

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

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Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

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REPORT ISSUED HISTORY

Issued No.	Description	Issued Date
BTL-FCCP-2-1804C039	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 22 Subpart H
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-2-1804C039) 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 result included in this report is only for the WCDMA Band 5 and LTE Band 5 part.

2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

FCC Part 22 Subpart H& Part 2			
Standard(s) Section	Test Item	Judgment	Tested By
2.1046 22.913(a)	Radiated power	PASS	Paul Li
2.1046 22.913(a)	Conducted Output Power	PASS	Paul Li
2.1049(h) 22.917(a)	Occupied Bandwidth	PASS	Paul Li
2.1051 22.917(a)	Conducted Spurious Emissions	PASS	Paul Li
2.1053 22.917(a)	Radiated Spurious Emissions	PASS	Paul Li
22.917(a)	Band Edge Measurements	PASS	Paul Li
-	Peak To Average Ratio	PASS	Paul Li
2.1055 22.355	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 %, $U=2 \times U_c(y)$.

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 5	826.4 ~ 846.6 MHz		
	LTE 5 (Channel Bandwidth: 1.4MHz)	824.7 ~ 848.3 MHz		
	LTE 5 (Channel Bandwidth: 3MHz)	825.5 ~ 847.5 MHz		
	LTE 5 (Channel Bandwidth: 5MHz)	826.5 ~ 846.5 MHz		
	LTE 5 (Channel Bandwidth: 10MHz)	829.0 ~ 844.0 MHz		
Max. ERP Power	WCDMA	BPSK	20.72	dBm
	WCDMA_HSDPA	16QAM	20.51	dBm
	WCDMA_HSUPA	16QAM	19.98	dBm
	LTE 5 (Channel Bandwidth: 1.4MHz)	QPSK	20.44	dBm
		16QAM	19.60	dBm
	LTE 5 (Channel Bandwidth: 3MHz)	QPSK	20.86	dBm
		16QAM	19.78	dBm
	LTE 5 (Channel Bandwidth: 5MHz)	QPSK	21.35	dBm
		16QAM	20.59	dBm
	LTE 5 (Channel Bandwidth: 10MHz)	QPSK	21.14	dBm
16QAM		20.14	dBm	
Antenna Type	Fixed Internal Antenna			
Antenna Gain	-0.1 dBi(WCDMA BAND 5),-0.1 dBi(LTE BAND 5)			
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 HW-050100B01 HW-050100B01 HW-050100B01 HW-050100U01 HW-050100U01 HW-050100U01 HW-050100A01 HW-050100A01 HW-050100A01
	Shenzhen Huntkey Electric Co., Ltd.	
	Dongguan da hong electronics co. LTD.	

3.2 DESCRIPTION OF TEST MODES AND TEST CONDITION

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

WCDMA MODE			
Test Item	Available Channel	Tested Channel	Mode
ERP	4132 to 4233	4132, 4182, 4233	WCDMA, HSDPA, HSUPA
Conducted Output Power	4132 to 4233	4132, 4182, 4233	WCDMA, HSDPA, HSUPA
Conducuted Emission	4132 to 4233	4233	WCDMA, HSDPA, HSUPA
Radiated Emission	4132 to 4233	4233	WCDMA, HSDPA, HSUPA
Band Edge	4132 to 4233	4132, 4233	WCDMA, HSDPA, HSUPA
Peak to Average Ratio	4132 to 4233	4132, 4182, 4233	WCDMA, HSDPA, HSUPA
Frequency Stability	4132 to 4233	4233	WCDMA, HSDPA, HSUPA

Note: This device was tested under all bandwidths, WCDMA, HSDPA and HSUPA. The worst case was found in **WCDMA CH 4233**.

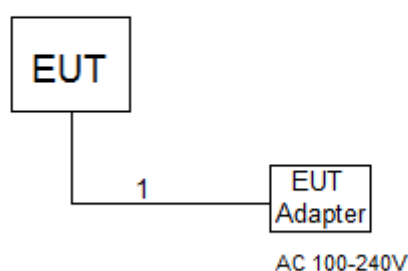
LTE BAND 5					
Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
ERP	20407 to 20643	20407, 20525, 20643	1.4MHz	QPSK, 16QAM	1RB/3RB/6RB
	20415 to 20635	20415, 20525, 20635	3MHz	QPSK, 16QAM	1RB/8RB/15RB
	20425 to 20625	20425, 20525, 20625	5MHz	QPSK, 16QAM	1RB/12RB/25RB
	20450 to 20600	20450, 20525, 20600	10MHz	QPSK, 16QAM	1RB/25RB/50RB
Occupied Bandwidth	20407 to 20643	20407, 20525, 20643	1.4MHz	QPSK, 16QAM	6 RB
	20415 to 20635	20415, 20525, 20635	3MHz	QPSK, 16QAM	15 RB
	20425 to 20625	20425, 20525, 20625	5MHz	QPSK, 16QAM	25 RB
	20450 to 20600	20450, 20525, 20600	10MHz	QPSK, 16QAM	50 RB
Conducted Emission	20407 to 20643	20643	1.4MHz	QPSK	1 RB
	20415 to 20635	20635	3MHz	QPSK	1 RB
	20425 to 20625	20625	5MHz	QPSK	1 RB
	20450 to 20600	20600	10MHz	QPSK	1 RB
Radiated Emission	20407 to 20643	20643	1.4MHz	QPSK	1 RB
	20425 to 20625	20625	5MHz	QPSK	1 RB
	20450 to 20600	20600	10MHz	QPSK	1 RB
Band Edge	20407 to 20643	20407	1.4MHz	QPSK	1 RB
					6 RB
		20643	1.4MHz	QPSK	1 RB
					6 RB
	20415 to 20635	20415	3MHz	QPSK	1 RB
					15 RB
		20635	3MHz	QPSK	1 RB
					15 RB
	20425 to 20625	20425	5MHz	QPSK	1 RB
					25 RB
		20625	5MHz	QPSK	1 RB
					25 RB
	20450 to 20600	20450	10MHz	QPSK	1 RB
					50 RB
		20600	10MHz	QPSK	1 RB
					50 RB
Peak To Average Ratio	20407 to 20643	20407, 20525, 20643	1.4MHz	QPSK, 16QAM	1 RB
	20415 to 20635	20415, 20525, 20635	3MHz	QPSK, 16QAM	1 RB
	20425 to 20625	20425, 20525, 20625	5MHz	QPSK, 16QAM	1 RB
	20450 to 20600	20450, 20525, 20600	10MHz	QPSK, 16QAM	1 RB
Frequency Stability	20407 to 20643	20525	1.4MHz	QPSK	1 RB
	20415 to 20635	20525	3MHz	QPSK	1 RB
	20425 to 20625	20525	5MHz	QPSK	1 RB
	20450 to 20600	20525	10MHz	QPSK	1 RB

Note: This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK 1RB modulation.

EUT TEST CONDITIONS:

Test Item	Environmental Conditions	Test Voltage
ERP	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 7 watts e.r.p.

4.1.2 TEST PROCEDURE

EIRP/ERP:

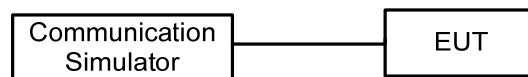
1. EIRP= Conducted Power +Antenan gain
ERP power=EIPR power-2.15dBi.

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

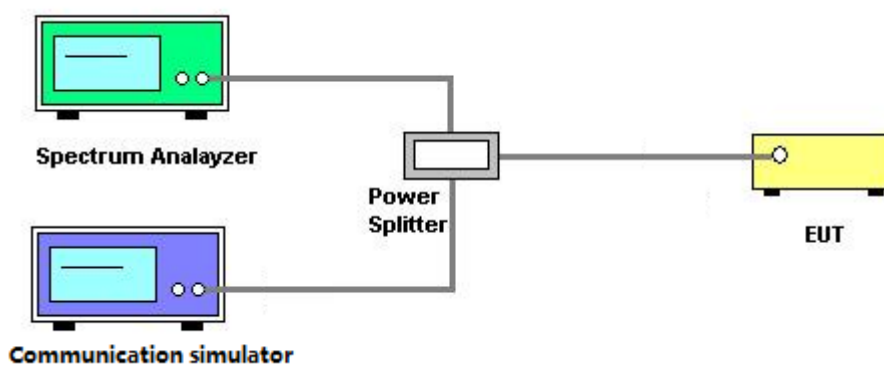
Please refer to the Appendix A.

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

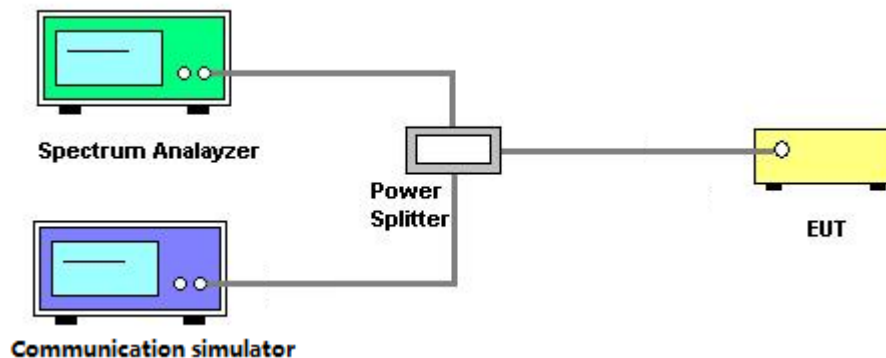
4.3.1 LIMIT

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 -13dBm.

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 $RBW \geq 1\%$ 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 $43 + 10 \log(P)$ dB below the transmitter power P(Watts)
 $= P(W) - [43 + 10 \log(P)](dB)$
 $= [30 + 10 \log(P)](dBm) - [43 + 10 \log(P)](dB)$
 $= -13dBm$

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

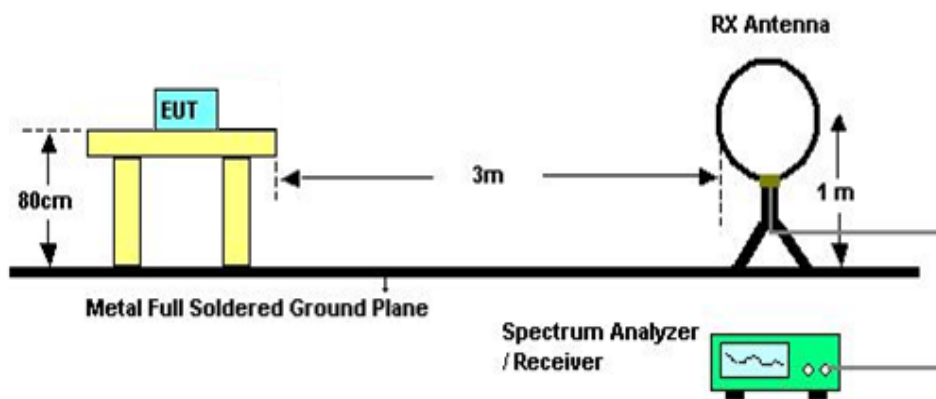
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB. The emission limit equal to -13dBm.

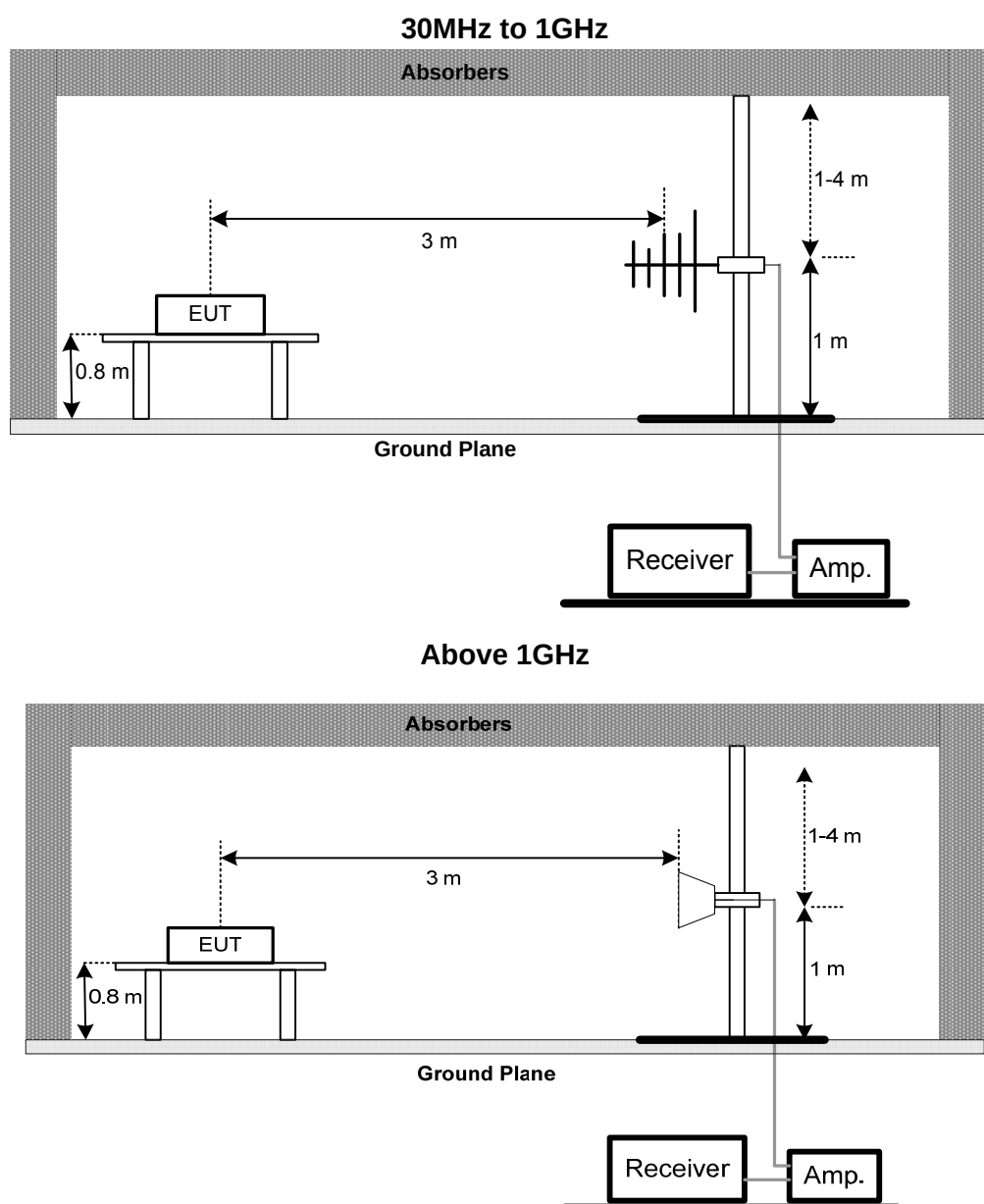
4.4.2 TEST PROCEDURES

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. EIRP = Output power level of S.G – TX cable loss + 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, E.R.P power = E.I.P.R power - 2.15dBi.
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 TEST DEVIATION

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

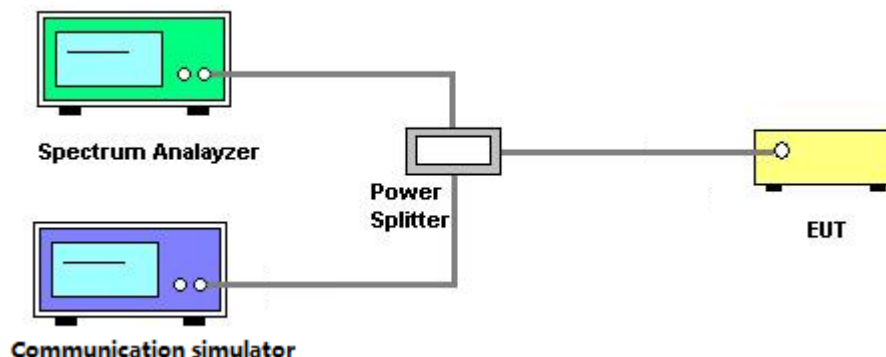
4.5.1 LIMIT

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 G.

4.6 PEAK TO AVERAGE RATIO MEASUREMENT

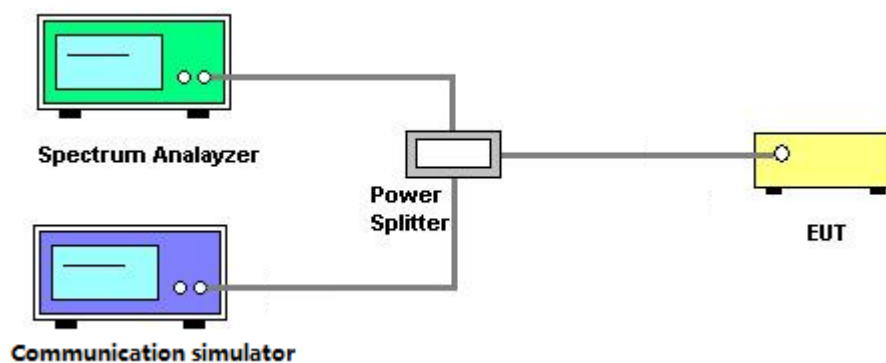
4.6.1 LIMIT

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 H.

4.7 FREQUENCY STABILITY MEASUREMENT

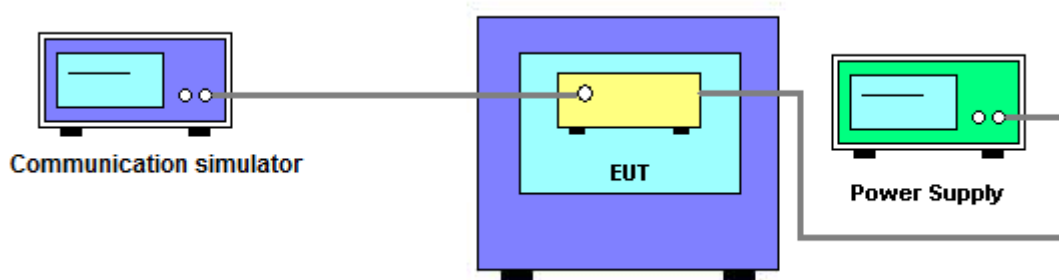
4.7.1 LIMIT

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 I.

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-120 00(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 V(dBm)		
	Tx Channel	4132CH	4182CH	4233CH
	Rx Channel	4357CH	4407CH	4458CH
	Frequency	826.4MHz	836.4MHz	846.6MHz
BPSK	RMC 12.2K	22.91	22.94	22.96
	RMC 64K	22.89	22.92	22.97
	RMC 144K	22.91	22.8	22.91
	RMC 384K	22.92	22.91	22.88
16QAM	HSDPA Subtest-1	22.76	22.67	22.69
	HSDPA Subtest-2	21.93	21.87	21.89
	HSDPA Subtest-3	21.4	21.33	21.31
	HSDPA Subtest-4	21.4	21.27	21.3
16QAM	HSUPA Subtest-1	21.55	21.7	21.67
	HSUPA Subtest-2	18.92	18.78	18.57
	HSUPA Subtest-3	20.38	20.46	20.47
	HSUPA Subtest-4	19.58	19.56	19.32
	HSUPA Subtest-5	22.23	22.06	22.13

LTE Band / BW	Modulation	RB Siset	RB Offset	Low CH	Mid CH	High CH
				20407 CH	20525 CH	20643 CH
				824.7 MHz	836.5 MHz	848.3 MHz
				LTE Band 5 (dBm)		
5 / 1.4M	QPSK	1	0	22.07	22.16	22.57
		1	2	22.15	22.33	22.68
		1	5	22.18	22.27	22.69
		3	0	22.03	22.29	22.48
		3	1	22.09	22.33	22.56
		3	3	22.12	22.32	22.59
		6	0	21.08	21.27	21.52
	16QAM	1	0	21.06	21.39	21.62
		1	2	21.18	21.50	21.68
		1	5	21.09	21.34	21.71
		3	0	21.03	21.03	21.49
		3	1	21.08	21.06	21.69
		3	3	21.16	21.05	21.85
		6	0	20.06	20.50	21.24
LTE Band / BW	Modulation	RB Siset	RB Offset	Low CH	Mid CH	High CH
				20415 CH	20525 CH	20635 CH
				825.5 MHz	836.5 MHz	847.5 MHz
				LTE Band 5 (dBm)		
5 / 3M	QPSK	1	0	22.04	22.27	22.24
		1	7	22.10	22.56	23.11
		1	14	22.13	22.36	22.90
		8	0	21.08	21.44	21.77
		8	3	21.07	21.42	21.80
		8	7	21.06	21.20	21.79
		15	0	21.09	21.28	21.64
	16QAM	1	0	21.04	21.63	21.28
		1	7	21.30	21.85	22.03
		1	14	21.24	21.25	21.80
		8	0	20.06	20.90	21.19
		8	3	20.26	20.54	20.91
		8	7	20.51	20.33	20.90
		15	0	20.14	20.40	20.73

LTE Band / BW	Modulation	RB Siset	RB Offset	Low CH	Mid CH	High CH
				20425 CH	20525 CH	20625 CH
				826.5 MHz	836.5 MHz	846.5 MHz
				LTE Band 5 (dBm)		
5 / 5M	QPSK	1	0	22.24	23.06	22.31
		1	12	22.83	23.39	23.60
		1	24	22.41	22.25	22.97
		12	0	21.24	22.27	21.93
		12	6	21.64	22.29	22.31
		12	13	21.69	21.95	22.46
		25	0	21.22	21.99	22.25
	16QAM	1	0	21.22	22.52	21.86
		1	12	21.94	22.84	22.14
		1	24	21.57	21.42	22.51
		12	0	20.48	21.50	21.60
		12	6	20.85	21.52	21.93
		12	13	20.89	21.18	21.87
		25	0	20.46	21.26	21.65

