TEST REPORT

Certificate #4312.01

Product Name:	Global LTE Cat.M1/LTE Cat.NB2 Data-Only Module
Trade Mark:	CINTERION
Model No. / HVIN:	EXS62-W
Report Number:	220613008RFM-1
Test Standards:	FCC 47 CFR Part 27 RSS-130 Issue 2,RSS-Gen Issue 5
FCC ID:	QIPEXS62-W
IC:	7830A-EXS62W
Test Result:	PASS
Date of Issue:	October 10, 2022

Prepared for:

Thales DIS AIS Deutschland GmbH
Siemensdamm 50, 13629 Berlin, Germany

Prepared by:

Shenzhen UnionTrust Quality and Technology Co., Ltd.
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Prepared by:	Kieron Luo Project Engineer	Reviewed by:	Henry Lu Team Leader
Approved by:	Kevin Heng Assistant Manager	Date:	October 10, 2022

Version

Version No.	Date	Description
V1.0	October 10, 2022	Original

CONTENTS

1. GENERAL INFORMATION

1.1 CLIENT INFORMATION

Applicant:	Thales DIS AIS Deutschland GmbH
Address of Applicant:	Siemensdamm 50, 13629 Berlin, Germany
Manufacturer:	Thales DIS AIS Deutschland GmbH
Address of Manufacturer:	Werinherstr.81, 81541 Munich, Germany

1.2 EUT INFORMATION

1.2.1 General Description of EUT

Product Name:	Global LTE Cat.M1/LTE Cat.NB2 Data-Only Module	
Model No. / HVIN:	EXS62-W(See Note)	
FVIN:	01.410	
Trade Mark:	CINTERION	
DUT Stage:	Production Unit	
EUT Supports Function: (Provided by the customer)	E-UTRA Bands:	FDD Band 2/ Band 4/ Band 5/ Band 12/ Band 13/ Band 25/ Band 26/ Band 66/ Band 71/ Band 85
Sample Received Date:	June 16, 2022	
Sample Tested Date:	June 16, 2022 to July 28, 2022	
Note: This product EXS62-W has two forms of SIM and ESIM.		
Remark: The above EUT's information was provided by customer. Please refer to the specifications or user's manual for more detailed description.		

1.2.2 Description of Accessories

None.

1.3 PRODUCT SPECIFICATION SUBJECTIVE TO THIS STANDARD

Support Networks:	LTE		
Type of Modulation:	LTE Band 85:	CAT-M1	QPSK, 16QAM
		NB-IoT	BPSK,QPSK
Antenna Type:	External Antenna		
Antenna Gain:	LTE Band 85:	50 ohm terminal (0dBi)	
IEMI:	Radiated: 004401083354593		
	Conducted: 004401083354593		
Normal Test Voltage:	3.8 Vdc		
Extreme Test Voltage:	2.8 to 4.6Vdc		
Extreme Test Temperature:	-40 ℃ to +70 ℃		

Summary of Results:

Bands	BW (MHz)	Modulation	Frequency Range (MHz)	Max RF Output Power (dBm) Conducted (Average)	Max RF Output Power (dBm) ERP (Average)	EIRP (W)	99% BW (MHz)	Emission Designator
85	5	QPSK	700.5 - 713. 5	20.71	18.56	0.0718	1.1326	1M13G7D
		16QAM		20.53	18.38	0.0689	0.96942	969KW4D
	10	QPSK	703 - 711	20.69	18.54	0.0714	1.1371	1M13G7D
		16QAM		20.64	18.49	0.0706	1.0118	1M11W7D

Summary of Results:								
Bands	Sub-carrier spacing (KHz)	Modulation	Frequency Range (MHz)	Max RF Output Power (dBm)		ERP (W)	99% BW (KHz)	Emission Designator
				Conducted (Average)	ERP (Average)			
85	3.75	BPSK	698.1-715.9	21.44	19.29	0.0849	61.945	61K9G6D
		QPSK		21.43	19.28	0.0847	69.107	69K1G7D
	15	BPSK	698.1-715.9	21.52	19.37	0.0865	121.79	121KG8D
		QPSK		21.61	19.46	0.0883	190.55	190KG6D

1.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested with associated equipment below.

1) Support Equipment

Description	Manufacturer	Model No.	Serial Number	Supplied by
Adapter	Lenovo	HW-120200C1W	N/A	Applicant
PCB board (Test Fixture)	CINTERION	W30880-Q9812-X-2	N/A	Applicant
50 ohm terminal	N/A	N/A	N/A	UnionTrust

2) Support Cable

Cable No.	Description	Connector	Length	Supplied by
1	Antenna Cable	SMA	0.3 Meter	UnionTrust

1.5 TEST LOCATION

Shenzhen UnionTrust Quality and Technology Co., Ltd.

Address: Unit D/E of 9/F and 16/F, Block A, Building 6, Baoneng science and technology park, Longhua district, Shenzhen, China 518109
Telephone: +86 (0) 755 2823 0888
Fax: +86 (0) 755 2823 0886

1.6 TEST FACILITY

The test facility is recognized, certified, or accredited by the following organizations:

CNAS-Lab Code: L9069
The measuring equipment utilized to perform the tests documented in this report has been calibrated once a year or in accordance with the manufacturer's recommendations, and is traceable under the ISO/IEC 17025 to international or national standards. Equipment has been calibrated by accredited calibration laboratories.

A2LA-Lab Certificate No.: 4312.01
Shenzhen UnionTrust Quality and Technology Co., Ltd. has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

ISED Wireless Device Testing Laboratories
CAB identifier: CN0032

FCC Accredited Lab.
Designation Number: CN1194
Test Firm Registration Number: 259480

1.7 DEVIATION FROM STANDARDS

None.

1.8 ABNORMALITIES FROM STANDARD CONDITIONS

None.

1.9 OTHER INFORMATION REQUESTED BY THE CUSTOMER

None.

1.10 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the Product as specified in CISPR 16-4-2. This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

No.	Item	Measurement Uncertainty
1	Radiated spurious emissions 30MHz-1GHz	± 4.9 dB
2	Radiated spurious emissions 1GHz-18GHz	± 4.8 dB
3	Radiated spurious emissions 18GHz-40GHz	± 5.1 dB
4	Occupied Bandwidth	± 1.86 %
5	Temperature	± 0.62 °C
6	Humidity	± 3.9 %
7	Conducted spurious emissions	± 2.7 dB
8	DC Supply Voltages	± 0.68 %
9	AC Supply Voltages	± 1.2 %
10	Radio Frequency	± 6.5 x 10^{-8}
11	RF Power, Conducted	± 0.68 dB

2. TEST SUMMARY

FCC 47 CFR Part 27 Test Cases (LTE Band 85)			
Test Item	**Test Requirement**	**Test Method**	**Result**
Effective Radiated Power (ERP)	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 27.50(c)(10)	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note
Conducted Output Power	FCC 47 CFR Part 2.1046(a) & FCC 47 CFR Part 27.50(c)(10)	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note
Peak-to-average ratio	FCC 47 CFR Part 27.50(d)(5)	KDB 971168 D01v03r01	See Note
99%&26dB Bandwidth	FCC 47 CFR Part 2.1049(h) FCC 47 CFR Part 27.53(g)	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note
Band Edge at antenna terminals	FCC 47 CFR Part 27.53(g)	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note
Spurious emissions at antenna terminals	FCC 47 CFR Part 2.1051 & FCC 47 CFR Part 27.53(g)	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note
Field strength of spurious radiation	FCC 47 CFR Part 2.1053 & FCC 47 CFR Part 27.53(g)	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note
Frequency stability	FCC 47 CFR Part 2.1055 & FCC 47 CFR Part 27.54	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note

RSS-130 Issue 2 Test Cases (LTE Band 85)			
Test Item	**Test Requirement**	**Test Method**	**Result**
Effective Radiated Power (ERP)	RSS-130 Issue 2, Section 4.6	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note
Conducted Output Power	RSS-130 Issue 2, Section 4.6	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note
Peak-to-average ratio	RSS-130 Issue 2, Section 4.6	KDB 971168 D01v03r01	See Note
99%&26dB Bandwidth	RSS-Gen Issue 5, Section 6.7	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note
Band Edge at antenna terminals	RSS-130 Issue 2, Section 4.7	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note
Spurious emissions at antenna terminals	RSS-130 Issue 2, Section 4.7	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note
Field strength of spurious radiation	RSS-130 Issue 2, Section 4.7	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note
Frequency stability	RSS-130 Issue 2, Section 4.5	ANSI C63.26-2015 & KDB 971168 D01v03r01	See Note

Note:

Difference description:

1) There are hardware differences between EXS62-W and EXS82-W Module. For detailed PCB board and component differences, see the difference statement document

2) The difference is defined by the applicant and the referenced data complies with FCC regulations， and the applicant assumes full responsibility.

3) The declared of product specification and data (e.g. antenna gain, RF specification, etc) for EUT presented in the report are provided by the customer, and the customer takes all the responsibilities for the accuracy of product specification.

Test Plan:

1) According to the difference description, EXS62-W shares the same data from the EXS82-W original report (Report No.: 220613004RFM-1).
2) This report is based on the report of 220613004RFM-1,just update the Field strength of spurious radiation and
3) The FCC ID of EXS82-W is QIPEXS82-W
4) The data of EXS62-W was used for EXS82-W as bellow:

Band	Test Item	Description
LTE Band 85	Equivalent Radiated Power (ERP)	Reuse
	Conducted Output Power	Verification
	Peak-to-average ratio	Reuse
	99%&26dB Bandwidth	Reuse
	Band Edge at antenna terminals	Reuse
	Spurious emissions at antenna terminals	Reuse
	Field strength of spurious radiation	Updated
	Frequency stability	Reuse

3. EQUIPMENT LIST

Radiated Emission Test Equipment List						
Used	**Equipment**	**Manufacturer**	**Model No.**	**Serial Number**	**Cal. date (mm dd, yyyy)**	**Cal. Due date (mm dd, yyyy)**
☒	3m SAC	ETS-LINDGREN	3m	Euroshiedpn-CT001270-1317	Jan. 22, 2021	Jan. 21, 2024
☒	Receiver	R&S	ESIB26	100114	Nov. 05, 2021	Nov. 04, 2022
☐	Loop Antenna	ETS-LINDGREN	6502	00202525	Nov. 11, 2021	Nov. 10, 2023
☒	Broadband Antenna	ETS-LINDGREN	3142E	00201566	Nov. 11, 2021	Nov. 10, 2023
☒	6dB Attenuator	Talent	RA6A5-N-18	18103001	Nov. 11, 2021	Nov. 10, 2023
☒	Preamplifier	HP	8447F	2805A02960	Nov. 05, 2021	Nov. 04, 2022
☒	Double-Ridged Waveguide Horn Antenna (Pre-amplifier)	ETS-LINDGREN	3117-PA	00201541	Apr. 30, 2021	Apr. 29, 2023
☒	Pre-amplifier	ETS-Lindgren	00118385	00201874	Nov. 06, 2021	Nov. 05, 2022
☒	Double-Ridged Waveguide Horn Antenna (Pre-amplifier)	ETS-LINDGREN	3116C-PA	00202652	Nov. 14, 2020	Nov. 13, 2023
☒	Pre-amplifier	ETS-Lindgren	00118384	00202652	Nov. 17, 2020	Nov. 16, 2022
☒	Multi device Controller	ETS-LINDGREN	7006-001	00160105	N/A	N/A
☒	Wideband Radio Communication Tester	R&S	CMW500	120932	Apr. 15, 2022	Apr. 14, 2023
☒	Test Software	Audix	e3	Software Version: 9.160323		

