FCC Radio Test Report

FCC ID: QISDIG-LX3

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

Project No.	:	1612C149
Equipment	:	Smart Phone
Model Name	:	DIG-L23, DIG-L03
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	:	Dec. 14, 2016
Date of Test	:	Dec. 14, 2016 ~ Jan. 04, 2017
Issued Date	:	Jan. 05, 2017
Tested by	:	BTL Inc.

Technical Engineer : Shawn xiao
(Shawn Xiao)

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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-6-1612C149	Original Issue.	Jan. 05, 2017

1. CERTIFICATION

Equipment	:	Smart Phone
Brand Name	:	HUAWEI
Model Name	:	DIG-L23, DIG-L03
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	:	Dec. 14, 2016 ~ Jan. 04, 2017
Test Sample	:	Engineering Sample
Standard(s)	:	47 CFR FCC Part 27 47 CFR FCC Part 2 & ANSI/TIA-603-D-2010

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-6-1612C149) 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 LTE Band 4, 7,12 and 17 part.

2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

FCC Part 27 & Part 2			
Standard(s) Section	Test Item	Judgment	Tested By
2.1046 27.50(d)(4)	Radiated power	PASS	Paul Li
2.1046 27.50(d)(4)	Conducted Output Power	PASS	Paul Li
2.1049 27.53(h)	Occupied Bandwidth	PASS	Paul Li
2.1051 27.53(h)	Conducted Spurious Emissions	PASS	Paul Li
2.1053 27.53(h)	Radiated Spurious Emissions	PASS	Biao Chen
27.53(h)	Band Edge Measurements	PASS	Paul Li
27.50	Peak To Average Ratio	PASS	Paul Li
2.1055 27.54	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: 319330

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	Smart Phone			
Brand Name	HUAWEI			
Model Name	DIG-L23, DIG-L03			
Model Difference	All hardwares of the model DIG-L23 and DIG-L03 are the same. These two models are only differ in SIM card that DIG-L23 has double cards of SIM 1 and SIM 2, while DIG-L03 has single card SIM 1 by software con ductively-closed. Model DIG-L23 has been evaluated completed, and the test datas of SIM 1 are re-used to model DIG-L03.			
Modulation Type	LTE	QPSK, 16QAM		
Operation Frequency	LTE 4 (Channel Bandwidth: 1.4MHz)	1710.7 ~ 1754.3 MHz		
	LTE 4 (Channel Bandwidth: 3MHz)	1711.5 ~ 1753.5 MHz		
	LTE 4 (Channel Bandwidth: 5MHz)	1712.5 ~ 1752.5 MHz		
	LTE 4 (Channel Bandwidth: 10MHz)	1715.0 ~ 1750.0 MHz		
	LTE 4 (Channel Bandwidth: 15MHz)	1717.5 ~ 1747.5 MHz		
	LTE 4 (Channel Bandwidth: 20MHz)	1720.0 ~ 1745.0 MHz		
	LTE 7 (Channel Bandwidth: 5MHz)	2502.5 ~ 2567.5 MHz		
	LTE 7 (Channel Bandwidth: 10MHz)	2505.0 ~ 2565.0 MHz		
	LTE 7 (Channel Bandwidth: 15MHz)	2507.5 ~ 2562.5 MHz		
	LTE 7 (Channel Bandwidth: 20MHz)	2510.0 ~ 2560.0 MHz		
	LTE 12 (Channel Bandwidth: 1.4MHz)	699.7 ~ 715.3MHz		
	LTE 12 (Channel Bandwidth: 3MHz)	700.5 ~ 714.5MHz		
	LTE 12 (Channel Bandwidth: 5MHz)	701.5 ~ 713.5MHz		
	LTE 12 (Channel Bandwidth: 10MHz)	704.0 ~ 711.0MHz		
	LTE 17 (Channel Bandwidth: 10MHz)	706.5 ~ 713.5 MHz		
	LTE 17 (Channel Bandwidth: 15MHz)	709.0 ~ 711.0 MHz		
Max. EIRP Power	LTE 4 (Channel Bandwidth: 1.4MHz)	QPSK	21.63	dBm
		16QAM	20.70	dBm
	LTE 4 (Channel Bandwidth: 3MHz)	QPSK	21.65	dBm
		16QAM	20.69	dBm
	LTE 4 (Channel Bandwidth: 5MHz)	QPSK	21.69	dBm
		16QAM	20.33	dBm
	LTE 4 (Channel Bandwidth: 10MHz)	QPSK	21.73	dBm
		16QAM	20.53	dBm
	LTE 4 (Channel Bandwidth: 15MHz)	QPSK	21.65	dBm
		16QAM	21.10	dBm
	LTE 4 (Channel Bandwidth: 20MHz)	QPSK	21.74	dBm
		16QAM	20.60	dBm

Max. EIRP Power	LTE 7 (Channel Bandwidth: 5MHz)		QPSK	21.68	dBm
			16QAM	20.35	dBm
	LTE 7 (Channel Bandwidth: 10MHz)		QPSK	21.83	dBm
			16QAM	20.49	dBm
	LTE 7 (Channel Bandwidth: 15MHz)		QPSK	21.84	dBm
			16QAM	20.97	dBm
	LTE 7 (Channel Bandwidth: 20MHz)		QPSK	21.90	dBm
			16QAM	20.69	dBm
Max. ERP Power	LTE 12 (Channel Bandwidth: 1.4MHz)		QPSK	20.56	dBm
			16QAM	19.55	dBm
	LTE 12 (Channel Bandwidth: 3MHz)		QPSK	20.65	dBm
			16QAM	19.58	dBm
	LTE 12 (Channel Bandwidth: 5MHz)		QPSK	20.57	dBm
			16QAM	19.39	dBm
	LTE 12 (Channel Bandwidth: 10MHz)		QPSK	20.66	dBm
			16QAM	19.99	dBm
	LTE 17 (Channel Bandwidth: 5MHz)		QPSK	20.69	dBm
			16QAM	19.56	dBm
	LTE 17 (Channel Bandwidth: 10MHz)		QPSK	21.03	dBm
			16QAM	19.70	dBm
Antenna Type	Fixed Internal Antenna				
Antenna Gain	-0.6 dBi				
Hardware Version	HL1DIGM				
Softwarre Version	Diego-L23C469B005				
IMEI No.1	Radiated	863025030008604			
	Conducted	863025030008463			
IMEI No.2	Radiated	863025030008612			
	Conducted	863025030008471			
Power Source	#1 DC voltage supplied from AC/DC adapter. #2 Battery supplied.				
Power Rating	#1 Input: 100-240V, Output: 5V⎓1.0A #2 DC 3.82V, 2920mAh				

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	Sunwoda Electronic Co., LTD	HB405979ECW
	Desay Battery Co., Ltd.	HB405979ECW
USB Cable	LUXSHARE-ICT Co., Ltd.	L99U2013-CS-H
	Chang Shu Honglin Technology Co.,Ltd.	130-26654
	FOXCONN INTERCONNECT TECHNOLOGY	CUBB01M-HC208-DH
Earphone	JIANGXI LIANCHUANG HONGSHENG ELECTRONIC CO., LTD	MEMD1632B580C00
	BOLUO COUNTY QUANCHENG ELECTRONIC CO., LTD	1311-3291-3.5mm-229
	Goer Tek Inc	NA12
	MERRY ELECTRONICS (SHENZHEN) CO., LTD.	EMC309-001
Adapter	DONGGUAN PHITEK ELECTRONICS CO.,LTD.	HW-050100U01
	SHENZHEN HUNTKEY ELECTRONIC CO.,LTD.	
	HUIZHOU BYD ELECTRONIC CO., LTD.	

3.2 DESCRIPTION OF TEST MODES AND TEST CONDITION

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and antenna ports
The worst case was found when positioned on X-plane for EIRP and X-axis for radiated emission.
Following channel(s) was (were) selected for the final test as listed below:

LTE BAND 4					
Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
EIRP	19957 to 20393	19957, 20175, 20393	1.4MHz	QPSK, 16QAM	1 RB / 0 RB Offset
	19965 to 20385	19965, 20175, 20385	3MHz	QPSK, 16QAM	1 RB / 0 RB Offset
	19975 to 20375	19975, 20175, 20375	5MHz	QPSK, 16QAM	1 RB / 0 RB Offset
	20000 to 20350	20000, 20175, 20350	10MHz	QPSK, 16QAM	1 RB / 0 RB Offset
	20025 to 20325	20025, 20175, 20325	15MHz	QPSK, 16QAM	1 RB / 0 RB Offset
	20050 to 20300	20050, 20175, 20300	20MHz	QPSK, 16QAM	1 RB / 0 RB Offset
Occupied Bandwidth	19957 to 20393	19957, 20175, 20393	1.4MHz	QPSK, 16QAM	6 RB / 0 RB Offset
	19965 to 20385	19965, 20175, 20385	3MHz	QPSK, 16QAM	15 RB / 0 RB Offset
	19975 to 20375	19975, 20175, 20375	5MHz	QPSK, 16QAM	25 RB / 0 RB Offset
	20000 to 20350	20000, 20175, 20350	10MHz	QPSK, 16QAM	50 RB / 0 RB Offset
	20025 to 20325	20025, 20175, 20325	15MHz	QPSK, 16QAM	75 RB / 0 RB Offset
	20050 to 20300	20050, 20175, 20300	20MHz	QPSK, 16QAM	100 RB / 0 RB Offset
Conducted Emission	19957 to 20393	20175	1.4MHz	QPSK	1 RB / 0 RB Offset
	19965 to 20385	20175	3MHz	QPSK	1 RB / 0 RB Offset
	19975 to 20375	20175	5MHz	QPSK	1 RB / 0 RB Offset
	20000 to 20350	20175	10MHz	QPSK	1 RB / 0 RB Offset
	20025 to 20325	20175	15MHz	QPSK	1 RB / 0 RB Offset
	20050 to 20300	20175	20MHz	QPSK	1 RB / 0 RB Offset
Radiated Emission	19957 to 20393	20175	1.4MHz	QPSK	1 RB / 0 RB Offset
	20050 to 20300	20175	20MHz	QPSK	1 RB / 0 RB Offset

LTE BAND 4					
Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
Band Edge	19957 to 20393	19957	1.4MHz	QPSK	1 RB / 0 RB Offset
					6 RB / 0 RB Offset
		20393	1.4MHz	QPSK	1 RB / 5 RB Offset
					6 RB / 0 RB Offset
	19965 to 20385	19965	3MHz	QPSK	1 RB / 0 RB Offset
					15 RB / 0 RB Offset
		20385	3MHz	QPSK	1 RB / 14 RB Offset
					15 RB / 0 RB Offset
	19975 to 20375	19975	5MHz	QPSK	1 RB / 0 RB Offset
					25 RB / 0 RB Offset
		20375	5MHz	QPSK	1 RB / 24 RB Offset
					25 RB / 0 RB Offset
	20000 to 20350	20000	10MHz	QPSK	1 RB / 0 RB Offset
					50 RB / 0 RB Offset
		20350	10MHz	QPSK	1 RB / 49 RB Offset
					50 RB / 0 RB Offset
	20025 to 20325	20025	15MHz	QPSK	1 RB / 0 RB Offset
					75 RB / 0 RB Offset
		20325	15MHz	QPSK	1 RB / 74 RB Offset
					75 RB / 0 RB Offset
	20050 to 20300	20050	20MHz	QPSK	1 RB / 0 RB Offset
					100 RB / 0 RB Offset
		20300	20MHz	QPSK	1 RB / 99 RB Offset
					100 RB / 0 RB Offset
Peak To Average Ratio	19957 to 20393	19957, 20175, 20393	1.4MHz	QPSK, 16QAM	1 RB / 0 RB Offset
	19965 to 20385	19965, 20175, 20385	3MHz	QPSK, 16QAM	1 RB / 0 RB Offset
	19975 to 20375	19975, 20175, 20375	5MHz	QPSK, 16QAM	1 RB / 0 RB Offset
	20000 to 20350	20000, 20175, 20350	10MHz	QPSK, 16QAM	1 RB / 0 RB Offset
	20025 to 20325	20025, 20175, 20325	15MHz	QPSK, 16QAM	1 RB / 0 RB Offset
	20050 to 20300	20050, 20175, 20300	20MHz	QPSK, 16QAM	1 RB / 0 RB Offset
Frequency Stability	19957 to 20393	20175	1.4MHz	QPSK	1 RB / 0 RB Offset
	19965 to 20385	20175	3MHz	QPSK	1 RB / 0 RB Offset
	19975 to 20375	20175	5MHz	QPSK	1 RB / 0 RB Offset
	20000 to 20350	20175	10MHz	QPSK	1 RB / 0 RB Offset
	20025 to 20325	20175	15MHz	QPSK	1 RB / 0 RB Offset
	20050 to 20300	20175	20MHz	QPSK	1 RB / 0 RB Offset

LTE BAND 7					
Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
EIRP	20775 to 21425	20775, 21100, 21425	5MHz	QPSK, 16QAM	1 RB / 0 RB Offset
	20800 to 21400	20800, 21100, 21400	10MHz	QPSK, 16QAM	1 RB / 0 RB Offset
	20825 to 21375	20825, 21100, 21375	15MHz	QPSK, 16QAM	1 RB / 0 RB Offset
	20850 to 21350	20850, 21100, 21350	20MHz	QPSK, 16QAM	1 RB / 0 RB Offset
Occupied Bandwidth	20775 to 21425	20775, 21100, 21425	5MHz	QPSK, 16QAM	25 RB / 0 RB Offset
	20800 to 21400	20800, 21100, 21400	10MHz	QPSK, 16QAM	50 RB / 0 RB Offset
	20825 to 21375	20825, 21100, 21375	15MHz	QPSK, 16QAM	75 RB / 0 RB Offset
	20850 to 21350	20850, 21100, 21350	20MHz	QPSK, 16QAM	100 RB / 0 RB Offset
Conducted Emission	20775 to 21425	21100	5MHz	QPSK	1 RB / 0 RB Offset
	20800 to 21400	21100	10MHz	QPSK	1 RB / 0 RB Offset
	20825 to 21375	21100	15MHz	QPSK	1 RB / 0 RB Offset
	20850 to 21350	21100	20MHz	QPSK	1 RB / 0 RB Offset
Radiated Emission	20775 to 21425	21100	5MHz	QPSK	1 RB / 0 RB Offset
	20850 to 21350	21100	20MHz	QPSK	1 RB / 0 RB Offset
Band Edge	20775 to 21425	20775	5MHz	QPSK	1 RB / 0 RB Offset
					25 RB / 0 RB Offset
		21425	5MHz	QPSK	1 RB / 24 RB Offset
					25 RB / 0 RB Offset
	20800 to 21400	20800	10MHz	QPSK	1 RB / 0 RB Offset
					50 RB / 0 RB Offset
		21400	10MHz	QPSK	1 RB / 49 RB Offset
					50 RB / 0 RB Offset
	20825 to 21375	20825	15MHz	QPSK	1 RB / 0 RB Offset
					75 RB / 0 RB Offset
		21375	15MHz	QPSK	1 RB / 74 RB Offset
					75 RB / 0 RB Offset
	20850 to 21350	20850	20MHz	QPSK	1 RB / 0 RB Offset
					100 RB / 0 RB Offset
		21350	20MHz	QPSK	1 RB / 99 RB Offset
					100 RB / 0 RB Offset
Peak To Average Ratio	20775 to 21425	20775, 21100, 21425	5MHz	QPSK, 16QAM	1 RB / 0 RB Offset
	20800 to 21400	20800, 21100, 21400	10MHz	QPSK, 16QAM	1 RB / 0 RB Offset
	20825 to 21375	20825, 21100, 21375	15MHz	QPSK, 16QAM	1 RB / 0 RB Offset
	20850 to 21350	20850, 21100, 21350	20MHz	QPSK, 16QAM	1 RB / 0 RB Offset
Frequency Stability	20775 to 21425	21100	5MHz	QPSK	1 RB / 0 RB Offset
	20800 to 21400	21100	10MHz	QPSK	1 RB / 0 RB Offset
	20825 to 21375	21100	15MHz	QPSK	1 RB / 0 RB Offset
	20850 to 21350	21100	20MHz	QPSK	1 RB / 0 RB Offset

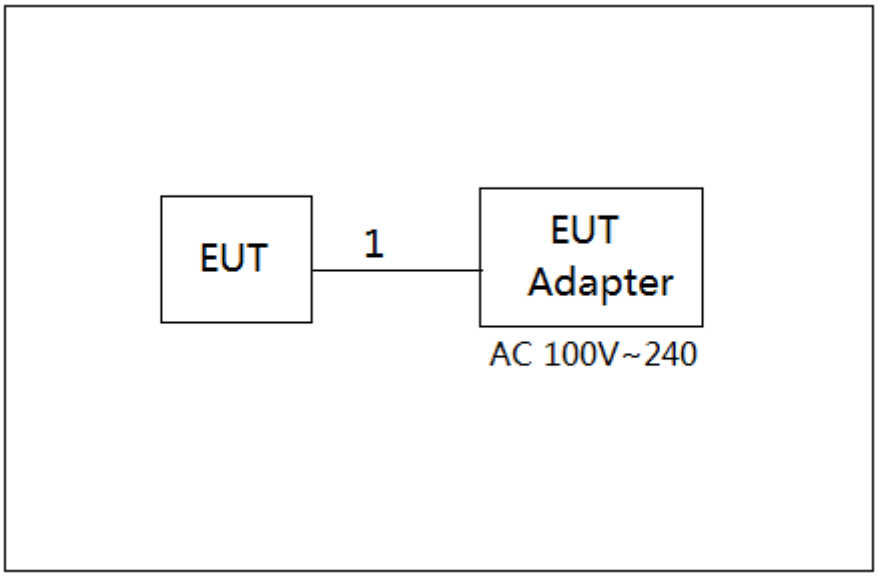
LTE BAND 12					
Test Item	Available Channel	Tested Channel	Channel	Modulation	Mode
ERP	23017 to 23173	23017, 23095, 23173	1.4MHz	QPSK, 16QAM	1 RB / 2 RB Offset
	23025 to 23165	23025, 23095, 23165	3MHz	QPSK, 16QAM	1 RB / 7 RB Offset
	23035 to 23155	23035, 23095, 23155	5MHz	QPSK, 16QAM	1 RB / 12 RB Offset
	23060 to 23130	23060, 23095, 23130	10MHz	QPSK, 16QAM	1 RB / 24 RB Offset
Frequency Stability	23017 to 23173	23095	1.4MHz	QPSK	1 RB / 2 RB Offset
	23025 to 23165	23095	3MHz	QPSK	1 RB / 7 RB Offset
	23035 to 23155	23095	5MHz	QPSK	1 RB / 12 RB Offset
	23060 to 23130	23095	10MHz	QPSK	1 RB / 24 RB Offset
Occupied Bandwidth	23017 to 23173	23017, 23095, 23173	1.4MHz	QPSK, 16QAM	6 RB / 0 RB Offset
	23025 to 23165	23025, 23095, 23165	3MHz	QPSK, 16QAM	15 RB / 0 RB Offset
	23035 to 23155	23035, 23095, 23155	5MHz	QPSK, 16QAM	25 RB / 0 RB Offset
	23060 to 23130	23060, 23095, 23130	10MHz	QPSK, 16QAM	50 RB / 0 RB Offset
Peak to Average Ratio	23017 to 23173	23017, 23095, 23173	1.4MHz	QPSK, 16QAM	1 RB / 0 RB Offset
	23025 to 23165	23025, 23095, 23165	3MHz	QPSK, 16QAM	1 RB / 0 RB Offset
	23035 to 23155	23035, 23095, 23155	5MHz	QPSK, 16QAM	1 RB / 0 RB Offset
	23060 to 23130	23060, 23095, 23130	10MHz	QPSK, 16QAM	1 RB / 0 RB Offset
Band Edge	23017 to 23173	23017	1.4MHz	QPSK	1 RB / 0 RB Offset
					6 RB / 0 RB Offset
		23173	1.4MHz	QPSK	1 RB / 5 RB Offset
					6 RB / 0 RB Offset
	23025 to 23165	23025	3MHz	QPSK	1 RB / 0 RB Offset
					15 RB / 0 RB Offset
		23165	3MHz	QPSK	1 RB / 14 RB Offset
					15 RB / 0 RB Offset
	23035 to 23155	23035	5MHz	QPSK	1 RB / 0 RB Offset
					25 RB / 0 RB Offset
		23155	5MHz	QPSK	1 RB / 24 RB Offset
					25 RB / 0 RB Offset
	23060 to 23130	23060	10MHz	QPSK	1 RB / 0 RB Offset
					50 RB / 0 RB Offset
		23130	10MHz	QPSK	1 RB / 49 RB Offset
					50 RB / 0 RB Offset
Conducted Emission	23017 to 23173	23095	1.4MHz	QPSK	1 RB / 0 RB Offset
	23025 to 23165	23095	3MHz	QPSK	1 RB / 0 RB Offset
	23035 to 23155	23095	5MHz	QPSK	1 RB / 0 RB Offset
	23060 to 23130	23095	10MHz	QPSK	1 RB / 0 RB Offset
Radiated Emission	23017 to 23173	23095	1.4MHz	QPSK	1 RB / 0 RB Offset
	23060 to 23130	23095	10MHz	QPSK	1 RB / 0 RB Offset

LTE BAND 17					
Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
ERP	706.5 to 713.5	23755, 23790, 23825	5MHz	QPSK, 16QAM	1 RB / 0 RB Offset
	709.0 to 711.0	23780, 23790, 23775	10MHz	QPSK, 16QAM	1 RB / 0 RB Offset
Occupied Bandwidth	706.5 to 713.5	23755, 23790, 23825	5MHz	QPSK, 16QAM	25 RB / 0 RB Offset
	709.0 to 711.0	23780, 23790, 23775	10MHz	QPSK, 16QAM	50 RB / 0 RB Offset
Conducted Emission	706.5 to 713.5	23790	5MHz	QPSK	1 RB / 0 RB Offset
	709.0 to 711.0	23790	10MHz	QPSK	1 RB / 0 RB Offset
Radiated Emission	706.5 to 713.5	23755	5MHz	QPSK	1 RB / 0 RB Offset
	709.0 to 711.0	23755	10MHz	QPSK	1 RB / 0 RB Offset
Band Edge	706.5 to 713.5	23755	5MHz	QPSK	1 RB / 0 RB Offset
					25 RB / 0 RB Offset
		23825	5MHz	QPSK	1 RB / 24 RB Offset
					25 RB / 0 RB Offset
	709.0 to 711.0	23780	10MHz	QPSK	1 RB / 0 RB Offset
					50 RB / 0 RB Offset
		23775	10MHz	QPSK	1 RB / 49 RB Offset
					50 RB / 0 RB Offset
Peak To Average Ratio	706.5 to 713.5	23755, 23790, 23825	5MHz	QPSK, 16QAM	1 RB / 0 RB Offset
	709.0 to 711.0	23780, 23790, 23775	10MHz	QPSK, 16QAM	1 RB / 0 RB Offset
Frequency Stability	706.5 to 713.5	23790	5MHz	QPSK	1 RB / 0 RB Offset
	709.0 to 711.0	23790	10MHz	QPSK	1 RB / 0 RB Offset

EUT TEST CONDITIONS:

Test Item	Environmental Conditions	Test Voltage
EIRP	24°C, 63%RH	AC 120V/60Hz
Conducted Output Power	25°C, 65%RH	AC 120V/60Hz
Occupied Bandwidth	25°C, 65%RH	AC 120V/60Hz
Conducted Emission	25°C, 65%RH	AC 120V/60Hz
Radiated Emission	25°C, 60%RH	AC 120V/60Hz
Band Edge	25°C, 65%RH	AC 120V/60Hz
Peak to Average Ratio	25°C, 65%RH	AC 120V/60Hz
Frequency Stability	25°C, 65%RH	AC 120V/60Hz

3.3 BLOCKDIGRAMSHOWINGTHECONFIGURATIONOFSYSTEMTESTED



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	YES	NO	1m	USB cable

4. TEST RESULT

4.1 OUTPUT POWER MEASUREMENT

4.1.1 LIMIT

Mobile / Portable station are limited to 1 watts e.i.r.p. (LTE 4)
Mobile / Portable station are limited to 2 watts e.i.r.p. (LTE 7)
Mobile / Portable station are limited to 3 watts e.i.r.p. (LTE 12 and LTE 17)

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

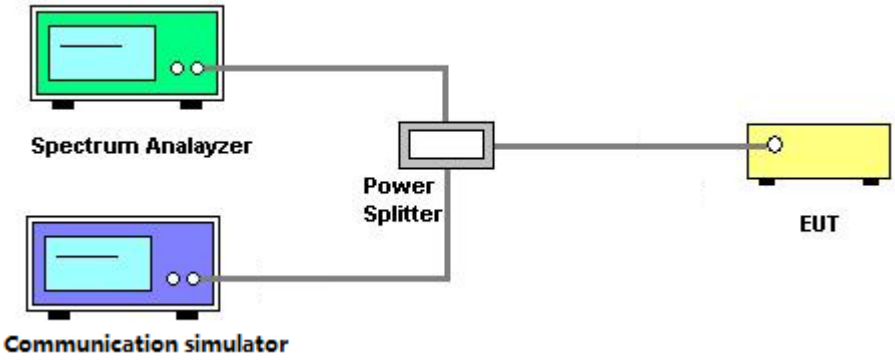
Please refer to the Attachment A.

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

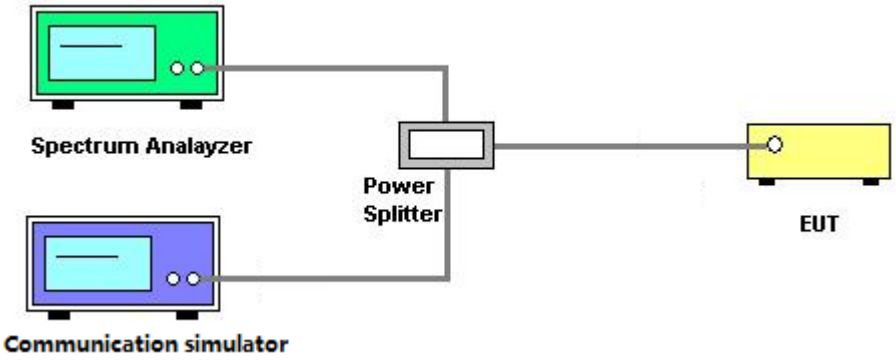
4.3.1 LIMIT

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

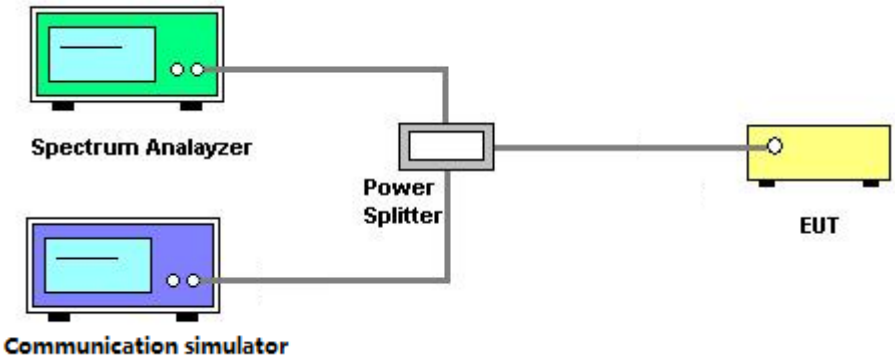
For operations in the 704-716 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater.
However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

For operations in the 1710–1755 MHz bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 43 + 10 log10(P) dB.

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 13kHz and VB of the spectrum is 51kHz (LTE Bandwidth 1.4MHz).
3. 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).
4. 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).
5. 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

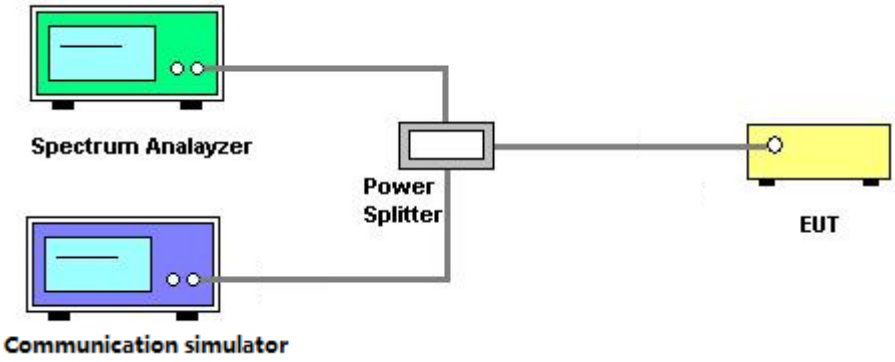
4.6.1 LIMIT

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

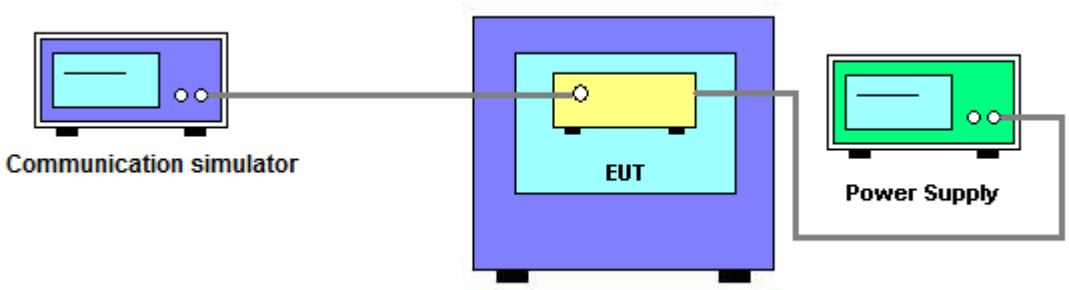
4.7.1 LIMIT

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 & ERP or EIRP Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Antenna	Schwarbeck	VULB9160	9160-3232	Mar. 27, 2017
2	Double Ridged Guide Antenna	ETS	3115	75789	Mar. 27, 2017
3	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Apr. 23, 2017
4	Amplifier	Agilent	8449B	3008A02274	Mar. 10, 2017
5	Amplifier	HP	8447D	2944A09673	Mar. 10, 2017
6	HighPass Filter	Wairrwright Instruments Gmbh	WHK 1.5/15G-10ST	11	Mar. 10, 2017
7	Band Reject Filter	Wairrwright Instruments Gmbh	WRCG 1710/1785-1690 /1805-60/12SS	38	Feb. 23, 2017
8	Band Reject Filter	Wairrwright Instruments Gmbh	WRCG 824/849-810/86 3-60/9SS	7	Feb. 23, 2017
9	Band Reject Filter	Wairrwright Instruments Gmbh	WRCG 880/915-860/93 5-60/9SS	14	Feb. 23, 2017
10	Band Reject Filter	Wairrwright Instruments Gmbh	WRCG 1850/1910-1830 /1930-60/10SS	17	Feb. 23, 2017
11	HighPass Filter	Wairrwright Instruments Gmbh	WHK3.1/18G-10 SS	24	Mar. 10, 2017
12	Microwave Preamplifier With Adaptor	EMC INSTRUMENT	EMC2654045	980039 & HA01	Mar. 27, 2017
13	Receiver	Agilent	N9038A	MY52130039	Sep. 04, 2017
14	wideband radio communication tester	R&S	CMW500	152372	Mar. 27, 2017
15	High pass filter	ZHPF-M1000-4000 -1	ZHPF-M3-12.75 G-3869	B2015073763	Aug. 04, 2017
16	High pass filter	ZHPF-M3-12.75G-3869	ZHPF-M1000-40 00-1	B2015073762	Aug. 04, 2017
17	High pass filter	ZHPF-M6-18G-172 7	ZHPF-M6-186-1 727	B2015073764	Aug. 04, 2017
18	Cable	emci	LMR-400(30MH z-1GHz)(8m+5m)	N/A	Jun. 27, 2017
19	Cable	emci	EMC104-SM-S M-12000(12m)	N/A	Jul. 06, 2017
20	Controller	ETS-Lindgren	2090	N/A	N/A
21	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. 27, 2017
2	POWER SPLITTER	Mini-Circuits	ZFRSC-123-S+	331000910-1	Feb. 26, 2017
3	wideband radio communication tester	R&S	CMW500	152372	Mar. 27, 2017
4	Cable	N/A	RG316(0.3m)	N/A	Jul. 06, 2017
5	Cable	N/A	RG316(0.3m)	N/A	Jul. 06, 2017

Frequency Stability Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	DC power supply	GW Instek	GPC-3030DN	EK880675	Oct. 13, 2017
2	POWER SPLITTER	Mini-Circuits	ZFRSC-123-S+	331000910-1	Feb. 26, 2017
3	wideband radio communication tester	R&S	CMW500	152372	Mar. 27, 2017
4	Const Temp,& Humidity Chamber	Giant Force	ITH-225-20-S	IAB0309-001	Sep. 04, 2017
5	Cable	N/A	RG316(0.3m)	N/A	Jul. 06, 2017

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:

LTE Band / BW	Modulation	RB Sizet	RB Offset	Low CH	Mid CH	High CH
				19957 CH	20175 CH	20393 CH
				1710.7 MHz	1732.5 MHz	1754.3 MHz
4 / 1.4M	QPSK	1	0	22.10	21.80	22.13
		1	2	22.18	22.15	22.23
		1	5	22.04	21.78	22.16
		3	0	22.13	22.01	22.09
		3	1	22.06	22.12	22.12
		3	3	22.12	22.02	22.19
		6	0	20.90	20.91	21.16
	16QAM	1	0	20.70	20.69	20.99
		1	2	20.82	20.74	21.18
		1	5	20.82	20.58	21.08
		3	0	20.75	20.62	21.18
		3	1	20.72	20.67	21.27
		3	3	20.56	20.85	21.30
		6	0	19.71	19.68	20.27

LTE Band / BW	Modulation	RB Sizet	RB Offset	Low CH	Mid CH	High CH
				19965 CH	20175 CH	20385 CH
				1711.5 MHz	1732.5 MHz	1753.5 MHz
4 / 3M	QPSK	1	0	22.04	21.97	22.01
		1	7	22.06	21.98	22.25
		1	14	21.99	21.87	22.09
		8	0	20.94	20.87	21.07
		8	3	20.96	20.84	21.11
		8	7	20.88	20.79	21.03
		15	0	20.99	20.94	21.13
	16QAM	1	0	21.29	20.58	20.82
		1	7	20.82	21.10	21.11
		1	14	20.75	20.70	20.86
		8	0	19.94	20.00	20.03
		8	3	20.10	20.07	20.09
		8	7	20.06	19.91	20.12
		15	0	19.86	20.00	20.23

LTE Band / BW	Modulation	RB Sizet	RB Offset	Low CH	Mid CH	High CH
				19975 CH	20175 CH	20375 CH
				1712.5 MHz	1732.5 MHz	1752.5 MHz
4 / 5M	QPSK	1	0	22.01	21.66	22.29
		1	12	22.01	21.62	22.08
		1	24	21.97	21.69	22.17
		12	0	20.98	20.91	21.11
		12	6	20.99	20.92	21.15
		12	13	20.99	20.84	21.12
		25	0	20.94	20.93	21.07
	16QAM	1	0	20.65	20.93	20.89
		1	12	20.67	20.90	20.70
		1	24	20.63	20.67	20.79
		12	0	19.82	19.82	20.29
		12	6	20.09	19.91	20.27
		12	13	19.97	19.93	19.96
		25	0	20.05	19.98	20.03

LTE Band / BW	Modulation	RB Sizet	RB Offset	Low CH	Mid CH	High CH
				20000 CH	20175 CH	20350 CH
				1715 MHz	1732.5 MHz	1750 MHz
4 / 10M	QPSK	1	0	22.15	21.81	22.32
		1	24	22.33	21.89	22.15
		1	49	22.13	22.03	22.17
		25	0	20.98	20.97	21.11
		25	12	20.97	20.87	21.06
		25	25	20.94	20.94	21.06
		50	0	20.93	20.97	21.06
	16QAM	1	0	20.87	20.61	20.93
		1	24	20.99	20.54	20.88
		1	49	20.73	20.63	21.13
		25	0	19.92	20.01	20.24
		25	12	20.00	20.01	20.28
		25	25	20.00	19.81	20.14
		50	0	19.94	19.80	20.07

LTE Band / BW	Modulation	RB Sizet	RB Offset	Low CH	Mid CH	High CH
				20025 CH	20175 CH	20325 CH
				1717.5 MHz	1732.5 MHz	1747.5 MHz
4 / 15M	QPSK	1	0	22.09	22.00	22.18
		1	37	22.21	21.93	22.07
		1	74	22.06	22.15	22.25
		36	0	21.03	22.15	21.00
		36	19	20.99	20.92	21.07
		36	39	20.86	20.97	21.30
		75	0	20.93	20.90	21.04
	16QAM	1	0	21.05	20.78	21.68
		1	37	21.47	20.60	21.60
		1	74	20.82	20.77	21.70
		36	0	20.03	20.77	20.09
		36	19	19.91	19.85	19.98
		36	39	19.83	19.99	20.02
		75	0	19.96	20.03	19.99

LTE Band / BW	Modulation	RB Sizet	RB Offset	Low CH	Mid CH	High CH
				20050 CH	20175 CH	20300 CH
				1720 MHz	1732.5 MHz	1745 MHz
4 / 20M	QPSK	1	0	22.06	22.34	22.08
		1	50	21.93	21.52	21.98
		1	99	21.61	22.27	21.95
		50	0	20.94	20.94	21.24
		50	25	20.98	20.90	21.02
		50	50	20.92	20.97	21.14
		100	0	20.94	21.02	21.07
	16QAM	1	0	20.55	21.20	20.71
		1	50	21.19	20.64	20.86
		1	99	20.54	20.62	20.86
		50	0	20.10	20.08	20.10
		50	25	20.03	19.95	20.10
		50	50	19.94	19.99	20.01
		100	0	19.93	20.03	20.23

LTE Band / BW	Modulation	RB Sizet	RB Offset	Low CH	Mid CH	High CH
				20775 CH	21100 CH	21425 CH
				2502.5 MHz	2535 MHz	2567.5 MHz
7 / 5M	QPSK	1	0	21.95	21.81	21.78
		1	12	22.28	22.01	22.02
		1	24	22.07	21.87	21.78
		12	0	21.08	21.06	21.02
		12	6	21.17	21.09	21.08
		12	13	21.13	21.05	21.05
		25	0	21.11	21.10	21.00
	16QAM	1	0	20.63	20.59	20.95
		1	12	20.74	20.80	20.64
		1	24	20.56	20.52	20.66
		12	0	20.16	20.03	20.09
		12	6	20.36	20.33	20.15
		12	13	20.34	20.33	20.03
		25	0	20.28	20.40	20.07

LTE Band / BW	Modulation	RB Sizet	RB Offset	Low CH	Mid CH	High CH
				20800 CH	21100 CH	21400 CH
				2505 MHz	2535 MHz	2565 MHz
7 / 10M	QPSK	1	0	22.16	22.07	21.87
		1	24	22.43	22.18	22.04
		1	49	22.29	21.96	22.04
		25	0	21.15	21.12	20.93
		25	12	21.12	21.07	21.02
		25	25	21.19	21.03	21.02
		50	0	21.14	21.08	20.99
	16QAM	1	0	20.83	20.81	21.05
		1	24	21.09	20.83	20.85
		1	49	20.90	20.88	20.64
		25	0	20.18	20.17	19.95
		25	12	20.20	20.26	20.25
		25	25	20.15	20.29	20.07
		50	0	20.09	20.19	19.89

