

FCC Radio Test Report

FCC ID: 2AUSF-BKW700

This report concerns: Original Grant

Project No. : 1909C175
Equipment : Borqs Kids Smartwatch
Brand Name : WatchMeGo
Model Name : BKW700, ANSBKW700
Applicant : BORQS INTERNATIONAL HOLDING CORP
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Manufacturer : BORQS INTERNATIONAL HOLDING CORP
Address : Building B23-A,Universal Business Park, No.10 jiuxianqiao Road,Chaoyang District Beijing, 100015 China
Factory : BORQS INTERNATIONAL HOLDING CORP
Address : Building B23-A,Universal Business Park, No.10 jiuxianqiao Road,Chaoyang District Beijing, 100015 China
Date of Receipt : Sep. 27, 2019
Date of Test : Sep. 27, 2019 ~ Dec. 12, 2019
Issued Date : Dec. 17, 2019
Report Version : R00
Test Sample : Engineering Sample No.: D DG2019092792 for conducted, DG2019112539 for radiated.
Standard(s) : 47 CFR FCC Part 90 Subpart S
47 CFR FCC Part 2
ANSI/TIA/EIA-603-E-2016
FCC KDB 971168 D01 Power Meas License Digital Systems v03r01

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

Paul . Li

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Declaration

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

BTL's reports apply only to the specific samples tested under conditions. It is manufacturer's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. **BTL** shall have no liability for any declarations, inferences or generalizations drawn by the client or others from **BTL** issued reports.

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BTL's laboratory quality assurance procedures are in compliance with the **ISO/IEC 17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

BTL is not responsible for the sampling stage, so the results only apply to the sample as received.

The information, data and test plan are provided by manufacturer which may affect the validity of results, so it is manufacturer's responsibility to ensure that the apparatus meets the essential requirements of applied standards and in all the possible configurations as representative of its intended use.

Limitation

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

Please note that the measurement uncertainty is provided for informational purpose only and is not use in determining the Pass/Fail results.

Table of Contents	Page
REPORT ISSUED HISTORY	5
1 . SUMMARY OF TEST RESULTS	6
1.1 TEST FACILITY	7
1.2 MEASUREMENT UNCERTAINTY	7
1.3 TEST ENVIRONMENT CONDITIONS	7
2 . GENERAL INFORMATION	8
2.1 GENERAL DESCRIPTION OF EUT	8
2.2 DESCRIPTION OF TEST MODES	9
2.3 BLOCK DIGRAM SHOWING THE CONFIGURATIONOF SYSTEMTESTED	10
3.4 DESCRIPTION OF SUPPORT UNITS	10
3 . TEST RESULT	11
3.1 OUTPUT POWER MEASUREMENT	11
3.1.1 LIMIT	11
3.1.2 TEST PROCEDURE	11
3.1.3 TESTSETUP LAYOUT	11
3.1.4 TEST DEVIATION	11
3.1.5 TEST RESULTS	11
3.2 OCCUPIED BANDWIDTH MEASUREMENT	12
3.2.1 TEST PROCEDURE	12
3.2.2 TEST SETUP LAYOUT	12
3.2.3 TEST DEVIATION	12
3.2.4 TEST RESULTS	12
3.3 CONDUCTED SPURIOUS EMISSIONS MEASUREMENT	13
3.3.1 LIMIT	13
3.3.2 TEST PROCEDURES	13
3.3.3 TESTSETUP LAYOUT	13
3.3.4 TESTDEVIATION	13
3.3.5 TEST RESULTS	13
3.4 RADIATED SPURIOUS EMISSIONS MEASUREMENT	14
3.4.1 LIMIT	14
3.4.2 TEST PROCEDURES	14
3.4.3 TEST SETUP LAYOUT	15
3.4.4 TESTDEVIATION	16
3.4.5 TEST RESULTS (9KHZ TO 30MHZ)	16
3.4.6 TEST RESULTS (30MHZ TO 1000MHZ)	16
3.4.7 TEST RESULTS (ABOVE 1000MHZ)	16
3.5 MASK MEASUREMENTS	17
3.5.1 LIMIT	17
3.5.2 TEST PROCEDURES	17

Table of Contents	Page
3.5.3 TESTSETUP LAYOUT	17
3.5.4 TESTDEVIATION	17
3.5.5 TEST RESULTS	17
3.6 PEAK TO AVERAGE RATIO MEASUREMENT	18
3.6.1 LIMIT	18
3.6.2 TEST PROCEDURES	18
3.6.3 TEST SETUP LAYOUT	18
3.6.4 TEST DEVIATION	18
3.6.5 TEST RESULTS	18
3.7 FREQUENCY STABILITY MEASUREMENT	19
3.7.1 LIMIT	19
3.7.2 TEST PROCEDURES	19
3.7.3 TESTSETUP LAYOUT	19
3.7.4 TESTDEVIATION	19
3.7.5 TEST RESULTS	19
4. LIST OF MEASUREMENT EQUIPMENTS	20
5. EUT TEST PHOTO	22
APPENDIX A - OUTPUT POWER	25
APPENDIX B - OCCUPIED BANDWIDTH	30
APPENDIX C - CONDUCTED SPURIOUS EMISSIONS	38
APPENDIX D - RADIATED SPURIOUS EMISSIONS (9KHZ TO 30MHZ)	42
APPENDIX E - RADIATED SPURIOUS EMISSIONS (30MHZ TO 1000MHZ)	47
APPENDIX F - RADIATED SPURIOUS EMISSIONS (ABOVE 1000MHZ)	54
APPENDIX G - MASK	61
APPENDIX H - PEAK TO AVERAGE RATIO	66
APPENDIX I - FREQUENCY STABILITY	71

REPORT ISSUED HISTORY

Report Version	Description	Issued Date
R00	Original Issue.	Dec. 17, 2019

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

FCC Part 90 Subpart S & Part 2			
Standard(s) Section	Test Item	Judgment	Remark
2.1046 & 90.635 (b)	Effective Radiated Power	PASS	-----
2.1049 & 90.209	Occupied Bandwidth	PASS	-----
2.1053 & 90.669	Conducted Spurious Emissions	PASS	-----
2.1053 & 90.669	Radiated Spurious Emissions	PASS	-----
2.1053 & 90.691	Mask Measurements	PASS	-----
-	Peak To Average Ratio	PASS	Record Only
2.1055 & 90.213	Frequency Stability	PASS	-----

Note:

(1) "N/A" denotes test is not applicable in this test report.

1.1 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 Registration Number for FCC: 357015

BTL's Designation Number for FCC: CN1240

1.2 MEASUREMENT UNCERTAINTY

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2))

The BTL measurement uncertainty as below table:

A. Radiated Measurement:

Test Site	Method	Measurement Frequency Range	Ant. H / V	U,(dB)
DG-CB03 (3m)	CISPR	9KHz ~ 30MHz	V	3.79
		9KHz ~ 30MHz	H	3.57
		30MHz ~ 200MHz	V	4.88
		30MHz ~ 200MHz	H	4.14
		200MHz ~ 1,000MHz	V	4.62
		200MHz ~ 1,000MHz	H	4.80

Test Site	Method	Measurement Frequency Range	U,(dB)
DG-CB03 (3m)	CISPR	1GHz ~ 6GHz	4.58
		6GHz ~ 18GHz	5.18

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

1.3 TEST ENVIRONMENT CONDITIONS

Test Item	Temperature	Humidity	Test Voltage	Tested By
Output Power & ERP	25.1°C	50.6%	DC 3.8V	Vegeta Li
Occupied Bandwidth	25.1°C	50.6%	DC 3.8V	Vegeta Li
Conducted Spurious Emissions	25.1°C	50.6%	DC 3.8V	Vegeta Li
Radiated Spurious Emissions	24°C	68%	AC 120V/60Hz	Berton Luo
Mask	25.1°C	50.6%	DC 3.8V	Vegeta Li
Peak to Average Ratio	25.1°C	50.6%	DC 3.8V	Vegeta Li
Frequency Stability	Normal and Extreme			Vegeta Li

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	Borqs Kids Smartwatch			
Brand Name	WatchMeGo			
Model Name	BKW700, ANSBKW700			
Model Difference(s)	Only differ in model name.			
Hardware Version	DVT1			
Software Version	SW_MD_034_190920_GCF_USERDEBUG			
Power Source	1# Supplied from battery. Model: ZWD512724V 2# DC Voltage supplied from AC/DC adapter. Model: A18A-050100U-US2 3# Supplied from USB port.			
Power Rating	1# DC 4.35V(Limited Charge), 400mAh 2# Input: 100-240V~, 50/60Hz, Max 0.2A, Output:5V == 1A 3# DC 5V 1A			
IEMI No.	Radiated	866027035004528		
	Conducted	866027035001201		
Modulation Type	UL: QPSK,16QAM DL: QPSK,16QAM			
Max. ERP	LTE	Channel Bandwidth (MHz)	QPSK (dBm)	16QAM (dBm)
	Band 26	1.4	21.90	20.94
		3	21.78	20.80
		5	21.75	20.80
		10	21.84	20.73

Note:

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

LTE Band 26					
Test Frequency ID	Bandwidth (MHz)	N _{UL}	Frequency of Uplink (MHz)	N _{DL}	Frequency of Downlink (MHz)
Low Range	1.4	26697	814.7	8697	859.7
	3	26705	815.5	8705	860.5
	5	26715	816.5	8715	861.5
Mid Range	1.4/3/5/10	26740	819	8740	864
High Range	1.4	26783	823.3	8783	868.3
	3	26775	822.5	8775	867.5
	5	26765	821.5	8765	866.5

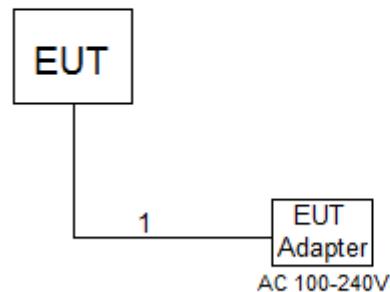
Table for Filed Antenna:

Brand	Model Name	Antenna Type	Connector	Gain (dBi)	Note
N/A	N/A	Internal	N/A	1	LTE Band 26

2.2 DESCRIPTION OF TEST MODES

Following mode(s) is (were) found to be the worst case(s) and selected for the final test.

LTE BAND 26 MODE					
Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
Output Power & ERP	26697 to 26783	26697, 26740, 26783	1.4MHz	QPSK, 16QAM	1RB/3RB/6RB
	26705 to 26775	26705, 26740, 26775	3MHz	QPSK, 16QAM	1RB/8RB/15RB
	26715 to 26765	26715, 26740, 26765	5MHz	QPSK, 16QAM	1RB/12RB/25RB
	26740	26740	10MHz	QPSK, 16QAM	1RB/25RB/50RB
Occupied Bandwidth	26697 to 26783	26697, 26740, 26783	1.4MHz	QPSK, 16QAM	6RB
	26705 to 26775	26705, 26740, 26775	3MHz	QPSK, 16QAM	15RB
	26715 to 26765	26715, 26740, 26765	5MHz	QPSK, 16QAM	25RB
	26740	26740	10MHz	QPSK, 16QAM	1RB/25RB/50RB
Conducted Spurious Emissions	26697 to 26783	26740	1.4MHz	QPSK	1RB
	26705 to 26775	26740	5MHz	QPSK	1RB
	26715 to 26765	26740	10MHz	QPSK	1RB
Radiated Spurious Emissions	26697 to 26783	26740	1.4MHz	QPSK	1RB
	26705 to 26775	26740	5MHz	QPSK	1RB
	26715 to 26765	26740	10MHz	QPSK	1RB
Mask	26697 to 26783	26697, 26783	1.4MHz	QPSK	1RB 6RB
	26705 to 26775	26705, 26775	3MHz	QPSK	1RB 15RB
	26715 to 26765	26715, 26765	5MHz	QPSK	1RB 25RB
	26740	26740	10MHz	QPSK	1RB 50RB
Peak To Average Ratio	26697 to 26783	26697, 26740, 26783	1.4MHz	QPSK, 16QAM	1RB
	26705 to 26775	26705, 26740, 26775	3MHz	QPSK, 16QAM	1RB
	26715 to 26765	26715, 26740, 26765	5MHz	QPSK, 16QAM	1RB
	26740	26740	10MHz	QPSK, 16QAM	1RB
Frequency Stability	26697 to 26783	26740	1.4MHz	QPSK	1RB
	26705 to 26775	26740	3MHz	QPSK	1RB
	26715 to 26765	26740	5MHz	QPSK	1RB
	26740	26740	10MHz	QPSK	1RB

2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED**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.	Series No.
-	-	-	-	-

Item	Cable Type	Shielded Type	Ferrite Core	Length
1	DC Cable	NO	NO	0.8m

3. TEST RESULT

3.1 OUTPUT POWER MEASUREMENT

3.1.1 LIMIT

Mobile / Portable station are limited to 100 watts e.r.p.

3.1.2 TEST PROCEDURE

The testing follows FCC KDB 971168 v03r01 Section 5.

ERP:

EIRP= Output Power + Antennal gain

ERP = EIPR - 2.15dBi.

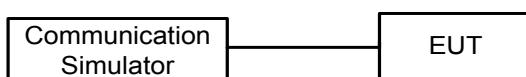
Output Power:

The EUT was set up for the maximum power with 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.

3.1.3 TESTSETUP LAYOUT

Output Power Measurement



3.1.4 TEST DEVIATION

No deviation

3.1.5 TEST RESULTS

Please refer to the APPENDIX A.

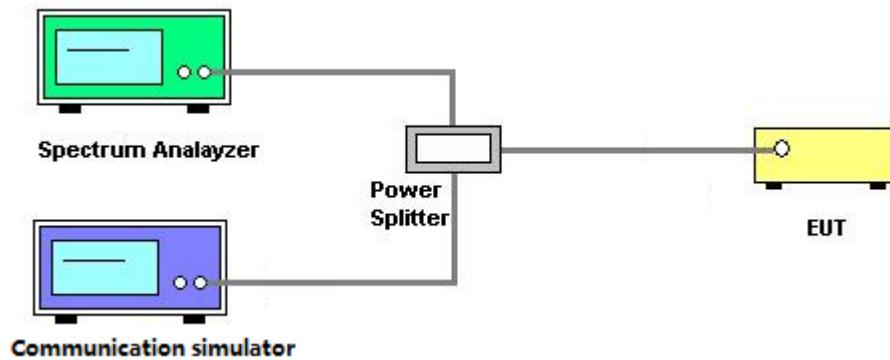
3.2 OCCUPIED BANDWIDTH MEASUREMENT

3.2.1 TEST PROCEDURE

The testing follows FCC KDB 971168 v03r01 Section 4.

1. 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.
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. $RBW = (1\% \sim 5\%) * EBW$
 $VBW \geq 3 * RBW$
4. Set spectrum analyzer with Peak detector.

3.2.2 TEST SETUP LAYOUT



3.2.3 TEST DEVIATION

No deviation

3.2.4 TEST RESULTS

Please refer to the APPENDIX B.

3.3 CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

3.3.1 LIMIT

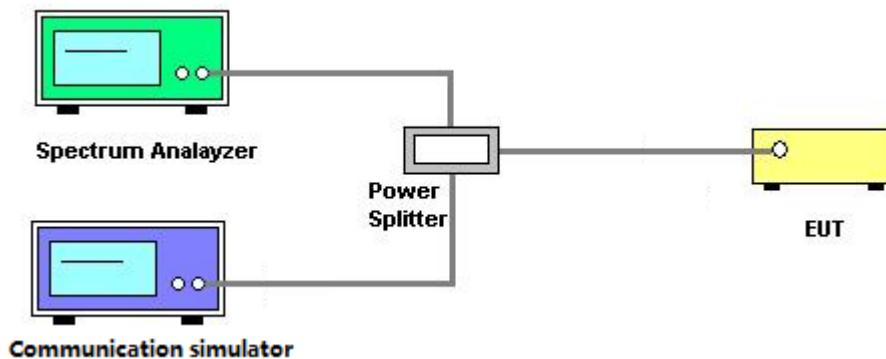
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB. The emission limit equal to -13dBm.

3.3.2 TEST PROCEDURES

The testing follows FCC KDB 971168 v03r01 Section 6.

