



CERTIFICATION TEST REPORT

Report Number. : 4789867826-E4V1

Applicant : SAMSUNG ELECTRONICS CO., LTD.
129 SAMSUNG-RO, YEONGTONG-GU, SUWON-SI,
GYEONGGI-DO, 16677, KOREA

Model : SM-T738U

FCC ID : A3LSMT738U

EUT Description : WCDMA/LTE/5G NR Tablet + BT/BLE, DTS/UNII a/b/g/n/ac

Test Standard(s) : FCC CFR47 PART 22 SUBPART H
FCC CFR47 PART 27 SUBPART L,M

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ACCREDITED

Testing Laboratory

TL-637

Revision History

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TABLE OF CONTENTS

1. ATTESTATION OF TEST RESULTS	4
2. TEST METHODOLOGY	5
3. FACILITIES AND ACCREDITATION	5
4. CALIBRATION AND UNCERTAINTY	6
4.1. <i>MEASURING INSTRUMENT CALIBRATION.....</i>	6
4.2. <i>SAMPLE CALCULATION.....</i>	6
4.3. <i>MEASUREMENT UNCERTAINTY</i>	6
4.4. <i>DECISION RULE</i>	6
5. EQUIPMENT UNDER TEST	7
5.1. <i>DESCRIPTION OF EUT.....</i>	7
5.2. <i>MAXIMUM OUTPUT POWER AND EIRP</i>	7
5.3. <i>DESCRIPTION OF AVAILABLE ANTENNAS</i>	10
5.4. <i>WORST-CASE ORIENTATION.....</i>	10
5.5. <i>DESCRIPTION OF TEST SETUP</i>	11
6. TEST AND MEASUREMENT EQUIPMENT	13
7. SUMMARY TABLE.....	14
8. LIMITS AND CONDUCTED RESULTS	15
8.1. <i>RF OUTPUT POWER VERIFICATION (CONDUCTED AND EIRP)</i>	15
8.2. <i>OCCUPIED BANDWIDTH.....</i>	24
8.2.1. <i>OCCUPIED BANDWIDTH RESULTS</i>	27
8.3. <i>BAND EDGE EMISSIONS</i>	39
8.3.1. <i>BAND EDGE RESULT.....</i>	40
8.4. <i>EMISSION MASK</i>	61
8.4.1. <i>EMISSION MASK RESULT</i>	62
8.5. <i>OUT OF BAND EMISSIONS.....</i>	82
8.5.1. <i>OUT OF BAND EMISSIONS RESULT.....</i>	83
9. RADIATED TEST RESULTS.....	87
9.1. <i>FIELD STRENGTH OF SPURIOUS RADIATION.....</i>	87

1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SAMSUNG ELECTRONICS CO., LTD.
EUT DESCRIPTION: WCDMA/LTE/5G NR Tablet + BT/BLE, DTS/UNII a/b/g/n/ac
MODEL NUMBER: SM-T738U
SERIAL NUMBER: 5135f051161d7ece (CONDUCTED);
5135f0517e1d7ece, 5135e169a31d7ece, R32R4004J4T,
R32R400GGAH, R32R400ALFF (RADIATED)
DATE TESTED: 2021-04-01 ~ 2021-05-26;

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 22H, 27L, 27M	Pass

UL Korea, Ltd. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL Korea, Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL Korea, Ltd. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL Korea, Ltd. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by IAS, any agency of the Federal Government, or any agency of any government.

Approved & Released For
UL Korea, Ltd. By:



Junwhan Lee
Suwon Lab Engineer
UL Korea, Ltd.

Tested By:



Sungeun Lee
Suwon Lab Engineer
UL Korea, Ltd.

2. TEST METHODOLOGY

The tests documented in this report were performed in accordance with following methods.

1. FCC CFR 47 Part 2.
2. FCC CFR 47 Part 22.
3. FCC CFR 47 Part 27.
4. ANSI TIA-603-E, 2016
5. ANSI C63.26, 2015
6. KDB 971168 D01 Power Meas License Digital Systems v03r01
7. KDB 412172 D01 Determining ERP and EIRP v01r01

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 218 Maeyeong-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16675, Korea. Line conducted emissions are measured only at the 218 address. The following table identifies which facilities were utilized for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

218 Maeyeong-ro	
<input checked="" type="checkbox"/>	Chamber 1
<input checked="" type="checkbox"/>	Chamber 2
<input type="checkbox"/>	Chamber 3

UL Korea, Ltd. is accredited by IAS, Laboratory Code TL-637. The full scope of accreditation can be viewed at <https://www.iasonline.org/wp-content/uploads/2017/05/TL-637-cert-New.pdf>.

4. CALIBRATION AND UNCERTAINTY

4.1. MEASURING INSTRUMENT CALIBRATION

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations, and is traceable to recognized national standards.

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

$EIRP = \text{PSA reading with EUT worst orientation (dBm)} + \text{Path loss (dB)} - \text{cable loss (between the SG and substitution antenna)} + \text{Substitution Antenna Factor (dBi)}$

$ERP = \text{PSA reading with EUT worst orientation (dBm)} + \text{Path loss (dB)} - \text{cable loss (between the SG and substitution antenna)}$

(Path loss = Signal generator output – PSA reading with substitution antenna)

4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Conducted Disturbance, 0.15 to 30 MHz	3.01 dB
Radiated Disturbance, 30 MHz to 1 GHz	4.26 dB
Radiated Disturbance, 1 GHz to 18 GHz	5.90 dB
Radiated Disturbance, Above 18 GHz	5.49 dB

Uncertainty figures are valid to a confidence level of 95%.

4.4. DECISION RULE

Decision rule for statement(s) of conformity is based on Procedure 1, Clause 4.4.2 in IEC Guide 115:2007.

5. EQUIPMENT UNDER TEST

5.1. DESCRIPTION OF EUT

The EUT is a WCDMA/LTE/5G NR Tablet + BT/BLE, DTS/UNII a/b/g/n/ac.
 This test report addresses the WWAN operational mode.

5.2. MAXIMUM OUTPUT POWER AND EIRP

The transmitter has a maximum average radiated EIRP output powers as follows:

LTE Band 5B (Uplink CA)

Part 22						
EIRP Limit [dBm]	38.50					
Antenna Gain [dBi]	-3.48					
Frequency Range [MHz]	Bandwidth [MHz]	Modulation	Output Power			Margin
			Conducted Average Power [dBm]	e.r.p. Average Power		
				dBm	mW	
824 ~ 849	3 + 5	QPSK	25.22	21.74	149.28	-16.76
		16QAM	24.52	21.04	127.06	-17.46
	5 + 3	QPSK	25.35	21.87	153.82	-16.63
		16QAM	24.56	21.08	128.23	-17.42
	5 + 10	QPSK	25.13	21.65	146.22	-16.85
		16QAM	24.63	21.15	130.32	-17.35
	10 + 5	QPSK	25.04	21.56	143.22	-16.94
		16QAM	24.28	20.80	120.23	-17.70
	10 + 10	QPSK	25.27	21.79	151.01	-16.71
		16QAM	24.46	20.98	125.31	-17.52

LTE Band 41C (Uplink CA)

Part 27						
EIRP Limit [dBm]	33.00					
Antenna Gain [dBi]	-1.58					
Frequency Range [MHz]	Bandwidth [MHz]	Modulation	Output Power			
			Conducted Average Power [dBm]	e.r.p. Average Power		Margin
				dBm	mW	
2496 ~ 2690	5 + 20	QPSK	24.46	22.88	194.09	-10.12
		16QAM	23.64	22.06	160.69	-10.94
	20 + 5	QPSK	24.55	22.97	198.15	-10.03
		16QAM	23.66	22.08	161.44	-10.92
	10 + 15	QPSK	24.56	22.98	198.61	-10.02
		16QAM	23.61	22.03	159.59	-10.97
	15 + 10	QPSK	24.57	22.99	199.07	-10.01
		16QAM	23.68	22.10	162.18	-10.90
	10 + 20	QPSK	24.55	22.97	198.15	-10.03
		16QAM	23.65	22.07	161.06	-10.93
	20 + 10	QPSK	24.55	22.97	198.15	-10.03
		16QAM	23.67	22.09	161.81	-10.91
	15 + 15	QPSK	24.54	22.96	197.70	-10.04
		16QAM	23.66	22.08	161.44	-10.92
	15 + 20	QPSK	24.53	22.95	197.24	-10.05
		16QAM	23.69	22.11	162.55	-10.89
	20 + 15	QPSK	24.53	22.95	197.24	-10.05
		16QAM	24.51	22.93	196.34	-10.07
	20 + 20	QPSK	24.56	22.98	198.61	-10.02
		16QAM	23.77	22.19	165.58	-10.81

