

# FCC Radio Test Report

## FCC ID: QISE5573FS-508

This report concerns (check one): Original Grant Class II Change

**Project No.** : 1804C039  
**Equipment** : Mobile WiFi  
**Test Model** : E5573Fs-508  
**Series Model** : N/A  
**Applicant** : Huawei Technologies Co.,Ltd.  
**Address** : Administration Building, Huawei Base, Bantian,  
Longgang District ,Shenzhen 518129, P.R.China

**Date of Receipt** : Apr. 09, 2018  
**Date of Test** : Apr. 09, 2018 ~ Apr. 28, 2018  
**Issued Date** : May 16, 2018  
**Tested by** : BTL Inc.

**Technical Engineer** : Shawn Xiao  
(Shawn Xiao)

**Authorized Signatory** : Steven Lu  
(Steven Lu)

# **B T L I N C .**

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### REPORT ISSUED HISTORY

Issued No.	Description	Issued Date
BTL-FCCP-3-1804C039	Original Issue.	May 16, 2018

## 1. CERTIFICATION

Equipment : Mobile WiFi  
Brand Name : HUAWEI  
Test Model : E5573Fs-508  
Series Model : N/A  
Applicant : Huawei Technologies Co.,Ltd.  
Manufacturer : Huawei Technologies Co.,Ltd.  
Address : Administration Building, Headquarters of Huawei Technologies Co., Ltd.,  
Bantian, Longgang District Shenzhen China  
Factory : Huawei Technologies Co.,Ltd.  
Address : Administration Building, Headquarters of Huawei Technologies Co., Ltd.,  
Bantian, Longgang District Shenzhen China  
Date of Test : Apr. 09, 2018 ~ Apr. 28, 2018  
Test Sample : Engineering Sample No.: D180403104 for Conducted, D180403106 for  
Radiated.  
Standard(s) : 47 CFR FCC Part 24 Subpart E  
47 CFR FCC Part 2  
ANSI/TIA-603-D-2010  
KDB 971168 D01 Power Meas License Digital Systems v03

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.

The test data, data evaluation, and equipment configuration contained in our test report (Ref No. BTL-FCCP-3-1804C039) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of NVLAP according to the ISO-17025 quality assessment standard and technical standard(s).

**Test results included in this report is only for the WCDMA Band 2 and LTE Band 2 part.**

## 2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

FCC Part 24 Subpart H& Part 2			
Standard(s) Section	Test Item	Judgment	Tested By
2.1046 24.232(c)	Radiated power	PASS	Paul Li
2.1046 24.232(c)	Conducted Output Power	PASS	Paul Li
2.1049 24.238(a)	Occupied Bandwidth	PASS	Paul Li
2.1051 24.238(a)	Conducted Spurious Emissions	PASS	Paul Li
2.1053 24.238(a)	Radiated Spurious Emissions	PASS	Paul Li
24.238(a)	Band Edge Measurements	PASS	Paul Li
24.232(d)	Peak To Average Ratio	PASS	Paul Li
2.1055 24.235	Frequency Stability	PASS	Paul Li

NOTE:

(1) "N/A" denotes test is not applicable to this device.

## 2.1 TEST FACILITY

The test facilities used to collect the test data in this report is at the location of No.3, Jinshagang 1st Road, Shixia, Dalang Town, Dongguan, Guangdong, China.

BTL's test firm number for FCC: 854385

BTL's designation number for FCC: CN5020

## 2.2 MEASUREMENT UNCERTAINTY

The measurement uncertainty figures shall be calculated according the methods described in the ETSI TR 100 028 and shall correspond to an expansion factor (coverage factor)  $k=1.96$  or  $k=2$ (which provide confidence levels of respectively 90% and 95.45% in the case where the distributions characterizing the actual measurement uncertainties are normal (Gaussian)). Measurement Uncertainty for a Level of Confidence of 95 %,  $U=2xUc(y)$ .

The BTL measurement uncertainty as below table:

### A. Radiated Measurement :

Test Site	Method	Measurement Frequency Range	Ant. H / V	U,(dB)
DG-CB03 (3m)	CISPR	9KHz ~ 30MHz	V	3.79
		9KHz ~ 30MHz	H	3.57
		30MHz ~ 200MHz	V	3.82
		30MHz ~ 200MHz	H	3.78
		200MHz ~ 1,000MHz	V	4.10
		200MHz ~ 1,000MHz	H	4.06

Test Site	Method	Measurement Frequency Range	Ant. H / V	U,(dB)
DG-CB03 (3m)	CISPR	1GHz ~ 18GHz	V	3.12
		1GHz ~ 18GHz	H	3.68

Test Site	Method	Measurement Frequency Range	Ant. H / V	U,(dB)
DG-CB03 (1m)	CISPR	18GHz ~ 40GHz	V	4.15
		18GHz ~ 40GHz	H	4.14

Note: Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.



### 3. GENERAL INFORMATION

#### 3.1 GENERAL DESCRIPTION OF EUT

Equipment	Mobile WiFi			
Brand Name	HUAWEI			
Test Model	E5573Fs-508			
Series Model	N/A			
Model Difference	N/A			
Modulation Type	WCDMA	Uplink: BPSK Downlink: QPSK		
	WCDMA(HSDPA/HSUPA)	16QAM		
	LTE	QPSK, 16QAM		
Operation Frequency	WCDMA Band 2	1852.4 ~ 1907.6 MHz		
	LTE 2 (Channel Bandwidth: 1.4MHz)	1850.7 ~ 1909.3 MHz		
	LTE 2 (Channel Bandwidth: 3MHz)	1851.5 ~ 1908.5 MHz		
	LTE 2 (Channel Bandwidth: 5MHz)	1852.5 ~ 1907.5 MHz		
	LTE 2 (Channel Bandwidth: 10MHz)	1855.0 ~ 1905.0 MHz		
	LTE 2 (Channel Bandwidth: 15MHz)	1857.5 ~ 1902.5 MHz		
	LTE 2 (Channel Bandwidth: 20MHz)	1860.0 ~ 1900.0 MHz		
Max. EIRP Power	WCDMA	BPSK	26.13	dBm
	WCDMA_HSDPA	16QAM	25.70	dBm
	WCDMA_HSUPA	16QAM	25.71	dBm
	LTE 2 (Channel Bandwidth: 1.4MHz)	QPSK	25.12	dBm
		16QAM	24.36	dBm
	LTE 2 (Channel Bandwidth: 3MHz)	QPSK	25.32	dBm
		16QAM	24.41	dBm
	LTE 2 (Channel Bandwidth: 5MHz)	QPSK	26.16	dBm
		16QAM	25.35	dBm
	LTE 2 (Channel Bandwidth: 10MHz)	QPSK	26.16	dBm
		16QAM	25.64	dBm
	LTE 2 (Channel Bandwidth: 15MHz)	QPSK	26.20	dBm
		16QAM	25.60	dBm
	LTE 2 (Channel Bandwidth: 20MHz)	QPSK	25.72	dBm
		16QAM	25.17	dBm
	Antenna Type	Fixed Internal Antenna		
Antenna Gain	3.4 dBi(WCDMA BAND 2&LTE BAND 2)			
Hardware Version	CL1E5577ESM02			
Software Version	8.0.1.1(H331SP11C00)			
IMEI No.1	Radiated	004401720945720		
	Conducted	822107011002176		
Power Source	#1 DC Voltage supplied from AC/DC adapter. #2 Battery Supplied.			
Power Rating	#1:AC 100–240V 50/60Hz DC 5V 1.0A #2:DC 3.8V 1500mAh			

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. The EUT contains following accessory devices.

Item	Mfr/Brand	Model.
Battery	SCUD (FUJIAN) Electronics Co., Ltd	HB434666RBC
	Sunwoda Electronic Co.,LTD.	
USB Cable	HONGLIN TECHNOLOGY CO.,LTD	02451044
USB Cable	FOXCONN INTERCONNECT TECHNOLOGY LIMITED	CUBB01M-HC208-DH
	HONGLIN TECHNOLOGY CO.,LTD	130-26654
	Luxshare Precision Industry Co., Ltd.	L99U2013-CS-H
	MING JI ELECTRONICS CO., LTD.	203-0786-0
Adapter	HUIZHOU BYD ELECTRONIC CO., LTD.	HW-050100E01 HW-050100E01 HW-050100E01
	Shenzhen Huntkey Electric Co., Ltd.	HW-050100B01 HW-050100B01 HW-050100B01
	Dongguan da hong electronics co. LTD.	HW-050100U01 HW-050100U01 HW-050100U01 HW-050100A01 HW-050100A01 HW-050100A01

### 3.2 DESCRIPTION OF TEST MODES AND TEST CONDITION

Following channel(s) was (were) selected for the final test as listed below:

WCDMA BAND 2			
Test Item	Available Channel	Tested Channel	Mode
EIRP	9262 to 9538	9262, 9400, 9538	WCDMA, HSDPA, HSUPA
Conducted Output Power	9262 to 9538	9262, 9400, 9538	WCDMA, HSDPA, HSUPA
Conducted Emission	9262 to 9538	9400	WCDMA, HSDPA, HSUPA
Radiated Emission	9262 to 9538	9400	WCDMA, HSDPA, HSUPA
Band Edge	9262 to 9538	9262, 9538	WCDMA, HSDPA, HSUPA
Peak to Average Ratio	9262 to 9538	9262, 9400, 9538	WCDMA, HSDPA, HSUPA
Frequency Stability	9262 to 9538	9262	WCDMA, HSDPA, HSUPA

**Note:** This device was tested under all bandwidths, WCDMA, HSDPA and HSUPA. The worst case was found in **WCDMA CH 9538**.

LTE BAND 2					
Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
EIRP	18607 to 19193	18607, 18900, 19193	1.4MHz	QPSK, 16QAM	1 RB / 0 RB Offset
	18615 to 19185	18615, 18900, 19185	3MHz	QPSK, 16QAM	1 RB / 0 RB Offset
	18625 to 19175	18625, 18900, 19175	5MHz	QPSK, 16QAM	1 RB / 0 RB Offset
	18650 to 19150	18650, 18900, 19150	10MHz	QPSK, 16QAM	1 RB / 0 RB Offset
	18675 to 19125	18675, 18900, 19125	15MHz	QPSK, 16QAM	1 RB / 0 RB Offset
	18700 to 19100	18700, 18900, 19100	20MHz	QPSK, 16QAM	1 RB / 0 RB Offset
Occupied Bandwidth	18607 to 19193	18607, 18900, 19193	1.4MHz	QPSK, 16QAM	1 RB / 0 RB Offset
	18615 to 19185	18615, 18900, 19185	3MHz	QPSK, 16QAM	15 RB / 0 RB Offset
	18625 to 19175	18625, 18900, 19175	5MHz	QPSK, 16QAM	25 RB / 0 RB Offset
	18650 to 19150	18650, 18900, 19150	10MHz	QPSK, 16QAM	50 RB / 0 RB Offset
	18675 to 19125	18675, 18900, 19125	15MHz	QPSK, 16QAM	75 RB / 0 RB Offset
	18700 to 19100	18700, 18900, 19100	20MHz	QPSK, 16QAM	100 RB / 0 RB Offset
Conducted Spurious Emission	18607 to 19193	19193	1.4MHz	QPSK, 16QAM	1 RB / 0 RB Offset
	18615 to 19185	19185	3MHz	QPSK, 16QAM	1 RB / 0 RB Offset
	18625 to 19175	19175	5MHz	QPSK	1 RB / 0 RB Offset
	18650 to 19150	19150	10MHz	QPSK	1 RB / 0 RB Offset
	18675 to 19125	19125	15MHz	QPSK	1 RB / 0 RB Offset
	18700 to 19100	19100	20MHz	QPSK	1 RB / 0 RB Offset
Radiated Spurious Emission	18607 to 19193	19193	1.4MHz	QPSK	1 RB / 0 RB Offset
	18625 to 19175	19175	5MHz	QPSK	1 RB / 0 RB Offset
	18700 to 19100	19100	20MHz	QPSK	1 RB / 0 RB Offset

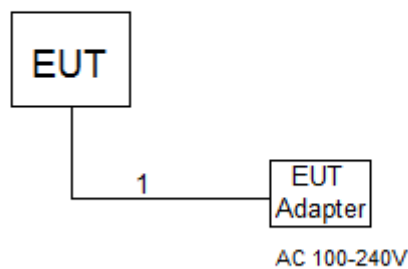
Band Edge	18607 to 19193	18607	1.4MHz	QPSK	1 RB / 0 RB Offset	
		19193	1.4MHz	QPSK	6 RB / 0 RB Offset	
	18615 to 19185	18615	3MHz	QPSK	1 RB / 5 RB Offset	
		19185	3MHz	QPSK	6 RB / 0 RB Offset	
	18625 to 19175	18625	5MHz	QPSK	1 RB / 0 RB Offset	
		19175	5MHz	QPSK	15 RB / 0 RB Offset	
	18650 to 19150	18650	10MHz	QPSK	1 RB / 14 RB Offset	
		19150	10MHz	QPSK	15 RB / 0 RB Offset	
	18675 to 19125	18675	15MHz	QPSK	1 RB / 0 RB Offset	
		19125	15MHz	QPSK	25 RB / 0 RB Offset	
	18700 to 19100	18700	20MHz	QPSK	1 RB / 24 RB Offset	
		19100	20MHz	QPSK	25 RB / 0 RB Offset	
	Peak To Average Ratio	18607 to 19193	18607, 18900, 19193	1.4MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		18615 to 19185	18615, 18900, 19185	3MHz	QPSK, 16QAM	1 RB / 0 RB Offset
18625 to 19175		18625, 18900, 19175	5MHz	QPSK, 16QAM	1 RB / 0 RB Offset	
18650 to 19150		18650, 18900, 19150	10MHz	QPSK, 16QAM	1 RB / 0 RB Offset	
18675 to 19125		18675, 18900, 19125	15MHz	QPSK, 16QAM	1 RB / 0 RB Offset	
18700 to 19100		18700, 18900, 19100	20MHz	QPSK, 16QAM	1 RB / 0 RB Offset	
Frequency Stability	18607 to 19193	19193	1.4MHz	QPSK	1 RB / 0 RB Offset	
	18615 to 19185	19185	3MHz	QPSK	1 RB / 0 RB Offset	
	18625 to 19175	19175	5MHz	QPSK	1 RB / 0 RB Offset	
	18650 to 19150	19150	10MHz	QPSK	1 RB / 0 RB Offset	
	18675 to 19125	19125	15MHz	QPSK	1 RB / 0 RB Offset	
	18700 to 19100	19100	20MHz	QPSK	1 RB / 0 RB Offset	

**Note:** This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.

**EUT TEST CONDITIONS:**

Test Item	Environmental Conditions	Test Voltage
EIRP	25°C, 60%RH	DC 3.8V
Conducted Output Power	25°C, 65%RH	DC 3.8V
Occupied Bandwidth	25°C, 65%RH	DC 3.8V
Conducted Emission	25°C, 65%RH	DC 3.8V
Radiated Emission	25°C, 60%RH	AC 120V/60Hz
Band Edge	25°C, 65%RH	DC 3.8V
Peak to Average Ratio	25°C, 65%RH	DC 3.8V
Frequency Stability	25°C, 65%RH	DC 3.6V , DC 3.8V, DC 4.2V

**3.3 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED FOR RADIATED**



**3.4 DESCRIPTION OF SUPPORT UNITS**

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID	Series No.
-	-	-	-	-	-

Item	Shielded Type	Ferrite Core	Length	Note
1	NO	NO	1.2m	DC Cable

## 4. TEST RESULT

### 4.1 OUTPUT POWER MEASUREMENT

#### 4.1.1 LIMIT

Mobile / Portable station are limited to 2 watts e.i.r.p.

#### 4.1.2 TEST PROCEDURE

##### EIRP/ERP:

EIRP= Conducted Power +Antenan gain

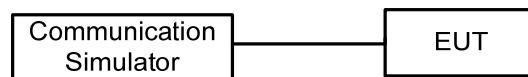
ERP power=EIPR power-2.15dBi.

##### Conducted Power:

The EUT was set up for the maximum power with WCDMA and LTE link data modulation and link up with simulator. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

#### 4.1.3 TESTSETUP LAYOUT

##### Conducted Power Measurement



#### 4.1.4 TEST DEVIATION

No deviation

#### 4.1.5 TEST RESULTS

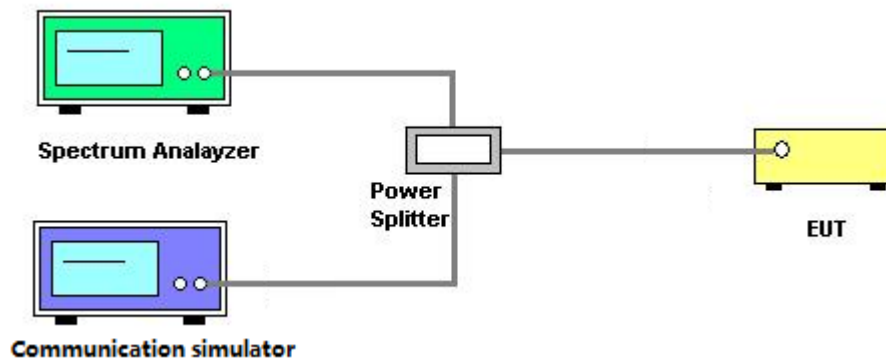
Please refer to the Appendix A.

## 4.2 OCCUPIED BANDWIDTH MEASUREMENT

### 4.2.1 TEST PROCEDURE

The EUT makes a call to the communication simulator. All measurements were done at low, middle and high operational frequency range. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth and 26dB bandwidth.

### 4.2.2 TEST SETUP LAYOUT



### 4.2.3 TEST DEVIATION

No deviation

### 4.2.4 TEST RESULTS

Please refer to the Appendix B.



### 4.3 CONDUCTED EMISSIONS MEASUREMENT

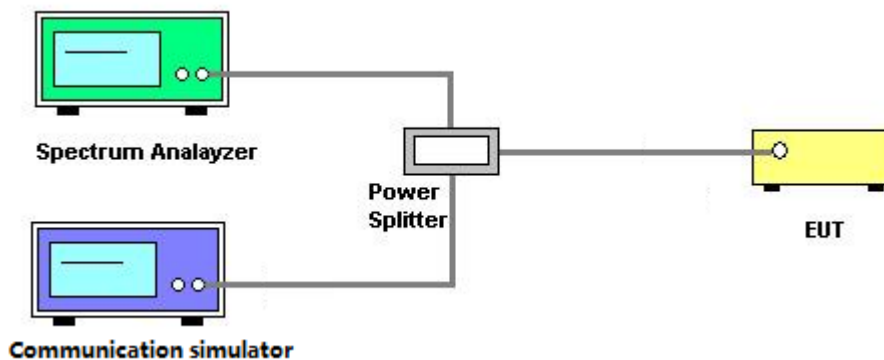
#### 4.3.1 LIMIT

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. The emission limit equal to  $-13\text{dBm}$ .

#### 4.3.2 TEST PROCEDURES

1. The testing follows FCC KDB 971168 v03 Section 6.0.
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The band edges of low and high channels for the highest RF powers were measured. Set  $\text{RBW} \geq 1\%$  EBW in the 1MHz band immediately outside and adjacent to the band edge.
4. Set spectrum analyzer with RMS detector.
5. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
6. The limit line is derived from  $43+10\log(P)\text{dB}$  below the transmitter power P(Watts)  
 $=P(W)-[43+10\log(P)](\text{dB})$   
 $=[30+10\log(P)](\text{dBm})-[43+10\log(P)](\text{dB})$   
 $=-13\text{dBm}$

#### 4.3.3 TESTSETUP LAYOUT



#### 4.3.4 TESTDEVIATION

No deviation

#### 4.3.5 TEST RESULTS

Please refer to the Appendix C.

