



FCC RADIO TEST REPORT

FCC ID : LHJ-FE5NAR110
Equipment : FE5NAR110, FE5NAR111
Brand Name : Continental
Model Name : FE5NAR110, FE5NAR111
Applicant : Continental Automotive Systems, Inc.
21440 W Lake Cook Rd., Deer Park, IL 60010, USA
Manufacturer : Continental Automotive Systems, Inc.
21440 W Lake Cook Rd., Deer Park, IL 60010, USA
Standard : FCC 47 CFR Part 2, 22(H), 24(E), 27, Part 90(R)

The product was received on Aug. 06, 2024 and testing was performed from Aug. 15, 2024 to Aug. 27, 2024. We, Sporton International Inc. EMC & Wireless Communications Laboratory, would like to declare that the tested sample has been evaluated in accordance with the test procedures given in ANSI and has been in compliance with the applicable technical standards.

The test results in this partial report apply exclusively to the tested model / sample. Without written approval from Sporton International Inc. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Louis Wu

Approved by: Louis Wu

Sporton International Inc. EMC & Wireless Communications Laboratory

No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.)



Table of Contents

History of this test report.....	3
Summary of Test Result.....	4
1 General Description	6
1.1 Product Feature of Equipment Under Test.....	6
1.2 Product Specification of Equipment Under Test.....	7
1.3 Modification of EUT	9
1.4 Testing Location	9
1.5 Applicable Standards.....	10
2 Test Configuration of Equipment Under Test	11
2.1 Test Mode.....	11
2.2 Connection Diagram of Test System.....	11
2.3 Support Unit used in test configuration and system	12
2.4 Frequency List of Low/Middle/High Channels	12
3 Conducted Test Items.....	17
3.1 Measuring Instruments	17
3.2 Conducted Output Power and ERP/EIRP	18
4 Radiated Test Items	19
4.1 Measuring Instruments	19
4.2 Radiated Spurious Emission Measurement	21
5 List of Measuring Equipment.....	23
6 Measurement Uncertainty	25
Appendix A. Test Results of Conducted Test	
Appendix B. Test Results of Radiated Test	
Appendix C. Test Setup Photographs	



History of this test report

Report No.	Version	Description	Issue Date
FG480602B	01	Initial issue of report	Sep. 18, 2024
FG480602B	02	Revise Section 2.4 This report is an updated version, replacing the report issued on Sep. 18, 2024.	Oct. 11, 2024
FG480602B	03	Revise Section 1.4 This report is an updated version, replacing the report issued on Oct. 11, 2024.	Oct. 16, 2024



Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.2	§2.1046	Conducted Output Power	Pass	-
	§22.913 (a)(5)	Effective Radiated Power (Band 5)	Pass	
	§27.50 (b)(10) §27.50 (c)(10)	Effective Radiated Power (Band 12) (Band 13) (Band 71)		
	§24.232 (c) §27.50 (h)(2)	Equivalent Isotropic Radiated Power (Band 2) (Band 7)		
	§90.542 (a)(7)	Effective Radiated Power (Band 14)		
-	§24.232 (d)	Peak-to-Average Ratio	Pass	See Note
-	§2.1049	Occupied Bandwidth	Pass	See Note
-	§2.1051 §22.917 (a) §24.238 (a) §27.53 (c)(2)(4) §27.53 (g)	Conducted Band Edge Measurement (Band 2) (Band 5) (Band 12) (Band 13) (Band 71)	Pass	See Note
	§2.1051 §27.53 (m)(4)	Conducted Band Edge Measurement (Band 7)		
	§2.1051 §90.543 (e)(2)	Conducted Band Edge Measuremen (Band 14)		
-	§2.1051 §90.210 (n)	Emission Mask (Band 14)	Pass	See Note



Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
-	§2.1051 §22.917 (a) §24.238 (a) §27.53 (c)(2) §27.53 (g)	Conducted Spurious Emission (Band 2) (Band 5) (Band 12) (Band 13) (Band 71)	Pass	See Note
	§2.1051 §27.53 (m)(4)	Conducted Spurious Emission (Band 7)		
	§2.1051 §90.543 (e)(3)	Conducted Spurious Emission (Band 14)		
-	§2.1055 §22.355 §24.235 §27.54 §90.539 (e)	Frequency Stability Temperature & Voltage	Pass	See Note
4.2	§2.1053 §22.917 (a) §24.238 (a) §27.53 (c)(2) §27.53 (f) §27.53 (g)	Radiated Spurious Emission (Band 2) (Band 5) (Band 12) (Band 13) (Band 71)	Pass	9.32 dB under the limit at 1584.00 MHz
	§2.1053 §27.53 (m)(4)	Radiated Spurious Emission (Band 7)		
	§2.1053 §90.543 (e)(3) §90.543 (f)	Radiated Spurious Emission (Band 14)		

Note:

- For host device, Radiated Spurious Emission, Equivalent Isotropic Radiated Power and Effective Radiated Power are verified and complies with the limit in this test report.
- For host device, the Conducted Output Power is no difference after compared to module (Model: FE5NAR110, FE5NAR111).

Conformity Assessment Condition:

- The test results (PASS/FAIL) with all measurement uncertainty excluded are presented against the regulation limits or in accordance with the requirements stipulated by the applicant/manufacture who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
- The measurement uncertainty please refer to each test result in the section "Measurement Uncertainty".

Disclaimer:

The product specifications of the EUT presented in the test report that may affect the test assessments are declared by the manufacturer who shall take full responsibility for the authenticity.

Reviewed by: Yun Huang**Report Producer: Michelle Chen**



1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature	
Equipment	FE5NAR110, FE5NAR111
Brand Name	Continental
Model Name	FE5NAR110, FE5NAR111
FCC ID	LHJ-FE5NAR110
Installed into the Host	Equipment name: G12N51RG1, G12N50RG1 Brand name: Continental Model name: G12N51RG1, G12N50RG1
EUT supports Radios application	WCDMA/HSPA/LTE/5G NR/GNSS
EUT Stage	Identical Prototype

Sample Information			
Sample	TA-code	L2/L5 GNSS	Band Difference
1	FE5NAR110	Support	/
2	FE5NAR111	Not Support	BOM change: depopulated passive components from the GNSS RF front-end

Remark: The above EUT's information was declared by manufacturer.

Support band and evaluated information	
Supported band	B2, B5, B7, B12, B13, B14, B71
Evaluated and Tested band	B2, B5, B7, B12, B13, B14, B71

Power Class		
	PC3	PC2
B2	V	
B5	V	
B7	V	
B12	V	
B13	V	
B14	V	
B71	V	

1.2 Product Specification of Equipment Under Test

Product Specification is subject to this standard	
Tx Frequency	LTE Band 2: 1850.7 MHz ~ 1909.3 MHz LTE Band 5: 824.7 MHz ~ 848.3 MHz LTE Band 7: 2502.5 MHz ~ 2567.5 MHz LTE Band 12: 699.7 MHz ~ 715.3 MHz LTE Band 13: 779.5 MHz ~ 784.5 MHz LTE Band 14: 790.5 MHz ~ 795.5 MHz LTE Band 71: 665.5 MHz ~ 695.5 MHz
Rx Frequency	LTE Band 2: 1930.7 MHz ~ 1989.3 MHz LTE Band 5: 869.7 MHz ~ 893.3 MHz LTE Band 7: 2622.5 MHz ~ 2687.5 MHz LTE Band 12: 729.7 MHz ~ 745.3 MHz LTE Band 13: 748.5 MHz ~ 753.5 MHz LTE Band 14: 760.5 MHz ~ 765.5 MHz LTE Band 71: 619.5 MHz ~ 649.5 MHz
Bandwidth	LTE Band 2: 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 5: 1.4MHz / 3MHz / 5MHz / 10MHz LTE Band 7: 5MHz / 10MHz / 15MHz / 20MHz LTE Band 12: 1.4MHz / 3MHz / 5MHz / 10MHz LTE Band 13: 5MHz / 10MHz LTE Band 14: 5 MHz / 10 MHz LTE Band 71: 5MHz / 10MHz / 15MHz / 20MHz
Maximum Output Power to Antenna	LTE Band 2 : 23.02 dBm LTE Band 5 : 22.93 dBm LTE Band 5B : 22.89 dBm LTE Band 7 : 22.91 dBm LTE Band 7C : 22.35 dBm LTE Band 12 : 22.77 dBm LTE Band 13 : 22.63 dBm LTE Band 14 : 22.58 dBm LTE Band 71 : 22.58 dBm



Product Specification is subject to this standard	
Antenna Type / Gain	<Internal Antenna>: TCP Antenna Primary cell antenna: LTE Band 2 : 5.15 dBi LTE Band 5 : 4.69 dBi LTE Band 7 : 6.70 dBi LTE Band 12 : 0.05 dBi LTE Band 13 : 1.92 dBi LTE Band 14 : 3.05 dBi LTE Band 71 : 0.06 dBi <External Glass Antenna (Composed by component PN: 85038208, 85038209, 85038210, 85732934)>: Primary cell antenna: LTE Band 2 : 4.34 dBi LTE Band 5 : 2.72 dBi LTE Band 7 : 4.03 dBi LTE Band 12 : 0.59 dBi LTE Band 13 : 3.25 dBi LTE Band 14 : 3.25 dBi LTE Band 71 : 2.31 dBi <External Front Fender Antenna (Composed by component PN: 86784729, 86784728)>: Primary cell antenna: LTE Band 2 : 4.89 dBi LTE Band 5 : 4.81 dBi LTE Band 7 : 6.73 dBi LTE Band 12 : 5.21 dBi LTE Band 13 : 6.16 dBi LTE Band 14 : 6.67 dBi LTE Band 71 : 4.67 dBi <External sharkfin antenna, North America 5G L1 Only + XM (Composed by component PN: 26464255)>: Primary cell antenna: LTE Band 2 : 5.30 dBi LTE Band 5 : 0.60 dBi LTE Band 7 : 1.70 dBi LTE Band 12 : -0.30 dBi LTE Band 13 : 4.60 dBi LTE Band 14 : 4.60 dBi LTE Band 71 : 0.50 dBi <External sharkfin antenna, North America 5G L1/L5 + XM (Composed by component PN: 26464260)>: Primary cell antenna: LTE Band 2 : 5.70 dBi LTE Band 5 : 5.50 dBi LTE Band 7 : 1.70 dBi LTE Band 12 : -0.30 dBi LTE Band 13 : 4.60 dBi LTE Band 14 : 4.60 dBi LTE Band 71 : 0.50 dBi



Product Specification is subject to this standard	
Antenna Type / Gain	<External Sharkfin Antenna + XM + Dual GNSS +5G (Composed by component PN: 86783279)>: Primary cell antenna: LTE Band 2 : 3.50 dBi LTE Band 5 : 4.00 dBi LTE Band 7 : 6.10 dBi LTE Band 12 : 1.30 dBi LTE Band 13 : 3.50 dBi LTE Band 14 : 3.50 dBi LTE Band 71 : 1.70 dBi
Type of Modulation	QPSK / 16QAM / 64QAM

Remark: The EUT's information above is declared by manufacturer. Please refer to Disclaimer in report summary.

1.3 Modification of EUT

No modifications made to the EUT during the testing.

1.4 Testing Location

Test Site	Sporton International Inc. EMC & Wireless Communications Laboratory
Test Site Location	No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City 333, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978
Test Site No.	Sporton Site No. TH03-HY
Test Engineer	Cotty Hsu
Temperature (°C)	22.1~22.8
Relative Humidity (%)	53.3~55.6



Test Site	Sporton International Inc. Wensan Laboratory
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City 333010, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855
Test Site No.	Sporton Site No.
	03CH11-HY (TAF Code:3786)
Test Engineer	Daniel Lee, Fu Chen and Troye Hsieh
Temperature (°C)	20.1~21.9
Relative Humidity (%)	51.2~65.7
Remark	The Radiated Spurious Emission test item subcontracted to Sporton International Inc. Wensan Laboratory.

Note: The test site complies with ANSI C63.4 2014 requirement.

FCC Designation No.: TW1190 and TW3786

1.5 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ ANSI C63.26-2015
- ♦ FCC 47 CFR Part 2, 22(H), 24(E), 27, Part 90(R)
- ♦ FCC KDB 971168 D01 Power Meas. License Digital Systems v03r01
- ♦ FCC KDB 412172 D01 Determining ERP and EIRP v01r01
- ♦ FCC KDB 414788 D01 Radiated Test Site v01r01.

Remark:

1. All the test items were validated and recorded in accordance with the standards without any modification during the testing.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.
3. The TAF code is not including all the FCC KDB listed without accreditation.

2 Test Configuration of Equipment Under Test

2.1 Test Mode

Antenna port conducted and radiated test items listed below are performed according to KDB 971168 D01 Power Meas. License Digital Systems v03r01 with maximum output power.

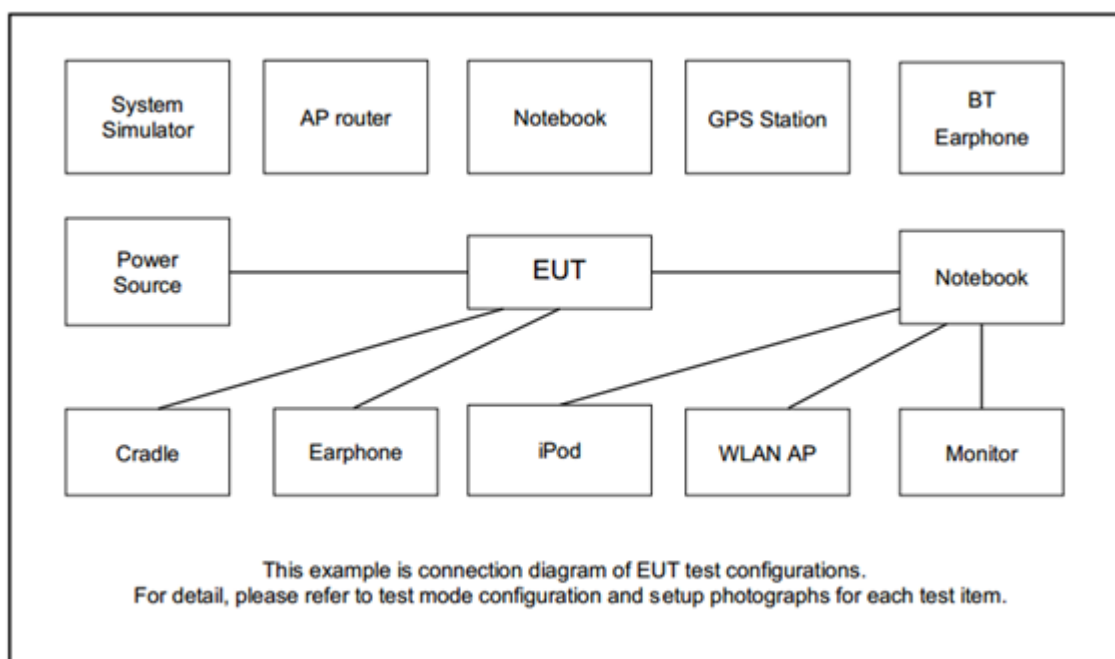
Modulation Type	Modulation
A	QPSK
B	16QAM
C	64QAM

Test Item	Modulation Type	Bandwidth	RB Size	Channel
Conducted Power	A, B, C	All	1, Half, Full	L, M, H
EIRP	A, B, C	All	1, Half, Full	L, M, H
RSE	A	20 MHz or less	1RB	L, M, H

Remark:

1. Evaluated all the transmitter signal and reporting worst-case configuration among all modulation types.
2. The device is investigated from 30MHz to 10 times of fundamental signal for radiated spurious emission test under different RB size/offset and modulations in exploratory test. Subsequently, only the worst-case emissions are reported.
3. For 4G LTE test combination are CA 2A_5B, CA 7C.
4. All the radiated test cases were performed with Sample 1.

