



FCC RADIO TEST REPORT

FCC ID : LHJ-FE5NA0010
Equipment : FE5NA0010, FE5NA0011
Brand Name : Continental
Model Name : FE5NA0010, FE5NA0011
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 Mar. 20, 2023 and testing was performed from Jan. 17, 2023 to Jan. 23, 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 / TIA-603-E and has been in compliance with the applicable technical standards.

The test results in this variant 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	8
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.....	20
3.1 Measuring Instruments	20
3.2 Conducted Output Power and ERP/EIRP	21
4 Radiated Test Items	22
4.1 Measuring Instruments	22
4.2 Radiated Spurious Emission Measurement	24
5 List of Measuring Equipment.....	26
6 Measurement Uncertainty	27
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
FG2N2201-11B	01	Initial issue of report	Feb. 21, 2024

Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)	Remark
3.2	§2.1046	Conducted Output Power	Reporting only	-
	§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)		
	§27.50 (d)(4)	Equivalent Isotropic Radiated Power (Band 4) (Band 66)		
	§90.542 (a)(7)	Effective Radiated Power (Band 14)		
-	§24.232 (d) §27.50 (d)(5)	Peak-to-Average Ratio	Not Required	-
-	§2.1049	Occupied Bandwidth	Not Required	-
-	§2.1051 §22.917 (a) §24.238 (a) §27.53 (c)(2)(4) §27.53 (g) §27.53 (h)	Conducted Band Edge Measurement (Band 2) (Band 4) (Band 5) (Band 12) (Band 13) (Band 66) (Band 71)	Not Required	-
	§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)	Not Required	-



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) §27.53 (h)	Conducted Spurious Emission (Band 2) (Band 4) (Band 5) (Band 12) (Band 13) (Band 66) (Band 71)	Not Required	-
	§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	Not Required	-
4.2	§2.1053 §22.917 (a) §24.238 (a) §27.53 (c)(2) §27.53 (f) §27.53 (g) §27.53 (h)	Radiated Spurious Emission (Band 2) (Band 4) (Band 5) (Band 12) (Band 13) (Band 66) (Band 71)	Pass	13.17 dB under the limit at 10146.00 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)		

Remark:

1. Not required means after assessing, test items are not necessary to carry out.
2. This is a variant report by changing SW and enabling internal antenna support band for LTE, LTE CA, 5G FR1 All the test cases were performed on original report which can be referred to Sporton Report Number FG2N2201-06B. Based on the original report, only worst case was verified.
3. The FG2N2201-11B report reuses Conducted output power from the FG2N2201B and FG2N2201E report.

Conformity Assessment Condition:

1. 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/manufacturer who shall bear all the risks of non-compliance that may potentially occur if measurement uncertainty is taken into account.
2. 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: Ming Chen**



1 General Description

1.1 Product Feature of Equipment Under Test

Product Feature	
Equipment	FE5NA0010, FE5NA0011
Brand Name	Continental
Model Name	FE5NA0010, FE5NA0011
FCC ID	LHJ-FE5NA0010
Installed into the Host	Equipment name: G12N510G1, G12N500G1 Brand name: Continental Model name: G12N510G1, G12N500G1
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	FE5NA0010	Support	/
2	FE5NA0011	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, B4, B5, B7, B12, B13, B14, B66, B71
Evaluated and Tested Band	B2, B4, B5, B7, B12, B13, B14, B66, B71

TDD Band Power Class				
	PC3	PC2		
B2	✓			
B4	✓			
B5	✓			
B7	✓			
B12	✓			
B13	✓			
B14	✓			
B66	✓			
B71	✓			

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 4: 1710.7 MHz ~ 1754.3 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 66: 1710.7 MHz ~ 1754.3 MHz LTE Band 71: 665.5 MHz ~ 695.5 MHz
Rx Frequency	LTE Band 2: 1930.7 MHz ~ 1989.3 MHz LTE Band 4: 2110.7 MHz ~ 2154.3 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 66: 2110.7 MHz ~ 2154.3 MHz LTE Band 71: 619.5 MHz ~ 649.5 MHz

Product Specification is subject to this standard	
Bandwidth	LTE Band 2: 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 4: 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: 5MHz / 10MHz LTE Band 66: 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 71: 5MHz / 10MHz / 15MHz / 20MHz
Maximum Output Power to Antenna	LTE Band 5B : 22.90 dBm LTE Band 7C : 23.29 dBm LTE Band 66B : 23.96 dBm LTE Band 66C : 23.14 dBm LTE Band 71 : 22.92 dBm
Antenna Type	<Internal (Model: INTANT01, INTANT02)>: TCP antenna
Antenna Gain	<Internal (Model: INTANT01, INTANT02)>: Primary cell antenna: LTE Band 2 : 5.15 dBi LTE Band 4 : 4.86 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 66 : 4.86dBi LTE Band 71 : 0.06 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 and Luffy Lin
Temperature (°C)	22.1~22.8
Relative Humidity (%)	53~55

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. 03CH12-HY (TAF Code:3786)
Test Engineer	Bill Chang, Tim Lee and Wilson Wu
Temperature (°C)	20~25
Relative Humidity (%)	50~60
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
- ♦ ANSI / TIA-603-E
- ♦ 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.

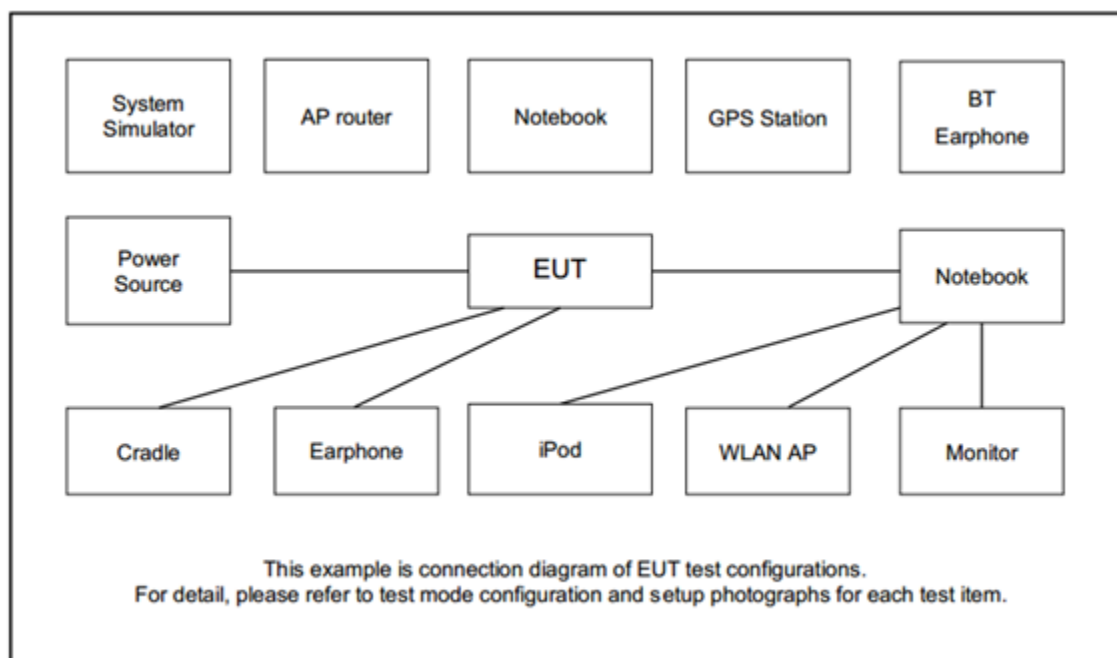
Modulation Type	Modulation
A	QPSK
B	16QAM
C	64QAM
D	256QAM

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	10 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. 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.	WWAN Antenna	Continental	42808215	N/A	N/A	N/A
2.	Metal Plate	N/A	N/A	N/A	N/A	Unshielded, 1.8 m
3.	Adapter	TePoo	PT-WC-03	N/A	N/A	N/A
4.	Teddy Jr Load Box	Continental	N/A	N/A	N/A	N/A
5.	DC Power Supply	GW Instek	GPE-2323	N/A	N/A	N/A
6.	System Simulator	Anritsu	MT8821C	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 4 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	20050	20175	20300
	Frequency	1720	1732.5	1745
15	Channel	20025	20175	20325
	Frequency	1717.5	1732.5	1747.5
10	Channel	20000	20175	20350
	Frequency	1715	1732.5	1750
5	Channel	19975	20175	20375
	Frequency	1712.5	1732.5	1752.5
3	Channel	19965	20175	20385
	Frequency	1711.5	1732.5	1753.5
1.4	Channel	19957	20175	20393
	Frequency	1710.7	1732.5	1754.3



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 66 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	132072	132322	132572
	Frequency	1720	1745	1770
15	Channel	132047	132322	132597
	Frequency	1717.5	1745	1772.5
10	Channel	132022	132322	132622
	Frequency	1715	1745	1775
5	Channel	131997	132322	132647
	Frequency	1712.5	1745	1777.5
3	Channel	131987	132322	132657
	Frequency	1711.5	1745	1778.5
1.4	Channel	131979	132322	132665
	Frequency	1710.7	1745	1779.3



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
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



LTE Band 66B Channel and Frequency List_CA					
BW [MHz]	Channel/Frequency(MHz)		Lowest	Middle	Highest
5 + 5	PCC	Channel	131997	132398	132599
		Frequency	1712.5	1752.6	1772.7
	SCC	Channel	132045	133346	132647
		Frequency	1717.3	1757.4	1777.5
5 + 10	PCC	Channel	132000	132375	132550
		Frequency	1712.8	1750.3	1767.8
	SCC	Channel	132072	133347	132622
		Frequency	1720.0	1757.5	1775.0
10 + 5	PCC	Channel	132022	132397	132572
		Frequency	1715.0	1752.5	1770.0
	SCC	Channel	132094	133369	132644
		Frequency	1722.2	1759.7	1777.2
5 + 15	PCC	Channel	132002	132353	132504
		Frequency	1713.0	1748.1	1763.2
	SCC	Channel	132095	133346	132597
		Frequency	1722.3	1757.4	1772.5
15 + 5	PCC	Channel	132047	132398	132549
		Frequency	1717.5	1752.6	1767.7
	SCC	Channel	132140	133391	132642
		Frequency	1726.8	1761.9	1777.0
10 + 10	PCC	Channel	132022	132373	135523
		Frequency	1715.0	1750.1	1765.1
	SCC	Channel	132121	133372	132622
		Frequency	1724.9	1760.0	1775.0



LTE Band 66C Channel and Frequency List_CA					
BW [MHz]	Channel/Frequency(MHz)		Lowest	Middle	Highest
10 + 15	PCC	Channel	132025	132351	132477
		Frequency	1715.3	1747.9	1760.5
	SCC	Channel	132145	133371	132597
		Frequency	1727.3	1759.9	1772.5
15 + 10	PCC	Channel	132047	132373	132499
		Frequency	1717.5	1750.1	1762.7
	SCC	Channel	132167	132493	132619
		Frequency	1729.5	1762.1	1774.7
10 + 20	PCC	Channel	132027	132328	132428
		Frequency	1715.5	1745.6	1755.6
	SCC	Channel	131171	133372	132572
		Frequency	1729.9	1760.0	1770.0
20 + 10	PCC	Channel	132072	132373	132473
		Frequency	1720.0	1750.1	1760.1
	SCC	Channel	132216	133417	132617
		Frequency	1734.4	1764.5	1774.5
15 + 15	PCC	Channel	132047	132347	132447
		Frequency	1717.5	1747.5	1757.5
	SCC	Channel	132197	133397	132597
		Frequency	1732.5	1762.5	1772.5
15 + 20	PCC	Channel	132050	132325	132401
		Frequency	1717.8	1745.3	1752.9
	SCC	Channel	132221	133396	132572
		Frequency	1734.9	1762.4	1770.0
20 + 15	PCC	Channel	132072	132348	132423
		Frequency	1720.0	1747.6	1755.1
	SCC	Channel	132243	133419	132594
		Frequency	1737.1	1764.7	1772.2
20 + 5	PCC	Channel	132072	132397	132522
		Frequency	1720.0	1752.5	1765.0
	SCC	Channel	132189	133414	132639
		Frequency	1731.7	1764.2	1776.7



LTE Band 66C Channel and Frequency List_CA					
5 + 20	PCC	Channel	132005	132330	132455
		Frequency	1713.3	1745.8	1758.3
	SCC	Channel	132122	132447	132572
		Frequency	1725.0	1757.5	1770.0
20 + 20	PCC	Channel	132072	132323	132374
		Frequency	1720.0	1745.1	1750.2
	SCC	Channel	132270	133421	132572
		Frequency	1739.8	1764.9	1770.0

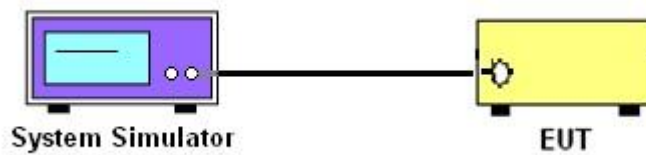
3 Conducted Test Items

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

The EIRP of mobile transmitters must not exceed 1 Watts for LTE Band 4, Band 66

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.

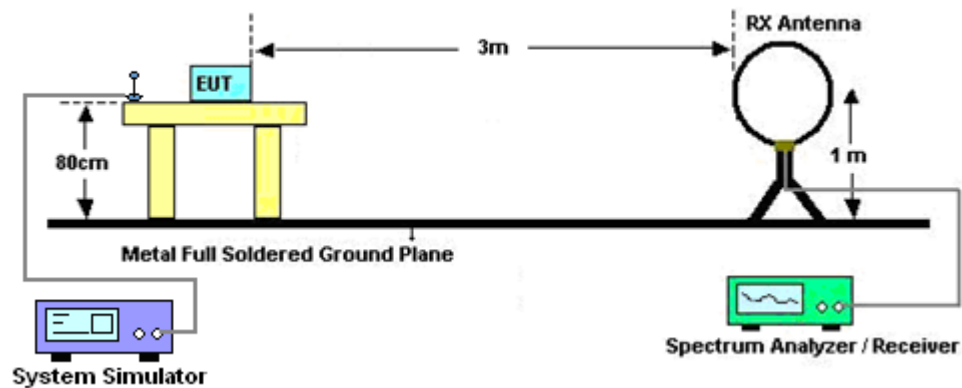
4 Radiated Test Items

4.1 Measuring Instruments

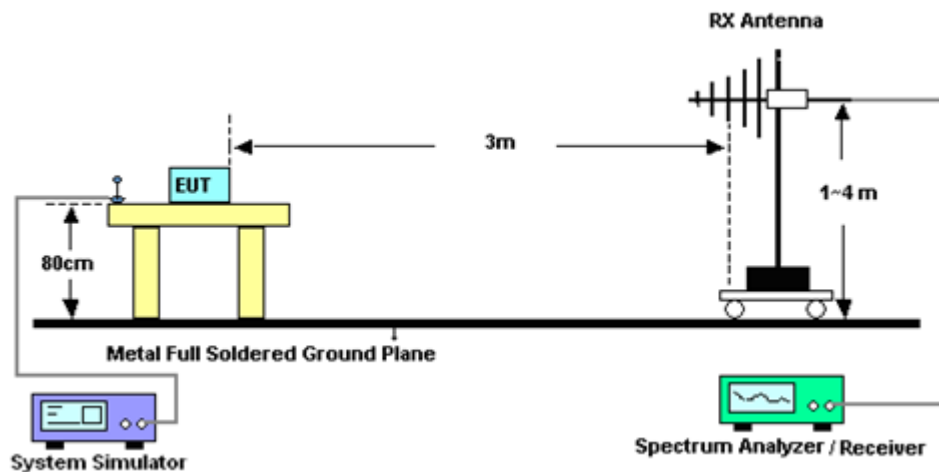
See list of measuring instruments of this test report.