#### 4.4 RADIATED EMISSIONS MEASUREMENT

##### 4.4.1 LIMIT

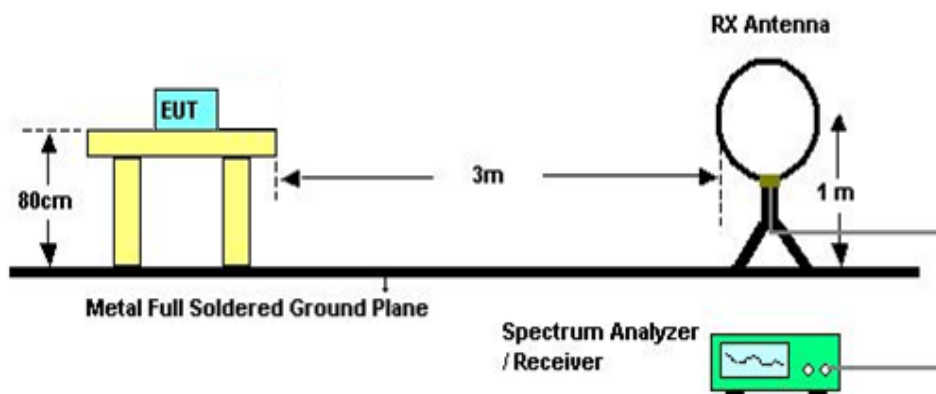
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least  $43 + 10 \log(P)$  dB. The emission limit equal to  $-13\text{dBm}$ .

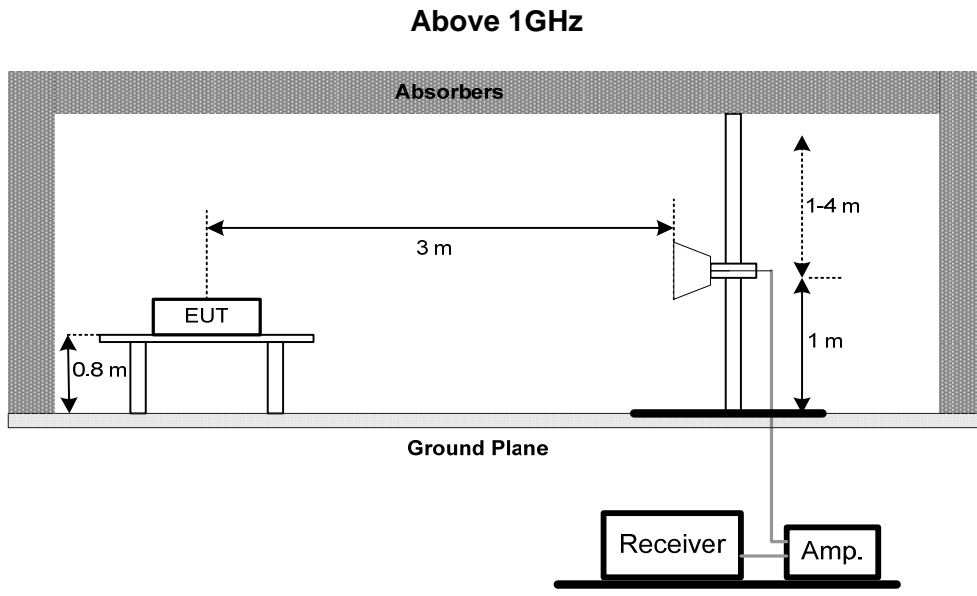
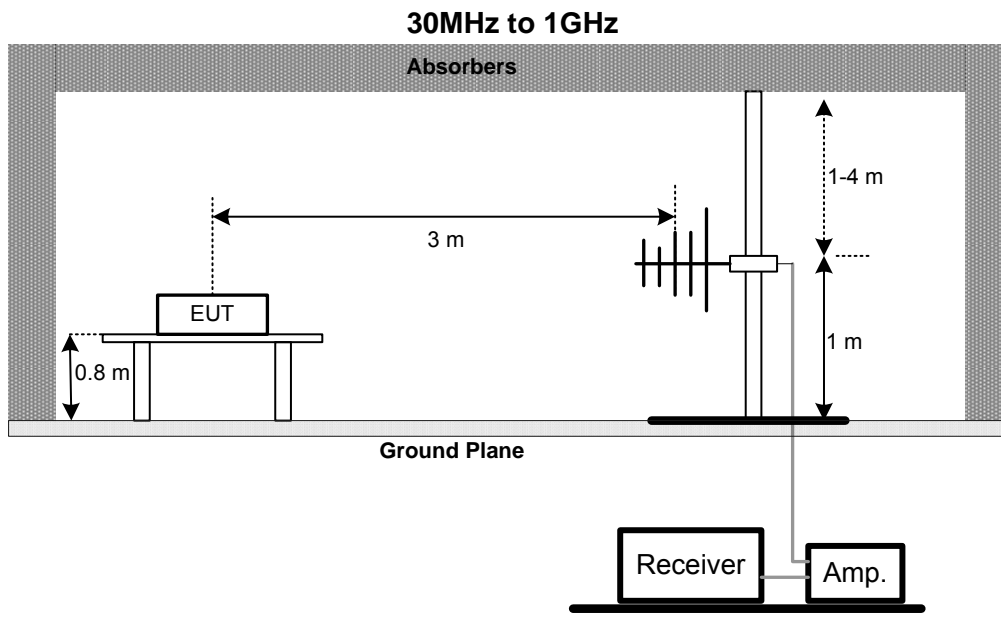
##### 4.4.2 TEST PROCEDURES

1. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
2. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value " of step a. Record the power level of S.G
3.  $\text{EIRP} = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}$ .
4. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole,  $\text{E.R.P power} = \text{E.I.P.R power} - 2.15\text{dBi}$ .
5. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

##### 4.4.3 TESTSETUP LAYOUT

Below 30MHz





**4.4.4 TESTDEVIATION**

No deviation

**4.4.5 TEST RESULTS (9KHZ TO 30MHZ)**

Please refer to the Appendix D.

**4.4.6 TEST RESULTS (30MHZ TO 1000MHZ)**

Please refer to the Appendix E.

**4.4.7 TEST RESULTS (ABOVE 1000MHZ)**

Please refer to the Appendix F.

## 4.5 BAND EDGE MEASUREMENT

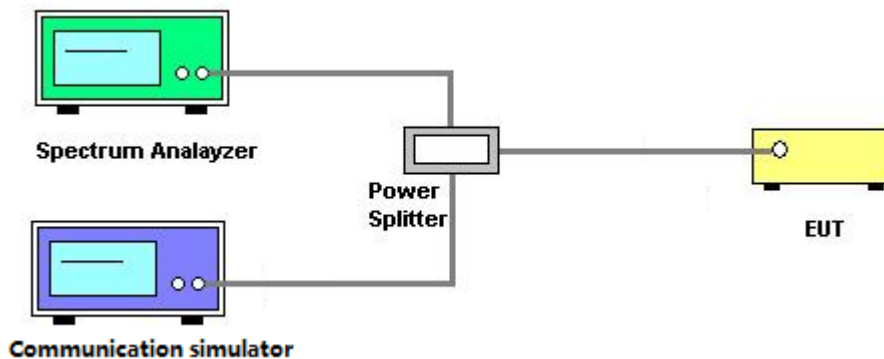
### 4.5.1 LIMIT

A 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. 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.

### 4.5.2 TEST PROCEDURES

1. All measurements were done at low and high operational frequency range.
2. The center frequency of spectrum is the band edge frequency and span is 5MHz. RB of the spectrum is 100kHz and VB of the spectrum is 300kHz (WCDMA).
3. The center frequency of spectrum is the band edge frequency and span is 1MHz. RB of the spectrum is 13kHz and VB of the spectrum is 51kHz (LTE Bandwidth 1.4MHz).
4. The center frequency of spectrum is the band edge frequency and span is 1MHz. RB of the spectrum is 30kHz and VB of the spectrum is 100kHz (LTE Bandwidth 3MHz).
5. The center frequency of spectrum is the band edge frequency and span is 1MHz. RB of the spectrum is 100kHz and VB of the spectrum is 300kHz (LTE Bandwidth 5MHz/10MHz).
6. Record the max trace plot into the test report.

### 4.5.3 TESTSETUP LAYOUT



### 4.5.4 TESTDEVIATION

No deviation

### 4.5.5 TEST RESULTS

Please refer to the Appendix E.

## 4.6 PEAK TO AVERAGE RATIO MEASUREMENT

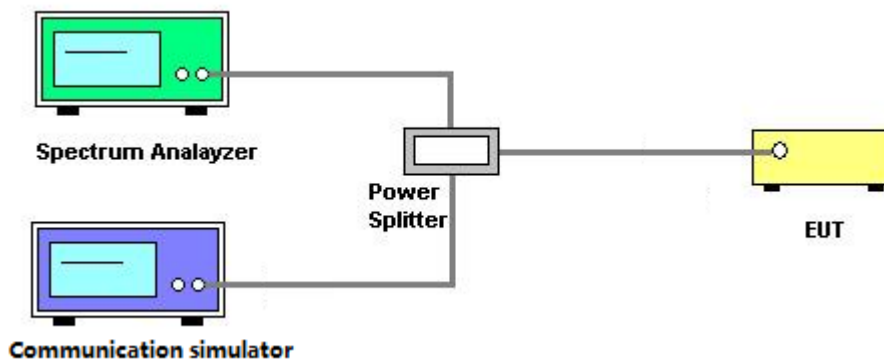
### 4.6.1 LIMIT

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.

### 4.6.2 TEST PROCEDURES

1. Set resolution/measurement bandwidth  $\geq$  signal's occupied bandwidth;
2. Set the number of counts to a value that stabilizes the measured CCDF curve;
3. Record the maximum PAPR level associated with a probability of 0.1%.

### 4.6.3 TESTSETUP LAYOUT



### 4.6.4 TESTDEVIATION

No deviation

### 4.6.5 TEST RESULTS

Please refer to the Appendix F.

## 4.7 FREQUENCY STABILITY MEASUREMENT

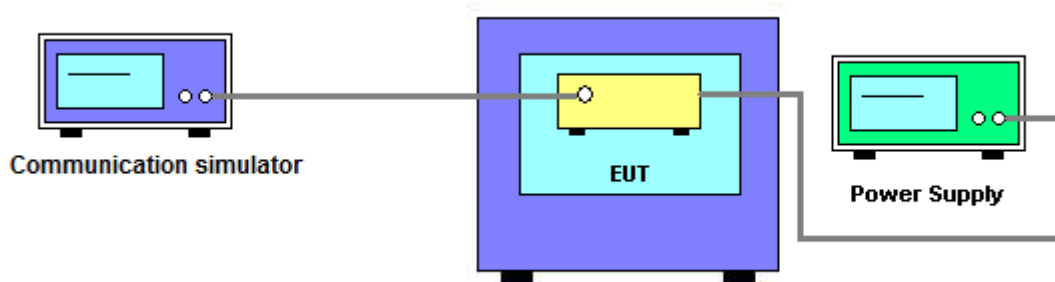
### 4.7.1 LIMIT

1.5 ppm is for base and fixed station. 2.5 ppm is for mobile station.

### 4.7.2 TEST PROCEDURES

1. Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.
2. EUT is connected the external power supply to control the DC input power. The test voltage range is from minimum to maximum working voltage. Each step shall be record the frequency error rate.
3. The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the  $\pm 0.5^{\circ}\text{C}$  during the measurement testing. The each temperature step shall be at least 0.5 hours, consider the EUT could be test under the stability condition.
4. The frequency error was recorded frequency error from the communication simulator.

### 4.7.3 TESTSETUP LAYOUT



### 4.7.4 TESTDEVIATION

No deviation

### 4.7.5 TEST RESULTS

Please refer to the Appendix G.

## 5. LIST OF MEASUREMENT EQUIPMENTS

Radiated Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Antenna	Schwarbeck	VULB9160	9160-3232	Mar. 11, 2019
2	Amplifier	Agilent	8449B	3008A02274	Mar. 11, 2019
3	Amplifier	HP	8447D	2944A09673	Oct. 19, 2018
4	HighPass Filter	Wairwright Instruments Gmbh	WHK 1.5/15G-10ST	11	Mar. 11, 2019
5	Band Reject Filter	Wairwright Instruments Gmbh	WRCG 1710/1785-1690/180 5-60/12SS	38	Mar. 11, 2019
6	Band Reject Filter	Wairwright Instruments Gmbh	WRCG 824/849-810/863-60/ 9SS	7	Mar. 11, 2019
7	Band Reject Filter	Wairwright Instruments Gmbh	WRCG 880/915-860/935-60/ 9SS	14	Mar. 11, 2019
8	Band Reject Filter	Wairwright Instruments Gmbh	WRCG 1850/1910-1830/193 0-60/10SS	17	Mar. 11, 2019
9	HighPass Filter	Wairwright Instruments Gmbh	WHK3.1/18G-10SS	24	Mar. 11, 2019
10	Wireless Communication Test SET	Agilent	E5515C	MY48364183	Mar. 11, 2019
11	Microwave Preamplifier With Adaptor	EMC INSTRUMENT	EMC2654045	980039 & HA01	Mar. 11, 2019
12	Receiver	Agilent	N9038A	MY52130039	Aug. 20, 2018
13	wideband radio communication tester	R&S	CMW500	152372	Mar. 11, 2019
14	Cable	emci	LMR-400(30MHz-1G Hz)(8m+5m)	N/A	Jun. 26, 2018
15	Cable	emci	EMC104-SM-SM-12000(12m)	N/A	Jun. 26, 2018
16	Controller	ETS-Lindgren	2090	N/A	N/A
17	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A

**Conducted Emission & Band Edge & Occupied Bandwidth Measurement**

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	EXA Spectrum Analyzer	Agilent	N9010A	MY50520044	Mar. 11, 2019
2	POWER SPLITTER	Mini-Circuits	ZFRSC-123-S+	331000910-1	Mar. 11, 2019
3	wideband radio communication tester	R&S	CMW500	152372	Mar. 11, 2019

**Frequency Stability Measurement**

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Multi-output DC Power Supply	GW Instek	GPC-3030DN	EK880675	Sep. 26, 2020
2	POWER SPLITTER	Mini-Circuits	ZFRSC-123-S+	331000910-1	Mar. 11, 2019
3	wideband radio communication tester	R&S	CMW500	152372	Mar. 11, 2019
4	Const Temp.& Humidity Chamber	Bell	BTH-50C	20170306001	Mar. 11, 2019

Remark: "N/A" denotes no model name, serial no. or calibration specified.  
 All calibration period of equipment list is one year.



## APPENDIX A - OUTPUT POWER

**Conducted Power:**

Modulation	Band	WCDMA Band 2(dBm)		
	Tx Channel	9262CH	9400CH	9538CH
	Rx Channel	9662CH	9800CH	9938CH
	Frequency	1852.4MHz	1880MHz	1907.6MHz
BPSK	RMC 12.2K	22.71	22.33	22.3
	RMC 64K	22.73	22.28	22.29
	RMC 144K	22.27	22.25	22.26
	RMC 384K	22.29	22.22	22.22
16QAM	HSDPA Subtest-1	22.3	22.3	22.23
	HSDPA Subtest-2	21.5	21.47	21.51
	HSDPA Subtest-3	21.39	21.33	21.32
	HSDPA Subtest-4	21.45	21.36	20.71
16QAM	HSUPA Subtest-1	21.51	21.52	21.6
	HSUPA Subtest-2	18.73	18.57	18.78
	HSUPA Subtest-3	19.87	20.18	20.11
	HSUPA Subtest-4	19.59	19.12	19.35
	HSUPA Subtest-5	22.3	22.28	22.31

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				18607 CH	18900 CH	19193 CH
				1850.7 MHz	1880 MHz	1909.3 MHz
LTE Band 2 (dBm)						
2 / 1.4M	QPSK	1	0	21.55	21.59	21.62
		1	2	21.72	21.58	21.67
		1	5	21.63	21.52	21.56
		3	0	21.55	21.53	21.59
		3	1	21.61	21.62	21.65
		3	3	21.63	21.65	21.66
		6	0	20.57	20.60	20.65
	16QAM	1	0	20.67	20.79	20.71
		1	2	20.83	20.96	20.75
		1	5	20.74	20.90	20.65
		3	0	20.63	20.59	20.60
		3	1	20.83	20.66	20.65
		3	3	20.84	20.68	20.66
		6	0	20.44	19.89	19.96

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				18615 CH	18900 CH	19185 CH
				1851.5 MHz	1880 MHz	1908.5 MHz
LTE Band 2 (dBm)						
2 / 3M	QPSK	1	0	21.55	21.60	21.67
		1	7	21.92	21.70	21.83
		1	14	21.86	21.62	21.57
		8	0	20.73	20.57	20.58
		8	3	20.86	20.54	20.80
		8	7	20.95	20.55	20.68
		15	0	20.73	20.63	20.67
	16QAM	1	0	20.74	20.59	20.60
		1	7	21.01	20.79	20.85
		1	14	20.84	20.53	20.67
		8	0	20.28	19.58	19.72
		8	3	20.43	19.75	19.95
		8	7	20.50	19.77	19.82
		15	0	20.27	19.62	19.73

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				18625 CH	18900 CH	19175 CH
				1852.5 MHz	1880 MHz	1907.5 MHz
LTE Band 2 (dBm)						
2 / 5M	QPSK	1	0	22.02	21.72	21.79
		1	12	22.76	22.33	22.46
		1	24	22.21	21.87	21.68
		12	0	21.40	21.27	21.26
		12	6	21.67	21.38	21.38
		12	13	21.63	21.34	21.36
		25	0	21.41	21.18	21.02
	16QAM	1	0	21.30	21.05	21.02
		1	12	21.95	21.65	21.90
		1	24	21.52	21.07	21.12
		12	0	20.71	20.50	20.73
		12	6	20.97	20.61	20.85
		12	13	20.94	20.57	20.83
		25	0	20.75	20.42	20.46

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				18650 CH	18900 CH	19150 CH
				1855 MHz	1880 MHz	1905 MHz
LTE Band 2 (dBm)						
2 / 10M	QPSK	1	0	22.40	22.17	22.27
		1	24	22.76	22.38	22.50
		1	49	22.24	22.10	21.82
		25	0	21.40	20.95	21.43
		25	12	21.65	21.13	21.33
		25	25	21.40	20.96	20.94
		50	0	21.33	20.82	21.04
	16QAM	1	0	21.72	21.47	21.57
		1	24	22.24	21.66	21.74
		1	49	21.67	21.62	21.05
		25	0	20.69	20.48	20.79
		25	12	20.93	20.65	20.62
		25	25	20.69	20.48	20.22
		50	0	20.59	20.32	20.33

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				18675 CH	18900 CH	19125 CH
				1857.5 MHz	1880 MHz	1902.5 MHz
LTE Band 2 (dBm)						
2 / 15M	QPSK	1	0	22.58	22.37	22.78
		1	37	22.80	22.33	22.76
		1	74	22.34	22.14	22.00
		36	0	21.53	22.14	21.59
		36	19	21.68	21.41	21.58
		36	39	21.47	21.23	21.22
		75	0	21.41	21.29	21.21
	16QAM	1	0	21.84	21.67	22.20
		1	37	22.02	21.60	22.13
		1	74	21.64	21.45	21.39
		36	0	20.89	21.45	21.02
		36	19	21.05	20.62	21.00
		36	39	20.86	20.60	20.62
		75	0	20.80	20.66	20.59

