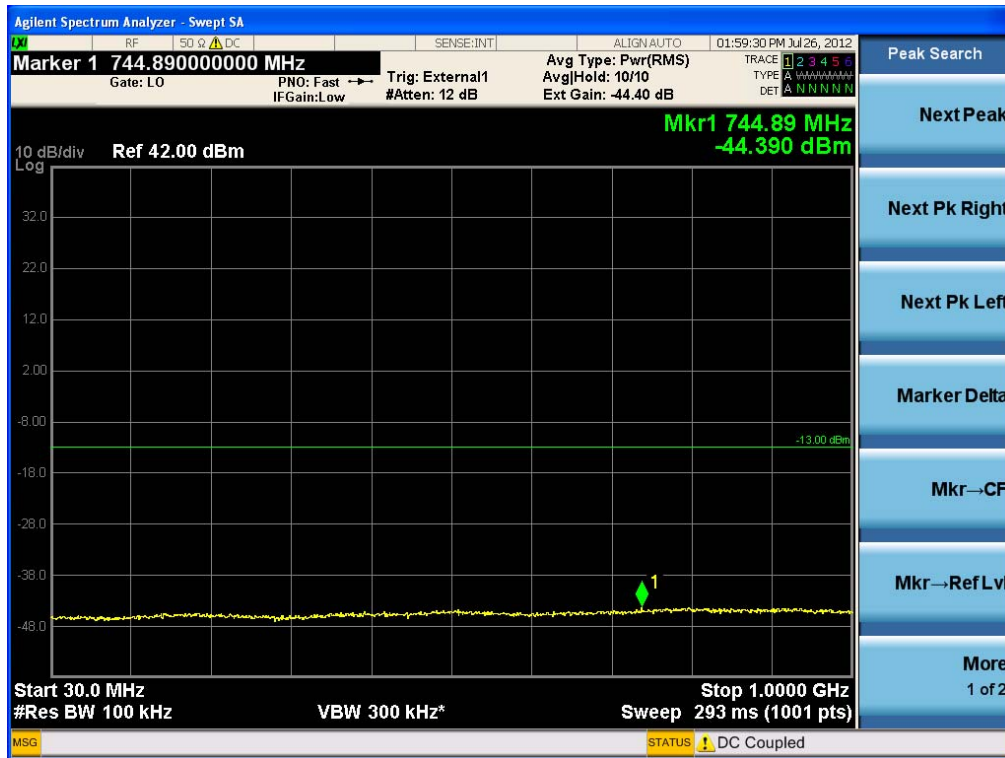


7.4.4. Plot Data at Output Port 4  
(QPSK Low Channel)



(30 MHz ~ 1 GHz)

(QPSK Low Channel)



(1 GHz ~ 26.5 GHz)

| FCC PT.27<br>TEST REPORT        | FCC CERTIFICATION REPORT          |                                            |                          | HCT PT.27<br>TEST REPORT |
|---------------------------------|-----------------------------------|--------------------------------------------|--------------------------|--------------------------|
| Test Report No.<br>HCTR1208FR08 | Date of Issue:<br>August 07, 2012 | EUT Type:<br>Mobile RRH(Remote Radio Head) | FCC ID:<br>A3LSLS-BD106Q | Page 136 of 161          |

(Band Edge Low)



|                                 |                                   |                                            |                          |                          |
|---------------------------------|-----------------------------------|--------------------------------------------|--------------------------|--------------------------|
| FCC PT.27<br>TEST REPORT        | FCC CERTIFICATION REPORT          |                                            |                          | HCT PT.27<br>TEST REPORT |
| Test Report No.<br>HCTR1208FR08 | Date of Issue:<br>August 07, 2012 | EUT Type:<br>Mobile RRH(Remote Radio Head) | FCC ID:<br>A3LSLS-BD106Q | Page 137 of 161          |

(QPSK Middle Channel)



(30 MHz ~ 1 GHz)

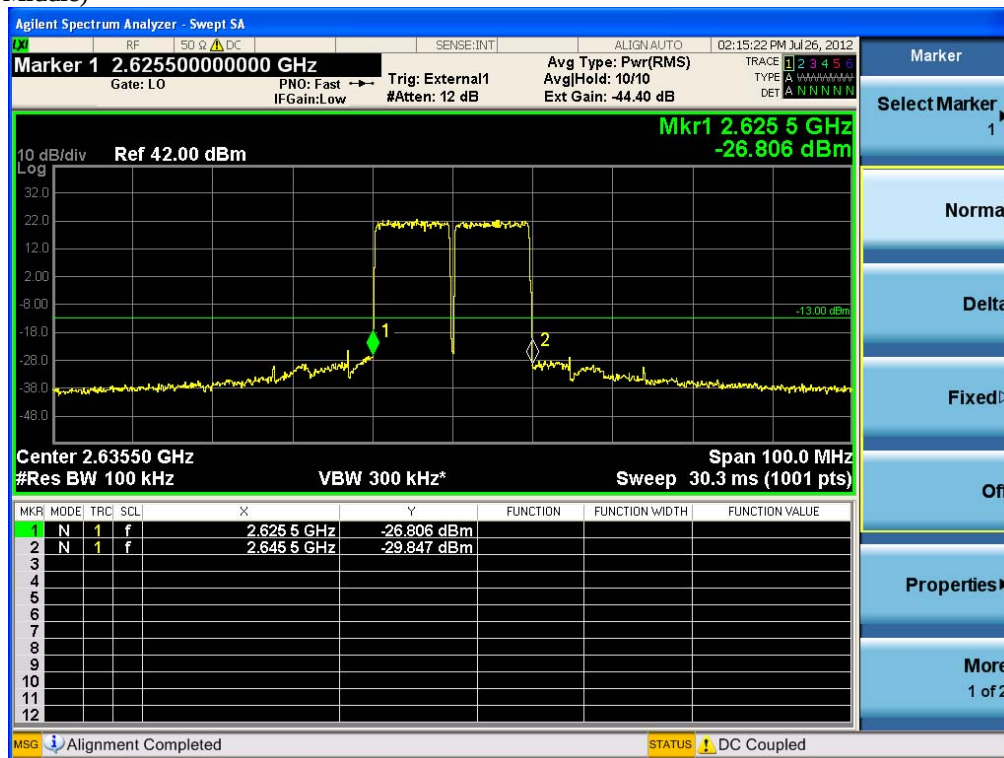
(QPSK Middle Channel)



