FCC RF Test Report

APPLICANT	:	Rolling Wireless S.a r.l.
EQUIPMENT	:	CAT-M Module
BRAND NAME	:	Rolling Wireless
MODEL NAME	:	RW520-GL
FCC ID	:	2AX2URW520GL
STANDARD	:	47 CFR Part 22(H), 24(E), 27(L), 27(H), 27(F)
CLASSIFICATION	:	PCS Licensed Transmitter (PCB)
TEST DATE(S)	:	Sep. 05, 2024 ~ Sep. 14, 2024

We, Sporton International Inc. (Shenzhen), would like to declare that the tested sample has been evaluated in accordance with the procedures given in ANSI C63.26-2015 and shown compliance with the applicable technical standards.

The test results in this report apply exclusively to the tested model / sample. Without written approval of Sporton International Inc. (Shenzhen), the test report shall not be reproduced except in full.

Jason Jia

Approved by: Jason Jia

ACCREDITED Cert #5145.01

Sporton International Inc. (ShenZhen)

1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055

People's Republic of China

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REVISION HISTORY

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FG482606B	Rev. 01	Initial issue of report	Oct. 11, 2024

SUMMARY OF TEST RESULT

Report Section	FCC Rule	Description	Limit	Result	Remark
3.4	§2.1046	Conducted Output Power	-	Report Only	-
	§22.913(a)(5)	Effective Radiated Power (Band 5) (Band 26)	ERP < 7 Watt	PASS	-
	§27.50(b)(10) §27.50(c)(10)	Effective Radiated Power (Band 12) (Band 13) (Band 85)	ERP < 3 Watt		-
	§24.232(c)	Equivalent Isotropic Radiated Power (Band 2) (Band 25)	EIRP < 2Watt		-
	§27.50(d)(4)	Equivalent Isotropic Radiated Power (Band 4) (Band 66)	EIRP < 1Watt		-
3.5	§24.232(d)	Peak-to-Average Ratio	<13 dB	PASS	-
3.6	§2.1049	Occupied Bandwidth	-	Report Only	-
3.7	§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 85) (Band 25) (Band 26) (Band 66)	< 43+10log10(P[Watts])	PASS	-
3.8	§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 85) (Band 25) (Band 26) (Band 66)	< 43+10log10(P[Watts])	PASS	-
3.9	§2.1055 §22.355	Frequency Stability Temperature & Voltage	< 2.5 ppm for Part 22	PASS	-
	§2.1055 §24.235 §27.54		Within Authorized Band		
4.4	§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 85) (Band 25) (Band 26) (Band 66)	< $43+10\log_{10}$(P[Watts])	PASS	Under limit 11.02 dB at 1559.5 MHz

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.

1 General Description

1.1 Applicant

Rolling Wireless S.a r.l.
8-10, rue Mathias Hardt 1717, Luxembourg

1.2 Manufacturer

Rolling Wireless S.a r.l.
8-10, rue Mathias Hardt 1717, Luxembourg

1.3 Product Feature of Equipment Under Test

Product Feature	
Equipment	CAT-M Module
Brand Name	Rolling Wireless
Model Name	RW520-GL
FCC ID	2AX2URW520GL
IMEI Code	Conducted: 358365270000107 Radiation: 358365270000123
HW Version	V1.4
SW Version	69400.1006.00.22.04.02
EUT Stage	Production Unit

Remark: The above EUT's information was declared by manufacturer. Please refer to the specifications or user's manual for more detailed description.

1.4 Product Specification of Equipment Under Test

Standards-related Product Specification	
Tx Frequency	LTE Band 2 : 1850 MHz ~ 1910 MHz LTE Band 4 : 1710 MHz ~ 1755 MHz LTE Band 5 : 824 MHz ~ 849 MHz LTE Band 12 : 699 MHz ~ 716 MHz LTE Band 13 : 777 MHz ~ 787 MHz LTE Band 25 : 1850 MHz ~ 1915 MHz LTE Band 26 : 824 MHz ~ 849 MHz LTE Band 66 : 1710 MHz ~ 1780 MHz LTE Band 85: 698 MHz ~ 716 MHz
Rx Frequency	LTE Band 2 : 1930 MHz ~ 1990 MHz LTE Band 4 : 2110 MHz ~ 2155 MHz LTE Band 5 : 869 MHz ~ 894 MHz LTE Band 12 : 729 MHz ~ 746 MHz LTE Band 13 : 746 MHz ~ 756 MHz LTE Band 25 : 1930 MHz ~ 1995 MHz LTE Band 26 : 869 MHz ~ 894 MHz LTE Band 66 : 2110 MHz~ 2180 MHz LTE Band 85 : 728 MHz ~ 746 MHz
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 12 : 1.4MHz / 3MHz / 5MHz / 10MHz LTE Band 13 : 5MHz / 10MHz LTE Band 25 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 26 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz LTE Band 66 : 1.4MHz / 3MHz / 5MHz / 10MHz / 15MHz / 20MHz LTE Band 85 : 5MHz / 10MHz
Maximum Output Power to Antenna	LTE Band 2 : 20.34 dBm LTE Band 4 : 20.42 dBm LTE Band 5 : 20.41 dBm LTE Band 12 : 20.42 dBm LTE Band 13 : 20.52 dBm LTE Band 25 : 20.35 dBm LTE Band 26 : 20.55 dBm LTE Band 66 : 20.48 dBm LTE Band 85 : 20.52 dBm
Antenna Type	Monopole Antenna/PIFA Antenna
Antenna Gain	LTE Band 2/4/5/25/26/66/12/13/85 : 3.0 dBi
Type of Modulation	QPSK / 16QAM

Remark: The maximum ERP/EIRP is calculated from max output power and antenna gain, due to the same antenna gain for the two types of antennas, only the ERP/EIRP of Monopole Antenna is shown in the report.

1.5 Modification of EUT

No modifications are made to the EUT during all test items.

1.6 Maximum Conducted Power and Emission Designator

LTE Band 2		QPSK		16QAM	
BW (MHz)	Frequency Range (MHz)	Maximum Conducted power (W)	Emission Designator (99%OBW)	Maximum Conducted power (W)	Emission Designator (99%OBW)
1.4	1850.7 ~ 1909.3	0.1081	1M10G7D	0.0975	909KW7D
3	1851.5 ~ 1908.5	0.1067	1M16G7D	0.0968	965KW7D
5	1852.5 ~ 1907.5	0.1072	1M15G7D	0.1038	999KW7D
10	1855.0 ~ 1905.0	0.1072	1M46G7D	0.1064	1M28W7D
15	1857.5 ~ 1902.5	0.1040	1M44G7D	0.1042	1M29W7D
20	1860.0 ~ 1900.0	0.1081	1M48G7D	0.1076	1M28W7D
LTE Band 25		QPSK		16QAM	
BW (MHz)	Frequency Range (MHz)	Maximum Conducted power (W)	Emission Designator (99%OBW)	Maximum Conducted power (W)	Emission Designator (99%OBW)
1.4	1850.7 ~ 1914.3	0.1079	1M10G7D	0.0899	909KW7D
3	1851.5 ~ 1913.5	0.1030	1M16G7D	0.0893	965KW7D
5	1852.5 ~ 1912.5	0.1067	1M15G7D	0.1059	999KW7D
10	1855.0 ~ 1910.0	0.1052	1M46G7D	0.1059	1M28W7D
15	1857.5 ~ 1907.5	0.1000	1M44G7D	0.1072	1M29W7D
20	1860.0 ~ 1905.0	0.1084	1M48G7D	0.1074	1M28W7D
LTE Band 4		QPSK		16QAM	
BW (MHz)	Frequency Range (MHz)	Maximum Conducted power (W)	Emission Designator (99%OBW)	Maximum Conducted power (W)	Emission Designator (99%OBW)
1.4	1710.7 ~ 1754.3	0.1067	1M09G7D	0.0986	909KW7D
3	1711.5 ~ 1753.5	0.1094	1M18G7D	0.0975	983KW7D
5	1712.5 ~ 1752.5	0.1079	1M15G7D	0.1050	969KW7D
10	1715.0 ~ 1750.0	0.1089	1M44G7D	0.1052	1M26W7D
15	1717.5 ~ 1747.5	0.1074	1M44G7D	0.1079	1M29W7D
20	1720.0 ~ 1745.0	0.1102	1M44G7D	0.1079	1M28W7D

LTE Band 5		QPSK		16QAM	
BW (MHz)	Frequency Range (MHz)	Maximum Conducted power (W)	Emission Designator (99%OBW)	Maximum Conducted power (W)	Emission Designator (99%OBW)
1.4	824.7 ~ 848.3	0.1086	1M09G7D	0.0895	912KW7D
3	825.5 ~ 847.5	0.1030	1M16G7D	0.0891	983KW7D
5	826.5 ~ 846.5	0.1050	1M18G7D	0.1086	979KW7D
10	829.0 ~ 844.0	0.1099	1M16G7D	0.1091	1M32W7D
LTE Band 12		**QPSK**		**16QAM**	
BW (MHz)	Frequency Range (MHz)	Maximum Conducted power (W)	Emission Designator (99%OBW)	Maximum Conducted power (W)	Emission Designator (99%OBW)
1.4	699.7 ~ 715.3	0.1079	1M12G7D	0.0984	917KW7D
3	700.5 ~ 714.5	0.1072	1M16G7D	0.0904	965KW7D
5	701.5 ~ 713.5	0.1067	1M18G7D	0.1050	1M04W7D
10	704.0 ~ 711.0	0.1102	1M46G7D	0.1062	1M28W7D
LTE Band 13		**QPSK**		**16QAM**	
BW (MHz)	Frequency Range (MHz)	Maximum Conducted power (W)	Emission Designator (99%OBW)	Maximum Conducted power (W)	Emission Designator (99%OBW)
5	779.5 ~ 784.5	0.1104	1M15G7D	0.1104	969KW7D
10	782.0	0.1127	1M46G7D	0.1112	1M30W7D
LTE Band 26		**QPSK**		**16QAM**	
BW (MHz)	Frequency Range (MHz)	Maximum Conducted power (W)	Emission Designator (99%OBW)	Maximum Conducted power (W)	Emission Designator (99%OBW)
1.4	824.7 ~ 848.3	0.1086	1M09G7D	0.0899	912KW7D
3	825.5 ~ 847.5	0.1030	1M16G7D	0.0893	983KW7D
5	826.5 ~ 846.5	0.1069	1M18G7D	0.1076	979KW7D
10	829.0 ~ 844.0	0.1076	1M16G7D	0.1089	1M32W7D
15	831.5 ~ 841.5	0.1135	1M47G7D	0.1130	1M29W7D
CH26790	824.0	0.1122	1M44G7D	0.1114	1M29W7D

LTE Band 66		QPSK		16QAM	
BW (MHz)	Frequency Range (MHz)	Maximum Conducted power (W)	Emission Designator (99%OBW)	Maximum Conducted power (W)	Emission Designator (99%OBW)
1.4	1710.7 ~ 1779.3	0.1074	1M09G7D	0.0889	909KW7D
3	1711.5 ~ 1778.5	0.1042	1M18G7D	0.0899	983KW7D
5	1712.5 ~ 1777.5	0.1052	1M15G7D	0.1059	969KW7D
10	1715.0 ~ 1775.0	0.1028	1M44G7D	0.1107	1M26W7D
15	1717.5 ~ 1772.5	0.1059	1M44G7D	0.1107	1M29W7D
20	1720.0 ~ 1770.0	0.1117	1M44G7D	0.1112	1M28W7D
LTE Band 85		**QPSK**		**16QAM**	
BW (MHz)	**Frequency Range (MHz)**	**Maximum Conducted power (W)**	**Emission Designator (99%OBW)**	**Maximum Conducted power (W)**	**Emission Designator (99%OBW)**
5	700.5 ~ 713.5	0.1109	1M17G7D	0.1054	969KW7D
10	703.0 ~ 711.0	0.1127	1M44G7D	0.1074	1M30W7D

Note:

1. LTE Band 26 overlaps the entire frequency range of LTE Band 5. Therefore, the test results provided in this report covers Band 5 and the portion of Band 26 subject to Part 22.
2. LTE Band 66 overlaps the entire frequency range of LTE Band 4. Therefore, the test results provided in this report covers Band 66 as well as Band 4.
3. LTE Band 25 overlaps the entire frequency range of LTE Band 2. Therefore, the test results provided in this report covers Band 25 as well as Band 2.
4. For LTE Category M1 that the Maximum UE channel bandwidth is restricted to Max 6 RB Size.

1.7 Testing Location

Sporton International Inc. (ShenZhen) is accredited to ISO/IEC 17025:2017 by American Association for Laboratory Accreditation with Certificate Number 5145.01.

Test Firm	Sporton International Inc. (ShenZhen)		
Test Site Location	1/F, 2/F, Bldg 5, Shiling Industrial Zone, Xinwei Village, Xili, Nanshan, Shenzhen, 518055 People's Republic of China TEL: +86-755-86379589 FAX: +86-755-86379595		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	TH01-SZ	CN1256	421272

Test Firm	Sporton International Inc. (ShenZhen)		
Test Site Location	101, 1st Floor, Block B, Building 1, No. 2, Tengfeng 4th Road, Fenghuang Community, Fuyong Street, Baoan District, Shenzhen City, Guangdong Province 518103 People's Republic of China TEL: +86-755-86066985		
Test Site No.	**Sporton Site No.**	**FCC Designation No.**	**FCC Test Firm Registration No.**
	03CH04-SZ	CN1256	421272

1.8 Test Software

Item	Site	Manufacturer	Name	Version
1.	03CH04-SZ	AUDIX	E3	6.2009-8-24

1.9 Applicable Standards

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

- 47 CFR Part 22(H), 24(E), 27(L), 27(H), 27(F)
- ANSI C63.26-2015
- FCC KDB 971168 D01 Power Meas License Digital Systems v03r01
- FCC KDB 412172 D01 Determining ERP and EIRP v01r01

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

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.

Radiated measurements are performed by rotating the EUT in three different orthogonal test planes to find the maximum emission. (X Plane)

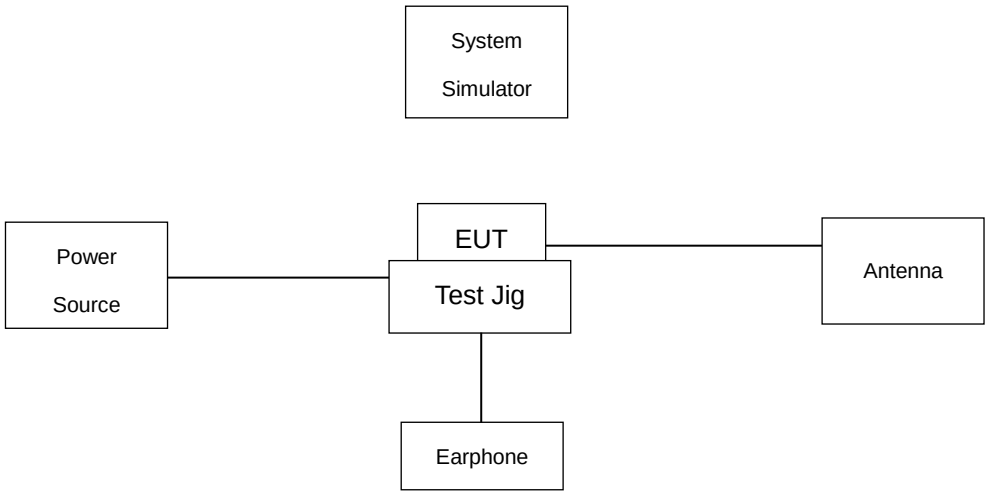
Test Items	Band	Bandwidth (MHz)						Modulation			RB #			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
Max. Output Power	2	v	v	v	v	v	v	v	v	-	v	v	v	v	v	v
	4	v	v	v	v	v	v	v	v	-	v	v	v	v	v	v
	5	v	v	v	v	-	-	v	v	-	v	v	v	v	v	v
	12	v	v	v	v	-	-	v	v	-	v	v	v	v	v	v
	13	-	-	v	v	-	-	v	v	-	v	v	v	v	v	v
	25	v	v	v	v	v	v	v	v	-	v	v	v	v	v	v
	26	v	v	v	v	v	-	v	v	-	v	v	v	v	v	v
	66	v	v	v	v	v	v	v	v	-	v	v	v	v	v	v
	85	-	-	v	v	-	-	v	v	-	v	v	v	v	v	v
Peak-to-Average Ratio	12				v	-	-	v	v	-			v		v	
	13	-	-		v	-	-	v	v	-			v		v	
	25						v	v	v	-			v		v	
	26					v	-	v	v	-			v		v	
	66						v	v	v	-			v		v	
	85	-	-			-	-	v	v	-			v		v	
26dB and 99% Bandwidth	12	v	v	v	v	-	-	v	v	-			v		v	
	13	-	-	v	v	-	-	v	v	-			v		v	
	25	v	v	v	v	v	v	v	v	-			v		v	
	26	v	v	v	v	v	-	v	v	-			v		v	
	66	v	v	v	v	v	v	v	v	-			v		v	
	85	-	-	v	v	-	-	v	v	-			v		v	
Conducted Band Edge	12	v	v	v	v	-	-	v	v	-	v		v	v		v
	13	-	-	v	v	-	-	v	v	-	v		v	v		v
	25	v	v	v	v	v	v	v	v	-	v		v	v		v
	26	v	v	v	v	v	-	v	v	-	v		v	v		v
	66	v	v	v	v	v	v	v	v	-	v		v	v		v
	85	-	-	v	v	-	-	v	v	-	v		v	v		v
Conducted Spurious Emission	12	v	v	v	v	-	-	v		-	v			v	v	v
	13	-	-	v	v	-	-	v		-	v			v	v	v
	25	v	v	v	v	v	v	v		-	v			v	v	v

	26	v	v	v	v	v	-	v		-	v			v	v	v
	66	v	v	v	v	v	v	v		-	v			v	v	v
	85	-	-	v	v	-	-	v		-	v			v	v	v
Frequency Stability	12				v	-	-	v		-			v		v	
	13	-	-		v	-	-	v		-			v		v	
	25				v			v		-			v		v	
	26				v		-	v		-			v		v	
	66				v			v		-			v		v	
	85	-	-		v	-	-	v		-			v		v	
E.R.P / E.I.R.P	2	v	v	v	v	v	v	v	v	-	v	v	v	v	v	v
	4	v	v	v	v	v	v	v	v	-	v	v	v	v	v	v
	5	v	v	v	v	-	-	v	v	-	v	v	v	v	v	v
	12	v	v	v	v	-	-	v	v	-	v	v	v	v	v	v
	13	-	-	v	v	-	-	v	v	-	v	v	v	v	v	v
	25	v	v	v	v	v	v	v	v	-	v	v	v	v	v	v
	26	v	v	v	v	v	-	v	v	-	v	v	v	v	v	v
	66	v	v	v	v	v	v	v	v	-	v	v	v	v	v	v
	85	-	-	v	v	-	-	v	v	-	v	v	v	v	v	v
Radiated Spurious Emission	12	Worst Case												v	v	v
	13	Worst Case												v	v	v
	25	Worst Case												v	v	v
	26	Worst Case												v	v	v
	66	Worst Case												v	v	v
	85	Worst Case												v	v	v

Note

1. The mark "**v** " means that this configuration is chosen for testing
2. The mark "-" means that this bandwidth is not supported.
3. 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.

2.2 Connection Diagram of Test System



This example is connection diagram of EUT test configurations.

. For detail, please refer to test mode configuration and setup photographs for each test item.

2.3 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model No.	FCC ID	Data Cable	Power Cord
1.	Power Supply	GWINSTEK	PSS-2002	N/A	N/A	Unshielded, 1.8 m
2.	LTE Base Station	Anritsu	MT8820C	N/A	N/A	Unshielded, 1.8 m
3.	Test Jig	N/A	N/A	N/A	N/A	N/A
4.	Adapter	N/A	N/A	N/A	N/A	N/A
5.	Earphone	N/A	N/A	N/A	N/A	N/A
6.	Antenna	N/A	N/A	N/A	N/A	N/A

2.4 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 4.0 dB and 10dB attenuator.

Example : *Offset(dB) = RF cable loss(dB) + attenuator factor(dB).*

= 4.0 + 10 = 14.0 (dB)

2.5 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 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 25 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
20	Channel	26140	26340	26590
	Frequency	1860	1880	1905
15	Channel	26115	26340	26615
	Frequency	1857.5	1880	1907.5
10	Channel	26090	26340	26640
	Frequency	1855	1880	1910
5	Channel	26065	26340	26665
	Frequency	1852.5	1880	1912.5
3	Channel	26055	26340	26675
	Frequency	1851.5	1880	1913.5
1.4	Channel	26047	26340	26683
	Frequency	1850.7	1880	1914.3

LTE Band 26 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
15	Channel	26865	26915	26965
	Frequency	831.5	836.5	841.5
10	Channel	26840	26915	26990
	Frequency	829	836.5	844
5	Channel	26815	26915	27015
	Frequency	826.5	836.5	846.5
3	Channel	26805	26915	27025
	Frequency	825.5	836.5	847.5
1.4	Channel	26797	26915	27033
	Frequency	824.7	836.5	848.3

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 85 Channel and Frequency List				
BW [MHz]	Channel/Frequency(MHz)	Lowest	Middle	Highest
10	Channel	134052	134092	134132
	Frequency	703	707	711
5	Channel	134027	134092	134157
	Frequency	700.5	707	713.5

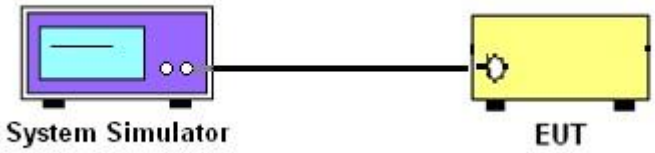
3 Conducted Test Items

3.1 Measuring Instruments

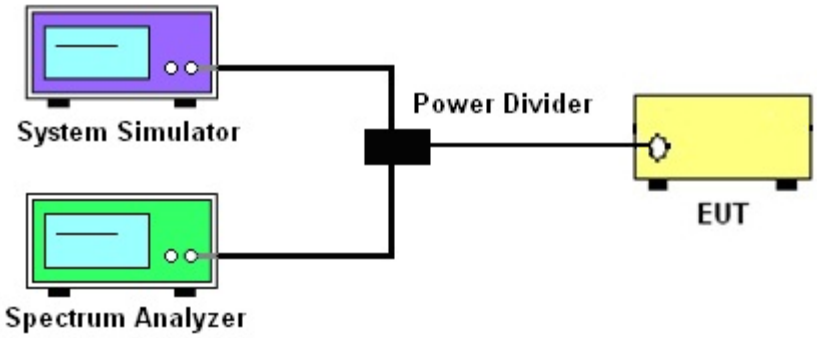
See list of measuring instruments of this test report.

3.2 Test Setup

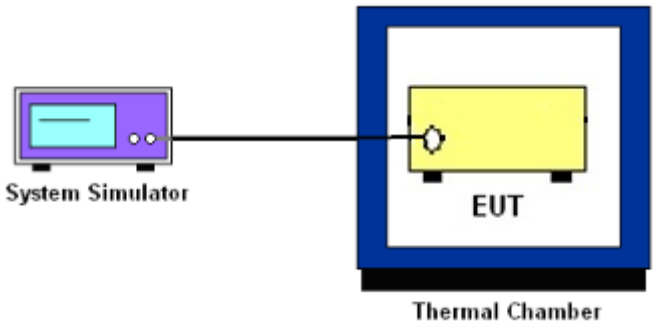
3.2.1 Conducted Output Power



3.2.2 Peak-to-Average Ratio, Occupied Bandwidth ,Conducted Band-Edge and Conducted Spurious Emission



3.2.3 Frequency Stability



3.3 Test Result of Conducted Test

Please refer to Appendix A.

3.4 Conducted Output Power and ERP/EIRP

3.4.1 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 and Band 26.

The ERP of mobile transmitters must not exceed 3 Watts for LTE Band 12, Band 13 and Band 85.

The EIRP of mobile transmitters must not exceed 2 Watts for LTE Band 2 and Band 25.

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

3.4.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.2
2. The transmitter output port was connected to the system simulator.
3. Set EUT at maximum power through the system simulator.
4. Select lowest, middle, and highest channels for each band and different modulation.
5. Measure and record the power level from the system simulator.

3.5 Peak-to-Average Ratio

3.5.1 Description of the PAR Measurement

Power Complementary Cumulative Distribution Function (CCDF) curves provide a means for characterizing the power peaks of a digitally modulated signal on a statistical basis. A CCDF curve depicts the probability of the peak signal amplitude exceeding the average power level. Most contemporary measurement instrumentation include the capability to produce CCDF curves for an input signal provided that the instrument's resolution bandwidth can be set wide enough to accommodate the entire input signal bandwidth. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

3.5.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.2.3.4 (CCDF).
2. The EUT was connected to spectrum and system simulator via a power divider.
3. Set the CCDF (Complementary Cumulative Distribution Function) option in spectrum analyzer.
4. The highest RF powers were measured and recorded the maximum PAPR level associated with a probability of 0.1 %.
5. Record the deviation as Peak to Average Ratio.

