TEST REPORT

CERTIFICATE OF CONFORMITY

Standard:	**47 CFR FCC Part 96** **47 CFR FCC Part 2**
Report No.:	RFBCUN-WTW-P25020520-13
FCC ID:	H8NPCTE020
Product:	Mobile Computer
Brand:	Askey
Model No.:	RC40
Received Date:	2025/3/11
Test Date:	2025/4/17 ~ 2025/4/30
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-P25020520-13	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:	2025/4/17 ~ 2025/4/30
Standard:	47 CFR FCC Part 96 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 940660 D01 Part 96 CBRS Eqpt v03

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 96 & Part 2			
Standard / Clause	Test Item	Result	Remark
FCC 47 CFR Part 2.1046 FCC 47 CFR Part 96.41(b)	Maximum EIRP	Pass	Meet the requirement of limit.
FCC 47 CFR Part 2.1047	Modulation Characteristics	Pass	Refer to Note 2
FCC 47 CFR Part 96.41(g)	Peak to Average Ratio	Pass	Meet the requirement of limit.
FCC 47 CFR Part 2.1049	Bandwidth	Pass	Meet the requirement of limit.
FCC 47 CFR Part 2.1051 FCC 47 CFR Part 96.41(e)	Conducted Spurious Emissions	Pass	Meet the requirement of limit.
FCC 47 CFR Part 2.1053 FCC 47 CFR Part 96.41(e)	Radiated Spurious Emissions below 1GHz	Pass	Minimum passing margin is -10.62 dB at 140.58 MHz
FCC 47 CFR Part 2.1053 FCC 47 CFR Part 96.41(e)	Radiated Spurious Emissions above 1GHz	Pass	Minimum passing margin is -2.83 dB at 7380.00 MHz
FCC 47 CFR Part 2.1055	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-P25020520-11 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)
Band Covered Information	LTE Band 48 cover LTE Band 43

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

Full Maximum EIRP (dBm/channel bandwidth)

Band / Bandwidth	TX Frequency Range (MHz)	Modulation	Max. EIRP (W)	Max. EIRP (dBm/channel bandwidth)
LTE Band 48 (CA 48C) (20MHz + 20MHz)	3560.0-3690.0	QPSK	0.148	21.71
		16QAM	0.116	20.66
		64QAM	0.091	19.60
		256QAM	0.047	16.71

Maximum EIRP (dBm/10MHz)

Band / Bandwidth	TX Frequency Range (MHz)	Modulation	Max. EIRP (W)	Max. EIRP (dBm/10MHz)
LTE Band 48 (CA 48C) (20MHz + 20MHz)	3560.0-3690.0	QPSK	0.142	21.52
		16QAM	0.116	20.63
		64QAM	0.089	19.50
		256QAM	0.045	16.58

Band / Bandwidth	TX Frequency Range (MHz)	Emission Designator			
		QPSK	16QAM	64QAM	256QAM
LTE Band 48 (CA 48C) (20MHz + 20MHz)	3560.0-3690.0	37M7G7D	37M7D7W	37M7D7W	37M7D7W

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	Loop				
Ant. Connector	I-PEX(4)				
Band	Freq. Range (MHz)	Ant 4 Gain (dBi)	Ant 5 Gain (dBi)	Ant 6 Gain (dBi)	Ant 7 Gain (dBi)
CA 48C	3550 ~3700	0.98	-	-	-

*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 48 (CA 48C)

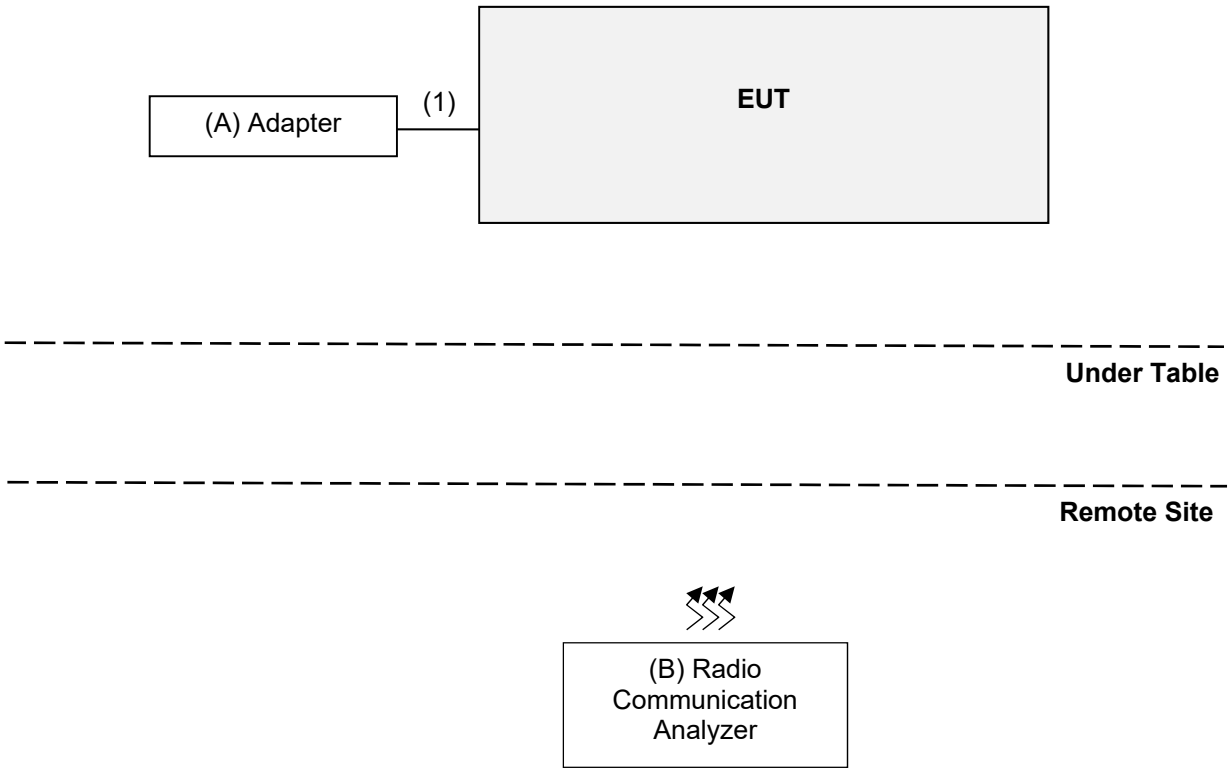
Test Item	Tested Channel	Channel Bandwidth	Modulation	Mode
Equivalent Isotropically Radiated Power	55340 (3560MHz) + 55538 (3579.8MHz) 55891 (3615.1MHz) + 56089 (3634.9MHz) 56442 (3670.2MHz) + 56640 (3690MHz)	20MHz + 20MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB Half RB Full RB
Peak to Average Ratio	55340 (3560MHz) + 55538 (3579.8MHz) 55891 (3615.1MHz) + 56089 (3634.9MHz) 56442 (3670.2MHz) + 56640 (3690MHz)	20MHz + 20MHz	QPSK / 16QAM / 64QAM / 256QAM	1 RB
Bandwidth	55340 (3560MHz) + 55538 (3579.8MHz) 55891 (3615.1MHz) + 56089 (3634.9MHz) 56442 (3670.2MHz) + 56640 (3690MHz)	20MHz + 20MHz	QPSK / 16QAM / 64QAM / 256QAM	Full RB
Conducted Spurious Emissions	55340 (3560MHz) + 55538 (3579.8MHz) 55891 (3615.1MHz) + 56089 (3634.9MHz) 56442 (3670.2MHz) + 56640 (3690MHz)	20MHz + 20MHz	QPSK	1 RB Full RB
Radiated Spurious Emissions below 1GHz	56442 (3670.2MHz) + 56640 (3690MHz)	20MHz + 20MHz	QPSK	1 RB
Radiated Spurious Emissions above 1GHz	55340 (3560MHz) + 55538 (3579.8MHz) 55891 (3615.1MHz) + 56089 (3634.9MHz) 56442 (3670.2MHz) + 56640 (3690MHz)	20MHz + 20MHz	QPSK	1 RB
Frequency Stability (Frequency range: 3550 MHz to 3700 MHz)	55340 (3560MHz) + 55538 (3579.8MHz) 56442 (3670.2MHz) + 56640 (3690MHz)	20MHz + 20MHz	QPSK	Full RB

Note: Max. power and max gian were chosne for final test.

