TEST REPORT

CERTIFICATE OF CONFORMITY

Standard:	**47 CFR FCC Part 24** **47 CFR FCC Part 27** **47 CFR FCC Part 2**
Report No.:	RFBCUN-WTW-P25020520-12
FCC ID:	H8NPCTE020
Product:	Mobile Computer
Brand:	Askey
Model No.:	RC40
Received Date:	2025/3/11
Test Date:	2025/3/25 ~ 2025/6/18
Issued Date:	2025/7/4
Applicant:	Askey Computer Corporation
Address:	10F, No.119, JIANKANG RD., ZHONGHE DIST., NEW TAIPEI CITY, TAIWAN
Issued By:	Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch Lin Kou Laboratories
Lab Address:	No. 47-2, 14th Ling, Chia Pau Vil., Lin Kou Dist., New Taipei City, Taiwan
Test Location:	No. 19, Hwa Ya 2nd Rd., Wen Hwa Vil., Kwei Shan Dist., Taoyuan City 33383, Taiwan
FCC Registration / Designation Number:	788550 / TW0003

Approved by: Jeremy Lin , **Date:** **2025/7/4**

Jeremy Lin / Project Engineer

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Prepared by : Pettie Chen / Senior Specialist

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Release Control Record

Issue No.	Description	Date Issued
RFBCUN-WTW-P25020520-12	Original Release	2025/7/4

1 Certificate

Product:	Mobile Computer
Brand:	Askey
Test Model:	RC40
Sample Status:	Engineering sample
Applicant:	Askey Computer Corporation
Test Date:	2025/3/25 ~ 2025/6/18
Standard:	47 CFR FCC Part 24 47 CFR FCC Part 27 47 CFR FCC Part 2
Measurement procedure:	ANSI/TIA/EIA-603-E 2016 ANSI C63.26-2015 KDB 971168 D01 Power Meas License Digital Systems v03r01 KDB 971168 D02 Misc Rev Approv License Devices v02r02

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 RF characteristics under the conditions specified in this report.

2 Summary of Test Results

47 CFR FCC Part 24 47 CFR FCC Part 27 47 CFR FCC Part 2			
Standard / Clause	Test Item	Result	Remark
Part 2.1046 Part 24.232 (c) Part 27.50 (d)	Effective Radiated Power and Equivalent Isotropically Radiated Power	Pass	Meet the requirement of limit.
Part 2.1047	Modulation Characteristics	N/A	Refer to Note 2
Part 24.232 (d) Part 27.50 (d)	Peak to Average Ratio	Pass	Meet the requirement of limit.
Part 2.1049	Bandwidth	Pass	Meet the requirement of limit.
Part 2.1051 Part 24.238 Part 27.53(m)	Conducted Spurious Emissions	Pass	Meet the requirement of limit.
Part 2.1053 Part 24.238 Part 27.53(m)	Radiated Spurious Emissions below 1GHz	Pass	Minimum passing margin is -21.53 dB at 50.37 MHz
Part 2.1053 Part 24.238 Part 27.53(m)	Radiated Spurious Emissions above 1GHz	Pass	Minimum passing margin is -10.85 dB at 5166.20 MHz
Part 2.1055 Part 24.235 Part 27.54	Frequency Stability	Pass	Meet the requirement of limit.

Note: 1. Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.
2. LTE CA mode is similar to digital modulation in LTE single frequency band, so please refer to BV CPS report no.: RFBCUN-WTW-P25020520-10 for the modulation characteristics data of CA mode.

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:

Parameter	Specification	Uncertainty (±)
Effective Radiated Power and Equivalent Isotropically Radiated Power	-	1.371 dB
Peak to Average Ratio	-	0.920 dB
Bandwidth	-	960 Hz
Conducted Spurious Emissions	-	2.12 dB
Radiated Spurious Emissions below 1GHz	9 kHz ~ 30 MHz	3.59 dB
	30 MHz ~ 1 GHz	3.6 dB
Radiated Spurious Emissions above 1GHz	1 GHz ~ 18 GHz	2.29 dB
	18 GHz ~ 40 GHz	2.29 dB
Frequency Stability	-	0.176 ppm

The other instruments specified are routine verified to remain within the calibrated levels, no measurement uncertainty is required to be calculated.

2.2 Supplementary Information

There is not any deviation from the test standards for the test method, and no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Mobile Computer
Brand	Askey
Test Model	RC40
Status of EUT	Engineering sample
Power Supply Rating	5 / 9 / 12 / 15 / 20Vdc (from adapter) 3.85Vdc (from battery) 12Vdc (from Charging Cradle)

Note:

1. The EUT contains following accessories.

Battery	Brand	Askey
	Model	RC40-BR-SBL500
	Nominal Voltage	3.85V
	Nominal Capacity	5000mAh, 19.25Wh
	Rated Capacity	4900mAh, 18.865Wh
	Limited Charging Voltage	4.4V
AC Adapter 1 (for Charging Cradle) (Optional)	Brand	Sunny Computer Technology Co., LTD.
	Model	SYS1649-5012-T3
	Input	100-240V~, 1.5A MAX, 50-60Hz
	Output	+12.0V=4.16A
	Output Power	50.0W MAX.
	Description	1.2m / 1 core
Power Cord (for AC Adapter 1 & 3) (Optional)	Brand	I-SHENG
	Model	V5BVS33161218002
	Description	1.8m
AC Adapter 2 (Optional)	Brand	CHANNEL WELL TECHNOLOGY
	Model	A1C030AC
	Input	100-240V~, 50-60Hz, 1.2A
	Output	5.0V= 3.0A 15.0W 9.0V= 3.0A 27.0W 12.0V= 2.5A 30.0W 15.0V= 2.0A 30.0W 20.0V=1.5A 30.0W
AC Adapter 3 (for Charging Cradle) (Optional)	Brand	MASS POWER
	Model	S050-1A120416B3
	Input	100-240V~ 50-60Hz, 1.5A
	Output	12.0V 4.16A, 49.92W
Charging Cradle (Optional)	Brand	Askey
	Model	RC40-CD-TBE100
Scan Handle (Optional)	Brand	Askey
	Model	RC40-PT-TGH000

2. The EUT uses following support unit.

USB C to C Cable	Brand	HOTRON
	Model	D0018100R7XYY
	Description	0.92m

3. EUT Overview

Mode	Bandwidth	Modulation	Max. EIRP (W)	Max. EIRP (dBm)	Emission Designator
LTE Band 2 (CA 2C)	20MHz + 20MHz	QPSK	0.482	26.83	37M6G7D
		16QAM	0.378	25.78	37M6D7W
		64QAM	0.295	24.70	37M5D7W
		256QAM	0.151	21.79	37M5D7W
LTE Band 38 (CA 38C)	20MHz + 20MHz	QPSK	0.662	28.21	37M8G7D
		16QAM	0.521	27.17	37M7D7W
		64QAM	0.409	26.12	37M8D7W
		256QAM	0.206	23.14	37M8D7W
LTE Band 41 (CA 41C)	20MHz + 20MHz	QPSK	0.519	27.15	37M7G7D
		16QAM	0.410	26.13	37M6D7W
		64QAM	0.324	25.11	37M6D7W
		256QAM	0.161	22.07	37M6D7W

4. For CA mode configuration, please consult the manufacturer to declare the test mode.
5. The EUT support the following CA Configuration.

Band Configuration
2C
38C
41C
43C
48C

6. The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or user's manual.

3.2 Antenna Description of EUT

1. The antenna information is listed as below.

Ant. Type	PIFA				
Ant. Connector	I-PEX(4)				
Band	Freq. Range (MHz)	Ant 0 Gain (dBi)	Ant 1 Gain (dBi)	Ant 2 Gain (dBi)	Ant 3 Gain (dBi)
CA 2C	1850~1910	2.48	-	-	-
CA 38C	2570~2620	-	-	-	3.97
CA 41C	2496~2690	-	2.1	-	4.02 (Tx)

*The above Antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

3.3 Test Mode Applicability and Tested Channel Detail

Pre-Scan:	1. EUT can be used in the following ways: X-axis / Y-axis / Z-axis. Pre-scan these ways and find the worst case as a representative test condition. 2. EUT can be used in the following ways: EUT only + Adapter 2 / EUT + Charging Cradle + Adapter 3 / EUT + Scan Handle + Charging Cradle + Adapter 1 3. Pre-scan these ways and find the worst case as a representative test condition.
Worst Case:	1. X-axis/ Y-axis/ Z-axis Worst Condition: Y-axis 2. EUT only + adapter 2 / EUT + Charging Cradle + adapter 3 / EUT + Scan Handle + Charging Cradle + adapter 1 Worst Condition: EUT only + Adapter 2

For LTE Band 2 (CA 2C)

Test Item	Tested Channel	Channel Bandwidth	Modulation	Mode
Equivalent Isotropically Radiated Power	18700 (1860.0MHz) + 18898 (1879.8MHz) 18801 (1870.1MHz) + 18999 (1889.9MHz) 18902 (1880.2MHz) + 19100 (1900.0MHz)	20MHz + 20MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB Half RB Full RB
Bandwidth	18700 (1860.0MHz) + 18898 (1879.8MHz) 18801 (1870.1MHz) + 18999 (1889.9MHz) 18902 (1880.2MHz) + 19100 (1900.0MHz)	20MHz + 20MHz	QPSK / 16QAM / 64QAM / 256QAM	Full RB
Peak to Average Ratio	18700 (1860.0MHz) + 18898 (1879.8MHz) 18801 (1870.1MHz) + 18999 (1889.9MHz) 18902 (1880.2MHz) + 19100 (1900.0MHz)	20MHz + 20MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB
Conducted Spurious Emissions	18700 (1860.0MHz) + 18898 (1879.8MHz) 18801 (1870.1MHz) + 18999 (1889.9MHz) 18902 (1880.2MHz) + 19100 (1900.0MHz)	20MHz + 20MHz	QPSK	1 RB Full RB
Radiated Spurious Emissions below 1GHz	18902 (1880.2MHz) + 19100 (1900.0MHz)	20MHz + 20MHz	QPSK	1 RB
Radiated Spurious Emissions above 1GHz	18700 (1860.0MHz) + 18898 (1879.8MHz) 18801 (1870.1MHz) + 18999 (1889.9MHz) 18902 (1880.2MHz) + 19100 (1900.0MHz)	20MHz + 20MHz	QPSK	1 RB
Frequency Stability	18700 (1860.0MHz) + 18898 (1879.8MHz) 18902 (1880.2MHz) + 19100 (1900.0MHz)	20MHz + 20MHz	QPSK	Full RB

For LTE Band 38 (CA 38C)

