FCC Radio Test Report

FCC ID: QISMS2372H-517

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

Project No.	: 1708C331
Equipment	: LTE USB Stick
Model Name	: MS2372h-517
Applicant	: Huawei Technologies Co., Ltd.
Address	: Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District, Shenzhen, 518129, P.R.C

Date of Receipt	: Aug. 30, 2017
Date of Test	: Aug. 30, 2017 ~ Sep. 22, 2017
Issued Date	: Sep. 25, 2017
Tested by	: BTL Inc.

Technical Engineer : Kenji Lin
(Kenji Lin)

Authorized Signatory : Andy Chiu
(Andy Chiu)

BTL INC.

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Testing Laboratory
0659

Declaration

BTL represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

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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-2-1708C331	Original Issue.	Sep. 25, 2017

1. CERTIFICATION

Equipment	:	LTE USB Stick
Brand Name	:	HUAWEI
Model Name	:	MS2372h-517
Applicant	:	Huawei Technologies Co.,Ltd.
Manufacturer	:	Huawei Technologies Co.,Ltd.
Address	:	Administration Building, Huawei Base, Bantian, Longgang District ,Shenzhen 518129, P.R.China
Factory	:	Huawei Technologies Co.,Ltd.
Address	:	Administration Building, Huawei Base, Bantian, Longgang District ,Shenzhen 518129, P.R.China
Date of Test	:	Aug. 30, 2017 ~ Sep. 22, 2017
Test Sample	:	Engineering Sample
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 v02r02

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-2-1708C331) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of TAF according to the ISO-17025 quality assessment standard and technical standard(s).

Test results included in this report is only for the DCS1900, 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:

Radiated emissions Test (Below 1 GHz):
CB15: (FCC RN:674415; FCC DN:TW0659)
No. 68-1, Ln. 169, Sec.2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan

Radiated emissions Test (Above 1 GHz):
CB15: (FCC RN:674415; FCC DN:TW0659)
No. 68-1, Ln. 169, Sec.2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan

Conducted Test:
TR01: (FCC RN:674415; FCC DN:TW0659)
No. 68-1, Ln. 169, Sec.2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan

2.2 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. The BTL measurement uncertainty is less than the CISPR 16-4-2 U_{cispr} requirement.

The reported uncertainty of measurement **y** ± **U**, where expanded uncertainty **U** is based on astandard uncertainty multiplied by a coverage factor of **k=2**, providing a level of confidence of approximately **95**%.

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	LTE USB Stick			
Brand Name	HUAWEI			
Model Name	MS2372h-517			
Model Difference	N/A			
Modulation Type	GSM/GPRS	GMSK		
	EDGE	GMSK, 8PSK		
	WCDMA	Uplink: BPSK Downlink: QPSK		
	WCDMA(HSDPA/HSUPA/HSPA+)	16QAM		
	LTE	QPSK, 16QAM		
Operation Frequency	GSM /EDGE/GPRS	1850.2 ~ 1909.8 MHz		
	WCDMA Band 2	1852.4 ~ 1907.6 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	GSM/GPRS	GMSK	30.48	dBm
	EDGE	8PSK	26.62	dBm
	WCDMA	BPSK	24.50	dBm
	WCDMA_HSDPA	16QAM	23.88	dBm
	WCDMA_HSUPA	16QAM	23.77	dBm
	LTE 2 (Channel Bandwidth: 5MHz)	QPSK	24.08	dBm
		16QAM	23.84	dBm
	LTE 2 (Channel Bandwidth: 10MHz)	QPSK	24.72	dBm
		16QAM	24.08	dBm
	LTE 2 (Channel Bandwidth: 15MHz)	QPSK	24.80	dBm
		16QAM	24.05	dBm
	LTE 2 (Channel Bandwidth: 20MHz)	QPSK	24.66	dBm
		16QAM	24.16	dBm
Antenna Type	Fixed Internal Antenna			
Antenna Gain	3.90 dBi(DCS1900),3.9 dBi(WCDMA BAND 2&LTE BAND 2)			
Hardware Version	21.328.01.03.00			
Softwarre Version	CL1MS2372HM VER.B			
IMEI No.1	Radiated	866667030005580		
	Conducted	866667030005572		
Power Source	Supplied from AC/DC adapter.			
Power Rating	100-240V~ 5V/1.0A			

Note:

1. For a more detailed features description, please refer to the manufacturer’s specifications or the user's manual.

3.2 DESCRIPTION OF TEST MODES AND TEST CONDITION

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

GSM MODE			
Test Item	Available Channel	Tested Channel	Mode
EIRP	512 to 810	512, 661, 810	GSM, EDGE
Conducted Output Power	512 to 810	512, 661, 810	GSM, EDGE
Occupied Bandwidth	512 to 810	512, 661, 810	GSM, EDGE
Condcudeted Emission	512 to 810	661	GSM, EDGE
Radiated Emission	512 to 810	512	GSM, EDGE
Band Edge	512 to 810	512, 810	GSM, EDGE
Peak to Average Ratio	512 to 810	512, 661, 810	GSM, EDGE
Frequency Stability	512 to 810	661	GSM, EDGE

WCDMA MODE			
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
Condcudeted 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

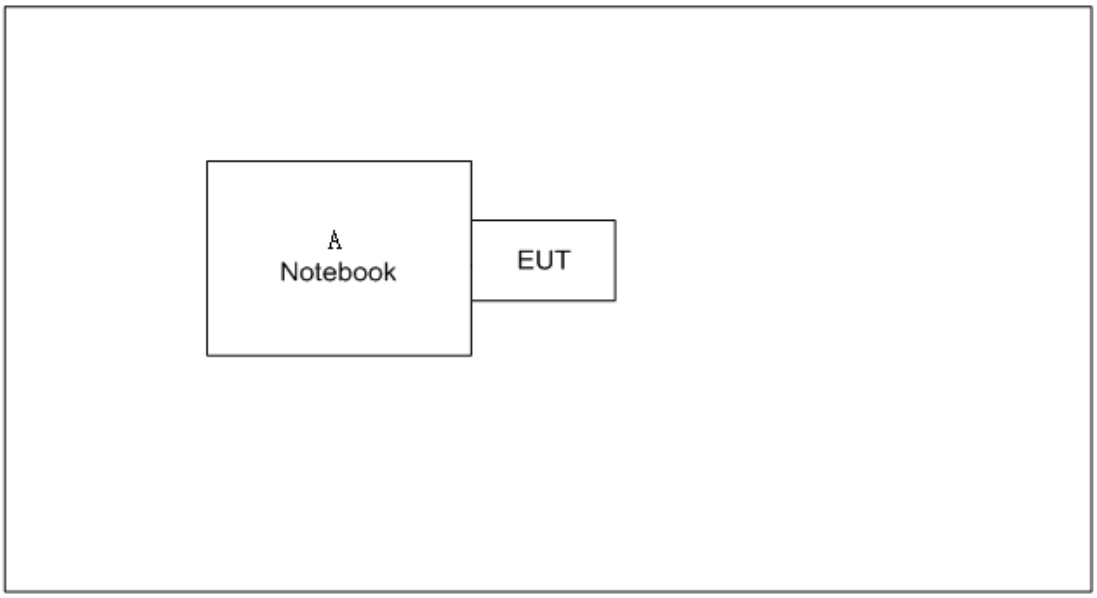
Note: This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in **QPSK** modulation.

LTE BAND 2 MODE					
Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
EIRP	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	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 Emission	18625 to 19175	18900	5MHz	QPSK	1 RB / 0 RB Offset
	18650 to 19150	18900	10MHz	QPSK	1 RB / 0 RB Offset
	18675 to 19125	18900	15MHz	QPSK	1 RB / 0 RB Offset
	18700 to 19100	18900	20MHz	QPSK	1 RB / 0 RB Offset
Radiated Emission	18625 to 19175	19100	5MHz	QPSK	1 RB / 0 RB Offset
	18700 to 19100	18900	20MHz	QPSK	1 RB / 0 RB Offset
Band Edge	18625 to 19175	18625	5MHz	QPSK	1 RB / 0 RB Offset
					25 RB / 0 RB Offset
		19175	5MHz	QPSK	1 RB / 24 RB Offset
					25 RB / 0 RB Offset
	18650 to 19150	18650	10MHz	QPSK	1 RB / 0 RB Offset
					50 RB / 0 RB Offset
		19150	10MHz	QPSK	1 RB / 49 RB Offset
					50 RB / 0 RB Offset
	18675 to 19125	18675	15MHz	QPSK	1 RB / 0 RB Offset
					75 RB / 0 RB Offset
		19125	15MHz	QPSK	1 RB / 74 RB Offset
					75 RB / 0 RB Offset
	18700 to 19100	18700	20MHz	QPSK	1 RB / 0 RB Offset
					100 RB / 0 RB Offset
		19100	20MHz	QPSK	1 RB / 99 RB Offset
					100 RB / 0 RB Offset
Peak To Average Ratio	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	18625 to 19175	18900	5MHz	QPSK	1 RB / 0 RB Offset
	18650 to 19150	18900	10MHz	QPSK	1 RB / 0 RB Offset
	18675 to 19125	18900	15MHz	QPSK	1 RB / 0 RB Offset
	18700 to 19100	18900	20MHz	QPSK	1 RB / 0 RB Offset

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 3.8V

3.3 BLOCKDIGRAMSHOWINGTHECONFIGURATIONOFSYSTEMTESTED 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.
A	Notebook	Dell 745	DCSM	DOC	G7K832X

Item	Shielded Type	Ferrite Core	Length	Note
-	-	-	-	-

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:

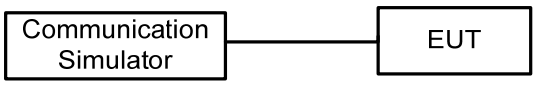
EIRP= Conducted Power +Antenan gain
ERP power=EIPR power-2.15dBi.

Conducted Power:

The EUT was set up for the maximum power with GSM, GPRS, EDGE, WCDMA, CDMA, 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

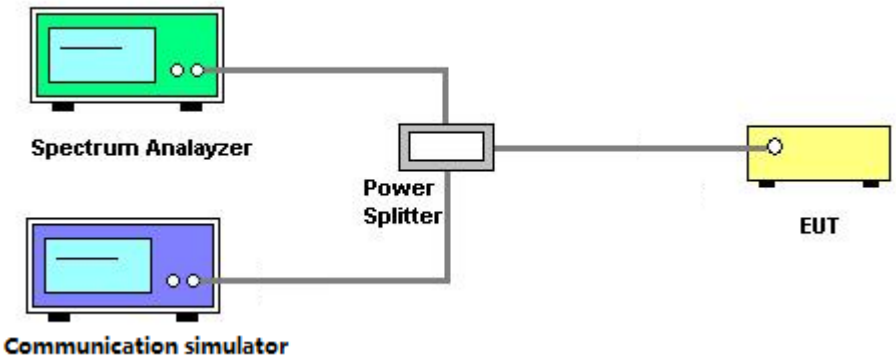
Please refer to the Attachment A.

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 Attachment B.

4.3 CONDUCTED EMISSIONS MEASUREMENT

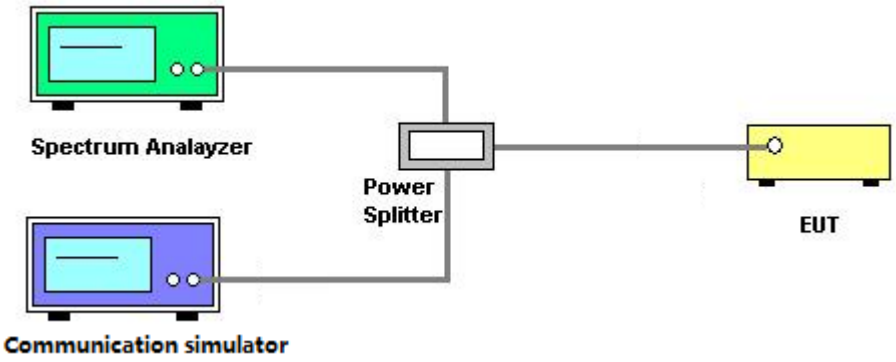
4.3.1 LIMIT

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 v02r02 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>=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+10log(P)dB below the transmitter power P(Watts)
   =P(W)-[43+10log(P)](dB)
   =[30+10log(P)](dBm)-[43+10log(P)](dB)
   =-13dBm

4.3.3 TESTSETUP LAYOUT



4.3.4 TESTDEVIATION

No deviation

4.3.5 TEST RESULTS

Please refer to the Attachment 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

This test setup layout is the same as that shown in **section 4.1.3.**

4.4.4 TESTDEVIATION

No deviation

4.4.5 TEST RESULTS

Please refer to the Attachment D.

4.5 BAND EDGE MEASUREMENT

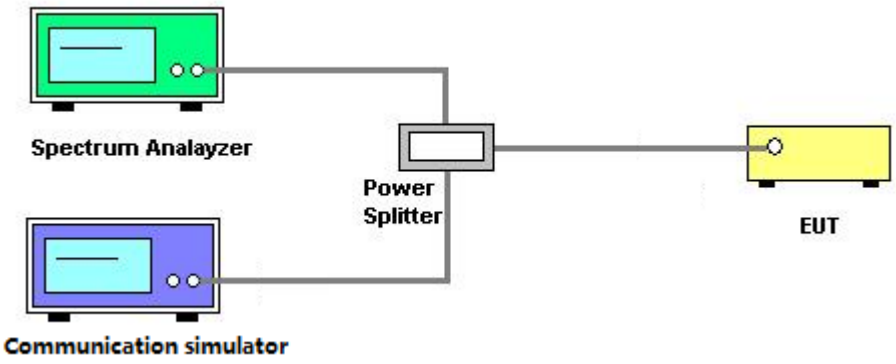
4.5.1 LIMIT

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 1MHz. RB of the spectrum is 3kHz and VB of the spectrum is 10kHz (GSM/GPRS/EDGE).
3. 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).
4. 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).
5. 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).
6. 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).
7. 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 Attachment E.

4.6 PEAK TO AVERAGE RATIO MEASUREMENT

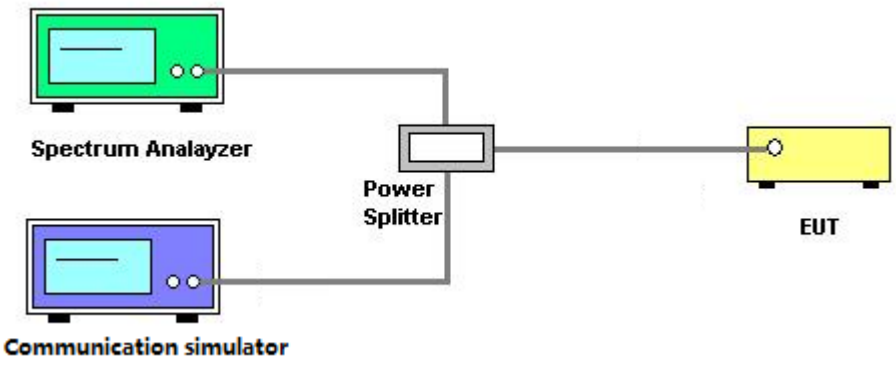
4.6.1 LIMIT

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 ≥ 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 Attachment F.

4.7 FREQUENCY STABILITY MEASUREMENT

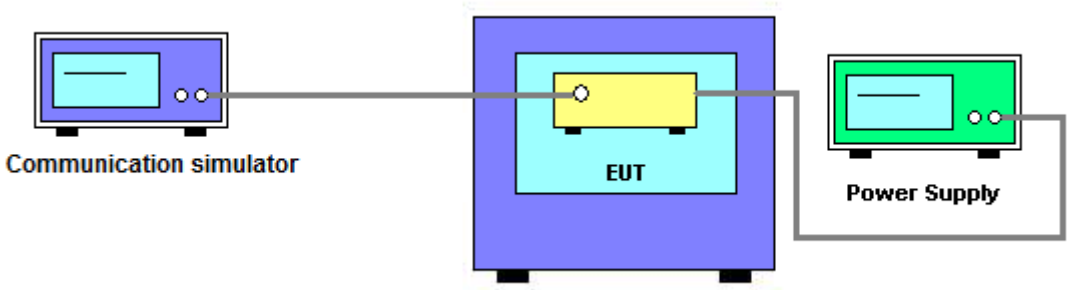
4.7.1 LIMIT

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 ±0.5°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 Attachment G.

5. LIST OF MEASUREMENT EQUIPMENTS

Radiated Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Preamplifier	EMCI	012645B	980267	Feb. 28, 2018
2	Preamplifier	EMCI	EMC02325	980217	Dec. 29, 2017
3	Preamplifier	EMCI	EMC2654045	980030	Feb. 14, 2018
4	Test Cable	EMCI	EMC104-SM-SM-8000	8m	Jan. 04, 2018
5	Test Cable	EMCI	EMC104-SM-SM-800	150207	Jan. 04, 2018
6	Test Cable	EMCI	EEMC104-SM-SM-3000	151205	Jan. 04, 2018
7	MXE EMI Receiver	Agilent	N9038A	MY55420127	Jan. 09, 2018
8	Signal Analyzer	Agilent	N9010A	MY52220990	Feb. 22, 2018
9	Loop Ant	EMCO	6502	42960	Nov. 24, 2017
10	Horm Ant	SCHWARZBECK	BBHA 9120D	9120D-1342	Feb. 28, 2018
11	Horm Ant	Schwarzbeck	BBHA 9170	187	Dec. 07, 2017
12	Trilog-Broadband Antenna	Schwarzbeck	VULB 9168	9168-548	Jan. 16, 2018
13	5dB Attenuator	EMCI	EMCI-N-6-05	AT-N0623	Jan. 16, 2018

Conducted Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	Keysight	N9010A	MY54200240	Aug. 27, 2018
2	Radio Com Analyzer	Anritsu	MT8820C	6201525878	Sep. 05, 2019

Frequency Stability Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	Keysight	N9010A	MY54200240	Aug. 27, 2018
2	Radio Com Analyzer	Anritsu	MT8820C	6201525878	Sep. 05, 2019
3	Thermal Chamber	HOLINK	CHOLINK/H-T-1F-D	BA03101701	May 14, 2018

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

ATTACHMENT A - OUTPUT POWER

Conducted Power:

DCS1900 (Capsensor Off)	Burst Conducted Power (dBm)		
	512CH	661CH	810CH
	1850.2MHz	1880MHz	1909.8MHz
GSM (CS)	28.66	28.11	28.35
GPRS/EDGE (GMSK)	28.73	28.17	28.64
	26.71	26.54	26.79
	24.58	24.37	24.71
	23.62	23.4	23.59
EDGE (8PSK)	24.85	24.87	24.81
	22.71	22.191	22.86
	20.81	20.86	20.88
	18.98	18.86	19.01

Modulation	Band	WCDMA Band 2(Capsensor Off)		
	Tx Channel	9262CH	9400CH	9538CH
	Rx Channel	9662CH	9800CH	9938CH
	Frequency	1852.4MHz	1880MHz	1907.6MHz
BPSK	RMC 12.2K	26.65	26.02	26.25
	RMC 64K	26.49	25.86	26.39
	RMC 144K	26.53	25.88	26.33
	RMC 384K	26.58	25.97	26.44
16QAM	HSDPA Subtest-1	26.03	25.44	25.81
	HSDPA Subtest-2	25.99	25.41	25.71
	HSDPA Subtest-3	26	25.32	25.76
	HSDPA Subtest-4	25.97	25.38	25.81
16QAM	HSUPA Subtest-1	25.92	25.35	25.81
	HSUPA Subtest-2	23.95	24.37	24.76
	HSUPA Subtest-3	23.79	23.48	23.62
	HSUPA Subtest-4	24.46	24.28	24.51
	HSUPA Subtest-5	25.18	24.81	25.27

LTE Band / BW	Modulation	RB Sizet	RB Offset	Low CH	Mid CH	High CH
				18625 CH	18900 CH	19175 CH
				1852.5 MHz	1880 MHz	1907.5 MHz
2 / 5M	QPSK	1	0	21.42	21.70	22.33
		1	12	22.30	22.18	22.27
		1	24	21.81	21.65	21.27
		12	0	21.00	21.28	21.39
		12	6	21.31	21.36	21.28
		12	13	21.18	21.24	21.11
		25	0	21.03	21.09	21.07
	16QAM	1	0	20.91	21.20	21.59
		1	12	21.67	22.09	21.57
		1	24	21.09	21.30	20.53
		12	0	20.14	20.50	20.58
		12	6	20.48	20.60	20.43
		12	13	20.35	20.48	20.24
		25	0	20.17	20.27	20.22

LTE Band / BW	Modulation	RB Sizet	RB Offset	Low CH	Mid CH	High CH
				18650 CH	18900 CH	19150 CH
				1855 MHz	1880 MHz	1905 MHz
2 / 10M	QPSK	1	0	21.82	22.06	22.73
		1	24	22.67	22.27	22.97
		1	49	22.14	21.46	21.33
		25	0	20.95	20.93	21.81
		25	12	21.39	20.94	21.72
		25	25	21.29	21.10	21.11
		50	0	21.01	21.27	21.21
	16QAM	1	0	21.20	21.77	22.00
		1	24	22.33	21.99	22.09
		1	49	21.84	21.12	20.40
		25	0	20.42	20.37	20.85
		25	12	20.84	20.39	20.70
		25	25	20.76	20.08	20.08
		50	0	20.49	20.26	20.25

LTE Band / BW	Modulation	RB Sizet	RB Offset	Low CH	Mid CH	High CH
				18675 CH	18900 CH	19125 CH
				1857.5 MHz	1880 MHz	1902.5 MHz
2 / 15M	QPSK	1	0	21.79	22.55	22.72
		1	37	22.42	22.20	23.05
		1	74	21.95	21.39	21.25
		36	0	20.85	21.39	21.83
		36	19	21.61	21.06	22.04
		36	39	21.58	20.77	21.22
		75	0	21.32	20.95	21.34
	16QAM	1	0	21.22	22.03	22.06
		1	37	22.17	21.67	22.30
		1	74	21.70	20.87	20.35
		36	0	20.41	20.87	20.81
		36	19	20.85	20.23	21.01
		36	39	20.81	19.96	20.19
		75	0	20.61	20.17	20.34

LTE Band / BW	Modulation	RB Sizet	RB Offset	Low CH	Mid CH	High CH
				18700 CH	18900 CH	19100 CH
				1860 MHz	1880 MHz	1900 MHz
2 / 20M	QPSK	1	0	22.12	22.66	22.47
		1	50	22.91	21.63	22.90
		1	99	22.58	22.01	21.66
		50	0	21.09	21.25	21.53
		50	25	21.55	20.97	21.69
		50	50	21.63	21.19	21.19
		100	0	21.47	21.32	21.39
	16QAM	1	0	21.58	21.94	22.01
		1	50	22.17	20.64	22.41
		1	99	22.13	21.52	21.04
		50	0	20.36	20.65	20.75
		50	25	20.67	20.11	20.92
		50	50	20.64	19.95	20.41
		100	0	20.48	20.08	20.62

EIRP Power

DCS1900 (Capsensor Off)	EIRP Power (dBm)		
	512CH	661CH	810CH
	1850.2MHz	1880MHz	1909.8MHz
GSM (CS)	**30.41**	29.86	30.10
GPRS/EDGE (GMSK)	**30.48**	29.92	30.39
	28.46	28.29	28.54
	26.33	26.12	26.46
	25.37	25.15	25.34
EDGE (8PSK)	26.60	**26.62**	26.56
	24.46	23.94	24.61
	22.56	22.61	22.63
	20.73	20.61	20.76

Modulation	Band	WCDMA Band 2(Capsensor Off)		
	Tx Channel	9262CH	9400CH	9538CH
	Rx Channel	9662CH	9800CH	9938CH
	Frequency	1852.4MHz	1880MHz	1907.6MHz
BPSK	RMC 12.2K	**24.50**	23.87	24.10
	RMC 64K	24.34	23.71	24.24
	RMC 144K	24.38	23.73	24.18
	RMC 384K	24.43	23.82	24.29
16QAM	HSDPA Subtest-1	**23.88**	23.29	23.66
	HSDPA Subtest-2	23.84	23.26	23.56
	HSDPA Subtest-3	23.85	23.17	23.61
	HSDPA Subtest-4	23.82	23.23	23.66
16QAM	HSUPA Subtest-1	**23.77**	23.20	23.66
	HSUPA Subtest-2	21.80	22.22	22.61
	HSUPA Subtest-3	21.64	21.33	21.47
	HSUPA Subtest-4	22.31	22.13	22.36
	HSUPA Subtest-5	23.03	22.66	23.12

LTE Band / BW	Modulation	RB Sizet	RB Offset	Low CH	Mid CH	High CH
				18625 CH	18900 CH	19175 CH
				1852.5 MHz	1880 MHz	1907.5 MHz
2 / 5M	QPSK	1	0	23.17	23.45	**24.08**
		1	12	24.05	23.93	24.02
		1	24	23.56	23.40	23.02
		12	0	22.75	23.03	23.14
		12	6	23.06	23.11	23.03
		12	13	22.93	22.99	22.86
		25	0	22.78	22.84	22.82
	16QAM	1	0	22.66	22.95	23.34
		1	12	23.42	**23.84**	23.32
		1	24	22.84	23.05	22.28
		12	0	21.89	22.25	22.33
		12	6	22.23	22.35	22.18
		12	13	22.10	22.23	21.99
		25	0	21.92	22.02	21.97

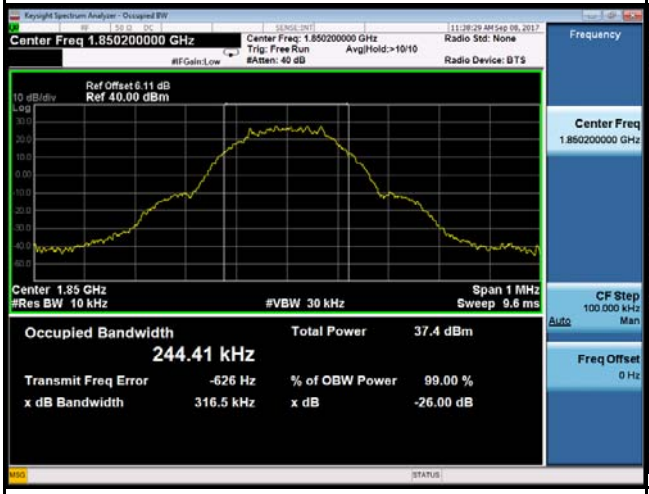
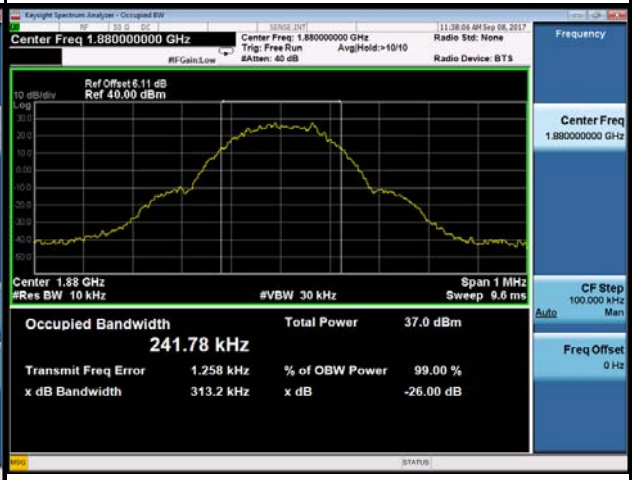
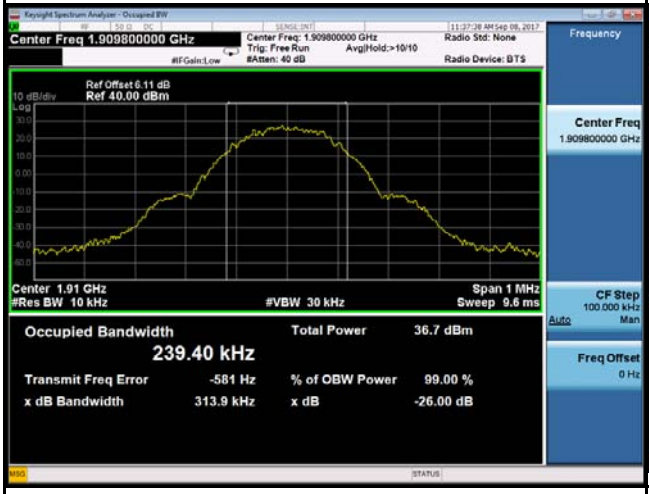
LTE Band / BW	Modulation	RB Sizet	RB Offset	Low CH	Mid CH	High CH
				18650 CH	18900 CH	19150 CH
				1855 MHz	1880 MHz	1905 MHz
2 / 10M	QPSK	1	0	23.57	23.81	24.48
		1	24	24.42	24.02	**24.72**
		1	49	23.89	23.21	23.08
		25	0	22.70	22.68	23.56
		25	12	23.14	22.69	23.47
		25	25	23.04	22.85	22.86
		50	0	22.76	23.02	22.96
	16QAM	1	0	22.95	23.52	23.75
		1	24	**24.08**	23.74	23.84
		1	49	23.59	22.87	22.15
		25	0	22.17	22.12	22.60
		25	12	22.59	22.14	22.45
		25	25	22.51	21.83	21.83
		50	0	22.24	22.01	22.00

LTE Band / BW	Modulation	RB Sizet	RB Offset	Low CH	Mid CH	High CH
				18675 CH	18900 CH	19125 CH
				1857.5 MHz	1880 MHz	1902.5 MHz
2 / 15M	QPSK	1	0	23.54	24.30	24.47
		1	37	24.17	23.95	**24.80**
		1	74	23.70	23.14	23.00
		36	0	22.60	23.14	23.58
		36	19	23.36	22.81	23.79
		36	39	23.33	22.52	22.97
		75	0	23.07	22.70	23.09
	16QAM	1	0	22.97	23.78	23.81
		1	37	23.92	23.42	**24.05**
		1	74	23.45	22.62	22.10
		36	0	22.16	22.62	22.56
		36	19	22.60	21.98	22.76
		36	39	22.56	21.71	21.94
		75	0	22.36	21.92	22.09

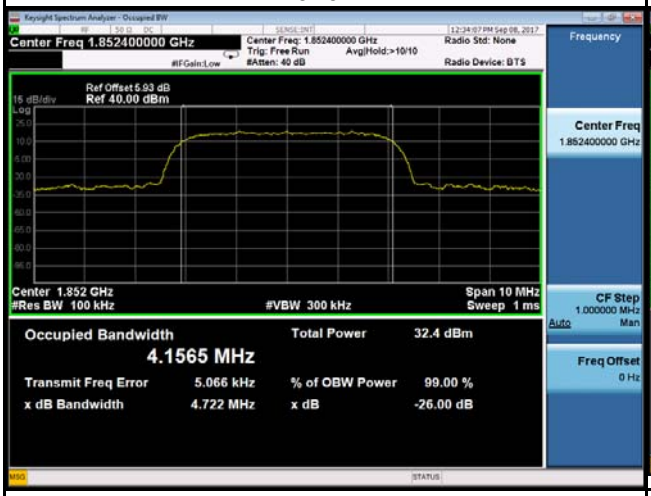
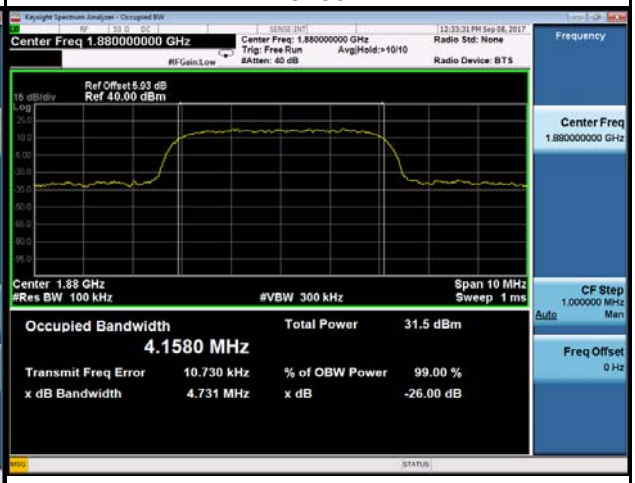
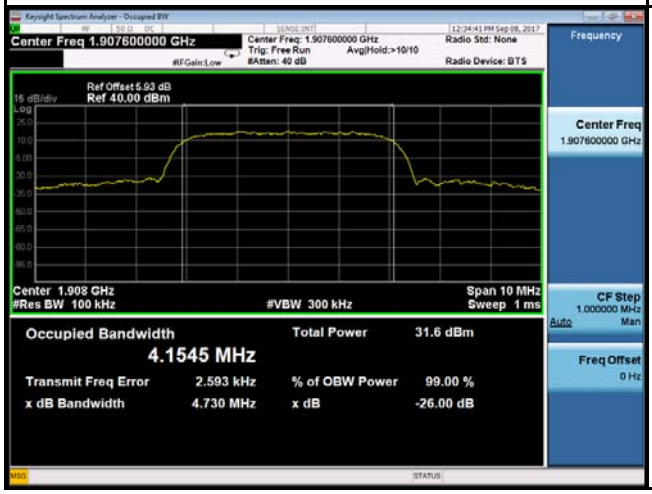
LTE Band / BW	Modulation	RB Sizet	RB Offset	Low CH	Mid CH	High CH
				18700 CH	18900 CH	19100 CH
				1860 MHz	1880 MHz	1900 MHz
2 / 20M	QPSK	1	0	23.87	24.41	24.22
		1	50	**24.66**	23.38	24.65
		1	99	24.33	23.76	23.41
		50	0	22.84	23.00	23.28
		50	25	23.30	22.72	23.44
		50	50	23.38	22.94	22.94
		100	0	23.22	23.07	23.14
	16QAM	1	0	23.33	23.69	23.76
		1	50	23.92	22.39	**24.16**
		1	99	23.88	23.27	22.79
		50	0	22.11	22.40	22.50
		50	25	22.42	21.86	22.67
		50	50	22.39	21.70	22.16
		100	0	22.23	21.83	22.37