1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The band edges of low and high channels for the highest RF powers were measured. Set $RBW \geq 1\%$ EBW in the 1MHz band immediately outside and adjacent to the band edge.
3. Set spectrum analyzer with Peak detector.
4. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

3.3.3 TESTSETUP LAYOUT



3.3.4 TESTDEVIATION

No deviation

3.3.5 TEST RESULTS

Please refer to the APPENDIX C.

3.4 RADIATED SPURIOUS EMISSIONS MEASUREMENT

3.4.1 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.

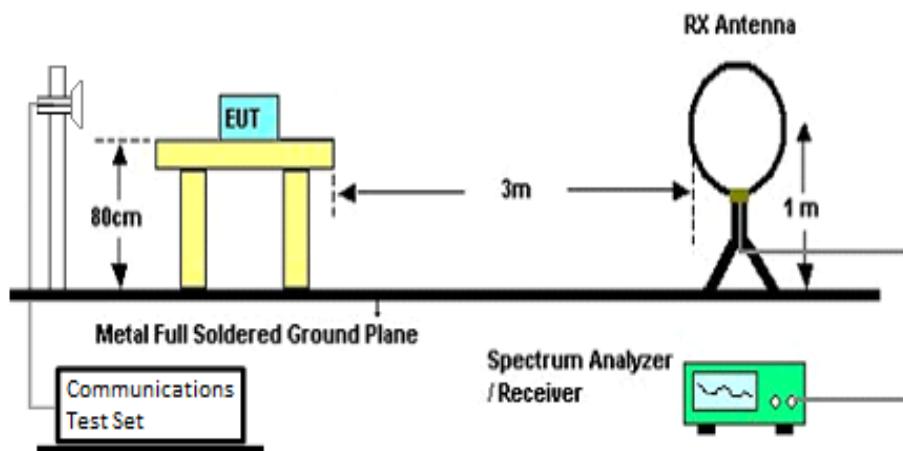
3.4.2 TEST PROCEDURES

The testing follows FCC KDB 971168 v03r01 Section 6.2.

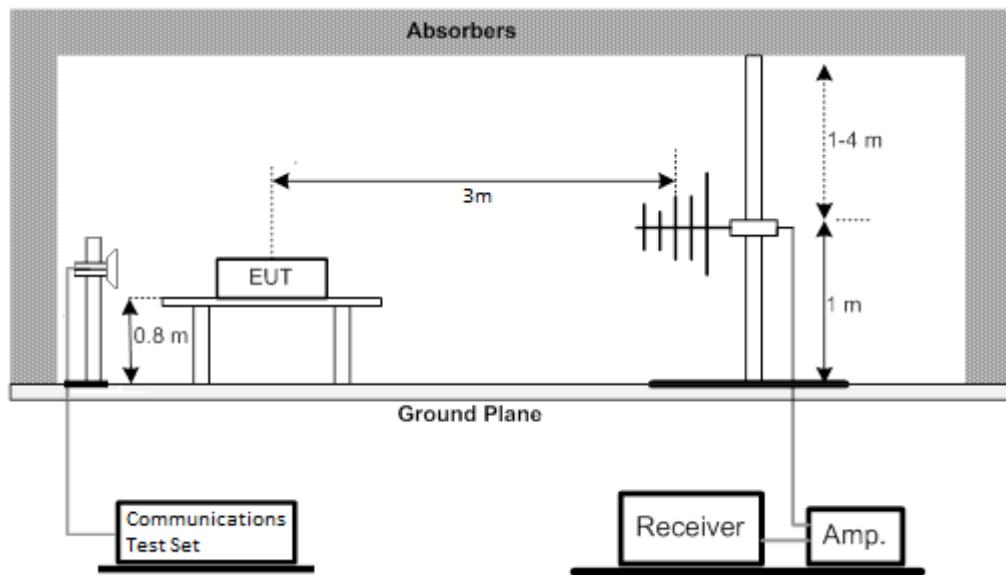
1. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. 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. ERP can be calculated form EIRP by subtracting the gain of dipole, $ERP = EIPR - 2.15\text{dBi}$.
5. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

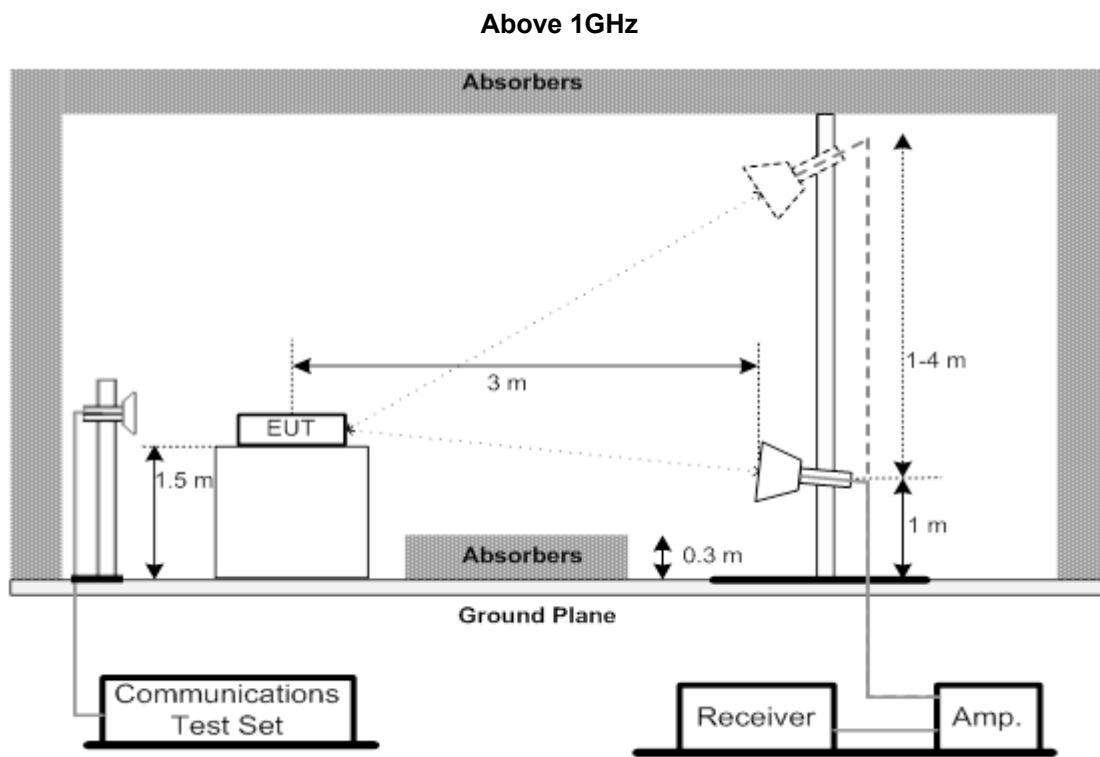
3.4.3 TEST SETUP LAYOUT

Below 30MHz



30MHz to 1000MHz





3.4.4 TESTDEVIATION

No deviation

3.4.5 TEST RESULTS (9KHZ TO 30MHZ)

Please refer to the APPENDIX D.

3.4.6 TEST RESULTS (30MHZ TO 1000MHZ)

Please refer to the APPENDIX E.

3.4.7 TEST RESULTS (ABOVE 1000MHZ)

Please refer to the APPENDIX F.

3.5 MASK MEASUREMENTS

3.5.1 LIMIT

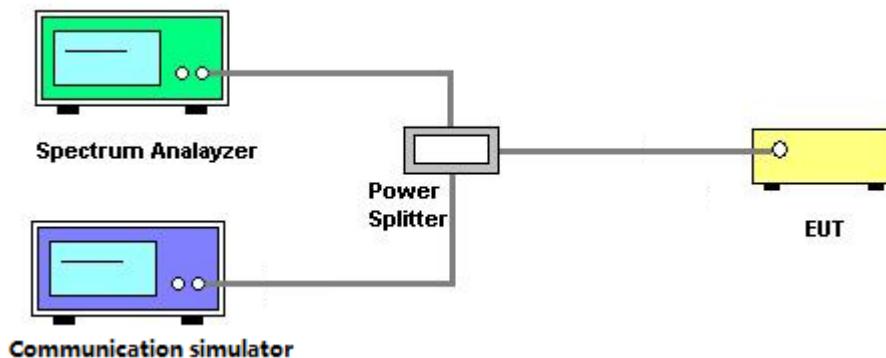
According to FCC part 90.691 shall be tested the emission mask. For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least $116 \log_{10}(f/6.1)$ decibels or $50 + 10\log_{10}(P)$ decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz. For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least $43 + 10\log_{10}(P)$ decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz.

3.5.2 TEST PROCEDURES

The testing follows FCC KDB 971168 v03r01 Section 6.

1. All measurements were done at low and high operational frequency range.
2. Set RBW=1% of 26dBc bandwidth, VBW=3 X RBW, detector=RMS, Sweep time = Auto.
3. Record the max trace plot into the test report.

3.5.3 TESTSETUP LAYOUT



3.5.4 TESTDEVIATION

No deviation

3.5.5 TEST RESULTS

Please refer to the APPENDIX G.

3.6 PEAK TO AVERAGE RATIO MEASUREMENT

3.6.1 LIMIT

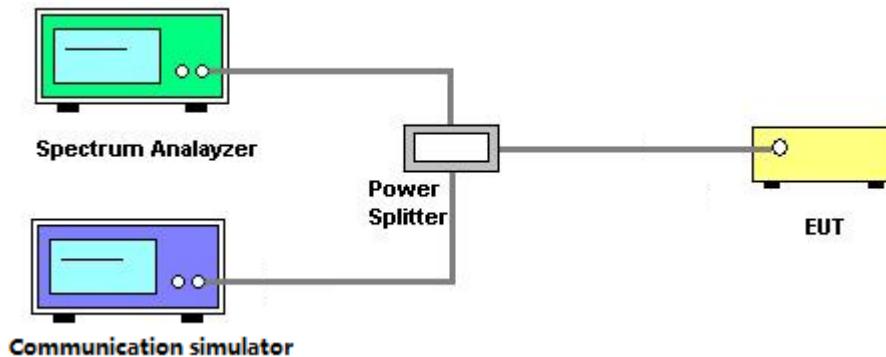
In measuring transmissions in this band using an average power technique, the peak to-average ratio (PAR) of the transmission may not exceed 13 dB.

3.6.2 TEST PROCEDURES

The testing follows FCC KDB 971168 v03r01 Section 5.7.

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

3.6.3 TEST SETUP LAYOUT



3.6.4 TEST DEVIATION

No deviation

3.6.5 TEST RESULTS

Please refer to the APPENDIX H.

3.7 FREQUENCY STABILITY MEASUREMENT

3.7.1 LIMIT

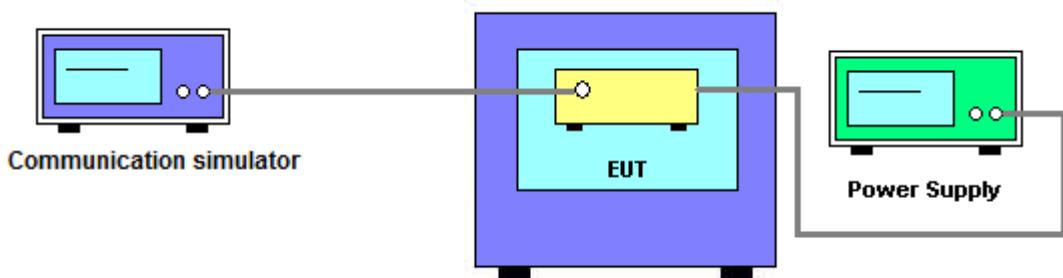
± 1.5 ppm is for base and fixed station. ± 2.5 ppm is for mobile station.

3.7.2 TEST PROCEDURES

The testing follows FCC KDB 971168 v03r01 Section 9.

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

3.7.3 TESTSETUP LAYOUT



3.7.4 TESTDEVIATION

No deviation

3.7.5 TEST RESULTS

Please refer to the APPENDIX I.

4. LIST OF MEASUREMENT EQUIPMENTS

Radiated Spurious Emission Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Antenna	Schwarzbeck	VULB9160	9160-3232	Mar. 09, 2020
2	Amplifier	Agilent	8449B	3008A02274	Mar. 10, 2020
3	HighPass Filter	Wairrwright Instruments GmbH	WHK 1.5/15G-10ST	11	Mar. 10, 2020
4	Band Reject Filter	Wairrwright Instruments GmbH	WRCG 1710/1785-1690/1805-60/12SS	38	Mar. 10, 2020
5	Band Reject Filter	Wairrwright Instruments GmbH	WRCG 824/849-810/863-60/9 SS	7	Mar. 10, 2020
6	Band Reject Filter	Wairrwright Instruments GmbH	WRCG 880/915-860/935-60/9 SS	14	Mar. 10, 2020
7	Band Reject Filter	Wairrwright Instruments GmbH	WRCG 1850/1910-1830/1930-60/10SS	17	Mar. 10, 2020
8	HighPass Filter	Wairrwright Instruments GmbH	WHK3.1/18G-10SS	24	Mar. 10, 2020
9	Wireless Communication Test SET	Agilent	E5515C	MY48364183	Mar. 10, 2020
10	Microwave Preamplifier With Adaptor	EMC INSTRUMENT	EMC2654045	980039 & HA01	Mar. 10, 2020
11	Receiver	Agilent	N9038A	MY52130039	Aug. 03, 2020
12	wideband radio communication tester	R&S	CMW500	152372	Mar. 10, 2020
13	High pass filter	KANGMAIWEI	ZHPF-M3-12.75G-386 9	B2015073763	Feb. 12, 2020
14	High pass filter	KANGMAIWEI	ZHPF-M1000-4000-1	B2015073762	Feb. 12, 2020
15	High pass filter	KANGMAIWEI	ZHPF-M6-186-1727	B2015073764	Feb. 12, 2020
16	Cable	emci	LMR-400(30MHz-1GHz)(8m+5m)	N/A	May 24, 2020
17	Cable	mitron	B10-01-01-12M	18072744	Jun. 29, 2020
18	Controller	ETS-Lindgren	2090	N/A	N/A
19	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
20	Loop Antenna	EM	EM-6876-1	230	Jan. 15, 2020
21	Double Ridged Guide Antenna	ETS	3115	75789	Mar. 09, 2020
22	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Jun. 23, 2020

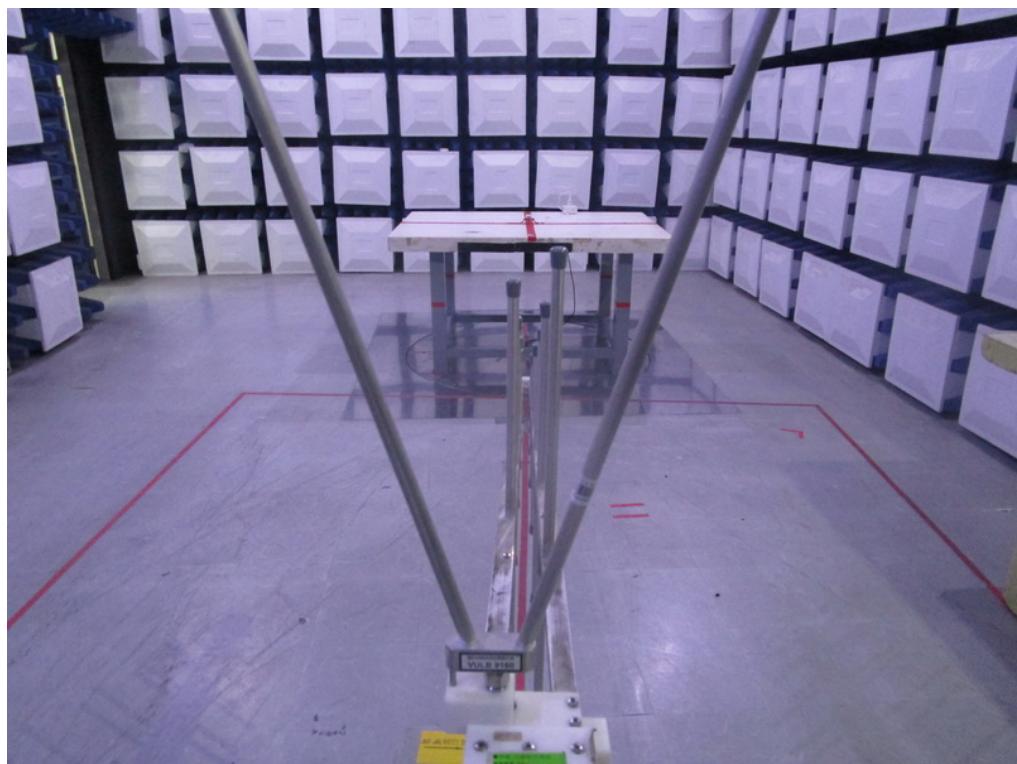
Conducted Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Wireless Communication Test SET	Agilent	E5515C	MY48364183	Mar. 10, 2020
2	EXA Spectrum Analyzer	Agilent	N9010A	MY50520044	Mar. 10, 2020
3	POWER SPLITTER	Mini-Circuits	ZFRSC-123-S+	331000910-1	Mar. 10, 2020
4	wideband radio communication tester	R&S	CMW500	152372	Mar. 10, 2020