(1 GHz ~ 26.5 GHz)

| FCC PT.27<br>TEST REPORT        | FCC CERTIFICATION REPORT          |                                            |                          | HCT PT.27<br>TEST REPORT |
|---------------------------------|-----------------------------------|--------------------------------------------|--------------------------|--------------------------|
| Test Report No.<br>HCTR1208FR08 | Date of Issue:<br>August 07, 2012 | EUT Type:<br>Mobile RRH(Remote Radio Head) | FCC ID:<br>A3LSLS-BD106Q | Page 138 of 161          |

(Band Edge Middle)



|                                 |                                   |                                            |                          |                          |
|---------------------------------|-----------------------------------|--------------------------------------------|--------------------------|--------------------------|
| FCC PT.27<br>TEST REPORT        | FCC CERTIFICATION REPORT          |                                            |                          | HCT PT.27<br>TEST REPORT |
| Test Report No.<br>HCTR1208FR08 | Date of Issue:<br>August 07, 2012 | EUT Type:<br>Mobile RRH(Remote Radio Head) | FCC ID:<br>A3LSLS-BD106Q | Page 139 of 161          |

(QPSK High Channel)



(30 MHz ~ 1 GHz)

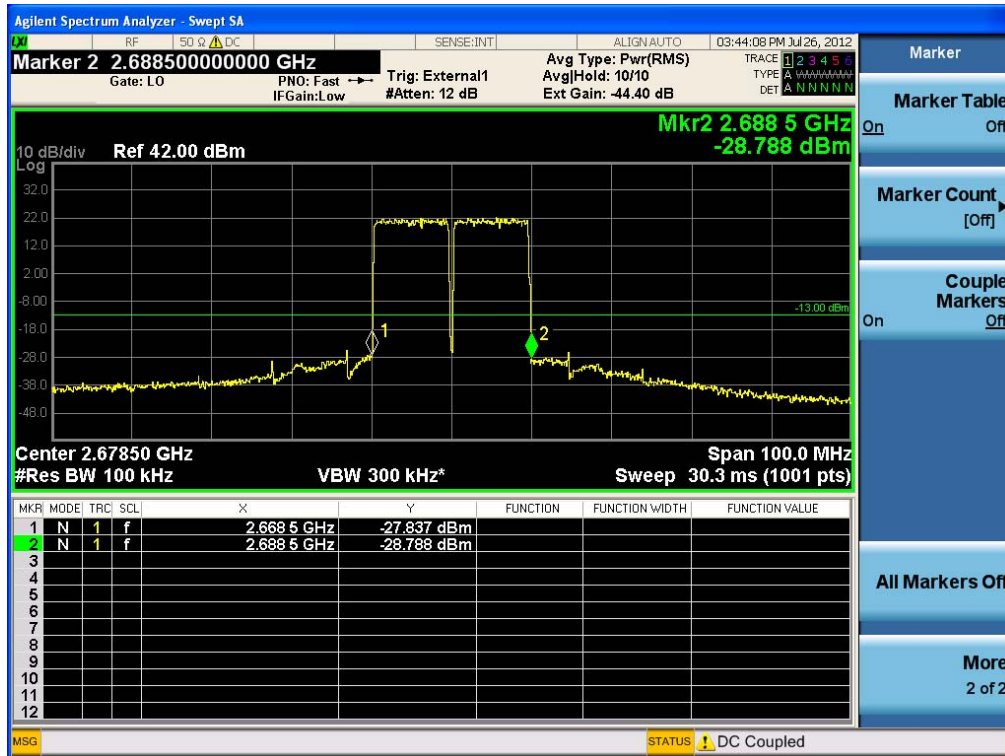
(QPSK High Channel)



(1 GHz ~ 26.5 GHz)

| FCC PT.27<br>TEST REPORT        | FCC CERTIFICATION REPORT          |                                            |                          | HCT PT.27<br>TEST REPORT |
|---------------------------------|-----------------------------------|--------------------------------------------|--------------------------|--------------------------|
| Test Report No.<br>HCTR1208FR08 | Date of Issue:<br>August 07, 2012 | EUT Type:<br>Mobile RRH(Remote Radio Head) | FCC ID:<br>A3LSLS-BD106Q | Page 140 of 161          |

(Band Edge High)



|                                 |                                   |                                            |                          |                          |
|---------------------------------|-----------------------------------|--------------------------------------------|--------------------------|--------------------------|
| FCC PT.27<br>TEST REPORT        | FCC CERTIFICATION REPORT          |                                            |                          | HCT PT.27<br>TEST REPORT |
| Test Report No.<br>HCTR1208FR08 | Date of Issue:<br>August 07, 2012 | EUT Type:<br>Mobile RRH(Remote Radio Head) | FCC ID:<br>A3LSLS-BD106Q | Page 141 of 161          |

(16QAM Low Channel)



(30 MHz ~ 1 GHz)

(16QAM Low Channel)



(1 GHz ~ 26.5 GHz)

| FCC PT.27<br>TEST REPORT        | FCC CERTIFICATION REPORT          |                                            |                          | HCT PT.27<br>TEST REPORT |
|---------------------------------|-----------------------------------|--------------------------------------------|--------------------------|--------------------------|
| Test Report No.<br>HCTR1208FR08 | Date of Issue:<br>August 07, 2012 | EUT Type:<br>Mobile RRH(Remote Radio Head) | FCC ID:<br>A3LSLS-BD106Q | Page 142 of 161          |

(Band Edge Low)



|                                 |                                   |                                            |                          |                          |
|---------------------------------|-----------------------------------|--------------------------------------------|--------------------------|--------------------------|
| FCC PT.27<br>TEST REPORT        | FCC CERTIFICATION REPORT          |                                            |                          | HCT PT.27<br>TEST REPORT |
| Test Report No.<br>HCTR1208FR08 | Date of Issue:<br>August 07, 2012 | EUT Type:<br>Mobile RRH(Remote Radio Head) | FCC ID:<br>A3LSLS-BD106Q | Page 143 of 161          |

(16QAM Middle Channel)



(30 MHz ~ 1 GHz)

