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TEST REPORT

of

FCC Part 2 Subpart J, Part 22 Subpart C/H,
Part 24 Subpart E, Part 27 Subpart C and Part 90 Subpart R/S

FCC ID: BEJTM16FNROBM0

Equipment Under Test	:	Telematics Module
Model Name	:	TM16FNROBM0
Variant Model Name(s)	:	-
Applicant	:	LG Electronics USA, Inc.
Manufacturer	:	LG Electronics Inc.
Date of Receipt	:	2024.05.27
Date of Test(s)	:	2024.06.13 ~ 2024.09.10
Date of Issue	:	2024.09.11

In the configuration tested, the EUT complied with the standards specified above. This test report does not assure KOLAS accreditation.

1) The results of this test report are effective only to the items tested.
2) The SGS Korea is not responsible for the sampling, the results of this test report apply to the sample as received.
3) This test report cannot be reproduced, except in full, without prior written permission of the Company.
4) The data marked ※ in this report was provided by the customer and may affect the validity of the test results.
We are responsible for all the information of this test report except for the data(※) provided by the customer.

Tested by: Dave Kim

Technical Manager: Jinhyoung Cho

SGS Korea Co., Ltd. Gunpo Laboratory

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1. General Information

1.1. Testing Laboratory

SGS Korea Co., Ltd. (Gunpo Laboratory)
- 10-2, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807
- 4, LS-ro 182beon-gil, Gunpo-si, Gyeonggi-do, Korea, 15807
- Designation number: KR0150

All SGS services are rendered in accordance with the applicable SGS conditions of service available on request and accessible at http://www.sgs.com/en/Terms-and-Conditions.aspx.

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1.2. Details of Applicant

Applicant : LG Electronics USA, Inc.
Address : 111 Sylvan Avenue, North Building, Englewood Cliffs, New Jersey, United States, 07632
Contact Person : Kim, David
Phone No. : +1 201 470 2696

1.3. Details of Manufacturer

Company : LG Electronics Inc.
Address : 128, Yeoui-daero, Yeongdeungpo-gu, Seoul, Republic of Korea, 07336

1.4. Description of EUT

Kind of Product	Telematics Module		
Model Name	TM16FNROBM0		
Serial Number	357286160005090		
Power Supply	DC 4.1 V		
Rated Power	LTE Band 2, 4, 5, 7, 12, 17, 25, 26, 38, 41: 23 dB m		
Frequency Range	LTE Band 2: 1 850 ㎒ ~ 1 910 ㎒ LTE Band 4: 1 710 ㎒ ~ 1 755 ㎒ LTE Band 5: 824 ㎒ ~ 849 ㎒ LTE Band 7: 2 500 ㎒ ~ 2 570 ㎒ LTE Band 12: 699 ㎒ ~ 716 ㎒	LTE Band 17: 704 ㎒ ~ 716 ㎒ LTE Band 25: 1 850 ㎒ ~ 1 915 ㎒ LTE Band 26: 814 ㎒ ~ 849 ㎒ LTE Band 38: 2 570 ㎒ ~ 2 620 ㎒ LTE Band 41: 2 496 ㎒ ~ 2 690 ㎒	
Uplink CA	7C		
Modulation Technique	QPSK, 16QAM, 64QAM, 256QAM		
Antenna Type	Ant. 1: PIFA Antenna	Ant. 2: PIFA Antenna	Ant. 3: PIFA Antenna
Antenna Gain※	Refer to the clause 1.15		
H/W Version	Rev.D		
S/W Version	IN25XA03		

1.5. Test Equipment List

Equipment	Manufacturer	Model	S/N	Cal. Date	Cal. Interval	Cal. Due
Spectrum Analyzer	R&S	FSV30	100955	Mar. 08, 2024	Annual	Mar. 08, 2025
Spectrum Analyzer	R&S	FSW43	100637	Apr. 08, 2024	Annual	Apr. 08, 2025
Spectrum Analyzer	Agilent	N9020A	MY53421758	Sep. 01, 2023	Annual	Sep. 01, 2024
Spectrum Analyzer	Agilent	N9030A	US51350132	Sep. 01, 2023	Annual	Sep. 01, 2024
Signal Generator	R&S	SMA100B	106887	Oct. 06, 2023	Annual	Oct. 06, 2024
DC Power Supply	R&S	HMP2020	102133	Apr. 23, 2024	Annual	Apr. 23, 2025
Communication Analyzer	Anritsu	MT8821C	6262192291	Feb. 08, 2024	Annual	Feb. 08, 2025
Temperature Chamber	ESPEC CORP.	PL-2J	15004184	Jun. 03, 2024	Annual	Jun. 03, 2025
BRIDGE COUPLER	MARKI MICROWAVE INC	CBR16-0012	1542	May 13, 2024	Annual	May 13, 2025
Directional Coupler	KRYTAR	152613	122661	Feb. 27, 2024	Annual	Feb. 27, 2025
Power Sensor	Anritsu	MA2411B	1207272	May 29, 2024	Annual	May 29, 2025
Power Sensor	Anritsu	ML2495A	1223004	May 29, 2024	Annual	May 29, 2025
Power Splitter	Weinschel	1534	500	May 23, 2024	Annual	May 23, 2025
Low Pass Filter	Mini-Circuits	NLP-1200+	V 8979400903-1	May 17, 2024	Annual	May 17, 2025
High Pass Filter	Wainwright Instrument GmbH	WHKX10-900-1000-18000-40SS	7	Feb. 27, 2024	Annual	Feb. 27, 2025
High Pass Filter	Wainwright Instrument GmbH	WHKX3.0/18G-10SS	21	Jun. 07, 2024	Annual	Jun. 07, 2025
High Pass Filter	Wainwright Instrument GmbH	WHNX7.5/26.5G-6SS	11	Oct. 17, 2023	Annual	Oct. 17, 2024
Preamplifier	H.P.	8447F	2944A03909	Aug. 09, 2024	Annual	Aug. 09, 2025
Preamplifier	R&S	SCU 18F	101058	Dec. 07, 2023	Annual	Dec. 07, 2024
Preamplifier	MITEQ Inc.	JS44-18004000-35-8P	1546891	Oct. 06, 2023	Annual	Oct. 06, 2024
Test Receiver	R&S	ESU26	100109	Jan. 16, 2024	Annual	Jan. 16, 2025
Loop Antenna	Schwarzbeck Mess-Elektronik	FMZB 1519	1519-039	Aug. 21, 2023	Biennial	Aug. 21, 2025
Bilog Antenna	Schwarzbeck Mess-Elektronik	VULB9163	9163-396	Apr. 02, 2024	Biennial	Apr. 02, 2026
Horn Antenna	R&S	HF906	100326	Feb. 19, 2024	Annual	Feb. 19, 2025
Horn Antenna	Schwarzbeck Mess-Elektronik	BBHA 9170	9170-540	Dec. 05, 2023	Annual	Dec. 05, 2024
Antenna Master	Innco systems GmbH	MA4640-XP-ET	MA4640/536/383 30516/L	N.C.R.	N/A	N.C.R.
Turn Table	Innco systems GmbH	DS 1200S	N/A	N.C.R.	N/A	N.C.R.
Controller	Innco systems GmbH	CONTROLLER CO3000-4P	CO3000/963/383 30516/L	N.C.R.	N/A	N.C.R.
Anechoic Chamber	SY Corporation	L × W × H (9.6 m × 6.4 m × 6.6 m)	N/A	N.C.R.	N/A	N.C.R.
Coaxial Cable	RADIALL	TESTPRO 3	182284	Apr. 12, 2024	Semi-Annual	Oct. 12, 2024
Coaxial Cable	RADIALL	TESTPRO 3	182290	Apr. 12, 2024	Semi-Annual	Oct. 12, 2024
Coaxial Cable	RADIALL	TESTPRO 3	182292	Apr. 12, 2024	Semi-Annual	Oct. 12, 2024
Coaxial Cable	SENSORVIEW	NMST-13A26-NMST-5 m	TPC2402190004	Apr. 03, 2024	Semi-Annual	Oct. 03, 2024
Coaxial Cable	SENSORVIEW	NMST-13A26-NMST-10 m	TPC2402190001	Apr. 03, 2024	Semi-Annual	Oct. 03, 2024

Note;

- For equipment listed above that has a calibration date or calibration due date that falls within the test date range, care was taken to ensure that this equipment was used after the calibration date and before the calibration due date.

1.6. Summary of Test Results

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 2, 22, 24, 27 and 90		
Section in FCC	**Test Item(s)**	**Result**
§22.913(a)(5) §24.232(c) §27.50(c)(9) §27.50(d)(4) §27.50(h)(2) §90.635(b)	E.R.P. / E.I.R.P.	Complied
§22.917(a) §24.238(a) §27.53(g) §27.53(h)(1) §27.53(m)(4) §90.691(a)	Radiated Spurious Emission	Complied
§2.1046	Conducted Output Power	Complied
§2.1049	Occupied Bandwidth	Complied
§22.913(d) §24.232(d) §27.50(d)(5)	Peak-Average Ratio	Complied
§22.917(a) §24.238(a) §27.53(g) §27.53(h)(1) §27.53(m)(4) §90.691(a)	Spurious Emission at Antenna Terminal	Complied
§22.917(a) §24.238(a) §27.53(g) §27.53(h)(1) §27.53(m)(4) §90.691(a)	Band Edge and Emission Mask	Complied
§2.1055 §22.355 §24.235 §27.54 §90.213(a)	Frequency Stability	Complied

1.7. Sample Calculation for Offset

Where relevant, the following sample calculation is provided:

1.7.1. Conducted Test

Offset value (㏈) = Directional Coupler (㏈) + Cable loss (㏈)

1.7.2. Radiation test

- E.I.R.P. (㏈ m) = Measured level (㏈㎶) + Antenna factor (㏈/m) + Cable loss (㏈) + 20 Log D – 104.8; where D is the measurement distance in meters.
- E.R.P. (㏈ m) = E.I.R.P. (㏈ m) - 2.15 (㏈)

1.8. Manufacturer Declaration

The EUT has three antennas, antennas 1 and 2 are the main antennas, and antenna 3 can be switched to the main antenna. Each antenna can't transmit simultaneously.

1.9. Device Capabilities

This device contains the following capabilities;

LTE Band 2 (1 850 ㎒ ~ 1 910 ㎒) is covered by LTE Band 25 (1 850 ㎒ ~ 1 915 ㎒) due to overlapping frequency range, same maximum tune-up limit and same channel bandwidth. Therefore test data provided in this report covers LTE Band 2 as well as Band 25.

LTE Band 17 (704 ㎒ ~ 716 ㎒) is covered by LTE Band 12 (699 ㎒ ~ 716 ㎒) due to overlapping frequency range, same maximum tune-up limit and same channel bandwidth. Therefore test data provided in this report covers LTE Band 17 as well as Band 12.

LTE Band 5 (824 ㎒ ~ 849 ㎒) is covered by LTE Band 26 (824 ㎒ ~ 849 ㎒) due to overlapping frequency range, same maximum tune-up limit and same channel bandwidth. Therefore test data provided in this report covers LTE Band 5 as well as Band 26.