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 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	2025/5/28
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: 2025/4/17 ~ 2025/4/30

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: 2025/4/22

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	2024/5/29	2025/5/28
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: 2025/4/30

5 Limits of Test Items

5.1 Equivalent Isotropically Radiated Power

For LTE Band 48 (CA 48C):

Device Category	Maximum EIRP (dBm/10 MHz)
End User Device	23
Category A CBSD	30
Category B CBSD	47

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

The conducted power of any emission outside the fundamental emission (whether in or outside of the authorized band) shall not exceed −13 dBm/MHz within 0 to B MHz (where B is the bandwidth in MHz of the assigned channel or multiple contiguous channels of the End User Device) above the upper CBSD-assigned channel edge and within 0 to B MHz below the lower CBSD-assigned channel edge. At all frequencies greater than B MHz above the upper CBSD assigned channel edge and less than B MHz below the lower CBSD-assigned channel edge, the conducted power of any end user device emission shall not exceed −25 dBm/MHz.
Additional protection levels: The conducted power of emissions below 3540 MHz or above 3710 MHz shall not exceed −25 dBm/MHz, and the conducted power of emissions below 3530 MHz or above 3720 MHz shall not exceed −40dBm/MHz.

5.5 Radiated Spurious Emissions below 1GHz

The power of any emissions below 3530 MHz or above 3720 MHz shall not exceed −40 dBm/MHz.

5.6 Radiated Spurious Emissions above 1GHz

The power of any emissions below 3530 MHz or above 3720 MHz shall not exceed −40dBm/MHz.

5.7 Frequency Stability

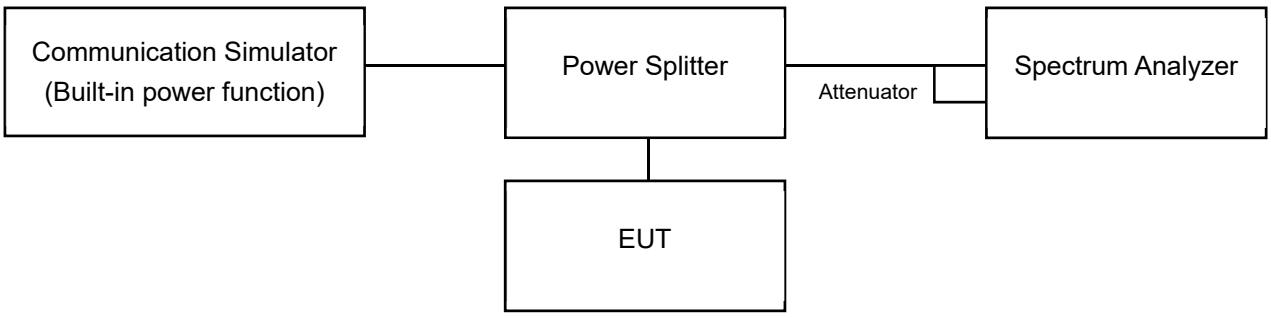
The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation (authorized frequency block).

6 Test Arrangements

6.1 Equivalent Isotropically Radiated Power

6.1.1 Test Setup

Conducted Power Measurement:



6.1.2 Test Procedure

Conducted Power Measurement:

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).

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 10 MHz bandwidth and full bandwidth, according to the 47 CFR FCC Part 96 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

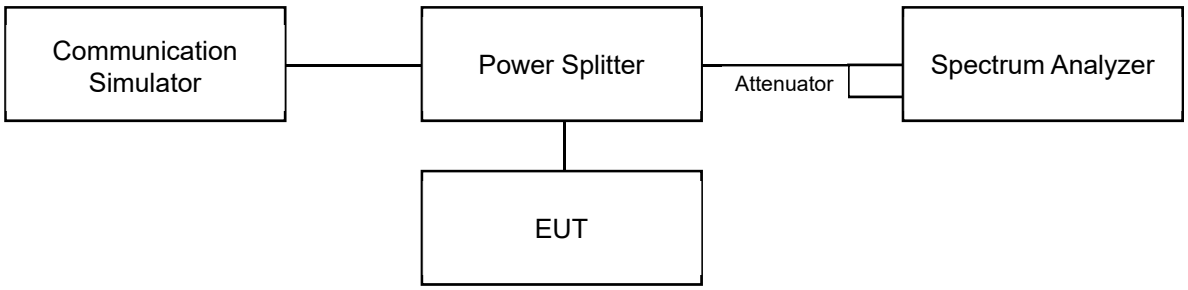
ERP or EIRP effective radiated power or equivalent isotropically radiated power, respectively (expressed in the same units as P_{Meas}, e.g., dBm or dBW)

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

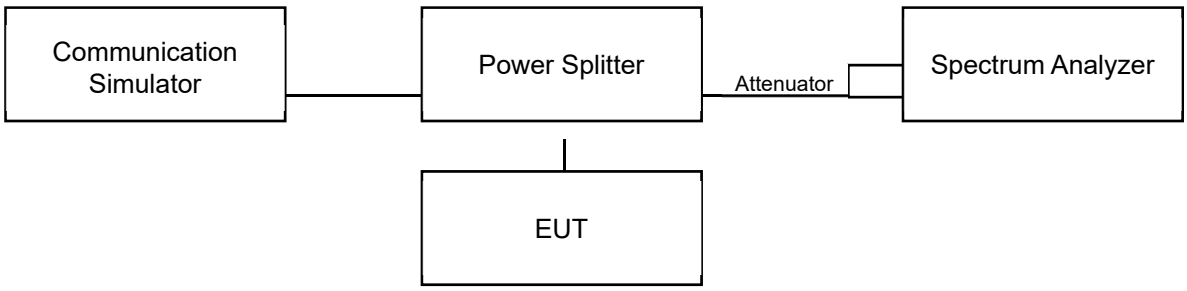


6.2.2 Test Procedure

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.

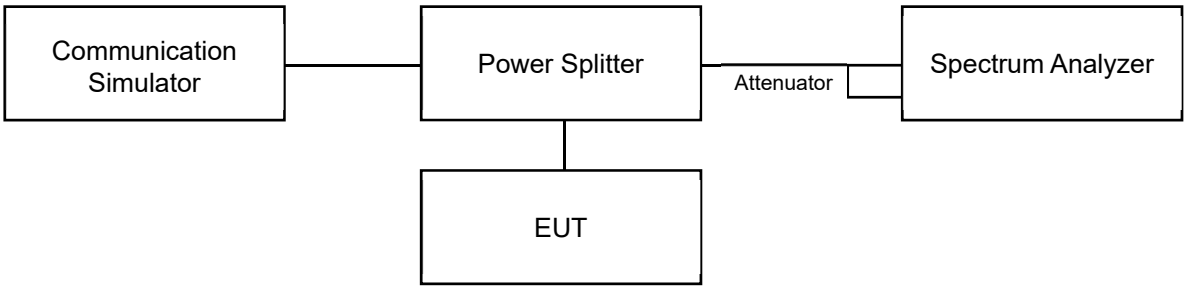
a. The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the spectrum analyzer shall be wide enough to see sufficient roll off of the signal to make the measurement.
b. The nominal RBW shall be in the range of 1% to 5% of the anticipated OBW, and 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