3.6 Occupied Bandwidth

3.6.1 Description of Occupied Bandwidth Measurement

The occupied bandwidth is the width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5% of the total mean transmitted power.

The 26 dB emission bandwidth is defined as the frequency range between two points, one above and one below the carrier frequency, at which the spectral density of the emission is attenuated 26 dB below the maximum in-band spectral density of the modulated signal. Spectral density (power per unit bandwidth) is to be measured with a detector of resolution bandwidth equal to approximately 1.0% of the emission bandwidth.

3.6.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.4
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The spectrum analyzer center frequency is set to the nominal EUT channel center frequency. The span range for the spectrum analyzer shall be between two and five times the anticipated OBW.
4. The nominal resolution bandwidth (RBW) shall be in the range of 1 to 5 % of the anticipated OBW, and the VBW shall be at least 3 times the RBW.
5. Set the detection mode to peak, and the trace mode to max hold.
6. Determine the reference value: Set the EUT to transmit a modulated signal. Allow the trace to stabilize. Set the spectrum analyzer marker to the highest level of the displayed trace. (this is the reference value)
7. Determine the “-26 dB down amplitude” as equal to (Reference Value – X).
8. Place two markers, one at the lowest and the other at the highest frequency of the envelope of the spectral display such that each marker is at or slightly below the “–X dB down amplitude” determined in step 6. If a marker is below this “-X dB down amplitude” value it shall be placed as close as possible to this value. The OBW is the positive frequency difference between the two markers.
9. Use the 99 % power bandwidth function of the spectrum analyzer and report the measured bandwidth.

3.7 Conducted Band Edge

3.7.1 Description of Conducted Band Edge Measurement

22.917(a)

For operations in the 824 – 849 MHz band, the FCC limit is 43 + $10\log_{10}$(P[Watts]) dB below the transmitter power P(Watts) in a 100kHz bandwidth. However, in the 1MHz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

24.238 (a)

For operations in the 1850-1910 and 1930-1990 MHz band, the FCC limit is 43 + $10\log_{10}$(P[Watts]) dB below the transmitter power P(Watts) in a 1MHz bandwidth. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

27.53 (c)

For operations in the 776-788 MHz band, the FCC limit is 43 + $10\log_{10}$(P[Watts]) dB below the transmitter power P(Watts) in a 100 kHz bandwidth. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz may be employed. In addition, the power of any unwanted emissions in any 6.25 kHz bandwidth for all frequencies between 763-775 MHz and 793-806 MHz shall be attenuated below the transmitter power, P (dBW), by at least 65 + 10 log10 p(watts), dB, for mobile and portable equipment.

27.53 (g)

For operations in the 600MHz band and 698 -746 MHz band, the FCC limit is 43 + 10log10(P[Watts]) dB below the transmitter power P(Watts) in a 100 kHz bandwidth. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

27.53 (h)

For operations in the 1710 – 1755 MHz band, the FCC limit is 43 + $10\log_{10}$(P[Watts]) dB below the transmitter power P(Watts) in a 1 MHz bandwidth. However, in the 1MHz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

3.7.2 Test Procedures

1. The testing follows ANSI C63.26 section 5.7
1. The EUT was connected to spectrum analyzer and system simulator via a power divider.
2. The band edges of low and high channels for the highest RF powers were measured.
3. Set RBW >= 1% EBW in the 1MHz band immediately outside and adjacent to the band edge.
4. Beyond the 1 MHz band from the band edge, RBW=1MHz was used.
5. Set spectrum analyzer with RMS detector.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
7. Checked that all the results comply with the emission limit line.

   Example:

   The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)

   = P(W)- [43 + 10log(P)] (dB)

   = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB) = -13dBm.
8. When using the integration method, the starting frequency of the integration shall be centered at one-half of the RBW away from the band edge.

3.8 Conducted Spurious Emission

3.8.1 Description of Conducted Spurious Emission Measurement

The power of any emission outside of the authorized operating frequency ranges must be lower than the transmitter power (P) by a factor of at least 43 + 10 log (P) dB.

It is measured by means of a calibrated spectrum analyzer and scanned from 30 MHz up to a frequency including its 10^{th} harmonic.

3.8.2 Test Procedures

1. The testing follows ANSI C63.26 section 5.7
2. The EUT was connected to spectrum analyzer and system simulator via a power divider.
3. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
4. The middle channel for the highest RF power within the transmitting frequency was measured.
5. The conducted spurious emission for the whole frequency range was taken.
6. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz.
7. Set spectrum analyzer with RMS detector.
8. Taking the record of maximum spurious emission.
9. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
10. The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)
    = P(W)- [43 + 10log(P)] (dB)
    = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)
    = -13dBm.

3.9 Frequency Stability

3.9.1 Description of Frequency Stability Measurement

The frequency stability shall be measured by variation of ambient temperature and variation of primary supply voltage to ensure that the fundamental emission stays within the authorized frequency block. The frequency stability of the transmitter shall be maintained within ±0.00025% (±2.5ppm) of the center frequency.

3.9.2 Test Procedures for Temperature Variation

1. The testing follows ANSI C63.26 section 5.6.4
2. The EUT was set up in the thermal chamber and connected with the system simulator.
3. With power OFF, the temperature was decreased to -30°C and the EUT was stabilized before testing. Power was applied and the maximum change in frequency was recorded within one minute.
4. With power OFF, the temperature was raised in 10°C step up to 50°C. The EUT was stabilized at each step for at least half an hour. Power was applied and the maximum frequency change was recorded within one minute.

3.9.3 Test Procedures for Voltage Variation

1. The testing follows ANSI C63.26 section 5.6.5
2. The EUT was placed in a temperature chamber at 20±5°C and connected with the system simulator.
3. The power supply voltage to the EUT was varied from 85% to 115% of the nominal value for other than hand carried battery equipment.
4. For hand carried, battery powered equipment, reduce the primary ac or dc supply voltage to the battery operating end point, which shall be specified by the manufacturer.
5. The variation in frequency was measured for the worst case.

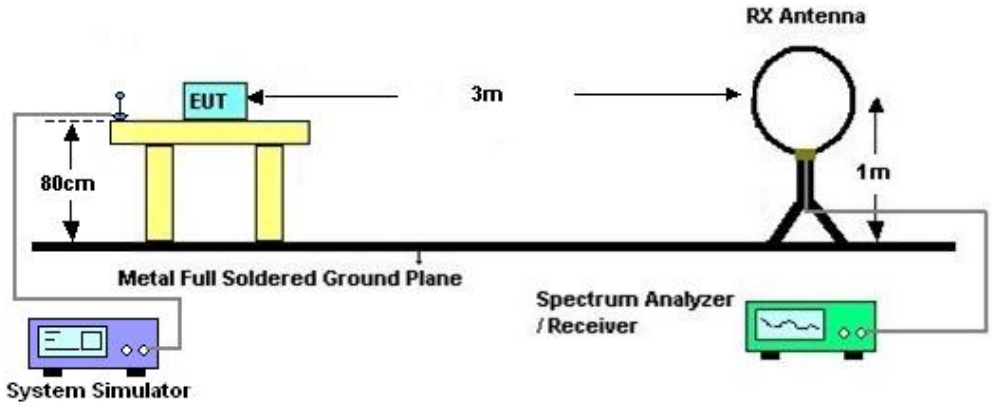
4 Radiated Test Items

4.1 Measuring Instruments

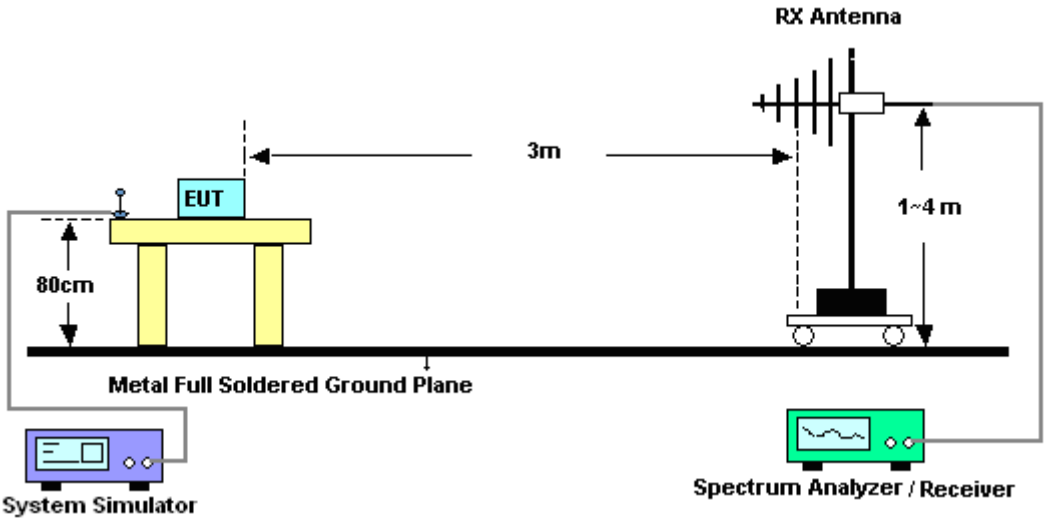
See list of measuring instruments of this test report.

4.2 Test Setup

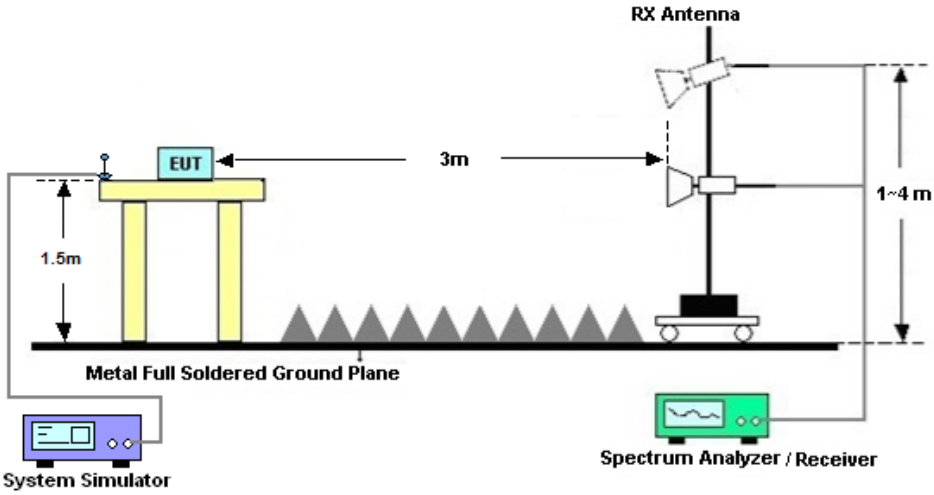
4.2.1 For radiated test below 30MHz



4.2.2 For radiated test from 30MHz to 1GHz



4.2.3 For radiated test above 1GHz



4.3 Test Result of Radiated Test

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.

Please refer to Appendix B.

4.4 Radiated Spurious Emission

4.4.1 Description of Radiated Spurious Emission

The radiated spurious emission was measured by substitution method according to ANSI C63.26. 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 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.

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

4.4.2 Test Procedures

1. The testing follows ANSI C63.26 Section 5.5
2. The EUT was placed on a turntable with 0.8 meter height for frequency below 1GHz and 1.5 meter height for frequency above 1GHz respectively above ground.
3. The EUT was set 3 meters from the receiving antenna mounted on the antenna tower.
4. The table was rotated 360 degrees to determine the position of the highest spurious emission.
5. The height of the receiving antenna is varied between 1m to 4m to search the maximum spurious emission for both horizontal and vertical polarizations.
6. During the measurement, the system simulator parameters were set to force the EUT transmitting at maximum output power.
7. Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 3MHz, taking the record of maximum spurious emission.
8. A horn antenna was substituted in place of the EUT and was driven by a signal generator.
9. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
10. EIRP (dBm) = S.G. Power – Tx Cable Loss + Tx Antenna Gain
11. ERP (dBm) = EIRP - 2.15
12. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.
    The limit line is derived from 43 + 10log(P)dB below the transmitter power P(Watts)
    = P(W)- [43 + 10log(P)] (dB)
    = [30 + 10log(P)] (dBm) - [43 + 10log(P)] (dB)
    = -13dBm.

5 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Spectrum Analyzer	R&S	FSV40	101078	10Hz~40GHz	Apr. 09, 2024	Sep. 05, 2024~ Sep. 11, 2024	Apr. 08, 2025	Conducted (TH01-SZ)
DC Power Supply	TTI	PL330P	290070	Max 32V，3A	Oct. 16, 2023	Sep. 05, 2024~ Sep. 11, 2024	Oct. 15, 2024	Conducted (TH01-SZ)
Power Divider	TOJOIN	PS-2SM-04 265	60.06.020.007 7	0.4GHz~26.5GHz	Dec. 25, 2023	Sep. 05, 2024~ Sep. 11, 2024	Dec. 24, 2024	Conducted (TH01-SZ)
Thermal Chamber	Ten Billion Hongzhangroup	LP-150U	H2014081803	-40~+150°C	Jul. 03, 2024	Sep. 05, 2024~ Sep. 11, 2024	Jul. 02, 2025	Conducted (TH01-SZ)
EMI Test Receiver	R&S	ESR7	101404	9kHz~7GHz	Oct. 18, 2023	Sep. 14, 2024	Oct. 17, 2024	Radiation (03CH04-SZ)
EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY55150213	10Hz~44GHz	Jul. 03, 2024	Sep. 14, 2024	Jul. 02, 2025	Radiation (03CH04-SZ)
Loop Antenna	R&S	HFH2-Z2E	101141	9kHz~30MHz	Dec. 29, 2023	Sep. 14, 2024	Dec. 28, 2024	Radiation (03CH04-SZ)
Bilog Antenna	TeseQ	CBL6111D	41909	30MHz~1GHz	May 09 2024	Sep. 14, 2024	May 08, 2025	Radiation (03CH04-SZ)
Double Ridge Horn Antenna	SCHWARZBECK	BBHA9120D	9120D-1474	1GHz~18GHz	Jul. 07, 2023	Sep. 14, 2024	Jul. 06, 2025	Radiation (03CH04-SZ)
Horn Antenna	SCHWARZBECK	BBHA9170	9170#679	15GHz~40GHz	Jul. 04, 2024	Sep. 14, 2024	Jul. 03, 2025	Radiation (03CH04-SZ)
Amplifier	Burgeon	BPA-530	102211	0.01Hz ~3000MHz	Oct. 18, 2023	Sep. 14, 2024	Oct. 17, 2024	Radiation (03CH04-SZ)
HF Amplifier	MITEQ	AMF-7D-00 101800-30-1 0P-R	1943528	1GHz~18GHz	Oct. 18, 2023	Sep. 14, 2024	Oct. 17, 2024	Radiation (03CH04-SZ)
HF Amplifier	MITEQ	TTA1840-35 -HG	1871923	18GHz~40GHz	Jul. 03, 2024	Sep. 14, 2024	Jul. 02, 2025	Radiation (03CH04-SZ)
Amplifier	Agilent Technologies	83017A	MY57280136	500MHz~26.5GHz	Jul. 03, 2024	Sep. 14, 2024	Jul. 02, 2025	Radiation (03CH04-SZ)
AC Power Source	APC	AFV-S-600B	F119050019	N/A	Oct. 18, 2023	Sep. 14, 2024	Oct. 17, 2024	Radiation (03CH04-SZ)
Turn Table	EM	EM1000	N/A	0~360 degree	NCR	Sep. 14, 2024	NCR	Radiation (03CH04-SZ)
Antenna Mast	EM	EM1000	N/A	1 m~4 m	NCR	Sep. 14, 2024	NCR	Radiation (03CH04-SZ)

NCR: No Calibration Required

6 Measurement Uncertainty

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI 63.26-2015. All the measurement uncertainty value were shown with a coverage K=2 to indicate 95% level of confidence. The measurement data show herein meets or exceeds the CISPR measurement uncertainty values specified in CISPR 16-4-2 and can be compared directly to specified limit to determine compliance.

Uncertainty of Conducted Measurement

Test Item	Uncertainty
Conducted Spurious Emission & Bandedge	±1.34 dB
Occupied Channel Bandwidth	±0.012 MHz
Conducted Power	±1.34 dB
Peak to Average Ratio	±1.34 dB
Frequency Stability	±1.3 Hz

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	2.8 dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.1 dB

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

Measuring Uncertainty for a Level of Confidence of 95% (U = 2Uc(y))	3.9 dB

---------- THE END ----------

Appendix A. Test Results of Conducted Test

Test Engineer :	Fly	Temperature :	22~23℃
		Relative Humidity :	40~42%

Conducted Output Power(Average power) and ERP/EIRP

LTE_B2

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	EIRP(W)		
Channel				18700	18900	19100			
Frequency (MHz)				1860	1880	1900	L	M	H
20	QPSK	1	0	20.22	20.26	20.34	0.1052	0.1062	0.1081
20	QPSK	1	5	20.14	20.16	20.25	0.1033	0.1038	0.1059
20	QPSK	3	0	20.16	20.19	20.29	0.1038	0.1045	0.1069
20	QPSK	3	3	20.21	20.22	20.12	0.1050	0.1052	0.1028
20	QPSK	6	0	20.04	20.07	20.15	0.1009	0.1016	0.1035
20	16QAM	1	0	20.03	20.07	20.32	0.1007	0.1016	0.1076
Channel				20.05	20.1	20.18	EIRP(W)		
Frequency (MHz)				20.19	20.22	20.33	L	M	H
15	QPSK	1	0	20.05	20.11	20.17	0.1012	0.1026	0.1040
15	16QAM	1	0	20.18	20.15	20.14	0.1042	0.1035	0.1033
Channel				18650	18900	19150	EIRP(W)		
Frequency (MHz)				1855	1880	1905	L	M	H
10	QPSK	1	0	20.05	20.21	20.30	0.1012	0.1050	0.1072
10	16QAM	1	0	20.27	20.13	20.15	0.1064	0.1030	0.1035
Channel				18625	18900	19175	EIRP(W)		
Frequency (MHz)				1852.5	1880	1907.5	L	M	H
5	QPSK	1	0	20.01	20.27	20.30	0.1002	0.1064	0.1072
5	16QAM	1	0	20.16	20.22	20.19	0.1038	0.1052	0.1045
Channel				18615	18900	19185	EIRP(W)		
Frequency (MHz)				1851.5	1880	1908.5	L	M	H
3	QPSK	1	0	20.21	20.11	20.28	0.1050	0.1026	0.1067
3	16QAM	1	0	19.86	19.49	19.64	0.0968	0.0889	0.0920
Channel				18607	18900	19193	EIRP(W)		
Frequency (MHz)				1850.7	1880	1909.3	L	M	H
1.4	QPSK	1	0	20.15	20.34	20.21	0.1035	0.1081	0.1050
1.4	16QAM	1	0	19.89	19.55	19.68	0.0975	0.0902	0.0929

LTE_B4

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	EIRP(W)		
Channel				20050	20175	20300			
Frequency (MHz)				1720	1732.5	1745	L	M	H
20	QPSK	1	0	20.39	20.42	20.40	0.2183	0.2198	0.2188
20	QPSK	1	5	19.95	19.98	20.26	0.1972	0.1986	0.2118
20	QPSK	3	0	20.01	20.06	20.38	0.2000	0.2023	0.2178
20	QPSK	3	3	20.02	20.10	20.38	0.2004	0.2042	0.2178
20	QPSK	6	0	20.03	20.10	20.39	0.2009	0.2042	0.2183
20	16QAM	1	0	20.31	20.32	20.33	0.2143	0.2148	0.2153
Channel				20025	20175	20325	EIRP(W)		
Frequency (MHz)				1717.5	1732.5	1747.5	L	M	H
15	QPSK	1	0	19.92	20.15	20.31	0.1959	0.2065	0.2143
15	16QAM	1	0	20.25	20.33	20.21	0.2113	0.2153	0.2094
Channel				20000	20175	20350	EIRP(W)		
Frequency (MHz)				1715	1732.5	1750	L	M	H
10	QPSK	1	0	20.17	20.37	20.25	0.2075	0.2173	0.2113
10	16QAM	1	0	20.21	20.22	20.18	0.2094	0.2099	0.2080
Channel				19975	20175	20375	EIRP(W)		
Frequency (MHz)				1712.5	1732.5	1752.5	L	M	H
5	QPSK	1	0	20.11	20.33	20.21	0.2046	0.2153	0.2094
5	16QAM	1	0	20.21	20.19	20.21	0.2094	0.2084	0.2094
Channel				19965	20175	20385	EIRP(W)		
Frequency (MHz)				1711.5	1732.5	1753.5	L	M	H
3	QPSK	1	0	20.16	20.39	20.21	0.2070	0.2183	0.2094
3	16QAM	1	0	19.33	19.79	19.89	0.1710	0.1901	0.1945
Channel				19950	20175	20393	EIRP(W)		
Frequency (MHz)				1710	1732.5	1754.3	L	M	H
1.4	QPSK	1	0	20.18	20.21	20.28	0.2080	0.2094	0.2128
1.4	16QAM	1	0	19.38	19.79	19.94	0.1730	0.1901	0.1968

LTE_B5

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	ERP(W)		
Channel				20450	20525	20600			
Frequency (MHz)				829	836.5	844	L	M	H
10	QPSK	1	0	20.38	20.41	20.38	0.1327	0.1337	0.1327
10	QPSK	1	5	20.35	20.13	20.15	0.1318	0.1253	0.1259
10	QPSK	3	0	20.23	20.18	20.26	0.1282	0.1268	0.1291
10	QPSK	3	3	20.25	20.02	20.06	0.1288	0.1222	0.1233
10	QPSK	6	0	19.67	19.45	19.49	0.1127	0.1072	0.1081
10	16QAM	1	0	20.30	20.38	20.31	0.1303	0.1327	0.1306
Channel				20425	20525	20625	ERP(W)		
Frequency (MHz)				826.5	836.5	846.5	L	M	H
5	QPSK	1	0	20.20	20.07	20.21	0.1274	0.1236	0.1276
5	16QAM	1	0	20.33	20.36	20.32	0.1312	0.1321	0.1309
Channel				20415	20525	20635	ERP(W)		
Frequency (MHz)				825.5	836.5	847.5	L	M	H
3	QPSK	1	0	20.09	20.02	20.13	0.1242	0.1222	0.1253
3	16QAM	1	0	19.50	19.40	19.50	0.1084	0.1059	0.1084
Channel				20407	20525	20643	ERP(W)		
Frequency (MHz)				824.7	836.5	848.3	L	M	H
1.4	QPSK	1	0	20.32	20.25	20.36	0.1309	0.1288	0.1321
1.4	16QAM	1	0	19.50	19.46	19.52	0.1084	0.1074	0.1089

LTE_B12

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	ERP(W)		
Channel				23060	23095	23130			
Frequency (MHz)				704	707.5	711	L	M	H
10	QPSK	1	0	20.42	20.38	20.31	0.1340	0.1327	0.1306
10	QPSK	1	5	20.29	20.25	20.03	0.1300	0.1288	0.1225
10	QPSK	3	0	20.37	20.30	20.11	0.1324	0.1303	0.1247
10	QPSK	3	3	20.40	20.35	20.08	0.1334	0.1318	0.1239
10	QPSK	6	0	19.56	19.62	19.55	0.1099	0.1114	0.1096
10	16QAM	1	0	20.13	20.12	20.26	0.1253	0.1250	0.1291
Channel				23035	23095	23155	ERP(W)		
Frequency (MHz)				701.5	707.5	713.5	L	M	H
5	QPSK	1	0	20.28	20.20	20.27	0.1297	0.1274	0.1294
5	16QAM	1	0	20.18	20.21	20.17	0.1268	0.1276	0.1265
Channel				23025	23095	23165	ERP(W)		
Frequency (MHz)				700.5	707.5	714.5	L	M	H
3	QPSK	1	0	20.30	20.19	20.23	0.1303	0.1271	0.1282
3	16QAM	1	0	19.56	19.42	19.33	0.1099	0.1064	0.1042
Channel				23017	23095	23173	ERP(W)		
Frequency (MHz)				699.7	707.5	715.3	L	M	H
1.4	QPSK	1	0	20.21	20.33	20.24	0.1276	0.1312	0.1285
1.4	16QAM	1	0	19.93	19.82	19.64	0.1197	0.1167	0.1119

LTE_B13

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	ERP(W)		
Channel					23230				
Frequency (MHz)					782			M	
10	QPSK	1	0		20.52			0.1371	
10	QPSK	1	5		20.25			0.1288	
10	QPSK	3	0		20.29			0.1300	
10	QPSK	3	3		20.31			0.1306	
10	QPSK	6	0		19.73			0.1143	
10	16QAM	1	0		20.46			0.1352	
Channel				23205	23230	23255	ERP(W)		
Frequency (MHz)				779.5	782	784.5	L	M	H
5	QPSK	1	0	20.35	20.43	20.37	0.1318	0.1343	0.1324
5	16QAM	1	0	20.32	20.43	20.33	0.1309	0.1343	0.1312

