

# FCC Part 22H & 24E & 27 Measurement and Test Report

For

**Sky Phone LLC**

**1348 Washington Av.Suite 350 Miami Beach, FL 33139**

**FCC ID: 2ABOSSKYELITE70**

**FCC Rules:** FCC Part 22H, FCC Part 24E, FCC Part 27

**Product Description:** 4G Tablet

**Tested Model:** Elite 7.0L

**Report No.:** STR16018007I-6

**Tested Date:** 2016-01-11 to 2016-01-22

**Issued Date:** 2016-01-22

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Note: This test report is limited to the above client company and the product model only. It may not be duplicated without prior permitted by Shenzhen SEM. Test Technology Co., Ltd.

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## 1. GENERAL INFORMATION

### 1.1 Product Description for Equipment Under Test (EUT)

#### Client Information

Applicant: Sky Phone LLC  
Address of applicant: 1348 Washington Av.Suite 350 Miami Beach, FL 33139

Manufacturer: Shenzhen Tablet Electronics Limited  
Address of manufacturer: 2F, B5b Building, Yingzhan Industrial Zone, Longtian Community, Kengzi Street, Longgang, Shenzhen, China

| General Description of EUT:                                                                                                                                                                                                                                                                                                                                            |                                 |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------|
| Product Name:                                                                                                                                                                                                                                                                                                                                                          | 4G Tablet                       |
| Brand Name:                                                                                                                                                                                                                                                                                                                                                            | SKY                             |
| Model No.:                                                                                                                                                                                                                                                                                                                                                             | Elite 7.0L                      |
| Adding Model:                                                                                                                                                                                                                                                                                                                                                          | LQ70, PLATINUM7.0, SKYPLA70     |
| Hardware version:                                                                                                                                                                                                                                                                                                                                                      | S88D_MB_V1.1                    |
| Software version:                                                                                                                                                                                                                                                                                                                                                      | Elite_7.0L_20151202             |
| IMEI:                                                                                                                                                                                                                                                                                                                                                                  | 358732055465047/358732055464966 |
| Rated Voltage:                                                                                                                                                                                                                                                                                                                                                         | DC 3.7V Li-polymer Battery      |
| Battery:                                                                                                                                                                                                                                                                                                                                                               | 2800mAh                         |
| Device Category:                                                                                                                                                                                                                                                                                                                                                       | Portable Device                 |
| <i>The EUT Main board support GSM850/900/DCS1800/PCS1900, WCDMA Band 1/2/4/5, LTE Band 2/4/7/17 function. It is intended for speech, Multimedia Message Service (MMS) transmission and Elite 7.0L. It is equipped with GPRS/EDGE class 12 for GSM850/900/DCS1800/PCS1900, GPS, FM, Bluetooth and Wi-Fi functions. For more information see the following datasheet</i> |                                 |
| <i>Note: The test data is gathered from a production sample provided by the manufacturer. The appearance of others models listed in the report is different from main-test model Elite 7.0L, but the circuit and the electronic construction do not change, declared by the manufacturer.</i>                                                                          |                                 |

| Technical Characteristics of EUT: |                                                                                      |
|-----------------------------------|--------------------------------------------------------------------------------------|
| <b>2G</b>                         |                                                                                      |
| Support Networks:                 | GSM, GPRS, EDGE                                                                      |
| Support Band:                     | GSM850/PCS1900                                                                       |
| Uplink Frequency:                 | GSM/GPRS/EDGE 850: 824~849MHz<br>GSM/GPRS/EDGE 1900: 1850~1910MHz                    |
| Downlink Frequency:               | GSM/GPRS/EDGE 850: 869~894MHz<br>GSM/GPRS/EDGE 1900: 1930~1990MHz                    |
| Max RF Output Power:              | GSM850: 32.17dBm, GSM1900: 30.02dBm<br>EDGE850: 25.89dBm, EDGE1900: 24.97dBm         |
| Type of Emission:                 | GSM850: 250KGXW, GSM1900: 249KGXW<br>EDGE850: 253KG7W, EDGE1900: 257KG7W             |
| Type of Modulation:               | GMSK, 8PSK                                                                           |
| Type of Antenna:                  | Integral Antenna                                                                     |
| Antenna Gain:                     | GSM850: -4.32dBi; GSM1900: -4.56dBi                                                  |
| GPRS/EDGE Class:                  | Class 12                                                                             |
| <b>3G</b>                         |                                                                                      |
| Support Networks:                 | WCDMA, HSDPA, HSUPA                                                                  |
| Support Band:                     | WCDMA Band 2, WCDMA Band 4, WCDMA Band 5                                             |
| Uplink Frequency:                 | WCDMA Band 2: 1850~1910MHz<br>WCDMA Band 4: 1710~1755MHz<br>WCDMA Band 5: 824~849MHz |
| Downlink Frequency:               | WCDMA Band 2: 1930~1990MHz<br>WCDMA Band 4: 2110~2155MHz<br>WCDMA Band 5: 869~894MHz |
| RF Output Power:                  | WCDMA Band 2: 22.90dBm,<br>WCDMA Band 4: 22.77dBm<br>WCDMA Band 5: 22.80dBm          |
| Type of Emission:                 | WCDMA Band 2: 4M23F9W<br>WCDMA Band 4: 4M23F9W<br>WCDMA Band 5: 4M23F9W              |
| Type of Modulation:               | BPSK                                                                                 |
| Antenna Type:                     | Integral Antenna                                                                     |
| Antenna Gain:                     | WCDMA Band 2: -3.72dBi,<br>WCDMA Band 4: -4.06dBi,<br>WCDMA Band 5: -3.55dBi         |

## 1.2 Test Standards

The following report is prepared on behalf of the Sky Phone LLC in accordance with FCC Part 2 subpart J, FCC Part 22 subpart H and FCC Part 24 subpart E and FCC Part 27 of the Federal Communication Commissions rules.

The objective is to determine compliance with FCC Part 2 subpart J, FCC Part 22 subpart H and FCC Part 24 subpart E and FCC Part 27 of the Federal Communication Commissions rules.

**Maintenance of compliance** is the responsibility of the manufacturer. Any modification of the product, which result in lowering the emission, should be checked to ensure compliance has been maintained.

## 1.3 Test Methodology

All measurements contained in this report were conducted with ANSI/TIA-603-D: 2010 and ANSI C63.4-2014, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz. The measurement guide KDB 971168 D01 Power Meas License Digital Systems v02r02 shall be performed also.

## 1.4 Test Facility

- **FCC – Registration No.: 934118**

Shenzhen SEM.Test Technology Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in our files and the Registration is 934118.

- **Industry Canada (IC) Registration No.: 11464A**

The 3m Semi-anechoic chamber of Shenzhen SEM.Test Technology Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 11464A.

- **CNAS Registration No.: L4062**

Shenzhen SEM.Test Technology Co., Ltd. is a testing organization accredited by China National Accreditation Service for Conformity Assessment (CNAS) according to ISO/IEC 17025. The accreditation certificate number is L4062. All measurement facilities used to collect the measurement data are located at 1/F, Building A, Hongwei Industrial Park, Liuxian 2nd Road, Bao'an District, Shenzhen, P.R.C (518101)

## 1.5 EUT Setup and Test Mode

The EUT was operated in the engineering mode to fix the Tx frequency that was for the purpose of the measurements. All testing shall be performed under maximum output power condition, and to measure its highest possible emissions level, more detailed description as follows:

| Test Mode List |              |                            |
|----------------|--------------|----------------------------|
| Test Mode      | Description  | Remark                     |
| TM1            | GSM 850      | Low, Middle, High Channels |
| TM2            | GPRS 850     | Low, Middle, High Channels |
| TM3            | EDGE 850     | Low, Middle, High Channels |
| TM4            | GSM 1900     | Low, Middle, High Channels |
| TM5            | GPRS 1900    | Low, Middle, High Channels |
| TM6            | EDGE 1900    | Low, Middle, High Channels |
| TM7            | WCDMA Band 5 | Low, Middle, High Channels |
| TM8            | HSDPA Band 5 | Low, Middle, High Channels |
| TM9            | HSUPA Band 5 | Low, Middle, High Channels |
| TM10           | WCDMA Band 4 | Low, Middle, High Channels |
| TM11           | HSDPA Band 4 | Low, Middle, High Channels |
| TM12           | HSUPA Band 4 | Low, Middle, High Channels |
| TM13           | WCDMA Band 2 | Low, Middle, High Channels |
| TM14           | HSDPA Band 2 | Low, Middle, High Channels |
| TM15           | HSUPA Band 2 | Low, Middle, High Channels |

| Testing Configure                                                                                                                                   |                   |                   |                |
|-----------------------------------------------------------------------------------------------------------------------------------------------------|-------------------|-------------------|----------------|
| Support Band                                                                                                                                        | Support Standard  | Channel Frequency | Channel Number |
| GSM 850                                                                                                                                             | GSM/GPRS/EDGE     | 824.2 MHz         | 128            |
|                                                                                                                                                     |                   | 836.6 MHz         | 190            |
|                                                                                                                                                     |                   | 848.8 MHz         | 251            |
| PCS 1900                                                                                                                                            | GSM/GPRS/EDGE     | 1850.2 MHz        | 512            |
|                                                                                                                                                     |                   | 1880.0 MHz        | 661            |
|                                                                                                                                                     |                   | 1909.8 MHz        | 810            |
| WCDMA Band 5                                                                                                                                        | WCDMA/HSDPA/HSUPA | 826.4 MHz         | 4132           |
|                                                                                                                                                     |                   | 836.6 MHz         | 4183           |
|                                                                                                                                                     |                   | 846.6 MHz         | 4233           |
| WCDMA Band 4                                                                                                                                        | WCDMA/HSDPA/HSUPA | 1712.4 MHz        | 1312           |
|                                                                                                                                                     |                   | 1732.4 MHz        | 1412           |
|                                                                                                                                                     |                   | 1752.6 MHz        | 1513           |
| WCDMA Band 2                                                                                                                                        | WCDMA/HSDPA/HSUPA | 1852.4 MHz        | 9262           |
|                                                                                                                                                     |                   | 1880.0 MHz        | 9400           |
|                                                                                                                                                     |                   | 1907.6 MHz        | 9538           |
| Note: the transmitter has been tested on the communications mode of GSM, GPRS, EDGE, WCDMA, HSDPA, HSUPA compliance test and record the worst case. |                   |                   |                |

#### EUT Cable List and Details

| Cable Description | Length (M) | Shielded/Unshielded | With Core/Without Core |
|-------------------|------------|---------------------|------------------------|
| USB Cable         | 0.86       | Unshielded          | Without Ferrite        |

#### Auxiliary Equipment List and Details

| Description | Manufacturer | Model | Serial Number |
|-------------|--------------|-------|---------------|
| /           | /            | /     | /             |

#### Special Cable List and Details

| Cable Description | Length (M) | Shielded/Unshielded | With Core/Without Core |
|-------------------|------------|---------------------|------------------------|
| Earphone          | 1.2        | Unshielded          | Without Ferrite        |

## 1.6 Measurement Uncertainty

| Measurement uncertainty        |            |                     |
|--------------------------------|------------|---------------------|
| Parameter                      | Conditions | Uncertainty         |
| RF Output Power                | Conducted  | $\pm 0.42\text{dB}$ |
| Occupied Bandwidth             | Conducted  | $\pm 1.5\%$         |
| Frequency Stability            | Conducted  | 2.3%                |
| Transmitter Spurious Emissions | Radiated   | $\pm 5.1\text{dB}$  |

### 1.7 Test Equipment List and Details

| Kind of Equipment                                           | Manufacturer    | Type        | S/N         | Cal Date   | Due Date   |
|-------------------------------------------------------------|-----------------|-------------|-------------|------------|------------|
| Equipment list of < Shenzhen SEM.Test Technology Co., Ltd.> |                 |             |             |            |            |
| Test SIM card                                               | -               |             | -           | N/A        |            |
| GSM Tester                                                  | Rohde & Schwarz | CMU200      | 104036      | 2015-06-17 | 2016-06-16 |
| Spectrum Analyzer                                           | Agilent         | E4407B      | MY41440400  | 2015-06-17 | 2016-06-16 |
| Spectrum Analyzer                                           | Agilent         | N9020A      | US47140102  | 2015-06-17 | 2016-06-16 |
| Signal Generator                                            | Agilent         | 83752A      | 3610A01453  | 2015-06-17 | 2016-06-16 |
| Vector Signal Generator                                     | Agilent         | N5182A      | MY47070202  | 2015-06-17 | 2016-06-16 |
| Power Divider                                               | Weinschel       | 1506A       | PM204       | 2015-06-17 | 2016-06-16 |
| Power Divider                                               | RF-Lambda       | RFLT4W5M18G | 14110400027 | 2015-06-17 | 2016-06-16 |
| Spectrum Analyzer                                           | Rohde & Schwarz | FSP         | 836079/035  | 2015-06-17 | 2016-06-16 |
| EMI Test Receiver                                           | Rohde & Schwarz | ESVB        | 825471/005  | 2015-06-17 | 2016-06-16 |
| Amplifier                                                   | Agilent         | 8447F       | 3113A06717  | 2015-06-17 | 2016-06-16 |
| Amplifier                                                   | C&D             | PAP-1G18    | 2002        | 2015-06-17 | 2016-06-16 |
| Loop Antenna                                                | Schwarz beck    | FMZB 1516   | 9773        | 2015-06-17 | 2016-06-16 |
| Broadband Antenna                                           | Schwarz beck    | VULB9163    | 9163-333    | 2015-06-17 | 2016-06-16 |
| Broadband Antenna                                           | Schwarz beck    | VULB9163    | 9163-332    | 2015-06-17 | 2016-06-16 |
| Horn Antenna                                                | ETS             | 3117        | 00086197    | 2015-06-17 | 2016-06-16 |
| Horn Antenna                                                | ETS             | 3117        | 00086168    | 2015-06-17 | 2016-06-16 |
| Horn Antenna                                                | ETS             | 3116B       | 00088203    | 2015-06-17 | 2016-06-16 |
| Horn Antenna                                                | ETS             | 3116B       | 00088221    | 2015-06-17 | 2016-06-16 |

## 2. SUMMARY OF TEST RESULTS

| FCC Rules                              | Description of Test Item                   | Result    |
|----------------------------------------|--------------------------------------------|-----------|
| § 1.1307, § 2.1093                     | RF Exposure                                | Compliant |
| § 22.913 (a), § 24.232 (c), §27.50(d)  | RF Output Power                            | Compliant |
| § 24.51, § 27.50                       | Peak-to-average Radio (PAR) of Transmitter | Compliant |
| § 22.917 (b), § 24.238 (b), § 27.53    | Emission Bandwidth                         | Compliant |
| § 22.917 (a), § 24.238 (a), § 27.53(h) | Spurious Emissions at Antenna Terminal     | Compliant |
| § 22.917 (a), § 24.238 (a), § 27.53(h) | Spurious Radiation Emissions               | Compliant |
| § 22.917 (a), § 24.238 (a), § 27.53(h) | Out of Band Emissions                      | Compliant |
| § 22.355, § 24.235, § 27.54            | Frequency Stability                        | Compliant |

### **3. RF Exposure**

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#### **3.1 Standard Applicable**

According to § 1.1307 and § 2.1093, the portable transmitter must comply the RF exposure requirements.

#### **3.2 Test Result**

This product complied with the requirement of the RF exposure, please see the SAR report.

## 4. RF Output Power

### 4.1 Standard Applicable

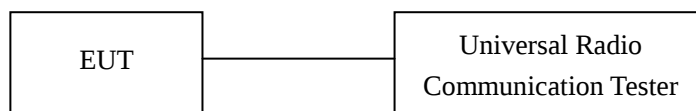
According to §22.913(a)(2), The ERP of mobile and portable stations transmitters and auxiliary test transmitters must not exceed 7 Watts.

According to §24.232 (c), Mobile and portable stations are limited to 2 watts EIRP and the equipment must employ a means for limiting power to the minimum necessary for successful communications.

According to §27.50(d)(4), Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP.

### 4.2 Test Procedure

Conducted output power test method:



Radiated power test method:

- 1.The setup of EUT is according with per ANSI/TIA Standard 603D and ANSI C63.4-2014 measurement procedure.
2. The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.
3. The frequency range up to tenth harmonic of the fundamental frequency was investigated.
4. Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution.

### 4.3 Environmental Conditions

|                    |           |
|--------------------|-----------|
| Temperature:       | 24 °C     |
| Relative Humidity: | 54%       |
| ATM Pressure:      | 1011 mbar |

## 4.4 Summary of Test Results/Plots

### Max. Radiated Power

#### ERP For GSM Mode GSM850

| Frequency      | Substitute SG | Height | Table  | Polar | Cable loss | Antenna Gain | Result | FCC Part 22H Limit |
|----------------|---------------|--------|--------|-------|------------|--------------|--------|--------------------|
| MHz            | dBm           | Meter  | Degree | H / V | dB         | dB           | dBm    | dBm                |
| Low Channel    |               |        |        |       |            |              |        |                    |
| 824.2          | 30.88         | 1.5    | 0      | H     | 1.5        | 0            | 29.38  | 38.45              |
| 824.2          | 32.87         | 1.5    | 0      | V     | 1.5        | 0            | 31.37  | 38.45              |
| Middle Channel |               |        |        |       |            |              |        |                    |
| 836.4          | 30.98         | 1.5    | 0      | H     | 1.5        | 0            | 29.48  | 38.45              |
| 836.4          | 32.96         | 1.5    | 0      | V     | 1.5        | 0            | 31.46  | 38.45              |
| High Channel   |               |        |        |       |            |              |        |                    |
| 848.8          | 30.99         | 1.5    | 0      | H     | 1.5        | 0            | 29.49  | 38.45              |
| 848.8          | 33.00         | 1.5    | 0      | V     | 1.5        | 0            | 31.50  | 38.45              |

#### EIRP For GSM Mode PCS1900

| Frequency      | Substitute SG | Height | Table  | Polar | Cable loss | Antenna Gain | Result | FCC Part 24E Limit |
|----------------|---------------|--------|--------|-------|------------|--------------|--------|--------------------|
| MHz            | dBm           | Meter  | Degree | H / V | dB         | dB           | DBm    | dBm                |
| Low Channel    |               |        |        |       |            |              |        |                    |
| 1850.2         | 21.66         | 1.5    | 0      | H     | 1.9        | 7.7          | 27.46  | 33.00              |
| 1850.2         | 23.63         | 1.5    | 0      | V     | 1.9        | 7.7          | 29.43  | 33.00              |
| Middle Channel |               |        |        |       |            |              |        |                    |
| 1880.0         | 21.72         | 1.5    | 0      | H     | 1.9        | 7.7          | 27.52  | 33.00              |
| 1880.0         | 23.74         | 1.5    | 0      | V     | 1.9        | 7.7          | 29.54  | 33.00              |
| High Channel   |               |        |        |       |            |              |        |                    |
| 1909.8         | 21.64         | 1.5    | 0      | H     | 1.9        | 7.7          | 27.44  | 33.00              |
| 1909.8         | 23.69         | 1.5    | 0      | V     | 1.9        | 7.7          | 29.49  | 33.00              |

## ERP For GPRS Mode GSM850

| Frequency      | Substitute SG | Height | Table  | Polar | Cable loss | Antenna Gain | Result | FCC Part 22H Limit |
|----------------|---------------|--------|--------|-------|------------|--------------|--------|--------------------|
| MHz            | dBm           | Meter  | Degree | H / V | dB         | dB           | dBm    | dBm                |
| Low Channel    |               |        |        |       |            |              |        |                    |
| 824.2          | 30.86         | 1.5    | 0      | H     | 1.5        | 0            | 29.36  | 38.45              |
| 824.2          | 32.87         | 1.5    | 0      | V     | 1.5        | 0            | 31.37  | 38.45              |
| Middle Channel |               |        |        |       |            |              |        |                    |
| 836.6          | 30.95         | 1.5    | 0      | H     | 1.5        | 0            | 29.45  | 38.45              |
| 836.6          | 32.93         | 1.5    | 0      | V     | 1.5        | 0            | 31.43  | 38.45              |
| High Channel   |               |        |        |       |            |              |        |                    |
| 848.8          | 31.03         | 1.5    | 0      | H     | 1.5        | 0            | 29.53  | 38.45              |
| 848.8          | 33.04         | 1.5    | 0      | V     | 1.5        | 0            | 31.54  | 38.45              |

## EIRP For GPRS Mode PCS1900

| Frequency      | Substitute SG | Height | Table  | Polar | Cable loss | Antenna Gain | Result | FCC Part 24E Limit |
|----------------|---------------|--------|--------|-------|------------|--------------|--------|--------------------|
| MHz            | dBm           | Meter  | Degree | H / V | dB         | dB           | DBm    | dBm                |
| Low Channel    |               |        |        |       |            |              |        |                    |
| 1850.2         | 21.6          | 1.5    | 0      | H     | 1.9        | 7.7          | 27.4   | 33.00              |
| 1850.2         | 23.57         | 1.5    | 0      | V     | 1.9        | 7.7          | 29.37  | 33.00              |
| Middle Channel |               |        |        |       |            |              |        |                    |
| 1880.0         | 21.85         | 1.5    | 0      | H     | 1.9        | 7.7          | 27.65  | 33.00              |
| 1880.0         | 23.67         | 1.5    | 0      | V     | 1.9        | 7.7          | 29.47  | 33.00              |
| High Channel   |               |        |        |       |            |              |        |                    |
| 1909.8         | 21.75         | 1.5    | 0      | H     | 1.9        | 7.7          | 27.55  | 33.00              |
| 1909.8         | 23.8          | 1.5    | 0      | V     | 1.9        | 7.7          | 29.6   | 33.00              |

## ERP For EDGE Mode GSM850

| Frequency      | Substitute<br>SG | Height | Table  | Polar | Cable loss | Antenna<br>Gain | Result | FCC Part 22H<br>Limit |
|----------------|------------------|--------|--------|-------|------------|-----------------|--------|-----------------------|
| MHz            | dBm              | Meter  | Degree | H / V | dB         | dB              | dBm    | dBm                   |
| Low Channel    |                  |        |        |       |            |                 |        |                       |
| 824.2          | 24.63            | 1.5    | 0      | H     | 1.5        | 0               | 23.13  | 38.45                 |
| 824.2          | 26.64            | 1.5    | 0      | V     | 1.5        | 0               | 25.14  | 38.45                 |
| Middle Channel |                  |        |        |       |            |                 |        |                       |
| 836.6          | 24.67            | 1.5    | 0      | H     | 1.5        | 0               | 23.17  | 38.45                 |
| 836.6          | 26.65            | 1.5    | 0      | V     | 1.5        | 0               | 25.15  | 38.45                 |
| High Channel   |                  |        |        |       |            |                 |        |                       |
| 848.8          | 24.51            | 1.5    | 0      | H     | 1.5        | 0               | 23.01  | 38.45                 |
| 848.8          | 26.52            | 1.5    | 0      | V     | 1.5        | 0               | 25.02  | 38.45                 |

## EIRP For EDGE Mode PCS1900

| Frequency      | Substitute<br>SG | Height | Table  | Polar | Cable loss | Antenna<br>Gain | Result | FCC Part 24E<br>Limit |
|----------------|------------------|--------|--------|-------|------------|-----------------|--------|-----------------------|
| MHz            | dBm              | Meter  | Degree | H / V | dB         | dB              | DBm    | dBm                   |
| Low Channel    |                  |        |        |       |            |                 |        |                       |
| 1850.2         | 16.88            | 1.5    | 0      | H     | 1.9        | 7.7             | 22.68  | 33.00                 |
| 1850.2         | 18.85            | 1.5    | 0      | V     | 1.9        | 7.7             | 24.65  | 33.00                 |
| Middle Channel |                  |        |        |       |            |                 |        |                       |
| 1880.0         | 16.74            | 1.5    | 0      | H     | 1.9        | 7.7             | 22.54  | 33.00                 |
| 1880.0         | 18.56            | 1.5    | 0      | V     | 1.9        | 7.7             | 24.36  | 33.00                 |
| High Channel   |                  |        |        |       |            |                 |        |                       |
| 1909.8         | 16.8             | 1.5    | 0      | H     | 1.9        | 7.7             | 22.6   | 33.00                 |
| 1909.8         | 18.85            | 1.5    | 0      | V     | 1.9        | 7.7             | 24.65  | 33.00                 |

## ERP For WCDMA Mode Band 5

| Frequency      | Substitute SG | Height | Table  | Polar | Cable loss | Antenna Gain | Result | FCC Part 22H Limit |
|----------------|---------------|--------|--------|-------|------------|--------------|--------|--------------------|
| MHz            | dBm           | Meter  | Degree | H / V | dB         | dBd          | dBm    | dBm                |
| Low Channel    |               |        |        |       |            |              |        |                    |
| 826.4          | 22.54         | 1.5    | 0      | H     | 1.5        | 0            | 21.04  | 38.45              |
| 826.4          | 23.4          | 1.5    | 0      | V     | 1.5        | 0            | 21.9   | 38.45              |
| Middle Channel |               |        |        |       |            |              |        |                    |
| 836.6          | 22.12         | 1.5    | 0      | H     | 1.5        | 0            | 20.62  | 38.45              |
| 836.6          | 23.54         | 1.5    | 0      | V     | 1.5        | 0            | 22.04  | 38.45              |
| High Channel   |               |        |        |       |            |              |        |                    |
| 846.6          | 21.84         | 1.5    | 0      | H     | 1.5        | 0            | 20.34  | 38.45              |
| 846.6          | 23.23         | 1.5    | 0      | V     | 1.5        | 0            | 21.73  | 38.45              |

## ERP For HSDPA Mode Band 5

| Frequency      | Substitute SG | Height | Table  | Polar | Cable loss | Antenna Gain | Result | FCC Part 22H Limit |
|----------------|---------------|--------|--------|-------|------------|--------------|--------|--------------------|
| MHz            | dBm           | Meter  | Degree | H / V | dB         | dBd          | dBm    | dBm                |
| Low Channel    |               |        |        |       |            |              |        |                    |
| 826.4          | 21.59         | 1.5    | 0      | H     | 1.5        | 0            | 20.09  | 38.45              |
| 826.4          | 22.45         | 1.5    | 0      | V     | 1.5        | 0            | 20.95  | 38.45              |
| Middle Channel |               |        |        |       |            |              |        |                    |
| 836.6          | 21.13         | 1.5    | 0      | H     | 1.5        | 0            | 19.63  | 38.45              |
| 836.6          | 22.55         | 1.5    | 0      | V     | 1.5        | 0            | 21.05  | 38.45              |
| High Channel   |               |        |        |       |            |              |        |                    |
| 846.6          | 20.9          | 1.5    | 0      | H     | 1.5        | 0            | 19.4   | 38.45              |
| 846.6          | 22.29         | 1.5    | 0      | V     | 1.5        | 0            | 20.79  | 38.45              |

## ERP For HSUPA Mode Band 5

| Frequency      | Substitute SG | Height | Table  | Polar | Cable loss | Antenna Gain | Result | FCC Part 22H Limit |
|----------------|---------------|--------|--------|-------|------------|--------------|--------|--------------------|
| MHz            | dBm           | Meter  | Degree | H / V | dB         | dBd          | dBm    | dBm                |
| Low Channel    |               |        |        |       |            |              |        |                    |
| 826.4          | 21.79         | 1.5    | 0      | H     | 1.5        | 0            | 20.29  | 38.45              |
| 826.4          | 22.65         | 1.5    | 0      | V     | 1.5        | 0            | 21.15  | 38.45              |
| Middle Channel |               |        |        |       |            |              |        |                    |
| 836.6          | 21.38         | 1.5    | 0      | H     | 1.5        | 0            | 19.88  | 38.45              |
| 836.6          | 22.8          | 1.5    | 0      | V     | 1.5        | 0            | 21.3   | 38.45              |
| High Channel   |               |        |        |       |            |              |        |                    |
| 846.6          | 21.24         | 1.5    | 0      | H     | 1.5        | 0            | 19.74  | 38.45              |
| 846.6          | 22.63         | 1.5    | 0      | V     | 1.5        | 0            | 21.13  | 38.45              |

## ERP For WCDMA Mode Band 4

| Frequency      | Substitute SG | Height | Table  | Polar | Cable loss | Antenna Gain | Result | FCC Part 27 Limit |
|----------------|---------------|--------|--------|-------|------------|--------------|--------|-------------------|
| MHz            | dBm           | Meter  | Degree | H / V | dB         | dBd          | dBm    | dBm               |
| Low Channel    |               |        |        |       |            |              |        |                   |
| 1712.4         | 14.66         | 1.5    | 0      | H     | 1.8        | 7.7          | 20.56  | 30.00             |
| 1712.4         | 15.74         | 1.5    | 0      | V     | 1.8        | 7.7          | 21.64  | 30.00             |
| Middle Channel |               |        |        |       |            |              |        |                   |
| 1732.4         | 14.52         | 1.5    | 0      | H     | 1.8        | 7.7          | 20.42  | 30.00             |
| 1732.4         | 15.44         | 1.5    | 0      | V     | 1.8        | 7.7          | 21.34  | 30.00             |
| High Channel   |               |        |        |       |            |              |        |                   |
| 1752.6         | 14.15         | 1.5    | 0      | H     | 1.8        | 7.7          | 20.05  | 30.00             |
| 1752.6         | 15.19         | 1.5    | 0      | V     | 1.8        | 7.7          | 21.09  | 30.00             |

## ERP For HSDPA Mode Band 4

| Frequency      | Substitute SG | Height | Table  | Polar | Cable loss | Antenna Gain | Result | FCC Part 27 Limit |
|----------------|---------------|--------|--------|-------|------------|--------------|--------|-------------------|
| MHz            | dBm           | Meter  | Degree | H / V | dB         | dBd          | dBm    | dBm               |
| Low Channel    |               |        |        |       |            |              |        |                   |
| 1712.4         | 13.99         | 1.5    | 0      | H     | 1.8        | 7.7          | 19.89  | 30.00             |
| 1712.4         | 15.07         | 1.5    | 0      | V     | 1.8        | 7.7          | 20.97  | 30.00             |
| Middle Channel |               |        |        |       |            |              |        |                   |
| 1732.4         | 13.89         | 1.5    | 0      | H     | 1.8        | 7.7          | 19.79  | 30.00             |
| 1732.4         | 14.81         | 1.5    | 0      | V     | 1.8        | 7.7          | 20.71  | 30.00             |
| High Channel   |               |        |        |       |            |              |        |                   |
| 1752.6         | 13.62         | 1.5    | 0      | H     | 1.8        | 7.7          | 19.52  | 30.00             |
| 1752.6         | 14.66         | 1.5    | 0      | V     | 1.8        | 7.7          | 20.56  | 30.00             |

## ERP For HSUPA Mode Band 4

| Frequency      | Substitute SG | Height | Table  | Polar | Cable loss | Antenna Gain | Result | FCC Part 27 Limit |
|----------------|---------------|--------|--------|-------|------------|--------------|--------|-------------------|
| MHz            | dBm           | Meter  | Degree | H / V | dB         | dBd          | dBm    | dBm               |
| Low Channel    |               |        |        |       |            |              |        |                   |
| 1712.4         | 13.96         | 1.5    | 0      | H     | 1.8        | 7.7          | 19.86  | 30.00             |
| 1712.4         | 15.04         | 1.5    | 0      | V     | 1.8        | 7.7          | 20.94  | 30.00             |
| Middle Channel |               |        |        |       |            |              |        |                   |
| 1732.4         | 13.86         | 1.5    | 0      | H     | 1.8        | 7.7          | 19.76  | 30.00             |
| 1732.4         | 14.78         | 1.5    | 0      | V     | 1.8        | 7.7          | 20.68  | 30.00             |
| High Channel   |               |        |        |       |            |              |        |                   |
| 1752.6         | 13.61         | 1.5    | 0      | H     | 1.8        | 7.7          | 19.51  | 30.00             |
| 1752.6         | 14.65         | 1.5    | 0      | V     | 1.8        | 7.7          | 20.55  | 30.00             |

## EIRP For WCDMA Mode Band 2

| Frequency      | Substitute SG | Height | Table  | Polar | Cable loss | Antenna Gain | Result | FCC Part 24E Limit |
|----------------|---------------|--------|--------|-------|------------|--------------|--------|--------------------|
| MHz            | dBm           | Meter  | Degree | H / V | dB         | dB           | DBm    | dBm                |
| Low Channel    |               |        |        |       |            |              |        |                    |
| 1852.4         | 14.04         | 1.5    | 0      | H     | 1.9        | 7.7          | 19.84  | 33                 |
| 1852.4         | 15.76         | 1.5    | 0      | V     | 1.9        | 7.7          | 21.56  | 33                 |
| Middle Channel |               |        |        |       |            |              |        |                    |
| 1880.0         | 13.82         | 1.5    | 0      | H     | 1.9        | 7.7          | 19.62  | 33                 |
| 1880.0         | 16.03         | 1.5    | 0      | V     | 1.9        | 7.7          | 21.83  | 33                 |
| High Channel   |               |        |        |       |            |              |        |                    |
| 1907.6         | 14.28         | 1.5    | 0      | H     | 1.9        | 7.7          | 20.08  | 33                 |
| 1907.6         | 16.02         | 1.5    | 0      | V     | 1.9        | 7.7          | 21.82  | 33                 |

## EIRP For HSDPA Mode Band 2

| Frequency      | Substitute SG | Height | Table  | Polar | Cable loss | Antenna Gain | Result | FCC Part 24E Limit |
|----------------|---------------|--------|--------|-------|------------|--------------|--------|--------------------|
| MHz            | dBm           | Meter  | Degree | H / V | dB         | dB           | DBm    | dBm                |
| Low Channel    |               |        |        |       |            |              |        |                    |
| 1852.4         | 12.96         | 1.5    | 0      | H     | 1.9        | 7.7          | 18.76  | 33                 |
| 1852.4         | 14.68         | 1.5    | 0      | V     | 1.9        | 7.7          | 20.48  | 33                 |
| Middle Channel |               |        |        |       |            |              |        |                    |
| 1880.0         | 12.86         | 1.5    | 0      | H     | 1.9        | 7.7          | 18.66  | 33                 |
| 1880.0         | 15.07         | 1.5    | 0      | V     | 1.9        | 7.7          | 20.87  | 33                 |
| High Channel   |               |        |        |       |            |              |        |                    |
| 1907.6         | 13.33         | 1.5    | 0      | H     | 1.9        | 7.7          | 19.13  | 33                 |
| 1907.6         | 15.07         | 1.5    | 0      | V     | 1.9        | 7.7          | 20.87  | 33                 |

## EIRP For HSUPA Mode Band 2

| Frequency      | Substitute<br>SG | Height | Table  | Polar | Cable loss | Antenna<br>Gain | Result | FCC Part 24E<br>Limit |
|----------------|------------------|--------|--------|-------|------------|-----------------|--------|-----------------------|
| MHz            | dBm              | Meter  | Degree | H / V | dB         | dB              | DBm    | dBm                   |
| Low Channel    |                  |        |        |       |            |                 |        |                       |
| 1852.4         | 12.93            | 1.5    | 0      | H     | 1.9        | 7.7             | 18.73  | 33                    |
| 1852.4         | 14.65            | 1.5    | 0      | V     | 1.9        | 7.7             | 20.45  | 33                    |
| Middle Channel |                  |        |        |       |            |                 |        |                       |
| 1880.0         | 12.86            | 1.5    | 0      | H     | 1.9        | 7.7             | 18.66  | 33                    |
| 1880.0         | 15.07            | 1.5    | 0      | V     | 1.9        | 7.7             | 20.87  | 33                    |
| High Channel   |                  |        |        |       |            |                 |        |                       |
| 1907.6         | 13.3             | 1.5    | 0      | H     | 1.9        | 7.7             | 19.1   | 33                    |
| 1907.6         | 15.04            | 1.5    | 0      | V     | 1.9        | 7.7             | 20.84  | 33                    |

Note: Result = Substitute - Cable loss + Antenna Gain

## Max. Conducted Output Power

For Cellular Band (GSM850)

| Test Mode    | Channel        | Frequency (MHz) | Average Power (dBm) | FCC Part 22.913 Limit (dBm) |
|--------------|----------------|-----------------|---------------------|-----------------------------|
| GSM          | Low Channel    | 824.2           | 32.12               | 38.45                       |
|              | Middle Channel | 836.6           | 32.13               | 38.45                       |
|              | High Channel   | 848.8           | 32.13               | 38.45                       |
| GPRS(1 Slot) | Low Channel    | 824.2           | 32.12               | 38.45                       |
|              | Middle Channel | 836.6           | 32.10               | 38.45                       |
|              | High Channel   | 848.8           | 32.17               | 38.45                       |
| EDGE(1 Slot) | Low Channel    | 824.2           | 25.89               | 38.45                       |
|              | Middle Channel | 836.6           | 25.82               | 38.45                       |
|              | High Channel   | 848.8           | 25.65               | 38.45                       |

For PCS Band (GSM1900)

| Test Mode    | Channel        | Frequency (MHz) | Average Power (dBm) | FCC Part 24.232 Limit (dBm) |
|--------------|----------------|-----------------|---------------------|-----------------------------|
| GSM          | Low Channel    | 1850.2          | 29.67               | 33.0                        |
|              | Middle Channel | 1880.0          | 29.89               | 33.0                        |
|              | High Channel   | 1909.8          | 29.81               | 33.0                        |
| GPRS(1 Slot) | Low Channel    | 1850.2          | 29.61               | 33.0                        |
|              | Middle Channel | 1880.0          | 30.02               | 33.0                        |
|              | High Channel   | 1909.8          | 29.92               | 33.0                        |
| EDGE(1 Slot) | Low Channel    | 1850.2          | 24.89               | 33.0                        |
|              | Middle Channel | 1880.0          | 24.91               | 33.0                        |
|              | High Channel   | 1909.8          | 24.97               | 33.0                        |

For WCDMA Band 5

| Test Mode | Channel        | Frequency (MHz) | Average Power (dBm) | FCC Part 22.913 Limit (dBm) |
|-----------|----------------|-----------------|---------------------|-----------------------------|
| WCDMA     | Low Channel    | 826.4           | 22.76               | 38.45                       |
|           | Middle Channel | 836.6           | 22.80               | 38.45                       |
|           | High Channel   | 846.6           | 22.67               | 38.45                       |
| HSDPA     | Low Channel    | 826.4           | 21.81               | 38.45                       |
|           | Middle Channel | 836.6           | 21.81               | 38.45                       |
|           | High Channel   | 846.6           | 21.73               | 38.45                       |
| HSUPA     | Low Channel    | 826.4           | 22.01               | 38.45                       |
|           | Middle Channel | 836.6           | 22.06               | 38.45                       |
|           | High Channel   | 846.6           | 22.07               | 38.45                       |

For WCDMA Band 4

| Test Mode | Channel        | Frequency (MHz) | Output Power (dBm) | FCC Part 27.50 Limit (dBm) |
|-----------|----------------|-----------------|--------------------|----------------------------|
| WCDMA     | Low Channel    | 1712.4          | 22.77              | 30.0                       |
|           | Middle Channel | 1732.4          | 22.57              | 30.0                       |
|           | High Channel   | 1752.6          | 22.02              | 30.0                       |
| HSDPA     | Low Channel    | 1712.4          | 22.10              | 30.0                       |
|           | Middle Channel | 1732.4          | 21.94              | 30.0                       |
|           | High Channel   | 1752.6          | 21.49              | 30.0                       |
| HSUPA     | Low Channel    | 1712.4          | 22.07              | 30.0                       |
|           | Middle Channel | 1732.4          | 21.91              | 30.0                       |
|           | High Channel   | 1752.6          | 21.48              | 30.0                       |

For WCDMA Band 2

| Test Mode | Channel        | Frequency (MHz) | Average Power (dBm) | FCC Part 24.232 Limit (dBm) |
|-----------|----------------|-----------------|---------------------|-----------------------------|
| WCDMA     | Low Channel    | 1852.4          | 22.58               | 33.00                       |
|           | Middle Channel | 1880.0          | 22.66               | 33.00                       |
|           | High Channel   | 1907.6          | 22.90               | 33.00                       |
| HSDPA     | Low Channel    | 1852.4          | 21.69               | 33.00                       |
|           | Middle Channel | 1880.0          | 21.02               | 33.00                       |
|           | High Channel   | 1907.6          | 21.16               | 33.00                       |
| HSUPA     | Low Channel    | 1852.4          | 21.75               | 33.00                       |
|           | Middle Channel | 1880.0          | 20.96               | 33.00                       |
|           | High Channel   | 1907.6          | 21.13               | 33.00                       |

## 5. Peak-to-average Radio (PAR) of Transmitter

### 5.1 Standard Applicable

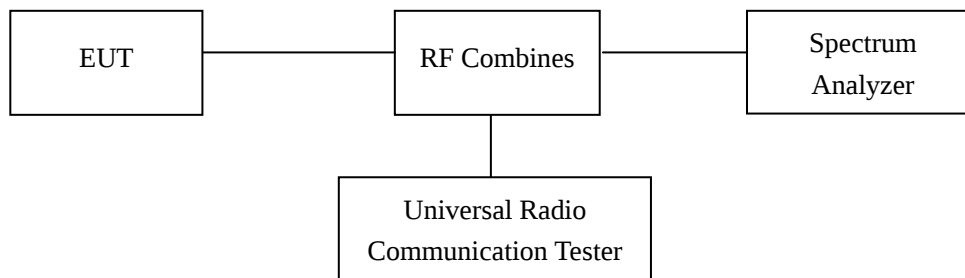
According to §24.232(d), Power measurements for transmissions by stations authorized under this section may be made either in accordance with a Commission-approved average power technique or in compliance with paragraph (e) of this section. In both instances, equipment employed must be authorized in accordance with the provisions of §24.51. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

According to §27.50(B), the peak-to-average power ratio (PAPR) of the transmitter output power must not exceed 13 dB. The PAPR measurements should be made using either an instrument with complementary cumulative distribution function (CCDF) capabilities to determine that PAPR will not exceed 13 dB for more than 0.1 percent of the time or other Commission approved procedure. The measurement must be performed using a signal corresponding to the highest PAPR expected during periods of continuous transmission.

