



FCC Test Report

FCC Part 22,24 / RSS 132,133

FOR:

iX104-AC860

MODEL #: iX104

**Xplore Technologies, Inc.
14000 Summit Rd, Suite 900
Austin, Texas 78728
USA**

**FCC ID: Q2GIX104-145, Q2GIX104-146, Q2GIX104-147, Q2GIX104-148
IC ID: IC 4596A-IX104WBG**

**TEST REPORT #: XPLOR_002_05002_FCC22/24
DATE: FEBRUARY 14, 2006**



Certificate # 2135.01



**FCC listed#
101450**

**IC recognized #
3925**

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1 Assessment

The following is in compliance with the applicable criteria specified in FCC rules Parts 2, 22 and 24 of Title 47 of the Code of Federal Regulations and in compliance with the applicable criteria specified in Industry Canada rules RSS132 and RSS133.

Company	Description	Model #
Xplore Technologies, Inc.	Tablet Computer	iX104



2006-02-14

Michael Grings
Deputy Test Lab Manager

The test results of this test report relate exclusively to the test item specified in Identification of the Equipment under Test. The CETECOM Inc. USA does not assume responsibility for any conclusions and generalizations drawn from the test results with regard to other specimens or samples of the type of the equipment represented by the test item. The test report may only be reproduced or published in full. Reproduction or publication of extracts from the report requires the prior written approval of the CETECOM Inc USA.

2 Administrative Data

2.1 Identification of the Testing Laboratory Issuing the EMC Test Report

Company Name:	CETECOM Inc.
Department:	EMC
Address:	411 Dixon Landing Road Milpitas, CA 95035 U.S.A.
Telephone:	+1 (408) 586 6200
Fax:	+1 (408) 586 6299
Responsible Test Lab Manager:	Lothar Schmidt
Responsible Project Leader:	Neelesh Raj
Date of test:	2006-01-23 to 2006-02-14

2.2 Identification of the Client

Applicant's Name:	Xplore Technologies, Inc.
Street Address:	14000 Summit Rd, Suite 900
City/Zip Code	Austin, Texas 78728
Country	USA
Contact Person:	Mazyar Razzaz
Phone No.	512-336-7797 ext. 226
Fax:	512-336-7791
e-mail:	mrzzaz@xploretech.com

2.3 Identification of the Manufacturer

Manufacturer's Name:	Wistron Corporation
Manufacturers Address:	21F, 88, Sec.1, Hsin Tai Wu Rd., Hsichih
City/Zip Code	Taipei Hsien 221
Country	Taiwan, R.O.C.

3 Equipment under Test (EUT)

3.1 Identification of the Equipment under Test

Marketing Name:	iX104-AC860	
Description:	Tablet Computer	
Model No:	iX104	
FCC ID:	<u>FCC ID #</u>	<u>WIRELESS OPTION</u>
	Q2GIX104-145	HSDPA(AC860)
	Q2GIX104-146	HSDPA(AC860) + BT
	Q2GIX104-147	HSDPA(AC860) + WLAN
	Q2GIX104-148	WLAN(2915ABG)+HSDPA+BT
IC ID:	<u>IC ID #</u>	<u>WIRELESS OPTION</u>
	IC 4596A-IX104WBG	HSDPA(AC860)
	IC 4596A-IX104WBG	HSDPA(AC860) + BT
	IC 4596A-IX104WBG	HSDPA(AC860) + WLAN
	IC 4596A-IX104WBG	WLAN(2915ABG)+HSDPA+BT
Frequency Range:	FCC22= 824MHz-849MHz FCC24= 1850MHz-1910MHz	
Type(s) of Modulation:	GSM/EDGE/UMTS/HSDPA	
	<u>GSM/EDGE</u>	<u>UMTS/HSDPA</u>
Number of Channels:	FCC22= 124	FCC22= 5
	FCC24= 299	FCC24= 12
Channel spacing:	<u>GSM/EDGE</u>	<u>UMTS/HSDPA</u>
	200KHz	5MHz
Antenna Type:	Internal- Planer Inverted F	

Output Power:	<u>FCC 22:</u> GSM= 0.4130W ERP@848.8MHz EDGE= 0.233W ERP@848.8MHz UMTS= 0.0828W ERP@846.6MHz HSDPA= N/A <u>FCC 24:</u> GSM= 0.4295W EIRP@1909.8MHz EDGE= 0.415W EIRP@1909.8MHz UMTS= 0.1774W EIRP@1907.6MHz HSDPA= N/A
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3.2 Identification of Accessory equipment

TYPE	MANF.	MODEL	FCC ID
AC ADAPTER	LITEON	PA-1700-02	PA-1700-02

4 Subject of Investigation

All testing was performed on the iX104-AC860 referred to as EUT hereafter. The EUT carries a pre-certified module by Sierra Wireless model#:AC860. This report contains only radiated measurements with the EUT, for all conducted measurements please refer to FCC ID#: N7NAC860 report#:AC860_FCC_part_22_24_testreport_REVA.

The EUT is a high-performance tablet PC that runs on the Microsoft Windows XP® Professional Tablet PC Edition operating system. The EUT is a data only device used to browsing, email, downloading, and uploading data.

This report contains the following modulations GMSK, 8PSK, and WCDMA with HSDPA(16QAM) results which were found to be worst case. HSDPA is only for downlink, please refer to attached document AC_860_operational_desc.pdf for further details.

During the testing process Sierra Wireless provided scripts to run on “Procomm Plus” which enabled the module to transmit and receive in the following:

Script File Name	Description
AC850_RESET	Resets the modem
AC850_Tx_OFF_Rx_ON	Turns off the modem's Tx and turns the Rx on.
AC850_TX_EDGE1900_512CH_2SLOT_MAX	EDGE1900 band, channel 512, 2 slots TX at max power
AC850_TX_EDGE1900_661CH_2SLOT_MAX	EDGE1900 band, channel 661, 2 slots TX at max power
AC850_TX_EDGE1900_810CH_2SLOT_MAX	EDGE1900 band, channel 810, 2 slots TX at max power
AC850_TX_EDGE850_128CH_2SLOT_MAX	EDGE850 band, channel 128, 2 slots TX at max power
AC850_TX_EDGE850_192CH_2SLOT_MAX	EDGE850 band, channel 192, 2 slots TX at max power
AC850_TX_EDGE850_251CH_2SLOT_MAX	EDGE850 band, channel 251, 2 slots TX at max power
AC850_TX_GSM1900_512CH_2SLOT_MAX	GSM1900 band, channel 512, 2 slots TX at max power
AC850_TX_GSM1900_661CH_2SLOT_MAX	GSM1900 band, channel 661, 2 slots TX at max power
AC850_TX_GSM1900_810CH_2SLOT_MAX	GSM1900 band, channel 810, 2 slots TX at max power
AC850_TX_GSM850_128CH_2SLOT_MAX	GSM850 band, channel 128, 2 slots TX at max power
AC850_TX_GSM850_192CH_2SLOT_MAX	GSM850 band, channel 192, 2 slots TX at max power
AC850_TX_GSM850_251CH_2SLOT_MAX	GSM850 band, channel 251, 2 slots TX at max power
AC850_TX_WCDMA1900_9262CH_MAX	WCDMA1900 band, channel 9262, TX at max power
AC850_TX_WCDMA1900_9400CH_MAX	WCDMA1900 band, channel 9400, TX at max power
AC850_TX_WCDMA1900_9538CH_MAX	WCDMA1900 band, channel 9538, TX at max power
AC850_TX_WCDMA850_4132CH_MAX	WCDMA850 band, channel 4132, TX at max power
AC850_TX_WCDMA850_4182CH_MAX	WCDMA850 band, channel 4182, TX at max power
AC850_TX_WCDMA850_4233CH_MAX	WCDMA850 band, channel 4233, TX at max power

Project Memorandum

Aug 18, 2005

Title:	Instruction Set on Running Scripts for Regulatory Testing		
Project:	AC 8x0	Memo Number:	N/A
		Revision Level:	01

The EUT was maximized in the X,Y, Z positions , all data in this report shows the worst case between horizontal and vertical polarization for above 1GHz.

The objective of the measurements done by Cetecom Inc. was to measure the performance of the EUT as specified by requirements listed in FCC rules Parts 2, 22 and 24 of Title 47 of the Code of Federal Regulations and Industry Canada rules RSS132 and RSS133.

5 Measurements

5.1 Radiated Power

5.1.1 FCC 2.1046 Measurements required: RF power output.

Power output shall be measured at the RF output terminals when the transmitter is adjusted in accordance with the tune-up procedure to give the values of current and voltage on circuit elements as specified. The electrical characteristics of the radio frequency load attached to the output terminals when this test is made shall be stated.

5.1.2 Limits:

5.1.2.1 FCC 22.913 (a) Effective radiated power limits.

The effective radiated power (ERP) of mobile transmitters must not exceed 7 Watts.

5.1.2.2 FCC 24.232 (b)(c) Power limits.

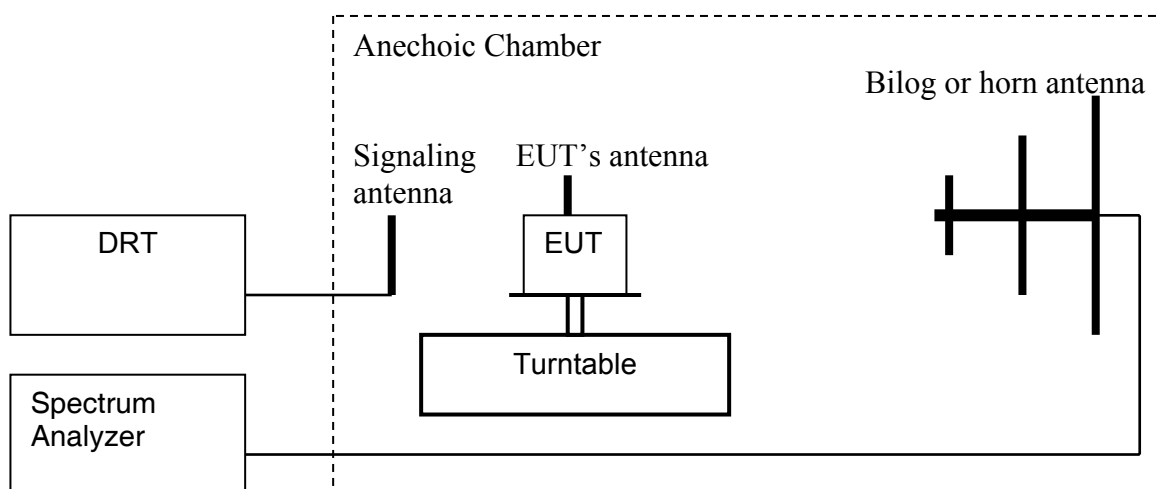
(b) Mobile/portable stations are limited to 2 Watts effective isotropic radiated power (EIRP).

(c) Peak transmit power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms equivalent voltage. The measurement results shall be properly adjusted for any limitations, such as detector response times, limited resolution bandwidth capability when compared to the emission bandwidth, sensitivity, etc., so as to obtain a true peak measurement over the full bandwidth of the channel.

5.1.3 Radiated Output Power Measurement procedure:

Based on TIA-603C August 2004

2.2.17.2 Effective Radiated Power (ERP) or Effective Isotropic Radiated Power (EIRP)



1. Connect the equipment as shown in the above diagram with the EUT's antenna in a vertical orientation.

2. Adjust the settings of the Digital Radiocommunication Tester (DRT) to set the EUT to its maximum power at the required channel.
 3. Set the spectrum analyzer to the channel frequency. Set the analyzer to measure peak hold with the required settings.
 4. Rotate the EUT 360°. Record the peak level in dBm (**LVL**).
 5. Replace the EUT with a vertically polarized half wave dipole or known gain antenna. The center of the antenna should be at the same location as the center of the EUT's antenna.
 6. Connect the antenna to a signal generator with known output power and record the path loss in dB (**LOSS**). **LOSS** = Generator Output Power (dBm) – Analyzer reading (dBm).
 7. Determine the ERP using the following equation:
ERP (dBm) = LVL (dBm) + LOSS (dB)
 8. Determine the EIRP using the following equation:
EIRP (dBm) = ERP (dBm) + 2.14 (dB)
 9. Measurements are to be performed with the EUT set to the low, middle and high channel of each frequency band. **Spectrum analyzer settings = rbw=vbw=3MHz**
- (note: Steps 5 and 6 above are performed prior to testing and **LOSS** is recorded by test software. Steps 3, 4, 7 and 8 above are performed with test software.)

5.1.4 ERP Results 850 MHz band:

Burst Peak ERP
≤38.45dBm (7W)

GSM

Frequency (MHz)	Effective Radiated Power (dBm)
824.2	23.72
837	25.57
848.8	26.16

EDGE

Frequency (MHz)	Effective Radiated Power (dBm)
824.2	22.2
837	23.63
848.8	23.67

WCDMA

Frequency (MHz)	Effective Radiated Power (dBm)
826.4	18.46
836.4	18.81
846.6	19.18

5.1.5 EIRP Results 1900 MHz band:

Burst Peak EIRP
≤33dBm (2W)

PCS

Frequency (MHz)	Effective Isotropic Radiated Power (dBm)
1850.2	24.81
1880.0	24.92
1909.8	26.33

EDGE

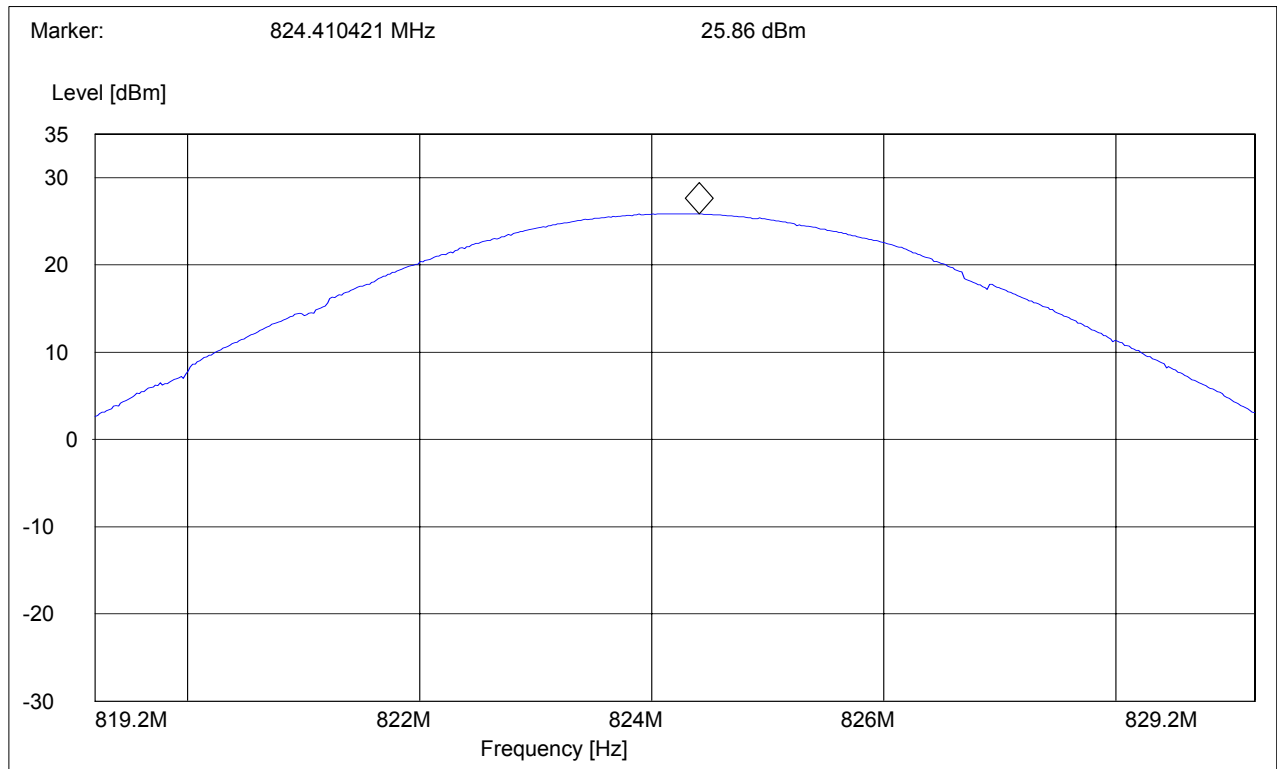
Frequency (MHz)	Effective Isotropic Radiated Power (dBm)
1850.2	25.31
1880.0	25.04
1909.8	26.18

WCDMA

Frequency (MHz)	Effective Isotropic Radiated Power (dBm)
1852.4	21.49
1880	22.3
1907.5	22.49

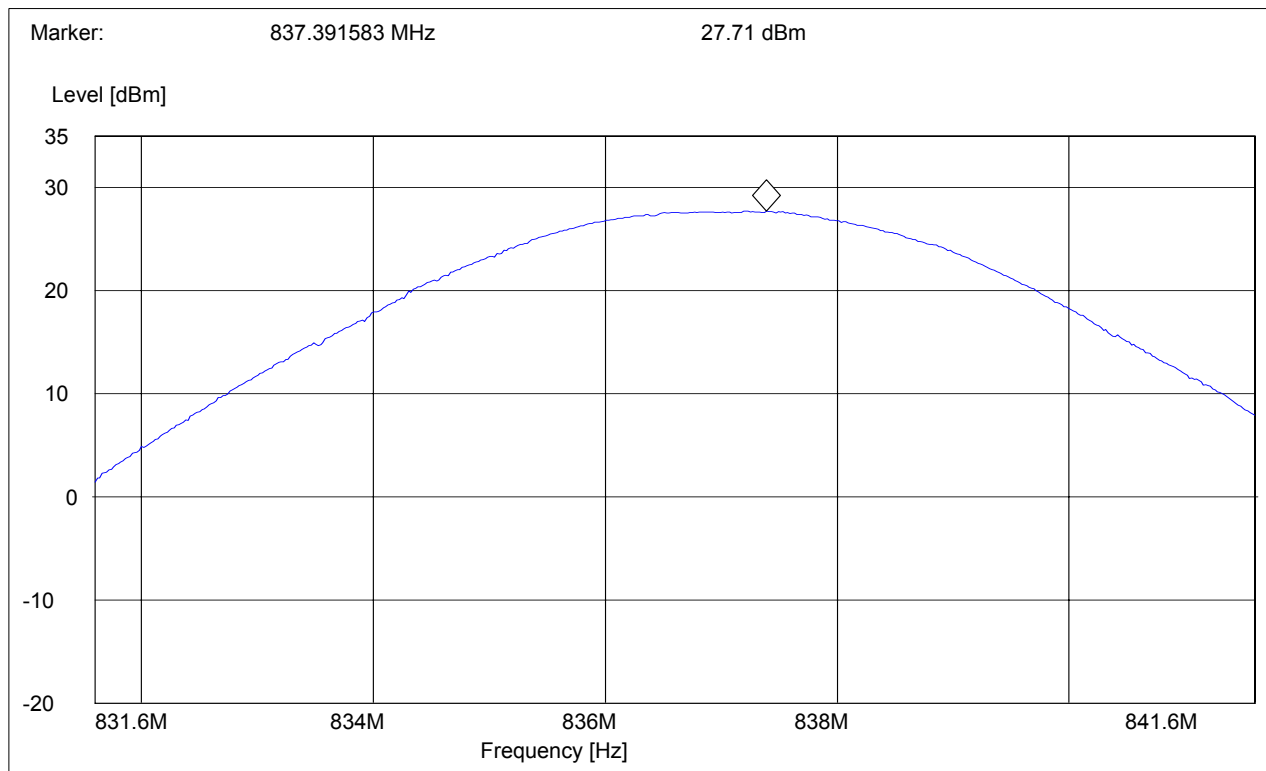
**EIRP (GSM-850)
CHANNEL 128****§22.913(a)**

Start Frequency	Stop Frequency	Detector	Meas. Time	IF BW
819.2 MHz	829.2 MHz	Max Peak	Coupled	3 MHz



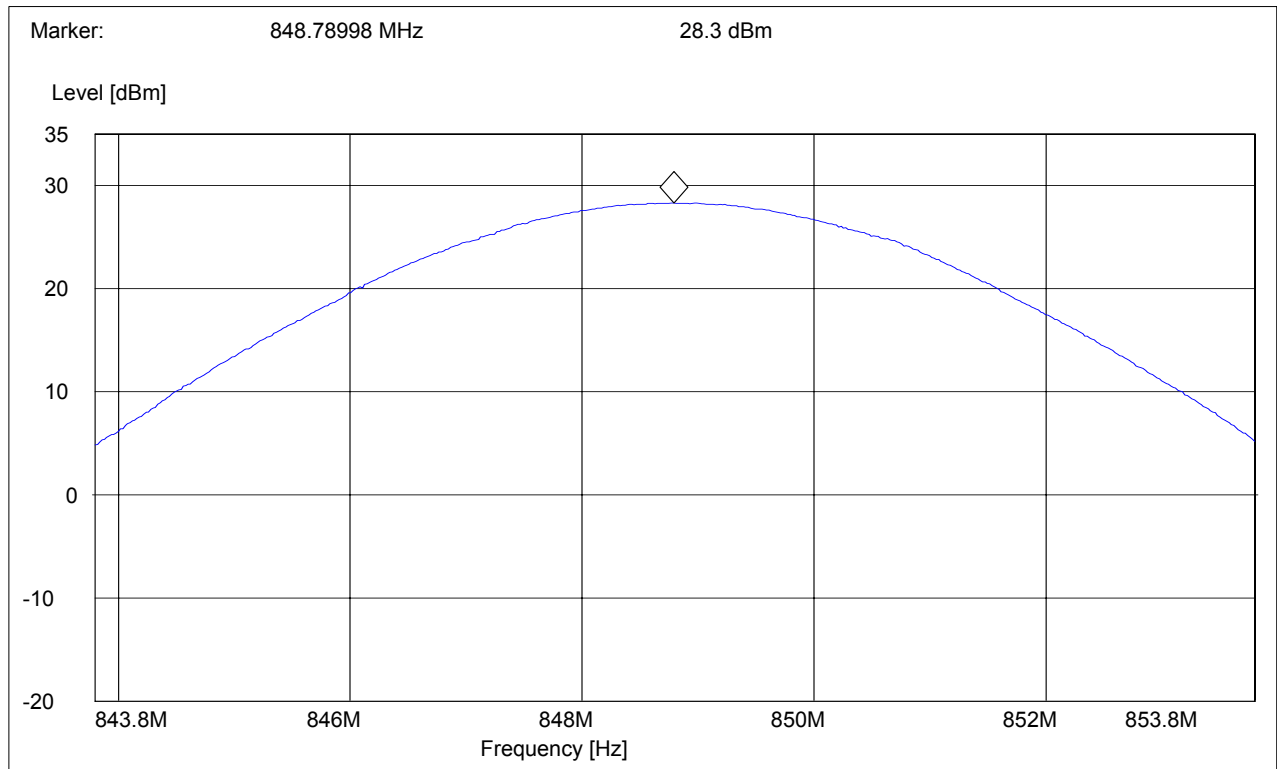
**EIRP (GSM-850)
CHANNEL 192****§22.913(a)**

Start Frequency	Stop Frequency	Detector	Meas. Time	IF BW
831.6 MHz	841.6 MHz	Max Peak	Coupled	3 MHz



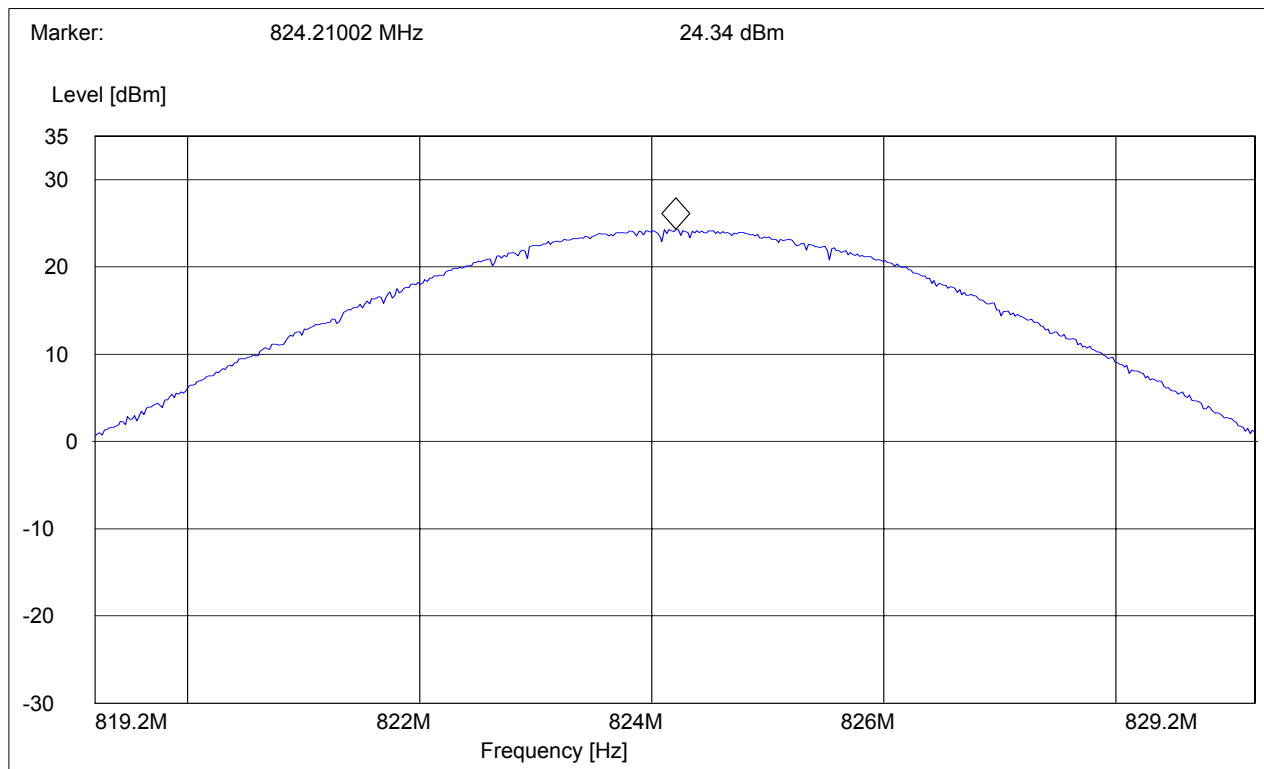
**EIRP (GSM-850)
CHANNEL 251****§22.913(a)**

Start Frequency	Stop Frequency	Detector	Meas. Time	IF BW
843.8 MHz	853.8 MHz	Max Peak	Coupled	3 MHz



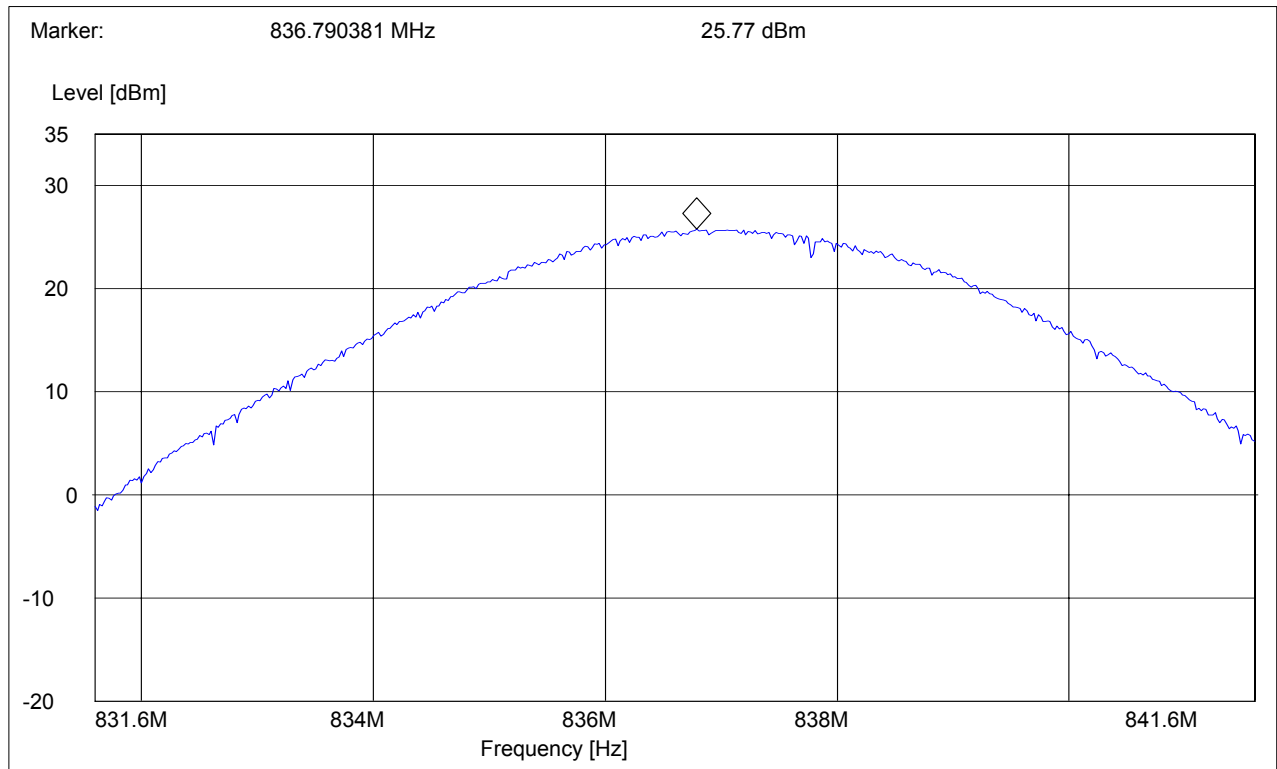
**EIRP (EDGE-850)
CHANNEL 128****§22.913(a)**

Start Frequency	Stop Frequency	Detector	Meas. Time	IF BW
819.2 MHz	829.2 MHz	Max Peak	Coupled	3 MHz



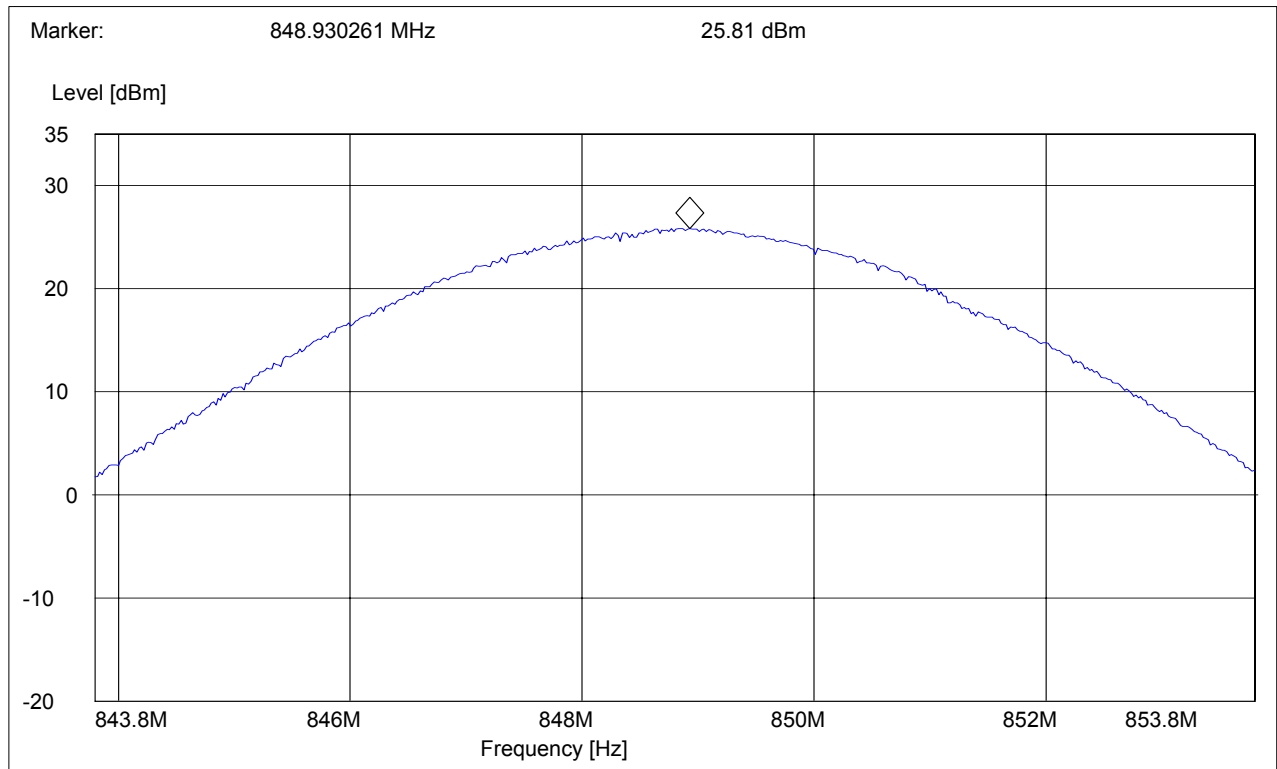
**EIRP (EDGE -850)
CHANNEL 192****§22.913(a)**

Start Frequency	Stop Frequency	Detector	Meas. Time	IF BW
831.6 MHz	841.6 MHz	Max Peak	Coupled	3 MHz



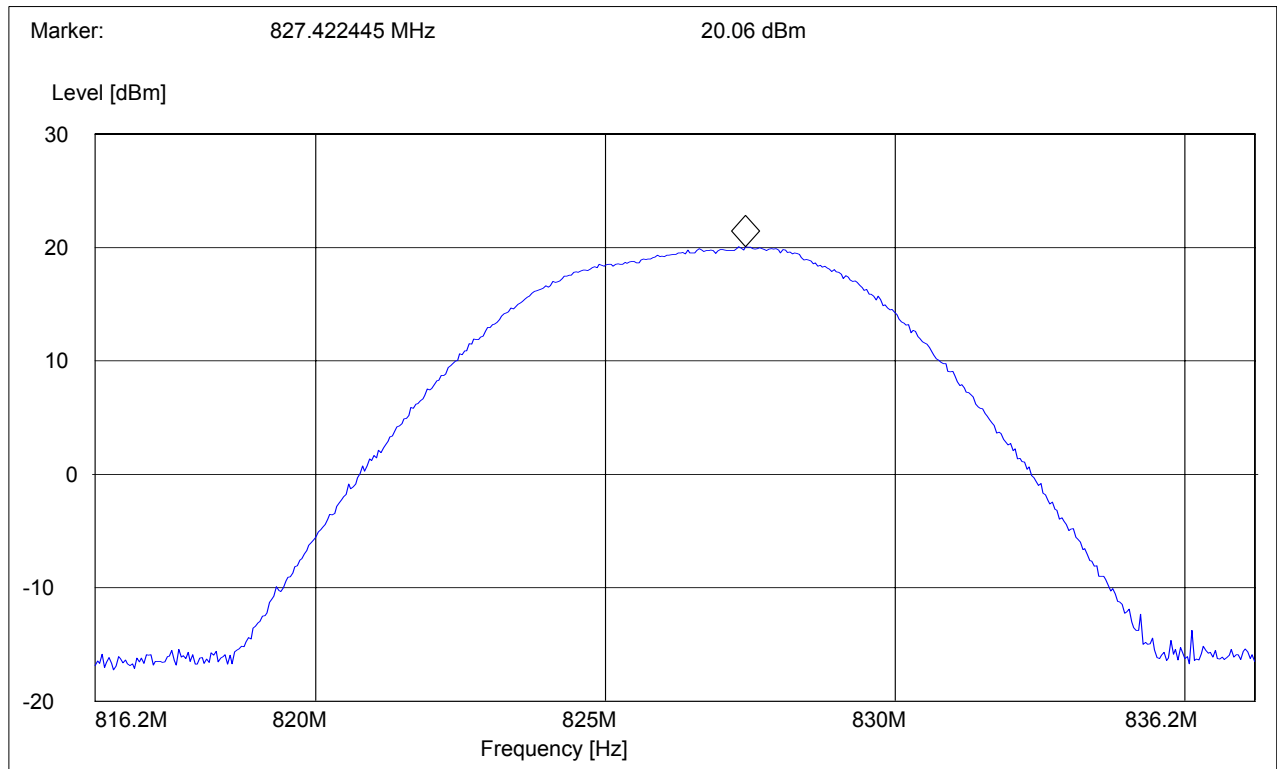
**EIRP (EDGE -850)
CHANNEL 251****§22.913(a)**

Start Frequency	Stop Frequency	Detector	Meas. Time	IF BW
843.8 MHz	853.8 MHz	Max Peak	Coupled	3 MHz



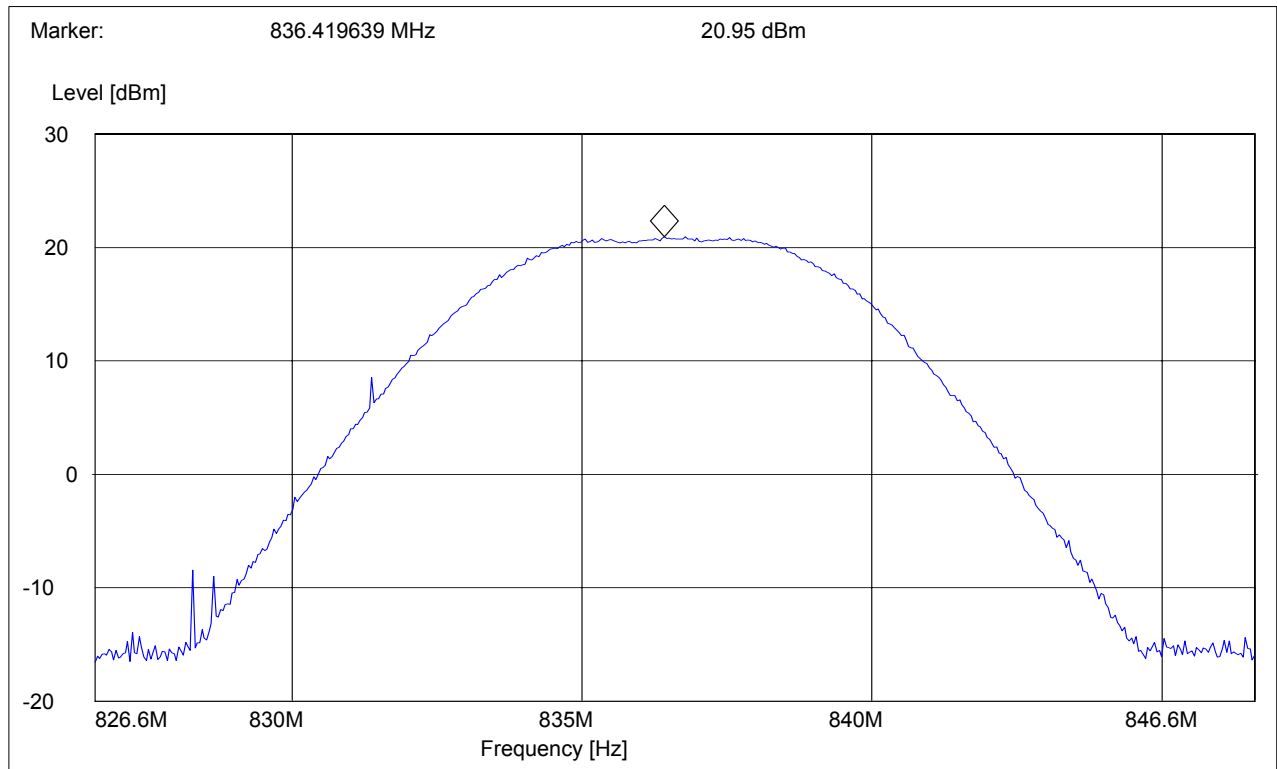
**EIRP (WCDMA-850)
CHANNEL 4132****§22.913(a)**