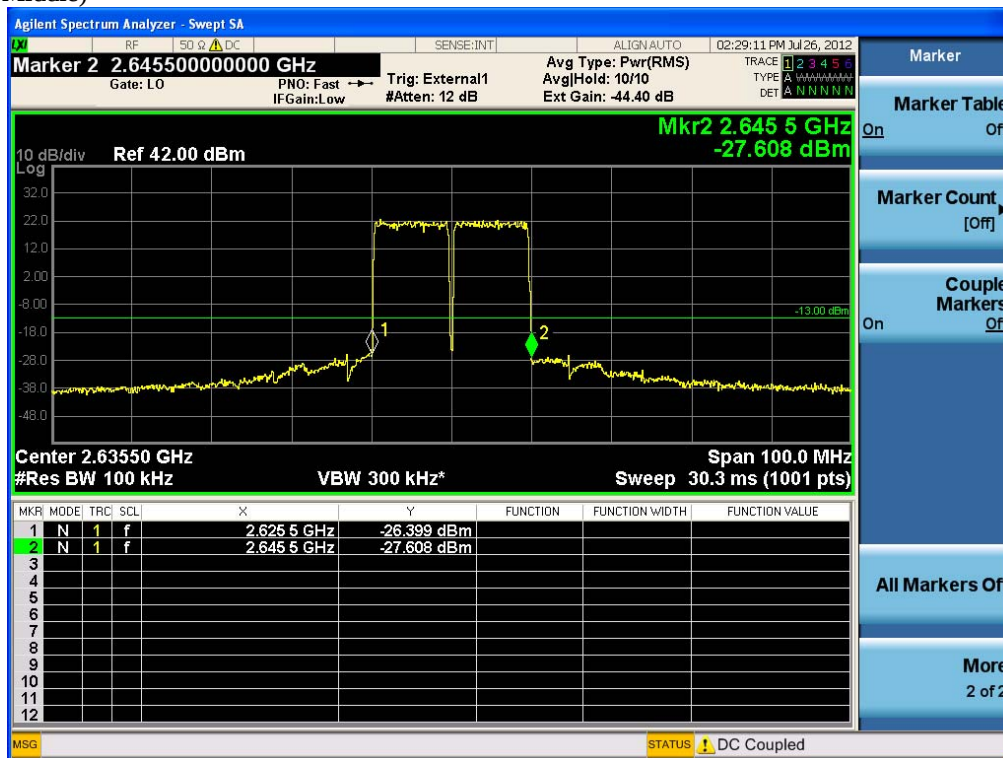
(16QAM Middle Channel)



(1 GHz ~ 26.5 GHz)

| FCC PT.27<br>TEST REPORT        | FCC CERTIFICATION REPORT          |                                            |                          | HCT PT.27<br>TEST REPORT |
|---------------------------------|-----------------------------------|--------------------------------------------|--------------------------|--------------------------|
| Test Report No.<br>HCTR1208FR08 | Date of Issue:<br>August 07, 2012 | EUT Type:<br>Mobile RRH(Remote Radio Head) | FCC ID:<br>A3LSLS-BD106Q | Page 144 of 161          |

(Band Edge Middle)



|                                 |                                   |                                            |                          |                          |
|---------------------------------|-----------------------------------|--------------------------------------------|--------------------------|--------------------------|
| FCC PT.27<br>TEST REPORT        | FCC CERTIFICATION REPORT          |                                            |                          | HCT PT.27<br>TEST REPORT |
| Test Report No.<br>HCTR1208FR08 | Date of Issue:<br>August 07, 2012 | EUT Type:<br>Mobile RRH(Remote Radio Head) | FCC ID:<br>A3LSLS-BD106Q | Page 145 of 161          |

(16QAM High Channel)



(30 MHz ~ 1 GHz)

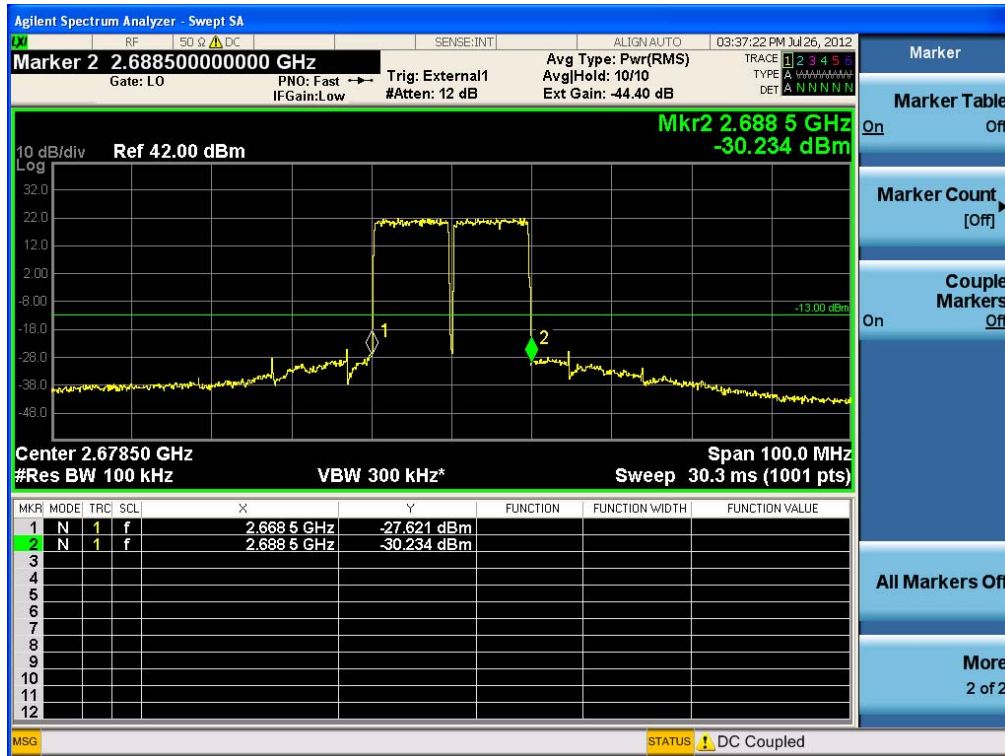
(16QAM High Channel)



