FCC CFR47 PART 22H, 27
CERTIFICATION TEST REPORT
FCC ID: HLZ-ACERONE8T2P

Product： Tablet

Trade Mark： acer

Model Number： Acer_one_8_T2_Plus

Family Model： N/A

Report No.： S22082304116006

Prepared for

Acer Incorporated

8F, 88, Sec. 1, Xintai 5th Rd. Xizhi New Taipei City, 221, Taiwan

Prepared by

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TEST RESULT CERTIFICATION	
Applicant's name ..... :	Acer Incorporated
Address..... :	8F, 88, Sec. 1, Xintai 5th Rd. Xizhi New Taipei City, 221, Taiwan
Manufacturer's Name ..... :	Acer Incorporated
Address..... :	8F, 88, Sec. 1, Xintai 5th Rd. Xizhi New Taipei City, 221, Taiwan
Product name ..... :	Tablet
Model and/or type reference ..... :	Acer_one_8_T2_Plus
Family Model：	N/A
Standards ..... :	FCC CFR 47 Part 22H, Part 27
Test procedure	ANSI C63.26:2015 ANSI/TIA-603-E-2016

This device described above has been tested by NTEK, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

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Test Sample Number……:	S220823041005
Date of Test.....	
Date (s) of performance of tests.....	Aug 24, 2022 ~ Oct 18, 2022
Date of Issue	Oct 20. 2022
Test Result	**Pass**

Testing Engineer : 

(Allen Liu)

Authorized Signatory : 

(Alex Li)

TABLE OF CONTENTS

1. GENERAL INFORMATION

1.1 PRODUCT DESCRIPTION

A major technical description of EUT is described as following:

Product Designation:	Tablet
Trade Mark	acer
Model Name	Acer_one_8_T2_Plus
Family Model	N/A
Model Difference	N/A
FCC ID:	HLZ-ACERONE8T2P
Frequency Bands:	U.S. Bands: ☒LTE FDD Band 5, 41
Frequency Range:	LTE FDD Band 5 Uplink: 824MHz-849MHz, Downlink: 869MHz-894MHz; LTE TDD Band 41 Uplink& Downlink: 2535MHz-2655MHz,(Number Of Channel see note 2)
Type of Modulation:	QPSK/16QAM
Power Class	Class 3
Antenna:	PIFA Antenna
Antenna gain:	Band 5: 1.23dBi, Band 41: 1.23dBi,
Adapter	MODEL: KA12C-0502000US INPUT: 100-240V~50/60Hz 0.35A Max OUTPUT: 5V⎓2000mA
Battery	DC 3.7V, 4000mAh
Power supply	DC 3.7V from battery or DC 5V from Adapter.
Extreme Vol. Limits:	DC 3.4V to DC 4.2V (Nominal DC 3.7V)（Note 1）
HW Version	EM_T7818_V1.1 L20/MTK8766V/WAA
SW Version	Base_Acer_one_8_T2_Plus_mt6761_Android12_v001_20221101140214
** Note1: The High Voltage 4.2V and Low Voltage 3.4V was declared by manufacturer, The EUT couldn't be operate normally with higher or lower voltage.	

Note2:

Test Frequency ID	Bandwidth(MHz)	EARFCN	Frequency (UL and DL) (MHz)
Low Range	5	40065	2537.5
	10	40090	2540
	15	40115	2542.5
	20	40140	2545
Mid Range	5/10/15/20	40640	2595
High Range	5	41215	2652.5
	10	41190	2650
	15	41165	2647.5
	20	41140	2645

1.2 RELATED SUBMITTAL(S) / GRANT (S)

This submittal(s) (test report) is intended for **FCC ID: HLZ-ACERONE8T2P** filing to comply with the FCC Part 22H&27.

1.3 TEST METHODOLOGY

The tests documented in this report were performed in accordance with ANSI/TIA-603-E-2016, FCC CFR 47 Part 2, Part 22, Part 27, ANSI C63.26:2015.

1.4 TEST FACILITY

The test site used to collect the radiated data is located at:

ShenZhen NTEK Testing Technology Co., Ltd.

1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang Street, Bao'an District, Shenzhen 518126 P.R.China.

The test site is constructed and calibrated to meet the FCC requirements in documents ANSI C63.26:2015& ANSI C63.4: 2014.

FCC Registration No.:463705

IC Registration No.:9270A-1,

CNAS Registration No.:L5516

MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement, where expended uncertainty U is based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95 %.

No.	Item	Uncertainty
1	Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.5dB
2	Conducted Emission Test	±1.38dB
3	RF power, conducted	±0.16dB
4	Spurious emissions, conducted	±0.21dB
5	All emissions, radiated(<1G)	±4.68dB
6	All emissions, radiated(>1G)	±4.89dB
7	Temperature	±0.5°C
8	Humidity	±2%
9	Frequency error, conducted	±0.19 ppm

1.5 SPECIAL ACCESSORIES

The battery and the charger, earphone supplied by the applicant were used as accessories and being tested with EUT intended for FCC grant together.

1.6 WORST-CASE CONFIGURATION AND MODE

The worst-case scenario for all measurements is based on the investigation results.

The device has LTE Bands of: Band 5, Band 41,

The RB Size was selected to measure for peak or average ERP and EIRP, which was based on the conducted power verification baseline data.

For the fundamental investigation of radiated emissions, the EUT is investigated for vertical and horizontal antenna orientations and X Y and Z orientations of the EUT alone. After the investigations the worst case was determined to be at X orientation for all LTE bands.

1.6 SUMMARY OF TEST RESULTS

FCC Part22, Subpart H/ FCC Part27, Subpart L, KDB 971168 D01 Power Meas License Digital Systems v03			
FCC Rule	**Test Item**	**Verdict**	**Remark**
2.1046	Conducted Output Power	PASS	
22.913(d) 27.50(d)(5) KDB 971168 D01 Clause 5.7	Peak-to-Average Ratio	PASS	
2.1049 22.917(b) KDB 971168 D01 Clause 4.2	Occupied Bandwidth	PASS	
2.1051 22.917(a) 27.53(m), (g), (h) KDB 971168 D01 Clause 6	Band Edge	PASS	
22.913(a)(2) 27.50(c)(10) KDB 971168 D01 Clause 5.6	Effective Radiated Power	PASS	
27.50(h)(2), (d)(4) KDB 971168 D01 Clause 5.6	Equivalent Isotropic Radiated Power	PASS	
2.1053 22.917(a) 27.53(g)(h)(m) KDB 971168 D01 Clause 7	Field Strength of Spurious Radiation	PASS	
2.1055 22.355 27.54 KDB 971168 D01 Clause 9	Frequency Stability for Temperature & Voltage	PASS	

2.1051 22.917(a) 27.53(g)(h)(m) KDB 971168 D01 Clause 6	Conducted Emission	PASS	

Remark:

1. “N/A” denotes test is not applicable in this Test Report.
2. All test items were verified and recorded according to the standards and without any deviation during the test.
3. No modifications are made to the EUT during all test items.