Start Frequency	Stop Frequency	Detector	Meas. Time	IF BW
816.2MHz	836.2MHz	Max Peak	Coupled	5 MHz



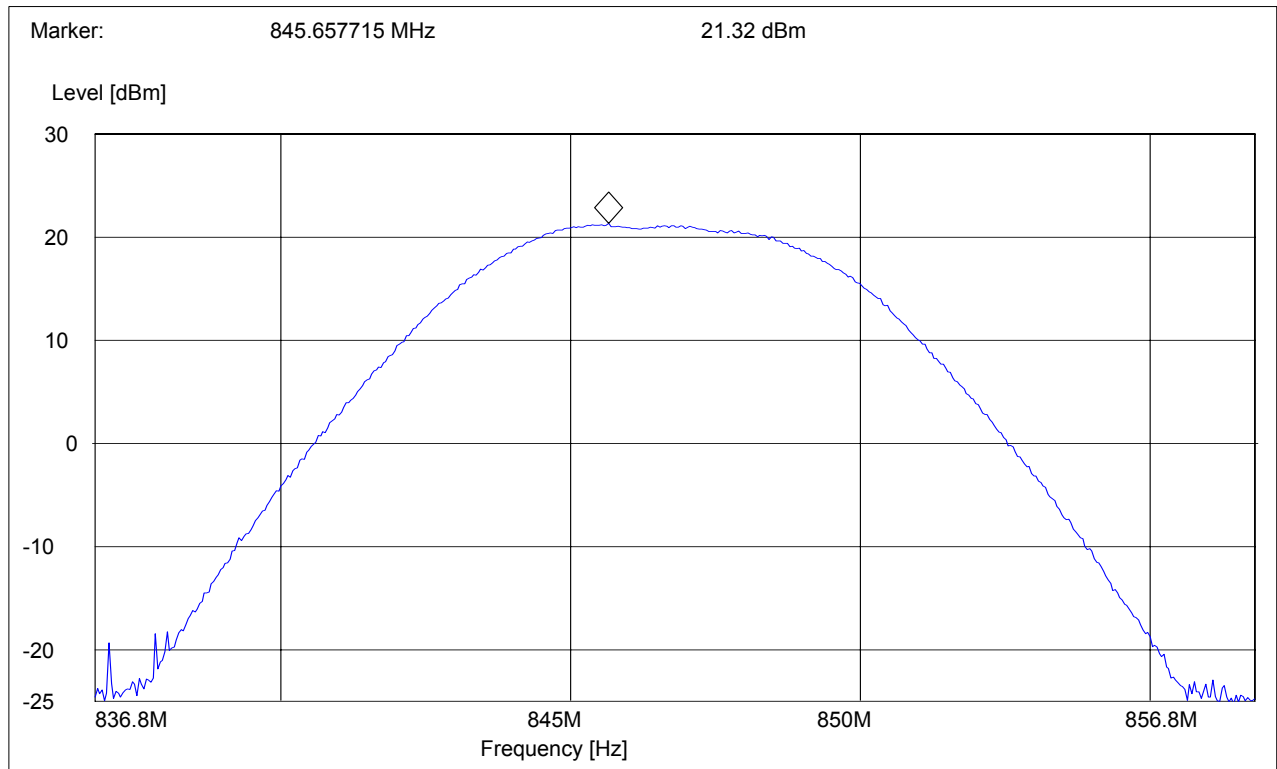
**EIRP (WCDMA-850)
CHANNEL 4182****§22.913(a)**

Start Frequency	Stop Frequency	Detector	Meas. Time	IF BW
826.6MHz	846.6MHz	Max Peak	Coupled	5 MHz



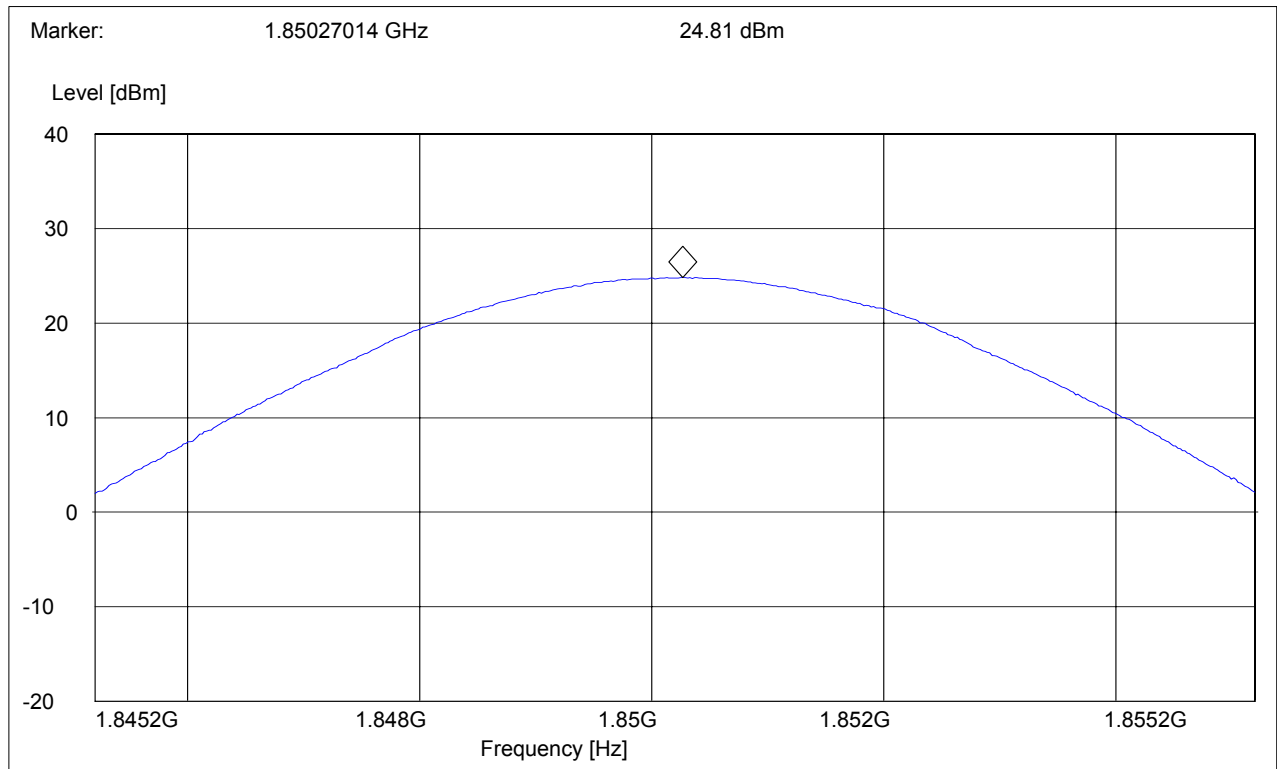
**EIRP (WCDMA-850)
CHANNEL 4233****§22.913(a)**

Start Frequency	Stop Frequency	Detector	Meas. Time	IF BW
836.8MHz	856.8MHz	Max Peak	Coupled	5 MHz



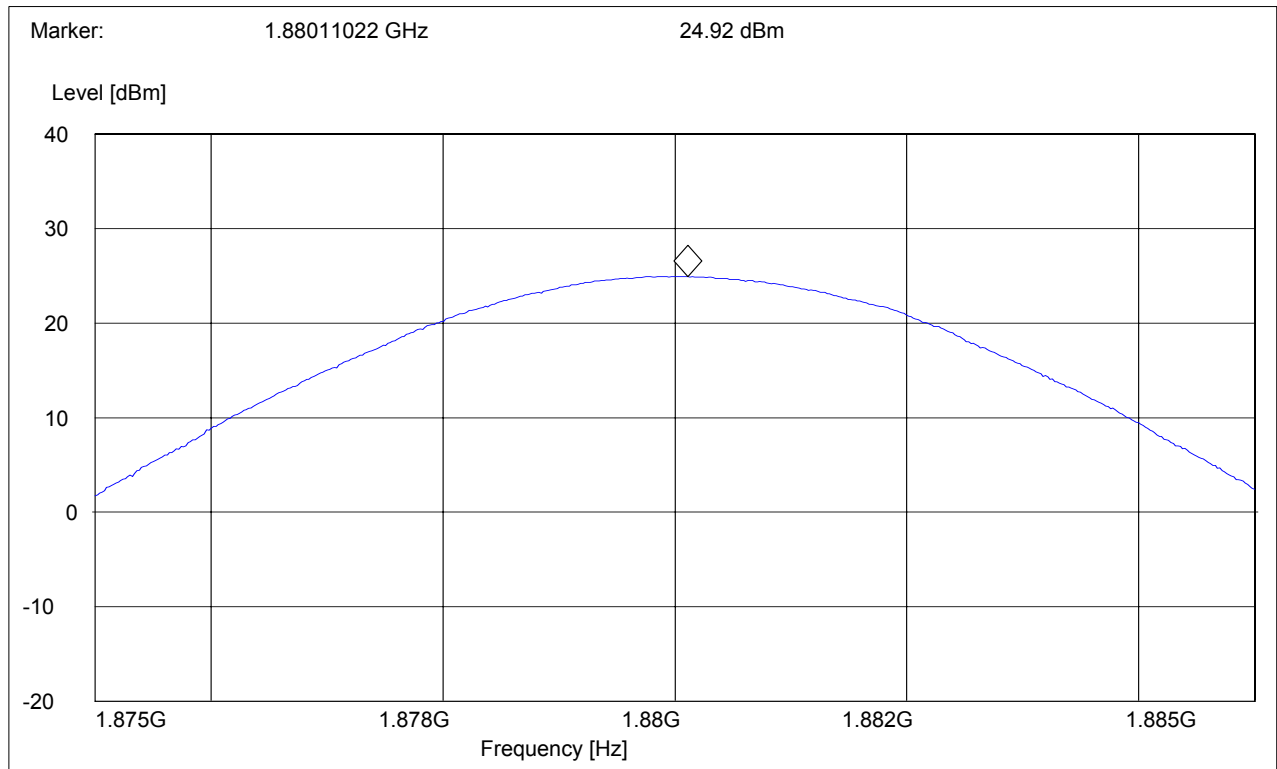
**EIRP (PCS-1900)
CHANNEL 512****§24.232(b)**

Start Frequency	Stop Frequency	Detector	Meas. Time	IF BW
1.8452 GHz	1.8552 MHz	Max Peak	Coupled	3 MHz



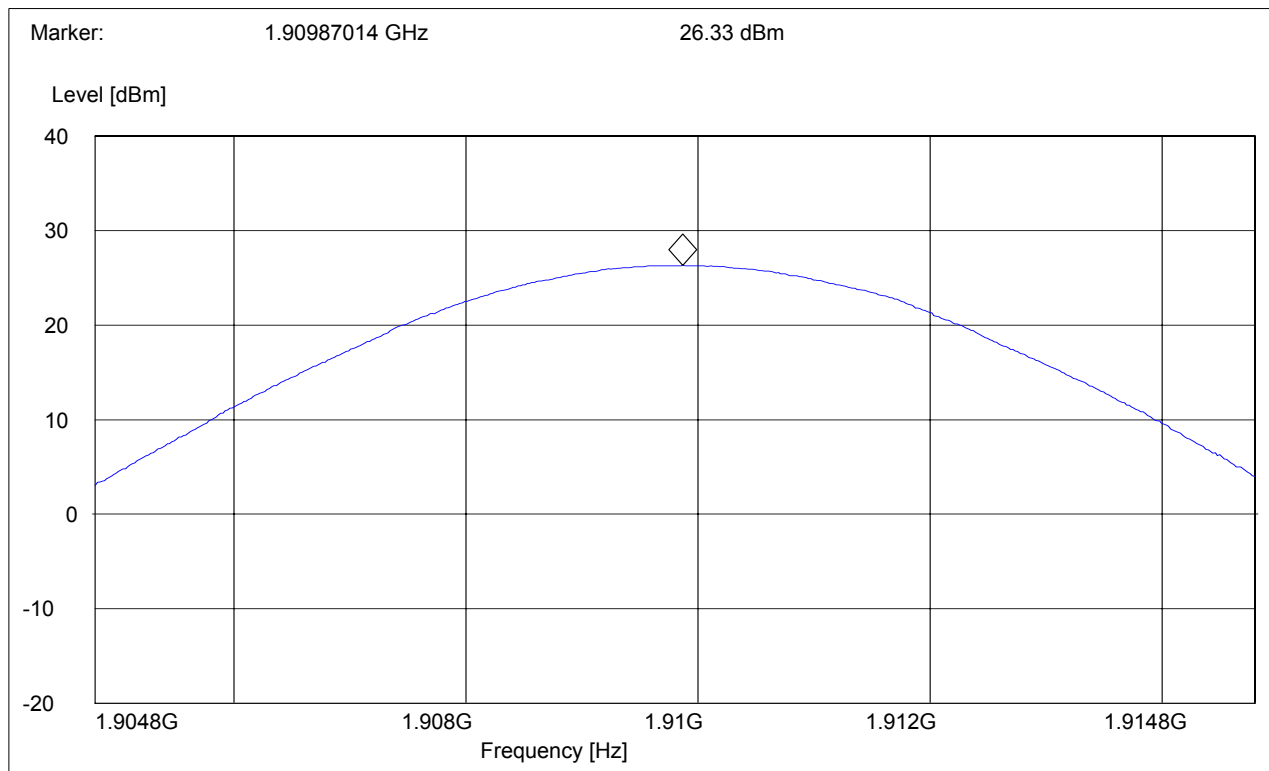
**EIRP (PCS-1900)
CHANNEL 661****§24.232(b)**

Start Frequency	Stop Frequency	Detector	Meas. Time	IF BW
1.875 GHz	1.885 MHz	Max Peak	Coupled	3 MHz



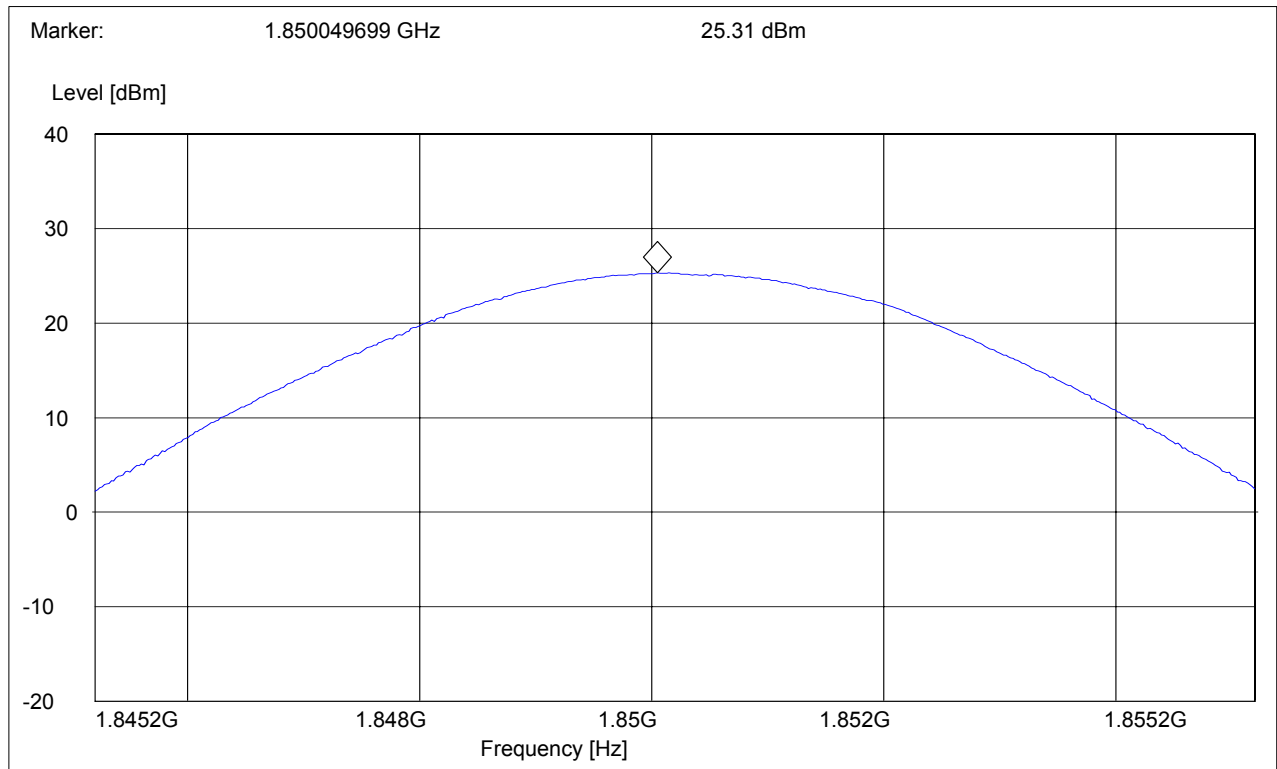
**EIRP (PCS -1900)
CHANNEL 810****§24.232(b)**

Start Frequency	Stop Frequency	Detector	Meas. Time	IF BW
1.9048 GHz	1.9148 MHz	Max Peak	Coupled	3 MHz



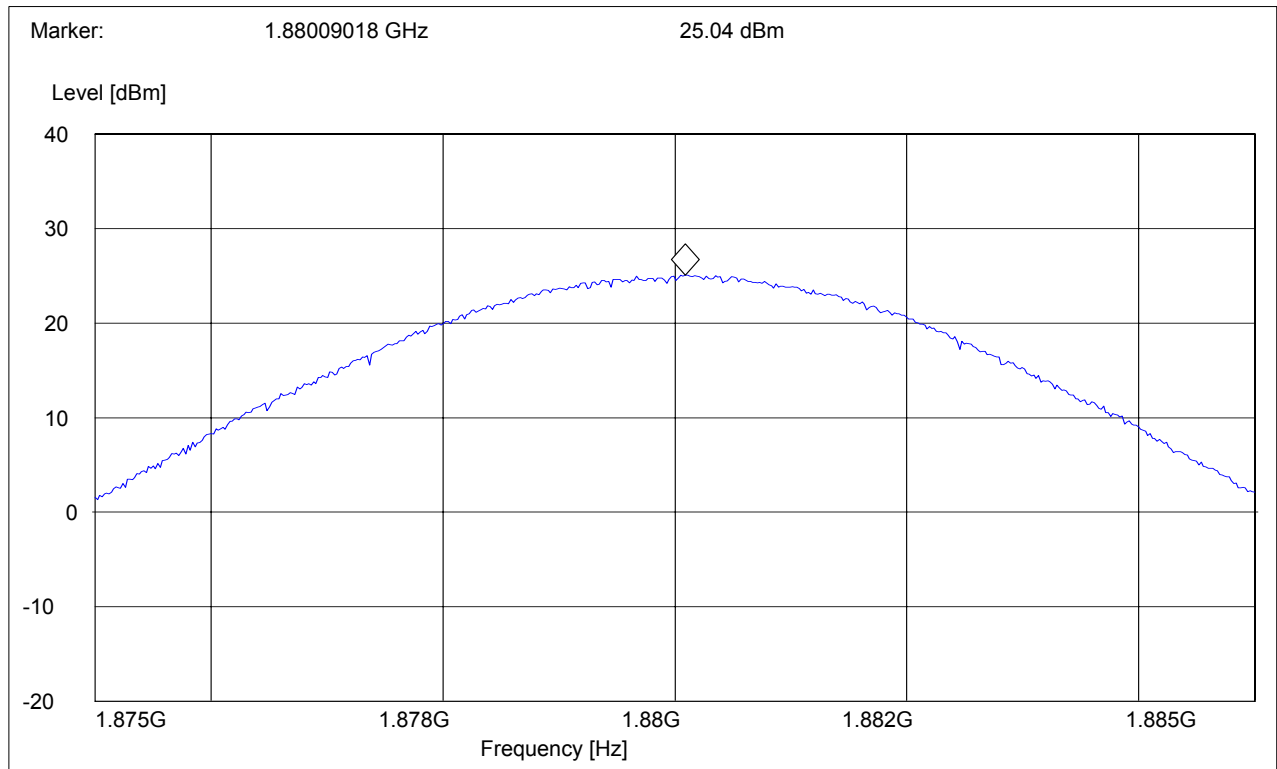
**EIRP (EDGE-1900)
CHANNEL 512****§24.232(b)**

Start Frequency	Stop Frequency	Detector	Meas. Time	IF BW
1.8452 GHz	1.8552 MHz	Max Peak	Coupled	3 MHz



**EIRP (EDGE-1900)
CHANNEL 661****§24.232(b)**

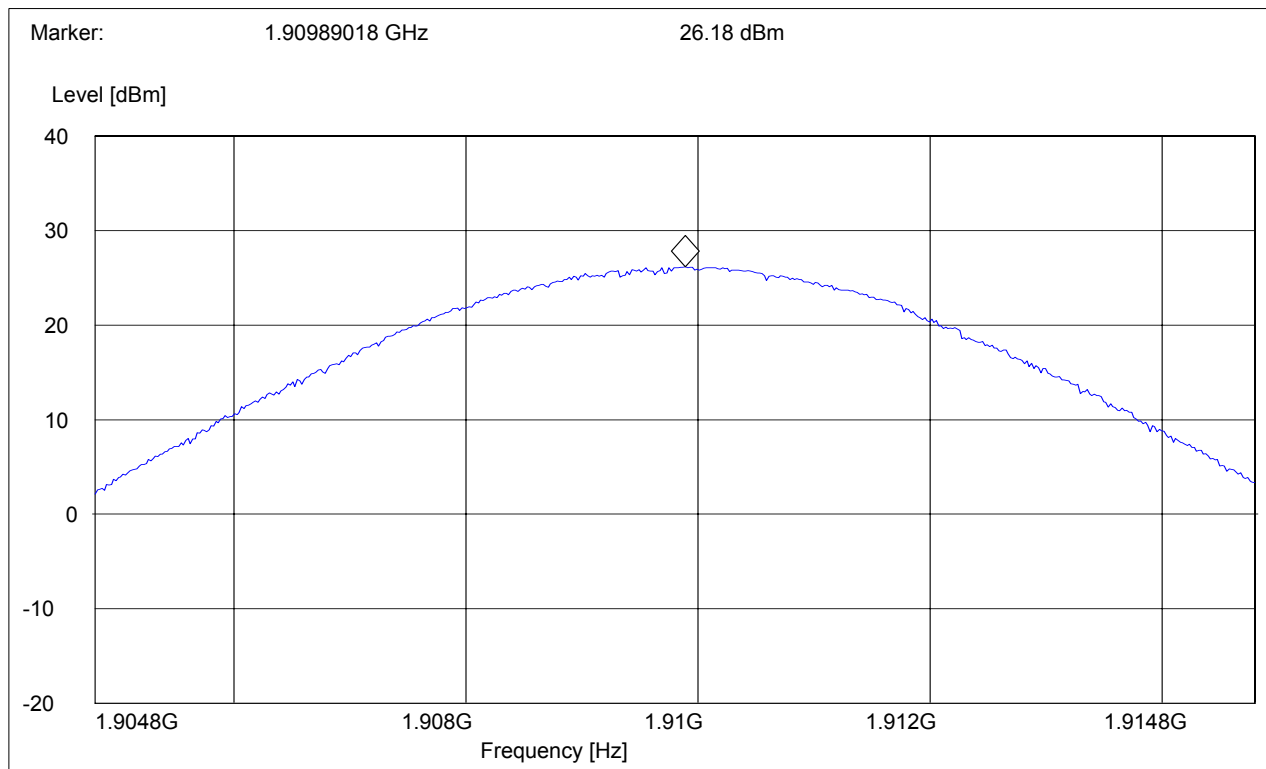
Start Frequency	Stop Frequency	Detector	Meas. Time	IF BW
1.875 GHz	1.885 MHz	Max Peak	Coupled	3 MHz



**EIRP (EDGE-1900)
CHANNEL 810**

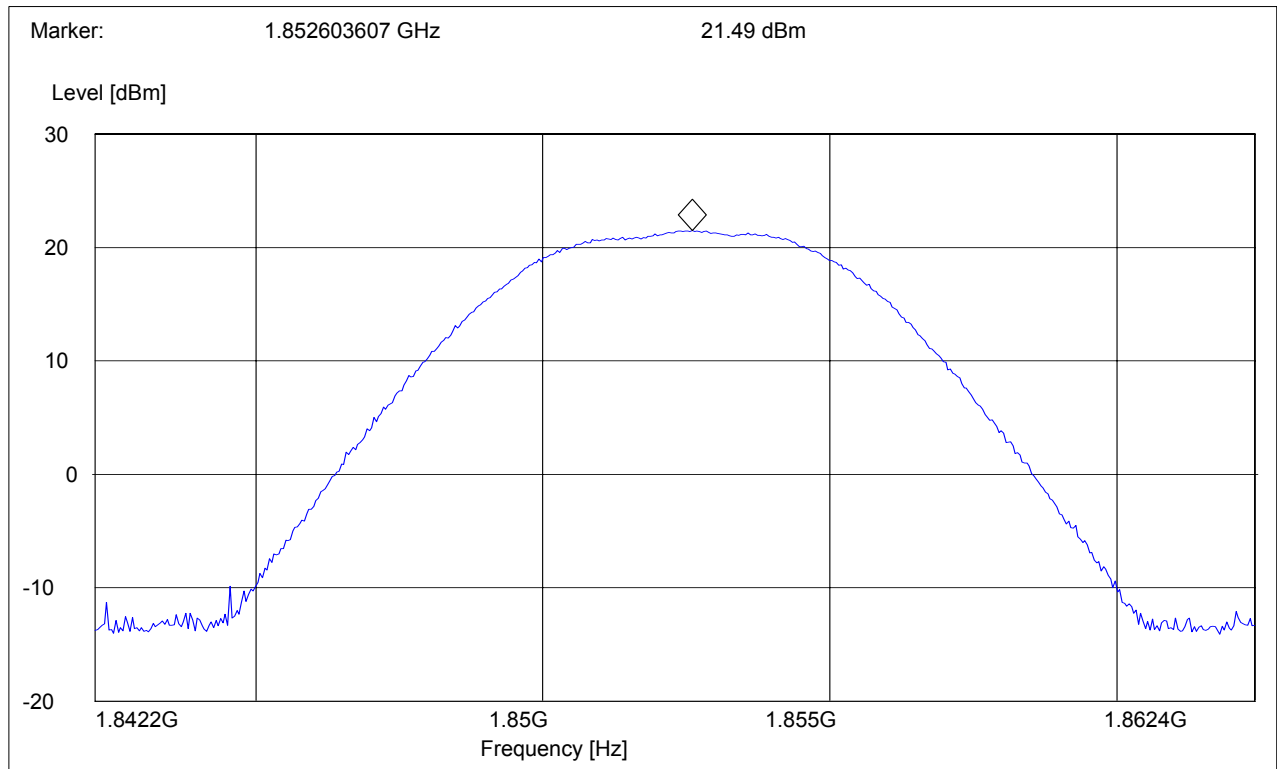
§24.232(b)

Start Frequency	Stop Frequency	Detector	Meas. Time	IF BW
1.9048 GHz	1.9148 MHz	Max Peak	Coupled	3 MHz



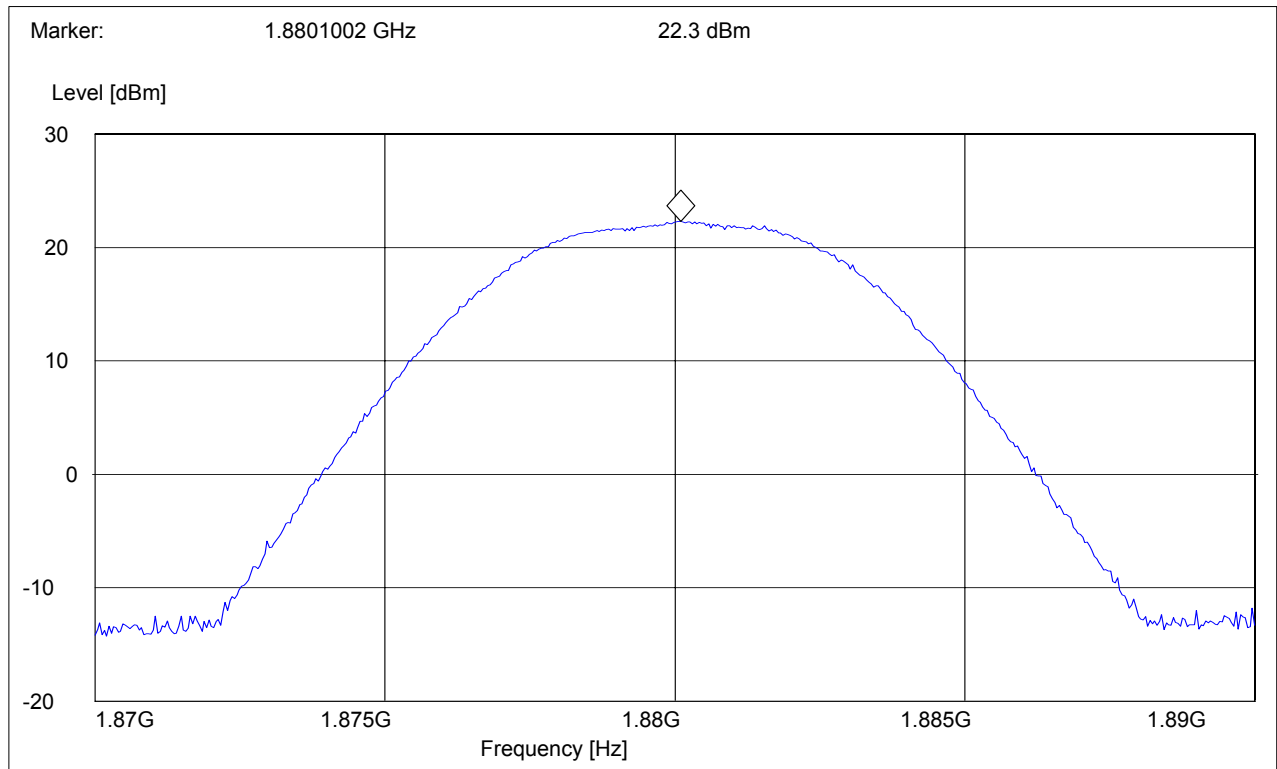
**EIRP (WCDMA-1900)
CHANNEL 9262****§24.232(b)**

Start Frequency	Stop Frequency	Detector	Meas. Time	IF BW
1.8422 GHz	1.8624 MHz	Max Peak	Coupled	5 MHz



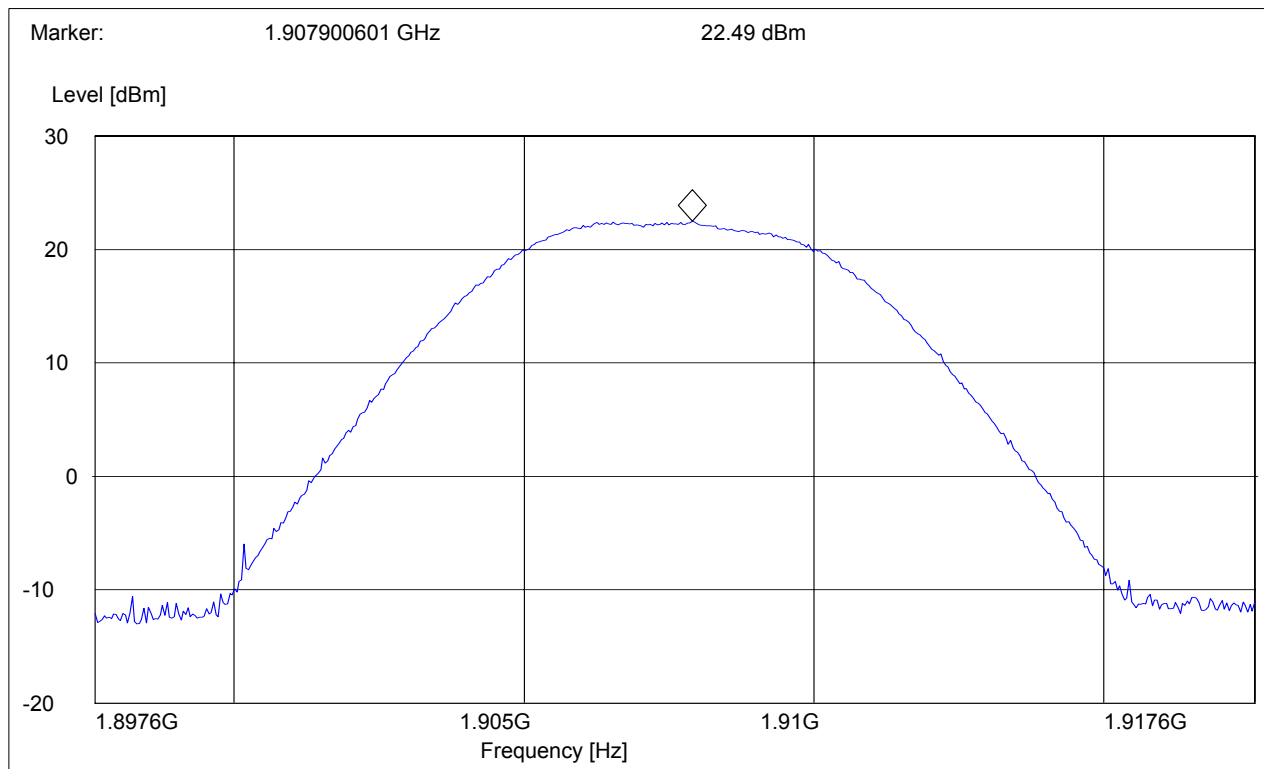
**EIRP (WCDMA-1900)
CHANNEL 9400****§24.232(b)**

Start Frequency	Stop Frequency	Detector	Meas. Time	IF BW
1.87 GHz	1.89 MHz	Max Peak	Coupled	5 MHz



**EIRP (WCDMA-1900)
CHANNEL 9538****§24.232(b)**

Start Frequency	Stop Frequency	Detector	Meas. Time	IF BW
1.8976 GHz	1.9176 MHz	Max Peak	Coupled	5 MHz



5.2 Spurious Emissions Radiated

5.2.1 FCC 2.1053 Measurements required: Field strength of spurious radiation.

- (a) Measurements shall be made to detect spurious emissions that may be radiated directly from the cabinet, control circuits, power leads or intermediate circuit elements under normal conditions of installation and operation. Curves or equivalent data shall be supplied showing the magnitude of each harmonic and other spurious emission.

5.2.2 Limits:

5.2.2.1 FCC 22.917 Emission limitations for cellular equipment.

The rules in this section govern the spectral characteristics of emissions in the Cellular Radiotelephone Service.

- (a) *Out of band emissions.* The power of any emission 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.

(b) *Measurement procedure.* Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (*i.e.* 100 kHz of 1 percent of emission bandwidth, as specified). 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.

5.2.2.2 FCC 24.238 Emission limitations for Broadband PCS equipment.

The rules in this section govern the spectral characteristics of emissions in the Broadband Personal Communications Service.

- (a) *Out of band emissions.* The power of any emission 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.

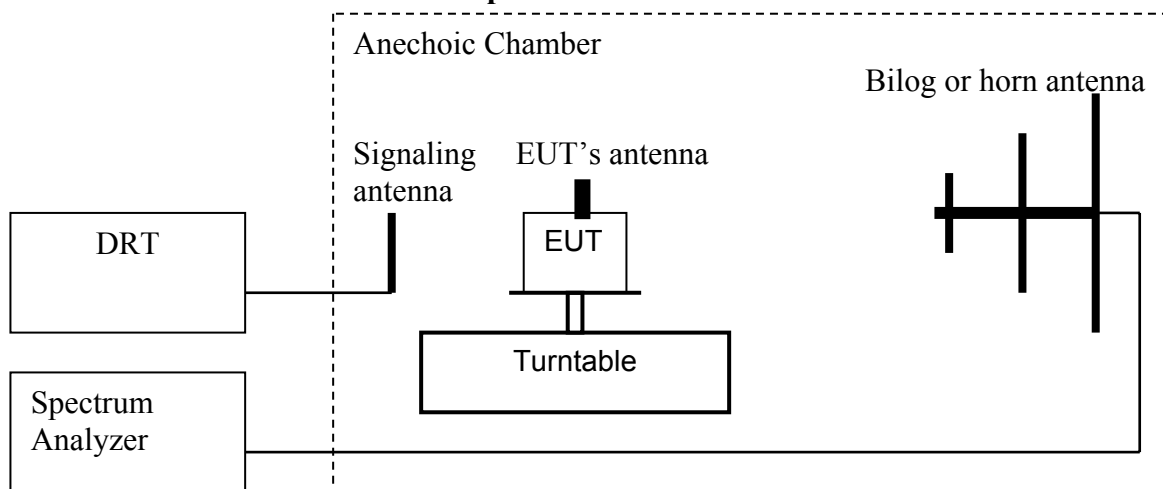
(b) *Measurement procedure.* Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (*i.e.* 100 kHz of 1 percent of emission bandwidth, as specified). 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.

