

FCC Test Report

(PART 27)

Report No.: RF170502C07-10

FCC ID: NM8G011A

Test Model: G011A

Received Date: May 02, 2017

Test Date: May 26, 2017 ~ Jun. 30, 2017

Issued Date: Jul. 19, 2017

Applicant: HTC Corporation

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Release Control Record

ssue No.	Description	Date Issued
RF170502C07-10	Original Release	Jul. 19, 2017



1 Certificate of Conformity

Product:	Smartphone
Test Model:	G011A
Sample Status:	Production Unit
Applicant:	HTC Corporation
Test Date:	May 26, 2017 ~ Jun. 30, 2017
Standards:	FCC Part 27, Subpart C

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

Prepared by :

Date: Jul. 19, 2017

Jul. 19, 2017

Ivonne Wu / Supervisor

Jul. 19, 2017

Date:

Approved by :

David Huang / Project Engineer



	Applied Standard: FCC Part 27 & Part 2					
FCC Clause	Test Item	Result	Remarks			
2.1046 27.50(a)(3)	Equivalent Isotropic Radiated Power	Pass	Meet the requirement of limit.			
2.1055 27.54	Frequency Stability	Pass	Meet the requirement of limit.			
2.1049	Occupied Bandwidth	Pass	Meet the requirement of limit.			
2.1046 27.50(a)(3)	Peak to Average Ratio	Pass	Meet the requirement of limit.			
2.1051 27.53(a)(4)	Band Edge Measurements	Pass	Meet the requirement of limit.			
2.1051 27.53(a)(4)	Conducted Spurious Emissions	Pass	Meet the requirement of limit.			
2.1053 27.53(a)(4)	Radiated Spurious Emissions	Pass	Meet the requirement of limit. Minimum passing margin is -8.18 dB at 4620.00 MHz.			

2 Summary of Test Results

2.1 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:

Measurement	Frequency	Expended Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150 kHz ~ 30 MHz	2.44 dB
Redicted Emissions up to 1 CHz	30 MHz ~ 200 MHz	2.0153 dB
Radiated Emissions up to 1 GHz	200 MHz ~1000 MHz	2.0224 dB
Radiated Emissions above 1 GHz	1 GHz ~ 18 GHz	1.0121 dB
	18 GHz ~ 40 GHz	1.1508 dB



2.2 Test Site And Instruments

Description & Manaufacturer	Model No.	Serial No.	Date of Calibration	Due Date of Calibration
Test Receiver Agilent Technologies	N9010A	MY52220314	Nov. 16, 2016	Nov. 15, 2017
Spectrum Analyzer ROHDE & SCHWARZ	FSU43	101261	Dec. 13, 2016	Dec. 12, 2017
BILOG Antenna SCHWARZBECK	VULB9168	9168-472	Dec. 16, 2016	Dec. 15, 2017
HORN Antenna ETS-Lindgren	3117	00143293	Dec. 29, 2016	Dec. 28, 2017
Double Ridge Guide Horn Antenna EMCO	3115	5619	Dec. 27, 2016	Dec. 26, 2017
BILOG Antenna SCHWARZBECK	VULB 9168	9168-153	Dec. 13, 2016	Dec. 12, 2017
HORN Antenna SCHWARZBECK	BBHA 9170	9170-480	Dec. 14, 2016	Dec. 13, 2017
Fixed Attenuator Mini-Circuits	BW-N10W5+	NA	Jul. 08, 2016	Jul. 07, 2017
MXG Vector signal generator Agilent	N5182B	MY53050430	Oct. 19, 2016	Oct. 18, 2017
Preamplifier Agilent	310N	187226	Jun. 24, 2016	Jun. 23, 2017
Preamplifier Agilent	310N	187226	Jun. 23, 2017	Jun. 22, 2018
Preamplifier Agilent	83017A	MY39501357	Jun. 24, 2016	Jun. 23, 2017
Preamplifier Agilent	83017A	MY39501357	Jun. 23, 2017	Jun. 22, 2018
Power Meter Anritsu	ML2495A	1232002	Sep. 08, 2016	Sep. 07, 2017
Power Sensor Anritsu	MA2411B	1207325	Sep. 08, 2016	Sep. 07, 2017
RF signal cable ETS-LINDGREN	5D-FB	Cable-CH1-01(R FC-SMS-100-SM S-120+RFC-SMS -100-SMS-400)	Jun. 24, 2016	Jun. 23, 2017
RF signal cable ETS-LINDGREN	5D-FB	Cable-CH1-01(R FC-SMS-100-SM S-120+RFC-SMS -100-SMS-400)	Jun. 23, 2017	Jun. 22, 2018
RF signal cable ETS-LINDGREN	8D-FB	Cable-CH1-02(R FC-SMS-100-SM S-24)	Jun. 24, 2016	Jun. 23, 2017
RF signal cable ETS-LINDGREN	8D-FB	Cable-CH1-02(R FC-SMS-100-SM S-24)	Jun. 23, 2017	Jun. 22, 2018
Software BV ADT	E3 8.130425b	NA	NA	NA
Antenna Tower MF	NA	NA	NA	NA
Turn Table MF	NA	NA	NA	NA
Antenna Tower &Turn Table Controller MF	MF-7802	NA	NA	NA



Antenna Tower &Turn Table Controller MF	MF-7802	NA	NA	NA
Communications Tester-Wireless Agilent	8960 Series 10	MY53201073	Jun. 28, 2017	Jun. 27, 2019
Radio Communication Analyzer Anritsu	MT8820C	6201300640	Aug. 10, 2015	Aug. 09, 2017
Temperature & Humidity Chamber	GTH-120-40-CP-A R	MAA1306-019	Sep. 02, 2016	Sep. 01, 2017
DC Power Supply Topward	33010D	807748	Oct. 25, 2016	Oct. 24, 2018
Digital Multimeter Fluke	87-III	73680266	Nov. 10, 2016	Nov. 09, 2017

Note: 1. The calibration interval of the above test instruments is 12 / 24 months and the calibrations are traceable to NML/ROC and NIST/USA.

- 2. The test was performed in HsinTien Chamber 1.
- 3. The horn antenna and preamplifier (model: 83017A) are used only for the measurement of emission frequency above 1 GHz if tested.
- 4. The FCC Site Registration No. is 149147.
- 5. The IC Site Registration No. is IC7450I-1.



3 General Information

3.1 General Description of EUT

Product	Smartphone		
Test Model	G011A		
Status of EUT	atus of EUT Production Unit		
Power Supply Rating	5.0 Vdc or 9.0 Vdc (adapter) 3.85 Vdc (Li-ion battery)		
Modulation Type	QPSK, 16QAM, 64QAM		
	LTE Band 30 (Channel Bandwidth: 5 MHz)	2307.5 ~ 2312.5 MHz	
Frequency Range	LTE Band 30 (Channel Bandwidth: 10 MHz)	2310 MHz	
Max. EIRP Power	LTE Band 30 (Channel Bandwidth: 5 MHz) 238.84 mW		
Wax. EIRP Power	LTE Band 30 (Channel Bandwidth: 10 MHz)	235.50 mW	
Emission Designator	LTE Band 30 (Channel Bandwidth: 5 MHz) 4M50W7D		
Emission Designator	LTE Band 30 (Channel Bandwidth: 10 MHz) 8M96W7D		
Antenna Type	Fixed Internal Antenna		
Accessory Device	Refer to Note as below		
Data Cable Supplied	Refer to Note as below		

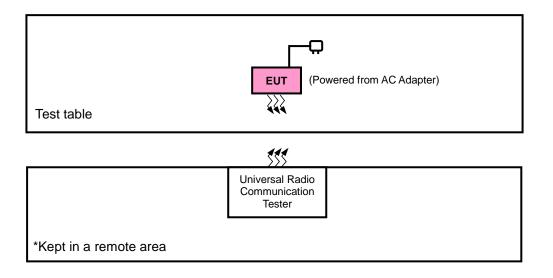
Note:

- 1. There're 2 configuraitons for the EUT listed as below.
 - Main Sample: EUT + Battery 1
 - 2nd Sample: EUT + Battery 2
 - \diamond Only the worst test data was presented in the report.
- 2. The EUT's accessories list refers to EMI report.
- 3. The above EUT information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications or user's manual.