ATTACHMENT B - OCCUPIED BANDWIDTH

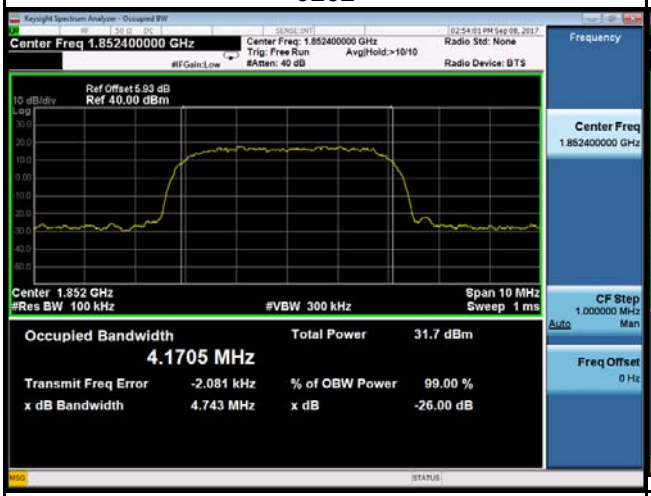
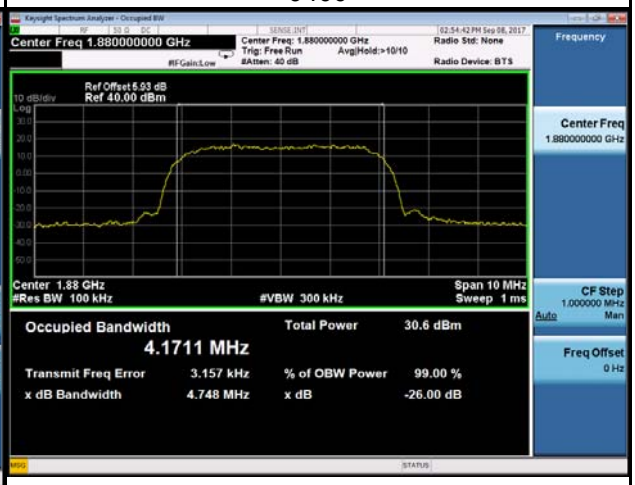
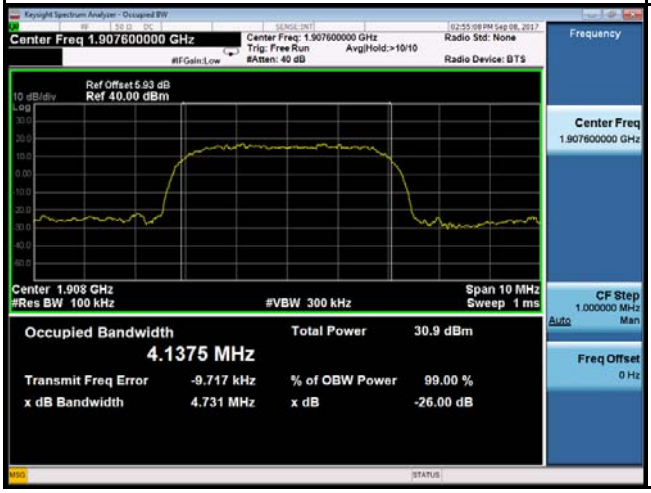
DCS1900					
GSM			EDGE		
CS			8PSK		
Channel	Frequency (MHz)	99% Occupied Bandwidth (kHz)	Channel	Frequency (MHz)	99% Occupied Bandwidth (kHz)
512	1850.2	244.41	512	1850.2	243.81
661	1880	241.78	661	1880	246.80
810	1909.8	239.40	810	1909.8	244.53
Channel	Frequency (MHz)	26dB Bandwidth (kHz)	Channel	Frequency (MHz)	26dB Bandwidth (kHz)
512	1850.2	316.50	512	1850.2	306.90
661	1880	313.20	661	1880	313.10
810	1909.8	313.90	810	1909.8	318.00

Spectrum Plot	
GSM -512	GSM-661
	
GSM-810	EDGE-512
	
EDGE-661	EDGE-810
	

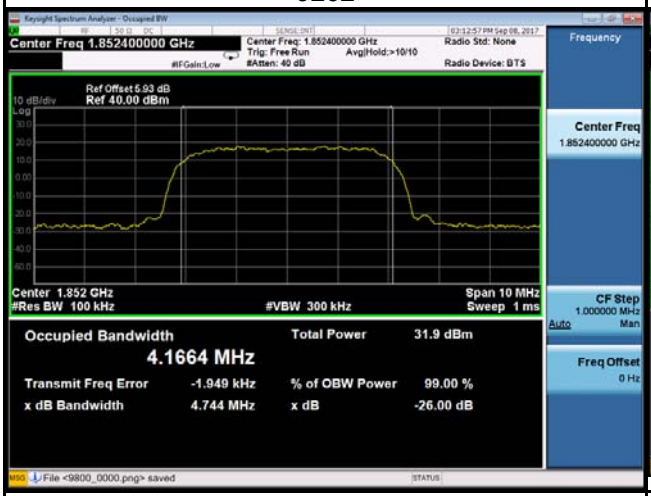
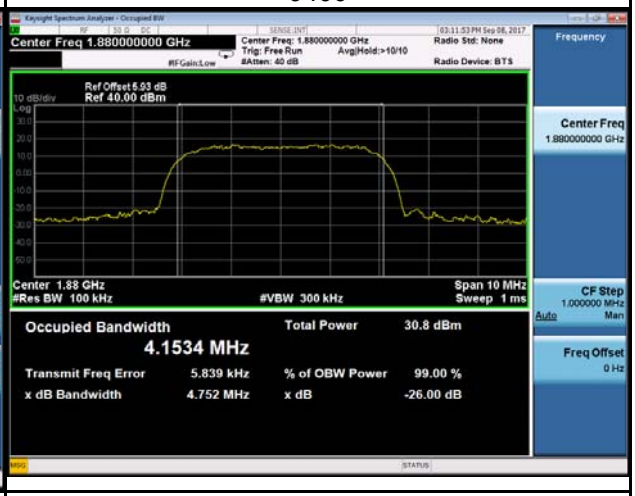
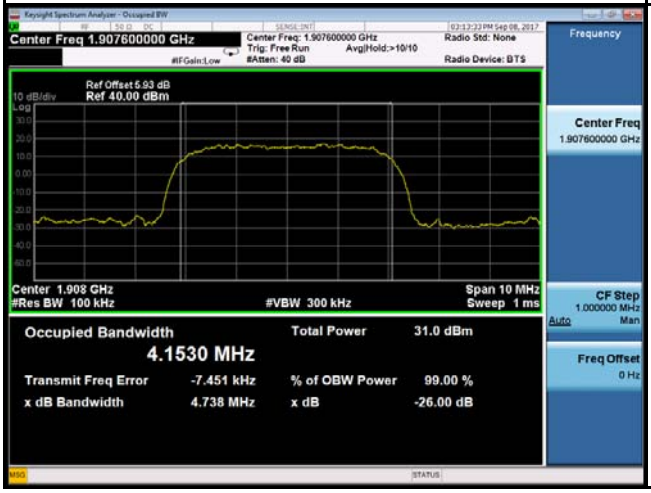
WCDMA Band 2					
BPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
9262	1852.4	4.1565	9262	1852.4	4.722
9400	1880	4.1580	9400	1880	4.731
9538	1907.6	4.1545	9538	1907.6	4.730

Spectrum Plot	
9262	9400
	
9538	-
	-

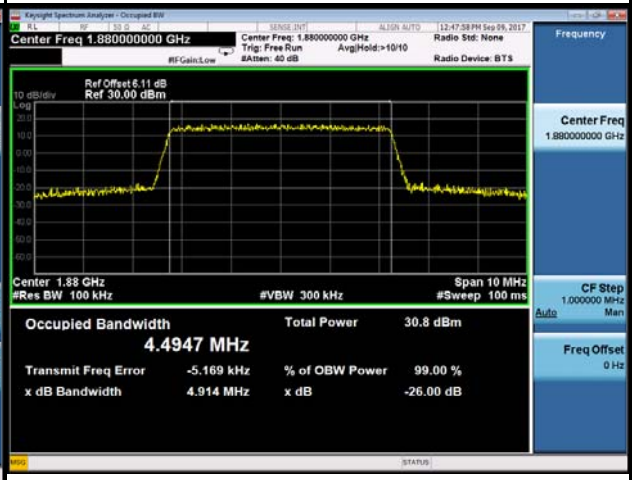
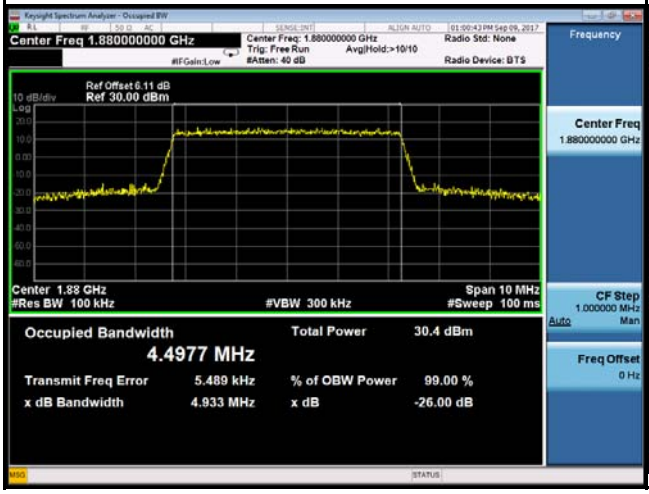
WCDMA_HSDPA Band 2					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
9262	1852.4	4.1705	9262	1852.4	4.743
9400	1880	4.1711	9400	1880	4.748
9538	1907.6	4.1375	9538	1907.6	4.731

Spectrum Plot	
9262	9400
	
9538	-
	-

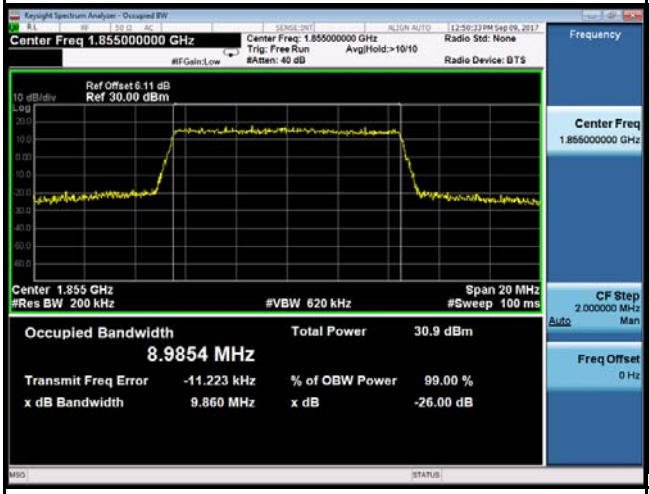
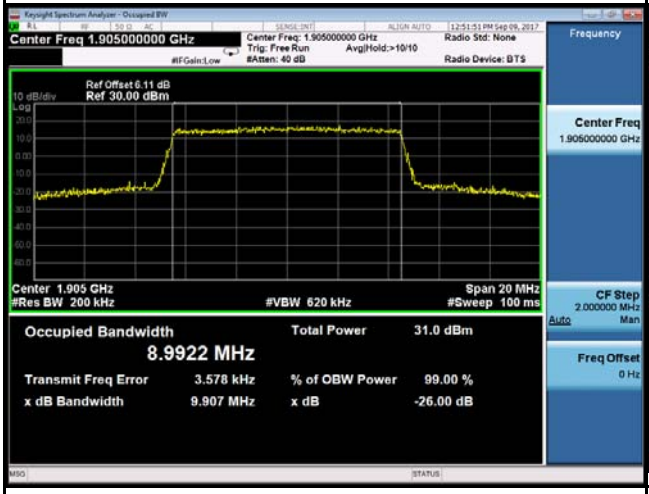
WCDMA_HSUPA Band 2					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
9262	1852.4	4.1664	9262	1852.4	4.744
9400	1880	4.1534	9400	1880	4.752
9538	1907.6	4.1530	9538	1907.6	4.738

Spectrum Plot	
9262	9400
	
9538	-
	-

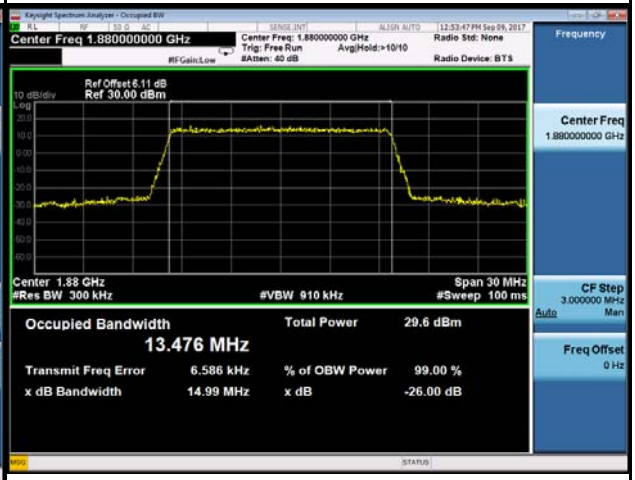
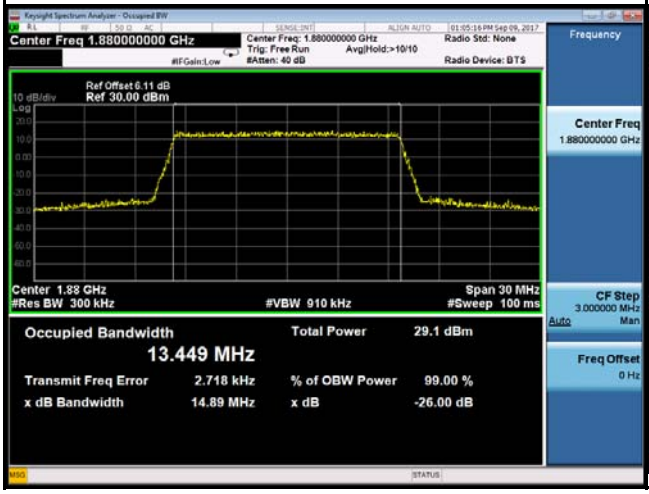
LTE Band 2_5M					
QPSK			16QAM		
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)
18625	1852.5	4.5009	18625	1852.5	4.5068
18900	1880	4.4974	18900	1880	4.4977
19175	1907.5	4.4988	19175	1907.5	4.5020
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
18625	1852.5	4.975	18625	1852.5	4.923
18900	1880	4.914	18900	1880	4.933
19175	1907.5	4.900	19175	1907.5	4.960

Spectrum Plot	
QPSK-18625	QPSK-18900
	
QPSK-19175	16QAM-18625
	
16QAM-18900	16QAM-19175
	

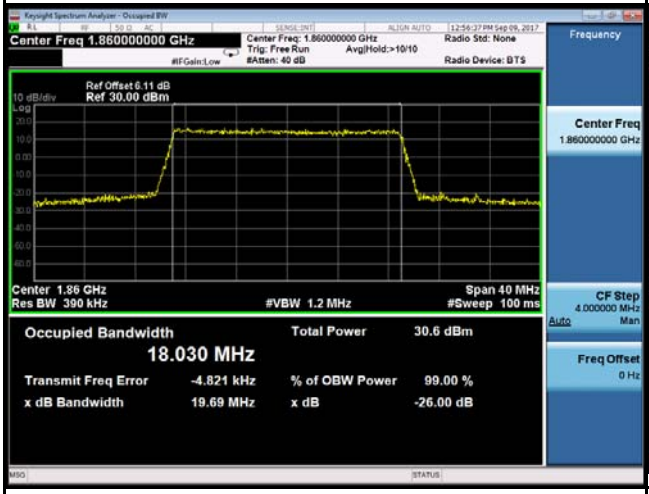
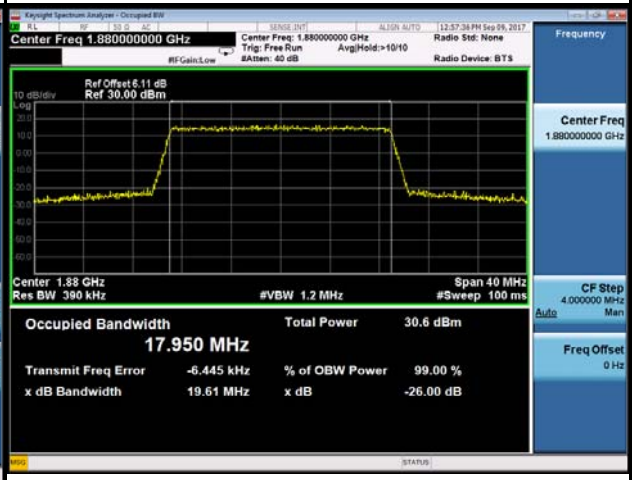
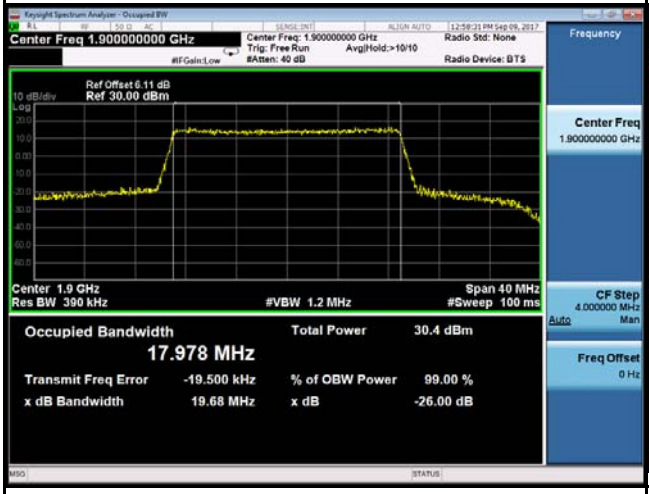
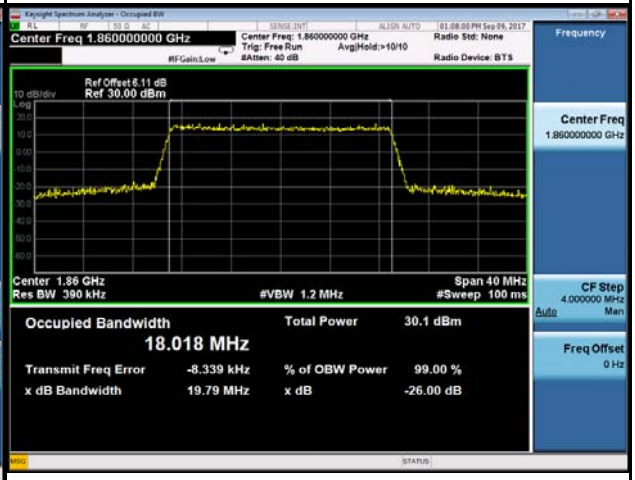
LTE Band 2_10M					
QPSK			16QAM		
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)
18650	1855	8.9854	18650	1855	9.0026
18900	1880	8.9956	18900	1880	8.9899
19150	1905	8.9922	19150	1905	8.9896
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
18650	1855	9.860	18650	1855	9.934
18900	1880	9.916	18900	1880	9.896
19150	1905	9.907	19150	1905	9.909

Spectrum Plot	
QPSK-18650	QPSK-18900
	
QPSK-19150	16QAM-18650
	
16QAM-18900	16QAM-19150
	

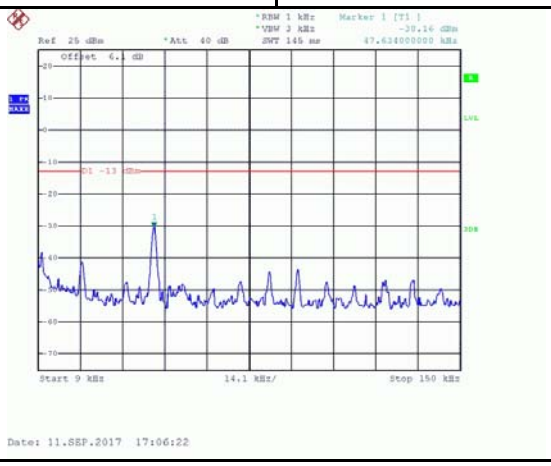
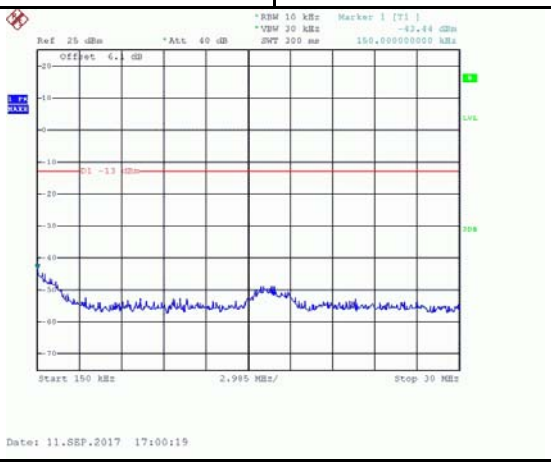
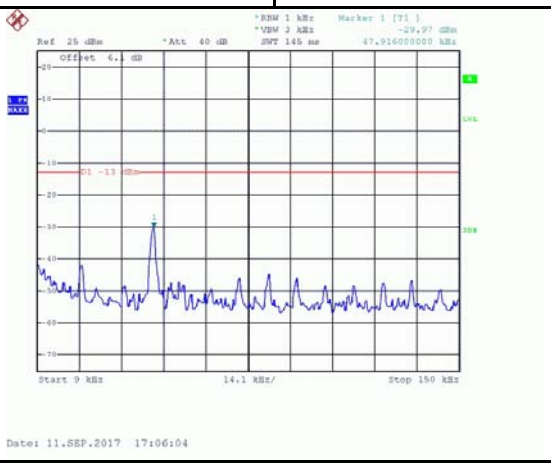
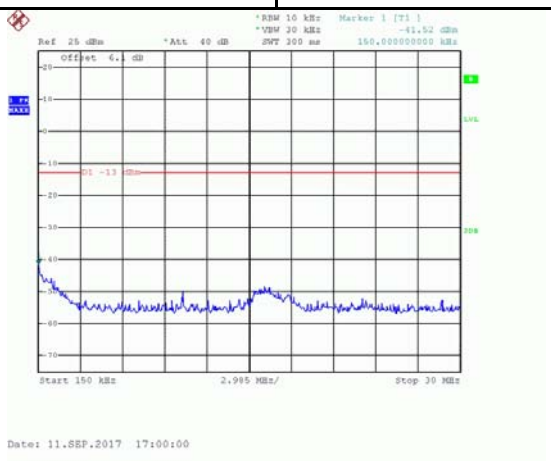
LTE Band 2_15M					
QPSK			16QAM		
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)
18675	1857.5	13.498	18675	1857.5	13.492
18900	1880	13.476	18900	1880	13.449
19125	1902.5	13.476	19125	1902.5	13.460
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
18675	1857.5	14.83	18675	1857.5	14.98
18900	1880	14.99	18900	1880	14.89
19125	1902.5	14.93	19125	1902.5	14.88

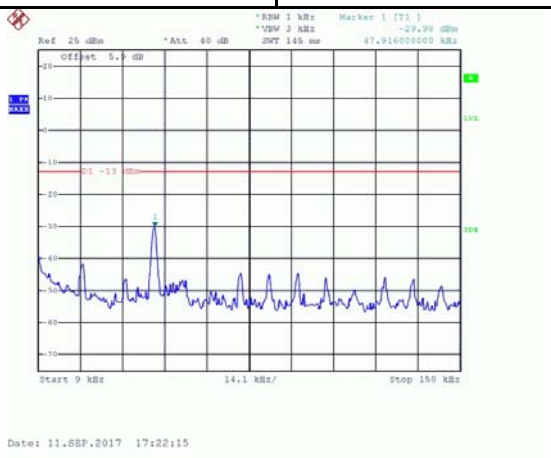
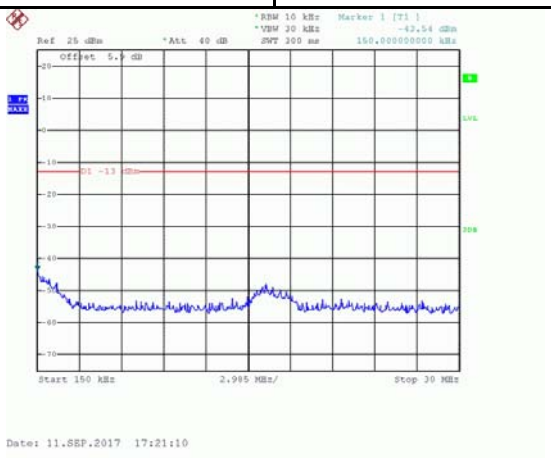
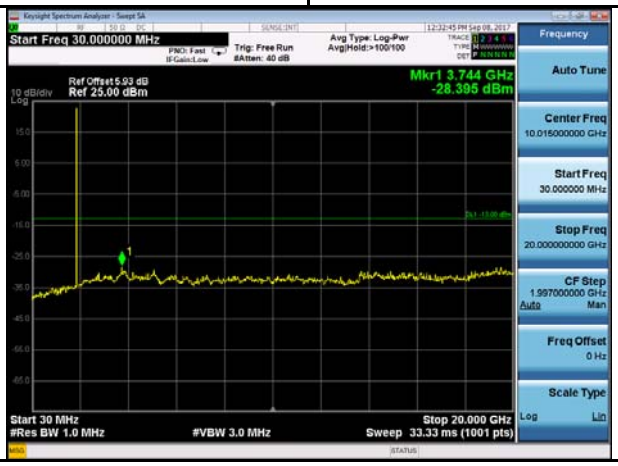
Spectrum Plot	
QPSK-18675	QPSK-18900
	
QPSK-19125	16QAM-18675
	
16QAM-18900	16QAM-19125
	

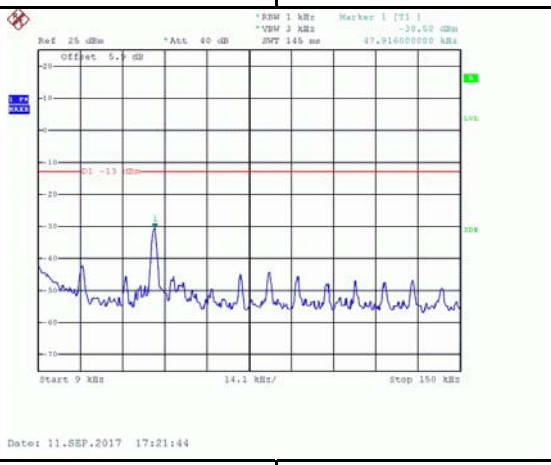
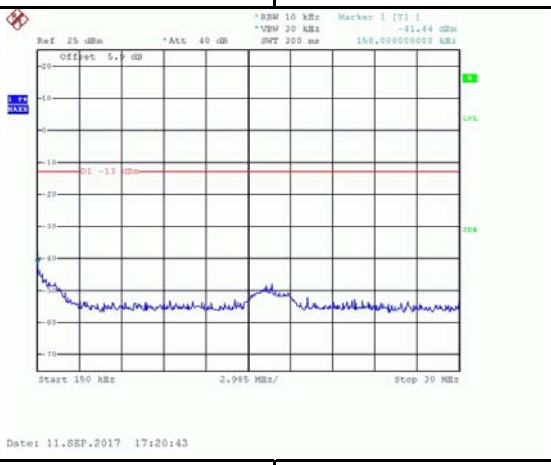
LTE Band 2_20M					
QPSK			16QAM		
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)
18700	1860	18.030	18700	1860	18.018
18900	1880	17.950	18900	1880	17.916
19100	1900	17.978	19100	1900	18.042
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
18700	1860	19.69	18700	1860	19.79
18900	1880	19.61	18900	1880	19.66
19100	1900	19.68	19100	1900	19.65

Spectrum Plot	
QPSK-18700	QPSK-18900
	
QPSK-19100	16QAM-18700
	
16QAM-18900	16QAM-19100
	

ATTACHMENT C - CONDUCTED EMISSIONS

DCS1900			
GSM		GSM	
Channel	Frequency(MHz)	Channel	Frequency(MHz)
661	1880	661	1880
			
GSM		EDGE	
Channel	Frequency(MHz)	Channel	Frequency(MHz)
661	1880	661	1880
			
EDGE		EDGE	
Channel	Frequency(MHz)	Channel	Frequency(MHz)
661	1880	661	1880
			

WCDMA Band 2			
Channel	Frequency(MHz)	Channel	Frequency(MHz)
9400	1880	9400	1880
			
Channel	Frequency(MHz)	-	-
9400	1880	-	-
		-	

<table>
<tr><th colspan="4">WCDMA_HSDPA Band 2</th></tr>
<tr><td>Channel</td><td>Frequency(MHz)</td><td>Channel</td><td>Frequency(MHz)</td></tr>
<tr><td>9400</td><td>1880</td><td>9400</td><td>1880</td></tr>
<tr><td>  </td><td colspan="3">  </td></tr>
<tr><td>Channel</td><td>Frequency(MHz)</td><td>-</td><td>-</td></tr>
<tr><td>9400</td><td>1880</td><td>-</td><td>-</td></tr>
<tr><td colspan="2">  </td><td colspan="2">-</td></tr>
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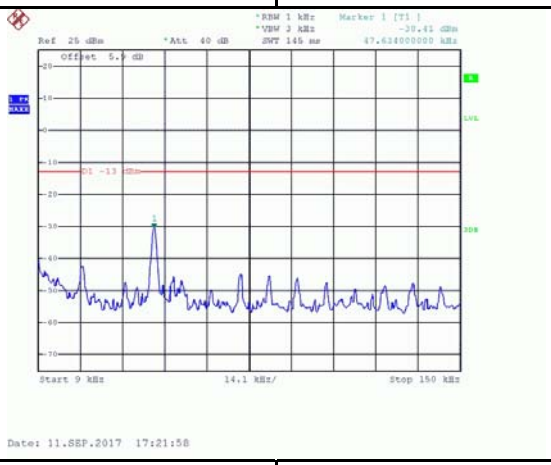
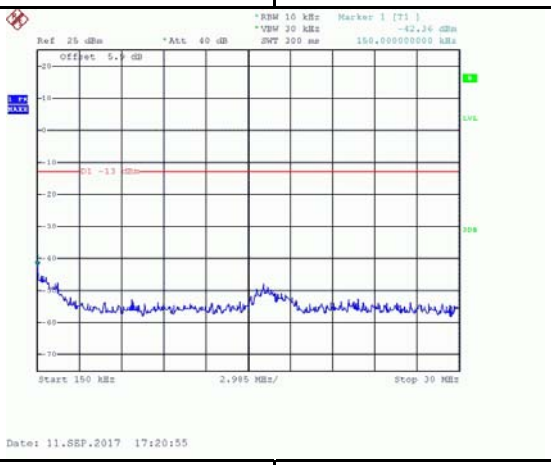
WCDMA_HSUPA Band 2			
Channel	Frequency(MHz)	Channel	Frequency(MHz)
9400	1880	9400	1880
			