Test Item	Tested Channel	Channel Bandwidth	Modulation	Mode
Equivalent Isotropically Radiated Power	37850 (2580.0MHz) + 38048 (2599.8MHz) 37901 (2585.1MHz) + 38099 (2604.9MHz) 37952 (2590.2MHz) + 38150 (2610.0MHz)	20MHz + 20MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB Half RB Full RB
Bandwidth	37850 (2580.0MHz) + 38048 (2599.8MHz) 37901 (2585.1MHz) + 38099 (2604.9MHz) 37952 (2590.2MHz) + 38150 (2610.0MHz)	20MHz + 20MHz	QPSK / 16QAM / 64QAM / 256QAM	Full RB
Peak to Average Ratio	37850 (2580.0MHz) + 38048 (2599.8MHz) 37901 (2585.1MHz) + 38099 (2604.9MHz) 37952 (2590.2MHz) + 38150 (2610.0MHz)	20MHz + 20MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB
Conducted Spurious Emissions	37850 (2580.0MHz) + 38048 (2599.8MHz) 37901 (2585.1MHz) + 38099 (2604.9MHz) 37952 (2590.2MHz) + 38150 (2610.0MHz)	20MHz + 20MHz	QPSK	1 RB Full RB
Radiated Spurious Emissions below 1GHz	37901 (2585.1MHz) + 38099 (2604.9MHz)	20MHz + 20MHz	QPSK	1 RB
Radiated Spurious Emissions above 1GHz	37850 (2580.0MHz) + 38048 (2599.8MHz) 37901 (2585.1MHz) + 38099 (2604.9MHz) 37952 (2590.2MHz) + 38150 (2610.0MHz)	20MHz + 20MHz	QPSK	1 RB
Frequency Stability	37850 (2580.0MHz) + 38048 (2599.8MHz) 37952 (2590.2MHz) + 38150 (2610.0MHz)	20MHz + 20MHz	QPSK	Full RB

For LTE Band 41 (CA 41C)

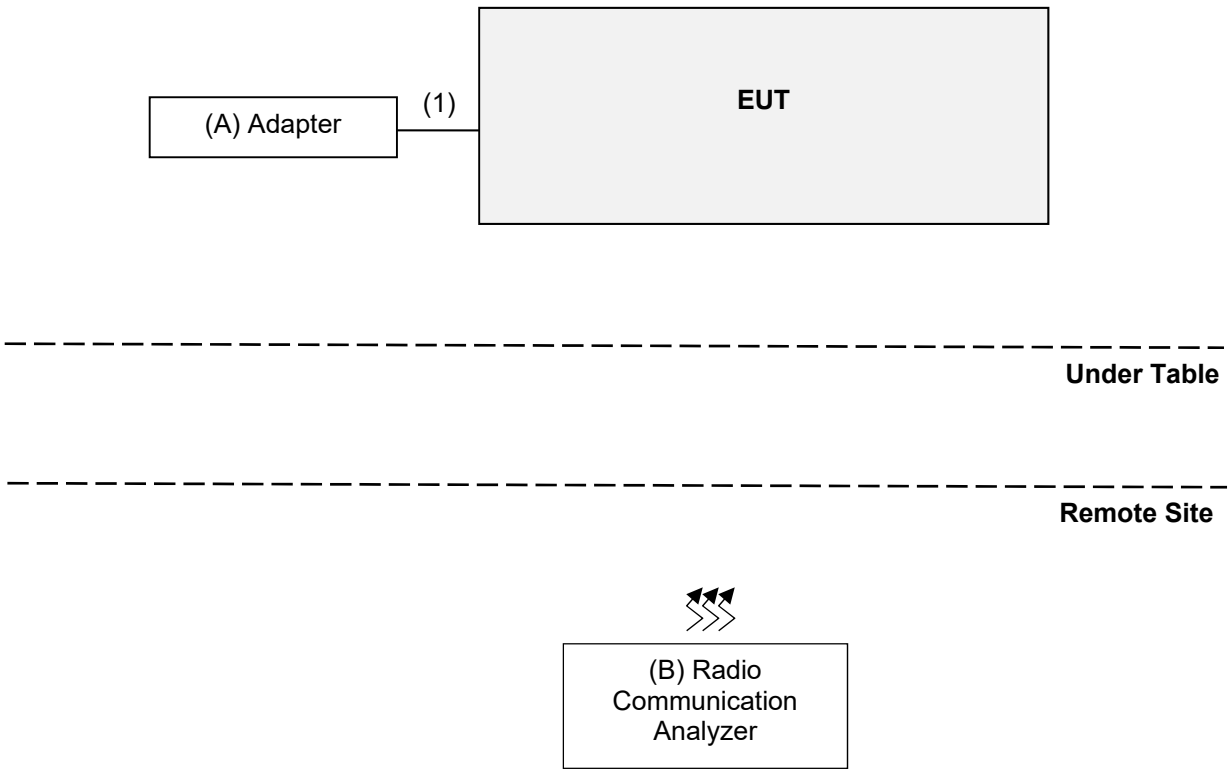
Test Item	Tested Channel	Channel Bandwidth	Modulation	Mode
Equivalent Isotropically Radiated Power	39750 (2506.0MHz) + 39948 (2525.8MHz) 40521 (2583.1MHz) + 40719 (2602.9MHz) 41292 (2660.2MHz) + 41490 (2680.0MHz)	20MHz + 20MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB Half RB Full RB
Bandwidth	39750 (2506.0MHz) + 39948 (2525.8MHz) 40521 (2583.1MHz) + 40719 (2602.9MHz) 41292 (2660.2MHz) + 41490 (2680.0MHz)	20MHz + 20MHz	QPSK / 16QAM / 64QAM / 256QAM	Full RB
Peak to Average Ratio	39750 (2506.0MHz) + 39948 (2525.8MHz) 40521 (2583.1MHz) + 40719 (2602.9MHz) 41292 (2660.2MHz) + 41490 (2680.0MHz)	20MHz + 20MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB
Conducted Spurious Emissions	39750 (2506.0MHz) + 39948 (2525.8MHz) 40521 (2583.1MHz) + 40719 (2602.9MHz) 41292 (2660.2MHz) + 41490 (2680.0MHz)	20MHz + 20MHz	QPSK	1 RB Full RB
Radiated Spurious Emissions below 1GHz	41292 (2660.2MHz) + 41490 (2680.0MHz)	20MHz + 20MHz	QPSK	1 RB
Radiated Spurious Emissions above 1GHz	39750 (2506.0MHz) + 39948 (2525.8MHz) 40521 (2583.1MHz) + 40719 (2602.9MHz) 41292 (2660.2MHz) + 41490 (2680.0MHz)	20MHz + 20MHz	QPSK	1 RB
Frequency Stability	39750 (2506.0MHz) + 39948 (2525.8MHz) 41292 (2660.2MHz) + 41490 (2680.0MHz)	20MHz + 20MHz	QPSK	Full RB

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

3.4 Test Program Used and Operation Descriptions

There is no need to controlling software during the test, and the EUT can be paired with the Radio Communication Analyzer to test the connection when it is powered on.

3.5 Connection Diagram of EUT and Peripheral Devices



3.6 Configuration of Peripheral Devices and Cable Connections

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A	Adapter	CHANNEL WELL TECHNOLOGY	A1C030AC	NA	NA	Supplied by applicant
B	Radio Communication Analyzer	Anritsu	MT8821C	6201462755	N/A	Provided by Lab

ID	Cable Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1	USB C to C Cable	1	0.92	No	0	Supplied by applicant

4 Test Instruments

The calibration interval of the all test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.

4.1 Effective Radiated Power and Equivalent Isotropically Radiated Power

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Fixed Attenuator Woken	00800A1K01A-10	00800A1K01A-10-01	2024/5/29 2025/5/23	2025/5/28 2026/5/22
PXA Signal Analyzer Keysight	N9030B	MY57140938	2025/3/24	2026/3/23
Radio Communication Analyzer Anritsu	MT8821C	6261806803	2025/2/19	2026/2/18
Software BV	ADT_RF Test Software V7.6.5.4	N/A	N/A	N/A

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2025/3/25 ~ 2025/6/18

4.2 Peak to Average Ratio

Refer to section 4.1 to get information of the instruments.

4.3 Bandwidth

Refer to section 4.1 to get information of the instruments.

4.4 Conducted Spurious Emissions

Refer to section 4.1 to get information of the instruments.

4.5 Radiated Spurious Emissions below 1GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower &Turn BV ADT	AT100	AT93021705	N/A	N/A
Bi_Log Antenna Schwarzbeck	VULB 9168	9168-160	2024/10/9	2025/10/8
Loop Antenna TESEQ	HLA 6121	45745	2024/8/21	2025/8/20
MXE EMI Receiver Agilent	N9038A	MY51210203	2024/8/27	2025/8/26
Preamplifier Agilent	8447D	2944A10638	2024/5/1	2025/4/30
RF Coaxial Cable Woken	8D-FB	Cable-CH9-01	2024/5/1	2025/4/30
Signal & Spectrum Analyzer R&S	FSW43	101866	2025/3/25	2026/3/24
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Turn Table BV ADT	TT100	TT93021705	N/A	N/A
Turn Table Controller BV ADT	SC100	SC93021705	N/A	N/A

Notes:

1. The test was performed in HY - 966 chamber 4.
2. Tested Date: 2025/4/21

4.6 Radiated Spurious Emissions above 1GHz

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Antenna Tower &Turn BV ADT	AT100	AT93021705	N/A	N/A
Boresight antenna tower fixture BV	BAF-02	5	N/A	N/A
Horn Antenna Schwarzbeck	BBHA 9120D	9120D-1169	2024/11/10	2025/11/9
	BBHA 9170	9170-480	2024/11/10	2025/11/9
		BBHA9170243	2024/11/10	2025/11/9
MXE EMI Receiver Agilent	N9038A	MY51210203	2024/8/27	2025/8/26
Preamplifier Agilent	8449B	3008A02367	2025/1/5	2026/1/4
Preamplifier EMCI	EMC 184045	980116	2024/9/24	2025/9/23
RF Coaxial Cable EMCI	EMC102-KM-KM-600	150928	2024/7/6	2025/7/5
	EMC102-KM-KM-3000	150929	2024/7/6	2025/7/5
RF Coaxial Cable HUBER+SUHNER	SUCOFLEX 104	CABLE-CH9-(250795/4)	2025/1/5	2026/1/4
RF Coaxial Cable HUBER+SUHNER&EMCI	SUCOFLEX 104& EMC104-SM-SM8000	CABLE-CH9-02 (248780+171006)	2025/1/5	2026/1/4
Signal & Spectrum Analyzer R&S	FSW43	101866	2025/3/25	2026/3/24
Software BV ADT	ADT_Radiated_ V7.6.15.9.5	N/A	N/A	N/A
Turn Table BV ADT	TT100	TT93021705	N/A	N/A
Turn Table Controller BV ADT	SC100	SC93021705	N/A	N/A

Notes:

1. The test was performed in HY - 966 chamber 4.
2. Tested Date: 2025/3/26 ~ 2025/4/29

4.7 Frequency Stability

Description Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
3-channel DC power supply OWON	ODP3033	ODP30332128138	N/A	N/A
Digital Multimeter Fluke	8050A	4660081	2024/6/14	2025/6/13
Fixed Attenuator Woken	00800A1K01A-10	00800A1K01A-10-01	2025/5/23	2026/5/22
PXA Signal Analyzer Keysight	N9030B	MY57140938	2025/3/24	2026/3/23
Radio Communication Analyzer Anritsu	MT8821C	6261806803	2025/2/19	2026/2/18
Software BV	ADT_RF Test Software V7.6.5.4	N/A	N/A	N/A
Temperature & Humidity Chamber Terchy	MHU-225AU	920842	2024/6/21	2025/6/20

Notes:

1. The test was performed in Oven room.
2. Tested Date: 2025/6/4

5 Limits of Test Items

5.1 Effective Radiated Power and Equivalent Isotropically Radiated Power

For LTE Band 2 (CA 2C):

Mobile and portable stations are limited to 2 watts EIRP.