LTE_B25

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	EIRP(W)		
Channel				26140	26340	26590			
Frequency (MHz)				1860	1880	1905	L	M	H
20	QPSK	1	0	20.30	20.35	20.31	0.2138	0.2163	0.2143
20	QPSK	1	5	20.20	20.12	20.09	0.2089	0.2051	0.2037
20	QPSK	3	0	20.18	20.11	20.12	0.2080	0.2046	0.2051
20	QPSK	3	3	20.12	20.15	20.06	0.2051	0.2065	0.2023
20	QPSK	6	0	19.95	20.01	19.97	0.1972	0.2000	0.1982
20	16QAM	1	0	20.29	20.31	20.26	0.2133	0.2143	0.2118
Channel				26115	26340	26615	EIRP(W)		
Frequency (MHz)				1857.5	1880	1907.5	L	M	H
15	QPSK	1	0	19.91	19.98	20.00	0.1954	0.1986	0.1995
15	16QAM	1	0	20.25	20.29	20.30	0.2113	0.2133	0.2138
Channel				26090	26340	26640	EIRP(W)		
Frequency (MHz)				1855	1880	1910	L	M	H
10	QPSK	1	0	19.82	20.22	20.22	0.1914	0.2099	0.2099
10	16QAM	1	0	20.07	20.25	20.21	0.2028	0.2113	0.2094
Channel				26065	26340	26665	EIRP(W)		
Frequency (MHz)				1852.5	1880	1912.5	L	M	H
5	QPSK	1	0	19.88	20.28	20.24	0.1941	0.2128	0.2109
5	16QAM	1	0	20.20	20.23	20.25	0.2089	0.2104	0.2113
Channel				26055	26340	26675	EIRP(W)		
Frequency (MHz)				1851.5	1880	1913.5	L	M	H
3	QPSK	1	0	19.67	20.10	20.13	0.1849	0.2042	0.2056
3	16QAM	1	0	19.08	19.51	19.49	0.1614	0.1782	0.1774
Channel				26047	26340	26683	EIRP(W)		
Frequency (MHz)				1850.7	1880	1914.3	L	M	H
1.4	QPSK	1	0	19.90	20.33	20.21	0.1950	0.2153	0.2094
1.4	16QAM	1	0	19.09	19.52	19.54	0.1618	0.1786	0.1795

LTE_B26

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	ERP(W)			
Channel				26790	26865	26915	26965				
Frequency (MHz)				824	831.5	836.5	841.5	Straddle Ch	L	M	H
15	QPSK	1	0	20.48	20.55	20.39	20.38	0.1358	0.1380	0.1330	0.1327
15	QPSK	1	5	20.37	20.45	20.16	20.26	0.1324	0.1349	0.1262	0.1291
15	QPSK	3	0	20.42	20.46	20.15	20.13	0.1340	0.1352	0.1259	0.1253
15	QPSK	3	3	20.50	20.53	20.02	20.06	0.1365	0.1374	0.1222	0.1233
15	QPSK	6	0	20.40	20.41	20.06	20.09	0.1334	0.1337	0.1233	0.1242
15	16QAM	1	0	20.35	20.53	20.12	20.21	0.1318	0.1374	0.1250	0.1276
Channel				-	26840	26915	26990	ERP(W)			
Frequency (MHz)				-	829	836.5	844	-	L	M	H
10	QPSK	1	0	-	20.32	20.22	20.30	-	0.1309	0.1279	0.1303
10	16QAM	1	0	-	20.37	20.16	2.24	-	0.1324	0.1262	0.0020
Channel				-	26815	26915	27015	ERP(W)			
Frequency (MHz)				-	826.5	836.5	846.5	-	L	M	H
5	QPSK	1	0	-	20.25	20.29	20.23	-	0.1288	0.1300	0.1282
5	16QAM	1	0	-	20.32	20.12	20.24	-	0.1309	0.1250	0.1285
Channel				-	26815	26915	27025	ERP(W)			
Frequency (MHz)				-	825.5	836.5	847.5	-	L	M	H
3	QPSK	1	0	-	19.71	20.10	20.13	-	0.1138	0.1245	0.1253
3	16QAM	1	0	-	19.11	19.48	19.51	-	0.0991	0.1079	0.1086
Channel				-	26797	26915	27033	ERP(W)			
Frequency (MHz)				-	824.7	836.5	848.3	-	L	M	H
1.4	QPSK	1	0	-	19.94	20.33	20.36	-	0.1199	0.1312	0.1321
1.4	16QAM	1	0	-	19.13	19.51	19.54	-	0.0995	0.1086	0.1094

LTE_B66

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	EIRP(W)		
Channel				132072	132322	132572			
Frequency (MHz)				1720	1745	1770	L	M	H
20	QPSK	1	0	20.40	20.48	20.46	0.2188	0.2228	0.2218
20	QPSK	1	5	20.09	20.21	20.25	0.2037	0.2094	0.2113
20	QPSK	3	0	20.11	20.12	20.17	0.2046	0.2051	0.2075
20	QPSK	3	3	20.00	20.11	20.15	0.1995	0.2046	0.2065
20	QPSK	6	0	20.03	20.13	20.21	0.2009	0.2056	0.2094
20	16QAM	1	0	20.31	20.46	20.21	0.2143	0.2218	0.2094
Channel				132047	132322	132597	EIRP(W)		
Frequency (MHz)				1717.5	1745	1772.5	L	M	H
15	QPSK	1	0	19.99	20.11	20.25	0.1991	0.2046	0.2113
15	16QAM	1	0	20.33	20.44	20.12	0.2153	0.2208	0.2051
Channel				132022	132322	132622	EIRP(W)		
Frequency (MHz)				1715	1745	1775	L	M	H
10	QPSK	1	0	19.97	20.07	20.12	0.1982	0.2028	0.2051
10	16QAM	1	0	20.27	20.27	20.44	0.2123	0.2123	0.2208
Channel				131997	132322	132647	EIRP(W)		
Frequency (MHz)				1712.5	1745	1777.5	L	M	H
5	QPSK	1	0	20.15	20.16	20.22	0.2065	0.2070	0.2099
5	16QAM	1	0	20.21	20.19	20.25	0.2094	0.2084	0.2113
Channel				131987	132322	132657	EIRP(W)		
Frequency (MHz)				1711.5	1745	1778.5	L	M	H
3	QPSK	1	0	20.11	20.06	20.18	0.2046	0.2023	0.2080
3	16QAM	1	0	19.50	19.45	19.54	0.1778	0.1758	0.1795
Channel				131979	132322	132665	EIRP(W)		
Frequency (MHz)				1710.7	1745	1779.3	L	M	H
1.4	QPSK	1	0	20.24	20.24	20.31	0.2109	0.2109	0.2143
1.4	16QAM	1	0	19.43	19.44	19.49	0.1750	0.1754	0.1774

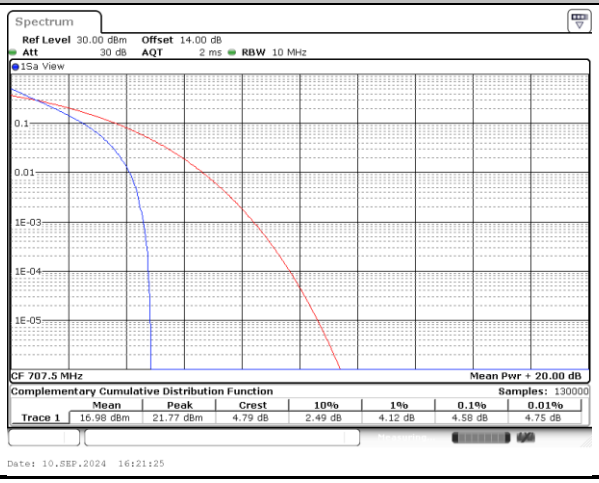
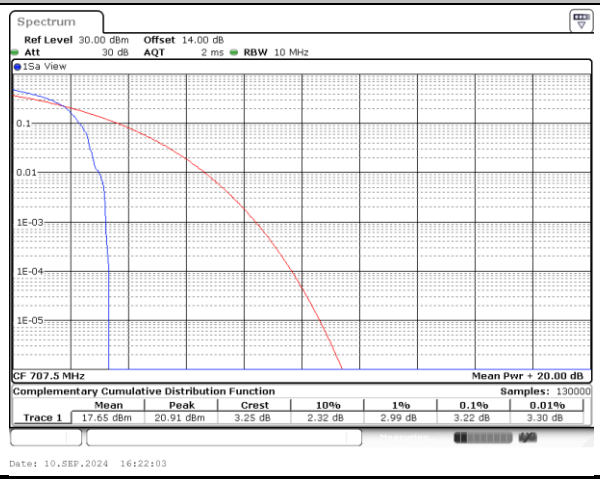
LTE_B85

BW [MHz]	Modulation	RB Size	RB Offset	Power Low Ch. / Freq.	Power Middle Ch. / Freq.	Power High Ch. / Freq.	ERP(W)		
Channel				134052	134092	134132			
Frequency (MHz)				703	707	711	L	M	H
10	QPSK	1	0	20.51	20.52	20.47	0.1368	0.1371	0.1355
10	QPSK	1	5	20.30	20.33	20.29	0.1303	0.1312	0.1300
10	QPSK	3	0	20.45	20.43	20.43	0.1349	0.1343	0.1343
10	QPSK	3	3	20.33	20.34	20.27	0.1312	0.1315	0.1294
10	QPSK	6	0	19.55	19.57	19.51	0.1096	0.1102	0.1086
10	16QAM	1	0	20.20	20.16	20.31	0.1274	0.1262	0.1306
Channel				134027	134092	134207	ERP(W)		
Frequency (MHz)				700.5	707	718.5	L	M	H
5	QPSK	1	0	20.45	20.43	20.29	0.1349	0.1343	0.1300
5	16QAM	1	0	20.23	20.28	20.30	0.1282	0.1297	0.1303

LTE Band 12

Peak-to-Average Ratio

Mode	LTE Band 12 / 10MHz			
Mod.	QPSK	16QAM		Limit: 13dB
RB Size	Full RB	Full RB		Result
Middle CH	4.58	3.22		PASS

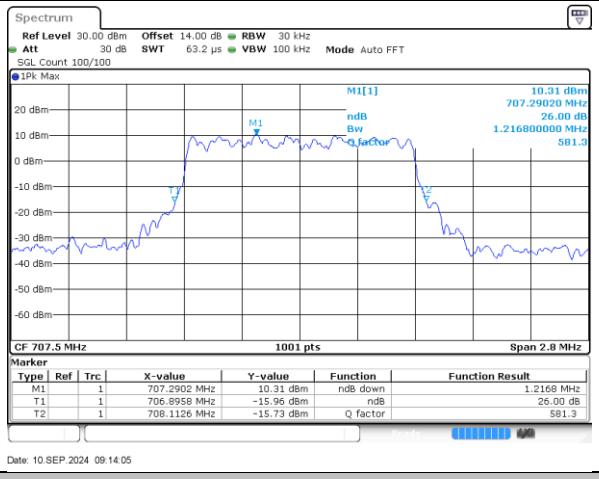
LTE Band 12 / 10MHz / QPSK	LTE Band 12 / 10MHz / 16QAM
Middle Channel / Full RB	Middle Channel / Full RB
	

26dB Bandwidth

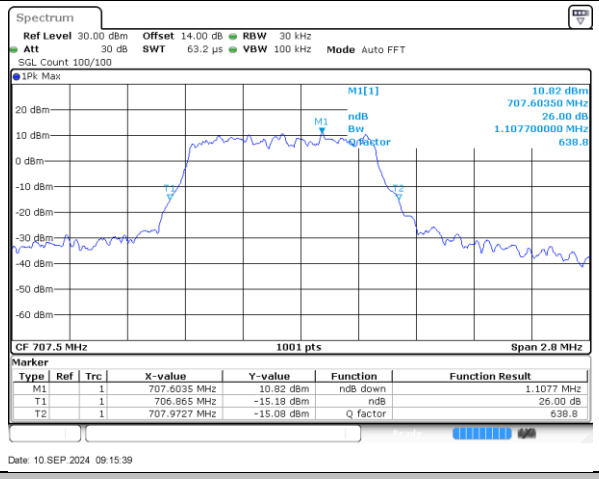
Mode	LTE Band 12 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	1.22	1.11	1.32	1.23	1.42	1.24	1.82	1.64	-	-	-	-

LTE Band 12

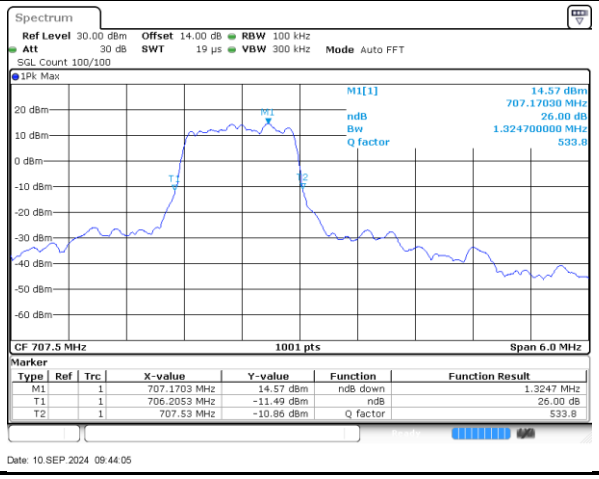
Middle Channel / 1.4MHz / QPSK



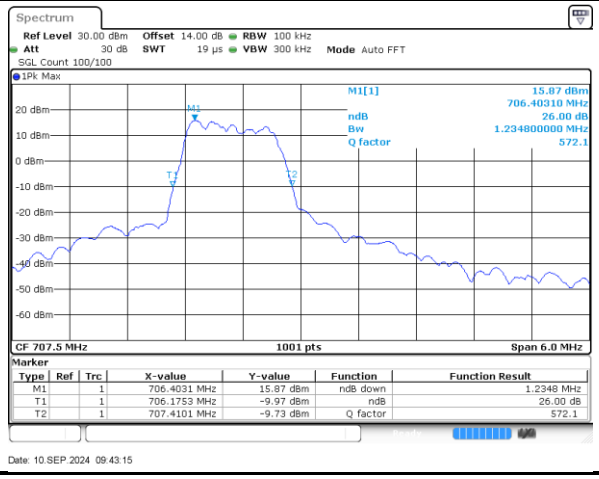
Middle Channel / 1.4MHz / 16QAM

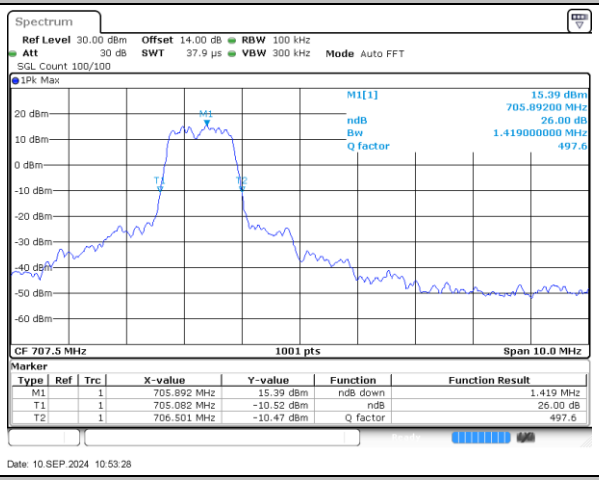
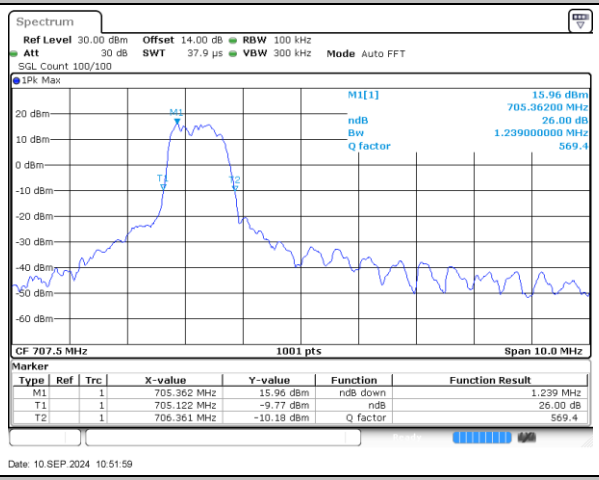
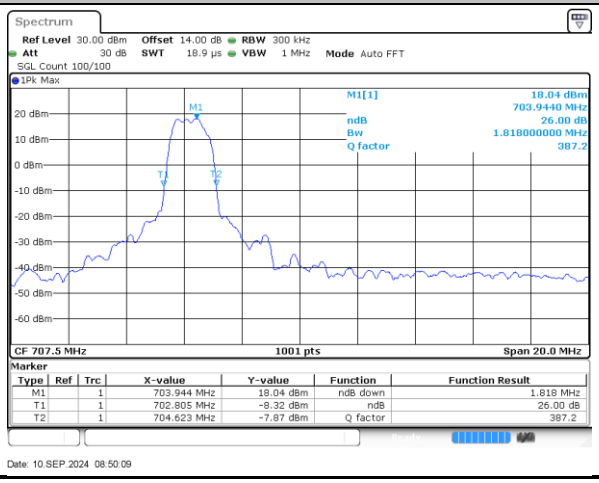
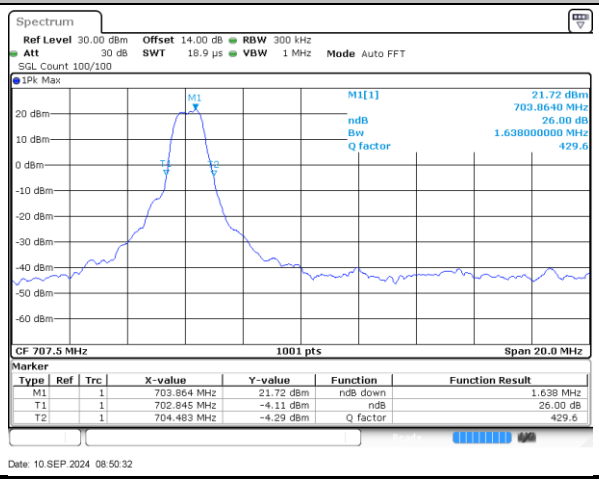


Middle Channel / 3MHz / QPSK



Middle Channel / 3MHz / 16QAM



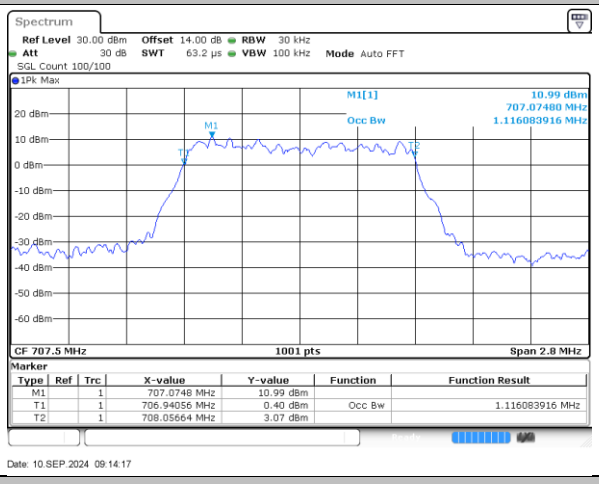
Middle Channel / 5MHz / QPSK	Middle Channel / 5MHz / 16QAM
	
Middle Channel / 10MHz / QPSK	Middle Channel / 10MHz / 16QAM
	

Occupied Bandwidth

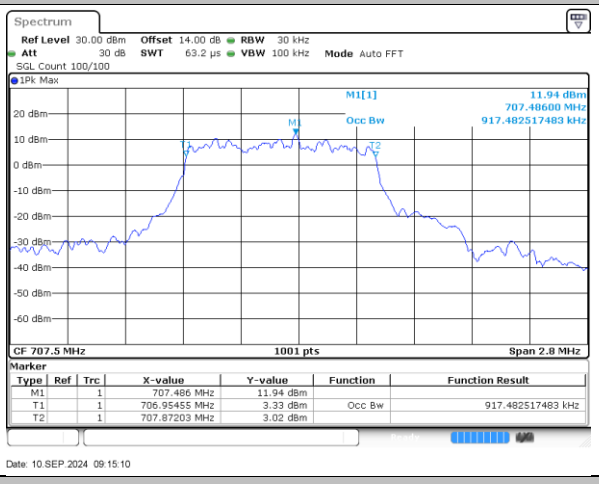
Mode	LTE Band 12 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	1.12	0.917	1.16	0.965	1.18	1.04	1.46	1.28	-	-	-	-

LTE Band 12

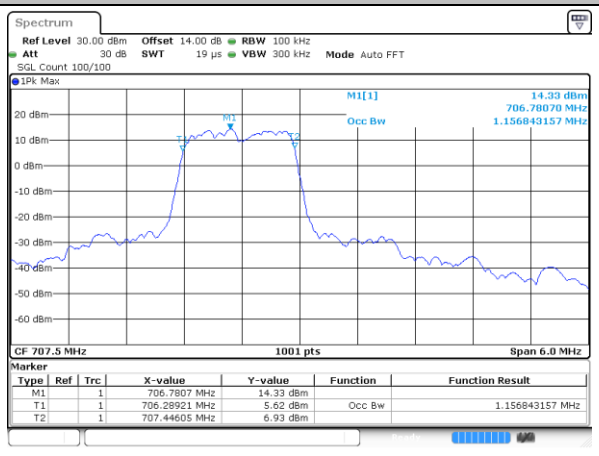
Middle Channel / 1.4MHz / QPSK



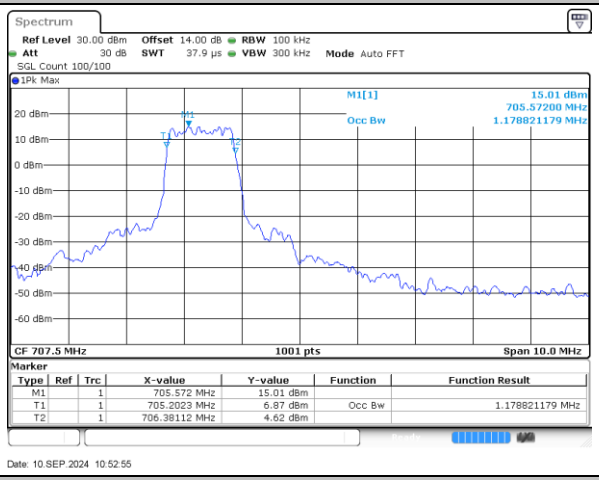
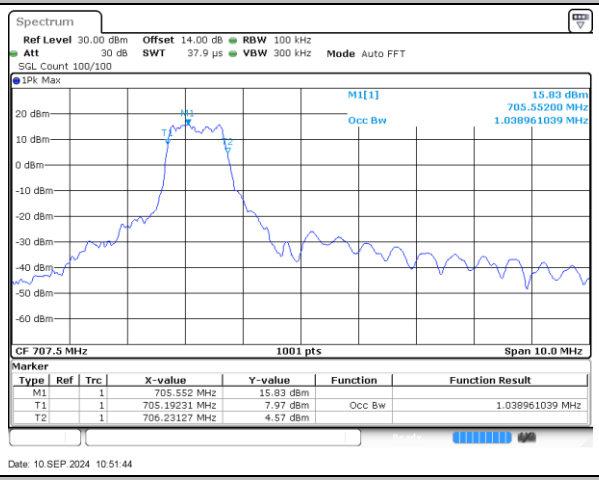
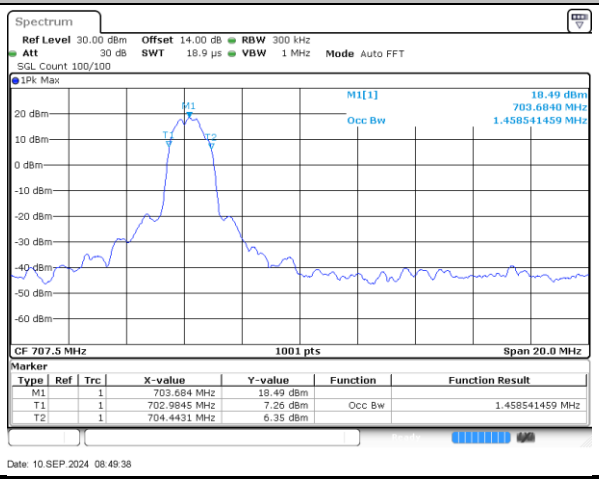
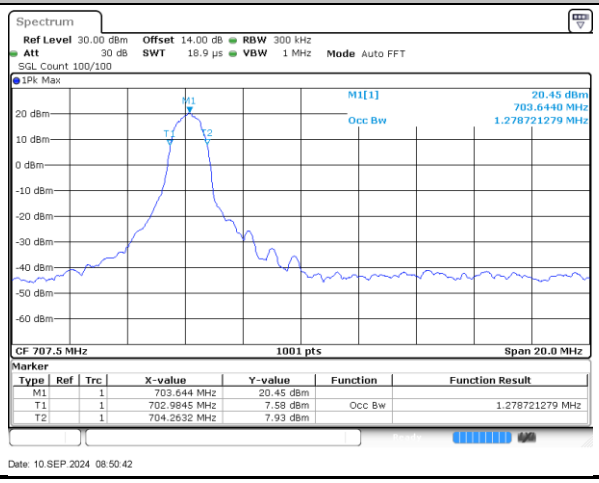
Middle Channel / 1.4MHz / 16QAM



