

FCC Radio Test Report

FCC ID: N7NRC76C

Report No. : BTL-FCCP-3-2203T030
Equipment : Module
Model Name : RC7612, RC7612-1
Brand Name : AirPrime
Applicant : Sierra Wireless, Inc.
Address : 13811 Wireless Way, Richmond, BC V6V 3A4, Canada
Manufacturer : Sierra Wireless, Inc.
Address : 13811 Wireless Way, Richmond, BC V6V 3A4, Canada

Radio Function : WCDMA Band IV, LTE Band 4, 12, 13

FCC Rule Part(s) : FCC CFR Title 47, Part 27, Subpart F
FCC CFR Title 47, Part 27, Subpart H
FCC CFR Title 47, Part 27, Subpart L
FCC CFR Title 47, Part 27, Subpart N

Measurement Procedure(s) : ANSI C63.26-2015
ANSI/TIA-603-E-2016
FCC KDB 971168 D01 Power Meas License Digital Systems v03r01

Date of Receipt : 2022/3/4
Date of Test : 2022/3/4 ~ 2022/4/26
Issued Date : 2022/6/21

The above equipment has been tested and found in compliance with the requirement of the above standards by BTL Inc.

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Declaration

BTL represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

BTL's reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. **BTL** shall have no liability for any declarations, inferences or generalizations drawn by the client or others from **BTL** issued reports.

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BTL's laboratory quality assurance procedures are in compliance with the **ISO/IEC 17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

BTL is not responsible for the sampling stage, so the results only apply to the sample as received.

The information, data and test plan are provided by manufacturer which may affect the validity of results, so it is manufacturer's responsibility to ensure that the apparatus meets the essential requirements of applied standards and in all the possible configurations as representative of its intended use.

Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

Please note that the measurement uncertainty is provided for informational purpose only and are not use in determining the Pass/Fail results.

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REVISION HISTORY

Report No.	Version	Description	Issued Date	Note
BTL-FCCP-3-2203T030	R00	Original Report.	2022/6/21	Valid

1 SUMMARY OF TEST RESULTS

Test procedures according to the technical standards.

FCC Clause No	Description	Test Result	Judgement	Remark
15.207	AC Power Line Conducted Emissions	-----	N/A	NOTE (3)
2.1046 27.50(d)(4) 27.50(c)(10)	Conducted Output Power Effective Radiated Power Equivalent Isotropic Radiated Power	APPENDIX A	Pass	-----
2.1049	Occupied Bandwidth	APPENDIX B	Pass	-----
2.1051 27.53(h) 27.53(g) 27.53(c)(2)	Conducted Spurious Emissions	APPENDIX C	Pass	-----
2.1053 27.53(h) 27.53(g) 27.53(c)(2)(4)	Radiated Spurious Emissions	APPENDIX D	Pass	-----
2.1051 27.53(h) 27.53(g) 27.53(c)(2)(4)	Band Edge Measurements	APPENDIX E	Pass	-----
-	Peak To Average Ratio	APPENDIX F	Pass	Record Only
2.1055 27.54	Frequency Stability	APPENDIX G	Pass	-----

NOTE:

- (1) "N/A" denotes test is not applicable in this Test Report.
- (2) The report format version is TP.1.1.1.
- (3) This is a DC input device.

1.1 TEST FACILITY

The test facilities used to collect the test data in this report:

No. 68-1, Ln. 169, Sec. 2, Datong Rd., Xizhi Dist., New Taipei City 221, Taiwan

The test sites and facilities are covered under FCC RN: 674415 and DN: TW0659.

☐ C05 ☐ CB08 ☐ CB11 ☒ CB15 ☐ CB16
☒ SR05

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k = 2$, providing a level of confidence of approximately **95 %**.

The measurement instrumentation uncertainty considerations contained in CISPR 16-4-2. The BTL measurement uncertainty is less than the CISPR 16-4-2 U_{CISPR} requirement.

A. Radiated Spurious Emissions test :

Test Site	Measurement Frequency Range	U_{dB}
CB15	0.03 GHz ~ 0.2 GHz	4.17
	0.2 GHz ~ 1 GHz	4.72
	1 GHz ~ 6 GHz	5.21
	6 GHz ~ 18 GHz	5.51
	18 GHz ~ 26 GHz	3.69
	26 GHz ~ 40 GHz	4.23

NOTE:

Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

1.3 TEST ENVIRONMENT CONDITIONS

Test Item	Environment Condition	Test Voltage	Tested by
Conducted Output Power	24.6 °C, 67 %	DC 3.7V	Paul Shen Ronald Kao
Occupied Bandwidth	24.6 °C, 67 %	DC 3.7V	Paul Shen Ronald Kao
Conducted Spurious Emissions	24.6 °C, 67 %	DC 3.7V	Paul Shen Ronald Kao
Radiated Spurious Emissions · Effective Isotropic Radiated Power and Effective Radiated Power	Refer to data	DC 3.7V	Vincent Lee
Band Edge	24.6 °C, 67 %	DC 3.7V	Paul Shen Ronald Kao
Peak to Average Ratio	24.6 °C, 67 %	DC 3.7V	Paul Shen Ronald Kao
Frequency Stability	Normal and Extreme		Paul Shen Ronald Kao

2 GENERAL INFORMATION

2.1 DESCRIPTION OF EUT

Equipment	Module		
Model Name	RC7612, RC7612-1		
Brand Name	AirPrime		
Model Difference	The hardware of the two models is the same, only the software is different. RC7612 is LTE Category 4 RC7612-1 is LTE Category 1		
Power Source	DC Voltage supplied from host equipment.		
Power Rating	DC 3.7V		
Products Covered	N/A		
IEMI No.	WCDMA Control Call Setup Screen Call Params Digital Audio Interface IMEI: 0000000000000000 IMSI: 0000000000000000 Called Num: 0000000000000000 Last LAC: 00000000 Last DMC: 00000000 Rstot Class GPRS: 00000000 Rstot Class EGPRS: 00000000 DTH Class GPRS: 00000000 DTH Class EGPRS: 00000000 Burst: 1 2 3 4 5 6 Adj/One dBm: 00000000 00000000 00000000 00000000 00000000 00000000 Error Reports Normal: 0000 T Access: 0000 T BLER (Block Error Rate): 0000 2 over 0000 blocks USF BLER (Assigned): 0000 2 over 0000 blocks USF BLER (Unassigned): 0000 2 over 0000 blocks Active Cell Idle 3 of 3 Sys Type: GPRS Inther/Offset Call Params BCH Parameters TCH Parameters PDCH Parameters Handover Parameters Receiver Control		LTE 2022/03/11 14:06 Connected Phone-2 Phone-1 LTE LTE Parameter Functional UE Report IMEI IMEI UE Category PCN Type PCN RSRP RSRQ SINR-1 RSRP RSRQ SINR-2 RSRP RSRQ Neighbour Cell LTE Cell ID RSRP RSRQ M-CDMA/TD-SCDMA PW Cell ID RSRP RSRQ Band WCDMA RSRP RSRQ RSRP RSR

Maximum ERP	LTE 12	1.4	QPSK	0.126
			16QAM	0.104
		3	QPSK	0.127
			16QAM	0.105
		5	QPSK	0.129
			16QAM	0.107
		10	QPSK	0.130
			16QAM	0.108
	LTE 13	5	QPSK	0.126
			16QAM	0.105
10		QPSK	0.127	
		16QAM	0.105	
Test Model	RC7612			
Sample Status	Engineering Sample			
EUT Modification(s)	N/A			

NOTE:

(1) For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

(2) Channel List:

WCDMA Band IV				
Test Frequency ID	UARFCN	Frequency of Uplink (MHz)	UARFCN	Frequency of Downlink (MHz)
Low Range	1312	1712.4	1537	2112.4
Mid Range	1413	1732.6	1638	2132.6
High Range	1513	1752.6	1738	2152.6

LTE Band 4					
Test Frequency ID	Bandwidth (MHz)	N _{UL}	Frequency of Uplink (MHz)	N _{DL}	Frequency of Downlink (MHz)
Low Range	1.4	19957	1710.7	1957	2110.7
	3	19965	1711.5	1965	2111.5
	5	19975	1712.5	1975	2112.5
	10	20000	1715	2000	2115
	15	20025	1717.5	2025	2117.5
	20	20050	1720	2050	2120
Mid Range	1.4/3/5/10/15/20	20175	1732.5	2175	2132.5
High Range	1.4	20393	1754.3	2393	2154.3
	3	20385	1753.5	2385	2153.5
	5	20375	1752.5	2375	2152.5
	10	20350	1750	2350	2150
	15	20325	1747.5	2325	2147.5
	20	20300	1745	2300	2145

LTE Band 12					
Test Frequency ID	Bandwidth (MHz)	N _{UL}	Frequency of Uplink (MHz)	N _{DL}	Frequency of Downlink (MHz)
Low Range	1.4	23017	699.7	5017	729.7
	3	23025	700.5	5025	730.5
	5	23035	701.5	5035	731.5
	10	23060	704	5060	734
Mid Range	1.4/3/5/10	23095	707.5	5095	737.5
High Range	1.4	23173	715.3	5173	745.3
	3	23165	714.5	5165	744.5
	5	23155	713.5	5155	743.5
	10	23130	711	5130	741

LTE Band 13					
Test Frequency ID	Bandwidth (MHz)	N _{UL}	Frequency of Uplink (MHz)	N _{DL}	Frequency of Downlink (MHz)
Low Range	5	23205	779.5	5205	748.5
Mid Range	5/10	23230	782.0	5230	751
High Range	5	23255	784.5	5255	753.5

(3) Table for Filed Antenna:

Antenna	Manufacture	Part Number	Type	Connector	Gain (dBi)	Note
1		SPDA24617/3900	Dipole	SMA-M	2.5	WCDMA Band IV
					2.5	LTE Band 4
					1	LTE Band 12
					1	LTE Band 13

2.2 TEST MODES

WCDMA BAND IV MODE			
Test Item	Available Channel	Tested Channel	Mode
Conducted Output Power & Equivalent Isotropic Radiated Power	1312 to 1513	1312, 1413, 1513	WCDMA, HSDPA, HSUPA, HSPA+
Occupied Bandwidth	1312 to 1513	1312, 1413, 1513	WCDMA
Conducted Spurious Emissions	1312 to 1513	1413	WCDMA
Radiated Spurious Emissions	1312 to 1513	1413	WCDMA
Band Edge	1312 to 1513	1312, 1513	WCDMA
Peak To Average Ratio	1312 to 1513	1312, 1413, 1513	WCDMA
Frequency Stability	1312 to 1513	1312, 1513	WCDMA

LTE BAND 4 MODE					
Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
Conducted Output Power	19957 to 20393	19957, 20175, 20393	1.4MHz	QPSK, 16QAM	1RB/3RB/6RB
	19965 to 20385	19965, 20175, 20385	3MHz	QPSK, 16QAM	1RB/8RB/15RB
	19975 to 20375	19975, 20175, 20375	5MHz	QPSK, 16QAM	1RB/12RB/25RB
	20000 to 20350	20000, 20175, 20350	10MHz	QPSK, 16QAM	1RB/25RB/50RB
	20025 to 20325	20025, 20175, 20325	15MHz	QPSK, 16QAM	1RB/36RB/75RB
	20050 to 20300	20050, 20175, 20300	20MHz	QPSK, 16QAM	1RB/50RB/100RB
Equivalent Isotropic Radiated Power	20050 to 20300	20050, 20175, 20300	20MHz	QPSK	1RB/50RB/100RB
Occupied Bandwidth	19957 to 20393	19957, 20175, 20393	1.4MHz	QPSK, 16QAM	6RB
	19965 to 20385	19965, 20175, 20385	3MHz	QPSK, 16QAM	15RB
	19975 to 20375	19975, 20175, 20375	5MHz	QPSK, 16QAM	25RB
	20000 to 20350	20000, 20175, 20350	10MHz	QPSK, 16QAM	50RB
	20025 to 20325	20025, 20175, 20325	15MHz	QPSK, 16QAM	75 RB
	20050 to 20300	20050, 20175, 20300	20MHz	QPSK, 16QAM	100RB
Conducted Spurious Emissions	19957 to 20393	20175	1.4MHz	QPSK	1RB
	19965 to 20385	20175	3MHz	QPSK	1RB
	19975 to 20375	20175	5MHz	QPSK	1RB
	20000 to 20350	20175	10MHz	QPSK	1RB
	20025 to 20325	20175	15MHz	QPSK	1RB
	20050 to 20300	20175	20MHz	QPSK	1RB
Radiated Spurious Emissions	20050 to 20300	20175	20MHz	QPSK	1RB
Band Edge	19957 to 20393	19957, 20393	1.4MHz	QPSK	1RB/6RB
	19965 to 20385	19965, 20385	3MHz	QPSK	1RB/15RB
	19975 to 20375	19975, 20375	5MHz	QPSK	1RB/25RB
	20000 to 20350	20000, 20350	10MHz	QPSK	1RB/50RB
	20025 to 20325	20025, 20325	15MHz	QPSK	1RB/75RB

	20050 to 20300	20050, 20300	20MHz	QPSK	1RB/100RB
Peak To Average Ratio	19957 to 20393	19957, 20175, 20393	1.4MHz	QPSK, 16QAM	1RB
	19965 to 20385	19965, 20175, 20385	3MHz	QPSK, 16QAM	1RB
	19975 to 20375	19975, 20175, 20375	5MHz	QPSK, 16QAM	1RB
	20000 to 20350	20000, 20175, 20350	10MHz	QPSK, 16QAM	1RB
	20025 to 20325	20025, 20175, 20325	15MHz	QPSK, 16QAM	1RB
	20050 to 20300	20050, 20175, 20300	20MHz	QPSK, 16QAM	1RB
Frequency Stability	19957 to 20393	20175	1.4MHz	QPSK	1RB
	19965 to 20385	20175	3MHz	QPSK	1RB
	19975 to 20375	20175	5MHz	QPSK	1RB
	20000 to 20350	20175	10MHz	QPSK	1RB
	20025 to 20325	20175	15MHz	QPSK	1RB
	20050 to 20300	20175	20MHz	QPSK	1RB

LTE BAND 12 MODE					
Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
Conducted Output Power	23017 to 23173	23017, 23095, 23173	1.4MHz	QPSK, 16QAM	1RB/3RB/6RB
	23025 to 23165	23025, 23095, 23165	3MHz	QPSK, 16QAM	1RB/8RB/15RB
	23035 to 23155	23035, 23095, 23155	5MHz	QPSK, 16QAM	1RB/12RB/25RB
	23060 to 23130	23060, 23095, 23130	10MHz	QPSK, 16QAM	1RB/25RB/50RB
Effective Radiated Power	23060 to 23130	23060, 23095, 23130	10MHz	QPSK	1RB/25RB/50RB
Occupied Bandwidth	23017 to 23173	23017, 23095, 23173	1.4MHz	QPSK, 16QAM	6RB
	23025 to 23165	23025, 23095, 23165	3MHz	QPSK, 16QAM	15RB
	23035 to 23155	23035, 23095, 23155	5MHz	QPSK, 16QAM	25RB
	23060 to 23130	23060, 23095, 23130	10MHz	QPSK, 16QAM	50RB
Conducted Spurious Emissions	23017 to 23173	23095	1.4MHz	QPSK	1RB
	23025 to 23165	23095	3MHz	QPSK	1RB
	23035 to 23155	23095	5MHz	QPSK	1RB
	23060 to 23130	23095	10MHz	QPSK	1RB
Radiated Spurious Emissions	23060 to 23130	23095	10MHz	QPSK	1RB
Band Edge	23017 to 23173	23017, 23173	1.4MHz	QPSK, 16QAM	1RB/6RB
	23025 to 23165	23025, 23165	3MHz	QPSK, 16QAM	1RB/15RB
	23035 to 23155	23035, 23155	5MHz	QPSK, 16QAM	1RB/25RB
	23060 to 23130	23060, 23130	10MHz	QPSK, 16QAM	1RB/50RB
Peak To Average Ratio	23017 to 23173	23017, 23095, 23173	1.4MHz	QPSK, 16QAM	1RB/3RB/6RB
	23025 to 23165	23025, 23095, 23165	3MHz	QPSK, 16QAM	1RB/8RB/15RB
	23035 to 23155	23035, 23095, 23155	5MHz	QPSK, 16QAM	1RB/12RB/25RB
	23060 to 23130	23060, 23095, 23130	10MHz	QPSK, 16QAM	1RB/25RB/50RB
Frequency Stability	23017 to 23173	23095	1.4MHz	QPSK	1RB
	23025 to 23165	23095	3MHz	QPSK	1RB
	23035 to 23155	23095	5MHz	QPSK	1RB
	23060 to 23130	23095	10MHz	QPSK	1RB