RF Test Equipment List						
Used	**Equipment**	**Manufacturer**	**Model No.**	**Serial Number**	**Cal. date (mm dd, yyyy)**	**Cal. Due date (mm dd, yyyy)**
☒	Spectrum analyzer	R&S	FSV40-N	101653	Apr. 15, 2022	Apr. 14, 2023
☒	EXA Spectrum Analyzer	KEYSIGHT	N9010A	MY51440197	Apr. 15, 2022	Apr. 14, 2023
☒	Wideband Radio Communication Tester	R&S	CMW500	120932	Apr. 15, 2022	Apr. 14, 2023
☐	Wideband Radio Communication Tester	R&S	CMW500	119583	Apr. 15, 2022	Apr. 14, 2023
☒	DC Source	KIKUSUI	PWR400L	LK003024	N/A	N/A
☒	Digital multimeter	FLUKE	15B+	30701460WS15	Nov. 12, 2021	Nov. 11, 2022
☒	Temp & Humidity chamber	Votisch	VT4002	58566133290020	Apr. 15, 2022	Apr. 14, 2023

4. TEST CONFIGURATION

4.1 ENVIRONMENTAL CONDITIONS FOR TESTING

Test Environment	Selected Values During Tests		
Test Condition	Ambient		
	Temperature (°C)	Voltage (V)	Relative Humidity (%)
TN/VN	+15 to +35	3.8	20 to 75
TL/VL	-40	2.8	20 to 75
TH/VL	+70	2.8	20 to 75
TL/VH	-40	4.6	20 to 75
TH/VH	+70	4.6	20 to 75

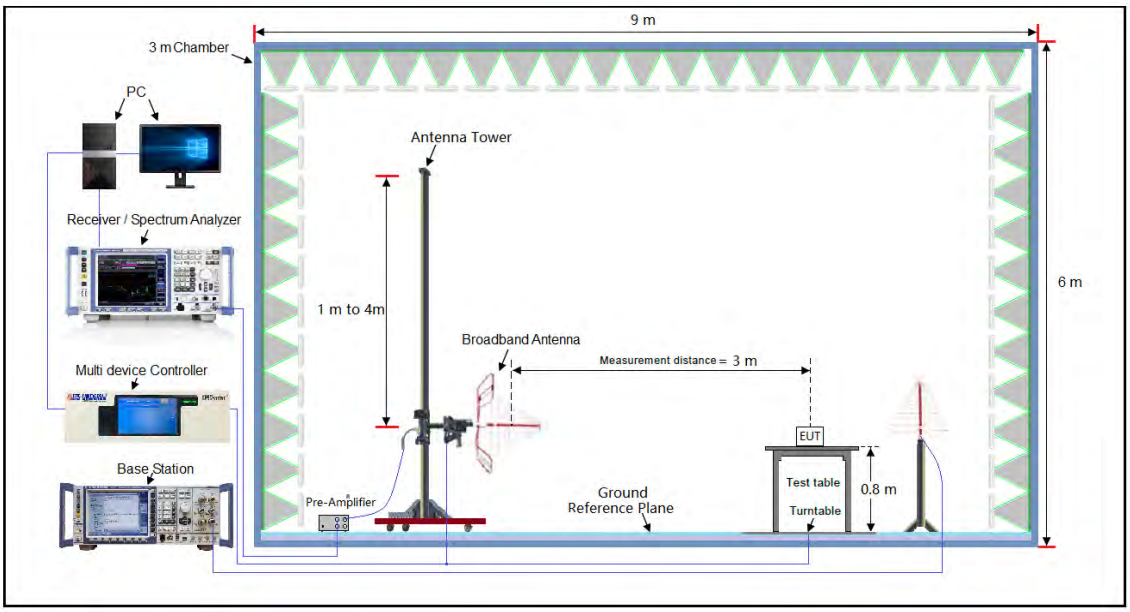
Remark:

1) The EUT just work in such extreme temperature of -40 ℃ to +70 °C and the extreme voltage of 2.8 V to 4.6 V, so here the EUT is tested in the temperature of -40 ℃ to +70 °C and the voltage of 2.8 V to 4.6 V.
2) VN: Normal Voltage; TN: Normal Temperature;
TL: Low Extreme Test Temperature; TH: High Extreme Test Temperature;
VL: Low Extreme Test Voltage; VH: High Extreme Test Voltage.

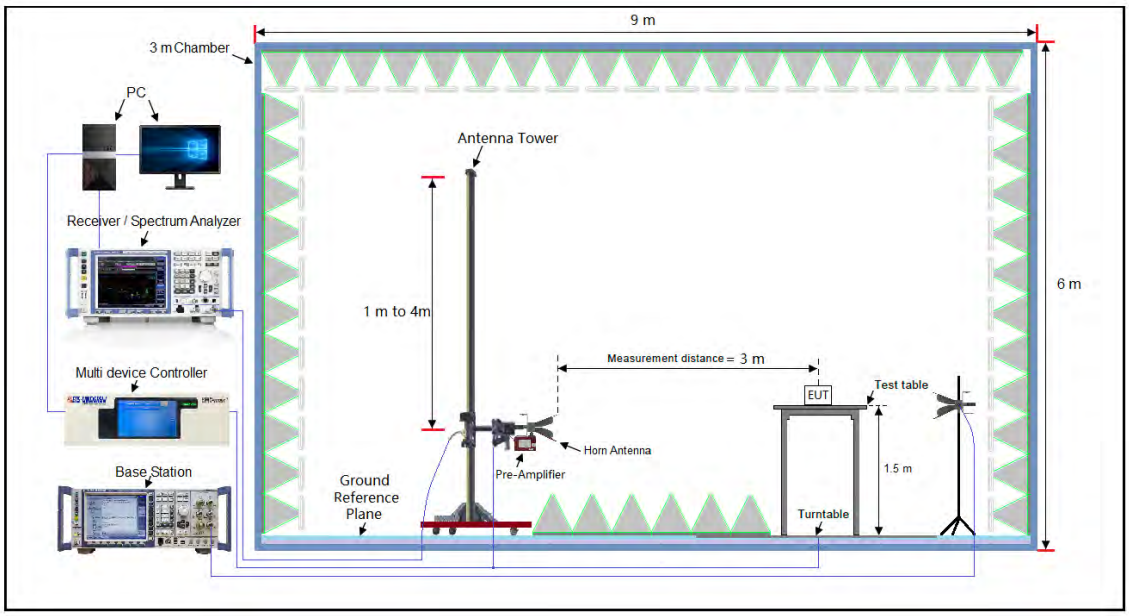
4.2 TEST SETUP

4.2.1 For Radiated Emissions test setup

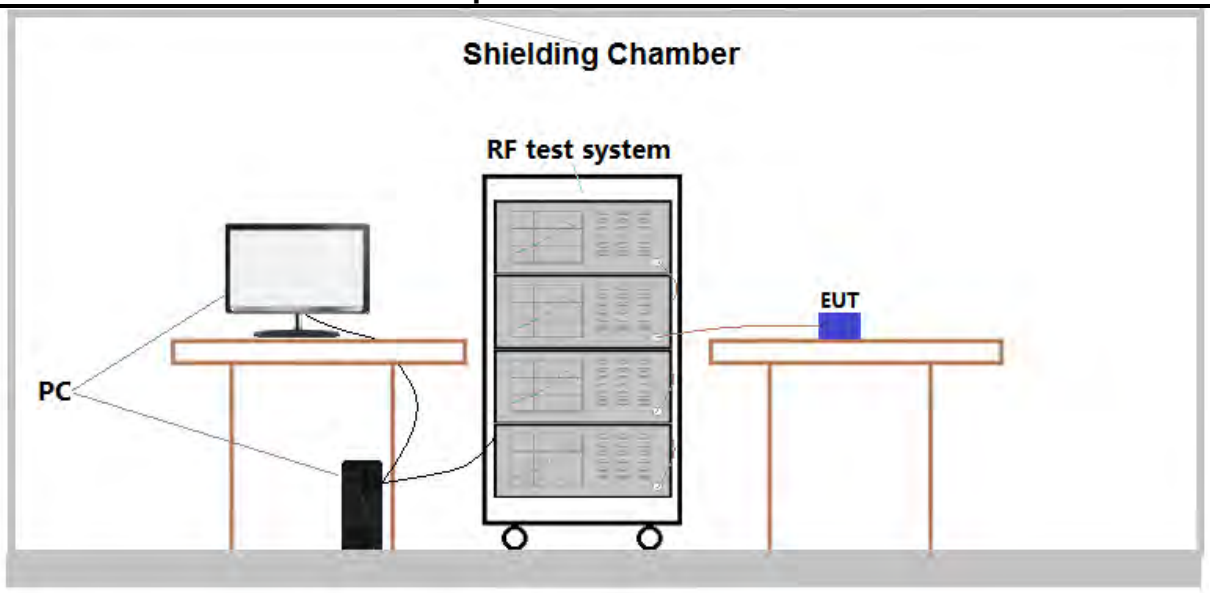
Radiated Emissions 30MHz to 1GHz Test setup



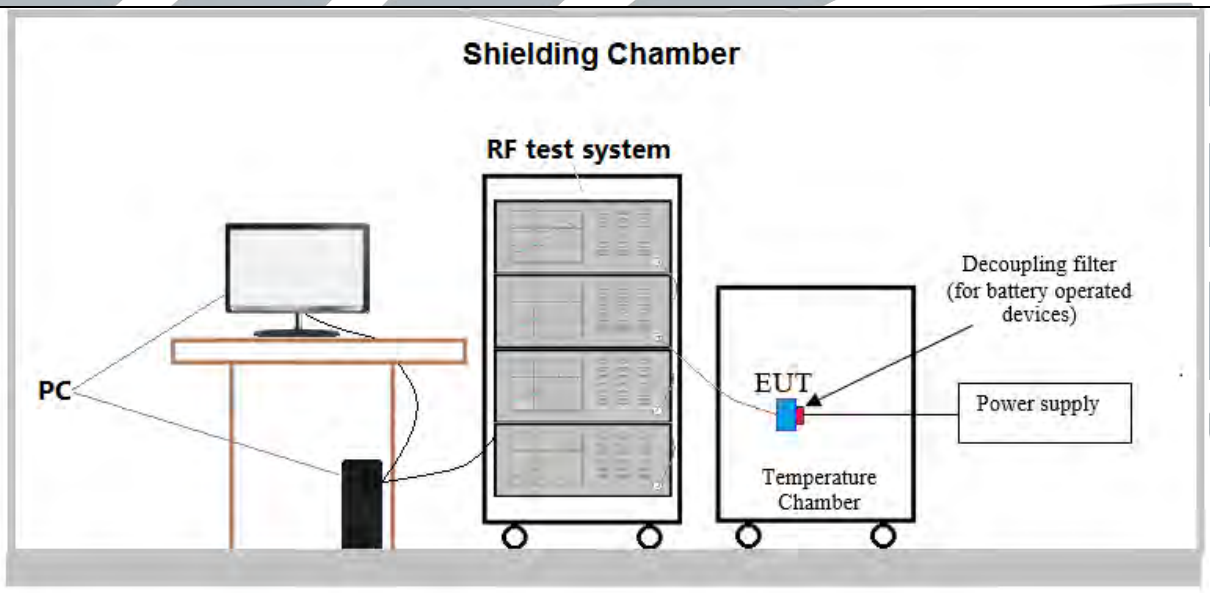
Radiated Emissions Above 1GHz Test setup