(1 GHz ~ 26.5 GHz)

| FCC PT.27<br>TEST REPORT        | FCC CERTIFICATION REPORT          |                                            |                          | HCT PT.27<br>TEST REPORT |
|---------------------------------|-----------------------------------|--------------------------------------------|--------------------------|--------------------------|
| Test Report No.<br>HCTR1208FR08 | Date of Issue:<br>August 07, 2012 | EUT Type:<br>Mobile RRH(Remote Radio Head) | FCC ID:<br>A3LSLS-BD106Q | Page 146 of 161          |

(Band Edge High)



|                                 |                                   |                                            |                          |                          |
|---------------------------------|-----------------------------------|--------------------------------------------|--------------------------|--------------------------|
| FCC PT.27<br>TEST REPORT        | FCC CERTIFICATION REPORT          |                                            |                          | HCT PT.27<br>TEST REPORT |
| Test Report No.<br>HCTR1208FR08 | Date of Issue:<br>August 07, 2012 | EUT Type:<br>Mobile RRH(Remote Radio Head) | FCC ID:<br>A3LSLS-BD106Q | Page 147 of 161          |

(64QAM Low Channel)



(30 MHz ~ 1 GHz)

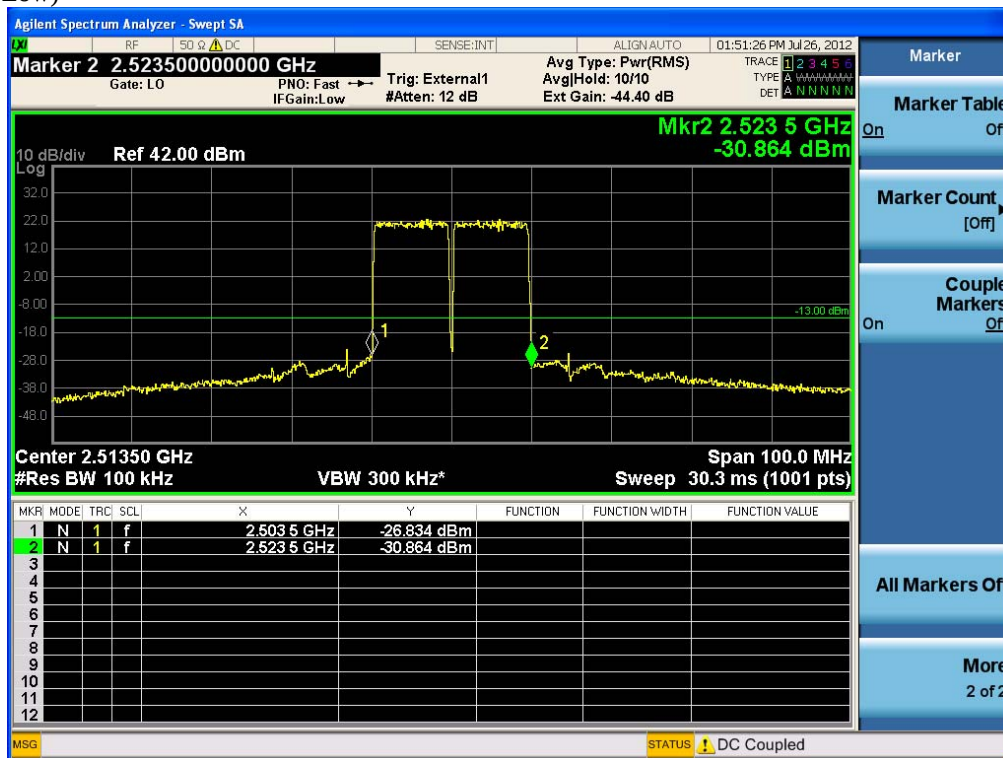
(64QAM Low Channel)



(1 GHz ~ 26.5 GHz)

| FCC PT.27<br>TEST REPORT        | FCC CERTIFICATION REPORT          |                                            |                          | HCT PT.27<br>TEST REPORT |
|---------------------------------|-----------------------------------|--------------------------------------------|--------------------------|--------------------------|
| Test Report No.<br>HCTR1208FR08 | Date of Issue:<br>August 07, 2012 | EUT Type:<br>Mobile RRH(Remote Radio Head) | FCC ID:<br>A3LSLS-BD106Q | Page 148 of 161          |

(Band Edge Low)



|                                 |                                   |                                            |                          |                          |
|---------------------------------|-----------------------------------|--------------------------------------------|--------------------------|--------------------------|
| FCC PT.27<br>TEST REPORT        | FCC CERTIFICATION REPORT          |                                            |                          | HCT PT.27<br>TEST REPORT |
| Test Report No.<br>HCTR1208FR08 | Date of Issue:<br>August 07, 2012 | EUT Type:<br>Mobile RRH(Remote Radio Head) | FCC ID:<br>A3LSLS-BD106Q | Page 149 of 161          |

(64QAM Middle Channel)



(30 MHz ~ 1 GHz)

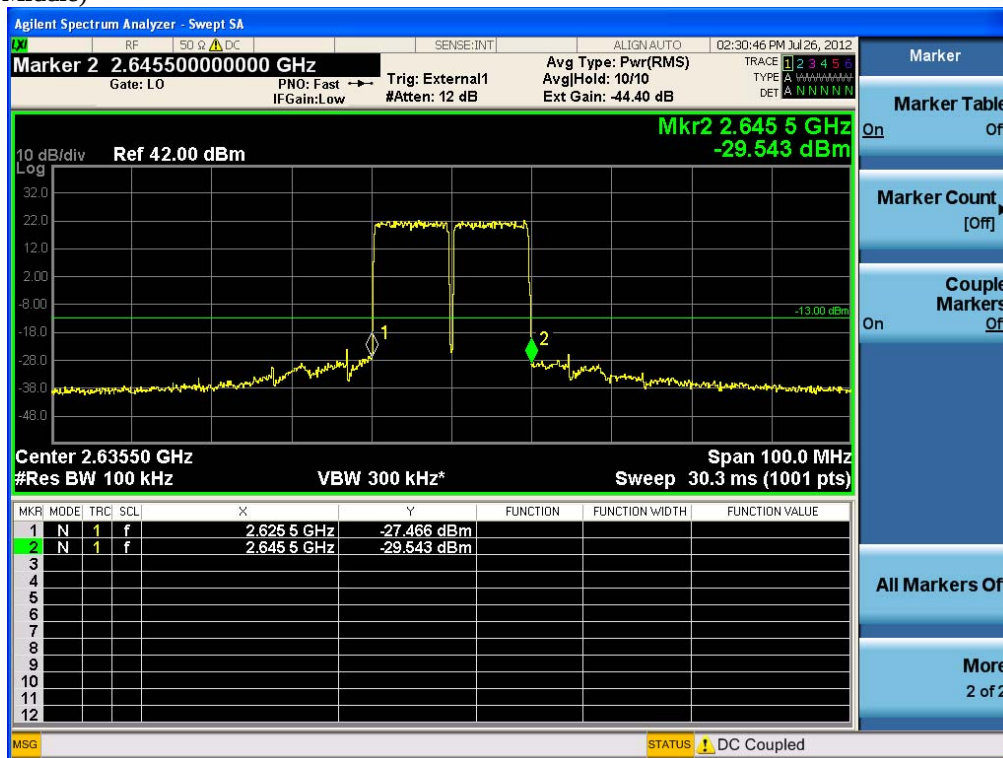
(64QAM Middle Channel)