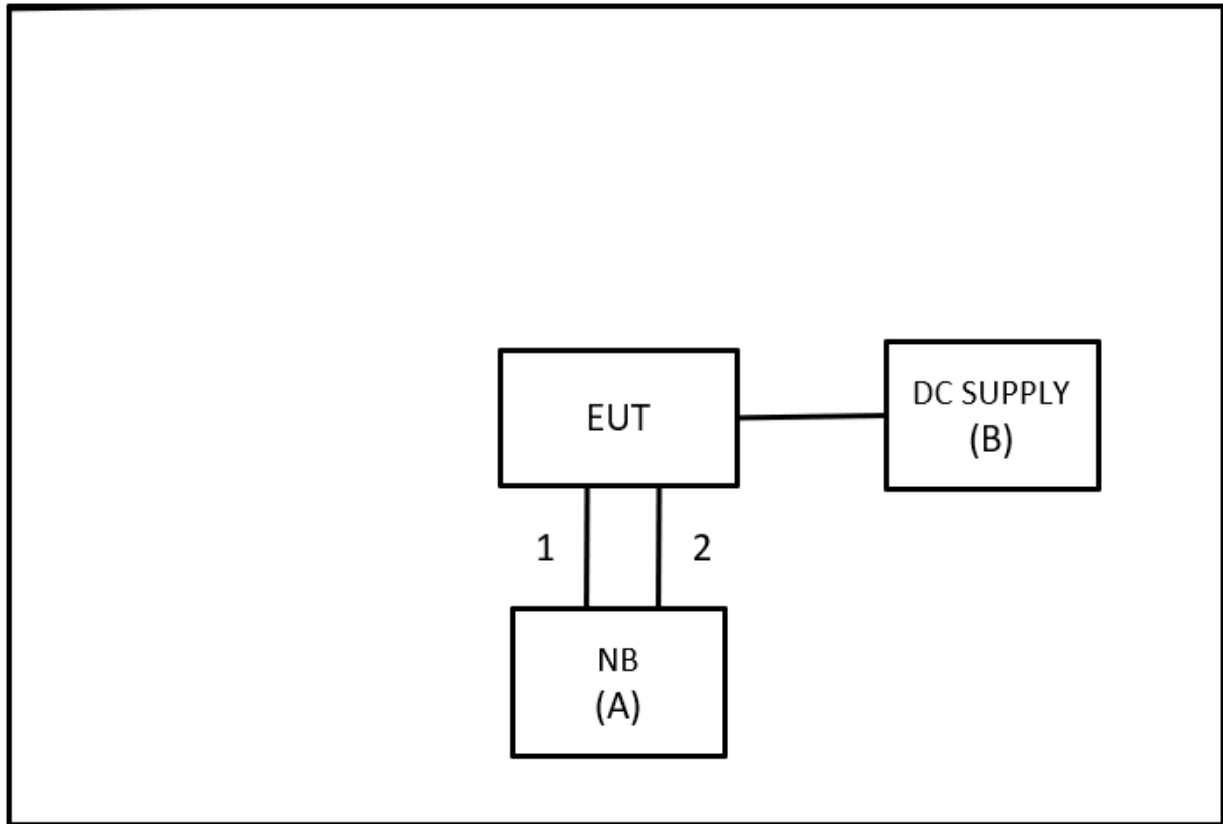
LTE BAND 13 MODE					
Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
Conducted Output Power	23205 to 23255	23205, 23230, 23255	5MHz	QPSK, 16QAM, 64QAM	1RB/12RB/25RB
Effective Radiated Power	23230	23230	10MHz	QPSK, 16QAM, 64QAM	1RB/25RB/50RB
Frequency Stability	23205 to 23255	23205, 23255	10MHz	QPSK	1 RB
Occupied Bandwidth	23205 to 23255	23205, 23230, 23255	5MHz	QPSK, 16QAM, 64QAM	25RB
	23230	23230	10MHz	QPSK, 16QAM, 64QAM	50RB
Peak to Average Ratio	23205 to 23255	23205, 23230, 23255	5MHz	QPSK, 16QAM, 64QAM	1 RB
	23230	23230	10MHz	QPSK, 16QAM, 64QAM	1 RB
Band Edge	23205 to 23255	23205, 23255	5MHz	QPSK	1RB/25RB
	23230	23230	10MHz	QPSK	1RB/50RB
Conducted Emission	23205 to 23255	23230	5MHz	QPSK	1 RB
	23230	23230	10MHz	QPSK	1 RB
Radiated Emission	23205 to 23255	23230	5MHz	QPSK	1 RB
	23230	23230	10MHz	QPSK	1 RB

NOTE:

- (1) All X, Y and Z axes are evaluated, but only the worst case (WCDMA Band IV, LTE Band 4: X axis, LTE Band 12,13: Y axis) is recorded.
- (2) For Radiated Spurious Emissions both QPSK, 16QAM and 64QAM are evaluated, but only the worst case (QPSK) is recorded.

2.3 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Equipment letters and Cable numbers refer to item numbers described in the tables of clause 2.4.



2.4 SUPPORT UNITS

Item	Equipment	Brand	Model No.	Series No.	Remarks
A	NB	HP	TPN-I119	N/A	Furnished by test lab.
B	DC Power Supply	ABM	8303D	N/A	Furnished by test lab.

Item	Shielded	Ferrite Core	Length	Cable Type	Remarks
1	N/A	N/A	0.5m	Micro USB Cable	Furnished by test lab.
2	N/A	N/A	1m	Micro USB Cable	Furnished by test lab.

3 CONDUCTED OUTPUT POWER AND EFFECTIVE RADIATED POWER AND EFFECTIVE RADIATED POWER MEASUREMENT

3.1 LIMIT

WCDMA IV, LTE Band 4:

27.50(d)(4) Fixed, mobile, and portable (hand-held) stations operating in the 1710-1755 MHz band and mobile and portable stations operating in the 1695-1710 MHz and 1755-1780 MHz bands are limited to 1 watt EIRP.

LTE Band 12:

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.

LTE Band 13:

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

NOTE:

(1) The test result calculated as following:

Measurement Value = Reading Level + Correct Factor

Correct Factor = Antenna Factor + Cable Loss - Amplifier Gain(if use)

Margin Level = Measurement Value - Limit Value

Calculation example:

Reading Level		Correct Factor		Measurement Value
-29.66	+	34.26	=	4.60

Measurement Value		Limit Value		Margin Level
4.60	-	30	=	-25.40

3.2 TEST PROCEDURE

The testing follows FCC KDB 971168 v03r01 Section 5.

EIRP / ERP Power Measurement:

EIRP = Conducted Power + Antenna gain.

ERP power = EIPR power - 2.15 dBi.

Conducted Measurement:

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.

Radiated Measurement:

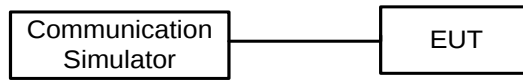
- Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value " of step a. Record the power level of S.G
- EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution horn.
- ERP can be calculated form EIRP by subtracting the gain of dipole, ERP = EIPR - 2.15dBi..
- The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

3.3 DEVIATION FROM TEST STANDARD

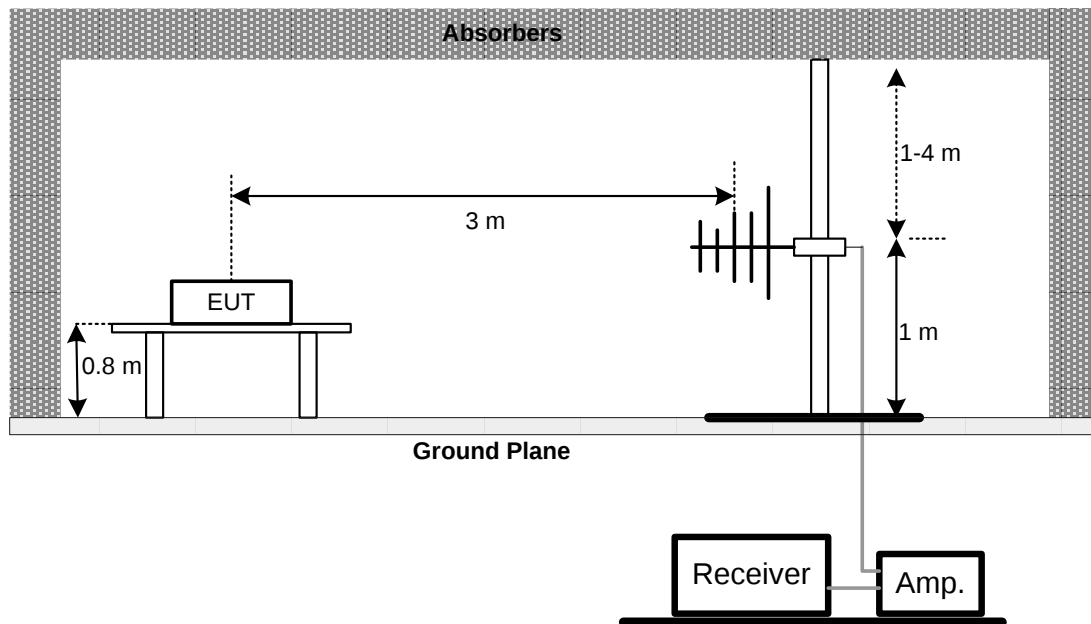
No deviation.

3.4 TEST SETUP

Conducted Measurement:



Radiated Measurement:



3.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

3.6 TEST RESULT

Please refer to the APPENDIX A

4 OCCUPIED BANDWIDTH MEASUREMENT

4.1 TEST PROCEDURE

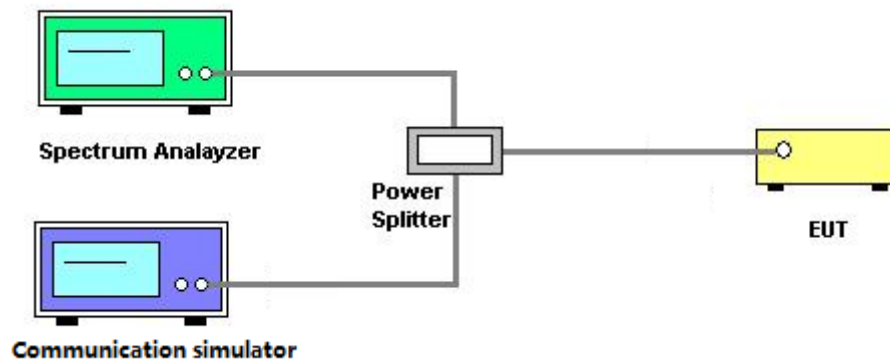
The testing follows FCC KDB 971168 v03r01 Section 4.

- The EUT makes a call to the communication simulator. All measurements were done at low, middle and high operational frequency range. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth and 26dB bandwidth.
- The EUT was connected to spectrum analyzer and system simulator via a power divider.
- $RBW = (1\% \sim 5\%) * EBW$
 $VBW \geq 3 * RBW$.
- Set spectrum analyzer with Peak detector.

4.2 DEVIATION FROM TEST STANDARD

No deviation.

4.3 TEST SETUP



4.4 TEST RESULT

Please refer to the APPENDIX B.

5 CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

5.1 LIMIT

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 -13dBm. (Part 27 Subpart L & H)

5.2 TEST PROCEDURE

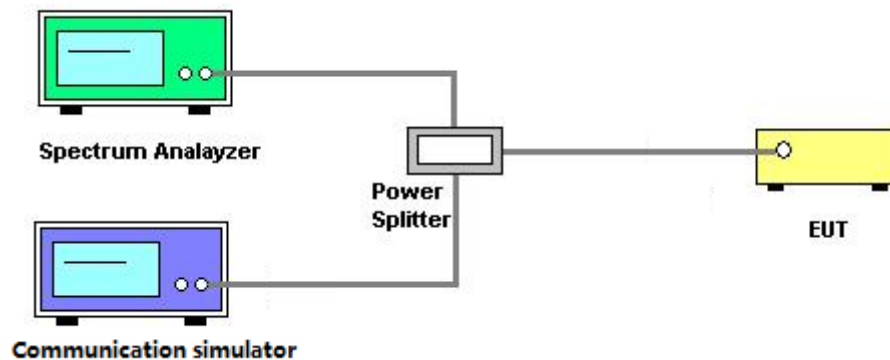
The testing follows FCC KDB 971168 v03r01 Section 6.

- The EUT was connected to spectrum analyzer and system simulator via a power divider.
- The band edges of low and high channels for the highest RF powers were measured. Set RBW>=1% EBW in the 1MHz band immediately outside and adjacent to the band edge.
- Set spectrum analyzer with Peak detector.
- The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

5.3 DEVIATION FROM TEST STANDARD

No deviation.

5.4 TEST SETUP



5.5 TEST RESULT

Please refer to the APPENDIX C.

6 RADIATED SPURIOUS EMISSIONS TEST

6.1 LIMIT

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 -13dBm. (Part 27 Subpart L & H)

NOTE:

(1) The test result calculated as following:

Measurement Value = Reading Level + Correct Factor

Correct Factor = Antenna Factor + Cable Loss - Amplifier Gain(if use)

Margin Level = Measurement Value - Limit Value

Calculation example:

Reading Level		Correct Factor		Measurement Value
-50.43	+	-2.11	=	-52.54

Measurement Value		Limit Value		Margin Level
-52.54	-	-13	=	-39.54

6.2 TEST PROCEDURE

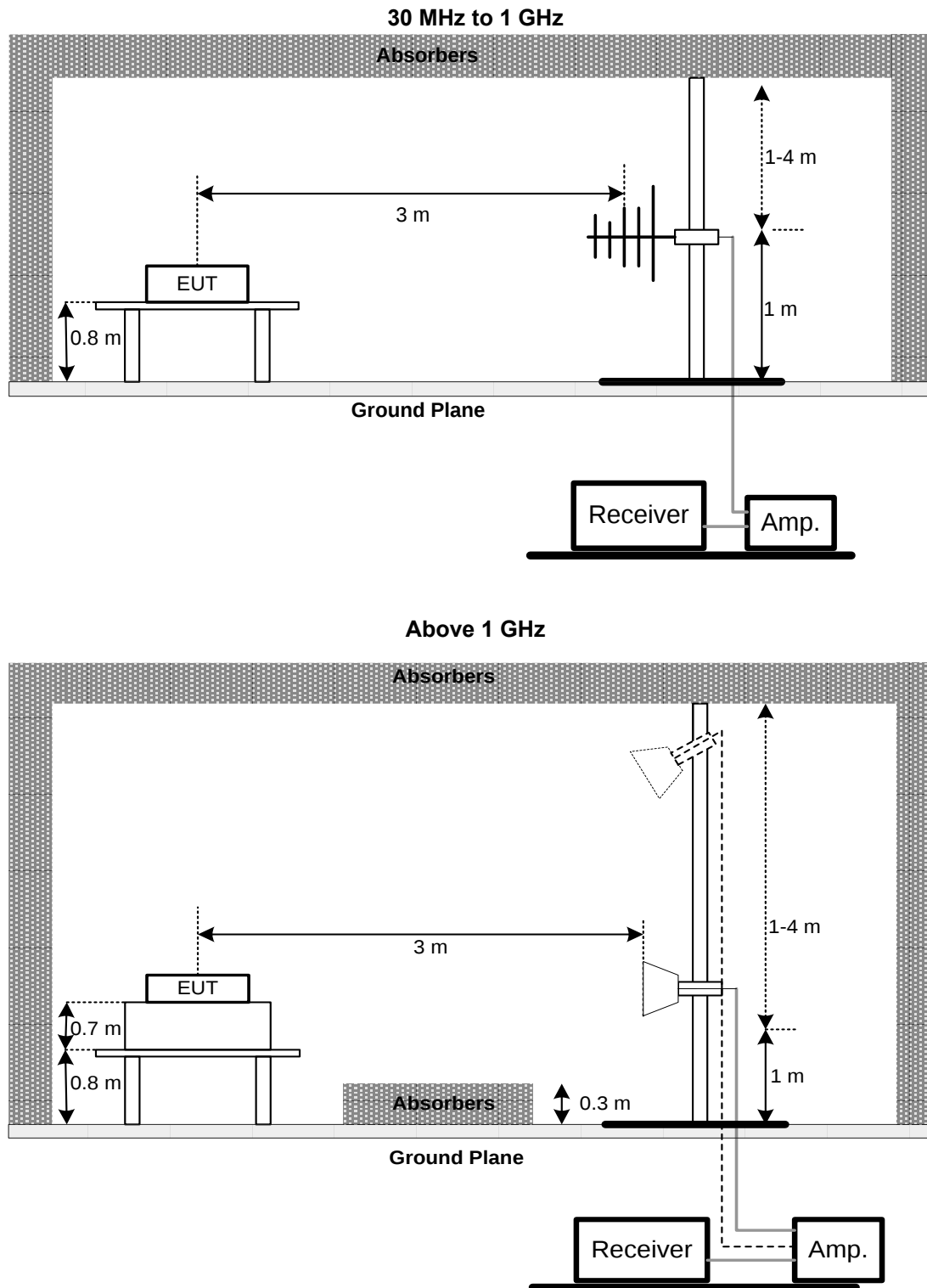
The testing follows FCC KDB 971168 v03r01 Section 6.2.

- In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value " of step a. Record the power level of S.G
- $EIRP = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}.$
- ERP can be calculated form EIRP by subtracting the gain of dipole, $ERP = EIPR - 2.15\text{dBi}.$
The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

6.3 DEVIATION FROM TEST STANDARD

No deviation.

6.4 TEST SETUP



6.5 EUT OPERATING CONDITIONS

The EUT was programmed to be in continuously transmitting mode.

6.6 TEST RESULT

Please refer to the APPENDIX D

7 BAND EDGE MEASUREMENT

7.1 LIMIT

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. (Part 27 Subpart L & H)

7.2 TEST PROCEDURE

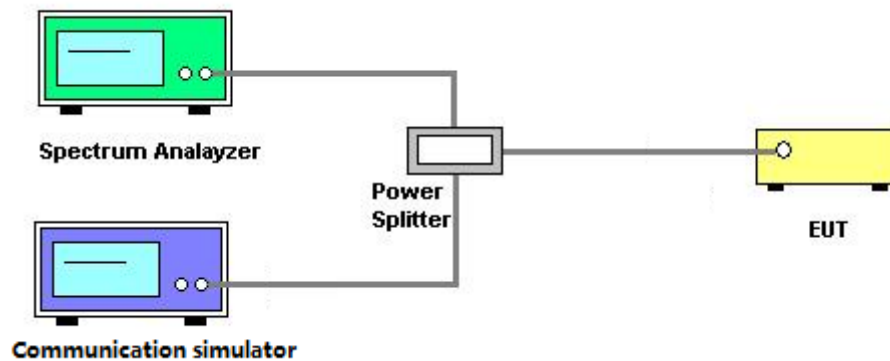
The testing follows FCC KDB 971168 v03r01 Section 6.

- All measurements were done at low and high operational frequency range.
- Record the max trace plot into the test report.

7.3 DEVIATION FROM TEST STANDARD

No deviation.

7.4 TEST SETUP



7.5 TEST RESULT

Please refer to the APPENDIX E.

8 PEAK TO AVERAGE RATIO MEASUREMENT

8.1 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.

8.2 TEST PROCEDURE

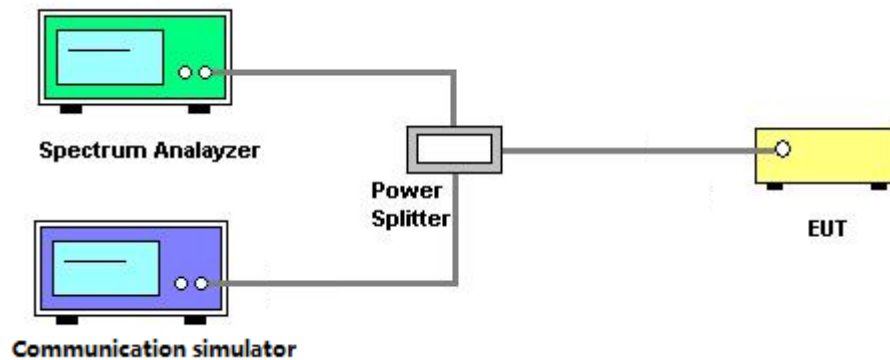
The testing follows FCC KDB 971168 v03r01 Section 5.7.