4.2.2 For Conducted RF test setup



Normal Environment



Extreme Environment

4.3 TEST CHANNELS

Band	Test Frequency ID	Bandwidth (MHz)	Number [UL]	Frequency of Uplink (MHz)
LTE Band 85 TX: 698-716MHz	Low Range	5	134027	700.5
		10	134052	703
	Middle Range	5/10	134092	707
	High Range	5	134157	713.5
		10	134132	711

Band	Test Frequency ID	Sub-carrier spacing (KHz)	Number [UL]	Frequency of Uplink (MHz)
LTE Band 85 TX: 698-716MHz	Low Range	3.75 or 15	134003	698.1
	Middle Range	3.75 or 15	134082	706.0
	High Range	3.75 or 15	134181	715.9

4.4 SYSTEM TEST CONFIGURATION

For emissions testing, the equipment under test (EUT) setup to transmit continuously to simplify the measurement methodology. Care was taken to ensure proper power supply voltages during testing. During testing, radiated emission were performed with the EUT set to transmit at the channel with highest output power as worst-case scenario. Only the worst case data were recorded in this test report.

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, X/Y/Z axis, and antenna ports.
The worst case was found when positioned as the table below.

Band	Mode	Antenna Port	Worst-case axis positioning
LTE Band 85	1TX	Chain 0	Z axis

All readings are extrapolated back to the equivalent three meter reading using inverse scaling with distance. Analyzer resolution is 100 kHz or greater for frequencies below 1000MHz. The resolution is 1 MHz or greater for frequencies above 1000MHz. The spurious emissions more than 20 dB below the permissible value are not reported.

Radiated emission measurement were performed from the lowest radio frequency signal generated in the device which is greater than 9 kHz to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.

4.5 PRE-SCAN

Pre-scan under all rate at lowest middle and highest channel, find the transmitter power as below.

CAT M1 LTE Band 85 Maximum Average Power (dBm)				
Bandwidth	Channel/ Frequency(MHz)	RB# RBstart	Conducted Power (dBm)	
			QPSK	16QAM
5MHz	134027/700.5	1#0	20.71	20.45
		6#0/5#1	19.42	19.43
	134092/707	1#0	20.62	20.53
		6#0/5#1	19.62	19.60
	134157/713.5	1#5	20.62	20.51
		6#0/5#1	19.64	19.54
10MHz	134052/703	1#0	20.52	20.22
		5#0	20.46	20.50
	134092/707	1#0	20.67	20.52
		5#0	20.54	20.45
	134132/711	1#5	20.69	20.37
		6#0/5#1	19.65	20.64

LTE Band 85 Maximum Average Power (dBm)					
Modulation	Sub-carrier spacing (KHz)	Ntones	Conducted Power (dBm) for low/mid/high channel		
			134003/698.1	134082/706.0	134181/715.9
BPSK	3.75	1@0	21.25	21.35	21.23
		1@47	21.44	21.33	21.17
	15	1@0	21.52	21.24	21.41
		1@11	21.47	21.15	21.35
QPSK	3.75	1@0	21.31	21.43	21.28
		1@47	21.25	21.38	21.19
	15	1@0	21.61	21.31	21.43
		1@11	21.53	21.25	21.37
	15	12@0	19.22	19.11	19.21

Verification Data:

CAT M1 LTE Band 85 Maximum Average Power (dBm)				
Bandwidth	Channel/ Frequency(MHz)	RB# RBstart	Conducted Power (dBm)	
			QPSK	16QAM
5MHz	134027/700.5	1#0	20.56	20.40
		6#0/5#1	19.46	19.41
	134092/707	1#0	20.56	20.47
		6#0/5#1	19.55	19.48
	134157/713.5	1#5	20.65	20.58
		6#0/5#1	19.56	19.47
10MHz	134052/703	1#0	20.45	20.21
		5#0	20.43	20.49
	134092/707	1#0	20.58	20.49
		5#0	20.48	20.49
	134132/711	1#5	20.67	20.28
		6#0/5#1	19.59	20.78

LTE Band 85 Maximum Average Power (dBm)					
Modulation	Sub-carrier spacing (KHz)	Ntones	Conducted Power (dBm) for low/mid/high channel		
			134003/698.1	134082/706.0	134181/715.9
BPSK	3.75	1@0	21.15	21.43	21.15
		1@47	21.51	21.24	21.24
	15	1@0	21.45	21.2	21.19
		1@11	21.44	21.13	21.15
QPSK	3.75	1@0	21.21	21.42	21.35
		1@47	21.33	21.33	21.32
	15	1@0	21.42	21.25	21.26
		1@11	21.37	21.17	21.22
	15	12@0	19.13	19.14	19.04

Pre-scan all bandwidth and RB, find worse case mode are chosen to the report, the LTE worse case mode applicability and tested channel detail as below:

Item	Band	Bandwidth(MHz)						Modulation			RB			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	64QAM	1	Half	Full	L	M	H
ERP/EIRP	85	-	-	☒	☒	-	-	☒	☒	☐	☒	☐	☐	☒	☒	☒
Conducted output power	85	-	-	☒	☒	-	-	☒	☒	☐	☒	☐	☒	☒	☒	☒
99%&26dB Bandwidth	85	-	-	☒	☒	-	-	☒	☒	☐	☒	☐	☐	☒	☒	☒
peak-to-average ratio	85	-	-	☐	☒	-	-	☒	☒	☐	☒	☐	☐	☐	☒	☐
Band Edge at antenna terminals	85	-	-	☒	☒	-	-	☒	☒	☐	☒	☐	☒	☒	☐	☒
Spurious emissions at antenna terminals	85	-	-	☐	☒	-	-	☒	☒	☐	☒	☐	☐	☒	☒	☒
Field strength of spurious radiation	85	-	-	☐	☒	-	-	☒	☐	☐	☒	☐	☐	☒	☒	☒
Frequency stability	85	-	-	☐	☒	-	-	☒	☐	☐	☐	☐	☒	☐	☒	☐

Remark:
The mark "☒" means is chosen for testing; The mark "☐" means is not chosen for testing;
The mark "-" means is not supported bandwidth

Item	Band	Sub-carrier spacing (KHz)		Modulation		Channel		
		3.75	15	BPSK	QPSK	L	M	H
ERP/EIRP	85	☒	☒	☒	☒	☒	☒	☒
Conducted output power	85	☒	☒	☒	☒	☒	☒	☒
99%&26dB Bandwidth	85	☒	☒	☒	☒	☒	☒	☒
peak-to-average ratio	85	☒	☒	☒	☒	☐	☒	☐
Band Edge at antenna terminals	85	☒	☒	☒	☒	☒	☐	☒
Spurious emissions at antenna terminals	85	☐	☒	☒	☒	☒	☒	☒
Field strength of spurious radiation	85	☐	☒	☐	☒	☒	☒	☒
Frequency stability	85	☐	☒	☐	☒	☐	☒	☐

Remark:
The mark "☒" means is chosen for testing; The mark "☐" means is not chosen for testing;
The mark "-" means is not supported bandwidth

5. RADIO TECHNICAL REQUIREMENTS SPECIFICATION

5.1 REFERENCE DOCUMENTS FOR TESTING

No.	Identity	Document Title
1	FCC 47 CFR Part 2	Frequency allocations and radio treaty matters; general rules and regulations
2	FCC 47 CFR Part 27	Miscellaneous Wireless Communications Services
3	RSS-Gen Issue 5	General Requirements for Compliance of Radio Apparatus
4	RSS-130 Issue 2	Equipment Operating in the Frequency Bands 617-652 MHz, 663-698 MHz, 698-756 MHz and 777-787 MHz
5	ANSI C63.26-2015	American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services
6	KDB 971168 D01	KDB 971168 D01 Power Meas License Digital Systems v03r01

5.2 ERP OR EIRP

Test Requirement: FCC 47 CFR Part 2.1046(a)
LTE Band 85: FCC 47 CFR Part 27.50(c)(10)
LTE Band 85: RSS-130 Issue 2, Section 4.6

Test Method: KDB 971168 D01v03r01 Section 5.6 & ANSI C63.26-2015

Limit:

FCC 47 CFR Part 27.50(c)(10):
Portable stations (hand-held devices) in the 600 MHz uplink band and the 698-746 MHz band, and fixed and mobile stations in the 600 MHz uplink band are limited to 3 watts ERP.

RSS-130 Issue 2, Section 4.6,
4.6.2 Frequency bands 617-652 MHz and 663-698 MHz

The e.r.p. shall not exceed 3 watts for mobile equipment, fixed subscriber equipment and portable equipment.

4.6.3 Frequency bands 698-756 MHz and 777-787 MHz

The e.r.p. shall not exceed 30 watts for mobile equipment and outdoor fixed subscriber equipment. The e.r.p. shall not exceed 3 watts for portable equipment and indoor fixed subscriber equipment.

Test Procedure:

$$\textbf{ERP or EIRP} = P_{Meas} + G_T - L_C$$

where:
ERP or EIRP = effective radiated power or equivalent isotropically radiated power, respectively (expressed in the same units as PMeas, typically dBW or dBm);
P_{Meas} = measured transmitter output power or PSD, in dBm or dBW;
G_T = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);
L_C = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

Test Setup: Refer to section 4.2.1 for details.
Instruments Used: Refer to section 3 for details
Test Mode: Link mode
Test Results: Pass
Test Data: See table below

5.2.1 LTE Band 85

Bandwidth	Channel/ Frequency(MHz)	RB# RBstart	ERP(dBm)		Limit(dBm)
			QPSK	16QAM	
5MHz	134027/700.5	1#0	18.56	18.30	34.77
		6#0/5#1	17.27	17.28	34.77
	134092/707	1#0	18.47	18.38	34.77
		6#0/5#1	17.47	17.45	34.77
	134157/713. 5	1#5	18.47	18.36	34.77
		6#0/5#1	17.49	17.39	34.77
10MHz	134052/703	1#0	18.37	18.07	34.77
		5#0	18.31	18.35	34.77
	134092/707	1#0	18.52	18.37	34.77
		5#0	18.39	18.30	34.77
	134132/711	1#5	18.54	18.22	34.77
		6#0/5#1	17.50	18.49	34.77

Modulation	Sub-carrier spacing (KHz)	Ntones	ERP(dBm)			Limit(dBm)
			134003/698.1	134082/706.0	134181/715.9	
BPSK	3.75	1@0	19.10	19.20	19.08	34.77
		1@47	19.29	19.18	19.02	34.77
	15	1@0	19.37	19.09	19.26	34.77
		1@11	19.32	19.00	19.20	34.77
QPSK	3.75	1@0	19.16	19.28	19.13	34.77
		1@47	19.10	19.23	19.04	34.77
	15	1@0	19.46	19.16	19.28	34.77
		1@11	19.38	19.10	19.22	34.77
	15	12@0	17.07	16.96	17.06	34.77

Note: The maximum ERP is calculated from max output power and antenna gain, the antenna gain provided by the customer, and the customer takes all the responsibilities for the accuracy of antenna gain.