3.2 Configuration of System Under Test

<Radiated Emission Test>



<E.I.R.P. Test>

Test table	EUT (Powered from battery)
	\$\$\$
	Universal Radio Communication Tester
*Kept in a remote area	

3.2.1 Description of Support Units

The EUT has been tested as an independent unit together with other necessary accessories or support units.



3.3 Test Mode Applicability and Tested Channel Detail

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:

EUT Configure Mode	Discription
Α	Main Sample
В	2 nd Sample

EUT Configure Mode	Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
А	EIRP	27685 to 27735	27685, 27710, 27735	5 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
~	EIRF	27710	27710	10 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
В	EIRP	27710	27710	10 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
А	Frequency	27685 to 27735	27685, 27735	5 MHz	QPSK	1 RB / 0 RB Offset
A	Stability	27710	27710	10 MHz	QPSK	1 RB / 0 RB Offset
А	Occupied Bandwidth	27685 to 27735	27685, 27710, 27735	5 MHz	QPSK, 16QAM, 64QAM	25 RB / 0 RB Offset
A		27710	27710	10 MHz	QPSK, 16QAM, 64QAM	50 RB / 0 RB Offset
А	Peak to Average	27685 to 27735	27685, 27710, 27735	5 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
~	Ratio	27710	27710	10 MHz	QPSK, 16QAM, 64QAM	1 RB / 0 RB Offset
	David Edua	27685 to 27735	27685, 27710, 27735	5 MHz	QPSK, 16QAM	25 RB / 0 RB Offset
A	Band Edge	27710	27710	10 MHz	QPSK, 16QAM	50 RB / 0 RB Offset
٥	Conducted	27685 to 27735	27685, 27710, 27735	5 MHz	QPSK	1 RB / 0 RB Offset
A	Emission	27710	27710	10 MHz	QPSK	1 RB / 0 RB Offset
А, В	Radiated Emission	27685 to 27735	27685, 27710, 27735	5 MHz	QPSK	1 RB / 0 RB Offset

Note:

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

2. For Band edge, this device had verified both 1RB and Full RB. The worst case was found in Full RB.

Test	Condition:

Test Item	Environmental Conditions	Input Power	Tested By
EIRP	25 deg. C, 65 % RH	3.85 Vdc	Karl Lee
Frequency Stability	25 deg. C, 65 % RH	3.85 Vdc	Anson Lin
Occupied Bandwidth	25 deg. C, 65 % RH	3.85 Vdc	Anson Lin
Peak to Average Ratio	25 deg. C, 65 % RH	3.85 Vdc	Anson Lin
Band Edge	25 deg. C, 65 % RH	3.85 Vdc	Anson Lin
Condcudeted Emission	25 deg. C, 65 % RH	3.85 Vdc	Anson Lin
Radiated Emission	25 deg. C, 65 % RH	120 Vac, 60 Hz	Karl Lee



3.4 EUT Operating Conditions

The EUT makes a call to the communication simulator. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency

3.5 General Description of Applied Standards

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC 47 CFR Part 2 FCC 47 CFR Part 27 KDB 971168 D01 Power Meas License Digital Systems v02r02 ANSI/TIA/EIA-603-D 2010

NOTE: All test items have been performed and recorded as per the above standards.



4 Test Types and Results

4.1 Output Power Measurement

4.1.1 Limits of Output Power Measurement

Mobile and portable stations. (i) For mobile and portable stations transmitting in the 2305-2315 MHz band or the 2350-2360 MHz band, the average EIRP must not exceed 50 milliwatts within any 1 megahertz of authorized bandwidth, except that for mobile and portable stations compliant with 3GPP LTE standards or another advanced mobile broadband protocol that avoids concentrating energy at the edge of the operating band the average EIRP must not exceed 250 milliwatts within any 5 megahertz of authorized bandwidth but may exceed 50 milliwatts within any 1 megahertz of authorized bandwidth. For mobile and portable stations using time division duplexing (TDD) technology, the duty cycle must not exceed 38 percent in the 2305-2315 MHz and 2350-2360 MHz bands. Mobile and portable stations using FDD technology are restricted to transmitting in the 2305-2315 MHz band. Power averaging shall not include intervals in which the transmitter is off.

4.1.2 Test Procedures

EIRP Measurement:

- a. All measurements were done at low, middle and high operational frequency range. RBW and VBW is 10 MHz for LTE mode.
- b. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8 m 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 1 m to 4 m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- c. 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 b. Record the power level of S.G.
- d. EIRP = Output power level of S.G TX cable loss + Antenna gain of substitution horn.

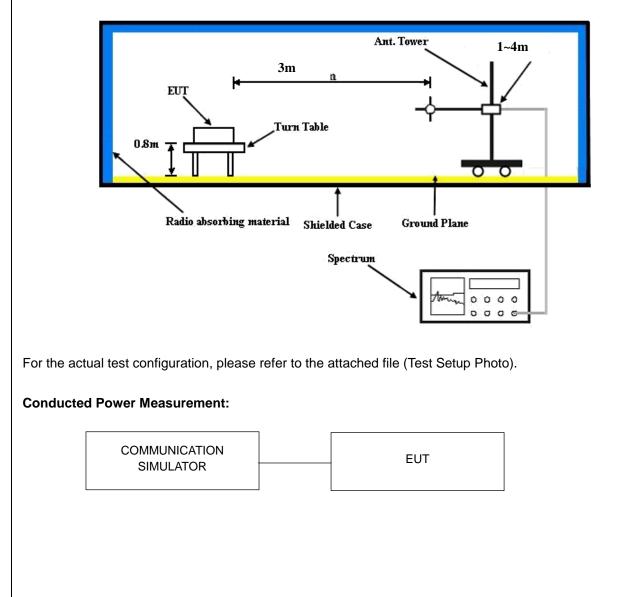
Conducted Power Measurement:

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



4.1.3 Test Setup

EIRP / ERP Measurement:





4.1.4 Test Results

Conducted Output Power (dBm)

						L	TE Ban	d 30						
				QP	SK			16C	QAM			640	QAM	
BW (MHz)	RB Size	RB Offset		Mid CH 27710		3GPP MPR		Mid CH 27710		3GPP MPR		Mid CH 27710		3GPP MPR
(14112)	0126	onser		2310.0 MHz		(dB)		2310.0 MHz		(dB)		2310.0 MHz		(dB)
	1	0		23.94		0		22.99		1		22.10		2
	1	24		23.82		0		22.87		1		21.98		2
	1	49		23.75		0		22.78		1		21.89		2
10	25	0		22.93		1		21.93		2		21.04		3
	25	12		22.85		1		21.84		2		20.95		3
	25	25		22.79		1		21.77		2		20.88		3
	50	0		22.87		1		21.87		2		20.98		3
				QP	SK			160	QAM		64QAM			
BW (MHz)	RB Size	RB Offset	Low CH 27685	Mid CH 27710	High CH 27735	3GPP MPR	Low CH 27685	Mid CH 27710	High CH 27735	3GPP MPR	Low CH 27685	Mid CH 27710	High CH 27735	3GPP MPR
()	0.20	C	2307.5 MHz	2310.0 MHz	2312.5 MHz	(dB)	2307.5 MHz	2310.0 MHz	2312.5 MHz	(dB)	2307.5 MHz	2310.0 MHz	2312.5 MHz	(dB)
	1	0	23.87	23.83	23.80	0	22.92	22.87	22.83	1	21.97	21.92	21.88	2
	1	12	23.83	23.78	23.74	0	22.85	22.80	22.76	1	21.90	21.85	21.81	2
	1	24	23.78	23.70	23.66	0	22.79	22.71	22.66	1	21.84	21.76	21.71	2
5	12	0	22.86	22.80	22.78	1	21.92	21.78	21.74	2	20.97	20.83	20.79	3
	12	6	22.81	22.78	22.75	1	21.81	21.75	21.71	2	20.86	20.80	20.76	3
	12	13	22.78	22.75	22.72	1	21.74	21.70	21.67	2	20.79	20.75	20.72	3
	25	0	22.89	22.85	22.80	1	21.88	21.84	21.79	2	20.93	20.89	20.84	3