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				18700 CH	18900 CH	19100 CH
				1860 MHz	1880 MHz	1900 MHz
LTE Band 2 (dBm)						
2 / 20M	QPSK	1	0	22.01	21.83	22.32
		1	50	21.83	21.56	21.97
		1	99	21.64	22.07	21.72
		50	0	20.75	20.62	20.90
		50	25	20.75	20.54	20.79
		50	50	20.67	20.68	20.85
		100	0	20.65	20.60	20.57
	16QAM	1	0	21.49	21.23	21.77
		1	50	21.24	20.58	21.49
		1	99	21.20	21.36	21.21
		50	0	20.13	19.83	20.32
		50	25	20.15	19.96	20.19
		50	50	20.08	19.86	19.81
		100	0	20.05	19.75	20.03

**EIRP Power**

Modulation	Band	WCDMA Band 2(dBm)		
	Tx Channel	9262CH	9400CH	9538CH
Rx Channel	9662CH	9800CH	9938CH	
Frequency	1852.4MHz	1880MHz	1907.6MHz	
BPSK	RMC 12.2K	26.11	25.73	25.70
	RMC 64K	26.13	25.68	25.69
	RMC 144K	25.67	25.65	25.66
	RMC 384K	25.69	25.62	25.62
16QAM	HSDPA Subtest-1	25.70	25.70	25.63
	HSDPA Subtest-2	24.90	24.87	24.91
	HSDPA Subtest-3	24.79	24.73	24.72
	HSDPA Subtest-4	24.85	24.76	24.11
16QAM	HSUPA Subtest-1	24.91	24.92	25.00
	HSUPA Subtest-2	22.13	21.97	22.18
	HSUPA Subtest-3	23.27	23.58	23.51
	HSUPA Subtest-4	22.99	22.52	22.75
	HSUPA Subtest-5	25.70	25.68	25.71

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				18607 CH	18900 CH	19193 CH
				1850.7 MHz	1880 MHz	1909.3 MHz
LTE Band 2 (dBm)						
2 / 1.4M	QPSK	1	0	24.95	24.99	25.02
		1	2	25.12	24.98	25.07
		1	5	25.03	24.92	24.96
		3	0	24.95	24.93	24.99
		3	1	25.01	25.02	25.05
		3	3	25.03	25.05	25.06
		6	0	23.97	24.00	24.05
	16QAM	1	0	24.07	24.19	24.11
		1	2	24.23	24.36	24.15
		1	5	24.14	24.30	24.05
		3	0	24.03	23.99	24.00
		3	1	24.23	24.06	24.05
		3	3	24.24	24.08	24.06
		6	0	23.84	23.29	23.36

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				18615 CH	18900 CH	19185 CH
				1851.5 MHz	1880 MHz	1908.5 MHz
LTE Band 2 (dBm)						
2 / 3M	QPSK	1	0	24.95	25.00	25.07
		1	7	25.32	25.10	25.23
		1	14	25.26	25.02	24.97
		8	0	24.13	23.97	23.98
		8	3	24.26	23.94	24.20
		8	7	24.35	23.95	24.08
		15	0	24.13	24.03	24.07
	16QAM	1	0	24.14	23.99	24.00
		1	7	24.41	24.19	24.25
		1	14	24.24	23.93	24.07
		8	0	23.68	22.98	23.12
		8	3	23.83	23.15	23.35
		8	7	23.90	23.17	23.22
		15	0	23.67	23.02	23.13

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				18625 CH	18900 CH	19175 CH
				1852.5 MHz	1880 MHz	1907.5 MHz
LTE Band 2 (dBm)						
2 / 5M	QPSK	1	0	25.42	25.12	25.19
		1	12	26.16	25.73	25.86
		1	24	25.61	25.27	25.08
		12	0	24.80	24.67	24.66
		12	6	25.07	24.78	24.78
		12	13	25.03	24.74	24.76
		25	0	24.81	24.58	24.42
	16QAM	1	0	24.70	24.45	24.42
		1	12	25.35	25.05	25.30
		1	24	24.92	24.47	24.52
		12	0	24.11	23.90	24.13
		12	6	24.37	24.01	24.25
		12	13	24.34	23.97	24.23
		25	0	24.15	23.82	23.86

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				18650 CH	18900 CH	19150 CH
				1855 MHz	1880 MHz	1905 MHz
LTE Band 2 (dBm)						
2 / 10M	QPSK	1	0	25.80	25.57	25.67
		1	24	26.16	25.78	25.90
		1	49	25.64	25.50	25.22
		25	0	24.80	24.35	24.83
		25	12	25.05	24.53	24.73
		25	25	24.80	24.36	24.34
		50	0	24.73	24.22	24.44
	16QAM	1	0	25.12	24.87	24.97
		1	24	25.64	25.06	25.14
		1	49	25.07	25.02	24.45
		25	0	24.09	23.88	24.19
		25	12	24.33	24.05	24.02
		25	25	24.09	23.88	23.62
		50	0	23.99	23.72	23.73



LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				18675 CH	18900 CH	19125 CH
				1857.5 MHz	1880 MHz	1902.5 MHz
				LTE Band 2 (dBm)		
2 / 15M	QPSK	1	0	25.98	25.77	26.18
		1	37	26.20	25.73	26.16
		1	74	25.74	25.54	25.40
		36	0	24.93	25.54	24.99
		36	19	25.08	24.81	24.98
		36	39	24.87	24.63	24.62
		75	0	24.81	24.69	24.61
	16QAM	1	0	25.24	25.07	25.60
		1	37	25.42	25.00	25.53
		1	74	25.04	24.85	24.79
		36	0	24.29	24.85	24.42
		36	19	24.45	24.02	24.40
		36	39	24.26	24.00	24.02
		75	0	24.20	24.06	23.99

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				18700 CH	18900 CH	19100 CH
				1860 MHz	1880 MHz	1900 MHz
				LTE Band 2 (dBm)		
2 / 20M	QPSK	1	0	25.41	25.23	25.72
		1	50	25.23	24.96	25.37
		1	99	25.04	25.47	25.12
		50	0	24.15	24.02	24.30
		50	25	24.15	23.94	24.19
		50	50	24.07	24.08	24.25
		100	0	24.05	24.00	23.97
	16QAM	1	0	24.89	24.63	25.17
		1	50	24.64	23.98	24.89
		1	99	24.60	24.76	24.61
		50	0	23.53	23.23	23.72
		50	25	23.55	23.36	23.59
		50	50	23.48	23.26	23.21
		100	0	23.45	23.15	23.43

## APPENDIX B - OCCUPIED BANDWIDTH

WCDMA Band 2					
BPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
9262	1852.4	4.1528	9262	1852.4	4.699
9400	1880	4.1634	9400	1880	4.703
9538	1907.6	4.1578	9538	1907.6	4.709



WCDMA_HSDPA Band 2					
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
9262	1852.4	4.1601	9262	1852.4	4.737
9400	1880	4.1644	9400	1880	4.739
9538	1907.6	4.1577	9538	1907.6	4.733



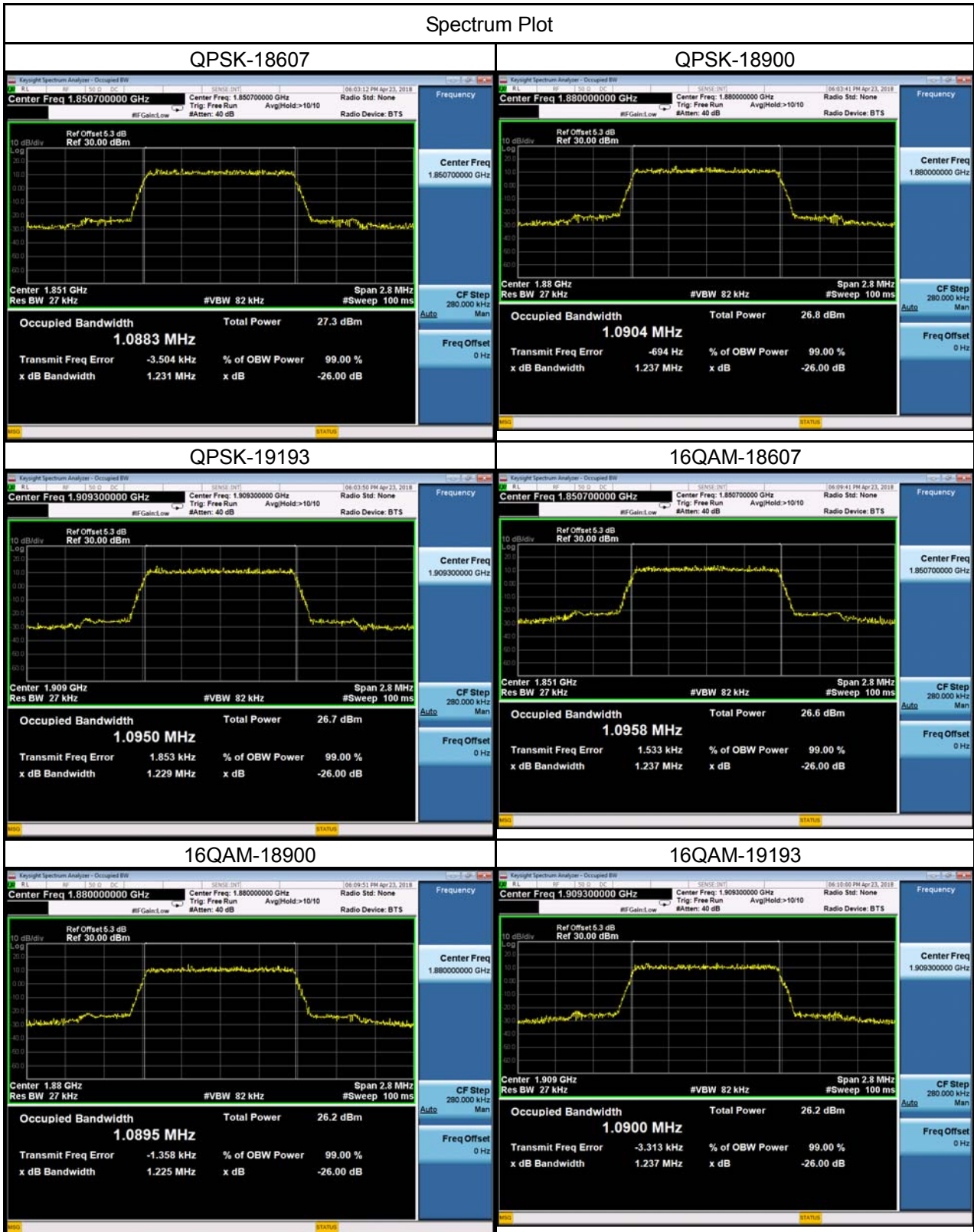
WCDMA_HSUPA Band 2					
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
9262	1852.4	4.1624	9262	1852.4	4.730
9400	1880	4.1585	9400	1880	4.739
9538	1907.6	4.1662	9538	1907.6	4.734



LTE Band 2_1.4M					
QPSK			16QAM		
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)
18607	1850.7	1.0883	18607	1850.7	1.0958
18900	1880	1.0904	18900	1880	1.0895
19193	1909.3	1.0950	19193	1909.3	1.0900
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
18607	1850.7	1.231	18607	1850.7	1.237
18900	1880	1.237	18900	1880	1.225
19193	1909.3	1.229	19193	1909.3	1.237



### Spectrum Plot



LTE Band 2_3M					
QPSK			16QAM		
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)
18615	1851.5	2.6964	18615	1851.5	2.6985
18900	1880	2.6957	18900	1880	2.6980
19185	1908.5	2.7077	19185	1908.5	2.6939
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
18615	1851.5	2.966	18615	1851.5	2.971
18900	1880	2.977	18900	1880	2.978
19185	1908.5	2.955	19185	1908.5	2.954

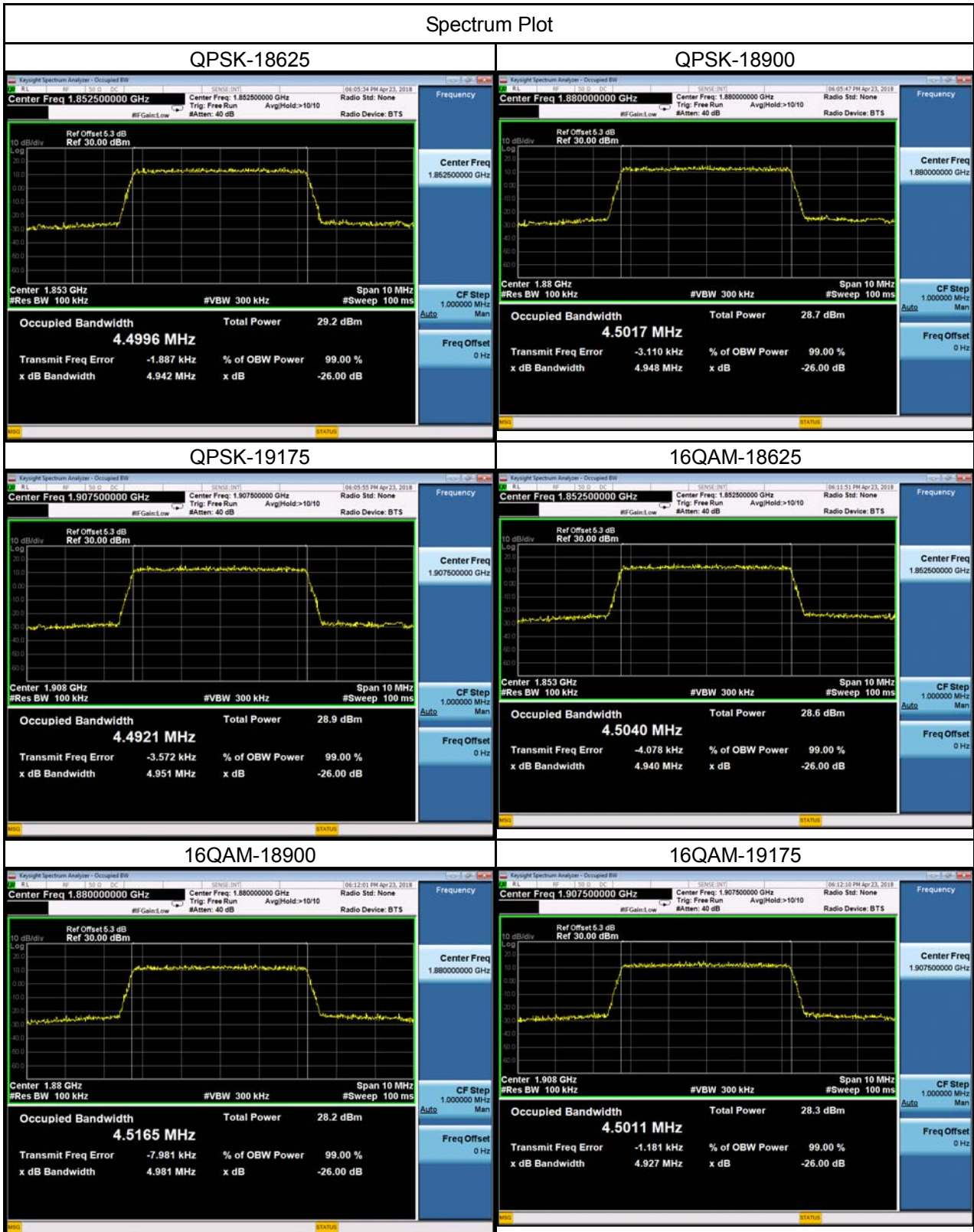


### Spectrum Plot



LTE Band 2_5M					
QPSK			16QAM		
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)
18625	1852.5	4.4996	18625	1852.5	4.5040
18900	1880	4.5017	18900	1880	4.5165
19175	1907.5	4.4921	19175	1907.5	4.5011
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
18625	1852.5	4.942	18625	1852.5	4.940
18900	1880	4.948	18900	1880	4.981
19175	1907.5	4.951	19175	1907.5	4.927

### Spectrum Plot



LTE Band 2_10M					
QPSK			16QAM		
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)
18650	1855	8.9891	18650	1855	8.9953
18900	1880	9.0107	18900	1880	9.0055
19150	1905	8.9915	19150	1905	8.9863
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
18650	1855	9.841	18650	1855	9.870
18900	1880	9.846	18900	1880	9.939
19150	1905	9.964	19150	1905	9.856



### Spectrum Plot



LTE Band 2_15M					
QPSK			16QAM		
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)
18675	1857.5	13.499	18675	1857.5	13.487
18900	1880	13.507	18900	1880	13.476
19125	1902.5	13.478	19125	1902.5	13.481
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
18675	1857.5	14.89	18675	1857.5	14.93
18900	1880	14.92	18900	1880	14.99
19125	1902.5	14.89	19125	1902.5	14.93

### Spectrum Plot



LTE Band 2_20M					
QPSK			16QAM		
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)
18700	1860	18.020	18700	1860	17.985
18900	1880	17.990	18900	1880	18.026
19100	1900	17.959	19100	1900	17.989
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
18700	1860	19.71	18700	1860	19.85
18900	1880	19.88	18900	1880	19.75
19100	1900	19.71	19100	1900	19.72



### Spectrum Plot



## APPENDIX C - CONDUCTED EMISSIONS

### WCDMA Band 2

Channel	Frequency(MHz)	Channel	Frequency(MHz)
9538	1907.6	9538	1907.6
<p style="font-size: small;">Date: 19.APR.2018 10:14:49</p>		<p style="font-size: small;">Date: 19.APR.2018 11:25:45</p>	
Channel	Frequency(MHz)	-	-
9538	1907.6	-	-
<p style="font-size: small;">Date: 20.APR.2018 10:40:27</p>		-	

### WCDMA\_HSDPA Band 2

Channel	Frequency(MHz)	Channel	Frequency(MHz)
9538	1907.6	9538	1907.6
<p style="font-size: small;">Date: 19.APR.2018 10:55:53</p>		<p style="font-size: small;">Date: 19.APR.2018 11:24:34</p>	
Channel	Frequency(MHz)	-	-
9538	1907.6	-	-
<p style="font-size: small;">Date: 20.APR.2018 10:33:58</p>		-	

WCDMA\_HSUPA Band 2

Channel	Frequency(MHz)	Channel	Frequency(MHz)
9538	1907.6	9538	1907.6
Date: 19.APR.2018 11:02:14		Date: 19.APR.2018 11:24:15	
Channel	Frequency(MHz)	-	-
9538	1907.6	-	-
		-	
Date: 20.APR.2018 10:40:13			

LTE Band 2\_1.4M

Channel	Frequency(MHz)	Channel	Frequency(MHz)
19193	1909.3	19193	1909.3
Channel	Frequency(MHz)	-	-
19193	1909.3	-	-
		-	

LTE Band 2\_5M

Channel	Frequency(MHz)	Channel	Frequency(MHz)
19175	1907.5	19175	1907.5
Channel	Frequency(MHz)	-	-
19175	1907.5	-	-
		-	