For LTE Band 38 (CA 38C), LTE Band 41 (CA 41C):

Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.

5.2 Peak to Average Ratio

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.

5.3 Bandwidth

According to FCC 47 CFR part 2.1049, the occupied bandwidth, that is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5% of the total mean power radiated by a given emission.

5.4 Conducted Spurious Emissions

For LTE Band 2 (CA 2C):

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 –13 dBm.

For LTE Band 38 (CA 38C), LTE Band 41 (CA 41C):

According to FCC 47 CFR part 27.53(m)(4) regulations, any transmit power outside of the channel edge must be attenuated below the transmitting power (P) by a 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. In addition, the attenuation factor shall not be less that 43 + 10 log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least two percent may be employed, except when the 1 megahertz band is 2495-2496 MHz, in which case a resolution bandwidth of at least one percent may be employed.

5.5 Radiated Spurious Emissions below 1GHz

For LTE Band 2 (CA 2C):

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 –13 dBm.

For LTE Band 38 (CA 38C), LTE Band 41 (CA 41C):

According to FCC 47 CFR part 27.53(m)(4), on any frequency outside a licensee’s frequency block, The power of any emission shall be attenuated below the transmitter power (P) by at least 55 + 10 log (P) dB. The emission limit equal to –25 dBm.

5.6 Radiated Spurious Emissions above 1GHz

For LTE Band 2 (CA 2C):

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 –13 dBm.

For LTE Band 38 (CA 38C), LTE Band 41 (CA 41C):

According to FCC 47 CFR part 27.53(m)(4), on any frequency outside a licensee's frequency block, The power of any emission shall be attenuated below the transmitter power (P) by at least 55 + 10 log (P) dB. The emission limit equal to –25 dBm.

5.7 Frequency Stability

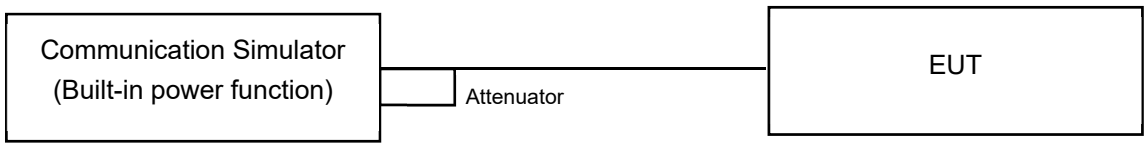
The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation (authorized frequency block).

6 Test Arrangements

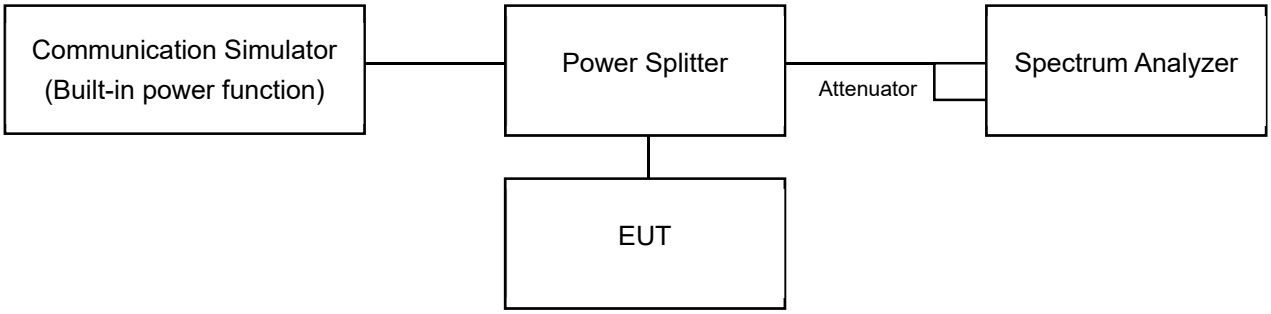
6.1 Effective Radiated Power and Equivalent Isotropically Radiated Power

6.1.1 Test Setup

Conducted Power Measurement:



For measuring output power using spectrum



6.1.2 Test Procedure

Conducted Power Measurement:

The EUT is configured by emulator to set data modulation and maximum power using WWAN technology. The average (rms) power measurement was performed on emulator and power value was measured from power function on emulator. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

For measuring output power using spectrum

The EUT is configured by emulator to set data modulation and maximum power using WWAN technology and link to spectrum analyzer measurements. Set the EUT to transmit under low, middle and high channel and record the power level shown on spectrum analyzer. Power measurements use detector average (rms).

For measuring output power using spectrum

Measurement method refers to ANSI C63.26 section 5.2.4.4.

a. Set span to 2 × to 3 × the OBW.
b. Set RBW = 1% to 5% of the OBW.
c. Set VBW ≥ 3 × RBW.
d. Set number of measurement points in sweep ≥ 2 × span / RBW.
e. Set Sweep time = auto-couple.
f. Detector = power averaging (rms).
g. Set sweep trigger to “free run.”
h. Trace average at least 100 traces in power averaging (rms) mode.
i. Use the Band/Channel Power function to determine the integrated power per 5 MHz bandwidth, according to the 47 CFR FCC Part 27 section 27.53(a)(3)(i) standard.
j. If Duty cycle < 98%, Add 10 log (1/duty cycle) to the measured power level to compute the average power during continuous transmission.

Maximum EIRP / ERP

The relevant equation for determining the maximum ERP or EIRP from the measured RF output power is given in Equation as follows:

$EIRP = P_{Meas} + G_T$

$ERP = P_{Meas} + G_T - 2.15$

where

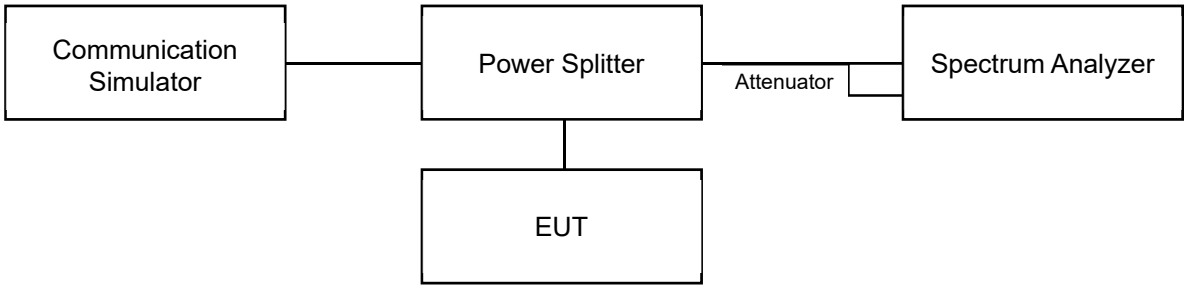
ERP or EIRP effective radiated power or equivalent isotropically radiated power, respectively (expressed in the same units as P_{Meas}, e.g., dBm or dBW)

P_{Meas} measured transmitter output power or PSD, in dBm or dBW

G_T gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP)

6.2 Peak to Average Ratio

6.2.1 Test Setup

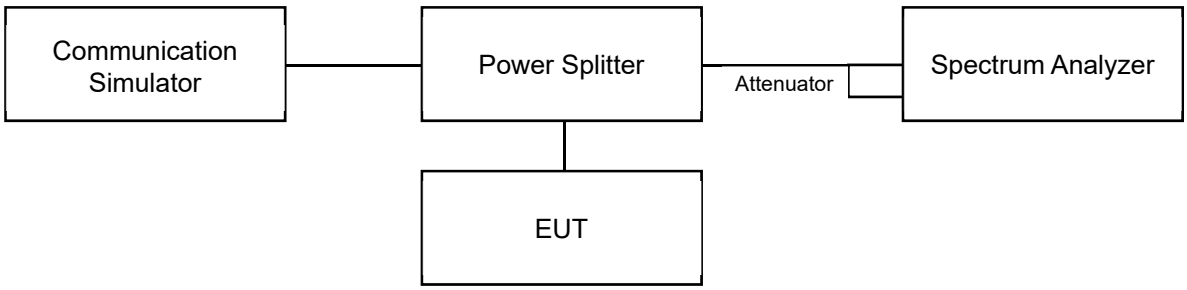


6.2.2 Test Procedure

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

6.3 Bandwidth

6.3.1 Test Setup



6.3.2 Test Procedure

For the 26 dBc bandwidth measurement method, please refer to section 5.4.3 of ANSI C63.26.

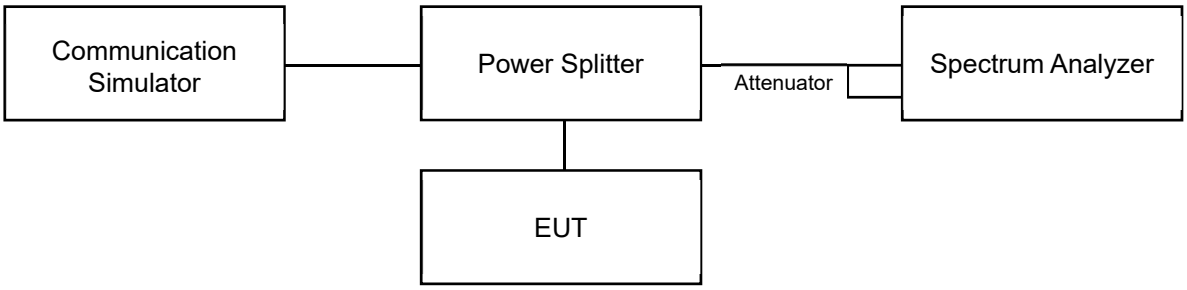
a. The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the spectrum analyzer shall be wide enough to see sufficient roll off of the signal to make the measurement.
b. The nominal RBW shall be in the range of 1% to 5% of the anticipated OBW, and the VBW shall be set ≥ 3 × RBW.
c. Set the reference level of the instrument as required to prevent the signal amplitude from exceeding the maximum spectrum analyzer input mixer level for linear operation. See guidance provided in 4.2.3.
d. The dynamic range of the spectrum analyzer at the selected RBW shall be more than 10 dB below the target "−X dB" requirement, i.e., if the requirement calls for measuring the −26 dB OBW, the spectrum analyzer noise floor at the selected RBW shall be at least 36 dB below the reference level.
e. Set spectrum analyzer detection mode to peak, and the trace mode to max hold.
f. Determine the following reference values: Set the EUT to transmit a modulated signal. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace (this is the reference value).
g. Determine the "−X dB amplitude" as equal to (Reference Value − X). Alternatively, this calculation can be performed on the spectrum analyzer using the delta-marker measurement function.
h. Place two markers, one at the lowest and the other at the highest frequency of the envelope of the spectral display such that each marker is at or slightly below the "−X dB amplitude" determined in step f). If a marker is below this "−X dB amplitude" value it should be as close as possible to this value. The OBW is the positive frequency difference between the two markers.
i. The OBW shall be reported by providing plot(s) of the measuring instrument display, to include markers depicting the relevant frequency and amplitude information (e.g., marker table). The frequency and amplitude axis and scale shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

For the occupied bandwidth measurement method, please refer to section 5.4.4 of ANSI C63.26.