Middle Channel / 3MHz / QPSK



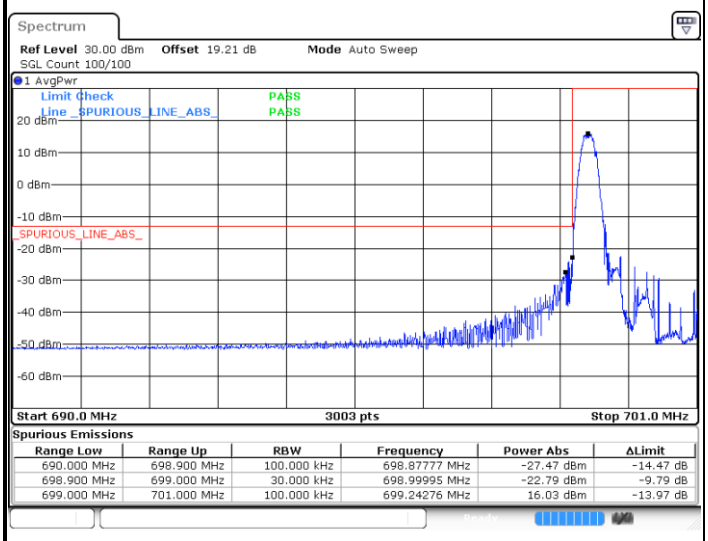
Middle Channel / 3MHz / 16QAM

Middle Channel / 5MHz / QPSK	Middle Channel / 5MHz / 16QAM
	
Middle Channel / 10MHz / QPSK	Middle Channel / 10MHz / 16QAM
	

Conducted Band Edge

LTE Band 12 / 1.4MHz / QPSK

Lowest Band Edge / 1RB

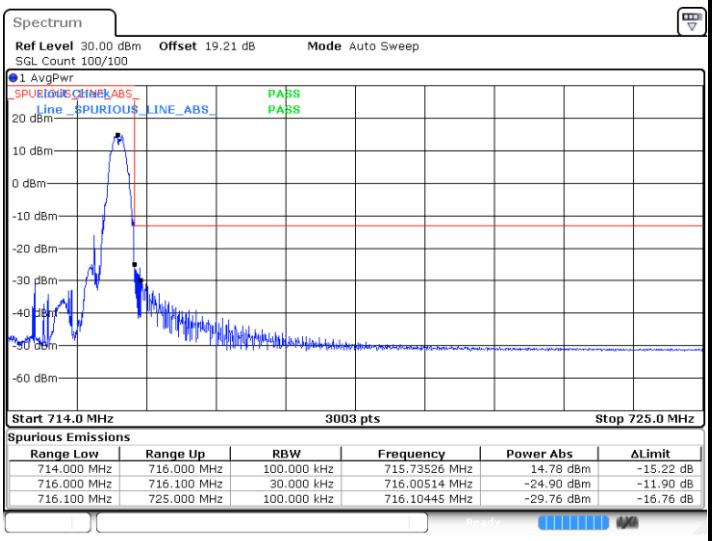


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
690.000 MHz	698.900 MHz	100.000 kHz	698.87777 MHz	-27.47 dBm	-14.47 dB
698.900 MHz	699.000 MHz	30.000 kHz	698.99995 MHz	-22.79 dBm	-9.79 dB
699.000 MHz	701.000 MHz	100.000 kHz	699.24276 MHz	16.03 dBm	-13.97 dB

Date: 10.SEP.2024 09:03:58

Highest Band Edge / 1RB

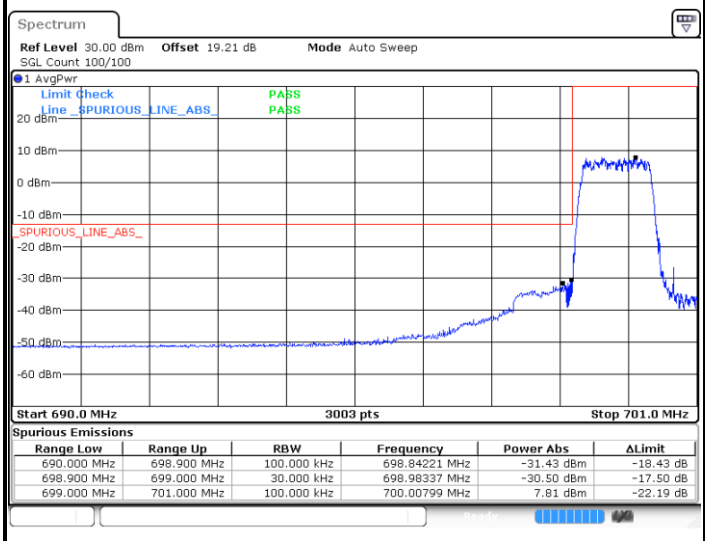


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
714.000 MHz	716.000 MHz	100.000 kHz	715.73526 MHz	14.78 dBm	-15.22 dB
716.000 MHz	716.100 MHz	30.000 kHz	716.00514 MHz	-24.90 dBm	-11.90 dB
716.100 MHz	725.000 MHz	100.000 kHz	716.10445 MHz	-29.76 dBm	-16.76 dB

Date: 10.SEP.2024 09:19:31

Lowest Band Edge / Full RB

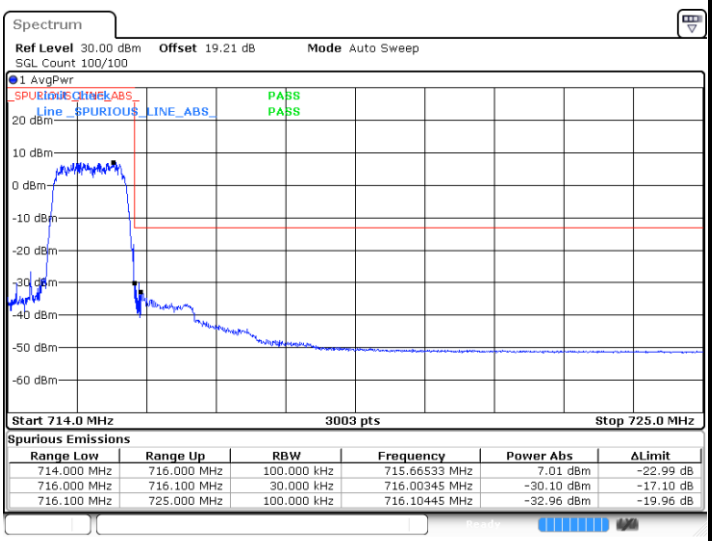


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
690.000 MHz	698.900 MHz	100.000 kHz	698.84221 MHz	-31.43 dBm	-18.43 dB
698.900 MHz	699.000 MHz	30.000 kHz	698.98337 MHz	-30.50 dBm	-17.50 dB
699.000 MHz	701.000 MHz	100.000 kHz	700.00799 MHz	7.81 dBm	-22.19 dB

Date: 10.SEP.2024 09:01:52

Highest Band Edge / Full RB



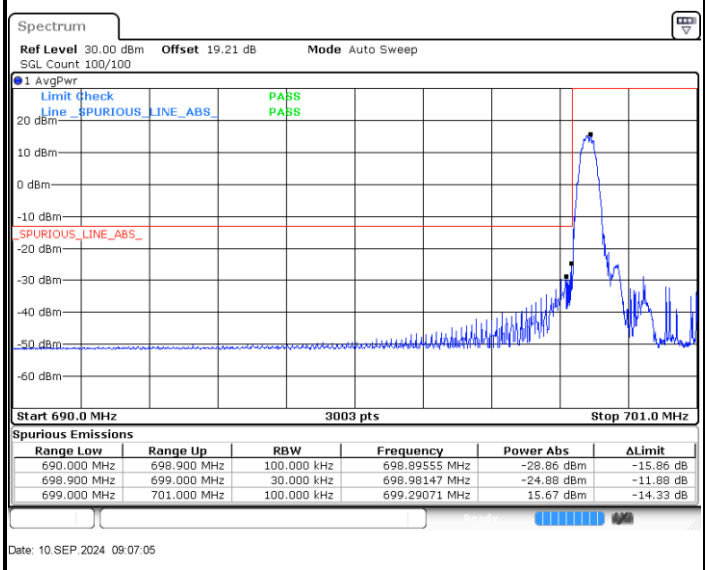
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
714.000 MHz	716.000 MHz	100.000 kHz	715.66533 MHz	7.01 dBm	-22.99 dB
716.000 MHz	716.100 MHz	30.000 kHz	716.00345 MHz	-30.10 dBm	-17.10 dB
716.100 MHz	725.000 MHz	100.000 kHz	716.10445 MHz	-32.96 dBm	-19.96 dB

Date: 10.SEP.2024 09:22:10

LTE Band 12 / 1.4MHz / 16QAM

Lowest Band Edge / 1 RB

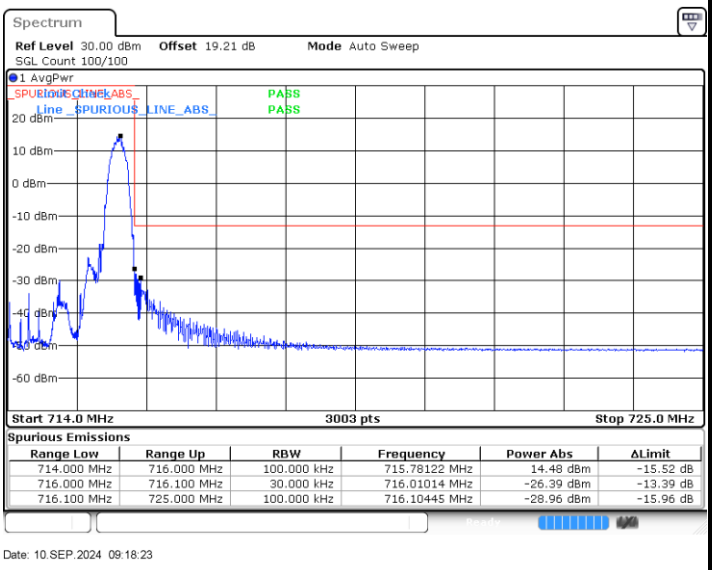


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
690.000 MHz	698.900 MHz	100.000 kHz	698.89555 MHz	-28.86 dBm	-15.86 dB
698.900 MHz	699.000 MHz	30.000 kHz	698.98147 MHz	-24.88 dBm	-11.88 dB
699.000 MHz	701.000 MHz	100.000 kHz	699.29071 MHz	15.67 dBm	-14.33 dB

Date: 10.SEP.2024 09:07:05

Highest Band Edge / 1 RB

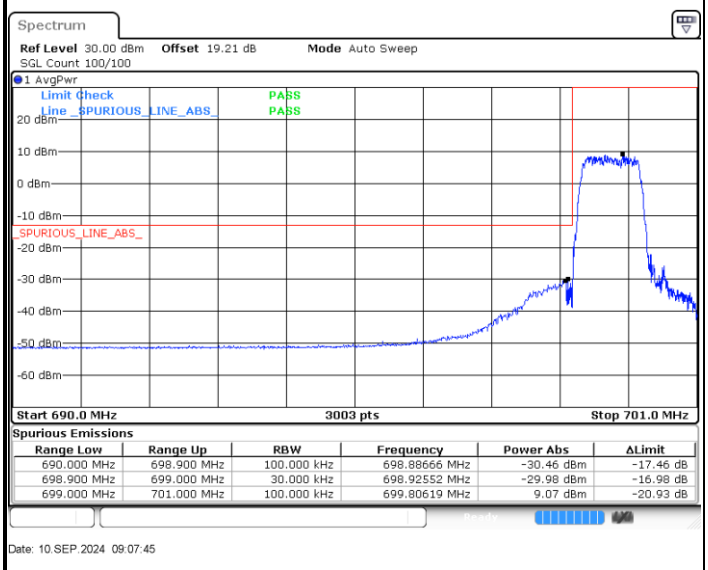


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
714.000 MHz	716.000 MHz	100.000 kHz	715.78122 MHz	14.48 dBm	-15.52 dB
716.000 MHz	716.100 MHz	30.000 kHz	716.01014 MHz	-26.39 dBm	-13.39 dB
716.100 MHz	725.000 MHz	100.000 kHz	716.10445 MHz	-28.96 dBm	-15.96 dB

Date: 10.SEP.2024 09:18:23

Lowest Band Edge / Full RB

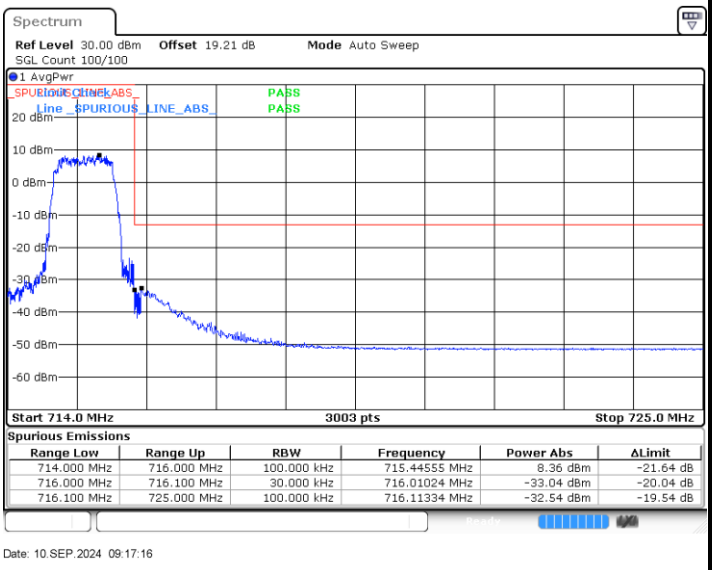


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
690.000 MHz	698.900 MHz	100.000 kHz	698.88666 MHz	-30.46 dBm	-17.46 dB
698.900 MHz	699.000 MHz	30.000 kHz	698.92552 MHz	-29.98 dBm	-16.98 dB
699.000 MHz	701.000 MHz	100.000 kHz	699.80619 MHz	9.07 dBm	-20.93 dB

Date: 10.SEP.2024 09:07:45

Highest Band Edge / Full RB



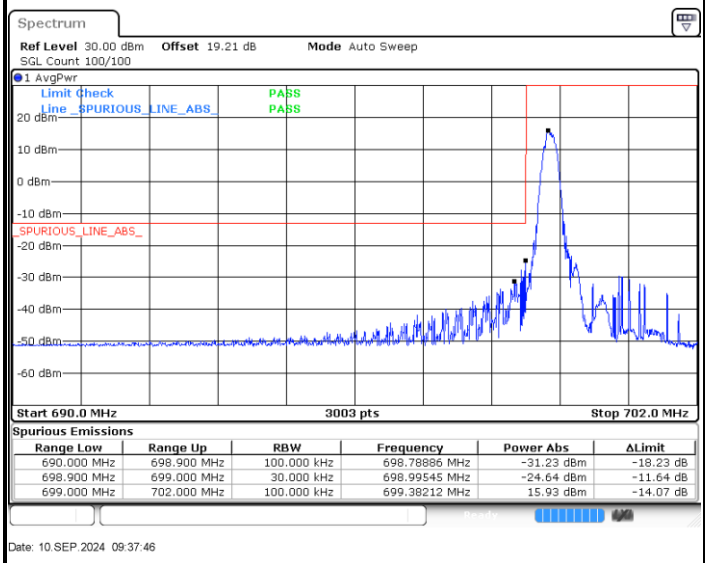
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
714.000 MHz	716.000 MHz	100.000 kHz	715.44555 MHz	8.36 dBm	-21.64 dB
716.000 MHz	716.100 MHz	30.000 kHz	716.01024 MHz	-33.04 dBm	-20.04 dB
716.100 MHz	725.000 MHz	100.000 kHz	716.11334 MHz	-32.54 dBm	-19.54 dB

Date: 10.SEP.2024 09:17:16

LTE Band 12 / 3MHz / QPSK

Lowest Band Edge / 1RB

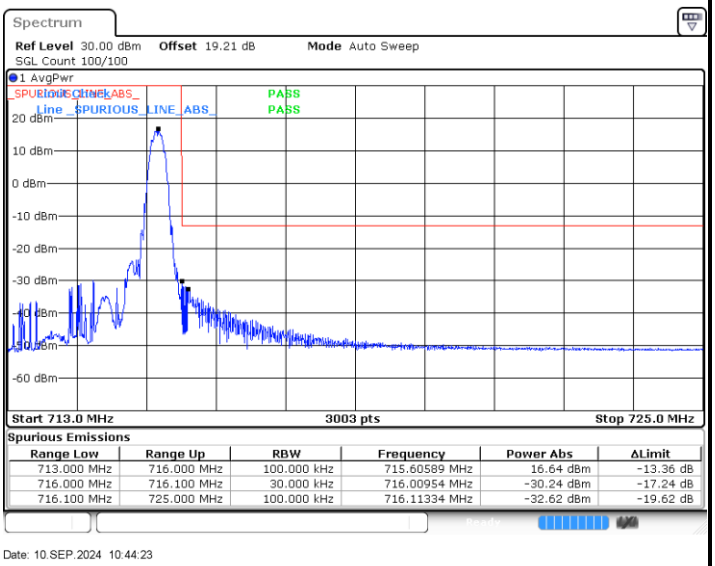


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
690.000 MHz	698.900 MHz	100.000 kHz	698.78886 MHz	-31.23 dBm	-18.23 dB
698.900 MHz	699.000 MHz	30.000 kHz	698.99545 MHz	-24.64 dBm	-11.64 dB
699.000 MHz	702.000 MHz	100.000 kHz	699.38212 MHz	15.93 dBm	-14.07 dB

Date: 10.SEP.2024 09:37:46

Highest Band Edge / 1RB

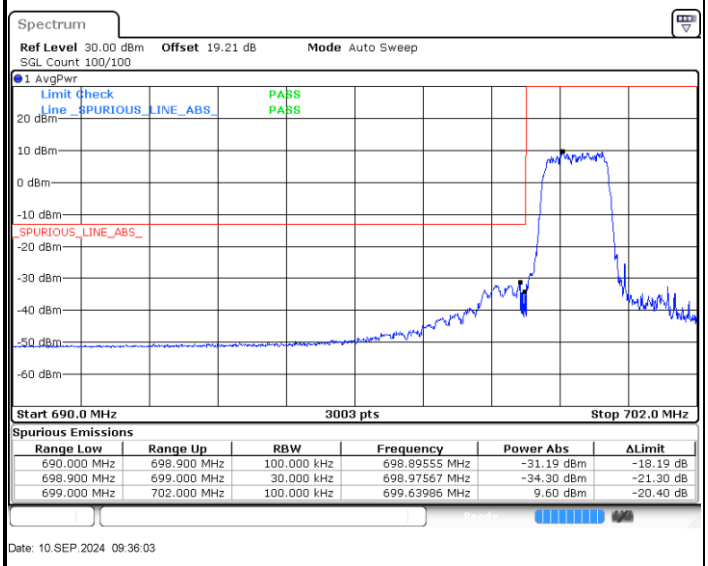


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
713.000 MHz	716.000 MHz	100.000 kHz	715.60589 MHz	16.64 dBm	-13.36 dB
716.000 MHz	716.100 MHz	30.000 kHz	716.00954 MHz	-30.24 dBm	-17.24 dB
716.100 MHz	725.000 MHz	100.000 kHz	716.11334 MHz	-32.62 dBm	-19.62 dB

Date: 10.SEP.2024 10:44:23

Lowest Band Edge / Full RB

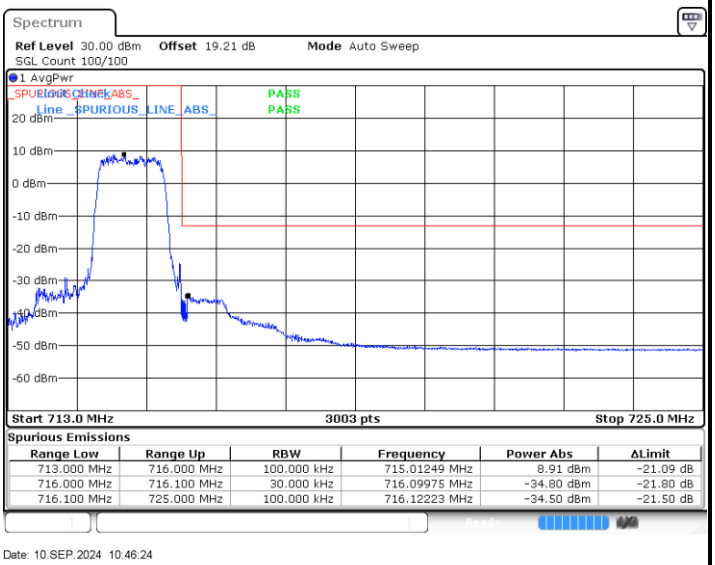


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
690.000 MHz	698.900 MHz	100.000 kHz	698.89555 MHz	-31.19 dBm	-18.19 dB
698.900 MHz	699.000 MHz	30.000 kHz	698.97567 MHz	-34.30 dBm	-21.30 dB
699.000 MHz	702.000 MHz	100.000 kHz	699.63986 MHz	9.60 dBm	-20.40 dB

Date: 10.SEP.2024 09:36:03

Highest Band Edge / Full RB



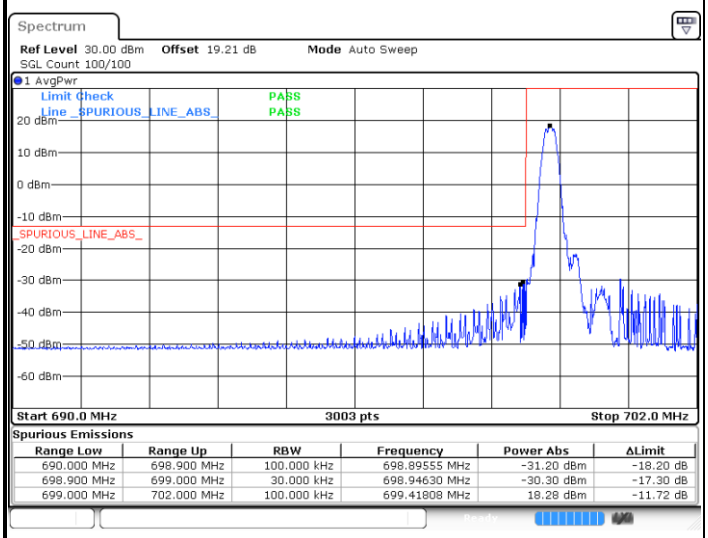
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
713.000 MHz	716.000 MHz	100.000 kHz	715.01249 MHz	8.91 dBm	-21.09 dB
716.000 MHz	716.100 MHz	30.000 kHz	716.09975 MHz	-34.80 dBm	-21.80 dB
716.100 MHz	725.000 MHz	100.000 kHz	716.12223 MHz	-34.50 dBm	-21.50 dB

Date: 10.SEP.2024 10:46:24

LTE Band 12 / 3MHz / 16QAM

Lowest Band Edge / 1 RB

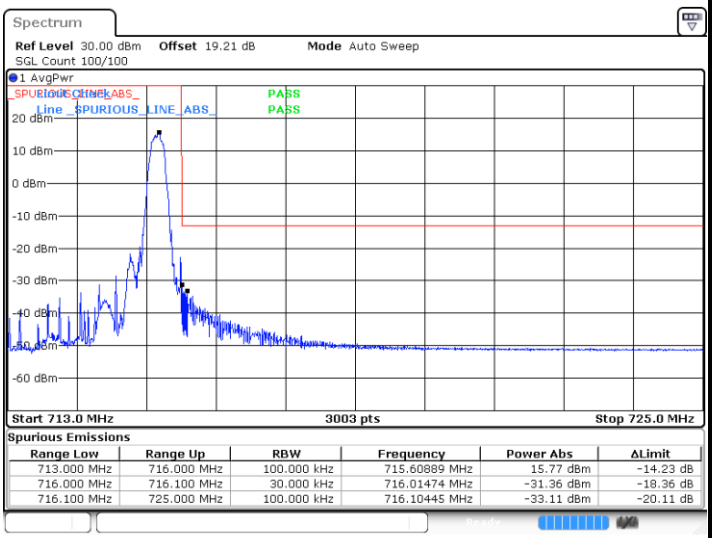


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
690.000 MHz	698.900 MHz	100.000 kHz	698.89555 MHz	-31.20 dBm	-18.20 dB
698.900 MHz	699.000 MHz	30.000 kHz	698.94630 MHz	-30.30 dBm	-17.30 dB
699.000 MHz	702.000 MHz	100.000 kHz	699.41808 MHz	18.28 dBm	-11.72 dB