LTE Band 2\_20M

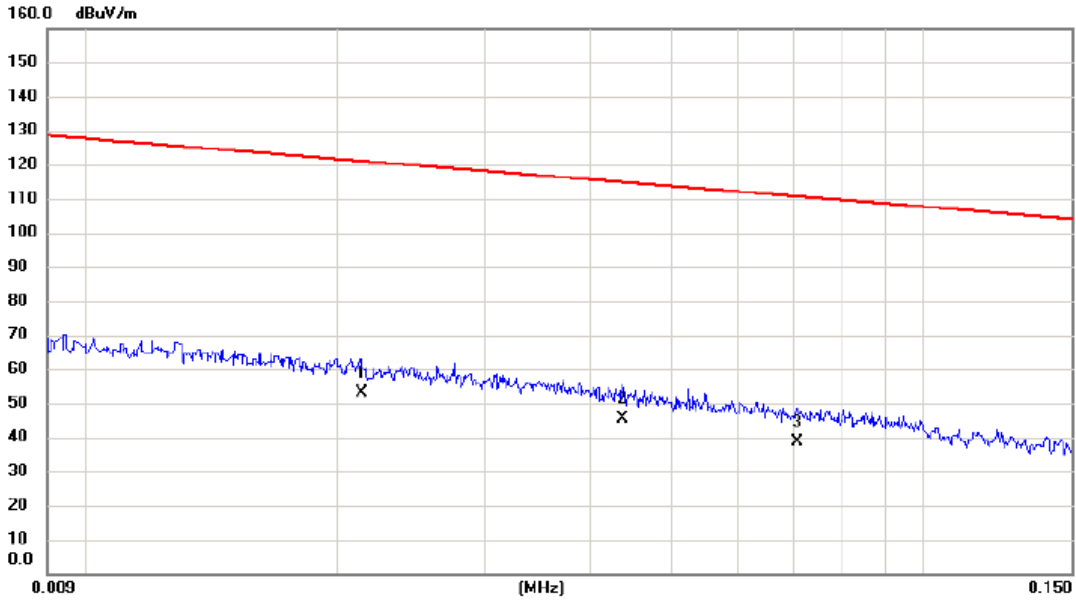
Channel	Frequency(MHz)	Channel	Frequency(MHz)
19100	1900	19100	1900
Date: 19.APR.2018 17:02:24		Date: 19.APR.2018 17:06:57	
Channel	Frequency(MHz)	-	-
19100	1900	-	-
		-	
Date: 20.APR.2018 10:15:38			



## APPENDIX D - RADIATED EMISSION (9KHZ TO 30MHZ)

Test Mode: TX MODE CHANNEL\_Adapter:Huntkey

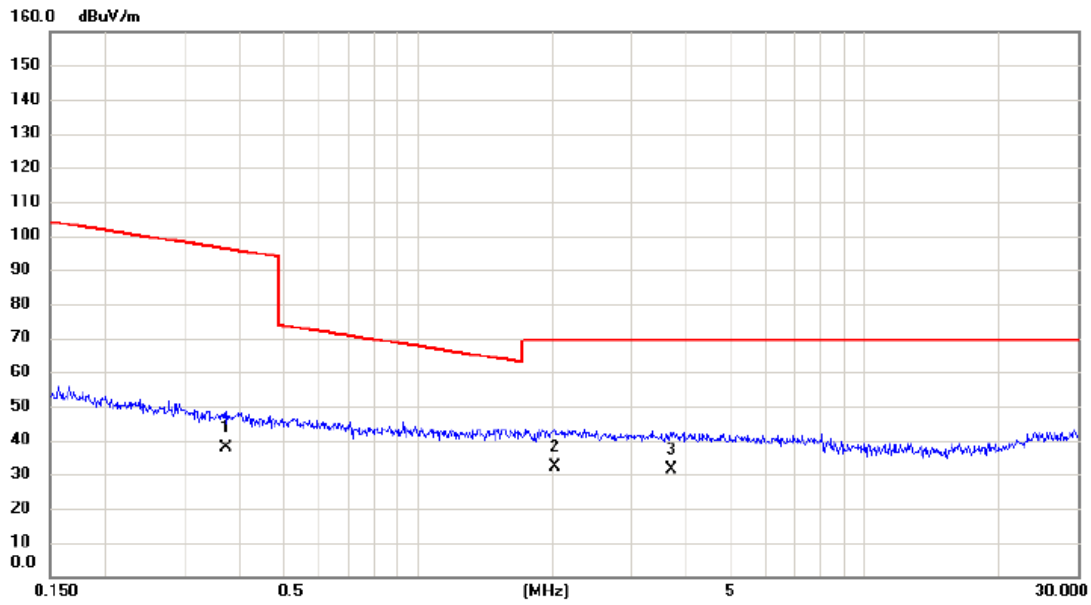
Ant 0°



No.	Mk.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	0.0214	33.40	19.58	52.98	121.00	-68.02	AVG	
2		0.0437	26.30	18.91	45.21	114.80	-69.59	AVG	
3		0.0706	20.10	18.32	38.42	110.63	-72.21	AVG	

Test Mode: TX MODE CHANNEL\_Adapter:Huntkey

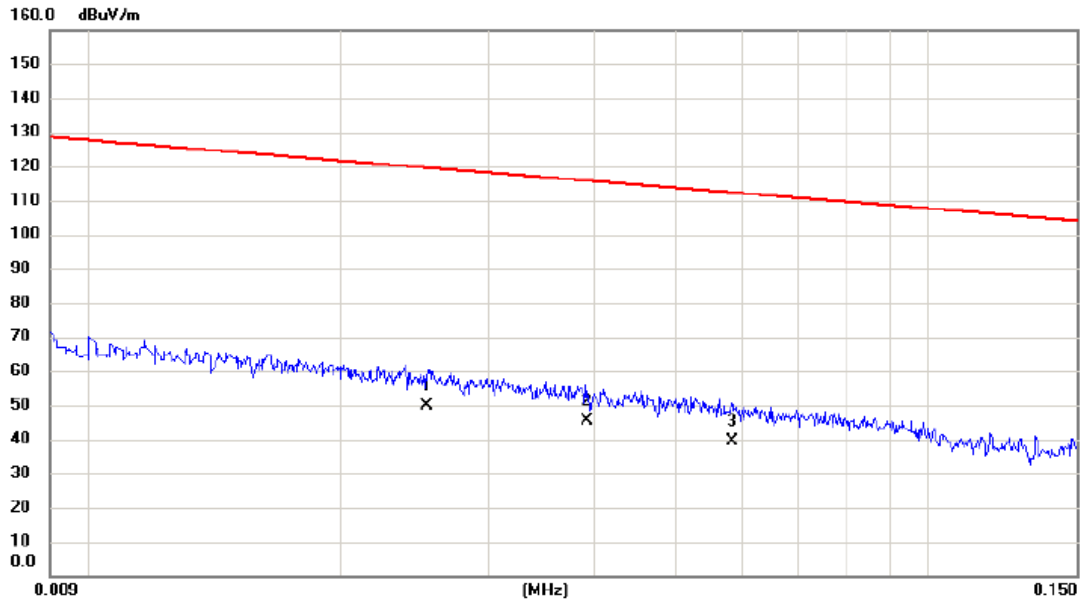
Ant 0°



No.	Mk.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		0.3731	21.10	16.56	37.66	96.17	-58.51	AVG	
2	*	2.0225	16.90	15.50	32.40	69.54	-37.14	QP	
3		3.7001	16.20	15.03	31.23	69.54	-38.31	QP	

Test Mode: TX MODE CHANNEL\_Adapter:Huntkey

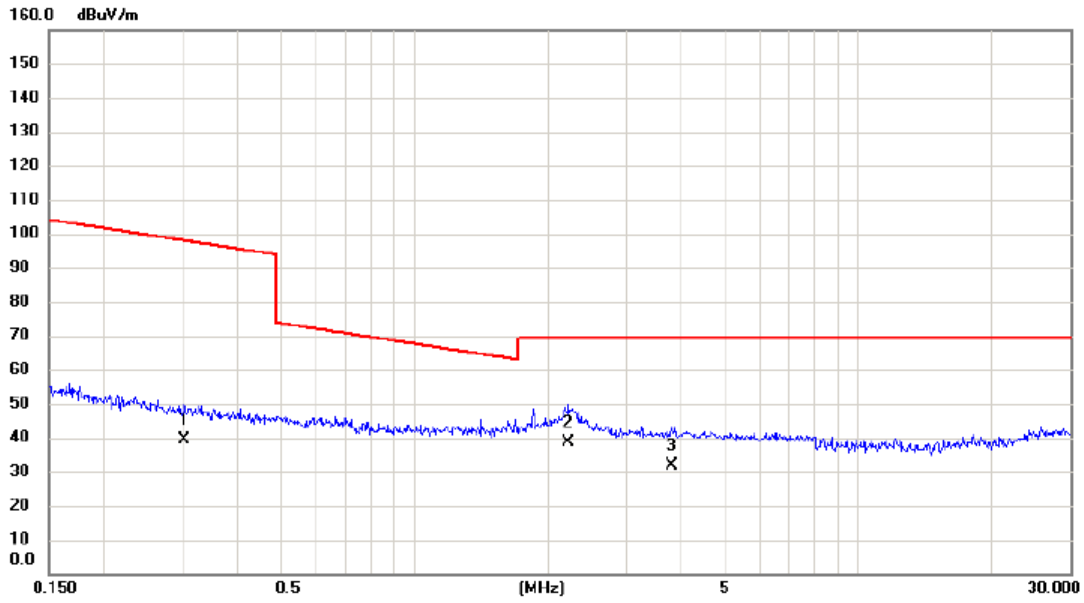
Ant 90°



No.	Mk.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	0.0253	30.50	19.46	49.96	119.54	-69.58	AVG	
2		0.0392	26.30	19.04	45.34	115.74	-70.40	AVG	
3		0.0584	20.70	18.56	39.26	112.28	-73.02	AVG	

Test Mode: TX MODE CHANNEL\_Adapter:Huntkey

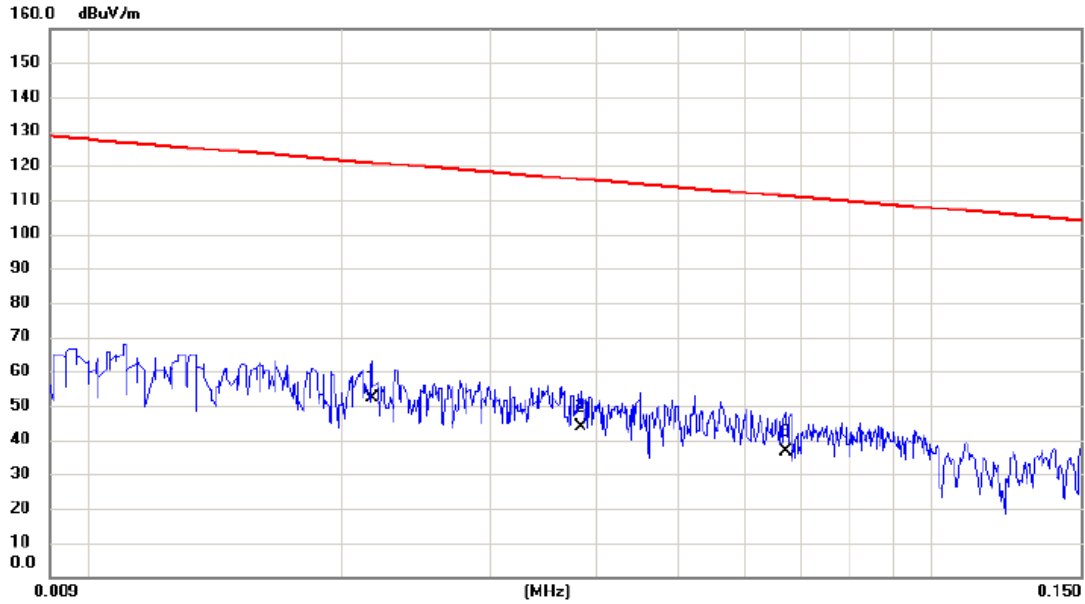
Ant 90°



No.	Mk.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		0.3035	22.80	16.62	39.42	97.96	-58.54	AVG	
2	*	2.2250	23.20	15.44	38.64	69.54	-30.90	QP	
3		3.7994	16.60	15.01	31.61	69.54	-37.93	QP	

Test Mode: TX MODE CHANNEL\_Adapter:BYD

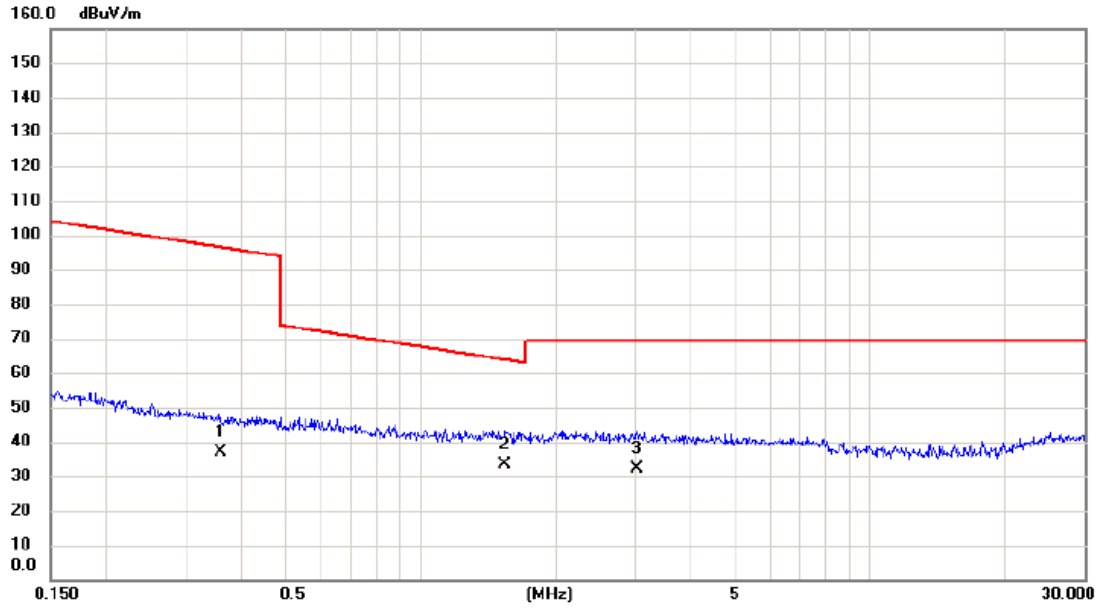
Ant 0°



No.	Mk.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	0.0217	32.80	19.57	52.37	120.88	-68.51	AVG	
2		0.0384	24.60	19.07	43.67	115.92	-72.25	AVG	
3		0.0670	18.30	18.39	36.69	111.08	-74.39	AVG	

Test Mode: TX MODE CHANNEL\_Adapter:BYD

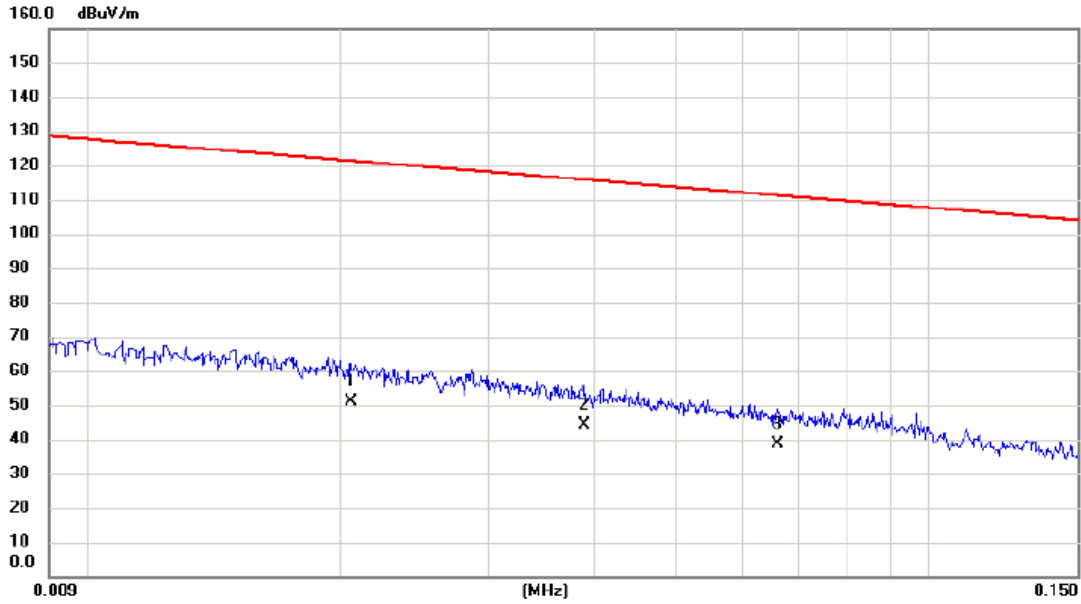
Ant 0°



No.	Mk.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		0.3577	20.30	16.57	36.87	96.53	-59.66	AVG	
2	*	1.5436	17.60	15.68	33.28	63.83	-30.55	QP	
3		3.0253	16.90	15.22	32.12	69.54	-37.42	QP	

Test Mode: TX MODE CHANNEL\_Adapter:BYD

Ant 90°

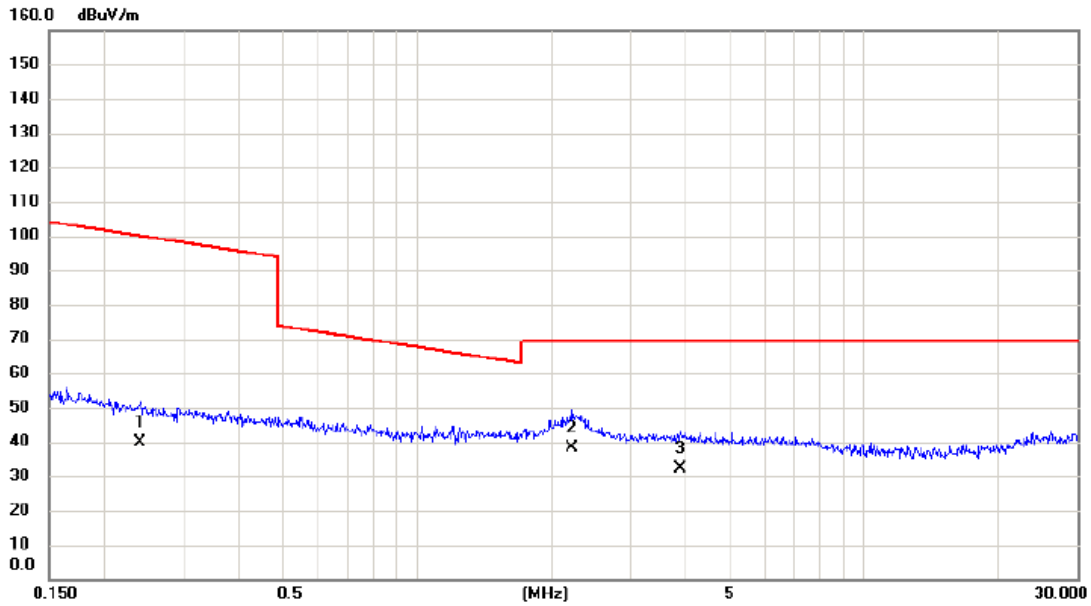


No.	Mk.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	0.0206	31.30	19.60	50.90	121.33	-70.43	AVG	
2		0.0390	25.20	19.05	44.25	115.78	-71.53	AVG	
3		0.0660	20.10	18.41	38.51	111.21	-72.70	AVG	