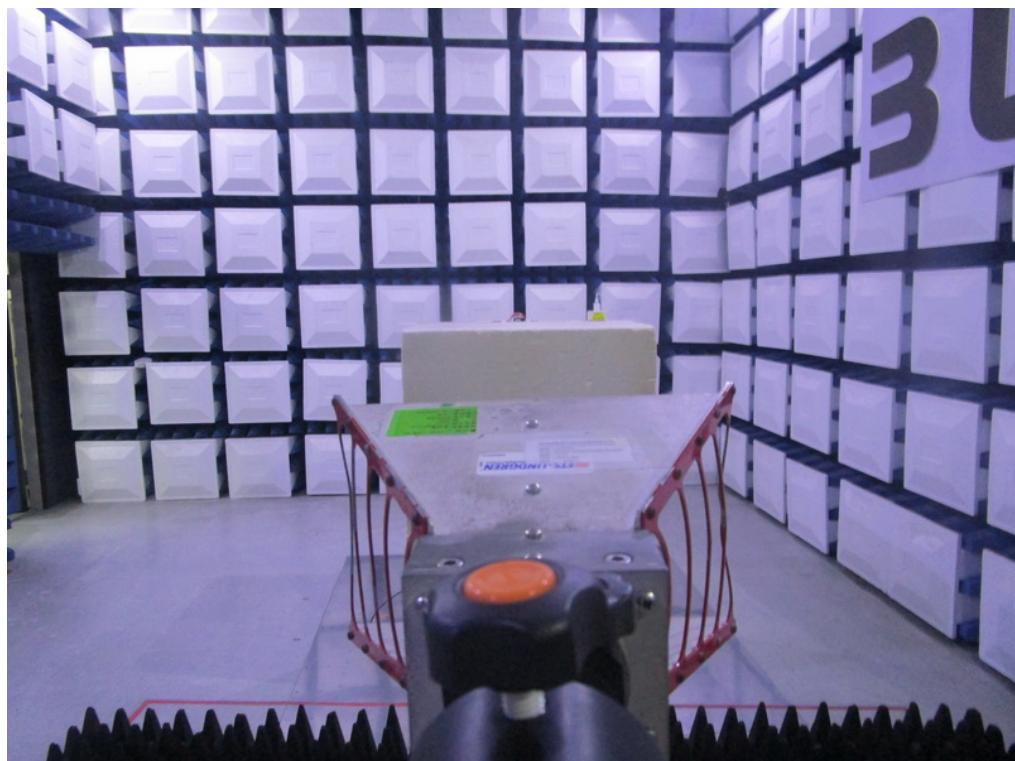
Frequency Stability Measurement					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Wireless Communication Test SET	Agilent	E5515C	MY48364183	Mar. 10, 2020
2	Multi-output DC Power Supply	GW Instek	GPC-3030DN	EK880675	Sep. 26, 2020
3	POWER SPLITTER	Mini-Circuits	ZFRSC-123-S+	331000910-1	Mar. 10, 2020
4	wideband radio communication tester	R&S	CMW500	152372	Mar. 10, 2020
5	Const Temp,& Humidity Chamber	Bell	BTH-50C	20170306001	Mar. 10, 2020

Remark: "N/A" denotes no model name, serial no. or calibration specified.

All calibration period of equipment list is one year.

5. EUT TEST PHOTO**Radiated Emissions Test Photos****9 kHz to 30 MHz**

Radiated Emissions Test Photos**30 MHz to 1 GHz**

Radiated Emissions Test Photos**Above 1 GHz**

APPENDIX A - OUTPUT POWER

Output Power (dBm):

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				26697CH	26740CH	26783CH
				814.7MHz	819MHz	823.3MHz
26 / 1.4M	QPSK	1	0	22.78	22.95	22.67
		1	2	23.05	22.96	22.82
		1	5	22.95	22.81	22.76
		3	0	22.98	22.87	22.77
		3	1	22.88	22.85	22.76
		3	2	22.77	22.84	22.75
		6	0	21.83	21.86	21.78
	16QAM	1	0	21.81	21.81	21.50
		1	2	22.09	21.91	21.60
		1	5	21.91	21.65	21.42
		3	0	21.94	20.67	21.85
		3	1	21.65	21.95	21.84
		3	2	21.68	21.91	21.66
		6	0	20.67	20.93	20.86

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				26705CH	26740CH	26775CH
				815.5MHz	819MHz	822.5MHz
26 / 3M	QPSK	1	0	22.92	22.92	22.90
		1	7	22.85	22.92	22.93
		1	14	22.90	22.78	22.85
		8	0	21.86	21.87	21.90
		8	4	21.94	21.91	21.86
		8	7	21.81	21.91	21.84
		15	0	21.93	21.90	21.84
	16QAM	1	0	21.88	21.78	21.68
		1	7	21.89	21.70	21.62
		1	14	21.95	21.61	21.85
		8	0	20.79	20.90	20.83
		8	4	20.82	20.88	20.87
		8	7	20.80	20.82	20.86
		15	0	20.90	20.79	20.88

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				26715CH	26740CH	26765CH
				816.5MHz	819MHz	821.5MHz
26 / 5M	QPSK	1	0	22.75	22.83	22.72
		1	13	22.78	22.64	22.73
		1	24	22.90	22.85	22.82
		12	0	21.82	21.80	21.72
		12	6	21.80	21.90	21.70
		12	11	21.79	21.91	21.70
		25	0	21.83	21.88	21.83
	16QAM	1	0	21.76	21.76	21.81
		1	13	21.95	21.87	21.74
		1	24	21.88	21.62	21.83
		12	0	20.89	21.03	20.61
		12	6	20.84	21.01	20.75
		12	11	20.86	20.85	20.72
		25	0	20.84	20.87	20.82

LTE Band / BW	Modulation	RB Size	RB Offset	Mid CH
				26740CH
				819MHz
26 / 10M	QPSK	1	0	22.99
		1	25	22.98
		1	49	22.82
		25	0	21.81
		25	13	21.80
		25	25	21.84
		50	0	21.77
	16QAM	1	0	21.62
		1	25	21.88
		1	49	21.76
		25	0	20.76
		25	13	20.80
		25	25	20.78
		50	0	20.83

ERP (dBm):

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				26697CH	26740CH	26783CH
				814.7MHz	819MHz	823.3MHz
26 / 1.4M	QPSK	1	0	21.63	21.80	21.52
		1	2	21.90	21.81	21.67
		1	5	21.80	21.66	21.61
		3	0	21.83	21.72	21.62
		3	1	21.73	21.70	21.61
		3	2	21.62	21.69	21.60
		6	0	20.68	20.71	20.63
	16QAM	1	0	20.66	20.66	20.35
		1	2	20.94	20.76	20.45
		1	5	20.76	20.50	20.27
		3	0	20.79	19.52	20.70
		3	1	20.50	20.80	20.69
		3	2	20.53	20.76	20.51
		6	0	19.52	19.78	19.71

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				26705CH	26740CH	26775CH
				815.5MHz	819MHz	822.5MHz
26 / 3M	QPSK	1	0	21.77	21.77	21.75
		1	7	21.70	21.77	21.78
		1	14	21.75	21.63	21.70
		8	0	20.71	20.72	20.75
		8	4	20.79	20.76	20.71
		8	7	20.66	20.76	20.69
		15	0	20.78	20.75	20.69
	16QAM	1	0	20.73	20.63	20.53
		1	7	20.74	20.55	20.47
		1	14	20.80	20.46	20.70
		8	0	19.64	19.75	19.68
		8	4	19.67	19.73	19.72
		8	7	19.65	19.67	19.71
		15	0	19.75	19.64	19.73

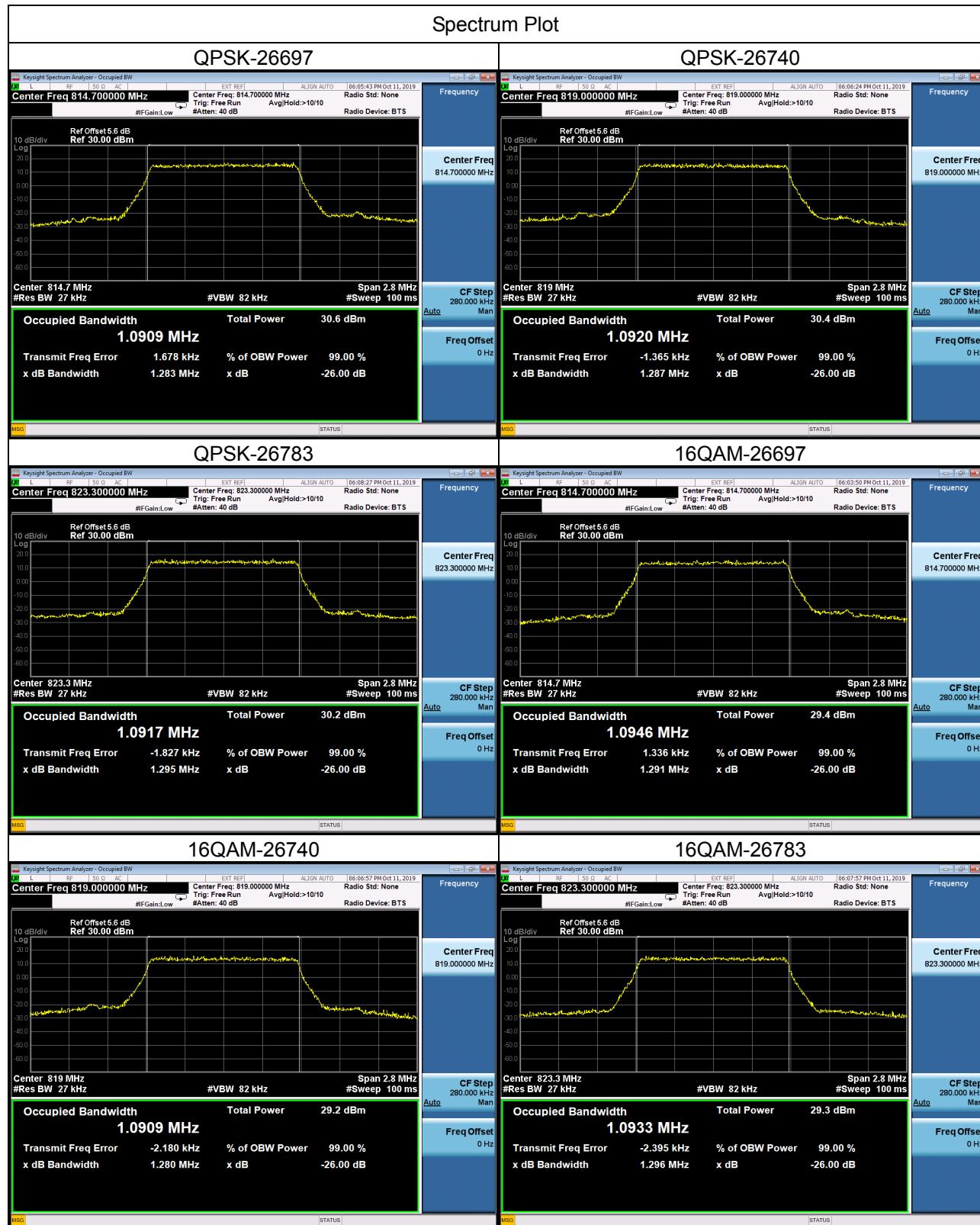
LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				26715CH	26740CH	26765CH
				816.5MHz	819MHz	821.5MHz
26 / 5M	QPSK	1	0	21.60	21.68	21.57
		1	13	21.63	21.49	21.58
		1	24	21.75	21.70	21.67
		12	0	20.67	20.65	20.57
		12	6	20.65	20.75	20.55
		12	11	20.64	20.76	20.55
		25	0	20.68	20.73	20.68
	16QAM	1	0	20.61	20.61	20.66
		1	13	20.80	20.72	20.59
		1	24	20.73	20.47	20.68
		12	0	19.74	19.88	19.46
		12	6	19.69	19.86	19.60
		12	11	19.71	19.70	19.57
		25	0	19.69	19.72	19.67

LTE Band / BW	Modulation	RB Size	RB Offset	Mid CH
				26740CH
				819MHz
26 / 10M	QPSK	1	0	21.84
		1	25	21.83
		1	49	21.67
		25	0	20.66
		25	13	20.65
		25	25	20.69
		50	0	20.62
	16QAM	1	0	20.47
		1	25	20.73
		1	49	20.61
		25	0	19.61
		25	13	19.65
		25	25	19.63
		50	0	19.68

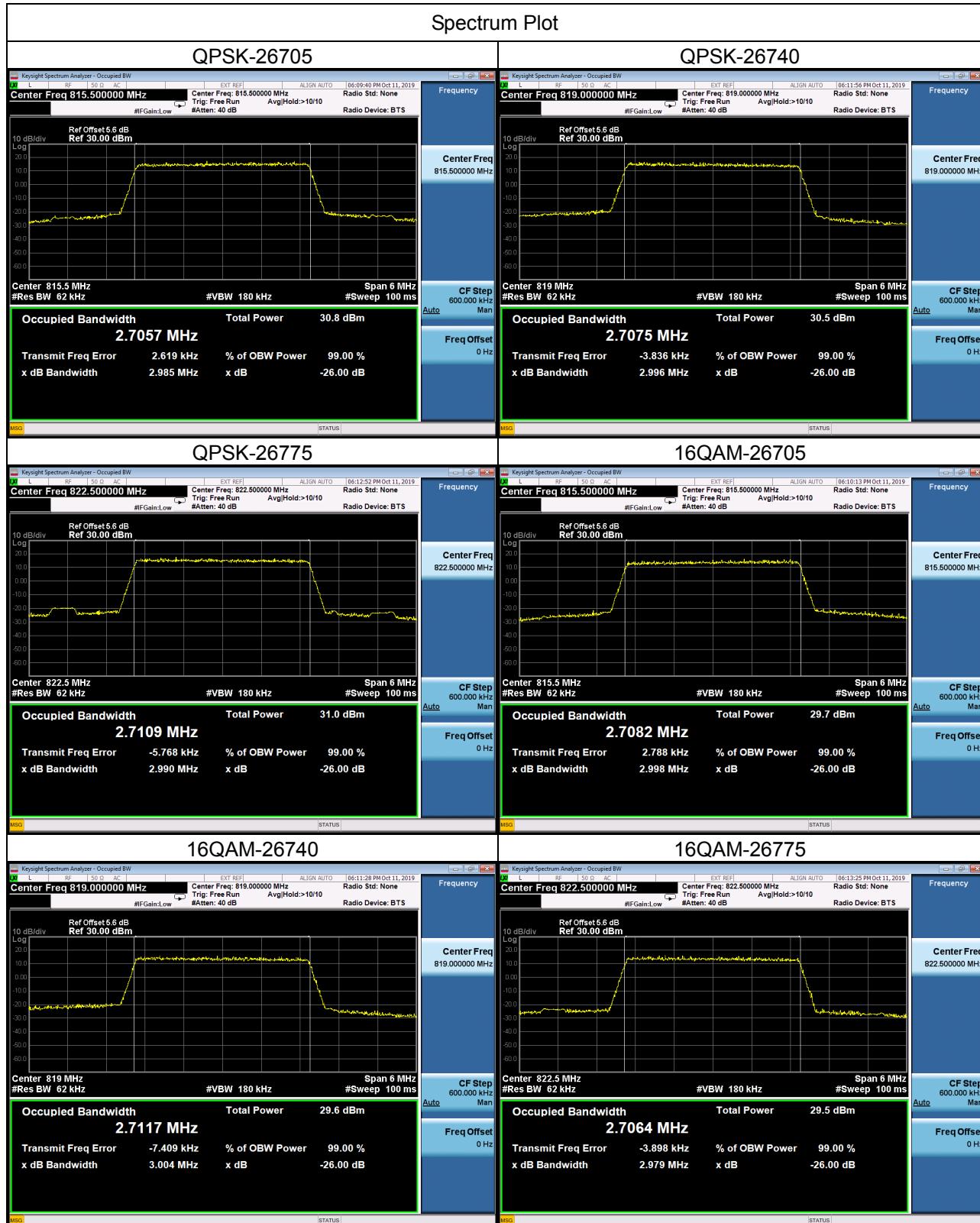
APPENDIX B - OCCUPIED BANDWIDTH

LTE Band 26_1.4M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
26697	814.7	1.0909	26697	814.7	1.238
26740	819	1.0920	26740	819	1.287
26783	823.3	1.0917	26783	823.3	1.295