2.2 Connection Diagram of Test System





2.3 Support Unit used in test configuration and system

Item	Equipment	Brand Name	Model No.	FCC ID	Data Cable	Power Cord
1.	System Simulator	Anritsu	MT8821C	N/A	N/A	Unshielded, 1.8 m
2.	DC Power Supply	GW Instek	GPE-2323	N/A	N/A	N/A
3.	Adapter	TePoo	PT-WC-03	N/A	N/A	N/A
4.	Metal Plate	N/A	N/A	N/A	N/A	N/A
5.	Teddy Jr Load Box	Continental	N/A	N/A	N/A	N/A

2.4 Frequency List of Low/Middle/High Channels

LTE Band 2 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	18700	18900	19100
	Frequency	1860	1880	1900
15	Channel	18675	18900	19125
	Frequency	1857.5	1880	1902.5
10	Channel	18650	18900	19150
	Frequency	1855	1880	1905
5	Channel	18625	18900	19175
	Frequency	1852.5	1880	1907.5
3	Channel	18615	18900	19185
	Frequency	1851.5	1880	1908.5
1.4	Channel	18607	18900	19193
	Frequency	1850.7	1880	1909.3



LTE Band 5 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	20450	20525	20600
	Frequency	829	836.5	844
5	Channel	20425	20525	20625
	Frequency	826.5	836.5	846.5
3	Channel	20415	20525	20635
	Frequency	825.5	836.5	847.5
1.4	Channel	20407	20525	20643
	Frequency	824.7	836.5	848.3

LTE Band 7 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	20850	21100	21350
	Frequency	2510	2535	2560
15	Channel	20825	21100	21375
	Frequency	2507.5	2535	2562.5
10	Channel	20800	21100	21400
	Frequency	2505	2535	2565
5	Channel	20775	21100	21425
	Frequency	2502.5	2535	2567.5

LTE Band 12 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	23060	23095	23130
	Frequency	704	707.5	711
5	Channel	23035	23095	23155
	Frequency	701.5	707.5	713.5
3	Channel	23025	23095	23165
	Frequency	700.5	707.5	714.5
1.4	Channel	23017	23095	23173
	Frequency	699.7	707.5	715.3



LTE Band 13 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	-	23230	-
	Frequency	-	782	-
5	Channel	23205	23230	23255
	Frequency	779.5	782	784.5

LTE Band 14 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	-	23330	-
	Frequency	-	793	-
5	Channel	23305	23330	23355
	Frequency	790.5	793	795.5

LTE Band 71 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	133222	133297	133372
	Frequency	673.0	680.5	688.0
15	Channel	133197	133297	133397
	Frequency	670.5	680.5	690.5
10	Channel	133172	133297	133422
	Frequency	668.0	680.5	693.0
5	Channel	133147	133297	133447
	Frequency	665.5	680.5	695.5



LTE Band 5B Channel and Frequency List_CA					
BW [MHz]	Channel/Frequency(MHz)		Lowest	Middle	Highest
3 + 5	PCC	Channel	20416	20501	20586
		Frequency	825.6	834.1	842.6
	SCC	Channel	20455	20540	20575
		Frequency	829.5	838.0	841.5
5 + 3	PCC	Channel	20425	20510	20595
		Frequency	826.5	835.0	843.5
	SCC	Channel	20464	20549	20634
		Frequency	830.4	838.9	847.4
5 + 10	PCC	Channel	20428	20478	20528
		Frequency	826.8	831.8	836.8
	SCC	Channel	20500	20550	20600
		Frequency	834.0	839.0	844.0
10 + 5	PCC	Channel	20450	20500	20550
		Frequency	829.0	834.0	839.0
	SCC	Channel	20522	20572	20622
		Frequency	836.2	841.2	846.2
10 + 10	PCC	Channel	20450	20476	20501
		Frequency	829.0	831.6	834.1
	SCC	Channel	20549	20575	20600
		Frequency	838.9	841.5	844.0



LTE Band 7C Channel and Frequency List_CA					
BW [MHz]	Channel/Frequency(MHz)		Lowest	Middle	Highest
20 + 20	PCC	Channel	20850	21001	21152
		Frequency	2510.0	2525.1	2540.2
	SCC	Channel	21048	21199	21350
		Frequency	2529.8	2544.9	2560.0
20 + 15	PCC	Channel	20850	21026	21201
		Frequency	2510.0	2527.6	2545.1
	SCC	Channel	21021	21197	21372
		Frequency	2527.1	2544.7	2562.2
15 + 20	PCC	Channel	20828	21003	21179
		Frequency	2507.8	2525.3	2542.9
	SCC	Channel	20999	21174	21350
		Frequency	2524.9	2542.4	2560.0
20 + 10	PCC	Channel	20850	21051	21251
		Frequency	2510.0	2530.1	2550.1
	SCC	Channel	20994	21195	21395
		Frequency	2524.4	2544.5	2564.5
10 + 20	PCC	Channel	20805	21006	21206
		Frequency	2505.5	2525.6	2545.6
	SCC	Channel	20949	21150	21350
		Frequency	2519.9	2540.0	2560.0
15 + 15	PCC	Channel	20825	21025	21225
		Frequency	2507.5	2527.5	2547.5
	SCC	Channel	20975	21175	21375
		Frequency	2522.5	2542.5	2562.5
15 + 10	PCC	Channel	20825	21051	21277
		Frequency	2507.5	2530.1	2552.7
	SCC	Channel	20945	21171	21397
		Frequency	2519.5	2542.1	2564.7

3 Conducted Test Items

3.1 Measuring Instruments

See list of measuring instruments of this test report.

3.1.1 Test Setup

3.1.2 Conducted Output Power



3.1.3 Test Result of Conducted Test

Please refer to Appendix A.



3.2 Conducted Output Power and ERP/EIRP

3.2.1 Description of the Conducted Output Power Measurement and ERP/EIRP Measurement

A system simulator was used to establish communication with the EUT. Its parameters were 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 ERP of mobile transmitters must not exceed 7 Watts for LTE Band 5

The ERP of mobile transmitters must not exceed 3 Watts for LTE Band 12, Band 13, Band 14, Band 71

The EIRP of mobile transmitters must not exceed 2 Watts for LTE Band 2, Band 7

According to KDB 412172 D01 Power Approach,

$EIRP = P_T + G_T - L_C$, $ERP = EIRP - 2.15$, where

P_T = transmitter output power in dBm

G_T = gain of the transmitting antenna in dBi

L_C = signal attenuation in the connecting cable between the transmitter and antenna in dB

3.2.2 Test Procedures

1. The transmitter output port was connected to the system simulator.
2. Set EUT at maximum power through the system simulator.
3. Select lowest, middle, and highest channels for each band and different modulation.
4. Measure and record the power level from the system simulator.

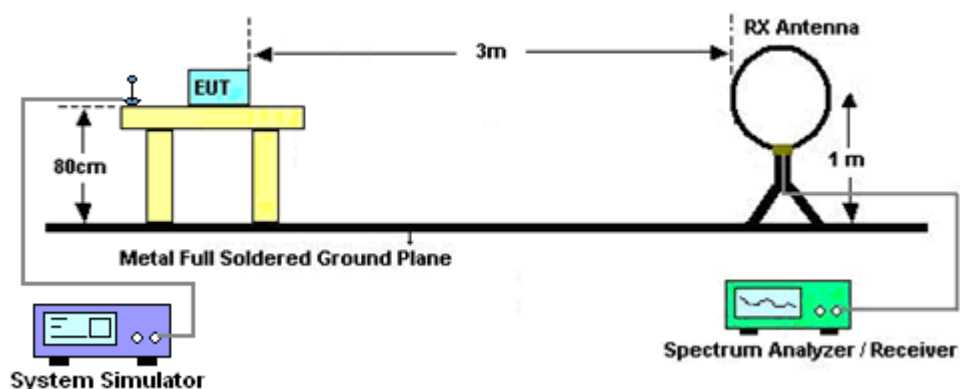
4 Radiated Test Items

4.1 Measuring Instruments

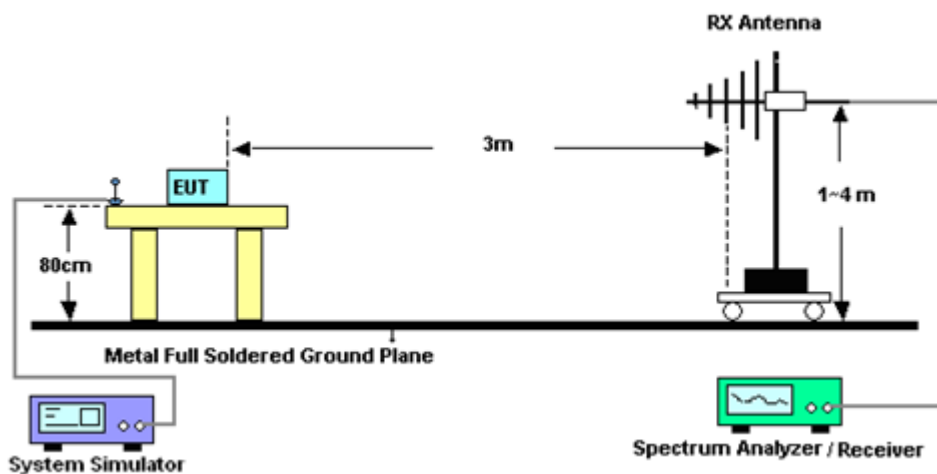
See list of measuring instruments of this test report.

4.1.1 Test Setup

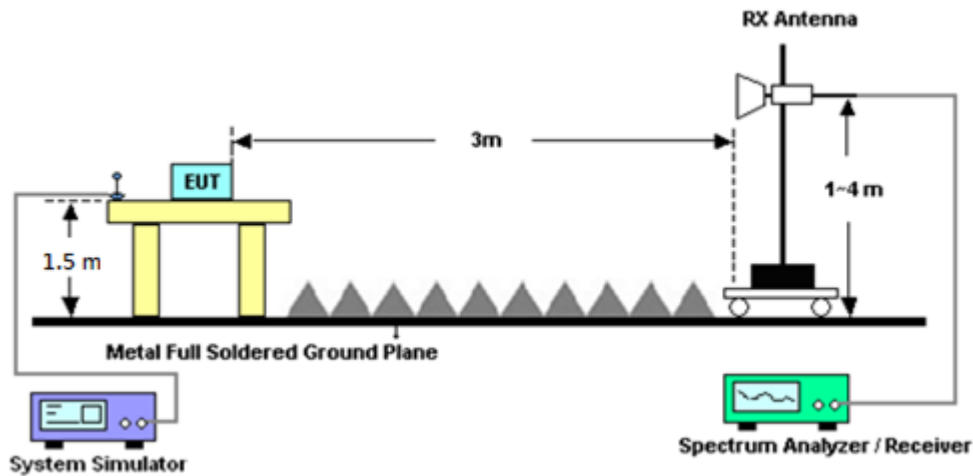
For radiated test below 30MHz



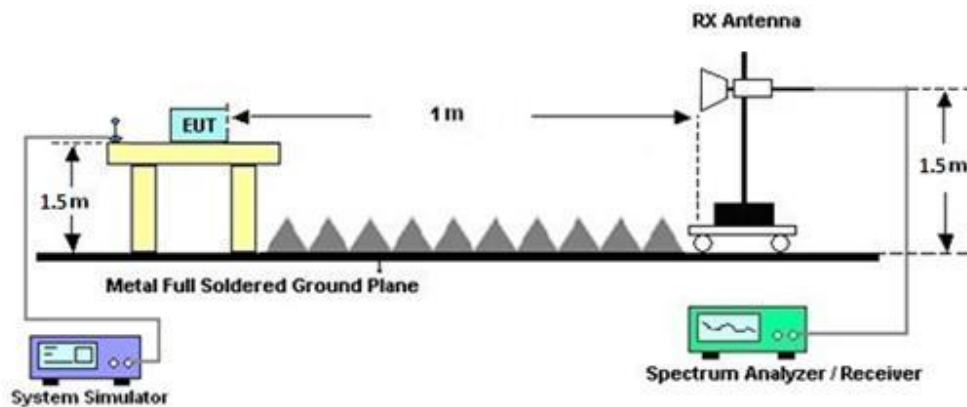
For radiated test from 30MHz to 1GHz



For radiated test from 1GHz to 18GHz



For radiated test above 18GHz



4.1.2 Test Result of Radiated Test

Please refer to Appendix B.

Note:

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

There is adequate comparison measurement of both open-field test site and alternative test site - semi-Anechoic chamber according to 414788 D01 Radiated Test Site v01r01, and the result came out very similar.



4.2 Radiated Spurious Emission Measurement

4.2.1 Description of Radiated Spurious Emission Measurement

The radiated spurious emission was measured by substitution method according to ANSI C63.26-2015. The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB.

For LTE Band 7

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitter power (P) by a factor of at least $55 + 10 \log (P)$ dB.

For LTE Band 13

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 LTE Band 14

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.

The spectrum is scanned from 30 MHz up to a frequency including its 10th harmonic.



4.2.2 Test Procedures

The testing follows FCC KDB 971168 D01 v03r01 Section 7 and ANSI C63.26-2015 section 5.5.4 Radiated measurement using the field strength method.

1. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
2. The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
3. The table was rotated 360 degrees to determine the position of the highest spurious emission.
4. The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
5. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
6. To convert spectrum reading E(dBuV/m) to EIRP(dBm)
$$\text{EIRP(dBm)} = \text{Level (dBuV/m)} + 20\log(d) - 104.77,$$
where d is the distance at which field strength limit is specified in the rules
7. Field Strength Level (dBm) = Spectrum Reading (dBm) + Antenna Factor + Cable Loss + Read Level - Preamp Factor.
8. ERP (dBm) = EIRP (dBm) - 2.15
9. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.



5 List of Measuring Equipment

Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Bilog Antenna	TESEQ	CBL 6111D & N-6-06	35414 & AT-N0602	30MHz~1GHz	Oct. 07, 2023	Aug. 16, 2024~ Aug. 27, 2024	Oct. 06, 2024	Radiation (03CH11-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Sep. 12, 2023	Aug. 16, 2024~ Aug. 27, 2024	Sep. 11, 2024	Radiation (03CH11-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-02038	1GHz~18GHz	Jul. 29, 2024	Aug. 16, 2024~ Aug. 27, 2024	Jul. 28, 2025	Radiation (03CH11-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	1224	18GHz~40GHz	Jun. 24, 2024	Aug. 16, 2024~ Aug. 27, 2024	Jun. 23, 2025	Radiation (03CH11-HY)
Amplifier	SONOMA	310N	187312	9kHz~1GHz	Dec. 08, 2023	Aug. 16, 2024~ Aug. 27, 2024	Dec. 07, 2024	Radiation (03CH11-HY)
Preamplifier	Keysight	83017A	MY53270080	1GHz~26.5GHz	Mar. 25, 2024	Aug. 16, 2024~ Aug. 27, 2024	Mar. 24, 2025	Radiation (03CH11-HY)
Preamplifier	Jet-Power	JPA0118-55-303	1710001800 055007	1GHz~18GHz	Jun. 13, 2024	Aug. 16, 2024~ Aug. 27, 2024	Jun. 12, 2025	Radiation (03CH11-HY)
Preamplifier	EMEC	EM18G40G	060801	18GHz~40GHz	May 27, 2024	Aug. 16, 2024~ Aug. 27, 2024	May 26, 2025	Radiation (03CH11-HY)
Preamplifier	EMEC	EM18G40G	060872	18GHz~40GHz	Sep. 06, 2023	Aug. 16, 2024~ Aug. 27, 2024	Sep. 05, 2024	Radiation (03CH11-HY)
Preamplifier	EMEC	EM18G40G	06715	18GHz~40GHz	Dec. 07, 2023	Aug. 16, 2024~ Aug. 27, 2024	Dec. 06, 2024	Radiation (03CH11-HY)
Spectrum Analyzer	Keysight	N9010A	MY54200486	10Hz~44GHz	Oct. 05, 2023	Aug. 16, 2024~ Aug. 27, 2024	Oct. 04, 2024	Radiation (03CH11-HY)
Controller	EMEC	EM 1000	N/A	Control Turn table & Ant Mast	N/A	Aug. 16, 2024~ Aug. 27, 2024	N/A	Radiation (03CH11-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1~4m	N/A	Aug. 16, 2024~ Aug. 27, 2024	N/A	Radiation (03CH11-HY)
Turn Table	EMEC	TT 2000	N/A	0~360 Degree	N/A	Aug. 16, 2024~ Aug. 27, 2024	N/A	Radiation (03CH11-HY)
Software	Audix	E3 6.2009-8-24	RK-001053	N/A	N/A	Aug. 16, 2024~ Aug. 27, 2024	N/A	Radiation (03CH11-HY)
Hygrometer	TECPEL	DTM-303B	TP140325	N/A	Dec. 08, 2023	Aug. 16, 2024~ Aug. 27, 2024	Dec. 07, 2024	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	801595/2	30M~40G	Mar. 06, 2024	Aug. 16, 2024~ Aug. 27, 2024	Mar. 05, 2025	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	804013/2	30M~40G	May 23, 2024	Aug. 16, 2024~ Aug. 27, 2024	May 22, 2025	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	MY2859/2	30MHz~40GHz	Mar. 06, 2024	Aug. 16, 2024~ Aug. 27, 2024	Mar. 05, 2025	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	803951/2	9K~30M	Mar. 06, 2024	Aug. 16, 2024~ Aug. 27, 2024	Mar. 05, 2025	Radiation (03CH11-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	803951/2	30M~40G	Mar. 06, 2024	Aug. 16, 2024~ Aug. 27, 2024	Mar. 05, 2025	Radiation (03CH11-HY)
Filter	Wainwright	WHKX12-900-1000-15000-60SS	SN12	1GHz High Pass Filter	Sep. 11, 2023	Aug. 16, 2024~ Aug. 27, 2024	Sep. 10, 2024	Radiation (03CH11-HY)
Filter	Wainwright	WHKX12-2700-3000-18000-60SS	SN3	3GHz High Pass Filter	Sep. 11, 2023	Aug. 16, 2024~ Aug. 27, 2024	Sep. 10, 2024	Radiation (03CH11-HY)
Filter	Wainwright	WHKX8-5872.5-6750-18000-40SS	SN3	6.75GHz High Pass Filter	Sep. 11, 2023	Aug. 16, 2024~ Aug. 27, 2024	Sep. 10, 2024	Radiation (03CH11-HY)