EIRP Power (dBm)

Mode A

				LTE Band 30						
			Channel Ba	ndwidth: 5 MHz	/ QPSK					
Plane	Channel	Frequency (MHz)	LVL (dBm)	Correction Factor (dB)	EIRP (dBm)	EIRP (mW)	Polarization (H/V)			
	27685	2307.5	-21.23	44.24	23.01	199.89				
	27710	2310.0	-21.02	44.20	23.18	207.83	Н			
x	27735	2312.5	-21.02	44.80	23.78	238.84				
^	27685	2307.5	-28.29	44.19	15.90	38.91				
	27710	2310.0	-28.14	44.09	15.95	39.34	V			
	27735	2312.5	-28.59	44.50	15.91	38.99				
Channel Bandwidth: 5 MHz / 16QAM										
	27685	2307.5	-21.42	44.24	22.32	170.61				
	27710	2310.0	-21.27	44.20	22.38	172.98	Н			
x	27735	2312.5	-21.86	44.80	22.44	175.39				
^	27685	2307.5	-29.31	44.19	14.88	30.77				
	27710	2310.0	-29.24	44.09	14.85	30.54	V			
	27735	2312.5	-29.61	44.50	14.89	30.82				
			Channel Ba	ndwidth: 5 MHz	/ 64QAM					
	27685	2307.5	-22.46	44.24	21.78	150.59				
	27710	2310.0	-22.30	44.20	21.90	154.77	Н			
x	27735	2312.5	-22.82	44.80	21.98	157.80				
	27685	2307.5	-30.34	44.19	13.85	24.27				
	27710	2310.0	-30.24	44.09	13.85	24.25	V			
	27735	2312.5	-30.59	44.50	13.91	24.60				



	LTE Band 30										
	Channel Bandwidth: 10 MHz / QPSK										
Plane	Plane Channel Frequency (MHz) LVL (dBm) Correction Factor (dB) EIRP (dBm) EIRP (mW) Polarization (H/V)										
v	27710	2310.0	-20.30	44.20	23.72	235.50	Н				
Х	27710	2310.0	-28.23	44.09	15.86	38.53	V				
		C	Channel Bar	ndwidth: 10 MHz	/ 16QAM						
v	27710	2310.0	-21.21	44.20	22.85	192.75	Н				
Х	27710	2310.0	-29.18	44.09	14.91	30.96	V				
		(Channel Bar	ndwidth: 10 MHz	/ 64QAM						
v	27710	2310.0	-22.21	44.20	21.99	158.02	Н				
Х	27710	2310.0	-30.24	44.09	13.85	24.25	V				

Mode B

				LTE Band 30							
	Channel Bandwidth: 10 MHz / QPSK										
Plane	ane Channel Frequency LVL Correction (MHz) (dBm) Factor (dB) EIRP (dBm) EIRF					EIRP (mW)	Polarization (H/V)				
x	27710	2310.0	-22.14	44.20	22.06	160.58	Н				
^	27710	2310.0	-29.75	44.09	14.34	27.15	V				
		C	Channel Bar	ndwidth: 10 MHz	/ 16QAM						
x	27710	2310.0	-22.99	44.20	21.21	132.04	Н				
^	27710	2310.0	-30.88	44.09	13.21	20.93	V				
		C	Channel Bar	ndwidth: 10 MHz	/ 64QAM						
v	27710	2310.0	-23.97	44.20	20.23	105.37	Н				
Х	27710	2310.0	-31.83	44.09	12.26	16.82	V				



4.2 Frequency Stability Measurement

4.2.1 Limits of Frequency Stabiliity Measurement

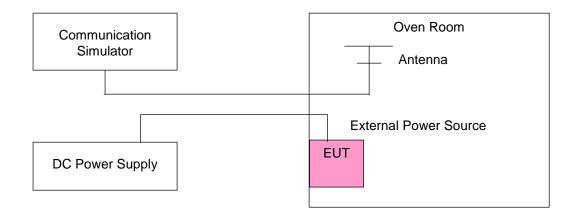
The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

4.2.2 Test Procedure

- a. 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.
- b. 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.
- c. 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.

Note: The frequency error was recorded frequency error from the communication simulator.

4.2.3 Test Setup





4.2.4 Test Results

Frequency Error vs. Voltage

		LTE B	and 30		
Voltage					
(Volts)	Low C	hannel	Limit (ppm)		
	Frequency (MHz)	quency (MHz) Frequency Error (ppm) Frequency (MHz)		Frequency Error (ppm)	
3.85	2307.500004	0.0016	2312.500003	0.0011	2.5
3.6	2307.500002	0.0010	2312.500002	0.0010	2.5
4.40	2307.500004	0.0016	2312.500003	0.0012	2.5

Note: The applicant defined the normal working voltage of the battery is from 3.6 Vdc to 4.4 Vdc.

Frequency Error vs. Temperature

		LTE B	and 30		
		Channel Band	dwidth: 5 MHz		
Temp. (℃)	Low C	hannel	High C	hannel	Limit (ppm)
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)	
-30	2307.500001	0.0004	2312.500003	0.0014	2.5
-20	2307.500002	0.0010	2312.500003	0.0011	2.5
-10	2307.500001	0.0006	2312.500003	0.0013	2.5
0	2307.500004	0.0016	2312.500003	0.0013	2.5
10	2307.500004	0.0015	2312.500002	0.0008	2.5
20	2307.499999	-0.0005	2312.499999	-0.0006	2.5
30	2307.499999	-0.0007	2312.499997	-0.0011	2.5
40	2307.499996	-0.0016	2312.499998	-0.0011	2.5
50	2307.499997	-0.0012	2312.499999	-0.0004	2.5
55	2307.499997	-0.0013	2312.499997	-0.0012	2.5



Frequency Error vs. Voltage

	LTE Band 30						
Voltage	Channel Band	Limit (ppm)					
(Volts)	High C	High Channel					
	Frequency (MHz)	Frequency (MHz) Frequency Error (ppm)					
3.85	2310.000001	0.0005	2.5				
3.6	2310.000004	0.0016	2.5				
4.40	2310.000001	0.0004	2.5				

Note: The applicant defined the normal working voltage of the battery is from 3.6 Vdc to 4.4 Vdc.

Frequency Error vs. Temperature

	LTE B	and 30	
Temp. (℃)	Channel Band	lwidth: 10 MHz	Limit (ppm)
	High C	channel	Linit (ppin)
	Frequency (MHz)	Frequency Error (ppm)	
-30	2310.000004	0.0017	2.5
-20	2310.000001	0.0004	2.5
-10	2310.000001	0.0005	2.5
0	2310.000003	0.0012	2.5
10	2310.000002	0.0007	2.5
20	2309.999998	-0.0008	2.5
30	2309.999998	-0.0010	2.5
40	2309.999997	-0.0013	2.5
50	2309.999996	-0.0016	2.5
55	2309.999999	-0.0005	2.5



4.3 Occupied Bandwidth Measurement

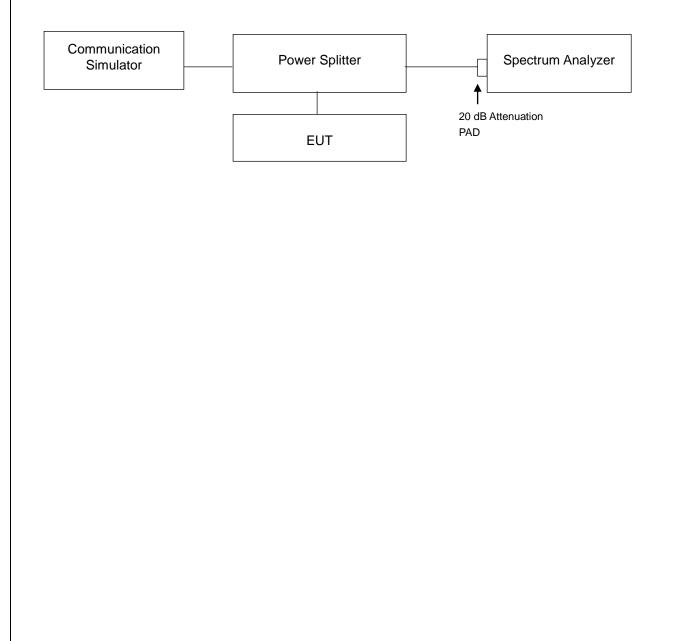
4.3.1 Limits of Occupied Bandwidth Measurement

The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 % of the total mean power of a given emission.