Date: 10.SEP.2024 09:41:29

Highest Band Edge / 1 RB

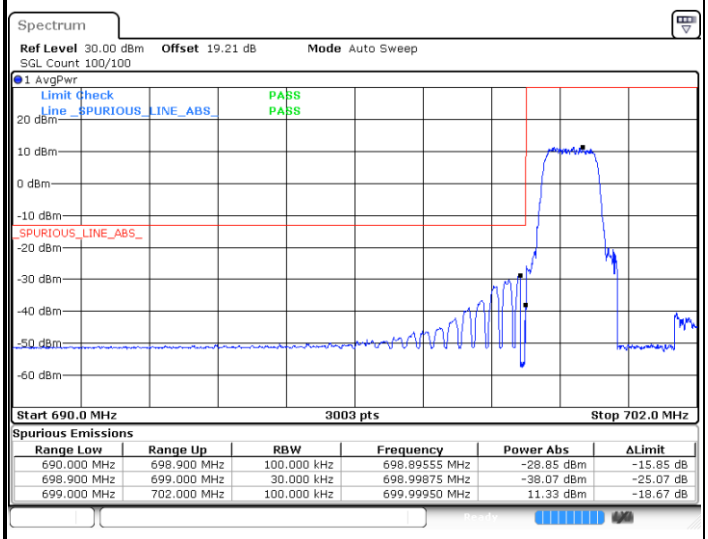


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
713.000 MHz	716.000 MHz	100.000 kHz	715.60889 MHz	15.77 dBm	-14.23 dB
716.000 MHz	716.100 MHz	30.000 kHz	716.01474 MHz	-31.36 dBm	-18.36 dB
716.100 MHz	725.000 MHz	100.000 kHz	716.10445 MHz	-33.11 dBm	-20.11 dB

Date: 10.SEP.2024 10:43:31

Lowest Band Edge / Full RB

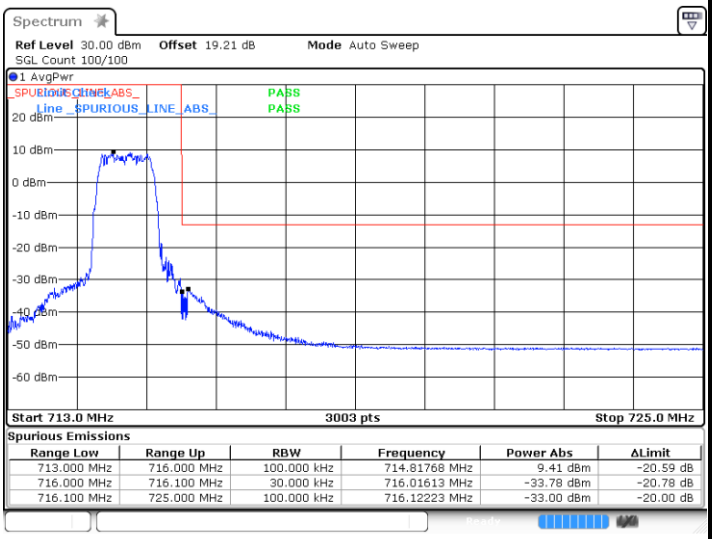


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
690.000 MHz	698.900 MHz	100.000 kHz	698.89555 MHz	-28.85 dBm	-15.85 dB
698.900 MHz	699.000 MHz	30.000 kHz	698.99875 MHz	-38.07 dBm	-25.07 dB
699.000 MHz	702.000 MHz	100.000 kHz	699.99950 MHz	11.33 dBm	-18.67 dB

Date: 10.SEP.2024 09:42:12

Highest Band Edge / Full RB



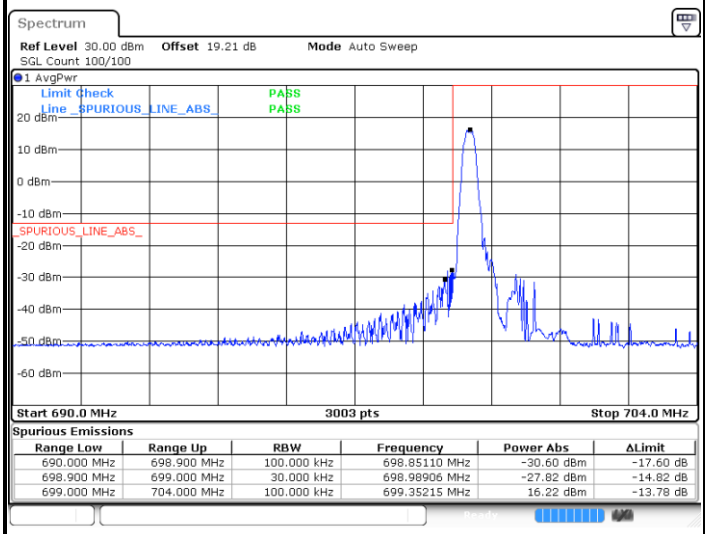
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
713.000 MHz	716.000 MHz	100.000 kHz	714.81768 MHz	9.41 dBm	-20.59 dB
716.000 MHz	716.100 MHz	30.000 kHz	716.01613 MHz	-33.78 dBm	-20.78 dB
716.100 MHz	725.000 MHz	100.000 kHz	716.12223 MHz	-33.00 dBm	-20.00 dB

Date: 10.SEP.2024 10:41:37

LTE Band 12 / 5MHz / QPSK

Lowest Band Edge / 1RB

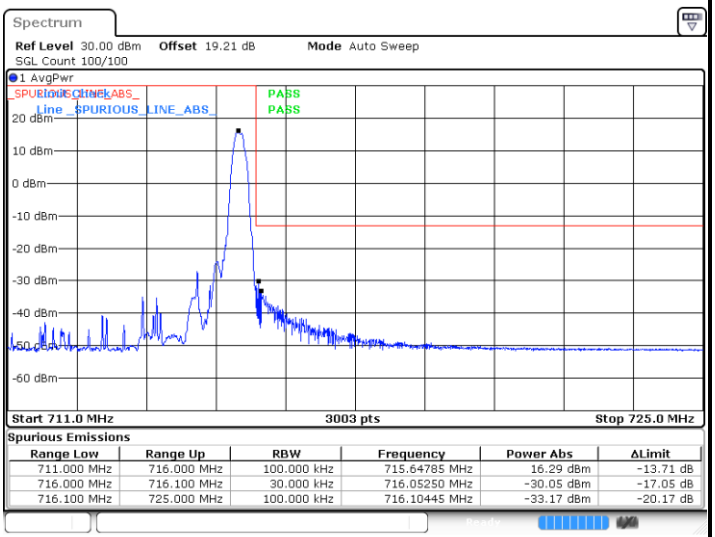


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
690.000 MHz	698.900 MHz	100.000 kHz	698.85110 MHz	-30.60 dBm	-17.60 dB
698.900 MHz	699.000 MHz	30.000 kHz	698.98906 MHz	-27.82 dBm	-14.82 dB
699.000 MHz	704.000 MHz	100.000 kHz	699.35215 MHz	16.22 dBm	-13.78 dB

Date: 10.SEP.2024 10:48:46

Highest Band Edge / 1RB

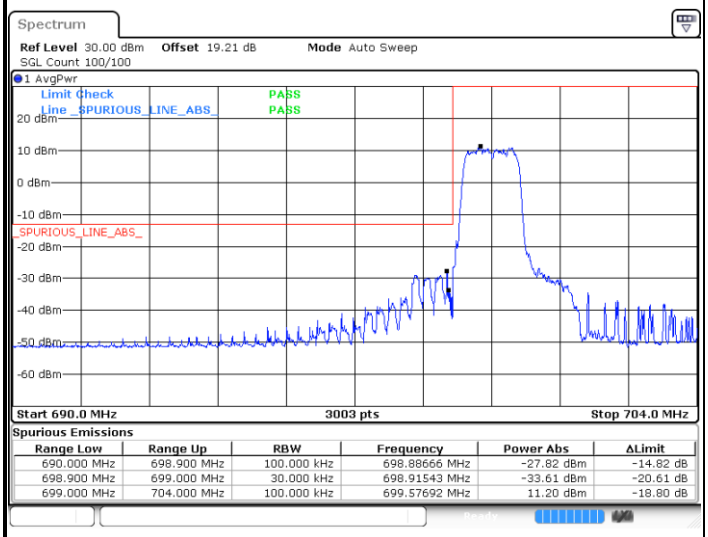


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
711.000 MHz	716.000 MHz	100.000 kHz	715.64785 MHz	16.29 dBm	-13.71 dB
716.000 MHz	716.100 MHz	30.000 kHz	716.05250 MHz	-30.05 dBm	-17.05 dB
716.100 MHz	725.000 MHz	100.000 kHz	716.10445 MHz	-33.17 dBm	-20.17 dB

Date: 10.SEP.2024 11:01:40

Lowest Band Edge / Full RB

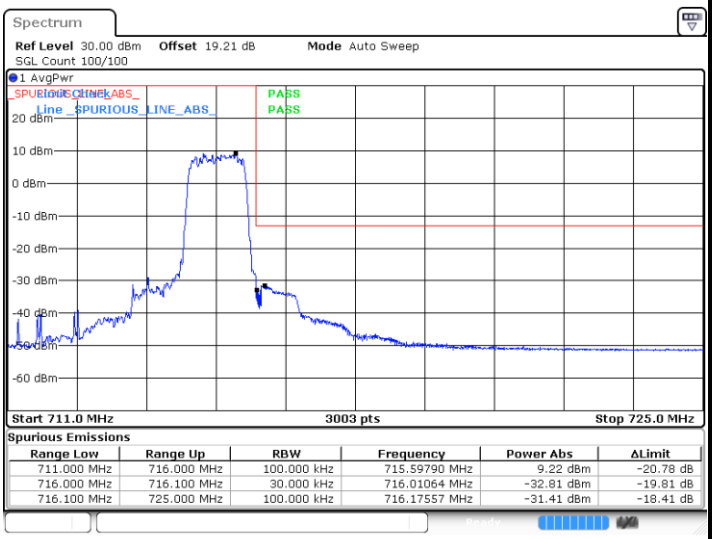


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
690.000 MHz	698.900 MHz	100.000 kHz	698.88666 MHz	-27.82 dBm	-14.82 dB
698.900 MHz	699.000 MHz	30.000 kHz	698.91543 MHz	-33.61 dBm	-20.61 dB
699.000 MHz	704.000 MHz	100.000 kHz	699.57692 MHz	11.20 dBm	-18.80 dB

Date: 10.SEP.2024 10:48:12

Highest Band Edge / Full RB



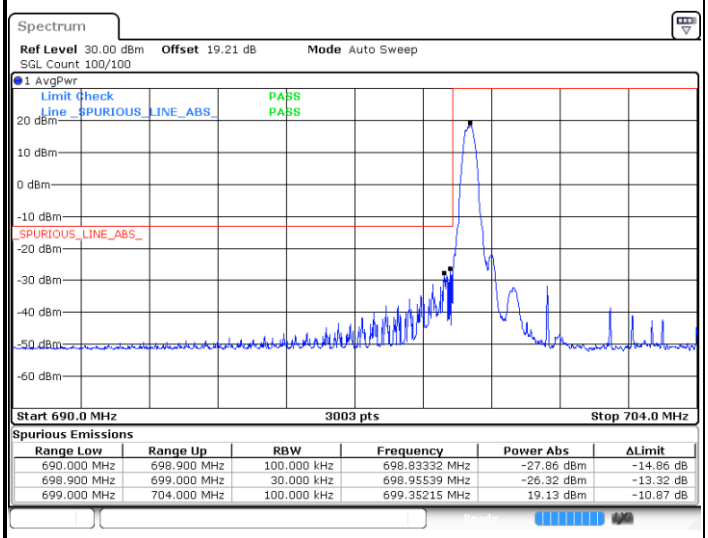
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
711.000 MHz	716.000 MHz	100.000 kHz	715.59790 MHz	9.22 dBm	-20.78 dB
716.000 MHz	716.100 MHz	30.000 kHz	716.01064 MHz	-32.81 dBm	-19.81 dB
716.100 MHz	725.000 MHz	100.000 kHz	716.17557 MHz	-31.41 dBm	-18.41 dB

Date: 10.SEP.2024 11:02:42

LTE Band 12 / 5MHz / 16QAM

Lowest Band Edge / 1 RB

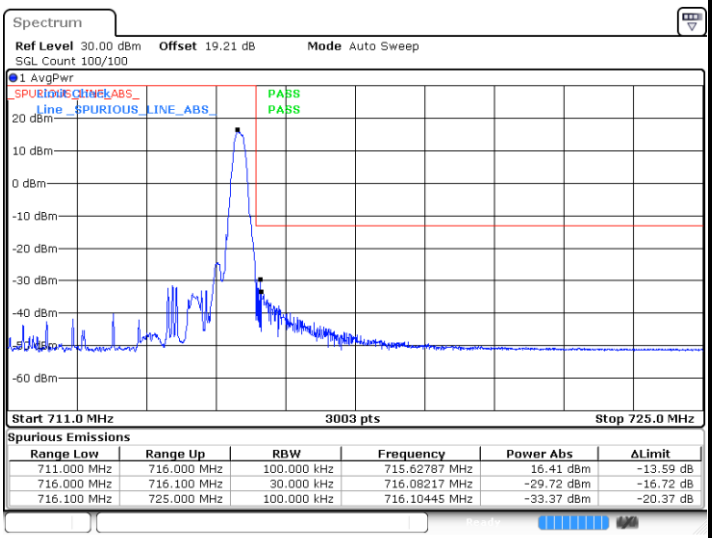


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
690.000 MHz	698.900 MHz	100.000 kHz	698.83332 MHz	-27.86 dBm	-14.86 dB
698.900 MHz	699.000 MHz	30.000 kHz	698.95539 MHz	-26.32 dBm	-13.32 dB
699.000 MHz	704.000 MHz	100.000 kHz	699.35215 MHz	19.13 dBm	-10.87 dB

Date: 10.SEP.2024 10:50:12

Highest Band Edge / 1 RB

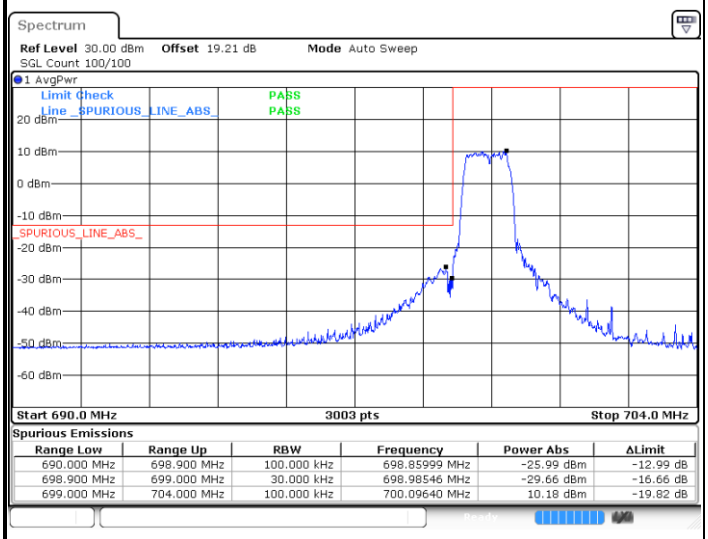


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
711.000 MHz	716.000 MHz	100.000 kHz	715.62787 MHz	16.41 dBm	-13.59 dB
716.000 MHz	716.100 MHz	30.000 kHz	716.08217 MHz	-29.72 dBm	-16.72 dB
716.100 MHz	725.000 MHz	100.000 kHz	716.10445 MHz	-33.37 dBm	-20.37 dB

Date: 10.SEP.2024 11:13:21

Lowest Band Edge / Full RB

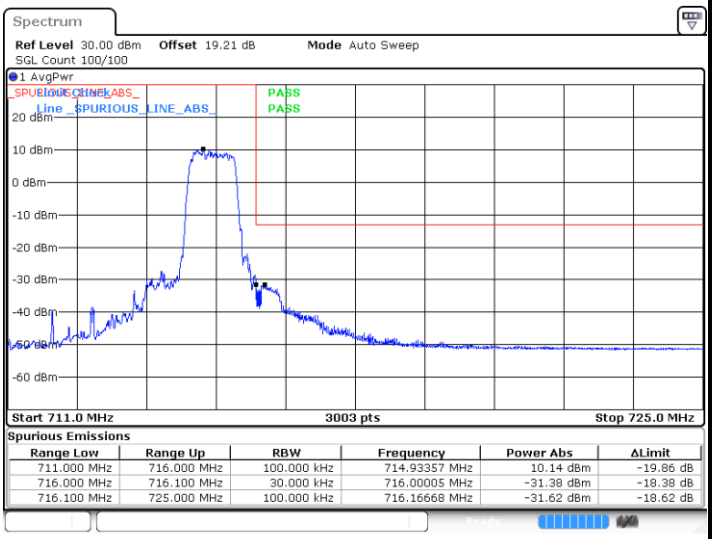


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
690.000 MHz	698.900 MHz	100.000 kHz	698.85999 MHz	-25.99 dBm	-12.99 dB
698.900 MHz	699.000 MHz	30.000 kHz	698.98546 MHz	-29.66 dBm	-16.66 dB
699.000 MHz	704.000 MHz	100.000 kHz	700.09640 MHz	10.18 dBm	-19.82 dB

Date: 10.SEP.2024 10:50:59

Highest Band Edge / Full RB



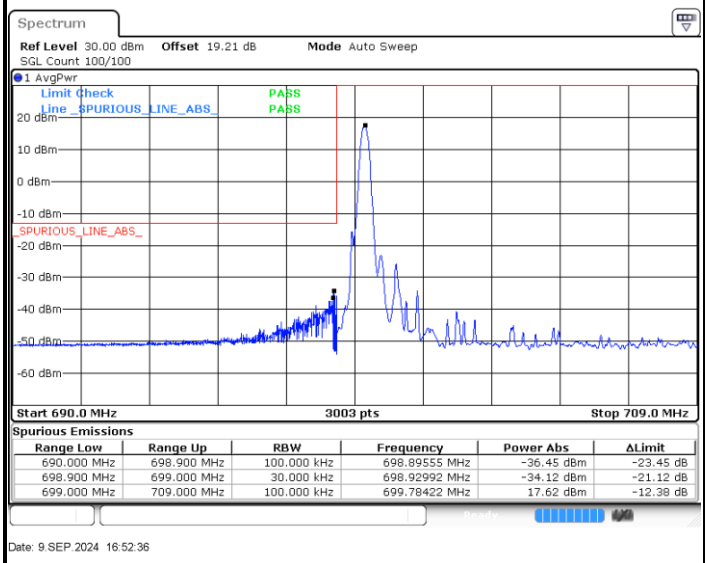
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
711.000 MHz	716.000 MHz	100.000 kHz	714.93357 MHz	10.14 dBm	-19.86 dB
716.000 MHz	716.100 MHz	30.000 kHz	716.00005 MHz	-31.38 dBm	-18.38 dB
716.100 MHz	725.000 MHz	100.000 kHz	716.16668 MHz	-31.62 dBm	-18.62 dB

Date: 10.SEP.2024 11:14:11

LTE Band 12 / 10MHz / QPSK

Lowest Band Edge / 1RB

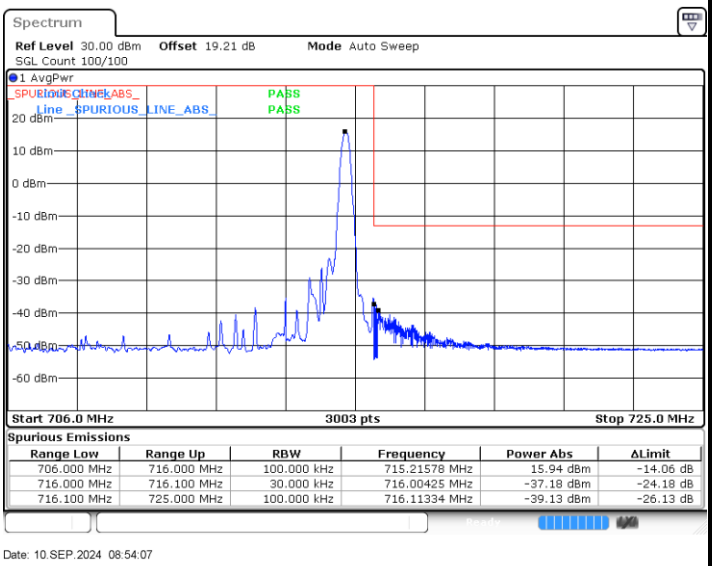


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
690.000 MHz	698.900 MHz	100.000 kHz	698.89555 MHz	-36.45 dBm	-23.45 dB
698.900 MHz	699.000 MHz	30.000 kHz	698.92992 MHz	-34.12 dBm	-21.12 dB
699.000 MHz	709.000 MHz	100.000 kHz	699.78422 MHz	17.62 dBm	-12.38 dB

Date: 9.SEP.2024 16:52:36

Highest Band Edge / 1RB

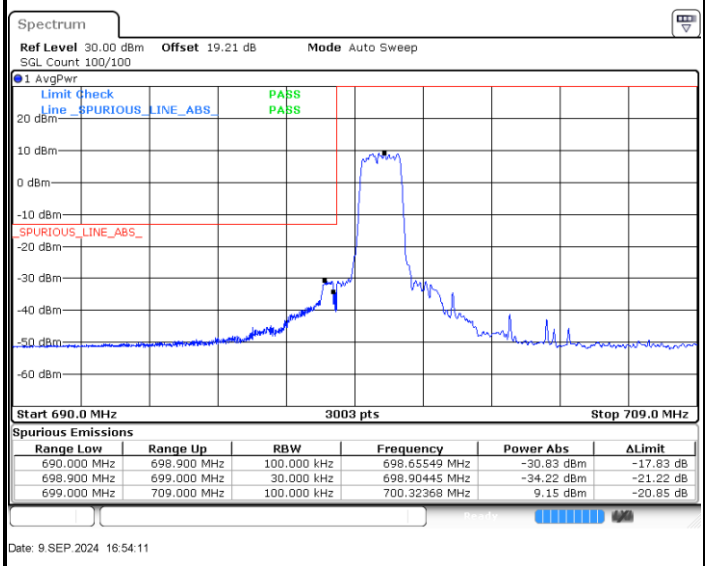


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
706.000 MHz	716.000 MHz	100.000 kHz	715.21578 MHz	15.94 dBm	-14.06 dB
716.000 MHz	716.100 MHz	30.000 kHz	716.00425 MHz	-37.18 dBm	-24.18 dB
716.100 MHz	725.000 MHz	100.000 kHz	716.11334 MHz	-39.13 dBm	-26.13 dB

Date: 10.SEP.2024 08:54:07

Lowest Band Edge / Full RB

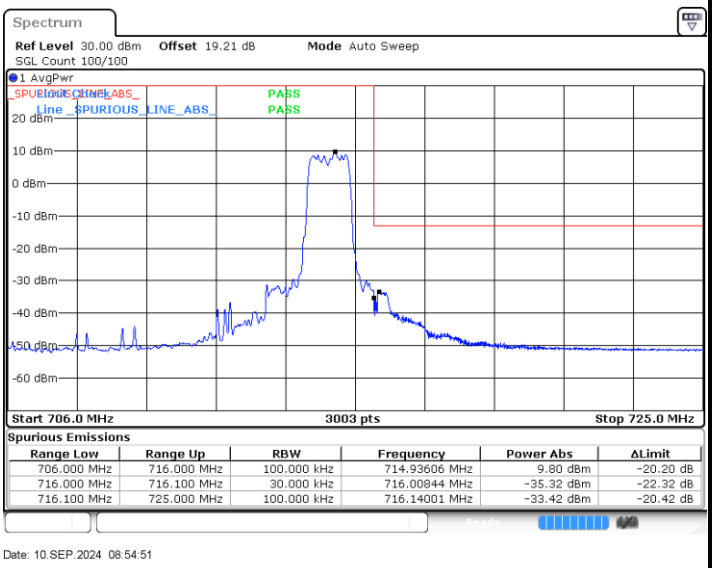


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
690.000 MHz	698.900 MHz	100.000 kHz	698.65549 MHz	-30.83 dBm	-17.83 dB
698.900 MHz	699.000 MHz	30.000 kHz	698.90445 MHz	-34.22 dBm	-21.22 dB
699.000 MHz	709.000 MHz	100.000 kHz	700.32368 MHz	9.15 dBm	-20.85 dB