2. SYSTEM TEST CONFIGURATION

2.1 EUT CONFIGURATION

The EUT configuration for testing is installed on RF field strength measurement to meet the Commission's requirement and operating in a manner which intends to maximize its emission characteristics in a continuous normal application.

2.2 EUT EXERCISE

The Transmitter was operated in the maximum output power mode through Communication Tester. The TX frequency was fixed which was for the purpose of the measurements.

2.3 CONFIGURATION OF EUT SYSTEM

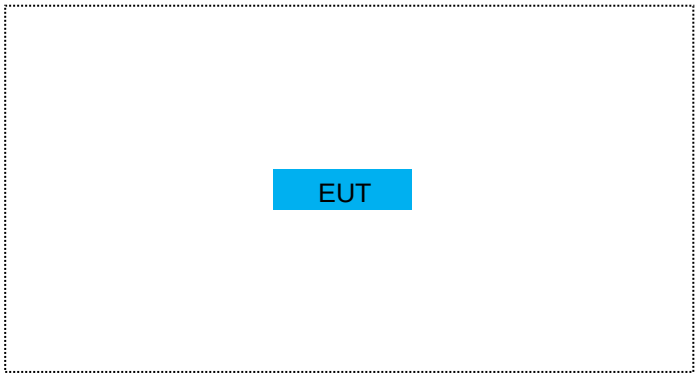
Table 2-1 Equipment Used in EUT System

Item	Equipment	Model No.	ID or Specification	Note
1	Tablet	Acer_one_8_T2_Plus	FCC ID: HLZ-ACERONE8T2P	EUT

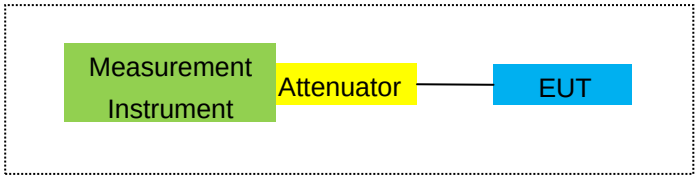
Note: All the accessories have been used during the test.
the following "EUT" in setup diagram means EUT system.

2.4 TEST SETUP

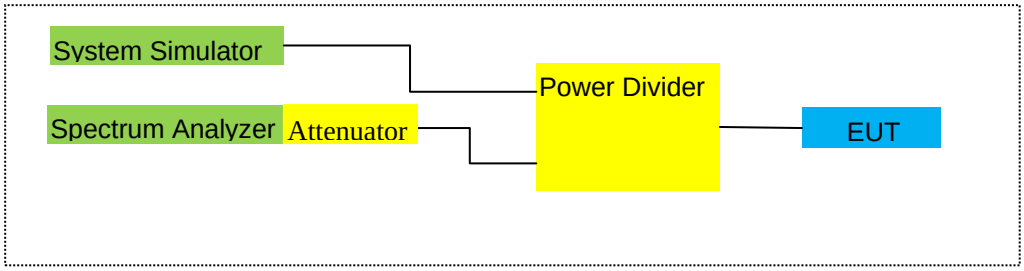
For Radiated Test Cases



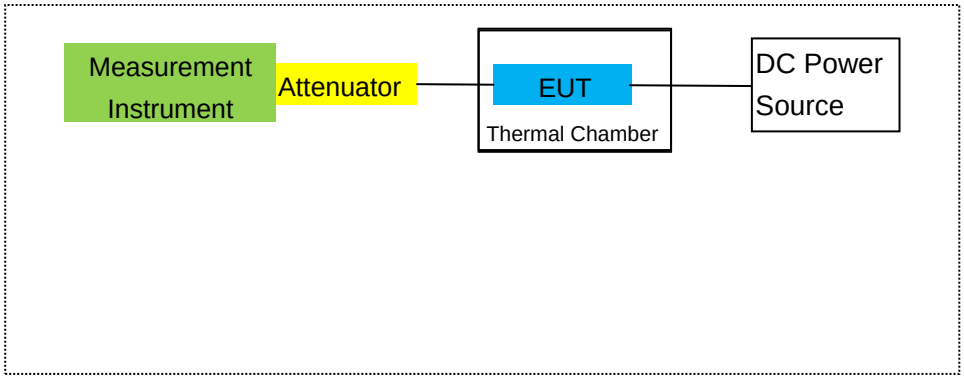
For Conducted Output Power



For Peak-to Average Ratio, Occupied Bandwidth, Conducted Band edge and Conducted Spurious Emission



For Frequency Stability



Note: EUT built-in battery-powered, the battery is fully-charged.