Channel	Frequency(MHz)	-	-
9400	1880	-	-
		-	

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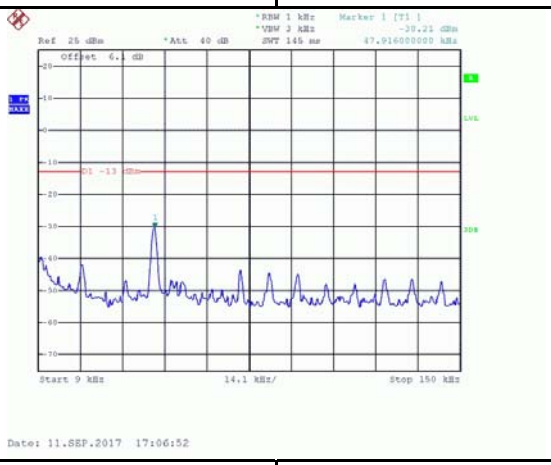
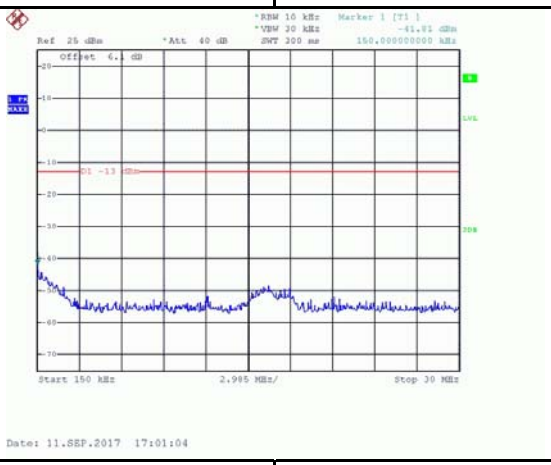
<tr><td colspan="4">LTE Band 2_5M</td></tr>
<tr><td>Channel</td><td>Frequency(MHz)</td><td>Channel</td><td>Frequency(MHz)</td></tr>
<tr><td>18900</td><td>1880</td><td>18900</td><td>1880</td></tr>
<tr><td colspan="2">  </td><td colspan="2">  </td></tr>
<tr><td>Channel</td><td>Frequency(MHz)</td><td>-</td><td>-</td></tr>
<tr><td>18900</td><td>1880</td><td>-</td><td>-</td></tr>
<tr><td colspan="2">  </td><td colspan="2">-</td></tr>
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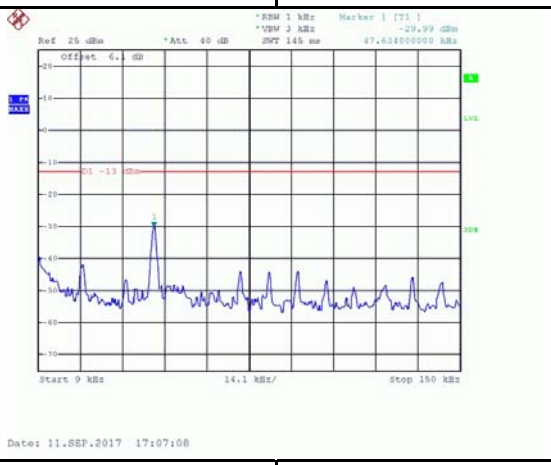
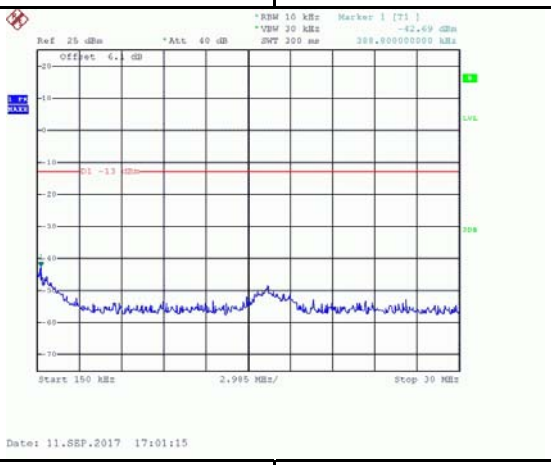
<table>
<tr><td colspan="4">LTE Band 2_10M</td></tr>
<tr><td>Channel</td><td>Frequency(MHz)</td><td>Channel</td><td>Frequency(MHz)</td></tr>
<tr><td>18900</td><td>1880</td><td>18900</td><td>1880</td></tr>
<tr><td colspan="2"> 
</td><td colspan="2"> 
</td></tr>
<tr><td>Channel</td><td>Frequency(MHz)</td><td>-</td><td>-</td></tr>
<tr><td>18900</td><td>1880</td><td>-</td><td>-</td></tr>
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</table>

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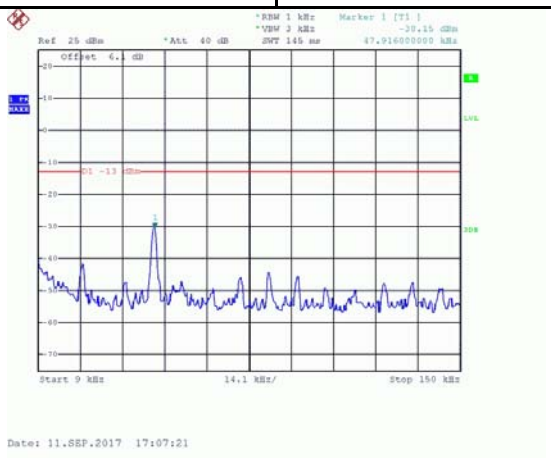
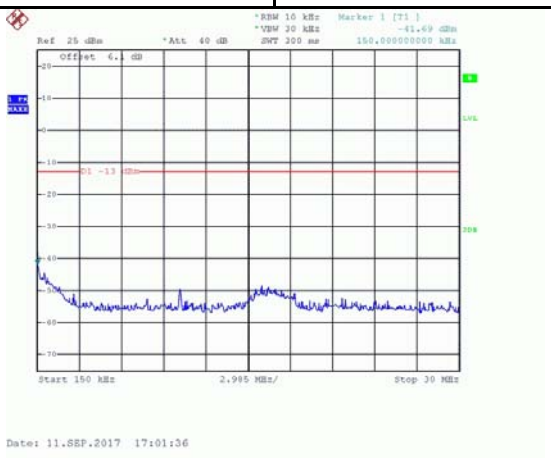
<tr><td colspan="4">LTE Band 2_15M</td></tr>
<tr><td>Channel</td><td>Frequency(MHz)</td><td>Channel</td><td>Frequency(MHz)</td></tr>
<tr><td>18900</td><td>1880</td><td>18900</td><td>1880</td></tr>
<tr><td colspan="2">  </td><td colspan="2">  </td></tr>
<tr><td>Channel</td><td>Frequency(MHz)</td><td>-</td><td>-</td></tr>
<tr><td>18900</td><td>1880</td><td>-</td><td>-</td></tr>
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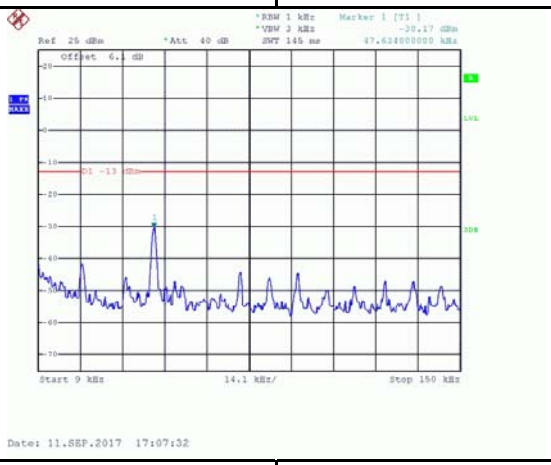
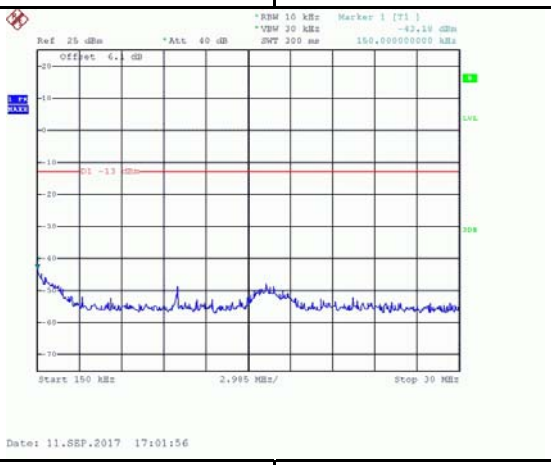
<table>
<tr><td colspan="4">LTE Band 2_20M</td></tr>
<tr><td>Channel</td><td>Frequency(MHz)</td><td>Channel</td><td>Frequency(MHz)</td></tr>
<tr><td>18900</td><td>1880</td><td>18900</td><td>1880</td></tr>
<tr><td colspan="2"> 
</td><td colspan="2"> 
</td></tr>
<tr><td>Channel</td><td>Frequency(MHz)</td><td>-</td><td>-</td></tr>
<tr><td>18900</td><td>1880</td><td>-</td><td>-</td></tr>
<tr><td colspan="2"> 
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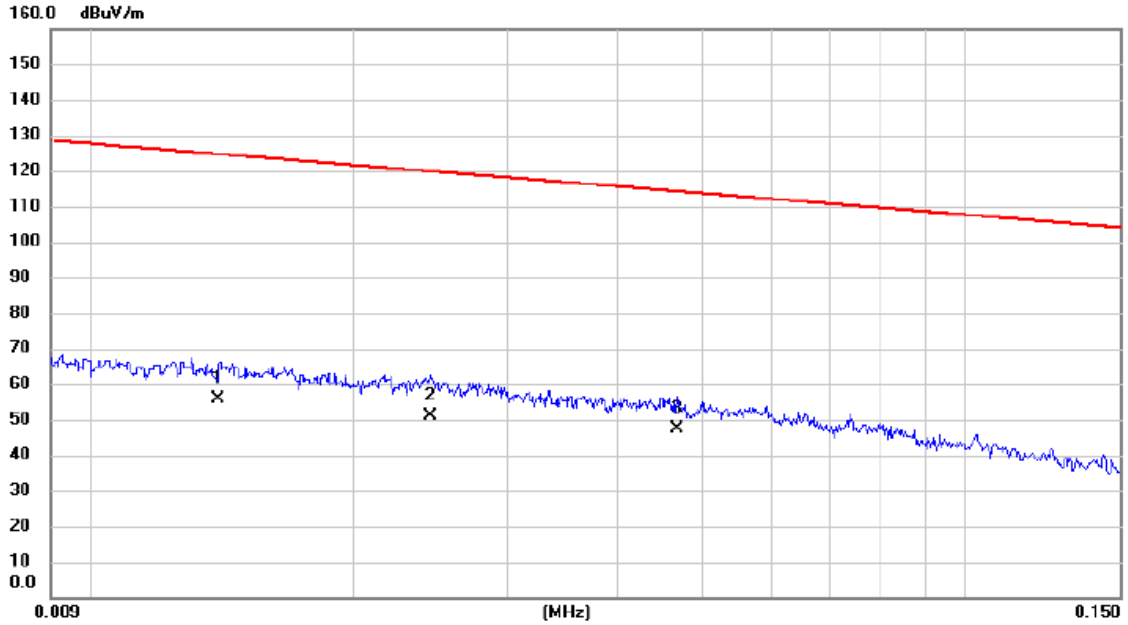
</table>

ATTACHMENT D - RADIATED EMISSION

Test Mode:	TX Mode

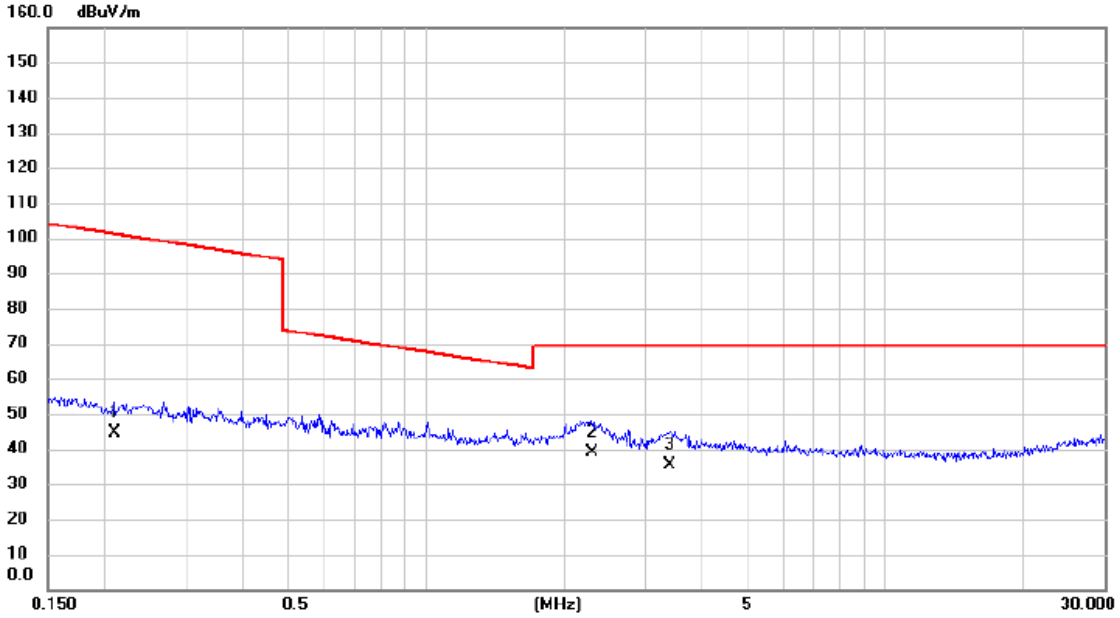
Ant 0°



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.014	36.48	19.40	55.88	124.68	-68.80	AVG	
2		0.025	34.66	16.51	51.17	119.82	-68.65	AVG	
3	*	0.047	33.93	13.32	47.25	114.20	-66.95	AVG	

Test Mode:	TX Mode

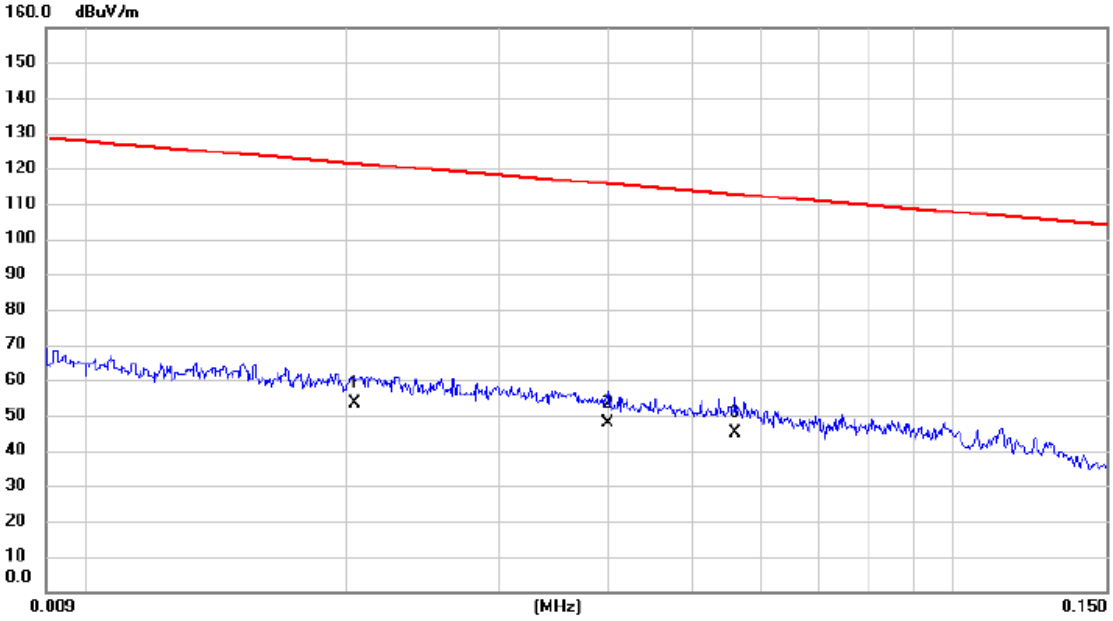
Ant 0°



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.209	32.52	11.94	44.46	101.19	-56.73	AVG	
2	*	2.297	27.46	11.42	38.88	69.54	-30.66	QP	
3		3.399	24.35	11.16	35.51	69.54	-34.03	QP	

Test Mode:	TX Mode

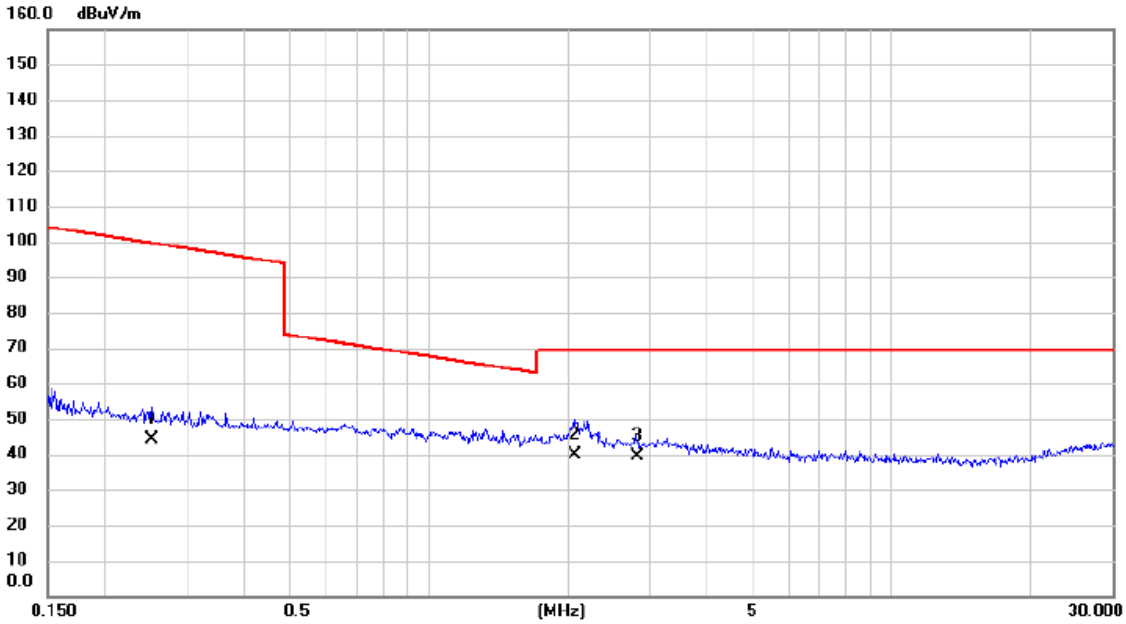
Ant 90°



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.020	35.66	17.64	53.30	121.41	-68.11	AVG	
2		0.040	33.78	14.00	47.78	115.56	-67.78	AVG	
3	*	0.056	32.20	12.89	45.09	112.64	-67.55	AVG	

Test Mode:	TX Mode

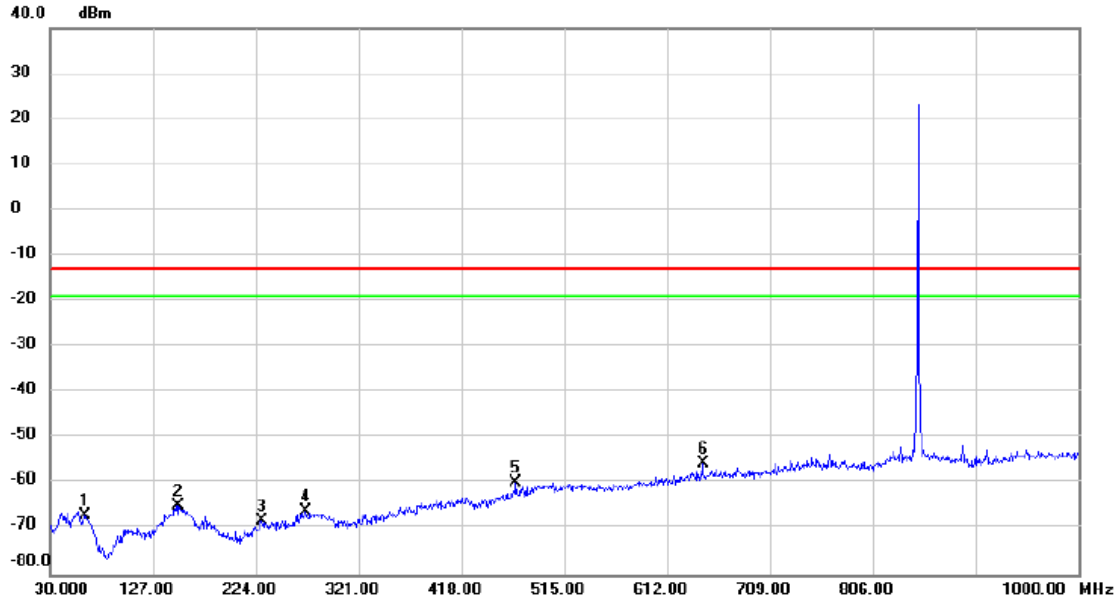
Ant 90°



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.252	32.37	11.87	44.24	99.58	-55.34	AVG	
2	*	2.077	28.11	11.52	39.63	69.54	-29.91	QP	
3		2.824	28.05	11.18	39.23	69.54	-30.31	QP	

Test Mode:	DCS1900_TX CH512_GSM

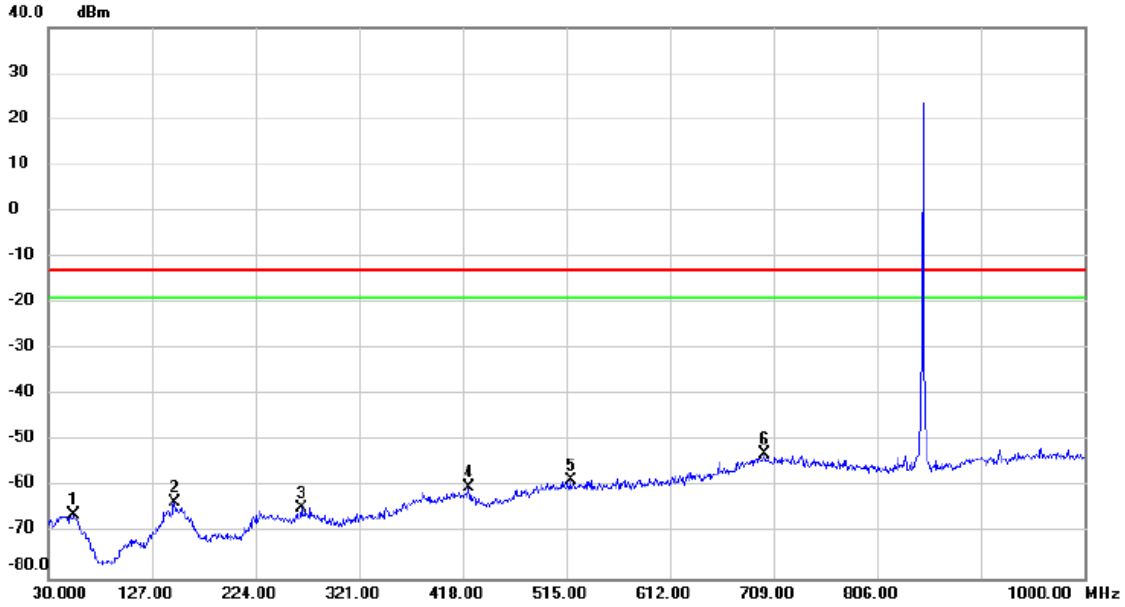
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1		62.980	-72.00	5.00	-67.00	-13.00	-54.00	peak	
2		151.250	-74.73	9.89	-64.84	-13.00	-51.84	peak	
3		229.820	-74.16	6.08	-68.08	-13.00	-55.08	peak	
4		271.530	-74.15	7.97	-66.18	-13.00	-53.18	peak	
5		469.410	-73.92	14.19	-59.73	-13.00	-46.73	peak	
6	*	645.950	-72.30	16.73	-55.57	-13.00	-42.57	peak	

Test Mode:	DCS1900_TX CH512_GSM

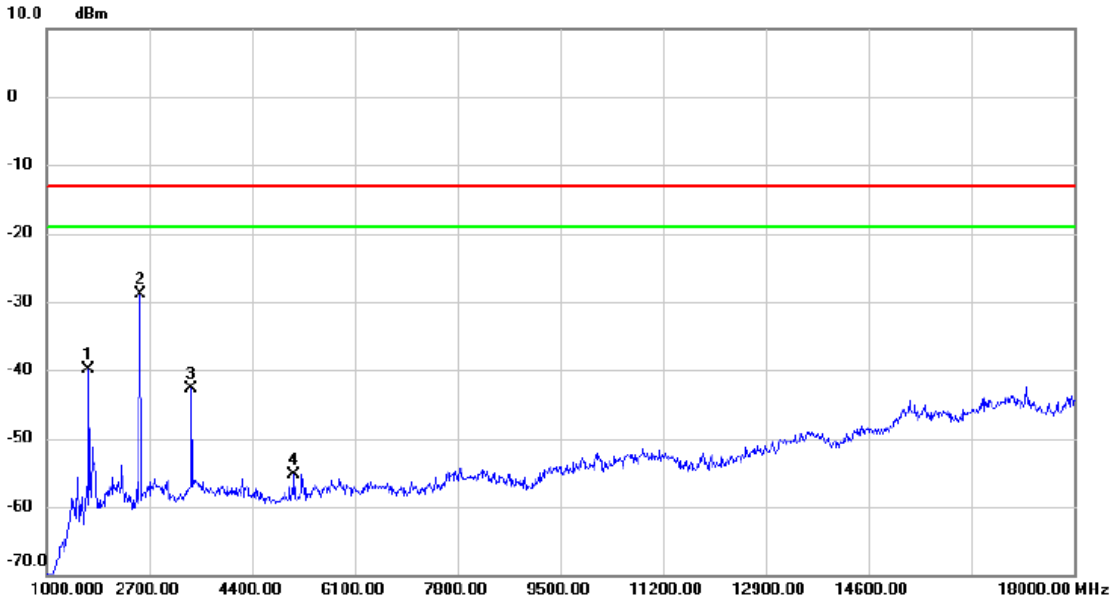
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1		53.280	-71.01	4.95	-66.06	-13.00	-53.06	peak	
2		148.340	-73.34	10.02	-63.32	-13.00	-50.32	peak	
3		266.680	-72.19	7.66	-64.53	-13.00	-51.53	peak	
4		423.820	-73.80	13.65	-60.15	-13.00	-47.15	peak	
5		518.880	-73.30	14.62	-58.68	-13.00	-45.68	peak	
6	*	700.270	-70.39	17.44	-52.95	-13.00	-39.95	peak	

Test Mode:	DCS1900_TX CH512_GSM

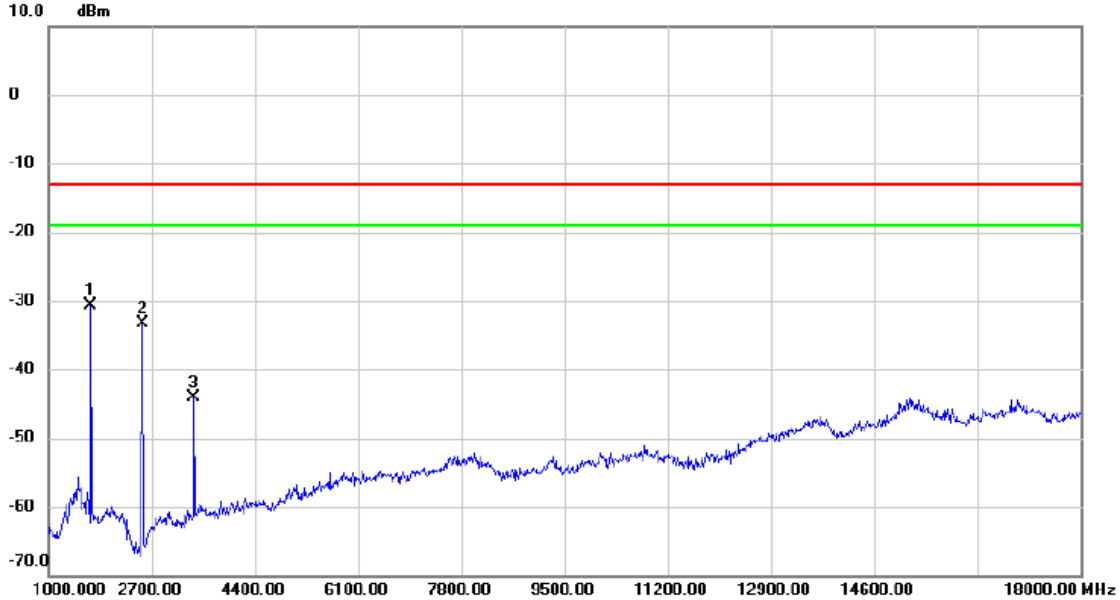
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1		1697.000	-30.92	-9.00	-39.92	-13.00	-26.92	peak	
2	*	2547.000	-23.52	-5.35	-28.87	-13.00	-15.87	peak	
3		3397.000	-38.87	-3.81	-42.68	-13.00	-29.68	peak	
4		5097.000	-58.40	3.05	-55.35	-13.00	-42.35	peak	

Test Mode:	DCS1900_TX CH512_GSM

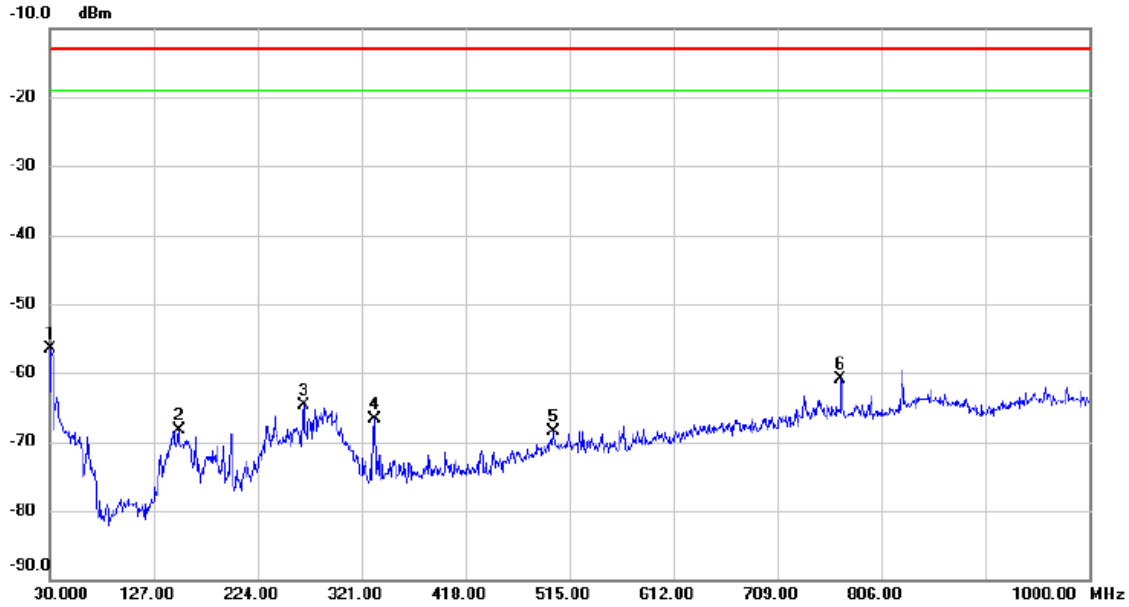
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	*	1697.000	-21.71	-9.00	-30.71	-13.00	-17.71	peak	
2		2547.000	-27.97	-5.35	-33.32	-13.00	-20.32	peak	
3		3397.000	-40.31	-3.81	-44.12	-13.00	-31.12	peak	

Test Mode:	DCS1900_TX CH512_EDGE

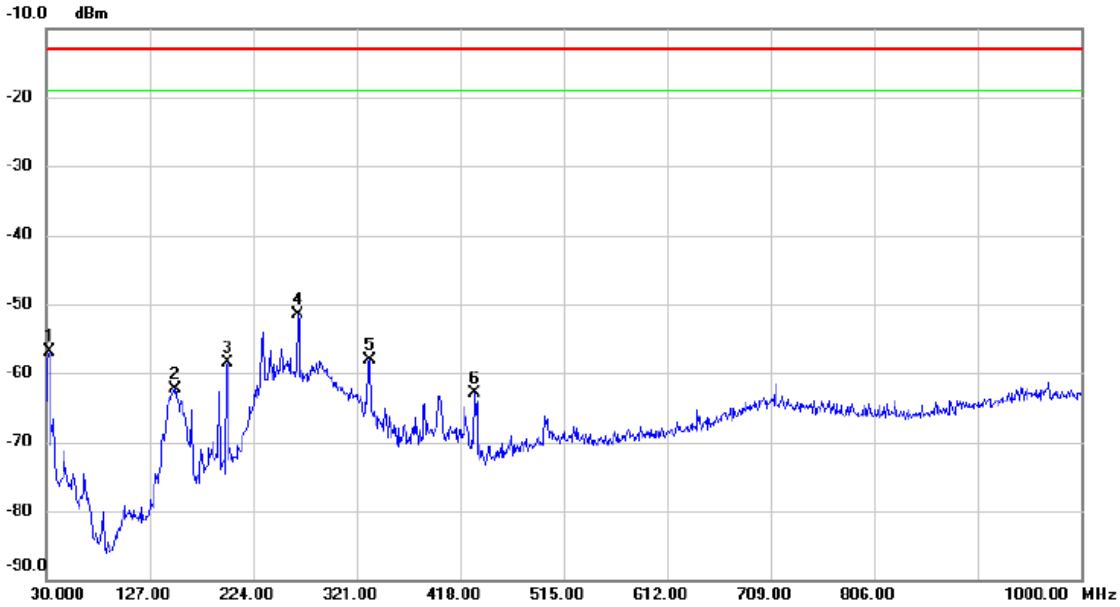
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	*	30.970	-53.76	-2.77	-56.53	-13.00	-43.53	peak	
2		150.280	-68.28	-0.04	-68.32	-13.00	-55.32	peak	
3		266.680	-62.34	-2.34	-64.68	-13.00	-51.68	peak	
4		333.610	-66.96	0.25	-66.71	-13.00	-53.71	peak	
5		499.480	-72.94	4.52	-68.42	-13.00	-55.42	peak	
6		768.170	-69.99	9.09	-60.90	-13.00	-47.90	peak	