Test Mode: TX MODE CHANNEL\_Adapter:BYD

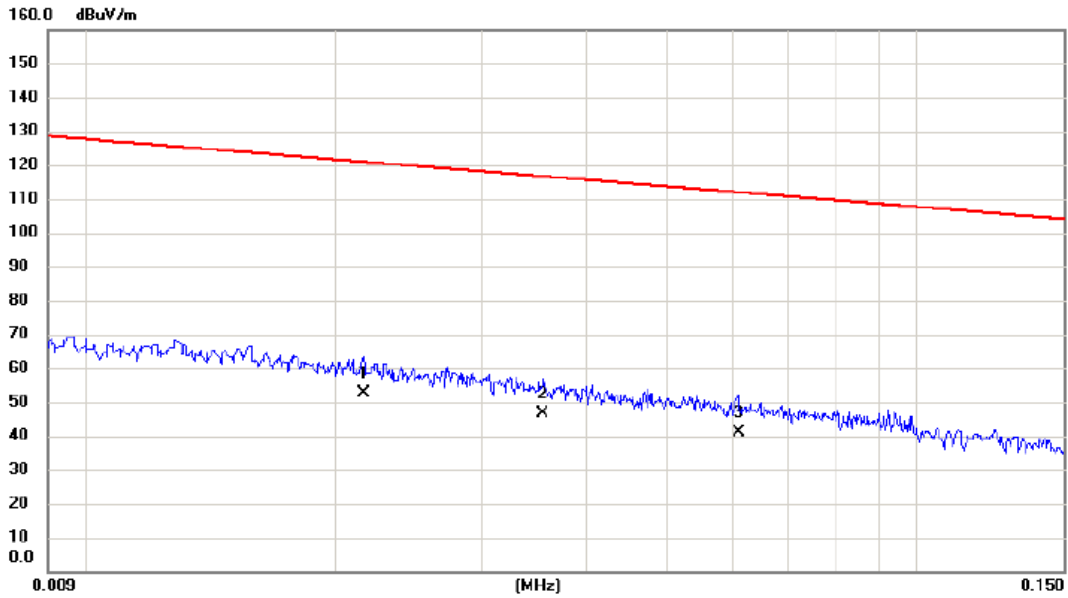
Ant 90°



No.	Mk.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		0.2404	23.30	16.69	39.99	99.99	-60.00	AVG	
2	*	2.2250	22.70	15.44	38.14	69.54	-31.40	QP	
3		3.8808	17.20	14.99	32.19	69.54	-37.35	QP	

Test Mode: TX MODE CHANNEL\_Adapter:Da Hong

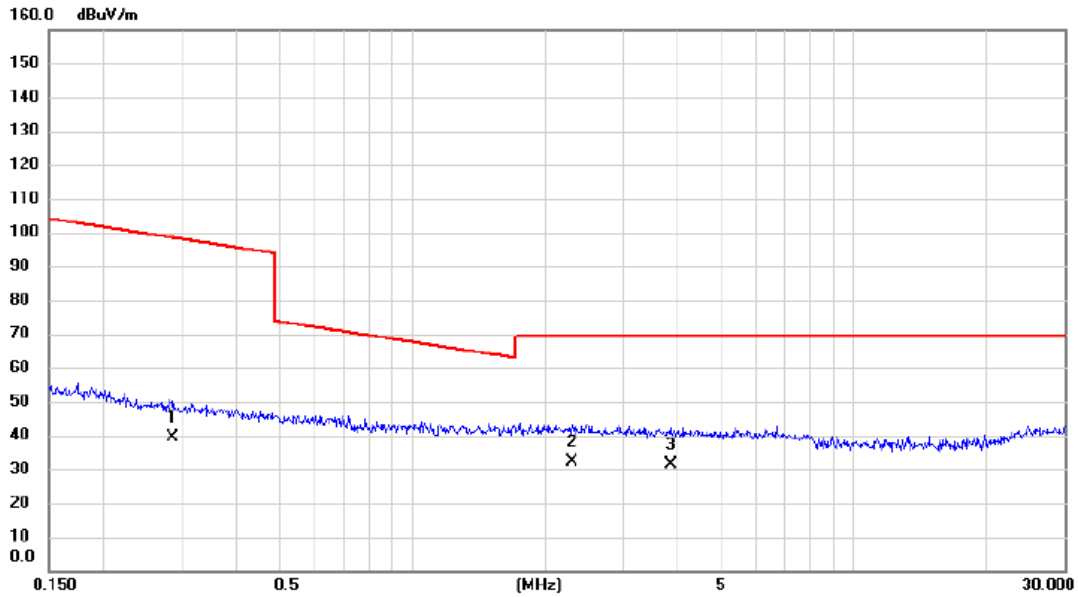
Ant 0°



No.	Mk.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	0.0216	33.20	19.57	52.77	120.92	-68.15	AVG	
2		0.0355	27.30	19.16	46.46	116.60	-70.14	AVG	
3		0.0610	22.50	18.51	41.01	111.90	-70.89	AVG	

Test Mode: TX MODE CHANNEL\_Adapter:Da Hong

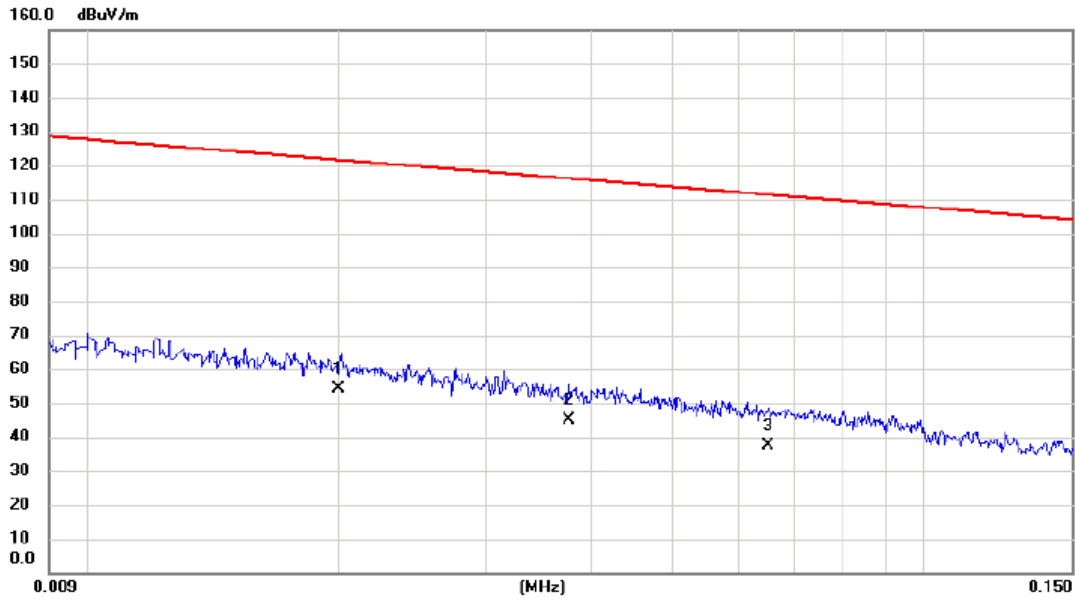
Ant 0°



No.	Mk.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		0.2863	22.80	16.63	39.43	98.47	-59.04	AVG	
2	*	2.2968	16.80	15.43	32.23	69.54	-37.31	QP	
3		3.8400	16.30	15.00	31.30	69.54	-38.24	QP	

Test Mode: TX MODE CHANNEL\_Adapter:Da Hong

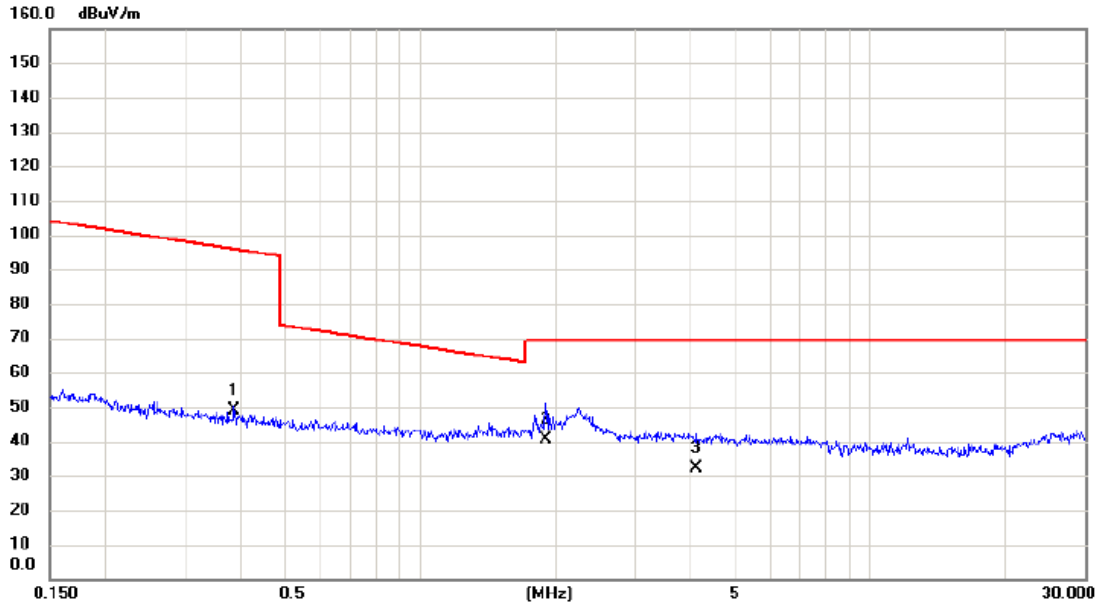
Ant 90°



No.	Mk.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	0.0200	34.60	19.62	54.22	121.58	-67.36	AVG	
2		0.0377	26.10	19.09	45.19	116.08	-70.89	AVG	
3		0.0652	18.80	18.43	37.23	111.32	-74.09	AVG	

Test Mode: TX MODE CHANNEL\_Adapter:Da Hong

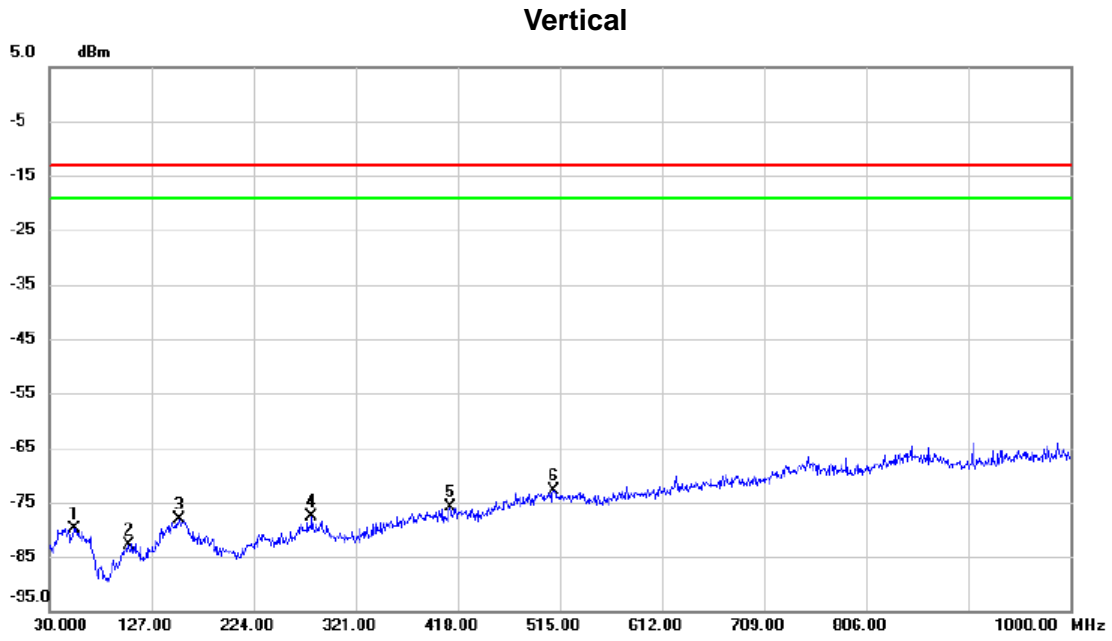
Ant 90°



No.	Mk.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		0.3852	32.50	16.55	49.05	95.89	-46.84	AVG	
2	*	1.9080	25.20	15.55	40.75	69.54	-28.79	QP	
3		4.0920	17.30	14.89	32.19	69.54	-37.35	QP	

## APPENDIX E - RADIATED EMISSION (30MHZ TO 1GHZ)

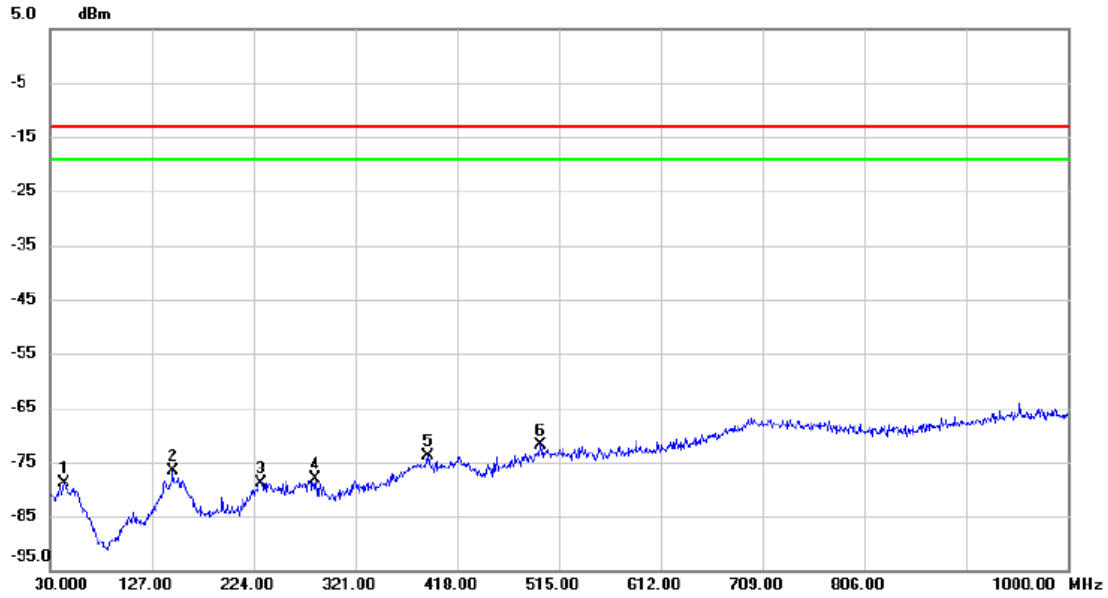
Test Mode: WCDMA Band 2\_TX CH9538



No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1		54.250	-82.17	2.40	-79.77	-13.00	-66.77	peak	
2		105.660	-81.63	-1.16	-82.79	-13.00	-69.79	peak	
3		153.190	-81.21	3.16	-78.05	-13.00	-65.05	peak	
4		279.290	-80.33	2.62	-77.71	-13.00	-64.71	peak	
5		411.210	-80.35	4.41	-75.94	-13.00	-62.94	peak	
6	*	509.180	-80.39	7.53	-72.86	-13.00	-59.86	peak	

Test Mode: WCDMA Band 2\_TX CH9538

Horizontal

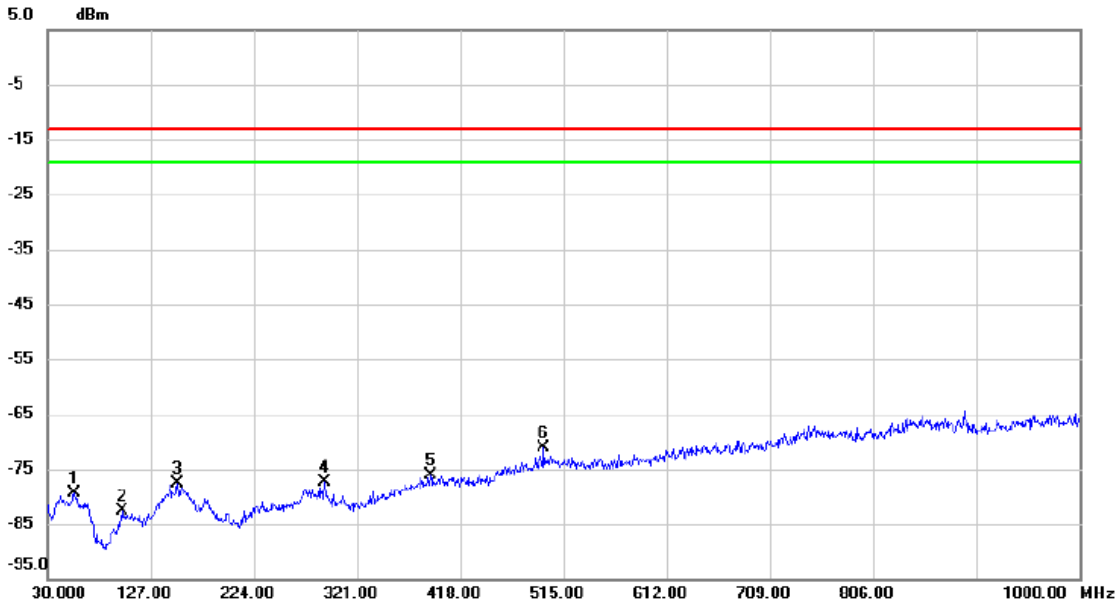


No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1		43.580	-81.60	2.78	-78.82	-13.00	-65.82	peak	
2		147.370	-80.53	3.95	-76.58	-13.00	-63.58	peak	
3		230.790	-81.96	3.18	-78.78	-13.00	-65.78	peak	
4		282.200	-80.43	2.30	-78.13	-13.00	-65.13	peak	
5		389.870	-79.81	5.99	-73.82	-13.00	-60.82	peak	
6	*	497.540	-79.63	7.88	-71.75	-13.00	-58.75	peak	



Test Mode: WCDMA Band 2\_HSDPA\_TX CH9538

Vertical



No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1		55.220	-81.92	2.61	-79.31	-13.00	-66.31	peak	
2		99.840	-81.19	-1.45	-82.64	-13.00	-69.64	peak	
3		152.220	-80.89	3.16	-77.73	-13.00	-64.73	peak	
4		290.930	-79.55	2.10	-77.45	-13.00	-64.45	peak	
5		389.870	-80.10	3.97	-76.13	-13.00	-63.13	peak	
6	*	496.570	-78.53	7.35	-71.18	-13.00	-58.18	peak	

Test Mode: WCDMA Band 2\_HSDPA\_TX CH9538

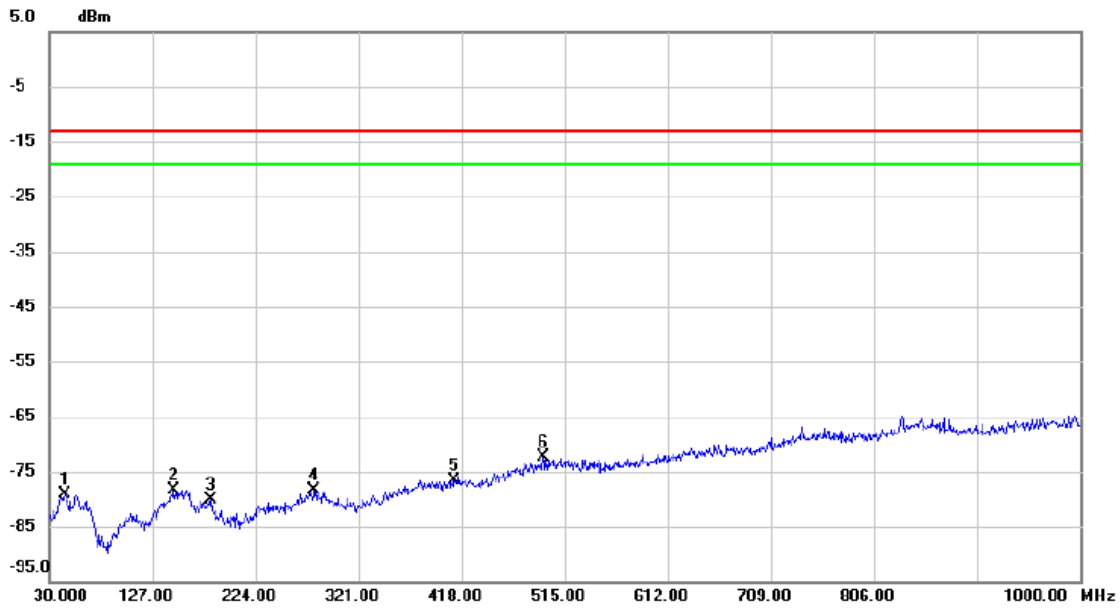
### Horizontal



No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1		55.220	-80.80	2.53	-78.27	-13.00	-65.27	peak	
2		151.250	-82.17	4.05	-78.12	-13.00	-65.12	peak	
3		230.790	-80.98	3.18	-77.80	-13.00	-64.80	peak	
4		384.050	-80.29	6.06	-74.23	-13.00	-61.23	peak	
5		498.510	-79.57	7.95	-71.62	-13.00	-58.62	peak	
6	*	706.090	-80.68	13.83	-66.85	-13.00	-53.85	peak	