4.1.1 Test Setup

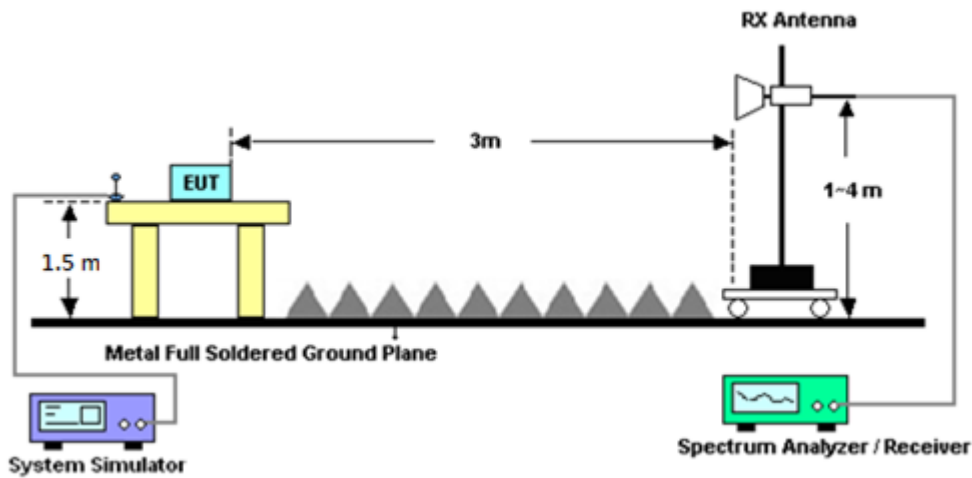
For radiated test below 30MHz



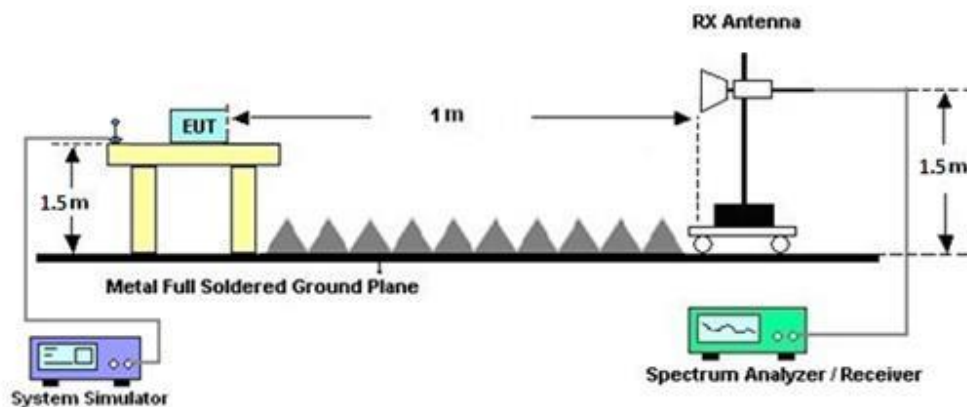
For radiated test from 30MHz to 1GHz



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 / TIA-603-E. 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 / TIA-603-E 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
Radio Communication Analyzer	Anritsu	MT8821C	6262025353	LTE FDD/TDD LTE-2CC DLCA/ULCA	Oct. 13, 2022	Jan. 17, 2023~ Mar. 23, 2023	Oct. 12, 2023	Conducted (TH03-HY)
Thermal Chamber	ESPEC	SH-641	92013720	-40°C ~90°C	Sep. 07, 2022	Jan. 17, 2023~ Mar. 23, 2023	Sep. 06, 2023	Conducted (TH03-HY)
DC Power Supply	GW Instek	GPP-2323	GES906037	0V~64V ; 0A~6A	Dec. 29, 2022	Jan. 17, 2023~ Mar. 23, 2023	Dec. 28, 2023	Conducted (TH03-HY)
Coupler	Warison	20dB 25W SMA Directional Coupler	#B	1-18GHz	Jan. 06, 2023	Jan. 17, 2023~ Mar. 23, 2023	Jan. 05, 2024	Conducted (TH03-HY)
Base Station (Measure)	Anritsu	MT8000A	6262134933	FR1	Jun. 13, 2022	Jan. 17, 2023~ Mar. 23, 2023	Jun. 12, 2023	Conducted (TH03-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100315	9 kHz~30 MHz	Feb. 28, 2023	Jan. 18, 2024~ Jan. 23, 2024	Feb. 27, 2024	Radiation (03CH12-HY)
Bilog Antenna	TESEQ	CBL 6111D & 00800N1D01N-06	37059 & 01	30MHz~1GHz	Nov. 03, 2023	Jan. 18, 2024~ Jan. 23, 2024	Nov. 02, 2024	Radiation (03CH12-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-02114	1GHz~18GHz	Jul. 31, 2023	Jan. 18, 2024~ Jan. 23, 2024	Jul. 30, 2024	Radiation (03CH12-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA9170	1224	18GHz~40GHz	Jul. 10, 2023	Jan. 18, 2024~ Jan. 23, 2024	Jul. 09, 2024	Radiation (03CH12-HY)
Preamplifier	COM-POWER	PA-103A	161075	10MHz~1GHz	Mar. 21, 2023	Jan. 18, 2024~ Jan. 23, 2024	Mar. 20, 2024	Radiation (03CH12-HY)
Preamplifier	Agilent	8449B	3008A02375	1GHz~26.5GHz	May 23, 2023	Jan. 18, 2024~ Jan. 23, 2024	May 22, 2024	Radiation (03CH12-HY)
Preamplifier	E-INSTRUMENT TECH LTD.	ERA-100M-18G-5 6-01-A70	EC1900249	1GHz~18GHz	Dec. 20, 2023	Jan. 18, 2024~ Jan. 23, 2024	Dec. 19, 2024	Radiation (03CH12-HY)
Preamplifier	EMEC	EM18G40G	060715	18GHz~40GHz	Dec. 07, 2023	Jan. 18, 2024~ Jan. 23, 2024	Dec. 06, 2024	Radiation (03CH12-HY)
Spectrum Analyzer	Agilent	N9010A	MY53470118	10Hz~44GHz	Jan. 10, 2024	Jan. 18, 2024~ Jan. 23, 2024	Jan. 09, 2025	Radiation (03CH12-HY)
Filter	Wainwright	WHKX12-900-100 0-15000-60SS	SN12	1GHz High Pass Filter	Sep. 11, 2023	Jan. 18, 2024~ Jan. 23, 2024	Sep. 10, 2024	Radiation (03CH12-HY)
Filter	Wainwright	WHKX12-2700-30 00-18000-60ST	SN2	3GHz High Pass Filter	Mar. 14, 2023	Jan. 18, 2024~ Jan. 23, 2024	Mar. 13, 2024	Radiation (03CH12-HY)
Filter	Wainwright	WHKX8-5872.5-6 750-18000-40ST	SN2	6.75GHz High Pass Filter	Mar. 14, 2023	Jan. 18, 2024~ Jan. 23, 2024	Mar. 13, 2024	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	803951/2	9kHz~30MHz	Mar. 07, 2023	Jan. 18, 2024~ Jan. 23, 2024	Mar. 06, 2024	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 126E	0058/126E	30MHz~18GHz	Dec. 18, 2023	Jan. 18, 2024~ Jan. 23, 2024	Dec. 17, 2024	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	505134/2	30MHz~40GHz	Dec. 18, 2023	Jan. 18, 2024~ Jan. 23, 2024	Dec. 17, 2024	Radiation (03CH12-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	803953/2	30MHz~40GHz	Dec. 18, 2023	Jan. 18, 2024~ Jan. 23, 2024	Dec. 17, 2024	Radiation (03CH12-HY)
Hygrometer	TECEPIL	DTM-303B	TP210117	N/A	Oct. 19, 2023	Jan. 18, 2024~ Jan. 23, 2024	Oct. 18, 2024	Radiation (03CH12-HY)
Controller	EMEC	EM1000	N/A	Control Turn table & Ant Mast	N/A	Jan. 18, 2024~ Jan. 23, 2024	N/A	Radiation (03CH12-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1m~4m	N/A	Jan. 18, 2024~ Jan. 23, 2024	N/A	Radiation (03CH12-HY)
Turn Table	EMEC	TT2000	N/A	0~360 Degree	N/A	Jan. 18, 2024~ Jan. 23, 2024	N/A	Radiation (03CH12-HY)
Software	Audix	E3 6.2009-8-24	RK-000989	N/A	N/A	Jan. 18, 2024~ Jan. 23, 2024	N/A	Radiation (03CH12-HY)



6 Measurement Uncertainty

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	3.07 dB
---	---------

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	3.63 dB
---	---------

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

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2U_c(y)$)	4.14 dB
---	---------



Appendix A. Test Results of Conducted Test

Conducted Output Power(Average power & ERP/EIRP)

LTE Band 71 Maximum Average Power [dBm] (GT - LC = 0.06 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
20	1	0	QPSK	22.92	22.69	22.62	20.83	0.1211
20	1	49		22.70	22.58	22.63		
20	1	99		22.61	22.64	22.66		
20	50	0		21.77	21.65	21.60		
20	50	24		21.88	21.78	21.75		
20	50	50		21.75	21.76	21.81		
20	100	0		21.79	21.72	21.75		
20	1	0	16-QAM	22.26	22.04	21.98	20.17	0.1040
20	1	49		22.03	21.95	21.96		
20	1	99		21.99	21.99	22.02		
20	50	0		20.78	20.66	20.60		
20	50	24		20.87	20.80	20.73		
20	50	50		20.79	20.76	20.82		
20	100	0		20.81	20.72	20.74		
20	1	0	64-QAM	21.07	20.89	20.82	18.98	0.0791
20	1	49		20.89	20.80	20.83		
20	1	99		20.88	20.90	20.90		
20	50	0		19.80	19.67	19.63		
20	50	24		19.91	19.81	19.77		
20	50	50		19.81	19.79	19.85		
20	100	0		19.85	19.72	19.76		
Limit	ERP < 3W			Result			Pass	



LTE Band 71 Maximum Average Power [dBm] (GT - LC = 0.06 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
15	1	0	QPSK	22.78	22.49	22.47	20.69	0.1172
15	1	37		22.70	22.40	22.61		
15	1	74		22.58	22.45	22.49		
15	36	0		21.61	21.49	21.42		
15	36	20		21.71	21.77	21.55		
15	36	39		21.55	21.70	21.74		
15	75	0		21.63	21.57	21.55		
15	1	0	16-QAM	22.16	21.95	21.83	20.07	0.1016
15	1	37		21.99	21.77	21.83		
15	1	74		21.83	21.80	21.96		
15	36	0		20.67	20.53	20.59		
15	36	20		20.82	20.70	20.59		
15	36	39		20.60	20.75	20.69		
15	75	0		20.70	20.66	20.73		
15	1	0	64-QAM	20.93	20.75	20.64	18.84	0.0766
15	1	37		20.74	20.65	20.64		
15	1	74		20.77	20.70	20.84		
15	36	0		19.65	19.59	19.62		
15	36	20		19.83	19.80	19.61		
15	36	39		19.77	19.78	19.80		
15	75	0		19.85	19.69	19.65		
Limit	ERP < 3W			Result			Pass	



LTE Band 71 Maximum Average Power [dBm] (GT - LC = 0.06 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
10	1	0	QPSK	22.82	22.56	22.58	20.73	0.1183
10	1	25		22.57	22.56	22.48		
10	1	49		22.57	22.54	22.48		
10	25	0		21.66	21.54	21.56		
10	25	12		21.68	21.68	21.57		
10	25	25		21.60	21.72	21.63		
10	50	0		21.68	21.57	21.57		
10	1	0	16-QAM	22.24	21.97	21.80	20.15	0.1035
10	1	25		21.89	21.89	21.79		
10	1	49		21.89	21.97	21.84		
10	25	0		20.60	20.65	20.45		
10	25	12		20.86	20.80	20.70		
10	25	25		20.78	20.62	20.75		
10	50	0		20.61	20.64	20.70		
10	1	0	64-QAM	21.01	20.82	20.62	18.92	0.0780
10	1	25		20.73	20.69	20.78		
10	1	49		20.68	20.70	20.88		
10	25	0		19.72	19.54	19.44		
10	25	12		19.87	19.78	19.76		
10	25	25		19.64	19.63	19.84		
10	50	0		19.80	19.54	19.61		
Limit	ERP < 3W			Result			Pass	



LTE Band 71 Maximum Average Power [dBm] (GT - LC = 0.06 dB)								
BW [MHz]	RB Size	RB Offset	Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
5	1	0	QPSK	22.82	22.50	22.56	20.73	0.1183
5	1	12		22.58	22.54	22.58		
5	1	24		22.46	22.46	22.49		
5	12	0		21.77	21.62	21.60		
5	12	7		21.84	21.62	21.74		
5	12	13		21.75	21.66	21.70		
5	25	0		21.64	21.62	21.72		
5	1	0	16-QAM	22.21	21.91	21.88	20.12	0.1028
5	1	12		21.85	21.89	21.78		
5	1	24		21.94	21.89	21.83		
5	12	0		20.78	20.66	20.51		
5	12	7		20.68	20.60	20.71		
5	12	13		20.77	20.65	20.70		
5	25	0		20.73	20.54	20.61		
5	1	0	64-QAM	21.03	20.75	20.75	18.94	0.0783
5	1	12		20.82	20.69	20.67		
5	1	24		20.86	20.74	20.78		
5	12	0		19.63	19.50	19.62		
5	12	7		19.74	19.62	19.58		
5	12	13		19.80	19.78	19.70		
5	25	0		19.83	19.55	19.61		
Limit	ERP < 3W			Result			Pass	



LTE Band 5B_CA Maximum Average Power [dBm] (GT - LC = 4.69 dB)										
BW [MHz]	PCC		SCC		Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
	RB Size	RB Offset	RB Size	RB Offset						
10+10	1	0	0	0	QPSK	22.00	21.97	21.97	25.43	0.3491
10+10	1	0	1	49		13.17	13.24	13.34		
10+10	1	49	1	0		22.80	22.89	22.56		
10+10	1	0	0	0	16-QAM	21.24	21.11	21.22	25.32	0.3404
10+10	1	0	1	49		13.39	13.38	13.36		
10+10	1	49	1	0		22.54	22.78	21.70		
10+10	1	0	0	0	64-QAM	20.83	20.65	20.62	24.30	0.2692
10+10	1	0	1	49		13.41	13.30	13.45		
10+10	1	49	1	0		21.46	21.76	20.69		
10+5	1	49	1	0	QPSK	22.80	22.70	22.90	25.44	0.3499
10+5	1	49	1	0	16-QAM	22.59	22.51	22.70	25.24	0.3342
10+5	1	49	1	0	64-QAM	21.28	21.03	20.70	23.82	0.2410
5+10	1	24	1	0	QPSK	22.90	22.89	22.88	25.44	0.3499
5+10	1	24	1	0	16-QAM	22.53	22.50	22.10	25.07	0.3214
5+10	1	24	1	0	64-QAM	19.99	21.46	20.09	24.00	0.2512
Limit	ERP < 7W					Result			Pass	