LTE Band 66B (Uplink CA)

Part 27						
EIRP Limit [dBm]	30.00					
Antenna Gain [dBi]	-1.87					
Frequency Range [MHz]	Bandwidth [MHz]	Modulation	Output Power			
			Conducted Average Power [dBm]	e.r.p. Average Power		Margin
				dBm	mW	
1710 ~ 1780	5 + 5	QPSK	24.96	23.09	203.70	-6.91
		16QAM	24.22	22.35	171.79	-7.65
	5 + 10	QPSK	24.98	23.11	204.64	-6.89
		16QAM	24.30	22.43	174.98	-7.57
	10 + 5	QPSK	24.47	22.60	181.97	-7.40
		16QAM	23.97	22.10	162.18	-7.90
	5 + 15	QPSK	24.84	22.97	198.15	-7.03
		16QAM	24.41	22.54	179.47	-7.46
	15 + 5	QPSK	24.55	22.68	185.35	-7.32
		16QAM	23.88	22.01	158.85	-7.99
	10 + 10	QPSK	24.84	22.97	198.15	-7.03
		16QAM	24.21	22.34	171.40	-7.66

LTE Band 66C (Uplink CA)

Part 27						
EIRP Limit [dBm]	30.00					
Antenna Gain [dBi]	-1.87					
Frequency Range [MHz]	Bandwidth [MHz]	Modulation	Output Power			
			Conducted Average Power [dBm]	e.r.p. Average Power		Margin
				dBm	mW	
1710 ~ 1780	5 + 20	QPSK	24.58	22.71	186.64	-7.29
		16QAM	24.15	22.28	169.04	-7.72
	10 + 15	QPSK	24.43	22.56	180.30	-7.44
		16QAM	24.09	22.22	166.72	-7.78
	10 + 20	QPSK	24.62	22.75	188.36	-7.25
		16QAM	23.74	21.87	153.82	-8.13
	15 + 10	QPSK	24.31	22.44	175.39	-7.56
		16QAM	23.74	21.87	153.82	-8.13
	15 + 15	QPSK	24.28	22.41	174.18	-7.59
		16QAM	23.57	21.70	147.91	-8.30
	15 + 20	QPSK	24.23	22.36	172.19	-7.64
		16QAM	23.57	21.70	147.91	-8.30
	20 + 5	QPSK	24.38	22.51	178.24	-7.49
		16QAM	23.56	21.69	147.57	-8.31
	20 + 10	QPSK	23.83	21.96	157.04	-8.04
		16QAM	23.20	21.33	135.83	-8.67
	20 + 15	QPSK	24.13	22.26	168.27	-7.74
		16QAM	23.40	21.53	142.23	-8.47
	20 + 20	QPSK	24.14	22.27	168.66	-7.73
		16QAM	23.47	21.60	144.54	-8.40

Note. The worst-case scenario for all measurements is based on the average conducted output power measurement investigation results. It was found that QPSK and 16QAM results were worst case. Only 16QAM and 64QAM power data are listed.

5.3. DESCRIPTION OF AVAILABLE ANTENNAS

The radio utilizes a internal antenna for the [List the bands supported] with a maximum peak gain as follow:

Frequency [MHz]	Peak Gain [dBi]
LTE Band 5 824 ~ 849 MHz	-3.48
LTE Band 41 2496 ~ 2690 MHz	-1.58
LTE Band 66 1710 ~ 1780 MHz	-1.87

5.4. WORST-CASE ORIENTATION

For all LTE Bands, the worst-case scenario for all measurements is based on the average conducted output power measurement investigation results. Output power measurements were measured on QPSK, 16QAM and 64QAM modulations. It was found that QPSK and 16QAM results were worst case. All testing was performed using QPSK and 16QAM modulations to represent the worst case. However, the out of band emissions and spurious radiation were only performed on bandwidth and RB offset(with RB size 1) with the highest conducted power in QPSK.

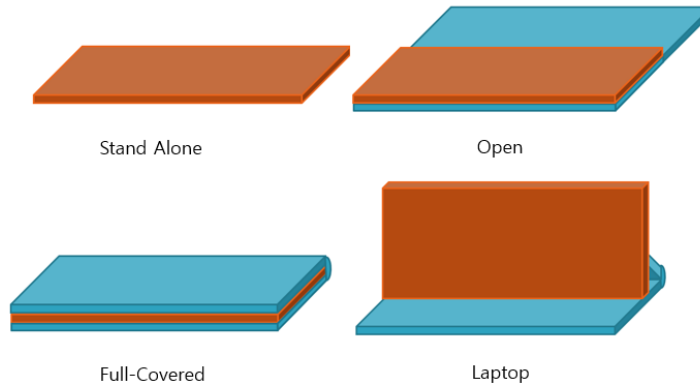
Highest power setting for each bands					
LTE Band	Component Carrier	Frequency [MHz]	Bandwidth [MHz]	RB size	RB offset
5B (Uplink CA)	PCC	826.5	5	1	24
	SCC	830.4	3	1	0
41C (Uplink CA)	PCC	2503.5	15	1	74
	SCC	2515.5	10	1	0
66B (Uplink CA)	PCC	1740.3	5	1	24
	SCC	1747.5	10	1	0
66C (Uplink CA)	PCC	1735.6	10	1	49
	SCC	1750.0	20	1	0

i. Worst Axis Condition

The fundamental and radiated spurious emission were investigated in three orthogonal orientations X, Y and Z, it was determined that below orientation was worst-case orientation for each band.

Band	RSE			
	X	Y	Z	Laptop
LTE B5B	Stand Alone	-	-	-
LTE B41C	-	-	Stand Alone	-
LTE B66B	Stand Alone	-	-	-
LTE B66C	Stand Alone	-	-	-

- ii. Foldable Condition
 The Fundamental of the EUT was investigated four foldable conditions(Stand Alone, , Open, Full-Coverd, Laptop).



The EUT is continuously communicated with the call box during the tests.

5.5. DESCRIPTION OF TEST SETUP

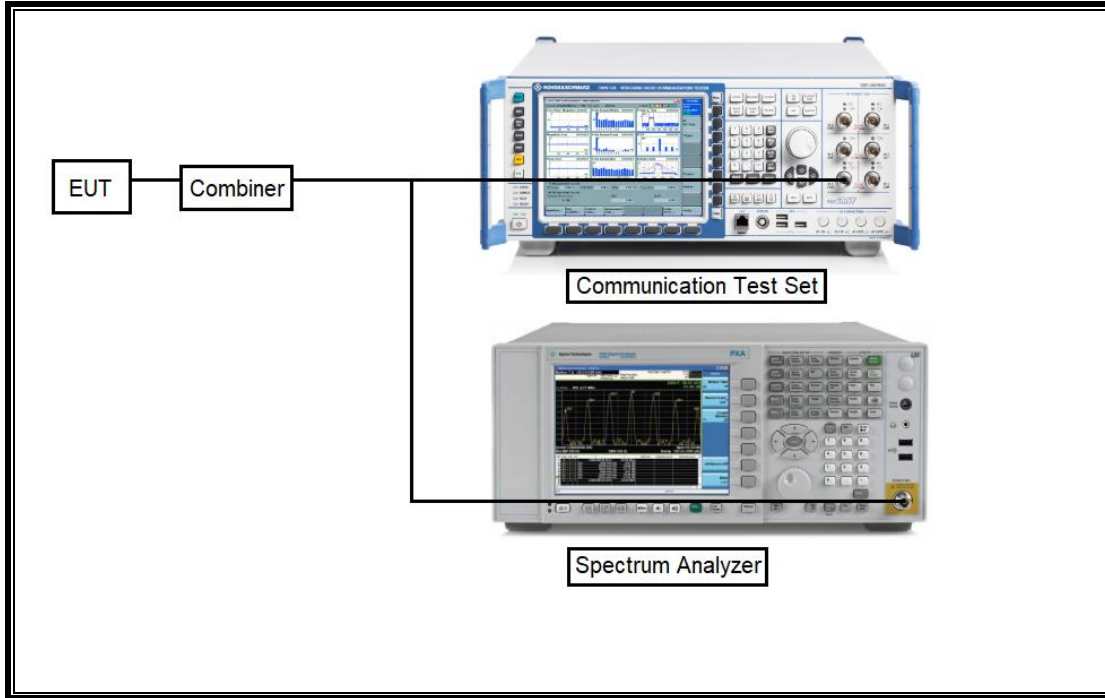
SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
Charger	SAMSUNG	EP-TA200	R37N5GR6871SE3	N/A
Data Cable	SAMSUNG	EP-DT725BBE	N/A	N/A