5.2.3 Radiated out of band measurement procedure:

Based on TIA-603C August 2004

2.2.12 Unwanted emissions: Radiated Spurious



1. Connect the equipment as shown in the above diagram with the EUT's antenna in a horizontal orientation.
2. Adjust the settings of the Digital Radiocommunication Tester (DRT) to set the EUT to its maximum power at the required channel.
3. Set the spectrum analyzer to measure peak hold with the required settings.
4. Place the measurement antenna in a horizontal orientation. Rotate the EUT 360°. Raise the measurement antenna up to 4 meters in 0.5 meters increments and rotate the EUT 360° at each height to maximize all emissions. Measure and record all spurious emissions (**LVL**) up to the tenth harmonic of the carrier frequency.
5. Replace the EUT with a horizontally polarized half wave dipole or known gain antenna. The center of the antenna should be at the same location as the center of the EUT's antenna.
6. Connect the antenna to a signal generator with known output power and record the path loss in dB (**LOSS**). **LOSS** = Generator Output Power (dBm) – Analyzer reading (dBm).
7. Determine the level of spurious emissions using the following equation:
Spurious (dBm) = LVL (dBm) + LOSS (dB):
8. Repeat steps 4, 5 and 6 with all antennas vertically polarized.
9. Determine the level of spurious emissions using the following equation:
Spurious (dBm) = LVL (dBm) + LOSS (dB):
10. Measurements are to be performed with the EUT set to the low, middle and high channel of each frequency band.

(**note:** Steps 5 and 6 above are performed prior to testing and **LOSS** is recorded by test software. Steps 3, 4 and 7 above are performed with test software.)

Spectrum analyzer settings:

Res B/W: 1 MHz

Vid B/W: 1 MHz

Measurement Survey:

Radiated emissions measurements were made only at the upper, middle, and lower carrier frequencies of the GSM-850 & PCS-1900 bands. It was decided that measurements at these three carrier frequencies would be sufficient to demonstrate compliance with emissions limits because it was seen that all the significant spurs occur well outside the band and no radiation was seen from a carrier in one block of the GSM-850 & PCS-1900 band into any of the other blocks respectively. The equipment must still, however, meet emissions requirements with the carrier at all frequencies over which it is capable of operating and it is the manufacturer's responsibility to verify this.

5.2.4 Radiated out of band emissions results on EUT (GSM and EDGE):**RESULTS OF RADIATED TESTS GSM-850:**

Harmonics	Tx ch-128 Freq. (MHz)	Level (dBm)	Tx ch-192 Freq. (MHz)	Level (dBm)	Tx ch-251 Freq. (MHz)	Level (dBm)
2	1648.4	-42.59	1674	-44.42	1697.6	-43.75
3	2472.6	-44.12	2511	-40.75	2546.4	-35.56
4	3296.8	NF	3348	-44.12	3395.2	-44.12
5	4121	-53.55	4185	-55.28	4244	-54.53
6	4945.2	-44.12	5022	-44.12	5092.8	-44.12
7	5769.4	-44.12	5859	-44.12	5941.6	-44.12
8	6593.6	-44.12	6696	-44.12	6790.4	-44.12
9	7417.8	-44.12	7533	-44.12	7639.2	-44.12
10	8242	-44.12	8370	-44.12	8488	-44.12
NF = NOISE FLOOR						

***prescans were performed on GSM and EDGE, GSM was found to be worst case.**

RADIATED SPURIOUS EMISSIONS (GSM-850)**TX: 30MHz - 1GHz**

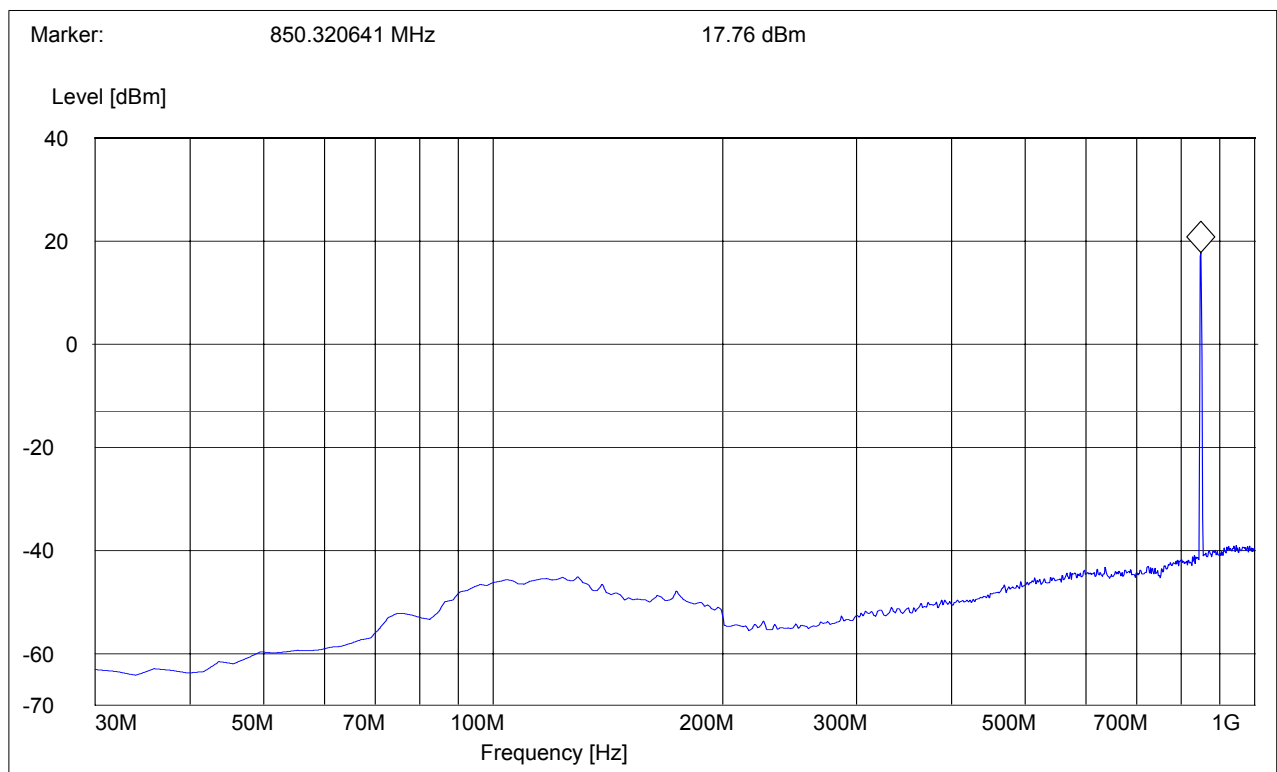
Spurious emission limit -13dBm

Antenna: vertical***SWEEP TABLE: "FCC 22 Spur 30M-1G"***

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
30MHz	1GHz	Max Peak	Coupled	1 MHz	1 MHz

Note:

- 1.The peak above the limit line is the carrier freq.**
- 2.This plot is valid for low, mid & high channels (worst-case plot)**



RADIATED SPURIOUS EMISSIONS (GSM-850)**TX: 30MHz - 1GHz**

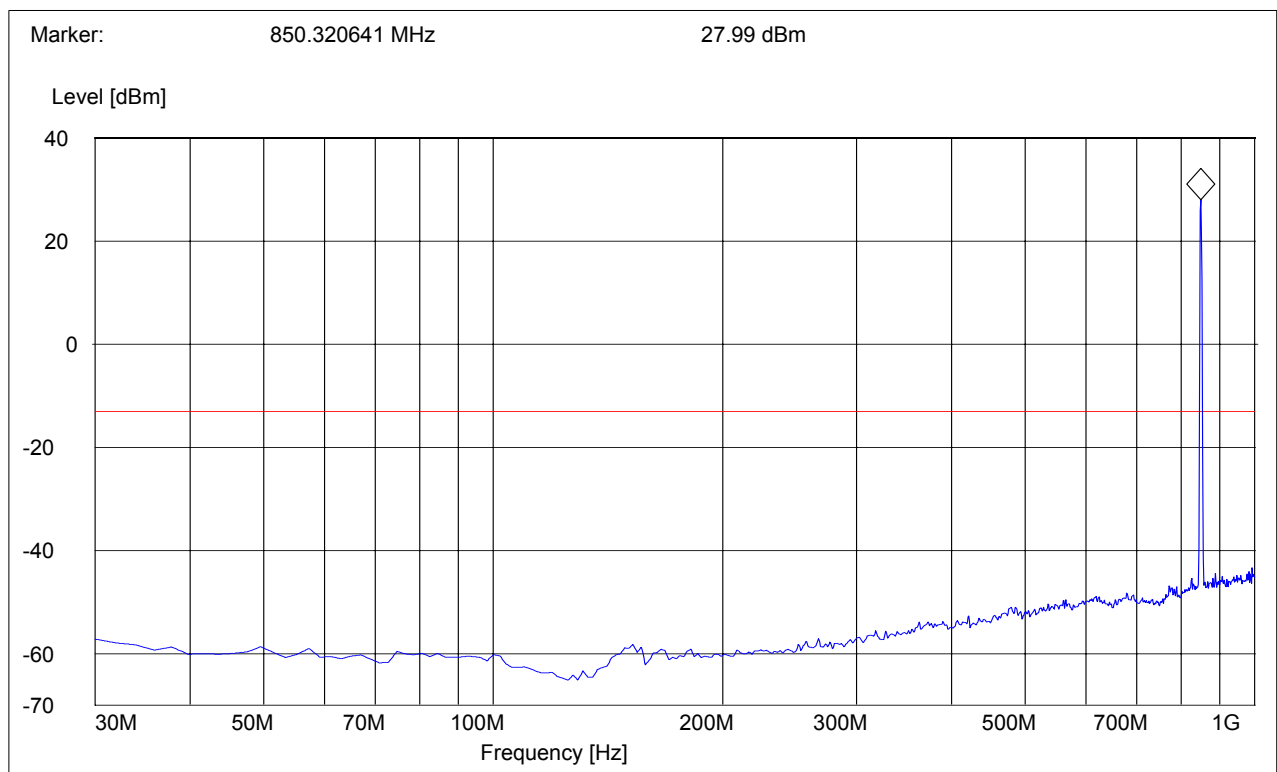
Spurious emission limit -13dBm

Antenna: horizontal***SWEEP TABLE: "FCC 22 Spur 30M-1G"***

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
30MHz	1GHz	Max Peak	Coupled	1 MHz	1 MHz

Note:

- 1.The peak above the limit line is the carrier freq.
- 2.This plot is valid for low, mid & high channels (worst-case plot)

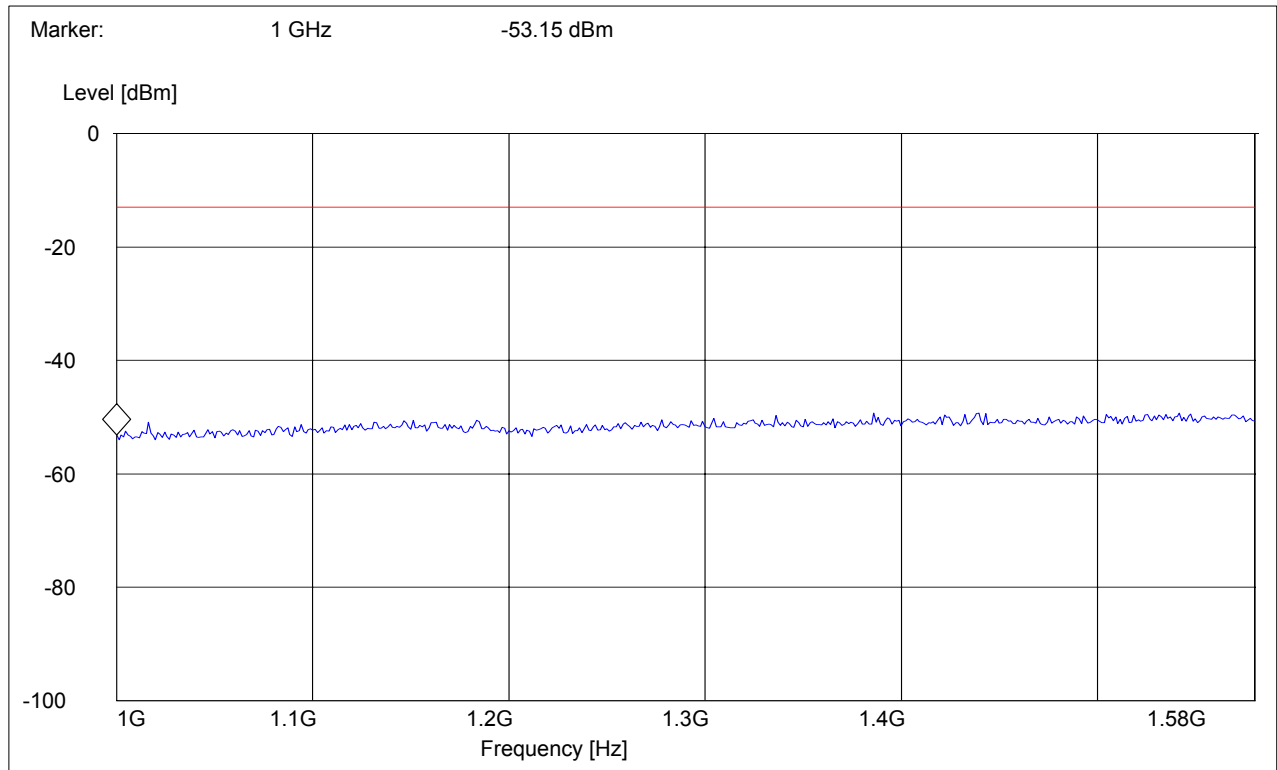


RADIATED SPURIOUS EMISSIONS (GSM-850)**Tx @ 824.2MHz: 1GHz – 1.58GHz**

Spurious emission limit –13dBm

SWEEP TABLE: "FCC 22 Spur 1-1.58G"

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
1GHz	1.58GHz	Max Peak	Coupled	1 MHz	1 MHz

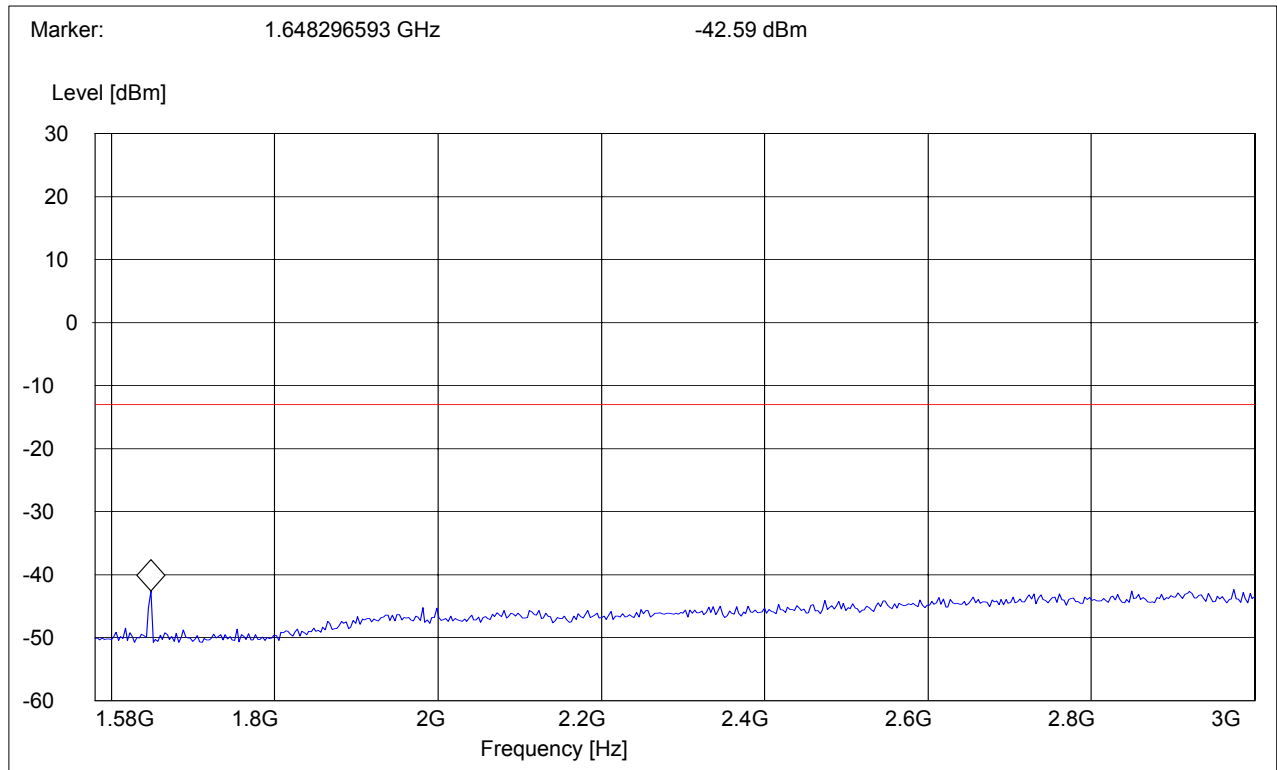


RADIATED SPURIOUS EMISSIONS (GSM-850)**Tx @ 824.2MHz: 1.58GHz – 3GHz**

Spurious emission limit –13dBm

SWEEP TABLE: "FCC 22 Spur 1.58-3G"

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
1.58GHz	3GHz	Max Peak	Coupled	1 MHz	1 MHz

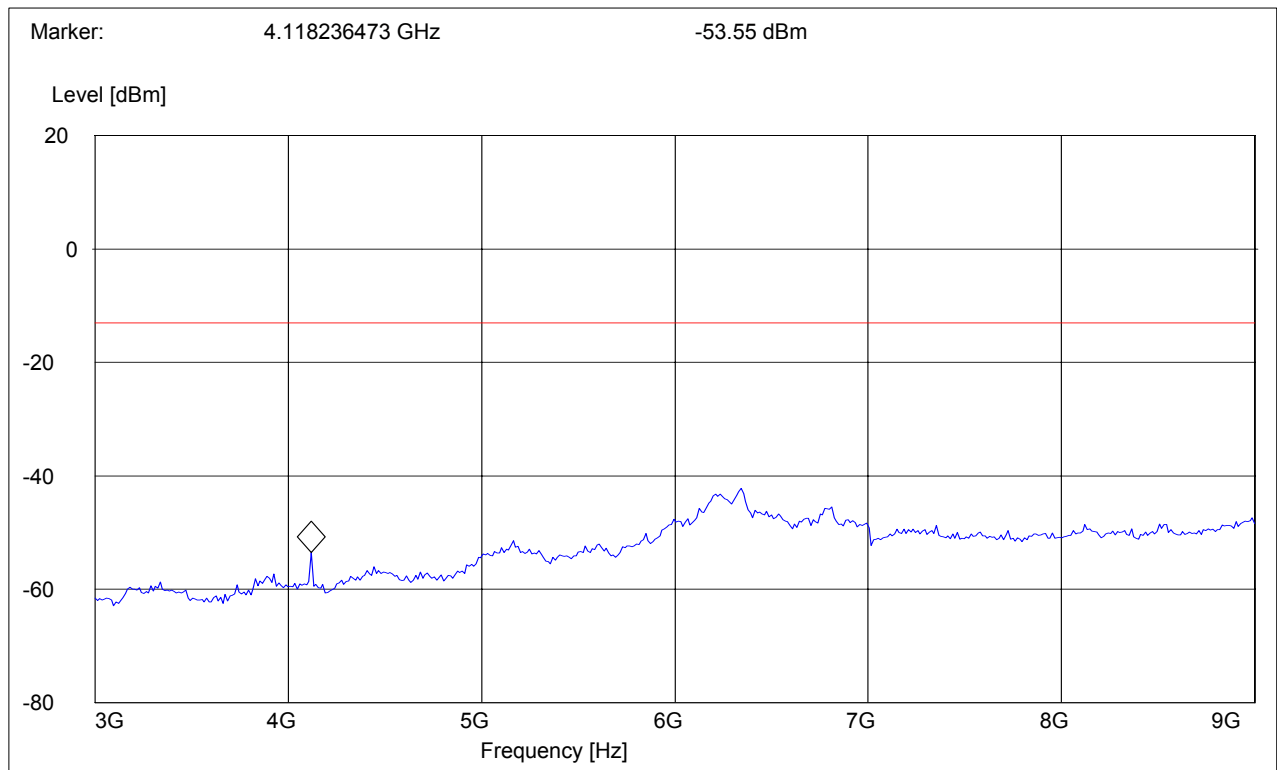


RADIATED SPURIOUS EMISSIONS (GSM-850)**Tx @ 824.2MHz: 3GHz – 9GHz**

Spurious emission limit –13dBm

SWEEP TABLE: "FCC 22 Spur 3-9G"

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
3GHz	9GHz	Max Peak	Coupled	1 MHz	1 MHz

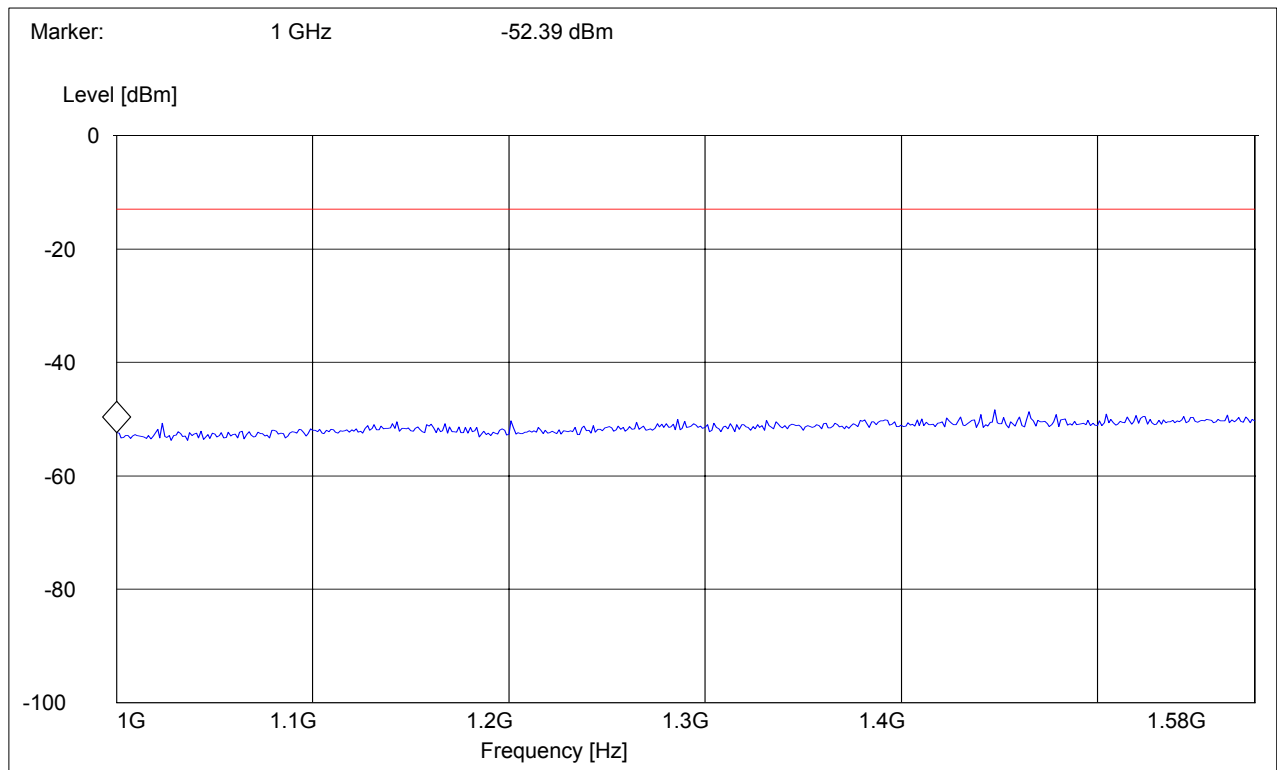


RADIATED SPURIOUS EMISSIONS (GSM-850)**Tx @ 837MHz: 1GHz – 1.58GHz**

Spurious emission limit –13dBm

SWEEP TABLE: "FCC 22 Spur 1-1.58G"

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
1GHz	1.58GHz	Max Peak	Coupled	1 MHz	1 MHz

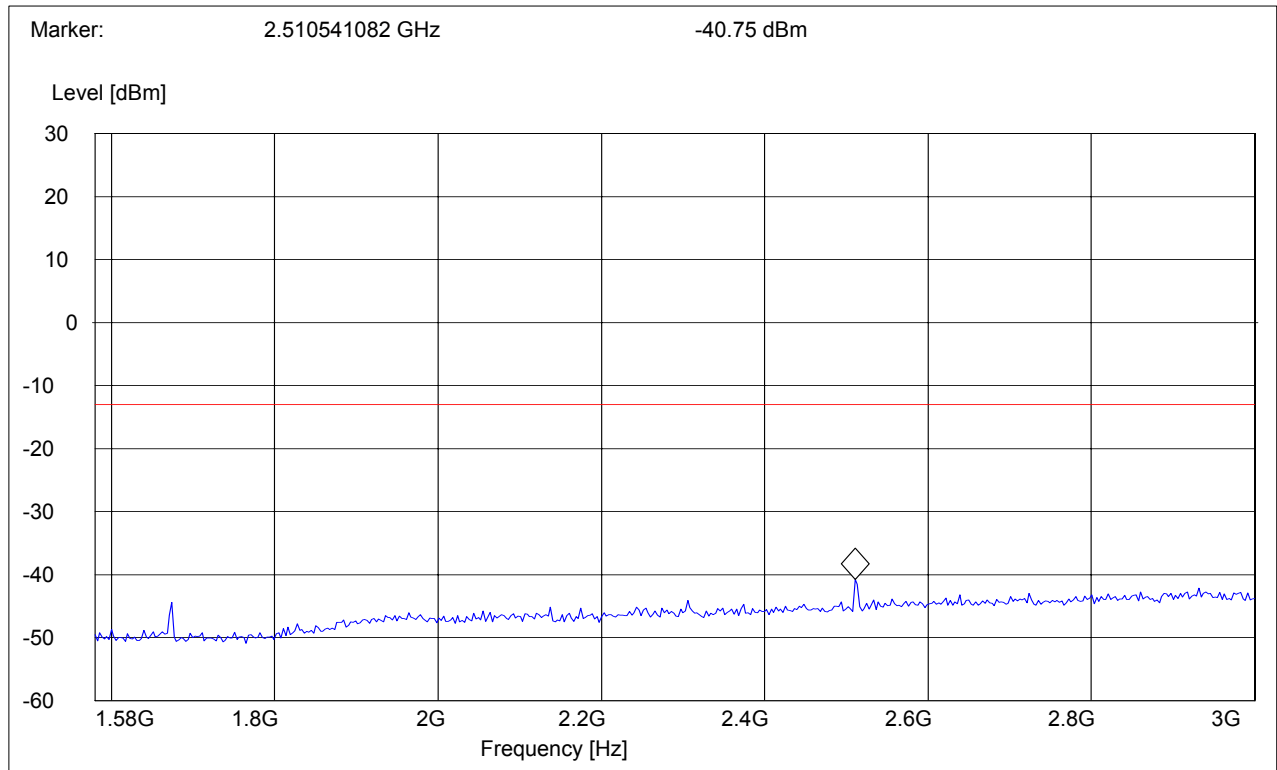


RADIATED SPURIOUS EMISSIONS (GSM-850)**Tx @ 837 MHz: 1.58GHz – 3GHz**

Spurious emission limit –13dBm

SWEEP TABLE: "FCC 22 Spur 1.58-3G"

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
1.58GHz	3GHz	Max Peak	Coupled	1 MHz	1 MHz

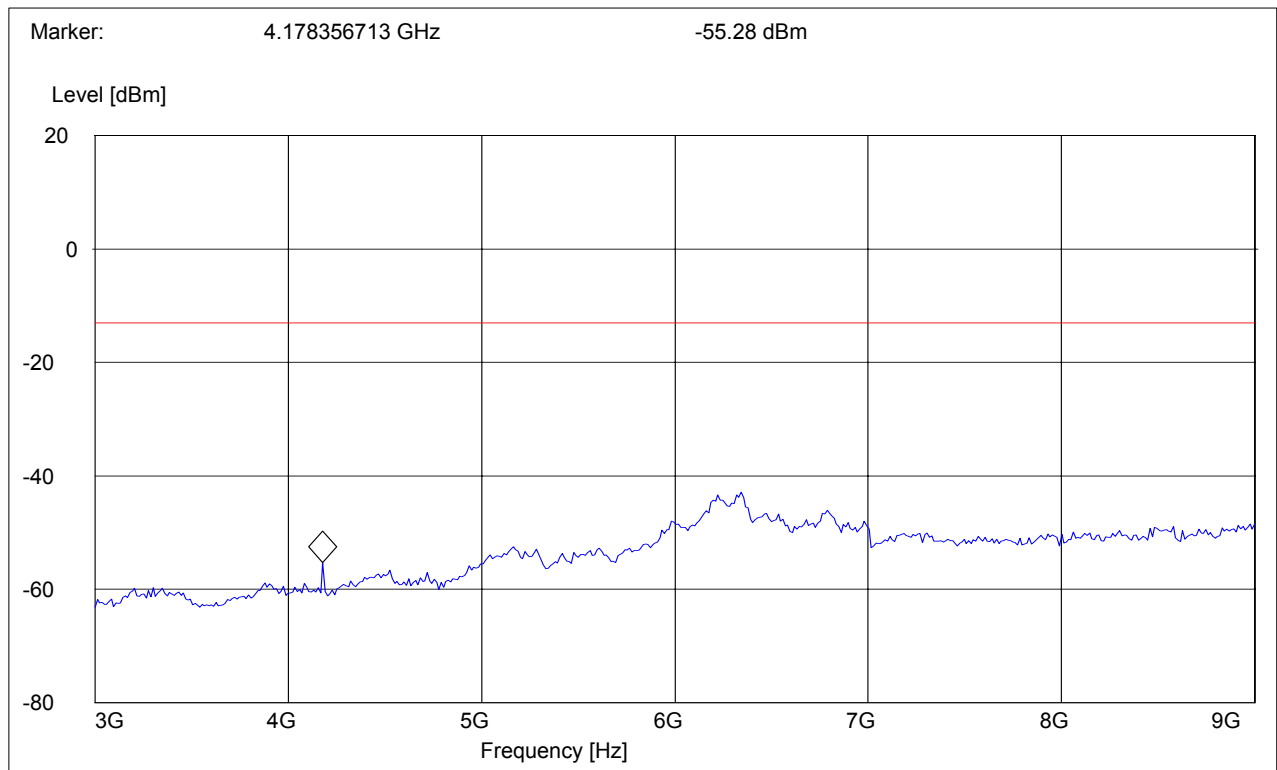


RADIATED SPURIOUS EMISSIONS (GSM-850)**Tx @ 837MHz: 3GHz – 9GHz**

Spurious emission limit –13dBm

SWEEP TABLE: "FCC 22 Spur 3-9G"

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
3GHz	9GHz	Max Peak	Coupled	1 MHz	1 MHz

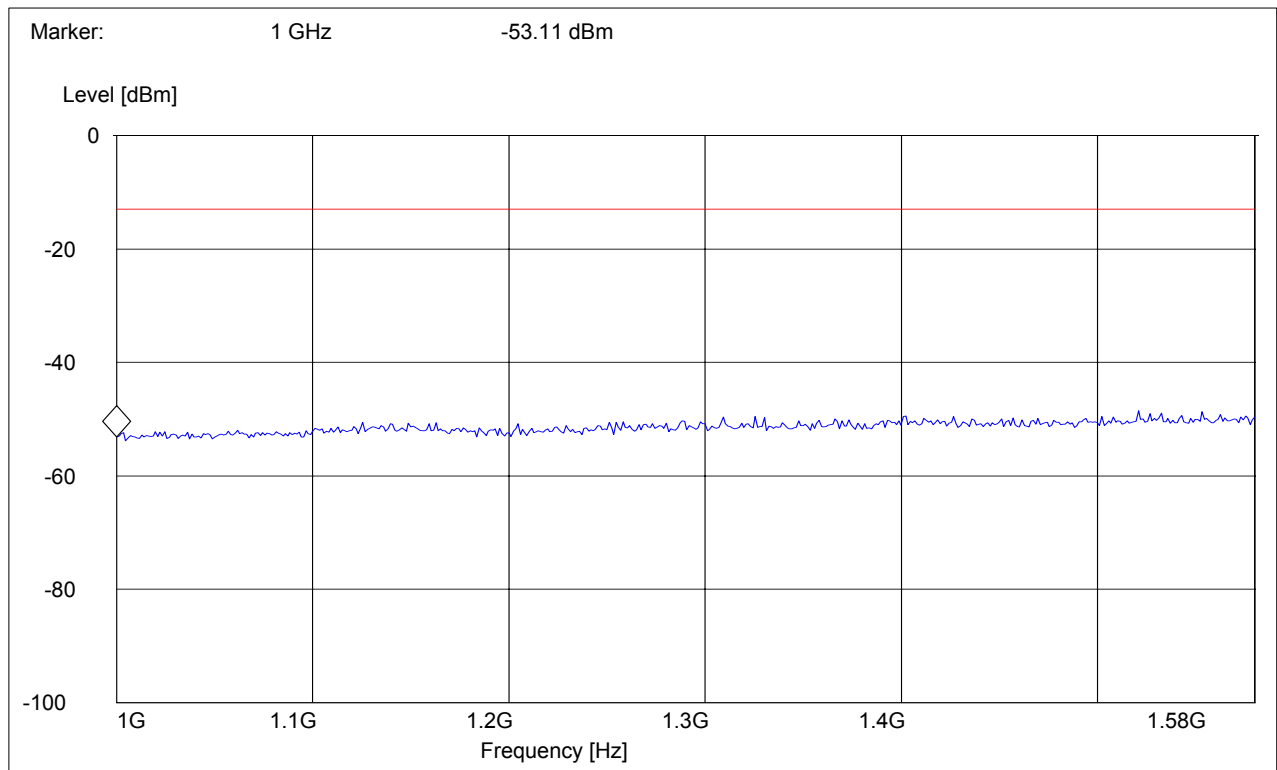


RADIATED SPURIOUS EMISSIONS (GSM-850)**Tx @ 848.8MHz: 1GHz – 1.58GHz**

Spurious emission limit –13dBm

SWEEP TABLE: "FCC 22 Spur 1-1.58G"

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
1GHz	1.58GHz	Max Peak	Coupled	1 MHz	1 MHz

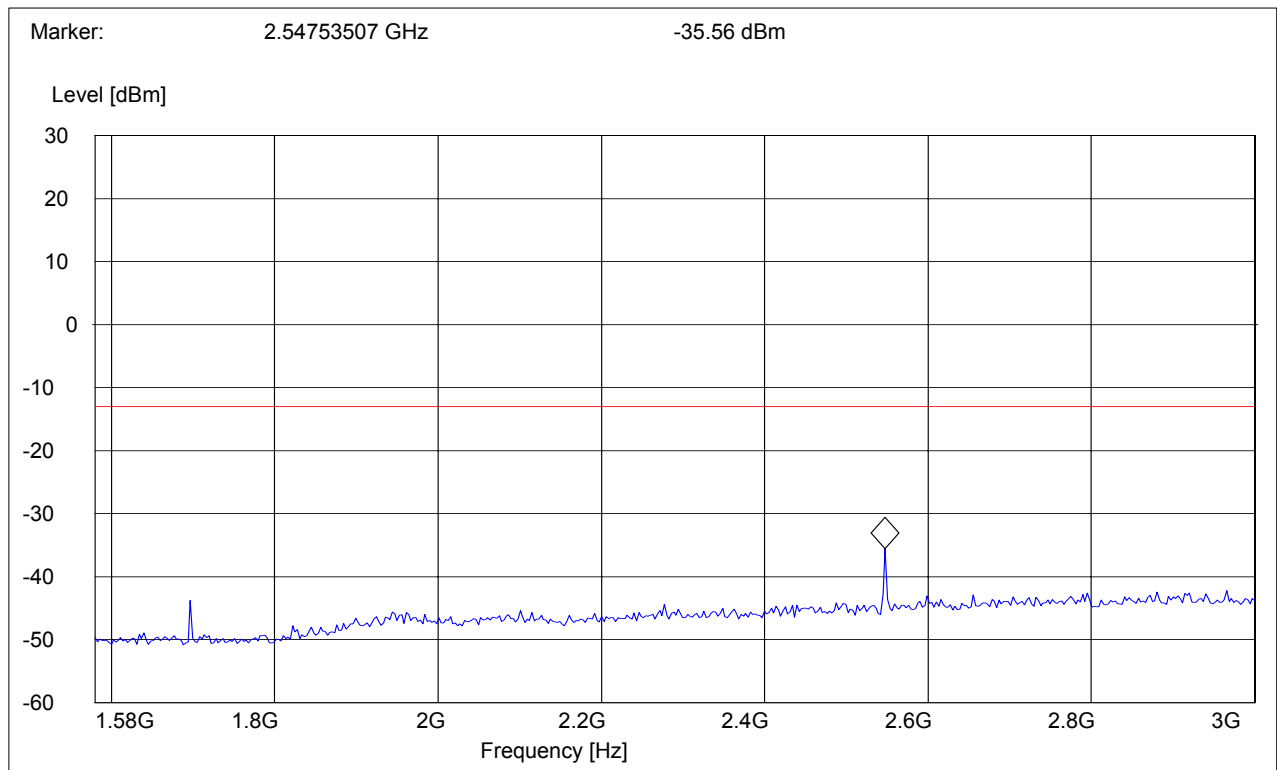


RADIATED SPURIOUS EMISSIONS (GSM-850)**Tx @ 848.8MHz: 1.58GHz – 3GHz**

Spurious emission limit –13dBm

SWEEP TABLE: "FCC 22 Spur 1.58-3G"

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
1.58GHz	3GHz	Max Peak	Coupled	1 MHz	1 MHz

