TEST REPORT

Applicant:	Calamp Wireless Networks
Address:	2200 Faraday Ave, Suite 220 Carlsbad, CA 92008 USA
Equipment Type:	LTE CAT-M1 Telematics Gateway
Model Name:	LMU3642MB
Brand Name:	Calamp
FCC ID:	APV-3642MB
ISED Number:	5843C-3642MB
Test Standard:	47 CFR Part 2 (Others refer to chapter 3.1)
Sample Arrival Date:	Jun. 06, 2023
Test Date:	Jun. 07, 2023 - Jun. 21, 2023
Date of Issue:	Jul. 11, 2023

ISSUED BY:

Shenzhen BALUN Technology Co., Ltd.

Tested by: Lu Jiamin **Checked by:** Wu Huihui **Approved by:** Tolan Tu (Testing Director)

Revision History

Version	Issue Date	Revisions Content
Rev. 01	Jul. 03, 2023	Initial Issue
Rev. 02	Jul. 11, 2023	Deleted RSS-140 Issue1 in section 3.1 Test Standards

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1 GENERAL INFORMATION

1.1 Test Laboratory

Name	Shenzhen BALUN Technology Co., Ltd.
Address	Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Phone Number	+86 755 6685 0100

1.2 Test Location

Name	Shenzhen BALUN Technology Co., Ltd.
Location	☑ Block B, 1/F, Baisha Science and Technology Park, Shahe Xi Road, Nanshan District, Shenzhen, Guangdong Province, P. R. China
	☐ 1/F, Building B, Ganghongji High-tech Intelligent Industrial Park, No. 1008, Songbai Road, Yangguang Community, Xili Sub-district, Nanshan District, Shenzhen, Guangdong Province, P. R. China
Accreditation Certificate	The laboratory has been listed by Industry Canada to perform electromagnetic emission measurements. The recognition numbers of test site are 11524A-1. The laboratory is a testing organization accredited by FCC as a accredited testing laboratory. The designation number is CN1196.

2 PRODUCT INFORMATION

2.1 Applicant Information

Applicant	Calamp Wireless Networks
Address	2200 Faraday Ave, Suite 220 Carlsbad, CA 92008 USA

2.2 Manufacturer Information

Manufacturer	Calamp Wireless Networks
Address	2200 Faraday Ave, Suite 220 Carlsbad, CA 92008 USA

2.3 Factory Information

Factory	N/A
Address	N/A

2.4 General Description for Equipment under Test (EUT)

EUT Name	LTE CAT-M1 Telematics Gateway
Model Name Under Test	LMU3642MB
Series Model Name	N/A
Description of Model name differentiation	N/A
Hardware Version	N/A
Software Version	N/A
Dimensions (Approx.)	145mm(L) × 53mm(W) × 33mm(H)
Weight (Approx.)	142.0 g

2.5 Technical Information

All Network and Wireless connectivity for EUT	2G Network GSM/GPRS/EDGE 850/900/1800/1900 MHz 4G Network FDD LTE-M1 Band 1/ 2/ 3/ 4/ 5/ 8/ 12/ 13/ 18/ 19/ 20/ 25/ 26/ 28 FDD NB-IoT Band 1/ 2/ 3/ 4/ 5/ 8/ 12/ 13/ 18/ 19/ 20/ 25/ 26/ 28 Bluetooth (BLE) GPS, GLONASS, Galileo
About the Product	The equipment is LTE CAT-M1 Telematics Gateway, intended for used with information technology equipment.

The requirement for the following technical information of the EUT was tested in this report:

Operating Bands	GSM/GPRS/EGPRS 850/ 1900 MHz FDD LTE-M1 Band 2/ 4/ 5/ 12/ 13/ 25/ 26 FDD NB-IoT Band 2/ 4/ 5/ 12/ 13/ 25/ 26	
Modulation Type	GSM/GPRS	GMSK
	EGPRS	8PSK
	LTE-M1	QPSK
		16QAM
	NB-IoT	QPSK
		BPSK
Multislot Class	GPRS/EGPRS: 33	
Antenna Type	PIFA Antenna	
Antenna Gain	GPRS/EGPRS 850: 0.7 dBi GPRS/EGPRS 1900: 1.0 dBi FDD LTE-M1 Band 2: 1.0 dBi FDD LTE-M1 Band 4: 1.0 dBi FDD LTE-M1Band 5: 0.7 dBi FDD LTE-M1 Band 12: 0.7 dBi FDD LTE-M1 Band 13: 0.7 dBi FDD LTE-M1 Band 25: 1.0 dBi FDD LTE-M1 Band 26: 0.7 dBi FDD NB-IoT Band 2: 1.0 dBi FDD NB-IoT Band 4: 1.0 dBi FDD NB-IoT Band 5: 0.7 dBi FDD NB-IoT Band 12: 0.7 dBi FDD NB-IoT Band 13: 0.7 dBi FDD NB-IoT Band 25: 1.0 dBi FDD NB-IoT Band 26: 0.7 dBi	
The Max RF Output Power (EIRP/ERP)	GPRS/EGPRS 850: 31.01 dBm GPRS/EGPRS 1900: 32.86 dBm	

			FDD LTE-M1 Band 2: 24.28 dBm FDD LTE-M1 Band 4: 24.45 dBm FDD LTE-M1 Band 5: 21.66 dBm FDD LTE-M1 Band 12: 21.94 dBm FDD LTE-M1 Band 13: 21.83 dBm FDD LTE-M1 Band 25: 23.45 dBm FDD LTE-M1 Band 26 (part22): 21.04 dBm FDD LTE-M1 Band 26 (part90): 20.53 dBm FDD NB-IoT Band 2: 24.96 dBm FDD NB-IoT Band 4: 25.23 dBm FDD NB-IoT Band 5: 23.55 dBm FDD NB-IoT Band 12: 23.20 dBm FDD NB-IoT Band 13: 23.41 dBm FDD NB-IoT Band 25: 25.83 dBm FDD NB-IoT Band 26 (part22): 22.66 dBm FDD NB-IoT Band 26 (part90): 22.73 dBm	
Band	Power Class		Tx Frequency Range	Rx Frequency Range
	GMSK	GMSK		
GSM850	4	E2	824 MHz ~ 849 MHz	869 MHz ~ 894 MHz
GSM1900	1	E2	1850 MHz ~ 1910 MHz	1930 MHz ~ 1990 MHz
LTE-M1 B2	3		1850 MHz ~ 1910 MHz	1930 MHz ~ 1990 MHz
LTE-M1 B4	3		1710 MHz ~ 1755 MHz	2110 MHz ~ 2155 MHz
LTE-M1 B5	3		824 MHz ~ 849 MHz	869 MHz ~ 894 MHz
LTE-M1 B12	3		699 MHz ~ 716 MHz	729 MHz ~ 746 MHz
LTE-M1 B13	3		777 MHz ~ 787 MHz	746 MHz ~ 756 MHz
LTE-M1 B25	3		1850 MHz ~ 1915 MHz	1930 MHz ~ 1995 MHz
LTE-M1 B26[Note2]	3		814 MHz ~ 849 MHz	859 MHz ~ 894 MHz
NB-IoT B2	3		1850 MHz ~ 1910 MHz	1930 MHz ~ 1990 MHz
NB-IoT B4	3		1710 MHz ~ 1755 MHz	2110 MHz ~ 2155 MHz
NB-IoT B5	3		824 MHz ~ 849 MHz	869 MHz ~ 894 MHz
NB-IoT B12	3		699 MHz ~ 716 MHz	729 MHz ~ 746 MHz
NB-IoT B13	3		777 MHz ~ 787 MHz	746 MHz ~ 756 MHz
NB-IoT B25	3		1850 MHz ~ 1915 MHz	1930 MHz ~ 1995 MHz
NB-IoT B26[Note2]	3		814 MHz ~ 849 MHz	859 MHz ~ 894 MHz

Note1: The EUT information provided by the applicant, except for The Max RF Conducted Power. For more detailed band specifications and features description, please refer to the manufacturer's specifications or user's manual.

Note2: LTE Band26 (814-824MHz & 859-869MHz) are only applicable in the United States.

3 SUMMARY OF TEST RESULTS

3.1 Test Standards

No.	Identity	Document Title
1	47 CFR Part 2	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
2	47 CFR Part 22 Subpart H	Cellular Radiotelephone Service
3	47 CFR Part 24 Subpart E	Broadband PCS
4	47 CFR Part 27	Miscellaneous Wireless Communications Services
5	47 CFR Part 90 Subpart S	Regulations Governing Licensing and Use of Frequencies in the 806-824, 851-869, 896-901, and 935-940 MHz Bands
6	RSS-Gen Issue5	General Requirements and Information for the Certification of Radio Apparatus
7	RSS-130 Issue2	Equipment Operating in the Frequency Bands 617-652 MHz, 663-698 MHz, 698-756 MHz and 777-787 MHz
8	RSS-132 Issue4	Cellular Telephone Systems Operating in the Bands 824-849 MHz and 869-894 MHz
9	RSS-133 Issue6	2 GHz Personal Communications Services
10	RSS-139 Issue4	Advanced Wireless Services (AWS) Equipment Operating in the Bands 1710-1780 MHz and 2110-2200 MHz
11	ANSI C63.26-2015	American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services
12	KDB 971168 D01 v03	Measurement Guidance for Certification of Licensed Digital Transmitters

3.2 Test Verdict

No.	Test Description	FCC Part No.	ISED Part No.	Test Result	Test Verdict
1	Conducted RF Output Power	2.1046	RSS-Gen 6.12 RSS-130 4.6 RSS-132 5.4 RSS-133 6.4 RSS-139 6.5	Reporting only (ANNEX A.1)	Pass
2	Effective (Isotropic) Radiated Power	2.1046 22.913 24.232 27.50 90.635(b) 90.542(a)	RSS-Gen 6.12 RSS-130 4.6 RSS-132 5.4 RSS-133 6.4 RSS-139 6.5	ANNEX A.1	Pass
3	Peak to Average Radio	2.1046 24.232(d) 27.50(d)	RSS-130 4.6 RSS-132 5.4 RSS-133 6.4 RSS-139 6.5	ANNEX A.2	Pass
4	Occupied Bandwidth	2.1049 22.917 24.238 27.53 90.209	RSS-Gen 6.7	ANNEX A.3	Pass
5	Frequency Stability	2.1055 22.355 24.235 27.54 90.213	RSS-Gen 6.11 RSS-130 4.5 RSS-132 5.3 RSS-133 6.3 RSS-139 6.4	ANNEX A.4	Pass
6	Spurious Emission at Antenna Terminals	2.1051 22.917 24.238 27.53 90.691 90.543	RSS-Gen 6.13 RSS-130 4.7 RSS-132 5.5 RSS-133 6.5 RSS-139 6.6	ANNEX A.5	Pass
7	Band Edge	2.1051 22.917 24.238 27.53 90.691 90.543	RSS-130 4.7 RSS-132 5.5 RSS-133 6.5 RSS-139 6.6	ANNEX A.6	Pass
8	Field Strength of Spurious Radiation	2.1053 22.917	RSS-Gen 6.13 RSS-130 4.7	ANNEX A.7	Pass

No.	Test Description	FCC Part No.	ISED Part No.	Test Result	Test Verdict
		24.238 27.53 90.691 90.543	RSS-132 5.5 RSS-133 6.5 RSS-139 6.6		
10	Receiver Spurious Emissions	N/A	RSS-Gen 7 RSS-132 5.6 RSS-133 6.6	ANNEX A.8	Pass
11	AC Power-line Conducted Emissions	N/A	RSS-Gen 8.8	ANNEX A.9	Pass

4 GENERAL TEST CONFIGURATIONS

4.1 Test Environments

During the measurement, the environmental conditions were within the listed ranges:

Relative Humidity		20% to 75%
Atmospheric Pressure		98 kPa to 102 kPa
Test Voltage of the EUT	NV (Normal Voltage)	DC 3.7 V
	LV (Low Voltage)	DC 3.3 V
	HV (High Voltage)	DC 4.2 V
Test Temperature of the EUT	NT (Normal Temperature)	15 °C to 35 °C
	LT (Low Temperature)	-30 °C
	HT (High Temperature)	+60 °C

4.2 Test Equipment List

Description	Manufacturer	Model	Serial No.	Version	Cal. Date	Cal. Due
2/3/4/5G RF Test System						
Temperature Chamber	AHK	SP20	1412	N/A	2022.09.20	2023.09.19
Wideband Radio Communication Tester	R&S	CMW 500	167190	V4.0.60	2023.05.11	2024.05.10
Spectrum Analyzer	keysight	N9020A	MY50531628	A.16.09	2023.05.12	2024.05.11
DC Power Supply	ITECH	IT6863A	800014020757120005	N/A	2022.09.09	2023.09.08
BL410 Test Software	BALUN	BL410R	N/A	2.1.1.496	N/A	N/A
Radiated Test System						
Radiated Test System Test Software	BALUN	BL410-E	N/A	V19.918	N/A	N/A
Wideband Radio Communication Tester	R&S	CMW 500	167190	V4.0.60	2023.05.11	2024.05.10
Test Antenna-Bi-Log(30 MHz-3 GHz)	Schwarzbeck	VULB 9163	9163-624	N/A	2021.08.20	2024.08.19
Test Antenna-Horn(1-18 GHz)	Schwarzbeck	BBHA 9120D	9120D-1917	N/A	2022.06.09	2025.06.08
Anechoic Chamber	YIHENG	9m*6m*6m	#3	N/A	2022.02.09	2024.09.03

4.3 Test Configurations

Test Items	Test Mode	Test Channel		
		LCH	MCH	HCH
Effective (Isotropic) Radiated Power	GPRS 850	v	v	v
	GPRS 1900	v	v	v
	EGPRS 850	v	v	v
	EGPRS 1900	v	v	v
Occupied Bandwidth	GPRS 850	v	v	v
	GPRS 1900	v	v	v
	EGPRS 850	v	v	v
	EGPRS 1900	v	v	v
Frequency Stability	GPRS 850	v	v	v
	GPRS 1900	v	v	v
	EGPRS 850	v	v	v
	EGPRS 1900	v	v	v
Spurious Emission at Antenna Terminals	GPRS 850	v	v	v
	GPRS 1900	v	v	v
	EGPRS 850	v	v	v
	EGPRS 1900	v	v	v
Band Edge	GPRS 850	v	--	v
	GPRS 1900	v	--	v
	EGPRS 850	v	--	v
	EGPRS 1900	v	--	v
Field Strength of Spurious Radiation	GPRS 850	v	v	v
	GPRS 1900	v	v	v
	EGPRS 850	v	v	v
	EGPRS 1900	v	v	v
Note 1: The mark “v” means that this configuration is chosen for testing.				

Test Mode	UL Channel	UL Channel No.	UL Frequency (MHz)
GPRS/EGPRS 850	Low Channel	128	824.2
	Middle Channel	190	836.6
	High Channel	251	848.8
GPRS/EGPRS 1900	Low Channel	512	1850.2
	Middle Channel	661	1880.0
	High Channel	810	1909.8

LTE-M1 Band	Bandwidth (MHz)						Modulation Type		RB#			Test Channel		
	1.4	3	5	10	15	20	QPSK	16-QAM	1	Half	Full	LCH	MCH	HCH
Effective (Isotropic) Radiated Power														
2	v	v	v	v	v	v	v	v	v	--	v	v	v	v
4	v	v	v	v	v	v	v	v	v	--	v	v	v	v
5	v	v	v	v	n	n	v	v	v	--	v	v	v	v
12	v	v	v	v	n	n	v	v	v	--	v	v	v	v
13	n	n	v	v	n	n	v	v	v	--	v	v	v	v
25	v	v	v	v	v	v	v	v	v	--	v	v	v	v
26(Part22)	v	v	v	v	v	n	v	v	v	--	v	v	v	v
26(Part90)	v	v	v	v	--	n	v	v	v	--	v	v	v	v
Peak to Average Ratio														
2	--	--	--	--	--	v	v	v	--	--	v	v	v	v
4	--	--	--	--	--	v	v	v	--	--	v	v	v	v
5	--	--	--	v	n	n	v	v	--	--	v	v	v	v
12	--	--	--	v	n	n	v	v	--	--	v	v	v	v
13	n	n	--	v	n	n	v	v	--	--	v	v	v	v
25	--	--	--	--	--	v	v	v	--	--	v	v	v	v
26(Part22)	--	--	--	--	v	n	v	v	--	--	v	v	v	v
26(Part90)	--	--	--	v	--	n	v	v	--	--	v	--	v	--
Occupied Bandwidth														
2	v	--	--	--	--	--	v	v	--	--	v	v	v	v
4	v	--	--	--	--	--	v	v	--	--	v	v	v	v
5	v	--	--	--	n	n	v	v	--	--	v	v	v	v
12	v	--	--	--	n	n	v	v	--	--	v	v	v	v
13	n	n	v	--	n	n	v	v	--	--	v	v	v	v
25	v	--	--	--	--	--	v	v	--	--	v	v	v	v
26(Part22)	v	--	--	--	--	n	v	v	--	--	v	v	v	v
26(Part90)	v	--	--	--	--	n	v	v	--	--	v	v	v	v
Frequency Stability														
2	--	--	--	--	--	v	v	v	--	--	v	--	v	--
4	--	--	--	--	--	v	v	v	--	--	v	--	v	--
5	--	--	--	v	n	n	v	v	--	--	v	--	v	--
12	--	--	--	v	n	n	v	v	--	--	v	--	v	--
13	n	n	--	v	n	n	v	v	--	--	v	--	v	--
25	--	--	--	--	--	v	v	v	--	--	v	--	v	--
26(Part22)	--	--	--	--	v	n	v	v	--	--	v	--	v	--
26(Part90)	--	--	--	v		n	v	v	--	--	v	--	v	--
Spurious Emission at Antenna Terminals														
2	v	v	v	v	v	v	v	v	v	--	--	v	v	v
4	v	v	v	v	v	v	v	v	v	--	--	v	v	v
5	v	v	v	v	n	n	v	v	v	--	--	v	v	v
12	v	v	v	v	n	n	v	v	v	--	--	v	v	v

LTE-M1 Band	Bandwidth (MHz)						Modulation Type		RB#			Test Channel		
	1.4	3	5	10	15	20	QPSK	16-QAM	1	Half	Full	LCH	MCH	HCH
13	n	n	v	v	n	n	v	v	v	--	--	v	v	v
25	v	v	v	v	v	v	v	v	v	--	--	v	v	v
26(Part22)	v	v	v	v	v	n	v	v	v	--	--	v	v	v
26(Part90)	v	v	v	v	--	n	v	v	v	--	--	v	v	v
Band Edge														
2	v	v	v	v	v	v	v	v	v	--	v	v	--	v
4	v	v	v	v	v	v	v	v	v	--	v	v	--	v
5	v	v	v	v	n	n	v	v	v	--	v	v	--	v
12	v	v	v	v	n	n	v	v	v	--	v	v	--	v
13	n	n	v	v	n	n	v	v	v	--	v	v	--	v
25	v	v	v	v	v	v	v	v	v	--	--	v	v	v
26(Part22)	v	v	v	v	v	n	v	v	v	--	v	v	--	v
26(Part90)	v	v	v	v	--	n	v	v	v	--	v	v	--	v
Field Strength of Spurious Radiation														
2	v	v	v	v	v	v	v	--	v	--	--	--	v	--
4	v	v	v	v	v	v	v	--	v	--	--	--	v	--
5	v	v	v	v	n	n	v	--	v	--	--	--	v	--
12	v	v	v	v	n	n	v	--	v	--	--	--	v	--
13	n	n	v	v	n	n	v	--	v	--	--	--	v	--
25	v	v	v	v	v	v	v	--	v	--	--	--	v	--
26(Part22)	v	v	v	v	v	n	v	--	v	--	--	--	v	--
26(Part90)	v	v	v	v	--	n	v	--	v	--	--	--	v	--

Note 1: The mark “v” means that this configuration is chosen for testing.

Note 2: The mark “n” means that this bandwidth is not supported.

NB-IoT Band	Sub-carrier spacing (kHz)		Modulation Type		Test Channel		
	3.75	15	BPSK	QPSK	LCH	MCH	HCH
Effective (Isotropic) Radiated Power							
2	v	v	v	v	v	v	v
4	v	v	v	v	v	v	v
5	v	v	v	v	v	v	v
12	v	v	v	v	v	v	v
13	v	v	v	v	v	v	v
25	v	v	v	v	v	v	v
26(Part22)	v	v	v	v	v	v	v
26(Part90)	v	v	v	v	v	v	v
Peak to Average Ratio							
2	v	v	v	v	v	v	v
4	v	v	v	v	v	v	v
5	v	v	v	v	v	v	v

NB-IoT Band	Sub-carrier spacing (kHz)		Modulation Type		Test Channel		
	3.75	15	BPSK	QPSK	LCH	MCH	HCH
12	v	v	v	v	v	v	v
13	v	v	v	v	v	v	v
25	v	v	v	v	v	v	v
26(Part22)	v	v	v	v	v	v	v
26(Part90)	v	v	v	v	v	v	v
Occupied Bandwidth							
2	v	v	v	v	v	v	v
4	v	v	v	v	v	v	v
5	v	v	v	v	v	v	v
12	v	v	v	v	v	v	v
13	v	v	v	v	v	v	v
25	v	v	v	v	v	v	v
26(Part22)	v	v	v	v	v	v	v
26(Part90)	v	v	v	v	v	v	v
Frequency Stability							
2	v	v	v	v	v	v	v
4	v	v	v	v	v	v	v
5	v	v	v	v	v	v	v
12	v	v	v	v	v	v	v
13	v	v	v	v	v	v	v
25	v	v	v	v	v	v	v
26(Part22)	v	v	v	v	v	v	v
26(Part90)	v	v	v	v	v	v	v
Spurious Emission at Antenna Terminals							
2	v	v	v	v	v	v	v
4	v	v	v	v	v	v	v
5	v	v	v	v	v	v	v
12	v	v	v	v	v	v	v
13	v	v	v	v	v	v	v
25	v	v	v	v	v	v	v
26(Part22)	v	v	v	v	v	v	v
26(Part90)	v	v	v	v	v	v	v
Band Edge							
2	v	v	v	v	v	--	v
4	v	v	v	v	v	--	v
5	v	v	v	v	v	--	v
12	v	v	v	v	v	--	v
13	v	v	v	v	v	--	v
25	v	v	v	v	v	--	v
26(Part22)	v	v	v	v	v	--	v

NB-IoT Band	Sub-carrier spacing (kHz)		Modulation Type		Test Channel		
	3.75	15	BPSK	QPSK	LCH	MCH	HCH
26(Part90)	v	v	v	v	v	--	v
Field Strength of Spurious Radiation							
2	v	v	v	v	--	v	--
4	v	v	v	v	--	v	--
5	v	v	v	v	--	v	--
12	v	v	v	v	--	v	--
13	v	v	v	v	--	v	--
25	v	v	v	v	--	v	--
26(Part22)	v	v	v	v	--	v	--
26(Part90)	v	v	v	v	--	v	--
Note 1: The mark “v” means that this configuration is chosen for testing. Note 2: The mark “n” means that this bandwidth is not supported.							

Test Items	Test Mode	Test Channel		
		LCH	MCH	HCH
Receiver Spurious Emissions	GSM 850	--	v	--
AC Power-line Conducted Emissions	GSM 850	--	v	--
Note 1: The mark “v” means that this configuration is the worst test mode for Receiver Spurious Emissions and AC Power-line Conducted Emissions measurement.				

Test Mode	UL Channel	Channel Bandwidth (MHz)	UL Channel No.	UL Frequency (MHz)
LTE-M1 Band 2	Low Range	1.4	18607	1850.7
		3	18615	1851.5
		5	18625	1852.5
		10	18650	1855
		15	18675	1857.5
		20	18700	1860
	Middle Range	1.4/3/5/10/15/20	18900	1880
	High Range	1.4	19193	1909.3
		3	19185	1908.5
		5	19175	1907.5
		10	19150	1905
		15	19125	1902.5
		20	19100	1900
LTE-M1 Band 4	Low Range	1.4	19957	1710.7
		3	19965	1711.5
		5	19975	1712.5
		10	20000	1715

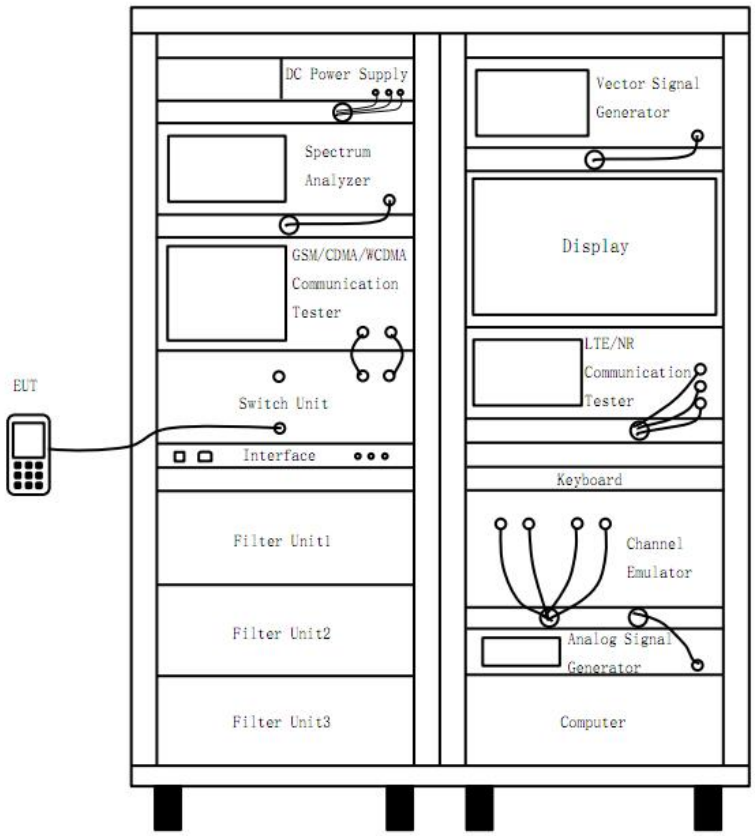
Test Mode	UL Channel	Channel Bandwidth (MHz)	UL Channel No.	UL Frequency (MHz)
		15	20025	1717.5
		20	20050	1720
	Middle Range	1.4/3/5/10/15/20	20175	1732.5
	High Range	1.4	20393	1754.3
		3	20385	1753.5
		5	20375	1752.5
		10	20350	1750
		15	20325	1747.5
		20	20300	1745
LTE-M1 Band 5	Low Range	1.4	20407	824.7
		3	20415	825.5
		5	20425	826.5
		10	20450	829
	Middle Range	1.4/3/5/10	20525	836.5
	High Range	1.4	20643	848.3
		3	20635	847.5
		5	20625	846.5
		10	20600	844
LTE-M1 Band 12	Low Range	1.4	23017	699.7
		3	23025	700.5
		5	23035	701.5
		10	23060	704
	Middle Range	1.4/3/5/10	23095	707.5
	High Range	1.4	23173	715.3
		3	23165	714.5
		5	23155	713.5
		10	23130	711
LTE-M1 Band 13	Low Range	5	23205	779.5
		10	--	--
	Middle Range	5/10	23230	782
	High Range	5	23255	784.5
		10	--	--
LTE-M1 Band 25	Low Range	1.4	26047	1850.7
		3	26055	1851.5
		5	26065	1852.5
		10	26090	1855
		15	26115	1857.5
		20	26140	1860
	Middle Range	1.4/3/5/10/15/20	26363	1882.5
	High Range	1.4	26683	1914.3
		3	26675	1913.5

Test Mode	UL Channel	Channel Bandwidth (MHz)	UL Channel No.	UL Frequency (MHz)
		5	26665	1912.5
		10	26640	1910
		15	26615	1907.5
		20	26590	1905
LTE-M1 Band 26 (Part22)	Low Range	1.4	26797	824.7
		3	26805	825.5
		5	26815	826.5
		10	26840	829
		15	26865	831.5
	Middle Range	1.4/3/5/10/15	26915	836.5
	High Range	1.4	27033	848.3
		3	27025	847.5
		5	27015	846.5
		10	26990	844
		15	26965	841.5
LTE-M1 Band 26 (Part90)	Low Range	1.4	26697	814.7
		3	26705	815.5
		5	26715	816.5
		10	---	---
	Middle Range	1.4/3/5/10	26740	819
	High Range	1.4	26783	823.3
		3	26775	822.5
		5	26765	821.5
		10	---	---
NB-IoT Band 2	Low Range	---	18601	1850.1
	Middle Range	---	18900	1880.0
	High Range	---	19199	1909.9
NB-IoT Band 4	Low Range	---	19951	1710.1
	Middle Range	---	20175	1732.5
	High Range	---	20399	1754.9
NB-IoT Band 5	Low Range	---	20401	824.1
	Middle Range	---	20525	836.5
	High Range	---	20649	848.9
NB-IoT Band 12	Low Range	---	23011	699.1
	Middle Range	---	23095	707.5
	High Range	---	23179	715.9
NB-IoT Band 13	Low Range	---	23181	777.1
	Middle Range	---	23230	782.0
	High Range	---	23279	786.9
NB-IoT Band 25	Low Range	---	26041	1850.1
	Middle Range	---	26365	1882.5

Test Mode	UL Channel	Channel Bandwidth (MHz)	UL Channel No.	UL Frequency (MHz)
	High Range	---	26689	1914.9
NB-IoT Band 26(Part90)	Low Range	---	26691	814.1
	Middle Range	---	26740	819
	High Range	---	26789	823.9
NB-IoT Band 26(Part22)	Low Range	---	26791	824.1
	Middle Range	---	26915	836.5
	High Range	---	27039	848.9

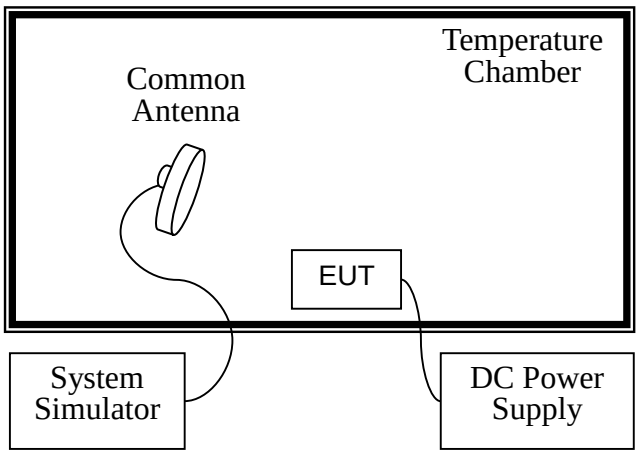
4.4 Test Setup

4.4.1 For Antenna Port Test



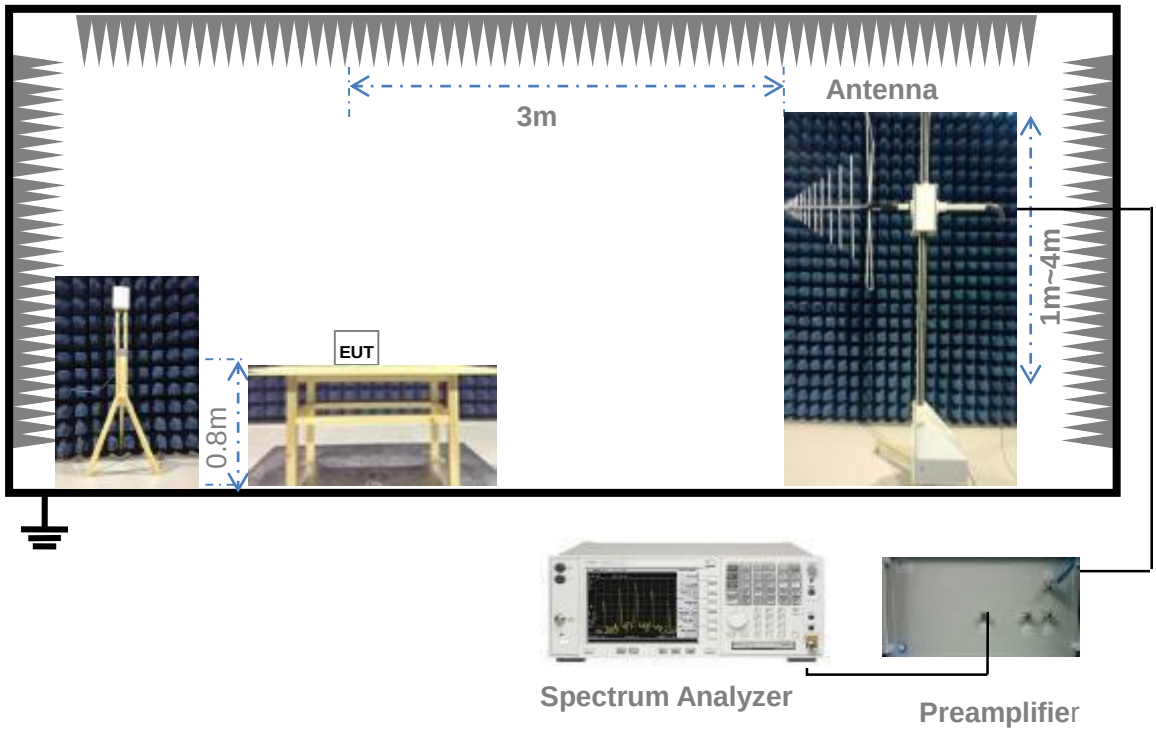
(Diagram 1)

4.4.2 For Frequency Stability Test



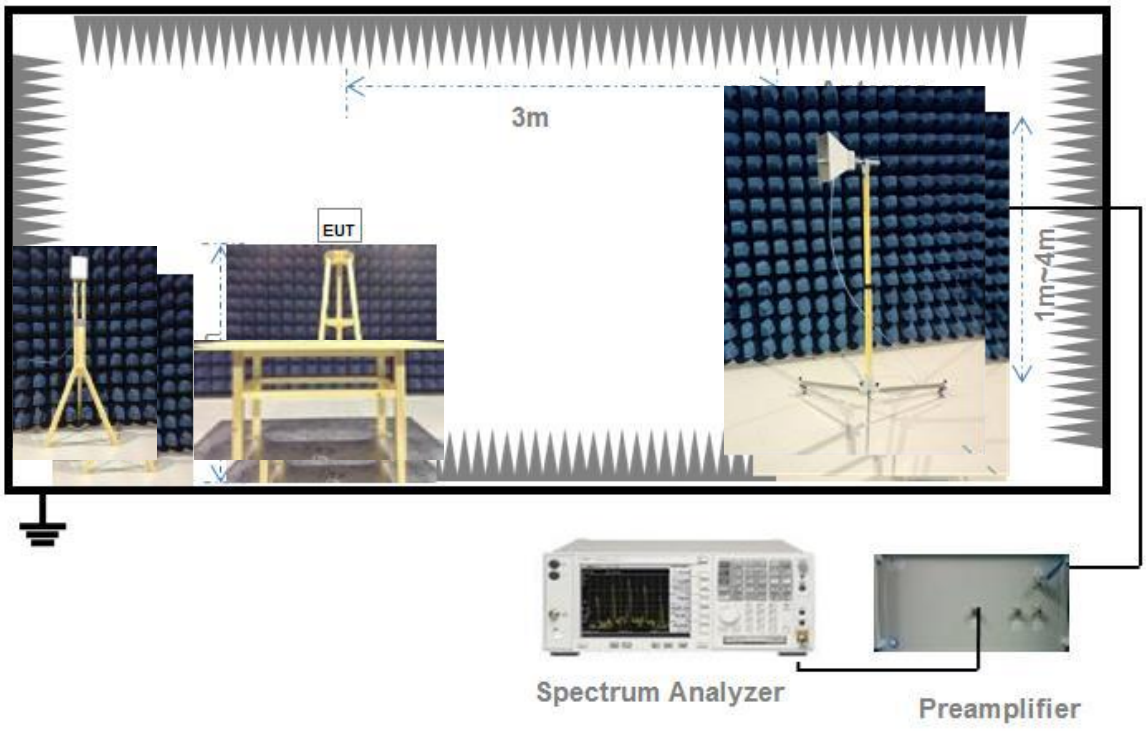
(Diagram 2)

4.4.3 For Radiated Test (30 MHz ~ 1 GHz)



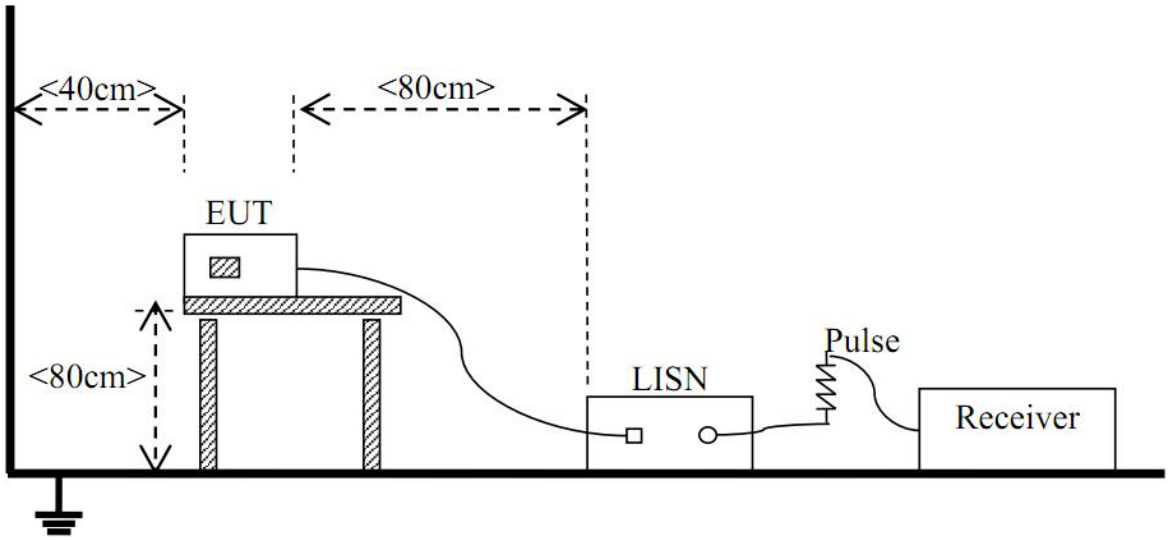
(Diagram 3)

4.4.4 For Radiated Test (Above 1 GHz)



(Diagram 4)

4.4.5 For AC Power-line Conducted Emissions



(Diagram 5)

5 TEST ITEMS

5.1 Transmitter Radiated Power (EIRP/ERP)

5.1.1 Limit

FCC § 2.1046 & 22.913(a) & 24.232(c) & 27.50(b) & 27.50(c) & 27.50(d) & 27.50(h) &90.635(b) & 90.542(a)

According to FCC section 22.913(a) (5), the Effective Radiated Power (ERP) of mobile transmitters and auxiliary test transmitters must not exceed 7 watts.

