

Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number: 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0002A CA
City/County San Jose/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0224D CA

San Jose/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °20' 2.9~ N	37 °19' 7.2~ N
Longitude (NAD 83)	121 °53' 30.3~ W	121 °49' 45.9~ W
Ground Elevation (m/ft-AMSL)	28.20 / 92.5	40.00 / 131.2
Antenna Structure Registration #		
Path Azimuth (°)	107.248	287.285
Path Length (km / miles)	5.785 / 3.595	

Transmit Antenna

77041A	77041A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2.5-11	VHLP2.5-11
37.5 / 2.10 / -0.29	37.5 / 2.10 / 0.25
50.29 / 165.0	10.97 / 36.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM016	TEM016
DRAGONWAVE INC	DRAGONWAVE INC
11HD40HFC277V02	11HD40HFC277V02
HORIZON DUO	HORIZON DUO
36M7D7W 256 QAM	36M7D7W 256 QAM
1 CH DIG 277000.000	1 CH DIG 277000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
15.5	15.5
-39.8	-39.8
52.2	52.2
0.0 / 0.8	0.0 / 0.8
128.7	

Transmit Frequencies (MHz)

11265.0000H(2)	11385.0000H(5)	10775.0000H(2)	10895.0000H(5)
11465.0000V(7)	11585.0000V(10)	10975.0000V(7)	11095.0000V(10)

Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0263A CA
City/County San Leandro/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0004D CA

Hayward/Alameda
Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 ° 42' 12.3~ N	37 ° 39' 19.3~ N
Longitude (NAD 83)	122 ° 8' 26.6~ W	122 ° 3' 25.5~ W
Ground Elevation (m/ft-AMSL)	12.80 / 42.0	153.60 / 503.9
Antenna Structure Registration #		
Path Azimuth (°)	125.838	305.889
Path Length (km / miles)	9.104 / 5.657	

Transmit Antenna

77041A	77041A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2.5-11	VHLP2.5-11
Gain (dBi) / Beamwidth (°) / Tilt (°)	37.5 / 2.10 / -1.14
Centerline (m / ft - AGL)	23.16 / 76.0
58.22 / 191.0	

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM016	TEM016
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 11HD40HFC277V02	11HD40HFC277V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 36M7D7W 256 QAM	36M7D7W 256 QAM
Loading 1 CH DIG 277000.000	1 CH DIG 277000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 15.5	15.5
Received Level (dBm) -42.1	-42.1
EIRP (dBm) 53.0	53.0
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 132.6	

Transmit Frequencies (MHz)	11505.0000V(8)	11585.0000V(10)	11015.0000V(8)	11095.0000V(10)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0278A CA
City/County Daly City/San Mateo
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0304C CA

San Bruno/San Mateo
Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 ° 40' 47.5~ N	37 ° 37' 37.2~ N
Longitude (NAD 83)	122 ° 28' 28.0~ W	122 ° 25' 27.2~ W
Ground Elevation (m/ft-AMSL)	133.40 / 437.7	31.50 / 103.3
Antenna Structure Registration #		
Path Azimuth (°)	142.918	322.949
Path Length (km / miles)	7.353 / 4.569	

Transmit Antenna

77041A	77041A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2.5-11	VHLP2.5-11
Gain (dBi) / Beamwidth (°) / Tilt (°)	37.5 / 2.10 / -0.94
Centerline (m / ft - AGL)	49.99 / 164.0
	27.43 / 90.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM016	TEM016
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 11HD40HFC277V02	11HD40HFC277V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 36M7D7W 256 QAM	36M7D7W 256 QAM
Loading 1 CH DIG 277000.000	1 CH DIG 277000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 15.5	15.5
Received Level (dBm) -41.9	-41.9
EIRP (dBm) 52.2	52.2
Fixed Loss: Tx / Common (dB) 0.0 / 0.8	0.0 / 0.8
Free Space Loss (dB) 130.8	

Transmit Frequencies (MHz)

11225.0000H(1)	11345.0000H(4)	10735.0000H(1)	10855.0000H(4)
11465.0000V(7)	11545.0000V(9)	10975.0000V(7)	11055.0000V(9)

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0283D CA
City/County South San Francisco/San Mateo
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0300D CA

/San Mateo
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °39' 35.4~ N	37 °38' 10.1~ N
Longitude (NAD 83)	122 °26' 22.2~ W	122 °23' 36.7~ W
Ground Elevation (m/ft-AMSL)	17.50 / 57.4	3.90 / 12.8
Antenna Structure Registration #		
Path Azimuth (°)	122.938	302.966
Path Length (km / miles)	4.835 / 3.004	

Transmit Antenna

77041A	77041A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2.5-11	VHLP2.5-11
37.5 / 2.10 / -0.00	37.5 / 2.10 / -0.03
24.38 / 80.0	39.32 / 129.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM016	TEM016
DRAGONWAVE INC	DRAGONWAVE INC
11HD40HFC277V02	11HD40HFC277V02
HORIZON DUO	HORIZON DUO
36M7D7W 256 QAM	36M7D7W 256 QAM
1 CH DIG 277000.000	1 CH DIG 277000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
14.7	14.7
-39.0	-39.0
51.4	51.4
0.0 / 0.8	0.0 / 0.8
127.1	

Transmit Frequencies (MHz)

11265.0000H(2)	11385.0000H(5)	10775.0000H(2)	10895.0000H(5)
11505.0000V(8)	11585.0000V(10)	11015.0000V(8)	11095.0000V(10)

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19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0326C CA
City/County Burlingame/San Mateo
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0367D CA

San Mateo/San Mateo
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °35' 37.9~ N	37 °32' 14.9~ N
Longitude (NAD 83)	122 °21' 54.9~ W	122 °19' 41.6~ W
Ground Elevation (m/ft-AMSL)	2.40 / 7.9	125.90 / 413.1
Antenna Structure Registration #		
Path Azimuth (°)	152.393	332.415
Path Length (km / miles)	7.062 / 4.388	

Transmit Antenna

77041A	77041A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2.5-11	VHLP2.5-11
Gain (dBi) / Beamwidth (°) / Tilt (°)	37.5 / 2.10 / -0.74
Centerline (m / ft - AGL)	46.94 / 154.0
	17.68 / 58.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM028	TEM028
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 11HD40HFC212V02	11HD40HFC212V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 34M4D7W 128 QAM	34M4D7W 128 QAM
Loading 1 CH DIG 212000.000	1 CH DIG 212000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 16.0	16.0
Received Level (dBm) -41.0	-41.0
EIRP (dBm) 52.7	52.7
Fixed Loss: Tx / Common (dB) 0.0 / 0.8	0.0 / 0.8
Free Space Loss (dB) 130.4	

Transmit Frequencies (MHz)

11265.0000V(2)	11345.0000V(4)	10775.0000V(2)	10855.0000V(4)
11465.0000H(7)	11545.0000H(9)	10975.0000H(7)	11055.0000H(9)

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0394A CA
City/County Redwood City/San Mateo
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0055A CA

Menlo Park/San Mateo
Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °28' 46.6~ N	37 °27' 7.9~ N
Longitude (NAD 83)	122 °15' 18.0~ W	122 °11' 23.4~ W
Ground Elevation (m/ft-AMSL)	34.40 / 112.9	23.70 / 77.8
Antenna Structure Registration #		
Path Azimuth (°)	117.806	297.846
Path Length (km / miles)	6.519 / 4.051	

Transmit Antenna

77041A	77041A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2.5-11	VHLP2.5-11
Gain (dBi) / Beamwidth (°) / Tilt (°)	37.5 / 2.10 / -0.02
Centerline (m / ft - AGL)	25.91 / 85.0
	32.31 / 106.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM028	TEM028
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 11HD40HFC212V02	11HD40HFC212V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 34M4D7W 128 QAM	34M4D7W 128 QAM
Loading 1 CH DIG 212000.000	1 CH DIG 212000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 16.0	16.0
Received Level (dBm) -40.3	-40.3
EIRP (dBm) 52.7	52.7
Fixed Loss: Tx / Common (dB) 0.0 / 0.8	0.0 / 0.8
Free Space Loss (dB) 129.7	

Transmit Frequencies (MHz)

11305.0000V(3)	11425.0000V(6)	10815.0000V(3)	10935.0000V(6)
11505.0000H(8)	11585.0000H(10)	11015.0000H(8)	11095.0000H(10)

Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0529A CA
City/County Novato/Marin
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0523A CA

San Rafael/Marin
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	38 °3' 18.9~ N	37 °58' 52.3~ N
Longitude (NAD 83)	122 °31' 11.5~ W	122 °31' 45.7~ W
Ground Elevation (m/ft-AMSL)	28.20 / 92.5	185.10 / 607.3
Antenna Structure Registration #		
Path Azimuth (°)	185.798	5.792
Path Length (km / miles)	8.262 / 5.134	

Transmit Antenna

77041A	77041A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2.5-11	VHLP2.5-11
37.5 / 2.10 / 1.00	37.5 / 2.10 / -1.05
27.43 / 90.0	18.29 / 60.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM016	TEM016
DRAGONWAVE INC	DRAGONWAVE INC
11HD40HFC277V02	11HD40HFC277V02
HORIZON DUO	HORIZON DUO
36M7D7W 256 QAM	36M7D7W 256 QAM
1 CH DIG 277000.000	1 CH DIG 277000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
15.5	15.5
-41.3	-41.3
53.0	53.0
0.0 / 0.0	0.0 / 0.0
	131.8

Transmit Frequencies (MHz)

11225.0000V(1)	11345.0000V(4)	10735.0000V(1)	10855.0000V(4)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0537B CA
City/County Novato/Marin
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0529A CA

Novato/Marin
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	38 °6' 45.7~ N	38 °3' 18.9~ N
Longitude (NAD 83)	122 °32' 58.9~ W	122 °31' 11.5~ W
Ground Elevation (m/ft-AMSL)	133.20 / 437.0	28.20 / 92.5
Antenna Structure Registration #	1016421	
Path Azimuth (°)	157.673	337.692
Path Length (km / miles)	6.893 / 4.283	

Transmit Antenna

77041A	77041A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2.5-11	VHLP2.5-11
37.5 / 2.10 / -0.79	37.5 / 2.10 / 0.74
14.33 / 47.0	27.43 / 90.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM016	TEM016
DRAGONWAVE INC	DRAGONWAVE INC
11HD40HFC277V02	11HD40HFC277V02
HORIZON DUO	HORIZON DUO
36M7D7W 256 QAM	36M7D7W 256 QAM
1 CH DIG 277000.000	1 CH DIG 277000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
15.5	15.5
-39.7	-39.7
53.0	53.0
0.0 / 0.0	0.0 / 0.0
130.2	

Transmit Frequencies (MHz)

10775.0000H(2)	10895.0000H(5)	11265.0000H(2)	11385.0000H(5)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0563A CA
City/County /Contra Costa
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0167A CA

Danville/Contra Costa
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °52' 54.2~ N	37 °47' 23.6~ N
Longitude (NAD 83)	121 °55' 8.8~ W	121 °54' 18.0~ W
Ground Elevation (m/ft-AMSL)	1097.60 / 3601.0	283.90 / 931.4
Antenna Structure Registration #	1014626	
Path Azimuth (°)	173.047	353.056
Path Length (km / miles)	10.268 / 6.380	

Transmit Antenna

77041A	77041A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2.5-11	VHLP2.5-11
37.5 / 2.10 / -4.89	37.5 / 2.10 / 4.83
60.96 / 200.0	1.52 / 5.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM016	TEM016
DRAGONWAVE INC	DRAGONWAVE INC
11HD40HFC277V02	11HD40HFC277V02
HORIZON DUO	HORIZON DUO
36M7D7W 256 QAM	36M7D7W 256 QAM
1 CH DIG 277000.000	1 CH DIG 277000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
15.5	15.5
-43.2	-43.2
53.0	53.0
0.0 / 0.0	0.0 / 0.0
133.7	

Transmit Frequencies (MHz)	11265.0000V(2)	11385.0000V(5)	10775.0000V(2)	10895.0000V(5)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0565A CA
City/County /Contra Costa
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0479A CA

Pleasanton/Alameda
Engineering Proposal / PRIMARY OPERATION
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 ° 44' 20.0~ N	37 ° 42' 2.5~ N
Longitude (NAD 83)	121 ° 59' 42.5~ W	121 ° 55' 5.4~ W
Ground Elevation (m/ft-AMSL)	562.40 / 1845.1	101.00 / 331.4
Antenna Structure Registration #	1222544	
Path Azimuth (°)	121.969	302.016
Path Length (km / miles)	8.002 / 4.972	

Transmit Antenna

77041A	77041A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2.5-11	VHLP2.5-11
Gain (dBi) / Beamwidth (°) / Tilt (°)	37.5 / 2.10 / -3.40
Centerline (m / ft - AGL)	30.48 / 100.0
	20.73 / 68.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM016	TEM016
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 11HD40HFC277V02	11HD40HFC277V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 36M7D7W 256 QAM	36M7D7W 256 QAM
Loading 1 CH DIG 277000.000	1 CH DIG 277000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 15.5	15.5
Received Level (dBm) -41.0	-41.0
EIRP (dBm) 53.0	53.0
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 131.5	

Transmit Frequencies (MHz)	11225.0000V(1)	11345.0000V(4)	10735.0000V(1)	10855.0000V(4)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0565A CA
City/County /Contra Costa
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0564A CA

City/County /Contra Costa
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83) 37 ° 44' 20.0~ N
Longitude (NAD 83) 121 ° 59' 42.5~ W
Ground Elevation (m/ft-AMSL) 562.40 / 1845.1
Antenna Structure Registration # 1222544
Path Azimuth (°) 325.260
Path Length (km / miles) 10.395 / 6.459

37 ° 48' 57.0~ N
122 ° 3' 44.7~ W
613.20 / 2011.8
1010559
145.218

Transmit Antenna

77041A
Manufacturer ANDREW CORPORATION
Model VHLP2.5-11
Gain (dBi) / Beamwidth (°) / Tilt (°) 37.5 / 2.10 / 0.33
Centerline (m / ft - AGL) 15.24 / 50.0

77041A
ANDREW CORPORATION
VHLP2.5-11
37.5 / 2.10 / -0.40
30.48 / 100.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM028
Manufacturer DRAGONWAVE INC
Model 11HD40HFC212V02
Model Description HORIZON DUO
Emission Designator / Modulation 34M4D7W 128 QAM
Loading 1 CH DIG 212000.000
Stability (%) 0.001
Nominal Coordinated Maximum
Power (dBm) 16.0
Received Level (dBm) -42.8
EIRP (dBm) 53.5
Fixed Loss: Tx / Common (dB) 0.0 / 0.0
Free Space Loss (dB) 133.8

TEM028
DRAGONWAVE INC
11HD40HFC212V02
HORIZON DUO
34M4D7W 128 QAM
1 CH DIG 212000.000
0.001
Nominal Coordinated Maximum
16.0
-42.8
53.5
0.0 / 0.0

Transmit Frequencies (MHz) 11545.0000H(9) 11665.0000H(12) 11055.0000H(9) 11175.0000H(12)

Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147

(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0141A CA
 City/County Saratoga/Santa Clara
 Status / License Basis Engineering Proposal / PRIMARY OPERATION
 Call Sign
 Licensee Code CLESP3
 Licensee Name Clearwire Spectrum Holdings III, LL
 Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0166D CA

Campbell/Santa Clara
 Engineering Proposal / PRIMARY OPERATION
 Licensee Code CLESP3
 Licensee Name Clearwire Spectrum Holdings III, LL
 Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °15' 55.0~ N	37 °17' 18.7~ N
Longitude (NAD 83)	122 °0' 24.0~ W	121 °56' 5.8~ W
Ground Elevation (m/ft-AMSL)	102.70 / 336.9	59.40 / 194.9
Antenna Structure Registration #		1204443
Path Azimuth (°)	67.898	247.941
Path Length (km / miles)		6.864 / 4.265

Transmit Antenna

79011R	79011R
Manufacturer RADIO WAVES, INC	RADIO WAVES, INC
Model HP3-11	HP3-11
Gain (dBi) / Beamwidth (°) / Tilt (°)	37.6 / 2.20 / -0.03
Centerline (m / ft - AGL)	24.08 / 79.0
	37.6 / 2.20 / -0.02
	67.06 / 220.0

Receive Antenna

Same As Transmit

Manufacturer
 Model
 Gain (dBi) / Beamwidth (°)
 Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
 Model
 Gain (dBi) / Beamwidth (°)
 Centerline (m / ft - AGL)

Radio Information

TEM028	TEM028
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 11HD40HFC212V02	11HD40HFC212V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 34M4D7W 128 QAM	34M4D7W 128 QAM
Loading 1 CH DIG 212000.000	1 CH DIG 212000.000
Stability (%) 0.001	0.001
	Nominal Coordinated Maximum
Power (dBm)	16.0
Received Level (dBm)	-39.0
EIRP (dBm)	53.6
Fixed Loss: Tx / Common (dB)	0.0 / 0.0
Free Space Loss (dB)	130.2

Transmit Frequencies (MHz)

11265.0000V(2)	11385.0000V(5)	10775.0000V(2)	10895.0000V(5)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0163A CA
City/County Campbell/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0002A CA

San Jose/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °16' 26.5~ N	37 °20' 2.9~ N
Longitude (NAD 83)	121 °56' 42.2~ W	121 °53' 30.3~ W
Ground Elevation (m/ft-AMSL)	67.90 / 222.8	28.20 / 92.5
Antenna Structure Registration #		
Path Azimuth (°)	35.297	215.329
Path Length (km / miles)	8.176 / 5.080	

Transmit Antenna

71692A
Manufacturer ANDREW CORPORATION
Model VHLP4-11
Gain (dBi) / Beamwidth (°) / Tilt (°) 40.4 / 1.50 / -0.08
Centerline (m / ft - AGL) 17.37 / 57.0

71692A
ANDREW CORPORATION
VHLP4-11
40.4 / 1.50 / 0.02
50.29 / 165.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM028
Manufacturer DRAGONWAVE INC
Model 11HD40HFC212V02
Model Description HORIZON DUO
Emission Designator / Modulation 34M4D7W 128 QAM
Loading 1 CH DIG 212000.000
Stability (%) 0.001
Nominal Coordinated Maximum
Power (dBm) 16.0
Received Level (dBm) -36.5
EIRP (dBm) 55.6
Fixed Loss: Tx / Common (dB) 0.0 / 0.8
Free Space Loss (dB) 131.7

TEM028
DRAGONWAVE INC
11HD40HFC212V02
HORIZON DUO
34M4D7W 128 QAM
1 CH DIG 212000.000
0.001
Nominal Coordinated Maximum
16.0
-36.5
55.6
0.0 / 0.8

Transmit Frequencies (MHz)

10735.0000V(1)	10815.0000V(3)	11225.0000V(1)	11305.0000V(3)
11015.0000H(8)	11135.0000H(11)	11505.0000H(8)	11625.0000H(11)

Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0004D CA
City/County Hayward/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0269A CA

Castro Valley/Alameda
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °39' 19.3~ N	37 °41' 36.8~ N
Longitude (NAD 83)	122 °3' 25.5~ W	122 °4' 24.3~ W
Ground Elevation (m/ft-AMSL)	153.60 / 503.9	52.60 / 172.6
Antenna Structure Registration #		
Path Azimuth (°)	341.232	161.222
Path Length (km / miles)	4.477 / 2.782	

Transmit Antenna

87012A	87012A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2-18	VHLP2-18
38.7 / 2.10 / -1.92	38.7 / 2.10 / 1.89
58.22 / 191.0	10.06 / 33.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMR29	TEMR29
DRAGONWAVE INC	DRAGONWAVE INC
18HD50HFC364V02	18HD50HFC364V02
HORIZON DUO	HORIZON DUO
47M1D7W 256 QAM	47M1D7W 256 QAM
1 CH DIG 364000.000	1 CH DIG 364000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
15.5	15.5
-38.0	-38.0
54.2	54.2
0.0 / 0.0	0.0 / 0.0
130.9	

Transmit Frequencies (MHz)

19375.0000V(2)	19475.0000V(4)	17815.0000V(2)	17915.0000V(4)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0005A CA
City/County Walnut Creek/Contra Costa
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0070C CA

Waldon/Contra Costa
Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °53' 52.3~ N	37 °55' 37.2~ N
Longitude (NAD 83)	122 °3' 54.9~ W	122 °3' 32.7~ W
Ground Elevation (m/ft-AMSL)	49.20 / 161.4	26.90 / 88.3
Antenna Structure Registration #		
Path Azimuth (°)	9.516	189.520
Path Length (km / miles)	3.279 / 2.038	

Transmit Antenna

87012A	87012A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2-18	VHLP2-18
Gain (dBi) / Beamwidth (°) / Tilt (°)	38.7 / 2.10 / -0.01
Centerline (m / ft - AGL)	24.38 / 80.0
46.63 / 153.0	

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM085	TEM085
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 18HD50HFC322V02	18HD50HFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 15.5	15.5
Received Level (dBm) -35.3	-35.3
EIRP (dBm) 54.2	54.2
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 128.2	

Transmit Frequencies (MHz)	19375.0000V(2)	19475.0000V(4)	17815.0000V(2)	17915.0000V(4)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0059A CA
City/County Pleasant Hill/Contra Costa
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0043A CA

Concord/Contra Costa
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °56' 44.5~ N	37 °58' 17.3~ N
Longitude (NAD 83)	122 °3' 38.5~ W	122 °3' 13.9~ W
Ground Elevation (m/ft-AMSL)	16.50 / 54.1	9.70 / 31.8
Antenna Structure Registration #		
Path Azimuth (°)	11.851	191.856
Path Length (km / miles)	2.924 / 1.817	

Transmit Antenna

87012A	87012A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2-18	VHLP2-18
38.7 / 2.10 / 0.28	38.7 / 2.10 / -0.29
15.24 / 50.0	36.58 / 120.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM085	TEM085
DRAGONWAVE INC	DRAGONWAVE INC
18HD50HFC322V02	18HD50HFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
7.0	7.0
-42.8	-42.8
45.7	45.7
0.0 / 0.0	0.0 / 0.0
127.2	

Transmit Frequencies (MHz)

19525.0000V(5)	19625.0000V(7)	17965.0000V(5)	18065.0000V(7)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0067D CA
City/County Concord/Contra Costa
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0043A CA

City/County Concord/Contra Costa
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °56' 6.3~ N	37 °58' 17.3~ N
Longitude (NAD 83)	122 °1' 47.3~ W	122 °3' 13.9~ W
Ground Elevation (m/ft-AMSL)	26.50 / 86.9	9.70 / 31.8
Antenna Structure Registration #		
Path Azimuth (°)	332.378	152.363
Path Length (km / miles)	4.559 / 2.833	

Transmit Antenna

87012A	87012A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2-18	VHLP2-18
Gain (dBi) / Beamwidth (°) / Tilt (°)	38.7 / 2.10 / -0.03
Centerline (m / ft - AGL)	21.18 / 69.5
	36.58 / 120.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM085	TEM085
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 18HD50HFC322V02	18HD50HFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 16.5	16.5
Received Level (dBm) -37.2	-37.2
EIRP (dBm) 55.2	55.2
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 131.1	

Transmit Frequencies (MHz)	19375.0000V(2)	19475.0000V(4)	17815.0000V(2)	17915.0000V(4)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0067D CA
City/County Concord/Contra Costa
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0070C CA

Waldon/Contra Costa
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °56' 6.3~ N	37 °55' 37.2~ N
Longitude (NAD 83)	122 °1' 47.3~ W	122 °3' 32.7~ W
Ground Elevation (m/ft-AMSL)	26.50 / 86.9	26.90 / 88.3
Antenna Structure Registration #		
Path Azimuth (°)	250.792	70.774
Path Length (km / miles)	2.726 / 1.694	

Transmit Antenna

87012A	87012A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2-18	VHLP2-18
38.7 / 2.10 / 0.53	38.7 / 2.10 / -0.55
21.18 / 69.5	46.63 / 153.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ57	TEMQ57
DRAGONWAVE INC	DRAGONWAVE INC
18HD50SFC322V02	18HD50SFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
5.5	5.5
-43.7	-43.7
44.2	44.2
0.0 / 0.0	0.0 / 0.0
126.6	

Transmit Frequencies (MHz)

19575.0000V(6)	19675.0000V(8)	18015.0000V(6)	18115.0000V(8)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0099A CA
City/County Berkeley/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0100C CA

City/County Berkeley/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °52' 12.2~ N	37 °52' 22.6~ N
Longitude (NAD 83)	122 °16' 7.0~ W	122 °18' 7.9~ W
Ground Elevation (m/ft-AMSL)	56.40 / 185.0	4.10 / 13.5
Antenna Structure Registration #		
Path Azimuth (°)	276.204	96.183
Path Length (km / miles)	2.972 / 1.847	