Test Mode: WCDMA Band 2\_HSUPA\_TX CH9538

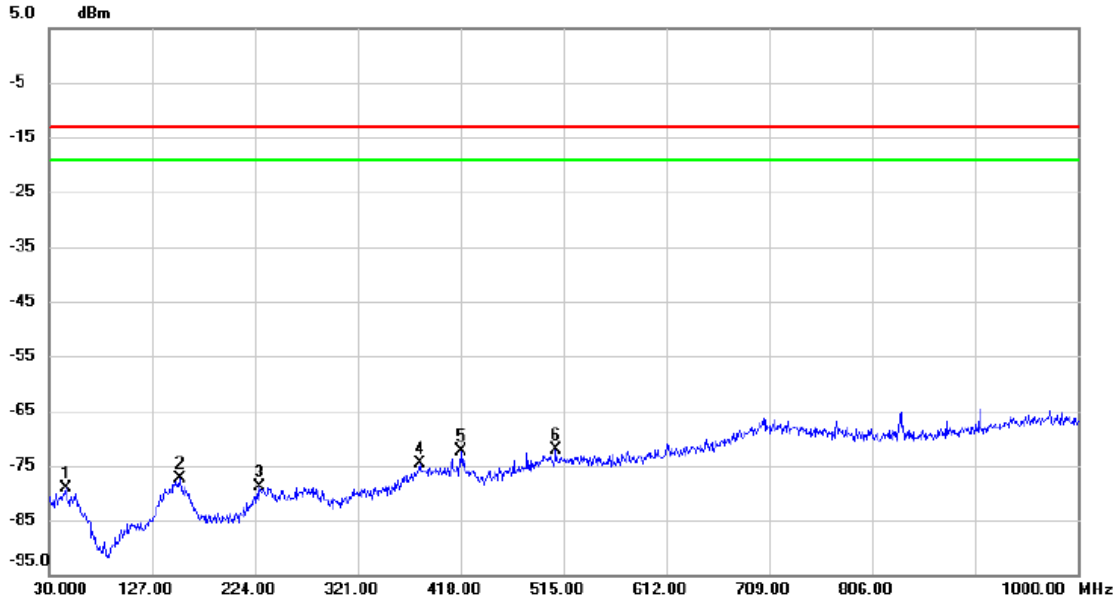
Vertical



No. Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1	44.550	-81.13	1.96	-79.17	-13.00	-66.17	peak	
2	147.370	-81.17	2.89	-78.28	-13.00	-65.28	peak	
3	182.290	-80.41	0.18	-80.23	-13.00	-67.23	peak	
4	279.290	-81.10	2.62	-78.48	-13.00	-65.48	peak	
5	411.210	-81.05	4.41	-76.64	-13.00	-63.64	peak	
6 *	494.630	-79.49	7.24	-72.25	-13.00	-59.25	peak	

Test Mode: WCDMA Band 2\_HSUPA\_TX CH9538

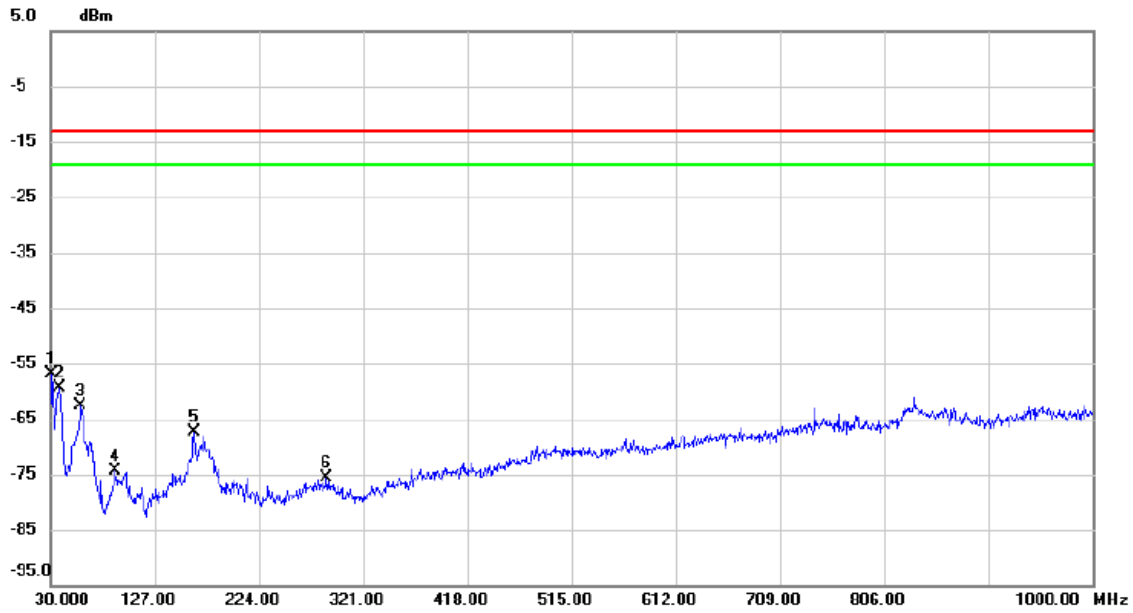
### Horizontal



No. Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measurement dBm	Limit dBm	Margin dB	Detector	Comment
1	45.520	-82.02	2.87	-79.15	-13.00	-66.15	peak	
2	153.190	-81.23	3.76	-77.47	-13.00	-64.47	peak	
3	228.850	-81.85	2.94	-78.91	-13.00	-65.91	peak	
4	379.200	-80.66	6.00	-74.66	-13.00	-61.66	peak	
5	418.970	-79.17	6.83	-72.34	-13.00	-59.34	peak	
6 *	508.210	-80.27	8.07	-72.20	-13.00	-59.20	peak	

Test Mode: LTE Band 2\_TX CH19193\_1.4M

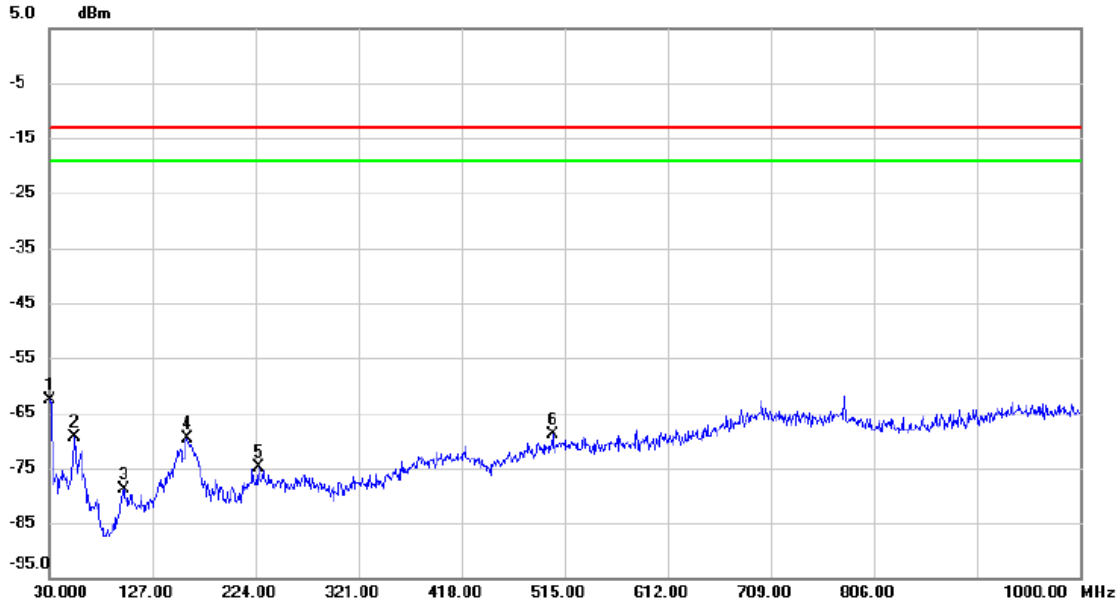
Vertical



No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1	*	30.970	-56.46	-0.49	-56.95	-13.00	-43.95	peak	
2		38.730	-60.60	1.21	-59.39	-13.00	-46.39	peak	
3		58.130	-64.04	1.31	-62.73	-13.00	-49.73	peak	
4		90.140	-70.14	-4.18	-74.32	-13.00	-61.32	peak	
5		163.860	-69.33	1.91	-67.42	-13.00	-54.42	peak	
6		287.050	-78.05	2.35	-75.70	-13.00	-62.70	peak	

Test Mode: LTE Band 2\_TX CH19193\_1.4M

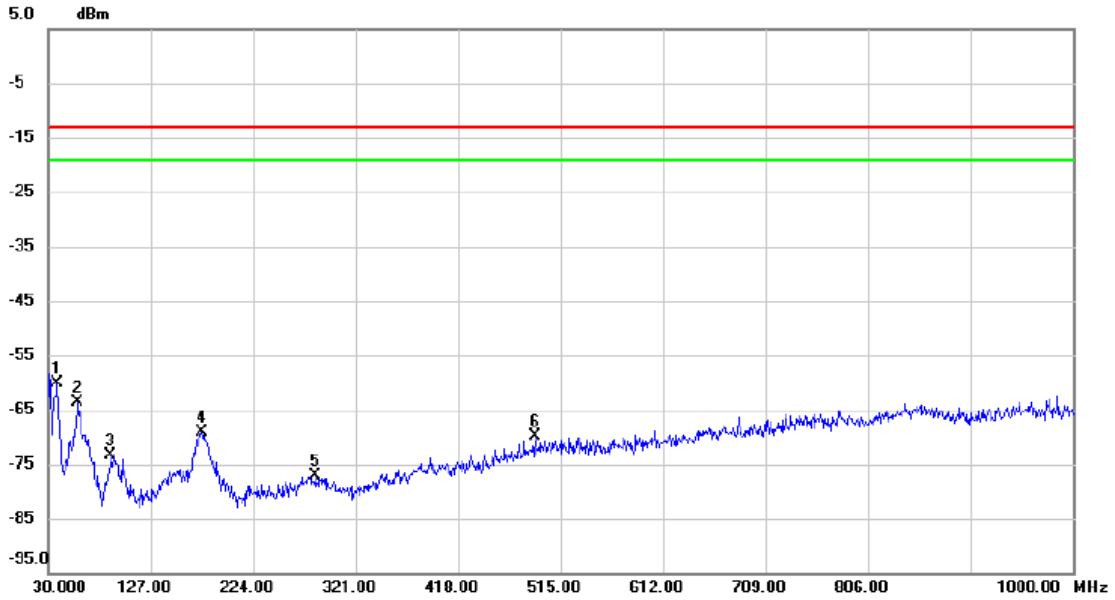
Horizontal



No. Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measurement dBm	Limit dBm	Margin dB	Detector	Comment
1 *	30.970	-64.11	1.57	-62.54	-13.00	-49.54	peak	
2	54.250	-71.82	2.47	-69.35	-13.00	-56.35	peak	
3	99.840	-75.08	-3.86	-78.94	-13.00	-65.94	peak	
4	159.980	-72.46	2.75	-69.71	-13.00	-56.71	peak	
5	226.910	-77.38	2.41	-74.97	-13.00	-61.97	peak	
6	503.360	-77.02	8.06	-68.96	-13.00	-55.96	peak	

Test Mode: LTE Band 2\_TX CH19175\_5M

Vertical



No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1	*	38.730	-61.21	1.21	-60.00	-13.00	-47.00	peak	
2		58.130	-65.03	1.31	-63.72	-13.00	-50.72	peak	
3		89.170	-68.71	-4.58	-73.29	-13.00	-60.29	peak	
4		175.500	-69.43	0.37	-69.06	-13.00	-56.06	peak	
5		283.170	-79.59	2.51	-77.08	-13.00	-64.08	peak	
6		490.750	-76.89	7.01	-69.88	-13.00	-56.88	peak	

Test Mode: LTE Band 2\_TX CH19175\_5M

### Horizontal

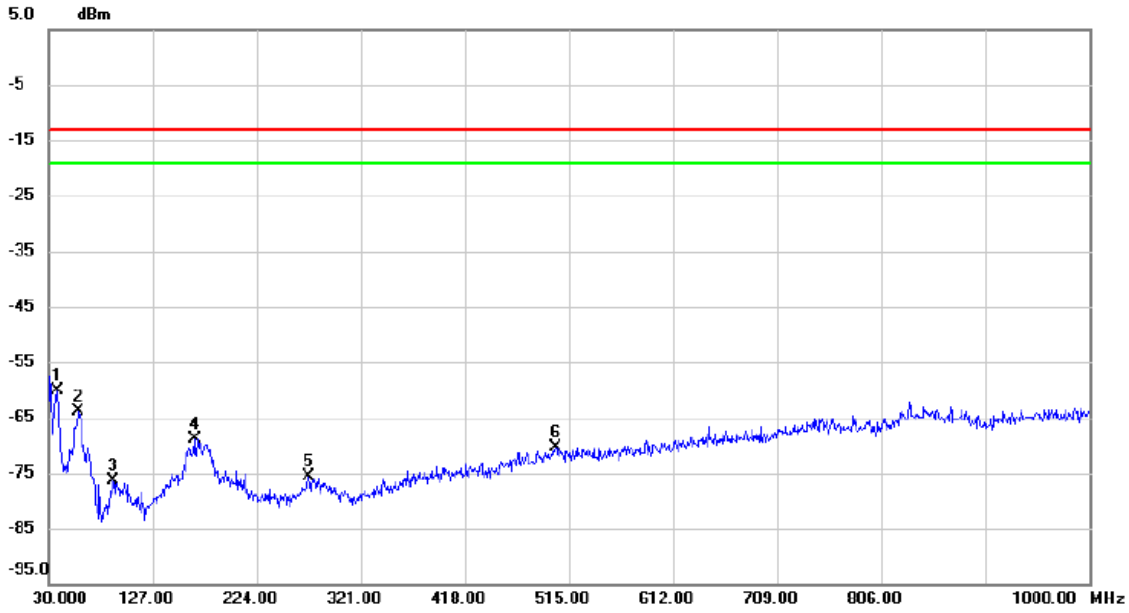


No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1	*	53.280	-71.87	2.19	-69.68	-13.00	-56.68	peak	
2		102.750	-74.44	-3.44	-77.88	-13.00	-64.88	peak	
3		158.040	-77.82	3.04	-74.78	-13.00	-61.78	peak	
4		235.640	-78.35	2.77	-75.58	-13.00	-62.58	peak	
5		347.190	-78.62	2.96	-75.66	-13.00	-62.66	peak	
6		426.730	-76.54	6.12	-70.42	-13.00	-57.42	peak	



Test Mode: LTE Band 2\_TX CH19100\_20M

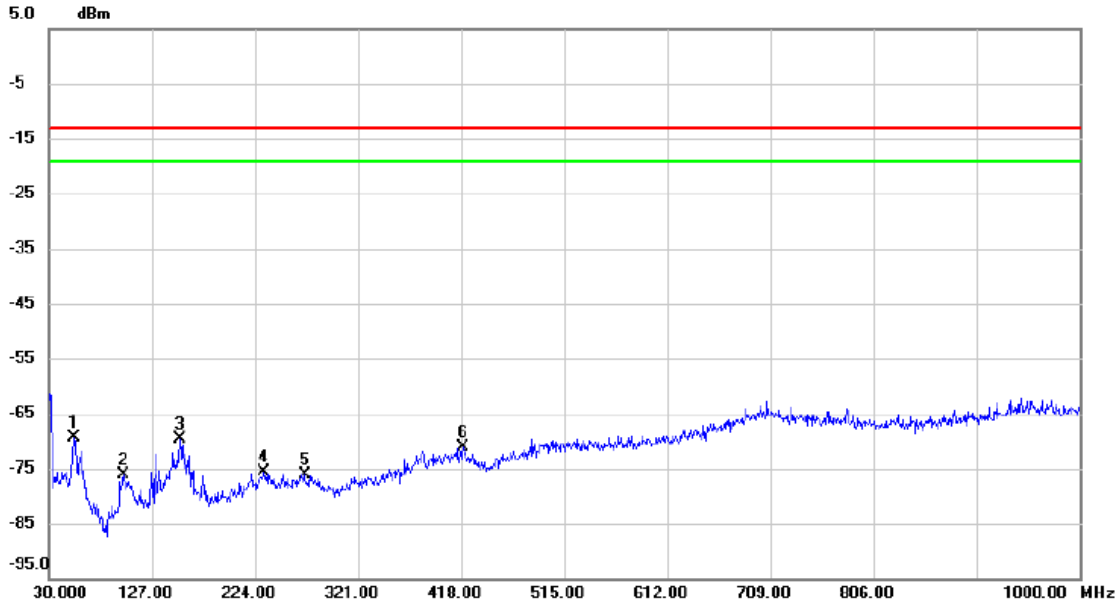
Vertical



No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1	*	37.760	-60.73	0.51	-60.22	-13.00	-47.22	peak	
2		58.130	-65.11	1.31	-63.80	-13.00	-50.80	peak	
3		90.140	-72.17	-4.18	-76.35	-13.00	-63.35	peak	
4		165.800	-70.04	1.27	-68.77	-13.00	-55.77	peak	
5		272.500	-77.99	2.30	-75.69	-13.00	-62.69	peak	
6		502.390	-77.94	7.55	-70.39	-13.00	-57.39	peak	