4.3.2 Test Procedure

- a. The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.
- b. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.

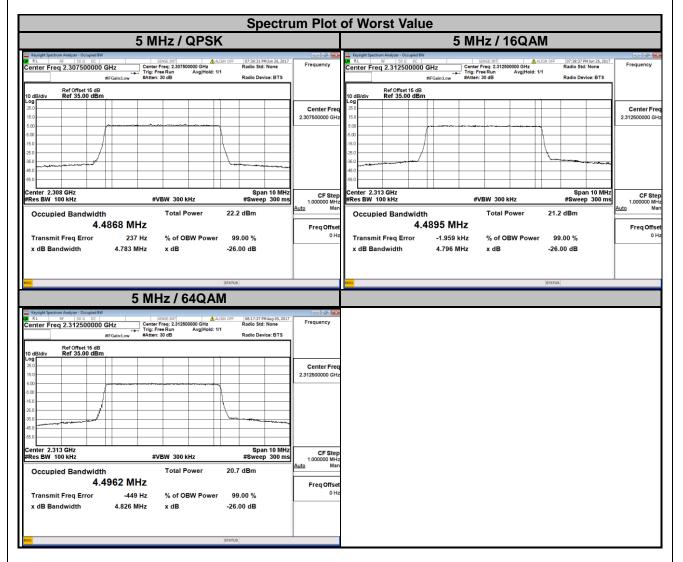
4.3.3 Test Setup





4.3.4 Test Result

	LTE Band 30											
Channel Bandwidth: 5 MHz					Channel Bandwidth: 10 MHz							
Channel	Frequency	99 % Oc	(MHz) Frequency					cupied Ba (MHz)	ndwidth			
	(MHz)	QPSK	16QAM	64QAM		(MHz)	QPSK	16QAM	64QAM			
27685	2307.5	4.4868	4.4861	4.4943				8.9625	8.9642			
27710	2310.0	4.4851	4.4875	4.4959	27710	2310.0	8.9625					
27735	2312.5	4.4860	4.4895	4.4962								





		Spectru	um Plot	of Worst Va	lue			
	10 MHz / QP					Hz / 16QA	M	
Keyright Spectrum Analyzer - Occupied BW RL RF S0 Q DC Center Freq 2.310000000 GHz #IFGaIn:	Center Freq: 2.310000000 GH: Trig: Free Run Avg Ho	ALIGN OFF 07:39-03 PM Jun 26, 2017 Radio Std: None old: 1/1 Radio Device: BTS	Frequency	Keysight Spectrum Analyzer - Occup R RL RF 50 Ω Center Freq 2.3100000		Freq: 2.310000000 GHz ree Run Avg Hold: 1/	IGN OFF 07:39:28 PM Jun 26, 2017 Radio Std: None /1 Radio Device: BTS	Frequency
Ref Offset 15 dB 10 dB/div Ref 35.00 dBm Log				10 dB/div Ref 35.00 (Log 25.0	dB JBm			
25.0			Center Freq 2.310000000 GHz	15.0				Center Freq 2.310000000 GHz
-15.0 -25.0				-5.00 -15.0 -25.0				
-35.0 -45.0 -65.0		and a second sec		-45.0 -65.0	~			-
Center 2.31 GHz #Res BW 200 kHz	#VBW 1 MHz	Span 20 MHz #Sweep 300 ms	CF Step 2.000000 MHz	Center 2.31 GHz #Res BW 200 kHz	#\	/BW 1 MHz	Span 20 MH #Sweep 300 ms	2.000000 MHz
	Total Power 5 MHz 145 kHz % of OBW Po 508 MHz x dB	22.2 dBm wer 99.00 % -26.00 dB	Auto Man Freq Offset 0 Hz	Occupied Bandw Transmit Freq Erro x dB Bandwidth	8.9625 MHz	Total Power % of OBW Power x dB	21.2 dBm 99.00 % -26.00 dB	Auto Man Freq Offset 0 Hz
MSG		STATUS		MSG			STATUS	
-	10 MHz / 640	QAM						
Keysight Spectrum Analyzer - Occupied BW RL RF S0 Q DC Center Freq 2.310000000 GHz #IFGain:	Center Freq: 2.310000000 GH: Trig: Free Run Avg Ho	ALIGN OFF 08:18:10 PM Aug 05, 2017 z Radio Std: None old: 1/1 Radio Device: BTS	Frequency					
Ref Offset 15 dB 10 dB/div Ref 35.00 dBm Log			Center Freq					
150 530 530 550 550 550 550 550 5			2.31000000 GHz					
Center 2.31 GHz #Res BW 200 kHz	#VBW 1 MHz	Span 20 MHz #Sweep 300 ms	CF Step 2.000000 MHz					
Occupied Bandwidth 8.9642	Total Power 2 MHz	20.4 dBm	Auto Man Freq Offset					
	.577 kHz % of OBW Po 503 MHz x dB	wer 99.00 % -26.00 dB	0 Hz					
		STATUS						



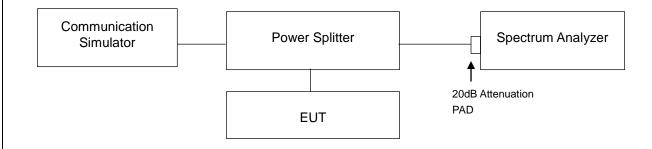
4.4 Band Edge Measurement

4.4.1 Limits of Band Edge Measurement

According to FCC 27.53(a) (4) For mobile and portable stations operating in the 2305-2315 MHz and 2350-2360 MHz bands:

- (i) By a factor of not less than: 43 + 10 log (P) dB on all frequencies between 2305 and 2320 MHz and on all frequencies between 2345 and 2360 MHz that are outside the licensed band(s) of operation, not less than 55 + 10 log (P) dB on all frequencies between 2320 and 2324 MHz and on all frequencies between 2341 and 2345 MHz, not less than 61 + 10 log (P) dB on all frequencies between 2324 and 2328 MHz and on all frequencies between 2337 and 2341 MHz, and not less than 67 + 10 log (P) dB on all frequencies between 2327 MHz, and not less than 67 + 10 log (P) dB on all frequencies between 2327 MHz, and not less than 67 + 10 log (P) dB on all frequencies between 2328 and 2337 MHz;
- (ii) By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2300 and 2305 MHz, 55 + 10 log (P) dB on all frequencies between 2296 and 2300 MHz, 61 + 10 log (P) dB on all frequencies between 2292 and 2296 MHz, 67 + 10 log (P) dB on all frequencies between 2288 and 2292 MHz, and 70 + 10 log (P) dB below 2288 MHz;
- (iii) By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2360 and 2365 MHz, and not less than 70 + 10 log (P) dB above 2365 MHz.