Transmit Antenna

87012A	87012A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2-18	VHLP2-18
Gain (dBi) / Beamwidth (°) / Tilt (°) 38.7 / 2.10 / -1.53	38.7 / 2.10 / 1.51
Centerline (m / ft - AGL) 45.72 / 150.0	18.90 / 62.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM085	TEM085
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 18HD50HFC322V02	18HD50HFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 8.0	8.0
Received Level (dBm) -42.0	-42.0
EIRP (dBm) 46.7	46.7
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 127.4	

Transmit Frequencies (MHz)	17965.0000V(5)	18065.0000V(7)	19525.0000V(5)	19625.0000V(7)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0100C CA
City/County Berkeley/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0110A CA

City/County Berkeley/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °52' 22.6~ N	37 °51' 11.2~ N
Longitude (NAD 83)	122 °18' 7.9~ W	122 °17' 20.4~ W
Ground Elevation (m/ft-AMSL)	4.10 / 13.5	12.80 / 42.0
Antenna Structure Registration #		
Path Azimuth (°)	152.188	332.196
Path Length (km / miles)	2.489 / 1.546	

Transmit Antenna

87012A	87012A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2-18	VHLP2-18
Gain (dBi) / Beamwidth (°) / Tilt (°)	38.7 / 2.10 / -0.57
Centerline (m / ft - AGL)	18.90 / 62.0
34.44 / 113.0	

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM085	TEM085
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 18HD50HFC322V02	18HD50HFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 5.5	5.5
Received Level (dBm) -42.9	-42.9
EIRP (dBm) 44.2	44.2
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 125.8	

Transmit Frequencies (MHz)	19575.0000V(6)	19675.0000V(8)	18015.0000V(6)	18115.0000V(8)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0109B CA
City/County Berkeley/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0126A CA

City/County Oakland/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °51' 29.5~ N	37 °50' 2.0~ N
Longitude (NAD 83)	122 °15' 32.1~ W	122 °15' 50.4~ W
Ground Elevation (m/ft-AMSL)	63.80 / 209.3	31.70 / 104.0
Antenna Structure Registration #		
Path Azimuth (°)	189.418	9.415
Path Length (km / miles)	2.735 / 1.699	

Transmit Antenna

87012A	87012A
Manufacturer ANDREW CORPORATION	Manufacturer ANDREW CORPORATION
Model VHLP2-18	Model VHLP2-18
Gain (dBi) / Beamwidth (°) / Tilt (°) 38.7 / 2.10 / -0.64	38.7 / 2.10 / 0.62
Centerline (m / ft - AGL) 19.81 / 65.0	21.95 / 72.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ57	TEMQ57
Manufacturer DRAGONWAVE INC	Manufacturer DRAGONWAVE INC
Model 18HD50SFC322V02	Model 18HD50SFC322V02
Model Description HORIZON DUO	Model Description HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 5.5	5.5
Received Level (dBm) -43.7	-43.7
EIRP (dBm) 44.2	44.2
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 126.6	

Transmit Frequencies (MHz)	17965.0000V(5)	18065.0000V(7)	19525.0000V(5)	19625.0000V(7)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147

(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0126A CA
 City/County Oakland/Alameda
 Status / License Basis Engineering Proposal / PRIMARY OPERATION
 Call Sign
 Licensee Code CLESP3
 Licensee Name Clearwire Spectrum Holdings III, LL
 Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0135A CA

Oakland/Alameda
 Engineering Proposal / PRIMARY OPERATION
 CLESP3
 Clearwire Spectrum Holdings III, LL
 FXO -- Fixed

Site Information

Latitude (NAD 83)	37 ° 50' 2.0~ N	37 ° 48' 57.6~ N
Longitude (NAD 83)	122 ° 15' 50.4~ W	122 ° 17' 0.7~ W
Ground Elevation (m/ft-AMSL)	31.70 / 104.0	3.80 / 12.5
Antenna Structure Registration #		
Path Azimuth (°)	220.895	40.883
Path Length (km / miles)	2.626 / 1.632	

Transmit Antenna

87012A
 Manufacturer ANDREW CORPORATION
 Model VHLP2-18
 Gain (dBi) / Beamwidth (°) / Tilt (°) 38.7 / 2.10 / -0.50
 Centerline (m / ft - AGL) 21.95 / 72.0

87012A
 ANDREW CORPORATION
 VHLP2-18
 38.7 / 2.10 / 0.48
 27.43 / 90.0

Receive Antenna

Same As Transmit

Manufacturer
 Model
 Gain (dBi) / Beamwidth (°)
 Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
 Model
 Gain (dBi) / Beamwidth (°)
 Centerline (m / ft - AGL)

Radio Information

TEMQ57
 Manufacturer DRAGONWAVE INC
 Model 18HD50SFC322V02
 Model Description HORIZON DUO
 Emission Designator / Modulation 45M8D7W 256 QAM
 Loading 1 CH DIG 322000.000
 Stability (%) 0.001

	Nominal	Coordinated	Maximum
Power (dBm)		5.5	
Received Level (dBm)		-43.4	
EIRP (dBm)		44.2	

 Fixed Loss: Tx / Common (dB) 0.0 / 0.0
 Free Space Loss (dB) 126.3

TEMQ57
 DRAGONWAVE INC
 18HD50SFC322V02
 HORIZON DUO
 45M8D7W 256 QAM
 1 CH DIG 322000.000
 0.001

	Nominal	Coordinated	Maximum
		5.5	
		-43.4	
		44.2	

 0.0 / 0.0

Transmit Frequencies (MHz)

19575.0000V(6)	19675.0000V(8)	18015.0000V(6)	18115.0000V(8)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0127A CA
City/County Danville/Contra Costa
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0563A CA

/Contra Costa
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83) 37 ° 49' 52.8~ N
Longitude (NAD 83) 121 ° 57' 32.9~ W
Ground Elevation (m/ft-AMSL) 211.70 / 694.6
Antenna Structure Registration #
Path Azimuth (°) 32.192
Path Length (km / miles) 6.610 / 4.107

37 ° 52' 54.2~ N
121 ° 55' 8.8~ W
1097.60 / 3601.0
1014626
212.216

Transmit Antenna

87059A
Manufacturer ANDREW CORPORATION
Model VHLP2.5-18
Gain (dBi) / Beamwidth (°) / Tilt (°) 41.0 / 1.50 / 8.09
Centerline (m / ft - AGL) 4.57 / 15.0

87059A
ANDREW CORPORATION
VHLP2.5-18
41.0 / 1.50 / -8.14
60.96 / 200.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM032
Manufacturer DRAGONWAVE INC
Model 18HD50HFC271V02
Model Description HORIZON DUO
Emission Designator / Modulation 47M8D7W 128 QAM
Loading 1 CH DIG 271000.000
Stability (%) 0.001
Nominal Coordinated Maximum
Power (dBm) 16.0
Received Level (dBm) -36.3
EIRP (dBm) 57.0
Fixed Loss: Tx / Common (dB) 0.0 / 0.0
Free Space Loss (dB) 134.3

TEM032
DRAGONWAVE INC
18HD50HFC271V02
HORIZON DUO
47M8D7W 128 QAM
1 CH DIG 271000.000
0.001
Nominal Coordinated Maximum
16.0
-36.3
57.0
0.0 / 0.0

Transmit Frequencies (MHz) 18015.0000H(6) 18115.0000H(8) 19575.0000H(6) 19675.0000H(8)

Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147

(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0141A CA
 City/County Oakland/Alameda
 Status / License Basis Engineering Proposal / PRIMARY OPERATION
 Call Sign
 Licensee Code CLESP3
 Licensee Name Clearwire Spectrum Holdings III, LL
 Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0119A CA

Emeryville/Alameda
 Engineering Proposal / PRIMARY OPERATION
 Licensee Code CLESP3
 Licensee Name Clearwire Spectrum Holdings III, LL
 Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 ° 48' 24.8~ N	37 ° 50' 23.1~ N
Longitude (NAD 83)	122 ° 18' 22.3~ W	122 ° 17' 13.5~ W
Ground Elevation (m/ft-AMSL)	3.40 / 11.2	8.10 / 26.6
Antenna Structure Registration #	1201091	
Path Azimuth (°)	24.759	204.771
Path Length (km / miles)	4.017 / 2.496	

Transmit Antenna

87012A	87012A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2-18	VHLP2-18
Gain (dBi) / Beamwidth (°) / Tilt (°)	38.7 / 2.10 / 0.17
Centerline (m / ft - AGL)	18.29 / 60.0
	26.21 / 86.0

Receive Antenna

Same As Transmit

Manufacturer
 Model
 Gain (dBi) / Beamwidth (°)
 Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
 Model
 Gain (dBi) / Beamwidth (°)
 Centerline (m / ft - AGL)

Radio Information

TEM085	TEM085
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 18HD50HFC322V02	18HD50HFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 15.5	15.5
Received Level (dBm) -37.1	-37.1
EIRP (dBm) 54.2	54.2
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 130.0	

Transmit Frequencies (MHz)

19575.0000V(6)	19675.0000V(8)	18015.0000V(6)	18115.0000V(8)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0141A CA
City/County Oakland/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0138B CA

City/County Oakland/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 ° 48' 24.8~ N	37 ° 48' 41.9~ N
Longitude (NAD 83)	122 ° 18' 22.3~ W	122 ° 15' 58.8~ W
Ground Elevation (m/ft-AMSL)	3.40 / 11.2	6.90 / 22.6
Antenna Structure Registration #	1201091	
Path Azimuth (°)	81.446	261.470
Path Length (km / miles)	3.550 / 2.206	

Transmit Antenna

87012A	87012A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2-18	VHLP2-18
Gain (dBi) / Beamwidth (°) / Tilt (°)	38.7 / 2.10 / -0.36
Centerline (m / ft - AGL)	18.29 / 60.0
	37.80 / 124.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM085	TEM085
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 18HD50HFC322V02	18HD50HFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 12.0	12.0
Received Level (dBm) -39.5	-39.5
EIRP (dBm) 50.7	50.7
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 128.9	

Transmit Frequencies (MHz)	19375.0000V(2)	19475.0000V(4)	17815.0000V(2)	17915.0000V(4)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0146A CA
City/County Danville/Contra Costa
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0149A CA

Blackhawk-Camino Tas/Contra Costa
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 ° 48' 10.8~ N	37 ° 48' 5.2~ N
Longitude (NAD 83)	121 ° 57' 26.5~ W	121 ° 55' 1.8~ W
Ground Elevation (m/ft-AMSL)	274.00 / 899.0	214.10 / 702.4
Antenna Structure Registration #		
Path Azimuth (°)	92.780	272.805
Path Length (km / miles)	3.544 / 2.202	

Transmit Antenna

87012A	87012A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2-18	VHLP2-18
38.7 / 2.10 / -0.74	38.7 / 2.10 / 0.71
2.74 / 9.0	17.68 / 58.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM085	TEM085
DRAGONWAVE INC	DRAGONWAVE INC
18HD50HFC322V02	18HD50HFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
10.0	10.0
-41.5	-41.5
48.7	48.7
0.0 / 0.0	0.0 / 0.0
128.9	

Transmit Frequencies (MHz)	17815.0000V(2)	17915.0000V(4)	19375.0000V(2)	19475.0000V(4)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0168A CA
City/County Alameda/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0193C CA

City/County Alameda/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 ° 47' 22.4~ N	37 ° 46' 10.6~ N
Longitude (NAD 83)	122 ° 16' 31.5~ W	122 ° 14' 13.8~ W
Ground Elevation (m/ft-AMSL)	2.30 / 7.5	4.20 / 13.8
Antenna Structure Registration #		
Path Azimuth (°)	123.291	303.315
Path Length (km / miles)	4.032 / 2.505	

Transmit Antenna

87012A	87012A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2-18	VHLP2-18
Gain (dBi) / Beamwidth (°) / Tilt (°)	38.7 / 2.10 / -0.04
Centerline (m / ft - AGL)	20.42 / 67.0
38.7 / 2.10 / 0.02	16.46 / 54.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM085	TEM085
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 18HD50HFC322V02	18HD50HFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 14.0	14.0
Received Level (dBm) -38.6	-38.6
EIRP (dBm) 52.7	52.7
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 130.0	

Transmit Frequencies (MHz)	19525.0000V(5)	19625.0000V(7)	17965.0000V(5)	18065.0000V(7)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0187A CA
City/County San Ramon/Contra Costa
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0146A CA

Danville/Contra Costa
Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 ° 46' 44.8~ N	37 ° 48' 10.8~ N
Longitude (NAD 83)	121 ° 58' 26.4~ W	121 ° 57' 26.5~ W
Ground Elevation (m/ft-AMSL)	147.10 / 482.6	274.00 / 899.0
Antenna Structure Registration #		
Path Azimuth (°)	28.926	208.936
Path Length (km / miles)	3.030 / 1.882	

Transmit Antenna

87012A	87012A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2-18	VHLP2-18
Gain (dBi) / Beamwidth (°) / Tilt (°)	38.7 / 2.10 / 2.09
Centerline (m / ft - AGL)	18.29 / 60.0
38.7 / 2.10 / -2.12	2.74 / 9.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM085	TEM085
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 18HD50HFC322V02	18HD50HFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 10.0	10.0
Received Level (dBm) -40.1	-40.1
EIRP (dBm) 48.7	48.7
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 127.5	

Transmit Frequencies (MHz)	19525.0000V(5)	19625.0000V(7)	17965.0000V(5)	18065.0000V(7)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0187A CA
City/County San Ramon/Contra Costa
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0565A CA

/Contra Costa
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83) 37 ° 46' 44.8~ N
Longitude (NAD 83) 121 ° 58' 26.4~ W
Ground Elevation (m/ft-AMSL) 147.10 / 482.6
Antenna Structure Registration #
Path Azimuth (°) 202.655
Path Length (km / miles) 4.837 / 3.006

37 ° 44' 20.0~ N
121 ° 59' 42.5~ W
562.40 / 1845.1
1222544
22.642

Transmit Antenna

87012A
Manufacturer ANDREW CORPORATION
Model VHLP2-18
Gain (dBi) / Beamwidth (°) / Tilt (°) 38.7 / 2.10 / 5.03
Centerline (m / ft - AGL) 18.29 / 60.0

87012A
ANDREW CORPORATION
VHLP2-18
38.7 / 2.10 / -5.07
30.48 / 100.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM085
Manufacturer DRAGONWAVE INC
Model 18HD50HFC322V02
Model Description HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM
Loading 1 CH DIG 322000.000
Stability (%) 0.001
Nominal Coordinated Maximum
Power (dBm) 16.0
Received Level (dBm) -38.2
EIRP (dBm) 54.7
Fixed Loss: Tx / Common (dB) 0.0 / 0.0
Free Space Loss (dB) 131.6

TEM085
DRAGONWAVE INC
18HD50HFC322V02
HORIZON DUO
45M8D7W 256 QAM
1 CH DIG 322000.000
0.001
Nominal Coordinated Maximum
16.0
-38.2
54.7
0.0 / 0.0

Transmit Frequencies (MHz)

19575.0000V(6) 19675.0000V(8) 18015.0000V(6) 18115.0000V(8)

Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0193C CA
City/County Alameda/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0220C CA

City/County Oakland/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 ° 46' 10.6~ N	37 ° 44' 49.2~ N
Longitude (NAD 83)	122 ° 14' 13.8~ W	122 ° 12' 13.9~ W
Ground Elevation (m/ft-AMSL)	4.20 / 13.8	2.30 / 7.5
Antenna Structure Registration #		
Path Azimuth (°)	130.524	310.544
Path Length (km / miles)	3.862 / 2.399	

Transmit Antenna

87012A	87012A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2-18	VHLP2-18
Gain (dBi) / Beamwidth (°) / Tilt (°)	38.7 / 2.10 / -0.49
Centerline (m / ft - AGL)	50.29 / 165.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM085	TEM085
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 18HD50HFC322V02	18HD50HFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 12.0	12.0
Received Level (dBm) -40.2	-40.2
EIRP (dBm) 50.7	50.7
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 129.6	

Transmit Frequencies (MHz)	18015.0000V(6)	18115.0000V(8)	19575.0000V(6)	19675.0000V(8)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0202A CA
City/County Oakland/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0561A CA

City/County Oakland/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 ° 46' 2.6~ N	37 ° 45' 8.3~ N
Longitude (NAD 83)	122 ° 12' 45.7~ W	122 ° 11' 21.6~ W
Ground Elevation (m/ft-AMSL)	5.50 / 18.0	4.10 / 13.5
Antenna Structure Registration #		
Path Azimuth (°)	129.113	309.127
Path Length (km / miles)	2.653 / 1.649	

Transmit Antenna

87012A	87012A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2-18	VHLP2-18
Gain (dBi) / Beamwidth (°) / Tilt (°)	38.7 / 2.10 / -0.14
Centerline (m / ft - AGL)	25.30 / 83.0
38.7 / 2.10 / 0.12	20.73 / 68.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ57	TEMQ57
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 18HD50SFC322V02	18HD50SFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 5.5	5.5
Received Level (dBm) -43.5	-43.5
EIRP (dBm) 44.2	44.2
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 126.4	

Transmit Frequencies (MHz)	17965.0000H(5)	18065.0000H(7)	19525.0000H(5)	19625.0000H(7)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0203B CA
City/County Oakland/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0006A CA

City/County Oakland/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 ° 47' 4.1~ N	37 ° 48' 31.5~ N
Longitude (NAD 83)	122 ° 13' 19.6~ W	122 ° 15' 50.2~ W
Ground Elevation (m/ft-AMSL)	26.20 / 86.0	4.20 / 13.8
Antenna Structure Registration #		
Path Azimuth (°)	306.193	126.167
Path Length (km / miles)	4.565 / 2.836	

Transmit Antenna

87012A	87012A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2-18	VHLP2-18
Gain (dBi) / Beamwidth (°) / Tilt (°)	38.7 / 2.10 / -0.63
Centerline (m / ft - AGL)	17.68 / 58.0
	91.44 / 300.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM085	TEM085
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 18HD50HFC322V02	18HD50HFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 16.5	16.5
Received Level (dBm) -37.2	-37.2
EIRP (dBm) 55.2	55.2
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 131.1	

Transmit Frequencies (MHz)	19525.0000H(5)	19625.0000H(7)	17965.0000H(5)	18065.0000H(7)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0203B CA
City/County Oakland/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0202A CA

City/County Oakland/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 ° 47' 4.1~ N	37 ° 46' 2.6~ N
Longitude (NAD 83)	122 ° 13' 19.6~ W	122 ° 12' 45.7~ W
Ground Elevation (m/ft-AMSL)	26.20 / 86.0	5.50 / 18.0
Antenna Structure Registration #		
Path Azimuth (°)	156.367	336.372
Path Length (km / miles)	2.070 / 1.286	

Transmit Antenna

87012A	87012A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2-18	VHLP2-18
Gain (dBi) / Beamwidth (°) / Tilt (°)	38.7 / 2.10 / -0.37
Centerline (m / ft - AGL)	17.68 / 58.0
	25.30 / 83.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ57	TEMQ57
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 18HD50SFC322V02	18HD50SFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 5.5	5.5
Received Level (dBm) -41.3	-41.3
EIRP (dBm) 44.2	44.2
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 124.2	

Transmit Frequencies (MHz)	19375.0000H(2)	19475.0000H(4)	17815.0000H(2)	17915.0000H(4)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0237A CA
City/County Oakland/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0240A CA

City/County Oakland/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 ° 44' 15.4~ N	37 ° 44' 8.2~ N
Longitude (NAD 83)	122 ° 9' 50.4~ W	122 ° 11' 54.0~ W
Ground Elevation (m/ft-AMSL)	14.40 / 47.2	2.70 / 8.9
Antenna Structure Registration #		
Path Azimuth (°)	265.815	85.794
Path Length (km / miles)	3.034 / 1.886	

Transmit Antenna

87012A	87012A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2-18	VHLP2-18
Gain (dBi) / Beamwidth (°) / Tilt (°)	38.7 / 2.10 / -0.01
Centerline (m / ft - AGL)	24.99 / 82.0
	36.58 / 120.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM085	TEM085
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 18HD50HFC322V02	18HD50HFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 9.0	9.0
Received Level (dBm) -41.1	-41.1
EIRP (dBm) 47.7	47.7
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 127.5	

Transmit Frequencies (MHz)	18015.0000V(6)	18115.0000V(8)	19575.0000V(6)	19675.0000V(8)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0237A CA
City/County Oakland/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0257A CA

San Leandro/Alameda
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 ° 44' 15.4~ N	37 ° 42' 48.5~ N
Longitude (NAD 83)	122 ° 9' 50.4~ W	122 ° 9' 20.0~ W
Ground Elevation (m/ft-AMSL)	14.40 / 47.2	14.90 / 48.9
Antenna Structure Registration #		1016585
Path Azimuth (°)	164.469	344.474
Path Length (km / miles)	2.781 / 1.728	

Transmit Antenna

87012A	87012A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2-18	VHLP2-18
38.7 / 2.10 / -0.09	38.7 / 2.10 / 0.07
24.99 / 82.0	20.73 / 68.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ57	TEMQ57
DRAGONWAVE INC	DRAGONWAVE INC
18HD50SFC322V02	18HD50SFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
5.5	5.5
-43.9	-43.9
44.2	44.2
0.0 / 0.0	0.0 / 0.0
126.8	

Transmit Frequencies (MHz)	17965.0000V(5)	18065.0000V(7)	19525.0000V(5)	19625.0000V(7)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0240A CA
City/County Oakland/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0252A CA

San Leandro/Alameda
Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 ° 44' 8.2~ N	37 ° 42' 57.1~ N
Longitude (NAD 83)	122 ° 11' 54.0~ W	122 ° 10' 45.6~ W
Ground Elevation (m/ft-AMSL)	2.70 / 8.9	6.70 / 22.0
Antenna Structure Registration #		
Path Azimuth (°)	142.610	322.622
Path Length (km / miles)	2.759 / 1.714	

Transmit Antenna

87012A	87012A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2-18	VHLP2-18
Gain (dBi) / Beamwidth (°) / Tilt (°)	38.7 / 2.10 / -0.41
Centerline (m / ft - AGL)	36.58 / 120.0
	13.11 / 43.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ57	TEMQ57
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 18HD50SFC322V02	18HD50SFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 5.5	5.5
Received Level (dBm) -43.8	-43.8
EIRP (dBm) 44.2	44.2
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 126.7	

Transmit Frequencies (MHz)	19375.0000V(2)	19475.0000V(4)	17815.0000V(2)	17915.0000V(4)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0267A CA
City/County San Leandro/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0585A CA

Castro Valley/Alameda
Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 ° 42' 2.8~ N	37 ° 41' 35.0~ N
Longitude (NAD 83)	122 ° 7' 50.4~ W	122 ° 5' 38.1~ W
Ground Elevation (m/ft-AMSL)	10.40 / 34.1	71.60 / 234.9
Antenna Structure Registration #		1203986
Path Azimuth (°)	104.801	284.824
Path Length (km / miles)	3.352 / 2.083	

Transmit Antenna

87012A	87012A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2-18	VHLP2-18
Gain (dBi) / Beamwidth (°) / Tilt (°)	38.7 / 2.10 / 1.08
Centerline (m / ft - AGL)	14.33 / 47.0
	38.7 / 2.10 / -1.10
	16.76 / 55.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM085	TEM085
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 18HD50HFC322V02	18HD50HFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 10.0	10.0
Received Level (dBm) -41.0	-41.0
EIRP (dBm) 48.7	48.7
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 128.4	

Transmit Frequencies (MHz)	19375.0000V(2)	19475.0000V(4)	17815.0000V(2)	17915.0000V(4)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0272A CA
City/County Daly City/San Mateo
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0265A CA

Daly City/San Mateo
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 ° 41' 33.7~ N	37 ° 42' 1.4~ N
Longitude (NAD 83)	122 ° 28' 31.7~ W	122 ° 27' 18.1~ W
Ground Elevation (m/ft-AMSL)	46.90 / 153.9	233.10 / 764.8
Antenna Structure Registration #		
Path Azimuth (°)	64.649	244.662
Path Length (km / miles)	1.995 / 1.240	

Transmit Antenna

87012A	87012A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2-18	VHLP2-18
Gain (dBi) / Beamwidth (°) / Tilt (°)	38.7 / 2.10 / -5.04
Centerline (m / ft - AGL)	15.54 / 51.0
38.7 / 2.10 / -5.05	5.49 / 18.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM085	TEM085
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 18HD50HFC322V02	18HD50HFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 8.3	8.3
Received Level (dBm) -38.2	-38.2
EIRP (dBm) 47.0	47.0
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 123.9	

Transmit Frequencies (MHz)	17965.0000V(5)	18065.0000V(7)	19525.0000V(5)	19625.0000V(7)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0278A CA
City/County Daly City/San Mateo
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0283D CA