LTE Band 38 (2 570 ㎒ ~ 2 620 ㎒) is covered by LTE Band 41 (2 496 ㎒ ~ 2 690 ㎒) due to overlapping frequency range, same maximum tune-up limit and same channel bandwidth. Therefore test data provided in this report covers LTE Band 38 as well as Band 41.

1.10. The Uplink CA Test Channel Details

The EUT supports with carrier aggregation uplink. Intra-Band contiguous specification as below

E-UTRA Intra-Band CA configuration / Bandwidth combination set			
E-UTRA CA Configuration	Channel bandwidth for carrier (㎒)	Channel bandwidth for carrier (㎒)	Maximum aggregated bandwidth (㎒)
CA_7C	10	20	30
	20	10	
	15	15	
	15	10	25
	15	20	35
	20	15	
	20	20	40

1.11. Worst Case Configuration and Mode

The worst-case is based on the conducted output power measurement investigation results. All testing was performed using QPSK, 16QAM and 64QAM, 256QAM modulations. However, the spurious radiated emission and spurious at antenna terminal were only performed on bandwidth and RB offset (with RB size 1) with the highest conducted power in QPSK.

The peak to average ratio were tested only 256QAM modulation as worst case.

The radiation test of the EUT was investigated in three orthogonal orientations X, Y, and Z, and the worst case data is reported.

1.12. Measurement Configuration

Test Items	Band	Test Channel			Bandwidth (㎒)						Modulation				RB #		
		Low	Mid	High	1.4	3	5	10	15	20	QPSK	16QAM	64QAM	256QAM	1	Half	Full
Conducted Output Power	4	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
	7	V	V	V			V	V	V	V	V	V	V	V	V	V	V
	*12/17	V	V	V	V	V	V	V			V	V	V	V	V	V	V
	25/2	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V	V
	*26/5 Part22	V	V	V	V	V	V	V	V		V	V	V	V	V	V	V
	26 Part90	V	V	V	V	V	V	V	V		V	V	V	V	V	V	V
	41/38	V	V	V			V	V	V	V	V	V	V	V	V	V	V
Frequency Stability	4	-	V	-	-	-	V	-	-	-	V	-	-	-	-	-	V
	7	-	V	-			V	-	-	-	V	-	-	-	-	-	V
	*12/17	-	V	-	-	-	V	-			V	-	-	-	-	-	V
	25/2	-	V	-	-	-	V	-			V	-	-	-	-	-	V
	*26/5 Part22	-	V	-	-	-	V	-	-		V	-	-	-	-	-	V
	26 Part90	-	V	-	-	-	V	-	-		V	-	-	-	-	-	V
	41/38	-	V	-			V	-	-		V	-	-	-	-	-	V
Occupied Bandwidth	4	-	V	-	V	V	V	V	V	V	V	V	-	-	-	-	V
	7	-	V	-			V	V	V	V	V	V	-	-	-	-	V
	*12/17	-	V	-	V	V	V	V			V	V	-	-	-	-	V
	25/2	-	V	-	V	V	V	V	V	V	V	V	-	-	-	-	V
	*26/5 Part22	-	V	-	V	V	V	V	V		V	V	-	-	-	-	V
	26 Part90	-	V	-	V	V	V	V	V		V	V	-	-	-	-	V
	41/38	-	V	-			V	V	V	V	V	V	-	-	-	-	V
Peak-to-Average Ratio	4	V	V	V	V	V	V	V	V	V	-	-	-	V	-	-	V
	7	V	V	V			V	V	V	V	-	-	-	V	-	-	V
	*12/17	V	V	V	V	V	V	V			-	-	-	V	-	-	V
	25/2	V	V	V	V	V	V	V	V	V	-	-	-	V	-	-	V
	*26/5 Part22	V	V	V	V	V	V	V	V		-	-	-	V	-	-	V
	26 Part90	V	V	V	V	V	V	V	V		-	-	-	V	-	-	V
	41/38	V	V	V			V	V	V	V	-	-	-	V	-	-	V

Test Items	Band	Test Channel			Bandwidth (㎒)						Modulation				RB #		
		Low	Mid	High	1.4	3	5	10	15	20	QPSK	16QAM	64QAM	256QAM	1	Half	Full
Band edge	4	V	-	V	V	V	V	V	V	V	V	V	-	-	V	-	V
	7	V	-	V			V	V	V	V	V	V	-	-	V	-	V
	*12/17	V	-	V	V	V	V	V			V	V	-	-	V	-	V
	25/2	V	-	V	V	V	V	V	V	V	V	V	-	-	V	-	V
	*26/5 Part22	V	-	V	V	V	V	V	V		V	V	-	-	V	-	V
	26 Part90	V	-	V	V	V	V	V	V		V	V	-	-	V	-	V
	41/38	V	-	V			V	V	V	V	V	V	-	-	V	-	V
Spurious at antenna terminal & Radiated Spurious Emission	4	V	V	V	worst case												
	7	V	V	V	worst case												
	*12/17	V	V	V	worst case												
	25/2	V	V	V	worst case												
	*26/5 Part22	V	V	V	worst case												
	26 Part90	V	V	V	worst case												
	41/38	V	V	V	worst case												

*B17 is not supported 1.4M/3M bandwidth
*B5 is not supported 15M bandwidth

ULCA

Test Items	Band	Test Channel			Bandwidth (㎒)						Modulation				RB #		
		Low	Mid	High	15	20	25	30	35	40	QPSK	16QAM	64QAM	256QAM	1	Half	Full
Conducted Output Power	CA_7C	V	V	V			V	V	V	V	V	V	-	-	V	-	V
Frequency Stability	CA_7C	-	V	-			V	V	V	V	V	-	-	-	V	-	-
Occupied Bandwidth	CA_7C	-	V	-			V	V	V	V	V	V	-	-	-	-	V
Peak-to-Average Ratio	CA_7C	V	V	V			V	V	V	V	-	-	-	V	-	-	V
Band edge	CA_7C	V	-	V			V	V	V	V	V	V	-	-	-	-	V
Spurious at antenna terminal & Radiated Spurious Emission	CA_7C	V	V	V	worst case												

1.13. Measurement Uncertainty

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

Parameter	Uncertainty	
Conducted Output Power	0.33 dB	
Occupied Bandwidth	0.05 ㎒	
Conducted Spurious Emissions	0.99 dB	
Peak to Average Ratio	0.66 dB	
Frequency Stability	116 ㎐	
Radiated Emission, 9 ㎑ to 30 ㎒	H	3.60 dB
	V	3.60 dB
Radiated Emission, below 1 ㎓	H	4.60 dB
	V	4.90 dB
Radiated Emission, above 1 ㎓	H	3.90 dB
	V	3.80 dB

All measurement uncertainty values are shown with a coverage factor of *k*=2 to indicate a 95 % level of confidence.

1.14. Test Report Revision

Revision	Report Number	Date of Issue	Description
0	F690501-RF-RTL005371	2024.09.11	Initial

1.15. Antenna Designation

Ant. No	Ant. Type	Support Band			
		GSM	WCDMA	LTE	NR
Ant.1	PIFA	850, 1900	Ⅱ, Ⅳ, Ⅴ	2, 4, 5, 7, 12, 17, 25, 26, 38, 41	7, 41, 77, 78
Ant.2	PIFA				77, 78
Ant.3	PIFA	850, 1900	Ⅱ, Ⅳ, Ⅴ	2, 4, 5, 7, 12, 17, 25, 26, 38, 41	7, 41, 77, 78

Band	Operating Frequency (㎒)	Antenna Peak Gain (dBi)		
		Ant. 1	Ant. 2	Ant. 3
GSM 1900 WCDMA Ⅱ LTE 25/2	1 850 ~ 1 915	**2.80**		-0.92
WCDMA Ⅳ LTE 4	1 710 ~ 1 755	**0.22**		-2.34
GSM 850 WCDMA Ⅴ LTE 26/5	824 ~ 849	**-1.16**		-2.11
LTE 26	814 ~ 824	**-1.16**		-2.11
LTE 7 NR 7	2 500 ~ 2 570	1.65		**2.41**
LTE 12/17	699 ~ 716	-2.46		**1.04**
LTE 41/38 NR 41	2 496 ~ 2 690	1.65		**2.41**
NR 77	3 450 ~ 3 550	1.95	1.44	**3.72**
	3 700 ~ 3 980	1.95	1.44	**3.72**
NR 78	3 450 ~ 3 550	1.95	1.44	**3.72**
	3 700 ~ 3 800	1.95	1.44	**3.72**

Band	Operating Frequency (㎒)	Ant. 1	Ant. 2	Ant. 3
GSM 1900 WCDMA Ⅱ LTE 25/2	1 850 ~ 1 915	V		-
WCDMA Ⅳ LTE 4	1 710 ~ 1 755	V		-
GSM 850 WCDMA Ⅴ LTE 26/5	824 ~ 849	V		-
LTE 26	814 ~ 824	V		-
LTE 7 NR 7	2 500 ~ 2 570	-		V
LTE 12/17	699 ~ 716	-		V
LTE 41/38 NR 41	2 496 ~ 2 690	-		V
NR 77	3 450 ~ 3 550	-	-	V
	3 700 ~ 3 980	-	-	V
NR 78	3 450 ~ 3 550	-	-	V
	3 700 ~ 3 800	-	-	V