4.4.2 Test Setup

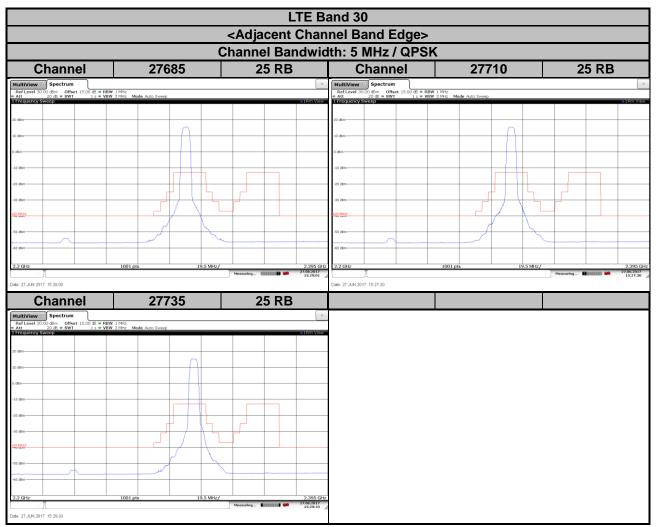


4.4.3 Test Procedures

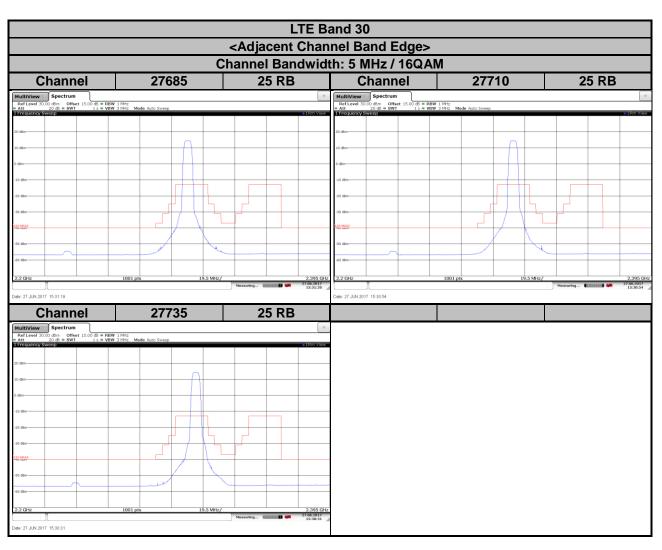
- a. The EUT was set up for the maximum peak power with LTE link data modulation. The power was measured with R&S Spectrum Analyzer. All measurements were done at 2 channels (low and high operational frequency range).
- b. The band edge measurement used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.
- c. Measuring frequency range is from 2200 MHz to 2395 MHz for LTE Band 30. 10 dB attenuation pad is connected with spectrum. RBW=1 MHz and VBW=3 MHz are used for conducted emission measurement.
- d. Record the max trace plot into the test report.



4.4.4 Test Results







		LTE Ba	and 30		
		Channel Bandwidt	h: 10 MHz / QPS	٢	
Channel	Bandwidth: 10M	IHz / QPSK	Channel B	andwidth: 10M	Hz / 16QAM
Channel	27710	50 RB	Channel 27710 50		
Spectrum Ref Level 30.00 dBm Offset 15.00 dB = Re Att 20 dB = SWT 1 s = VE	3W 1 MHz 3W 3 MHz Mode Auto Sweep	v	MultiView Spectrum Ref Level 30.00 dBm Offset 15.00 dB = RBW Att 20 dB = SWT 1 s = VBW	1 MHz 3 MHz Mode Auto Sweep	
Frequency Sweep		• 1Rm View	1 Frequency Sweep		● 1Rm Vi
) d8m-			20 d8m-		
dām			10 d8m		
8m			0 d8m		
d8m			-10 d8m		
dBm			-20 dBm		
dBm			-30 dBm		
MASK			830 MASK		
dBm			-50 dtm		
dBm			-60 d8m		
2 GHz	1001 pts 19.5 M	27.06.2017	2.2 GHz	1001 pts 19.5 M	27.06.201
b: 27.JUN.2017 15:32:37		Measuring 15:32:38	Date: 27.JUN.2017 15:32:12		Measuring 15:32:1

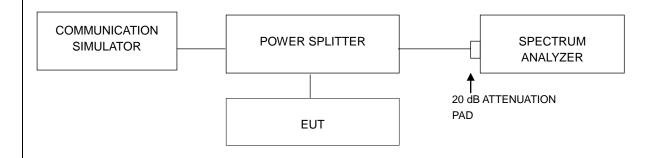


4.5 Peak to Average Ratio

4.5.1 Limits of Peak to Average Ratio Measurement

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.

4.5.2 Test Setup



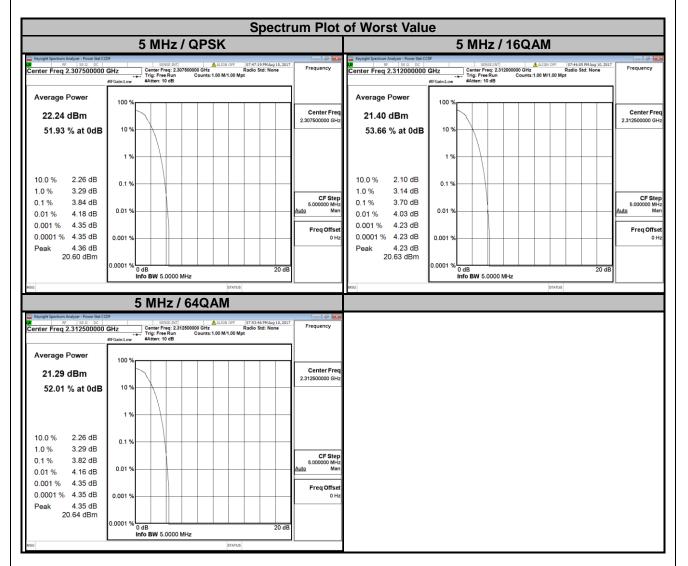
4.5.3 Test Procedures

- 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 %.

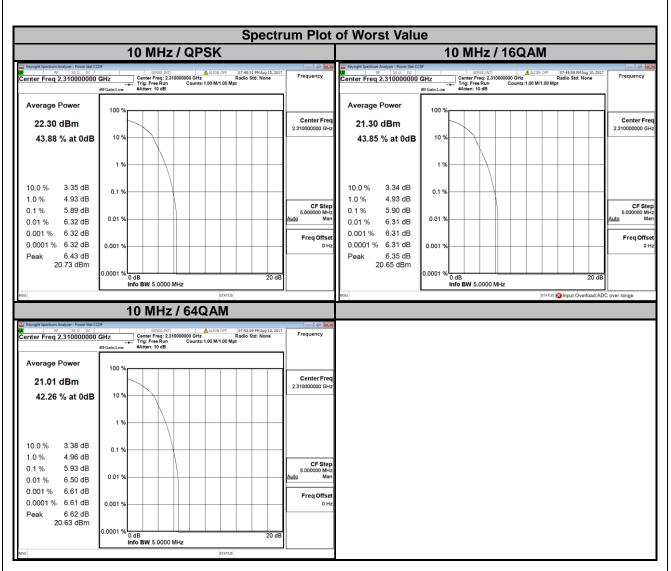


4.5.4 Test Results

				and 30								
	Channel B	andwidth	: 5 MHz	Channel Bandwidth: 10 MHz								
Channel	Frequency	Peak to /	Average R	atio (dB)	Channel	Frequency	Peak to A	Average R	atio (dB)			
Channel	(MHz)	QPSK	16QAM 64QAM		Channel	(MHz)	QPSK	16QAM	64QAM			
27685	2307.5	3.84	3.59	3.82								
27710	2310.0	3.60	3.60	3.82	27710	2310.0	5.89	5.90	5.93			
27735	2312.5	3.70	3.70	3.82								







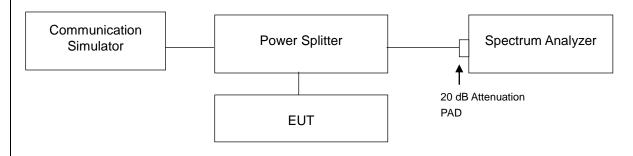


4.6 Conducted Spurious Emissions

4.6.1 Limits of Conducted Spurious Emissions Measurement

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 70 +10 log10(P) dB. The limit of emission is equal to -40 dBm.