(1 GHz ~ 26.5 GHz)

| FCC PT.27<br>TEST REPORT        | FCC CERTIFICATION REPORT          |                                            |                          | HCT PT.27<br>TEST REPORT |
|---------------------------------|-----------------------------------|--------------------------------------------|--------------------------|--------------------------|
| Test Report No.<br>HCTR1208FR08 | Date of Issue:<br>August 07, 2012 | EUT Type:<br>Mobile RRH(Remote Radio Head) | FCC ID:<br>A3LSLS-BD106Q | Page 150 of 161          |

(Band Edge Middle)



|                                 |                                   |                                            |                          |                          |
|---------------------------------|-----------------------------------|--------------------------------------------|--------------------------|--------------------------|
| FCC PT.27<br>TEST REPORT        | FCC CERTIFICATION REPORT          |                                            |                          | HCT PT.27<br>TEST REPORT |
| Test Report No.<br>HCTR1208FR08 | Date of Issue:<br>August 07, 2012 | EUT Type:<br>Mobile RRH(Remote Radio Head) | FCC ID:<br>A3LSLS-BD106Q | Page 151 of 161          |

(64QAM High Channel)



(30 MHz ~ 1 GHz)

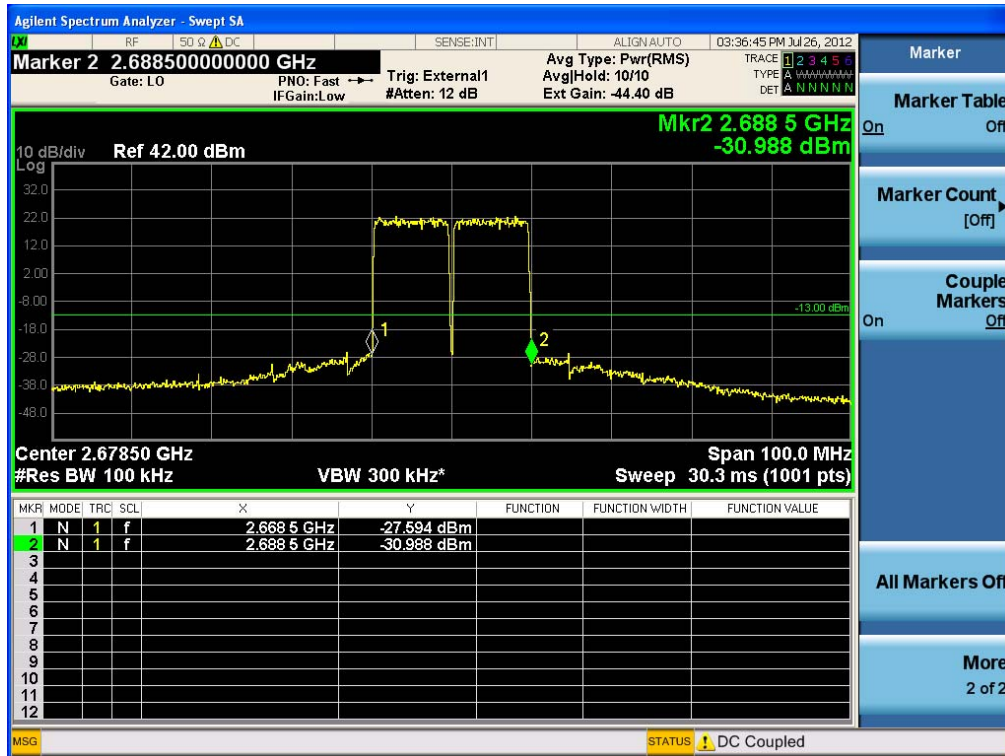
(64QAM High Channel)



(1 GHz ~ 26.5 GHz)

| FCC PT.27<br>TEST REPORT        | FCC CERTIFICATION REPORT          |                                            |                          | HCT PT.27<br>TEST REPORT |
|---------------------------------|-----------------------------------|--------------------------------------------|--------------------------|--------------------------|
| Test Report No.<br>HCTR1208FR08 | Date of Issue:<br>August 07, 2012 | EUT Type:<br>Mobile RRH(Remote Radio Head) | FCC ID:<br>A3LSLS-BD106Q | Page 152 of 161          |

(Band Edge High)



|                                 |                                   |                                            |                          |                          |
|---------------------------------|-----------------------------------|--------------------------------------------|--------------------------|--------------------------|
| FCC PT.27<br>TEST REPORT        | FCC CERTIFICATION REPORT          |                                            |                          | HCT PT.27<br>TEST REPORT |
| Test Report No.<br>HCTR1208FR08 | Date of Issue:<br>August 07, 2012 | EUT Type:<br>Mobile RRH(Remote Radio Head) | FCC ID:<br>A3LSLS-BD106Q | Page 153 of 161          |

## 8. RADIATED SPURIOUS EMISSION

### 8.1 Applicable Standard

(1) For BRS and EBS stations, the power of any emissions outside the licensee's frequency bands of operation shall be attenuated below the transmitter power (P) measured in watts. (2) For fixed and temporary fixed digital stations, the attenuation shall be not less than  $43 + 10 \log (P)$  dB, unless a documented interference complaint is received from an adjacent channel licensee. Provided that the complaint cannot be mutually resolved between the parties, both licensees of existing and new systems shall reduce their out-of-band emissions by at least  $67 + 10 \log (P)$  dB measured at 3 MHz from their channel's edges for distances between stations exceeding 1.5 km.

