



CERTIFICATION TEST REPORT

Report Number. : 4789899747-E4V1

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

Model : SM-H111U

FCC ID : A3LSMH111U

EUT Description : Communication Module

Test Standard(s) : FCC CFR47 PART 27 SUBPART M

Date Of Issue:
2021-06-24

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Testing Laboratory

TL-637

Revision History

<u>Rev.</u>	<u>Issue Date</u>	<u>Revisions</u>	<u>Revised By</u>
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1. ATTESTATION OF TEST RESULTS

COMPANY NAME: SAMSUNG ELECTRONICS CO., LTD.
EUT DESCRIPTION: Communicaion Module
MODEL NUMBER: SM-H111U
SERIAL NUMBER: R3AR5013WWH, R3AR5013WRD (CONDUCTED, RADIATED)
DATE TESTED: 2021-04-13 ~ 2021-06-24;

APPLICABLE STANDARDS	
STANDARD	TEST RESULTS
FCC PART 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 27.
3. ANSI TIA-603-E, 2016
4. ANSI C63.26, 2015
5. KDB 971168 D01 Power Meas License Digital Systems v03r01
6. 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 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 Communication Module.
 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 41C (Uplink CA)

Part 27						
EIRP Limit [dBm]	33.00					
Antenna Gain [dBi]	6.50					
Frequency Range [MHz]	Bandwidth [MHz]	Modulation	Output Power			Margin
			Conducted Average Power [dBm]	e.r.p. Average Power		
				dBm	mW	
2496 ~ 2690	5 + 20	QPSK	23.20	29.70	933.25	-3.30
		16QAM	22.12	28.62	727.78	-4.38
	20 + 5	QPSK	23.32	29.82	959.40	-3.18
		16QAM	22.32	28.82	762.08	-4.18
	10 + 15	QPSK	23.40	29.90	977.24	-3.10
		16QAM	22.38	28.88	772.68	-4.12
	15 + 10	QPSK	23.44	29.94	986.28	-3.06
		16QAM	22.41	28.91	778.04	-4.09
	10 + 20	QPSK	23.19	29.69	931.11	-3.31
		16QAM	23.19	29.69	931.11	-3.31
	20 + 10	QPSK	22.74	29.24	839.46	-3.76
		16QAM	23.31	29.81	957.19	-3.19
	15 + 15	QPSK	23.49	29.99	997.70	-3.01
		16QAM	22.48	28.98	790.68	-4.02
	15 + 20	QPSK	23.44	29.94	986.28	-3.06
		16QAM	22.40	28.90	776.25	-4.10
	20 + 15	QPSK	23.54	30.04	1009.25	-2.96
		16QAM	22.53	29.03	799.83	-3.97
	20 + 20	QPSK	23.42	29.92	981.75	-3.08
		16QAM	22.46	28.96	787.05	-4.04

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 41 2496 ~ 2690 MHz	6.50

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
41C (Uplink CA)	PCC	2585.6	20	1	99
	SCC	2602.7	15	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
LTE B41C	-	0	-