South San Francisco/San Mateo
Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 ° 40' 47.5~ N	37 ° 39' 35.4~ N
Longitude (NAD 83)	122 ° 28' 28.0~ W	122 ° 26' 22.2~ W
Ground Elevation (m/ft-AMSL)	133.40 / 437.7	17.50 / 57.4
Antenna Structure Registration #		
Path Azimuth (°)	125.782	305.803
Path Length (km / miles)	3.801 / 2.362	

Transmit Antenna

87012A	87012A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2-18	VHLP2-18
Gain (dBi) / Beamwidth (°) / Tilt (°)	38.7 / 2.10 / -2.15
Centerline (m / ft - AGL)	49.99 / 164.0
	24.38 / 80.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM085	TEM085
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 18HD50HFC322V02	18HD50HFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 14.0	14.0
Received Level (dBm) -38.1	-38.1
EIRP (dBm) 52.8	52.8
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 129.5	

Transmit Frequencies (MHz)	19525.0000H(5)	19675.0000H(8)	17965.0000H(5)	18115.0000H(8)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0299A CA
City/County San Bruno/San Mateo
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0311D CA

/San Mateo
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °38' 15.2~ N	37 °36' 59.9~ N
Longitude (NAD 83)	122 °24' 42.3~ W	122 °23' 6.0~ W
Ground Elevation (m/ft-AMSL)	6.30 / 20.7	8.50 / 27.9
Antenna Structure Registration #		
Path Azimuth (°)	134.504	314.521
Path Length (km / miles)	3.311 / 2.058	

Transmit Antenna

87012A	87012A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2-18	VHLP2-18
38.7 / 2.10 / 0.02	38.7 / 2.10 / -0.04
27.74 / 91.0	27.43 / 90.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMR29	TEMR29
DRAGONWAVE INC	DRAGONWAVE INC
18HD50HFC364V02	18HD50HFC364V02
HORIZON DUO	HORIZON DUO
47M1D7W 256 QAM	47M1D7W 256 QAM
1 CH DIG 364000.000	1 CH DIG 364000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
12.8	12.8
-38.1	-38.1
51.5	51.5
0.0 / 0.0	0.0 / 0.0
128.3	

Transmit Frequencies (MHz)	17965.0000H(5)	18065.0000H(7)	19525.0000H(5)	19625.0000H(7)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0310D CA
City/County San Bruno/San Mateo
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0322A CA

Burlingame/San Mateo
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °36' 49.7~ N	37 °35' 44.6~ N
Longitude (NAD 83)	122 °25' 32.9~ W	122 °23' 0.8~ W
Ground Elevation (m/ft-AMSL)	115.20 / 378.0	3.90 / 12.8
Antenna Structure Registration #	1018253	
Path Azimuth (°)	118.266	298.292
Path Length (km / miles)	4.236 / 2.632	

Transmit Antenna

87012A	87059A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2-18	VHLP2.5-18
Gain (dBi) / Beamwidth (°) / Tilt (°)	38.7 / 2.10 / -1.30
Centerline (m / ft - AGL)	11.89 / 39.0
	41.0 / 1.50 / 1.27
	28.04 / 92.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMR29	TEMR29
DRAGONWAVE INC	DRAGONWAVE INC
18HD50HFC364V02	18HD50HFC364V02
HORIZON DUO	HORIZON DUO
Emission Designator / Modulation	47M1D7W 256 QAM
Loading	1 CH DIG 364000.000
Stability (%)	0.001
	Nominal Coordinated Maximum
Power (dBm)	12.6
Received Level (dBm)	-38.1
EIRP (dBm)	51.3
	53.6
Fixed Loss: Tx / Common (dB)	0.0 / 0.0
Free Space Loss (dB)	130.4

Transmit Frequencies (MHz)	19575.0000V(6)	19675.0000V(8)	18015.0000V(6)	18115.0000V(8)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0320B CA
City/County Union City/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0004D CA

City/County Hayward/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °35' 54.1~ N	37 °39' 19.3~ N
Longitude (NAD 83)	122 °4' 3.0~ W	122 °3' 25.5~ W
Ground Elevation (m/ft-AMSL)	5.20 / 17.1	153.60 / 503.9
Antenna Structure Registration #		
Path Azimuth (°)	8.267	188.273
Path Length (km / miles)	6.393 / 3.972	

Transmit Antenna

Manufacturer	87059A	87059A
Model	ANDREW CORPORATION	ANDREW CORPORATION
Gain (dBi) / Beamwidth (°) / Tilt (°)	VHLP2.5-18	VHLP2.5-18
Centerline (m / ft - AGL)	41.0 / 1.50 / 1.69	41.0 / 1.50 / -1.74
	15.24 / 50.0	58.22 / 191.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

Manufacturer	TEMO32	TEMO32
Model	DRAGONWAVE INC	DRAGONWAVE INC
Model Description	18HD50HFC271V02	18HD50HFC271V02
Emission Designator / Modulation	HORIZON DUO	HORIZON DUO
Loading	47M8D7W 128 QAM	47M8D7W 128 QAM
Stability (%)	1 CH DIG 271000.000	1 CH DIG 271000.000
	0.001	0.001
	Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm)	15.0	15.0
Received Level (dBm)	-37.0	-37.0
EIRP (dBm)	56.0	56.0
Fixed Loss: Tx / Common (dB)	0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB)		134.0

Transmit Frequencies (MHz)	17965.0000V(5)	18065.0000V(7)	19525.0000V(5)	19625.0000V(7)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0320B CA
City/County Union City/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0314A CA

City/County Union City/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °35' 54.1~ N	37 °36' 28.6~ N
Longitude (NAD 83)	122 °4' 3.0~ W	122 °2' 24.2~ W
Ground Elevation (m/ft-AMSL)	5.20 / 17.1	15.30 / 50.2
Antenna Structure Registration #		
Path Azimuth (°)	66.295	246.312
Path Length (km / miles)	2.647 / 1.645	

Transmit Antenna

87012A	87012A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2-18	VHLP2-18
Gain (dBi) / Beamwidth (°) / Tilt (°)	38.7 / 2.10 / 0.59
Centerline (m / ft - AGL)	15.24 / 50.0
	32.61 / 107.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMR29	TEMR29
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 18HD50HFC364V02	18HD50HFC364V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 47M1D7W 256 QAM	47M1D7W 256 QAM
Loading 1 CH DIG 364000.000	1 CH DIG 364000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 5.5	5.5
Received Level (dBm) -43.5	-43.5
EIRP (dBm) 44.2	44.2
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 126.4	

Transmit Frequencies (MHz)	18015.0000V(6)	18115.0000V(8)	19575.0000V(6)	19675.0000V(8)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0355A CA
City/County San Mateo/San Mateo
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0324A CA

Burlingame/San Mateo
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °33' 12.2~ N	37 °35' 25.9~ N
Longitude (NAD 83)	122 °18' 0.0~ W	122 °20' 21.9~ W
Ground Elevation (m/ft-AMSL)	2.40 / 7.9	3.00 / 9.8
Antenna Structure Registration #		
Path Azimuth (°)	319.822	139.798
Path Length (km / miles)	5.396 / 3.353	

Transmit Antenna

87059A	87059A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2.5-18	VHLP2.5-18
41.0 / 1.50 / -0.17	41.0 / 1.50 / 0.13
39.62 / 130.0	24.99 / 82.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM085	TEM085
DRAGONWAVE INC	DRAGONWAVE INC
18HD50HFC322V02	18HD50HFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
17.5	17.5
-33.0	-33.0
58.5	58.5
0.0 / 0.0	0.0 / 0.0
132.5	

Transmit Frequencies (MHz)

19575.0000H(6)	19675.0000H(8)	18015.0000H(6)	18115.0000H(8)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0369D CA
City/County Fremont/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0356A CA

City/County Fremont/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °32' 31.5~ N	37 °33' 2.9~ N
Longitude (NAD 83)	121 °58' 23.5~ W	122 °1' 8.4~ W
Ground Elevation (m/ft-AMSL)	17.20 / 56.4	13.10 / 43.0
Antenna Structure Registration #		
Path Azimuth (°)	283.464	103.436
Path Length (km / miles)	4.162 / 2.586	

Transmit Antenna

87012A	87012A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2-18	VHLP2-18
Gain (dBi) / Beamwidth (°) / Tilt (°)	38.7 / 2.10 / -0.21
Centerline (m / ft - AGL)	26.82 / 88.0
	38.7 / 2.10 / 0.18
	16.76 / 55.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM085	TEM085
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 18HD50HFC322V02	18HD50HFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 14.5	14.5
Received Level (dBm) -38.4	-38.4
EIRP (dBm) 53.2	53.2
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 130.3	

Transmit Frequencies (MHz)	17965.0000V(5)	18065.0000V(7)	19525.0000V(5)	19625.0000V(7)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0380A CA
City/County Redwood City/San Mateo
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0388A CA

Belmont/San Mateo
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °31' 25.3~ N	37 °30' 5.6~ N
Longitude (NAD 83)	122 °15' 39.5~ W	122 °18' 35.9~ W
Ground Elevation (m/ft-AMSL)	2.40 / 7.9	241.40 / 792.0
Antenna Structure Registration #		
Path Azimuth (°)	240.453	60.424
Path Length (km / miles)	4.980 / 3.095	

Transmit Antenna

87012A	87012A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2-18	VHLP2-18
38.7 / 2.10 / 2.50	38.7 / 2.10 / -2.54
24.38 / 80.0	4.57 / 15.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM085	TEM085
DRAGONWAVE INC	DRAGONWAVE INC
18HD50HFC322V02	18HD50HFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
15.2	15.2
-39.2	-39.2
53.9	53.9
0.0 / 0.0	0.0 / 0.0
	131.8

Transmit Frequencies (MHz)	18015.0000V(6)	18115.0000V(8)	19575.0000V(6)	19675.0000V(8)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0380A CA
City/County Redwood City/San Mateo
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0390A CA

San Carlos/San Mateo
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °31' 25.3~ N	37 °29' 51.8~ N
Longitude (NAD 83)	122 °15' 39.5~ W	122 °14' 46.9~ W
Ground Elevation (m/ft-AMSL)	2.40 / 7.9	4.30 / 14.1
Antenna Structure Registration #		1018247
Path Azimuth (°)	155.856	335.865
Path Length (km / miles)		3.159 / 1.963

Transmit Antenna

87012A	87012A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2-18	VHLP2-18
Gain (dBi) / Beamwidth (°) / Tilt (°)	38.7 / 2.10 / -0.04
Centerline (m / ft - AGL)	22.86 / 75.0
17.98 / 59.0	

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM085	TEM085
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 18HD50HFC322V02	18HD50HFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 12.0	12.0
Received Level (dBm) -38.5	-38.5
EIRP (dBm) 50.7	50.7
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 127.9	

Transmit Frequencies (MHz)	17965.0000H(5)	18065.0000H(7)	19525.0000H(5)	19625.0000H(7)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information	CA-SFO0381A CA	CA-SFO0369D CA
City/County	Newark/Alameda	Fremont/Alameda
Status / License Basis	Engineering Proposal / PRIMARY OPERATION	Engineering Proposal / PRIMARY OPERATION
Call Sign		
Licensee Code	CLESP3	CLESP3
Licensee Name	Clearwire Spectrum Holdings III, LL	Clearwire Spectrum Holdings III, LL
Radio Service / Station Class	MG -- Microwave Industrial/Business Pool	FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °31' 19.6~ N	37 °32' 31.5~ N
Longitude (NAD 83)	121 °59' 27.6~ W	121 °58' 23.5~ W
Ground Elevation (m/ft-AMSL)	10.00 / 32.8	17.20 / 56.4
Antenna Structure Registration #		
Path Azimuth (°)	35.369	215.379
Path Length (km / miles)	2.719 / 1.689	

Transmit Antenna

Manufacturer	87012A	87012A
Model	ANDREW CORPORATION	ANDREW CORPORATION
Gain (dBi) / Beamwidth (°) / Tilt (°)	VHLP2-18	VHLP2-18
Centerline (m / ft - AGL)	38.7 / 2.10 / 0.10	38.7 / 2.10 / -0.12
	28.96 / 95.0	26.82 / 88.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

Manufacturer	TEMQ57	TEMQ57
Model	DRAGONWAVE INC	DRAGONWAVE INC
Model Description	18HD50SFC322V02	18HD50SFC322V02
Emission Designator / Modulation	HORIZON DUO	HORIZON DUO
Loading	45M8D7W 256 QAM	45M8D7W 256 QAM
Stability (%)	1 CH DIG 322000.000	1 CH DIG 322000.000
	0.001	0.001
	Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm)	5.5	5.5
Received Level (dBm)	-43.7	-43.7
EIRP (dBm)	44.2	44.2
Fixed Loss: Tx / Common (dB)	0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB)		126.6

Transmit Frequencies (MHz)	19575.0000V(6)	19675.0000V(8)	18015.0000V(6)	18115.0000V(8)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0390A CA
City/County San Carlos/San Mateo
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0588A CA

Redwood City/San Mateo
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °29' 51.8~ N	37 °29' 14.2~ N
Longitude (NAD 83)	122 °14' 46.9~ W	122 °12' 44.8~ W
Ground Elevation (m/ft-AMSL)	4.30 / 14.1	5.10 / 16.7
Antenna Structure Registration #	1018247	
Path Azimuth (°)	111.120	291.141
Path Length (km / miles)	3.216 / 1.998	

Transmit Antenna

87012A	87012A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2-18	VHLP2-18
38.7 / 2.10 / 0.09	38.7 / 2.10 / -0.11
17.98 / 59.0	22.86 / 75.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM085	TEM085
DRAGONWAVE INC	DRAGONWAVE INC
18HD50HFC322V02	18HD50HFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
13.0	13.0
-37.6	-37.6
51.7	51.7
0.0 / 0.0	0.0 / 0.0
128.0	

Transmit Frequencies (MHz)	19375.0000V(2)	19475.0000V(4)	17815.0000V(2)	17915.0000V(4)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0394A CA
City/County Redwood City/San Mateo
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0603A CA

City/County Redwood City/San Mateo
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °28' 46.6~ N	37 °28' 10.9~ N
Longitude (NAD 83)	122 °15' 18.0~ W	122 °13' 22.7~ W
Ground Elevation (m/ft-AMSL)	34.40 / 112.9	10.90 / 35.8
Antenna Structure Registration #		
Path Azimuth (°)	111.221	291.241
Path Length (km / miles)	3.039 / 1.889	

Transmit Antenna

87012A	87012A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2-18	VHLP2-18
Gain (dBi) / Beamwidth (°) / Tilt (°)	38.7 / 2.10 / -0.61
Centerline (m / ft - AGL)	25.91 / 85.0
	16.76 / 55.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ57	TEMQ57
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 18HD50SFC322V02	18HD50SFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 7.5	7.5
Received Level (dBm) -42.7	-42.7
EIRP (dBm) 46.2	46.2
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 127.6	

Transmit Frequencies (MHz)	17965.0000V(5)	18065.0000V(7)	19525.0000V(5)	19625.0000V(7)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0432C CA
City/County San Jose/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0150A CA

San Jose/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °19' 2.8~ N	37 °18' 10.9~ N
Longitude (NAD 83)	121 °56' 51.1~ W	121 °58' 46.5~ W
Ground Elevation (m/ft-AMSL)	44.10 / 144.7	59.30 / 194.6
Antenna Structure Registration #		
Path Azimuth (°)	240.628	60.609
Path Length (km / miles)	3.261 / 2.026	

Transmit Antenna

87012A	87012A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2-18	VHLP2-18
38.7 / 2.10 / -0.37	38.7 / 2.10 / 0.35
49.38 / 162.0	13.59 / 44.6

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM085	TEM085
DRAGONWAVE INC	DRAGONWAVE INC
18HD50HFC322V02	18HD50HFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
12.5	12.5
-38.3	-38.3
51.2	51.2
0.0 / 0.0	0.0 / 0.0
128.2	

Transmit Frequencies (MHz)	17815.0000H(2)	17915.0000H(4)	19375.0000H(2)	19475.0000H(4)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0444A CA
City/County San Jose/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0206B CA

San Jose/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °17' 12.0~ N	37 °16' 49.2~ N
Longitude (NAD 83)	121 °47' 47.5~ W	121 °50' 15.7~ W
Ground Elevation (m/ft-AMSL)	201.10 / 659.8	50.90 / 167.0
Antenna Structure Registration #		
Path Azimuth (°)	259.114	79.089
Path Length (km / miles)	3.718 / 2.310	

Transmit Antenna

87012A	87012A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2-18	VHLP2-18
38.7 / 2.10 / -2.20	38.7 / 2.10 / 2.18
11.58 / 38.0	19.51 / 64.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMR29	TEMR29
DRAGONWAVE INC	DRAGONWAVE INC
18HD50HFC364V02	18HD50HFC364V02
HORIZON DUO	HORIZON DUO
47M1D7W 256 QAM	47M1D7W 256 QAM
1 CH DIG 364000.000	1 CH DIG 364000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
13.5	13.5
-38.4	-38.4
52.2	52.2
0.0 / 0.0	0.0 / 0.0
129.3	

Transmit Frequencies (MHz)

18015.0000V(6)	18115.0000V(8)	19575.0000V(6)	19675.0000V(8)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0444A CA
City/County San Jose/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0237A CA

San Jose/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °17' 12.0~ N	37 °14' 25.0~ N
Longitude (NAD 83)	121 °47' 47.5~ W	121 °48' 3.5~ W
Ground Elevation (m/ft-AMSL)	201.10 / 659.8	58.60 / 192.3
Antenna Structure Registration #		
Path Azimuth (°)	184.380	4.378
Path Length (km / miles)	5.163 / 3.208	

Transmit Antenna

87012A	87012A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2-18	VHLP2-18
38.7 / 2.10 / -1.63	38.7 / 2.10 / 1.60
15.24 / 50.0	12.19 / 40.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM085	TEM085
DRAGONWAVE INC	DRAGONWAVE INC
18HD50HFC322V02	18HD50HFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
15.5	15.5
-39.3	-39.3
54.2	54.2
0.0 / 0.0	0.0 / 0.0
132.2	

Transmit Frequencies (MHz)

17815.0000V(2)	17915.0000V(4)	19375.0000V(2)	19475.0000V(4)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0454C CA
City/County San Jose/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0453D CA

San Jose/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °16' 21.9~ N	37 °16' 34.2~ N
Longitude (NAD 83)	121 °52' 15.0~ W	121 °49' 34.5~ W
Ground Elevation (m/ft-AMSL)	48.10 / 157.8	87.90 / 288.4
Antenna Structure Registration #		
Path Azimuth (°)	84.509	264.536
Path Length (km / miles)	3.972 / 2.468	

Transmit Antenna

87012A	87012A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2-18	VHLP2-18
38.7 / 2.10 / 0.50	38.7 / 2.10 / -0.53
18.29 / 60.0	14.33 / 47.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM085	TEM085
DRAGONWAVE INC	DRAGONWAVE INC
18HD50HFC322V02	18HD50HFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
14.0	14.0
-38.5	-38.5
52.7	52.7
0.0 / 0.0	0.0 / 0.0
129.9	

Transmit Frequencies (MHz)

19525.0000V(5)	19625.0000V(7)	17965.0000V(5)	18065.0000V(7)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0480D CA
City/County Dublin/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0229D CA

San Ramon/Contra Costa
Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 ° 43' 19.6~ N	37 ° 44' 49.7~ N
Longitude (NAD 83)	121 ° 54' 54.8~ W	121 ° 56' 40.5~ W
Ground Elevation (m/ft-AMSL)	161.90 / 531.2	122.10 / 400.6
Antenna Structure Registration #		
Path Azimuth (°)	317.034	137.016
Path Length (km / miles)	3.797 / 2.359	

Transmit Antenna

87012A	87012A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2-18	VHLP2-18
38.7 / 2.10 / -0.52	38.7 / 2.10 / 0.49
10.97 / 36.0	17.37 / 57.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM085	TEM085
DRAGONWAVE INC	DRAGONWAVE INC
18HD50HFC322V02	18HD50HFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
12.0	12.0
-40.1	-40.1
50.7	50.7
0.0 / 0.0	0.0 / 0.0
129.5	

Transmit Frequencies (MHz)

17965.0000V(5)	18065.0000V(7)	19525.0000V(5)	19625.0000V(7)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147

(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0483A CA
 City/County Pleasanton/Alameda
 Status / License Basis Engineering Proposal / PRIMARY OPERATION
 Call Sign
 Licensee Code CLESP3
 Licensee Name Clearwire Spectrum Holdings III, LL
 Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0003A CA

Pleasanton/Alameda
 Engineering Proposal / PRIMARY OPERATION
 CLESP3
 Clearwire Spectrum Holdings III, LL
 FXO -- Fixed

Site Information

Latitude (NAD 83)	37 ° 41' 54.6~ N	37 ° 41' 35.2~ N
Longitude (NAD 83)	121 ° 55' 48.0~ W	121 ° 53' 36.2~ W
Ground Elevation (m/ft-AMSL)	108.30 / 355.3	100.90 / 331.0
Antenna Structure Registration #		
Path Azimuth (°)	100.483	280.506
Path Length (km / miles)	3.284 / 2.040	

Transmit Antenna

87012A	87012A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2-18	VHLP2-18
Gain (dBi) / Beamwidth (°) / Tilt (°)	38.7 / 2.10 / -0.01
Centerline (m / ft - AGL)	18.29 / 60.0
25.91 / 85.0	

Receive Antenna

Same As Transmit

Manufacturer
 Model
 Gain (dBi) / Beamwidth (°)
 Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
 Model
 Gain (dBi) / Beamwidth (°)
 Centerline (m / ft - AGL)

Radio Information

TEM085	TEM085
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 18HD50HFC322V02	18HD50HFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 10.0	10.0
Received Level (dBm) -40.8	-40.8
EIRP (dBm) 48.7	48.7
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 128.2	

Transmit Frequencies (MHz)

19525.0000V(5)	19625.0000V(7)	17965.0000V(5)	18065.0000V(7)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0490D CA
City/County Pleasanton/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0475A CA

/Alameda
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 ° 41' 11.3~ N	37 ° 38' 13.7~ N
Longitude (NAD 83)	121 ° 54' 51.5~ W	121 ° 53' 41.3~ W
Ground Elevation (m/ft-AMSL)	99.20 / 325.5	149.90 / 491.8
Antenna Structure Registration #		
Path Azimuth (°)	162.550	342.562
Path Length (km / miles)	5.739 / 3.566	

Transmit Antenna

87059A	87059A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2.5-18	VHLP2.5-18
Gain (dBi) / Beamwidth (°) / Tilt (°)	41.0 / 1.50 / -0.46
Centerline (m / ft - AGL)	11.58 / 38.0
41.0 / 1.50 / -0.50	9.14 / 30.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM032	TEM032
DRAGONWAVE INC	DRAGONWAVE INC
18HD50HFC271V02	18HD50HFC271V02
HORIZON DUO	HORIZON DUO
Emission Designator / Modulation	47M8D7W 128 QAM
Loading	1 CH DIG 271000.000
Stability (%)	0.001
	Nominal Coordinated Maximum
Power (dBm)	12.0
Received Level (dBm)	-39.1
EIRP (dBm)	53.0
Fixed Loss: Tx / Common (dB)	0.0 / 0.0
Free Space Loss (dB)	133.1

Transmit Frequencies (MHz)	18015.0000V(6)	18115.0000V(8)	19575.0000V(6)	19675.0000V(8)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0498B CA
City/County Dublin/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0480D CA

Dublin/Alameda
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 ° 42' 11.5~ N	37 ° 43' 19.6~ N
Longitude (NAD 83)	121 ° 53' 49.7~ W	121 ° 54' 54.8~ W
Ground Elevation (m/ft-AMSL)	102.10 / 335.0	161.90 / 531.2
Antenna Structure Registration #		
Path Azimuth (°)	322.791	142.780
Path Length (km / miles)	2.636 / 1.638	

Transmit Antenna

87012A	87012A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2-18	VHLP2-18
38.7 / 2.10 / 1.23	38.7 / 2.10 / -1.25
13.72 / 45.0	10.97 / 36.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ57	TEMQ57
DRAGONWAVE INC	DRAGONWAVE INC
18HD50SFC322V02	18HD50SFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
5.5	5.5
-43.4	-43.4
44.2	44.2
0.0 / 0.0	0.0 / 0.0
126.3	

Transmit Frequencies (MHz)

19575.0000V(6)	19675.0000V(8)	18015.0000V(6)	18115.0000V(8)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147

(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0504A CA
 City/County San Rafael/Marin
 Status / License Basis Engineering Proposal / PRIMARY OPERATION
 Call Sign
 Licensee Code CLESP3
 Licensee Name Clearwire Spectrum Holdings III, LL
 Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0501A CA

/Marin
 Engineering Proposal / PRIMARY OPERATION
 Licensee Code CLESP3
 Licensee Name Clearwire Spectrum Holdings III, LL
 Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °58' 4.0~ N	37 °56' 47.6~ N
Longitude (NAD 83)	122 °31' 26.6~ W	122 °29' 59.7~ W
Ground Elevation (m/ft-AMSL)	6.80 / 22.3	93.10 / 305.4
Antenna Structure Registration #		
Path Azimuth (°)	137.987	318.001
Path Length (km / miles)	3.170 / 1.970	