Instrument	Brand Name	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Radio Communication Analyzer	Anritsu	MT8821C	6262025353	LTE FDD/TDD LTE-2CC DLCA/ULCA	Oct. 03, 2023	Aug. 15, 2024~ Aug. 20, 2024	Oct. 02, 2024	Conducted (TH03-HY)
DC Power Supply	GW Instek	GPP-2323	GES906037	0V~64V : 0A~6A	Nov. 28, 2023	Aug. 15, 2024~ Aug. 20, 2024	Nov. 27, 2024	Conducted (TH03-HY)
Coupler+10dB+ RFCable	Warison + WoKen + E-Instrument	20dB 25W SMA Directional Coupler+ 10dB 18GHz_5W+S FL405_1.5M	#A+#1+#1+# 7	1-18GHz	Jan. 02, 2024	Aug. 15, 2024~ Aug. 20, 2024	Jan. 01, 2025	Conducted (TH03-HY)
Software	Sporton	FCC Test Tools	N/A	Conducted Test Item	N/A	Aug. 15, 2024~ Aug. 20, 2024	N/A	Conducted (TH03-HY)



6 Measurement Uncertainty

Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	3.290 dB
---	----------

Uncertainty of Radiated Emission Measurement (1 GHz ~ 18 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.076 dB
---	----------

Uncertainty of Radiated Emission Measurement (18 GHz ~ 40 GHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.082 dB
---	----------



Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power & ERP/EIRP)

LTE Band 2 Maximum Average Power [dBm] (GT - LC = 5.7 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
20	1	0	QPSK	22.75	23.02	22.90	28.72	0.7447
20	1	49		22.63	22.76	22.84		
20	1	99		22.73	22.86	22.75		
20	50	0		21.70	21.78	21.81		
20	50	24		21.83	21.95	21.89		
20	50	50		21.83	21.92	21.87		
20	100	0		21.76	21.75	21.90		
20	1	0	16-QAM	22.11	22.14	22.19	27.89	0.6152
20	1	49		22.09	22.09	22.10		
20	1	99		22.01	22.16	22.00		
20	50	0		20.73	20.78	20.79		
20	50	24		20.89	20.93	20.97		
20	50	50		20.84	20.97	20.95		
20	100	0		20.83	20.82	20.88		
20	1	0	64-QAM	20.97	20.97	21.08	26.84	0.4831
20	1	49		20.94	20.97	21.06		
20	1	99		20.97	21.09	21.14		
20	50	0		19.75	19.84	19.81		
20	50	24		19.96	19.91	20.02		
20	50	50		19.85	19.95	19.95		
20	100	0		19.81	19.80	19.87		
Limit	EIRP < 2W			Result			Pass	



FCC RADIO TEST REPORT

Report No. : FG480602B

LTE Band 2 Maximum Average Power [dBm] (GT - LC = 5.7 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
15	1	0	QPSK	22.73	22.92	22.82	28.62	0.7278
15	1	37		22.59	22.85	22.82		
15	1	74		22.68	22.84	22.76		
15	36	0		21.83	21.79	21.84		
15	36	20		21.91	21.87	21.85		
15	36	39		21.82	21.96	21.95		
15	75	0		21.83	21.77	21.89		
15	1	0	16-QAM	21.99	22.08	22.14	27.93	0.6209
15	1	37		21.99	22.10	22.11		
15	1	74		22.00	22.23	22.13		
15	36	0		20.82	20.82	20.79		
15	36	20		20.85	20.90	20.85		
15	36	39		20.84	21.01	20.97		
15	75	0		20.85	20.89	20.83		
15	1	0	64-QAM	20.85	20.94	21.08	26.91	0.4909
15	1	37		20.97	21.21	21.14		
15	1	74		20.95	21.05	21.13		
15	36	0		19.80	19.82	19.87		
15	36	20		19.89	19.85	19.91		
15	36	39		19.95	20.01	19.93		
15	75	0		19.86	19.87	19.91		
Limit	EIRP < 2W			Result			Pass	



FCC RADIO TEST REPORT

Report No. : FG480602B

LTE Band 2 Maximum Average Power [dBm] (GT - LC = 5.7 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
10	1	0	QPSK	22.86	22.91	22.90	28.61	0.7261
10	1	25		22.42	22.57	22.88		
10	1	49		22.56	22.62	22.88		
10	25	0		21.80	21.85	21.85		
10	25	12		21.88	21.91	22.00		
10	25	25		21.81	21.86	21.83		
10	50	0		21.85	21.83	22.00		
10	1	0	16-QAM	21.80	21.88	22.29	28.00	0.6310
10	1	25		22.23	22.27	22.30		
10	1	49		21.88	21.95	22.17		
10	25	0		20.84	20.83	20.85		
10	25	12		20.91	20.92	21.02		
10	25	25		20.76	20.85	20.89		
10	50	0		20.81	20.83	20.87		
10	1	0	64-QAM	20.61	20.65	21.06	26.90	0.4898
10	1	25		21.13	21.20	21.14		
10	1	49		20.70	20.84	21.04		
10	25	0		19.87	19.86	19.88		
10	25	12		19.96	20.01	20.03		
10	25	25		19.88	19.95	19.94		
10	50	0		19.83	19.89	19.95		
Limit	EIRP < 2W			Result			Pass	



FCC RADIO TEST REPORT

Report No. : FG480602B

LTE Band 2 Maximum Average Power [dBm] (GT - LC = 5.7 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
5	1	0	QPSK	22.83	22.97	22.83	28.67	0.7362
5	1	12		22.81	22.79	22.82		
5	1	24		22.70	22.78	22.82		
5	12	0		21.95	21.98	21.95		
5	12	7		21.94	21.94	22.01		
5	12	13		21.90	21.95	21.93		
5	25	0		21.90	21.90	21.93		
5	1	0	16-QAM	22.13	22.05	22.16	27.93	0.6209
5	1	12		22.20	22.21	22.23		
5	1	24		22.02	22.16	22.08		
5	12	0		20.98	20.97	21.00		
5	12	7		20.96	21.00	21.00		
5	12	13		20.92	21.01	20.95		
5	25	0		20.93	20.99	20.94		
5	1	0	64-QAM	21.13	21.06	20.99	26.89	0.4887
5	1	12		21.03	21.18	21.19		
5	1	24		20.99	21.06	21.10		
5	12	0		20.00	20.00	19.99		
5	12	7		19.99	20.03	20.03		
5	12	13		19.95	20.02	20.00		
5	25	0		19.92	19.90	19.95		
Limit	EIRP < 2W			Result			Pass	



LTE Band 2 Maximum Average Power [dBm] (GT - LC = 5.7 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
3	1	0	QPSK	22.86	23.01	22.92	28.71	0.7430
3	1	8		22.85	22.87	22.90		
3	1	14		22.77	22.88	22.84		
3	8	0		21.96	22.00	21.97		
3	8	4		21.99	21.94	22.05		
3	8	7		21.86	21.98	21.92		
3	15	0		21.93	21.92	22.00		
3	1	0	16-QAM	22.11	22.20	22.28	28.01	0.6324
3	1	8		22.18	22.31	22.28		
3	1	14		22.12	22.19	22.17		
3	8	0		20.99	21.01	21.08		
3	8	4		21.00	21.01	21.06		
3	8	7		20.93	21.03	21.05		
3	15	0		20.94	20.99	21.04		
3	1	0	64-QAM	21.16	21.16	21.12	26.91	0.4909
3	1	8		21.12	21.21	21.18		
3	1	14		21.07	21.05	21.05		
3	8	0		19.98	20.00	20.05		
3	8	4		20.00	20.06	20.07		
3	8	7		19.93	20.01	20.02		
3	15	0		19.92	20.01	20.03		
Limit	EIRP < 2W			Result			Pass	



LTE Band 2 Maximum Average Power [dBm] (GT - LC = 5.7 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
1.4	1	0	QPSK	22.80	22.93	22.89	28.63	0.7295
1.4	1	3		22.78	22.91	22.88		
1.4	1	5		22.74	22.78	22.82		
1.4	3	0		22.78	22.87	22.86		
1.4	3	1		22.85	22.89	22.90		
1.4	3	3		22.76	22.88	22.81		
1.4	6	0		21.84	21.93	21.91		
1.4	1	0	16-QAM	22.09	22.12	22.13	27.96	0.6252
1.4	1	3		22.19	22.22	22.26		
1.4	1	5		22.02	22.17	22.11		
1.4	3	0		21.88	21.92	21.96		
1.4	3	1		21.94	22.02	22.00		
1.4	3	3		21.75	21.93	21.87		
1.4	6	0		20.96	20.96	21.02		
1.4	1	0	64-QAM	21.01	21.11	21.05	26.86	0.4853
1.4	1	3		21.04	21.16	21.05		
1.4	1	5		20.96	21.08	21.03		
1.4	3	0		20.97	21.07	21.06		
1.4	3	1		21.02	21.13	21.09		
1.4	3	3		20.95	21.04	21.07		
1.4	6	0		19.86	19.93	19.93		
Limit	EIRP < 2W			Result			Pass	



LTE Band 5 Maximum Average Power [dBm] (GT - LC = 5.5 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
10	1	0	QPSK	22.76	22.93	22.84	26.28	0.4246
10	1	25		22.62	22.75	22.80		
10	1	49		22.72	22.76	22.80		
10	25	0		21.75	21.80	21.81		
10	25	12		21.83	21.83	21.77		
10	25	25		21.78	21.87	21.82		
10	50	0		21.78	21.75	21.75		
10	1	0	16-QAM	22.19	22.11	22.13	25.54	0.3581
10	1	25		22.06	22.16	22.07		
10	1	49		22.07	22.16	22.03		
10	25	0		20.76	20.81	20.76		
10	25	12		20.86	20.78	20.79		
10	25	25		20.75	20.82	20.76		
10	50	0		20.72	20.75	20.66		
10	1	0	64-QAM	20.88	21.05	20.87	24.40	0.2754
10	1	25		21.04	21.05	21.00		
10	1	49		20.98	21.03	20.97		
10	25	0		19.84	19.87	19.83		
10	25	12		19.83	19.88	19.89		
10	25	25		19.84	19.84	19.91		
10	50	0		19.78	19.74	19.76		
Limit	ERP < 7W			Result			Pass	



LTE Band 5 Maximum Average Power [dBm] (GT - LC = 5.5 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
5	1	0	QPSK	22.67	22.86	22.85	26.21	0.4178
5	1	12		22.60	22.68	22.70		
5	1	24		22.59	22.75	22.73		
5	12	0		21.72	21.81	21.81		
5	12	7		21.78	21.88	21.88		
5	12	13		21.79	21.89	21.81		
5	25	0		21.73	21.79	21.88		
5	1	0	16-QAM	21.90	22.02	21.98	25.52	0.3565
5	1	12		22.13	22.17	22.11		
5	1	24		21.99	22.09	22.05		
5	12	0		20.75	20.83	20.78		
5	12	7		20.91	20.96	20.88		
5	12	13		20.75	20.86	20.80		
5	25	0		20.82	20.84	20.93		
5	1	0	64-QAM	20.82	20.93	21.00	24.46	0.2793
5	1	12		20.91	21.11	21.01		
5	1	24		20.99	20.98	20.97		
5	12	0		19.74	19.89	19.83		
5	12	7		19.88	19.94	19.89		
5	12	13		19.85	19.91	19.88		
5	25	0		19.77	19.81	19.95		
Limit	ERP < 7W			Result			Pass	



LTE Band 5 Maximum Average Power [dBm] (GT - LC = 5.5 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
3	1	0	QPSK	22.56	22.81	22.65	26.16	0.4130
3	1	8		22.51	22.57	22.51		
3	1	14		22.58	22.67	22.58		
3	8	0		21.66	21.80	21.75		
3	8	4		21.66	21.75	21.83		
3	8	7		21.67	21.76	21.69		
3	15	0		21.71	21.69	21.75		
3	1	0	16-QAM	21.86	21.94	21.92	25.46	0.3516
3	1	8		22.06	22.11	21.92		
3	1	14		21.87	22.07	21.88		
3	8	0		20.75	20.68	20.71		
3	8	4		20.79	20.93	20.77		
3	8	7		20.64	20.83	20.77		
3	15	0		20.72	20.82	20.79		
3	1	0	64-QAM	20.77	20.76	20.88	24.33	0.2710
3	1	8		20.82	20.92	20.92		
3	1	14		20.85	20.98	20.84		
3	8	0		19.73	19.70	19.79		
3	8	4		19.78	19.81	19.87		
3	8	7		19.82	19.89	19.78		
3	15	0		19.60	19.78	19.86		
Limit	ERP < 7W			Result			Pass	



LTE Band 5 Maximum Average Power [dBm] (GT - LC = 5.5 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
1.4	1	0	QPSK	22.61	22.75	22.83	26.18	0.4150
1.4	1	3		22.57	22.55	22.78		
1.4	1	5		22.60	22.65	22.67		
1.4	3	0		22.41	22.55	22.65		
1.4	3	1		22.45	22.39	22.73		
1.4	3	3		22.54	22.52	22.59		
1.4	6	0		21.76	21.67	21.66		
1.4	1	0	16-QAM	22.09	21.96	22.12	25.47	0.3524
1.4	1	3		21.97	21.99	21.98		
1.4	1	5		22.01	22.06	21.89		
1.4	3	0		22.08	21.80	21.93		
1.4	3	1		21.81	21.86	21.88		
1.4	3	3		22.00	22.03	21.78		
1.4	6	0		20.61	20.63	20.53		
1.4	1	0	64-QAM	20.80	21.01	20.78	24.38	0.2742
1.4	1	3		20.91	20.94	20.97		
1.4	1	5		20.88	21.03	20.84		
1.4	3	0		20.68	20.68	20.69		
1.4	3	1		20.70	20.64	20.63		
1.4	3	3		20.85	21.03	20.68		
1.4	6	0		19.76	19.69	19.59		
Limit	ERP < 7W			Result			Pass	