### 8.2 Test Equipment List and Details

| Manufacturer | Model / Equipment                       | Serial No. | Calibration Due |
|--------------|-----------------------------------------|------------|-----------------|
| Schwarzbeck  | BBHA 9120D / Double Ridged Horn Antenna | 147        | 05/15/2014      |
| Schwarzbeck  | BBHA 9120D / Double Ridged Horn Antenna | 937        | 10/17/2013      |
| Schwarzbeck  | VULB 9168 / TRILOG Antenna              | 9168-200   | 02/19/2013      |
| HD           | MA240 / Antenna Position Tower          | 556        | N/A             |
| EMCO         | 1050 / Turn Table                       | 114        | N/A             |
| HD GmbH      | HD 100 / Controller                     | 13         | N/A             |
| HD GmbH      | KMS 560 / SlideBar                      | 12         | N/A             |
| MITEQ        | AMF-6B-180265-35-10P / POWER AMP        | 667624     | 04/16/2013      |
| Agilent      | N9020A /Signal Analyzer                 | US46220219 | 05/02/2013      |
| Agilent      | 6674A / DC Power Supply                 | 3501A00901 | 05/02/2013      |
| HP           | 83640B / Signal Generator               | 3614A00105 | 11/07/2012      |
| WEINSCHEL    | 67-30-33 / Attenuator                   | BU5347     | 11/07/2012      |
| WEINSCHEL    | 67-30-33 / Attenuator                   | BR0530     | 11/07/2012      |
| WEINSCHEL    | AF9003-69-31 / Attenuator               | 11787      | 11/07/2012      |
| WEINSCHEL    | AF9003-69-31 / Attenuator               | 5701       | 11/07/2012      |

| FCC PT.27<br>TEST REPORT        | FCC CERTIFICATION REPORT          |                                            |                          | HCT PT.27<br>TEST REPORT |
|---------------------------------|-----------------------------------|--------------------------------------------|--------------------------|--------------------------|
| Test Report No.<br>HCTR1208FR08 | Date of Issue:<br>August 07, 2012 | EUT Type:<br>Mobile RRH(Remote Radio Head) | FCC ID:<br>A3LSLS-BD106Q | Page 154 of 161          |

### 8.3 Test Procedure

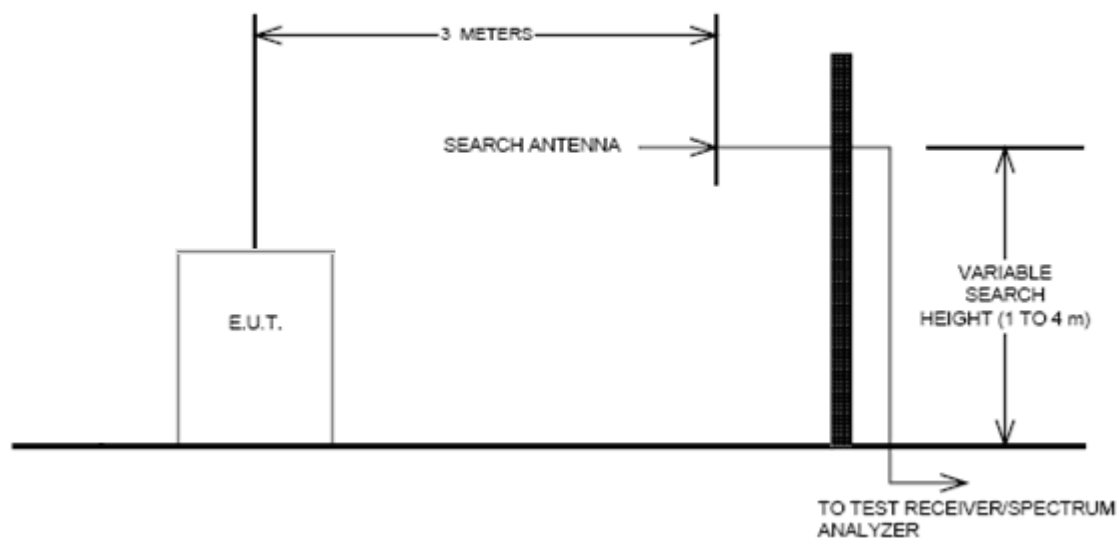
Radiated emission measurements were performed at an semi-anechoic chamber.

The EUT was set at a distance of 3m from the receiving antenna. The EUT's RF ports were terminated to 50ohm load. The EUT was set to transmit at the low, mid and high channels of the transmitter frequency range at its maximum power level. The EUT was rotated about 360° and the receiving antenna scanned from 1-4m in order to capture the maximum emission.

A calibrated antenna source was positioned in place of the EUT and the previously recorded signal was duplicated.

The maximum EIRP of the emission was calculated by adding the forward power to the calibrated source plus its appropriate gain value. These steps were carried out with the receiving antenna in both vertical and horizontal polarization. Harmonic emissions up to the 10<sup>th</sup> or 40GHz, whichever was the lesser, were investigated.

#### 8.3.1 Radiated Spurious Emissions Test Setup



| FCC PT.27<br>TEST REPORT        | FCC CERTIFICATION REPORT          |                                            |                          | HCT PT.27<br>TEST REPORT |
|---------------------------------|-----------------------------------|--------------------------------------------|--------------------------|--------------------------|
| Test Report No.<br>HCTR1208FR08 | Date of Issue:<br>August 07, 2012 | EUT Type:<br>Mobile RRH(Remote Radio Head) | FCC ID:<br>A3LSLS-BD106Q | Page 155 of 161          |

#### 8.4 Test Result

: PASS (There were no emissions detected above the noise floor which was at least 20 dB below the limit.)