LTE Band / BW	Modulation	RB Sizet	RB Offset	Low CH	Mid CH	High CH
				20825 CH	21100 CH	21375 CH
				2507.5 MHz	2535 MHz	2562.5 MHz
7 / 15M	QPSK	1	0	22.09	22.13	22.00
		1	37	22.44	22.05	21.85
		1	74	22.17	21.97	21.94
		36	0	21.17	21.14	20.98
		36	19	21.12	21.10	20.96
		36	39	21.04	21.09	21.01
		75	0	21.21	21.11	21.00
	16QAM	1	0	20.92	20.96	21.50
		1	37	21.00	20.95	21.49
		1	74	21.00	20.60	21.57
		36	0	20.08	20.16	19.95
		36	19	20.06	20.16	19.91
		36	39	20.02	20.13	19.94
		75	0	20.16	20.13	19.97

LTE Band / BW	Modulation	RB Sizet	RB Offset	Low CH	Mid CH	High CH
				20850 CH	21100 CH	21350 CH
				2510 MHz	2535 MHz	2560 MHz
7 / 20M	QPSK	1	0	21.96	22.14	22.13
		1	50	22.15	22.50	22.11
		1	99	21.88	21.82	22.16
		50	0	21.19	21.04	20.96
		50	25	21.23	21.06	20.99
		50	50	21.09	21.05	20.99
		100	0	21.21	21.08	20.98
	16QAM	1	0	20.68	20.60	20.56
		1	50	20.63	21.29	20.81
		1	99	20.68	20.52	20.60
		50	0	20.14	19.99	19.94
		50	25	20.07	20.19	19.90
		50	50	19.94	20.00	19.97
		100	0	20.15	20.13	19.97

LTE Band / BW	Modulation	RB Sizet	RB Offset	Low CH	Mid CH	High CH
				23017 CH	23095 CH	23173 CH
				699.7 MHz	707.5 MHz	715.3 MHz
12 / 1.4M	QPSK	1	0	23.24	22.98	23.06
		1	2	23.07	23.22	23.27
		1	5	23.29	23.07	23.25
		3	0	23.20	23.13	23.18
		3	1	23.26	23.31	23.20
		3	3	23.16	23.29	23.30
		6	0	22.14	22.20	22.12
	16QAM	1	0	21.97	21.95	22.10
		1	2	22.22	21.54	22.30
		1	5	21.99	21.57	22.17
		3	0	21.87	21.95	22.07
		3	1	21.99	22.00	22.01
		3	3	22.01	22.10	22.17
		6	0	21.18	20.91	21.15

LTE Band / BW	Modulation	RB Sizet	RB Offset	Low CH	Mid CH	High CH
				23025 CH	23095 CH	23165 CH
				700.5 MHz	707.5 MHz	714.5 MHz
12 / 3M	QPSK	1	0	23.17	23.26	22.91
		1	7	23.38	23.15	23.12
		1	14	23.40	23.04	23.19
		8	0	22.06	22.17	22.29
		8	3	22.22	22.14	22.22
		8	7	22.08	22.19	22.25
		15	0	22.10	22.20	22.18
	16QAM	1	0	21.87	21.99	22.05
		1	7	21.94	21.99	22.33
		1	14	21.89	21.90	22.10
		8	0	20.89	21.34	21.22
		8	3	20.93	21.36	21.18
		8	7	20.95	21.29	21.36
		15	0	21.04	21.17	21.02

LTE Band / BW	Modulation	RB Sizet	RB Offset	Low CH	Mid CH	High CH
				23035 CH	23095 CH	23155 CH
				701.5 MHz	707.5 MHz	713.5 MHz
12 / 5M	QPSK	1	0	23.14	22.99	23.03
		1	12	23.32	22.98	23.00
		1	24	23.02	22.80	23.09
		12	0	22.11	22.17	22.30
		12	6	22.15	22.16	22.31
		12	13	22.25	22.08	22.26
		25	0	22.09	22.07	22.12
	16QAM	1	0	21.52	21.72	21.72
		1	12	21.70	22.14	21.95
		1	24	21.58	21.61	21.60
		12	0	20.84	21.02	21.08
		12	6	21.18	21.17	21.05
		12	13	21.00	21.06	20.92
		25	0	21.23	21.08	21.05

LTE Band / BW	Modulation	RB Sizet	RB Offset	Low CH	Mid CH	High CH
				23060 CH	23095 CH	23130 CH
				704 MHz	707.5 MHz	711 MHz
12 / 10M	QPSK	1	0	23.31	22.90	22.76
		1	24	23.41	23.15	23.18
		1	49	23.16	23.13	23.05
		25	0	22.19	22.15	22.07
		25	12	22.10	22.07	22.16
		25	25	22.10	22.11	22.18
		50	0	22.12	22.05	22.10
	16QAM	1	0	21.88	21.87	21.80
		1	24	22.74	22.17	21.84
		1	49	21.89	21.88	22.02
		25	0	21.07	21.02	21.09
		25	12	21.14	21.06	21.35
		25	25	21.18	21.01	21.10
		50	0	21.14	21.06	21.11

LTE Band / BW	Modulation	RB Sizet	RB Offset	Low CH	Mid CH	High CH
				23755 CH	23790 CH	23825 CH
				706.5 MHz	710.0 MHz	713.5 MHz
17 / 5M	QPSK	1	0	22.85	22.90	23.06
		1	12	23.00	22.86	23.44
		1	24	23.11	23.11	23.16
		12	0	22.07	22.09	22.30
		12	6	22.12	22.18	22.30
		12	13	22.27	22.34	22.32
		25	0	22.09	22.10	22.22
	16QAM	1	0	21.60	22.07	21.62
		1	12	21.71	22.25	22.08
		1	24	21.58	22.31	21.56
		12	0	20.94	21.11	20.99
		12	6	20.95	20.85	21.00
		12	13	21.15	20.94	20.96
		25	0	20.89	21.08	20.95

LTE Band / BW	Modulation	RB Sizet	RB Offset	Low CH	Mid CH	High CH
				23780 CH	23790 CH	23800 CH
				709.0 MHz	710.0 MHz	711.0 MHz
17 / 10M	QPSK	1	0	23.36	23.14	22.88
		1	24	23.78	23.46	23.49
		1	49	23.61	23.23	22.99
		25	0	22.20	22.15	22.18
		25	12	22.17	22.11	22.10
		25	25	22.13	22.13	22.12
		50	0	22.29	22.20	22.01
	16QAM	1	0	22.08	21.94	21.87
		1	24	22.09	22.45	22.01
		1	49	22.23	22.43	22.00
		25	0	20.99	20.95	21.12
		25	12	21.07	20.90	20.94
		25	25	21.03	21.21	21.14
		50	0	20.87	21.08	20.88

EIRP Power:

LTE Band / BW	Modulation	RB Sizet	RB Offset	Low CH 19957 CH 1710.7 MHz	Mid CH 20175 CH 1732.5 MHz	High CH 20393 CH 1754.3 MHz
4 / 1.4M	QPSK	1	0	21.50	21.20	21.53
		1	2	21.58	21.55	**21.63**
		1	5	21.44	21.18	21.56
		3	0	21.53	21.41	21.49
		3	1	21.46	21.52	21.52
		3	3	21.52	21.42	21.59
		6	0	20.30	20.31	20.56
	16QAM	1	0	20.10	20.09	20.39
		1	2	20.22	20.14	20.58
		1	5	20.22	19.98	20.48
		3	0	20.15	20.02	20.58
		3	1	20.12	20.07	20.67
		3	3	19.96	20.25	**20.70**
		6	0	19.11	19.08	19.67

LTE Band / BW	Modulation	RB Sizet	RB Offset	Low CH 19965 CH 1711.5 MHz	Mid CH 20175 CH 1732.5 MHz	High CH 20385 CH 1753.5 MHz
4 / 3M	QPSK	1	0	21.44	21.37	21.41
		1	7	21.46	21.38	**21.65**
		1	14	21.39	21.27	21.49
		8	0	20.34	20.27	20.47
		8	3	20.36	20.24	20.51
		8	7	20.28	20.19	20.43
		15	0	20.39	20.34	20.53
	16QAM	1	0	**20.69**	19.98	20.22
		1	7	20.22	20.50	20.51
		1	14	20.15	20.10	20.26
		8	0	19.34	19.40	19.43
		8	3	19.50	19.47	19.49
		8	7	19.46	19.31	19.52
		15	0	19.26	19.40	19.63

LTE Band / BW	Modulation	RB Sizet	RB Offset	Low CH 19975 CH 1712.5 MHz	Mid CH 20175 CH 1732.5 MHz	High CH 20375 CH 1752.5 MHz
4 / 5M	QPSK	1	0	21.41	21.06	**21.69**
		1	12	21.41	21.02	21.48
		1	24	21.37	21.09	21.57
		12	0	20.38	20.31	20.51
		12	6	20.39	20.32	20.55
		12	13	20.39	20.24	20.52
		25	0	20.34	20.33	20.47
	16QAM	1	0	20.05	**20.33**	20.29
		1	12	20.07	20.30	20.10
		1	24	20.03	20.07	20.19
		12	0	19.22	19.22	19.69
		12	6	19.49	19.31	19.67
		12	13	19.37	19.33	19.36
		25	0	19.45	19.38	19.43

LTE Band / BW	Modulation	RB Sizet	RB Offset	Low CH	Mid CH	High CH
				20000 CH	20175 CH	20350 CH
				1715 MHz	1732.5 MHz	1750 MHz
4 / 10M	QPSK	1	0	21.55	21.21	21.72
		1	24	**21.73**	21.29	21.55
		1	49	21.53	21.43	21.57
		25	0	20.38	20.37	20.51
		25	12	20.37	20.27	20.46
		25	25	20.34	20.34	20.46
		50	0	20.33	20.37	20.46
	16QAM	1	0	20.27	20.01	20.33
		1	24	20.39	19.94	20.28
		1	49	20.13	20.03	**20.53**
		25	0	19.32	19.41	19.64
		25	12	19.40	19.41	19.68
		25	25	19.40	19.21	19.54
		50	0	19.34	19.20	19.47

LTE Band / BW	Modulation	RB Sizet	RB Offset	Low CH	Mid CH	High CH
				20025 CH	20175 CH	20325 CH
				1717.5 MHz	1732.5 MHz	1747.5 MHz
4 / 15M	QPSK	1	0	21.49	21.40	21.58
		1	37	21.61	21.33	21.47
		1	74	21.46	21.55	**21.65**
		36	0	20.43	21.55	20.40
		36	19	20.39	20.32	20.47
		36	39	20.26	20.37	20.70
		75	0	20.33	20.30	20.44
	16QAM	1	0	20.45	20.18	21.08
		1	37	20.87	20.00	21.00
		1	74	20.22	20.17	**21.10**
		36	0	19.43	20.17	19.49
		36	19	19.31	19.25	19.38
		36	39	19.23	19.39	19.42
		75	0	19.36	19.43	19.39

LTE Band / BW	Modulation	RB Sizet	RB Offset	Low CH	Mid CH	High CH
				20050 CH	20175 CH	20300 CH
				1720 MHz	1732.5 MHz	1745 MHz
4 / 20M	QPSK	1	0	21.46	**21.74**	21.48
		1	50	21.33	20.92	21.38
		1	99	21.01	21.67	21.35
		50	0	20.34	20.34	20.64
		50	25	20.38	20.30	20.42
		50	50	20.32	20.37	20.54
		100	0	20.34	20.42	20.47
	16QAM	1	0	19.95	**20.60**	20.11
		1	50	20.59	20.04	20.26
		1	99	19.94	20.02	20.26
		50	0	19.50	19.48	19.50
		50	25	19.43	19.35	19.50
		50	50	19.34	19.39	19.41
		100	0	19.33	19.43	19.63

LTE Band / BW	Modulation	RB Sizet	RB Offset	Low CH	Mid CH	High CH
				20775 CH	21100 CH	21425 CH
				2502.5 MHz	2535 MHz	2567.5 MHz
7 / 5M	QPSK	1	0	21.35	21.21	21.18
		1	12	**21.68**	21.41	21.42
		1	24	21.47	21.27	21.18
		12	0	20.48	20.46	20.42
		12	6	20.57	20.49	20.48
		12	13	20.53	20.45	20.45
		25	0	20.51	20.50	20.40
	16QAM	1	0	20.03	19.99	**20.35**
		1	12	20.14	20.20	20.04
		1	24	19.96	19.92	20.06
		12	0	19.56	19.43	19.49
		12	6	19.76	19.73	19.55
		12	13	19.74	19.73	19.43
		25	0	19.68	19.80	19.47

LTE Band / BW	Modulation	RB Sizet	RB Offset	Low CH	Mid CH	High CH
				20800 CH	21100 CH	21400 CH
				2505 MHz	2535 MHz	2565 MHz
7 / 10M	QPSK	1	0	21.56	21.47	21.27
		1	24	**21.83**	21.58	21.44
		1	49	21.69	21.36	21.44
		25	0	20.55	20.52	20.33
		25	12	20.52	20.47	20.42
		25	25	20.59	20.43	20.42
		50	0	20.54	20.48	20.39
	16QAM	1	0	20.23	20.21	20.45
		1	24	**20.49**	20.23	20.25
		1	49	20.30	20.28	20.04
		25	0	19.58	19.57	19.35
		25	12	19.60	19.66	19.65
		25	25	19.55	19.69	19.47
		50	0	19.49	19.59	19.29

LTE Band / BW	Modulation	RB Sizet	RB Offset	Low CH	Mid CH	High CH
				20825 CH	21100 CH	21375 CH
				2507.5 MHz	2535 MHz	2562.5 MHz
7 / 15M	QPSK	1	0	21.49	21.53	21.40
		1	37	**21.84**	21.45	21.25
		1	74	21.57	21.37	21.34
		36	0	20.57	20.54	20.38
		36	19	20.52	20.50	20.36
		36	39	20.44	20.49	20.41
		75	0	20.61	20.51	20.40
	16QAM	1	0	20.32	20.36	20.90
		1	37	20.40	20.35	20.89
		1	74	20.40	20.00	**20.97**
		36	0	19.48	19.56	19.35
		36	19	19.46	19.56	19.31
		36	39	19.42	19.53	19.34
		75	0	19.56	19.53	19.37

LTE Band / BW	Modulation	RB Sizet	RB Offset	Low CH	Mid CH	High CH
				20850 CH	21100 CH	21350 CH
				2510 MHz	2535 MHz	2560 MHz
7 / 20M	QPSK	1	0	21.36	21.54	21.53
		1	50	21.55	**21.90**	21.51
		1	99	21.28	21.22	21.56
		50	0	20.59	20.44	20.36
		50	25	20.63	20.46	20.39
		50	50	20.49	20.45	20.39
		100	0	20.61	20.48	20.38
	16QAM	1	0	20.08	20.00	19.96
		1	50	20.03	**20.69**	20.21
		1	99	20.08	19.92	20.00
		50	0	19.54	19.39	19.34
		50	25	19.47	19.59	19.30
		50	50	19.34	19.40	19.37
		100	0	19.55	19.53	19.37

ERP Power:

LTE Band / BW	Modulation	RB Sizet	RB Offset	Low CH 23017 CH 699.7 MHz	Mid CH 23095 CH 707.5 MHz	High CH 23173 CH 715.3 MHz
12 / 1.4M	QPSK	1	0	20.49	20.23	20.31
		1	2	20.32	20.47	20.52
		1	5	20.54	20.32	20.50
		3	0	20.45	20.38	20.43
		3	1	20.51	**20.56**	20.45
		3	3	20.41	20.54	20.55
		6	0	19.39	19.45	19.37
	16QAM	1	0	19.22	19.20	19.35
		1	2	19.47	18.79	**19.55**
		1	5	19.24	18.82	19.42
		3	0	19.12	19.20	19.32
		3	1	19.24	19.25	19.26
		3	3	19.26	19.35	19.42
		6	0	18.43	18.16	18.40

LTE Band / BW	Modulation	RB Sizet	RB Offset	Low CH 23025 CH 700.5 MHz	Mid CH 23095 CH 707.5 MHz	High CH 23165 CH 714.5 MHz
12 / 3M	QPSK	1	0	20.42	20.51	20.16
		1	7	20.63	20.40	20.37
		1	14	**20.65**	20.29	20.44
		8	0	19.31	19.42	19.54
		8	3	19.47	19.39	19.47
		8	7	19.33	19.44	19.50
		15	0	19.35	19.45	19.43
	16QAM	1	0	19.12	19.24	19.30
		1	7	19.19	19.24	**19.58**
		1	14	19.14	19.15	19.35
		8	0	18.14	18.59	18.47
		8	3	18.18	18.61	18.43
		8	7	18.20	18.54	18.61
		15	0	18.29	18.42	18.27

LTE Band / BW	Modulation	RB Sizet	RB Offset	Low CH 23035 CH 701.5 MHz	Mid CH 23095 CH 707.5 MHz	High CH 23155 CH 713.5 MHz
12 / 5M	QPSK	1	0	20.39	20.24	20.28
		1	12	**20.57**	20.23	20.25
		1	24	20.27	20.05	20.34
		12	0	19.36	19.42	19.55
		12	6	19.40	19.41	19.56
		12	13	19.50	19.33	19.51
		25	0	19.34	19.32	19.37
	16QAM	1	0	18.77	18.97	18.97
		1	12	18.95	**19.39**	19.20
		1	24	18.83	18.86	18.85
		12	0	18.09	18.27	18.33
		12	6	18.43	18.42	18.30
		12	13	18.25	18.31	18.17
		25	0	18.48	18.33	18.30

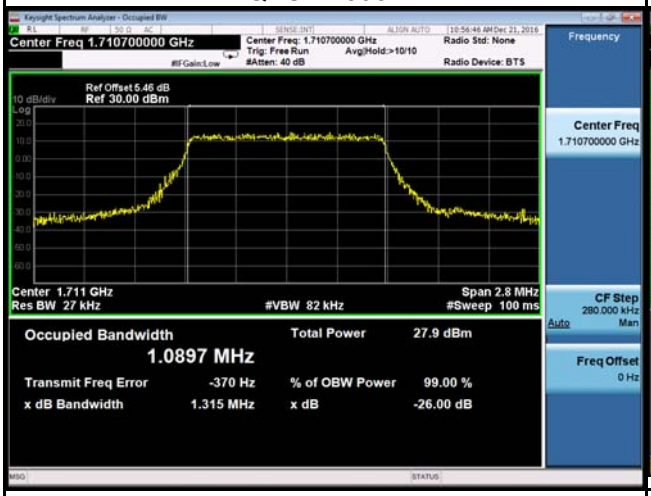
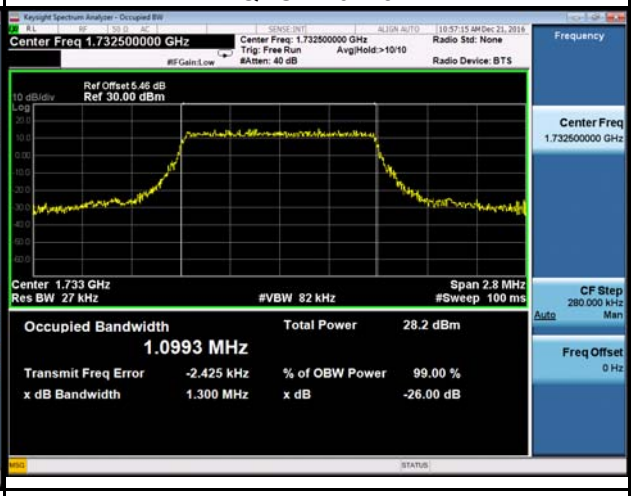
LTE Band / BW	Modulation	RB Sizet	RB Offset	Low CH	Mid CH	High CH
				23060 CH	23095 CH	23130 CH
				704 MHz	707.5 MHz	711 MHz
12 / 10M	QPSK	1	0	20.56	20.15	20.01
		1	24	**20.66**	20.40	20.43
		1	49	20.41	20.38	20.30
		25	0	19.44	19.40	19.32
		25	12	19.35	19.32	19.41
		25	25	19.35	19.36	19.43
		50	0	19.37	19.30	19.35
	16QAM	1	0	19.13	19.12	19.05
		1	24	**19.99**	19.42	19.09
		1	49	19.14	19.13	19.27
		25	0	18.32	18.27	18.34
		25	12	18.39	18.31	18.60
		25	25	18.43	18.26	18.35
		50	0	18.39	18.31	18.36

LTE Band / BW	Modulation	RB Sizet	RB Offset	Low CH	Mid CH	High CH
				23755 CH	23790 CH	23825 CH
				706.5 MHz	710.0 MHz	713.5 MHz
17 / 5M	QPSK	1	0	20.10	20.15	20.31
		1	12	20.25	20.11	**20.69**
		1	24	20.36	20.36	20.41
		12	0	19.32	19.34	19.55
		12	6	19.37	19.43	19.55
		12	13	19.52	19.59	19.57
		25	0	19.34	19.35	19.47
	16QAM	1	0	18.85	19.32	18.87
		1	12	18.96	19.50	19.33
		1	24	18.83	**19.56**	18.81
		12	0	18.19	18.36	18.24
		12	6	18.20	18.10	18.25
		12	13	18.40	18.19	18.21
		25	0	18.14	18.33	18.20

LTE Band / BW	Modulation	RB Sizet	RB Offset	Low CH	Mid CH	High CH
				23780 CH	23790 CH	23800 CH
				709.0 MHz	710.0 MHz	711.0 MHz
17 / 10M	QPSK	1	0	20.61	20.39	20.13
		1	24	**21.03**	20.71	20.74
		1	49	20.86	20.48	20.24
		25	0	19.45	19.40	19.43
		25	12	19.42	19.36	19.35
		25	25	19.38	19.38	19.37
		50	0	19.54	19.45	19.26
	16QAM	1	0	19.33	19.19	19.12
		1	24	19.34	**19.70**	19.26
		1	49	19.48	19.68	19.25
		25	0	18.24	18.20	18.37
		25	12	18.32	18.15	18.19
		25	25	18.28	18.46	18.39
		50	0	18.12	18.33	18.13

ATTACHMENT B - OCCUPIED BANDWIDTH

LTE Band 4_1.4M					
QPSK			16QAM		
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)
19957	1710.7	1.0897	19957	1710.7	1.0910
20175	1732.5	1.0993	20175	1732.5	1.0881
20393	1754.3	1.0882	20393	1754.3	1.0916
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
19957	1710.7	1.315	19957	1710.7	1.296
20175	1732.5	1.300	20175	1732.5	1.274
20393	1754.3	1.282	20393	1754.3	1.302

Spectrum Plot	
QPSK-19957	QPSK-20175
	
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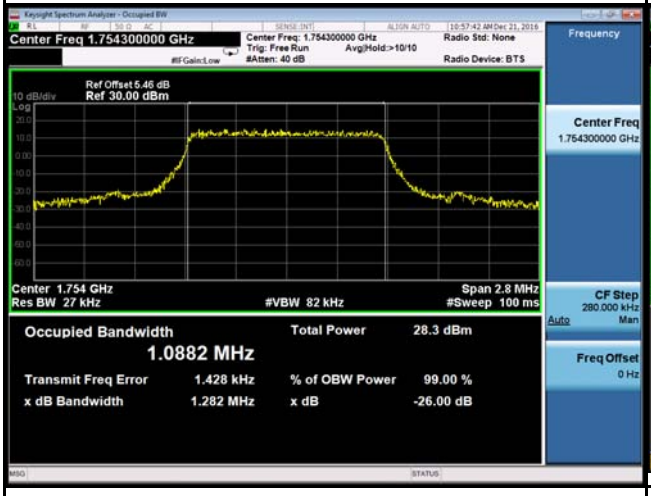
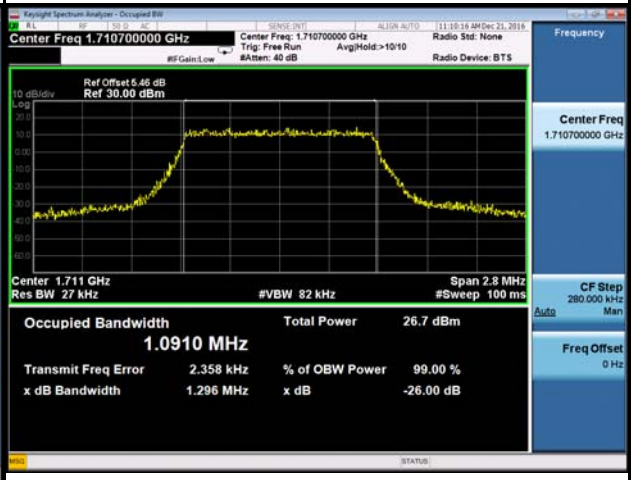
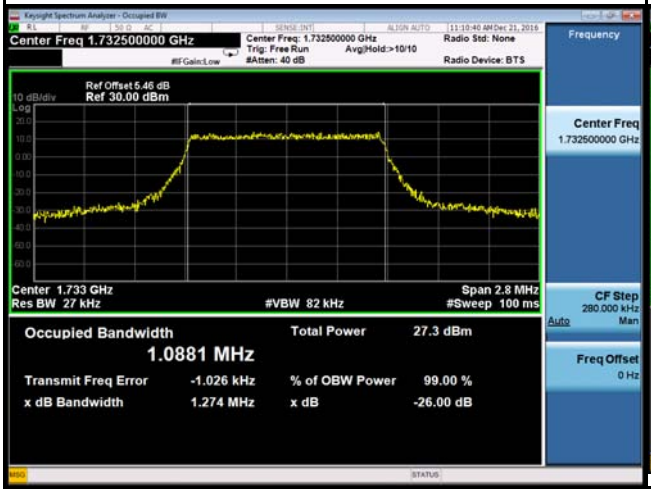
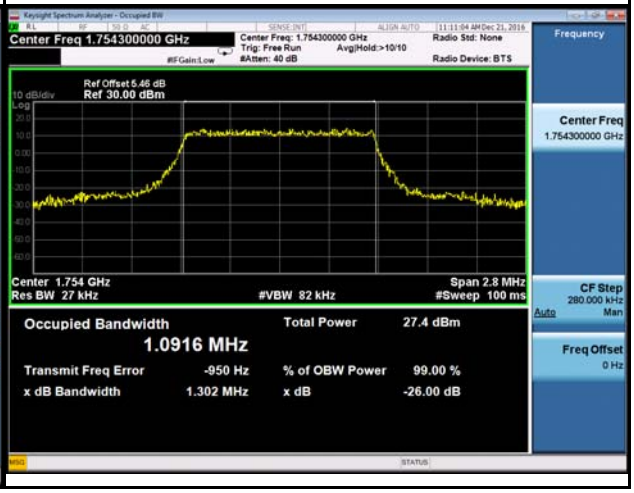
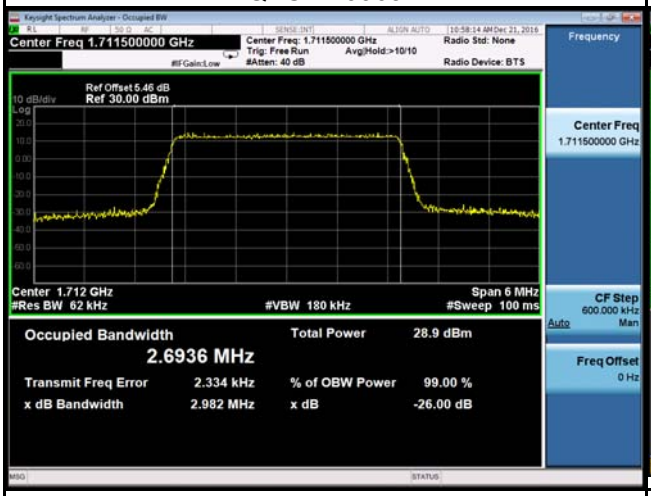
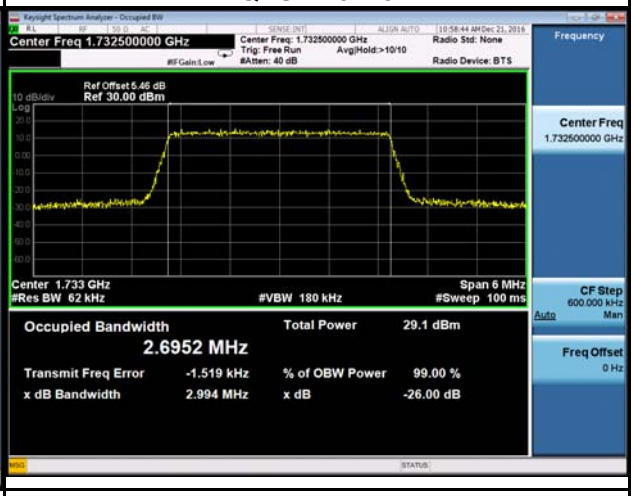
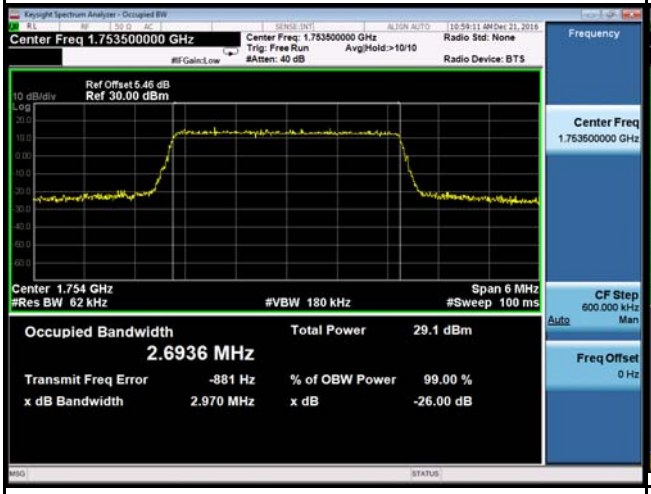
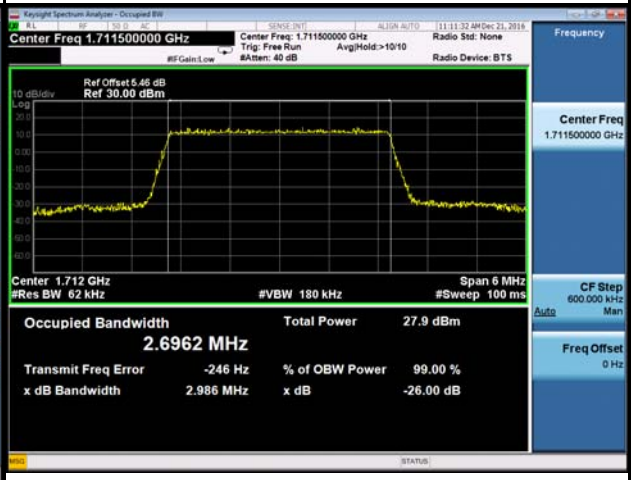
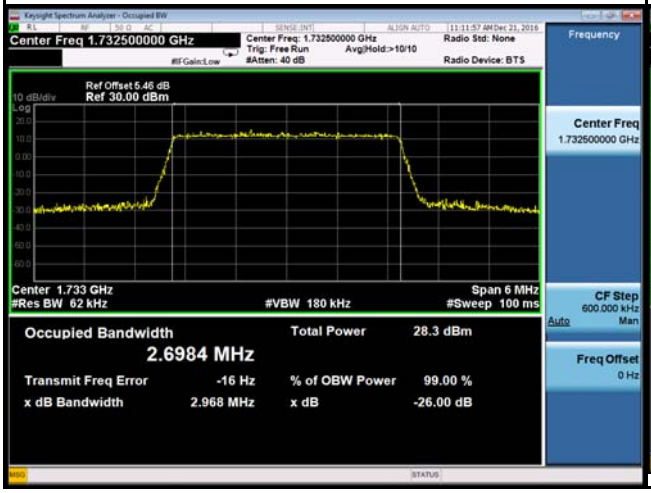
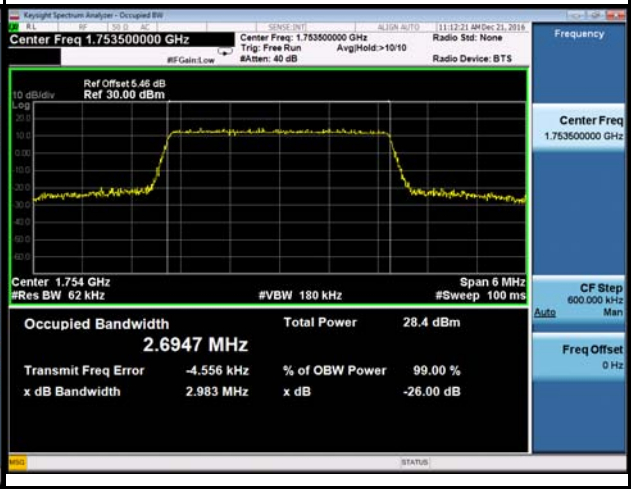
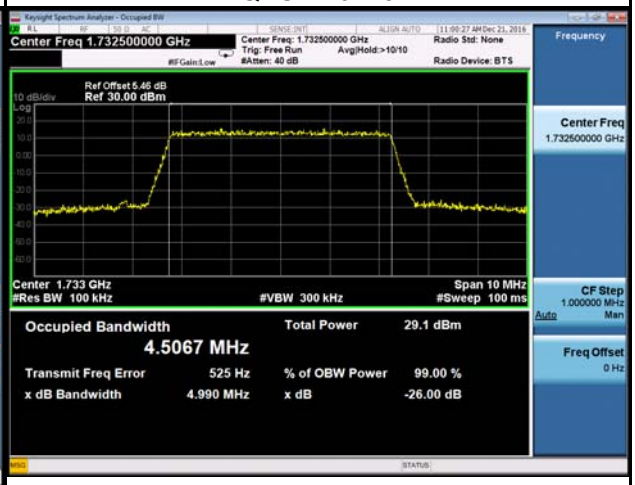
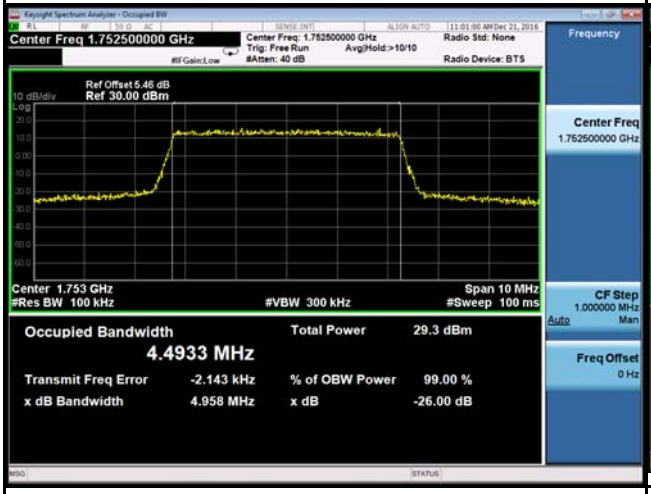
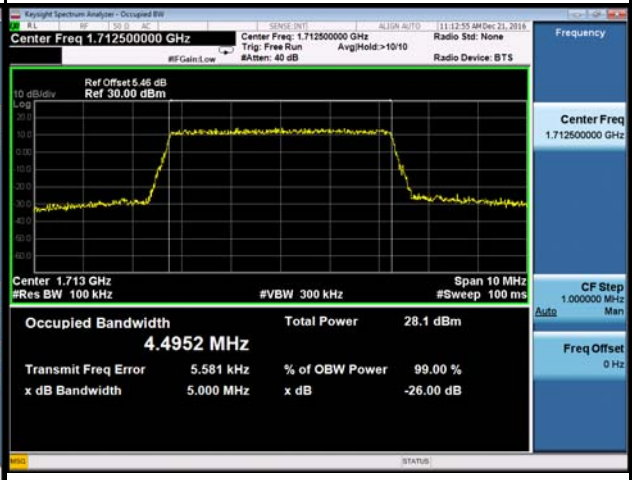
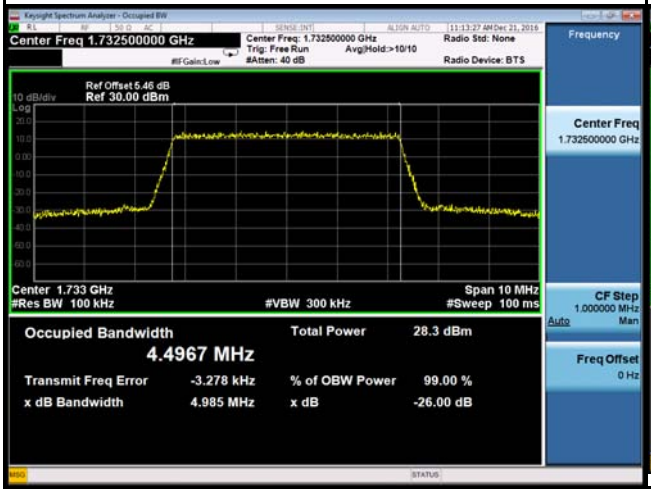
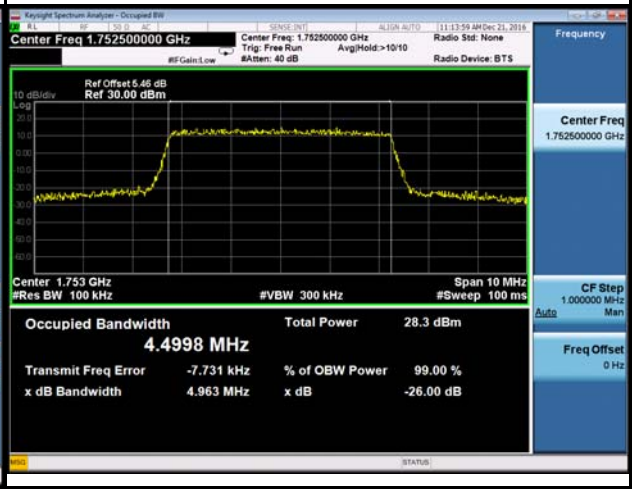
	
16QAM-20175	16QAM-20393
	

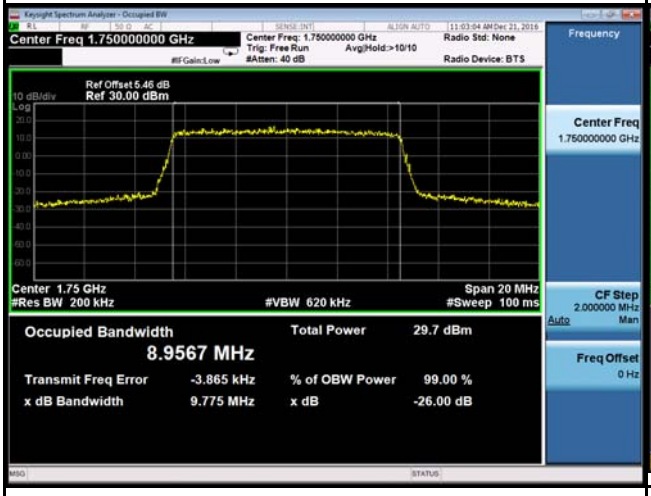
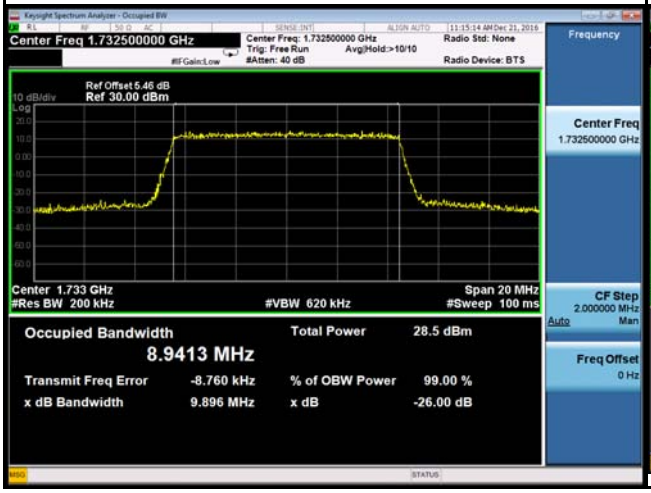
LTE Band 4_3M					
QPSK			16QAM		
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)
19965	1711.5	2.6936	19965	1711.5	2.6962
20175	1732.5	2.6952	20175	1732.5	2.6984
20385	1753.5	2.6936	20385	1753.5	26947
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
19965	1711.5	2.982	19965	1711.5	2.986
20175	1732.5	2.994	20175	1732.5	2.968
20385	1753.5	2.970	20385	1753.5	2.983

