

# Microwave Path Data Sheet

Page 1 of 2

## COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147  
(858)232-4372 [www.comsearch.com](http://www.comsearch.com)

PCN Date: 10/04/2010

Job Number: 101004COMSSL01

New Path

RCN Number: 10100440

### Administrative Information

**CA-SFO0417C CA**  
City/County San Jose/Santa Clara  
Status / License Basis Engineering Proposal / PRIMARY OPERATION  
Call Sign WQMM497  
Licensee Code CLESP3  
Licensee Name Clearwire Spectrum Holdings III, LL  
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

### CA-SFO0414B CA

/Santa Clara  
Engineering Proposal / PRIMARY OPERATION  
WQMM284  
CLESP3  
Clearwire Spectrum Holdings III, LL  
FXO -- Fixed

### Site Information

|                                  |                 |                 |
|----------------------------------|-----------------|-----------------|
| Latitude (NAD 83)                | 37 °23' 20.7" N | 37 °25' 3.1" N  |
| Longitude (NAD 83)               | 121 °52' 7.0" W | 121 °51' 5.2" W |
| Ground Elevation (m/ft-AMSL)     | 37.20 / 122.0   | 99.00 / 324.8   |
| Antenna Structure Registration # |                 | 1270998         |
| Path Azimuth (°)                 | 25.704          | 205.714         |
| Path Length (km / miles)         |                 | 3.504 / 2.177   |

### Transmit Antenna

|                                                       |                     |
|-------------------------------------------------------|---------------------|
| 87205A                                                | 87205A              |
| Manufacturer ANDREW CORPORATION                       | ANDREW CORPORATION  |
| Model VHLP2-23B                                       | VHLP2-23B           |
| Gain(dBi) / Beamwidth(°) / Tilt(°) 40.5 / 1.70 / 0.66 | 40.5 / 1.70 / -0.69 |
| Centerline (m / ft - AGL) 31.39 / 103.0               | 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

|                                                 |                             |
|-------------------------------------------------|-----------------------------|
| TEMQ55                                          | TEMQ55                      |
| Manufacturer DRAGONWAVE INC                     | DRAGONWAVE INC              |
| Model 23HD50SFC215V02                           | 23HD50SFC215V02             |
| 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) -40.7                      | -40.7                       |
| EIRP (dBm) 49.0                                 | 49.0                        |
| Fixed Loss: Tx / Common (dB) 0.0 / 0.0          | 0.0 / 0.0                   |
| Free Space Loss (dB) 130.2                      |                             |

|                                   |                |                |                |                |
|-----------------------------------|----------------|----------------|----------------|----------------|
| <b>Transmit Frequencies (MHz)</b> | 23025.0000V(1) | 23175.0000V(4) | 21825.0000V(1) | 21975.0000V(4) |
|-----------------------------------|----------------|----------------|----------------|----------------|

# Microwave Path Data Sheet

Page 2 of 2

## COMSEARCH

19700 Janelia Farm Boulevard, Ashburn, VA, 20147  
(858)232-4372 [www.comsearch.com](http://www.comsearch.com)

PCN Date: 10/04/2010

Job Number 101004COMSSL01

New Path

RCN Number: 10100440

### Administrative Information

**CA-SFO0417C CA**  
City/County San Jose/Santa Clara  
Status / License Basis Engineering Proposal / PRIMARY OPERATION  
Call Sign WQMM497  
Licensee Code CLESP3  
Licensee Name Clearwire Spectrum Holdings III, LL  
Radio Service / Station Class MG -- Microwave Industrial/Business Pool

### CA-SJC0216B CA

San Jose/Santa Clara  
Engineering Proposal / PRIMARY OPERATION  
WQMM534  
CLESP3  
Clearwire Spectrum Holdings III, LL  
FXO -- Fixed

### Site Information

|                                  |                 |                  |
|----------------------------------|-----------------|------------------|
| Latitude (NAD 83)                | 37 °23' 20.7" N | 37 °22' 55.6" N  |
| Longitude (NAD 83)               | 121 °52' 7.0" W | 121 °51' 40.2" W |
| Ground Elevation (m/ft-AMSL)     | 37.20 / 122.0   | 42.30 / 138.8    |
| Antenna Structure Registration # |                 |                  |
| Path Azimuth (°)                 | 139.567         | 319.572          |
| Path Length (km / miles)         | 1.017 / 0.632   |                  |

### Transmit Antenna

|                                                       |                     |
|-------------------------------------------------------|---------------------|
| 80014A                                                | 80014A              |
| ANDREW CORPORATION                                    | ANDREW CORPORATION  |
| VHLP1-23A                                             | VHLP1-23A           |
| Gain(dBi) / Beamwidth(°) / Tilt(°) 35.3 / 3.00 / 0.16 | 35.3 / 3.00 / -0.17 |
| Centerline (m / ft - AGL) 35.66 / 117.0               | 33.53 / 110.0       |

### 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

|                                                 |                             |
|-------------------------------------------------|-----------------------------|
| TEMQ55                                          | TEMQ55                      |
| DRAGONWAVE INC                                  | DRAGONWAVE INC              |
| 23HD50SFC215V02                                 | 23HD50SFC215V02             |
| 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) -42.3                      | -42.3                       |
| EIRP (dBm) 43.8                                 | 41.9                        |
| Fixed Loss: Tx / Common (dB) 0.0 / 0.0          | 0.0 / 1.9                   |
| Free Space Loss (dB) 119.5                      |                             |

|                                   |                |                |                |                |
|-----------------------------------|----------------|----------------|----------------|----------------|
| <b>Transmit Frequencies (MHz)</b> | 23325.0000V(7) | 23425.0000V(9) | 22125.0000V(7) | 22225.0000V(9) |
|-----------------------------------|----------------|----------------|----------------|----------------|