FCC RADIO TEST REPORT

Report No. : FG2N2201-11B

LTE Band 5B_CA Maximum Average Power [dBm] (GT - LC = 4.69 dB)										
BW [MHz]	PCC		SCC		Mod	Lowest	Middle	Highest	ERP (dBm)	ERP (W)
	RB Size	RB Offset	RB Size	RB Offset						
5+3	1	24	1	0	QPSK	22.78	22.84	22.59	26.11	0.4083
5+3	1	24	1	0	16-QAM	22.32	22.71	20.26	25.25	0.3350
5+3	1	24	1	0	64-QAM	21.32	21.69	20.71	24.23	0.2649
3+5	1	14	1	0	QPSK	22.87	22.89	22.56	25.92	0.3908
3+5	1	14	1	0	16-QAM	22.54	22.78	21.70	25.32	0.3404
3+5	1	14	1	0	64-QAM	21.46	21.76	20.69	24.30	0.2692
Limit	ERP < 7W					Result			Pass	



FCC RADIO TEST REPORT

Report No. : FG2N2201-11B

LTE Band 66B_CA Maximum Average Power [dBm] (GT - LC = 4.86 dB)										
BW [MHz]	PCC		SCC		Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
	RB Size	RB Offset	RB Size	RB Offset						
10+10	1	0	0	0	QPSK	21.72	21.76	21.80	27.88	0.6138
10+10	1	0	1	49		12.72	12.61	12.55		
10+10	1	49	1	0		23.02	23.01	23.01		
10+10	1	0	0	0	16-QAM	21.22	20.80	21.00	27.35	0.5433
10+10	1	0	1	49		12.92	12.80	12.68		
10+10	1	49	1	0		22.45	22.49	22.44		
10+10	1	0	0	0	64-QAM	19.87	19.71	19.68	25.86	0.3855
10+10	1	0	1	49		12.75	12.65	12.56		
10+10	1	49	1	0		21.00	20.69	20.54		
15+5	1	74	1	0	QPSK	23.03	23.02	22.89	28.97	0.7889
15+5	1	74	1	0	16-QAM	22.50	22.46	22.01	29.24	0.8395
15+5	1	74	1	0	64-QAM	20.22	20.21	19.12	29.11	0.8147
5+15	1	24	1	0	QPSK	23.01	22.90	22.98	28.73	0.7464
5+15	1	24	1	0	16-QAM	22.48	22.60	22.47	28.85	0.7674
5+15	1	24	1	0	64-QAM	20.54	20.88	20.43	29.03	0.7998
Limit	EIRP < 1W					Result			Pass	



FCC RADIO TEST REPORT

Report No. : FG2N2201-11B

LTE Band 66B_CA Maximum Average Power [dBm] (GT - LC = 4.86 dB)										
BW [MHz]	PCC		SCC		Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
	RB Size	RB Offset	RB Size	RB Offset						
10+5	1	49	1	0	QPSK	23.01	23.96	23.00	28.82	0.7621
10+5	1	49	1	0	16-QAM	22.45	22.57	22.51	27.43	0.5534
10+5	1	49	1	0	64-QAM	20.46	20.78	20.15	25.64	0.3664
5+10	1	24	1	0	QPSK	22.97	23.03	23.02	27.89	0.6152
5+10	1	24	1	0	16-QAM	22.64	22.60	22.54	27.50	0.5623
5+10	1	24	1	0	64-QAM	21.22	21.05	20.62	26.08	0.4055
5+5	1	24	1	0	QPSK	22.97	22.97	23.01	28.56	0.7178
5+5	1	24	1	0	16-QAM	22.53	22.50	22.42	29.01	0.7962
5+5	1	24	1	0	64-QAM	21.01	21.15	20.10	28.33	0.6808
Limit	EIRP < 1W					Result			Pass	



LTE Band 66C_CA Maximum Average Power [dBm] (GT - LC = 4.86 dB)										
BW [MHz]	PCC		SCC		Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
	RB Size	RB Offset	RB Size	RB Offset						
20+20	1	0	0	0	QPSK	21.75	22.02	22.09	28.00	0.6310
20+20	1	0	1	99		14.77	14.65	14.66		
20+20	1	99	1	0		23.12	23.14	23.08		
20+20	1	0	0	0	16-QAM	20.68	21.55	20.98	27.52	0.5649
20+20	1	0	1	99		14.90	14.89	14.82		
20+20	1	99	1	0		22.66	22.57	22.63		
20+20	1	0	0	0	64-QAM	20.01	20.12	20.02	25.70	0.3715
20+20	1	0	1	99		14.80	14.72	14.76		
20+20	1	99	1	0		20.84	20.84	20.66		
20+15	1	74	1	0	QPSK	23.14	23.02	23.12	28.00	0.6310
20+15	1	74	1	0	16-QAM	23.01	23.01	22.76	27.87	0.6124
20+15	1	74	1	0	64-QAM	20.67	20.60	20.08	25.53	0.3573
15+20	1	74	1	0	QPSK	23.12	23.07	23.01	27.98	0.6281
15+20	1	74	1	0	16-QAM	22.42	22.62	22.42	27.48	0.5598
15+20	1	74	1	0	64-QAM	20.75	20.75	20.58	25.61	0.3639
Limit	EIRP < 1W					Result			Pass	

LTE Band 66C_CA Maximum Average Power [dBm] (GT - LC = 4.86 dB)										
BW [MHz]	PCC		SCC		Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
	RB Size	RB Offset	RB Size	RB Offset						
20+10	1	99	1	0	QPSK	23.12	23.13	22.93	27.99	0.6295
20+10	1	99	1	0	16-QAM	22.65	22.67	22.02	27.53	0.5662
20+10	1	99	1	0	64-QAM	20.75	20.56	19.27	25.61	0.3639
10+20	1	49	1	0	QPSK	23.03	23.12	22.98	27.98	0.6281
10+20	1	49	1	0	16-QAM	22.49	22.58	22.53	27.44	0.5546
10+20	1	49	1	0	64-QAM	20.86	20.79	20.64	25.72	0.3733
20+5	1	99	1	0	QPSK	23.10	23.12	23.00	27.98	0.6281
20+5	1	99	1	0	16-QAM	22.66	22.59	22.14	27.52	0.5649
20+5	1	99	1	0	64-QAM	20.71	20.54	19.30	25.57	0.3606
Limit	EIRP < 1W					Result			Pass	



FCC RADIO TEST REPORT

Report No. : FG2N2201-11B

LTE Band 66C_CA Maximum Average Power [dBm] (GT - LC = 4.86 dB)										
BW [MHz]	PCC		SCC		Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
	RB Size	RB Offset	RB Size	RB Offset						
5+20	1	24	1	0	QPSK	23.04	23.08	23.12	27.98	0.6281
5+20	1	24	1	0	16-QAM	22.66	22.61	22.45	27.52	0.5649
5+20	1	24	1	0	64-QAM	20.68	20.89	20.65	25.75	0.3758
Limit	EIRP < 1W					Result			Pass	

LTE Band 66C_CA Maximum Average Power [dBm] (GT - LC = 4.86 dB)										
BW [MHz]	PCC		SCC		Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
	RB Size	RB Offset	RB Size	RB Offset						
15+10	1	74	1	0	QPSK	23.03	23.04	22.92	27.90	0.6166
15+10	1	74	1	0	16-QAM	22.57	22.47	22.08	27.43	0.5534
15+10	1	74	1	0	64-QAM	20.75	20.75	19.27	25.61	0.3639
10+15	1	49	1	0	QPSK	23.12	23.12	23.07	27.98	0.6281
10+15	1	49	1	0	16-QAM	22.57	22.45	22.53	27.43	0.5534
10+15	1	49	1	0	64-QAM	20.87	20.82	19.99	25.73	0.3741
15+15	1	74	1	0	QPSK	23.09	23.05	23.04	27.95	0.6237
15+15	1	74	1	0	16-QAM	22.51	22.43	22.52	27.38	0.5470
15+15	1	74	1	0	64-QAM	20.75	20.79	20.21	25.65	0.3673
Limit	EIRP < 1W					Result			Pass	



LTE Band 7C_CA Maximum Average Power [dBm] (GT - LC = 6.7 dB)										
BW [MHz]	PCC		SCC		Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
	RB Size	RB Offset	RB Size	RB Offset						
20+20	1	0	0	0	QPSK	21.85	21.37	21.27	29.66	0.9247
20+20	1	0	1	99		11.26	12.38	10.68		
20+20	1	99	1	0		22.86	22.85	22.96		
20+20	1	0	0	0	16-QAM	20.81	20.69	20.16	29.14	0.8204
20+20	1	0	1	99		11.88	12.91	11.22		
20+20	1	99	1	0		22.39	22.29	22.44		
20+20	1	0	0	0	64-QAM	20.14	19.57	19.28	27.68	0.5861
20+20	1	0	1	99		10.57	11.78	10.07		
20+20	1	99	1	0		20.33	20.98	19.22		
20+15	1	99	1	0	QPSK	22.80	22.86	22.90	29.60	0.9120
20+15	1	99	1	0	16-QAM	23.08	23.29	23.23	29.99	0.9977
20+15	1	99	1	0	64-QAM	19.49	21.31	20.36	28.01	0.6324
15+20	1	74	1	0	QPSK	22.91	22.77	22.91	29.61	0.9141
15+20	1	74	1	0	16-QAM	22.22	22.12	22.35	29.05	0.8035
15+20	1	74	1	0	64-QAM	21.17	20.25	21.11	27.87	0.6124
Limit	EIRP < 2W					Result			Pass	



FCC RADIO TEST REPORT

Report No. : FG2N2201-11B

LTE Band 7C_CA Maximum Average Power [dBm] (GT - LC = 6.7 dB)										
BW [MHz]	PCC		SCC		Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
	RB Size	RB Offset	RB Size	RB Offset						
20+10	1	99	1	0	QPSK	22.77	22.78	22.81	29.51	0.8933
20+10	1	99	1	0	16-QAM	22.24	22.45	22.17	29.15	0.8222
20+10	1	99	1	0	64-QAM	20.76	20.62	19.62	27.46	0.5572
10+20	1	74	1	0	QPSK	22.93	22.69	22.82	29.63	0.9183
10+20	1	74	1	0	16-QAM	22.46	22.12	22.27	29.16	0.8241
10+20	1	74	1	0	64-QAM	21.32	20.27	20.86	28.02	0.6339
15+15	1	74	1	0	QPSK	22.95	22.77	22.86	29.65	0.9226
15+15	1	74	1	0	16-QAM	22.35	22.36	22.37	29.07	0.8072
15+15	1	74	1	0	64-QAM	21.16	20.46	20.36	27.86	0.6109
Limit	EIRP < 2W					Result			Pass	

LTE Band 7C_CA Maximum Average Power [dBm] (GT - LC = 6.7 dB)										
BW [MHz]	PCC		SCC		Mod	Lowest	Middle	Highest	EIRP (dBm)	EIRP (W)
	RB Size	RB Offset	RB Size	RB Offset						
15+10	1	74	1	0	QPSK	22.99	22.85	22.84	29.69	0.9311
15+10	1	74	1	0	16-QAM	22.46	22.32	22.29	29.16	0.8241
15+10	1	74	1	0	64-QAM	20.05	21.21	19.35	27.91	0.6180
Limit	EIRP < 2W					Result			Pass	

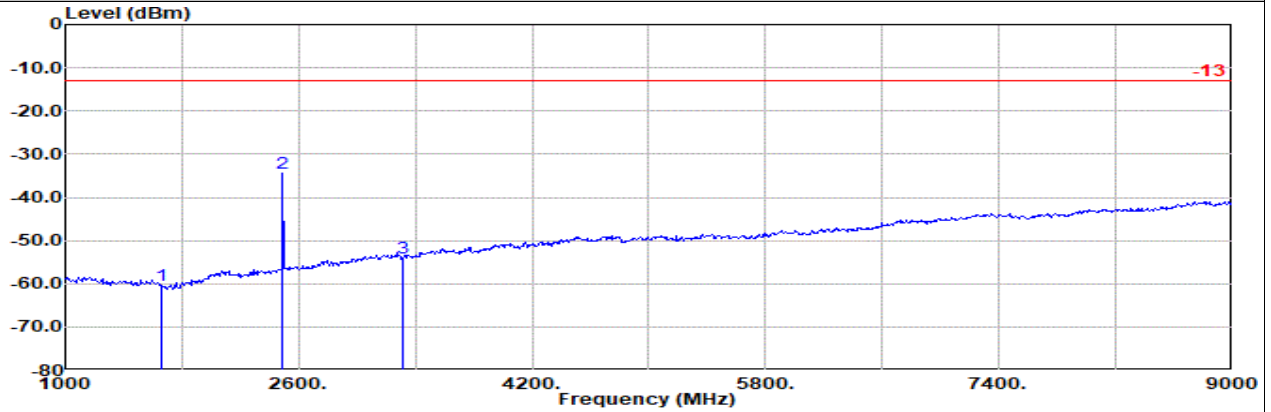


Appendix B. Test Results of Radiated Test

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
1	Part 22H	LTE CA B5B	L	2485	-32.43	RMS	27.95	-26.21	0.70	-95.23	60.36	-13.00	-19.43	V	4
1	Part 27N	LTE B71	M	2021	-33.16	RMS	27.11	-26.74	0.71	-95.23	60.99	-13.00	-20.16	H	4
1	Part 27L	LTE CA B66B	L	3429	-41.70	RMS	29.76	-23.96	1.20	-95.23	46.53	-13.00	-28.70	V	4
2	Part 27L	LTE CA B66C	L	3430	-40.80	RMS	29.76	-23.96	1.20	-95.23	47.43	-13.00	-27.80	V	4
1	Part 27M	LTE CA B7C	M	10146	-38.17	RMS	38.79	-18.38	0.78	-95.23	35.87	-25.00	-13.17	V	4

Note: Ant 4 = Primary Antenna, Ant 3 = Secondary Antenna.