Spectrum Plot	
QPSK-19965	QPSK-20175
	
QPSK-20385	16QAM-19965
	
16QAM-20175	16QAM-20385
	

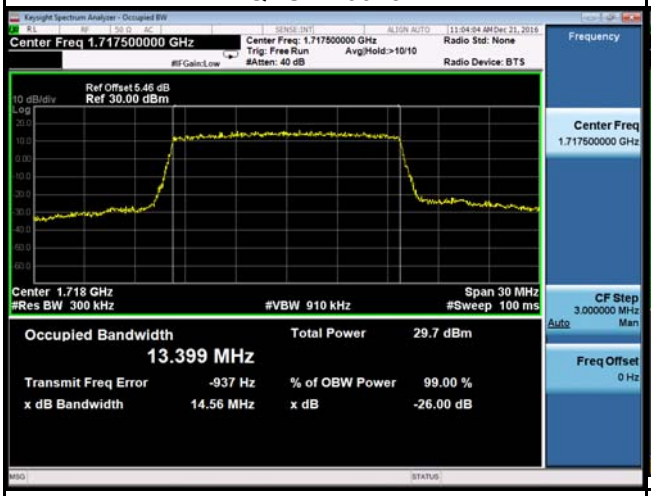
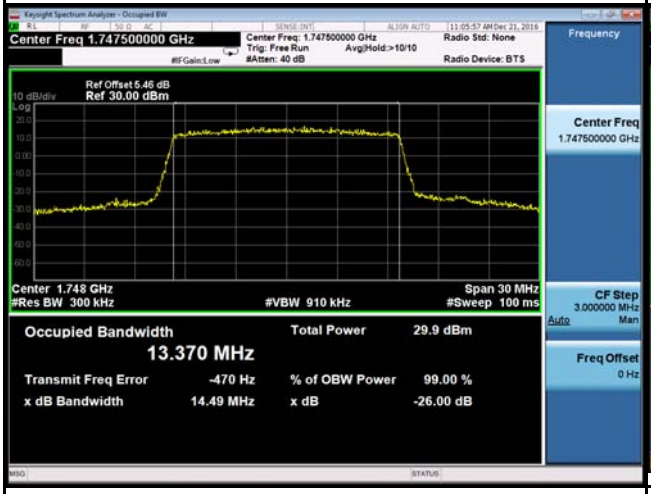
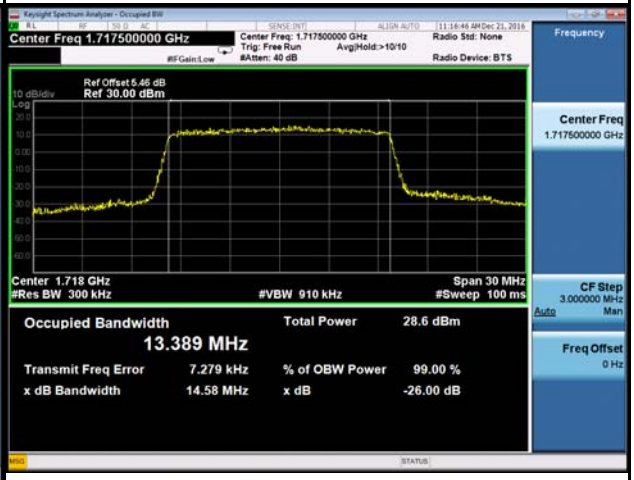
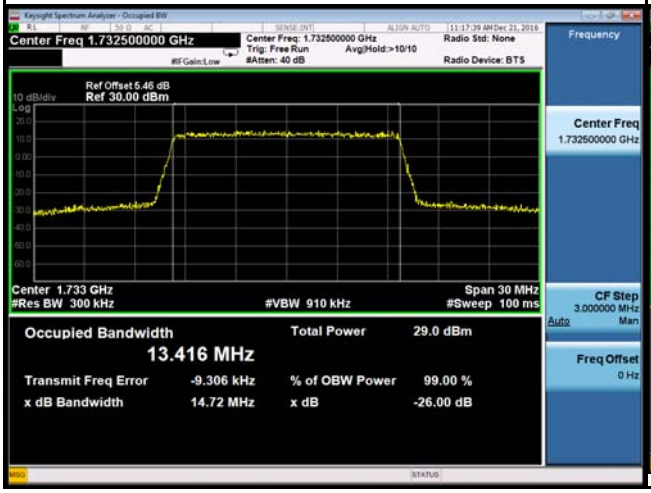
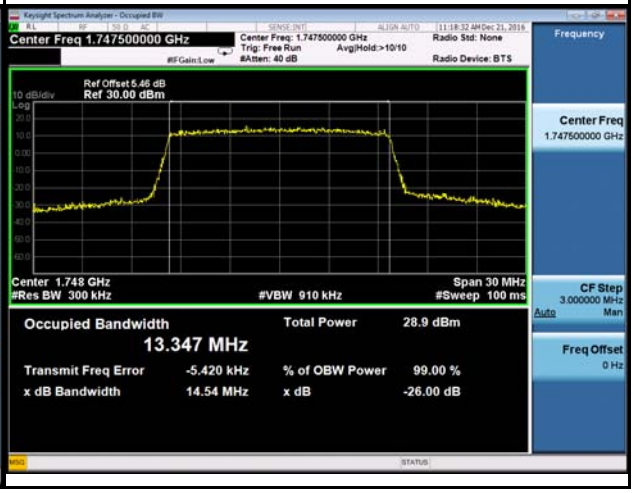
LTE Band 4_5M					
QPSK			16QAM		
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)
19975	1712.5	4.5100	19975	1712.5	4.4952
20175	1732.5	4.5067	20175	1732.5	4.4967
20375	1752.5	4.4933	20375	1752.5	4.4998
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
19975	1712.5	4.935	19975	1712.5	5.000
20175	1732.5	4.990	20175	1732.5	4.985
20375	1752.5	4.958	20375	1752.5	4.963

Spectrum Plot	
QPSK-19975	QPSK-20175
	
QPSK-20375	16QAM-19975
	
16QAM-20175	16QAM-20375
	

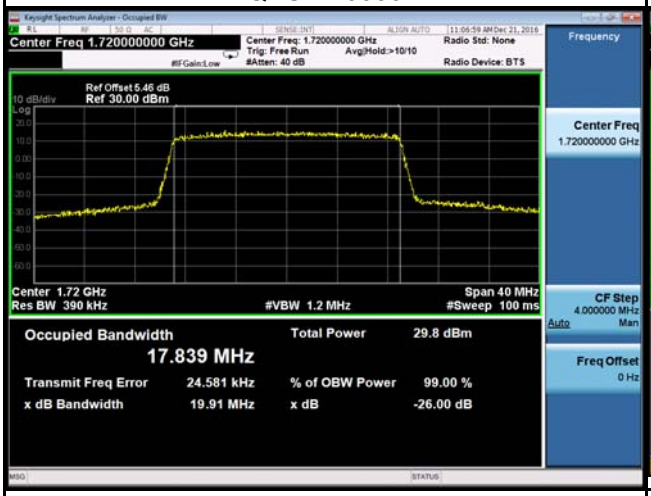
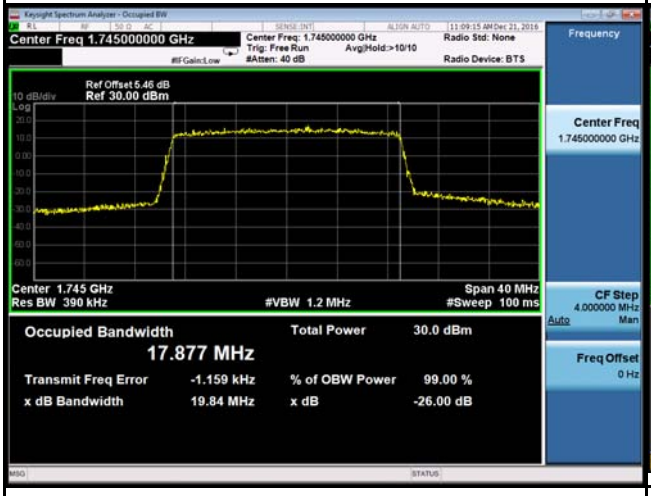
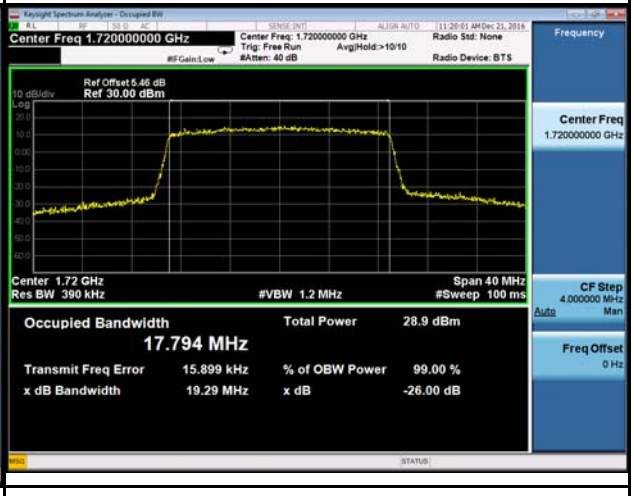
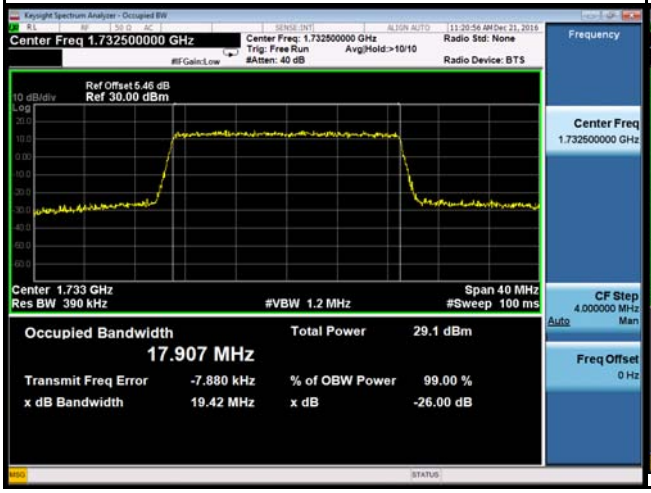
LTE Band 4_10M					
QPSK			16QAM		
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)
20000	1715	8.9576	20000	1715	8.9386
20175	1732.5	8.9710	20175	1732.5	8.9413
20350	1750	8.9567	20350	1750	8.9351
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
20000	1715	9.589	20000	1715	9.836
20175	1732.5	9.879	20175	1732.5	9.896
20350	1750	9.775	20350	1750	9.740

Spectrum Plot	
QPSK-20000	QPSK-20175
QPSK-20350	16QAM-20000
	
16QAM-20175	16QAM-20350
	

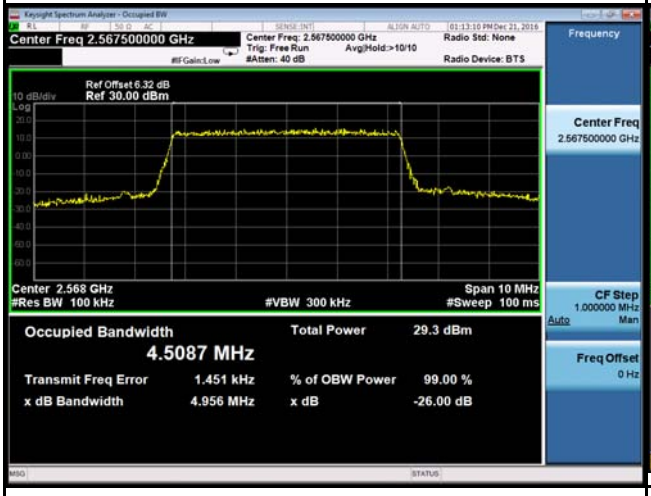
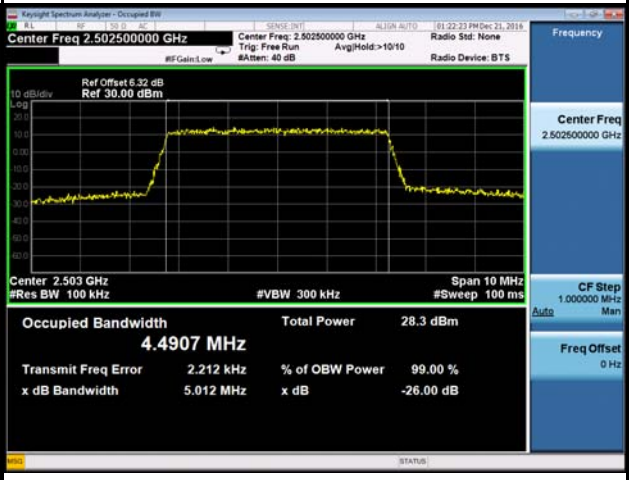
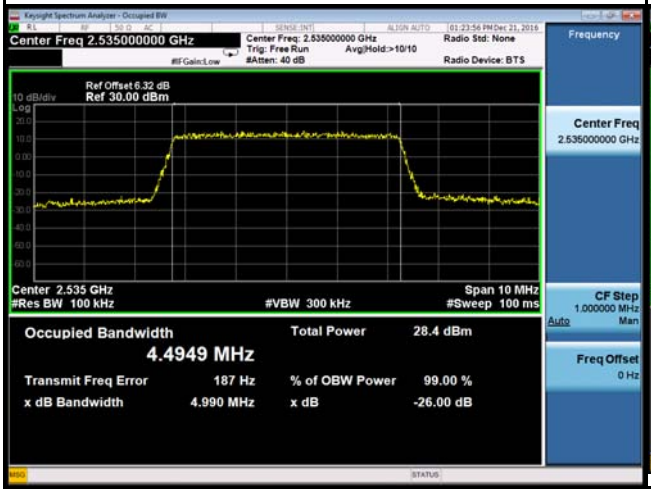
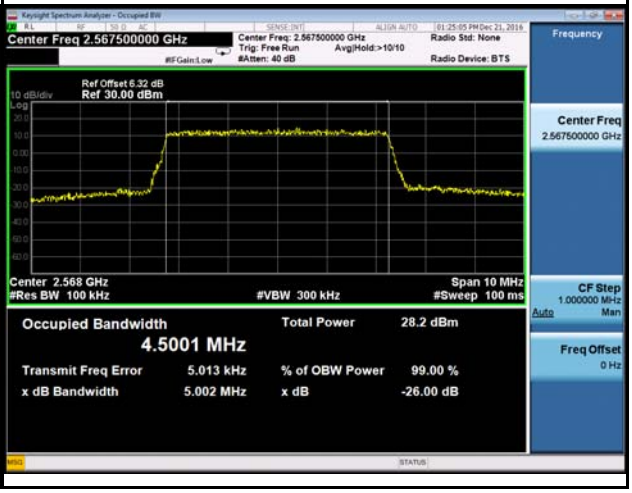
LTE Band 4_15M					
QPSK			16QAM		
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)
20025	1717.5	13.3990	20025	1717.5	13.3890
20175	1732.5	13.4260	20175	1732.5	13.4160
20325	1747.5	13.3700	20325	1747.5	13.3470
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
20025	1717.5	14.560	20025	1717.5	14.580
20175	1732.5	14.650	20175	1732.5	14.720
20325	1747.5	14.490	20325	1747.5	14.540

Spectrum Plot	
QPSK-20025	QPSK-20175
	
QPSK-20325	16QAM-20025
	
16QAM-20175	16QAM-20325
	

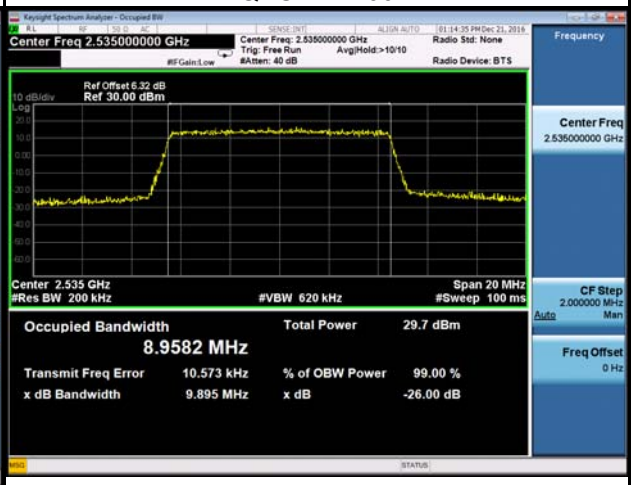
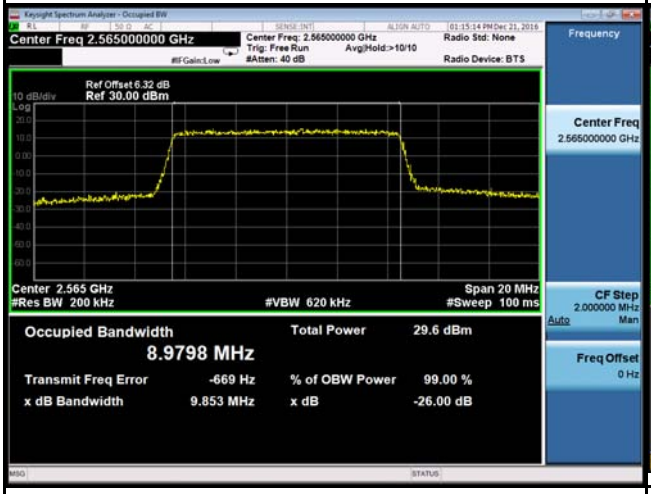
LTE Band 4_20M					
QPSK			16QAM		
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)
20050	1720	17.8390	20050	1720	17.7940
20175	1732.5	17.9290	20175	1732.5	17.9070
20300	1745	17.8770	20300	1745	17.8540
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
20050	1720	19.910	20050	1720	19.290
20175	1732.5	19.340	20175	1732.5	19.420
20300	1745	19.840	20300	1745	19.450

Spectrum Plot	
QPSK-20050	QPSK-20175
	
QPSK-20300	16QAM-20050
	
16QAM-20175	16QAM-20300
	

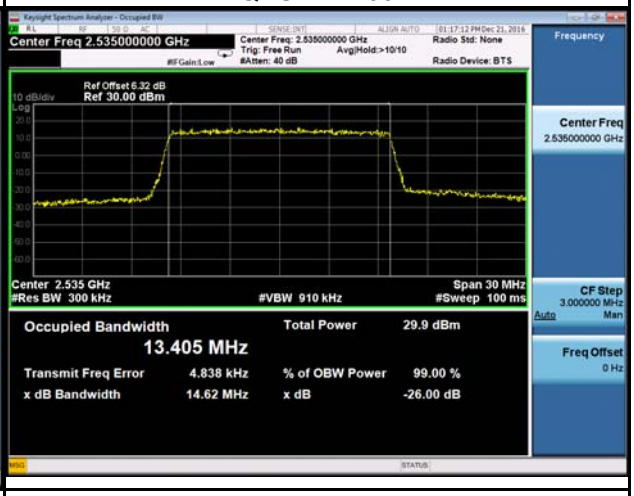
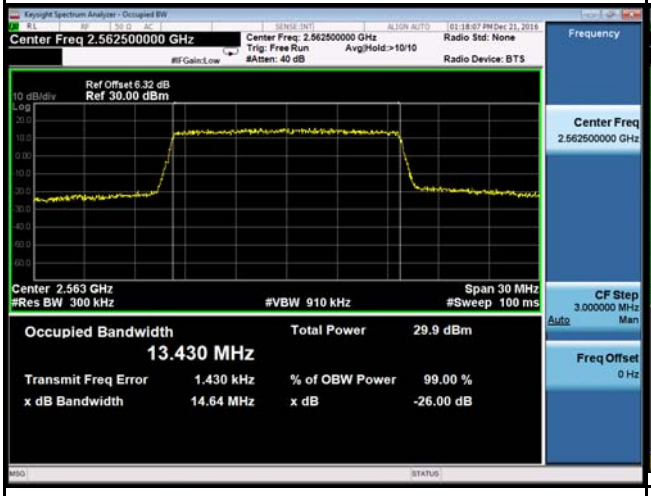
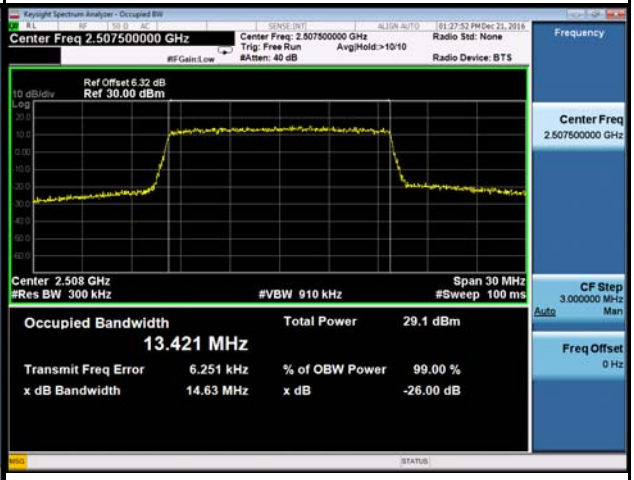
LTE Band 7_5M					
QPSK			16QAM		
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)
20775	2502.5	4.5083	20775	2502.5	4.4907
21100	2535	4.4999	21100	2535	4.4949
21425	2567.5	4.5087	21425	2567.5	4.5001
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
20775	2502.5	4.999	20775	2502.5	5.012
21100	2535	4.945	21100	2535	4.990
21425	2567.5	4.956	21425	2567.5	5.002

Spectrum Plot	
QPSK-20775	QPSK-21100
QPSK-21425	16QAM-20775
	
16QAM-21100	16QAM-21425
	

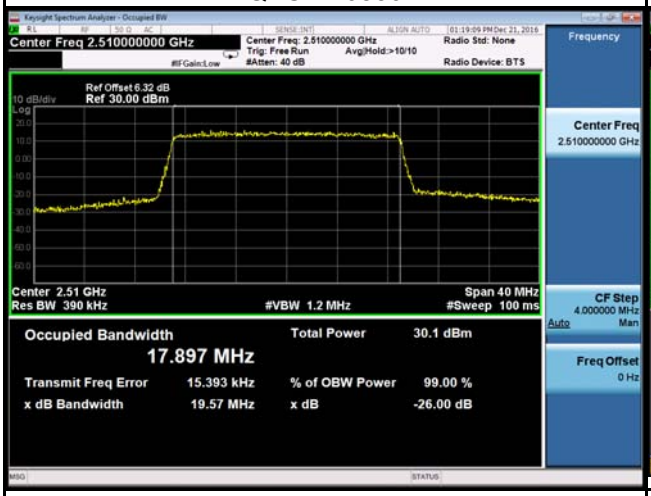
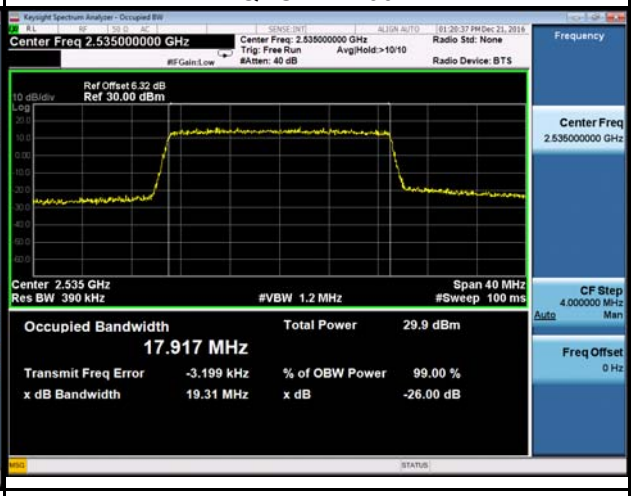
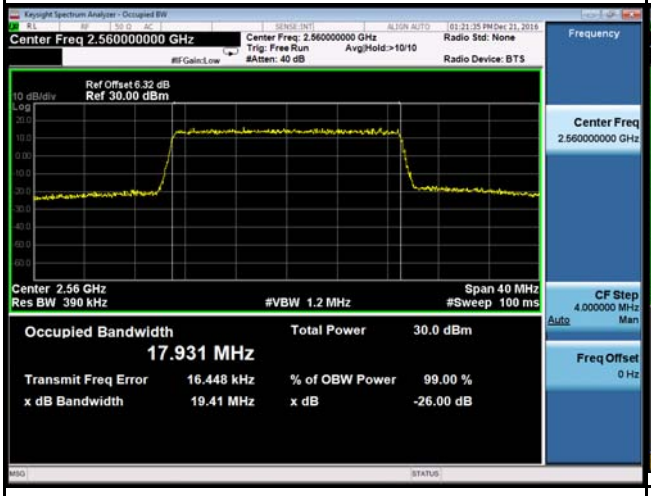
LTE Band 7_10M					
QPSK			16QAM		
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)
20800	2505	8.9578	20800	2505	8.9536
21100	2535	8.9582	21100	2535	8.9598
21400	2565	8.9798	21400	2565	8.9687
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
20800	2505	9.856	20800	2505	9.849
21100	2535	9.895	21100	2535	9.874
21400	2565	9.853	21400	2565	9.889

Spectrum Plot	
QPSK-20800	QPSK-21100
	
QPSK-21400	16QAM-20800
	
16QAM-21100	16QAM-21400

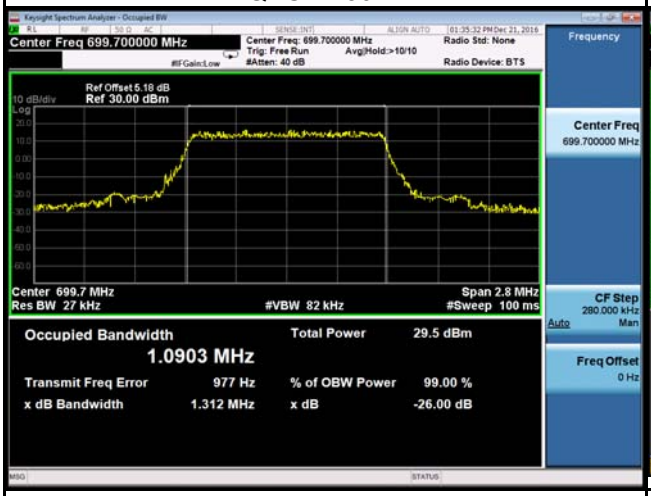
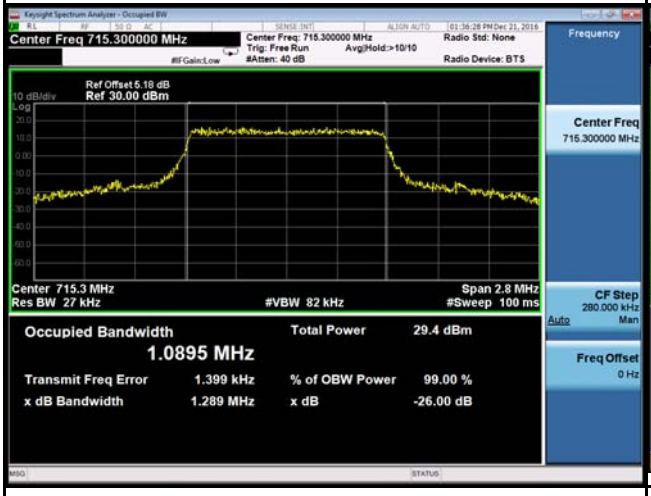
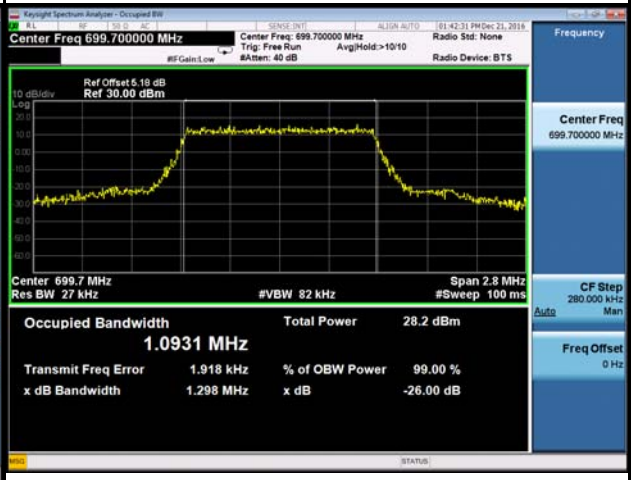
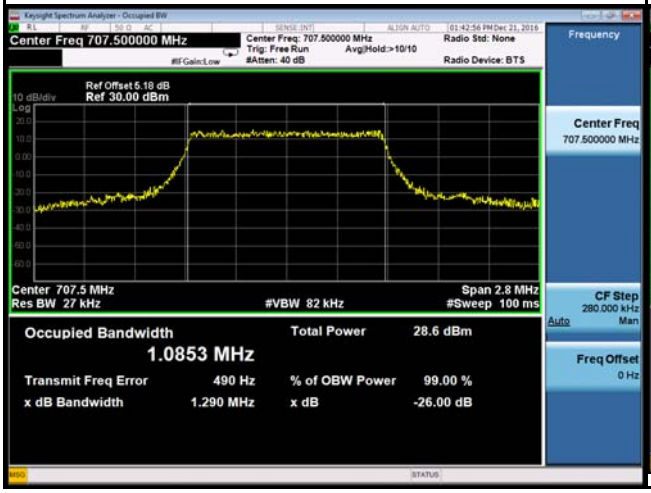
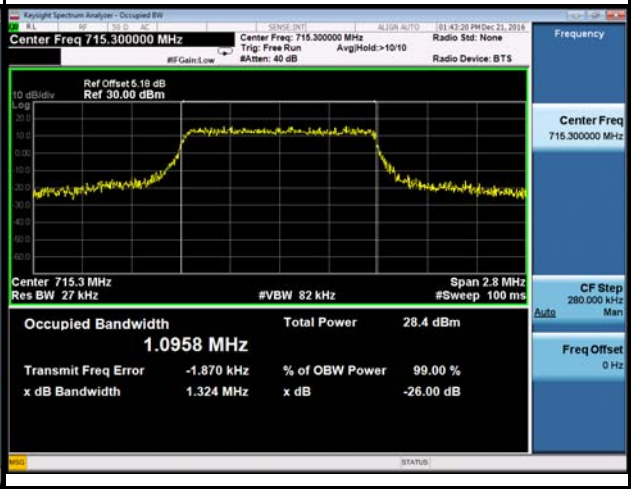
LTE Band 7_15M					
QPSK			16QAM		
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)
20825	2507.5	13.4140	20825	2507.5	13.4210
21100	2535	13.4050	21100	2535	13.4290
21375	2562.5	13.4300	21375	2562.5	13.4070
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
20825	2507.5	14.620	20825	2507.5	14.630
21100	2535	14.620	21100	2535	14.680
21375	2562.5	14.640	21375	2562.5	14.650

Spectrum Plot	
QPSK-20825	QPSK-21100
	
QPSK-21375	16QAM-20825
	
16QAM-21100	16QAM-21375

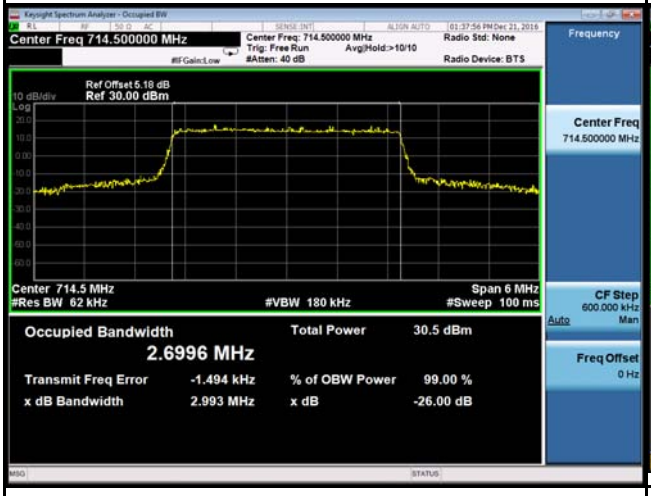
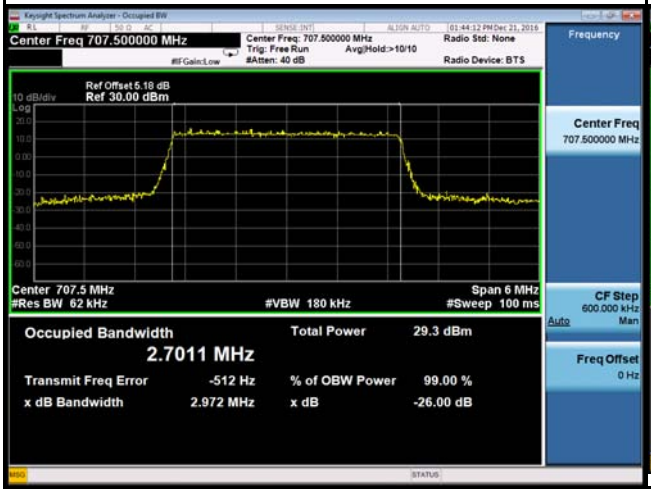
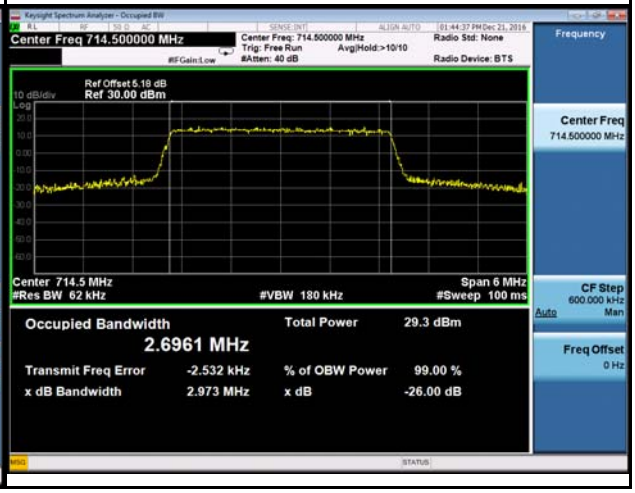
LTE Band 7_20M					
QPSK			16QAM		
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)
20850	2510	17.8970	20850	2510	17.8860
21100	2535	17.9170	21100	2535	17.8830
21350	2560	17.9310	21350	2560	17.9000
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
20850	2510	19.570	20850	2510	19.330
21100	2535	19.310	21100	2535	19.360
21350	2560	19.410	21350	2560	19.380

Spectrum Plot	
QPSK-20850	QPSK-21100
	
QPSK-21350	16QAM-20850
	
16QAM-21100	16QAM-21350

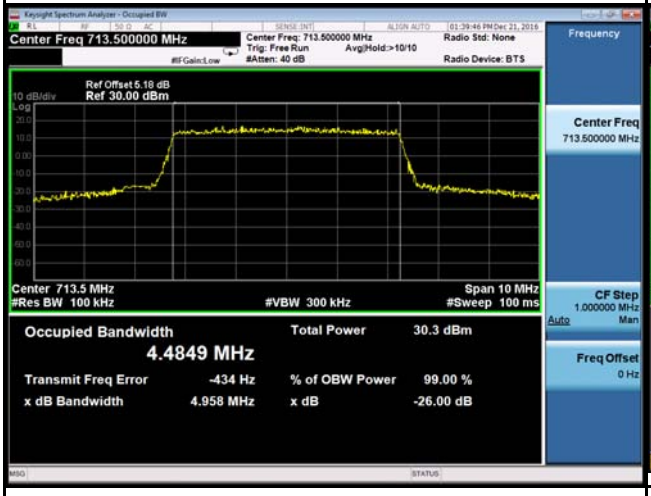
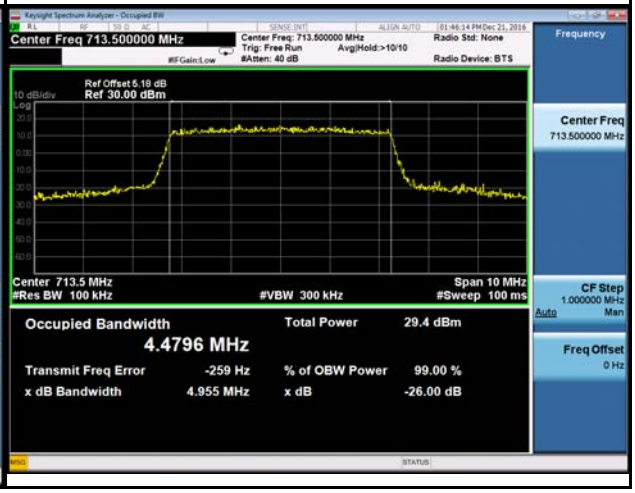
LTE Band 12_1.4M					
QPSK			16QAM		
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)
23017	699.7	1.0903	23017	699.7	1.0931
23095	707.5	1.0948	23095	707.5	1.0853
23173	715.3	1.0895	23173	715.3	1.0958
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23017	699.7	1.312	23017	699.7	1.298
23095	707.5	1.304	23095	707.5	1.290
23173	715.3	1.289	23173	715.3	1.324

Spectrum Plot	
QPSK-23017	QPSK-23095
	
QPSK-23173	16QAM-23017
	
16QAM-23095	16QAM-23173
	

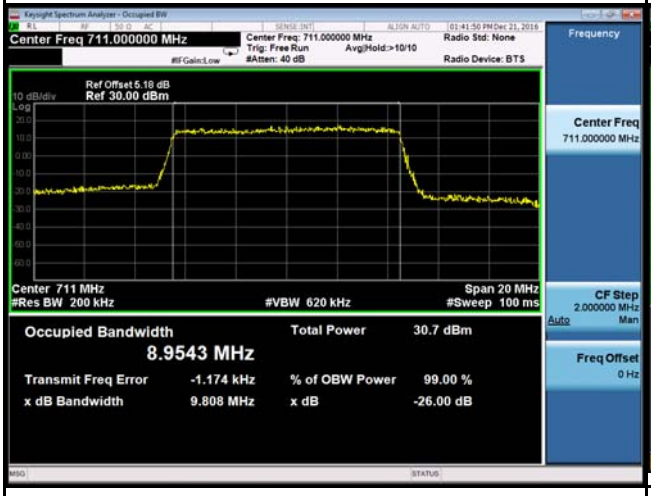
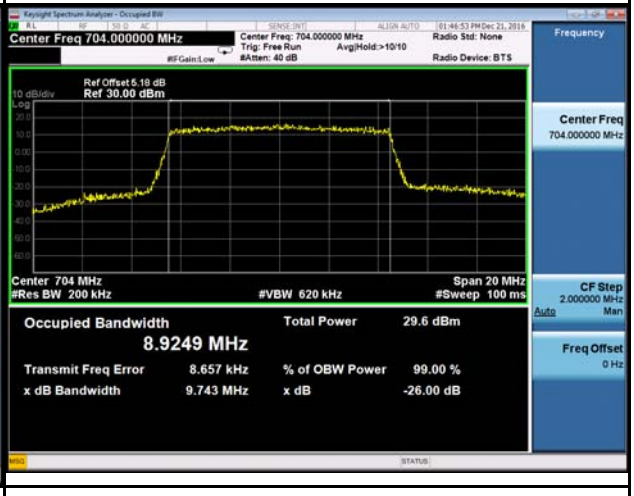
LTE Band 12_3M					
QPSK			16QAM		
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)
23025	700.5	2.6970	23025	700.5	2.6882
23095	707.5	2.6964	23095	707.5	2.7011
23165	714.5	2.6996	23165	714.5	2.6961
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23025	700.5	2.967	23025	700.5	2.970
23095	707.5	2.998	23095	707.5	2.972
23165	714.5	2.993	23165	714.5	2.973