4.6.2 Test Setup



4.6.3 Test Procedure

- a. The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range.
- b. Measuring frequency range is from 30 MHz to 23.5 GHz for LTE Band 30. 10 dB attenuation pad is connected with spectrum. RBW=1 MHz and VBW=3 MHz are used for conducted emission measurement.



4.6.4 Test Results

								_		LTE Ba												
								С		nel Banc			-	/Hz								
		Iroqu	iency	/ D 21	200	. 20	MU-	. 1 (Channe	12	768		rogu	iono		nao	:10	247	20	U-7	
Keysight !	Spectrum Analyze	- Swept SA	lency		-					- 9 💌		ysight Spectru		Mept SA	lenc							
Narker	RF 1 900.618	530927 N	Hz PNO: Fast G	Trig: Free	NSE:INT	Avg Type	ALIGN OFF	07:23:29 P TRAI TY	MJun 26, 2017 E 1 2 3 4 5 6 PE M WWWWW ET P N N N N N	Peak Search	Mar		RF 50 1 2911145	555728 G	PNO: Fast	Trig: Fre	NSE:INT	Avg Type	ALIGN OFF	TRA	MJun 26, 2017 E 1 2 3 4 5 6 PE MWWWWW ET P N N N N N	Peak Search
10 dB/div	Ref Offse Ref -5.0	t 15 dB	IFGain:High	#Atten: 0	dB		M	kr1 900	.62 MHz 22 dBm		10 di Log	B/div F	tef Offset 1 tef -5.00	IF 5 dB	FGain:High	#Atten: 0	dB		Mkr	1 1.291	11 GHz 20 dBm	NextPe
-15.0		_								Next Pk Right	-15.0											Next Pk Rig
35.0									DL1 -40.00 dBn	Next Pk Left	-25.0 -35.0										DL1 -40.00 dBn	Next Pk I
15.0										Marker Delta	-45.0										0.1 40.00 com	Marker D
65.0									1 	Mkr→CF	-65.0											Mkr-
75.0 95.0	talaitta, jähietus Taatta pilajasa		nilal sistem ny ny nati		lesine para ana fini Ing pangana ang pa	in parée lin papapengana	atarah distan Ang mang basa	and a finite state	in de la cita d Carona como	Mkr→RefLvl	-75.0 -85.0	ozobileniai Pryska spis	فالطبية (شعل) مراجع مرجع	er en skille often Henry Magnetian	a haran da karan Karanga Karana	anitati anitati anitati Manangan anitati Manangan anitati anitati	a bila disebar she gana maggar sha	a a a a a a a a a a a a a a a a a a a	antan dari Ula Majingan dari Ula			Mkr⊸Ref
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Res BV		_					STATUS				#Re	S BW 10							STATUS			
Keysight	Spectrum Analyze		uenc	у ка	inge	:20	GHZ	~3 G	HZ		- Ke	vsight Spectra	Im Analyzer - Si	_	ency	Ran	ge :	3 G	ΠZ~⊿	23.5	GHz	- 4
	RF 1 2.74183		GHz PNO: Fast	SE	NSE:INT		ALIGN OFF	07:24:37 P TRAI TY	MJun 26, 2017 2E 1 2 3 4 5 6 PE MWWWWW ET P N N N N N		LXI R	L	RF 501	2 DC	iHz	SE Trig: Fre	NSE:INT	Avg Type	ALIGN OFF	07:26:43 P TRAI TY	MJun 26, 2017 2E 1 2 3 4 5 6 PE MWWWWW ET A N N N N N	Peak Searc
0 dB/div	Ref Offse Ref 25.	t 15 dB 00 dBm	IFGain:Low	#Atten: 2	0 dB		Mkr	1 2.741	84 GHz 12 dBm	NextPeak	10 d	F B/div F	tef Offset 1 tef -5.00 (⊪ 5dB	FGain:High	#Atten: 0	dB		Mk	(r1 4.61	3 4 GHz 55 dBm	NextP
15.0			1							Next Pk Right	-15.0											Next Pk R
5.00										Next Pk Left	-25.0 -36.0										DL1 -40.00 dBn	Next Pk
15.0										Marker Delta	-45.0										pro- 7 - 40.00 dBh	Marker D
35.0			Λ						DL1 -40.00 dBm	Mkr→CF	-65.0							-				Mkr-
i5.0 55.0	11.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1.1	ور بورون الم	Л	وللموروسي		a de la compañía de l	م المراجعة الم	والأنسولة الأحا	فدقا المذاول	Mkr→RefLvl	-75.0		****									Mkr→Rel
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65.0 2011	0000 GHz								0000 GHz	1 of 2		t 3.00 G									3.50 GHz	1