1.15. Emission Designator and Max Power

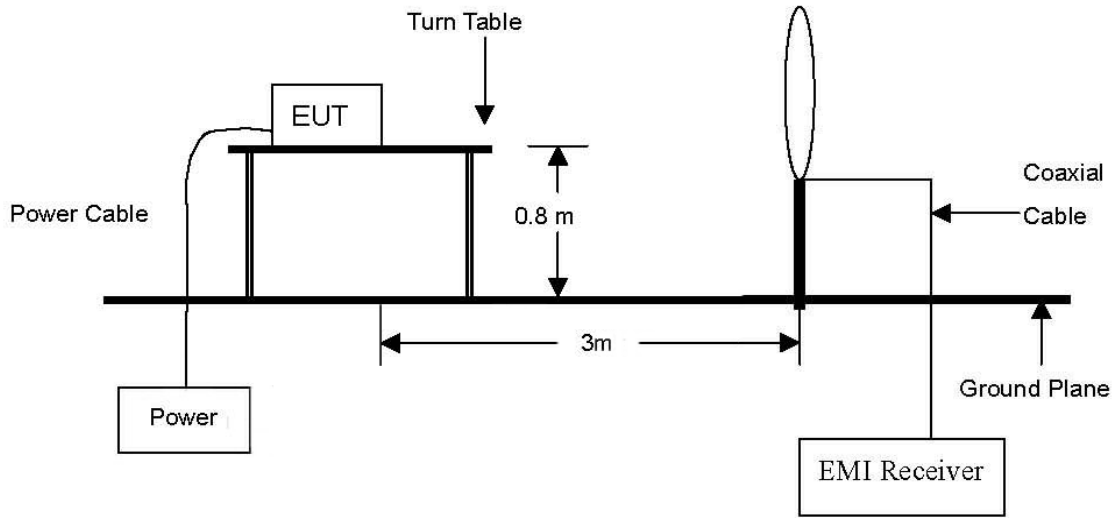
Band	Band width (㎒)	Modulation	Low Freq. (㎒)	Upper Freq. (㎒)	Conducted Average (dB m)	Ant. Gain (dB i)	E.R.P. / E.I.R.P. Average (dB m)	E.R.P. / E.I.R.P. Average (W)	Emission Designator
4	1.4	QPSK	1 710.7	1 754.3	23.05	0.22	23.27	0.212	1M11G7D
		16QAM			22.36		22.58	0.181	1M11D7D
	3	QPSK	1 711.5	1 753.5	23.16		23.38	0.218	2M67G7D
		16QAM			22.39		22.61	0.182	2M69D7D
	5	QPSK	1 712.5	1 752.5	22.92		23.14	0.206	4M52G7D
		16QAM			22.08		22.30	0.170	4M51D7D
	10	QPSK	1 715.0	1 750	23.14		23.36	0.217	8M97G7D
		16QAM			22.16		22.38	0.173	8M97D7D
	15	QPSK	1 717.5	1 747.5	23.16		23.38	0.218	13M5G7D
		16QAM			22.23		22.45	0.176	13M5D7D
	20	QPSK	1 720.0	1 745	23.17		23.39	0.218	17M9G7D
		16QAM			22.45		22.67	0.185	17M9D7D
7	5	QPSK	2 502.5	2 567.5	23.10	2.41	25.51	0.356	4M52G7D
		16QAM			22.30		24.71	0.296	4M52D7D
	10	QPSK	2 505.0	2 565.0	23.07		25.48	0.353	8M95G7D
		16QAM			22.21		24.62	0.290	8M95D7D
	15	QPSK	2 507.5	2 562.5	23.10		25.51	0.356	13M5G7D
		16QAM			22.45		24.86	0.306	13M5D7D
	20	QPSK	2 510.0	2 560.0	23.18		25.59	0.362	18M0G7D
		16QAM			22.33		24.74	0.298	17M9D7D
12/17	1.4	QPSK	699.7	715.3	23.23	1.04	22.12	0.163	1M11G7D
		16QAM			22.41		21.30	0.135	1M11D7D
	3	QPSK	700.5	714.5	23.13		22.02	0.159	2M69G7D
		16QAM			22.51		21.40	0.138	2M69D7D
	5	QPSK	701.5	713.5	23.25		22.14	0.164	4M51G7D
		16QAM			22.40		21.29	0.135	4M50D7D
	10	QPSK	704.0	711.0	23.36		22.25	0.168	8M93G7D
		16QAM			22.37		21.26	0.134	8M95D7D
25/2	1.4	QPSK	1 850.7	1 914.3	23.09	2.80	25.89	0.388	1M10G7D
		16QAM			22.33		25.13	0.326	1M12D7D
	3	QPSK	1 851.5	1 913.5	23.24		26.04	0.402	2M69G7D
		16QAM			22.49		25.29	0.338	2M69D7D
	5	QPSK	1 852.5	1 912.5	23.20		26.00	0.398	4M52G7D
		16QAM			22.50		25.30	0.339	4M52D7D
	10	QPSK	1 855.0	1 910.0	23.27		26.07	0.405	8M95G7D
		16QAM			22.60		25.40	0.347	8M97D7D
	15	QPSK	1 857.5	1 907.5	23.34		26.14	0.411	13M5G7D
		16QAM			22.48		25.28	0.337	13M5D7D
	20	QPSK	1 860.0	1 905.0	23.35		26.15	0.412	17M9G7D
		16QAM			22.73		25.53	0.357	17M9D7D

Band	Band width (㎒)	Modulation	Low Freq. (㎒)	Upper Freq. (㎒)	Conducted Average (dB m)	Ant. Gain (dB i)	E.R.P. / E.I.R.P. Average (dB m)	E.R.P. / E.I.R.P. Average (W)	Emission Designator
26/5 Part 22	1.4	QPSK	824.7	848.3	22.99	-1.16	19.68	0.093	1M10G7D
		16QAM			22.05		18.74	0.075	1M10D7D
	3	QPSK	825.5	847.5	22.98		19.67	0.093	2M69G7D
		16QAM			21.97		18.66	0.073	2M69D7D
	5	QPSK	826.5	846.5	23.21		19.90	0.098	4M51G7D
		16QAM			22.26		18.95	0.079	4M51D7D
	10	QPSK	829.0	844.0	23.01		19.70	0.093	8M95G7D
		16QAM			22.05		18.74	0.075	8M95D7D
26 Part 22	15	QPSK	831.5	841.5	23.36		20.05	0.101	13M5G7D
		16QAM			22.41		19.10	0.081	13M5D7D
26 Part 90	1.4	QPSK	814.7	823.3	22.97	-1.16	19.66	0.092	1M10G7D
		16QAM			22.02		18.71	0.074	1M11D7D
	3	QPSK	815.5	822.5	23.17		19.86	0.097	2M70G7D
		16QAM			21.88		18.57	0.072	2M69D7D
	5	QPSK	816.5	821.5	23.07		19.76	0.095	4M51G7D
		16QAM			21.96		18.65	0.073	4M51D7D
	10	QPSK	819.0		23.03		19.72	0.094	8M95G7D
		16QAM			22.01		18.70	0.074	8M97D7D
	15	QPSK	821.5		23.25		19.94	0.099	13M5G7D
		16QAM			22.26		18.95	0.079	13M5D7D
41/38	5	QPSK	2 498.5	2 687.5	23.15	2.41	25.56	0.360	4M52G7D
		16QAM			22.24		24.65	0.292	4M53D7D
	10	QPSK	2 501.0	2 685.0	23.15		25.56	0.360	8M95G7D
		16QAM			22.21		24.62	0.290	8M95D7D
	15	QPSK	2 503.5	2 682.5	23.11		25.52	0.356	13M5G7D
		16QAM			22.22		24.63	0.290	13M5D7D
	20	QPSK	2 506.0	2 680.0	23.22		25.63	0.366	17M9G7D
		16QAM			22.26		24.67	0.293	17M9D7D
CA_7C	10+20	QPSK	2 505.5	2 560.0	23.52	2.41	25.93	0.392	27M9G7D
		16QAM			22.72		25.13	0.326	28M1D7D
	20+10	QPSK	2 510.0	2 564.5	23.29		25.70	0.372	28M1G7D
		16QAM			22.52		24.93	0.311	28M2D7D
	15+15	QPSK	2 507.5	2 562.5	23.43		25.84	0.384	28M7G7D
		16QAM			22.56		24.97	0.314	28M6D7D
	15+10	QPSK	2 507.5	2 564.7	23.34		25.75	0.376	23M1G7D
		16QAM			22.60		25.01	0.317	23M1D7D
	15+20	QPSK	2 507.8	2 560.0	23.39		25.80	0.380	32M9G7D
		16QAM			22.61		25.02	0.318	32M9D7D
	20+15	QPSK	2 510.0	2 562.2	23.37		25.78	0.378	32M9G7D
		16QAM			22.55		24.96	0.313	32M8D7D
	20+20	QPSK	2 510.0	2 560.0	23.45		25.86	0.385	37M7G7D
		16QAM			22.74		25.15	0.327	37M8D7D

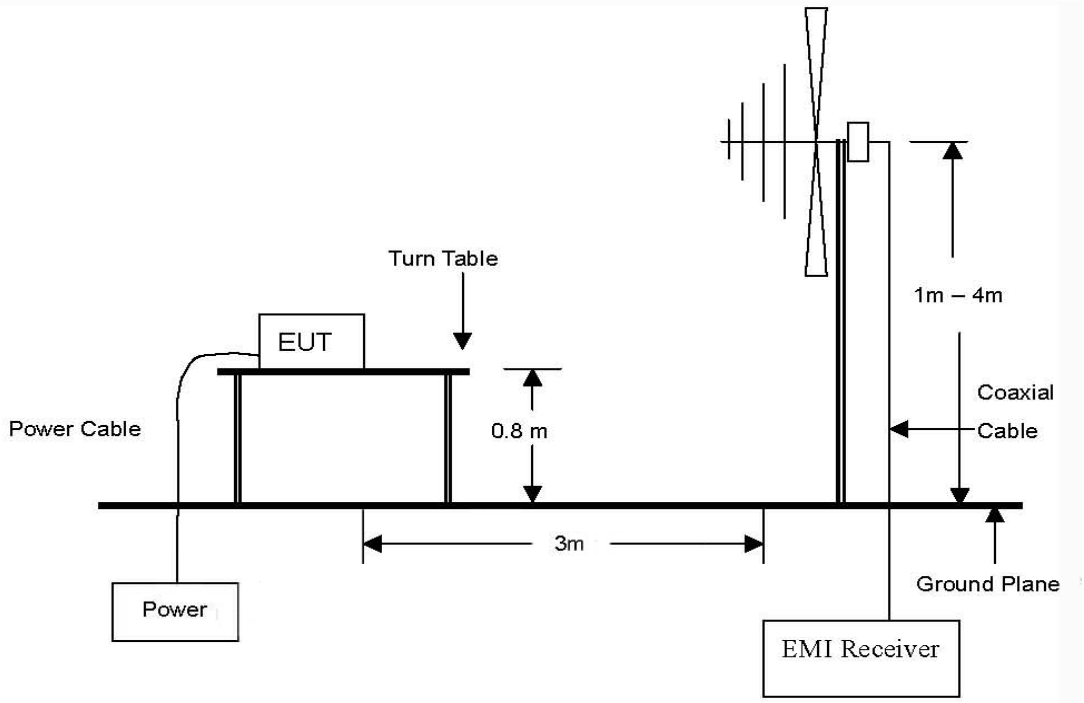
2. E.R.P. / E.I.R.P. & Radiated Spurious Emissions

2.1. Test setup

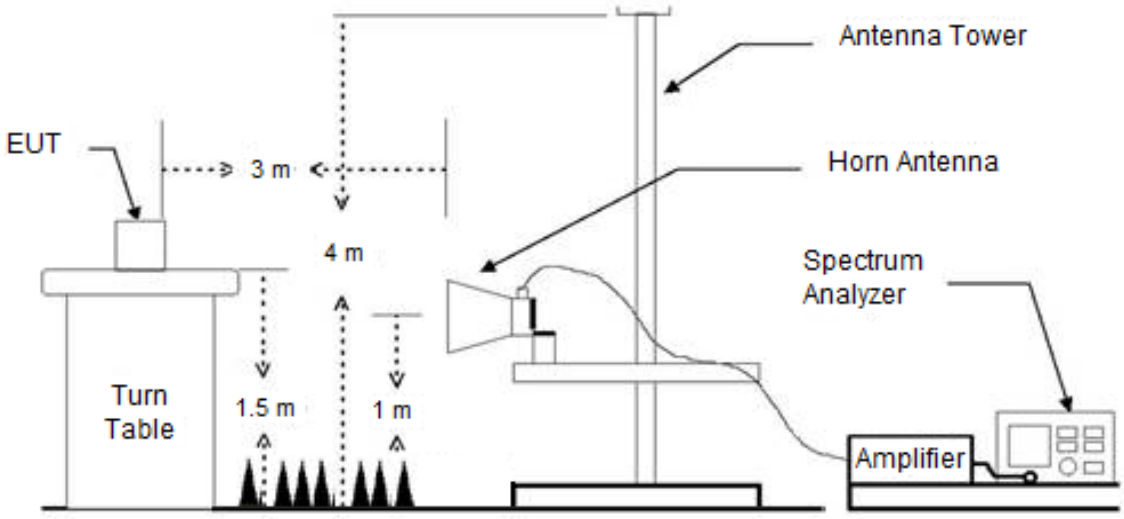
The diagram below shows the test setup that is utilized to make the measurements for emission from 9 ㎑ to 30 ㎒.