5.3 CONDUCTED OUTPUT POWER

Test Requirement:	FCC 47 CFR Part 2.1046(a) **LTE Band 85:** FCC 47 CFR Part 27.50(c)(10) **LTE Band 85:** RSS-130 Issue 2, Section 4.6
Test Method:	KDB 971168 D01v03r01 & ANSI C63.26-2015

Limit:

FCC 47 CFR Part 27.50(c)(10):

Portable stations (hand-held devices) in the 600 MHz uplink band and the 698-746 MHz band, and fixed and mobile stations in the 600 MHz uplink band are limited to 3 watts ERP.

RSS-130 Issue 2, Section 4.6,

4.6.2 Frequency bands 617-652 MHz and 663-698 MHz

The e.r.p. shall not exceed 3 watts for mobile equipment, fixed subscriber equipment and portable equipment.

4.6.3 Frequency bands 698-756 MHz and 777-787 MHz

The e.r.p. shall not exceed 30 watts for mobile equipment and outdoor fixed subscriber equipment. The e.r.p. shall not exceed 3 watts for portable equipment and indoor fixed subscriber equipment.

Test Procedure:

The EUT was set up for the maximum power with LTE link data modulation and link up with simulator. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

Test Setup:	Refer to section 4.2.2 for details.
Instruments Used:	Refer to section 3 for details
Test Mode:	Link mode
Test Results:	Pass
Test Data:	The full result refer to section 4.5 for details.

5.4 PEAK-TO-AVERAGE RATIO

Test Requirement: **LTE Band 85:** FCC 47 CFR Part 27.50(d)(5)
LTE Band 85: RSS-130 Issue 2, Section 4.6

Test Method: KDB 971168 D01v03r01 Section 5.7

Limit: 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

Test Procedure:
The transmitter output was connected to a calibrated coaxial cable and coupler, the other end of which was connected to a spectrum analyzer.

a) Set resolution/measurement bandwidth ≥ signal's occupied bandwidth
b) Set the number of counts to a value that stabilizes the measured CCDF curve
c) Record the maximum PAPR level associated with a probability of 0.1 %

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

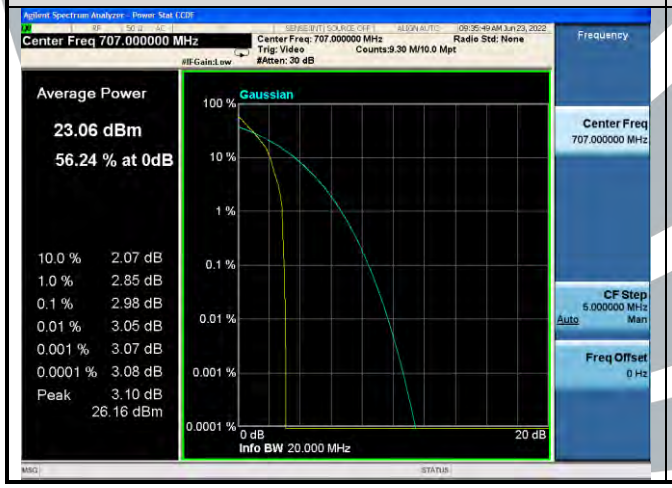
Test Setup: Refer to section 4.2.2 for details.
Instruments Used: Refer to section 3 for details
Test Mode: Link mode
Test Results: Pass
Test Data: See table below

5.4.1 LTE Band 85

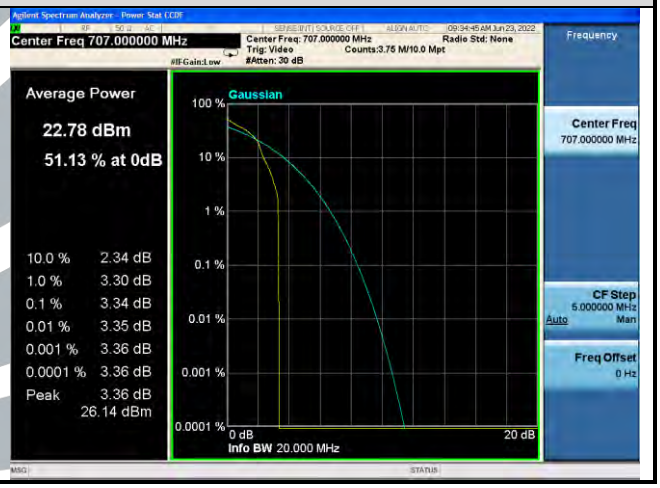
LTE Band 85 Peak-to-average ratio (dB)					
Bandwidth	**Modulation**	**Channel/ Frequency(MHz)**	**Peak-to-Average Power Ratio (PAPR)**	**Limit (dB)**	**Result**
10MHz	QPSK	134092/707	2.98	13	Pass
	16QAM	134092/707	3.34	13	Pass

LTE Band 85_Middle channel

QPSK



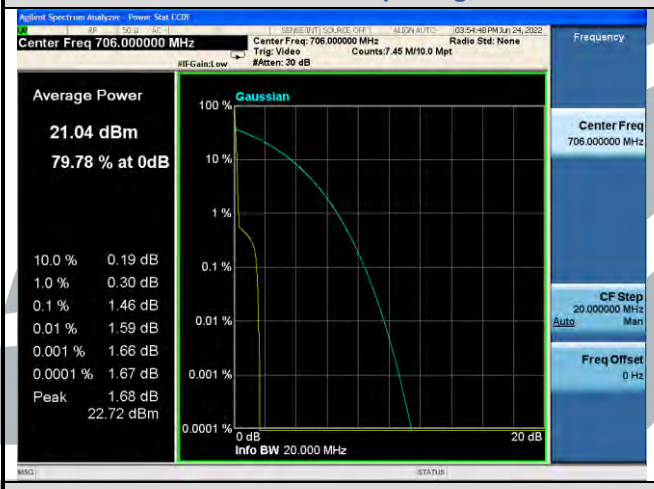
16QAM



LTE Band 12 Peak-to-average ratio (dB)					
Modulation	Sub-carrier spacing (KHz)	Channel/ Frequency(MHz)	PAPR(dB)	Limit (dB)	Result
BPSK	3.75	134082/706.0	1.46	13	Pass
QPSK	3.75	134082/706.0	1.32	13	Pass
BPSK	15	134082/706.0	2.36	13	Pass
QPSK	15	134082/706.0	1.94	13	Pass

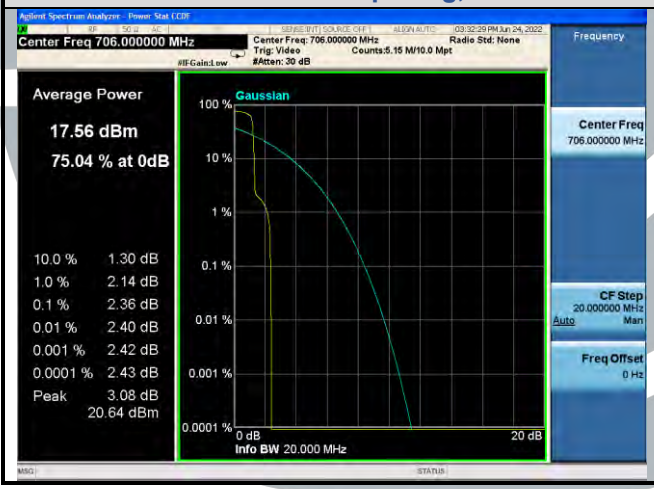
LTE Band 85_Middle channel

3.75KHz Sub-carrier spacing, BPSK



3.75KHz Sub-carrier spacing, QPSK

15KHz Sub-carrier spacing, BPSK



15KHz Sub-carrier spacing, QPSK

5.5 99%&26DB BANDWIDTH

Test Requirement: FCC 47 CFR Part 2.1049(h)
RSS-Gen Issue 5, Section 6.7

Test Method: ANSI C63.26-2015 & KDB 971168 D01v03r01 Section 4

Limit: No Limit, for reporting purposes only.

Test Procedure:

The transmitter output was connected to a calibrated coaxial cable and coupler, the other end of which was connected to a spectrum analyzer. The occupied bandwidth was measured with the spectrum analyzer at the low, middle and high channel in each band. The 99% and -26dB bandwidths was also measured and recorded.

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

Test Setup: Refer to section 4.2.2 for details.