3.TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	MXA Signal Analyzer	Agilent	N9020A	MY49100060	2022.04.06	2023.04.05	1 year
2	Test Receiver	R&S	ESPI	101318	2022.04.06	2023.04.05	1 year
3	Bilog Antenna	TESEQ	CBL6111D	31216	2022.03.30	2023.03.29	1 year
4	50Ω Coaxial Switch	Anritsu	MP59B	6200983705	2020.05.11	2023.05.10	3 year
5	Horn Antenna	EM	EM-AH-10180	2011071402	2022.03.31	2023.03.30	1 year
6	Horn Ant	Schwarzbeck	BBHA 9170	9170-181	2021.11.07	2022.11.06	1 year
7	Amplifier	EM	EM-30180	060538	2022.06.17	2023.06.16	1 year
8	Loop Antenna	ARA	PLA-1030/B	1029	2022.04.06	2023.04.05	1 year
9	Power Meter	R&S	NRVS	100696	2022.06.17	2023.06.16	1 year
10	Power Sensor	R&S	URV5-Z4	0395.1619.05	2022.04.06	2023.04.05	1 year
11	Test Cable	N/A	R-01	N/A	2020.05.11	2023.05.10	3 year
12	Test Cable	N/A	R-02	N/A	2020.05.11	2023.05.10	3 year
13	Test Cable	N/A	R-03	N/A	2022.06.17	2025.06.16	3 year
14	Test Receiver	R&S	ESCI	101160	2022.04.06	2023.04.05	1 year
15	LISN	R&S	ENV216	101313	2022.04.06	2023.04.05	1 year
16	LISN	EMCO	3816/2	00042990	2022.04.06	2023.04.05	1 year
17	50Ω Coaxial Switch	Anritsu	MP59B	6200264417	2022.04.06	2023.04.05	1 year
18	Passive Voltage Probe	R&S	ESH2-Z3	100196	2022.04.06	2023.04.05	1 year
19	Test Cable	N/A	C01	N/A	2020.05.11	2023.05.10	3 year
20	Test Cable	N/A	C02	N/A	2020.05.11	2023.05.10	3 year
21	Test Cable	N/A	C03	N/A	2020.05.11	2023.05.10	3 year
22	Attenuator	MCE	24-10-34	BN9258	2022.06.17	2023.06.16	1 year
23	Spectrum Analyzer	agilent	e4440a	us44300399	2022.04.06	2023.04.05	1 year
24	test receiver	R&S	ESCI	a0304218	2022.04.06	2023.04.05	1 year
25	Communication Tester	R&S	CMU200	A0304247	2022.06.17	2023.06.16	1 year

26	Thermal Chamber	Ten Billion	TTC-B3C	TBN-960502	2022.04.06	2023.04.05	1 year
27	DC Power Source	N/A	PS-6005D	20170402923	2020.05.11	2023.05.10	3 year
28	PSG Analog Signal Generator	Agilent	E8257D	MY51110112	2022.06.16	2023.06.15	1 year
29	Communication Tester	R&S	CMW500	148500	2022.06.16	2023.06.15	1 year

Note: Each piece of equipment is scheduled for calibration once a year except the Test Cable& DC Power Source which is scheduled for calibration every 3 years.

4. OUTPUT POWER

4.1 OUTPUT POWER MEASUREMENT

LTE Measurement Procedure:

All LTE bands conducted power peak and average are obtained from the CMW500 telecommunication test set. The following tests were conducted according to the test requirements outlined in section 6.2 of the 3GPP TS36.101 specification.

UE Power Class: 3 (23 +/- 2dBm). The allowed Maximum Power Reduction (MPR) for the maximum output power due to higher order modulation and transmit bandwidth configuration (resource blocks) is specified in Table 6.2.3-1 of the 3GPP TS36.101.

Table 6.2.3-1: Maximum Power Reduction (MPR) for Power Class 3

Modulation	Channel bandwidth / Transmission bandwidth (RB)						MPR (dB)
	1.4 MHz	3.0 MHz	5 MHz	10 MHz	15 MHz	20 MHz	
QPSK	> 5	> 4	> 8	> 12	> 16	> 18	≤ 1
16 QAM	≤ 5	≤ 4	≤ 8	≤ 12	≤ 16	≤ 18	≤ 1
16 QAM	> 5	> 4	> 8	> 12	> 16	> 18	≤ 2

The allowed A-MPR values specified below in Table 6.2.4.-1 of 3GPP TS36.101 are in addition to the allowed MPR requirements. All the measurements below were performed with A-MPR disabled, by using Network Signaling Value of “NS_01”.3

Table 6.2.4-1: Additional Maximum Power Reduction (A-MPR)

Network Signalling value	Requirements (sub-clause)	E-UTRA Band	Channel bandwidth (MHz)	Resources Blocks (N_{RB})	A-MPR (dB)
NS_01	6.6.2.1.1	Table 5.5-1	1.4, 3, 5, 10, 15, 20	Table 5.6-1	NA
NS_03	6.6.2.2.1	2, 4,10, 23, 25, 35, 36	3	>5	≤ 1
			5	>6	≤ 1
			10	>6	≤ 1
			15	>8	≤ 1
			20	>10	≤ 1
NS_04	6.6.2.2.2	41	5	>6	≤ 1
			10, 15, 20	See Table 6.2.4-4	
NS_05	6.6.3.3.1	1	10,15,20	≥ 50	≤ 1
NS_06	6.6.2.2.3	12, 13, 14, 17	1.4, 3, 5, 10	Table 5.6-1	n/a
NS_07	6.6.2.2.3 6.6.3.3.2	13	10	Table 6.2.4-2	Table 6.2.4-2
NS_08	6.6.3.3.3	19	10, 15	> 44	≤ 3
NS_09	6.6.3.3.4	21	10, 15	> 40	≤ 1
				> 55	≤ 2
NS_10		20	15, 20	Table 6.2.4-3	Table 6.2.4-3
NS_11	6.6.2.2.1	23[1]	1.4, 3, 5, 10	Table 6.2.4-5	Table 6.2.4-5
--					
NS_32	-	-	-	-	-

Note 1: Applies to the lower block of Band 23, i.e. a carrier placed in the 2000-2010 MHz region.

Test data reference attachment.

5. OCCUPIED BANDWIDTH

RULE PART(S)

FCC: §2.1049

LIMITS

For reporting purposes only

TEST PROCEDURE

The transmitter output was connected to a calibrated coaxial cable and coupler, the other end of which was connected to a spectrum analyzer. The occupied bandwidth was measured with the spectrum analyzer at the low, middle and high channel in each band. The -26dB bandwidth was also measured and recorded.

MODES TESTED

LTE Band 5

LTE Band 41

RESULTS

PASS

Test data reference attachment.

6. BANDEDGE AND EMISSION MASK

RULE PART(S)

FCC: §2.1051,§22.917(a),§27.53(c)(g)(h)(m)

FCC: §2.1046, §22.913

LIMITS

The minimum permissible attenuation level of any spurious emission is 43 + log10(P[Watts]), where P is the transmitter power in Watts.

The minimum permissible attenuation level for Band 7 is as following.

Per 27.53(g) for operations in the 698-746 MHz band, in the 100 kHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least 30 kHz may be employed to demonstrate compliance with the out-of-band emissions limit.

Per 27.53(c.5) for operations in the 776-788 MHz band, in the 100 kHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least 30 kHz may be employed to demonstrate compliance with the out-of-band emissions limit.