Test Mode:	DCS1900_TX CH512_EDGE

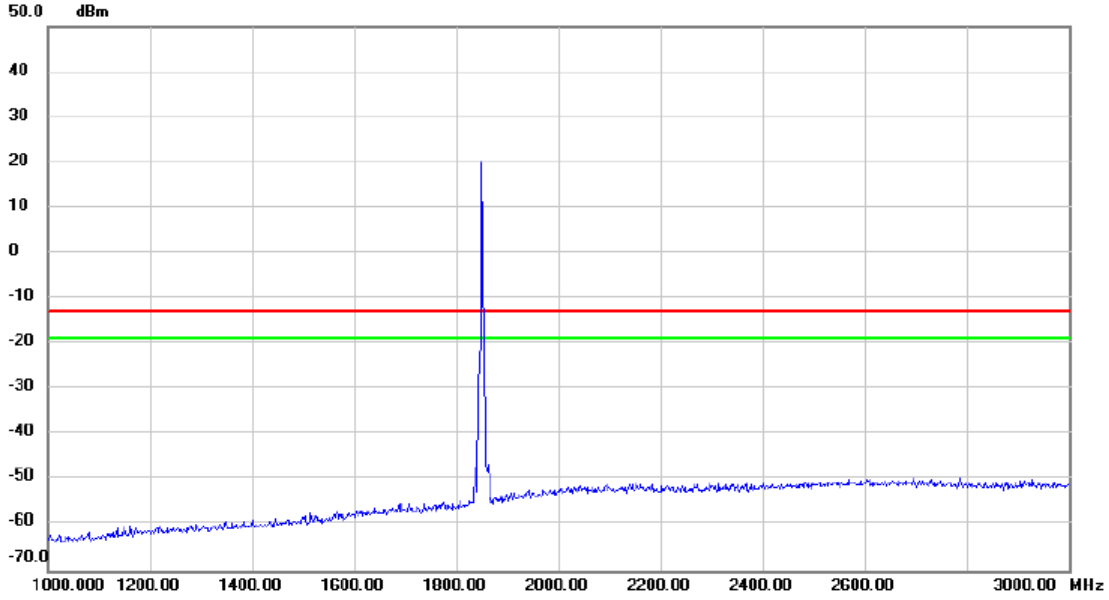
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1		32.910	-52.39	-4.53	-56.92	-13.00	-43.92	peak	
2		151.250	-62.19	-0.11	-62.30	-13.00	-49.30	peak	
3		199.750	-54.43	-4.13	-58.56	-13.00	-45.56	peak	
4	*	265.710	-49.07	-2.39	-51.46	-13.00	-38.46	peak	
5		333.610	-58.31	0.25	-58.06	-13.00	-45.06	peak	
6		431.580	-66.59	3.75	-62.84	-13.00	-49.84	peak	

Test Mode:	DCS1900_TX CH512_EDGE

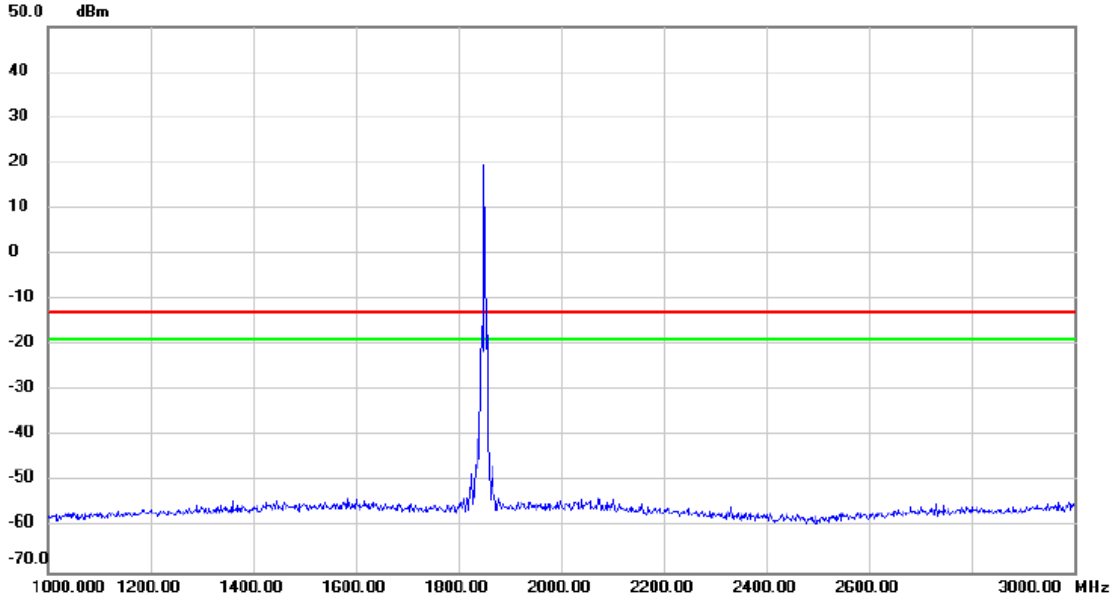
Vertical



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

Test Mode:	DCS1900_TX CH512_EDGE

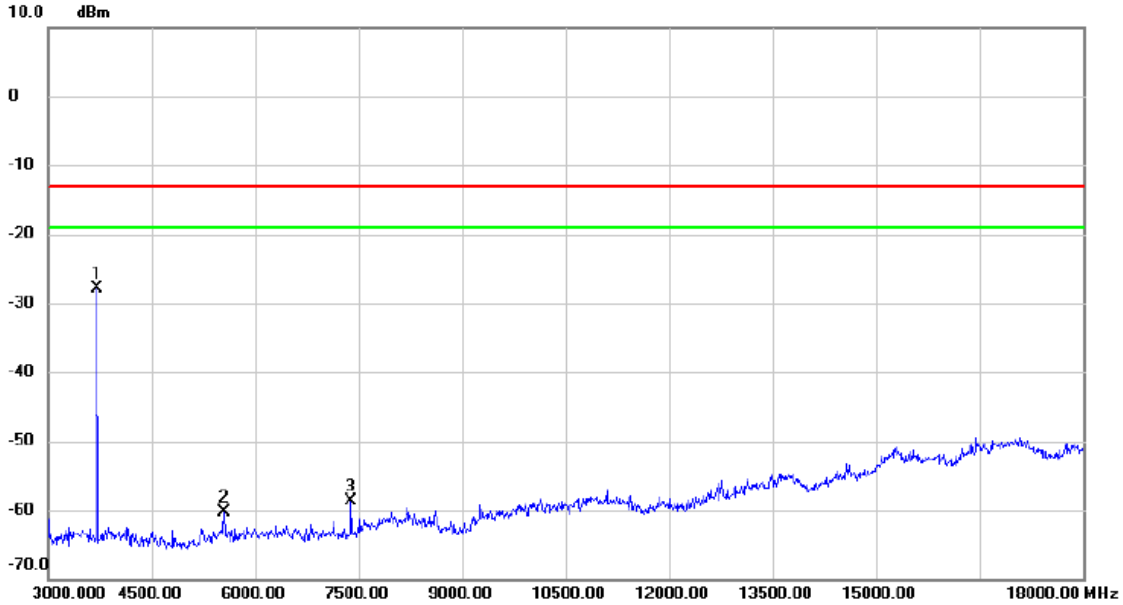
Horizontal



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

Test Mode:	DCS1900_TX CH512_EDGE

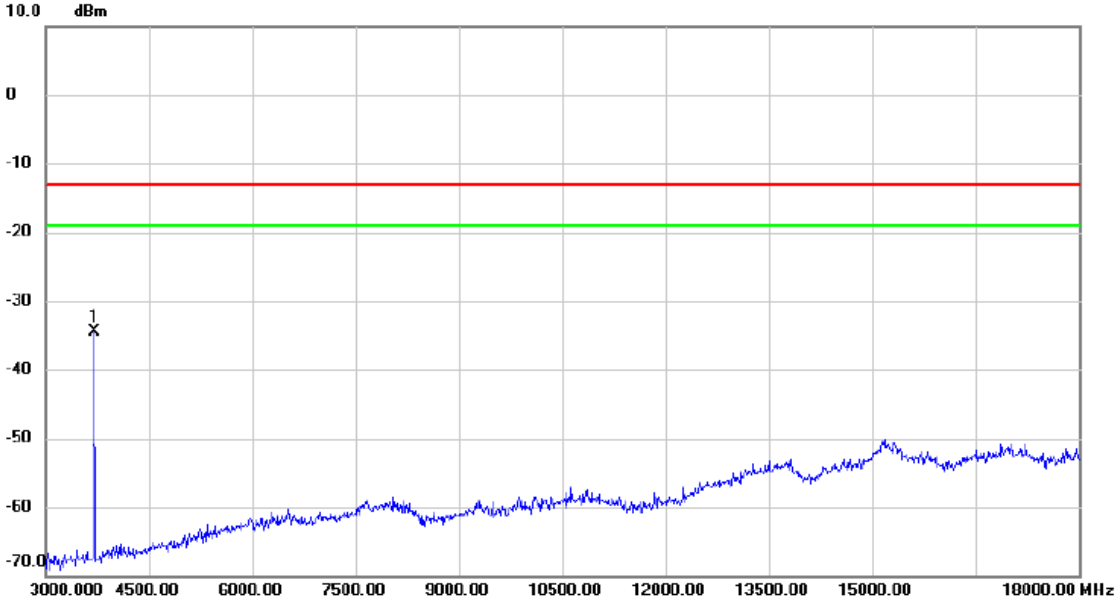
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	*	3705.000	-25.80	-2.11	-27.91	-13.00	-14.91	peak	
2		5550.000	-64.25	4.00	-60.25	-13.00	-47.25	peak	
3		7395.000	-68.49	9.70	-58.79	-13.00	-45.79	peak	

Test Mode:	DCS1900_TX CH512_EDGE

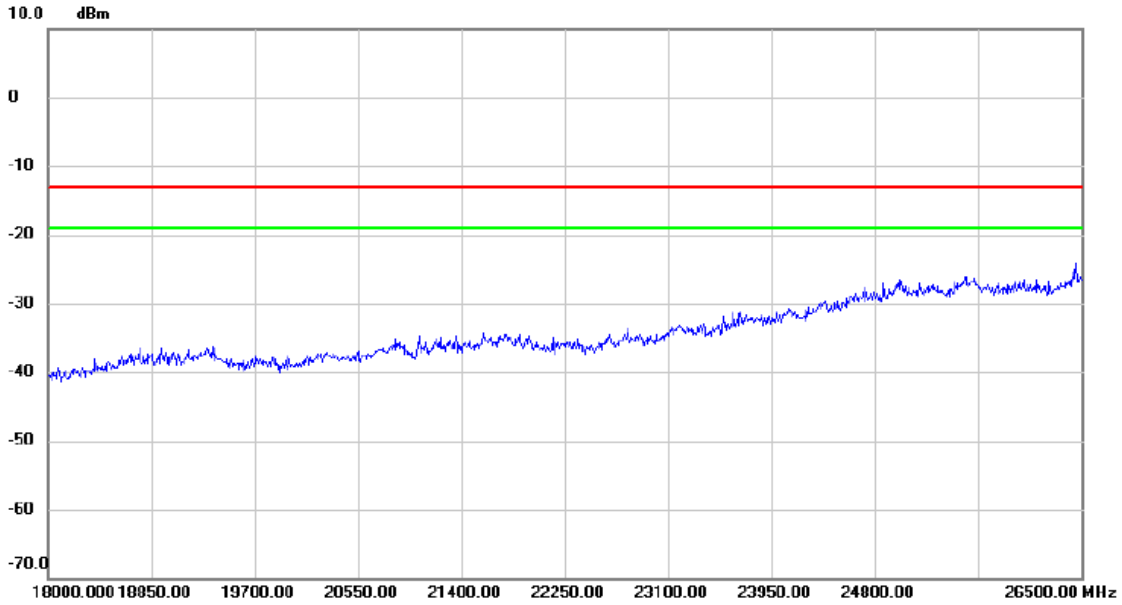
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	*	3705.000	-32.37	-2.11	-34.48	-13.00	-21.48	peak	

Test Mode:	DCS1900_TX CH512_EDGE

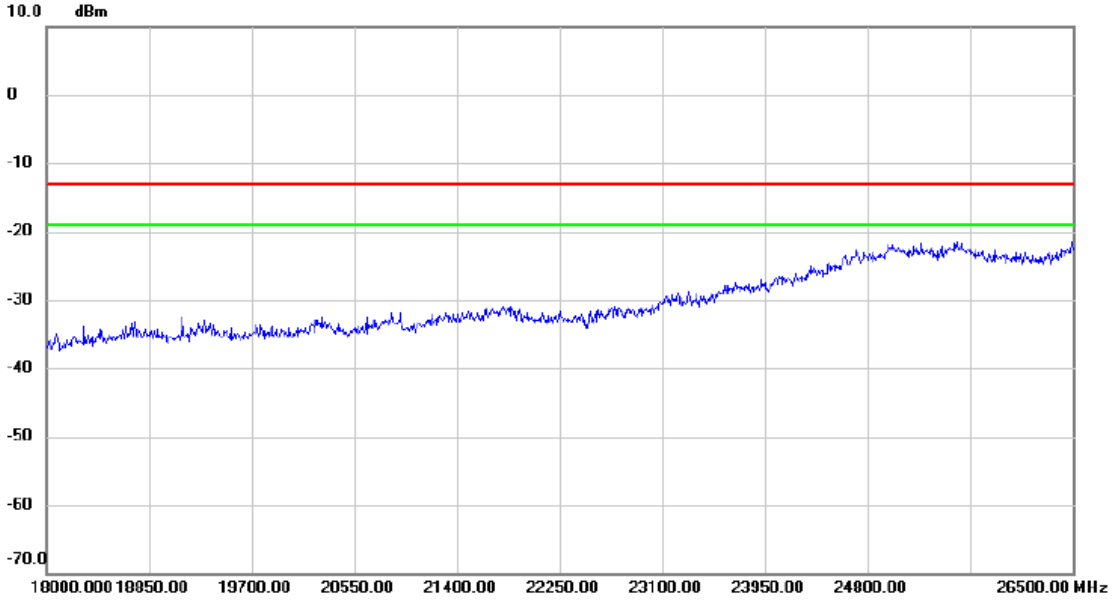
Vertical



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

Test Mode:	DCS1900_TX CH512_EDGE

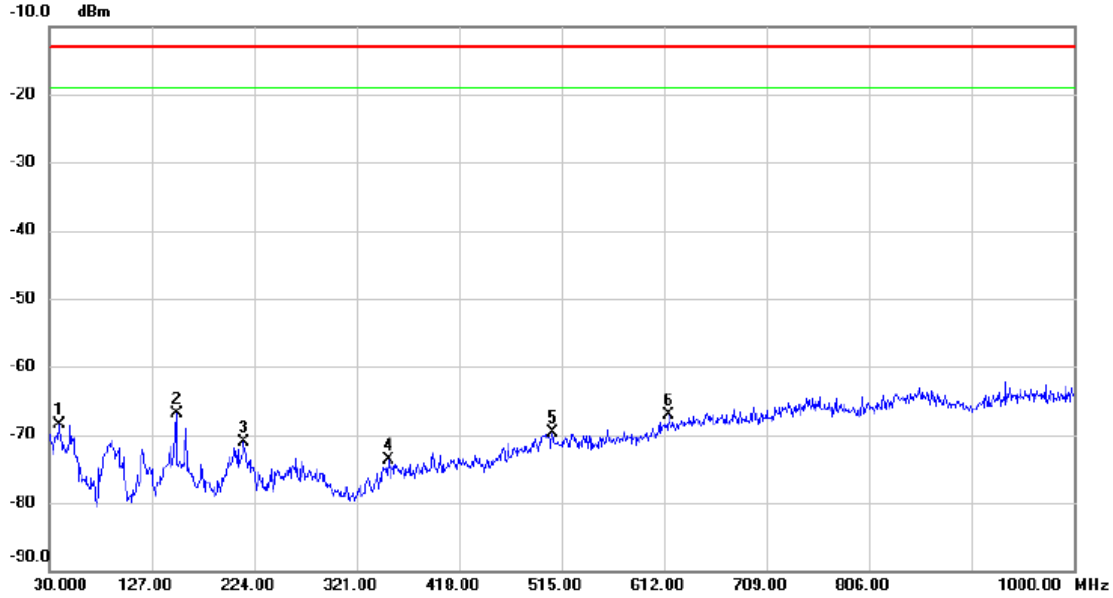
Horizontal



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

Test Mode:	WCDMA Band II_TX CH9400

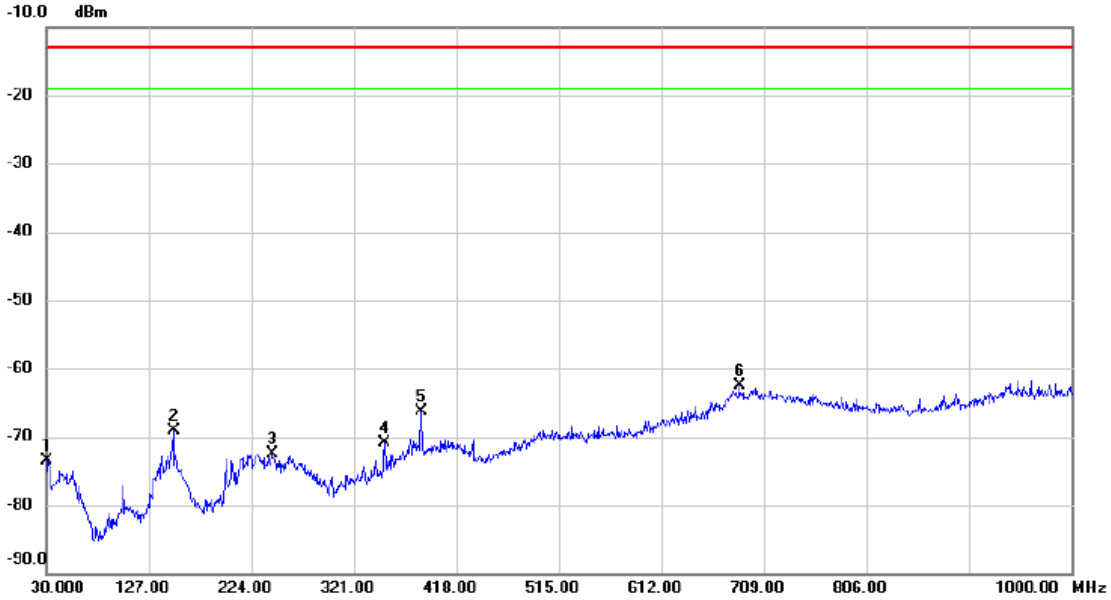
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1		39.700	-59.54	-8.93	-68.47	-13.00	-55.47	peak	
2	*	150.280	-66.84	-0.04	-66.88	-13.00	-53.88	peak	
3		214.300	-65.95	-5.06	-71.01	-13.00	-58.01	peak	
4		351.070	-74.73	0.95	-73.78	-13.00	-60.78	peak	
5		506.270	-74.34	4.56	-69.78	-13.00	-56.78	peak	
6		615.880	-73.34	6.27	-67.07	-13.00	-54.07	peak	

Test Mode:	WCDMA Band II_TX CH9400

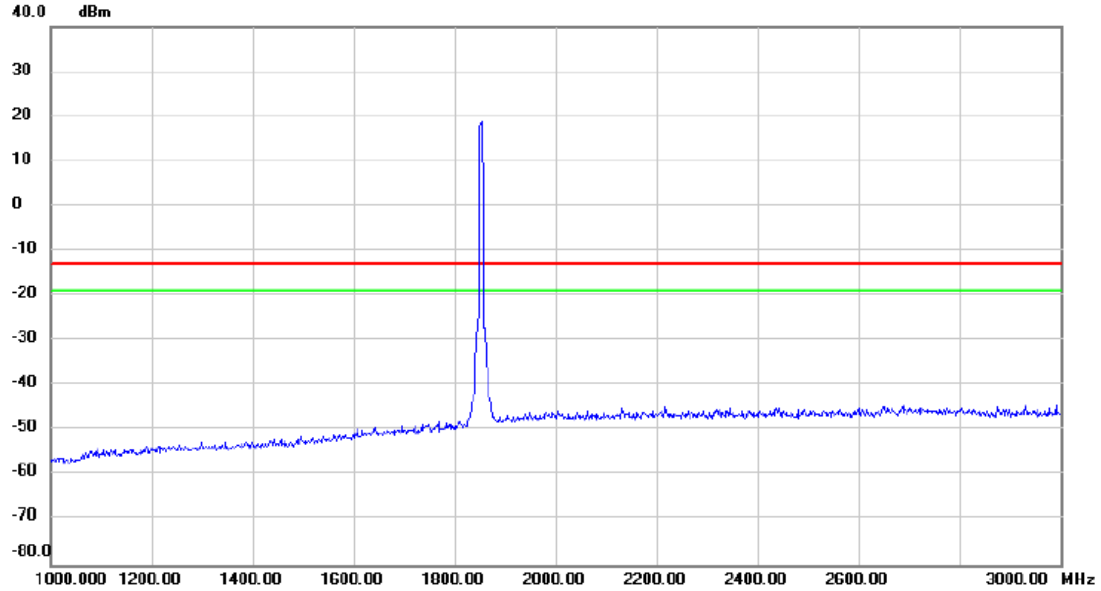
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1		30.970	-70.77	-2.77	-73.54	-13.00	-60.54	peak	
2		150.280	-69.09	-0.04	-69.13	-13.00	-56.13	peak	
3		243.400	-69.40	-3.17	-72.57	-13.00	-59.57	peak	
4		350.100	-71.71	0.90	-70.81	-13.00	-57.81	peak	
5		385.020	-68.91	2.62	-66.29	-13.00	-53.29	peak	
6	*	685.720	-69.72	7.25	-62.47	-13.00	-49.47	peak	