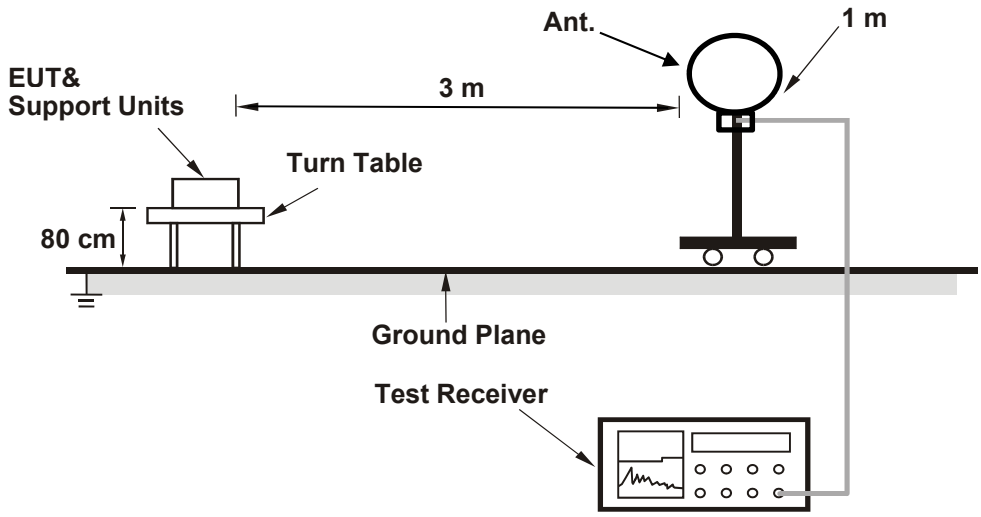
6.4.2 Test Procedure

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.

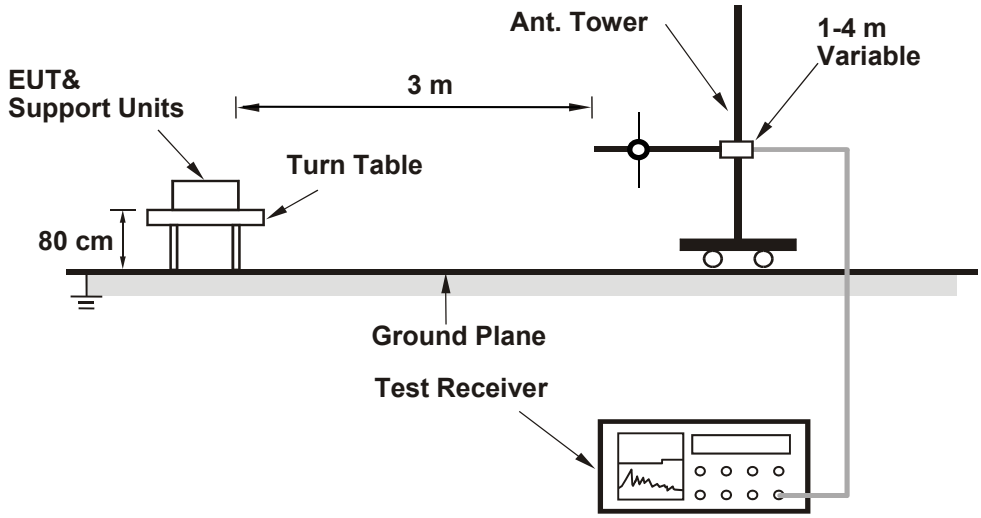
6.5 Radiated Spurious Emissions below 1GHz

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).

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.

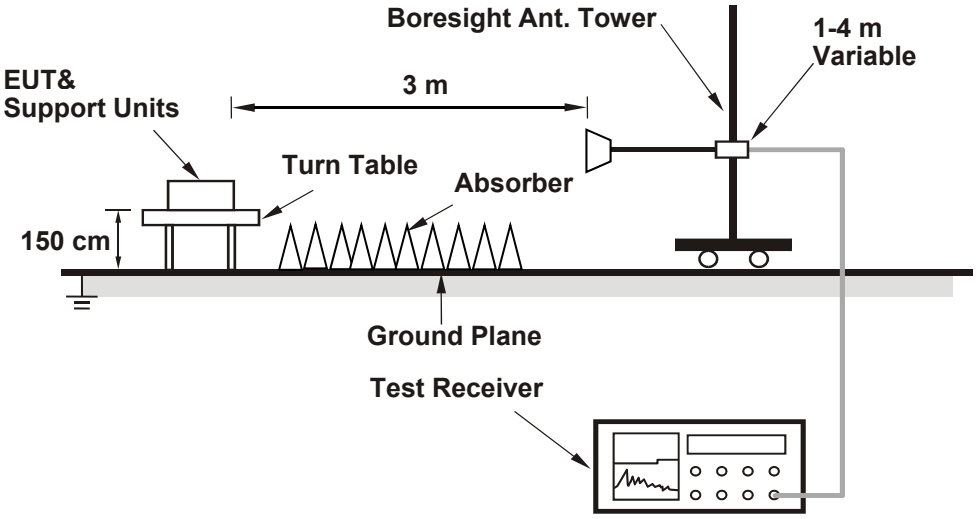
Note:

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 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.

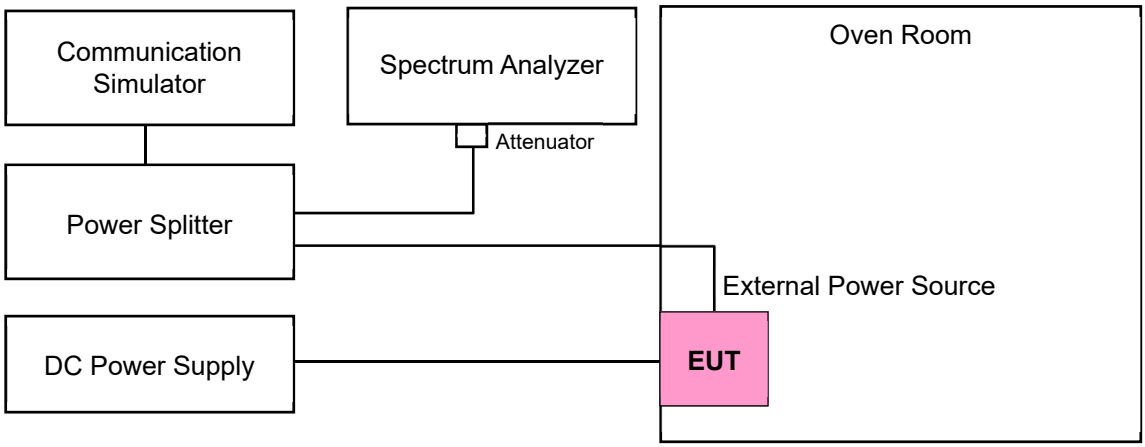
f. ERP (dBm) = E (dBμV/m) + 20log(D) - 104.8 - 2.15; where D is the measurement distance (in the far field region) in m.

Note:

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

6.7 Frequency Stability

6.7.1 Test Setup



6.7.2 Test Procedure

The EUT is configured by emulator 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 Equivalent Isotropically Radiated Power

Input Power:	3.85 Vdc	Environmental Conditions:	22°C, 68% RH	Tested By:	Noah Chang

7.1.1 LTE Band 48 (CA 48C)

Conducted Output Power (dBm) (dBm/channel bandwidth)

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_48C	48	20	QPSK	1	0	55340	3560	48	20	QPSK	1	99	55538	3579.8	12.61
					1	99						1	0			20.31
		48	20	QPSK	1	0	55891	3615.1	48	20	QPSK	1	99	56089	3634.9	13.21
					1	99						1	0			20.73
		48	20	QPSK	1	0	56442	3670.2	48	20	QPSK	1	99	56640	3690	12.69
					1	99						1	0			20.07
	CA_48C	48	20	16QAM	1	0	55340	3560	48	20	16QAM	1	99	55538	3579.8	11.52
					1	99						1	0			19.26
		48	20	16QAM	1	0	55891	3615.1	48	20	16QAM	1	99	56089	3634.9	12.19
					1	99						1	0			19.68
		48	20	16QAM	1	0	56442	3670.2	48	20	16QAM	1	99	56640	3690	11.68
					1	99						1	0			19.06
	CA_48C	48	20	64QAM	1	0	55340	3560	48	20	64QAM	1	99	55538	3579.8	10.43
					1	99						1	0			18.22
		48	20	64QAM	1	0	55891	3615.1	48	20	64QAM	1	99	56089	3634.9	11.16
					1	99						1	0			18.62
		48	20	64QAM	1	0	56442	3670.2	48	20	64QAM	1	99	56640	3690	10.60
					1	99						1	0			18.01
	CA_48C	48	20	256QAM	1	0	55340	3560	48	20	256QAM	1	99	55538	3579.8	7.58
					1	99						1	0			15.27
		48	20	256QAM	1	0	55891	3615.1	48	20	256QAM	1	99	56089	3634.9	8.17
					1	99						1	0			15.73
		48	20	256QAM	1	0	56442	3670.2	48	20	256QAM	1	99	56640	3690	7.64
					1	99						1	0			15.00

