

Microwave Path Data Sheet

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COMSEARCH19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(703)726-5824 www.comsearch.com

PCN Date: 05/06/2011

Job Number: 101104COMSFB06

Administrative Information		TV HILL CA	VOLLMER PK CA
City/County		Bay Point/Contra Costa	/Contra Costa
Status / License Basis		Engineering Proposal / PRIMARY OPERATION	Engineering Proposal / PRIMARY OPERATION
Call Sign		WLM382	WLM381
Licensee Code		5165A1	5165A1
Licensee Name		New Cingular Wireless PCS LLC – N C	New Cingular Wireless PCS LLC – N C
Radio Service / Station Class		CF -- Point-to-Point Microwave, Common Carrier	FXO -- Fixed
Site Information			
Latitude (NAD 83)		38 °1' 48.5" N	37 °52' 56.5" N
Longitude (NAD 83)		122 °0' 8.0" W	122 °13' 15.1" W
Ground Elevation (m/ft-AMSL)		184.10 / 604.0	552.90 / 1814.0
Antenna Structure Registration #		1051047	1010568
Path Azimuth (°)		229.582	49.447
Path Length (km / miles)		25.264 / 15.698	
Transmit Antenna			
Manufacturer		A64100	A64100
Model		ANDREW CORPORATION	ANDREW CORPORATION
Gain(dBi) / Beamwidth(°) / Tilt(°)		HP8-59E	HP8-59E
Centerline (m / ft – AGL)		41.5 / 1.40 / 0.85	41.5 / 1.40 / –1.02
		2.74 / 9.0	44.20 / 145.0
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		TEMT32	TEMT32
Model		Alcatel-Lucent USA, Inc.	Alcatel-Lucent USA, Inc.
Model Description		95MPR61-H256F30-183	95MPR61-H256F30-183
Emission Designator / Modulation		9500 MPR Indoor Fixed Modulation	9500 MPR Indoor Fixed Modulation
Loading		30M0D7W 256 QAM	30M0D7W 256 QAM
Stability (%)		1 CH DIG 183000.000	1 CH DIG 183000.000
		0.001	0.001
		Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm)		28.0	28.0
Received Level (dBm)		–30.9	–30.9
EIRP (dBm)		67.8	65.6
Fixed Loss: Tx / Common (dB)		0.0 / 1.7	0.0 / 3.9
Free Space Loss (dB)		136.3	
Transmit Frequencies (MHz)		6197.2400V(21T)	5945.2000V(11T)

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PCN Date: 05/06/2011

Job Number 101104COMSFB06

Administrative Information		EASTRIDGE CA	MT CHUAL CA
City/County		San Jose/Santa Clara	/Santa Clara
Status / License Basis		Engineering Proposal / PRIMARY OPERATION	Engineering Proposal / PRIMARY OPERATION
Call Sign		WPSQ456	WLM613
Licensee Code		5165A1	5165A1
Licensee Name		New Cingular Wireless PCS LLC - N C	New Cingular Wireless PCS LLC - N C
Radio Service / Station Class		CF -- Point-to-Point Microwave, Common Carrier	FXO -- Fixed
Site Information			
Latitude (NAD 83)		37 ° 19' 6.1" N	37 ° 7' 8.6" N
Longitude (NAD 83)		121 ° 49' 47.2" W	121 ° 50' 1.6" W
Ground Elevation (m/ft-AMSL)		38.40 / 126.0	1087.83 / 3569.0
Antenna Structure Registration #			
Path Azimuth (°)		180.921	0.918
Path Length (km / miles)		22.122 / 13.746	
Transmit Antenna			
Manufacturer		41729A	41729A
Model		ANDREW CORPORATION	ANDREW CORPORATION
Gain(dBi) / Beamwidth(°) / Tilt(°)		UHX6-59L RF	UHX6-59L RF
Centerline (m / ft - AGL)		38.8 / 1.80 / 2.65	38.8 / 1.80 / -2.80
		3.96 / 13.0	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			
Manufacturer		TEMU53	TEMU53
Model		Alcatel-Lucent USA, Inc.	Alcatel-Lucent USA, Inc.
Model Description		95MPR61-H128F30-160	95MPR61-H128F30-160
Emission Designator / Modulation		9500 MPR Indoor Fixed Modulation	9500 MPR Indoor Fixed Modulation
Loading		30M0D7W 128 QAM	30M0D7W 128 QAM
Stability (%)		1 CH DIG 160000.000	1 CH DIG 160000.000
		0.001	0.001
		Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm)		31.0	31.0
Received Level (dBm)		-32.2	-30.2
EIRP (dBm)		68.1	65.9
Fixed Loss: Tx / Common (dB)		0.0 / 1.7	2.0 / 1.9
Free Space Loss (dB)			135.2
Transmit Frequencies (MHz)		6093.4500H(16T)	6345.4900H(26T)