Transmit Antenna

87012A
 Manufacturer ANDREW CORPORATION
 Model VHLP2-18
 Gain (dBi) / Beamwidth (°) / Tilt (°) 38.7 / 2.10 / 1.82
 Centerline (m / ft - AGL) 12.19 / 40.0

87012A
 ANDREW CORPORATION
 VHLP2-18
 38.7 / 2.10 / -1.85
 27.43 / 90.0

Receive Antenna

Same As Transmit

Manufacturer
 Model
 Gain (dBi) / Beamwidth (°)
 Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
 Model
 Gain (dBi) / Beamwidth (°)
 Centerline (m / ft - AGL)

Radio Information

TEM085
 Manufacturer DRAGONWAVE INC
 Model 18HD50HFC322V02
 Model Description HORIZON DUO
 Emission Designator / Modulation 45M8D7W 256 QAM
 Loading 1 CH DIG 322000.000
 Stability (%) 0.001

	Nominal	Coordinated	Maximum
Power (dBm)		12.4	
Received Level (dBm)		-38.1	
EIRP (dBm)		51.1	

 Fixed Loss: Tx / Common (dB) 0.0 / 0.0
 Free Space Loss (dB) 127.9

TEM085
 DRAGONWAVE INC
 18HD50HFC322V02
 HORIZON DUO
 45M8D7W 256 QAM
 1 CH DIG 322000.000
 0.001

	Nominal	Coordinated	Maximum
		12.4	
		-38.1	
		51.1	

 0.0 / 0.0

Transmit Frequencies (MHz)	19575.0000V(6)	19675.0000V(8)	18015.0000V(6)	18115.0000V(8)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0523A CA
City/County San Rafael/Marin
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0007A CA

San Rafael/Marin
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °58' 52.3~ N	37 °57' 35.1~ N
Longitude (NAD 83)	122 °31' 45.7~ W	122 °30' 4.6~ W
Ground Elevation (m/ft-AMSL)	185.10 / 607.3	5.00 / 16.4
Antenna Structure Registration #		
Path Azimuth (°)	133.959	313.976
Path Length (km / miles)	3.429 / 2.130	

Transmit Antenna

87012A	87012A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2-18	VHLP2-18
38.7 / 2.10 / -3.13	38.7 / 2.10 / 3.11
18.29 / 60.0	11.58 / 38.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM085	TEM085
DRAGONWAVE INC	DRAGONWAVE INC
18HD50HFC322V02	18HD50HFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
13.1	13.1
-38.1	-38.1
51.8	51.8
0.0 / 0.0	0.0 / 0.0
128.6	

Transmit Frequencies (MHz)

19525.0000V(5)	19625.0000V(7)	17965.0000V(5)	18065.0000V(7)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0545A CA
City/County San Rafael/Marin
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0528A CA

San Rafael/Marin
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °59' 24.8~ N	37 °58' 22.1~ N
Longitude (NAD 83)	122 °30' 0.5~ W	122 °32' 3.5~ W
Ground Elevation (m/ft-AMSL)	309.00 / 1013.8	12.80 / 42.0
Antenna Structure Registration #		
Path Azimuth (°)	237.228	57.207
Path Length (km / miles)	3.570 / 2.219	

Transmit Antenna

87012A	87012A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2-18	VHLP2-18
38.7 / 2.10 / -4.73	38.7 / 2.10 / 4.71
9.75 / 32.0	11.28 / 37.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM085	TEM085
DRAGONWAVE INC	DRAGONWAVE INC
18HD50HFC322V02	18HD50HFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
13.5	13.5
-38.1	-38.1
52.2	52.2
0.0 / 0.0	0.0 / 0.0
129.0	

Transmit Frequencies (MHz)

19375.0000V(2)	19475.0000V(4)	17815.0000V(2)	17915.0000V(4)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0554E CA
City/County /San Mateo
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0283D CA

South San Francisco/San Mateo
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 ° 41' 14.5~ N	37 ° 39' 35.4~ N
Longitude (NAD 83)	122 ° 26' 5.4~ W	122 ° 26' 22.2~ W
Ground Elevation (m/ft-AMSL)	380.10 / 1247.0	17.50 / 57.4
Antenna Structure Registration #	1205149	
Path Azimuth (°)	187.676	7.673
Path Length (km / miles)	3.083 / 1.916	

Transmit Antenna

87012A	87012A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2-18	VHLP2-18
38.7 / 2.10 / -6.83	38.7 / 2.10 / 6.81
30.48 / 100.0	24.38 / 80.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM085	TEM085
DRAGONWAVE INC	DRAGONWAVE INC
18HD50HFC322V02	18HD50HFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
12.2	12.2
-38.1	-38.1
50.9	50.9
0.0 / 0.0	0.0 / 0.0
127.7	

Transmit Frequencies (MHz)

19575.0000V(6)	19675.0000V(8)	18015.0000V(6)	18115.0000V(8)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0561A CA
City/County Oakland/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0237A CA

City/County Oakland/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 ° 45' 8.3~ N	37 ° 44' 15.4~ N
Longitude (NAD 83)	122 ° 11' 21.6~ W	122 ° 9' 50.4~ W
Ground Elevation (m/ft-AMSL)	4.10 / 13.5	14.40 / 47.2
Antenna Structure Registration #		
Path Azimuth (°)	126.139	306.155
Path Length (km / miles)	2.765 / 1.718	

Transmit Antenna

87012A	87012A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2-18	VHLP2-18
Gain (dBi) / Beamwidth (°) / Tilt (°)	38.7 / 2.10 / 0.29
Centerline (m / ft - AGL)	20.73 / 68.0
	38.7 / 2.10 / -0.31
	24.99 / 82.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM085	TEM085
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 18HD50HFC322V02	18HD50HFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 6.0	6.0
Received Level (dBm) -43.3	-43.3
EIRP (dBm) 44.7	44.7
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 126.7	

Transmit Frequencies (MHz)	19375.0000V(2)	19475.0000V(4)	17815.0000V(2)	17915.0000V(4)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0562A CA
City/County Walnut Creek/Contra Costa
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0059A CA

Pleasant Hill/Contra Costa
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °54' 31.1~ N	37 °56' 44.5~ N
Longitude (NAD 83)	122 °3' 59.2~ W	122 °3' 38.5~ W
Ground Elevation (m/ft-AMSL)	50.80 / 166.7	16.50 / 54.1
Antenna Structure Registration #		
Path Azimuth (°)	7.005	187.009
Path Length (km / miles)	4.144 / 2.575	

Transmit Antenna

87012A	87012A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2-18	VHLP2-18
38.7 / 2.10 / -0.78	38.7 / 2.10 / 0.76
36.58 / 120.0	15.24 / 50.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM085	TEM085
DRAGONWAVE INC	DRAGONWAVE INC
18HD50HFC322V02	18HD50HFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
14.5	14.5
-38.4	-38.4
53.2	53.2
0.0 / 0.0	0.0 / 0.0
130.3	

Transmit Frequencies (MHz)

18015.0000V(6)	18115.0000V(8)	19575.0000V(6)	19675.0000V(8)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0607A CA
City/County Foster City/San Mateo
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0380A CA

Redwood City/San Mateo
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °33' 29.4~ N	37 °31' 25.3~ N
Longitude (NAD 83)	122 °16' 35.0~ W	122 °15' 39.5~ W
Ground Elevation (m/ft-AMSL)	2.00 / 6.6	2.40 / 7.9
Antenna Structure Registration #		
Path Azimuth (°)	160.394	340.403
Path Length (km / miles)	4.061 / 2.524	

Transmit Antenna

87059A	87059A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2.5-18	VHLP2.5-18
41.0 / 1.50 / -0.01	41.0 / 1.50 / -0.02
30.48 / 100.0	30.48 / 100.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM085	TEM085
DRAGONWAVE INC	DRAGONWAVE INC
18HD50HFC322V02	18HD50HFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
15.5	15.5
-32.6	-32.6
56.5	56.5
0.0 / 0.0	0.0 / 0.0
130.1	

Transmit Frequencies (MHz)	19375.0000V(2)	19475.0000V(4)	17815.0000V(2)	17915.0000V(4)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0607A CA
City/County Foster City/San Mateo
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0387C CA

San Carlos/San Mateo
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °33' 29.4~ N	37 °30' 36.3~ N
Longitude (NAD 83)	122 °16' 35.0~ W	122 °16' 35.4~ W
Ground Elevation (m/ft-AMSL)	2.00 / 6.6	171.20 / 561.7
Antenna Structure Registration #		
Path Azimuth (°)	180.105	0.105
Path Length (km / miles)	5.337 / 3.316	

Transmit Antenna

87059A	87059A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2.5-18	VHLP2.5-18
41.0 / 1.50 / 1.80	41.0 / 1.50 / -1.83
30.48 / 100.0	30.48 / 100.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM085	TEM085
DRAGONWAVE INC	DRAGONWAVE INC
18HD50HFC322V02	18HD50HFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
15.5	15.5
-34.9	-34.9
56.5	56.5
0.0 / 0.0	0.0 / 0.0
132.4	

Transmit Frequencies (MHz)

19525.0000V(5)	19625.0000V(7)	17965.0000V(5)	18065.0000V(7)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0003A CA
City/County Santa Clara/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign WQKU519
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0111A CA

San Jose/Santa Clara
Engineering Proposal / PRIMARY OPERATION

CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °23' 1.9~ N	37 °19' 20.5~ N
Longitude (NAD 83)	121 °58' 43.5~ W	121 °59' 48.9~ W
Ground Elevation (m/ft-AMSL)	10.06 / 33.0	50.60 / 166.0
Antenna Structure Registration #		
Path Azimuth (°)	193.274	13.263
Path Length (km / miles)	7.013 / 4.358	

Transmit Antenna

87059A	87059A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2.5-18	VHLP2.5-18
Gain (dBi) / Beamwidth (°) / Tilt (°) 41.0 / 1.50 / 0.28	41.0 / 1.50 / -0.33
Centerline (m / ft - AGL) 32.00 / 105.0	28.65 / 94.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM090	TEM090
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 18HD50HFC215V02	18HD50HFC215V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 64 QAM	45M8D7W 64 QAM
Loading 1 CH DIG 215000.000	1 CH DIG 215000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 17.5	17.5
Received Level (dBm) -36.9	-36.9
EIRP (dBm) 57.7	57.7
Fixed Loss: Tx / Common (dB) 0.0 / 0.8	0.0 / 0.8
Free Space Loss (dB) 134.8	

Transmit Frequencies (MHz)

19375.0000V(2)	19475.0000V(4)	17815.0000V(2)	17915.0000V(4)
19575.0000H(6)	19675.0000H(8)	18015.0000H(6)	18115.0000H(8)

Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0029A CA
City/County Cupertino/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0283A CA

Sunnyvale/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °19' 16.0~ N	37 °22' 13.0~ N
Longitude (NAD 83)	122 °1' 51.6~ W	122 °2' 23.0~ W
Ground Elevation (m/ft-AMSL)	71.70 / 235.2	38.60 / 126.6
Antenna Structure Registration #		
Path Azimuth (°)	351.941	171.936
Path Length (km / miles)	5.511 / 3.424	

Transmit Antenna

RH6969	82160R
RADIO WAVES, INC	RADIO WAVES, INC
HP3-18	HPD4-18
Gain (dBi) / Beamwidth (°) / Tilt (°)	42.0 / 1.30 / -0.35
Centerline (m / ft - AGL)	29.26 / 96.0
	44.3 / 1.00 / 0.31
	30.48 / 100.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM085	TEM085
DRAGONWAVE INC	DRAGONWAVE INC
18HD50HFC322V02	18HD50HFC322V02
HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 17.5	17.5
Received Level (dBm) -28.9	-28.9
EIRP (dBm) 59.5	61.8
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 132.7	

Transmit Frequencies (MHz)	19575.0000V(6)	19675.0000V(8)	18015.0000V(6)	18115.0000V(8)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0044A CA
City/County Sunnyvale/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0003A CA

Santa Clara/Santa Clara
Engineering Proposal / PRIMARY OPERATION
WQKU519
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °23' 14.6~ N	37 °23' 1.9~ N
Longitude (NAD 83)	122 °2' 10.9~ W	121 °58' 43.5~ W
Ground Elevation (m/ft-AMSL)	22.90 / 75.1	10.06 / 33.0
Antenna Structure Registration #	1022381	
Path Azimuth (°)	94.371	274.406
Path Length (km / miles)	5.117 / 3.180	

Transmit Antenna

87059A	87059A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2.5-18	VHLP2.5-18
Gain (dBi) / Beamwidth (°) / Tilt (°) 41.0 / 1.50 / -0.06	41.0 / 1.50 / 0.02
Centerline (m / ft - AGL) 22.86 / 75.0	32.00 / 105.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM085	TEM085
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 18HD50HFC322V02	18HD50HFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 17.5	17.5
Received Level (dBm) -32.6	-32.6
EIRP (dBm) 58.5	58.5
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 132.1	

Transmit Frequencies (MHz)	17965.0000H(5)	18065.0000H(7)	19525.0000H(5)	19625.0000H(7)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0047A CA
City/County Sunnyvale/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0046A CA

Sunnyvale/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °24' 30.1~ N	37 °24' 20.4~ N
Longitude (NAD 83)	122 °1' 28.8~ W	121 °59' 35.4~ W
Ground Elevation (m/ft-AMSL)	3.60 / 11.8	3.40 / 11.2
Antenna Structure Registration #	1016420	
Path Azimuth (°)	96.111	276.130
Path Length (km / miles)	2.805 / 1.743	

Transmit Antenna

87012A	87012A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2-18	VHLP2-18
Gain (dBi) / Beamwidth (°) / Tilt (°)	38.7 / 2.10 / -0.01
Centerline (m / ft - AGL)	30.48 / 100.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ57	TEMQ57
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 18HD50SFC322V02	18HD50SFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
	Nominal Coordinated Maximum
Power (dBm) 7.5	7.5
Received Level (dBm) -42.0	-42.0
EIRP (dBm) 46.2	46.2
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 126.9	

Transmit Frequencies (MHz)

19575.0000V(6)	19675.0000V(8)	18015.0000V(6)	18115.0000V(8)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0076C CA
City/County Mountain View/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign WQKU514
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0275A CA

City/County Mountain View/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °25' 36.4~ N	37 °23' 25.9~ N
Longitude (NAD 83)	122 °4' 19.7~ W	122 °4' 52.9~ W
Ground Elevation (m/ft-AMSL)	1.98 / 6.5	26.70 / 87.6
Antenna Structure Registration #		
Path Azimuth (°)	191.475	11.469
Path Length (km / miles)	4.105 / 2.551	

Transmit Antenna

87012A	87059A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2-18	VHLP2.5-18
Gain (dBi) / Beamwidth (°) / Tilt (°) 38.7 / 2.10 / 0.57	41.0 / 1.50 / -0.60
Centerline (m / ft - AGL) 22.56 / 74.0	39.62 / 130.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM085	TEM085
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 18HD50HFC322V02	18HD50HFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 15.5	15.5
Received Level (dBm) -35.0	-35.0
EIRP (dBm) 54.2	56.5
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 130.2	

Transmit Frequencies (MHz)	18015.0000V(6)	18115.0000V(8)	19575.0000V(6)	19675.0000V(8)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147

(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0149A CA
 City/County Los Gatos/Santa Clara
 Status / License Basis Engineering Proposal / PRIMARY OPERATION
 Call Sign
 Licensee Code CLESP3
 Licensee Name Clearwire Spectrum Holdings III, LL
 Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0162A CA

San Jose/Santa Clara
 Engineering Proposal / PRIMARY OPERATION
 CLESP3
 Clearwire Spectrum Holdings III, LL
 FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °15' 54.3~ N	37 °15' 7.5~ N
Longitude (NAD 83)	121 °58' 55.2~ W	121 °56' 47.3~ W
Ground Elevation (m/ft-AMSL)	80.10 / 262.8	86.10 / 282.5
Antenna Structure Registration #		
Path Azimuth (°)	114.587	294.608
Path Length (km / miles)	3.466 / 2.154	

Transmit Antenna

87059A
 Manufacturer ANDREW CORPORATION
 Model VHLP2.5-18
 Gain (dBi) / Beamwidth (°) / Tilt (°) 41.0 / 1.50 / -0.22
 Centerline (m / ft - AGL) 48.46 / 159.0

87012A
 ANDREW CORPORATION
 VHLP2-18
 38.7 / 2.10 / 0.20
 29.87 / 98.0

Receive Antenna

Same As Transmit

Manufacturer
 Model
 Gain (dBi) / Beamwidth (°)
 Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
 Model
 Gain (dBi) / Beamwidth (°)
 Centerline (m / ft - AGL)

Radio Information

TEM085
 Manufacturer DRAGONWAVE INC
 Model 18HD50HFC322V02
 Model Description HORIZON DUO
 Emission Designator / Modulation 45M8D7W 256 QAM
 Loading 1 CH DIG 322000.000
 Stability (%) 0.001

	Nominal	Coordinated	Maximum
Power (dBm)		17.0	
Received Level (dBm)		-32.0	
EIRP (dBm)		58.0	

 Fixed Loss: Tx / Common (dB) 0.0 / 0.0
 Free Space Loss (dB) 128.7

TEM085
 DRAGONWAVE INC
 18HD50HFC322V02
 HORIZON DUO
 45M8D7W 256 QAM
 1 CH DIG 322000.000
 0.001

	Nominal	Coordinated	Maximum
		17.0	
		-32.0	
		55.7	

 0.0 / 0.0

Transmit Frequencies (MHz)	19375.0000V(2)	19475.0000V(4)	17815.0000V(2)	17915.0000V(4)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147

(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0162A CA
 City/County San Jose/Santa Clara
 Status / License Basis Engineering Proposal / PRIMARY OPERATION
 Call Sign
 Licensee Code CLESP3
 Licensee Name Clearwire Spectrum Holdings III, LL
 Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0186A CA

San Jose/Santa Clara
 Engineering Proposal / PRIMARY OPERATION
 CLESP3
 Clearwire Spectrum Holdings III, LL
 FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °15' 7.5~ N	37 °16' 16.4~ N
Longitude (NAD 83)	121 °56' 47.3~ W	121 °54' 14.1~ W
Ground Elevation (m/ft-AMSL)	86.10 / 282.5	52.10 / 170.9
Antenna Structure Registration #		
Path Azimuth (°)	60.621	240.647
Path Length (km / miles)	4.331 / 2.691	

Transmit Antenna

87059A	87059A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2.5-18	VHLP2.5-18
Gain (dBi) / Beamwidth (°) / Tilt (°) 41.0 / 1.50 / -0.68	41.0 / 1.50 / 0.65
Centerline (m / ft - AGL) 29.87 / 98.0	13.41 / 44.0

Receive Antenna

Same As Transmit

Manufacturer
 Model
 Gain (dBi) / Beamwidth (°)
 Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
 Model
 Gain (dBi) / Beamwidth (°)
 Centerline (m / ft - AGL)

Radio Information

TEM085	TEM085
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 18HD50HFC322V02	18HD50HFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 15.5	15.5
Received Level (dBm) -33.1	-33.1
EIRP (dBm) 56.5	56.5
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 130.6	

Transmit Frequencies (MHz)

17965.0000V(5)	18065.0000V(7)	19525.0000V(5)	19625.0000V(7)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0165A CA
City/County Santa Clara/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0003A CA

Santa Clara/Santa Clara
Engineering Proposal / PRIMARY OPERATION
WQKU519
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °20' 49.4~ N	37 °23' 1.9~ N
Longitude (NAD 83)	121 °56' 24.8~ W	121 °58' 43.5~ W
Ground Elevation (m/ft-AMSL)	22.90 / 75.1	10.06 / 33.0
Antenna Structure Registration #	1055725	
Path Azimuth (°)	320.133	140.109
Path Length (km / miles)	5.323 / 3.308	

Transmit Antenna

87059A	87059A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2.5-18	VHLP2.5-18
Gain (dBi) / Beamwidth (°) / Tilt (°) 41.0 / 1.50 / -0.15	41.0 / 1.50 / 0.11
Centerline (m / ft - AGL) 31.39 / 103.0	32.00 / 105.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM085	TEM085
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 18HD50HFC322V02	18HD50HFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 17.5	17.5
Received Level (dBm) -32.9	-32.9
EIRP (dBm) 58.5	58.5
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 132.4	

Transmit Frequencies (MHz)	17965.0000V(5)	18065.0000V(7)	19525.0000V(5)	19625.0000V(7)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0166D CA
City/County Campbell/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0186A CA

San Jose/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °17' 18.7~ N	37 °16' 16.4~ N
Longitude (NAD 83)	121 °56' 5.8~ W	121 °54' 14.1~ W
Ground Elevation (m/ft-AMSL)	59.40 / 194.9	52.10 / 170.9
Antenna Structure Registration #	1204443	
Path Azimuth (°)	124.905	304.924
Path Length (km / miles)	3.356 / 2.085	

Transmit Antenna

87012A	87012A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2-18	VHLP2-18
38.7 / 2.10 / -1.05	38.7 / 2.10 / 1.03
67.06 / 220.0	13.41 / 44.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM085	TEM085
DRAGONWAVE INC	DRAGONWAVE INC
18HD50HFC322V02	18HD50HFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
13.0	13.0
-38.0	-38.0
51.7	51.7
0.0 / 0.0	0.0 / 0.0
128.4	

Transmit Frequencies (MHz)

18015.0000V(6)	18115.0000V(8)	19575.0000V(6)	19675.0000V(8)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0219A CA
City/County San Jose/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0237A CA

San Jose/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °13' 58.3~ N	37 °14' 25.0~ N
Longitude (NAD 83)	121 °50' 47.1~ W	121 °48' 3.5~ W
Ground Elevation (m/ft-AMSL)	53.00 / 173.9	58.60 / 192.3
Antenna Structure Registration #		
Path Azimuth (°)	78.450	258.477
Path Length (km / miles)	4.116 / 2.557	

Transmit Antenna

87012A	87059A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2-18	VHLP2.5-18
Gain (dBi) / Beamwidth (°) / Tilt (°)	38.7 / 2.10 / 0.54
Centerline (m / ft - AGL)	5.79 / 19.0
	41.0 / 1.50 / -0.56
	39.65 / 130.1

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM085	TEM085
DRAGONWAVE INC	DRAGONWAVE INC
18HD50HFC322V02	18HD50HFC322V02
HORIZON DUO	HORIZON DUO
Emission Designator / Modulation	45M8D7W 256 QAM
Loading	1 CH DIG 322000.000
Stability (%)	0.001
	Nominal Coordinated Maximum
Power (dBm)	15.5
Received Level (dBm)	-35.0
EIRP (dBm)	54.2
	56.5
Fixed Loss: Tx / Common (dB)	0.0 / 0.0
Free Space Loss (dB)	130.2

Transmit Frequencies (MHz)	17965.0000V(5)	18065.0000V(7)	19525.0000V(5)	19625.0000V(7)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0224D CA
City/County San Jose/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0431A CA

/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °19' 7.2~ N	37 °19' 21.8~ N
Longitude (NAD 83)	121 °49' 45.9~ W	121 °45' 18.7~ W
Ground Elevation (m/ft-AMSL)	40.00 / 131.2	293.50 / 962.9
Antenna Structure Registration #		1049603
Path Azimuth (°)	86.064	266.109
Path Length (km / miles)		6.594 / 4.097

Transmit Antenna

RH6969	RH6969
RADIO WAVES, INC	RADIO WAVES, INC
HP3-18	HP3-18
Gain (dBi) / Beamwidth (°) / Tilt (°)	42.0 / 1.30 / 2.35
Centerline (m / ft - AGL)	10.97 / 36.0
	42.0 / 1.30 / -2.39
	30.18 / 99.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM085	TEM085
DRAGONWAVE INC	DRAGONWAVE INC
18HD50HFC322V02	18HD50HFC322V02
HORIZON DUO	HORIZON DUO
Emission Designator / Modulation	45M8D7W 256 QAM
Loading	1 CH DIG 322000.000
Stability (%)	0.001
	Nominal Coordinated Maximum
Power (dBm)	17.5
Received Level (dBm)	-32.8
EIRP (dBm)	59.5
Fixed Loss: Tx / Common (dB)	0.0 / 0.0
Free Space Loss (dB)	134.3

Transmit Frequencies (MHz)	19525.0000V(5)	19625.0000V(7)	17965.0000V(5)	18065.0000V(7)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0228B CA
City/County San Jose/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0429A CA

San Jose/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °19' 48.7~ N	37 °19' 20.9~ N
Longitude (NAD 83)	121 °49' 33.5~ W	121 °46' 44.9~ W
Ground Elevation (m/ft-AMSL)	37.20 / 122.0	87.50 / 287.1
Antenna Structure Registration #		
Path Azimuth (°)	101.652	281.680
Path Length (km / miles)	4.238 / 2.634	