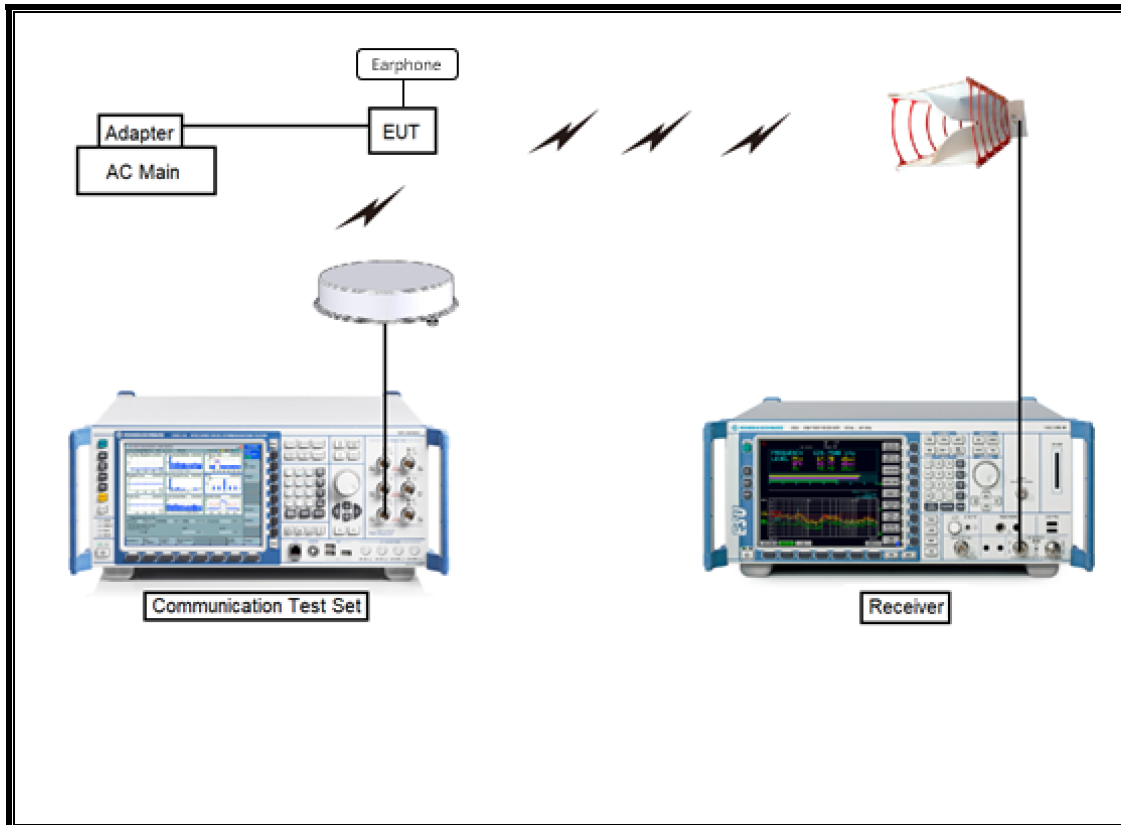
I/O CABLE

I/O Cable List						
Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	DC Power	1	C Type	Shielded	1.0 m	N/A

SETUP DIAGRAM FOR TESTS (CONDUCTED TEST SETUP)



SETUP DIAGRAM FOR TESTS (RADIATED TEST SETUP)



6. TEST AND MEASUREMENT EQUIPMENT

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

Test Equipment List				
Description	Manufacturer	Model	S/N	Cal Due
Antenna, Tuned Dipole 400 ~ 1000 MHz	ETS	3121DDB4	00164753	02-08-23
Antenna, Loop, 9kHz ~ 30MHz	R&S	HFH2-Z2	100418	10-02-21
Directional Antenna	Cobham	FPA3-0.8.6.0R/1329	110367-0003	N/A
Directional Antenna	Cobham	FPA3-0.8.6.0R/1329	80108-0004	N/A
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	750	08-19-22
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	749	08-13-22
Antenna, Bilog, 30MHz-1GHz	SCHWARZBECK	VULB9163	845	08-13-22
Antenna, Horn, 18 GHz	ETS	3115	00167211	07-27-22
Antenna, Horn, 18 GHz	ETS	3115	00161451	08-15-22
Antenna, Horn, 18 GHz	ETS	3117	00168724	07-27-22
Antenna, Horn, 18 GHz	ETS	3117	00168717	08-15-22
Antenna, Horn, 40 GHz	ETS	3116C	00166155	08-04-22
Antenna, Horn, 40 GHz	ETS	3116C	00168645	10-02-21
Preamplifier	ETS	3116C-PA	00168841	08-06-21
Communications Test set	R&S	CMW500	150314	08-04-21
DC Power Supply	Agilent / HP	E3640A	MY54226395	08-05-21
Preamplifier, 1000 MHz	Sonoma	310N	341282	08-03-21
Preamplifier, 1000 MHz	Sonoma	310N	351741	08-03-21
Preamplifier, 1000 MHz	Sonoma	310N	370599	08-06-21
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	1876511	08-03-21
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	1896138	08-03-21
Preamplifier, 18 GHz	Miteq	AFS42-00101800-25-S-42	2029169	08-04-21
Spectrum Analyzer, 44 GHz	Agilent / HP	N9030A	MY54170614	08-05-21
EMI Test Receive, 40 GHz	R&S	ESU40	100439	08-03-21
EMI Test Receive, 40 GHz	R&S	ESU40	100457	08-03-21
High Pass Filter 1.2 GHz	Micro-Tronics	HPM50108-02	G005	08-05-21
High Pass Filter 1.2 GHz	Micro-Tronics	HPM50108-02	G006	08-05-21
High Pass Filter 2.8 GHz	Micro-Tronics	HPM50111-02	010	08-05-21
High Pass Filter 2.8 GHz	Micro-Tronics	HPM50111-02	011	08-05-21
High Pass Filter 4.0 GHz	Micro-Tronics	HPM50118-02	G001	08-05-21
High Pass Filter 4.0 GHz	Micro-Tronics	HPM50118-02	G006	08-05-21
Attenuator	PASTERNAK	PE7087-10	A001	08-03-21
Attenuator	PASTERNAK	PE7087-10	A008	08-03-21
Attenuator	PASTERNAK	PE7087-10	A009	08-03-21
Attenuator	PASTERNAK	PE7004-10	2	08-04-21
Attenuator	PASTERNAK	PE395-10	A011	08-05-21
Power Splitter	MINI-CIRCUITS	WA1534	UL001	01-27-22
Temperature Chamber	ESPEC	SH-642	93001109	08-04-21
Power Splitter	MINI-CIRCUITS	WA1534	UL001	01-27-22
Power Splitter	MINI-CIRCUITS	WA1534	UL002	01-27-22
UL Software				
Description	Manufacturer	Model	Version	
Antenna port test software	UL	CLT	Ver 2.5	
Radiated software	UL	UL EMC	Ver 9.5	

7. SUMMARY TABLE

FCC Part Section	Test Description	Test Limit	Test Condition	Test Result
2.1049	Occupied Bandwidth(99%)	N/A	Conducted	Pass
22.917(a) 27.53(h)	Band Edge / Conducted Spurious Emission	-13 dBm		Pass
27.53(m)	Conducted Spurious Emission	-25 dBm		Pass
27.53(m)	Emission mask	Section 9.2.2.		Pass
2.1046	Conducted output power	N/A		Pass
22.913(a)	Effective Radiated Power	38.5 dBm	Radiated	Pass
27.50(h)(2)	Equivalent Isotropic Radiated Power	33 dBm		Pass
27.50(d)(4)		30 dBm		Pass
22.917(a) 27.53(h)	Radiated Spurious Emission	-13 dBm		Pass
27.53(m)		-25 dBm		Pass

8. LIMITS AND CONDUCTED RESULTS

8.1. RF OUTPUT POWER VERIFICATION (CONDUCTED AND EIRP)

Rule Part(s)

FCC: §2.1046, §22.913 and §27.50

Limit

§22.913(a) - The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 Watts.