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PCN Date: 05/06/2011

Job Number 101104COMSFB06

Administrative Information		VOLLMER PK CA	TOLL FLATS CA
City/County		/Contra Costa	Oakland/Alameda
Status / License Basis		Engineering Proposal / PRIMARY OPERATION	Engineering Proposal / PRIMARY OPERATION
Call Sign		WLM381	WPTA862
Licensee Code		5165A1	5165A1
Licensee Name		New Cingular Wireless PCS LLC – N C	New Cingular Wireless PCS LLC – N C
Radio Service / Station Class		CF -- Point-to-Point Microwave, Common Carrier	FXO -- Fixed
Site Information			
Latitude (NAD 83)		37 ° 52' 56.5" N	37 ° 49' 31.9" N
Longitude (NAD 83)		122 ° 13' 15.1" W	122 ° 18' 1.7" W
Ground Elevation (m/ft-AMSL)		552.90 / 1814.0	2.74 / 9.0
Antenna Structure Registration #		1010568	
Path Azimuth (°)		228.026	47.977
Path Length (km / miles)		9.428 / 5.858	
Transmit Antenna			
Manufacturer		52472A	52472A
Model		ANDREW CORPORATION	ANDREW CORPORATION
Gain(dBi) / Beamwidth(°) / Tilt(°)		PAR6-59B	PAR6-59B
Centerline (m / ft – AGL)		38.2 / 1.90 / –3.60	38.2 / 1.90 / 3.54
		45.72 / 150.0	7.32 / 24.0
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		TEMT32	TEMT32
Model		Alcatel-Lucent USA, Inc.	Alcatel-Lucent USA, Inc.
Model Description		95MPR61-H256F30-183	95MPR61-H256F30-183
Emission Designator / Modulation		9500 MPR Indoor Fixed Modulation	9500 MPR Indoor Fixed Modulation
Loading		30M0D7W 256 QAM	30M0D7W 256 QAM
Stability (%)		1 CH DIG 183000.000	1 CH DIG 183000.000
		0.001	0.001
		Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm)		28.0	28.0
Received Level (dBm)		–28.8	–28.8
EIRP (dBm)		62.6	64.4
Fixed Loss: Tx / Common (dB)		0.0 / 3.6	0.0 / 1.8
Free Space Loss (dB)			127.8
Transmit Frequencies (MHz)		6226.8900V(22T)	5974.8500V(12T)

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Administrative Information		BROOKSIDE CA	ALBANY CA
City/County		San Pablo/Contra Costa	Richmond/Contra Costa
Status / License Basis		Engineering Proposal / PRIMARY OPERATION	Engineering Proposal / PRIMARY OPERATION
Call Sign		WLM385	WLV224
Licensee Code		5165A1	5165A1
Licensee Name		New Cingular Wireless PCS LLC – N C	New Cingular Wireless PCS LLC – N C
Radio Service / Station Class		CF -- Point-to-Point Microwave, Common Carrier	FXO -- Fixed
Site Information			
Latitude (NAD 83)		37 °57' 11.8" N	37 °55' 18.6" N
Longitude (NAD 83)		122 °20' 11.5" W	122 °21' 33.0" W
Ground Elevation (m/ft-AMSL)		23.77 / 78.0	2.44 / 8.0
Antenna Structure Registration #			
Path Azimuth (°)		209.699	29.685
Path Length (km / miles)		4.018 / 2.496	
Transmit Antenna		70709A	70709A
Manufacturer		ANDREW CORPORATION	ANDREW CORPORATION
Model		VHLP800-11C	VHLP800-11C
Gain(dBi) / Beamwidth(°) / Tilt(°)		37.4 / 2.10 / -0.44	37.4 / 2.10 / 0.41
Centerline (m / ft – AGL)		31.39 / 103.0	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		TEMU52	TEMU52
Manufacturer		Alcatel-Lucent USA, Inc.	Alcatel-Lucent USA, Inc.
Model		95MPR11-H32F30-114	95MPR11-H32F30-114
Model Description		9500 MPR Indoor Fixed Modulation	9500 MPR Indoor Fixed Modulation
Emission Designator / Modulation		30M0D7W 32 QAM	30M0D7W 32 QAM
Loading		1 CH DIG 114200.000	1 CH DIG 114200.000
Stability (%)		0.001	0.001
		Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm)		30.0	30.0
Received Level (dBm)		-22.7	-22.7
EIRP (dBm)		66.4	66.4
Fixed Loss: Tx / Common (dB)		0.0 / 1.0	0.0 / 1.0
Free Space Loss (dB)			125.5
Transmit Frequencies (MHz)		10915.0000V(6)	11405.0000V(6)