LTE Band / BW	Modulation	RB Siset	RB Offset	Low CH	Mid CH	High CH
				20450 CH	20525 CH	20600 CH
				829.0 MHz	836.5 MHz	844.0 MHz
				LTE Band 5 (dBm)		
5 / 10M	QPSK	1	0	22.15	23.33	22.37
		1	24	23.10	23.24	23.23
		1	49	23.38	22.25	23.39
		25	0	21.10	22.01	21.51
		25	12	21.77	21.83	21.95
		25	25	21.93	21.44	21.99
		50	0	21.38	21.73	21.78
	16QAM	1	0	21.04	22.34	21.24
		1	24	22.18	22.38	22.06
		1	49	22.39	21.43	22.21
		25	0	20.17	21.27	20.70
		25	12	20.80	21.07	21.12
		25	25	20.95	20.68	21.15
		50	0	20.41	20.94	20.97

ERP Power:

Modulation	Band	WCDMA V(dBm)		
	Tx Channel	4132CH	4182CH	4233CH
	Rx Channel	4357CH	4407CH	4458CH
	Frequency	826.4MHz	836.4MHz	846.6MHz
BPSK	RMC 12.2K	20.66	20.69	20.71
	RMC 64K	20.64	20.67	20.72
	RMC 144K	20.66	20.55	20.66
	RMC 384K	20.67	20.66	20.63
16QAM	HSDPA Subtest-1	20.51	20.42	20.44
	HSDPA Subtest-2	19.68	19.62	19.64
	HSDPA Subtest-3	19.15	19.08	19.06
	HSDPA Subtest-4	19.15	19.02	19.05
16QAM	HSUPA Subtest-1	19.30	19.45	19.42
	HSUPA Subtest-2	16.67	16.53	16.32
	HSUPA Subtest-3	18.13	18.21	18.22
	HSUPA Subtest-4	17.33	17.31	17.07
	HSUPA Subtest-5	19.98	19.81	19.88

LTE Band / BW	Modulation	RB Siset	RB Offset	Low CH	Mid CH	High CH
				20407 CH	20525 CH	20643 CH
				824.7 MHz	836.5 MHz	848.3 MHz
				LTE Band 5 (dBm)		
5 / 1.4M	QPSK	1	0	19.82	19.91	20.32
		1	2	19.90	20.08	20.43
		1	5	19.93	20.02	20.44
		3	0	19.78	20.04	20.23
		3	1	19.84	20.08	20.31
		3	3	19.87	20.07	20.34
		6	0	18.83	19.02	19.27
	16QAM	1	0	18.81	19.14	19.37
		1	2	18.93	19.25	19.43
		1	5	18.84	19.09	19.46
		3	0	18.78	18.78	19.24
		3	1	18.83	18.81	19.44
		3	3	18.91	18.80	19.60
		6	0	17.81	18.25	18.99

LTE Band / BW	Modulation	RB Siset	RB Offset	Low CH	Mid CH	High CH
				20415 CH	20525 CH	20635 CH
				825.5 MHz	836.5 MHz	847.5 MHz
				LTE Band 5 (dBm)		
5 / 3M	QPSK	1	0	19.79	20.02	19.99
		1	7	19.85	20.31	20.86
		1	14	19.88	20.11	20.65
		8	0	18.83	19.19	19.52
		8	3	18.82	19.17	19.55
		8	7	18.81	18.95	19.54
		15	0	18.84	19.03	19.39
	16QAM	1	0	18.79	19.38	19.03
		1	7	19.05	19.60	19.78
		1	14	18.99	19.00	19.55
		8	0	17.81	18.65	18.94
		8	3	18.01	18.29	18.66
		8	7	18.26	18.08	18.65
		15	0	17.89	18.15	18.48

LTE Band / BW	Modulation	RB Siset	RB Offset	Low CH	Mid CH	High CH
				20425 CH	20525 CH	20625 CH
				826.5 MHz	836.5 MHz	846.5 MHz
				LTE Band 5 (dBm)		
5 / 5M	QPSK	1	0	19.99	20.81	20.06
		1	12	20.58	21.14	21.35
		1	24	20.16	20.00	20.72
		12	0	18.99	20.02	19.68
		12	6	19.39	20.04	20.06
		12	13	19.44	19.70	20.21
		25	0	18.97	19.74	20.00
	16QAM	1	0	18.97	20.27	19.61
		1	12	19.69	20.59	19.89
		1	24	19.32	19.17	20.26
		12	0	18.23	19.25	19.35
		12	6	18.60	19.27	19.68
		12	13	18.64	18.93	19.62
		25	0	18.21	19.01	19.40

LTE Band / BW	Modulation	RB Siset	RB Offset	Low CH	Mid CH	High CH
				20450 CH	20525 CH	20600 CH
				829.0 MHz	836.5 MHz	844.0 MHz
				LTE Band 5 (dBm)		
5 / 10M	QPSK	1	0	19.90	21.08	20.12
		1	24	20.85	20.99	20.98
		1	49	21.13	20.00	21.14
		25	0	18.85	19.76	19.26
		25	12	19.52	19.58	19.70
		25	25	19.68	19.19	19.74
		50	0	19.13	19.48	19.53
	16QAM	1	0	18.79	20.09	18.99
		1	24	19.93	20.13	19.81
		1	49	20.14	19.18	19.96
		25	0	17.92	19.02	18.45
		25	12	18.55	18.82	18.87
		25	25	18.70	18.43	18.90
		50	0	18.16	18.69	18.72

APPENDIX B - OCCUPIED BANDWIDTH

WCDMA Band V					
BPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
4132	826.4	4.1856	4132	826.4	4.721
4182	836.4	4.1446	4182	836.4	4.699
4233	846.6	4.1535	4233	846.6	4.692



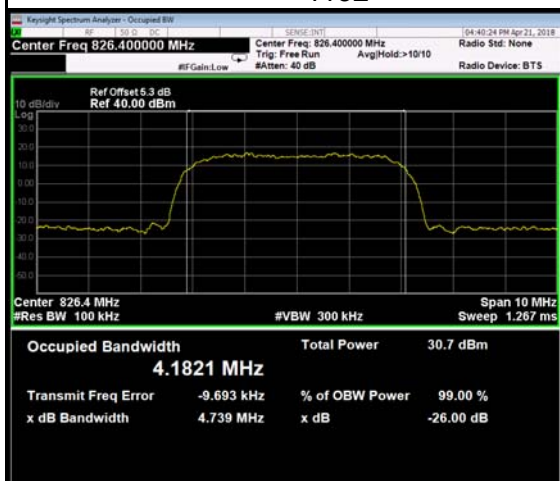
WCDMA_HSDPA Band V

16QAM

Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
4132	826.4	4.1821	4132	826.4	4.739
4182	836.4	4.1415	4182	836.4	4.719
4233	846.6	4.1550	4233	846.6	4.724

Spectrum Plot

4132



4182



4233



-

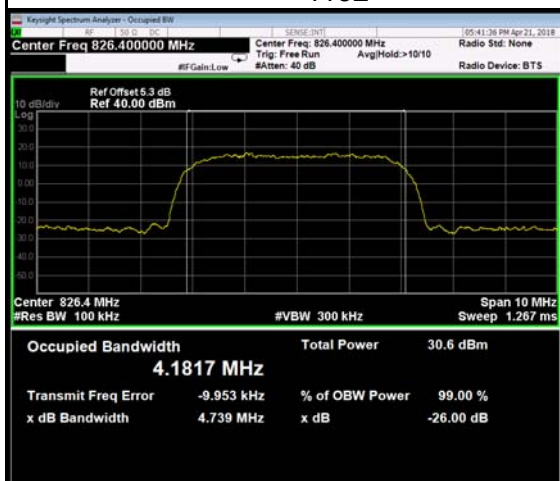
WCDMA_HSUPA Band V

16QAM

Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
4132	826.4	4.1817	4132	826.4	4.739
4182	836.4	4.1451	4182	836.4	4.717
4233	846.6	4.1652	4233	846.6	4.723

Spectrum Plot

4132



4182



4233



-

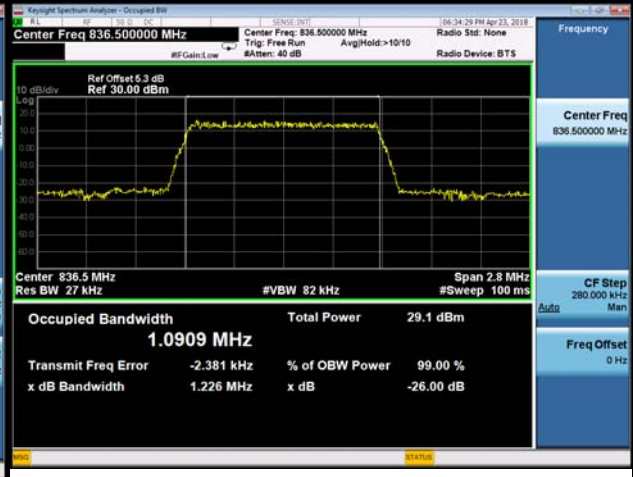
LTE Band 5_1.4M					
QPSK			16QAM		
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)
20407	824.7	1.0891	20407	824.7	1.0878
20525	836.5	1.0909	20525	836.5	1.0879
20643	848.3	1.0902	20643	848.3	1.0925
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
20407	824.7	1.230	20407	824.7	1.233
20525	836.5	1.226	20525	836.5	1.230
20643	848.3	1.238	20643	848.3	1.237

Spectrum Plot

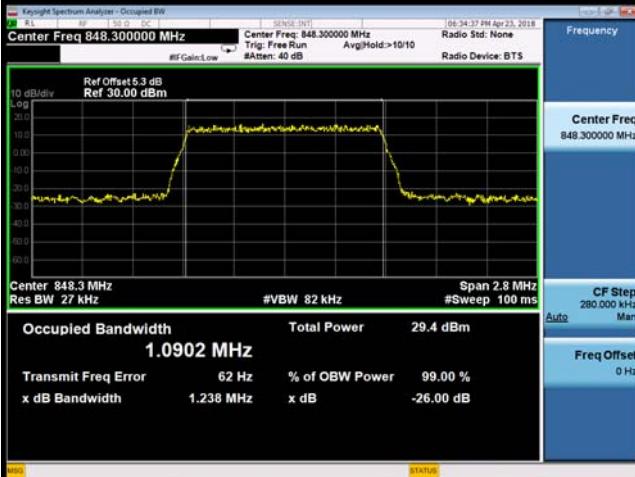
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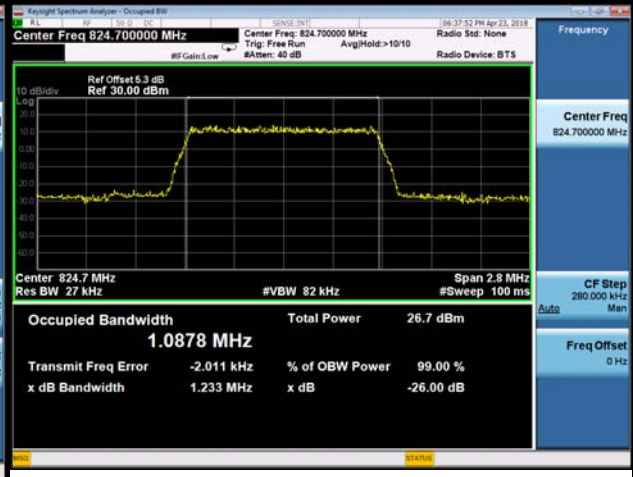
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QPSK-20643



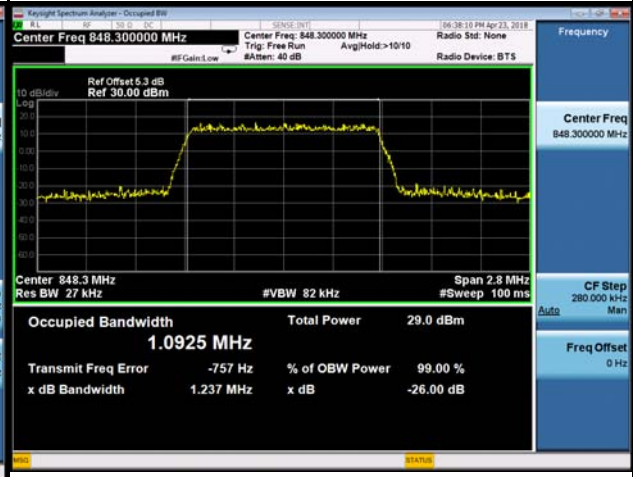
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16QAM-20525



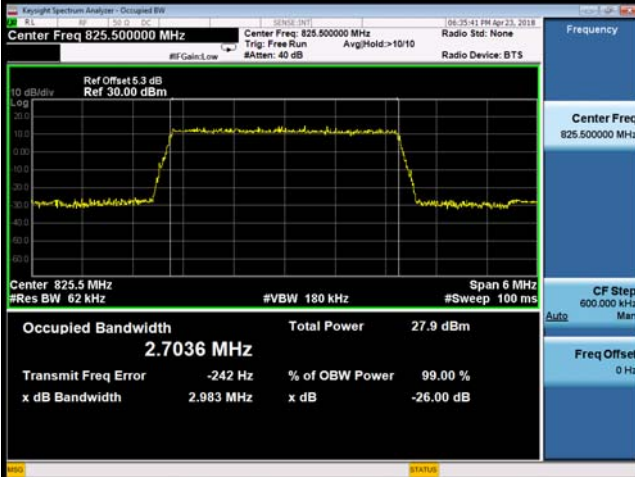
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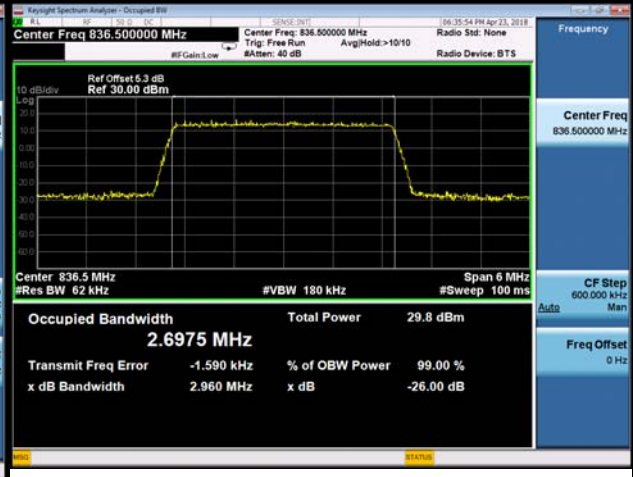
LTE Band 5_3M					
QPSK			16QAM		
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)
20415	825.5	2.7036	20415	825.5	2.6982
20525	836.5	2.6975	20525	836.5	2.6958
20635	847.5	2.6967	20635	847.5	2.6949
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
20415	825.5	2.983	20415	825.5	2.964
20525	836.5	2.960	20525	836.5	2.963
20635	847.5	2.949	20635	847.5	2.968

Spectrum Plot

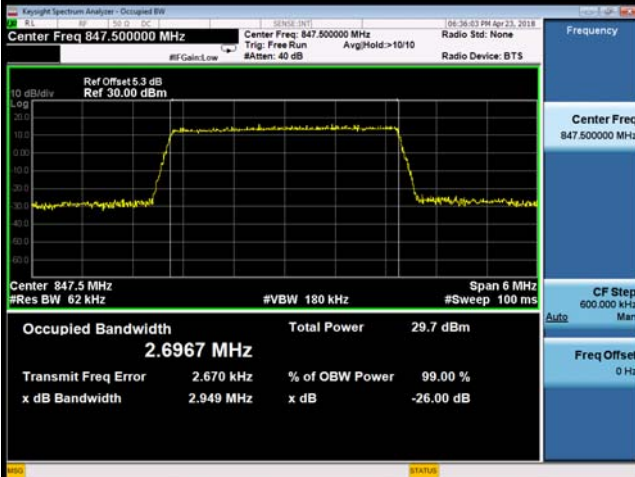
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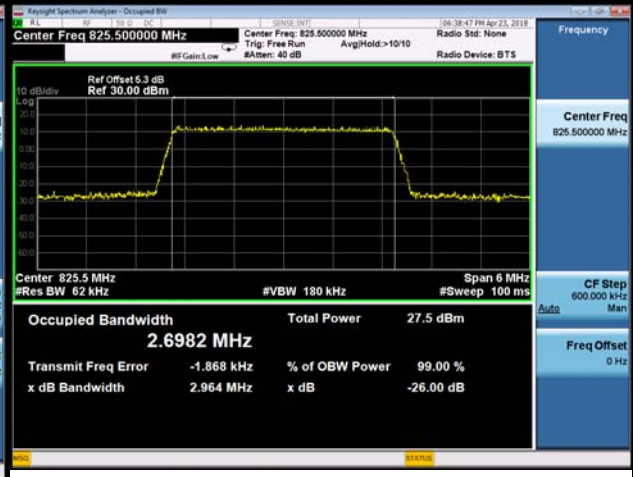
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QPSK-20635



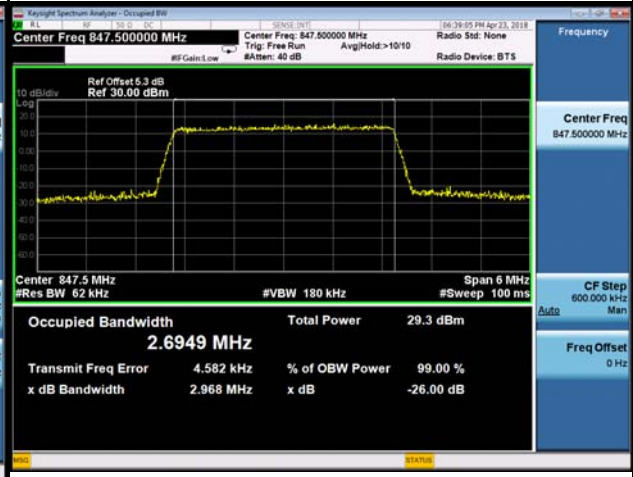
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16QAM-20525



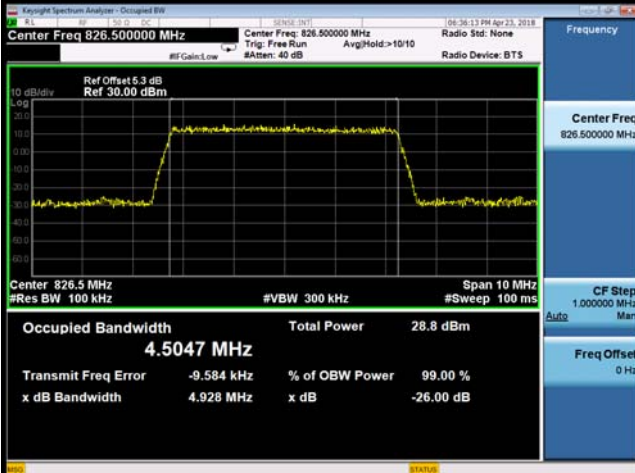
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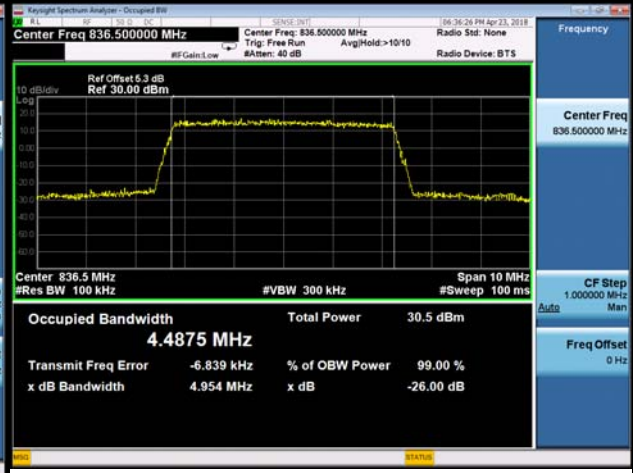
LTE Band 5_5M					
QPSK			16QAM		
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)
20425	826.5	4.5047	20425	826.5	4.5133
20525	836.5	4.4875	20525	836.5	4.4913
20625	846.5	4.4900	20625	846.5	4.5018
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
20425	826.5	4.928	20425	826.5	4.930
20525	836.5	4.954	20525	836.5	4.931
20625	846.5	4.908	20625	846.5	4.915

Spectrum Plot

QPSK-20425



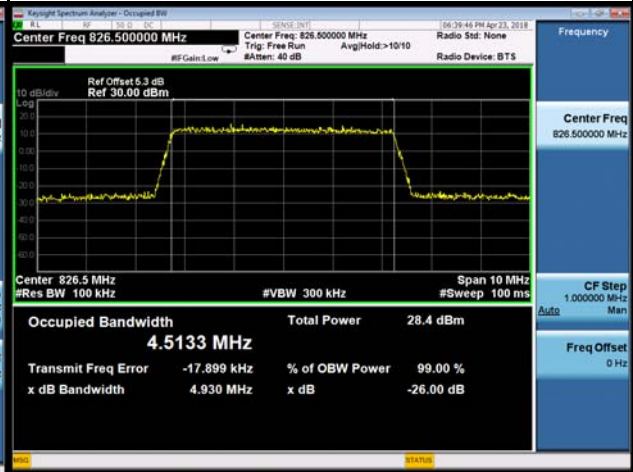
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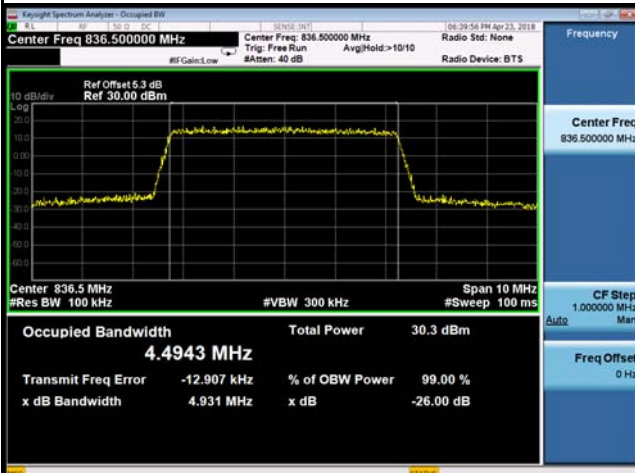
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16QAM-20425