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
QPSK	12.61	20.73	13.59	21.71	23.00
16QAM	11.52	19.68	12.50	20.66	23.00
64QAM	10.43	18.62	11.41	19.60	23.00
256QAM	7.58	15.73	8.56	16.71	23.00

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

Conducted Output Power (dBm) (dBm/10MHz)

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_48C	48	20	QPSK	1	0	55340	3560	48	20	QPSK	1	99	55538	3579.8	12.45
					1	99						1	0			20.17
		48	20	QPSK	1	0	55891	3615.1	48	20	QPSK	1	99	56089	3634.9	13.13
					1	99						1	0			20.54
		48	20	QPSK	1	0	56442	3670.2	48	20	QPSK	1	99	56640	3690	12.55
					1	99						1	0			19.97
	CA_48C	48	20	16QAM	1	0	55340	3560	48	20	16QAM	1	99	55538	3579.8	11.40
					1	99						1	0			19.16
		48	20	16QAM	1	0	55891	3615.1	48	20	16QAM	1	99	56089	3634.9	12.13
					1	99						1	0			19.65
		48	20	16QAM	1	0	56442	3670.2	48	20	16QAM	1	99	56640	3690	11.59
					1	99						1	0			18.96
	CA_48C	48	20	64QAM	1	0	55340	3560	48	20	64QAM	1	99	55538	3579.8	10.31
					1	99						1	0			18.17
		48	20	64QAM	1	0	55891	3615.1	48	20	64QAM	1	99	56089	3634.9	11.07
					1	99						1	0			18.52
		48	20	64QAM	1	0	56442	3670.2	48	20	64QAM	1	99	56640	3690	10.44
					1	99						1	0			17.85
	CA_48C	48	20	256QAM	1	0	55340	3560	48	20	256QAM	1	99	55538	3579.8	7.54
					1	99						1	0			15.11
		48	20	256QAM	1	0	55891	3615.1	48	20	256QAM	1	99	56089	3634.9	8.14
					1	99						1	0			15.60
		48	20	256QAM	1	0	56442	3670.2	48	20	256QAM	1	99	56640	3690	7.61
					1	99						1	0			14.86

Output Power					
Modulation	Minimum Cond. Power (dBm)	Maximum Cond. Power (dBm)	Minimum EIRP (dBm)	Maximum EIRP (dBm)	EIRP Limit (dBm)
QPSK	12.45	20.54	13.43	21.52	23.00
16QAM	11.4	19.65	12.38	20.63	23.00
64QAM	10.31	18.52	11.29	19.50	23.00
256QAM	7.54	15.60	8.52	16.58	23.00

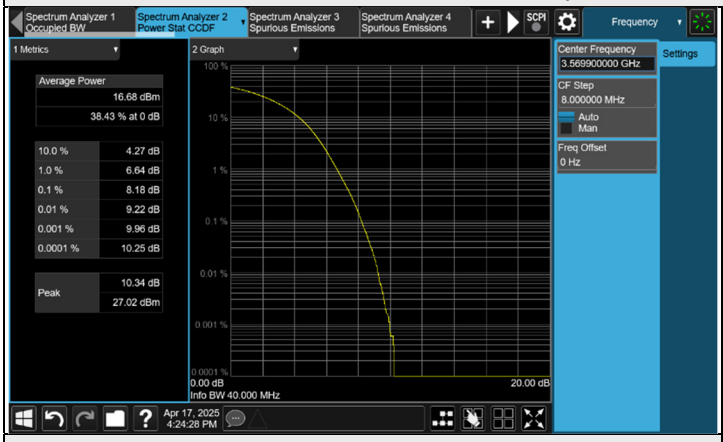
Note: EIRP (dBm) = Cond. Power (dBm) + Antenna Gain (dBi) + Array Gain (if applicable)

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 48 (CA 48C)

Modulation	Channel (Frequency)	Measurement Value(dB)	Limit (dB)	Result
QPSK	55340 (3560MHz) + 55538 (3579.8MHz)	6.91	13	PASS
QPSK	55891 (3615.1MHz) + 56089 (3634.9MHz)	6.18	13	PASS
QPSK	56442 (3670.2MHz) + 56640 (3690MHz)	6.82	13	PASS
16QAM	55340 (3560MHz) + 55538 (3579.8MHz)	7.36	13	PASS
16QAM	55891 (3615.1MHz) + 56089 (3634.9MHz)	7.38	13	PASS
16QAM	56442 (3670.2MHz) + 56640 (3690MHz)	7.48	13	PASS
64QAM	55340 (3560MHz) + 55538 (3579.8MHz)	7.82	13	PASS
64QAM	55891 (3615.1MHz) + 56089 (3634.9MHz)	7.61	13	PASS
64QAM	56442 (3670.2MHz) + 56640 (3690MHz)	7.56	13	PASS
256QAM	55340 (3560MHz) + 55538 (3579.8MHz)	8.18	13	PASS
256QAM	55891 (3615.1MHz) + 56089 (3634.9MHz)	7.88	13	PASS
256QAM	56442 (3670.2MHz) + 56640 (3690MHz)	8.09	13	PASS

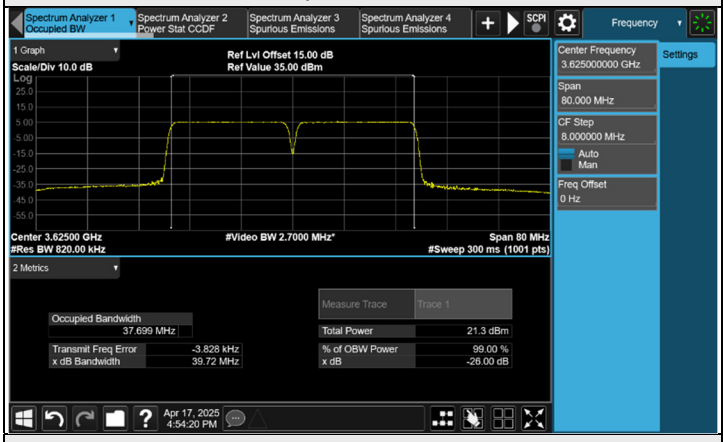
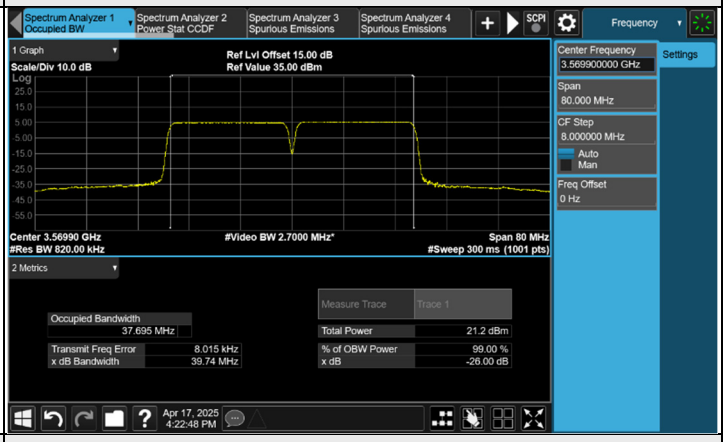
Spectrum Plot of Worst Value	
	
256QAM CH 55340 (3560MHz) + CH 55538 (3579.8MHz)	