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RL larker 1	RF 50 Q 904.0137006	B5 MHz PNO: Fas	SE Trig: Fre	INSE:INT	Avg Type	ALIGN OFF	07:28:06 PM TRAC	4 Jun 26, 2017 E 1 2 3 4 5 6 E M WWWWW T P N N N N N	Peak Search	Marl	ker 1 1.	RF 50 3050652	53263 G	Hz NO: Fast G		NSE:INT	Avg Type	ALIGN OFF	07:29:41 PM TRACE	LJun 26, 2017 E 1 2 3 4 5 6 E M WWWWW T P N N N N N	Peak Search
0 dB/div	Ref Offset 15 d Ref -5.00 dB	IFGain:Hig				Mk	r1 904.	01 MHz 21 dBm	NextPeak	10 dE	Bidiv R	ef Offset 1 ef -5.00 ('NO: Fast G Gain:High	#Atten: () dB	_	Mkr	1 1.305		Next P
5.0									Next Pk Right	-15.0											Next Pk Ri
5.0								DL1 -40.00 dBn	Next Pk Left	-25.0 -36.0										DL1 -40.00 dBn	Next Pk
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<u>a</u>			icy Ra			STATUS				MSG			eque					STATUS			
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arker 1	2.478523926	PNO: Eas	Trig: Fre	e Run	Avg Type	ALIGN OFF	TRAC	E123456	Peak Search	Marl	ker 1 4.	6195809	79049 G	NO: East C.	Trig: Fre	e Run	Avg Type	Log-Pwr	07:31:18 PM TRACE TYP	E123456	Peak Searc
dB/div	Ref Offset 15 d Ref 25.00 dE	IFGain:Lo	W #Atten: 2	20 dB		Mkr1	2.478	52 GHz 02 dBm	Next Peak	10 dE	R B/div R	ef Offset 1 ef -5.00 (5 dB	Gain:High	#Atten: () dB		Mk	r1 4.619	6 GHz 17 dBm	Next
		-							Next Pk Right	-15.0											Next Pk F
00									Next Pk Left	-25.0 -36.0		1								DL1 -40.00 dBn	Next Pk
5.0									Marker Delta	-45.0 -55.0	•										Marker
5.0		1						DL1 -40.00 dBm	Mkr→CF	-65.0	-m	www.				-				,,,.	Mkr-
5.0										-75.0											
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RL larker 1	RF 50 D DC 907.11785589	3 MHz PNO: Fast G	SENSE:INT	ALIGN Avg Type: Log	N OFF 07:32:21 PM J g-Pwr TRACE TYPE DET	un 26, 2017 1 2 3 4 5 6 MWWWWW P N N N N N	Peak Search	Marker 1 1.:	RF 50 Ω DC 31761588079	94 GHz PNO: Fast G	Trig: Free #Atten: 0 c	Run	ALIGN OFF	07:32:41 PM Jun 26 TRACE 1 2 TYPE M W DET P N	Peak Searc
0 dB/div	Ref Offset 15 dB Ref -5.00 dBm	IFGain:High	#Atten: 0 db		Mkr1 907.1		Next Peak	10 dB/div R	ef Offset 15 dB ef -5.00 dBm	IFGain:High	watten: o t		Mk	r1 1.317 62 (-63.45 d	GHz Next
5.0							Next Pk Right	-15.0							Next Pk F
6.0							Next Pk Left	-25.0							Next Pk
5.0						.1 -40.00 dBn	Marker Delta	-45.0						DL1 -40	Marker
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tart 0.030		#\/B\	/ 300 kHz	#Swee	Stop 1.00	100 GHz	More 1 of 2	-95.0 Start 1.0000 #Res BW 100		#1/21	N 300 kHz		#Sweep 5	Stop 2.0000 01.3 ms (20000	GHz
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RL	Fre	22 GHz		e:2Gh	STATUS Hz~3 GI DFWr TRACE TAGE	HZ	Peak Search	MSG Keysight Spectrue LAT R.L	Freq	uency	Rang	SE:INT	STATU	23.5 G	HZ 2017 34 5 6 Peak Searc
arker 1	Fre	22 GHz PNO: Fast IFGain:Low		Avg Type: Log	BTATUS HZ~3 GI PWr TRACE 0FT Mkr1 2.768 6	HZ 1123456 NWWWW PNNNNN	Peak Search Next Peak	Keysight Spectrue RL Marker 1 4.1	Frequ m Analyzer - Swept SA RF 50 Q DC	uency	Rang	SE:INT	GHZ~	s 23.5 G	HZ 2017 3 4 5 6 Peak Search NNN SHZ Next F
arker 1	Fre trum Analyzer - Swept SA RF 50 0 DC 2.7686384319: Ref Offset 15 dB	22 GHz PNO: Fast IFGain:Low		Avg Type: Log	BTATUS HZ~3 GI PWr TRACE 0FT Mkr1 2.768 6	HZ 123456 MWWWW PNNNN 4 GHz		Keysight Spectrue RL Marker 1 4.1	Frequ m Analyzer - Swept SA RF 50 Q DC 62470623531 ef Offset 15 dB	uency	Rang	SE:INT	GHZ~	23.5 G	HZ 2017 3 4 5 6 Peak Search NNN SHZ Next F
arker 1	Fre trum Analyzer - Swept SA RF 50 0 DC 2.7686384319: Ref Offset 15 dB	22 GHz PNO: Fast IFGain:Low		Avg Type: Log	BTATUS HZ~3 GI PWr TRACE 0FT Mkr1 2.768 6	HZ 123456 MWWWW PNNNN 4 GHz	Next Peak	10 dB/div R	Frequ m Analyzer - Swept SA RF 50 Q DC 62470623531 ef Offset 15 dB	uency	Rang	SE:INT	GHZ~	s 23.5 Gi 1073427 PM Jun 22 TRACE 12 TYPE Man cert A1 kr1 4.624 7 (-44.46 c	HZ
RL	Fre trum Analyzer - Swept SA RF 50 0 DC 2.7686384319: Ref Offset 15 dB	22 GHz PNO: Fast IFGain:Low		Avg Type: Log	BTATUS HZ~3 GI PWr TRACE 0FT Mkr1 2.768 6	HZ 123456 MWWWW PNNNN 4 GHz	Next Peak	Xoyigit Sector Xoyigit	Frequ m Analyzer - Swept SA RF 50 Q DC 62470623531 ef Offset 15 dB	uency	Rang	SE:INT	GHZ~	23.5 G	HZ
arker 1	Fre trum Analyzer - Swept SA RF 50 0 DC 2.7686384319: Ref Offset 15 dB	22 GHz PNO: Fast IFGain:Low		Avg Type: Log	втитив HZ~3 GH +PPwr ттасе Mkr1 2.768 м 55.1	HZ 123456 MWWWW PNNNN 4 GHz	Next Peak Next Pk Right Next Pk Left	Kyrlight Spectrum RL Anarker 1 4.	Frequ m Analyzer - Swept SA RF 50 Q DC 62470623531 ef Offset 15 dB	uency	Rang	SE:INT	GHZ~	s 23.5 Gi 1073427 PM Jun 22 TRACE 12 TYPE Man cert A1 kr1 4.624 7 (-44.46 c	HZ 2017 14.5 g Next Pask Searc Next Pk F Next Pk F Next Pk F
RL	Fre trum Analyzer - Swept SA RF 50 0 DC 2.7686384319: Ref Offset 15 dB	22 GHz PNO: Fast IFGain:Low	y Range	Avg Type: Log	втитив HZ~3 GH +PPwr ттасе Mkr1 2.768 м 55.1	HZ	Next Peak	Itoryali Sjents Itoryali Sjents Marker 1 4.1 Marker 1 4.1 10 dBidiv R	Frequ m Analyzer - Swept SA RF 50 Q DC 62470623531 ef Offset 15 dB	Uency 12 GHz IFGansfigh		56:341] Avg Run 38	GHZ~	s 23.5 Gi 1073427 PM Jun 22 TRACE 12 TYPE Man cert A1 kr1 4.624 7 (-44.46 c	HZ 2017 1456 Peak Searc Next Pk F Next Pk F Next Pk F Next Pk F
dB/div s s s s s s s s s s s s s	Fre trum Analyzer - Swept SA RF 50 0 DC 2.7686384319: Ref Offset 15 dB	22 GHz PNO: Fast IFGain:Low		Avg Type: Log	втитив HZ~3 GH +PPwr ттасе Mkr1 2.768 м 55.1	HZ	Next Peak Next Pk Right Next Pk Left Marker Delta Mkr—CF		Frequ biological Sectors 62470623537 ef Offset 16 dB ef -5.00 dBm	Uency 12 GHz IFGansfigh		56:341] Avg Run 38	GHZ~	s 23.5 Gi 1073427 PM Jun 22 TRACE 12 TYPE Man cert A1 kr1 4.624 7 (-44.46 c	HZ 2817 1456 Peak Sear Next Pk Next Pk F Next Pk F Next Pk F Marker Marker



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Keysight Sp	pectrum Analyzer - Swept :	quen	су Ка	nge	. 30		~ 1 \	5112		🔤 Ke	ysight Spectr	um Analyzer - Si	rept SA	iene	y IXa	nge			-20		
Marker 1	RF 50 Q 1	13 MHz		ENSE:INT		ALIGN OFF	07:46:40 F	MJun 26, 2017 DE 1 2 3 4 5 6 PE M WWWWW ET P N N N N	Peak Search	Mar	ker 1 1	RF 50 9	38267 G	Hz		NSE:INT		ALIGN OFF	07:45:28 PI TRAC	MJun 26, 2017 E 1 2 3 4 5 6 E M WWWWW T P N N N N N	Peak Search
10 dB/div	Ref Offset 15 dE Ref -5.00 dBr	PNO: Fa IFGain:Hi 3 n				М	kr1 905	.23 MHz 74 dBm	NextPeak	10 di	F B/div F	tef Offset 1 tef -5.00 (11	PNO: Fast G Gain:High	Trig: Fre #Atten: 0	dB		Mkr	1 1.306	77 GHz 83 dBm	NextPe
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35.0								DL1 -40.00 dBn	Next Pk Left	-25.0 -35.0										DL1 -40.00 dBn	Next Pk L
45.0									Marker Delta	-45.0											Marker De
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5 <mark>6</mark>			ncy Ra			STATUS				MSG	5.011							STATUS		GHz	
Keysight Sp	pectrum Analyzer - Swept !	A		inge					- 0 -	🛄 Ke	ysight Spectr	ım Analyzer - Si	rept SA	noy	Itan	ge.					
RL Marker 1	RF 50 Q 1 1 2.617430871	544 GHz	ST (S) Trig: Fr	ENSE:INT		ALIGN OFF	TRA	CE 1 2 3 4 5 6	Peak Search	<mark>00</mark> R Mar	ker 14	RF 50 9	30302 G	Hz	SE Trig: Fre	e Run	Avg Type	ALIGN OFF	07:47:19 PI TRAC TYP	E123456	Peak Search
0 dB/div	Ref Offset 15 dE Ref 25.00 dB	PNO: Fa IFGain:Li B M	#Atten:	20 dB		Mkr	۔ 1 2.617	43 GHz 95 dBm	Next Peak	10 di	B/div F	Ref Offset 1 Ref -5.00 (idB	PNO: Fast G	#Atten: 0	dB		Mk	r1 4.620	0 6 GHz 25 dBm	Next Pe
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5.00									Next Pk Left	-25.0 -35.0										DL1 -40.00 dBn	Next Pk L
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65.0	000 GHz							0000 GHz	1 of 2		1 3.00 G									3.50 GHz	10



4.7 Radiated Emission Measurement

4.7.1 Limits of Radiated Emission Measurement

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 70 +10 log10(P) dB. The limit of emission is equal to -40 dBm.