Ant. 4
Part 22H Mode 1
LTE CA B5B Ch20425 + Ch20464
L


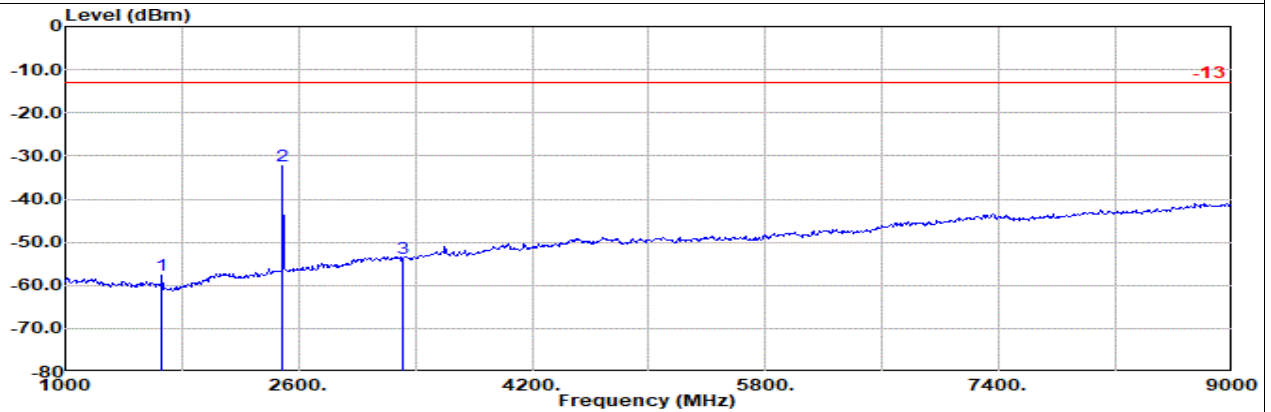
Site : 03CH12-HY

Condition: -13 3m 9120D-02114-230731 Horizontal

: LTE Band 5B 5M Ch20425 1RB24 QPSK

: LTE Band 5B 3M Ch20464 1RB0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cb	Filter 1	EIRPCF	Readin g	Limit	Margin	Pol
	MHz	dBm									
1	1657.00	-60.28	RMS	25.40	-27.25	0.88	-95.23	35.92	-13.00	-47.28	Horizontal
2	2485.00	-34.29	RMS	27.95	-26.21	0.70	-95.23	58.50	-13.00	-21.29	Horizontal
3	3314.00	-54.05	RMS	29.77	-24.47	0.56	-95.23	35.32	-13.00	-41.05	Horizontal



Site : 03CH12-HY

Condition: -13 3m 9120D-02114-230731 Vertical

: LTE Band 5B 5M Ch20425 1RB24 QPSK

: LTE Band 5B 3M Ch20464 1RB0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cb	Filter 1	EIRPCF	Readin g	Limit	Margin	Pol
	MHz	dBm									
1	1657.00	-57.66	RMS	25.40	-27.25	0.88	-95.23	38.54	-13.00	-44.66	Vertical
2	2485.00	-32.43	RMS	27.95	-26.21	0.70	-95.23	60.36	-13.00	-19.43	Vertical
3	3314.00	-53.64	RMS	29.77	-24.47	0.56	-95.23	35.73	-13.00	-40.64	Vertical

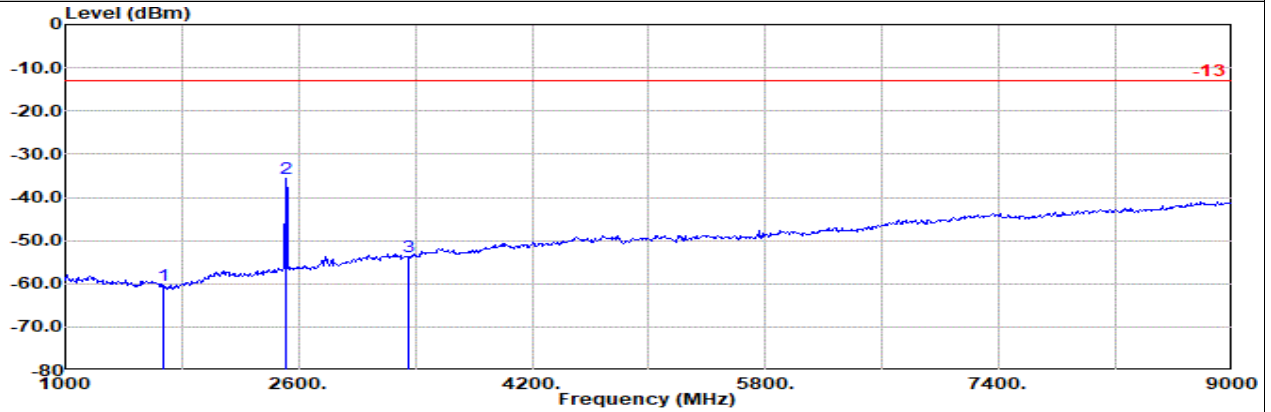


Ant. 4

Part 22H Mode 1

LTE CA B5B Ch20510 + Ch20549

M



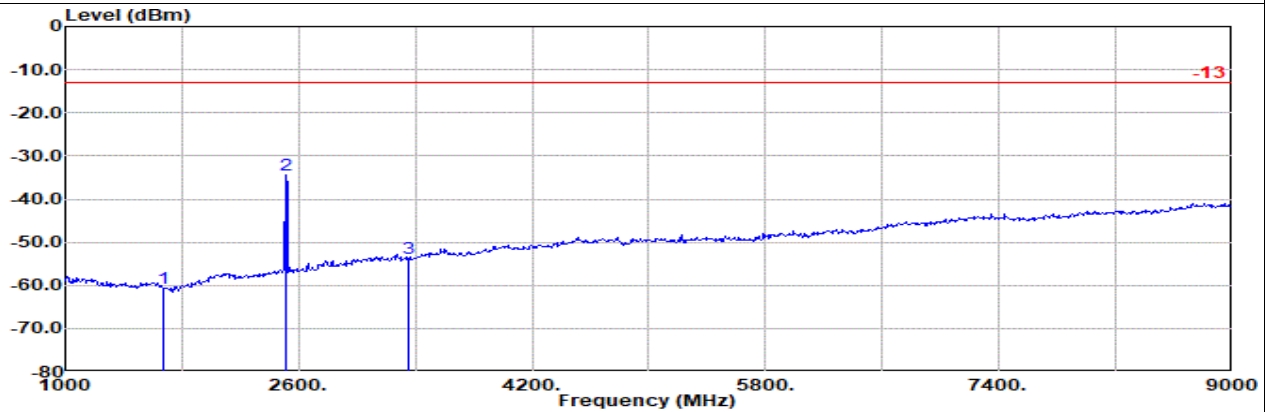
Site : 03CH12-HY

Condition: -13 3m 9120D-02114-230731 Horizontal

: LTE Band 5B 5M Ch20510 1RB24 QPSK

: LTE Band 5B 3M Ch20549 1RB0 QPSK

	Freq	Level	Detector	Ant Amp\Cb Filter		EIRPCF	Readin	Limit	Margin		Pol
				Factor	1		g				
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	1674.00	-60.26	RMS	25.40	-27.21	0.86	-95.23	35.92	-13.00	-47.26	Horizontal
2	2511.00	-35.71	RMS	28.10	-26.16	0.69	-95.23	56.89	-13.00	-22.71	Horizontal
3	3348.00	-53.74	RMS	29.70	-24.35	0.56	-95.23	35.58	-13.00	-40.74	Horizontal



Site : 03CH12-HY

Condition: -13 3m 9120D-02114-230731 Vertical

: LTE Band 5B 5M Ch20510 1RB24 QPSK

: LTE Band 5B 3M Ch20549 1RB0 QPSK

	Freq	Level	Detector	Ant Amp\Cb Filter		EIRPCF	Readin	Limit	Margin		Pol
				Factor	1		g				
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	1674.00	-60.74	RMS	25.40	-27.21	0.86	-95.23	35.44	-13.00	-47.74	Vertical
2	2511.00	-34.28	RMS	28.10	-26.16	0.69	-95.23	58.32	-13.00	-21.28	Vertical
3	3348.00	-53.72	RMS	29.70	-24.35	0.56	-95.23	35.60	-13.00	-40.72	Vertical

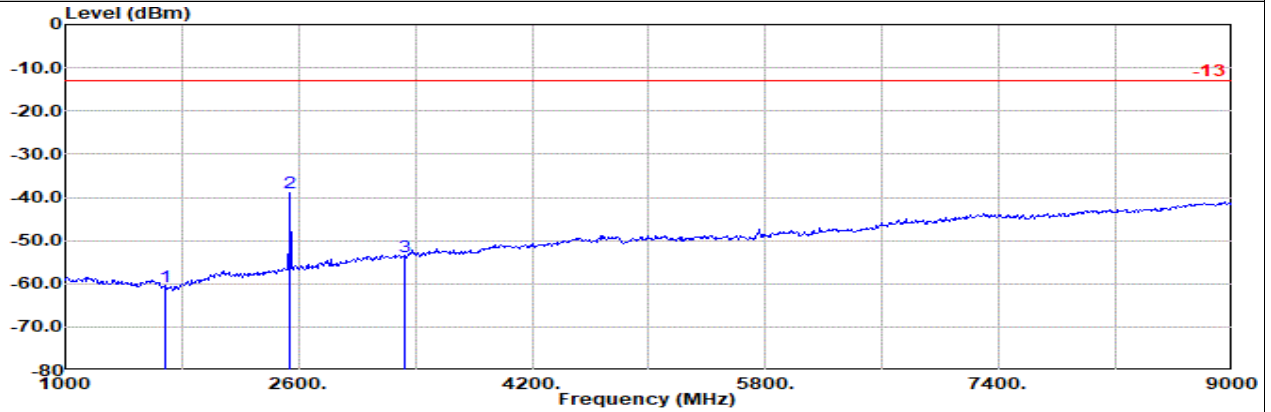


Ant. 4

Part 22H Mode 1

LTE CA B5B Ch20595 + Ch20634

H



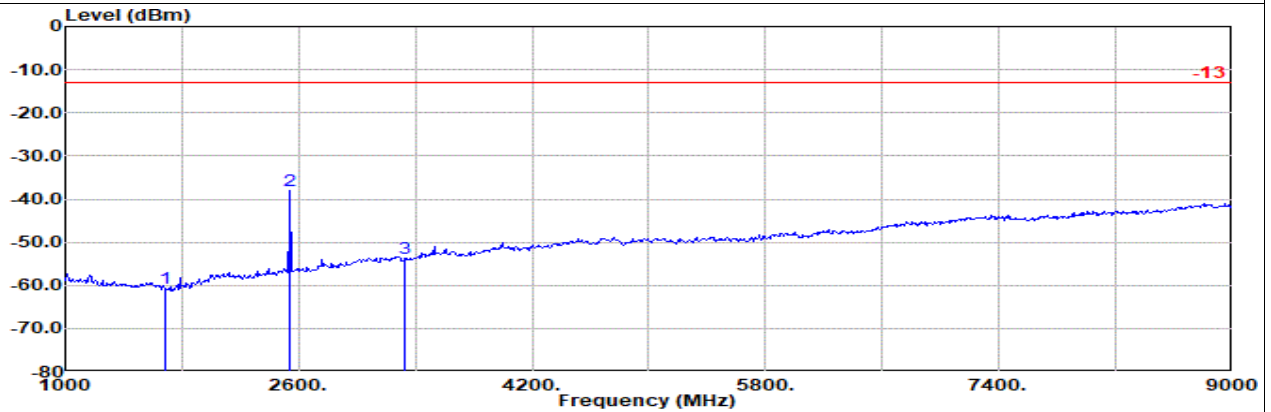
Site : 03CH12-HY

Condition: -13 3m 9120D-02114-230731 Horizontal

: LTE Band 5B 5M Ch20595 1RB24 QPSK

: LTE Band 5B 3M Ch20634 1RB0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cb 1	Filter	EIRPCF	Readin g	Limit	Margin	Pol
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	1691.00	-60.70	RMS	25.29	-27.17	0.84	-95.23	35.57	-13.00	-47.70	Horizontal
2	2536.00	-38.83	RMS	28.20	-26.15	0.68	-95.23	53.67	-13.00	-25.83	Horizontal
3	3328.00	-53.85	RMS	29.74	-24.42	0.56	-95.23	35.50	-13.00	-40.85	Horizontal



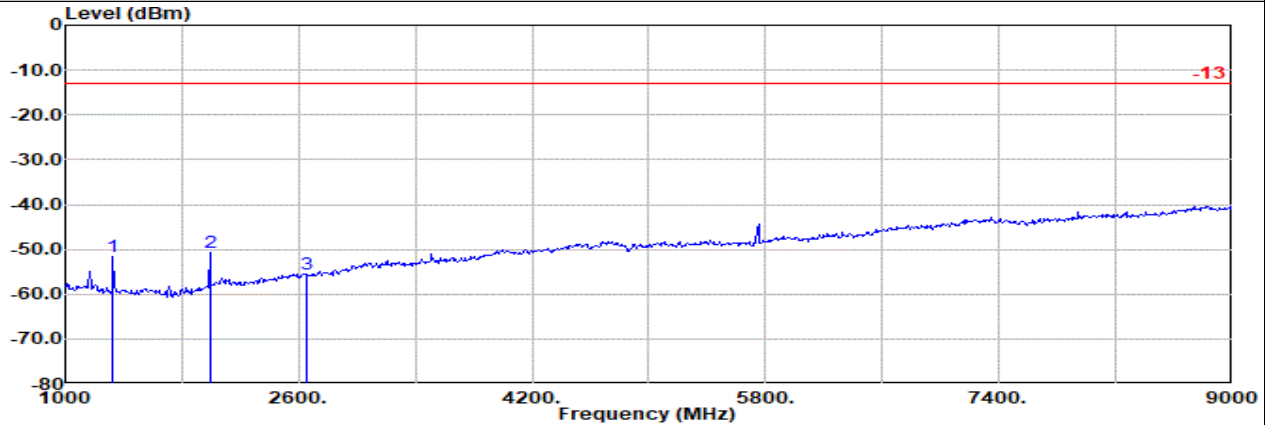
Site : 03CH12-HY

Condition: -13 3m 9120D-02114-230731 Vertical

: LTE Band 5B 5M Ch20595 1RB24 QPSK

: LTE Band 5B 3M Ch20634 1RB0 QPSK

	Freq	Level	Detector	Ant	Amp\Cb	Filter	EIRPCF	Readin	Limit	Margin	Pol
				Factor	1				g		
	MHz	dBm		dB/m	dB	dB	dB	dBuV	dBm	dB	
1	1691.00	-60.66	RMS	25.29	-27.17	0.84	-95.23	35.61	-13.00	-47.66	Vertical
2	2536.00	-37.95	RMS	28.20	-26.15	0.68	-95.23	54.55	-13.00	-24.95	Vertical
3	3328.00	-53.87	RMS	29.74	-24.42	0.56	-95.23	35.48	-13.00	-40.87	Vertical

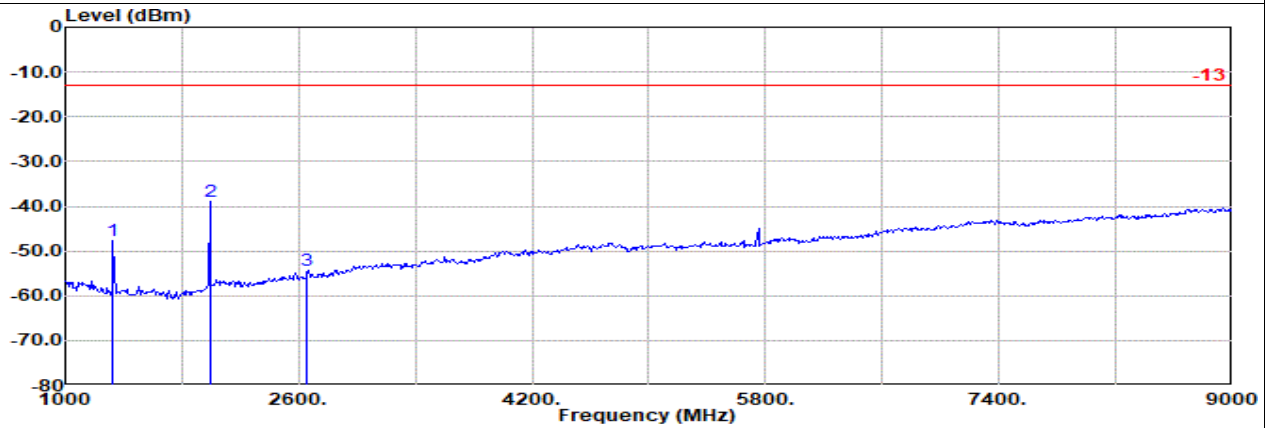
Ant. 4
Part 27N Mode 1
LTE B71 10M Ch133172 1RB0 QPSK
L