The diagram below shows the test setup that is utilized to make the measurements for emission from 30 ㎒ to 1 ㎓ Emissions.



The diagram below shows the test setup that is utilized to make the measurements for emission from 1 ㎓ to 27 ㎓ Emissions.



2.2. Limit

2.2.1. Limit of E.R.P. / E.I.R.P.

- §22.913(a)(5), the ERP of mobile transmitters and auxiliary test transmitters must not exceed 7 watts.

- §24.232(c), mobile and portable stations are limited to 2 watts EIRP and the equipment must employ a means for limiting power to the minimum necessary for successful communications.

- §27.50(c)(9), Control and mobile stations in the 698-746 ㎒ band are limited to 30 watts ERP.

- §27.50(d)(4), fixed, mobile, and portable (hand-held) stations operating in the 1 710-1 755 ㎒ band and mobile and portable stations operating in the 1 695-1 710 ㎒ and 1 755-1 780 ㎒ bands are limited to 1 watt EIRP.

- §27.50(h)(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.

- §90.635(b), the maximum output power of the transmitter for mobile stations is 100 watts (20 ㏈W).

2.2.2. Limit of Spurious Radiated Emission

- §22.917(a), 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 + 10log(P) ㏈.

- §24.238(a), 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) ㏈.

- §27.53(g), the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) ㏈.

- §27.53(h)(1), for operations in the 1 695-1 710 ㎒, 1 710-1 755 ㎒, 1 755-1 780 ㎒, 1 915-1 920 ㎒, 1 995-2 000 ㎒, 2 000-2 020 ㎒, 2 110-2 155 ㎒, 2 155-2 180 ㎒, and 2 180-2 200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 $\log_{10}$ (P) ㏈.

- §27.53(m)(4), for mobile digital stations, the attenuation factor shall be not less than 40 + 10 $\log_{10}$ (P) ㏈ on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 $\log_{10}$ (P) ㏈ on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 $\log_{10}$ (P) ㏈ 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 that 43 + 10 $\log_{10}$ (P) ㏈ on all frequencies between 2 490.5 ㎒ and 2 496 ㎒ and 55 + 10 $\log_{10}$ (P) ㏈ at or below 2 490.5 ㎒. Mobile Satellite Service licensees operating on frequencies below 2 495 ㎒ 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.

- §90.691(a), out-of-band emission requirement shall apply only to the “outer” channels included in an EA license and to spectrum adjacent to interior channels used by incumbent licensees. The emission limits are as follows:

(1) For any frequency removed from the EA licensee's frequency block by up to and including 37.5 ㎑, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 116 Log $_{10}$ (f / 6.1) decibels or 50 + 10 Log_{10} (P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 ㎑.

(2) For any frequency removed from the EA licensee's frequency block greater than 37.5 ㎑, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 Log $_{10}$ (P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 ㎑.

2.3. Test Procedure

2.3.1. E.R.P. or E.I.R.P. from conducted RF output power

According to subclause 5.2.5.5 of ANSI C63.26-2015 E.R.P. and E.I.R.P. are defined as the product of the power supplied to the antenna and its gain.

The relevant equation for determining the E.R.P. or E.I.R.P. from the conducted RF output power measured using the guidance provided above is:

E.R.P. or E.I.R.P. = $P_{Meas} + G_T$

where:
E.R.P. or E.I.R.P. = effective radiated power or equivalent isotropically 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);

2.3.2. Radiated Spurious Emissions

The test based on ANSI/TIA 603E: 2016 and ANSI C63.26-2015 and KDB 971168 D01 Power Meas License Digital Systems v03r01.

1. On a test site, the EUT shall be placed at 0.8 m or 1.5 m height on a turn table, and in the position close to normal use as declared by the applicant.
2. The test antenna shall be oriented initially for vertical polarization located 3 m from EUT to correspond to the fundamental frequency of the transmitter.
3. The output of the test antenna shall be connected to the measuring receiver and the peak detector is used for the measurement.
4. Radiated spurious emissions measurement method was set as follows:
   RBW = 100 kHz for emissions below 1 GHz and 1 MHz for emissions above 1 GHz, VBW ≥ 3 x RBW,
   Detector = RMS, trace mode = max hold, per the guidelines of KDB 971168 D01 Power Meas License Digital Systems v03r01.
5. The transmitter shall be switched on, the measuring receiver shall be tuned to the frequency of the transmitter under test.
6. The test antenna shall be raised and lowered through the specified range of height until the maximum signal level is detected by the measuring receiver.
7. The transmitter shall be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver.
8. The test antenna shall be raised and lowered again through the specified range of height until the maximum signal level is detected by the measuring receiver.
9. The maximum signal level detected by the measuring receiver shall be noted.
10. In necessary, the input attenuator setting on the measuring receiver shall be adjusted in order to increase the sensitivity of the measuring receiver.
11. The test antenna shall be raised and lowered through the specified range of height to ensure that the maximum signal is received.
12. The measurement shall be repeated with the test antenna orientated for horizontal polarization.

2.4. Test results

Ambient temperature : (23 ± 1) ℃
Relative humidity : 47 % R.H.

2.4.1. E.R.P. / E.I.R.P.

Band	Frequency (㎒)	Maximum Conducted Power (dB m)	Maximum Conducted Power (W)	Antenna Gain (dB i)	Maximum E.I.R.P. (dB m)	Maximum E.I.R.P. (W)	Maximum E.R.P. (dB m)	Maximum E.R.P. (W)	Limit
4	1 710 ~ 1 755	23.17	0.207	0.22	23.39	0.218			1 W E.I.R.P.
7	2 500 ~ 2 570	23.18	0.208	2.41	25.59	0.362			2 W E.I.R.P.
12/17	699 ~ 716	23.36	0.217	1.04	24.40	0.275	22.25	0.168	30 W E.R.P.
25/2	1 850 ~ 1 915	23.35	0.216	2.80	26.15	0.412			2 W E.I.R.P.
26/5 Part 22	824 ~ 849	23.36	0.217	-1.16	22.20	0.166	20.05	0.101	7 W E.R.P.
26 Part 90	814 ~ 824	23.25	0.211	-1.16	22.09	0.162	19.94	0.099	100 W
41/38	2 496 ~ 2 690	23.22	0.210	2.41	25.63	0.366			2 W E.I.R.P.
CA_7C	2 500 ~ 2 570	23.52	0.225	2.41	25.93	0.392			2 W E.I.R.P.

Remark;

1. E.I.R.P. (dB m) = Maximum Conducted Power (dB m) + Antenna Gain (dB i)
2. E.R.P. (dB m) = E.I.R.P. (dB m) - 2.15 (dB); where E.R.P. and E.I.R.P. are expressed in consistent units.

2.4.2. radiated Spurious emissions

-Ant. 1

LTE band 4 (20 ㎒ - QPSK)

Frequency (㎒)	Measured Level (dB㎶)	Ant. Pol.	AF (dB/m)	AMP+CL (dB)	E (dB㎶/m)	CF (dB)	E.I.R.P. (dB m)	Limit (dB m)	Margin (dB)
Low Channel (1 720.0 ㎒)									
Below 1 000.00	Not detected	–	–	–	–	–	–	–	–
Above 1 000.00	Not detected	–	–	–	–	–	–	–	–
Middle Channel (1 732.5 ㎒)									
Below 1 000.00	Not detected	–	–	–	–	–	–	–	–
Above 1 000.00	Not detected	–	–	–	–	–	–	–	–
High Channel (1 745.0 ㎒)									
Below 1 000.00	Not detected	–	–	–	–	–	–	–	–
Above 1 000.00	Not detected	–	–	–	–	–	–	–	–

LTE band 7 (20 ㎒ - QPSK)

Frequency (㎒)	Measured Level (dB㎶)	Ant. Pol.	AF (dB/m)	AMP+CL (dB)	E (dB㎶/m)	CF (dB)	E.I.R.P. (dB m)	Limit (dB m)	Margin (dB)
Low Channel (2 510.0 ㎒)									
Below 1 000.00	Not detected	–	–	–	–	–	–	–	–
Above 1 000.00	Not detected	–	–	–	–	–	–	–	–
Middle Channel (2 535.0 ㎒)									
Below 1 000.00	Not detected	–	–	–	–	–	–	–	–
Above 1 000.00	Not detected	–	–	–	–	–	–	–	–
High Channel (2 560.0 ㎒)									
Below 1 000.00	Not detected	–	–	–	–	–	–	–	–
Above 1 000.00	Not detected	–	–	–	–	–	–	–	–

LTE band 12/17 (10 ㎒ - QPSK)

Frequency (㎒)	Measured Level (dBμV)	Ant. Pol.	AF (dB/m)	AMP+CL (dB)	E (dBμV/m)	CF (dB)	E.R.P. (dB m)	Limit (dB m)	Margin (dB)
Low Channel (704.0 ㎒)									
2 098.81	50.30	H	27.90	-35.69	42.51	-97.41	-54.90	-13	41.90
2 098.89	59.56	V	27.90	-35.69	51.77	-97.41	-45.64	-13	32.64
Above 2 100.00	Not detected	–	–	–	–	–	–	–	–
Middle Channel (707.5 ㎒)									
2 109.34	50.62	H	27.84	-35.66	42.80	-97.41	-54.61	-13	41.61
2 109.24	56.54	V	27.84	-35.66	48.72	-97.41	-48.69	-13	35.69
Above 2 200.00	Not detected	–	–	–	–	–	–	–	–
High Channel (711.0 ㎒)									
2 119.68	51.60	H	27.78	-35.63	43.75	-97.41	-53.66	-13	40.66
2 119.73	54.56	V	27.78	-35.63	46.71	-97.41	-50.70	-13	37.70
Above 2 200.00	Not detected	–	–	–	–	–	–	–	–

LTE band 25/2 (20 ㎒ - QPSK)