According to FCC section 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.

FCC section 27.50(b) (10), portable stations (hand-held devices) transmitting in the 746-757MHz, 776-788MHz, and 805-806MHz bands are limited to 3 watts ERP.

FCC section 27.50(c) (10), portable stations (hand-held devices) in the 600MHz uplink band and the 698-746MHz band, and fixed and mobile stations in the 600MHz uplink band are limited to 3 watts ERP.

FCC section 27.50(d) (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.

(7) Fixed, mobile, and portable (hand-held) stations operating in the 2000-2020 MHz band are limited to 2 watts EIRP.

And FCC section 27.50(h) (2), for 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.

According to FCC section 90.635(b), the maximum output power of the transmitter for mobile stations is 100 watts (20dBW).

According to FCC section 90.542(a) (7), portable stations (hand-held devices) transmitting in the 758-768 MHz band and the 788-798 MHz band are limited to 3 watts ERP.

RSS-Gen § 6.12 & RSS-130 § 4.6 & RSS-132 § 5.4 & RSS-133 § 6.4 & RSS-139 § 6.5&§ 4.4

According to RSS-130 § 4.6.3, The e.r.p. shall not exceed 30 watts for mobile equipment and outdoor fixed subscriber equipment. The e.r.p. shall not exceed 3 watts for portable equipment and indoor fixed subscriber equipment.

According to RSS-132 § 5.4, the Effective Radiated Power (ERP) for mobile equipment shall not exceed 11.5 watts.

According to RSS-133 § 6.4 (SRSP 510), mobile stations and hand-held portables are limited to 2 watts maximum EIRP.

According to RSS-139 § 6.5, the EIRP for mobile and portable transmitters shall not exceed 1 watt.

5.1.2 Test Setup

The section 4.4.1 (Diagram 1) test setup description is used for conducted test, and the section 4.4.3 and 4.4.4 (Diagram 3, 4) test setup description is used for radiated test. The photo of test setup please refer to ANNEX B.

5.1.3 Test Procedure

Description of the Conducted Output Power Measurement

The EUT is coupled to the SS with attenuator through power splitter; the RF load attached to EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading. A system simulator is used to establish communication with the EUT, and its parameters are set to force the EUT transmitting at maximum output power. The measured power in the radio frequency on the transmitter output terminals shall be reported.

The relevant equation for determining the conducted measured value is:

Conducted Output Power Value (dBm) = Measured Value (dBm) + Path Loss (dB)

where:
Conducted Output Power Value = final conducted measured value in the conducted power test, in dBm;
Measured Value = measured conducted power received by spectrum analyzer or power meter, in dBm;
Path Loss = signal attenuation in the connecting cable between the transmitter and spectrum analyzer or power meter, including external cable loss, in dB;

During the test, the data of Path Loss (dB) is added in the spectrum analyzer or power meter, so Measured Value (dBm) is the final values which contains the data of Path Loss (dB).

For example:

In the conducted output power test, when measured value for GSM850 is 24.7 dBm, and path loss is 8.5 dB, then final conducted output power value is:

Conducted Output Power Value (dBm) = 24.7 dBm + 8.5 dB = 33.2 dBm

Description of the Transmitter Radiated Power Measurement

In many cases, the RF output power limits for licensed digital transmission devices is specified in terms of effective radiated power (ERP) or equivalent isotropic radiated power (EIRP). Typically, ERP is specified when the operating frequency is less than or equal to 1 GHz and EIRP is specified when the operating

frequency is greater than 1 GHz. Both are determined by adding the transmit antenna gain to the conducted RF output power with the primary difference between the two being that when determining the ERP, the transmit antenna gain is referenced to a dipole antenna (i.e., dBd) whereas when determining the EIRP, the transmit antenna gain is referenced to an isotropic antenna (dBi).

Final measurement calculation as below:

The relevant equation for determining the ERP or EIRP from the conducted RF output power measured using the guidance provided above is:

$ERP/EIRP = P_{Meas} + GT - LC$

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;
GT = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);
dBd (ERP)=dBi (EIRP) -2.15 dB
LC = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

For devices utilizing multiple antennas, KDB 662911 provides guidance for determining the effective array transmit antenna gain term to be used in the above equation.

For example:
In the EIRP test, when P_{Meas} value for GSM1900 is 30.2 dBm, LC is 0.6 dB, and GT is -3.4 dB, then final EIRP value is:
EIRP for GSM1900 = 30.2 dBm - 3.4 dBi - 0.6 dB = 26.2 dBm

The relevant equation for determining the ERP/EIRP from the radiated RF output power is:
ERP/EIRP (dBm) = SA Read Value (dBm) + Correction Factor (dB)

where:
ERP/EIRP = effective or equivalent radiated power, in dBm;
SA Read Value = measured transmitter power received by EMI receiver or spectrum analyzer, in dBm;
Correction Factor = total correction factor including cable loss, in dB;

During the test, the data of Correction Factor (dB) is added in the EMI receiver or spectrum analyzer, so SA Read Value (dBm) is the final values which contains the data of Correction Factor (dB).

For example:

In the ERP test, when SA read value for GSM850 is 21dBm, and correction factor is 8dB, then final ERP value for GSM850 is:

ERP (dBm) = 21dBm + 8dB = 29dBm

5.1.4 Test Result

Please refer to ANNEX A.1.

5.2 Peak to Average Ratio

5.2.1 Limit

FCC § 2.1046 & 24.232(d) & 27.50(d) & 27.50(j) & 27.50(k)

In addition, when the transmitter power is measured in terms of average value, the peak-to-average power ratio (PAPR) of the transmitter shall not exceed 13 dB for more than 0.1% of the time using a signal corresponding to the highest PAPR during periods of continuous transmission.

According to FCC section 24.232(d), power measurements for transmissions by stations authorized under this section may be made either in accordance with a Commission-approved average power technique or in compliance with 24.232 (e) of this section. In both instances, equipment employed must be authorized in accordance with the provisions of § 24.51. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

FCC section 24.232(e), peak transmit power must be measured over any interval of continuous transmission using instrumentation calibrated in terms of an rms equivalent voltage. The measurement results shall be properly adjusted for any instrument limitations, such as detector response times, limited resolution bandwidth capability when compared to the emission bandwidth, sensitivity, etc., so as to obtain a true peak measurement for the emission in question over the full bandwidth of the channel.

According to FCC section 27.50(d) (5) & 27.50(j) & 27.50(k), in measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13dB.

5.2.2 Test Setup

The section 4.4.1 (Diagram 1) test setup description is used for this test. The photo of test setup please refer to ANNEX B.

5.2.3 Test Procedure

Here the lowest, middle and highest channels are selected to perform testing to verify the peak-to-average ratio.

According to KDB 971168 D01, there is CCDF procedure for PAPR:

a) Refer to instrument’s analyzer instruction manual for details on how to use the power statistics/CCDF function;

b) Set resolution/measurement bandwidth ≥ signal’s occupied bandwidth;

c) Set the number of counts to a value that stabilizes the measured CCDF curve;

d) Set the measurement interval as follows:

1) for continuous transmissions, set to 1 ms,

2) for burst transmissions, employ an external trigger that is synchronized with the EUT burst timing sequence, or use the internal burst trigger with a trigger level that allows the burst to stabilize and set the measurement interval to a time that is less than or equal to the burst duration.

e) Record the maximum PAPR level associated with a probability of 0.1%.

Alternate procedure for PAPR:

Use one of the procedures presented in 4.1 to measure the total peak power and record as P_{Pk}. Use one of the applicable procedures presented 4.2 to measure the total average power and record as P_{Avg}. Both the peak and average power levels must be expressed in the same logarithmic units (e.g., dBm). Determine the PAPR from:

PAPR (dB) = P_{Pk} (dBm) - P_{Avg} (dBm).

5.2.4 Test Result

Please refer to ANNEX A.2.

5.3 Occupied Bandwidth

5.3.1 Limit

FCC § 2.1049

RSS-Gen § 6.7

The occupied bandwidth is the frequency bandwidth such that, below its lower and above its upper frequency limits, the mean powers radiated are each equal to 0.5 percent of the total mean power radiated by a given emission.

Many of the individual rule parts specify a relative OBW in lieu of the 99% OBW. In such cases, the OBW is defined as the width of the signal between two points, one below the carrier center frequency and on above the carrier center frequency, outside of which all emissions are attenuated by at least X dB below the transmitter power, where the value of X is typically specified as 26.

5.3.2 Test Setup

The section 4.4.1 (Diagram 1) test setup description is used for this test. The photo of test setup please refer to ANNEX B.

5.3.3 Test Procedure

The following procedure shall be used for measuring power bandwidth.

a) The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The frequency span for the spectrum analyzer shall be set wide enough to capture all modulation products including the emission skirts (i.e., two to five times the anticipated OBW).

b) The nominal IF filter bandwidth (3 dB RBW) shall be in the range of 1 to 5 % of the anticipated OBW, and the VBW shall be at least 3 times the RBW.

c) Set the reference level of the instrument as required to keep the signal from exceeding the maximum input mixer level for linear operation. In general, the peak of the spectral envelope must be at least 10log (OBW / RBW) below the reference level.

d) NOTE—Steps a) through c) may require iteration to adjust within the specified tolerances.

e) For -26 dB OBW, the dynamic range of the spectrum analyzer at the selected RBW shall be at least 10dB below the target “-X dB down” requirement, e.g. -26 dB OBW, the spectrum analyzer noise floor at the selected RBW shall be 36dB below the reference value.

f) Set the detection mode to peak, and the trace mode to max hold.

g) For 99% OBW, use the 99 % power bandwidth function of the spectrum analyzer (if available) and report the measured bandwidth.

If the instrument does not have a 99 % power bandwidth function, the trace data points are to be recovered and directly summed in linear power terms. The recovered amplitude data points, beginning at

the lowest frequency, are placed in a running sum until 0.5 % of the total is reached; that frequency is recorded as the lower frequency. The process is repeated until 99.5 % of the total is reached; that frequency is recorded as the upper frequency. The 99 % power bandwidth is the difference between these two frequencies.

h) For -26 dB OBW, determine the reference value: Set the EUT to transmit a modulated signal. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace (this is the reference value).

Determine the “-X dB down amplitude” as equal to (reference value -X). Alternatively, this calculation can be performed by the analyzer by using the marker-delta function.

Place two markers, one at the lowest and the other at the highest frequency of the envelope of the spectral display such that each marker is at or slightly below “-X dB down amplitude” determined in step g). If a marker is below this “-X dB down amplitude” value it shall be placed as close as possible to this value. The OBW is the positive frequency difference between the two markers.

i) The OBW shall be reported by providing plot(s) of the measuring instrument display. The frequency and amplitude axes and scale shall be clearly labeled. Tabular data may be reported in addition to the plot(s).

j) Change variable modulations, coding, or channel bandwidth settings, then repeat above test procedures.

5.3.4 Test Result

Please refer to ANNEX A.3.

5.4 Frequency Stability

5.4.1 Limit

FCC § 2.1055 & 22.355 & 24.235 & 27.54 & 90.213

RSS-Gen § 6.11 & RSS-130 § 4.5 & RSS-132 § 5.3 & RSS-133 § 6.3 & RSS-139 § 6.4 &

FCC § 2.1055 & RSS-Gen § 6.11

The frequency stability shall be measured with variation of ambient temperature as follows:

(1) The temperature is varied from -30°C to +50°C.

(2) Frequency measurements shall be made at the extremes of the specified temperature range and at intervals of not more than 10°C through the range.

The frequency stability shall be measured with variation of primary supply voltage as follows:

(1) Vary primary supply voltage from 85 to 115 percent of the nominal value for other than carried battery equipment.

(2) For hand carried, battery powered equipment, reduce primary supply voltage to the battery operating and point which shall be specified by the manufacture.

(3) The supply voltage shall be measured at the input to the cable normally provided with the equipment, or at the power supply terminals if cables are not normally provided.

FCC § 22.355

Except as otherwise provided in this part, the carrier frequency of each transmitter in the Public Mobile Services must be maintained within the tolerances given in Table C-1 of this section.

Table C-1—Frequency Tolerance for Transmitters in the Public Mobile Services

Frequency range (MHz)	Base, fixed (ppm)	Mobile > 3 watts (ppm)	Mobile ≤ 3 watts (ppm)
25 to 50	20.0	20.0	50.0
50 to 450	5.0	5.0	50.0
450 to 512	2.5	5.0	5.0
821 to 896	1.5	2.5	2.5
928 to 929	5.0	n/a	n/a
929 to 960	1.5	n/a	n/a
2110 to 2220	10.0	n/a	n/a

FCC § 24.235

The frequency stability shall be sufficient to ensure that the fundamental emission stays within the authorized frequency block.

FCC § 27.54

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

FCC § 90.213

The frequency stability shall not depart from the reference frequency in excess of ±2.5ppm for mobile stations.

RSS-130 § 4.5

The frequency stability shall be sufficient to ensure that the occupied bandwidth remains within each frequency block range when tested at the temperature and supply voltage variations specified in RSS-Gen.

RSS-132 § 5.3

The carrier frequency shall not depart from the reference frequency in excess of ±2.5 ppm for mobile stations and ±1.5 ppm for base stations.

RSS-133 § 6.3

The carrier frequency shall not depart from the reference frequency in excess of ±2.5 ppm for mobile stations and ±1.0 ppm for base stations.

RSS-139 § 6.4

The frequency stability shall be sufficient to ensure that the occupied bandwidth stays within the operating frequency block when tested to the temperature and supply voltage variations specified in RSS-Gen.

5.4.2 Test Setup

The section 4.4.2 (Diagram 2) test setup description is used for this test. The photo of test setup please refer to ANNEX B.

5.4.3 Test Procedure

1. The EUT is placed in a temperature chamber.

2. The temperature is set to 25°C and allowed to stabilize. After sufficient soak time, the transmitting frequency error is measured.

3. The temperature is increased by not more than 10 degrees, allowed to stabilize and soak, and then repeat the frequency error measurement.

4. Repeat procedure 3 until +50°C and -30°C is reached.

5. Change supply voltage, and repeat measurement until extreme voltage is reached.

5.4.4 Test Result

Please refer to ANNEX A.4.

5.5 Spurious Emission at Antenna Terminals

5.5.1 Limit

FCC § 2.1051 & 22.917(a) & 24.238(a) & 27.53(c) & 27.53(f) & 27.53(g) & 27.53(h) & 90.691 & 90.543

RSS-Gen § 6.13 & RSS-130 § 4.7 & RSS-132 § 5.5 & RSS-133 § 6.5 & RSS-139 § 6.6

In the 1 MHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

FCC § 22.917(a) & 24.238(a) & RSS-132 § 5.5 & RSS-133 § 6.5

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. This is calculated to be -13 dBm.

FCC § 27.53(c)

For operations in the 746–758 MHz band and the 776–788 MHz band, the power of any emission outside the 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, in accordance with the following:

(1) On any frequency outside the 746–758 MHz band, the power of any emission shall be attenuated outside the

band below the transmitter power (P) by at least 43 + 10 log (P) dB;

(2) On any frequency outside the 776–788 MHz band, the power of any emission shall be attenuated outside the

band below the transmitter power (P) by at least 43 + 10 log (P) dB;

(3) On all frequencies between 763–775 MHz and 793–805 MHz, by a factor not less than 76 + 10 log (P) dB in a 6.25 kHz band segment, for base and fixed stations;

(4) On all frequencies between 763–775 MHz and 793–805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations;

(5) Compliance with the provisions of paragraphs (c)(1) and (c)(2) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater.

However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth

of at least 30 kHz may be employed;

(6) Compliance with the provisions of paragraphs (c)(3) and (c)(4) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.

FCC § 27.53(f)

For operations in the 746–758 MHz, 775–788 MHz, and 805–806 MHz bands, emissions in the band 1559–1610 MHz shall be limited to - 70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

FCC § 27.53(g)

For operations in the 600MHz band and the 698-746MHz band, 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) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

FCC § 27.53(h) (1) & RSS-139 § 6.6

Except as otherwise specified below, for operations 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 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 $43 + 10 \log_{10}(P)$ dB.

FCC § 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 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least $116 \text{ Log}_{10}(f/6.1)$ decibels or $50 + 10 \text{ Log}_{10}(P)$ 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 kHz.

(2) For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least $43 + 10\text{Log}_{10}(P)$ 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 kHz.

(b) When an emission outside of the authorized bandwidth causes harmful interference, the Commission may, at its discretion, require greater attenuation than specified in this section.

FCC § 90.543

(e) For operations in the 758–768 MHz and the 788–798 MHz bands, the power of any emission outside

the 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, in accordance with the following:

(1) On all frequencies between 769–775 MHz and 799–805 MHz, by a factor not less than 76 + 10 log (P) dB in a 6.25 kHz band segment, for base and fixed stations.

(2) On all frequencies between 769–775 MHz and 799–805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations.

(3) On any frequency between 775–788 MHz, above 805 MHz, and below 758 MHz, by at least 43 + 10 log (P) dB.

(4) Compliance with the provisions of paragraphs (e)(1) and (2) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.

(f) For operations in the 758–775 MHz and 788–805 MHz bands, all emissions including harmonics in the band 1559– 1610 MHz shall be limited to -70 dBW/ MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

RSS-130 § 4.7

The unwanted emissions in any 100 kHz bandwidth on any frequency outside the low frequency edge and the high frequency edge of each frequency block range(s), shall be attenuated below the transmitter power, P (dBW), by at least 43 + 10Log_{10}(P) (watts), dB. However, in the 100 kHz band immediately outside of the equipment's frequency block range, a resolution bandwidth of 30 kHz may be employed.

In addition to the limit outlined above, equipment operating in the frequency bands 746-756 MHz and 777-787 MHz shall also comply with the following restrictions:

(a) The power of any unwanted emissions in any 6.25 kHz bandwidth for all frequencies between 763-775 MHz and 793-806 MHz shall be attenuated below the transmitter power, P (dBW), by at least:

(i) 76 + 10 log10 p (watts), dB, for base and fixed equipment and

(ii) 65 + 10 log10 p (watts), dB, for mobile and portable equipment

(b) The e.i.r.p. in the band 1559-1610 MHz shall not exceed −70 dBW/MHz for wideband signal and −80 dBW for discrete emission with bandwidth less than 700 Hz.

5.5.2 Test Setup

The section 4.4.1 (Diagram 1) test setup description was used for this test. The photo of test setup please refer to ANNEX B.

5.5.3 Test Procedure

The level of the carrier and the various conducted spurious and harmonic frequencies is measured by means of a calibrated spectrum analyzer. The spectrum is scanned from the lowest frequency generated in the equipment up to a frequency including its 10th harmonic. On any frequency outside a licensee's frequency block, the power of any emission shall be attenuated below the transmitter power (P) by at least 43 + 10 log(P) dB. Compliance with these provisions is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or greater. However, in the 1 MHz bands immediately outside and adjacent to the frequency blocks a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed. The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

1. The EUT is coupled to the system simulator and spectrum analyzer; the RF load attached to EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading.

2. CMW500 is used to establish communication with the EUT, and its parameters are set to force the EUT transmitting at maximum output power.

3. The RF output of the transmitter is connected to the input of the spectrum analyzer through sufficient attenuation.

4. Spurious emissions are tested with 0.001MHz RBW for frequency less than 150kHz, 0.01MHz RBW for frequency less than 30MHz, 0.1MHz RBW for frequency less than 1GHz, and 1MHz RBW for frequency above 1GHz. And sweep point number are at least 401, referring to following formula.

Sweep point number = Span/RBW

VBW=3*RBW

Detector Mode=mean or average power

5. Record the frequencies and levels of spurious emissions.

5.5.4 Test Result

Please refer to ANNEX A.5.

5.6 Band Edge

5.6.1 Limit

FCC § 2.1051 & 22.917(a) & 24.238(a) & 27.53(c) & 27.53(g) & 27.53(h) & 90.691 & 90.543

In the 1 MHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

The emission bandwidth is defined as the width of the signal between two points, one below the carrier center frequency and one above the carrier center frequency, outside of which all emissions are attenuated at least 26 dB below the transmitter power.

FCC § 22.917(a) & 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) dB. This is calculated to be -13 dBm.

FCC § 27.53(c)

For operations in the 746–758 MHz band and the 776–788 MHz band, the power of any emission outside the 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, in accordance with the following:

(1) On any frequency outside the 746–758 MHz band, the power of any emission shall be attenuated outside the

band below the transmitter power (P) by at least 43 + 10 log (P) dB;

(2) On any frequency outside the 776–788 MHz band, the power of any emission shall be attenuated outside the

band below the transmitter power (P) by at least 43 + 10 log (P) dB;

(3) On all frequencies between 763–775 MHz and 793–805 MHz, by a factor not less than 76 + 10 log (P) dB in a 6.25 kHz band segment, for base and fixed stations;

(4) On all frequencies between 763–775 MHz and 793–805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations;

(5) Compliance with the provisions of paragraphs (c)(1) and (c)(2) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater.

However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth

of at least 30 kHz may be employed;

(6) Compliance with the provisions of paragraphs (c)(3) and (c)(4) of this section is based on the use of

measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.

FCC § 27.53(g)

For operations in the 600MHz band and the 698-746MHz band, 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) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

FCC § 27.53(h) (1)

Except as otherwise specified below, for operations 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 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 $43 + 10 \log_{10}(P)$ dB.

FCC § 90.543

(e) For operations in the 758–768 MHz and the 788–798 MHz bands, the power of any emission outside the 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, in accordance with the following:

(1) On all frequencies between 769–775 MHz and 799–805 MHz, by a factor not less than 76 + 10 log (P) dB in a 6.25 kHz band segment, for base and fixed stations.

(2) On all frequencies between 769–775 MHz and 799–805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations.

(3) On any frequency between 775–788 MHz, above 805 MHz, and below 758 MHz, by at least 43 + 10 log (P) dB.

(4) Compliance with the provisions of paragraphs (e)(1) and (2) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.

RSS-130 § 4.7

The unwanted emissions in any 100 kHz bandwidth on any frequency outside the low frequency edge and the high frequency edge of each frequency block range(s), shall be attenuated below the transmitter power, P (dBW), by at least $43 + 10\text{Log}_{10}(P)$ (watts), dB. However, in the 100 kHz band immediately outside of the equipment's frequency block range, a resolution bandwidth of 30 kHz may be employed.

In addition to the limit outlined above, equipment operating in the frequency bands 746-756 MHz and 777-787 MHz shall also comply with the following restrictions:

(a) The power of any unwanted emissions in any 6.25 kHz bandwidth for all frequencies between 763-

775 MHz and 793-806 MHz shall be attenuated below the transmitter power, P (dBW), by at least:

(i) 76 + 10 log10 p (watts), dB, for base and fixed equipment and

(ii) 65 + 10 log10 p (watts), dB, for mobile and portable equipment

(b) The e.i.r.p. in the band 1559-1610 MHz shall not exceed −70 dBW/MHz for wideband signal and −80 dBW for discrete emission with bandwidth less than 700 Hz.

5.6.2 Test Procedure

The EUT, which is powered by the Battery, is coupled to the Spectrum Analyzer (SA) and the System Simulator (SS) with attenuators through the Power Splitter; the RF load attached to the EUT antenna terminal is 50 Ohm; the path loss as the factor is calibrated to correct the reading.

1.The EUT is coupled to the system simulator and spectrum analyzer; the RF load attached to EUT antenna terminal is 50Ohm; the path loss as the factor is calibrated to correct the reading.

2. CMW500 is used to establish communication with the EUT, and its parameters are set to force the EUT transmitting at maximum output power.

3. The RF output of the transmitter is connected to the input of the spectrum analyzer through sufficient attenuation.

4. The center of the spectrum analyzer was set to block edge frequency.

5. Band edge are tested with 1%*cBW (RBW), and sweep point number referred to following formula.

Sweep point number = 2*Span/RBW

VBW=3RBW

6. Record the frequencies and levels of spurious emissions.

For mobile and portable stations, on all frequencies between 763–775 MHz and 793–805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment. Since it was not possible to set the resolution bandwidth to 6.25 kHz with the available equipment, a bandwidth of 10 kHz was used instead to show compliance. By using a 10 kHz bandwidth on the spectrum analyzer.

10*log(10 kHz / 6.25 kHz) = 2.04 dB
Limit Line = -35 dBm + 2.04 dB = -32.96dBm

5.6.3 Test Result

Please refer to ANNEX A.6.

5.7 Field Strength of Spurious Radiation

5.7.1 Limit

FCC § 2.1053 & 22.917(a) & 24.238(a) & 27.53(c) & 27.53(f) & 27.53(g) & 27.53(h) & 90.691& 90.543

FCC § 22.917(a) & 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) dB. This is calculated to be -13 dBm.

FCC § 27.53(c)

For operations in the 746–758 MHz band and the 776–788 MHz band, the power of any emission outside the 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, in accordance with the following:

(1) On any frequency outside the 746–758 MHz band, the power of any emission shall be attenuated outside the

band below the transmitter power (P) by at least 43 + 10 log (P) dB;

(2) On any frequency outside the 776–788 MHz band, the power of any emission shall be attenuated outside the

band below the transmitter power (P) by at least 43 + 10 log (P) dB;

(3) On all frequencies between 763–775 MHz and 793–805 MHz, by a factor not less than 76 + 10 log (P) dB in a 6.25 kHz band segment, for base and fixed stations;

(4) On all frequencies between 763–775 MHz and 793–805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations;

(5) Compliance with the provisions of paragraphs (c)(1) and (c)(2) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater.

However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth

of at least 30 kHz may be employed;

(6) Compliance with the provisions of paragraphs (c)(3) and (c)(4) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.

FCC § 27.53(f)

For operations in the 746–758 MHz, 775–788 MHz, and 805–806 MHz bands, emissions in the band 1559–1610 MHz shall be limited to - 70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

FCC § 27.53(g)

For operations in the 600MHz band and the 698-746MHz band, 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) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

FCC § 27.53(h) (1)

Except as otherwise specified below, for operations 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 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 $43 + 10 \log_{10}(P)$ dB.

FCC § 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 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least $116 \text{ Log}_{10}(f/6.1)$ decibels or $50 + 10 \text{ Log}_{10}(P)$ 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 kHz.

(2) For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least $43 + 10\text{Log}_{10}(P)$ 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 kHz.

(b) When an emission outside of the authorized bandwidth causes harmful interference, the Commission may, at its discretion, require greater attenuation than specified in this section.

FCC § 90.543

(e) For operations in the 758–768 MHz and the 788–798 MHz bands, the power of any emission outside the 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, in accordance with the following:

(1) On all frequencies between 769–775 MHz and 799–805 MHz, by a factor not less than 76 + 10 log (P) dB in a 6.25 kHz band segment, for base and fixed stations.

(2) On all frequencies between 769–775 MHz and 799–805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations.

(3) On any frequency between 775–788 MHz, above 805 MHz, and below 758 MHz, by at least 43 + 10 log (P) dB.

(4) Compliance with the provisions of paragraphs (e)(1) and (2) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.

(f) For operations in the 758–775 MHz and 788–805 MHz bands, all emissions including harmonics in the band 1559– 1610 MHz shall be limited to -70 dBW/ MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

RSS-130 § 4.7

The unwanted emissions in any 100 kHz bandwidth on any frequency outside the low frequency edge and the high frequency edge of each frequency block range(s), shall be attenuated below the transmitter power, P (dBW), by at least 43 + 10Log_{10}(P) (watts), dB. However, in the 100 kHz band immediately outside of the equipment's frequency block range, a resolution bandwidth of 30 kHz may be employed.

In addition to the limit outlined above, equipment operating in the frequency bands 746-756 MHz and 777-787 MHz shall also comply with the following restrictions:

(a) The power of any unwanted emissions in any 6.25 kHz bandwidth for all frequencies between 763-775 MHz and 793-806 MHz shall be attenuated below the transmitter power, P (dBW), by at least:

(i) 76 + 10 log10 p (watts), dB, for base and fixed equipment and

(ii) 65 + 10 log10 p (watts), dB, for mobile and portable equipment

(b) The e.i.r.p. in the band 1559-1610 MHz shall not exceed −70 dBW/MHz for wideband signal and −80 dBW for discrete emission with bandwidth less than 700 Hz.

5.7.2 Test Setup

The section 4.4.3 and 4.4.4 (Diagram 3, 4) test setup description was used for this test. The photo of test setup please refer to ANNEX B.

5.7.3 Test Procedure

1. On a test site, the EUT shall be placed at 80cm 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. During the measurement of the EUT, the resolution bandwidth was to 1 MHz and the average bandwidth

was set to 1 MHz.

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. The EUT was replaced by half-wave dipole (824 ~ 849 MHz) or horn antenna (1 850 ~ 1 910 MHz) connected to a signal generator.

11. In necessary, the input attenuator setting on the measuring receiver shall be adjusted in order to increase

the sensitivity of the measuring receiver.

12. The test antenna shall be raised and lowered through the specified range of height to ensure that the maximum signal is received.