Instruments Used: Refer to section 3 for details

Test Mode: Link mode

Test Results: Pass

Test Data: See table below

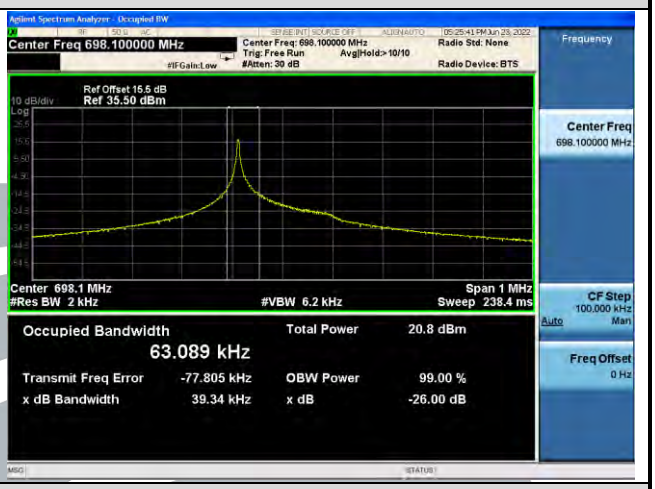
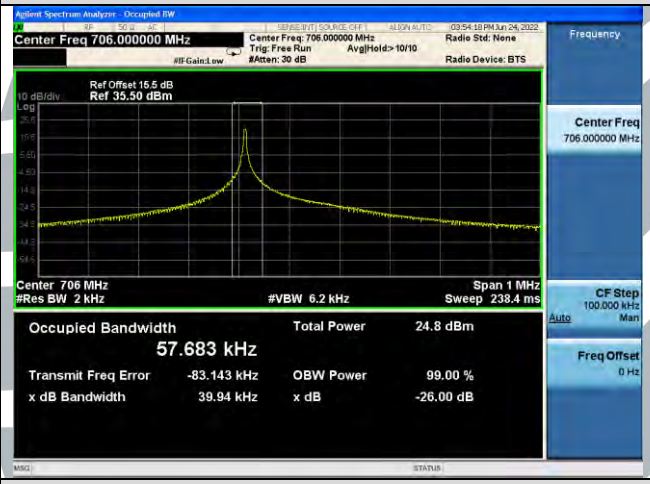
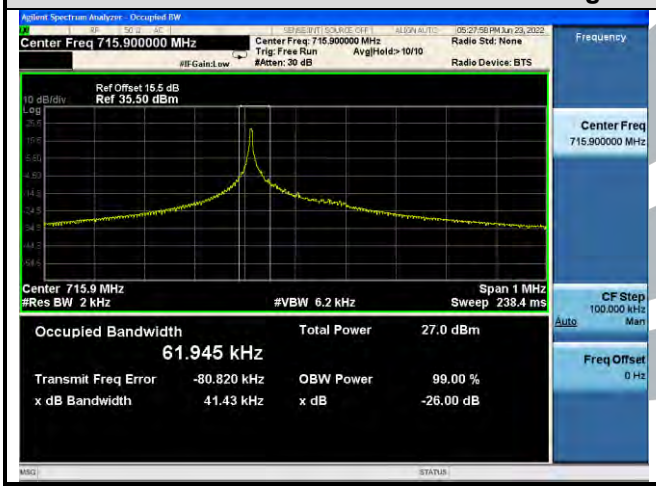
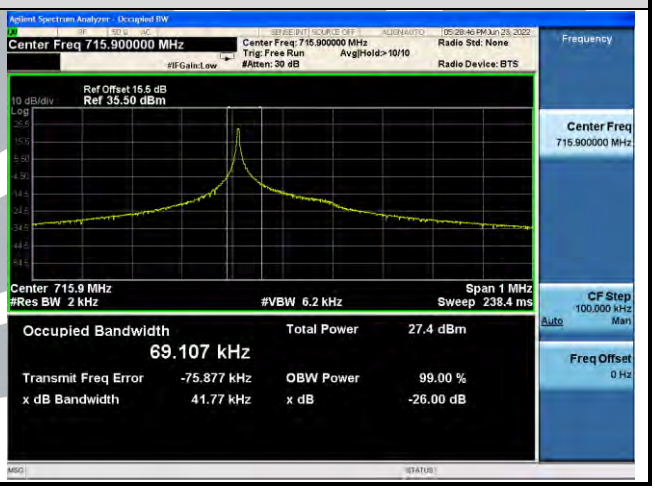
5.5.1 LTE Band 85

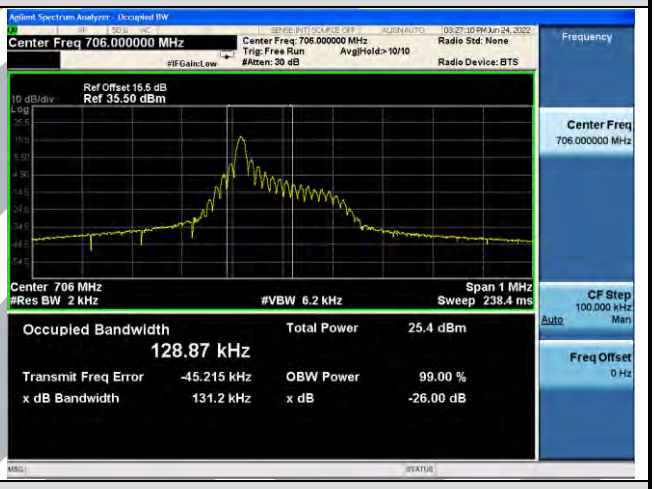
LTE Band 85				
Bandwidth	Modulation	Channel	Bandwidth(MHz)	
			99% Power	-26dBc
5MHz	QPSK	Low	1.1304	1.362
		Mid	1.1326	1.387
		High	1.1169	1.601
	16QAM	Low	0.96942	1.235
		Mid	0.96700	1.474
		High	0.96759	1.339
10MHz	QPSK	Low	1.1371	1.525
		Mid	1.1257	1.363
		High	1.1284	1.363
	16QAM	Low	0.97191	1.625
		Mid	1.0118	1.659
		High	1.0105	1.655

LTE Band 85_ Channel Bandwidth: 5MHz	
QPSK	16QAM
Low	
	
Mid	
	
High	
	

LTE Band 85_ Channel Bandwidth: 10MHz	
QPSK	16QAM
Low	
	
Mid	
	
High	
	

LTE Band 85								
Modulation	Sub-carrier spacing (KHz)	Ntones	Bandwidth(KHz) for low/mid/high channel					
			134003/698.1		134082/706.0		134181/715.9	
			99% (KHz)	-26dBc (KHz)	99% (KHz)	-26dBc (KHz)	99% (KHz)	-26dBc (KHz)
BPSK	3.75	1@0	55.493	38.78	57.683	39.94	61.945	41.43
QPSK	3.75	1@0	63.089	39.34	66.968	43.07	69.107	41.77
BPSK	15	1@0	121.79	104.4	119.57	106.0	121.38	105.6
QPSK	15	1@0	124.73	117.0	128.87	131.2	127.87	130.3
QPSK	15	12@0	188.55	256.5	188.78	261.5	190.55	261.2

LTE Band 85	
3.75KHz Sub-carrier spacing, Ntones1@0_BPSK	3.75KHz Sub-carrier spacing, Ntones1@0_QPSK
Lowest Channel	
	
Middle Channel	
	
Highest Channel	
	

LTE Band 85	
15KHz Sub-carrier spacing, Ntones1@0_QPSK	15KHz Sub-carrier spacing, Ntones12@0_QPSK
Lowest Channel	
	
Middle Channel	
	
Highest Channel	
	

LTE Band 85	
15KHz Sub-carrier spacing, Ntones1@0_BPSK	
Lowest Channel	**Middle Channel**
	
Highest Channel	
	N/A

5.6 BAND EDGE AT ANTENNA TERMINALS

Test Requirement: **LTE Band 85:** FCC 47 CFR Part 27.53(g)
LTE Band 85: RSS-130 Issue 2, Section 4.7

Test Method: ANSI C63.26-2015 & KDB 971168 D01v03r01

Limit:

FCC 47 CFR Part 27.53(g):

For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. 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.

RSS-130 Issue 2, Section 4.7,

General unwanted emissions limits: The unwanted emissions in any 100 kHz bandwidth on any frequency outside the low frequency edge and the high frequency edge of each frequency block range(s), shall be attenuated below the transmitter power, P (dBW), by at least 43 + 10 log10 p (watts), dB. However, in the 100 kHz band immediately outside of the equipment's frequency block range, a resolution bandwidth of 30 kHz may be employed.

Additional unwanted emissions limits:

In addition to the limit outlined in section 4.7.1 above, equipment operating in the frequency bands 746- 756 MHz and 777-787 MHz shall also comply with the following restrictions:

a) The power of any unwanted emissions in any 6.25 kHz bandwidth for all frequencies between 763-775 MHz and 793-806 MHz shall be attenuated below the transmitter power, P (dBW), by at least:
   i. 76 + 10 log10 p (watts), dB, for base and fixed equipment, and
   ii. 65 + 10 log10 p (watts), dB, for mobile and portable equipment.

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

Test Procedure:

The transmitter output was connected to a calibrated coaxial cable and coupler, the other end of which was connected to a spectrum analyzer.

For each band edge measurement:

1) Set the spectrum analyzer span to include the block edge frequency.
2) Set a marker to point the corresponding band edge frequency in each test case.
3) Set display line at -13 dBm
4) Set resolution bandwidth to at least 1% of emission bandwidth.
5) Set spectrum analyzer with RMS detector.
6) Record the max trace plot into the test report

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

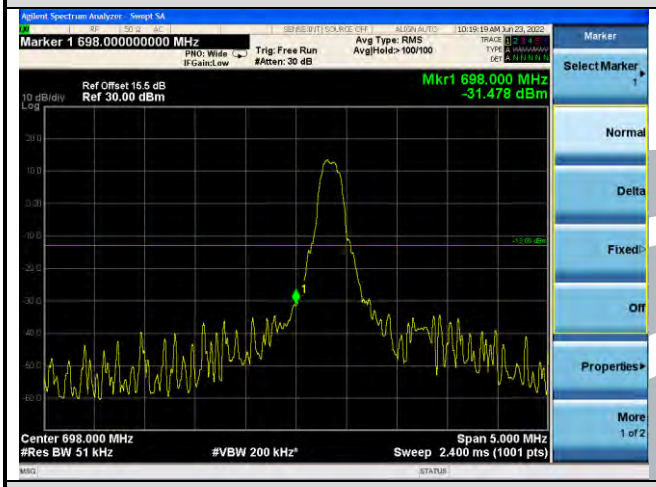
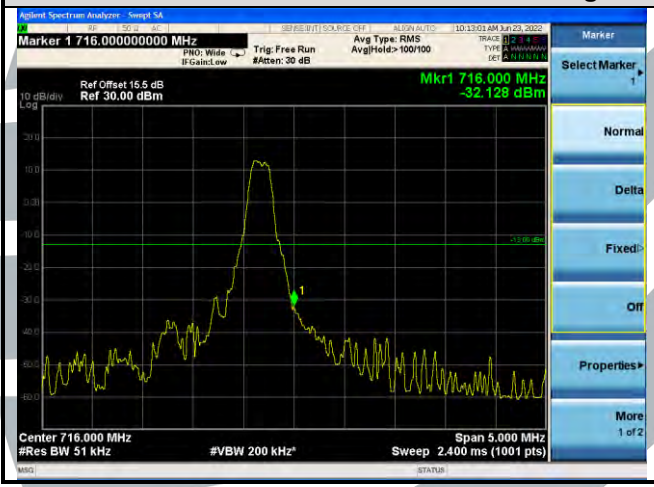
Test Setup: Refer to section 4.2.2 for details.