Frequency (㎒)	Measured Level (dBμV)	Ant. Pol.	AF (dB/m)	AMP+CL (dB)	E (dBμV/m)	CF (dB)	E.I.R.P. (dB m)	Limit (dB m)	Margin (dB)
Low Channel (1 860.0 ㎒)									
5 553.13	43.65	H	34.10	-29.71	48.04	-95.26	-47.22	-13	34.22
5 553.40	41.60	V	34.10	-29.71	45.99	-95.26	-49.27	-13	36.27
Above 5 600.00	Not detected	–	–	–	–	–	–	–	–
Middle Channel (1 882.5 ㎒)									
5 620.90	45.38	H	34.10	-29.65	49.83	-95.26	-45.43	-13	32.43
5 620.67	42.41	V	34.10	-29.65	46.86	-95.26	-48.40	-13	35.40
Above 5 700.00	Not detected	–	–	–	–	–	–	–	–
High Channel (1 905.0 ㎒)									
5 688.20	44.31	H	34.10	-29.61	48.80	-95.26	-46.46	-13	33.46
5 688.21	45.76	V	34.10	-29.61	50.25	-95.26	**-45.01**	-13	32.01
Above 5 700.00	Not detected	–	–	–	–	–	–	–	–

LTE band 26/5_Part 22 (15 ㎒ - QPSK)

Frequency (㎒)	Measured Level (dB㎶)	Ant. Pol.	AF (dB/m)	AMP+CL (dB)	E (dB㎶/m)	CF (dB)	E.R.P. (dB m)	Limit (dB m)	Margin (dB)
Low Channel (831.5 ㎒)									
1 333.14	50.16	H	25.03	-37.93	37.26	-97.41	-60.15	-13	47.15
1 332.97	56.99	V	25.03	-37.93	44.09	-97.41	-53.32	-13	40.32
2 474.57	59.81	H	28.30	-35.00	53.11	-97.41	-44.30	-13	31.30
2 474.49	61.93	V	28.30	-35.00	55.23	-97.41	**-42.18**	-13	29.18
Above 2 500.00	Not detected	–	–	–	–	–	–	–	–
High Channel (841.5 ㎒)									
1 332.80	49.58	H	25.03	-37.93	36.68	-97.41	-60.73	-13	47.73
1 333.12	55.48	V	25.03	-37.93	42.58	-97.41	-54.83	-13	41.83
2 504.55	60.79	H	28.42	-34.96	54.25	-97.41	-43.16	-13	30.16
2 504.44	57.44	V	28.42	-34.96	50.90	-97.41	-46.51	-13	33.51
Above 2 600.00	Not detected	–	–	–	–	–	–	–	–

LTE band 26_Part 90 (15 ㎒ - QPSK)

Frequency (㎒)	Measured Level (dB㎶)	Ant. Pol.	AF (dB/m)	AMP+CL (dB)	E (dB㎶/m)	CF (dB)	E.R.P. (dB m)	Limit (dB m)	Margin (dB)
Middle Channel (821.5 ㎒)									
1 333.06	49.92	H	25.03	-37.93	37.02	-97.41	-60.39	-13	47.39
1 333.01	51.76	V	25.03	-37.93	38.86	-97.41	-58.55	-13	45.55
2 444.49	57.31	H	28.19	-35.03	50.47	-97.41	**-46.94**	-13	33.94
2 444.64	57.16	V	28.19	-35.03	50.32	-97.41	-47.09	-13	34.09
Above 2 500.00	Not detected	–	–	–	–	–	–	–	–

LTE band 41/38 (20 ㎒ – QPSK)

Frequency (㎒)	Measured Level (dB㎶)	Ant. Pol.	AF (dB/m)	AMP+CL (dB)	E (dB㎶/m)	CF (dB)	E.I.R.P. (dB m)	Limit (dB m)	Margin (dB)
Low Channel (2 506.0 ㎒)									
Below 1 000.00	Not detected	–	–	–	–	–	–	–	–
Above 1 000.00	Not detected	–	–	–	–	–	–	–	–
Middle Channel (2 593.0 ㎒)									
Below 1 000.00	Not detected	–	–	–	–	–	–	–	–
Above 1 000.00	Not detected	–	–	–	–	–	–	–	–
High Channel (2 680.0 ㎒)									
Below 1 000.00	Not detected	–	–	–	–	–	–	–	–
Above 1 000.00	Not detected	–	–	–	–	–	–	–	–

ULCA_7C

Frequency (㎒)	Measured Level (dB㎶)	Ant. Pol.	AF (dB/m)	AMP+CL (dB)	E (dB㎶/m)	CF (dB)	E.I.R.P. (dB m)	Limit (dB m)	Margin (dB)
PCC 10 ㎒ + SCC 20 ㎒_Low Channel (2 505.5 ㎒ + 2 519.9 ㎒)									
Below 1 000.00	Not detected	–	–	–	–	–	–	–	–
Above 1 000.00	Not detected	–	–	–	–	–	–	–	–
PCC 10 ㎒ + SCC 20 ㎒_Middle Channel (2 525.6 ㎒ + 2 540.0 ㎒)									
Below 1 000.00	Not detected	–	–	–	–	–	–	–	–
Above 1 000.00	Not detected	–	–	–	–	–	–	–	–
PCC 10 ㎒ + SCC 20 ㎒_High Channel 2 545.6 ㎒ + 2 560.0 ㎒)									
Below 1 000.00	Not detected	–	–	–	–	–	–	–	–
Above 1 000.00	Not detected	–	–	–	–	–	–	–	–

-Ant. 3

LTE band 4 (20 ㎒ - QPSK)

Frequency (㎒)	Measured Level (dBμV)	Ant. Pol.	AF (dB/m)	AMP+CL (dB)	E (dBμV/m)	CF (dB)	E.I.R.P. (dB m)	Limit (dB m)	Margin (dB)
Low Channel (1 720.0 ㎒)									
Below 1 000.00	Not detected	–	–	–	–	–	–	–	–
Above 1 000.00	Not detected	–	–	–	–	–	–	–	–
Middle Channel (1 732.5 ㎒)									
Below 1 000.00	Not detected	–	–	–	–	–	–	–	–
Above 1 000.00	Not detected	–	–	–	–	–	–	–	–
High Channel (1 745.0 ㎒)									
Below 1 000.00	Not detected	–	–	–	–	–	–	–	–
Above 1 000.00	Not detected	–	–	–	–	–	–	–	–

LTE band 7 (20 ㎒ - QPSK)

Frequency (㎒)	Measured Level (dBμV)	Ant. Pol.	AF (dB/m)	AMP+CL (dB)	E (dBμV/m)	CF (dB)	E.I.R.P. (dB m)	Limit (dB m)	Margin (dB)
Low Channel (2 510.0 ㎒)									
Below 1 000.00	Not detected	–	–	–	–	–	–	–	–
Above 1 000.00	Not detected	–	–	–	–	–	–	–	–
Middle Channel (2 535.0 ㎒)									
Below 1 000.00	Not detected	–	–	–	–	–	–	–	–
Above 1 000.00	Not detected	–	–	–	–	–	–	–	–
High Channel (2 560.0 ㎒)									
Below 1 000.00	Not detected	–	–	–	–	–	–	–	–
Above 1 000.00	Not detected	–	–	–	–	–	–	–	–

LTE band 12/17 (10 ㎒ - QPSK)

Frequency (㎒)	Measured Level (dB㎶)	Ant. Pol.	AF (dB/m)	AMP+CL (dB)	E (dB㎶/m)	CF (dB)	E.R.P. (dB m)	Limit (dB m)	Margin (dB)
Low Channel (704.0 ㎒)									
1 332.90	48.91	H	25.03	-37.93	36.01	-97.41	-61.40	-13	48.40
1 332.88	55.12	V	25.03	-37.93	42.22	-97.41	-55.19	-13	42.19
1 399.36	51.34	H	25.10	-37.72	38.72	-97.41	-58.69	-13	45.69
1 399.34	50.37	V	25.10	-37.72	37.75	-97.41	-59.66	-13	46.66
2 098.79	66.47	H	27.90	-35.69	58.68	-97.41	**-38.73**	-13	25.73
2 098.76	61.76	V	27.90	-35.69	53.97	-97.41	-43.44	-13	30.44
3 497.91	41.72	H	31.10	-33.39	39.43	-97.41	-57.98	-13	44.98
3 497.91	44.92	V	31.10	-33.39	42.63	-97.41	-54.78	-13	41.78
Above 3 500.00	Not detected	–	–	–	–	–	–	–	–
Middle Channel (707.5 ㎒)									
1 332.79	48.45	H	25.03	-37.93	35.55	-97.41	-61.86	-13	48.86
1 332.89	55.40	V	25.03	-37.93	42.50	-97.41	-54.91	-13	41.91
1 406.29	53.67	H	25.11	-37.69	41.09	-97.41	-56.32	-13	43.32
1 406.03	50.49	V	25.11	-37.69	37.91	-97.41	-59.50	-13	46.50
2 109.18	66.14	H	27.84	-35.66	58.32	-97.41	-39.09	-13	26.09
2 109.23	61.85	V	27.84	-35.66	54.03	-97.41	-43.38	-13	30.38
3 515.40	44.08	H	31.13	-33.35	41.86	-97.41	-55.55	-13	42.55
3 515.25	43.13	V	31.13	-33.35	40.91	-97.41	-56.50	-13	43.50
Above 3 600.00	Not detected	–	–	–	–	–	–	–	–

LTE band 12/17 (10 ㎒ - QPSK)

Frequency (㎒)	Measured Level (dBμV)	Ant. Pol.	AF (dB/m)	AMP+CL (dB)	E (dBμV/m)	CF (dB)	E.R.P. (dB m)	Limit (dB m)	Margin (dB)
High Channel (711.0 ㎒)									
1 332.73	49.98	H	25.03	-37.93	37.08	-97.41	-60.33	-13	47.33
1 332.65	55.39	V	25.03	-37.93	42.49	-97.41	-54.92	-13	41.92
1 413.12	51.61	H	25.13	-37.66	39.08	-97.41	-58.33	-13	45.33
1 413.25	49.43	V	25.13	-37.66	36.90	-97.41	-60.51	-13	47.51
2 119.77	65.61	H	27.78	-35.63	57.76	-97.41	-39.65	-13	26.65
2 119.77	62.31	V	27.78	-35.63	54.46	-97.41	-42.95	-13	29.95
3 532.90	42.47	H	31.17	-33.30	40.34	-97.41	-57.07	-13	44.07
3 532.87	43.61	V	31.17	-33.30	41.48	-97.41	-55.93	-13	42.93
Above 3 600.00	Not detected	–	–	–	–	–	–	–	–

LTE band 25/2 (20 ㎒ - QPSK)

Frequency (㎒)	Measured Level (dBμV)	Ant. Pol.	AF (dB/m)	AMP+CL (dB)	E (dBμV/m)	CF (dB)	E.I.R.P. (dB m)	Limit (dB m)	Margin (dB)
Low Channel (1 860.0 ㎒)									
Below 1 000.00	Not detected	–	–	–	–	–	–	–	–
Above 1 000.00	Not detected	–	–	–	–	–	–	–	–
Middle Channel (1 882.5 ㎒)									
Below 1 000.00	Not detected	–	–	–	–	–	–	–	–
Above 1 000.00	Not detected	–	–	–	–	–	–	–	–
High Channel (1 905.0 ㎒)									
Below 1 000.00	Not detected	–	–	–	–	–	–	–	–
Above 1 000.00	Not detected	–	–	–	–	–	–	–	–