7.3 Bandwidth

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

7.3.1 LTE Band 48 (CA 48C)

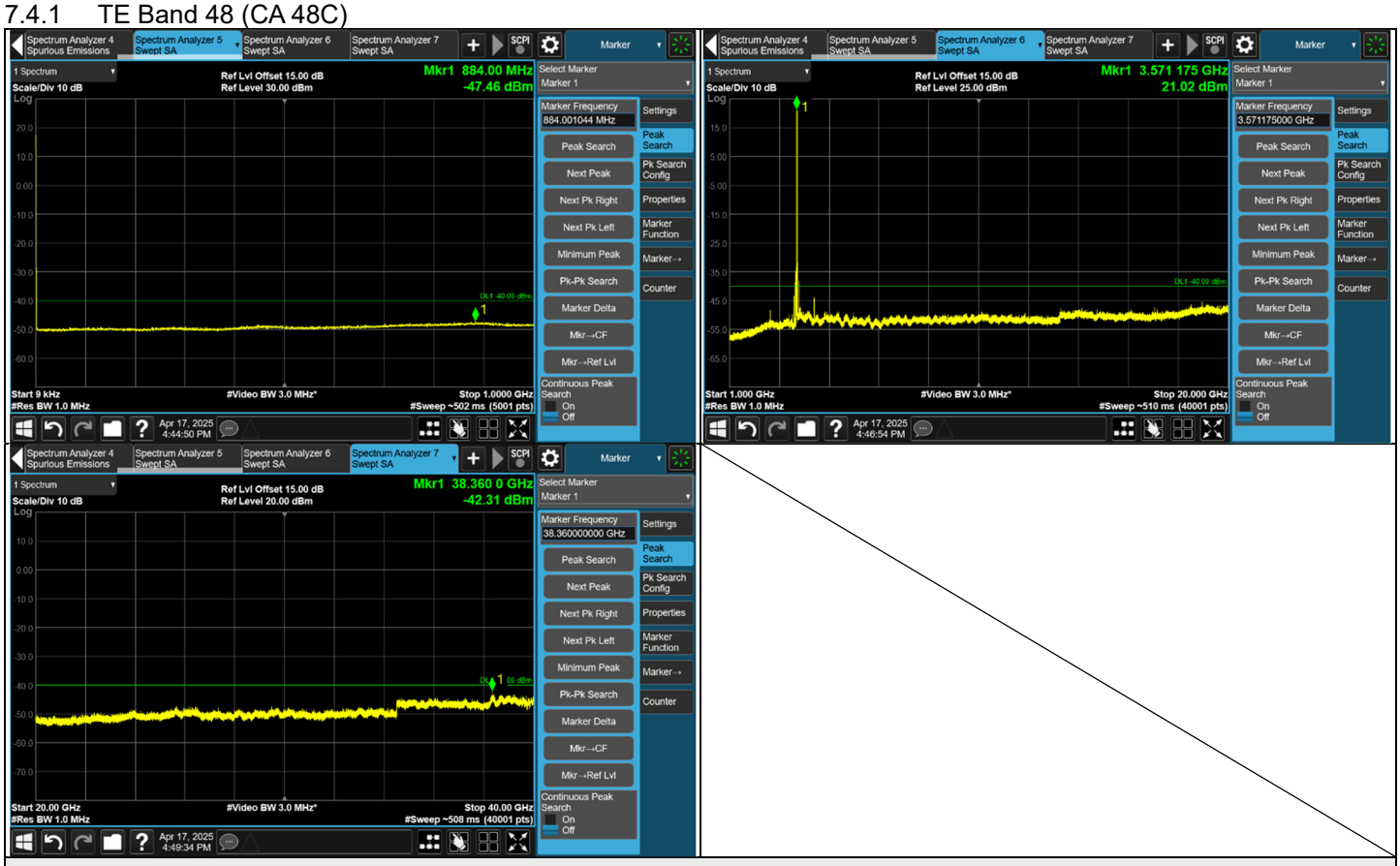
Modulation	Channel (Frequency)	Occupied Bandwidth (MHz)	26 dB Bandwidth (MHz)
QPSK	55340 (3560MHz) + 55538 (3579.8MHz)	37.695	39.74
QPSK	55891 (3615.1MHz) + 56089 (3634.9MHz)	37.690	39.73
QPSK	56442 (3670.2MHz) + 56640 (3690MHz)	37.670	39.73
16QAM	55340 (3560MHz) + 55538 (3579.8MHz)	37.649	39.70
16QAM	55891 (3615.1MHz) + 56089 (3634.9MHz)	37.699	39.72
16QAM	56442 (3670.2MHz) + 56640 (3690MHz)	37.661	39.69
64QAM	55340 (3560MHz) + 55538 (3579.8MHz)	37.664	39.68
64QAM	55891 (3615.1MHz) + 56089 (3634.9MHz)	37.683	39.73
64QAM	56442 (3670.2MHz) + 56640 (3690MHz)	37.689	39.70
256QAM	55340 (3560MHz) + 55538 (3579.8MHz)	37.666	39.69
256QAM	55891 (3615.1MHz) + 56089 (3634.9MHz)	37.682	39.72
256QAM	56442 (3670.2MHz) + 56640 (3690MHz)	37.696	39.73

Spectrum Plot of Worst Value	
Occupied bandwidth	26 dB Bandwidth
	
16QAM CH 55891 (3615.1MHz) + CH 56089 (3634.9MHz)	QPSK CH 55340 (3560MHz) + CH 55538 (3579.8MHz)