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PCN Date: 05/06/2011

Job Number 101104COMSFB06

Administrative Information		ROUND TOP CA	OAKLAND COLI CA
City/County		/Contra Costa	Oakland/Alameda
Status / License Basis		Engineering Proposal / PRIMARY OPERATION	Engineering Proposal / PRIMARY OPERATION
Call Sign		WLM384	WPU1510
Licensee Code		5165A1	5165A1
Licensee Name		New Cingular Wireless PCS LLC - N C	New Cingular Wireless PCS LLC - N C
Radio Service / Station Class		CF -- Point-to-Point Microwave, Common Carrier	FXO -- Fixed
Site Information			
Latitude (NAD 83)		37 °51' 0.4" N	37 °45' 14.5" N
Longitude (NAD 83)		122 °11' 33.6" W	122 °12' 15.8" W
Ground Elevation (m/ft-AMSL)		535.84 / 1758.0	2.00 / 6.6
Antenna Structure Registration #		1010560	
Path Azimuth (°)		185.533	5.526
Path Length (km / miles)		10.714 / 6.658	
Transmit Antenna			
Manufacturer		77043A	77043A
Model		ANDREW CORPORATION	ANDREW CORPORATION
Gain(dBi) / Beamwidth(°) / Tilt(°)		VHLP4-11B	VHLP4-11B
Centerline (m / ft - AGL)		40.4 / 1.50 / -2.97	40.4 / 1.50 / 2.90
		24.38 / 80.0	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			
Manufacturer		TEMU52	TEMU52
Model		Alcatel-Lucent USA, Inc.	Alcatel-Lucent USA, Inc.
Model Description		95MPR11-H32F30-114	95MPR11-H32F30-114
Emission Designator / Modulation		9500 MPR Indoor Fixed Modulation	9500 MPR Indoor Fixed Modulation
Loading		30M0D7W 32 QAM	30M0D7W 32 QAM
Stability (%)		1 CH DIG 114200.000	1 CH DIG 114200.000
		0.001	0.001
		Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm)		30.0	30.0
Received Level (dBm)		-25.7	-25.7
EIRP (dBm)		69.2	69.2
Fixed Loss: Tx / Common (dB)		0.0 / 1.2	0.0 / 1.2
Free Space Loss (dB)			134.1
Transmit Frequencies (MHz)		11525.0000V(9)	11035.0000V(9)

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19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 05/06/2011

Job Number 101104COMSFB06

Administrative Information		ROUND TOP CA	BAY BRIDGE CA
City/County		/Contra Costa	Oakland/Alameda
Status / License Basis		Engineering Proposal / PRIMARY OPERATION	Engineering Proposal / PRIMARY OPERATION
Call Sign		WLM384	WMJ466
Licensee Code		5165A1	5165A1
Licensee Name		New Cingular Wireless PCS LLC – N C	New Cingular Wireless PCS LLC – N C
Radio Service / Station Class		CF -- Point-to-Point Microwave, Common Carrier	FXO -- Fixed
Site Information			
Latitude (NAD 83)		37 °51' 0.4" N	37 °49' 17.9" N
Longitude (NAD 83)		122 °11' 33.6" W	122 °19' 24.3" W
Ground Elevation (m/ft-AMSL)		535.84 / 1758.0	2.74 / 9.0
Antenna Structure Registration #		1010560	
Path Azimuth (°)		254.687	74.606
Path Length (km / miles)		11.936 / 7.416	
Transmit Antenna			
Manufacturer		77043A	77043A
Model		ANDREW CORPORATION	ANDREW CORPORATION
Gain(dBi) / Beamwidth(°) / Tilt(°)		VHLP4-11B	VHLP4-11B
Centerline (m / ft – AGL)		40.4 / 1.50 / –2.67	40.4 / 1.50 / 2.59
		24.38 / 80.0	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			
Manufacturer		TEMU52	TEMU52
Model		Alcatel-Lucent USA, Inc.	Alcatel-Lucent USA, Inc.
Model Description		95MPR11-H32F30-114	95MPR11-H32F30-114
Emission Designator / Modulation		9500 MPR Indoor Fixed Modulation	9500 MPR Indoor Fixed Modulation
Loading		30M0D7W 32 QAM	30M0D7W 32 QAM
Stability (%)		1 CH DIG 114200.000	1 CH DIG 114200.000
		0.001	0.001
		Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm)		30.0	30.0
Received Level (dBm)		–32.9	–32.9
EIRP (dBm)		65.3	66.8
Fixed Loss: Tx / Common (dB)		0.0 / 5.1	0.0 / 3.6
Free Space Loss (dB)			135.0
Transmit Frequencies (MHz)		10915.0000V(6)	11405.0000V(6)