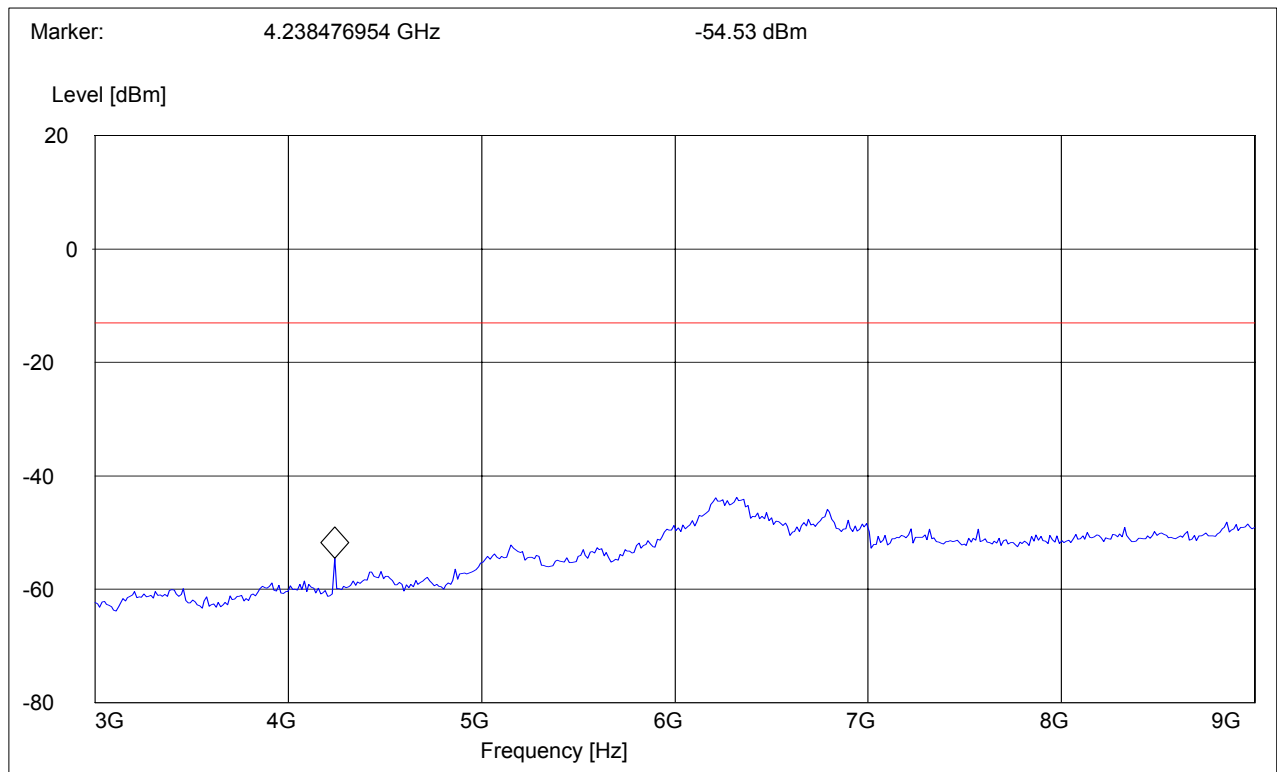


RADIATED SPURIOUS EMISSIONS (GSM-850)**Tx @ 848.8MHz: 3GHz – 9GHz**

Spurious emission limit –13dBm

SWEEP TABLE: "FCC 22 Spur 3-9G"

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
3GHz	9GHz	Max Peak	Coupled	1 MHz	1 MHz

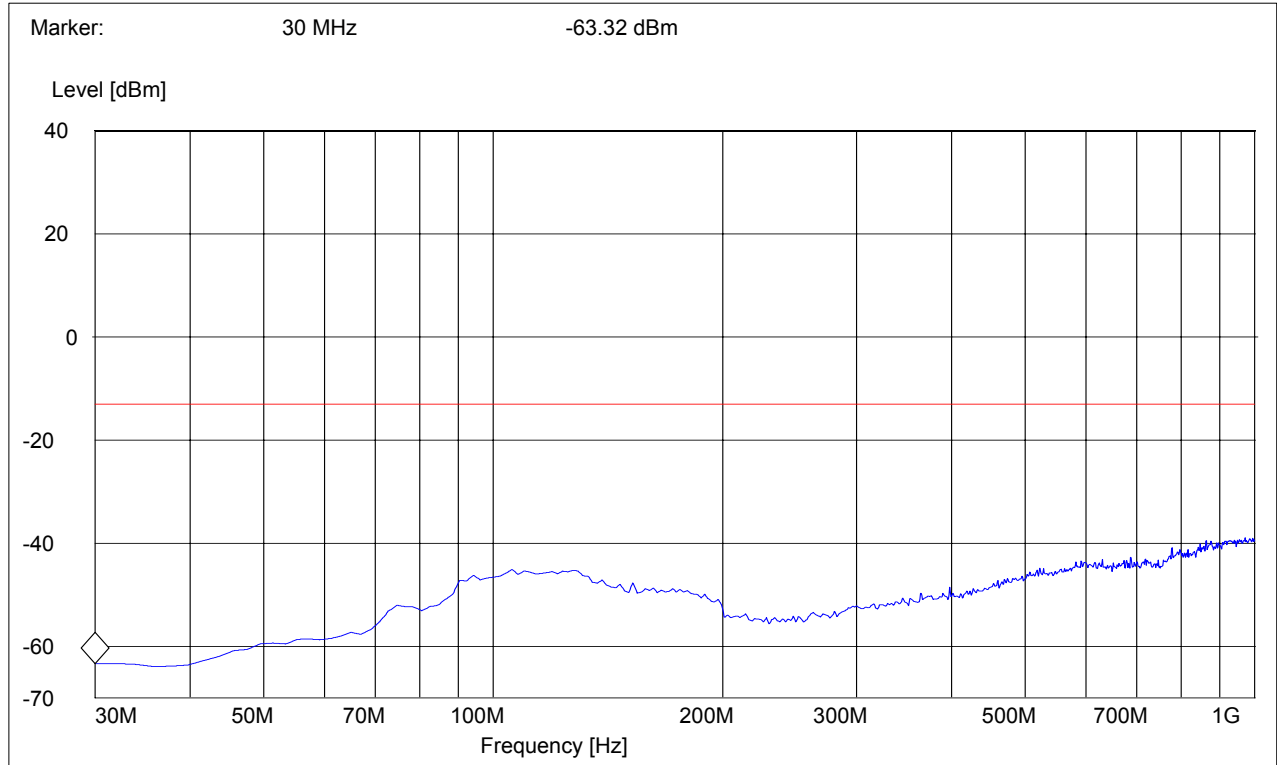


RADIATED SPURIOUS EMISSIONS (GSM-850)**IDLE: 30MHz - 1GHz**

Spurious emission limit -13dBm

Antenna: vertical***SWEEP TABLE: "FCC 22 Spur 30M-1G"***

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
30MHz	1GHz	Max Peak	Coupled	1 MHz	1 MHz

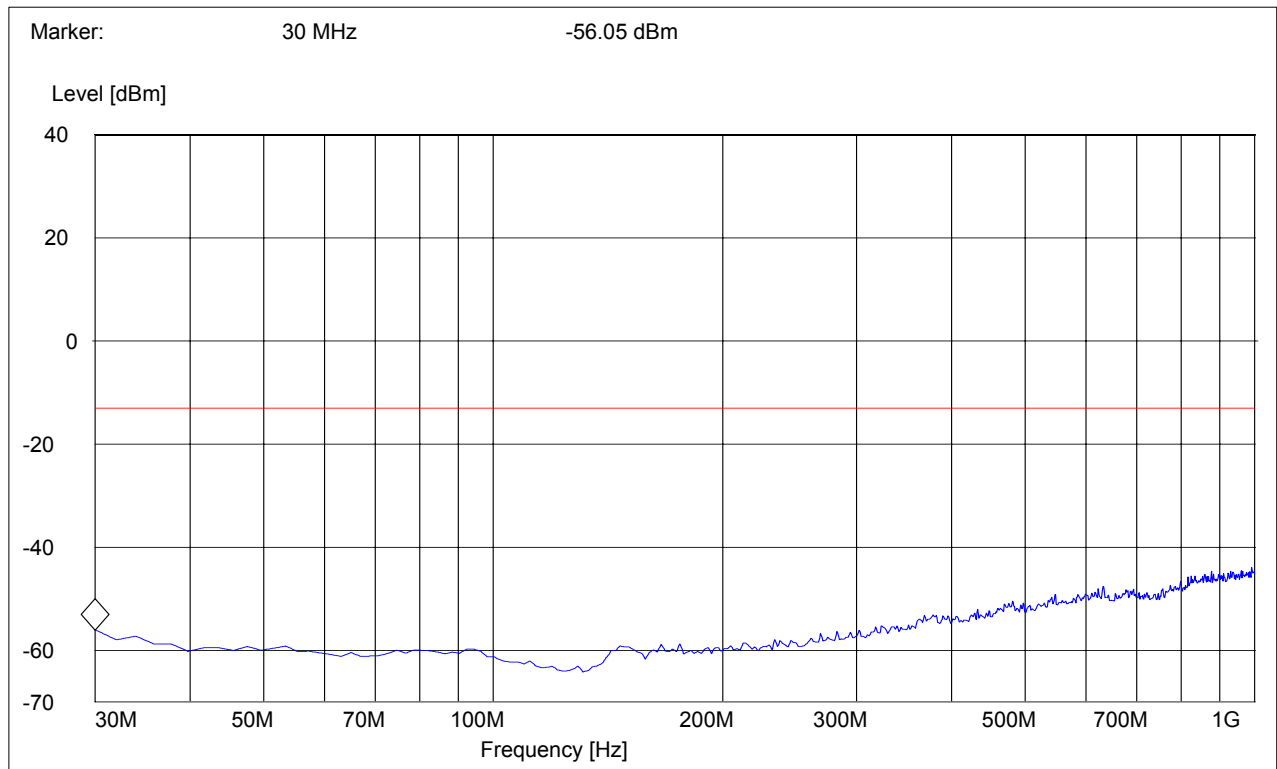


RADIATED SPURIOUS EMISSIONS (GSM-850)**IDLE: 30MHz - 1GHz**

Spurious emission limit -13dBm

Antenna: horizontal***SWEEP TABLE: "FCC 22 Spur 30M-1G"***

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
30MHz	1GHz	Max Peak	Coupled	1 MHz	1 MHz

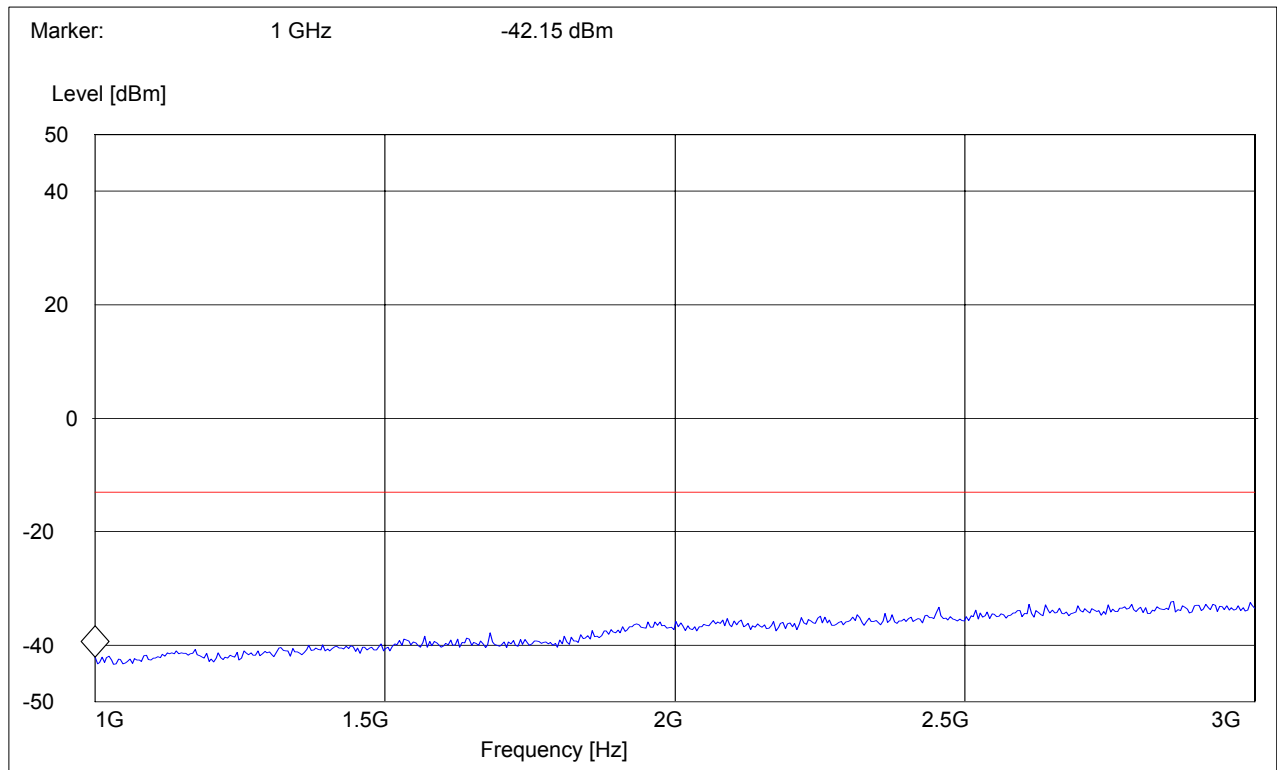


RADIATED SPURIOUS EMISSIONS (GSM-850)**IDLE: 1GHz – 3GHz**

Spurious emission limit –13dBm

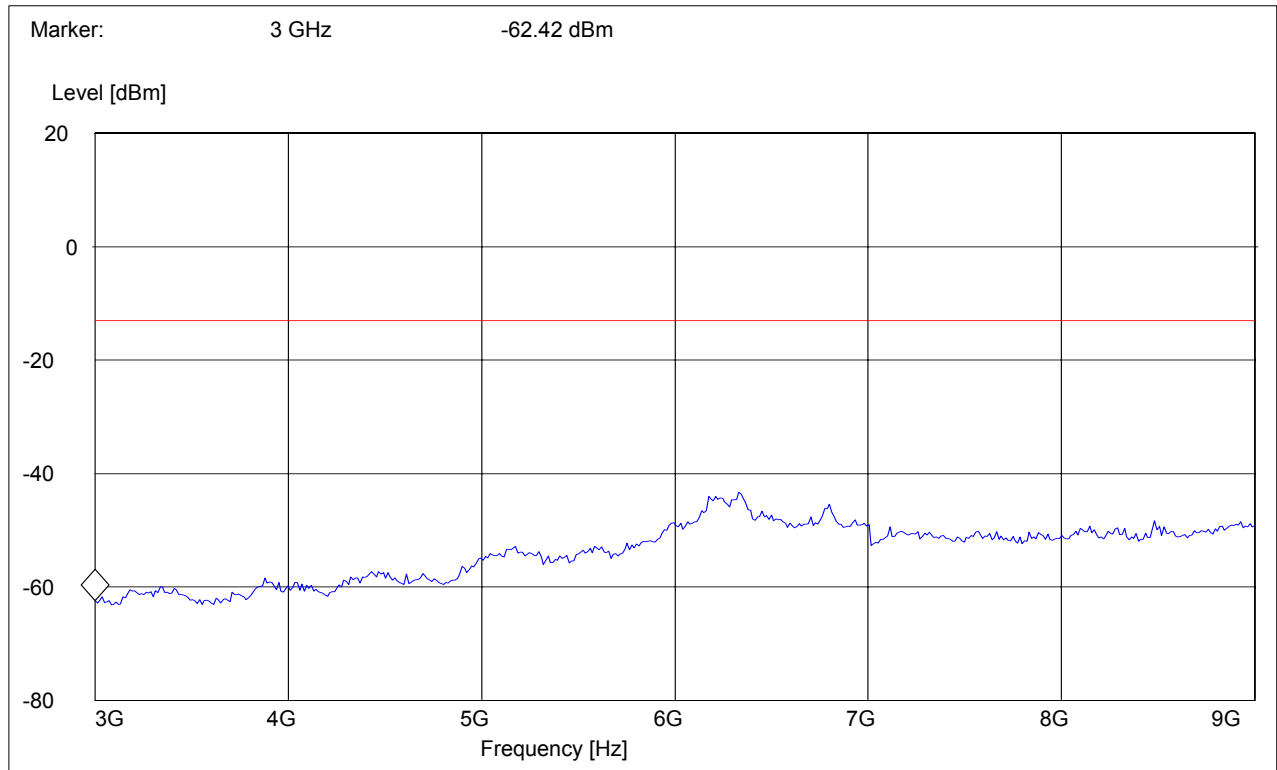
SWEEP TABLE: "FCC 22 Spur 1-3G"

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
1GHz	3GHz	Max Peak	Coupled	1 MHz	1 MHz



RADIATED SPURIOUS EMISSIONS (GSM-850)**IDLE: 3GHz – 9GHz*****SWEEP TABLE: "FCC 22 Spur 3-9G"***

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
3GHz	9GHz	Max Peak	Coupled	1 MHz	1 MHz



RESULTS OF RADIATED TESTS PCS-1900:

Harmonic	Tx ch-512 Freq.(MHz)	Level (dBm)	Tx ch-661 Freq. (MHz)	Level (dBm)	Tx ch-810 Freq. (MHz)	Level (dBm)
2	3700.4	-39.79	3760	-46.69	3819.6	-46.02
3	5550.6	-42.22	5640	-49.63	5729.4	NF
4	7400.8	NF	7520	NF	7639.2	NF
5	9251	NF	9400	NF	9549	NF
6	11101.2	NF	11280	NF	11458.8	NF
7	12951.4	NF	13160	NF	13368.6	NF
8	14801.6	NF	15040	NF	15278.4	NF
9	16651.8	NF	16920	NF	17188.2	NF
10	18502	NF	18800	NF	19098	NF
NF = NOISE FLOOR						

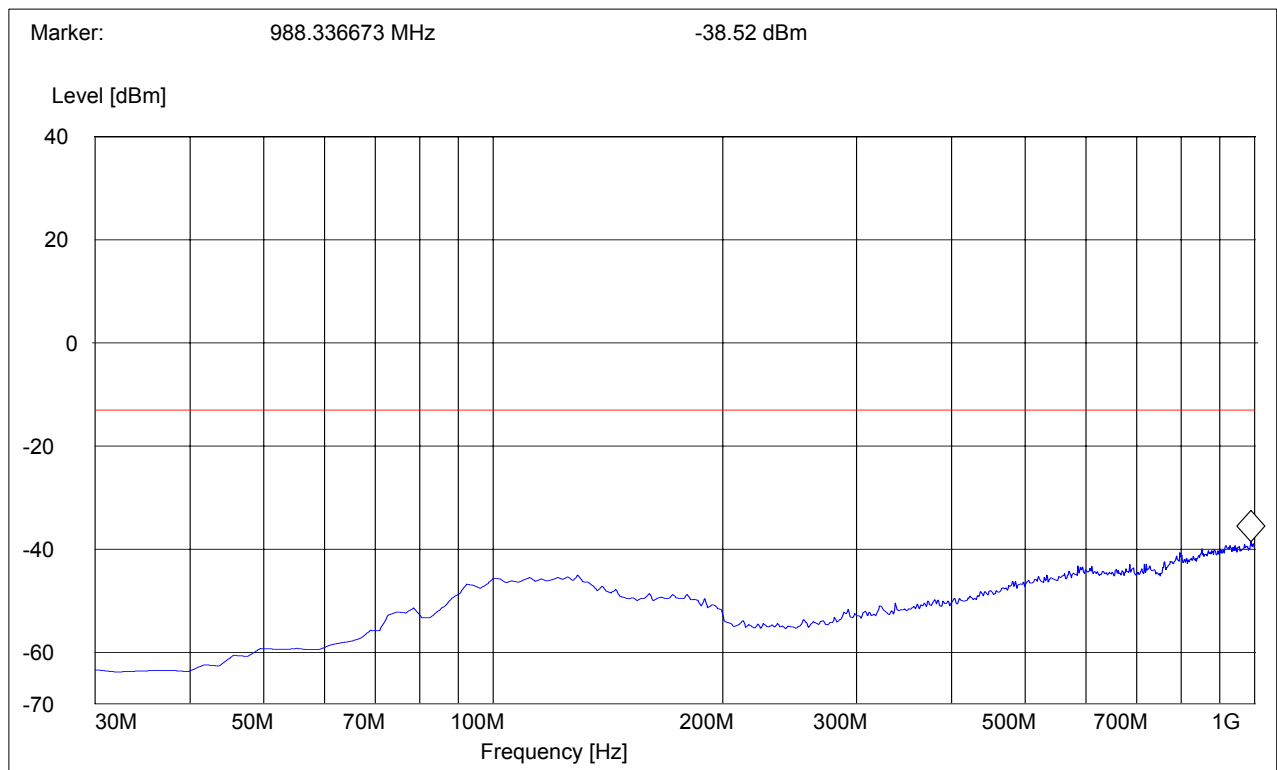
***prescans were performed on GSM and EDGE, GSM was found to be worst case.**

RADIATED SPURIOUS EMISSIONS(PCS 1900)**TX: 30MHz - 1GHz**

Spurious emission limit -13dBm

Antenna: vertical***SWEEP TABLE: "FCC 24 Spur 30M-1G"***

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
30MHz	1GHz	Max Peak	Coupled	1 MHz	1 MHz

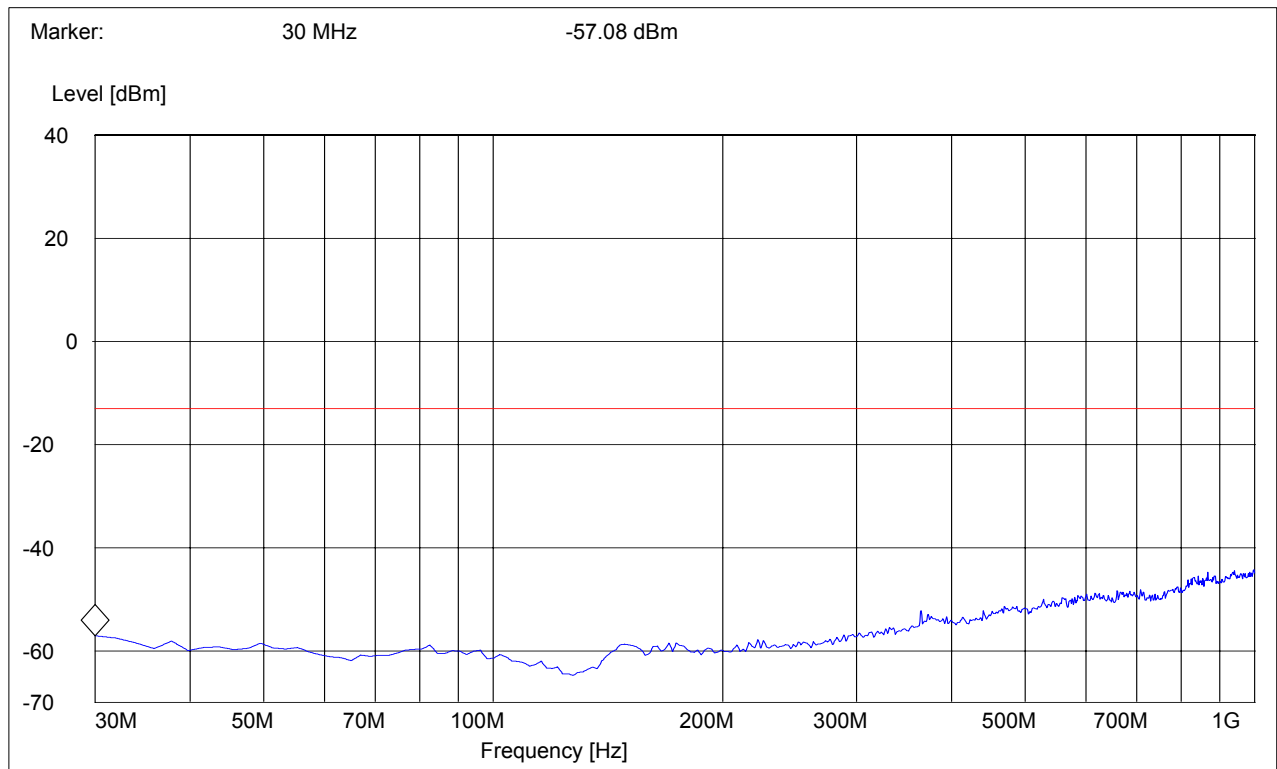
Note: This plot is valid for low, mid & high channels (worst-case plot)

RADIATED SPURIOUS EMISSIONS(PCS 1900)**TX: 30MHz - 1GHz**

Spurious emission limit -13dBm

Antenna: horizontal***SWEEP TABLE: "FCC 24 Spur 30M-1G"***

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
30MHz	1GHz	Max Peak	Coupled	1 MHz	1 MHz

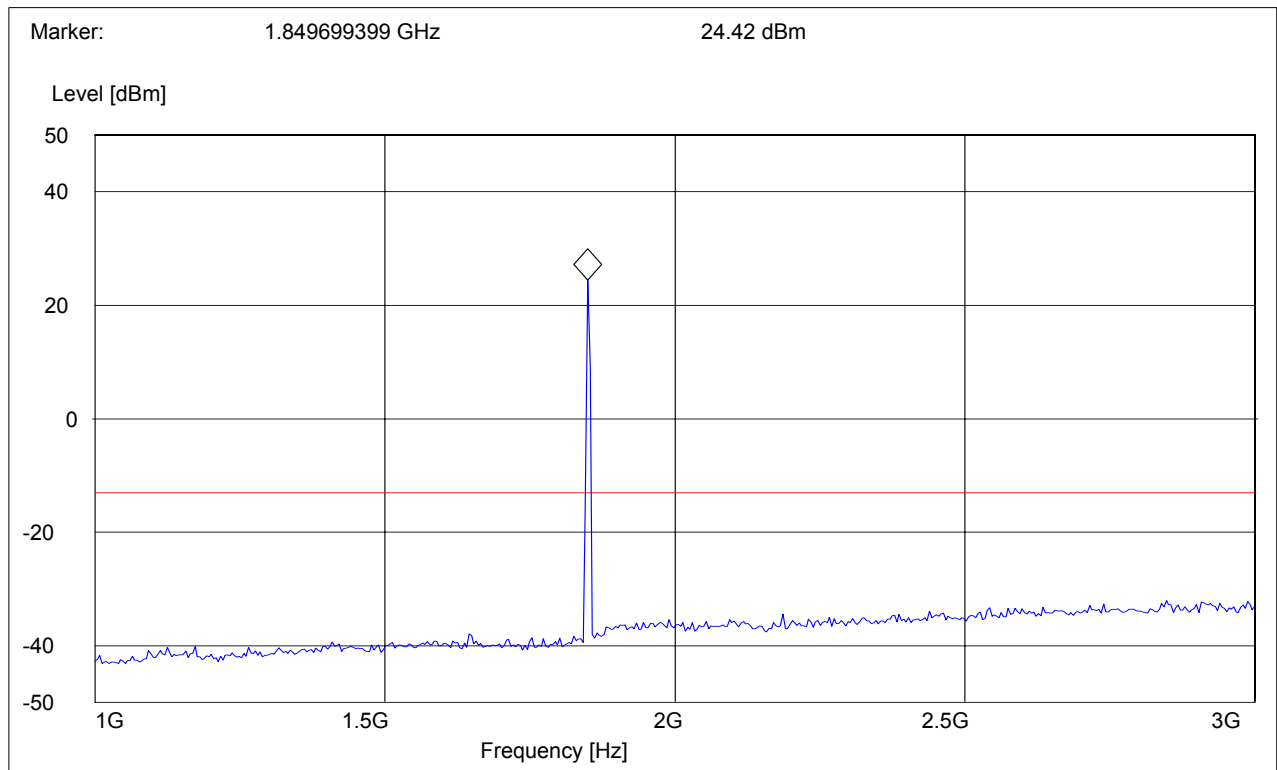
Note: This plot is valid for low, mid & high channels (worst-case plot)

RADIATED SPURIOUS EMISSIONS(PCS 1900)**Tx @ 1850.2MHz: 1GHz – 3GHz**

Spurious emission limit –13dBm

SWEEP TABLE: "FCC Spuri 1-3G"

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
1GHz	3GHz	Max Peak	Coupled	1 MHz	1 MHz

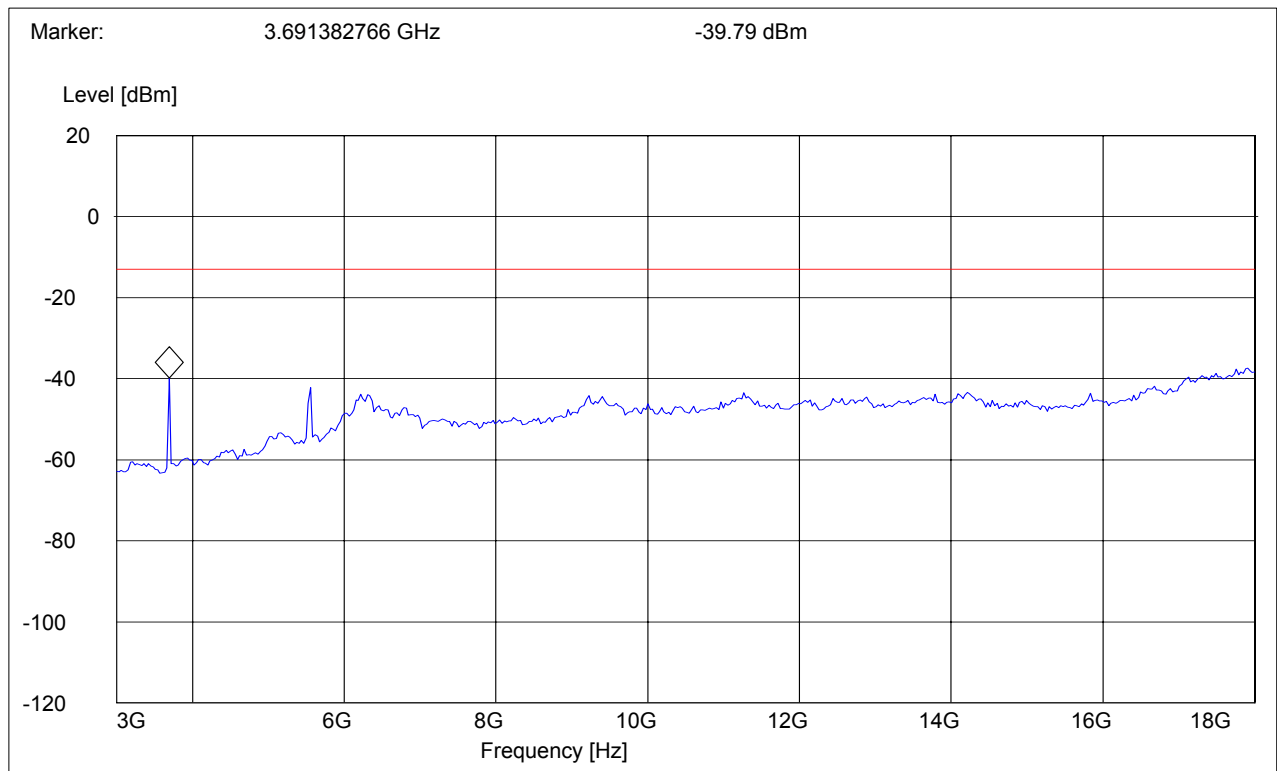
Note: The peak above the limit line is the carrier freq.

RADIATED SPURIOUS EMISSIONS(PCS 1900)**Tx @ 1850.2MHz: 3GHz – 18GHz**

Spurious emission limit –13dBm

SWEEP TABLE: "FCC Spuri 3-18G"

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
3GHz	18GHz	Max Peak	Coupled	1 MHz	1 MHz

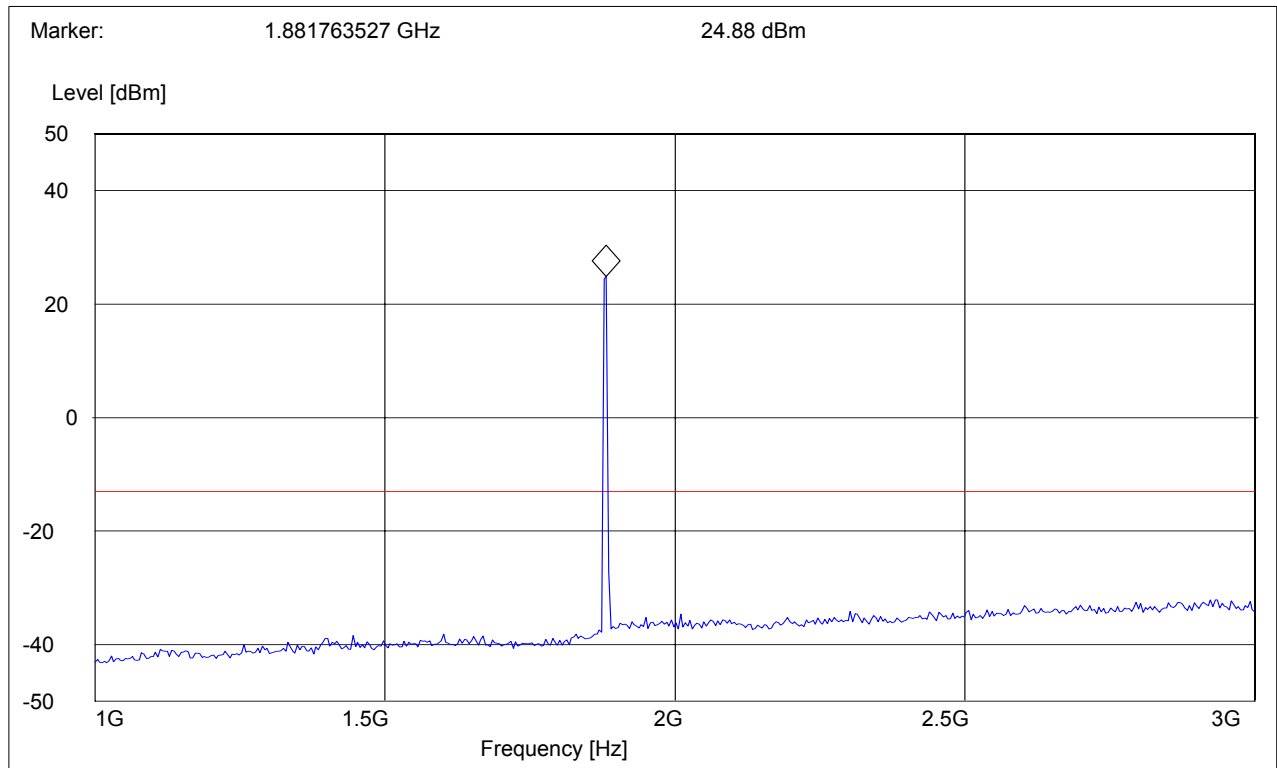


RADIATED SPURIOUS EMISSIONS(PCS 1900)**Tx @ 1880.0MHz: 1GHz – 3GHz**

Spurious emission limit –13dBm

SWEEP TABLE: "FCC Spuri 1-3G"

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
1GHz	3GHz	Max Peak	Coupled	1 MHz	1 MHz

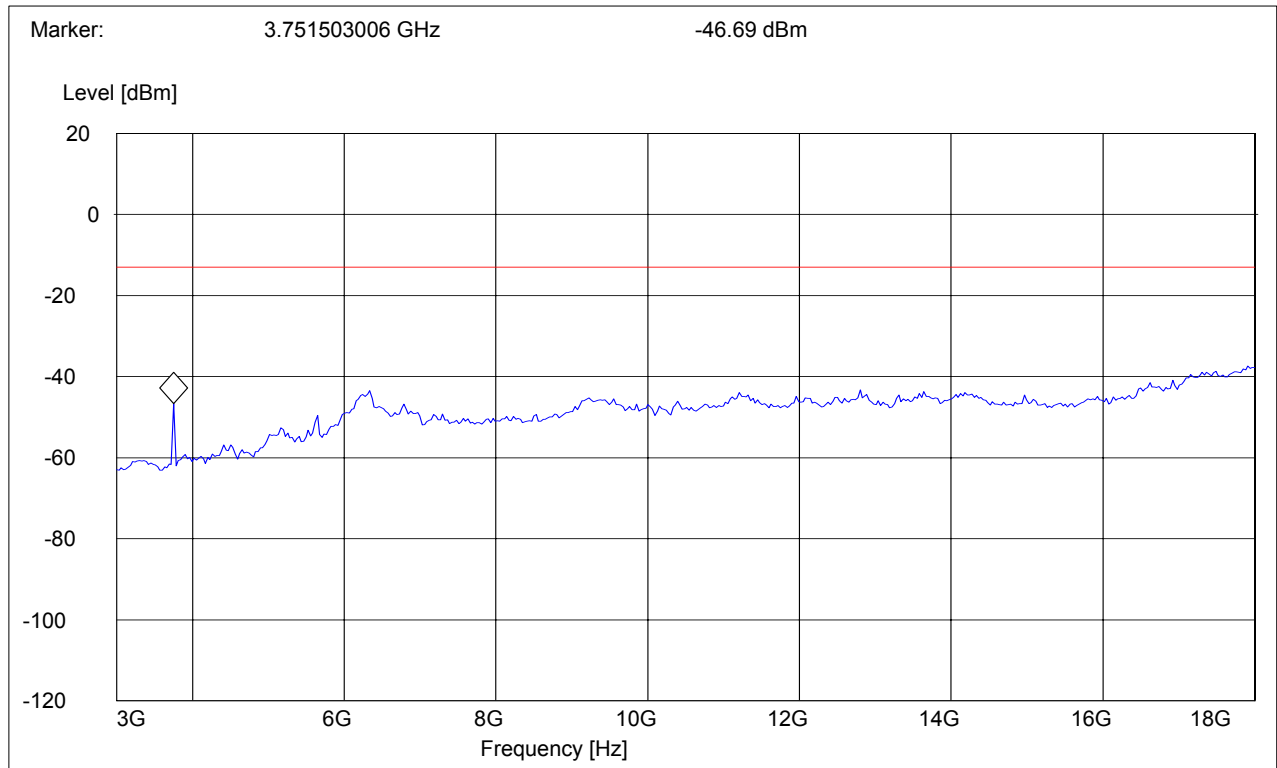
Note: The peak above the limit line is the carrier freq.