Transmit Antenna

87059A	87059A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2.5-18	VHLP2.5-18
41.0 / 1.50 / 0.80	41.0 / 1.50 / -0.83
11.58 / 38.0	21.34 / 70.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM085	TEM085
DRAGONWAVE INC	DRAGONWAVE INC
18HD50HFC322V02	18HD50HFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
15.5	15.5
-32.9	-32.9
56.5	56.5
0.0 / 0.0	0.0 / 0.0
130.4	

Transmit Frequencies (MHz)	19375.0000V(2)	19475.0000V(4)	17815.0000V(2)	17915.0000V(4)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0228B CA
City/County San Jose/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0444A CA

San Jose/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °19' 48.7~ N	37 °17' 12.0~ N
Longitude (NAD 83)	121 °49' 33.5~ W	121 °47' 47.5~ W
Ground Elevation (m/ft-AMSL)	37.20 / 122.0	201.10 / 659.8
Antenna Structure Registration #		
Path Azimuth (°)	151.607	331.625
Path Length (km / miles)	5.491 / 3.412	

Transmit Antenna

87059A	87059A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2.5-18	VHLP2.5-18
Gain (dBi) / Beamwidth (°) / Tilt (°)	41.0 / 1.50 / -1.72
Centerline (m / ft - AGL)	12.19 / 40.0
	11.28 / 37.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM085	TEM085
DRAGONWAVE INC	DRAGONWAVE INC
18HD50HFC322V02	18HD50HFC322V02
HORIZON DUO	HORIZON DUO
Emission Designator / Modulation	45M8D7W 256 QAM
Loading	1 CH DIG 322000.000
Stability (%)	0.001
	Nominal Coordinated Maximum
Power (dBm)	17.5
Received Level (dBm)	-33.2
EIRP (dBm)	58.5
Fixed Loss: Tx / Common (dB)	0.0 / 0.0
Free Space Loss (dB)	132.7

Transmit Frequencies (MHz)	19525.0000V(5)	19625.0000V(7)	17965.0000V(5)	18065.0000V(7)
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Microwave Path Data Sheet

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COMSEARCH19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0232A CA
City/County San Jose/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0223C CA

San Jose/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °21' 32.5~ N	37 °22' 19.5~ N
Longitude (NAD 83)	121 °48' 53.4~ W	121 °50' 32.8~ W
Ground Elevation (m/ft-AMSL)	48.40 / 158.8	46.30 / 151.9
Antenna Structure Registration #		
Path Azimuth (°)	300.651	120.634
Path Length (km / miles)	2.843 / 1.766	

Transmit Antenna

87012A	87012A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2-18	VHLP2-18
Gain (dBi) / Beamwidth (°) / Tilt (°)	38.7 / 2.10 / -0.17
Centerline (m / ft - AGL)	17.37 / 57.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM085	TEM085
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 18HD50HFC322V02	18HD50HFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 12.0	12.0
Received Level (dBm) -37.6	-37.6
EIRP (dBm) 50.7	50.7
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 127.0	

Transmit Frequencies (MHz)	19375.0000V(2)	19475.0000V(4)	17815.0000V(2)	17915.0000V(4)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0276A CA
City/County San Jose/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0223C CA

San Jose/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °19' 49.6~ N	37 °22' 19.5~ N
Longitude (NAD 83)	121 °53' 18.4~ W	121 °50' 32.8~ W
Ground Elevation (m/ft-AMSL)	29.70 / 97.4	46.30 / 151.9
Antenna Structure Registration #		
Path Azimuth (°)	41.396	221.424
Path Length (km / miles)	6.162 / 3.829	

Transmit Antenna

Manufacturer	RB2160	RH6969
Model	RADIO WAVES, INC	RADIO WAVES, INC
Gain (dBi) / Beamwidth (°) / Tilt (°)	HP4-18	HP3-18
Centerline (m / ft - AGL)	44.5 / 1.00 / -0.62	42.0 / 1.30 / 0.58
	91.44 / 300.0	10.67 / 35.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

Manufacturer	TEMO85	TEMO85
Model	DRAGONWAVE INC	DRAGONWAVE INC
Model Description	18HD50HFC322V02	18HD50HFC322V02
Emission Designator / Modulation	HORIZON DUO	HORIZON DUO
Loading	45M8D7W 256 QAM	45M8D7W 256 QAM
Stability (%)	1 CH DIG 322000.000	1 CH DIG 322000.000
	0.001	0.001
	Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm)	17.5	17.5
Received Level (dBm)	-29.7	-29.7
EIRP (dBm)	62.0	59.5
Fixed Loss: Tx / Common (dB)	0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB)		133.7

Transmit Frequencies (MHz)	19525.0000H(5)	19625.0000H(7)	17965.0000H(5)	18065.0000H(7)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0127B CA
City/County Sunnyvale/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0053B CA

Sunnyvale/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °22' 40.2~ N	37 °23' 1.5~ N
Longitude (NAD 83)	122 °2' 0.3~ W	121 °59' 54.2~ W
Ground Elevation (m/ft-AMSL)	29.80 / 97.8	12.60 / 41.3
Antenna Structure Registration #		
Path Azimuth (°)	78.038	258.059
Path Length (km / miles)	3.171 / 1.970	

Transmit Antenna

87012A	87012A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2-18	VHLP2-18
38.7 / 2.10 / -0.50	38.7 / 2.10 / 0.48
19.20 / 63.0	9.45 / 31.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMU74	TEMU74
DRAGONWAVE INC	DRAGONWAVE INC
18HA50HFC322V01	18HA50HFC322V01
Horizon Duo-Adj Channel	Horizon Duo-Adj Channel
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
12.0	12.0
-38.5	-38.5
50.7	50.7
0.0 / 0.0	0.0 / 0.0
127.9	

Transmit Frequencies (MHz)	19425.0000H(3)	19475.0000H(4)	17865.0000H(3)	17915.0000H(4)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0058A CA
City/County Mountain View/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0275A CA

City/County Mountain View/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °24' 4.6~ N	37 °23' 25.9~ N
Longitude (NAD 83)	122 °6' 40.5~ W	122 °4' 52.9~ W
Ground Elevation (m/ft-AMSL)	21.20 / 69.6	26.70 / 87.6
Antenna Structure Registration #		
Path Azimuth (°)	114.257	294.275
Path Length (km / miles)	2.903 / 1.804	

Transmit Antenna

87012A	87012A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2-18	VHLP2-18
Gain (dBi) / Beamwidth (°) / Tilt (°) 38.7 / 2.10 / 0.35	38.7 / 2.10 / -0.37
Centerline (m / ft - AGL) 26.76 / 87.8	39.62 / 130.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMU74	TEMU74
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 18HA50HFC322V01	18HA50HFC322V01
Model Description Horizon Duo-Adj Channel	Horizon Duo-Adj Channel
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 11.0	11.0
Received Level (dBm) -38.8	-38.8
EIRP (dBm) 49.7	49.7
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 127.2	

Transmit Frequencies (MHz)	18065.0000H(7)	18115.0000H(8)	19625.0000H(7)	19675.0000H(8)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0055A CA
City/County Menlo Park/San Mateo
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0406A CA

Redwood City/San Mateo
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °27' 7.9~ N	37 °27' 46.8~ N
Longitude (NAD 83)	122 °11' 23.4~ W	122 °15' 0.0~ W
Ground Elevation (m/ft-AMSL)	23.70 / 77.8	58.50 / 191.9
Antenna Structure Registration #		
Path Azimuth (°)	282.714	102.678
Path Length (km / miles)	5.457 / 3.391	

Transmit Antenna

87012A	87012A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2-18	VHLP2-18
38.7 / 2.10 / 0.25	38.7 / 2.10 / -0.29
32.31 / 106.0	23.47 / 77.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM032	TEM032
DRAGONWAVE INC	DRAGONWAVE INC
18HD50HFC271V02	18HD50HFC271V02
HORIZON DUO	HORIZON DUO
47M8D7W 128 QAM	47M8D7W 128 QAM
1 CH DIG 271000.000	1 CH DIG 271000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
17.0	17.0
-38.2	-38.2
55.7	55.7
0.0 / 0.0	0.0 / 0.0
132.6	

Transmit Frequencies (MHz)

17815.0000V(2)	17915.0000V(4)	19375.0000V(2)	19475.0000V(4)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0003A CA
City/County Pleasanton/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0485D CA

Dublin/Alameda
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 ° 41' 35.2~ N	37 ° 42' 21.2~ N
Longitude (NAD 83)	121 ° 53' 36.2~ W	121 ° 53' 16.2~ W
Ground Elevation (m/ft-AMSL)	100.90 / 331.0	106.70 / 350.1
Antenna Structure Registration #		
Path Azimuth (°)	19.056	199.060
Path Length (km / miles)	1.500 / 0.932	

Transmit Antenna

87014A	87014A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP1-23	VHLP1-23
35.3 / 3.00 / -0.02	35.3 / 3.00 / 0.01
25.91 / 85.0	19.81 / 65.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ48	TEMQ48
DRAGONWAVE INC	DRAGONWAVE INC
23HD50HFC322V02	23HD50HFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
6.0	6.0
-46.3	-46.3
41.3	41.3
0.0 / 0.0	0.0 / 0.0
122.9	

Transmit Frequencies (MHz)	21925.0000V(3)	22075.0000V(6)	23125.0000V(3)	23275.0000V(6)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0004D CA
City/County Hayward/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0286A CA

City/County Hayward/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °39' 19.3~ N	37 °39' 25.7~ N
Longitude (NAD 83)	122 °3' 25.5~ W	122 °5' 40.4~ W
Ground Elevation (m/ft-AMSL)	153.60 / 503.9	22.20 / 72.8
Antenna Structure Registration #		
Path Azimuth (°)	273.426	93.404
Path Length (km / miles)	3.312 / 2.058	

Transmit Antenna

87016A	87016A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2-23	VHLP2-23
Gain (dBi) / Beamwidth (°) / Tilt (°) 40.4 / 1.60 / -2.89	40.4 / 1.60 / 2.87
Centerline (m / ft - AGL) 58.22 / 191.0	22.86 / 75.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ48	TEMQ48
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 23HD50HFC322V02	23HD50HFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 11.0	11.0
Received Level (dBm) -38.0	-38.0
EIRP (dBm) 51.4	51.4
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 129.8	

Transmit Frequencies (MHz)	23375.0000V(8)	23475.0000V(10)	22175.0000V(8)	22275.0000V(10)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0004D CA
City/County Hayward/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0301C CA

City/County Hayward/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °39' 19.3~ N	37 °37' 59.7~ N
Longitude (NAD 83)	122 °3' 25.5~ W	122 °5' 16.6~ W
Ground Elevation (m/ft-AMSL)	153.60 / 503.9	10.60 / 34.8
Antenna Structure Registration #		
Path Azimuth (°)	227.989	47.971
Path Length (km / miles)	3.666 / 2.278	

Transmit Antenna

87016A	87016A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2-23	VHLP2-23
Gain (dBi) / Beamwidth (°) / Tilt (°) 40.4 / 1.60 / -2.80	40.4 / 1.60 / 2.77
Centerline (m / ft - AGL) 58.22 / 191.0	22.86 / 75.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ48	TEMQ48
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 23HD50HFC322V02	23HD50HFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 13.5	13.5
Received Level (dBm) -36.3	-36.3
EIRP (dBm) 53.9	53.9
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 130.6	

Transmit Frequencies (MHz)	23025.0000H(1)	23125.0000H(3)	21825.0000H(1)	21925.0000H(3)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0004D CA
City/County Hayward/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0314A CA

City/County Union City/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °39' 19.3~ N	37 °36' 28.6~ N
Longitude (NAD 83)	122 °3' 25.5~ W	122 °2' 24.2~ W
Ground Elevation (m/ft-AMSL)	153.60 / 503.9	15.30 / 50.2
Antenna Structure Registration #		
Path Azimuth (°)	164.055	344.066
Path Length (km / miles)	5.473 / 3.401	

Transmit Antenna

Manufacturer	87066A	87016A
Model	ANDREW CORPORATION	ANDREW CORPORATION
Gain (dBi) / Beamwidth (°) / Tilt (°)	VHLP2.5-23A	VHLP2-23
Centerline (m / ft - AGL)	43.0 / 1.20 / -1.73	40.4 / 1.60 / 1.70
	58.22 / 191.0	32.61 / 107.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

Manufacturer	TEMQ47	TEMQ47
Model	DRAGONWAVE INC	DRAGONWAVE INC
Model Description	23HD50HFC271V02	23HD50HFC271V02
Emission Designator / Modulation	HORIZON DUO	HORIZON DUO
Loading	47M8D7W 128 QAM	47M8D7W 128 QAM
Stability (%)	1 CH DIG 271000.000	1 CH DIG 271000.000
	0.001	0.001
	Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm)	14.0	14.0
Received Level (dBm)	-36.7	-36.7
EIRP (dBm)	57.0	54.4
Fixed Loss: Tx / Common (dB)	0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB)		134.1

Transmit Frequencies (MHz)	23175.0000V(4)	23275.0000V(6)	21975.0000V(4)	22075.0000V(6)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0148B CA
City/County Oakland/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0162A CA

City/County Oakland/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 ° 48' 2.0~ N	37 ° 47' 32.1~ N
Longitude (NAD 83)	122 ° 16' 22.0~ W	122 ° 15' 30.5~ W
Ground Elevation (m/ft-AMSL)	12.00 / 39.4	3.90 / 12.8
Antenna Structure Registration #		
Path Azimuth (°)	126.187	306.196
Path Length (km / miles)	1.561 / 0.970	

Transmit Antenna

87014A	87014A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP1-23	VHLP1-23
Gain (dBi) / Beamwidth (°) / Tilt (°)	35.3 / 3.00 / -1.52
Centerline (m / ft - AGL)	47.24 / 155.0
	13.72 / 45.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ48	TEMQ48
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 23HD50HFC322V02	23HD50HFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 8.0	8.0
Received Level (dBm) -44.6	-44.6
EIRP (dBm) 43.3	43.3
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 123.2	

Transmit Frequencies (MHz)	23025.0000V(1)	23175.0000V(4)	21825.0000V(1)	21975.0000V(4)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0162A CA
City/County Oakland/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0168A CA

Alameda/Alameda
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 ° 47' 32.1~ N	37 ° 47' 22.4~ N
Longitude (NAD 83)	122 ° 15' 30.5~ W	122 ° 16' 31.5~ W
Ground Elevation (m/ft-AMSL)	3.90 / 12.8	2.30 / 7.5
Antenna Structure Registration #		
Path Azimuth (°)	258.674	78.664
Path Length (km / miles)	1.522 / 0.946	

Transmit Antenna

87014A	87014A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP1-23	VHLP1-23
35.3 / 3.00 / 0.19	35.3 / 3.00 / -0.20
13.72 / 45.0	20.42 / 67.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ16	TEMQ16
DRAGONWAVE INC	DRAGONWAVE INC
23HD50SFC322V02	23HD50SFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
5.5	5.5
-46.9	-46.9
40.8	40.8
0.0 / 0.0	0.0 / 0.0
123.0	

Transmit Frequencies (MHz)	21875.0000H(2)	22025.0000H(5)	23075.0000H(2)	23225.0000H(5)
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19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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RCN Number: 10012000

FXO -- Fixed

17.68 / 58.0

Centerline (m / ft – AGL)

Centerline (m / ft – AGL)

43.3

0.0 / 0.0

22025.00000V(5)

Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0259A CA
City/County San Leandro/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0252A CA

San Leandro/Alameda
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 ° 42' 35.9~ N	37 ° 42' 57.1~ N
Longitude (NAD 83)	122 ° 10' 10.4~ W	122 ° 10' 45.6~ W
Ground Elevation (m/ft-AMSL)	9.00 / 29.5	6.70 / 22.0
Antenna Structure Registration #		
Path Azimuth (°)	307.170	127.164
Path Length (km / miles)	1.082 / 0.672	

Transmit Antenna

87014A	87014A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP1-23	VHLP1-23
35.3 / 3.00 / -0.13	35.3 / 3.00 / 0.12
13.11 / 43.0	13.11 / 43.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM020	TEM020
DRAGONWAVE INC	DRAGONWAVE INC
23HD50SFC371V02	23HD50SFC371V02
HORIZON DUO	HORIZON DUO
49M2D7W 256 QAM	49M2D7W 256 QAM
1 CH DIG 371000.000	1 CH DIG 371000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
5.5	5.5
-43.9	-43.9
40.8	40.8
0.0 / 0.0	0.0 / 0.0
120.0	

Transmit Frequencies (MHz)

23025.0000V(1)	23225.0000V(5)	21825.0000V(1)	22025.0000V(5)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0259A CA
City/County San Leandro/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0257A CA

City/County San Leandro/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 ° 42' 35.9~ N	37 ° 42' 48.5~ N
Longitude (NAD 83)	122 ° 10' 10.4~ W	122 ° 9' 20.0~ W
Ground Elevation (m/ft-AMSL)	9.00 / 29.5	14.90 / 48.9
Antenna Structure Registration #		1016585
Path Azimuth (°)	72.528	252.536
Path Length (km / miles)		1.294 / 0.804

Transmit Antenna

87014A	87014A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP1-23	VHLP1-23
Gain (dBi) / Beamwidth (°) / Tilt (°)	35.3 / 3.00 / 0.59
Centerline (m / ft - AGL)	13.11 / 43.0
	20.73 / 68.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ16	TEMQ16
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 23HD50SFC322V02	23HD50SFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
	Nominal Coordinated Maximum
Power (dBm) 5.5	5.5
Received Level (dBm) -45.5	-45.5
EIRP (dBm) 40.8	40.8
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 121.6	

Transmit Frequencies (MHz)	23175.0000H(4)	23275.0000H(6)	21975.0000H(4)	22075.0000H(6)
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Microwave Path Data Sheet

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COMSEARCH

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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0263A CA
City/County San Leandro/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0276B CA

San Leandro/Alameda
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 ° 42' 12.3~ N	37 ° 41' 4.8~ N
Longitude (NAD 83)	122 ° 8' 26.6~ W	122 ° 8' 5.9~ W
Ground Elevation (m/ft-AMSL)	12.80 / 42.0	8.80 / 28.9
Antenna Structure Registration #		1016793
Path Azimuth (°)	166.303	346.307
Path Length (km / miles)	2.142 / 1.331	

Transmit Antenna

87014A	87014A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP1-23	VHLP1-23
35.3 / 3.00 / -0.28	35.3 / 3.00 / 0.26
23.16 / 76.0	17.07 / 56.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ48	TEMQ48
DRAGONWAVE INC	DRAGONWAVE INC
23HD50HFC322V02	23HD50HFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
13.0	13.0
-42.4	-42.4
48.3	48.3
0.0 / 0.0	0.0 / 0.0
126.0	

Transmit Frequencies (MHz)	21925.0000V(3)	22075.0000V(6)	23125.0000V(3)	23275.0000V(6)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0267A CA
City/County San Leandro/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0275A CA

Ashland/Alameda
Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 ° 42' 2.8~ N	37 ° 41' 19.3~ N
Longitude (NAD 83)	122 ° 7' 50.4~ W	122 ° 7' 11.6~ W
Ground Elevation (m/ft-AMSL)	10.40 / 34.1	11.90 / 39.0
Antenna Structure Registration #		1015126
Path Azimuth (°)	144.669	324.676
Path Length (km / miles)		1.644 / 1.021

Transmit Antenna

87014A	87014A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP1-23	VHLP1-23
Gain (dBi) / Beamwidth (°) / Tilt (°)	35.3 / 3.00 / -0.46
Centerline (m / ft - AGL)	14.33 / 47.0
25.91 / 85.0	

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ48	TEMQ48
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 23HD50HFC322V02	23HD50HFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 8.0	8.0
Received Level (dBm) -45.1	-45.1
EIRP (dBm) 43.3	43.3
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 123.7	

Transmit Frequencies (MHz)	23075.0000V(2)	23225.0000V(5)	21875.0000V(2)	22025.0000V(5)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0269A CA
City/County Castro Valley/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0585A CA

City/County Castro Valley/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 ° 41' 36.8~ N	37 ° 41' 35.0~ N
Longitude (NAD 83)	122 ° 4' 24.3~ W	122 ° 5' 38.1~ W
Ground Elevation (m/ft-AMSL)	52.60 / 172.6	71.60 / 234.9
Antenna Structure Registration #		1203986
Path Azimuth (°)	268.248	88.236
Path Length (km / miles)		1.809 / 1.124

Transmit Antenna

87014A	87014A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP1-23	VHLP1-23
Gain (dBi) / Beamwidth (°) / Tilt (°)	35.3 / 3.00 / -0.81
Centerline (m / ft - AGL)	10.06 / 33.0
	16.76 / 55.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ48	TEMQ48
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 23HD50HFC322V02	23HD50HFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
	Nominal Coordinated Maximum
Power (dBm)	15.5
Received Level (dBm)	-38.4
EIRP (dBm)	50.8
Fixed Loss: Tx / Common (dB)	0.0 / 0.0
Free Space Loss (dB)	124.5

Transmit Frequencies (MHz)	21825.0000V(1)	21975.0000V(4)	23025.0000V(1)	23175.0000V(4)
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Microwave Path Data Sheet

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COMSEARCH

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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0276B CA
City/County San Leandro/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0275A CA

Ashland/Alameda
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 ° 41' 4.8~ N	37 ° 41' 19.3~ N
Longitude (NAD 83)	122 ° 8' 5.9~ W	122 ° 7' 11.6~ W
Ground Elevation (m/ft-AMSL)	8.80 / 28.9	11.90 / 39.0
Antenna Structure Registration #	1016793	1015126
Path Azimuth (°)	71.422	251.431
Path Length (km / miles)	1.404 / 0.872	

Transmit Antenna

87014A	87014A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP1-23	VHLP1-23
Gain (dBi) / Beamwidth (°) / Tilt (°)	35.3 / 3.00 / -0.49
Centerline (m / ft - AGL)	17.07 / 56.0
25.91 / 85.0	

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ16	TEMQ16
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 23HD50SFC322V02	23HD50SFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 5.5	5.5
Received Level (dBm) -46.2	-46.2
EIRP (dBm) 40.8	40.8
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 122.3	

Transmit Frequencies (MHz)	23025.0000V(1)	23175.0000V(4)	21825.0000V(1)	21975.0000V(4)
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Microwave Path Data Sheet

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COMSEARCH

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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0304C CA
City/County San Bruno/San Mateo
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0310D CA

City/County San Bruno/San Mateo
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °37' 37.2~ N	37 °36' 49.7~ N
Longitude (NAD 83)	122 °25' 27.2~ W	122 °25' 32.9~ W
Ground Elevation (m/ft-AMSL)	31.50 / 103.3	115.20 / 378.0
Antenna Structure Registration #		1018253
Path Azimuth (°)	185.453	5.452
Path Length (km / miles)	1.471 / 0.914	

Transmit Antenna

87014A	87014A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP1-23	VHLP1-23
Gain (dBi) / Beamwidth (°) / Tilt (°)	35.3 / 3.00 / -2.66
Centerline (m / ft - AGL)	27.43 / 90.0
27.43 / 90.0	11.89 / 39.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMR36	TEMR36
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 23HD50HFC364V02	23HD50HFC364V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 47M1D7W 256 QAM	47M1D7W 256 QAM
Loading 1 CH DIG 364000.000	1 CH DIG 364000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 15.5	15.5
Received Level (dBm) -36.6	-36.6
EIRP (dBm) 50.8	50.8
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 122.7	

Transmit Frequencies (MHz)	21875.0000V(2)	22025.0000V(5)	23075.0000V(2)	23225.0000V(5)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0316A CA
City/County Millbrae/San Mateo
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0311D CA

/San Mateo
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °36' 10.4~ N	37 °36' 59.9~ N
Longitude (NAD 83)	122 °22' 40.5~ W	122 °23' 6.0~ W
Ground Elevation (m/ft-AMSL)	3.10 / 10.2	8.50 / 27.9
Antenna Structure Registration #		
Path Azimuth (°)	337.717	157.713
Path Length (km / miles)	1.649 / 1.025	

Transmit Antenna

87014A	87014A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP1-23	VHLP1-23
Gain (dBi) / Beamwidth (°) / Tilt (°)	35.3 / 3.00 / -0.51
Centerline (m / ft - AGL)	18.29 / 60.0
27.43 / 90.0	

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMR36	TEMR36
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 23HD50HFC364V02	23HD50HFC364V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 47M1D7W 256 QAM	47M1D7W 256 QAM
Loading 1 CH DIG 364000.000	1 CH DIG 364000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 15.5	15.5
Received Level (dBm) -37.6	-37.6
EIRP (dBm) 50.8	50.8
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 123.7	

Transmit Frequencies (MHz)	23125.0000V(3)	23275.0000V(6)	21925.0000V(3)	22075.0000V(6)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0326C CA
City/County Burlingame/San Mateo
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0324A CA