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

5.5. DESCRIPTION OF TEST SETUP

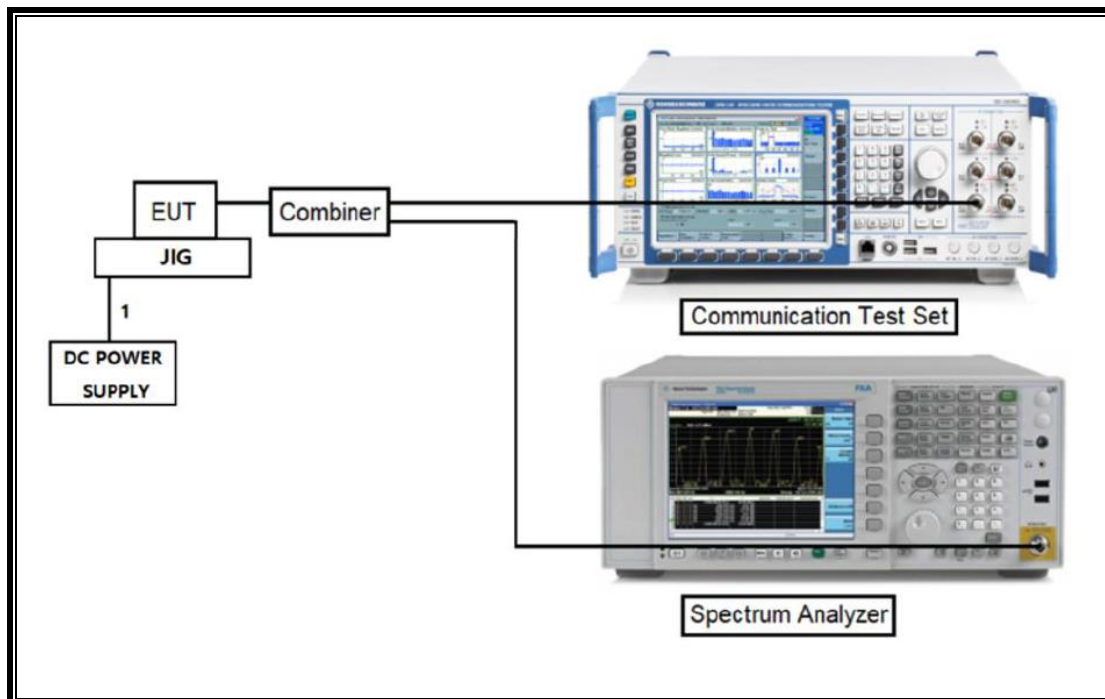
SUPPORT EQUIPMENT

Support Equipment List				
Description	Manufacturer	Model	Serial Number	FCC ID
JIG Board	SAMSUNG	N/A	N/A	N/A
External antenna x 4ea	SAMSUNG	LMH ant	N/A	N/A

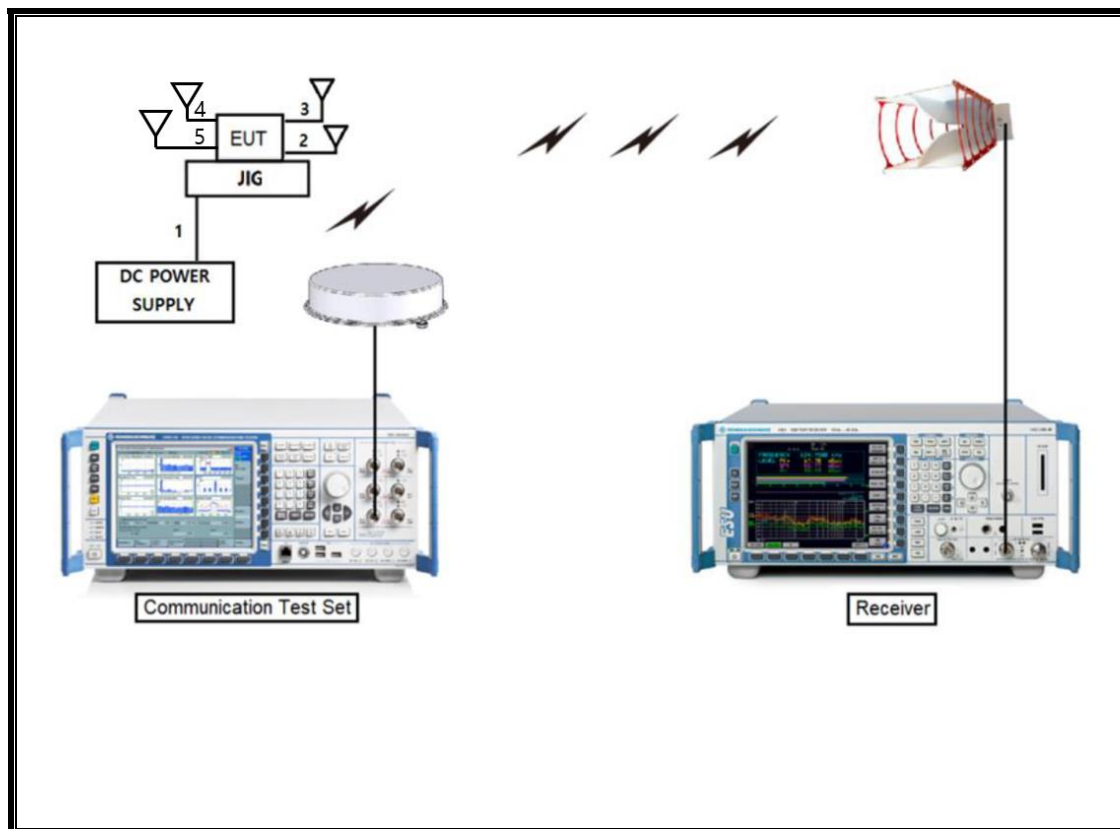
I/O CABLE

Cable No	Port	# of identical ports	Connector Type	Cable Type	Cable Length (m)	Remarks
1	DC Power	1	DC IN	Shielded	1.0 m	N/A
2	ANT#0	2	MHF Type	Shielded	95.5 mm	N/A
3	ANT#1	3	MHF Type	Shielded	95.5 mm	N/A
4	ANT#2	4	MHF Type	Shielded	95.5 mm	N/A
5	ANT#3	5	MHF Type	Shielded	95.5 mm	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
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
27.50(h)(2)	Equivalent Isotropic Radiated Power	33 dBm		Pass
27.53(m)	Radiated Spurious Emission	-25 dBm	Radiated	Pass

8. LIMITS AND CONDUCTED RESULTS

8.1. RF OUTPUT POWER VERIFICATION (CONDUCTED AND EIRP)

Rule Part(s)

FCC: §2.1046, §27.50

Limit

§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.