### 5.2 Test Procedure

The RF output terminal of the transmitter was connected to the input of the spectrum analyzer via a suitable attenuation. The RBW of the spectrum analyzer was set to 30kHz and the peak-to-average ratio (PAR) of the transmission was recorded. Record the maximum PAPR level associated with a probability of 0.1%.

Test Configuration for the emission bandwidth testing:



### 5.3 Environmental Conditions

|                    |           |
|--------------------|-----------|
| Temperature:       | 25 °C     |
| Relative Humidity: | 54%       |
| ATM Pressure:      | 1011 mbar |

## 5.4 Summary of Test Results

Only the worst case was selected to record

For PCS Band

| Test Mode    | Channel | Frequency (MHz) | PAR (dB) | Limit (dB) |
|--------------|---------|-----------------|----------|------------|
| GSM          | 885     | 1909.8          | 9.26     | 13         |
| GPRS(1 Slot) | 698     | 1880.0          | 8.83     | 13         |
| EDGE(1 Slot) | 512     | 1850.2          | 12.08    | 13         |

For WCDMA Band 4

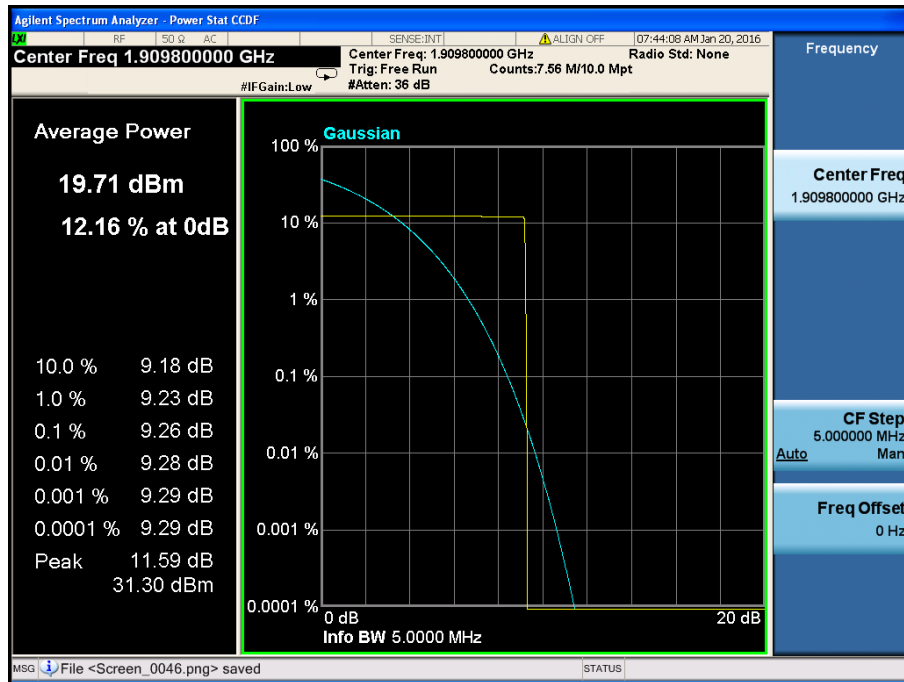
| Test Mode | Channel | Frequency (MHz) | PAR (dB) | Limit (dB) |
|-----------|---------|-----------------|----------|------------|
| WCDMA     | 1450    | 1732.4          | 2.96     | 13         |
| HSDPA     | 1512    | 1752.6          | 4.01     | 13         |
| HSUPA     | 1313    | 1712.4          | 3.74     | 13         |

For WCDMA Band 2

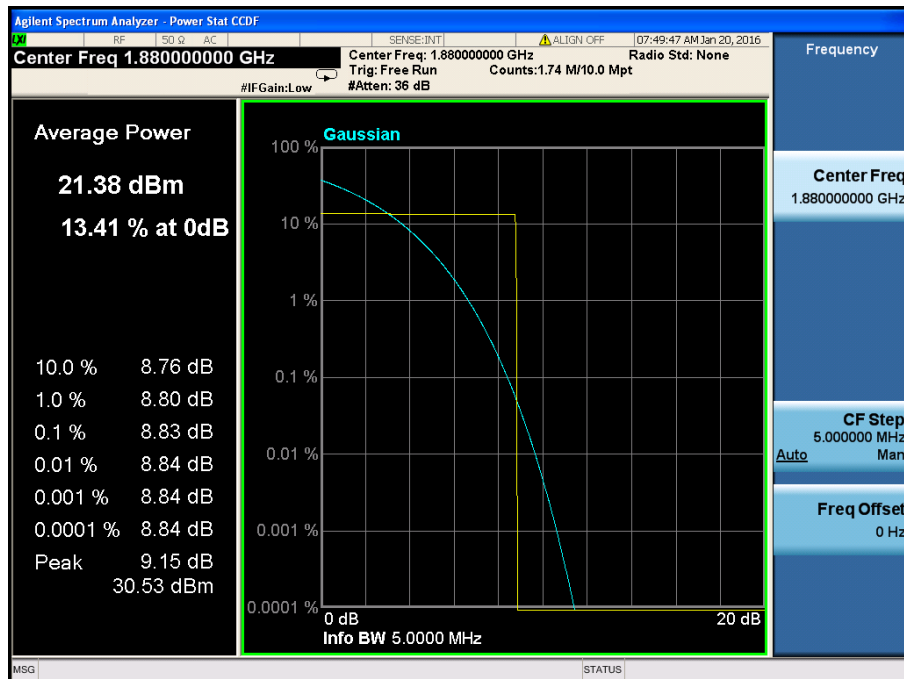
| Test Mode | Channel | Frequency (MHz) | PAR (dB) | Limit (dB) |
|-----------|---------|-----------------|----------|------------|
| WCDMA     | 9262    | 1852.4          | 2.78     | 13         |
| HSDPA     | 9400    | 1880.0          | 2.86     | 13         |
| HSUPA     | 9400    | 1880.0          | 3.57     | 13         |

Test plots please refer to below:

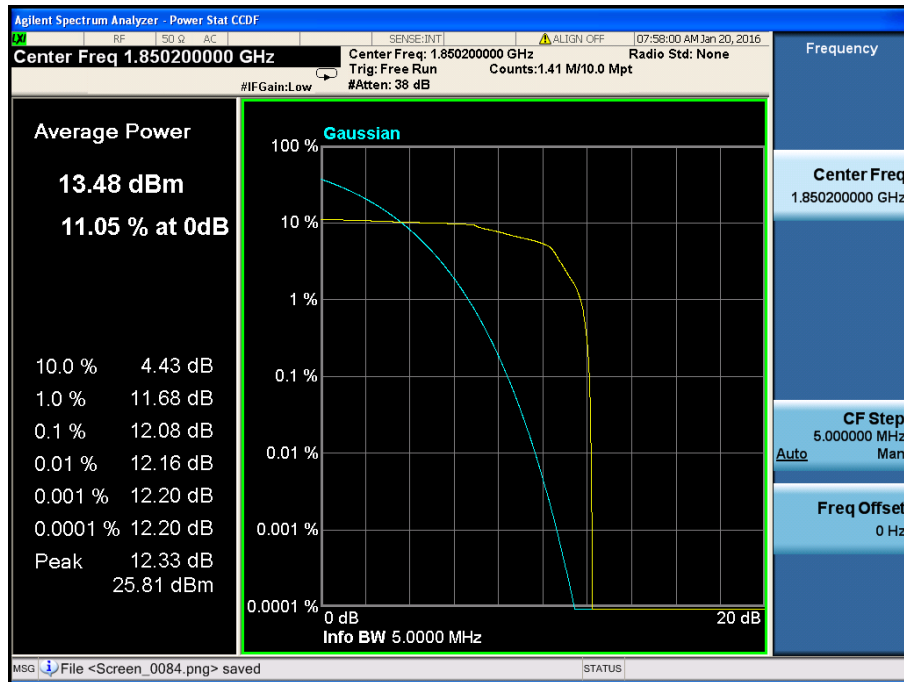
For GSM PCS Band



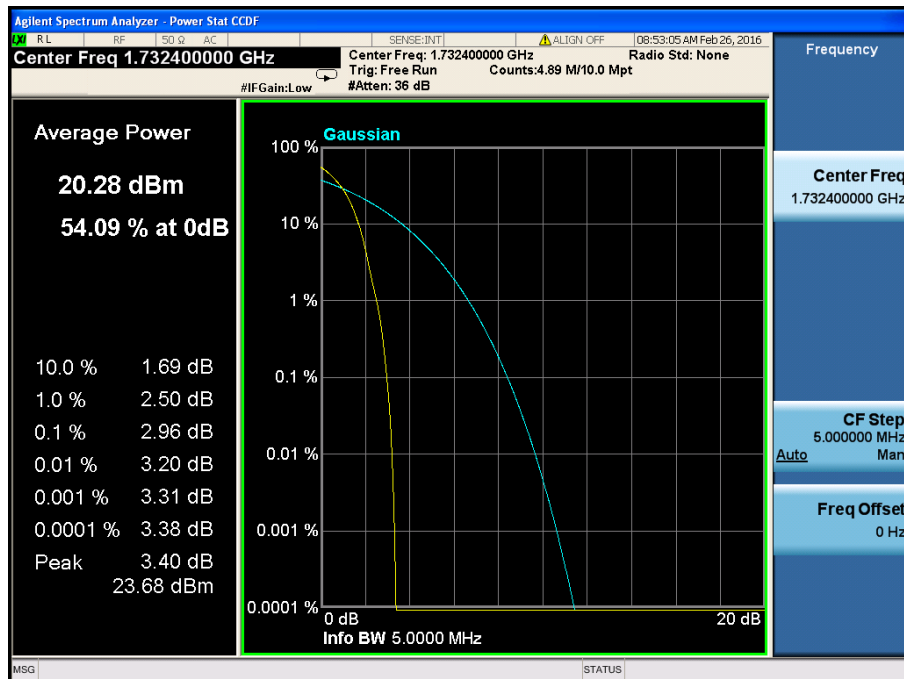
For GPRS PCS Band



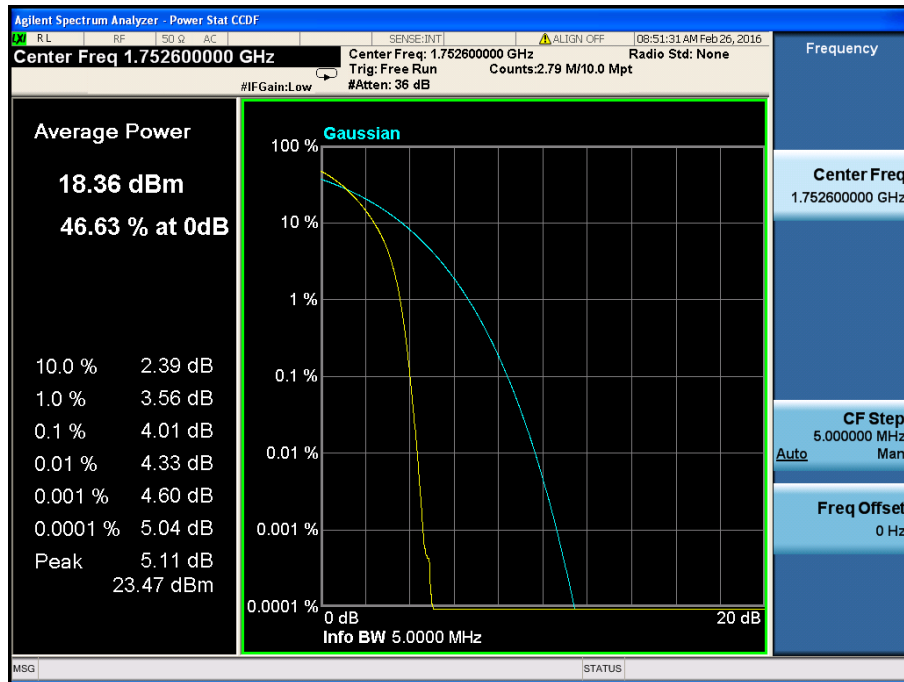
For EDGE PCS Band



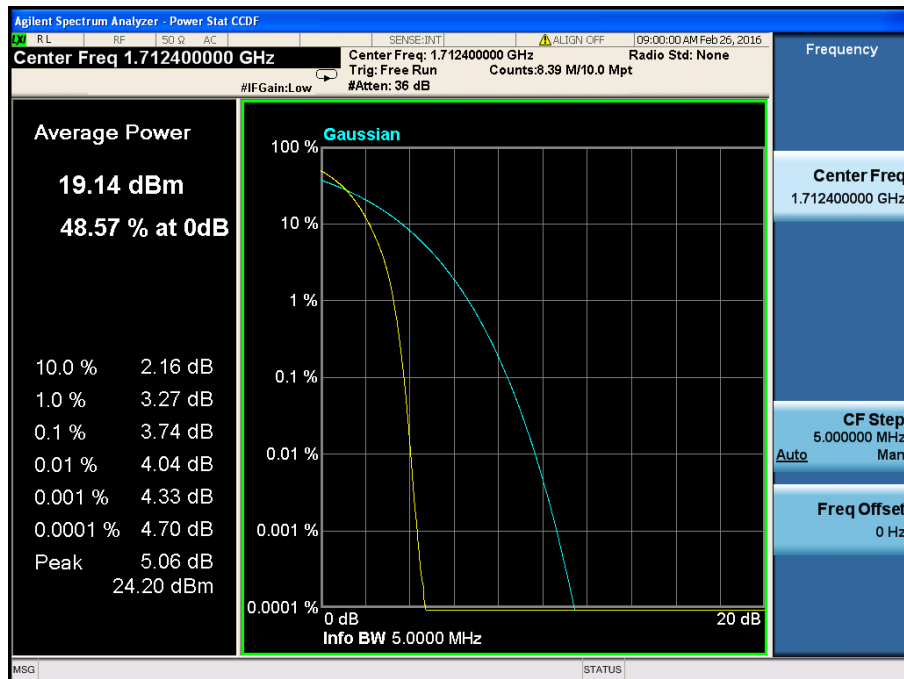
For WCDMA Band 4



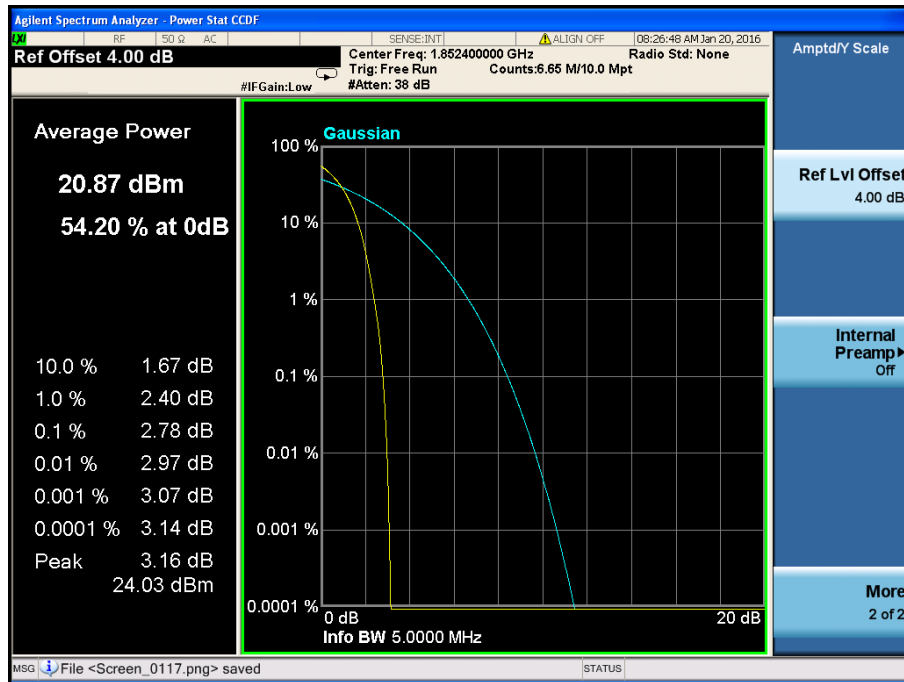
For HSDPA Band 4



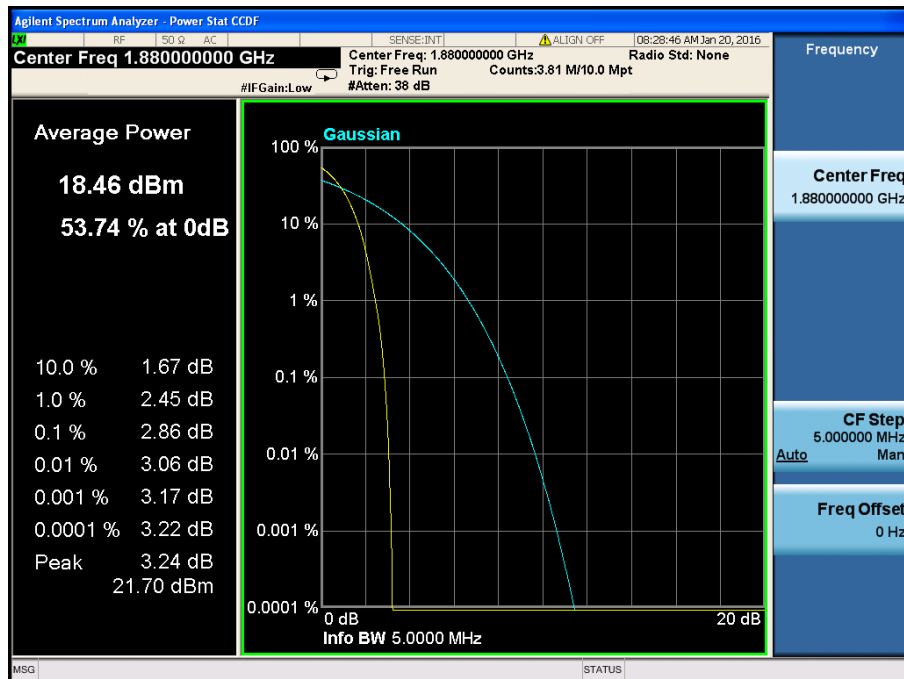
For HSUPA Band 4



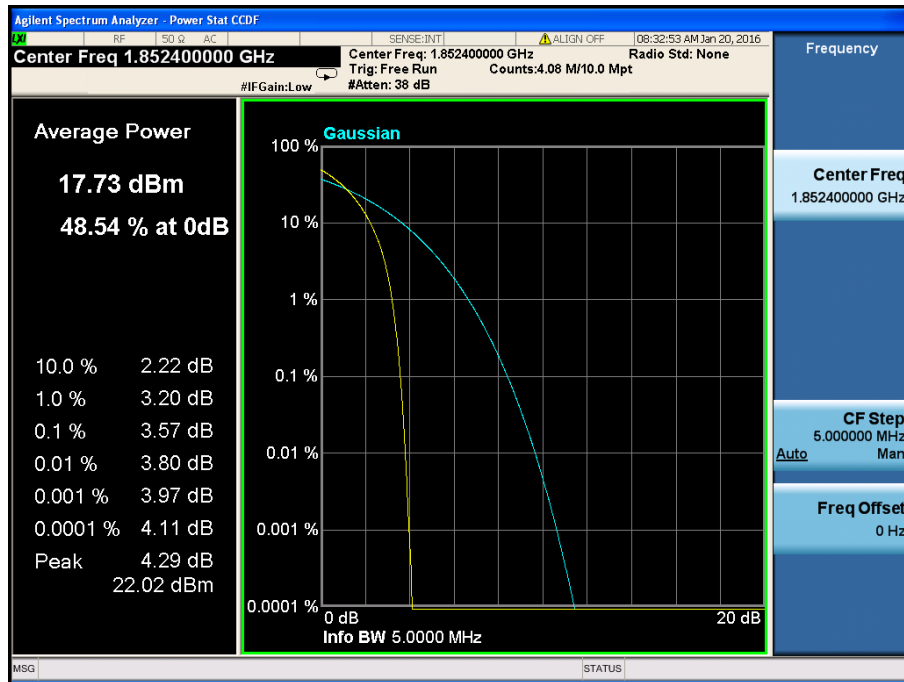
For WCDMA Band 2



For HSDPA Band 2



For HSUPA Band 2



## 6. Emission Bandwidth

### 6.1 Standard Applicable

According to §22.917(b), The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

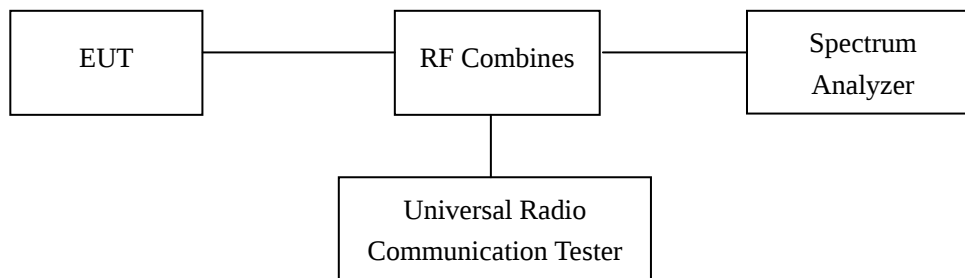
According to §24.238(b), The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

According to §27.53, The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

### 6.2 Test Procedure

The RF output terminal of the transmitter was connected to the input of the spectrum analyzer via a suitable attenuation. The RBW of the spectrum analyzer was set to 10kHz for GSM mode and 100kHz for WCDMA mode, VBW shall be at least 3 times the RBW, and the 26dB bandwidth was recorded.

Test Configuration for the emission bandwidth testing:



### 6.3 Environmental Conditions

|                    |           |
|--------------------|-----------|
| Temperature:       | 25 °C     |
| Relative Humidity: | 54%       |
| ATM Pressure:      | 1011 mbar |

## 6.4 Summary of Test Results/Plots

For Cellular Band

| Test Mode | Channel | Frequency (MHz) | 99% Emission Bandwidth (kHz) | 26 dB Emission Bandwidth (kHz) |
|-----------|---------|-----------------|------------------------------|--------------------------------|
| GSM       | 128     | 824.2           | 244.11                       | 316.4                          |
|           | 190     | 836.6           | 243.79                       | 316.2                          |
|           | 251     | 848.8           | 245.64                       | 316.8                          |
| GPRS      | 128     | 824.2           | 247.63                       | 316.3                          |
|           | 190     | 836.6           | 250.45                       | 311.9                          |
|           | 251     | 848.8           | 244.86                       | 319.8                          |
| EDGE      | 128     | 824.2           | 251.65                       | 327.2                          |
|           | 190     | 836.6           | 252.85                       | 329.3                          |
|           | 251     | 848.8           | 243.75                       | 330.0                          |

For PCS Band

| Test Mode | Channel | Frequency (MHz) | 99% Emission Bandwidth (kHz) | 26 dB Emission Bandwidth (kHz) |
|-----------|---------|-----------------|------------------------------|--------------------------------|
| GSM       | 512     | 1850.2          | 246.24                       | 319.3                          |
|           | 661     | 1880.0          | 243.85                       | 322.0                          |
|           | 810     | 1909.8          | 246.79                       | 316.4                          |
| GPRS      | 512     | 1850.2          | 244.03                       | 321.6                          |
|           | 661     | 1880.0          | 248.77                       | 317.6                          |
|           | 810     | 1909.8          | 248.85                       | 321.3                          |
| EDGE      | 512     | 1850.2          | 256.53                       | 333.8                          |
|           | 661     | 1880.0          | 242.98                       | 327.5                          |
|           | 810     | 1909.8          | 246.86                       | 319.1                          |

For Band 5

| Test Mode | Channel | Frequency (MHz) | 99% Emission Bandwidth (MHz) | 26 dB Emission Bandwidth (MHz) |
|-----------|---------|-----------------|------------------------------|--------------------------------|
| WCDMA     | 4132    | 826.4           | 4.2053                       | 4.885                          |
|           | 4183    | 836.6           | 4.2126                       | 4.867                          |
|           | 4233    | 846.6           | 4.2150                       | 4.865                          |
| HSDPA     | 4132    | 826.4           | 4.2197                       | 4.877                          |
|           | 4183    | 836.6           | 4.2139                       | 4.873                          |
|           | 4233    | 846.6           | 4.2221                       | 4.857                          |
| HSUPA     | 4132    | 826.4           | 4.2338                       | 4.922                          |
|           | 4183    | 836.6           | 4.2050                       | 4.886                          |
|           | 4233    | 846.6           | 4.2037                       | 4.879                          |

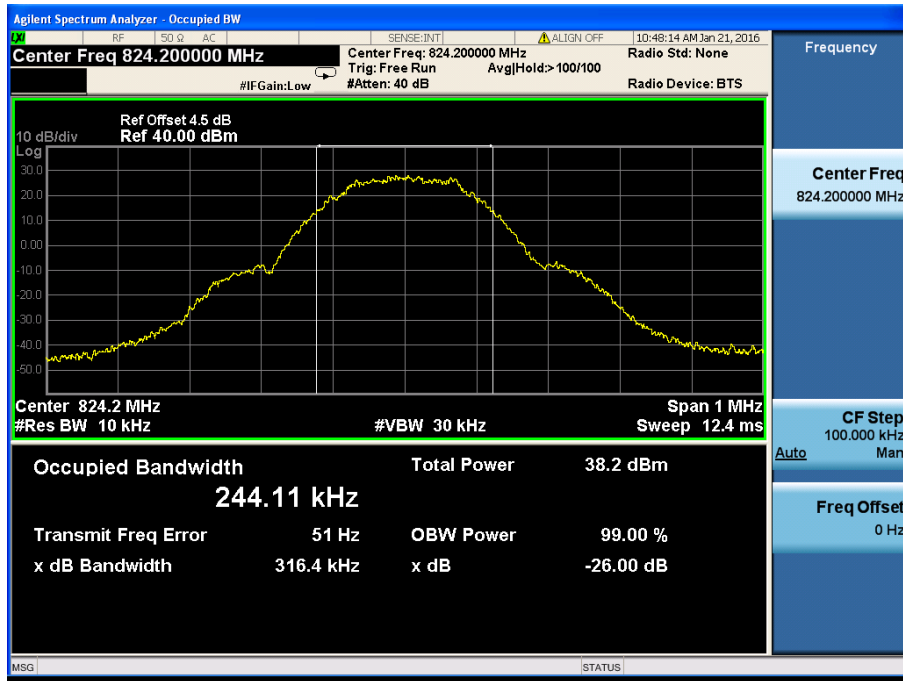
For Band 4

| Test Mode | Channel | Frequency (MHz) | 99% Emission Bandwidth (MHz) | 26 dB Emission Bandwidth (MHz) |
|-----------|---------|-----------------|------------------------------|--------------------------------|
| WCDMA     | 1312    | 1712.4          | 4.2026                       | 4.871                          |
|           | 1412    | 1732.4          | 4.2162                       | 4.852                          |
|           | 1513    | 1752.6          | 4.2185                       | 4.876                          |
| HSDPA     | 1312    | 1712.4          | 4.2123                       | 4.883                          |
|           | 1412    | 1732.4          | 4.2320                       | 4.867                          |
|           | 1513    | 1752.6          | 4.2145                       | 4.876                          |
| HSUPA     | 1312    | 1712.4          | 4.2116                       | 4.897                          |
|           | 1412    | 1732.4          | 4.2039                       | 4.864                          |
|           | 1513    | 1752.6          | 4.2286                       | 4.872                          |

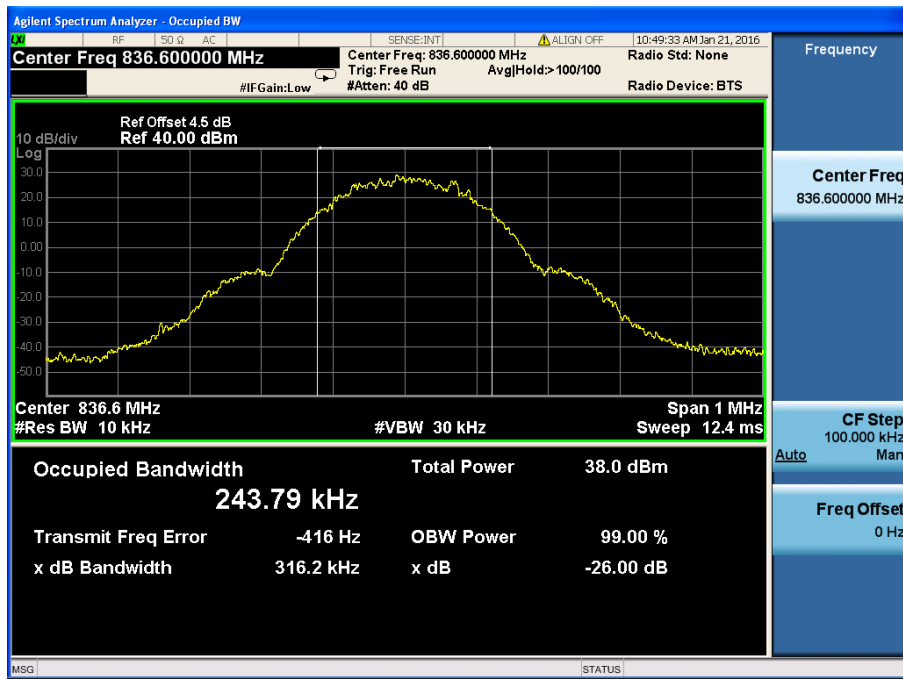
For Band 2

| Test Mode | Channel | Frequency (MHz) | 99% Emission Bandwidth (MHz) | 26 dB Emission Bandwidth (MHz) |
|-----------|---------|-----------------|------------------------------|--------------------------------|
| WCDMA     | 9262    | 1852.4          | 4.2228                       | 4.914                          |
|           | 9400    | 1880.0          | 4.2199                       | 4.880                          |
|           | 9538    | 1907.6          | 4.2301                       | 4.915                          |
| HSDPA     | 9262    | 1852.4          | 4.2188                       | 4.887                          |
|           | 9400    | 1880.0          | 4.2013                       | 4.868                          |
|           | 9538    | 1907.6          | 4.2217                       | 4.835                          |
| HSUPA     | 9262    | 1852.4          | 4.2245                       | 4.882                          |
|           | 9400    | 1880.0          | 4.2128                       | 4.851                          |
|           | 9538    | 1907.6          | 4.2297                       | 4.844                          |