For all plots showing emissions in the 763 – 775MHz and 793 – 805MHz band, the FCC limit per 27.53(c.4) is 65 + 10log10(P) = -35dBm in a 6.25kHz bandwidth.

Per 27.53(m) for operations in the BRS/EBS bands, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth.

TEST PROCEDURE

The transmitter output was connected to a CMW500Test Set and configured to operate at maximum power. The band edge emissions were measured at the required operating frequencies in each band on the Spectrum Analyzer.

For each band edge measurement:

Set the spectrum analyzer span to include the block edge frequency

Set a marker to point the corresponding band edge frequency in each test case.

Set display line

Set resolution bandwidth to at least 1% of emission bandwidth.

MODES TESTED

- LTE Band 5/41

RESULTS

Test data reference attachment.

7. OUT OF BAND EMISSIONS

RULE PART(S)

FCC: §2.1051,§22.917(a), §27.53(c)(g)(h)(m)

LIMITS

The minimum permissible attenuation level of any spurious emission is 43 + log10(P[Watts]), where P is the transmitter power in Watts.
The minimum permissible attenuation level for Band 7 is as following.
Per 27.53(g) for operations in the 698-746 MHz band, in the 100 kHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least 30 kHz may be employed to demonstrate compliance with the out-of-band emissions limit.
Per 27.53(c.5) for operations in the 776-788 MHz band, in the 100 kHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least 30 kHz may be employed to demonstrate compliance with the out-of-band emissions limit.
For all plots showing emissions in the 763 – 775MHz and 793 – 805MHz band, the FCC limit per 27.53(c.4) is 65 + 10log10(P) = -35dBm in a 6.25kHz bandwidth.
Per 27.53(m) for operations in the BRS/EBS bands, the attenuation factor shall be not less than 40 + 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth.

TEST PROCEDURE

The RF output of the transmitter was connected to a spectrum analyzer through a calibrated coaxial cable. Sufficient scans were taken to show the out-of-band Emissions, if any, up to 10th harmonic. Multiple sweeps were recorded in maximum hold mode using a peak detector to ensure that the worst-case emissions were caught.
For each out of band emissions measurement:

- Set display line
- Set RBW & VBW to 100 kHz for the measurement below 1 GHz, and 1 MHz for the measurement above 1 GHz.

MODES TESTED

LTE Band 5
LTE Band 41

7.1 MEASUREMENT METHOD

The test set up and general procedure is similar to conducted peak output power test. Only different for setting the measurement configuration of the measuring instrument of Spectrum Analyzer.

Test data reference attachment.

8. RADIATED MEASUREMENT

8.1. RADIATED POWER (ERP & EIRP)

RULE PART(S)

FCC: §2.1046, §22.913(a)(2) and §27.50 (h)(2), (b)(10), (c)(10), (d)(4)

LIMITS:

22.913(a) (2)- The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.
27.50 (c) (10) the following power and antenna height requirements apply to stations transmitting in the 698–746 MHz band, the portable stations (hand-held devices) are limited to 3 watts ERP.
27.50 (b)(10) Portable stations (hand-held devices) transmitting in the 746–757 MHz, 758–763 MHz, 776–793 MHz, and 805–806 MHz bands are limited to 3 watts ERP.
27.50 (d)(4) The following power and antenna height requirements apply to stations transmitting in the 1710–1755 MHz and 2110–2155 MHz bands: Fixed, mobile, and portable (hand-held) stations operating in the 1710–1755 MHz band are limited to 1 watt EIRP.
27.50 (h)(2)Mobile and other user stations in the 2500–2570 MHz and 2620–2690 MHz bands. Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.

TEST PROCEDURE

ANSI/TIA-603-E Clause 2.2.17
KDB 971168 v02r01 RF power output using broadband peak and average power meter method.
KDB 971168 D01 Power Meas License Digital Systems v02r01, “Measurement Guidance for Certification of Licensed Digital Transmitters”

MODES TESTED

- LTE Band5
- LTE Band 41

RESULTS

Pass

8.2 LTE BAND 5

Radiated Power (ERP) for Band 5										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Correction (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band QPSK	3/#Mid	824.7	7.14	2.01	19.68	2.15	22.66	184.502	Horizontal	Pass
		836.5	7.02	2.01	19.77	2.15	22.63	183.231	Horizontal	Pass
		848.3	6.82	2.02	19.82	2.15	22.47	176.604	Horizontal	Pass
3.0MHz Band QPSK	1/#Mid	825.5	6.91	2.01	19.70	2.15	22.45	175.792	Horizontal	Pass
		836.5	6.81	2.01	19.77	2.15	22.42	174.582	Horizontal	Pass
		847.5	6.68	2.02	19.81	2.15	22.32	170.608	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	826.5	7.19	2.01	19.71	2.15	22.74	187.932	Horizontal	Pass
		836.5	7.07	2.01	19.77	2.15	22.68	185.353	Horizontal	Pass
		846.5	6.91	2.02	19.79	2.15	22.53	179.061	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	829	7.21	2.01	19.73	2.15	**22.78**	189.671	Horizontal	Pass
		836.5	7.16	2.01	19.77	2.15	22.77	189.234	Horizontal	Pass
		844	7.06	2.02	19.78	2.15	22.67	184.927	Horizontal	Pass
1.4MHz Band QPSK	1/#Mid	824.7	6.08	2.01	19.68	2.15	21.60	144.544	Vertical	Pass
		836.5	5.99	2.01	19.77	2.15	21.60	144.544	Vertical	Pass
		848.3	5.96	2.02	19.82	2.15	21.61	144.877	Vertical	Pass
3.0MHz Band QPSK	1/#Mid	825.5	5.72	2.01	19.70	2.15	21.26	133.660	Vertical	Pass
		836.5	5.67	2.01	19.77	2.15	21.28	134.276	Vertical	Pass
		847.5	6.17	2.02	19.81	2.15	21.81	151.705	Vertical	Pass
5.0MHz Band QPSK	1/#Mid	826.5	5.62	2.01	19.71	2.15	21.17	130.918	Vertical	Pass
		836.5	6.19	2.01	19.77	2.15	21.80	151.356	Vertical	Pass
		846.5	6.00	2.02	19.79	2.15	21.62	145.211	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	829	6.02	2.01	19.73	2.15	21.59	144.212	Vertical	Pass
		836.5	6.31	2.01	19.77	2.15	21.92	155.597	Vertical	Pass
		844	5.92	2.02	19.78	2.15	21.53	142.233	Vertical	Pass