16QAM-20525



16QAM-20625



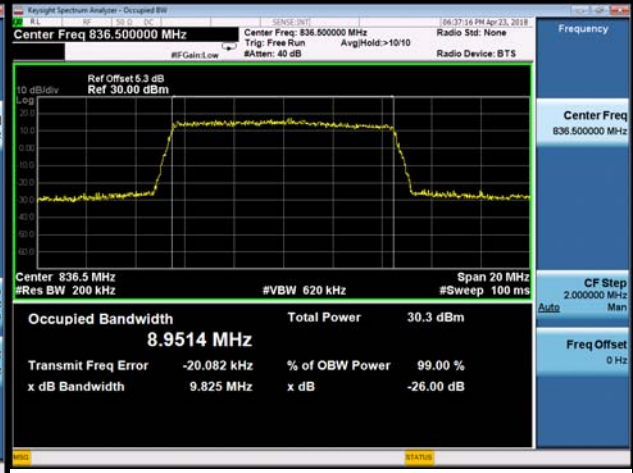
LTE Band 5_10M					
QPSK			16QAM		
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)
20450	829.0	9.0168	20450	829.0	9.0280
20525	836.5	8.9514	20525	836.5	8.9736
20600	844.0	9.0413	20600	844.0	9.0388
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
20450	829.0	9.868	20450	829.0	9.961
20525	836.5	9.825	20525	836.5	9.891
20600	844.0	9.854	20600	844.0	9.839

Spectrum Plot

QPSK-20450



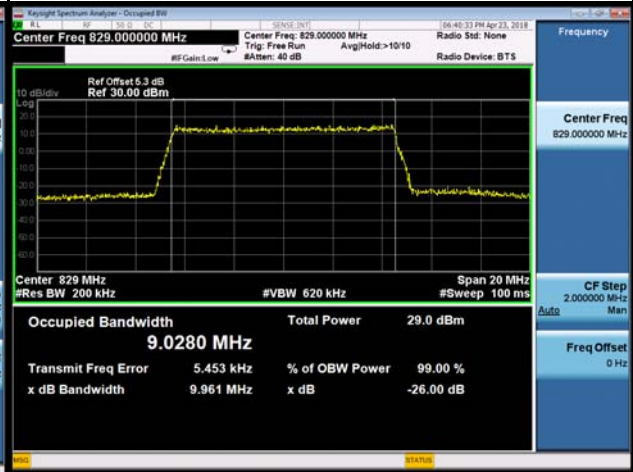
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QPSK-20600



16QAM-20450



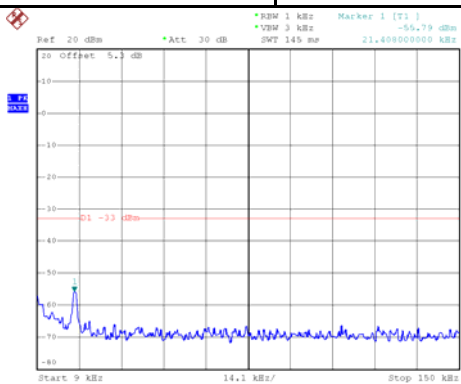
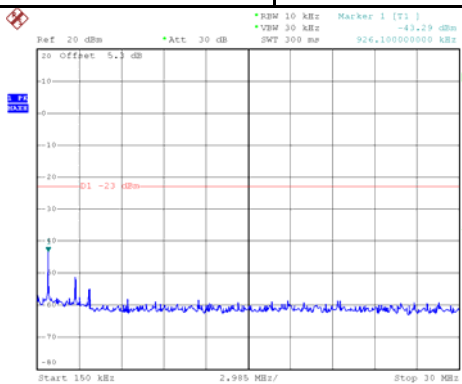
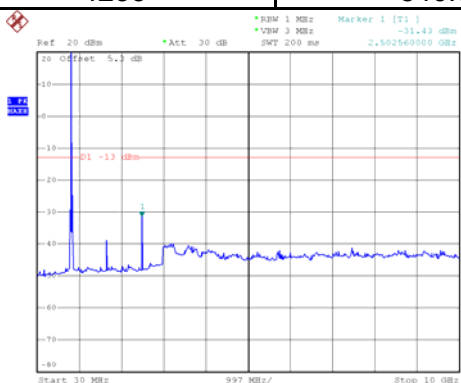
16QAM-20525



16QAM-20600



APPENDIX C - CONDUCTED EMISSIONS

WCDMA Band V			
Channel	Frequency(MHz)	Channel	Frequency(MHz)
4233	846.6	4233	846.6
 Ref: 20 dBm Att: 30 dB SWT: 145 ms Marker 1 (75.1) -56.79 dBm 20 Offset: 5.3 dB Start: 9 kHz 14.1 kHz/ Stop: 150 kHz Date: 19.APR.2018 11:20:19		 Ref: 20 dBm Att: 30 dB SWT: 300 ms Marker 1 (75.1) -43.29 dBm 20 Offset: 5.3 dB Start: 150 kHz 2.995 MHz/ Stop: 10 MHz Date: 19.APR.2018 11:17:18	
Channel	Frequency(MHz)	-	-
4233	846.6	-	-
 Ref: 20 dBm Att: 30 dB SWT: 200 ms Marker 1 (75.1) -31.43 dBm 20 Offset: 5.3 dB Start: 30 MHz 997 MHz/ Stop: 10 GHz Date: 20.APR.2018 10:37:25		-	

WCDMA_HSDPA Band V			
Channel	Frequency(MHz)	Channel	Frequency(MHz)
4233	846.6	4233	846.6
Ref: 20 dBm Offset: 5.3 dB Att: 30 dB SWT: 145 ms Marker: 1 (75.1) -54.32 dBm Start: 9 kHz 14.1 kHz/ Stop: 150 kHz Date: 19.APR.2018 11:19:37		Ref: 20 dBm Offset: 5.3 dB Att: 30 dB SWT: 300 ms Marker: 1 (75.1) -43.19 dBm Start: 150 kHz 2.995 MHz/ Stop: 10 MHz Date: 19.APR.2018 11:17:38	
Channel	Frequency(MHz)	-	-
4233	846.6	-	-
Ref: 20 dBm Offset: 5.3 dB Att: 30 dB SWT: 200 ms Marker: 1 (75.1) -33.73 dBm Start: 30 MHz 997 MHz/ Stop: 10 GHz Date: 20.APR.2018 10:38:03		-	

WCDMA_HSUPA Band V			
Channel	Frequency(MHz)	Channel	Frequency(MHz)
4233	846.6	4233	846.6
Ref: 20 dBm, Offset: 5.3 dB, Att: 30 dB, SWT: 145 ms, Marker 1 (75.1): -59.00 dBm, 21.12400000 kHz Date: 19.APR.2018 11:19:56		Ref: 20 dBm, Offset: 5.3 dB, Att: 30 dB, SWT: 300 ms, Marker 1 (75.1): -42.90 dBm, 926.10000000 kHz Date: 19.APR.2018 11:17:54	
Channel	Frequency(MHz)	-	-
4233	846.6	-	-
Ref: 20 dBm, Offset: 5.3 dB, Att: 30 dB, SWT: 200 ms, Marker 1 (75.1): -32.93 dBm, 2.502560000 GHz Date: 20.APR.2018 10:37:53		-	

LTE Band 5_1.4M			
Channel	Frequency(MHz)	Channel	Frequency(MHz)
20643	848.3	20643	848.3
Date: 20.APR.2018 09:52:17		Date: 20.APR.2018 09:51:34	
Channel	Frequency(MHz)	-	-
20643	848.3	-	-
Date: 20.APR.2018 10:23:04		-	

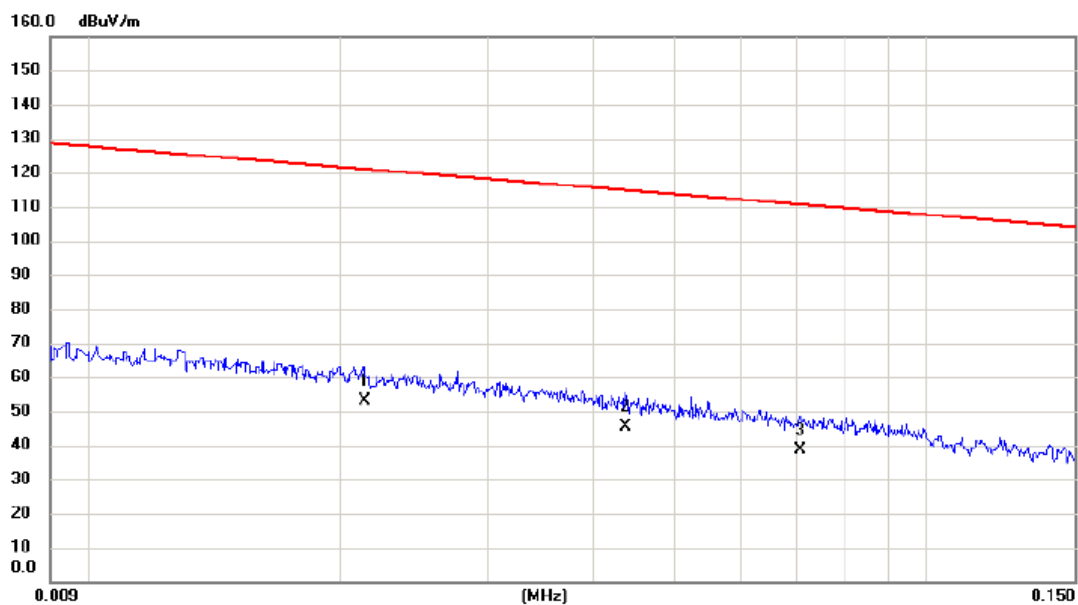
LTE Band 5_5M			
Channel	Frequency(MHz)	Channel	Frequency(MHz)
20625	846.5	20625	846.5
Channel	Frequency(MHz)	-	-
20625	846.5	-	-
		-	

LTE Band 5_10M			
Channel	Frequency(MHz)	Channel	Frequency(MHz)
20600	844.0	20600	844.0
Channel	Frequency(MHz)	-	-
20600	844.0	-	-
		-	

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

Test Mode: TX MODE CHANNEL_Adapter:Huntkey

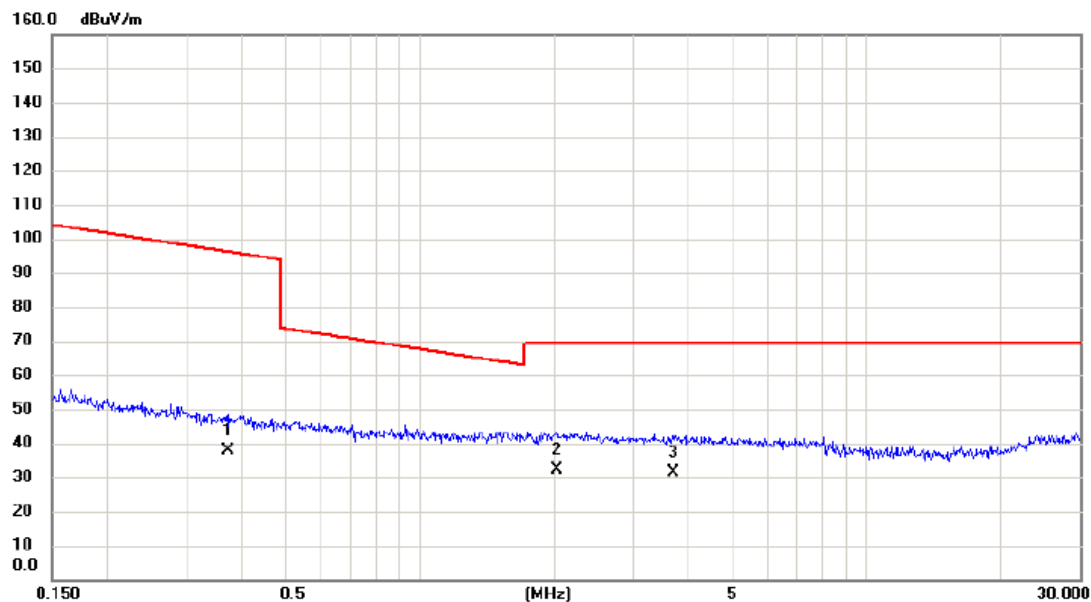
Ant 0°



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

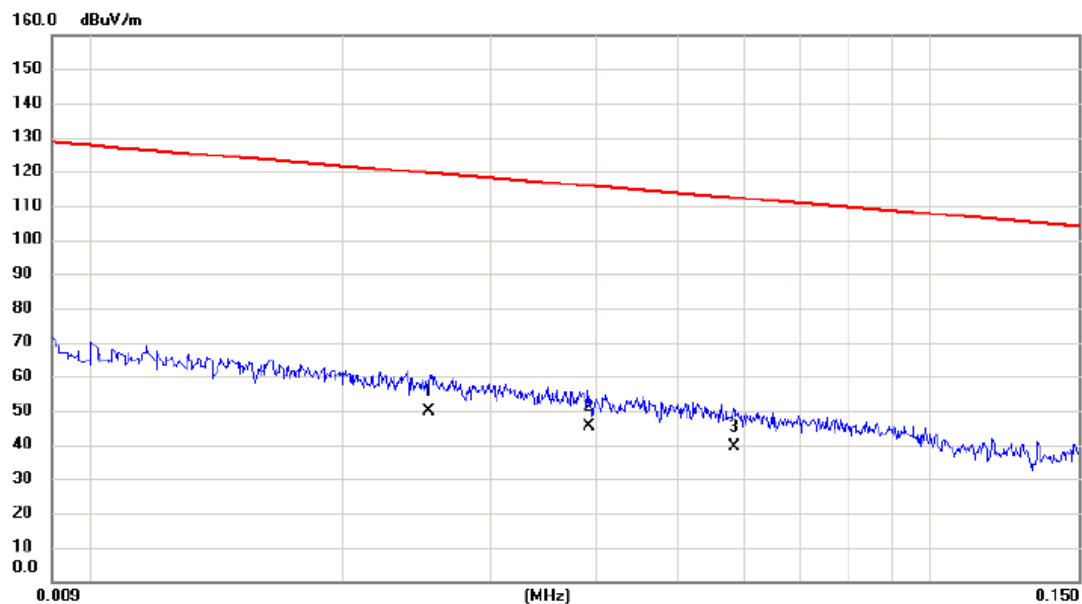
Ant 0°



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°

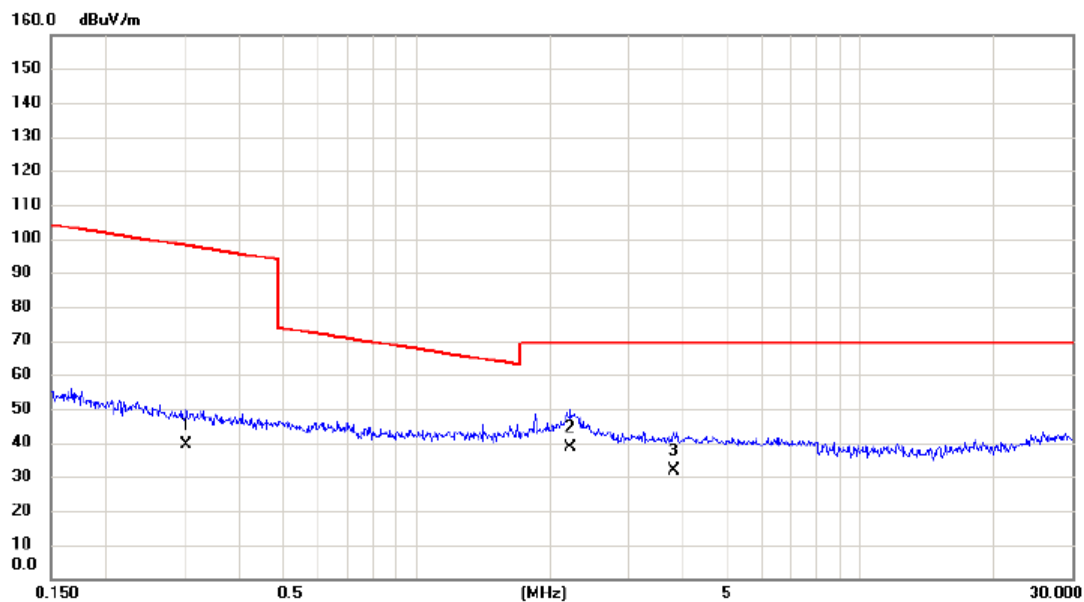


No.	Mk.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	0.0253	30.50	19.46	49.96	119.54	-69.58	AVG	
2		0.0392	26.30	19.04	45.34	115.74	-70.40	AVG	
3		0.0584	20.70	18.56	39.26	112.28	-73.02	AVG	

Test Mode:

TX MODE CHANNEL_Adapter:Huntkey

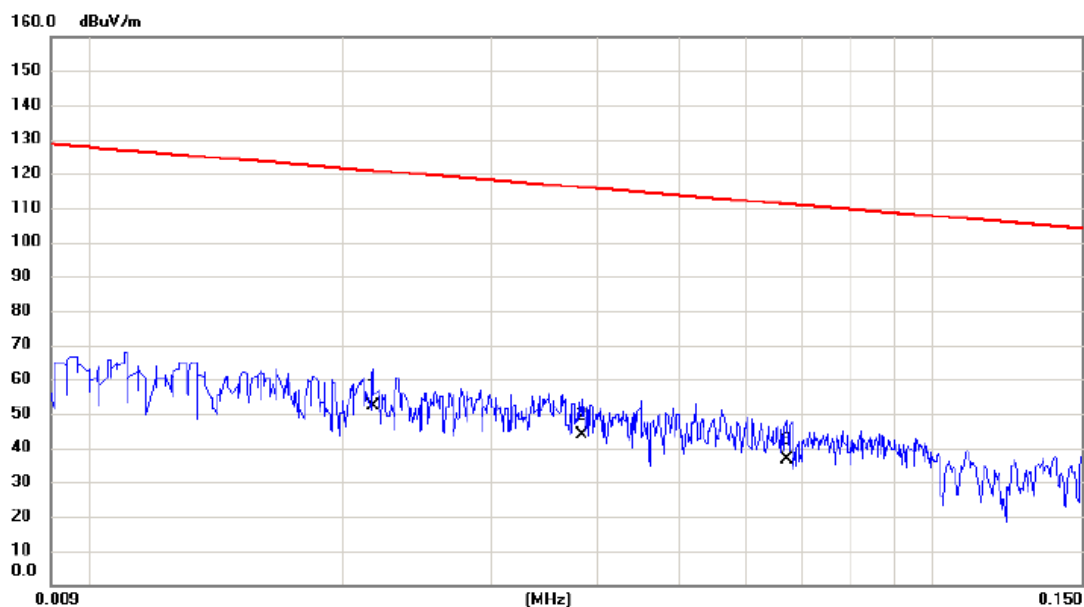
Ant 90°



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin		
		MHz	Level	Factor	ment			Detector	Comment
			dBuV/m	dB	dBuV/m	dBuV/m	dB		
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
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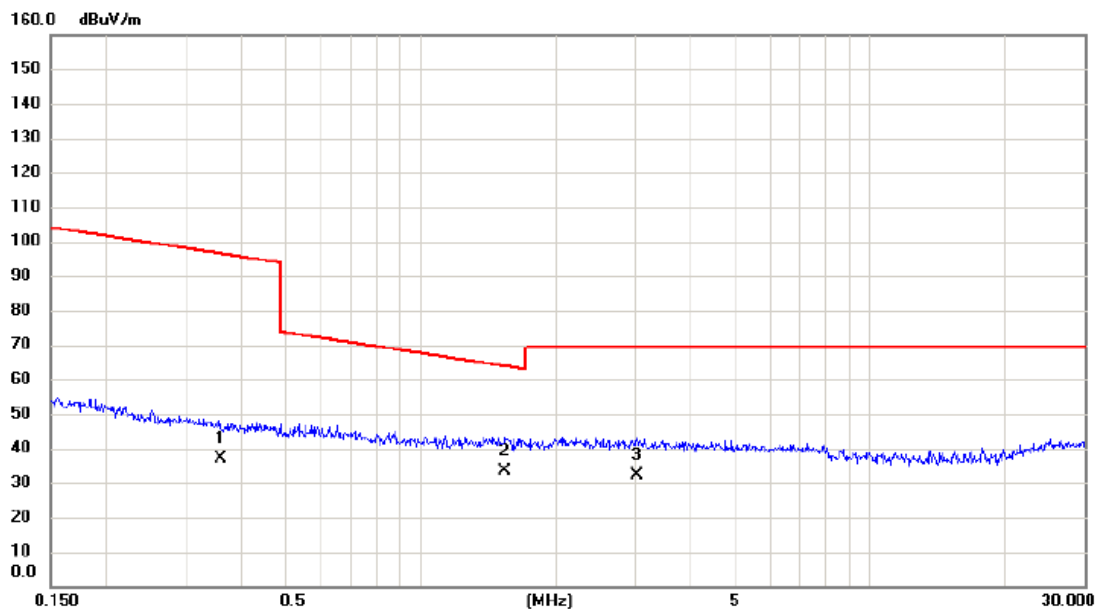
Ant 0°