a. The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the spectrum analyzer shall be wide enough to see sufficient roll off of the signal to make the measurement.
b. The nominal RBW shall be in the range of 1% to 5% of the anticipated OBW, and the VBW shall be set ≥ 3 × RBW.
c. Set the reference level of the instrument as required to prevent the signal amplitude from exceeding the maximum spectrum analyzer input mixer level for linear operation. See guidance provided in 4.2.3.
d. The dynamic range of the spectrum analyzer at the selected RBW shall be more than 10 dB below the target "−X dB" requirement, i.e., if the requirement calls for measuring the −26 dB OBW, the spectrum analyzer noise floor at the selected RBW shall be at least 36 dB below the reference level.
e. Set spectrum analyzer detection mode to peak, and the trace mode to max hold.
f. Determine the reference value by either of the following:
g. 1) Set the EUT to transmit a modulated signal. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace (this is the reference value).
h. 2) Set the EUT to transmit an unmodulated carrier. Set the spectrum analyzer marker to the level of the carrier.
i. Determine the "−X dB amplitude" as equal to (Reference Value − X). Alternatively, this calculation can be performed on the spectrum analyzer using the delta-marker measurement function.
j. If the reference value was determined using an unmodulated carrier, turn the EUT modulation on, then either clear the existing trace or start a new trace on the spectrum analyzer and allow the new trace to stabilize. Otherwise the trace from step f) shall be used for step i).
k. Place two markers, one at the lowest and the other at the highest frequency of the envelope of the spectral display such that each marker is at or slightly below the "−X dB amplitude" determined in step f). If a marker is below this "−X dB amplitude" value it should be as close as possible to this value. The OBW is the positive frequency difference between the two markers. The spectral envelope can cross the "−X dB amplitude" at multiple points. The lowest or highest frequency shall be selected as the frequencies that are the farthest away from the center frequency at which the spectral envelope crosses the "−X dB amplitude."
l. The OBW shall be reported by providing plot(s) of the measuring instrument display, to include markers depicting the relevant frequency and amplitude information (e.g., marker table). The frequency and amplitude axis and scale shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

6.4 Conducted Spurious Emissions

6.4.1 Test Setup



6.4.2 Test Procedure

a. Measurement refer to ANSI C63.26 section 5.7.
b. All measurements were done at 3 channels: low, middle and high operational frequency range.
c. Measuring frequency range is from 9 kHz up to the tenth harmonic of the hightest fundamental frequency or to 40 GHz, whichever is lower. 20 dB attenuation pad is connected with spectrum.
d. The fundamental frequency above 1 GHz, the spectrum set RBW = 1 MHz, VBW = 3 MHz, Detector = Average.
e. The fundamental frequency below 1 GHz, the spectrum set RBW ≥ 100 kHz, VBW ≥ 3 x RBW, Detector = Average.
f. Measuring frequency band edge, narrow RBW (no less than 1% of the OBW) is used for conducted emission measurement.
g. For the emissions measurement method, certain channel BW modes demonstrate compliance by integrating with the smaller RBW allowed by the rule.
For example: Where Reference RBW = 1 MHz and a smaller RBW = 100 kHz is used, worst-case integrated BW power = [Max Measured Value (dBm) with RBW = 100 kHz] + 10* log(1000/100). To compensate for this integration before comparison to the value, the adjusted reference level offset was increase by 10 dB accordingly.
h. Record the maximum power value test plot.

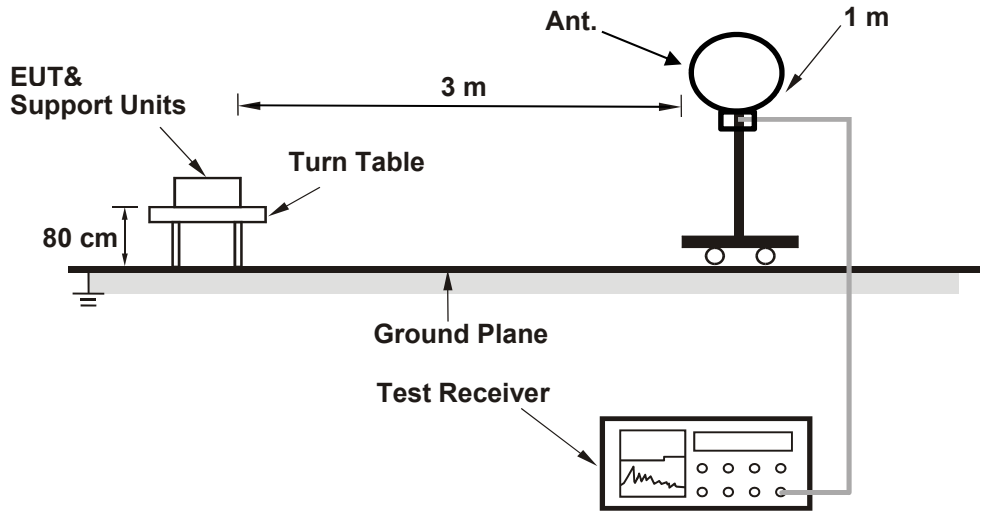
For Emission Mask:

a. Measurement refer to ANSI C63.26 section 5.7.
b. All measurements were done at 2 channels: low and high operational frequency range.
c. Accoding to FCC 47 CFR part 90.691(a), the spectrum set RBW = 300 Hz for offset less than 37.5 kHz from channel edge and RBW = 100 kHz for offsets greater than 37.5 kHz is allowed.
d. For the emissions measurement method, certain channel BW modes demonstrate compliance by integrating with the smaller RBW allowed by the rule.
For example: Where Reference RBW = 1 MHz and a smaller RBW = 100 kHz is used, worst-case integrated BW power = [Max Measured Value (dBm) with RBW = 100 kHz] + 10* log(1000/100). To compensate for this integration before comparison to the value, the adjusted reference level offset was increase by 10 dB accordingly.
e. Record the maximum power value test plot.

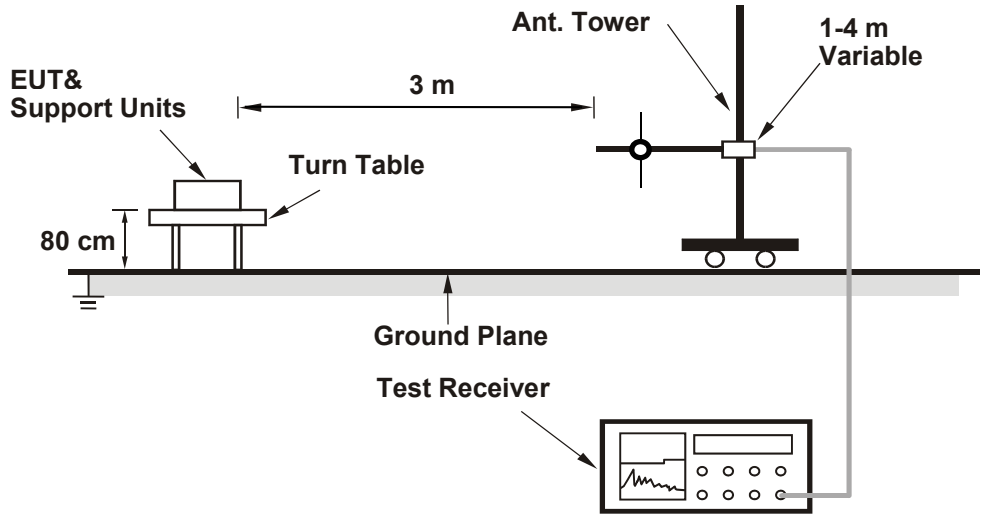
6.5 Radiated Spurious Emissions below 1GHz

6.5.1 Test Setup

For Radiated emission below 30 MHz



For Radiated emission above 30 MHz



For the actual test configuration, please refer to the attached file (Test Setup Photo)

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6.5.2 Test Procedure

The EUT is configured to set data modulation and maximum power using WWAN technology.

a. In the semi-anechoic chamber, EUT placed on the 0.8 m (below or equal 1 GHz) 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 height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

c. Perform a field strength measurement and record the worse read value, is the field strength value via a spectrum reading obtained corrected for antenna factor, cable loss and pre-amplifier factor and then mathematically convert the measured field strength level to EIRP/ERP level.

d. Following ANSI C63.26 section 5.5 and 5.2.7

e. EIRP (dBm) = E (dBμV/m) + 20log(D) - 104.8; where D is the measurement distance (in the far field region) in m.

f. ERP (dBm) = E (dBμV/m) + 20log(D) - 104.8 - 2.15; where D is the measurement distance (in the far field region) in m.

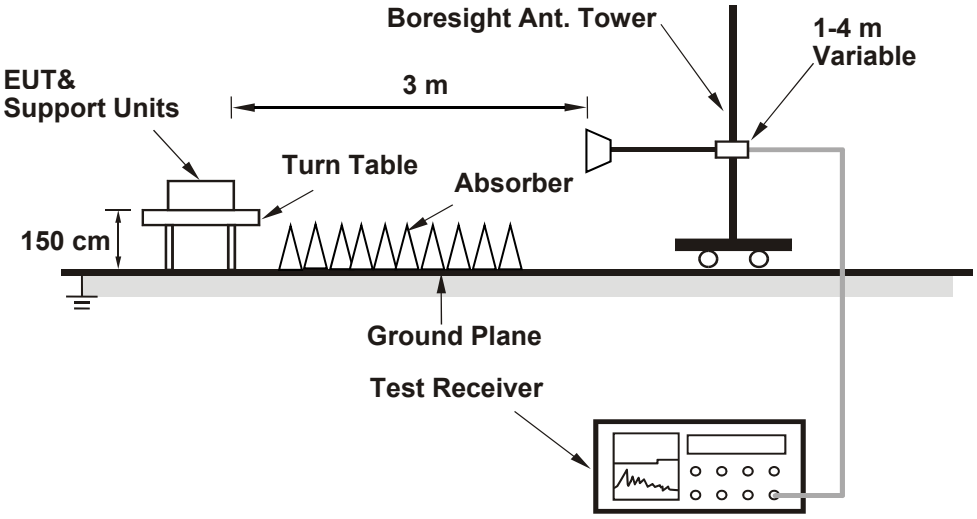
Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz/3 MHz. Set detector = average.
2. The amplitude of spurious emissions in the range 9 kHz to 30 MHz which are attenuated more than 20 dB below the permissible value need not be reported.

6.6 Radiated Spurious Emissions above 1GHz

6.6.1 Test Setup

For radiated emission above 1 GHz



For the actual test configuration, please refer to the attached file (Test Setup Photo).