§27.50(h)

(h) The following power limits shall apply in the BRS and EBS:

(2) Mobile and other user stations. Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.

§27.50(d)

(d) The following power and antenna height requirements apply to stations transmitting in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz and 2180-2200 MHz bands:

(4) Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP. Fixed stations operating in the 1710-1755 MHz band are limited to a maximum antenna height of 10 meters above ground. Mobile and portable stations operating in these bands must employ a means for limiting power to the minimum necessary for successful communications.

Test Procedure

TIA-603-E Clause 2.2.17
KDB 971168 Section 5.6

$$\text{ERP/EIRP} = P_{\text{Meas}} + G_{\text{T}} - L_{\text{C}}$$

where:

ERP/EIRP = effective or equivalent radiated power, respectively (expressed in the same units as P_{Meas} , typically dBW or dBm);

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);

L_{C} = signal attenuation in the connecting cable between the transmitter and antenna, in dB.2

RESULTS

EUT includes different power levels for head use configuration and body use configuration and the below tables contain the highest of all configurations average conducted and ERP/EIRP output powers as follows:

OUTPUT POWER FOR LTE BAND 5B (3 MHz + 5 MHz)

Antenna Gain [dBi]	-3.48								
Bandwidth	PCC Frequency [MHz]	SCC1 Frequency [MHz]	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average Power [dBm]		
			Size	Offset	Size	Offset	QPSK	16QAM	
3MHz / 5MHz	825.6	829.5	1	14	1	0	25.06	24.26	
			1	0	1	24	15.24	15.36	
			15	0	25	0	25.16	24.42	
	834.1	838.0	1	14	1	0	25.22	24.52	
			1	0	1	24	14.88	15.45	
			15	0	25	0	25.22	24.45	
	842.6	846.5	1	14	1	0	24.94	24.13	
			1	0	1	24	15.34	15.31	
			15	0	25	0	24.89	24.12	

OUTPUT POWER FOR LTE BAND 5B (5 MHz + 3 MHz)

Antenna Gain [dBi]	-3.48								
Bandwidth	PCC Frequency [MHz]	SCC1 Frequency [MHz]	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average Power [dBm]		
			Size	Offset	Size	Offset	QPSK	16QAM	
5MHz / 3MHz	826.5	830.4	1	24	1	0	25.35	24.53	
			1	0	1	14	15.31	15.33	
			25	0	15	0	25.07	24.44	
	835.0	838.9	1	24	1	0	24.93	24.56	
			1	0	1	14	15.25	15.34	
			25	0	15	0	25.34	24.35	
	843.5	847.4	1	24	1	0	24.62	24.14	
			1	0	1	14	15.26	15.29	
			25	0	15	0	24.84	24.00	

OUTPUT POWER FOR LTE BAND 5B (5 MHz + 10 MHz)

Antenna Gain [dBi]	-3.48								
Bandwidth	PCC Frequency [MHz]	SCC1 Frequency [MHz]	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average Power [dBm]		
			Size	Offset	Size	Offset	QPSK	16QAM	
5MHz / 10MHz	826.8	834.0	1	24	1	0	24.89	24.63	
			1	0	1	49	15.26	15.28	
			25	0	50	0	23.25	22.34	
	831.8	839.0	1	24	1	0	25.13	24.21	
			1	0	1	49	15.09	15.37	
			25	0	50	0	23.14	22.30	
	836.8	844.0	1	24	1	0	25.12	24.23	
			1	0	1	49	15.10	15.45	
			25	0	50	0	23.21	22.32	

OUTPUT POWER FOR LTE BAND 5B (10 MHz + 5 MHz)

Antenna Gain [dBi]	-3.48								
Bandwidth	PCC Frequency [MHz]	SCC1 Frequency [MHz]	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average Power [dBm]		
			Size	Offset	Size	Offset	QPSK	16QAM	
10MHz / 5MHz	829.0	836.2	1	49	1	0	24.87	24.18	
			1	0	1	24	15.33	15.56	
			50	0	25	0	23.21	22.05	
	834.0	841.2	1	49	1	0	25.04	24.28	
			1	0	1	24	15.16	15.28	
			50	0	25	0	23.21	22.29	
	839.0	846.2	1	49	1	0	24.84	24.06	
			1	0	1	24	15.13	15.32	
			50	0	25	0	23.24	22.23	

OUTPUT POWER FOR LTE BAND 5B (10 MHz + 10 MHz)

Antenna Gain [dBi]	-3.48								
Bandwidth	PCC Frequency [MHz]	SCC1 Frequency [MHz]	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average Power [dBm]		
			Size	Offset	Size	Offset	QPSK	16QAM	
10MHz / 10MHz	829.0	838.9	1	49	1	0	24.94	24.35	
			1	0	1	49	14.82	14.85	
			50	0	50	0	23.19	22.20	
	831.6	841.5	1	49	1	0	25.27	24.46	
			1	0	1	49	14.84	14.83	
			50	0	50	0	23.19	22.24	
	834.1	844.0	1	49	1	0	25.09	24.31	
			1	0	1	49	14.74	14.65	
			50	0	50	0	23.21	22.18	

OUTPUT POWER FOR LTE BAND 41C (5 MHz + 20 MHz)

Antenna Gain [dBi]	-1.58								
Bandwidth	PCC Frequency [MHz]	SCC1 Frequency [MHz]	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average Power [dBm]		
			Size	Offset	Size	Offset	QPSK	16QAM	
5MHz / 20MHz	2499.3	2511	1	24	1	0	24.46	23.64	
			1	0	1	99	15.90	16.20	
			25	0	100	0	22.51	21.58	
	2583.8	2595.5	1	24	1	0	24.24	23.40	
			1	0	1	99	15.72	15.82	
			25	0	100	0	22.29	21.27	
	2668.3	2680	1	24	1	0	24.04	23.38	
			1	0	1	99	15.62	15.86	
			25	0	100	0	22.19	21.15	

OUTPUT POWER FOR LTE BAND 41C (20 MHz + 5 MHz)

Antenna Gain [dBi]	-1.58								
Bandwidth	PCC Frequency [MHz]	SCC1 Frequency [MHz]	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average Power [dBm]		
			Size	Offset	Size	Offset	QPSK	16QAM	
20MHz / 5MHz	2506	2517.7	1	99	1	0	24.55	23.66	
			1	0	1	24	15.89	16.04	
			100	0	25	0	22.55	21.56	
	2590.5	2602.2	1	99	1	0	24.41	23.57	
			1	0	1	24	15.69	15.89	
			100	0	25	0	22.40	21.41	
	2675	2686.7	1	99	1	0	24.19	23.42	
			1	0	1	24	15.63	15.77	
			100	0	25	0	22.25	21.24	

OUTPUT POWER FOR LTE BAND 41C (10 MHz + 15 MHz)

Antenna Gain [dBi]	-1.58								
Bandwidth	PCC Frequency [MHz]	SCC1 Frequency [MHz]	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average Power [dBm]		
			Size	Offset	Size	Offset	QPSK	16QAM	
10MHz / 15MHz	2501.3	2513.3	1	49	1	0	24.56	23.61	
			1	0	1	74	15.96	16.14	
			50	0	75	0	22.57	21.55	
	2585.9	2597.9	1	49	1	0	24.33	23.44	
			1	0	1	74	15.62	15.77	
			50	0	75	0	22.32	21.35	
	2670.5	2682.5	1	49	1	0	24.11	23.28	
			1	0	1	74	15.65	15.78	
			50	0	75	0	22.19	21.20	