Date: 9.SEP.2024 16:54:11

Highest Band Edge / Full RB



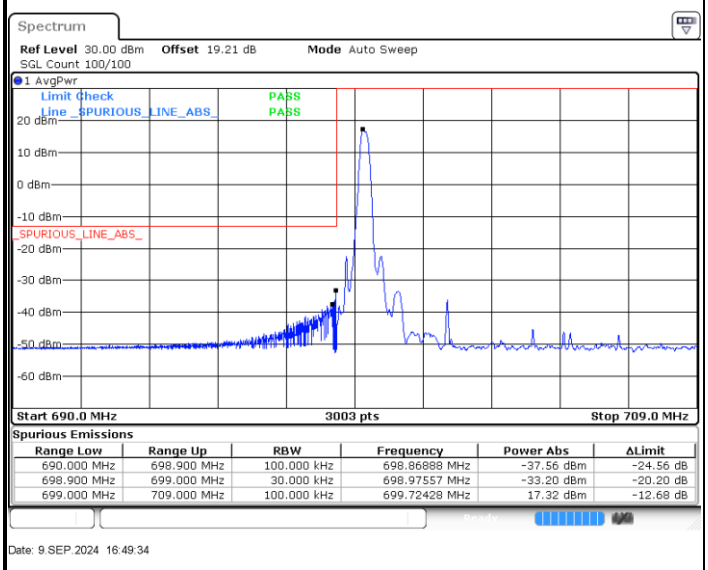
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
706.000 MHz	716.000 MHz	100.000 kHz	714.93606 MHz	9.80 dBm	-20.20 dB
716.000 MHz	716.100 MHz	30.000 kHz	716.00844 MHz	-35.32 dBm	-22.32 dB
716.100 MHz	725.000 MHz	100.000 kHz	716.14001 MHz	-33.42 dBm	-20.42 dB

Date: 10.SEP.2024 08:54:51

LTE Band 12 / 10MHz / 16QAM

Lowest Band Edge / 1 RB

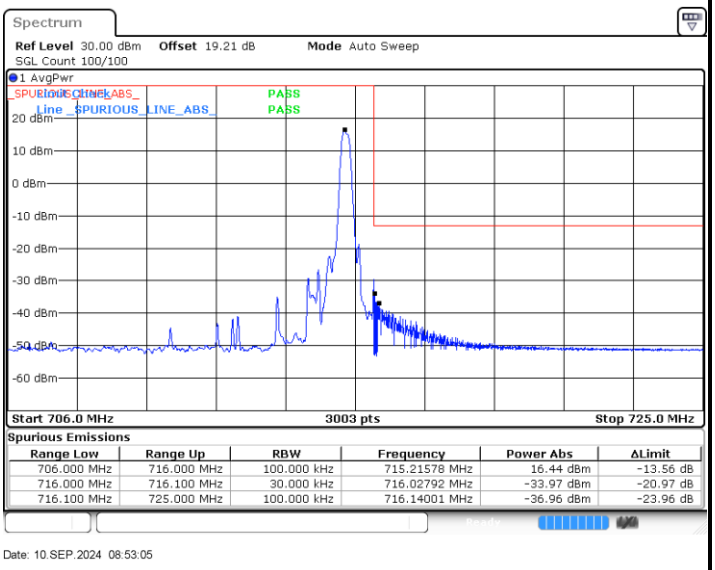


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
690.000 MHz	698.900 MHz	100.000 kHz	698.86888 MHz	-37.56 dBm	-24.56 dB
698.900 MHz	699.000 MHz	30.000 kHz	698.97557 MHz	-33.20 dBm	-20.20 dB
699.000 MHz	709.000 MHz	100.000 kHz	699.72428 MHz	17.32 dBm	-12.68 dB

Date: 9.SEP.2024 16:49:34

Highest Band Edge / 1 RB

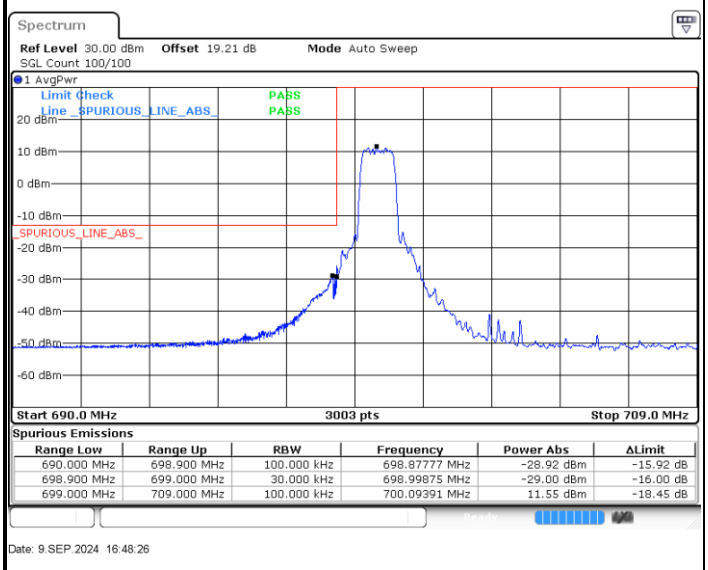


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
706.000 MHz	716.000 MHz	100.000 kHz	715.21578 MHz	16.44 dBm	-13.56 dB
716.000 MHz	716.100 MHz	30.000 kHz	716.02792 MHz	-33.97 dBm	-20.97 dB
716.100 MHz	725.000 MHz	100.000 kHz	716.14001 MHz	-36.96 dBm	-23.96 dB

Date: 10.SEP.2024 08:53:05

Lowest Band Edge / Full RB

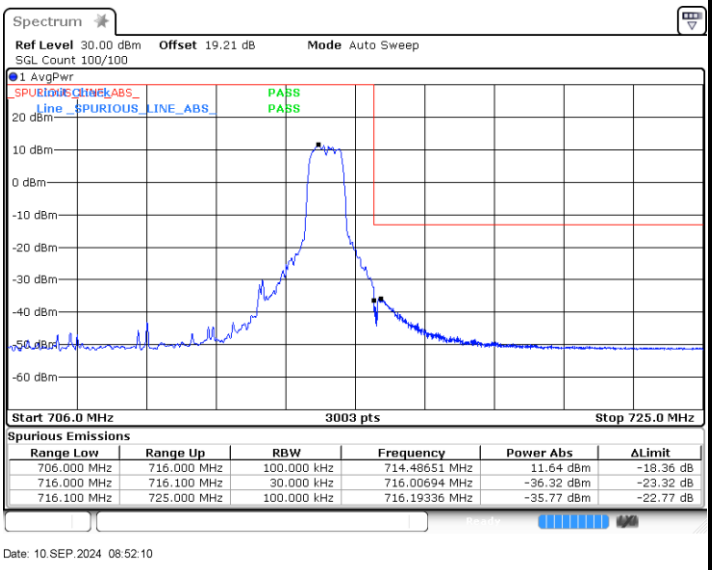


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
690.000 MHz	698.900 MHz	100.000 kHz	698.87777 MHz	-28.92 dBm	-15.92 dB
698.900 MHz	699.000 MHz	30.000 kHz	698.99875 MHz	-29.00 dBm	-16.00 dB
699.000 MHz	709.000 MHz	100.000 kHz	700.09391 MHz	11.55 dBm	-18.45 dB

Date: 9.SEP.2024 16:48:26

Highest Band Edge / Full RB



Spurious Emissions

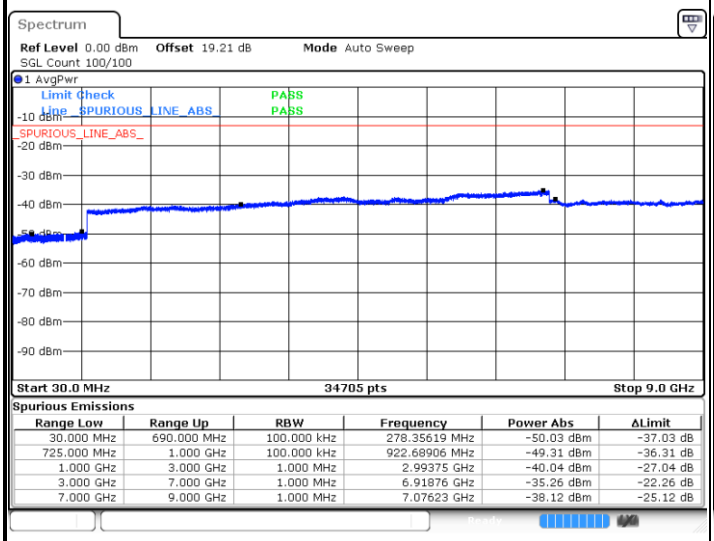
Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
706.000 MHz	716.000 MHz	100.000 kHz	714.48651 MHz	11.64 dBm	-18.36 dB
716.000 MHz	716.100 MHz	30.000 kHz	716.00694 MHz	-36.32 dBm	-23.32 dB
716.100 MHz	725.000 MHz	100.000 kHz	716.19336 MHz	-35.77 dBm	-22.77 dB

Date: 10.SEP.2024 08:52:10

Conducted Spurious Emission

LTE Band 12 / 1.4MHz

Lowest Channel / QPSK

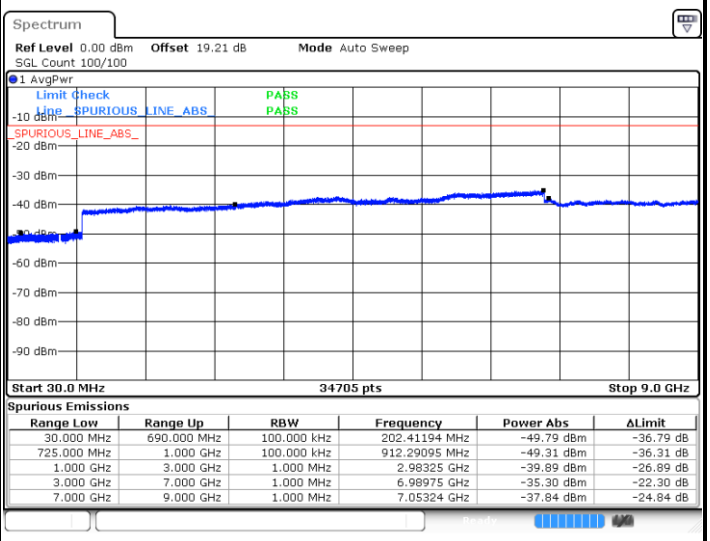


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	278.35619 MHz	-50.03 dBm	-37.03 dB
725.000 MHz	1.000 GHz	100.000 kHz	922.68906 MHz	-49.31 dBm	-36.31 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.99375 GHz	-40.04 dBm	-27.04 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.91876 GHz	-35.26 dBm	-22.26 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.07623 GHz	-38.12 dBm	-25.12 dB

Date: 10.SEP.2024 09:05:06

Middle Channel / QPSK

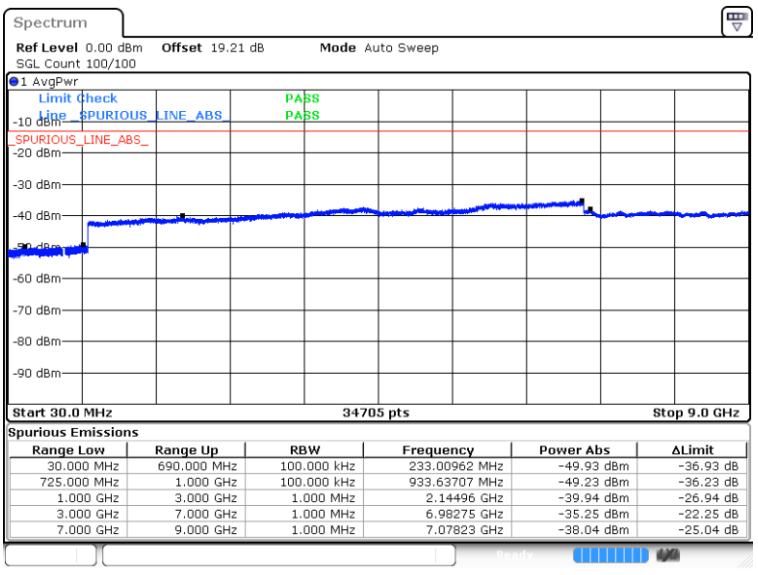


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	202.41194 MHz	-49.79 dBm	-36.79 dB
725.000 MHz	1.000 GHz	100.000 kHz	912.29095 MHz	-49.31 dBm	-36.31 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.98325 GHz	-39.89 dBm	-26.89 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.98975 GHz	-35.30 dBm	-22.30 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.05324 GHz	-37.84 dBm	-24.84 dB

Date: 10.SEP.2024 09:13:48

Highest Channel / QPSK



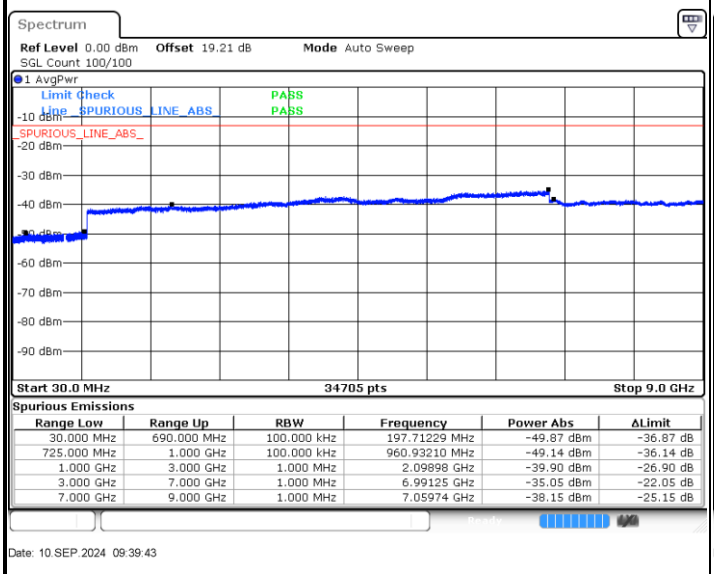
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	233.00962 MHz	-49.93 dBm	-36.93 dB
725.000 MHz	1.000 GHz	100.000 kHz	933.63707 MHz	-49.23 dBm	-36.23 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.14496 GHz	-39.94 dBm	-26.94 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.98275 GHz	-35.25 dBm	-22.25 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.07823 GHz	-38.04 dBm	-25.04 dB

Date: 10.SEP.2024 09:20:45

LTE Band 12 / 3MHz

Lowest Channel / QPSK

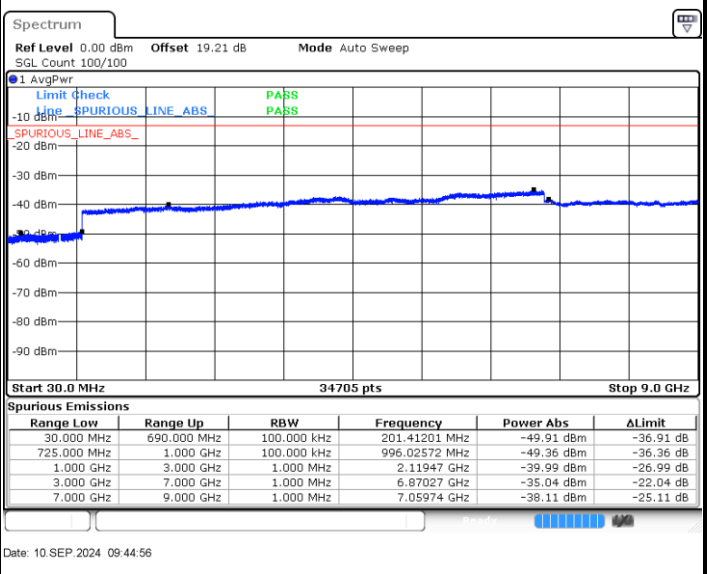


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	197.71229 MHz	-49.87 dBm	-36.87 dB
725.000 MHz	1.000 GHz	100.000 kHz	960.93210 MHz	-49.14 dBm	-36.14 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.09898 GHz	-39.90 dBm	-26.90 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.99125 GHz	-35.05 dBm	-22.05 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.05974 GHz	-38.15 dBm	-25.15 dB

Date: 10.SEP.2024 09:39:43

Middle Channel / QPSK

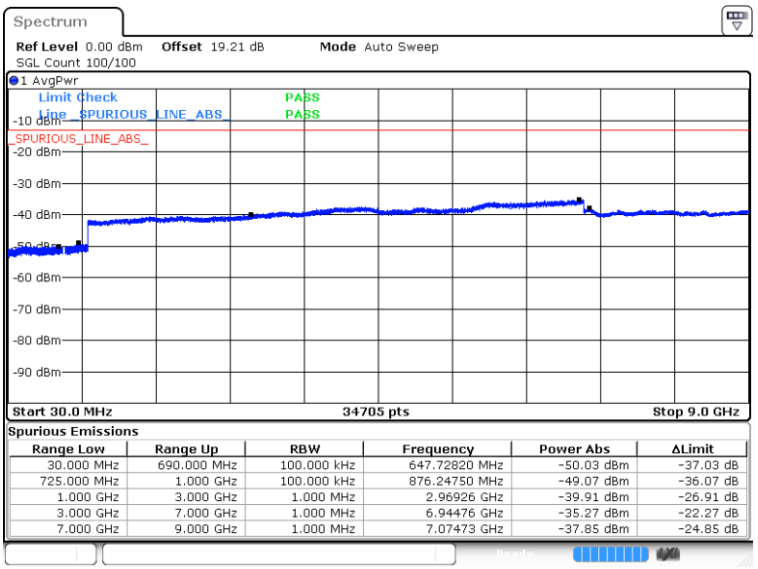


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	201.41201 MHz	-49.91 dBm	-36.91 dB
725.000 MHz	1.000 GHz	100.000 kHz	996.02572 MHz	-49.36 dBm	-36.36 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.11947 GHz	-39.99 dBm	-26.99 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.87027 GHz	-35.04 dBm	-22.04 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.05974 GHz	-38.11 dBm	-25.11 dB

Date: 10.SEP.2024 09:44:56

Highest Channel / QPSK



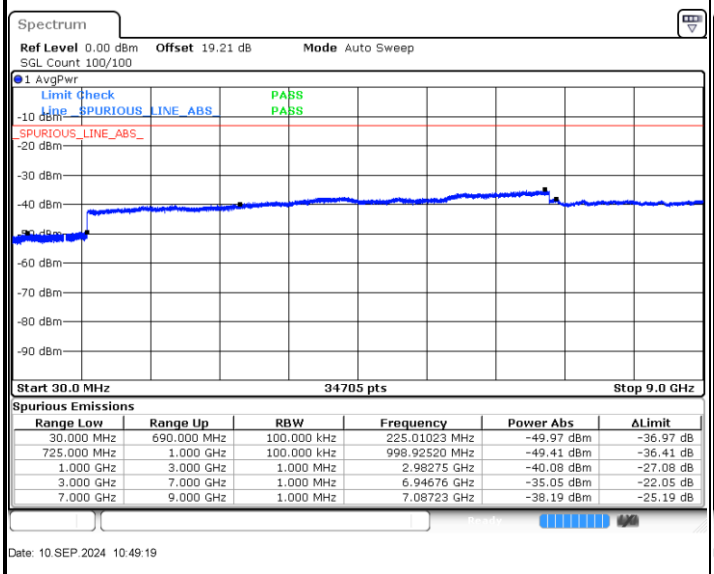
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	647.72820 MHz	-50.03 dBm	-37.03 dB
725.000 MHz	1.000 GHz	100.000 kHz	876.24750 MHz	-49.07 dBm	-36.07 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.96926 GHz	-39.91 dBm	-26.91 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.94476 GHz	-35.27 dBm	-22.27 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.07473 GHz	-37.85 dBm	-24.85 dB

Date: 10.SEP.2024 10:32:36

LTE Band 12 / 5MHz

Lowest Channel / QPSK

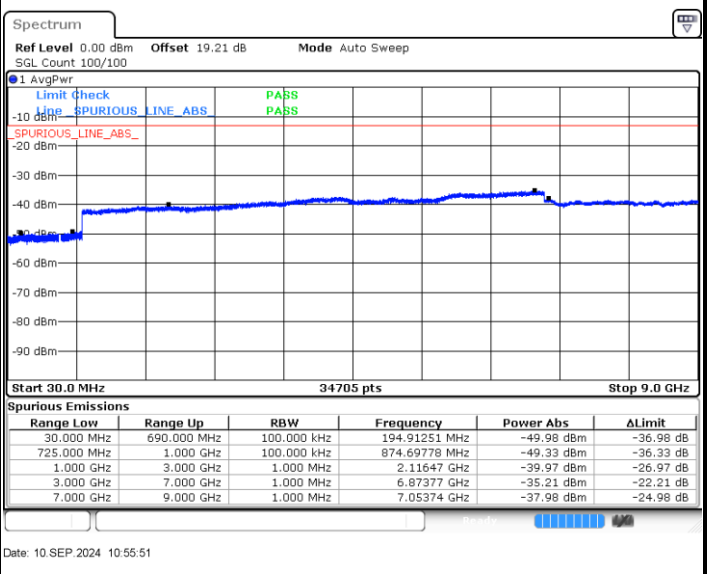


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	225.01023 MHz	-49.97 dBm	-36.97 dB
725.000 MHz	1.000 GHz	100.000 kHz	998.92520 MHz	-49.41 dBm	-36.41 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.98275 GHz	-40.08 dBm	-27.08 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.94676 GHz	-35.05 dBm	-22.05 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.08723 GHz	-38.19 dBm	-25.19 dB

Date: 10.SEP.2024 10:49:19

Middle Channel / QPSK

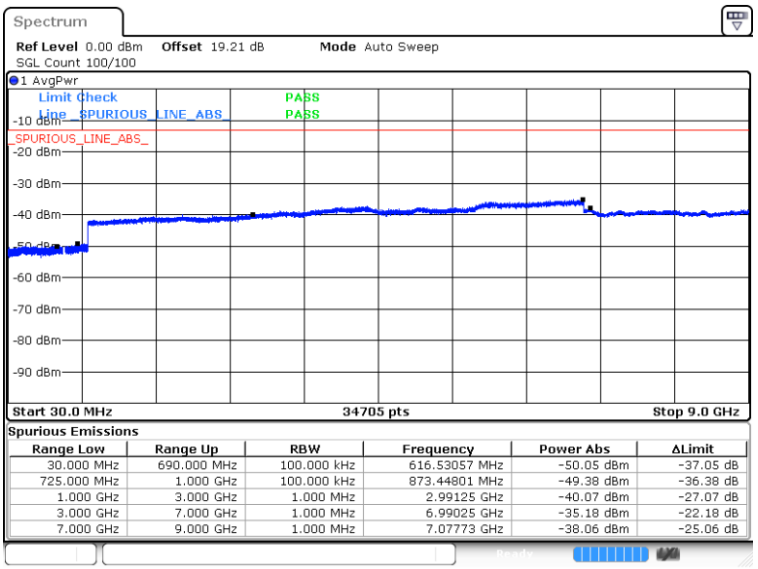


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	194.91251 MHz	-49.98 dBm	-36.98 dB
725.000 MHz	1.000 GHz	100.000 kHz	874.69778 MHz	-49.33 dBm	-36.33 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.11647 GHz	-39.97 dBm	-26.97 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.87377 GHz	-35.21 dBm	-22.21 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.05374 GHz	-37.98 dBm	-24.98 dB

Date: 10.SEP.2024 10:55:51

Highest Channel / QPSK



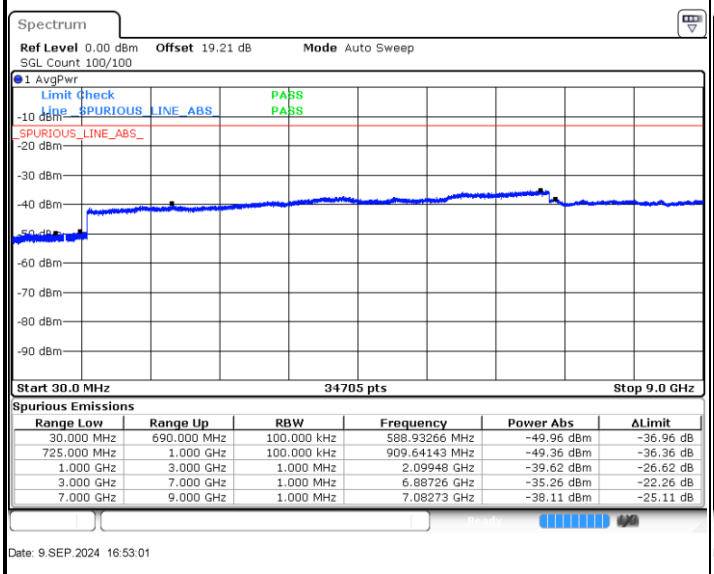
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	616.53057 MHz	-50.05 dBm	-37.05 dB
725.000 MHz	1.000 GHz	100.000 kHz	873.44801 MHz	-49.38 dBm	-36.38 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.99125 GHz	-40.07 dBm	-27.07 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.99025 GHz	-35.18 dBm	-22.18 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.07773 GHz	-38.06 dBm	-25.06 dB