13. The input signal to the substitution antenna shall be adjusted to the level that produces a level detected by the measuring received, which is equal to the level noted while the transmitter radiated power was measured, corrected for the change of input attenuator setting of the measuring receiver.

14. The input level to the substitution antenna shall be recorded as power level in dBm, corrected for any change of input attenuator setting of the measuring receiver.

15. The measurement shall be repeated with the test antenna and the substitution antenna orientated for horizontal polarization.

Final measurement calculation as below:

The relevant equation for determining the ERP/EIRP from the radiated RF output power is:

ERP/EIRP (dBm) = SA Read Value (dBm) + Correction Factor (dB)

where:
ERP/EIRP = effective or equivalent radiated power, in dBm;
SA Read Value = measured transmitter power received by EMI receiver or spectrum analyzer, in dBm;
Correction Factor = total correction factor including cable loss, in dB;

During the test, the data of Correction Factor (dB) is added in the EMI receiver or spectrum analyzer,

so SA Read Value (dBm) is the final values which contains the data of Correction Factor (dB).

For example:

In the ERP test, when SA read value for GSM850 is 21dBm, and correction factor is 8dB, then final ERP value for GSM850 is:

ERP (dBm) = 21dBm + 8dB = 29dBm

5.7.4 Test Result

Please refer to ANNEX A.7.

5.8 Receiver Spurious Emissions

5.8.1 Limit

RSS-Gen § 7.3/4 & RSS-132 § 5.6 & RSS-133 § 6.6 & RSS-197 § 5.7

For emissions at frequencies below 1 GHz, measurements shall be performed using a CISPR quasi-peak detector and the related measurement bandwidth. At frequencies above 1 GHz, measurements shall be performed using a linear average detector with a minimum resolution bandwidth of 1 MHz.

As an alternative to CISPR quasi-peak or average measurements, compliance with the emission limit can be demonstrated using measuring equipment employing a peak detector function properly adjusted for factors such as pulse desensitization, as required, with a measurement bandwidth equal to, or greater than, the applicable CISPR quasi-peak bandwidth or 1 MHz bandwidth, respectively.

Receiver Radiated Limits

Radiated emission measurements shall be performed with the receiver antenna connected to the receiver antenna ports. The search for spurious emissions shall be from the lowest frequency internally generated or used in the receiver (e.g. local oscillator, intermediate or carrier frequency), or 30 MHz, whichever is higher, to at least five times the highest tunable or local oscillator frequency, whichever is higher, without exceeding 40 GHz.

Spurious emissions from receivers shall not exceed the radiated emissions limits shown in Table 2 below.

Table 2 –Receiver radiated emissions limits

Frequency (MHz)	Field Strength (μV/m at 3 metres)
30 - 88	100
88 - 216	150
216 - 960	200
Above 960	500

Receiver Conducted Limits

If the receiver has a detachable antenna of known impedance, an antenna-conducted spurious emissions measurement is permitted as an alternative to radiated measurement. However, the radiated method is preferred.

The antenna-conducted test shall be performed with the antenna disconnected and with the receiver antenna port connected to a measuring instrument having equal input impedance to that specified for the antenna. The RF cable connecting the receiver under test to the measuring instrument shall also have the same impedance to that specified for the receiver’s antenna.

The spurious emissions from the receiver at any discrete frequency, measured at the antenna port by the antenna-conducted method, shall not exceed 2 nW in the frequency range 30-1000 MHz and 5 nW above 1 GHz.

5.8.2 Test Setup

The section 4.4.3 and 4.4.4 (Diagram 3, 4) test setup description was used for this test. The photo of test setup please refer to ANNEX B.

5.8.3 Test Procedure

The test employing the methods of measurement described in the publication referenced in Section 3(b) (ANSI C63.4);

All Spurious Emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

An initial pre-scan was performed in the chamber using the EMI Receiver in peak detection mode. Quasi-peak measurements were conducted based on the peak sweep graph. The EUT was measured by Bi-Log antenna with 2 orthogonal polarities.

5.8.4 Test Result

Please refer to ANNEX A.9.

5.9 AC Power-line Conducted Emissions

5.9.1 Limit

RSS-Gen § 8.8

For AC power-line conducted emissions, both quasi-peak and average detectors having the characteristics specified in CAN/CSA-CISPR 16-1-1:15 for the 150 kHz to 30 MHz frequency range shall be employed.

Unless stated otherwise in the applicable RSS, for radio apparatus that are designed to be connected to the public utility AC power network, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the range 150 kHz to 30 MHz shall not exceed the limits in table 3, as measured using a 50 µH / 50 Ω line impedance stabilization network. This requirement applies for the radio frequency voltage measured between each power line and the ground terminal of each AC power-line mains cable of the EUT.

For an EUT that connects to the AC power lines indirectly, through another device, the requirement for compliance with the limits in table 3 shall apply at the terminals of the AC power-line mains cable of a representative support device, while it provides power to the EUT. The lower limit applies at the boundary between the frequency ranges. The device used to power the EUT shall be representative of typical applications.

Table 3 –AC power-line conducted emissions limits

Frequency (MHz)	Conducted limit (dBµV)	
	Quasi-peak	Average
0.15 - 0.5	66 to 56[Note1]	56 to 46 [Note1]
0.5 - 5	56	46
5 - 30	60	50

Note 1: The level decreases linearly with the logarithm of the frequency.

5.9.2 Test Setup

The section 4.4.5 (Diagram 5) test setup description was used for this test. The photo of test setup please refer to ANNEX B.

5.9.3 Test Procedure

The test employing the methods of measurement described in the publication referenced in Section 3(b) (ANSI C63.4);

The EUT is connected to the power mains through a LISN which provides 50 Ω/50 μH of coupling impedance for the measuring instrument. The test frequency range is from 150 kHz to 30 MHz. The maximum conducted interference is searched using Peak (PK), Quasi-peak (QP) and Average (AV) detectors; the emission levels that are more than the AV and QP limits, and that have narrow margins from the AV and QP limits will be re-measured with AV and QP detectors. Tests for both L phase and N phase lines of the power mains connected to the EUT are performed.

Devices subject to Part 15 must be tested for all available U.S. voltages and frequencies (such as a nominal 120 VAC, 50/60 Hz and 240 VAC, 50/60 Hz) for which the device is capable of operation. A device rated for 50/60 Hz operation need not be tested at both frequencies provided the radiated and line conducted emissions are the same at both frequencies.

5.9.4 Test Result

Please refer to ANNEX A.10.

ANNEX A TEST RESULTS

A.1 Transmitter Radiated Power (EIRP/ERP)

GSM Mode Test Data

Test Band	Test Channel	Conducted Output Peak Power (dBm)	Antenna Gain (dBi)	Antenna Gain (dBd)	ERP (dBm)	ERP (W)	Limit (W)	Verdict
GPRS 850	LCH	32.37	0.7	-1.45	30.92	1.24	7.00	Pass
	MCH	32.46	0.7	-1.45	31.01	1.26	7.00	Pass
	HCH	32.36	0.7	-1.45	30.91	1.23	7.00	Pass
EGPRS 850	LCH	25.78	0.7	-1.45	24.33	0.27	7.00	Pass
	MCH	25.74	0.7	-1.45	24.29	0.27	7.00	Pass
	HCH	26.00	0.7	-1.45	24.55	0.29	7.00	Pass

Test Band	Test Channel	Conducted Output Peak Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)	Verdict
GPRS 1900	LCH	31.86	1.0	32.86	1.93	2.00	Pass
	MCH	30.95	1.0	31.95	1.57	2.00	Pass
	HCH	30.37	1.0	31.37	1.37	2.00	Pass
EGPRS 1900	LCH	27.80	1.0	28.80	0.76	2.00	Pass
	MCH	27.56	1.0	28.56	0.72	2.00	Pass
	HCH	27.15	1.0	28.15	0.65	2.00	Pass

Note 1: For the GPRS and EGPRS mode, all slots were tested and just the worst data were recorded in this table.

Note 2: ERP/EIRP = P_{Meas} + GT − LC

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;

GT = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);

LC = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

ERP = EIRP – 2.15; where ERP and EIRP are expressed in consistent units.

Note 3: Set PCL to 5 for GSM/GPRS 850 (power class 4) and 0 for GSM/GPRS 1900 (power class 1). Set PCL to 8 for EGPRS850 (power class E2) and 2 for EGPRS1900 (power class E2).

GPRS Conducted Output Power

Band	Channel	Conducted Output Peak Power							
		1 Slot (dBm)	1 Slot (W)	2 Slots (dBm)	2 Slots (W)	3 Slots (dBm)	3 Slots (W)	4 Slots (dBm)	4 Slots (W)
GPRS 850	LCH	32.37	1.73	32.27	1.69	31.26	1.34	30.20	1.05
	MCH	32.46	1.76	32.35	1.72	31.39	1.38	30.30	1.07
	HCH	32.36	1.72	32.26	1.68	31.33	1.36	30.04	1.01
GPRS 1900	LCH	31.86	1.53	31.74	1.49	31.65	1.46	31.57	1.44
	MCH	30.95	1.24	30.83	1.21	30.74	1.19	30.66	1.16
	HCH	30.37	1.09	30.26	1.06	30.18	1.04	30.11	1.03

EGPRS Conducted Output Power

Band	Channel	Conducted Output Peak Power							
		1 Slot (dBm)	1 Slot (W)	2 Slots (dBm)	2 Slots (W)	3 Slots (dBm)	3 Slots (W)	4 Slots (dBm)	4 Slots (W)
EGPRS 850	LCH	25.78	0.38	25.71	0.37	25.58	0.36	25.35	0.34
	MCH	25.74	0.37	25.65	0.37	25.59	0.36	25.30	0.34
	HCH	26.00	0.40	25.87	0.39	25.66	0.37	25.56	0.36
EGPRS 1900	LCH	27.80	0.60	27.79	0.60	27.60	0.58	27.53	0.57
	MCH	27.56	0.57	27.29	0.54	27.25	0.53	27.03	0.50
	HCH	27.15	0.52	27.01	0.50	26.87	0.49	26.68	0.47

LTE-M1 Mode Test Data

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)	Verdict
LTE-M1 BAND2									
1.4 MHz	LCH	QPSK	RB1#0	22.30	1.0	23.30	0.21	2.0	Pass
			RB6#0	22.22	1.0	23.22	0.21	2.0	Pass
		16-QAM	RB1#0	22.38	1.0	23.38	0.22	2.0	Pass
			RB5#0	22.40	1.0	23.40	0.22	2.0	Pass
	MCH	QPSK	RB1#0	22.82	1.0	23.82	0.24	2.0	Pass
			RB6#0	22.47	1.0	23.47	0.22	2.0	Pass
		16-QAM	RB1#0	22.12	1.0	23.12	0.21	2.0	Pass
			RB5#0	22.47	1.0	23.47	0.22	2.0	Pass
	HCH	QPSK	RB1#0	22.57	1.0	23.57	0.23	2.0	Pass
			RB6#0	22.85	1.0	23.85	0.24	2.0	Pass
		16-QAM	RB1#0	23.15	1.0	24.15	0.26	2.0	Pass
			RB5#0	22.95	1.0	23.95	0.25	2.0	Pass
3 MHz	LCH	QPSK	RB1#0	21.84	1.0	22.84	0.19	2.0	Pass
			RB6#0	22.12	1.0	23.12	0.21	2.0	Pass
		16-QAM	RB1#0	22.65	1.0	23.65	0.23	2.0	Pass
			RB5#0	22.24	1.0	23.24	0.21	2.0	Pass
	MCH	QPSK	RB1#0	22.59	1.0	23.59	0.23	2.0	Pass
			RB6#0	22.50	1.0	23.50	0.22	2.0	Pass
		16-QAM	RB1#0	22.36	1.0	23.36	0.22	2.0	Pass
			RB5#0	22.72	1.0	23.72	0.24	2.0	Pass
	HCH	QPSK	RB1#0	22.99	1.0	23.99	0.25	2.0	Pass
			RB6#0	22.97	1.0	23.97	0.25	2.0	Pass
		16-QAM	RB1#0	22.61	1.0	23.61	0.23	2.0	Pass
			RB5#0	23.20	1.0	24.20	0.26	2.0	Pass
5 MHz	LCH	QPSK	RB1#0	22.25	1.0	23.25	0.21	2.0	Pass
			RB6#0	22.41	1.0	23.41	0.22	2.0	Pass
		16-QAM	RB1#0	22.78	1.0	23.78	0.24	2.0	Pass
			RB5#0	22.59	1.0	23.59	0.23	2.0	Pass
	MCH	QPSK	RB1#0	22.58	1.0	23.58	0.23	2.0	Pass
			RB6#0	22.46	1.0	23.46	0.22	2.0	Pass
		16-QAM	RB1#0	22.98	1.0	23.98	0.25	2.0	Pass
			RB5#0	22.76	1.0	23.76	0.24	2.0	Pass
	HCH	QPSK	RB1#0	23.01	1.0	24.01	0.25	2.0	Pass
			RB6#0	22.75	1.0	23.75	0.24	2.0	Pass
		16-QAM	RB1#0	22.61	1.0	23.61	0.23	2.0	Pass
			RB5#0	22.66	1.0	23.66	0.23	2.0	Pass
10 MHz	LCH	QPSK	RB1#0	22.20	1.0	23.20	0.21	2.0	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)	Verdict
			RB6#0	22.23	1.0	23.23	0.21	2.0	Pass
		16-QAM	RB1#0	22.77	1.0	23.77	0.24	2.0	Pass
			RB5#0	22.48	1.0	23.48	0.22	2.0	Pass
	MCH	QPSK	RB1#0	22.76	1.0	23.76	0.24	2.0	Pass
			RB6#0	22.17	1.0	23.17	0.21	2.0	Pass
		16-QAM	RB1#0	22.09	1.0	23.09	0.20	2.0	Pass
			RB5#0	22.73	1.0	23.73	0.24	2.0	Pass
	HCH	QPSK	RB1#0	22.92	1.0	23.92	0.25	2.0	Pass
			RB6#0	22.71	1.0	23.71	0.23	2.0	Pass
		16-QAM	RB1#0	22.56	1.0	23.56	0.23	2.0	Pass
			RB5#0	22.80	1.0	23.80	0.24	2.0	Pass
15 MHz	LCH	QPSK	RB1#0	22.16	1.0	23.16	0.21	2.0	Pass
			RB6#0	22.20	1.0	23.20	0.21	2.0	Pass
		16-QAM	RB1#0	22.83	1.0	23.83	0.24	2.0	Pass
			RB5#0	22.56	1.0	23.56	0.23	2.0	Pass
	MCH	QPSK	RB1#0	22.38	1.0	23.38	0.22	2.0	Pass
			RB6#0	22.37	1.0	23.37	0.22	2.0	Pass
		16-QAM	RB1#0	22.87	1.0	23.87	0.24	2.0	Pass
			RB5#0	22.77	1.0	23.77	0.24	2.0	Pass
	HCH	QPSK	RB1#0	22.77	1.0	23.77	0.24	2.0	Pass
			RB6#0	22.75	1.0	23.75	0.24	2.0	Pass
		16-QAM	RB1#0	23.28	1.0	24.28	0.27	2.0	Pass
			RB5#0	23.02	1.0	24.02	0.25	2.0	Pass
20 MHz	LCH	QPSK	RB1#0	22.14	1.0	23.14	0.21	2.0	Pass
			RB6#0	22.18	1.0	23.18	0.21	2.0	Pass
		16-QAM	RB1#0	22.74	1.0	23.74	0.24	2.0	Pass
			RB5#0	22.50	1.0	23.50	0.22	2.0	Pass
	MCH	QPSK	RB1#0	22.51	1.0	23.51	0.22	2.0	Pass
			RB6#0	22.41	1.0	23.41	0.22	2.0	Pass
		16-QAM	RB1#0	22.23	1.0	23.23	0.21	2.0	Pass
			RB5#0	22.22	1.0	23.22	0.21	2.0	Pass
	HCH	QPSK	RB1#0	22.66	1.0	23.66	0.23	2.0	Pass
			RB6#0	22.63	1.0	23.63	0.23	2.0	Pass
		16-QAM	RB1#0	23.24	1.0	24.24	0.27	2.0	Pass
			RB5#0	22.92	1.0	23.92	0.25	2.0	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)	Verdict
LTE-M1 BAND4									
1.4 MHz	LCH	QPSK	RB1#0	23.22	1.0	24.22	0.26	1.0	Pass
			RB6#0	23.01	1.0	24.01	0.25	1.0	Pass
		16-QAM	RB1#0	22.56	1.0	23.56	0.23	1.0	Pass
			RB5#0	22.91	1.0	23.91	0.25	1.0	Pass
	MCH	QPSK	RB1#0	22.86	1.0	23.86	0.24	1.0	Pass
			RB6#0	22.77	1.0	23.77	0.24	1.0	Pass
		16-QAM	RB1#0	22.75	1.0	23.75	0.24	1.0	Pass
			RB5#0	22.82	1.0	23.82	0.24	1.0	Pass
	HCH	QPSK	RB1#0	22.70	1.0	23.70	0.23	1.0	Pass
			RB6#0	22.85	1.0	23.85	0.24	1.0	Pass
		16-QAM	RB1#0	23.02	1.0	24.02	0.25	1.0	Pass
			RB5#0	22.76	1.0	23.76	0.24	1.0	Pass
3 MHz	LCH	QPSK	RB1#0	22.53	1.0	23.53	0.23	1.0	Pass
			RB6#0	22.81	1.0	23.81	0.24	1.0	Pass
		16-QAM	RB1#0	22.94	1.0	23.94	0.25	1.0	Pass
			RB5#0	22.74	1.0	23.74	0.24	1.0	Pass
	MCH	QPSK	RB1#0	22.44	1.0	23.44	0.22	1.0	Pass
			RB6#0	22.76	1.0	23.76	0.24	1.0	Pass
		16-QAM	RB1#0	23.05	1.0	24.05	0.25	1.0	Pass
			RB5#0	22.79	1.0	23.79	0.24	1.0	Pass
	HCH	QPSK	RB1#0	22.98	1.0	23.98	0.25	1.0	Pass
			RB6#0	22.98	1.0	23.98	0.25	1.0	Pass
		16-QAM	RB1#0	22.65	1.0	23.65	0.23	1.0	Pass
			RB5#0	23.01	1.0	24.01	0.25	1.0	Pass
5 MHz	LCH	QPSK	RB1#0	22.81	1.0	23.81	0.24	1.0	Pass
			RB6#0	22.98	1.0	23.98	0.25	1.0	Pass
		16-QAM	RB1#0	23.27	1.0	24.27	0.27	1.0	Pass
			RB5#0	23.12	1.0	24.12	0.26	1.0	Pass
	MCH	QPSK	RB1#0	22.66	1.0	23.66	0.23	1.0	Pass
			RB6#0	22.79	1.0	23.79	0.24	1.0	Pass
		16-QAM	RB1#0	23.19	1.0	24.19	0.26	1.0	Pass
			RB5#0	23.00	1.0	24.00	0.25	1.0	Pass
	HCH	QPSK	RB1#0	22.88	1.0	23.88	0.24	1.0	Pass
			RB6#0	22.87	1.0	23.87	0.24	1.0	Pass
		16-QAM	RB1#0	23.45	1.0	24.45	0.28	1.0	Pass
			RB5#0	23.17	1.0	24.17	0.26	1.0	Pass
10 MHz	LCH	QPSK	RB1#0	22.87	1.0	23.87	0.24	1.0	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)	Verdict
LTE-M1 BAND4									
			RB6#0	22.90	1.0	23.90	0.25	1.0	Pass
		16-QAM	RB1#0	23.26	1.0	24.26	0.27	1.0	Pass
			RB5#0	23.06	1.0	24.06	0.25	1.0	Pass
	MCH	QPSK	RB1#0	23.12	1.0	24.12	0.26	1.0	Pass
			RB6#0	22.98	1.0	23.98	0.25	1.0	Pass
		16-QAM	RB1#0	23.09	1.0	24.09	0.26	1.0	Pass
			RB5#0	22.79	1.0	23.79	0.24	1.0	Pass
	HCH	QPSK	RB1#0	22.97	1.0	23.97	0.25	1.0	Pass
			RB6#0	22.92	1.0	23.92	0.25	1.0	Pass
		16-QAM	RB1#0	22.68	1.0	23.68	0.23	1.0	Pass
			RB5#0	23.02	1.0	24.02	0.25	1.0	Pass
15 MHz	LCH	QPSK	RB1#0	23.08	1.0	24.08	0.26	1.0	Pass
			RB6#0	22.83	1.0	23.83	0.24	1.0	Pass
		16-QAM	RB1#0	22.74	1.0	23.74	0.24	1.0	Pass
			RB5#0	22.88	1.0	23.88	0.24	1.0	Pass
	MCH	QPSK	RB1#0	22.86	1.0	23.86	0.24	1.0	Pass
			RB6#0	22.72	1.0	23.72	0.24	1.0	Pass
		16-QAM	RB1#0	22.50	1.0	23.50	0.22	1.0	Pass
			RB5#0	22.65	1.0	23.65	0.23	1.0	Pass
	HCH	QPSK	RB1#0	22.73	1.0	23.73	0.24	1.0	Pass
			RB6#0	22.89	1.0	23.89	0.24	1.0	Pass
		16-QAM	RB1#0	22.96	1.0	23.96	0.25	1.0	Pass
			RB5#0	22.97	1.0	23.97	0.25	1.0	Pass
20 MHz	LCH	QPSK	RB1#0	22.83	1.0	23.83	0.24	1.0	Pass
			RB6#0	22.91	1.0	23.91	0.25	1.0	Pass
		16-QAM	RB1#0	23.36	1.0	24.36	0.27	1.0	Pass
			RB5#0	23.13	1.0	24.13	0.26	1.0	Pass
	MCH	QPSK	RB1#0	22.80	1.0	23.80	0.24	1.0	Pass
			RB6#0	22.83	1.0	23.83	0.24	1.0	Pass
		16-QAM	RB1#0	22.91	1.0	23.91	0.25	1.0	Pass
			RB5#0	22.84	1.0	23.84	0.24	1.0	Pass
	HCH	QPSK	RB1#0	22.80	1.0	23.80	0.24	1.0	Pass
			RB6#0	22.80	1.0	23.80	0.24	1.0	Pass
		16-QAM	RB1#0	22.57	1.0	23.57	0.23	1.0	Pass
			RB5#0	22.79	1.0	23.79	0.24	1.0	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	Antenna Gain (dBd)	ERP (dBm)	ERP (W)	Limit (W)	Verdict
LTE-M1 BAND5										
1.4 MHz	LCH	QPSK	RB1#0	22.27	0.7	-1.45	20.82	0.12	7.00	Pass
			RB6#0	22.58	0.7	-1.45	21.13	0.13	7.00	Pass
		16-QAM	RB1#0	22.78	0.7	-1.45	21.33	0.14	7.00	Pass
			RB5#0	22.76	0.7	-1.45	21.31	0.14	7.00	Pass
	MCH	QPSK	RB1#0	22.14	0.7	-1.45	20.69	0.12	7.00	Pass
			RB6#0	22.43	0.7	-1.45	20.98	0.13	7.00	Pass
		16-QAM	RB1#0	22.92	0.7	-1.45	21.47	0.14	7.00	Pass
			RB5#0	22.48	0.7	-1.45	21.03	0.13	7.00	Pass
	HCH	QPSK	RB1#0	22.23	0.7	-1.45	20.78	0.12	7.00	Pass
			RB6#0	22.50	0.7	-1.45	21.05	0.13	7.00	Pass
		16-QAM	RB1#0	22.78	0.7	-1.45	21.33	0.14	7.00	Pass
			RB5#0	22.53	0.7	-1.45	21.08	0.13	7.00	Pass
3 MHz	LCH	QPSK	RB1#0	22.23	0.7	-1.45	20.78	0.12	7.00	Pass
			RB6#0	22.50	0.7	-1.45	21.05	0.13	7.00	Pass
		16-QAM	RB1#0	22.82	0.7	-1.45	21.37	0.14	7.00	Pass
			RB5#0	22.41	0.7	-1.45	20.96	0.12	7.00	Pass
	MCH	QPSK	RB1#0	22.51	0.7	-1.45	21.06	0.13	7.00	Pass
			RB6#0	22.44	0.7	-1.45	20.99	0.13	7.00	Pass
		16-QAM	RB1#0	22.13	0.7	-1.45	20.68	0.12	7.00	Pass
			RB5#0	22.58	0.7	-1.45	21.13	0.13	7.00	Pass
	HCH	QPSK	RB1#0	22.63	0.7	-1.45	21.18	0.13	7.00	Pass
			RB6#0	22.50	0.7	-1.45	21.05	0.13	7.00	Pass
		16-QAM	RB1#0	22.32	0.7	-1.45	20.87	0.12	7.00	Pass
			RB5#0	22.57	0.7	-1.45	21.12	0.13	7.00	Pass
5 MHz	LCH	QPSK	RB1#0	22.52	0.7	-1.45	21.07	0.13	7.00	Pass
			RB6#0	22.76	0.7	-1.45	21.31	0.14	7.00	Pass
		16-QAM	RB1#0	23.10	0.7	-1.45	21.65	0.15	7.00	Pass
			RB5#0	22.97	0.7	-1.45	21.52	0.14	7.00	Pass
	MCH	QPSK	RB1#0	22.48	0.7	-1.45	21.03	0.13	7.00	Pass
			RB6#0	22.46	0.7	-1.45	21.01	0.13	7.00	Pass
		16-QAM	RB1#0	22.15	0.7	-1.45	20.70	0.12	7.00	Pass
			RB5#0	22.34	0.7	-1.45	20.89	0.12	7.00	Pass
	HCH	QPSK	RB1#0	22.50	0.7	-1.45	21.05	0.13	7.00	Pass
			RB6#0	22.44	0.7	-1.45	20.99	0.13	7.00	Pass
		16-QAM	RB1#0	22.26	0.7	-1.45	20.81	0.12	7.00	Pass
			RB5#0	22.30	0.7	-1.45	20.85	0.12	7.00	Pass
10	LCH	QPSK	RB1#0	22.48	0.7	-1.45	21.03	0.13	7.00	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	Antenna Gain (dBd)	ERP (dBm)	ERP (W)	Limit (W)	Verdict
LTE-M1 BAND5										
MHz			RB6#0	22.64	0.7	-1.45	21.19	0.13	7.00	Pass
		16-QAM	RB1#0	23.08	0.7	-1.45	21.63	0.15	7.00	Pass
			RB5#0	22.96	0.7	-1.45	21.51	0.14	7.00	Pass
	MCH	QPSK	RB1#0	22.72	0.7	-1.45	21.27	0.13	7.00	Pass
			RB6#0	22.48	0.7	-1.45	21.03	0.13	7.00	Pass
		16-QAM	RB1#0	22.32	0.7	-1.45	20.87	0.12	7.00	Pass
			RB5#0	22.55	0.7	-1.45	21.10	0.13	7.00	Pass
	HCH	QPSK	RB1#0	22.43	0.7	-1.45	20.98	0.13	7.00	Pass
			RB6#0	22.49	0.7	-1.45	21.04	0.13	7.00	Pass
		16-QAM	RB1#0	23.11	0.7	-1.45	21.66	0.15	7.00	Pass
			RB5#0	22.89	0.7	-1.45	21.44	0.14	7.00	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	Antenna Gain (dBd)	ERP (dBm)	ERP (W)	Limit (W)	Verdict
LTE-M1 BAND12										
1.4 MHz	LCH	QPSK	RB1#0	22.96	0.7	-1.45	21.51	0.14	3.0	Pass
			RB6#0	22.90	0.7	-1.45	21.45	0.14	3.0	Pass
		16-QAM	RB1#0	22.78	0.7	-1.45	21.33	0.14	3.0	Pass
			RB5#0	23.02	0.7	-1.45	21.57	0.14	3.0	Pass
	MCH	QPSK	RB1#0	22.98	0.7	-1.45	21.53	0.14	3.0	Pass
			RB6#0	22.90	0.7	-1.45	21.45	0.14	3.0	Pass
		16-QAM	RB1#0	22.57	0.7	-1.45	21.12	0.13	3.0	Pass
			RB5#0	23.00	0.7	-1.45	21.55	0.14	3.0	Pass
	HCH	QPSK	RB1#0	22.83	0.7	-1.45	21.38	0.14	3.0	Pass
			RB6#0	22.66	0.7	-1.45	21.21	0.13	3.0	Pass
		16-QAM	RB1#0	22.47	0.7	-1.45	21.02	0.13	3.0	Pass
			RB5#0	22.93	0.7	-1.45	21.48	0.14	3.0	Pass
3 MHz	LCH	QPSK	RB1#0	22.66	0.7	-1.45	21.21	0.13	3.0	Pass
			RB6#0	22.91	0.7	-1.45	21.46	0.14	3.0	Pass
		16-QAM	RB1#0	23.14	0.7	-1.45	21.69	0.15	3.0	Pass
			RB5#0	23.03	0.7	-1.45	21.58	0.14	3.0	Pass
	MCH	QPSK	RB1#0	22.93	0.7	-1.45	21.48	0.14	3.0	Pass
			RB6#0	22.86	0.7	-1.45	21.41	0.14	3.0	Pass
		16-QAM	RB1#0	22.57	0.7	-1.45	21.12	0.13	3.0	Pass
			RB5#0	22.88	0.7	-1.45	21.43	0.14	3.0	Pass
	HCH	QPSK	RB1#0	22.76	0.7	-1.45	21.31	0.14	3.0	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	Antenna Gain (dBd)	ERP (dBm)	ERP (W)	Limit (W)	Verdict
LTE-M1 BAND12										
			RB6#0	22.70	0.7	-1.45	21.25	0.13	3.0	Pass
		16-QAM	RB1#0	22.51	0.7	-1.45	21.06	0.13	3.0	Pass
			RB5#0	22.78	0.7	-1.45	21.33	0.14	3.0	Pass
5 MHz	LCH	QPSK	RB1#0	22.89	0.7	-1.45	21.44	0.14	3.0	Pass
			RB6#0	22.85	0.7	-1.45	21.40	0.14	3.0	Pass
		16-QAM	RB1#0	23.38	0.7	-1.45	21.93	0.16	3.0	Pass
			RB5#0	23.24	0.7	-1.45	21.79	0.15	3.0	Pass
	MCH	QPSK	RB1#0	22.82	0.7	-1.45	21.37	0.14	3.0	Pass
			RB6#0	22.76	0.7	-1.45	21.31	0.14	3.0	Pass
		16-QAM	RB1#0	22.75	0.7	-1.45	21.30	0.13	3.0	Pass
			RB5#0	22.88	0.7	-1.45	21.43	0.14	3.0	Pass
	HCH	QPSK	RB1#0	22.70	0.7	-1.45	21.25	0.13	3.0	Pass
			RB6#0	22.87	0.7	-1.45	21.42	0.14	3.0	Pass
		16-QAM	RB1#0	23.14	0.7	-1.45	21.69	0.15	3.0	Pass
			RB5#0	23.07	0.7	-1.45	21.62	0.15	3.0	Pass
10 MHz	LCH	QPSK	RB1#0	22.88	0.7	-1.45	21.43	0.14	3.0	Pass
			RB6#0	22.86	0.7	-1.45	21.41	0.14	3.0	Pass
		16-QAM	RB1#0	23.39	0.7	-1.45	21.94	0.16	3.0	Pass
			RB5#0	23.26	0.7	-1.45	21.81	0.15	3.0	Pass
	MCH	QPSK	RB1#0	22.82	0.7	-1.45	21.37	0.14	3.0	Pass
			RB6#0	22.81	0.7	-1.45	21.36	0.14	3.0	Pass
		16-QAM	RB1#0	23.34	0.7	-1.45	21.89	0.15	3.0	Pass
			RB5#0	23.02	0.7	-1.45	21.57	0.14	3.0	Pass
	HCH	QPSK	RB1#0	22.86	0.7	-1.45	21.41	0.14	3.0	Pass
			RB6#0	22.80	0.7	-1.45	21.35	0.14	3.0	Pass
		16-QAM	RB1#0	22.54	0.7	-1.45	21.09	0.13	3.0	Pass
			RB5#0	22.75	0.7	-1.45	21.30	0.13	3.0	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	Antenna Gain (dBd)	ERP (dBm)	ERP (W)	Limit (W)	Verdict
LTE-M1 BAND13										
5 MHz	LCH	QPSK	RB1#0	22.60	0.7	-1.45	21.15	0.13	3.0	Pass
			RB6#0	22.70	0.7	-1.45	21.25	0.13	3.0	Pass
		16-QAM	RB1#0	23.25	0.7	-1.45	21.80	0.15	3.0	Pass
			RB5#0	23.05	0.7	-1.45	21.60	0.14	3.0	Pass
	MCH	QPSK	RB1#0	22.60	0.7	-1.45	21.15	0.13	3.0	Pass
			RB6#0	22.85	0.7	-1.45	21.40	0.14	3.0	Pass
		16-QAM	RB1#0	23.28	0.7	-1.45	21.83	0.15	3.0	Pass
			RB5#0	23.18	0.7	-1.45	21.73	0.15	3.0	Pass
	HCH	QPSK	RB1#0	22.61	0.7	-1.45	21.16	0.13	3.0	Pass
			RB6#0	22.83	0.7	-1.45	21.38	0.14	3.0	Pass
		16-QAM	RB1#0	23.27	0.7	-1.45	21.82	0.15	3.0	Pass
			RB5#0	23.15	0.7	-1.45	21.70	0.15	3.0	Pass
10 MHz	MCH	QPSK	RB1#0	22.52	0.7	-1.45	21.07	0.13	3.0	Pass
			RB6#0	22.67	0.7	-1.45	21.22	0.13	3.0	Pass
		16-QAM	RB1#0	23.15	0.7	-1.45	21.70	0.15	3.0	Pass
			RB5#0	23.13	0.7	-1.45	21.68	0.15	3.0	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)	Verdict
LTE-M1 BAND25									
1.4 MHz	LCH	QPSK	RB1#0	21.29	1.0	22.29	0.17	2.0	Pass
			RB6#0	21.55	1.0	22.55	0.18	2.0	Pass
		16-QAM	RB1#0	21.79	1.0	22.79	0.19	2.0	Pass
			RB5#0	21.48	1.0	22.48	0.18	2.0	Pass
	MCH	QPSK	RB1#0	21.26	1.0	22.26	0.17	2.0	Pass
			RB6#0	21.51	1.0	22.51	0.18	2.0	Pass
		16-QAM	RB1#0	21.74	1.0	22.74	0.19	2.0	Pass
			RB5#0	21.50	1.0	22.50	0.18	2.0	Pass
	HCH	QPSK	RB1#0	21.58	1.0	22.58	0.18	2.0	Pass
			RB6#0	21.88	1.0	22.88	0.19	2.0	Pass
		16-QAM	RB1#0	22.15	1.0	23.15	0.21	2.0	Pass
			RB5#0	21.69	1.0	22.69	0.19	2.0	Pass
3 MHz	LCH	QPSK	RB1#0	21.31	1.0	22.31	0.17	2.0	Pass
			RB6#0	21.55	1.0	22.55	0.18	2.0	Pass
		16-QAM	RB1#0	21.92	1.0	22.92	0.20	2.0	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)	Verdict
LTE-M1 BAND25									
			RB5#0	21.54	1.0	22.54	0.18	2.0	Pass
	MCH	QPSK	RB1#0	21.76	1.0	22.76	0.19	2.0	Pass
			RB6#0	21.67	1.0	22.67	0.18	2.0	Pass
		16-QAM	RB1#0	21.37	1.0	22.37	0.17	2.0	Pass
			RB5#0	21.89	1.0	22.89	0.19	2.0	Pass
	HCH	QPSK	RB1#0	22.14	1.0	23.14	0.21	2.0	Pass
			RB6#0	22.05	1.0	23.05	0.20	2.0	Pass
		16-QAM	RB1#0	21.74	1.0	22.74	0.19	2.0	Pass
			RB5#0	22.23	1.0	23.23	0.21	2.0	Pass
5 MHz	LCH	QPSK	RB1#0	21.48	1.0	22.48	0.18	2.0	Pass
			RB6#0	21.72	1.0	22.72	0.19	2.0	Pass
		16-QAM	RB1#0	22.19	1.0	23.19	0.21	2.0	Pass
			RB5#0	21.96	1.0	22.96	0.20	2.0	Pass
	MCH	QPSK	RB1#0	21.49	1.0	22.49	0.18	2.0	Pass
			RB6#0	21.56	1.0	22.56	0.18	2.0	Pass
		16-QAM	RB1#0	22.16	1.0	23.16	0.21	2.0	Pass
			RB5#0	21.95	1.0	22.95	0.20	2.0	Pass
	HCH	QPSK	RB1#0	21.84	1.0	22.84	0.19	2.0	Pass
			RB6#0	21.84	1.0	22.84	0.19	2.0	Pass
		16-QAM	RB1#0	22.45	1.0	23.45	0.22	2.0	Pass
			RB5#0	22.24	1.0	23.24	0.21	2.0	Pass
10 MHz	LCH	QPSK	RB1#0	21.53	1.0	22.53	0.18	2.0	Pass
			RB6#0	21.63	1.0	22.63	0.18	2.0	Pass
		16-QAM	RB1#0	22.13	1.0	23.13	0.21	2.0	Pass
			RB5#0	21.88	1.0	22.88	0.19	2.0	Pass
	MCH	QPSK	RB1#0	21.64	1.0	22.64	0.18	2.0	Pass
			RB6#0	21.63	1.0	22.63	0.18	2.0	Pass
		16-QAM	RB1#0	22.08	1.0	23.08	0.20	2.0	Pass
			RB5#0	21.94	1.0	22.94	0.20	2.0	Pass
	HCH	QPSK	RB1#0	21.83	1.0	22.83	0.19	2.0	Pass
			RB6#0	21.84	1.0	22.84	0.19	2.0	Pass
		16-QAM	RB1#0	22.41	1.0	23.41	0.22	2.0	Pass
			RB5#0	22.26	1.0	23.26	0.21	2.0	Pass
15 MHz	LCH	QPSK	RB1#0	21.48	1.0	22.48	0.18	2.0	Pass
			RB6#0	21.54	1.0	22.54	0.18	2.0	Pass
		16-QAM	RB1#0	22.10	1.0	23.10	0.20	2.0	Pass
			RB5#0	21.94	1.0	22.94	0.20	2.0	Pass
	MCH	QPSK	RB1#0	21.43	1.0	22.43	0.17	2.0	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)	Verdict
LTE-M1 BAND25									
			RB6#0	21.49	1.0	22.49	0.18	2.0	Pass
		16-QAM	RB1#0	22.14	1.0	23.14	0.21	2.0	Pass
			RB5#0	21.87	1.0	22.87	0.19	2.0	Pass
	HCH	QPSK	RB1#0	22.09	1.0	23.09	0.20	2.0	Pass
			RB6#0	21.13	1.0	22.13	0.16	2.0	Pass
		16-QAM	RB1#0	22.32	1.0	23.32	0.21	2.0	Pass
			RB5#0	21.89	1.0	22.89	0.19	2.0	Pass
20 MHz	LCH	QPSK	RB1#0	21.55	1.0	22.55	0.18	2.0	Pass
			RB6#0	21.36	1.0	22.36	0.17	2.0	Pass
		16-QAM	RB1#0	21.43	1.0	22.43	0.17	2.0	Pass
			RB5#0	21.36	1.0	22.36	0.17	2.0	Pass
	MCH	QPSK	RB1#0	21.49	1.0	22.49	0.18	2.0	Pass
			RB6#0	21.48	1.0	22.48	0.18	2.0	Pass
		16-QAM	RB1#0	22.04	1.0	23.04	0.20	2.0	Pass
			RB5#0	21.97	1.0	22.97	0.20	2.0	Pass
	HCH	QPSK	RB1#0	21.77	1.0	22.77	0.19	2.0	Pass
			RB6#0	21.84	1.0	22.84	0.19	2.0	Pass
		16-QAM	RB1#0	22.25	1.0	23.25	0.21	2.0	Pass
			RB5#0	22.11	1.0	23.11	0.20	2.0	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	Antenna Gain (dBd)	ERP (dBm)	ERP (W)	Limit (W)	Verdict
LTE-M1 BAND26(Part22)										
1.4 MHz	LCH	QPSK	RB1#0	21.37	0.7	-1.45	19.92	0.10	7.0	Pass
			RB6#0	21.72	0.7	-1.45	20.27	0.11	7.0	Pass
		16-QAM	RB1#0	21.93	0.7	-1.45	20.48	0.11	7.0	Pass
			RB5#0	21.61	0.7	-1.45	20.16	0.10	7.0	Pass
	MCH	QPSK	RB1#0	21.57	0.7	-1.45	20.12	0.10	7.0	Pass
			RB6#0	21.76	0.7	-1.45	20.31	0.11	7.0	Pass
		16-QAM	RB1#0	22.00	0.7	-1.45	20.55	0.11	7.0	Pass
			RB5#0	21.63	0.7	-1.45	20.18	0.10	7.0	Pass
	HCH	QPSK	RB1#0	21.66	0.7	-1.45	20.21	0.10	7.0	Pass
			RB6#0	22.01	0.7	-1.45	20.56	0.11	7.0	Pass
		16-QAM	RB1#0	22.22	0.7	-1.45	20.77	0.12	7.0	Pass
			RB5#0	21.86	0.7	-1.45	20.41	0.11	7.0	Pass
3 MHz	LCH	QPSK	RB1#0	21.50	0.7	-1.45	20.05	0.10	7.0	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	Antenna Gain (dBd)	ERP (dBm)	ERP (W)	Limit (W)	Verdict
LTE-M1 BAND26(Part22)										
			RB6#0	21.80	0.7	-1.45	20.35	0.11	7.0	Pass
		16-QAM	RB1#0	22.14	0.7	-1.45	20.69	0.12	7.0	Pass
			RB5#0	21.69	0.7	-1.45	20.24	0.11	7.0	Pass
	MCH	QPSK	RB1#0	21.87	0.7	-1.45	20.42	0.11	7.0	Pass
			RB6#0	21.89	0.7	-1.45	20.44	0.11	7.0	Pass
		16-QAM	RB1#0	21.62	0.7	-1.45	20.17	0.10	7.0	Pass
			RB5#0	21.96	0.7	-1.45	20.51	0.11	7.0	Pass
	HCH	QPSK	RB1#0	22.01	0.7	-1.45	20.56	0.11	7.0	Pass
			RB6#0	21.95	0.7	-1.45	20.50	0.11	7.0	Pass
		16-QAM	RB1#0	21.83	0.7	-1.45	20.38	0.11	7.0	Pass
			RB5#0	22.14	0.7	-1.45	20.69	0.12	7.0	Pass
5 MHz	LCH	QPSK	RB1#0	21.83	0.7	-1.45	20.38	0.11	7.0	Pass
			RB6#0	21.64	0.7	-1.45	20.19	0.10	7.0	Pass
		16-QAM	RB1#0	22.11	0.7	-1.45	20.66	0.12	7.0	Pass
			RB5#0	21.67	0.7	-1.45	20.22	0.11	7.0	Pass
	MCH	QPSK	RB1#0	21.74	0.7	-1.45	20.29	0.11	7.0	Pass
			RB6#0	21.68	0.7	-1.45	20.23	0.11	7.0	Pass
		16-QAM	RB1#0	21.66	0.7	-1.45	20.21	0.10	7.0	Pass
			RB5#0	21.56	0.7	-1.45	20.11	0.10	7.0	Pass
	HCH	QPSK	RB1#0	22.02	0.7	-1.45	20.57	0.11	7.0	Pass
			RB6#0	21.93	0.7	-1.45	20.48	0.11	7.0	Pass
		16-QAM	RB1#0	22.24	0.7	-1.45	20.79	0.12	7.0	Pass
			RB5#0	21.92	0.7	-1.45	20.47	0.11	7.0	Pass
10 MHz	LCH	QPSK	RB1#0	21.73	0.7	-1.45	20.28	0.11	7.0	Pass
			RB6#0	21.83	0.7	-1.45	20.38	0.11	7.0	Pass
		16-QAM	RB1#0	22.49	0.7	-1.45	21.04	0.13	7.0	Pass
			RB5#0	22.19	0.7	-1.45	20.74	0.12	7.0	Pass
	MCH	QPSK	RB1#0	22.14	0.7	-1.45	20.69	0.12	7.0	Pass
			RB6#0	21.83	0.7	-1.45	20.38	0.11	7.0	Pass
		16-QAM	RB1#0	21.91	0.7	-1.45	20.46	0.11	7.0	Pass
			RB5#0	21.90	0.7	-1.45	20.45	0.11	7.0	Pass
	HCH	QPSK	RB1#0	21.91	0.7	-1.45	20.46	0.11	7.0	Pass
			RB6#0	21.74	0.7	-1.45	20.29	0.11	7.0	Pass
		16-QAM	RB1#0	21.77	0.7	-1.45	20.32	0.11	7.0	Pass
			RB5#0	21.99	0.7	-1.45	20.54	0.11	7.0	Pass
15MHz	LCH	QPSK	RB1#0	21.56	0.7	-1.45	20.11	0.10	7.0	Pass
			RB6#0	21.18	0.7	-1.45	19.73	0.09	7.0	Pass
		16-	RB1#0	21.84	0.7	-1.45	20.39	0.11	7.0	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	Antenna Gain (dBd)	ERP (dBm)	ERP (W)	Limit (W)	Verdict
LTE-M1 BAND26(Part22)										
		QAM	RB5#0	21.56	0.7	-1.45	20.11	0.10	7.0	Pass
	MCH	QPSK	RB1#0	21.68	0.7	-1.45	20.23	0.11	7.0	Pass
			RB6#0	21.68	0.7	-1.45	20.23	0.11	7.0	Pass
		16-QAM	RB1#0	21.58	0.7	-1.45	20.13	0.10	7.0	Pass
			RB5#0	21.65	0.7	-1.45	20.20	0.10	7.0	Pass
	HCH	QPSK	RB1#0	21.83	0.7	-1.45	20.38	0.11	7.0	Pass
			RB6#0	21.64	0.7	-1.45	20.19	0.10	7.0	Pass
		16-QAM	RB1#0	21.68	0.7	-1.45	20.23	0.11	7.0	Pass
			RB5#0	21.56	0.7	-1.45	20.11	0.10	7.0	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	Antenna Gain (dBd)	ERP (dBm)	ERP (W)	Limit (W)	Verdict
LTE-M1 BAND26(Part90)										
1.4 MHz	LCH	QPSK	RB1#0	21.38	0.7	-1.45	19.93	0.10	100.0	Pass
			RB6#0	21.36	0.7	-1.45	19.91	0.10	100.0	Pass
		16-QAM	RB1#0	21.62	0.7	-1.45	20.17	0.10	100.0	Pass
			RB5#0	21.19	0.7	-1.45	19.74	0.09	100.0	Pass
	MCH	QPSK	RB1#0	21.43	0.7	-1.45	19.98	0.10	100.0	Pass
			RB6#0	21.53	0.7	-1.45	20.08	0.10	100.0	Pass
		16-QAM	RB1#0	21.02	0.7	-1.45	19.57	0.09	100.0	Pass
			RB5#0	21.44	0.7	-1.45	19.99	0.10	100.0	Pass
	HCH	QPSK	RB1#0	21.11	0.7	-1.45	19.66	0.09	100.0	Pass
			RB6#0	21.47	0.7	-1.45	20.02	0.10	100.0	Pass
		16-QAM	RB1#0	21.69	0.7	-1.45	20.24	0.11	100.0	Pass
			RB5#0	21.25	0.7	-1.45	19.80	0.10	100.0	Pass
3 MHz	LCH	QPSK	RB1#0	21.26	0.7	-1.45	19.81	0.10	100.0	Pass
			RB6#0	21.35	0.7	-1.45	19.90	0.10	100.0	Pass
		16-QAM	RB1#0	21.63	0.7	-1.45	20.18	0.10	100.0	Pass
			RB5#0	21.28	0.7	-1.45	19.83	0.10	100.0	Pass
	MCH	QPSK	RB1#0	21.53	0.7	-1.45	20.08	0.10	100.0	Pass
			RB6#0	21.34	0.7	-1.45	19.89	0.10	100.0	Pass
		16-QAM	RB1#0	21.17	0.7	-1.45	19.72	0.09	100.0	Pass
			RB5#0	21.54	0.7	-1.45	20.09	0.10	100.0	Pass
	HCH	QPSK	RB1#0	21.45	0.7	-1.45	20.00	0.10	100.0	Pass
			RB6#0	21.39	0.7	-1.45	19.94	0.10	100.0	Pass
		16-	RB1#0	21.14	0.7	-1.45	19.69	0.09	100.0	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	Antenna Gain (dBd)	ERP (dBm)	ERP (W)	Limit (W)	Verdict
LTE-M1 BAND26(Part90)										
		QAM	RB5#0	21.62	0.7	-1.45	20.17	0.10	100.0	Pass
5 MHz	LCH	QPSK	RB1#0	21.30	0.7	-1.45	19.85	0.10	100.0	Pass
			RB6#0	21.29	0.7	-1.45	19.84	0.10	100.0	Pass
		16-QAM	RB1#0	21.90	0.7	-1.45	20.45	0.11	100.0	Pass
			RB5#0	21.75	0.7	-1.45	20.30	0.11	100.0	Pass
	MCH	QPSK	RB1#0	21.25	0.7	-1.45	19.80	0.10	100.0	Pass
			RB6#0	21.24	0.7	-1.45	19.79	0.10	100.0	Pass
		16-QAM	RB1#0	21.86	0.7	-1.45	20.41	0.11	100.0	Pass
			RB5#0	21.48	0.7	-1.45	20.03	0.10	100.0	Pass
	HCH	QPSK	RB1#0	21.34	0.7	-1.45	19.89	0.10	100.0	Pass
			RB6#0	21.32	0.7	-1.45	19.87	0.10	100.0	Pass
		16-QAM	RB1#0	21.93	0.7	-1.45	20.48	0.11	100.0	Pass
			RB5#0	21.59	0.7	-1.45	20.14	0.10	100.0	Pass
10 MHz	LCH	QPSK	RB1#0	21.19	0.7	-1.45	19.74	0.09	100.0	Pass
			RB6#0	21.35	0.7	-1.45	19.90	0.10	100.0	Pass
		16-QAM	RB1#0	21.96	0.7	-1.45	20.51	0.11	100.0	Pass
			RB5#0	21.53	0.7	-1.45	20.08	0.10	100.0	Pass
	MCH	QPSK	RB1#0	21.31	0.7	-1.45	19.86	0.10	100.0	Pass
			RB6#0	21.41	0.7	-1.45	19.96	0.10	100.0	Pass
		16-QAM	RB1#0	21.92	0.7	-1.45	20.47	0.11	100.0	Pass
			RB5#0	21.79	0.7	-1.45	20.34	0.11	100.0	Pass
	HCH	QPSK	RB1#0	21.29	0.7	-1.45	19.84	0.10	100.0	Pass
			RB6#0	21.39	0.7	-1.45	19.94	0.10	100.0	Pass
		16-QAM	RB1#0	21.98	0.7	-1.45	20.53	0.11	100.0	Pass
			RB5#0	21.76	0.7	-1.45	20.31	0.11	100.0	Pass