Burlingame/San Mateo
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °35' 37.9~ N	37 °35' 25.9~ N
Longitude (NAD 83)	122 °21' 54.9~ W	122 °20' 21.9~ W
Ground Elevation (m/ft-AMSL)	2.40 / 7.9	3.00 / 9.8
Antenna Structure Registration #		
Path Azimuth (°)	99.203	279.219
Path Length (km / miles)	2.311 / 1.436	

Transmit Antenna

87016A	87016A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2-23	VHLP2-23
40.4 / 1.60 / -0.54	40.4 / 1.60 / 0.52
46.94 / 154.0	24.99 / 82.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM020	TEM020
DRAGONWAVE INC	DRAGONWAVE INC
23HD50SFC371V02	23HD50SFC371V02
HORIZON DUO	HORIZON DUO
49M2D7W 256 QAM	49M2D7W 256 QAM
1 CH DIG 371000.000	1 CH DIG 371000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
5.5	5.5
-40.3	-40.3
45.9	45.9
0.0 / 0.0	0.0 / 0.0
126.6	

Transmit Frequencies (MHz)	21875.0000H(2)	22025.0000H(5)	23075.0000H(2)	23225.0000H(5)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0344B CA
City/County San Mateo/San Mateo
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0346A CA

Foster City/San Mateo
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °34' 7.3~ N	37 °33' 43.9~ N
Longitude (NAD 83)	122 °17' 31.1~ W	122 °16' 37.2~ W
Ground Elevation (m/ft-AMSL)	1.40 / 4.6	2.00 / 6.6
Antenna Structure Registration #		
Path Azimuth (°)	118.603	298.612
Path Length (km / miles)	1.507 / 0.936	

Transmit Antenna

87014A	87014A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP1-23	VHLP1-23
Gain (dBi) / Beamwidth (°) / Tilt (°)	35.3 / 3.00 / -0.37
Centerline (m / ft - AGL)	13.72 / 45.0
	22.86 / 75.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ16	TEMQ16
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 23HD50SFC322V02	23HD50SFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
	Nominal Coordinated Maximum
Power (dBm) 7.5	7.5
Received Level (dBm) -44.8	-44.8
EIRP (dBm) 42.8	42.8
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 122.9	

Transmit Frequencies (MHz)	23125.0000V(3)	23275.0000V(6)	21925.0000V(3)	22075.0000V(6)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0355A CA
City/County San Mateo/San Mateo
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0344B CA

San Mateo/San Mateo
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °33' 12.2~ N	37 °34' 7.3~ N
Longitude (NAD 83)	122 °18' 0.0~ W	122 °17' 31.1~ W
Ground Elevation (m/ft-AMSL)	2.40 / 7.9	1.40 / 4.6
Antenna Structure Registration #		
Path Azimuth (°)	22.660	202.665
Path Length (km / miles)	1.841 / 1.144	

Transmit Antenna

87014A	87014A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP1-23	VHLP1-23
35.3 / 3.00 / -0.84	35.3 / 3.00 / 0.83
39.62 / 130.0	13.72 / 45.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ48	TEMQ48
DRAGONWAVE INC	DRAGONWAVE INC
23HD50HFC322V02	23HD50HFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
15.5	15.5
-38.6	-38.6
50.8	50.8
0.0 / 0.0	0.0 / 0.0
124.7	

Transmit Frequencies (MHz)	21825.0000V(1)	21975.0000V(4)	23025.0000V(1)	23175.0000V(4)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0391A CA
City/County San Carlos/San Mateo
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0387C CA

San Carlos/San Mateo
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °29' 30.4~ N	37 °30' 36.3~ N
Longitude (NAD 83)	122 °16' 32.0~ W	122 °16' 35.4~ W
Ground Elevation (m/ft-AMSL)	145.20 / 476.4	171.20 / 561.7
Antenna Structure Registration #		
Path Azimuth (°)	357.646	177.646
Path Length (km / miles)	2.033 / 1.263	

Transmit Antenna

87014A	87014A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP1-23	VHLP1-23
35.3 / 3.00 / 0.45	35.3 / 3.00 / -0.46
21.95 / 72.0	12.19 / 40.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ48	TEMQ48
DRAGONWAVE INC	DRAGONWAVE INC
23HD50HFC322V02	23HD50HFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
15.5	15.5
-39.4	-39.4
50.8	50.8
0.0 / 0.0	0.0 / 0.0
125.5	

Transmit Frequencies (MHz)	21875.0000V(2)	22025.0000V(5)	23075.0000V(2)	23225.0000V(5)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0394A CA
City/County Redwood City/San Mateo
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0391A CA

San Carlos/San Mateo
Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °28' 46.6~ N	37 °29' 30.4~ N
Longitude (NAD 83)	122 °15' 18.0~ W	122 °16' 32.0~ W
Ground Elevation (m/ft-AMSL)	34.40 / 112.9	145.20 / 476.4
Antenna Structure Registration #		
Path Azimuth (°)	306.610	126.598
Path Length (km / miles)	2.265 / 1.407	

Transmit Antenna

87014A	87014A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP1-23	VHLP1-23
Gain (dBi) / Beamwidth (°) / Tilt (°)	35.3 / 3.00 / -2.71
Centerline (m / ft - AGL)	25.91 / 85.0
25.91 / 85.0	21.95 / 72.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ48	TEMQ48
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 23HD50HFC322V02	23HD50HFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 15.5	15.5
Received Level (dBm) -40.4	-40.4
EIRP (dBm) 50.8	50.8
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 126.5	

Transmit Frequencies (MHz)	23125.0000V(3)	23275.0000V(6)	21925.0000V(3)	22075.0000V(6)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0397A CA
City/County North Fair Oaks/San Mateo
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0395E CA

Redwood City/San Mateo
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °28' 34.7~ N	37 °28' 52.4~ N
Longitude (NAD 83)	122 °12' 33.1~ W	122 °13' 40.4~ W
Ground Elevation (m/ft-AMSL)	8.20 / 26.9	5.40 / 17.7
Antenna Structure Registration #		
Path Azimuth (°)	288.269	108.258
Path Length (km / miles)	1.741 / 1.082	

Transmit Antenna

87014A
Manufacturer ANDREW CORPORATION
Model VHLP1-23
Gain (dBi) / Beamwidth (°) / Tilt (°) 35.3 / 3.00 / -0.35
Centerline (m / ft - AGL) 19.81 / 65.0

87014A
ANDREW CORPORATION
VHLP1-23
35.3 / 3.00 / 0.34
12.19 / 40.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ48
Manufacturer DRAGONWAVE INC
Model 23HD50HFC322V02
Model Description HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM
Loading 1 CH DIG 322000.000
Stability (%) 0.001
Nominal Coordinated Maximum
Power (dBm) 15.5
Received Level (dBm) -38.1
EIRP (dBm) 50.8
Fixed Loss: Tx / Common (dB) 0.0 / 0.0
Free Space Loss (dB) 124.2

TEMQ48
DRAGONWAVE INC
23HD50HFC322V02
HORIZON DUO
45M8D7W 256 QAM
1 CH DIG 322000.000
0.001
Nominal Coordinated Maximum
15.5
-38.1
50.8
0.0 / 0.0

Transmit Frequencies (MHz)	21825.0000V(1)	21975.0000V(4)	23025.0000V(1)	23175.0000V(4)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0429A CA
City/County San Jose/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0431A CA

/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °19' 20.9~ N	37 °19' 21.8~ N
Longitude (NAD 83)	121 °46' 44.9~ W	121 °45' 18.7~ W
Ground Elevation (m/ft-AMSL)	87.50 / 287.1	293.50 / 962.9
Antenna Structure Registration #		1049603
Path Azimuth (°)	89.244	269.258
Path Length (km / miles)	2.122 / 1.319	

Transmit Antenna

87016A	87014A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2-23	VHLP1-23
Gain (dBi) / Beamwidth (°) / Tilt (°) 40.4 / 1.60 / 5.77	35.3 / 3.00 / -5.79
Centerline (m / ft - AGL) 21.34 / 70.0	30.18 / 99.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ48	TEMQ48
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 23HD50HFC322V02	23HD50HFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 7.5	7.5
Received Level (dBm) -42.7	-42.7
EIRP (dBm) 47.9	42.8
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 125.9	

Transmit Frequencies (MHz)	23075.0000H(2)	23225.0000H(5)	21875.0000H(2)	22025.0000H(5)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0432C CA
City/County San Jose/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0171C CA

San Jose/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °19' 2.8~ N	37 °18' 57.4~ N
Longitude (NAD 83)	121 °56' 51.1~ W	121 °55' 52.3~ W
Ground Elevation (m/ft-AMSL)	44.10 / 144.7	43.30 / 142.1
Antenna Structure Registration #		
Path Azimuth (°)	96.554	276.564
Path Length (km / miles)	1.457 / 0.906	

Transmit Antenna

87014A	87014A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP1-23	VHLP1-23
35.3 / 3.00 / -1.16	35.3 / 3.00 / 1.15
49.38 / 162.0	20.73 / 68.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ48	TEMQ48
DRAGONWAVE INC	DRAGONWAVE INC
23HD50HFC322V02	23HD50HFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
7.5	7.5
-44.5	-44.5
42.8	42.8
0.0 / 0.0	0.0 / 0.0
122.6	

Transmit Frequencies (MHz)

23075.0000V(2)	23225.0000V(5)	21875.0000V(2)	22025.0000V(5)
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Microwave Path Data Sheet

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COMSEARCH19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0446A CA
City/County San Jose/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0444A CA

San Jose/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °17' 8.0~ N	37 °17' 12.0~ N
Longitude (NAD 83)	121 °49' 5.1~ W	121 °47' 47.5~ W
Ground Elevation (m/ft-AMSL)	51.60 / 169.3	201.10 / 659.8
Antenna Structure Registration #		
Path Azimuth (°)	86.302	266.315
Path Length (km / miles)	1.915 / 1.190	

Transmit Antenna

87014A	87014A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP1-23	VHLP1-23
Gain (dBi) / Beamwidth (°) / Tilt (°)	35.3 / 3.00 / -4.64
Centerline (m / ft - AGL)	9.14 / 30.0
	15.24 / 50.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ54	TEMQ54
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 23HD50HFC215V02	23HD50HFC215V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 64 QAM	45M8D7W 64 QAM
Loading 1 CH DIG 215000.000	1 CH DIG 215000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 8.5	8.5
Received Level (dBm) -45.9	-45.9
EIRP (dBm) 43.8	43.8
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 125.0	

Transmit Frequencies (MHz)	23025.0000V(1)	23175.0000V(4)	21825.0000V(1)	21975.0000V(4)
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Microwave Path Data Sheet

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COMSEARCH

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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0446A CA
City/County San Jose/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0452C CA

San Jose/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °17' 8.0~ N	37 °16' 30.4~ N
Longitude (NAD 83)	121 °49' 5.1~ W	121 °48' 31.7~ W
Ground Elevation (m/ft-AMSL)	51.60 / 169.3	97.60 / 320.2
Antenna Structure Registration #		
Path Azimuth (°)	144.629	324.635
Path Length (km / miles)	1.421 / 0.883	

Transmit Antenna

87014A	87014A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP1-23	VHLP1-23
35.3 / 3.00 / 1.92	35.3 / 3.00 / -1.93
10.91 / 35.8	12.80 / 42.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ16	TEMQ16
DRAGONWAVE INC	DRAGONWAVE INC
23HD50SFC322V02	23HD50SFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
7.5	7.5
-44.3	-44.3
42.8	42.8
0.0 / 0.0	0.0 / 0.0
122.4	

Transmit Frequencies (MHz)

23075.0000H(2)	23225.0000H(5)	21875.0000H(2)	22025.0000H(5)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0453D CA
City/County San Jose/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0225B CA

San Jose/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °16' 34.2~ N	37 °16' 2.0~ N
Longitude (NAD 83)	121 °49' 34.5~ W	121 °50' 0.2~ W
Ground Elevation (m/ft-AMSL)	87.90 / 288.4	50.60 / 166.0
Antenna Structure Registration #		
Path Azimuth (°)	212.534	32.529
Path Length (km / miles)	1.177 / 0.732	

Transmit Antenna

87014A	87014A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP1-23	VHLP1-23
35.3 / 3.00 / -1.92	35.3 / 3.00 / 1.91
14.33 / 47.0	12.19 / 40.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM020	TEM020
DRAGONWAVE INC	DRAGONWAVE INC
23HD50SFC371V02	23HD50SFC371V02
HORIZON DUO	HORIZON DUO
49M2D7W 256 QAM	49M2D7W 256 QAM
1 CH DIG 371000.000	1 CH DIG 371000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
5.5	5.5
-44.7	-44.7
40.8	40.8
0.0 / 0.0	0.0 / 0.0
120.8	

Transmit Frequencies (MHz)	23125.0000V(3)	23275.0000V(6)	21925.0000V(3)	22075.0000V(6)
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Microwave Path Data Sheet

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19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0475A CA
City/County /Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0482A CA

Pleasanton/Alameda
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °38' 13.7~ N	37 °39' 39.3~ N
Longitude (NAD 83)	121 °53' 41.3~ W	121 °53' 2.2~ W
Ground Elevation (m/ft-AMSL)	149.90 / 491.8	102.50 / 336.3
Antenna Structure Registration #		
Path Azimuth (°)	19.957	199.964
Path Length (km / miles)	2.808 / 1.745	

Transmit Antenna

87014A	87016A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP1-23	VHLP2-23
Gain (dBi) / Beamwidth (°) / Tilt (°)	Gain (dBi) / Beamwidth (°) / Tilt (°)
35.3 / 3.00 / -0.70	40.4 / 1.60 / 0.68
Centerline (m / ft - AGL)	Centerline (m / ft - AGL)
9.14 / 30.0	22.56 / 74.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ48	TEMQ48
DRAGONWAVE INC	DRAGONWAVE INC
23HD50HFC322V02	23HD50HFC322V02
HORIZON DUO	HORIZON DUO
Emission Designator / Modulation	Emission Designator / Modulation
45M8D7W 256 QAM	45M8D7W 256 QAM
Loading	Loading
1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%)	Stability (%)
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm)	Power (dBm)
15.5	15.5
Received Level (dBm)	Received Level (dBm)
-37.1	-37.1
EIRP (dBm)	EIRP (dBm)
50.8	55.9
Fixed Loss: Tx / Common (dB)	Fixed Loss: Tx / Common (dB)
0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB)	Free Space Loss (dB)
128.3	

Transmit Frequencies (MHz)

23125.0000V(3)	23275.0000V(6)	21925.0000V(3)	22075.0000V(6)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0490D CA
City/County Pleasanton/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0003A CA

Pleasanton/Alameda
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 ° 41' 11.3~ N	37 ° 41' 35.2~ N
Longitude (NAD 83)	121 ° 54' 51.5~ W	121 ° 53' 36.2~ W
Ground Elevation (m/ft-AMSL)	99.20 / 325.5	100.90 / 331.0
Antenna Structure Registration #		
Path Azimuth (°)	68.222	248.234
Path Length (km / miles)	1.987 / 1.234	

Transmit Antenna

87014A	87014A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP1-23	VHLP1-23
35.3 / 3.00 / 0.46	35.3 / 3.00 / -0.47
11.58 / 38.0	25.91 / 85.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ48	TEMQ48
DRAGONWAVE INC	DRAGONWAVE INC
23HD50HFC322V02	23HD50HFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
10.0	10.0
-44.7	-44.7
45.3	45.3
0.0 / 0.0	0.0 / 0.0
125.3	

Transmit Frequencies (MHz)	23075.0000V(2)	23225.0000V(5)	21875.0000V(2)	22025.0000V(5)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0501A CA
City/County /Marin
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0007A CA

San Rafael/Marin
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °56' 47.6~ N	37 °57' 35.1~ N
Longitude (NAD 83)	122 °29' 59.7~ W	122 °30' 4.6~ W
Ground Elevation (m/ft-AMSL)	93.10 / 305.4	5.00 / 16.4
Antenna Structure Registration #		
Path Azimuth (°)	355.331	175.330
Path Length (km / miles)	1.469 / 0.913	

Transmit Antenna

87014A	87014A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP1-23	VHLP1-23
Gain (dBi) / Beamwidth (°) / Tilt (°)	35.3 / 3.00 / -4.05
Centerline (m / ft - AGL)	27.43 / 90.0
	11.58 / 38.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ48	TEMQ48
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 23HD50HFC322V02	23HD50HFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 15.5	15.5
Received Level (dBm) -36.6	-36.6
EIRP (dBm) 50.8	50.8
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 122.7	

Transmit Frequencies (MHz)	21875.0000V(2)	22025.0000V(5)	23075.0000V(2)	23225.0000V(5)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0523A CA
City/County San Rafael/Marin
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0545A CA

City/County San Rafael/Marin
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °58' 52.3~ N	37 °59' 24.8~ N
Longitude (NAD 83)	122 °31' 45.7~ W	122 °30' 0.5~ W
Ground Elevation (m/ft-AMSL)	185.10 / 607.3	309.00 / 1013.8
Antenna Structure Registration #		
Path Azimuth (°)	68.669	248.687
Path Length (km / miles)	2.756 / 1.712	

Transmit Antenna

Manufacturer	87016A	87016A
Model	ANDREW CORPORATION	ANDREW CORPORATION
Gain (dBi) / Beamwidth (°) / Tilt (°)	VHLP2-23	VHLP2-23
Centerline (m / ft - AGL)	40.4 / 1.60 / 2.39	40.4 / 1.60 / -2.41
	18.29 / 60.0	9.75 / 32.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

Manufacturer	TEMQ48	TEMQ48
Model	DRAGONWAVE INC	DRAGONWAVE INC
Model Description	23HD50HFC322V02	23HD50HFC322V02
Emission Designator / Modulation	HORIZON DUO	HORIZON DUO
Loading	45M8D7W 256 QAM	45M8D7W 256 QAM
Stability (%)	1 CH DIG 322000.000	1 CH DIG 322000.000
	0.001	0.001
	Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm)	9.9	9.9
Received Level (dBm)	-37.5	-37.5
EIRP (dBm)	50.3	50.3
Fixed Loss: Tx / Common (dB)	0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB)		128.2

Transmit Frequencies (MHz)	23075.0000V(2)	23225.0000V(5)	21875.0000V(2)	22025.0000V(5)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0526A CA
City/County Novato/Marin
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0537B CA

Novato/Marin
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83) 38 °6' 21.9~ N
Longitude (NAD 83) 122 °34' 46.4~ W
Ground Elevation (m/ft-AMSL) 8.10 / 26.6
Antenna Structure Registration #
Path Azimuth (°) 74.338
Path Length (km / miles) 2.720 / 1.690

38 °6' 45.7~ N
122 °32' 58.9~ W
133.20 / 437.0
1016421
254.356

Transmit Antenna

87016A
Manufacturer ANDREW CORPORATION
Model VHLP2-23
Gain (dBi) / Beamwidth (°) / Tilt (°) 40.4 / 1.60 / 2.69
Centerline (m / ft - AGL) 10.97 / 36.0

87016A
ANDREW CORPORATION
VHLP2-23
40.4 / 1.60 / -2.71
14.33 / 47.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ48
Manufacturer DRAGONWAVE INC
Model 23HD50HFC322V02
Model Description HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM
Loading 1 CH DIG 322000.000
Stability (%) 0.001
Nominal Coordinated Maximum
Power (dBm) 9.8
Received Level (dBm) -37.5
EIRP (dBm) 50.2
Fixed Loss: Tx / Common (dB) 0.0 / 0.0
Free Space Loss (dB) 128.0

TEMQ48
DRAGONWAVE INC
23HD50HFC322V02
HORIZON DUO
45M8D7W 256 QAM
1 CH DIG 322000.000
0.001
Nominal Coordinated Maximum
9.8
-37.5
50.2
0.0 / 0.0

Transmit Frequencies (MHz) 23075.0000H(2) 23225.0000H(5) 21875.0000H(2) 22025.0000H(5)

Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SFO0588A CA
City/County Redwood City/San Mateo
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0397A CA

North Fair Oaks/San Mateo
Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °29' 14.2~ N	37 °28' 34.7~ N
Longitude (NAD 83)	122 °12' 44.8~ W	122 °12' 33.1~ W
Ground Elevation (m/ft-AMSL)	5.10 / 16.7	8.20 / 26.9
Antenna Structure Registration #		
Path Azimuth (°)	166.718	346.720
Path Length (km / miles)	1.251 / 0.777	

Transmit Antenna

87014A	87014A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP1-23	VHLP1-23
Gain (dBi) / Beamwidth (°) / Tilt (°)	35.3 / 3.00 / -0.01
Centerline (m / ft - AGL)	22.86 / 75.0
	19.81 / 65.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ16	TEMQ16
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 23HD50SFC322V02	23HD50SFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 5.5	5.5
Received Level (dBm) -45.2	-45.2
EIRP (dBm) 40.8	40.8
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 121.3	

Transmit Frequencies (MHz)	23125.0000V(3)	23275.0000V(6)	21925.0000V(3)	22075.0000V(6)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0003A CA
City/County Santa Clara/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign WQKU519
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0102B CA

Santa Clara/Santa Clara
Engineering Proposal / PRIMARY OPERATION

CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °23' 1.9~ N	37 °22' 5.8~ N
Longitude (NAD 83)	121 °58' 43.5~ W	121 °57' 29.6~ W
Ground Elevation (m/ft-AMSL)	10.06 / 33.0	14.00 / 45.9
Antenna Structure Registration #		1255516
Path Azimuth (°)	133.562	313.575
Path Length (km / miles)	2.509 / 1.559	

Transmit Antenna

87014A	87014A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP1-23	VHLP1-23
Gain (dBi) / Beamwidth (°) / Tilt (°)	35.3 / 3.00 / -0.13
Centerline (m / ft - AGL)	32.00 / 105.0
	22.86 / 75.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ48	TEMQ48
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 23HD50HFC322V02	23HD50HFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
	Nominal Coordinated Maximum
Power (dBm)	15.5
Received Level (dBm)	-41.2
EIRP (dBm)	50.8
Fixed Loss: Tx / Common (dB)	0.0 / 0.0
Free Space Loss (dB)	127.3

Transmit Frequencies (MHz)	23125.0000H(3)	23275.0000H(6)	21925.0000H(3)	22075.0000H(6)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0030B CA
City/County Cupertino/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign WQKU520
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0111A CA

San Jose/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °19' 32.7~ N	37 °19' 20.5~ N
Longitude (NAD 83)	122 °0' 54.9~ W	121 °59' 48.9~ W
Ground Elevation (m/ft-AMSL)	57.00 / 187.0	50.60 / 166.0
Antenna Structure Registration #		
Path Azimuth (°)	103.027	283.038
Path Length (km / miles)	1.668 / 1.036	

Transmit Antenna

87014A	87014A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP1-23	VHLP1-23
Gain (dBi) / Beamwidth (°) / Tilt (°)	35.3 / 3.00 / -0.07
Centerline (m / ft - AGL)	20.12 / 66.0
	28.65 / 94.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ48	TEMQ48
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 23HD50HFC322V02	23HD50HFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 15.5	15.5
Received Level (dBm) -37.7	-37.7
EIRP (dBm) 50.8	50.8
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 123.8	

Transmit Frequencies (MHz)	23025.0000H(1)	23175.0000H(4)	21825.0000H(1)	21975.0000H(4)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0031A CA
City/County Milpitas/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign WQKU521
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0182A CA

Milpitas/Santa Clara
Engineering Proposal / PRIMARY OPERATION

CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °25' 22.1~ N	37 °26' 17.9~ N
Longitude (NAD 83)	121 °55' 8.4~ W	121 °54' 25.2~ W
Ground Elevation (m/ft-AMSL)	6.10 / 20.0	3.80 / 12.5
Antenna Structure Registration #		
Path Azimuth (°)	31.687	211.695
Path Length (km / miles)	2.022 / 1.256	

Transmit Antenna

87014A	87014A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP1-23	VHLP1-23
Gain (dBi) / Beamwidth (°) / Tilt (°)	35.3 / 3.00 / -0.84
Centerline (m / ft - AGL)	40.23 / 132.0
	12.80 / 42.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ48	TEMQ48
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 23HD50HFC322V02	23HD50HFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
	Nominal Coordinated Maximum
Power (dBm)	15.5
Received Level (dBm)	-39.4
EIRP (dBm)	50.8
Fixed Loss: Tx / Common (dB)	0.0 / 0.0
Free Space Loss (dB)	125.5

Transmit Frequencies (MHz)	21925.0000H(3)	22075.0000H(6)	23125.0000H(3)	23275.0000H(6)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0032C CA
City/County Santa Clara/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign WQKU523
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0090C CA

Santa Clara/Santa Clara
Engineering Proposal / PRIMARY OPERATION

CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °23' 13.1~ N	37 °23' 40.0~ N
Longitude (NAD 83)	121 °58' 0.9~ W	121 °56' 41.2~ W
Ground Elevation (m/ft-AMSL)	7.01 / 23.0	6.40 / 21.0
Antenna Structure Registration #		
Path Azimuth (°)	67.064	247.078
Path Length (km / miles)	2.129 / 1.323	