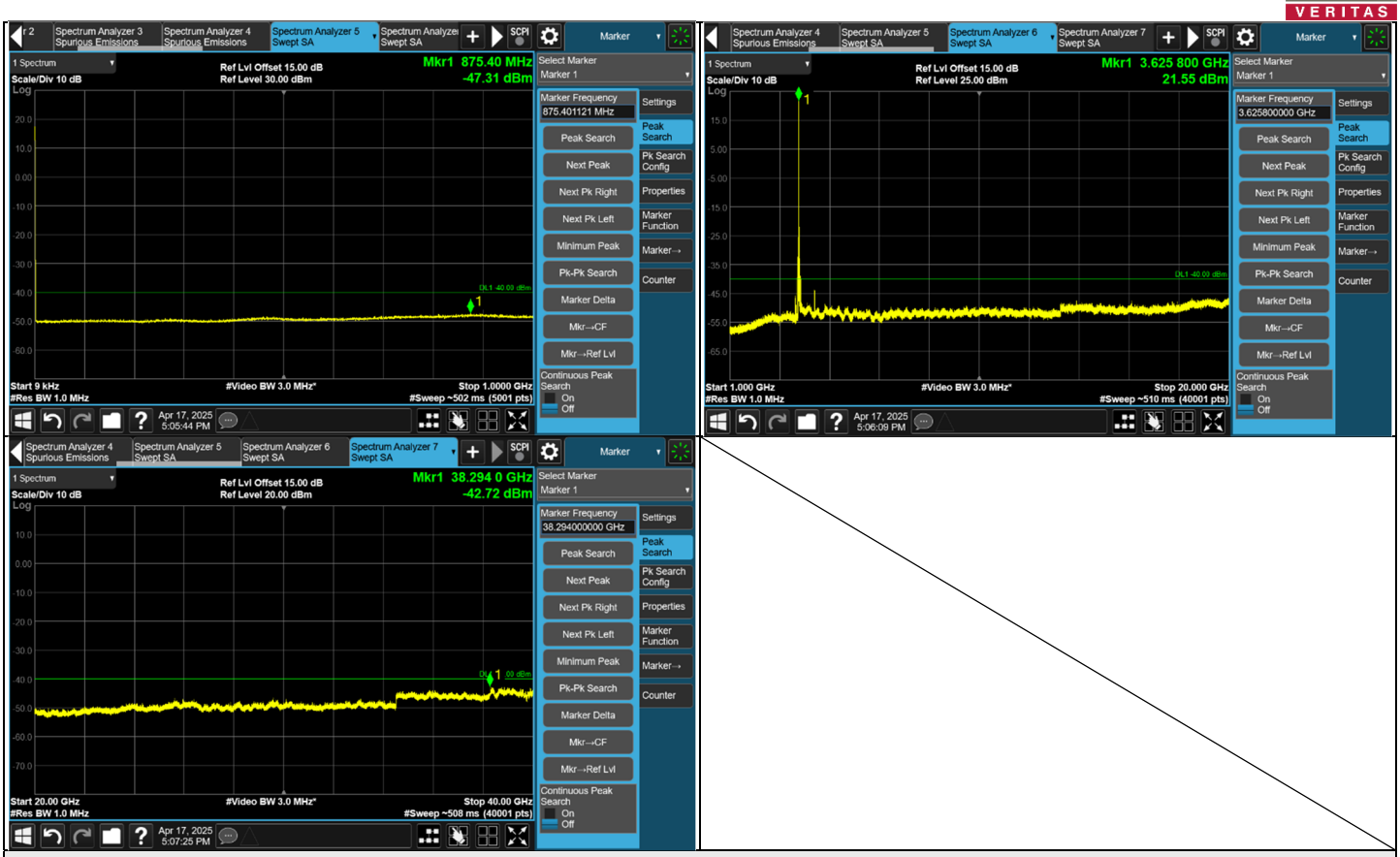
7.4 Conducted Spurious Emissions

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

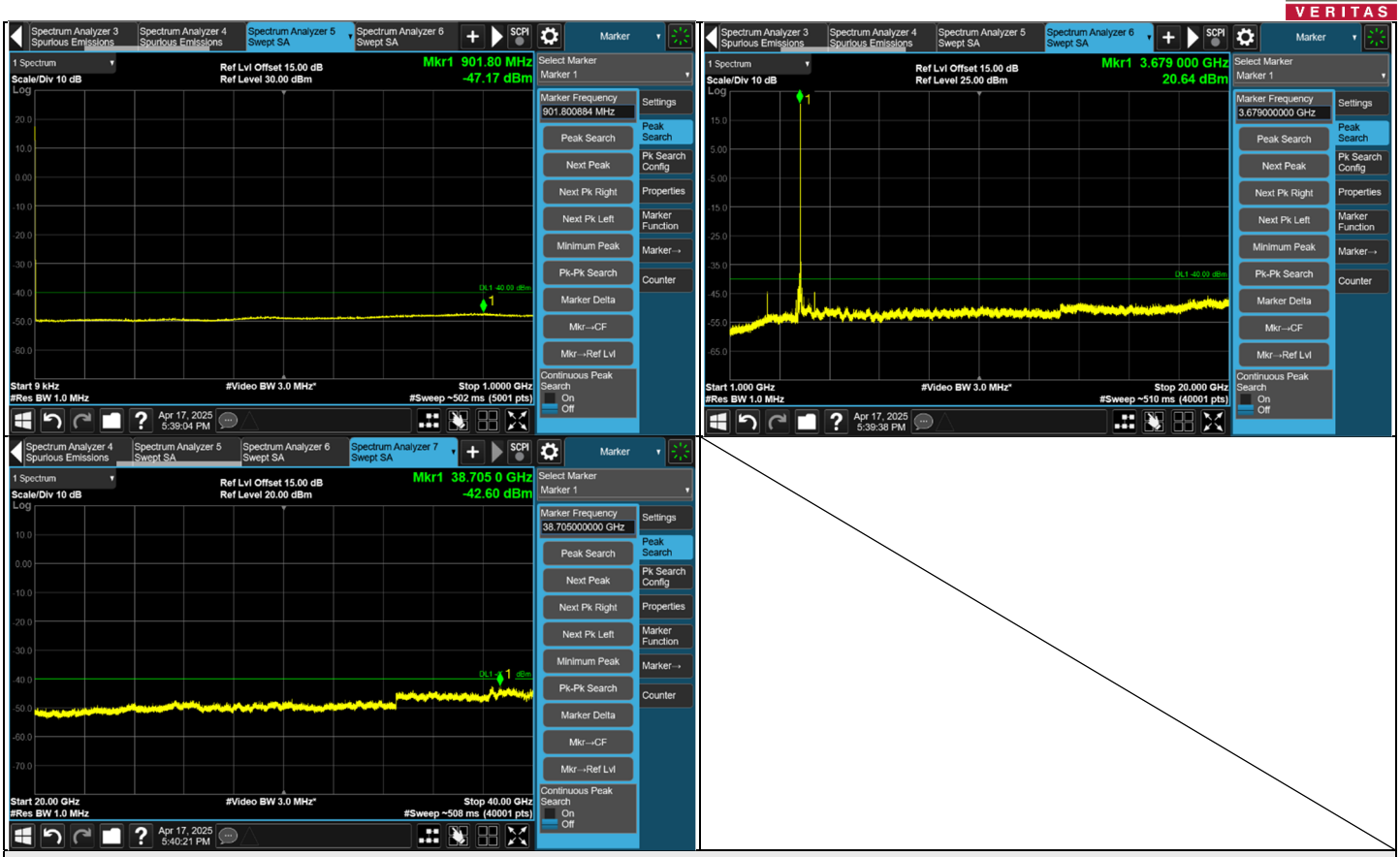
7.4.1 TE Band 48 (CA 48C)



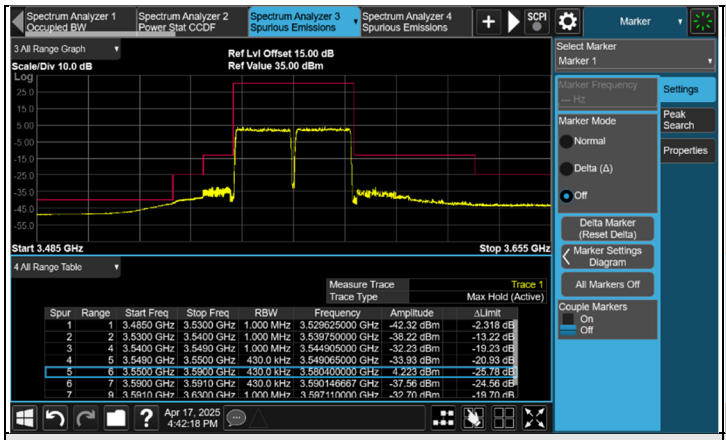
CH 55340 (3560MHz) + 55538 (3579.8MHz)



CH 55891 (3615.1MHz) + 56089 (3634.9MHz)

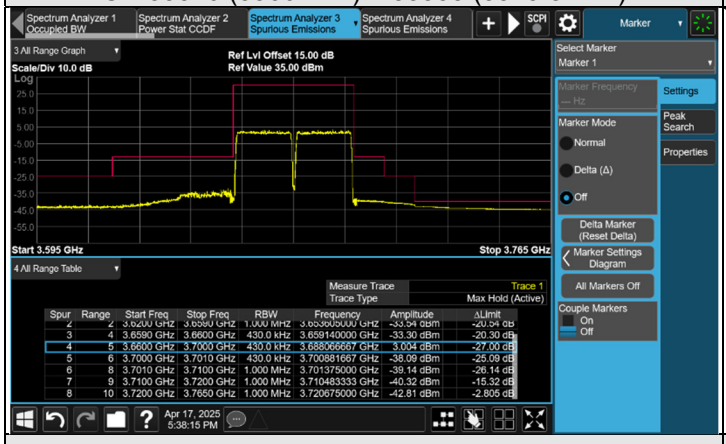


CH 56442 (3670.2MHz) + 56640 (3690MHz)

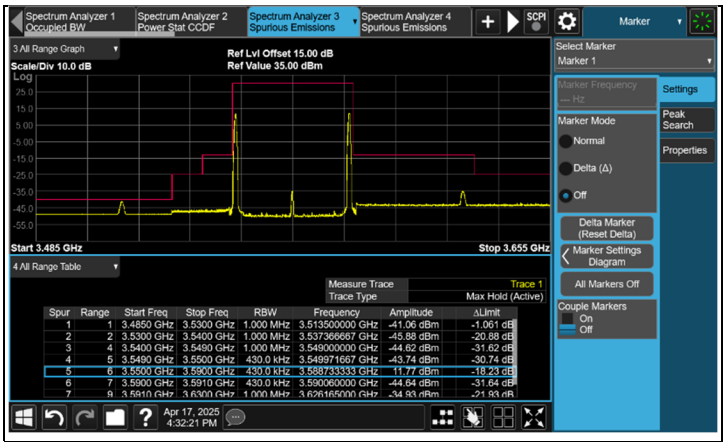


FULL
CH 55340 (3560MHz) + 55538 (3579.8MHz)