OUTPUT POWER FOR LTE BAND 41C (15 MHz + 10 MHz)

Antenna Gain [dBi]	-1.58							
Bandwidth	PCC Frequency [MHz]	SCC1 Frequency [MHz]	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average Power [dBm]	
			Size	Offset	Size	Offset	QPSK	16QAM
15MHz / 10MHz	2503.5	2515.5	1	74	1	0	24.57	23.68
			1	0	1	49	15.98	15.93
			75	0	50	0	22.54	21.59
	2588.1	2600.1	1	74	1	0	24.32	23.39
			1	0	1	49	15.67	15.78
			75	0	50	0	22.39	21.42
	2672.7	2684.7	1	74	1	0	24.22	23.25
			1	0	1	49	15.68	15.72
			75	0	50	0	22.21	21.24

OUTPUT POWER FOR LTE BAND 41C (10 MHz + 20 MHz)

Antenna Gain [dBi]	-1.58							
Bandwidth	PCC Frequency [MHz]	SCC1 Frequency [MHz]	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average Power [dBm]	
			Size	Offset	Size	Offset	QPSK	16QAM
10MHz / 20MHz	2501.5	2515.9	1	49	1	0	24.55	23.62
			1	0	1	99	15.87	15.95
			50	0	100	0	22.55	21.53
	2583.6	2598	1	49	1	0	24.31	23.65
			1	0	1	99	15.57	15.74
			50	0	100	0	22.30	21.32
	2665.6	2680	1	49	1	0	24.14	23.25
			1	0	1	99	15.66	15.79
			50	0	100	0	22.25	21.26

OUTPUT POWER FOR LTE BAND 41C (20 MHz + 10 MHz)

Antenna Gain [dBi]	-1.58							
Bandwidth	PCC Frequency [MHz]	SCC1 Frequency [MHz]	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average Power [dBm]	
			Size	Offset	Size	Offset	QPSK	16QAM
20MHz / 10MHz	2506	2520.4	1	99	1	0	24.55	23.67
			1	0	1	49	15.82	16.13
			100	0	50	0	22.59	21.57
	2588.1	2602.5	1	99	1	0	24.38	23.32
			1	0	1	49	15.66	15.71
			100	0	50	0	22.38	21.39
	2670.1	2684.5	1	99	1	0	24.23	23.47
			1	0	1	49	15.68	15.74
			100	0	50	0	22.25	21.26

OUTPUT POWER FOR LTE BAND 41C (15 MHz + 15 MHz)

Antenna Gain [dBi]	-1.58							
Bandwidth	PCC Frequency [MHz]	SCC1 Frequency [MHz]	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average Power [dBm]	
			Size	Offset	Size	Offset	QPSK	16QAM
15MHz / 15MHz	2503.5	2518.5	1	74	1	0	24.54	23.49
			1	0	1	74	15.78	15.91
			75	0	75	0	22.54	21.54
	2585.5	2600.5	1	74	1	0	24.32	23.66
			1	0	1	74	15.59	15.75
			75	0	75	0	22.36	21.35
	2667.5	2682.5	1	74	1	0	24.19	23.26
			1	0	1	74	15.64	15.81
			75	0	75	0	22.24	21.26

OUTPUT POWER FOR LTE BAND 41C (15 MHz + 20 MHz)

Antenna Gain [dBi]	-1.58							
Bandwidth	PCC Frequency [MHz]	SCC1 Frequency [MHz]	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average Power [dBm]	
			Size	Offset	Size	Offset	QPSK	16QAM
15MHz / 20MHz	2503.8	2520.9	1	74	1	0	24.53	23.69
			1	0	1	99	15.65	15.68
			75	0	100	0	22.43	21.43
	2583.3	2600.4	1	74	1	0	24.26	23.35
			1	0	1	99	15.42	15.52
			75	0	100	0	22.23	21.22
	2662.9	2680	1	74	1	0	24.13	23.36
			1	0	1	99	15.57	15.58
			75	0	100	0	22.19	21.21

OUTPUT POWER FOR LTE BAND 41C (20 MHz + 15 MHz)

Antenna Gain [dBi]	-1.58							
Bandwidth	PCC Frequency [MHz]	SCC1 Frequency [MHz]	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average Power [dBm]	
			Size	Offset	Size	Offset	QPSK	16QAM
20MHz / 15MHz	2506	2523.1	1	99	1	0	24.53	23.67
			1	0	1	74	15.65	15.96
			100	0	75	0	24.53	24.51
	2585.6	2602.7	1	99	1	0	24.29	23.68
			1	0	1	74	15.41	15.57
			100	0	75	0	24.30	24.34
	2665.1	2682.2	1	99	1	0	24.15	23.27
			1	0	1	74	15.53	15.72
			100	0	75	0	24.21	23.84

OUTPUT POWER FOR LTE BAND 41C (20 MHz + 20 MHz)

Antenna Gain [dBi]	-1.58							
Bandwidth	PCC Frequency [MHz]	SCC1 Frequency [MHz]	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average Power [dBm]	
			Size	Offset	Size	Offset	QPSK	16QAM
20MHz / 20MHz	2506	2525.8	1	99	1	0	24.56	23.77
			1	0	1	99	15.55	15.89
			100	0	100	0	22.49	21.50
	2583.1	2602.9	1	99	1	0	24.25	23.52
			1	0	1	99	15.24	15.46
			100	0	100	0	22.21	21.22
	2660.2	2680	1	99	1	0	24.14	23.32
			1	0	1	99	15.50	15.66
			100	0	100	0	22.18	21.21

OUTPUT POWER FOR LTE BAND 66B (5 MHz + 5 MHz)

Antenna Gain [dBi]	-1.87							
Bandwidth	PCC Frequency [MHz]	SCC1 Frequency [MHz]	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average Power [dBm]	
			Size	Offset	Size	Offset	QPSK	16QAM
5MHz / 5MHz	1712.5	1717.3	1	24	1	0	24.52	23.73
			1	0	1	24	20.88	21.02
			25	0	25	0	23.10	22.29
	1742.6	1747.4	1	24	1	0	24.96	24.22
			1	0	1	24	21.45	22.00
			25	0	25	0	23.56	22.56
	1772.7	1777.5	1	24	1	0	24.53	23.77
			1	0	1	24	21.09	21.19
			25	0	25	0	23.18	22.40

OUTPUT POWER FOR LTE BAND 66B (5 MHz + 10 MHz)

Antenna Gain (dBi)	-1.87							
Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average Power (dBm)	
			Size	Offset	Size	Offset	QPSK	16QAM
5MHz / 10MHz	1712.8	1720.0	1	24	1	0	24.38	23.68
			1	0	1	49	14.90	15.43
			25	0	50	0	22.74	21.95
	1740.3	1747.5	1	24	1	0	24.98	24.30
			1	0	1	49	15.26	15.55
			25	0	50	0	23.50	22.51
	1767.8	1775.0	1	24	1	0	24.30	23.97
			1	0	1	49	15.10	15.73
			25	0	50	0	23.26	22.31

OUTPUT POWER FOR LTE BAND 66B (10 MHz + 5 MHz)

Antenna Gain (dBi)	-1.87							
Bandwidth	PCC Frequency (MHz)	SCC1 Frequency (MHz)	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average Power (dBm)	
			Size	Offset	Size	Offset	QPSK	16QAM
10MHz/5MHz	1715.0	1722.2	1	49	1	0	24.04	23.51
			1	0	1	24	15.50	15.08
			50	0	25	0	22.72	21.85
	1742.5	1749.7	1	49	1	0	24.47	23.97
			1	0	1	24	15.23	15.40
			50	0	25	0	23.44	22.43
	1770.0	1777.2	1	49	1	0	24.45	23.86
			1	0	1	24	15.02	15.42
			50	0	25	0	23.01	22.04

OUTPUT POWER FOR LTE BAND 66B (5 MHz + 15 MHz)