RADIATED SPURIOUS EMISSIONS(PCS 1900)**Tx @ 1880.0MHz: 3GHz – 18GHz**

Spurious emission limit –13dBm

SWEEP TABLE: "FCC Spuri 3-18G"

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
3GHz	18GHz	Max Peak	Coupled	1 MHz	1 MHz

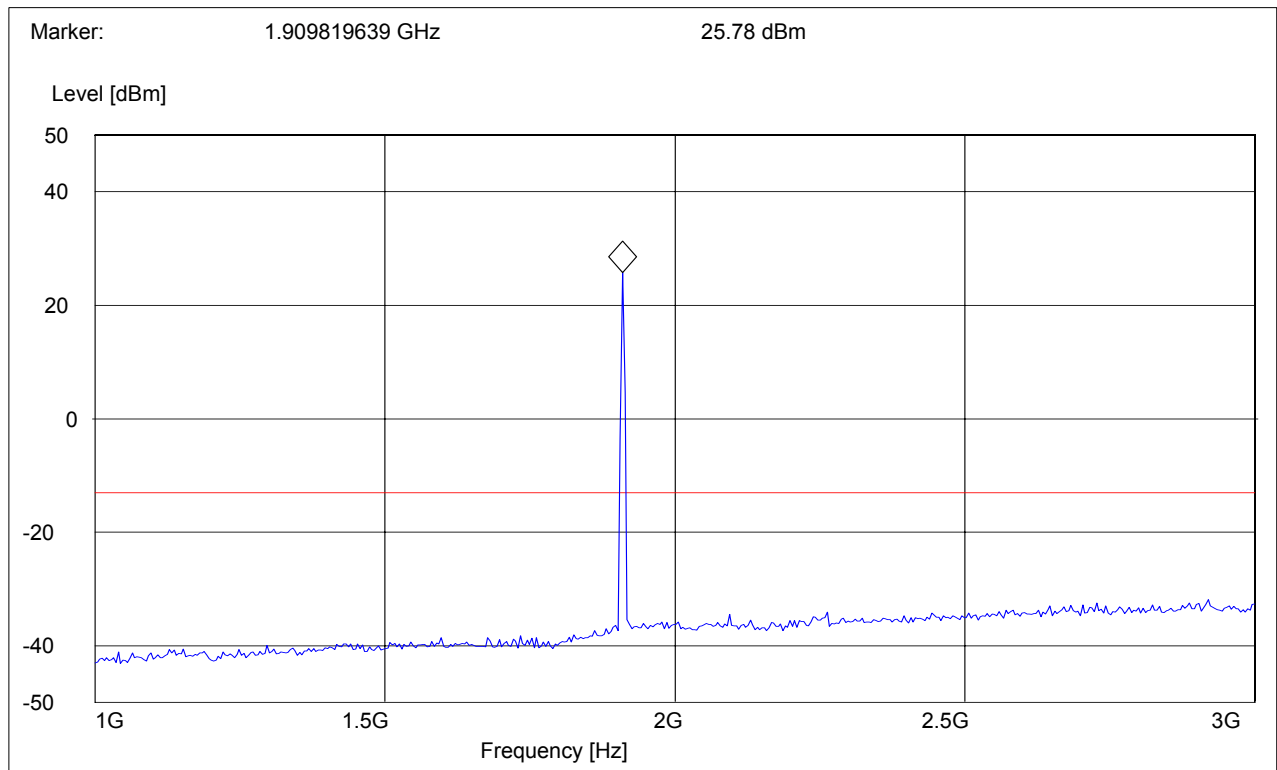


RADIATED SPURIOUS EMISSIONS(PCS 1900)**Tx @ 1909.8MHz: 1GHz – 3GHz**

Spurious emission limit –13dBm

SWEEP TABLE: "FCC Spuri 1-3G"

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
1GHz	3GHz	Max Peak	Coupled	1 MHz	1 MHz

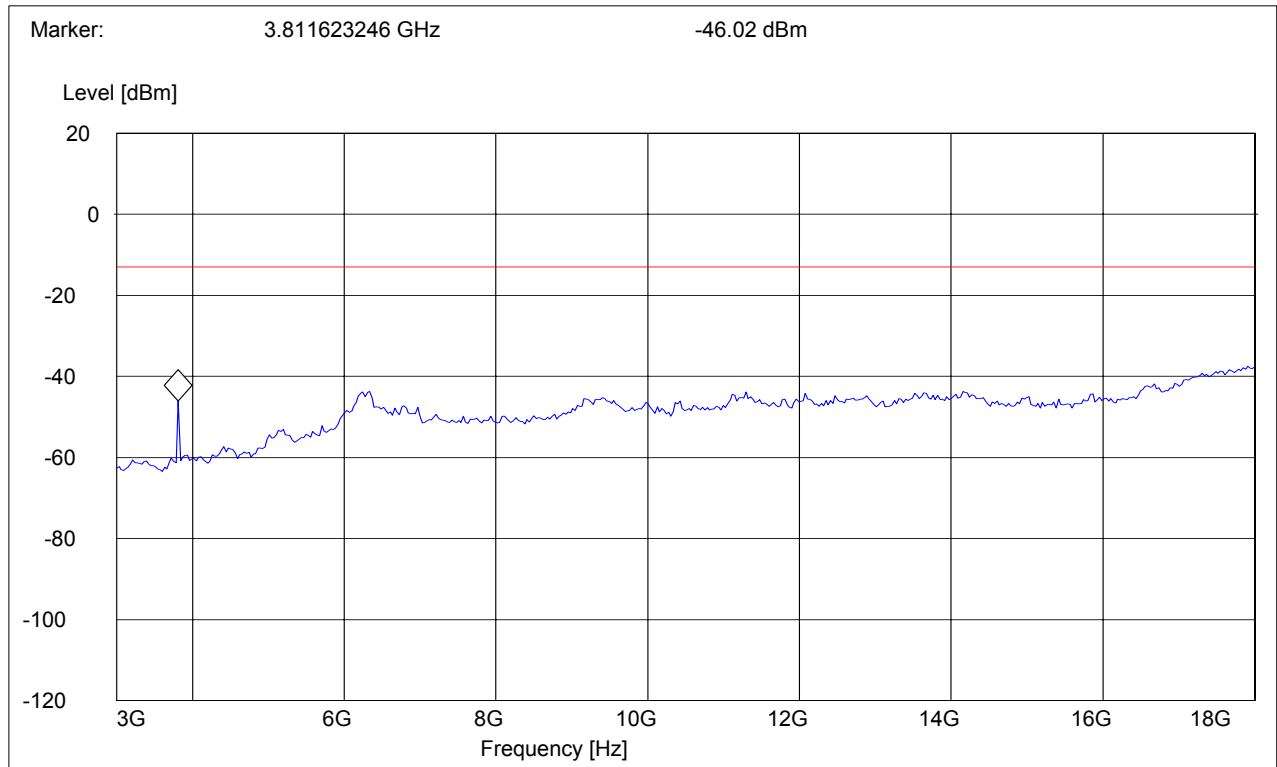
Note: The peak above the limit line is the carrier freq.

RADIATED SPURIOUS EMISSIONS(PCS 1900)**Tx @ 1909.8MHz: 3GHz – 18GHz**

Spurious emission limit –13dBm

SWEEP TABLE: "FCC Spuri 3-18G"

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
3GHz	18GHz	Max Peak	Coupled	1 MHz	1 MHz

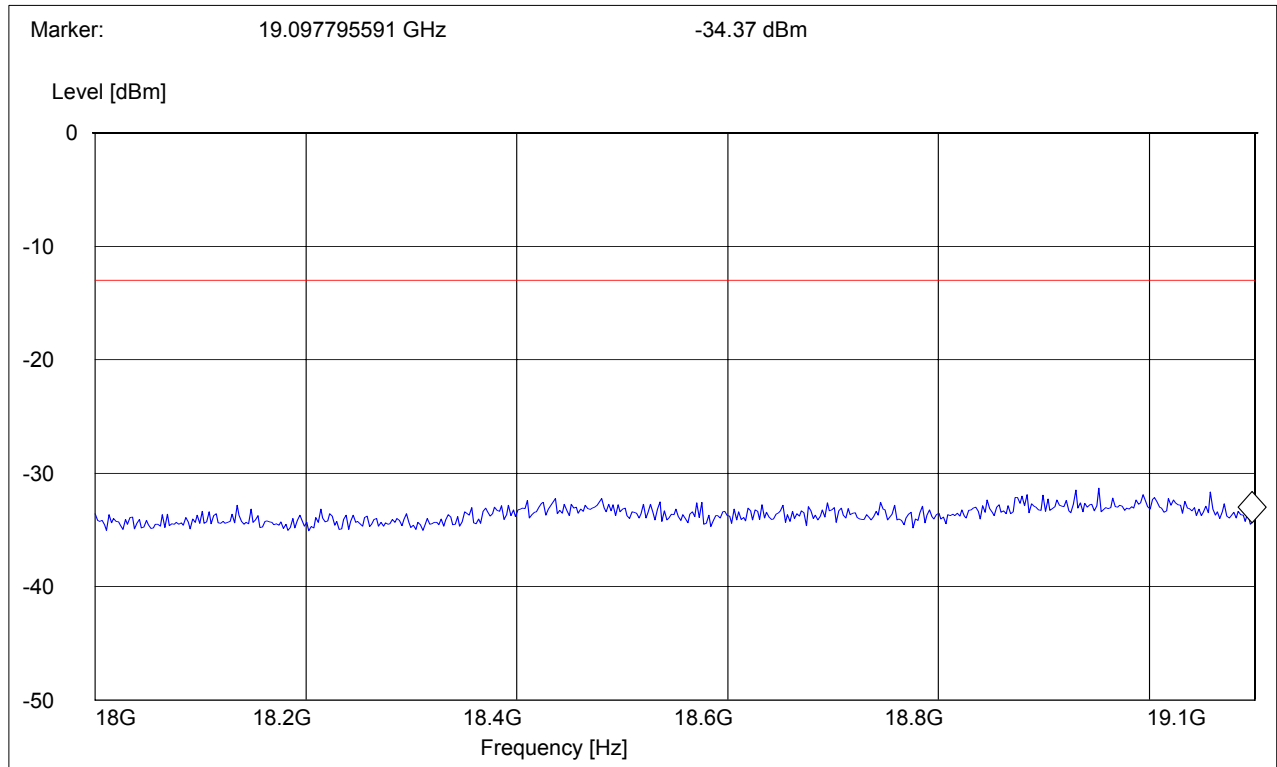


RADIATED SPURIOUS EMISSIONS(PCS 1900)**18GHz – 19.1GHz**

Spurious emission limit –13dBm

SWEEP TABLE: "FCC 24 spuri 18-19.1G"

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
18GHz	19.1GHz	Max Peak	Coupled	1 MHz	1 MHz

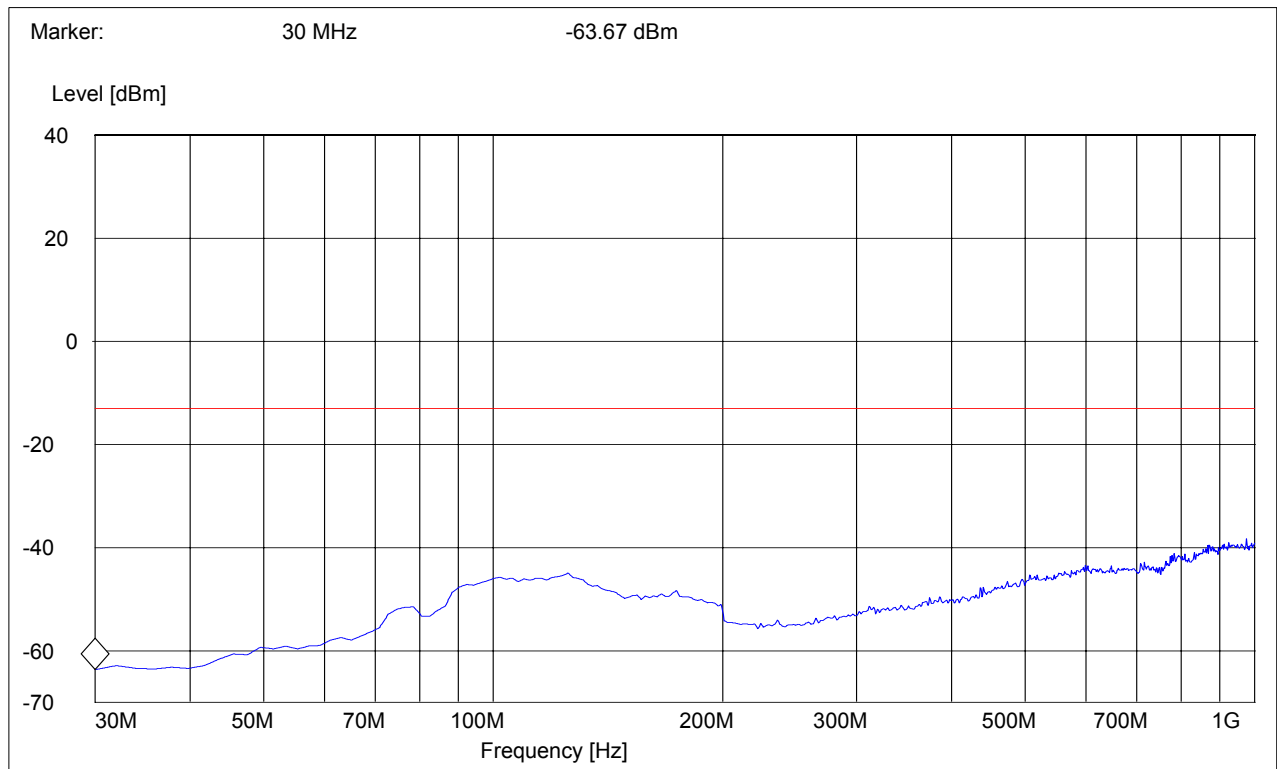
Note: This plot is valid for low, mid & high channels (worst-case plot)

RADIATED SPURIOUS EMISSIONS (IDLE MODE)**EUT in Idle Mode: 30MHz – 1GHz**

Spurious emission limit –13dBm

Antenna: vertical***SWEEP TABLE: "FCC 22 Spur 30M-1G"***

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
30MHz	1GHz	Max Peak	Coupled	1 MHz	1 MHz

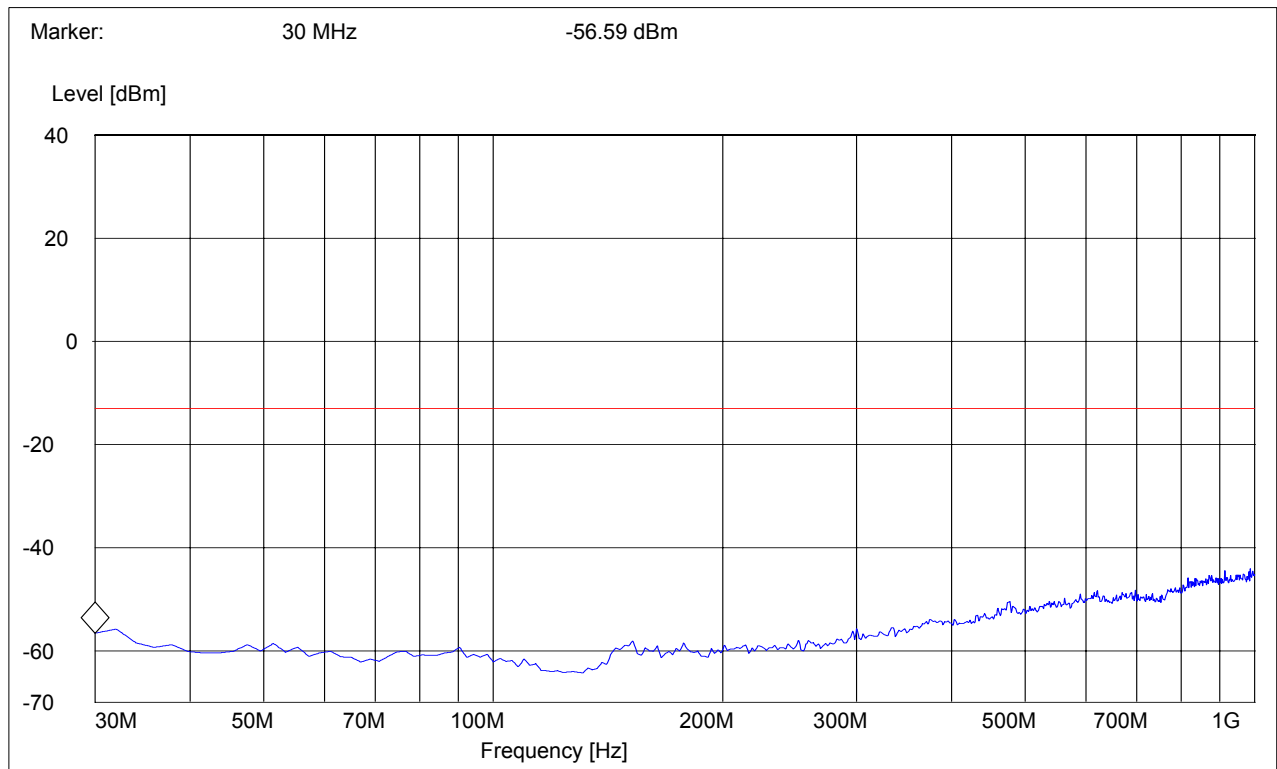


RADIATED SPURIOUS EMISSIONS (IDLE MODE)**EUT in Idle Mode: 30MHz – 1GHz**

Spurious emission limit –13dBm

Antenna: horizontal***SWEEP TABLE: "FCC 22 Spur 30M-1G"***

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
30MHz	1GHz	Max Peak	Coupled	1 MHz	1 MHz

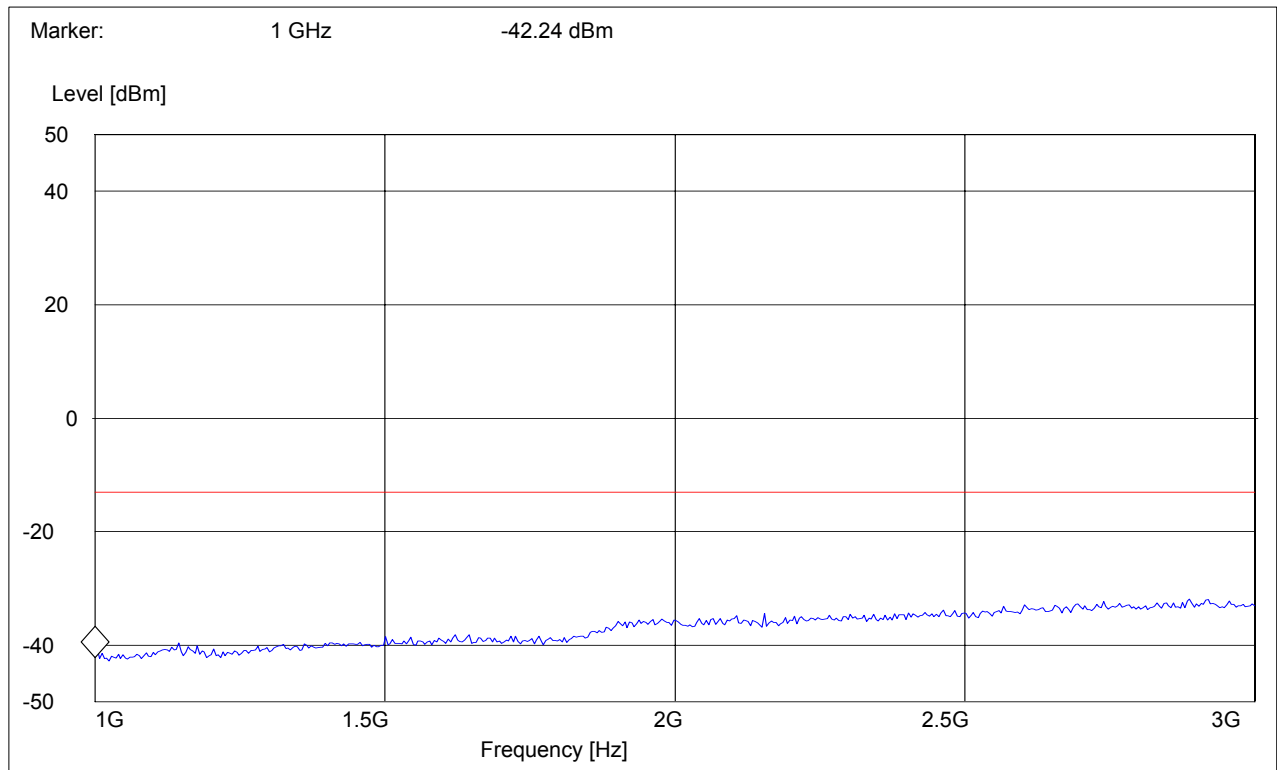


RADIATED SPURIOUS EMISSIONS (IDLE MODE)**EUT in Idle Mode: 1GHz – 3GHz**

Spurious emission limit –13dBm

SWEEP TABLE: "FCC Spuri 1-3G"

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
1GHz	3GHz	Max Peak	Coupled	1 MHz	1 MHz

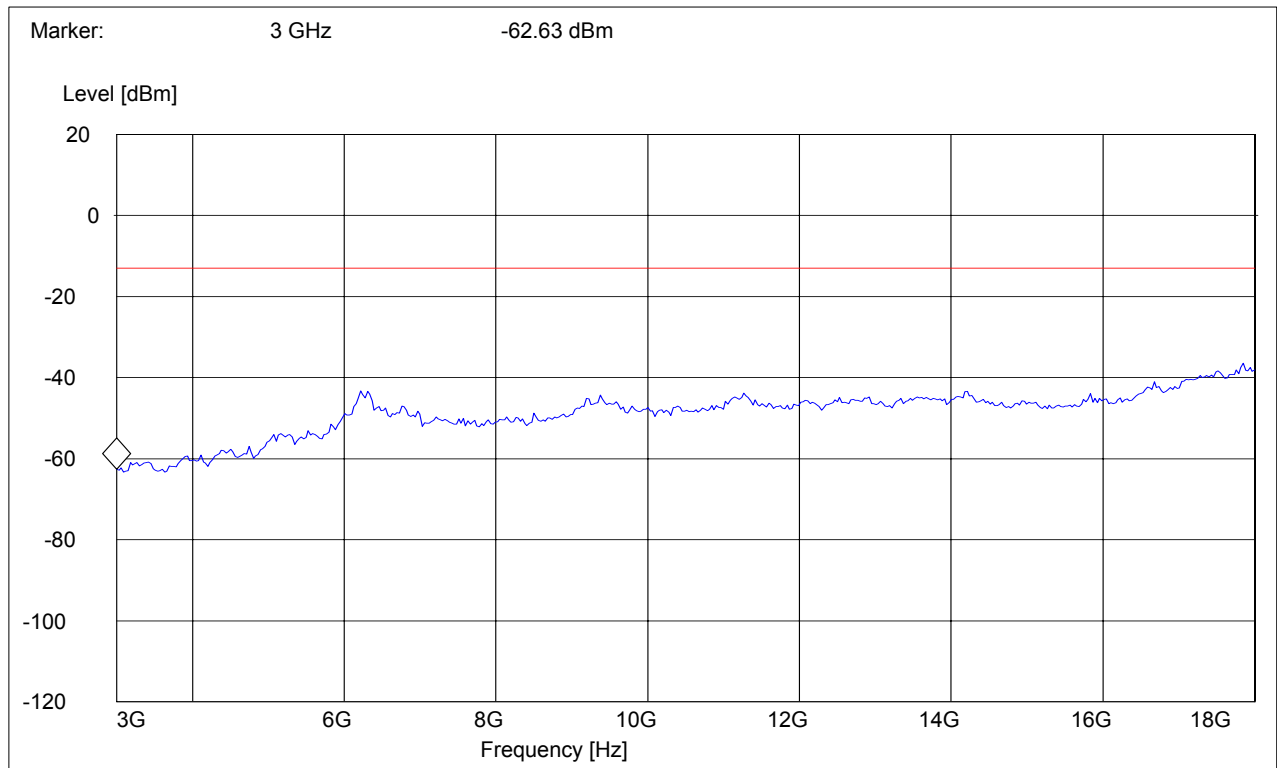


RADIATED SPURIOUS EMISSIONS (IDLE MODE)**EUT in Idle Mode: 3GHz – 18GHz**

Spurious emission limit –13dBm

SWEEP TABLE: "FCC 24 spuri 3-18G"

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
3GHz	18GHz	Max Peak	Coupled	1 MHz	1 MHz

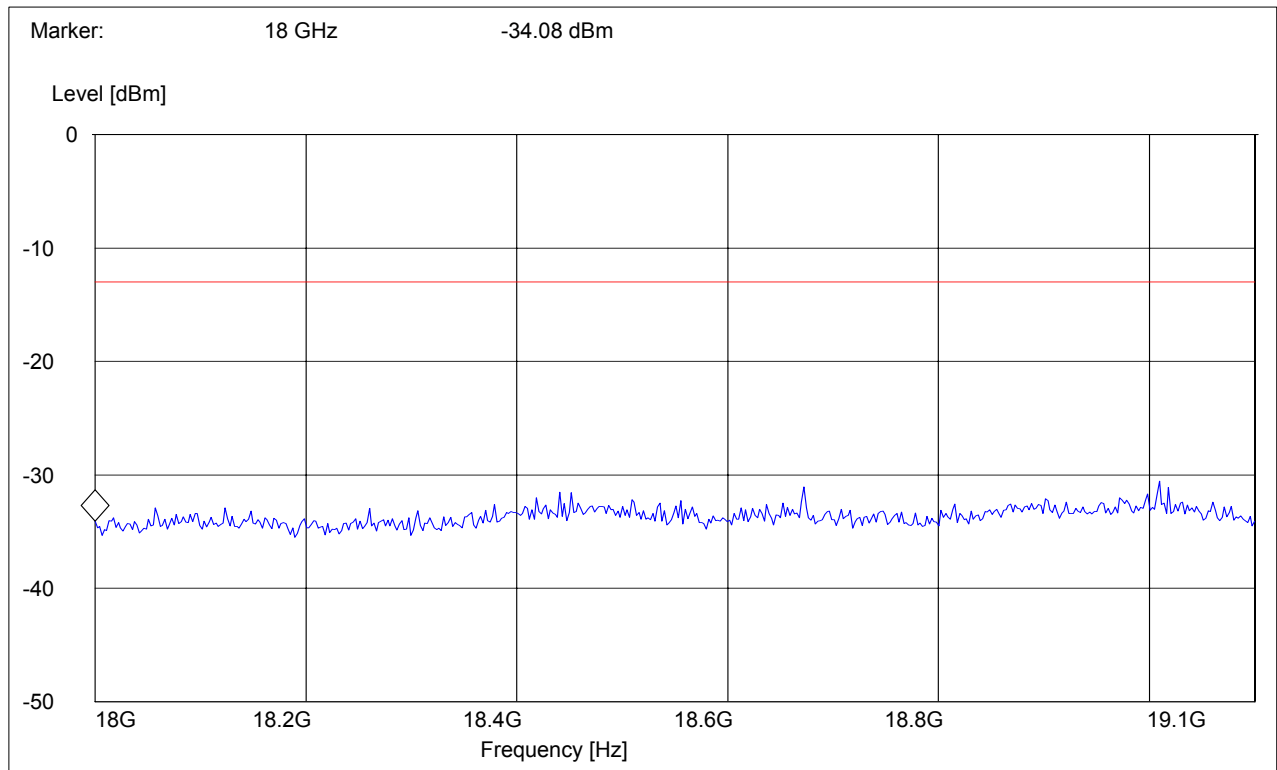


RADIATED SPURIOUS EMISSIONS (IDLE MODE)**EUT in Idle Mode: 18GHz – 19.1GHz**

Spurious emission limit –13dBm

SWEEP TABLE: "FCC 24 spuri 18-19.1G"

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
18GHz	19.1GHz	Max Peak	Coupled	1 MHz	1 MHz



5.2.5 Radiated out of band emissions results on EUT (WCDMA):**RESULTS OF RADIATED TESTS WCDMA-850:**

Harmonics	Tx ch-4132 Freq. (MHz)	Level (dBm)	Tx ch-4182 Freq. (MHz)	Level (dBm)	Tx ch-4233 Freq. (MHz)	Level (dBm)
2	1652.8	-42.25	1672.8	-42.64	1693.2	-40.71
3	2479.2	NF	2509.2	NF	2539.8	NF
4	3305.6	NF	3345.6	NF	3386.4	NF
5	4132	NF	4182	NF	4233	NF
6	4958.4	NF	5018.4	NF	5079.6	NF
7	5784.8	NF	5854.8	NF	5926.2	NF
8	6611.2	NF	6691.2	NF	6772.8	NF
9	7437.6	NF	7527.6	NF	7619.4	NF
10	8264	NF	8364	NF	8466	NF
NF = NOISE FLOOR						

RADIATED SPURIOUS EMISSIONS (WCDMA-850)**TX: 30MHz - 1GHz**

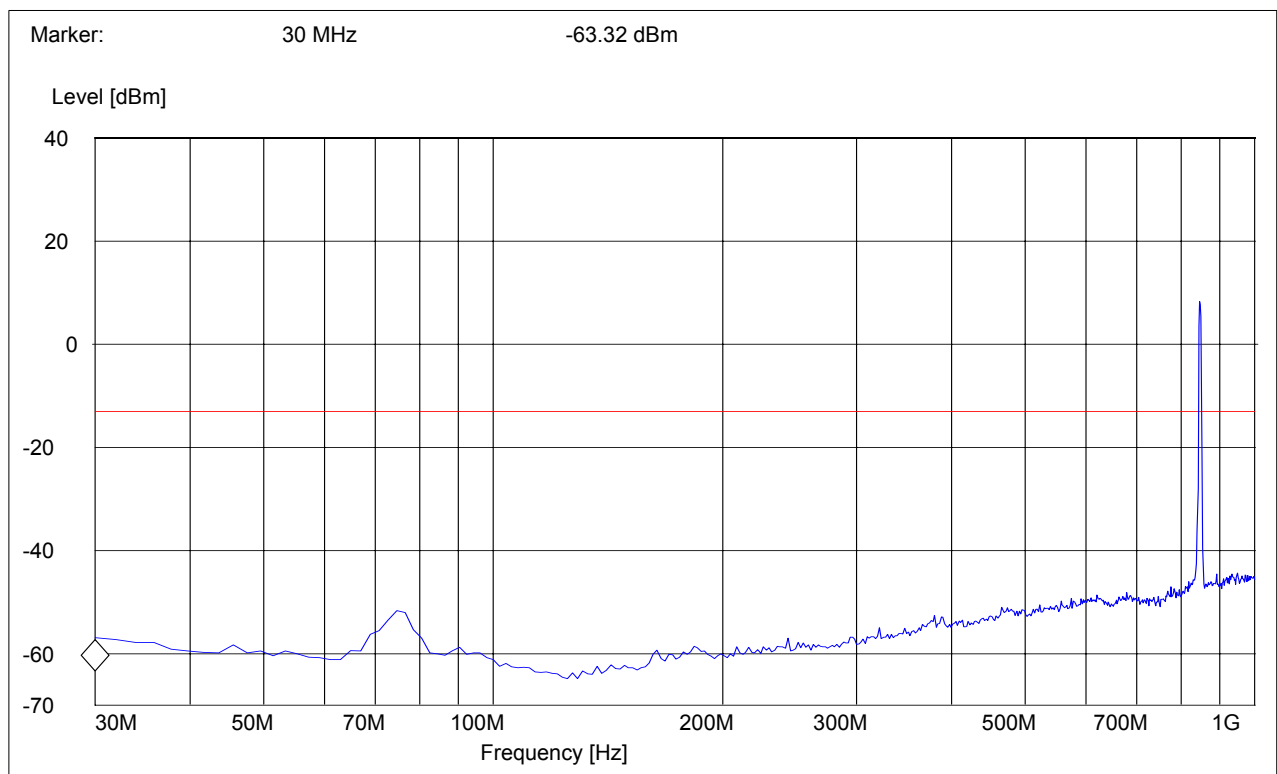
Spurious emission limit -13dBm

Antenna: vertical***SWEEP TABLE: "FCC 22 Spur 30M-1G"***

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
30MHz	1GHz	Max Peak	Coupled	1 MHz	1 MHz

Note:

- 1.The peak above the limit line is the carrier freq.**
- 2.This plot is valid for low, mid & high channels (worst-case plot)**



RADIATED SPURIOUS EMISSIONS (WCDMA-850)**TX: 30MHz - 1GHz**

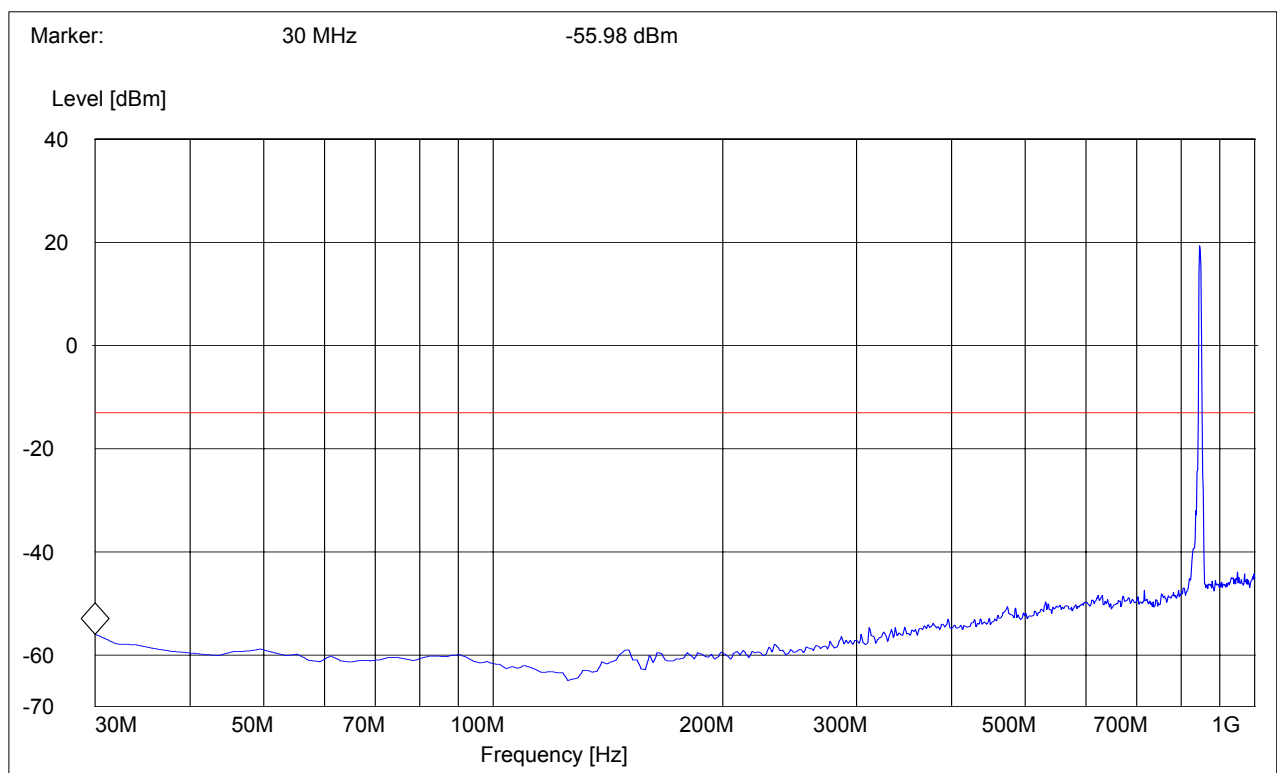
Spurious emission limit -13dBm

Antenna: horizontal***SWEEP TABLE: "FCC 22 Spur 30M-1G"***

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
30MHz	1GHz	Max Peak	Coupled	1 MHz	1 MHz

Note:

- 1.The peak above the limit line is the carrier freq.**
- 2.This plot is valid for low, mid & high channels (worst-case plot)**

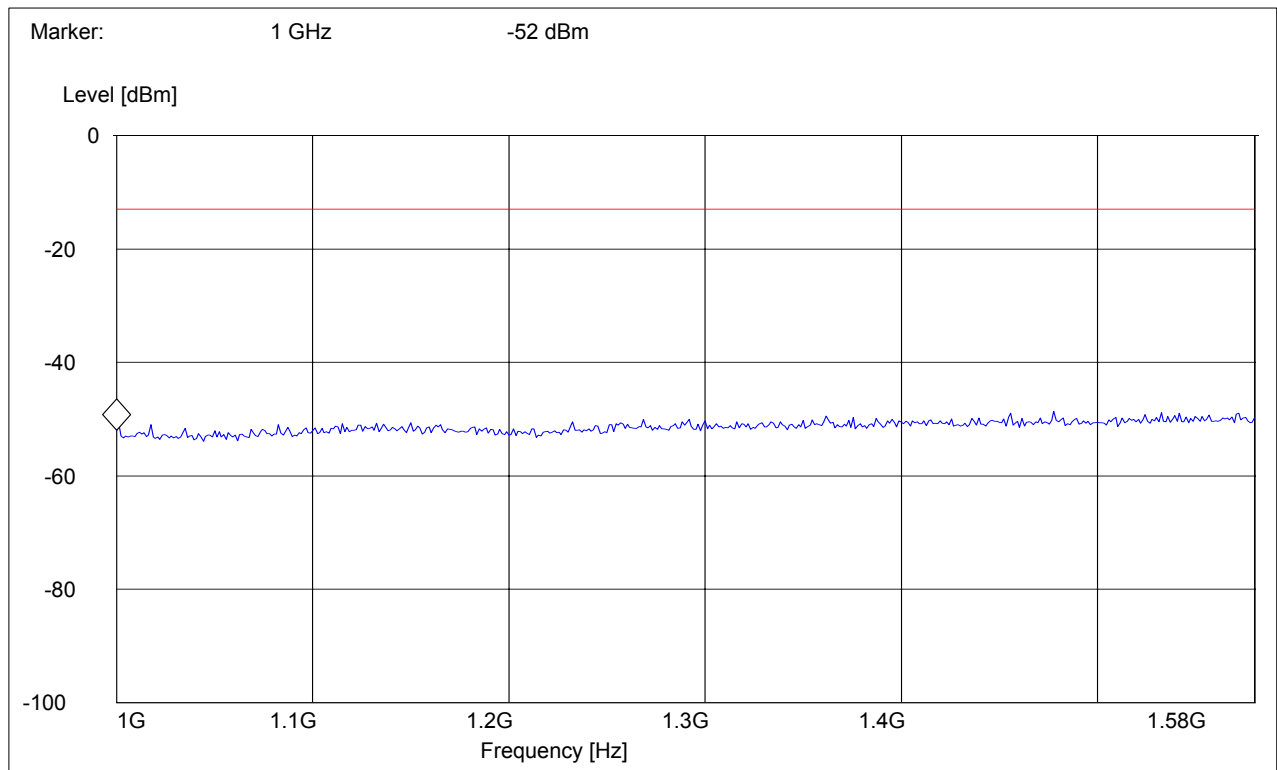


RADIATED SPURIOUS EMISSIONS (WCDMA-850)**Tx @ 826.4MHz: 1GHz – 1.58GHz**

Spurious emission limit –13dBm

SWEEP TABLE: "FCC 22 Spur 1-1.58G"