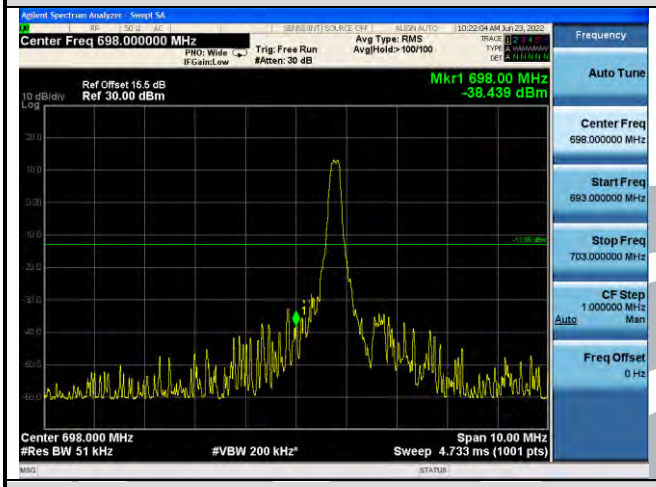
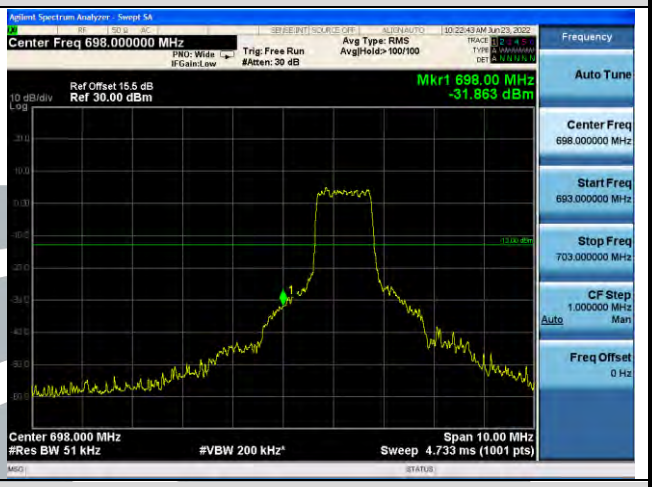
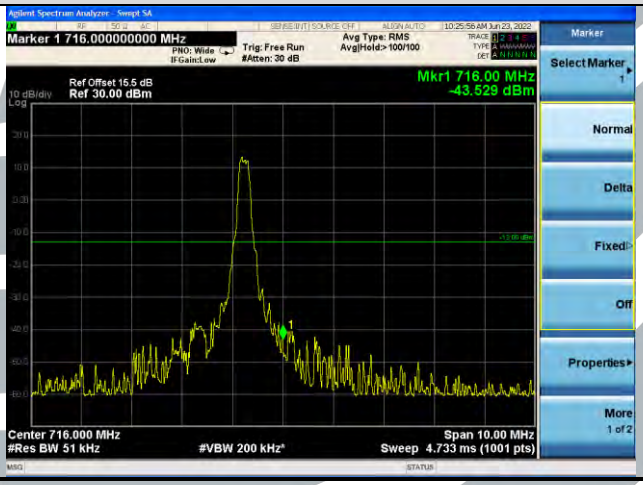
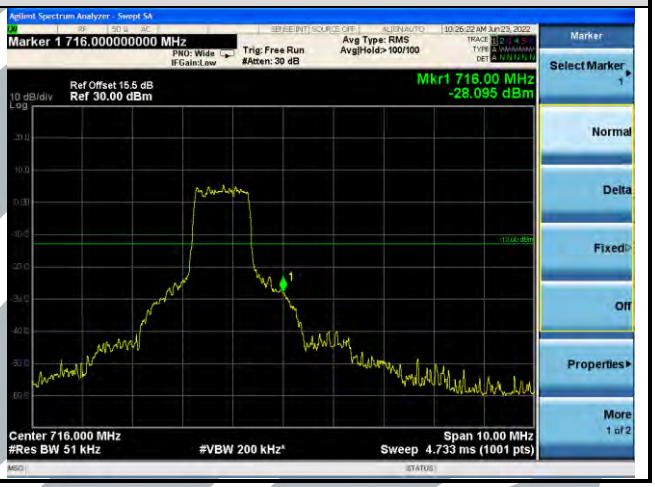
Instruments Used: Refer to section 3 for details

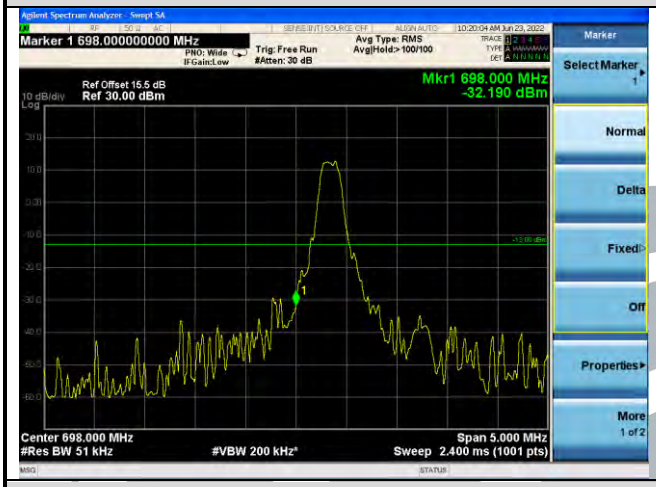
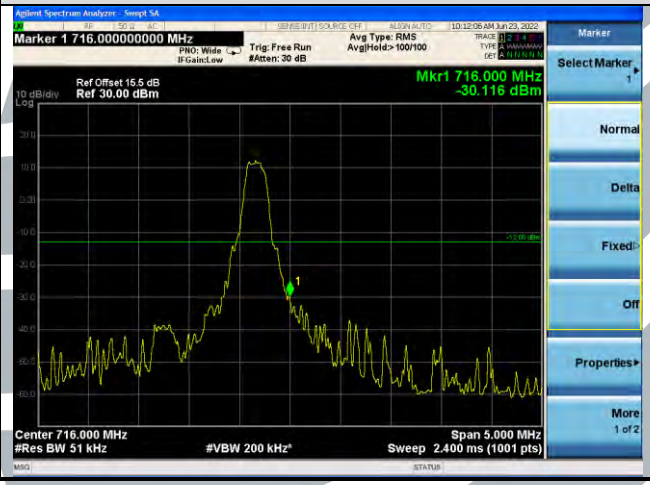
Test Mode: Link mode

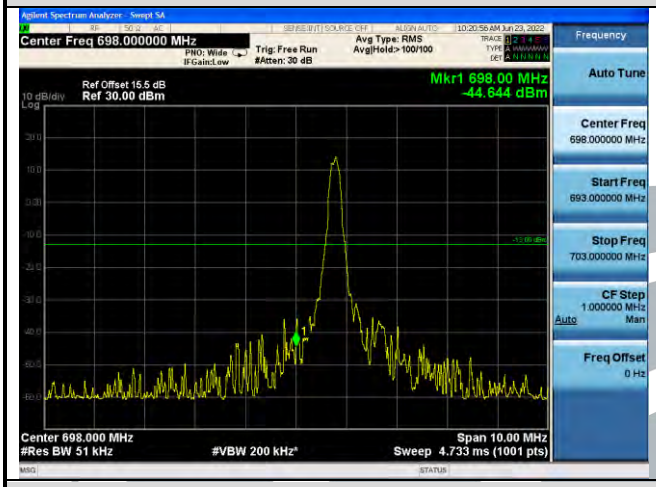
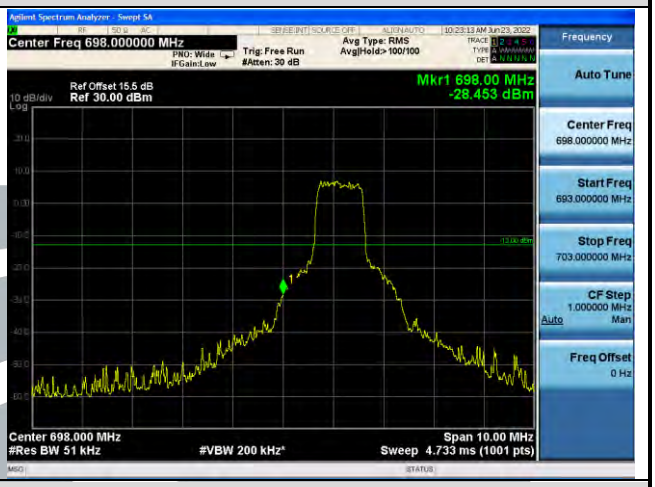
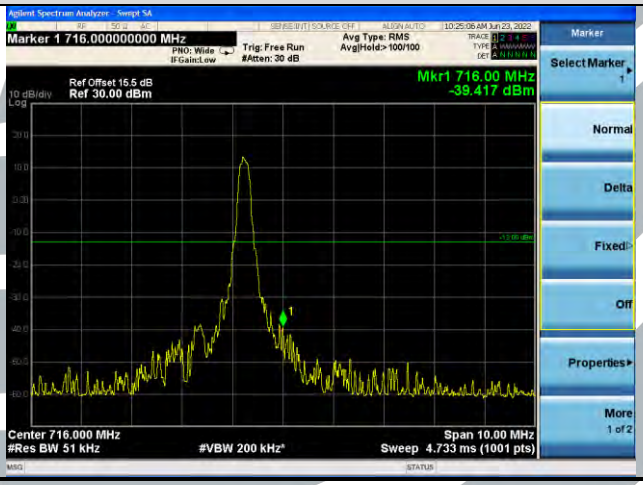
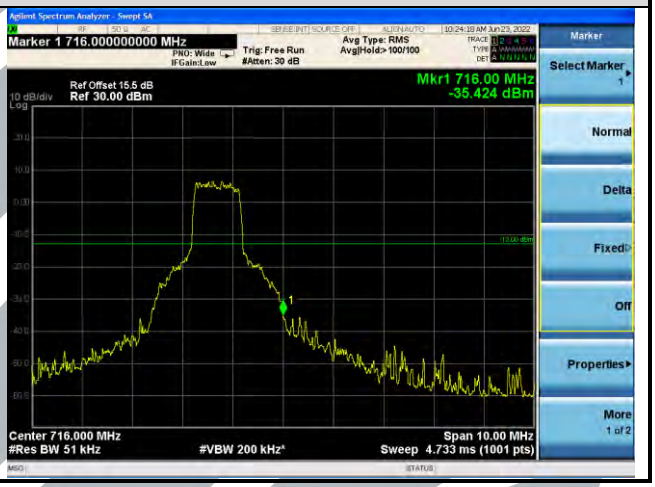
Test Results: Pass