FCC RADIO TEST REPORT

Report No. : FG480602B

LTE Band 7 Maximum Average Power [dBm] (GT - LC = 6.73 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
20	1	0	QPSK	22.91	22.41	22.30	29.64	0.9204
20	1	49		22.65	22.17	22.01		
20	1	99		22.47	22.33	22.28		
20	50	0		21.60	21.24	21.12		
20	50	24		21.75	21.28	21.06		
20	50	50		21.60	21.10	21.00		
20	100	0		21.68	21.25	21.02		
20	1	0	16-QAM	22.08	21.71	21.40	28.81	0.7603
20	1	49		22.05	21.40	21.25		
20	1	99		21.76	21.30	21.36		
20	50	0		20.63	20.19	20.06		
20	50	24		20.76	20.28	20.10		
20	50	50		20.64	20.10	20.04		
20	100	0		20.67	20.25	20.04		
20	1	0	64-QAM	20.91	20.52	20.34	27.64	0.5808
20	1	49		20.85	20.33	20.19		
20	1	99		20.71	20.25	20.23		
20	50	0		19.66	19.28	19.11		
20	50	24		19.81	19.37	19.12		
20	50	50		19.63	19.15	19.03		
20	100	0		19.68	19.26	19.07		
Limit	EIRP < 2W			Result			Pass	



LTE Band 7 Maximum Average Power [dBm] (GT - LC = 6.73 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
15	1	0	QPSK	22.80	22.29	22.28	29.53	0.8974
15	1	37		22.69	22.15	22.10		
15	1	74		22.59	22.11	22.24		
15	36	0		21.69	21.30	21.06		
15	36	20		21.82	21.30	21.16		
15	36	39		21.73	21.16	21.10		
15	75	0		21.79	21.22	21.06		
15	1	0	16-QAM	22.11	21.60	21.35	28.84	0.7656
15	1	37		22.01	21.46	21.41		
15	1	74		21.98	21.27	21.36		
15	36	0		20.69	20.22	20.11		
15	36	20		20.80	20.26	20.21		
15	36	39		20.73	20.09	20.06		
15	75	0		20.77	20.23	20.03		
15	1	0	64-QAM	20.97	20.37	20.31	27.70	0.5888
15	1	37		20.94	20.40	20.32		
15	1	74		20.79	20.27	20.27		
15	36	0		19.74	19.24	19.09		
15	36	20		19.90	19.36	19.17		
15	36	39		19.79	19.15	19.08		
15	75	0		19.79	19.29	19.04		
Limit	EIRP < 2W			Result			Pass	



FCC RADIO TEST REPORT

Report No. : FG480602B

LTE Band 7 Maximum Average Power [dBm] (GT - LC = 6.73 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
10	1	0	QPSK	22.73	22.29	22.11	29.46	0.8831
10	1	25		22.63	22.17	22.05		
10	1	49		22.65	22.11	22.02		
10	25	0		21.78	21.26	21.05		
10	25	12		21.78	21.30	21.09		
10	25	25		21.77	21.24	21.11		
10	50	0		21.74	21.19	21.01		
10	1	0	16-QAM	22.14	21.64	21.35	28.87	0.7709
10	1	25		22.07	21.52	21.32		
10	1	49		21.99	21.43	21.34		
10	25	0		20.76	20.27	20.07		
10	25	12		20.86	20.30	20.06		
10	25	25		20.82	20.19	20.05		
10	50	0		20.75	20.23	20.01		
10	1	0	64-QAM	20.89	20.44	20.29	27.68	0.5861
10	1	25		20.95	20.51	20.29		
10	1	49		20.90	20.37	20.22		
10	25	0		19.79	19.19	19.12		
10	25	12		19.91	19.35	19.14		
10	25	25		19.89	19.30	19.13		
10	50	0		19.78	19.25	19.01		
Limit	EIRP < 2W			Result			Pass	



LTE Band 7 Maximum Average Power [dBm] (GT - LC = 6.73 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
5	1	0	QPSK	22.89	22.31	22.15	29.62	0.9162
5	1	12		22.86	22.26	22.14		
5	1	24		22.78	22.16	22.07		
5	12	0		21.87	21.24	21.06		
5	12	7		21.90	21.29	21.19		
5	12	13		21.79	21.21	21.11		
5	25	0		21.80	21.26	21.08		
5	1	0	16-QAM	22.09	21.57	21.42	28.93	0.7816
5	1	12		22.20	21.64	21.41		
5	1	24		22.11	21.53	21.34		
5	12	0		20.84	20.24	20.08		
5	12	7		20.88	20.32	20.22		
5	12	13		20.84	20.22	20.12		
5	25	0		20.85	20.24	20.12		
5	1	0	64-QAM	21.03	20.54	20.33	27.82	0.6053
5	1	12		20.99	20.53	20.29		
5	1	24		21.09	20.42	20.33		
5	12	0		19.87	19.30	19.14		
5	12	7		19.89	19.36	19.22		
5	12	13		19.85	19.32	19.12		
5	25	0		19.86	19.27	19.13		
Limit	EIRP < 2W			Result			Pass	



LTE Band 12 Maximum Average Power [dBm] (GT - LC = 5.21 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
10	1	0	QPSK	22.71	22.77	22.75	25.83	0.3828
10	1	25		22.68	22.58	22.57		
10	1	49		22.66	22.61	22.70		
10	25	0		21.69	21.61	21.62		
10	25	12		21.79	21.84	21.74		
10	25	25		21.67	21.74	21.71		
10	50	0		21.73	21.68	21.57		
10	1	0	16-QAM	22.00	22.02	22.07	25.13	0.3258
10	1	25		22.04	21.95	22.04		
10	1	49		21.97	22.05	22.01		
10	25	0		20.67	20.58	20.66		
10	25	12		20.80	20.81	20.75		
10	25	25		20.68	20.66	20.71		
10	50	0		20.75	20.68	20.62		
10	1	0	64-QAM	20.92	20.95	20.82	24.06	0.2547
10	1	25		20.88	20.99	20.84		
10	1	49		21.00	20.78	20.92		
10	25	0		19.72	19.64	19.68		
10	25	12		19.87	19.86	19.80		
10	25	25		19.68	19.70	19.76		
10	50	0		19.81	19.78	19.66		
Limit	ERP < 3W			Result			Pass	



LTE Band 12 Maximum Average Power [dBm] (GT - LC = 5.21 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
5	1	0	QPSK	22.60	22.64	22.71	25.77	0.3776
5	1	12		22.63	22.53	22.45		
5	1	24		22.65	22.58	22.51		
5	12	0		21.61	21.44	21.56		
5	12	7		21.77	21.72	21.61		
5	12	13		21.67	21.58	21.55		
5	25	0		21.73	21.62	21.56		
5	1	0	16-QAM	21.90	21.98	21.94	25.06	0.3206
5	1	12		22.00	21.91	21.90		
5	1	24		21.79	21.96	21.92		
5	12	0		20.55	20.55	20.60		
5	12	7		20.78	20.68	20.70		
5	12	13		20.55	20.48	20.52		
5	25	0		20.63	20.64	20.42		
5	1	0	64-QAM	20.92	20.83	20.73	23.99	0.2506
5	1	12		20.70	20.84	20.80		
5	1	24		20.93	20.71	20.79		
5	12	0		19.65	19.45	19.55		
5	12	7		19.85	19.82	19.77		
5	12	13		19.62	19.61	19.57		
5	25	0		19.80	19.65	19.53		
Limit	ERP < 3W			Result			Pass	



LTE Band 12 Maximum Average Power [dBm] (GT - LC = 5.21 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
3	1	0	QPSK	22.67	22.57	22.60	25.73	0.3741
3	1	8		22.59	22.41	22.38		
3	1	14		22.55	22.58	22.60		
3	8	0		21.62	21.41	21.46		
3	8	4		21.74	21.72	21.57		
3	8	7		21.58	21.54	21.64		
3	15	0		21.61	21.55	21.49		
3	1	0	16-QAM	21.92	21.91	22.07	25.13	0.3258
3	1	8		21.89	21.83	21.93		
3	1	14		21.83	21.90	21.86		
3	8	0		20.59	20.58	20.49		
3	8	4		20.77	20.73	20.64		
3	8	7		20.64	20.63	20.52		
3	15	0		20.59	20.61	20.62		
3	1	0	64-QAM	20.88	20.90	20.69	24.03	0.2529
3	1	8		20.80	20.95	20.69		
3	1	14		20.97	20.76	20.74		
3	8	0		19.59	19.53	19.68		
3	8	4		19.71	19.72	19.66		
3	8	7		19.68	19.58	19.64		
3	15	0		19.72	19.67	19.61		
Limit	ERP < 3W			Result			Pass	



FCC RADIO TEST REPORT

Report No. : FG480602B

LTE Band 12 Maximum Average Power [dBm] (GT - LC = 5.21 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
1.4	1	0	QPSK	22.60	22.63	22.69	25.75	0.3758
1.4	1	3		22.59	22.42	22.41		
1.4	1	5		22.57	22.48	22.51		
1.4	3	0		22.55	22.68	22.61		
1.4	3	1		22.65	22.56	22.46		
1.4	3	3		22.57	22.43	22.56		
1.4	6	0		21.54	21.54	21.41		
1.4	1	0	16-QAM	21.90	21.91	21.97	25.12	0.3251
1.4	1	3		21.95	21.86	21.97		
1.4	1	5		21.84	21.85	21.83		
1.4	3	0		21.55	21.64	21.45		
1.4	3	1		21.97	21.99	22.06		
1.4	3	3		22.01	21.85	22.04		
1.4	6	0		20.68	20.61	20.46		
1.4	1	0	64-QAM	20.91	20.81	20.62	24.03	0.2529
1.4	1	3		20.77	20.84	20.73		
1.4	1	5		20.97	20.77	20.90		
1.4	3	0		20.57	20.61	20.47		
1.4	3	1		20.91	20.78	20.70		
1.4	3	3		20.85	20.80	20.68		
1.4	6	0		19.78	19.61	19.56		
Limit	ERP < 3W			Result			Pass	



LTE Band 13 Maximum Average Power [dBm] (GT - LC = 6.16 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
10	1	0	QPSK	-	22.63	-	26.64	0.4613
10	1	25			22.36			
10	1	49			22.41			
10	25	0			21.51			
10	25	12			21.55			
10	25	25			21.43			
10	50	0			21.26			
10	1	0	16-QAM		21.22		25.90	0.3890
10	1	25			21.89			
10	1	49			21.68			
10	25	0			20.52			
10	25	12			20.57			
10	25	25			20.35			
10	50	0			20.21			
10	1	0	64-QAM		20.02		24.82	0.3034
10	1	25			20.81			
10	1	49			20.48			
10	25	0			19.32			
10	25	12			19.39			
10	25	25			19.14			
10	50	0			19.00			
Limit	ERP < 3W			Result			Pass	



LTE Band 13 Maximum Average Power [dBm] (GT - LC = 6.16 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
5	1	0	QPSK	22.47	22.49	22.39	26.50	0.4467
5	1	12		22.19	22.28	22.10		
5	1	24		22.38	22.39	22.06		
5	12	0		21.33	21.44	21.31		
5	12	7		21.49	21.42	21.25		
5	12	13		21.41	21.24	21.30		
5	25	0		21.26	21.13	21.06		
5	1	0	16-QAM	21.11	21.09	21.04	25.87	0.3864
5	1	12		21.70	21.86	21.61		
5	1	24		21.54	21.51	21.63		
5	12	0		20.39	20.41	20.17		
5	12	7		20.55	20.56	20.39		
5	12	13		20.30	20.22	20.13		
5	25	0		20.08	20.14	20.05		
5	1	0	64-QAM	20.06	20.01	20.11	24.78	0.3006
5	1	12		20.77	20.76	20.61		
5	1	24		20.43	20.42	20.36		
5	12	0		19.18	19.27	19.11		
5	12	7		19.25	19.26	19.11		
5	12	13		19.01	19.04	19.09		
5	25	0		19.00	19.10	19.08		
Limit	ERP < 3W			Result			Pass	



LTE Band 71 Maximum Average Power [dBm] (GT - LC = 4.67 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
20	1	0	QPSK	22.48	22.58	22.54	25.10	0.3236
20	1	49		22.44	22.51	22.53		
20	1	99		22.44	22.48	22.37		
20	50	0		21.36	21.51	21.51		
20	50	24		21.58	21.62	21.61		
20	50	50		21.51	21.60	21.57		
20	100	0		21.47	21.57	21.55		
20	1	0	16-QAM	21.85	21.76	21.90	24.46	0.2793
20	1	49		21.82	21.94	21.88		
20	1	99		21.73	21.81	21.76		
20	50	0		20.44	20.52	20.59		
20	50	24		20.45	20.67	20.65		
20	50	50		20.60	20.64	20.67		
20	100	0		20.46	20.52	20.54		
20	1	0	64-QAM	20.64	20.54	20.80	23.32	0.2148
20	1	49		20.58	20.66	20.57		
20	1	99		20.62	20.69	20.60		
20	50	0		19.40	19.52	19.54		
20	50	24		19.50	19.62	19.60		
20	50	50		19.66	19.66	19.64		
20	100	0		19.56	19.57	19.55		
Limit	ERP < 3W			Result			Pass	



FCC RADIO TEST REPORT

Report No. : FG480602B

LTE Band 71 Maximum Average Power [dBm] (GT - LC = 4.67 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
15	1	0	QPSK	22.31	22.39	22.56	25.08	0.3221
15	1	37		22.44	22.51	22.47		
15	1	74		22.28	22.32	22.26		
15	36	0		21.23	21.47	21.37		
15	36	20		21.44	21.51	21.57		
15	36	39		21.40	21.57	21.43		
15	75	0		21.38	21.52	21.55		
15	1	0	16-QAM	21.68	21.64	21.79	24.41	0.2761
15	1	37		21.79	21.89	21.83		
15	1	74		21.64	21.69	21.61		
15	36	0		20.34	20.43	20.44		
15	36	20		20.39	20.66	20.47		
15	36	39		20.54	20.55	20.65		
15	75	0		20.45	20.46	20.38		
15	1	0	64-QAM	20.51	20.34	20.68	23.20	0.2089
15	1	37		20.54	20.52	20.43		
15	1	74		20.58	20.59	20.58		
15	36	0		19.38	19.47	19.48		
15	36	20		19.32	19.48	19.40		
15	36	39		19.51	19.59	19.46		
15	75	0		19.49	19.47	19.38		
Limit	ERP < 3W			Result			Pass	



LTE Band 71 Maximum Average Power [dBm] (GT - LC = 4.67 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
10	1	0	QPSK	22.48	22.39	22.43	25.00	0.3162
10	1	25		22.38	22.45	22.36		
10	1	49		22.34	22.45	22.27		
10	25	0		21.24	21.37	21.39		
10	25	12		21.46	21.42	21.45		
10	25	25		21.39	21.49	21.48		
10	50	0		21.27	21.52	21.45		
10	1	0	16-QAM	21.83	21.73	21.71	24.38	0.2742
10	1	25		21.69	21.86	21.68		
10	1	49		21.69	21.77	21.74		
10	25	0		20.24	20.48	20.51		
10	25	12		20.31	20.51	20.59		
10	25	25		20.48	20.54	20.66		
10	50	0		20.33	20.34	20.35		
10	1	0	64-QAM	20.59	20.54	20.62	23.16	0.2070
10	1	25		20.53	20.64	20.50		
10	1	49		20.53	20.50	20.55		
10	25	0		19.29	19.50	19.39		
10	25	12		19.39	19.44	19.56		
10	25	25		19.54	19.66	19.56		
10	50	0		19.45	19.49	19.47		
Limit	ERP < 3W			Result			Pass	