- Set resolution/measurement bandwidth $\geq$ signal's occupied bandwidth.
- Set the number of counts to a value that stabilizes the measured CCDF curve.
- Record the maximum PAPR level associated with a probability of 0.1%.

8.3 DEVIATION FROM TEST STANDARD

No deviation.

8.4 TEST SETUP



8.5 TEST RESULT

Please refer to the APPENDIX F.

9 FREQUENCY STABILITY MEASUREMENT

9.1 LIMIT

± 1.5 ppm is for base and fixed station. ± 2.5 ppm is for mobile station.

9.2 TEST PROCEDURE

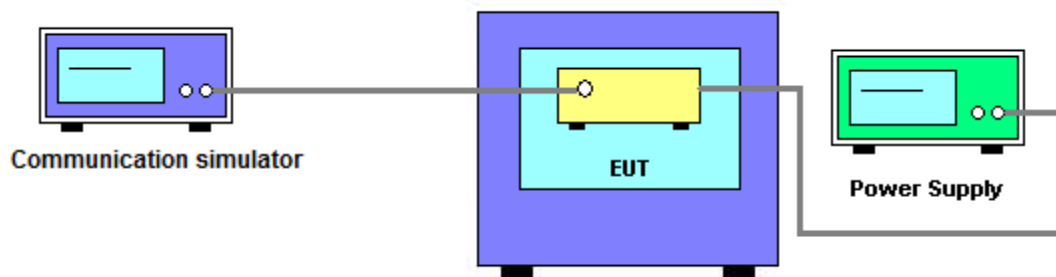
The testing follows FCC KDB 971168 v03r01 Section 9.

- Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.
- EUT is connected the external power supply to control the DC input power. The test voltage range is from minimum to maximum working voltage. Each step shall be record the frequency error rate.
- The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the $\pm 0.5^{\circ}\text{C}$ during the measurement testing. The each temperature step shall be at least 0.5 hours, consider the EUT could be test under the stability condition.
- The frequency error was recorded frequency error from the communication simulator.

9.3 DEVIATION FROM TEST STANDARD

No deviation.

9.4 TEST SETUP



9.5 TEST RESULT

Please refer to the APPENDIX G.

10 LIST OF MEASURING EQUIPMENTS

For WCDMA Band IV:

Conducted Output Power						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	8960 Series 10 Wireless Com Test Set	Agilent	E5515C	GB47390193	2021/7/23	2022/7/22

Equivalent Isotropic Radiated Power and Effective Radiated Power and Radiated Spurious Emissions						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	Preamplifier	EMCI	EMC02325	980217	2022/4/6	2023/4/5
2	Preamplifier	EMCI	EMC012645B	980222	2022/4/6	2023/4/5
3	Test Cable	EMCI	EMC104-SM-1000	180809	2022/4/6	2023/4/5
4	Test Cable	EMCI	EMC104-SM-SM-2500	160413	2022/4/6	2023/4/5
5	Test Cable	EMCI	EMC-SM-SM-7000	180408	2022/4/6	2023/4/5
6	MXE EMI Receiver	Agilent	N9038A	MY56400087	2021/5/27	2022/5/26
7	Signal Analyzer	Agilent	N9010A	MY56480554	2021/8/25	2022/8/24
8	Horn Ant	SCHWARZBECK	BBHA 9120D	9120D-1342	2021/6/2	2022/6/1
9	Horn Ant	Schwarzbeck	BBHA 9170	340	2021/7/9	2022/7/8
10	Trilog-Broadband Antenna	Schwarzbeck	VULB 9168	9168-352	2021/8/11	2022/8/10
11	5dB Attenuator	EMCI	EMCI-N-6-05	AT-N0625	2021/8/11	2022/8/10
12	Measurement Software	EZ	EZ EMC (Version NB-03A1-01)	N/A	N/A	N/A
13	8960 Series 10 Wireless Com Test Set	Agilent	E5515C	GB47390193	2021/7/23	2022/7/22

Peak To Average Ratio Measurement						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	8960 Series 10 Wireless Com Test Set	Agilent	E5515C	GB47390193	2021/6/8	2022/6/7
2	Spectrum Analyzer	Agilent	N9010A	MY54200240	2021/5/27	2022/5/26

Frequency Stability Measurement						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	8960 Series 10 Wireless Com Test Set	Agilent	E5515C	GB47390193	2021/6/8	2022/6/7
2	Thermal Chamber	HOLINK	H-T-1F-D	BA03101701	2021/6/28	2022/6/27

Others Conducted Measurement

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	8960 Series 10 Wireless Com Test Set	Agilent	E5515C	GB47390193	2021/6/8	2022/6/7
2	Spectrum Analyzer	R&S	FSP40	100129	2021/6/8	2022/6/7

For Others Band:

Conducted Output Power

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	8960 Series 10 Wireless Com Test Set	Agilent	E5515C	GB47390193	2021/7/23	2022/7/22
2	Radio Communication Analyzer	Anritsu	MT8820C	6201381608	2021/12/15	2022/12/14

Equivalent Isotropic Radiated Power and Effective Radiated Power and Radiated Spurious Emissions

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	Preamplifier	EMCI	EMC02325	980217	2021/4/8	2022/4/7
2	Preamplifier	EMCI	EMC012645B	980222	2021/4/8	2022/4/7
3	Test Cable	EMCI	EMC104-SM-1000	180809	2021/4/8	2022/4/7
4	Test Cable	EMCI	EMC104-SM-SM-3000	151205	2021/4/8	2022/4/7
5	Test Cable	EMCI	EMC-SM-SM-7000	180408	2021/4/8	2022/4/7
6	MXE EMI Receiver	Agilent	N9038A	MY56400087	2021/5/27	2022/5/26
7	Signal Analyzer	Agilent	N9010A	MY56480554	2021/8/25	2022/8/24
8	Horn Ant	SCHWARZBECK	BBHA 9120D	9120D-1342	2021/6/2	2022/6/1
9	Horn Ant	Schwarzbeck	BBHA 9170	340	2021/7/9	2022/7/8
10	Trilog-Broadband Antenna	Schwarzbeck	VULB 9168	9168-352	2021/8/11	2022/8/10
11	5dB Attenuator	EMCI	EMCI-N-6-05	AT-N0625	2021/8/11	2022/8/10
12	Measurement Software	EZ	EZ EMC (Version NB-03A1-01)	N/A	N/A	N/A
13	8960 Series 10 Wireless Com Test Set	Agilent	E5515C	GB47390193	2021/7/23	2022/7/22
14	Radio Communication Analyzer (LTE)	Anritsu	MT8821C	6262044728	2021/11/28	2022/11/27

Frequency Stability Measurement						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	8960 Series 10 Wireless Com Test Set	Agilent	E5515C	GB47390193	2021/7/23	2022/7/22
2	Radio Communication Analyzer	Anritsu	MT8820C	6201381608	2021/5/27	2022/5/26
3	Thermal Chamber	HOLINK	H-T-1F-D	BA03101701	2021/6/28	2022/6/27

Others Conducted Measurement						
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	8960 Series 10 Wireless Com Test Set	Agilent	E5515C	GB47390193	2021/6/8	2022/6/7
2	Radio Communication Analyzer	Anritsu	MT8820C	6201381608	2021/5/27	2022/5/26
3	Spectrum Analyzer	Agilent	N9010A	MY54200240	2021/5/27	2022/5/26

Remark: "N/A" denotes no model name, no serial no. or no calibration specified.
All calibration period of equipment list is one year.

11 EUT TEST PHOTO

Please refer to document Appendix No.: TP-2203T030-FCCP-1 (APPENDIX-TEST PHOTOS).

12 EUT PHOTOS

Please refer to document Appendix No.: EP-2203T030-2 (APPENDIX-EUT PHOTOS).

APPENDIX A CONDUCTED OUTPUT POWER AND EQUIVALENT ISOTROPIC RADIATED POWER EFFECTIVE RADIATED POWER

Conducted Output Power:

Band	Mode	UL/DL Channel No.	Frequency(MHz)	Average power(dBm)	EIRP power (dBm)	EIRP power (W)
WCDMA Band IV	Rel 99	1312/1537	1712.4	22.48	24.98	0.315
		1413/1638	1732.6	22.44	24.94	0.312
		1513/1738	1752.6	22.59	25.09	0.323

Band	Sub-test	UL/DL Channel No.	Frequency(MHz)	Average power(dBm)	EIRP power (dBm)	EIRP power (W)
HSDPA IV	1	1312/1537	1712.4	22.36	24.86	0.306
		1413/1638	1732.6	22.32	24.82	0.303
		1513/1738	1752.6	22.47	24.97	0.314
	2	1312/1537	1712.4	21.91	24.41	0.276
		1413/1638	1732.6	21.87	24.37	0.274
		1513/1738	1752.6	22.02	24.52	0.283
	3	1312/1537	1712.4	21.46	23.96	0.249
		1413/1638	1732.6	21.42	23.92	0.247
		1513/1738	1752.6	21.57	24.07	0.255
	4	1312/1537	1712.4	20.48	22.98	0.199
		1413/1638	1732.6	20.44	22.94	0.197
		1513/1738	1752.6	20.59	23.09	0.204

Band	Sub-test	UL/DL Channel No.	Frequency(MHz)	Average power(dBm)	EIRP power (dBm)	EIRP power (W)
HSUPA IV	1	1312/1537	1712.4	22.39	24.89	0.308
		1413/1638	1732.6	22.35	24.85	0.305
		1513/1738	1752.6	22.50	25.00	0.316
	2	1312/1537	1712.4	20.45	22.95	0.197
		1413/1638	1732.6	20.41	22.91	0.195
		1513/1738	1752.6	20.56	23.06	0.202
	3	1312/1537	1712.4	19.57	22.07	0.161
		1413/1638	1732.6	19.53	22.03	0.160
		1513/1738	1752.6	19.68	22.18	0.165
	4	1312/1537	1712.4	19.51	22.01	0.159
		1413/1638	1732.6	19.47	21.97	0.157
		1513/1738	1752.6	19.62	22.12	0.163
	5	1312/1537	1712.4	19.42	21.92	0.156
		1413/1638	1732.6	19.38	21.88	0.154
		1513/1738	1752.6	19.53	22.03	0.160

Band	UL/DL Channel No.	Frequency(MHz)	Average power(dBm)	EIRP power (dBm)	EIRP power (W)
HSPA+ IV	1312/1537	1712.4	22.34	24.84	0.305
	1413/1638	1732.6	22.33	24.83	0.304
	1513/1738	1752.6	22.45	24.95	0.313

NOTE:

- (1) EIRP = Average power + Antenna gain.
- (2) ERP = EIRP - 2.15.
- (3) $P(W) = 1 W \cdot 10^{(P(dBm) / 10)} / 1000$
- (4) The maximum antenna gain is applied.

Band	BW (MHz)	Channel	Frequency (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	EIRP power (dBm)	EIRP power (W)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
4	1.4	19957	1710.7	QPSK	1	0	0	22.05	24.6	0.285																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
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					1	2	0	21.98	24.5	0.281																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
				16QAM	1	5	0	21.85	24.4	0.272																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
					3	0	0	21.71	24.2	0.264																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
					3	1	0	21.98	24.5	0.281																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
					3	2	0	21.85	24.4	0.272																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
					6	0	1	20.77	23.3	0.212																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						
					1	0	1	20.89	23.4	0.218																																																																																																																																																																																																																																																																																																																																																																																																																																																																																						

NOTE:

- (1) EIRP = Average power + Antenna gain.
- (2) ERP = EIRP - 2.15.
- (3) $P(W) = 1 \text{ W} \cdot 10^{(P(\text{dBm}) / 10)} / 1000$
- (4) The maximum antenna gain is applied.

Band	BW (MHz)	Channel	Frequency (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	EIRP power (dBm)	EIRP power (W)
4	3	19965	1711.5	QPSK	1	0	0	22.10	24.6	0.288
					1	7	0	21.82	24.3	0.270
					1	14	0	22.08	24.6	0.287
					8	0	1	21.21	23.7	0.235
					8	4	1	20.86	23.4	0.217
					8	7	1	21.26	23.8	0.238
				16QAM	15	0	1	21.16	23.7	0.232
					1	0	1	21.28	23.8	0.239
					1	7	1	21.24	23.7	0.237
					1	14	1	21.15	23.7	0.232
					8	0	2	20.11	22.6	0.182
					8	4	2	19.96	22.5	0.176
					8	7	2	20.11	22.6	0.182
					15	0	2	20.25	22.8	0.188
		20175	1732.5	QPSK	1	0	0	22.09	24.6	0.288
					1	7	0	22.09	24.6	0.288
					1	14	0	21.80	24.3	0.269
					8	0	1	21.20	23.7	0.234
					8	4	1	21.13	23.6	0.231
					8	7	1	20.98	23.5	0.223
				16QAM	15	0	1	21.15	23.7	0.232
					1	0	1	21.27	23.8	0.238
					1	7	1	21.23	23.7	0.236
					1	14	1	20.87	23.4	0.217
					8	0	2	20.10	22.6	0.182
					8	4	2	20.23	22.7	0.187
					8	7	2	19.83	22.3	0.171
					15	0	2	20.24	22.7	0.188
		20385	1753.5	QPSK	1	0	0	21.76	24.3	0.267
					1	7	0	22.03	24.5	0.284
					1	14	0	21.90	24.4	0.275
					8	0	1	20.87	23.4	0.217
					8	4	1	21.07	23.6	0.228
					8	7	1	21.08	23.6	0.228
				16QAM	15	0	1	20.82	23.3	0.215
					1	0	1	20.94	23.4	0.221
					1	7	1	20.90	23.4	0.219
					1	14	1	20.97	23.5	0.222
					8	0	2	19.77	22.3	0.169
					8	4	2	20.17	22.7	0.185
					8	7	2	19.93	22.4	0.175
					15	0	2	19.91	22.4	0.174

NOTE:

- (1) EIRP = Average power + Antenna gain.
- (2) ERP = EIRP - 2.15.
- (3) $P(W) = 1 W \cdot 10^{(P(dBm) / 10)} / 1000$
- (4) The maximum antenna gain is applied.

Band	BW (MHz)	Channel	Frequency (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	EIRP power (dBm)	EIRP power (W)
4	5	19975	1712.5	QPSK	1	0	0	22.15	24.7	0.292
					1	12	0	21.87	24.4	0.274
					1	24	0	22.13	24.6	0.290
					12	0	1	21.26	23.8	0.238
					12	6	1	20.91	23.4	0.219
					12	11	1	21.31	23.8	0.240
				16QAM	25	0	1	21.21	23.7	0.235
					1	0	1	21.33	23.8	0.242
					1	12	1	21.29	23.8	0.239
					1	24	1	21.20	23.7	0.234
					12	0	2	20.16	22.7	0.185
					12	6	2	20.01	22.5	0.178
					12	11	2	20.16	22.7	0.185
					25	0	2	20.30	22.8	0.191
		20175	1732.5	QPSK	1	0	0	22.14	24.6	0.291
					1	12	0	22.14	24.6	0.291
					1	24	0	21.85	24.4	0.272
					12	0	1	21.25	23.8	0.237
					12	6	1	21.18	23.7	0.233
					12	11	1	21.03	23.5	0.225
				16QAM	25	0	1	21.20	23.7	0.234
					1	0	1	21.32	23.8	0.241
					1	12	1	21.28	23.8	0.239
					1	24	1	20.92	23.4	0.220
					12	0	2	20.15	22.7	0.184
					12	6	2	20.28	22.8	0.190
					12	11	2	19.88	22.4	0.173
					25	0	2	20.29	22.8	0.190
		20375	1752.5	QPSK	1	0	0	21.81	24.3	0.270
					1	12	0	22.08	24.6	0.287
					1	24	0	21.95	24.5	0.279
					12	0	1	20.92	23.4	0.220
					12	6	1	21.12	23.6	0.230
				16QAM	12	11	1	21.13	23.6	0.231
					25	0	1	20.87	23.4	0.217
					1	0	1	20.99	23.5	0.223
					1	12	1	20.95	23.5	0.221
					1	24	1	21.02	23.5	0.225
					12	0	2	19.82	22.3	0.171
					12	6	2	20.22	22.7	0.187
					12	11	2	19.98	22.5	0.177
					25	0	2	19.96	22.5	0.176

NOTE:

- (1) EIRP = Average power + Antenna gain.
- (2) ERP = EIRP - 2.15.
- (3) $P(W) = 1 W \cdot 10^{(P(dBm) / 10)} / 1000$
- (4) The maximum antenna gain is applied.

Band	BW (MHz)	Channel	Frequency (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	EIRP power (dBm)	EIRP power (W)
4	10	20000	1715.0	QPSK	1	0	0	22.20	24.7	0.295
					1	24	0	21.92	24.4	0.277
					1	49	0	22.18	24.7	0.294
					25	0	1	21.31	23.8	0.240
					25	12	1	20.96	23.5	0.222
					25	24	1	21.36	23.9	0.243
				16QAM	50	0	1	21.26	23.8	0.238
					1	0	1	21.38	23.9	0.244
					1	24	1	21.34	23.8	0.242
					1	49	1	21.25	23.8	0.237
					25	0	2	20.21	22.7	0.187
					25	12	2	20.06	22.6	0.180
					25	24	2	20.21	22.7	0.187
					50	0	2	20.35	22.9	0.193
		20175	1732.5	QPSK	1	0	0	22.19	24.7	0.294
					1	24	0	22.19	24.7	0.294
					1	49	0	21.90	24.4	0.275
					25	0	1	21.30	23.8	0.240
					25	12	1	21.23	23.7	0.236
					25	24	1	21.08	23.6	0.228
				16QAM	50	0	1	21.25	23.8	0.237
					1	0	1	21.37	23.9	0.244
					1	24	1	21.33	23.8	0.242
					1	49	1	20.97	23.5	0.222
					25	0	2	20.20	22.7	0.186
					25	12	2	20.33	22.8	0.192
					25	24	2	19.93	22.4	0.175
					50	0	2	20.34	22.8	0.192
		20350	1750.0	QPSK	1	0	0	21.86	24.4	0.273
					1	24	0	22.13	24.6	0.290
					1	49	0	22.00	24.5	0.282
					25	0	1	20.97	23.5	0.222
					25	12	1	21.17	23.7	0.233
					25	24	1	21.18	23.7	0.233
				16QAM	50	0	1	20.92	23.4	0.220
					1	0	1	21.04	23.5	0.226
					1	24	1	21.00	23.5	0.224
					1	49	1	21.07	23.6	0.228
					25	0	2	19.87	22.4	0.173
					25	12	2	20.27	22.8	0.189
					25	24	2	20.03	22.5	0.179
					50	0	2	20.01	22.5	0.178

NOTE:

- (1) EIRP = Average power + Antenna gain.
- (2) ERP = EIRP - 2.15.
- (3) $P(W) = 1 W \cdot 10^{(P(dBm) / 10)} / 1000$
- (4) The maximum antenna gain is applied.