NB-IoT Mode Test Data

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)	Verdict
NB-IoT BAND2									
3.75kHz	LCH	QPSK	RB1#0	23.42	1.0	24.42	0.28	2.0	Pass
			RB1#47	23.45	1.0	24.45	0.28	2.0	Pass
		BPSK	RB1#0	23.38	1.0	24.38	0.27	2.0	Pass
			RB1#47	23.39	1.0	24.39	0.27	2.0	Pass
	MCH	QPSK	RB1#0	23.37	1.0	24.37	0.27	2.0	Pass
			RB1#47	23.38	1.0	24.38	0.27	2.0	Pass
		BPSK	RB1#0	23.49	1.0	24.49	0.28	2.0	Pass
			RB1#47	23.50	1.0	24.50	0.28	2.0	Pass
	HCH	QPSK	RB1#0	23.81	1.0	24.81	0.30	2.0	Pass
			RB1#47	23.83	1.0	24.83	0.30	2.0	Pass
		BPSK	RB1#0	23.73	1.0	24.73	0.30	2.0	Pass
			RB1#47	23.78	1.0	24.78	0.30	2.0	Pass
15kHz	LCH	QPSK	RB1#0	23.46	1.0	24.46	0.28	2.0	Pass
			RB1#11	23.48	1.0	24.48	0.28	2.0	Pass
			RB12#0	23.66	1.0	24.66	0.29	2.0	Pass
		BPSK	RB1#0	23.47	1.0	24.47	0.28	2.0	Pass
			RB1#11	23.50	1.0	24.50	0.28	2.0	Pass
	MCH	QPSK	RB1#0	23.48	1.0	24.48	0.28	2.0	Pass
			RB1#11	23.44	1.0	24.44	0.28	2.0	Pass
			RB12#0	23.77	1.0	24.77	0.30	2.0	Pass
		BPSK	RB1#0	23.51	1.0	24.51	0.28	2.0	Pass
			RB1#11	23.50	1.0	24.50	0.28	2.0	Pass
	HCH	QPSK	RB1#0	23.74	1.0	24.74	0.30	2.0	Pass
			RB1#11	23.81	1.0	24.81	0.30	2.0	Pass
			RB12#0	23.96	1.0	24.96	0.31	2.0	Pass
		BPSK	RB1#0	23.76	1.0	24.76	0.30	2.0	Pass
			RB1#11	23.65	1.0	24.65	0.29	2.0	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	EIRP (dBm)	EIRP (W)	Limit (W)	Verdict
NB-IoT BAND4									
3.75kHz	LCH	QPSK	RB1#0	23.48	1.0	24.48	0.28	1.0	Pass
			RB1#47	23.47	1.0	24.47	0.28	1.0	Pass
		BPSK	RB1#0	23.53	1.0	24.53	0.28	1.0	Pass
			RB1#47	23.54	1.0	24.54	0.28	1.0	Pass
	MCH	QPSK	RB1#0	23.73	1.0	24.73	0.30	1.0	Pass
			RB1#47	23.67	1.0	24.67	0.29	1.0	Pass
		BPSK	RB1#0	24.07	1.0	25.07	0.32	1.0	Pass
			RB1#47	23.79	1.0	24.79	0.30	1.0	Pass
	HCH	QPSK	RB1#0	23.71	1.0	24.71	0.30	1.0	Pass
			RB1#47	23.75	1.0	24.75	0.30	1.0	Pass
		BPSK	RB1#0	23.75	1.0	24.75	0.30	1.0	Pass
			RB1#47	23.70	1.0	24.70	0.30	1.0	Pass
15kHz	LCH	QPSK	RB1#0	23.72	1.0	24.72	0.30	1.0	Pass
			RB1#11	23.89	1.0	24.89	0.31	1.0	Pass
			RB12#0	23.84	1.0	24.84	0.30	1.0	Pass
		BPSK	RB1#0	24.22	1.0	25.22	0.33	1.0	Pass
			RB1#11	23.93	1.0	24.93	0.31	1.0	Pass
	MCH	QPSK	RB1#0	23.92	1.0	24.92	0.31	1.0	Pass
			RB1#11	23.74	1.0	24.74	0.30	1.0	Pass
			RB12#0	23.74	1.0	24.74	0.30	1.0	Pass
		BPSK	RB1#0	23.87	1.0	24.87	0.31	1.0	Pass
			RB1#11	23.89	1.0	24.89	0.31	1.0	Pass
	HCH	QPSK	RB1#0	23.94	1.0	24.94	0.31	1.0	Pass
			RB1#11	24.01	1.0	25.01	0.32	1.0	Pass
			RB12#0	24.23	1.0	25.23	0.33	1.0	Pass
		BPSK	RB1#0	23.89	1.0	24.89	0.31	1.0	Pass
			RB1#11	23.90	1.0	24.90	0.31	1.0	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	Antenna Gain (dBd)	ERP (dBm)	ERP (W)	Limit (W)	Verdict
NB-IoT BAND5										
3.75kHz	LCH	QPSK	RB1#0	24.64	0.7	-1.45	23.19	0.21	7.0	Pass
			RB1#47	24.60	0.7	-1.45	23.15	0.21	7.0	Pass
		BPSK	RB1#0	24.59	0.7	-1.45	23.14	0.21	7.0	Pass
			RB1#47	24.59	0.7	-1.45	23.14	0.21	7.0	Pass
	MCH	QPSK	RB1#0	24.62	0.7	-1.45	23.17	0.21	7.0	Pass
			RB1#47	24.62	0.7	-1.45	23.17	0.21	7.0	Pass
		BPSK	RB1#0	24.95	0.7	-1.45	23.50	0.22	7.0	Pass
			RB1#47	24.61	0.7	-1.45	23.16	0.21	7.0	Pass
	HCH	QPSK	RB1#0	24.65	0.7	-1.45	23.20	0.21	7.0	Pass
			RB1#47	24.17	0.7	-1.45	22.72	0.19	7.0	Pass
		BPSK	RB1#0	24.21	0.7	-1.45	22.76	0.19	7.0	Pass
			RB1#47	24.20	0.7	-1.45	22.75	0.19	7.0	Pass
15kHz	LCH	QPSK	RB1#0	24.21	0.7	-1.45	22.76	0.19	7.0	Pass
			RB1#11	24.51	0.7	-1.45	23.06	0.20	7.0	Pass
			RB12#0	24.45	0.7	-1.45	23.00	0.20	7.0	Pass
		BPSK	RB1#0	24.87	0.7	-1.45	23.42	0.22	7.0	Pass
			RB1#11	24.50	0.7	-1.45	23.05	0.20	7.0	Pass
	MCH	QPSK	RB1#0	24.41	0.7	-1.45	22.96	0.20	7.0	Pass
			RB1#11	24.42	0.7	-1.45	22.97	0.20	7.0	Pass
			RB12#0	24.50	0.7	-1.45	23.05	0.20	7.0	Pass
		BPSK	RB1#0	24.35	0.7	-1.45	22.90	0.19	7.0	Pass
			RB1#11	24.45	0.7	-1.45	23.00	0.20	7.0	Pass
	HCH	QPSK	RB1#0	24.64	0.7	-1.45	23.19	0.21	7.0	Pass
			RB1#11	24.57	0.7	-1.45	23.12	0.21	7.0	Pass
			RB12#0	25.00	0.7	-1.45	23.55	0.23	7.0	Pass
		BPSK	RB1#0	24.64	0.7	-1.45	23.19	0.21	7.0	Pass
			RB1#11	24.68	0.7	-1.45	23.23	0.21	7.0	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	Antenna Gain (dBd)	ERP (dBm)	ERP (W)	Limit (W)	Verdict
NB-IoT BAND12										
3.75kHz	LCH	QPSK	RB1#0	24.08	0.7	-1.45	22.63	0.18	3.0	Pass
			RB1#47	24.09	0.7	-1.45	22.64	0.18	3.0	Pass
		BPSK	RB1#0	24.11	0.7	-1.45	22.66	0.18	3.0	Pass
			RB1#47	24.11	0.7	-1.45	22.66	0.18	3.0	Pass
	MCH	QPSK	RB1#0	24.09	0.7	-1.45	22.64	0.18	3.0	Pass
			RB1#47	24.07	0.7	-1.45	22.62	0.18	3.0	Pass
		BPSK	RB1#0	24.38	0.7	-1.45	22.93	0.20	3.0	Pass
			RB1#47	24.05	0.7	-1.45	22.60	0.18	3.0	Pass
	HCH	QPSK	RB1#0	24.03	0.7	-1.45	22.58	0.18	3.0	Pass
			RB1#47	24.12	0.7	-1.45	22.67	0.18	3.0	Pass
		BPSK	RB1#0	24.22	0.7	-1.45	22.77	0.19	3.0	Pass
			RB1#47	24.18	0.7	-1.45	22.73	0.19	3.0	Pass
15kHz	LCH	QPSK	RB1#0	24.23	0.7	-1.45	22.78	0.19	3.0	Pass
			RB1#11	24.45	0.7	-1.45	23.00	0.20	3.0	Pass
			RB12#0	24.47	0.7	-1.45	23.02	0.20	3.0	Pass
		BPSK	RB1#0	24.65	0.7	-1.45	23.20	0.21	3.0	Pass
			RB1#11	24.37	0.7	-1.45	22.92	0.20	3.0	Pass
	MCH	QPSK	RB1#0	24.30	0.7	-1.45	22.85	0.19	3.0	Pass
			RB1#11	23.36	0.7	-1.45	21.91	0.16	3.0	Pass
			RB12#0	23.35	0.7	-1.45	21.90	0.15	3.0	Pass
		BPSK	RB1#0	23.42	0.7	-1.45	21.97	0.16	3.0	Pass
			RB1#11	23.44	0.7	-1.45	21.99	0.16	3.0	Pass
	HCH	QPSK	RB1#0	24.06	0.7	-1.45	22.61	0.18	3.0	Pass
			RB1#11	23.98	0.7	-1.45	22.53	0.18	3.0	Pass
			RB12#0	24.38	0.7	-1.45	22.93	0.20	3.0	Pass
		BPSK	RB1#0	24.05	0.7	-1.45	22.60	0.18	3.0	Pass
			RB1#11	23.91	0.7	-1.45	22.46	0.18	3.0	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	Antenna Gain (dBd)	ERP (dBm)	ERP (W)	Limit (W)	Verdict
NB-IoT BAND13										
3.75kHz	LCH	QPSK	RB1#0	24.32	0.7	-1.45	22.87	0.19	3.0	Pass
			RB1#47	24.26	0.7	-1.45	22.81	0.19	3.0	Pass
		BPSK	RB1#0	24.26	0.7	-1.45	22.81	0.19	3.0	Pass
			RB1#47	24.26	0.7	-1.45	22.81	0.19	3.0	Pass
	MCH	QPSK	RB1#0	24.47	0.7	-1.45	23.02	0.20	3.0	Pass
			RB1#47	24.47	0.7	-1.45	23.02	0.20	3.0	Pass
		BPSK	RB1#0	24.82	0.7	-1.45	23.37	0.22	3.0	Pass
			RB1#47	24.45	0.7	-1.45	23.00	0.20	3.0	Pass
	HCH	QPSK	RB1#0	24.41	0.7	-1.45	22.96	0.20	3.0	Pass
			RB1#47	24.32	0.7	-1.45	22.87	0.19	3.0	Pass
		BPSK	RB1#0	24.23	0.7	-1.45	22.78	0.19	3.0	Pass
			RB1#47	24.23	0.7	-1.45	22.78	0.19	3.0	Pass
15kHz	LCH	QPSK	RB1#0	24.26	0.7	-1.45	22.81	0.19	3.0	Pass
			RB1#11	24.52	0.7	-1.45	23.07	0.20	3.0	Pass
			RB12#0	24.52	0.7	-1.45	23.07	0.20	3.0	Pass
		BPSK	RB1#0	24.86	0.7	-1.45	23.41	0.22	3.0	Pass
			RB1#11	24.50	0.7	-1.45	23.05	0.20	3.0	Pass
	MCH	QPSK	RB1#0	24.46	0.7	-1.45	23.01	0.20	3.0	Pass
			RB1#11	24.15	0.7	-1.45	22.70	0.19	3.0	Pass
			RB12#0	24.18	0.7	-1.45	22.73	0.19	3.0	Pass
		BPSK	RB1#0	24.21	0.7	-1.45	22.76	0.19	3.0	Pass
			RB1#11	24.22	0.7	-1.45	22.77	0.19	3.0	Pass
	HCH	QPSK	RB1#0	24.47	0.7	-1.45	23.02	0.20	3.0	Pass
			RB1#11	24.49	0.7	-1.45	23.04	0.20	3.0	Pass
			RB12#0	24.82	0.7	-1.45	23.37	0.22	3.0	Pass
		BPSK	RB1#0	24.49	0.7	-1.45	23.04	0.20	3.0	Pass
			RB1#11	24.51	0.7	-1.45	23.06	0.20	3.0	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	Antenna Gain (dBd)	ERP (dBm)	Limit (W)	Verdict
NB-IoT BAND25									
3.75kHz	LCH	QPSK	RB1#0	23.47	1.0	24.47	0.28	2.0	Pass
			RB1#47	23.47	1.0	24.47	0.28	2.0	Pass
		BPSK	RB1#0	23.41	1.0	24.41	0.28	2.0	Pass
			RB1#47	23.43	1.0	24.43	0.28	2.0	Pass
	MCH	QPSK	RB1#0	23.41	1.0	24.41	0.28	2.0	Pass
			RB1#47	23.37	1.0	24.37	0.27	2.0	Pass
		BPSK	RB1#0	23.70	1.0	24.70	0.30	2.0	Pass
			RB1#47	23.45	1.0	24.45	0.28	2.0	Pass
	HCH	QPSK	RB1#0	23.38	1.0	24.38	0.27	2.0	Pass
			RB1#47	23.62	1.0	24.62	0.29	2.0	Pass
		BPSK	RB1#0	23.64	1.0	24.64	0.29	2.0	Pass
			RB1#47	23.77	1.0	24.77	0.30	2.0	Pass
15kHz	LCH	QPSK	RB1#0	23.78	1.0	24.78	0.30	2.0	Pass
			RB1#11	23.72	1.0	24.72	0.30	2.0	Pass
			RB12#0	23.67	1.0	24.67	0.29	2.0	Pass
		BPSK	RB1#0	23.94	1.0	24.94	0.31	2.0	Pass
			RB1#11	23.71	1.0	24.71	0.30	2.0	Pass
	MCH	QPSK	RB1#0	23.70	1.0	24.70	0.30	2.0	Pass
			RB1#11	24.83	1.0	25.83	0.38	2.0	Pass
			RB12#0	24.79	1.0	25.79	0.38	2.0	Pass
		BPSK	RB1#0	24.79	1.0	25.79	0.38	2.0	Pass
			RB1#11	24.82	1.0	25.82	0.38	2.0	Pass
	HCH	QPSK	RB1#0	24.21	1.0	25.21	0.33	2.0	Pass
			RB1#11	24.20	1.0	25.20	0.33	2.0	Pass
			RB12#0	24.43	1.0	25.43	0.35	2.0	Pass
		BPSK	RB1#0	24.19	1.0	25.19	0.33	2.0	Pass
			RB1#11	24.13	1.0	25.13	0.33	2.0	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	Antenna Gain (dBd)	ERP (dBm)	ERP (W)	Limit (W)	Verdict
NB-IoT BAND26(Part 22)										
3.75kHz	LCH	QPSK	RB1#0	23.55	0.7	-1.45	22.10	0.16	7.0	Pass
			RB1#47	23.44	0.7	-1.45	21.99	0.16	7.0	Pass
		BPSK	RB1#0	23.46	0.7	-1.45	22.01	0.16	7.0	Pass
			RB1#47	23.47	0.7	-1.45	22.02	0.16	7.0	Pass
	MCH	QPSK	RB1#0	23.57	0.7	-1.45	22.12	0.16	7.0	Pass
			RB1#47	23.52	0.7	-1.45	22.07	0.16	7.0	Pass
		BPSK	RB1#0	23.98	0.7	-1.45	22.53	0.18	7.0	Pass
			RB1#47	23.59	0.7	-1.45	22.14	0.16	7.0	Pass
	HCH	QPSK	RB1#0	23.54	0.7	-1.45	22.09	0.16	7.0	Pass
			RB1#47	23.41	0.7	-1.45	21.96	0.16	7.0	Pass
		BPSK	RB1#0	23.34	0.7	-1.45	21.89	0.15	7.0	Pass
			RB1#47	23.39	0.7	-1.45	21.94	0.16	7.0	Pass
15kHz	LCH	QPSK	RB1#0	23.49	0.7	-1.45	22.04	0.16	7.0	Pass
			RB1#11	23.71	0.7	-1.45	22.04	0.16	7.0	Pass
			RB12#0	23.63	0.7	-1.45	22.26	0.17	7.0	Pass
		BPSK	RB1#0	24.11	0.7	-1.45	22.18	0.17	7.0	Pass
			RB1#11	23.67	0.7	-1.45	22.66	0.18	7.0	Pass
	MCH	QPSK	RB1#0	23.61	0.7	-1.45	22.22	0.17	7.0	Pass
			RB1#11	23.31	0.7	-1.45	22.16	0.16	7.0	Pass
			RB12#0	23.33	0.7	-1.45	21.86	0.15	7.0	Pass
		BPSK	RB1#0	23.39	0.7	-1.45	21.88	0.15	7.0	Pass
			RB1#11	23.28	0.7	-1.45	21.94	0.16	7.0	Pass
	HCH	QPSK	RB1#0	23.54	0.7	-1.45	21.83	0.15	7.0	Pass
			RB1#11	23.54	0.7	-1.45	22.09	0.16	7.0	Pass
			RB12#0	23.96	0.7	-1.45	22.09	0.16	7.0	Pass
		BPSK	RB1#0	23.45	0.7	-1.45	22.51	0.18	7.0	Pass
			RB1#11	23.43	0.7	-1.45	22.00	0.16	7.0	Pass

Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Conducted Output AV Power (dBm)	Antenna Gain (dBi)	Antenna Gain (dBd)	ERP (dBm)	ERP (W)	Limit (W)	Verdict
NB-IoT BAND26(Part 90)										
3.75kHz	LCH	QPSK	RB1#0	23.86	0.7	-1.45	22.41	0.17	100.0	Pass
			RB1#47	23.42	0.7	-1.45	21.97	0.16	100.0	Pass
		BPSK	RB1#0	23.47	0.7	-1.45	22.02	0.16	100.0	Pass
			RB1#47	23.38	0.7	-1.45	21.93	0.16	100.0	Pass
	MCH	QPSK	RB1#0	23.73	0.7	-1.45	22.28	0.17	100.0	Pass
			RB1#47	23.65	0.7	-1.45	22.20	0.17	100.0	Pass
		BPSK	RB1#0	24.14	0.7	-1.45	22.69	0.19	100.0	Pass
			RB1#47	23.71	0.7	-1.45	22.26	0.17	100.0	Pass
	HCH	QPSK	RB1#0	23.63	0.7	-1.45	22.18	0.17	100.0	Pass
			RB1#47	23.2	0.7	-1.45	21.75	0.15	100.0	Pass
		BPSK	RB1#0	23.26	0.7	-1.45	21.81	0.15	100.0	Pass
			RB1#47	23.23	0.7	-1.45	21.78	0.15	100.0	Pass
15kHz	LCH	QPSK	RB1#0	23.24	0.7	-1.45	21.79	0.15	100.0	Pass
			RB1#11	23.6	0.7	-1.45	22.15	0.16	100.0	Pass
			RB12#0	23.55	0.7	-1.45	22.10	0.16	100.0	Pass
		BPSK	RB1#0	24.01	0.7	-1.45	22.56	0.18	100.0	Pass
			RB1#11	23.58	0.7	-1.45	22.13	0.16	100.0	Pass
	MCH	QPSK	RB1#0	23.53	0.7	-1.45	22.08	0.16	100.0	Pass
			RB1#11	23.32	0.7	-1.45	21.87	0.15	100.0	Pass
			RB12#0	23.39	0.7	-1.45	21.94	0.16	100.0	Pass
		BPSK	RB1#0	23.33	0.7	-1.45	21.88	0.15	100.0	Pass
			RB1#11	23.3	0.7	-1.45	21.85	0.15	100.0	Pass
	HCH	QPSK	RB1#0	23.78	0.7	-1.45	22.33	0.17	100.0	Pass
			RB1#11	23.78	0.7	-1.45	22.33	0.17	100.0	Pass
			RB12#0	24.18	0.7	-1.45	22.73	0.19	100.0	Pass
		BPSK	RB1#0	23.76	0.7	-1.45	22.31	0.17	100.0	Pass
			RB1#11	23.62	0.7	-1.45	22.17	0.16	100.0	Pass

A.2 Peak to Average Ratio

Note 1: For average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB. For GSM, GPRS and EGPRS, there are peak power to demonstrate compliance, PAR measurements are not required.