FCC RADIO TEST REPORT

Report No. : FG480602B

LTE Band 71 Maximum Average Power [dBm] (GT - LC = 4.67 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
5	1	0	QPSK	22.37	22.52	22.40	25.04	0.3192
5	1	12		22.31	22.46	22.51		
5	1	24		22.39	22.48	22.32		
5	12	0		21.25	21.46	21.45		
5	12	7		21.53	21.47	21.52		
5	12	13		21.44	21.58	21.56		
5	25	0		21.28	21.56	21.44		
5	1	0	16-QAM	21.85	21.56	21.70	24.37	0.2735
5	1	12		21.74	21.84	21.83		
5	1	24		21.56	21.69	21.61		
5	12	0		20.36	20.40	20.44		
5	12	7		20.30	20.55	20.52		
5	12	13		20.41	20.59	20.63		
5	25	0		20.43	20.44	20.35		
5	1	0	64-QAM	20.46	20.40	20.80	23.32	0.2148
5	1	12		20.50	20.63	20.54		
5	1	24		20.62	20.64	20.44		
5	12	0		19.25	19.46	19.34		
5	12	7		19.39	19.60	19.47		
5	12	13		19.56	19.54	19.60		
5	25	0		19.55	19.41	19.42		
Limit	ERP < 3W			Result			Pass	



LTE Band 14 Maximum Average Power [dBm] (GT - LC = 6.67 dB)										
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)		
10	1	0	QPSK	-	22.58	-	27.10	0.5129		
10	1	25			22.31					
10	1	49			22.29					
10	25	0			21.51					
10	25	12			21.60					
10	25	25			21.44					
10	50	0			21.52					
10	1	0	16-QAM		21.95		-	26.47	0.4436	
10	1	25			21.79					
10	1	49			21.85					
10	25	0			20.44					
10	25	12			20.61					
10	25	25			20.44					
10	50	0			20.58					
10	1	0	64-QAM		20.90			-	25.42	0.3483
10	1	25			20.78					
10	1	49			20.57					
10	25	0			19.51					
10	25	12			19.61					
10	25	25			19.48					
10	50	0			19.58					
Limit	ERP < 3W			Result					Pass	



LTE Band 14 Maximum Average Power [dBm] (GT - LC = 6.67 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
5	1	0	QPSK	22.43	22.47	22.44	26.99	0.5000
5	1	12		22.13	22.11	22.13		
5	1	24		22.09	22.14	22.20		
5	12	0		21.39	21.41	21.50		
5	12	7		21.41	21.52	21.52		
5	12	13		21.39	21.35	21.26		
5	25	0		21.47	21.39	21.47		
5	1	0	16-QAM	21.87	21.88	21.80	26.40	0.4365
5	1	12		21.75	21.72	21.62		
5	1	24		21.66	21.68	21.70		
5	12	0		20.34	20.24	20.40		
5	12	7		20.47	20.45	20.50		
5	12	13		20.28	20.33	20.38		
5	25	0		20.52	20.40	20.57		
5	1	0	64-QAM	20.73	20.73	20.86	25.38	0.3451
5	1	12		20.75	20.72	20.75		
5	1	24		20.54	20.39	20.51		
5	12	0		19.46	19.33	19.46		
5	12	7		19.53	19.47	19.44		
5	12	13		19.31	19.28	19.46		
5	25	0		19.54	19.45	19.50		
Limit	ERP < 3W			Result			Pass	



LTE Band 5B_CA Maximum Average Power [dBm] (GT - LC = 5.5 dB)										
BW [MHz]	PCC		SCC		Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
	RB Size	RB Offset	RB Size	RB Offset						
10+10	50	0	50	0	QPSK	20.54	20.57	20.51	25.76	0.3767
10+10	1	0	1	49		10.74	11.03	11.15		
10+10	1	49	1	0		22.41	22.33	22.34		
10+10	50	0	50	0	16-QAM	19.58	19.59	19.59	25.24	0.3342
10+10	1	0	1	49		11.28	11.57	11.79		
10+10	1	49	1	0		21.86	21.89	21.80		
10+10	50	0	50	0	64-QAM	19.58	19.60	19.56	24.14	0.2594
10+10	1	0	1	49		11.08	11.48	11.64		
10+10	1	49	1	0		20.58	20.79	20.58		
10+5	50	0	25	0	QPSK	20.56	20.48	20.53	25.68	0.3698
10+5	1	0	1	24		11.26	11.99	12.02		
10+5	1	49	1	0		22.33	22.29	22.27		
10+5	50	0	25	0	16-QAM	19.58	19.50	19.51	25.21	0.3319
10+5	1	0	1	24		11.82	12.56	12.49		
10+5	1	49	1	0		21.84	21.86	21.82		
10+5	50	0	25	0	64-QAM	19.58	19.58	19.55	24.09	0.2564
10+5	1	0	1	24		11.62	12.51	12.32		
10+5	1	49	1	0		20.74	20.59	20.65		
5+10	25	0	50	0	QPSK	20.52	20.57	20.49	25.81	0.3811
5+10	1	0	1	49		11.23	11.97	11.98		
5+10	1	24	1	0		22.46	22.41	22.45		
5+10	25	0	50	0	16-QAM	19.54	19.54	19.55	25.38	0.3451
5+10	1	0	1	49		11.71	12.48	12.60		
5+10	1	24	1	0		22.03	21.87	21.81		
5+10	25	0	50	0	64-QAM	19.60	19.57	19.54	24.14	0.2594
5+10	1	0	1	49		11.58	12.41	12.30		
5+10	1	24	1	0		20.79	20.69	20.68		
Limit	ERP < 7W					Result			Pass	



FCC RADIO TEST REPORT

Report No. : FG480602B

LTE Band 5B_CA Maximum Average Power [dBm] (GT - LC = 5.5 dB)										
BW [MHz]	PCC		SCC		Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
	RB Size	RB Offset	RB Size	RB Offset						
5+3	25	0	15	0	QPSK	22.51	22.18	21.72	25.86	0.3855
5+3	1	0	1	14		10.89	12.00	11.23		
5+3	1	24	1	0		22.47	22.28	21.88		
5+3	25	0	15	0	16-QAM	21.94	21.46	20.11	26.24	0.4207
5+3	1	0	1	14		11.39	12.38	11.70		
5+3	1	24	1	0		22.89	21.74	21.21		
5+3	25	0	15	0	64-QAM	21.02	20.39	20.23	24.97	0.3141
5+3	1	0	1	14		11.29	12.43	11.61		
5+3	1	24	1	0		21.62	20.69	20.23		
3+5	15	0	25	0	QPSK	22.38	22.39	22.21	25.76	0.3767
3+5	1	0	1	24		10.86	11.94	11.16		
3+5	1	14	1	0		22.41	22.38	22.20		
3+5	15	0	25	0	16-QAM	21.73	20.21	21.51	25.96	0.3945
3+5	1	0	1	24		11.37	12.49	11.73		
3+5	1	14	1	0		22.61	21.91	21.62		
3+5	15	0	25	0	64-QAM	20.70	20.58	20.51	24.94	0.3119
3+5	1	0	1	24		11.30	12.37	11.43		
3+5	1	14	1	0		21.59	20.46	20.61		
Limit	ERP < 7W					Result			Pass	



LTE Band 7C_CA Maximum Average Power [dBm] (GT - LC = 6.73 dB)										
BW [MHz]	PCC		SCC		Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
	RB Size	RB Offset	RB Size	RB Offset						
20+20	100	0	100	0	QPSK	20.00	17.98	19.80	28.75	0.7499
20+20	1	0	1	99		13.17	13.23	12.99		
20+20	1	99	1	0		22.02	19.62	21.59		
20+20	100	0	100	0	16-QAM	19.05	19.02	18.80	28.14	0.6516
20+20	1	0	1	99		13.68	13.86	13.67		
20+20	1	99	1	0		21.41	18.93	21.04		
20+20	100	0	100	0	64-QAM	18.45	18.26	17.56	26.44	0.4406
20+20	1	0	1	99		13.48	13.53	13.26		
20+20	1	99	1	0		19.71	14.77	18.05		
20+15	100	0	75	0	QPSK	21.46	17.01	20.49	28.73	0.7464
20+15	1	0	1	74		13.27	13.25	13.11		
20+15	1	99	1	0		22.00	19.75	21.60		
20+15	100	0	75	0	16-QAM	20.30	20.23	19.57	29.08	0.8091
20+15	1	0	1	74		13.85	13.82	13.62		
20+15	1	99	1	0		22.35	19.27	21.93		
20+15	100	0	75	0	64-QAM	18.53	18.21	17.53	26.55	0.4519
20+15	1	0	1	74		13.59	13.74	13.55		
20+15	1	99	1	0		19.82	15.12	18.17		
15+20	75	0	100	0	QPSK	20.02	20.05	19.81	28.78	0.7551
15+20	1	0	1	99		13.27	13.30	12.83		
15+20	1	74	1	0		22.05	21.81	21.73		
15+20	75	0	100	0	16-QAM	19.09	18.98	18.84	28.26	0.6699
15+20	1	0	1	99		13.80	13.85	13.60		
15+20	1	74	1	0		21.53	21.32	20.96		
15+20	75	0	100	0	64-QAM	18.34	18.62	17.55	26.62	0.4592
15+20	1	0	1	99		13.57	13.52	13.64		
15+20	1	74	1	0		19.08	19.89	18.13		
Limit	EIRP < 2W					Result			Pass	



FCC RADIO TEST REPORT

Report No. : FG480602B

LTE Band 7C_CA Maximum Average Power [dBm] (GT - LC = 6.73 dB)										
BW [MHz]	PCC		SCC		Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
	RB Size	RB Offset	RB Size	RB Offset						
20+10	100	0	50	0	QPSK	20.01	17.39	19.67	28.71	0.7430
20+10	1	0	1	49		13.29	13.37	13.11		
20+10	1	99	1	0		21.98	19.24	21.52		
20+10	100	0	50	0	16-QAM	18.99	18.91	18.68	28.19	0.6592
20+10	1	0	1	49		13.81	13.99	13.63		
20+10	1	99	1	0		21.46	18.78	21.00		
20+10	100	0	50	0	64-QAM	18.35	17.79	17.71	25.51	0.3556
20+10	1	0	1	49		13.65	13.77	13.48		
20+10	1	99	1	0		18.56	18.50	18.78		
10+20	50	0	100	0	QPSK	20.03	19.97	19.67	28.78	0.7551
10+20	1	0	1	99		13.38	13.34	13.13		
10+20	1	49	1	0		22.05	21.86	21.69		
10+20	50	0	100	0	16-QAM	19.07	19.00	18.76	28.20	0.6607
10+20	1	0	1	99		13.79	13.95	13.69		
10+20	1	49	1	0		21.47	21.26	21.07		
10+20	50	0	100	0	64-QAM	18.00	18.82	17.55	26.60	0.4571
10+20	1	0	1	99		13.64	13.64	13.40		
10+20	1	49	1	0		18.74	19.87	18.39		
15+15	75	0	75	0	QPSK	20.03	19.38	19.71	28.79	0.7568
15+15	1	0	1	74		13.38	13.28	13.11		
15+15	1	74	1	0		22.06	21.79	21.58		
15+15	75	0	75	0	16-QAM	19.13	19.04	18.78	28.20	0.6607
15+15	1	0	1	74		13.99	13.93	13.64		
15+15	1	74	1	0		21.47	21.14	21.07		
15+15	75	0	75	0	64-QAM	18.23	18.31	17.60	26.12	0.4093
15+15	1	0	1	74		13.68	13.72	13.52		
15+15	1	74	1	0		19.00	19.39	18.59		
Limit	EIRP < 2W					Result			Pass	



FCC RADIO TEST REPORT

Report No. : FG480602B

LTE Band 7C_CA Maximum Average Power [dBm] (GT - LC = 6.73 dB)										
BW [MHz]	PCC		SCC		Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
	RB Size	RB Offset	RB Size	RB Offset						
15+10	75	0	50	0	QPSK	20.11	19.02	19.76	28.73	0.7464
15+10	1	0	1	49		13.47	13.44	13.16		
15+10	1	74	1	0		22.00	19.55	21.58		
15+10	75	0	50	0	16-QAM	19.14	19.02	18.73	28.14	0.6516
15+10	1	0	1	49		13.99	13.99	13.76		
15+10	1	74	1	0		21.41	18.97	20.96		
15+10	75	0	50	0	64-QAM	18.38	18.16	17.96	26.34	0.4305
15+10	1	0	1	49		13.99	13.77	13.52		
15+10	1	74	1	0		19.61	17.36	18.97		
Limit	EIRP < 2W					Result			Pass	



Appendix B. Test Results of Radiated Test

B1. Summary of each worse mode

Mode	Part	Band	Ch	Freq (MHz)	Level (dBm)	Det	Ant Factor (dB)	AmplCbl (dB)	Filter (dB)	EIRPCF (dB)	Reading (dBuV)	Limit (dBm)	Margin (dB)	Pol	Ant
2	Part 22H	LTE B5	M	3337	-58.19	RMS	29.57	-25.04	0.25	-95.23	32.26	-13.00	-45.19	V	External sharkfin antenna, North America 5G L1/L5 + XM
3	Part 22H	LTE CA B5B	M	3344	-58.25	RMS	29.59	-25.03	0.24	-95.23	32.18	-13.00	-45.25	H	External sharkfin antenna, North America 5G L1/L5 + XM
2	Part 24E	LTE B2	M	7484	-48.65	RMS	36.23	-20.78	0.60	-95.23	30.53	-13.00	-35.65	H	External sharkfin antenna, North America 5G L1/L5 + XM
1	Part 27M	LTE B7	L	10004	-45.81	RMS	38.02	-18.09	0.58	-95.23	28.91	-25.00	-20.81	H	External Front Fender Antenna
2	Part 27M	LTE CA B7C	L	10076	-45.59	RMS	38.20	-18.06	0.58	-95.23	28.92	-25.00	-20.59	H	External Front Fender Antenna
1	Part 27N	LTE B71	H	2773	-59.18	RMS	28.50	-25.96	0.24	-95.23	33.27	-13.00	-46.18	H	External Front Fender Antenna
1	Part 27H	LTE B12	H	2845	-59.40	RMS	28.60	-25.86	0.25	-95.23	32.84	-13.00	-46.40	V	External Front Fender Antenna
1	Part 27F	LTE B13	H	1568	-56.30	RMS	25.40	-28.68	0.44	-95.23	41.77	-42.15	-14.15	H	External Front Fender Antenna
1	Part 90R	LTE B14	M	1584	-51.47	RMS	25.54	-28.62	0.42	-95.23	46.42	-42.15	-9.32	V	External Front Fender Antenna