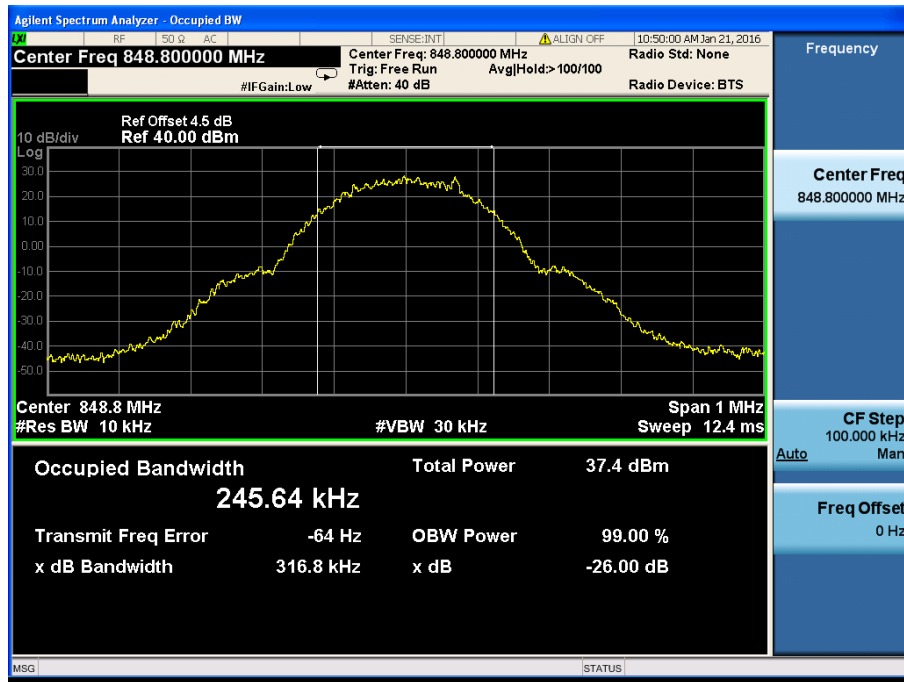
For Cellular Band  
GSM Low Channel



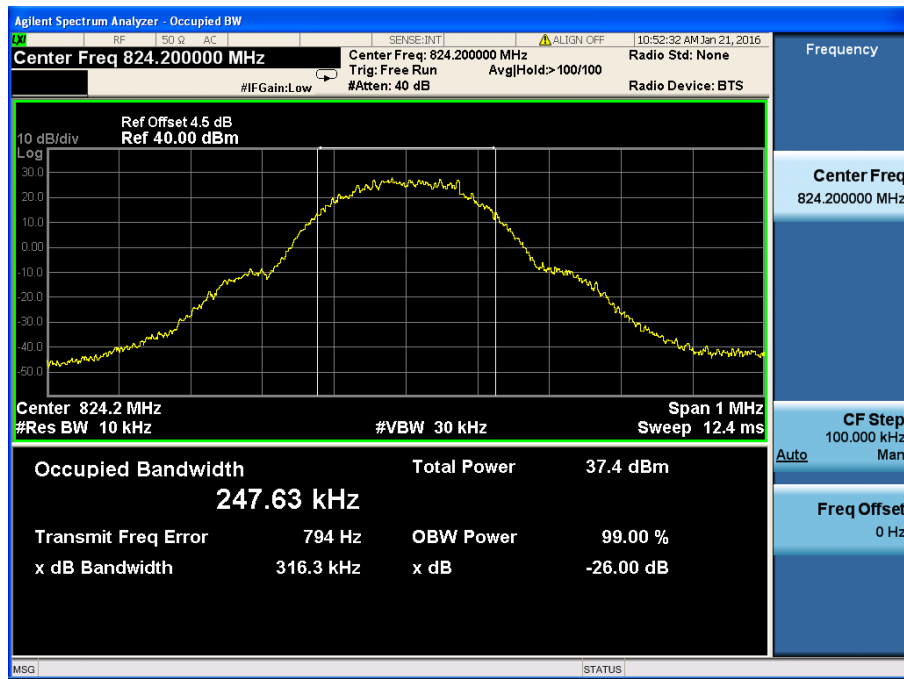
GSM Middle Channel



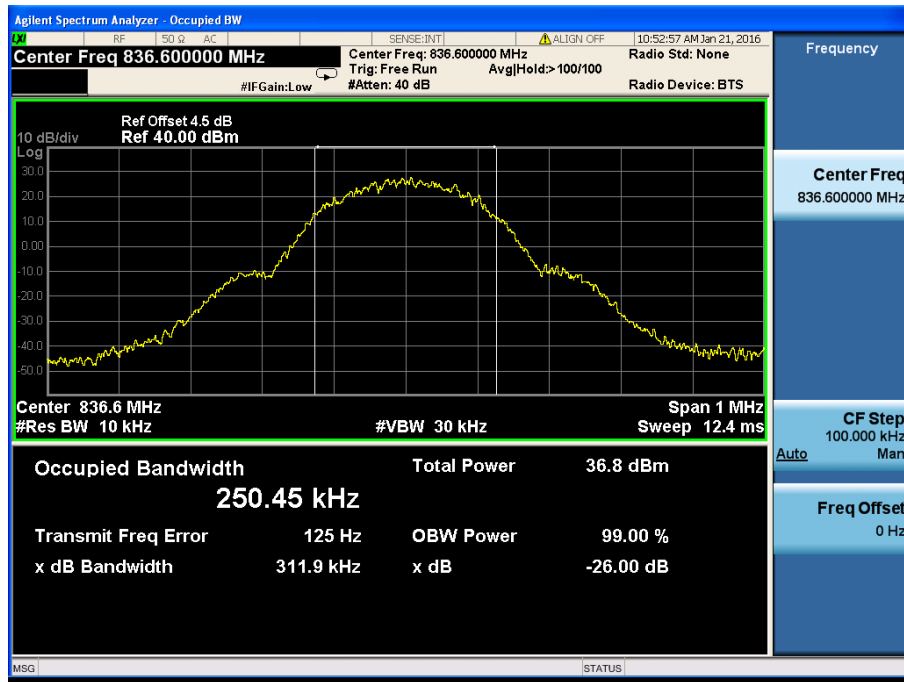
## GSM High channel



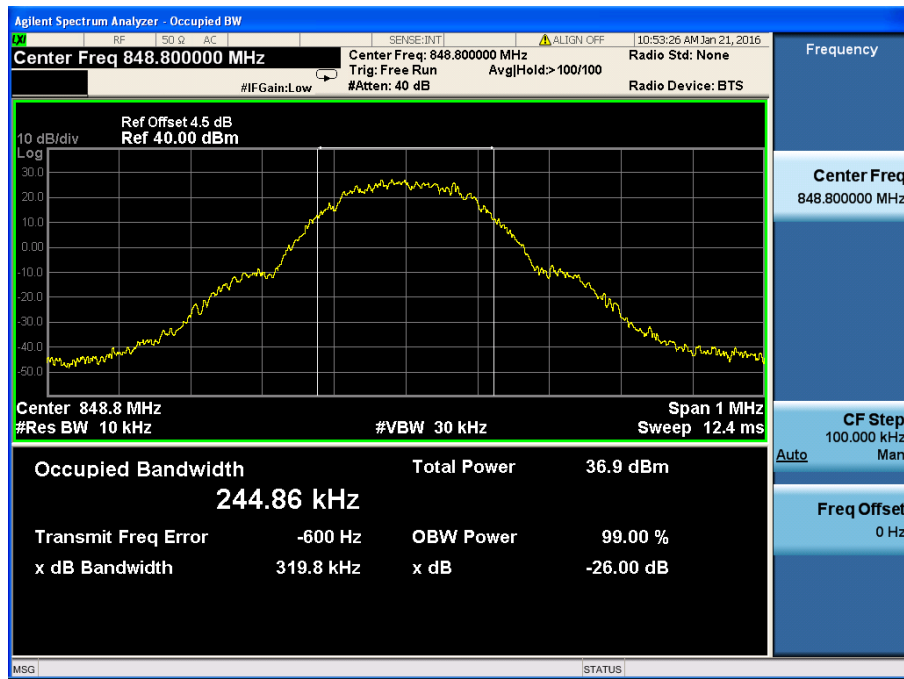
## GPRS Low Channel



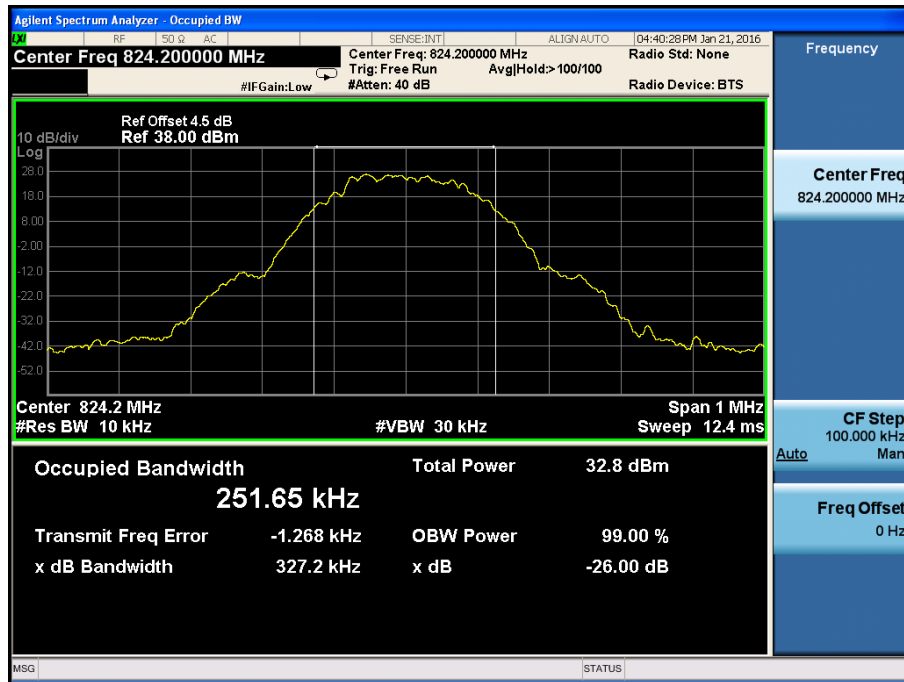
## GPRS Middle Channel



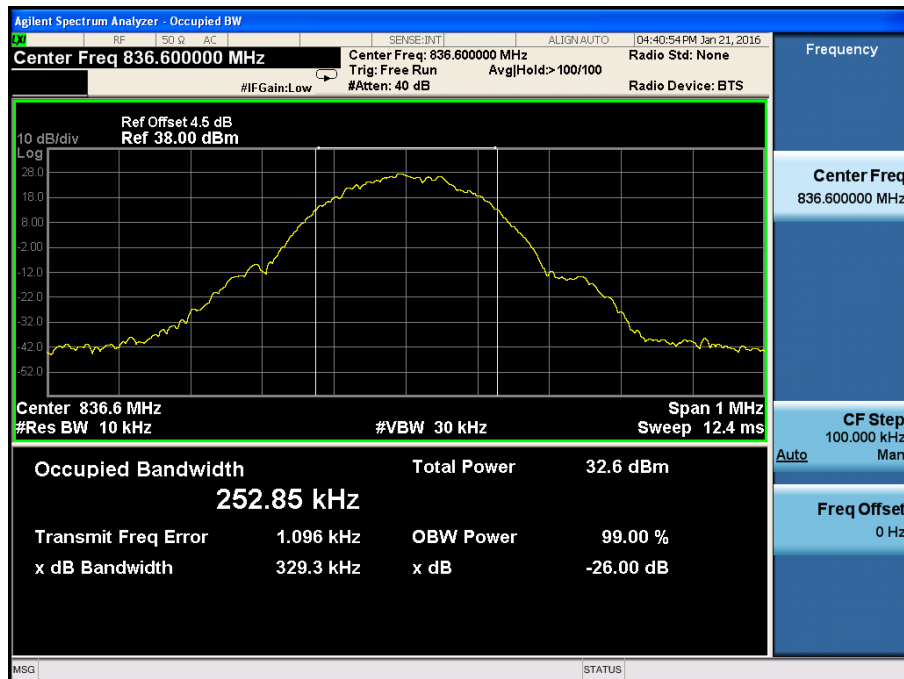
## GPRS High Channel



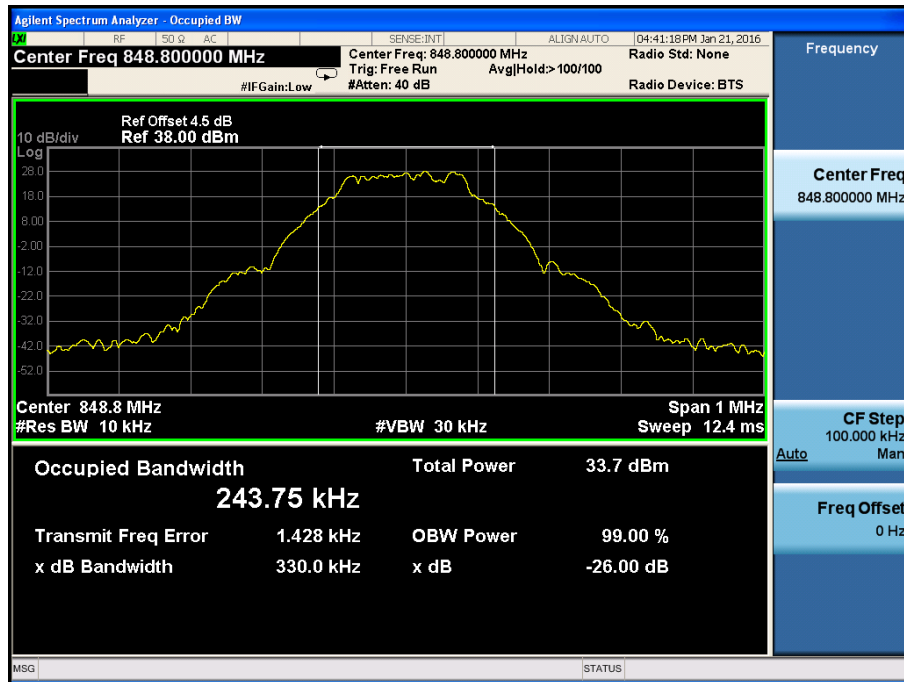
## EDGE Low Channel



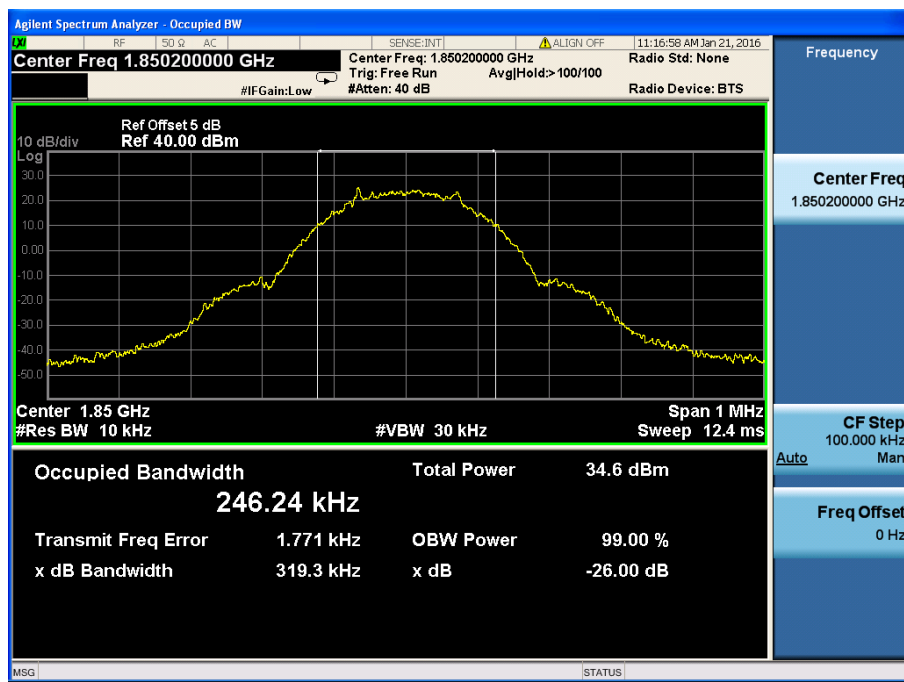
## EDGE Middle Channel



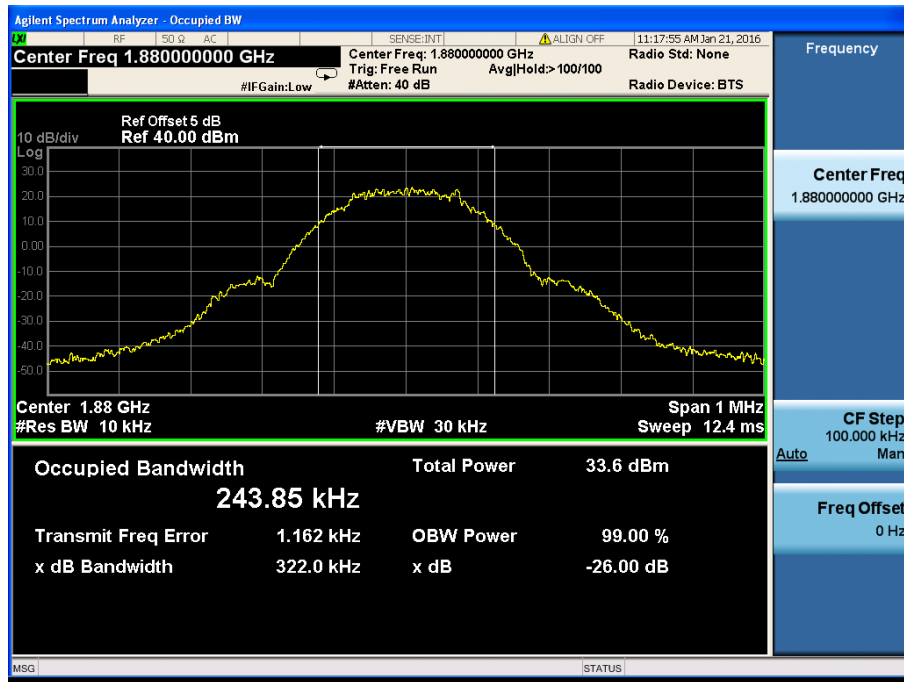
## EDGE High Channel



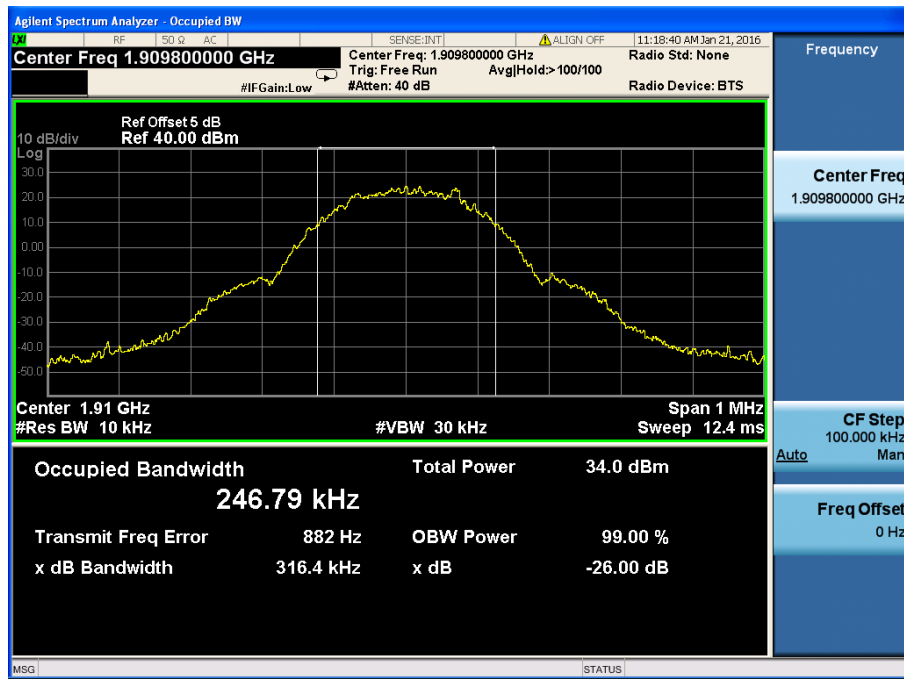
## For PCS Band GSM Low Channel



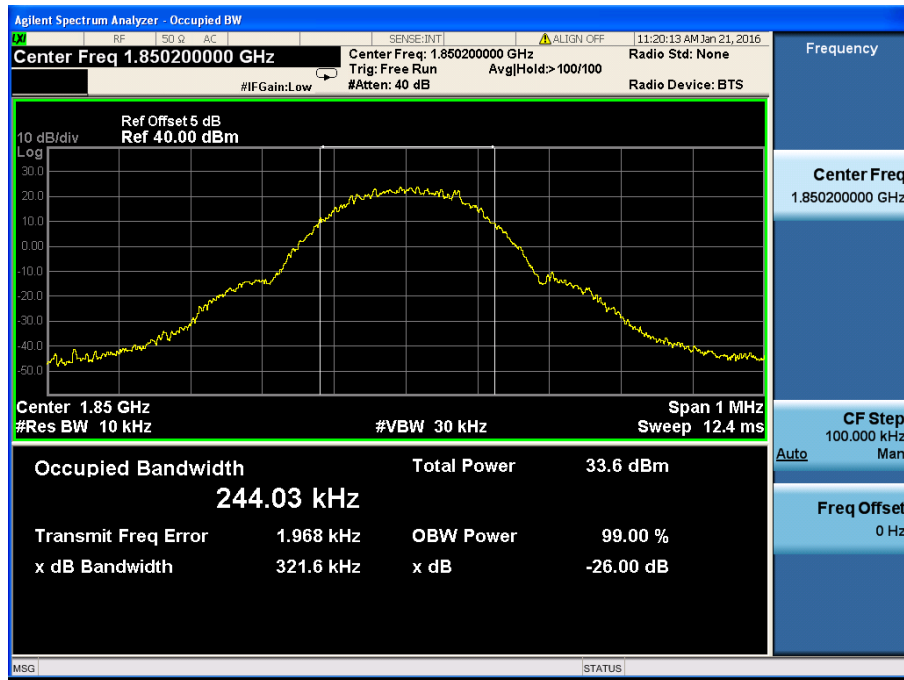
## GSM Middle Channel



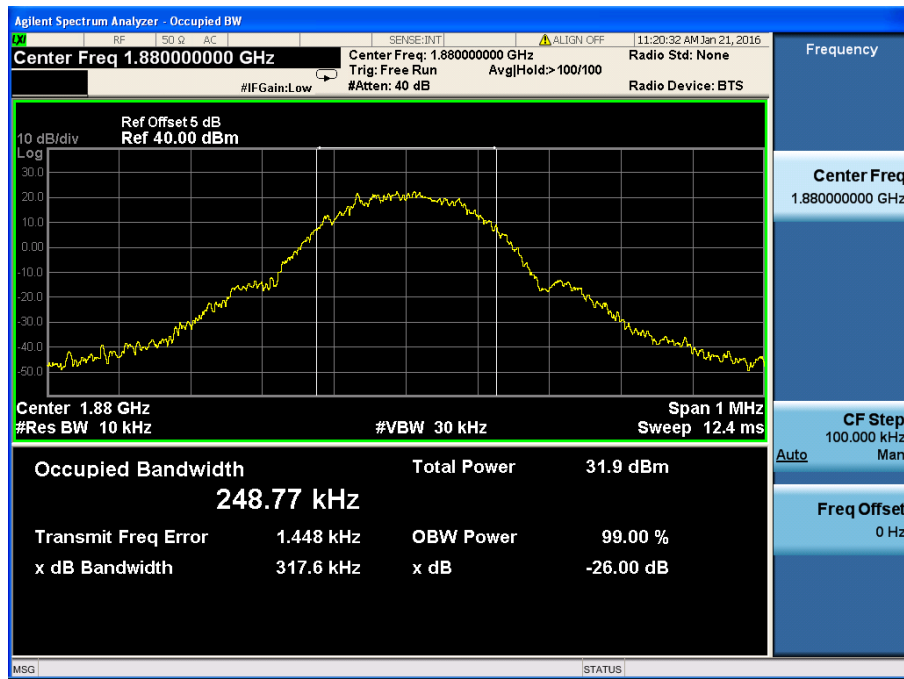
## GSM High channel



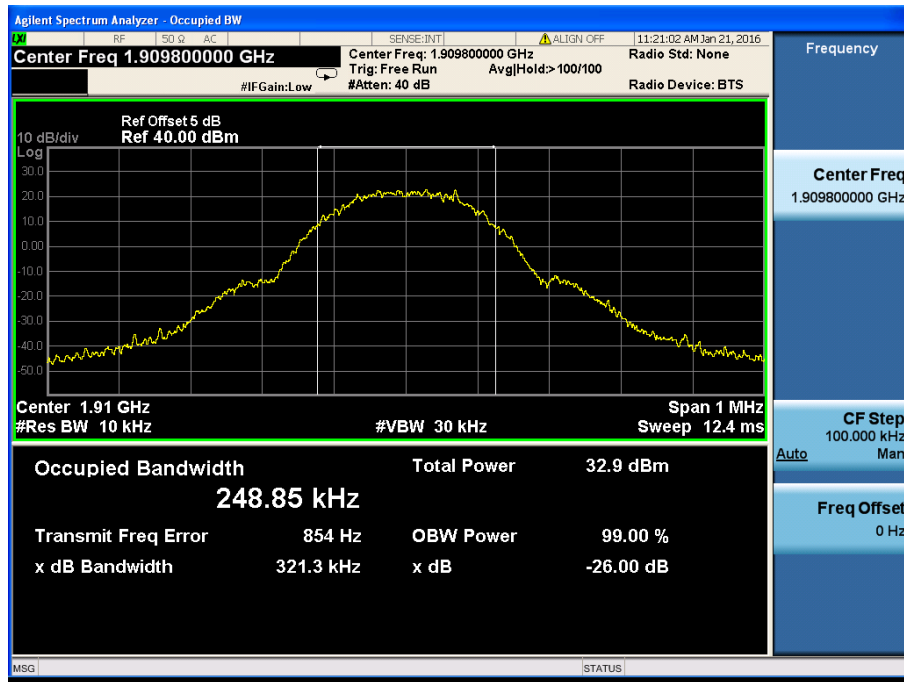
## GPRS Low Channel



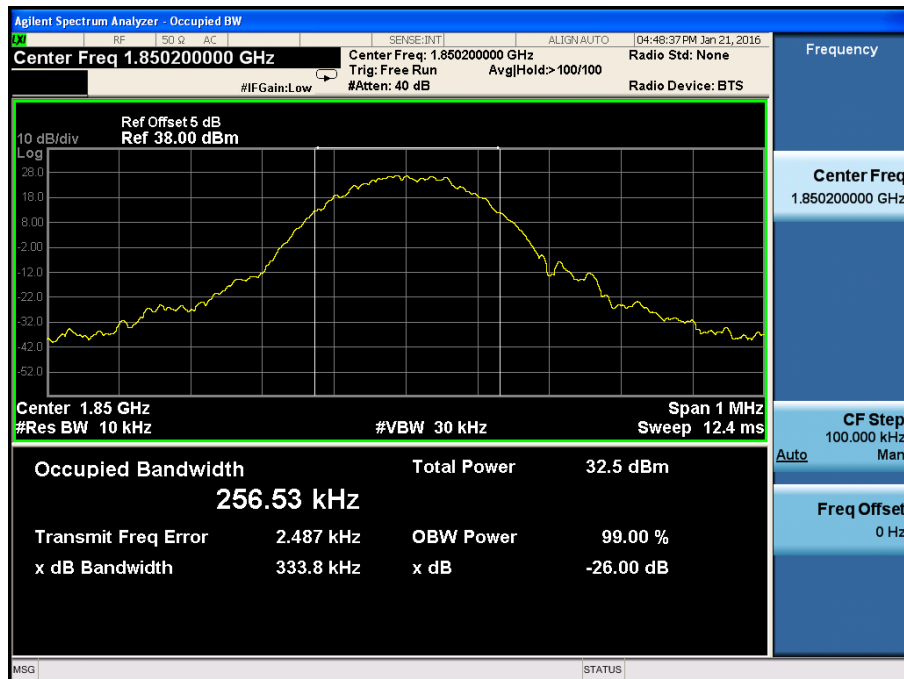
## GPRS Middle Channel



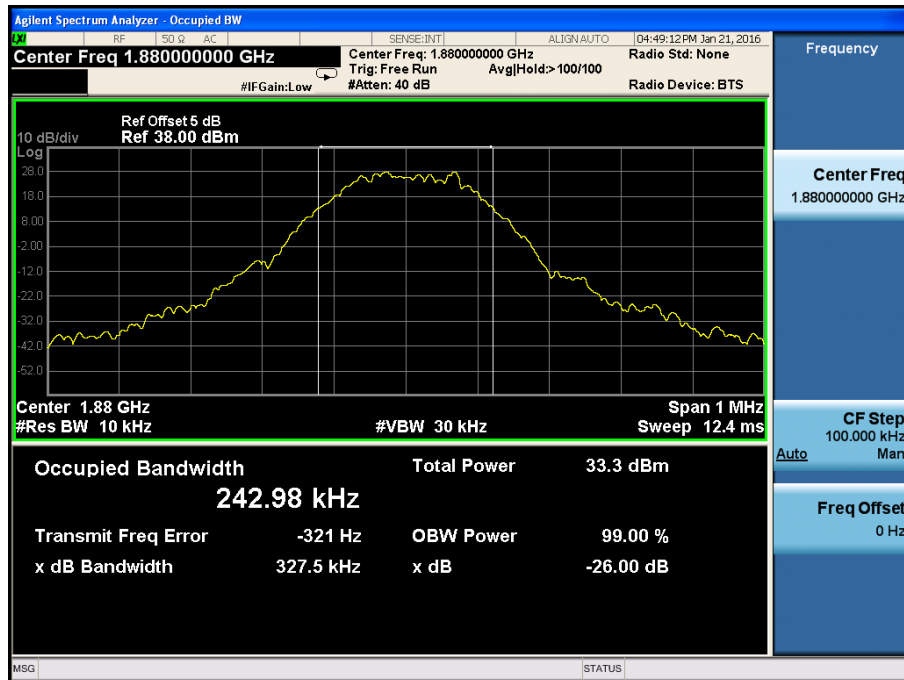
## GPRS High Channel



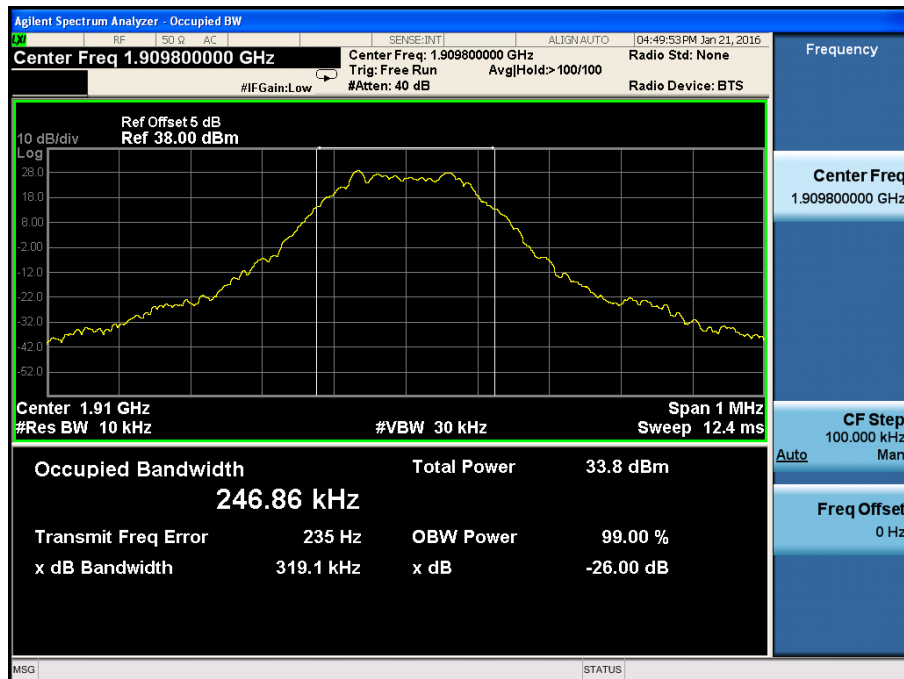
## EDGE Low Channel



## EDGE Middle Channel

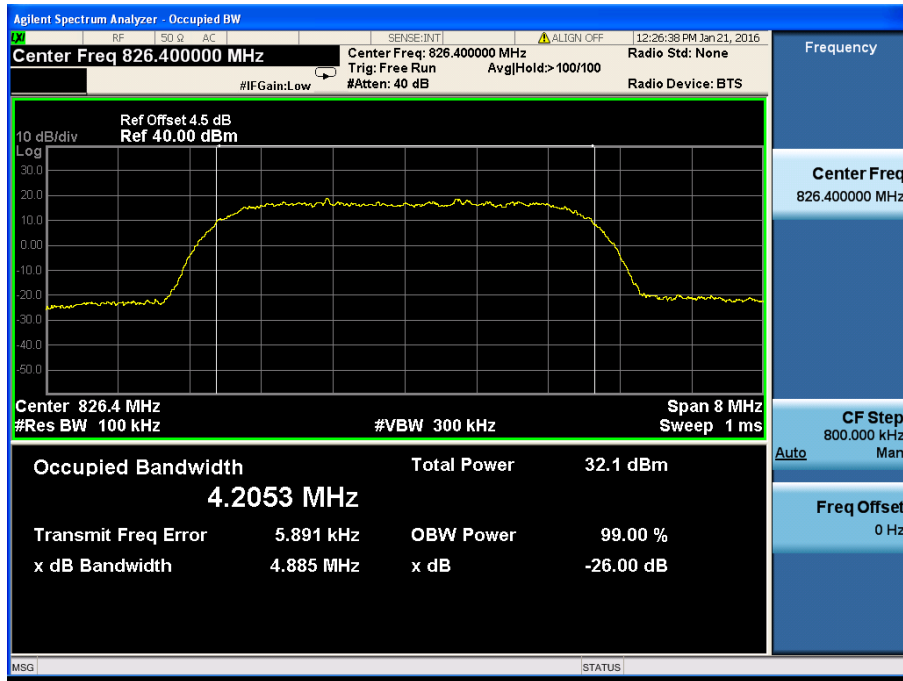


## EDGE High Channel

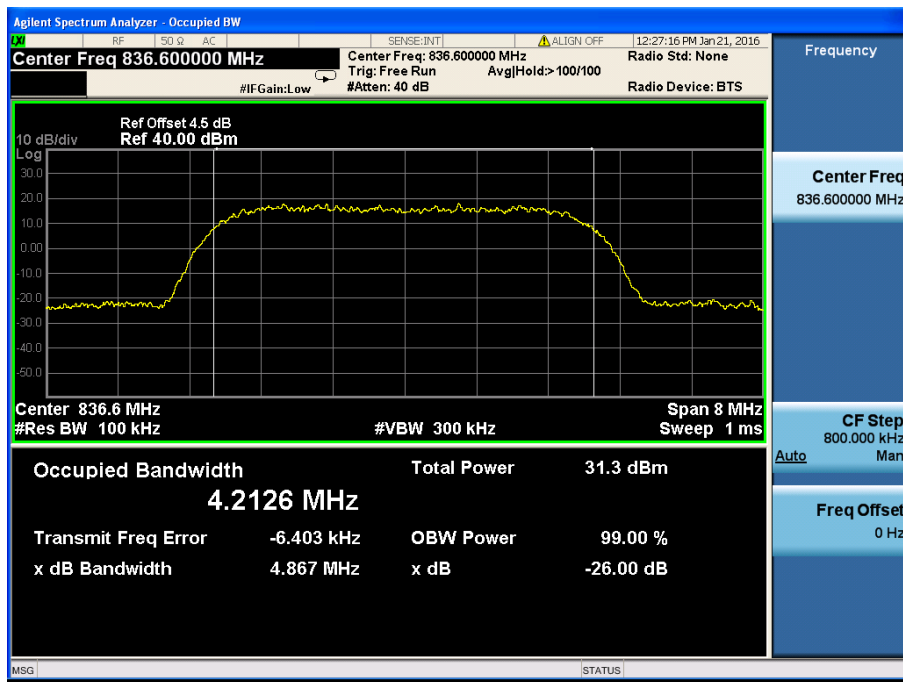


For Band V

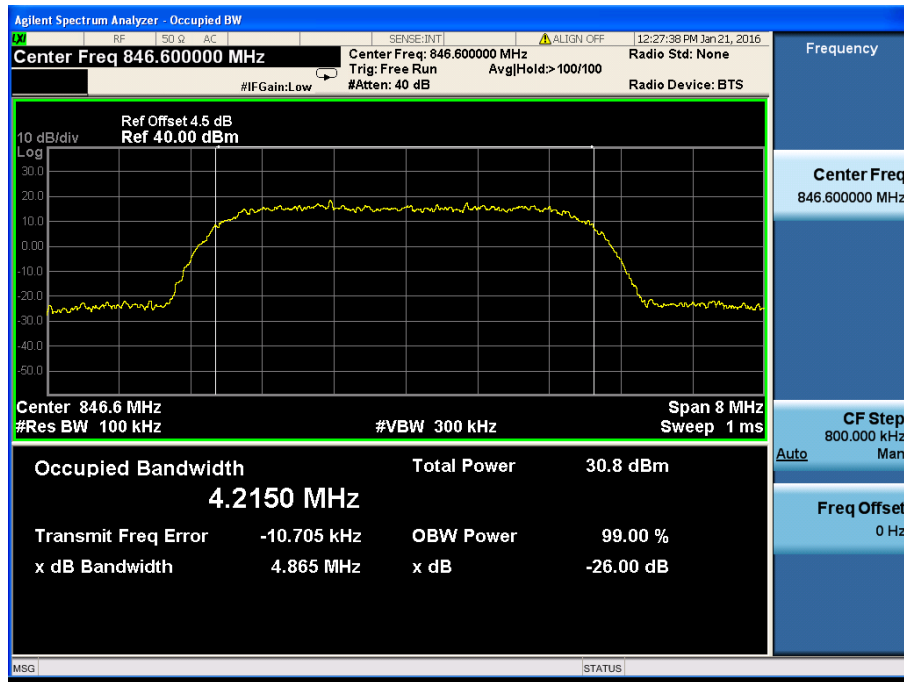
WCDMA Low Channel



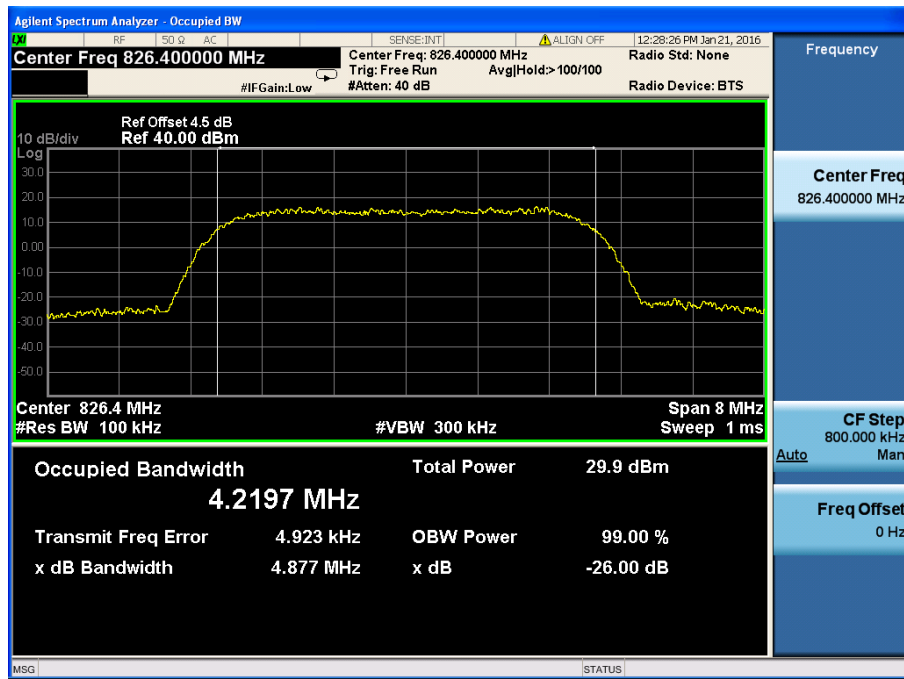
WCDMA Middle Channel



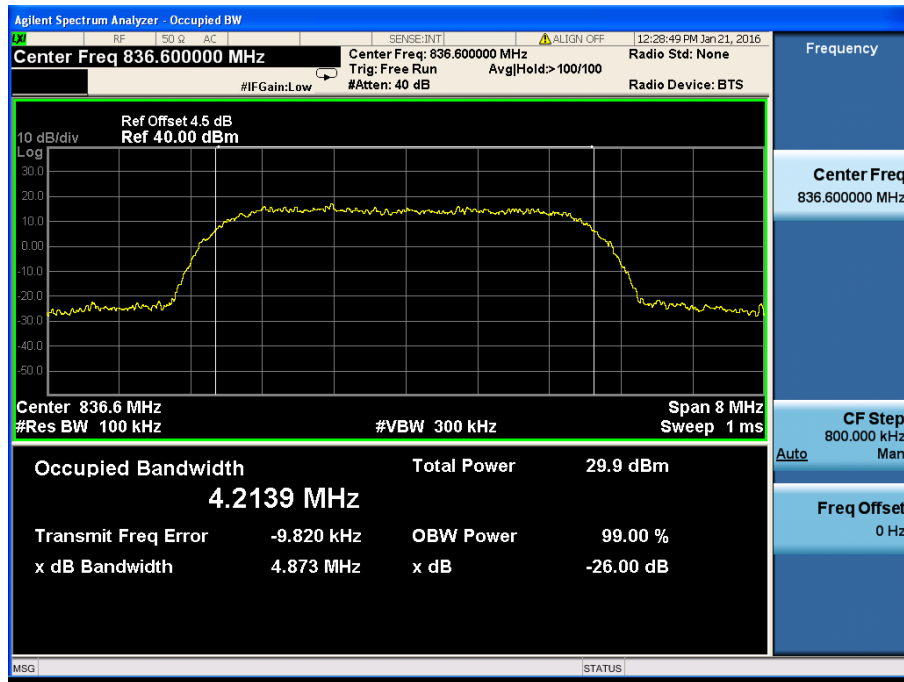
## WCDMA High Channel



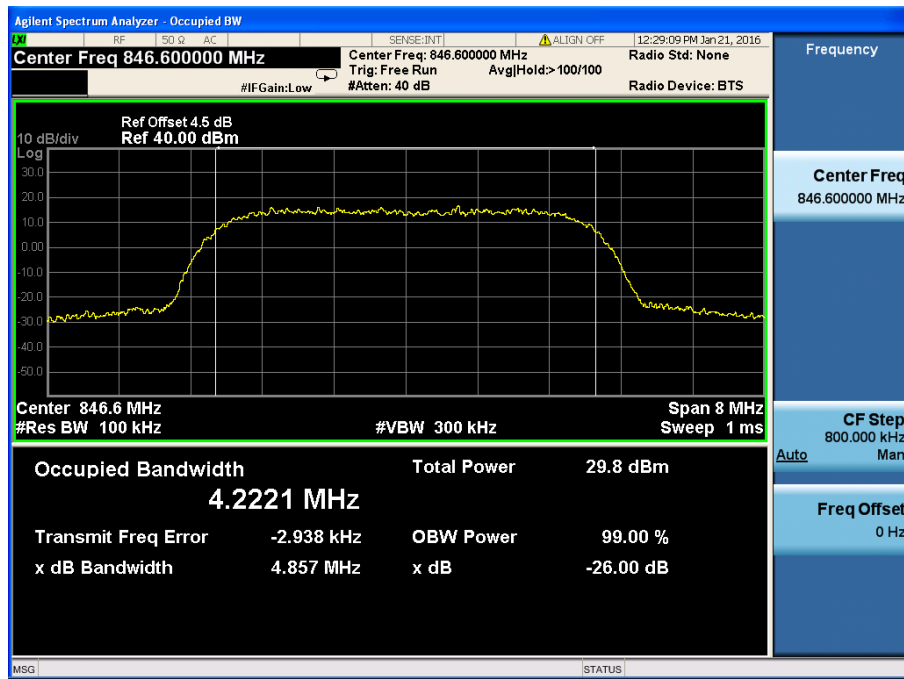
## HSDPA Low Channel



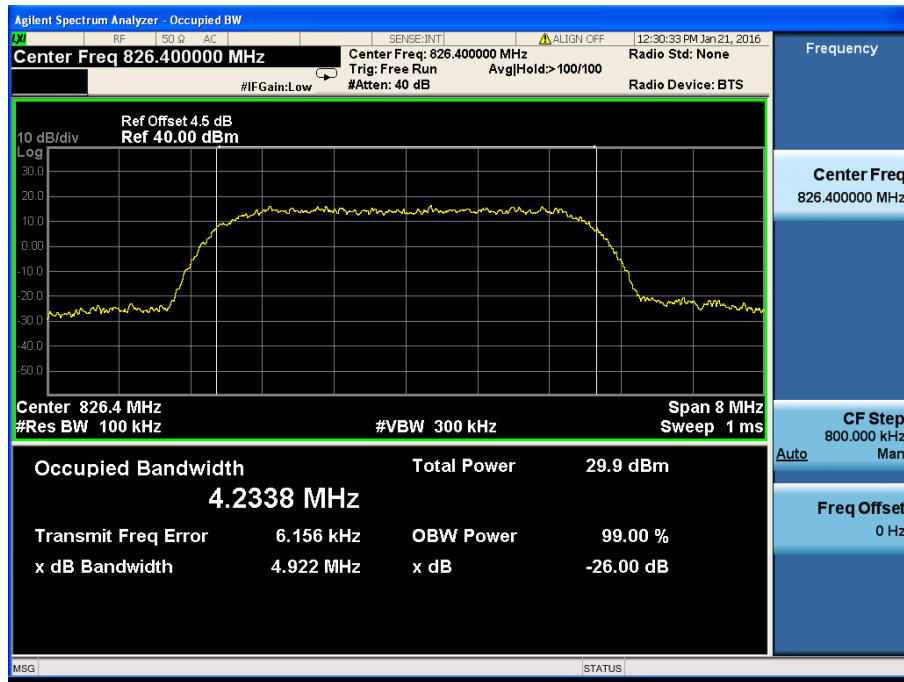
## HSDPA Middle Channel



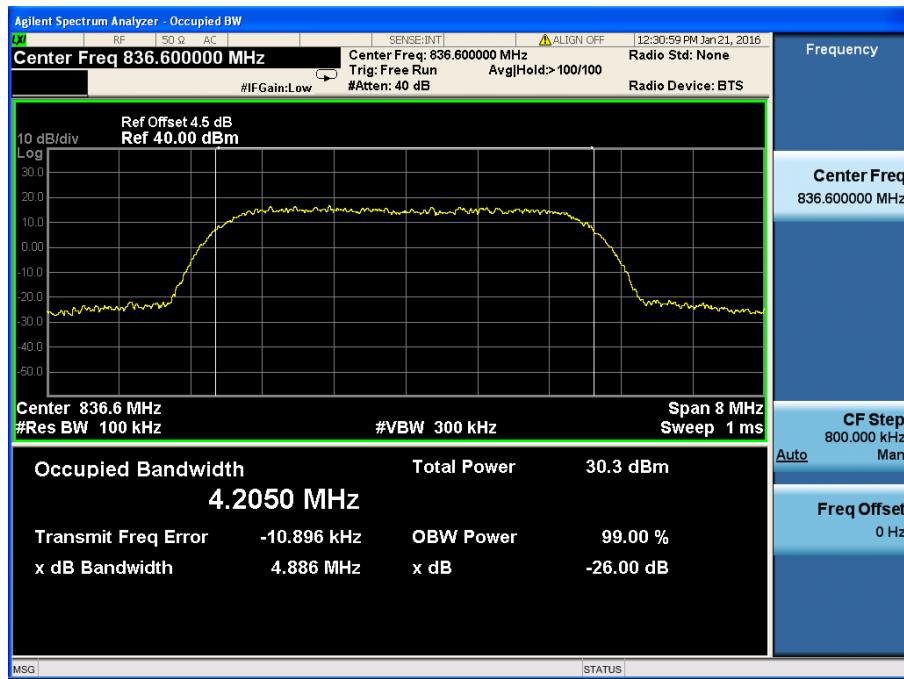
## HSDPA High Channel



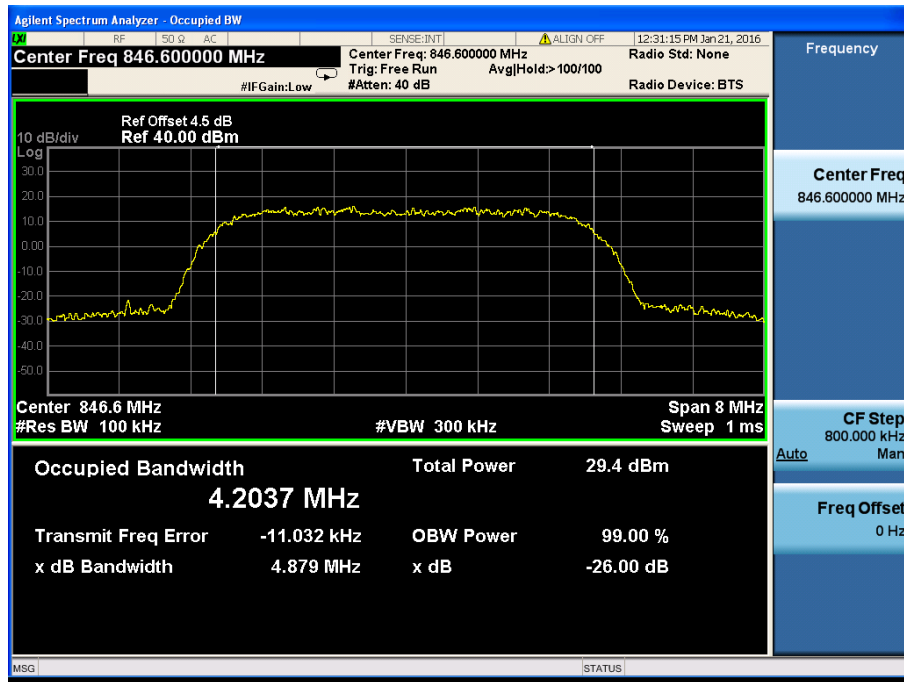
## HSUPA Low Channel



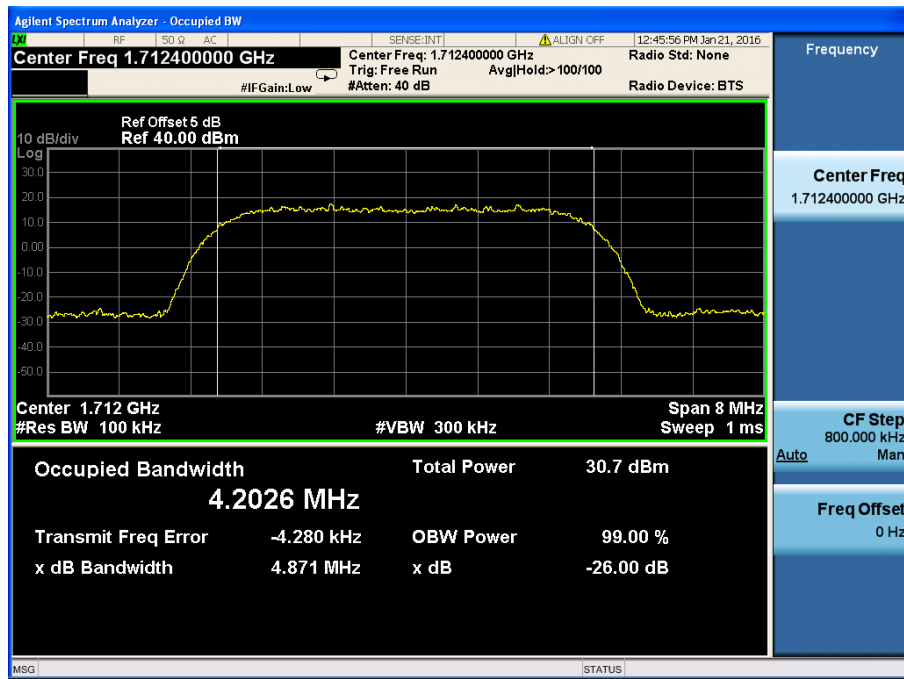
## HSUPA Middle Channel



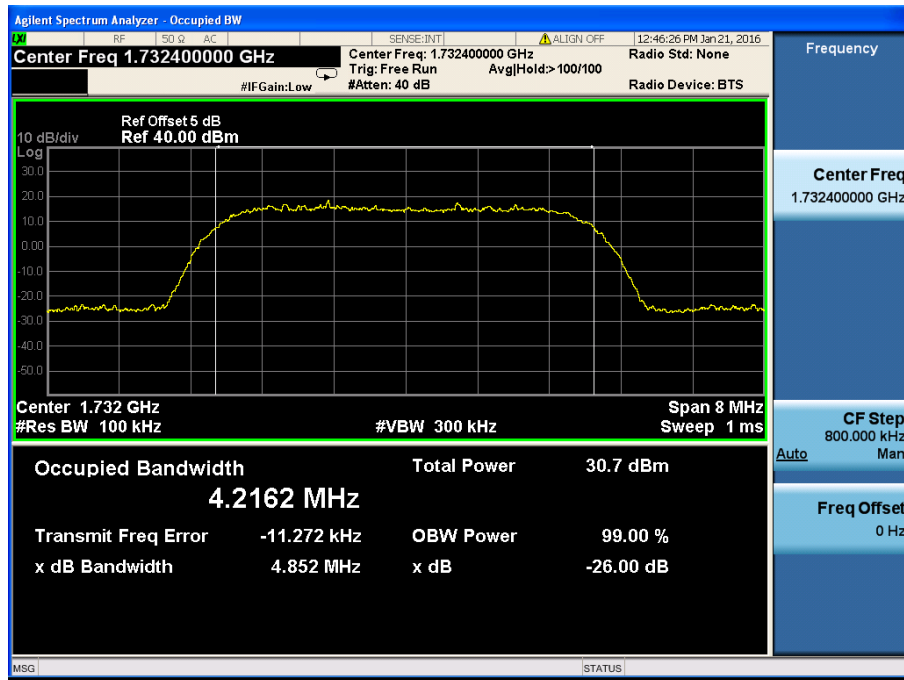
## HSUPA High Channel



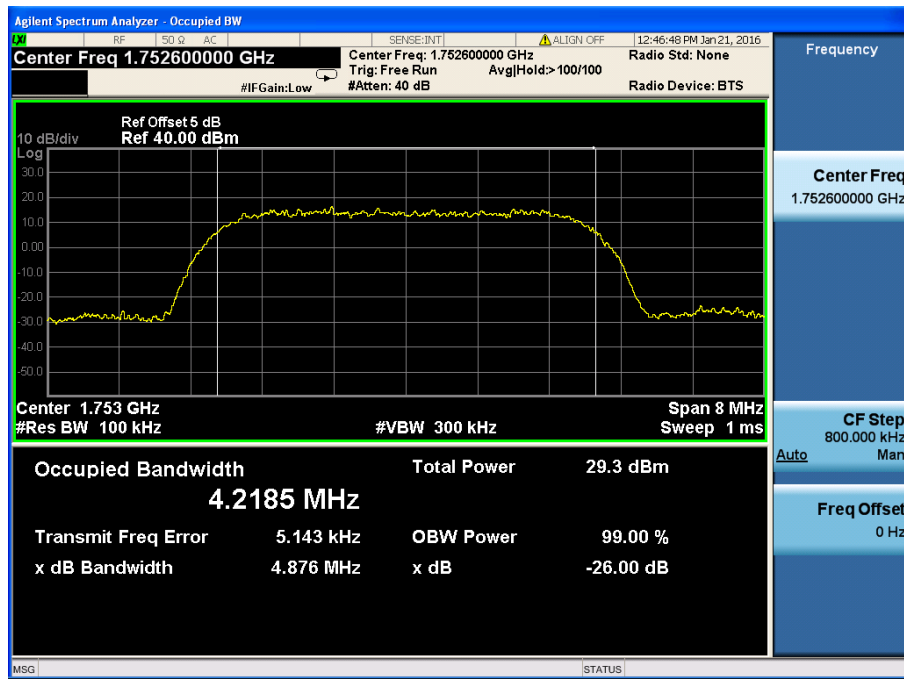
## For Band IV WCDMA Low Channel



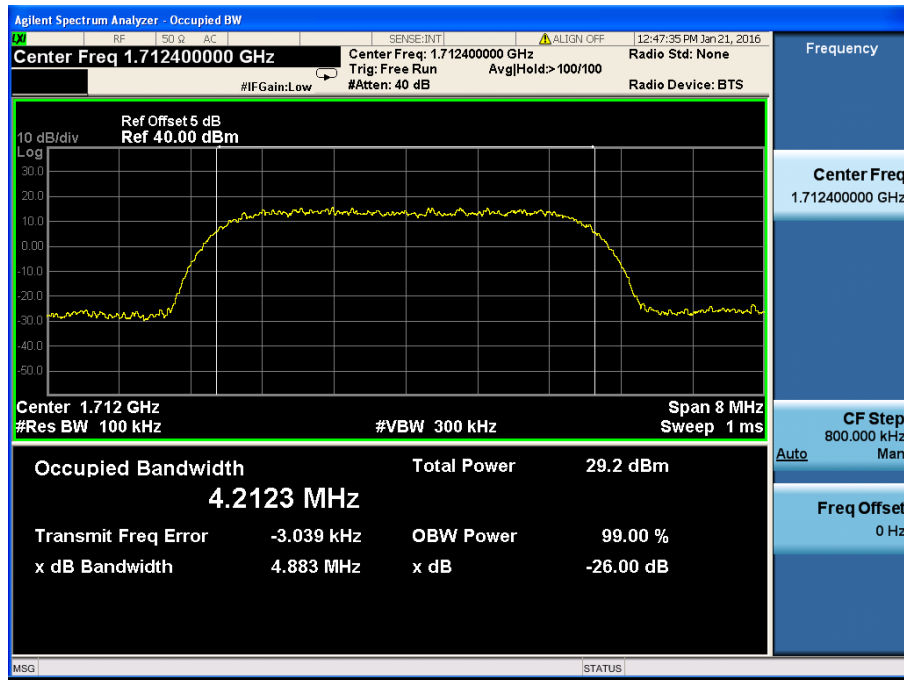
## WCDMA Middle Channel



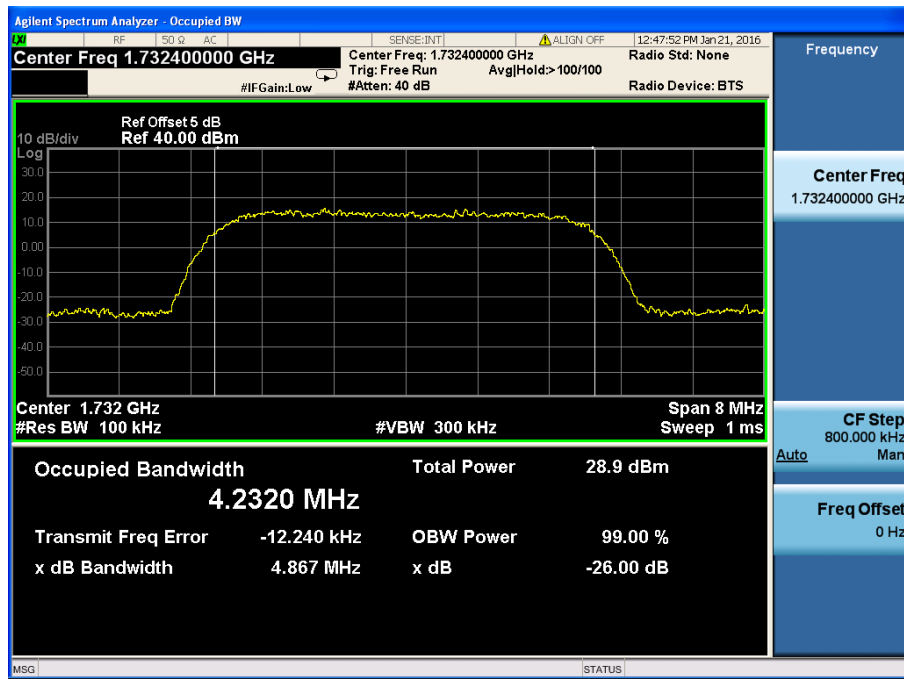
## WCDMA High Channel



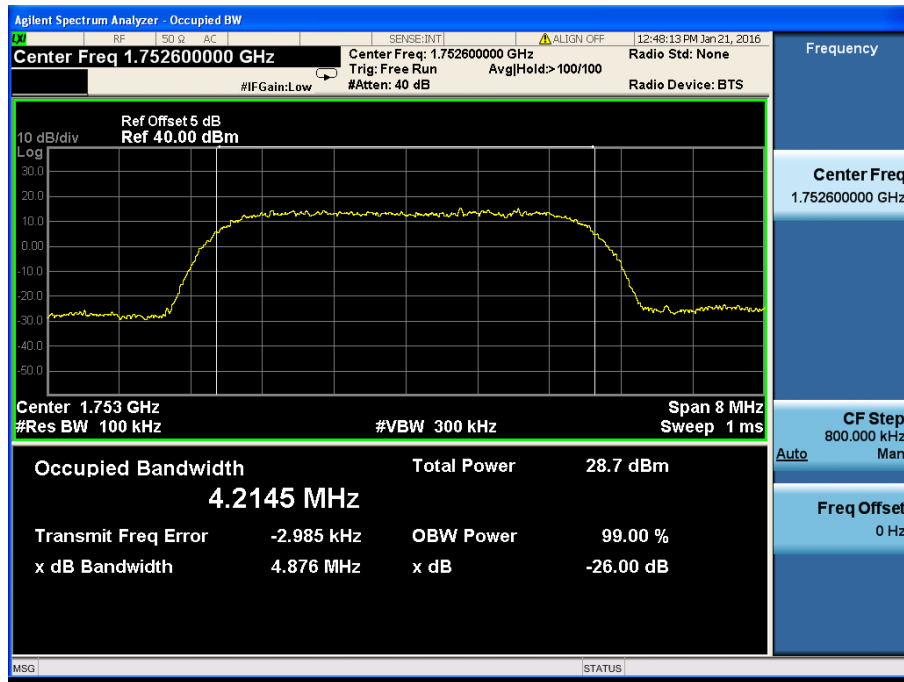