| Mode  | Frequency | Freq.(MHz) | Measured<br>Level<br>[dBm] | Ant. Gain<br>(dBd) | C.L   | SigGen<br>Level<br>[dBm] | Pol. | ERP<br>(dBm) | Margin<br>(dB) |
|-------|-----------|------------|----------------------------|--------------------|-------|--------------------------|------|--------------|----------------|
| WiMax | 2508.5    | 5017.00    | -75.91                     | 10.32              | 9.57  | -34.58                   | V    | -33.83       | -20.83         |
|       |           | 7525.50    | -76.92                     | 8.84               | 12.24 | -27.38                   | V    | -30.78       | -17.78         |
|       | 2630.5    | 5261.00    | -77.27                     | 10.60              | 9.79  | -35.60                   | V    | -34.79       | -21.79         |
|       |           | 7891.50    | -75.12                     | 9.04               | 12.42 | -25.73                   | V    | -29.10       | -16.10         |
|       | 2683.5    | 5367.00    | -77.46                     | 10.73              | 9.88  | -35.64                   | V    | -34.80       | -21.80         |
|       |           | 8050.50    | -75.06                     | 9.13               | 13.16 | -25.47                   | V    | -29.49       | -16.49         |

|                                  |                                   |                                            |                          |                                  |
|----------------------------------|-----------------------------------|--------------------------------------------|--------------------------|----------------------------------|
| <b>FCC PT.27<br/>TEST REPORT</b> | <b>FCC CERTIFICATION REPORT</b>   |                                            |                          | <b>HCT PT.27<br/>TEST REPORT</b> |
| Test Report No.<br>HCTR1208FR08  | Date of Issue:<br>August 07, 2012 | EUT Type:<br>Mobile RRH(Remote Radio Head) | FCC ID:<br>A3LSLS-BD106Q | Page 156 of 161                  |

## 9. FREQUENCY STABILITY

### 9.1 Applicable Standard

Requirements: FCC § 2.1055 (a), Part 27.54 following: The frequency stability shall be sufficient to ensure that the fundamental emissions stay

### 9.2 Test Equipment List and Details

| Manufacturer | Model / Equipment         | Serial No. | Calibration Due |
|--------------|---------------------------|------------|-----------------|
| Agilent      | N9020A /Signal Analyzer   | US46220219 | 05/02/2013      |
| Agilent      | 6674A / DC Power Supply   | 3501A00901 | 05/02/2013      |
| WEINSCHEL    | 67-30-33 / Attenuator     | BU5347     | 11/07/2012      |
| WEINSCHEL    | 67-30-33 / Attenuator     | BR0530     | 11/07/2012      |
| WEINSCHEL    | AF9003-69-31 / Attenuator | 11787      | 11/07/2012      |
| WEINSCHEL    | AF9003-69-31 / Attenuator | 5701       | 11/07/2012      |

### 9.3 Test Procedure

Frequency Stability over Temperature variation:

The equipment under test was connected to an external DC power supply and the RF output was connected to a Spectrum Analyzer via feed-through attenuators. The EUT was placed inside the temperature chamber. RF output cable exited the chamber through an opening made for the purpose.

After the temperature stabilized for approximately 30 minutes, the frequency output was recorded from the VSA8960 S/W via MXA Signal Analyzer.

Frequency stability over Voltage variation: An external variable DC power supply Source. The voltage was set to 85% and 115% of the nominal value. The output frequency was recorded for each voltage.

### 9.4. Test Result

: Pass

| FCC PT.27<br>TEST REPORT        | FCC CERTIFICATION REPORT          |                                            |                          | HCT PT.27<br>TEST REPORT |
|---------------------------------|-----------------------------------|--------------------------------------------|--------------------------|--------------------------|
| Test Report No.<br>HCTR1208FR08 | Date of Issue:<br>August 07, 2012 | EUT Type:<br>Mobile RRH(Remote Radio Head) | FCC ID:<br>A3LSLS-BD106Q | Page 157 of 161          |

#### 9.4.1. Frequency Stability over Temperature and Voltage variation

##### Modulation: QPSK

**Reference:** - 48 Vdc at 20°C **Freq.** = 2508,500,000 MHz

| Voltage (%) | Temp. (°C) | Frequency (Hz) | Frequency Error (Hz) | Deviation (Hz) | ppm     |
|-------------|------------|----------------|----------------------|----------------|---------|
| 100%        | +20(Ref)   | 2508 499 949   | -51.0                | 0.0            | 0.0000  |
|             | -30        | 2508 499 955   | -45.0                | 6.0            | 0.0024  |
|             | -20        | 2508 499 954   | -46.0                | 5.0            | 0.0020  |
|             | -10        | 2508 499 954   | -46.0                | 5.0            | 0.0020  |
|             | 0          | 2508 499 952   | -48.0                | 3.0            | 0.0012  |
|             | +10        | 2508 499 937   | -63.0                | -12.0          | -0.0048 |
|             | +30        | 2508 499 949   | -51.0                | 0.0            | 0.0000  |
|             | +40        | 2508 499 948   | -52.0                | -1.0           | -0.0004 |
|             | +50        | 2508 499 954   | -46.0                | 5.0            | 0.0020  |
| 115%        | +20        | 2508 499 950   | -50.0                | 1.0            | 0.0004  |
| 85%         | +20        | 2508 499 951   | -49.0                | 2.0            | 0.0008  |

(Output Port 1)

##### Modulation: 16QAM

**Reference:** - 48 Vdc at 20°C **Freq.** = 2630,500,000 MHz

| Voltage (%) | Temp. (°C) | Frequency (Hz) | Frequency Error (Hz) | Deviation (Hz) | ppm     |
|-------------|------------|----------------|----------------------|----------------|---------|
| 100%        | +20(Ref)   | 2630 499 950   | -50.0                | 0.0            | 0.0000  |
|             | -30        | 2630 499 944   | -56.0                | -6.0           | -0.0023 |
|             | -20        | 2630 499 951   | -49.0                | 1.0            | 0.0004  |
|             | -10        | 2630 499 945   | -55.0                | -5.0           | -0.0019 |
|             | 0          | 2630 499 953   | -47.0                | 3.0            | 0.0011  |
|             | +10        | 2630 499 950   | -50.0                | 0.0            | 0.0000  |
|             | +30        | 2630 499 953   | -47.0                | 3.0            | 0.0011  |
|             | +40        | 2630 499 954   | -46.0                | 4.0            | 0.0015  |
|             | +50        | 2630 499 949   | -51.0                | -1.0           | -0.0004 |
| 115%        | +20        | 2630 499 952   | -48.0                | 2.0            | 0.0008  |
| 85%         | +20        | 2630 499 949   | -51.0                | -1.0           | -0.0004 |