Antenna Gain (dBi)	-1.87							
Bandwidth	PCC Frequency [MHz]	SCC1 Frequency [MHz]	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average Power [dBm]	
			Size	Offset	Size	Offset	QPSK	16QAM
5MHz/15MHz	1713.0	1722.3	1	24	1	0	24.24	23.71
			1	0	1	74	20.74	21.16
			25	0	75	0	22.83	21.99
	1738.1	1747.4	1	24	1	0	24.84	24.41
			1	0	1	74	21.84	21.50
			25	0	75	0	23.40	22.41
	1763.2	1772.5	1	24	1	0	24.49	23.86
			1	0	1	74	20.93	21.13
			25	0	75	0	23.13	22.33

OUTPUT POWER FOR LTE BAND 66B (15 MHz + 5 MHz)

Antenna Gain [dBi]	-1.87							
Bandwidth	PCC Frequency [MHz]	SCC1 Frequency [MHz]	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average Power [dBm]	
			Size	Offset	Size	Offset	QPSK	16QAM
15MHz/5MHz	1717.5	1726.8	1	74	1	0	24.55	23.85
			1	0	1	24	20.75	20.86
			75	0	25	0	22.93	22.04
	1742.6	1751.9	1	74	1	0	24.39	23.88
			1	0	1	24	21.50	21.76
			75	0	25	0	22.40	22.32
	1767.7	1777.0	1	74	1	0	24.13	23.51
			1	0	1	24	21.10	20.96
			75	0	25	0	23.04	22.30

OUTPUT POWER FOR LTE BAND 66B (10 MHz + 10 MHz)

Antenna Gain [dBi]	-1.87							
Bandwidth	PCC Frequency [MHz]	SCC1 Frequency [MHz]	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average Power [dBm]	
			Size	Offset	Size	Offset	QPSK	16QAM
10MHz/10MHz	1715.0	1724.9	1	49	1	0	24.52	24.08
			1	0	1	49	14.50	14.69
			50	0	50	0	22.95	21.96
	1740.1	1750.0	1	49	1	0	24.68	24.21
			1	0	1	49	14.38	15.16
			50	0	50	0	22.46	22.45
	1765.1	1775.0	1	49	1	0	24.84	23.83
			1	0	1	49	14.80	14.46
			50	0	50	0	23.27	22.35

OUTPUT POWER FOR LTE BAND 66C (5 MHz + 20 MHz)

Antenna Gain [dBi]	-1.87							
Bandwidth	PCC Frequency [MHz]	SCC1 Frequency [MHz]	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average Power [dBm]	
			Size	Offset	Size	Offset	QPSK	16QAM
5MHz / 20MHz	1713.3	1725.0	1	24	1	0	23.65	23.04
			1	0	1	99	17.10	17.34
			25	0	100	0	22.31	21.42
	1735.8	1747.5	1	24	1	0	24.58	24.15
			1	0	1	99	16.97	17.65
			25	0	100	0	22.94	22.23
	1758.3	1770.0	1	24	1	0	23.91	23.21
			1	0	1	99	17.13	17.36
			25	0	100	0	22.83	21.88

OUTPUT POWER FOR LTE BAND 66C (10 MHz + 15 MHz)

Antenna Gain [dBi]	-1.87							
Bandwidth	PCC Frequency [MHz]	SCC1 Frequency [MHz]	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average Power [dBm]	
			Size	Offset	Size	Offset	QPSK	16QAM
10MHz / 15MHz	1715.3	1727.3	1	49	1	0	23.60	22.93
			1	0	1	74	17.08	17.04
			50	0	75	0	22.35	21.46
	1737.9	1749.9	1	49	1	0	24.43	24.09
			1	0	1	74	17.17	17.21
			50	0	75	0	22.90	22.07
	1760.5	1772.5	1	49	1	0	24.07	23.40
			1	0	1	74	17.17	17.40
			50	0	75	0	22.90	21.93

OUTPUT POWER FOR LTE BAND 66C (10 MHz + 20 MHz)

Antenna Gain [dBi]	-1.87							
Bandwidth	PCC Frequency [MHz]	SCC1 Frequency [MHz]	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average Power [dBm]	
			Size	Offset	Size	Offset	QPSK	16QAM
10MHz / 20MHz	1715.5	1729.9	1	49	1	0	23.82	23.21
			1	0	1	99	16.95	17.08
			50	0	100	0	22.42	21.54
	1735.6	1750.0	1	49	1	0	24.62	23.74
			1	0	1	99	16.94	17.24
			50	0	100	0	23.00	22.03
	1755.6	1770.0	1	49	1	0	24.06	23.49
			1	0	1	99	17.11	17.28
			50	0	100	0	22.70	21.90

OUTPUT POWER FOR LTE BAND 66C (15 MHz + 10 MHz)

Antenna Gain [dBi]	-1.87							
Bandwidth	PCC Frequency [MHz]	SCC1 Frequency [MHz]	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average Power [dBm]	
			Size	Offset	Size	Offset	QPSK	16QAM
15MHz / 10MHz	1717.5	1729.5	1	74	1	0	23.72	23.23
			1	0	1	49	17.00	17.37
			75	0	50	0	22.65	21.69
	1740.1	1752.1	1	74	1	0	24.31	23.74
			1	0	1	49	17.15	17.20
			75	0	50	0	22.82	22.05
	1762.7	1774.7	1	74	1	0	23.94	23.17
			1	0	1	49	17.02	17.34
			75	0	50	0	22.69	21.70

OUTPUT POWER FOR LTE BAND 66C (15 MHz + 15 MHz)

Antenna Gain [dBi]	-1.87							
Bandwidth	PCC Frequency [MHz]	SCC1 Frequency [MHz]	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average Power [dBm]	
			Size	Offset	Size	Offset	QPSK	16QAM
15MHz / 15MHz	1717.5	1732.5	1	74	1	0	23.78	23.11
			1	0	1	74	16.94	17.14
			75	0	75	0	22.32	21.47
	1737.5	1752.5	1	74	1	0	24.28	23.57
			1	0	1	74	16.75	17.30
			75	0	75	0	23.04	22.14
	1757.5	1772.5	1	74	1	0	24.08	23.33
			1	0	1	74	16.96	17.06
			75	0	75	0	22.68	21.87

OUTPUT POWER FOR LTE BAND 66C (15 MHz + 20 MHz)

Antenna Gain [dBi]	-1.87							
Bandwidth	PCC Frequency [MHz]	SCC1 Frequency [MHz]	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average Power [dBm]	
			Size	Offset	Size	Offset	QPSK	16QAM
15MHz / 20MHz	1717.8	1734.9	1	74	1	0	23.70	23.21
			1	0	1	99	16.77	16.91
			75	0	100	0	22.38	21.46
	1735.3	1752.4	1	74	1	0	24.23	23.57
			1	0	1	99	16.91	17.12
			75	0	100	0	22.86	22.04
	1752.9	1770.0	1	74	1	0	23.77	23.12
			1	0	1	99	16.88	16.96
			75	0	100	0	22.79	21.96

OUTPUT POWER FOR LTE BAND 66C (20 MHz + 5 MHz)

Antenna Gain [dBi]	-1.87							
Bandwidth	PCC Frequency [MHz]	SCC1 Frequency [MHz]	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average Power [dBm]	
			Size	Offset	Size	Offset	QPSK	16QAM
20MHz / 5MHz	1720.0	1731.7	1	99	1	0	24.38	23.56
			1	0	1	99	17.00	17.37
			100	0	100	0	22.42	21.57
	1742.5	1754.2	1	99	1	0	23.76	22.93
			1	0	1	99	17.16	17.33
			100	0	100	0	22.88	21.86
	1765.0	1776.7	1	99	1	0	23.94	23.50
			1	0	1	99	17.34	17.24
			100	0	100	0	22.33	21.52

OUTPUT POWER FOR LTE BAND 66C (20 MHz + 10 MHz)