Test Mode:	WCDMA Band II_TX CH9400

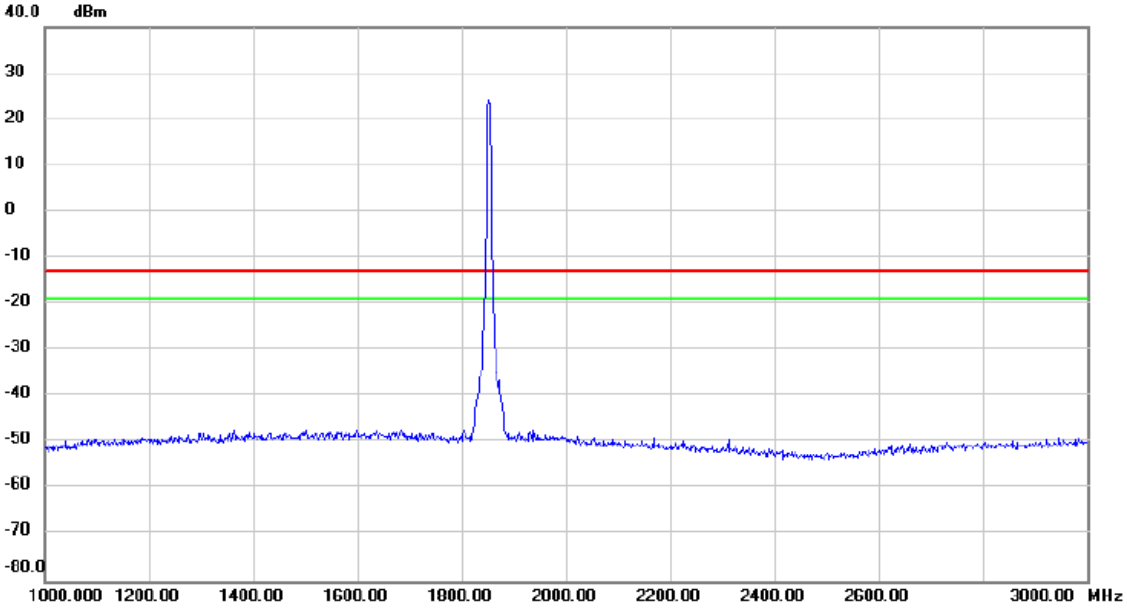
Vertical



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

Test Mode:	WCDMA Band II_TX CH9400

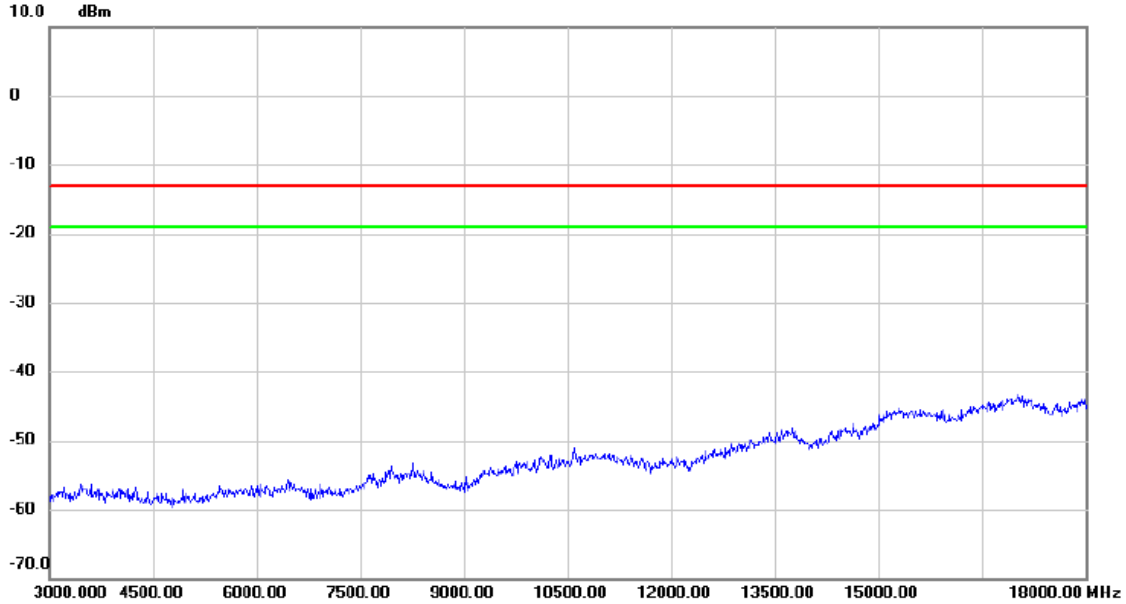
Horizontal



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

Test Mode:	WCDMA Band II_TX CH9400

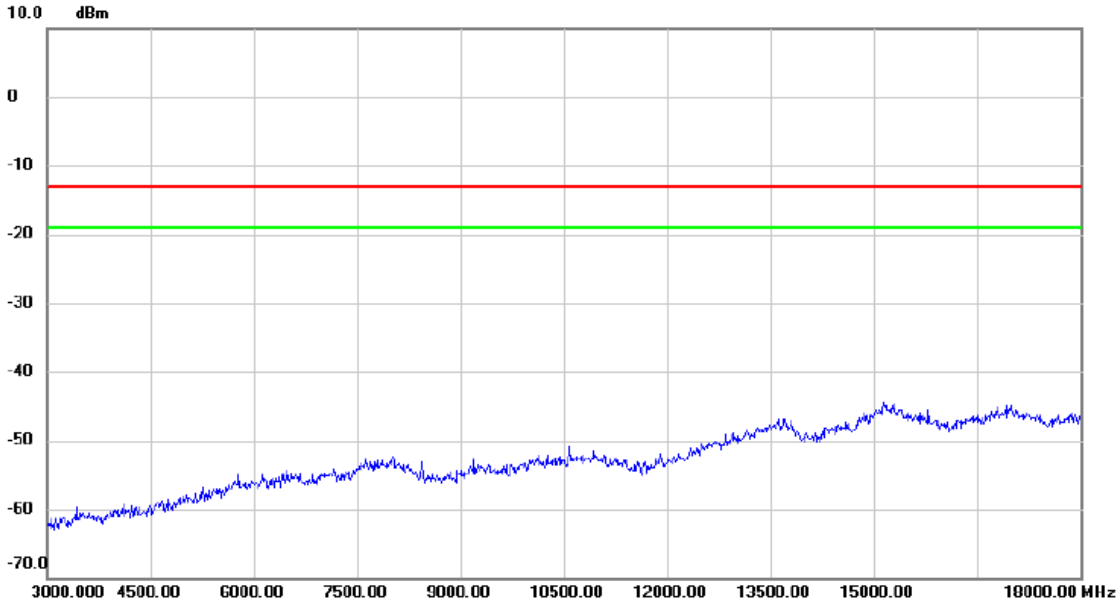
Vertical



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

Test Mode:	WCDMA Band II_TX CH9400

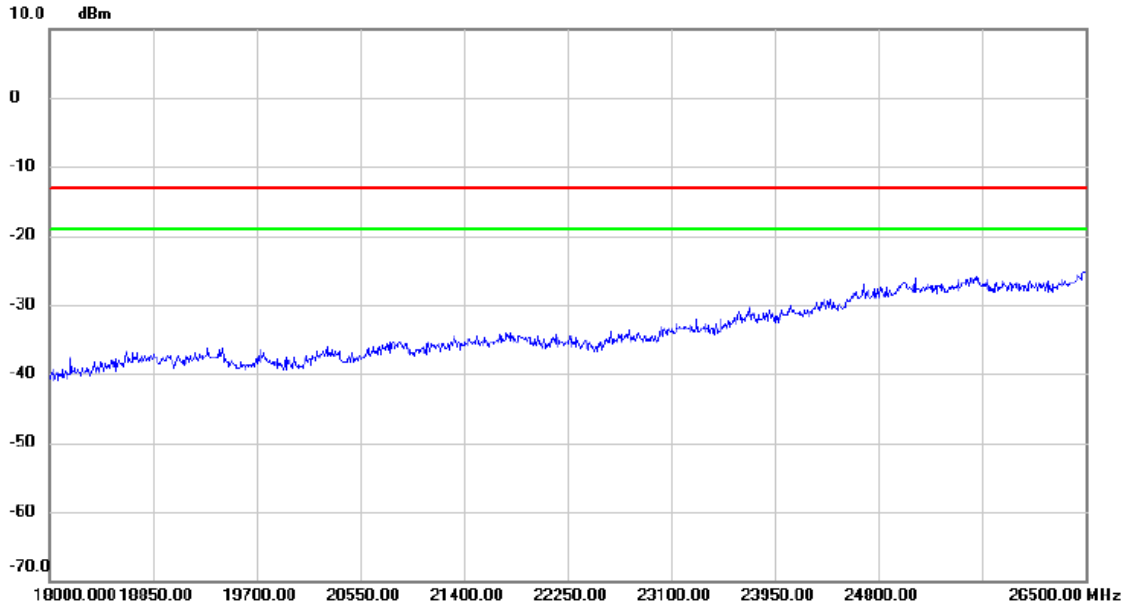
Horizontal



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

Test Mode:	WCDMA Band II_TX CH9400

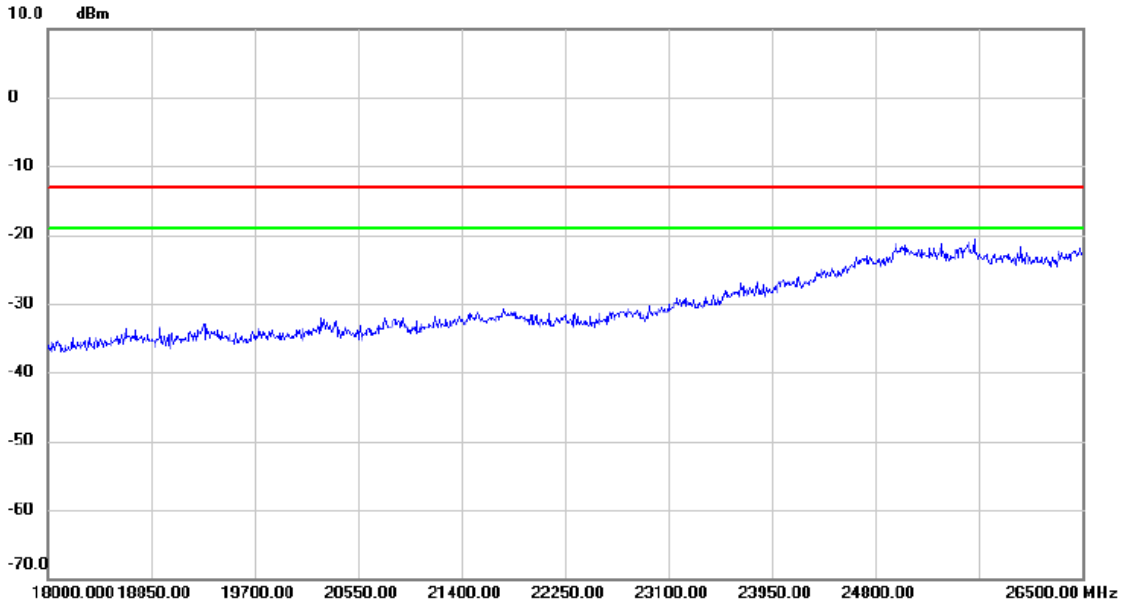
Vertical



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

Test Mode:	WCDMA Band II_TX CH9400

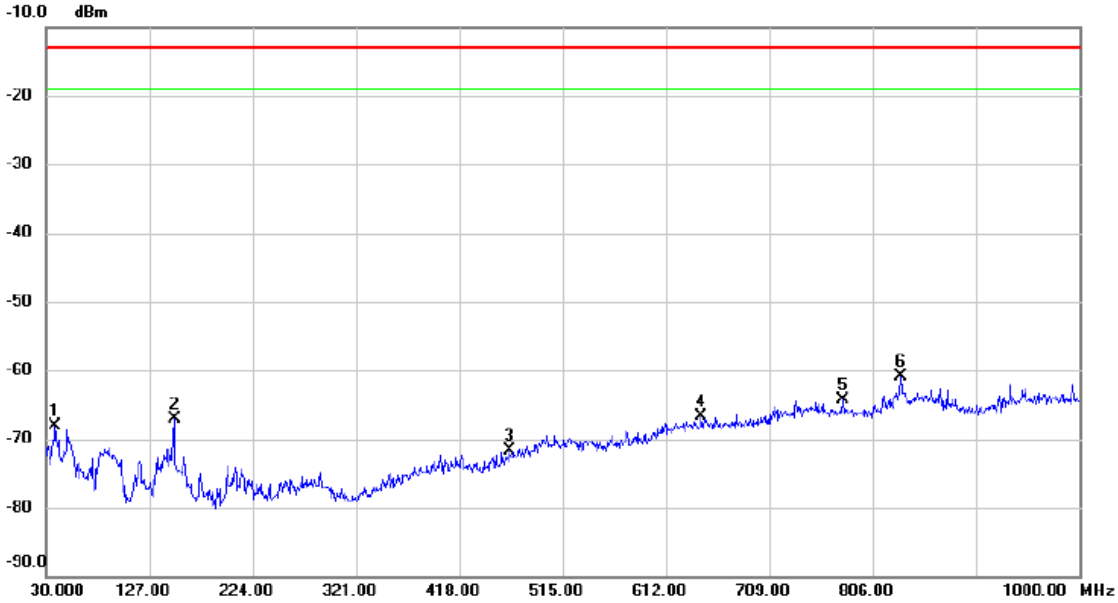
Horizontal



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

Test Mode:	WCDMA Band II_HSDPA_TX CH9400

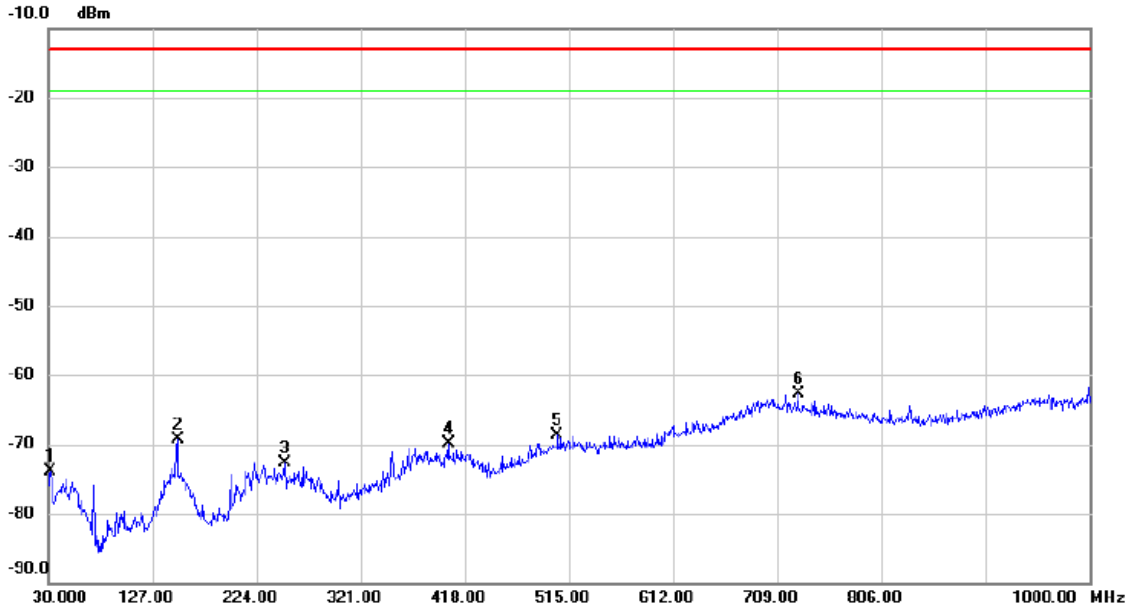
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1		38.730	-59.74	-8.41	-68.15	-13.00	-55.15	peak	
2		150.280	-67.01	-0.04	-67.05	-13.00	-54.05	peak	
3		464.560	-75.93	4.14	-71.79	-13.00	-58.79	peak	
4		644.980	-73.41	6.71	-66.70	-13.00	-53.70	peak	
5		777.870	-73.70	9.38	-64.32	-13.00	-51.32	peak	
6	*	832.190	-71.32	10.46	-60.86	-13.00	-47.86	peak	

Test Mode:	WCDMA Band II_HSDPA _TX CH9400

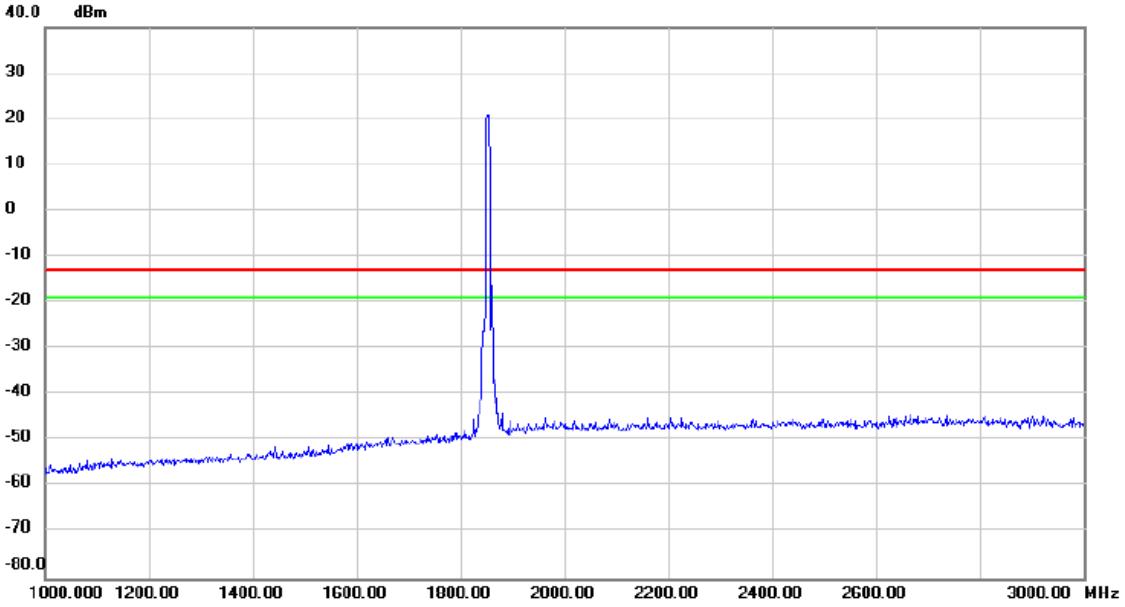
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1		31.940	-70.31	-3.65	-73.96	-13.00	-60.96	peak	
2		150.280	-69.33	-0.04	-69.37	-13.00	-56.37	peak	
3		250.190	-69.98	-2.76	-72.74	-13.00	-59.74	peak	
4		402.480	-73.22	3.38	-69.84	-13.00	-56.84	peak	
5		504.330	-73.24	4.55	-68.69	-13.00	-55.69	peak	
6	*	728.400	-70.80	8.05	-62.75	-13.00	-49.75	peak	

Test Mode:	WCDMA Band II_HSDPA _TX CH9400

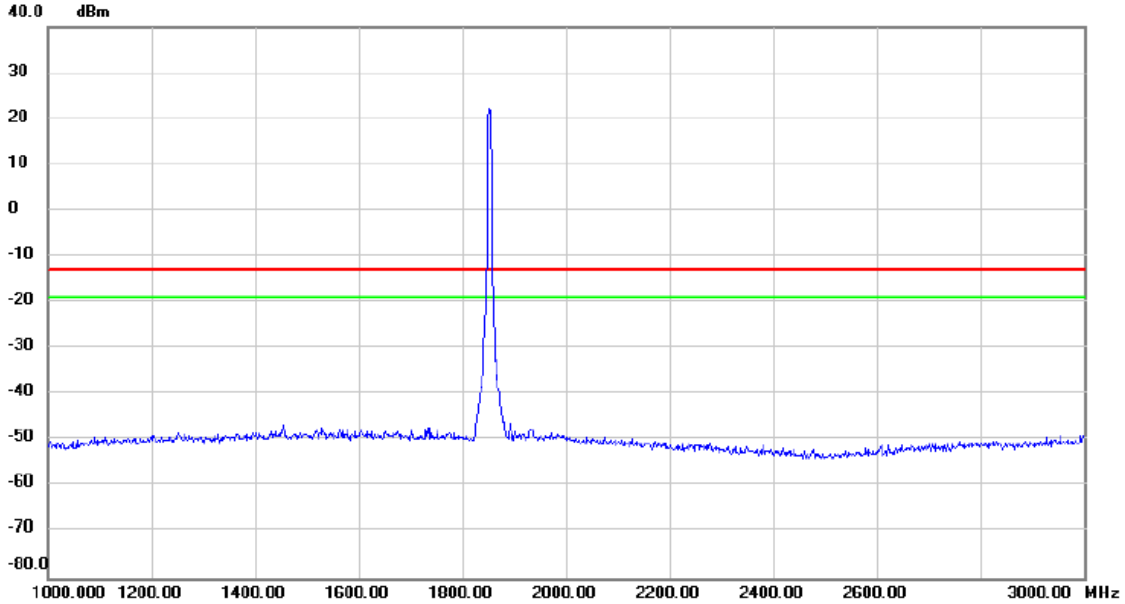
Vertical



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

Test Mode:	WCDMA Band II_HSDPA _TX CH9400

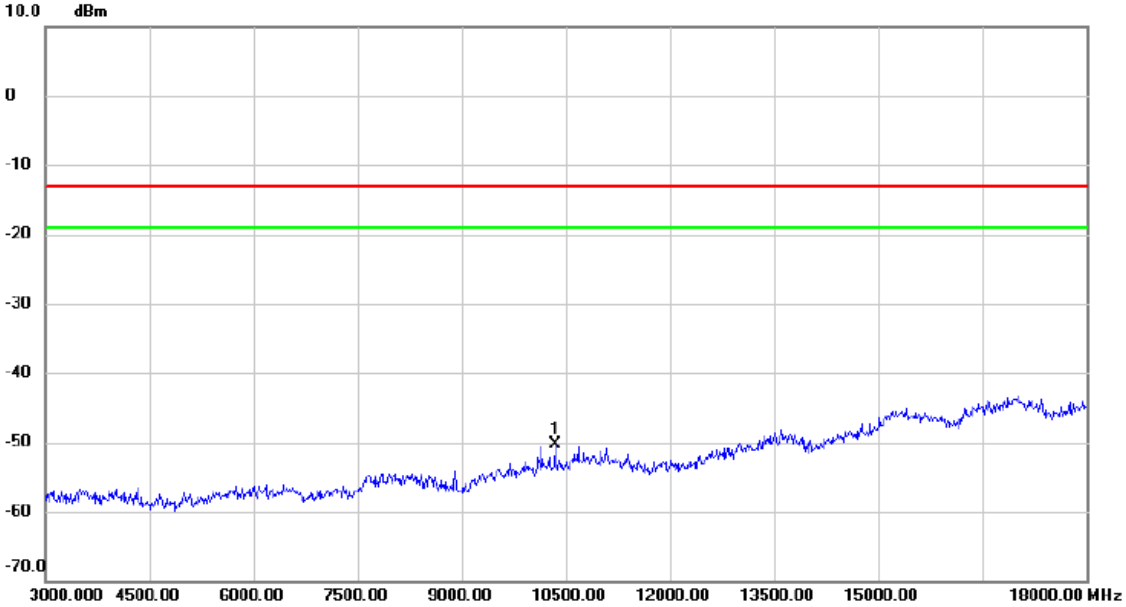
Horizontal



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

Test Mode:	WCDMA Band II_HSDPA _TX CH9400

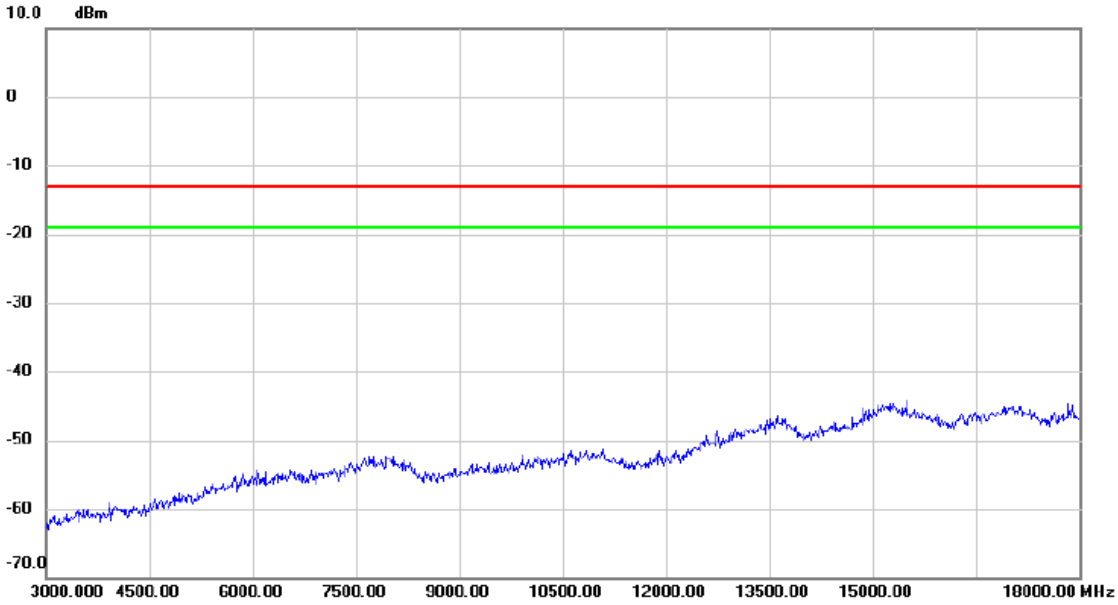
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	*	10350.000	-67.84	17.51	-50.33	-13.00	-37.33	peak	

Test Mode:	WCDMA Band II_HSDPA _TX CH9400

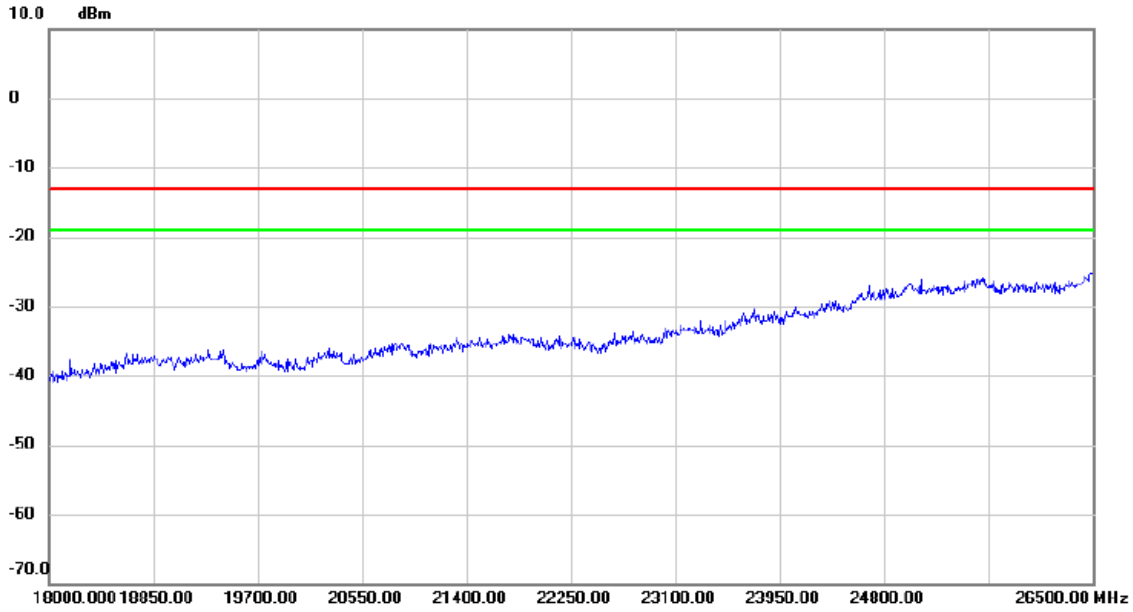
Horizontal



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

Test Mode:	WCDMA Band II_HSDPA _TX CH9400

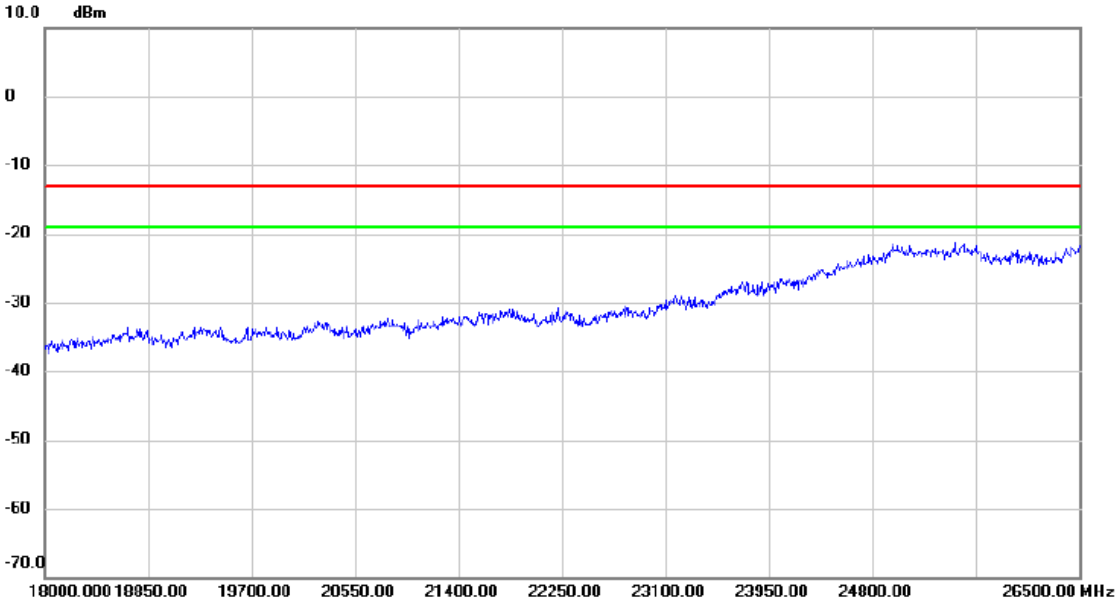
Vertical



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

Test Mode:	WCDMA Band II_HSDPA_TX CH9400

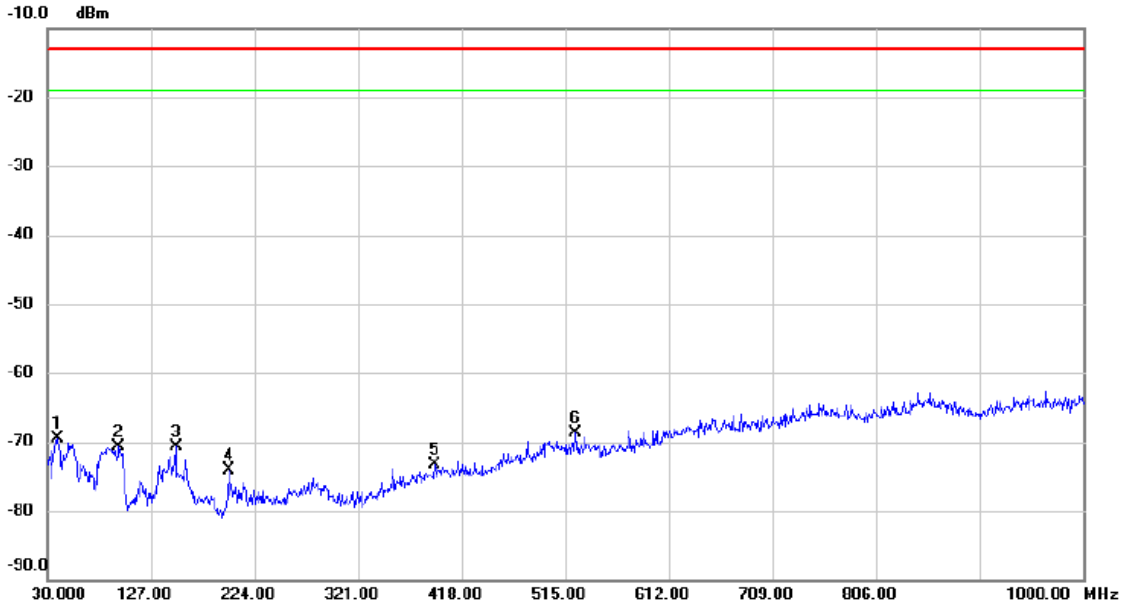
Horizontal



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

Test Mode:	WCDMA Band II_HSUPA_TX CH9400

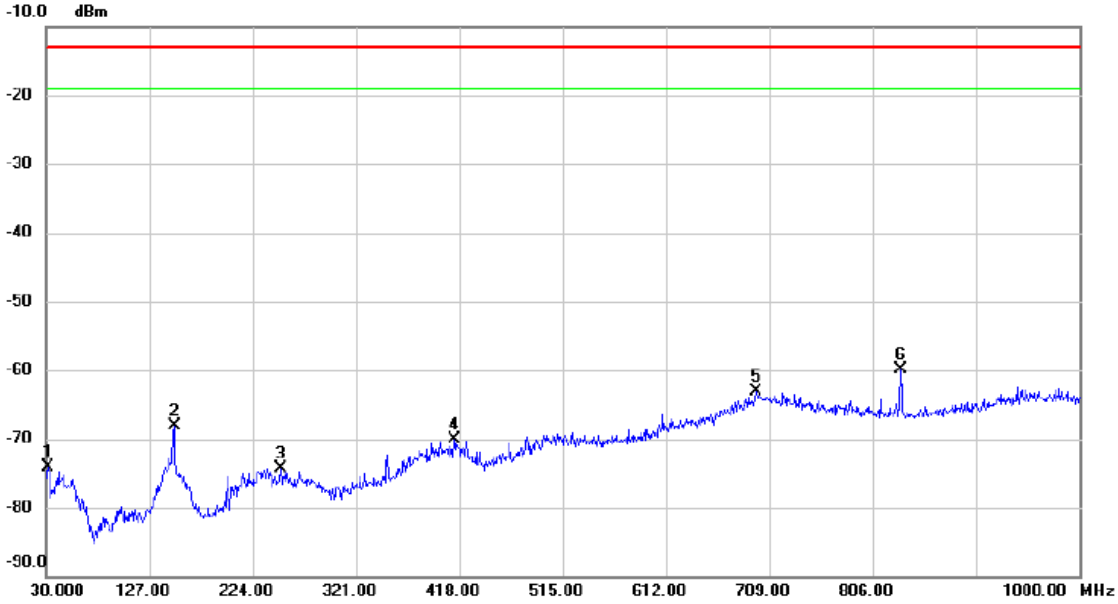
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1		39.700	-60.65	-8.93	-69.58	-13.00	-56.58	peak	
2		96.930	-67.91	-2.73	-70.64	-13.00	-57.64	peak	
3		150.280	-70.76	-0.04	-70.80	-13.00	-57.80	peak	
4		199.750	-69.88	-4.13	-74.01	-13.00	-61.01	peak	
5		392.780	-76.21	3.00	-73.21	-13.00	-60.21	peak	
6	*	524.700	-73.33	4.65	-68.68	-13.00	-55.68	peak	

Test Mode:	WCDMA Band II_HSUPA_TX CH9400

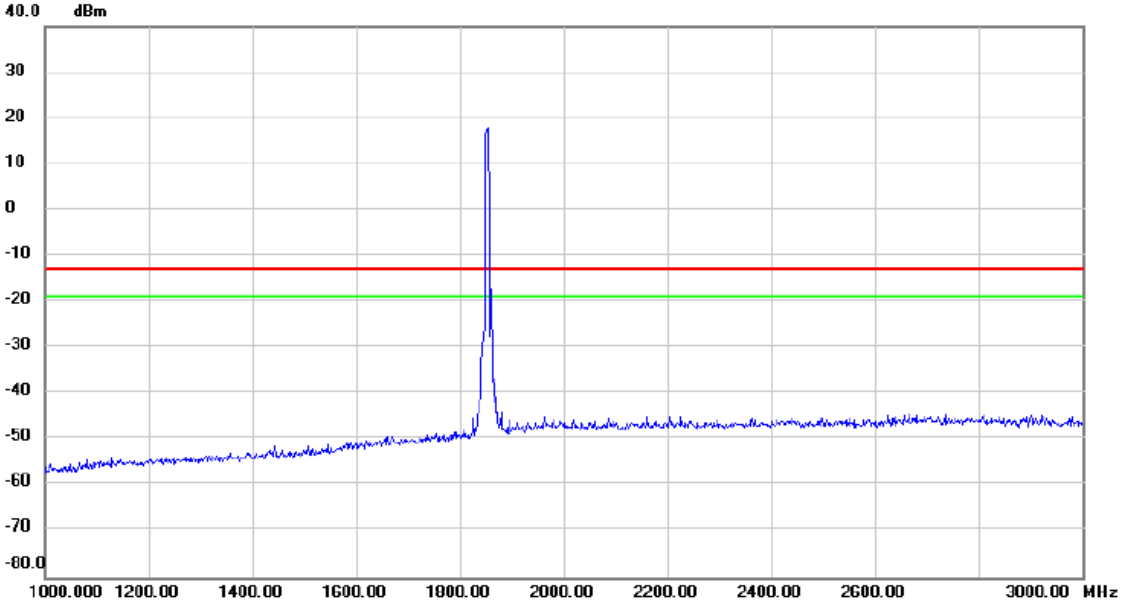
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1		31.940	-70.52	-3.65	-74.17	-13.00	-61.17	peak	
2		150.280	-68.12	-0.04	-68.16	-13.00	-55.16	peak	
3		250.190	-71.44	-2.76	-74.20	-13.00	-61.20	peak	
4		413.150	-73.53	3.52	-70.01	-13.00	-57.01	peak	
5		696.390	-70.38	7.38	-63.00	-13.00	-50.00	peak	
6	*	832.190	-70.41	10.46	-59.95	-13.00	-46.95	peak	

Test Mode:	WCDMA Band II_HSUPA_TX CH9400

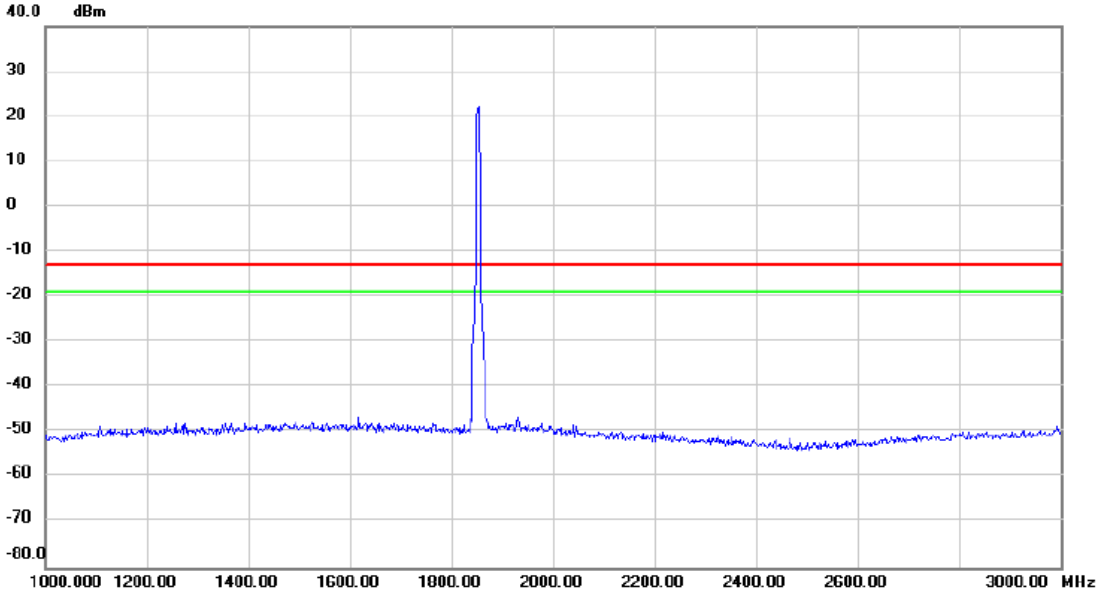
Vertical



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

Test Mode:	WCDMA Band II_HSUPA_TX CH9400

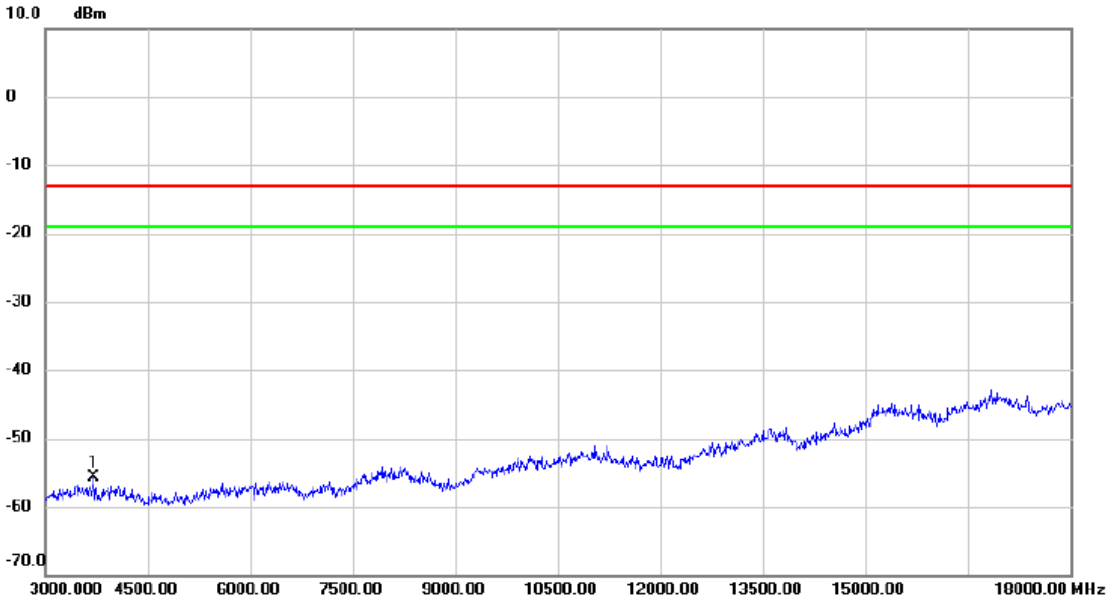
Horizontal



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

Test Mode:	WCDMA Band II_HSUPA_TX CH9400

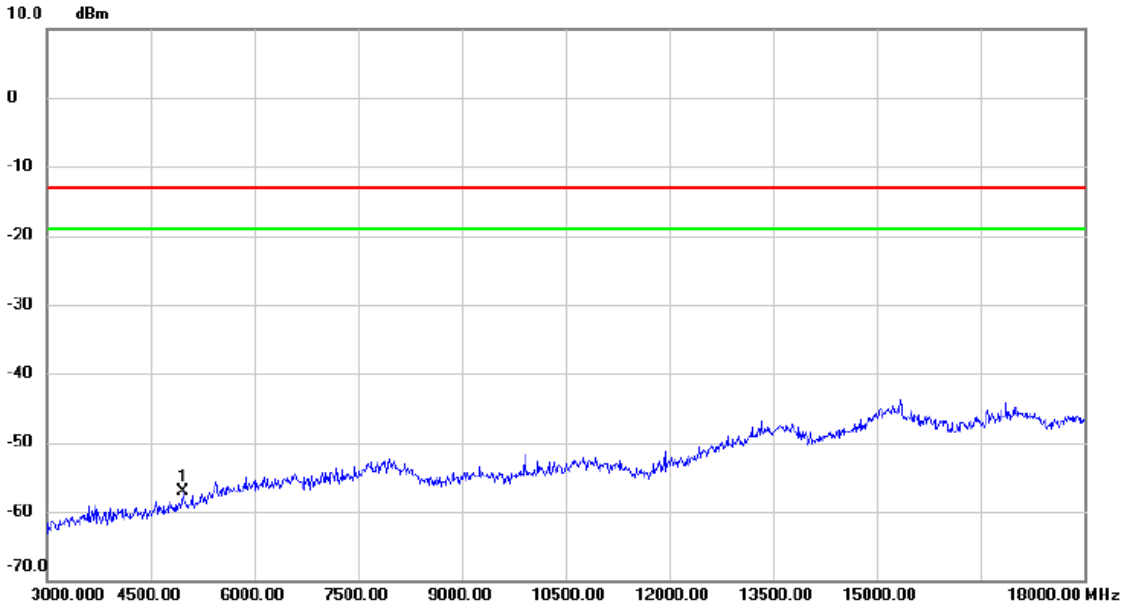
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	*	3705.000	-53.59	-2.11	-55.70	-13.00	-42.70	peak	