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

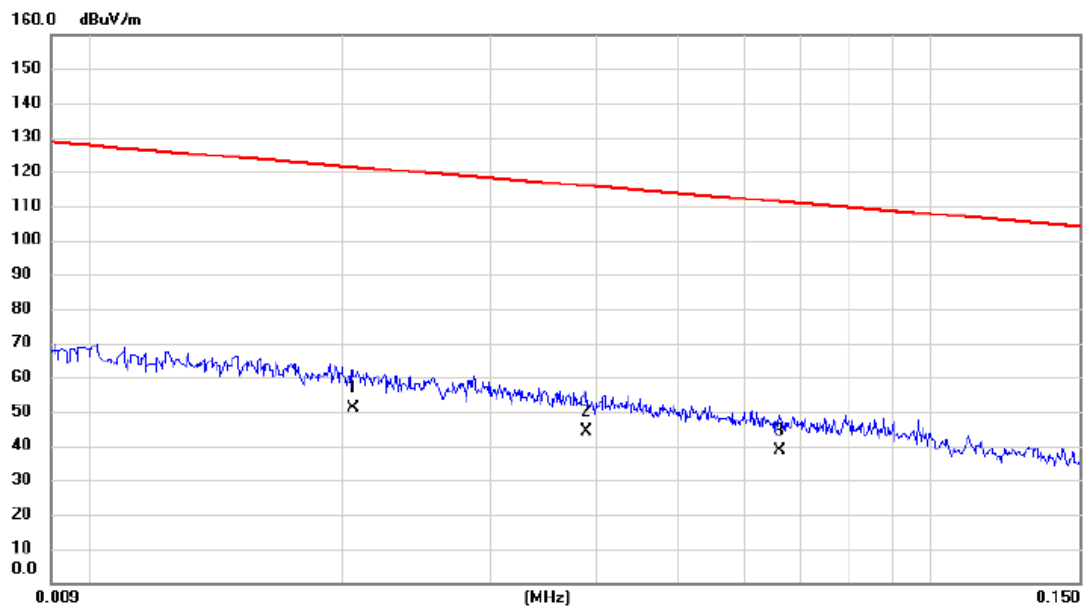
Ant 0°



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

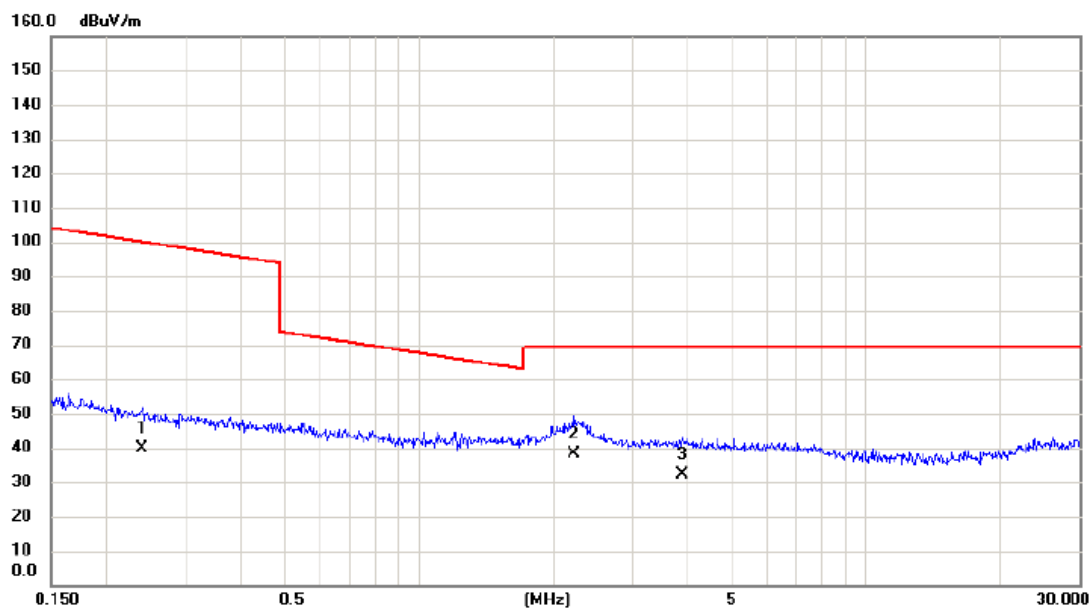
Ant 90°



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

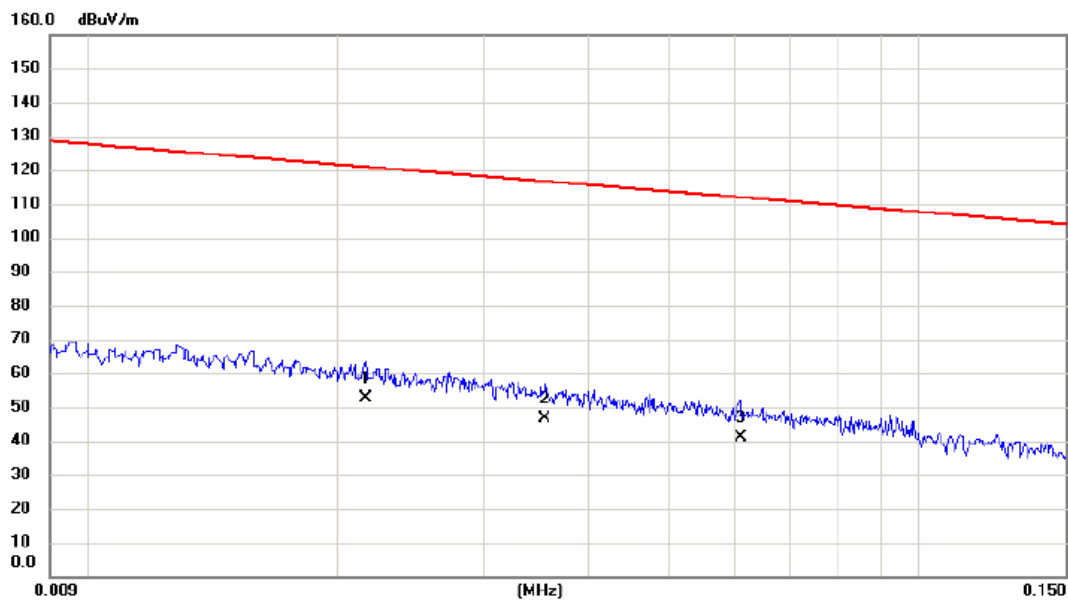
Ant 90°



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

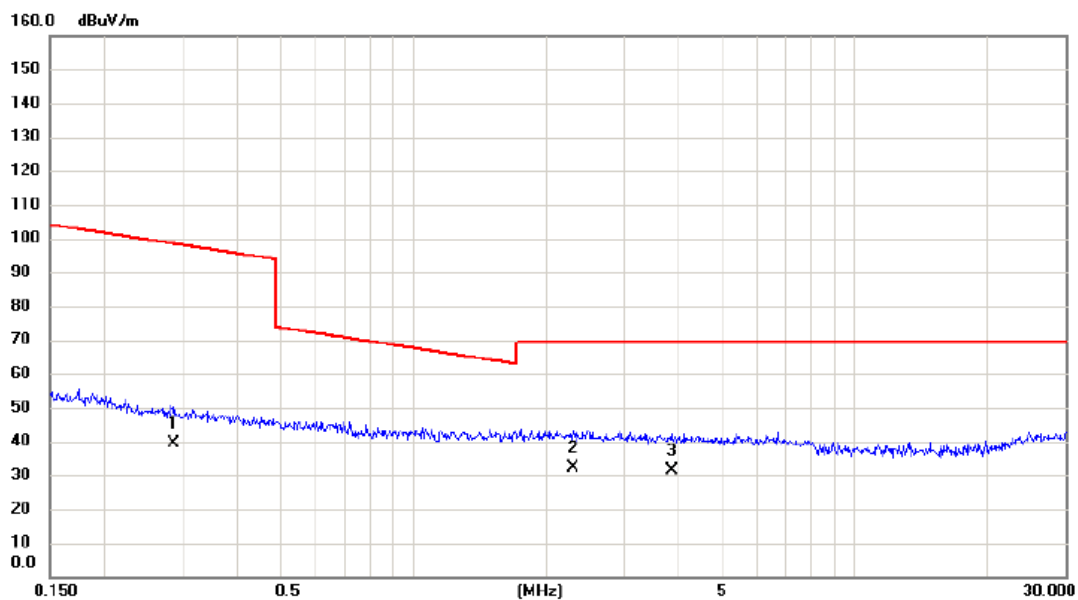
Ant 0°



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

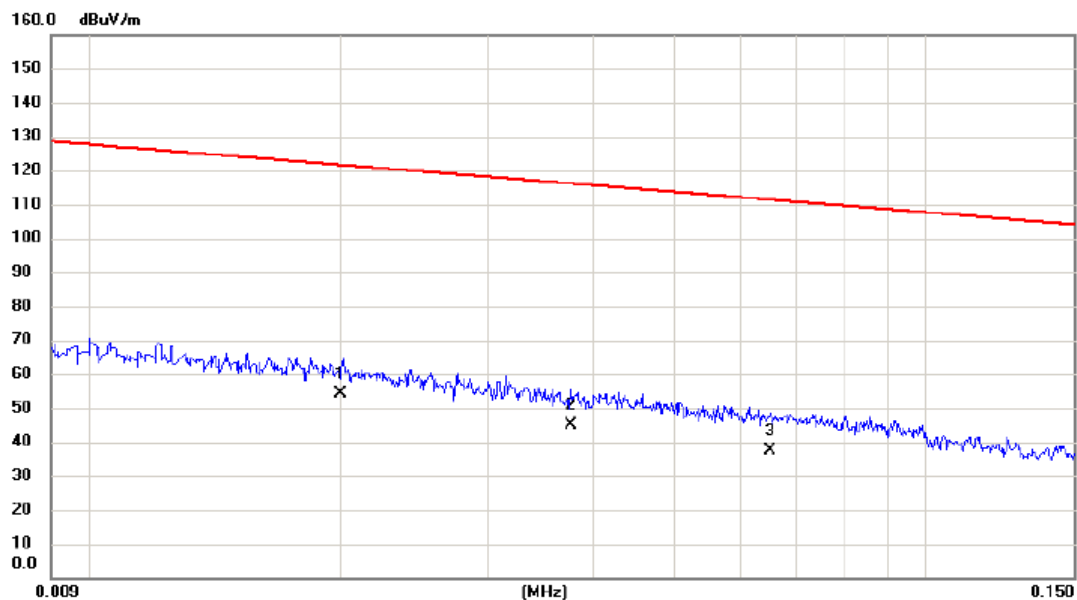
Ant 0°



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

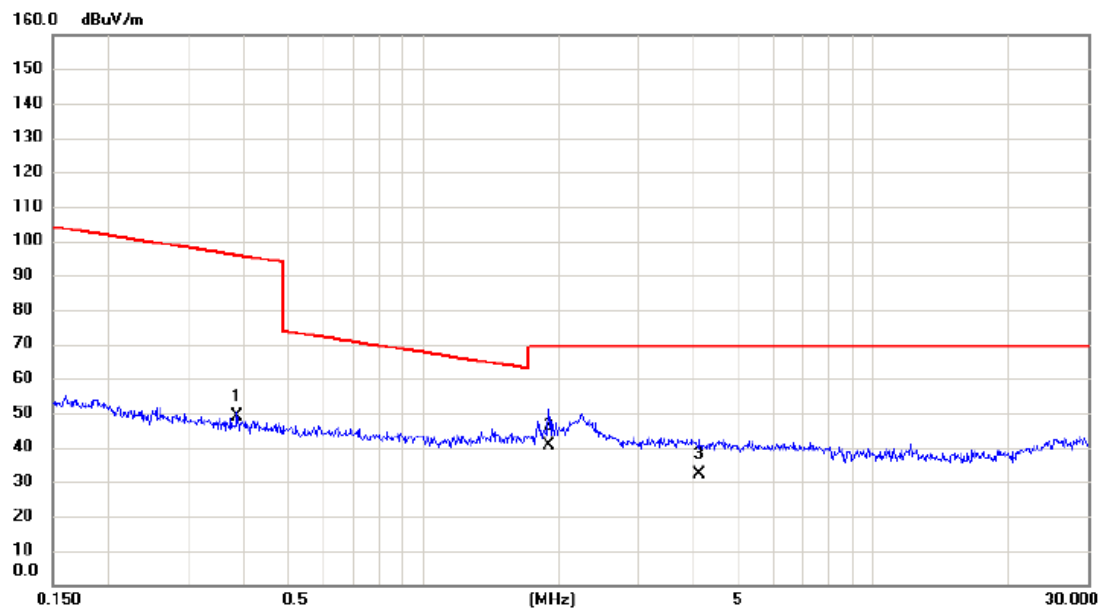
Ant 90°



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°

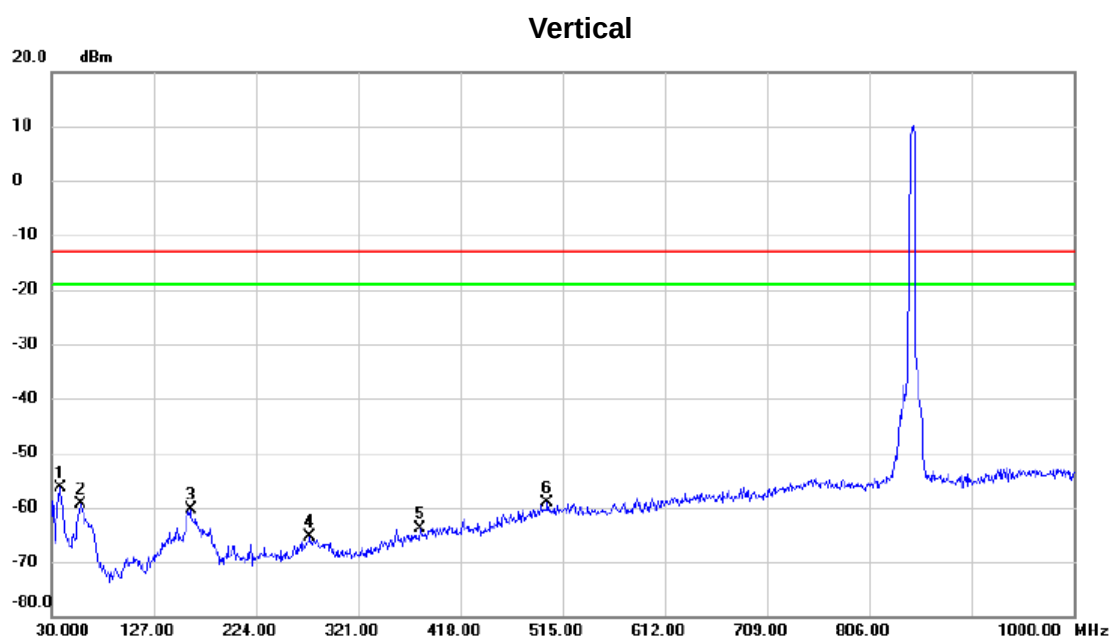


No.	Mk.	Freq. MHz	Reading Level dBuV/m	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		0.3852	32.50	16.55	49.05	95.89	-46.84	AVG	
2	*	1.9080	25.20	15.55	40.75	69.54	-28.79	QP	
3		4.0920	17.30	14.89	32.19	69.54	-37.35	QP	

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

Test Mode:

WCDMA Band V_TX CH4233



No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1	*	37.760	-66.90	10.51	-56.39	-13.00	-43.39	peak	
2		58.130	-70.62	11.31	-59.31	-13.00	-46.31	peak	
3		161.920	-73.01	12.55	-60.46	-13.00	-47.46	peak	
4		275.410	-77.85	12.44	-65.41	-13.00	-52.41	peak	
5		380.170	-77.69	13.83	-63.86	-13.00	-50.86	peak	
6		500.450	-76.68	17.55	-59.13	-13.00	-46.13	peak	

Test Mode:	WCDMA Band V_TX CH4233
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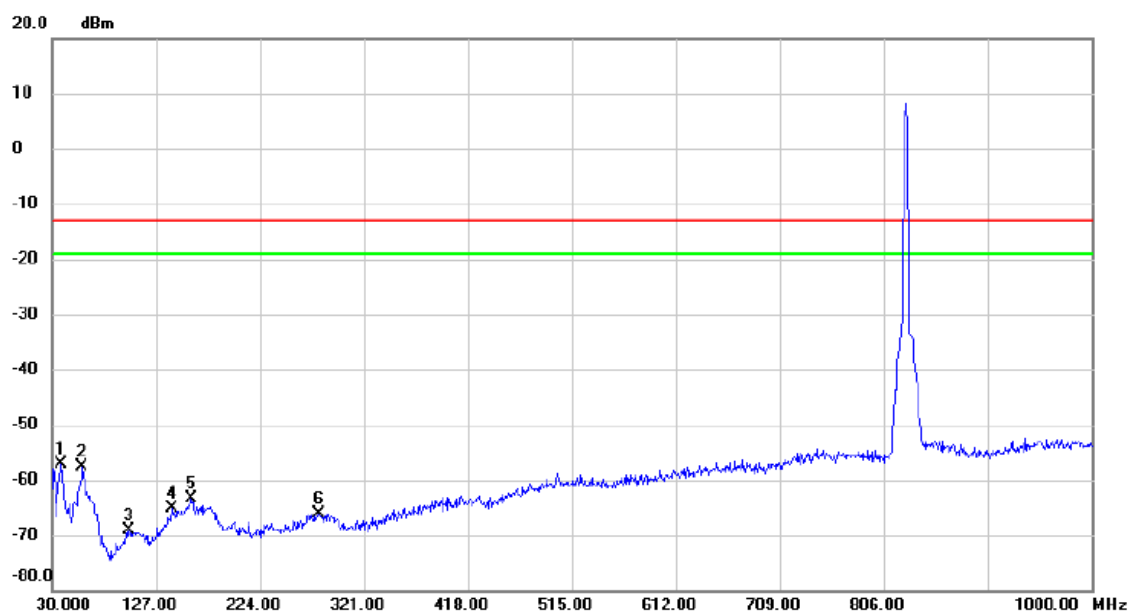
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1		54.250	-77.36	12.47	-64.89	-13.00	-51.89	peak	
2		150.280	-74.73	14.20	-60.53	-13.00	-47.53	peak	
3		231.760	-78.24	13.10	-65.14	-13.00	-52.14	peak	
4		266.680	-77.46	12.66	-64.80	-13.00	-51.80	peak	
5		380.170	-77.55	16.10	-61.45	-13.00	-48.45	peak	
6	*	496.570	-77.00	17.81	-59.19	-13.00	-46.19	peak	

Test Mode:	WCDMA Band V_TX CH4233_HSDPA
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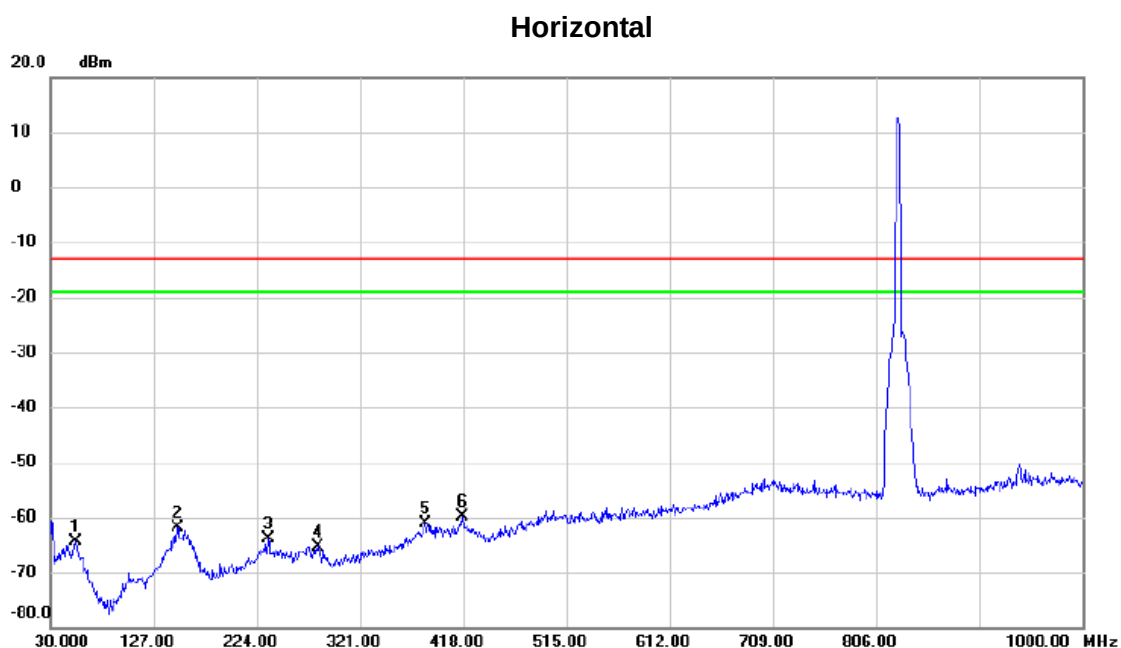
Vertical



No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1	*	38.730	-68.41	11.21	-57.20	-13.00	-44.20	peak	
2		58.130	-68.84	11.31	-57.53	-13.00	-44.53	peak	
3		101.780	-77.71	8.69	-69.02	-13.00	-56.02	peak	
4		141.550	-77.55	12.31	-65.24	-13.00	-52.24	peak	
5		159.980	-76.57	13.18	-63.39	-13.00	-50.39	peak	
6		278.320	-78.60	12.57	-66.03	-13.00	-53.03	peak	