Spectrum Plot	
QPSK-23025	QPSK-23095
QPSK-23165	16QAM-23025
	
16QAM-23095	16QAM-23165
	

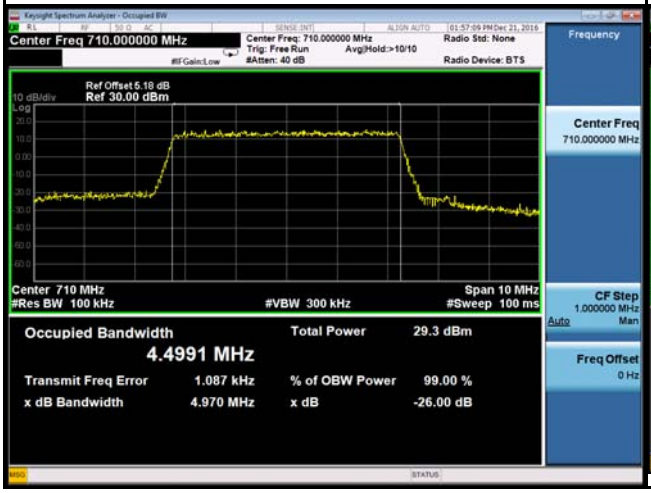
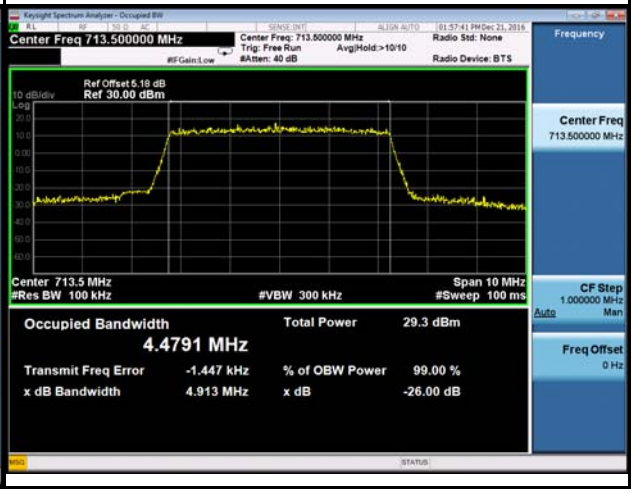
LTE Band 12_5M					
QPSK			16QAM		
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)
23035	701.5	4.4957	23035	701.5	4.4939
23095	707.5	4.5013	23095	707.5	4.4980
23155	713.5	4.4849	23155	713.5	4.4796
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23035	701.5	5.008	23035	701.5	4.969
23095	707.5	4.970	23095	707.5	4.999
23155	713.5	4.958	23155	713.5	4.955

Spectrum Plot	
QPSK-23035	QPSK-23095
QPSK-23155	16QAM-23035
	
16QAM-23095	16QAM-23155
	

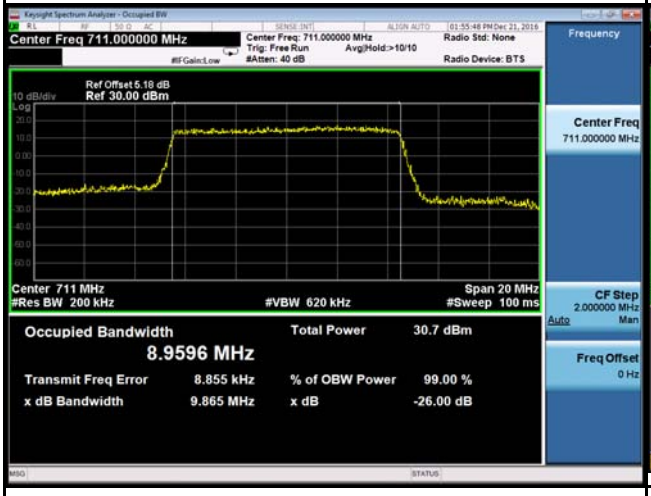
LTE Band 12_10M					
QPSK			16QAM		
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)
23060	704.0	8.9214	23060	704.0	8.9249
23095	707.5	8.9760	23095	707.5	8.9582
23130	711.0	8.9543	23130	711.0	8.9655
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23060	704.0	9.889	23060	704.0	9.743
23095	707.5	9.963	23095	707.5	9.889
23130	711.0	9.808	23130	711.0	9.855

Spectrum Plot	
QPSK-23060	QPSK-23095
QPSK-23130	16QAM-23060
	
16QAM-23095	16QAM-23130

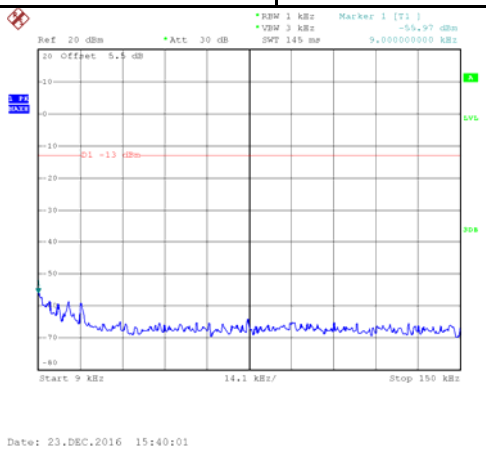
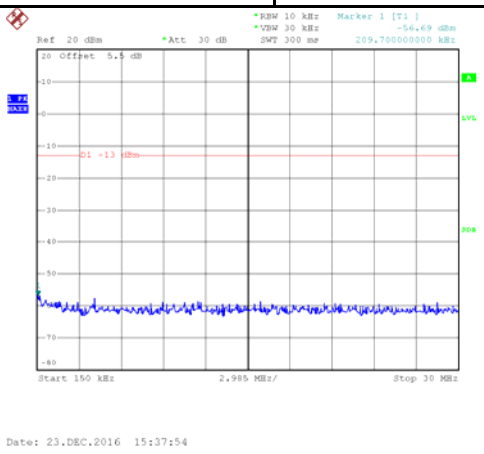
LTE Band 17_5M					
QPSK			16QAM		
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)
23755	706.5	4.5112	23755	706.5	4.4908
23790	710.0	4.5100	23790	710.0	4.4991
23825	713.5	4.4860	23825	713.5	4.4791
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23755	706.5	5.028	23755	706.5	4.995
23790	710.0	4.963	23790	710.0	4.970
23825	713.5	4.965	23825	713.5	4.913

Spectrum Plot	
QPSK-23755	QPSK-23790
QPSK-23825	16QAM-23755
16QAM-23790	16QAM-23825
	

LTE Band 17_10M					
QPSK			16QAM		
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)
23780	709.0	8.9914	23780	709.0	8.9962
23790	710.0	8.9623	23790	710.0	8.9710
23800	711.0	8.9596	23800	711.0	8.9645
Channel	Frequency (MHz)	26dB Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
23780	709.0	9.936	23780	709.0	9.915
23790	710.0	9.912	23790	710.0	9.877
23800	711.0	9.865	23800	711.0	9.810

Spectrum Plot	
QPSK-23780	QPSK-23790
QPSK-23800	16QAM-13780
	
16QAM-23790	16QAM-23800

ATTACHMENT C - CONDUCTED EMISSIONS

LTE Band 4_1.4M			
Channel	Frequency(MHz)	Channel	Frequency(MHz)
20175	1732.5	20175	1732.5
			
Channel	Frequency(MHz)	-	-
20175	1732.5	-	-
		-	

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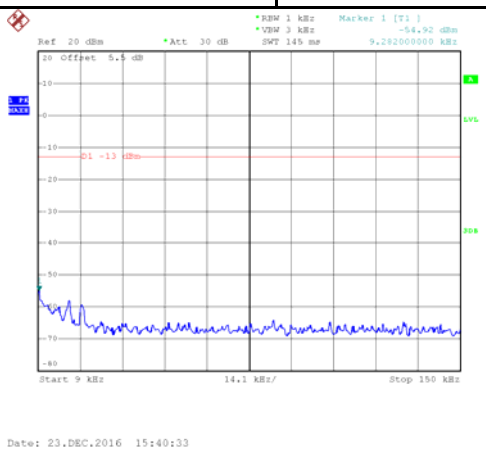
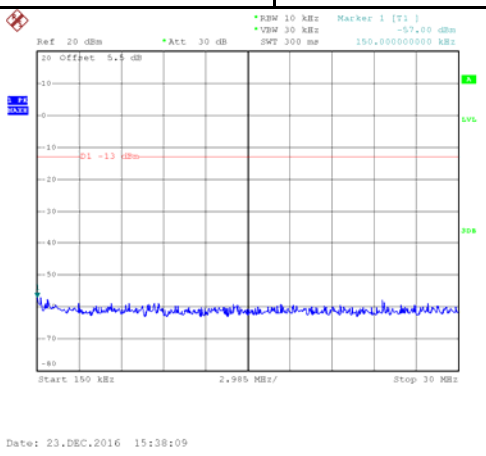
<tr><td colspan="2"> 
</td><td colspan="2"> 
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<tr><td>20175</td><td>1732.5</td><td>-</td><td>-</td></tr>
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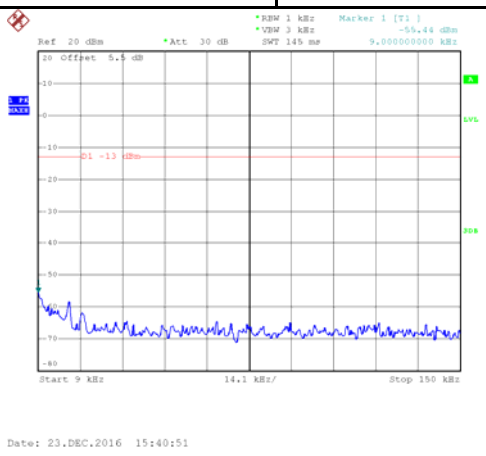
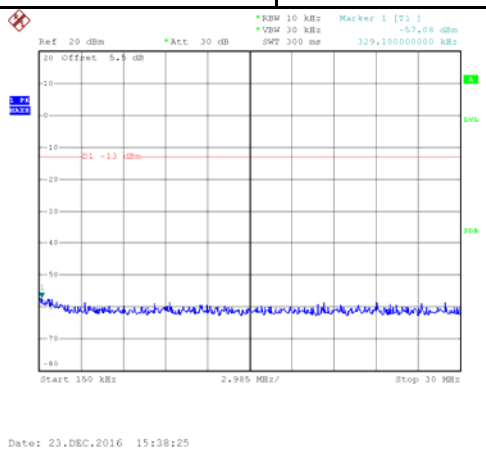
<tr><td colspan="2"> 
</td><td colspan="2"> 
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<tr><td>20175</td><td>1732.5</td><td>-</td><td>-</td></tr>
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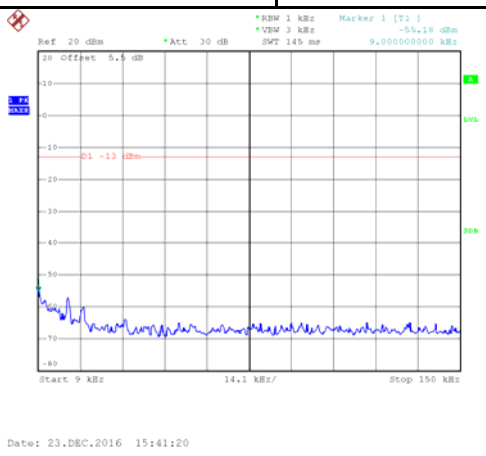
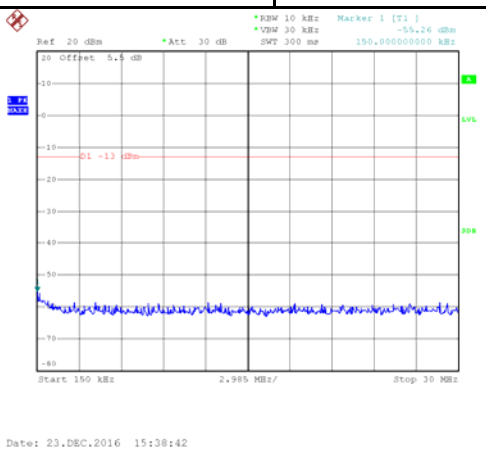
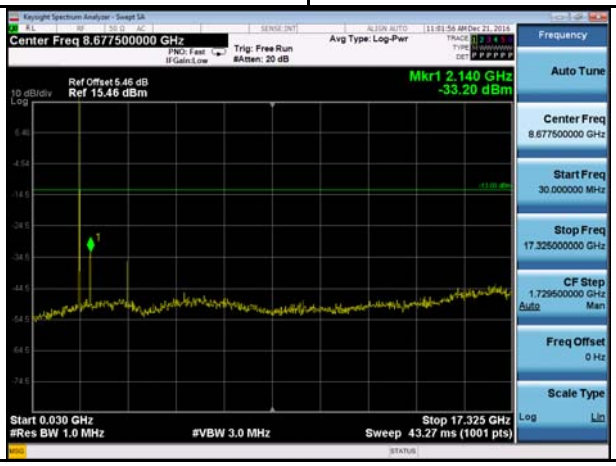
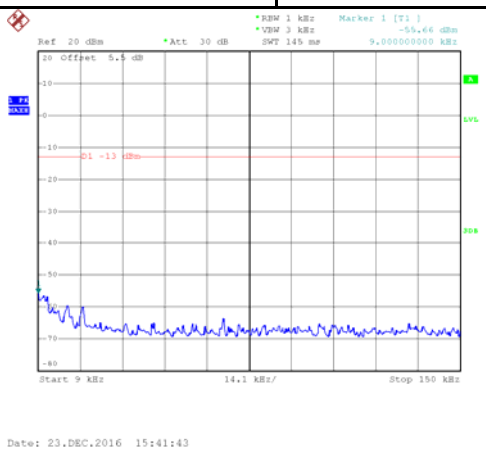
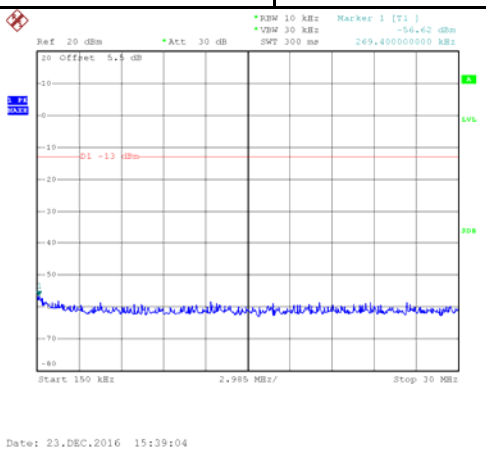
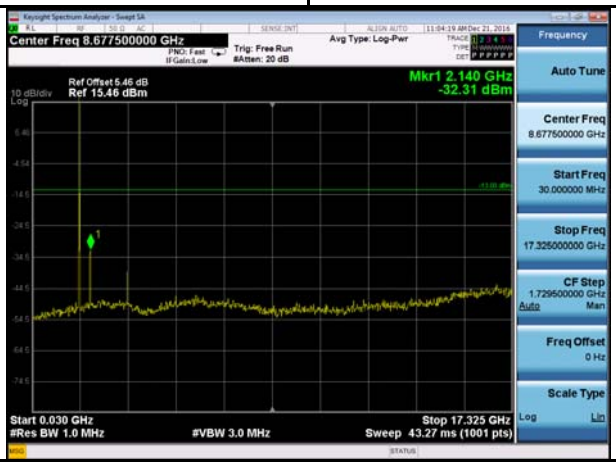
LTE Band 4_10M			
Channel	Frequency(MHz)	Channel	Frequency(MHz)
20175	1732.5	20175	1732.5
			
Channel	Frequency(MHz)	-	-
20175	1732.5	-	-
		-	

LTE Band 4_15M			
Channel	Frequency(MHz)	Channel	Frequency(MHz)
20175	1732.5	20175	1732.5
			
Channel	Frequency(MHz)	-	-
20175	1732.5	-	-
		-	

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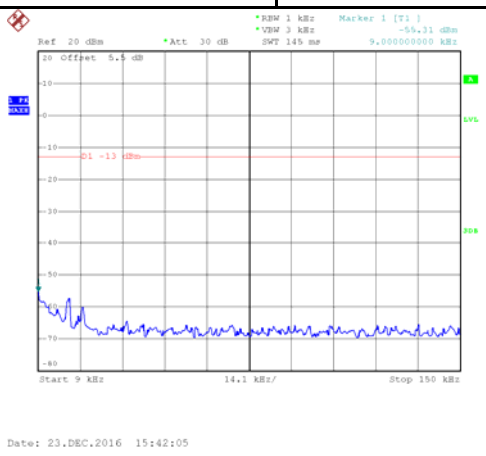
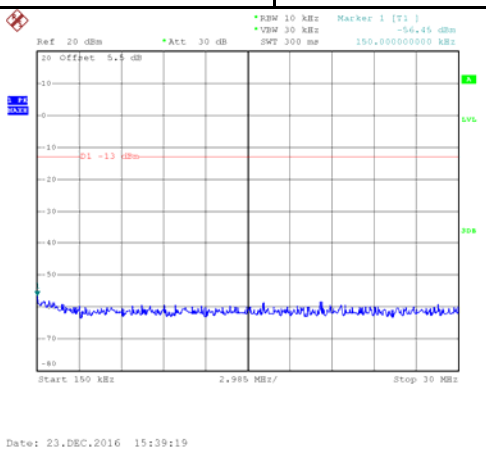
<tr><td colspan="2"> 
</td><td colspan="2"> 
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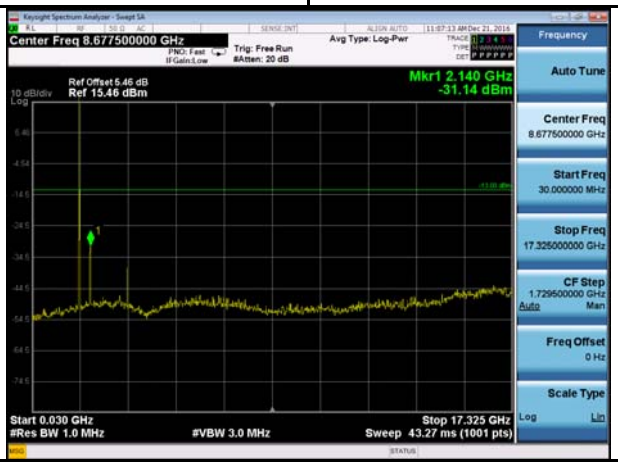
<tr><td colspan="2"> 
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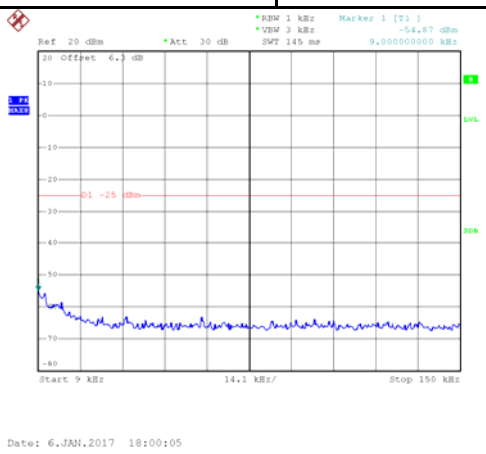
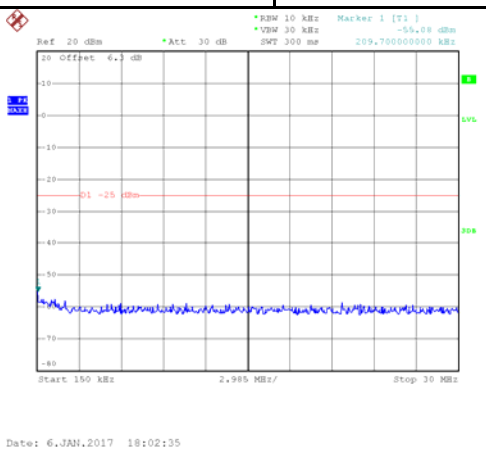
LTE Band 7_5M			
Channel	Frequency(MHz)	Channel	Frequency(MHz)
21100	2535	21100	2535
			
Channel	Frequency(MHz)	-	-
21100	2535	-	-
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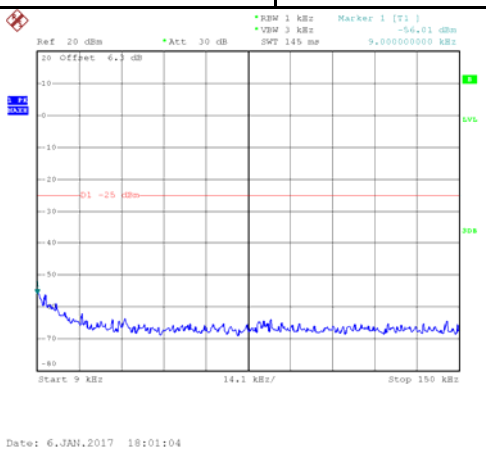
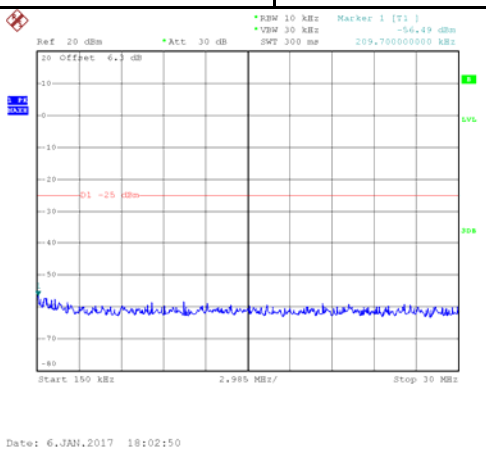
<tr><td colspan="2"> 
</td><td colspan="2"> 
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<tr><td>21100</td><td>2535</td><td>-</td><td>-</td></tr>
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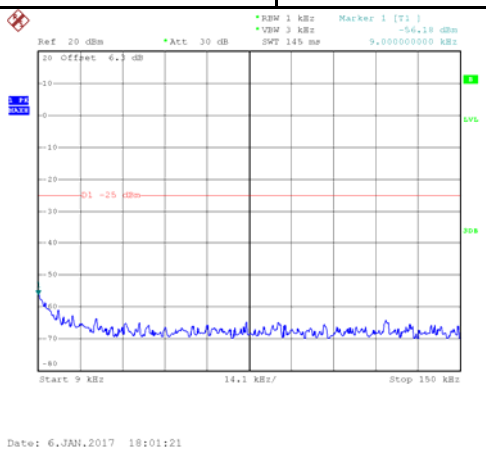
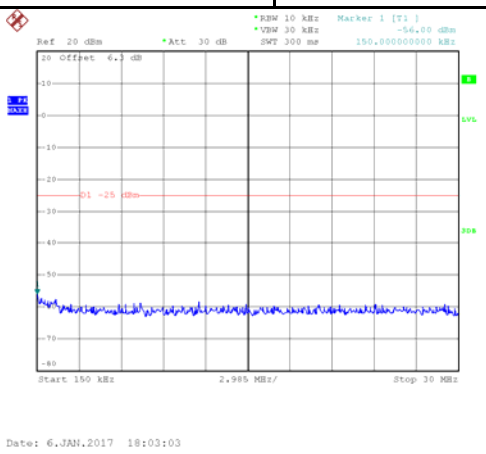
LTE Band 7_15M			
Channel	Frequency(MHz)	Channel	Frequency(MHz)
21100	2535	21100	2535
			
Channel	Frequency(MHz)	-	-
21100	2535	-	-
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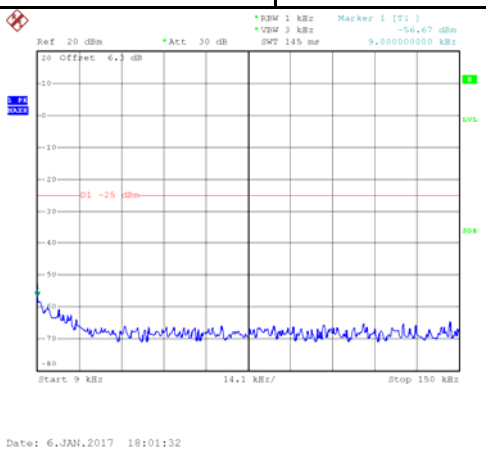
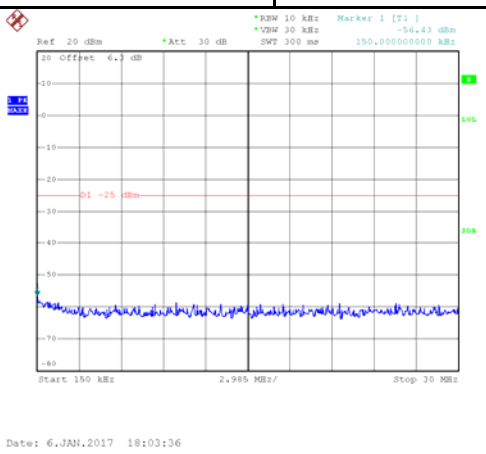
<tr><td colspan="2"> 
</td><td colspan="2"> 
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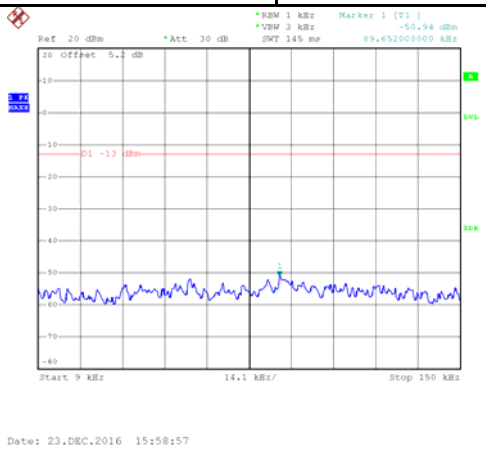
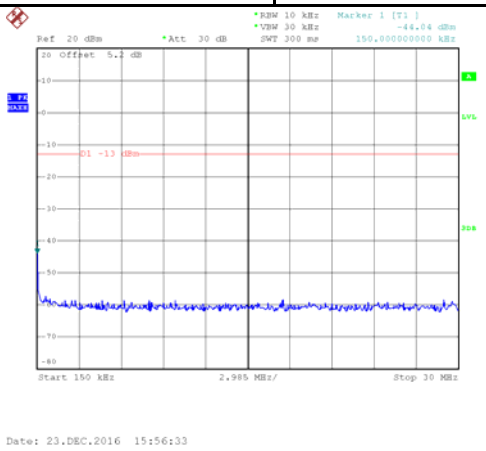
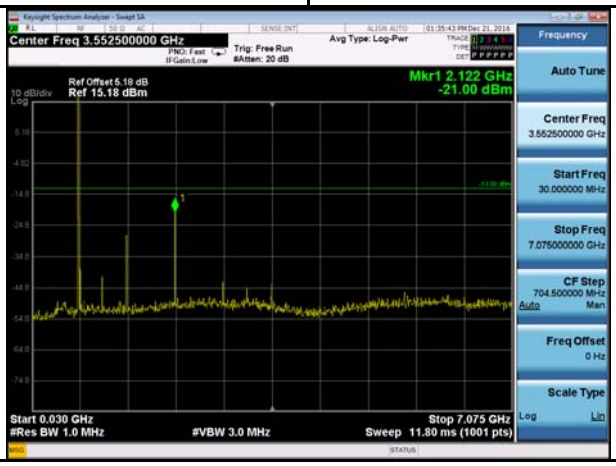
LTE Band 12_1.4M			
Channel	Frequency(MHz)	Channel	Frequency(MHz)
23095	707.5	23095	707.5
			
Channel	Frequency(MHz)	-	-
23095	707.5	-	-
		-	

LTE Band 12_3M			
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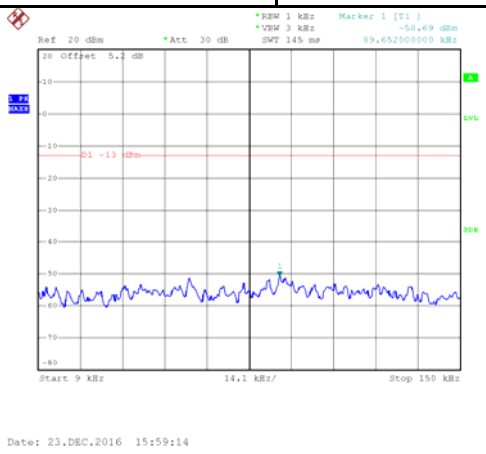
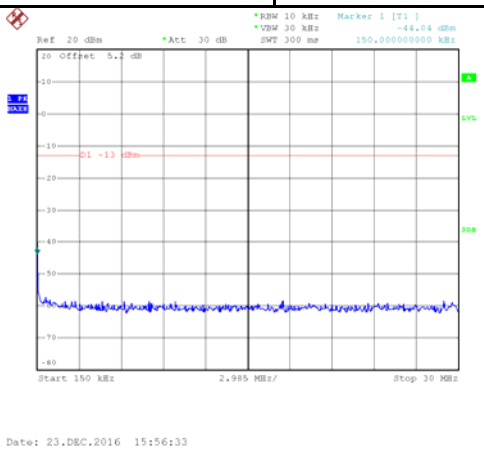
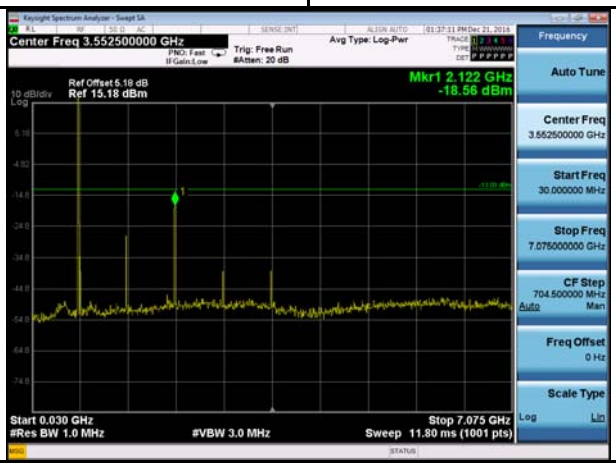
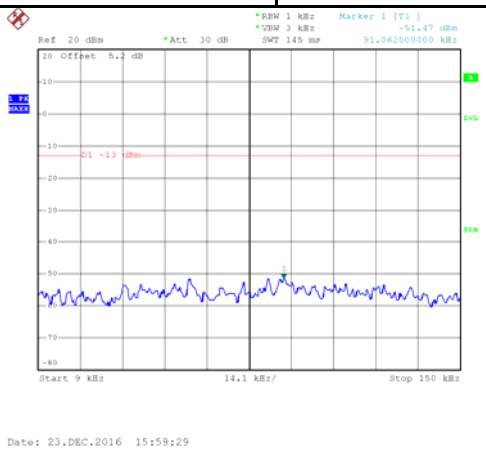
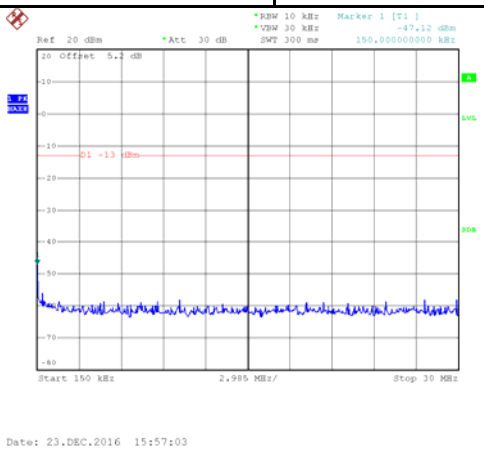
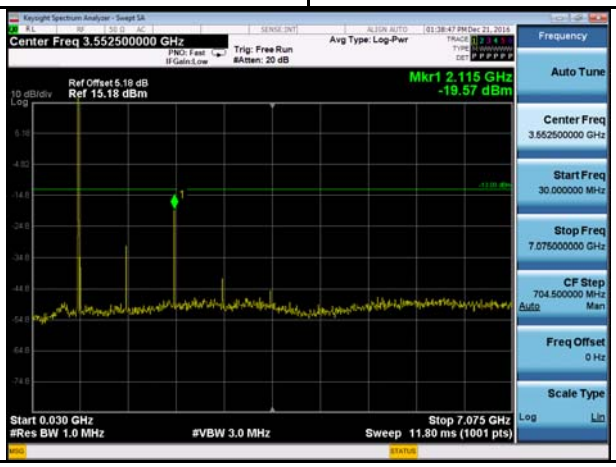
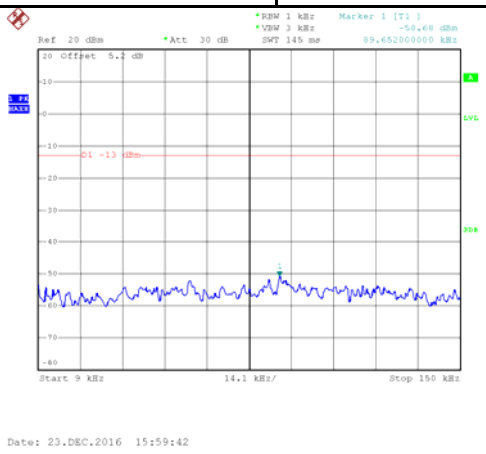
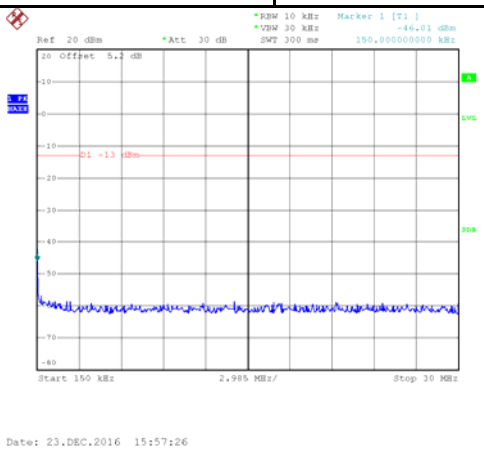
			
Channel	Frequency(MHz)	-	-
23095	707.5	-	-
		-	

LTE Band 12_5M			
Channel	Frequency(MHz)	Channel	Frequency(MHz)
23095	707.5	23095	707.5
			
Channel	Frequency(MHz)	-	-
23095	707.5	-	-
		-	

LTE Band 12_10M			
Channel	Frequency(MHz)	Channel	Frequency(MHz)
23095	707.5	23095	707.5
			
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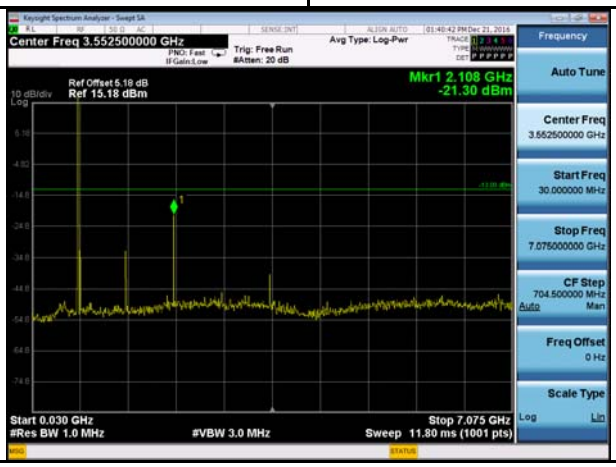
23095	707.5	-	-
		-	

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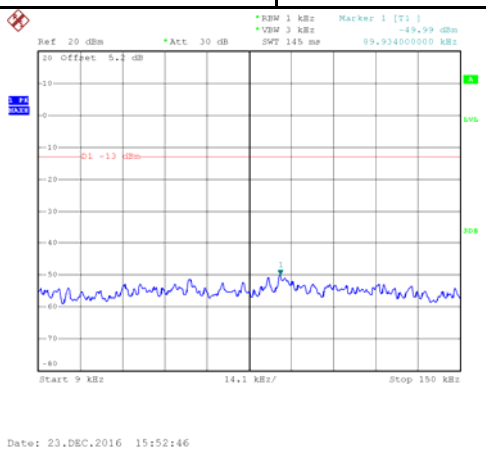
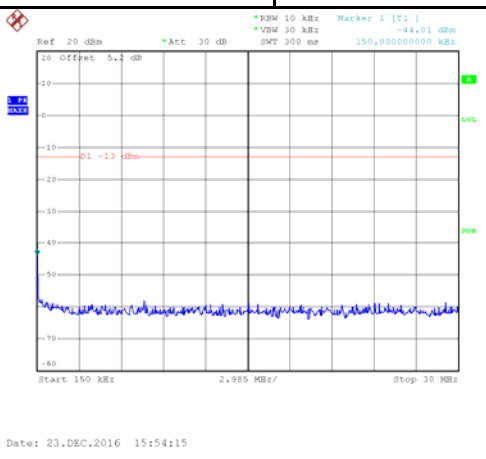
<tr><td colspan="2"> 
</td><td colspan="2"> 
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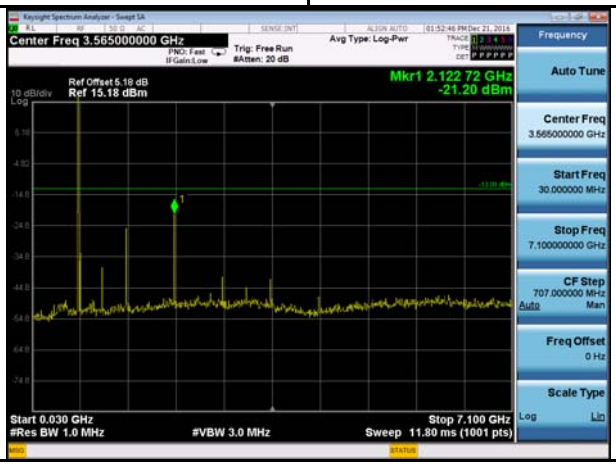
<tr><td colspan="2"> 
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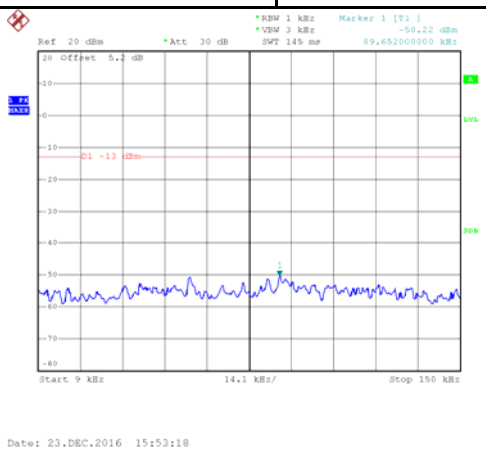
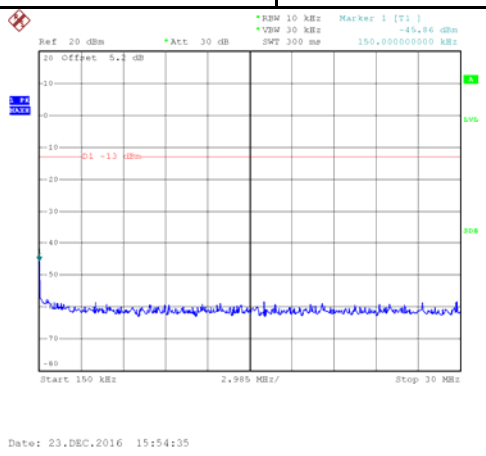
<tr><td>23790</td><td>710.0</td><td>23790</td><td>710.0</td></tr>
<tr><td colspan="2"> 
</td><td colspan="2"> 
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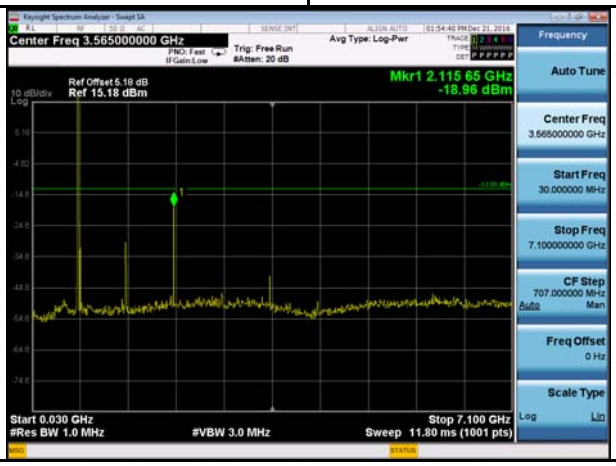
<tr><td colspan="2"> 
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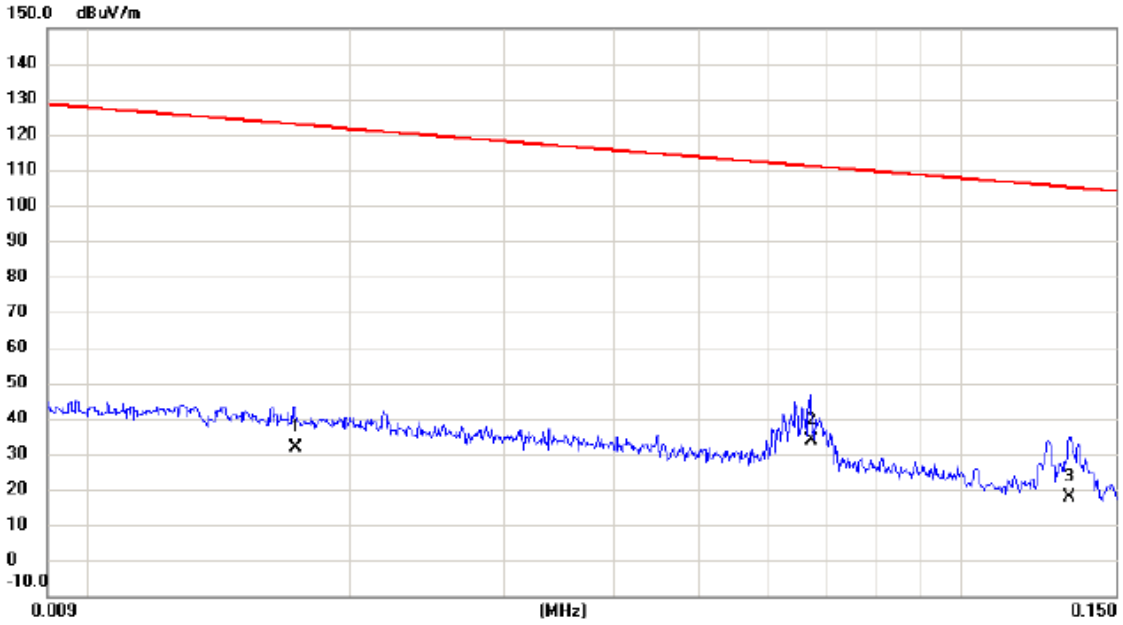
ATTACHMENT D - RADIATED EMISSION