(Output Port 2)

|                                  |                                   |                                            |                          |                                  |
|----------------------------------|-----------------------------------|--------------------------------------------|--------------------------|----------------------------------|
| <b>FCC PT.27<br/>TEST REPORT</b> | <b>FCC CERTIFICATION REPORT</b>   |                                            |                          | <b>HCT PT.27<br/>TEST REPORT</b> |
| Test Report No.<br>HCTR1208FR08  | Date of Issue:<br>August 07, 2012 | EUT Type:<br>Mobile RRH(Remote Radio Head) | FCC ID:<br>A3LSLS-BD106Q | Page 158 of 161                  |

**Modulation: 64QAM****Reference: - 48 Vdc at 20°C Freq. = 2640,500,000 MHz**

| Voltage (%) | Temp. (°C) | Frequency (Hz) | Frequency Error (Hz) | Deviation (Hz) | ppm    |
|-------------|------------|----------------|----------------------|----------------|--------|
| 100%        | +20(Ref)   | 2640 499 943   | -57.0                | 0.0            | 0.0000 |
|             | -30        | 2640 499 945   | -55.0                | 2.0            | 0.0008 |
|             | -20        | 2640 499 944   | -56.0                | 1.0            | 0.0004 |
|             | -10        | 2640 499 953   | -47.0                | 10.0           | 0.0038 |
|             | 0          | 2640 499 951   | -49.0                | 8.0            | 0.0030 |
|             | +10        | 2640 499 949   | -51.0                | 6.0            | 0.0023 |
|             | +30        | 2640 499 954   | -46.0                | 11.0           | 0.0042 |
|             | +40        | 2640 499 951   | -49.0                | 8.0            | 0.0030 |
|             | +50        | 2640 499 953   | -47.0                | 10.0           | 0.0038 |
| 115%        | +20        | 2640 499 948   | -52.0                | 5.0            | 0.0019 |
| 85%         | +20        | 2640 499 954   | -46.0                | 11.0           | 0.0042 |

**(Output Port 3)****Modulation: 64QAM****Reference: - 48 Vdc at 20°C Freq. = 2683,500,000 MHz**

| Voltage (%) | Temp. (°C) | Frequency (Hz) | Frequency Error (Hz) | Deviation (Hz) | ppm     |
|-------------|------------|----------------|----------------------|----------------|---------|
| 100%        | +20(Ref)   | 2683 499 954   | -46.0                | 0.0            | 0.0000  |
|             | -30        | 2683 499 949   | -51.0                | -5.0           | -0.0019 |
|             | -20        | 2683 499 953   | -47.0                | -1.0           | -0.0004 |
|             | -10        | 2683 499 952   | -48.0                | -2.0           | -0.0007 |
|             | 0          | 2683 499 949   | -51.0                | -5.0           | -0.0019 |
|             | +10        | 2683 499 950   | -50.0                | -4.0           | -0.0015 |
|             | +30        | 2683 499 951   | -49.0                | -3.0           | -0.0011 |
|             | +40        | 2683 499 943   | -57.0                | -11.0          | -0.0041 |
|             | +50        | 2683 499 945   | -55.0                | -9.0           | -0.0034 |
| 115%        | +20        | 2683 499 952   | -48.0                | -2.0           | -0.0007 |
| 85%         | +20        | 2683 499 951   | -49.0                | -3.0           | -0.0011 |

**(Output Port 4)**

|                                  |                                   |                                            |                          |                                  |
|----------------------------------|-----------------------------------|--------------------------------------------|--------------------------|----------------------------------|
| <b>FCC PT.27<br/>TEST REPORT</b> | <b>FCC CERTIFICATION REPORT</b>   |                                            |                          | <b>HCT PT.27<br/>TEST REPORT</b> |
| Test Report No.<br>HCTR1208FR08  | Date of Issue:<br>August 07, 2012 | EUT Type:<br>Mobile RRH(Remote Radio Head) | FCC ID:<br>A3LSLS-BD106Q | Page 159 of 161                  |

## 10. RF EXPOSURE STATEMENT

### 1. LIMITS

According to §1.1310 and §2.1091 RF exposure is calculated.

#### (B) Limits for General Population/Uncontrolled Exposures

| Frequency range<br>(MHz) | Electric field<br>Strength (V/m) | Magnetic field<br>Strength (A/m) | Power density<br>(mW/cm <sup>2</sup> ) | Averaging time<br>(minutes) |
|--------------------------|----------------------------------|----------------------------------|----------------------------------------|-----------------------------|
| 0.3 - 1.34.....          | 614                              | 1.63                             | *(100)                                 | 30                          |
| 1.34 - 30.....           | 824/f                            | 2.19/f                           | *(180/ f <sup>2</sup> )                | 30                          |
| 30 - 300.....            | 27.5                             | 0.073                            | 0.2                                    | 30                          |
| 300 - 1500.....          | .....                            | .....                            | f/1500                                 | 30                          |
| 1500 - 100.000.....      | .....                            | .....                            | 1.0                                    | 30                          |

F = frequency in MHz

\* = Plane-wave equivalent power density

### 2. MAXIMUM PERMISSIBLE EXPOSURE Prediction

Prediction of MPE limit at a given distance

Equation from page 18 of OET Bulletin 65, Edition 97-01

$$S = PG/4\pi R^2$$

S = Power density

P = power input to antenna

G = power gain of the antenna in the direction of interest relative to an isotropic radiator

R = distance to the center of radiation of the antenna

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|                                                             |            |                    |
|-------------------------------------------------------------|------------|--------------------|
| Max Peak output Power at antenna input terminal             | 43.19000   | dBm                |
| Max Peak output Power at antenna input terminal             | 20.84491   | W                  |
| Prediction distance                                         | 300.00000  | cm                 |
| Prediction frequency                                        | 2635.50000 | MHz                |
| Antenna Gain(typical)                                       | 17.00000   | dBi                |
| Antenna Gain(numeric)                                       | 50.11872   | –                  |
| Power density at prediction frequency (S)                   | 0.92374    | mW/cm <sup>2</sup> |
| MPE limit for uncontrolled exposure at prediction frequency | 1.00000    | mW/cm <sup>2</sup> |

### 3. RESULTS

The power density level at 300 cm is 0.92374 mW/cm<sup>2</sup>, which is below the uncontrolled exposure limit of 1.0 mW/cm<sup>2</sup> at Mobile WiMax BAND

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