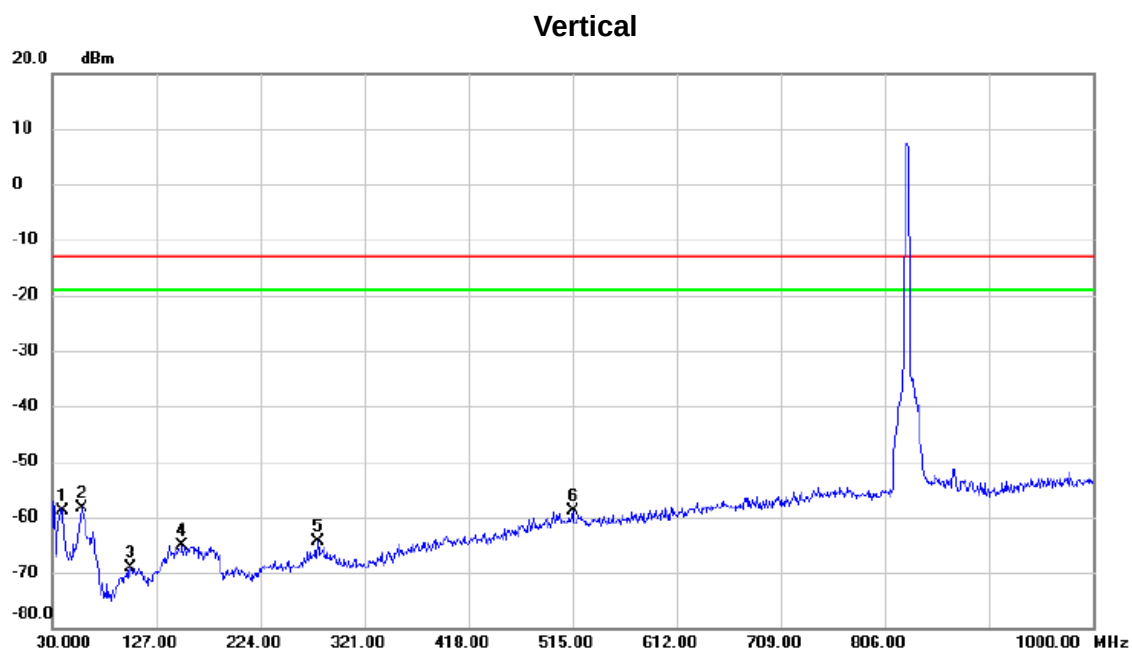
Test Mode:

WCDMA Band V_TX CH4233_HSDPA



No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1		54.250	-76.88	12.47	-64.41	-13.00	-51.41	peak	
2		149.310	-76.04	14.16	-61.88	-13.00	-48.88	peak	
3		234.670	-76.62	12.85	-63.77	-13.00	-50.77	peak	
4		281.230	-77.64	12.39	-65.25	-13.00	-52.25	peak	
5		382.110	-77.13	16.08	-61.05	-13.00	-48.05	peak	
6	*	417.030	-76.67	16.73	-59.94	-13.00	-46.94	peak	

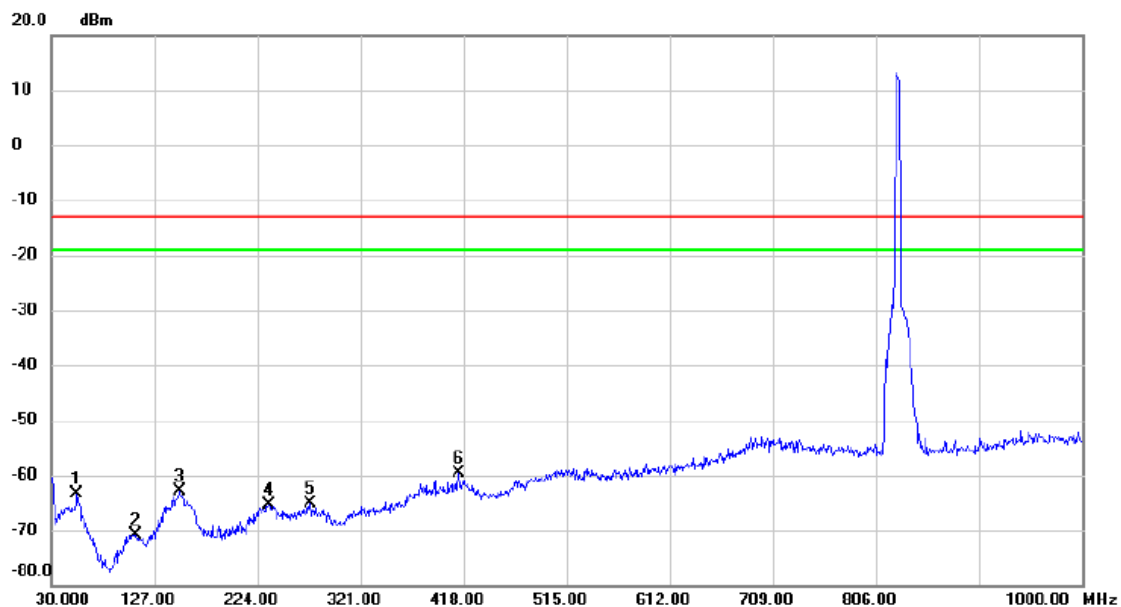
Test Mode:	WCDMA Band V_TX CH4233_HSUPA
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No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1		39.700	-70.89	11.90	-58.99	-13.00	-45.99	peak	
2	*	57.160	-70.04	11.74	-58.30	-13.00	-45.30	peak	
3		102.750	-77.83	8.72	-69.11	-13.00	-56.11	peak	
4		151.250	-78.16	13.15	-65.01	-13.00	-52.01	peak	
5		277.350	-77.02	12.53	-64.49	-13.00	-51.49	peak	
6		515.000	-76.41	17.52	-58.89	-13.00	-45.89	peak	

Test Mode: WCDMA Band V_TX CH4233_HSUPA

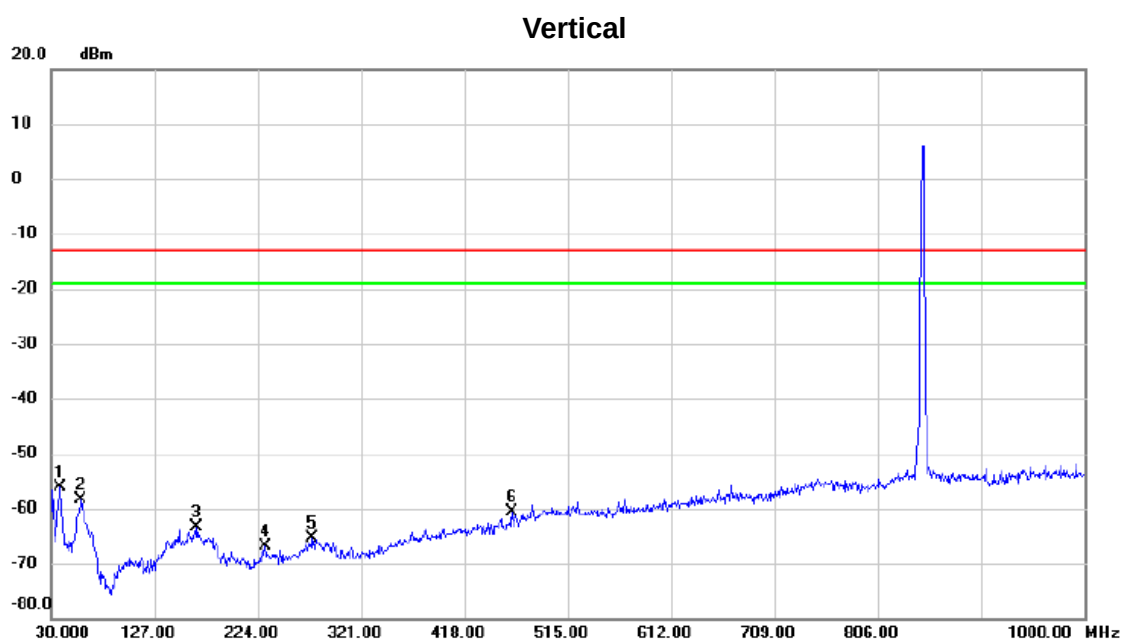
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1		54.250	-75.75	12.47	-63.28	-13.00	-50.28	peak	
2		109.540	-78.20	7.38	-70.82	-13.00	-57.82	peak	
3		150.280	-77.12	14.20	-62.92	-13.00	-49.92	peak	
4		234.670	-78.29	12.85	-65.44	-13.00	-52.44	peak	
5		273.470	-77.98	12.84	-65.14	-13.00	-52.14	peak	
6	*	413.150	-76.13	16.54	-59.59	-13.00	-46.59	peak	

Test Mode:

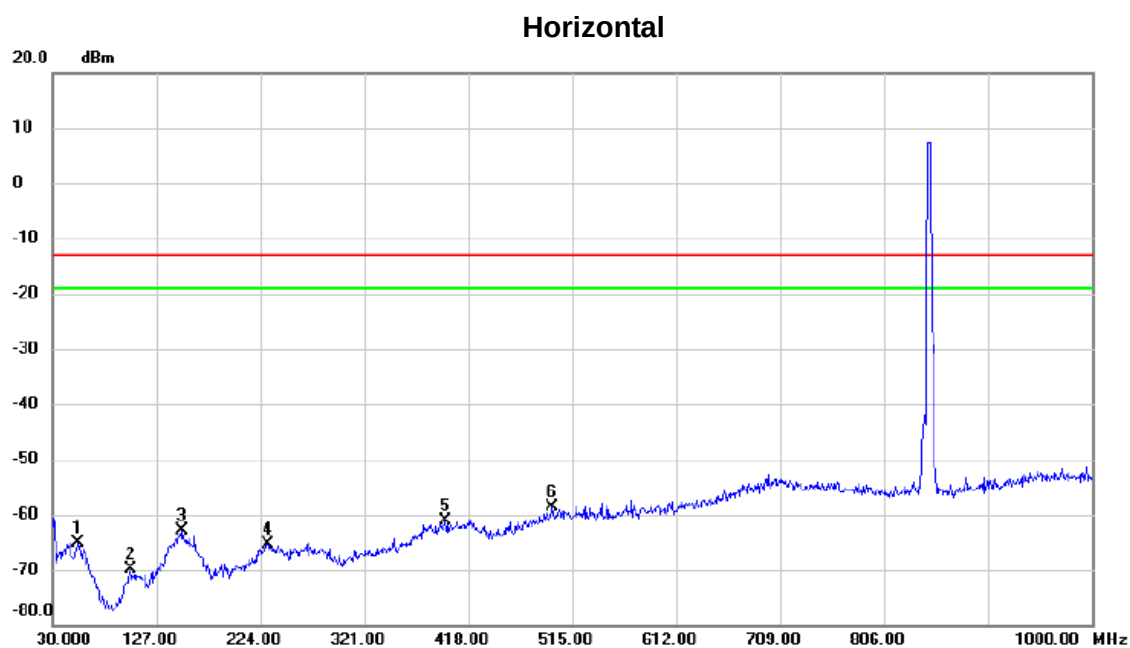
LTE Band 5_TX CH20643_1.4M



No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1	*	38.730	-67.37	11.21	-56.16	-13.00	-43.16	peak	
2		58.130	-69.78	11.31	-58.47	-13.00	-45.47	peak	
3		166.770	-74.40	10.95	-63.45	-13.00	-50.45	peak	
4		230.790	-77.42	10.46	-66.96	-13.00	-53.96	peak	
5		275.410	-77.87	12.44	-65.43	-13.00	-52.43	peak	
6		462.620	-76.48	15.93	-60.55	-13.00	-47.55	peak	

Test Mode:

LTE Band 5_TX CH20643_1.4M



No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1		54.250	-77.59	12.47	-65.12	-13.00	-52.12	peak	
2		102.750	-76.39	6.56	-69.83	-13.00	-56.83	peak	
3		151.250	-76.86	14.05	-62.81	-13.00	-49.81	peak	
4		230.790	-78.49	13.18	-65.31	-13.00	-52.31	peak	
5		396.660	-77.11	15.92	-61.19	-13.00	-48.19	peak	
6	*	496.570	-76.35	17.81	-58.54	-13.00	-45.54	peak	

Test Mode: LTE Band 5_TX CH20625_5M

Vertical

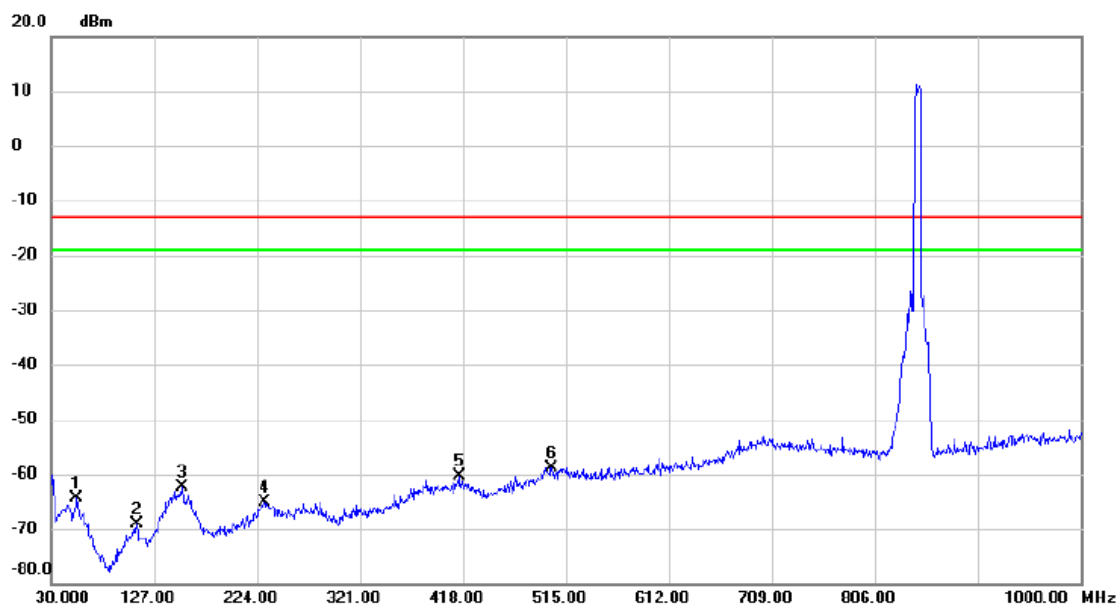


No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1	*	38.730	-69.16	11.21	-57.95	-13.00	-44.95	peak	
2		58.130	-69.91	11.31	-58.60	-13.00	-45.60	peak	
3		99.840	-77.27	8.55	-68.72	-13.00	-55.72	peak	
4		172.590	-74.88	10.11	-64.77	-13.00	-51.77	peak	
5		271.530	-78.33	12.26	-66.07	-13.00	-53.07	peak	
6		407.330	-76.99	14.31	-62.68	-13.00	-49.68	peak	

Test Mode:

LTE Band 5_TX CH20625_5M

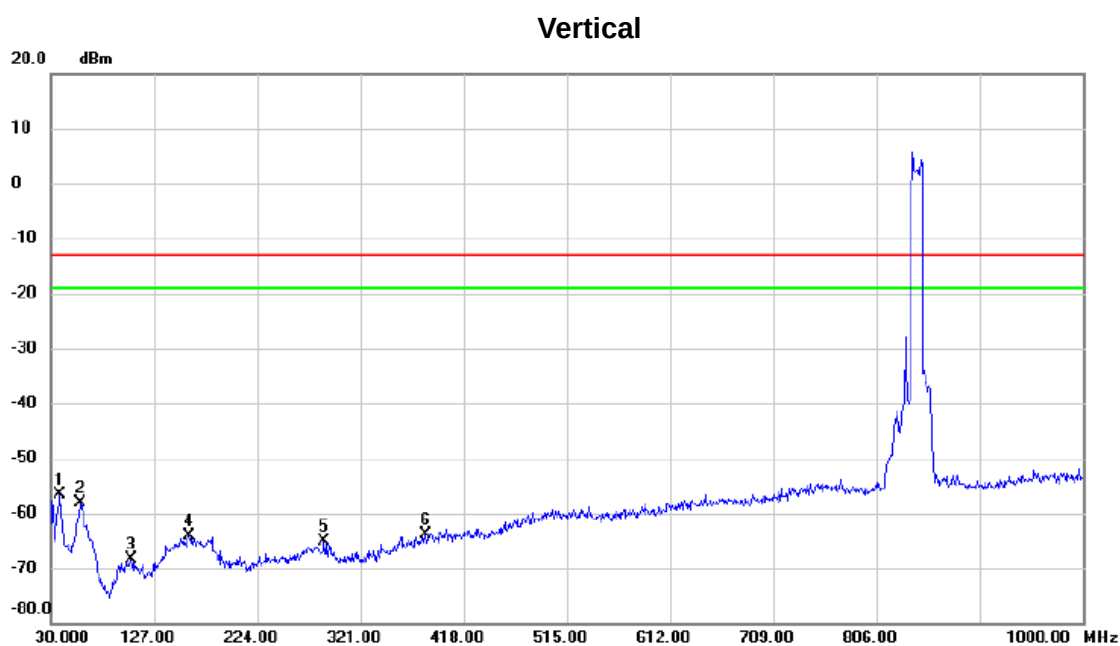
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1		54.250	-76.84	12.47	-64.37	-13.00	-51.37	peak	
2		110.510	-76.48	7.40	-69.08	-13.00	-56.08	peak	
3		153.190	-76.08	13.76	-62.32	-13.00	-49.32	peak	
4		230.790	-78.21	13.18	-65.03	-13.00	-52.03	peak	
5		414.120	-76.95	16.59	-60.36	-13.00	-47.36	peak	
6	*	501.420	-76.89	18.06	-58.83	-13.00	-45.83	peak	

Test Mode:

LTE Band 5_TX CH20600_10M

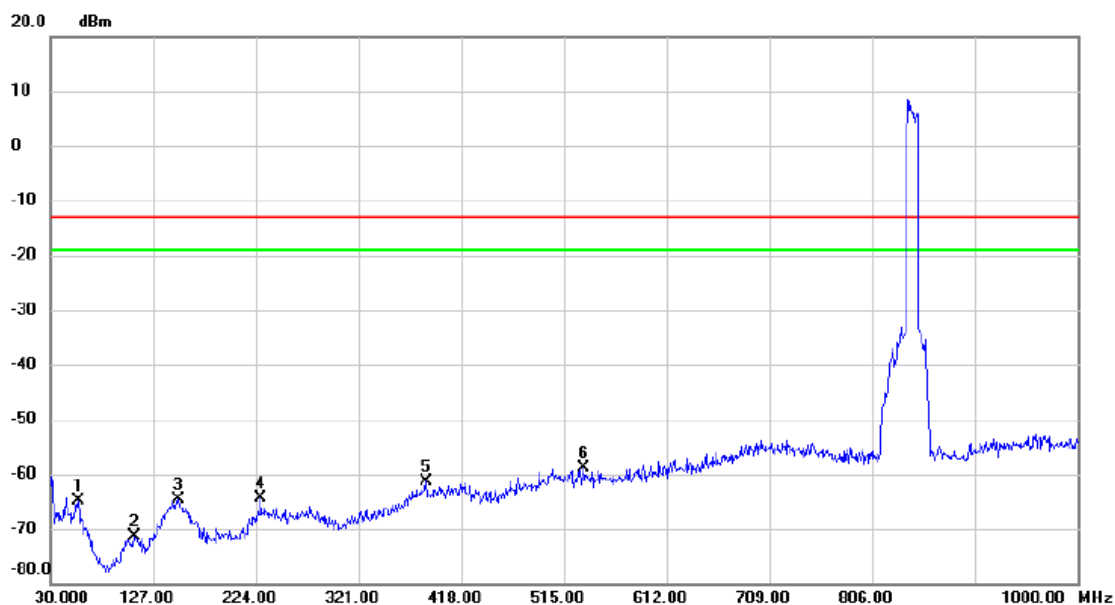


No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1	*	38.730	-67.83	11.21	-56.62	-13.00	-43.62	peak	
2		58.130	-69.39	11.31	-58.08	-13.00	-45.08	peak	
3		105.660	-77.28	8.84	-68.44	-13.00	-55.44	peak	
4		159.980	-77.30	13.18	-64.12	-13.00	-51.12	peak	
5		287.050	-77.57	12.35	-65.22	-13.00	-52.22	peak	
6		382.110	-77.65	13.86	-63.79	-13.00	-50.79	peak	

Test Mode:

LTE Band 5_TX CH20600_10M

Horizontal

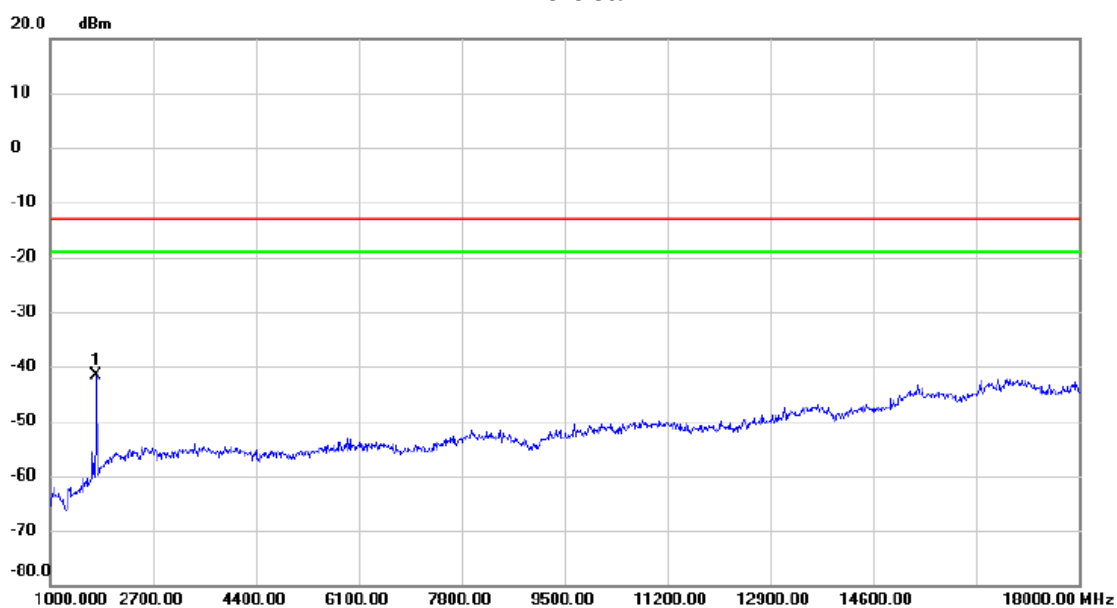


No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1		56.190	-76.67	11.86	-64.81	-13.00	-51.81	peak	
2		109.540	-78.77	7.38	-71.39	-13.00	-58.39	peak	
3		150.280	-78.78	14.20	-64.58	-13.00	-51.58	peak	
4		228.850	-77.40	12.94	-64.46	-13.00	-51.46	peak	
5		385.020	-77.51	16.04	-61.47	-13.00	-48.47	peak	
6	*	533.430	-77.01	18.09	-58.92	-13.00	-45.92	peak	