16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
26697	814.7	1.0946	26697	814.7	1.291
26740	819	1.0909	26740	819	1.280
26783	823.3	1.0933	26783	823.3	1.296



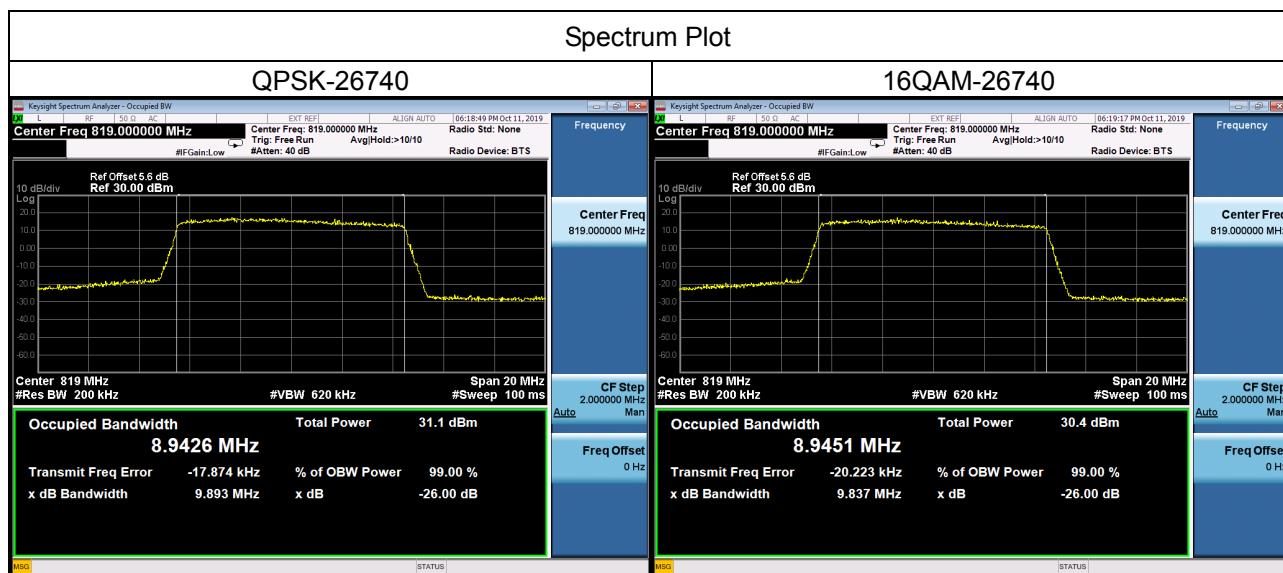
LTE Band 26_3M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
26705	815.5	2.7057	26705	815.5	2.985
26740	819	2.7075	26740	819	2.996
26775	822.5	2.7109	26775	822.5	2.990
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
26705	815.5	2.7082	26705	815.5	2.998
26740	819	2.7117	26740	819	3.004
26775	822.5	2.7064	26775	822.5	2.979



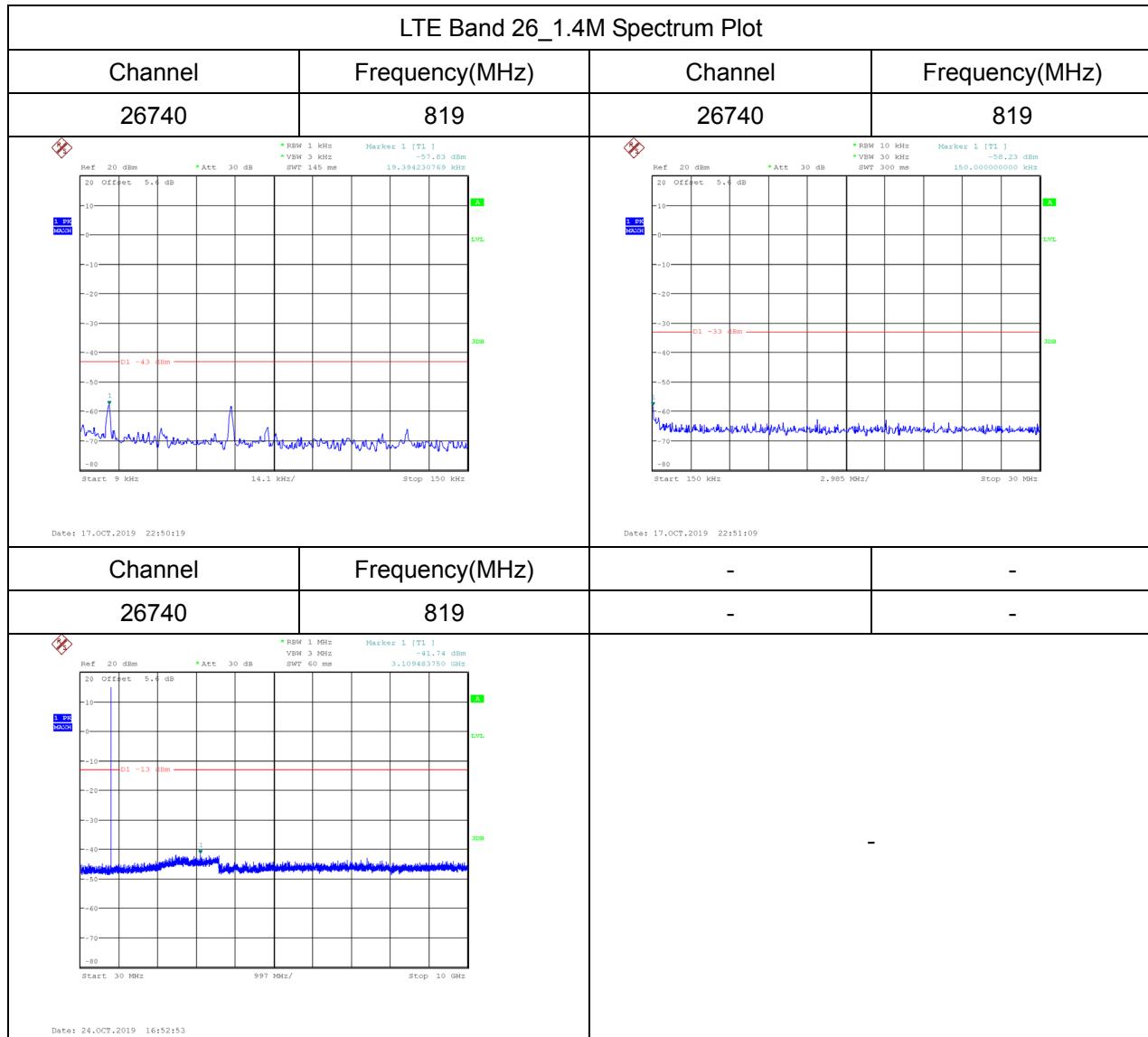
LTE Band 26_5M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
26715	816.5	4.4943	26715	816.5	5.003
26740	819	4.5047	26740	819	5.023
26765	821.5	4.5085	26765	821.5	5.009
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
26715	816.5	4.5025	26715	816.5	4.983
26740	819	4.5024	26740	819	4.980
26765	821.5	4.5097	26765	821.5	5.032

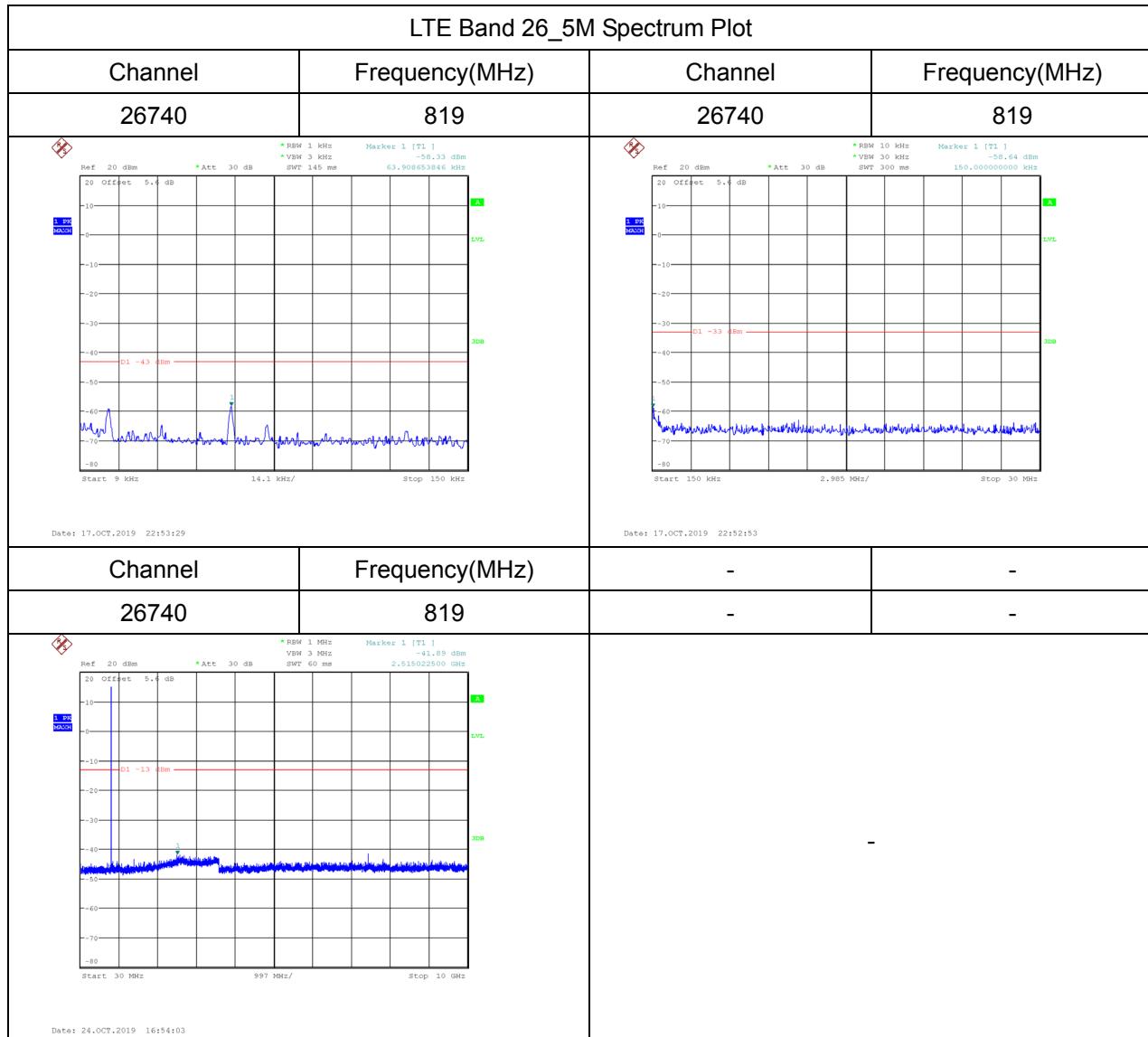


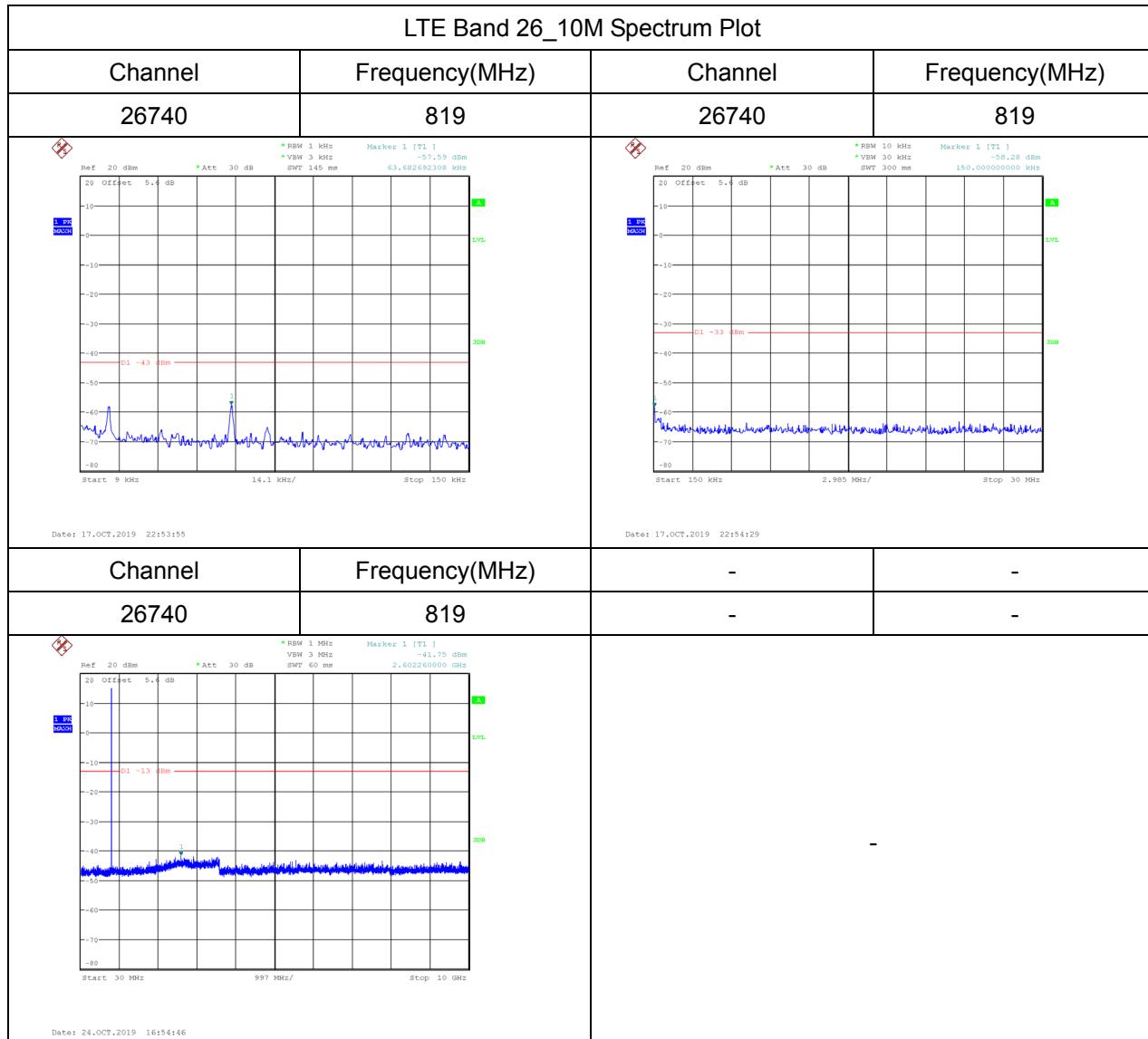
LTE Band 26_10M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
26740	819	8.9426	26740	819	9.893
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
26740	819	8.9451	26740	819	9.837