## HSDPA Low Channel



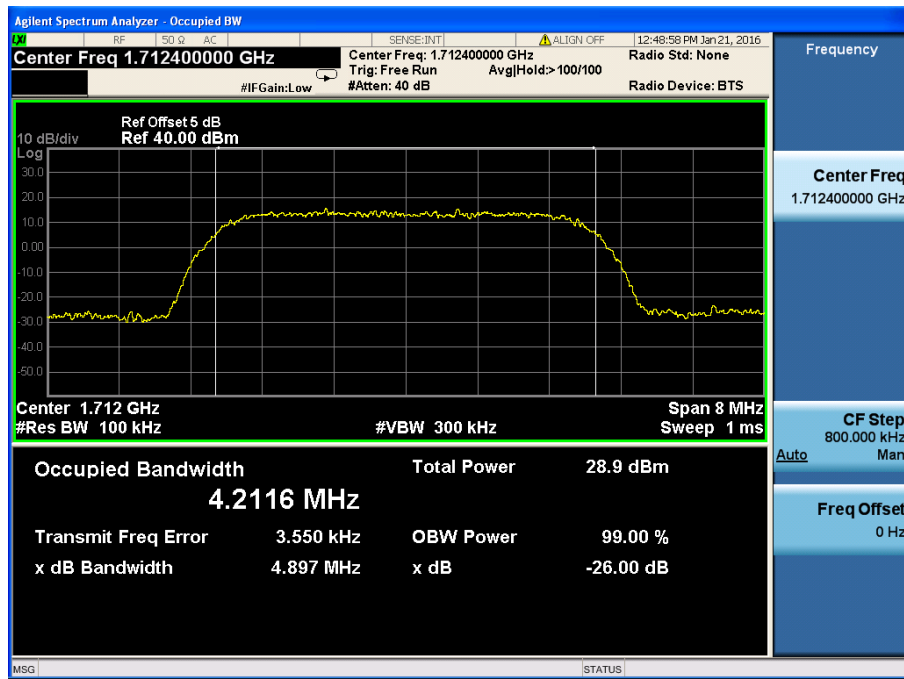
## HSDPA Middle Channel



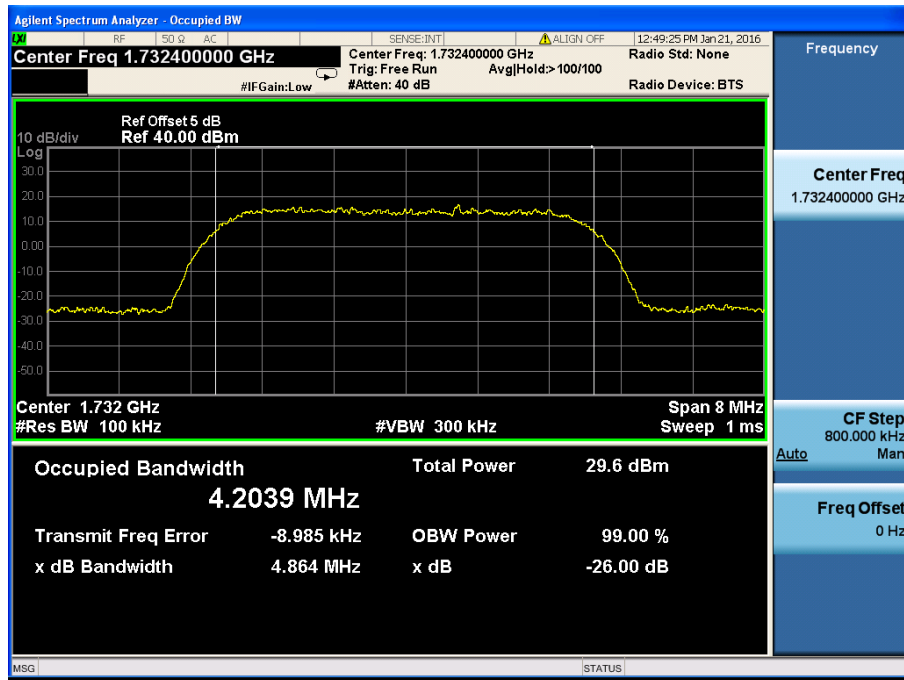
## HSDPA High Channel



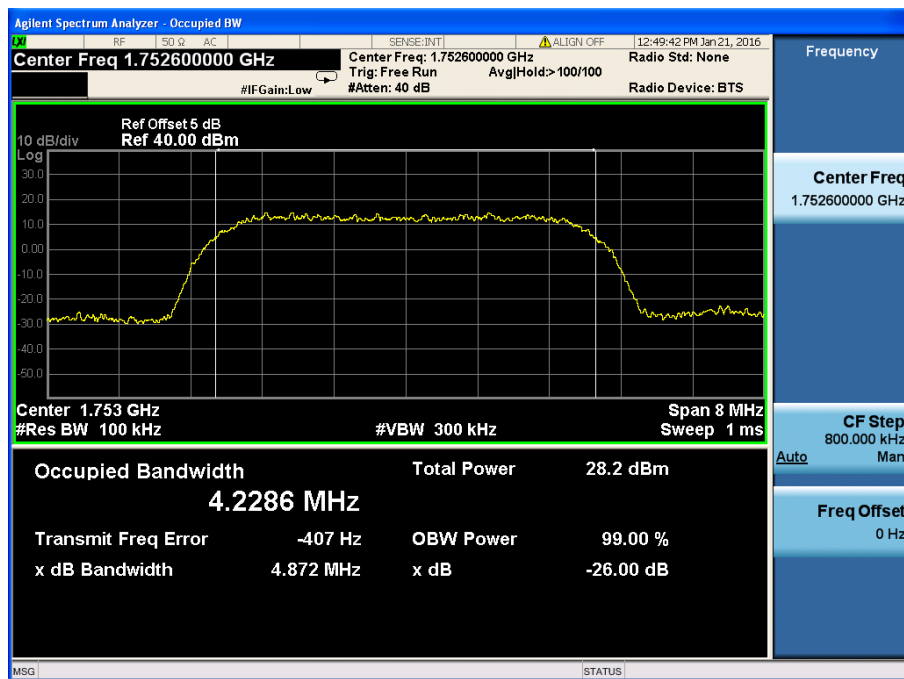
## HSUPA Low Channel



## HSUPA Middle Channel

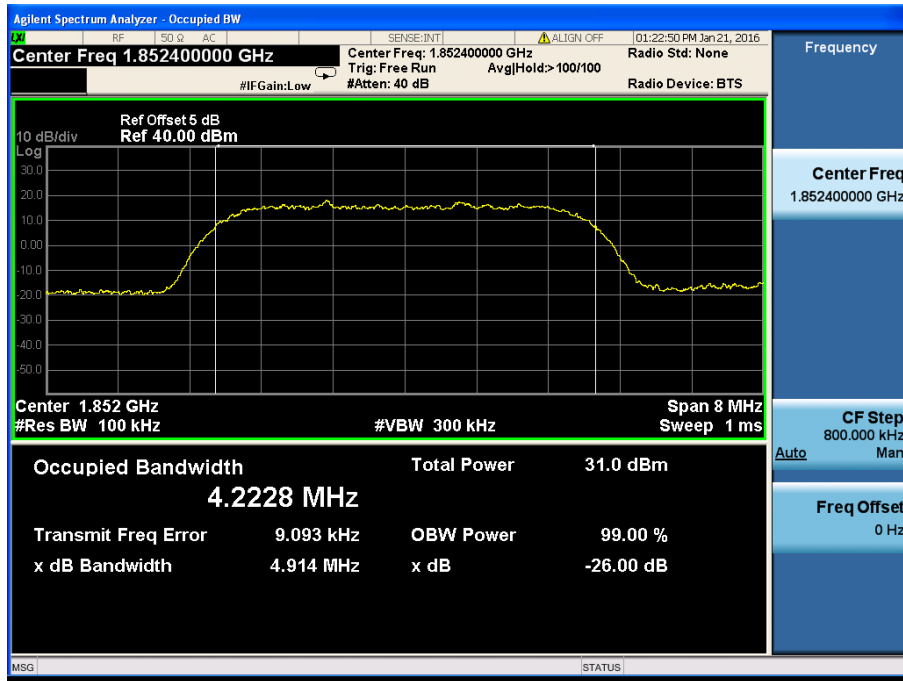


## HSUPA High Channel



For Band II

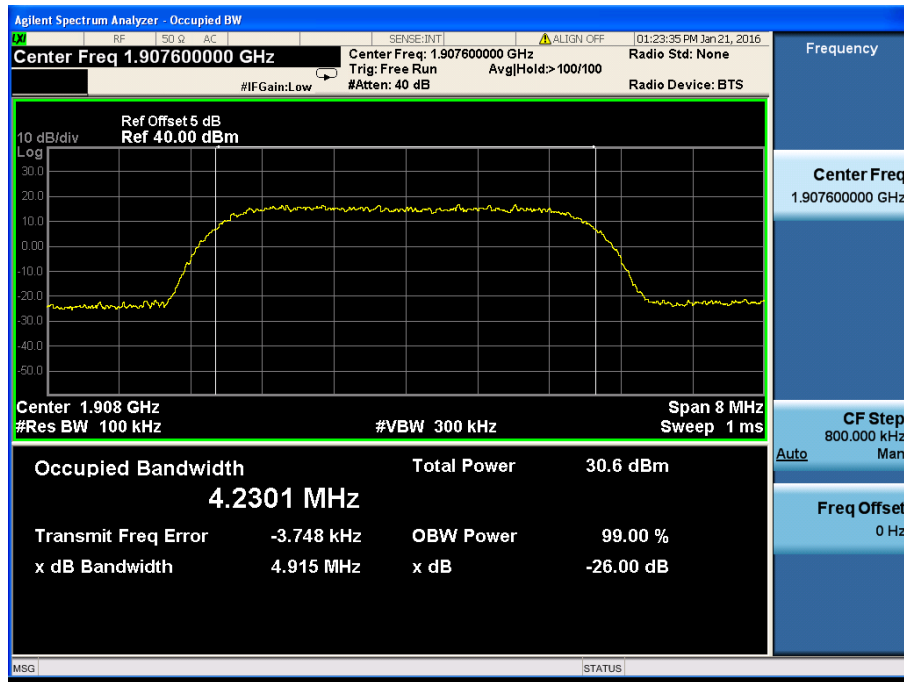
WCDMA Low Channel



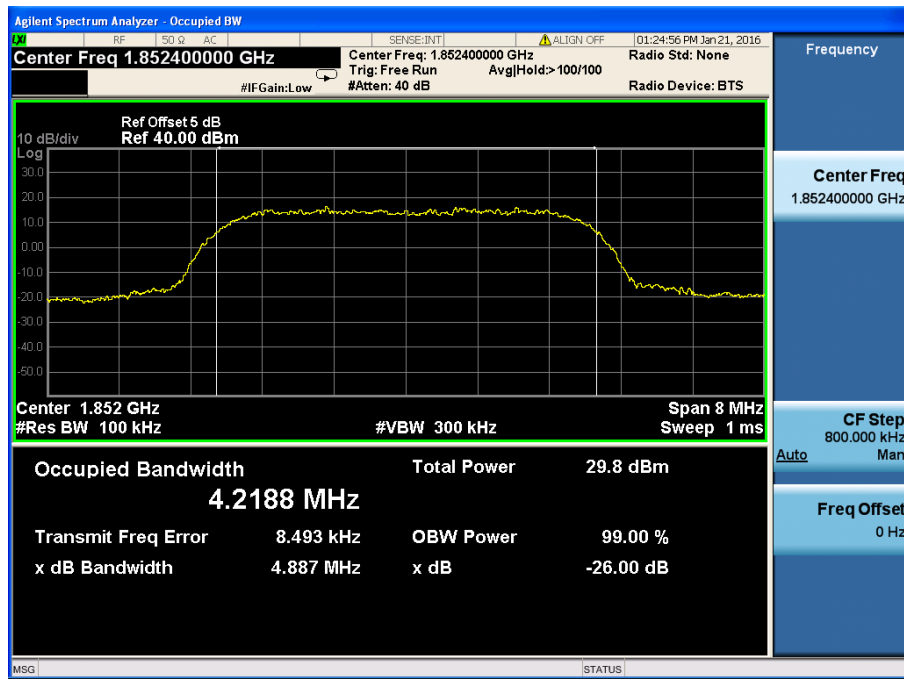
WCDMA Middle Channel



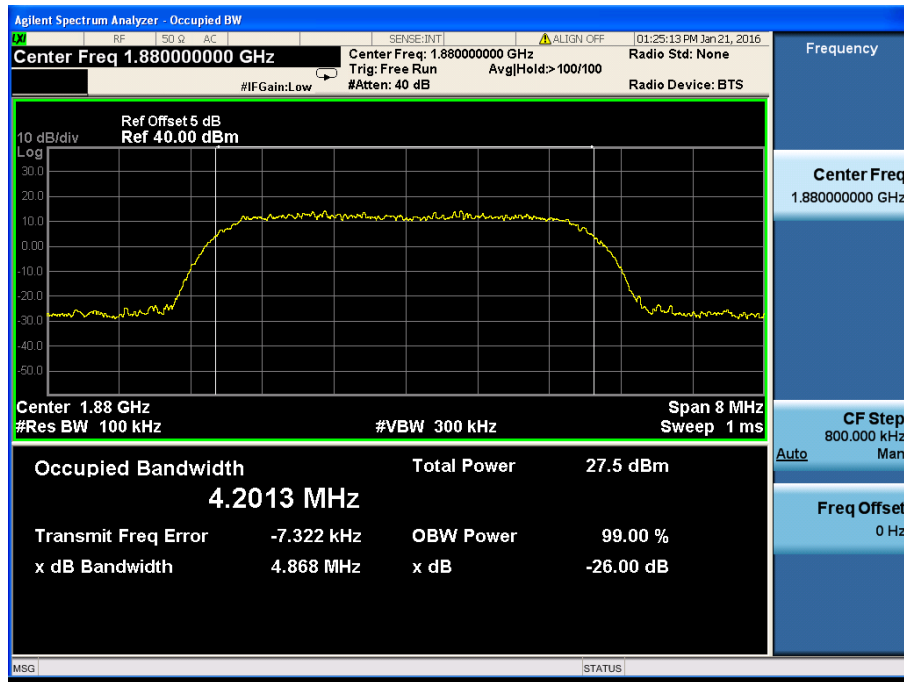
## WCDMA High Channel



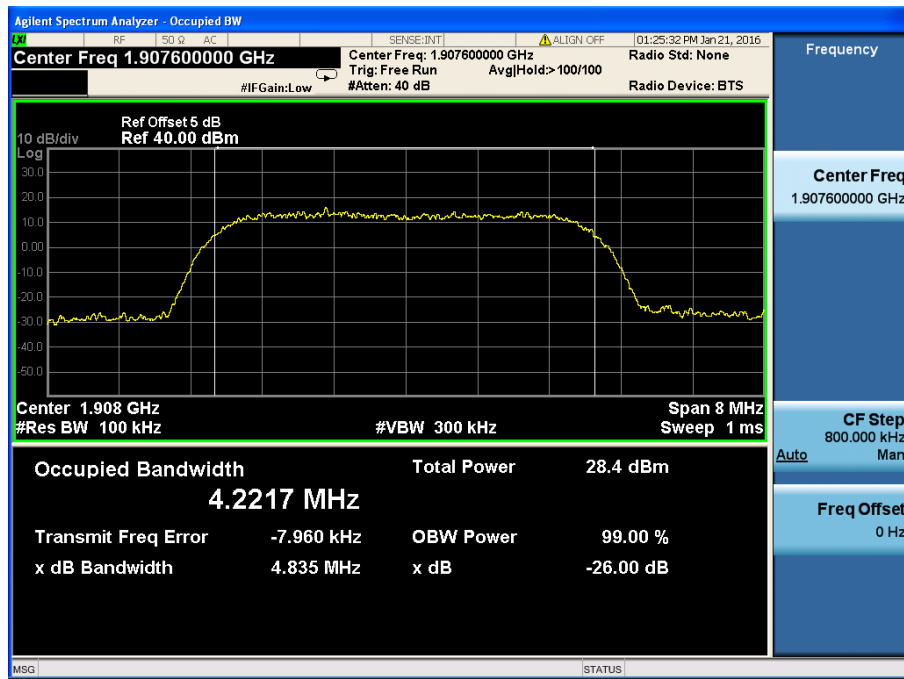
## HSDPA Low Channel



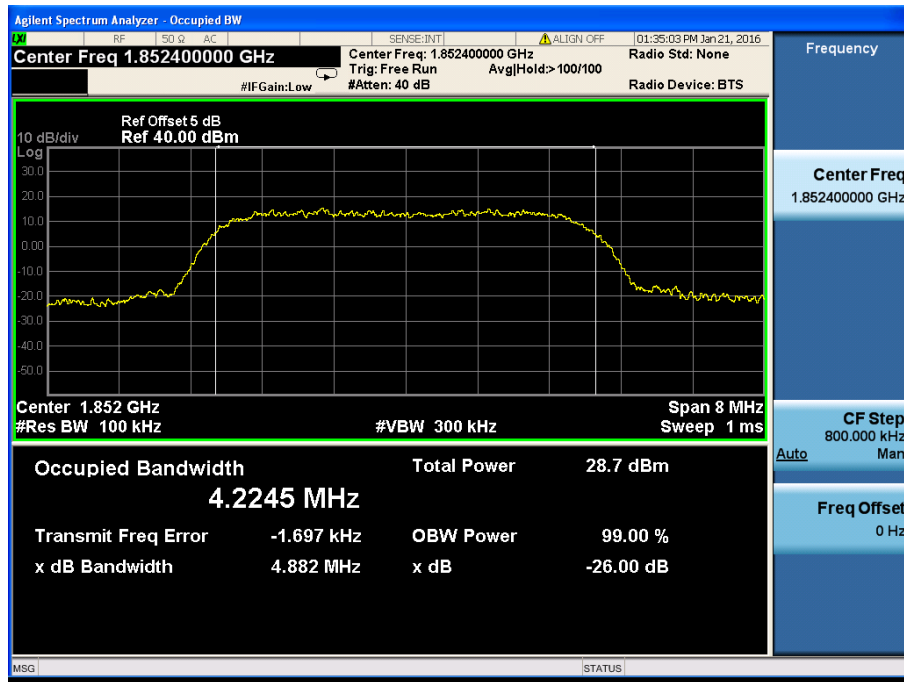
## HSDPA Middle Channel



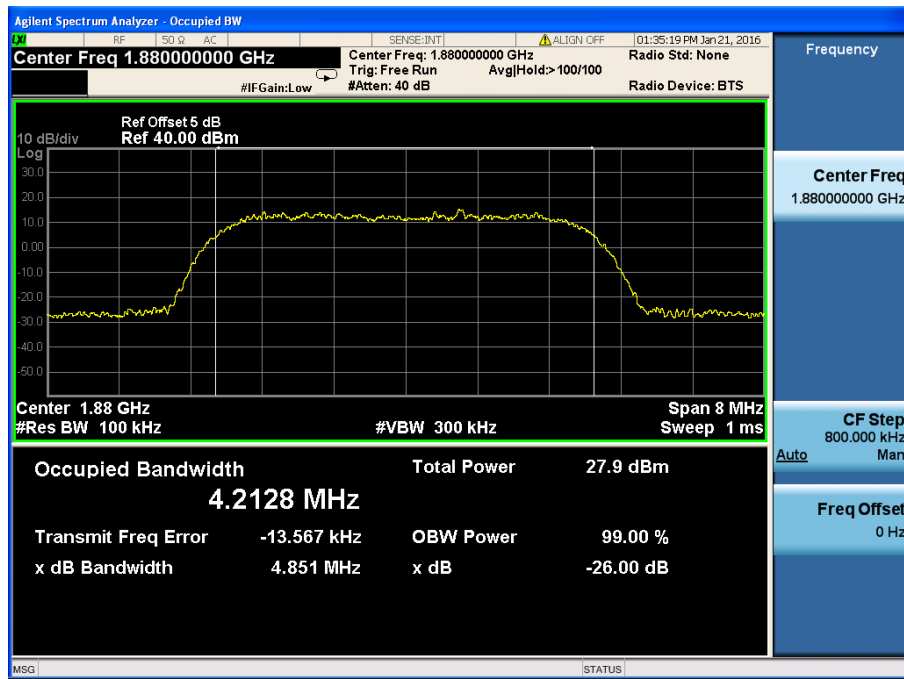
## HSDPA High Channel



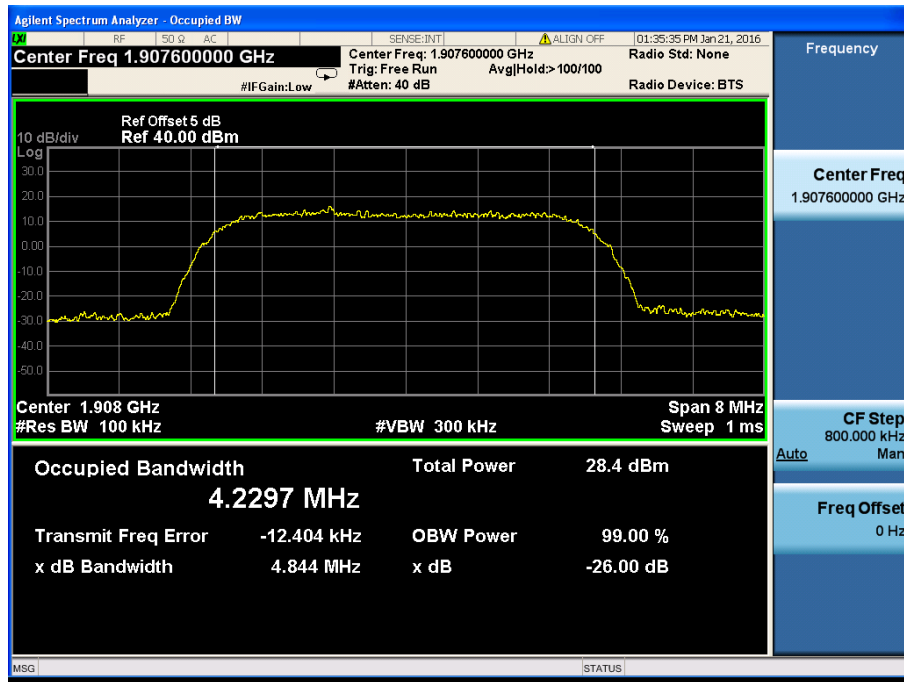
## HSUPA Low Channel



## HSUPA Middle Channel



## HSUPA High Channel



## 7. Out of Band Emissions at Antenna Terminal

### 7.1 Standard Applicable

According to §22.917(a), the power of any emissions outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log(P)$  dB.

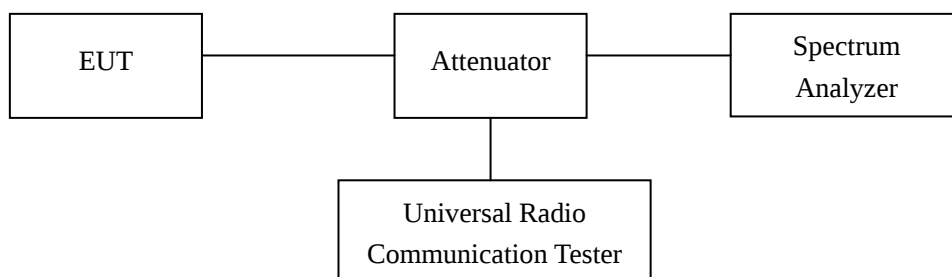
According to §24.238(a), the power of any emissions outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log(P)$  dB.

According to §27.53 (h), the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least  $43 + 10 \log_{10}(P)$  dB.

### 7.2 Test Procedure

The RF output terminal of the transmitter was connected to the input of the spectrum analyzer via a suitable attenuation. The RBW of the spectrum analyzer was set to 100kHz and 1MHz for the scan frequency from 30MHz to 1GHz and the scan frequency from 1GHz to up to 10<sup>th</sup> harmonic.

Test Configuration for the out of band emissions testing:



### 7.3 Environmental Conditions

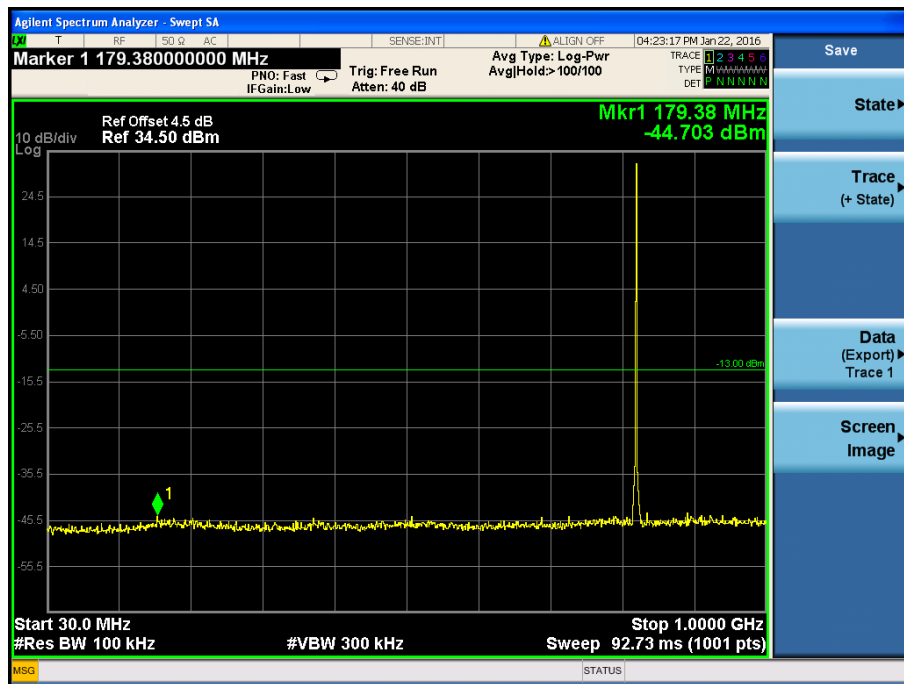
|                    |           |
|--------------------|-----------|
| Temperature:       | 25 °C     |
| Relative Humidity: | 53%       |
| ATM Pressure:      | 1018 mbar |

## 7.4 Summary of Test Results/Plots

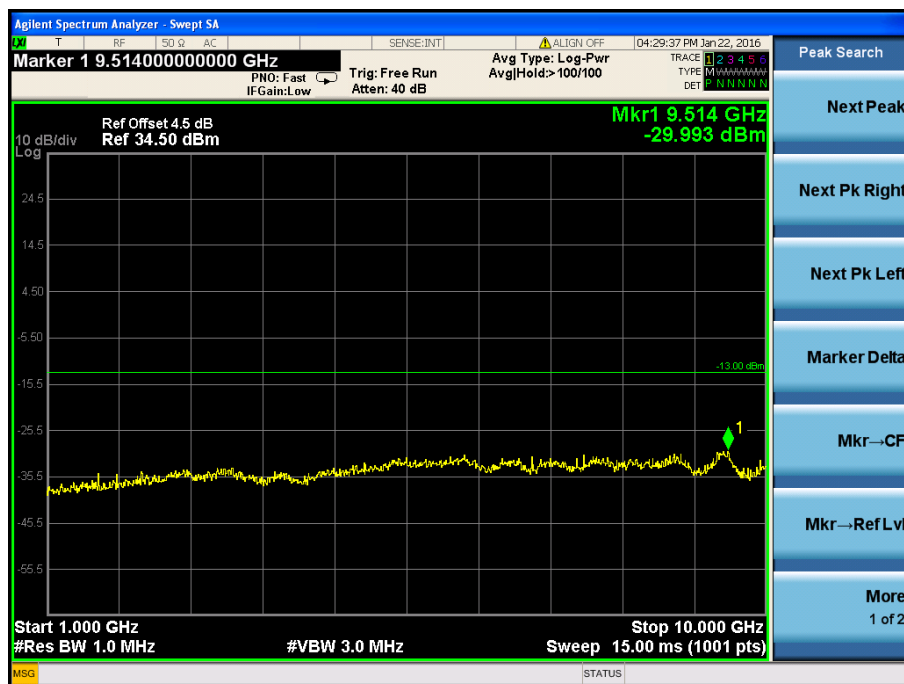
Please refer to the following test plots For Cellular Band