Band	BW (MHz)	Channel	Frequency (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	EIRP power (dBm)	EIRP power (W)
4	15	20025	1717.5	QPSK	1	0	0	22.25	24.8	0.299
					1	37	0	21.97	24.5	0.280
					1	74	0	22.23	24.7	0.297
					36	0	1	21.36	23.9	0.243
					36	18	1	21.01	23.5	0.224
					36	35	1	21.41	23.9	0.246
				16QAM	75	0	1	21.31	23.8	0.240
					1	0	1	21.43	23.9	0.247
					1	37	1	21.39	23.9	0.245
					1	74	1	21.30	23.8	0.240
					36	0	2	20.26	22.8	0.189
					36	18	2	20.11	22.6	0.182
					36	35	2	20.26	22.8	0.189
					75	0	2	20.40	22.9	0.195
		20175	1732.5	QPSK	1	0	0	22.24	24.7	0.298
					1	37	0	22.24	24.7	0.298
					1	74	0	21.95	24.5	0.279
					36	0	1	21.35	23.9	0.243
					36	18	1	21.28	23.8	0.239
					36	35	1	21.13	23.6	0.231
				16QAM	75	0	1	21.30	23.8	0.240
					1	0	1	21.42	23.9	0.247
					1	37	1	21.38	23.9	0.244
					1	74	1	21.02	23.5	0.225
					36	0	2	20.25	22.8	0.188
					36	18	2	20.38	22.9	0.194
					36	35	2	19.98	22.5	0.177
					75	0	2	20.39	22.9	0.195
		20325	1747.5	QPSK	1	0	0	21.91	24.4	0.276
					1	37	0	22.18	24.7	0.294
					1	74	0	22.05	24.6	0.285
					36	0	1	21.02	23.5	0.225
					36	18	1	21.22	23.7	0.236
					36	35	1	21.23	23.7	0.236
				16QAM	75	0	1	20.97	23.5	0.222
					1	0	1	21.09	23.6	0.229
					1	37	1	21.05	23.6	0.226
					1	74	1	21.12	23.6	0.230
					36	0	2	19.92	22.4	0.175
					36	18	2	20.32	22.8	0.191
					36	35	2	20.08	22.6	0.181
					75	0	2	20.06	22.6	0.180

NOTE:

- (1) EIRP = Average power + Antenna gain.
- (2) ERP = EIRP - 2.15.
- (3) $P(W) = 1 W \cdot 10^{(P(dBm) / 10)} / 1000$
- (4) The maximum antenna gain is applied.

Band	BW (MHz)	Channel	Frequency (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power (dBm)	EIRP power (dBm)	EIRP power (W)
4	20	20050	1720.0	QPSK	1	0	0	22.30	24.8	0.302
					1	49	0	22.02	24.5	0.283
					1	99	0	22.28	24.8	0.301
					50	0	1	21.41	23.9	0.246
					50	24	1	21.06	23.6	0.227
					50	49	1	21.46	24.0	0.249
				16QAM	100	0	1	21.36	23.9	0.243
					1	0	1	21.48	24.0	0.250
					1	49	1	21.44	23.9	0.248
					1	99	1	21.35	23.9	0.243
					50	0	2	20.31	22.8	0.191
					50	24	2	20.16	22.7	0.185
					50	49	2	20.31	22.8	0.191
					100	0	2	20.45	23.0	0.197
		20175	1732.5	QPSK	1	0	0	22.29	24.8	0.301
					1	49	0	22.29	24.8	0.301
					1	99	0	22.00	24.5	0.282
					50	0	1	21.40	23.9	0.245
					50	24	1	21.33	23.8	0.242
					50	49	1	21.18	23.7	0.233
				16QAM	100	0	1	21.35	23.9	0.243
					1	0	1	21.47	24.0	0.249
					1	49	1	21.43	23.9	0.247
					1	99	1	21.07	23.6	0.228
					50	0	2	20.30	22.8	0.191
					50	24	2	20.43	22.9	0.196
					50	49	2	20.03	22.5	0.179
					100	0	2	20.44	22.9	0.197
		20300	1745.0	QPSK	1	0	0	21.96	24.5	0.279
					1	49	0	22.23	24.7	0.297
					1	99	0	22.10	24.6	0.288
					50	0	1	21.07	23.6	0.228
					50	24	1	21.27	23.8	0.238
					50	49	1	21.28	23.8	0.239
				16QAM	100	0	1	21.02	23.5	0.225
					1	0	1	21.14	23.6	0.231
					1	49	1	21.10	23.6	0.229
					1	99	1	21.17	23.7	0.233
					50	0	2	19.97	22.5	0.177
					50	24	2	20.37	22.9	0.194
					50	49	2	20.13	22.6	0.183
					100	0	2	20.11	22.6	0.182

NOTE:

- (1) EIRP = Average power + Antenna gain.
- (2) ERP = EIRP - 2.15.
- (3) $P(W) = 1 W \cdot 10^{(P(dBm) / 10)} / 1000$
- (4) The maximum antenna gain is applied.

Band	BW (MHz)	Channel	Frequency (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power	ERP power (dBm)	ERP power (W)
12	1.4	23017	699.7	QPSK	1	0	0	22.04	20.9	0.123
					1	2	0	22.04	20.9	0.123
					1	5	0	22.10	21.0	0.124
					3	0	0	22.04	20.9	0.123
					3	1	0	22.04	20.9	0.123
					3	2	0	22.10	21.0	0.124
					6	0	1	21.10	20.0	0.099
				16QAM	1	0	1	21.22	20.1	0.102
					1	2	1	21.18	20.0	0.101
					1	5	1	21.17	20.0	0.100
					3	0	1	21.22	20.1	0.102
					3	1	1	21.18	20.0	0.101
					3	2	1	21.17	20.0	0.100
					6	0	2	20.19	19.0	0.080
		23095	707.5	QPSK	1	0	0	22.13	21.0	0.125
					1	2	0	22.10	21.0	0.124
					1	5	0	21.82	20.7	0.117
					3	0	0	22.13	21.0	0.125
					3	1	0	22.10	21.0	0.124
					3	2	0	21.82	20.7	0.117
					6	0	1	21.19	20.0	0.101
				16QAM	1	0	1	21.31	20.2	0.104
					1	2	1	21.27	20.1	0.103
					1	5	1	20.89	19.7	0.094
					3	0	1	21.31	20.2	0.104
					3	1	1	21.27	20.1	0.103
					3	2	1	20.89	19.7	0.094
					6	0	2	20.50	19.4	0.086
		23173	715.3	QPSK	1	0	0	22.15	21.0	0.126
					1	2	0	21.96	20.8	0.121
					1	5	0	21.88	20.7	0.118
					3	0	0	22.15	21.0	0.126
					3	1	0	21.96	20.8	0.121
					3	2	0	21.88	20.7	0.118
					6	0	1	21.21	20.1	0.101
				16QAM	1	0	1	21.33	20.2	0.104
					1	2	1	21.29	20.1	0.103
					1	5	1	20.95	19.8	0.095
					3	0	1	21.33	20.2	0.104
					3	1	1	21.29	20.1	0.103
					3	2	1	20.95	19.8	0.095
					6	0	2	20.60	19.5	0.088

NOTE:

- (1) EIRP = Average power + Antenna gain.
- (2) ERP = EIRP - 2.15.
- (3) $P(W) = 1 W \cdot 10^{(P(dBm) / 10)} / 1000$
- (4) The maximum antenna gain is applied.

Band	BW (MHz)	Channel	Frequency (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power	ERP power (dBm)	ERP power (W)
12	3	23025	700.5	QPSK	1	0	0	22.09	20.9	0.124
					1	7	0	22.09	20.9	0.124
					1	14	0	22.15	21.0	0.126
					8	0	1	21.20	20.1	0.101
					8	4	1	21.13	20.0	0.100
					8	7	1	21.33	20.2	0.104
					15	0	1	21.15	20.0	0.100
				16QAM	1	0	1	21.27	20.1	0.103
					1	7	1	21.23	20.1	0.102
					1	14	1	21.22	20.1	0.102
					8	0	2	20.10	19.0	0.079
					8	4	2	20.23	19.1	0.081
					8	7	2	20.18	19.0	0.080
					15	0	2	20.24	19.1	0.081
		23095	707.5	QPSK	1	0	0	22.18	21.0	0.127
					1	7	0	22.15	21.0	0.126
					1	14	0	21.87	20.7	0.118
					8	0	1	21.29	20.1	0.103
					8	4	1	21.19	20.0	0.101
					8	7	1	21.05	19.9	0.098
					15	0	1	21.24	20.1	0.102
				16QAM	1	0	1	21.36	20.2	0.105
					1	7	1	21.32	20.2	0.104
					1	14	1	20.94	19.8	0.095
					8	0	2	20.19	19.0	0.080
					8	4	2	20.29	19.1	0.082
					8	7	2	19.90	18.8	0.075
					15	0	2	20.33	19.2	0.083
		23165	714.5	QPSK	1	0	0	22.20	21.1	0.127
					1	7	0	22.01	20.9	0.122
					1	14	0	21.93	20.8	0.120
					8	0	1	21.31	20.2	0.104
					8	4	1	21.05	19.9	0.098
					8	7	1	21.11	20.0	0.099
					15	0	1	21.26	20.1	0.103
				16QAM	1	0	1	21.38	20.2	0.105
					1	7	1	21.34	20.2	0.104
					1	14	1	21.00	19.9	0.097
					8	0	2	20.21	19.1	0.081
					8	4	2	20.15	19.0	0.079
					8	7	2	19.96	18.8	0.076
					15	0	2	20.35	19.2	0.083

NOTE:

- (1) EIRP = Average power + Antenna gain.
- (2) ERP = EIRP - 2.15.
- (3) $P(W) = 1 W \cdot 10^{(P(dBm) / 10)} / 1000$
- (4) The maximum antenna gain is applied.

Band	BW (MHz)	Channel	Frequency (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power	ERP power (dBm)	ERP power (W)
12	5	23035	701.5	QPSK	1	0	0	22.14	21.0	0.126
					1	12	0	22.14	21.0	0.126
					1	24	0	22.20	21.1	0.127
					12	0	1	21.25	20.1	0.102
					12	6	1	21.18	20.0	0.101
					12	11	1	21.38	20.2	0.105
					25	0	1	21.20	20.1	0.101
				16QAM	1	0	1	21.32	20.2	0.104
					1	12	1	21.28	20.1	0.103
					1	24	1	21.27	20.1	0.103
					12	0	2	20.15	19.0	0.079
					12	6	2	20.28	19.1	0.082
					12	11	2	20.23	19.1	0.081
					25	0	2	20.29	19.1	0.082
		23095	707.5	QPSK	1	0	0	22.23	21.1	0.128
					1	12	0	22.20	21.1	0.127
					1	24	0	21.92	20.8	0.119
					12	0	1	21.34	20.2	0.104
					12	6	1	21.24	20.1	0.102
					12	11	1	21.10	20.0	0.099
					25	0	1	21.29	20.1	0.103
				16QAM	1	0	1	21.41	20.3	0.106
					1	12	1	21.37	20.2	0.105
					1	24	1	20.99	19.8	0.096
					12	0	2	20.24	19.1	0.081
					12	6	2	20.34	19.2	0.083
					12	11	2	19.95	18.8	0.076
		23155	713.5	QPSK	25	0	2	20.38	19.2	0.084
					1	0	0	22.25	21.1	0.129
					1	12	0	22.06	20.9	0.123
					1	24	0	21.98	20.8	0.121
					12	0	1	21.36	20.2	0.105
					12	6	1	21.10	20.0	0.099
					12	11	1	21.16	20.0	0.100
					25	0	1	21.31	20.2	0.104
				16QAM	1	0	1	21.43	20.3	0.107
					1	12	1	21.39	20.2	0.106
					1	24	1	21.05	19.9	0.098
					12	0	2	20.26	19.1	0.081
					12	6	2	20.20	19.1	0.080
					12	11	2	20.01	18.9	0.077
					25	0	2	20.40	19.3	0.084

NOTE:

- (1) EIRP = Average power + Antenna gain.
- (2) ERP = EIRP - 2.15.
- (3) $P(W) = 1 W \cdot 10^{(P(dBm) / 10)} / 1000$
- (4) The maximum antenna gain is applied.

Band	BW (MHz)	Channel	Frequency (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power	ERP power (dBm)	ERP power (W)
12	10	23060	704.0	QPSK	1	0	0	22.19	21.0	0.127
					1	24	0	22.19	21.0	0.127
					1	49	0	22.25	21.1	0.129
					25	0	1	21.30	20.2	0.104
					25	12	1	21.23	20.1	0.102
					25	24	1	21.43	20.3	0.107
					50	0	1	21.25	20.1	0.102
				16QAM	1	0	1	21.37	20.2	0.105
					1	24	1	21.33	20.2	0.104
					1	49	1	21.32	20.2	0.104
					25	0	2	20.20	19.1	0.080
					25	12	2	20.33	19.2	0.083
					25	24	2	20.28	19.1	0.082
					50	0	2	20.34	19.2	0.083
		23095	707.5	QPSK	1	0	0	22.28	21.1	0.130
					1	24	0	22.25	21.1	0.129
					1	49	0	21.97	20.8	0.121
					25	0	1	21.39	20.2	0.106
					25	12	1	21.29	20.1	0.103
					25	24	1	21.15	20.0	0.100
					50	0	1	21.34	20.2	0.104
				16QAM	1	0	1	21.46	20.3	0.107
					1	24	1	21.42	20.3	0.106
					1	49	1	21.04	19.9	0.097
					25	0	2	20.29	19.1	0.082
					25	12	2	20.39	19.2	0.084
					25	24	2	20.00	18.9	0.077
					50	0	2	20.43	19.3	0.085
		23130	711.0	QPSK	1	0	0	22.30	21.2	0.130
					1	24	0	22.11	21.0	0.125
					1	49	0	22.03	20.9	0.122
					25	0	1	21.41	20.3	0.106
					25	12	1	21.15	20.0	0.100
					25	24	1	21.21	20.1	0.101
					50	0	1	21.36	20.2	0.105
				16QAM	1	0	1	21.48	20.3	0.108
					1	24	1	21.44	20.3	0.107
					1	49	1	21.10	20.0	0.099
					25	0	2	20.31	19.2	0.082
					25	12	2	20.25	19.1	0.081
					25	24	2	20.06	18.9	0.078
					50	0	2	20.45	19.3	0.085

NOTE:

- (1) EIRP = Average power + Antenna gain.
- (2) ERP = EIRP - 2.15.
- (3) $P(W) = 1 W \cdot 10^{(P(dBm) / 10)} / 1000$
- (4) The maximum antenna gain is applied.

Band	BW (MHz)	Channel	Frequency (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power	ERP power (dBm)	ERP power (W)
13	5	23205	779.5	QPSK	1	0	0	22.17	21.02	0.126
					1	12	0	22.14	20.99	0.126
					1	24	0	22.08	20.93	0.124
					12	0	1	21.28	20.13	0.103
					12	6	1	21.18	20.03	0.101
					12	11	1	21.26	20.11	0.103
					25	0	1	21.23	20.08	0.102
				16QAM	1	0	1	21.35	20.20	0.105
					1	12	1	21.31	20.16	0.104
					1	24	1	21.15	20.00	0.100
					12	0	2	20.18	19.03	0.080
					12	6	2	20.28	19.13	0.082
					12	11	2	20.11	18.96	0.079
					25	0	2	20.32	19.17	0.083
		23230	752.0	QPSK	1	0	0	22.17	21.02	0.126
					1	12	0	22.14	20.99	0.126
					1	24	0	22.08	20.93	0.124
					12	0	1	21.28	20.13	0.103
					12	6	1	21.18	20.03	0.101
					12	11	1	21.26	20.11	0.103
					25	0	1	21.23	20.08	0.102
				16QAM	1	0	1	21.35	20.20	0.105
					1	12	1	21.31	20.16	0.104
					1	24	1	21.15	20.00	0.100
					12	0	2	20.18	19.03	0.080
					12	6	2	20.28	19.13	0.082
					12	11	2	20.11	18.96	0.079
					25	0	2	20.32	19.17	0.083
		23255	784.5	QPSK	1	0	0	22.17	21.02	0.126
					1	12	0	22.14	20.99	0.126
					1	24	0	22.08	20.93	0.124
					12	0	1	21.28	20.13	0.103
					12	6	1	21.18	20.03	0.101
					12	11	1	21.26	20.11	0.103
					25	0	1	21.23	20.08	0.102
				16QAM	1	0	1	21.35	20.20	0.105
					1	12	1	21.31	20.16	0.104
					1	24	1	21.15	20.00	0.100
					12	0	2	20.18	19.03	0.080
					12	6	2	20.28	19.13	0.082
					12	11	2	20.11	18.96	0.079
					25	0	2	20.32	19.17	0.083

NOTE:

- (1) EIRP = Average power + Antenna gain.
- (2) ERP = EIRP - 2.15.
- (3) $P(W) = 1 W \cdot 10^{(P(dBm) / 10)} / 1000$
- (4) The maximum antenna gain is applied.