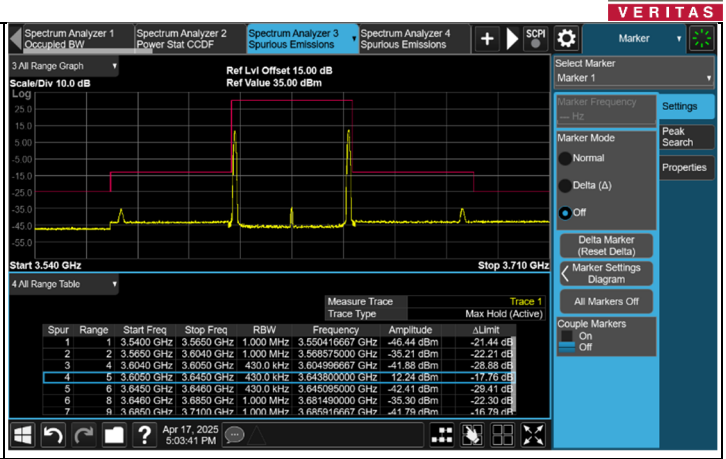
FULL
CH 55891 (3615.1MHz) + 56089 (3634.9MHz)



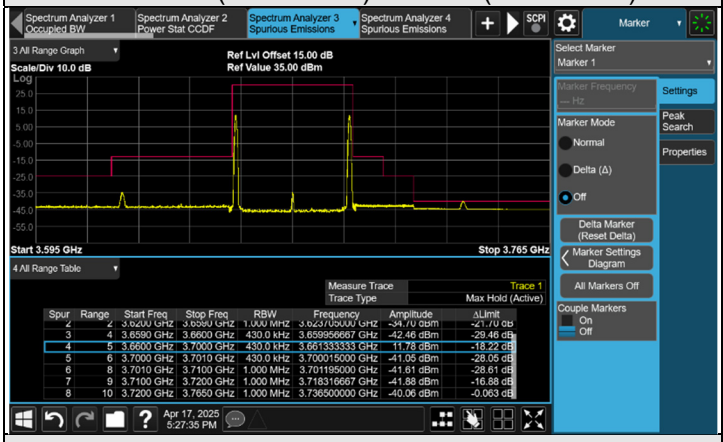
FULL
CH 56442 (3670.2MHz) + 56640 (3690MHz)



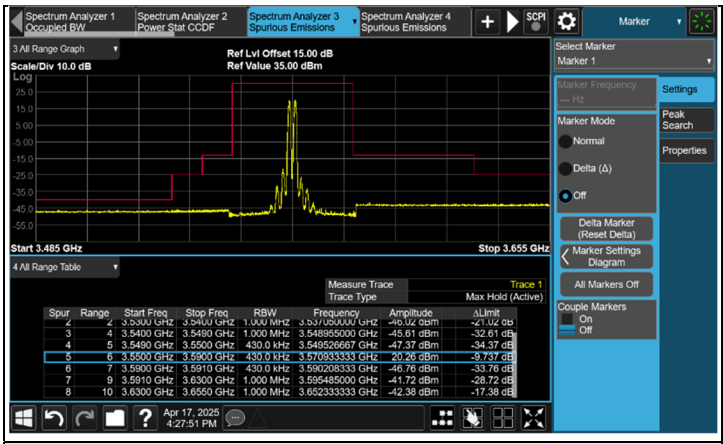
1RB / 0 RB Offset + 1 RB / 99 RB Offset
CH 55340 (3560.0MHz) + 55538 (3579.8MHz)



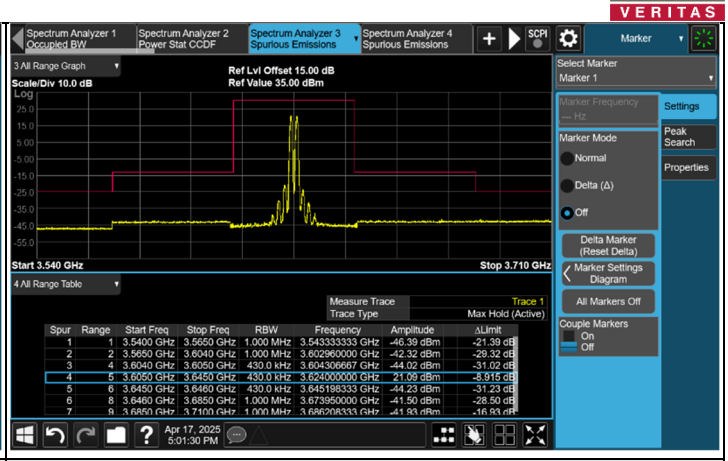
1RB / 0 RB Offset + 1 RB / 99 RB Offset
CH 55891 (3615.1MHz) + 56089 (3634.9MHz)



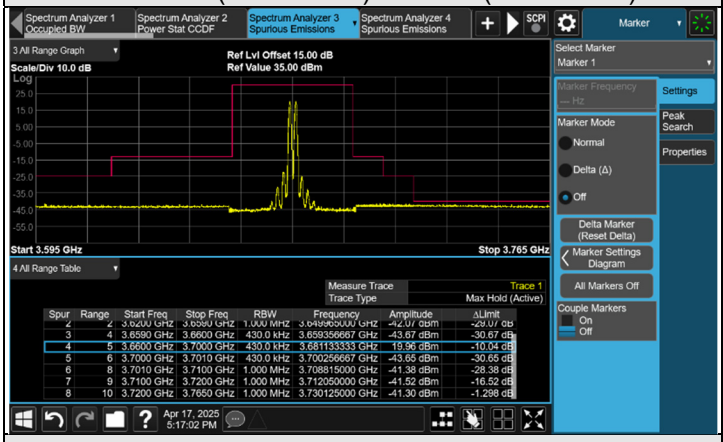
1RB / 0 RB Offset + 1 RB / 99 RB Offset
CH 56642 (3670.2MHz) + 56640 (3690.0MHz)



1RB / 99 RB Offset + 1 RB / 0 RB Offset
CH 55340 (3560.0MHz) + 55538 (3579.8MHz)



1RB / 99 RB Offset + 1 RB / 0 RB Offset
CH 55891 (3615.1MHz) + 56089 (3634.9MHz)



1RB / 99 RB Offset + 1 RB / 0 RB Offset
CH 56642 (3670.2MHz) + 56640 (3690.0MHz)

7.5 Radiated Spurious Emissions below 1GHz

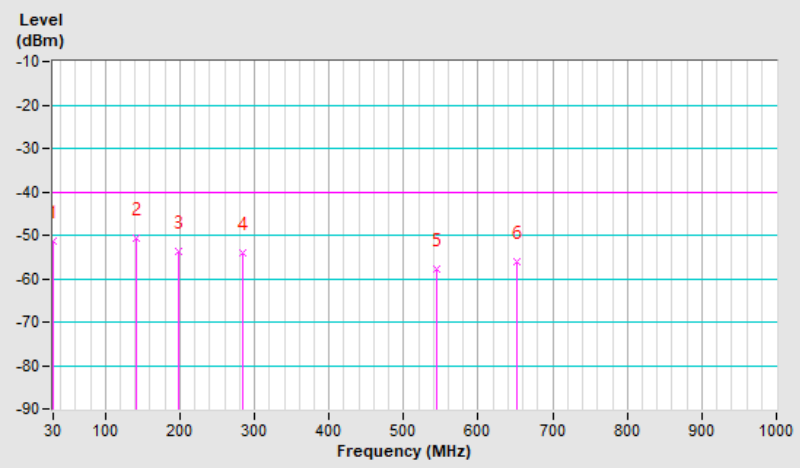
7.5.1 LTE Band 48 (CA 48C)

RF Mode	LTE Band 48 (CA 48C) Channel Bandwidth: 20MHz + 20MHz	**Channel**	CH 56442 (3670.2MHz) + CH 56640 (3690MHz)
Frequency Range	30 MHz ~ 1 GHz	**Detector Function & Bandwidth**	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	23°C, 67% RH
Tested By	Adair Peng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	30.00	-51.32	-40.00	-11.32	1.00 H	349	54.34	-105.66
2	**140.58**	**-50.62**	**-40.00**	**-10.62**	**1.00 H**	**107**	**53.59**	**-104.21**
3	197.81	-53.76	-40.00	-13.76	2.00 H	286	52.72	-106.48
4	284.14	-54.17	-40.00	-14.17	1.00 H	283	48.25	-102.42
5	545.07	-57.79	-40.00	-17.79	1.00 H	16	39.91	-97.70
6	651.77	-56.15	-40.00	-16.15	1.50 H	246	39.29	-95.44

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.