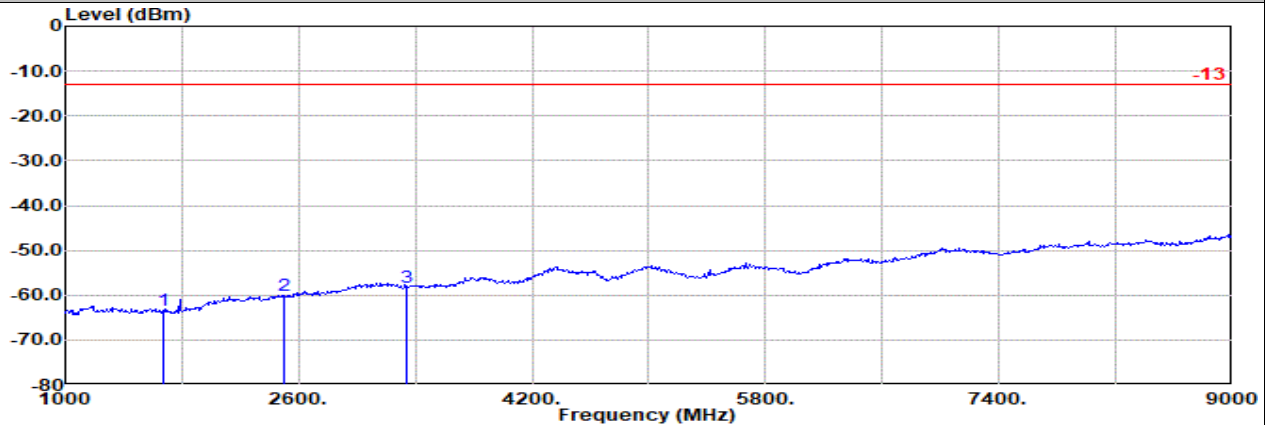


External sharkfin antenna, North America 5G L1/L5 + XM

Part 22H Mode 2

LTE B5 5M Ch20525 1RB0 QPSK

M

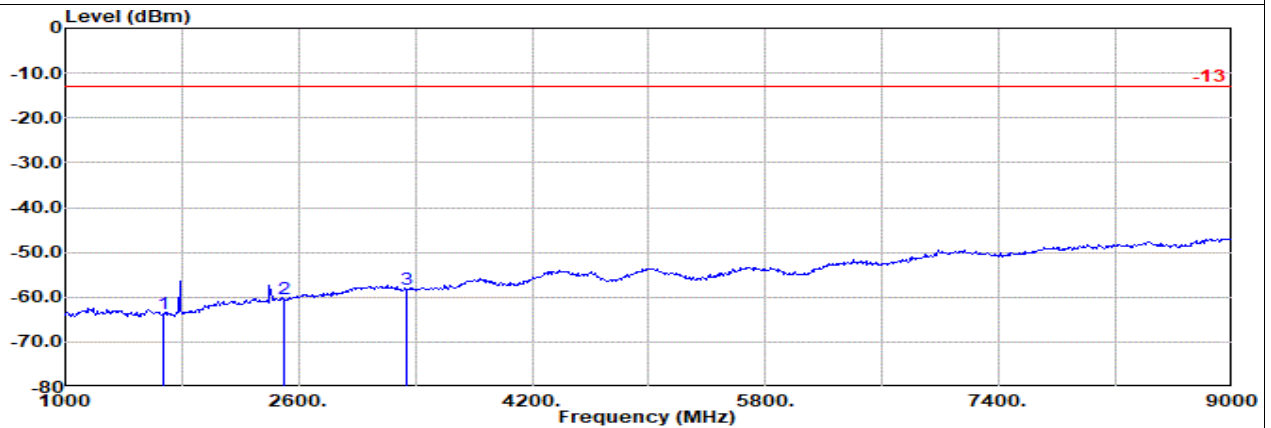


Site : 03CH11-HY

Condition: -13 3m 9120D_02038_240729 Horizontal

: LTE Band 5 5M Ch20525 1RB0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cb	Filter	EIRPCF	Readin	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	1669.00	-63.39	RMS	25.28	-28.36	0.33	-95.23	34.59	-13.00	-50.39	Horizontal
2	2503.00	-60.17	RMS	27.80	-26.33	0.21	-95.23	33.38	-13.00	-47.17	Horizontal
3	3337.00	-58.38	RMS	29.57	-25.04	0.25	-95.23	32.07	-13.00	-45.38	Horizontal



Site : 03CH11-HY

Condition: -13 3m 9120D_02038_240729 Vertical

: LTE Band 5 5M Ch20525 1RB0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cb	Filter	EIRPCF	Readin	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	1669.00	-63.62	RMS	25.28	-28.36	0.33	-95.23	34.36	-13.00	-50.62	Vertical
2	2503.00	-60.31	RMS	27.80	-26.33	0.21	-95.23	33.24	-13.00	-47.31	Vertical
3	3337.00	-58.19	RMS	29.57	-25.04	0.25	-95.23	32.26	-13.00	-45.19	Vertical

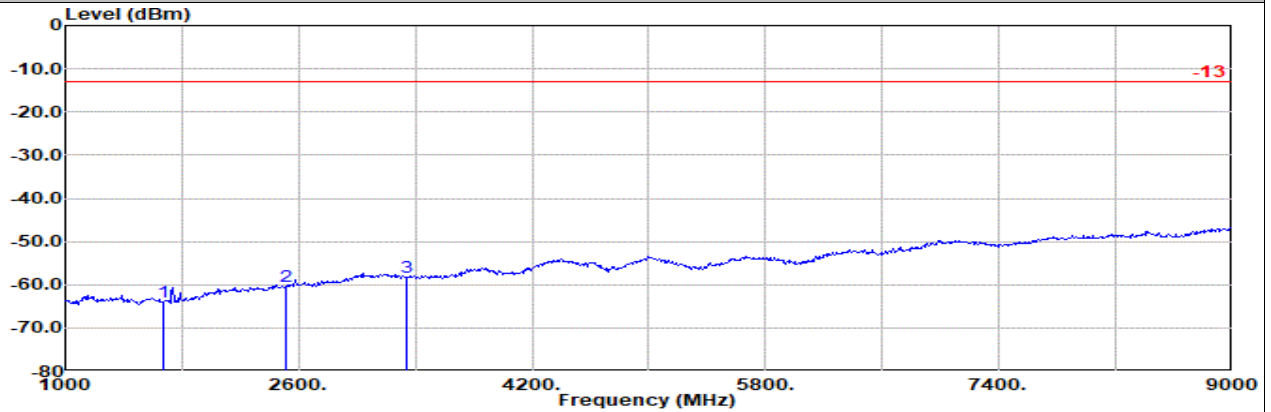


External sharkfin antenna, North America 5G L1/L5 + XM

Part 22H Mode 3

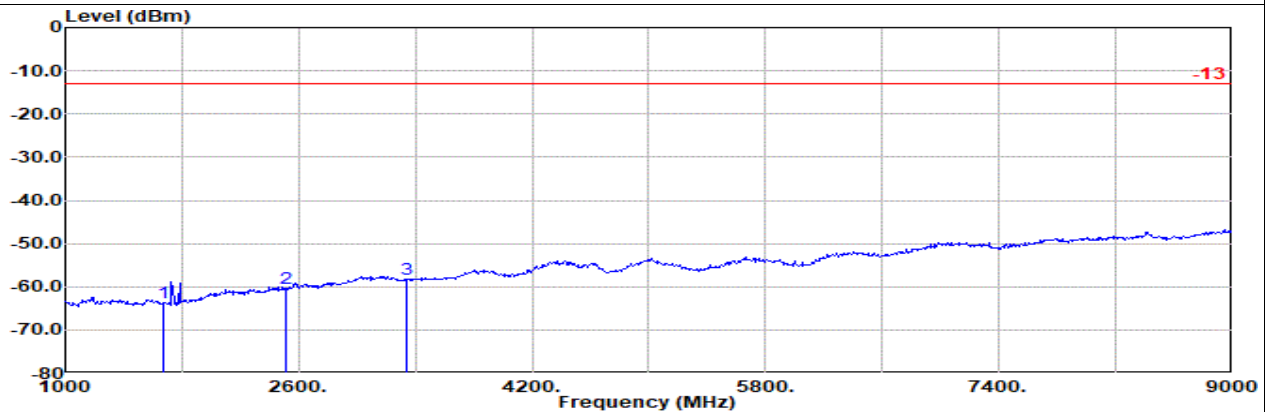
LTE CA B5B 10M + 10M Ch20476 1RB49 QPSK + Ch20575 1RB0 QPSK

M



Site : 03CH11-HY
Condition: -13 3m 9120D_02038_240729 Horizontal
: LTE Band 5 10M Ch20476 1RB49 QPSK
: LTE Band 5 10M Ch20575 1RB0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cb	Filter 1	EIRPCF	Readin g	Limit	Margin	Pol
	MHz	dBm				dB/m	dB	dB	dB	dB	dB
1	1672.02	-63.86	RMS	25.28	-28.35	0.33	-95.23	34.11	-13.00	-50.86	Horizontal
2	2508.03	-60.44	RMS	27.80	-26.32	0.21	-95.23	33.10	-13.00	-47.44	Horizontal
3	3344.04	-58.25	RMS	29.59	-25.03	0.24	-95.23	32.18	-13.00	-45.25	Horizontal



Site : 03CH11-HY
Condition: -13 3m 9120D_02038_240729 Vertical
: LTE Band 5 10M Ch20476 1RB49 QPSK
: LTE Band 5 10M Ch20575 1RB0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cb	Filter 1	EIRPCF	Readin g	Limit	Margin	Pol
	MHz	dBm				dB/m	dB	dB	dB	dB	dB
1	1672.02	-63.56	RMS	25.28	-28.35	0.33	-95.23	34.41	-13.00	-50.56	Vertical
2	2508.03	-60.43	RMS	27.80	-26.32	0.21	-95.23	33.11	-13.00	-47.43	Vertical
3	3344.04	-58.31	RMS	29.59	-25.03	0.24	-95.23	32.12	-13.00	-45.31	Vertical

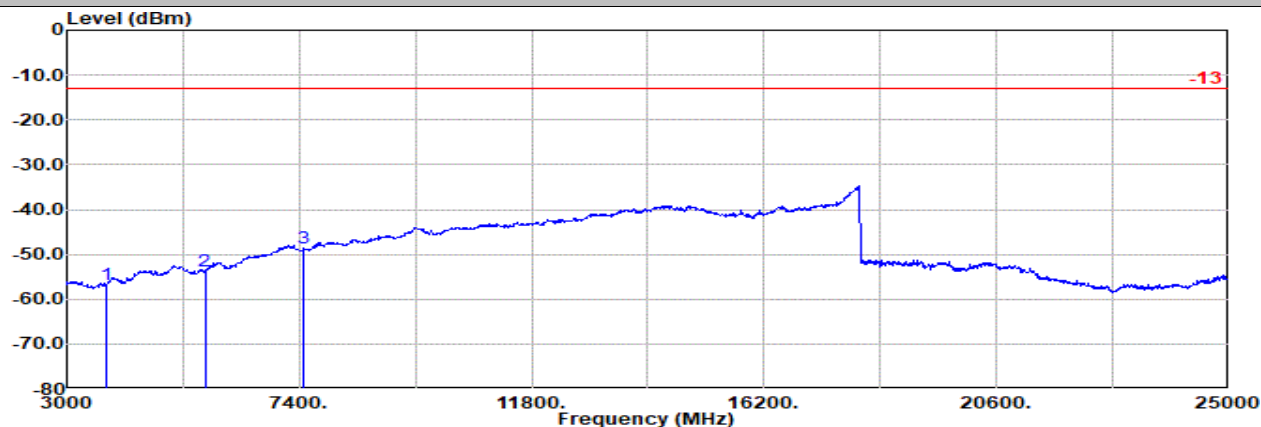


External sharkfin antenna, North America 5G L1/L5 + XM

Part 24E Mode 2

LTE B2 20M Ch18900 1RB0 QPSK

M

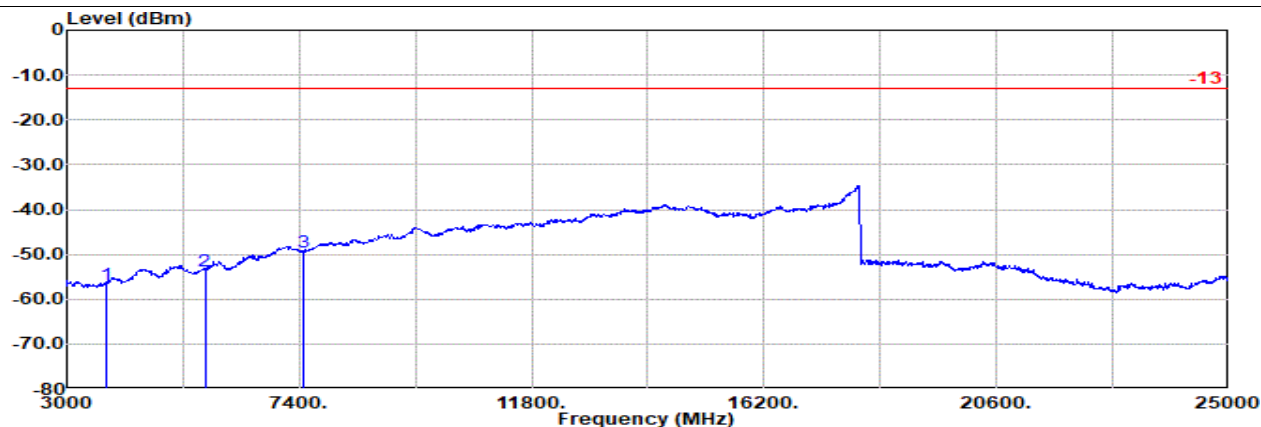


Site : 03CH11-HY

Condition: -13 1m SHF_1224_240624 Horizontal

: LTE Band 2 20M Ch18900 1RB0 QPSK

	Freq	Level	Detector	Ant Amp\Cb Filter				Readin	Limit	Margin	Pol
				Factor	1	EIRPCF					
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	3742.00	-56.80	RMS	29.95	-24.31	0.71	-95.23	32.08	-13.00	-43.80	Horizontal
2	5613.00	-53.87	RMS	32.78	-22.11	0.49	-95.23	30.20	-13.00	-40.87	Horizontal
3	7484.00	-48.65	RMS	36.23	-20.78	0.60	-95.23	30.53	-13.00	-35.65	Horizontal



Site : 03CH11-HY

Condition: -13 1m SHF_1224_240624 Vertical

: LTE Band 2 20M Ch18900 1RB0 QPSK

	Freq	Level	Detector	Ant Amp\Cb Filter				Readin	Limit	Margin	Pol
				Factor	1	EIRPCF					
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	3742.00	-56.77	RMS	29.95	-24.31	0.71	-95.23	32.11	-13.00	-43.77	Vertical
2	5613.00	-53.72	RMS	32.78	-22.11	0.49	-95.23	30.35	-13.00	-40.72	Vertical
3	7484.00	-49.42	RMS	36.23	-20.78	0.60	-95.23	29.76	-13.00	-36.42	Vertical

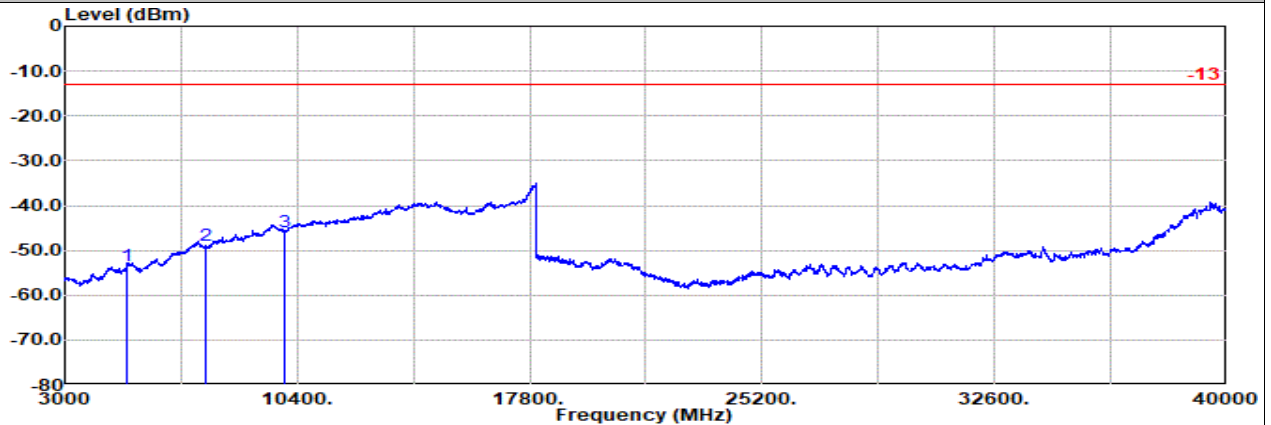


External Front Fender Antenna

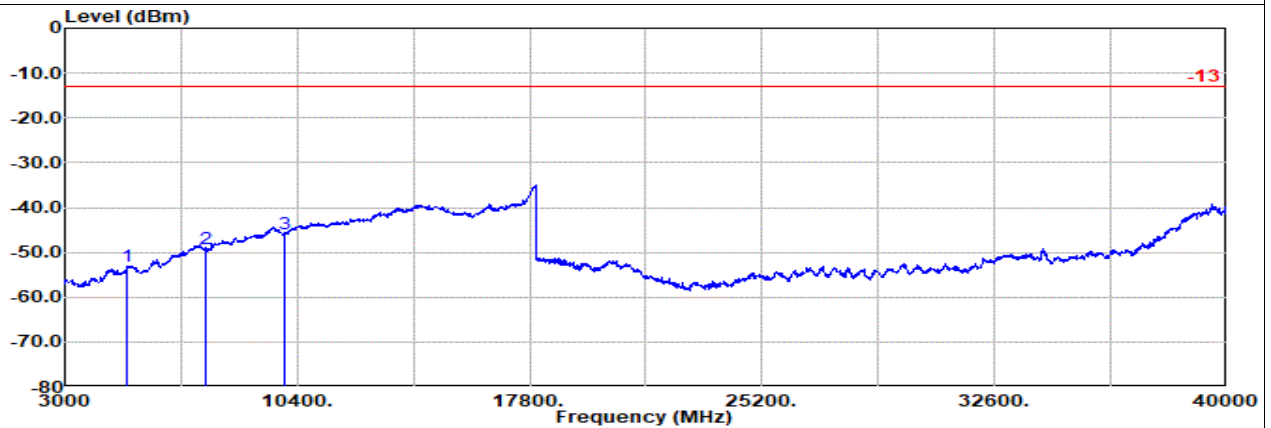
Part 27M Mode 1

LTE B7 20M Ch20850 1RB0 QPSK

L



	Freq	Level	Detector	Ant Amp\Cb Filter		EIRPCF	Readin	Limit	Margin	Pol
				Factor	1					
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB
1	5002.00	-53.32	RMS	33.29	-22.64	0.50	-95.23	30.76	-25.00	-28.32 Horizontal
2	7503.00	-48.97	RMS	36.19	-20.74	0.59	-95.23	30.22	-25.00	-23.97 Horizontal
3	10004.00	-45.81	RMS	38.02	-18.09	0.58	-95.23	28.91	-25.00	-20.81 Horizontal