APPENDIX F - RADIATED EMISSION (ABOVE 1GHZ)

Test Mode: WCDMA Band V_TX CH4233

Vertical

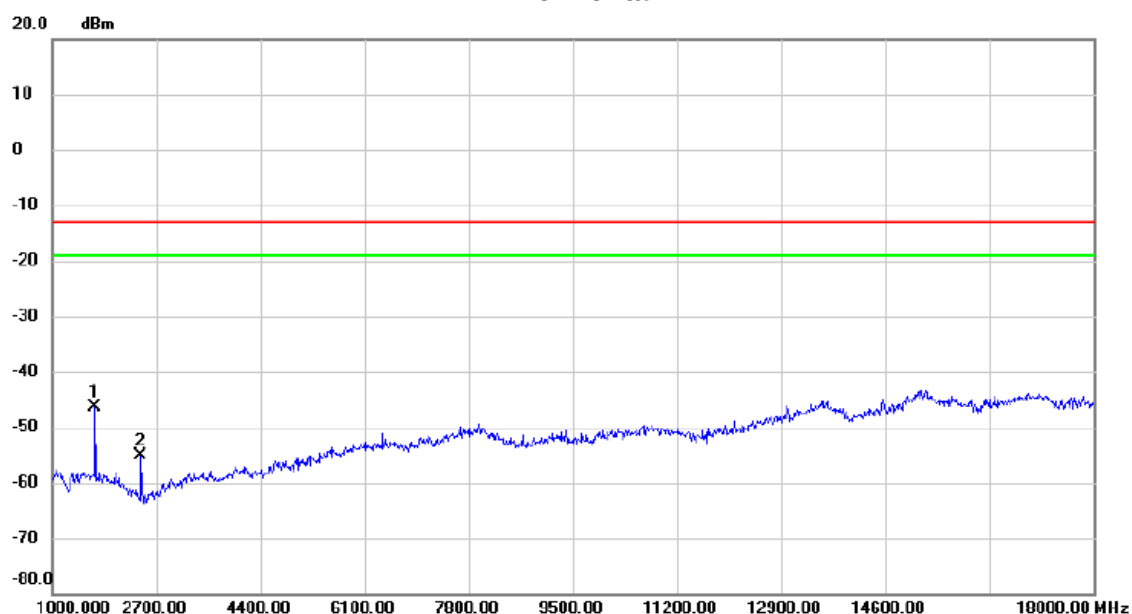


No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1	*	1765.000	-49.26	7.75	-41.51	-13.00	-28.51	peak	

Test Mode:

WCDMA Band V_TX CH4233

Horizontal

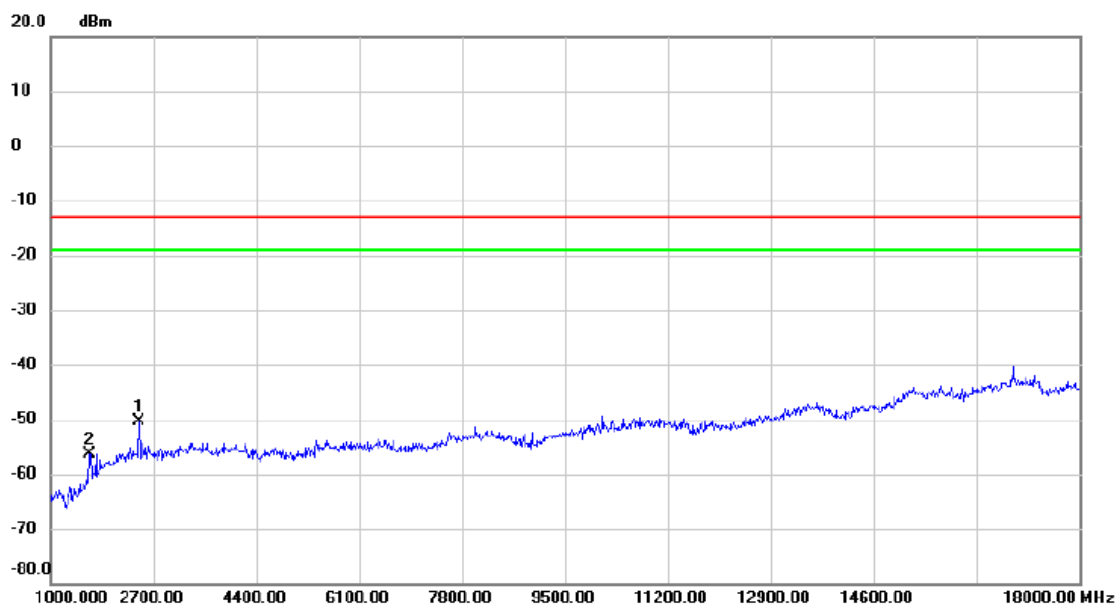


No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1	*	1697.000	-54.51	8.17	-46.34	-13.00	-33.34	peak	
2		2445.000	-60.61	5.55	-55.06	-13.00	-42.06	peak	

Test Mode:

WCDMA Band V_TX CH4233_HSDPA

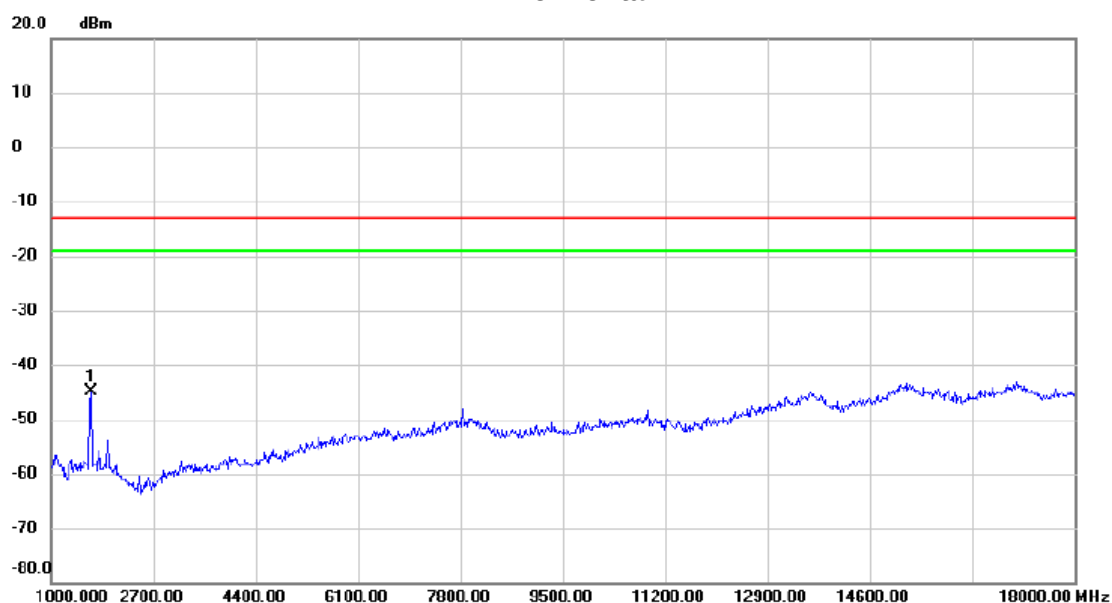
Vertical



No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1	*	2462.000	-62.46	12.11	-50.35	-13.00	-37.35	peak	
2		1646.000	-62.55	6.12	-56.43	-13.00	-43.43	peak	

Test Mode:	WCDMA Band V_TX CH4233_HSDPA
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Horizontal

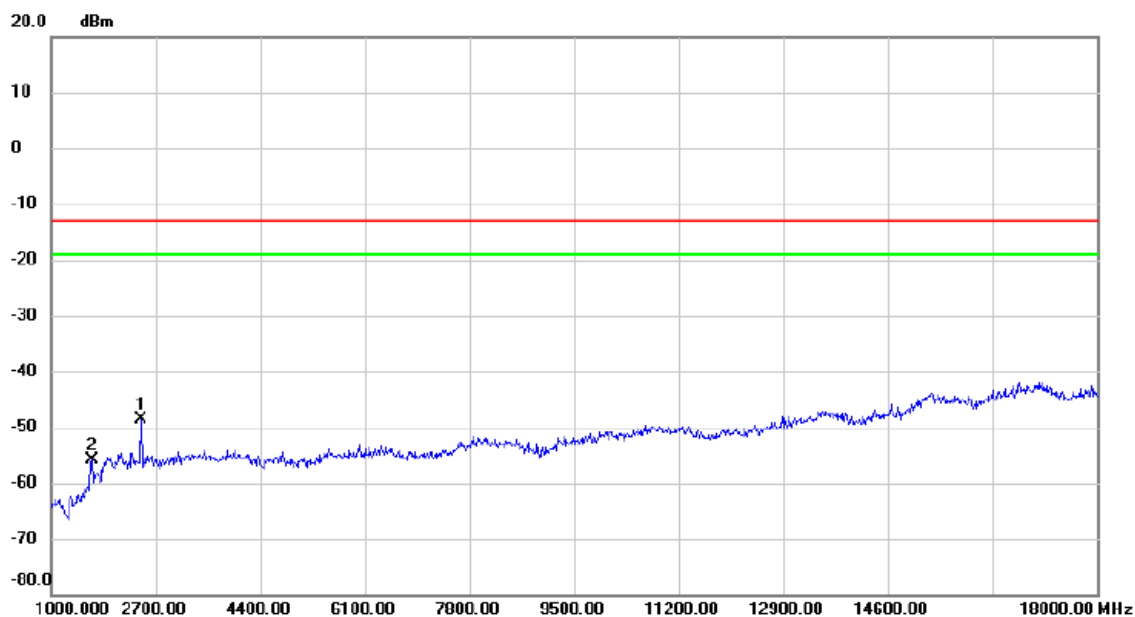


No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1	*	1663.000	-53.04	8.16	-44.88	-13.00	-31.88	peak	

Test Mode:

WCDMA Band V_TX CH4233_HSUPA

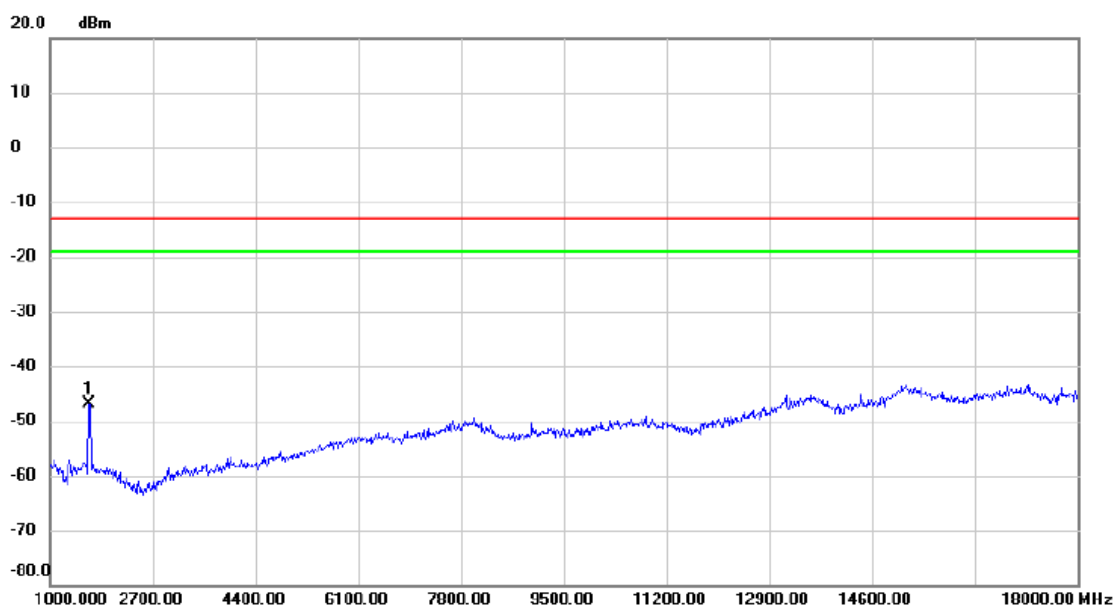
Vertical



No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1	*	2462.000	-60.85	12.11	-48.74	-13.00	-35.74	peak	
2		1663.000	-62.22	6.36	-55.86	-13.00	-42.86	peak	

Test Mode:	WCDMA Band V_TX CH4233_HSUPA
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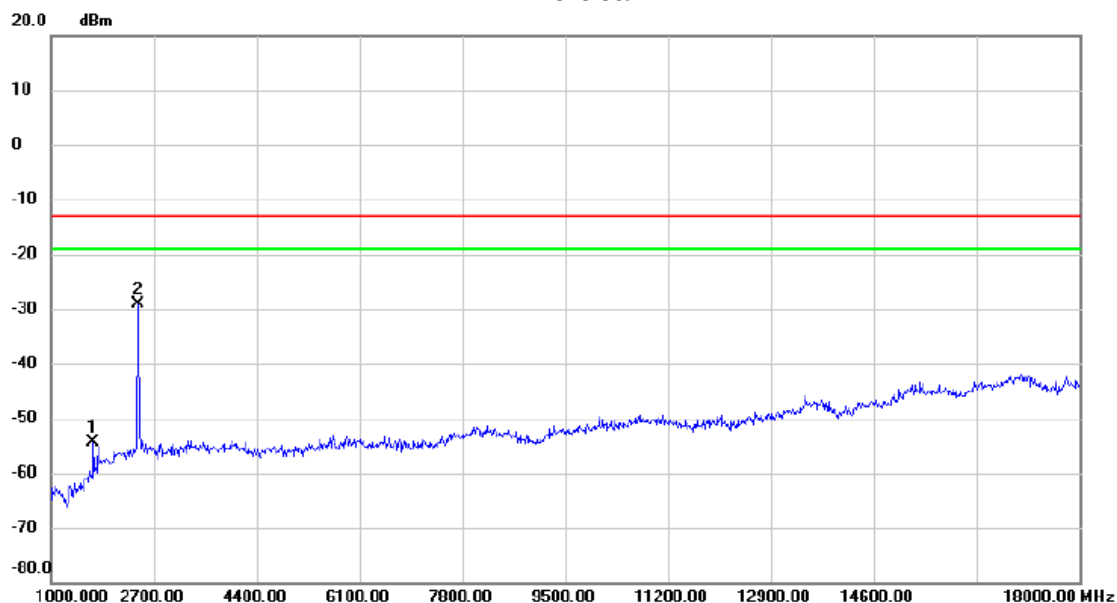
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	*	1646.000	-54.99	8.15	-46.84	-13.00	-33.84	peak	

Test Mode:	LTE Band 5_TX CH20643_1.4M
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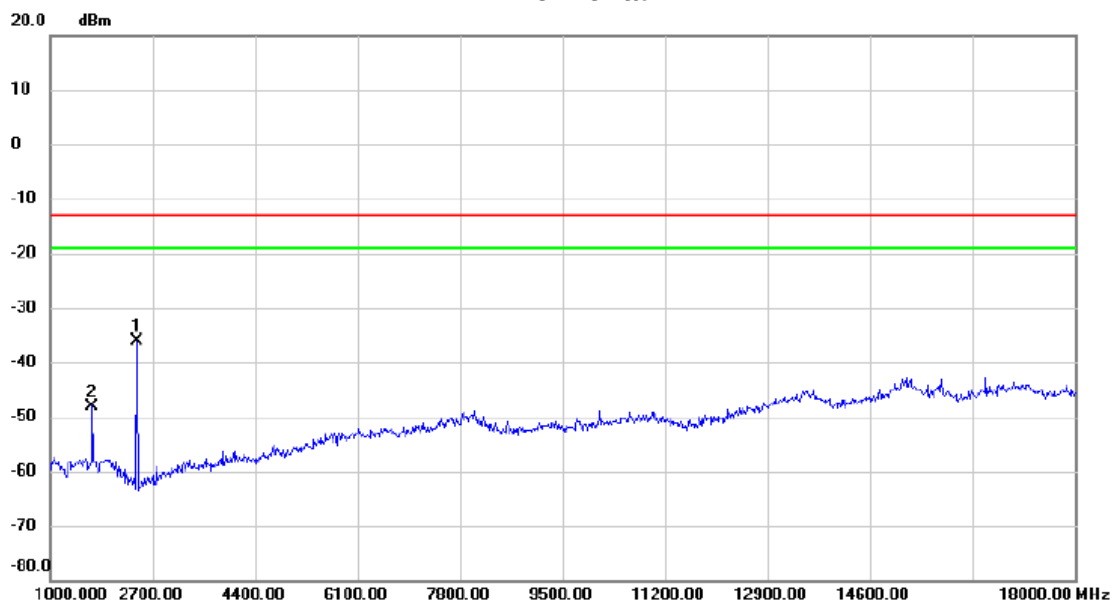
Vertical



No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1		1697.000	-61.23	6.82	-54.41	-13.00	-41.41	peak	
2	*	2428.000	-41.09	12.02	-29.07	-13.00	-16.07	peak	

Test Mode:	LTE Band 5_TX CH20643_1.4M
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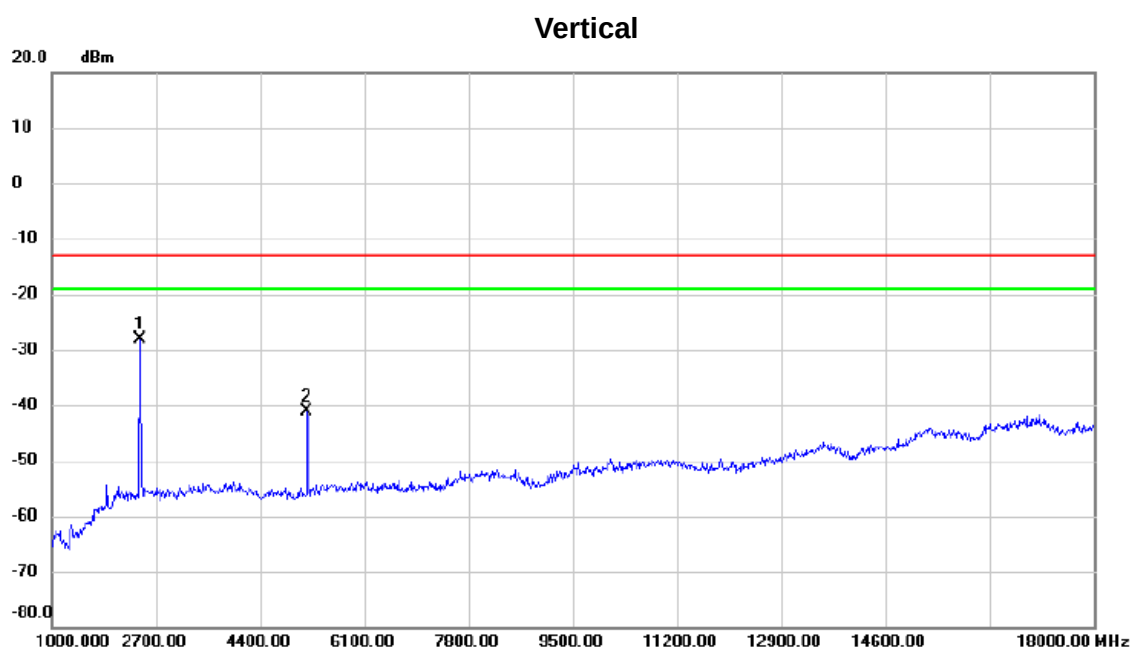
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1	*	2428.000	-41.81	5.66	-36.15	-13.00	-23.15	peak	
2		1697.000	-56.17	8.17	-48.00	-13.00	-35.00	peak	

Test Mode:

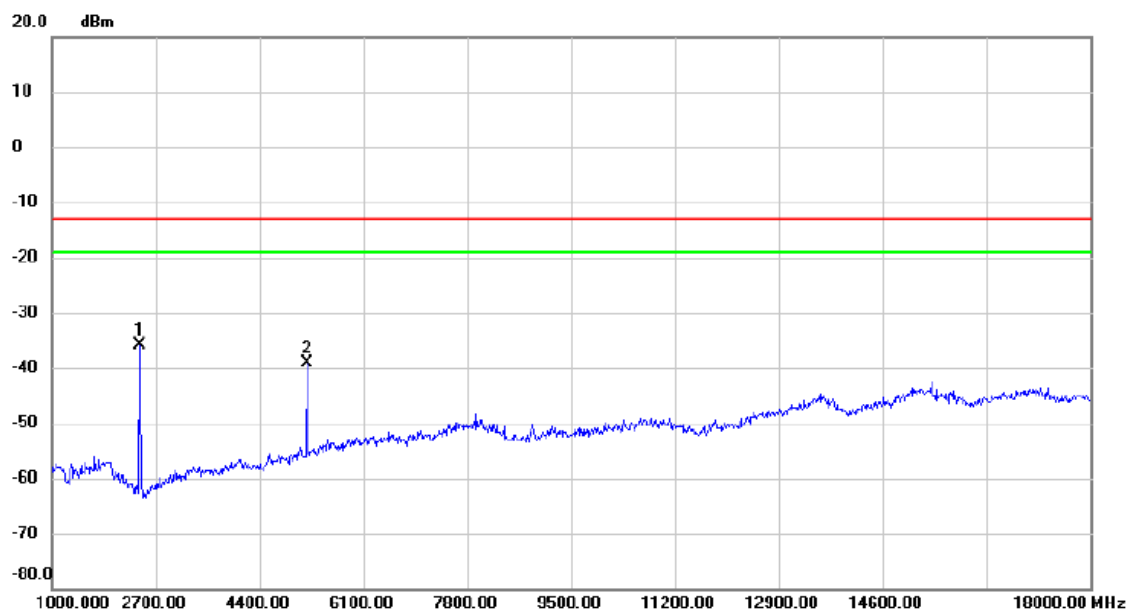
LTE Band 5_TX CH20625_5M



No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1	*	2428.000	-40.10	12.02	-28.08	-13.00	-15.08	peak	
2		5165.000	-56.23	15.07	-41.16	-13.00	-28.16	peak	