Test Mode:	WCDMA Band II_HSUPA_TX CH9400

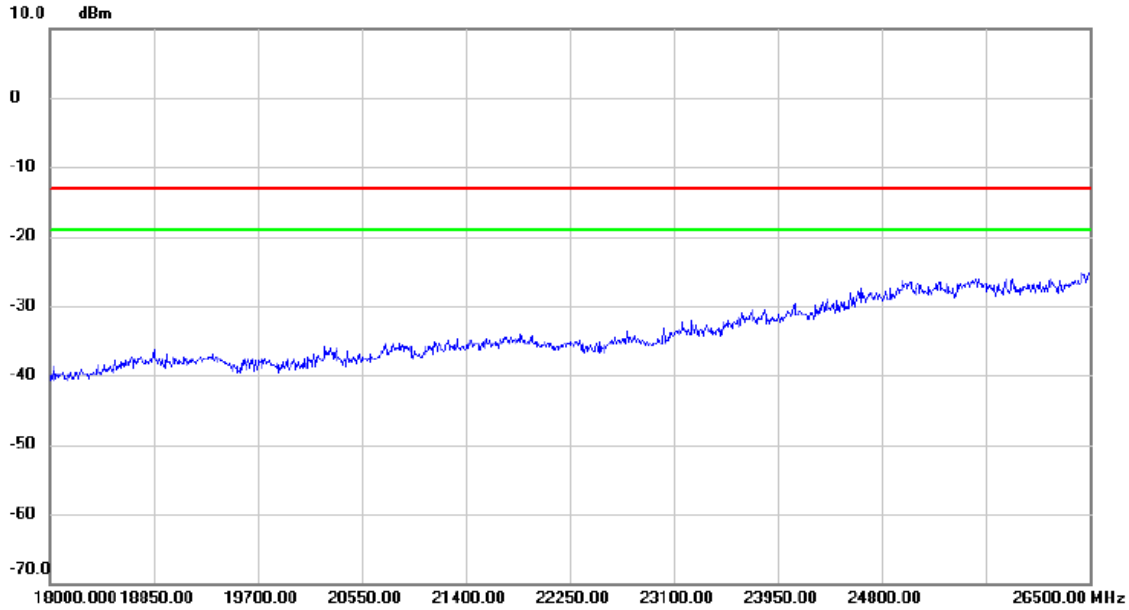
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	*	4965.000	-59.95	2.76	-57.19	-13.00	-44.19	peak	

Test Mode:	WCDMA Band II_HSUPA_TX CH9400

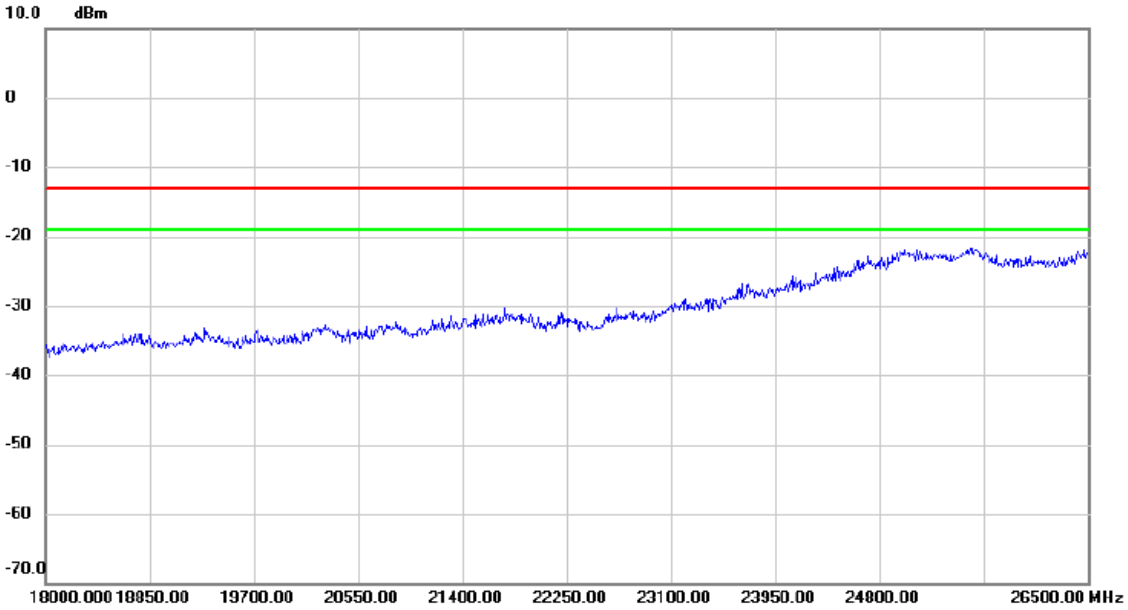
Vertical



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

Test Mode:	WCDMA Band II_HSUPA_TX CH9400

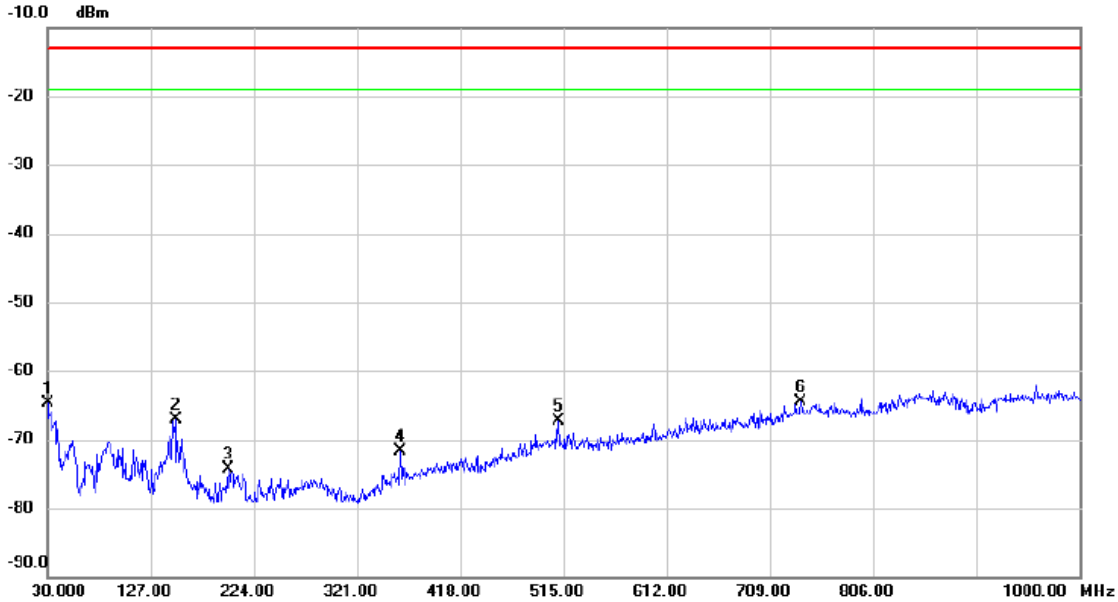
Horizontal



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

Test Mode:	LTE Band 2_TX CH19100_5M

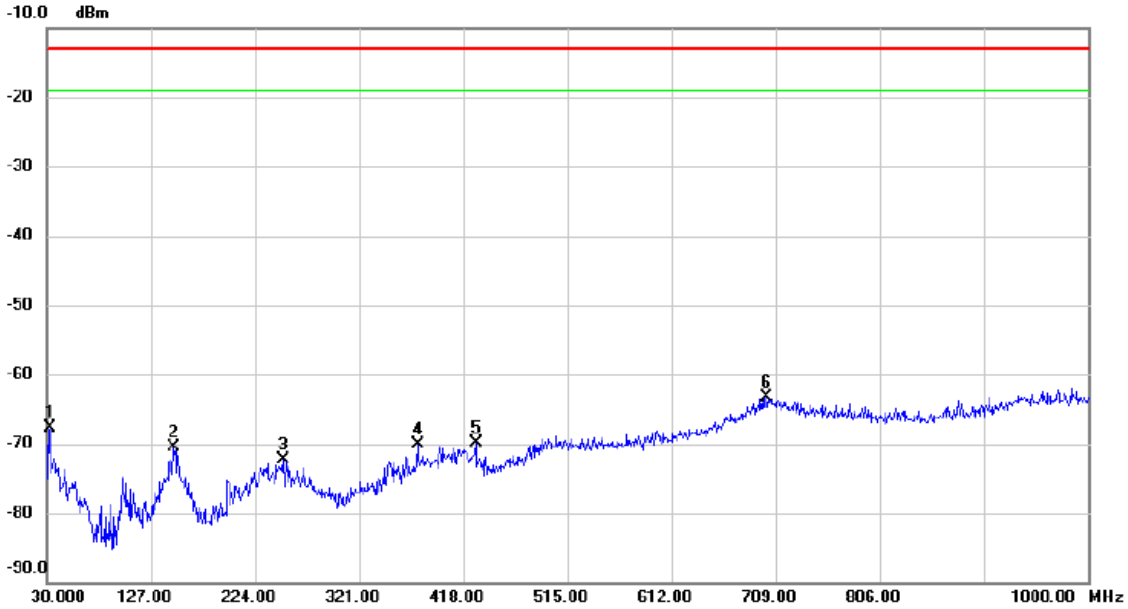
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1		30.000	-62.86	-1.89	-64.75	-13.00	-51.75	peak	
2		150.280	-67.09	-0.04	-67.13	-13.00	-54.13	peak	
3		199.750	-70.18	-4.13	-74.31	-13.00	-61.31	peak	
4		361.740	-73.09	1.48	-71.61	-13.00	-58.61	peak	
5		510.150	-71.95	4.58	-67.37	-13.00	-54.37	peak	
6	*	738.100	-72.85	8.27	-64.58	-13.00	-51.58	peak	

Test Mode:	LTE Band 2_TX CH19100_5M

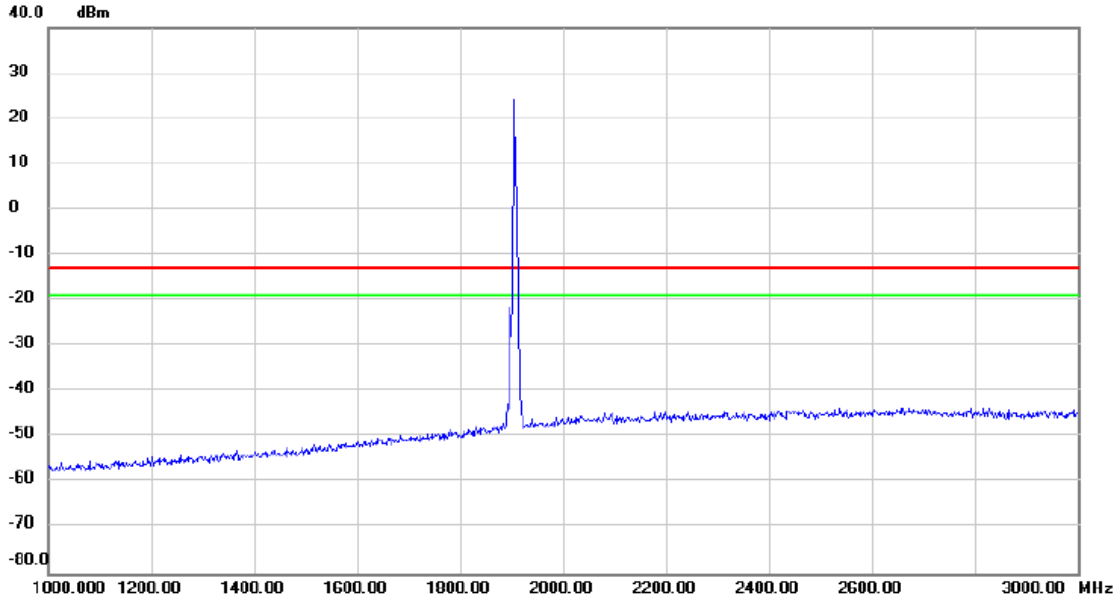
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1		32.910	-63.20	-4.53	-67.73	-13.00	-54.73	peak	
2		148.340	-70.56	0.02	-70.54	-13.00	-57.54	peak	
3		250.190	-69.50	-2.76	-72.26	-13.00	-59.26	peak	
4		375.320	-72.22	2.14	-70.08	-13.00	-57.08	peak	
5		429.640	-73.61	3.72	-69.89	-13.00	-56.89	peak	
6	*	700.270	-70.82	7.44	-63.38	-13.00	-50.38	peak	

Test Mode:	LTE Band 2_TX CH19100_5M

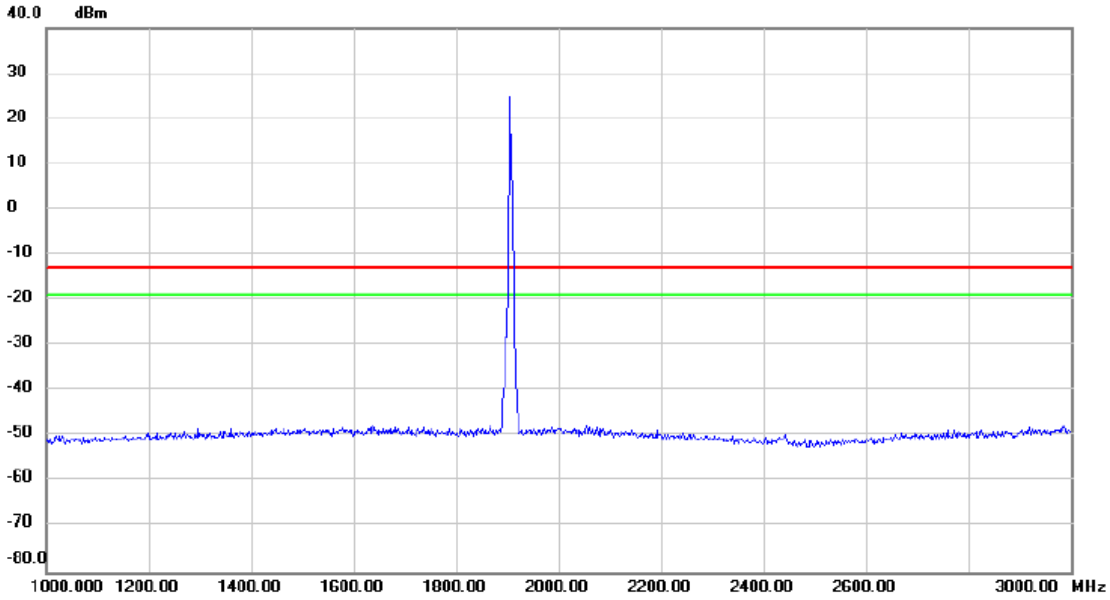
Vertical



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

Test Mode:	LTE Band 2_TX CH19100_5M

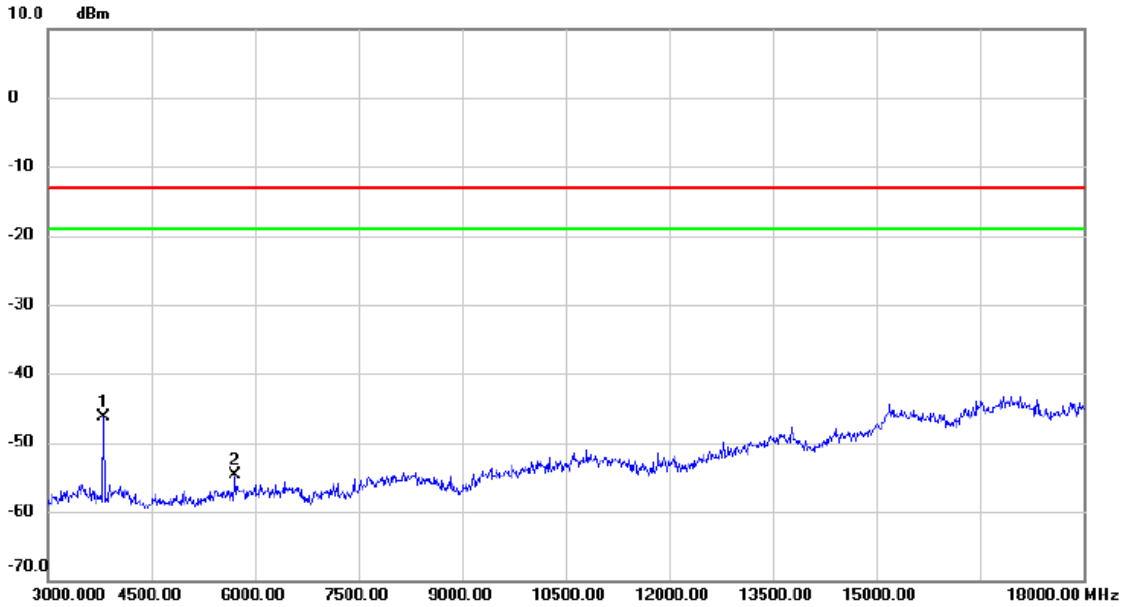
Horizontal



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

Test Mode:	LTE Band 2_TX CH19100_5M

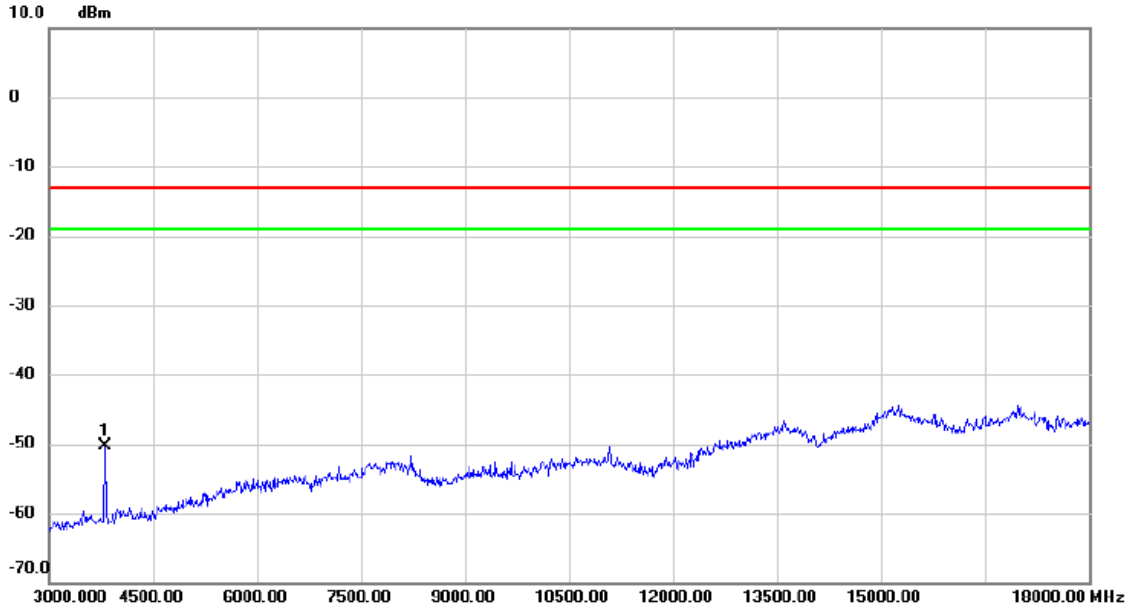
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	*	3810.000	-44.89	-1.32	-46.21	-13.00	-33.21	peak	
2		5715.000	-59.30	4.50	-54.80	-13.00	-41.80	peak	

Test Mode:	LTE Band 2_TX CH19100_5M

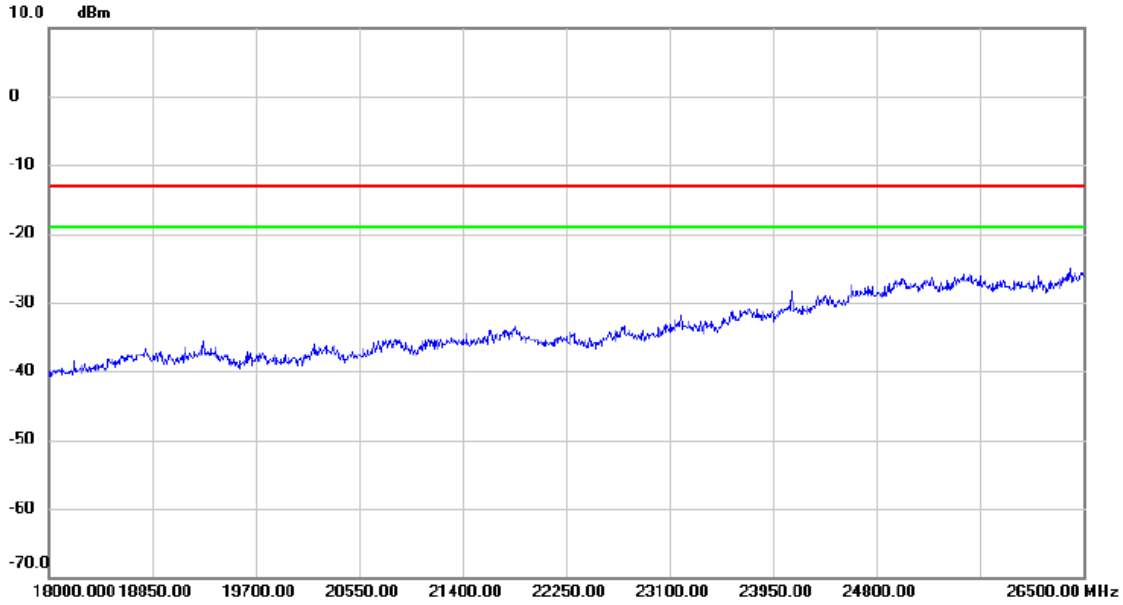
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	*	3810.000	-48.89	-1.32	-50.21	-13.00	-37.21	peak	

Test Mode:	LTE Band 2_TX CH19100_5M

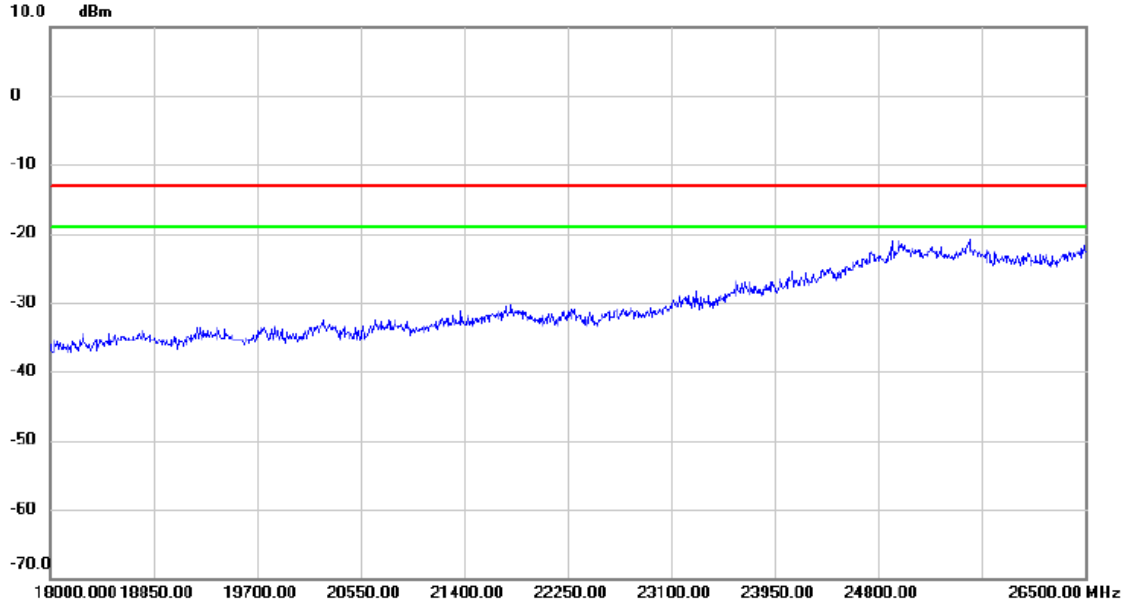
Vertical



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

Test Mode:	LTE Band 2_TX CH19100_5M

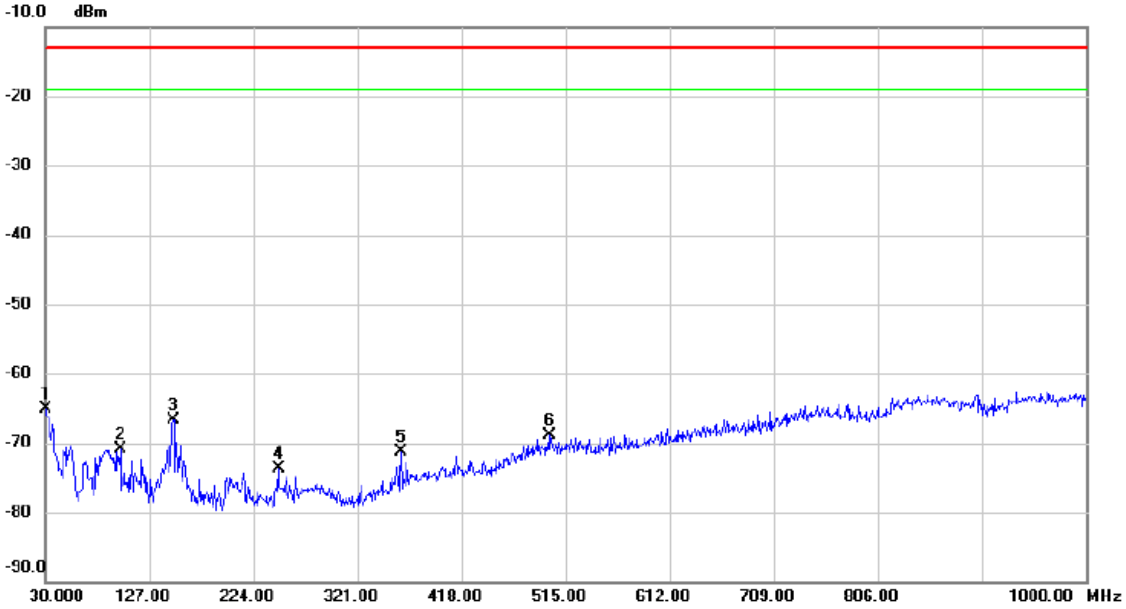
Horizontal



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

Test Mode:	LTE Band 2_TX CH18900_20M

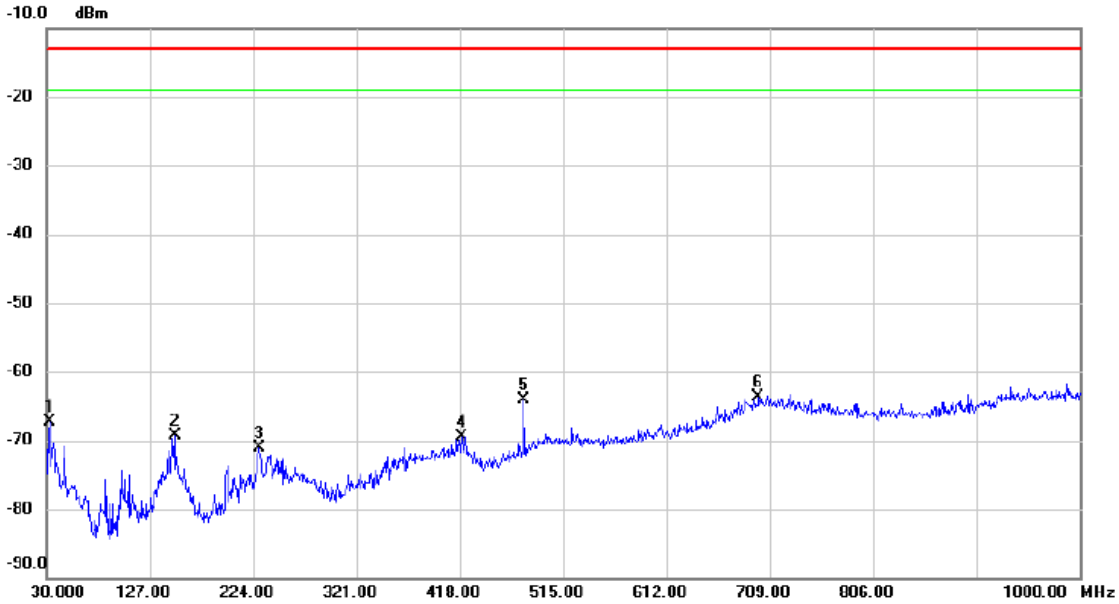
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	*	30.000	-63.18	-1.89	-65.07	-13.00	-52.07	peak	
2		99.840	-67.81	-3.08	-70.89	-13.00	-57.89	peak	
3		149.310	-66.74	0.00	-66.74	-13.00	-53.74	peak	
4		247.280	-70.80	-2.93	-73.73	-13.00	-60.73	peak	
5		361.740	-72.83	1.48	-71.35	-13.00	-58.35	peak	
6		499.480	-73.48	4.52	-68.96	-13.00	-55.96	peak	

Test Mode:	LTE Band 2_TX CH18900_20M

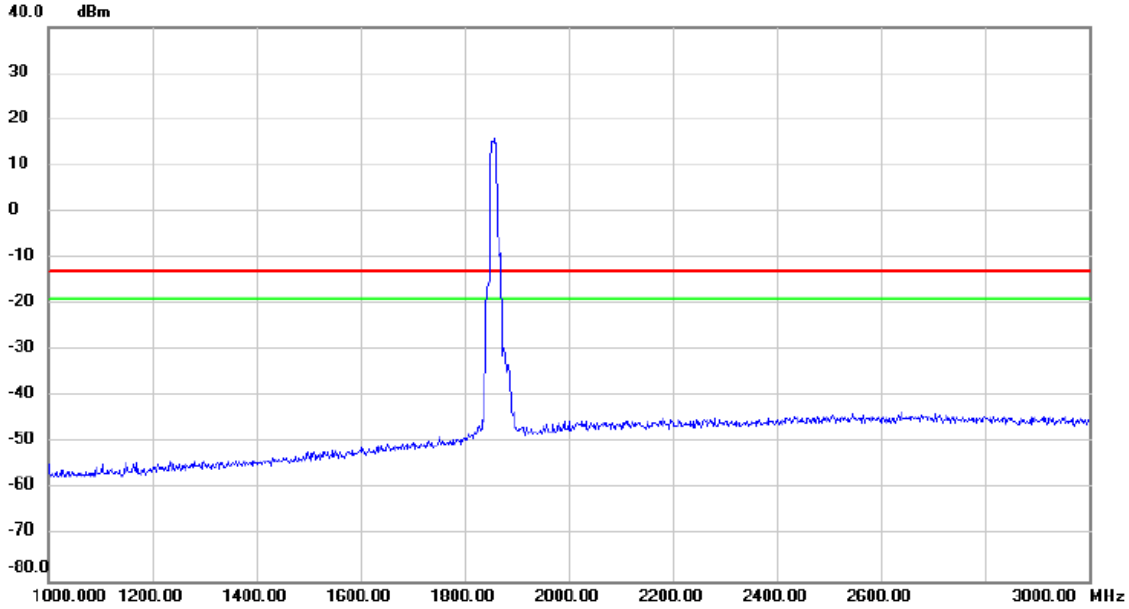
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1		32.910	-62.79	-4.53	-67.32	-13.00	-54.32	peak	
2		150.280	-69.33	-0.04	-69.37	-13.00	-56.37	peak	
3		229.820	-67.27	-3.92	-71.19	-13.00	-58.19	peak	
4		419.940	-73.06	3.60	-69.46	-13.00	-56.46	peak	
5		478.140	-68.38	4.29	-64.09	-13.00	-51.09	peak	
6	*	698.330	-71.15	7.41	-63.74	-13.00	-50.74	peak	