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19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 05/06/2011

Job Number 101104COMSFB06

Administrative Information		MARTINEZ CA	TV HILL CA
City/County		Crockett/Contra Costa	Bay Point/Contra Costa
Status / License Basis		Engineering Proposal / PRIMARY OPERATION	Engineering Proposal / PRIMARY OPERATION
Call Sign		WMS908	WLM382
Licensee Code		5165A1	5165A1
Licensee Name		New Cingular Wireless PCS LLC – N C	New Cingular Wireless PCS LLC – N C
Radio Service / Station Class		CF -- Point-to-Point Microwave, Common Carrier	FXO -- Fixed
Site Information			
Latitude (NAD 83)		38 °1' 43.1" N	38 °1' 48.5" N
Longitude (NAD 83)		122 °11' 52.9" W	122 °0' 8.0" W
Ground Elevation (m/ft-AMSL)		273.41 / 897.0	184.10 / 604.0
Antenna Structure Registration #			1051047
Path Azimuth (°)		89.385	269.505
Path Length (km / miles)		17.192 / 10.683	
Transmit Antenna		75058G	75058G
Manufacturer		GABRIEL ELECTRONICS	GABRIEL ELECTRONICS
Model		UCC6-107CSE RF	UCC6-107CSE RF
Gain(dBi) / Beamwidth(°) / Tilt(°)		43.8 / 1.00 / -0.36	43.8 / 1.00 / 0.24
Centerline (m / ft – AGL)		3.66 / 12.0	3.05 / 10.0
Receive Antenna		Same As Transmit	
Manufacturer			
Model			
Gain (dBi) / Beamwidth (°)			
Centerline (m / ft – AGL)			
Diversity Receive Antenna		G04070	G04070
Manufacturer		GABRIEL ELECTRONICS	GABRIEL ELECTRONICS
Model		UCC4-107 RF	UCC4-107 RF
Gain (dBi) / Beamwidth (°)		40.4 / 1.80	40.4 / 1.80
Centerline (m / ft – AGL)		1.22 / 4.0	1.22 / 4.0
Radio Information		TEMU28	TEMU28
Manufacturer		Alcatel-Lucent USA, Inc.	Alcatel-Lucent USA, Inc.
Model		95MPR11-H256F30-183	95MPR11-H256F30-183
Model Description		9500 MPR Indoor Fixed Modulation	9500 MPR Indoor Fixed Modulation
Emission Designator / Modulation		30M0D7W 256 QAM	30M0D7W 256 QAM
Loading		1 CH DIG 183300.000	1 CH DIG 183300.000
Stability (%)		0.001	0.001
		Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm)		26.0	26.0
Received Level (dBm)		-30.2	-30.2
EIRP (dBm)		66.3	67.7
Fixed Loss: Tx / Common (dB)		0.0 / 3.5	0.0 / 2.1
Free Space Loss (dB)			138.2
Transmit Frequencies (MHz)		10995.0000H(8)	11485.0000H(8)