GSM Low Channel

30MHz to 1GHz

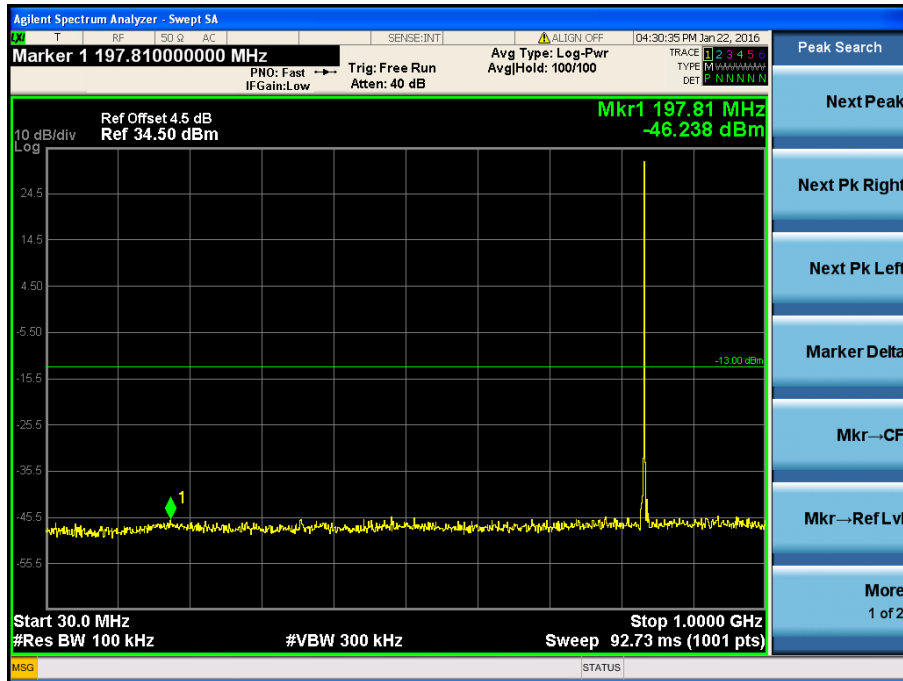


Above 1GHz

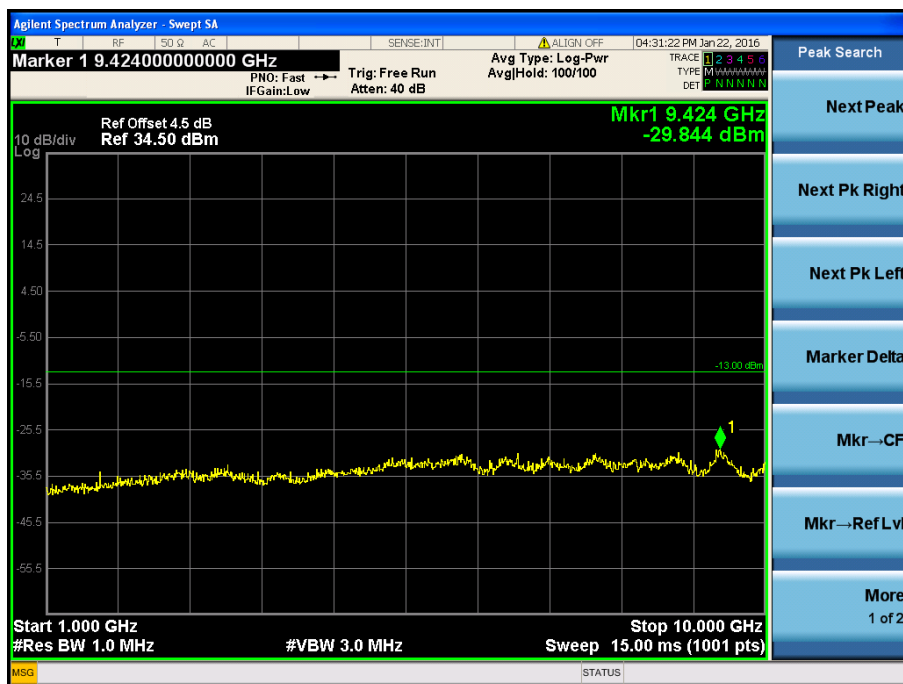


## GSM Middle Channel

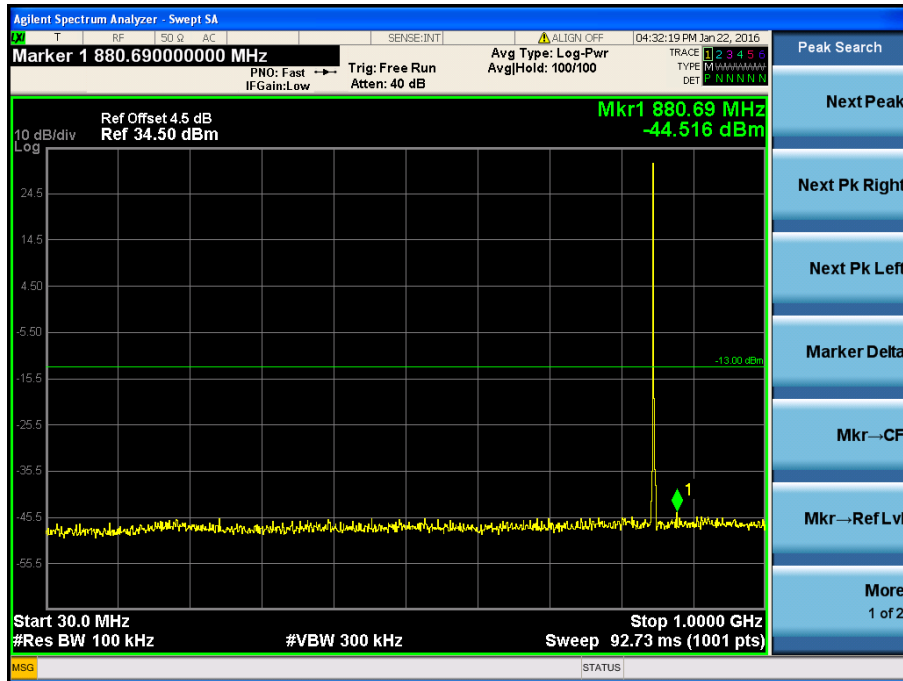
30MHz to 1GHz



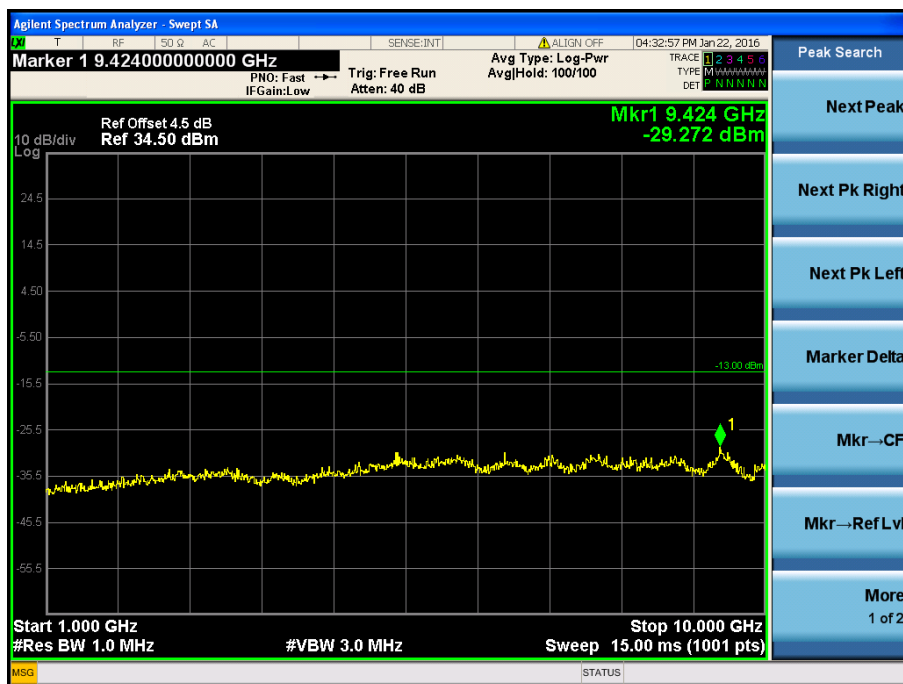
Above 1GHz



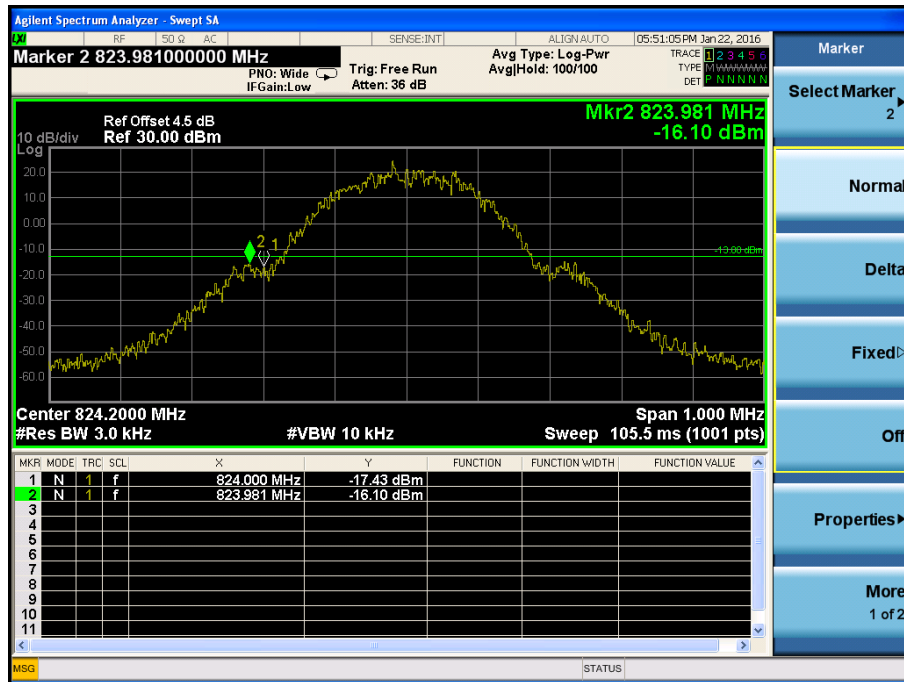
## GSM High Channel 30MHz to 1GHz



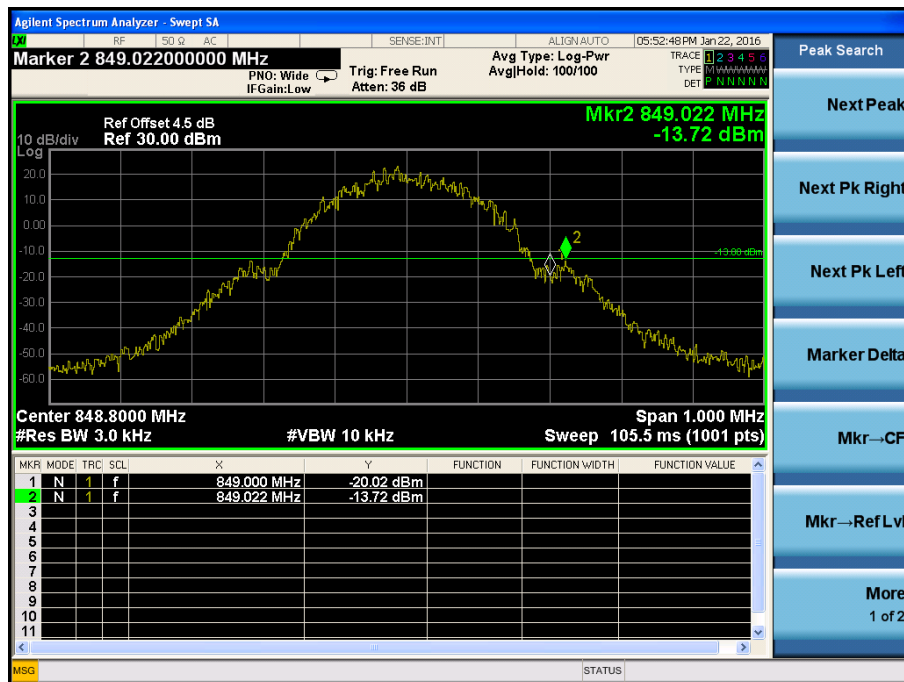
## Above 1GHz



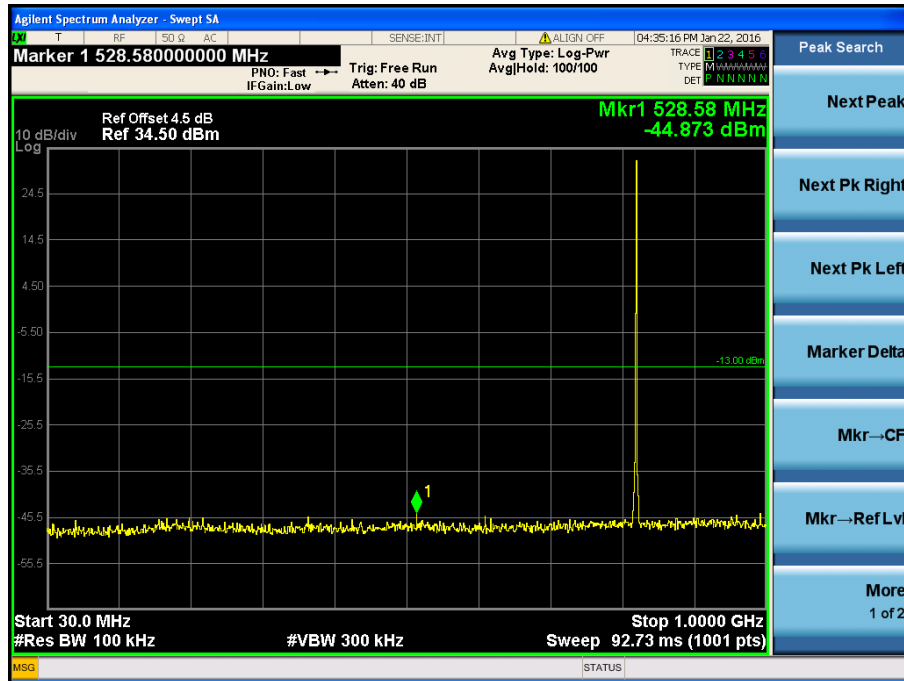
## GSM Low Band Emission



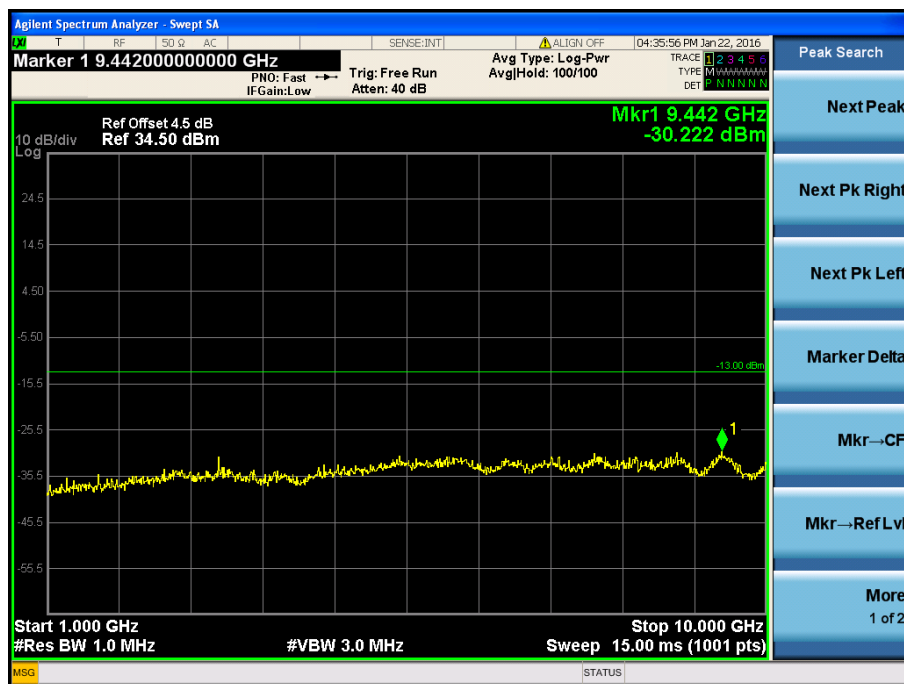
## GSM High Band Emission



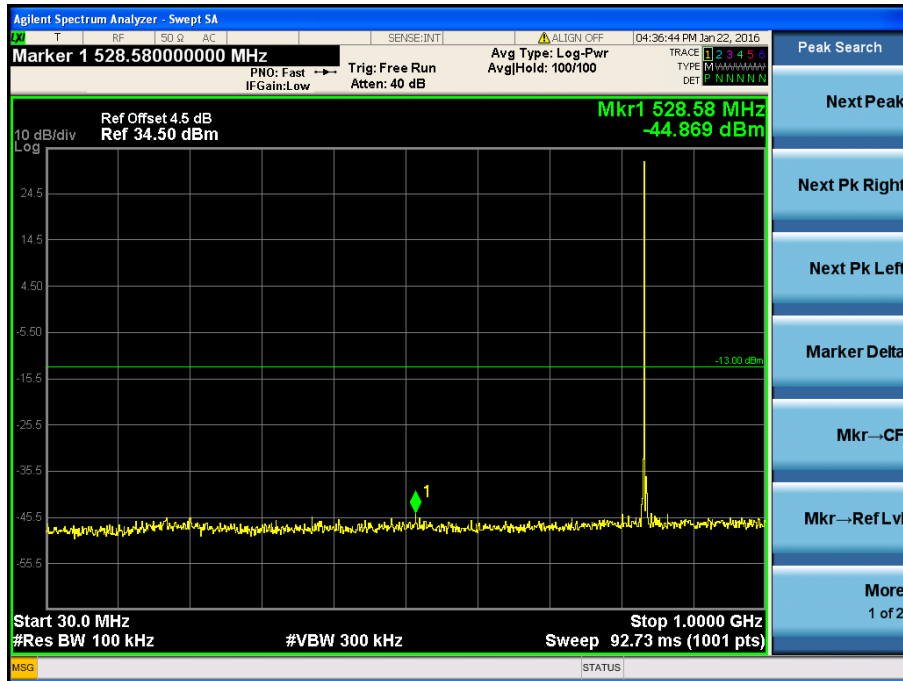
GPRS Low Channel  
30MHz to 1GHz



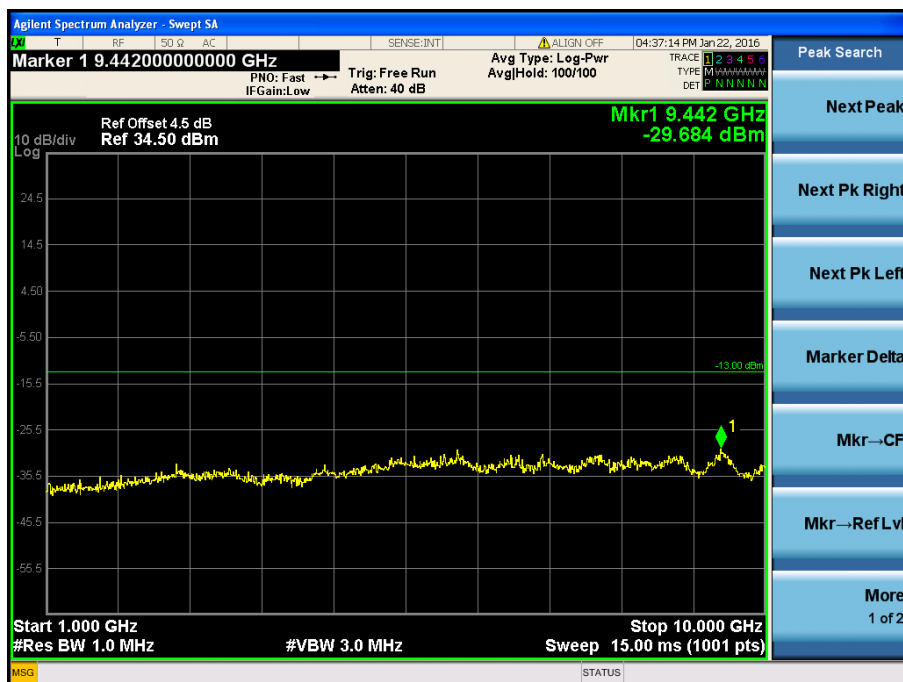
Above 1GHz



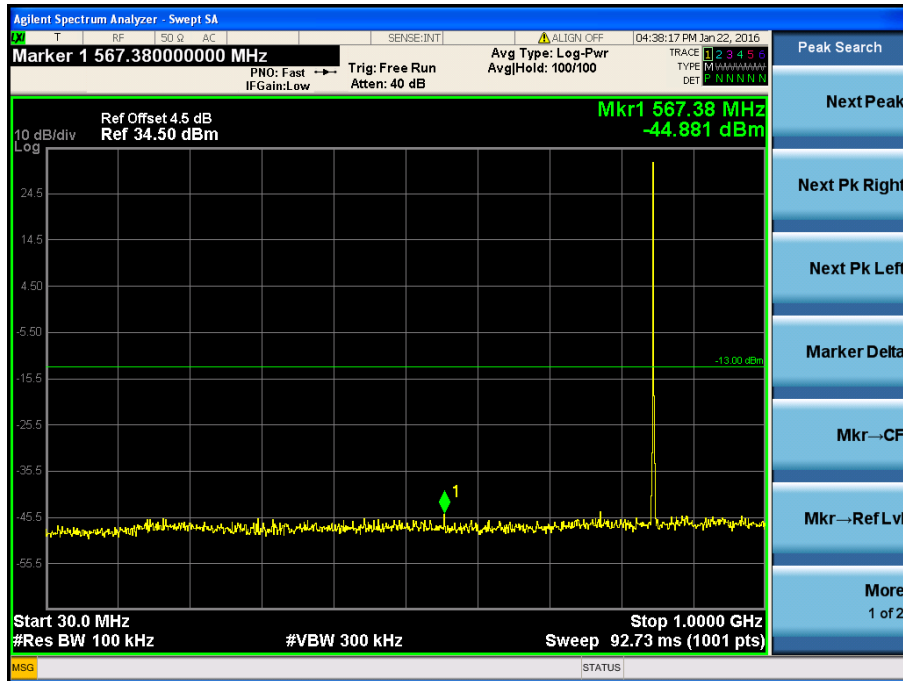
## GPRS Middle Channel 30MHz to 1GHz



## Above 1GHz



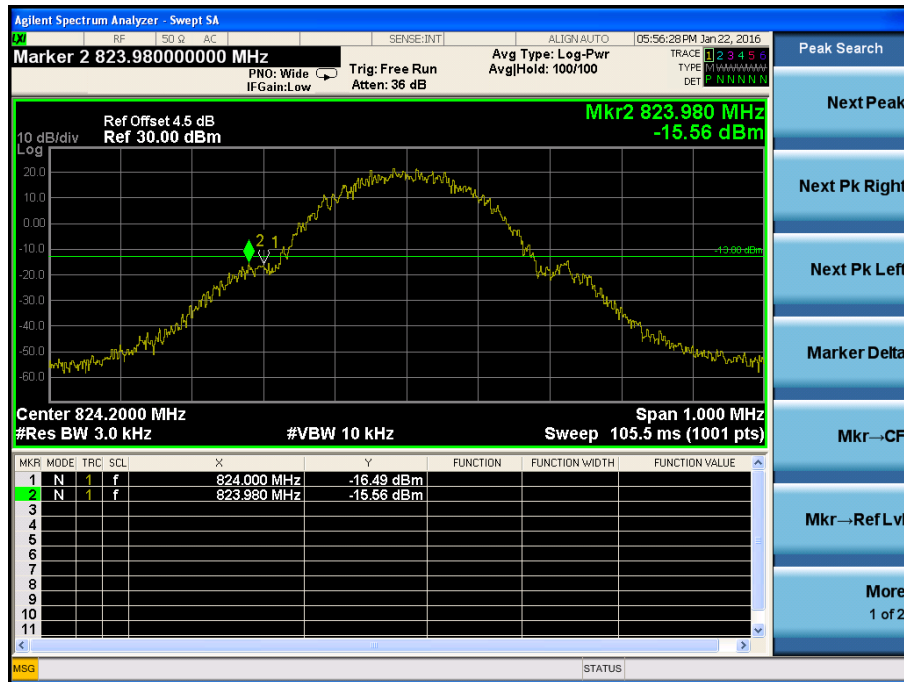
## GPRS High Channel 30MHz to 1GHz



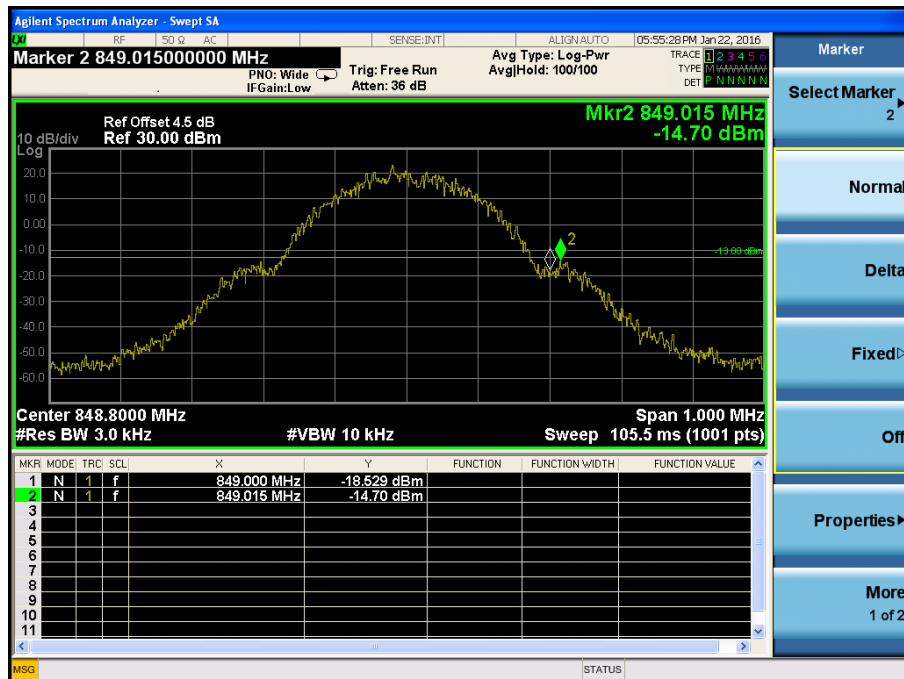
## Above 1GHz



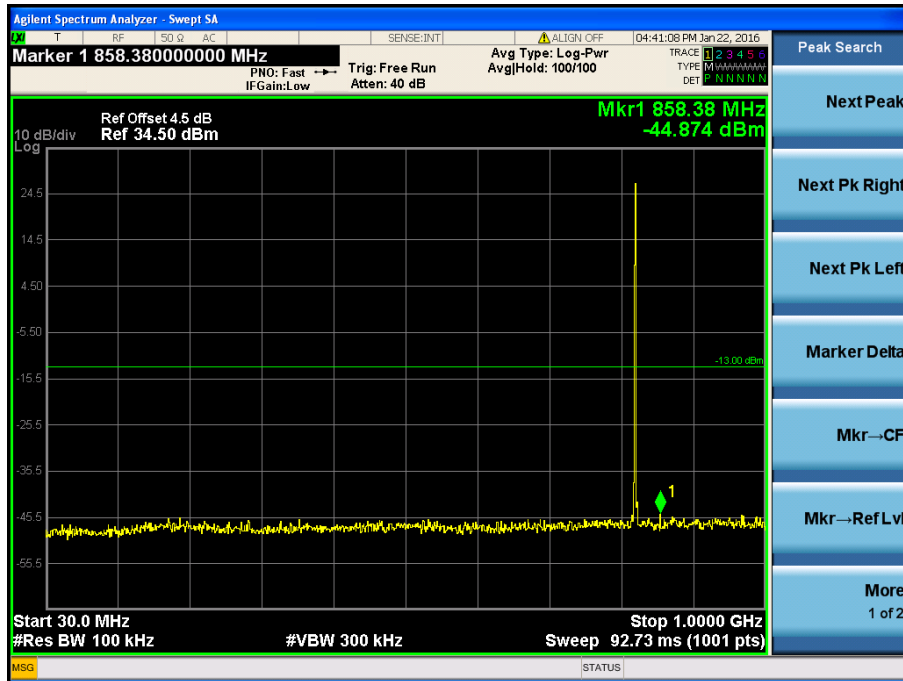
## GPRS Low Band Emission



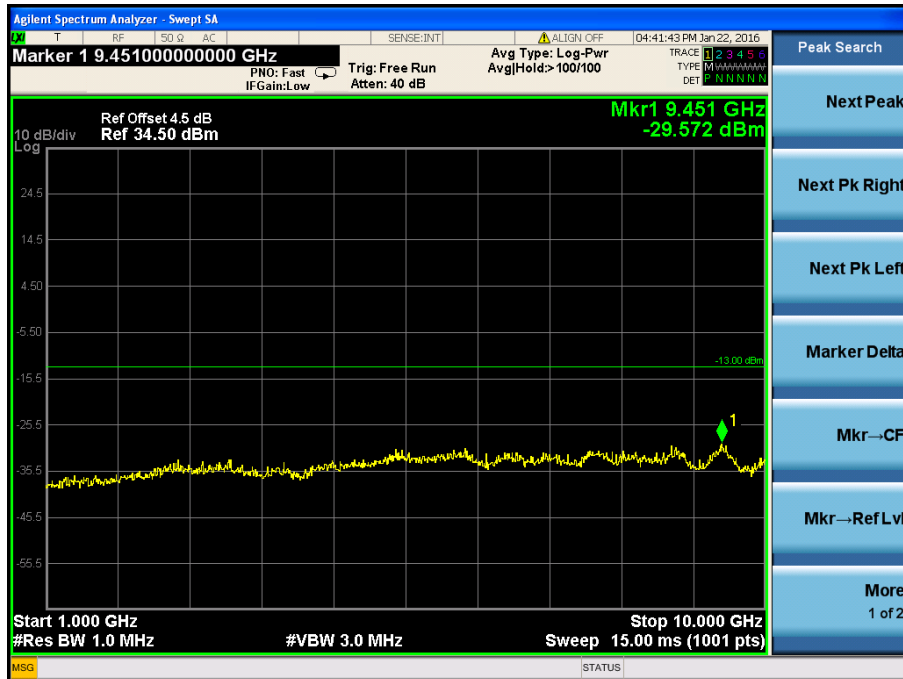
## GPRS High Band Emission



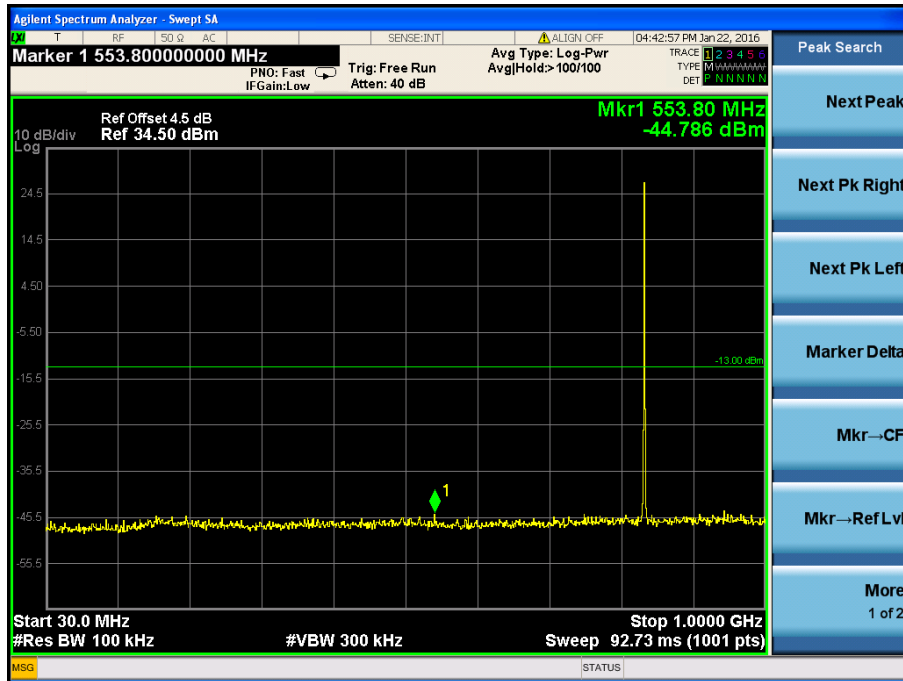
EDGE Low Channel  
30MHz to 1GHz



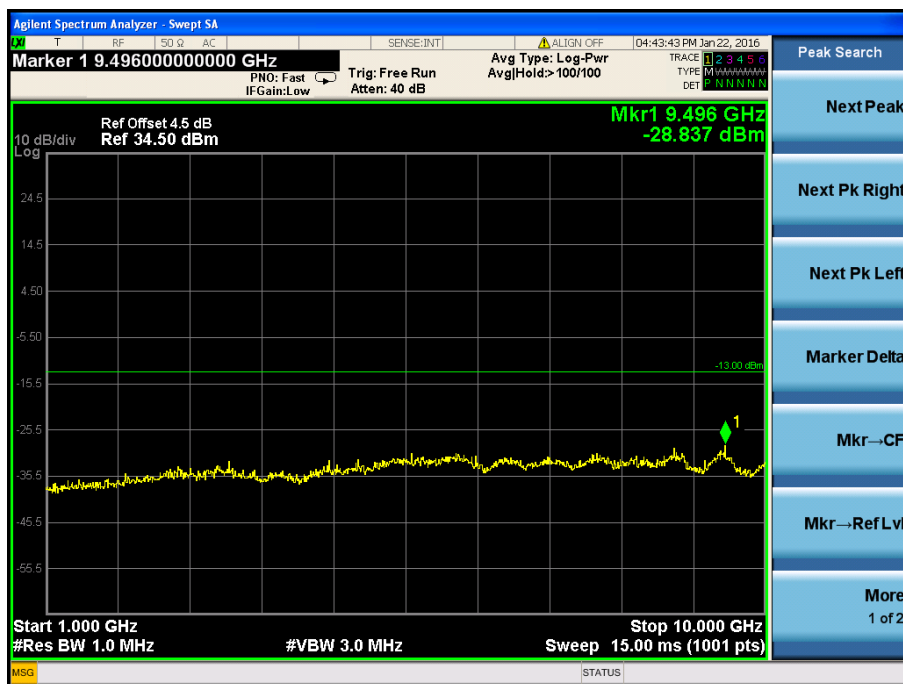
Above 1GHz



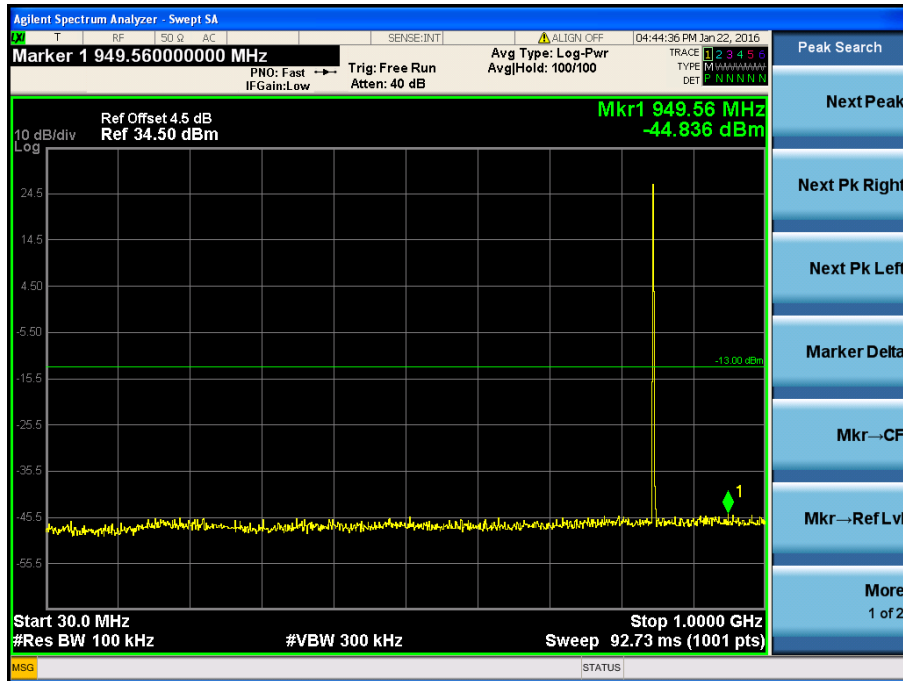
EDGE Middle Channel  
30MHz to 1GHz



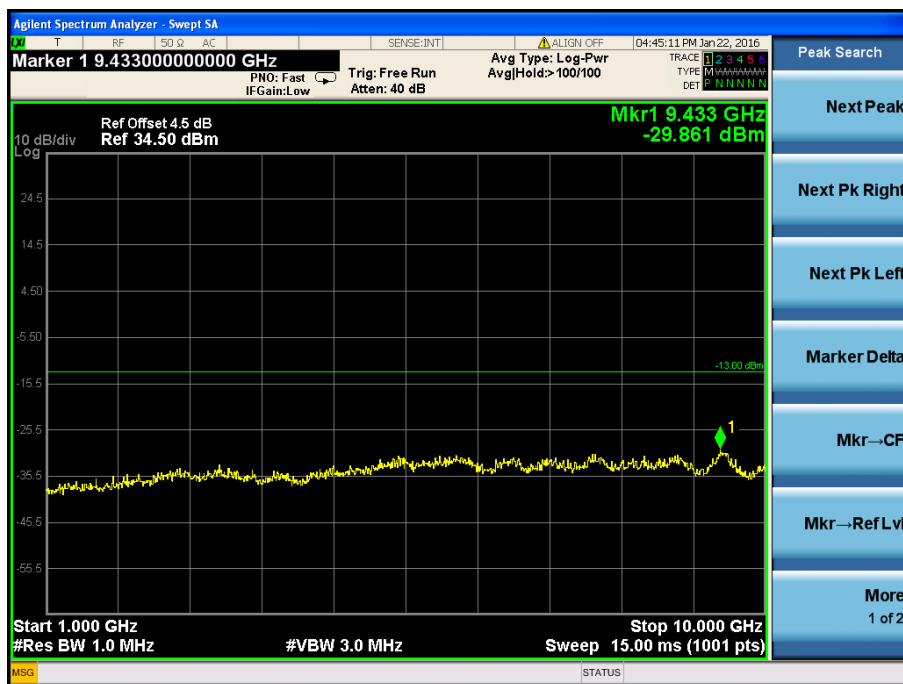
Above 1GHz



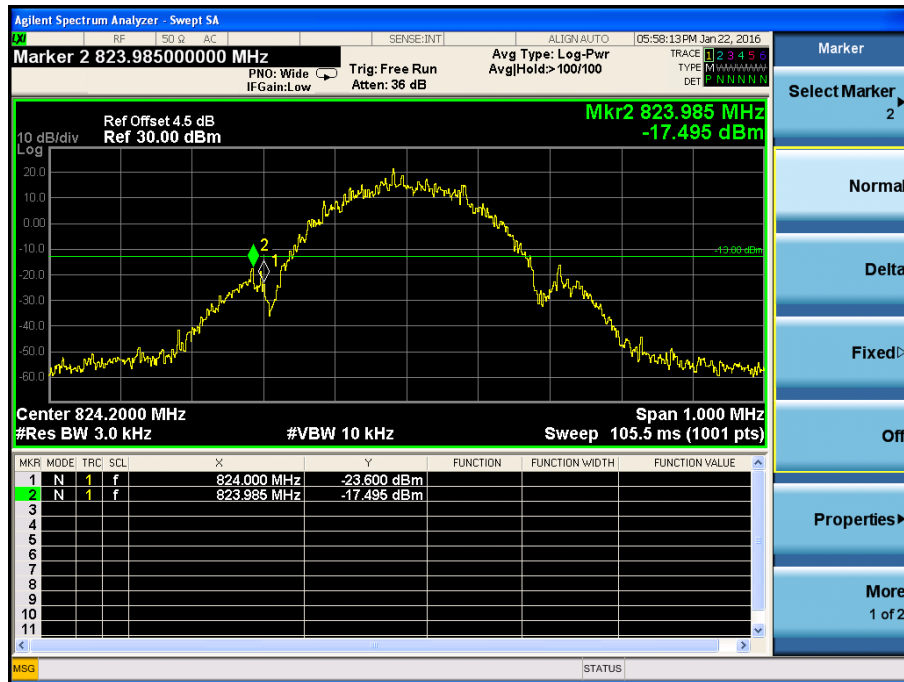
EDGE High Channel  
30MHz to 1GHz



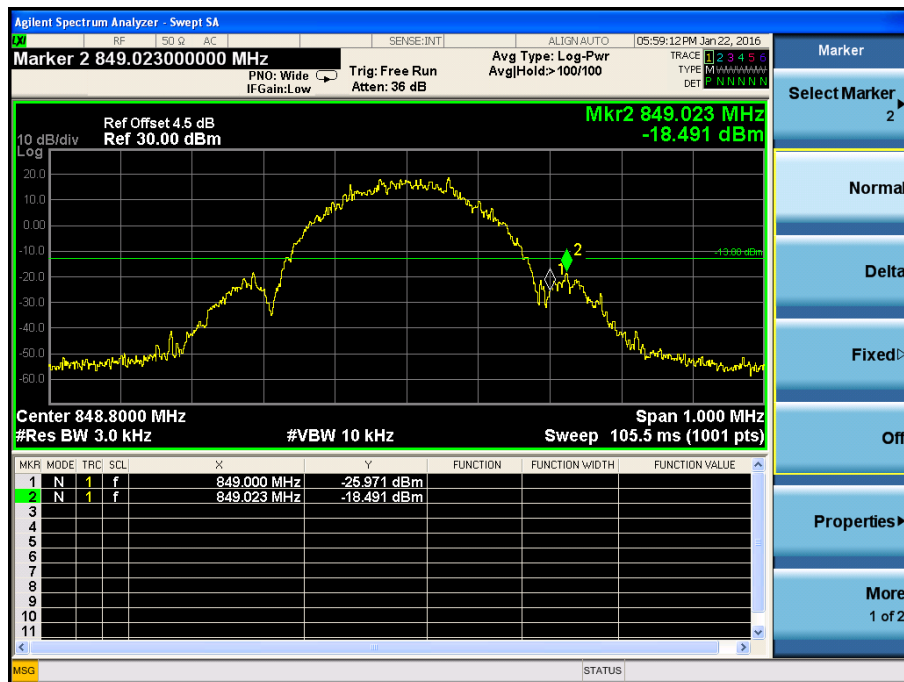
Above 1GHz



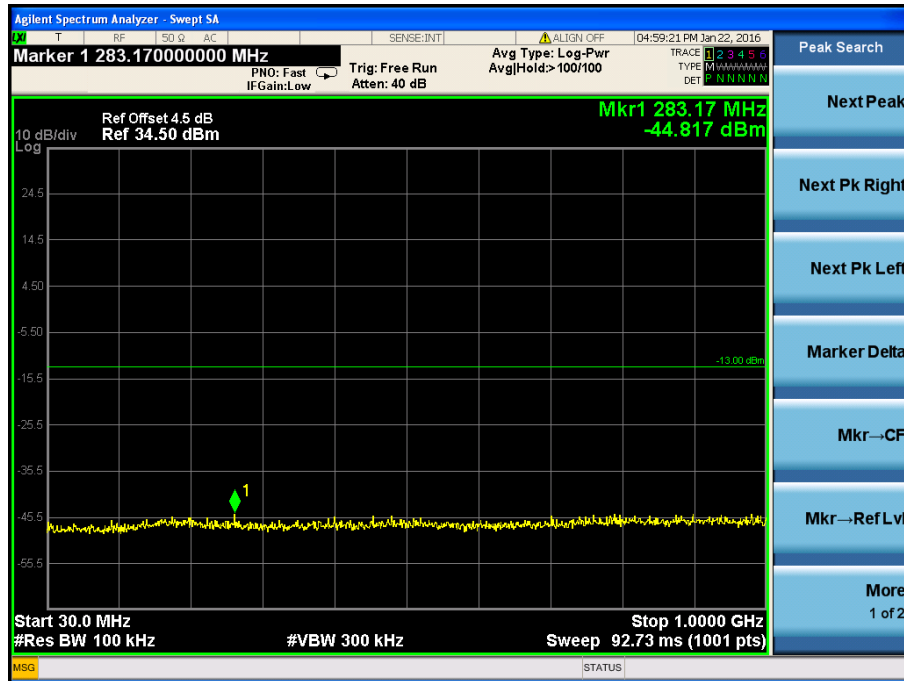
## EDGE Low Band Emission



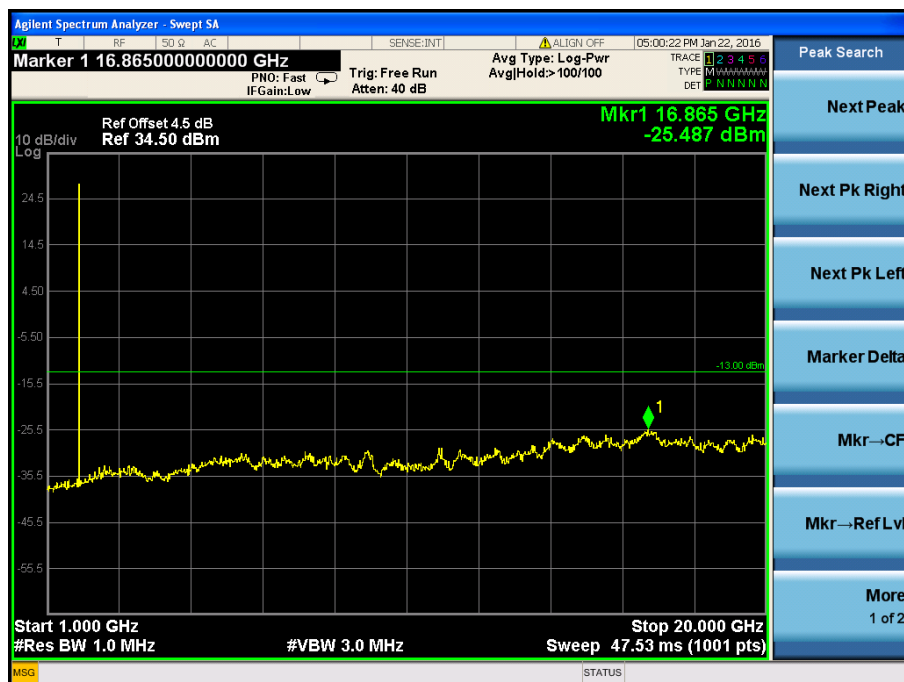
## EDGE High Band Emission



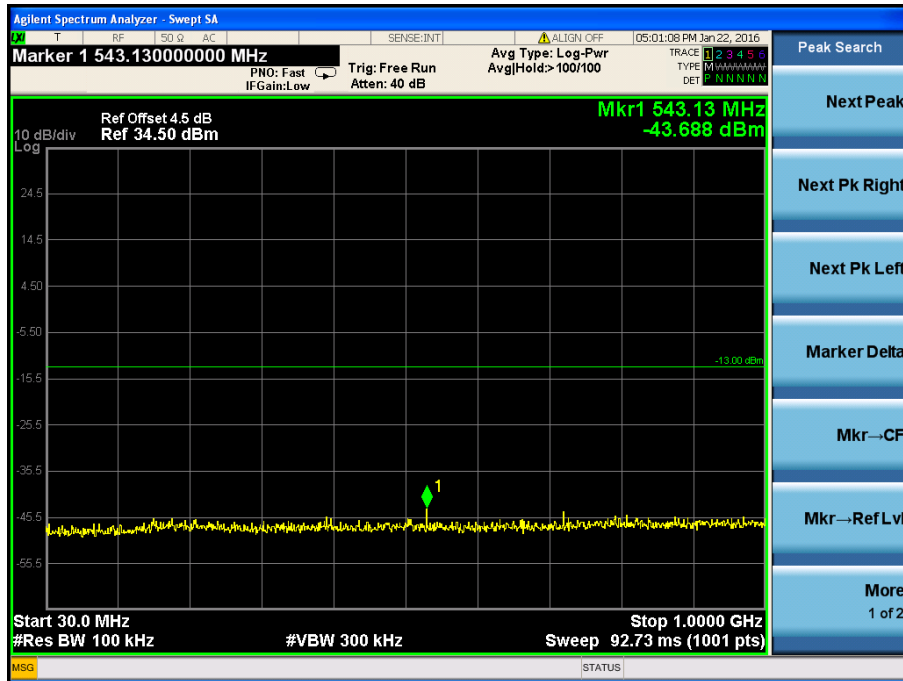
For PCS Band  
GSM Low Channel  
30MHz to 1GHz