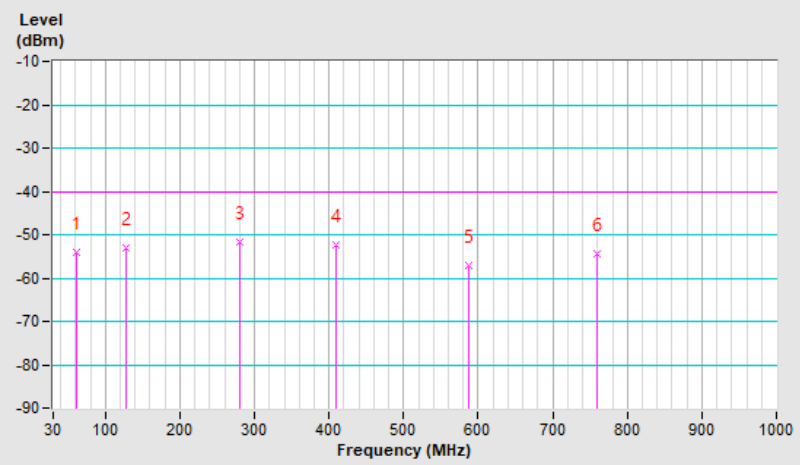


RF Mode	LTE Band 48 (CA 48C) Channel Bandwidth: 20MHz + 20MHz	**Channel**	CH 56442 (3670.2MHz) + CH 56640 (3690MHz)
Frequency Range	30 MHz ~ 1 GHz	**Detector Function & Bandwidth**	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	23°C, 67% RH
Tested By	Adair Peng		

Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	62.01	-54.01	-40.00	-14.01	1.50 V	112	51.22	-105.23
2	127.00	-53.11	-40.00	-13.11	1.50 V	112	52.33	-105.44
3	280.26	-51.85	-40.00	-11.85	1.00 V	112	50.69	-102.54
4	409.27	-52.54	-40.00	-12.54	2.00 V	115	47.66	-100.20
5	587.75	-57.05	-40.00	-17.05	1.00 V	6	39.53	-96.58
6	759.44	-54.38	-40.00	-14.38	1.00 V	61	38.76	-93.14

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit of frequency range 30 MHz ~ 1 GHz.
5. The frequency range 9 kHz ~ 30 MHz: all emissions are more than 20 dB below the limit, therefore do not be recorded in this report.



7.6 Radiated Spurious Emissions above 1GHz

7.6.1 LTE Band 48 (CA 48C)

RF Mode	LTE Band 48 (CA 48C) Channel Bandwidth: 20MHz + 20MHz	**Channel**	CH 55340：3560 MHz + CH 55538：3579.8 MHz
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	23 °C, 67% RH
Tested By	Adair Peng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	7120.00	-44.41	-40.00	-4.41	1.52 H	303	40.95	-85.36
2	7159.60	-44.40	-40.00	-4.40	1.55 H	310	40.89	-85.29
Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	7120.00	-43.43	-40.00	-3.43	3.50 V	185	41.93	-85.36
2	7159.60	-43.38	-40.00	-3.38	3.57 V	182	41.91	-85.29

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

RF Mode	LTE Band 48 (CA 48C) Channel Bandwidth: 20MHz + 20MHz	**Channel**	CH 55891：3615.1 MHz + CH 56089：3634.9 MHz
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	23 °C, 67% RH
Tested By	Adair Peng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	7230.20	-44.16	-40.00	-4.16	1.47 H	314	40.82	-84.98
2	7269.80	-44.27	-40.00	-4.27	1.50 H	310	40.88	-85.15
Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	7230.20	-43.09	-40.00	-3.09	3.46 V	191	41.89	-84.98
2	7269.80	-43.23	-40.00	-3.23	3.51 V	189	41.92	-85.15

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

RF Mode	LTE Band 48 (CA 48C) Channel Bandwidth: 20MHz + 20MHz	**Channel**	CH 56442：3670.2 MHz + CH 56640：3690 MHz
Frequency Range	1 GHz ~ 40 GHz	**Detector Function & Bandwidth**	1 MHz/3 MHz (RMS)
Input Power	120 Vac, 60 Hz	**Environmental Conditions**	23 °C, 67% RH
Tested By	Adair Peng		

Antenna Polarity & Test Distance : Horizontal at 3 m								
No	**Frequency (MHz)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	7340.40	-44.17	-40.00	-4.17	1.48 H	315	40.86	-85.03
2	7380.00	-43.88	-40.00	-3.88	1.50 H	314	40.88	-84.76
Antenna Polarity & Test Distance : Vertical at 3 m								
No	**Frequency (MHz)**	**EIRP (dBm)**	**Limit (dBm)**	**Margin (dB)**	**Antenna Height (m)**	**Table Angle (Degree)**	**Raw Value (dBuV)**	**Correction Factor (dB/m)**
1	7340.40	-43.04	-40.00	-3.04	3.58 V	187	41.99	-85.03
2	**7380.00**	**-42.83**	**-40.00**	**-2.83**	**3.60 V**	**190**	**41.93**	**-84.76**

Remarks:

1. EIRP(dBm) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + 20log(D) – 104.8
3. Margin value = EIRP – Limit value
4. The other EIRP levels were very low against the limit.

7.7 Frequency Stability

Environmental Conditions:	25°C, 67% RH	Tested By:	Noah Chang

7.7.1 LTE Band 48 (CA 48C)

Channel Bandwidth: 20 MHz+20 MHz

Frequency Stability Versus Voltage				
Voltage (Vdc)	CH 55340 (3560MHz) + CH 55538 (3579.8MHz)		CH 56442 (3670.2MHz) + CH 56640 (3690MHz)	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
3.27	3559.999998	-0.0006	3689.999998	-0.0005
3.85	3559.999999	-0.0003	3690.000001	0.0003
4.43	3559.999998	-0.0006	3690.000001	0.0003

Note: The applicant defined the normal working voltage is from 3.27 to 4.43 Vdc.

Frequency Stability Versus Temperature				
Temperature (℃)	CH 55340 (3560MHz) + CH 55538 (3579.8MHz)		CH 56442 (3670.2MHz) + CH 56640 (3690MHz)	
	Frequency (MHz)	Frequency Error (ppm)	Frequency (MHz)	Frequency Error (ppm)
-30	3559.999997	-0.0008	3689.999999	-0.0003
-20	3560.000001	0.0003	3689.999998	-0.0005
-10	3559.999999	-0.0003	3689.999997	-0.0008
0	3559.999997	-0.0008	3690.000001	0.0003
10	3560.000001	0.0003	3690.000002	0.0005
20	3559.999998	-0.0006	3689.999997	-0.0008
30	3559.999999	-0.0003	3689.999996	-0.0011
40	3560.000001	0.0003	3689.999999	-0.0003
50	3559.999999	-0.0003	3689.999997	-0.0008

8 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo)

9 Information of the Testing Laboratories

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

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

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Email: service.adt@bureauveritas.com
Web Site: http://ee.bureauveritas.com.tw

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

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