Test Mode: LTE Band 2\_TX CH19100\_20M

Horizontal

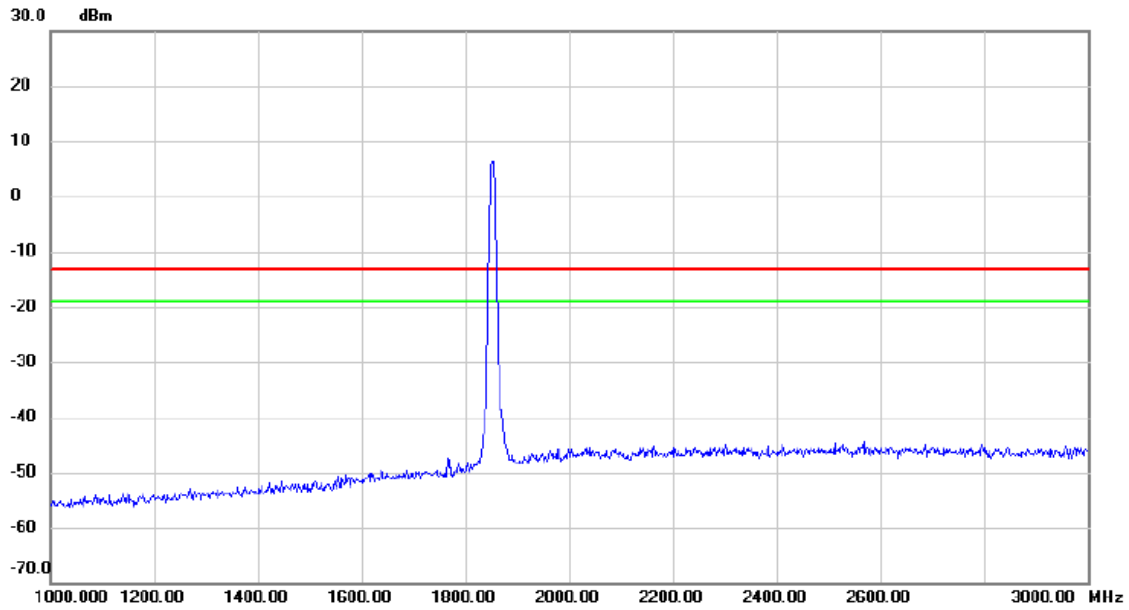


No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1	*	53.280	-71.66	2.19	-69.47	-13.00	-56.47	peak	
2		99.840	-72.26	-3.86	-76.12	-13.00	-63.12	peak	
3		153.190	-73.27	3.76	-69.51	-13.00	-56.51	peak	
4		232.730	-78.67	3.02	-75.65	-13.00	-62.65	peak	
5		270.560	-79.09	2.99	-76.10	-13.00	-63.10	peak	
6		419.940	-78.08	6.88	-71.20	-13.00	-58.20	peak	

## APPENDIX F - RADIATED EMISSION (ABOVE 1GHZ)

Test Mode: WCDMA Band 2\_TX CH9538

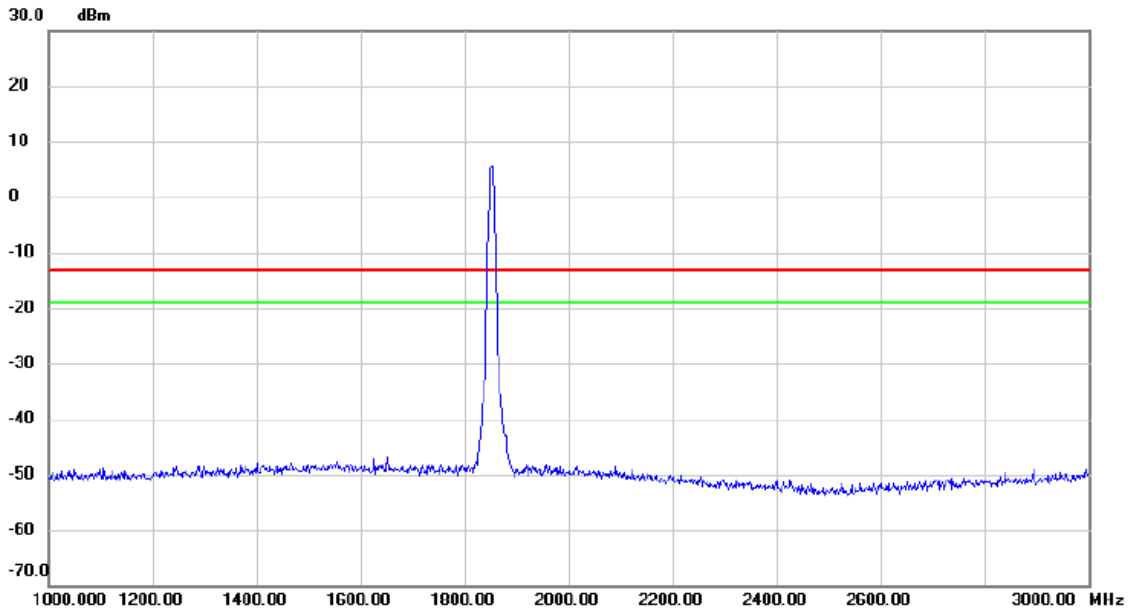
**Vertical**



No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
		1880.00	5.00	0.00	5.00	-15.00	-20.00		

Test Mode: WCDMA Band 2\_TX CH9538

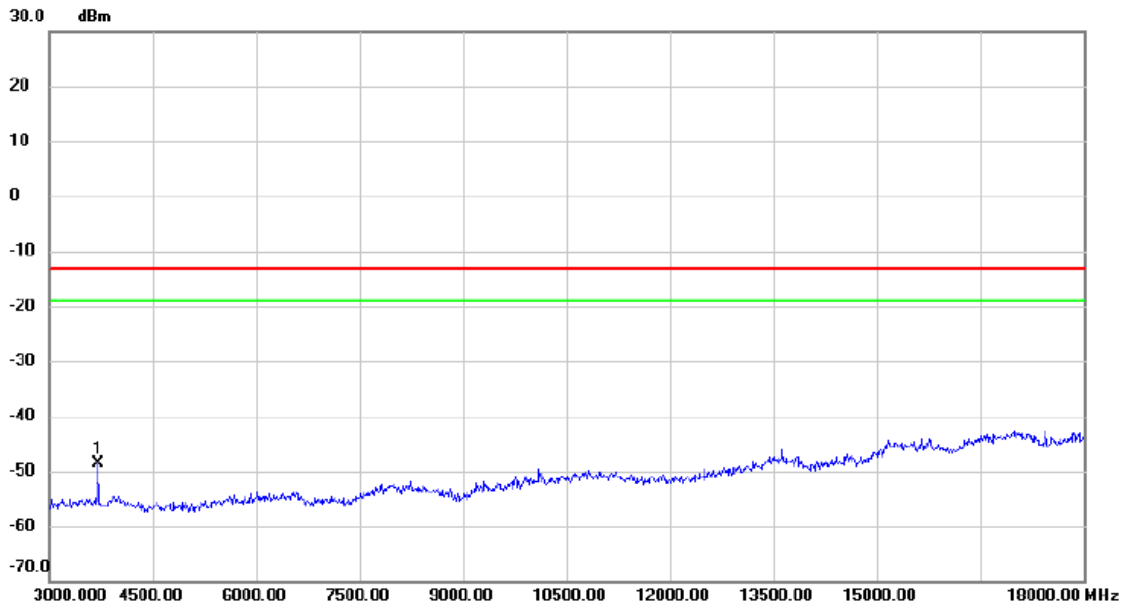
**Horizontal**



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
		MHz	dBm	dB	dBm	dBm	dB		
		1880.000	5.0		5.0	-15.0	20.0		

Test Mode: WCDMA Band 2\_TX CH9538

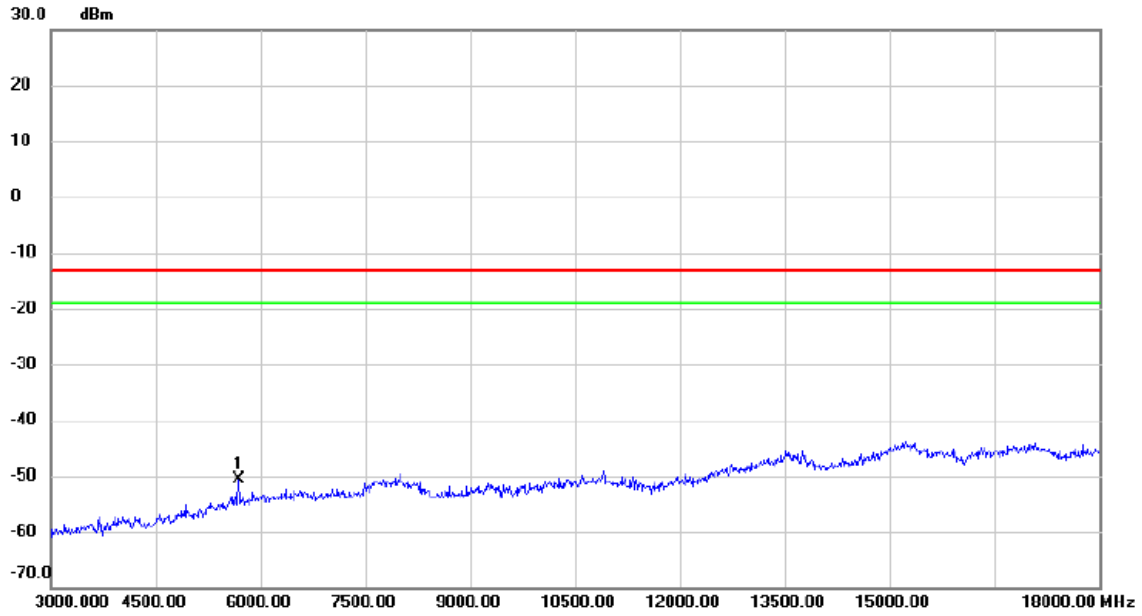
Vertical



No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1	*	3705.000	-63.16	14.46	-48.70	-13.00	-35.70	peak	

Test Mode: WCDMA Band 2\_TX CH9538

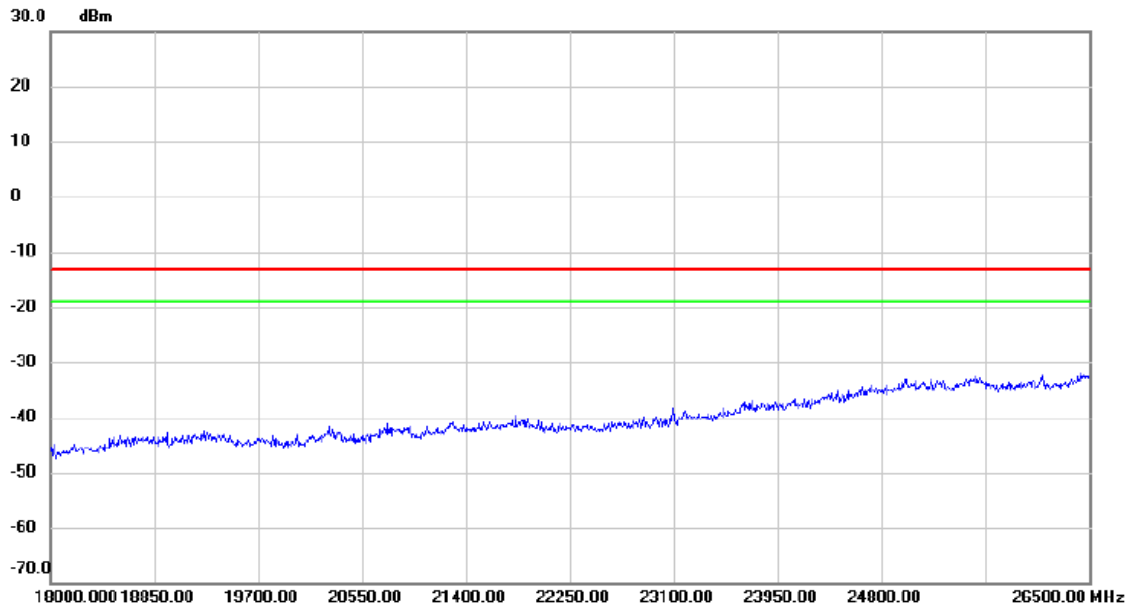
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1	*	5685.000	-67.88	17.19	-50.69	-13.00	-37.69	peak	

Test Mode: WCDMA Band 2\_TX CH9538

Vertical

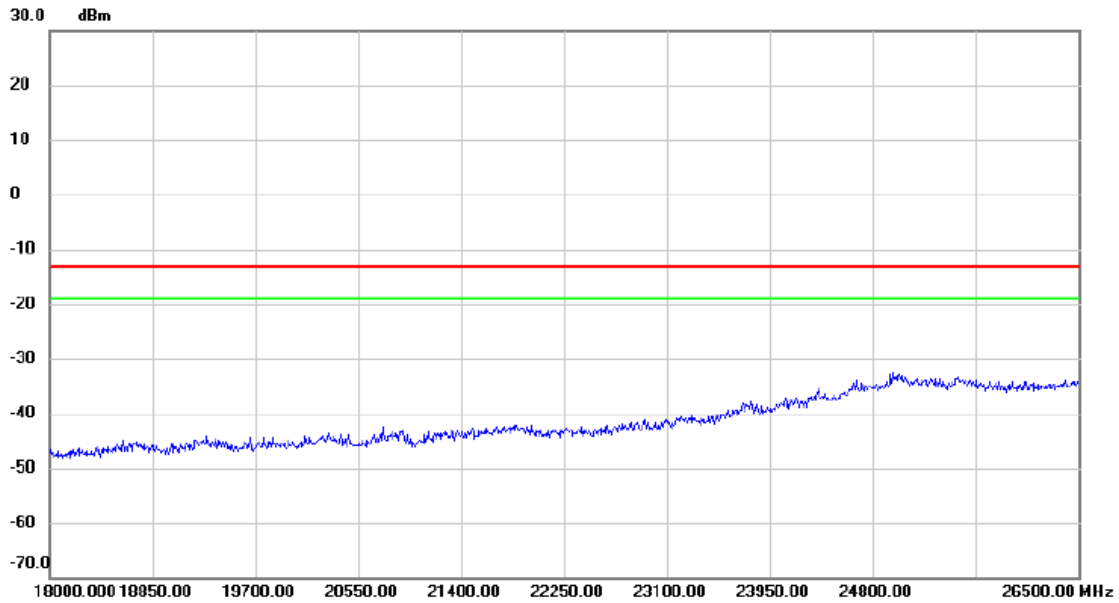


No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
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Test Mode: WCDMA Band 2\_TX CH9538

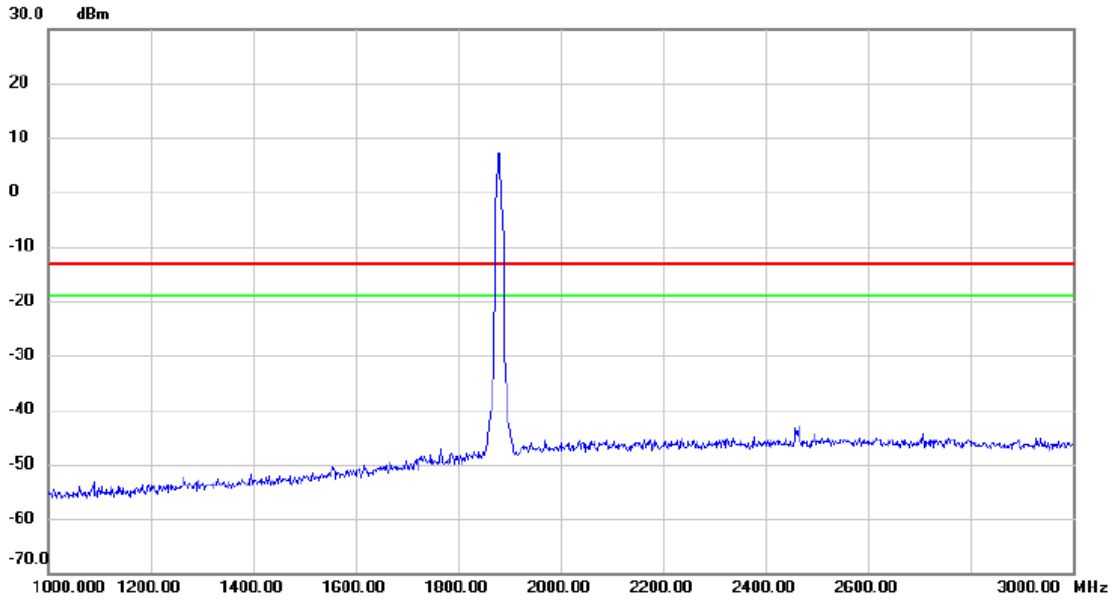
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
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Test Mode: WCDMA Band 2\_HSDPA\_TX CH9538

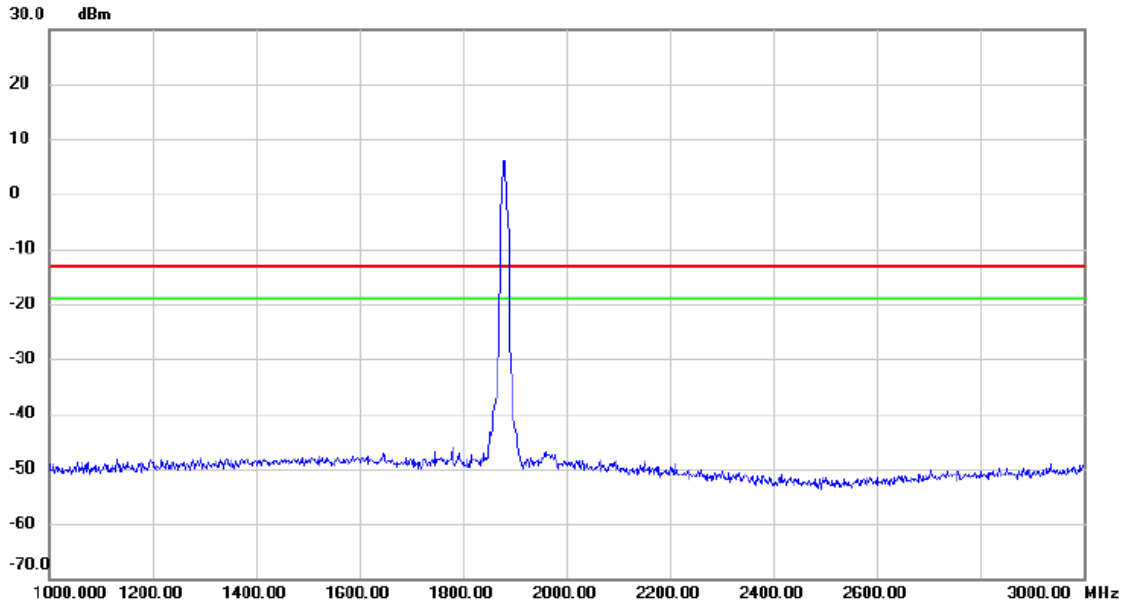
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
		MHz	dBm	dB	dBm	dBm	dB		
		1880.00	8.00	0.00	8.00	-15.00	23.00		