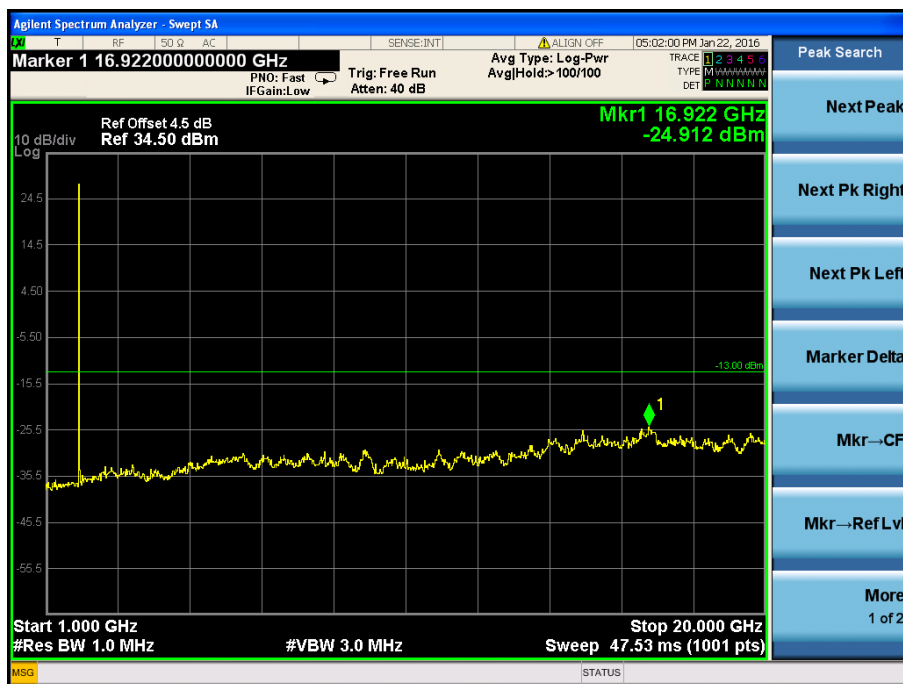
Above 1GHz



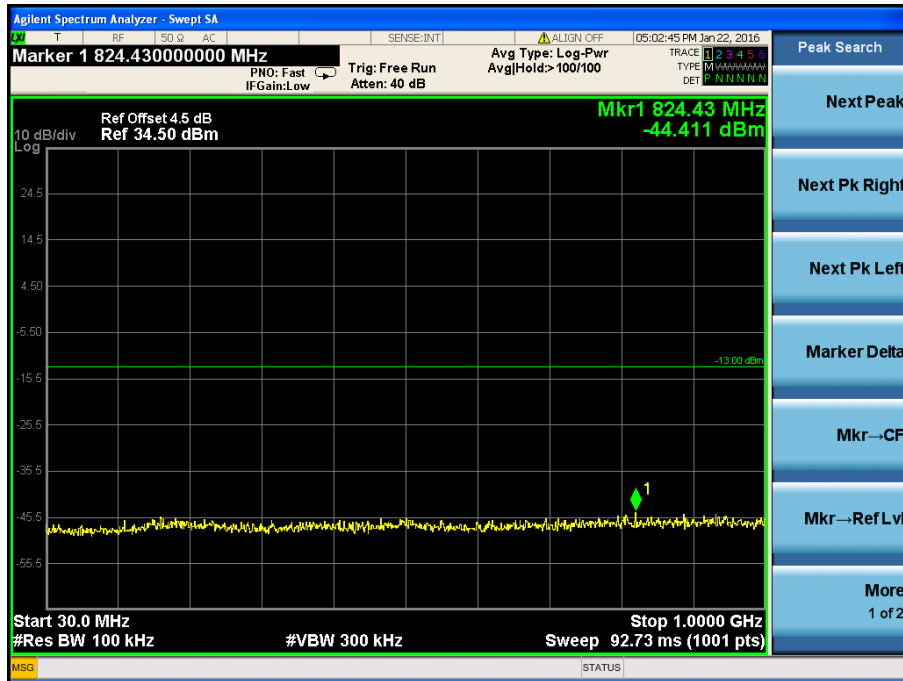
## GSM Middle Channel 30MHz to 1GHz



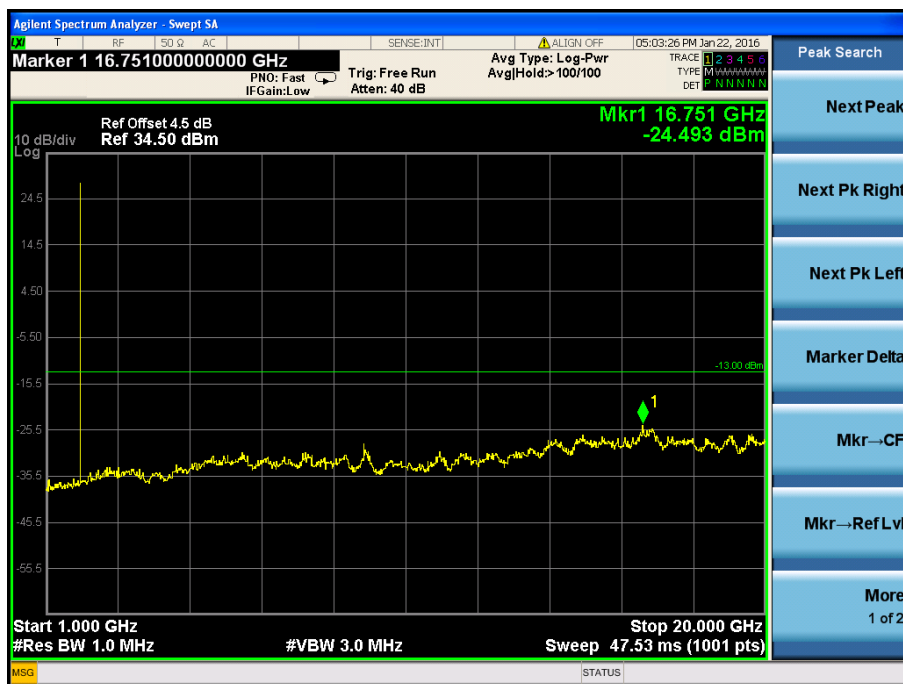
## Above 1GHz



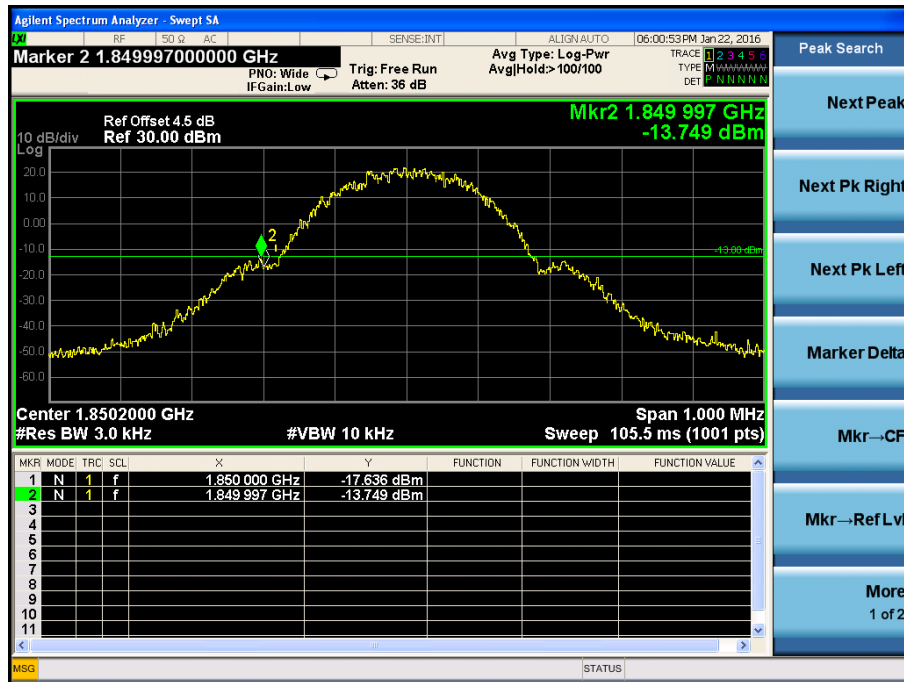
## GSM High Channel 30MHz to 1GHz



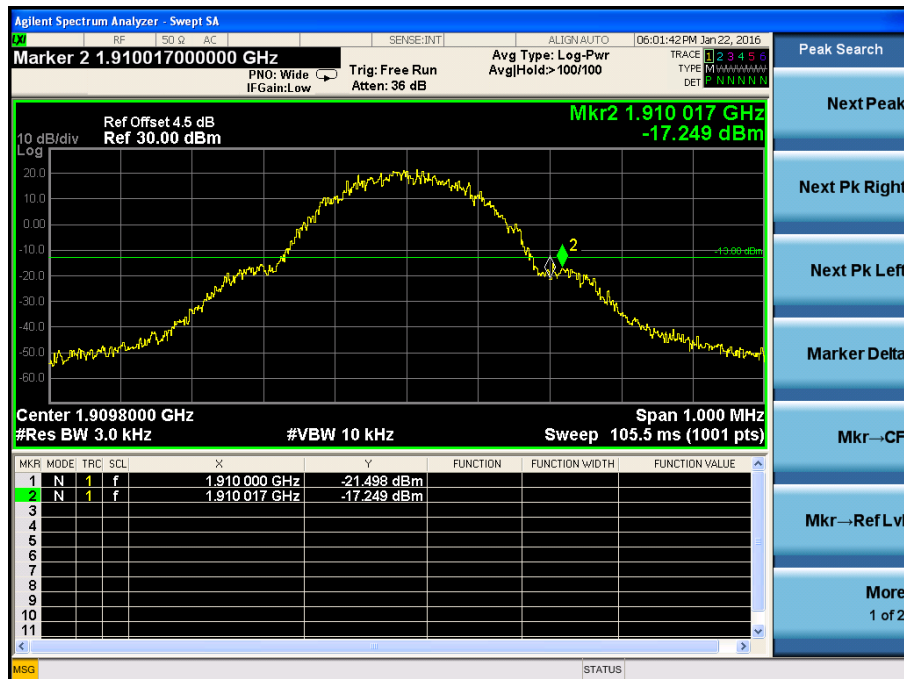
## Above 1GHz



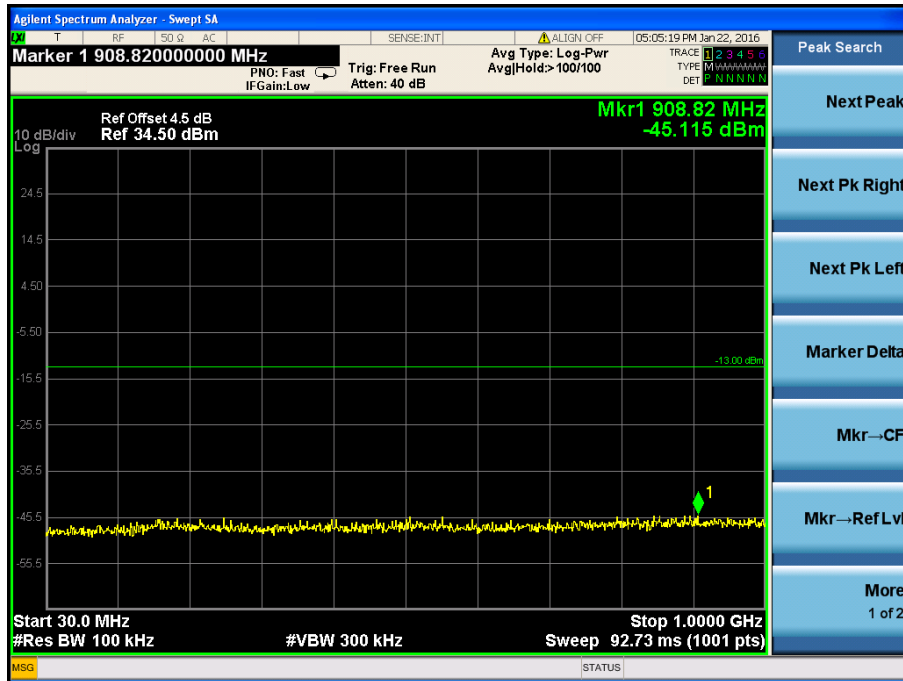
## GSM Low Band Emission



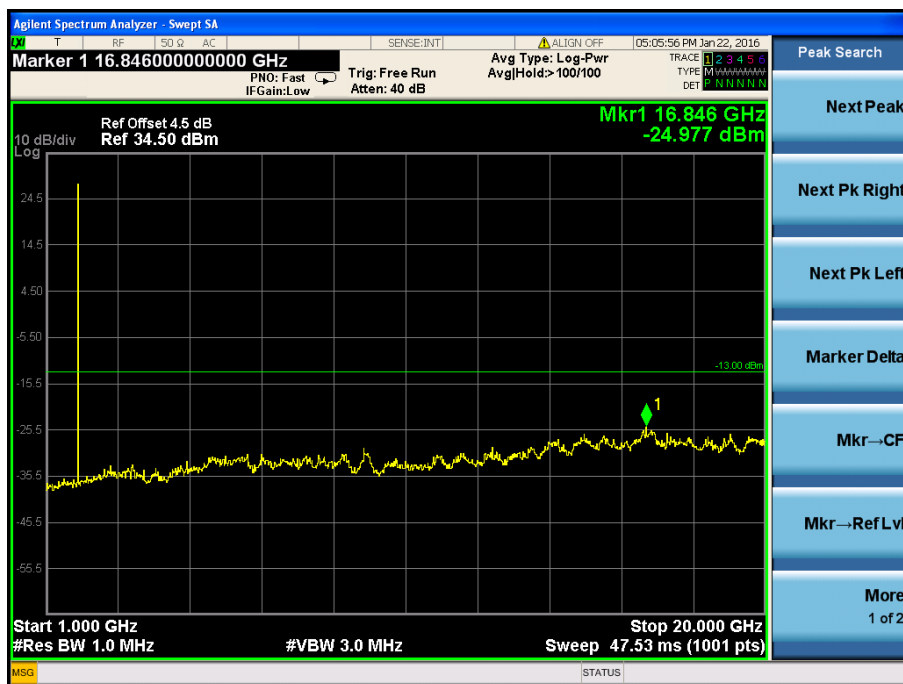
## GSM High Band Emission



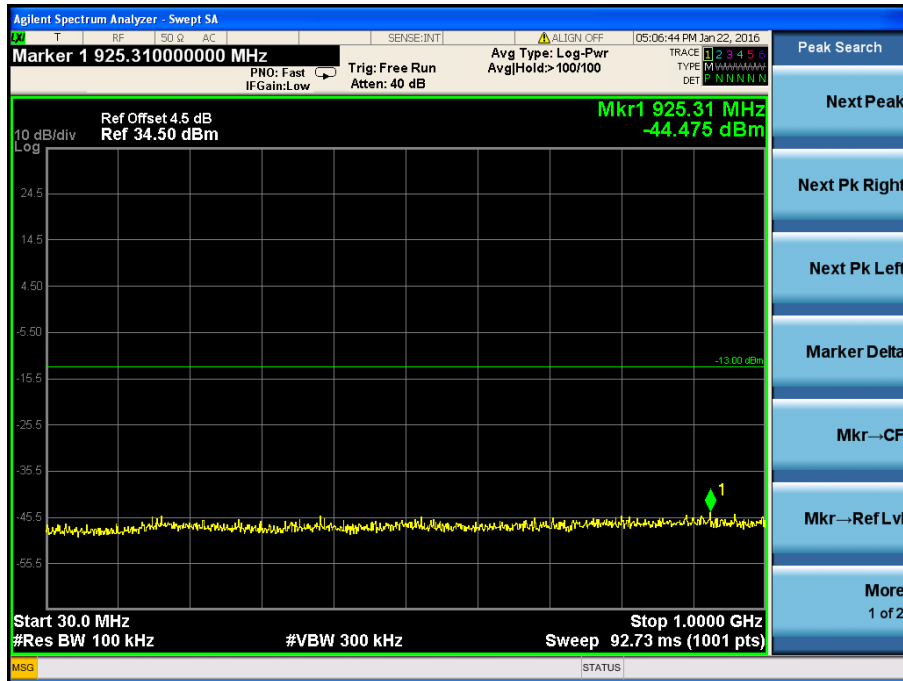
GPRS Low Channel  
30MHz to 1GHz



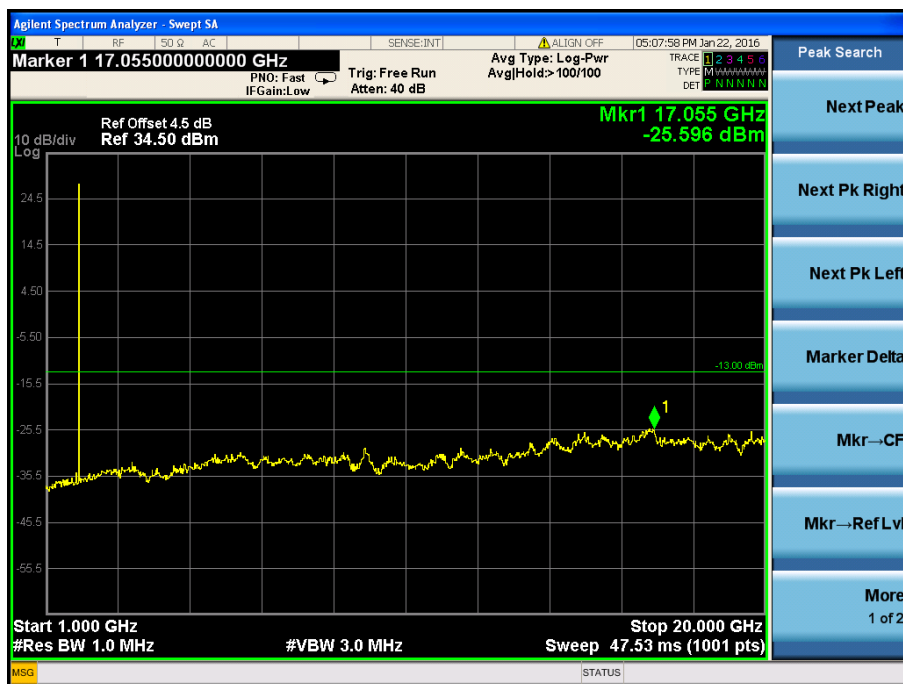
Above 1GHz



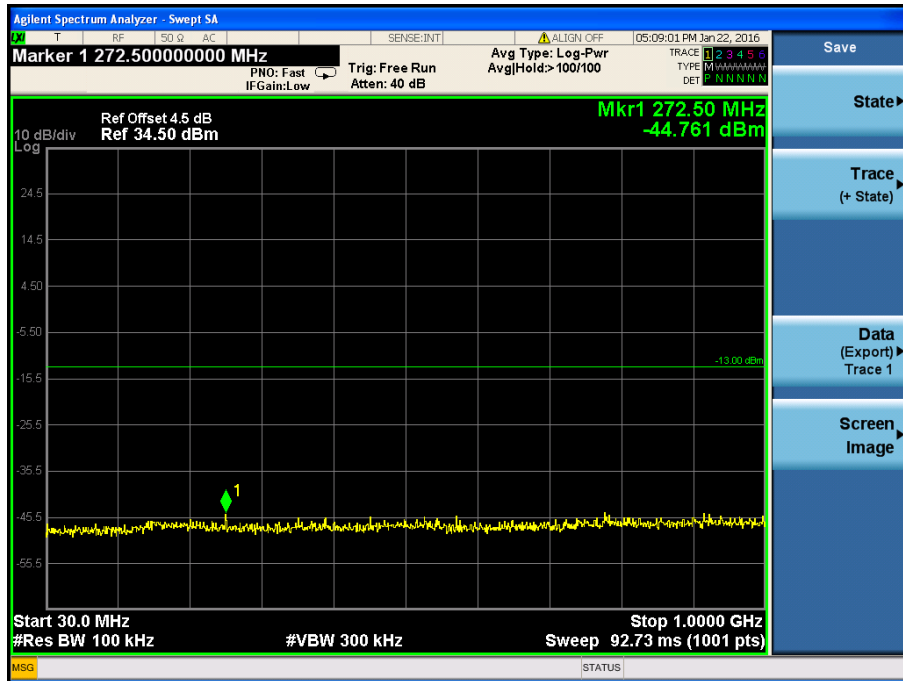
## GPRS Middle Channel 30MHz to 1GHz



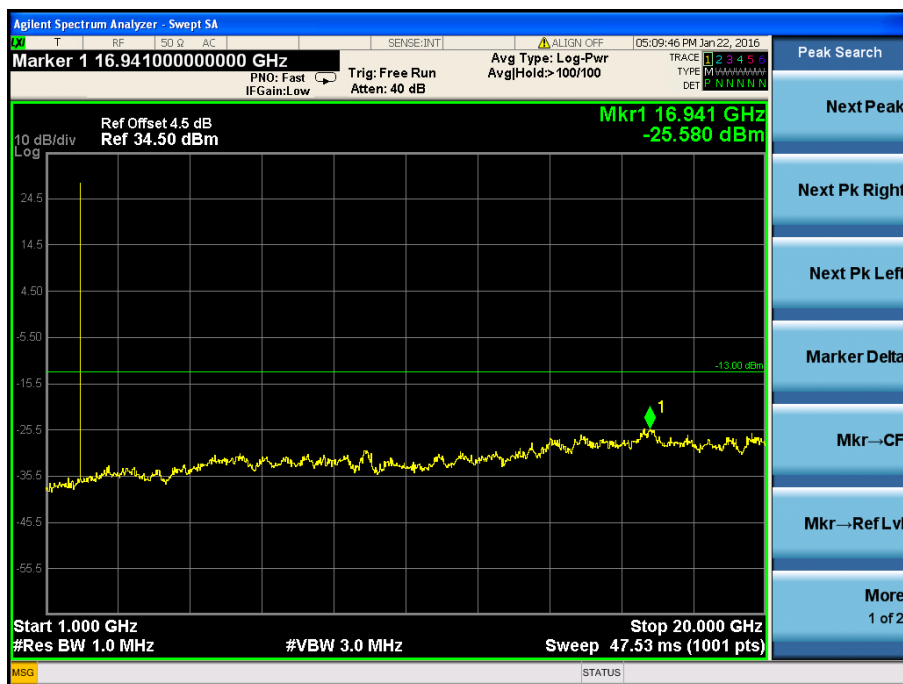
## Above 1GHz



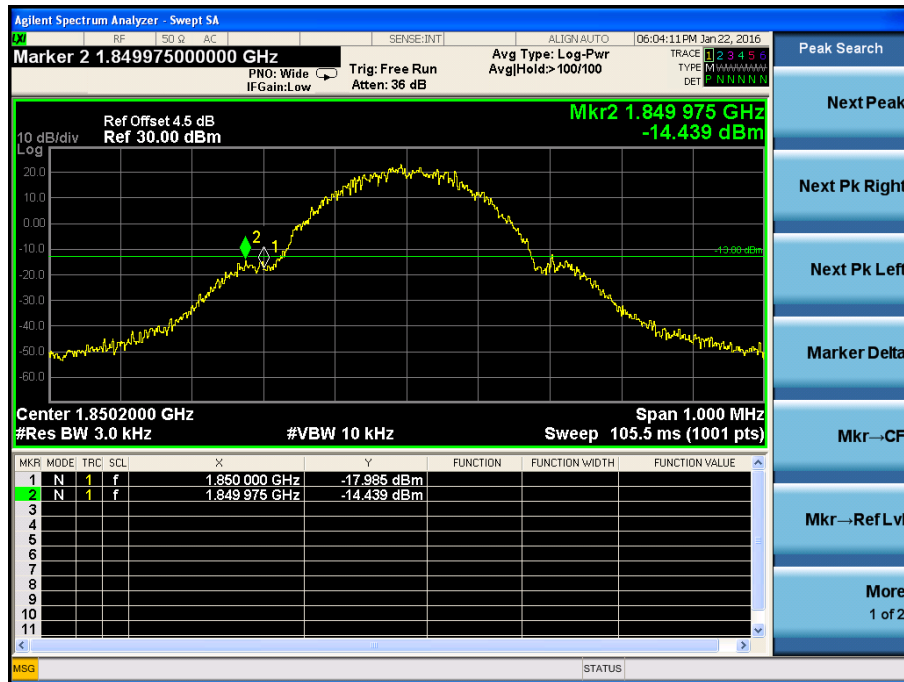
## GPRS High Channel 30MHz to 1GHz



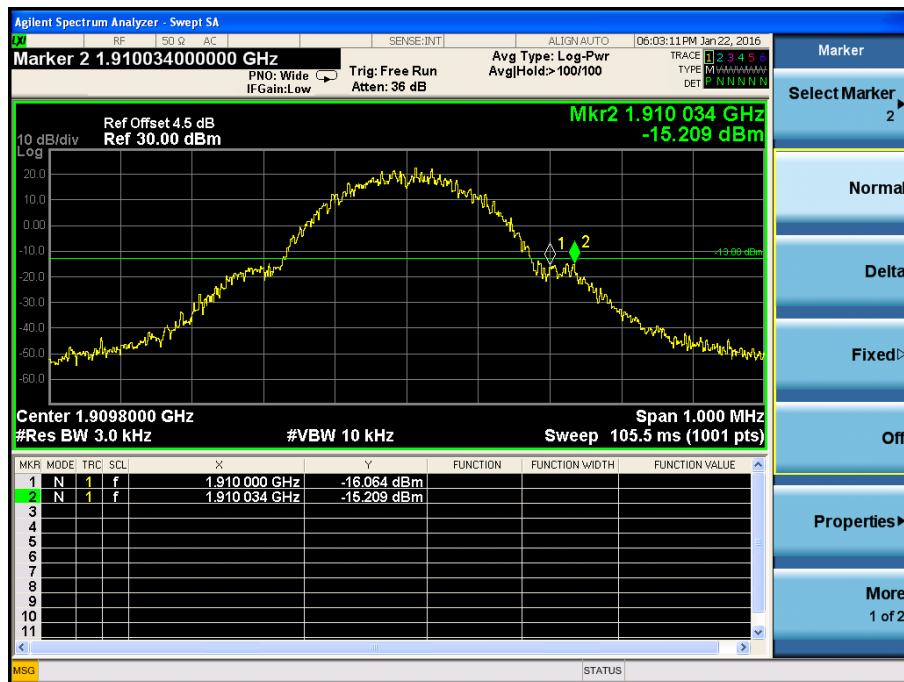
## Above 1GHz



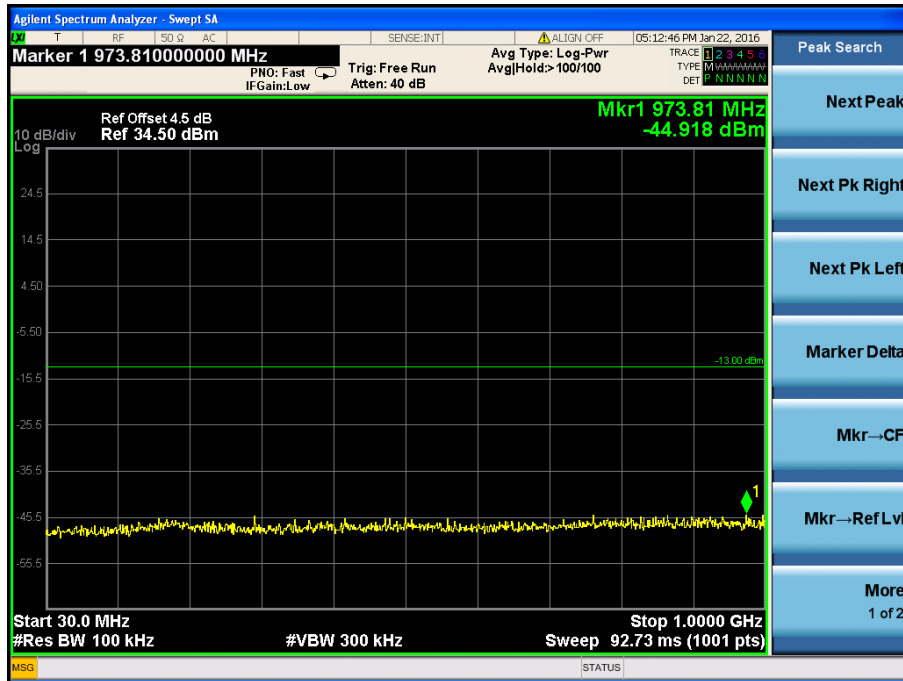
## GPRS Low Band Emission



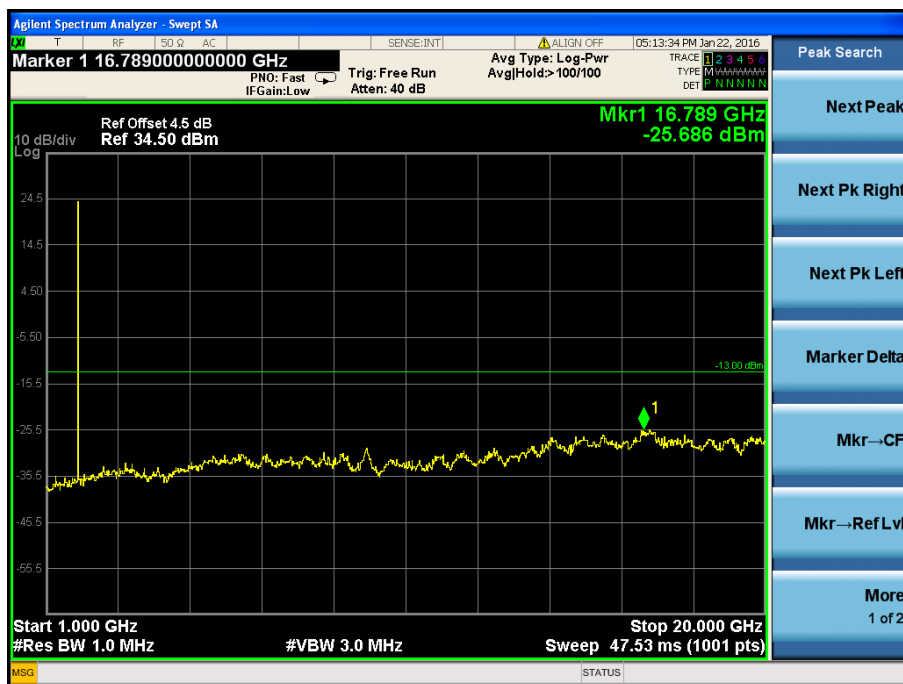
## GPRS High Band Emission



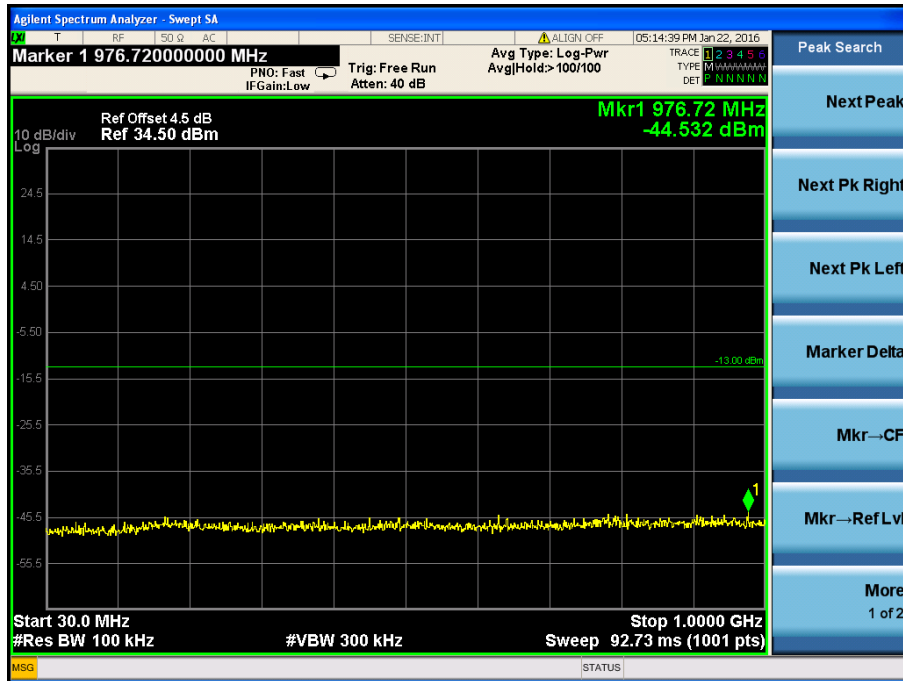
EDGE Low Channel  
30MHz to 1GHz



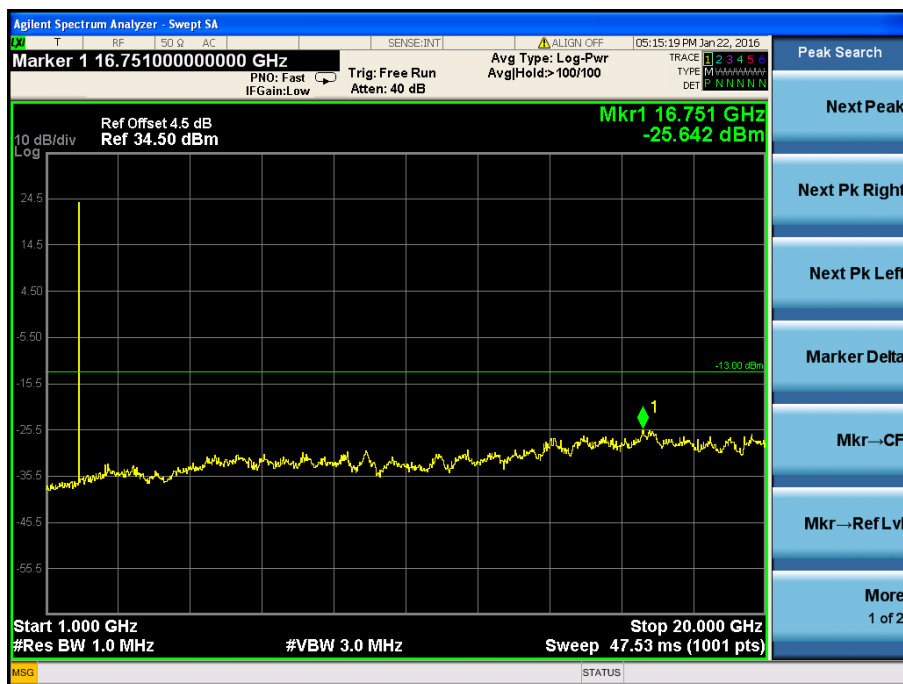
Above 1GHz



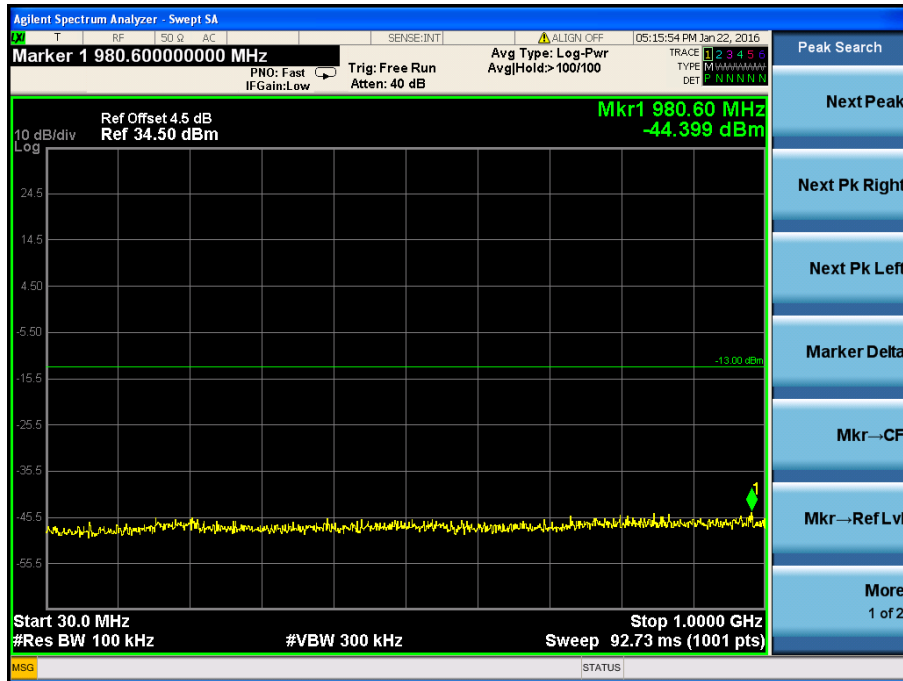
EDGE Middle Channel  
30MHz to 1GHz



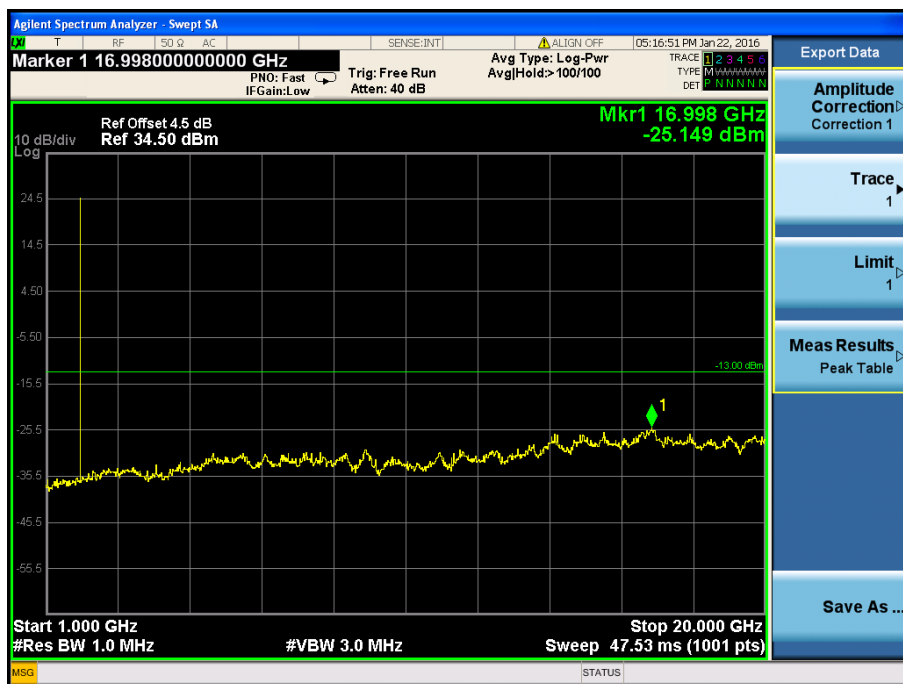
Above 1GHz



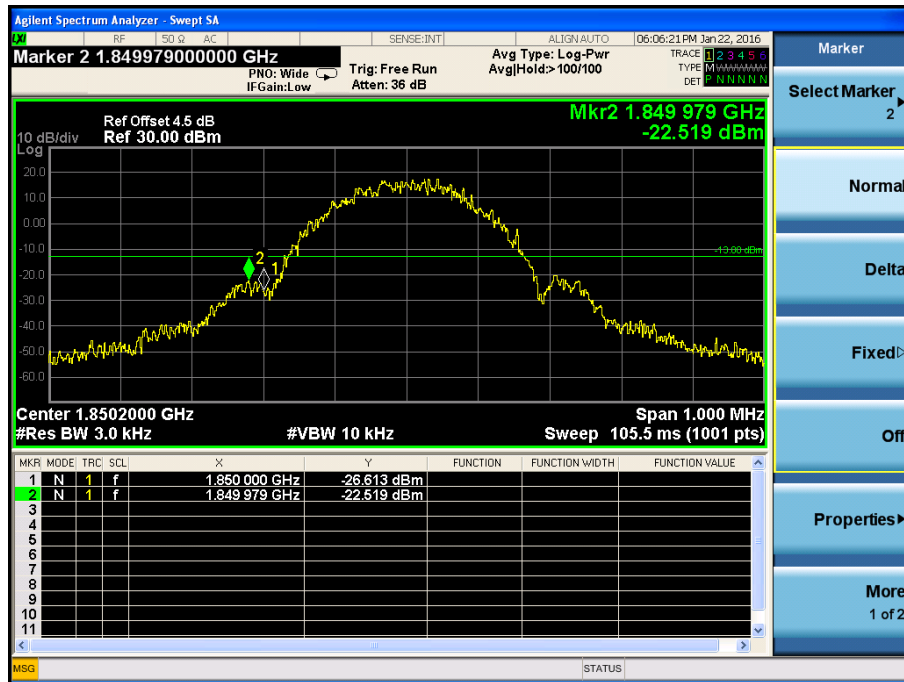
EDGE High Channel  
30MHz to 1GHz



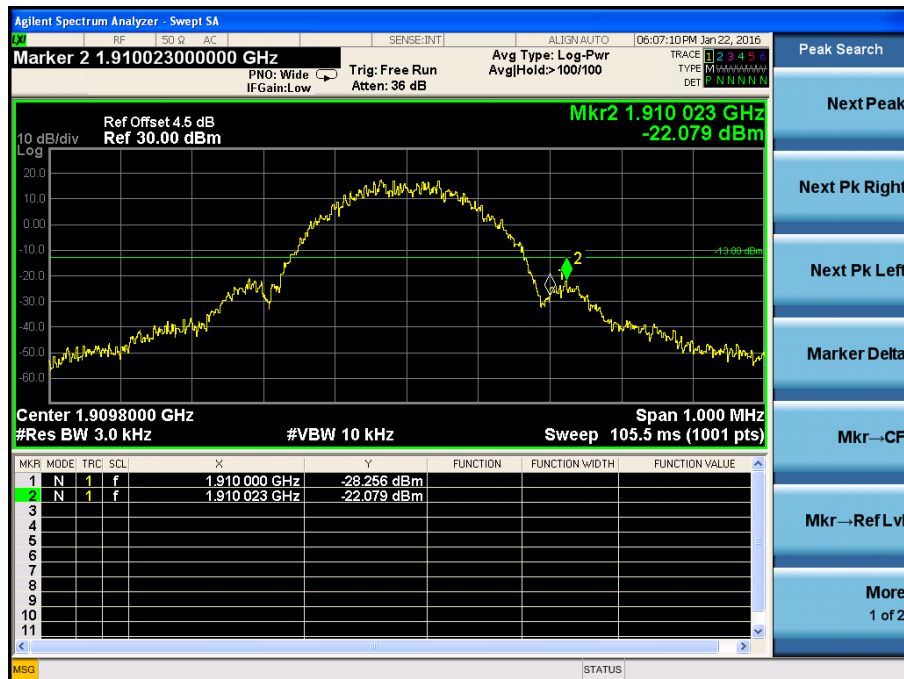