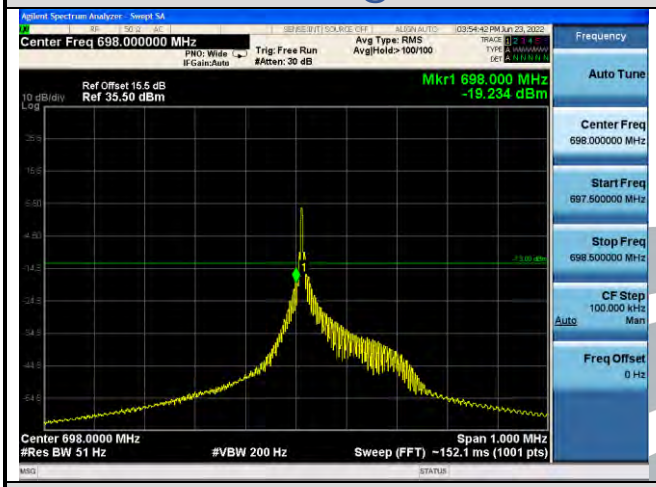
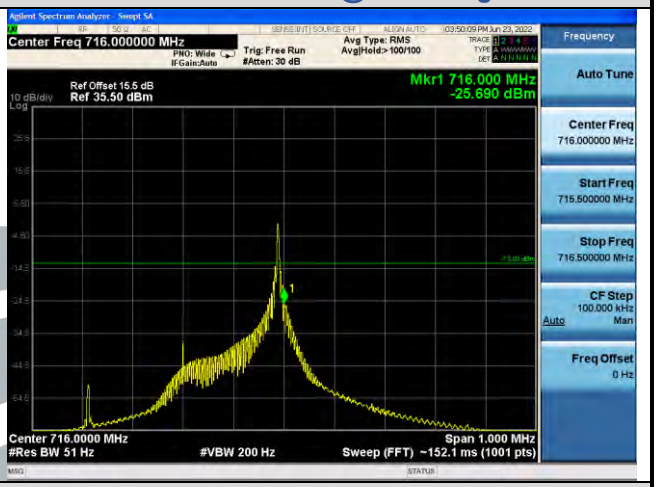
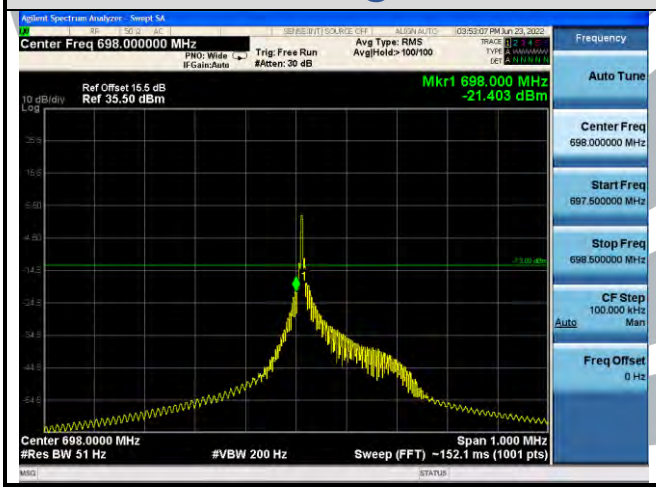
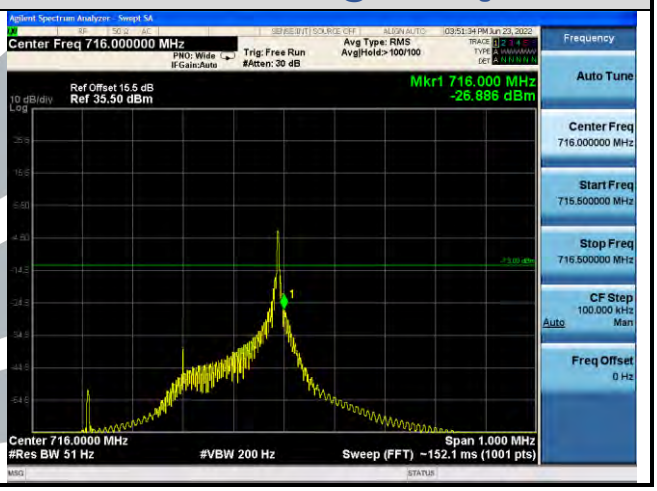
5.6.1 LTE Band 85

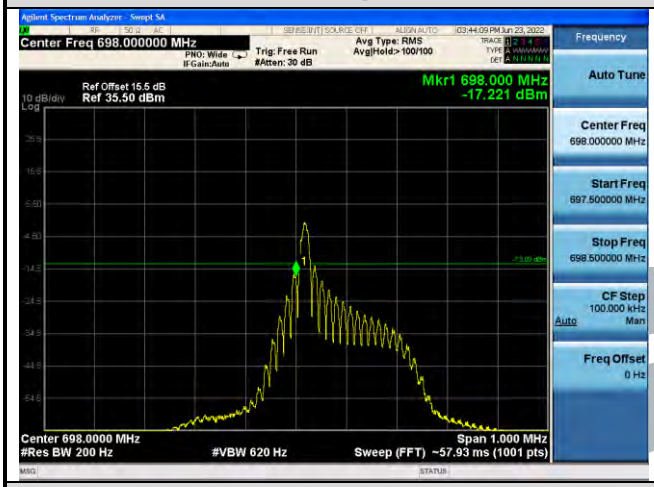
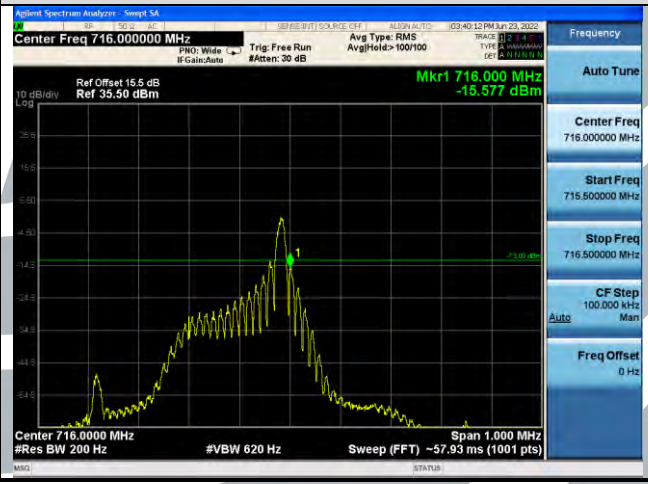
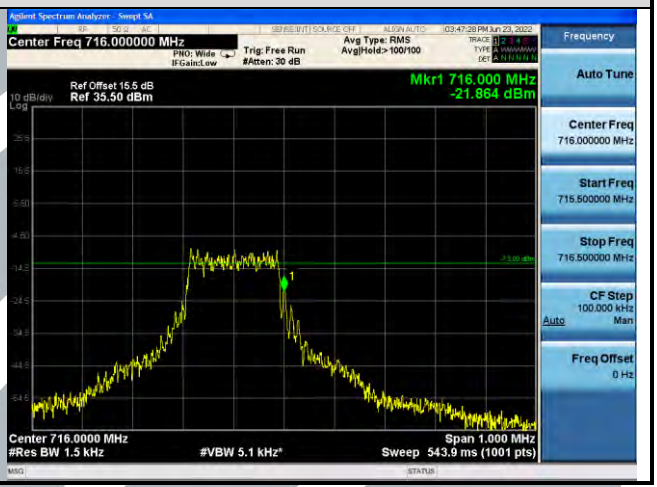
LTE Band 85 / 5 MHz / QPSK	
1 RB	Full RB
Lowest Channel	
	
Highest Channel	
	

LTE Band 85 / 10 MHz / QPSK	
1 RB	Full RB
Lowest Channel	
	
Highest Channel	
	

LTE Band 12 / 5 MHz / 16QAM	
1 RB	Full RB
Lowest Channel	
	
Highest Channel	
	

LTE Band 12 / 10 MHz / 16QAM	
1 RB	Full RB
Lowest Channel	
	
Highest Channel	
	

LTE Band 85	
BPSK 3.75kHz 1@0 CH-Low	BPSK 3.75kHz 1@47 CH-High
	
BPSK 15kHz 1@0 CH-Low	BPSK 15kHz 1@11 CH-High
	
QPSK 3.75kHz 1@0 CH-Low	QPSK 3.75kHz 1@47 CH-High
	

QPSK 15kHz 1@0 CH-Low	QPSK 15kHz 1@11 CH-High
	
QPSK 15kHz 12@0 CH-Low	**QPSK 15kHz 12@0 CH-High**
	

5.7 SPURIOUS EMISSIONS AT ANTENNA TERMINALS

Test Requirement: **LTE Band 85:** FCC 47 CFR Part 27.53(g)
LTE Band 85: RSS-130 Issue 2, Section 4.7

Test Method: ANSI C63.26-2015 & KDB 971168 D01v03r01

Limit:

FCC 47 CFR Part 27.53(g):

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB. The emission limit equal to -13 dBm.

RSS-130 Issue 2, Section 4.7:

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB. The emission limit equal to -13 dBm.

Test Procedure:

The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range. b. Measuring frequency range is from 30 MHz to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower. Set RBW & VBW to 100 kHz for the measurement below 1 GHz, and 1 MHz for the measurement above 1 GHz.

Note: The cable loss and attenuator loss were offset into measure device as an amplitude offset.

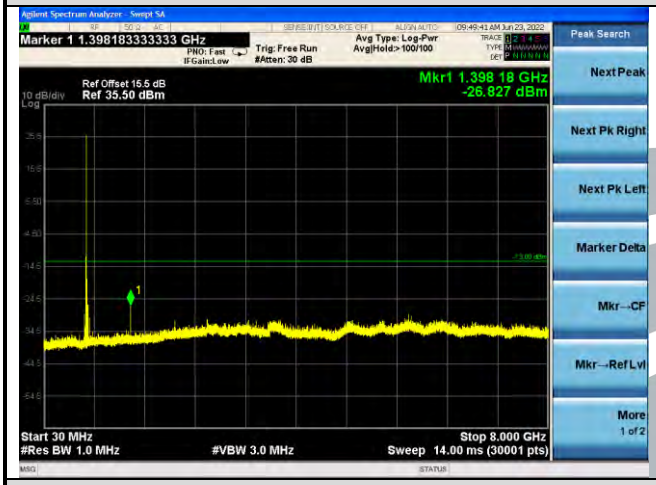
Test Setup: Refer to section 4.2.2 for details.

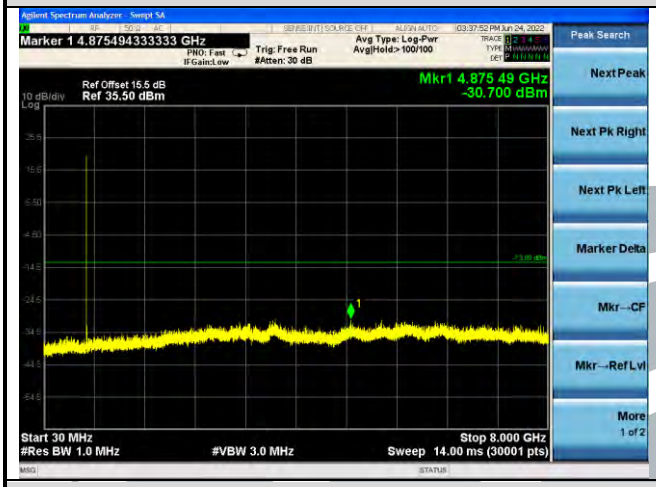
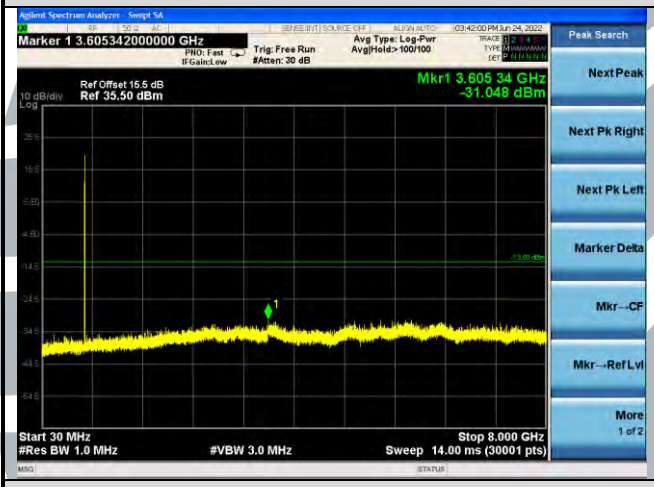
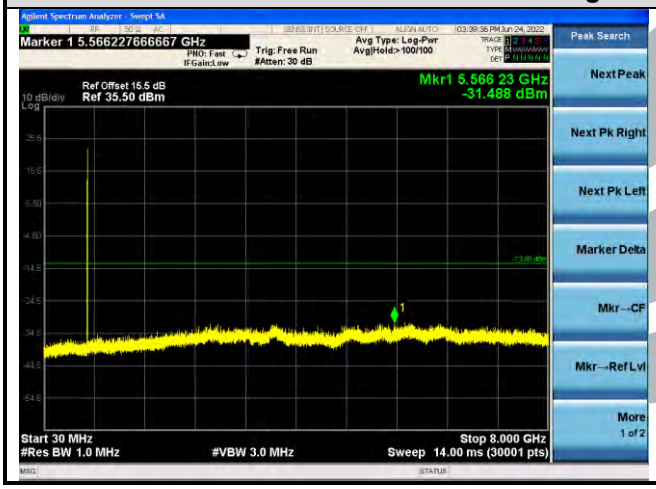
Instruments Used: Refer to section 3 for details