	Freq	Level	Detector	Ant Amp\Cb Filter		EIRPCF	Readin	Limit	Margin	Pol
				Factor	1					
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB
1	5002.00	-53.27	RMS	33.29	-22.64	0.50	-95.23	30.81	-25.00	-28.27 Vertical
2	7503.00	-49.09	RMS	36.19	-20.74	0.59	-95.23	30.10	-25.00	-24.09 Vertical
3	10004.00	-45.86	RMS	38.02	-18.09	0.58	-95.23	28.86	-25.00	-20.86 Vertical

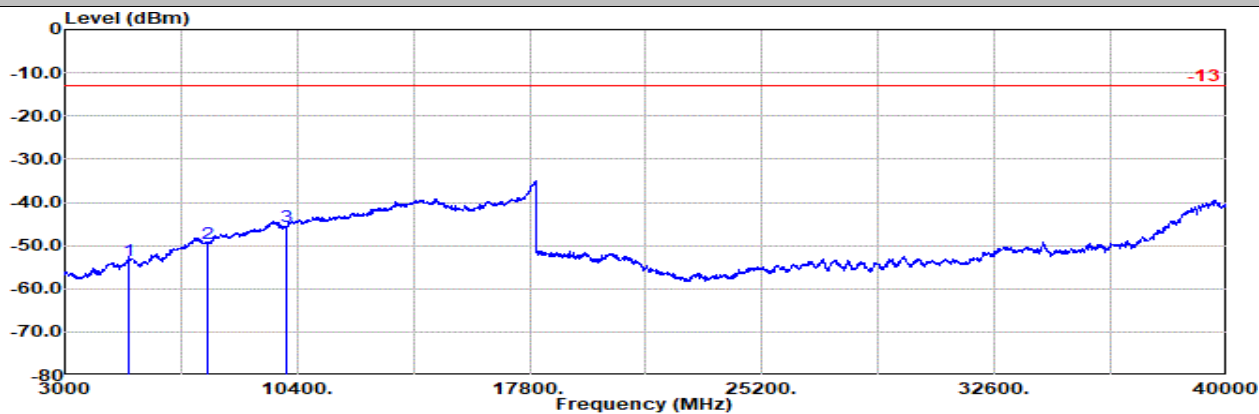


External Front Fender Antenna

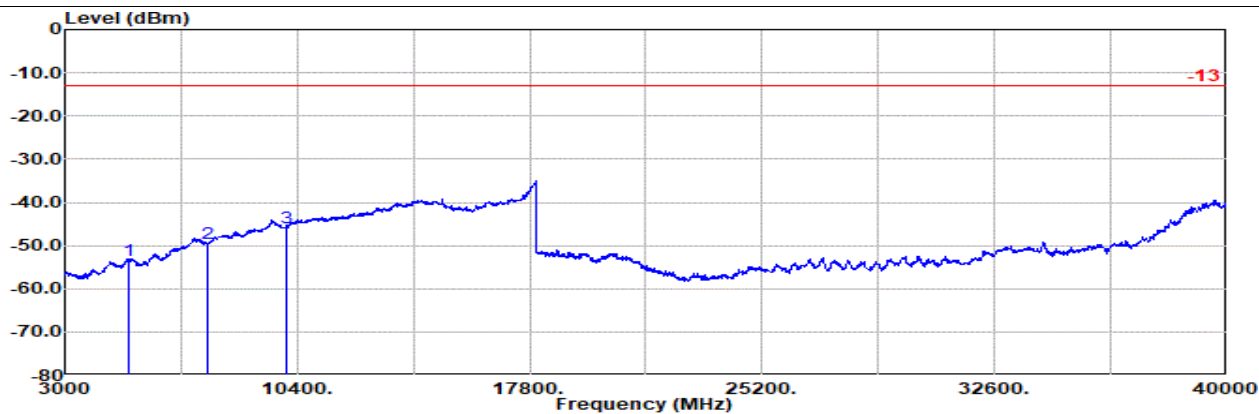
Part 27M Mode 2

LTE CA B7C 20M + 20M Ch20850 1RB99 QPSK + Ch21048 1RB0 QPSK

L



	Freq MHz	Level dBm	Detector	Ant Amp\Cb Filter				Readin g	Limit	Margin	Pol
				Factor	1	EIRPCF					
1	5038.00	-53.32	RMS	33.07	-22.60	0.50	-95.23	30.94	-25.00	-28.32	Horizontal
2	7557.00	-49.62	RMS	36.01	-20.65	0.56	-95.23	29.69	-25.00	-24.62	Horizontal
3	10076.00	-45.59	RMS	38.20	-18.06	0.58	-95.23	28.92	-25.00	-20.59	Horizontal



	Freq MHz	Level dBm	Detector	Ant Amp\Cb Filter				Readin g	Limit	Margin	Pol
				Factor	1	EIRPCF					
1	5038.00	-53.50	RMS	33.07	-22.60	0.50	-95.23	30.76	-25.00	-28.50	Vertical
2	7557.00	-49.38	RMS	36.01	-20.65	0.56	-95.23	29.93	-25.00	-24.38	Vertical
3	10076.00	-45.78	RMS	38.20	-18.06	0.58	-95.23	28.73	-25.00	-20.78	Vertical

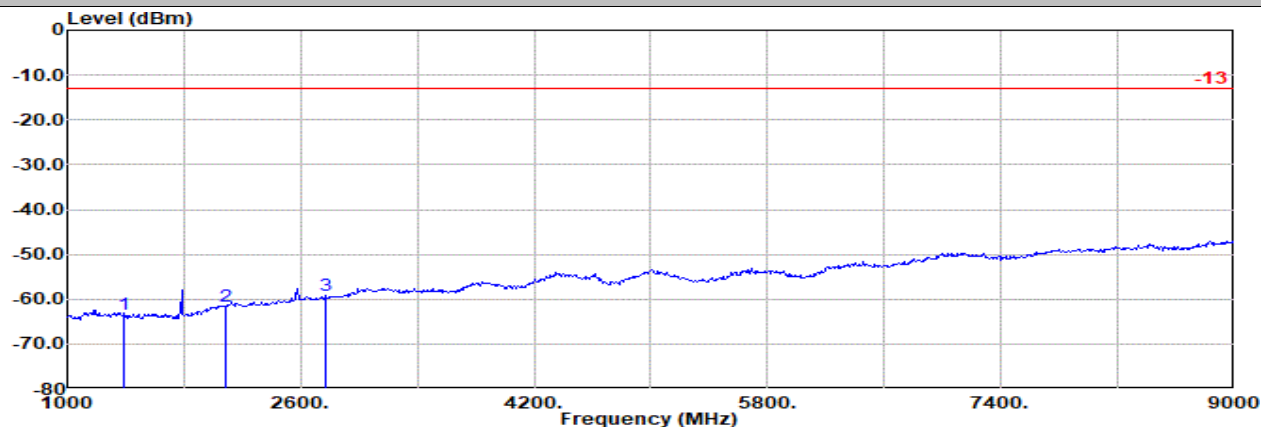


External Front Fender Antenna

Part 27N Mode 1

LTE B71 5M Ch133447 1RB0 QPSK

H

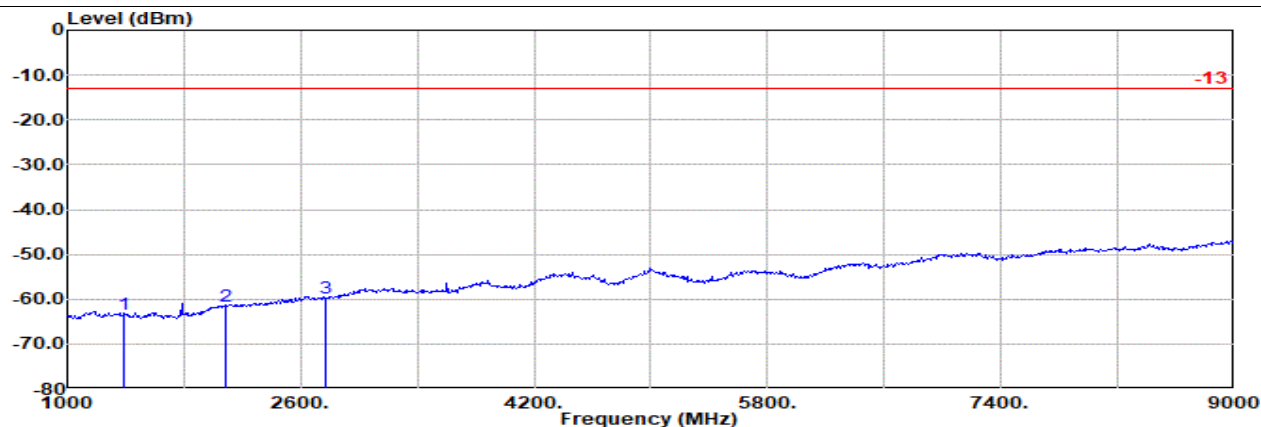


Site : 03CH11-HY

Condition: -13 3m 9120D_02038_240729 Horizontal

: LTE Band 71 5M Ch133447 1RB0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cb	Filter 1	EIRPCF	Readin g	Limit	Margin	Pol
	MHz	dBm		dB/m		dB	dB	dBuV	dBm	dB	
1	1387.00	-63.45	RMS	25.97	-29.67	0.68	-95.23	34.80	-13.00	-50.45	Horizontal
2	2080.00	-61.47	RMS	27.40	-26.87	0.12	-95.23	33.11	-13.00	-48.47	Horizontal
3	2773.00	-59.18	RMS	28.50	-25.96	0.24	-95.23	33.27	-13.00	-46.18	Horizontal



Site : 03CH11-HY

Condition: -13 3m 9120D_02038_240729 Vertical

: LTE Band 71 5M Ch133447 1RB0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cb	Filter 1	EIRPCF	Readin g	Limit	Margin	Pol
	MHz	dBm		dB/m		dB	dB	dBuV	dBm	dB	
1	1387.00	-63.39	RMS	25.97	-29.67	0.68	-95.23	34.86	-13.00	-50.39	Vertical
2	2080.00	-61.52	RMS	27.40	-26.87	0.12	-95.23	33.06	-13.00	-48.52	Vertical
3	2773.00	-59.63	RMS	28.50	-25.96	0.24	-95.23	32.82	-13.00	-46.63	Vertical

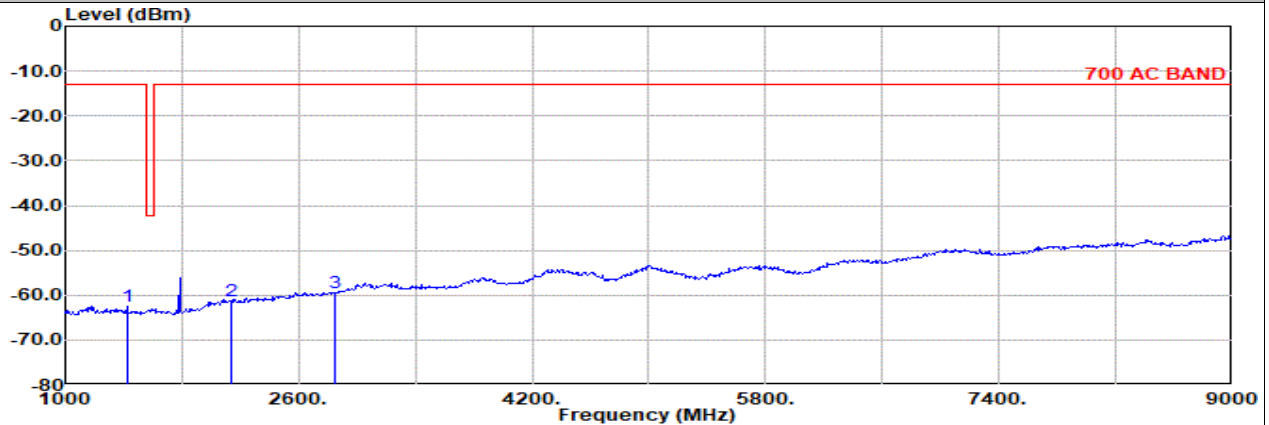


External Front Fender Antenna

Part 27H Mode 1

LTE B12 5M Ch23155 1RB0 QPSK

H

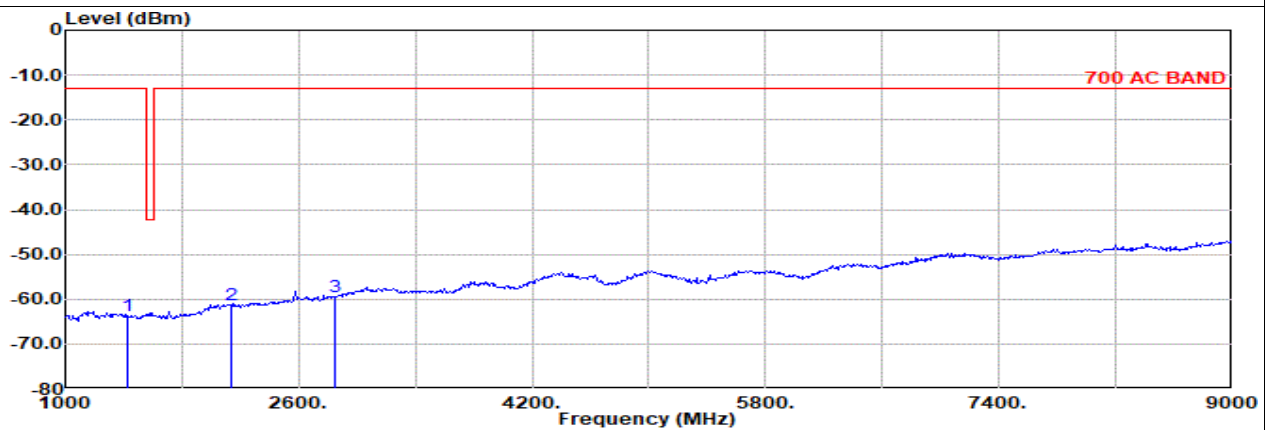


Site : 03CH11-HY

Condition: 700 AC BAND 3m 9120D_02038_240729 Horizontal

: LTE Band 12 5M Ch23155 1RB0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cb	Filter 1	EIRPCF	Readin g	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	1422.00	-62.50	RMS	25.70	-29.46	0.65	-95.23	35.84	-13.00	-49.50	Horizontal
2	2134.00	-61.29	RMS	27.30	-26.85	0.16	-95.23	33.33	-13.00	-48.29	Horizontal
3	2845.00	-59.45	RMS	28.60	-25.86	0.25	-95.23	32.79	-13.00	-46.45	Horizontal