6.6.2 Test Procedure

The EUT is configured by emulator to set data modulation and maximum power using WWAN technology.

a. In the semi-anechoic chamber, EUT placed on the 1.5 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 height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

c. Perform a field strength measurement and record the worse read value, is the field strength value via a spectrum reading obtained corrected for antenna factor, cable loss and pre-amplifier factor and then mathematically convert the measured field strength level to EIRP/ERP level.

d. Following ANSI C63.26 section 5.5 and 5.2.7

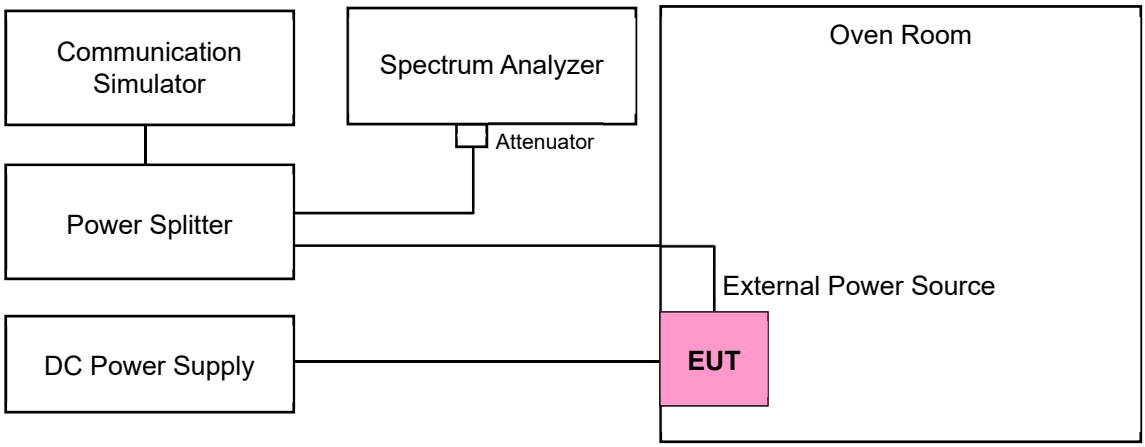
e. EIRP (dBm) = E (dBμV/m) + 20log(D) - 104.8; where D is the measurement distance (in the far field region) in m.

f. ERP (dBm) = E (dBμV/m) + 20log(D) - 104.8 - 2.15; where D is the measurement distance (in the far field region) in m.

Note: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1 MHz/3 MHz. Set detector = average.

6.7 Frequency Stability

6.7.1 Test Setup



6.7.2 Test Procedure

The EUT is configured by test software or key-in commands to set data modulation and maximum power using WWAN technology.

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℃ 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.

7 Test Results of Test Item

7.1 Effective Radiated Power and Equivalent Isotropically Radiated Power

Input Power:	3.85 Vdc	Environmental Conditions:	25°C, 66% RH	Tested By:	Noah Chang

7.1.1 LTE Band 2 (CA 2C)

Con fugure	Com-bination	PCC							SCC							Measurement Power
		Band	BW (MHz)	Modulation	RB Size	RB Offset	UL Chan.	UL Freq. (MHz)	Band	BW (MHz)	Modulation	RB Size	RB Offset	UL Chan.	UL Freq. (MHz)	Tx Power with UL-CA Active (dBm)
																Total
Intra Band Conti-guous	CA_2C	2	20	QPSK	1	0	18700	1860	2	20	QPSK	1	99	18898	1879.8	16.28
					1	99						1	0			24.35
		2	20	QPSK	1	0	18801	1870.1	2	20	QPSK	1	99	18999	1889.9	16.18
					1	99						1	0			24.17
		2	20	QPSK	1	0	18902	1880.2	2	20	QPSK	1	99	19100	1900	16.23
					1	99						1	0			16.28
Intra Band Conti-guous	CA_2C	2	20	16QAM	1	0	18700	1860	2	20	16QAM	1	99	18898	1879.8	15.20
					1	99						1	0			23.30
		2	20	16QAM	1	0	18801	1870.1	2	20	16QAM	1	99	18999	1889.9	15.15
					1	99						1	0			23.15
		2	20	16QAM	1	0	18902	1880.2	2	20	16QAM	1	99	19100	1900	15.18
					1	99						1	0			23.07
Intra Band Conti-guous	CA_2C	2	20	64QAM	1	0	18700	1860	2	20	64QAM	1	99	18898	1879.8	14.14
					1	99						1	0			22.22
		2	20	64QAM	1	0	18801	1870.1	2	20	64QAM	1	99	18999	1889.9	14.08
					1	99						1	0			22.12
		2	20	64QAM	1	0	18902	1880.2	2	20	64QAM	1	99	19100	1900	14.10
					1	99						1	0			22.03
Intra Band Conti-guous	CA_2C	2	20	256QAM	1	0	18700	1860	2	20	256QAM	1	99	18898	1879.8	11.24
					1	99						1	0			19.31
		2	20	256QAM	1	0	18801	1870.1	2	20	256QAM	1	99	18999	1889.9	11.17
					1	99						1	0			19.13
		2	20	256QAM	1	0	18902	1880.2	2	20	256QAM	1	99	19100	1900	11.22
					1	99						1	0			19.10

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
QPSK	16.18	24.35	18.66	26.83	33.01
16QAM	14.87	23.30	17.35	25.78	33.01
64QAM	14.08	22.22	16.56	24.70	33.01
256QAM	11.17	19.31	13.65	21.79	33.01

Note: EIRP (dBm) = Cond. Power (dBm) + Antenna Gain (dBi) + Array Gain (if applicable)

7.1.2 LTE Band 38 (CA 38C)

Con fugure	Com-bination	PCC							SCC							Measurement Power
		Band	BW (MHz)	Modulation	RB Size	RB Offset	UL Chan.	UL Freq. (MHz)	Band	BW (MHz)	Modulation	RB Size	RB Offset	UL Chan.	UL Freq. (MHz)	Tx Power with UL-CA Active (dBm)
																Total
Intra Band Conti-guous	CA_38C	38	20	QPSK	1	0	37850	2580	38	20	QPSK	1	99	38048	2599.8	15.91
					1	99						1	0			24.08
		38	20	QPSK	1	0	37901	2585.1	38	20	QPSK	1	99	38099	2604.9	15.99
					1	99						1	0			24.24
		38	20	QPSK	1	0	37952	2590.2	38	20	QPSK	1	99	38150	2610	15.96
					1	99						1	0			24.21
Intra Band Conti-guous	CA_38C	38	20	16QAM	1	0	37850	2580	38	20	16QAM	1	99	38048	2599.8	14.87
					1	99						1	0			23.05
		38	20	16QAM	1	0	37901	2585.1	38	20	16QAM	1	99	38099	2604.9	14.94
					1	99						1	0			23.20
		38	20	16QAM	1	0	37952	2590.2	38	20	16QAM	1	99	38150	2610	14.95
					1	99						1	0			23.17
Intra Band Conti-guous	CA_38C	38	20	64QAM	1	0	37850	2580	38	20	64QAM	1	99	38048	2599.8	13.81
					1	99						1	0			21.99
		38	20	64QAM	1	0	37901	2585.1	38	20	64QAM	1	99	38099	2604.9	13.87
					1	99						1	0			22.15
		38	20	64QAM	1	0	37952	2590.2	38	20	64QAM	1	99	38150	2610	13.91
					1	99						1	0			22.13
Intra Band Conti-guous	CA_38C	38	20	256QAM	1	0	37850	2580	38	20	256QAM	1	99	38048	2599.8	10.90
					1	99						1	0			19.02
		38	20	256QAM	1	0	37901	2585.1	38	20	256QAM	1	99	38099	2604.9	10.93
					1	99						1	0			19.16
		38	20	256QAM	1	0	37952	2590.2	38	20	256QAM	1	99	38150	2610	10.95
					1	99						1	0			19.17

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
QPSK	15.91	24.24	19.88	28.21	33.01
16QAM	14.78	23.20	18.75	27.17	33.01
64QAM	13.81	22.15	17.78	26.12	33.01
256QAM	10.90	19.17	14.87	23.14	33.01

Note: EIRP (dBm) = Cond. Power (dBm) + Antenna Gain (dBi) + Array Gain (if applicable)

7.1.3 LTE Band 41 (CA 41C)

Conducted Output Power (dBm)

Confugure	Combination	PCC							SCC							Measurement Power
		Band	BW (MHz)	Modulation	RB Size	RB Offset	UL Channel	UL Frequency (MHz)	Band	BW (MHz)	Modulation	RB Size	RB Offset	UL Channel	UL Frequency (MHz)	Tx Power with UL-CA Active (dBm)
																Total
Intra Band Contiguous	CA_41C	41	20	QPSK	1	0	39750	2506	41	20	QPSK	1	99	39948	2525.8	15.22
					1	99						1	0			23.13
		41	20	QPSK	1	0	40521	2583.1	41	20	QPSK	1	99	40719	2602.9	15.31
					1	99						1	0			23.06
		41	20	QPSK	1	0	41292	2660.2	41	20	QPSK	1	99	41490	2680	15.3
					1	99						1	0			23.05
Intra Band Contiguous	CA_41C	41	20	16QAM	1	0	39750	2506	41	20	16QAM	1	99	39948	2525.8	14.15
					1	99						1	0			22.11
		41	20	16QAM	1	0	40521	2583.1	41	20	16QAM	1	99	40719	2602.9	14.29
					1	99						1	0			22.02
		41	20	16QAM	1	0	41292	2660.2	41	20	16QAM	1	99	41490	2680	14.25
					1	99						1	0			21.99
Intra Band Contiguous	CA_41C	41	20	64QAM	1	0	39750	2506	41	20	64QAM	1	99	39948	2525.8	13.13
					1	99						1	0			21.09
		41	20	64QAM	1	0	40521	2583.1	41	20	64QAM	1	99	40719	2602.9	13.25
					1	99						1	0			20.97
		41	20	64QAM	1	0	41292	2660.2	41	20	64QAM	1	99	41490	2680	13.22
					1	99						1	0			20.91
Intra Band Contiguous	CA_41C	41	20	256QAM	1	0	39750	2506	41	20	256QAM	1	99	39948	2525.8	10.20
					1	99						1	0			18.05
		41	20	256QAM	1	0	40521	2583.1	41	20	256QAM	1	99	40719	2602.9	10.28
					1	99						1	0			18.02
		41	20	256QAM	1	0	41292	2660.2	41	20	256QAM	1	99	41490	2680	10.24
					1	99						1	0			18.00

EIRP Power (dBm)

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
QPSK	15.22	23.13	19.24	27.15	33.01
16QAM	14.15	22.11	18.17	26.13	33.01
64QAM	13.13	21.09	17.15	25.11	33.01
256QAM	10.20	18.05	14.22	22.07	33.01

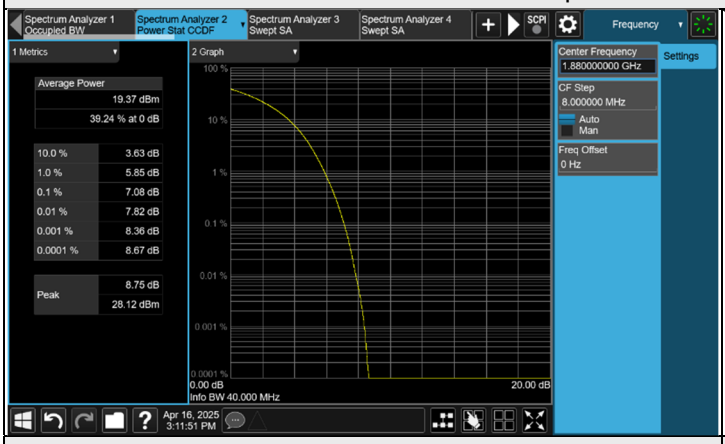
Note: EIRP (dBm) = Cond. Power (dBm) + Antenna Gain (dBi) + Array Gain (if applicable)

7.2 Peak to Average Ratio

Input Power:	3.85 Vdc	Environmental Conditions:	25°C, 66% RH	Tested By:	Noah Chang