Test Mode: LTE Band 5_TX CH20625_5M

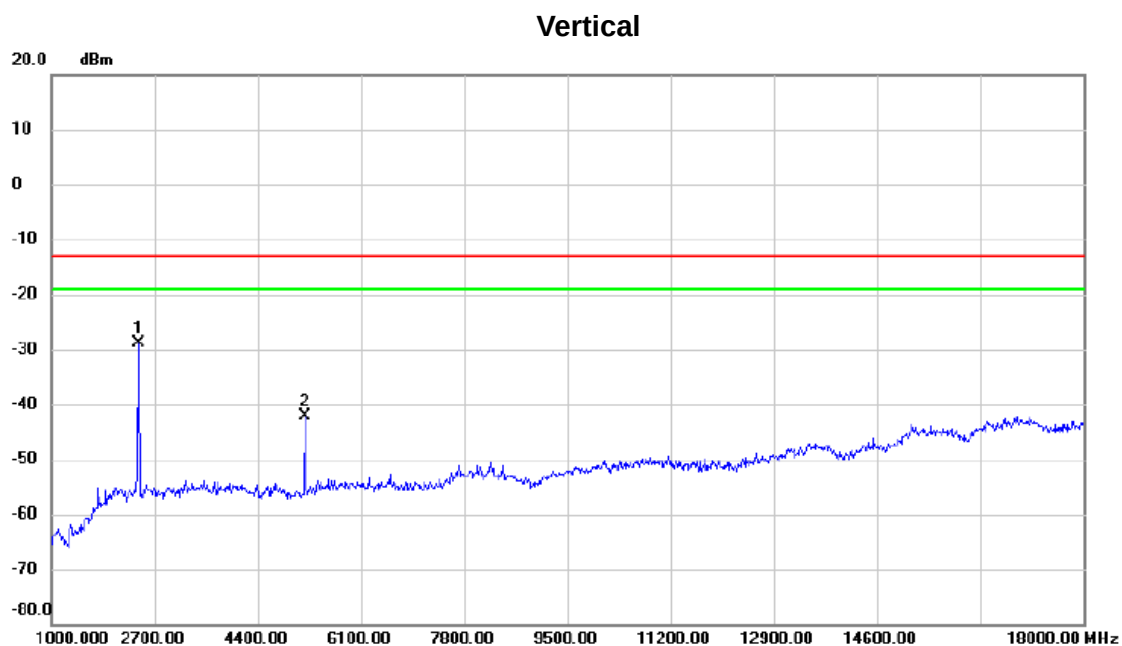
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1	*	2428.000	-41.46	5.66	-35.80	-13.00	-22.80	peak	
2		5182.000	-54.58	15.36	-39.22	-13.00	-26.22	peak	

Test Mode:

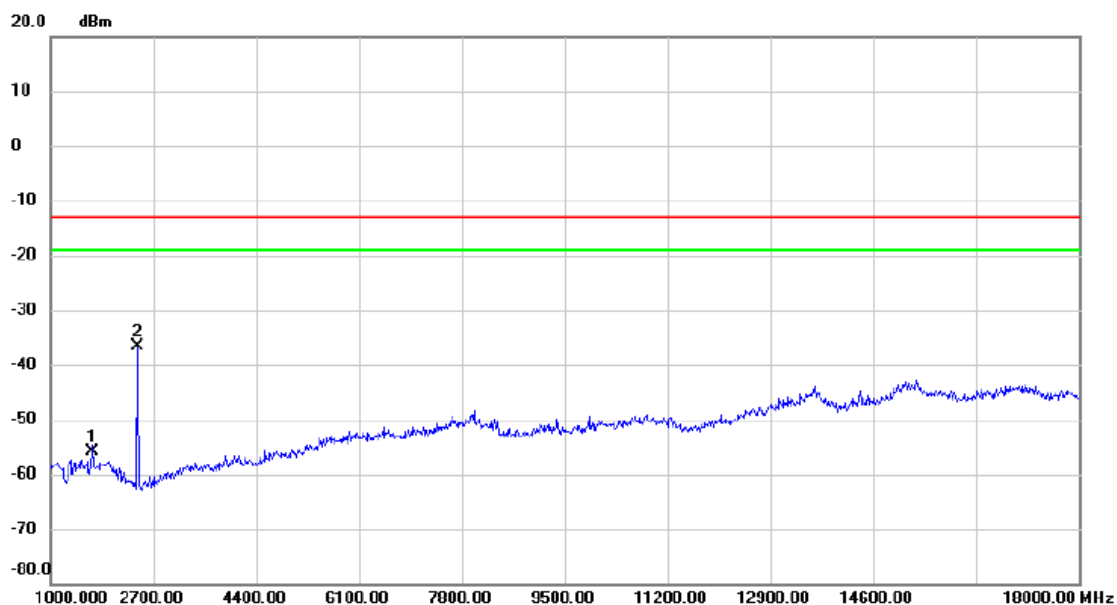
LTE Band 5_TX CH20600_10M



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin		
		MHz	Level	Factor	ment			Detector	Comment
			dBm	dB	dBm	dBm	dB		
1	*	2428.000	-41.01	12.02	-28.99	-13.00	-15.99	peak	
2		5182.000	-57.27	15.12	-42.15	-13.00	-29.15	peak	

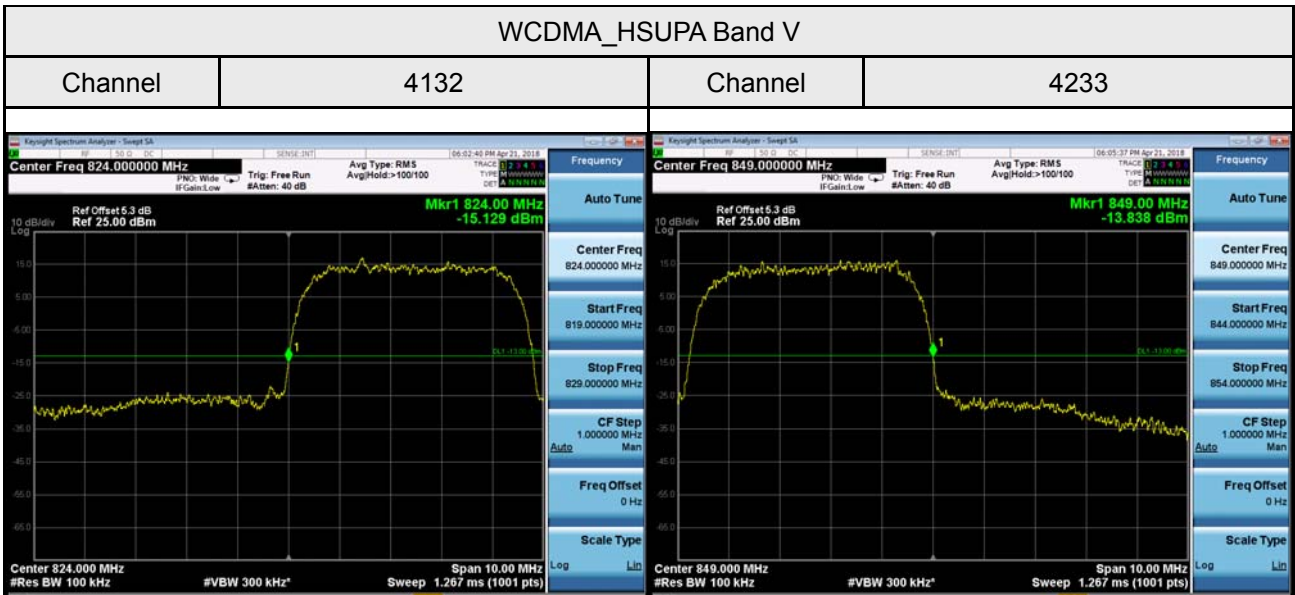
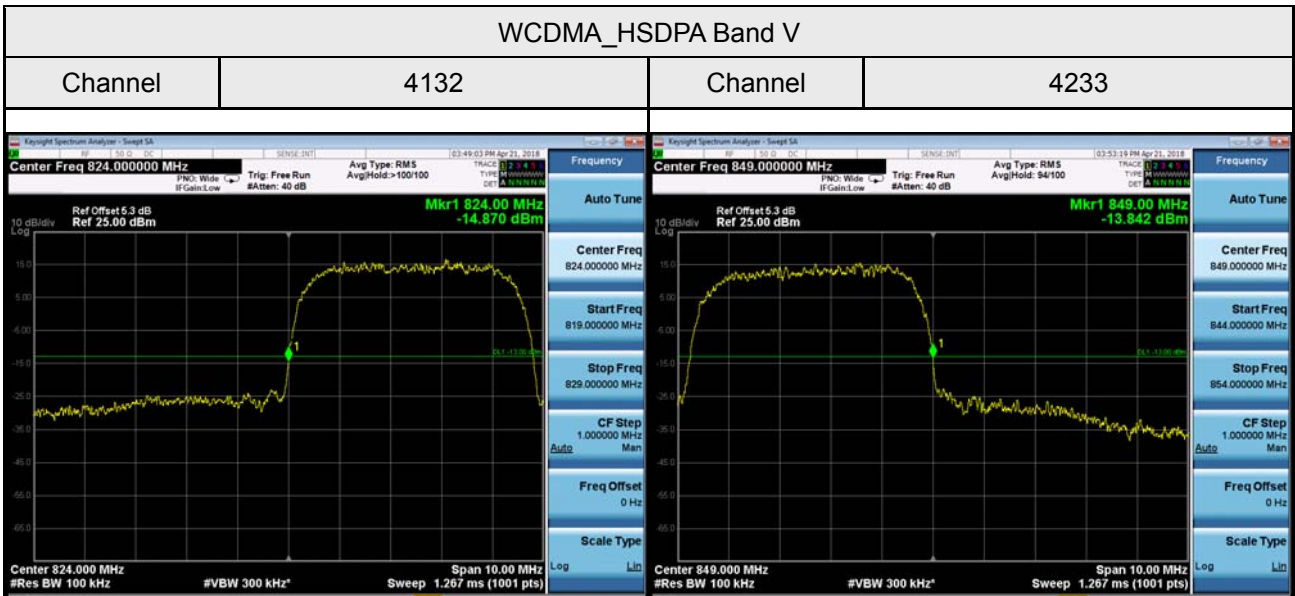
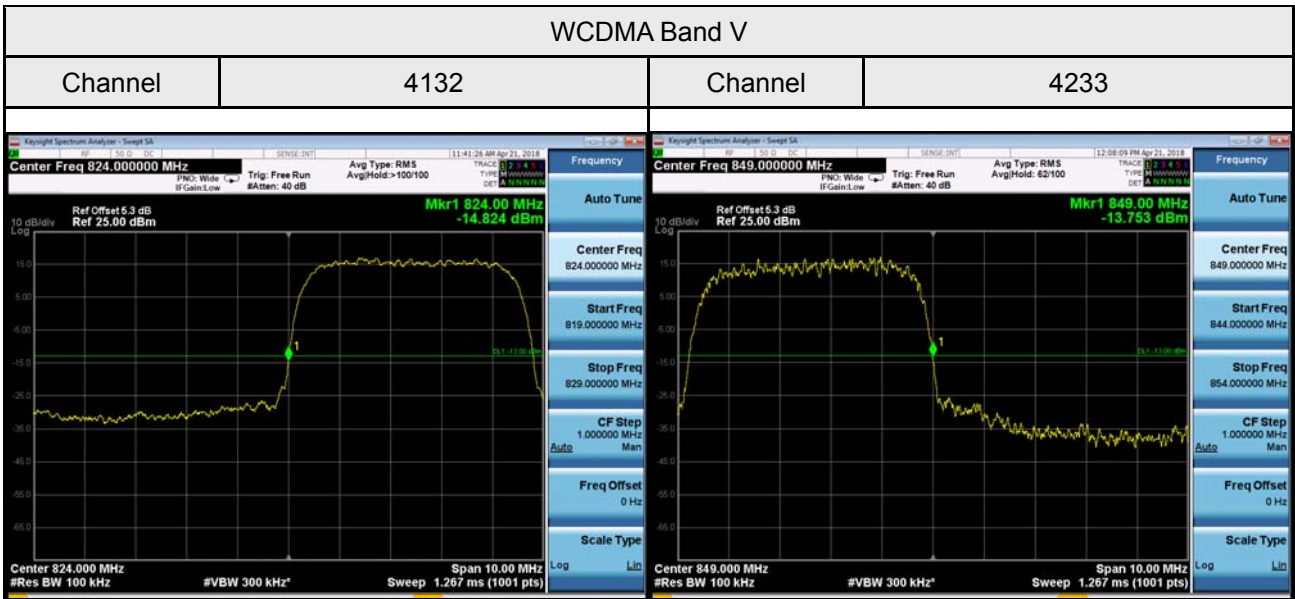
Test Mode:	LTE Band 5_TX CH20600_10M
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Horizontal



No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1		1680.000	-64.07	8.17	-55.90	-13.00	-42.90	peak	
2	*	2428.000	-42.16	5.66	-36.50	-13.00	-23.50	peak	

APPENDIX G - BAND EDGE



LTE Band 5_1.4M

1RB0

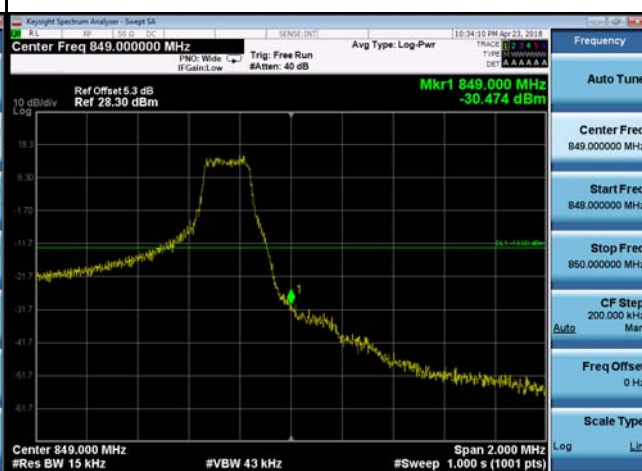
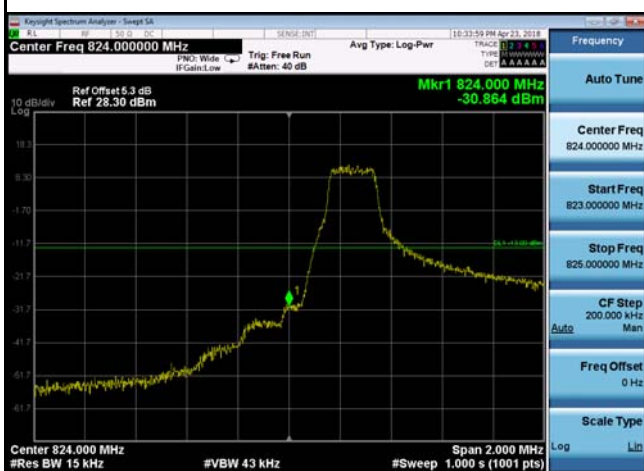
1RB5

Channel

20407

Channel

20643



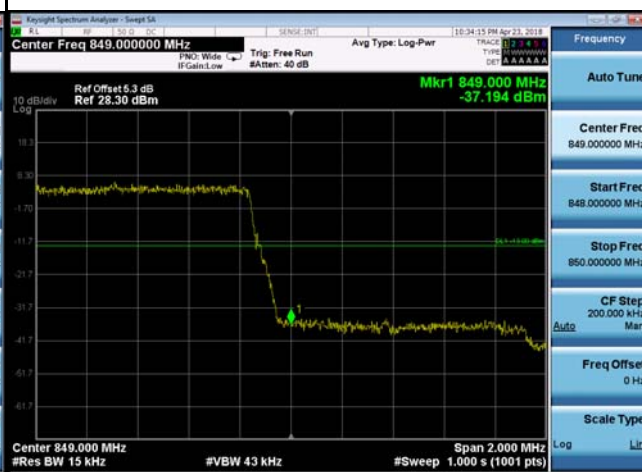
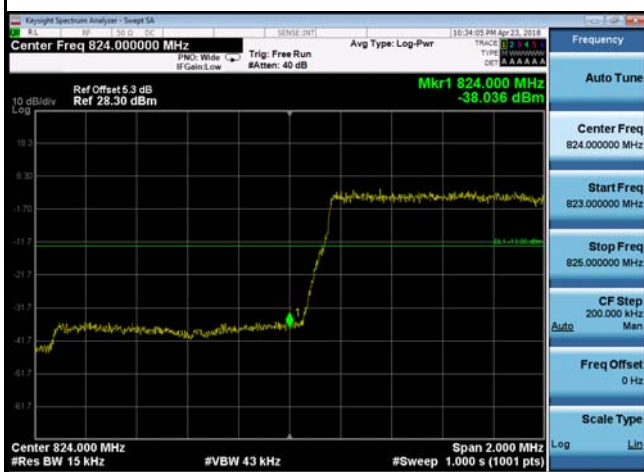
6RB0

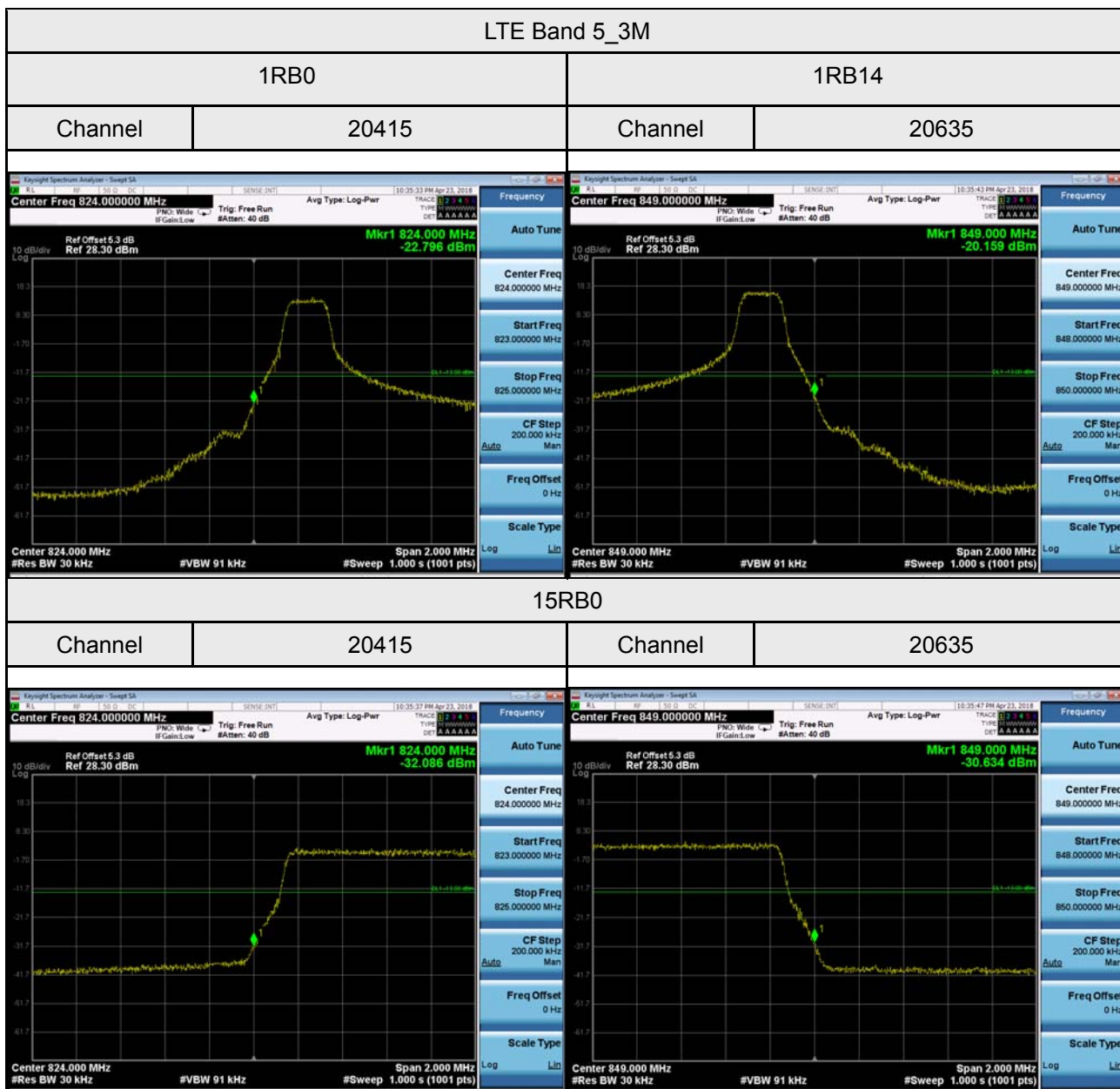
Channel

20407

Channel

20643





LTE Band 5_5M

1RB0

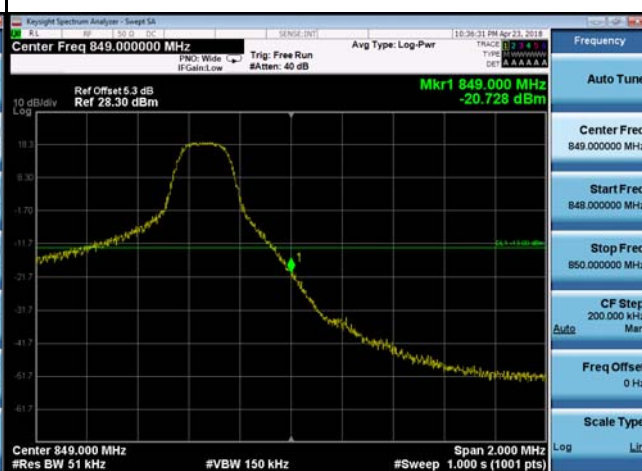
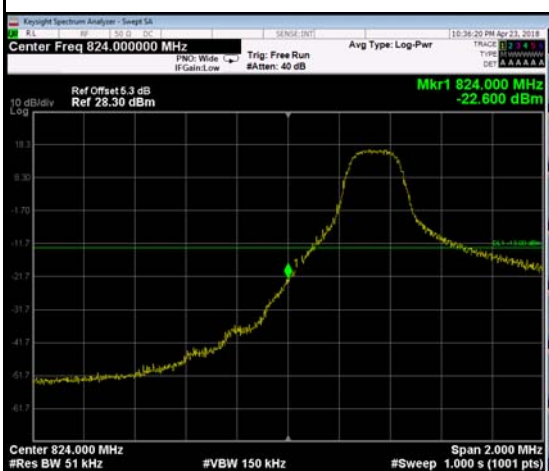
1RB24