Note:
SG Level= Signal generator output
Max. EIRP Average (dBm)= Antenna Factor (dB)+ SG Level (dBm)- Cable Loss(dBm)

Radiated Power (ERP) for Band 5										
Mode	RB/RB SIZE	Frequency	Result							Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Correction (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
1.4MHz Band 16 QAM	3/#Mid	824.7	6.29	2.01	19.68	2.15	21.81	151.705	Horizontal	Pass
		836.5	6.22	2.01	19.77	2.15	21.83	152.405	Horizontal	Pass
		848.3	6.06	2.02	19.82	2.15	21.71	148.252	Horizontal	Pass
3.0MHz Band 16 QAM	1/#Mid	825.5	6.37	2.01	19.70	2.15	21.91	155.239	Horizontal	Pass
		836.5	6.08	2.01	19.77	2.15	21.69	147.571	Horizontal	Pass
		847.5	5.56	2.02	19.81	2.15	21.20	131.826	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	826.5	6.69	2.01	19.71	2.15	22.24	167.494	Horizontal	Pass
		836.5	6.46	2.01	19.77	2.15	22.07	161.065	Horizontal	Pass
		846.5	6.21	2.02	19.79	2.15	21.83	152.405	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	829	6.69	2.01	19.73	2.15	**22.26**	168.267	Horizontal	Pass
		836.5	6.41	2.01	19.77	2.15	22.02	159.221	Horizontal	Pass
		844	5.95	2.02	19.78	2.15	21.56	143.219	Horizontal	Pass
1.4MHz Band 16 QAM	1/#Mid	824.7	5.94	2.01	19.68	2.15	21.46	139.959	Vertical	Pass
		836.5	4.43	2.01	19.77	2.15	20.04	100.925	Vertical	Pass
		848.3	5.08	2.02	19.82	2.15	20.73	118.304	Vertical	Pass
3.0MHz Band 16 QAM	1/#Mid	825.5	4.89	2.01	19.70	2.15	20.43	110.408	Vertical	Pass
		836.5	4.64	2.01	19.77	2.15	20.25	105.925	Vertical	Pass
		847.5	4.94	2.02	19.81	2.15	20.58	114.288	Vertical	Pass
5.0MHz Band 16 QAM	1/#Mid	826.5	5.00	2.01	19.71	2.15	20.55	113.501	Vertical	Pass
		836.5	5.58	2.01	19.77	2.15	21.19	131.522	Vertical	Pass
		846.5	6.30	2.02	19.79	2.15	21.92	155.597	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	829	6.24	2.01	19.73	2.15	21.81	151.705	Vertical	Pass
		836.5	6.10	2.01	19.77	2.15	21.71	148.252	Vertical	Pass
		844	4.91	2.02	19.78	2.15	20.52	112.720	Vertical	Pass

Note:
SG Level= Signal generator output
Max. EIRP Average (dBm)= Antenna Factor (dB)+ SG Level (dBm)- Cable Loss(dBm)

8.3 LTE BAND 41

Radiated Power (EIRP) for Band 41									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
5.0MHz Band QPSK	1/#Mid	2537.5	-0.27	4.54	27.75	22.94	196.789	Horizontal	Pass
		2595	-0.12	4.69	27.72	22.91	195.434	Horizontal	Pass
		2652.5	0.00	4.71	27.71	23.00	199.526	Horizontal	Pass
10.0MHz Band QPSK	1/#Mid	2540	-0.35	4.55	27.76	22.86	193.197	Horizontal	Pass
		2595	-0.21	4.69	27.72	22.82	191.426	Horizontal	Pass
		2650	-0.20	4.72	27.70	22.78	189.671	Horizontal	Pass
15.0MHz Band QPSK	1/#Mid	2542.5	-0.18	4.55	27.77	23.04	201.372	Horizontal	Pass
		2595	0.10	4.69	27.72	23.13	205.589	Horizontal	Pass
		2647.5	0.05	4.72	27.69	23.02	200.447	Horizontal	Pass
20.0MHz Band QPSK	1/#Mid	2545	-0.06	4.57	27.78	23.15	206.538	Horizontal	Pass
		2595	0.16	4.73	27.72	23.15	206.538	Horizontal	Pass
		2645	0.16	4.75	27.68	23.09	203.704	Horizontal	Pass
5.0MHz Band QPSK	1/#Mid	2537.5	-0.07	4.54	27.75	23.14	206.063	Vertical	Pass
		2595	0.02	4.69	27.72	23.05	201.837	Vertical	Pass
		2652.5	0.04	4.71	27.71	23.04	201.372	Vertical	Pass
10.0MHz Band QPSK	1/#Mid	2540	-0.05	4.55	27.76	**23.16**	207.014	Vertical	Pass
		2595	0.11	4.69	27.72	23.14	206.063	Vertical	Pass
		2650	0.04	4.72	27.70	23.02	200.447	Vertical	Pass
15.0MHz Band QPSK	1/#Mid	2542.5	-1.32	4.55	27.77	21.90	154.882	Vertical	Pass
		2595	-1.18	4.69	27.72	21.85	153.109	Vertical	Pass
		2647.5	-1.00	4.72	27.69	21.97	157.398	Vertical	Pass
20.0MHz Band QPSK	1/#Mid	2545	-1.60	4.57	27.78	21.61	144.877	Vertical	Pass
		2595	-0.57	4.73	27.72	22.42	174.582	Vertical	Pass
		2645	-1.27	4.75	27.68	21.66	146.555	Vertical	Pass

Note:
SG Level= Signal generator output
Max. EIRP Average (dBm)= Antenna Factor (dB)+ SG Level (dBm)- Cable Loss(dBm)