Transmit Antenna

87016A	87016A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2-23	VHLP2-23
40.4 / 1.60 / -0.94	40.4 / 1.60 / 0.93
56.69 / 186.0	22.56 / 74.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ16	TEMQ16
DRAGONWAVE INC	DRAGONWAVE INC
23HD50SFC322V02	23HD50SFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
5.5	5.5
-39.6	-39.6
45.9	45.9
0.0 / 0.0	0.0 / 0.0
125.9	

Transmit Frequencies (MHz)	21825.0000V(1)	21975.0000V(4)	23025.0000V(1)	23175.0000V(4)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0045B CA
City/County Milpitas/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0096A CA

San Jose/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °24' 9.8~ N	37 °23' 25.0~ N
Longitude (NAD 83)	121 °54' 39.2~ W	121 °55' 3.0~ W
Ground Elevation (m/ft-AMSL)	11.20 / 36.7	9.50 / 31.2
Antenna Structure Registration #		1015129
Path Azimuth (°)	202.972	22.968
Path Length (km / miles)		1.500 / 0.932

Transmit Antenna

87014A	87014A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP1-23	VHLP1-23
35.3 / 3.00 / -0.40	35.3 / 3.00 / 0.39
29.26 / 96.0	20.73 / 68.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ16	TEMQ16
DRAGONWAVE INC	DRAGONWAVE INC
23HD50SFC322V02	23HD50SFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
5.5	5.5
-46.8	-46.8
40.8	40.8
0.0 / 0.0	0.0 / 0.0
122.9	

Transmit Frequencies (MHz)	23125.0000V(3)	23275.0000V(6)	21925.0000V(3)	22075.0000V(6)
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Microwave Path Data Sheet

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COMSEARCH19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0046A CA
City/County Sunnyvale/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0083A CA

Sunnyvale/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °24' 20.4~ N	37 °23' 50.8~ N
Longitude (NAD 83)	121 °59' 35.4~ W	121 °59' 49.7~ W
Ground Elevation (m/ft-AMSL)	3.40 / 11.2	6.20 / 20.3
Antenna Structure Registration #		
Path Azimuth (°)	201.078	21.076
Path Length (km / miles)	0.978 / 0.608	

Transmit Antenna

87014A	87014A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP1-23	VHLP1-23
Gain (dBi) / Beamwidth (°) / Tilt (°)	35.3 / 3.00 / 0.13
Centerline (m / ft - AGL)	22.86 / 75.0
	22.25 / 73.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ16	TEMQ16
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 23HD50SFC322V02	23HD50SFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 5.5	5.5
Received Level (dBm) -43.1	-43.1
EIRP (dBm) 40.8	40.8
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 119.2	

Transmit Frequencies (MHz)	21875.0000V(2)	22025.0000V(5)	23075.0000V(2)	23225.0000V(5)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0046A CA
City/County Sunnyvale/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0105B CA

Sunnyvale/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °24' 20.4~ N	37 °24' 33.2~ N
Longitude (NAD 83)	121 °59' 35.4~ W	122 °0' 8.3~ W
Ground Elevation (m/ft-AMSL)	3.40 / 11.2	2.60 / 8.5
Antenna Structure Registration #		
Path Azimuth (°)	296.002	115.996
Path Length (km / miles)	0.900 / 0.559	

Transmit Antenna

87014A	87014A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP1-23	VHLP1-23
35.3 / 3.00 / 0.18	35.3 / 3.00 / -0.18
13.11 / 43.0	16.76 / 55.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ16	TEMQ16
DRAGONWAVE INC	DRAGONWAVE INC
23HD50SFC322V02	23HD50SFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
5.5	5.5
-42.3	-42.3
40.8	40.8
0.0 / 0.0	0.0 / 0.0
118.4	

Transmit Frequencies (MHz)	21825.0000V(1)	21975.0000V(4)	23025.0000V(1)	23175.0000V(4)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0047A CA
City/County Sunnyvale/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0044A CA

Sunnyvale/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °24' 30.1~ N	37 °23' 14.6~ N
Longitude (NAD 83)	122 °1' 28.8~ W	122 °2' 10.9~ W
Ground Elevation (m/ft-AMSL)	3.60 / 11.8	22.90 / 75.1
Antenna Structure Registration #	1016420	1022381
Path Azimuth (°)	203.987	23.980
Path Length (km / miles)	2.548 / 1.583	

Transmit Antenna

87016A	87016A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2-23	VHLP2-23
Gain (dBi) / Beamwidth (°) / Tilt (°)	40.4 / 1.60 / -0.43
Centerline (m / ft - AGL)	22.86 / 75.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ48	TEMQ48
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 23HD50HFC322V02	23HD50HFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 7.5	7.5
Received Level (dBm) -39.2	-39.2
EIRP (dBm) 47.9	47.9
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 127.5	

Transmit Frequencies (MHz)	23025.0000V(1)	23175.0000V(4)	21825.0000V(1)	21975.0000V(4)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0049B CA
City/County Mountain View/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0275A CA

City/County Mountain View/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °23' 37.7~ N	37 °23' 25.9~ N
Longitude (NAD 83)	122 °5' 58.9~ W	122 °4' 52.9~ W
Ground Elevation (m/ft-AMSL)	28.00 / 91.9	26.70 / 87.6
Antenna Structure Registration #		
Path Azimuth (°)	102.625	282.636
Path Length (km / miles)	1.664 / 1.034	

Transmit Antenna

87014A	87014A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP1-23	VHLP1-23
Gain (dBi) / Beamwidth (°) / Tilt (°)	35.3 / 3.00 / -0.77
Centerline (m / ft - AGL)	15.85 / 52.0
	39.62 / 130.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM025	TEM025
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 23HD50SFC271V02	23HD50SFC271V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 47M8D7W 128 QAM	47M8D7W 128 QAM
Loading 1 CH DIG 271000.000	1 CH DIG 271000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 7.0	7.0
Received Level (dBm) -46.2	-46.2
EIRP (dBm) 42.3	42.3
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 123.8	

Transmit Frequencies (MHz)	21925.0000H(3)	22075.0000H(6)	23125.0000H(3)	23275.0000H(6)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0053B CA
City/County Sunnyvale/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0003A CA

Santa Clara/Santa Clara
Engineering Proposal / PRIMARY OPERATION
WQKU519
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °23' 1.5~ N	37 °23' 1.9~ N
Longitude (NAD 83)	121 °59' 54.2~ W	121 °58' 43.5~ W
Ground Elevation (m/ft-AMSL)	12.60 / 41.3	10.06 / 33.0
Antenna Structure Registration #		
Path Azimuth (°)	89.588	269.600
Path Length (km / miles)	1.739 / 1.081	

Transmit Antenna

87016A	87016A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2-23	VHLP2-23
40.4 / 1.60 / 0.65	40.4 / 1.60 / -0.66
9.45 / 31.0	32.00 / 105.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ16	TEMQ16
DRAGONWAVE INC	DRAGONWAVE INC
23HD50SFC322V02	23HD50SFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
5.5	5.5
-37.9	-37.9
45.9	45.9
0.0 / 0.0	0.0 / 0.0
124.2	

Transmit Frequencies (MHz)	21875.0000V(2)	22025.0000V(5)	23075.0000V(2)	23225.0000V(5)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0058A CA
City/County Mountain View/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0064A CA

Palo Alto/Santa Clara
Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °24' 4.6~ N	37 °24' 20.6~ N
Longitude (NAD 83)	122 °6' 40.5~ W	122 °8' 22.8~ W
Ground Elevation (m/ft-AMSL)	21.20 / 69.6	31.80 / 104.3
Antenna Structure Registration #		
Path Azimuth (°)	281.101	101.084
Path Length (km / miles)	2.564 / 1.593	

Transmit Antenna

87016A	87016A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2-23	VHLP2-23
Gain (dBi) / Beamwidth (°) / Tilt (°) 40.4 / 1.60 / 0.21	40.4 / 1.60 / -0.23
Centerline (m / ft - AGL) 26.82 / 88.0	25.91 / 85.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ48	TEMQ48
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 23HD50HFC322V02	23HD50HFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 7.5	7.5
Received Level (dBm) -39.2	-39.2
EIRP (dBm) 47.9	47.9
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 127.5	

Transmit Frequencies (MHz)	21825.0000V(1)	21975.0000V(4)	23025.0000V(1)	23175.0000V(4)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0064A CA
City/County Palo Alto/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0131A CA

Los Altos Hills/Santa Clara
Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °24' 20.6~ N	37 °22' 56.9~ N
Longitude (NAD 83)	122 °8' 22.8~ W	122 °8' 45.9~ W
Ground Elevation (m/ft-AMSL)	31.80 / 104.3	149.00 / 488.8
Antenna Structure Registration #		
Path Azimuth (°)	192.420	12.416
Path Length (km / miles)	2.642 / 1.642	

Transmit Antenna

87016A	87016A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2-23	VHLP2-23
Gain (dBi) / Beamwidth (°) / Tilt (°) 40.4 / 1.60 / 2.06	40.4 / 1.60 / -2.07
Centerline (m / ft - AGL) 25.91 / 85.0	3.96 / 13.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ48	TEMQ48
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 23HD50HFC322V02	23HD50HFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 15.5	15.5
Received Level (dBm) -31.5	-31.5
EIRP (dBm) 55.9	55.9
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 127.8	

Transmit Frequencies (MHz)	23075.0000V(2)	23225.0000V(5)	21875.0000V(2)	22025.0000V(5)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0066B CA
City/County Santa Clara/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0035A CA

San Jose/Santa Clara
Engineering Proposal / PRIMARY OPERATION
WQKU522
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °24' 18.4~ N	37 °24' 49.7~ N
Longitude (NAD 83)	121 °58' 35.0~ W	121 °57' 14.6~ W
Ground Elevation (m/ft-AMSL)	3.90 / 12.8	3.05 / 10.0
Antenna Structure Registration #		
Path Azimuth (°)	63.979	243.993
Path Length (km / miles)	2.200 / 1.367	

Transmit Antenna

87014A	87014A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP1-23	VHLP1-23
35.3 / 3.00 / -1.28	35.3 / 3.00 / 1.27
62.79 / 206.0	14.63 / 48.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ16	TEMQ16
DRAGONWAVE INC	DRAGONWAVE INC
23HD50SFC322V02	23HD50SFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
5.5	5.5
-50.1	-50.1
40.8	40.8
0.0 / 0.0	0.0 / 0.0
126.2	

Transmit Frequencies (MHz)	21825.0000H(1)	21975.0000H(4)	23025.0000H(1)	23175.0000H(4)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0069B CA
City/County Mountain View/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0134B CA

Loyola/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °22' 10.4~ N	37 °21' 51.3~ N
Longitude (NAD 83)	122 °4' 48.2~ W	122 °6' 15.5~ W
Ground Elevation (m/ft-AMSL)	47.20 / 154.9	61.70 / 202.4
Antenna Structure Registration #		
Path Azimuth (°)	254.678	74.663
Path Length (km / miles)	2.227 / 1.384	

Transmit Antenna

87014A	87014A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP1-23	VHLP1-23
35.3 / 3.00 / 0.13	35.3 / 3.00 / -0.15
22.86 / 75.0	13.72 / 45.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ48	TEMQ48
DRAGONWAVE INC	DRAGONWAVE INC
23HD50HFC322V02	23HD50HFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
15.5	15.5
-40.2	-40.2
50.8	50.8
0.0 / 0.0	0.0 / 0.0
126.3	

Transmit Frequencies (MHz)	21875.0000V(2)	22025.0000V(5)	23075.0000V(2)	23225.0000V(5)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0073C CA
City/County Sunnyvale/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0047A CA

Sunnyvale/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °24' 55.0~ N	37 °24' 30.1~ N
Longitude (NAD 83)	122 °0' 49.0~ W	122 °1' 28.8~ W
Ground Elevation (m/ft-AMSL)	0.90 / 3.0	3.60 / 11.8
Antenna Structure Registration #	1018112	1016420
Path Azimuth (°)	231.895	51.889
Path Length (km / miles)	1.244 / 0.773	

Transmit Antenna

87014A	87014A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP1-23	VHLP1-23
Gain (dBi) / Beamwidth (°) / Tilt (°)	35.3 / 3.00 / 0.40
Centerline (m / ft - AGL)	16.76 / 55.0
	35.3 / 3.00 / -0.41
	22.86 / 75.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ16	TEMQ16
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 23HD50SFC322V02	23HD50SFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 5.5	5.5
Received Level (dBm) -45.2	-45.2
EIRP (dBm) 40.8	40.8
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 121.3	

Transmit Frequencies (MHz)

21925.0000V(3)	22075.0000V(6)	23125.0000V(3)	23275.0000V(6)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0073C CA
City/County Sunnyvale/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0105B CA

Sunnyvale/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °24' 55.0~ N	37 °24' 33.2~ N
Longitude (NAD 83)	122 °0' 49.0~ W	122 °0' 8.3~ W
Ground Elevation (m/ft-AMSL)	0.90 / 3.0	2.60 / 8.5
Antenna Structure Registration #	1018112	
Path Azimuth (°)	123.878	303.885
Path Length (km / miles)	1.206 / 0.749	

Transmit Antenna

87014A	87014A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP1-23	VHLP1-23
Gain (dBi) / Beamwidth (°) / Tilt (°)	35.3 / 3.00 / 0.08
Centerline (m / ft - AGL)	16.76 / 55.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ16	TEMQ16
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 23HD50SFC322V02	23HD50SFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
	Nominal Coordinated Maximum
Power (dBm) 5.5	5.5
Received Level (dBm) -44.9	-44.9
EIRP (dBm) 40.8	40.8
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 121.0	

Transmit Frequencies (MHz)	21875.0000V(2)	22025.0000V(5)	23075.0000V(2)	23225.0000V(5)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0083A CA
City/County Sunnyvale/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0274A CA

Santa Clara/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °23' 50.8~ N	37 °23' 16.4~ N
Longitude (NAD 83)	121 °59' 49.7~ W	121 °58' 25.9~ W
Ground Elevation (m/ft-AMSL)	6.20 / 20.3	9.90 / 32.5
Antenna Structure Registration #		
Path Azimuth (°)	117.219	297.233
Path Length (km / miles)	2.318 / 1.440	

Transmit Antenna

87014A	87014A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP1-23	VHLP1-23
35.3 / 3.00 / 1.30	35.3 / 3.00 / -1.31
8.84 / 29.0	57.91 / 190.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ48	TEMQ48
DRAGONWAVE INC	DRAGONWAVE INC
23HD50HFC322V02	23HD50HFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
17.5	17.5
-38.6	-38.6
52.8	52.8
0.0 / 0.0	0.0 / 0.0
126.7	

Transmit Frequencies (MHz)	23325.0000V(7)	23525.0000V(11)	22125.0000V(7)	22325.0000V(11)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0085A CA
City/County Los Altos/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0049B CA

Mountain View/Santa Clara
Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °23' 7.7~ N	37 °23' 37.7~ N
Longitude (NAD 83)	122 °6' 33.6~ W	122 °5' 58.9~ W
Ground Elevation (m/ft-AMSL)	43.60 / 143.0	28.00 / 91.9
Antenna Structure Registration #		
Path Azimuth (°)	42.701	222.707
Path Length (km / miles)		1.259 / 0.782

Transmit Antenna

87014A	87014A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP1-23	VHLP1-23
Gain (dBi) / Beamwidth (°) / Tilt (°)	35.3 / 3.00 / -0.61
Centerline (m / ft - AGL)	13.72 / 45.0
	15.85 / 52.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ16	TEMQ16
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 23HD50SFC322V02	23HD50SFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
	Nominal Coordinated Maximum
Power (dBm)	5.5
Received Level (dBm)	-45.3
EIRP (dBm)	40.8
Fixed Loss: Tx / Common (dB)	0.0 / 0.0
Free Space Loss (dB)	121.4

Transmit Frequencies (MHz)	23075.0000V(2)	23225.0000V(5)	21875.0000V(2)	22025.0000V(5)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0085A CA
City/County Los Altos/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0133D CA

Los Altos/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °23' 7.7~ N	37 °22' 44.9~ N
Longitude (NAD 83)	122 °6' 33.6~ W	122 °7' 6.3~ W
Ground Elevation (m/ft-AMSL)	43.60 / 143.0	58.30 / 191.3
Antenna Structure Registration #		
Path Azimuth (°)	228.857	48.852
Path Length (km / miles)	1.068 / 0.664	

Transmit Antenna

87014A	87014A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP1-23	VHLP1-23
35.3 / 3.00 / 0.74	35.3 / 3.00 / -0.74
13.72 / 45.0	12.80 / 42.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ16	TEMQ16
DRAGONWAVE INC	DRAGONWAVE INC
23HD50SFC322V02	23HD50SFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
5.5	5.5
-43.8	-43.8
40.8	40.8
0.0 / 0.0	0.0 / 0.0
119.9	

Transmit Frequencies (MHz)	22175.0000V(8)	22275.0000V(10)	23375.0000V(8)	23475.0000V(10)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0090C CA
City/County Santa Clara/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0023B CA

San Jose/Santa Clara
Engineering Proposal / PRIMARY OPERATION
WQKU524
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °23' 40.0~ N	37 °24' 26.5~ N
Longitude (NAD 83)	121 °56' 41.2~ W	121 °55' 34.3~ W
Ground Elevation (m/ft-AMSL)	6.40 / 21.0	7.92 / 26.0
Antenna Structure Registration #		
Path Azimuth (°)	48.930	228.942
Path Length (km / miles)	2.182 / 1.356	

Transmit Antenna

87016A	87016A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2-23	VHLP2-23
40.4 / 1.60 / -0.14	40.4 / 1.60 / 0.12
22.56 / 74.0	16.15 / 53.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ16	TEMQ16
DRAGONWAVE INC	DRAGONWAVE INC
23HD50SFC322V02	23HD50SFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
5.5	5.5
-39.8	-39.8
45.9	45.9
0.0 / 0.0	0.0 / 0.0
126.1	

Transmit Frequencies (MHz)	23125.0000V(3)	23275.0000V(6)	21925.0000V(3)	22075.0000V(6)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0090C CA
City/County Santa Clara/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0096A CA

San Jose/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °23' 40.0~ N	37 °23' 25.0~ N
Longitude (NAD 83)	121 °56' 41.2~ W	121 °55' 3.0~ W
Ground Elevation (m/ft-AMSL)	6.40 / 21.0	9.50 / 31.2
Antenna Structure Registration #		1015129
Path Azimuth (°)	100.830	280.846
Path Length (km / miles)	2.459 / 1.528	

Transmit Antenna

87016A	87016A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2-23	VHLP2-23
Gain (dBi) / Beamwidth (°) / Tilt (°) 40.4 / 1.60 / -0.05	40.4 / 1.60 / 0.03
Centerline (m / ft - AGL) 22.56 / 74.0	17.68 / 58.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ16	TEMQ16
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 23HD50SFC322V02	23HD50SFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 5.5	5.5
Received Level (dBm) -40.9	-40.9
EIRP (dBm) 45.9	45.9
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 127.2	

Transmit Frequencies (MHz)	23075.0000V(2)	23225.0000V(5)	21875.0000V(2)	22025.0000V(5)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0097A CA
City/County Palo Alto/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign WQKU516
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0055A CA

Menlo Park/San Mateo
Engineering Proposal / PRIMARY OPERATION

CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °26' 56.0~ N	37 °27' 7.9~ N
Longitude (NAD 83)	122 °9' 33.0~ W	122 °11' 23.4~ W
Ground Elevation (m/ft-AMSL)	14.02 / 46.0	23.70 / 77.8
Antenna Structure Registration #	1017316	
Path Azimuth (°)	277.709	97.690
Path Length (km / miles)	2.738 / 1.701	

Transmit Antenna

87014A	87016A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP1-23	VHLP2-23
Gain (dBi) / Beamwidth (°) / Tilt (°)	35.3 / 3.00 / -0.85
Centerline (m / ft - AGL)	82.30 / 270.0
	40.4 / 1.60 / 0.83
	32.31 / 106.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ48	TEMQ48
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 23HD50HFC322V02	23HD50HFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 15.5	15.5
Received Level (dBm) -36.9	-36.9
EIRP (dBm) 50.8	55.9
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 128.1	

Transmit Frequencies (MHz)	23025.0000V(1)	23175.0000V(4)	21825.0000V(1)	21975.0000V(4)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0102B CA
City/County Santa Clara/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0070A CA

Santa Clara/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °22' 5.8~ N	37 °22' 32.6~ N
Longitude (NAD 83)	121 °57' 29.6~ W	121 °57' 25.2~ W
Ground Elevation (m/ft-AMSL)	14.00 / 45.9	11.80 / 38.7
Antenna Structure Registration #	1255516	
Path Azimuth (°)	7.465	187.465
Path Length (km / miles)	0.833 / 0.518	

Transmit Antenna

87014A	87014A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP1-23	VHLP1-23
Gain (dBi) / Beamwidth (°) / Tilt (°)	35.3 / 3.00 / -1.01
Centerline (m / ft - AGL)	30.48 / 100.0
	17.98 / 59.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ48	TEMQ48
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 23HD50HFC322V02	23HD50HFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
	Nominal Coordinated Maximum
Power (dBm) 10.0	10.0
Received Level (dBm) -37.2	-37.2
EIRP (dBm) 45.3	45.3
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 117.8	

Transmit Frequencies (MHz)	21875.0000V(2)	22025.0000V(5)	23075.0000V(2)	23225.0000V(5)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0127B CA
City/County Sunnyvale/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0283A CA

Sunnyvale/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °22' 40.2~ N	37 °22' 13.0~ N
Longitude (NAD 83)	122 °2' 0.3~ W	122 °2' 23.0~ W
Ground Elevation (m/ft-AMSL)	29.80 / 97.8	38.60 / 126.6
Antenna Structure Registration #		
Path Azimuth (°)	213.667	33.663
Path Length (km / miles)	1.008 / 0.626	

Transmit Antenna

87014A	87014A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP1-23	VHLP1-23
35.3 / 3.00 / 0.17	35.3 / 3.00 / -0.17
36.27 / 119.0	30.48 / 100.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ16	TEMQ16
DRAGONWAVE INC	DRAGONWAVE INC
23HD50SFC322V02	23HD50SFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
5.5	5.5
-43.3	-43.3
40.8	40.8
0.0 / 0.0	0.0 / 0.0
119.4	

Transmit Frequencies (MHz)

23025.0000V(1)	23175.0000V(4)	21825.0000V(1)	21975.0000V(4)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0130A CA
City/County Belmont/San Mateo
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0367D CA

San Mateo/San Mateo
Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °31' 11.3~ N	37 °32' 14.9~ N
Longitude (NAD 83)	122 °18' 28.8~ W	122 °19' 41.6~ W
Ground Elevation (m/ft-AMSL)	178.30 / 585.0	125.90 / 413.1
Antenna Structure Registration #		
Path Azimuth (°)	317.653	137.641
Path Length (km / miles)	2.653 / 1.649	

Transmit Antenna

87016A	87016A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2-23	VHLP2-23
Gain (dBi) / Beamwidth (°) / Tilt (°) 40.4 / 1.60 / -1.15	40.4 / 1.60 / 1.14
Centerline (m / ft - AGL) 18.29 / 60.0	17.68 / 58.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ16	TEMQ16
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 23HD50SFC322V02	23HD50SFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 5.5	5.5
Received Level (dBm) -41.5	-41.5
EIRP (dBm) 45.9	45.9
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 127.8	

Transmit Frequencies (MHz)	23025.0000V(1)	23175.0000V(4)	21825.0000V(1)	21975.0000V(4)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0130A CA
City/County Belmont/San Mateo
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0388A CA

Belmont/San Mateo
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °31' 11.3~ N	37 °30' 5.6~ N
Longitude (NAD 83)	122 °18' 28.8~ W	122 °18' 35.9~ W
Ground Elevation (m/ft-AMSL)	178.30 / 585.0	241.40 / 792.0
Antenna Structure Registration #		
Path Azimuth (°)	184.921	4.920
Path Length (km / miles)	2.033 / 1.263	

Transmit Antenna

87014A	87014A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP1-23	VHLP1-23
35.3 / 3.00 / 1.38	35.3 / 3.00 / -1.40
18.29 / 60.0	4.57 / 15.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ48	TEMQ48
DRAGONWAVE INC	DRAGONWAVE INC
23HD50HFC322V02	23HD50HFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
15.5	15.5
-39.4	-39.4
50.8	50.8
0.0 / 0.0	0.0 / 0.0
125.5	

Transmit Frequencies (MHz)	23075.0000V(2)	23225.0000V(5)	21875.0000V(2)	22025.0000V(5)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0131A CA
City/County Los Altos Hills/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0133D CA