LTE band 26/5_Part 22 (15 ㎒ - QPSK)

Frequency (㎒)	Measured Level (dB㎶)	Ant. Pol.	AF (dB/m)	AMP+CL (dB)	E (dB㎶/m)	CF (dB)	E.R.P. (dB m)	Limit (dB m)	Margin (dB)
Low Channel (831.5 ㎒)									
Below 1 000.00	Not detected	–	–	–	–	–	–	–	–
Above 1 000.00	Not detected	–	–	–	–	–	–	–	–
High Channel (841.5 ㎒)									
Below 1 000.00	Not detected	–	–	–	–	–	–	–	–
Above 1 000.00	Not detected	–	–	–	–	–	–	–	–
Middle Channel (821.5 ㎒)									
Below 1 000.00	Not detected	–	–	–	–	–	–	–	–
Above 1 000.00	Not detected	–	–	–	–	–	–	–	–

LTE band 41/38 (20 ㎒ – QPSK)

Frequency (㎒)	Measured Level (dB㎶)	Ant. Pol.	AF (dB/m)	AMP+CL (dB)	E (dB㎶/m)	CF (dB)	E.I.R.P. (dB m)	Limit (dB m)	Margin (dB)
Low Channel (2 506.0 ㎒)									
Below 1 000.00	Not detected	–	–	–	–	–	–	–	–
Above 1 000.00	Not detected	–	–	–	–	–	–	–	–
Middle Channel (2 593.0 ㎒)									
Below 1 000.00	Not detected	–	–	–	–	–	–	–	–
Above 1 000.00	Not detected	–	–	–	–	–	–	–	–
High Channel (2 680.0 ㎒)									
Below 1 000.00	Not detected	–	–	–	–	–	–	–	–
Above 1 000.00	Not detected	–	–	–	–	–	–	–	–

ULCA_7C

Frequency (㎒)	Measured Level (dB㎶)	Ant. Pol.	AF (dB/m)	AMP+CL (dB)	E (dB㎶/m)	CF (dB)	E.I.R.P. (dB m)	Limit (dB m)	Margin (dB)
PCC 10 ㎒ + SCC 20 ㎒_Low Channel (2 505.5 ㎒ + 2 519.9 ㎒)									
Below 1 000.00	Not detected	–	–	–	–	–	–	–	–
Above 1 000.00	Not detected	–	–	–	–	–	–	–	–
PCC 10 ㎒ + SCC 20 ㎒_Middle Channel (2 525.6 ㎒ + 2 540.0 ㎒)									
Below 1 000.00	Not detected	–	–	–	–	–	–	–	–
Above 1 000.00	Not detected	–	–	–	–	–	–	–	–
PCC 10 ㎒ + SCC 20 ㎒_High Channel 2 545.6 ㎒ + 2 560.0 ㎒)									
Below 1 000.00	Not detected	–	–	–	–	–	–	–	–
Above 1 000.00	Not detected	–	–	–	–	–	–	–	–

Remark;

1. AF = Antenna Factor, CL = Cable Loss, CF = Conversion Factor.
2. E (dB㎶/m) = Measured Level (dB㎶) + Antenna Factor (dB/m) + AMP (dB) + Cable Loss (dB).
3. E.I.R.P. (dB m) = E (dB㎶/m) + CF (dB).
4. E.R.P. (dB m) = E (dB㎶/m) + CF (dB) - 2.15 (dB); where E.R.P. and E.I.R.P. are expressed in consistent units.
5. CF (dB) = 20 log D - 104.8; where D is the measurement distance in meters, According to KDB 971168 D01 v03r01 5.8.4.
6. The frequency spectrum is examined from 9 ㎑ to the 10th harmonic of the fundamental frequency of the transmitter. No other spurious and harmonic emissions were reported greater than listed emissions above table.

3. Conducted Output Power

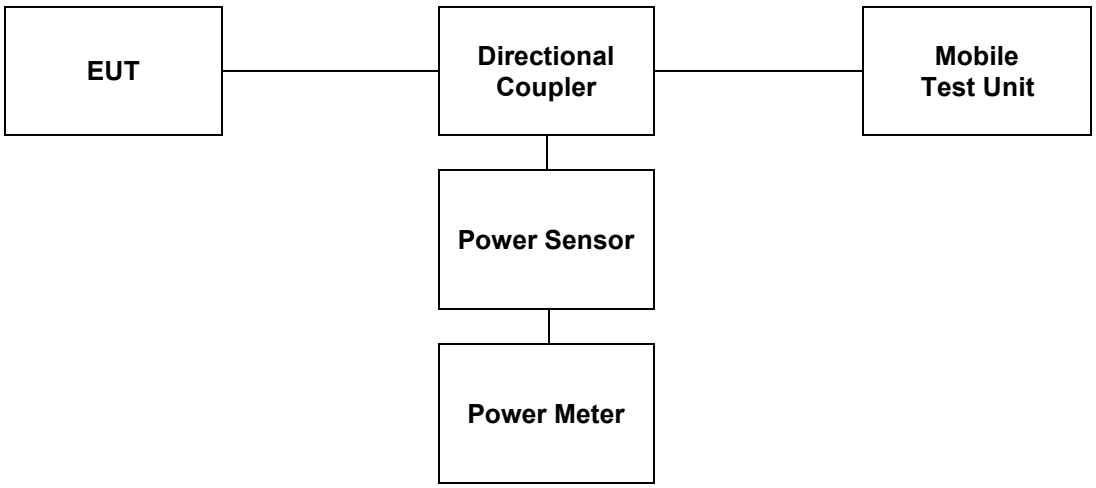
3.1. Limit

CFR 47, Section FCC §2.1046

3.2. Test Procedure

Output power shall be measured at the RF output terminals for all configurations.

1. The RF output of the transmitter was connected to the input of the mobile test unit in order to establish communication with the EUT.
2. The EUT was set up for the max. output power with pseudo random data modulation by using mobile test unit parameters.
3. The measurement performed using a wideband RF power meter.
4. This EUT was tested under all configurations and the highest power was investigated and reported.



3.3. Test Result

Ambient temperature : (23 ± 1) ℃

Relative humidity : 47 % R.H.

LTE Band 4									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
				19957 (1 710.7 ㎒)		20175 (1 732.5 ㎒)		20393 (1 754.3 ㎒)	
				(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
1.4	QPSK	1	0	22.82	0.191	22.89	0.195	22.91	0.195
		1	3	22.77	0.189	22.87	0.194	22.87	0.194
		1	5	22.82	0.191	22.79	0.190	**23.05**	**0.202**
		3	0	22.73	0.187	22.62	0.183	22.80	0.191
		3	2	22.57	0.181	22.63	0.183	22.93	0.196
		3	3	22.65	0.184	22.73	0.187	22.79	0.190
		6	0	21.64	0.146	21.80	0.151	21.88	0.154
	16QAM	1	0	22.05	0.160	21.88	0.154	22.21	0.166
		1	3	21.97	0.157	21.95	0.157	22.11	0.163
		1	5	22.06	0.161	22.06	0.161	22.01	0.159
		3	0	21.86	0.153	21.97	0.157	22.32	0.171
		3	2	21.77	0.150	21.83	0.152	**22.36**	**0.172**
		3	3	21.86	0.153	21.99	0.158	22.07	0.161
		6	0	20.75	0.119	20.94	0.124	21.08	0.128
	64QAM	1	0	20.96	0.125	20.91	0.123	**21.21**	**0.132**
		1	3	20.89	0.123	20.98	0.125	21.12	0.129
		1	5	20.91	0.123	20.87	0.122	21.03	0.127
		3	0	20.82	0.121	21.10	0.129	21.14	0.130
		3	2	20.80	0.120	20.83	0.121	21.05	0.127
		3	3	20.82	0.121	20.90	0.123	21.09	0.129
		6	0	19.75	0.094	19.95	0.099	19.96	0.099
	256QAM	1	0	17.90	0.062	17.71	0.059	**18.05**	**0.064**
		1	3	17.81	0.060	17.69	0.059	17.87	0.061
		1	5	17.77	0.060	17.85	0.061	17.98	0.063
		3	0	17.73	0.059	17.72	0.059	17.96	0.063
		3	2	17.70	0.059	17.81	0.060	17.89	0.062
		3	3	17.74	0.059	17.81	0.060	17.91	0.062
		6	0	17.76	0.060	17.89	0.062	17.89	0.062

LTE Band 4									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
				19965 (1 712.5 ㎒)		20175 (1 732.5 ㎒)		20385 (1 753.5 ㎒)	
				(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
3	QPSK	1	0	22.88	0.194	22.74	0.188	22.94	0.197
		1	7	22.77	0.189	22.86	0.193	23.00	0.200
		1	14	22.74	0.188	22.74	0.188	**23.16**	**0.207**
		8	0	21.86	0.153	21.69	0.148	21.86	0.153
		8	4	21.71	0.148	21.81	0.152	21.87	0.154
		8	7	21.69	0.148	21.78	0.151	22.17	0.165
		15	0	21.68	0.147	21.67	0.147	21.88	0.154
	16QAM	1	0	21.83	0.152	21.93	0.156	21.97	0.157
		1	7	22.10	0.162	21.91	0.155	**22.39**	**0.173**
		1	14	21.84	0.153	21.89	0.155	22.17	0.165
		8	0	20.94	0.124	20.77	0.119	20.91	0.123
		8	4	20.95	0.124	20.85	0.122	20.90	0.123
		8	7	20.82	0.121	20.83	0.121	20.88	0.122
		15	0	20.74	0.119	20.71	0.118	20.97	0.125
	64QAM	1	0	20.84	0.121	20.92	0.124	20.98	0.125
		1	7	20.91	0.123	21.02	0.126	**21.11**	**0.129**
		1	14	20.92	0.124	20.80	0.120	20.98	0.125
		8	0	19.89	0.097	19.80	0.095	19.90	0.098
		8	4	19.85	0.097	19.83	0.096	19.90	0.098
		8	7	19.93	0.098	19.85	0.097	19.85	0.097
		15	0	19.68	0.093	19.72	0.094	19.87	0.097
	256QAM	1	0	17.65	0.058	17.77	0.060	17.85	0.061
		1	7	17.84	0.061	17.89	0.062	**18.00**	**0.063**
		1	14	17.58	0.057	17.84	0.061	17.93	0.062
		8	0	17.82	0.061	17.68	0.059	17.91	0.062
		8	4	17.75	0.060	17.82	0.061	17.86	0.061
		8	7	17.69	0.059	17.71	0.059	17.86	0.061
		15	0	17.68	0.059	17.73	0.059	17.83	0.061