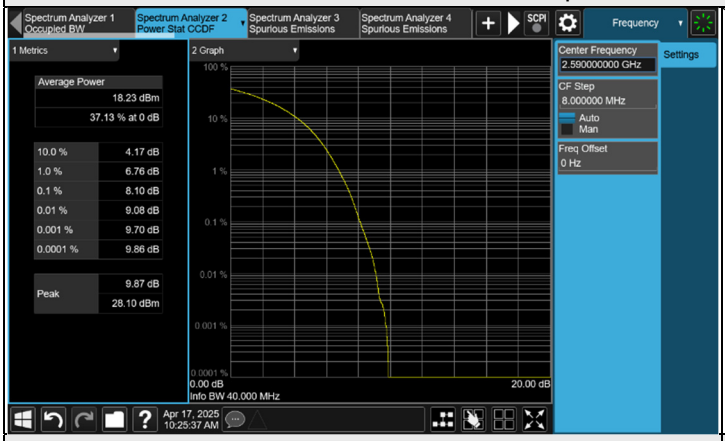
7.2.1 LTE Band 2 (CA 2C)

Modulation	Channel (Frequency)	Measurement Value(dB)	Limit (dB)	Result
QPSK	18700 (1860.0MHz) + 18898 (1879.8MHz)	3.68	13	PASS
QPSK	18801 (1870.1MHz) + 18999 (1889.9MHz)	4.27	13	PASS
QPSK	18902 (1880.2MHz) + 19100 (1900.0MHz)	4.40	13	PASS
16QAM	18700 (1860.0MHz) + 18898 (1879.8MHz)	4.52	13	PASS
16QAM	18801 (1870.1MHz) + 18999 (1889.9MHz)	5.07	13	PASS
16QAM	18902 (1880.2MHz) + 19100 (1900.0MHz)	5.10	13	PASS
64QAM	18700 (1860.0MHz) + 18898 (1879.8MHz)	5.31	13	PASS
64QAM	18801 (1870.1MHz) + 18999 (1889.9MHz)	5.84	13	PASS
64QAM	18902 (1880.2MHz) + 19100 (1900.0MHz)	5.88	13	PASS
256QAM	18700 (1860.0MHz) + 18898 (1879.8MHz)	6.90	13	PASS
256QAM	18801 (1870.1MHz) + 18999 (1889.9MHz)	7.08	13	PASS
256QAM	18902 (1880.2MHz) + 19100 (1900.0MHz)	7.07	13	PASS

Spectrum Plot of Worst Value	
	
256QAM CH 18801 (1870.1MHz) + CH 18999 (1889.9MHz)	

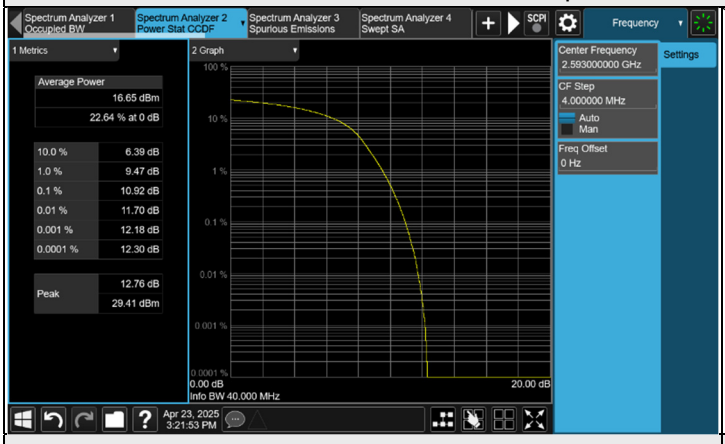
7.2.2 LTE Band 38 (CA 38C)

Modulation	Channel (Frequency)	Measurement Value(dB)	Limit (dB)	Result
QPSK	37850 (2580.0MHz) + 38048 (2599.8MHz)	5.32	13	PASS
QPSK	37901 (2585.1MHz) + 38099 (2604.9MHz)	5.31	13	PASS
QPSK	37952 (2590.2MHz) + 38150 (2610.0MHz)	5.12	13	PASS
16QAM	37850 (2580.0MHz) + 38048 (2599.8MHz)	5.97	13	PASS
16QAM	37901 (2585.1MHz) + 38099 (2604.9MHz)	6.99	13	PASS
16QAM	37952 (2590.2MHz) + 38150 (2610.0MHz)	6.20	13	PASS
64QAM	37850 (2580.0MHz) + 38048 (2599.8MHz)	6.84	13	PASS
64QAM	37901 (2585.1MHz) + 38099 (2604.9MHz)	7.13	13	PASS
64QAM	37952 (2590.2MHz) + 38150 (2610.0MHz)	6.81	13	PASS
256QAM	37850 (2580.0MHz) + 38048 (2599.8MHz)	8.10	13	PASS
256QAM	37901 (2585.1MHz) + 38099 (2604.9MHz)	8.00	13	PASS
256QAM	37952 (2590.2MHz) + 38150 (2610.0MHz)	7.71	13	PASS

Spectrum Plot of Worst Value	
	
256QAM CH 37850 (2580.0MHz) + CH 38048 (2599.8MHz)	

7.2.3 LTE Band 41 (CA 41C)

Modulation	Channel (Frequency)	Measurement Value(dB)	Limit (dB)	Result
QPSK	39750 (2506.0MHz) + 39948 (2525.8MHz)	9.13	13	PASS
QPSK	40521 (2583.1MHz) + 40719 (2602.9MHz)	10.92	13	PASS
QPSK	41292 (2660.2MHz) + 41490 (2680.0MHz)	9.51	13	PASS
16QAM	39750 (2506.0MHz) + 39948 (2525.8MHz)	9.92	13	PASS
16QAM	40521 (2583.1MHz) + 40719 (2602.9MHz)	10.46	13	PASS
16QAM	41292 (2660.2MHz) + 41490 (2680.0MHz)	9.82	13	PASS
64QAM	39750 (2506.0MHz) + 39948 (2525.8MHz)	9.73	13	PASS
64QAM	40521 (2583.1MHz) + 40719 (2602.9MHz)	10.01	13	PASS
64QAM	41292 (2660.2MHz) + 41490 (2680.0MHz)	10.46	13	PASS
256QAM	39750 (2506.0MHz) + 39948 (2525.8MHz)	10.64	13	PASS
256QAM	40521 (2583.1MHz) + 40719 (2602.9MHz)	10.09	13	PASS
256QAM	41292 (2660.2MHz) + 41490 (2680.0MHz)	10.34	13	PASS

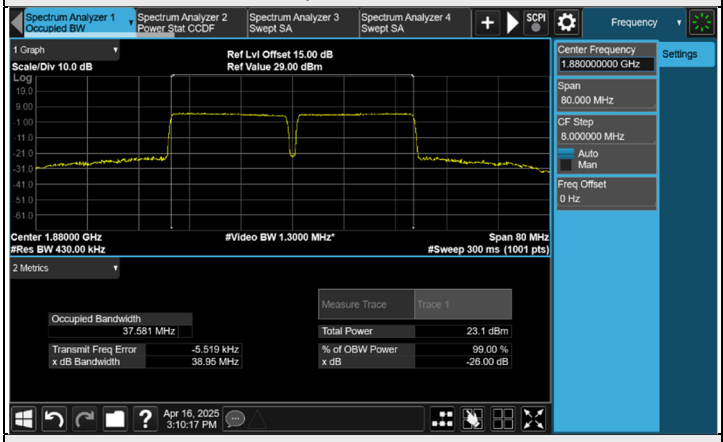
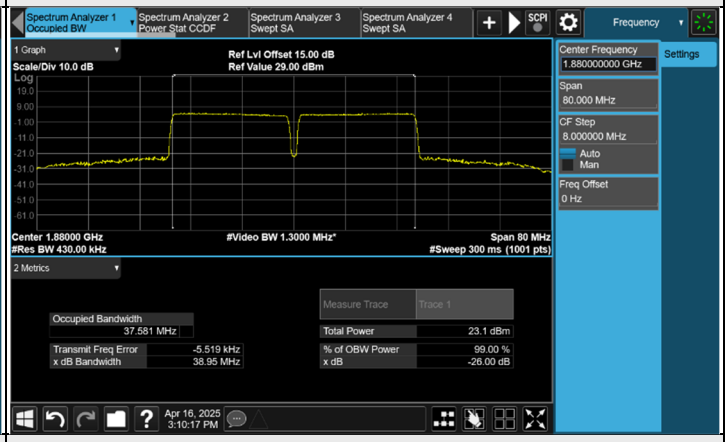
Spectrum Plot of Worst Value	
	
QPSK CH 40521 (2583.1MHz) + CH 40719 (2602.9MHz)	

7.3 Bandwidth

Input Power:	3.85 Vdc	Environmental Conditions:	25°C, 66% RH	Tested By:	Noah Chang

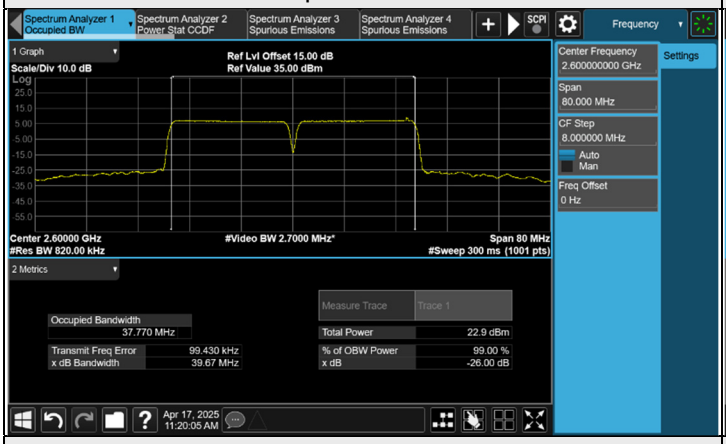
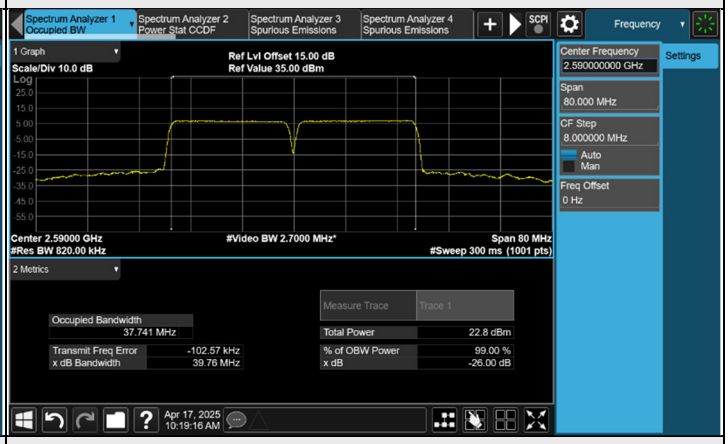
7.3.1 LTE Band 2 (CA 2C)

Modulation	Channel (Frequency)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	18700 (1860.0MHz) + 18898 (1879.8MHz)	37.503	38.90
QPSK	18801 (1870.1MHz) + 18999 (1889.9MHz)	37.581	38.95
QPSK	18902 (1880.2MHz) + 19100 (1900.0MHz)	37.538	38.91
16QAM	18700 (1860.0MHz) + 18898 (1879.8MHz)	37.491	38.86
16QAM	18801 (1870.1MHz) + 18999 (1889.9MHz)	37.552	38.86
16QAM	18902 (1880.2MHz) + 19100 (1900.0MHz)	37.503	38.86
64QAM	18700 (1860.0MHz) + 18898 (1879.8MHz)	37.478	38.86
64QAM	18801 (1870.1MHz) + 18999 (1889.9MHz)	37.548	38.87
64QAM	18902 (1880.2MHz) + 19100 (1900.0MHz)	37.508	38.86
256QAM	18700 (1860.0MHz) + 18898 (1879.8MHz)	37.461	38.83
256QAM	18801 (1870.1MHz) + 18999 (1889.9MHz)	37.538	38.84
256QAM	18902 (1880.2MHz) + 19100 (1900.0MHz)	37.518	38.88