APPENDIX C - CONDUCTED SPURIOUS EMISSIONS



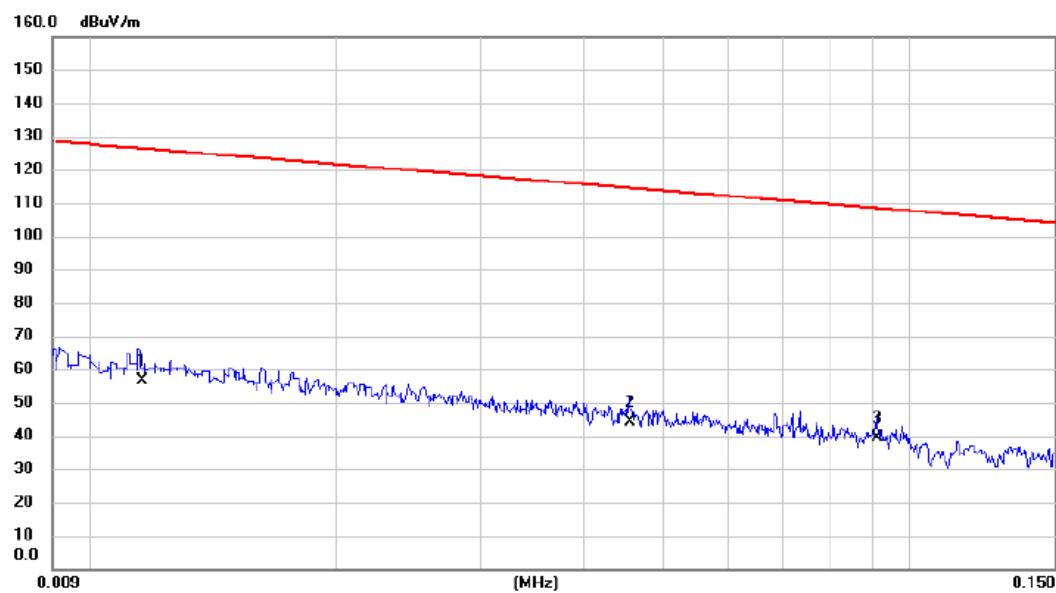




APPENDIX D - RADIATED SPURIOUS EMISSIONS (9KHZ TO 30MHZ)

Test Mode

TX Mode

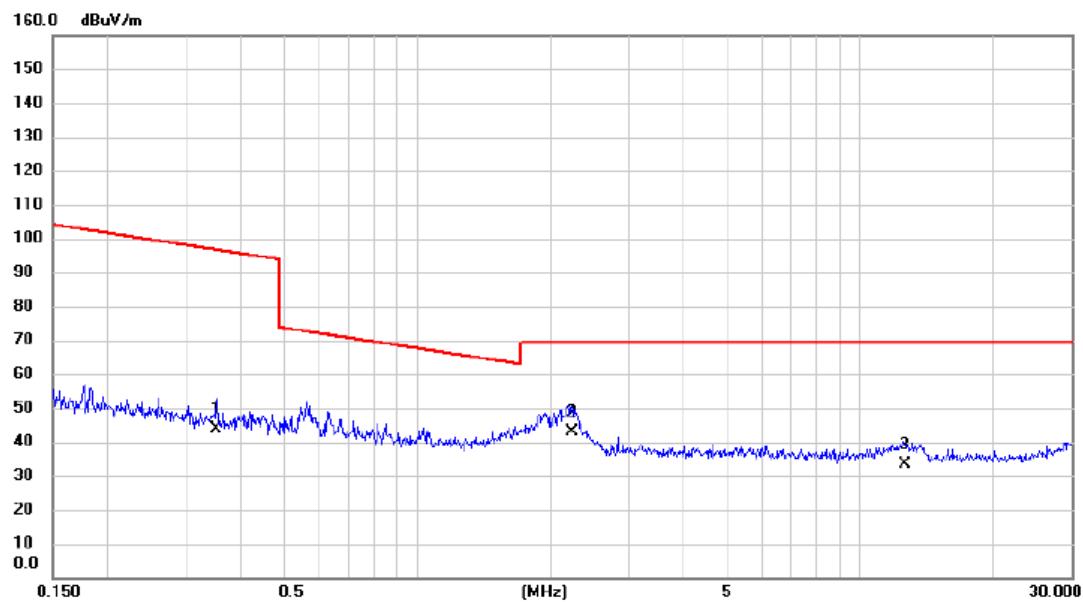
Ant 0°

No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		0.0116	40.20	16.34	56.54	126.32	-69.78	AVG	
2		0.0456	30.12	13.92	44.04	114.43	-70.39	AVG	
3	*	0.0912	25.69	13.54	39.23	108.41	-69.18	QP	

Test Mode

TX Mode

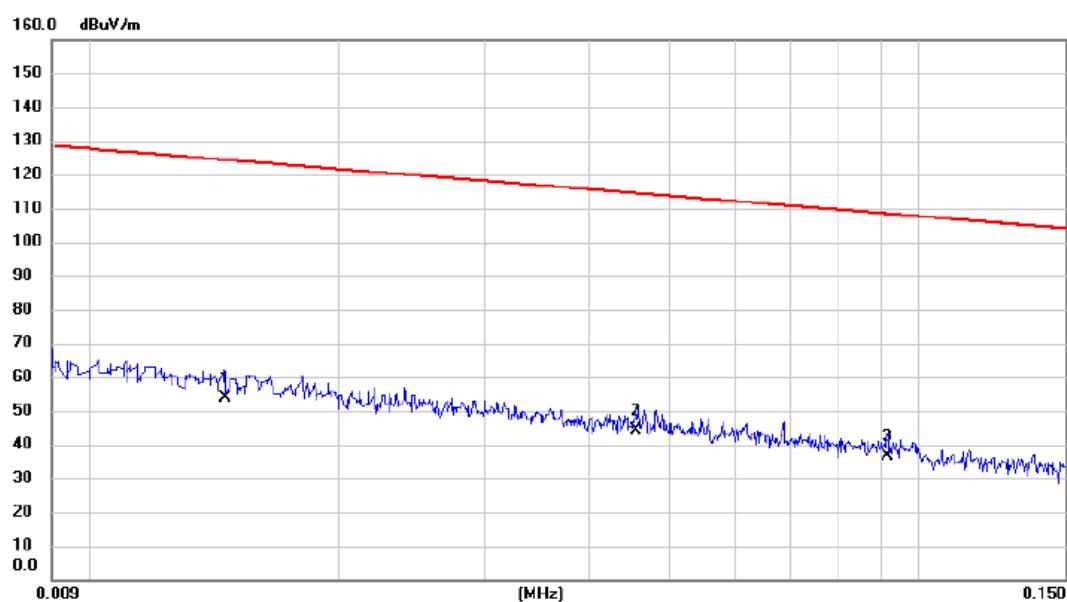
Ant 0°



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Detector	Comment
			Level	Factor	ment				
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		0.3520	30.25	13.42	43.67	96.67	-53.00	AVG	
2	*	2.2367	31.45	11.68	43.13	69.54	-26.41	QP	
3		12.5821	21.84	11.60	33.44	69.54	-36.10	QP	

Test Mode

TX Mode

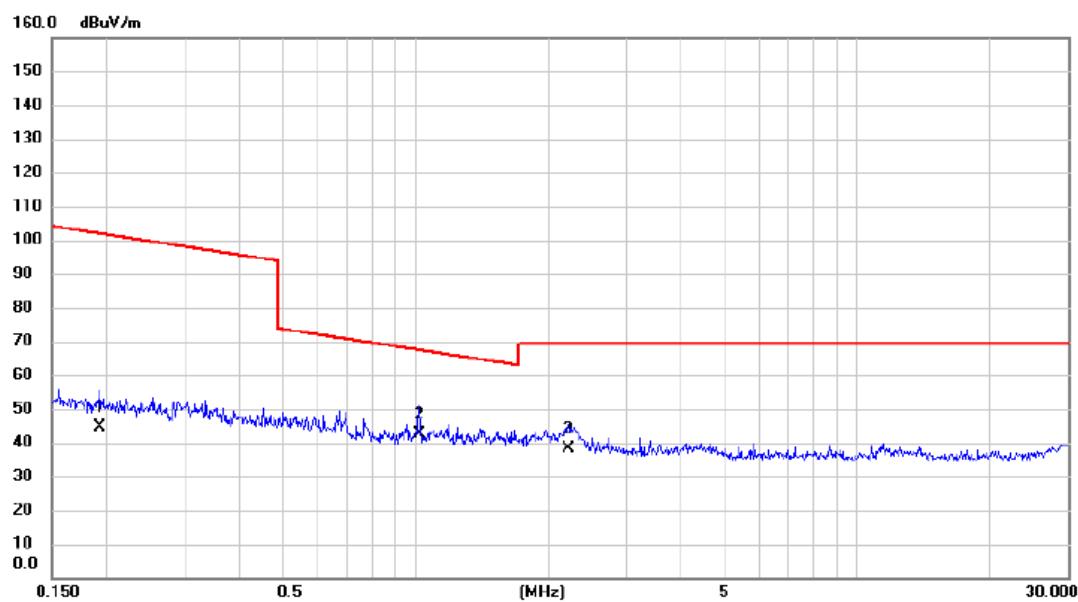
Ant 90°

No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin	Detector	Comment
			Level	Factor	ment				
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB		
1		0.0146	38.45	15.44	53.89	124.32	-70.43	AVG	
2	*	0.0456	30.47	13.92	44.39	114.43	-70.04	AVG	
3		0.0916	22.90	13.54	36.44	108.37	-71.93	QP	

Test Mode

TX Mode

Ant 90°

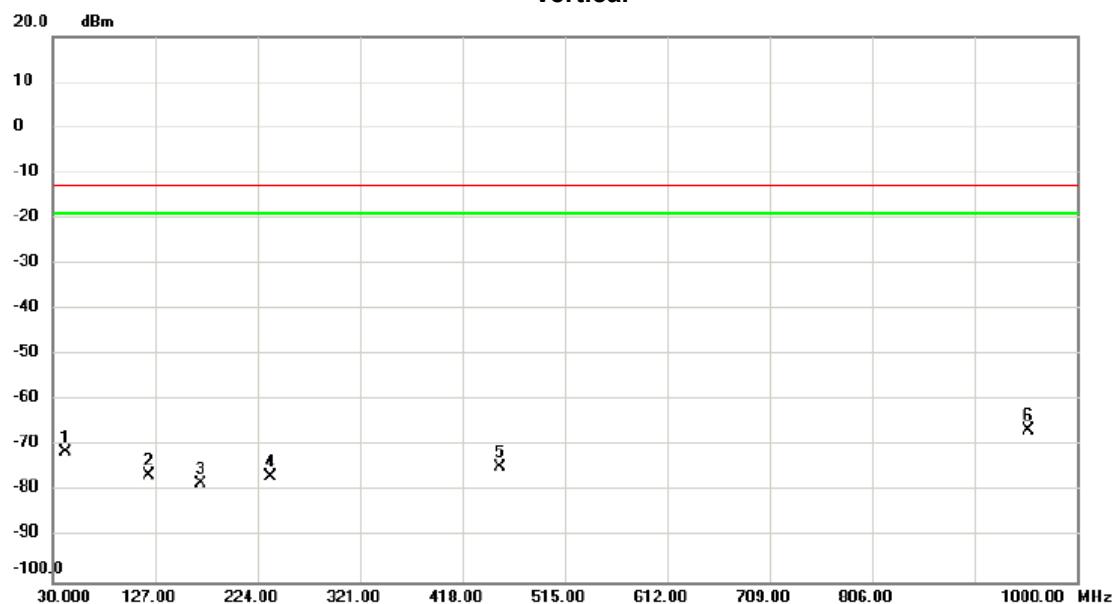


No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin					
							MHz	dBuV	dB	dBuV/m	dB	Detector
1		0.1934	31.15	13.60	44.75	101.88	-57.13	AVG				
2	*	1.0211	30.25	12.49	42.74	67.42	-24.68	QP				
3		2.2250	26.49	11.68	38.17	69.54	-31.37	QP				

APPENDIX E - RADIATED SPURIOUS EMISSIONS (30MHZ TO 1000MHZ)

Test Mode | LTE Band 26_TX CH26740_1.4M

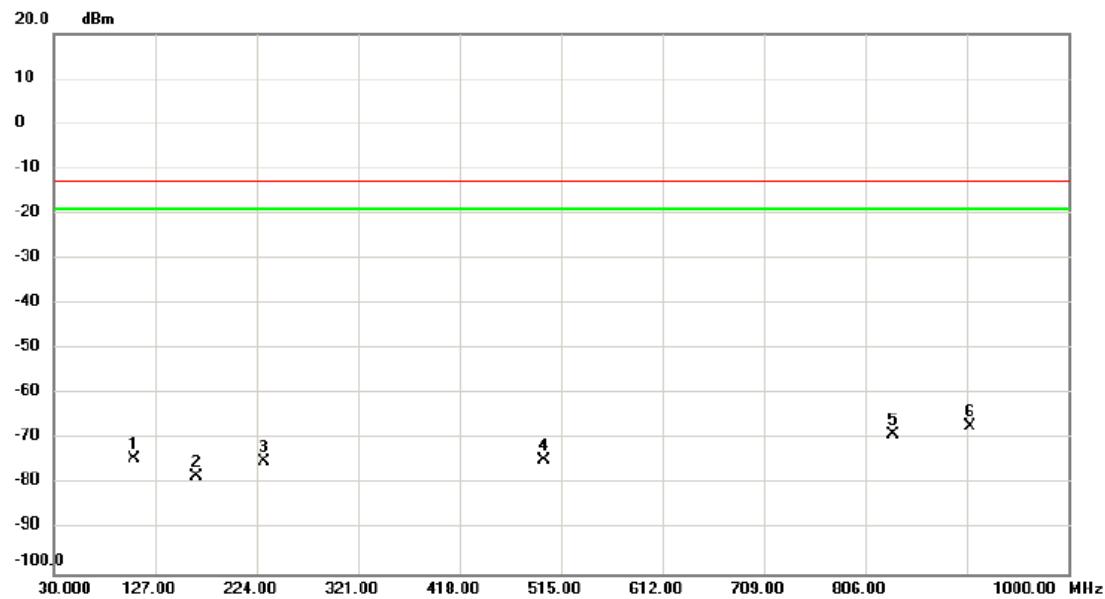
Vertical



No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1		42.610	-56.94	-14.51	-71.45	-13.00	-58.45	peak	
2		121.180	-63.43	-13.10	-76.53	-13.00	-63.53	peak	
3		169.680	-65.73	-12.44	-78.17	-13.00	-65.17	peak	
4		236.610	-62.68	-14.16	-76.84	-13.00	-63.84	peak	
5		452.920	-66.55	-8.12	-74.67	-13.00	-61.67	peak	
6 *		953.440	-65.96	-0.65	-66.61	-13.00	-53.61	peak	

Test Mode | LTE Band 26_TX CH26740_1.4M

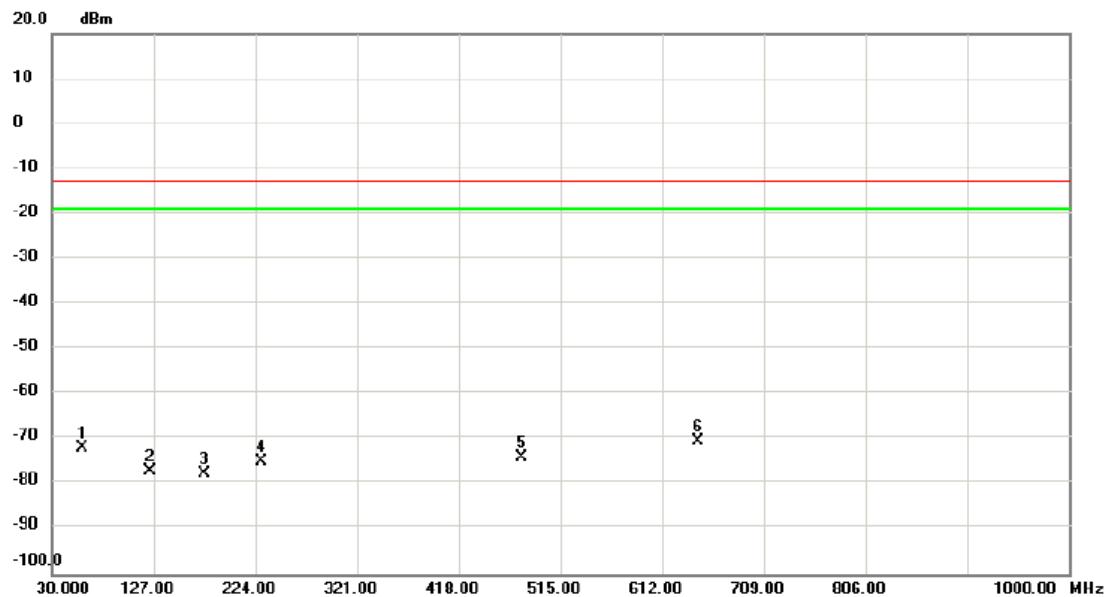
Horizontal



No.	Mk.	Freq. MHz	Reading	Correct	Measure-	Limit	Margin	Detector	Comment
			Level dBm	Factor dB	ment dBm				
1		106.630	-59.53	-14.81	-74.34	-13.00	-61.34	peak	
2		165.800	-66.46	-11.89	-78.35	-13.00	-65.35	peak	
3		230.790	-60.64	-14.30	-74.94	-13.00	-61.94	peak	
4		498.510	-66.82	-7.77	-74.59	-13.00	-61.59	peak	
5		832.190	-66.26	-2.58	-68.84	-13.00	-55.84	peak	
6 *		905.910	-65.41	-1.73	-67.14	-13.00	-54.14	peak	