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PCN Date: 05/06/2011

Job Number 101104COMSFB06

Administrative Information		SANTA CLARA CA	WEST VALLEY CA
City/County		Santa Clara/Santa Clara	Saratoga/Santa Clara
Status / License Basis		Engineering Proposal / PRIMARY OPERATION	Engineering Proposal / PRIMARY OPERATION
Call Sign		WMJ484	WPOR624
Licensee Code		5165A1	5165A1
Licensee Name		New Cingular Wireless PCS LLC – N C	New Cingular Wireless PCS LLC – N C
Radio Service / Station Class		CF -- Point-to-Point Microwave, Common Carrier	FXO -- Fixed
Site Information			
Latitude (NAD 83)		37 °22' 1.4" N	37 °15' 55.1" N
Longitude (NAD 83)		121 °57' 10.2" W	122 °0' 27.3" W
Ground Elevation (m/ft-AMSL)		13.41 / 44.0	105.16 / 345.0
Antenna Structure Registration #		1015128	
Path Azimuth (°)		203.273	23.240
Path Length (km / miles)		12.291 / 7.637	
Transmit Antenna			
Manufacturer		77045A ANDREW CORPORATION	77045A ANDREW CORPORATION
Model		VHLP6-11	VHLP6-11
Gain(dBi) / Beamwidth(°) / Tilt(°)		43.8 / 1.10 / 0.37	43.8 / 1.10 / -0.45
Centerline (m / ft – AGL)		27.43 / 90.0	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			
Manufacturer		TEMU52 Alcatel-Lucent USA, Inc.	TEMU52 Alcatel-Lucent USA, Inc.
Model		95MPR11-H32F30-114	95MPR11-H32F30-114
Model Description		9500 MPR Indoor Fixed Modulation	9500 MPR Indoor Fixed Modulation
Emission Designator / Modulation		30M0D7W 32 QAM	30M0D7W 32 QAM
Loading		1 CH DIG 114200.000	1 CH DIG 114200.000
Stability (%)		0.001	0.001
		Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm)		30.0	30.0
Received Level (dBm)		-28.5	-28.5
EIRP (dBm)		68.2	68.5
Fixed Loss: Tx / Common (dB)		0.0 / 5.6	0.0 / 5.3
Free Space Loss (dB)			135.2
Transmit Frequencies (MHz)		11115.0000V(11)	11605.0000V(11)

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PCN Date: 05/06/2011

Job Number 101104COMSFB06

Administrative Information	ALEMANY CA	SAN BRUNO CA
City/County	San Francisco/San Francisco	/San Mateo
Status / License Basis	Engineering Proposal / PRIMARY OPERATION	Engineering Proposal / PRIMARY OPERATION
Call Sign	WQBN799	WLN568
Licensee Code	5165A1	5165A1
Licensee Name	New Cingular Wireless PCS LLC – N C	New Cingular Wireless PCS LLC – N C
Radio Service / Station Class	CF -- Point-to-Point Microwave, Common Carrier	FXO -- Fixed

Site Information

Latitude (NAD 83)	37 ° 42' 52.8" N	37 ° 41' 16.6" N
Longitude (NAD 83)	122 ° 23' 54.7" W	122 ° 26' 11.1" W
Ground Elevation (m/ft-AMSL)	48.46 / 159.0	374.30 / 1228.0
Antenna Structure Registration #		1010565
Path Azimuth (°)	228.418	48.395
Path Length (km / miles)		4.468 / 2.776

Transmit Antenna

Manufacturer	77083A	77083A
Model	ANDREW CORPORATION	ANDREW CORPORATION
Gain(dBi) / Beamwidth(°) / Tilt(°)	VHLP2-11A	VHLP2-11A
Centerline (m / ft – AGL)	34.4 / 3.30 / 4.08	34.4 / 3.30 / -4.11
	10.67 / 35.0	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

Manufacturer	TEMU52	TEMU52
Model	Alcatel-Lucent USA, Inc.	Alcatel-Lucent USA, Inc.
Model Description	95MPR11-H32F30-114	95MPR11-H32F30-114
Emission Designator / Modulation	9500 MPR Indoor Fixed Modulation	9500 MPR Indoor Fixed Modulation
Loading	30M0D7W 32 QAM	30M0D7W 32 QAM
Stability (%)	1 CH DIG 114200.000	1 CH DIG 114200.000
	0.001	0.001
	Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm)	30.0	30.0
Received Level (dBm)	-34.1	-34.1
EIRP (dBm)	60.9	61.5
Fixed Loss: Tx / Common (dB)	0.0 / 3.5	0.0 / 2.9
Free Space Loss (dB)		126.5

Transmit Frequencies (MHz) 10955.0000V(7) 11445.0000V(7)

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COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147
(703)726-5824 www.comsearch.com