Test Mode:	LTE Band 2_TX CH18900_20M

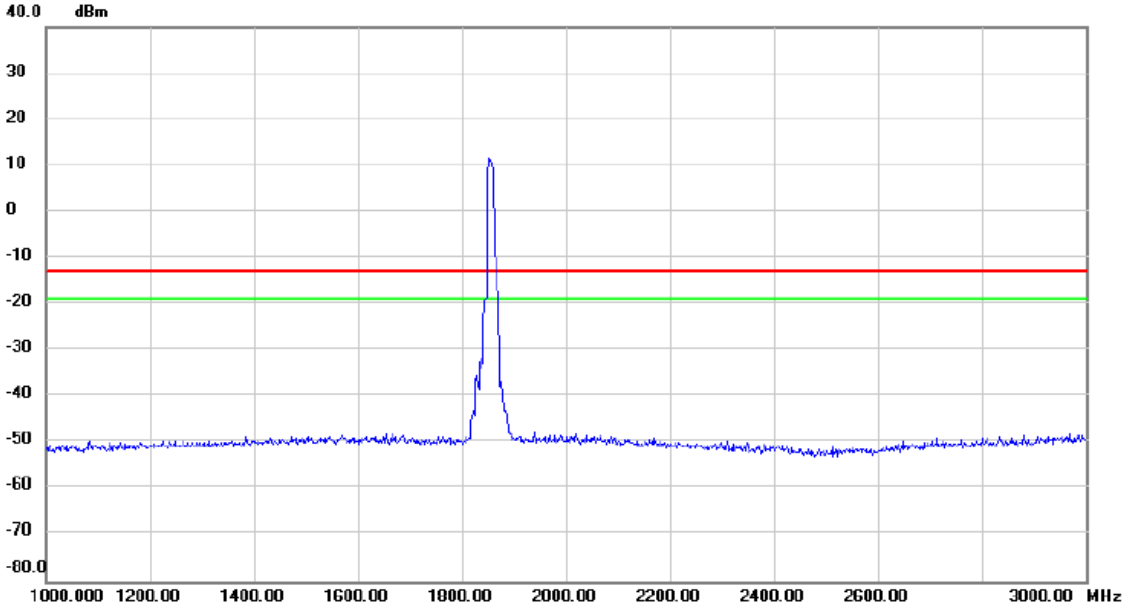
Vertical



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

Test Mode:	LTE Band 2_TX CH18900_20M

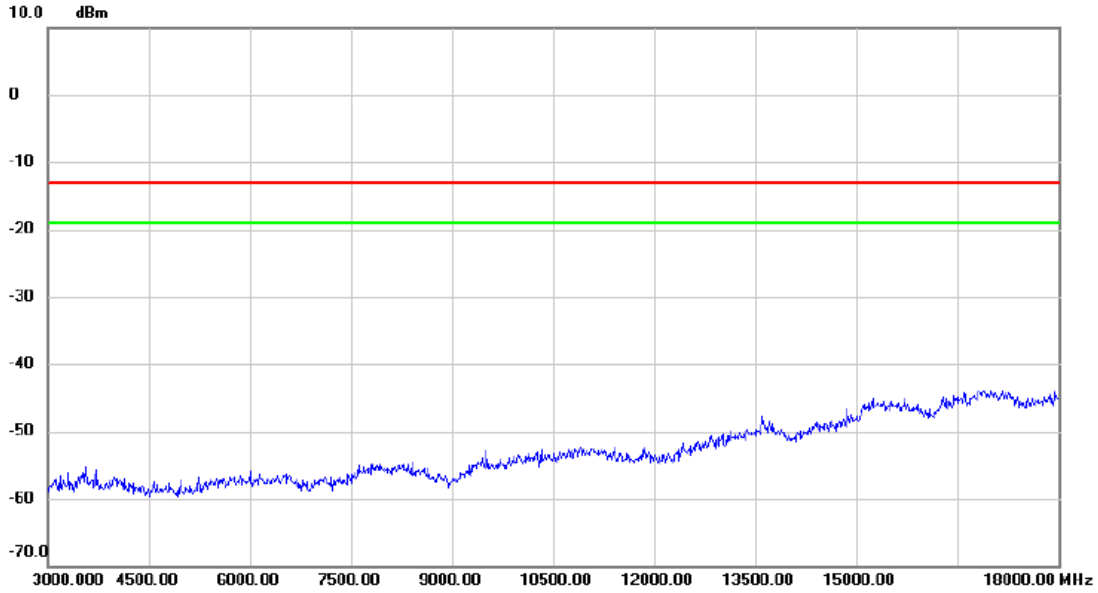
Horizontal



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

Test Mode:	LTE Band 2_TX CH18900_20M

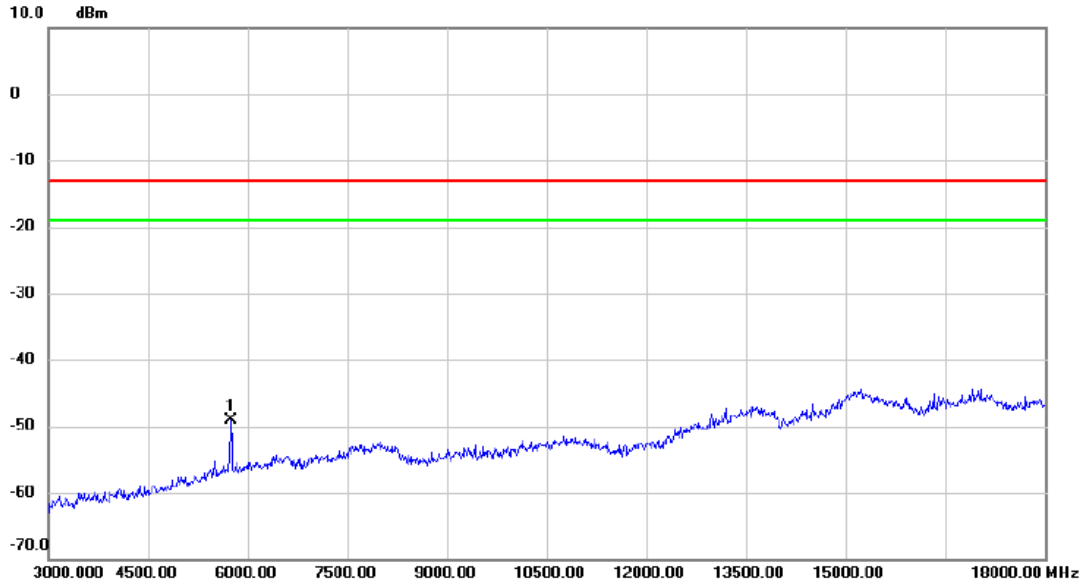
Vertical



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

Test Mode:	LTE Band 2_TX CH18900_20M

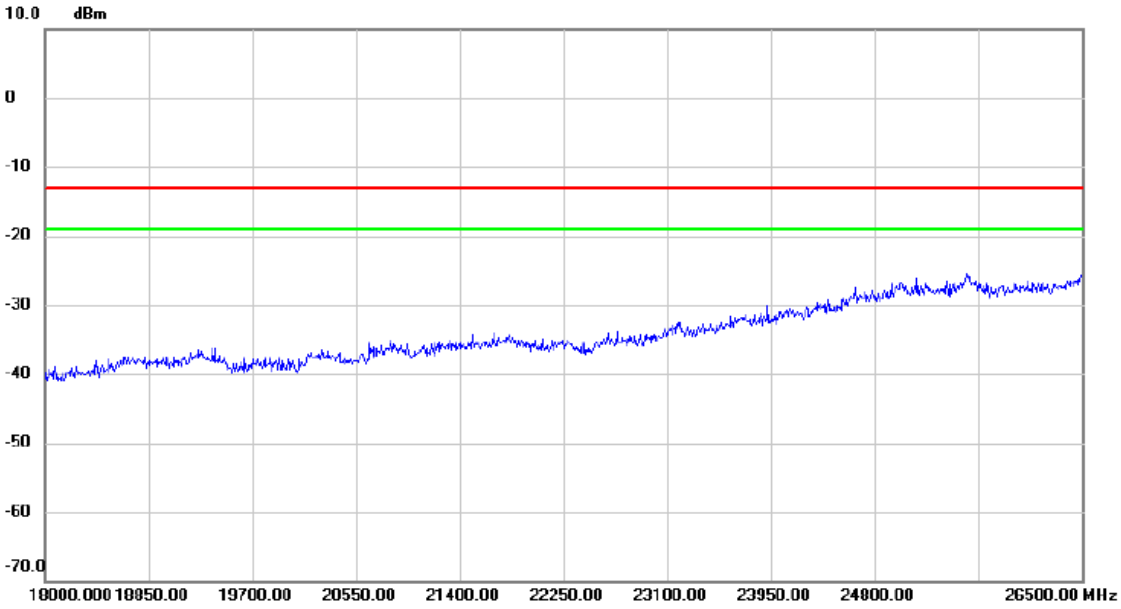
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	*	5745.000	-53.71	4.59	-49.12	-13.00	-36.12	peak	

Test Mode:	LTE Band 2_TX CH18900_20M

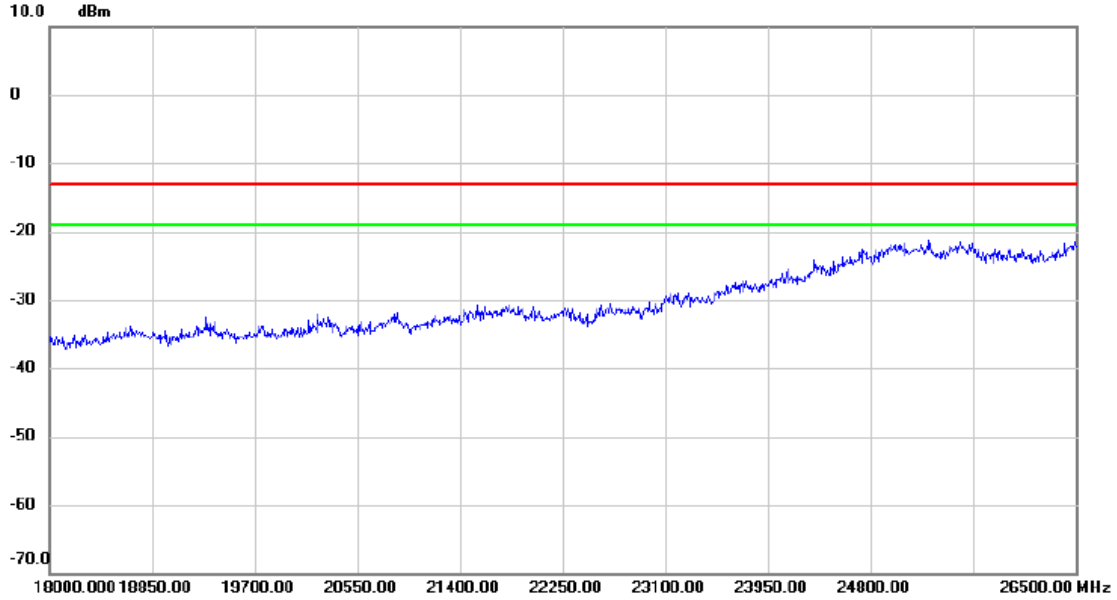
Vertical



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

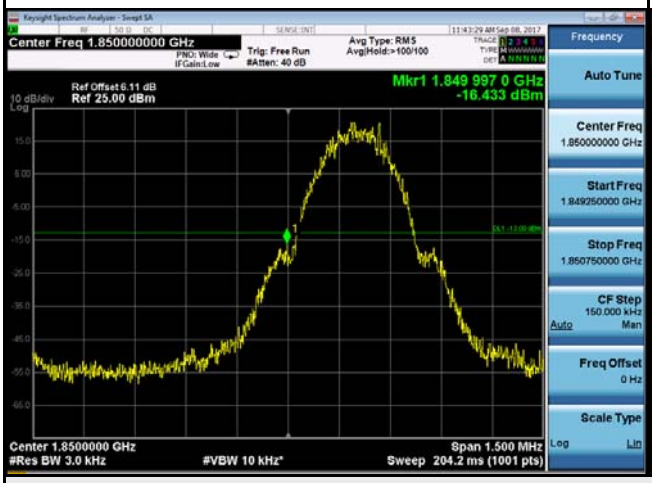
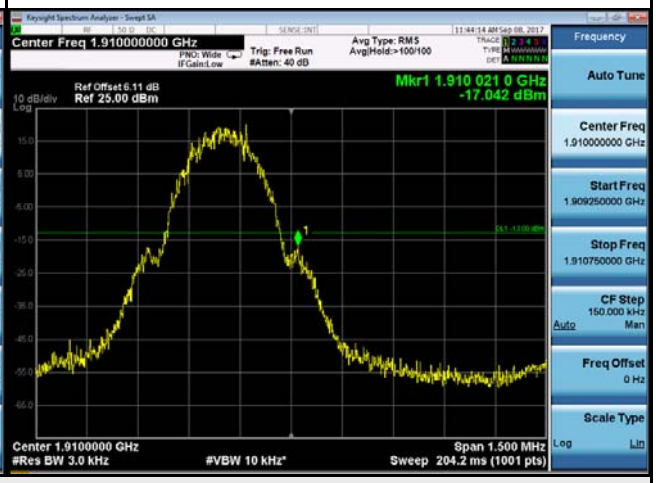
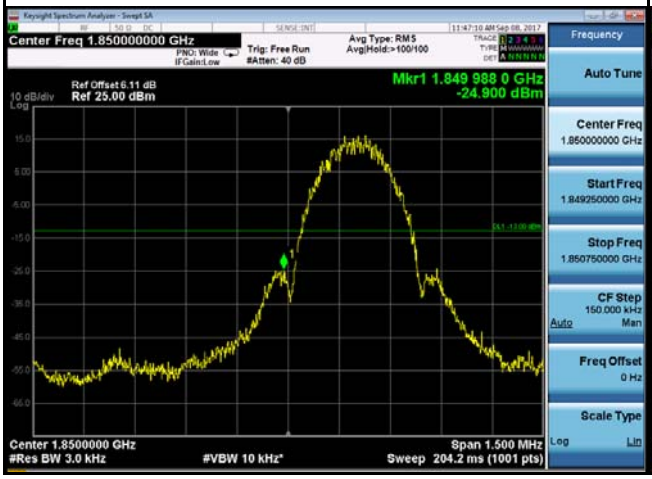
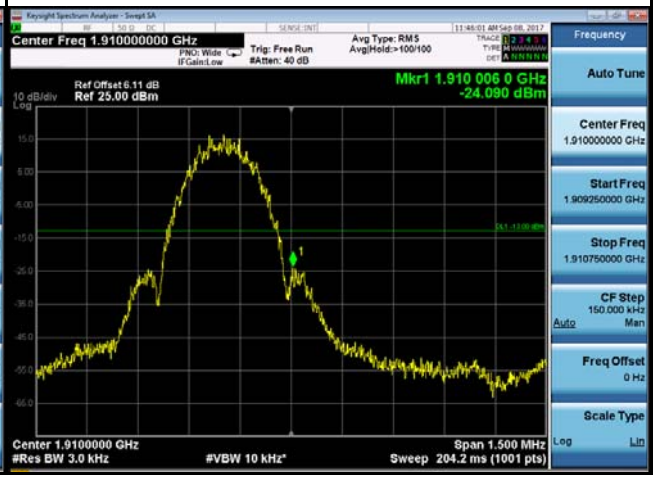
Test Mode:	LTE Band 2_TX CH18900_20M

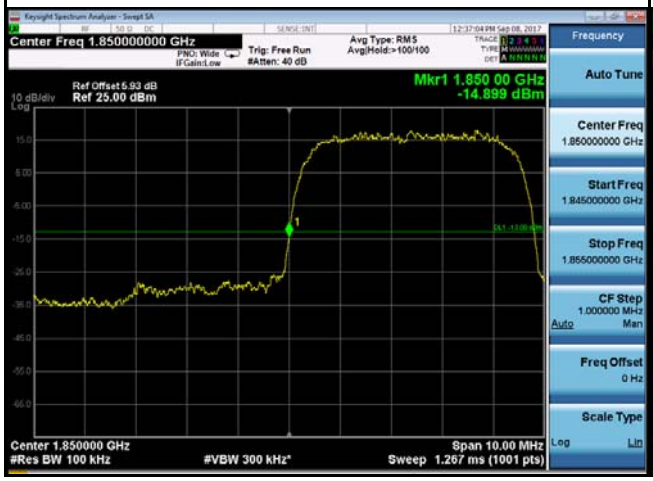
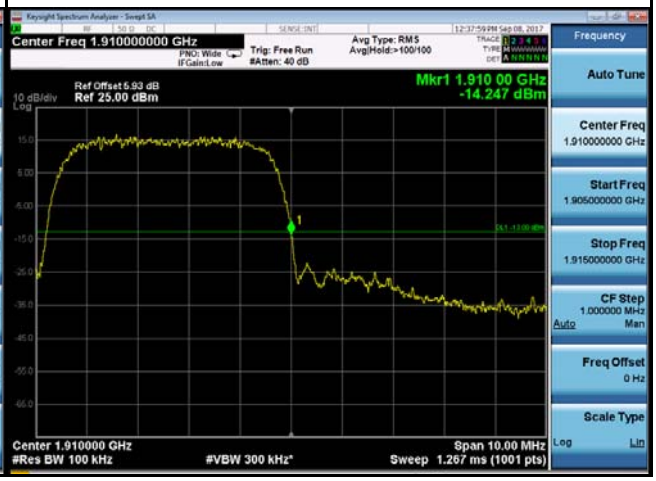
Horizontal



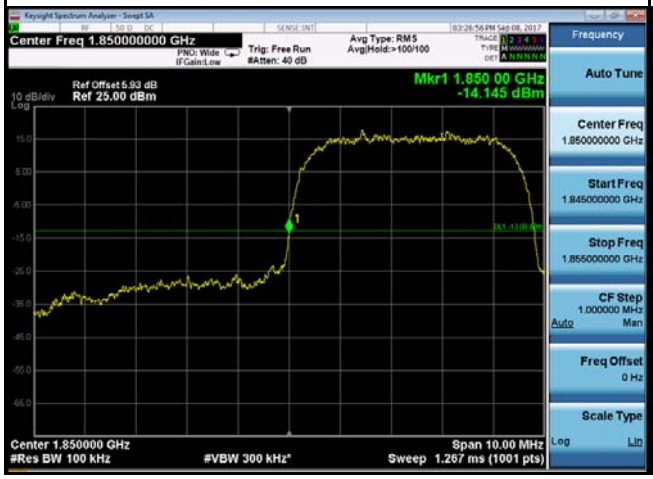
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment

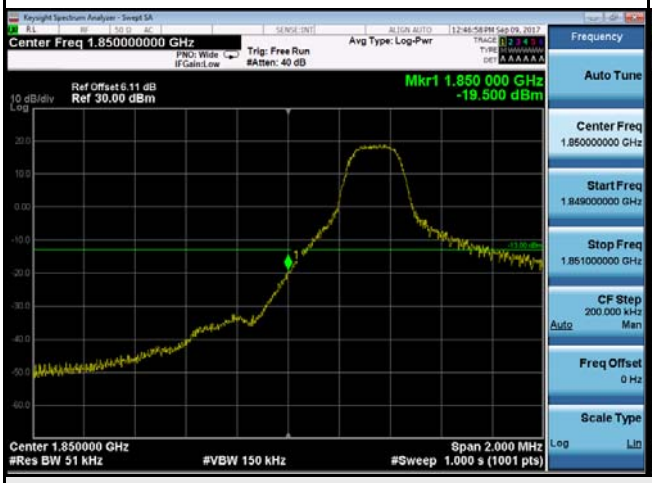
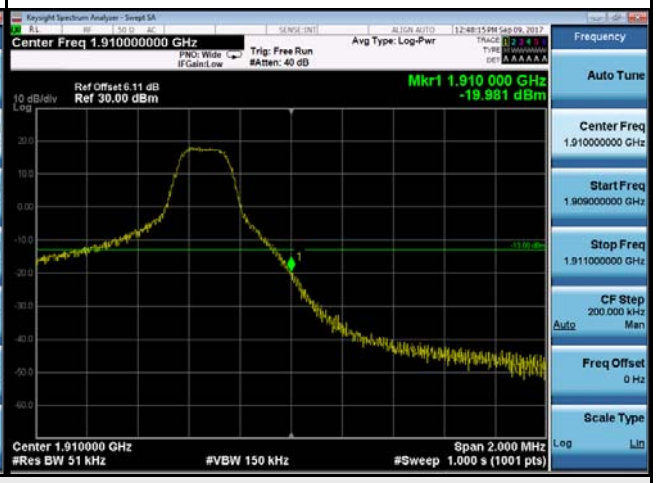
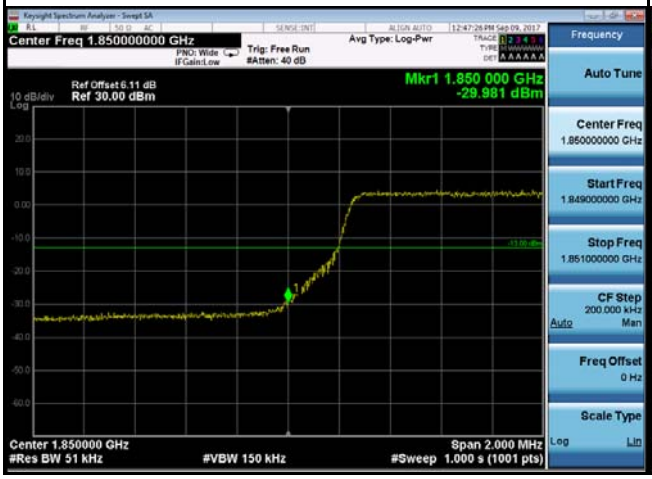
ATTACHMENT E - BAND EDGE

DCS1900			
GSM			
Channel	512	Channel	810
			
EDGE			
Channel	512	Channel	810
			

WCDMA Band 2			
Channel	9262	Channel	9538
			

WCDMA_HSDPA Band 2			
Channel	9262	Channel	9538
			

WCDMA_HSUPA Band 2			
Channel	9262	Channel	9538
			

LTE Band 2_5M			
1RB0		1RB24	
Channel	18625	Channel	19175
			
25RB0			
Channel	18625	Channel	19175
			

LTE Band 2_10M			
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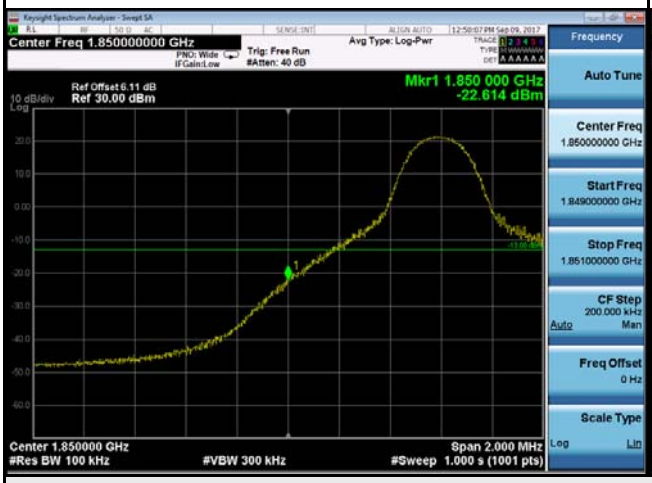
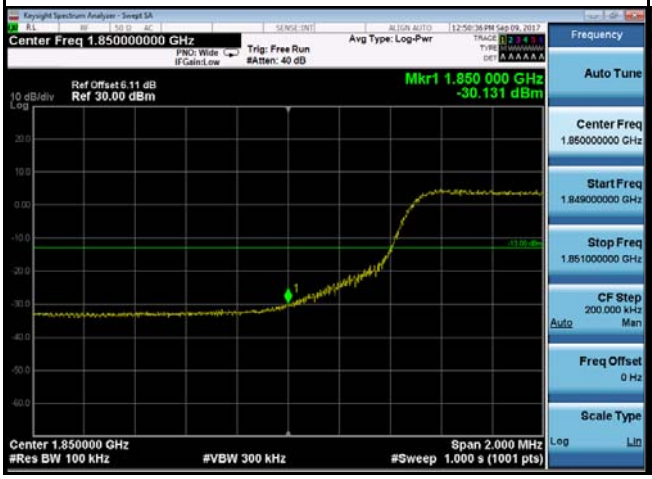
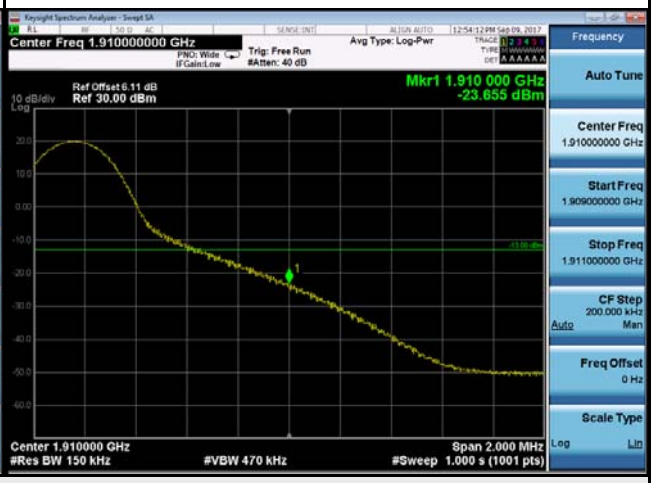
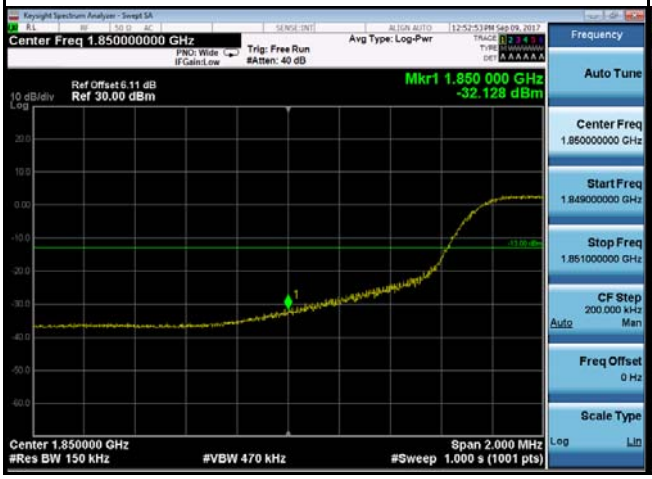
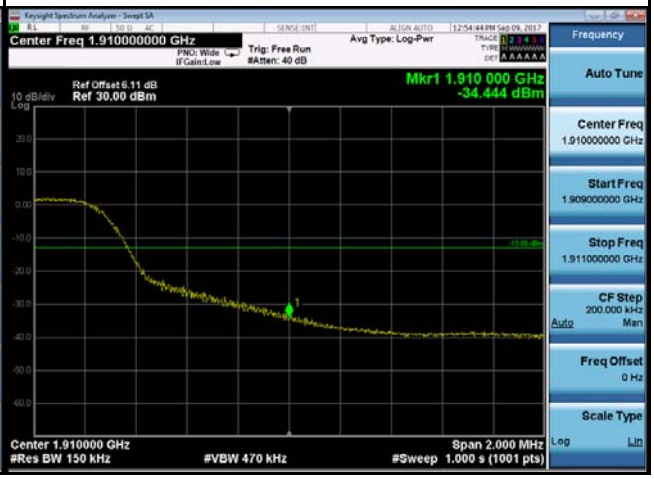
			
50RB0			
Channel	18650	Channel	19150
			

LTE Band 2_15M			
1RB0		1RB74	
Channel	18675	Channel	19125
			
75RB0			
Channel	18675	Channel	19125
			

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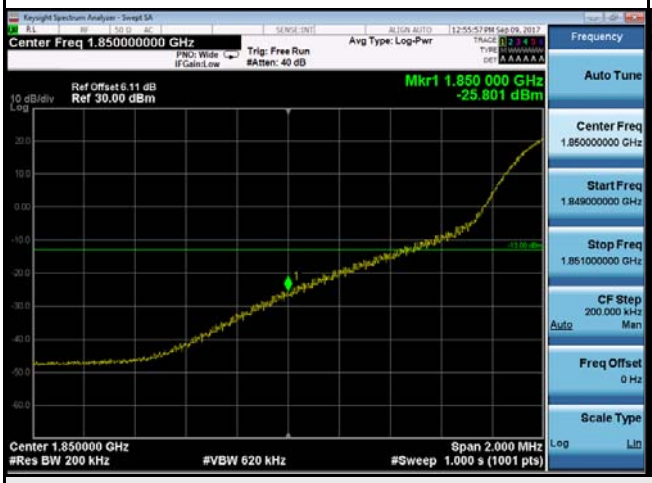
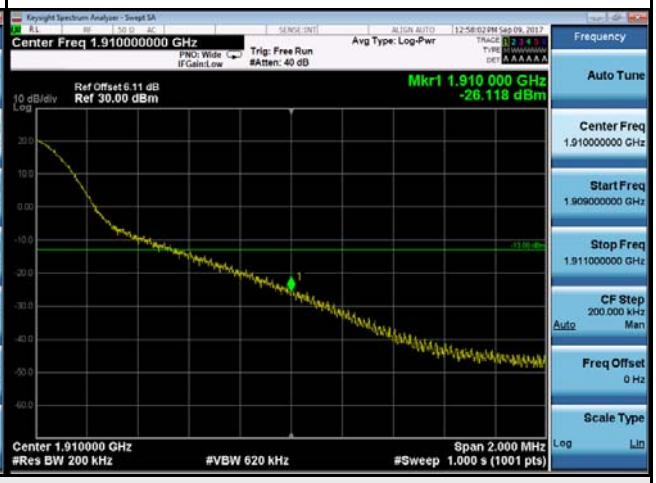
<tr><td colspan="2">1RB0</td><td colspan="2">1RB99</td></tr>
<tr><td>Channel</td><td>18700</td><td>Channel</td><td>19100</td></tr>
<tr><td colspan="2"> 
</td><td colspan="2"> 
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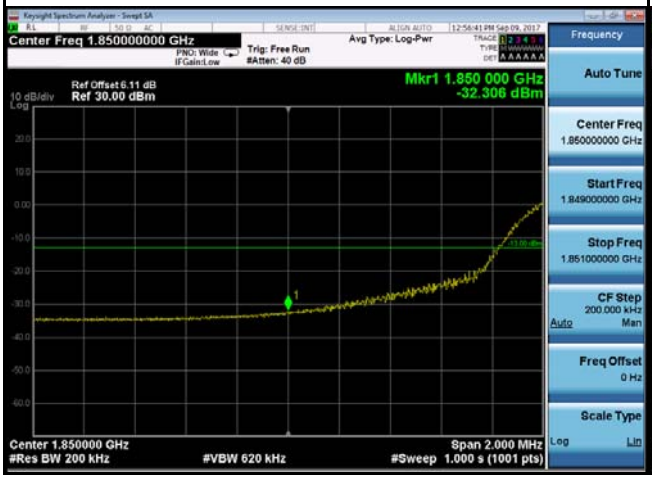
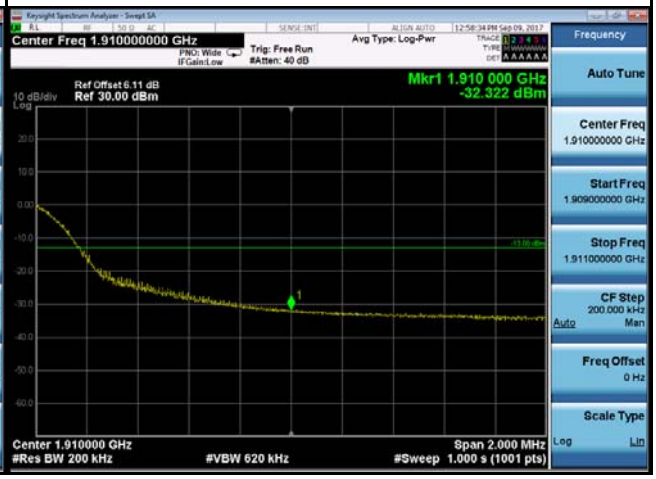
<tr><td>Channel</td><td>18700</td><td>Channel</td><td>19100</td></tr>
<tr><td colspan="2"> 
</td><td colspan="2"> 
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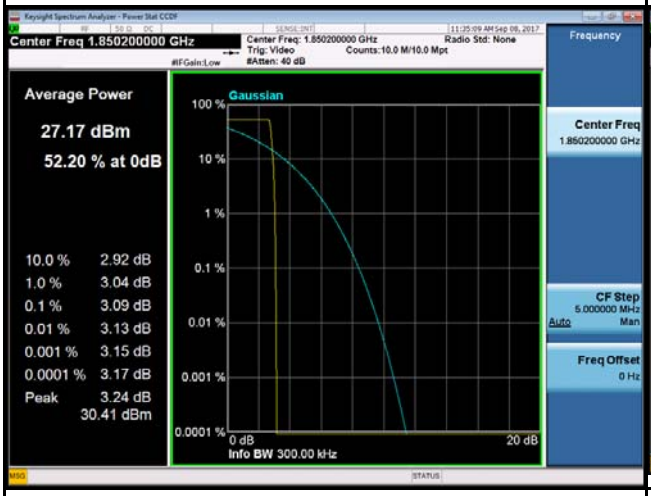
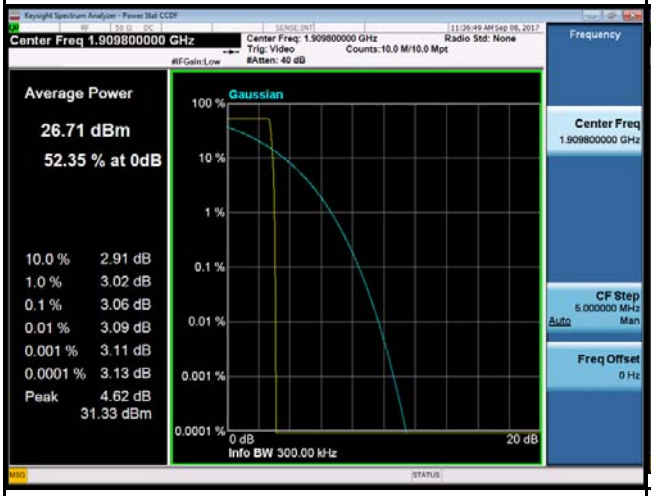
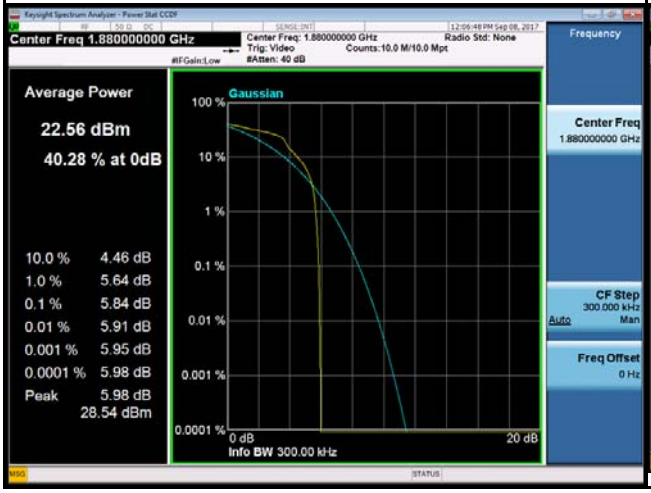
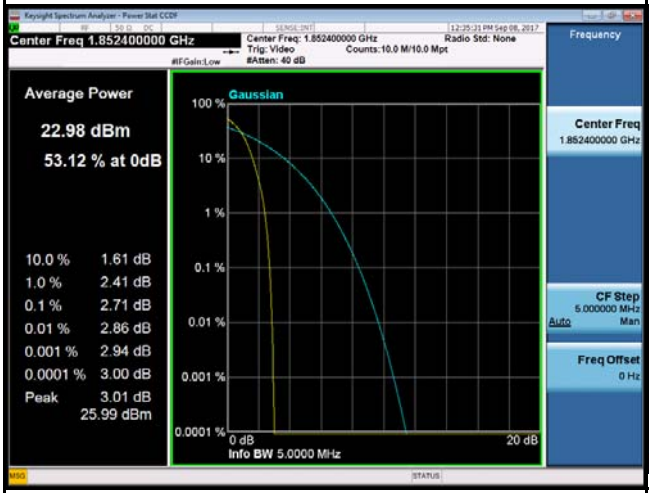
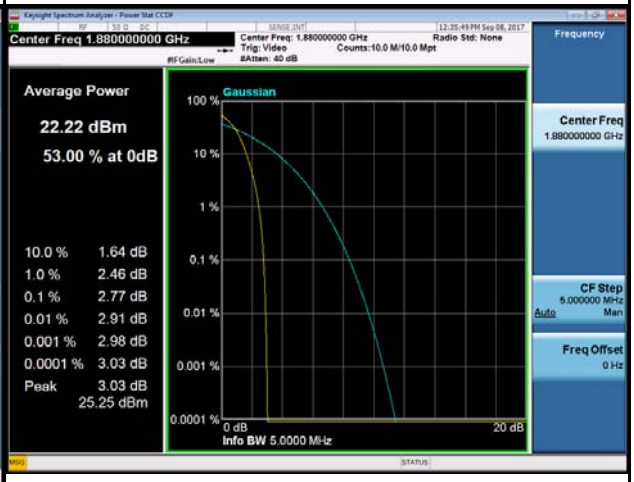
ATTACHMENT F - PEAK TO AVERAGE RATIO