Test Procedure

TIA-603-E Clause 2.2.17
 KDB 971168 Section 5.6

$$\text{ERP/EIRP} = P_{\text{Meas}} + G_T - L_C$$

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 41C (5 MHz + 20 MHz)

Antenna Gain (dBi)	6.5							
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	22.72	21.83
			1	0	1	99	14.37	14.54
			25	0	100	0	20.91	20.10
	2583.8	2595.5	1	24	1	0	23.20	22.12
			1	0	1	99	14.70	14.58
			25	0	100	0	21.70	20.70
	2668.3	2680	1	24	1	0	22.44	21.28
			1	0	1	99	13.80	13.79
			25	0	100	0	20.83	19.80

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

Antenna Gain (dBi)	6.5							
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	22.77	21.76
			1	0	1	24	14.39	14.39
			100	0	25	0	21.04	20.03
	2590.5	2602.2	1	99	1	0	23.32	22.32
			1	0	1	24	14.58	14.54
			100	0	25	0	21.17	20.58
	2675	2686.7	1	99	1	0	22.18	21.02
			1	0	1	24	13.75	13.73
			100	0	25	0	20.80	19.76

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

Antenna Gain (dBi)	6.5							
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	22.32	21.84
			1	0	1	74	14.36	14.25
			50	0	75	0	21.01	20.01
	2585.9	2597.9	1	49	1	0	23.40	22.38
			1	0	1	74	14.66	14.59
			50	0	75	0	21.70	20.65
	2670.5	2682.5	1	49	1	0	22.52	21.60
			1	0	1	74	13.76	13.81
			50	0	75	0	20.84	19.80

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

Antenna Gain (dBi)	6.5							
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	22.82	21.88
			1	0	1	49	14.35	14.44
			75	0	50	0	21.01	20.00
	2588.1	2600.1	1	74	1	0	23.44	22.41
			1	0	1	49	14.61	14.62
			75	0	50	0	21.60	20.53
	2672.7	2684.7	1	74	1	0	22.50	21.51
			1	0	1	49	13.70	13.73
			75	0	50	0	20.73	19.75

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

Antenna Gain (dBi)	6.5							
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	22.68	21.66
			1	0	1	99	14.17	14.05
			50	0	100	0	20.92	19.91
	2583.6	2598	1	49	1	0	23.19	23.19
			1	0	1	99	14.38	14.38
			50	0	100	0	21.57	20.54
	2665.6	2680	1	49	1	0	22.47	21.50
			1	0	1	99	13.62	13.63
			50	0	100	0	20.81	19.76

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

Antenna Gain (dBi)	6.5							
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	22.74	21.80
			1	0	1	49	14.25	14.29
			100	0	50	0	20.97	19.96
	2588.1	2602.5	1	99	1	0	22.31	23.31
			1	0	1	49	14.39	14.35
			100	0	50	0	21.54	20.50
	2670.1	2684.5	1	99	1	0	22.42	21.37
			1	0	1	49	13.62	13.54
			100	0	50	0	20.75	19.71

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

Antenna Gain (dBi)	6.5							
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	22.97	22.01
			1	0	1	74	14.41	14.52
			75	0	75	0	21.04	19.99
	2585.5	2600.5	1	74	1	0	23.49	22.48
			1	0	1	74	14.58	14.48
			75	0	75	0	21.45	20.51
	2667.5	2682.5	1	74	1	0	22.65	21.70
			1	0	1	74	13.81	13.81
			75	0	75	0	20.83	19.77

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

Antenna Gain (dBi)	6.5							
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	22.94	21.94
			1	0	1	99	14.30	14.29
			75	0	100	0	21.05	20.03
	2583.3	2600.4	1	74	1	0	23.44	22.40
			1	0	1	99	14.37	14.33
			75	0	100	0	21.56	20.53
	2662.9	2680	1	74	1	0	22.60	21.59
			1	0	1	99	13.68	13.72
			75	0	100	0	20.83	19.78