Radiated Power (EIRP) for Band 41									
Mode	RB/RB SIZE	Frequency	Result						Conclusion
			SG Level (dBm)	Cable Loss (dBm)	Antenna Factor (dB)	Max. EIRP Average (dBm)	Max. EIRP Average (mW)	Polarization Of Max. ERP	
5.0MHz Band 16 QAM	1/#Mid	2537.5	-0.30	4.54	27.75	22.91	195.434	Horizontal	Pass
		2595	-0.15	4.69	27.72	22.88	194.089	Horizontal	Pass
		2652.5	-0.03	4.71	27.71	22.97	198.153	Horizontal	Pass
10.0MHz Band 16 QAM	1/#Mid	2540	-0.38	4.55	27.76	22.83	191.867	Horizontal	Pass
		2595	-0.24	4.69	27.72	22.79	190.108	Horizontal	Pass
		2650	-0.23	4.72	27.70	22.75	188.365	Horizontal	Pass
15.0MHz Band 16 QAM	1/#Mid	2542.5	-0.21	4.55	27.77	23.01	199.986	Horizontal	Pass
		2595	0.07	4.69	27.72	23.10	204.174	Horizontal	Pass
		2647.5	0.02	4.72	27.69	22.99	199.067	Horizontal	Pass
20.0MHz Band 16 QAM	1/#Mid	2545	-0.09	4.57	27.78	**23.13**	205.589	Horizontal	Pass
		2595	0.13	4.73	27.72	23.12	205.116	Horizontal	Pass
		2645	0.13	4.75	27.68	23.06	202.302	Horizontal	Pass
5.0MHz Band 16 QAM	1/#Mid	2537.5	-0.10	4.54	27.75	23.11	204.644	Vertical	Pass
		2595	-0.01	4.69	27.72	23.02	200.447	Vertical	Pass
		2652.5	0.01	4.71	27.71	23.01	199.986	Vertical	Pass
10.0MHz Band 16 QAM	1/#Mid	2540	-0.08	4.55	27.76	23.12	205.116	Vertical	Pass
		2595	0.08	4.69	27.72	23.11	204.644	Vertical	Pass
		2650	0.01	4.72	27.70	22.99	199.067	Vertical	Pass
15.0MHz Band 16 QAM	1/#Mid	2542.5	-1.24	4.55	27.77	21.98	157.761	Vertical	Pass
		2595	-1.26	4.69	27.72	21.77	150.314	Vertical	Pass
		2647.5	-1.12	4.72	27.69	21.85	153.109	Vertical	Pass
20.0MHz Band 16 QAM	1/#Mid	2545	-1.16	4.57	27.78	22.05	160.325	Vertical	Pass
		2595	-1.24	4.73	27.72	21.75	149.624	Vertical	Pass
		2645	-1.17	4.75	27.68	21.76	149.968	Vertical	Pass

Note:
SG Level= Signal generator output
Max. EIRP Average (dBm)= Antenna Factor (dB)+ SG Level (dBm)- Cable Loss(dBm)

9. SPURIOUS RADIATION EMISSION

RULE PART(S)

FCC: §2.1051,§22.917(a),§27.53(c)(g)(h)(m)

LIMIT

The minimum permissible attenuation level of any spurious emission is 43 + log10 (P [Watts]), where P is the transmitter power in Watts.

TEST PROCEDURE

For Cellular equipment - Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 100 kHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

For PCS equipment - Compliance with these rules is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. A narrower resolution bandwidth is permitted in all cases to improve measurement accuracy provided the measured power is integrated over the full required measurement bandwidth (i.e. 1 MHz or 1 percent of emission bandwidth, as specified). The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

The unwanted emission power shall be measured with a resolution bandwidth of at least 1% of the occupied bandwidth in the 1 MHz band immediately outside and adjacent to the channel edge of the equipment. Beyond the 1 MHz band immediately outside the channel edge of the equipment, a resolution bandwidth of 1 MHz shall be employed. A narrower resolution bandwidth is allowed to be used provided that the measured power is integrated over the full required measurement bandwidth of 1 MHz or 1% of the occupied bandwidth as applicable.

The power of any unwanted emissions measured from the channel edge of the equipment shall be attenuated below the transmitter power, P (dBW), as follows:
a. for base station and subscriber equipment, other than mobile subscriber equipment, the attenuation shall not be less than 43 + 10 Log10 (p), dB; and
b. for mobile subscriber equipment, the attenuation shall not be less than 43 + 10 Log10 (p), dB at the channel edges and 55 + 10 Log10 (p) at 5.5 MHz away and beyond the channel edges where p in (a) and (b) is the transmitter power measured in watts.

MODES TESTED

- LTE Band 5
- LTE Band 41

RESULTS

PASS

9.1 LTE BAND 5

QPSK EIRP POWER FOR LTE BAND 5 (1.4MHZ BANDWIDTH)

Test Results for Low Channel 824.7MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit （dBm）	Margin(dBm)	Polarity
1649.4	-50.20	2.78	27.50	-25.48	-13	-12.48	Horizontal
1649.4	-48.01	2.78	27.50	-23.29	-13	-10.29	Vertical
2474.1	-53.63	2.90	27.80	-28.73	-13	-15.73	Vertical
2474.1	-53.86	2.90	27.80	-28.96	-13	-15.96	Horizontal
206.8	-37.40	1.76	17.59	-21.57	-13	-8.57	Vertical
467.1	-39.71	1.63	15.87	-25.47	-13	-12.47	Horizontal
Test Results For Mid Channel 836.5MHz							
1673.0	-48.96	2.80	27.48	-24.28	-13	-11.28	Horizontal
1673.0	-45.73	2.80	27.48	-21.05	-13	-8.05	Vertical
2509.5	-53.98	2.91	27.70	-29.19	-13	-16.19	Vertical
2509.5	-50.96	2.91	27.70	-26.17	-13	-13.17	Horizontal
208.1	-40.77	1.61	15.68	-26.70	-13	-13.70	Vertical
410.8	-36.53	1.59	17.52	-20.61	-13	-7.61	Horizontal
Test Results for High Channel 848.3MHz							
1696.6	-45.09	2.82	27.43	-20.48	-13	-7.48	Horizontal
1696.6	-51.12	2.82	27.43	-26.51	-13	-13.51	Vertical
2544.9	-46.74	2.92	27.74	-21.92	-13	-8.92	Vertical
2544.9	-50.61	2.92	27.74	-25.79	-13	-12.79	Horizontal
210.6	-34.23	1.69	16.67	-19.24	-13	-6.24	Vertical
276.8	-38.90	1.70	17.18	-23.42	-13	-10.42	Horizontal

QPSK EIRP POWER FOR LTE BAND 5 (10MHZ BANDWIDTH)