LTE Band 4									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
				19975 (1 712.5 ㎒)		20175 (1 732.5 ㎒)		20375 (1 752.5 ㎒)	
				(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
5	QPSK	1	0	22.70	0.186	22.66	0.185	**22.92**	**0.196**
		1	12	22.68	0.185	22.75	0.188	22.75	0.188
		1	24	22.67	0.185	22.91	0.195	22.81	0.191
		12	0	21.84	0.153	21.82	0.152	21.82	0.152
		12	6	21.69	0.148	21.76	0.150	21.95	0.157
		12	13	21.77	0.150	21.75	0.150	21.89	0.155
		25	0	21.64	0.146	21.77	0.150	21.89	0.155
	16QAM	1	0	22.05	0.160	21.93	0.156	22.00	0.158
		1	12	21.92	0.156	22.05	0.160	**22.08**	**0.161**
		1	24	21.85	0.153	22.07	0.161	22.00	0.158
		12	0	20.76	0.119	20.88	0.122	20.89	0.123
		12	6	20.73	0.118	20.89	0.123	20.98	0.125
		12	13	20.89	0.123	20.80	0.120	20.90	0.123
		25	0	20.73	0.118	20.75	0.119	20.94	0.124
	64QAM	1	0	20.86	0.122	20.95	0.124	20.96	0.125
		1	12	20.91	0.123	**21.07**	**0.128**	21.04	0.127
		1	24	20.75	0.119	20.99	0.126	20.91	0.123
		12	0	19.82	0.096	19.89	0.097	19.84	0.096
		12	6	19.85	0.097	19.87	0.097	19.95	0.099
		12	13	19.90	0.098	19.87	0.097	19.87	0.097
		25	0	19.76	0.095	19.70	0.093	19.95	0.099
	256QAM	1	0	17.66	0.058	17.73	0.059	17.82	0.061
		1	12	17.66	0.058	17.98	0.063	**18.01**	**0.063**
		1	24	17.48	0.056	17.90	0.062	17.84	0.061
		12	0	17.66	0.058	17.76	0.060	17.82	0.061
		12	6	17.79	0.060	17.84	0.061	17.90	0.062
		12	13	17.67	0.058	17.76	0.060	17.84	0.061
		25	0	17.61	0.058	17.76	0.060	17.84	0.061

LTE Band 4									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
				20000 (1 715.0 ㎒)		20175 (1 732.5 ㎒)		20350 (1 750.0 ㎒)	
				(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
10	QPSK	1	0	22.91	0.195	22.77	0.189	22.87	0.194
		1	25	**23.14**	**0.206**	22.76	0.189	23.00	0.200
		1	49	22.88	0.194	22.89	0.195	22.92	0.196
		25	0	21.67	0.147	21.84	0.153	21.84	0.153
		25	12	21.75	0.150	21.75	0.150	21.85	0.153
		25	25	21.93	0.156	21.73	0.149	21.88	0.154
		50	0	21.79	0.151	21.75	0.150	21.92	0.156
	16QAM	1	0	21.89	0.155	21.96	0.157	22.08	0.161
		1	25	21.94	0.156	22.06	0.161	**22.16**	**0.164**
		1	49	21.80	0.151	22.14	0.164	21.93	0.156
		25	0	20.88	0.122	20.99	0.126	20.85	0.122
		25	12	21.07	0.128	20.89	0.123	20.94	0.124
		25	25	20.87	0.122	20.87	0.122	20.92	0.124
		50	0	21.06	0.128	20.88	0.122	20.88	0.122
	64QAM	1	0	20.92	0.124	20.92	0.124	20.94	0.124
		1	25	20.79	0.120	**21.01**	**0.126**	20.78	0.120
		1	49	20.87	0.122	20.98	0.125	20.77	0.119
		25	0	19.91	0.098	19.92	0.098	19.91	0.098
		25	12	20.01	0.100	19.85	0.097	19.94	0.099
		25	25	19.93	0.098	19.85	0.097	20.04	0.101
		50	0	19.93	0.098	19.77	0.095	19.90	0.098
	256QAM	1	0	17.68	0.059	17.82	0.061	17.83	0.061
		1	25	17.52	0.056	17.94	0.062	**17.98**	**0.063**
		1	49	17.80	0.060	17.87	0.061	17.81	0.060
		25	0	17.74	0.059	17.77	0.060	17.83	0.061
		25	12	17.62	0.058	17.80	0.060	17.83	0.061
		25	25	17.79	0.060	17.84	0.061	17.87	0.061
		50	0	17.69	0.059	17.82	0.061	17.83	0.061

LTE Band 4									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
				20025 (1 717.5 ㎒)		20715 (1 732.5 ㎒)		20325 (1 747.5 ㎒)	
				(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
15	QPSK	1	0	22.89	0.195	22.94	0.197	22.90	0.195
		1	36	22.81	0.191	22.90	0.195	**23.16**	**0.207**
		1	74	23.07	0.203	22.82	0.191	22.87	0.194
		36	0	21.68	0.147	21.78	0.151	21.86	0.153
		36	18	21.92	0.156	21.91	0.155	21.85	0.153
		36	37	21.77	0.150	21.80	0.151	21.90	0.155
		75	0	21.70	0.148	21.82	0.152	20.80	0.120
	16QAM	1	0	21.95	0.157	22.08	0.161	21.96	0.157
		1	36	21.85	0.153	**22.23**	**0.167**	22.15	0.164
		1	74	22.02	0.159	21.91	0.155	22.15	0.164
		36	0	20.81	0.121	20.95	0.124	20.82	0.121
		36	18	20.99	0.126	20.96	0.125	20.86	0.122
		36	37	21.03	0.127	20.85	0.122	20.84	0.121
		75	0	20.82	0.121	20.82	0.121	20.84	0.121
	64QAM	1	0	20.80	0.120	**21.18**	**0.131**	20.92	0.124
		1	36	20.82	0.121	21.03	0.127	21.08	0.128
		1	74	20.84	0.121	20.98	0.125	21.16	0.131
		36	0	19.95	0.099	19.88	0.097	19.84	0.096
		36	18	19.91	0.098	19.89	0.097	19.83	0.096
		36	37	19.99	0.100	20.03	0.101	19.86	0.097
		75	0	19.80	0.095	19.91	0.098	19.81	0.096
	256QAM	1	0	17.75	0.060	17.76	0.060	17.93	0.062
		1	36	17.83	0.061	**17.99**	**0.063**	17.98	0.063
		1	74	17.75	0.060	17.88	0.061	17.99	0.063
		36	0	17.79	0.060	17.79	0.060	17.80	0.060
		36	18	17.75	0.060	17.83	0.061	17.77	0.060
		36	37	17.70	0.059	17.81	0.060	17.80	0.060
		75	0	17.75	0.060	17.81	0.060	17.76	0.060

LTE Band 4									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
				20050 (1 720.0 ㎒)		20175 (1 732.5 ㎒)		20300 (1 745.0 ㎒)	
				(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
20	QPSK	1	0	23.16	0.207	**23.17**	**0.207**	23.12	0.205
		1	50	22.87	0.194	23.10	0.204	23.07	0.203
		1	99	23.12	0.205	23.11	0.205	23.04	0.201
		50	0	22.00	0.158	22.07	0.161	21.87	0.154
		50	25	22.03	0.160	22.19	0.166	21.98	0.158
		50	13	22.02	0.159	22.18	0.165	21.87	0.154
		100	0	22.05	0.160	22.09	0.162	22.00	0.158
	16QAM	1	0	22.14	0.164	22.22	0.167	22.31	0.170
		1	50	22.35	0.172	22.19	0.166	**22.45**	**0.176**
		1	99	22.32	0.171	22.29	0.169	22.22	0.167
		50	0	21.19	0.132	21.14	0.130	20.77	0.119
		50	25	21.20	0.132	21.17	0.131	20.82	0.121
		50	50	21.15	0.130	21.26	0.134	20.77	0.119
		100	0	21.08	0.128	21.06	0.128	21.09	0.129
	64QAM	1	0	21.10	0.129	21.19	0.132	21.22	0.132
		1	50	21.13	0.130	21.27	0.134	**21.37**	**0.137**
		1	99	21.05	0.127	21.18	0.131	21.07	0.128
		50	0	20.12	0.103	20.12	0.103	19.98	0.100
		50	25	20.16	0.104	20.14	0.103	20.15	0.104
		50	50	20.20	0.105	20.10	0.102	19.67	0.093
		100	0	20.06	0.101	20.12	0.103	20.03	0.101
	256QAM	1	0	18.01	0.063	18.09	0.064	18.08	0.064
		1	50	18.06	0.064	**18.18**	**0.066**	18.08	0.064
		1	99	18.06	0.064	18.06	0.064	18.15	0.065
		50	0	17.99	0.063	18.05	0.064	18.09	0.064
		50	25	17.97	0.063	18.07	0.064	18.00	0.063
		50	50	18.03	0.064	18.01	0.063	18.01	0.063
		100	0	17.97	0.063	17.98	0.063	17.99	0.063

LTE Band 7									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
				20775 (2 502.5 ㎒)		21100 (2 535.0 ㎒)		21425 (2 567.5 ㎒)	
				(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
5	QPSK	1	0	22.83	0.192	22.84	0.192	22.79	0.190
		1	12	22.94	0.197	22.80	0.191	22.81	0.191
		1	24	22.72	0.187	**23.10**	**0.204**	22.69	0.186
		12	0	22.03	0.160	21.94	0.156	21.83	0.152
		12	6	21.95	0.157	21.89	0.155	21.82	0.152
		12	13	21.84	0.153	21.86	0.153	21.99	0.158
		25	0	21.86	0.153	21.82	0.152	21.85	0.153
	16QAM	1	0	22.17	0.165	22.10	0.162	22.05	0.160
		1	12	**22.30**	**0.170**	22.17	0.165	22.01	0.159
		1	24	21.95	0.157	22.26	0.168	21.29	0.135
		12	0	21.00	0.126	20.93	0.124	21.13	0.130
		12	6	20.99	0.126	20.89	0.123	21.03	0.127
		12	13	20.87	0.122	20.88	0.122	20.78	0.120
		25	0	20.89	0.123	20.94	0.124	20.93	0.124
	64QAM	1	0	21.05	0.127	21.14	0.130	21.06	0.128
		1	12	21.06	0.128	20.97	0.125	20.98	0.125
		1	24	21.03	0.127	**21.15**	**0.130**	21.01	0.126
		12	0	19.98	0.100	19.93	0.098	19.96	0.099
		12	6	19.93	0.098	19.92	0.098	19.96	0.099
		12	13	19.92	0.098	19.85	0.097	20.06	0.101
		25	0	19.93	0.098	19.84	0.096	20.06	0.101
	256QAM	1	0	18.03	0.064	18.02	0.063	17.93	0.062
		1	12	**18.08**	**0.064**	17.96	0.063	17.90	0.062
		1	24	17.79	0.060	18.03	0.064	17.89	0.062
		12	0	17.98	0.063	17.90	0.062	18.04	0.064
		12	6	17.99	0.063	17.96	0.063	17.97	0.063
		12	13	17.89	0.062	17.93	0.062	17.97	0.063
		25	0	17.90	0.062	17.88	0.061	17.98	0.063