Spectrum Plot of Worst Value	
Occupied bandwidth	26 dB Bandwidth
	
QPSK CH 18801 (1870.1MHz) + CH 18999 (1889.9MHz)	QPSK CH 18801 (1870.1MHz) + CH 18999 (1889.9MHz)

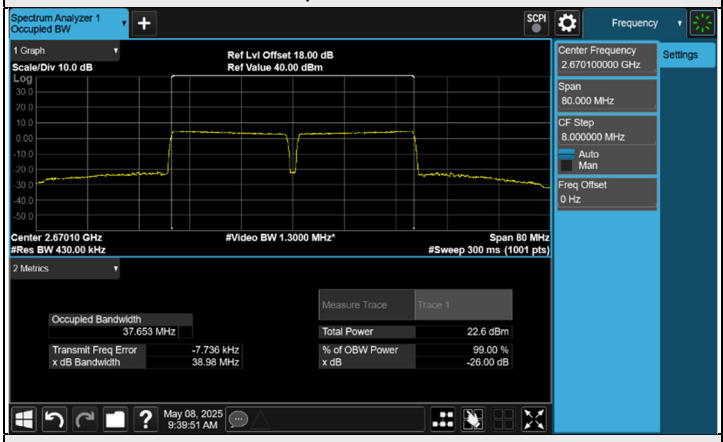
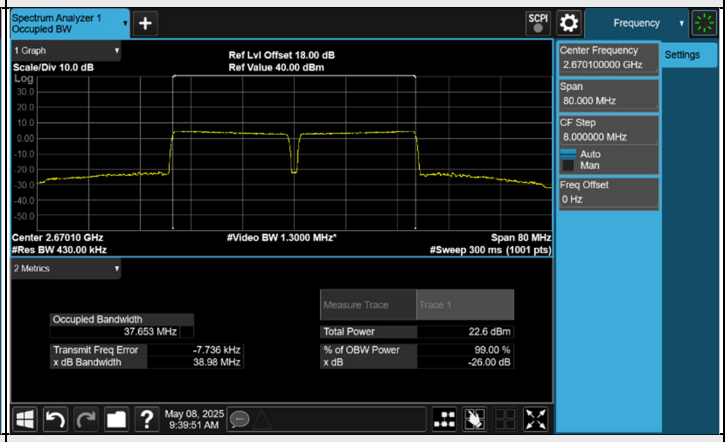
7.3.2 LTE Band 38 (CA 38C)

Modulation	Channel (Frequency)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	37850 (2580.0MHz) + 38048 (2599.8MHz)	37.741	39.76
QPSK	37901 (2585.1MHz) + 38099 (2604.9MHz)	37.744	39.76
QPSK	37952 (2590.2MHz) + 38150 (2610.0MHz)	37.770	39.67
16QAM	37850 (2580.0MHz) + 38048 (2599.8MHz)	37.725	39.75
16QAM	37901 (2585.1MHz) + 38099 (2604.9MHz)	37.745	39.75
16QAM	37952 (2590.2MHz) + 38150 (2610.0MHz)	37.732	39.72
64QAM	37850 (2580.0MHz) + 38048 (2599.8MHz)	37.708	39.73
64QAM	37901 (2585.1MHz) + 38099 (2604.9MHz)	37.718	39.73
64QAM	37952 (2590.2MHz) + 38150 (2610.0MHz)	37.752	39.72
256QAM	37850 (2580.0MHz) + 38048 (2599.8MHz)	37.724	39.74
256QAM	37901 (2585.1MHz) + 38099 (2604.9MHz)	37.749	39.76
256QAM	37952 (2590.2MHz) + 38150 (2610.0MHz)	37.751	39.75

Spectrum Plot of Worst Value	
Occupied bandwidth	26 dB Bandwidth
	
QPSK CH 37952 (2590.2MHz) + CH 38150 (2610.0MHz)	QPSK CH 37850 (2580.0MHz) + CH 38048 (2599.8MHz)

7.3.3 LTE Band 41 (CA 41C)

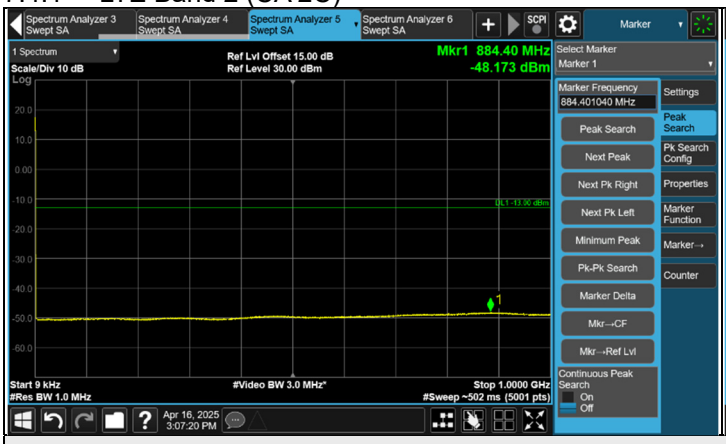
Modulation	Channel (Frequency)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	39750 (2506.0MHz) + 39948 (2525.8MHz)	37.584	38.87
QPSK	40521 (2583.1MHz) + 40719 (2602.9MHz)	37.609	38.93
QPSK	41292 (2660.2MHz) + 41490 (2680.0MHz)	37.653	38.98
16QAM	39750 (2506.0MHz) + 39948 (2525.8MHz)	37.589	38.87
16QAM	40521 (2583.1MHz) + 40719 (2602.9MHz)	37.583	38.87
16QAM	41292 (2660.2MHz) + 41490 (2680.0MHz)	37.644	38.95
64QAM	39750 (2506.0MHz) + 39948 (2525.8MHz)	37.587	38.91
64QAM	40521 (2583.1MHz) + 40719 (2602.9MHz)	37.565	38.87
64QAM	41292 (2660.2MHz) + 41490 (2680.0MHz)	37.621	38.89
256QAM	39750 (2506.0MHz) + 39948 (2525.8MHz)	37.568	38.86
256QAM	40521 (2583.1MHz) + 40719 (2602.9MHz)	37.581	38.90
256QAM	41292 (2660.2MHz) + 41490 (2680.0MHz)	37.628	38.87

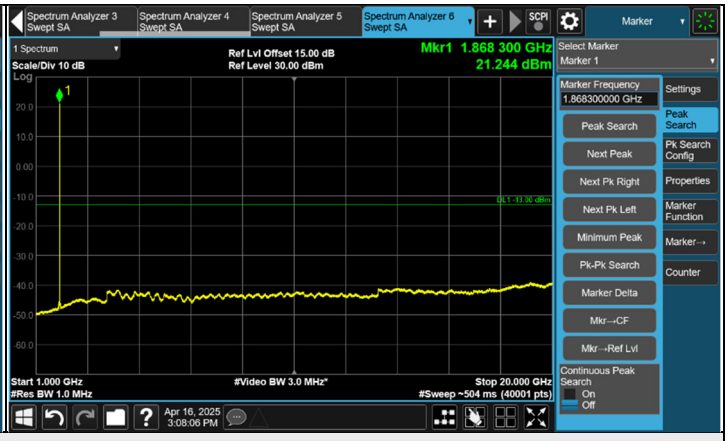
Spectrum Plot of Worst Value	
Occupied bandwidth	26 dB Bandwidth
	
QPSK CH 41292 (2660.2MHz) + CH 41490 (2680.0MHz)	QPSK CH 41292 (2660.2MHz) + CH 41490 (2680.0MHz)

7.4 Conducted Spurious Emissions

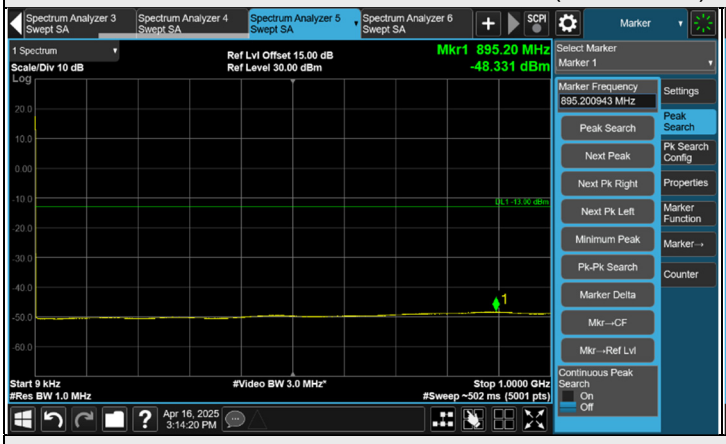
Input Power:	3.85 Vdc	Environmental Conditions:	25°C, 66% RH	Tested By:	Noah Chang

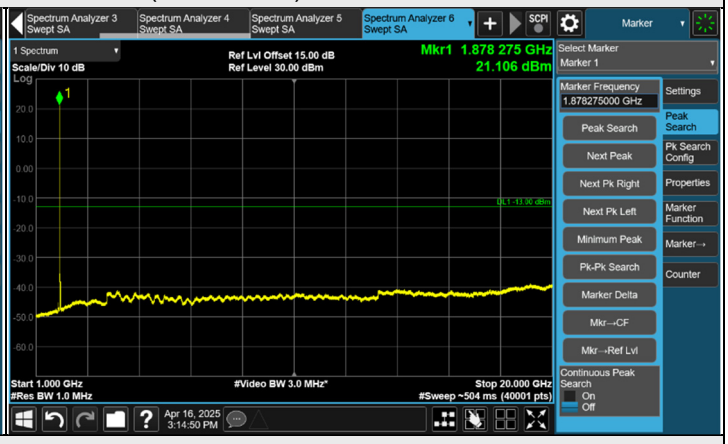
7.4.1 LTE Band 2 (CA 2C)



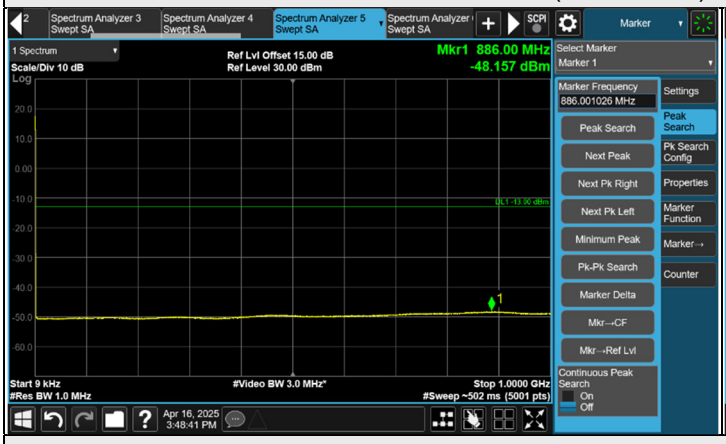


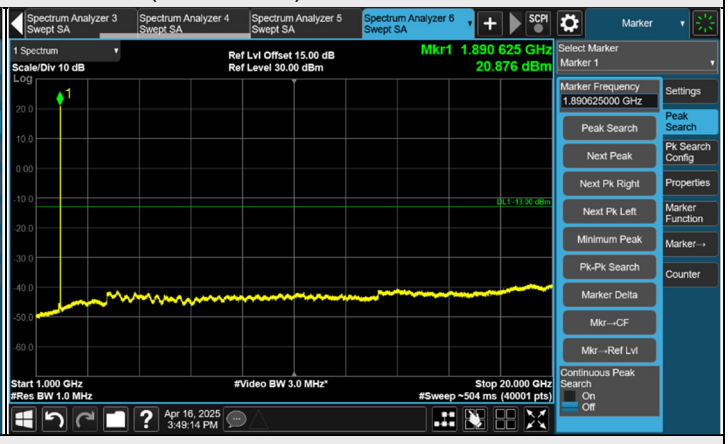
CH 18700 (1860.0MHz) + CH 18898 (1879.8MHz)