Note 2: Test plots please refer to the document “Annex No.: BL-EC2341272-501 Data Part 1.pdf”.

LTE-M1 Mode Test Data

Test Band	Test Bandwidth	Test Channel	Test Mode	Test RB (Size# Offset)	Peak to Average Ratio (dB)	Limit (dB)	Refer to Plot[Note2]	Verdict
LTE-M1 Band 2	20 MHz	LCH	QPSK	RB6#0	4.78	13	1.1	Pass
			16-QAM	RB5#0	5.58	13	1.2	Pass
		MCH	QPSK	RB6#0	5.16	13	1.3	Pass
			16-QAM	RB5#0	5.91	13	1.4	Pass
		HCH	QPSK	RB6#0	5.11	13	1.5	Pass
			16-QAM	RB5#0	5.72	13	1.6	Pass
LTE-M1 Band 4	20 MHz	LCH	QPSK	RB6#0	5.02	13	2.1	Pass
			16-QAM	RB5#0	5.81	13	2.2	Pass
		MCH	QPSK	RB6#0	5.25	13	2.3	Pass
			16-QAM	RB5#0	5.95	13	2.4	Pass
		HCH	QPSK	RB6#0	5.25	13	2.5	Pass
			16-QAM	RB5#0	5.95	13	2.6	Pass
LTE-M1 Band 5	10 MHz	LCH	QPSK	RB6#0	5.16	13	3.1	Pass
			16-QAM	RB5#0	5.91	13	3.2	Pass
		MCH	QPSK	RB6#0	5.34	13	3.3	Pass
			16-QAM	RB5#0	6.09	13	3.4	Pass
		HCH	QPSK	RB6#0	5.20	13	3.5	Pass
			16-QAM	RB5#0	6.00	13	3.6	Pass
LTE-M1 Band 12	10 MHz	LCH	QPSK	RB6#0	5.25	13	4.1	Pass
			16-QAM	RB5#0	5.95	13	4.2	Pass
		MCH	QPSK	RB6#0	5.02	13	4.3	Pass
			16-QAM	RB5#0	5.86	13	4.4	Pass
		HCH	QPSK	RB6#0	5.11	13	4.5	Pass
			16-QAM	RB5#0	5.91	13	4.6	Pass
LTE-M1 Band 13	10 MHz	MCH	QPSK	RB6#0	5.16	13	5.1	Pass
			16-QAM	RB5#0	6.05	13	5.2	Pass
LTE-M1 Band 25	20 MHz	LCH	QPSK	RB6#0	4.78	13	6.1	Pass
			16-QAM	RB5#0	5.58	13	6.2	Pass
		MCH	QPSK	RB6#0	5.02	13	6.3	Pass
			16-QAM	RB5#0	5.81	13	6.4	Pass
		HCH	QPSK	RB6#0	5.16	13	6.5	Pass

Test Band	Test Bandwidth	Test Channel	Test Mode	Test RB (Size# Offset)	Peak to Average Ratio (dB)	Limit (dB)	Refer to Plot[Note2]	Verdict
			16-QAM	RB5#0	5.91	13	6.6	Pass
LTE-M1 Band 26(Part22)	15 MHz	LCH	QPSK	RB6#0	11.53	13	7.1	Pass
			16-QAM	RB5#0	12.33	13	7.2	Pass
		MCH	QPSK	RB6#0	12.19	13	7.3	Pass
			16-QAM	RB5#0	12.28	13	7.4	Pass
		HCH	QPSK	RB6#0	11.39	13	7.5	Pass
			16-QAM	RB5#0	12.14	13	7.6	Pass
LTE-M1 Band 26(Part90)	10 MHz	MCH	QPSK	RB6#0	11.63	13	8.1	Pass
			16-QAM	RB5#0	11.58	13	8.2	Pass

NB-IoT Mode Test Data

Test Band	Test Sub-carrier spacing	Test Channel	Test Mode	Test RB (Size#Offset)	Peak to Average Ratio (dB)	Limit (dB)	Refer to Plot[Note2]	Verdict
NB-IoT Band 2	3.75kHz	LCH	QPSK	RB1#0	3.80	13	9.1	Pass
			BPSK	RB1#0	2.91	13	9.2	Pass
		MCH	QPSK	RB1#0	3.23	13	9.3	Pass
			BPSK	RB1#0	2.62	13	9.4	Pass
		HCH	QPSK	RB1#0	3.28	13	9.5	Pass
			BPSK	RB1#0	2.91	13	9.6	Pass
	15kHz	LCH	QPSK	RB1#0	4.73	13	9.7	Pass
			BPSK	RB1#0	4.69	13	9.8	Pass
		MCH	QPSK	RB1#0	6.28	13	9.9	Pass
			BPSK	RB1#0	5.06	13	9.10	Pass
		HCH	QPSK	RB1#0	6.75	13	9.11	Pass
			BPSK	RB1#0	4.73	13	9.12	Pass
NB-IoT Band 4	3.75kHz	LCH	QPSK	RB1#0	3.28	13	10.1	Pass
			BPSK	RB1#0	2.81	13	10.2	Pass
		MCH	QPSK	RB1#0	3.42	13	10.3	Pass
			BPSK	RB1#0	2.72	13	10.4	Pass
		HCH	QPSK	RB1#0	3.52	13	10.5	Pass
			BPSK	RB1#0	2.67	13	10.6	Pass
	15kHz	LCH	QPSK	RB1#0	6.05	13	10.7	Pass
			BPSK	RB1#0	5.11	13	10.8	Pass
		MCH	QPSK	RB1#0	6.47	13	10.9	Pass
			BPSK	RB1#0	4.83	13	10.10	Pass
		HCH	QPSK	RB1#0	6.52	13	10.11	Pass
			BPSK	RB1#0	4.55	13	10.12	Pass
NB-IoT Band 5	3.75kHz	LCH	QPSK	RB1#0	3.09	13	11.1	Pass
			BPSK	RB1#0	4.12	13	11.2	Pass
		MCH	QPSK	RB1#0	3.14	13	11.3	Pass
			BPSK	RB1#0	3.52	13	11.4	Pass
		HCH	QPSK	RB1#0	3.75	13	11.5	Pass
			BPSK	RB1#0	2.62	13	11.6	Pass
	15kHz	LCH	QPSK	RB1#0	6.52	13	11.7	Pass
			BPSK	RB1#0	4.69	13	11.8	Pass
		MCH	QPSK	RB1#0	6.52	13	11.9	Pass
			BPSK	RB1#0	4.45	13	11.10	Pass
		HCH	QPSK	RB1#0	6.23	13	11.11	Pass
			BPSK	RB1#0	2.72	13	11.12	Pass
		LCH	QPSK	RB1#0	3.37	13	12.1	Pass

Test Band	Test Sub-carrier spacing	Test Channel	Test Mode	Test RB (Size#Offset)	Peak to Average Ratio (dB)	Limit (dB)	Refer to Plot[Note2]	Verdict
NB-IoT Band 12	3.75kHz		BPSK	RB1#0	2.91	13	12.2	Pass
		MCH	QPSK	RB1#0	3.19	13	12.3	Pass
			BPSK	RB1#0	2.81	13	12.4	Pass
		HCH	QPSK	RB1#0	3.52	13	12.5	Pass
			BPSK	RB1#0	3.28	13	12.6	Pass
	15kHz	LCH	QPSK	RB1#0	6.98	13	12.7	Pass
			BPSK	RB1#0	4.73	13	12.8	Pass
		MCH	QPSK	RB1#0	6.14	13	12.9	Pass
			BPSK	RB1#0	5.25	13	12.10	Pass
		HCH	QPSK	RB1#0	6.52	13	12.11	Pass
			BPSK	RB1#0	4.83	13	12.12	Pass
NB-IoT Band 13	3.75kHz	LCH	QPSK	RB1#0	3.80	13	13.1	Pass
			BPSK	RB1#0	2.62	13	13.2	Pass
		MCH	QPSK	RB1#0	3.23	13	13.3	Pass
			BPSK	RB1#0	2.81	13	13.4	Pass
		HCH	QPSK	RB1#0	3.28	13	13.5	Pass
			BPSK	RB1#0	3.05	13	13.6	Pass
	15kHz	LCH	QPSK	RB1#0	6.52	13	13.7	Pass
			BPSK	RB1#0	4.78	13	13.8	Pass
		MCH	QPSK	RB1#0	6.42	13	13.9	Pass
			BPSK	RB1#0	5.53	13	13.10	Pass
		HCH	QPSK	RB1#0	6.52	13	13.11	Pass
			BPSK	RB1#0	4.45	13	13.12	Pass
NB-IoT Band 25	3.75kHz	LCH	QPSK	RB1#0	3.33	13	14.1	Pass
			BPSK	RB1#0	2.91	13	14.2	Pass
		MCH	QPSK	RB1#0	3.33	13	14.3	Pass
			BPSK	RB1#0	2.62	13	14.4	Pass
		HCH	QPSK	RB1#0	3.61	13	14.5	Pass
			BPSK	RB1#0	3.23	13	14.6	Pass
	15kHz	LCH	QPSK	RB1#0	6.42	13	14.7	Pass
			BPSK	RB1#0	4.36	13	14.8	Pass
		MCH	QPSK	RB1#0	6.42	13	14.9	Pass
			BPSK	RB1#0	4.69	13	14.10	Pass
		HCH	QPSK	RB1#0	6.75	13	14.11	Pass
			BPSK	RB1#0	5.02	13	14.12	Pass
	3.75kHz	LCH	QPSK	RB1#0	3.33	13	15.1	Pass
			BPSK	RB1#0	2.91	13	15.2	Pass
		MCH	QPSK	RB1#0	3.56	13	15.3	Pass
			BPSK	RB1#0	2.91	13	15.4	Pass

Test Band	Test Sub-carrier spacing	Test Channel	Test Mode	Test RB (Size#Offset)	Peak to Average Ratio (dB)	Limit (dB)	Refer to Plot[Note2]	Verdict
NB-IoT Band 26(Part 22)		HCH	QPSK	RB1#0	3.52	13	15.5	Pass
			BPSK	RB1#0	3.05	13	15.6	Pass
	15kHz	LCH	QPSK	RB1#0	6.52	13	15.7	Pass
			BPSK	RB1#0	5.11	13	15.8	Pass
		MCH	QPSK	RB1#0	6.23	13	15.9	Pass
			BPSK	RB1#0	5.16	13	15.10	Pass
		HCH	QPSK	RB1#0	6.19	13	15.11	Pass
			BPSK	RB1#0	4.50	13	15.12	Pass
NB-IoT Band 26(Part 90)	3.75kHz	LCH	QPSK	RB1#0	3.14	13	16.1	Pass
			BPSK	RB1#0	3.33	13	16.2	Pass
		MCH	QPSK	RB1#0	3.28	13	16.3	Pass
			BPSK	RB1#0	3.05	13	16.4	Pass
		HCH	QPSK	RB1#0	3.56	13	16.5	Pass
			BPSK	RB1#0	2.77	13	16.6	Pass
	15kHz	LCH	QPSK	RB1#0	6.37	13	16.7	Pass
			BPSK	RB1#0	4.50	13	16.8	Pass
		MCH	QPSK	RB1#0	6.56	13	16.9	Pass
			BPSK	RB1#0	4.50	13	16.10	Pass
		HCH	QPSK	RB1#0	5.44	13	16.11	Pass
			BPSK	RB1#0	6.37	13	16.12	Pass

A.3 Occupied Bandwidth

Note 1: All modes were tested, but only the typical data were reported in this report.

Note 2: Test plots please refer to the document “Annex No.: BL-EC2341272-501 Data Part 2.pdf”.

GSM Mode Test Data

Test Band	Test Channel	Measured 99% Occupied Bandwidth (MHz)	Measured -26 dB Occupied Bandwidth (MHz)	Refer to Plot[Note2]
GPRS 850	LCH	0.244	0.314	1.1
	MCH	0.244	0.314	1.2
	HCH	0.245	0.308	1.3
GPRS 1900	LCH	0.245	0.311	2.1
	MCH	0.244	0.314	2.2
	HCH	0.243	0.311	2.3
EGPRS 850	LCH	0.241	0.303	3.1
	MCH	0.243	0.307	3.2
	HCH	0.247	0.308	3.3
EGPRS 1900	LCH	0.243	0.305	4.1
	MCH	0.245	0.309	4.2
	HCH	0.244	0.304	4.3

LTE-M1 Mode Test Data

Test Band	Test Bandwidth	Test Channel	Test Mode	Test RB (Size#Offset)	Measured 99% Occupied Bandwidth (MHz)	Measured -26 dB Occupied Bandwidth (MHz)	Refer to Plot[Note2]
LTE-M1 Band 2	1.4 MHz	LCH	QPSK	RB6#0	1.110138	1.38695	5.1
			16-QAM	RB5#0	0.951371	1.330866	5.2
		MCH	QPSK	RB6#0	1.114727	1.391016	5.3
			16-QAM	RB5#0	0.956408	1.295013	5.4
		HCH	QPSK	RB6#0	1.110377	1.420001	5.5
			16-QAM	RB5#0	0.951727	1.393823	5.6

Test Band	Test Bandwidth	Test Channel	Test Mode	Test RB (Size#Offset)	Measured 99% Occupied Bandwidth (MHz)	Measured -26 dB Occupied Bandwidth (MHz)	Refer to PlotNote2
LTE-M1 Band 4	1.4 MHz	LCH	QPSK	RB6#0	1.112007	1.410705	6.1
			16-QAM	RB5#0	0.952039	1.349482	6.2
		MCH	QPSK	RB6#0	1.114002	1.390114	6.3
			16-QAM	RB5#0	0.951196	1.381396	6.4
		HCH	QPSK	RB6#0	1.110396	1.399746	6.5
			16-QAM	RB5#0	0.938086	1.322253	6.6

Test Band	Test Bandwidth	Test Channel	Test Mode	Test RB (Size#Offset)	Measured 99% Occupied Bandwidth (MHz)	Measured -26 dB Occupied Bandwidth (MHz)	Refer to Plot[Note2]
LTE-M1 Band 5	1.4 MHz	LCH	QPSK	RB6#0	1.114273	1.372461	7.1
			16-QAM	RB5#0	0.946793	1.190936	7.2
		MCH	QPSK	RB6#0	1.109882	1.340582	7.3
			16-QAM	RB5#0	0.947715	1.184098	7.4
		HCH	QPSK	RB6#0	1.128073	1.361123	7.5
			16-QAM	RB5#0	0.941898	1.163444	7.6

Test Band	Test Bandwidth	Test Channel	Test Mode	Test RB (Size#Offset)	Measured 99% Occupied Bandwidth (MHz)	Measured -26 dB Occupied Bandwidth (MHz)	Refer to Plot[Note2]
LTE-M1 Band 12	1.4 MHz	LCH	QPSK	RB6#0	1.112655	1.399055	8.1
			16-QAM	RB5#0	0.952714	1.347282	8.2
		MCH	QPSK	RB6#0	1.116733	1.389432	8.3
			16-QAM	RB5#0	0.950664	1.367272	8.4
		HCH	QPSK	RB6#0	1.11922	1.388666	8.5
			16-QAM	RB5#0	0.950838	1.245456	8.6

Test Band	Test Bandwidth	Test Channel	Test Mode	Test RB (Size#Offset)	Measured 99% Occupied Bandwidth (MHz)	Measured -26 dB Occupied Bandwidth (MHz)	Refer to Plot[Note2]
LTE-M1 Band 13	5 MHz	LCH	QPSK	RB6#0	1.134081	1.520629	9.1
			16-QAM	RB5#0	0.971846	1.354559	9.2
		MCH	QPSK	RB6#0	1.127727	1.570764	9.3
			16-QAM	RB5#0	0.983273	1.371222	9.4
		HCH	QPSK	RB6#0	1.135473	1.460067	9.5
			16-QAM	RB5#0	0.983366	1.395988	9.6

Test Band	Test Bandwidth	Test Channel	Test Mode	Test RB (Size#Offset)	Measured 99% Occupied Bandwidth (MHz)	Measured -26 dB Occupied Bandwidth (MHz)	Refer to PlotNote2
LTE-M1 Band 25	1.4 MHz	LCH	QPSK	RB6#0	1.109239	1.410243	10.1
			16-QAM	RB5#0	0.945165	1.2779	10.2
		MCH	QPSK	RB6#0	1.110654	1.383334	10.3
			16-QAM	RB5#0	0.943604	1.19151	10.4
		HCH	QPSK	RB6#0	1.109689	1.358671	10.5
			16-QAM	RB5#0	0.95029	1.346428	10.6

Test Band	Test Bandwidth	Test Channel	Test Mode	Test RB (Size#Offset)	Measured 99% Occupied Bandwidth (MHz)	Measured -26 dB Occupied Bandwidth (MHz)	Refer to Plot[Note2]
LTE-M1 Band 26(Part 90)	1.4 MHz	LCH	QPSK	RB6#0	1.117197	1.354131	11.1
			16-QAM	RB5#0	0.941618	1.185452	11.2
		MCH	QPSK	RB6#0	1.109474	1.391261	11.3
			16-QAM	RB5#0	0.943164	1.279409	11.4
		HCH	QPSK	RB6#0	1.100247	1.339496	11.5
			16-QAM	RB5#0	0.944548	1.267357	11.6

Test Band	Test Bandwidth	Test Channel	Test Mode	Test RB (Size#Offset)	Measured 99% Occupied Bandwidth (MHz)	Measured -26 dB Occupied Bandwidth (MHz)	Refer to Plot[Note2]
LTE-M1 Band 26(Part 22)	1.4 MHz	LCH	QPSK	RB6#0	1.110028	1.420908	12.1
			16-QAM	RB5#0	0.946746	1.258055	12.2
		MCH	QPSK	RB6#0	1.109292	1.351128	12.3
			16-QAM	RB5#0	0.944092	1.18147	12.4
		HCH	QPSK	RB6#0	1.11842	1.420023	12.5
			16-QAM	RB5#0	0.951514	1.242299	12.6

NB-IoT Mode Test Data

Test Band	Test Sub-carrier spacing	Test Channel	Test Mode	Test RB (Size#Offset)	Measured 99% Occupied Bandwidth (MHz)	Measured -26 dB Occupied Bandwidth (MHz)	Refer to Plot[Note2]
NB-IoT Band 2	3.75kHz	LCH	QPSK	RB1#0	0.064693	0.038639	13.1
			BPSK	RB1#0	0.056194	0.036845	13.2
		MCH	QPSK	RB1#0	0.062381	0.041003	13.3
			BPSK	RB1#0	0.054194	0.03675	13.4
		HCH	QPSK	RB1#0	0.065673	0.038164	13.5
			BPSK	RB1#0	0.055796	0.03649	13.6
	15kHz	LCH	QPSK	RB1#0	0.142902	0.11604	13.7
				RB12#0	0.188088	0.247849	13.8
			BPSK	RB1#0	0.133763	0.107167	13.9
		MCH	QPSK	RB1#0	0.126746	0.125135	13.10
				RB12#0	0.186077	0.247893	13.11
			BPSK	RB1#0	0.153881	0.16606	13.12
		HCH	QPSK	RB1#0	0.131238	0.116445	13.13
				RB12#0	0.188182	0.253878	13.14
			BPSK	RB1#0	0.132573	0.109949	13.15

Test Band	Test Sub-carrier spacing	Test Channel	Test Mode	Test RB (Size#Offset)	Measured 99% Occupied Bandwidth (MHz)	Measured -26 dB Occupied Bandwidth (MHz)	Refer to Plot[Note2]
NB-IoT Band 4	3.75kHz	LCH	QPSK	RB1#0	0.077136	0.038051	14.1
			BPSK	RB1#0	0.067894	0.036426	14.2
		MCH	QPSK	RB1#0	0.077675	0.040271	14.3
			BPSK	RB1#0	0.065335	0.036811	14.4
		HCH	QPSK	RB1#0	0.079509	0.040787	14.5
			BPSK	RB1#0	0.068687	0.036605	14.6
	15kHz	LCH	QPSK	RB1#0	0.131087	0.103623	14.7
				RB12#0	0.189714	0.24799	14.8
			BPSK	RB1#0	0.130813	0.107961	14.9
		MCH	QPSK	RB1#0	0.128693	0.123169	14.10
				RB12#0	0.188569	0.249619	14.11
			BPSK	RB1#0	0.128697	0.110759	14.12
		HCH	QPSK	RB1#0	0.12509	0.11555	14.13
				RB12#0	0.189494	0.247046	14.14
			BPSK	RB1#0	0.130208	0.105284	14.15

Test Band	Test Sub-carrier spacing	Test Channel	Test Mode	Test RB (Size#Offset)	Measured 99% Occupied Bandwidth (MHz)	Measured -26 dB Occupied Bandwidth (MHz)	Refer to Plot[Note2]
NB-IoT Band 5	3.75kHz	LCH	QPSK	RB1#0	0.052542	0.036632	15.1
			BPSK	RB1#0	0.058566	0.037652	15.2
		MCH	QPSK	RB1#0	0.119261	0.115326	15.3
			BPSK	RB1#0	0.187634	0.246568	15.4
		HCH	QPSK	RB1#0	0.130343	0.105246	15.5
			BPSK	RB1#0	0.055752	0.036899	15.6
	15kHz	LCH	QPSK	RB1#0	0.060026	0.038863	15.7
				RB12#0	0.118305	0.109057	15.8
			BPSK	RB1#0	0.186744	0.241628	15.9
		MCH	QPSK	RB1#0	0.128442	0.105298	15.10
				RB12#0	0.059412	0.040129	15.11
			BPSK	RB1#0	0.053713	0.03697	15.12
		HCH	QPSK	RB1#0	0.116009	0.101936	15.13
				RB12#0	0.186435	0.24095	15.14
			BPSK	RB1#0	0.132991	0.114073	15.15

Test Band	Test Sub-carrier spacing	Test Channel	Test Mode	Test RB (Size#Offset)	Measured 99% Occupied Bandwidth (MHz)	Measured -26 dB Occupied Bandwidth (MHz)	Refer to Plot[Note2]
NB-IoT Band 12	3.75kHz	LCH	QPSK	RB1#0	0.060019	0.038138	16.1
			BPSK	RB1#0	0.05449	0.036738	16.2
		MCH	QPSK	RB1#0	0.059354	0.037415	16.3
			BPSK	RB1#0	0.053634	0.036578	16.4
		HCH	QPSK	RB1#0	0.060859	0.038476	16.5
			BPSK	RB1#0	0.060077	0.038374	16.6
	15kHz	LCH	QPSK	RB1#0	0.122567	0.128696	16.7
				RB12#0	0.188976	0.248982	16.8
			BPSK	RB1#0	0.126349	0.105586	16.9
		MCH	QPSK	RB1#0	0.12226	0.104155	16.10
				RB12#0	0.187949	0.250834	16.11
			BPSK	RB1#0	0.125896	0.106676	16.12
		HCH	QPSK	RB1#0	0.125375	0.115277	16.13
				RB12#0	0.188073	0.246628	16.14
			BPSK	RB1#0	0.12525	0.114433	16.15

Test Band	Test Sub-carrier spacing	Test Channel	Test Mode	Test RB (Size#Offset)	Measured 99% Occupied Bandwidth (MHz)	Measured -26 dB Occupied Bandwidth (MHz)	Refer to Plot[Note2]
NB-IoT Band 13	3.75kHz	LCH	QPSK	RB1#0	0.062542	0.037979	17.1
			BPSK	RB1#0	0.05361	0.035428	17.2
		MCH	QPSK	RB1#0	0.062057	0.037484	17.3
			BPSK	RB1#0	0.054046	0.03615	17.4
		HCH	QPSK	RB1#0	0.062625	0.038144	17.5
			BPSK	RB1#0	0.053374	0.036145	17.6
	15kHz	LCH	QPSK	RB1#0	0.123156	0.123137	17.7
				RB12#0	0.189805	0.241137	17.8
			BPSK	RB1#0	0.127005	0.101155	17.9
		MCH	QPSK	RB1#0	0.124701	0.109314	17.10
				RB12#0	0.189392	0.235997	17.11
			BPSK	RB1#0	0.132463	0.107895	17.12
		HCH	QPSK	RB1#0	0.122743	0.110274	17.13
				RB12#0	0.187539	0.244798	17.14
			BPSK	RB1#0	0.131522	0.106837	17.15

Test Band	Test Sub-carrier spacing	Test Channel	Test Mode	Test RB (Size#Offset)	Measured 99% Occupied Bandwidth (MHz)	Measured -26 dB Occupied Bandwidth (MHz)	Refer to Plot[Note2]
NB-IoT Band 25	3.75kHz	LCH	QPSK	RB1#0	0.063289	0.040014	18.1
			BPSK	RB1#0	0.056511	0.03703	18.2
		MCH	QPSK	RB1#0	0.062461	0.038254	18.3
			BPSK	RB1#0	0.058588	0.036967	18.4
		HCH	QPSK	RB1#0	0.067488	0.039334	18.5
			BPSK	RB1#0	0.055757	0.036991	18.6
	15kHz	LCH	QPSK	RB1#0	0.129148	0.115471	18.7
				RB12#0	0.188672	0.247329	18.8
			BPSK	RB1#0	0.132777	0.09683	18.9
		MCH	QPSK	RB1#0	0.131225	0.117181	18.10
				RB12#0	0.18666	0.247464	18.11
			BPSK	RB1#0	0.134662	0.104305	18.12
		HCH	QPSK	RB1#0	0.129502	0.115204	18.13
				RB12#0	0.187831	0.248463	18.14
			BPSK	RB1#0	0.130788	0.103613	18.15

Test Band	Test Sub-carrier spacing	Test Channel	Test Mode	Test RB (Size#Offset)	Measured 99% Occupied Bandwidth (MHz)	Measured -26 dB Occupied Bandwidth (MHz)	Refer to Plot[Note2]
NB-IoT Band 26(Part 22)	3.75kHz	LCH	QPSK	RB1#0	0.053424	0.036341	20.1
			BPSK	RB1#0	0.060048	0.038009	20.2
		MCH	QPSK	RB1#0	0.059603	0.038007	20.3
			BPSK	RB1#0	0.053237	0.03616	20.4
		HCH	QPSK	RB1#0	0.060288	0.039675	20.5
			BPSK	RB1#0	0.054407	0.036459	20.6
	15kHz	LCH	QPSK	RB1#0	0.122577	0.11463	20.7
				RB12#0	0.189936	0.235783	20.8
			BPSK	RB1#0	0.125886	0.102397	20.9
		MCH	QPSK	RB1#0	0.121334	0.117368	20.10
				RB12#0	0.125759	0.102696	20.11
			BPSK	RB1#0	0.188053	0.237605	20.12
		HCH	QPSK	RB1#0	0.126483	0.111239	20.13
				RB12#0	0.186711	0.245917	20.14
			BPSK	RB1#0	0.119457	0.114771	20.15

Test Band	Test Sub-carrier spacing	Test Channel	Test Mode	Test RB (Size#Offset)	Measured 99% Occupied Bandwidth (MHz)	Measured -26 dB Occupied Bandwidth (MHz)	Refer to Plot[Note2]
NB-IoT Band 26(Part 90)	3.75kHz	LCH	QPSK	RB1#0	0.063857	0.038686	19.1
			BPSK	RB1#0	0.055893	0.036849	19.2
		MCH	QPSK	RB1#0	0.062237	0.038479	19.3
			BPSK	RB1#0	0.056573	0.036666	19.4
		HCH	QPSK	RB1#0	0.061357	0.040215	19.5
			BPSK	RB1#0	0.056335	0.036342	19.6
	15kHz	LCH	QPSK	RB1#0	0.120348	0.116602	19.7
				RB12#0	0.12522	0.10185	19.8
			BPSK	RB1#0	0.18632	0.244668	19.9
		MCH	QPSK	RB1#0	0.120258	0.116444	19.10
				RB12#0	0.129187	0.106886	19.11
			BPSK	RB1#0	0.186643	0.244137	19.12
		HCH	QPSK	RB1#0	0.123007	0.117125	19.13
				RB12#0	0.186336	0.235807	19.14
			BPSK	RB1#0	0.126898	0.103815	19.15

A.4 Frequency Stability

GPRS 850

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	LCH 824.2 MHz		MCH 836.6 MHz		HCH 848.8 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	-15.98	±2060.5	14.17	±2091.5	13.46	±2122	Pass
	-20	15.14		16.56		13.75		
	-10	15.17		14.92		15.43		
	0	18.53		15.76		12.27		
	+10	17.34		16.92		14.27		
	+20	16.27		15.4		12.75		
	+30	14.79		16.82		17.34		
	+40	14.59		15.21		16.27		
	+50	14.14		16.37		16.95		
	+60	15.82		15.05		13.92		
4.2	+25	16.18		16.63		14.30		
3.3	+25	17.85		14.98		14.92		

GPRS 1900

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	LCH 1850.2 MHz		MCH 1880 MHz		HCH 1909.8 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	12.24	±4625.5	10.82	±4700.0	12.20	±4774.5	Pass
	-20	12.33		12.59		9.85		
	-10	13.66		14.43		14.46		
	0	15.30		12.11		13.11		
	+10	14.01		14.40		14.37		
	+20	14.14		13.82		11.62		
	+30	14.50		12.62		14.14		
	+40	17.53		17.37		10.78		
	+50	13.27		15.17		17.08		
	+60	18.95		16.50		13.33		
4.2	+25	12.46		10.82		11.30		
3.3	+25	13.53		10.33		13.27		

EGPRS 850

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	LCH 824.2 MHz		MCH 836.6 MHz		HCH 848.8 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	14.46	±2060.5	17.11	±2091.5	16.63	±2122	Pass
	-20	18.14		19.82		18.02		
	-10	19.15		19.89		17.21		
	0	19.89		18.82		19.47		
	+10	18.6		20.73		17.72		
	+20	20.15		22.18		19.82		
	+30	19.89		19.21		18.63		
	+40	18.44		22.08		19.95		
	+50	20.4		21.83		19.15		
	+60	20.66		23.12		20.95		
4.2	+25	19.27		20.76		19.63		
3.3	+25	19.05		22.02		21.83		