DCS1900 Spectrum Plot	
GSM -512	GSM-661
	
GSM-810	EDGE-512
	
EDGE-661	EDGE-810
	

WCDMA Band 2 Spectrum Plot	
9262	9400
	
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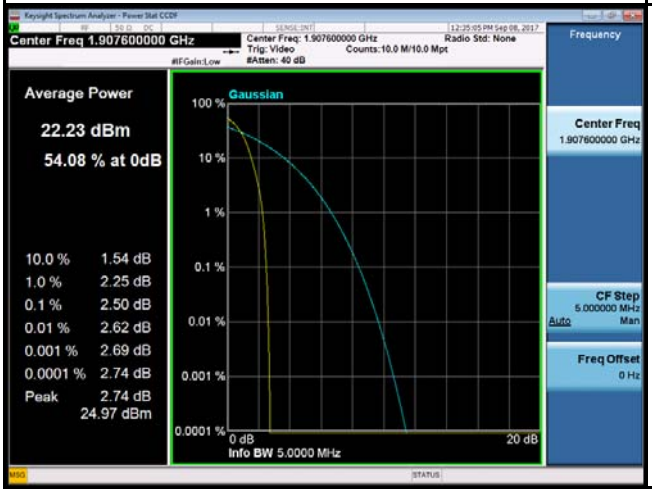
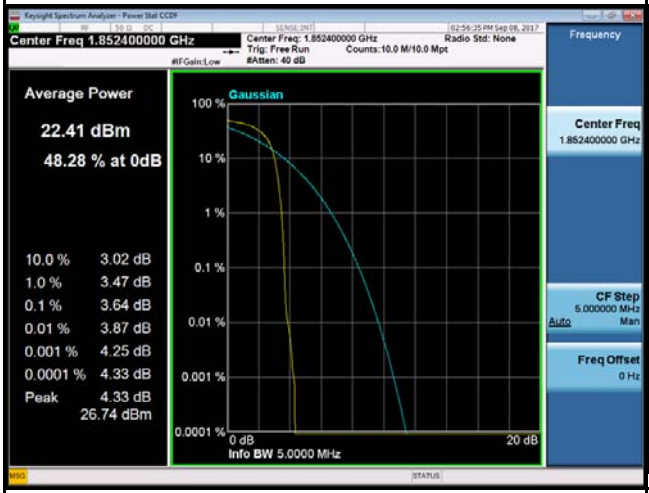
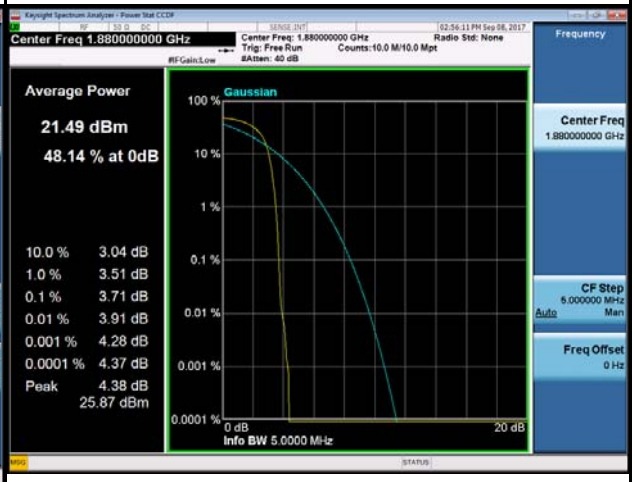
	-

WCDMA_HSDPA Band 2 Spectrum Plot	
9262	9400
	
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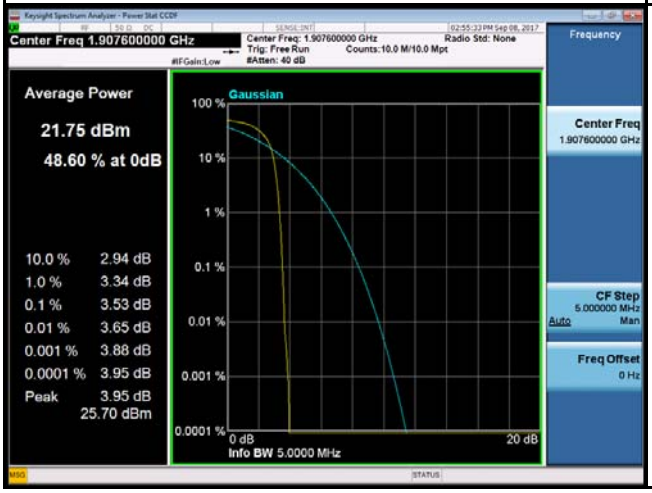
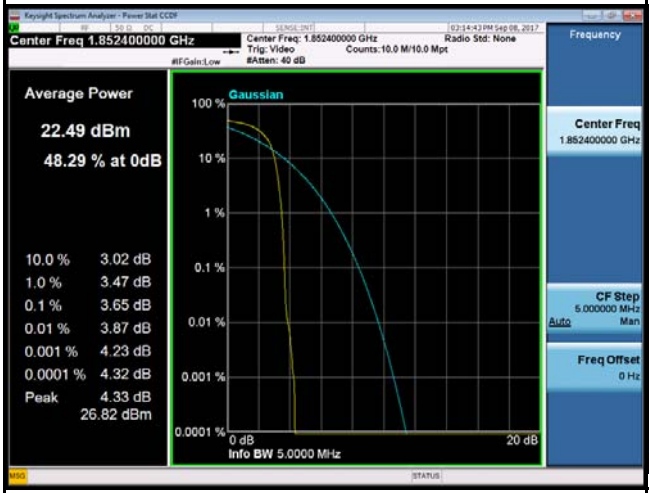
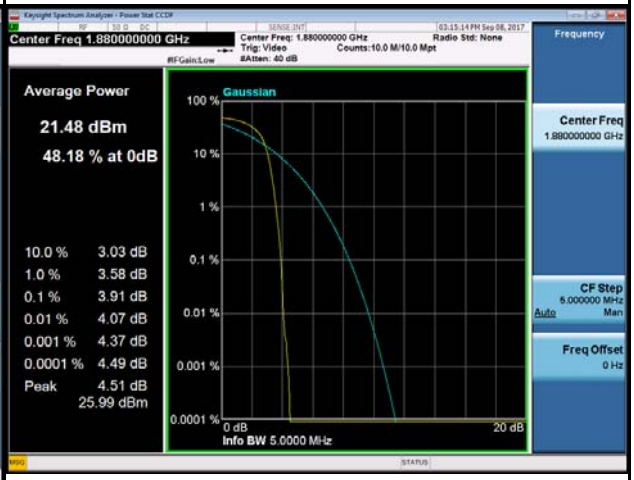
	-

WCDMA_HSUPA Band 2 Spectrum Plot	
9262	9400
	
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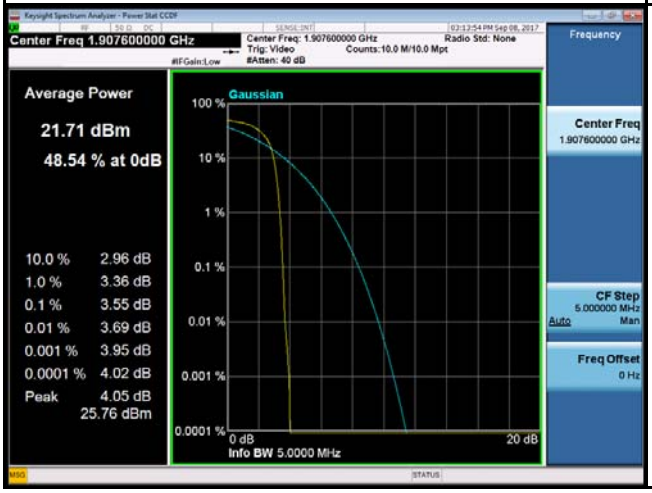
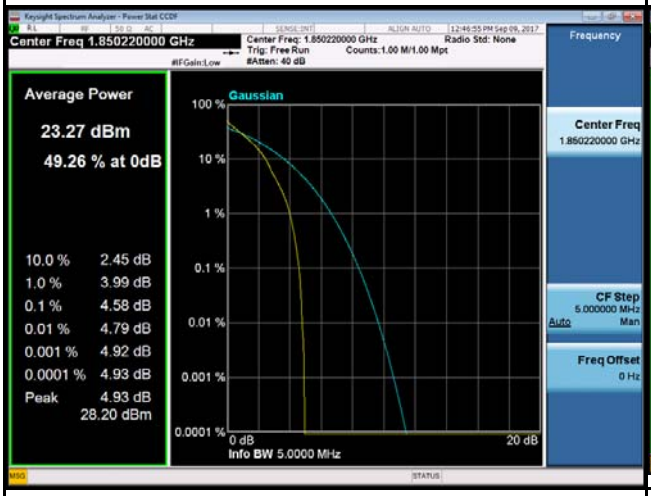
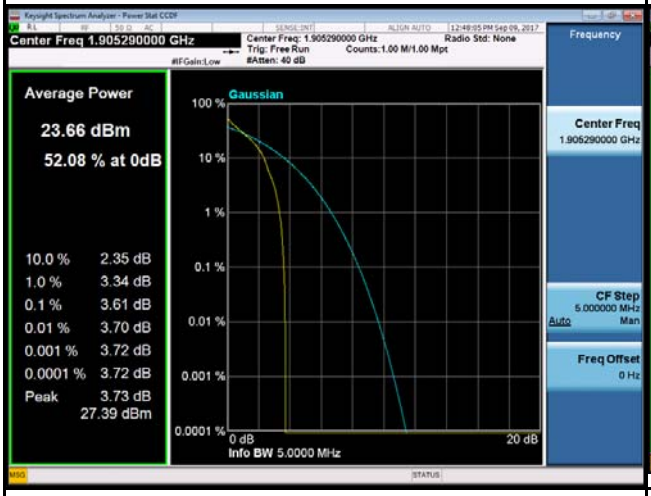
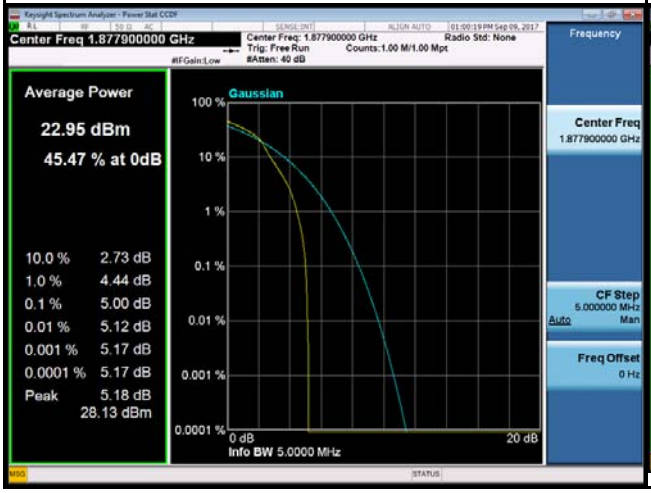
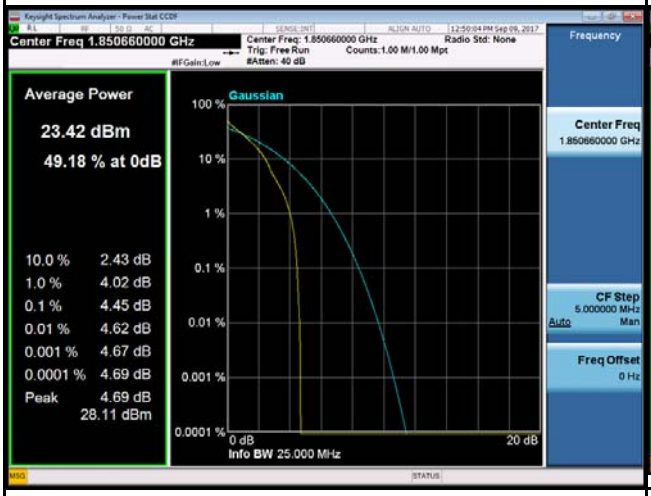
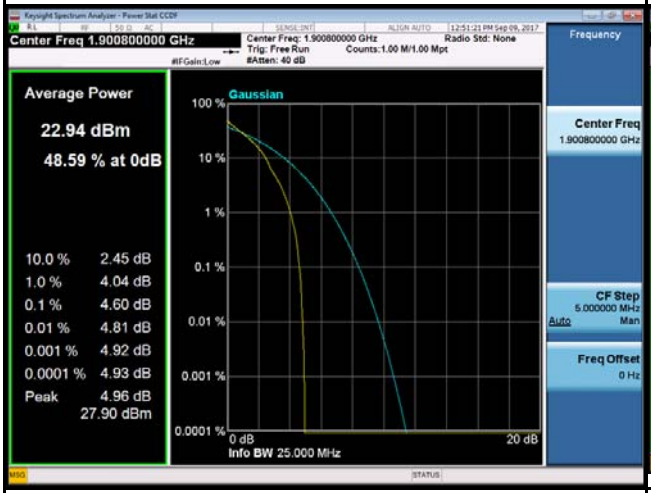
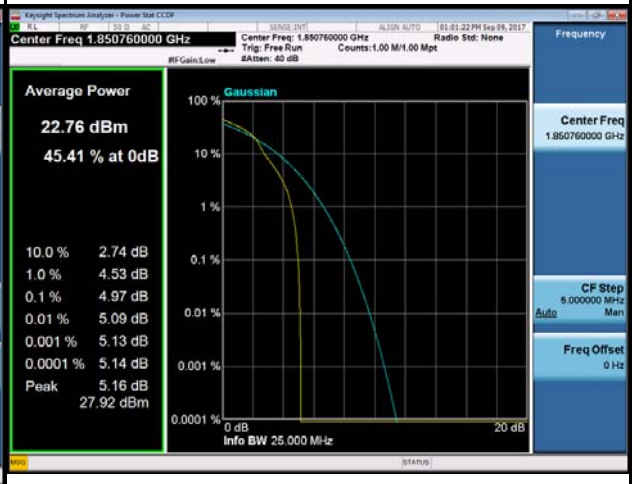
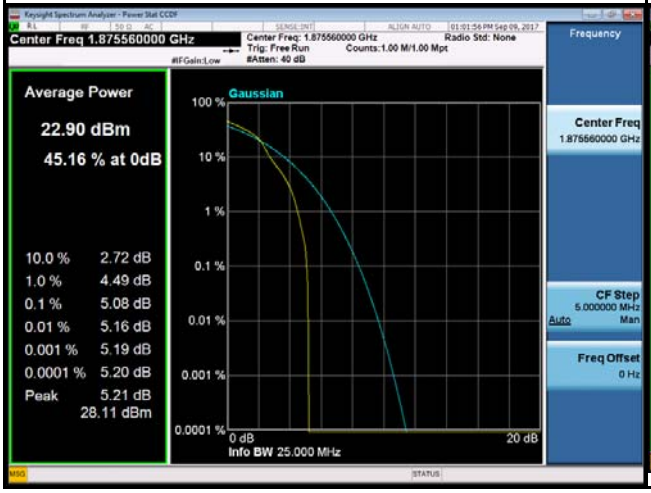
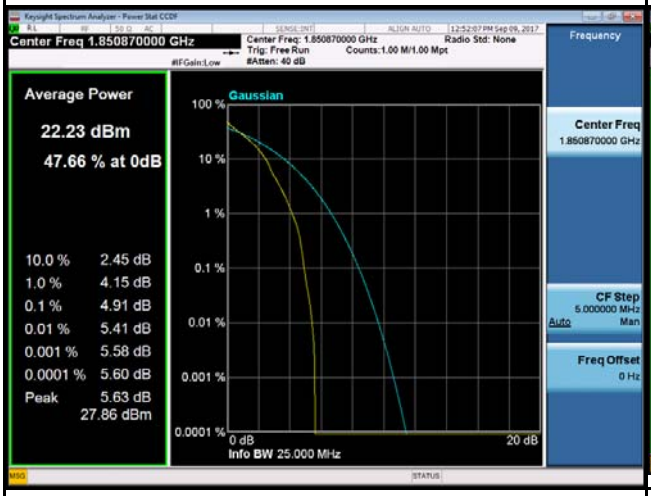
	-

LTE Band 2 Spectrum Plot_5M	
QPSK-18625	QPSK-18900
	
QPSK-19175	16QAM-18625
	
16QAM-18900	16QAM-19175
	

LTE Band 2 Spectrum Plot_10M	
QPSK-18650	QPSK-18900
	
QPSK-19150	16QAM-18650
	
16QAM-18900	16QAM-19150
	

LTE Band 2 Spectrum Plot_15M	
QPSK-18675	QPSK-18900
	
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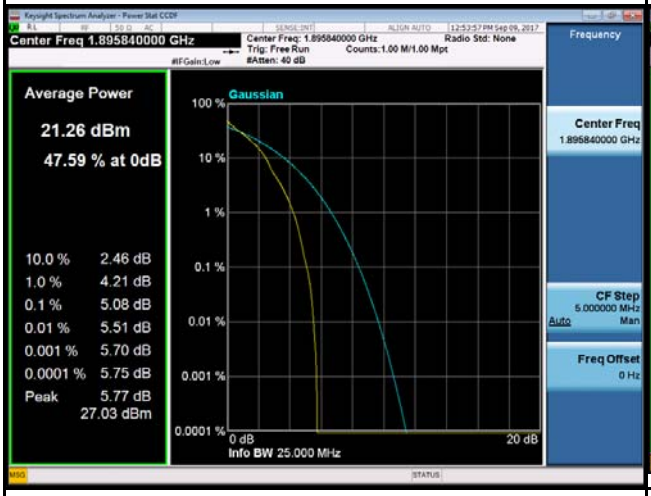	
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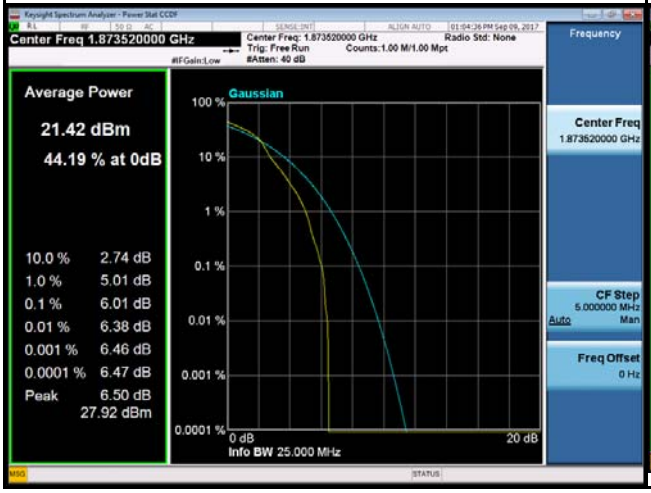	

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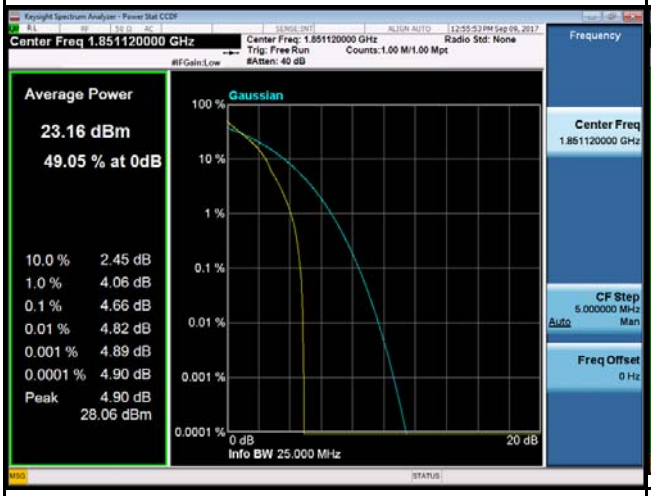
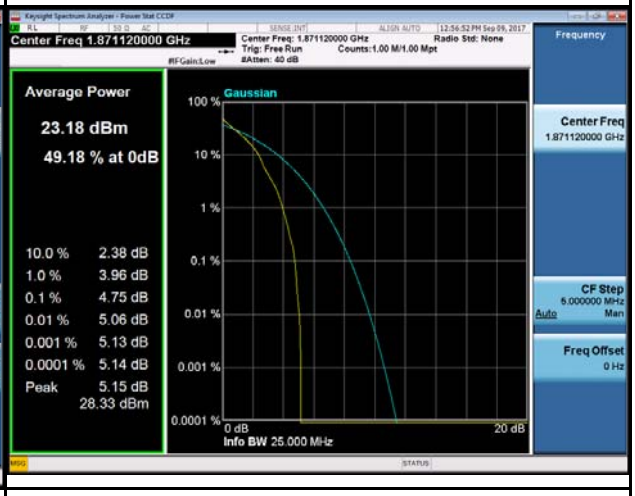
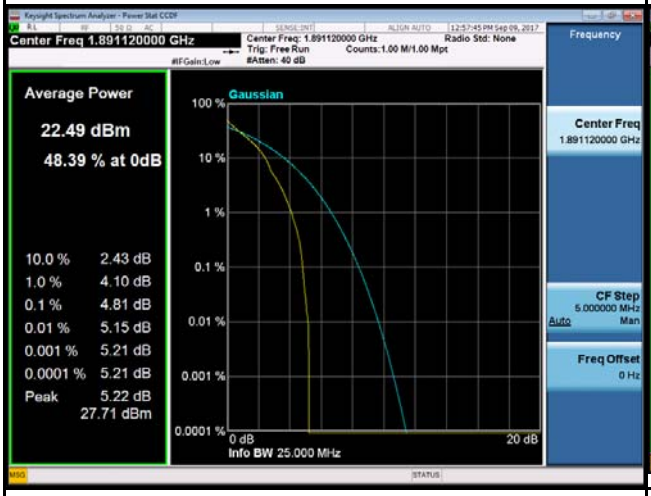
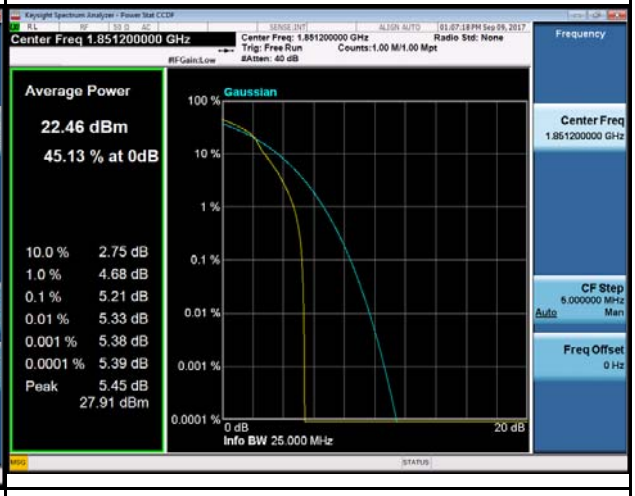
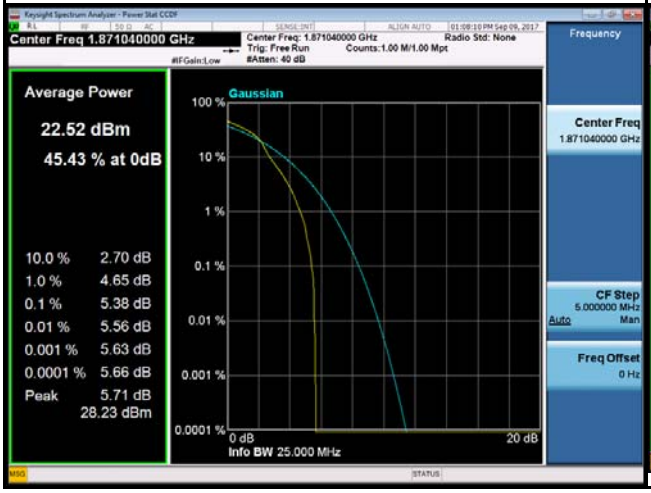
QPSK-18700	QPSK-18900
	
QPSK-19100	16QAM-18700
	
16QAM-18900	16QAM-19100
	

ATTACHMENT G - FREQUENCY STABILITY

Test Mode:	DCS1900_CH661

Temperature vs. Frequency Stabiility

Temperature(℃)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-30	4.98	0.002691601	2.5
-20	5.64	0.003048319	2.5
-10	7.25	0.003918495	2.5
0	6.54	0.003534753	2.5
10	5.18	0.002799697	2.5
20	6.39	0.003453681	2.5
30	7.12	0.003848233	2.5
40	5.18	0.002799697	2.5
50	5.69	0.003075343	2.5
Max. Deviation (ppm)	**7.25**	**0.003918495**	2.5

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
4.5	5.13	0.002772673	2.5
5	4.73	0.00255648	2.5
5.5	5.06	0.002734839	2.5
Max. Deviation (ppm)	**5.13**	**0.002772673**	2.5

Test Mode:	WCDMA Band 2_CH9400

Temperature vs. Frequency Stabiility

Temperature(℃)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-30	8.81	0.00468617	2.5
-20	6.23	0.00331383	2.5
-10	5.48	0.002914894	2.5
0	7.64	0.00406383	2.5
10	7.21	0.003835106	2.5
20	8.08	0.004297872	2.5
30	6.55	0.003484043	2.5
40	7.32	0.003893617	2.5
50	5.87	0.00312234	2.5
Max. Deviation (ppm)	**8.81**	**0.00468617**	2.5

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
4.5	6.33	0.003367021	2.5
5	7.95	0.004228723	2.5
5.5	8.02	0.004265957	2.5
Max. Deviation (ppm)	**8.02**	**0.004265957**	2.5

Test Mode:	LTE Band 2_CH18900_5M

Temperature vs. Frequency Stabiility

Temperature(℃)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-30	3.66	0.001946809	2.5
-20	4.28	0.002276596	2.5
-10	-3.75	0.001994681	2.5
0	-3.19	0.001696809	2.5
10	2.67	0.001420213	2.5
20	2.24	0.001191489	2.5
30	-1.99	0.001058511	2.5
40	2.87	0.001526596	2.5
50	3.42	0.001819149	2.5
Max. Deviation (ppm)	**4.28**	**0.002276596**	2.5

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
4.5	2.64	0.001404255	2.5
5	-3.75	0.001994681	2.5
5.5	2.49	0.001324468	2.5
Max. Deviation (ppm)	**3.75**	**0.001994681**	2.5

Test Mode:	LTE Band 2_CH18900_10M

Temperature vs. Frequency Stabiility

Temperature(℃)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-30	3.13	0.001664894	2.5
-20	-2.46	0.001308511	2.5
-10	-3.57	0.001898936	2.5
0	-2.68	0.001425532	2.5
10	1.58	0.000840426	2.5
20	2.19	0.001164894	2.5
30	3.77	0.002005319	2.5
40	4.08	0.002170213	2.5
50	-3.05	0.00162234	2.5
Max. Deviation (ppm)	**4.08**	**0.002170213**	2.5

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
4.5	1.81	0.000962766	2.5
5	2.33	0.001239362	2.5
5.5	2.34	0.001244681	2.5
Max. Deviation (ppm)	2.34	**0.001244681**	2.5

Test Mode:	LTE Band 2_CH18900_15M

Temperature vs. Frequency Stabiility

Temperature(℃)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-30	1.18	0.00062766	2.5
-20	2.31	0.001228723	2.5
-10	-2.31	0.001228723	2.5
0	1.87	0.000994681	2.5
10	3.14	0.001670213	2.5
20	-1.94	0.001031915	2.5
30	2.56	0.001361702	2.5
40	3.61	0.001920213	2.5
50	2.11	0.00112234	2.5
Max. Deviation (ppm)	**3.61**	**0.001920213**	2.5

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
4.5	2.58	0.00137234	2.5
5	-3.17	0.00168617	2.5
5.5	-2.88	0.001531915	2.5
Max. Deviation (ppm)	**3.17**	**0.00168617**	2.5

Test Mode:	LTE Band 2_CH18900_20M

Temperature vs. Frequency Stabiility

Temperature(℃)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
-30	-2.08	0.001106383	2.5
-20	-3.38	0.001797872	2.5
-10	2.24	0.001191489	2.5
0	2.59	0.00137766	2.5
10	-3.09	0.001643617	2.5
20	3.27	0.001739362	2.5
30	2.61	0.001388298	2.5
40	1.95	0.001037234	2.5
50	4.14	0.002202128	2.5
Max. Deviation (ppm)	**4.14**	**0.002202128**	2.5

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
4.5	-1.99	0.001058511	2.5
5	2.07	0.001101064	2.5
5.5	2.54	0.001351064	2.5
Max. Deviation (ppm)	**2.54**	**0.001351064**	2.5