Test Mode:	TX Mode (Adapter: PHITEK)

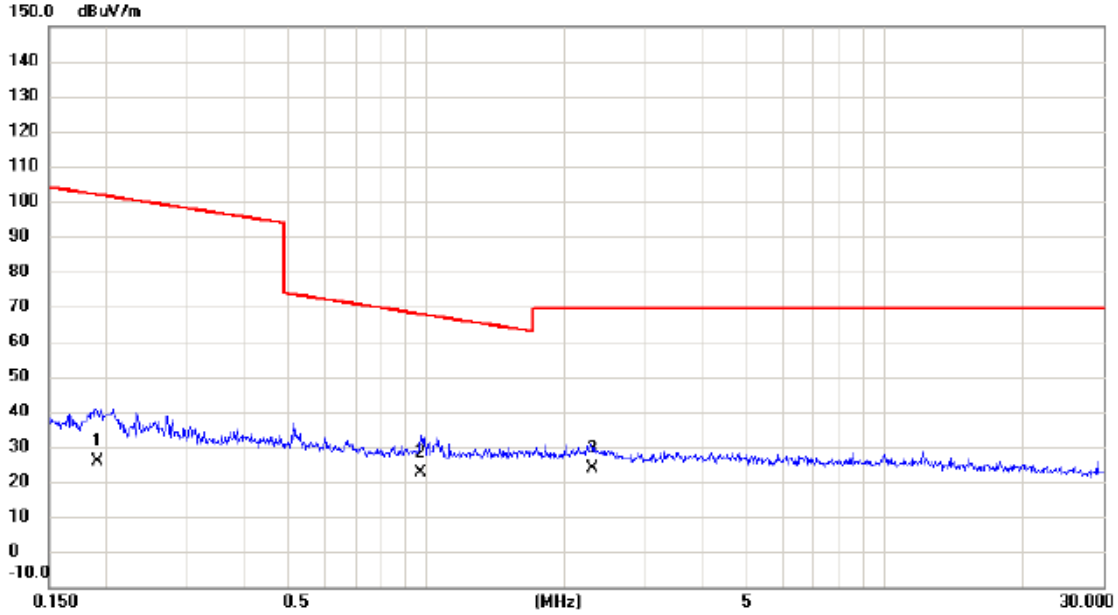
Ant 0°



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.0173	7.94	23.68	31.62	122.84	-91.22	AVG	
2	*	0.0673	14.21	19.62	33.83	111.04	-77.21	AVG	
3		0.1330	-0.80	18.64	17.84	105.13	-87.29	AVG	

Test Mode:	TX Mode (Adapter: PHITEK)

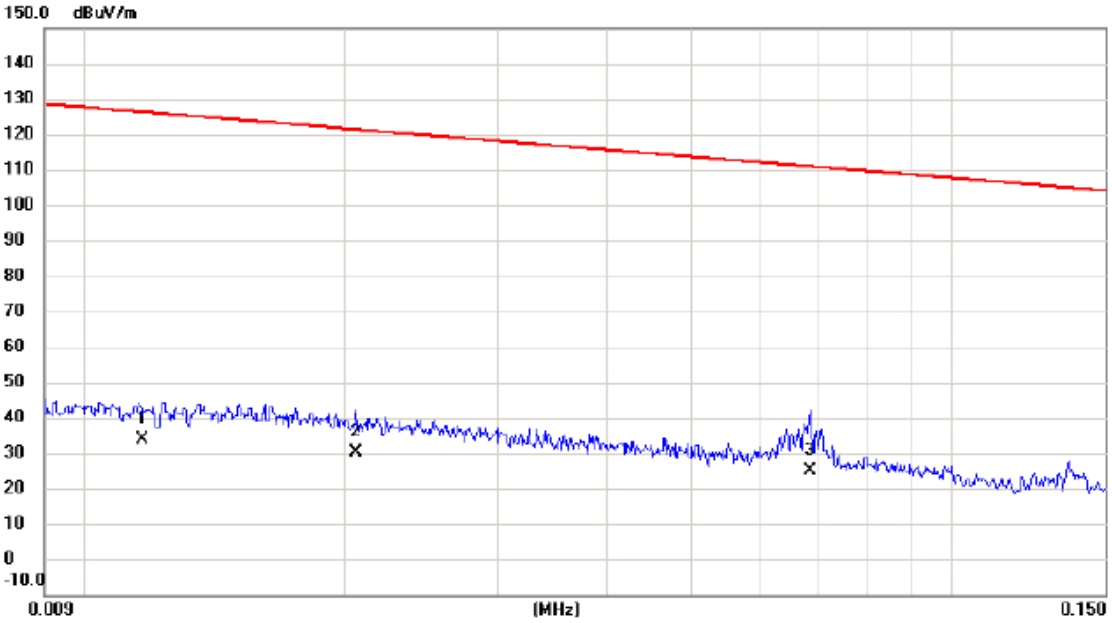
Ant 0°



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.1914	7.14	18.70	25.84	101.97	-76.13	AVG	
2	*	0.9735	4.82	17.76	22.58	67.84	-45.26	QP	
3		2.2968	6.19	17.52	23.71	69.54	-45.83	QP	

Test Mode:	TX Mode (Adapter: PHITEK)

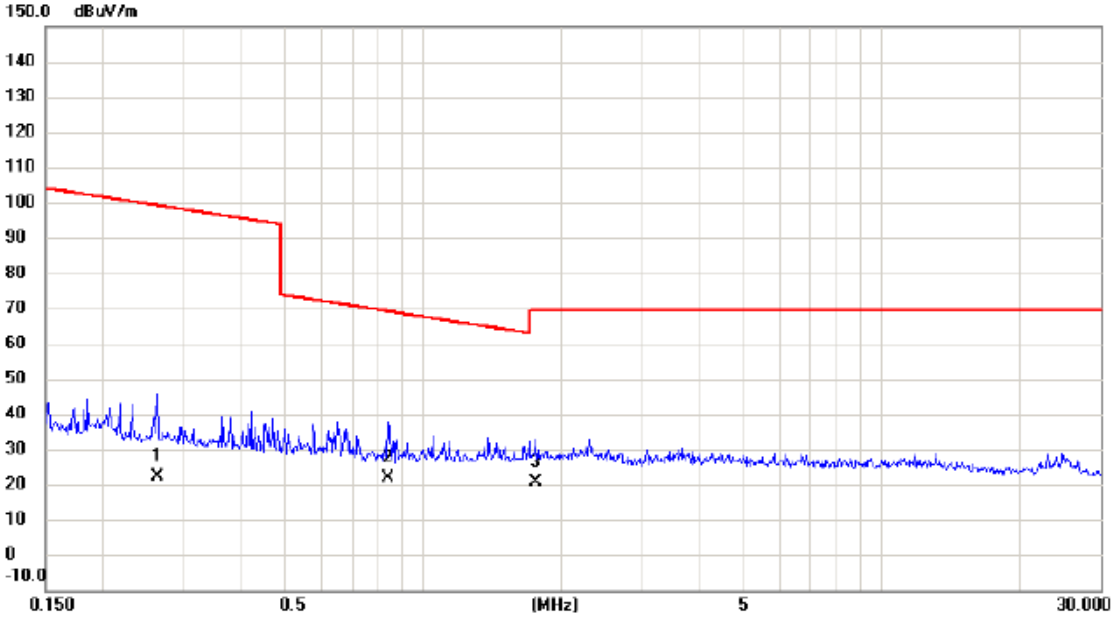
Ant 90°



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.0117	9.70	24.02	33.72	126.24	-92.52	AVG	
2		0.0206	6.77	23.45	30.22	121.33	-91.11	AVG	
3	*	0.0686	5.52	19.61	25.13	110.88	-85.75	AVG	

Test Mode:	TX Mode (Adapter: PHITEK)

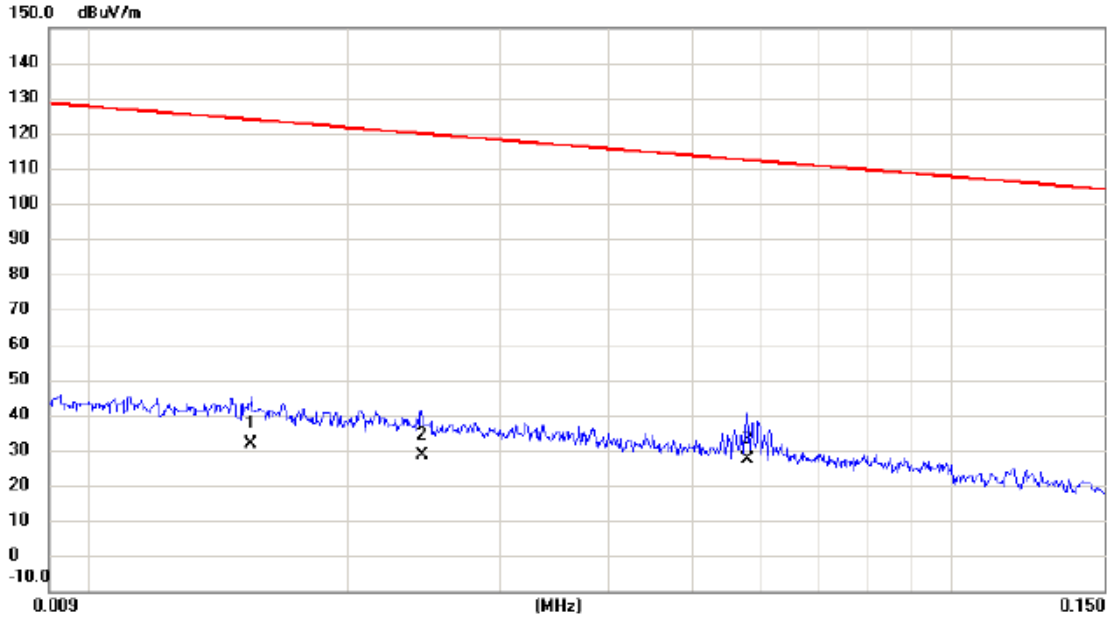
Ant 90°



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.2630	3.62	18.63	22.25	99.21	-76.96	AVG	
2	*	0.8393	3.69	18.19	21.88	69.13	-47.25	QP	
3		1.7530	2.85	17.85	20.70	69.54	-48.84	QP	

Test Mode:	TX Mode (Adapter: HUNTKEY)

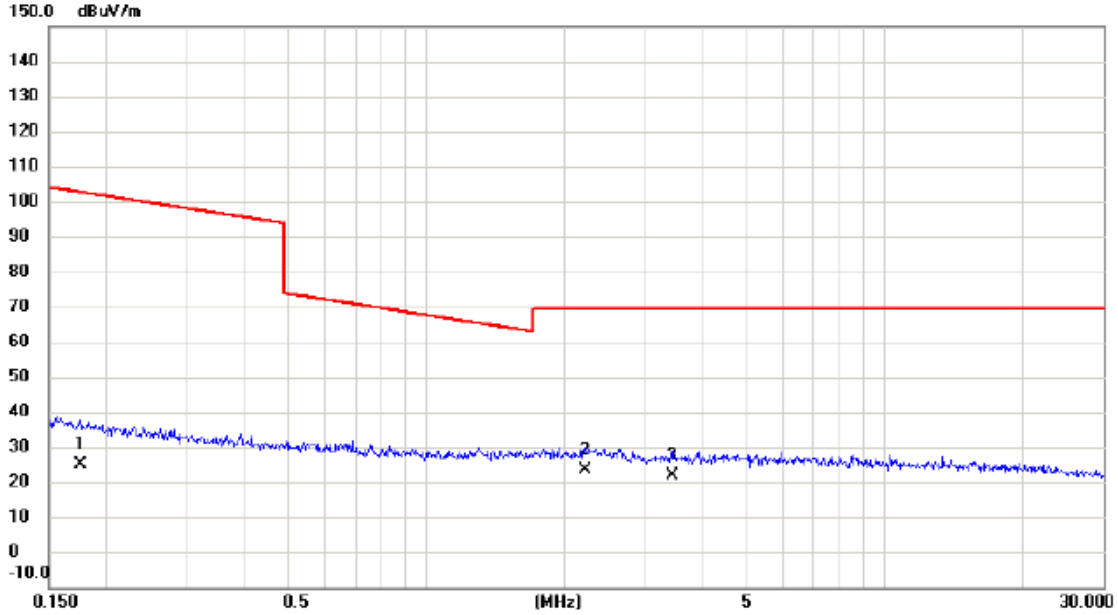
Ant 0°



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.0154	8.02	23.80	31.82	123.85	-92.03	AVG	
2		0.0244	5.54	22.98	28.52	119.86	-91.34	AVG	
3	*	0.0580	7.60	19.73	27.33	112.34	-85.01	AVG	

Test Mode:	TX Mode (Adapter: HUNTKEY)

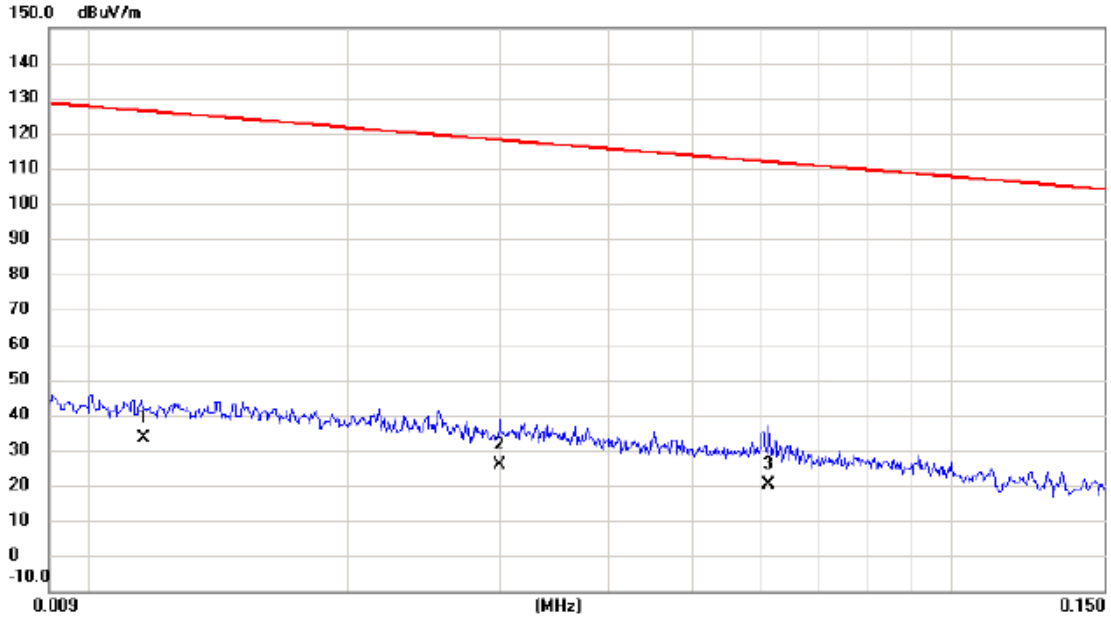
Ant 0°



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.1758	6.43	18.71	25.14	102.71	-77.57	AVG	
2	*	2.2250	5.89	17.62	23.51	69.54	-46.03	QP	
3		3.4356	4.39	17.55	21.94	69.54	-47.60	QP	

Test Mode:	TX Mode (Adapter: HUNTKEY)

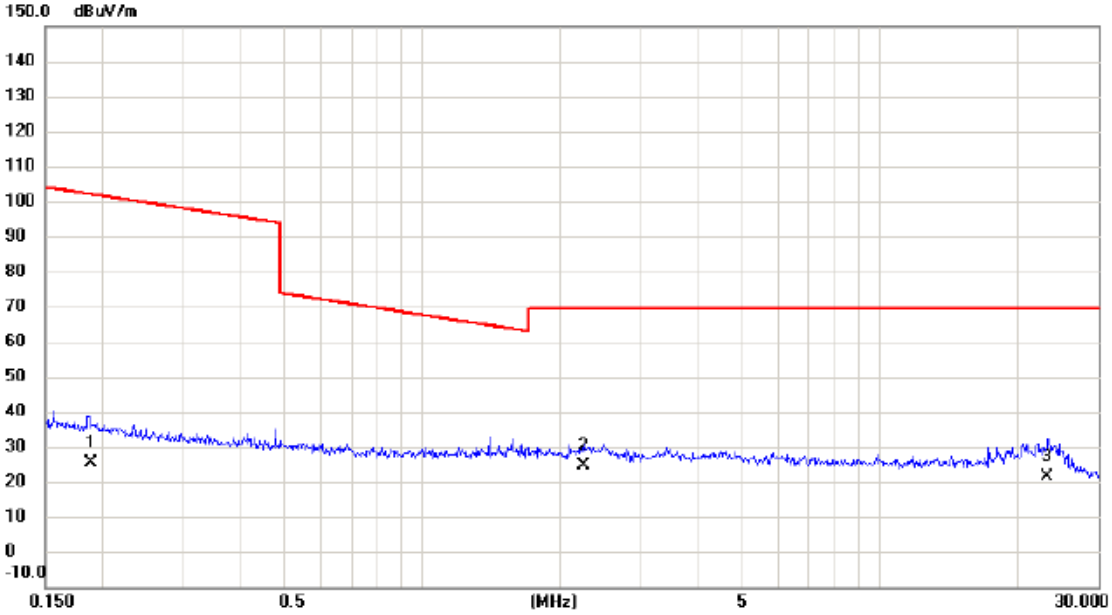
Ant 90°



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.0116	9.50	24.02	33.52	126.32	-92.80	AVG	
2		0.0300	3.53	22.29	25.82	118.06	-92.24	AVG	
3	*	0.0613	0.44	19.69	20.13	111.86	-91.73	AVG	

Test Mode:	TX Mode (Adapter: HUNTKEY)

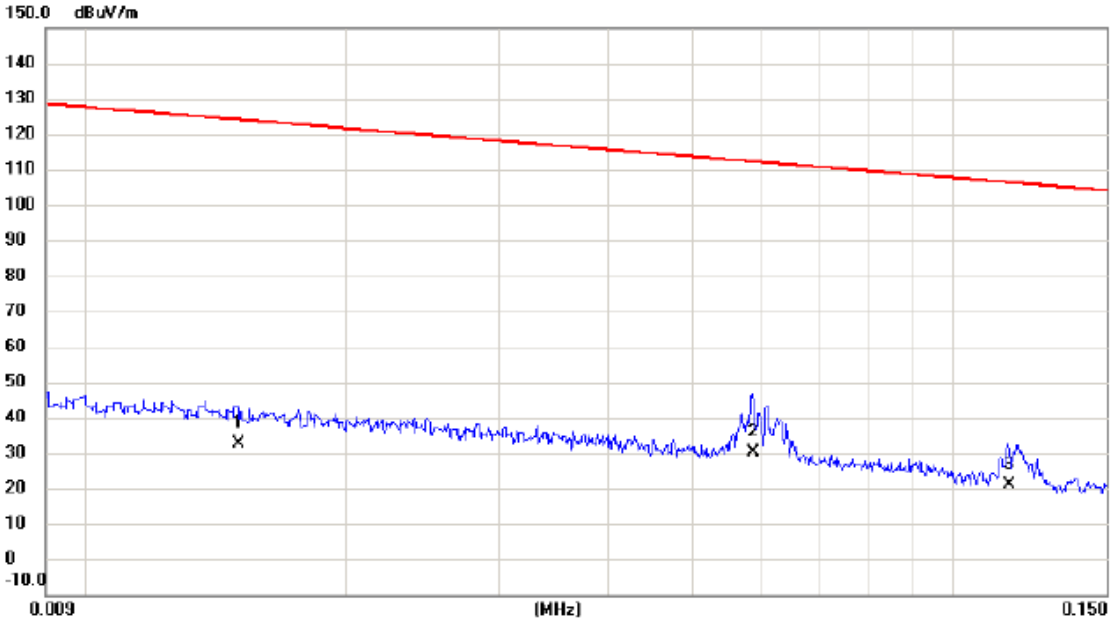
Ant 90°



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.1884	6.64	18.70	25.34	102.10	-76.76	AVG	
2	*	2.2486	7.02	17.59	24.61	69.54	-44.93	QP	
3		23.2633	6.73	14.74	21.47	69.54	-48.07	QP	

Test Mode:	TX Mode (Adapter: BYD)

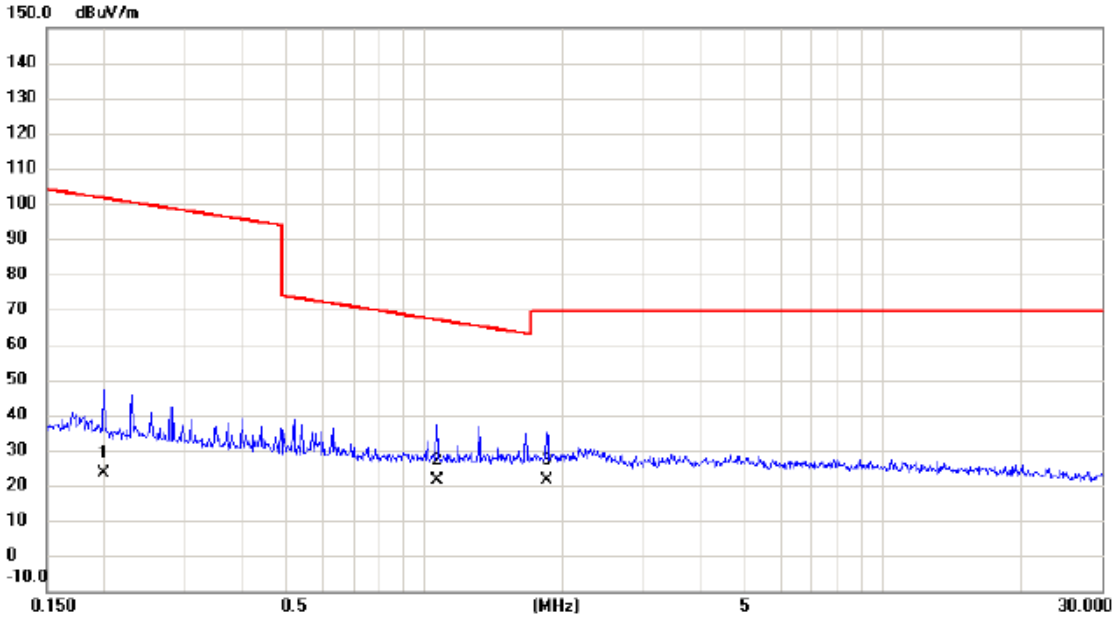
Ant 0°



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.0150	8.80	23.82	32.62	124.08	-91.46	AVG	
2	*	0.0588	10.41	19.72	30.13	112.22	-82.09	AVG	
3		0.1158	2.31	18.52	20.83	106.33	-85.50	AVG	

Test Mode:	TX Mode (Adapter: BYD)

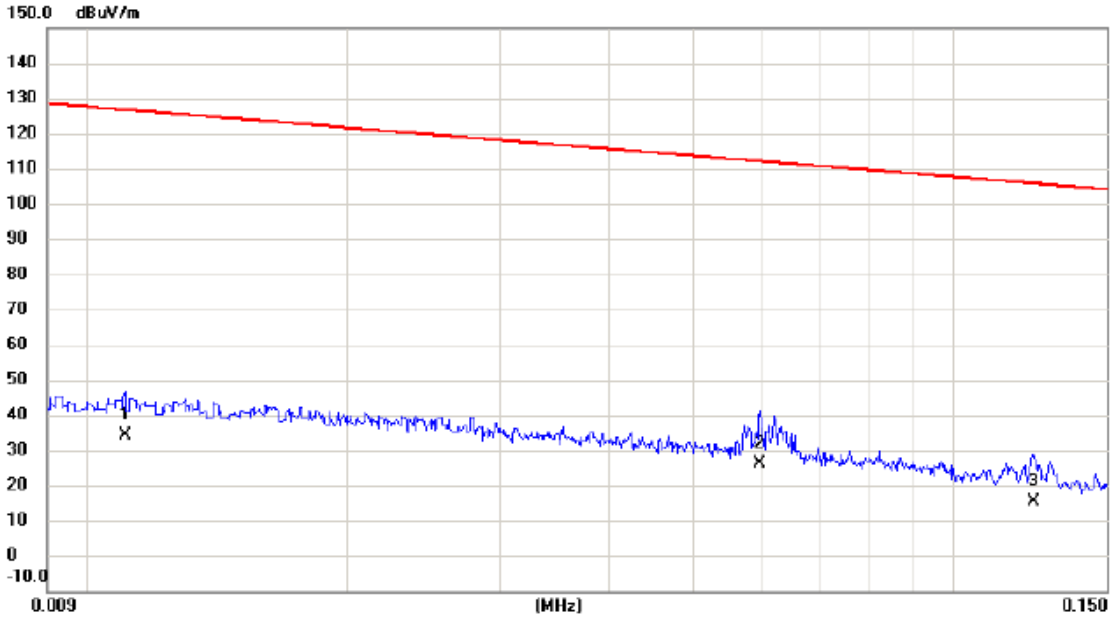
Ant 0°



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.1997	4.75	18.69	23.44	101.60	-78.16	AVG	
2	*	1.0653	3.89	17.69	21.58	67.05	-45.47	QP	
3		1.8483	3.53	17.87	21.40	69.54	-48.14	QP	

Test Mode:	TX Mode (Adapter: BYD)

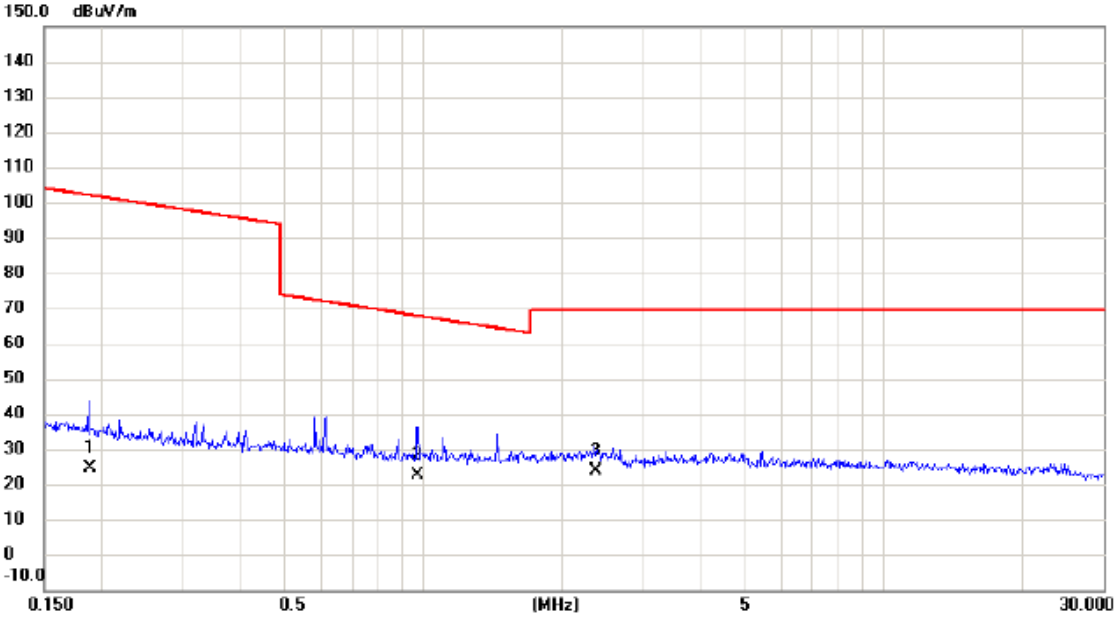
Ant 90°



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.0111	10.07	24.05	34.12	126.70	-92.58	AVG	
2	*	0.0598	6.42	19.71	26.13	112.07	-85.94	AVG	
3		0.1235	-3.24	18.57	15.33	105.77	-90.44	AVG	

Test Mode:	TX Mode (Adapter: BYD)

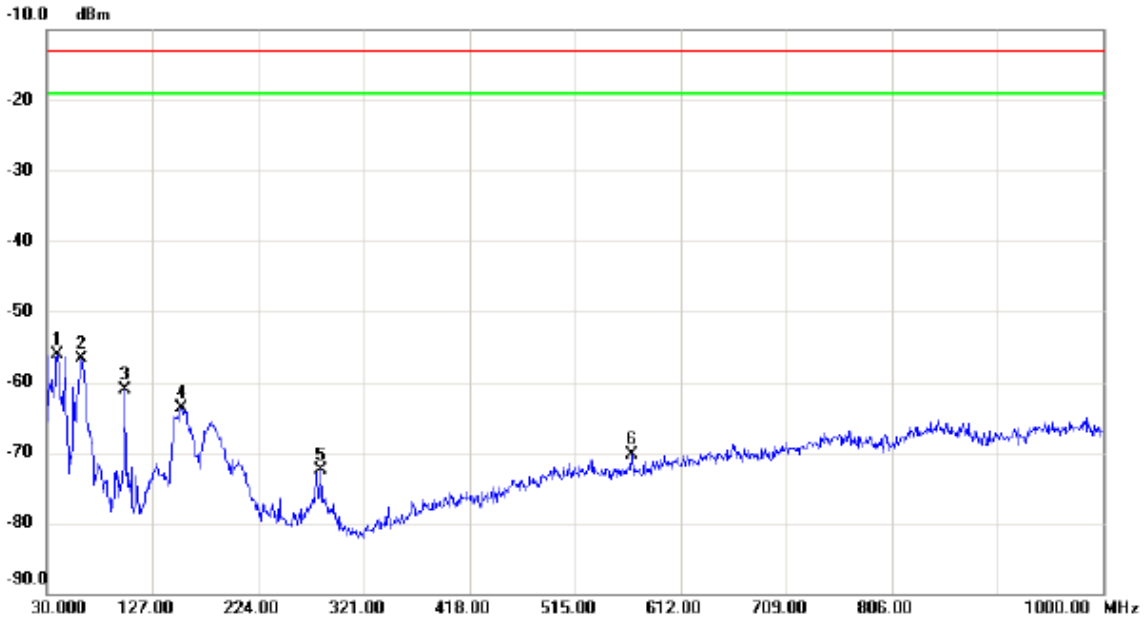
Ant 90°



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		0.1884	5.84	18.70	24.54	102.10	-77.56	AVG	
2	*	0.9735	4.92	17.76	22.68	67.84	-45.16	QP	
3		2.3710	6.18	17.43	23.61	69.54	-45.93	QP	

Test Mode:	LTE Band 4_TX CH20175_1.4M

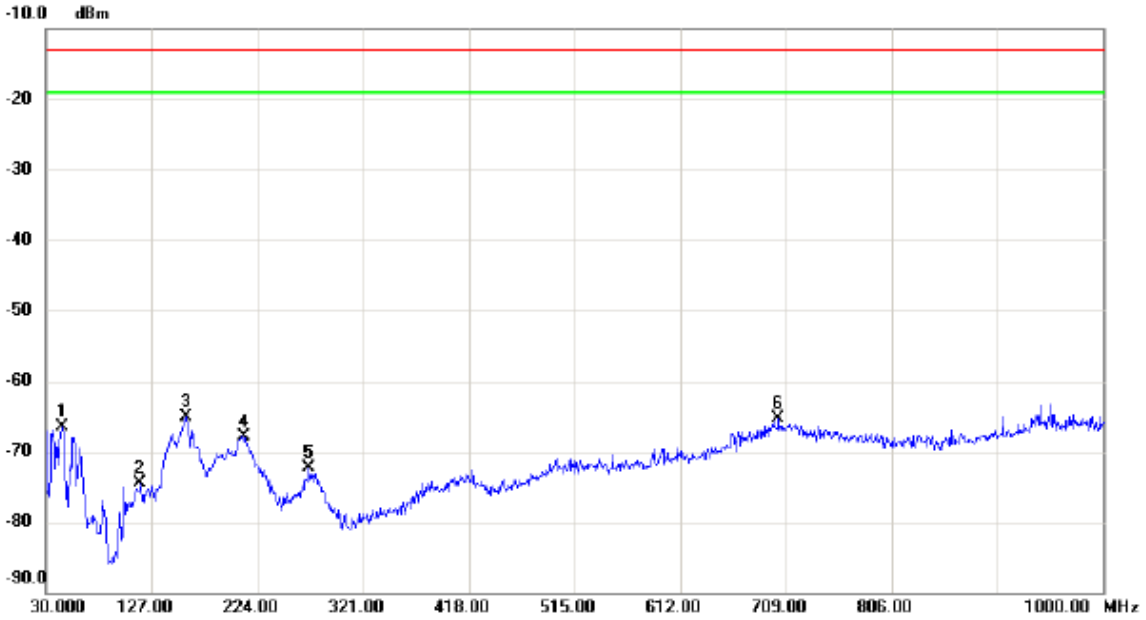
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	*	39.700	-58.03	1.90	-56.13	-13.00	-43.13	peak	
2		62.010	-57.49	0.73	-56.76	-13.00	-43.76	peak	
3		101.780	-59.74	-1.31	-61.05	-13.00	-48.05	peak	
4		153.190	-66.87	3.16	-63.71	-13.00	-50.71	peak	
5		281.230	-75.20	2.60	-72.60	-13.00	-59.60	peak	
6		567.380	-78.20	7.88	-70.32	-13.00	-57.32	peak	

Test Mode:	LTE Band 4_TX CH20175_1.4M

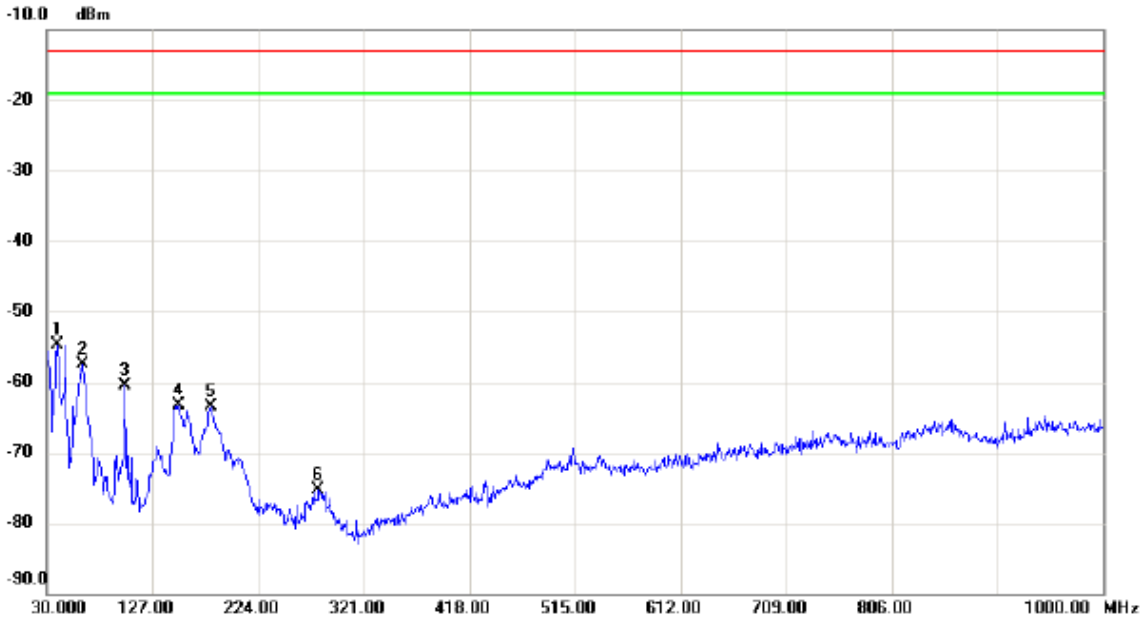
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1		44.550	-69.38	2.97	-66.41	-13.00	-53.41	peak	
2		116.330	-71.50	-3.07	-74.57	-13.00	-61.57	peak	
3	*	158.040	-68.17	3.04	-65.13	-13.00	-52.13	peak	
4		211.390	-66.25	-1.59	-67.84	-13.00	-54.84	peak	
5		271.530	-75.22	2.94	-72.28	-13.00	-59.28	peak	
6		702.210	-79.32	13.93	-65.39	-13.00	-52.39	peak	