PCN Date: 05/06/2011

Job Number 101104COMSFB06

Administrative Information	BLOSSOM HILL CA	LOS GATOS CA
City/County	San Jose/Santa Clara	Campbell/Santa Clara
Status / License Basis	Engineering Proposal / PRIMARY OPERATION	Engineering Proposal / PRIMARY OPERATION
Call Sign	WPRW945	WPRU853
Licensee Code	5165A1	5165A1
Licensee Name	New Cingular Wireless PCS LLC – N C	New Cingular Wireless PCS LLC – N C
Radio Service / Station Class	CF -- Point-to-Point Microwave, Common Carrier	FXO -- Fixed
Site Information		
Latitude (NAD 83)	37 °14' 22.6" N	37 °17' 16.1" N
Longitude (NAD 83)	121 °56' 20.9" W	121 °56' 6.8" W
Ground Elevation (m/ft-AMSL)	89.92 / 295.0	57.61 / 189.0
Antenna Structure Registration #		
Path Azimuth (°)	3.715	183.718
Path Length (km / miles)	5.360 / 3.331	
Transmit Antenna	AB1025	77152A
Manufacturer	MARK ANTENNA	ANDREW CORPORATION
Model	HP-170D24	VHLP3-18
Gain(dBi) / Beamwidth(°) / Tilt(°)	38.9 / 2.00 / -0.33	43.5 / 1.10 / 0.30
Centerline (m / ft – AGL)	39.93 / 131.0	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	TEMT63	TEMT63
Manufacturer	Alcatel-Lucent USA, Inc.	Alcatel-Lucent USA, Inc.
Model	95MPR18-O32F30-114	95MPR18-O32F30-114
Model Description	9500 MPR Outdoor Fixed Modulation HP	9500 MPR Outdoor Fixed Modulation HP
Emission Designator / Modulation	30M0D7W 32 QAM	30M0D7W 32 QAM
Loading	1 CH DIG 114000.000	1 CH DIG 114000.000
Stability (%)	0.001	0.001
	Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm)	19.0	19.0
Received Level (dBm)	-45.2	-45.2
EIRP (dBm)	45.9	60.4
Fixed Loss: Tx / Common (dB)	0.0 / 12.0	0.0 / 2.1
Free Space Loss (dB)		132.5
Transmit Frequencies (MHz)	19615.0000V(11)	18055.0000V(11)

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PCN Date: 05/06/2011

Job Number 101104COMSFB06

Administrative Information		FOSTER CITY CA	101 POPLAR CA
City/County		San Mateo/San Mateo	San Mateo/San Mateo
Status / License Basis		Engineering Proposal / PRIMARY OPERATION	Engineering Proposal / PRIMARY OPERATION
Call Sign		WPNG846	WPQY339
Licensee Code		5165A1	5165A1
Licensee Name		New Cingular Wireless PCS LLC - N C	New Cingular Wireless PCS LLC - N C
Radio Service / Station Class		CF -- Point-to-Point Microwave, Common Carrier	FXO -- Fixed
Site Information			
Latitude (NAD 83)		37 °33' 22.4" N	37 °34' 56.0" N
Longitude (NAD 83)		122 °17' 16.6" W	122 °19' 17.4" W
Ground Elevation (m/ft-AMSL)		2.44 / 8.0	0.30 / 1.0
Antenna Structure Registration #			
Path Azimuth (°)		314.239	134.219
Path Length (km / miles)		4.137 / 2.571	
Transmit Antenna		AB1025	AB1025
Manufacturer		MARK ANTENNA	MARK ANTENNA
Model		HP-170D24	HP-170D24
Gain(dBi) / Beamwidth(°) / Tilt(°)		38.9 / 2.00 / -0.26	38.9 / 2.00 / 0.23
Centerline (m / ft - AGL)		41.15 / 135.0	25.60 / 84.0
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		TEMT63	TEMT63
Manufacturer		Alcatel-Lucent USA, Inc.	Alcatel-Lucent USA, Inc.
Model		95MPR18-O32F30-114	95MPR18-O32F30-114
Model Description		9500 MPR Outdoor Fixed Modulation HP	9500 MPR Outdoor Fixed Modulation HP
Emission Designator / Modulation		30M0D7W 32 QAM	30M0D7W 32 QAM
Loading		1 CH DIG 114000.000	1 CH DIG 114000.000
Stability (%)		0.001	0.001
		Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm)		17.0	17.0
Received Level (dBm)		-45.2	-45.2
EIRP (dBm)		51.0	51.0
Fixed Loss: Tx / Common (dB)		0.0 / 4.9	0.0 / 4.9
Free Space Loss (dB)			130.2
Transmit Frequencies (MHz)		19375.0000V(3)	17815.0000V(3)