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
1GHz	1.58GHz	Max Peak	Coupled	1 MHz	1 MHz

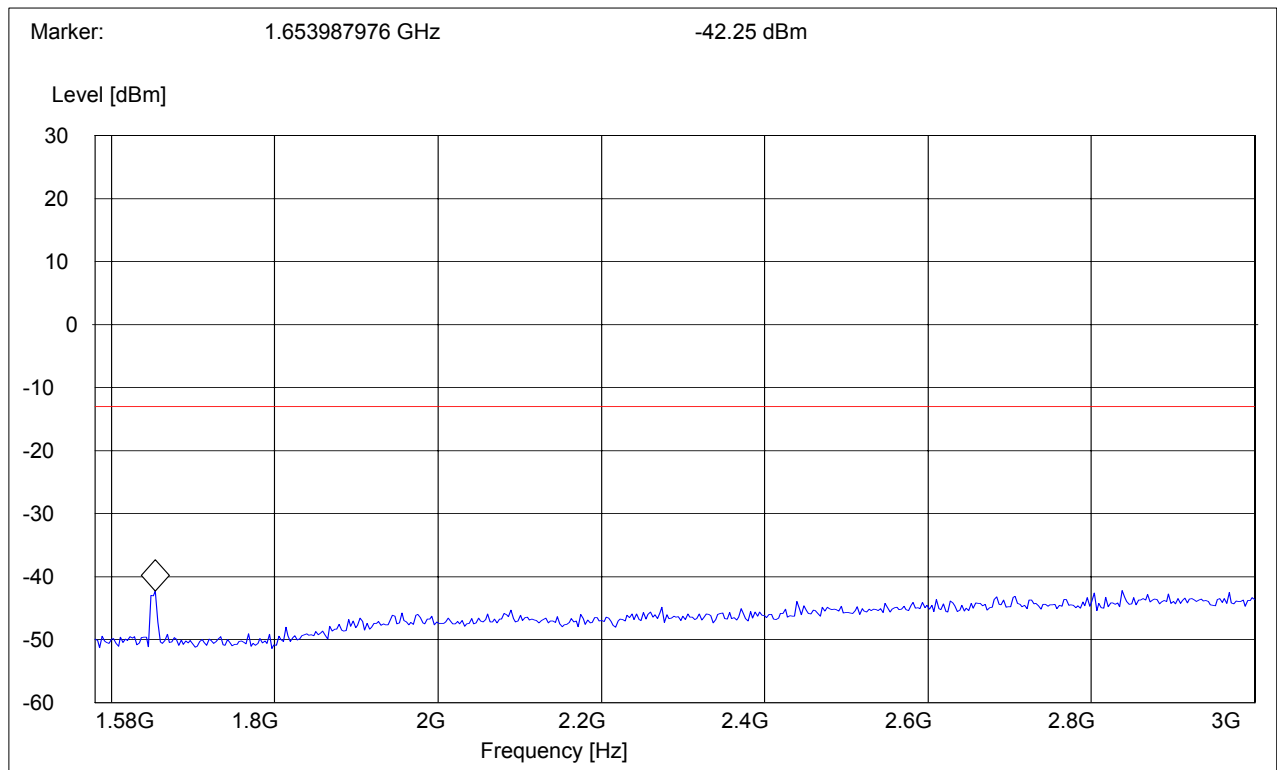


RADIATED SPURIOUS EMISSIONS (WCDMA -850)**Tx @ 826.4MHz: 1.58GHz – 3GHz**

Spurious emission limit –13dBm

SWEEP TABLE: "FCC 22 Spur 1.58-3G"

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
1.58GHz	3GHz	Max Peak	Coupled	1 MHz	1 MHz

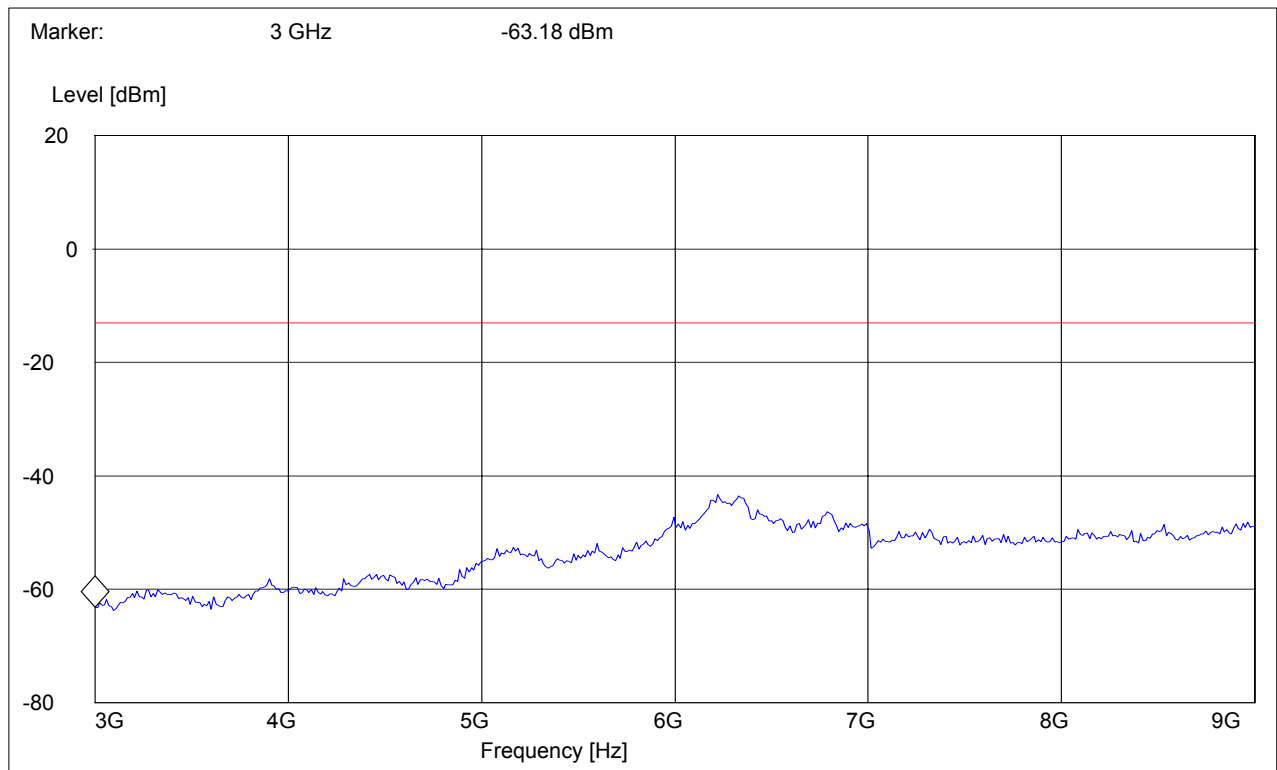


RADIATED SPURIOUS EMISSIONS (WCDMA -850)**Tx @ 826.4MHz: 3GHz – 9GHz**

Spurious emission limit –13dBm

SWEEP TABLE: "FCC 22 Spur 3-9G"

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
3GHz	9GHz	Max Peak	Coupled	1 MHz	1 MHz

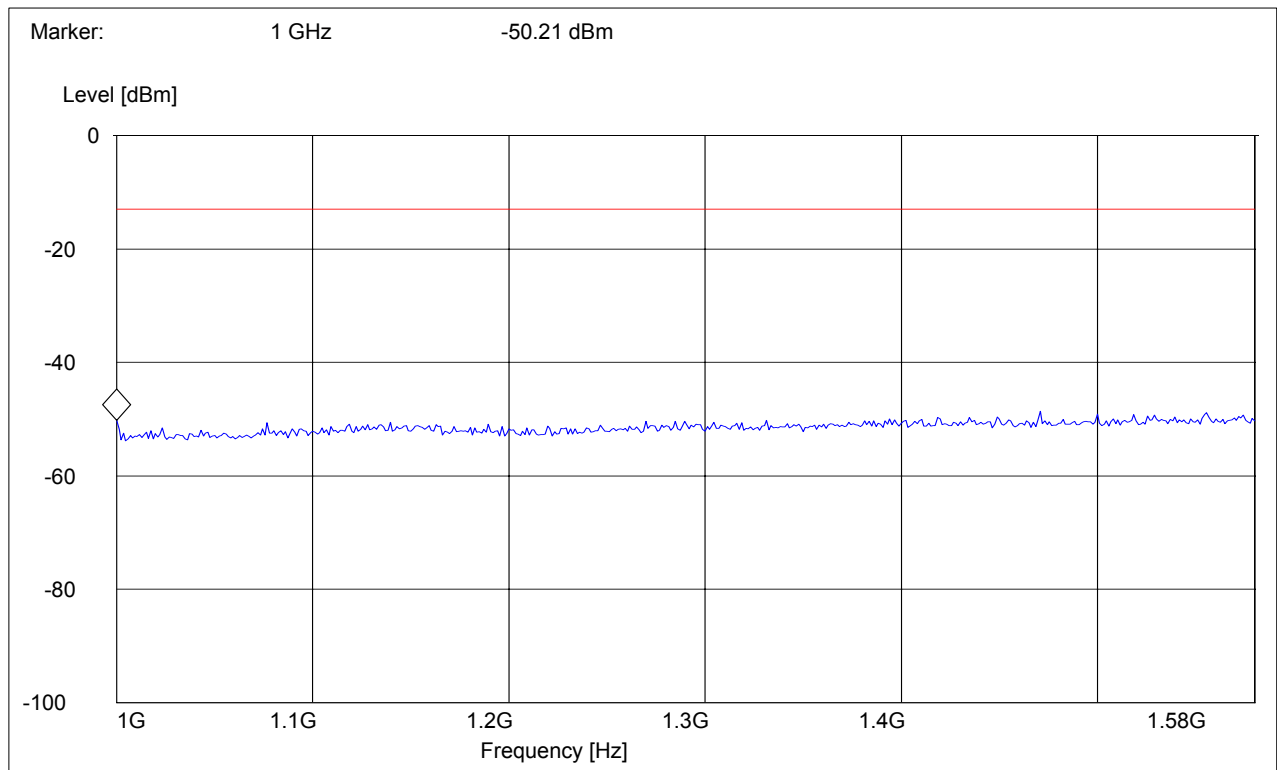


RADIATED SPURIOUS EMISSIONS (WCDMA -850)**Tx @ 836.4MHz: 1GHz – 1.58GHz**

Spurious emission limit –13dBm

SWEEP TABLE: "FCC 22 Spur 1-1.58G"

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
1GHz	1.58GHz	Max Peak	Coupled	1 MHz	1 MHz

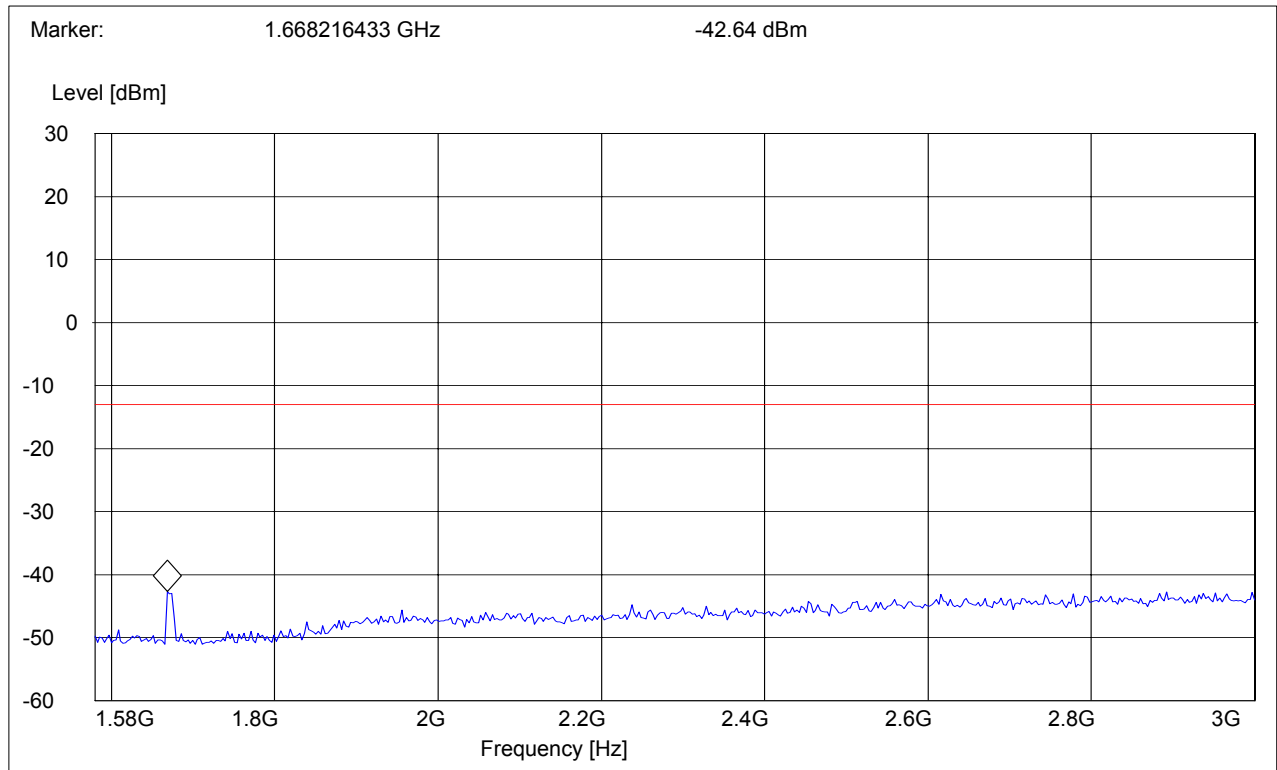


RADIATED SPURIOUS EMISSIONS (WCDMA -850)**Tx @ 836.4MHz: 1.58GHz – 3GHz**

Spurious emission limit –13dBm

SWEEP TABLE: "FCC 22 Spur 1.58-3G"

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
1.58GHz	3GHz	Max Peak	Coupled	1 MHz	1 MHz

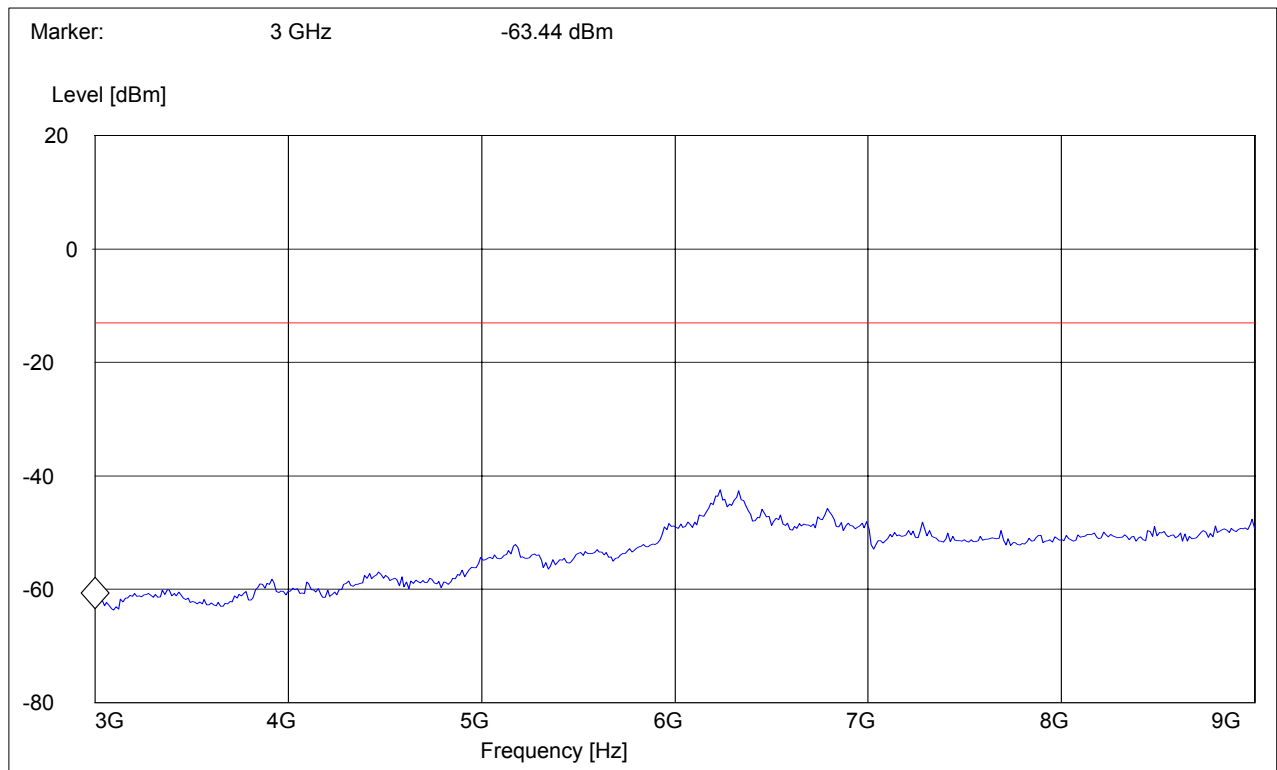


RADIATED SPURIOUS EMISSIONS (WCDMA -850)**Tx @ 836.4MHz: 3GHz – 9GHz**

Spurious emission limit –13dBm

SWEEP TABLE: "FCC 22 Spur 3-9G"

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
3GHz	9GHz	Max Peak	Coupled	1 MHz	1 MHz

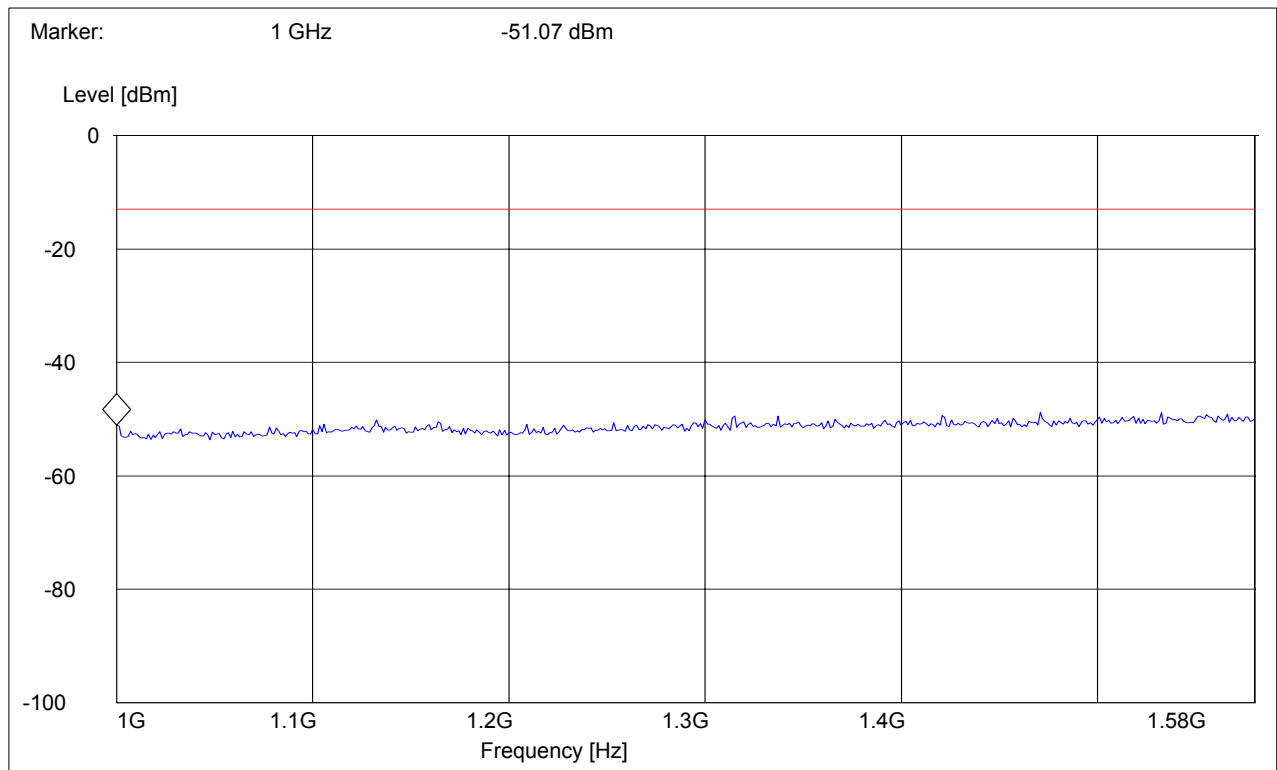


RADIATED SPURIOUS EMISSIONS (WCDMA -850)**Tx @ 846.6MHz: 1GHz – 1.58GHz**

Spurious emission limit –13dBm

SWEEP TABLE: "FCC 22 Spur 1-1.58G"

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
1GHz	1.58GHz	Max Peak	Coupled	1 MHz	1 MHz

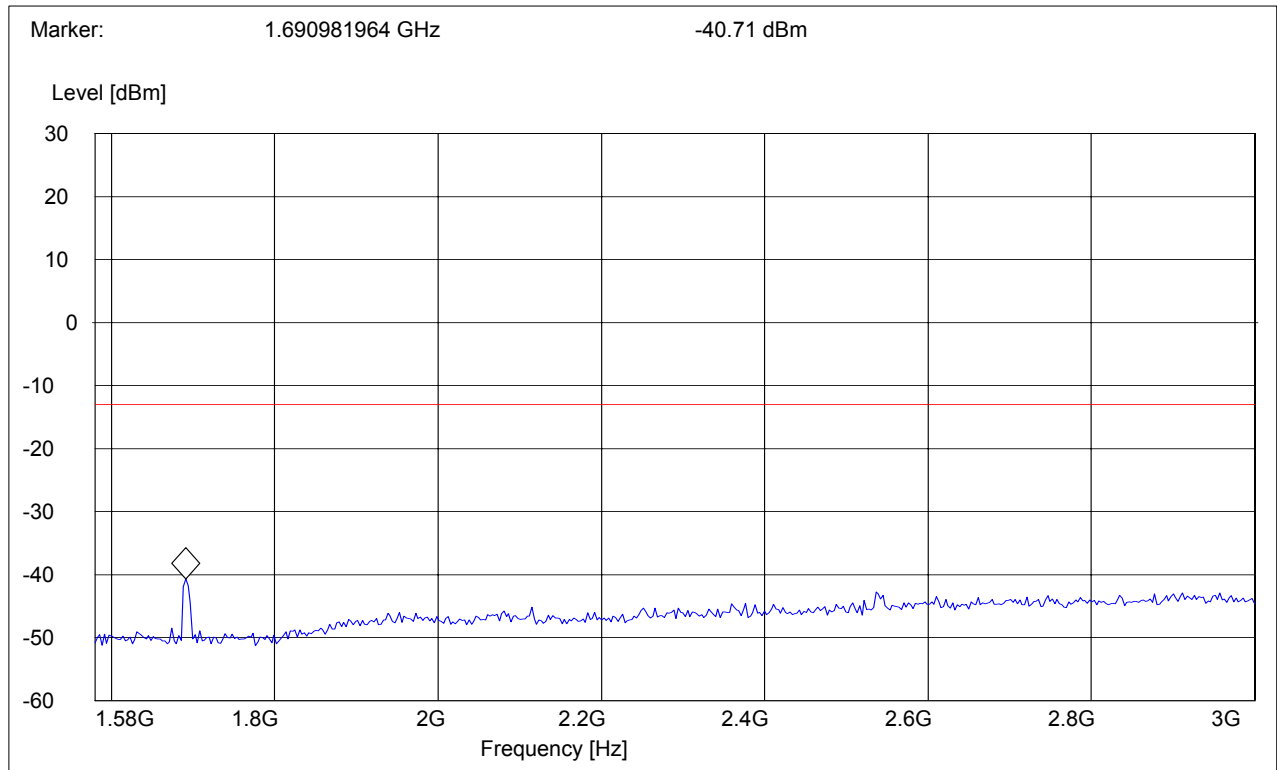


RADIATED SPURIOUS EMISSIONS (WCDMA -850)**Tx @ 846.6MHz: 1.58GHz – 3GHz**

Spurious emission limit –13dBm

SWEEP TABLE: "FCC 22 Spur 1.58-3G"

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
1.58GHz	3GHz	Max Peak	Coupled	1 MHz	1 MHz

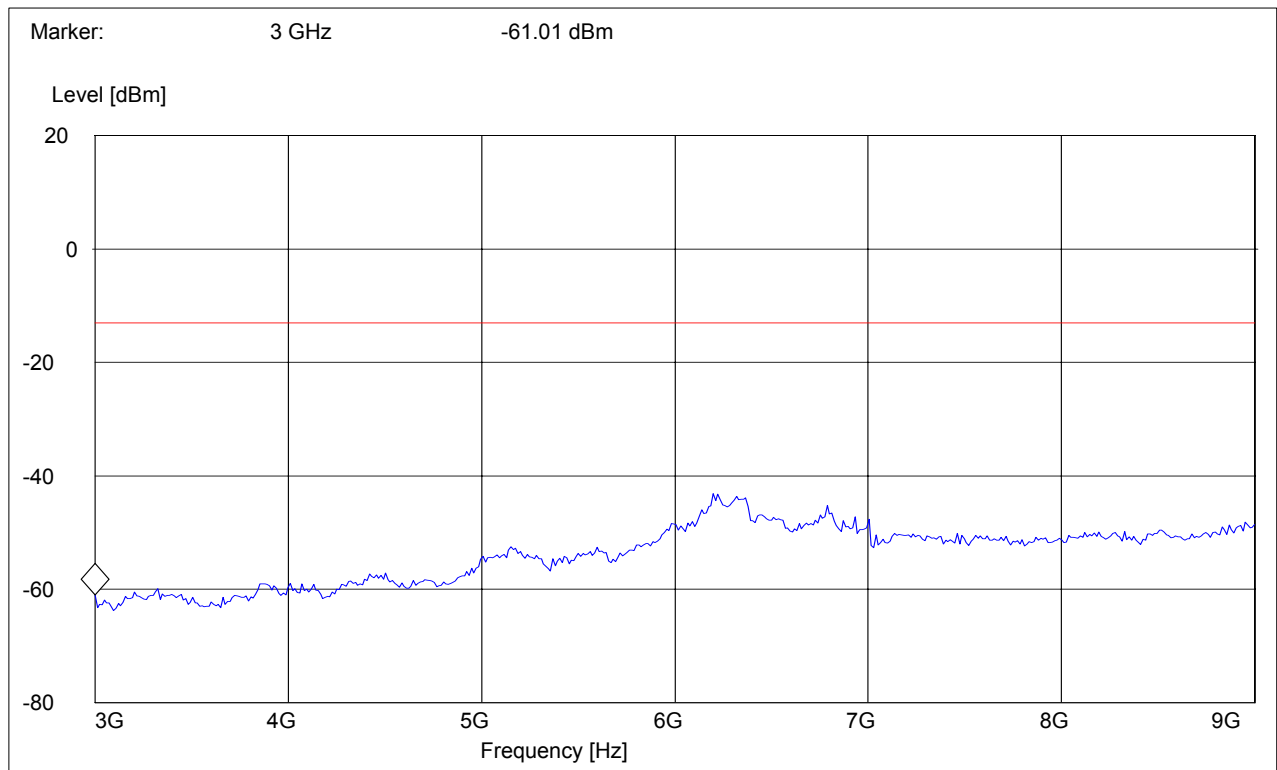


RADIATED SPURIOUS EMISSIONS (WCDMA-850)**Tx @ 846.6MHz: 3GHz – 9GHz**

Spurious emission limit –13dBm

SWEEP TABLE: "FCC 22 Spur 3-9G"

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
3GHz	9GHz	Max Peak	Coupled	1 MHz	1 MHz

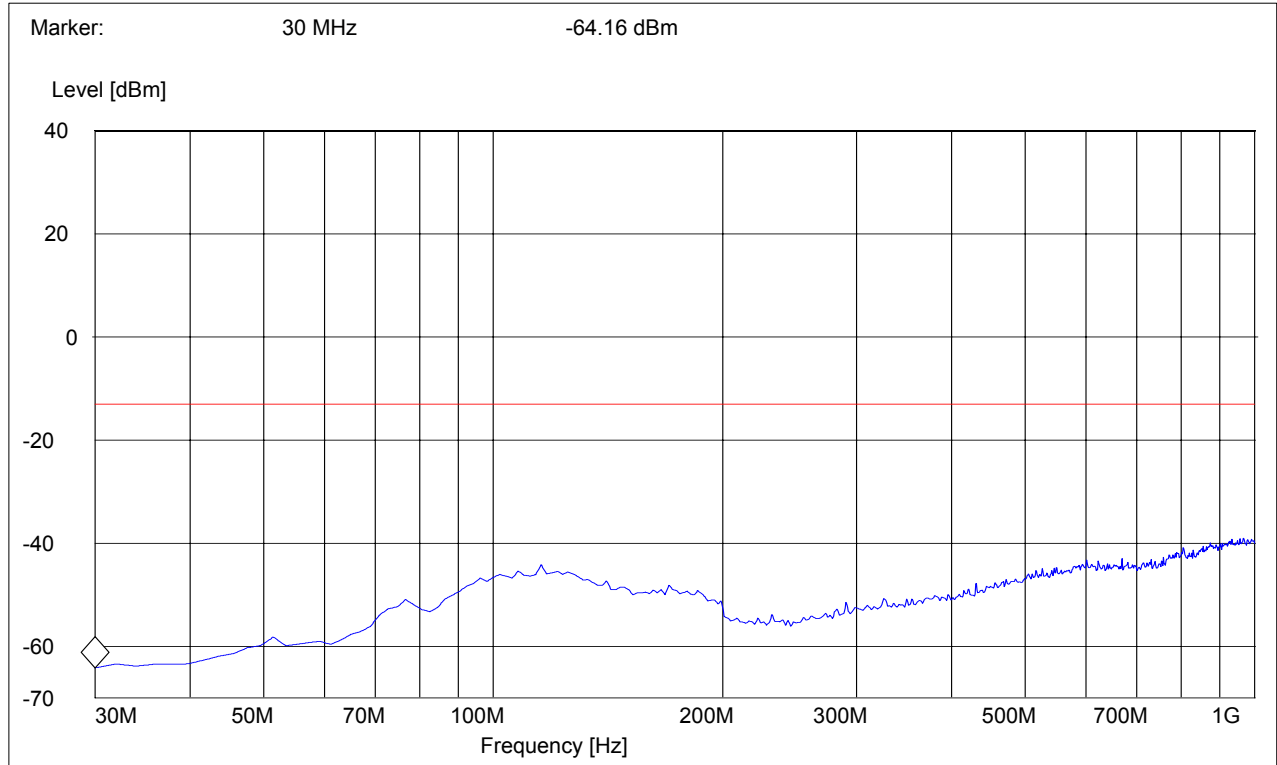


RADIATED SPURIOUS EMISSIONS (WCDMA-850)**IDLE: 30MHz - 1GHz**

Spurious emission limit -13dBm

Antenna: vertical***SWEEP TABLE: "FCC 22 Spur 30M-1G"***

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
30MHz	1GHz	Max Peak	Coupled	1 MHz	1 MHz

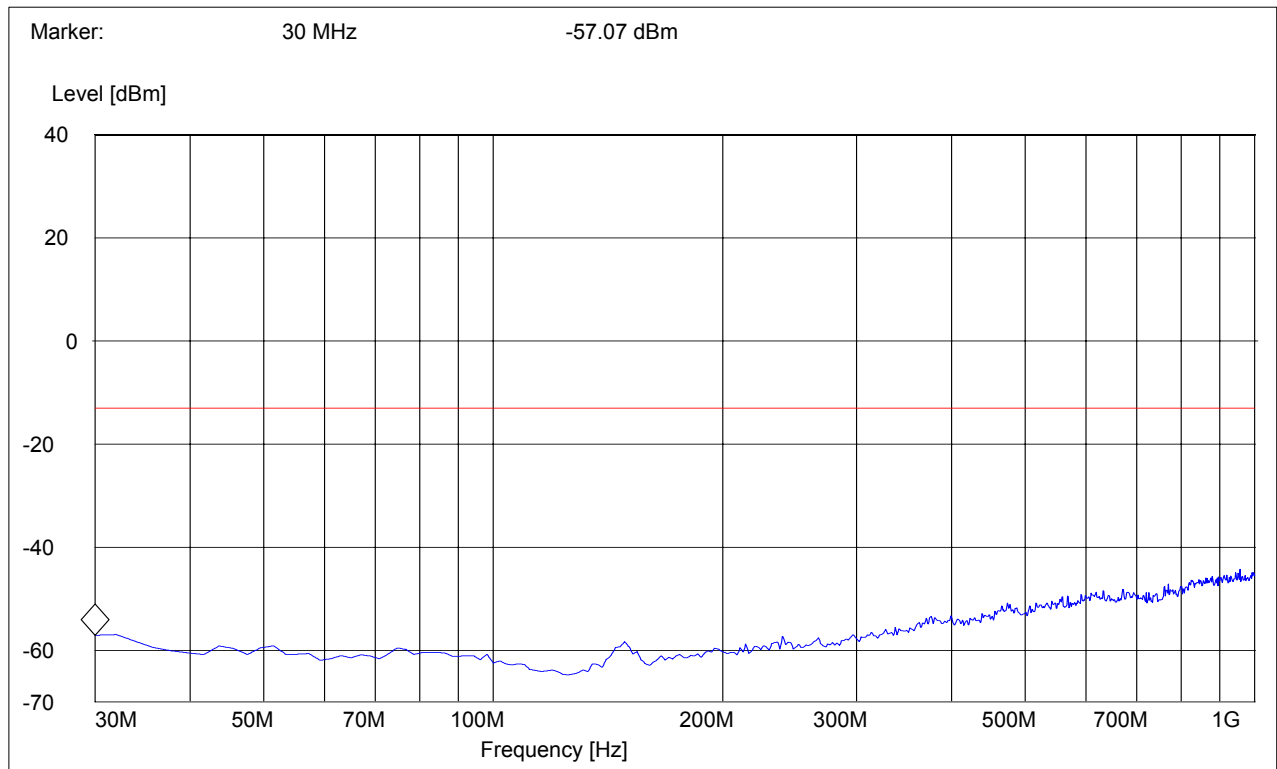


RADIATED SPURIOUS EMISSIONS (WCDMA -850)**IDLE: 30MHz - 1GHz**

Spurious emission limit -13dBm

Antenna: horizontal***SWEEP TABLE: "FCC 22 Spur 30M-1G"***

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
30MHz	1GHz	Max Peak	Coupled	1 MHz	1 MHz

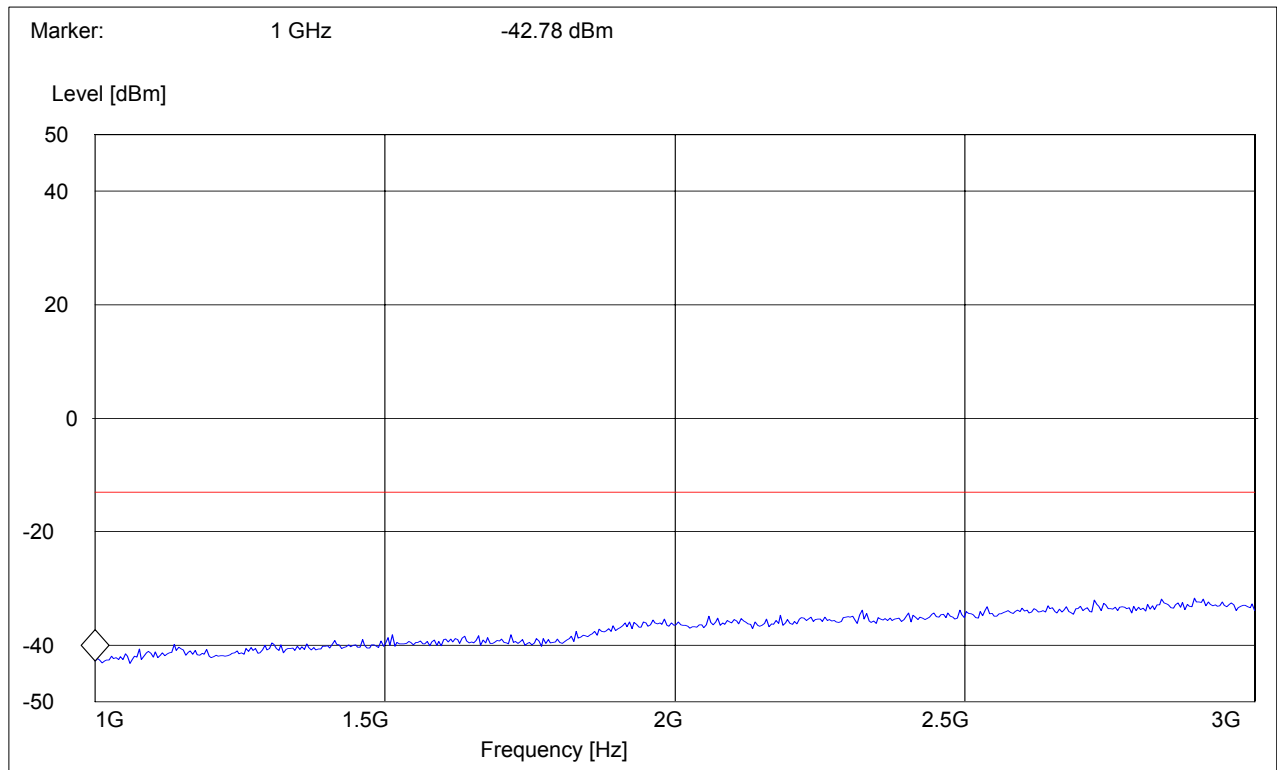


RADIATED SPURIOUS EMISSIONS (WCDMA -850)**IDLE: 1GHz – 3GHz**

Spurious emission limit –13dBm

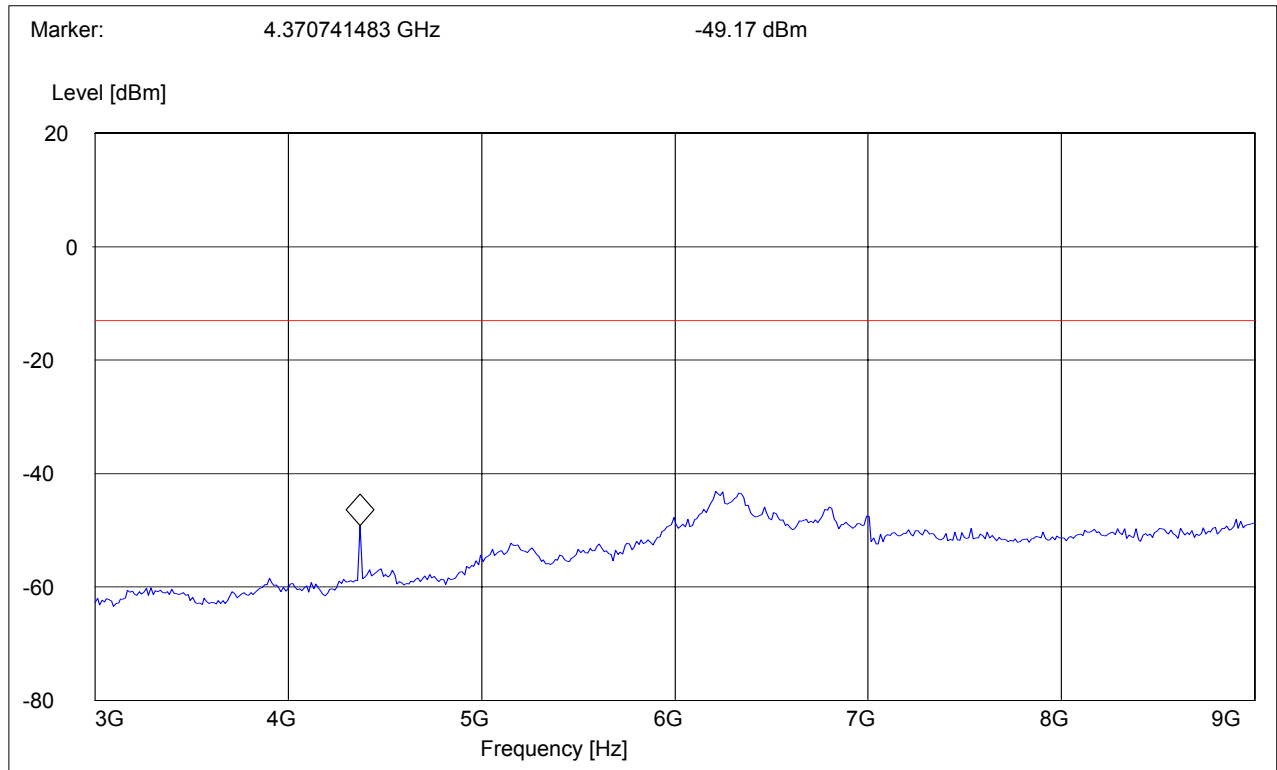
SWEEP TABLE: "FCC 22 Spur 1-3G"