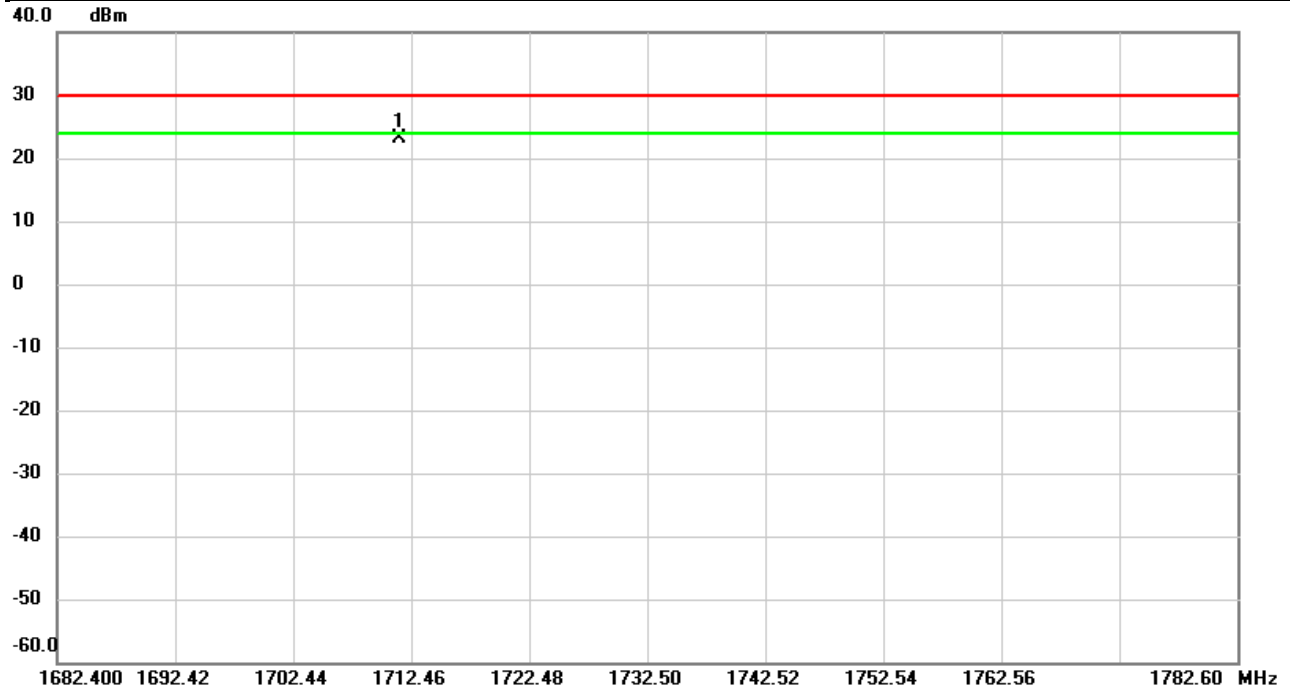
Band	BW (MHz)	Channel	Frequency (MHz)	Mode	UL RB Allocation	UL RB Offset	MPR	Average power	ERP power (dBm)	ERP power (W)
13	10	23230	782.0	QPSK	1	0	0	22.20	21.05	0.127
					1	24	0	22.17	21.02	0.126
					1	49	0	22.11	20.96	0.125
					25	0	1	21.31	20.16	0.104
					25	12	1	21.21	20.06	0.101
					25	24	1	21.29	20.14	0.103
					50	0	1	21.26	20.11	0.103
				16QAM	1	0	1	21.38	20.23	0.105
					1	24	1	21.34	20.19	0.104
					1	49	1	21.18	20.03	0.101
					25	0	2	20.21	19.06	0.081
					25	12	2	20.31	19.16	0.082
					25	24	2	20.14	18.99	0.079
					50	0	2	20.35	19.20	0.083

NOTE:

- (1) EIRP = Average power + Antenna gain.
- (2) ERP = EIRP - 2.15.
- (3) $P(W) = 1 \text{ W} \cdot 10^{(P(\text{dBm}) / 10)} / 1000$
- (4) The maximum antenna gain is applied.

Effective Isotropic Radiated Power:

Test Mode	WCDMA Band IV	Test Date	2022/4/26
Test Channel	CH1312	Polarization	Vertical
Temp	21°C	Hum.	56%

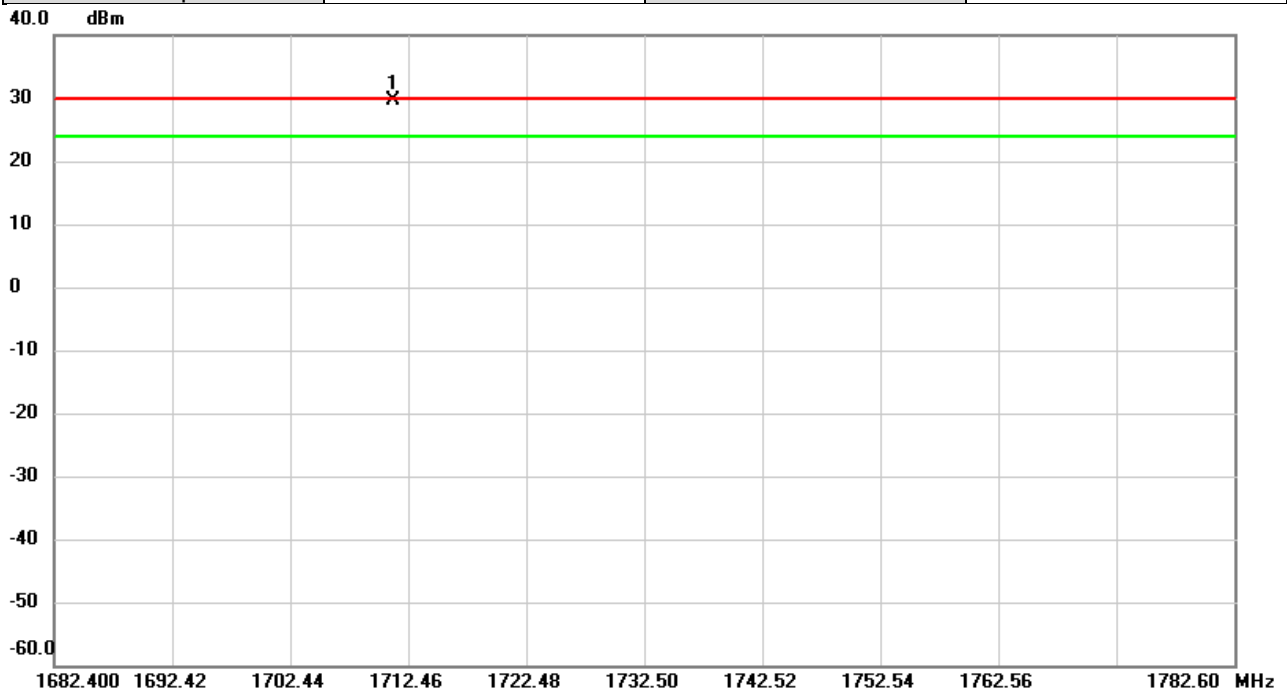


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBm	dB	dBm	dBm	dB		
1	*	1711.415	-17.27	40.30	23.03	30.00	-6.97	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Test Mode	WCDMA Band IV	Test Date	2022/4/26
Test Channel	CH1312	Polarization	Horizontal
Temp	21°C	Hum.	56%

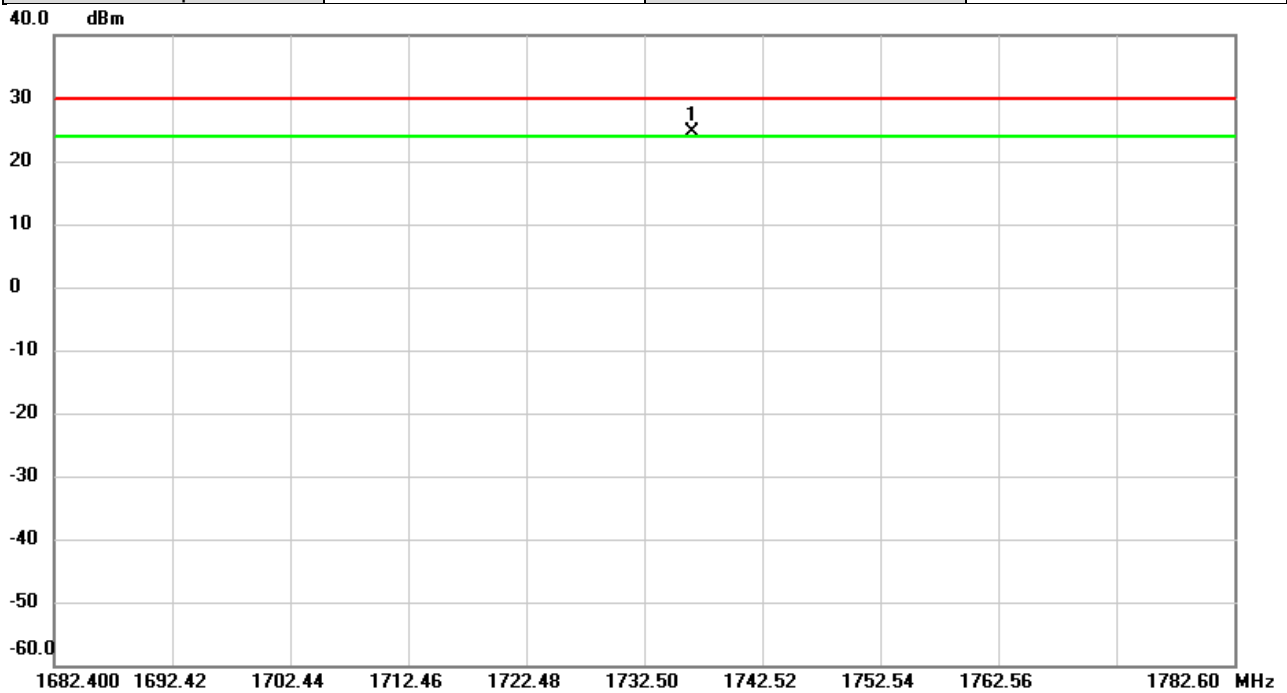


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	*	1711.214	-10.75	40.39	29.64	30.00	-0.36	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Test Mode	WCDMA Band IV	Test Date	2022/4/26
Test Channel	CH1413	Polarization	Vertical
Temp	21°C	Hum.	56%

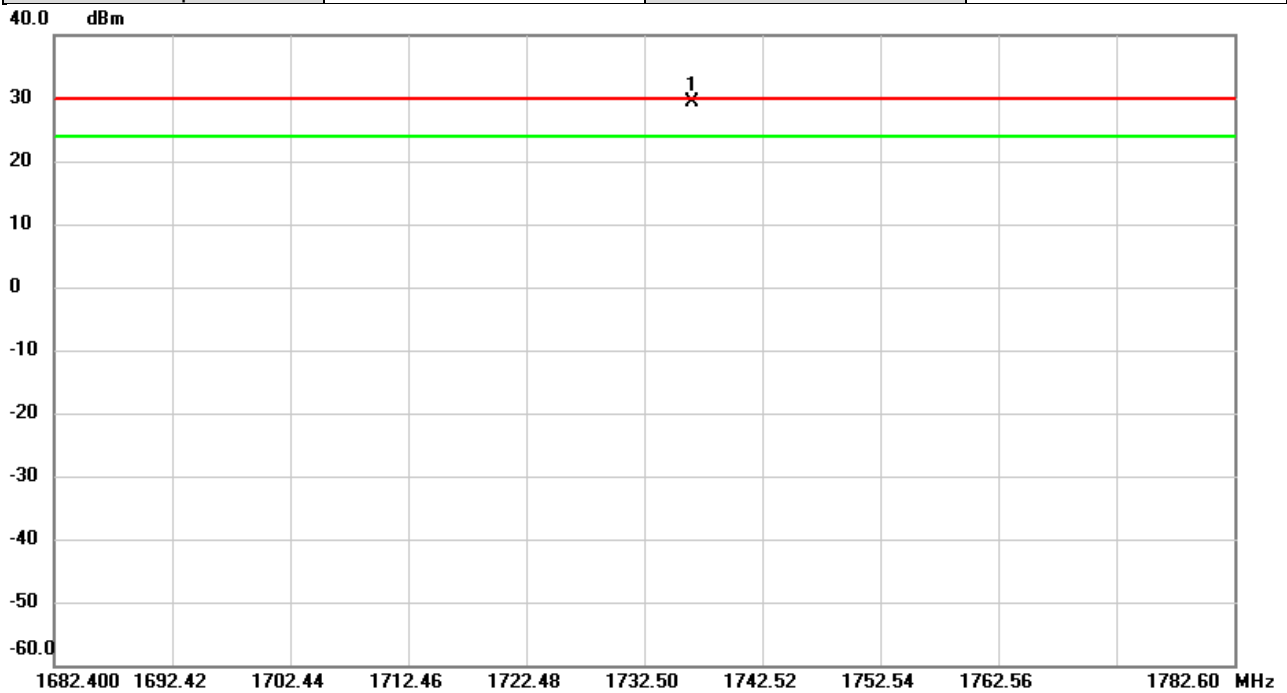


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	*	1736.571	-15.74	40.35	24.61	30.00	-5.39	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Test Mode	WCDMA Band IV	Test Date	2022/4/26
Test Channel	CH1413	Polarization	Horizontal
Temp	21°C	Hum.	56%

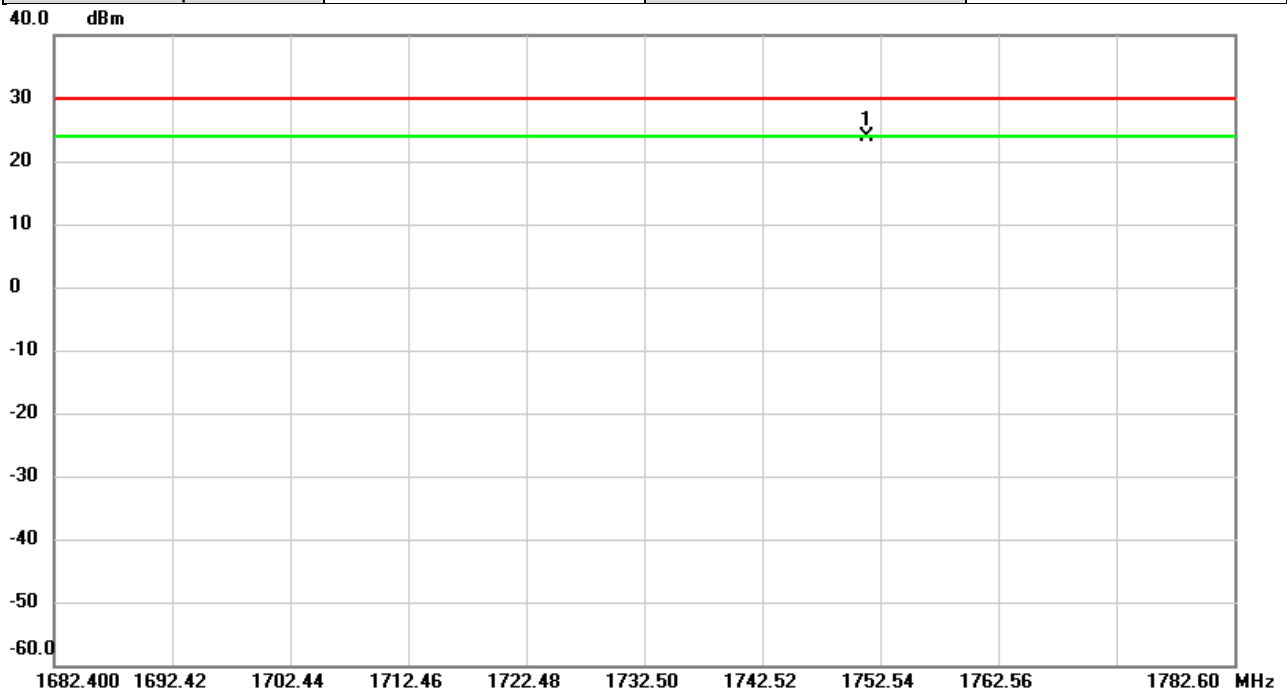


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	*	1736.568	-11.17	40.44	29.27	30.00	-0.73	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Test Mode	WCDMA Band IV	Test Date	2022/4/26
Test Channel	CH1513	Polarization	Vertical
Temp	21°C	Hum.	56%

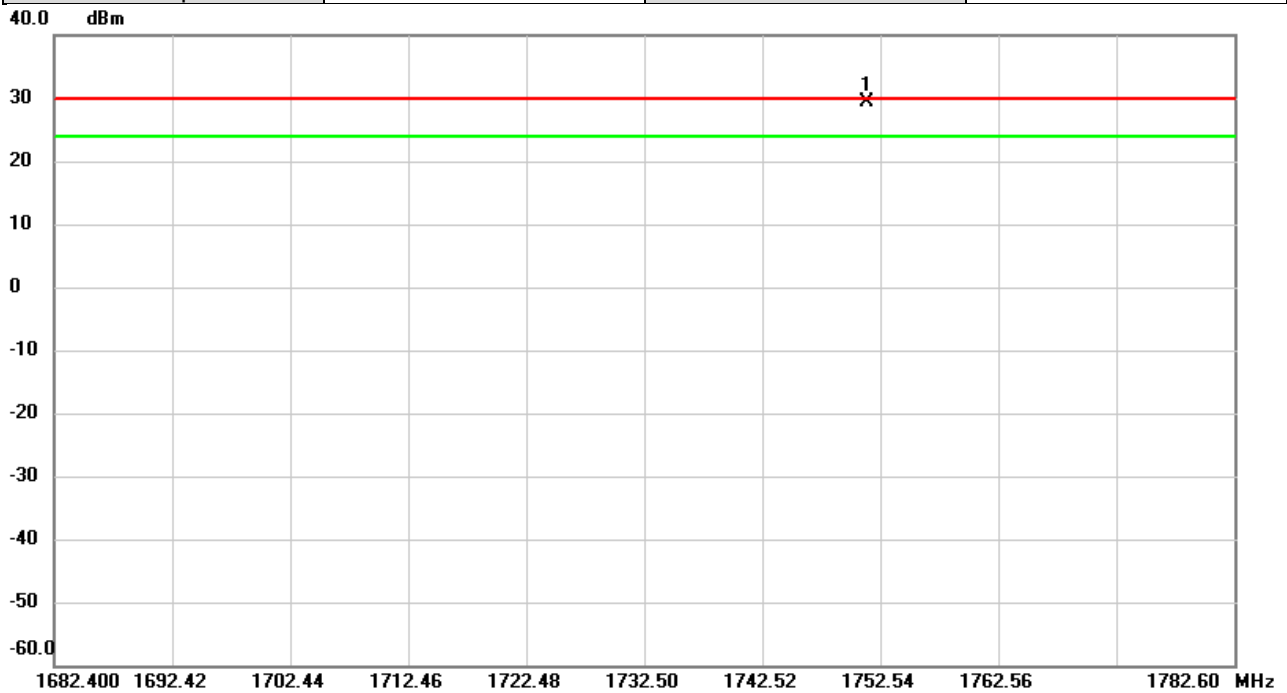


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	*	1751.438	-16.54	40.38	23.84	30.00	-6.16	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Test Mode	WCDMA Band IV	Test Date	2022/4/26
Test Channel	CH1513	Polarization	Horizontal
Temp	21°C	Hum.	56%