Microwave Path Data Sheet

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PCN Date: 05/06/2011

Job Number 101104COMSFB06

Administrative Information		MARTINEZ CA	HIGHWAY 4 CA
City/County		Crockett/Contra Costa	/Contra Costa
Status / License Basis		Engineering Proposal / PRIMARY OPERATION	Engineering Proposal / PRIMARY OPERATION
Call Sign		WLU721	WQGT283
Licensee Code		5165A1	5165A1
Licensee Name		New Cingular Wireless PCS LLC - N C	New Cingular Wireless PCS LLC - N C
Radio Service / Station Class		CF -- Point-to-Point Microwave, Common Carrier	FXO -- Fixed
Site Information			
Latitude (NAD 83)		38 °1' 43.1" N	38 °0' 8.8" N
Longitude (NAD 83)		122 °11' 52.9" W	122 °9' 46.4" W
Ground Elevation (m/ft-AMSL)		273.41 / 897.0	220.37 / 723.0
Antenna Structure Registration #			
Path Azimuth (°)		133.286	313.308
Path Length (km / miles)		4.240 / 2.634	
Transmit Antenna		AB1025	AB1025
Manufacturer		MARK ANTENNA	MARK ANTENNA
Model		HP-170D24	HP-170D24
Gain(dBi) / Beamwidth(°) / Tilt(°)		38.9 / 2.00 / -0.84	38.9 / 2.00 / 0.81
Centerline (m / ft - AGL)		10.67 / 35.0	2.44 / 8.0
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		TEMT63	TEMT63
Manufacturer		Alcatel-Lucent USA, Inc.	Alcatel-Lucent USA, Inc.
Model		95MPR18-O32F30-114	95MPR18-O32F30-114
Model Description		9500 MPR Outdoor Fixed Modulation HP	9500 MPR Outdoor Fixed Modulation HP
Emission Designator / Modulation		30M0D7W 32 QAM	30M0D7W 32 QAM
Loading		1 CH DIG 114000.000	1 CH DIG 114000.000
Stability (%)		0.001	0.001
		Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm)		17.0	17.0
Received Level (dBm)		-45.5	-45.5
EIRP (dBm)		51.0	51.0
Fixed Loss: Tx / Common (dB)		0.0 / 4.9	0.0 / 4.9
Free Space Loss (dB)			130.5
Transmit Frequencies (MHz)		17755.0000H(1)	19315.0000H(1)

Microwave Path Data Sheet

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PCN Date: 05/06/2011

Job Number 101104COMSFB06

Administrative Information	SUNNYVALE CA	SANTA CLARA CA
City/County	Sunnyvale/Santa Clara	Santa Clara/Santa Clara
Status / License Basis	Engineering Proposal / PRIMARY OPERATION	Engineering Proposal / PRIMARY OPERATION
Call Sign	WLV599	WMJ484
Licensee Code	5165A1	5165A1
Licensee Name	New Cingular Wireless PCS LLC – N C	New Cingular Wireless PCS LLC – N C
Radio Service / Station Class	CF -- Point-to-Point Microwave, Common Carrier	FXO -- Fixed
Site Information		
Latitude (NAD 83)	37 °22' 41.6" N	37 °22' 1.4" N
Longitude (NAD 83)	122 °0' 33.3" W	121 °57' 10.2" W
Ground Elevation (m/ft-AMSL)	16.46 / 54.0	13.41 / 44.0
Antenna Structure Registration #		1015128
Path Azimuth (°)	103.912	283.946
Path Length (km / miles)	5.149 / 3.199	
Transmit Antenna	80061A	80063A
Manufacturer	ANDREW CORPORATION	ANDREW CORPORATION
Model	VHLP4-18A	VHLP6-18A
Gain(dBi) / Beamwidth(°) / Tilt(°)	44.7 / 0.90 / -0.06	47.8 / 0.70 / 0.03
Centerline (m / ft – AGL)	25.30 / 83.0	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	TEMT63	TEMT63
Manufacturer	Alcatel-Lucent USA, Inc.	Alcatel-Lucent USA, Inc.
Model	95MPR18-O32F30-114	95MPR18-O32F30-114
Model Description	9500 MPR Outdoor Fixed Modulation HP	9500 MPR Outdoor Fixed Modulation HP
Emission Designator / Modulation	30M0D7W 32 QAM	30M0D7W 32 QAM
Loading	1 CH DIG 114000.000	1 CH DIG 114000.000
Stability (%)	0.001	0.001
	Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm)	17.0	17.0
Received Level (dBm)	-40.7	-40.7
EIRP (dBm)	52.6	55.8
Fixed Loss: Tx / Common (dB)	0.0 / 9.1	0.0 / 9.0
Free Space Loss (dB)		132.1
Transmit Frequencies (MHz)	17755.0000V(1)	19315.0000V(1)