Test Mode:	LTE Band 4_TX CH20175_20M

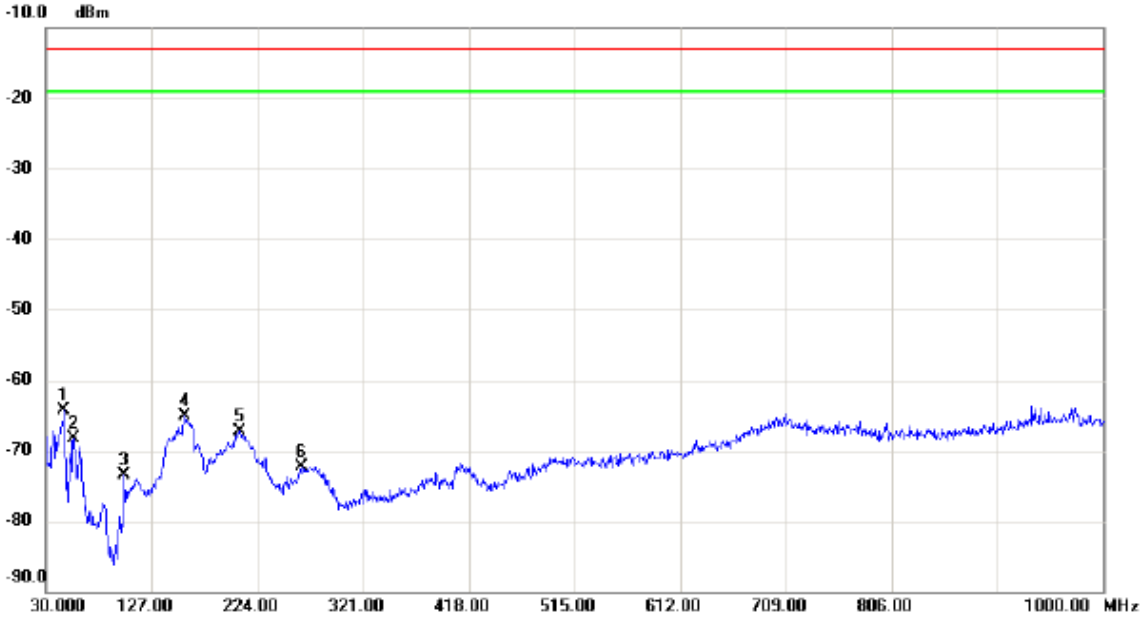
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	*	39.700	-56.58	1.90	-54.68	-13.00	-41.68	peak	
2		62.980	-58.29	0.85	-57.44	-13.00	-44.44	peak	
3		101.780	-59.23	-1.31	-60.54	-13.00	-47.54	peak	
4		150.280	-66.50	3.15	-63.35	-13.00	-50.35	peak	
5		180.350	-64.17	0.68	-63.49	-13.00	-50.49	peak	
6		279.290	-77.97	2.62	-75.35	-13.00	-62.35	peak	

Test Mode:	LTE Band 4_TX CH20175_20M

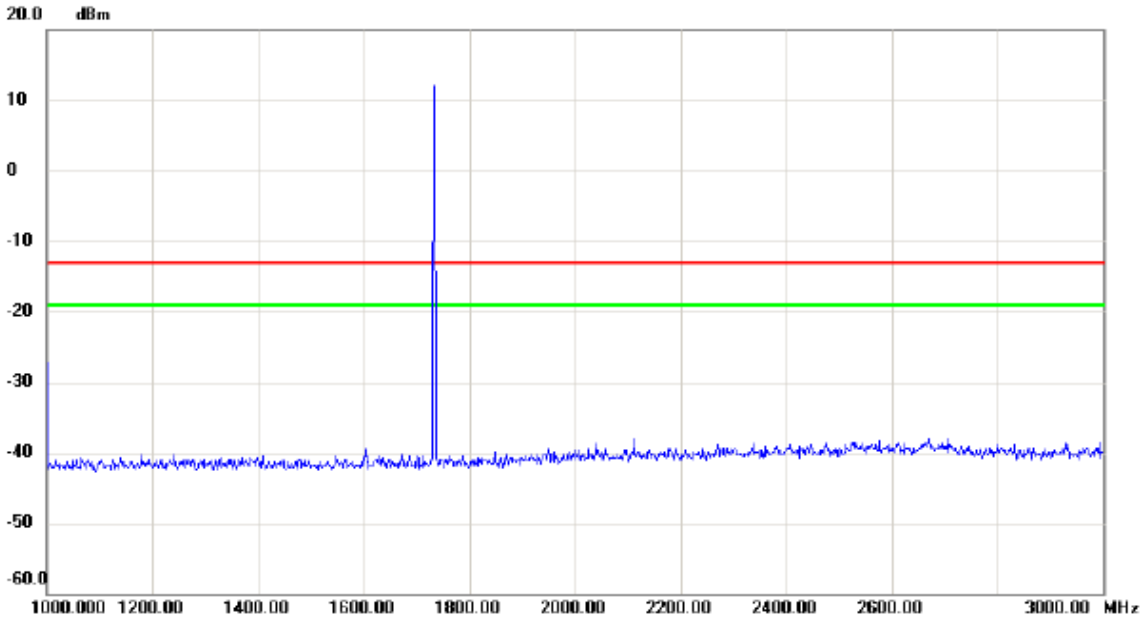
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	*	46.490	-66.74	2.52	-64.22	-13.00	-51.22	peak	
2		55.220	-70.92	2.53	-68.39	-13.00	-55.39	peak	
3		101.780	-69.90	-3.56	-73.46	-13.00	-60.46	peak	
4		157.070	-68.27	3.19	-65.08	-13.00	-52.08	peak	
5		207.510	-65.30	-1.93	-67.23	-13.00	-54.23	peak	
6		264.740	-74.72	2.45	-72.27	-13.00	-59.27	peak	

Test Mode:	LTE Band 4_TX CH20175_1.4M

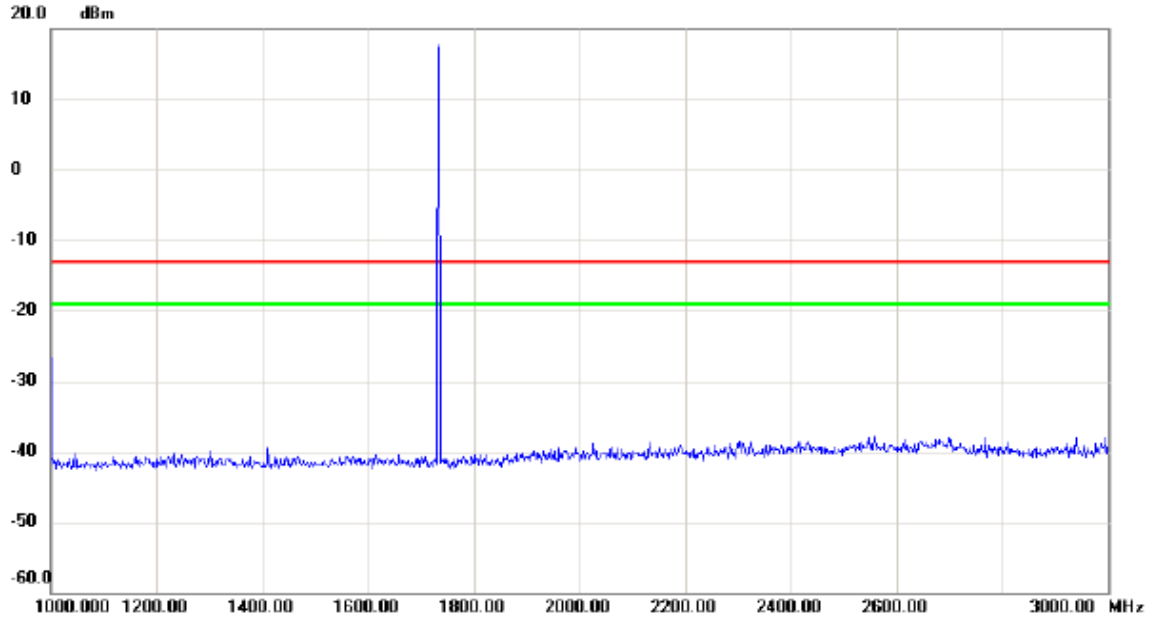
Vertical



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

Test Mode:	LTE Band 4_TX CH20175_1.4M

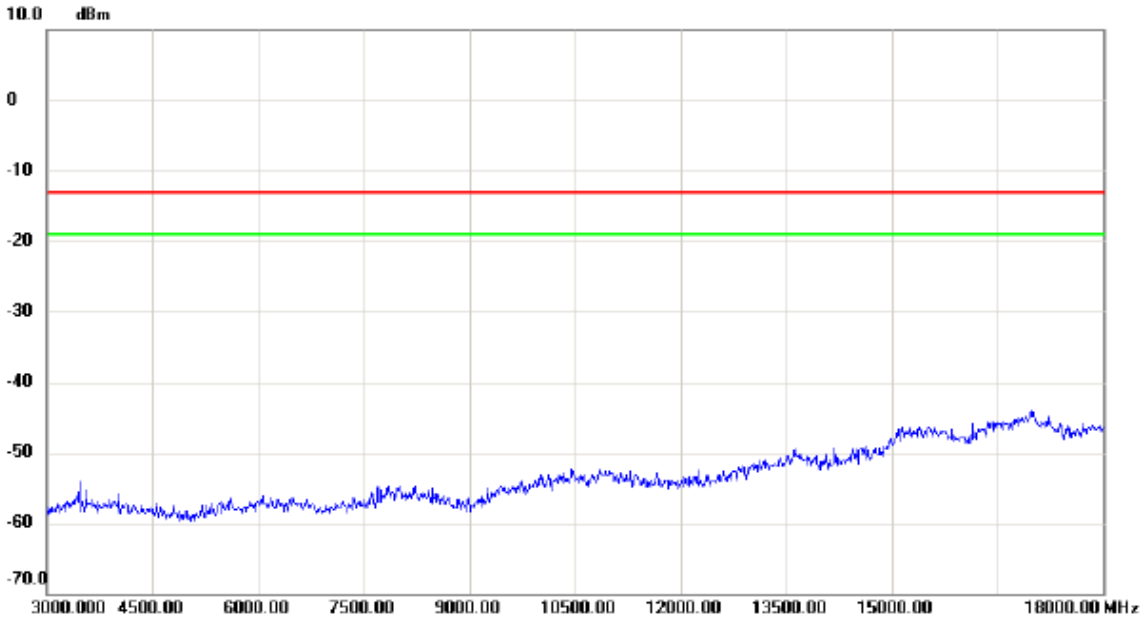
Horizontal



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

Test Mode:	LTE Band 4_TX CH20175_1.4M

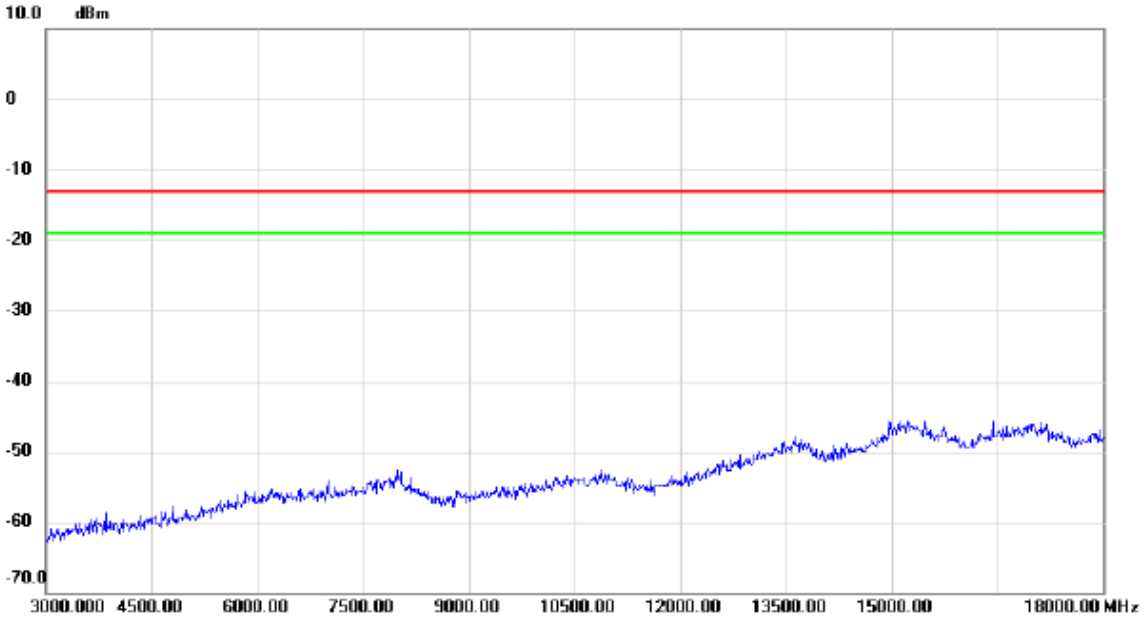
Vertical



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

Test Mode:	LTE Band 4_TX CH20175_1.4M

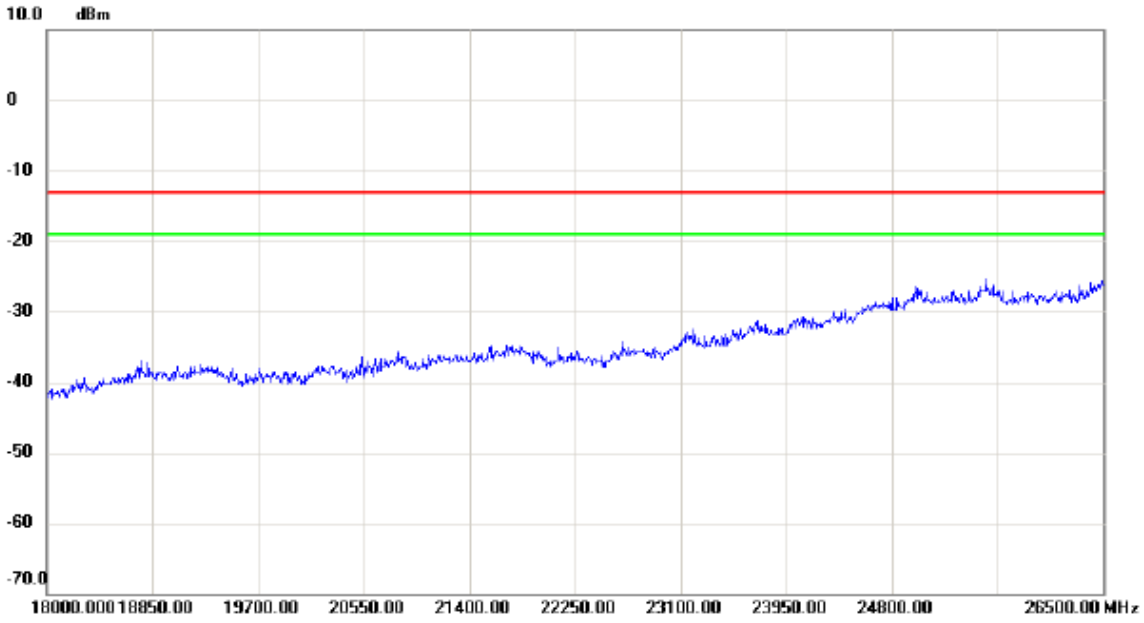
Horizontal



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

Test Mode:	LTE Band 4_TX CH20175_1.4M

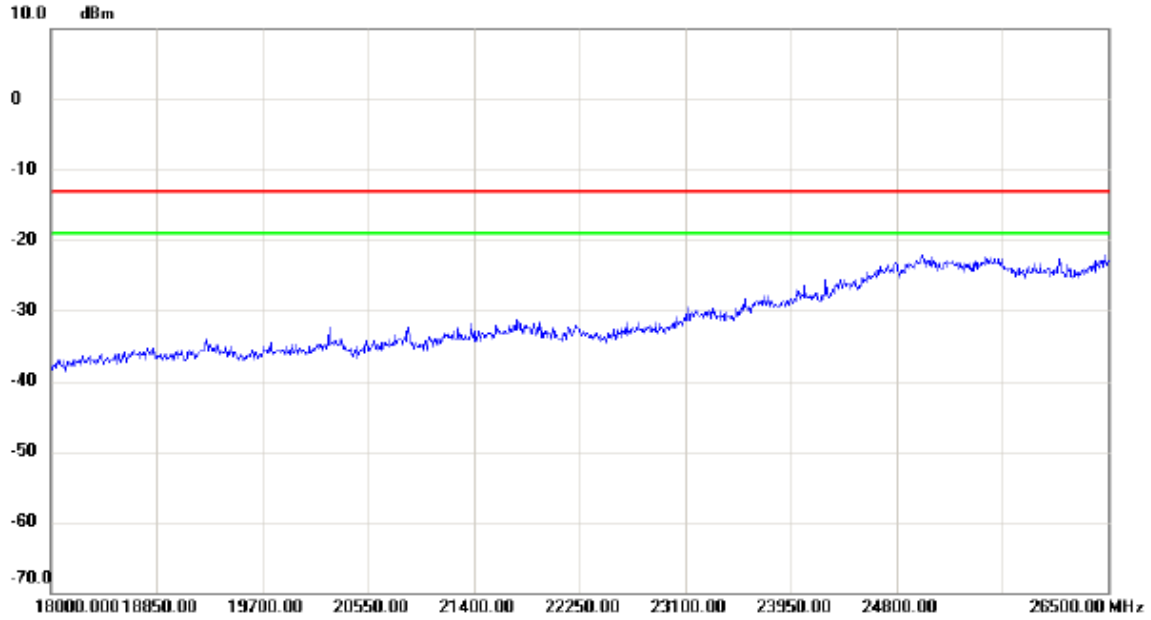
Vertical



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

Test Mode:	LTE Band 4_TX CH20175_1.4M

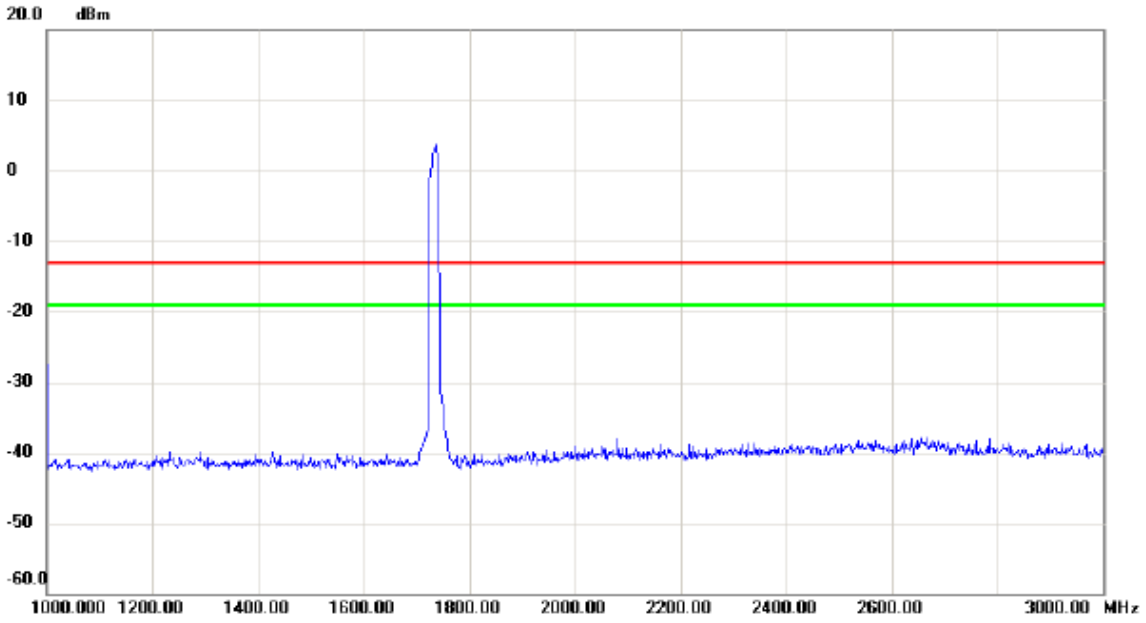
Horizontal



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

Test Mode:	LTE Band 4_TX CH20175_20M

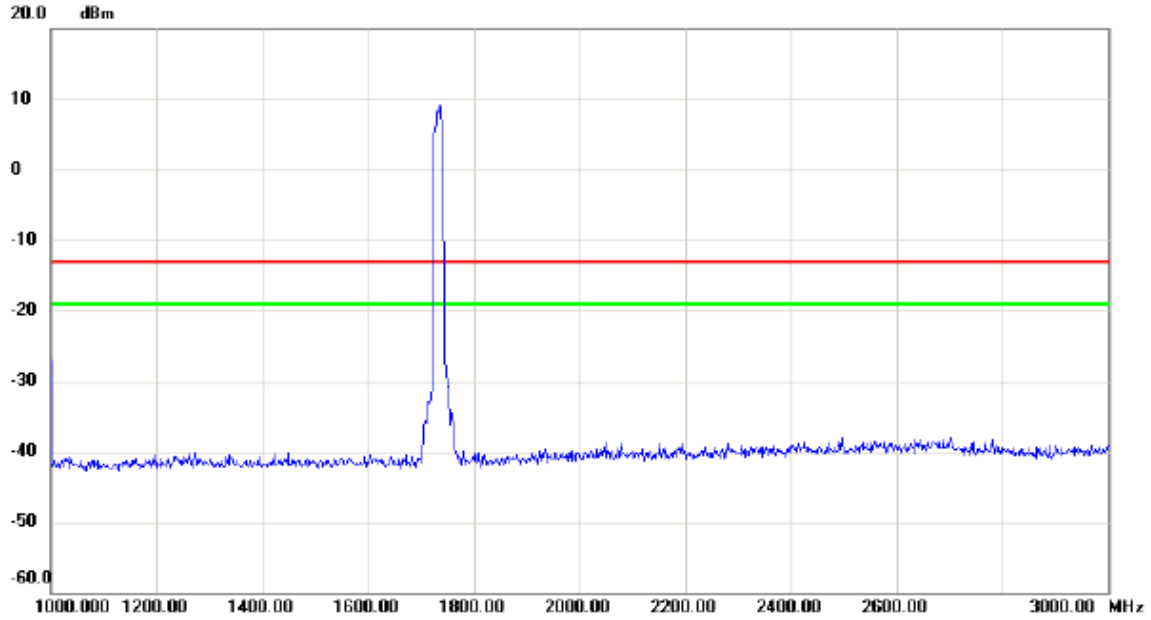
Vertical



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

Test Mode:	LTE Band 4_TX CH20175_20M

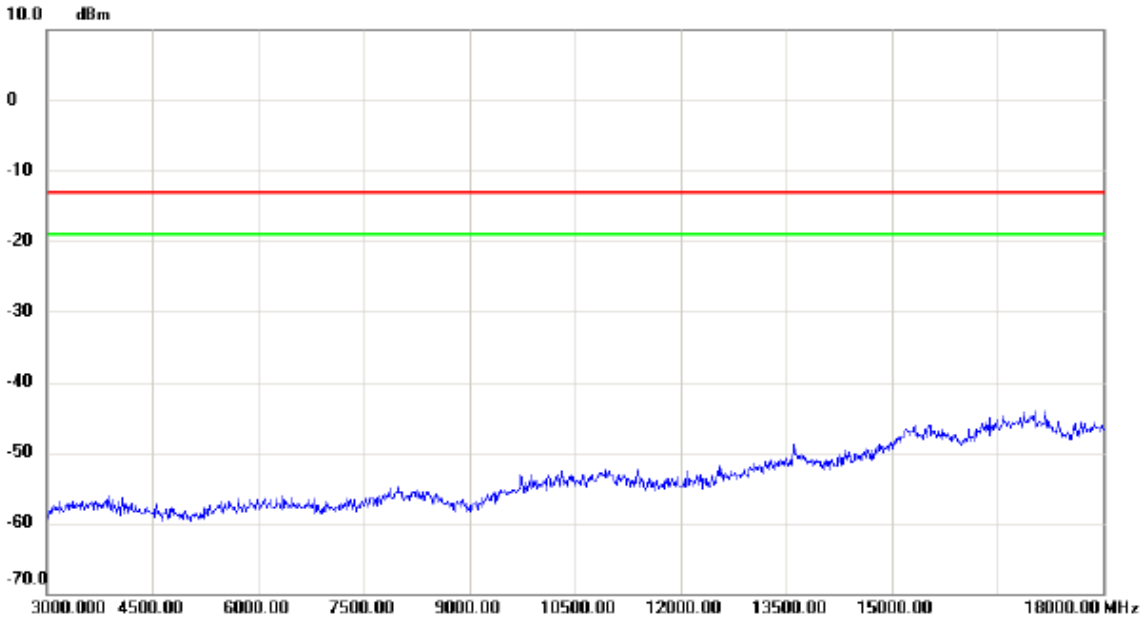
Horizontal



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

Test Mode:	LTE Band 4_TX CH20175_20M

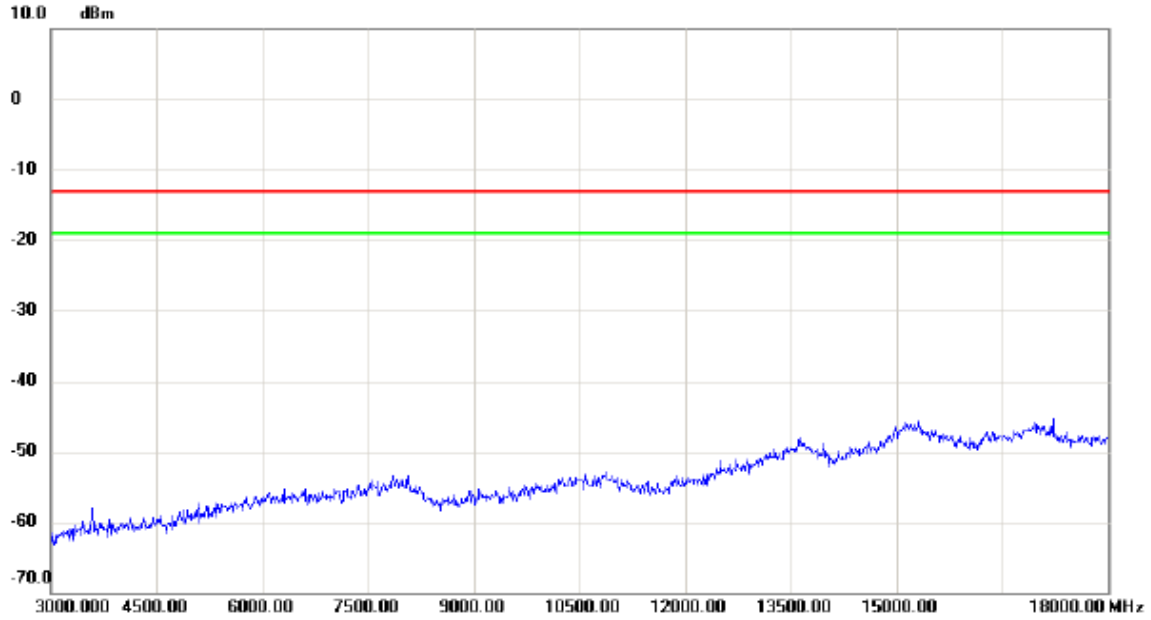
Vertical



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

Test Mode:	LTE Band 4_TX CH20175_20M

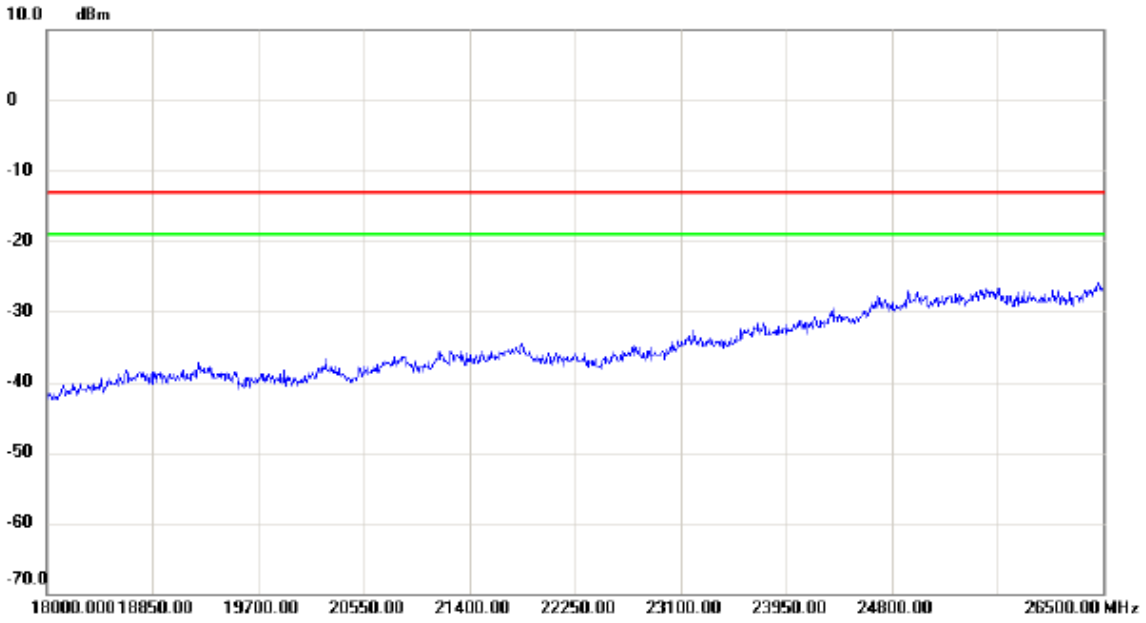
Horizontal



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

Test Mode:	LTE Band 4_TX CH20175_20M

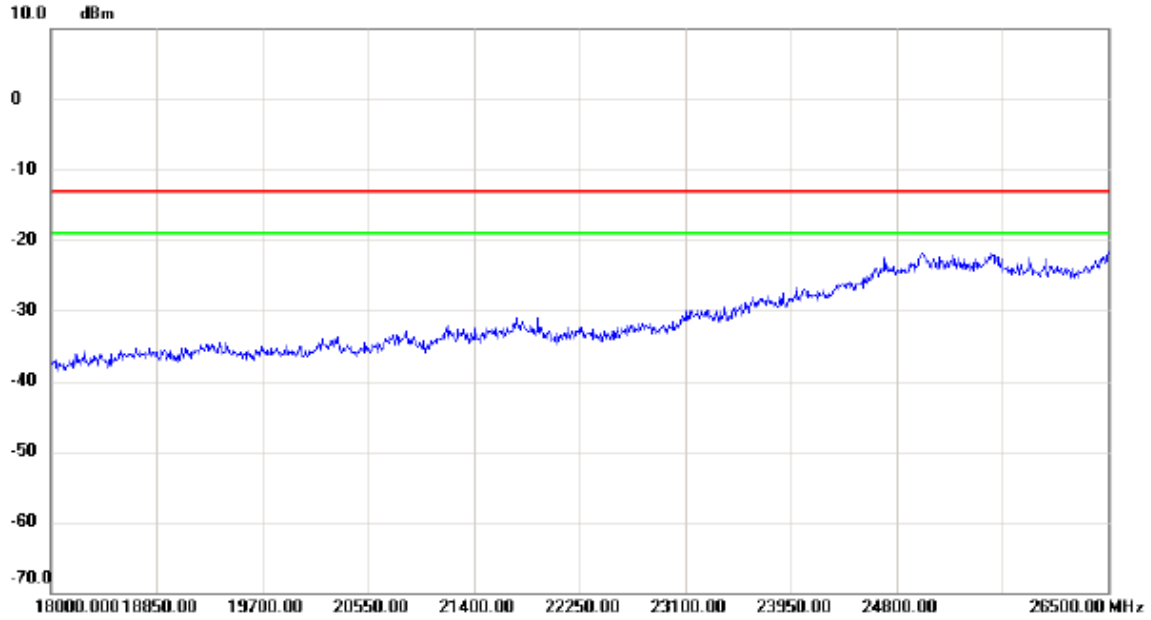
Vertical



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

Test Mode:	LTE Band 4_TX CH20175_20M

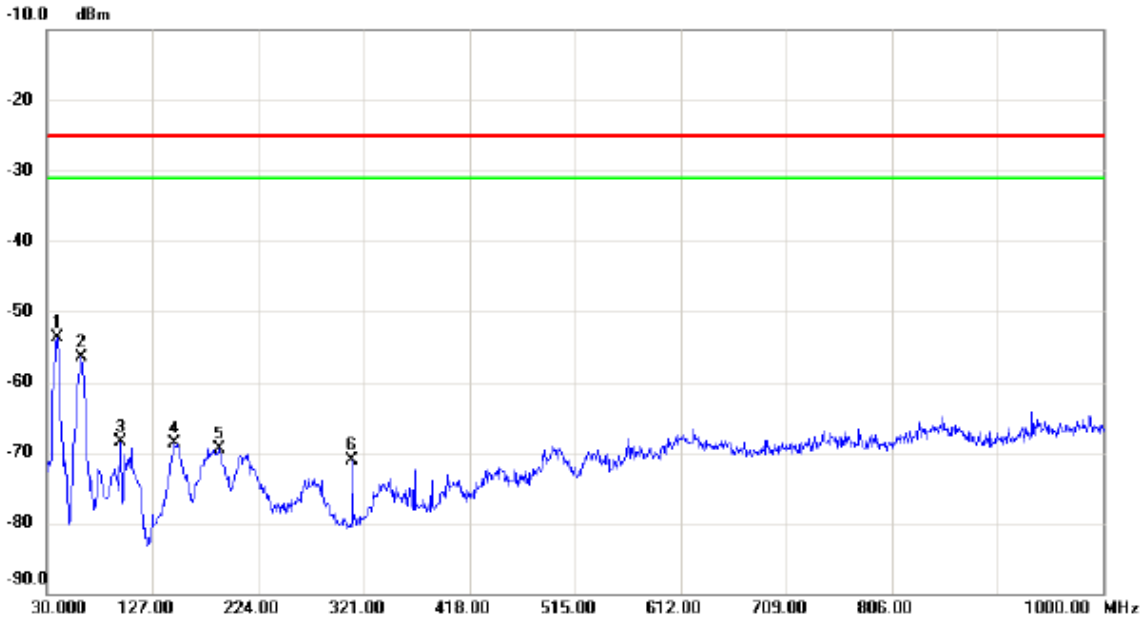
Horizontal



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

Test Mode:	LTE Band 7_TX CH21100_5M

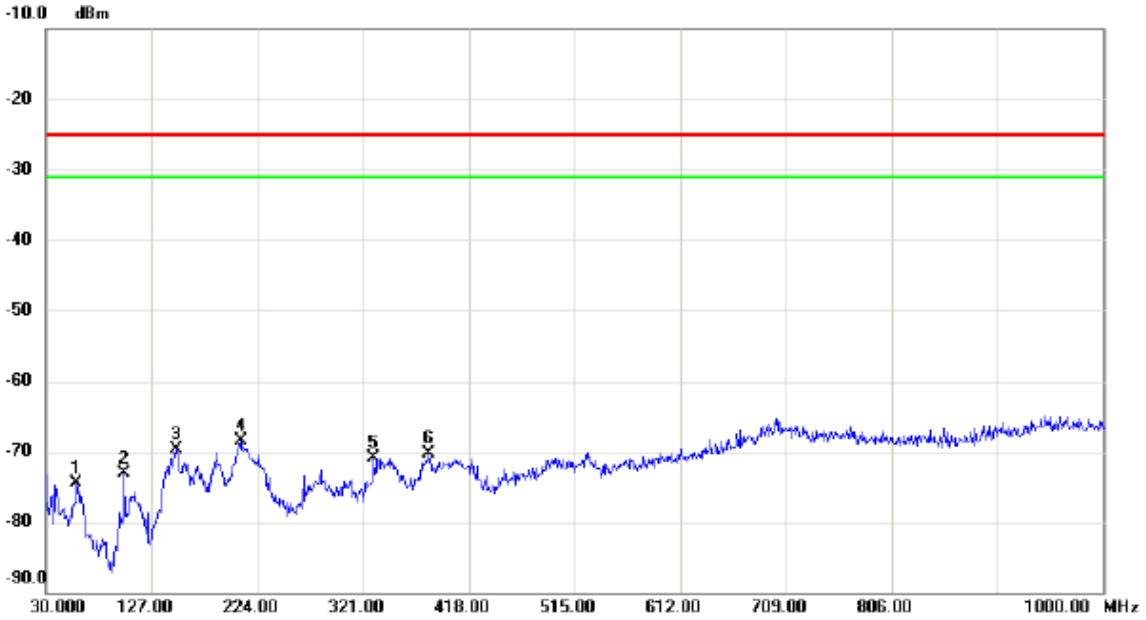
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	*	39.700	-55.69	1.90	-53.79	-25.00	-28.79	peak	
2		62.010	-57.23	0.73	-56.50	-25.00	-31.50	peak	
3		97.900	-66.25	-2.30	-68.55	-25.00	-43.55	peak	
4		147.370	-71.59	2.89	-68.70	-25.00	-43.70	peak	
5		188.110	-68.14	-1.31	-69.45	-25.00	-44.45	peak	
6		310.330	-71.79	0.73	-71.06	-25.00	-46.06	peak	

Test Mode:	LTE Band 7_TX CH21100_5M

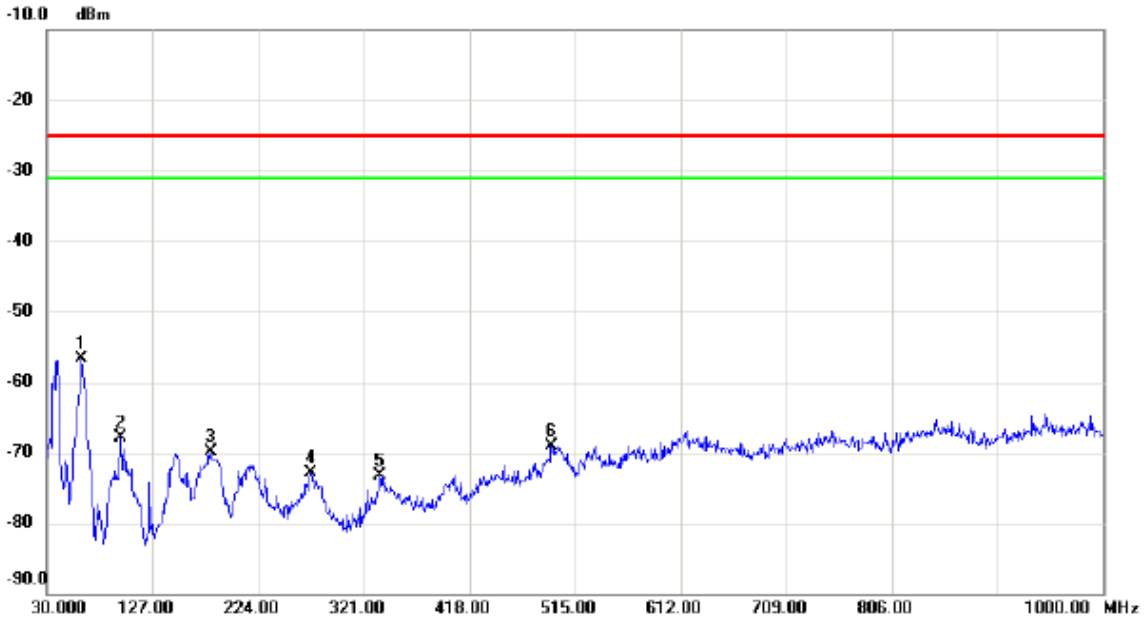
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1		58.130	-75.02	0.53	-74.49	-25.00	-49.49	peak	
2		101.780	-69.53	-3.56	-73.09	-25.00	-48.09	peak	
3		149.310	-73.96	4.16	-69.80	-25.00	-44.80	peak	
4	*	208.480	-66.67	-1.93	-68.60	-25.00	-43.60	peak	
5		330.700	-73.28	2.42	-70.86	-25.00	-45.86	peak	
6		381.140	-76.48	6.09	-70.39	-25.00	-45.39	peak	

