

Microwave Path Data Sheet
COMSEARCH

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19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(858)232-4372 www.comsearch.com

PCN Date: 07/15/2010
Job Number: 100715COMSSL01

Prev Job Num: 100427COMSSL01
RCN Number: 10071501

Administrative Information

City/County San Leandro/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign WQMD296
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0262A CA

City/County San Leandro/Alameda
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 ° 42' 57.1 ~ N
Longitude (NAD 83) 122 ° 10' 45.6 ~ W
Ground Elevation (m/ft-AMSL) 6.70 / 22.0
Antenna Structure Registration # 1271536
Path Azimuth (°) 224.804
Path Length (km / miles) 1.477 / 0.918

Latitude (NAD 83) 37 ° 42' 23.1 ~ N
Longitude (NAD 83) 122 ° 11' 28.1 ~ W
Ground Elevation (m/ft-AMSL) 3.30 / 10.8
Antenna Structure Registration # 1271536
Path Azimuth (°) 44.797

Transmit Antenna

Manufacturer 91233R
Model RADIO WAVES, INC
Gain(dBi) / Beamwidth(°) / Tilt(°) HPLP1-23
Centerline (m / ft - AGL) 35.1 / 2.70 / 0.05
13.11 / 43.0

Manufacturer 91233R
Model RADIO WAVES, INC
Gain(dBi) / Beamwidth(°) / Tilt(°) HPLP1-23
Centerline (m / ft - AGL) 35.1 / 2.70 / -0.06
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

Manufacturer TEMO20
Model DRAGONWAVE INC
Model Description 23HD50SFC371V02
Emission Designator / Modulation HORIZON DUO
Loading 49M2D7W 256 QAM
Stability (%) 1 CH DIG 371000.000
0.001
Nominal Coordinated Maximum
Power (dBm) 5.5
Received Level (dBm) -47.0
EIRP (dBm) 40.6
Fixed Loss: Tx / Common (dB) 0.0 / 0.0
Free Space Loss (dB) 122.7

Manufacturer TEMO20
Model DRAGONWAVE INC
Model Description 23HD50SFC371V02
Emission Designator / Modulation HORIZON DUO
Loading 49M2D7W 256 QAM
Stability (%) 1 CH DIG 371000.000
0.001
Nominal Coordinated Maximum
Power (dBm) 5.5
Received Level (dBm) -47.0
EIRP (dBm) 40.6
Fixed Loss: Tx / Common (dB) 0.0 / 0.0

Transmit Frequencies (MHz)	21925.0000V(3)	22075.0000V(6)	23125.0000V(3)	23275.0000V(6)
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PCN Date: 07/15/2010
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RCN Number: 10071501

Administrative Information

CA-SFO0252A CA
City/County San Leandro/Alameda
Status / License Basis Engineering Proposal / PRIMARY OPERATION
Call Sign WQMD296
Licensee Code CLESP3
Licensee Name Clearwire Spectrum Holdings III, LL
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

CA-SFO0264A CA

City/County San Leandro/Alameda
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 ° 42' <u>57.1</u> ~ N	37 ° 42' 15.1 ~ N
Longitude (NAD 83)	122 ° 10' <u>45.6</u> ~ W	122 ° 9' 39.6 ~ W
Ground Elevation (m/ft-AMSL)	<u>6.70</u> / <u>22.0</u>	6.80 / 22.3
Antenna Structure Registration #		
Path Azimuth (°)	<u>128.689</u>	<u>308.701</u>
Path Length (km / miles)		<u>2.071</u> / <u>1.287</u>

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 / <u>0.14</u>	35.3 / 3.00 / <u>-0.15</u>
	13.11 / 43.0	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

Manufacturer	TEMR36	TEMR36
Model	DRAGONWAVE INC	DRAGONWAVE INC
Model Description	23HD50HFC364V02	23HD50HFC364V02
Emission Designator / Modulation	HORIZON DUO	HORIZON DUO
Loading	47M1D7W 256 QAM	47M1D7W 256 QAM
Stability (%)	1 CH DIG 364000.000	1 CH DIG 364000.000
	0.001	0.001
	Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm)	15.5	15.5
Received Level (dBm)	<u>-39.6</u>	<u>-39.6</u>
EIRP (dBm)	50.8	50.8
Fixed Loss: Tx / Common (dB)	0.0 / 0.0	0.0 / 0.0
Free Space Loss (dB)		<u>125.7</u>

Transmit Frequencies (MHz)	21875.0000H(2)	21975.0000H(4)	23075.0000H(2)	23175.0000H(4)
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