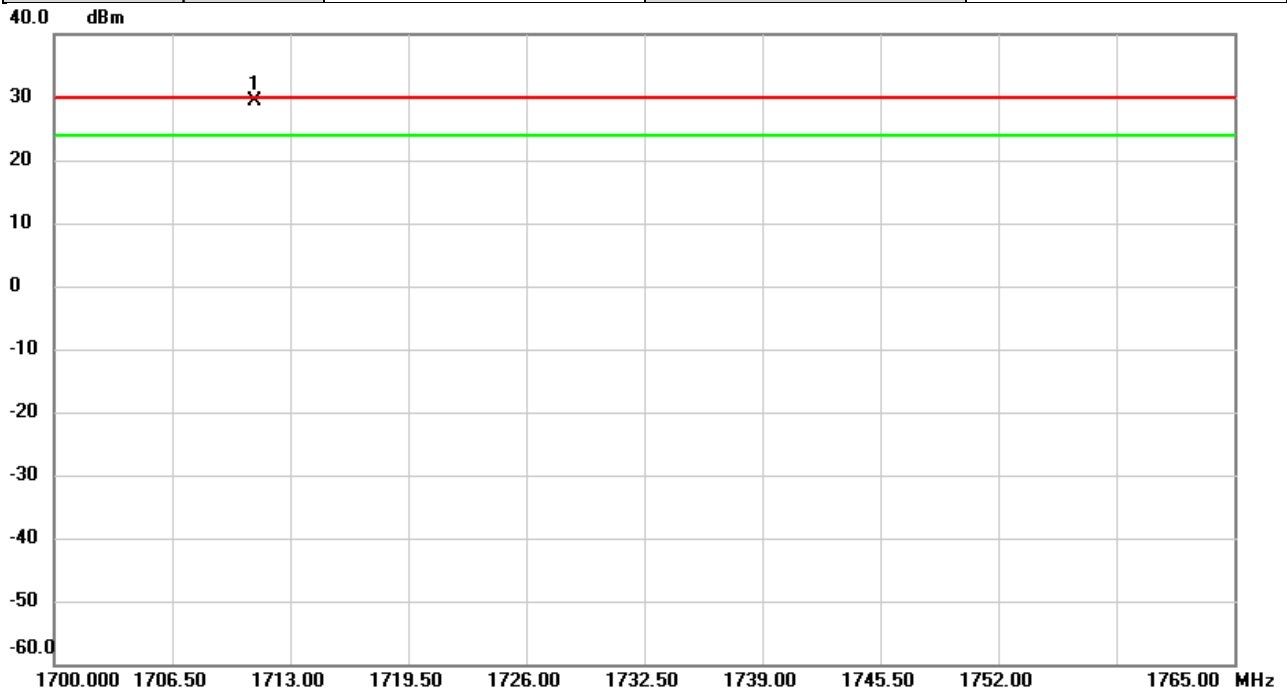
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	*	1751.394	-11.20	40.47	29.27	30.00	-0.73	peak	

REMARKS:

(1) Measurement Value = Reading Level + Correct Factor.

(2) Margin Level = Measurement Value - Limit Value.

Test Mode	LTE Band 4	Test Date	2022/3/10
Test Channel	CH20050	Polarization	Vertical
Temp	21°C	Hum.	64%

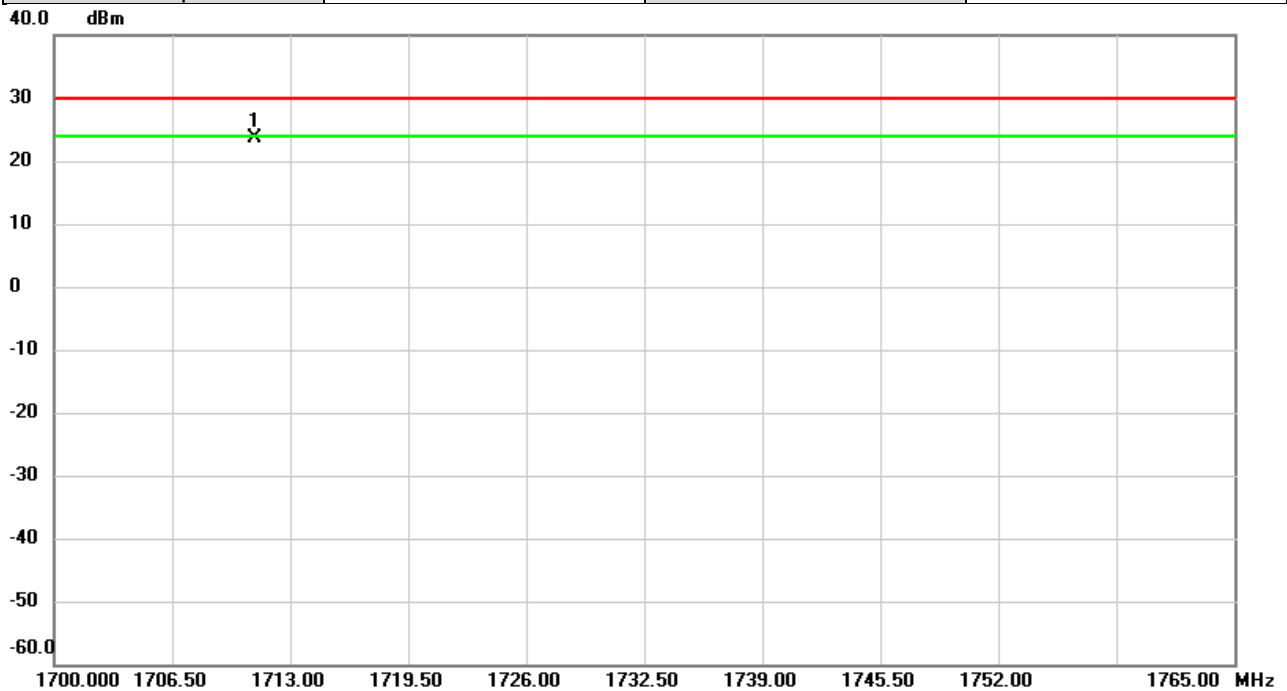


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	*	1711.076	-9.78	39.12	29.34	30.00	-0.66	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Test Mode	LTE Band 4	Test Date	2022/3/10
Test Channel	CH20050	Polarization	Horizontal
Temp	21°C	Hum.	64%

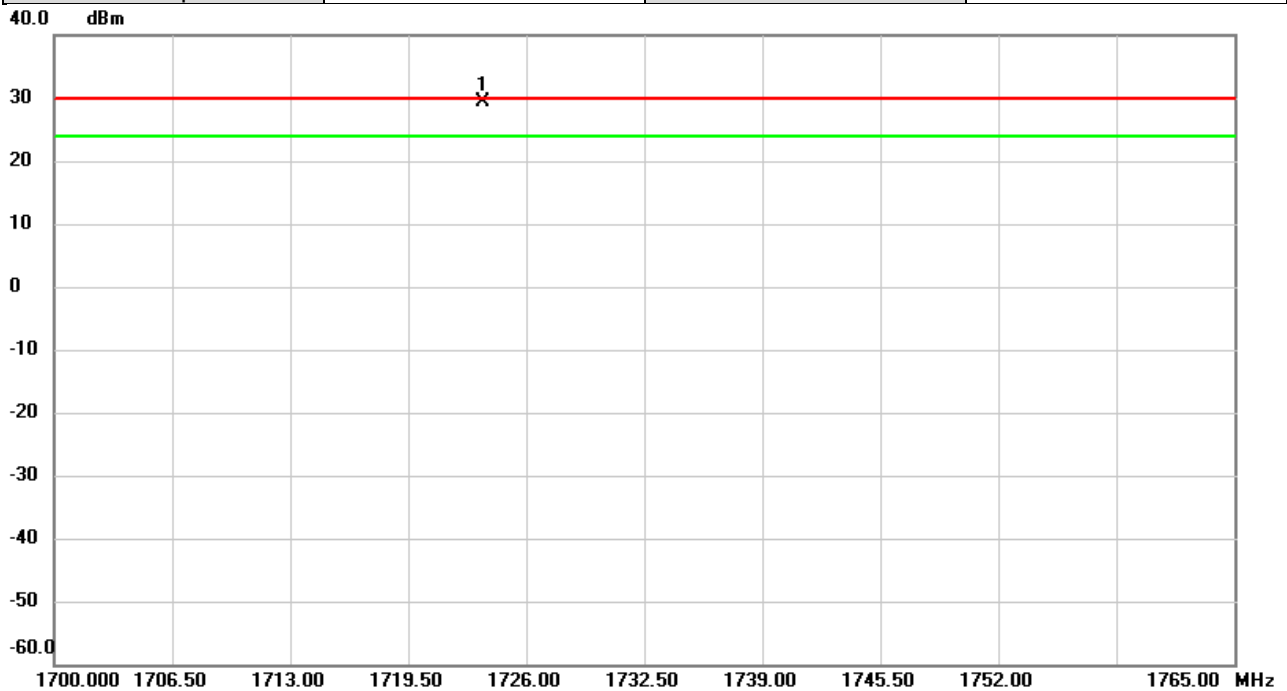


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBm	dB	dBm	dBm	dB		
1	*	1711.082	-16.15	39.86	23.71	30.00	-6.29	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Test Mode	LTE Band 4	Test Date	2022/3/10
Test Channel	CH20175	Polarization	Vertical
Temp	21°C	Hum.	64%

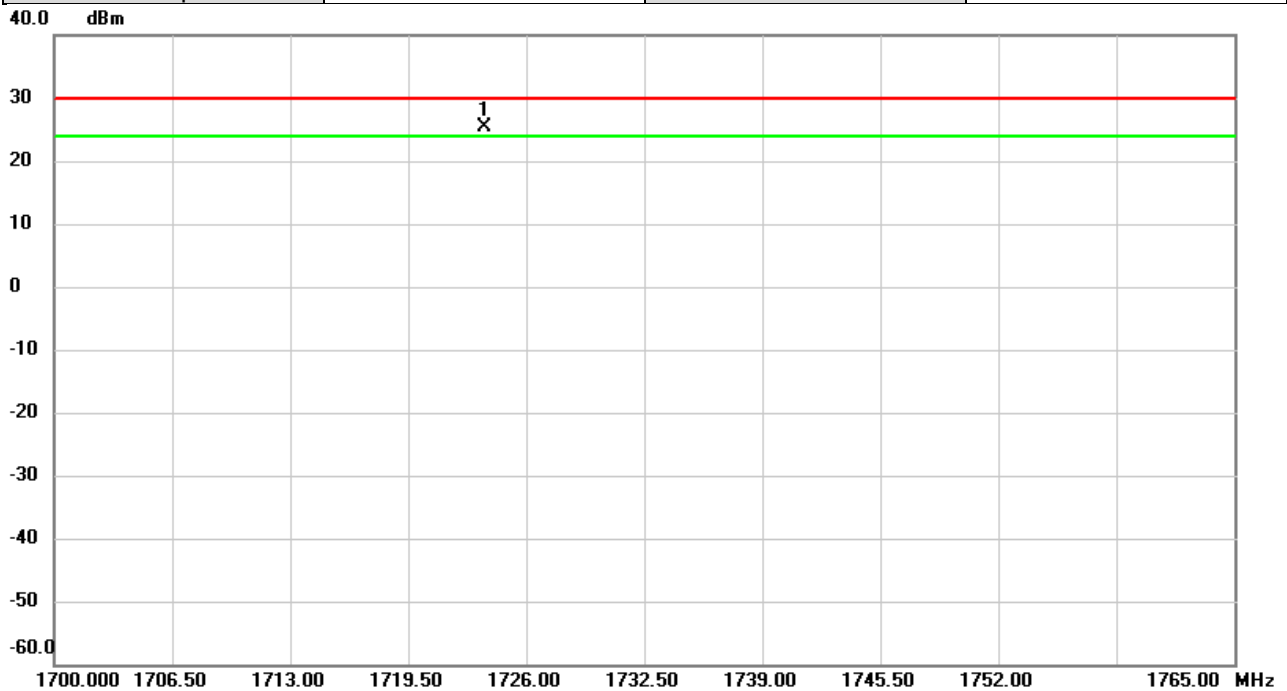


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	*	1723.578	-9.78	39.17	29.39	30.00	-0.61	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Test Mode	LTE Band 4	Test Date	2022/3/10
Test Channel	CH20175	Polarization	Horizontal
Temp	21°C	Hum.	64%

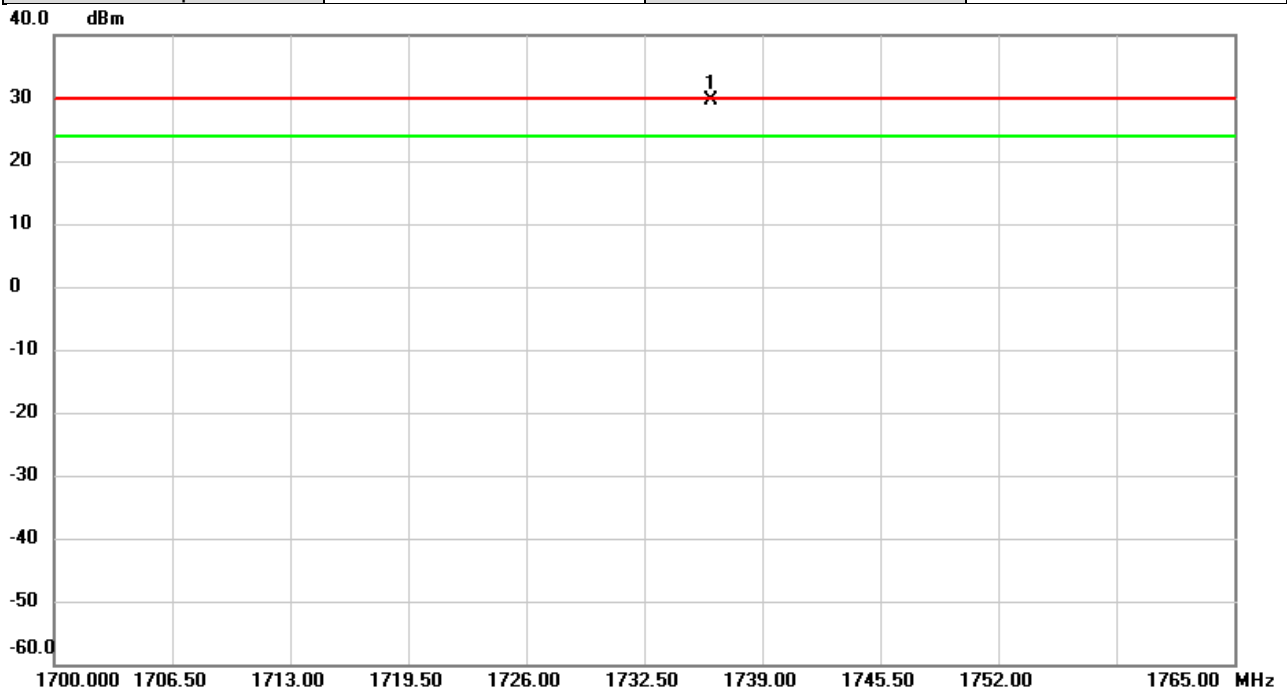


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	*	1723.710	-14.49	39.92	25.43	30.00	-4.57	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Test Mode	LTE Band 4	Test Date	2022/3/10
Test Channel	CH20300	Polarization	Vertical
Temp	21°C	Hum.	64%

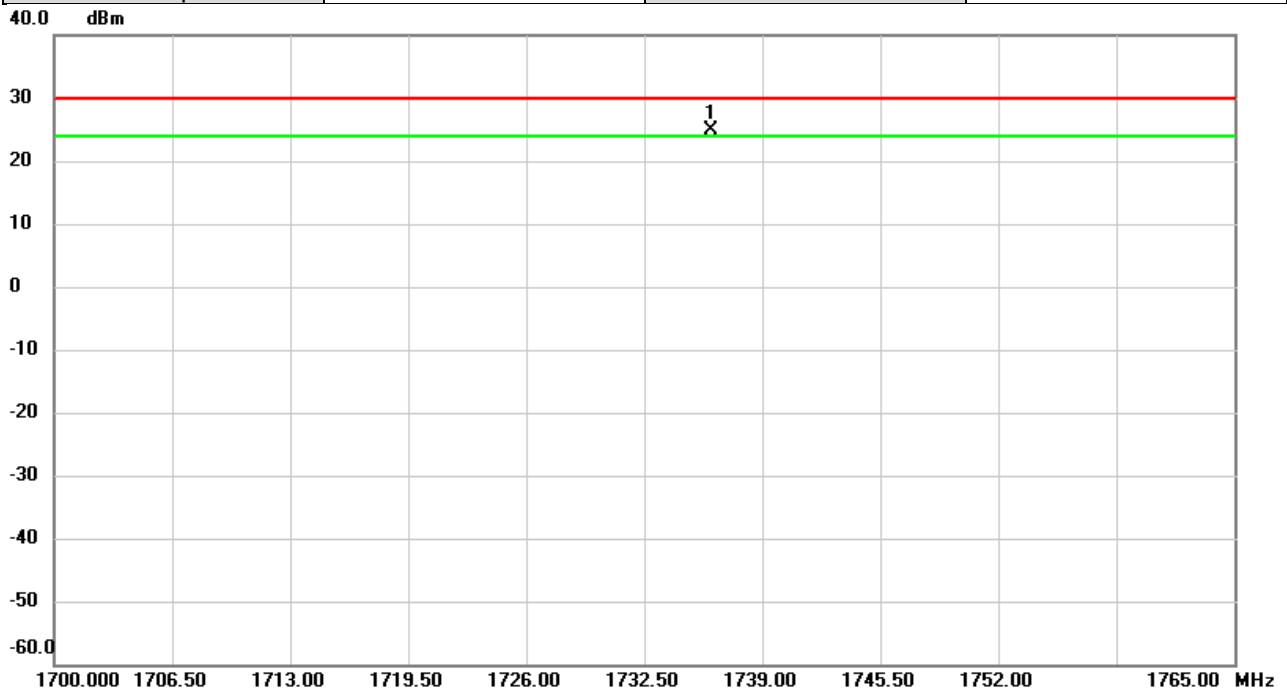


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	*	1736.192	-9.61	39.22	29.61	30.00	-0.39	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Test Mode	LTE Band 4	Test Date	2022/3/10
Test Channel	CH20300	Polarization	Horizontal
Temp	21°C	Hum.	64%