Site : 03CH12-HY

Condition: -13 3m 9120D-02114-230731 Horizontal

: LTE Band 71 20M Ch133172 1RB0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cb	Filter	EIRPCF	Readin g	Limit	Margin	Pol
	MHz	dBm									
1	1327.00	-51.63	RMS	25.93	-28.37	1.04	-95.23	45.00	-13.00	-38.63	Horizontal
2	1991.00	-50.60	RMS	26.72	-26.78	0.71	-95.23	43.98	-13.00	-37.60	Horizontal
3	2655.00	-55.57	RMS	28.50	-25.93	0.63	-95.23	36.46	-13.00	-42.57	Horizontal

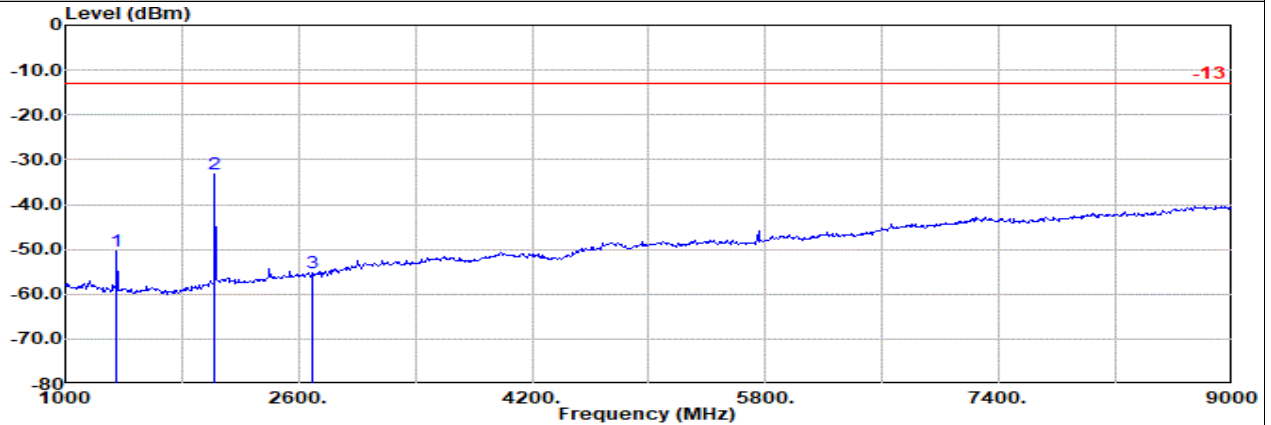


Site : 03CH12-HY

Condition: -13 3m 9120D-02114-230731 Vertical

: LTE Band 71 20M Ch133172 1RB0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cb	Filter	EIRPCF	Readin g	Limit	Margin	Pol
	MHz	dBm									
1	1327.00	-47.68	RMS	25.93	-28.37	1.04	-95.23	48.95	-13.00	-34.68	Vertical
2	1991.00	-38.90	RMS	26.72	-26.78	0.71	-95.23	55.68	-13.00	-25.90	Vertical
3	2655.00	-54.47	RMS	28.50	-25.93	0.63	-95.23	37.56	-13.00	-41.47	Vertical

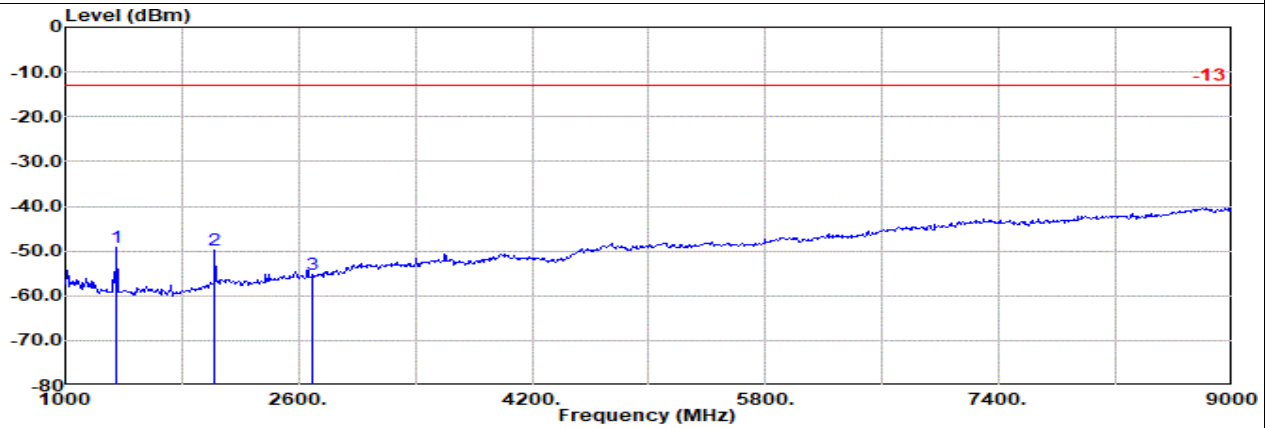
Ant. 4
Part 27N Mode 1
LTE B71 10M Ch133272 1RB0 QPSK
M


Site : 03CH12-HY

Condition: -13 3m 9120D-02114-230731 Horizontal

: LTE Band 71 10M Ch133272 1RB0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cb	Filter 1	EIRPCF	Readin g	Limit	Margin	Pol
	MHz	dBm									
1	1347.00	-50.50	RMS	25.90	-28.31	0.99	-95.23	46.15	-13.00	-37.50	Horizontal
2	2021.00	-33.16	RMS	27.11	-26.74	0.71	-95.23	60.99	-13.00	-20.16	Horizontal
3	2695.00	-55.18	RMS	28.40	-25.80	0.62	-95.23	36.83	-13.00	-42.18	Horizontal

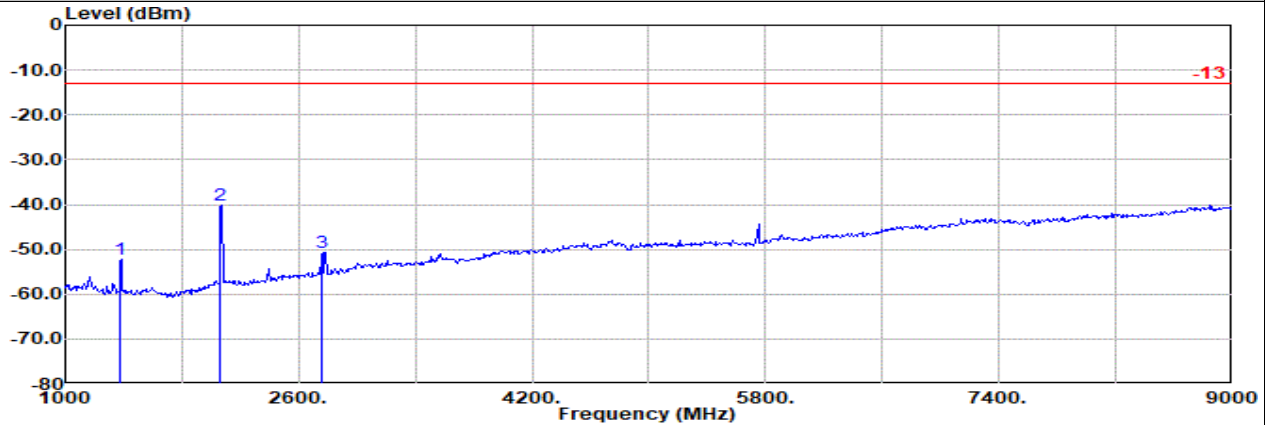


Site : 03CH12-HY

Condition: -13 3m 9120D-02114-230731 Vertical

: LTE Band 71 10M Ch133272 1RB0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cb	Filter 1	EIRPCF	Readin g	Limit	Margin	Pol
	MHz	dBm									
1	1347.00	-49.12	RMS	25.90	-28.31	0.99	-95.23	47.53	-13.00	-36.12	Vertical
2	2021.00	-49.81	RMS	27.11	-26.74	0.71	-95.23	44.34	-13.00	-36.81	Vertical
3	2695.00	-55.19	RMS	28.40	-25.80	0.62	-95.23	36.82	-13.00	-42.19	Vertical

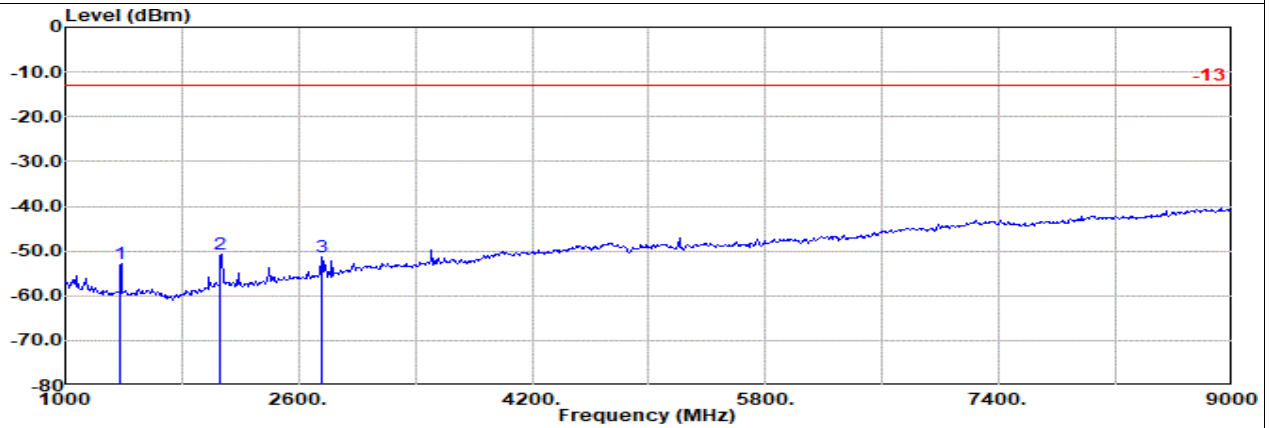
Ant. 4
Part 27N Mode 1
LTE B71 10M Ch133422 1RB0 QPSK
H


Site : 03CH12-HY

Condition: -13 3m 9120D-02114-230731 Horizontal

: LTE Band 71 20M Ch133422 1RB0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cb	Filter	EIRPCF	Readin	Limit	Margin	Pol
	MHz	dBm						g			
1	1378.00	-52.15	RMS	25.70	-28.22	0.91	-95.23	44.69	-13.00	-39.15	Horizontal
2	2066.00	-40.19	RMS	27.26	-26.67	0.71	-95.23	53.74	-13.00	-27.19	Horizontal
3	2755.00	-50.83	RMS	28.50	-25.60	0.60	-95.23	40.90	-13.00	-37.83	Horizontal



Site : 03CH12-HY

Condition: -13 3m 9120D-02114-230731 Vertical

: LTE Band 71 20M Ch133422 1RB0 QPSK

	Freq	Level	Detector	Ant Factor	Amp\Cb	Filter	EIRPCF	Readin	Limit	Margin	Pol
	MHz	dBm						g			
1	1378.00	-52.94	RMS	25.70	-28.22	0.91	-95.23	43.90	-13.00	-39.94	Vertical
2	2066.00	-50.87	RMS	27.26	-26.67	0.71	-95.23	43.06	-13.00	-37.87	Vertical
3	2755.00	-51.36	RMS	28.50	-25.60	0.60	-95.23	40.37	-13.00	-38.36	Vertical

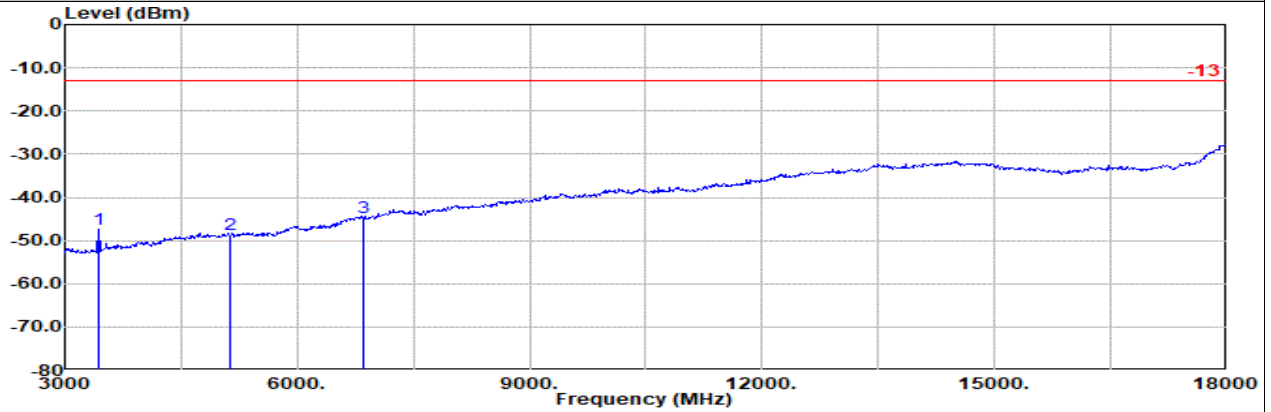


Ant. 4

Part 27L Mode 1

LTE CA B66B Ch132000 + Ch132072

L



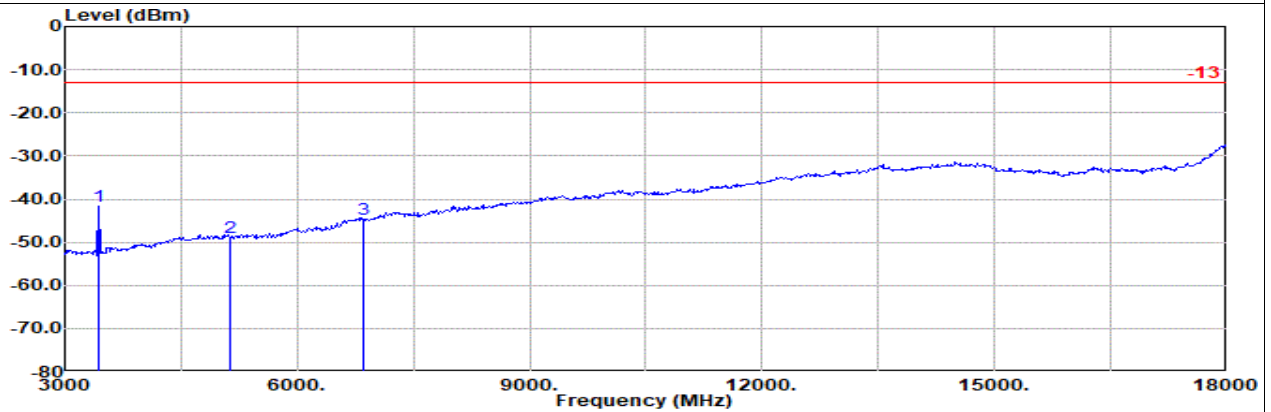
Site : 03CH12-HY

Condition: -13 3m 9120D-02114-230731 Horizontal

: LTE Band 66 5M Ch132000 1RB24 QPSK

: LTE Band 66 10M Ch132072 1RB0 QPSK

	Freq	Level	Detector	Ant		Filter	EIRPCF	Readin	Limit	Margin		Pol
				Factor	Amp\Cb							
	MHz	dBm			1			g				
1	3429.00	-47.40	RMS	29.76	-23.96	1.20	-95.23	40.83	-13.00	-34.40		Horizontal
2	5144.00	-48.51	RMS	33.24	-23.02	0.69	-95.23	35.81	-13.00	-35.51		Horizontal
3	6859.00	-44.66	RMS	36.16	-21.33	0.73	-95.23	35.01	-13.00	-31.66		Horizontal