Test Mode:	LTE Band 7_TX CH21100_20M

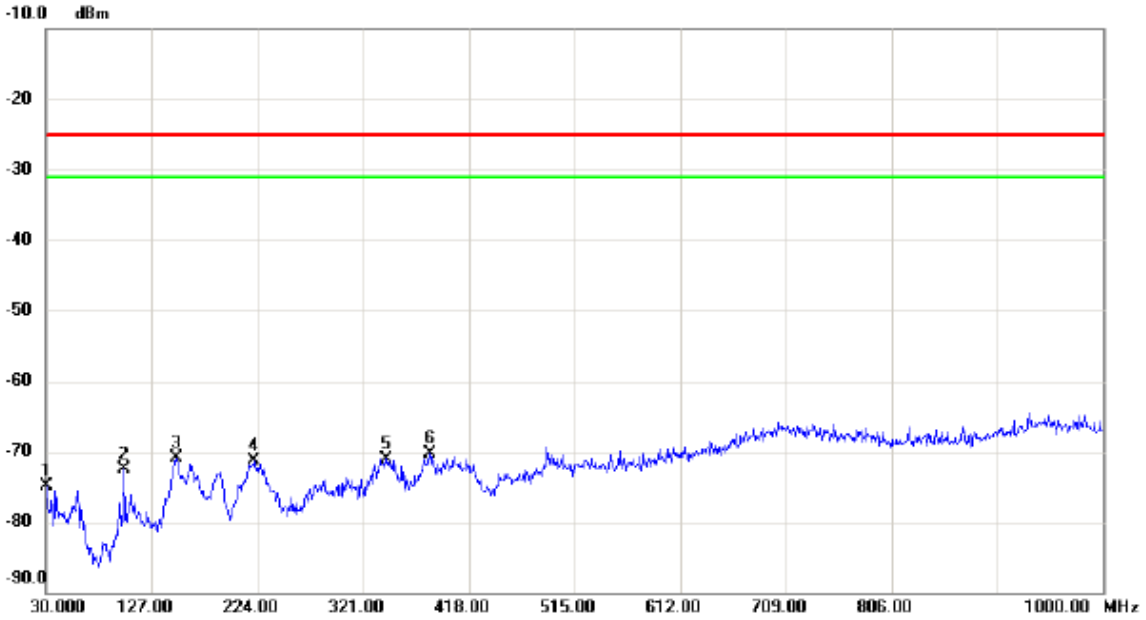
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	*	62.010	-57.50	0.73	-56.77	-25.00	-31.77	peak	
2		97.900	-65.67	-2.30	-67.97	-25.00	-42.97	peak	
3		180.350	-70.60	0.68	-69.92	-25.00	-44.92	peak	
4		272.500	-75.15	2.30	-72.85	-25.00	-47.85	peak	
5		335.550	-74.69	1.42	-73.27	-25.00	-48.27	peak	
6		493.660	-76.21	7.18	-69.03	-25.00	-44.03	peak	

Test Mode:	LTE Band 7_TX CH21100_20M

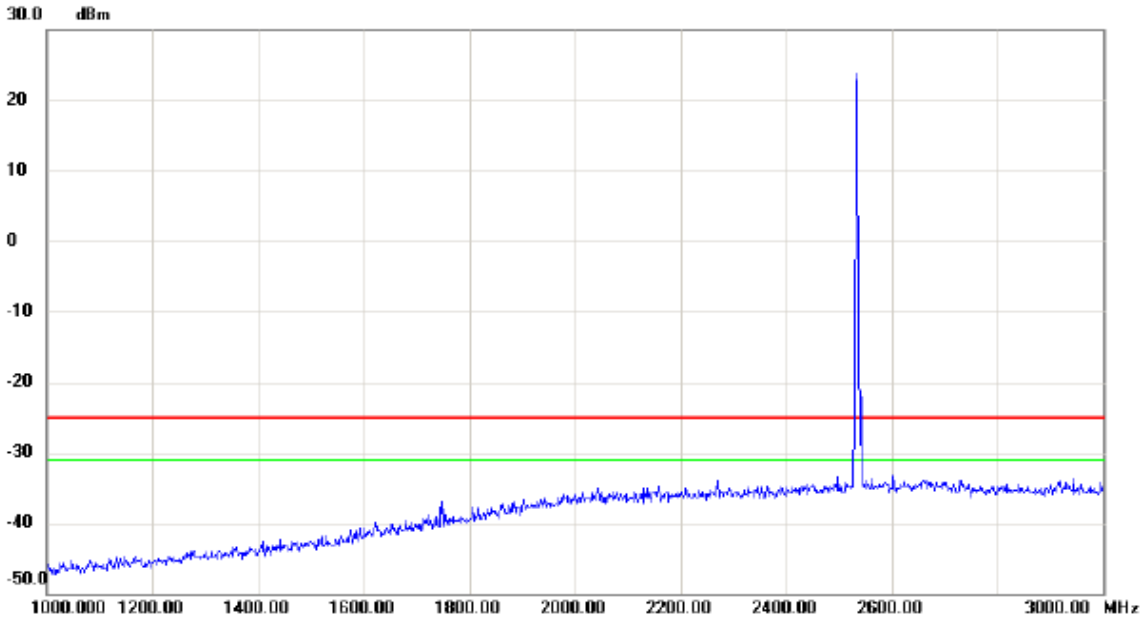
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1		30.000	-76.77	1.88	-74.89	-25.00	-49.89	peak	
2		101.780	-68.90	-3.56	-72.46	-25.00	-47.46	peak	
3		149.310	-75.02	4.16	-70.86	-25.00	-45.86	peak	
4		220.120	-71.87	0.57	-71.30	-25.00	-46.30	peak	
5		342.340	-73.67	2.67	-71.00	-25.00	-46.00	peak	
6	*	382.110	-76.45	6.08	-70.37	-25.00	-45.37	peak	

Test Mode:	LTE Band 7_TX CH21100_5M

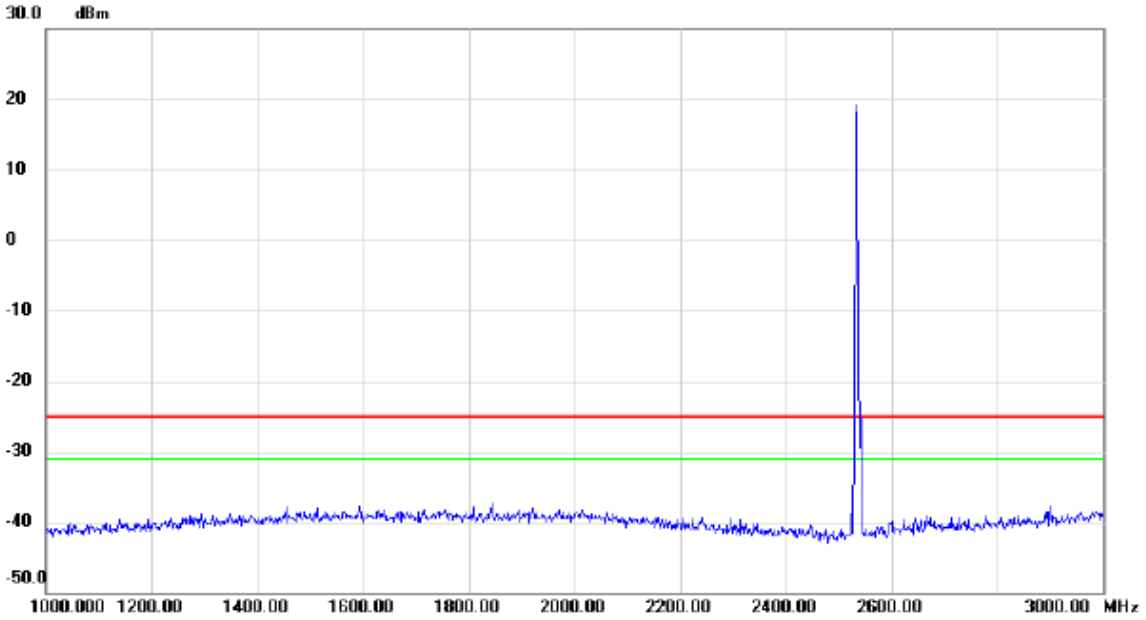
Vertical



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

Test Mode:	LTE Band 7_TX CH21100_5M

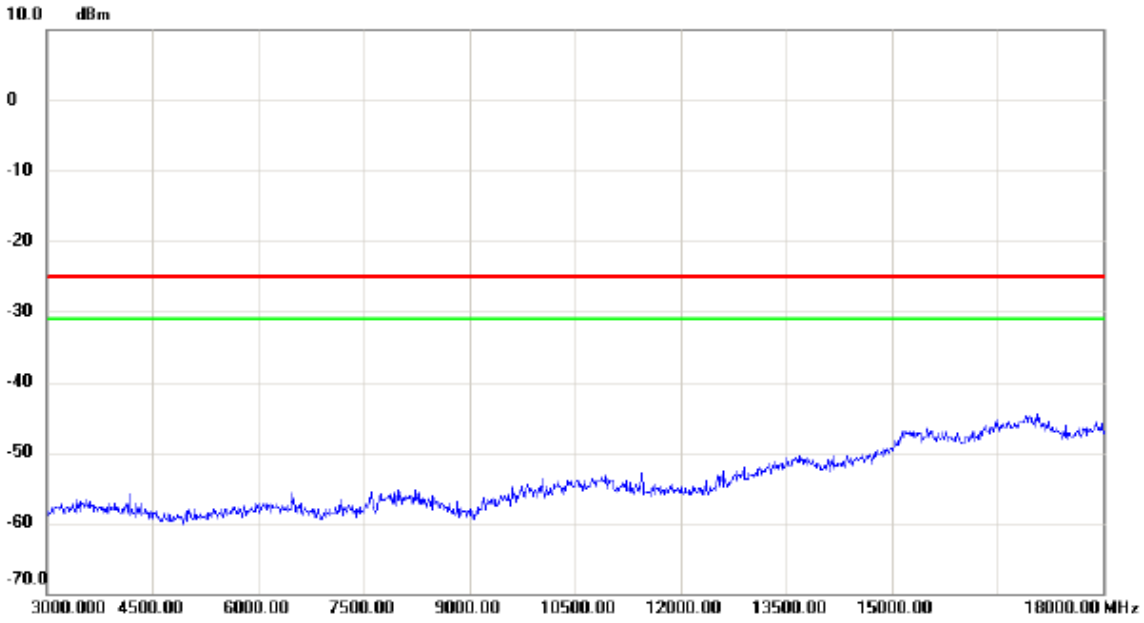
Horizontal



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

Test Mode:	LTE Band 7_TX CH21100_5M

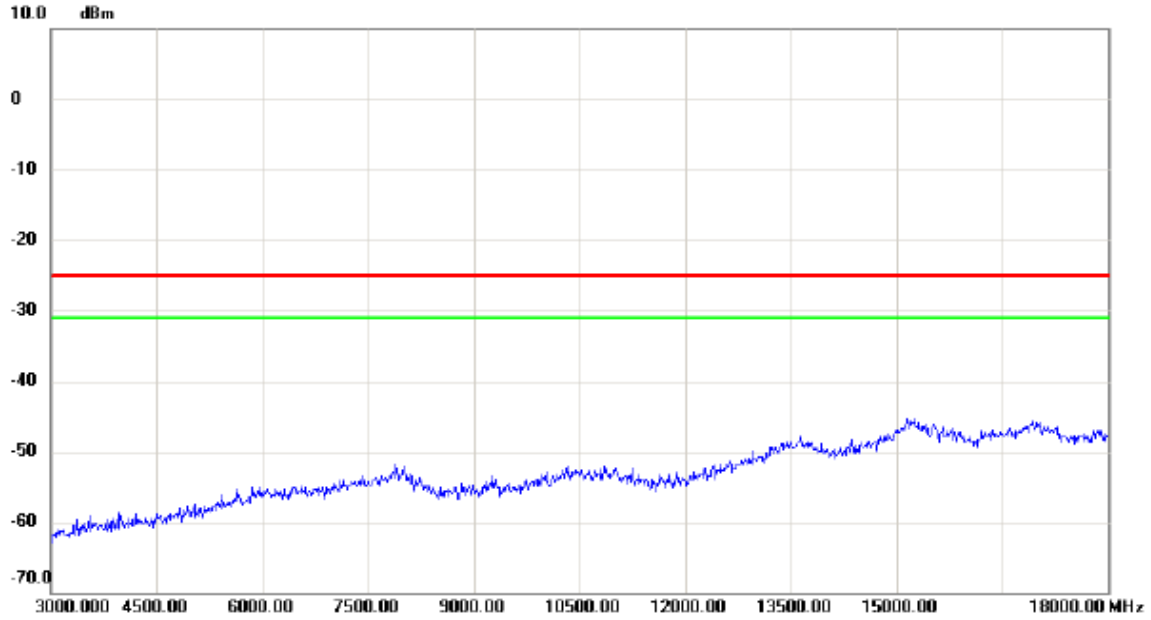
Vertical



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

Test Mode:	LTE Band 7_TX CH21100_5M

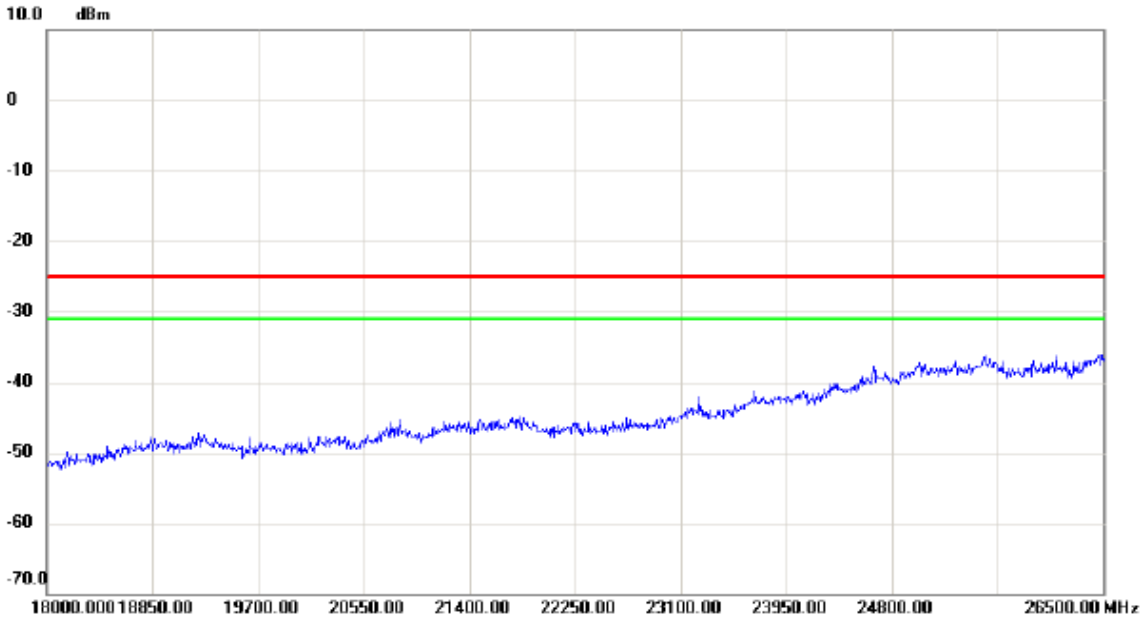
Horizontal



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

Test Mode:	LTE Band 7_TX CH21100_5M

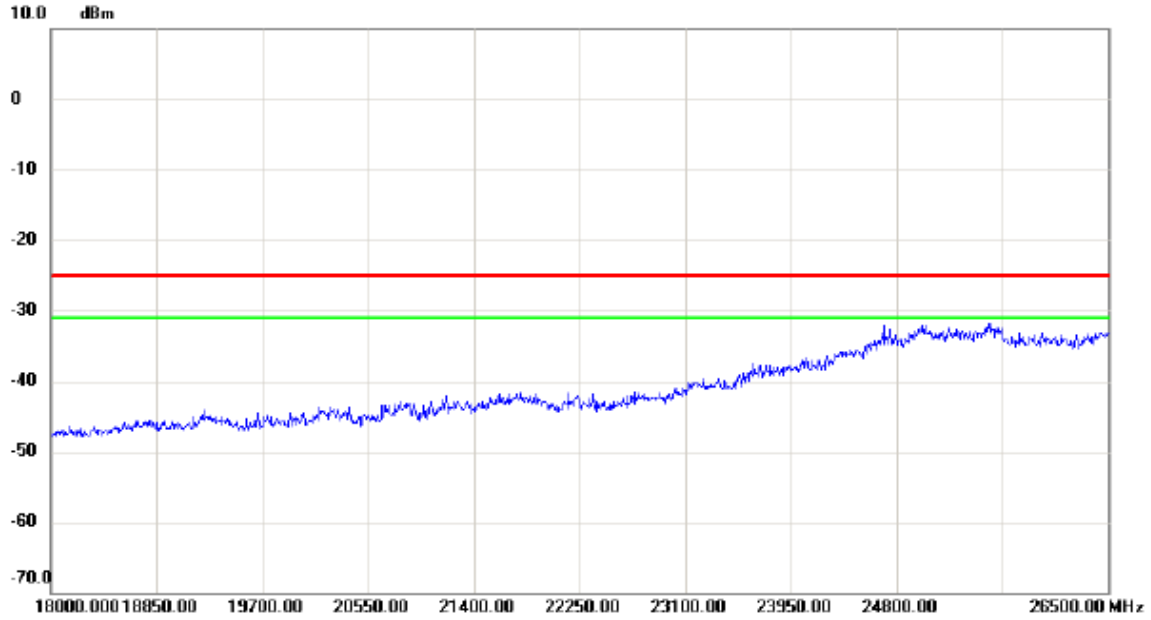
Vertical



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

Test Mode:	LTE Band 7_TX CH21100_5M

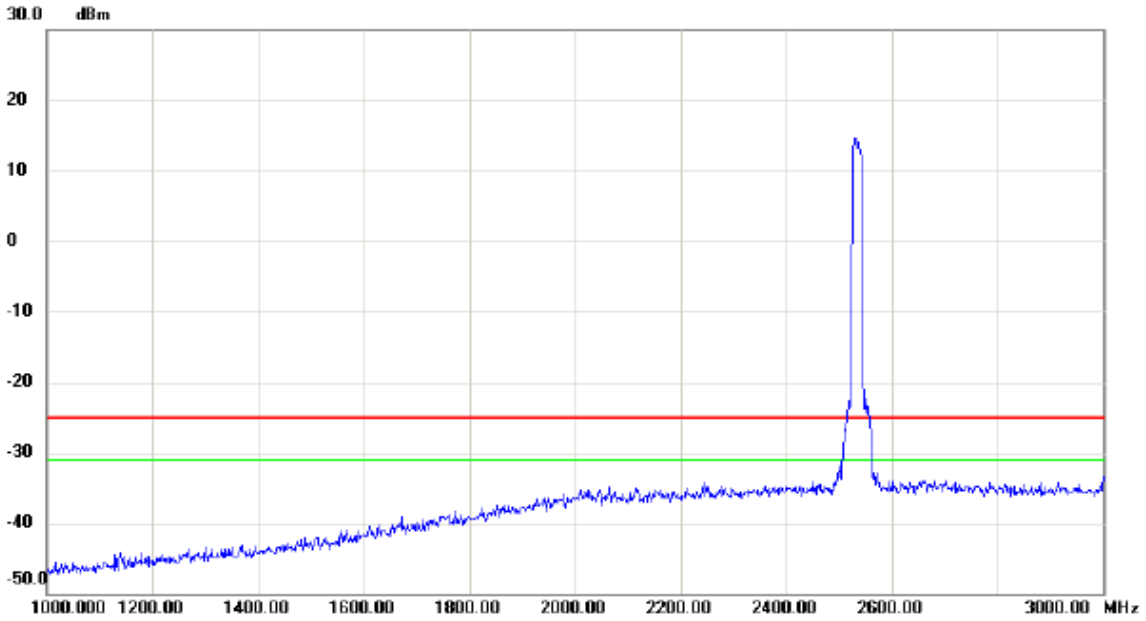
Horizontal



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

Test Mode:	LTE Band 7_TX CH21100_20M

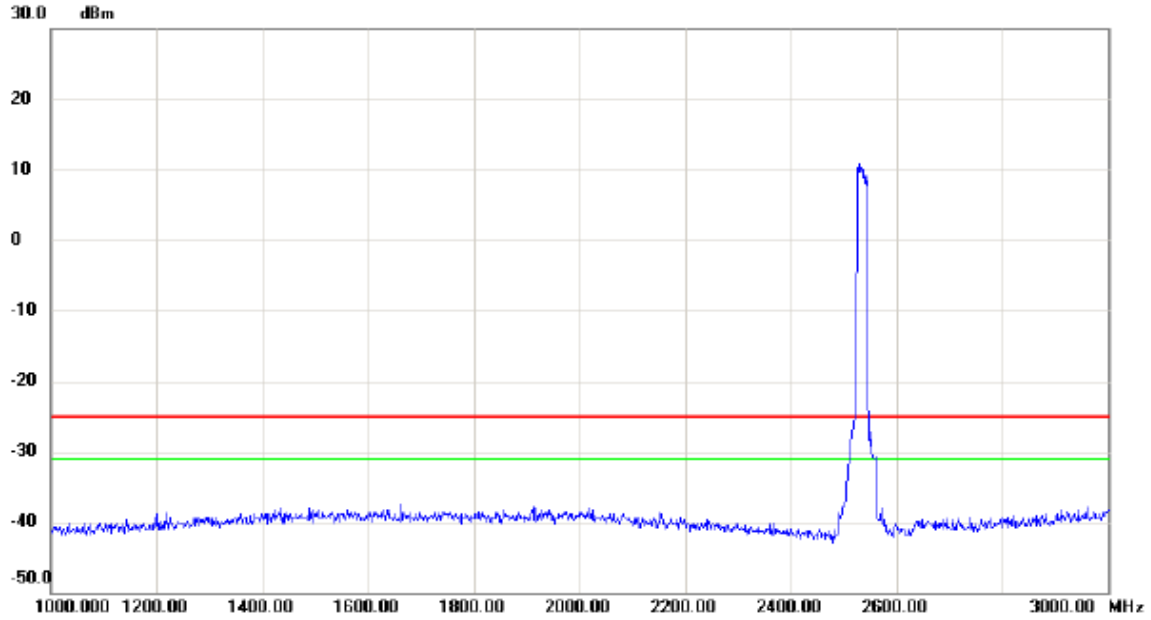
Vertical



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

Test Mode:	LTE Band 7_TX CH21100_20M

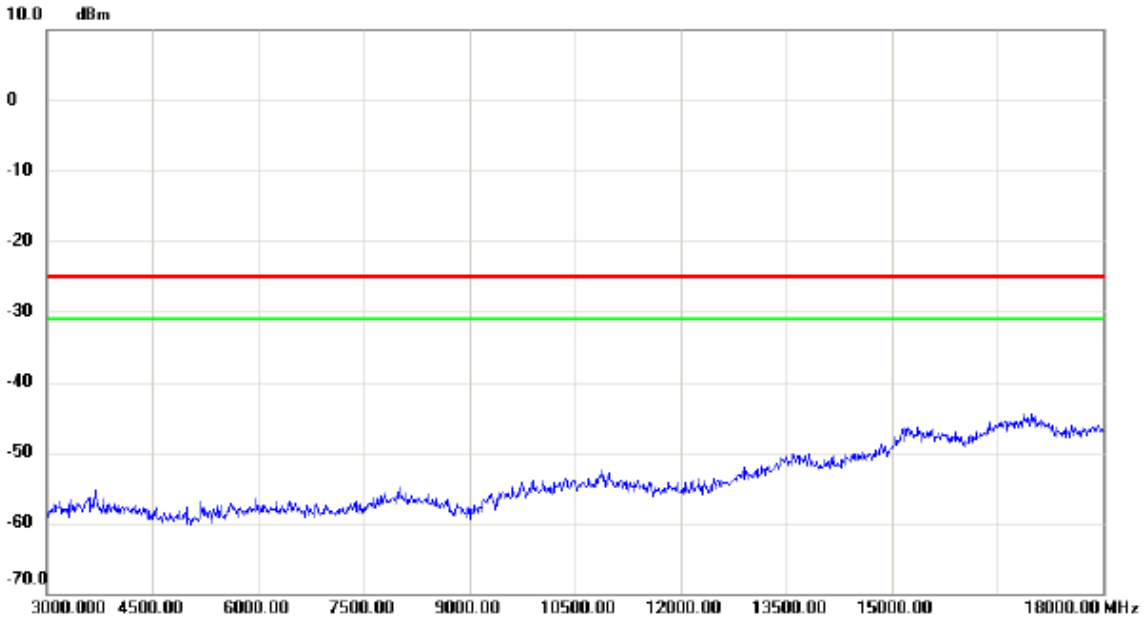
Horizontal



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

Test Mode:	LTE Band 7_TX CH21100_20M

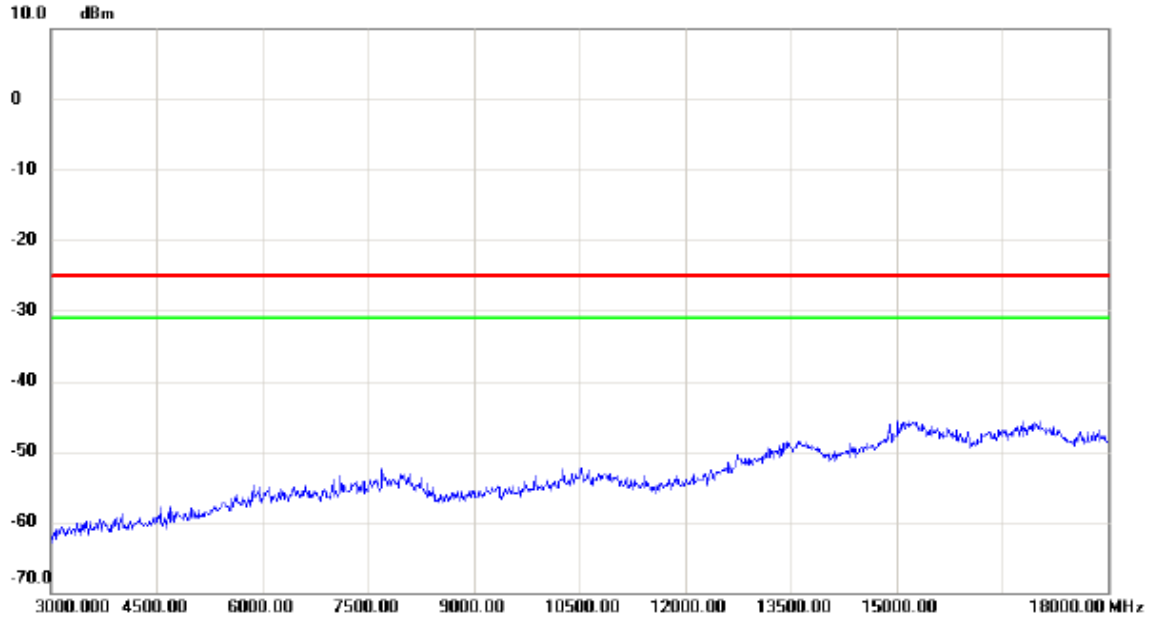
Vertical



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

Test Mode:	LTE Band 7_TX CH21100_20M

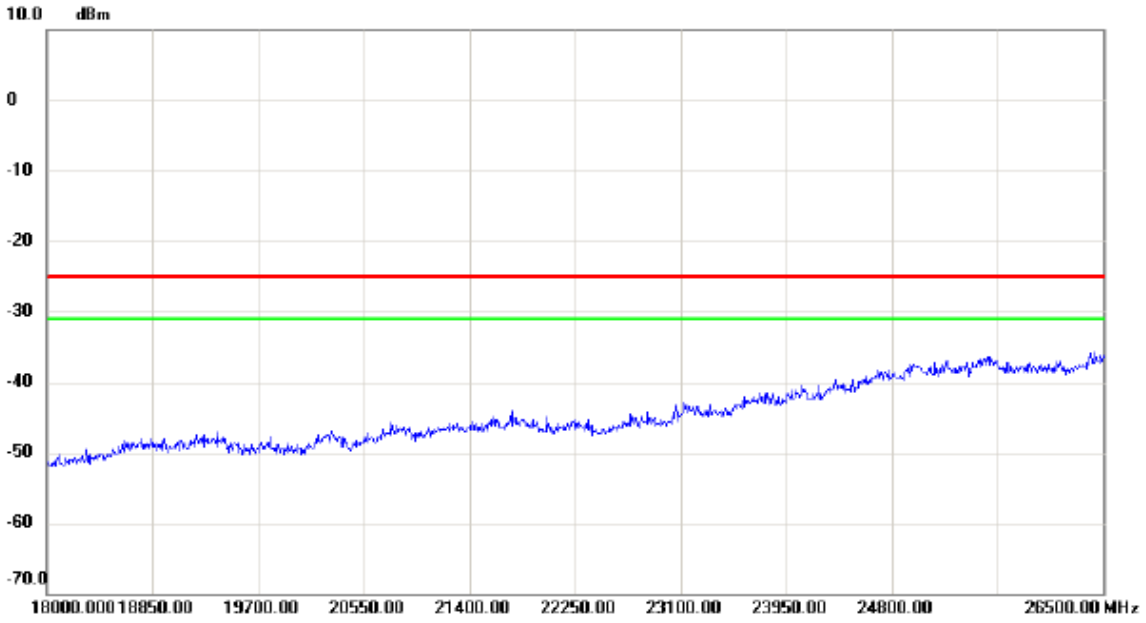
Horizontal



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

Test Mode:	LTE Band 7_TX CH21100_20M

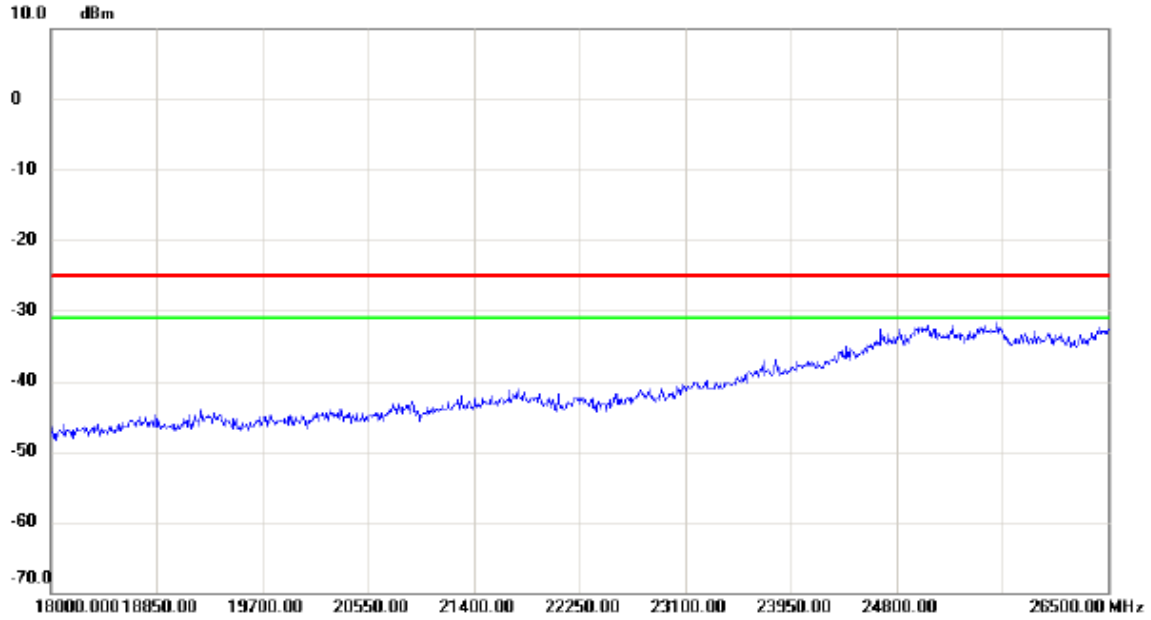
Vertical



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

Test Mode:	LTE Band 7_TX CH21100_20M

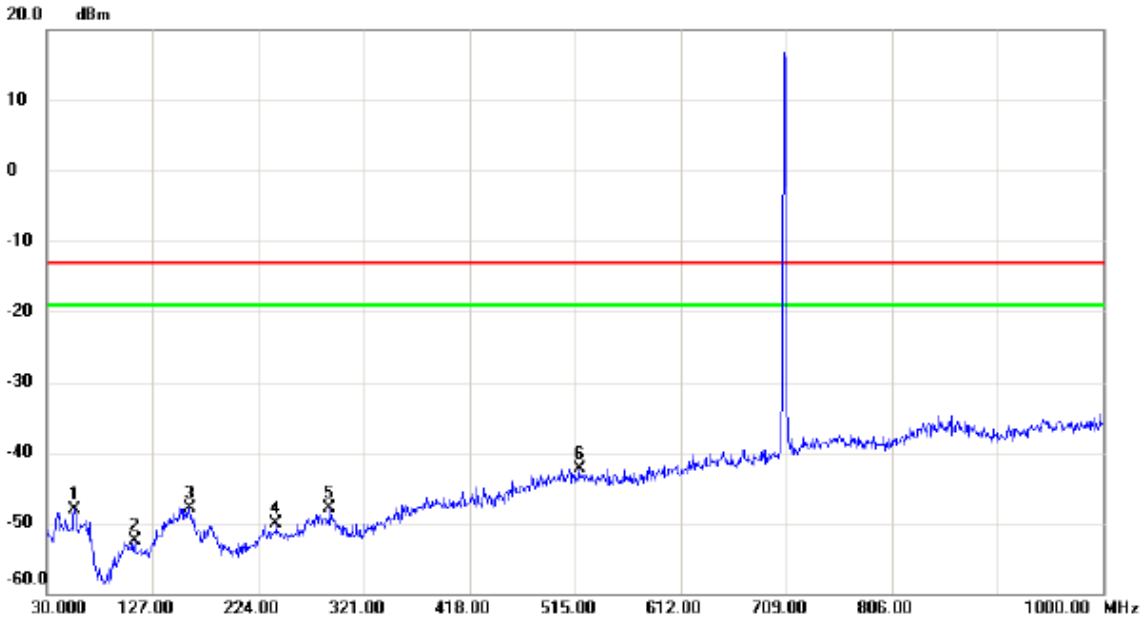
Horizontal



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

Test Mode:	LTE Band 12_TX CH23095_1.4M

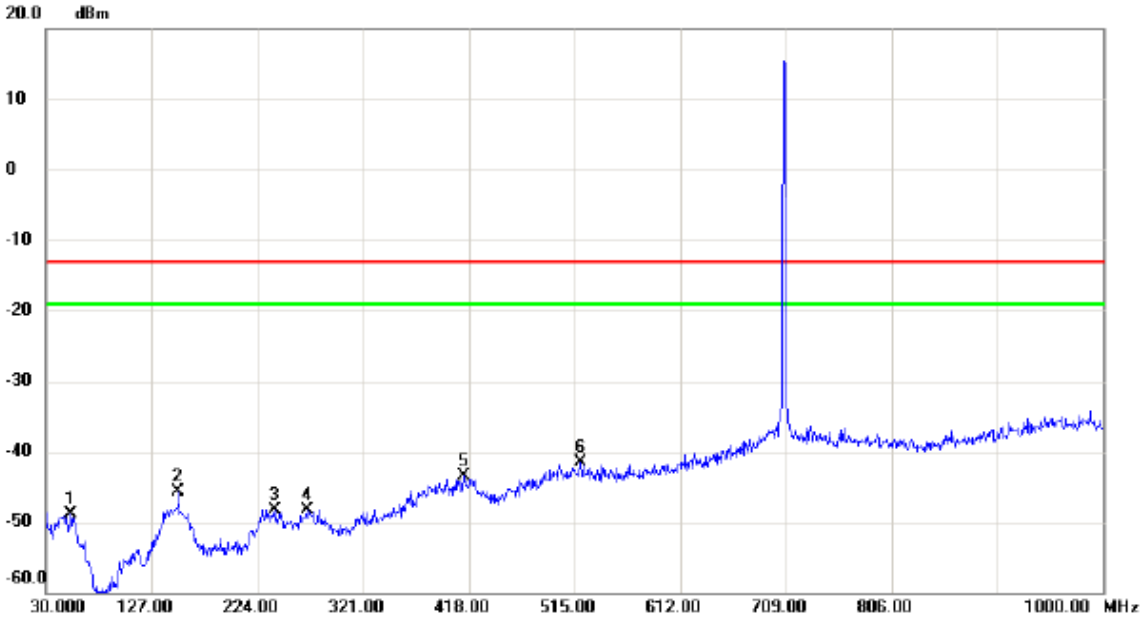
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1		55.220	-70.65	22.61	-48.04	-13.00	-35.04	peak	
2		110.510	-71.49	18.92	-52.57	-13.00	-39.57	peak	
3		160.950	-70.69	22.87	-47.82	-13.00	-34.82	peak	
4		240.490	-70.34	20.24	-50.10	-13.00	-37.10	peak	
5		289.960	-70.17	22.22	-47.95	-13.00	-34.95	peak	
6	*	518.880	-69.74	27.51	-42.23	-13.00	-29.23	peak	

Test Mode:	LTE Band 12_TX CH23095_1.4M

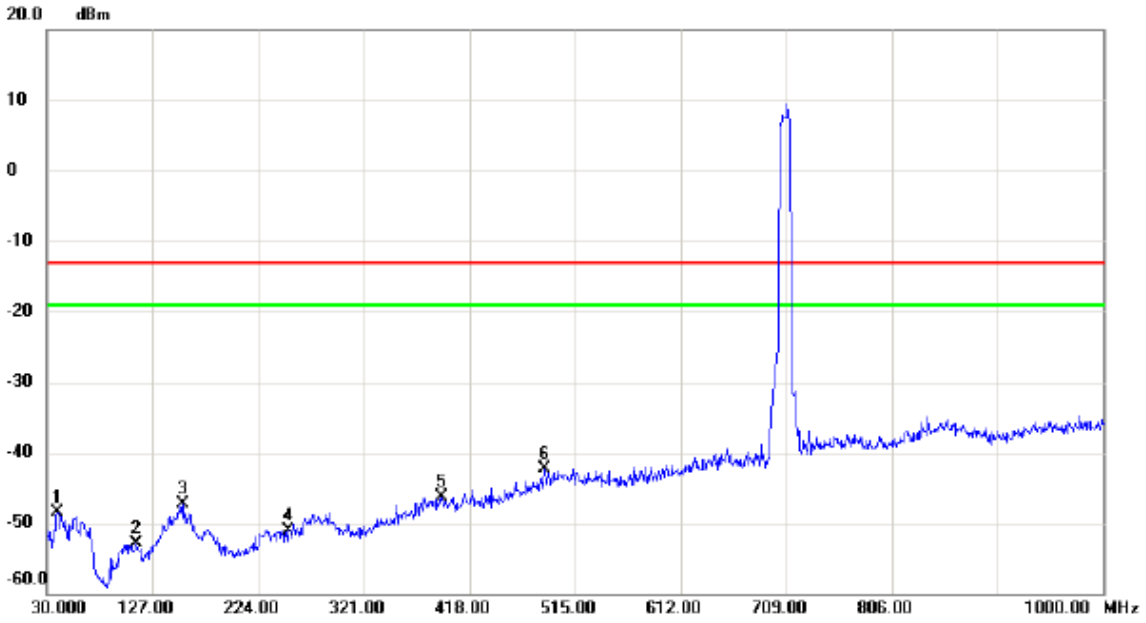
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1		52.310	-70.76	21.92	-48.84	-13.00	-35.84	peak	
2		151.250	-69.74	24.05	-45.69	-13.00	-32.69	peak	
3		239.520	-70.69	22.44	-48.25	-13.00	-35.25	peak	
4		269.590	-71.23	22.98	-48.25	-13.00	-35.25	peak	
5		413.150	-70.09	26.54	-43.55	-13.00	-30.55	peak	
6	*	520.820	-69.63	28.08	-41.55	-13.00	-28.55	peak	