Antenna Gain [dBi]	-1.87							
Bandwidth	PCC Frequency [MHz]	SCC1 Frequency [MHz]	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average Power [dBm]	
			Size	Offset	Size	Offset	QPSK	16QAM
20MHz / 10MHz	1720.0	1734.4	1	99	1	0	23.83	23.20
			1	0	1	49	17.07	17.25
			100	0	50	0	22.40	21.57
	1740.1	1754.5	1	99	1	0	23.73	23.15
			1	0	1	49	16.95	17.14
			100	0	50	0	22.43	21.72
	1760.1	1774.5	1	99	1	0	23.73	23.15
			1	0	1	49	17.06	17.14
			100	0	50	0	22.75	21.82

OUTPUT POWER FOR LTE BAND 66C (20 MHz + 15 MHz)

Antenna Gain [dBi]	-1.87							
Bandwidth	PCC Frequency [MHz]	SCC1 Frequency [MHz]	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average Power [dBm]	
			Size	Offset	Size	Offset	QPSK	16QAM
20MHz / 15MHz	1720.0	1737.1	1	99	1	0	24.13	23.40
			1	0	1	74	16.83	17.05
			100	0	75	0	22.49	21.48
	1737.6	1754.7	1	99	1	0	23.86	23.32
			1	0	1	74	17.00	17.11
			100	0	75	0	22.71	21.88
	1755.1	1772.2	1	99	1	0	23.70	23.12
			1	0	1	74	16.80	17.08
			100	0	75	0	22.49	21.71

OUTPUT POWER FOR LTE BAND 66C (20 MHz + 20 MHz)

Antenna Gain [dBi]	-1.87							
Bandwidth	PCC Frequency [MHz]	SCC1 Frequency [MHz]	PCC RB	PCC RB	SCC1 RB	SCC1 RB	Conducted Average Power [dBm]	
			Size	Offset	Size	Offset	QPSK	16QAM
20MHz / 20MHz	1720.0	1739.8	1	99	1	0	23.94	23.22
			1	0	1	99	16.51	16.77
			100	0	100	0	22.36	21.55
	1735.1	1754.9	1	99	1	0	24.14	23.47
			1	0	1	99	16.82	17.09
			100	0	100	0	22.76	21.90
	1750.2	1770.0	1	99	1	0	23.92	23.11
			1	0	1	99	16.79	16.98
			100	0	100	0	22.90	22.10

8.2. OCCUPIED BANDWIDTH

RULE PART(S)

FCC: §2.1049

LIMITS

For reporting purposes only

TEST PROCEDURE

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

(KDB 971168 D01 Power Meas License Digital Systems v03r01)

RESULTS

See the following pages.

- LTE Band 5B

Frequency Band [MHz]	Bandwidth [MHz]	Modulation	Frequency [MHz]	99% BW [MHz]	-26dB BW [MHz]
824 ~ 849	3 + 5	QPSK	836.5	7.484	7.868
		16QAM	836.5	7.451	7.868
	5 + 3	QPSK	836.5	7.494	9.242
		16QAM	836.5	7.495	8.732
	5 + 10	QPSK	836.5	13.804	14.450
		16QAM	836.5	13.827	14.510
	10 + 5	QPSK	836.5	13.873	14.700
		16QAM	836.5	13.877	14.660
	10 + 10	QPSK	836.5	18.747	19.620
		16QAM	836.5	18.724	19.640

- LTE Band 41C

Frequency Band [MHz]	Bandwidth [MHz]	Modulation	Frequency [MHz]	99% BW [MHz]	-26dB BW [MHz]
2496 ~ 2690	5 + 20	QPSK	2593.0	22.866	23.780
		16QAM	2593.0	22.818	23.740
	20 + 5	QPSK	2593.0	22.822	23.900
		16QAM	2593.0	22.807	23.970
	10 + 15	QPSK	2593.0	23.078	24.310
		16QAM	2593.0	23.116	24.100
	15 + 10	QPSK	2593.0	23.075	24.240
		16QAM	2593.0	23.089	24.450
	10 + 20	QPSK	2593.0	27.722	29.120
		16QAM	2593.0	27.721	28.900
	20 + 10	QPSK	2593.0	27.717	29.080
		16QAM	2593.0	27.659	29.380
	15 + 15	QPSK	2593.0	28.274	29.720
		16QAM	2593.0	28.278	29.750
	15 + 20	QPSK	2593.0	32.688	34.230
		16QAM	2593.0	32.660	35.520
	20 + 15	QPSK	2593.0	32.551	34.240
		16QAM	2593.0	32.726	35.860
	20 + 20	QPSK	2593.0	37.531	39.230
		16QAM	2593.0	37.461	39.280

- LTE Band 66B

Frequency Band [MHz]	Bandwidth [MHz]	Modulation	Frequency [MHz]	99% BW [MHz]	-26dB BW [MHz]
1710 ~ 1780	5 + 5	QPSK	1745.0	9.259	9.751
		16QAM	1745.0	9.168	9.744
	5 + 10	QPSK	1745.0	13.857	14.470
		16QAM	1745.0	13.833	14.480
	10 + 5	QPSK	1745.0	13.871	14.660
		16QAM	1745.0	13.852	14.640
	5 + 15	QPSK	1745.0	18.072	18.960
		16QAM	1745.0	18.074	18.910
	15 + 5	QPSK	1745.0	18.204	19.180
		16QAM	1745.0	18.187	19.240
	10 + 10	QPSK	1745.0	18.712	19.660
		16QAM	1745.0	18.727	19.710

- LTE Band 66C

Frequency Band [MHz]	Bandwidth [MHz]	Modulation	Frequency [MHz]	99% BW [MHz]	-26dB BW [MHz]
1710 ~ 1780	5 + 20	QPSK	1745.0	22.699	23.680
		16QAM	1745.0	22.646	23.650
	10 + 15	QPSK	1745.0	23.056	24.280
		16QAM	1745.0	23.092	24.170
	10 + 20	QPSK	1745.0	27.711	28.950
		16QAM	1745.0	27.525	28.910
	15 + 10	QPSK	1745.0	22.967	24.190
		16QAM	1745.0	23.007	24.180
	15 + 15	QPSK	1745.0	28.134	29.660
		16QAM	1745.0	28.178	29.620
	15 + 20	QPSK	1745.0	32.513	34.080
		16QAM	1745.0	32.559	34.070
	20 + 5	QPSK	1745.0	22.839	23.880
		16QAM	1745.0	22.875	24.000
	20 + 10	QPSK	1745.0	27.694	29.170
		16QAM	1745.0	27.662	29.060
	20 + 15	QPSK	1745.0	32.536	34.190
		16QAM	1745.0	32.625	34.170
	20 + 20	QPSK	1745.0	37.368	39.340
		16QAM	1745.0	37.293	39.140

8.2.1. OCCUPIED BANDWIDTH RESULTS

LTE Band 5B (UL CA)



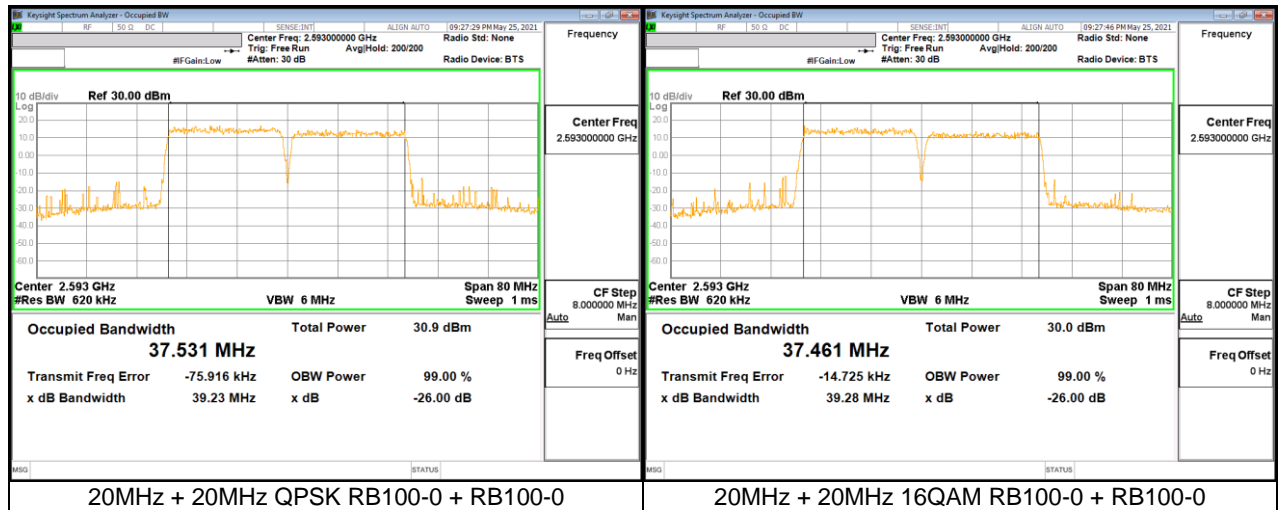


LTE Band 41C (UL CA)