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

Antenna Gain (dBi)	6.5							
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	22.87	21.86
			1	0	1	74	14.22	14.20
			100	0	75	0	20.99	19.95
	2585.6	2602.7	1	99	1	0	23.54	22.53
			1	0	1	74	14.53	14.42
			100	0	75	0	21.67	20.63
	2665.1	2682.2	1	99	1	0	21.59	21.50
			1	0	1	74	13.86	13.57
			100	0	75	0	20.77	19.73

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

Antenna Gain (dBi)	6.5							
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	22.79	21.75
			1	0	1	99	13.96	13.92
			100	0	100	0	20.92	19.90
	2583.1	2602.9	1	99	1	0	23.42	22.46
			1	0	1	99	14.27	14.45
			100	0	100	0	21.51	20.51
	2660.2	2680	1	99	1	0	22.61	21.48
			1	0	1	99	13.52	13.41
			100	0	100	0	20.87	19.82

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 41C

Frequency Band [MHz]	Bandwidth [MHz]	Modulation	Frequency [MHz]	99% BW [MHz]	-26dB BW [MHz]
2496 ~ 2690	5 + 20	QPSK	2593.0	22.796	23.730
		16QAM	2593.0	22.747	23.760
	20 + 5	QPSK	2593.0	22.821	23.890
		16QAM	2593.0	22.775	23.910
	10 + 15	QPSK	2593.0	22.970	24.090
		16QAM	2593.0	23.063	24.460
	15 + 10	QPSK	2593.0	23.039	24.190
		16QAM	2593.0	23.083	24.210
	10 + 20	QPSK	2593.0	27.670	28.920
		16QAM	2593.0	27.610	29.000
	20 + 10	QPSK	2593.0	27.686	28.860
		16QAM	2593.0	27.739	29.000
	15 + 15	QPSK	2593.0	28.211	29.820
		16QAM	2593.0	28.143	29.610
	15 + 20	QPSK	2593.0	32.621	34.120
		16QAM	2593.0	32.449	34.160
	20 + 15	QPSK	2593.0	32.567	34.110
		16QAM	2593.0	32.598	34.140
20 + 20	QPSK	2593.0	37.318	40.890	
	16QAM	2593.0	37.249	39.070	

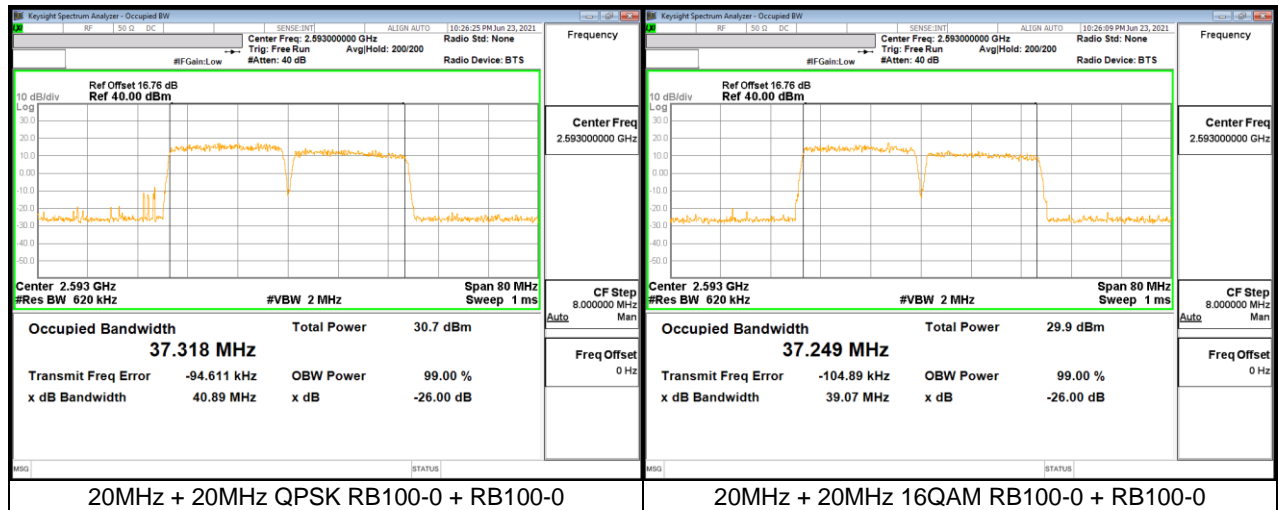
8.2.1. OCCUPIED BANDWIDTH RESULTS

LTE Band 41C (UL CA)









8.3. EMISSION MASK

RULE PART(S)

FCC: §27. 53

LIMITS

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.

RESULTS

See the following pages.

8.3.1. EMISSION MASK RESULT

LTE Band 41C (UL CA)