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
1GHz	3GHz	Max Peak	Coupled	1 MHz	1 MHz



RADIATED SPURIOUS EMISSIONS (WCDMA -850)**IDLE: 3GHz – 9GHz*****SWEEP TABLE: "FCC 22 Spur 3-9G"***

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
3GHz	9GHz	Max Peak	Coupled	1 MHz	1 MHz



RESULTS OF RADIATED TESTS WCDMA-1900:

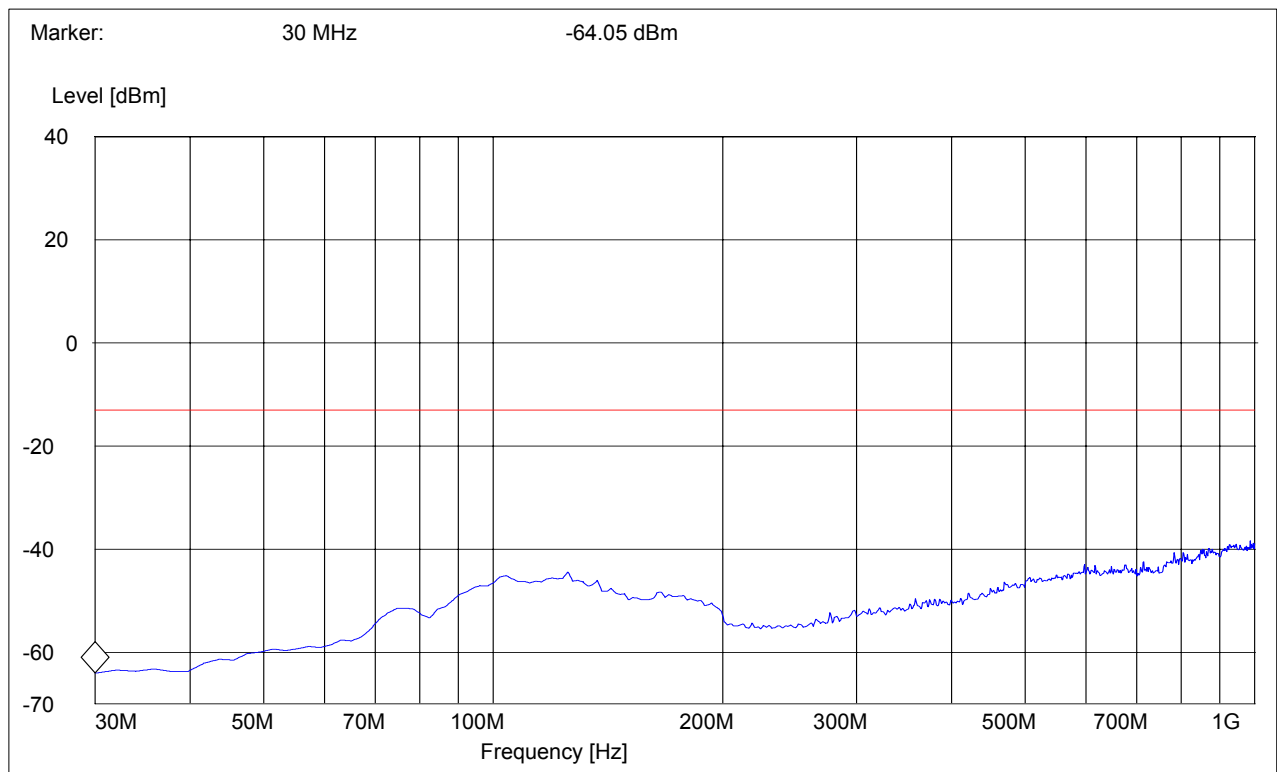
Harmonic	Tx ch-9262 Freq.(MHz)	Level (dBm)	Tx ch-9400 Freq. (MHz)	Level (dBm)	Tx ch-9538 Freq. (MHz)	Level (dBm)
2	3704.8	NF	3760	NF	3815.2	NF
3	5557.2	-48.45	5640	-50.25	5722.8	-49.17
4	7409.6	NF	7520	NF	7630.4	NF
5	9262	NF	9400	NF	9538	NF
6	11114.4	NF	11280	NF	11445.6	NF
7	12966.8	NF	13160	NF	13353.2	NF
8	14819.2	NF	15040	NF	15260.8	NF
9	16671.6	NF	16920	NF	17168.4	NF
10	18524	NF	18800	NF	19076	NF
NF = NOISE FLOOR						

RADIATED SPURIOUS EMISSIONS(WCDMA 1900)**TX: 30MHz - 1GHz**

Spurious emission limit -13dBm

Antenna: vertical***SWEEP TABLE: "FCC 24 Spur 30M-1G"***

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
30MHz	1GHz	Max Peak	Coupled	1 MHz	1 MHz

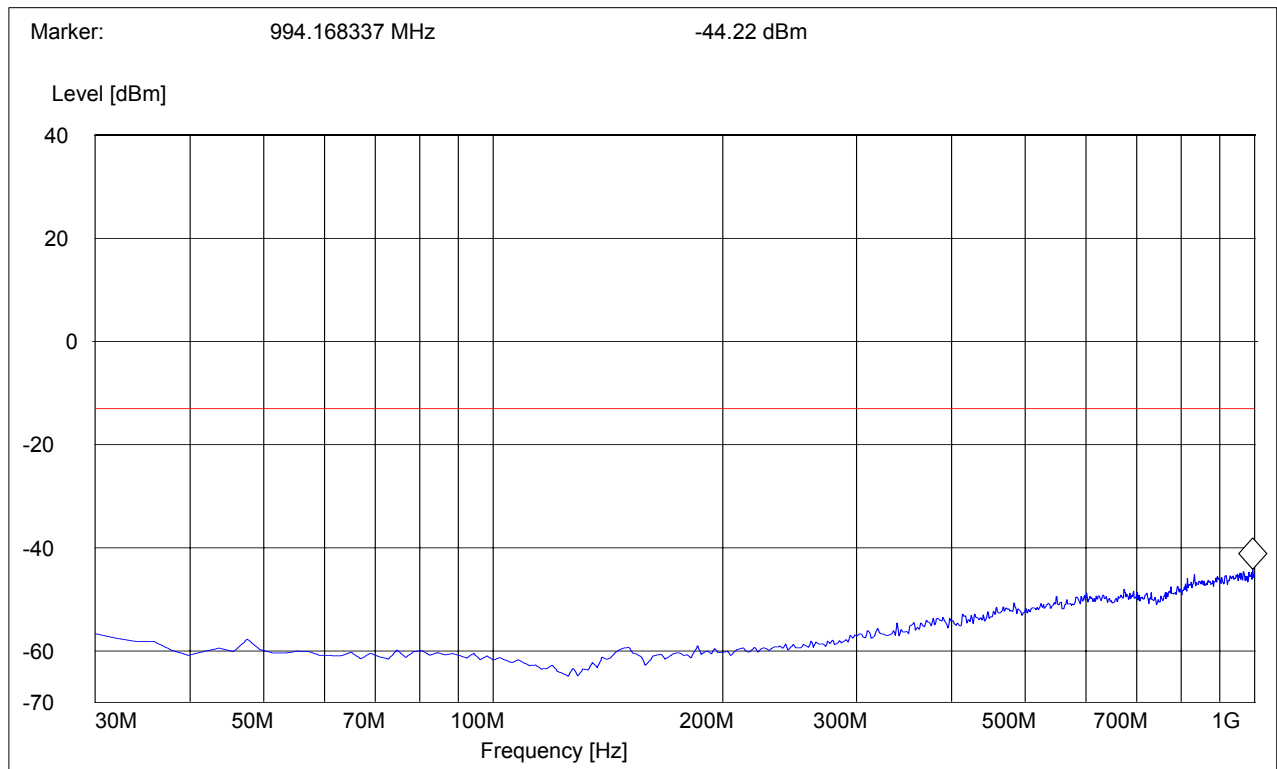
Note: This plot is valid for low, mid & high channels (worst-case plot)

RADIATED SPURIOUS EMISSIONS(WCDMA 1900)**TX: 30MHz - 1GHz**

Spurious emission limit -13dBm

Antenna: horizontal***SWEEP TABLE: "FCC 24 Spur 30M-1G"***

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
30MHz	1GHz	Max Peak	Coupled	1 MHz	1 MHz

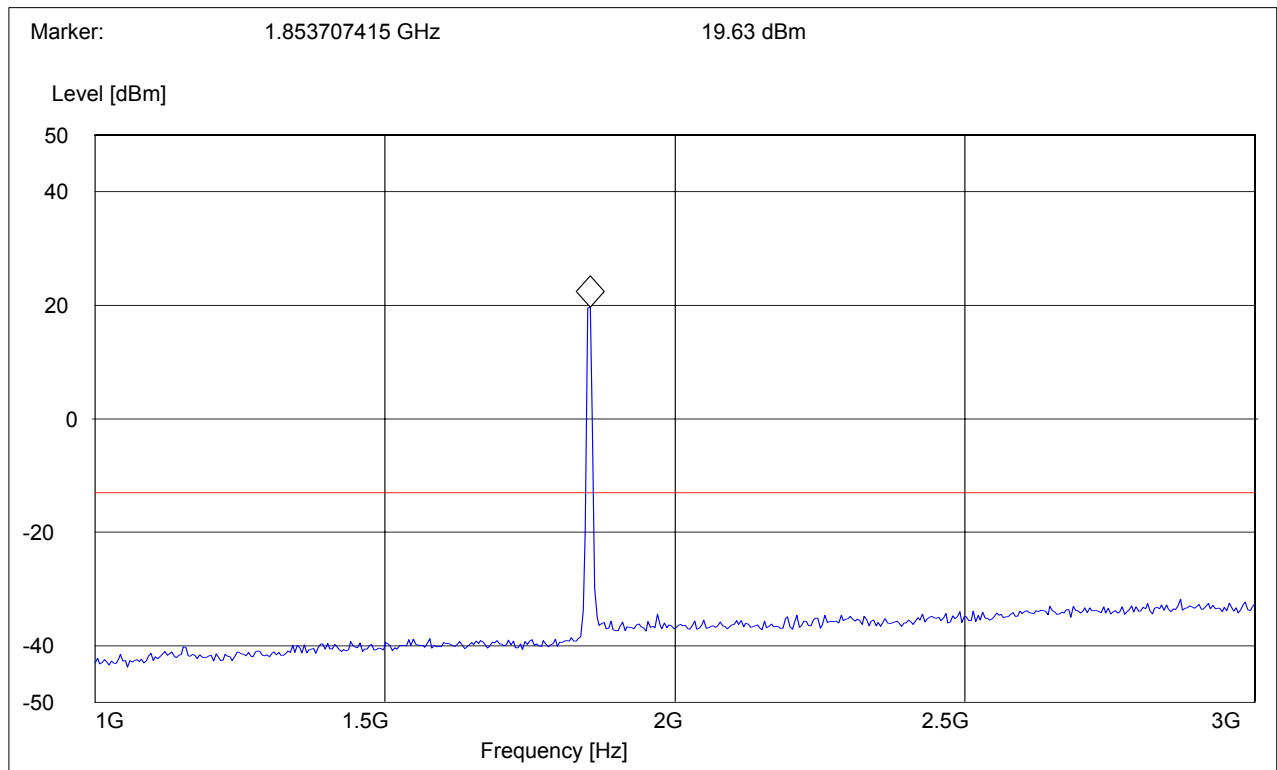
Note: This plot is valid for low, mid & high channels (worst-case plot)

RADIATED SPURIOUS EMISSIONS(WCDMA 1900)**Tx @ 1852.4MHz: 1GHz – 3GHz**

Spurious emission limit –13dBm

SWEEP TABLE: "FCC Spuri 1-3G"

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
1GHz	3GHz	Max Peak	Coupled	1 MHz	1 MHz

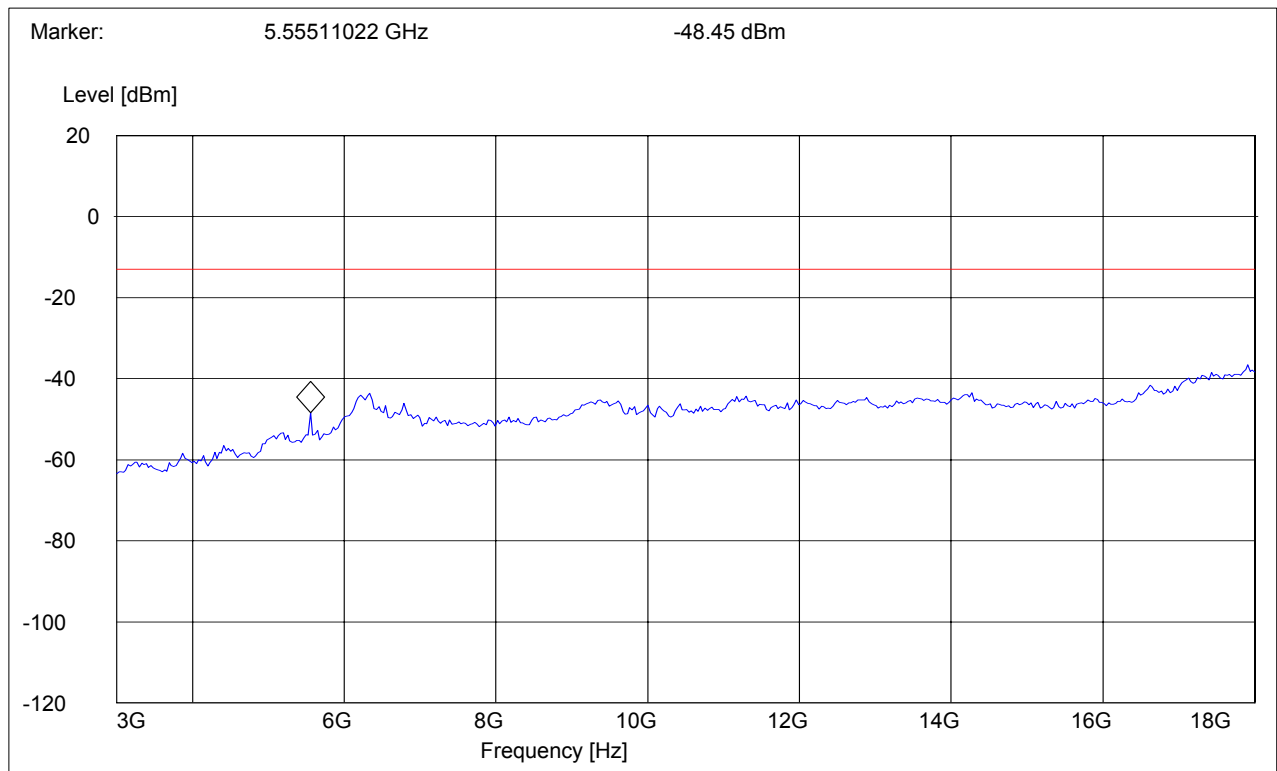
Note: The peak above the limit line is the carrier freq.

RADIATED SPURIOUS EMISSIONS(WCDMA 1900)**Tx @ 1852.4MHz: 3GHz – 18GHz**

Spurious emission limit –13dBm

SWEEP TABLE: "FCC Spuri 3-18G"

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
3GHz	18GHz	Max Peak	Coupled	1 MHz	1 MHz

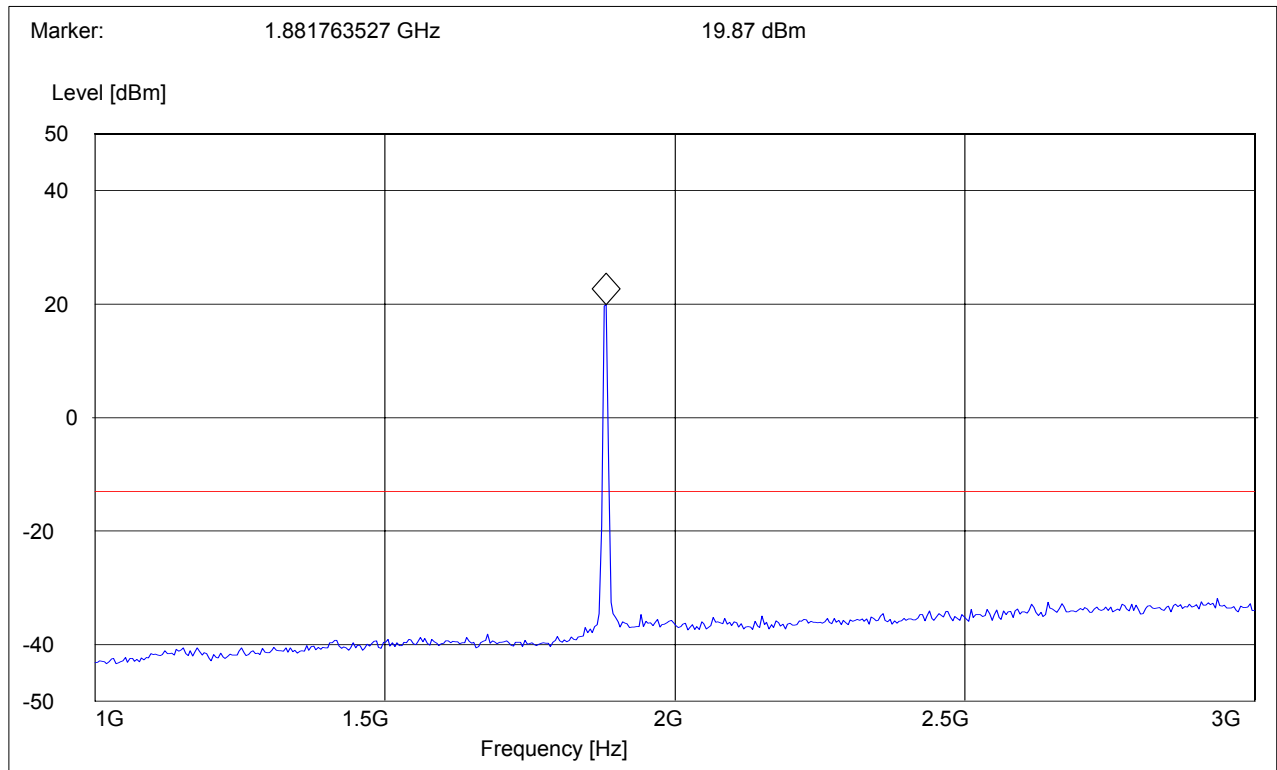


RADIATED SPURIOUS EMISSIONS(WCDMA 1900)**Tx @ 1880.0MHz: 1GHz – 3GHz**

Spurious emission limit –13dBm

SWEEP TABLE: "FCC Spuri 1-3G"

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
1GHz	3GHz	Max Peak	Coupled	1 MHz	1 MHz

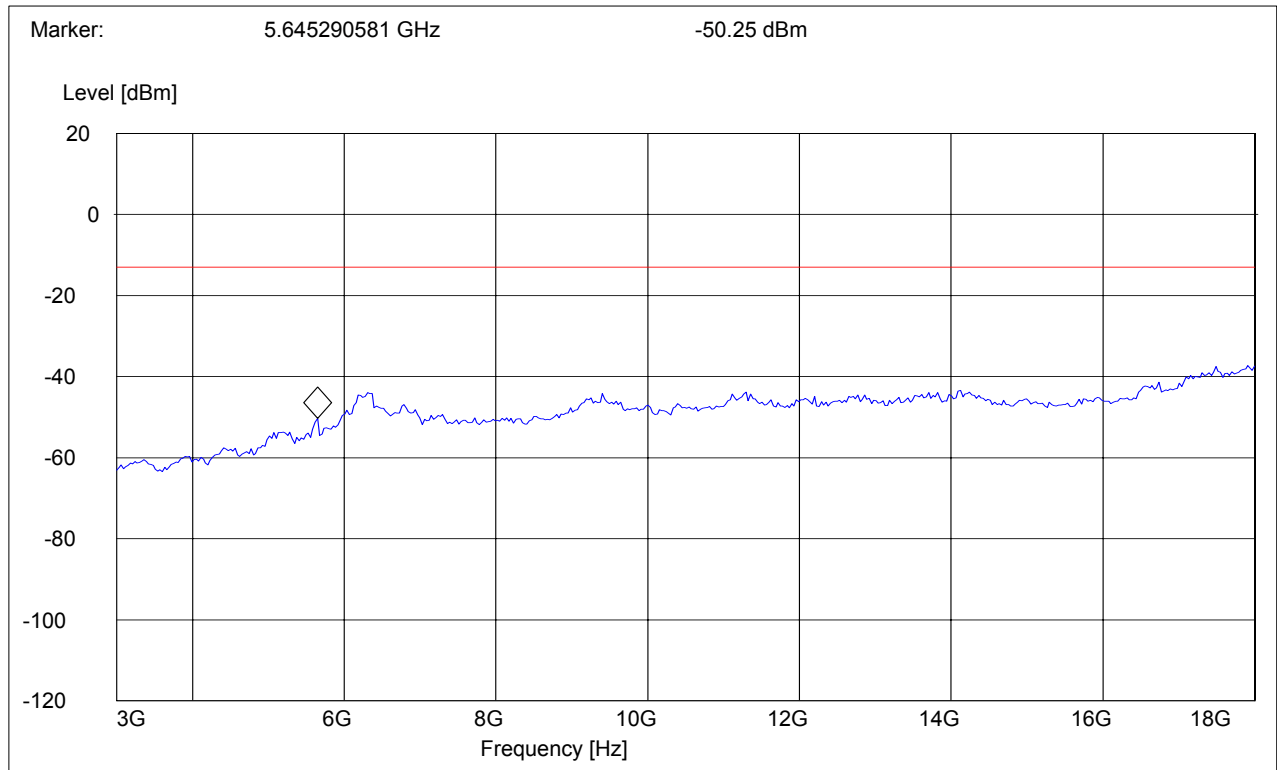
Note: The peak above the limit line is the carrier freq.

RADIATED SPURIOUS EMISSIONS(WCDMA 1900)**Tx @ 1880.0MHz: 3GHz – 18GHz**

Spurious emission limit –13dBm

SWEEP TABLE: "FCC Spuri 3-18G"

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
3GHz	18GHz	Max Peak	Coupled	1 MHz	1 MHz

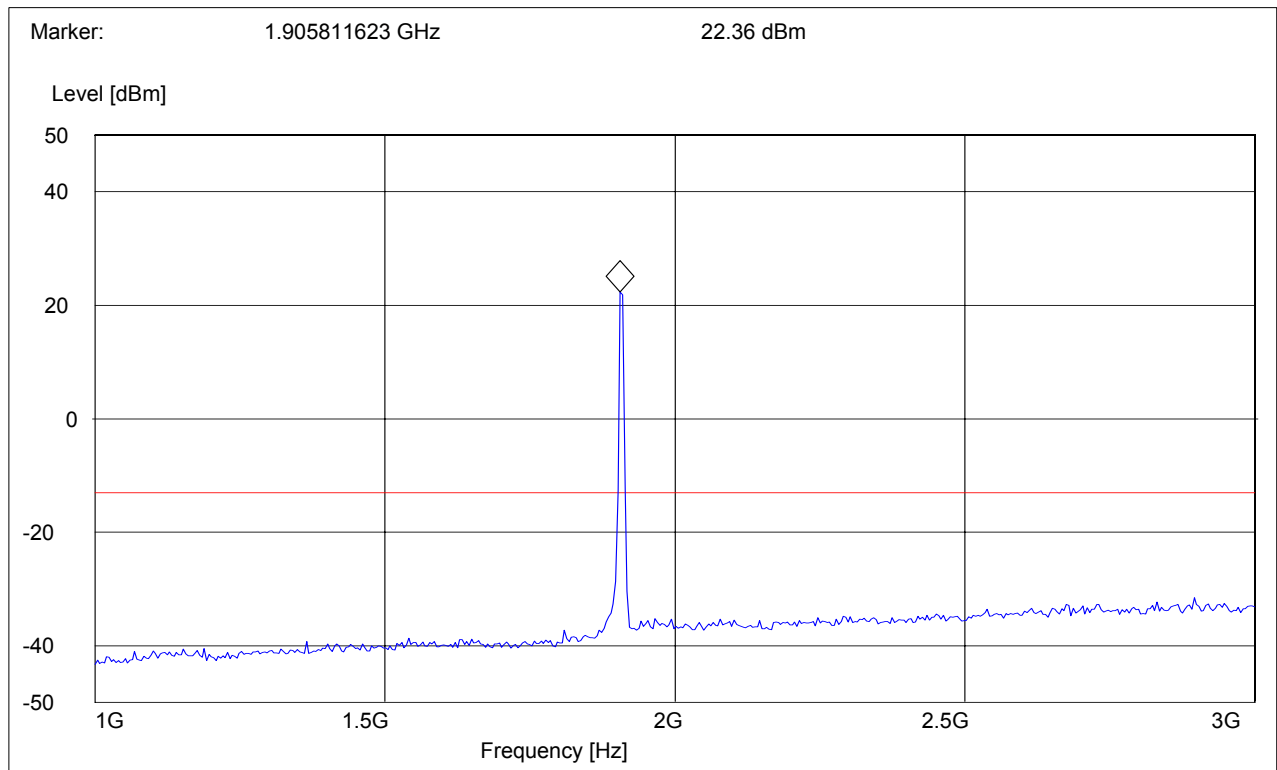


RADIATED SPURIOUS EMISSIONS(WCDMA 1900)**Tx @ 1907.6MHz: 1GHz – 3GHz**

Spurious emission limit –13dBm

SWEEP TABLE: "FCC Spuri 1-3G"

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
1GHz	3GHz	Max Peak	Coupled	1 MHz	1 MHz

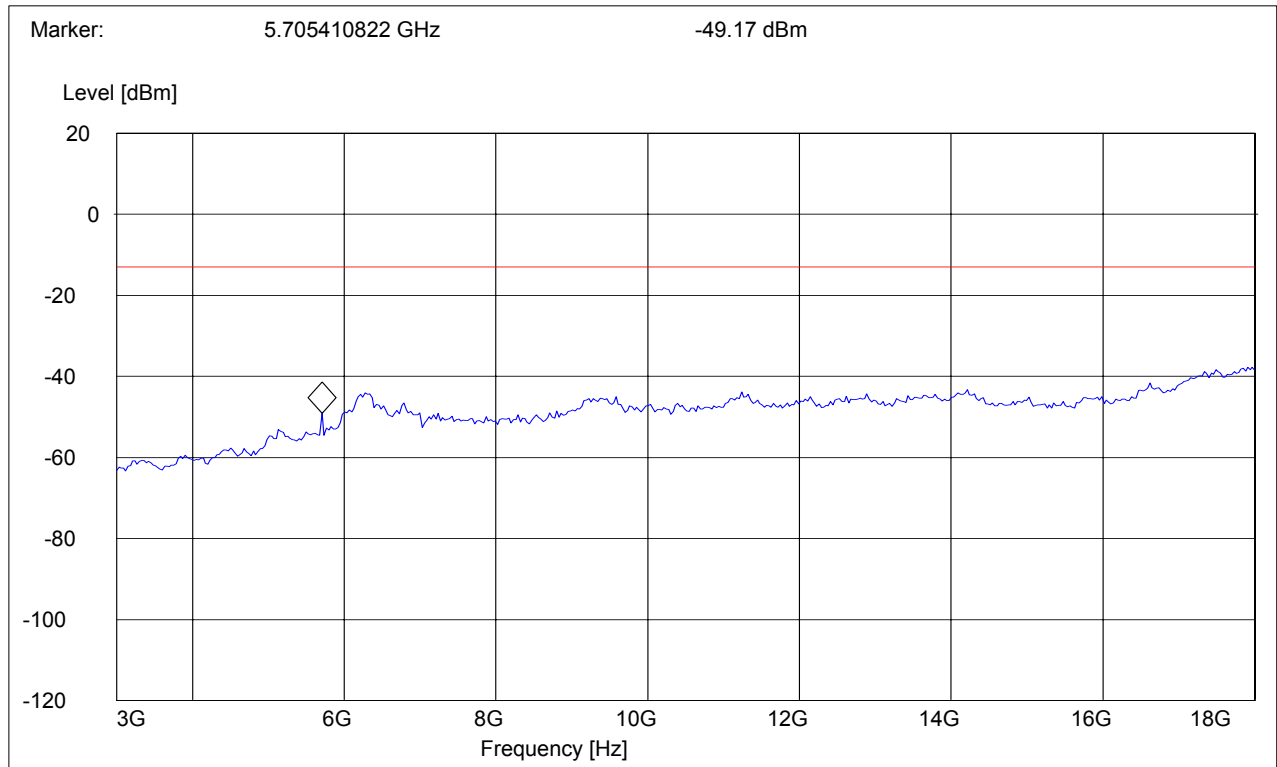
Note: The peak above the limit line is the carrier freq.

RADIATED SPURIOUS EMISSIONS(WCDMA 1900)**Tx @ 1907.6MHz: 3GHz – 18GHz**

Spurious emission limit –13dBm

SWEEP TABLE: "FCC Spuri 3-18G"

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
3GHz	18GHz	Max Peak	Coupled	1 MHz	1 MHz

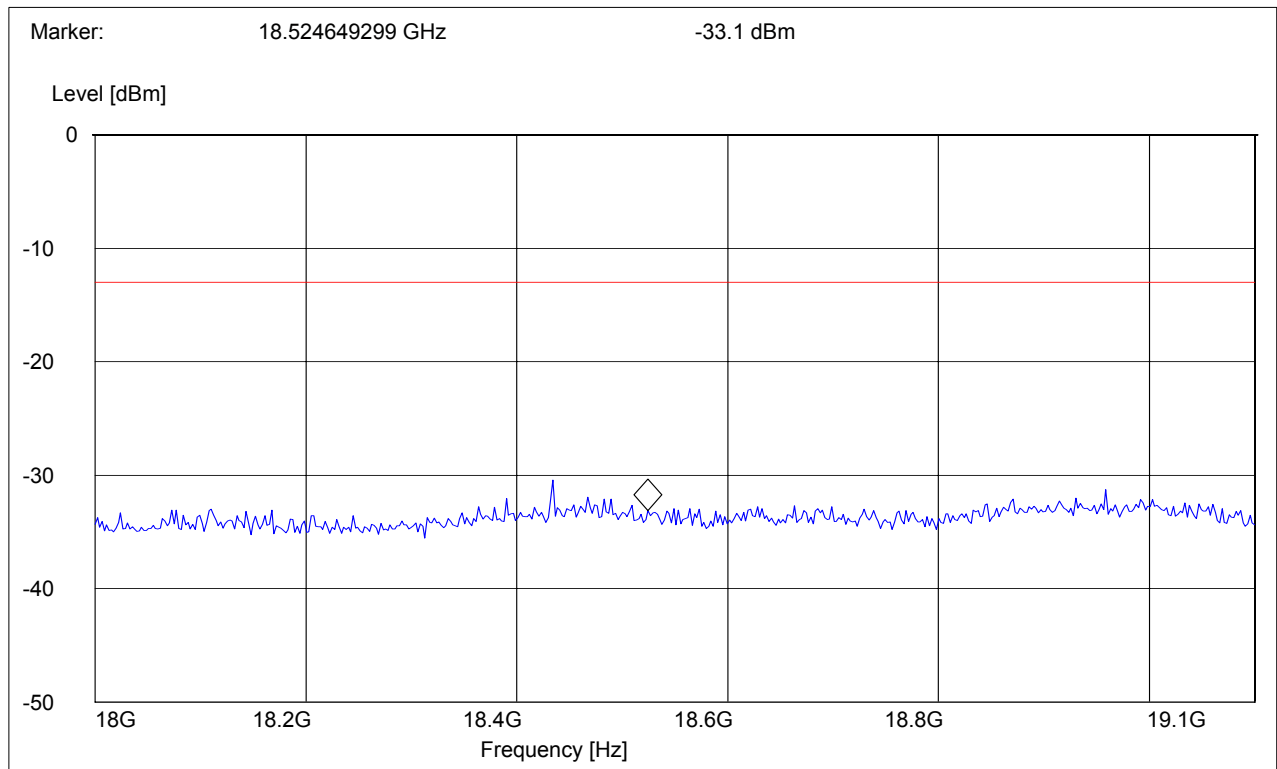


RADIATED SPURIOUS EMISSIONS(WCDMA 1900)**18GHz – 19.1GHz**

Spurious emission limit –13dBm

SWEEP TABLE: "FCC 24 spuri 18-19.1G"

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
18GHz	19.1GHz	Max Peak	Coupled	1 MHz	1 MHz

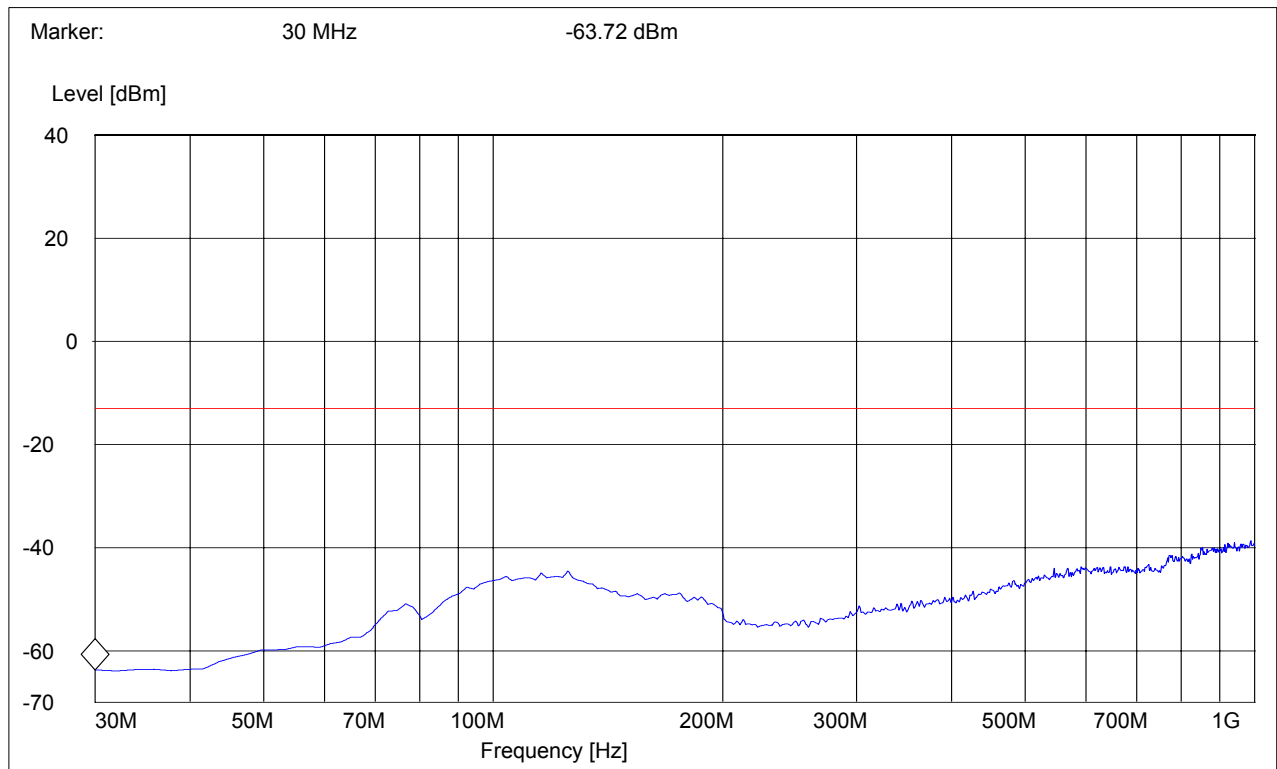
Note: This plot is valid for low, mid & high channels (worst-case plot)

RADIATED SPURIOUS EMISSIONS (IDLE MODE)**EUT in Idle Mode: 30MHz – 1GHz**

Spurious emission limit –13dBm

Antenna: vertical***SWEEP TABLE: "FCC 22 Spur 30M-1G"***

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
30MHz	1GHz	Max Peak	Coupled	1 MHz	1 MHz