Channel

20425

Channel

20625



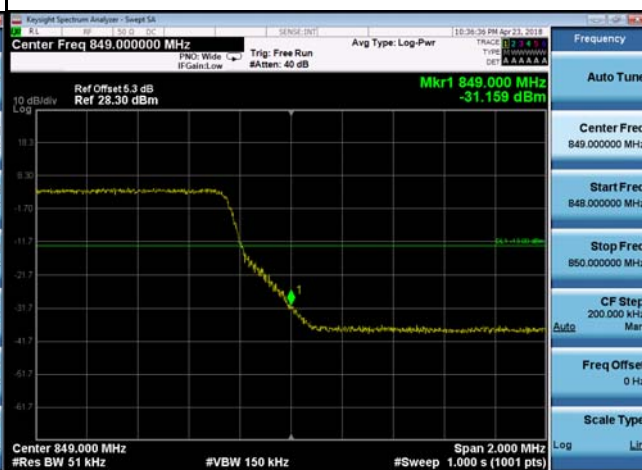
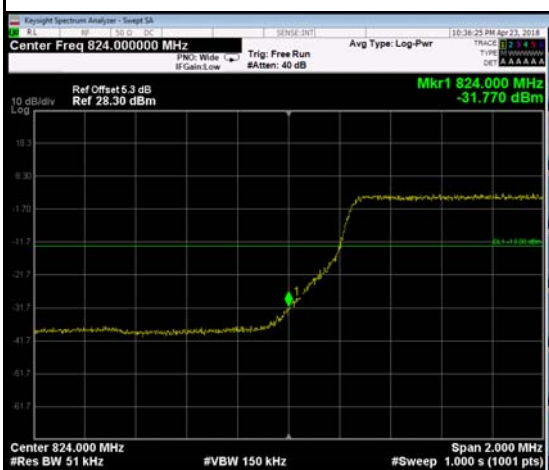
25RB0

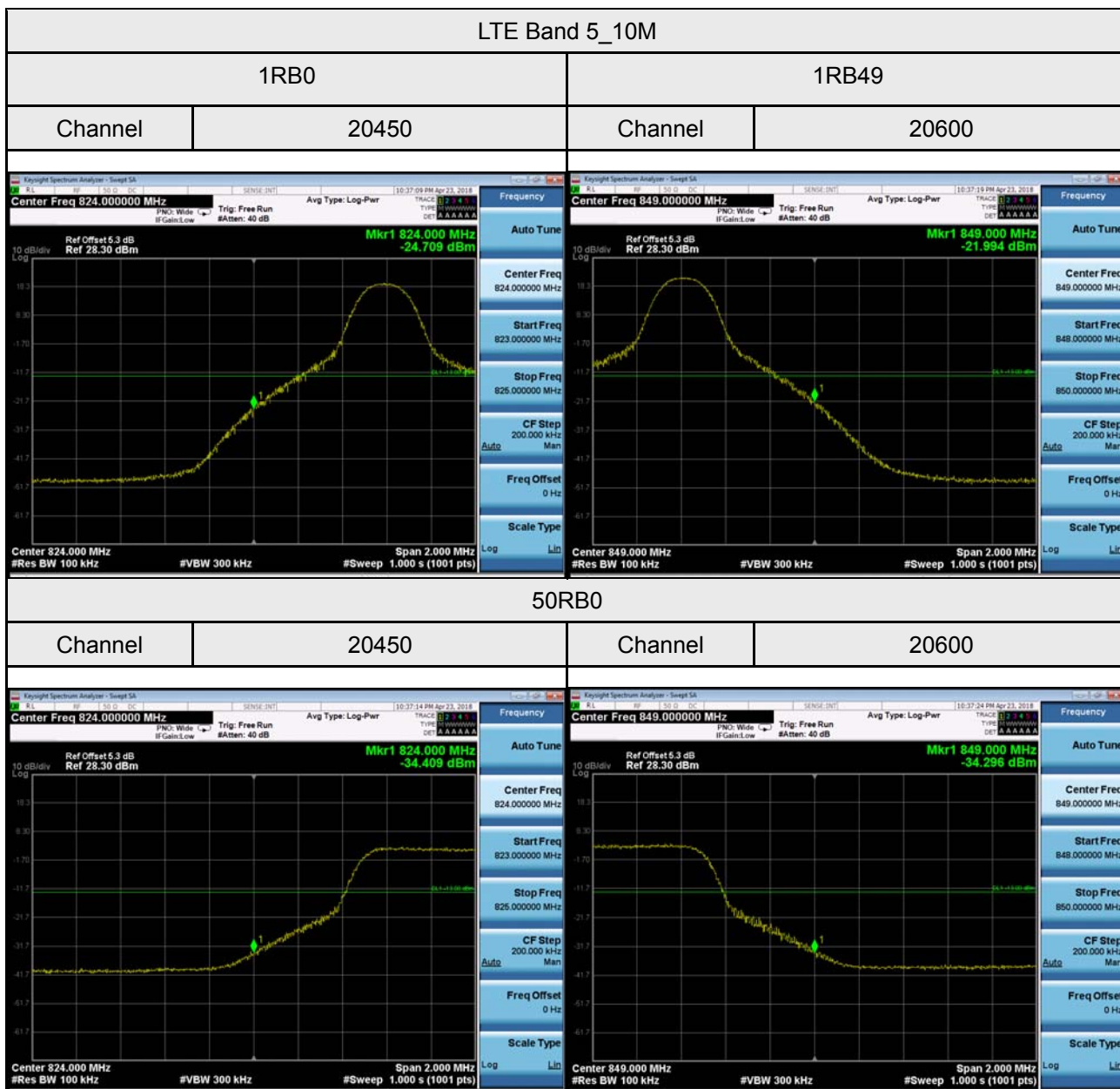
Channel

20425

Channel

20625



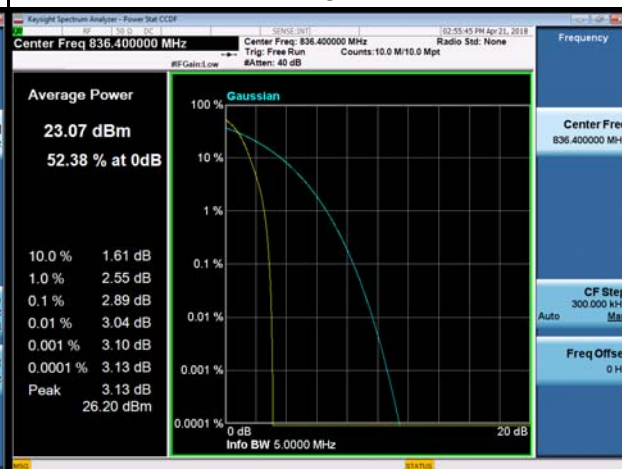


APPENDIX H - PEAK TO AVERAGE RATIO

WCDMA Band V Spectrum Plot

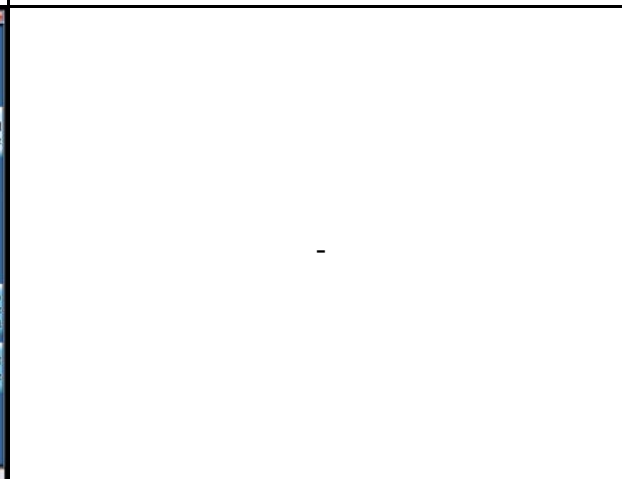
4132

4182



4233

-



WCDMA_HSDPA Band V Spectrum Plot

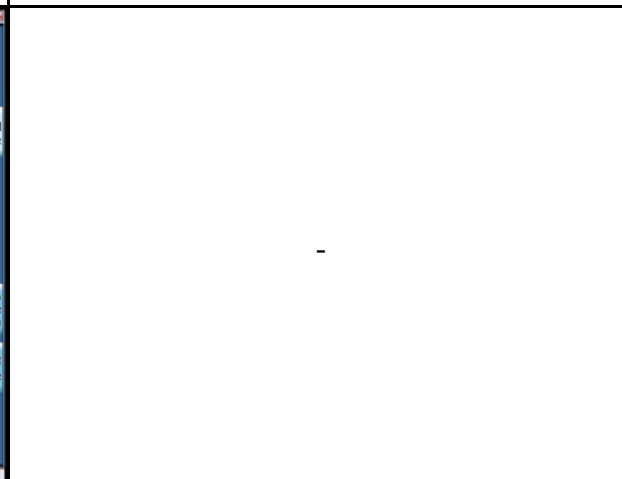
4132

4182



4233

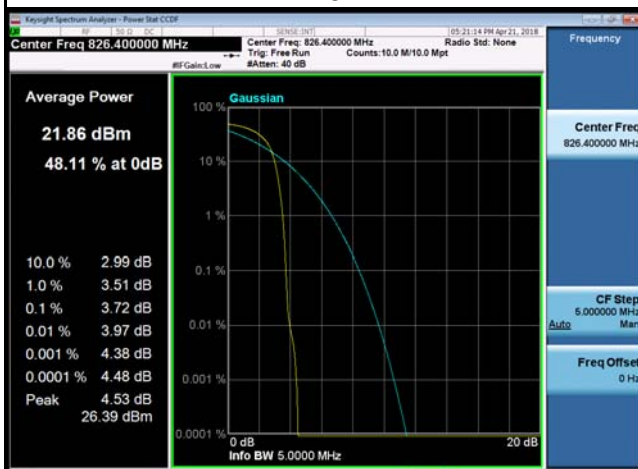
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WCDMA_HSUPA Band V Spectrum Plot

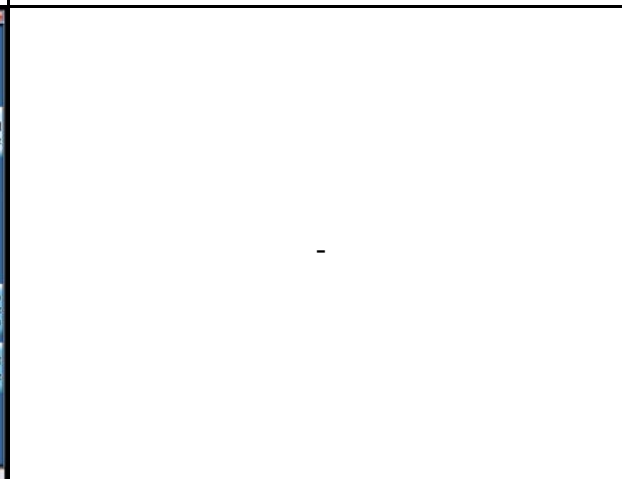
4132

4182



4233

-

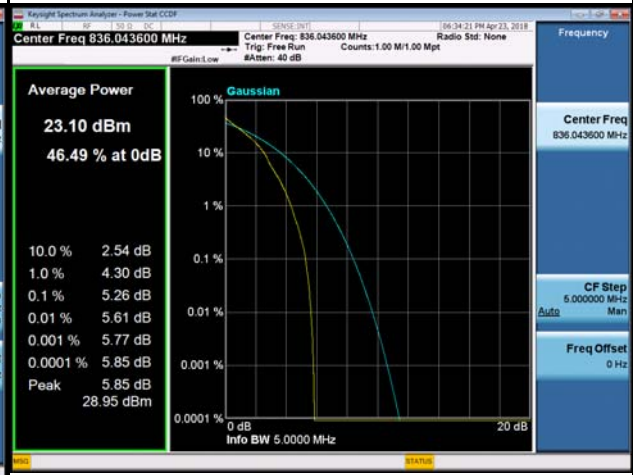


LTE Band 5 Spectrum Plot_1.4M

QPSK-20407



QPSK-20525



QPSK-20643



16QAM-20407



16QAM-20525

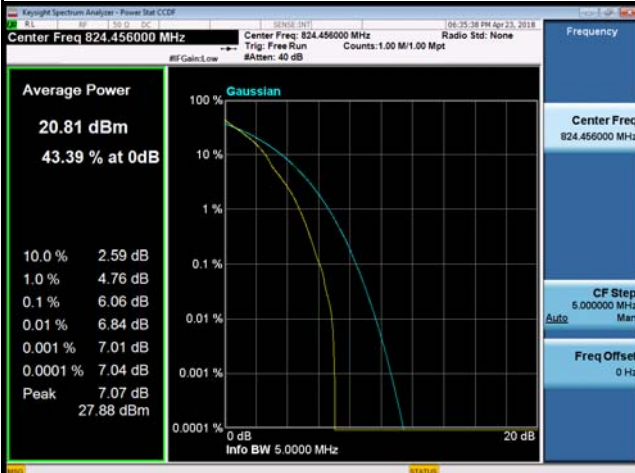


16QAM-20643



LTE Band 5 Spectrum Plot_3M

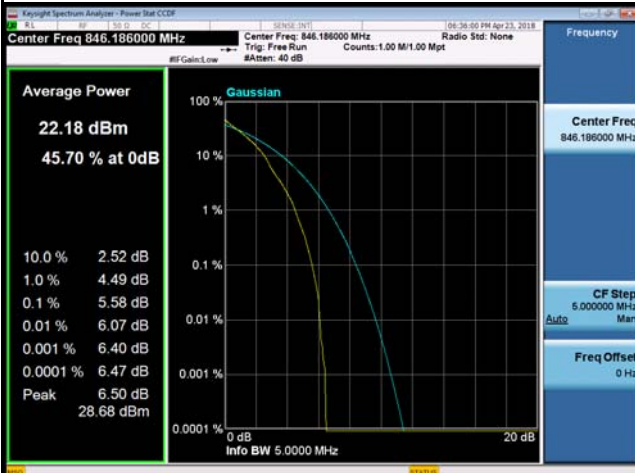
QPSK-20415



QPSK-20525



QPSK-20635



16QAM-20415



16QAM-20525



16QAM-20635



LTE Band 5 Spectrum Plot_5M

QPSK-20425



QPSK-20525



QPSK-20625



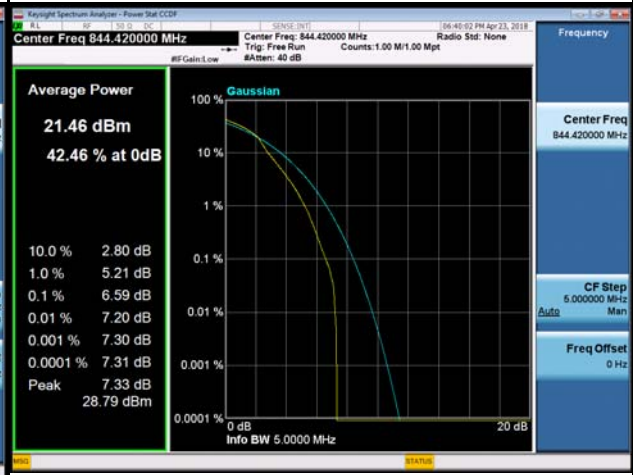
16QAM-20425



16QAM-20525

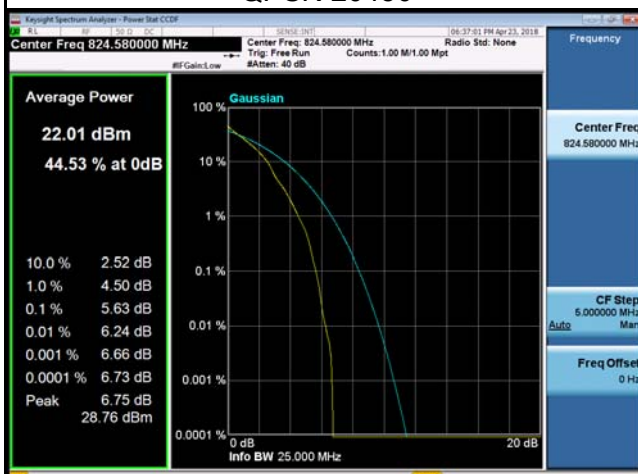


16QAM-20625



LTE Band 5 Spectrum Plot_10M

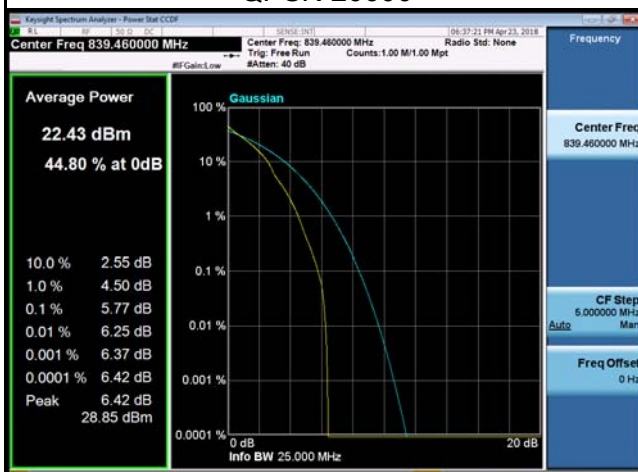
QPSK-20450



QPSK-20525



QPSK-20600



16QAM-20450



16QAM-20525



16QAM-20600



APPENDIX I - FREQUENCY STABILITY

Test Mode:	WCDMA Band 5_CH4233
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Temperature vs. Frequency Stability

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-30	4.41	0.005272597	±2.5
-20	3.40	0.004065041	
-10	7.15	0.008548541	
0	3.76	0.004495457	
10	8.39	0.010031086	
20	7.83	0.009361549	
30	2.52	0.003012912	
40	6.42	0.007675753	
50	1.52	0.001817312	
Max. Deviation (ppm)	8.39	0.010031086	

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
4.2	3.46	0.004136777	±2.5
3.8	1.39	0.001661884	
3.6	4.04	0.004830225	
Max. Deviation (ppm)	4.04	0.004830225	

Test Mode:	LTE Band 5_CH20643_1.4M
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Temperature vs. Frequency Stability

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-30	3.39	0.0040526	±2.5
-20	-6.20	-0.007411835	
-10	-3.63	-0.00433951	
0	-3.40	-0.004064555	
10	4.75	0.005678422	
20	-3.64	-0.004351464	
30	-2.78	-0.003323371	
40	3.12	0.003729827	
50	4.09	0.00488942	
Max. Deviation (ppm)	-6.2	-0.007411835	

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
4.2	3.27	0.003909145	±2.5
3.8	3.43	0.004100418	
3.6	-2.65	-0.003167962	
Max. Deviation (ppm)	3.43	0.004100418	

Test Mode:	LTE Band 5_CH20635_3M
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Temperature vs. Frequency Stability

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-30	-4.10	-0.004901375	±2.5
-20	3.28	0.0039211	
-10	4.31	0.005152421	
0	4.96	0.005929468	
10	-3.13	-0.003741781	
20	3.79	0.004530783	
30	-4.29	-0.005128512	
40	1.08	0.001291094	
50	3.22	0.003849372	
Max. Deviation (ppm)	4.96	0.005929468	

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
4.2	-2.45	-0.00292887	±2.5
3.8	3.15	0.00376569	
3.6	-3.13	-0.003741781	
Max. Deviation (ppm)	3.15	0.00376569	

Test Mode:	LTE Band 5_CH20625_5M
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Temperature vs. Frequency Stability

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-30	6.15	0.007352062	±2.5
-20	3.10	0.003705918	
-10	-2.10	-0.00251046	
0	3.91	0.004674238	
10	-2.94	-0.003514644	
20	3.56	0.004255828	
30	4.77	0.005702331	
40	3.33	0.003980873	
50	-3.15	-0.00376569	
Max. Deviation (ppm)	6.15	0.007352062	

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
4.2	-3.11	-0.003717872	±2.5
3.8	-4.36	-0.005212194	
3.6	-2.00	-0.002390915	
Max. Deviation (ppm)	-4.36	-0.005212194	

Test Mode:	LTE Band 5_CH20600_10M
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Temperature vs. Frequency Stability

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-30	-4.22	-0.00504483	±2.5
-20	6.51	0.007782427	
-10	1.41	0.001685595	
0	-4.71	-0.005630604	
10	-3.20	-0.003825463	
20	-5.64	-0.006742379	
30	6.17	0.007375971	
40	2.06	0.002462642	
50	1.30	0.001554094	
Max. Deviation (ppm)	6.51	0.007782427	

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
4.2	-3.45	-0.004124328	±2.5
3.8	-2.44	-0.002916916	
3.6	3.74	0.00447101	
Max. Deviation (ppm)	3.74	0.00447101	