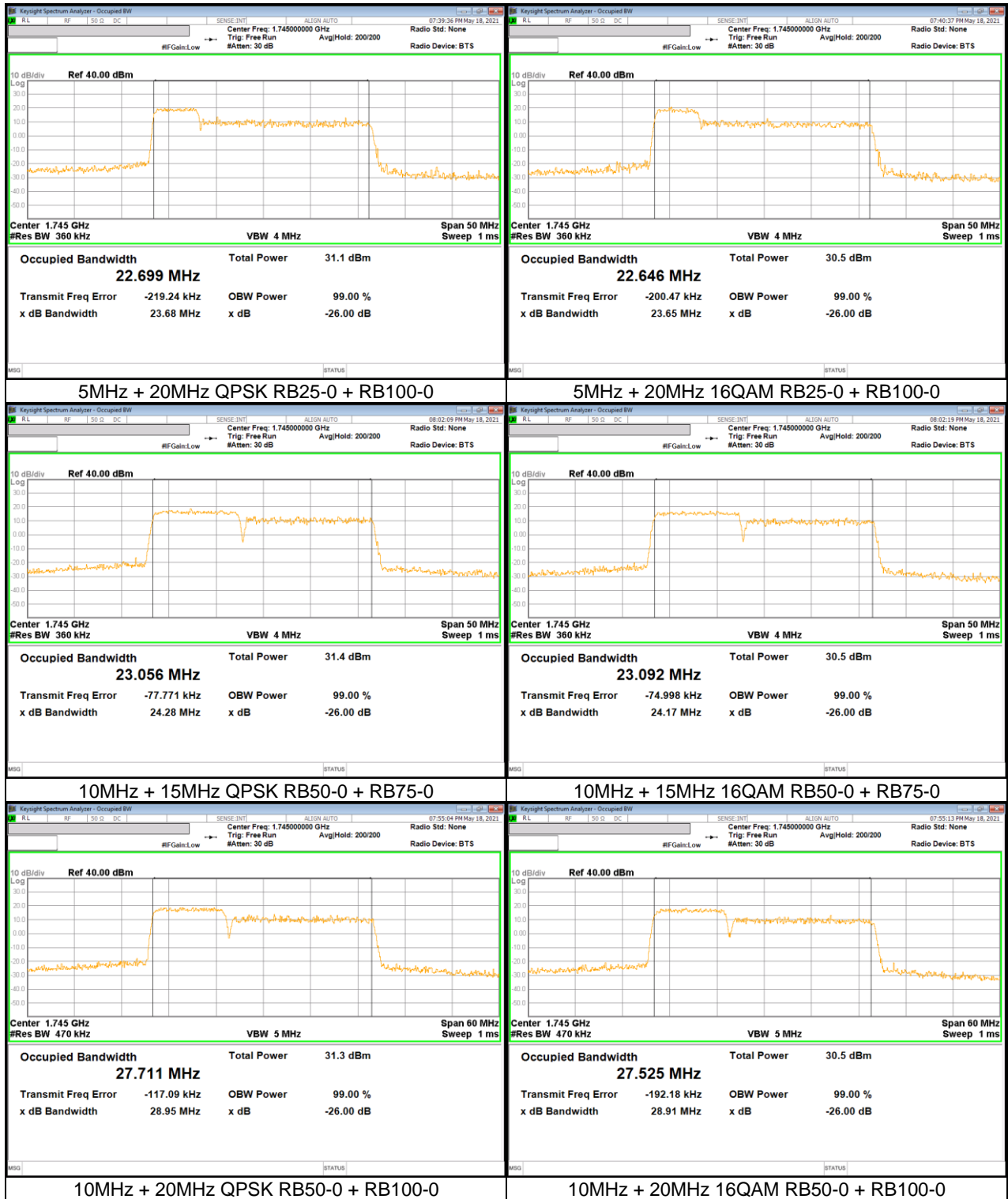


LTE Band 66B (UL CA)



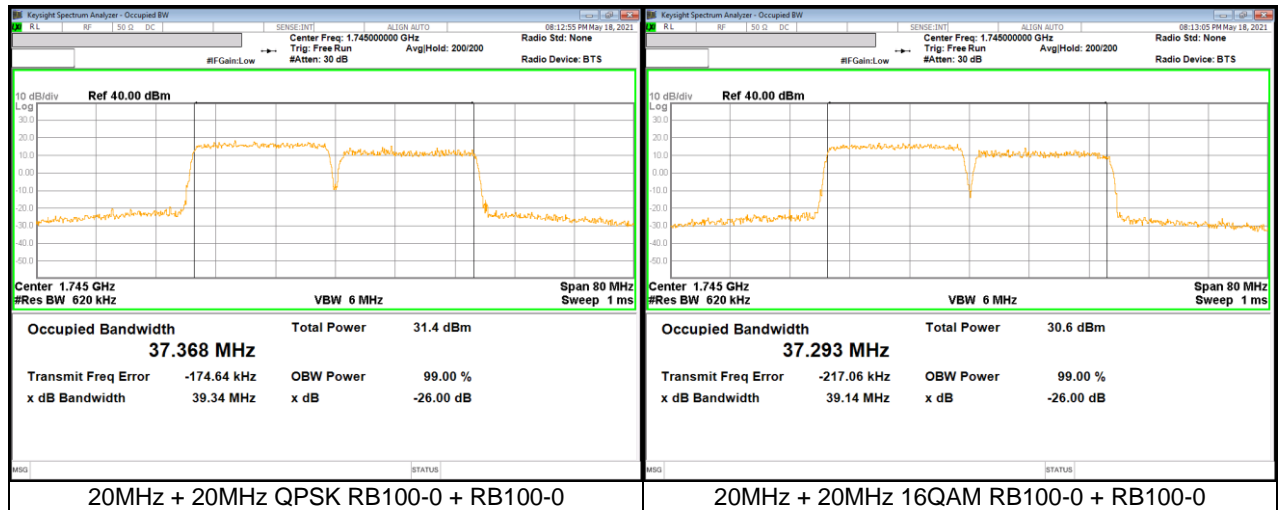


LTE Band 66C (UL CA)









8.3. BAND EDGE EMISSIONS

RULE PART(S)

FCC: §22.359, §22.917 and §27.53

LIMITS

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.

Part 27.53:

(m) (4) For mobile digital stations, the attenuation factor shall be not less than $40 + 10 \log (P)$ dB on all frequencies between the channel edge and 5 megahertz from the channel edge, $43 + 10 \log (P)$ dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and $55 + 10 \log (P)$ dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less than $43 + 10 \log (P)$ dB on all frequencies between 2490.5 MHz and 2496 MHz and $55 + 10 \log (P)$ dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

TEST PROCEDURE

Per KDB 971168 D01 Power Meas License Digital Systems v03r01

The transmitter output was connected to a CMW500 Test Set and configured to operate at maximum power. The band edge emissions were measured at the required operating frequencies in each band on the Spectrum Analyzer.

LTE

- a) Set the RBW = 1 ~ 1.5 % of OBW(Typically limited to a minimum RBW of 1% of the OBW)
- b) Set VBW $\geq 3 \times$ RBW;
- c) Set span ≥ 1.5 times the OBW;
- d) Sweep time = Auto;
- e) Detector = RMS;
- f) Ensure that the number of measurement points $\geq 2 \times$ Span/RBW;
- g) Trace mode = Average (100);

RESULTS

See the following pages.

8.3.1. BAND EDGE RESULT

LTE Band 5B