Microwave Path Data Sheet

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PCN Date: 05/06/2011

Job Number 101104COMSFB06

Administrative Information		HERCULES CA	MARTINEZ CA
City/County		Crockett/Contra Costa	Crockett/Contra Costa
Status / License Basis		Engineering Proposal / PRIMARY OPERATION	Engineering Proposal / PRIMARY OPERATION
Call Sign		WLR263	WLU721
Licensee Code		5165A1	5165A1
Licensee Name		New Cingular Wireless PCS LLC – N C	New Cingular Wireless PCS LLC – N C
Radio Service / Station Class		CF -- Point-to-Point Microwave, Common Carrier	FXO -- Fixed
Site Information			
Latitude (NAD 83)		38 °2' 42.2" N	38 °1' 43.1" N
Longitude (NAD 83)		122 °13' 56.5" W	122 °11' 52.9" W
Ground Elevation (m/ft-AMSL)		166.12 / 545.0	273.41 / 897.0
Antenna Structure Registration #			
Path Azimuth (°)		121.145	301.166
Path Length (km / miles)		3.522 / 2.189	
Transmit Antenna			
Manufacturer		87204A	87204A
Model		ANDREW CORPORATION	ANDREW CORPORATION
Gain(dBi) / Beamwidth(°) / Tilt(°)		VHLP2-18B	VHLP2-18B
Centerline (m / ft – AGL)		38.9 / 2.10 / 1.83	38.9 / 2.10 / -1.85
		3.96 / 13.0	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		TEMT63	TEMT63
Model		Alcatel-Lucent USA, Inc.	Alcatel-Lucent USA, Inc.
Model Description		95MPR18-O32F30-114	95MPR18-O32F30-114
Emission Designator / Modulation		9500 MPR Outdoor Fixed Modulation HP	9500 MPR Outdoor Fixed Modulation HP
Loading		30M0D7W 32 QAM	30M0D7W 32 QAM
Stability (%)		1 CH DIG 114000.000	1 CH DIG 114000.000
		0.001	0.001
		Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm)		17.0	17.0
Received Level (dBm)		-44.4	-44.4
EIRP (dBm)		51.3	50.1
Fixed Loss: Tx / Common (dB)		0.0 / 4.6	0.0 / 5.8
Free Space Loss (dB)			128.8
Transmit Frequencies (MHz)		19585.0000V(10)	18025.0000V(10)

Microwave Path Data Sheet

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COMSEARCH19700 Janelia Farm Boulevard, Ashburn, VA, 20147
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PCN Date: 05/06/2011

Job Number 101104COMSFB06

Administrative Information		SAN JOSE AIR CA	SC UNIV CA
City/County		Santa Clara/Santa Clara	Santa Clara/Santa Clara
Status / License Basis		Engineering Proposal / PRIMARY OPERATION	Engineering Proposal / PRIMARY OPERATION
Call Sign		WMJ484	WPSJ596
Licensee Code		5165A1	5165A1
Licensee Name		New Cingular Wireless PCS LLC – N C	New Cingular Wireless PCS LLC – N C
Radio Service / Station Class		CF -- Point-to-Point Microwave, Common Carrier	FXO -- Fixed
Site Information			
Latitude (NAD 83)		37 °22' 1.4" N	37 °21' 22.0" N
Longitude (NAD 83)		121 °57' 10.2" W	121 °56' 28.8" W
Ground Elevation (m/ft-AMSL)		13.41 / 44.0	17.68 / 58.0
Antenna Structure Registration #		1015128	1224200
Path Azimuth (°)		140.009	320.016
Path Length (km / miles)		1.585 / 0.985	
Transmit Antenna		RD1150	RD1150
Manufacturer		RADIO WAVES, INC	RADIO WAVES, INC
Model		HP2-23	HP2-23
Gain(dBi) / Beamwidth(°) / Tilt(°)		40.2 / 1.70 / -0.15	40.2 / 1.70 / 0.14
Centerline (m / ft – AGL)		21.34 / 70.0	13.10 / 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		TENC44	TENC44
Manufacturer		Alcatel-Lucent USA, Inc.	Alcatel-Lucent USA, Inc.
Model		95MPR23-O32F30-114	95MPR23-O32F30-114
Model Description		9500 MPR Outdoor Fixed Modulation	9500 MPR Outdoor Fixed Modulation
Emission Designator / Modulation		30M0D7W 32 QAM	30M0D7W 32 QAM
Loading		1 CH DIG 114000.000	1 CH DIG 114000.000
Stability (%)		0.001	0.001
		Nominal Coordinated Maximum	Nominal Coordinated Maximum
Power (dBm)		17.0	17.0
Received Level (dBm)		-46.2	-46.2
EIRP (dBm)		46.7	47.5
Fixed Loss: Tx / Common (dB)		0.0 / 10.5	0.0 / 9.7
Free Space Loss (dB)			123.4
Transmit Frequencies (MHz)		22085.0000V(6)	23285.0000V(6)