Date: 10.SEP.2024 11:00:51

LTE Band 12 / 10MHz

Lowest Channel / QPSK

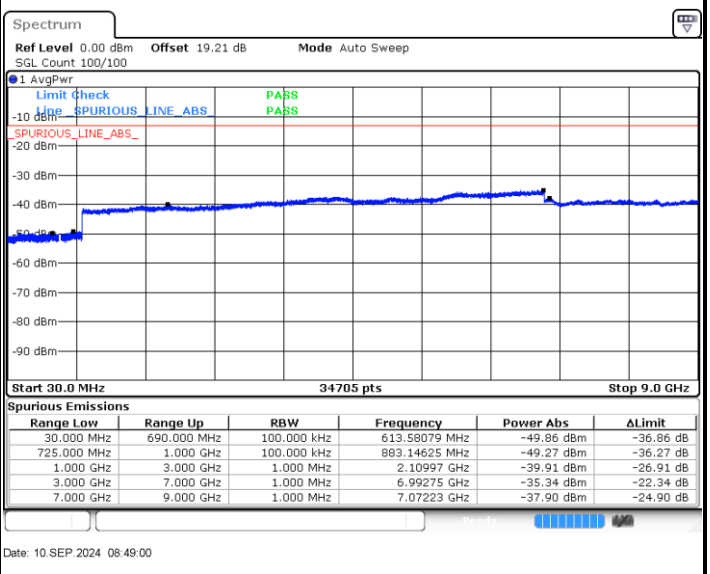


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	588.93266 MHz	-49.96 dBm	-36.96 dB
725.000 MHz	1.000 GHz	100.000 kHz	909.64143 MHz	-49.36 dBm	-36.36 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.09948 GHz	-39.62 dBm	-26.62 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.88726 GHz	-35.26 dBm	-22.26 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.08273 GHz	-38.11 dBm	-25.11 dB

Date: 9.SEP.2024 16:53:01

Middle Channel / QPSK

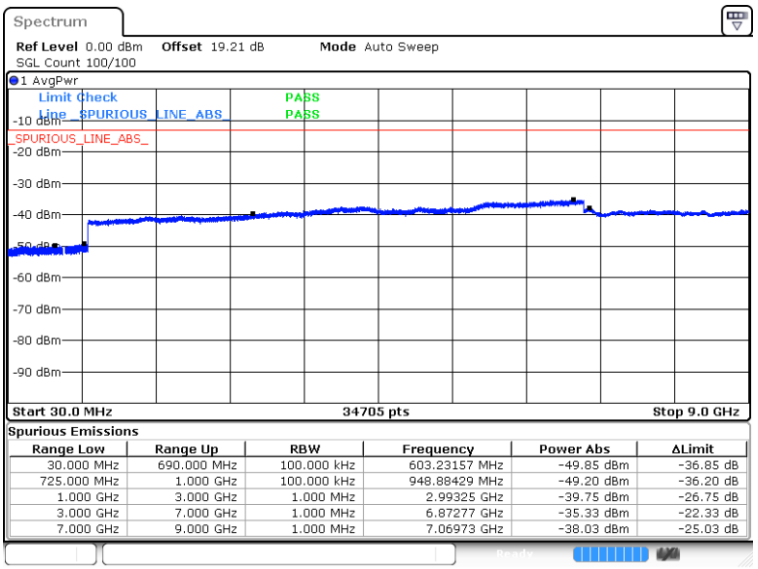


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	613.58079 MHz	-49.86 dBm	-36.86 dB
725.000 MHz	1.000 GHz	100.000 kHz	883.14625 MHz	-49.27 dBm	-36.27 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.10997 GHz	-39.91 dBm	-26.91 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.99275 GHz	-35.34 dBm	-22.34 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.07223 GHz	-37.90 dBm	-24.90 dB

Date: 10.SEP.2024 08:49:00

Highest Channel / QPSK



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	603.23157 MHz	-49.85 dBm	-36.85 dB
725.000 MHz	1.000 GHz	100.000 kHz	948.88429 MHz	-49.20 dBm	-36.20 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.99325 GHz	-39.75 dBm	-26.75 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.87277 GHz	-35.33 dBm	-22.33 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.06973 GHz	-38.03 dBm	-25.03 dB

Date: 10.SEP.2024 08:56:54

Frequency Stability

Test Conditions		LTE Band 12 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0002	PASS
40	Normal Voltage	0.0000	
30	Normal Voltage	0.0002	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0003	
0	Normal Voltage	0.0005	
-10	Normal Voltage	0.0013	
-20	Normal Voltage	0.0007	
-30	Normal Voltage	0.0014	
20	Maximum Voltage	0.0008	
20	Normal Voltage	0.0017	
20	Minimum Voltage	0.0012	

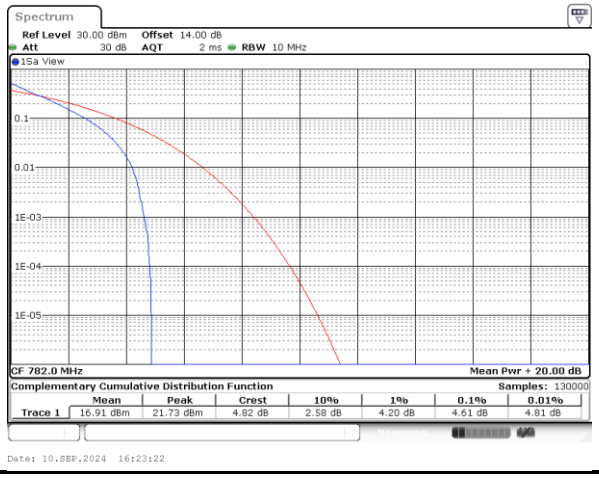
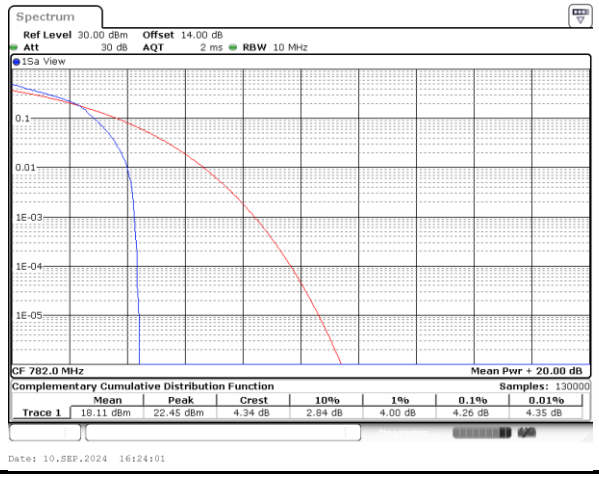
Note:

1. Normal Voltage =3.3 V. ; Minimum Voltage =3.135 V. ; Maximum Voltage =3.63 V.
2. The frequency fundamental emissions stay within the authorized frequency block.

LTE Band 13

Peak-to-Average Ratio

Mode	LTE Band 13 / 10MHz			
Mod.	QPSK	16QAM		Limit: 13dB
RB Size	Full RB	Full RB		Result
Middle CH	4.61	4.26		PASS

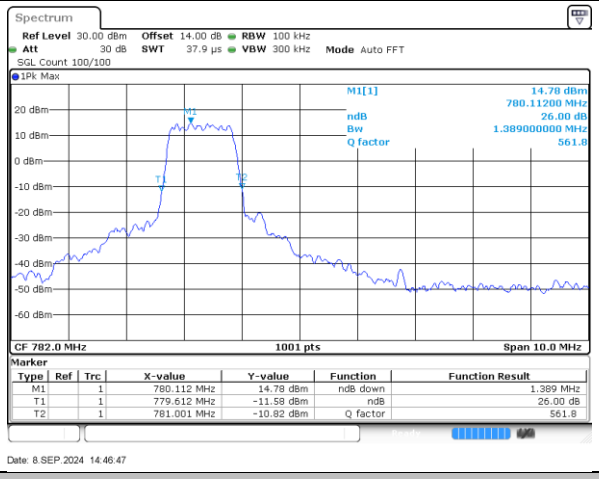
LTE Band 13 / 10MHz / QPSK	LTE Band 13 / 10MHz / 16QAM
Middle Channel / Full RB	Middle Channel / Full RB
	

26dB Bandwidth

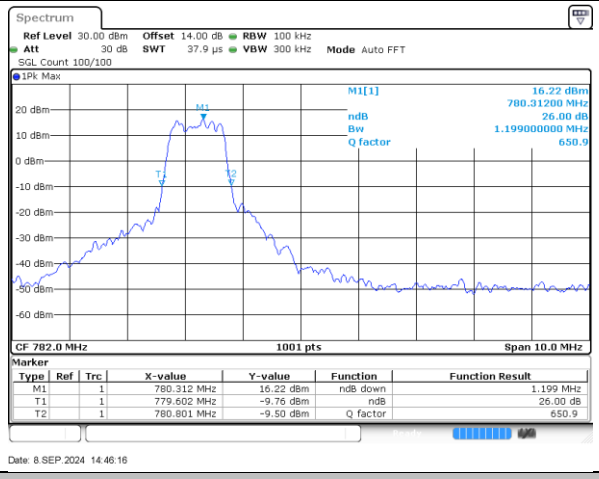
Mode	LTE Band 13 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	-	-	-	-	1.39	1.20	1.78	1.58	-	-	-	-

LTE Band 13

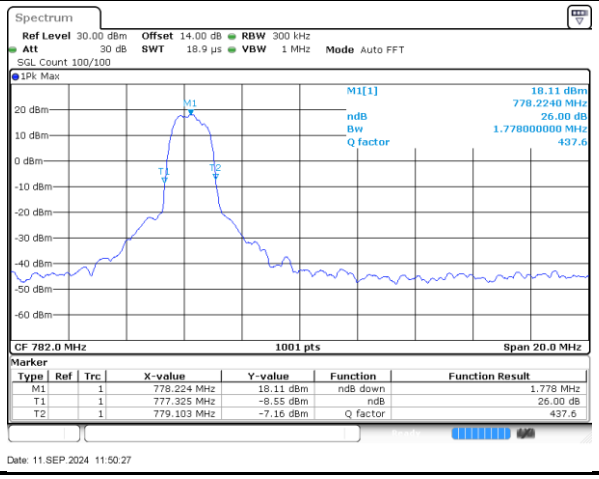
Middle Channel / 5MHz / QPSK



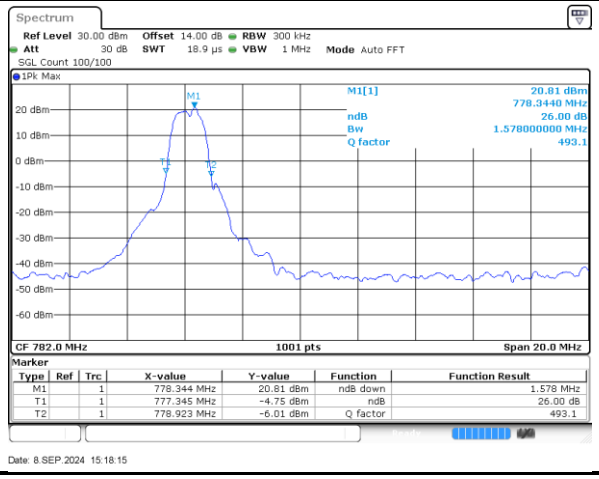
Middle Channel / 5MHz / 16QAM



Middle Channel / 10MHz / QPSK



Middle Channel / 10MHz / 16QAM

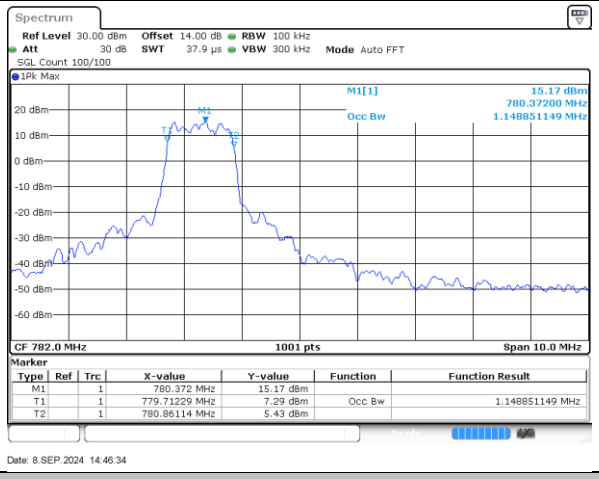


Occupied Bandwidth

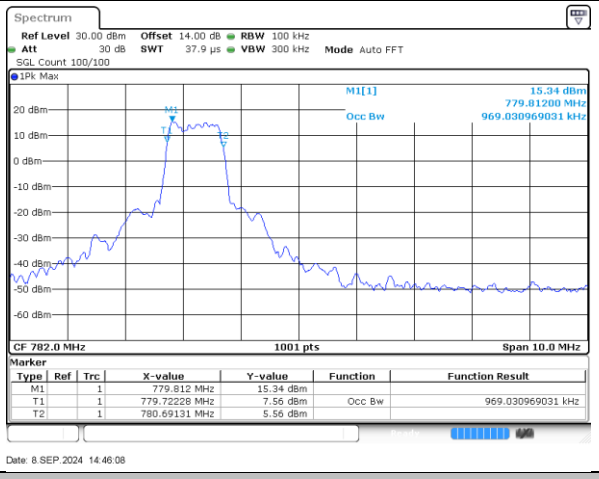
Mode	LTE Band 13 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	-	-	-	-	1.15	0.969	1.46	1.30	-	-	-	-

LTE Band 13

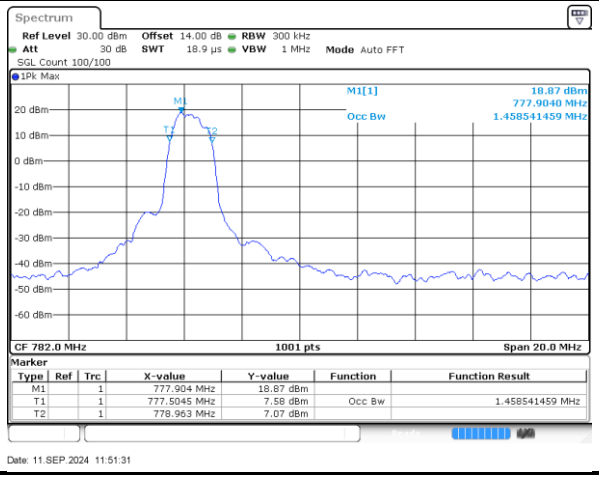
Middle Channel / 5MHz / QPSK



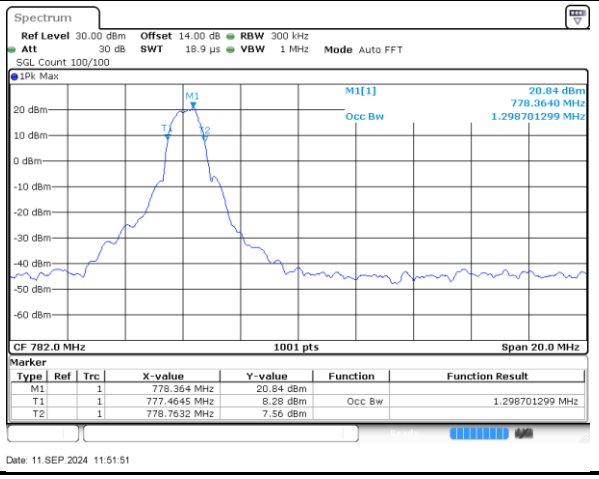
Middle Channel / 5MHz / 16QAM



Middle Channel / 10MHz / QPSK



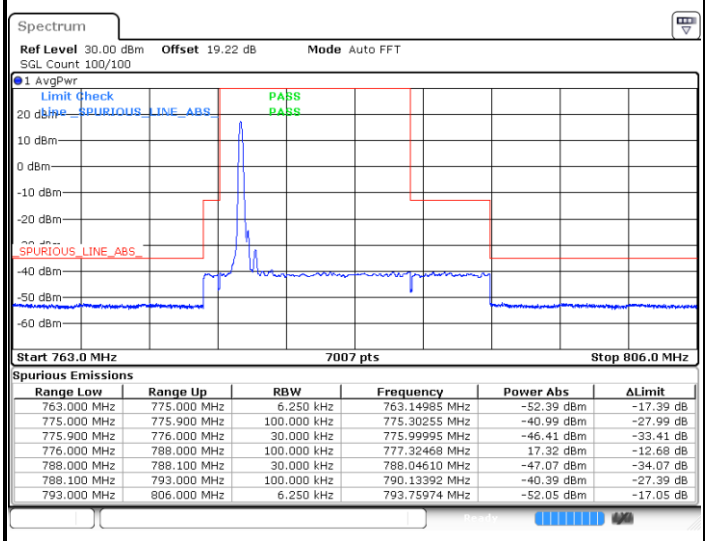
Middle Channel / 10MHz / 16QAM



Conducted Band Edge

LTE Band 13 / 5MHz / QPSK

Lowest Band Edge / 1 RB

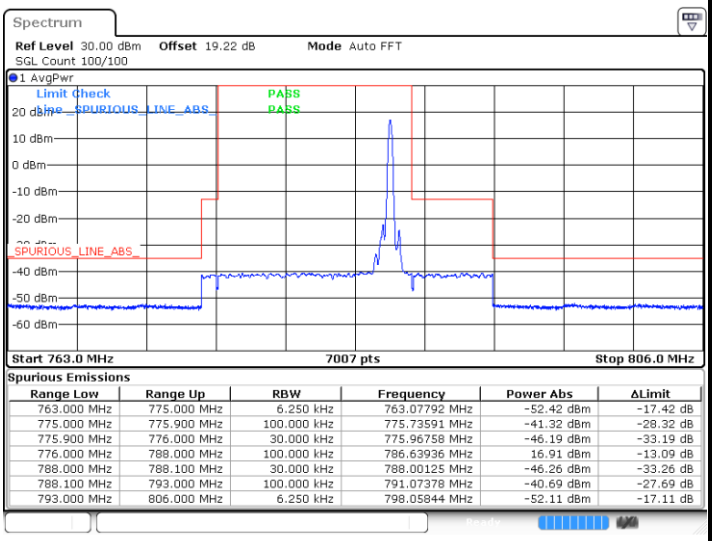


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
763.000 MHz	775.000 MHz	6.250 kHz	763.14985 MHz	-52.39 dBm	-17.39 dB
775.000 MHz	775.900 MHz	100.000 kHz	775.30255 MHz	-40.99 dBm	-27.99 dB
775.900 MHz	776.000 MHz	30.000 kHz	775.99995 MHz	-46.41 dBm	-33.41 dB
776.000 MHz	788.000 MHz	100.000 kHz	777.32468 MHz	17.32 dBm	-12.68 dB
788.000 MHz	788.100 MHz	30.000 kHz	788.04610 MHz	-47.07 dBm	-34.07 dB
788.100 MHz	793.000 MHz	100.000 kHz	790.13392 MHz	-40.39 dBm	-27.39 dB
793.000 MHz	806.000 MHz	6.250 kHz	793.75974 MHz	-52.05 dBm	-17.05 dB

Date: 8.SEP.2024 16:03:08

Highest Band Edge / 1 RB

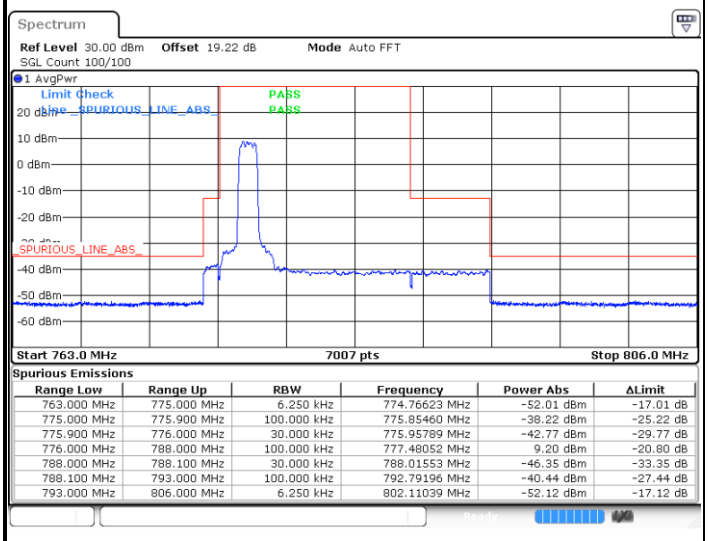


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
763.000 MHz	775.000 MHz	6.250 kHz	763.07792 MHz	-52.42 dBm	-17.42 dB
775.000 MHz	775.900 MHz	100.000 kHz	775.73591 MHz	-41.32 dBm	-28.32 dB
775.900 MHz	776.000 MHz	30.000 kHz	775.96758 MHz	-46.19 dBm	-33.19 dB
776.000 MHz	788.000 MHz	100.000 kHz	786.63936 MHz	16.91 dBm	-13.09 dB
788.000 MHz	788.100 MHz	30.000 kHz	788.00125 MHz	-46.26 dBm	-33.26 dB
788.100 MHz	793.000 MHz	100.000 kHz	791.07378 MHz	-40.69 dBm	-27.69 dB
793.000 MHz	806.000 MHz	6.250 kHz	798.05844 MHz	-52.11 dBm	-17.11 dB

Date: 8.SEP.2024 16:11:27

Lowest Band Edge / Full RB

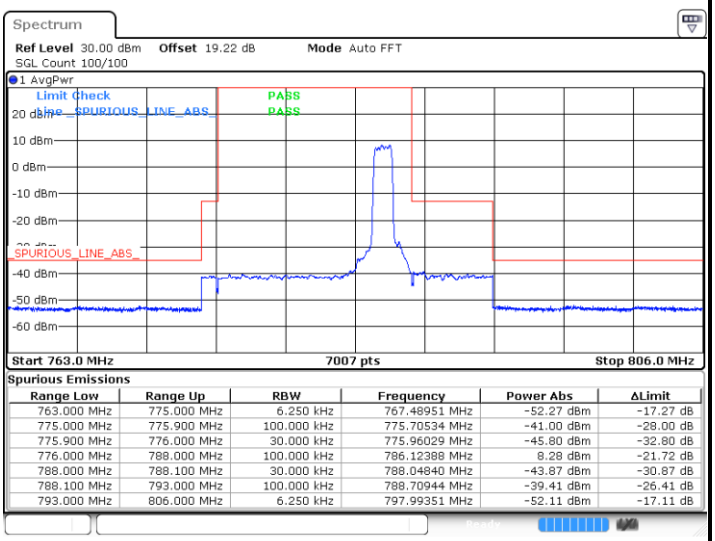


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
763.000 MHz	775.000 MHz	6.250 kHz	774.76623 MHz	-52.01 dBm	-17.01 dB
775.000 MHz	775.900 MHz	100.000 kHz	775.85460 MHz	-38.22 dBm	-25.22 dB
775.900 MHz	776.000 MHz	30.000 kHz	775.95789 MHz	-42.77 dBm	-29.77 dB
776.000 MHz	788.000 MHz	100.000 kHz	777.48052 MHz	9.20 dBm	-20.80 dB
788.000 MHz	788.100 MHz	30.000 kHz	788.01553 MHz	-46.35 dBm	-33.35 dB
788.100 MHz	793.000 MHz	100.000 kHz	792.79196 MHz	-40.44 dBm	-27.44 dB
793.000 MHz	806.000 MHz	6.250 kHz	802.11039 MHz	-52.12 dBm	-17.12 dB

Date: 8.SEP.2024 16:00:29

Highest Band Edge / Full RB



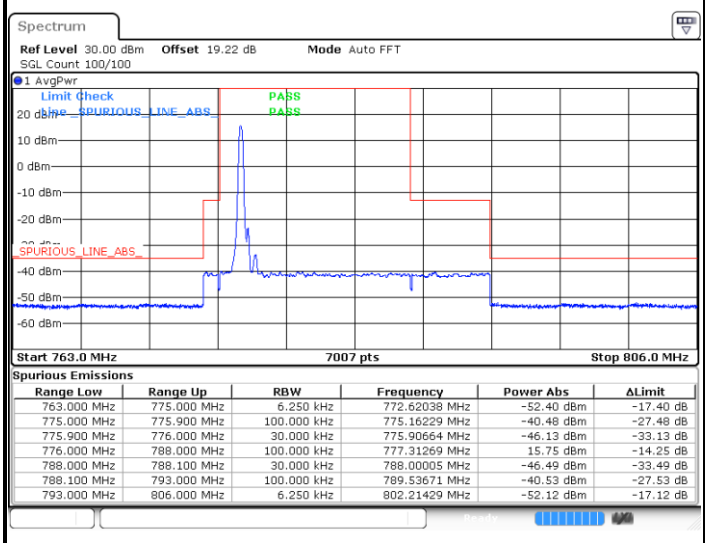
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
763.000 MHz	775.000 MHz	6.250 kHz	767.48951 MHz	-52.27 dBm	-17.27 dB
775.000 MHz	775.900 MHz	100.000 kHz	775.70534 MHz	-41.00 dBm	-28.00 dB
775.900 MHz	776.000 MHz	30.000 kHz	775.96029 MHz	-45.80 dBm	-32.80 dB
776.000 MHz	788.000 MHz	100.000 kHz	786.12388 MHz	8.28 dBm	-21.72 dB
788.000 MHz	788.100 MHz	30.000 kHz	788.04840 MHz	-43.87 dBm	-30.87 dB
788.100 MHz	793.000 MHz	100.000 kHz	788.70944 MHz	-39.41 dBm	-26.41 dB
793.000 MHz	806.000 MHz	6.250 kHz	797.99351 MHz	-52.11 dBm	-17.11 dB