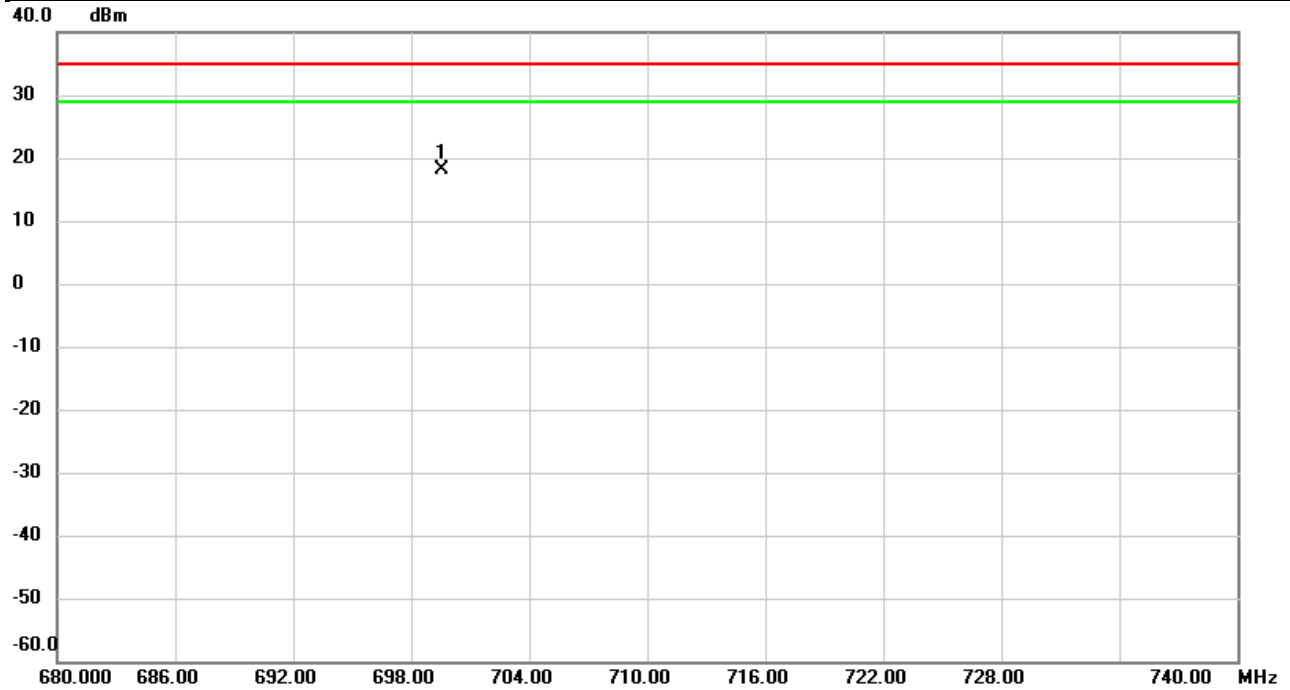
No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over	Detector	Comment
		MHz	dBm	dB	dBm	dBm	dB		
1	*	1736.218	-15.19	39.99	24.80	30.00	-5.20	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Effective Radiated Power:

Test Mode	LTE Band 12	Test Date	2022/3/10
Test Channel	CH23060	Polarization	Vertical
Temp	21°C	Hum.	64%

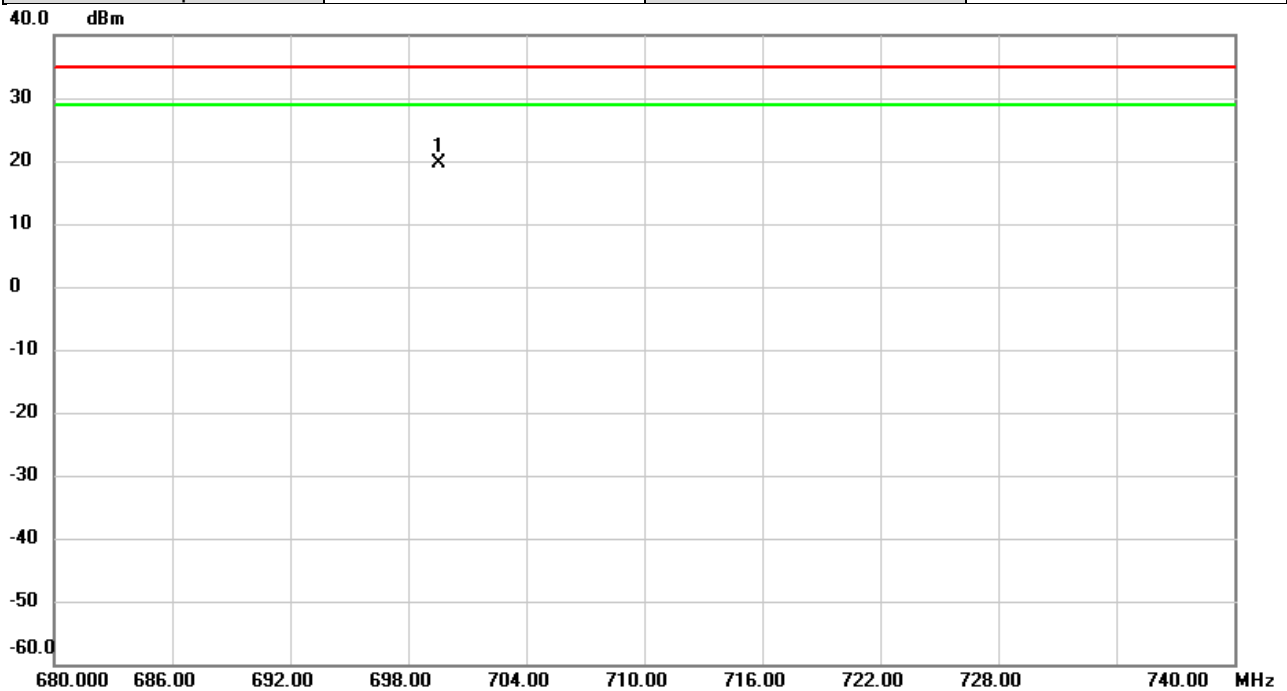


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	*	699.5860	-14.42	32.55	18.13	34.77	-16.64	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Test Mode	LTE Band 12	Test Date	2022/3/10
Test Channel	CH23060	Polarization	Horizontal
Temp	21°C	Hum.	64%

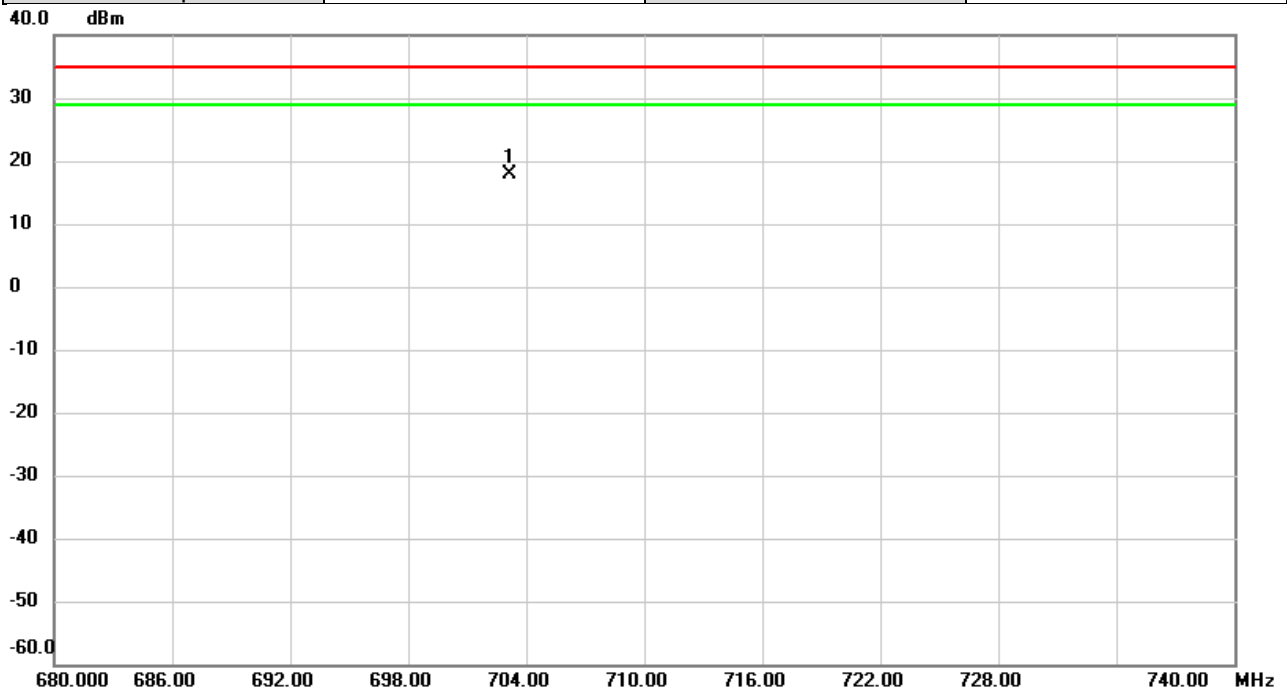


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	*	699.5360	-10.47	30.10	19.63	34.77	-15.14	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Test Mode	LTE Band 12	Test Date	2022/3/10
Test Channel	CH23095	Polarization	Vertical
Temp	21°C	Hum.	64%

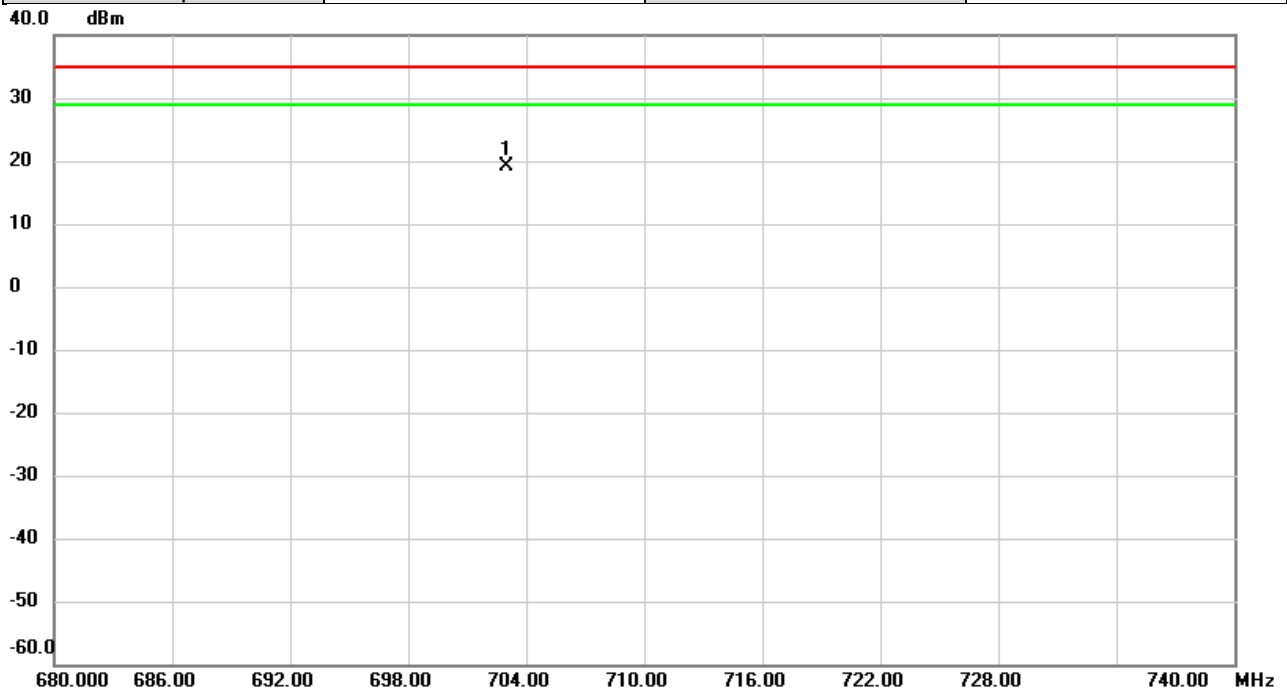


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	*	703.1560	-14.66	32.61	17.95	34.77	-16.82	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Test Mode	LTE Band 12	Test Date	2022/3/10
Test Channel	CH23095	Polarization	Horizontal
Temp	21°C	Hum.	64%

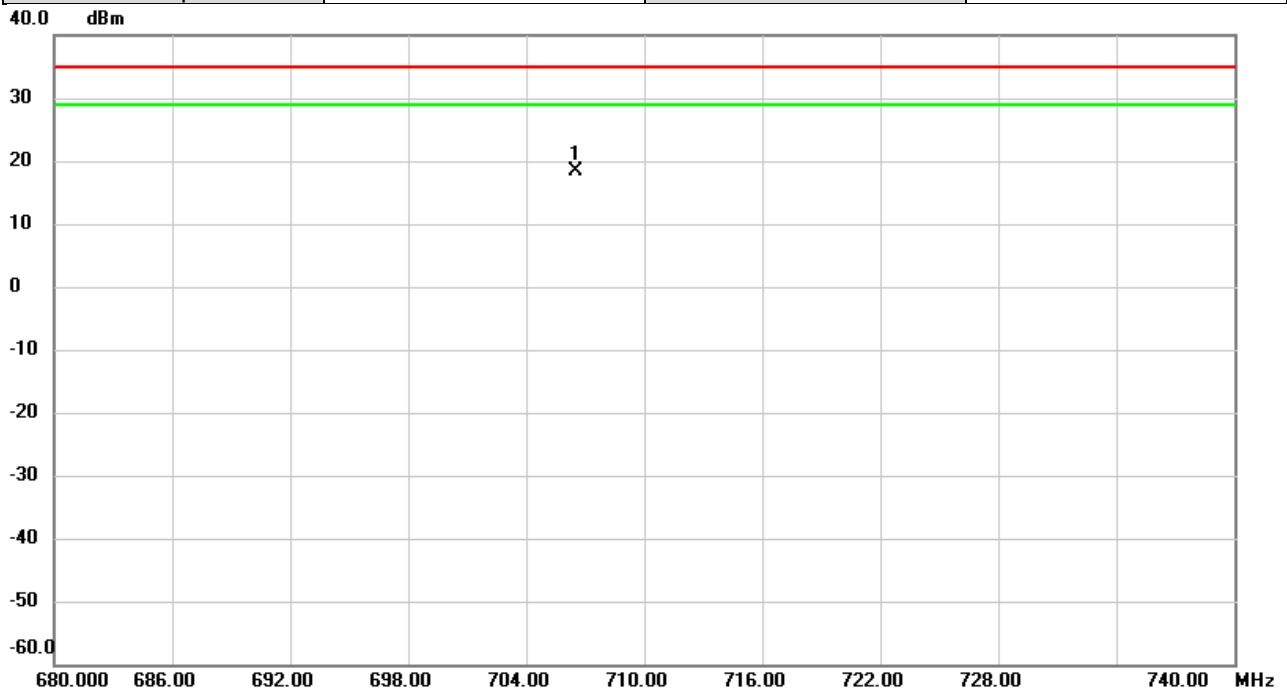


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	*	703.0320	-10.98	30.22	19.24	34.77	-15.53	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Test Mode	LTE Band 12	Test Date	2022/3/10
Test Channel	CH23130	Polarization	Vertical
Temp	21°C	Hum.	64%

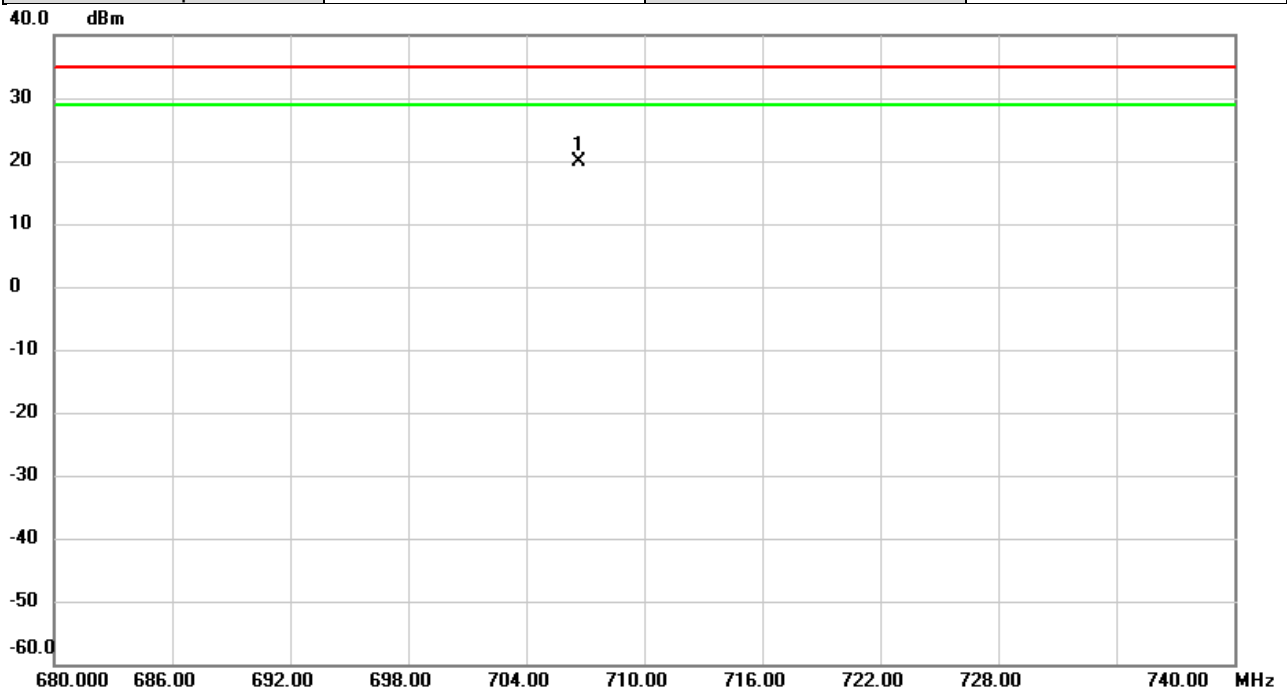


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	*	706.5500	-14.29	32.69	18.40	34.77	-16.37	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Test Mode	LTE Band 12	Test Date	2022/3/10
Test Channel	CH23130	Polarization	Horizontal
Temp	21°C	Hum.	64%