Test Mode: Link mode

Test Results: Pass

5.7.1 LTE Band 85

LTE Band 85_ Channel Bandwidth: 10 MHz	
QPSK	16QAM
Lowest Channel	
	
Middle Channel	
	
Highest Channel	
	

LTE Band 85_ Sub-carrier spacing (15kHz)	
BPSK	QPSK
Lowest Channel	
	
Middle Channel	
	
Highest Channel	
	

5.8 FIELD STRENGTH OF SPURIOUS RADIATION

Test Requirement: **LTE Band 85:** FCC 47 CFR Part 27.53(g)
LTE Band 85: RSS-130 Issue 2, Section 4.7

Test Method: ANSI C63.26-2015 & KDB 971168 D01v03r01

Receiver Setup:

Frequency	Detector	RBW	VBW	Remark
0.009 MHz-30 MHz	Peak	10 kHz	30 KHz	Peak
30 MHz-1 GHz	Quasi-peak	100 kHz	300 KHz	Peak
Above 1 GHz	Peak	1 MHz	3 MHz	Peak

Limits:

FCC 47 CFR Part 27.53(g):
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB. The emission limit equal to -13 dBm.

RSS-130 Issue 2, Section 4.7:
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB. The emission limit equal to -13 dBm.

Test Setup: Refer to section 4.2.1 for details.

Test Procedures: KDB 971168 D01v03r01 Section 7

Equipment Used: Refer to section 3 for details.

Test Result: Pass

The measurement data as follows:

5.8.1 LTE Band 85

CAT-M_LTE Band 85_ QPSK							
No.	Frequency	SA Reading	Correction factor	EIRP Result	Limit	Margin	Ant. Pol.
	(MHz)	(dBm)	(dB/m)	(dBm)	(dBm)	(dB)	
Lowest Channel							
1	542.610	-88.33	37.09	-51.24	-13.00	-38.24	Horizontal
2	713.692	-86.62	40.54	-46.08	-13.00	-33.08	Horizontal
3	952.000	-86.40	42.99	-43.41	-13.00	-30.41	Horizontal
4	1401.000	-65.56	-0.90	-66.46	-13.00	-53.46	Horizontal
5	2101.500	-68.16	2.40	-65.76	-13.00	-52.76	Horizontal
6	550.290	-88.88	37.07	-51.81	-13.00	-38.81	Vertical
7	809.924	-88.03	41.38	-46.65	-13.00	-33.65	Vertical
8	906.304	-86.96	42.80	-44.16	-13.00	-31.16	Vertical
9	1401.000	-67.32	-0.90	-68.22	-13.00	-55.22	Vertical
10	2101.500	-66.51	2.40	-64.11	-13.00	-51.11	Vertical
Middle Channel							
1	516.565	-89.33	36.45	-52.88	-13.00	-39.88	Horizontal
2	554.171	-89.27	37.23	-52.04	-13.00	-39.04	Horizontal
3	919.132	-87.75	42.85	-44.90	-13.00	-31.90	Horizontal
4	1414.000	-65.26	-0.85	-66.11	-13.00	-53.11	Horizontal
5	2121.000	-67.00	2.45	-64.55	-13.00	-51.55	Horizontal
6	458.399	-88.71	34.92	-53.79	-13.00	-40.79	Vertical
7	554.171	-89.29	37.23	-52.06	-13.00	-39.06	Vertical
8	887.398	-87.09	42.64	-44.45	-13.00	-31.45	Vertical
9	1414.000	-66.35	-0.85	-67.20	-13.00	-54.20	Vertical
10	2121.000	-66.46	2.45	-64.01	-13.00	-51.01	Vertical
Highest Channel							
1	569.969	-88.79	37.30	-51.49	-13.00	-38.49	Horizontal
2	665.261	-88.42	39.81	-48.61	-13.00	-35.61	Horizontal
3	965.474	-86.23	43.05	-43.18	-13.00	-30.18	Horizontal
4	1427.000	-66.54	-0.82	-67.36	-13.00	-54.36	Horizontal
5	2140.500	-66.78	2.48	-64.30	-13.00	-51.30	Horizontal
6	590.351	-89.01	37.95	-51.06	-13.00	-38.06	Vertical
7	651.383	-89.07	39.37	-49.70	-13.00	-36.70	Vertical
8	952.000	-87.10	42.99	-44.11	-13.00	-31.11	Vertical
9	1427.000	-64.65	-0.82	-65.47	-13.00	-52.47	Vertical
10	2140.500	-66.34	2.48	-63.86	-13.00	-50.86	Vertical

NB-IOT_LTE Band 85_ QPSK							
No.	Frequency (MHz)	SA Reading (dBm)	Correction factor (dB/m)	EIRP Result (dBm)	Limit (dBm)	Margin (dB)	Ant. Pol.
Lowest Channel							
1	646.822	-89.02	39.37	-49.65	-13.00	-36.65	Horizontal
2	815.635	-87.93	41.30	-46.63	-13.00	-33.63	Horizontal
3	906.304	-87.88	42.80	-45.08	-13.00	-32.08	Horizontal
4	1396.200	-64.66	-0.91	-65.57	-13.00	-52.57	Horizontal
5	2094.300	-66.23	2.38	-63.85	-13.00	-50.85	Horizontal
6	509.356	-89.17	36.46	-52.71	-13.00	-39.71	Vertical
7	833.013	-87.96	41.63	-46.33	-13.00	-33.33	Vertical
8	919.132	-87.05	42.85	-44.20	-13.00	-31.20	Vertical
9	1396.200	-65.19	-0.91	-66.10	-13.00	-53.10	Vertical
10	2094.300	-67.04	2.38	-64.66	-13.00	-51.66	Vertical
Middle Channel							
1	562.014	-89.25	37.20	-52.05	-13.00	-39.05	Horizontal
2	809.924	-88.15	41.38	-46.77	-13.00	-33.77	Horizontal
3	965.474	-86.85	43.05	-43.80	-13.00	-30.80	Horizontal
4	1412.000	-65.16	-0.86	-66.02	-13.00	-53.02	Horizontal
5	2118.000	-65.54	2.44	-63.10	-13.00	-50.10	Horizontal
6	516.565	-89.26	36.45	-52.81	-13.00	-39.81	Vertical
7	809.924	-87.89	41.38	-46.51	-13.00	-33.51	Vertical
8	945.334	-87.56	42.96	-44.60	-13.00	-31.60	Vertical
9	1412.000	-65.16	-0.86	-66.02	-13.00	-53.02	Vertical
10	2118.000	-65.16	2.44	-62.72	-13.00	-49.72	Vertical
Highest Channel							
1	366.087	-88.26	32.90	-55.36	-13.00	-42.36	Horizontal
2	734.037	-87.32	40.67	-46.65	-13.00	-33.65	Horizontal
3	965.474	-87.62	43.05	-44.57	-13.00	-31.57	Horizontal
4	1431.800	-65.63	-0.80	-66.43	-13.00	-53.43	Horizontal
5	2147.700	-68.35	2.49	-65.86	-13.00	-52.86	Horizontal
6	535.038	-89.36	37.02	-52.34	-13.00	-39.34	Vertical
7	646.822	-88.73	39.37	-49.36	-13.00	-36.36	Vertical
8	912.695	-87.40	42.82	-44.58	-13.00	-31.58	Vertical
9	1431.800	-66.65	-0.80	-67.45	-13.00	-54.45	Vertical
10	2147.700	-66.50	2.49	-64.01	-13.00	-51.01	Vertical

5.9 FREQUENCY STABILITY

Test Requirement:	FCC 47 CFR Part 2.1055 & **LTE Band 85:** FCC 47 CFR Part 27.54, RSS-130 Issue 2, Section 4.5
Test Method:	ANSI C63.26-2015 & KDB 971168 D01v03r01

Limits:

FCC 47 CFR Part 27.54

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

RSS-130 Issue 2, Section 4.5:

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

Test Setup: Refer to section 4.2.2 for details.

Test Procedures:

1) Use CMW 500 or CMU 200 with Frequency Error measurement capability.
   a) Temp. = −30° to + 50°C
   b) Voltage =low voltage, 2.8 Vdc, Normal, 3.8 Vdc and High voltage, 4.6 Vdc.
2) Frequency Stability vs Temperature:

The EUT is place inside a temperature chamber. The temperature is set to 20ºC and allowed to stabilize. After sufficient soak time, the transmitting frequency error is measured. The temperature is increased by 10 degrees, allowed to stabilize and soak, and then the measurement is repeated. This is repeated until +50ºC is reached.

3) Frequency Stability vs Voltage:

The peak frequency error is recorded (worst-case).

Equipment Used: Refer to section 3 for details.

Test Result: Pass

5.9.1 LTE Band 85

Modulation	Channel/ Frequency (MHz)	Voltage (Vdc)	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Result
LTE Band 85 / 10MHz_CAT-M							
QPSK	134092 / 707	VL	TN	3.36	0.0047	N/A	Pass
		VN		3.94	0.0056		Pass
		VH		6.11	0.0086		Pass
		VN	50	6.94	0.0098		Pass
			40	5.78	0.0082		Pass
			30	5.88	0.0083		Pass
			20	4.32	0.0061		Pass
			10	3.94	0.0056		Pass
			0	4.11	0.0058		Pass
			-10	3.94	0.0056		Pass
			-20	6.94	0.0098		Pass
			-30	4.79	0.0068		Pass

Modulation	Channel/ Frequency (MHz)	Voltage (Vdc)	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Result
LTE Band 85_NB-IoT							
QPSK	134082 / 706.0	VL	TN	5.39	0.0076	N/A	Pass
		VN		4.31	0.0061		Pass
		VH		6.23	0.0088		Pass
		VN	50	5.46	0.0077		Pass
			40	4.56	0.0064		Pass
			30	4.63	0.0065		Pass
			20	5.56	0.0079		Pass
			10	6.23	0.0088		Pass
			0	5.47	0.0077		Pass
			-10	6.46	0.0091		Pass
			-20	7.58	0.0107		Pass
			-30	6.24	0.0088		Pass

APPENDIX 1 PHOTOS OF TEST SETUP

See test photos attached in Appendix 1 for the actual connections between Product and support equipment.

APPENDIX 2 PHOTOS OF EUT CONSTRUCTIONAL DETAILS

Refer to Appendix 2 for EUT external and internal photos.

*** End of Report ***