LTE Band 7									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
				20800 (2 505.0 ㎒)		21100 (2 535.0 ㎒)		21400 (2 565.0 ㎒)	
				(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
10	QPSK	1	0	**23.07**	**0.203**	22.81	0.191	22.81	0.191
		1	25	22.92	0.196	22.84	0.192	22.72	0.187
		1	49	22.91	0.195	22.84	0.192	22.81	0.191
		25	0	21.96	0.157	21.99	0.158	21.95	0.157
		25	12	22.03	0.160	21.93	0.156	21.92	0.156
		25	25	21.92	0.156	22.04	0.160	21.90	0.155
		50	0	21.94	0.156	21.88	0.154	21.94	0.156
	16QAM	1	0	22.07	0.161	22.10	0.162	22.18	0.165
		1	25	22.19	0.166	**22.21**	**0.166**	22.03	0.160
		1	49	22.12	0.163	22.21	0.166	21.97	0.157
		25	0	21.00	0.126	20.95	0.124	20.96	0.125
		25	12	20.90	0.123	20.99	0.126	20.99	0.126
		25	25	20.97	0.125	21.08	0.128	20.99	0.126
		50	0	20.89	0.123	20.96	0.125	20.96	0.125
	64QAM	1	0	20.97	0.125	21.02	0.126	21.00	0.126
		1	25	21.04	0.127	21.03	0.127	21.15	0.130
		1	49	20.98	0.125	**21.22**	**0.132**	21.18	0.131
		25	0	19.97	0.099	20.04	0.101	19.99	0.100
		25	12	19.97	0.099	19.95	0.099	19.97	0.099
		25	25	19.88	0.097	20.06	0.101	19.99	0.100
		50	0	19.92	0.098	19.96	0.099	19.96	0.099
	256QAM	1	0	18.12	0.065	18.02	0.063	18.07	0.064
		1	25	18.10	0.065	**18.19**	**0.066**	18.05	0.064
		1	49	17.82	0.061	18.01	0.063	17.98	0.063
		25	0	17.94	0.062	17.98	0.063	17.98	0.063
		25	12	18.06	0.064	17.95	0.062	17.90	0.062
		25	25	17.94	0.062	17.97	0.063	17.95	0.062
		50	0	17.96	0.063	17.90	0.062	17.98	0.063

LTE Band 7									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
				20825 (2 507.5 ㎒)		21100 (2 535.0 ㎒)		21375 (2 562.5 ㎒)	
				(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
15	QPSK	1	0	**23.10**	**0.204**	23.02	0.200	22.85	0.193
		1	36	22.77	0.189	22.93	0.196	22.73	0.187
		1	74	23.08	0.203	22.98	0.199	22.76	0.189
		36	0	21.96	0.157	21.96	0.157	21.92	0.156
		36	18	22.02	0.159	21.92	0.156	21.83	0.152
		36	37	21.88	0.154	21.92	0.156	21.79	0.151
		75	0	21.86	0.153	21.91	0.155	21.92	0.156
	16QAM	1	0	22.12	0.163	22.02	0.159	22.18	0.165
		1	36	22.11	0.163	22.39	0.173	22.41	0.174
		1	74	22.08	0.161	**22.45**	**0.176**	21.85	0.153
		36	0	21.05	0.127	20.89	0.123	20.99	0.126
		36	18	21.06	0.128	20.93	0.124	20.92	0.124
		36	37	20.99	0.126	20.96	0.125	20.81	0.121
		75	0	20.90	0.123	20.90	0.123	20.93	0.124
	64QAM	1	0	21.12	0.129	21.02	0.126	21.08	0.128
		1	36	21.02	0.126	21.16	0.131	21.04	0.127
		1	74	21.07	0.128	**21.20**	**0.132**	20.96	0.125
		36	0	19.96	0.099	19.89	0.097	19.99	0.100
		36	18	19.97	0.099	19.95	0.099	19.94	0.099
		36	37	19.96	0.099	19.91	0.098	19.84	0.096
		75	0	19.94	0.099	19.95	0.099	19.98	0.100
	256QAM	1	0	18.05	0.064	18.08	0.064	**18.20**	**0.066**
		1	36	18.04	0.064	18.12	0.065	17.92	0.062
		1	74	17.99	0.063	17.95	0.062	17.59	0.057
		36	0	18.02	0.063	17.92	0.062	18.04	0.064
		36	18	17.94	0.062	17.97	0.063	17.88	0.061
		36	37	18.00	0.063	17.89	0.062	17.77	0.060
		75	0	18.05	0.064	17.92	0.062	17.93	0.062

LTE Band 7									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
				20850 (2 510.0 ㎒)		21100 (2 535.0 ㎒)		21350 (2 560.0 ㎒)	
				(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
20	QPSK	1	0	22.91	0.195	**23.18**	**0.208**	22.83	0.192
		1	50	22.86	0.193	22.78	0.190	22.86	0.193
		1	99	23.03	0.201	23.16	0.207	22.99	0.199
		50	0	21.98	0.158	22.23	0.167	21.95	0.157
		50	25	21.89	0.155	21.98	0.158	21.92	0.156
		50	50	21.93	0.156	21.88	0.154	21.89	0.155
		100	0	21.88	0.154	21.84	0.153	21.81	0.152
	16QAM	1	0	22.21	0.166	22.08	0.161	22.14	0.164
		1	50	21.90	0.155	22.07	0.161	22.07	0.161
		1	99	22.02	0.159	**22.33**	**0.171**	22.12	0.163
		50	0	20.90	0.123	20.93	0.124	20.90	0.123
		50	25	20.93	0.124	20.90	0.123	21.01	0.126
		50	50	21.06	0.128	20.90	0.123	20.89	0.123
		100	0	20.91	0.123	20.92	0.124	20.80	0.120
	64QAM	1	0	21.07	0.128	20.92	0.124	20.80	0.120
		1	50	**21.25**	**0.133**	21.18	0.131	21.15	0.130
		1	99	21.04	0.127	21.25	0.133	21.07	0.128
		50	0	19.96	0.099	19.87	0.097	19.91	0.098
		50	25	19.96	0.099	19.92	0.098	19.99	0.100
		50	50	19.86	0.097	19.94	0.099	19.91	0.098
		100	0	19.92	0.098	19.92	0.098	19.84	0.096
	256QAM	1	0	**18.31**	**0.068**	18.01	0.063	18.20	0.066
		1	50	18.14	0.065	17.98	0.063	18.16	0.065
		1	99	18.23	0.067	18.09	0.064	17.81	0.060
		50	0	18.11	0.065	17.94	0.062	17.98	0.063
		50	25	18.09	0.064	17.99	0.063	17.96	0.063
		50	50	17.99	0.063	17.99	0.063	17.93	0.062
		100	0	17.99	0.063	17.93	0.062	17.88	0.061

LTE Band 12									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
				23017 (699.7 ㎒)		23095 (707.5 ㎒)		23173 (715.3 ㎒)	
				(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
1.4	QPSK	1	0	23.15	0.207	22.99	0.199	23.17	0.207
		1	3	23.19	0.208	23.13	0.206	23.19	0.208
		1	5	23.12	0.205	**23.23**	**0.210**	23.05	0.202
		3	0	22.03	0.160	22.20	0.166	22.01	0.159
		3	2	22.07	0.161	22.01	0.159	22.27	0.169
		3	3	22.09	0.162	22.05	0.160	22.26	0.168
		6	0	22.20	0.166	22.04	0.160	22.15	0.164
	16QAM	1	0	22.23	0.167	22.24	0.167	22.28	0.169
		1	3	22.37	0.173	22.37	0.173	**22.41**	**0.174**
		1	5	22.28	0.169	22.37	0.173	22.33	0.171
		3	0	21.27	0.134	21.30	0.135	21.31	0.135
		3	2	21.18	0.131	21.32	0.136	21.42	0.139
		3	3	21.26	0.134	21.25	0.133	21.25	0.133
		6	0	21.25	0.133	21.74	0.149	21.43	0.139
	64QAM	1	0	**21.40**	**0.138**	21.39	0.138	21.21	0.132
		1	3	21.39	0.138	21.38	0.137	21.37	0.137
		1	5	21.35	0.136	21.29	0.135	21.29	0.135
		3	0	20.32	0.108	20.32	0.108	20.33	0.108
		3	2	20.27	0.106	20.24	0.106	20.33	0.108
		3	3	20.26	0.106	20.28	0.107	20.42	0.110
		6	0	20.24	0.106	20.33	0.108	20.28	0.107
	256QAM	1	0	18.20	0.066	18.15	0.065	18.25	0.067
		1	3	18.18	0.066	18.16	0.065	**18.30**	**0.068**
		1	5	18.27	0.067	18.20	0.066	18.18	0.066
		3	0	18.26	0.067	18.19	0.066	18.29	0.067
		3	2	18.19	0.066	18.16	0.065	18.22	0.066
		3	3	18.24	0.067	18.16	0.065	18.28	0.067
		6	0	18.19	0.066	18.25	0.067	18.15	0.065

LTE Band 12									
Bandwidth (㎒)	Modulation	RB Size	RB Offset	Conducted Output Power					
				23025 (700.5 ㎒)		23095 (707.5 ㎒)		23165 (714.5 ㎒)	
				(dB m)	(W)	(dB m)	(W)	(dB m)	(W)
3	QPSK	1	0	23.07	0.203	22.96	0.198	23.04	0.201
		1	7	23.10	0.204	22.91	0.195	23.00	0.200
		1	14	**23.13**	**0.206**	22.94	0.197	22.89	0.195
		8	0	22.06	0.161	21.98	0.158	22.18	0.165
		8	4	22.25	0.168	22.00	0.158	22.07	0.161
		8	7	22.10	0.162	22.03	0.160	22.30	0.170
		15	0	22.08	0.161	21.99	0.158	22.03	0.160
	16QAM	1	0	22.22	0.167	22.22	0.167	22.39	0.173
		1	7	22.34	0.171	22.20	0.166	**22.51**	**0.178**
		1	14	22.26	0.168	22.19	0.166	22.27	0.169
		8	0	21.07	0.128	21.03	0.127	21.13	0.130
		8	4	20.97	0.125	21.13	0.130	21.11	0.129
		8	7	21.25	0.133	21.15	0.130	21.13	0.130
		15	0	21.23	0.133	21.02	0.126	21.16	0.131
	64QAM	1	0	21.31	0.135	21.22	0.132	21.19	0.132
		1	7	**21.46**	**0.140**	21.24	0.133	21.21	0.132
		1	14	21.28	0.134	21.15	0.130	21.25	0.133
		8	0	20.18	0.104	20.05	0.101	20.18	0.104
		8	4	20.21	0.105	20.14	0.103	20.29	0.107
		8	7	20.13	0.103	20.08	0.102	20.08	0.102
		15	0	20.17	0.104	20.12	0.103	20.16	0.104
	256QAM	1	0	18.29	0.067	18.11	0.065	18.14	0.065
		1	7	**18.40**	**0.069**	18.29	0.067	18.08	0.064
		1	14	18.19	0.066	18.04	0.064	18.18	0.066
		8	0	18.15	0.065	18.02	0.063	18.23	0.067
		8	4	18.24	0.067	18.08	0.064	18.08	0.064
		8	7	18.18	0.066	18.07	0.064	18.12	0.065
		15	0	18.13	0.065	18.06	0.064	18.19	0.066