Los Altos/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °22' 56.9~ N	37 °22' 44.9~ N
Longitude (NAD 83)	122 °8' 45.9~ W	122 °7' 6.3~ W
Ground Elevation (m/ft-AMSL)	149.00 / 488.8	58.30 / 191.3
Antenna Structure Registration #		
Path Azimuth (°)	98.577	278.594
Path Length (km / miles)	2.478 / 1.540	

Transmit Antenna

87016A	87016A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2-23	VHLP2-23
40.4 / 1.60 / -1.90	40.4 / 1.60 / 1.88
3.96 / 13.0	12.80 / 42.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ16	TEMQ16
DRAGONWAVE INC	DRAGONWAVE INC
23HD50SFC322V02	23HD50SFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
5.5	5.5
-40.9	-40.9
45.9	45.9
0.0 / 0.0	0.0 / 0.0
127.2	

Transmit Frequencies (MHz)	21925.0000V(3)	22075.0000V(6)	23125.0000V(3)	23275.0000V(6)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0146A CA
City/County San Jose/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0150A CA

San Jose/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °17' 25.7~ N	37 °18' 10.9~ N
Longitude (NAD 83)	121 °59' 43.1~ W	121 °58' 46.5~ W
Ground Elevation (m/ft-AMSL)	78.10 / 256.2	59.30 / 194.6
Antenna Structure Registration #		
Path Azimuth (°)	45.007	225.016
Path Length (km / miles)	1.971 / 1.225	

Transmit Antenna

87016A	87016A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2-23	VHLP2-23
40.4 / 1.60 / -0.75	40.4 / 1.60 / 0.73
20.12 / 66.0	13.41 / 44.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ48	TEMQ48
DRAGONWAVE INC	DRAGONWAVE INC
23HD50HFC322V02	23HD50HFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
5.5	5.5
-38.9	-38.9
45.9	45.9
0.0 / 0.0	0.0 / 0.0
125.2	

Transmit Frequencies (MHz)

23025.0000V(1)	23175.0000V(4)	21825.0000V(1)	21975.0000V(4)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147

(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0147D CA
 City/County Los Gatos/Santa Clara
 Status / License Basis Engineering Proposal / PRIMARY OPERATION
 Call Sign
 Licensee Code CLESP3
 Licensee Name Clearwire Spectrum Holdings III, LL
 Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0141A CA

Saratoga/Santa Clara
 Engineering Proposal / PRIMARY OPERATION
 CLESP3
 Clearwire Spectrum Holdings III, LL
 FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °15' 20.9~ N	37 °15' 55.0~ N
Longitude (NAD 83)	121 °59' 7.9~ W	122 °0' 24.0~ W
Ground Elevation (m/ft-AMSL)	138.30 / 453.7	102.70 / 336.9
Antenna Structure Registration #		
Path Azimuth (°)	299.282	119.269
Path Length (km / miles)	2.150 / 1.336	

Transmit Antenna

87016A	87016A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2-23	VHLP2-23
Gain (dBi) / Beamwidth (°) / Tilt (°) 40.4 / 1.60 / -0.80	40.4 / 1.60 / 0.79
Centerline (m / ft - AGL) 18.29 / 60.0	24.08 / 79.0

Receive Antenna

Same As Transmit

Manufacturer
 Model
 Gain (dBi) / Beamwidth (°)
 Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
 Model
 Gain (dBi) / Beamwidth (°)
 Centerline (m / ft - AGL)

Radio Information

TEMQ16	TEMQ16
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 23HD50SFC322V02	23HD50SFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 5.5	5.5
Received Level (dBm) -39.7	-39.7
EIRP (dBm) 45.9	45.9
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 126.0	

Transmit Frequencies (MHz)	23025.0000V(1)	23175.0000V(4)	21825.0000V(1)	21975.0000V(4)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0147D CA
City/County Los Gatos/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0149A CA

City/County Los Gatos/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °15' 20.9~ N	37 °15' 54.3~ N
Longitude (NAD 83)	121 °59' 7.9~ W	121 °58' 55.2~ W
Ground Elevation (m/ft-AMSL)	138.30 / 453.7	80.10 / 262.8
Antenna Structure Registration #		
Path Azimuth (°)	16.904	196.906
Path Length (km / miles)	1.076 / 0.669	

Transmit Antenna

87014A	87014A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP1-23	VHLP1-23
Gain (dBi) / Beamwidth (°) / Tilt (°)	35.3 / 3.00 / -4.71
Centerline (m / ft - AGL)	48.62 / 159.5
	18.29 / 60.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ16	TEMQ16
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 23HD50SFC322V02	23HD50SFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal	Coordinated
Power (dBm) 5.5	Maximum
Received Level (dBm) -43.9	
EIRP (dBm) 40.8	
Nominal	Coordinated
Power (dBm) 5.5	Maximum
Received Level (dBm) -43.9	
EIRP (dBm) 40.8	
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 120.0	

Transmit Frequencies (MHz)	23075.0000V(2)	23225.0000V(5)	21875.0000V(2)	22025.0000V(5)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147

(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0152B CA
 City/County San Jose/Santa Clara
 Status / License Basis Engineering Proposal / PRIMARY OPERATION
 Call Sign
 Licensee Code CLESP3
 Licensee Name Clearwire Spectrum Holdings III, LL
 Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0145C CA

San Jose/Santa Clara
 Engineering Proposal / PRIMARY OPERATION
 CLESP3
 Clearwire Spectrum Holdings III, LL
 FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °19' 2.0~ N	37 °18' 23.9~ N
Longitude (NAD 83)	121 °58' 38.0~ W	121 °59' 39.9~ W
Ground Elevation (m/ft-AMSL)	47.30 / 155.2	63.70 / 209.0
Antenna Structure Registration #		
Path Azimuth (°)	232.387	52.377
Path Length (km / miles)	1.924 / 1.196	

Transmit Antenna

87016A	87016A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2-23	VHLP2-23
Gain (dBi) / Beamwidth (°) / Tilt (°) 40.4 / 1.60 / 1.21	40.4 / 1.60 / -1.22
Centerline (m / ft - AGL) 12.19 / 40.0	36.58 / 120.0

Receive Antenna

Same As Transmit

Manufacturer
 Model
 Gain (dBi) / Beamwidth (°)
 Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
 Model
 Gain (dBi) / Beamwidth (°)
 Centerline (m / ft - AGL)

Radio Information

TEMQ16	TEMQ16
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 23HD50SFC322V02	23HD50SFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 5.5	5.5
Received Level (dBm) -38.7	-38.7
EIRP (dBm) 45.9	45.9
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 125.0	

Transmit Frequencies (MHz)

23125.0000V(3)	23275.0000V(6)	21925.0000V(3)	22075.0000V(6)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0163A CA
City/County Campbell/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0162A CA

San Jose/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °16' 26.5~ N	37 °15' 7.5~ N
Longitude (NAD 83)	121 °56' 42.2~ W	121 °56' 47.3~ W
Ground Elevation (m/ft-AMSL)	67.90 / 222.8	86.10 / 282.5
Antenna Structure Registration #		
Path Azimuth (°)	182.954	2.953
Path Length (km / miles)	2.439 / 1.515	

Transmit Antenna

87014A	87016A	
ANDREW CORPORATION	ANDREW CORPORATION	
VHLP1-23	VHLP2-23	
Gain (dBi) / Beamwidth (°) / Tilt (°)	35.3 / 3.00 / 0.71	40.4 / 1.60 / -0.73
Centerline (m / ft - AGL)	17.37 / 57.0	29.87 / 98.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ48	TEMQ48
DRAGONWAVE INC	DRAGONWAVE INC
23HD50HFC322V02	23HD50HFC322V02
HORIZON DUO	HORIZON DUO
Emission Designator / Modulation	45M8D7W 256 QAM
Loading	1 CH DIG 322000.000
Stability (%)	0.001
	Nominal Coordinated Maximum
Power (dBm)	14.0
Received Level (dBm)	-37.4
EIRP (dBm)	49.3
	54.4
Fixed Loss: Tx / Common (dB)	0.0 / 0.0
Free Space Loss (dB)	127.1

Transmit Frequencies (MHz)	23025.0000V(1)	23175.0000V(4)	21825.0000V(1)	21975.0000V(4)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0171C CA
City/County San Jose/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0184A CA

San Jose/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °18' 57.4~ N	37 °19' 7.3~ N
Longitude (NAD 83)	121 °55' 52.3~ W	121 °54' 20.4~ W
Ground Elevation (m/ft-AMSL)	43.30 / 142.1	34.10 / 111.9
Antenna Structure Registration #		
Path Azimuth (°)	82.311	262.326
Path Length (km / miles)	2.283 / 1.419	

Transmit Antenna

87014A	87016A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP1-23	VHLP2-23
Gain (dBi) / Beamwidth (°) / Tilt (°)	35.3 / 3.00 / -0.39
Centerline (m / ft - AGL)	20.73 / 68.0
	40.4 / 1.60 / 0.38
	14.63 / 48.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ16	TEMQ16
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 23HD50SFC322V02	23HD50SFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 7.5	7.5
Received Level (dBm) -43.3	-43.3
EIRP (dBm) 42.8	47.9
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 126.5	

Transmit Frequencies (MHz)	21825.0000V(1)	21975.0000V(4)	23025.0000V(1)	23175.0000V(4)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0182A CA
City/County Milpitas/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0198A CA

City/County Milpitas/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °26' 17.9~ N	37 °26' 5.4~ N
Longitude (NAD 83)	121 °54' 25.2~ W	121 °53' 31.1~ W
Ground Elevation (m/ft-AMSL)	3.80 / 12.5	9.40 / 30.8
Antenna Structure Registration #		
Path Azimuth (°)	106.155	286.164
Path Length (km / miles)	1.385 / 0.860	

Transmit Antenna

Manufacturer	87014A	87014A
Model	ANDREW CORPORATION	ANDREW CORPORATION
Gain (dBi) / Beamwidth (°) / Tilt (°)	VHLP1-23	VHLP1-23
Centerline (m / ft - AGL)	35.3 / 3.00 / 1.46	35.3 / 3.00 / -1.47
	12.80 / 42.0	42.67 / 140.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

Manufacturer	TEMQ16	TEMQ16
Model	DRAGONWAVE INC	DRAGONWAVE INC
Model Description	23HD50SFC322V02	23HD50SFC322V02
Emission Designator / Modulation	HORIZON DUO	HORIZON DUO
Loading	45M8D7W 256 QAM	45M8D7W 256 QAM
Stability (%)	1 CH DIG 322000.000	1 CH DIG 322000.000
	0.001	0.001
	Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm)	5.5	5.5
Received Level (dBm)	-46.1	-46.1
EIRP (dBm)	40.8	40.8
Fixed Loss: Tx / Common (dB)	0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB)		122.2

Transmit Frequencies (MHz)	23025.0000V(1)	23175.0000V(4)	21825.0000V(1)	21975.0000V(4)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0195C CA
City/County Milpitas/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0045B CA

Milpitas/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °24' 47.9~ N	37 °24' 9.8~ N
Longitude (NAD 83)	121 °53' 32.8~ W	121 °54' 39.2~ W
Ground Elevation (m/ft-AMSL)	14.00 / 45.9	11.20 / 36.7
Antenna Structure Registration #		
Path Azimuth (°)	234.278	54.267
Path Length (km / miles)	2.012 / 1.250	

Transmit Antenna

87014A	87016A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP1-23	VHLP2-23
Gain (dBi) / Beamwidth (°) / Tilt (°) 35.3 / 3.00 / 0.05	40.4 / 1.60 / -0.07
Centerline (m / ft - AGL) 24.38 / 80.0	29.26 / 96.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMU13	TEMU13
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 23HS50SFC322V01	23HS50SFC322V01
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 7.5	7.5
Received Level (dBm) -42.2	-42.2
EIRP (dBm) 42.8	47.9
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 125.4	

Transmit Frequencies (MHz) 22025.0000V(5)

23225.0000V(5)

Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0197C CA
City/County Milpitas/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0195C CA

City/County Milpitas/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °25' 10.9~ N	37 °24' 47.9~ N
Longitude (NAD 83)	121 °53' 8.2~ W	121 °53' 32.8~ W
Ground Elevation (m/ft-AMSL)	18.00 / 59.1	14.00 / 45.9
Antenna Structure Registration #		
Path Azimuth (°)	220.470	40.466
Path Length (km / miles)	0.932 / 0.579	

Transmit Antenna

87014A	87014A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP1-23	VHLP1-23
Gain (dBi) / Beamwidth (°) / Tilt (°)	35.3 / 3.00 / -0.25
Centerline (m / ft - AGL)	24.38 / 80.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM020	TEM020
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 23HD50SFC371V02	23HD50SFC371V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 49M2D7W 256 QAM	49M2D7W 256 QAM
Loading 1 CH DIG 371000.000	1 CH DIG 371000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 5.5	5.5
Received Level (dBm) -42.6	-42.6
EIRP (dBm) 40.8	40.8
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 118.7	

Transmit Frequencies (MHz)	23025.0000V(1)	23175.0000V(4)	21825.0000V(1)	21975.0000V(4)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0198A CA
City/County Milpitas/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0197C CA

City/County Milpitas/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °26' 5.4~ N	37 °25' 10.9~ N
Longitude (NAD 83)	121 °53' 31.1~ W	121 °53' 8.2~ W
Ground Elevation (m/ft-AMSL)	9.40 / 30.8	18.00 / 59.1
Antenna Structure Registration #		
Path Azimuth (°)	161.472	341.476
Path Length (km / miles)	1.772 / 1.101	

Transmit Antenna

87016A	87016A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2-23	VHLP2-23
Gain (dBi) / Beamwidth (°) / Tilt (°)	40.4 / 1.60 / -0.19
Centerline (m / ft - AGL)	25.91 / 85.0
22.86 / 75.0	

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ16	TEMQ16
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 23HD50SFC322V02	23HD50SFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 5.5	5.5
Received Level (dBm) -38.0	-38.0
EIRP (dBm) 45.9	45.9
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 124.3	

Transmit Frequencies (MHz)	21925.0000V(3)	22075.0000V(6)	23125.0000V(3)	23275.0000V(6)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0206B CA
City/County San Jose/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0453D CA

San Jose/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °16' 49.2~ N	37 °16' 34.2~ N
Longitude (NAD 83)	121 °50' 15.7~ W	121 °49' 34.5~ W
Ground Elevation (m/ft-AMSL)	50.90 / 167.0	87.90 / 288.4
Antenna Structure Registration #		
Path Azimuth (°)	114.491	294.498
Path Length (km / miles)	1.115 / 0.693	

Transmit Antenna

87014A	87014A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP1-23	VHLP1-23
35.3 / 3.00 / 1.79	35.3 / 3.00 / -1.79
16.46 / 54.0	14.33 / 47.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEM020	TEM020
DRAGONWAVE INC	DRAGONWAVE INC
23HD50SFC371V02	23HD50SFC371V02
HORIZON DUO	HORIZON DUO
49M2D7W 256 QAM	49M2D7W 256 QAM
1 CH DIG 371000.000	1 CH DIG 371000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
5.5	5.5
-44.2	-44.2
40.8	40.8
0.0 / 0.0	0.0 / 0.0
120.3	

Transmit Frequencies (MHz)	21875.0000V(2)	22025.0000V(5)	23075.0000V(2)	23225.0000V(5)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0214C CA
City/County San Jose/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0225B CA

San Jose/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °15' 5.9~ N	37 °16' 2.0~ N
Longitude (NAD 83)	121 °51' 44.5~ W	121 °50' 0.2~ W
Ground Elevation (m/ft-AMSL)	56.60 / 185.7	50.60 / 166.0
Antenna Structure Registration #		
Path Azimuth (°)	56.054	236.071
Path Length (km / miles)	3.098 / 1.925	

Transmit Antenna

87016A	87016A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2-23	VHLP2-23
Gain (dBi) / Beamwidth (°) / Tilt (°) 40.4 / 1.60 / -0.26	40.4 / 1.60 / 0.24
Centerline (m / ft - AGL) 19.81 / 65.0	12.19 / 40.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ48	TEMQ48
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 23HD50HFC322V02	23HD50HFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 15.5	15.5
Received Level (dBm) -32.9	-32.9
EIRP (dBm) 55.9	55.9
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 129.2	

Transmit Frequencies (MHz)

23075.0000V(2)	23225.0000V(5)	21875.0000V(2)	22025.0000V(5)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0215D CA
City/County /Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0454C CA

San Jose/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °17' 7.0~ N	37 °16' 21.9~ N
Longitude (NAD 83)	121 °51' 28.0~ W	121 °52' 15.0~ W
Ground Elevation (m/ft-AMSL)	131.00 / 429.8	48.10 / 157.8
Antenna Structure Registration #	1017275	
Path Azimuth (°)	219.790	39.782
Path Length (km / miles)	1.809 / 1.124	

Transmit Antenna

87016A	87014A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2-23	VHLP1-23
Gain (dBi) / Beamwidth (°) / Tilt (°) 40.4 / 1.60 / -3.31	35.3 / 3.00 / 3.30
Centerline (m / ft - AGL) 38.10 / 125.0	16.46 / 54.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ16	TEMQ16
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 23HD50SFC322V02	23HD50SFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 5.5	5.5
Received Level (dBm) -43.3	-43.3
EIRP (dBm) 45.9	40.8
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 124.5	

Transmit Frequencies (MHz)	23075.0000V(2)	23225.0000V(5)	21875.0000V(2)	22025.0000V(5)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0217B CA
City/County San Jose/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0227C CA

San Jose/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °20' 47.3~ N	37 °21' 35.4~ N
Longitude (NAD 83)	121 °51' 27.3~ W	121 °50' 21.4~ W
Ground Elevation (m/ft-AMSL)	29.60 / 97.1	33.00 / 108.3
Antenna Structure Registration #		
Path Azimuth (°)	47.557	227.568
Path Length (km / miles)	2.198 / 1.365	

Transmit Antenna

87016A	87016A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2-23	VHLP2-23
40.4 / 1.60 / 0.11	40.4 / 1.60 / -0.13
15.24 / 50.0	16.46 / 54.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ16	TEMQ16
DRAGONWAVE INC	DRAGONWAVE INC
23HD50SFC322V02	23HD50SFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
5.5	5.5
-39.9	-39.9
45.9	45.9
0.0 / 0.0	0.0 / 0.0
126.2	

Transmit Frequencies (MHz)

23075.0000V(2)	23225.0000V(5)	21875.0000V(2)	22025.0000V(5)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0219A CA
City/County San Jose/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0214C CA

San Jose/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °13' 58.3~ N	37 °15' 5.9~ N
Longitude (NAD 83)	121 °50' 47.1~ W	121 °51' 44.5~ W
Ground Elevation (m/ft-AMSL)	53.00 / 173.9	56.60 / 185.7
Antenna Structure Registration #		
Path Azimuth (°)	325.834	145.824
Path Length (km / miles)	2.519 / 1.565	

Transmit Antenna

87016A	87016A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2-23	VHLP2-23
40.4 / 1.60 / 0.39	40.4 / 1.60 / -0.41
5.79 / 19.0	19.81 / 65.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ16	TEMQ16
DRAGONWAVE INC	DRAGONWAVE INC
23HD50SFC322V02	23HD50SFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
7.5	7.5
-39.1	-39.1
47.9	47.9
0.0 / 0.0	0.0 / 0.0
127.4	

Transmit Frequencies (MHz)	21925.0000V(3)	22075.0000V(6)	23125.0000V(3)	23275.0000V(6)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0232A CA
City/County San Jose/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0227C CA

San Jose/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °21' 32.5~ N	37 °21' 35.4~ N
Longitude (NAD 83)	121 °48' 53.4~ W	121 °50' 21.4~ W
Ground Elevation (m/ft-AMSL)	48.40 / 158.8	33.00 / 108.3
Antenna Structure Registration #		
Path Azimuth (°)	272.372	92.357
Path Length (km / miles)	2.167 / 1.347	

Transmit Antenna

87016A	87016A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2-23	VHLP2-23
40.4 / 1.60 / -0.39	40.4 / 1.60 / 0.38
16.46 / 54.0	17.37 / 57.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ16	TEMQ16
DRAGONWAVE INC	DRAGONWAVE INC
23HD50SFC322V02	23HD50SFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
5.5	5.5
-39.8	-39.8
45.9	45.9
0.0 / 0.0	0.0 / 0.0
126.1	

Transmit Frequencies (MHz)

23025.0000V(1)	23175.0000V(4)	21825.0000V(1)	21975.0000V(4)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0235A CA
City/County San Jose/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0452C CA

San Jose/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °15' 32.0~ N	37 °16' 30.4~ N
Longitude (NAD 83)	121 °48' 34.1~ W	121 °48' 31.7~ W
Ground Elevation (m/ft-AMSL)	57.10 / 187.3	97.60 / 320.2
Antenna Structure Registration #		
Path Azimuth (°)	1.881	181.881
Path Length (km / miles)	1.801 / 1.119	

Transmit Antenna

87016A	87014A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2-23	VHLP1-23
Gain (dBi) / Beamwidth (°) / Tilt (°)	35.3 / 3.00 / -1.31
Centerline (m / ft - AGL)	12.80 / 42.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ16	TEMQ16
DRAGONWAVE INC	DRAGONWAVE INC
23HD50SFC322V02	23HD50SFC322V02
HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 7.5	7.5
Received Level (dBm) -41.3	-41.3
EIRP (dBm) 47.9	42.8
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 124.5	

Transmit Frequencies (MHz)	23125.0000V(3)	23275.0000V(6)	21925.0000V(3)	22075.0000V(6)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0237A CA
City/County San Jose/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0235A CA

San Jose/Santa Clara
Engineering Proposal / PRIMARY OPERATION
CLESP3
Clearwire Spectrum Holdings III, LL
FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °14' 25.0~ N	37 °15' 32.0~ N
Longitude (NAD 83)	121 °48' 3.5~ W	121 °48' 34.1~ W
Ground Elevation (m/ft-AMSL)	58.60 / 192.3	57.10 / 187.3
Antenna Structure Registration #		
Path Azimuth (°)	339.945	159.940
Path Length (km / miles)	2.199 / 1.366	

Transmit Antenna

87016A	87016A
ANDREW CORPORATION	ANDREW CORPORATION
VHLP2-23	VHLP2-23
40.4 / 1.60 / -0.77	40.4 / 1.60 / 0.76
39.81 / 130.6	11.89 / 39.0

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ16	TEMQ16
DRAGONWAVE INC	DRAGONWAVE INC
23HD50SFC322V02	23HD50SFC322V02
HORIZON DUO	HORIZON DUO
45M8D7W 256 QAM	45M8D7W 256 QAM
1 CH DIG 322000.000	1 CH DIG 322000.000
0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
5.5	5.5
-39.9	-39.9
45.9	45.9
0.0 / 0.0	0.0 / 0.0
126.2	

Transmit Frequencies (MHz)	21825.0000V(1)	21975.0000V(4)	23025.0000V(1)	23175.0000V(4)
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Microwave Path Data Sheet

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)273-1639 www.comsearch.com

PCN Date: 01/20/2010

Job Number 100120COMSSL01

New Path

RCN Number: 10012000

Administrative Information

CA-SJC0275A CA
City/County Mountain View/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SJC0069B CA

City/County Mountain View/Santa Clara
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class FXO -- Fixed

Site Information

Latitude (NAD 83)	37 °23' 25.9~ N	37 °22' 10.4~ N
Longitude (NAD 83)	122 °4' 52.9~ W	122 °4' 48.2~ W
Ground Elevation (m/ft-AMSL)	26.70 / 87.6	47.20 / 154.9
Antenna Structure Registration #		
Path Azimuth (°)	177.156	357.156
Path Length (km / miles)	2.330 / 1.448	

Transmit Antenna

87016A	87016A
Manufacturer ANDREW CORPORATION	ANDREW CORPORATION
Model VHLP2-23	VHLP2-23
Gain (dBi) / Beamwidth (°) / Tilt (°)	40.4 / 1.60 / -0.10
Centerline (m / ft - AGL)	39.62 / 130.0
22.86 / 75.0	

Receive Antenna

Same As Transmit

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Diversity Receive Antenna

Manufacturer
Model
Gain (dBi) / Beamwidth (°)
Centerline (m / ft - AGL)

Radio Information

TEMQ16	TEMQ16
Manufacturer DRAGONWAVE INC	DRAGONWAVE INC
Model 23HD50SFC322V02	23HD50SFC322V02
Model Description HORIZON DUO	HORIZON DUO
Emission Designator / Modulation 45M8D7W 256 QAM	45M8D7W 256 QAM
Loading 1 CH DIG 322000.000	1 CH DIG 322000.000
Stability (%) 0.001	0.001
Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm) 5.5	5.5
Received Level (dBm) -40.4	-40.4
EIRP (dBm) 45.9	45.9
Fixed Loss: Tx / Common (dB) 0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB) 126.7	

Transmit Frequencies (MHz)	23025.0000V(1)	23175.0000V(4)	21825.0000V(1)	21975.0000V(4)
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