Above 1GHz



## EDGE Low Band Emission



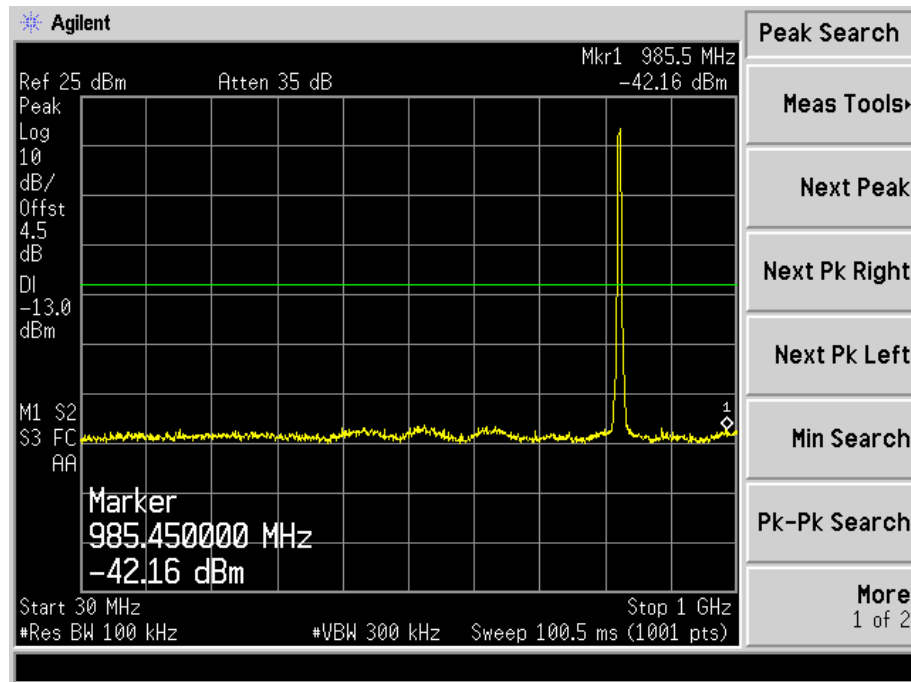
## EDGE High Band Emission



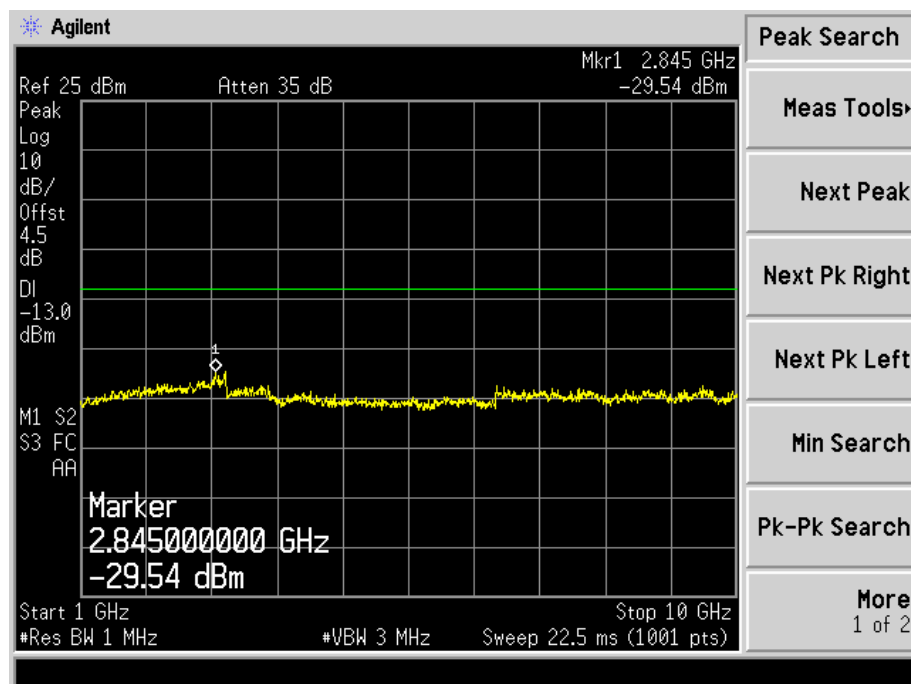
## For Band V

WCDMA Low Channel

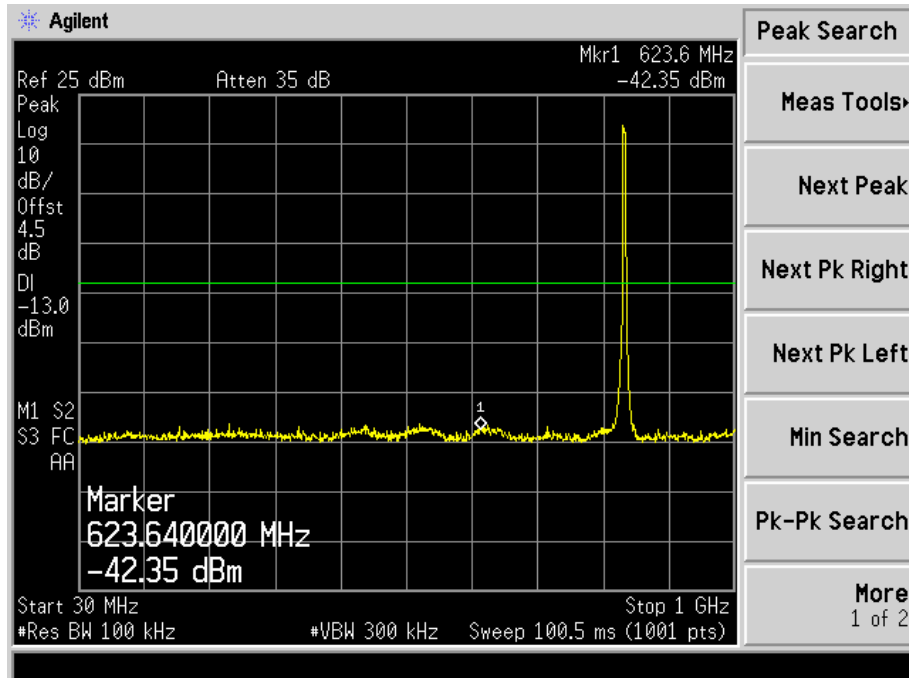
30MHz to 1GHz



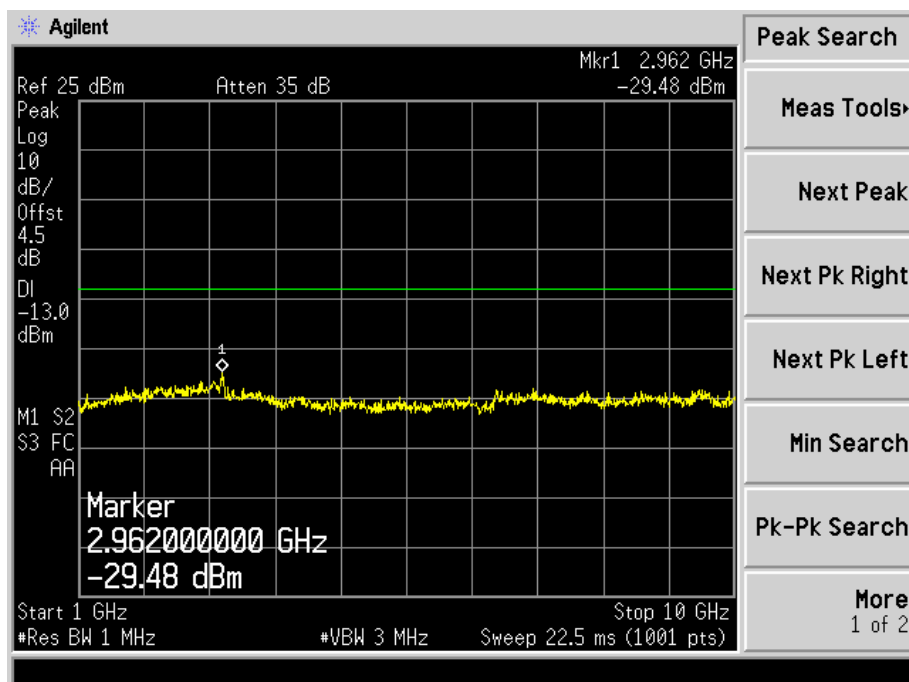
Above 1GHz



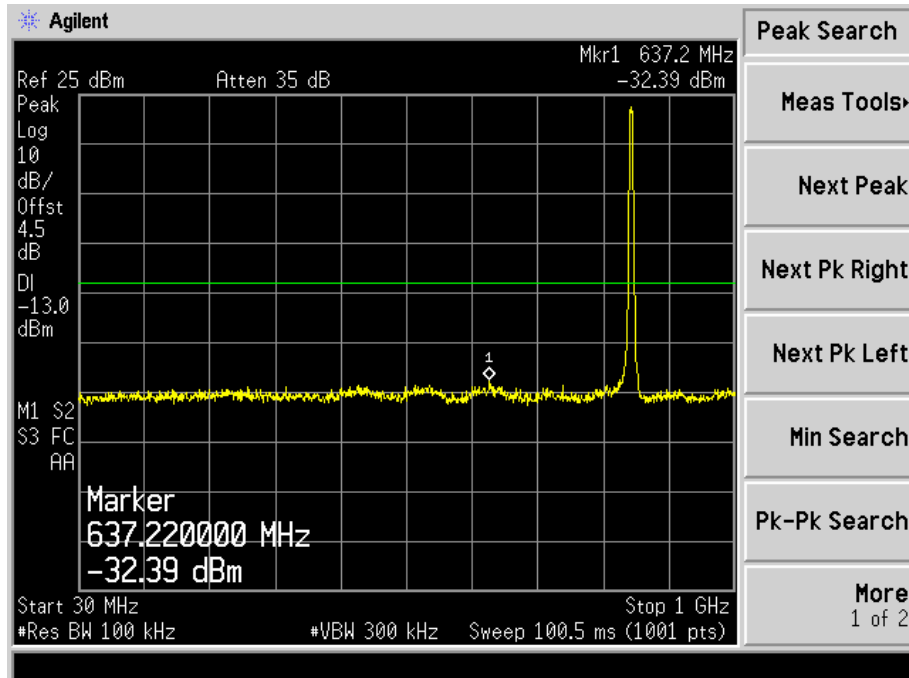
# WCDMA Middle Channel 30MHz to 1GHz



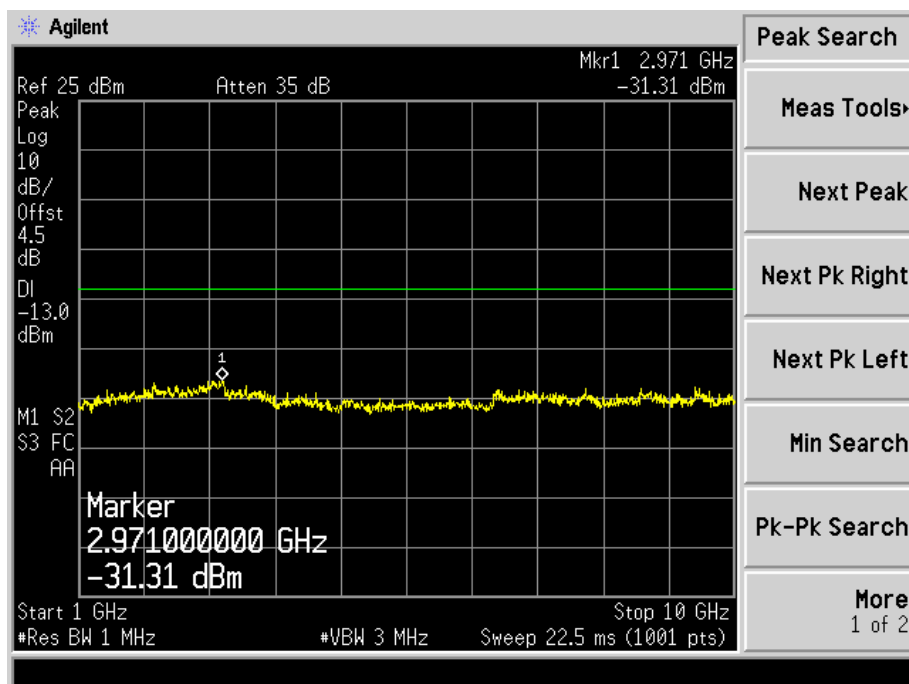
## Above 1GHz



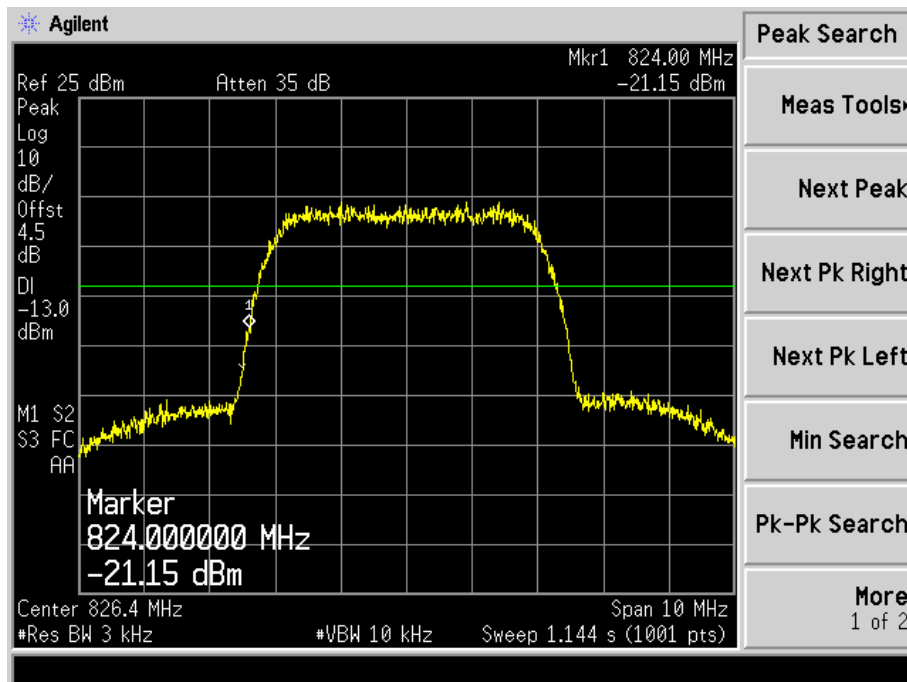
# WCDMA High Channel 30MHz to 1GHz



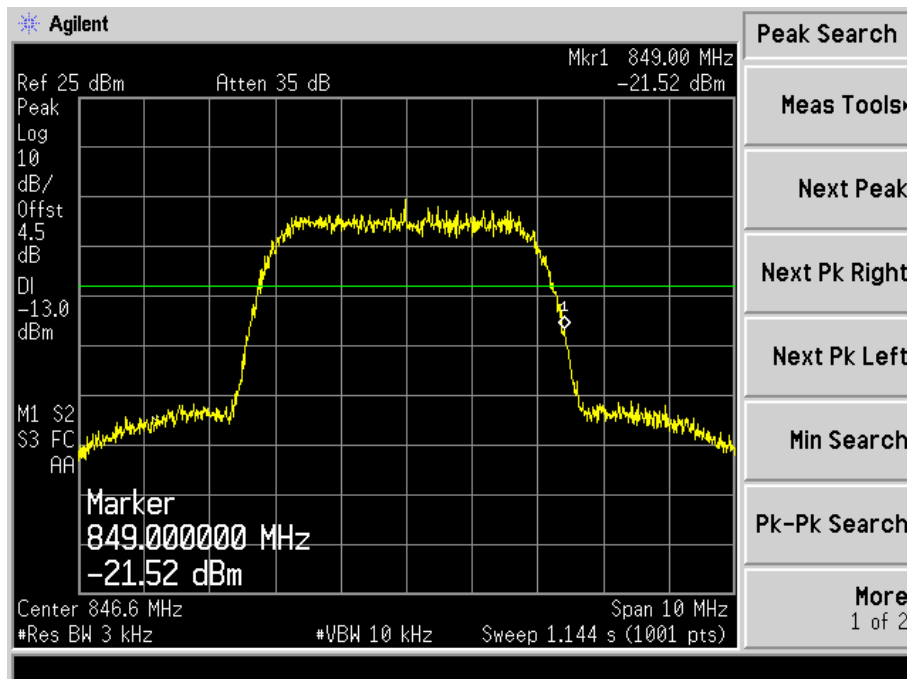
## Above 1GHz



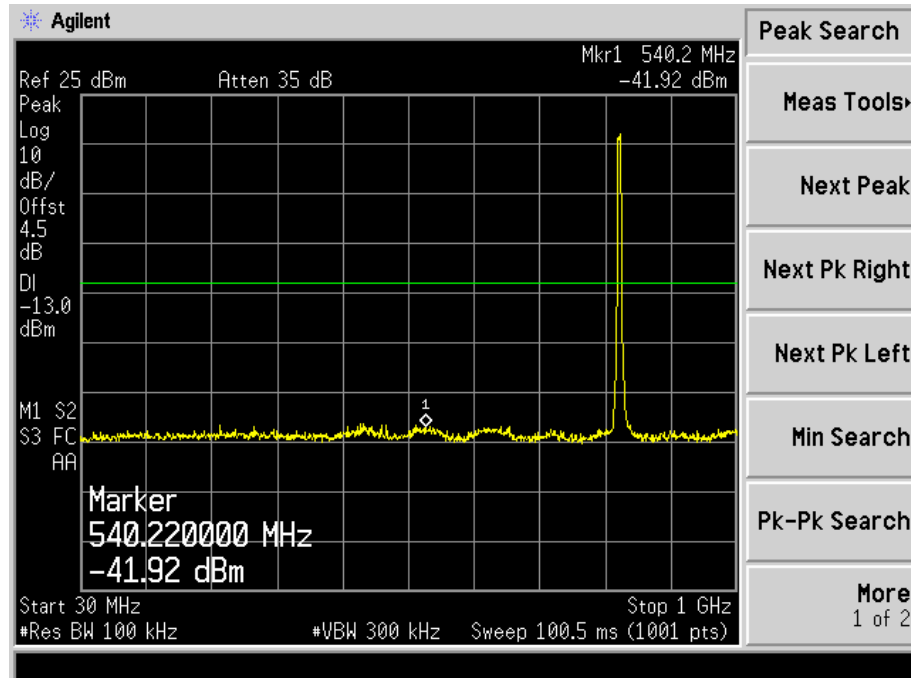
### WCDMA Low Band Spurious Emission



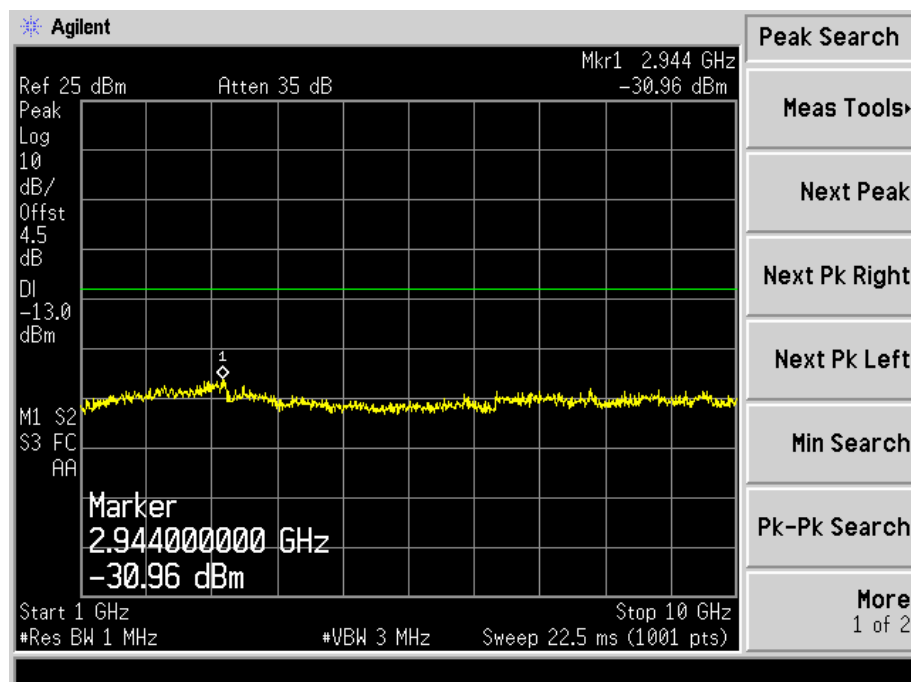
### WCDMA High Band Spurious Emission



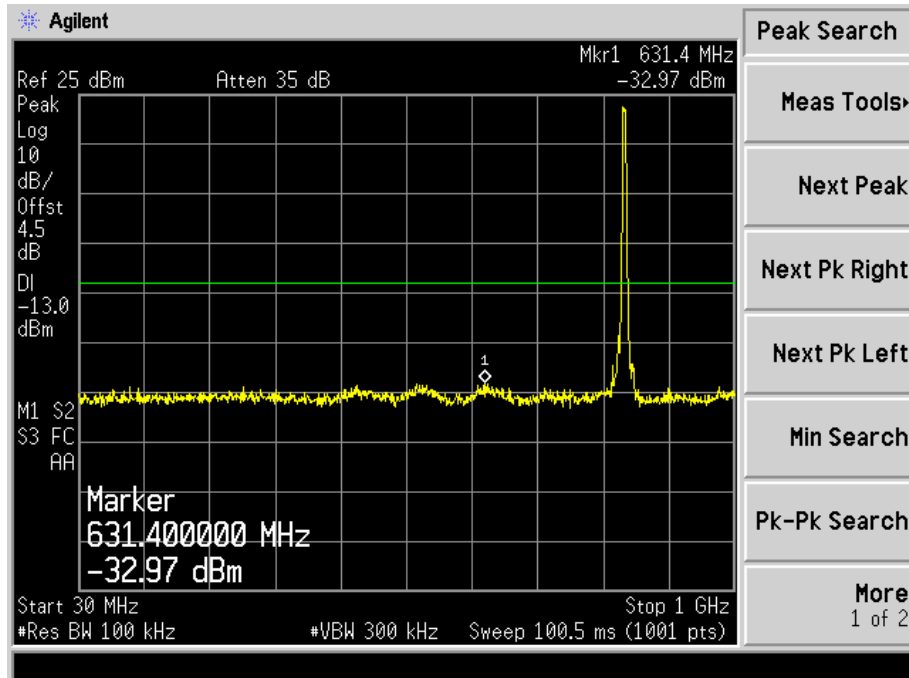
## HSDPA Low Channel 30MHz to 1GHz



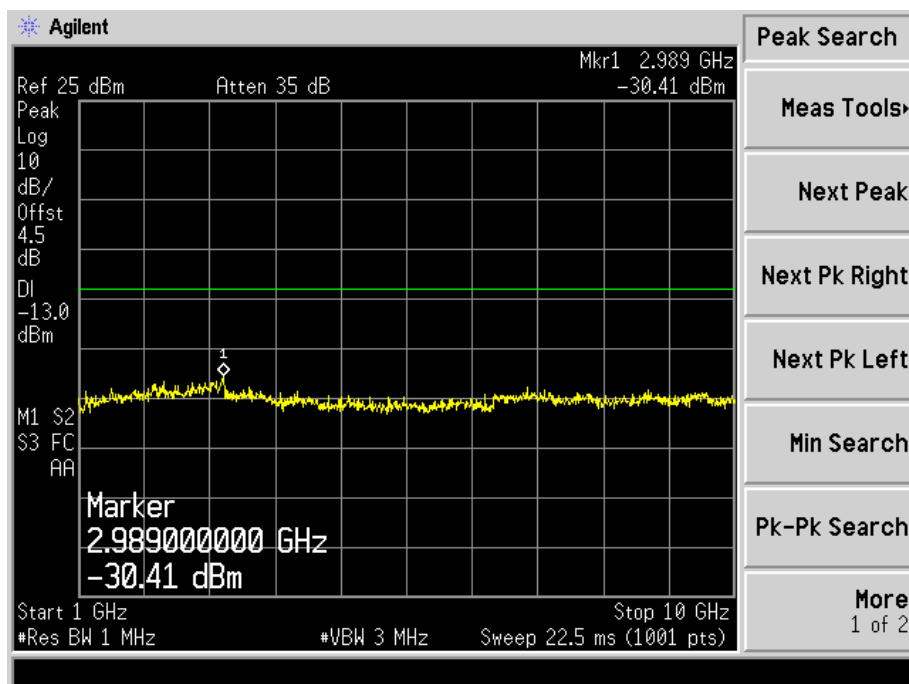
## Above 1GHz



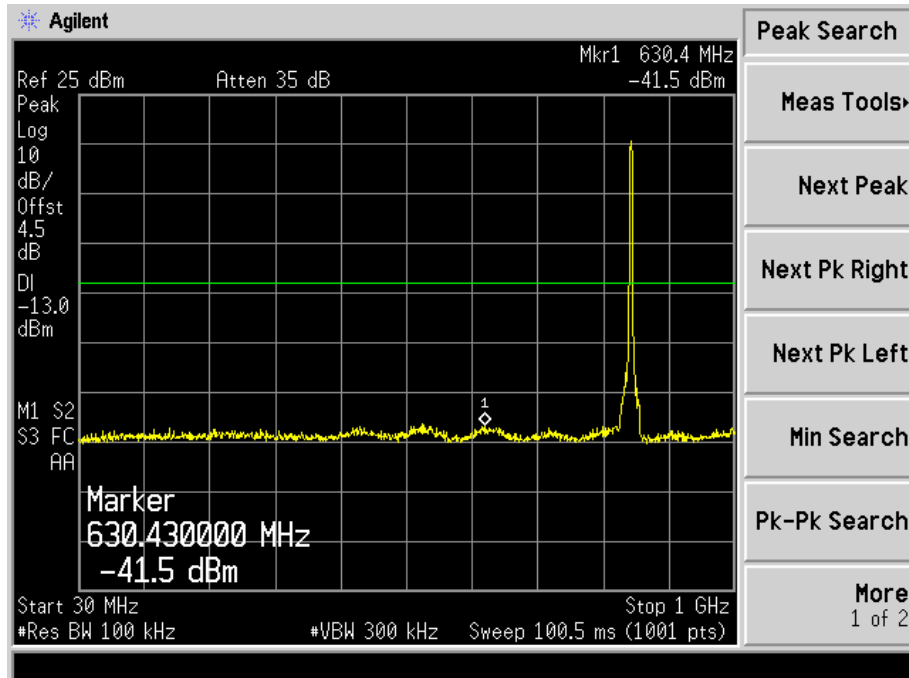
## HSDPA Middle Channel 30MHz to 1GHz



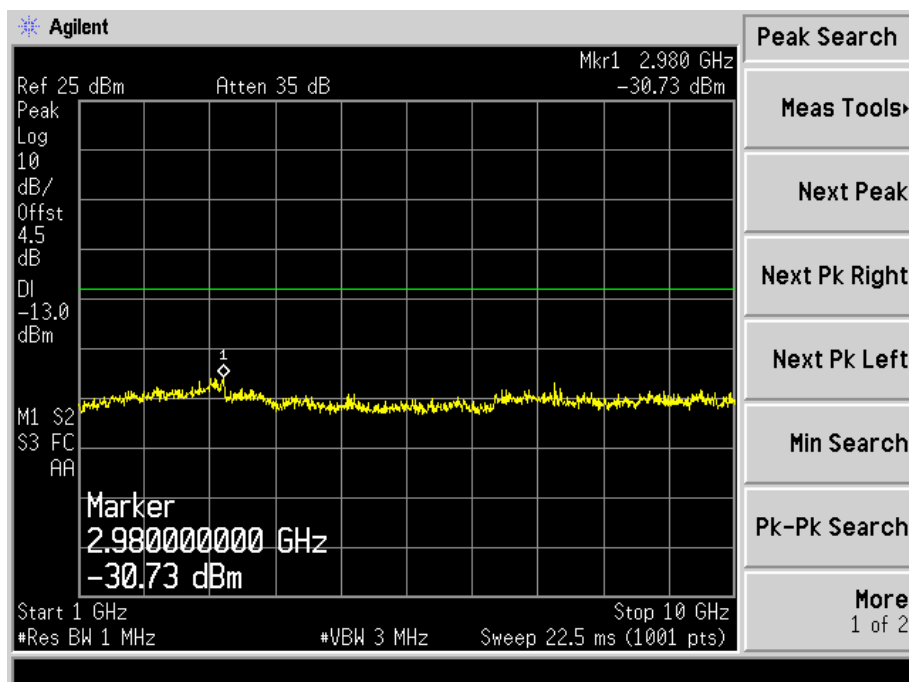
## Above 1GHz



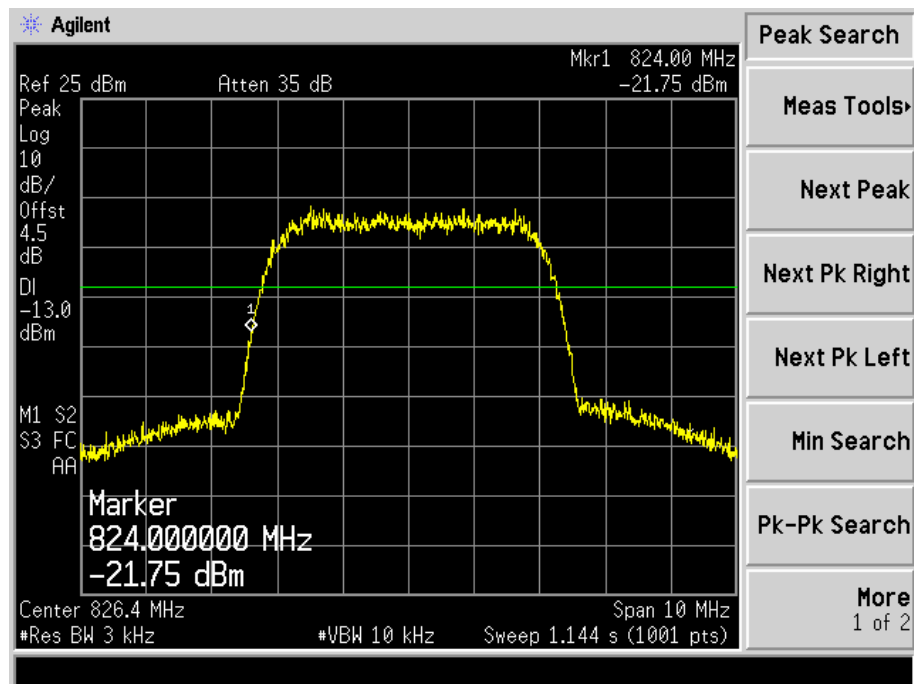
## HSDPA High Channel 30MHz to 1GHz



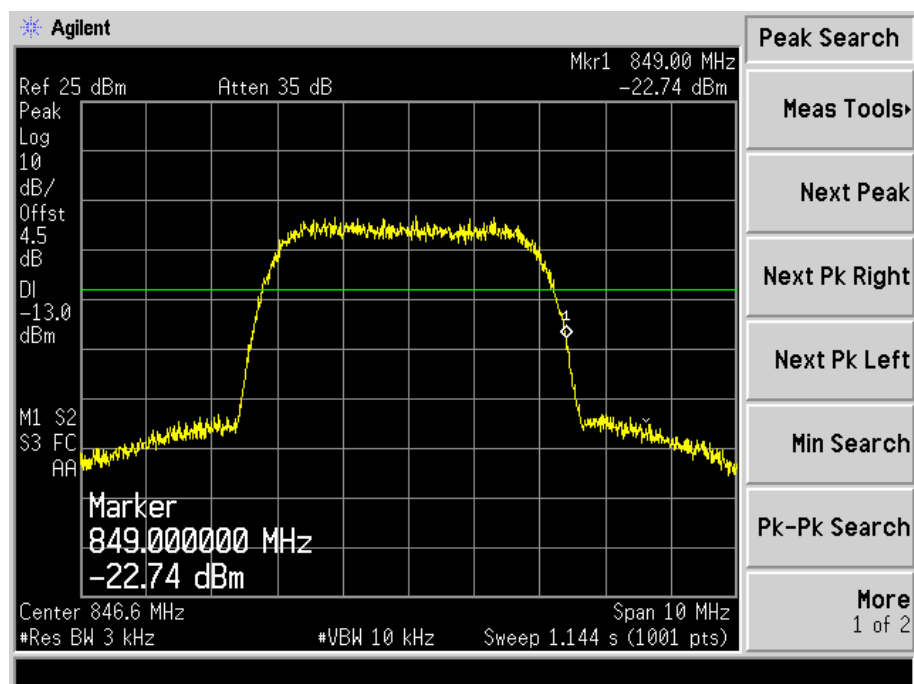
## Above 1GHz



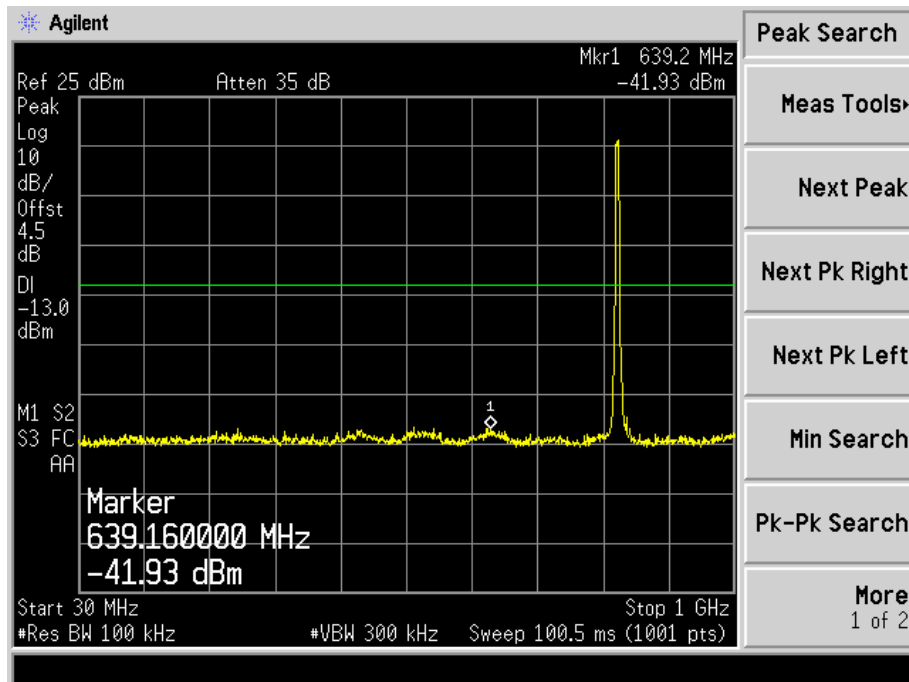
## HSDPA Low Band Spurious Emission



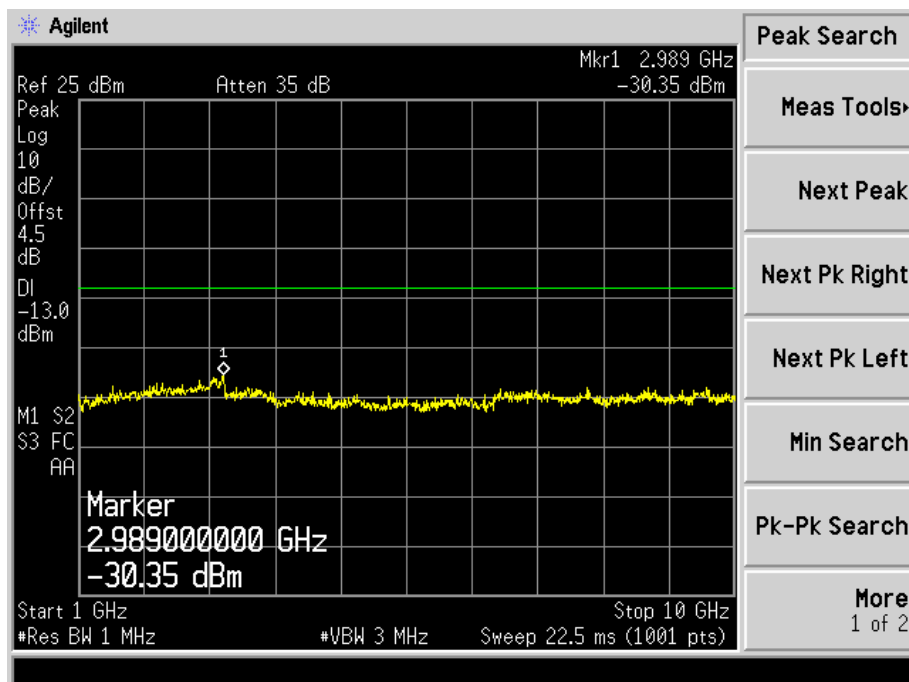
## HSDPA High Band Spurious Emission



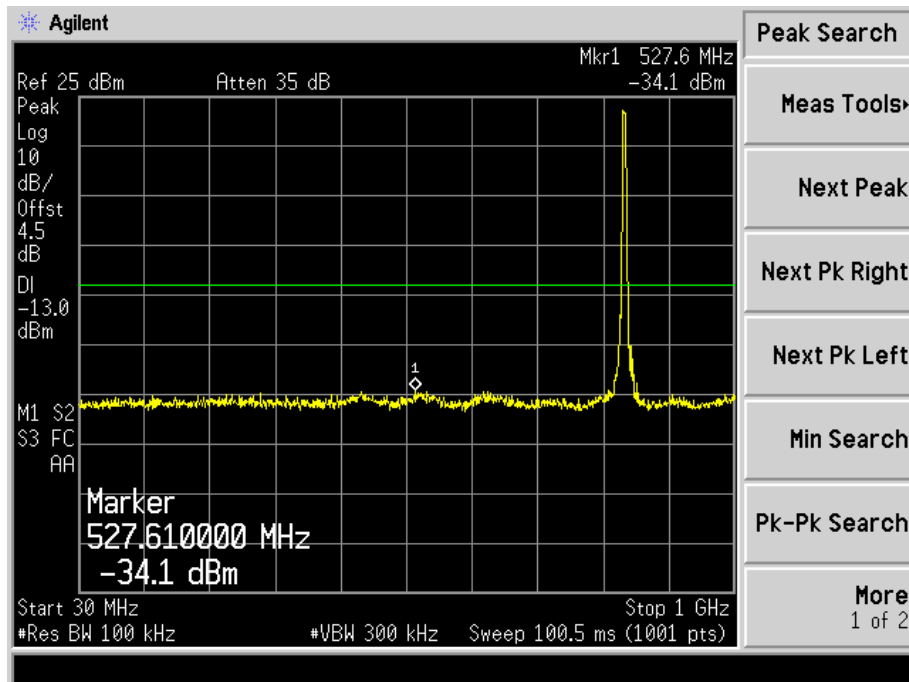
HSUPA Low Channel  