Test Mode

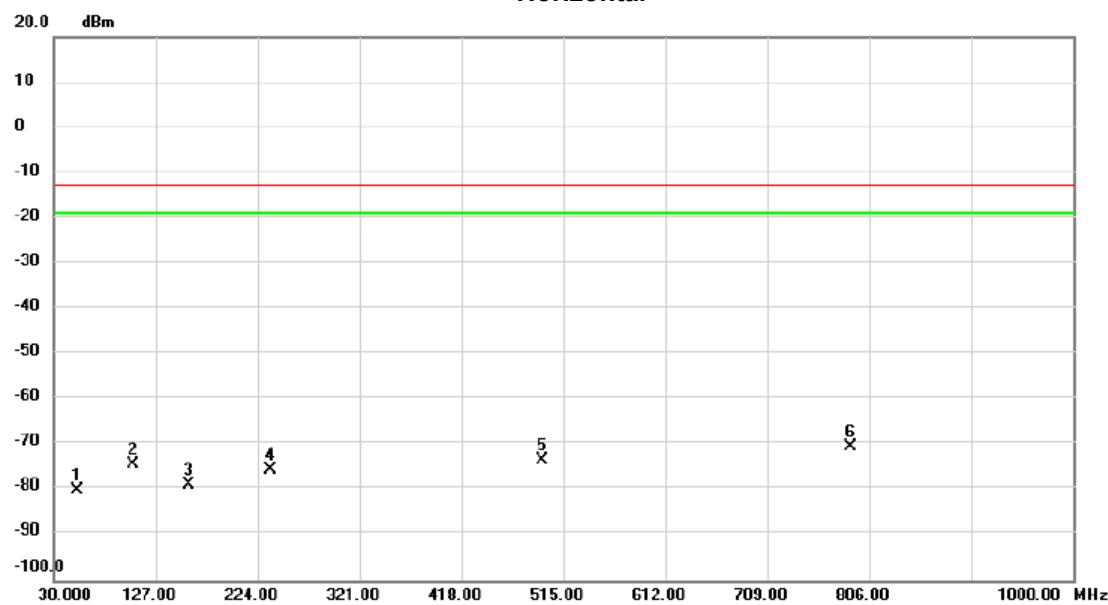
LTE Band 26_TX CH26740_5M

Vertical

No.	Mk.	Freq. MHz	Reading Level	Correct Factor	Measure- ment	Limit	Margin	Comment
			dBm	dB	dBm	dBm	dB	
1		59.100	-57.14	-14.77	-71.91	-13.00	-58.91	peak
2		123.120	-63.81	-13.11	-76.92	-13.00	-63.92	peak
3		175.500	-64.70	-12.88	-77.58	-13.00	-64.58	peak
4		229.820	-60.48	-14.35	-74.83	-13.00	-61.83	peak
5		478.140	-66.22	-7.92	-74.14	-13.00	-61.14	peak
6 *		645.950	-65.68	-4.80	-70.48	-13.00	-57.48	peak

Test Mode

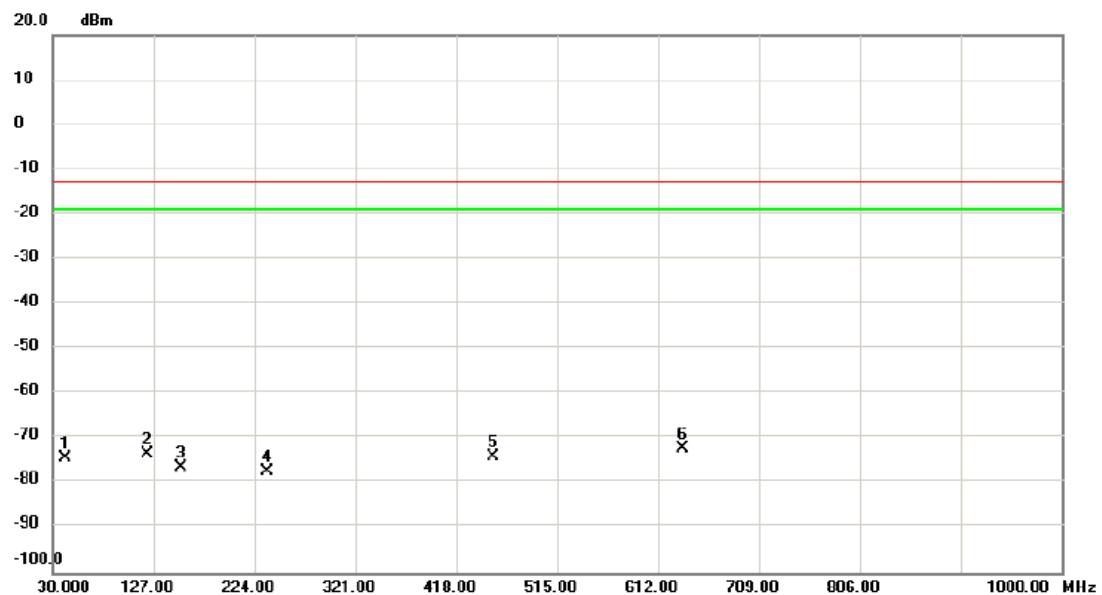
LTE Band 26_TX CH26740_5M

Horizontal

No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1		52.310	-66.16	-14.01	-80.17	-13.00	-67.17	peak	
2		105.660	-59.58	-14.87	-74.45	-13.00	-61.45	peak	
3		159.010	-67.65	-11.19	-78.84	-13.00	-65.84	peak	
4		236.610	-61.53	-14.16	-75.69	-13.00	-62.69	peak	
5		494.630	-65.77	-7.79	-73.56	-13.00	-60.56	peak	
6 *		788.540	-67.35	-3.15	-70.50	-13.00	-57.50	peak	

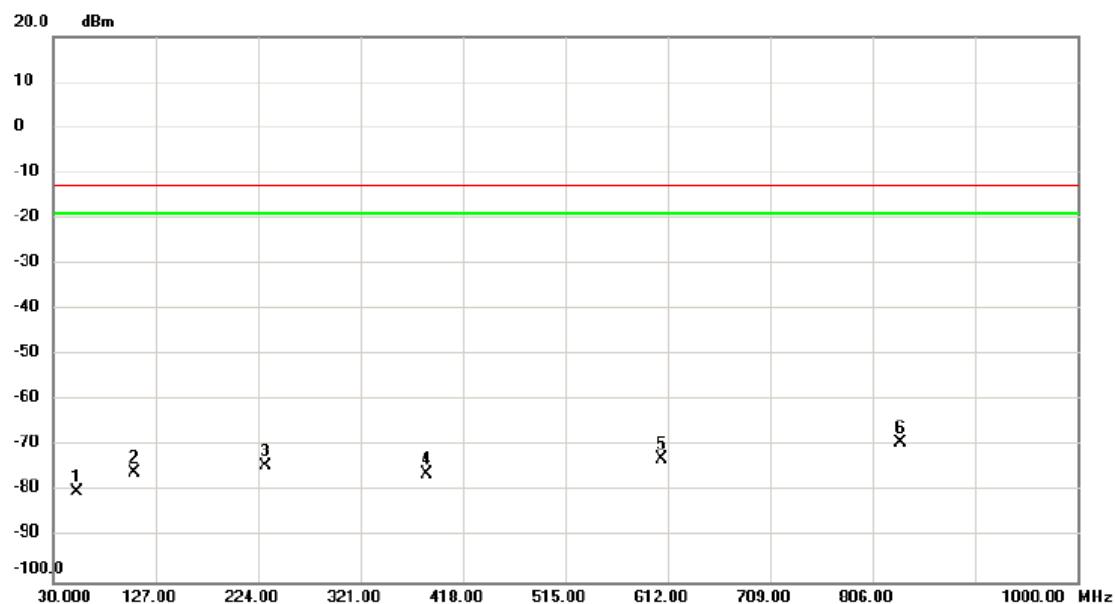
Test Mode | LTE Band 26_TX CH26740_10M

Vertical



No.	Mk.	Reading		Correct Factor	Measure- ment	Limit	Margin	Detector	Comment
		MHz	dBm						
1		41.640	-59.95	-14.33	-74.28	-13.00	-61.28	peak	
2		121.180	-60.43	-13.10	-73.53	-13.00	-60.53	peak	
3		153.190	-64.39	-11.94	-76.33	-13.00	-63.33	peak	
4		236.610	-63.18	-14.16	-77.34	-13.00	-64.34	peak	
5		452.920	-66.05	-8.12	-74.17	-13.00	-61.17	peak	
6 *		635.280	-67.12	-5.03	-72.15	-13.00	-59.15	peak	

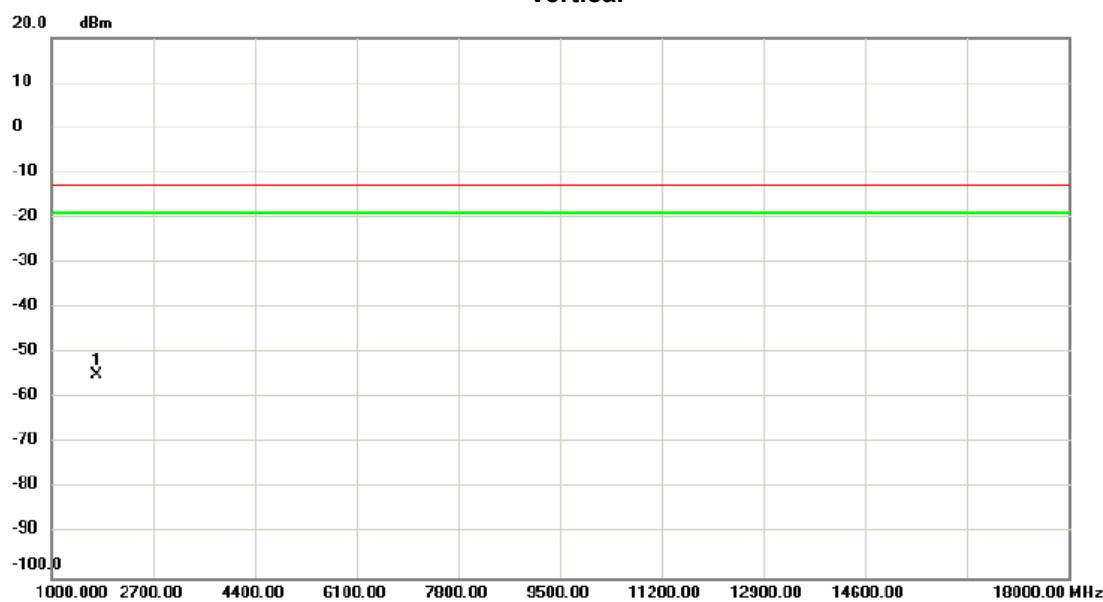
Test Mode | LTE Band 26_TX CH26740_10M

Horizontal

No.	Mk.	Freq. MHz	Reading Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1		52.310	-66.10	-14.01	-80.11	-13.00	-67.11	peak	
2		106.630	-61.03	-14.81	-75.84	-13.00	-62.84	peak	
3		230.790	-60.14	-14.30	-74.44	-13.00	-61.44	peak	
4		384.050	-66.32	-9.92	-76.24	-13.00	-63.24	peak	
5		606.180	-67.18	-5.66	-72.84	-13.00	-59.84	peak	
6 *		832.190	-66.76	-2.58	-69.34	-13.00	-56.34	peak	

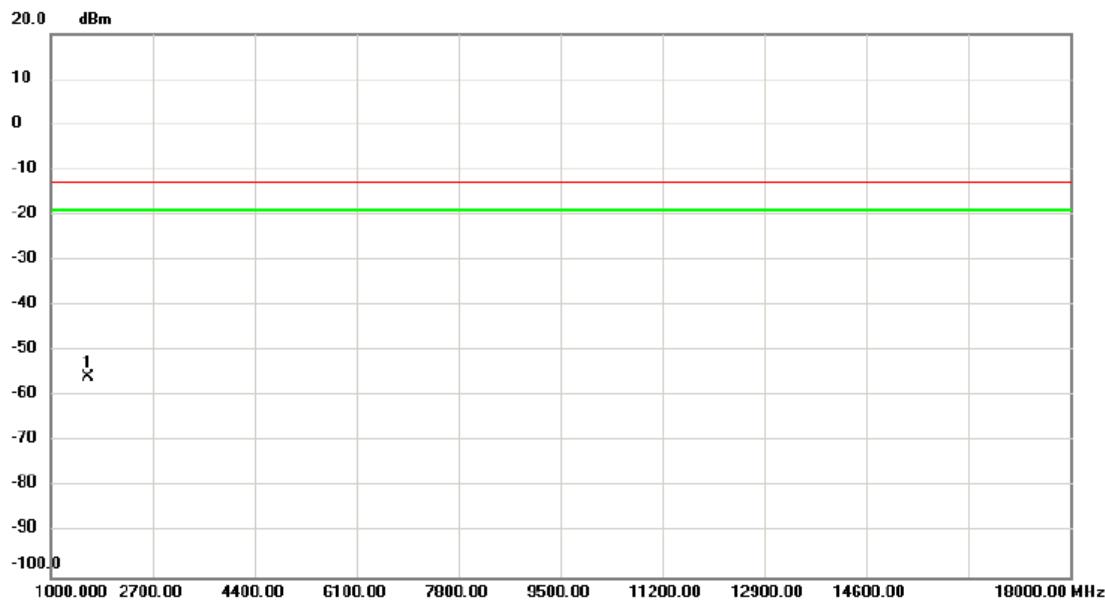
APPENDIX F - RADIATED SPURIOUS EMISSIONS (ABOVE 1000MHZ)

Test Mode | LTE Band 26_TX CH26740_1.4M

Vertical

No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin	
		MHz	dBm	dB	dBm	dB	Detector	Comment
1	*	1765.000	-52.42	-2.32	-54.74	-13.00	-41.74	peak

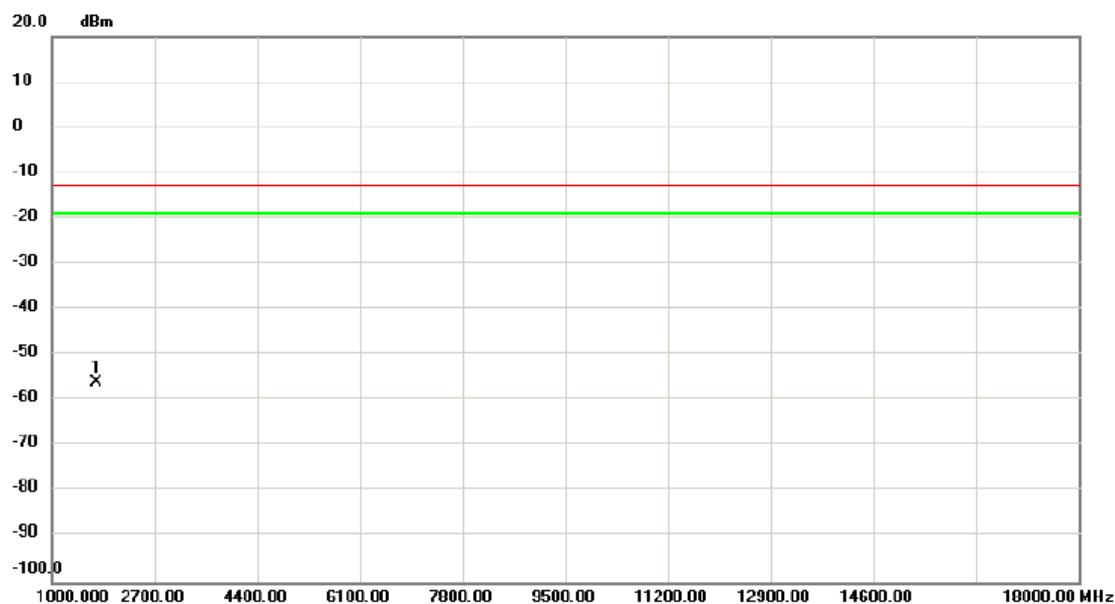
Test Mode | LTE Band 26_TX CH26740_1.4M

Horizontal

No.	Mk.	Reading Freq. MHz	Level dBm	Correct Factor dB	Measure- ment dBm	Limit dBm	Margin dB	Detector	Comment
1	*	1629.000	-52.55	-3.25	-55.80	-13.00	-42.80	peak	