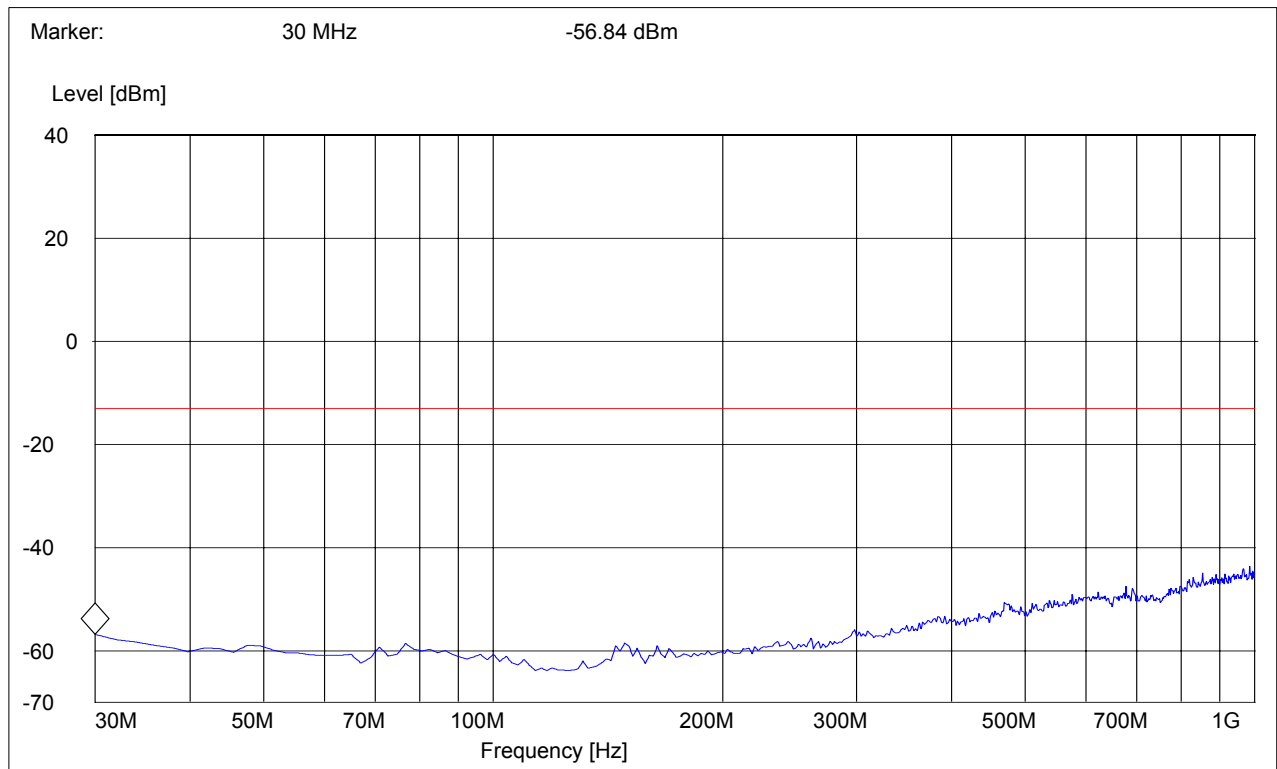


RADIATED SPURIOUS EMISSIONS (IDLE MODE)**EUT in Idle Mode: 30MHz – 1GHz**

Spurious emission limit –13dBm

Antenna: horizontal***SWEEP TABLE: "FCC 22 Spur 30M-1G"***

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
30MHz	1GHz	Max Peak	Coupled	1 MHz	1 MHz

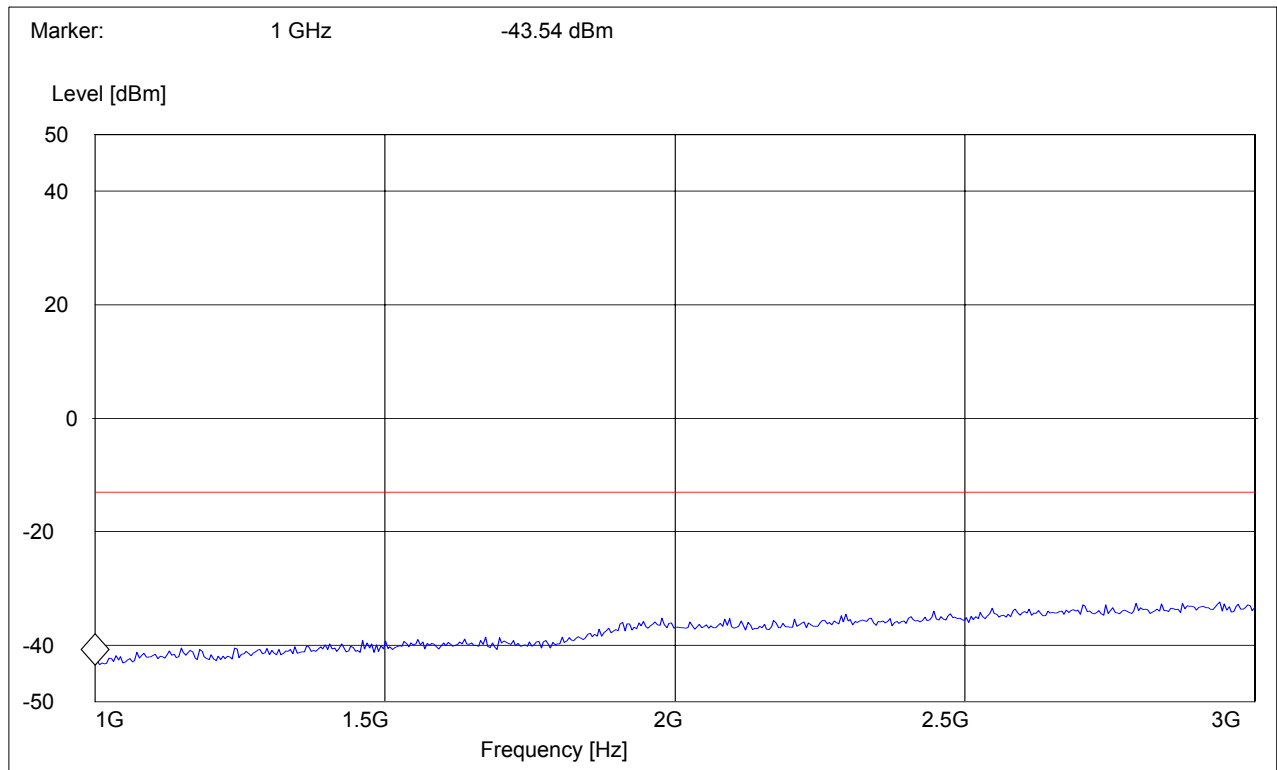


RADIATED SPURIOUS EMISSIONS (IDLE MODE)**EUT in Idle Mode: 1GHz – 3GHz**

Spurious emission limit –13dBm

SWEEP TABLE: "FCC Spuri 1-3G"

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
1GHz	3GHz	Max Peak	Coupled	1 MHz	1 MHz

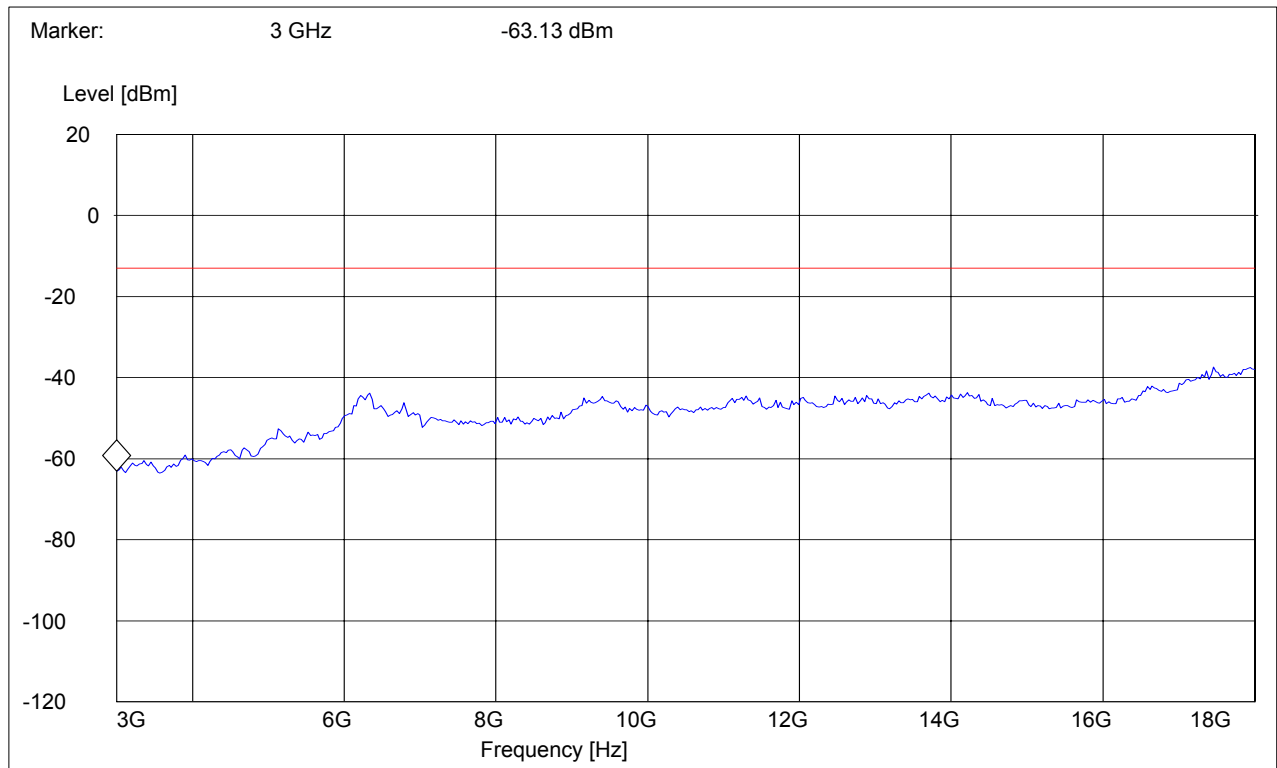


RADIATED SPURIOUS EMISSIONS (IDLE MODE)**EUT in Idle Mode: 3GHz – 18GHz**

Spurious emission limit –13dBm

SWEEP TABLE: "FCC 24 spuri 3-18G"

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
3GHz	18GHz	Max Peak	Coupled	1 MHz	1 MHz

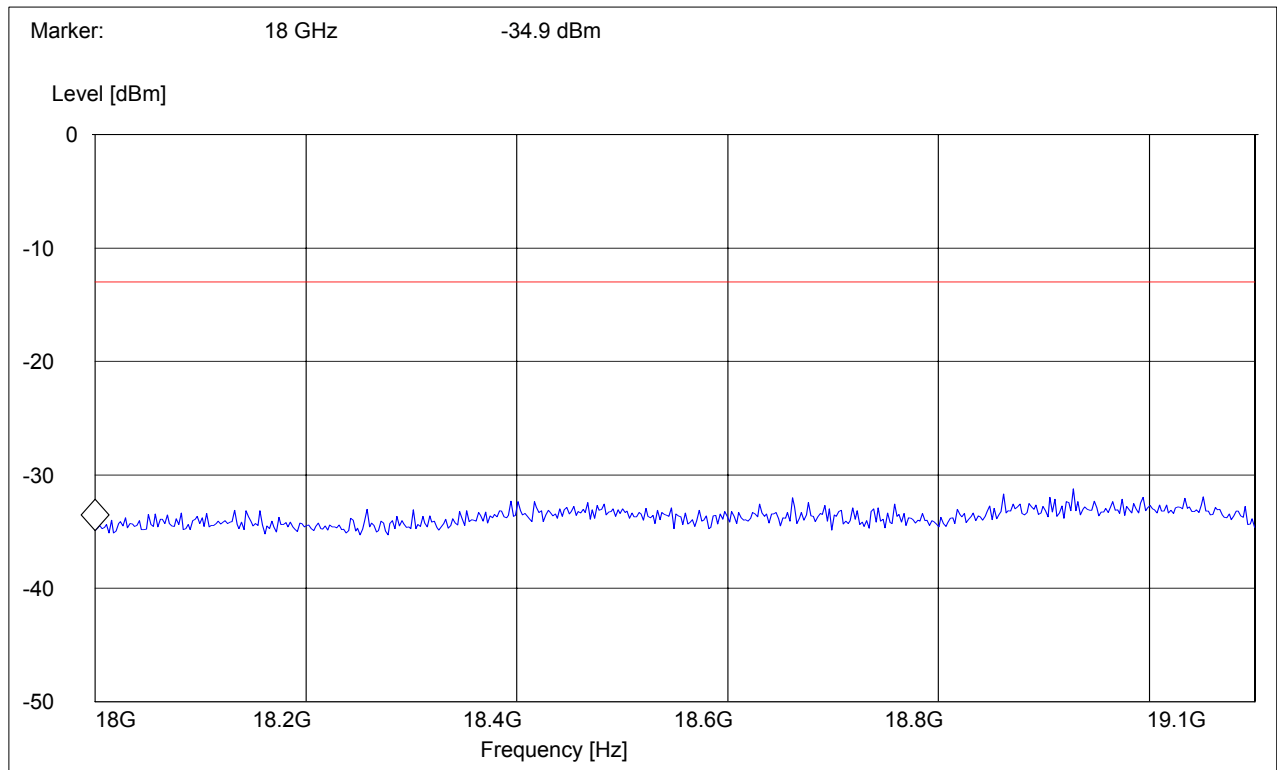


RADIATED SPURIOUS EMISSIONS (IDLE MODE)**EUT in Idle Mode: 18GHz – 19.1GHz**

Spurious emission limit –13dBm

SWEEP TABLE: "FCC 24 spuri 18-19.1G"

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
18GHz	19.1GHz	Max Peak	Coupled	1 MHz	1 MHz



5.3 RECEIVER RADIATED EMISSIONS § 2.1053 / RSS-133**NOTE:**

1. The radiated emissions were done with different settings, using the relevant pre-amplifiers for the relevant frequency ranges. This is the reason that the graphs show different noise levels. In the range between 3GHz and 26.5GHz very short cable connections to the antenna was used to minimize the noise level.
2. Receiver radiated emissions were done on both 850/1900 bands, worst-case plots are only submitted in this report(Worst-case was found to be WCDMA-1900) .

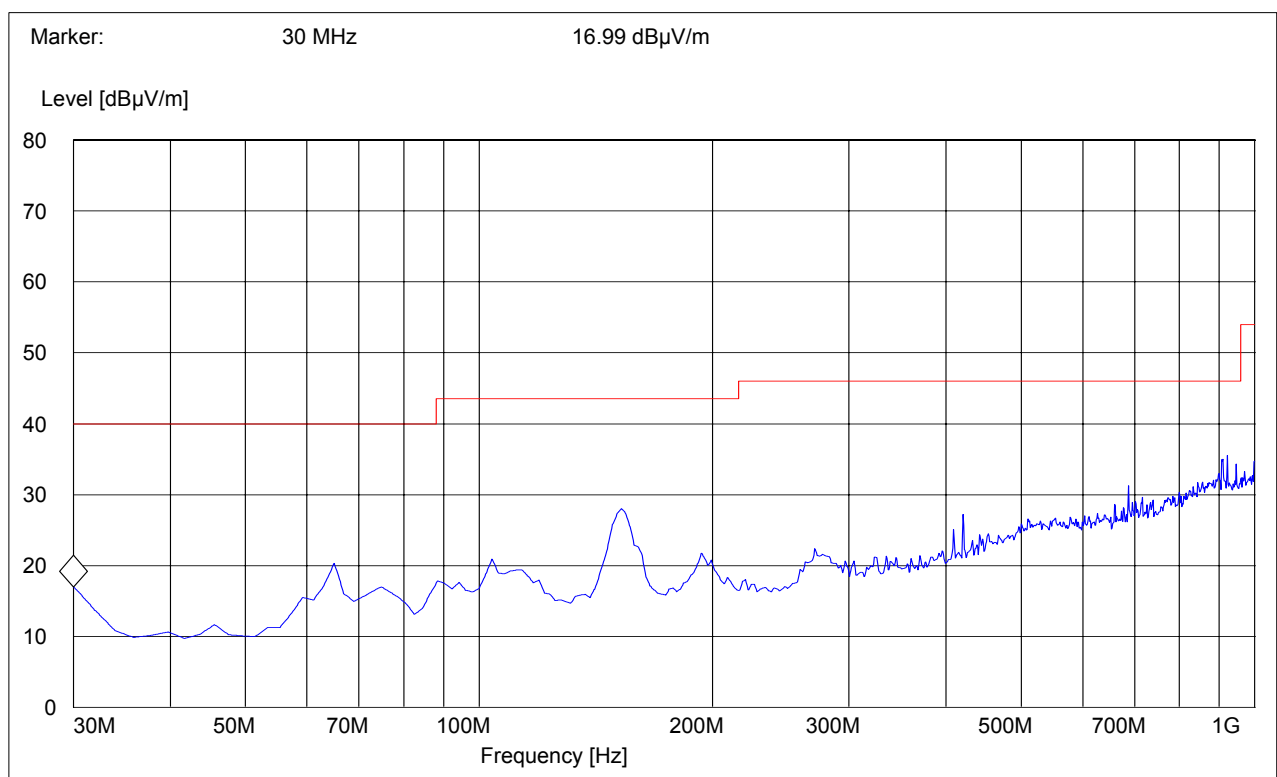
Limits**SUBCLAUSE § RSS-133**

Frequency (MHz)	Field strength (μV/m)	Measurement distance (m)
0.009 - 0.490	2400/F (kHz)	300
0.490 - 1.705	24000/F (kHz)	30
1.705 - 30.0	30	30
30 - 88	100	3
88 - 216	150	3
216 - 960	200	3
Above 960	500	3

5.3.1 Receiver Spurious on EUT**RECEIVER RADIATED EMISSIONS****EUT in Idle Mode: 30MHz – 1GHz****Antenna: vertical****SWEEP TABLE: "FCC Spur 30M-1G"**

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
30MHz	1GHz	Max Peak	Coupled	100 KHz	100 KHz

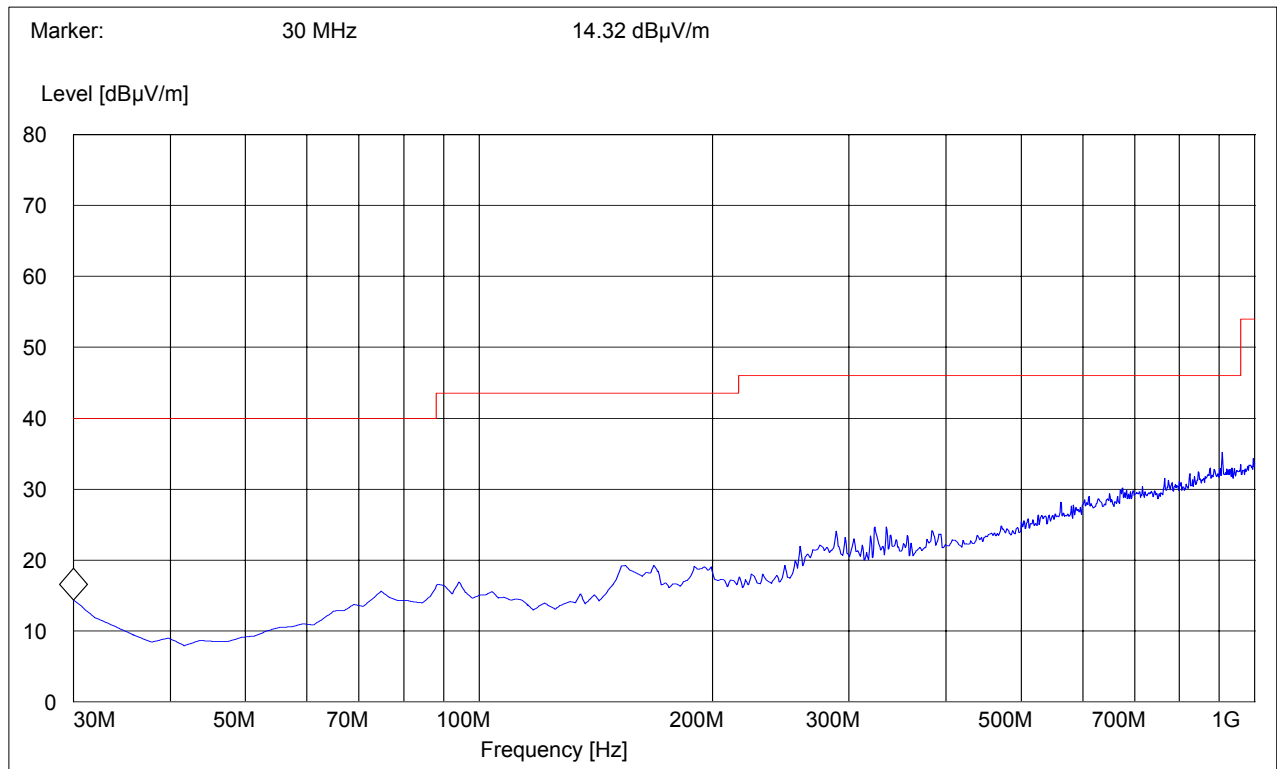
Note: peak reading vs. Quasi-peak limit



RECEIVER RADIATED EMISSIONS**EUT in Idle Mode: 30MHz – 1GHz****Antenna: horizontal****SWEEP TABLE: "FCC Spur 30M-1G"**

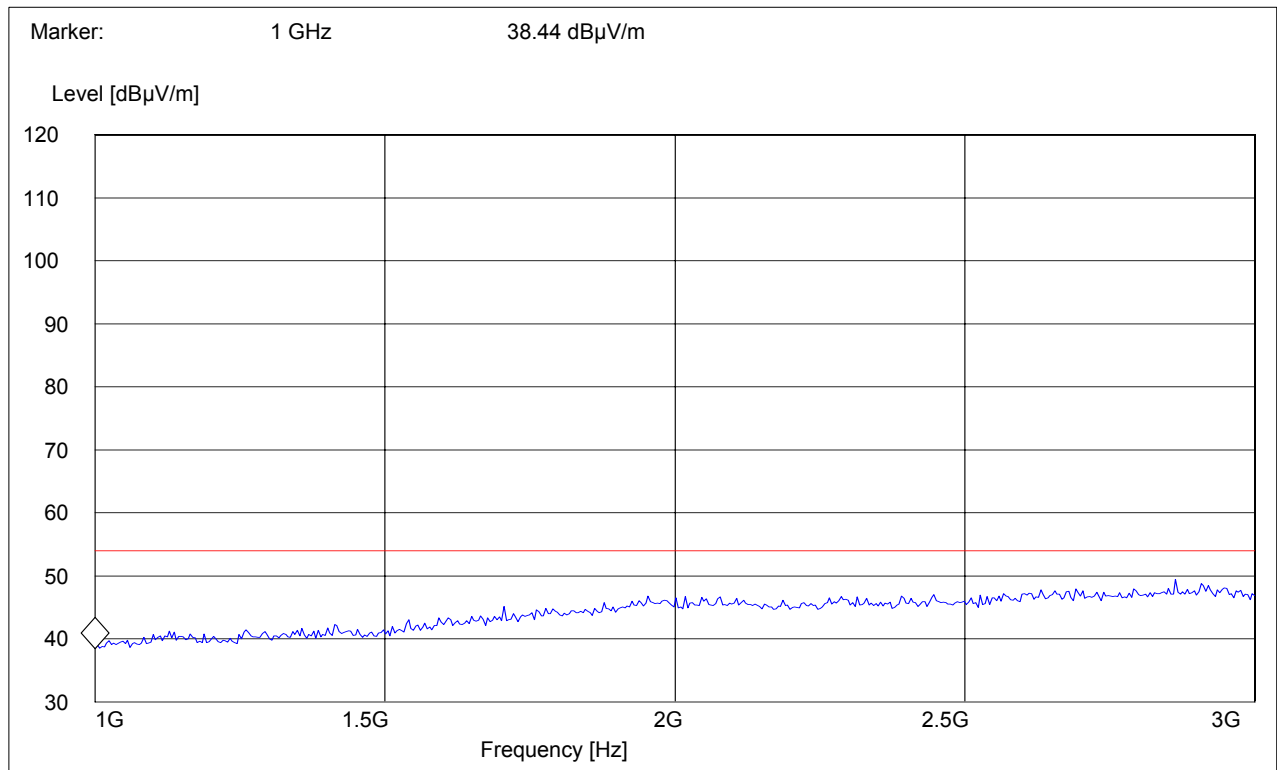
Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
30MHz	1GHz	Max Peak	Coupled	100 KHz	100 KHz

Note: peak reading vs. Quasi-peak limit



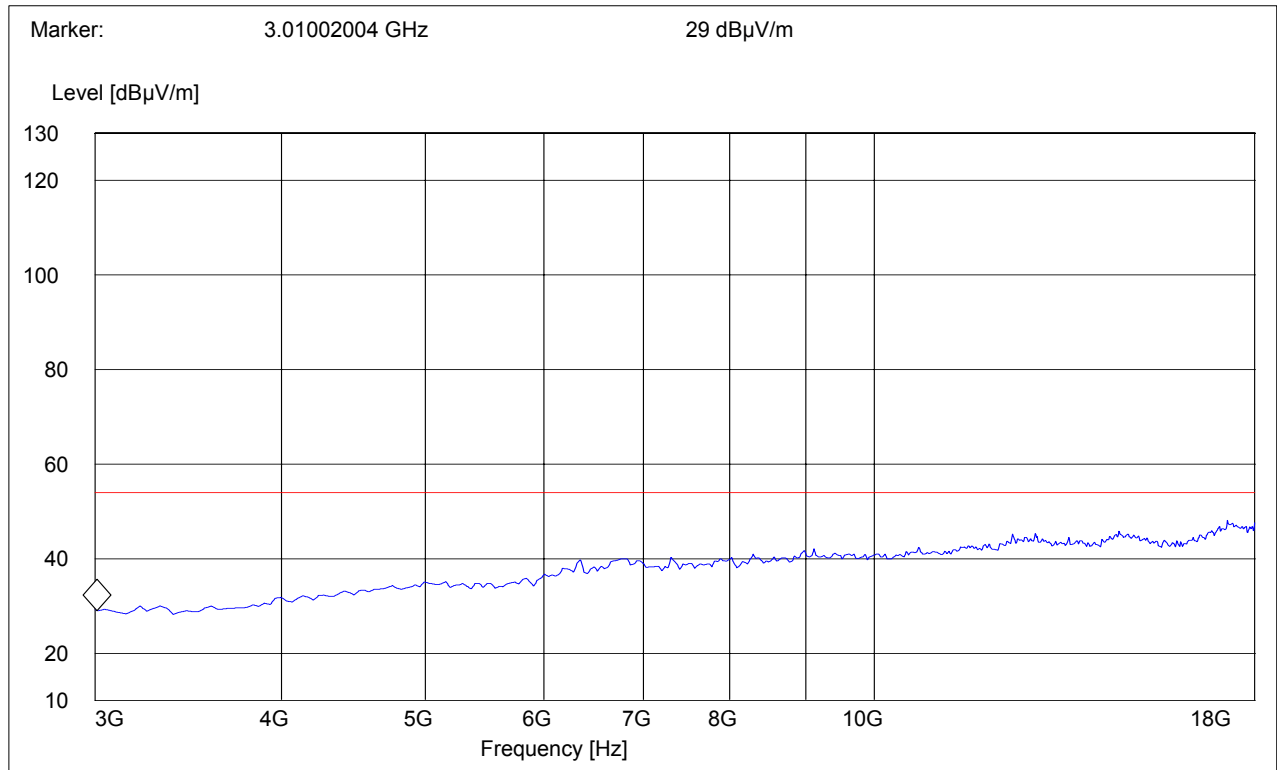
RECEIVER RADIATED EMISSIONS**EUT in Idle Mode: 1GHz – 3GHz****Note: marked peak is downlink from the base station*****SWEEP TABLE: "FCC Spuri 1-3G"***

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
1GHz	3GHz	Max Peak	Coupled	1 MHz	1 MHz



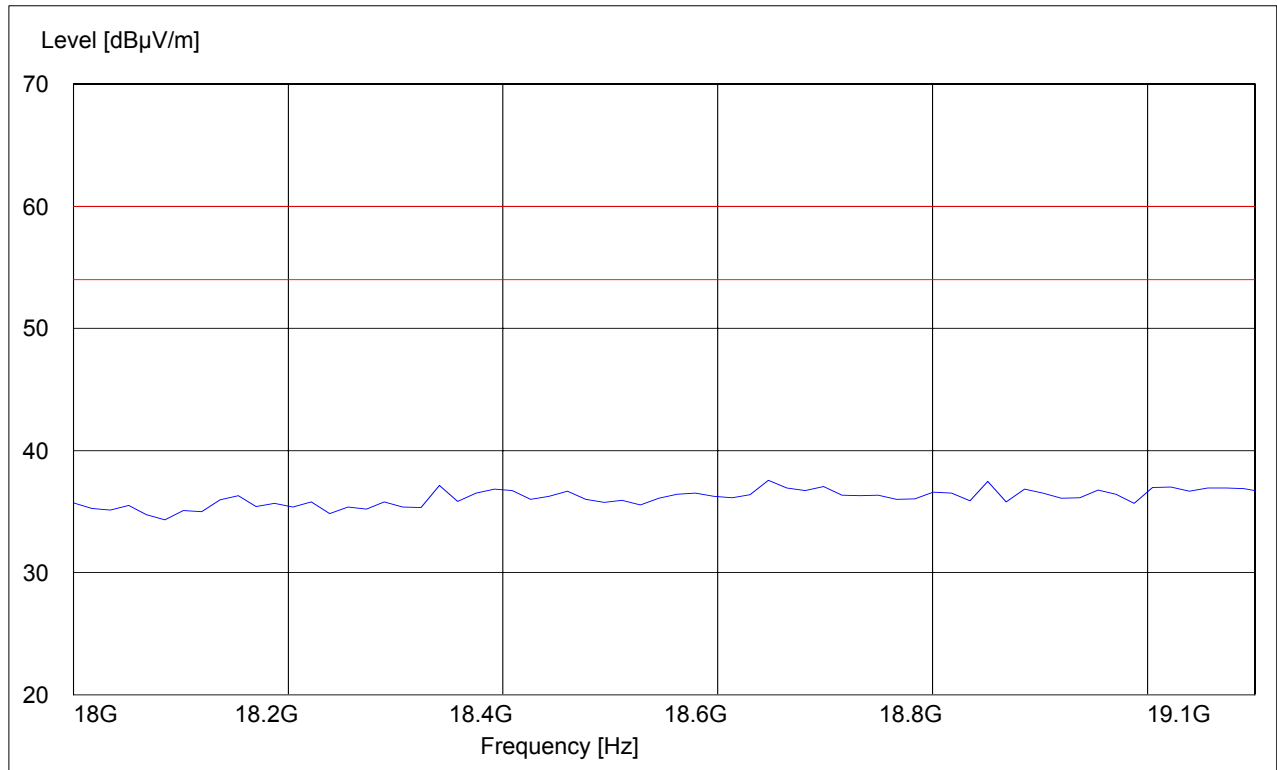
RECEIVER RADIATED EMISSIONS**EUT in Idle Mode: 3GHz – 18GHz*****SWEEP TABLE: "FCC spuri 3-18G"***

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
3GHz	18GHz	Max Peak	Coupled	1 MHz	1 MHz



RECEIVER RADIATED EMISSIONS**EUT in Idle Mode: 18GHz – 19.1GHz*****SWEEP TABLE: "FCC spuri 18-19.1G"***

Start Frequency	Stop Frequency	Detector	Meas. Time	RBW	VBW
18GHz	19.1GHz	Max Peak	Coupled	1 MHz	1 MHz



5.4 AC POWERLINE CONDUCTED EMISSIONS § 15.107/207**Technical specification: 15.107 / 15.207 (Revised as of August 20, 2002)****Limit**

Frequency of Emission (MHz)	Conducted Limit (dBμV)	
	Quasi-Peak	Average
0.15 – 0.5	66 to 56*	56 to 46*
0.5 – 5	56	46
5 – 30	60	50
* Decreases with logarithm of the frequency		

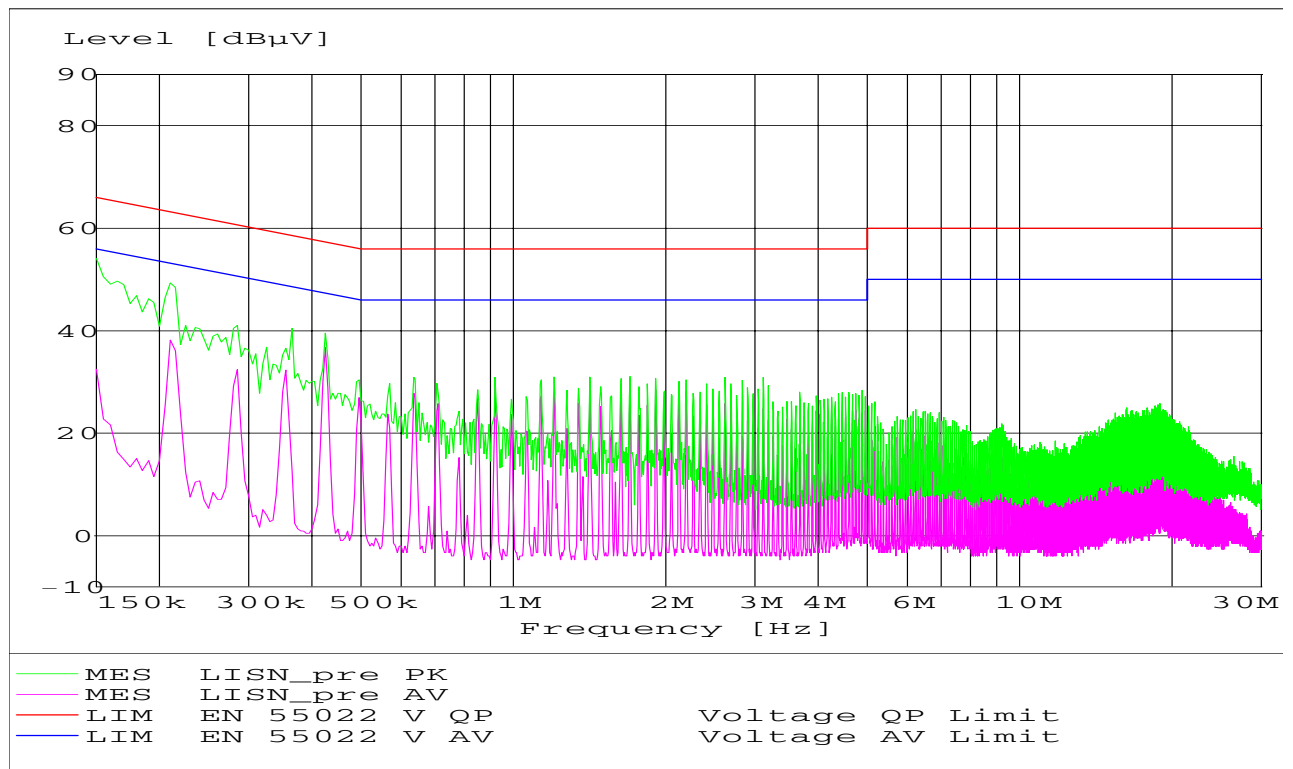
ANALYZER SETTINGS: RBW = 10KHzVBW = 10KHz

Prescans were performed on both 850/1900 bands, full testing on the worst-case band is submitted in the test report(wcdma-1900).

5.4.1 Results EUT

SCAN TABLE: "EN 55022 Voltage@110vac"

Short Description:			EN 55022 Voltage			
Start	Stop	Step	Detector	Meas. Time	IF Bandw.	Transducer
Frequency	Frequency	Width				
150.0 kHz	30.0 MHz	5.0 kHz	MaxPeak	10.0 ms	9 kHz	None
			Average			



6 TEST EQUIPMENT AND ANCILLARIES USED FOR TESTS

No	Instrument/Ancillary	Type	Manufacturer	Serial No.	Cal Due	Interval
01	Spectrum Analyzer	ESIB 40	Rohde & Schwarz	100107	May 2006	1 year
02	Spectrum Analyzer	FSEM 30	Rohde & Schwarz	100017	August 2006	1 year
03	Signal Generator	SMY02	Rohde & Schwarz	836878/011	May 2006	1 year
04	Power-Meter	NRVD	Rohde & Schwarz	0857.8008.02	May 2006	1 year
05	Biconilog Antenna	3141	EMCO	0005-1186	June 2006	1 year
06	Horn Antenna (1-18GHz)	SAS-200/571	AH Systems	325	June 2006	1 year
07	Horn Antenna (18-26.5GHz)	3160-09	EMCO	1240	June 2006	1 year
08	Power Splitter	11667B	Hewlett Packard	645348	n/a	n/a
09	Climatic Chamber	VT4004	Voltsch	G1115	May 2006	1 year
10	High Pass Filter	5HC2700	Trilithic Inc.	9926013	n/a	n/a
11	High Pass Filter	4HC1600	Trilithic Inc.	9922307	n/a	n/a
12	Pre-Amplifier	JS4-00102600	Miteq	00616	May 2006	1 year
13	Power Sensor	URV5-Z2	Rohde & Schwarz	DE30807	May 2006	1 year
14	Digital Radio Comm. Tester	CMD-55	Rohde & Schwarz	847958/008	May 2006	1 year
15	Universal Radio Comm. Tester	CMU 200	Rohde & Schwarz	832221/06	May 2006	1 year

7 References

Title 47—Telecommunication, CHAPTER I--FEDERAL COMMUNICATIONS COMMISSION,
PART 2--FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS October 1, 2001.

Title 47—Telecommunication, CHAPTER I--FEDERAL COMMUNICATIONS COMMISSION,
PART 22 PUBLIC MOBILE SERVICES October 1, 1998.

FCC Report and order 02-229 September 24, 2002.

Title 47—Telecommunication, CHAPTER I--FEDERAL COMMUNICATIONS COMMISSION,
PART 24 PERSONAL COMMUNICATIONS SERVICES October 1, 1998.

ANSI / TIA-603C August 2004 Land Mobile FM or PM Communications Equipment Measurement and Performance Standard November 7, 2002.

8 BLOCK DIAGRAMS

Radiated Testing

ANECHOIC CHAMBER