30MHz to 1GHz



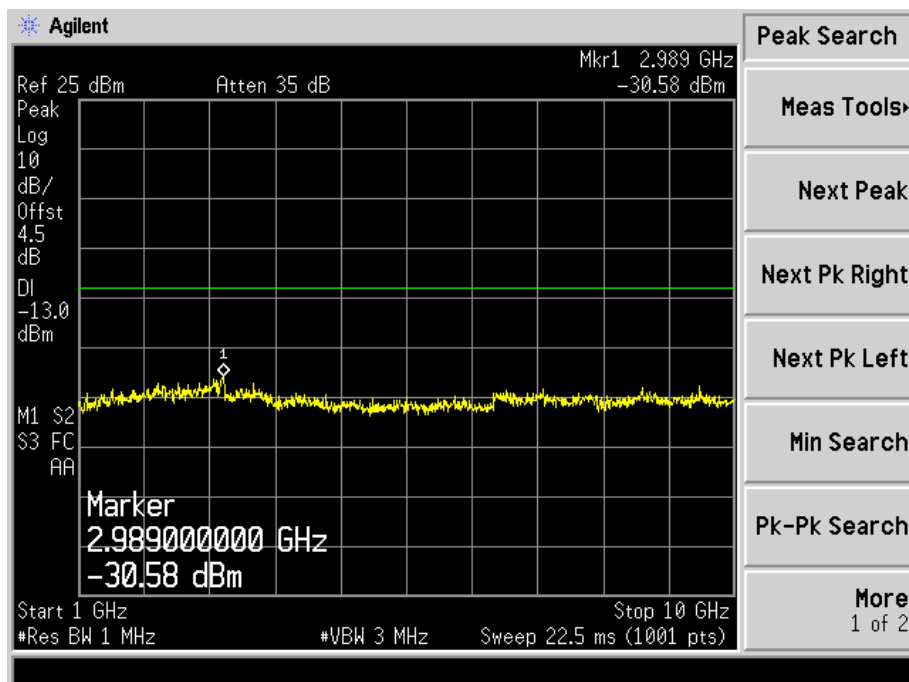
Above 1GHz



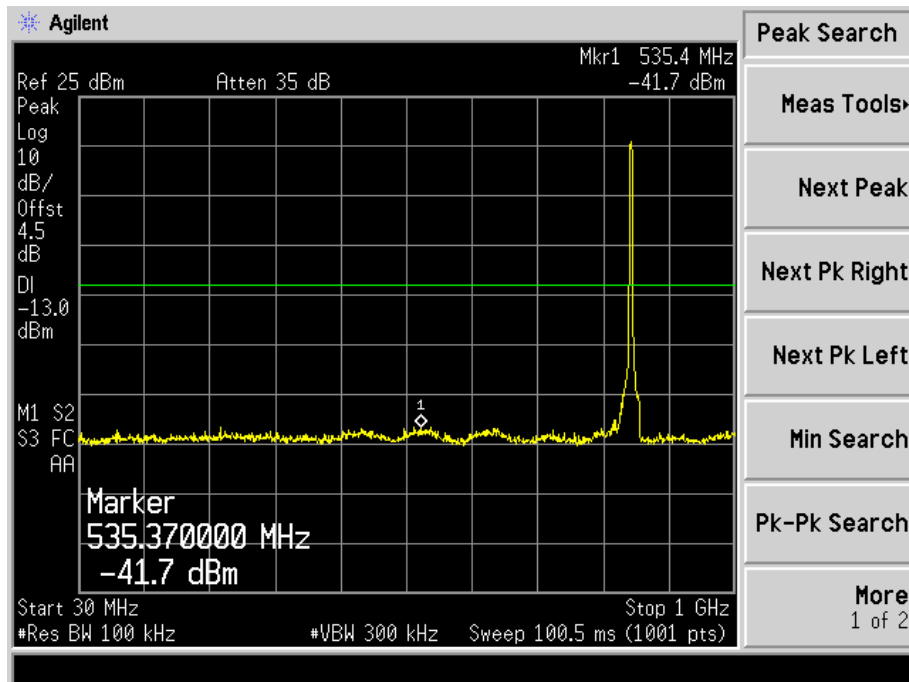
HSUPA Middle Channel  
30MHz to 1GHz



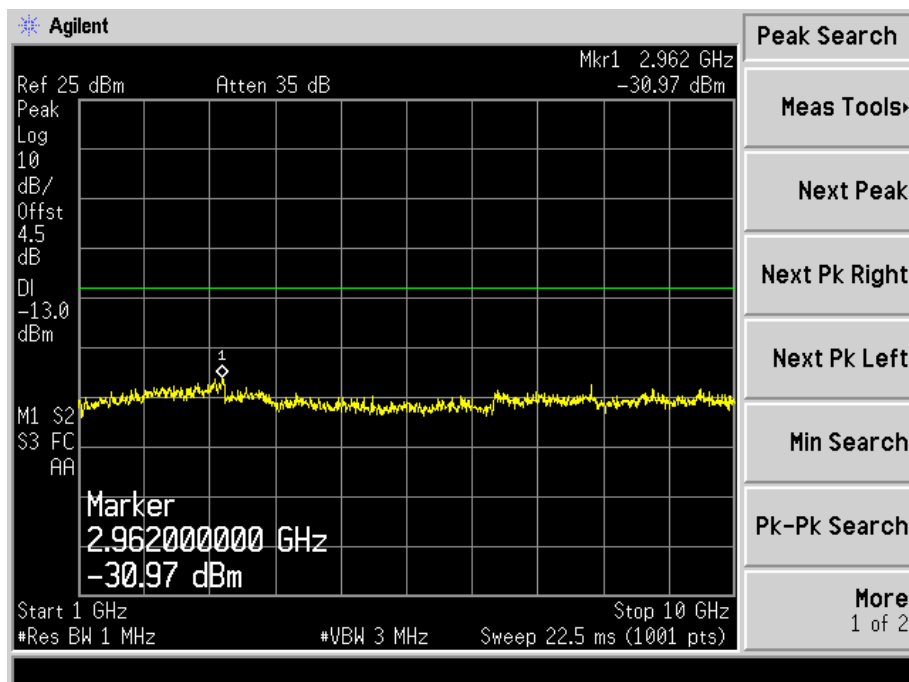
Above 1GHz



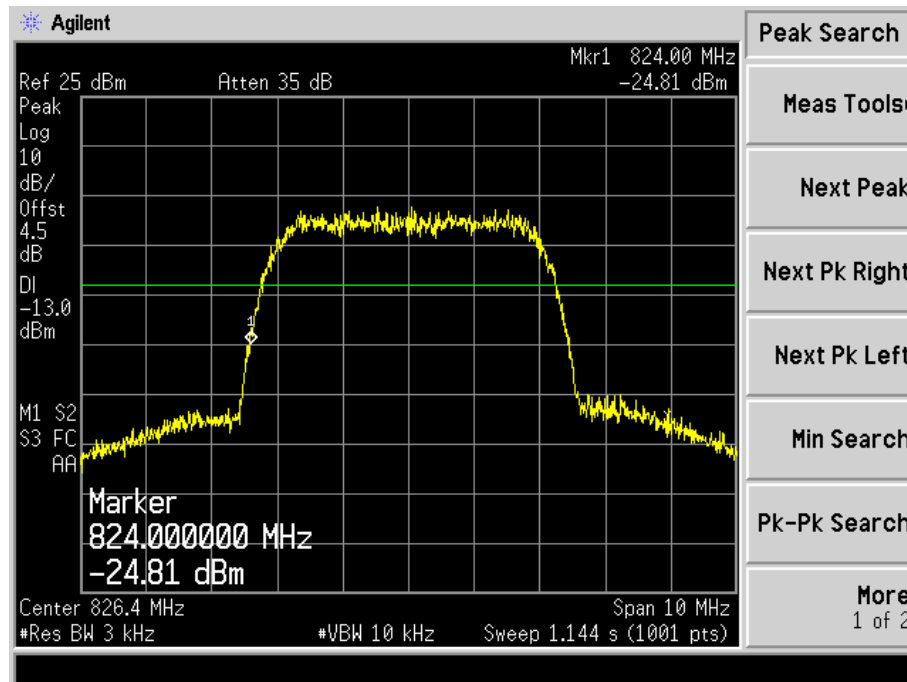
## HSUPA High Channel 30MHz to 1GHz



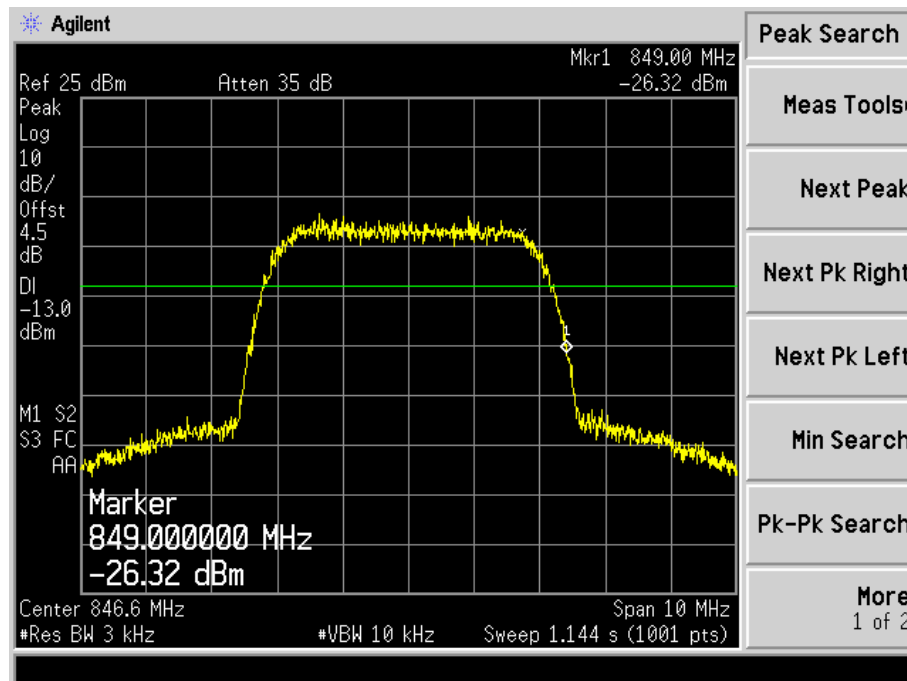
## Above 1GHz



## HSUPA Low Band Spurious Emission



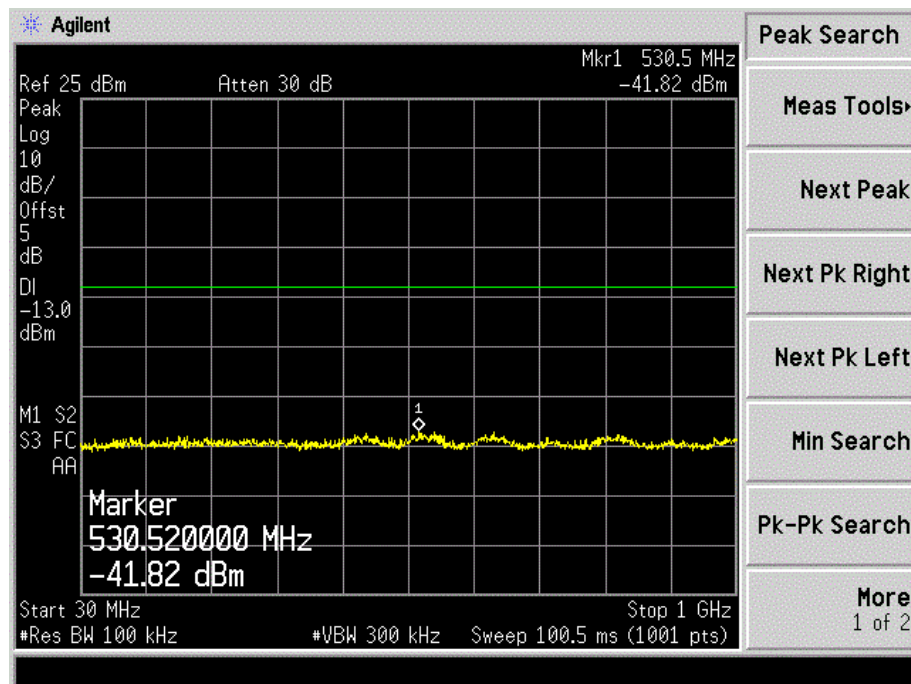
## HSUPA High Band Spurious Emission



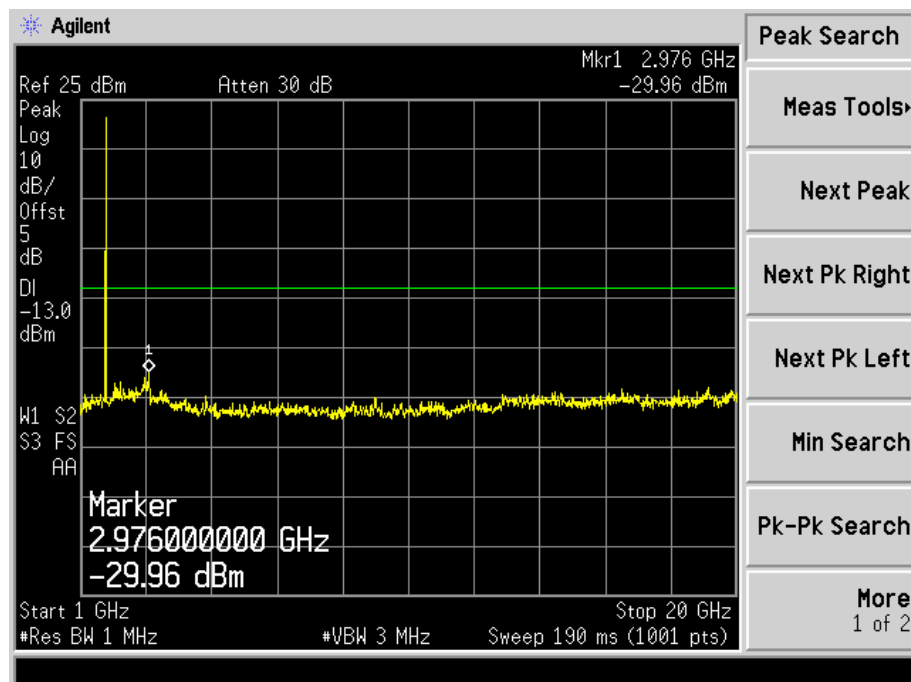
### For Band IV

WCDMA Low Channel

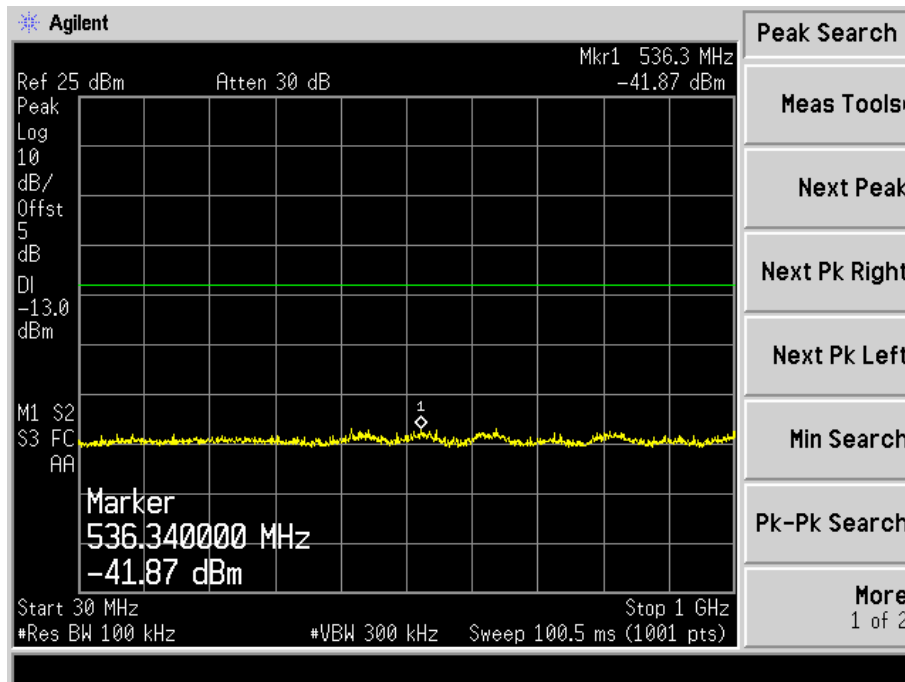
30MHz to 1GHz



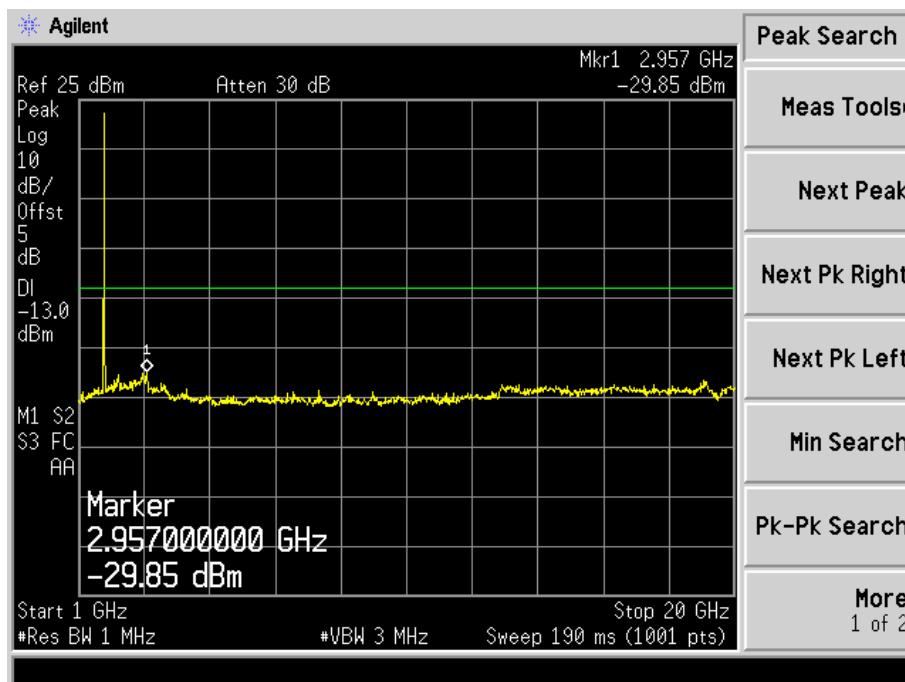
Above 1GHz



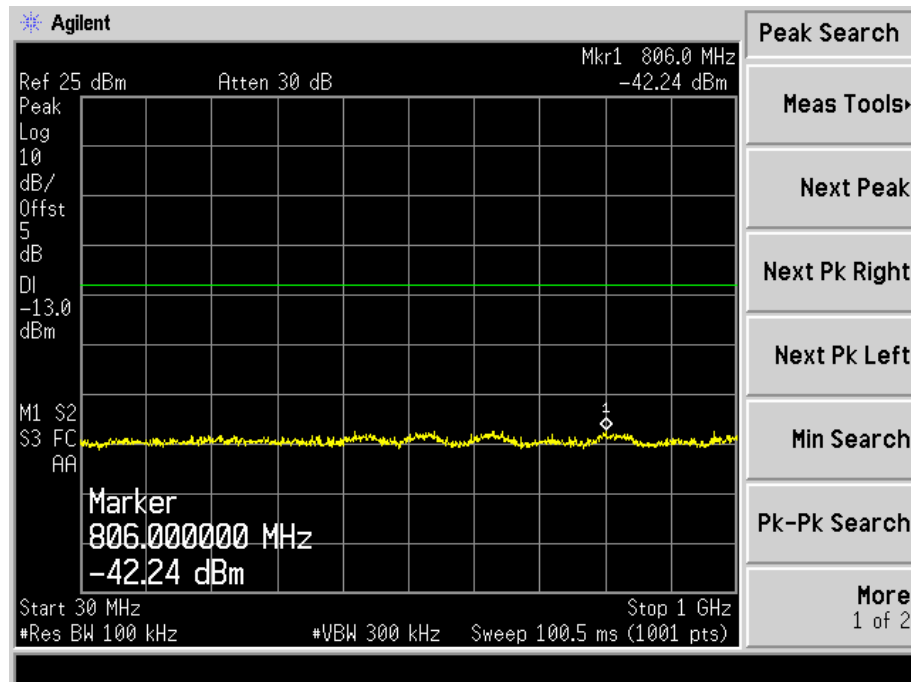
# WCDMA Middle Channel 30MHz to 1GHz



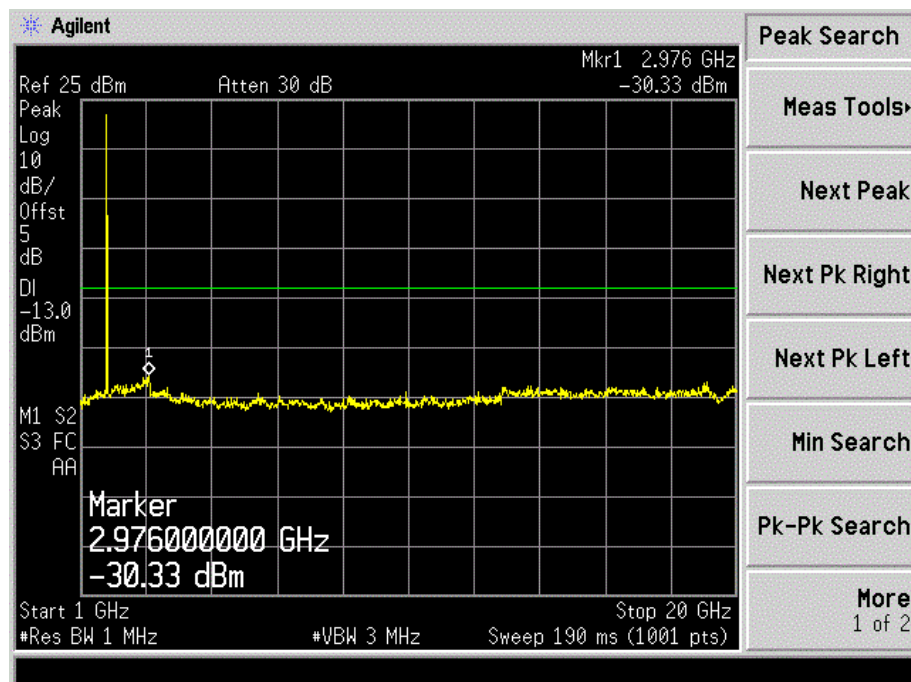
# Above 1GHz



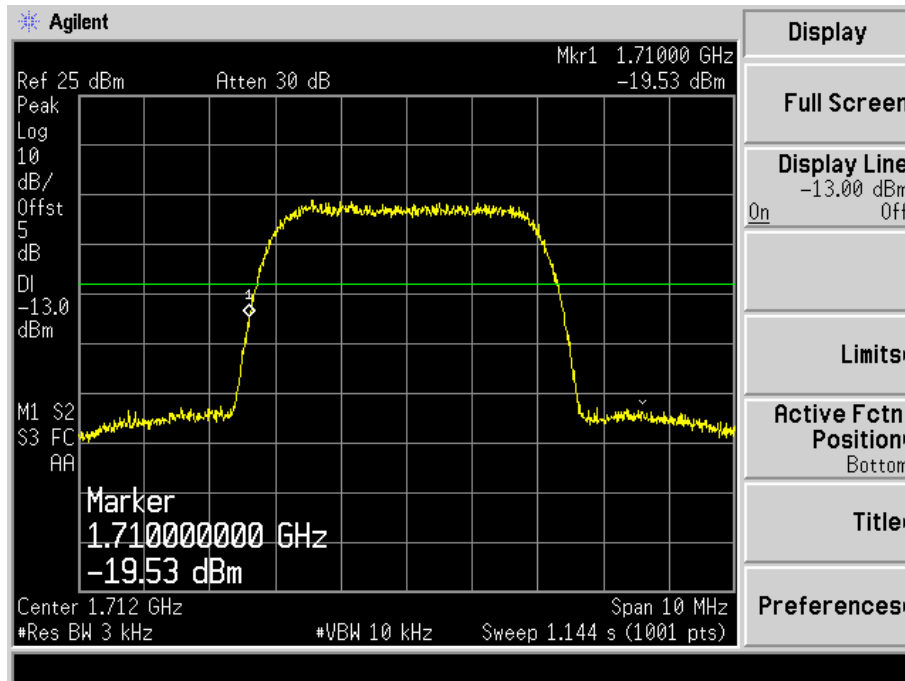
# WCDMA High Channel 30MHz to 1GHz



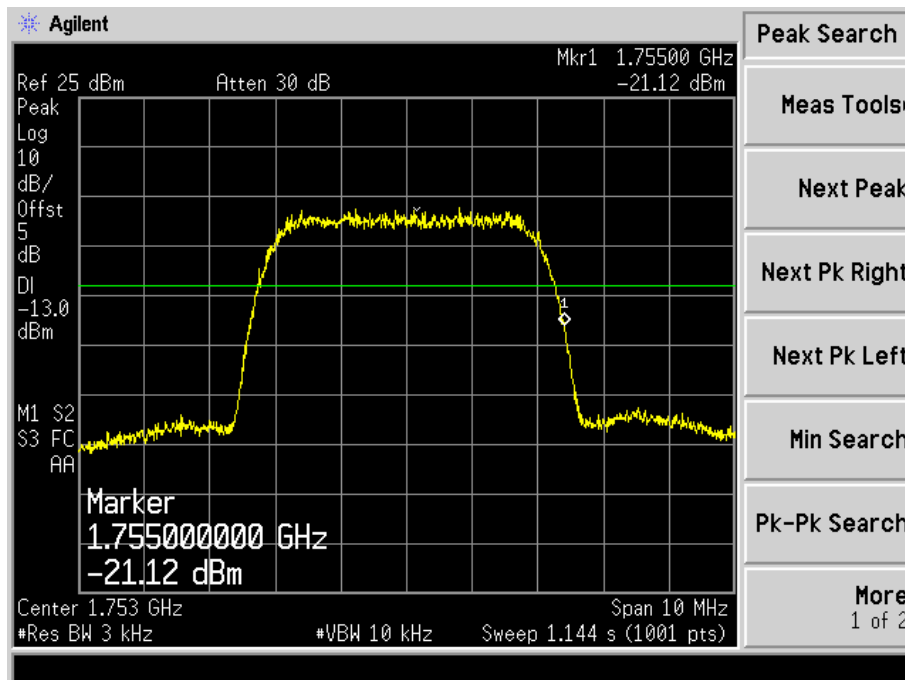
# Above 1GHz



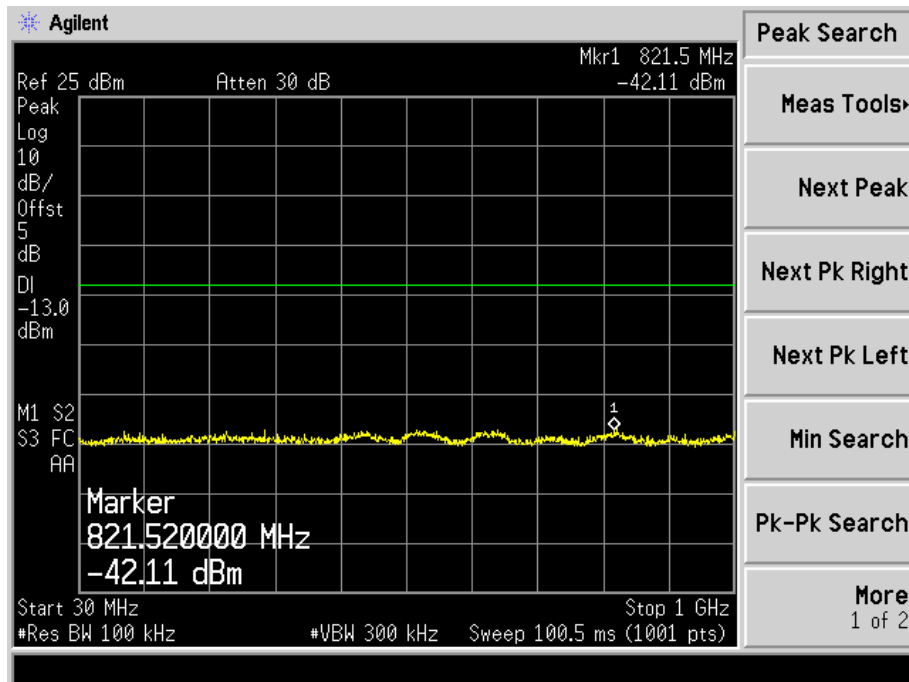
### WCDMA Low Band Spurious Emission



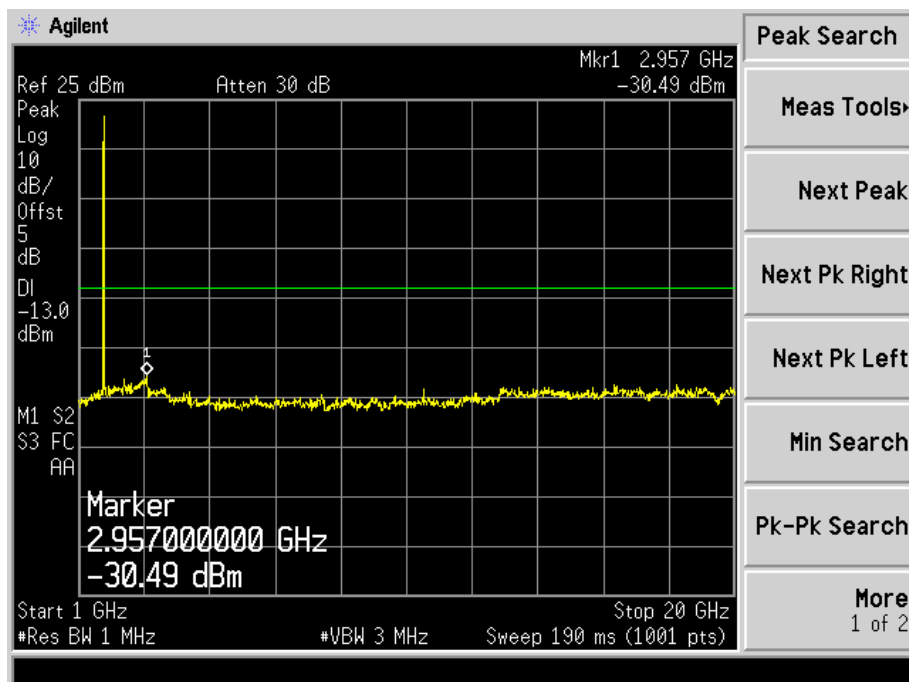
### WCDMA High Band Spurious Emission



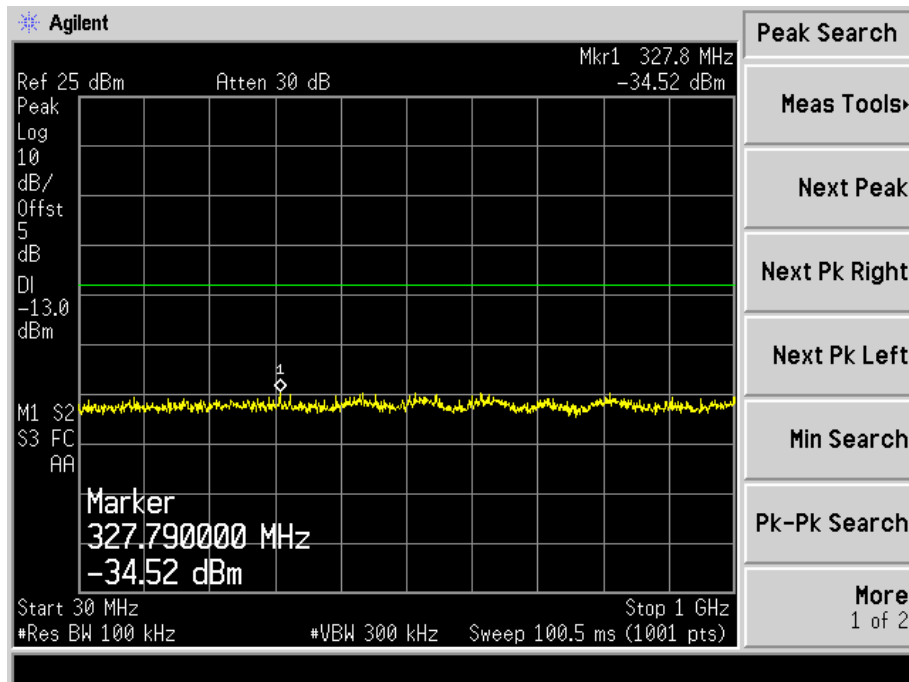
HSDPA Low Channel  
30MHz to 1GHz



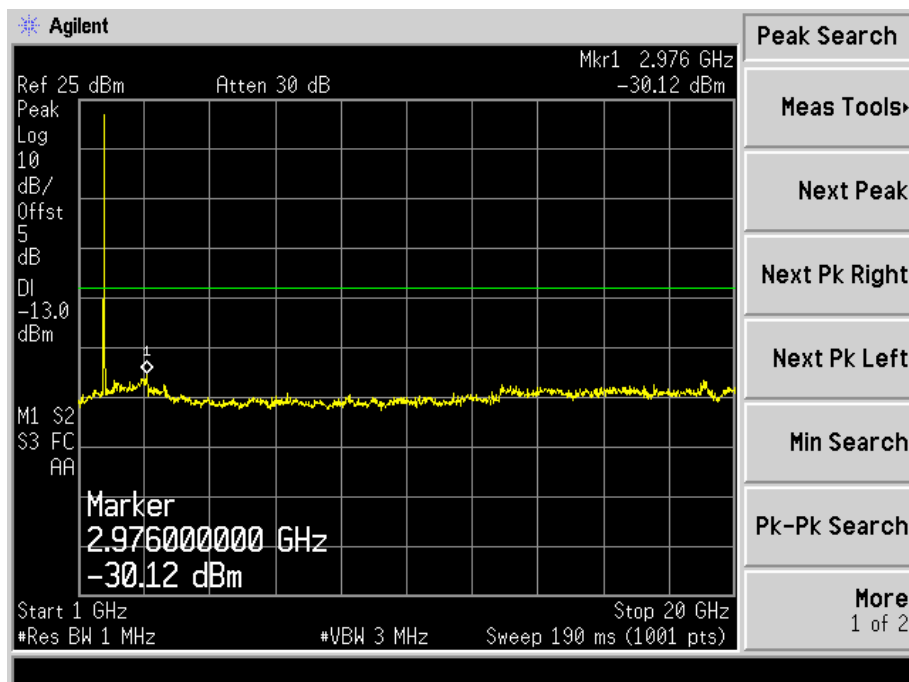
Above 1GHz



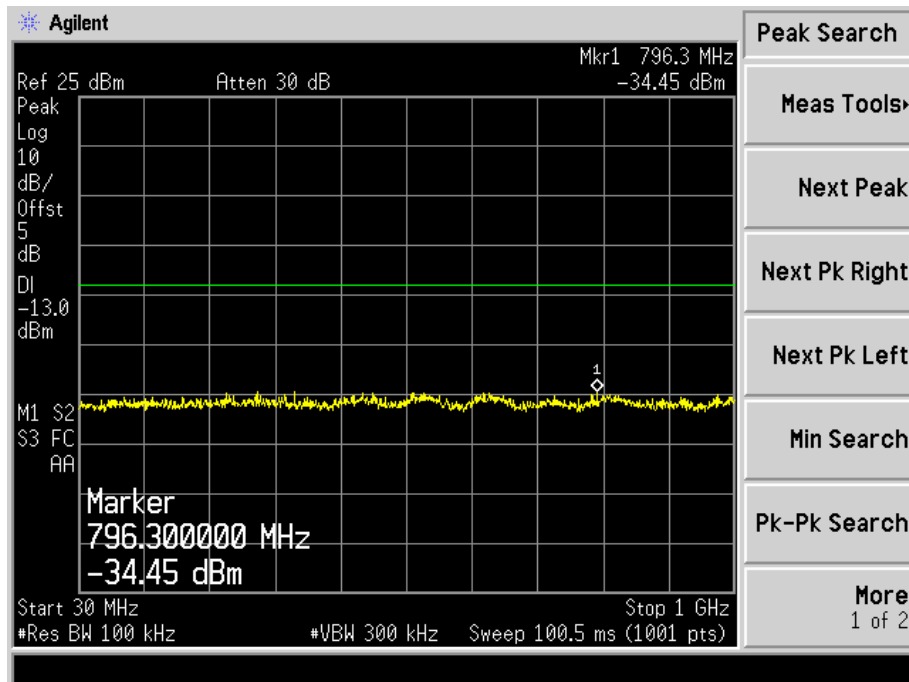
## HSDPA Middle Channel 30MHz to 1GHz



## Above 1GHz



## HSDPA High Channel 30MHz to 1GHz



## Above 1GHz