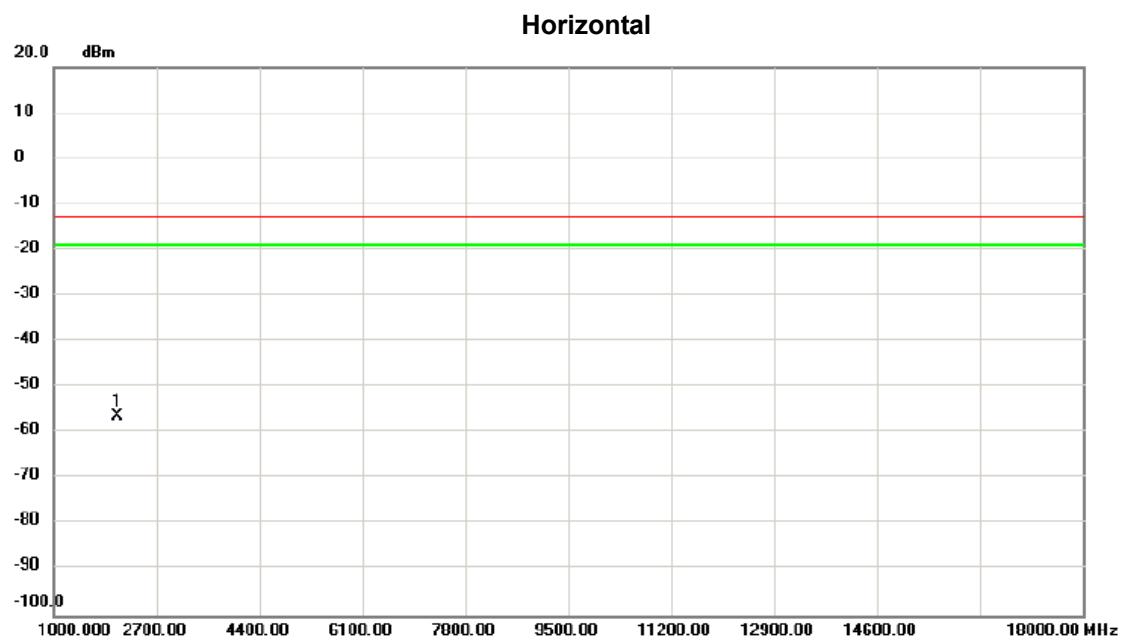
Test Mode

LTE Band 26_TX CH26740_5M

Vertical

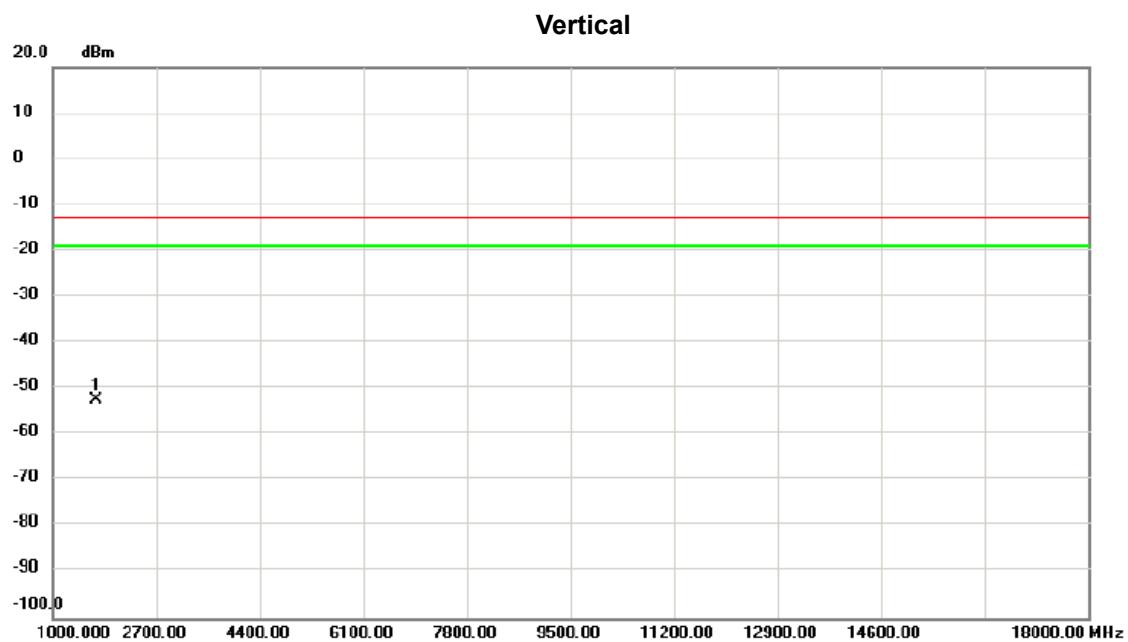
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin	
		MHz	dBm	dB	dBm	dB	Detector	Comment
1	*	1731.000	-53.64	-2.55	-56.19	-13.00	-43.19	peak

Test Mode	LTE Band 26_TX CH26740_5M
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No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin	
		MHz	dBm	dB	dBm	dB	Detector	Comment
1	*	2054.000	-55.49	-0.74	-56.23	-13.00	-43.23	peak

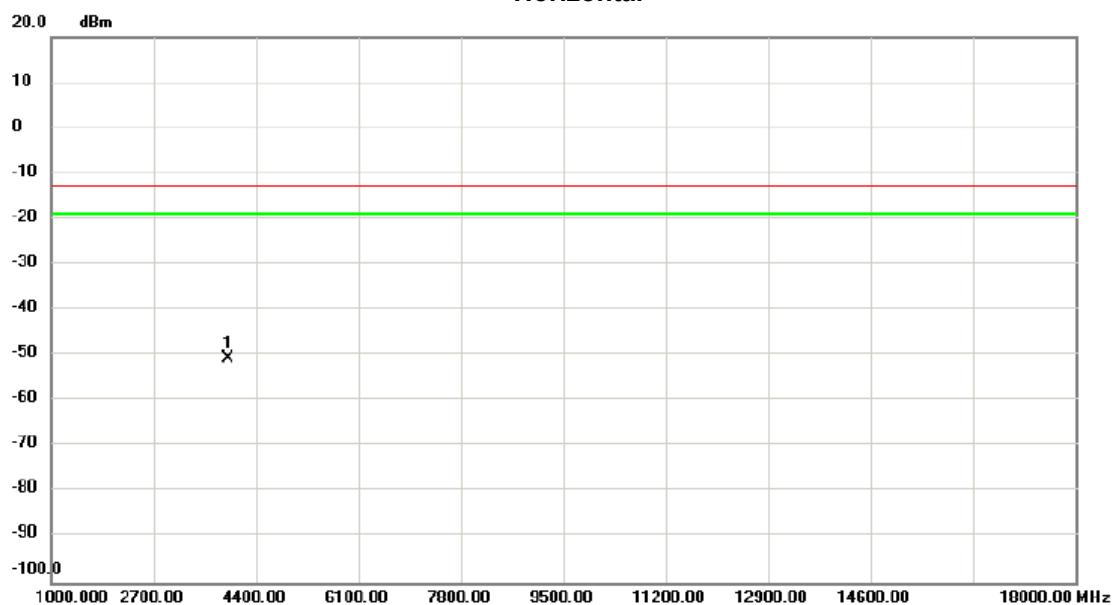
Test Mode | LTE Band 26_TX CH26740_10M



No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	*	1714.000	-49.85	-2.67	-52.52	-13.00	-39.52	peak	