Test Results for Low Channel 829MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit （dBm）	Margin(dBm)	Polarity
1658.0	-44.95	2.78	27.50	-20.23	-13	-7.23	Horizontal
1658.0	-53.72	2.78	27.50	-29.00	-13	-16.00	Vertical
2487.0	-45.52	2.90	27.80	-20.62	-13	-7.62	Vertical
2487.0	-51.55	2.90	27.80	-26.65	-13	-13.65	Horizontal
208.4	-37.54	1.71	15.57	-23.68	-13	-10.68	Vertical
247.2	-39.91	1.34	16.40	-24.85	-13	-11.85	Horizontal
Test Results for Mid Channel 836.5MHz							
1673.0	-45.53	2.80	27.48	-20.85	-13	-7.85	Horizontal
1673.0	-48.70	2.80	27.48	-24.02	-13	-11.02	Vertical
2509.5	-53.37	2.91	27.70	-28.58	-13	-15.58	Vertical
2509.5	-50.21	2.91	27.70	-25.42	-13	-12.42	Horizontal
202.1	-42.11	1.44	17.04	-26.51	-13	-13.51	Vertical
374.1	-34.76	1.76	17.62	-18.90	-13	-5.90	Horizontal
Test Results for High Channel 844MHz							
1688.0	-51.15	2.82	27.43	-26.54	-13	-13.54	Horizontal
1688.0	-47.25	2.82	27.43	-22.64	-13	-9.64	Vertical
2532.0	-49.19	2.92	27.74	-24.37	-13	-11.37	Vertical
2532.0	-53.79	2.92	27.74	-28.97	-13	-15.97	Horizontal
197.0	-42.78	1.74	17.70	-26.82	-13	-13.82	Vertical
404.9	-40.08	1.41	17.46	-24.02	-13	-11.02	Horizontal

Note: Spurious Emission Level = Spectrum Analyzer Read Value + Cable Loss+ Antenna Factor + 11.74

. Margin = Spurious Emission Level - Limit

. Both QPSK and 16QAM has been tested, the worst case is QPSK mode, the report just reported the worst case.

9.2 LTE BAND 41

QPSK EIRP POWER FOR LTE BAND 41 (5MHZ BANDWIDTH)

Test Results for Low Channel 2537.5MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit（dBm）	Margin(dBm)	Polarity
5075.0	-64.32	5.23	35.81	-33.74	-25	-8.74	Horizontal
5075.0	-59.35	5.23	35.81	-28.77	-25	-3.77	Vertical
7612.5	-62.83	5.67	36.85	-31.65	-25	-6.65	Vertical
7612.5	-61.10	5.67	36.85	-29.92	-25	-4.92	Horizontal
435.3	-48.93	1.38	15.98	-34.33	-25	-9.33	Vertical
465.8	-44.53	1.62	15.66	-30.49	-25	-5.49	Horizontal
Test Results for Mid Channel 2595MHz							
5190.0	-63.68	5.23	35.82	-33.09	-25	-8.09	Horizontal
5190.0	-62.32	5.23	35.82	-31.73	-25	-6.73	Vertical
7785.0	-59.06	5.67	36.85	-27.88	-25	-2.88	Vertical
7785.0	-62.81	5.67	36.85	-31.63	-25	-6.63	Horizontal
510.4	-47.76	1.62	16.17	-33.21	-25	-8.21	Vertical
562.9	-45.24	1.74	17.63	-29.35	-25	-4.35	Horizontal
Test Results for High Channel 2652.5MHz							
5305.0	-62.07	5.24	35.83	-31.48	-25	-6.48	Horizontal
5305.0	-59.82	5.24	35.83	-29.23	-25	-4.23	Vertical
7957.5	-64.85	5.68	36.87	-33.66	-25	-8.66	Vertical
7957.5	-63.05	5.68	36.87	-31.86	-25	-6.86	Horizontal
197.6	-49.05	1.55	15.84	-34.76	-25	-9.76	Vertical
353.1	-46.53	1.51	17.06	-30.98	-25	-5.98	Horizontal

QPSK EIRP POWER FOR LTE BAND 41 (20MHZ BANDWIDTH)

Test Results for Low Channel 2545MHz							
Frequency(MHz)	SG Level(dBm)	Cable Loss(dB)	Antenna Factor(dB)	Absolute Level(dBm)	Limit（dBm）	Margin(dBm)	Polarity
5090.0	-61.13	5.23	35.82	-30.54	-25	-5.54	Horizontal
5090.0	-59.68	5.23	35.82	-29.09	-25	-4.09	Vertical
7635.0	-64.92	5.67	36.86	-33.73	-25	-8.73	Vertical
7635.0	-62.81	5.67	36.86	-31.62	-25	-6.62	Horizontal
128.9	-45.62	1.43	15.51	-31.54	-25	-6.54	Vertical
344.8	-45.55	1.40	16.97	-29.98	-25	-4.98	Horizontal
Test Results for Mid Channel 2595MHz							
5190.0	-61.27	5.23	35.82	-30.68	-25	-5.68	Horizontal
5190.0	-63.35	5.23	35.82	-32.76	-25	-7.76	Vertical
7785.0	-62.41	5.67	36.85	-31.23	-25	-6.23	Vertical
7785.0	-59.01	5.67	36.85	-27.83	-25	-2.83	Horizontal
100.8	-46.69	1.77	16.72	-31.74	-25	-6.74	Vertical
263.5	-45.54	1.31	16.99	-29.86	-25	-4.86	Horizontal
Test Results for High Channel 2645MHz							
5290.0	-64.04	5.24	35.83	-33.45	-25	-8.45	Horizontal
5290.0	-59.19	5.24	35.83	-28.60	-25	-3.60	Vertical
7935.0	-60.91	5.70	36.88	-29.73	-25	-4.73	Vertical
7935.0	-59.83	5.70	36.88	-28.65	-25	-3.65	Horizontal
349.9	-48.10	1.70	15.73	-34.07	-25	-9.07	Vertical
110.3	-47.27	1.75	17.33	-31.69	-25	-6.69	Horizontal

Note: Spurious Emission Level = Spectrum Analyzer Read Value + Cable Loss+ Antenna Factor + 11.74

. Margin = Spurious Emission Level - Limit

. Both QPSK and 16QAM has been tested, the worst case is QPSK mode, the report just reported the worst case.