Date: 8.SEP.2024 16:13:51

LTE Band 13 / 5MHz / 16QAM

Lowest Band Edge / 1 RB



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
763.000 MHz	775.000 MHz	6.250 kHz	772.62038 MHz	-52.40 dBm	-17.40 dB
775.000 MHz	775.900 MHz	100.000 kHz	775.16229 MHz	-40.48 dBm	-27.48 dB
775.900 MHz	776.000 MHz	30.000 kHz	775.90664 MHz	-46.13 dBm	-33.13 dB
776.000 MHz	788.000 MHz	100.000 kHz	777.31269 MHz	15.75 dBm	-14.25 dB
788.000 MHz	788.100 MHz	30.000 kHz	788.00005 MHz	-46.49 dBm	-33.49 dB
788.100 MHz	793.000 MHz	100.000 kHz	789.53671 MHz	-40.53 dBm	-27.53 dB
793.000 MHz	806.000 MHz	6.250 kHz	802.21429 MHz	-52.12 dBm	-17.12 dB

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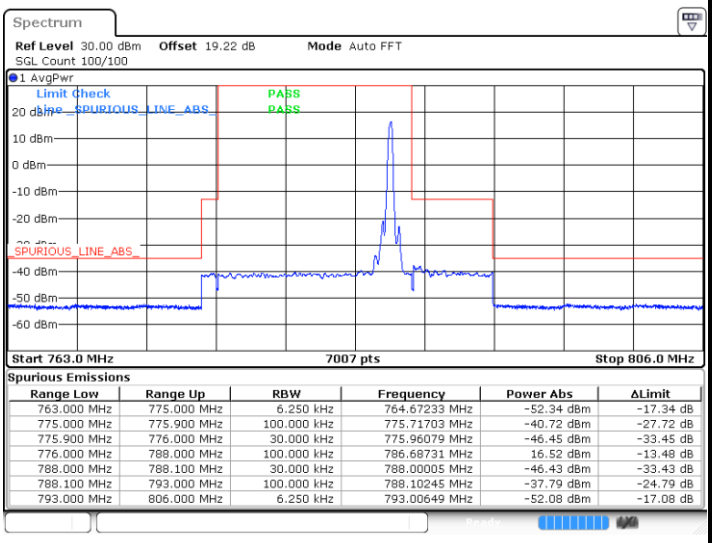
Highest Band Edge / 1 RB



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
763.000 MHz	775.000 MHz	6.250 kHz	764.67233 MHz	-52.34 dBm	-17.34 dB
775.000 MHz	775.900 MHz	100.000 kHz	775.71703 MHz	-40.72 dBm	-27.72 dB
775.900 MHz	776.000 MHz	30.000 kHz	775.96079 MHz	-46.45 dBm	-33.45 dB
776.000 MHz	788.000 MHz	100.000 kHz	786.68731 MHz	16.52 dBm	-13.48 dB
788.000 MHz	788.100 MHz	30.000 kHz	788.00005 MHz	-46.43 dBm	-33.43 dB
788.100 MHz	793.000 MHz	100.000 kHz	788.10245 MHz	-37.79 dBm	-24.79 dB
793.000 MHz	806.000 MHz	6.250 kHz	793.00649 MHz	-52.08 dBm	-17.08 dB

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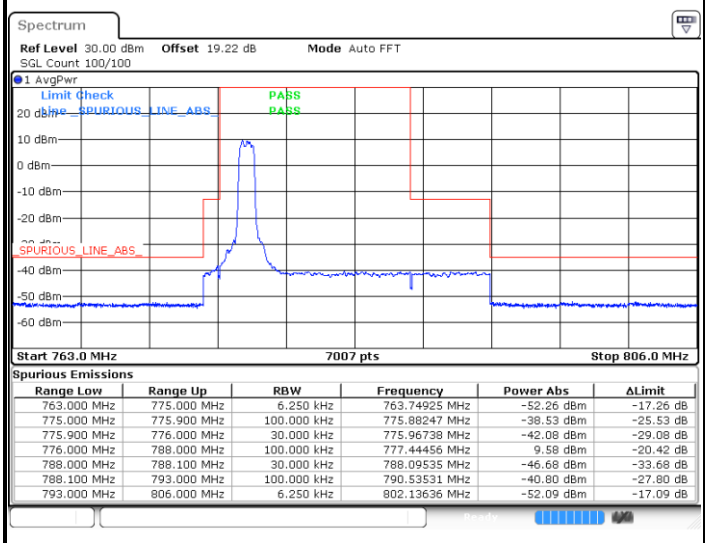
Lowest Band Edge / Full RB

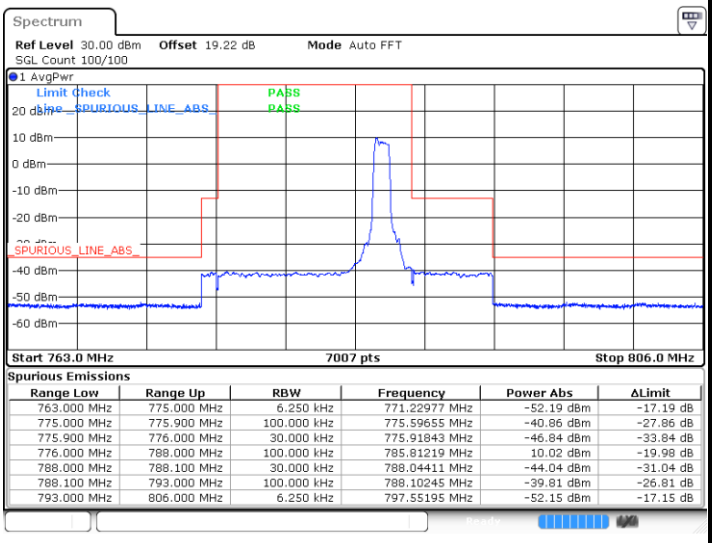


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
763.000 MHz	775.000 MHz	6.250 kHz	763.74925 MHz	-52.26 dBm	-17.26 dB
775.000 MHz	775.900 MHz	100.000 kHz	775.88247 MHz	-38.53 dBm	-25.53 dB
775.900 MHz	776.000 MHz	30.000 kHz	775.96738 MHz	-42.08 dBm	-29.08 dB
776.000 MHz	788.000 MHz	100.000 kHz	777.44456 MHz	9.58 dBm	-20.42 dB
788.000 MHz	788.100 MHz	30.000 kHz	788.09535 MHz	-46.68 dBm	-33.68 dB
788.100 MHz	793.000 MHz	100.000 kHz	790.53531 MHz	-40.80 dBm	-27.80 dB
793.000 MHz	806.000 MHz	6.250 kHz	802.13636 MHz	-52.09 dBm	-17.09 dB

Date: 8.SEP.2024 16:06:35

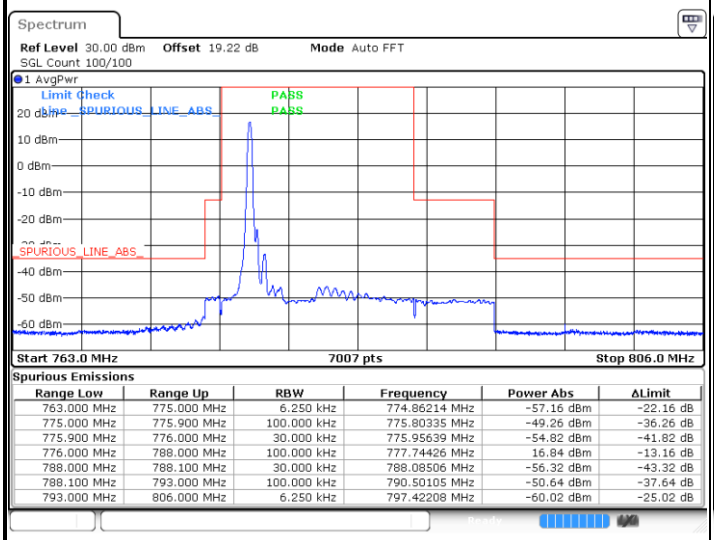
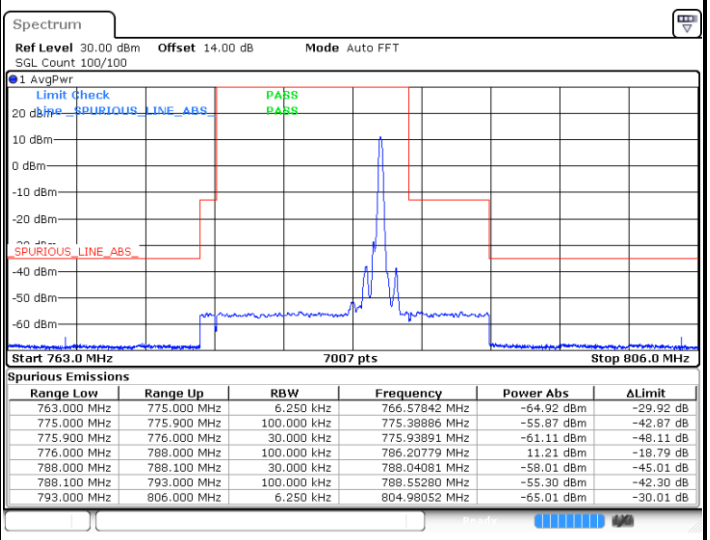
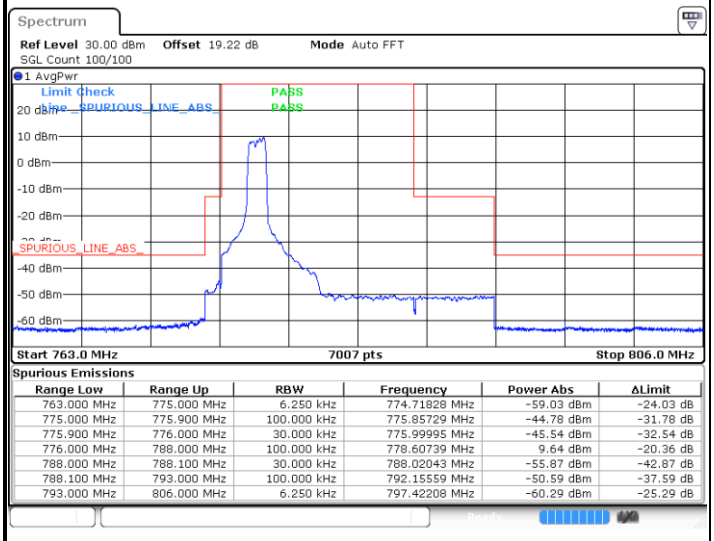
Highest Band Edge / Full RB

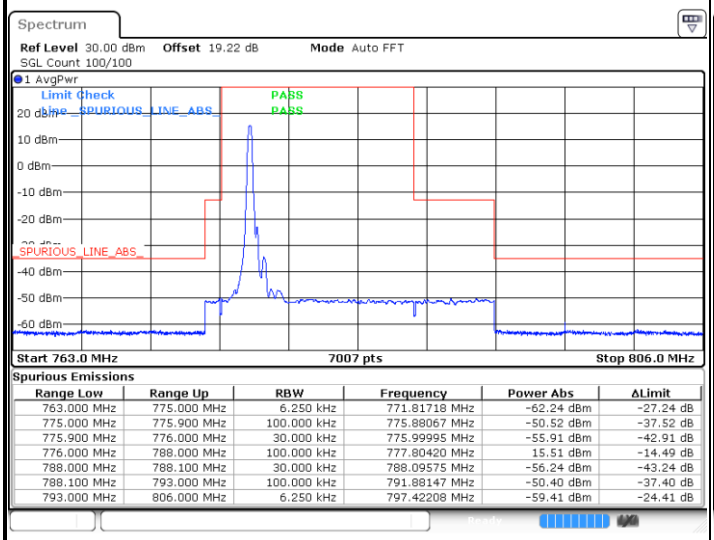
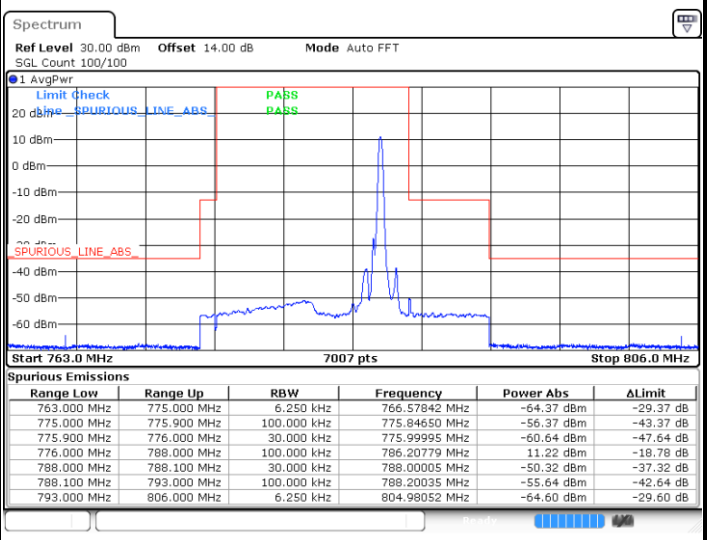
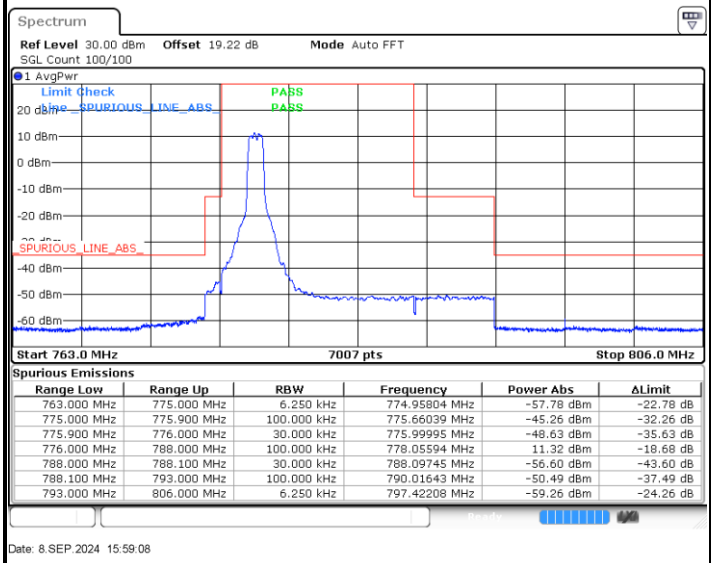


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
763.000 MHz	775.000 MHz	6.250 kHz	771.22977 MHz	-52.19 dBm	-17.19 dB
775.000 MHz	775.900 MHz	100.000 kHz	775.59655 MHz	-40.86 dBm	-27.86 dB
775.900 MHz	776.000 MHz	30.000 kHz	775.91843 MHz	-46.84 dBm	-33.84 dB
776.000 MHz	788.000 MHz	100.000 kHz	785.81219 MHz	10.02 dBm	-19.98 dB
788.000 MHz	788.100 MHz	30.000 kHz	788.04411 MHz	-44.04 dBm	-31.04 dB
788.100 MHz	793.000 MHz	100.000 kHz	788.10245 MHz	-39.81 dBm	-26.81 dB
793.000 MHz	806.000 MHz	6.250 kHz	797.55195 MHz	-52.15 dBm	-17.15 dB

Date: 8.SEP.2024 16:14:15

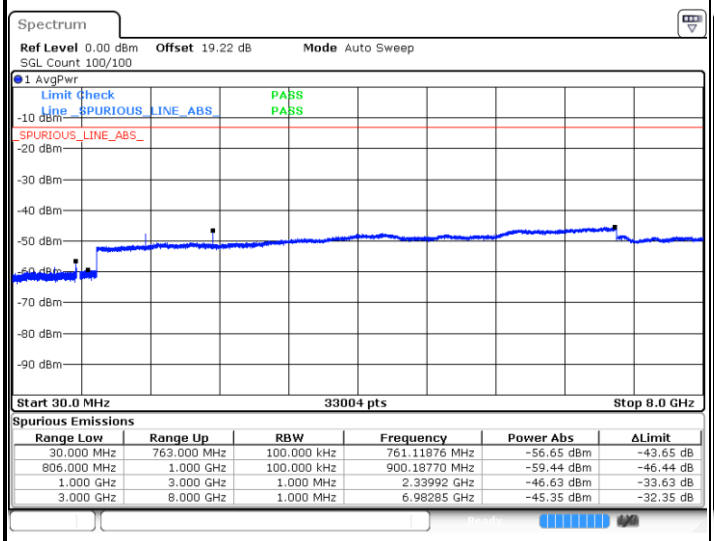
LTE Band 13 / 10MHz / QPSK	LTE Band 13 / 10MHz / QPSK
Band Edge / 1 RB	Band Edge / 1 RB
	
LTE Band 13 / 10MHz / QPSK	
Band Edge / Full RB	
	

LTE Band 13 / 10MHz / 16QAM	LTE Band 13 / 10MHz / 16QAM
Band Edge / 1 RB	**Band Edge / 1 RB**
	
Date: 8.SEP.2024 15:55:26	Date: 10.SEP.2024 13:25:36
LTE Band 13 / 10MHz / 16QAM	
Band Edge / Full RB	
	
Date: 8.SEP.2024 15:59:08	

Conducted Spurious Emission

LTE Band 13 / 5MHz

Lowest Channel / QPSK

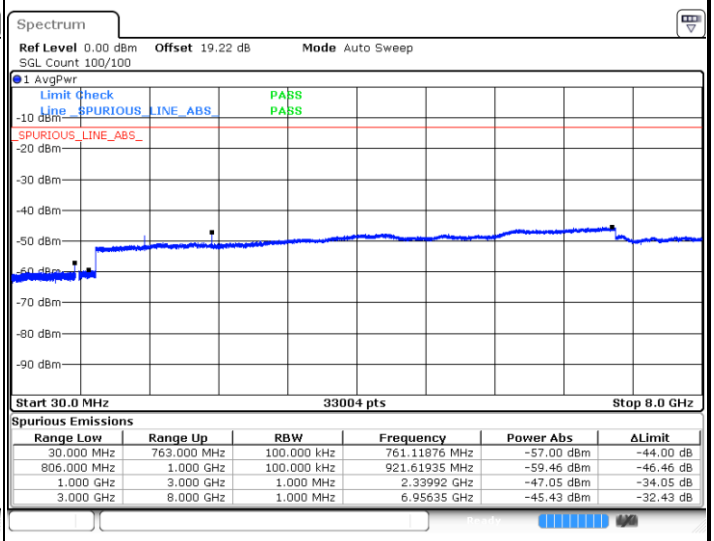


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	763.000 MHz	100.000 kHz	761.11876 MHz	-56.65 dBm	-43.65 dB
806.000 MHz	1.000 GHz	100.000 kHz	900.18770 MHz	-59.44 dBm	-46.44 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.33992 GHz	-46.63 dBm	-33.63 dB
3.000 GHz	8.000 GHz	1.000 MHz	6.98285 GHz	-45.35 dBm	-32.35 dB

Date: 8.SEP.2024 16:07:17

Middle Channel / QPSK

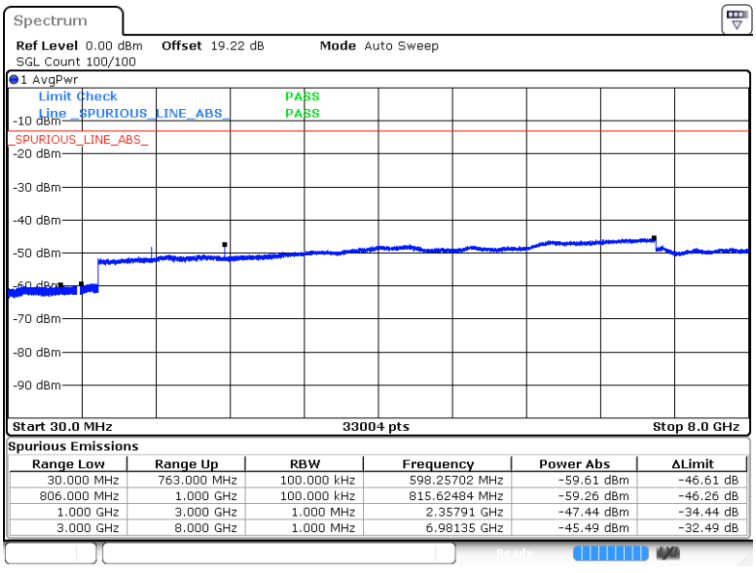


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	763.000 MHz	100.000 kHz	761.11876 MHz	-57.00 dBm	-44.00 dB
806.000 MHz	1.000 GHz	100.000 kHz	921.61935 MHz	-59.46 dBm	-46.46 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.33992 GHz	-47.05 dBm	-34.05 dB
3.000 GHz	8.000 GHz	1.000 MHz	6.95635 GHz	-45.43 dBm	-32.43 dB

Date: 8.SEP.2024 16:09:59

Highest Channel / QPSK

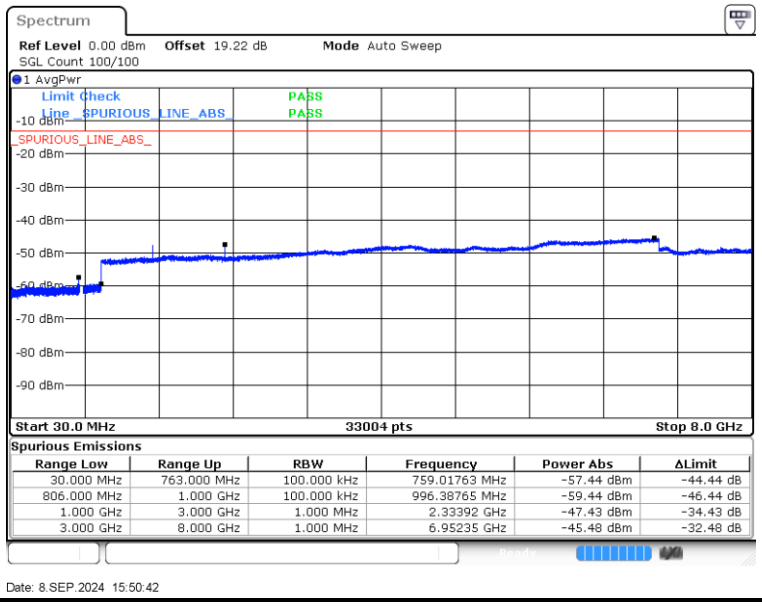


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	763.000 MHz	100.000 kHz	598.25702 MHz	-59.61 dBm	-46.61 dB
806.000 MHz	1.000 GHz	100.000 kHz	815.62484 MHz	-59.26 dBm	-46.26 dB
1.000 GHz	3.000 GHz	1.000 MHz	2.35791 GHz	-47.44 dBm	-34.44 dB
3.000 GHz	8.000 GHz	1.000 MHz	6.98135 GHz	-45.49 dBm	-32.49 dB

Date: 8.SEP.2024 16:08:45

LTE Band 13 / 10MHz
Middle Channel / QPSK



Frequency Stability

Test Conditions		LTE Band 13 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0003	PASS
40	Normal Voltage	0.0021	
30	Normal Voltage	0.0001	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0002	
0	Normal Voltage	0.0019	
-10	Normal Voltage	0.0016	
-20	Normal Voltage	0.0001	
-30	Normal Voltage	0.0005	
20	Maximum Voltage	0.0001	
20	Normal Voltage	0.0000	
20	Minimum Voltage	0.0003	

Note:

1. Normal Voltage =3.3 V. ; Minimum Voltage =3.135 V. ; Maximum Voltage =3.63 V.
2. The frequency fundamental emissions stay within the authorized frequency block.

LTE Band 25

Peak-to-Average Ratio

Mode	LTE Band 25 / 20MHz			
Mod.	QPSK	16QAM		Limit: 13dB
RB Size	Full RB	Full RB		Result
Middle CH	4.14	4.38		PASS

LTE Band 25 / 20MHz / QPSK	LTE Band 25 / 20MHz / 16QAM
Middle Channel / Full RB	Middle Channel / Full RB