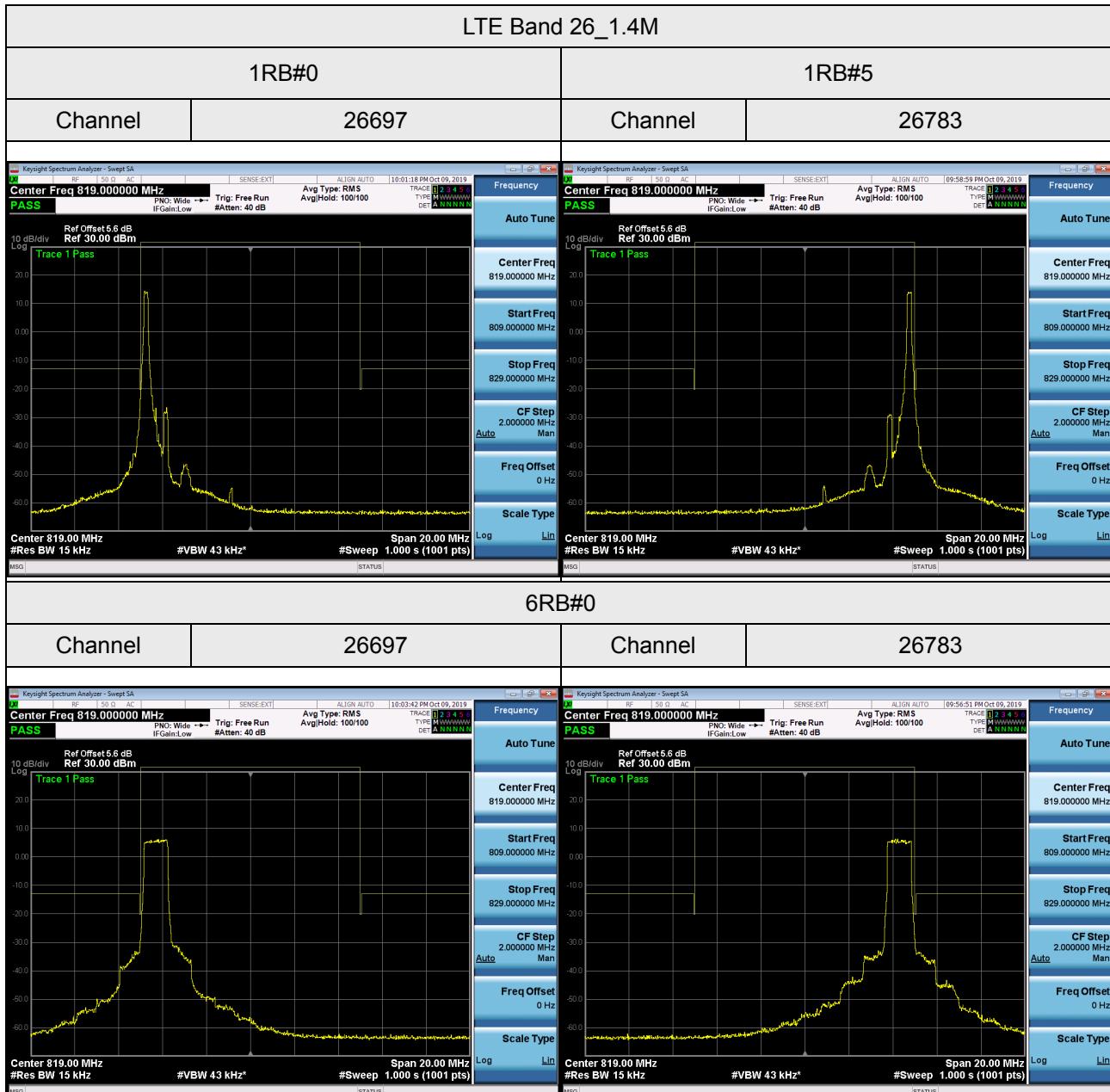
Test Mode

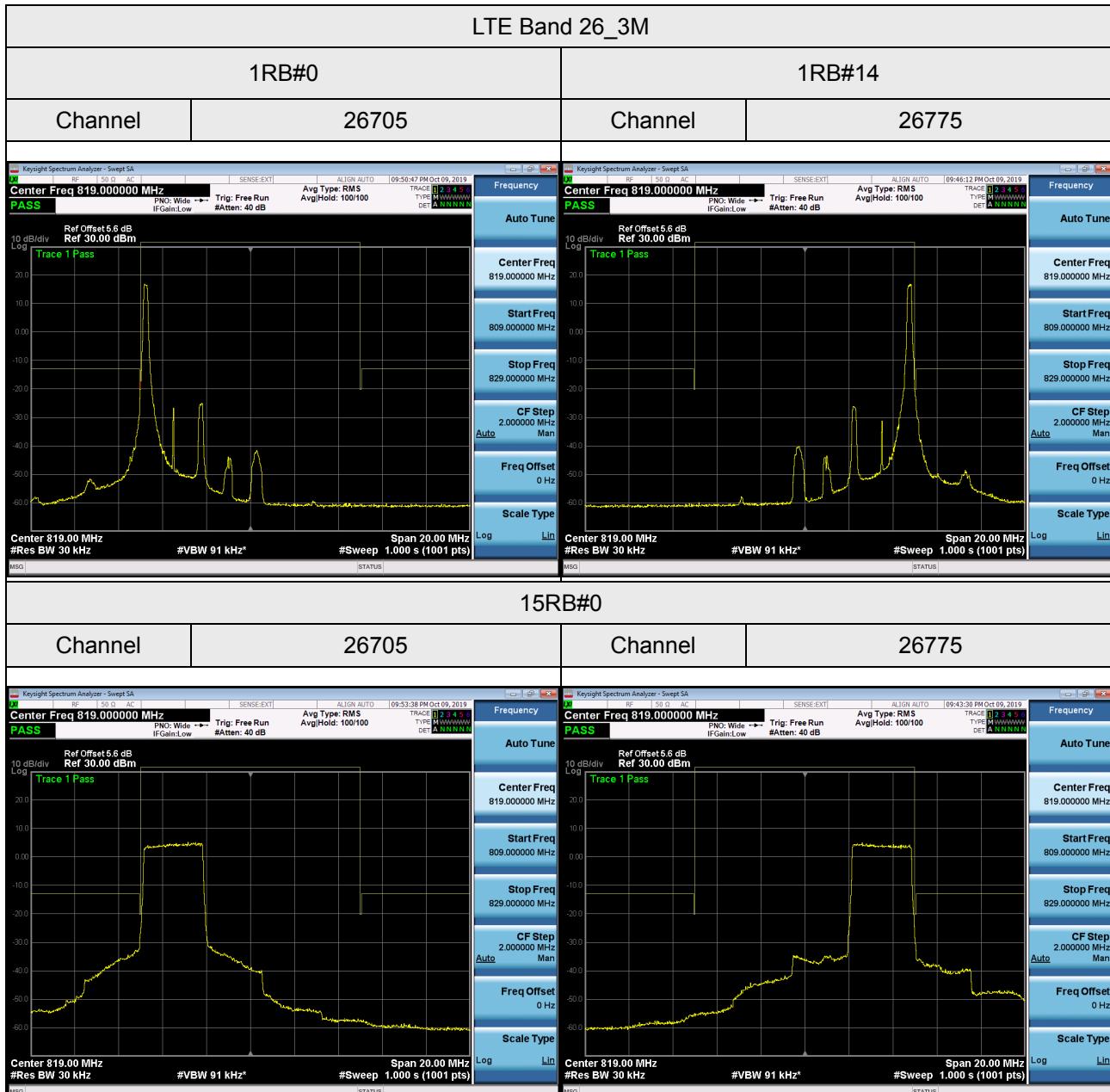
LTE Band 26_TX CH26740_10M

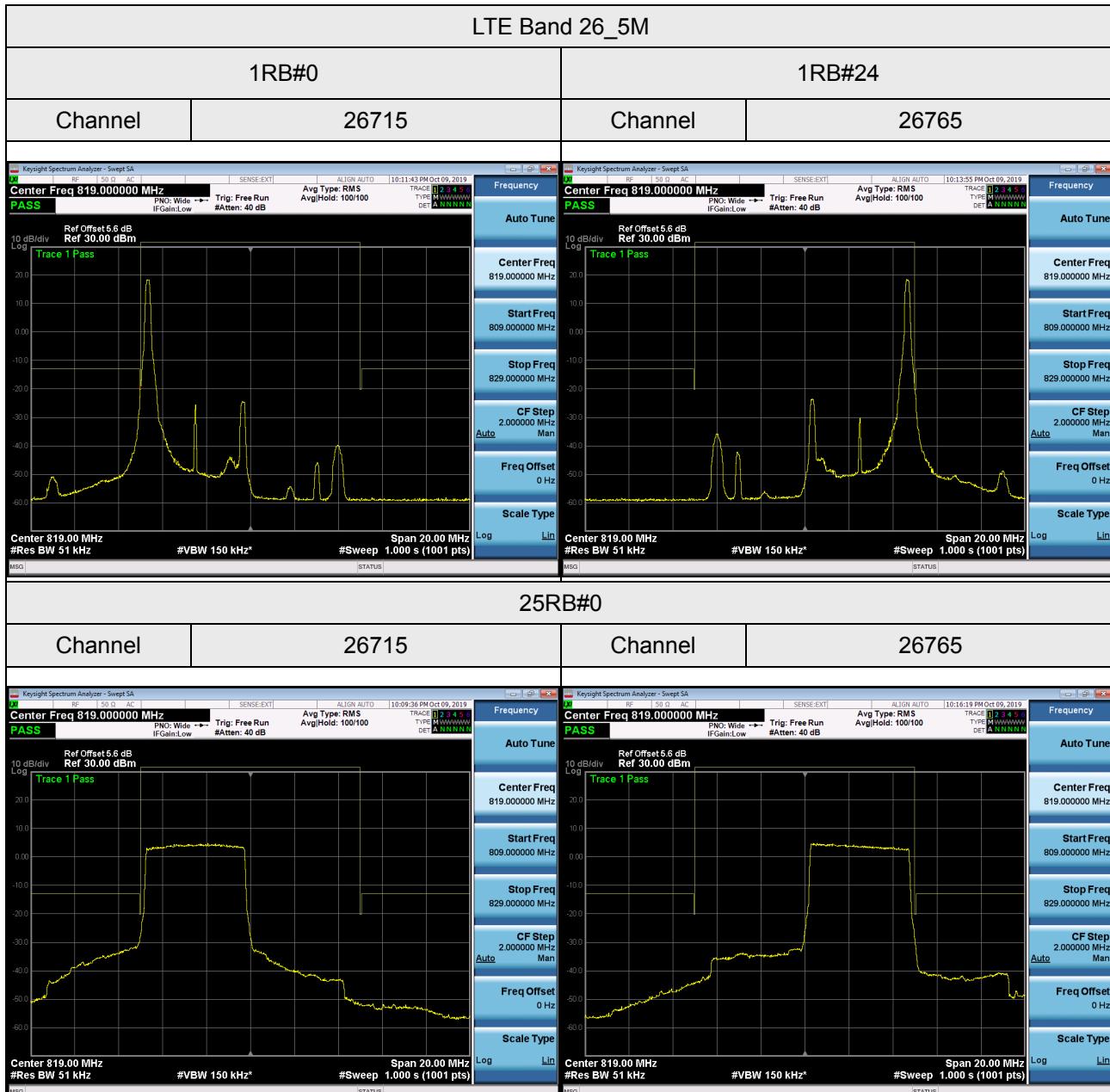
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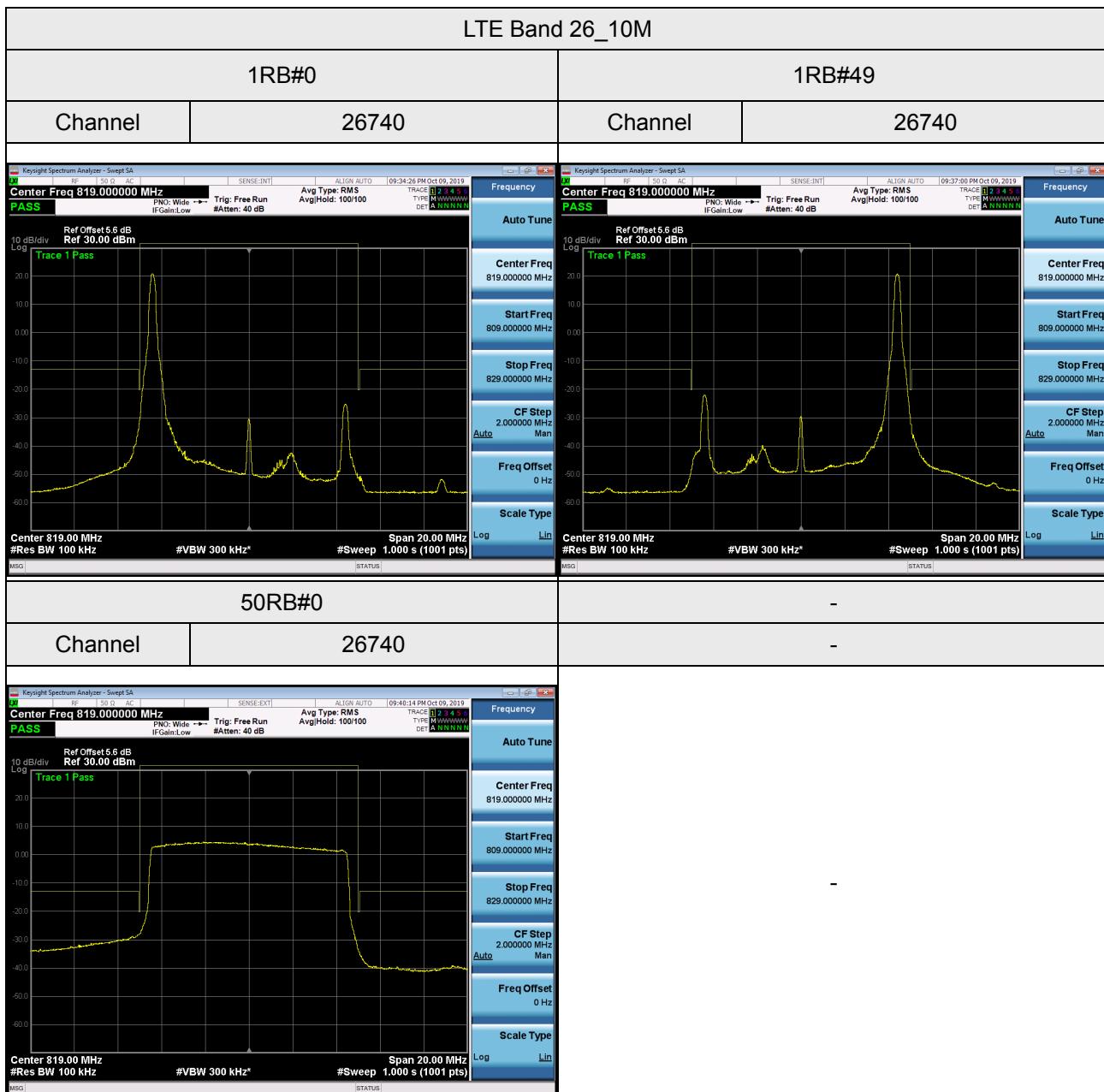
No.	Mk.	Freq.	Reading Level	Correct Factor	Measure- ment	Limit	Margin	
		MHz	dBm	dB	dBm	dB	Detector	Comment
1	*	3924.000	-56.85	6.13	-50.72	-13.00	-37.72	peak

APPENDIX G - MASK





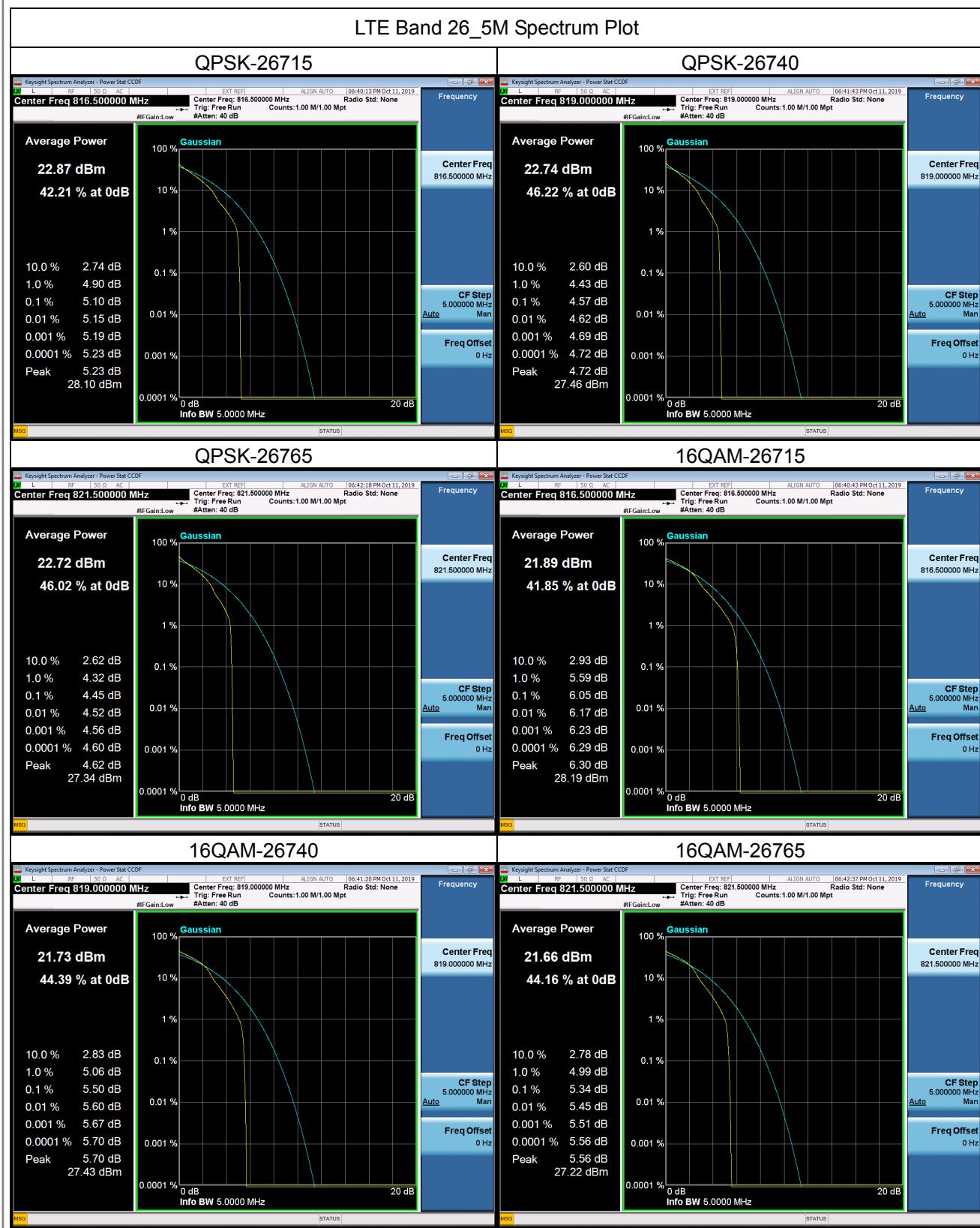


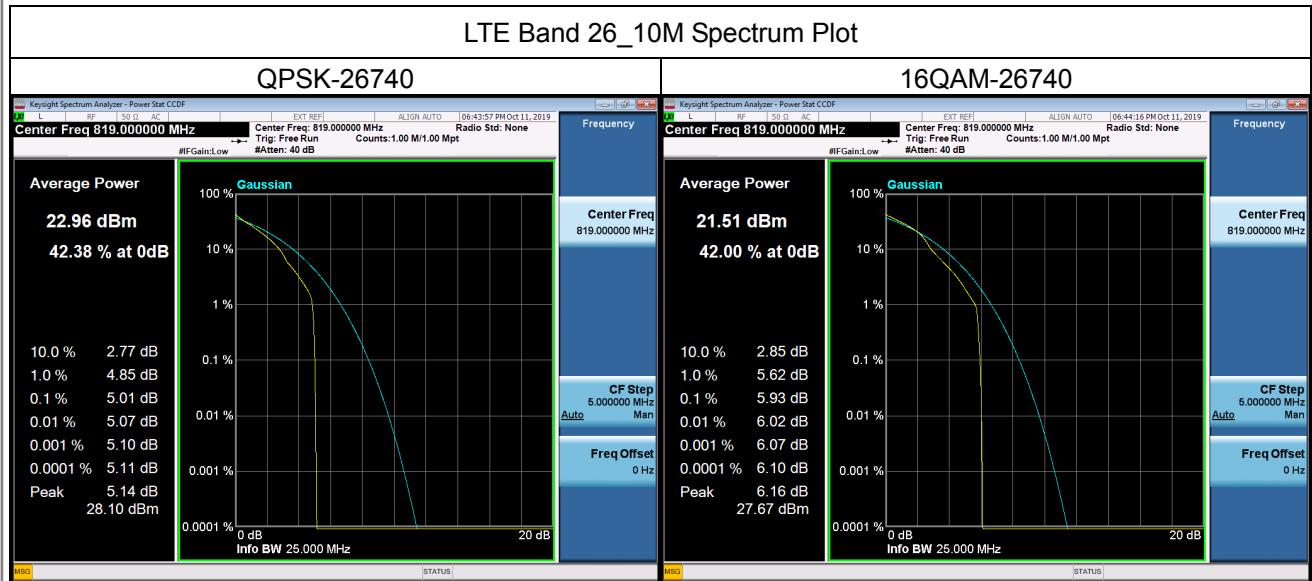


APPENDIX H - PEAK TO AVERAGE RATIO









APPENDIX I - FREQUENCY STABILITY

Test Mode | LTE Band 26_CH26740_1.4M

Temperature vs. Frequency Stability

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
0	2.94	0.003589744	±2.5
10	-1.68	-0.002051282	
20	5.40	0.006593407	
30	-2.53	-0.003089133	
40	5.21	0.006361416	
45	-2.07	-0.002527473	
Max. Deviation (ppm)	5.4	0.006593407	

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
4.35	4.48	0.005470085	±2.5
3.8	2.31	0.002820513	
3.5	-3.79	-0.004627595	
Max. Deviation (ppm)	4.48	0.005470085	

Test Mode | LTE Band 26_CH26740_3M

Temperature vs. Frequency Stability

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
0	5.84	0.007130647	±2.5
10	4.61	0.005628816	
20	0.67	0.000818071	
30	-0.36	-0.00043956	
40	5.20	0.006349206	
45	6.35	0.007753358	
Max. Deviation (ppm)	6.35	0.007753358	

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
4.35	5.48	0.006691087	±2.5
3.8	-2.31	-0.002820513	
3.5	-4.56	-0.005567766	
Max. Deviation (ppm)	5.48	0.006691087	

Test Mode | LTE Band 26_CH26740_5M

Temperature vs. Frequency Stability

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
0	5.50	0.006715507	±2.5
10	-5.84	-0.007130647	
20	4.25	0.005189255	
30	4.03	0.004920635	
40	6.43	0.007851038	
45	-5.93	-0.007240537	
Max. Deviation (ppm)	6.43	0.007851038	

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
4.35	0.47	0.000573871	±2.5
3.8	-3.72	-0.004542125	
3.5	-2.01	-0.002454212	
Max. Deviation (ppm)	-3.72	-0.004542125	

Test Mode | LTE Band 26_CH26740_10M

Temperature vs. Frequency Stability

Temperature(°C)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
0	-4.43	-0.005409035	±2.5
10	-2.39	-0.002918193	
20	-1.48	-0.001807082	
30	-1.00	-0.001221001	
40	2.14	0.002612943	
45	-5.07	-0.006190476	
Max. Deviation (ppm)	-5.07	-0.006190476	

Voltage vs. Frequency Stability

Voltage(Volts)	Frequency Error (Hz)	Frequency Error (ppm)	Limit(ppm)
4.35	-4.53	-0.005531136	±2.5
3.8	3.23	0.003943834	
3.5	1.61	0.001965812	
Max. Deviation (ppm)	-4.53	-0.005531136	

End of Test Report