EGPRS 1900

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	LCH 1850.2 MHz		MCH 1880 MHz		HCH 1909.8 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	24.57	±4625.5	20.47	±4700.0	19.08	±4774.5	Pass
	-20	16.92		16.27		13.04		
	-10	20.11		16.79		12.49		
	0	22.12		19.11		17.85		
	+10	22.12		19.11		17.85		
	+20	21.08		18.44		19.05		
	+30	16.92		15.88		14.59		
	+40	15.53		17.66		18.4		
	+50	21.08		16.92		20.92		
	+60	16.63		12.07		14.66		
4.2	+25	15.24		16.27		20.57		
3.3	+25	11.98		14.01		14.82		

TE-M1 Band 2 QPSK 20 MHz

Test Conditions		Frequency Deviation						Verdict
		LCH		MCH		HCH		
		1860 MHz		1880 MHz		1900 MHz		
Power (VDC)	Temperature (°C)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	-0.27	±4650	0.21	±4700	-2.72	±4750	Pass
	-20	0.5		-1.79		-1.52		
	-10	-1.07		-1.66		-2.59		
	0	-0.79		-1.59		-2.2		
	+10	0.24		-1.22		-1.13		
	+20	-1.4		-2.15		-2.07		
	+30	-0.62		-1.39		-1.85		
	+40	-0.47		-2.06		-1.44		
	+50	-1.5		-1.39		-1.9		
	+60	0.89		-1.8		-1.77		
4.2	25	-1.8		-1.56		-2.16		
3.3	25	-0.37		-1.17		-0.96		

LTE-M1 Band 2 16QAM 20 MHz

Test Conditions		Frequency Deviation						Verdict
		LCH		MCH		HCH		
		1860 MHz		1880 MHz		1900 MHz		
Power (VDC)	Temperature (°C)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	0.21	±4650	-1.12	±4700	-2.13	±4750	Pass
	-20	-0.17		-1.29		-0.6		
	-10	-0.62		-1.47		-0.7		
	0	-0.79		-1.47		-0.84		
	+10	-0.96		-1.12		-1.12		
	+20	-1.1		-1.2		-0.51		
	+30	-0.51		0.09		-1.26		
	+40	0.09		-1.85		-0.14		
	+50	-0.44		-1.49		-1.87		
	+60	-0.07		-1.34		-1.12		
4.2	25	-1.26		0		-0.31		
3.3	25	-0.37		-0.63		0.5		

LTE-M1 Band 4 QPSK 20 MHz

Test Conditions		Frequency Deviation						Verdict
		LCH		MCH		HCH		
Power (VDC)	Temperature (°C)	1720 MHz		1732.5 MHz		1745 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	0.62	±4300	0.97	±4331.25	-0.69	±4362.5	Pass
	-20	-0.57		-3.2		-0.76		
	-10	-0.51		-1.02		-1.62		
	0	0.86		-1.23		-0.72		
	+10	-0.89		-1.69		-1.79		
	+20	-0.16		-1.27		-1.87		
	+30	-1		-2.05		-0.29		
	+40	-1.36		-1.92		-1.29		
	+50	-0.27		-1.53		-1.93		
	+60	-1.1		-1.65		-2.36		
4.2	25	-1.02		-1.53		-1.44		
3.3	25	-1.39		-1.19		-1.39		

LTE-M1 Band 4 16QAM 20 MHz

Test Conditions		Frequency Deviation						Verdict
		LCH		MCH		HCH		
Power (VDC)	Temperature (°C)	1720 MHz		1732.5 MHz		1745 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	0.97	±4300	-0.62	±4331.25	-1.09	±4362.5	Pass
	-20	-1.62		-1.06		-0.37		
	-10	0.16		-0.92		0.41		
	0	0.86		-0.89		-0.27		
	+10	0.14		0.03		-1.07		
	+20	0.01		-0.11		-0.39		
	+30	-0.31		-1.16		-0.63		
	+40	-1.12		-0.29		-1.69		
	+50	0.77		-1.32		0.3		
	+60	-1.22		-0.56		-0.6		
4.2	25	-0.37		0.14		-0.13		
3.3	25	-1.39		-0.64		-1.4		

LTE-M1 Band 5 QPSK 10 MHz

Test Conditions		Frequency Deviation						Verdict
		LCH		MCH		HCH		
Power (VDC)	Temperature (°C)	829 MHz		836.5 MHz		844 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	1	±2072.5	1.27	±2091.25	-0.53	±2110	Pass
	-20	0.04		-0.86		-0.82		
	-10	-1.75		0.37		-1.42		
	0	-0.31		0.33		1.13		
	+10	-0.9		0.57		2.27		
	+20	-1.52		-0.62		-1.36		
	+30	-0.19		-0.76		1.34		
	+40	-1.39		0.97		-1.47		
	+50	0.97		-0.66		-0.9		
	+60	-0.64		-0.59		-1.47		
4.2	25	-0.17		0.59		0.26		
3.3	25	0.77		-0.1		1.06		

LTE-M1 Band 5 16QAM 10 MHz

Test Conditions		Frequency Deviation						Verdict
		LCH		MCH		HCH		
Power (VDC)	Temperature (°C)	829 MHz		836.5 MHz		844 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	1.27	±2072.5	-0.79	±2091.25	-0.46	±2110	Pass
	-20	0.7		-1.85		-2		
	-10	-0.3		0.53		-0.41		
	0	-0.31		0.17		1.42		
	+10	-1.3		-1.19		0.92		
	+20	-2.43		0.17		-0.5		
	+30	0.77		-0.33		0.49		
	+40	-1.06		1.34		-1.33		
	+50	0.7		-1.13		-2.25		
	+60	-1.39		-0.24		-1.53		
4.2	25	-0.34		0.89		-0.64		
3.3	25	-0.06		-0.41		0.99		

LTE-M1 Band 12 QPSK 10 MHz

Test Conditions		Frequency Deviation						Verdict
		LCH		MCH		HCH		
Power (VDC)	Temperature (°C)	704 MHz		707.5 MHz		711 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	-1.26	±1760	-0.29	±1768.75	-0.66	±1777.5	Pass
	-20	-0.23		0.57		-0.27		
	-10	0.24		-0.07		0.56		
	0	0.46		0.66		0.83		
	+10	0.2		-1.1		-0.77		
	+20	0.4		0.21		-1.49		
	+30	0.9		0.39		-0.23		
	+40	0.39		-0.93		0.62		
	+50	0.84		1.37		0.44		
	+60	-0.2		0.23		0.14		
4.2	25	-0.04		0.64		0.26		
3.3	25	0.77		0.39		-0.3		

LTE-M1 Band 12 16QAM 10 MHz

Test Conditions		Frequency Deviation						Verdict
		LCH		MCH		HCH		
Power (VDC)	Temperature (°C)	704 MHz		707.5 MHz		711 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	-0.29	±1760	-0.16	±1768.75	-0.56	±1777.5	Pass
	-20	0.56		0.47		-1.06		
	-10	0.59		-0.36		0.73		
	0	0.46		0.89		0.79		
	+10	0.06		-0.54		-0.69		
	+20	0.64		-0.03		-0.39		
	+30	0.63		0.46		-1.09		
	+40	-0.09		-0.23		0.34		
	+50	0.27		0.74		0.06		
	+60	0.37		0.59		0.33		
4.2	25	-0.72		1.16		-0.11		
3.3	25	1.12		-0.01		-0.09		

LTE-M1 Band 13 QPSK 10 MHz

Test Conditions		Frequency Deviation		Verdict
Power (VDC)	Temperature (°C)	MCH 782 MHz		
		Value (Hz)	Limits (Hz)	
3.7	-30	0	±1955	Pass
	-20	-0.27		
	-10	-0.01		
	0	-0.01		
	+10	0		
	+20	-0.01		
	+30	-0.01		
	+40	-0.01		
	+50	0		
	+60	-0.01		
4.2	+25	-0.03		
3.3	+25	0		

LTE-M1 Band 13 16QAM 10 MHz

Test Conditions		Frequency Deviation		Verdict
Power (VDC)	Temperature (°C)	MCH 782 MHz		
		Value (Hz)	Limits (Hz)	
3.7	-30	-0.32	±1955	Pass
	-20	-0.12		
	-10	-0.03		
	0	0		
	+10	-0.06		
	+20	-0.07		
	+30	0		
	+40	0		
	+50	-0.01		
	+60	-0.03		
4.2	+25	-0.04		
3.3	+25	-0.03		

LTE-M1 Band 25 QPSK 20 MHz

Test Conditions		Frequency Deviation						Verdict
		LCH		MCH		HCH		
Power (VDC)	Temperature (°C)	1860 MHz		1882.5 MHz		1905 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	1.2	±4650	0.41	±4706.25	-1.82	±4762.5	Pass
	-20	0.37		-1.8		-1.89		
	-10	0.73		-1.4		-2.69		
	0	-0.41		-2.66		-0.87		
	+10	0.79		-1.37		-1.34		
	+20	0.36		-1.29		-1.02		
	+30	-1.29		-3.08		-2.15		
	+40	2.03		-2.59		-1.65		
	+50	0.21		-1.73		-2.05		
	+60	-0.1		-1.72		-0.41		
4.2	25	-0.19		-1.3		-1.77		
3.3	25	2		-1.5		-1.5		

LTE-M1 Band 25 16QAM 20 MHz

Test Conditions		Frequency Deviation						Verdict
		LCH		MCH		HCH		
Power (VDC)	Temperature (°C)	1860 MHz		1882.5 MHz		1905 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	0.41	±4650	-1.86	±4706.25	-0.83	±4762.5	Pass
	-20	-0.76		-1.4		-1.42		
	-10	-0.79		-1.34		-2.26		
	0	-0.41		-1.1		-2.57		
	+10	-0.04		-1.63		0.21		
	+20	0.24		-2.13		0.19		
	+30	-1.22		-0.8		-0.87		
	+40	0.82		-2.15		-1.17		
	+50	-0.13		-1.06		0.29		
	+60	-0.26		1.14		0.16		
4.2	25	-0.8		-2.19		-1.77		
3.3	25	0.73		-1.24		-0.69		

LTE-M1 Band 26(Part90) QPSK 10 MHz

Test Conditions		Frequency Deviation		Verdict
Power (VDC)	Temperature (°C)	MCH 819 MHz		
		Value (Hz)	Limits (Hz)	
3.7	-30	-2.13	±2047.5	Pass
	-20	-1.08		
	-10	-1.04		
	0	-2.75		
	+10	-0.86		
	+20	-1.11		
	+30	-2.01		
	+40	-1.39		
	+50	-0.83		
	+60	-1.02		
4.2	+25	-1.07		
3.3	+25	-1.05		

LTE-M1 Band 26(Part90) 16QAM 10 MHz

Test Conditions		Frequency Deviation		Verdict
Power (VDC)	Temperature (°C)	MCH 819 MHz		
		Value (Hz)	Limits (Hz)	
3.7	-30	-1.14	±2047.5	Pass
	-20	-1.14		
	-10	-1.7		
	0	-1.81		
	+10	-0.65		
	+20	-1.78		
	+30	-0.78		
	+40	-0.46		
	+50	-0.06		
	+60	1.12		
4.2	+25	-0.22		
3.3	+25	-1.1		

LTE-M1 Band 26(Part22) QPSK 15 MHz

Test Conditions		Frequency Deviation						Verdict
		LCH		MCH		HCH		
Power (VDC)	Temperature (°C)	831.5 MHz		836.5 MHz		841.5 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	0.04	±2328.75	0.34	±2091.25	-0.21	±2103.75	Pass
	-20	-0.41		-0.1		-0.32		
	-10	-0.4		-0.73		-0.4		
	0	0.25		-0.47		-0.62		
	+10	-0.14		-0.65		-1.49		
	+20	-0.03		-0.32		-0.26		
	+30	-0.59		-0.17		-0.1		
	+40	-0.38		-0.17		-0.86		
	+50	-0.21		-1.03		-1.72		
	+60	-0.12		-0.7		-1.74		
4.2	25	-0.92		-0.61		-0.36		
3.3	25	-1.17		-0.57		-0.03		

LTE-M1 Band 26(Part22) QPSK 15 MHz

Test Conditions		Frequency Deviation						Verdict
		LCH		MCH		HCH		
Power (VDC)	Temperature (°C)	831.5 MHz		836.5 MHz		841.5 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	0.34	±2328.75	-0.3	±2091.25	-1.04	±2103.75	Pass
	-20	-1.47		-0.52		-0.34		
	-10	0.15		-0.79		0.03		
	0	0.25		-0.44		-0.16		
	+10	0.13		0		-0.09		
	+20	0.01		-0.06		-0.2		
	+30	-0.07		-1.16		-0.15		
	+40	-0.11		-0.1		-0.67		
	+50	0.34		-1.22		0.03		
	+60	-0.53		-0.17		-0.02		
4.2	25	-0.04		0.03		-0.03		
3.3	25	-0.06		-0.14		-1.06		

NB-IoT Band 2 SCS:3.75kHz QPSK

Test Conditions		Frequency Deviation						Verdict
		LCH		MCH		HCH		
Power (VDC)	Temperature (°C)	1850.1 MHz		1880 MHz		1909.9 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	-0.26	±4625.25	0.15	±4700	-3.09	±4774.75	Pass
	-20	0.24		-1.11		-2.06		
	-10	-1.04		-2.93		-2.69		
	0	-0.4		-2.9		-1.81		
	+10	0.14		-0.98		-1.52		
	+20	-0.91		-1.1		-3.61		
	+30	-0.36		-0.65		-0.36		
	+40	-0.56		-2.09		-1.18		
	+50	-1.37		-0.9		-2.63		
	+60	0.56		-2.01		-2.27		
4.2	25	-2.86		-0.89		-1.95		
3.3	25	-0.15		-1		-0.72		

NB-IoT Band 2 SCS:3.75kHz BPSK

Test Conditions		Frequency Deviation						Verdict
		LCH		MCH		HCH		
Power (VDC)	Temperature (°C)	1850.1 MHz		1880 MHz		1909.9 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	0.15	±4625.25	-0.82	±4700	-1.99	±4774.75	Pass
	-20	-0.29		-0.69		-0.66		
	-10	-0.19		-1.35		-0.65		
	0	-0.4		-1.69		-1.45		
	+10	-1.7		-0.55		-0.37		
	+20	-1		-0.51		-0.61		
	+30	-0.57		0.16		-1.72		
	+40	0.11		-0.36		-0.11		
	+50	-0.22		-1.92		-1.97		
	+60	-0.11		-1.47		-1.46		
4.2	25	-0.28		0		-0.27		
3.3	25	-0.38		-1.17		0.26		

NB-IoT Band 2 SCS:15kHz QPSK

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	LCH 1850.1 MHz		MCH 1880 MHz		HCH 1909.9 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits(Hz)	Value (Hz)	Limits(Hz)	
3.7	-30	-0.23	±4625.25	0.26	±4700	-2.05	±4774.75	Pass
	-20	0.79		-2		-2.34		
	-10	-0.75		-2		-1.43		
	0	-0.78		-1.66		-4.19		
	+10	0.28		-1.87		-1.17		
	+20	-1.77		-2.54		-1.55		
	+30	-0.94		-0.94		-3.35		
	+40	-0.45		-0.95		-1.9		
	+50	-1.17		-1.38		-2.04		
	+60	0.28		-0.27		-0.99		
4.2	25	-1.2		-1.86		-0.74		
3.3	25	-0.49		-1.14		-0.55		

NB-IoT Band 2 SCS:15kHz BPSK

Test Conditions		Frequency Deviation						Verdict
Power (VDC)	Temperature (°C)	LCH 1850.1 MHz		MCH 1880 MHz		HCH 1909.9 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits(Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	0.26	±4625.25	-1.13	±4700	-0.62	±4774.75	Pass
	-20	-0.14		-2.14		-0.49		
	-10	-0.68		-1.91		-0.7		
	0	-0.78		-1.24		-1.1		
	+10	-0.9		-1.68		-0.46		
	+20	-1.21		-0.86		-0.55		
	+30	-0.53		0.09		-1.64		
	+40	0.02		-3.35		-0.11		
	+50	-0.66		-1.64		-3.07		
	+60	-0.09		-0.7		-0.31		
4.2	25	-1.68		0		-0.16		
3.3	25	-0.46		-0.71		0.31		

NB-IoT Band 4 SCS:3.75kHz QPSK

Test Conditions		Frequency Deviation						Verdict
		LCH		MCH		HCH		
Power (VDC)	Temperature (°C)	1710.1 MHz		1732.5 MHz		1754.9 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	0.94	±4275.25	-2.41	±4331.25	-0.55	±4387.25	Pass
	-20	-0.5		-4.18		-0.72		
	-10	-0.7		-1.37		-1.1		
	0	0.57		-0.15		-0.81		
	+10	-0.88		-2.02		-0.94		
	+20	-0.17		-1.4		-2.89		
	+30	-0.62		-2.93		-0.2		
	+40	-1.53		-1.22		-1.12		
	+50	-0.22		-2.04		-1.08		
	+60	-1.17		-1.03		-2.37		
4.2	25	-1.1		-0.75		-1.95		
3.3	25	-1.05		-1.67		-2.31		

NB-IoT Band 4 SCS:3.75kHz BPSK

Test Conditions		Frequency Deviation						Verdict
		LCH		MCH		HCH		
Power (VDC)	Temperature (°C)	1710.1 MHz		1732.5 MHz		1754.9 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	0.64	±4275.25	-0.08	±4331.25	-0.29	±4387.25	Pass
	-20	-1.88		-1.46		-0.48		
	-10	0.18		-1.23		0.47		
	0	0.57		-0.94		-0.33		
	+10	0.2		0.03		-0.84		
	+20	0.01		-0.18		-0.31		
	+30	-0.2		-0.29		-0.92		
	+40	-0.36		-0.2		-2.25		
	+50	0.49		-1.61		0.23		
	+60	-0.71		-0.19		-0.43		
4.2	25	-0.61		0.21		-0.18		
3.3	25	-0.98		-0.75		-2.42		

NB-IoT Band 4 SCS:15kHz QPSK

Test Conditions		Frequency Deviation						Verdict
		LCH		MCH		HCH		
Power (VDC)	Temperature (°C)	1710.1 MHz		1732.5 MHz		1754.9 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	0.15	±4275.25	1.28	±4331.25	-0.55	±4387.25	Pass
	-20	-0.59		-3.13		-1.17		
	-10	-0.52		-1.72		-1.55		
	0	1.52		-2.26		-0.72		
	+10	-0.44		-0.69		-0.64		
	+20	-0.19		-1.52		-2.85		
	+30	-0.64		-1.93		-0.22		
	+40	-1.43		-2.39		-0.65		
	+50	-0.25		-1.93		-2.6		
	+60	-1.05		-0.54		-2.57		
4.2	25	-0.78		-2.49		-0.97		
3.3	25	-2.63		-1.21		-1.45		

NB-IoT Band 4 SCS:15kHz BPSK

Test Conditions		Frequency Deviation						Verdict
		LCH		MCH		HCH		
Power (VDC)	Temperature (°C)	1710.1 MHz		1732.5 MHz		1754.9 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	1.28	±4275.25	-0.72	±4331.25	-0.45	±4387.25	Pass
	-20	-0.93		-0.95		-0.37		
	-10	0.12		-1.02		0.21		
	0	1.52		-0.78		-0.06		
	+10	0.15		0.03		-0.74		
	+20	0.01		-0.02		-0.32		
	+30	-0.32		-1.32		-0.51		
	+40	-0.41		-0.22		-2		
	+50	0.87		-0.76		0.14		
	+60	-1.62		-0.24		-0.51		
4.2	25	-0.53		0.14		-0.09		
3.3	25	-0.39		-0.92		-1.81		

NB-IoT Band 5 SCS:3.75kHz QPSK

Test Conditions		Frequency Deviation						Verdict
		LCH		MCH		HCH		
Power (VDC)	Temperature (°C)	824.1 MHz		836.5 MHz		848.9 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	1.05	±2060.25	1.1	±2091.25	-0.66	±2122.25	Pass
	-20	0.06		-1.07		-0.84		
	-10	-3.09		0.23		-1.4		
	0	-0.32		0.38		0.7		
	+10	-0.7		0.59		2.69		
	+20	-0.47		-0.31		-2.46		
	+30	-0.19		-1.06		1.99		
	+40	-2.55		0.78		-1.23		
	+50	0.71		-0.72		-1.63		
	+60	-0.36		-0.71		-0.95		
4.2	25	-0.17		0.38		0.42		
3.3	25	0.64		-0.12		0.38		

NB-IoT Band 5 SCS:3.75kHz BPSK

Test Conditions		Frequency Deviation						Verdict
		LCH		MCH		HCH		
Power (VDC)	Temperature (°C)	824.1 MHz		836.5 MHz		848.9 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	1.1	±2060.25	-1.47	±2091.25	-0.79	±2122.25	Pass
	-20	0.5		-1.16		-1.98		
	-10	-0.33		0.41		-0.28		
	0	0.03		0.05		0.69		
	+10	-1.37		-1.86		1.06		
	+20	-2.73		0.21		-0.79		
	+30	0.84		-0.42		0.44		
	+40	-0.93		1.99		-0.79		
	+50	0.67		-1.77		-2.86		
	+60	-0.68		-0.08		-1.46		
4.2	25	-0.22		1.49		-0.52		
3.3	25	-0.07		-0.45		1.11		

NB-IoT Band 5 SCS:15kHz QPSK

Test Conditions		Frequency Deviation						Verdict
		LCH		MCH		HCH		
Power (VDC)	Temperature (°C)	824.1 MHz		836.5 MHz		848.9 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	1.21	±2060.25	1.29	±2091.25	-0.23	±2122.25	Pass
	-20	0.07		-0.27		-0.58		
	-10	-0.51		0.49		-0.48		
	0	-0.43		0.26		0.81		
	+10	-0.88		0.42		3.13		
	+20	-0.82		-0.41		-1.6		
	+30	-0.31		-0.56		1.32		
	+40	-2.09		1.57		-1.6		
	+50	1.57		-0.43		-1.32		
	+60	-0.94		-0.6		-1.62		
4.2	25	-0.09		0.3		0.31		
3.3	25	1.21		-0.02		0.5		

NB-IoT Band 5 SCS:15kHz BPSK

Test Conditions		Frequency Deviation						Verdict
		LCH		MCH		HCH		
Power (VDC)	Temperature (°C)	824.1 MHz		836.5 MHz		848.9 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	1.29	±2060.25	-1.36	±2091.25	-0.29	±2122.25	Pass
	-20	0.83		-1.09		-1.15		
	-10	-0.5		0.83		-0.15		
	0	-0.43		0.19		0.81		
	+10	-0.98		-1.76		0.67		
	+20	-2.72		0.15		-0.91		
	+30	1.04		-0.61		0.39		
	+40	-1.52		1.32		-1.67		
	+50	1.07		-1.3		-1.27		
	+60	-1.52		-0.28		-2		
4.2	25	-0.66		1.03		-0.31		
3.3	25	-0.08		-0.62		1.54		

NB-IoT Band 12 SCS:3.75kHz QPSK

Test Conditions		Frequency Deviation						Verdict
		LCH		MCH		HCH		
Power (VDC)	Temperature (°C)	699.1 MHz		707.5 MHz		715.9 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	-1.18	±1747.75	-0.32	±1768.75	-0.55	±1789.75	Pass
	-20	-0.28		1.03		-0.22		
	-10	0.34		-0.1		0.55		
	0	0.5		0.34		0.29		
	+10	0.29		-1		-0.65		
	+20	0.13		0.34		-1.61		
	+30	0.82		0.49		-0.31		
	+40	0.31		-0.39		0.66		
	+50	1.32		1.95		0.38		
	+60	-0.17		0.19		0.18		
4.2	25	-0.07		0.48		0.22		
3.3	25	0.49		0.2		-0.34		

NB-IoT Band 12 SCS:3.75kHz BPSK

Test Conditions		Frequency Deviation						Verdict
		LCH		MCH		HCH		
Power (VDC)	Temperature (°C)	699.1 MHz		707.5 MHz		715.9 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	-0.32	±1747.75	-0.12	±1768.75	-0.64	±1789.75	Pass
	-20	0.91		0.58		-1.68		
	-10	0.96		-0.61		0.3		
	0	0.49		0.9		1.25		
	+10	0.09		-0.44		-0.16		
	+20	0.81		-0.03		-0.3		
	+30	0.39		0.16		-1.35		
	+40	-0.1		-0.31		0.36		
	+50	0.36		0.95		0.07		
	+60	0.16		1.01		0.2		
4.2	25	-0.83		0.77		-0.07		
3.3	25	1.24		-0.01		-0.13		

NB-IoT Band 12 SCS:15kHz QPSK

Test Conditions		Frequency Deviation						Verdict
		LCH		MCH		HCH		
Power (VDC)	Temperature (°C)	699.1 MHz		707.5 MHz		715.9 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	-0.77	±1747.75	-0.18	±1768.75	-0.22	±1789.75	Pass
	-20	-0.27		0.19		-0.12		
	-10	0.09		-0.09		0.38		
	0	0.31		0.62		1.34		
	+10	0.21		-2.1		-1.21		
	+20	0.18		0.2		-1.63		
	+30	0.23		0.39		-0.29		
	+40	0.13		-0.94		0.41		
	+50	0.97		0.43		0.4		
	+60	-0.19		0.2		0.1		
4.2	25	-0.04		0.18		0.36		
3.3	25	0.57		0.29		-0.34		

NB-IoT Band 12 SCS:15kHz BPSK

Test Conditions		Frequency Deviation						Verdict
		LCH		MCH		HCH		
Power (VDC)	Temperature (°C)	699.1 MHz		707.5 MHz		715.9 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	-0.18	±1747.75	-0.19	±1768.75	-0.27	±1789.75	Pass
	-20	0.49		0.54		-1.6		
	-10	0.79		-0.41		0.52		
	0	0.52		0.63		1.03		
	+10	0.07		-0.42		-1.08		
	+20	1.12		-0.03		-0.22		
	+30	0.41		0.75		-1.34		
	+40	-0.09		-0.29		0.36		
	+50	0.11		0.3		0.07		
	+60	0.29		0.23		0.24		
4.2	25	-0.94		1.09		-0.18		
3.3	25	1.07		-0.02		-0.13		

NB-IoT Band 13 SCS:3.75kHz QPSK

Test Conditions		Frequency Deviation						Verdict
		LCH		MCH		HCH		
Power (VDC)	Temperature (°C)	777.1 MHz		782.0 MHz		786.9 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	-1.42	±1742.75	-0.17	±1955	-0.18	±1967.25	Pass
	-20	-0.35		0.21		-0.04		
	-10	0.08		-0.07		0.37		
	0	0.32		0.44		2.08		
	+10	0.19		-2.81		-1.63		
	+20	0.28		0.16		-2.12		
	+30	0.39		0.19		-0.55		
	+40	0.16		-1.4		0.12		
	+50	1.02		0.6		0.4		
	+60	-0.15		0.09		0.13		
4.2	25	-0.03		0.32		0.37		
3.3	25	0.54		0.36		-0.39		

NB-IoT Band 13 SCS:3.75kHz BPSK

Test Conditions		Frequency Deviation						Verdict
		LCH		MCH		HCH		
Power (VDC)	Temperature (°C)	777.1 MHz		782.0 MHz		786.9 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	-0.17	±1742.75	-0.19	±1955	-0.32	±1967.25	Pass
	-20	0.52		0.17		-0.92		
	-10	0.69		-0.16		0.45		
	0	0.27		1.06		0.95		
	+10	0.04		-0.33		-1.08		
	+20	0.93		-0.03		-0.31		
	+30	0.46		1		-1.11		
	+40	-0.1		-0.55		0.32		
	+50	0.12		0.18		0.08		
	+60	0.31		0.38		0.26		
4.2	25	-0.9		1.32		-0.19		
3.3	25	1.56		-0.02		-0.08		

NB-IoT Band 13 SCS:15kHz QPSK

Test Conditions		Frequency Deviation						Verdict
		LCH		MCH		HCH		
Power (VDC)	Temperature (°C)	777.1 MHz		782.0 MHz		786.9 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	-0.94	±1742.75	-0.18	±1955	-0.34	±1967.25	Pass
	-20	-0.3		0.13		-0.19		
	-10	0.03		-0.05		0.39		
	0	0.24		0.61		1.43		
	+10	0.39		-1.31		-0.73		
	+20	0.05		0.14		-1.43		
	+30	0.29		0.32		-0.4		
	+40	0.19		-1.1		0.55		
	+50	0.82		0.45		0.42		
	+60	-0.19		0.08		0.08		
4.2	25	-0.06		0.17		0.37		
3.3	25	0.4		0.32		-0.15		

NB-IoT Band 13 SCS:15kHz BPSK

Test Conditions		Frequency Deviation						Verdict
		LCH		MCH		HCH		
Power (VDC)	Temperature (°C)	777.1 MHz		782.0 MHz		786.9 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	-0.18	±1742.75	-0.12	±1955	-0.06	±1967.25	Pass
	-20	0.84		0.6		-1.16		
	-10	0.23		-0.4		0.31		
	0	0.68		0.51		1.18		
	+10	0.04		-0.31		-0.87		
	+20	0.77		-0.04		-0.29		
	+30	0.5		1.09		-1.34		
	+40	-0.06		-0.4		0.09		
	+50	0.17		0.15		0.07		
	+60	0.16		0.23		0.34		
4.2	25	-1.1		1.45		-0.05		
3.3	25	1.4		-0.02		-0.06		

NB-IoT Band 25 SCS:3.75kHz QPSK

Test Conditions		Frequency Deviation						Verdict
		LCH		MCH		HCH		
Power (VDC)	Temperature (°C)	1850.1 MHz		1882.5 MHz		1914.9 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	0.76	±4625.25	0.48	±4706.25	-1.71	±4787.25	Pass
	-20	0.59		-1.98		-2.42		
	-10	0.88		-2.15		-2.11		
	0	-0.53		-2.94		-0.75		
	+10	0.85		-1.03		-0.62		
	+20	0.24		-1.08		-0.73		
	+30	-1.02		-4.89		-2.05		
	+40	0.73		-4.08		-1.49		
	+50	0.06		-2		-1.27		
	+60	-0.08		-2.87		-0.5		
4.2	25	-0.32		-1.3		-1.02		
3.3	25	2.11		-1.47		-2.06		

NB-IoT Band 25 SCS:3.75kHz BPSK

Test Conditions		Frequency Deviation						Verdict
		LCH		MCH		HCH		
Power (VDC)	Temperature (°C)	1850.1 MHz		1882.5 MHz		1914.9 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	0.48	±4625.25	-1.49	±4706.25	-0.81	±4787.25	Pass
	-20	-0.2		-1.66		-1.42		
	-10	-0.35		-0.35		-2.85		
	0	-0.53		-0.15		-2.03		
	+10	-0.05		-0.62		0.13		
	+20	0.12		-3.23		0.27		
	+30	-1.79		-0.35		-0.63		
	+40	0.56		-2.05		-0.9		
	+50	-0.07		-1		0.37		
	+60	-0.06		0.88		0.2		
4.2	25	-0.25		-1.93		-1.38		
3.3	25	0.91		-1.69		-0.69		

NB-IoT Band 25 SCS:15kHz QPSK

Test Conditions		Frequency Deviation						Verdict
		LCH		MCH		HCH		
Power (VDC)	Temperature (°C)	1850.1 MHz		1882.5 MHz		1914.9 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	0.85	±4625.25	0.42	±4706.25	-1.57	±4787.25	Pass
	-20	0.71		-0.69		-1.45		
	-10	0.78		-1.92		-2.29		
	0	-0.24		-3.9		-0.66		
	+10	0.61		-1.66		-1.77		
	+20	0.37		-1.88		-0.56		
	+30	-1.25		-3.29		-2.02		
	+40	0.52		-1.33		-1.09		
	+50	0.14		-1.57		-1.4		
	+60	-0.03		-1.69		-0.27		
4.2	25	-0.2		-1.25		-0.56		
3.3	25	1.63		-1.64		-0.39		

NB-IoT Band 25 SCS:15kHz BPSK

Test Conditions		Frequency Deviation						Verdict
		LCH		MCH		HCH		
Power (VDC)	Temperature (°C)	1850.1 MHz		1882.5 MHz		1914.9 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	0.42	±4625.25	-1.13	±4706.25	-1.02	±4787.25	Pass
	-20	-1.07		-1.96		-0.73		
	-10	-0.74		-1.26		-3.19		
	0	-0.24		-1.12		-1.56		
	+10	-0.05		-1.63		0.37		
	+20	0.14		-2.21		0.16		
	+30	-0.77		-0.97		-1.3		
	+40	0.81		-2.02		-2.11		
	+50	-0.11		-0.96		0.43		
	+60	-0.13		0.25		0.11		
4.2	25	-0.48		-3.6		-3.4		
3.3	25	0.28		-1.57		-0.83		

NB-IoT Band 26(Part90) SCS:3.75kHz QPSK

Test Conditions		Frequency Deviation						Verdict
		LCH		MCH		HCH		
Power (VDC)	Temperature (°C)	814.1 MHz		819 MHz		823.9 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	-1.4	±2035.25	-1.87	±2047.5	-1.06	±2059.75	Pass
	-20	-0.95		-1.02		-0.81		
	-10	-0.96		-1.23		-0.44		
	0	-1.27		-1.67		-4.02		
	+10	-0.1		-0.31		-0.71		
	+20	-2.05		-1.33		-1.14		
	+30	-3.63		-1.98		-1.45		
	+40	-1.65		-1.26		-0.64		
	+50	-0.82		-1.55		-1.05		
	+60	-1.43		-0.58		-1.76		
4.2	25	-1.07		-1.69		-0.55		
3.3	25	-0.94		-0.61		-1.33		