Site : 03CH12-HY

Condition: -13 3m 9120D-02114-230731 Vertical

: LTE Band 66 5M Ch132000 1RB24 QPSK

: LTE Band 66 10M Ch132072 1RB0 QPSK

	Freq	Level	Detector	Ant		Filter	EIRPCF	Readin	Limit	Margin		Pol
				Factor	Amp\Cb							
	MHz	dBm			1			g				
1	3429.00	-41.70	RMS	29.76	-23.96	1.20	-95.23	46.53	-13.00	-28.70		Vertical
2	5144.00	-48.84	RMS	33.24	-23.02	0.69	-95.23	35.48	-13.00	-35.84		Vertical
3	6859.00	-44.58	RMS	36.16	-21.33	0.73	-95.23	35.09	-13.00	-31.58		Vertical

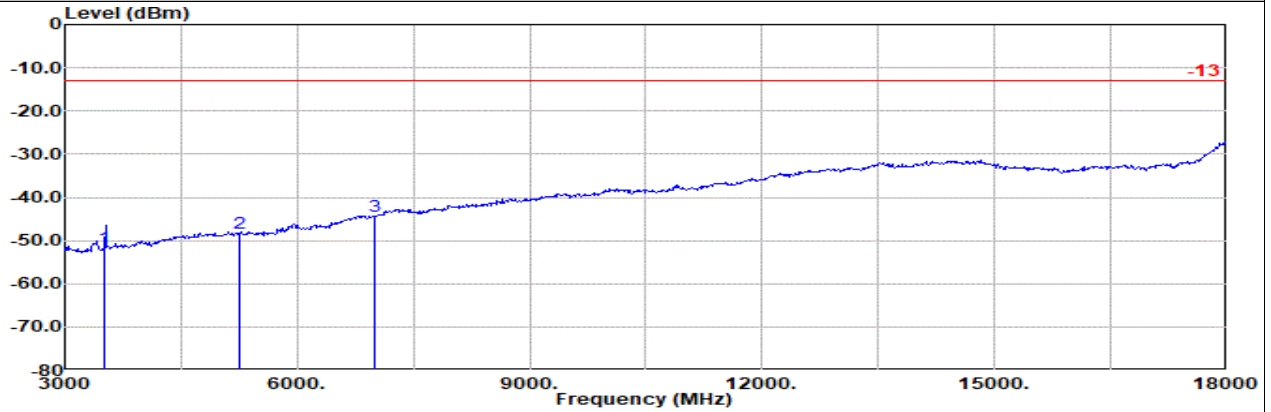


Ant. 4

Part 27L Mode 1

LTE CA B66B Ch132375 + Ch132447

M



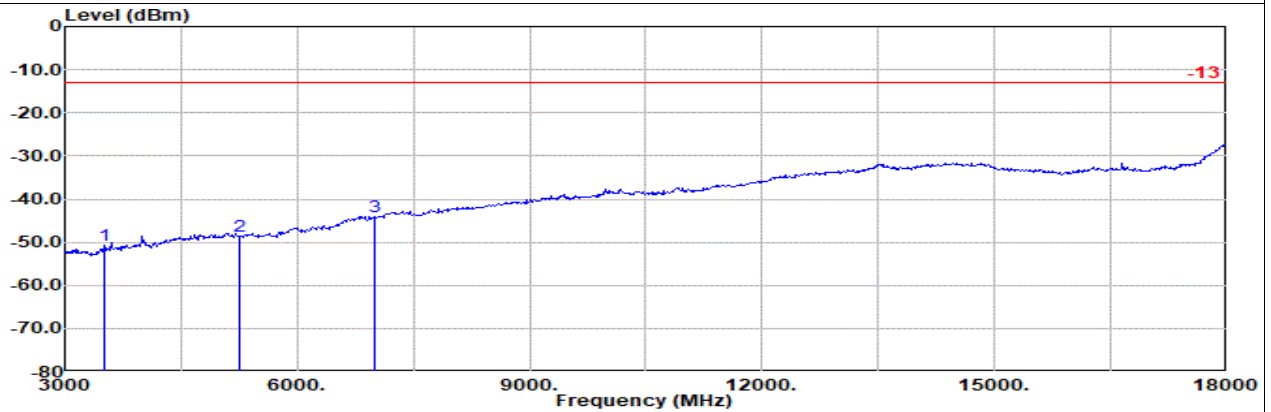
Site : 03CH12-HY

Condition: -13 3m 9120D-02114-230731 Horizontal

: LTE Band 66 5M Ch132375 1RB24 QPSK

: LTE Band 66 10M Ch132447 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	3504.00	-51.57	RMS	29.60	-23.48	1.22	-95.23	36.32	-13.00	-38.57 Horizontal
2	5257.00	-48.24	RMS	33.20	-22.56	0.73	-95.23	35.62	-13.00	-35.24 Horizontal
3	7009.00	-44.24	RMS	36.14	-21.27	0.70	-95.23	35.42	-13.00	-31.24 Horizontal



Site : 03CH12-HY

Condition: -13 3m 9120D-02114-230731 Vertical

: LTE Band 66 5M Ch132375 1RB24 QPSK

: LTE Band 66 10M Ch132447 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	3504.00	-50.60	RMS	29.60	-23.48	1.22	-95.23	37.29	-13.00	-37.60 Vertical
2	5257.00	-48.46	RMS	33.20	-22.56	0.73	-95.23	35.40	-13.00	-35.46 Vertical
3	7009.00	-44.18	RMS	36.14	-21.27	0.70	-95.23	35.48	-13.00	-31.18 Vertical

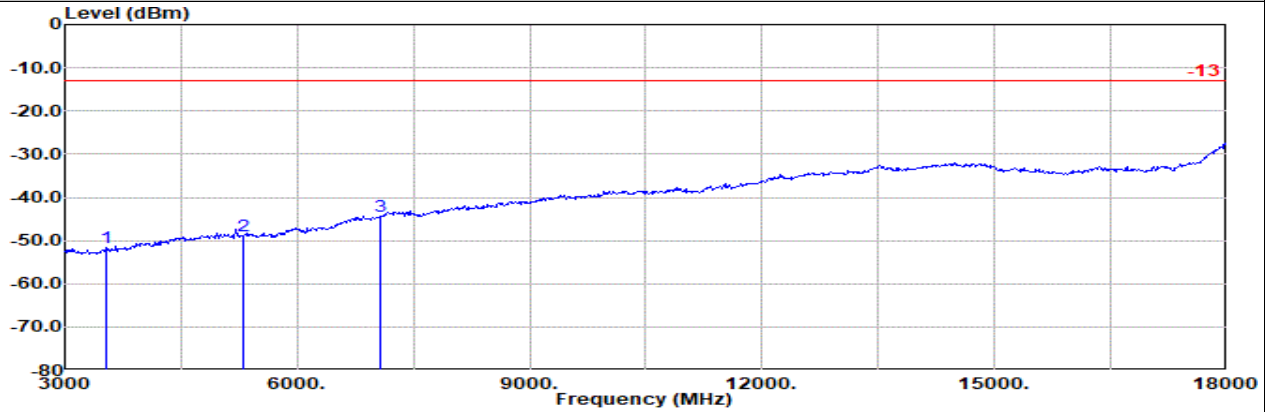


Ant. 4

Part 27L Mode 1

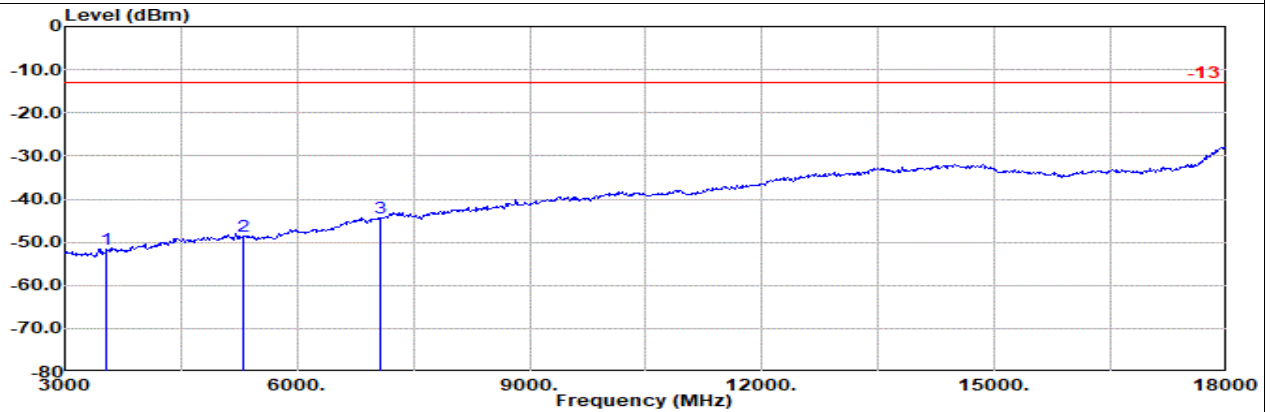
LTE CA B66B Ch132550 + Ch132622

H



Site : 03CH12-HY
Condition: -13 3m 9120D-02114-230731 Horizontal
: LTE Band 66 5M Ch132550 1RB24 QPSK
: LTE Band 66 10M Ch132622 1RB0 QPSK

	Freq	Level	Detector	Ant		Filter	EIRPCF	Readin	Limit	Margin		Pol
				Factor	Amp\Cb							
	MHz	dBm			1							
1	3539.00	-51.73	RMS	29.60	-23.39	1.22	-95.23	36.07	-13.00	-38.73		Horizontal
2	5309.00	-49.05	RMS	33.20	-22.25	0.75	-95.23	34.48	-13.00	-36.05		Horizontal
3	7079.00	-44.39	RMS	36.42	-21.28	0.69	-95.23	35.01	-13.00	-31.39		Horizontal



Site : 03CH12-HY
Condition: -13 3m 9120D-02114-230731 Vertical
: LTE Band 66 5M Ch132550 1RB24 QPSK
: LTE Band 66 10M Ch132622 1RB0 QPSK

	Freq	Level	Detector	Ant		Filter	EIRPCF	Readin	Limit	Margin		Pol
				Factor	Amp\Cb							
	MHz	dBm			1							
1	3539.00	-51.59	RMS	29.60	-23.39	1.22	-95.23	36.21	-13.00	-38.59		Vertical
2	5309.00	-48.72	RMS	33.20	-22.25	0.75	-95.23	34.81	-13.00	-35.72		Vertical
3	7079.00	-44.23	RMS	36.42	-21.28	0.69	-95.23	35.17	-13.00	-31.23		Vertical

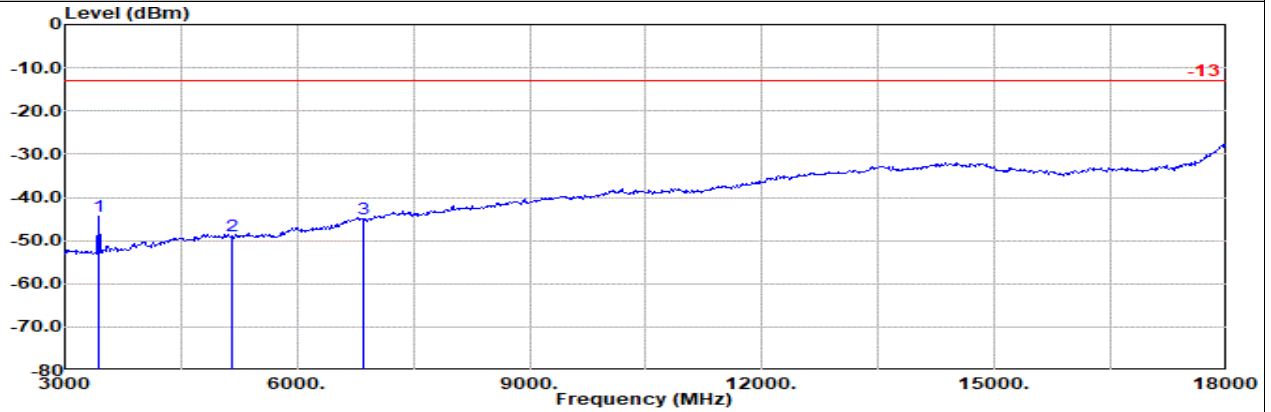


Ant. 4

Part 27L Mode 2

LTE CA B66C Ch132005 + Ch132122

L



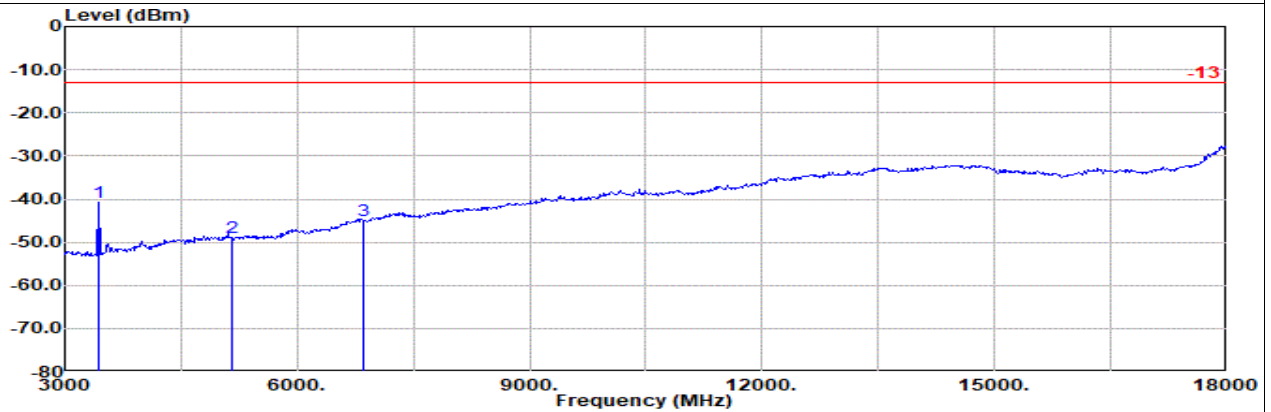
Site : 03CH12-HY

Condition: -13 3m 9120D-02114-230731 Horizontal

: LTE Band 66 5M Ch132005 1RB24 QPSK

: LTE Band 66 20M Ch132122 1RB0 QPSK

	Freq Level		Detector	Ant Amp\Cb Filter		EIRPCF	Readin Limit		Margin Pol	
	MHz	dBm		Factor	1		g			
1	3430.00	-44.43	RMS	29.76	-23.96	1.20	-95.23	43.80	-13.00	-31.43 Horizontal
2	5146.00	-48.92	RMS	33.22	-23.02	0.69	-95.23	35.42	-13.00	-35.92 Horizontal
3	6861.00	-45.01	RMS	36.16	-21.33	0.73	-95.23	34.66	-13.00	-32.01 Horizontal



Site : 03CH12-HY

Condition: -13 3m 9120D-02114-230731 Vertical

: LTE Band 66 5M Ch132005 1RB24 QPSK

: LTE Band 66 20M Ch132122 1RB0 QPSK

	Freq Level		Detector	Ant Amp\Cb Filter		EIRPCF	Readin Limit		Margin Pol	
	MHz	dBm		Factor	1		g			
1	3430.00	-40.80	RMS	29.76	-23.96	1.20	-95.23	47.43	-13.00	-27.80 Vertical
2	5146.00	-48.91	RMS	33.22	-23.02	0.69	-95.23	35.43	-13.00	-35.91 Vertical
3	6861.00	-44.90	RMS	36.16	-21.33	0.73	-95.23	34.77	-13.00	-31.90 Vertical