Test Mode:	LTE Band 12_TX CH23095_10M

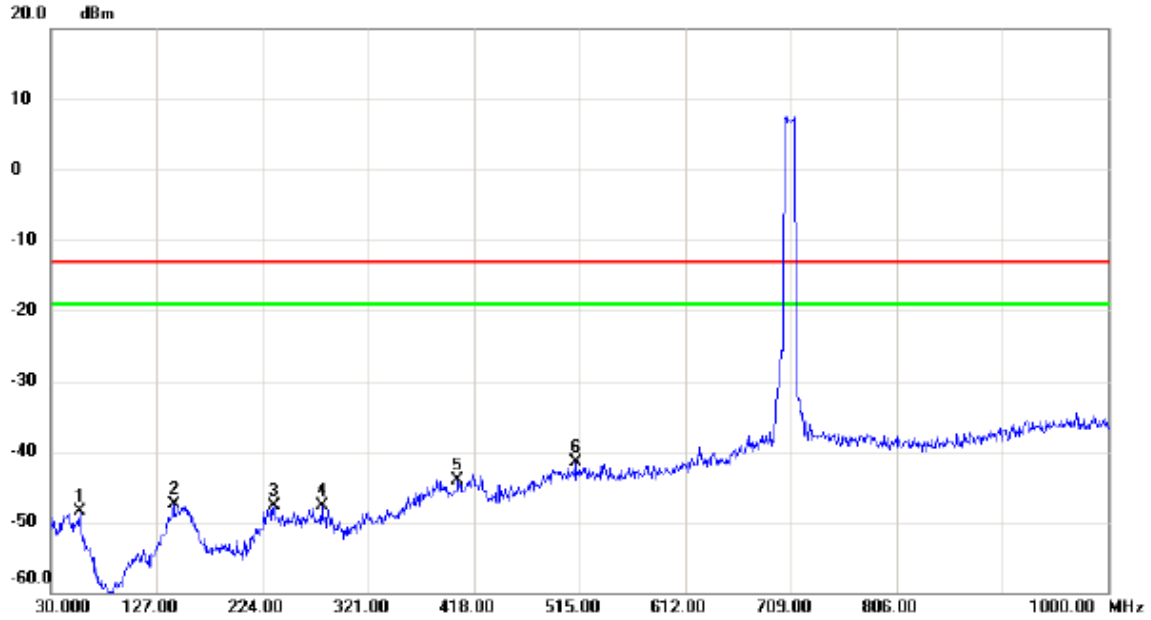
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1		39.700	-70.32	21.90	-48.42	-13.00	-35.42	peak	
2		111.480	-71.70	18.78	-52.92	-13.00	-39.92	peak	
3		155.130	-70.41	23.17	-47.24	-13.00	-34.24	peak	
4		252.130	-71.30	20.28	-51.02	-13.00	-38.02	peak	
5		392.780	-70.29	24.01	-46.28	-13.00	-33.28	peak	
6	*	486.870	-69.02	26.78	-42.24	-13.00	-29.24	peak	

Test Mode:	LTE Band 12_TX CH23095_10M

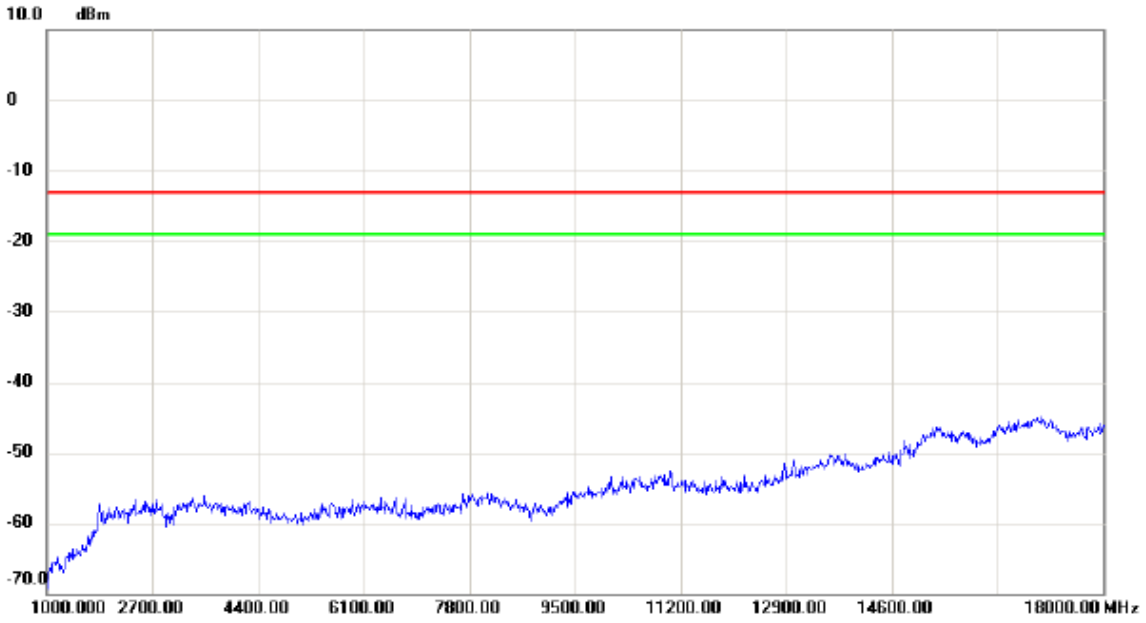
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1		56.190	-70.33	21.86	-48.47	-13.00	-35.47	peak	
2		142.520	-70.86	23.41	-47.45	-13.00	-34.45	peak	
3		234.670	-70.46	22.85	-47.61	-13.00	-34.61	peak	
4		278.320	-70.38	22.59	-47.79	-13.00	-34.79	peak	
5		403.450	-70.10	26.05	-44.05	-13.00	-31.05	peak	
6	*	511.120	-69.51	28.07	-41.44	-13.00	-28.44	peak	

Test Mode:	LTE Band 12_TX CH23095_1.4M

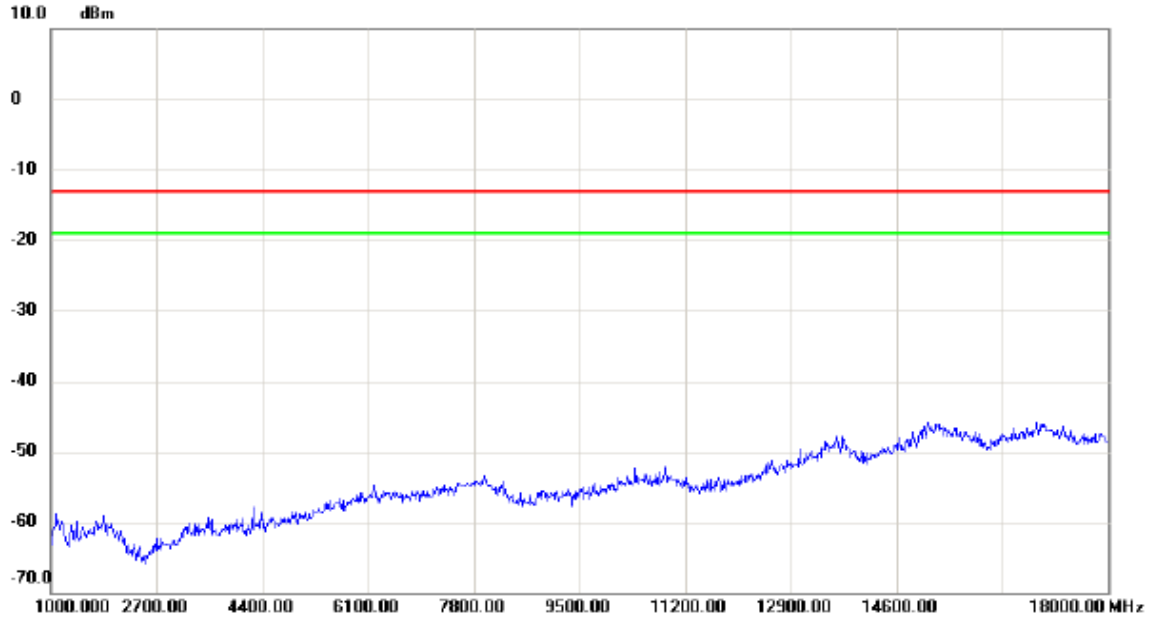
Vertical



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

Test Mode:	LTE Band 12_TX CH23095_1.4M

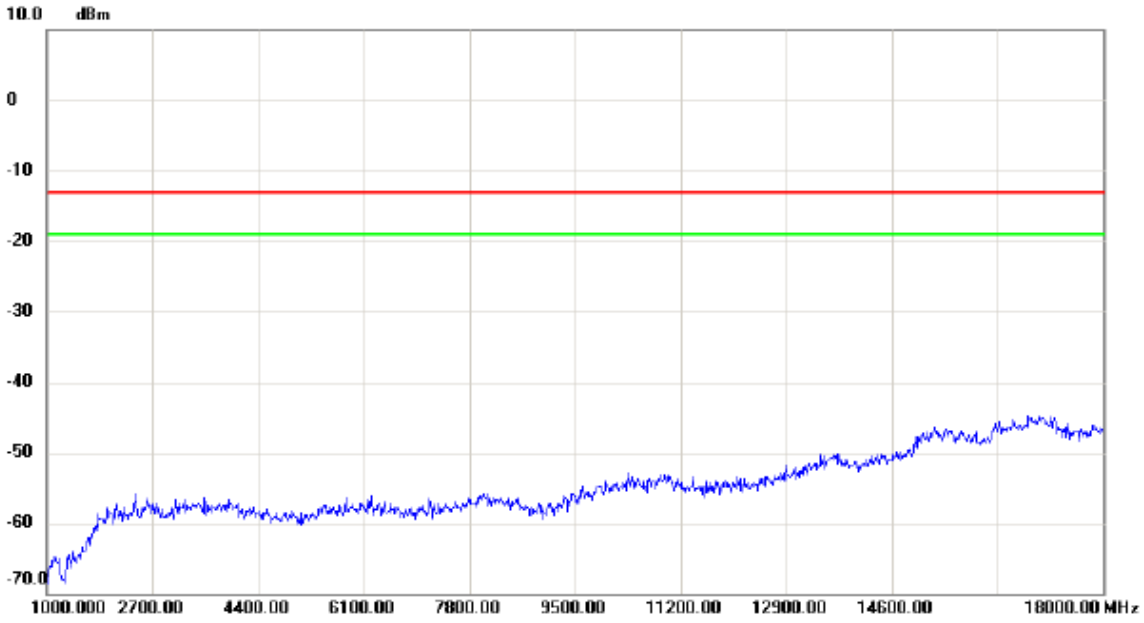
Horizontal



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

Test Mode:	LTE Band 12_TX CH23095_10M

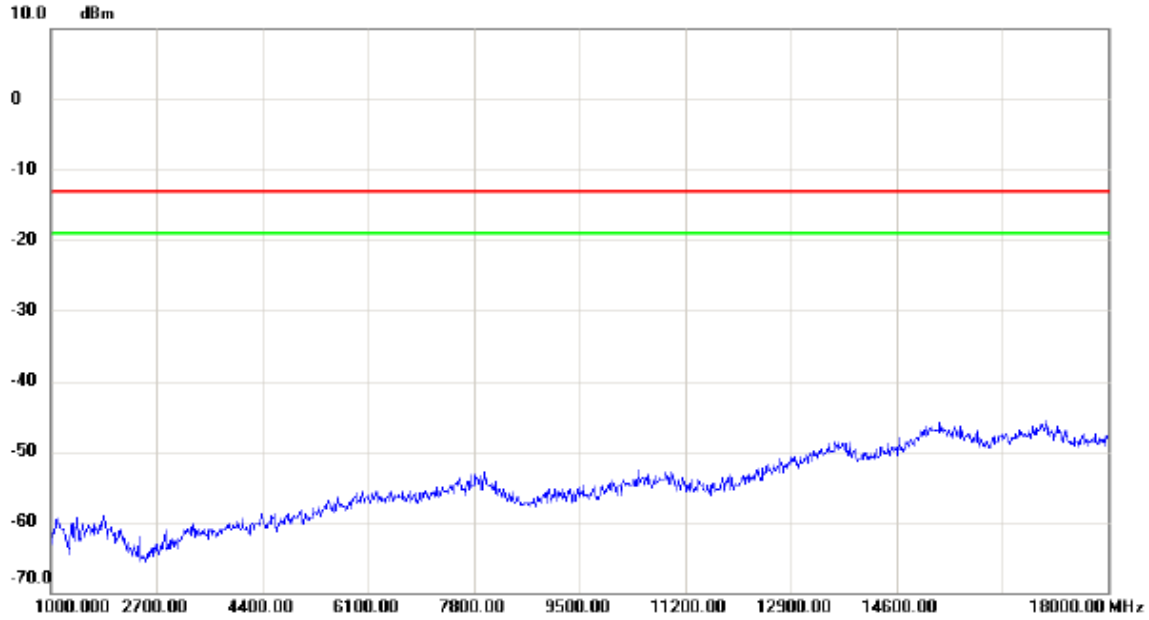
Vertical



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

Test Mode:	LTE Band 12_TX CH23095_10M

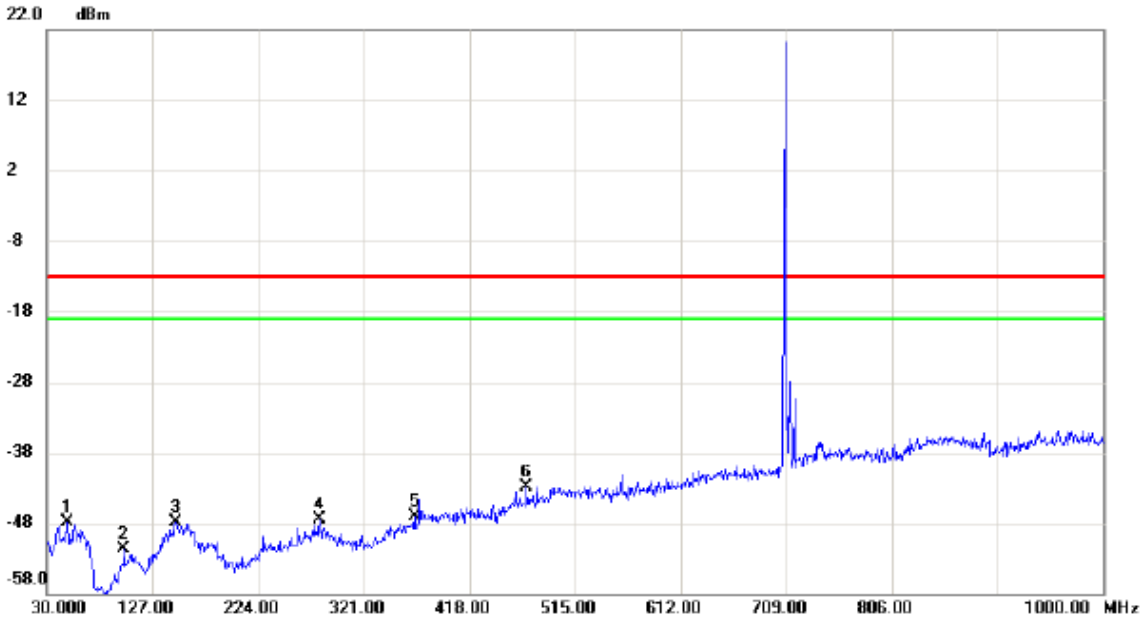
Horizontal



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

Test Mode:	LTE Band 17_TX CH23755_5M

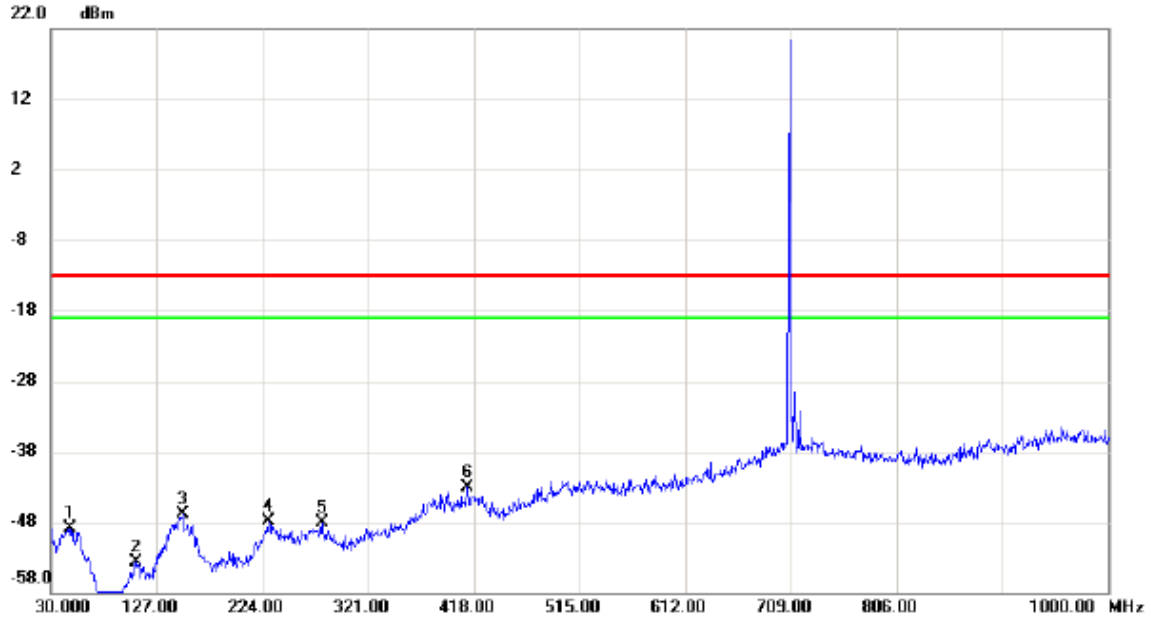
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1		48.430	-68.99	21.03	-47.96	-13.00	-34.96	peak	
2		100.810	-70.38	18.65	-51.73	-13.00	-38.73	peak	
3		148.340	-70.88	22.98	-47.90	-13.00	-34.90	peak	
4		280.260	-70.22	22.64	-47.58	-13.00	-34.58	peak	
5		367.560	-70.28	23.20	-47.08	-13.00	-34.08	peak	
6	*	470.380	-69.03	26.13	-42.90	-13.00	-29.90	peak	

Test Mode:	LTE Band 17_TX CH23755_5M

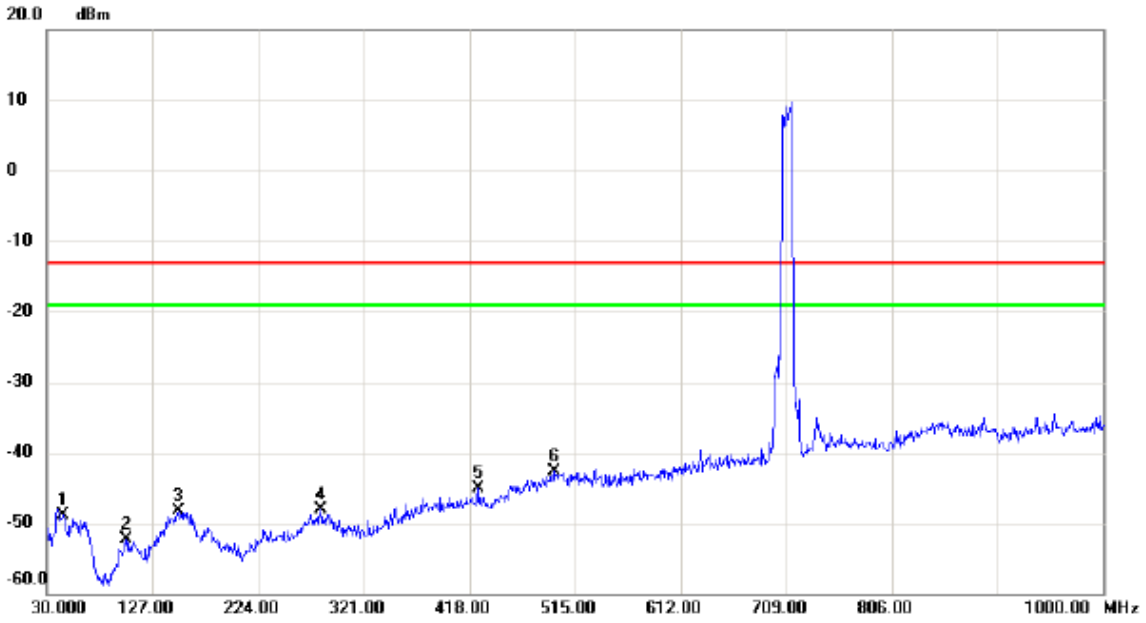
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1		47.460	-71.14	22.17	-48.97	-13.00	-35.97	peak	
2		107.600	-70.86	17.15	-53.71	-13.00	-40.71	peak	
3		150.280	-71.16	24.20	-46.96	-13.00	-33.96	peak	
4		229.820	-71.12	23.20	-47.92	-13.00	-34.92	peak	
5		278.320	-70.61	22.59	-48.02	-13.00	-35.02	peak	
6	*	412.180	-69.55	26.49	-43.06	-13.00	-30.06	peak	

Test Mode:	LTE Band 17_TX CH23755_10M

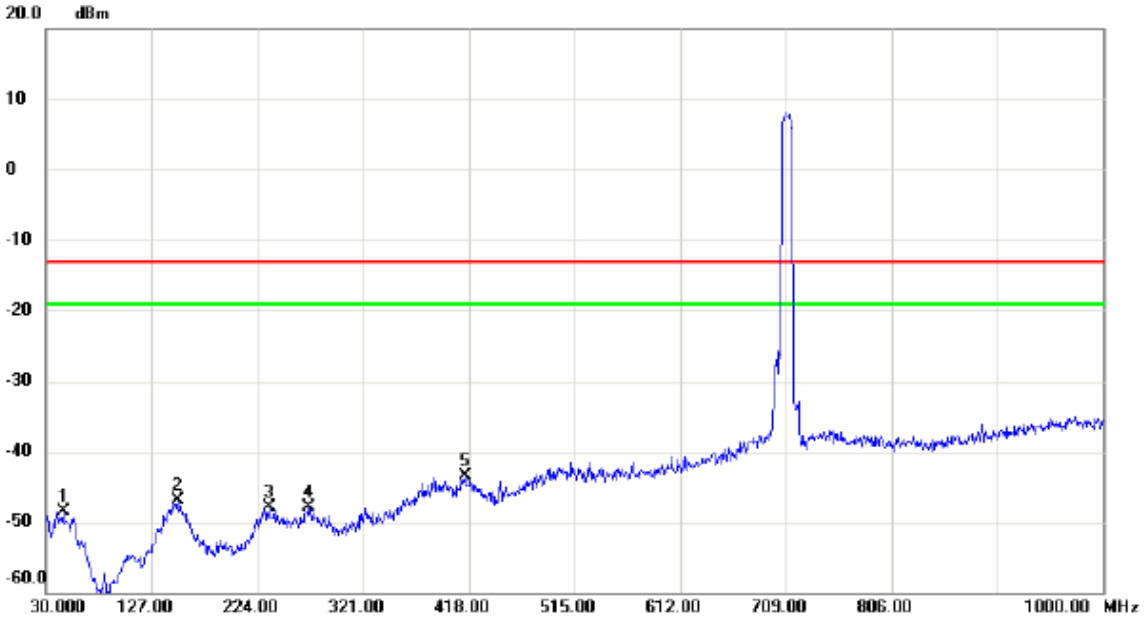
Vertical



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1		44.550	-70.87	21.96	-48.91	-13.00	-35.91	peak	
2		102.750	-71.07	18.73	-52.34	-13.00	-39.34	peak	
3		150.280	-71.51	23.15	-48.36	-13.00	-35.36	peak	
4		281.230	-70.79	22.60	-48.19	-13.00	-35.19	peak	
5		426.730	-69.68	24.55	-45.13	-13.00	-32.13	peak	
6	*	495.600	-70.06	27.29	-42.77	-13.00	-29.77	peak	

Test Mode:	LTE Band 17_TX CH23755_10M

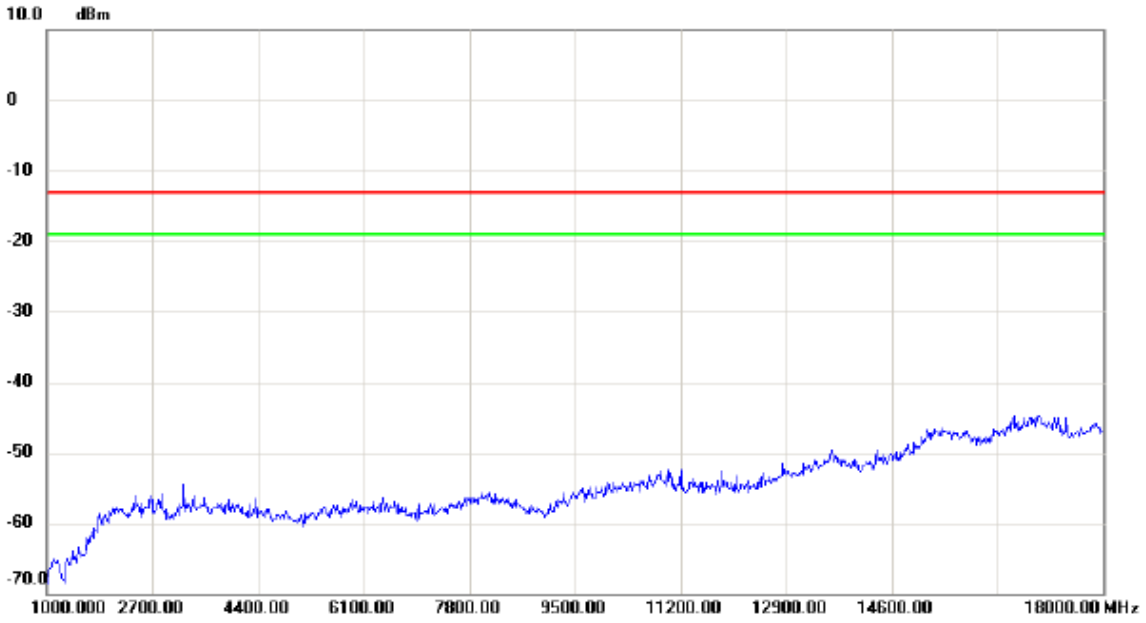
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure-ment	Limit	Margin		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1		45.520	-71.33	22.87	-48.46	-13.00	-35.46	peak	
2		150.280	-71.15	24.20	-46.95	-13.00	-33.95	peak	
3		234.670	-70.68	22.85	-47.83	-13.00	-34.83	peak	
4		270.560	-70.84	22.99	-47.85	-13.00	-34.85	peak	
5	*	414.120	-70.13	26.59	-43.54	-13.00	-30.54	peak	

Test Mode:	LTE Band 17_TX CH23755_5M

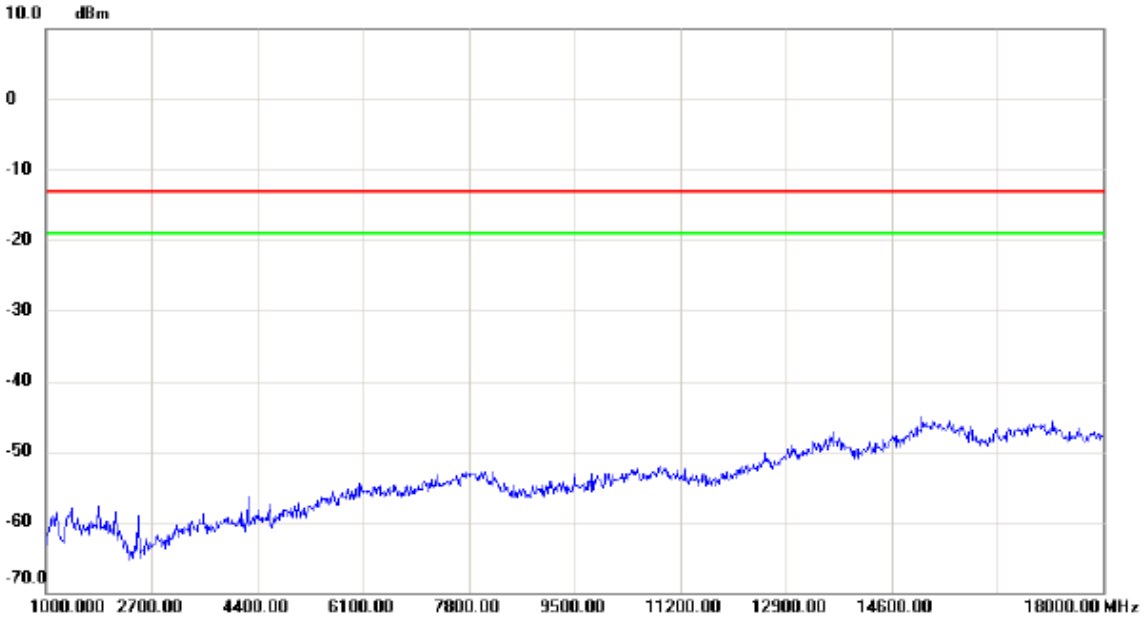
Vertical



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

Test Mode:	LTE Band 17_TX CH23755_5M

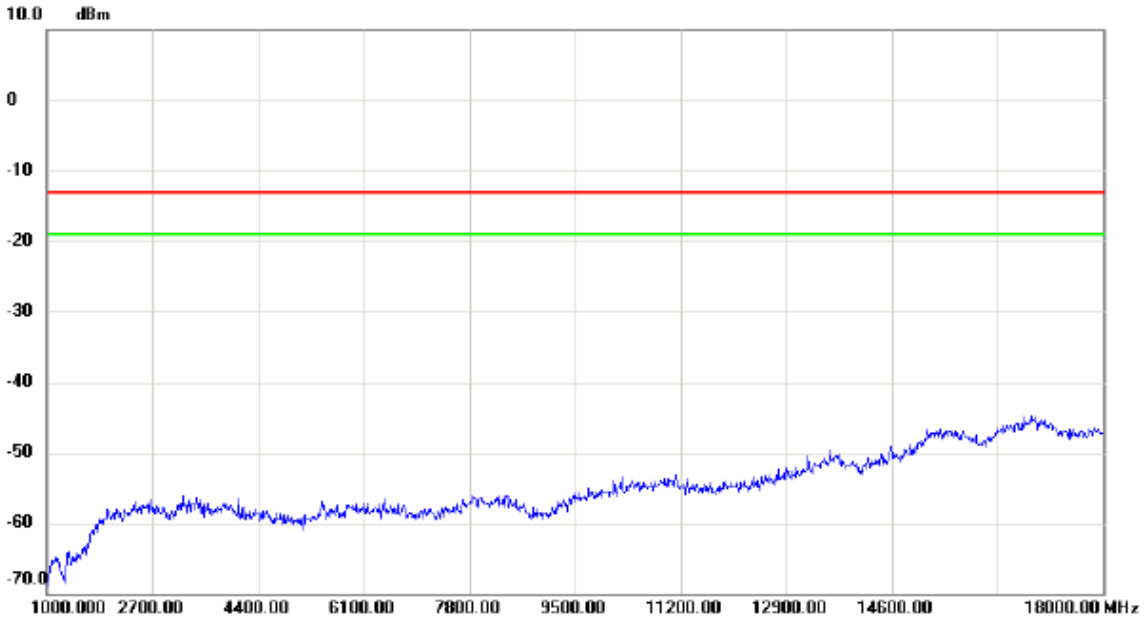
Horizontal



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

Test Mode:	LTE Band 17_TX CH23755_10M

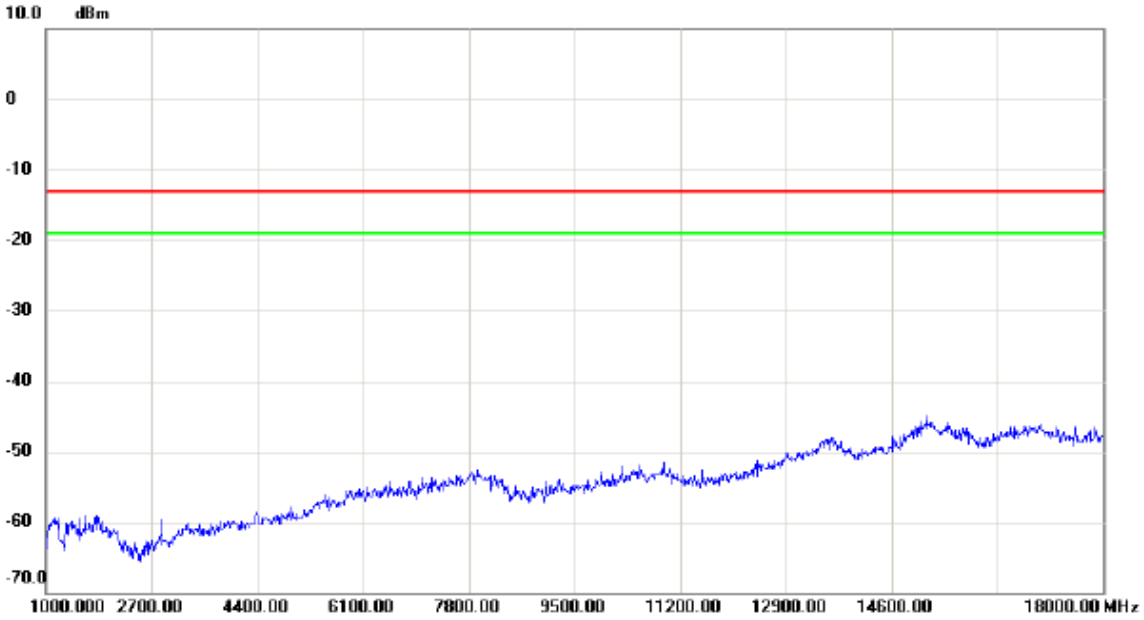
Vertical



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

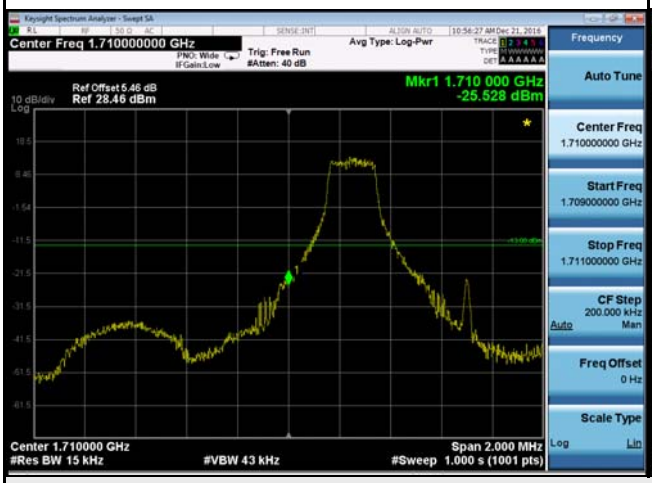
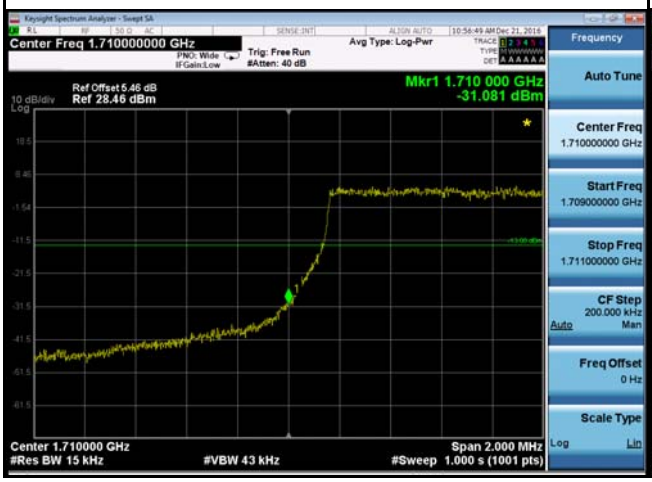
Test Mode:	LTE Band 17_TX CH23755_10M

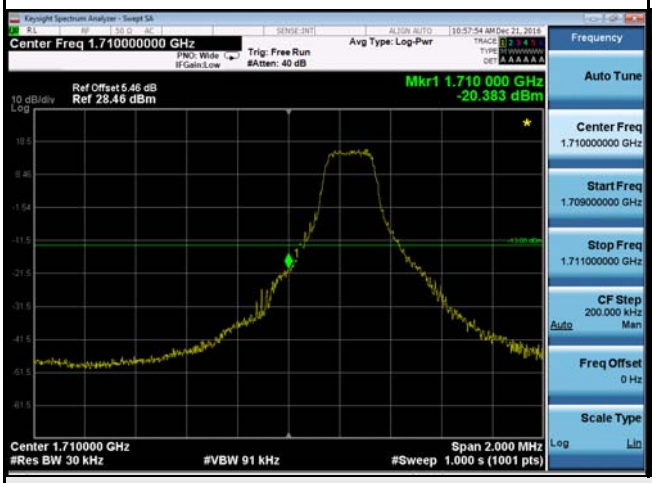
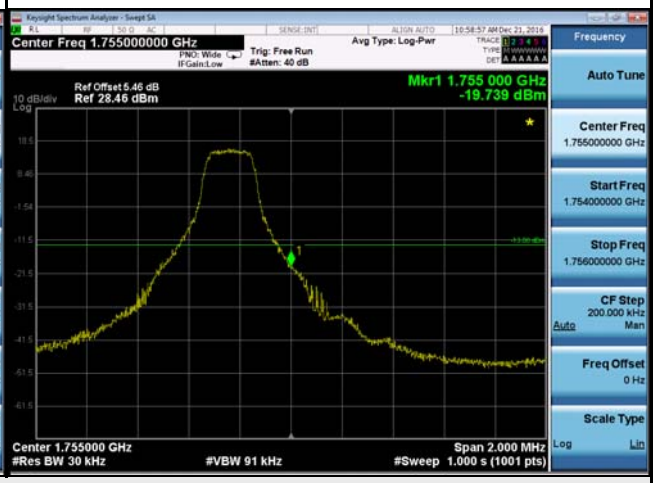
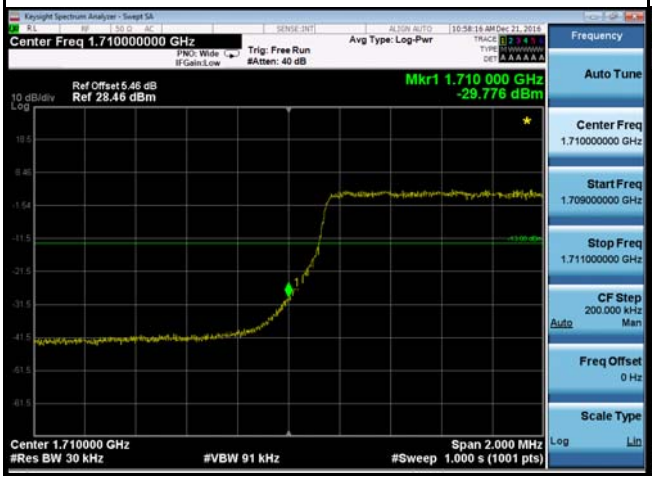
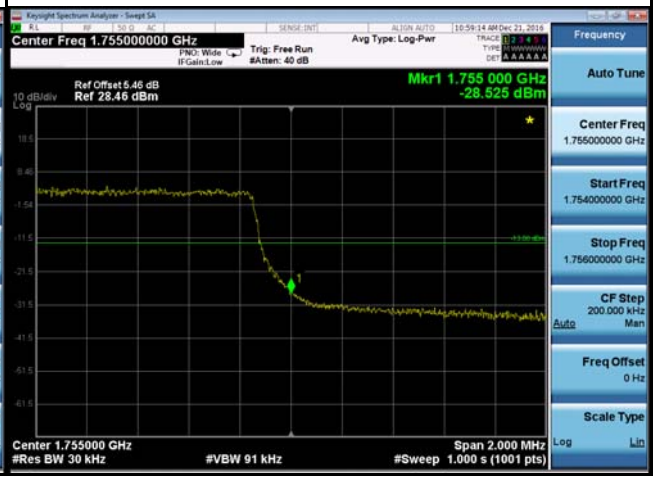
Horizontal



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

ATTACHMENT E - BAND EDGE

LTE Band 4_1.4M			
1RB0		1RB5	
Channel	19957	Channel	20393
			
6RB0			
Channel	19957	Channel	20393
			

LTE Band 4_3M			
1RB0		1RB14	
Channel	19965	Channel	20385
			
15RB0			
Channel	19965	Channel	20385