4.7.2 Test Procedure

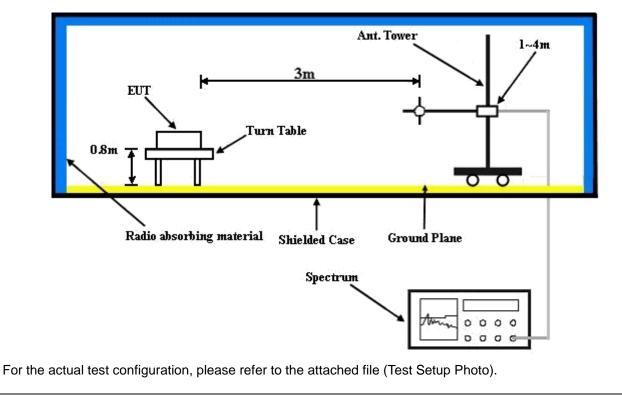
- a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8 m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1 m to 4 m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- b. 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
- c. EIRP = Output power level of S.G TX cable loss + Antenna gain of substitution horn.
- d. 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 2.15 dBi.

Note: The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

4.7.3 Deviation from Test Standard

No deviation.

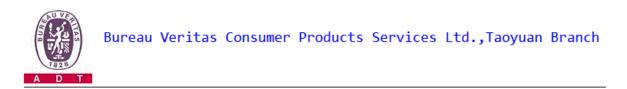
4.7.4 Test Setup

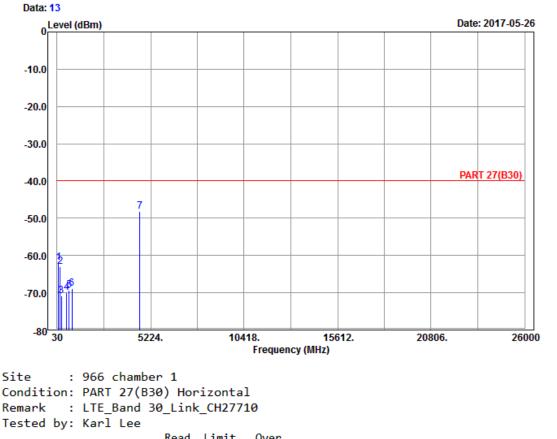




4.7.5 Test Results

Mode A LTE Band 30 Channel Bandwidth: 10 MHz / QPSK





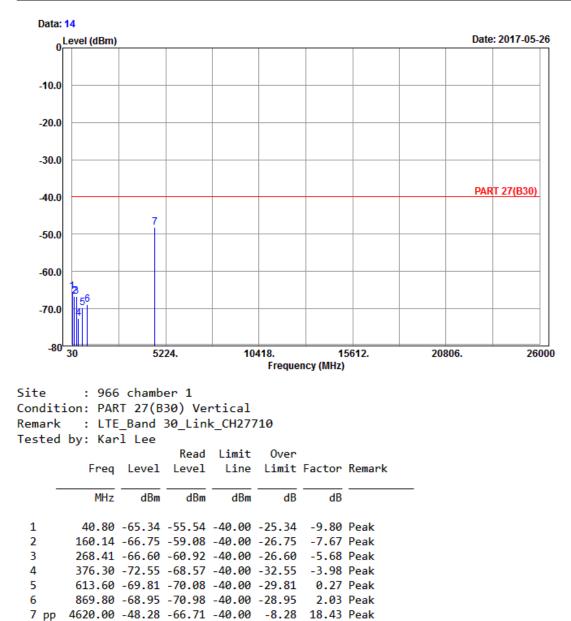
	Freq	level		Limit Line		Factor	Remark	
	MHz	dBm	dBm	dBm	dB	dB		
4	100 20	C1 92	F2 75	40.00	21 92	0.07	Deals	
1	108.30	-01.02	-52.75	-40.00	-21.82	-9.07	Реак	
2	196.32	-62.89	-56.89	-40.00	-22.89	-6.00	Peak	
3	267.87	-70.83	-65.16	-40.00	-30.83	-5.67	Peak	
4	566.00	-70.04	-69.06	-40.00	-30.04	-0.98	Peak	
5	687.10	-69.41	-69.10	-40.00	-29.41	-0.31	Peak	
6	853.70	-68.78	-70.34	-40.00	-28.78	1.56	Peak	

7 pp 4620.00 -48.18 -66.61 -40.00 -8.18 18.43 Peak



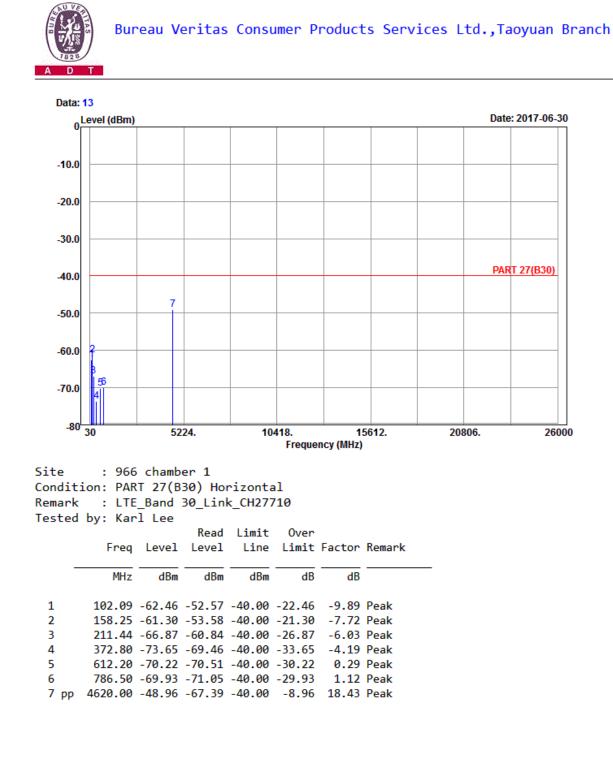


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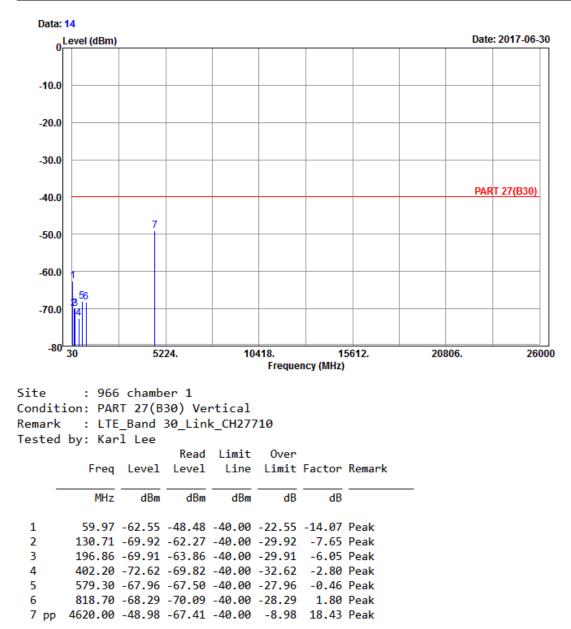
Mode B LTE Band 30 Channel Bandwidth: 10 MHz / QPSK







Bureau Veritas Consumer Products Services Ltd., Taoyuan Branch





5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).



Appendix – Information on the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

Linko EMC/RF Lab Tel: 886-2-26052180 Fax: 886-2-26051924 Hsin Chu EMC/RF/Telecom Lab Tel: 886-3-6668565 Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety Tel: 886-3-3183232 Fax: 886-3-3270892

Email: <u>service.adt@tw.bureauveritas.com</u> Web Site: <u>www.bureauveritas-adt.com</u>

The address and road map of all our labs can be found in our web site also.

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