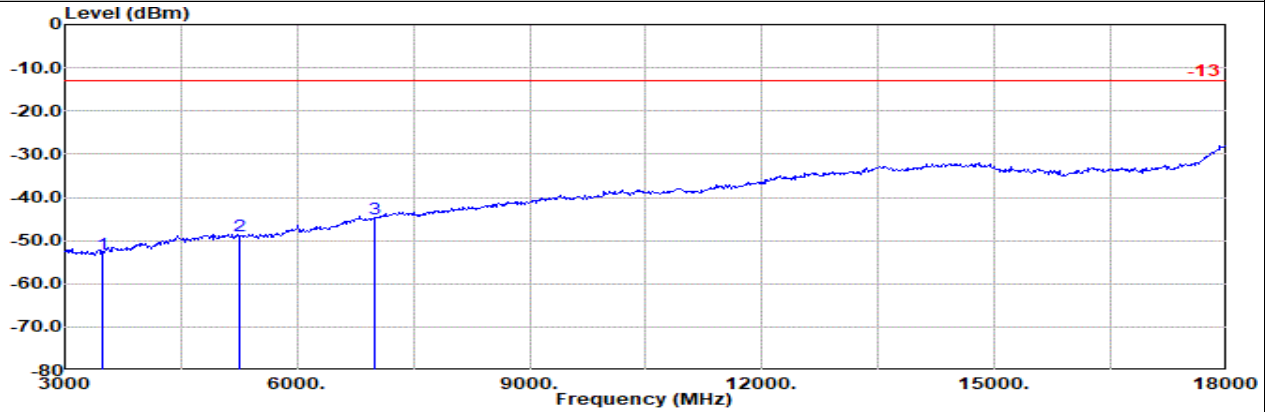


Ant. 4

Part 27L Mode 2

LTE CA B66C Ch132330 + Ch132447

M



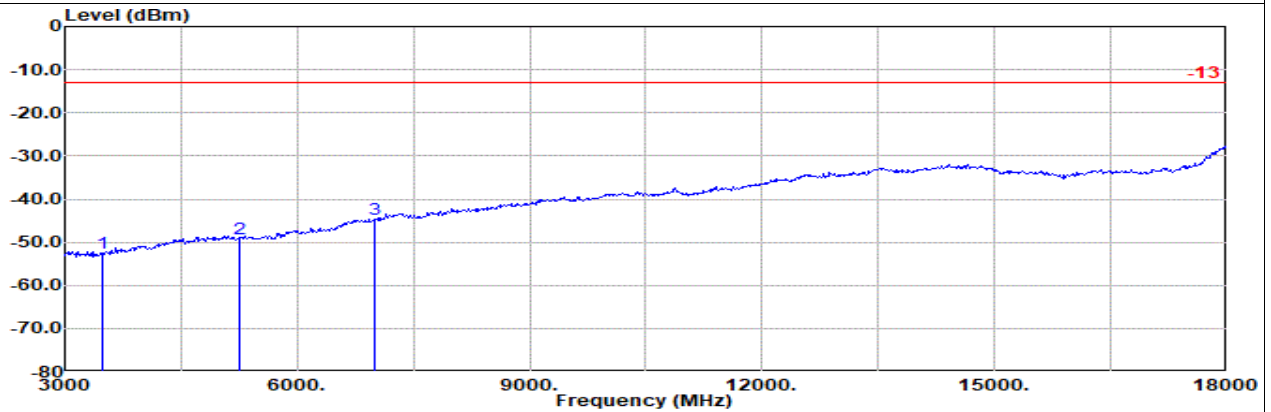
Site : 03CH12-HY

Condition: -13 3m 9120D-02114-230731 Horizontal

: LTE Band 66 5M Ch132330 1RB24 QPSK

: LTE Band 66 20M Ch132447 1RB0 QPSK

	Freq Level		Detector	Ant Amp\Cb Filter		EIRPCF	Readin Limit		Margin Pol	
	MHz	dBm		Factor	1		g			
1	3495.00	-53.07	RMS	29.62	-23.52	1.21	-95.23	34.85	-13.00	-40.07 Horizontal
2	5243.00	-48.82	RMS	33.19	-22.64	0.73	-95.23	35.13	-13.00	-35.82 Horizontal
3	6991.00	-44.92	RMS	36.08	-21.27	0.70	-95.23	34.80	-13.00	-31.92 Horizontal



Site : 03CH12-HY

Condition: -13 3m 9120D-02114-230731 Vertical

: LTE Band 66 5M Ch132330 1RB24 QPSK

: LTE Band 66 20M Ch132447 1RB0 QPSK

	Freq Level		Detector	Ant Amp\Cb Filter		EIRPCF	Readin Limit		Margin Pol	
	MHz	dBm		Factor	1		g			
1	3495.00	-52.62	RMS	29.62	-23.52	1.21	-95.23	35.30	-13.00	-39.62 Vertical
2	5243.00	-49.21	RMS	33.19	-22.64	0.73	-95.23	34.74	-13.00	-36.21 Vertical
3	6991.00	-44.66	RMS	36.08	-21.27	0.70	-95.23	35.06	-13.00	-31.66 Vertical

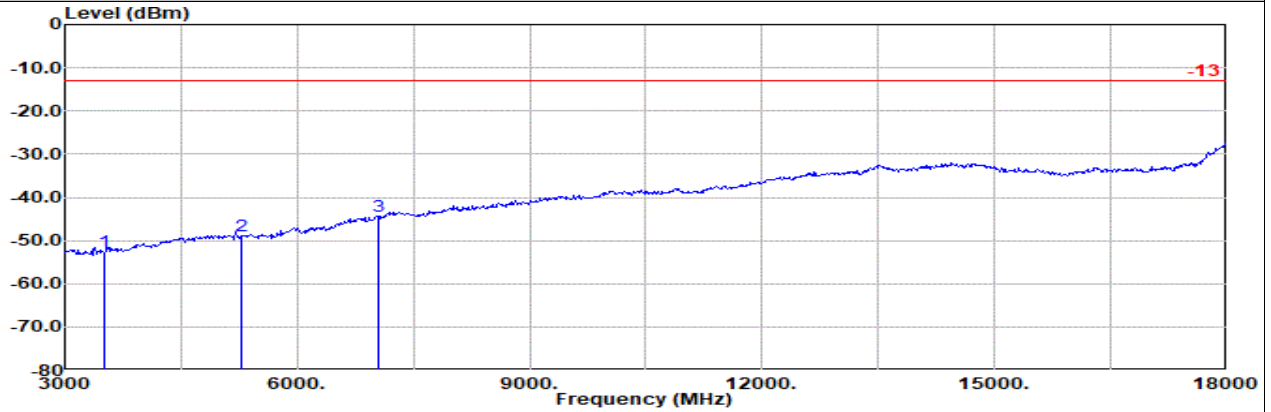


Ant. 4

Part 27L Mode 2

LTE CA B66C Ch132455 + Ch132572

H



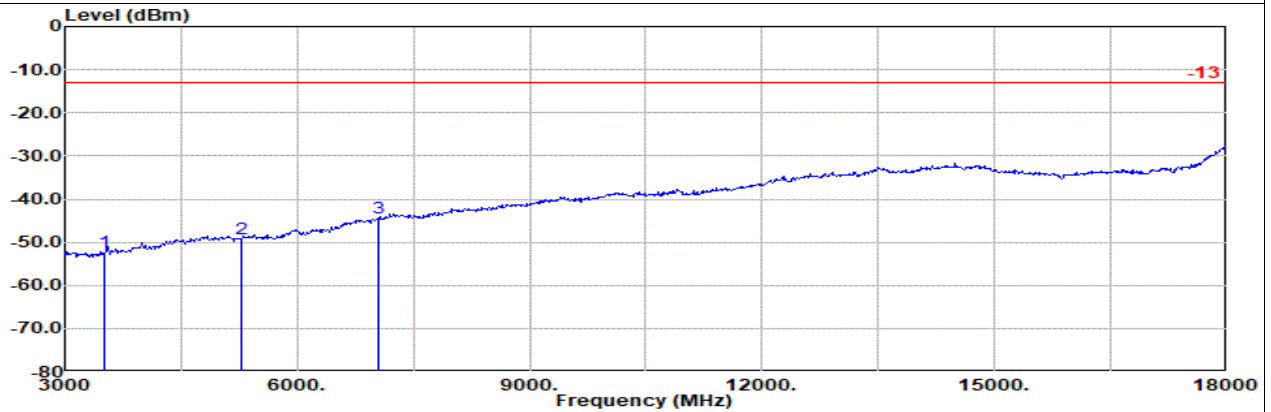
Site : 03CH12-HY

Condition: -13 3m 9120D-02114-230731 Horizontal

: LTE Band 66 5M Ch132455 1RB24 QPSK

: LTE Band 66 20M Ch132572 1RB0 QPSK

	Freq Level		Detector	Ant Amp\Cb Filter		EIRPCF	Readin Limit		Margin Pol	
	MHz	dBm		Factor	1		g			
1	3520.00	-52.48	RMS	29.60	-23.44	1.22	-95.23	35.37	-13.00	-39.48 Horizontal
2	5281.00	-48.80	RMS	33.20	-22.42	0.74	-95.23	34.91	-13.00	-35.80 Horizontal
3	7041.00	-44.49	RMS	36.26	-21.27	0.70	-95.23	35.05	-13.00	-31.49 Horizontal



Site : 03CH12-HY

Condition: -13 3m 9120D-02114-230731 Vertical

: LTE Band 66 5M Ch132455 1RB24 QPSK

: LTE Band 66 20M Ch132572 1RB0 QPSK

	Freq Level		Detector	Ant Amp\Cb Filter		EIRPCF	Readin Limit		Margin Pol	
	MHz	dBm		Factor	1		g			
1	3520.00	-52.26	RMS	29.60	-23.44	1.22	-95.23	35.59	-13.00	-39.26 Vertical
2	5281.00	-49.21	RMS	33.20	-22.42	0.74	-95.23	34.50	-13.00	-36.21 Vertical
3	7041.00	-44.45	RMS	36.26	-21.27	0.70	-95.23	35.09	-13.00	-31.45 Vertical

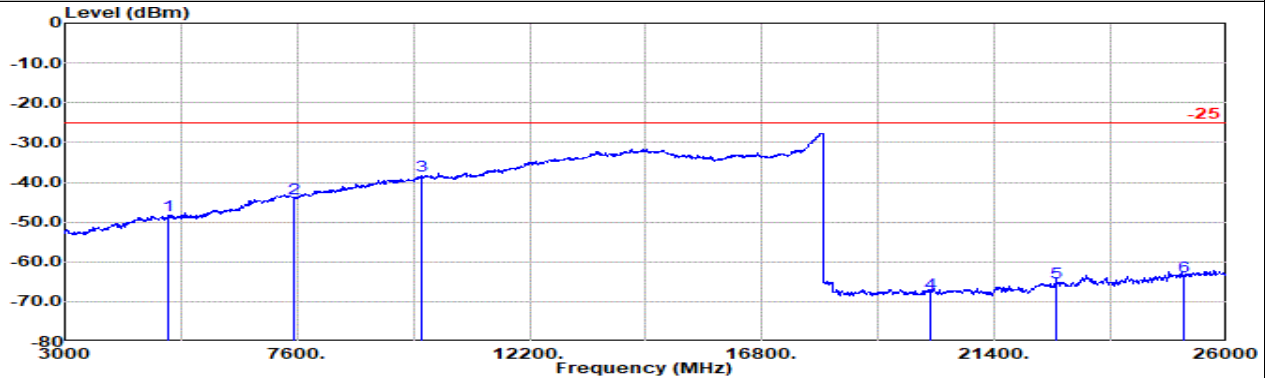


Ant. 4

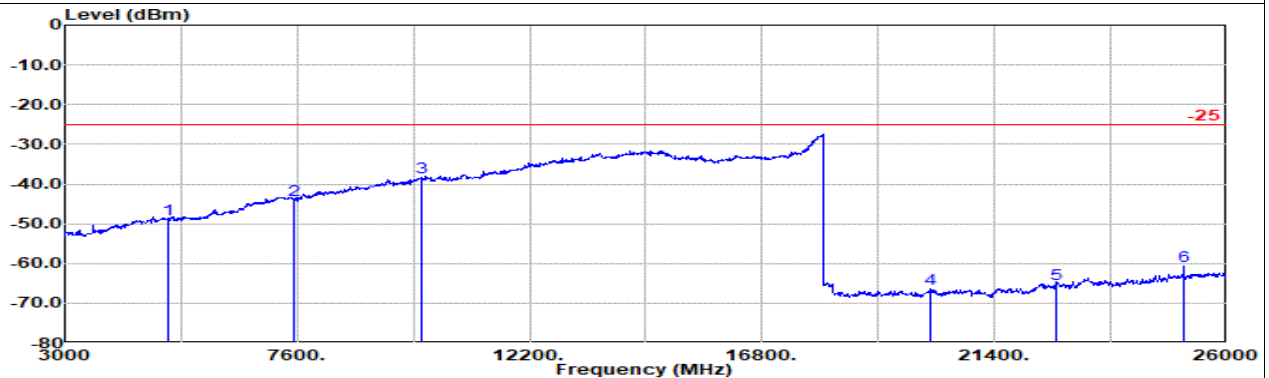
Part 27M Mode 1

LTE CA B7C Ch20825 + Ch20945

L



Freq	Level	Detector	Ant Factor	Amp\Cb	Filter	EIRPCF	Readin	Limit	Margin	Pol
MHz	dBm			dB	dB	dB	dBuV	dBm	dB	
1	5028.00	-48.32 RMS	33.31	-23.30	0.64	-95.23	36.26	-25.00	-23.32	Horizontal
2	7542.00	-44.03 RMS	36.42	-20.88	0.74	-95.23	34.92	-25.00	-19.03	Horizontal
3	10056.00	-38.28 RMS	38.70	-18.40	0.78	-95.23	35.87	-25.00	-13.28	Horizontal
4	20113.00	-67.79 RMS	38.05	-30.58	-9.54	-95.23	29.51	-25.00	-42.79	Horizontal
5	22627.00	-65.21 RMS	38.67	-28.96	-9.54	-95.23	29.85	-25.00	-40.21	Horizontal
6	25142.00	-63.78 RMS	39.53	-26.56	-9.54	-95.23	28.02	-25.00	-38.78	Horizontal



Freq	Level	Detector	Ant Factor	Amp\Cb	Filter	EIRPCF	Readin	Limit	Margin	Pol
MHz	dBm			dB	dB	dB	dBuV	dBm	dB	
1	5028.00	-48.89 RMS	33.31	-23.30	0.64	-95.23	35.69	-25.00	-23.89	Vertical
2	7542.00	-43.97 RMS	36.42	-20.88	0.74	-95.23	34.98	-25.00	-18.97	Vertical
3	10056.00	-38.37 RMS	38.70	-18.40	0.78	-95.23	35.78	-25.00	-13.37	Vertical
4	20113.00	-66.31 RMS	38.05	-30.58	-9.54	-95.23	30.99	-25.00	-41.31	Vertical
5	22627.00	-65.08 RMS	38.67	-28.96	-9.54	-95.23	29.98	-25.00	-40.08	Vertical
6	25142.00	-60.77 RMS	39.53	-26.56	-9.54	-95.23	31.03	-25.00	-35.77	Vertical