Test Mode: WCDMA Band 2\_HSDPA\_TX CH9538

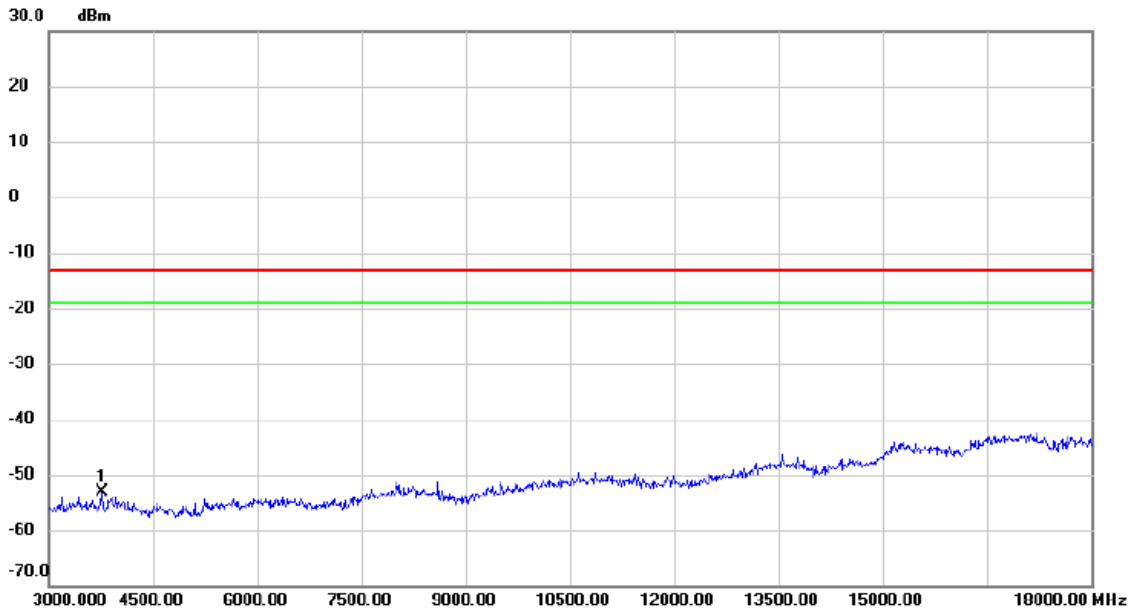
**Horizontal**



No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment

Test Mode: WCDMA Band 2\_HSDPA\_TX CH9538

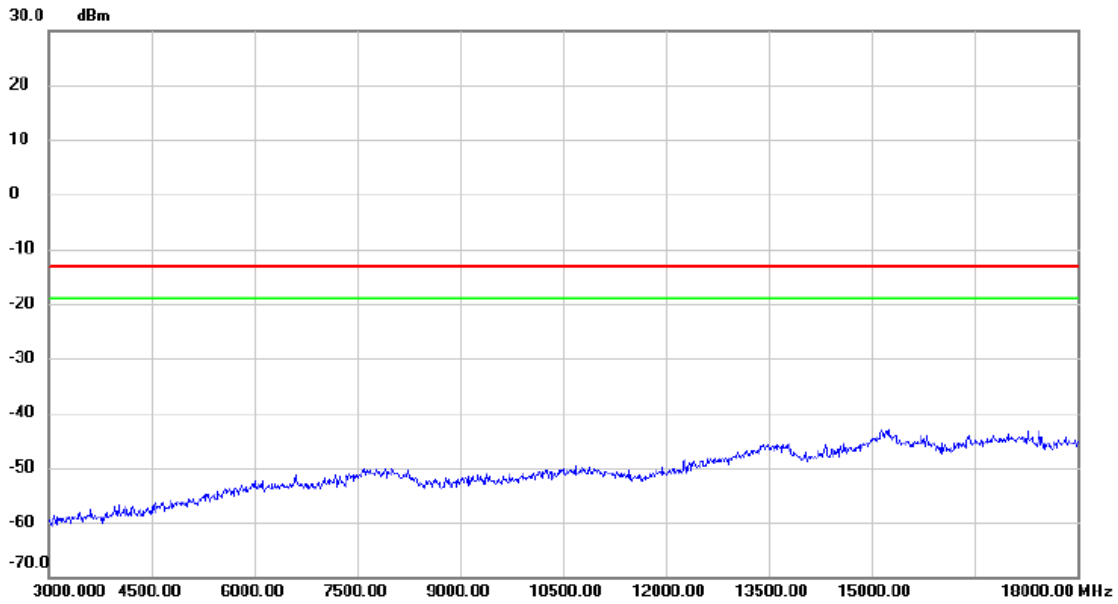
Vertical



No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1	*	3765.000	-67.75	14.51	-53.24	-13.00	-40.24	peak	

Test Mode: WCDMA Band 2\_HSDPA\_TX CH9538

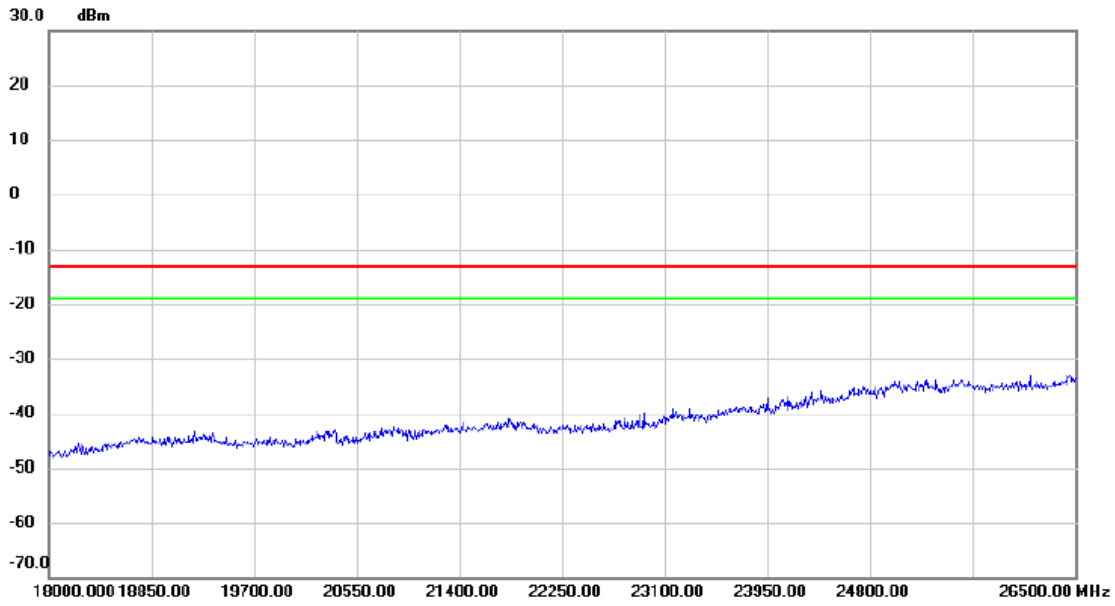
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
		MHz	dBm	dB	dBm	dBm	dB		

Test Mode: WCDMA Band 2\_HSDPA\_TX CH9538

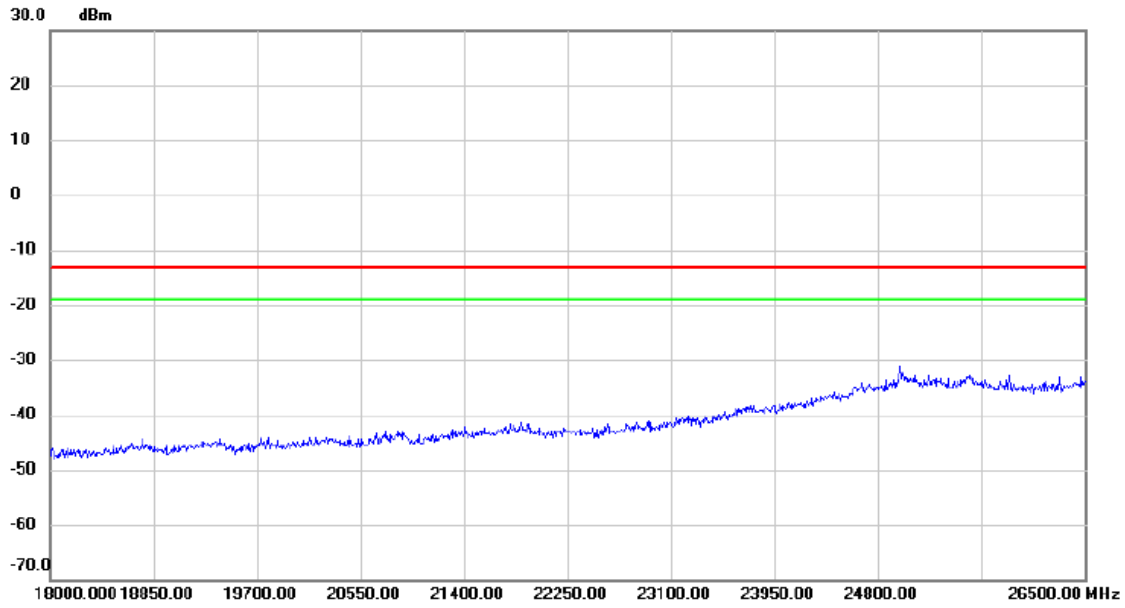
Vertical



No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
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Test Mode: WCDMA Band 2\_HSDPA\_TX CH9538

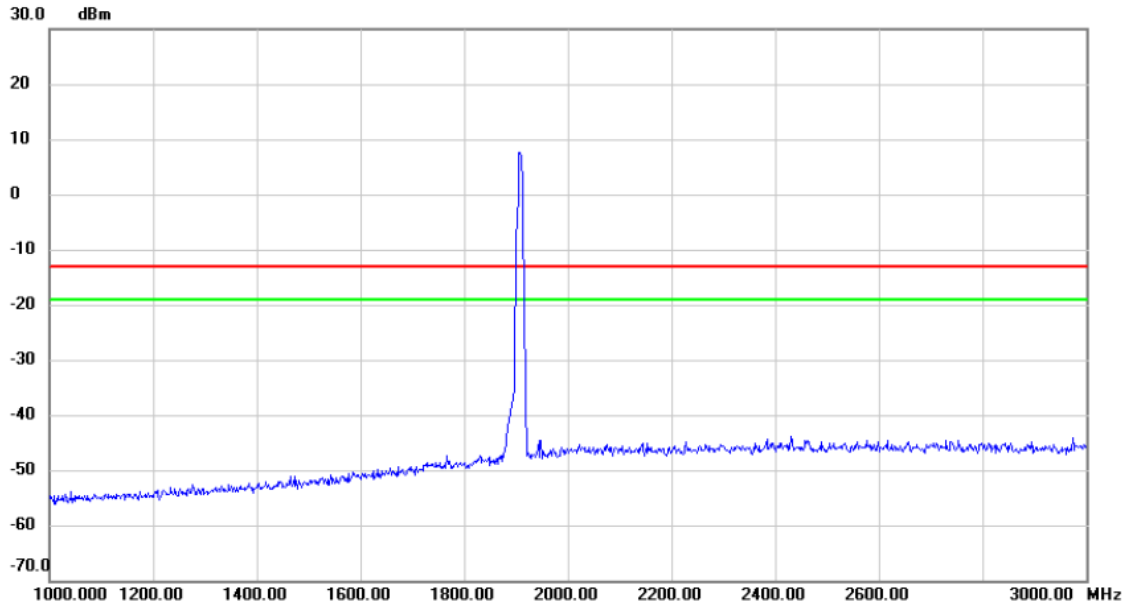
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
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Test Mode: WCDMA Band 2\_HSUPA\_TX CH9538

Vertical

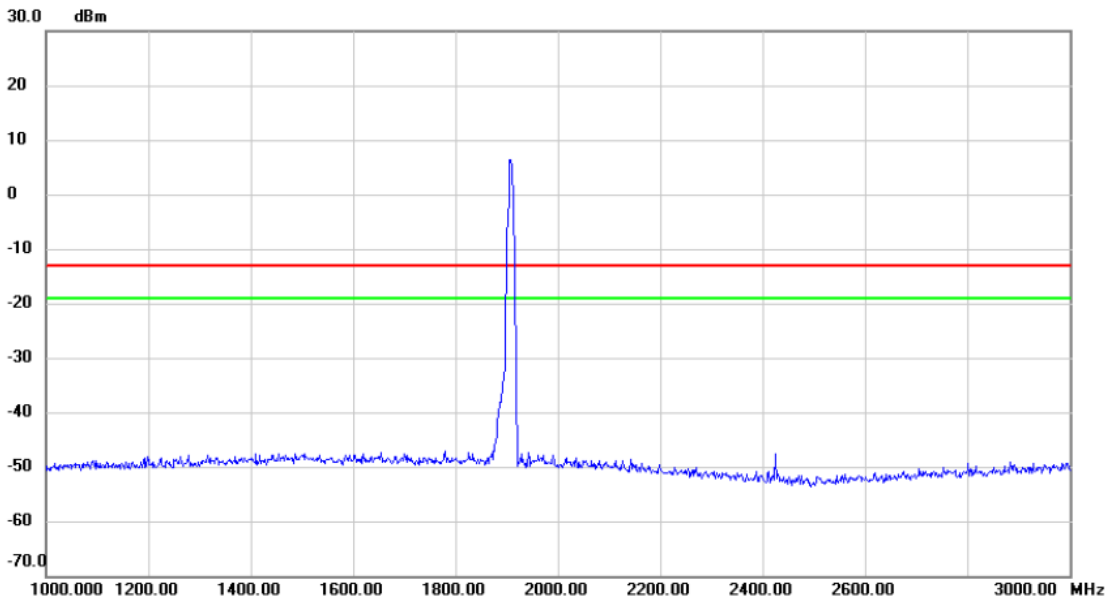


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
		MHz	dBm	dB	dBm	dBm	dB		
		1930.00	8.00	0.00	8.00	-12.00	-20.00		



Test Mode: WCDMA Band 2\_HSUPA\_TX CH9538

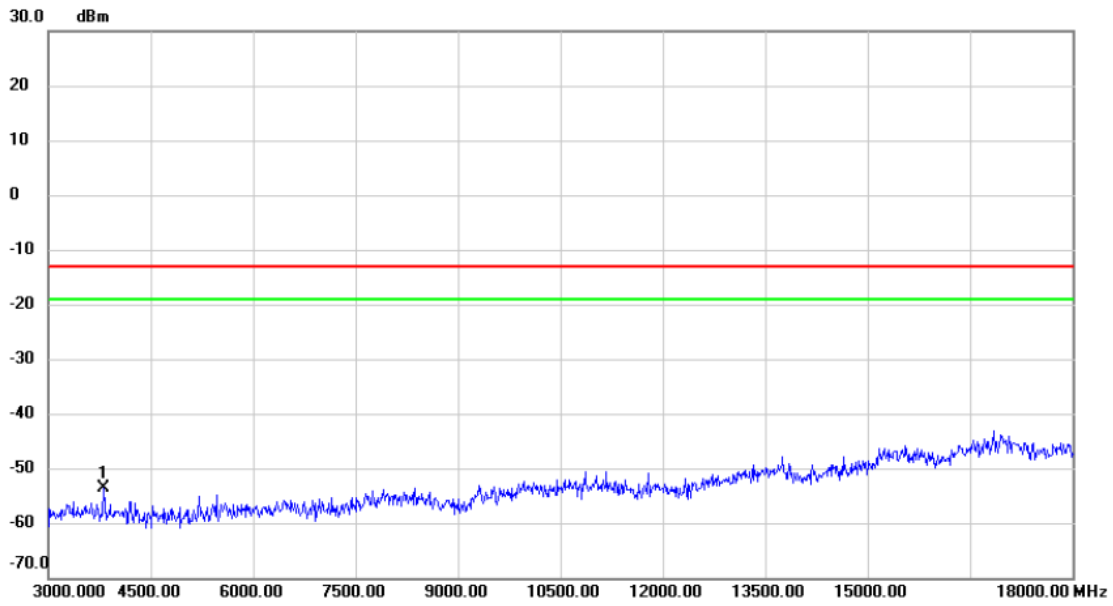
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
		MHz	dBm	dB	dBm	dBm	dB		
		1930.00	5.0	0.0	5.0	-15.0	20.0		

Test Mode: WCDMA Band 2\_HSUPA\_TX CH9538

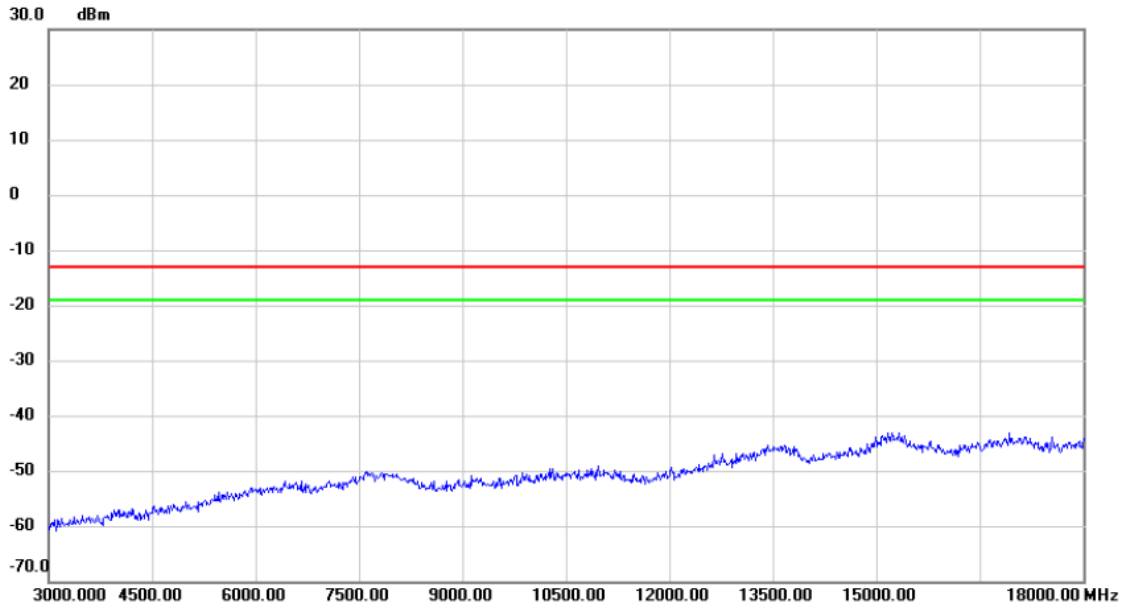
Vertical



No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1	*	3810.000	-68.14	14.56	-53.58	-13.00	-40.58	peak	

Test Mode: WCDMA Band 2\_HSUPA\_TX CH9538

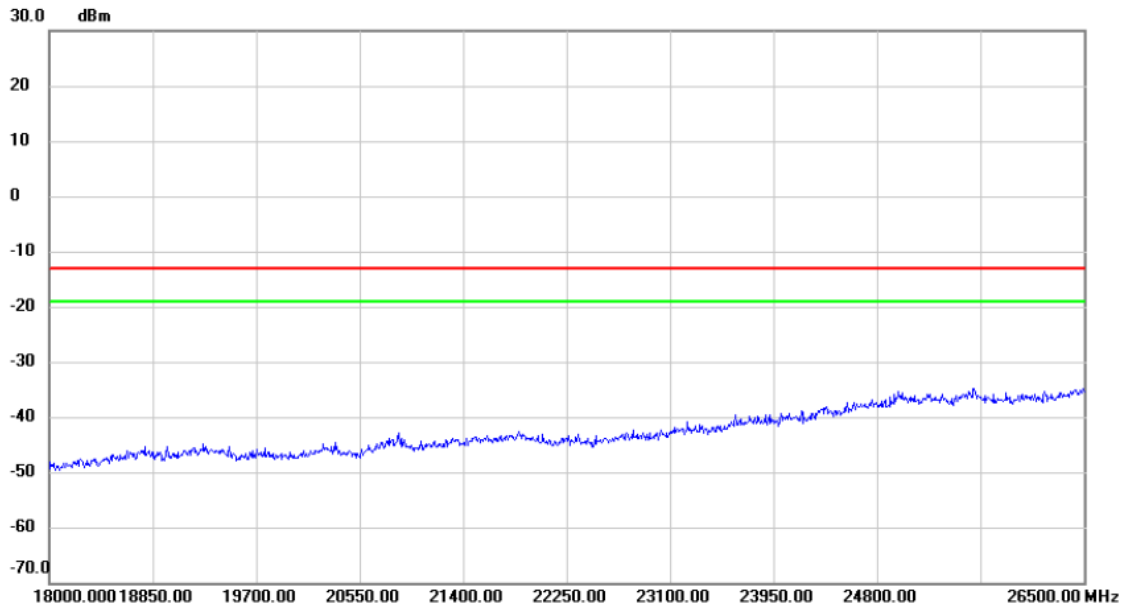
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
		MHz	dBm	dB	dBm	dBm	dB		

Test Mode: WCDMA Band 2\_HSUPA\_TX CH9538

Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin	Detector	Comment
		MHz	dBm	dB	dBm	dBm	dB		