Site : 03CH11-HY

Condition: 700 AC BAND 3m 9120D_02038_240729 Vertical

: LTE Band 12 5M Ch23155 1RB0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cb	Filter 1	EIRPCF	Readin g	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	1422.00	-63.59	RMS	25.70	-29.46	0.65	-95.23	34.75	-13.00	-50.59	Vertical
2	2134.00	-61.38	RMS	27.30	-26.85	0.16	-95.23	33.24	-13.00	-48.38	Vertical
3	2845.00	-59.40	RMS	28.60	-25.86	0.25	-95.23	32.84	-13.00	-46.40	Vertical

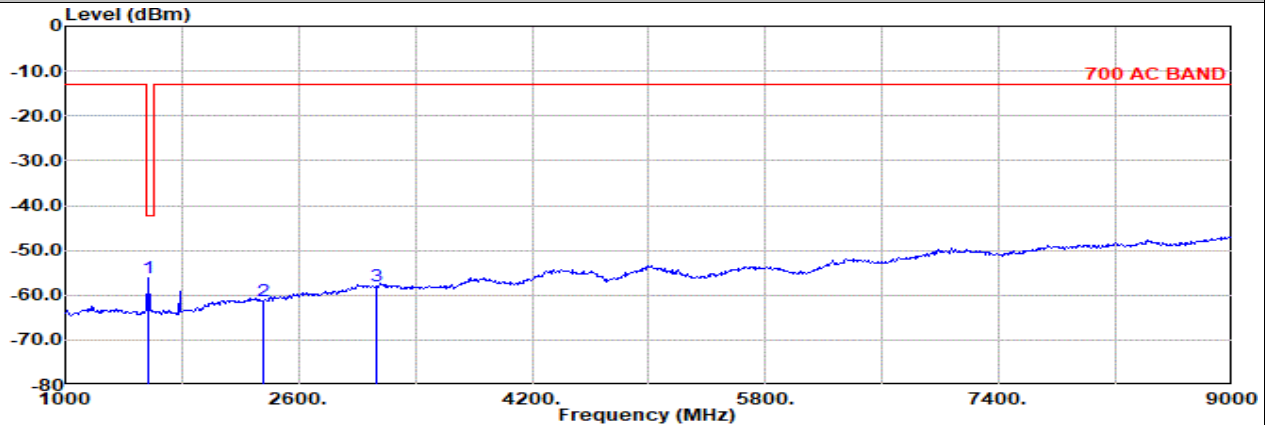


External Front Fender Antenna

Part 27F Mode 1

LTE B13 5M Ch23255 1RB0 QPSK

H

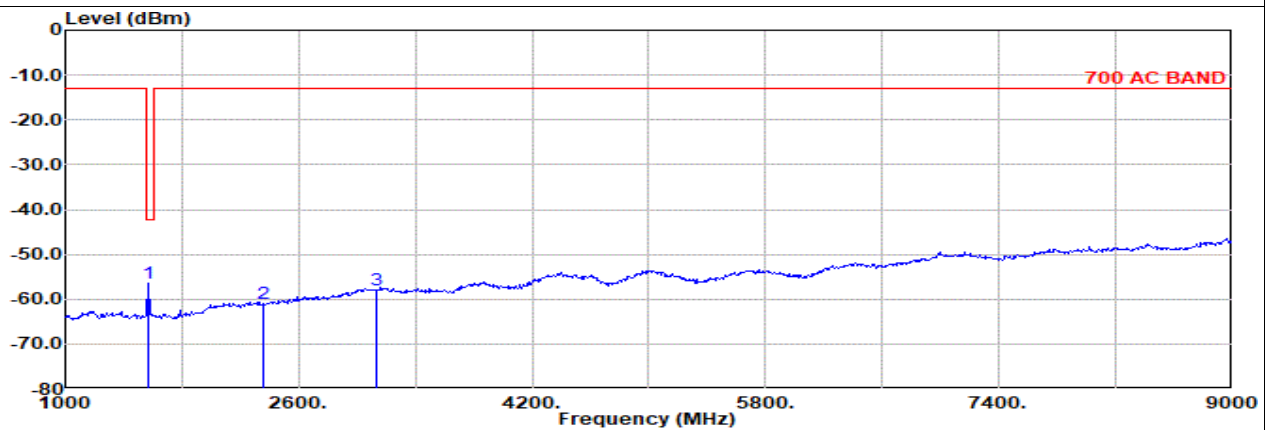


Site : 03CH11-HY

Condition: 700 AC BAND 3m 9120D_02038_240729 Horizontal

: LTE Band 13 5M Ch23255 1RB0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cb	Filter 1	EIRPCF	Readin g	Limit	Margin	Pol
	MHz	dBm				dB/m	dB	dB	dB	dB	
1	1568.00	-56.30	RMS	25.40	-28.68	0.44	-95.23	41.77	-42.15	-14.15	Horizontal
2	2352.00	-61.21	RMS	27.30	-26.61	0.23	-95.23	33.10	-13.00	-48.21	Horizontal
3	3136.00	-57.95	RMS	29.74	-25.38	0.27	-95.23	32.65	-13.00	-44.95	Horizontal



Site : 03CH11-HY

Condition: 700 AC BAND 3m 9120D_02038_240729 Vertical

: LTE Band 13 5M Ch23255 1RB0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cb	Filter 1	EIRPCF	Readin g	Limit	Margin	Pol
	MHz	dBm				dB/m	dB	dB	dB	dB	
1	1568.00	-56.45	RMS	25.40	-28.68	0.44	-95.23	41.62	-42.15	-14.30	Vertical
2	2352.00	-61.01	RMS	27.30	-26.61	0.23	-95.23	33.30	-13.00	-48.01	Vertical
3	3136.00	-57.96	RMS	29.74	-25.38	0.27	-95.23	32.64	-13.00	-44.96	Vertical

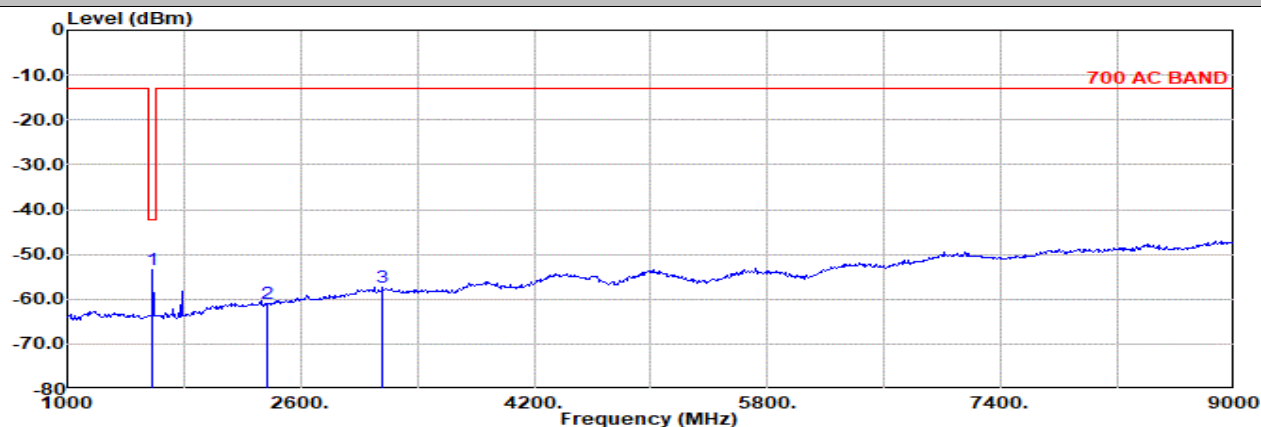


External Front Fender Antenna

Part 90R Mode 1

LTE B14 5M Ch23330 1RB0 QPSK

M

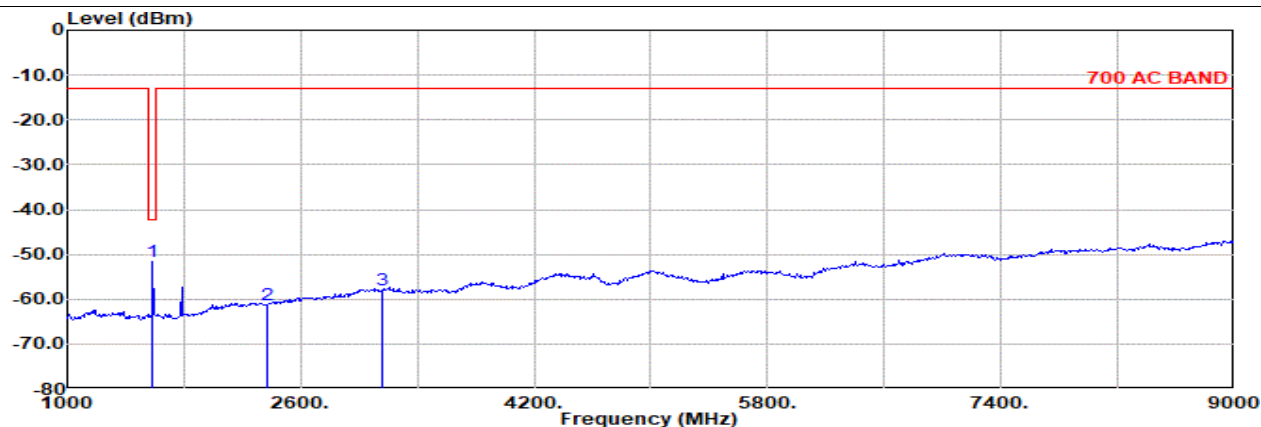


Site : 03CH11-HY

Condition: 700 AC BAND 3m 9120D_02038_240729 Horizontal

: LTE Band 14 5M Ch23330 1RB0 QPSK

	Freq		Level	Detector	Ant Amp\Cb Filter		EIRPCF	Readin	Limit	Margin	Pol
	Factor	1									
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	1584.00	-53.32	RMS	25.54	-28.62	0.42	-95.23	44.57	-42.15	-11.17	Horizontal
2	2372.00	-61.13	RMS	27.30	-26.58	0.23	-95.23	33.15	-13.00	-48.13	Horizontal
3	3163.00	-57.35	RMS	29.80	-25.33	0.27	-95.23	33.14	-13.00	-44.35	Horizontal



Site : 03CH11-HY

Condition: 700 AC BAND 3m 9120D_02038_240729 Vertical

: LTE Band 14 5M Ch23330 1RB0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cb 1	Filter	EIRPCF	Reading	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	1584.00	-51.47	RMS	25.54	-28.62	0.42	-95.23	46.42	-42.15	-9.32	Vertical
2	2372.00	-61.32	RMS	27.30	-26.58	0.23	-95.23	32.96	-13.00	-48.32	Vertical
3	3163.00	-57.82	RMS	29.80	-25.33	0.27	-95.23	32.67	-13.00	-44.82	Vertical

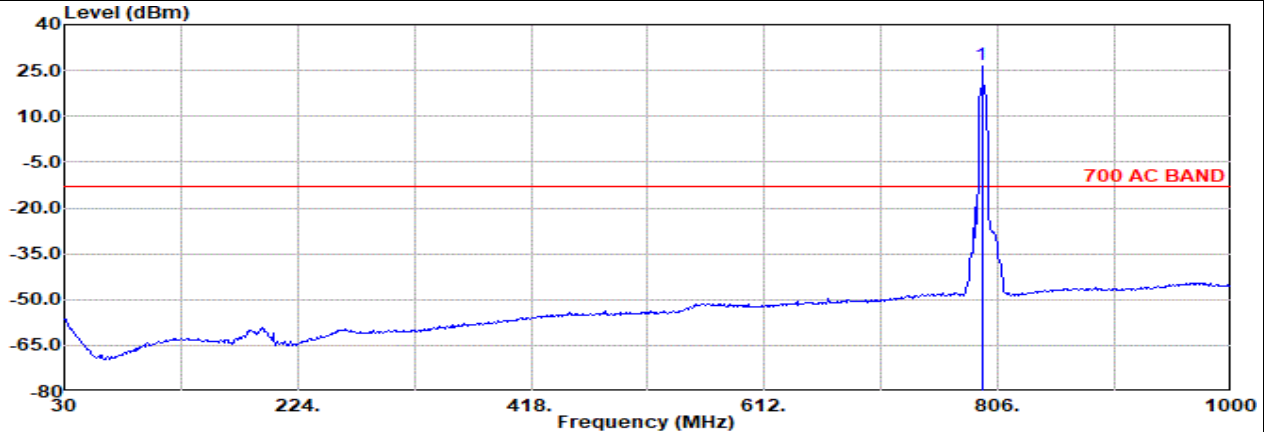


External Front Fender Antenna

Part 90R Mode 1

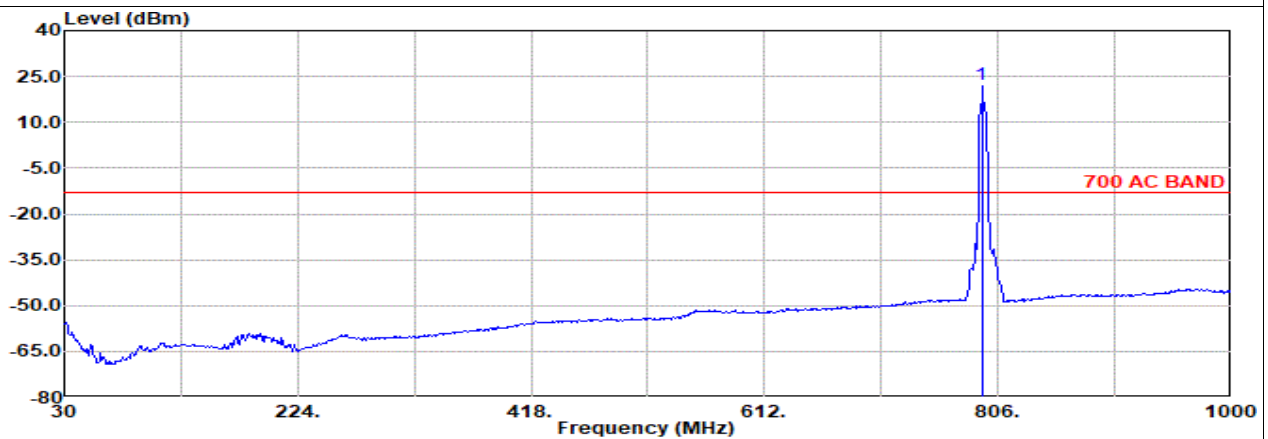
LTE B14 5M Ch23330 1RB0 QPSK

M



Site : 03CH11-HY
Condition: 700 AC BAND 3m Bilog_35414_231007 Horizontal
: LTE Band 14 5M Ch23330 1RB0 QPSK
: #1 is fundamental signal which can be ignored.

	Freq	Level	Detector	Ant Amp\Cb Filter		EIRPCF	Readin	Limit	Margin Pol	
				Factor	1					
	MHz	dBm		dB/m	dB	dB	dBuV	dBm	dB	
1	792.42	26.95	RMS	28.23	3.69	0.00	-95.23	90.26	-13.00	39.95 Horizontal



Site : 03CH11-HY
Condition: 700 AC BAND 3m Bilog_35414_231007 Vertical
: LTE Band 14 5M Ch23330 1RB0 QPSK
: #1 is fundamental signal which can be ignored.

	Freq	Level	Detector	Ant Amp\Cb Filter		EIRPCF	Readin	Limit	Margin Pol	
				Factor	1					
	MHz	dBm		dB/m	dB	dB	dBuV	dBm	dB	
1	792.42	22.33	RMS	28.23	3.69	0.00	-95.23	85.64	-13.00	35.33 Vertical

Remark: #1 is fundamental signal which can be ignored.