10. FREQUENCY STABILITY

RULE PART(S)

FCC: §2.1055, §22.355,§27.54

LIMITS

§22.355 - The carrier frequency shall not depart from the reference frequency in excess of ±2.5 ppm for mobile stations.

TEST PROCEDURE

Use CMW 500 with Frequency Error measurement capability.

- Temp. = −30° to +50°C
- Voltage =low voltage, DC 34V, Normal, DC 3.7V and High voltage, DC 4.2V.

Frequency Stability vs Temperature:

The EUT is place inside a temperature chamber. The temperature is set to -30ºC and allowed to stabilize. After sufficient soak time, the transmitting frequency error is measured. The temperature is increased by 10 degrees, allowed to stabilize and soak, and then the measurement is repeated. This is repeated until +50ºC is reached.

Frequency Stability vs Voltage:

The peak frequency error is recorded (worst-case).

MODES TESTED

- LTE Band5

LTE Band 41

RESULTS

See the following pages.

10.1 LTE BAND 5

Band 5 QPSK, (10MHz BANDWIDTH RB size 50 RB Offset 0)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.4	836.5	5.8	0.006957	2.5
3.7	836.5	6.4	0.007630	2.5
4.2	836.5	5.2	0.006185	2.5

Frequency error vs. Temperature

Temperature [° C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	836.5	5.9	0.007056	2.5
Extreme (50C)	836.5	5.5	0.006579	2.5
Extreme (40C)	836.5	5.9	0.007004	2.5
Extreme (30C)	836.5	6.9	0.008232	2.5
Extreme (10C)	836.5	5.2	0.006216	2.5
Extreme (0C)	836.5	5.0	0.005997	2.5
Extreme (-10C)	836.5	5.8	0.006884	2.5
Extreme (-20C)	836.5	6.3	0.007489	2.5
Extreme (-30C)	836.5	6.0	0.007128	2.5

Band 5 16QAM, (10MHz BANDWIDTH RB size 50 RB Offset 0)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
3.4	836.5	5.6	0.006723	2.5
3.7	836.5	6.8	0.008128	2.5
4.2	836.5	4.4	0.005260	2.5

Frequency error vs. Temperature

Temperature [° C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
Normal (25C)	836.5	5.6	0.006697	2.5
Extreme (50C)	836.5	5.5	0.006584	2.5
Extreme (40C)	836.5	6.0	0.007114	2.5
Extreme (30C)	836.5	6.4	0.007604	2.5
Extreme (10C)	836.5	5.3	0.006293	2.5
Extreme (0C)	836.5	5.3	0.006372	2.5
Extreme (-10C)	836.5	5.7	0.006780	2.5
Extreme (-20C)	836.5	6.2	0.007422	2.5
Extreme (-30C)	836.5	6.4	0.007592	2.5

***Note:** Frequency error measurements were made by using the build-in capability of the Wireless Communication Test Set.

10.2 LTE BAND 41

Band 41 QPSK, (20MHz BANDWIDTH RB size 100 RB Offset 0)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 41 QPSK, (CH 40640 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
3.4	2545	8.7	0.00343	2.5
3.7	2545	6.3	0.00247	2.5
4.2	2545	7.4	0.00291	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 41 QPSK, (CH 40640 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
Normal (25C)	2545	7.0	0.00274	2.5
Extreme (50C)	2545	5.3	0.00208	2.5
Extreme (40C)	2545	5.2	0.00203	2.5
Extreme (30C)	2545	4.5	0.00175	2.5
Extreme (10C)	2545	6.1	0.00239	2.5
Extreme (0C)	2545	5.3	0.00209	2.5
Extreme (-10C)	2545	9.2	0.00363	2.5
Extreme (-20C)	2545	10.4	0.00410	2.5
Extreme (-30C)	2545	6.0	0.00236	2.5

Band 41 16QAM, (20MHz BANDWIDTH RB size 100 RB Offset 0)

Frequency error vs. Voltage

Voltage [Vdc]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 41 16QAM, (CH 40640 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
3.4	2545	8.4	0.00330	2.5
3.7	2545	6.9	0.00270	2.5
4.2	2545	6.0	0.00237	2.5

Frequency error vs. Temperature

Temperature [°C]	Frequency [MHz]	Frequency* Error[Hz]	Frequency Error[ppm]	Limit [ppm]
BAND 41 16QAM, (CH 40640 RB size 100 RB Offset 0 20MHz BANDWIDTH)				
Normal (25C)	2545	7.9	0.00312	2.5
Extreme (50C)	2545	4.4	0.00174	2.5
Extreme (40C)	2545	5.0	0.00197	2.5
Extreme (30C)	2545	4.3	0.00171	2.5
Extreme (10C)	2545	6.1	0.00242	2.5
Extreme (0C)	2545	5.2	0.00204	2.5
Extreme (-10C)	2545	10.0	0.00393	2.5
Extreme (-20C)	2545	11.2	0.00441	2.5
Extreme (-30C)	2545	6.3	0.00248	2.5

***Note:** Frequency error measurements were made by using the build-in capability of the Wireless Communication Test Set.

11. Peak-to-Average Ratio

11.1 Description of the PAR Measurement

The peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

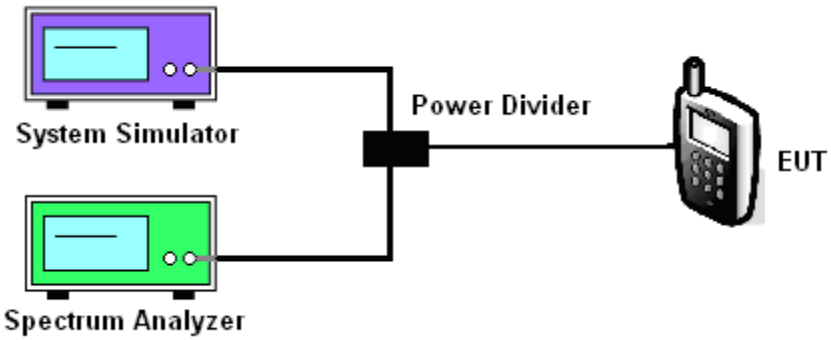
11.2 Measuring Instruments

See list of measuring instruments of this test report.

11.3 Test Procedures

1. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. For LTE operating modes:
   a. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.
   b. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1 %.

11.4 Test Setup



MODES TESTED

- LTE Band 5/41
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Test data reference attachment.

----END OF REPORT----