NB-IoT Band 26(Part90) SCS:3.75kHz BPSK

Test Conditions		Frequency Deviation						Verdict
		LCH		MCH		HCH		
Power (VDC)	Temperature (°C)	814.1 MHz		819 MHz		823.9 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	-1.08	±2035.25	-0.55	±2047.5	-2.04	±2059.75	Pass
	-20	-0.96		-0.86		-0.81		
	-10	-2.71		-1.8		-1.48		
	0	-1.27		-3.25		-1.52		
	+10	-0.81		-1.06		-0.58		
	+20	-2.22		-2		-1.12		
	+30	-0.92		-0.57		-0.83		
	+40	-0.5		-1.45		-0.36		
	+50	-0.06		-0.07		-0.04		
	+60	0.72		1.41		1.07		
4.2	25	-0.22		-0.21		-0.15		
3.3	25	-1.77		-2.02		-1.71		

NB-IoT Band 26(Part90) SCS:15kHz QPSK

Test Conditions		Frequency Deviation						Verdict
		LCH		MCH		HCH		
Power (VDC)	Temperature (°C)	814.1 MHz		819 MHz		823.9 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	-2.06	±2035.25	-3.68	±2047.5	-1.47	±2059.75	Pass
	-20	-0.94		-1.34		-1.86		
	-10	-0.98		-1.01		-1.86		
	0	-1.92		-2.98		-3.28		
	+10	-0.61		-1.48		-0.46		
	+20	-1.09		-0.65		-1.85		
	+30	-3.4		-1.68		-1.55		
	+40	-1.06		-1.64		-1.87		
	+50	-0.98		-0.69		-0.8		
	+60	-0.58		-0.7		-1.02		
4.2	25	-0.92		-0.31		-0.81		
3.3	25	-0.91		-0.47		-0.18		

NB-IoT Band 26(Part90) SCS:15kHz BPSK

Test Conditions		Frequency Deviation						Verdict
		LCH		MCH		HCH		
Power (VDC)	Temperature (°C)	814.1 MHz		819 MHz		823.9 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	-1.48	±2035.25	-0.9	±2047.5	-1.3	±2059.75	Pass
	-20	-1.04		-0.88		-0.79		
	-10	-1.36		-1.43		-1.18		
	0	-1.92		-1.21		-1.79		
	+10	-0.72		-0.62		-0.7		
	+20	-2.85		-1.9		-2.18		
	+30	-0.61		-0.52		-1.12		
	+40	-0.28		-1.55		-0.42		
	+50	-0.03		-0.03		-0.1		
	+60	1.1		0.57		0.5		
4.2	25	-0.27		-0.37		-0.35		
3.3	25	-1.09		-1.06		-1.11		

NB-IoT Band 26(Part22) SCS:3.75kHz QPSK

Test Conditions		Frequency Deviation						Verdict
		LCH		MCH		HCH		
Power (VDC)	Temperature (°C)	824.1 MHz		836.5 MHz		848.9 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	0.17	±2060.25	-1.58	±2091.25	-0.17	±2122.25	Pass
	-20	-0.67		-0.09		-0.06		
	-10	-0.33		-0.83		-0.42		
	0	0.32		-0.61		-0.28		
	+10	-0.15		-0.4		-1.3		
	+20	-0.05		-0.34		-0.27		
	+30	-0.86		-0.12		-0.04		
	+40	-0.34		-0.23		-0.95		
	+50	-0.02		-1.25		-1.89		
	+60	-0.09		-0.7		-1.25		
4.2	25	-1.69		-0.19		-0.19		
3.3	25	-1.64		-0.36		-0.04		

NB-IoT Band 26(Part22) SCS:3.75kHz BPSK

Test Conditions		Frequency Deviation						Verdict
		LCH		MCH		HCH		
Power (VDC)	Temperature (°C)	824.1 MHz		836.5 MHz		848.9 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	0.35	±2060.25	-0.31	±2091.25	-1.59	±2122.25	Pass
	-20	-0.82		-0.69		-0.36		
	-10	0.13		-0.78		0.04		
	0	0.32		-0.44		-0.06		
	+10	0.05		0		-0.08		
	+20	0.01		-0.07		-0.19		
	+30	-0.11		-1.47		-0.17		
	+40	-0.14		-0.04		-0.62		
	+50	0.28		-1.42		0.04		
	+60	-0.39		-0.1		-0.03		
4.2	25	-0.03		0.02		-0.02		
3.3	25	-0.09		-0.19		-1.33		

NB-IoT Band 26(Part22) SCS:15kHz QPSK

Test Conditions		Frequency Deviation						Verdict
		LCH		MCH		HCH		
Power (VDC)	Temperature (°C)	824.1 MHz		836.5 MHz		848.9 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	0.29	±2060.25	-2.18	±2091.25	-0.16	±2122.25	Pass
	-20	-0.49		-0.07		-0.07		
	-10	-0.35		-0.76		-0.44		
	0	0.53		-0.27		-0.43		
	+10	-0.13		-0.41		-2.08		
	+20	-0.03		-0.33		-0.18		
	+30	-1.05		-0.14		-0.01		
	+40	-0.33		-0.12		-1.05		
	+50	-0.03		-1.8		-2.87		
	+60	-0.14		-0.34		-1.31		
4.2	25	-1.77		-0.23		-0.26		
3.3	25	-0.97		-0.65		-0.05		

NB-IoT Band 26(Part22) SCS:15kHz BPSK

Test Conditions		Frequency Deviation						Verdict
		LCH		MCH		HCH		
Power (VDC)	Temperature (°C)	824.1 MHz		836.5 MHz		848.9 MHz		
		Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	Value (Hz)	Limits (Hz)	
3.7	-30	0.33	±2060.25	-0.37	±2091.25	-1.98	±2122.25	Pass
	-20	-0.36		-1.15		-0.4		
	-10	0.15		-0.82		0.03		
	0	0.53		-0.36		-0.02		
	+10	0.07		0		-0.06		
	+20	0.01		-0.04		-0.3		
	+30	-0.1		-2.47		-0.24		
	+40	-0.21		-0.01		-0.52		
	+50	0.24		-0.9		0.02		
	+60	-0.13		-0.12		-0.04		
4.2	25	-0.04		0.02		-0.02		
3.3	25	-0.03		-0.06		-2.26		

A.5 Spurious Emission at Antenna Terminals

Note 1: GSM and EGPRS modes have been verified, and only the worst data with different bandwidth for LTE are shown here.

Note 2: The frequencies of verdict which are marked by "N/A" should be ignored because they are UE carrier frequency.

Note 3: Test plots please refer to the document “Annex No.: BL-EC2341272-501 Data Part 3.pdf”.

GSM and WCDMA Mode Test Verdict

Test Band	Test Channel	Refer to Plot[Note3]	Verdict
GPRS 850	LCH	1.1	Pass
	MCH	1.2	Pass
	HCH	1.3	Pass
GPRS 1900	LCH	2.1	Pass
	MCH	2.2	Pass
	HCH	2.3	Pass
EGPRS 850	LCH	3.1	Pass
	MCH	3.2	Pass
	HCH	3.3	Pass
EGPRS 1900	LCH	4.1	Pass
	MCH	4.2	Pass
	HCH	4.3	Pass

LTE Mode Test Verdict

Test Band	Test Bandwidth	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note3]	Verdict
Band 2	1.4 MHz	LCH	QPSK	RB1#0	5.1	Pass
			16-QAM	RB1#0	5.2	Pass
		MCH	QPSK	RB1#0	5.3	Pass
			16-QAM	RB1#0	5.4	Pass
		HCH	QPSK	RB1#0	5.5	Pass
			16-QAM	RB1#0	5.6	Pass
	3 MHz	LCH	QPSK	RB1#0	5.7	Pass
			16-QAM	RB1#0	5.8	Pass
		MCH	QPSK	RB1#0	5.9	Pass
			16-QAM	RB1#0	5.10	Pass
		HCH	QPSK	RB1#0	5.11	Pass
			16-QAM	RB1#0	5.12	Pass
	5 MHz	LCH	QPSK	RB1#0	5.13	Pass

Test Band	Test Bandwidth	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note3]	Verdict
			16-QAM	RB1#0	5.14	Pass
		MCH	QPSK	RB1#0	5.15	Pass
			16-QAM	RB1#0	5.16	Pass
		HCH	QPSK	RB1#0	5.17	Pass
			16-QAM	RB1#0	5.18	Pass
	10 MHz	LCH	QPSK	RB1#0	5.19	Pass
			16-QAM	RB1#0	5.20	Pass
		MCH	QPSK	RB1#0	5.21	Pass
			16-QAM	RB1#0	5.22	Pass
		HCH	QPSK	RB1#0	5.23	Pass
			16-QAM	RB1#0	5.24	Pass
	15 MHz	LCH	QPSK	RB1#0	5.25	Pass
			16-QAM	RB1#0	5.26	Pass
		MCH	QPSK	RB1#0	5.27	Pass
			16-QAM	RB1#0	5.28	Pass
		HCH	QPSK	RB1#0	5.29	Pass
			16-QAM	RB1#0	5.30	Pass
	20 MHz	LCH	QPSK	RB1#0	5.31	Pass
			16-QAM	RB1#0	5.32	Pass
		MCH	QPSK	RB1#0	5.33	Pass
			16-QAM	RB1#0	5.34	Pass
		HCH	QPSK	RB1#0	5.35	Pass
			16-QAM	RB1#0	5.36	Pass

Test Band	Test Bandwidth	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note3]	Verdict
Band 4	1.4 MHz	LCH	QPSK	RB1#0	6.1	Pass
			16-QAM	RB1#0	6.2	Pass
		MCH	QPSK	RB1#0	6.3	Pass
			16-QAM	RB1#0	6.4	Pass
		HCH	QPSK	RB1#0	6.5	Pass
			16-QAM	RB1#0	6.6	Pass
	3 MHz	LCH	QPSK	RB1#0	6.7	Pass
			16-QAM	RB1#0	6.8	Pass
		MCH	QPSK	RB1#0	6.9	Pass
			16-QAM	RB1#0	6.10	Pass
		HCH	QPSK	RB1#0	6.11	Pass
			16-QAM	RB1#0	6.12	Pass
	5 MHz	LCH	QPSK	RB1#0	6.13	Pass
			16-QAM	RB1#0	6.14	Pass
		MCH	QPSK	RB1#0	6.15	Pass
			16-QAM	RB1#0	6.16	Pass
		HCH	QPSK	RB1#0	6.17	Pass
			16-QAM	RB1#0	6.18	Pass
	10 MHz	LCH	QPSK	RB1#0	6.19	Pass
			16-QAM	RB1#0	6.20	Pass
		MCH	QPSK	RB1#0	6.21	Pass
			16-QAM	RB1#0	6.22	Pass
		HCH	QPSK	RB1#0	6.23	Pass
			16-QAM	RB1#0	6.24	Pass
	15 MHz	LCH	QPSK	RB1#0	6.25	Pass
			16-QAM	RB1#0	6.26	Pass
		MCH	QPSK	RB1#0	6.27	Pass
			16-QAM	RB1#0	6.28	Pass
		HCH	QPSK	RB1#0	6.29	Pass
			16-QAM	RB1#0	6.30	Pass
	20 MHz	LCH	QPSK	RB1#0	6.31	Pass
			16-QAM	RB1#0	6.32	Pass
		MCH	QPSK	RB1#0	6.33	Pass
			16-QAM	RB1#0	6.34	Pass
		HCH	QPSK	RB1#0	6.35	Pass
			16-QAM	RB1#0	6.36	Pass

Test Band	Test Bandwidth	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note3]	Verdict
Band 5	1.4 MHz	LCH	QPSK	RB1#0	7.1	Pass
			16-QAM	RB1#0	7.2	Pass
		MCH	QPSK	RB1#0	7.3	Pass
			16-QAM	RB1#0	7.4	Pass
		HCH	QPSK	RB1#0	7.5	Pass
			16-QAM	RB1#0	7.6	Pass
	3 MHz	LCH	QPSK	RB1#0	7.7	Pass
			16-QAM	RB1#0	7.8	Pass
		MCH	QPSK	RB1#0	7.9	Pass
			16-QAM	RB1#0	7.10	Pass
		HCH	QPSK	RB1#0	7.11	Pass
			16-QAM	RB1#0	7.12	Pass
	5 MHz	LCH	QPSK	RB1#0	7.13	Pass
			16-QAM	RB1#0	7.14	Pass
		MCH	QPSK	RB1#0	7.15	Pass
			16-QAM	RB1#0	7.16	Pass
		HCH	QPSK	RB1#0	7.17	Pass
			16-QAM	RB1#0	7.18	Pass
	10 MHz	LCH	QPSK	RB1#0	7.19	Pass
			16-QAM	RB1#0	7.20	Pass
		MCH	QPSK	RB1#0	7.21	Pass
			16-QAM	RB1#0	7.22	Pass
		HCH	QPSK	RB1#0	7.23	Pass
			16-QAM	RB1#0	7.24	Pass

Test Band	Test Bandwidth	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note3]	Verdict
Band 12	1.4 MHz	LCH	QPSK	RB1#0	8.1	Pass
			16-QAM	RB1#0	8.2	Pass
		MCH	QPSK	RB1#0	8.3	Pass
			16-QAM	RB1#0	8.4	Pass
		HCH	QPSK	RB1#0	8.5	Pass
			16-QAM	RB1#0	8.6	Pass
	3 MHz	LCH	QPSK	RB1#0	8.7	Pass
			16-QAM	RB1#0	8.8	Pass
		MCH	QPSK	RB1#0	8.9	Pass
			16-QAM	RB1#0	8.10	Pass
		HCH	QPSK	RB1#0	8.11	Pass
			16-QAM	RB1#0	8.12	Pass
	5 MHz	LCH	QPSK	RB1#0	8.13	Pass
			16-QAM	RB1#0	8.14	Pass
		MCH	QPSK	RB1#0	8.15	Pass
			16-QAM	RB1#0	8.16	Pass
		HCH	QPSK	RB1#0	8.17	Pass
			16-QAM	RB1#0	8.18	Pass
	10 MHz	LCH	QPSK	RB1#0	8.19	Pass
			16-QAM	RB1#0	8.20	Pass
		MCH	QPSK	RB1#0	8.21	Pass
			16-QAM	RB1#0	8.22	Pass
		HCH	QPSK	RB1#0	8.23	Pass
			16-QAM	RB1#0	8.24	Pass

Test Band	Test Bandwidth	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note3]	Verdict
Band 13	5 MHz	LCH	QPSK	RB1#0	9.1	Pass
			16-QAM	RB1#0	9.2	Pass
		MCH	QPSK	RB1#0	9.3	Pass
			16-QAM	RB1#0	9.4	Pass
		HCH	QPSK	RB1#0	9.5	Pass
			16-QAM	RB1#0	9.6	Pass
	10 MHz	MCH	QPSK	RB1#0	9.7	Pass
			16-QAM	RB1#0	9.8	Pass

Test Band	Test Bandwidth	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note3]	Verdict
Band 25	1.4 MHz	LCH	QPSK	RB1#0	10.1	Pass
			16-QAM	RB1#0	10.2	Pass
		MCH	QPSK	RB1#0	10.3	Pass
			16-QAM	RB1#0	10.4	Pass
		HCH	QPSK	RB1#0	10.5	Pass
			16-QAM	RB1#0	10.6	Pass
	3 MHz	LCH	QPSK	RB1#0	10.7	Pass
			16-QAM	RB1#0	10.8	Pass
		MCH	QPSK	RB1#0	10.9	Pass
			16-QAM	RB1#0	10.10	Pass
		HCH	QPSK	RB1#0	10.11	Pass
			16-QAM	RB1#0	10.12	Pass
	5 MHz	LCH	QPSK	RB1#0	10.13	Pass
			16-QAM	RB1#0	10.14	Pass
		MCH	QPSK	RB1#0	10.15	Pass
			16-QAM	RB1#0	10.16	Pass
		HCH	QPSK	RB1#0	10.17	Pass
			16-QAM	RB1#0	10.18	Pass
	10 MHz	LCH	QPSK	RB1#0	10.19	Pass
			16-QAM	RB1#0	10.20	Pass
		MCH	QPSK	RB1#0	10.21	Pass
			16-QAM	RB1#0	10.22	Pass
		HCH	QPSK	RB1#0	10.23	Pass
			16-QAM	RB1#0	10.24	Pass
	15 MHz	LCH	QPSK	RB1#0	10.25	Pass
			16-QAM	RB1#0	10.26	Pass
		MCH	QPSK	RB1#0	10.27	Pass
			16-QAM	RB1#0	10.28	Pass
		HCH	QPSK	RB1#0	10.29	Pass
			16-QAM	RB1#0	10.30	Pass
	20 MHz	LCH	QPSK	RB1#0	10.31	Pass
			16-QAM	RB1#0	10.32	Pass
		MCH	QPSK	RB1#0	10.33	Pass
			16-QAM	RB1#0	10.34	Pass
		HCH	QPSK	RB1#0	10.35	Pass
			16-QAM	RB1#0	10.36	Pass

Test Band	Test Bandwidth	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note3]	Verdict
Band 26 (Part90)	1.4 MHz	LCH	QPSK	RB1#0	11.1	Pass
			16-QAM	RB1#0	11.2	Pass
		MCH	QPSK	RB1#0	11.3	Pass
			16-QAM	RB1#0	11.4	Pass
		HCH	QPSK	RB1#0	11.5	Pass
			16-QAM	RB1#0	11.6	Pass
	3 MHz	LCH	QPSK	RB1#0	11.7	Pass
			16-QAM	RB1#0	11.8	Pass
		MCH	QPSK	RB1#0	11.9	Pass
			16-QAM	RB1#0	11.10	Pass
		HCH	QPSK	RB1#0	11.11	Pass
			16-QAM	RB1#0	11.12	Pass
	5 MHz	LCH	QPSK	RB1#0	11.13	Pass
			16-QAM	RB1#0	11.14	Pass
		MCH	QPSK	RB1#0	11.15	Pass
			16-QAM	RB1#0	11.16	Pass
		HCH	QPSK	RB1#0	11.17	Pass
			16-QAM	RB1#0	11.18	Pass
	10 MHz	MCH	QPSK	RB1#0	11.19	Pass
			16-QAM	RB1#0	11.20	Pass

Test Band	Test Bandwidth	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note3]	Verdict
Band 26 (Part22)	1.4 MHz	LCH	QPSK	RB1#0	12.1	Pass
			16-QAM	RB1#0	12.2	Pass
		MCH	QPSK	RB1#0	12.3	Pass
			16-QAM	RB1#0	12.4	Pass
		HCH	QPSK	RB1#0	12.5	Pass
			16-QAM	RB1#0	12.6	Pass
	3 MHz	LCH	QPSK	RB1#0	12.7	Pass
			16-QAM	RB1#0	12.8	Pass
		MCH	QPSK	RB1#0	12.9	Pass
			16-QAM	RB1#0	12.10	Pass
		HCH	QPSK	RB1#0	12.11	Pass
			16-QAM	RB1#0	12.12	Pass
	5 MHz	LCH	QPSK	RB1#0	12.13	Pass
			16-QAM	RB1#0	12.14	Pass
		MCH	QPSK	RB1#0	12.15	Pass
			16-QAM	RB1#0	12.16	Pass
		HCH	QPSK	RB1#0	12.17	Pass
			16-QAM	RB1#0	12.18	Pass
	10 MHz	LCH	QPSK	RB1#0	12.19	Pass
			16-QAM	RB1#0	12.20	Pass
		MCH	QPSK	RB1#0	12.21	Pass
			16-QAM	RB1#0	12.22	Pass
		HCH	QPSK	RB1#0	12.23	Pass
			16-QAM	RB1#0	12.24	Pass
	15 MHz	LCH	QPSK	RB1#0	12.25	Pass
			16-QAM	RB1#0	12.26	Pass
		MCH	QPSK	RB1#0	12.27	Pass
			16-QAM	RB1#0	12.28	Pass
		HCH	QPSK	RB1#0	12.29	Pass
			16-QAM	RB1#0	12.30	Pass
			16-QAM	RB1#0	12.32	Pass

NB-IoT Mode Test Data

Test Band	Test Sub-carrier spacing	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note3]	Verdict
NB-IoT Band 2	3.75kHz	LCH	QPSK	RB1#0	13.1	Pass
			BPSK	RB1#0	13.2	Pass
		MCH	QPSK	RB1#0	13.3	Pass
			BPSK	RB1#0	13.4	Pass
		HCH	QPSK	RB1#0	13.5	Pass
			BPSK	RB1#0	13.6	Pass
	15kHz	LCH	QPSK	RB1#0	13.7	Pass
			BPSK	RB1#0	13.8	Pass
		MCH	QPSK	RB1#0	13.9	Pass
			BPSK	RB1#0	13.10	Pass
		HCH	QPSK	RB1#0	13.11	Pass
			BPSK	RB1#0	13.12	Pass

Test Band	Test Sub-carrier spacing	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note3]	Verdict
NB-IoT Band 4	3.75kHz	LCH	QPSK	RB1#0	14.1	Pass
			BPSK	RB1#0	14.2	Pass
		MCH	QPSK	RB1#0	14.3	Pass
			BPSK	RB1#0	14.4	Pass
		HCH	QPSK	RB1#0	14.5	Pass
			BPSK	RB1#0	14.6	Pass
	15kHz	LCH	QPSK	RB1#0	14.7	Pass
			BPSK	RB1#0	14.8	Pass
		MCH	QPSK	RB1#0	14.9	Pass
			BPSK	RB1#0	14.10	Pass
		HCH	QPSK	RB1#0	14.11	Pass
			BPSK	RB1#0	14.12	Pass

Test Band	Test Sub-carrier spacing	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note3]	Verdict
NB-IoT Band 5	3.75kHz	LCH	QPSK	RB1#0	15.1	Pass
			BPSK	RB1#0	15.2	Pass
		MCH	QPSK	RB1#0	15.3	Pass
			BPSK	RB1#0	15.4	Pass
		HCH	QPSK	RB1#0	15.5	Pass
			BPSK	RB1#0	15.6	Pass
	15kHz	LCH	QPSK	RB1#0	15.7	Pass
			BPSK	RB1#0	15.8	Pass
		MCH	QPSK	RB1#0	15.9	Pass
			BPSK	RB1#0	15.10	Pass
		HCH	QPSK	RB1#0	15.11	Pass
			BPSK	RB1#0	15.12	Pass

Test Band	Test Sub-carrier spacing	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note3]	Verdict
NB-IoT Band 12	3.75kHz	LCH	QPSK	RB1#0	16.1	Pass
			BPSK	RB1#0	16.2	Pass
		MCH	QPSK	RB1#0	16.3	Pass
			BPSK	RB1#0	16.4	Pass
		HCH	QPSK	RB1#0	16.5	Pass
			BPSK	RB1#0	16.6	Pass
	15kHz	LCH	QPSK	RB1#0	16.7	Pass
			BPSK	RB1#0	16.8	Pass
		MCH	QPSK	RB1#0	16.9	Pass
			BPSK	RB1#0	16.10	Pass
		HCH	QPSK	RB1#0	16.11	Pass
			BPSK	RB1#0	16.12	Pass

Test Band	Test Sub-carrier spacing	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note3]	Verdict
NB-IoT Band 13	3.75kHz	LCH	QPSK	RB1#0	17.1	Pass
			BPSK	RB1#0	17.2	Pass
		MCH	QPSK	RB1#0	17.3	Pass
			BPSK	RB1#0	17.4	Pass
		HCH	QPSK	RB1#0	17.5	Pass
			BPSK	RB1#0	17.6	Pass
	15kHz	LCH	QPSK	RB1#0	17.7	Pass
			BPSK	RB1#0	17.8	Pass
		MCH	QPSK	RB1#0	17.9	Pass
			BPSK	RB1#0	17.10	Pass
		HCH	QPSK	RB1#0	17.11	Pass
			BPSK	RB1#0	17.12	Pass

Test Band	Test Sub-carrier spacing	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note3]	Verdict
NB-IoT Band 25	3.75kHz	LCH	QPSK	RB1#0	18.1	Pass
			BPSK	RB1#0	18.2	Pass
		MCH	QPSK	RB1#0	18.3	Pass
			BPSK	RB1#0	18.4	Pass
		HCH	QPSK	RB1#0	18.5	Pass
			BPSK	RB1#0	18.6	Pass
	15kHz	LCH	QPSK	RB1#0	18.7	Pass
			BPSK	RB1#0	18.8	Pass
		MCH	QPSK	RB1#0	18.9	Pass
			BPSK	RB1#0	18.10	Pass
		HCH	QPSK	RB1#0	18.11	Pass
			BPSK	RB1#0	18.12	Pass

Test Band	Test Sub-carrier spacing	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note3]	Verdict
NB-IoT Band 26(Part90)	3.75kHz	LCH	QPSK	RB1#0	19.1	Pass
			BPSK	RB1#0	19.2	Pass
		MCH	QPSK	RB1#0	19.3	Pass
			BPSK	RB1#0	19.4	Pass
		HCH	QPSK	RB1#0	19.5	Pass
			BPSK	RB1#0	19.6	Pass
	15kHz	LCH	QPSK	RB1#0	19.7	Pass
			BPSK	RB1#0	19.8	Pass
		MCH	QPSK	RB1#0	19.9	Pass
			BPSK	RB1#0	19.10	Pass
		HCH	QPSK	RB1#0	19.11	Pass
			BPSK	RB1#0	19.12	Pass

Test Band	Test Sub-carrier spacing	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note3]	Verdict
NB-IoT Band 26(Part22)	3.75kHz	LCH	QPSK	RB1#0	20.1	Pass
			BPSK	RB1#0	20.2	Pass
		MCH	QPSK	RB1#0	20.3	Pass
			BPSK	RB1#0	20.4	Pass
		HCH	QPSK	RB1#0	20.5	Pass
			BPSK	RB1#0	20.6	Pass
	15kHz	LCH	QPSK	RB1#0	20.7	Pass
			BPSK	RB1#0	20.8	Pass
		MCH	QPSK	RB1#0	20.9	Pass
			BPSK	RB1#0	20.10	Pass
		HCH	QPSK	RB1#0	20.11	Pass
			BPSK	RB1#0	20.12	Pass

A.6 Band Edge

Note 1: Test plots please refer to the document “Annex No.: BL-EC2341272-501 Data Part 4.pdf”.

GSM Mode Test Verdict

Test Band	Test Channel	Refer to Plot[Note1]	Verdict
GPRS 850	LCH	1.1	Pass
	HCH	1.2	Pass
GPRS 1900	LCH	2.1	Pass
	HCH	2.2	Pass
EGPRS 850	LCH	3.1	Pass
	HCH	3.2	Pass
EGPRS 1900	LCH	4.1	Pass
	HCH	4.2	Pass

LTE-M1 Mode Test Data

	Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note1]	Verdict
LTE-M1 BAND 2	1.4 MHz	LCH	QPSK	RB1#0	5.1	Pass
				RB6#0	5.2	Pass
			16-QAM	RB1#0	5.3	Pass
				RB5#0	5.4	Pass
		HCH	QPSK	RB1#5	5.5	Pass
				RB6#0	5.6	Pass
			16-QAM	RB1#5	5.7	Pass
				RB5#1	5.8	Pass
	3 MHz	LCH	QPSK	RB1#0	5.9	Pass
				RB6#0	5.10	Pass
			16-QAM	RB1#0	5.11	Pass
				RB5#0	5.12	Pass
		HCH	QPSK	RB1#5	5.13	Pass
				RB6#0	5.14	Pass
			16-QAM	RB1#5	5.15	Pass
				RB5#1	5.16	Pass
	5 MHz	LCH	QPSK	RB1#0	5.17	Pass
				RB6#0	5.18	Pass
			16-QAM	RB1#0	5.19	Pass
				RB5#0	5.20	Pass
		HCH	QPSK	RB1#5	5.21	Pass
				RB6#0	5.22	Pass

	Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note1]	Verdict
			16-QAM	RB1#5	5.23	Pass
				RB5#1	5.24	Pass
	10 MHz	LCH	QPSK	RB1#0	5.25	Pass
				RB6#0	5.26	Pass
			16-QAM	RB1#0	5.27	Pass
				RB5#0	5.28	Pass
		HCH	QPSK	RB1#5	5.29	Pass
				RB6#0	5.30	Pass
			16-QAM	RB1#5	5.31	Pass
				RB5#1	5.32	Pass
	15 MHz	LCH	QPSK	RB1#0	5.33	Pass
				RB6#0	5.34	Pass
			16-QAM	RB1#0	5.35	Pass
				RB5#0	5.36	Pass
		HCH	QPSK	RB1#5	5.37	Pass
				RB6#0	5.38	Pass
			16-QAM	RB1#5	5.39	Pass
				RB5#1	5.40	Pass
	20 MHz	LCH	QPSK	RB1#0	5.41	Pass
				RB6#0	5.42	Pass
			16-QAM	RB1#0	5.43	Pass
				RB5#0	5.44	Pass
		HCH	QPSK	RB1#5	5.45	Pass
				RB6#0	5.46	Pass
			16-QAM	RB1#5	5.47	Pass
				RB5#1	5.48	Pass

	Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note1]	Verdict
LTE-M1 BAND 4	1.4 MHz	LCH	QPSK	RB1#0	6.1	Pass
				RB6#0	6.2	Pass
			16-QAM	RB1#0	6.3	Pass
				RB5#0	6.4	Pass
		HCH	QPSK	RB1#5	6.5	Pass
				RB6#0	6.6	Pass
			16-QAM	RB1#5	6.7	Pass
				RB5#1	6.8	Pass
	3 MHz	LCH	QPSK	RB1#0	6.9	Pass
				RB6#0	6.10	Pass
			16-QAM	RB1#0	6.11	Pass
				RB5#0	6.12	Pass
		HCH	QPSK	RB1#5	6.13	Pass
				RB6#0	6.14	Pass
			16-QAM	RB1#5	6.15	Pass
				RB5#1	6.16	Pass
	5 MHz	LCH	QPSK	RB1#0	6.17	Pass
				RB6#0	6.18	Pass
			16-QAM	RB1#0	6.19	Pass
				RB5#0	6.20	Pass
		HCH	QPSK	RB1#5	6.21	Pass
				RB6#0	6.22	Pass
			16-QAM	RB1#5	6.23	Pass
				RB5#1	6.24	Pass
	10 MHz	LCH	QPSK	RB1#0	6.25	Pass
				RB6#0	6.26	Pass
			16-QAM	RB1#0	6.27	Pass
				RB5#0	6.28	Pass
		HCH	QPSK	RB1#5	6.29	Pass
				RB6#0	6.30	Pass
			16-QAM	RB1#5	6.31	Pass
				RB5#1	6.32	Pass
	15 MHz	LCH	QPSK	RB1#0	6.33	Pass
				RB6#0	6.34	Pass
			16-QAM	RB1#0	6.35	Pass
				RB5#0	6.36	Pass
		HCH	QPSK	RB1#5	6.37	Pass
				RB6#0	6.38	Pass
			16-QAM	RB1#5	6.39	Pass
				RB5#1	6.40	Pass
	20 MHz	LCH	QPSK	RB1#0	6.41	Pass

	Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note1]	Verdict
				RB6#0	6.42	Pass
			16-QAM	RB1#0	6.43	Pass
				RB5#0	6.44	Pass
		HCH	QPSK	RB1#5	6.45	Pass
				RB6#0	6.46	Pass
			16-QAM	RB1#5	6.47	Pass
				RB5#1	6.48	Pass

	Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note1]	Verdict
LTE-M1 BAND 5	1.4 MHz	LCH	QPSK	RB1#0	7.1	Pass
				RB6#0	7.2	Pass
			16-QAM	RB1#0	7.3	Pass
				RB5#0	7.4	Pass
		HCH	QPSK	RB1#5	7.5	Pass
				RB6#0	7.6	Pass
			16-QAM	RB1#5	7.7	Pass
				RB5#1	7.8	Pass
	3 MHz	LCH	QPSK	RB1#0	7.9	Pass
				RB6#0	7.10	Pass
			16-QAM	RB1#0	7.11	Pass
				RB5#0	7.12	Pass
		HCH	QPSK	RB1#5	7.13	Pass
				RB6#0	7.14	Pass
			16-QAM	RB1#5	7.15	Pass
				RB5#1	7.16	Pass
	5 MHz	LCH	QPSK	RB1#0	7.17	Pass
				RB6#0	7.18	Pass
			16-QAM	RB1#0	7.19	Pass
				RB5#0	7.20	Pass
		HCH	QPSK	RB1#5	7.21	Pass
				RB6#0	7.22	Pass
			16-QAM	RB1#5	7.23	Pass
				RB5#1	7.24	Pass
	10 MHz	LCH	QPSK	RB1#0	7.25	Pass
				RB6#0	7.26	Pass
			16-QAM	RB1#0	7.27	Pass
				RB5#0	7.28	Pass
		HCH	QPSK	RB1#5	7.29	Pass
				RB6#0	7.30	Pass
			16-QAM	RB1#5	7.31	Pass
				RB5#1	7.32	Pass

	Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note1]	Verdict
LTE-M1 BAND 12	1.4 MHz	LCH	QPSK	RB1#0	8.1	Pass
				RB6#0	8.2	Pass
			16-QAM	RB1#0	8.3	Pass
				RB5#0	8.4	Pass
		HCH	QPSK	RB1#5	8.5	Pass
				RB6#0	8.6	Pass
			16-QAM	RB1#5	8.7	Pass
				RB5#1	8.8	Pass
	3 MHz	LCH	QPSK	RB1#0	8.9	Pass
				RB6#0	8.10	Pass
			16-QAM	RB1#0	8.11	Pass
				RB5#0	8.12	Pass
		HCH	QPSK	RB1#5	8.13	Pass
				RB6#0	8.14	Pass
			16-QAM	RB1#5	8.15	Pass
				RB5#1	8.16	Pass
	5 MHz	LCH	QPSK	RB1#0	8.17	Pass
				RB6#0	8.18	Pass
			16-QAM	RB1#0	8.19	Pass
				RB5#0	8.20	Pass
		HCH	QPSK	RB1#5	8.21	Pass
				RB6#0	8.22	Pass
			16-QAM	RB1#5	8.23	Pass
				RB5#1	8.24	Pass
	10 MHz	LCH	QPSK	RB1#0	8.25	Pass
				RB6#0	8.26	Pass
			16-QAM	RB1#0	8.27	Pass
				RB5#0	8.28	Pass
		HCH	QPSK	RB1#5	8.29	Pass
				RB6#0	8.30	Pass
			16-QAM	RB1#5	8.31	Pass
				RB5#1	8.32	Pass

	Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note1]	Verdict
LTE-M1 BAND 13	5 MHz	LCH	QPSK	RB1#0	9.1	Pass
				RB6#0	9.2	Pass
			16-QAM	RB1#0	9.3	Pass
				RB5#0	9.4	Pass
		HCH	QPSK	RB1#5	9.5	Pass
				RB6#0	9.6	Pass
			16-QAM	RB1#5	9.7	Pass
				RB5#1	9.8	Pass
	10 MHz	LCH	QPSK	RB1#0	9.9	Pass
				RB6#0	9.10	Pass
			16-QAM	RB1#0	9.11	Pass
				RB5#0	9.12	Pass
		HCH	QPSK	RB1#5	9.13	Pass
				RB6#0	9.14	Pass
			16-QAM	RB1#5	9.15	Pass
				RB5#1	9.16	Pass

	Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note1]	Verdict
LTE-M1 BAND 25	1.4 MHz	LCH	QPSK	RB1#0	10.1	Pass
				RB6#0	10.2	Pass
			16-QAM	RB1#0	10.3	Pass
				RB5#0	10.4	Pass
		HCH	QPSK	RB1#5	10.5	Pass
				RB6#0	10.6	Pass
			16-QAM	RB1#5	10.7	Pass
				RB5#1	10.8	Pass
	3 MHz	LCH	QPSK	RB1#0	10.9	Pass
				RB6#0	10.10	Pass
			16-QAM	RB1#0	10.11	Pass
				RB5#0	10.12	Pass
		HCH	QPSK	RB1#5	10.13	Pass
				RB6#0	10.14	Pass
			16-QAM	RB1#5	10.15	Pass
				RB5#1	10.16	Pass
	5 MHz	LCH	QPSK	RB1#0	10.17	Pass
				RB6#0	10.18	Pass
			16-QAM	RB1#0	10.19	Pass
				RB5#0	10.20	Pass
		HCH	QPSK	RB1#5	10.21	Pass
				RB6#0	10.22	Pass
			16-QAM	RB1#5	10.23	Pass
				RB5#1	10.24	Pass
	10 MHz	LCH	QPSK	RB1#0	10.25	Pass
				RB6#0	10.26	Pass
			16-QAM	RB1#0	10.27	Pass
				RB5#0	10.28	Pass
		HCH	QPSK	RB1#5	10.29	Pass
				RB6#0	10.30	Pass
			16-QAM	RB1#5	10.31	Pass
				RB5#1	10.32	Pass
	15 MHz	LCH	QPSK	RB1#0	10.33	Pass
				RB6#0	10.34	Pass
			16-QAM	RB1#0	10.35	Pass
				RB5#0	10.36	Pass
		HCH	QPSK	RB1#5	10.37	Pass
				RB6#0	10.38	Pass
			16-QAM	RB1#5	10.39	Pass
				RB5#1	10.40	Pass
	20 MHz	LCH	QPSK	RB1#0	10.41	Pass

	Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note1]	Verdict
				RB6#0	10.42	Pass
			16-QAM	RB1#0	10.43	Pass
				RB5#0	10.44	Pass
		HCH	QPSK	RB1#5	10.45	Pass
				RB6#0	10.46	Pass
			16-QAM	RB1#5	10.47	Pass
				RB5#1	10.48	Pass

	Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note1]	Verdict
LTE-M1 BAND 26(Part90)	1.4 MHz	LCH	QPSK	RB1#0	11.1	Pass
				RB6#0	11.2	Pass
			16-QAM	RB1#0	11.3	Pass
				RB5#0	11.4	Pass
		HCH	QPSK	RB1#5	11.5	Pass
				RB6#0	11.6	Pass
			16-QAM	RB1#5	11.7	Pass
				RB5#1	11.8	Pass
	3 MHz	LCH	QPSK	RB1#0	11.9	Pass
				RB6#0	11.10	Pass
			16-QAM	RB1#0	11.11	Pass
				RB5#0	11.12	Pass
		HCH	QPSK	RB1#5	11.13	Pass
				RB6#0	11.14	Pass
			16-QAM	RB1#5	11.15	Pass
				RB5#1	11.16	Pass
	5 MHz	LCH	QPSK	RB1#0	11.17	Pass
				RB6#0	11.18	Pass
			16-QAM	RB1#0	11.19	Pass
				RB5#0	11.20	Pass
		HCH	QPSK	RB1#5	11.21	Pass
				RB6#0	11.22	Pass
			16-QAM	RB1#5	11.23	Pass
				RB5#1	11.24	Pass
	10 MHz	LCH	QPSK	RB1#0	11.25	Pass
				RB6#0	11.26	Pass
			16-QAM	RB1#0	11.27	Pass
				RB5#0	11.28	Pass
		HCH	QPSK	RB1#5	11.29	Pass
				RB6#0	11.30	Pass
			16-QAM	RB1#5	11.31	Pass

	Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note1]	Verdict
				RB5#1	11.32	Pass

	Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note1]	Verdict
LTE-M1 BAND26(Part22)	1.4 MHz	LCH	QPSK	RB1#0	12.1	Pass
				RB6#0	12.2	Pass
			16-QAM	RB1#0	12.3	Pass
				RB5#0	12.4	Pass
		HCH	QPSK	RB1#5	12.5	Pass
				RB6#0	12.6	Pass
			16-QAM	RB1#5	12.7	Pass
				RB5#1	12.8	Pass
	3 MHz	LCH	QPSK	RB1#0	12.9	Pass
				RB6#0	12.10	Pass
			16-QAM	RB1#0	12.11	Pass
				RB5#0	12.12	Pass
		HCH	QPSK	RB1#5	12.13	Pass
				RB6#0	12.14	Pass
			16-QAM	RB1#5	12.15	Pass
				RB5#1	12.16	Pass
	5 MHz	LCH	QPSK	RB1#0	12.17	Pass
				RB6#0	12.18	Pass
			16-QAM	RB1#0	12.19	Pass
				RB5#0	12.20	Pass
		HCH	QPSK	RB1#5	12.21	Pass
				RB6#0	12.22	Pass
			16-QAM	RB1#5	12.23	Pass
				RB5#1	12.24	Pass
	10 MHz	LCH	QPSK	RB1#0	12.25	Pass
				RB6#0	12.26	Pass
			16-QAM	RB1#0	12.27	Pass
				RB5#0	12.28	Pass
		HCH	QPSK	RB1#5	12.29	Pass
				RB6#0	12.30	Pass
			16-QAM	RB1#5	12.31	Pass
				RB5#1	12.32	Pass
	15 MHz	LCH	QPSK	RB1#0	12.33	Pass
				RB6#0	12.34	Pass
			16-QAM	RB1#0	12.35	Pass
				RB5#0	12.36	Pass
		HCH	QPSK	RB1#5	12.37	Pass

	Test BW	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note1]	Verdict
				RB6#0	12.38	Pass
			16-QAM	RB1#5	12.39	Pass
				RB5#1	12.40	Pass

NB-IoT Mode Test Data

	Test Sub-carrier spacing	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note1]	Verdict
NB-IoT Band 2	3.75kHz	LCH	QPSK	RB1#0	13.1	Pass
			BPSK	RB1#0	13.2	Pass
		HCH	QPSK	RB1#47	13.3	Pass
			BPSK	RB1#47	13.4	Pass
	15kHz	LCH	QPSK	RB1#0	13.5	Pass
				RB12#0	13.6	Pass
			BPSK	RB1#0	13.7	Pass
		HCH	QPSK	RB1#11	13.8	Pass
				RB12#0	13.9	Pass
			BPSK	RB1#11	13.10	Pass

	Test Sub-carrier spacing	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note1]	Verdict
NB-IoT Band 4	3.75kHz	LCH	QPSK	RB1#0	14.1	Pass
			BPSK	RB1#0	14.2	Pass
		HCH	QPSK	RB1#47	14.3	Pass
			BPSK	RB1#47	14.4	Pass
	15kHz	LCH	QPSK	RB1#0	14.5	Pass
				RB12#0	14.6	Pass
			BPSK	RB1#0	14.7	Pass
		HCH	QPSK	RB1#11	14.8	Pass
				RB12#0	14.9	Pass
			BPSK	RB1#11	14.10	Pass

	Test Sub-carrier spacing	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note1]	Verdict
NB-IoT Band 5	3.75kHz	LCH	QPSK	RB1#0	15.1	Pass
			BPSK	RB1#0	15.2	Pass
		HCH	QPSK	RB1#47	15.3	Pass
			BPSK	RB1#47	15.4	Pass
	15kHz	LCH	QPSK	RB1#0	15.5	Pass
				RB12#0	15.6	Pass
			BPSK	RB1#0	15.7	Pass
		HCH	QPSK	RB1#11	15.8	Pass
				RB12#0	15.9	Pass
			BPSK	RB1#11	15.10	Pass

	Test Sub-carrier spacing	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note1]	Verdict
NB-IoT Band 12	3.75kHz	LCH	QPSK	RB1#0	16.1	Pass
			BPSK	RB1#0	16.2	Pass
		HCH	QPSK	RB1#47	16.3	Pass
			BPSK	RB1#47	16.4	Pass
	15kHz	LCH	QPSK	RB1#0	16.5	Pass
				RB12#0	16.6	Pass
			BPSK	RB1#0	16.7	Pass
		HCH	QPSK	RB1#11	16.8	Pass
				RB12#0	16.9	Pass
			BPSK	RB1#11	16.10	Pass

	Test Sub-carrier spacing	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note1]	Verdict
NB-IoT Band 13	3.75kHz	LCH	QPSK	RB1#0	17.1	Pass
			BPSK	RB1#0	17.2	Pass
		HCH	QPSK	RB1#47	17.3	Pass
			BPSK	RB1#47	17.4	Pass
	15kHz	LCH	QPSK	RB1#0	17.5	Pass
				RB12#0	17.6	Pass
			BPSK	RB1#0	17.7	Pass
		HCH	QPSK	RB1#11	17.8	Pass
				RB12#0	17.9	Pass
			BPSK	RB1#11	17.10	Pass

	Test Sub-carrier spacing	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note1]	Verdict
NB-IoT Band 25	3.75kHz	LCH	QPSK	RB1#0	18.1	Pass
			BPSK	RB1#0	18.2	Pass
		HCH	QPSK	RB1#47	18.3	Pass
			BPSK	RB1#47	18.4	Pass
	15kHz	LCH	QPSK	RB1#0	18.5	Pass
				RB12#0	18.6	Pass
			BPSK	RB1#0	18.7	Pass
		HCH	QPSK	RB1#11	18.8	Pass
				RB12#0	18.9	Pass
			BPSK	RB1#11	18.10	Pass

	Test Sub-carrier spacing	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note1]	Verdict
NB-IoT Band26(Part 90)	3.75kHz	LCH	QPSK	RB1#0	19.1	Pass
			BPSK	RB1#0	19.2	Pass
		HCH	QPSK	RB1#47	19.3	Pass
			BPSK	RB1#47	19.4	Pass
	15kHz	LCH	QPSK	RB1#0	19.5	Pass
				RB12#0	19.6	Pass
			BPSK	RB1#0	19.7	Pass
		HCH	QPSK	RB1#11	19.8	Pass
				RB12#0	19.9	Pass
			BPSK	RB1#11	19.10	Pass

	Test Sub-carrier spacing	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note1]	Verdict
NB-IoT Band26(Part 22)	3.75kHz	LCH	QPSK	RB1#0	20.1	Pass
			BPSK	RB1#0	20.2	Pass
		HCH	QPSK	RB1#47	20.3	Pass
			BPSK	RB1#47	20.4	Pass
	15kHz	LCH	QPSK	RB1#0	20.5	Pass
				RB12#0	20.6	Pass
			BPSK	RB1#0	20.7	Pass
		HCH	QPSK	RB1#11	20.8	Pass
				RB12#0	20.9	Pass
			BPSK	RB1#11	20.10	Pass

A.7 Field Strength of Spurious Radiation

Note 1: All modes have been tested, and only the worst case data are shown here.

Note 2: The frequencies of verdict which are marked by "N/A" should be ignored because they are UE carrier frequency.

Note 3: Test plots please refer to the document “Annex No.: BL-EC2341272-501 Data Part 5.pdf”.

GSM and WCDMA Mode Test Verdict

Test Band	Test Channel	Refer to Plot[Note3]	Verdict
GPRS 850	LCH	17.1	Pass
	MCH	17.2	Pass
	HCH	17.3	Pass
GPRS 1900	LCH	18.1	Pass
	MCH	18.2	Pass
	HCH	18.3	Pass
EGPRS 850	LCH	19.1	Pass
	MCH	19.2	Pass
	HCH	19.3	Pass
EGPRS 1900	LCH	20.1	Pass
	MCH	20.2	Pass
	HCH	20.3	Pass

LTE-M1 Mode Test Verdict

Test Band	Test Bandwidth	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note3]	Verdict
Band 2	1.4 MHz	MCH	QPSK	RB1#0	1.1	Pass
	3 MHz	MCH	QPSK	RB1#0	1.2	Pass
	5 MHz	MCH	QPSK	RB1#0	1.3	Pass
	10 MHz	MCH	QPSK	RB1#0	1.4	Pass
	15 MHz	MCH	QPSK	RB1#0	1.5	Pass
	20 MHz	MCH	QPSK	RB1#0	1.6	Pass
Band 4	1.4 MHz	MCH	QPSK	RB1#0	2.1	Pass
	3 MHz	MCH	QPSK	RB1#0	2.2	Pass
	5 MHz	MCH	QPSK	RB1#0	2.3	Pass
	10 MHz	MCH	QPSK	RB1#0	2.4	Pass
	15 MHz	MCH	QPSK	RB1#0	2.5	Pass
	20 MHz	MCH	QPSK	RB1#0	2.6	Pass
Band 5	1.4 MHz	MCH	QPSK	RB1#0	3.1	Pass
	3 MHz	MCH	QPSK	RB1#0	3.2	Pass
	5 MHz	MCH	QPSK	RB1#0	3.3	Pass
	10 MHz	MCH	QPSK	RB1#0	3.4	Pass
Band 12	1.4 MHz	MCH	QPSK	RB1#0	4.1	Pass
	3 MHz	MCH	QPSK	RB1#0	4.2	Pass
	5 MHz	MCH	QPSK	RB1#0	4.3	Pass
	10 MHz	MCH	QPSK	RB1#0	4.4	Pass
Band 13	5 MHz	MCH	QPSK	RB1#0	5.1	Pass
	10 MHz	MCH	QPSK	RB1#0	5.2	Pass
Band 25	1.4 MHz	MCH	QPSK	RB1#0	6.1	Pass
	3 MHz	MCH	QPSK	RB1#0	6.2	Pass
	5 MHz	MCH	QPSK	RB1#0	6.3	Pass
	10 MHz	MCH	QPSK	RB1#0	6.4	Pass
	15 MHz	MCH	QPSK	RB1#0	6.5	Pass
	20 MHz	MCH	QPSK	RB1#0	6.6	Pass
Band 26 (Part90)	1.4 MHz	MCH	QPSK	RB1#0	7.1	Pass
	3 MHz	MCH	QPSK	RB1#0	7.2	Pass
	5 MHz	MCH	QPSK	RB1#0	7.3	Pass
	10 MHz	MCH	QPSK	RB1#0	7.4	Pass
Band 26 (Part22)	1.4 MHz	MCH	QPSK	RB1#0	8.1	Pass
	3 MHz	MCH	QPSK	RB1#0	8.2	Pass
	5 MHz	MCH	QPSK	RB1#0	8.3	Pass
	10 MHz	MCH	QPSK	RB1#0	8.4	Pass
	15 MHz	MCH	QPSK	RB1#0	8.5	Pass

NB-IoT Mode Test Data

Test Band	Test Sub-carrier spacing	Test Channel	Test Mode	Test RB (Size#Offset)	Refer to Plot[Note3]	Verdict
NB-IoT Band 2	3.75kHz	MCH	BPSK	RB1#0	9.1	Pass
			QPSK	RB1#0	9.2	Pass
	15kHz	MCH	BPSK	RB1#0	9.3	Pass
			QPSK	RB1#0	9.4	Pass
NB-IoT Band 4	3.75kHz	MCH	BPSK	RB1#0	10.1	Pass
			QPSK	RB1#0	10.2	Pass
	15kHz	MCH	BPSK	RB1#0	10.3	Pass
			QPSK	RB1#0	10.4	Pass
NB-IoT Band 5	3.75kHz	MCH	BPSK	RB1#0	11.1	Pass
			QPSK	RB1#0	11.2	Pass
	15kHz	MCH	BPSK	RB1#0	11.3	Pass
			QPSK	RB1#0	11.4	Pass
NB-IoT Band 12	3.75kHz	MCH	BPSK	RB1#0	12.1	Pass
			QPSK	RB1#0	12.2	Pass
	15kHz	MCH	BPSK	RB1#0	12.3	Pass
			QPSK	RB1#0	12.4	Pass
NB-IoT Band 13	3.75kHz	MCH	BPSK	RB1#0	13.1	Pass
			QPSK	RB1#0	13.2	Pass
	15kHz	MCH	BPSK	RB1#0	13.3	Pass
			QPSK	RB1#0	13.4	Pass
NB-IoT Band 25	3.75kHz	MCH	BPSK	RB1#0	14.1	Pass
			QPSK	RB1#0	14.2	Pass
	15kHz	MCH	BPSK	RB1#0	14.3	Pass
			QPSK	RB1#0	14.4	Pass
NB-IoT Band 26(Part90)	3.75kHz	MCH	BPSK	RB1#0	15.1	Pass
			QPSK	RB1#0	15.2	Pass
	15kHz	MCH	BPSK	RB1#0	15.3	Pass
			QPSK	RB1#0	15.4	Pass
NB-IoT Band 26(Part22)	3.75kHz	MCH	BPSK	RB1#0	16.1	Pass
			QPSK	RB1#0	16.2	Pass
	15kHz	MCH	BPSK	RB1#0	16.3	Pass
			QPSK	RB1#0	16.4	Pass

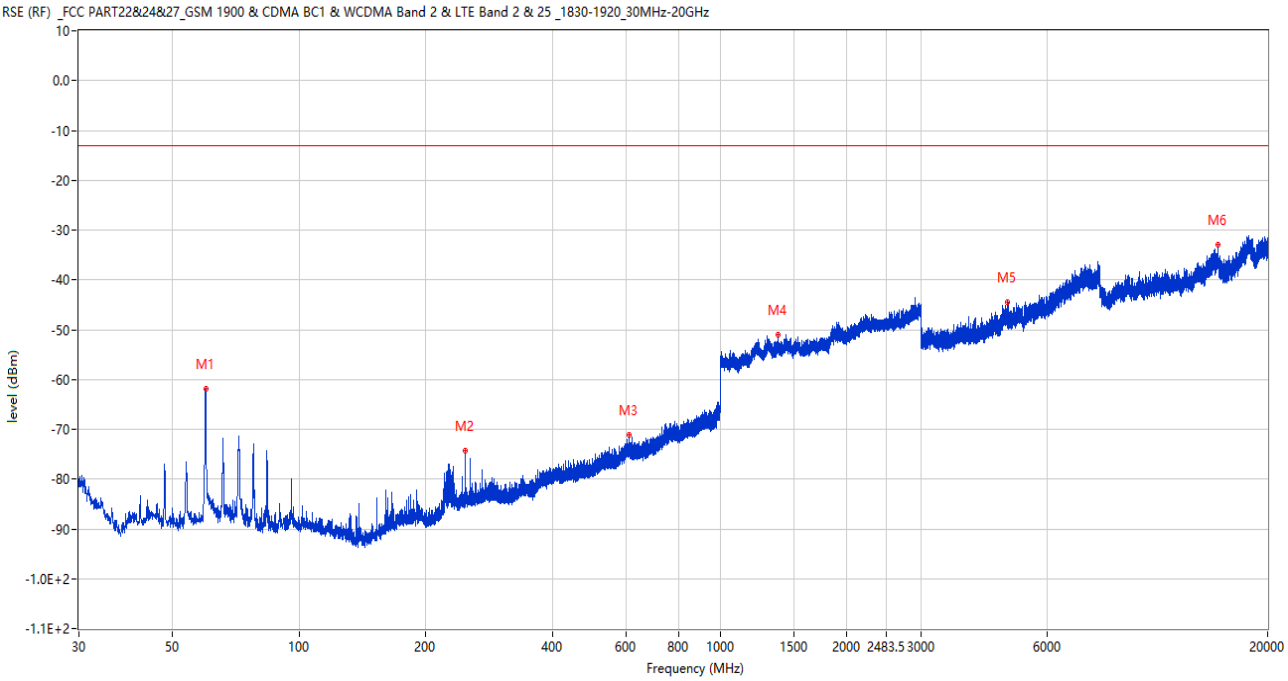
Co-Transmission Test Data

Test Mode	Test Channel		Refer to Plot[Note3]	Verdict
	Channel	BLE 2Mbps		
GPRS 1900 + BLE 2Mbps	LCH	CH 0	21.1	Pass
LTE-M1 Band 4+ BLE 2Mbps	HCH (BW5M,16QAM, RB1#0)	CH 0	21.2	Pass
NB-IoT Band 25+ BLE 2Mbps	MCH (SCS:15kHz, QPSK,RB1#11)	CH 0	21.3	Pass

A.8 Receiver Spurious Emissions

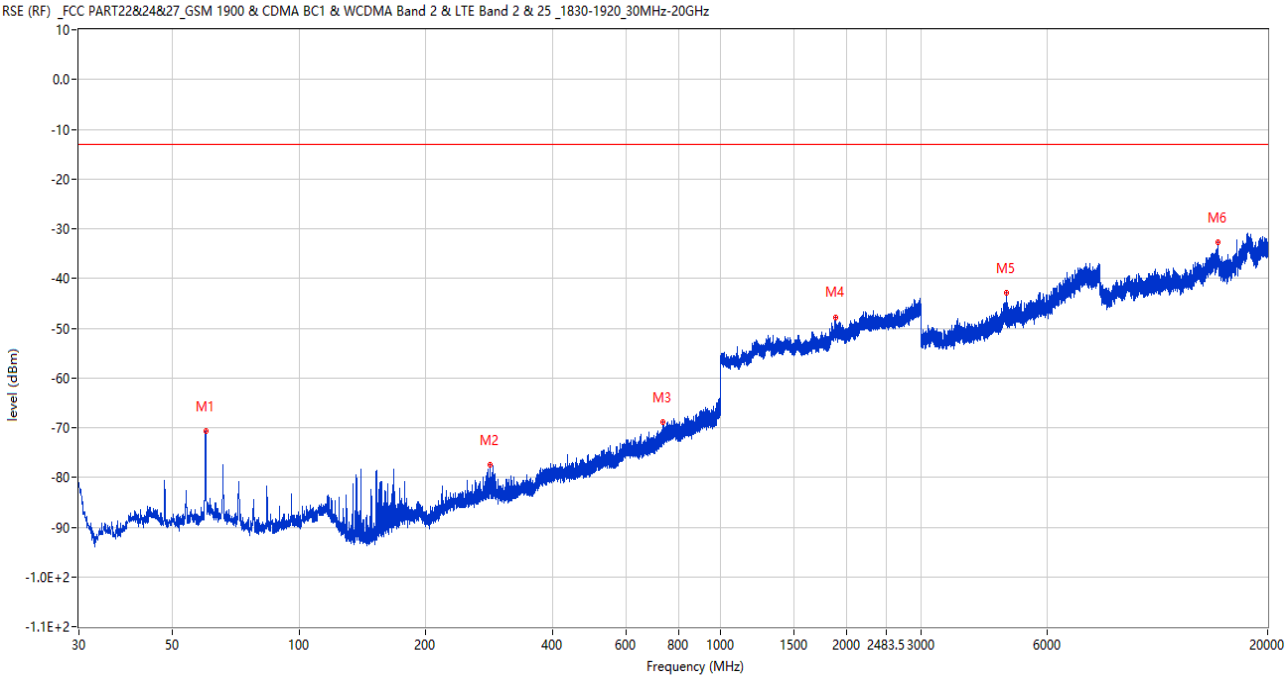
Note: Only the worst test results were recorded in this report.

30MHz to 20GHz, ANT V



Frequency (MHz)	Result (dBm)	Factor (dB)	Limit (dBm)	Margin (dB)	Table (o)	ANT	EUT	Verdict
59.973	-61.93	-16.66	-13.0	48.93	105.00	Vertical	Horizontal	Pass
248.686	-74.40	-14.26	-13.0	61.40	81.00	Vertical	Horizontal	Pass
609.333	-71.10	-4.13	-13.0	58.10	188.00	Vertical	Horizontal	Pass
1376.700	-51.12	0.54	-13.0	38.12	8.00	Vertical	Horizontal	Pass
4816.500	-44.53	10.73	-13.0	31.53	360.00	Vertical	Horizontal	Pass
15267.800	-32.93	22.58	-13.0	19.93	215.00	Vertical	Horizontal	Pass

30MHz to 20GHz, ANT H

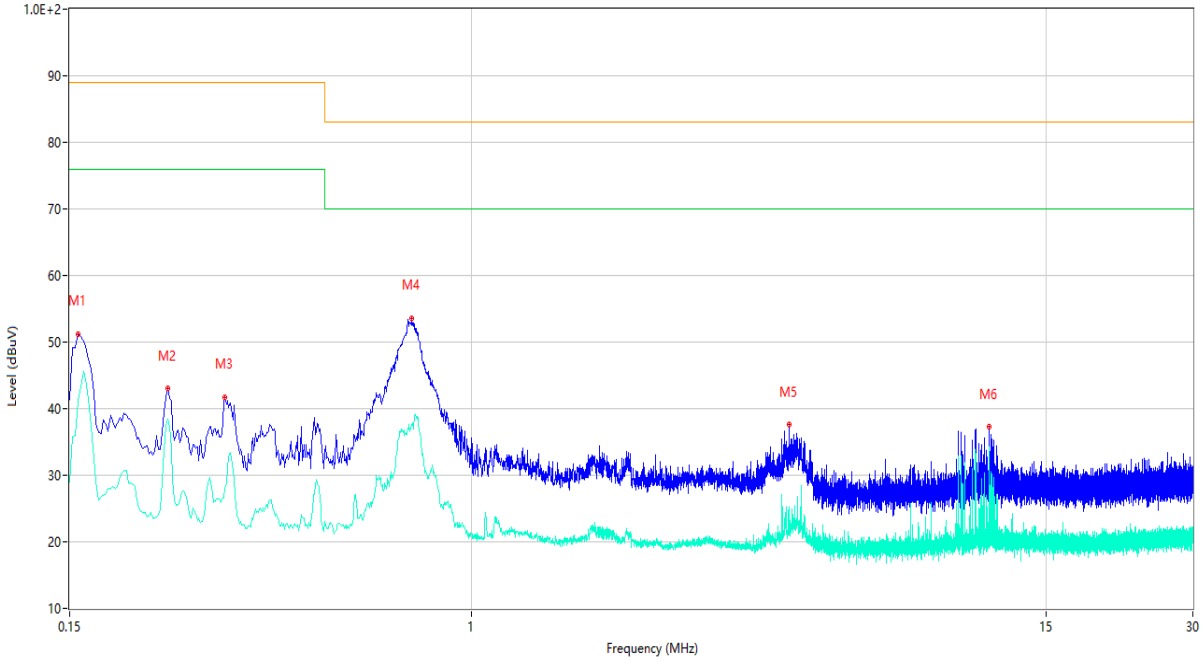


Frequency (MHz)	Result (dBm)	Factor (dB)	Limit (dBm)	Margin (dB)	Table (o)	ANT	EUT	Verdict
59.973	-70.68	-16.66	-13.0	57.68	170.00	Horizontal	Horizontal	Pass
283.994	-77.57	-13.04	-13.0	64.57	97.00	Horizontal	Horizontal	Pass
732.620	-68.87	-1.96	-13.0	55.87	334.00	Horizontal	Horizontal	Pass
1885.900	-47.96	3.44	-13.0	34.96	174.00	Horizontal	Horizontal	Pass
4803.750	-42.91	10.73	-13.0	29.91	44.00	Horizontal	Horizontal	Pass
15257.600	-32.76	22.73	-13.0	19.76	113.00	Horizontal	Horizontal	Pass

A.9 AC Power-line Conducted Emissions

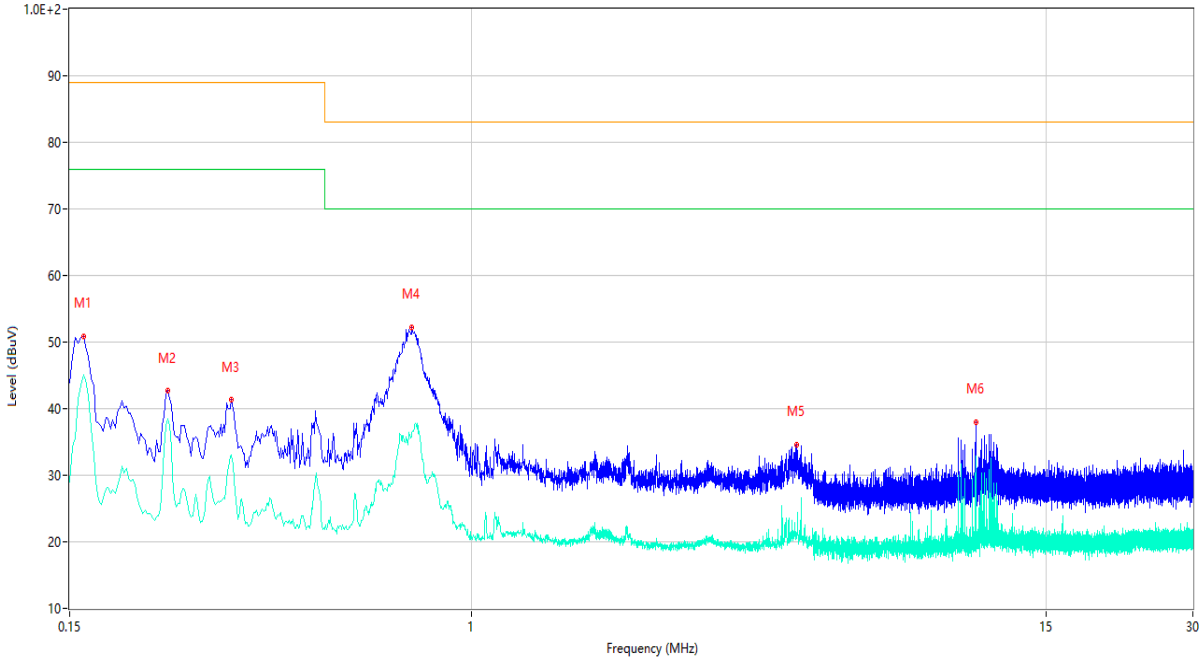
Note: Only the worst test results were recorded in this report.

L Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.156	51.20	10.32	89.00	37.80	Peak	L Line	Pass
1**	0.156	41.15	10.32	76.00	34.85	AV	L Line	Pass
2	0.238	43.09	10.24	89.00	45.91	Peak	L Line	Pass
2**	0.238	38.47	10.24	76.00	37.53	AV	L Line	Pass
3	0.312	41.76	10.23	89.00	47.24	Peak	L Line	Pass
3**	0.312	27.91	10.23	76.00	48.09	AV	L Line	Pass
4	0.754	53.61	10.21	83.00	29.39	Peak	L Line	Pass
4**	0.754	37.61	10.21	70.00	32.39	AV	L Line	Pass
5	4.472	37.58	10.22	83.00	45.42	Peak	L Line	Pass
5**	4.472	25.06	10.22	70.00	44.94	AV	L Line	Pass
6	11.466	37.35	10.28	83.00	45.65	Peak	L Line	Pass
6**	11.466	34.23	10.28	70.00	35.77	AV	L Line	Pass

N Phase



No.	Frequency (MHz)	Results (dBuV)	Factor (dB)	Limit (dBuV)	Margin (dB)	Detector	Line	Verdict
1	0.160	50.91	10.31	89.00	38.09	Peak	N Line	Pass
1**	0.160	45.14	10.31	76.00	30.86	AV	N Line	Pass
2	0.238	42.67	10.24	89.00	46.33	Peak	N Line	Pass
2**	0.238	38.54	10.24	76.00	37.46	AV	N Line	Pass
3	0.322	41.44	10.23	89.00	47.56	Peak	N Line	Pass
3**	0.322	33.00	10.23	76.00	43.00	AV	N Line	Pass
4	0.754	52.26	10.21	83.00	30.74	Peak	N Line	Pass
4**	0.754	36.35	10.21	70.00	33.65	AV	N Line	Pass
5	4.632	34.55	10.21	83.00	48.45	Peak	N Line	Pass
5**	4.632	20.59	10.21	70.00	49.41	AV	N Line	Pass
6	10.792	37.98	10.27	83.00	45.02	Peak	N Line	Pass
6**	10.792	32.18	10.27	70.00	37.82	AV	N Line	Pass

ANNEX B TEST SETUP PHOTOS

Please refer to the document “BL-EC2341272-AR.PDF”.

ANNEX C EUT EXTERNAL PHOTOS

Please refer to the document “BL-EC2341272-AW.PDF”.

ANNEX D EUT INTERNAL PHOTOS

Please refer to the document “BL-EC2341272-AI.PDF”.

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