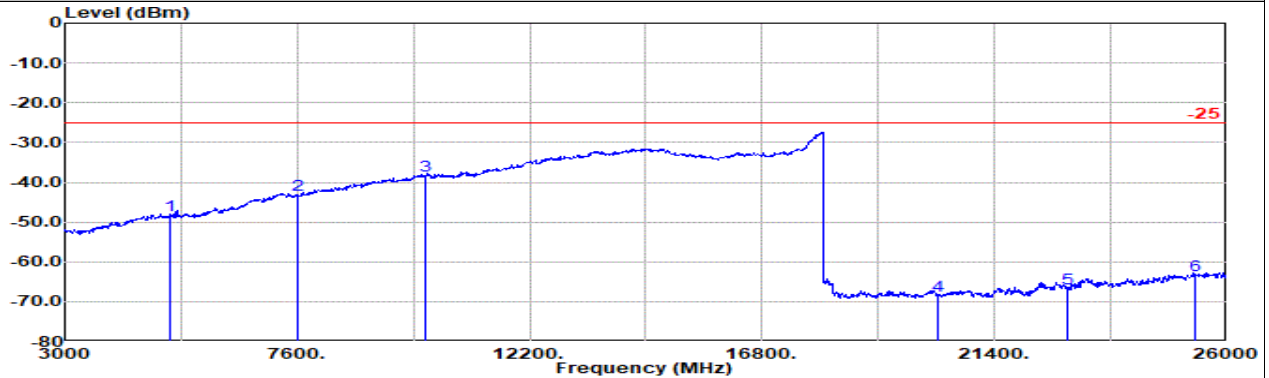


Ant. 4

Part 27M Mode 1

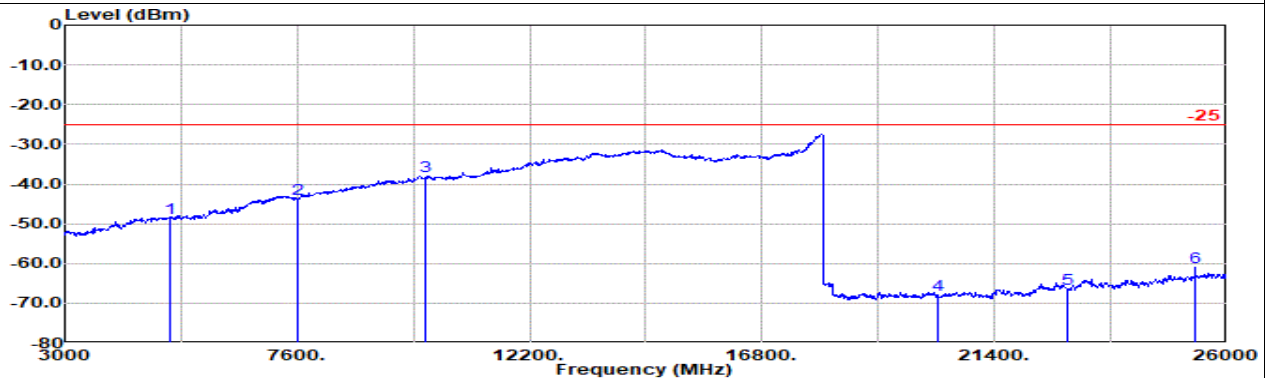
LTE CA B7C Ch21051 + Ch21171

M



Site : 03CH12-HY
Condition: -25 1m SHF_1224_230710 Horizontal
: LTE Band 7 15M Ch21051 1RB74QPSK
: LTE Band 7 10M Ch21171 1RB0 QPSK

Freq	Level	Detector	Ant Factor	Amp\Cb	Filter	EIRPCF	Readin	Limit	Margin	Pol
MHz	dBm			dB	dB	dB	dBuV	dBm	dB	
1	5073.00	-48.42 RMS	33.45	-23.19	0.66	-95.23	35.89	-25.00	-23.42	Horizontal
2	7610.00	-43.22 RMS	36.42	-20.92	0.78	-95.23	35.73	-25.00	-18.22	Horizontal
3	10146.00	-38.27 RMS	38.79	-18.38	0.78	-95.23	35.77	-25.00	-13.27	Horizontal
4	20294.00	-68.46 RMS	37.81	-30.31	-9.54	-95.23	28.81	-25.00	-43.46	Horizontal
5	22831.00	-66.59 RMS	38.65	-28.65	-9.54	-95.23	28.18	-25.00	-41.59	Horizontal
6	25368.00	-63.45 RMS	39.36	-26.21	-9.54	-95.23	28.17	-25.00	-38.45	Horizontal



Site : 03CH12-HY
Condition: -25 1m SHF_1224_230710 Vertical
: LTE Band 7 15M Ch21051 1RB74QPSK
: LTE Band 7 10M Ch21171 1RB0 QPSK

Freq	Level	Detector	Ant Factor	Amp\Cb	Filter	EIRPCF	Readin	Limit	Margin	Pol
MHz	dBm			dB	dB	dB	dBuV	dBm	dB	
1	5073.00	-48.45 RMS	33.45	-23.19	0.66	-95.23	35.86	-25.00	-23.45	Vertical
2	7610.00	-43.69 RMS	36.42	-20.92	0.78	-95.23	35.26	-25.00	-18.69	Vertical
3	10146.00	-38.17 RMS	38.79	-18.38	0.78	-95.23	35.87	-25.00	-13.17	Vertical
4	20294.00	-67.91 RMS	37.81	-30.31	-9.54	-95.23	29.36	-25.00	-42.91	Vertical
5	22831.00	-66.48 RMS	38.65	-28.65	-9.54	-95.23	28.29	-25.00	-41.48	Vertical
6	25368.00	-60.85 RMS	39.36	-26.21	-9.54	-95.23	30.77	-25.00	-35.85	Vertical

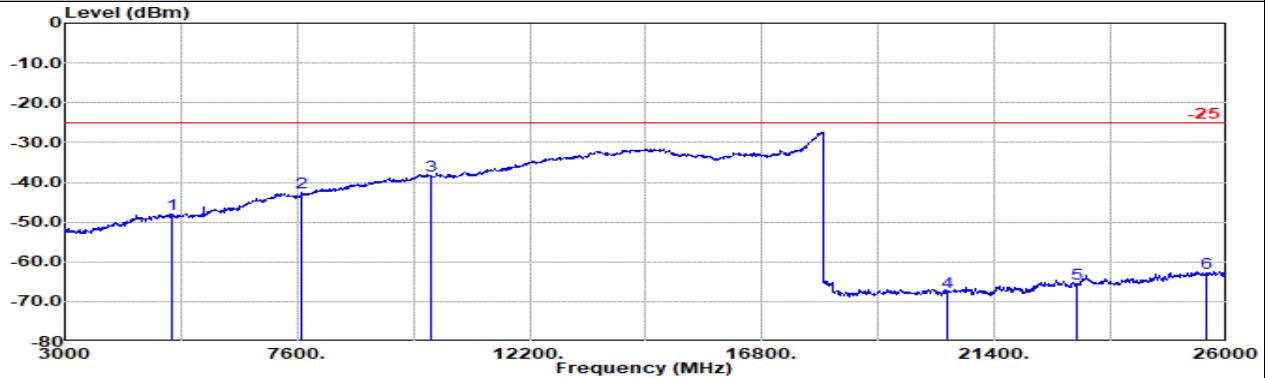


Ant. 4

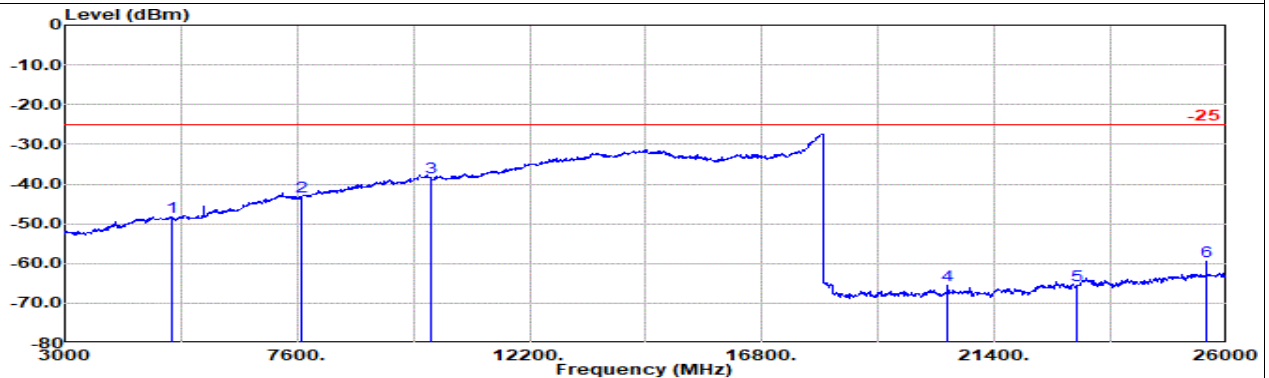
Part 27M Mode 1

LTE CA B7C Ch21277 + Ch21397

H



Freq	Level	Detector	Ant Factor	Amp\Cb	Filter	EIRPCF	Readin	Limit	Margin	Pol
MHz	dBm			dB	dB	dB	dBuV	dBm	dB	
1	5118.00	-47.89 RMS	33.39	-23.09	0.68	-95.23	36.36	-25.00	-22.89	Horizontal
2	7678.00	-42.72 RMS	36.61	-20.93	0.80	-95.23	36.03	-25.00	-17.72	Horizontal
3	10237.00	-38.37 RMS	38.93	-18.35	0.78	-95.23	35.50	-25.00	-13.37	Horizontal
4	20475.00	-67.47 RMS	37.85	-30.05	-9.54	-95.23	29.50	-25.00	-42.47	Horizontal
5	23034.00	-65.54 RMS	38.80	-28.38	-9.54	-95.23	28.81	-25.00	-40.54	Horizontal
6	25594.00	-62.84 RMS	39.18	-25.96	-9.54	-95.23	28.71	-25.00	-37.84	Horizontal



Freq	Level	Detector	Ant Factor	Amp\Cb	Filter	EIRPCF	Readin	Limit	Margin	Pol
MHz	dBm			dB	dB	dB	dBuV	dBm	dB	
1	5118.00	-48.23 RMS	33.39	-23.09	0.68	-95.23	36.02	-25.00	-23.23	Vertical
2	7678.00	-43.13 RMS	36.61	-20.93	0.80	-95.23	35.62	-25.00	-18.13	Vertical
3	10230.00	-38.34 RMS	38.94	-18.35	0.78	-95.23	35.52	-25.00	-13.34	Vertical
4	20475.00	-65.40 RMS	37.85	-30.05	-9.54	-95.23	31.57	-25.00	-40.40	Vertical
5	23034.00	-65.61 RMS	38.80	-28.38	-9.54	-95.23	28.74	-25.00	-40.61	Vertical
6	25594.00	-59.57 RMS	39.18	-25.96	-9.54	-95.23	31.98	-25.00	-34.57	Vertical

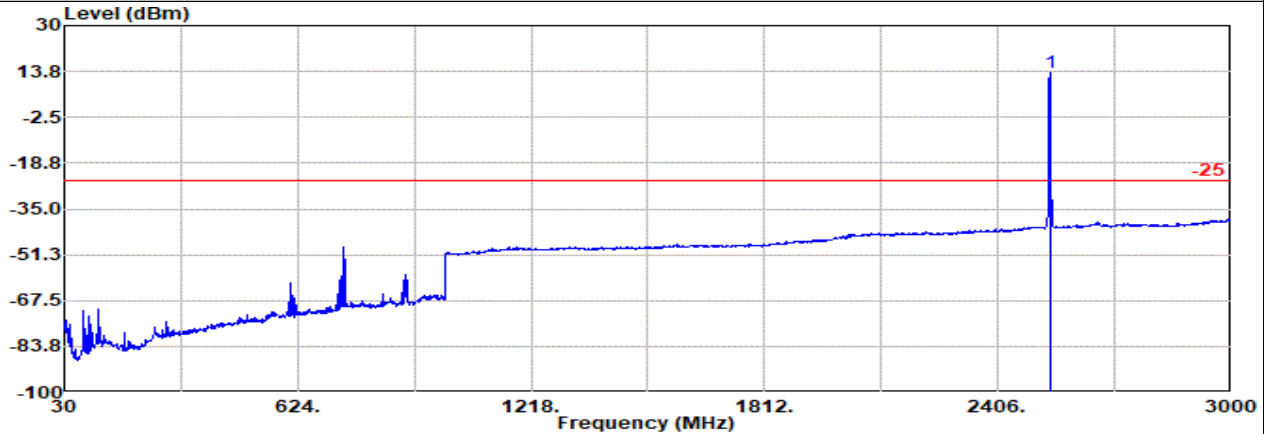


Ant. 4

Part 27M Mode 1

LTE CA B7C Ch21051 + Ch21171

M



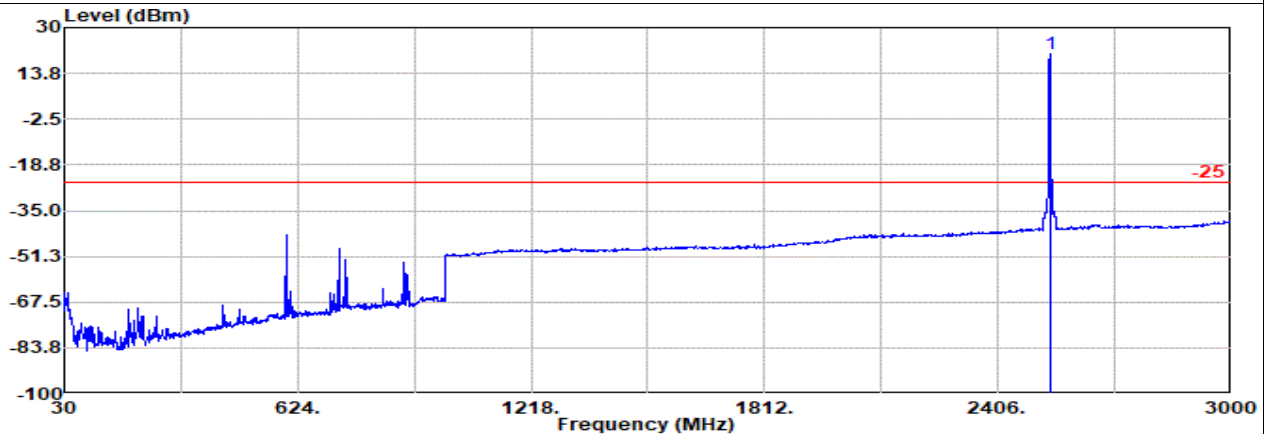
Site : 03CH12-HY

Condition: -25 3m 9120D-02114-230731 Horizontal

: LTE Band 7 15M Ch21051 1RB74QPSK

: LTE Band 7 10M Ch21171 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	2538.00	13.10	RMS	28.20	7.50	0.00	-95.23	72.63	-25.00	38.10	Horizontal



Site : 03CH12-HY

Condition: -25 3m 9120D-02114-230731 Vertical

: LTE Band 7 15M Ch21051 1RB74QPSK

: LTE Band 7 10M Ch21171 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	2538.00	20.62	RMS	28.20	7.50	0.00	-95.23	80.15	-25.00	45.62	Vertical

Remark: The over limit signal before #1 is fundamental signal which can be ignored.