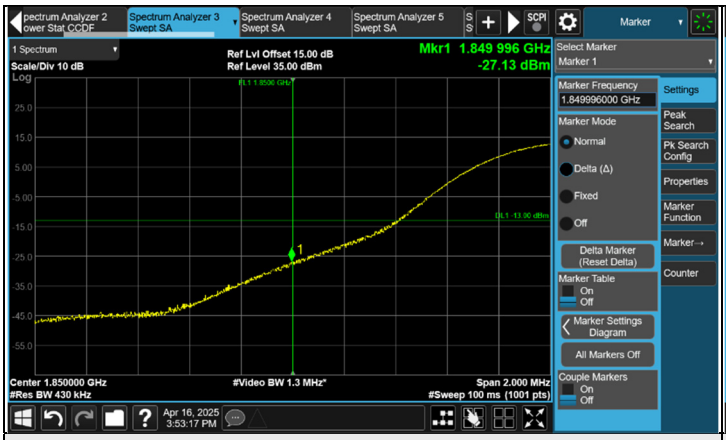
CH 18801 (1870.1MHz) + CH 18999 (1889.9MHz)



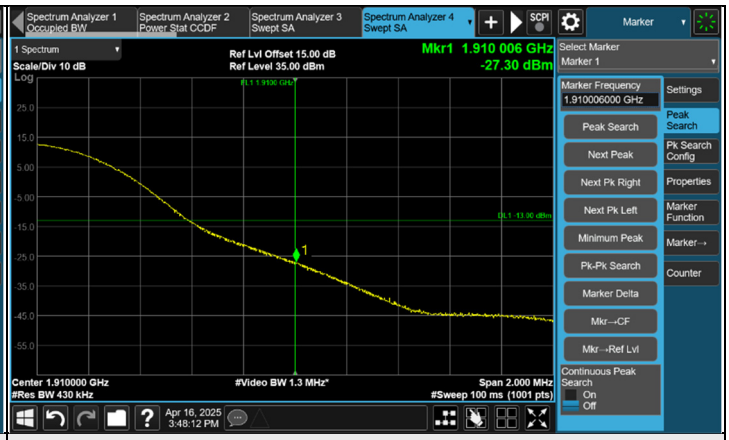


CH 18902 (1880.2MHz) + CH 19100 (1900.0MHz)

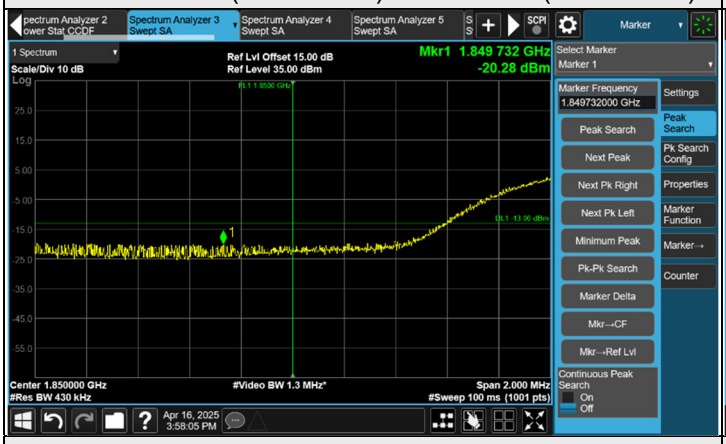
Note: The signal at 9 kHz is IF signal from spectrum analyzer.



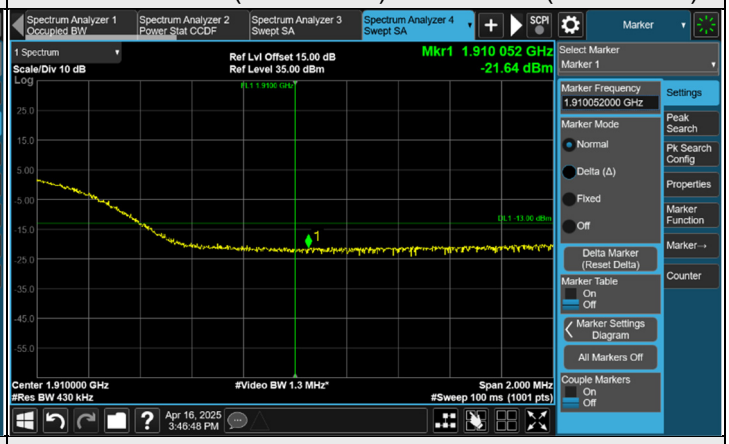
FULL CH 18700 (1860.0MHz) + CH 18898 (1879.8MHz)



FULL CH 18902 (1880.2MHz) + CH 19100 (1900.0MHz)

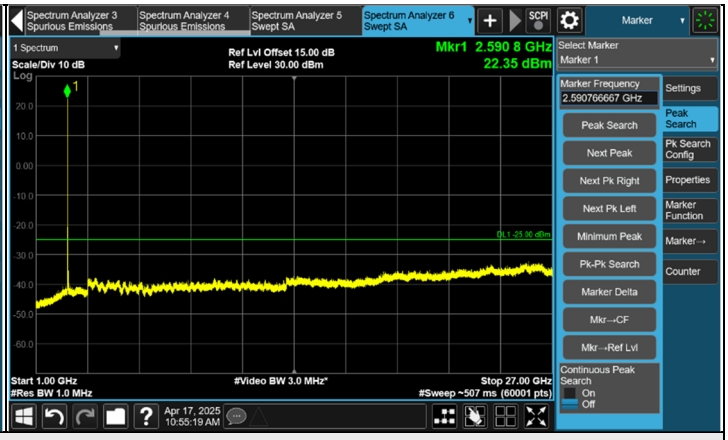


1RB CH 18700 (1860.0MHz) + CH 18898 (1879.8MHz)

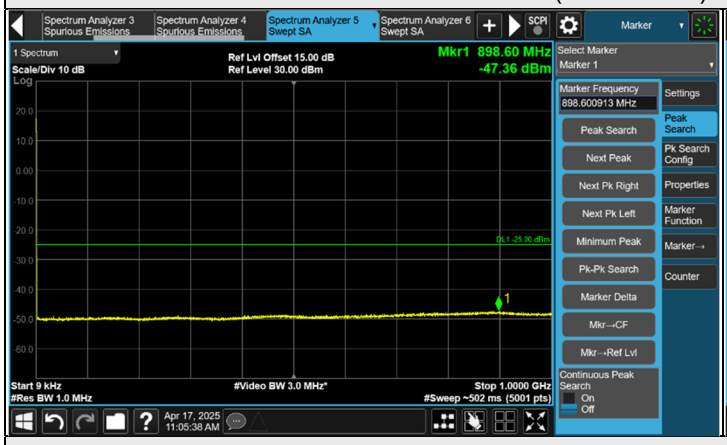


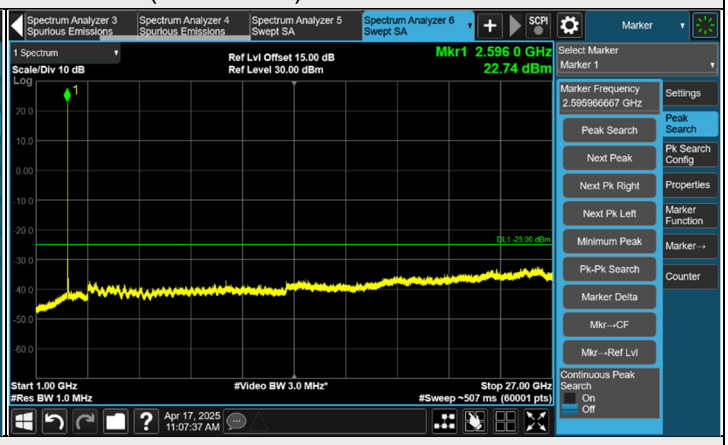
1RB CH 18902 (1880.2MHz) + CH 19100 (1900.0MHz)

7.4.2 LTE Band 38 (CA 38C)

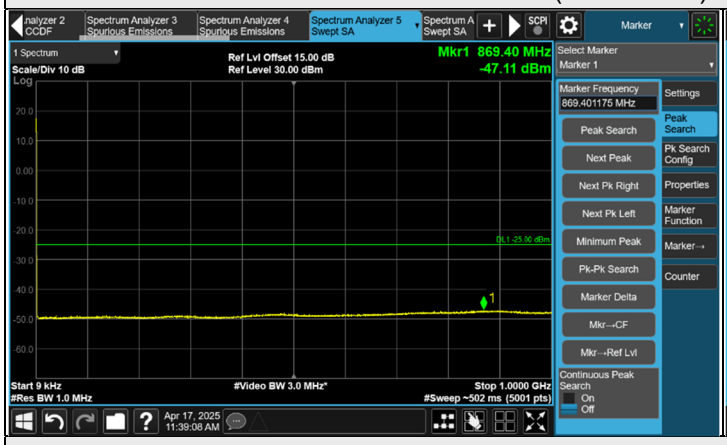


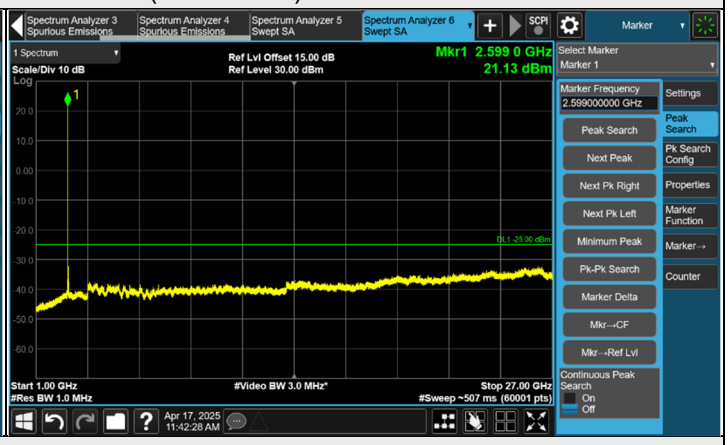
CH 37850 (2580.0MHz) + CH 38048 (2599.8MHz)





CH 37901 (2585.1MHz) + CH 38099 (2604.9MHz)





CH 37952 (2590.2MHz) + CH 38150 (2610.0MHz)

Note: The signal at 9 kHz is IF signal from spectrum analyzer.