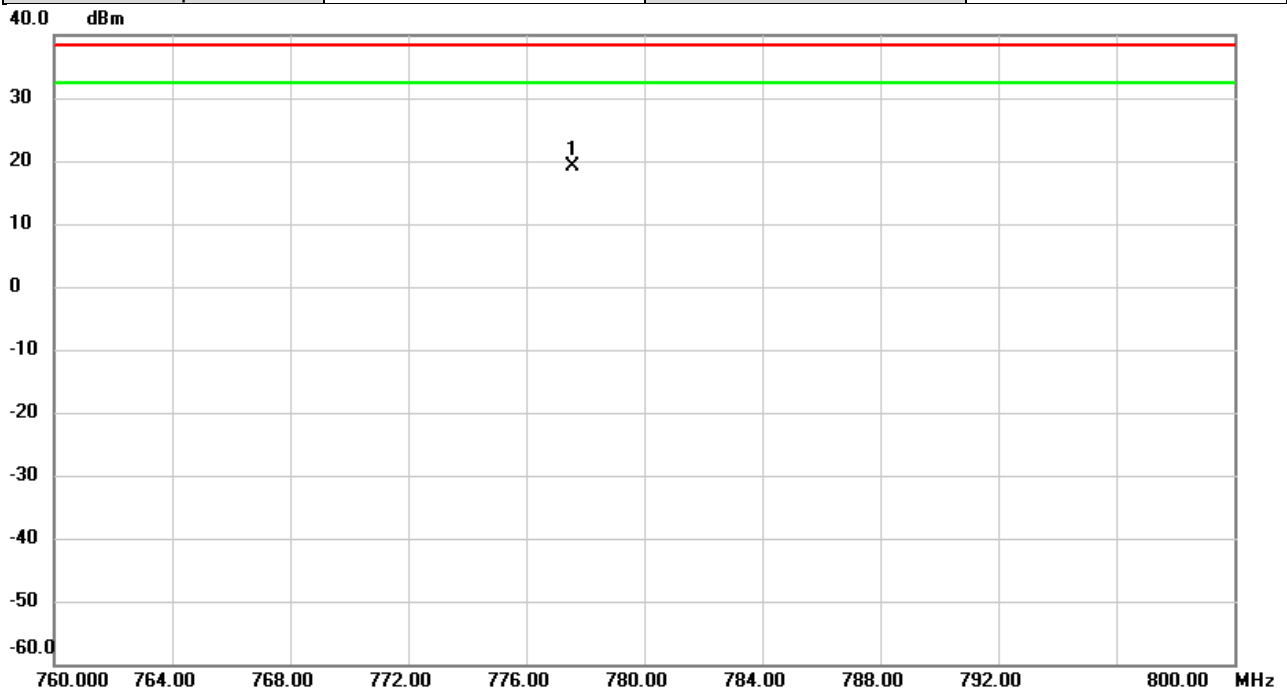


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	*	706.6580	-10.54	30.36	19.82	34.77	-14.95	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Test Mode	LTE Band 13	Test Date	2022/3/10
Test Channel	CH23230	Polarization	Vertical
Temp	21°C	Hum.	64%

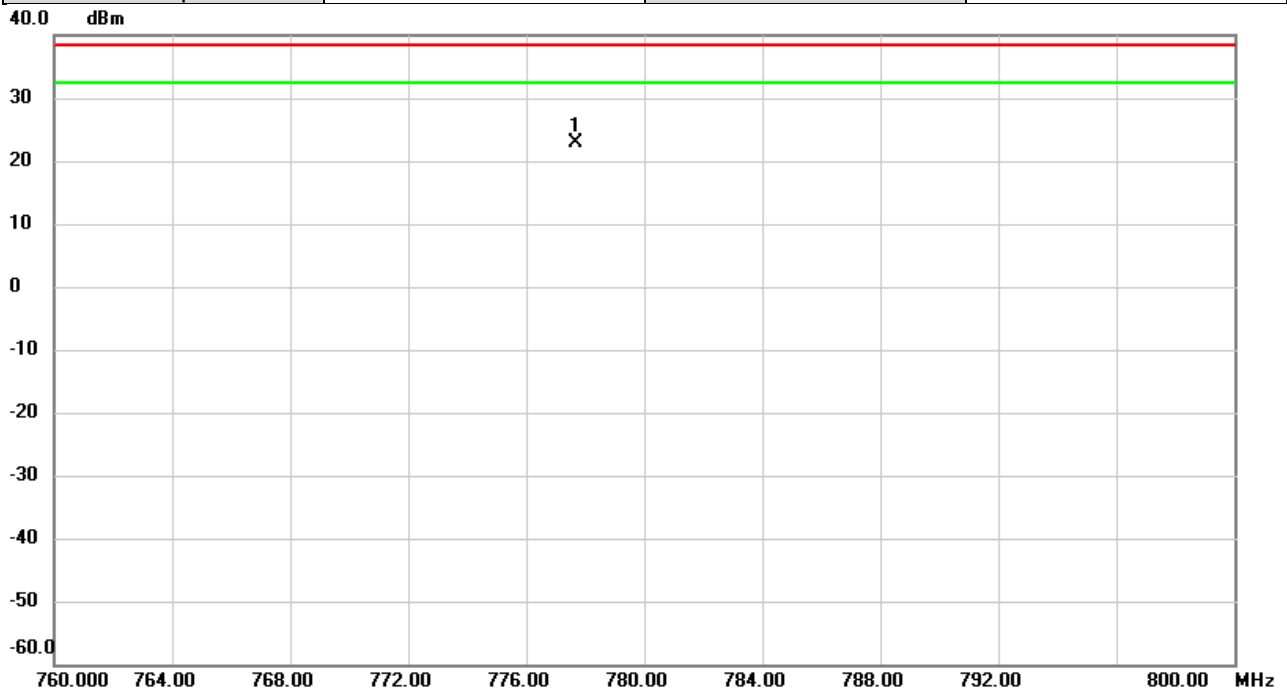


No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	*	777.5480	-14.78	34.02	19.24	38.45	-19.21	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

Test Mode	LTE Band 13	Test Date	2022/3/10
Test Channel	CH23230	Polarization	Horizontal
Temp	21°C	Hum.	64%



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Over		
		MHz	dBm	dB	dBm	dBm	dB	Detector	Comment
1	*	777.6640	-10.41	33.24	22.83	38.45	-15.62	peak	

REMARKS:

- (1) Measurement Value = Reading Level + Correct Factor.
- (2) Margin Level = Measurement Value - Limit Value.

APPENDIX B OCCUPIED BANDWIDTH

WCDMA Band IV_WCDMA

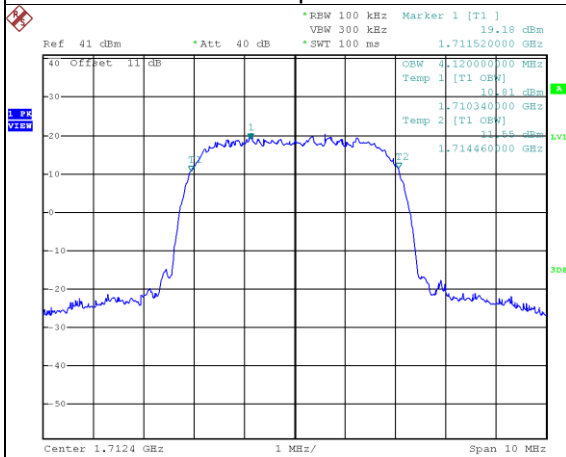
QPSK

Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
1312	1712.4	4.12	1312	1712.4	4.74
1413	1732.6	4.14	1413	1732.6	4.70
1513	1752.6	4.14	1513	1752.6	4.76

Spectrum Plot

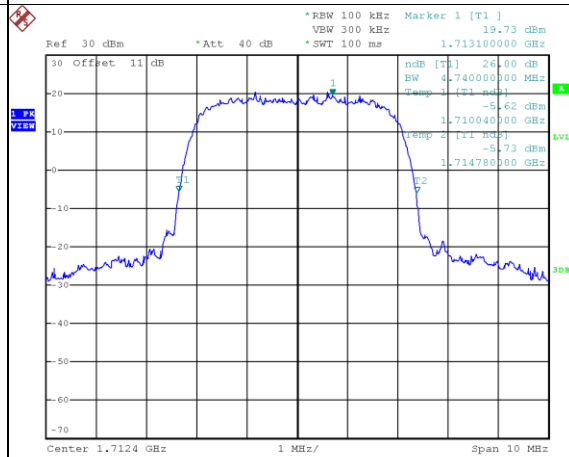
1312

99% Occupied Bandwidth



Date: 25.APR.2022 13:45:37

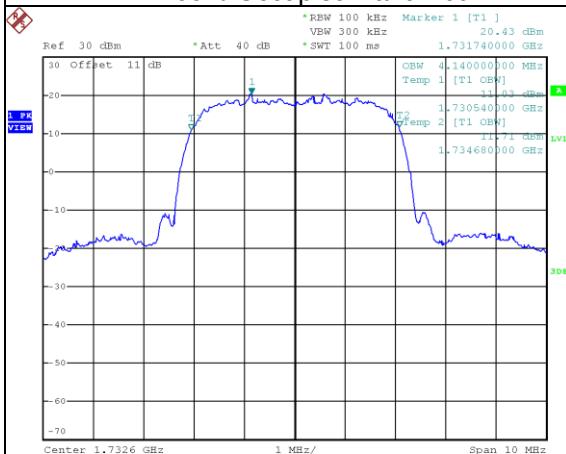
26dB Bandwidth



Date: 25.APR.2022 13:52:20

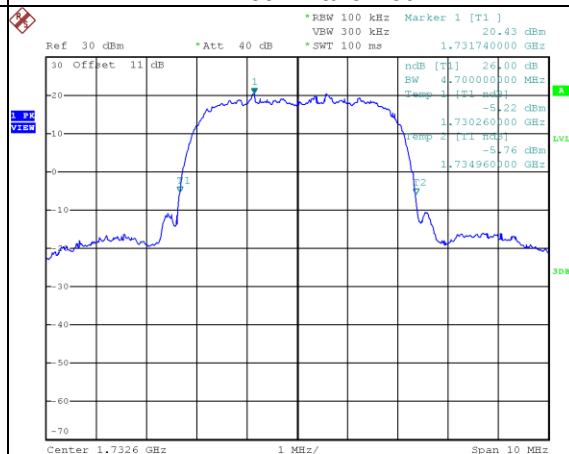
1413

99% Occupied Bandwidth



Date: 25.APR.2022 13:54:29

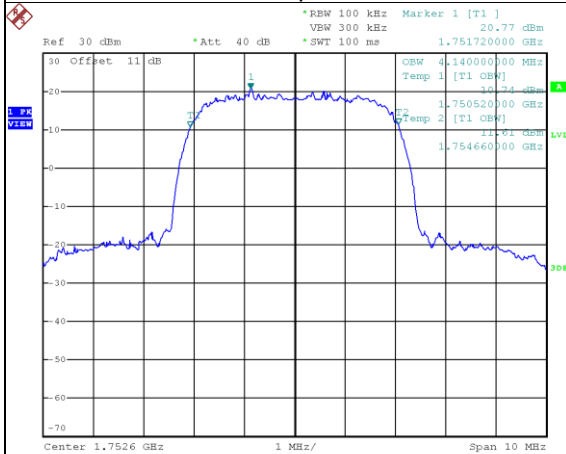
26dB Bandwidth



Date: 25.APR.2022 13:53:47

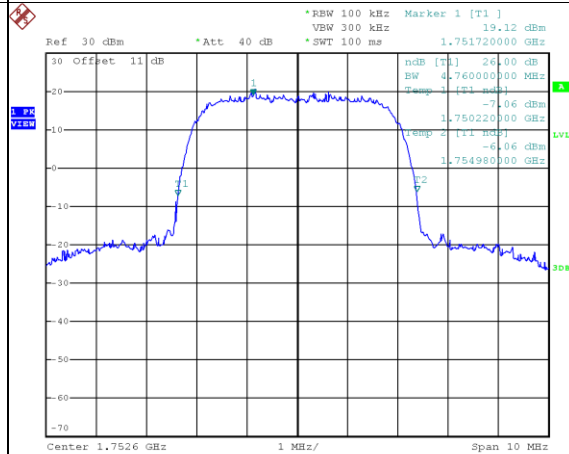
1513

99% Occupied Bandwidth



Date: 25.APR.2022 13:55:49

26dB Bandwidth

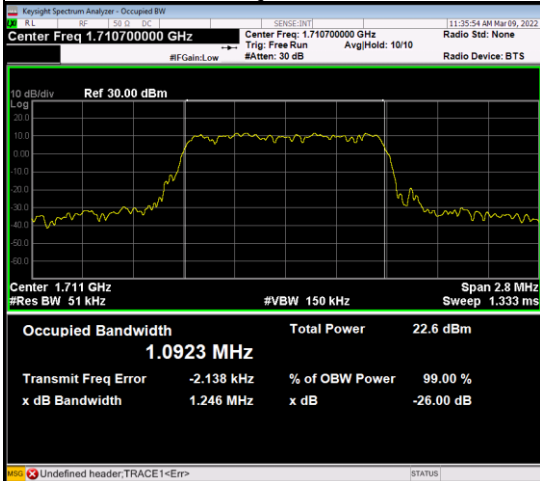


Date: 25.APR.2022 13:56:31

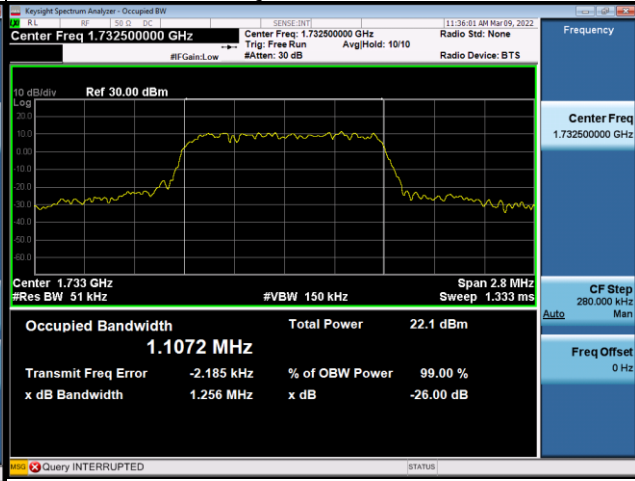
LTE Band 4_1.4M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
19957	1710.7	1.0923	19957	1710.7	1.246
20175	1732.5	1.1072	20175	1732.5	1.256
20393	1754.3	1.1057	20393	1754.3	1.233
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
19957	1710.7	1.1164	19957	1710.7	1.262
20175	1732.5	1.1133	20175	1732.5	1.282
20393	1754.3	1.0925	20393	1754.3	1.213
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
19957	1710.7	1.0942	19957	1710.7	1.228
20175	1732.5	1.1110	20175	1732.5	1.257
20393	1754.3	1.0962	20393	1754.3	1.246

Spectrum Plot

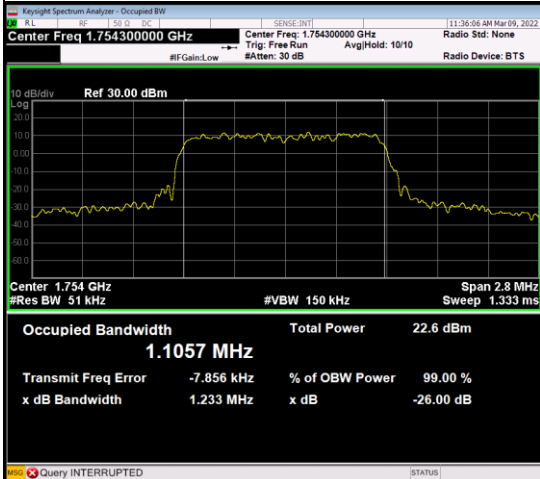
QPSK-19957



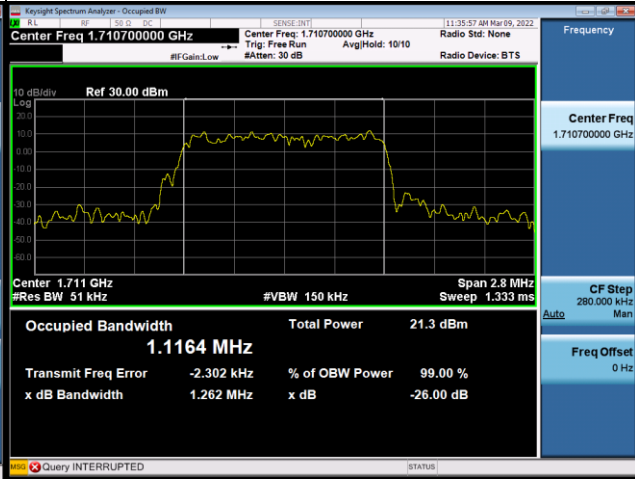
QPSK-20175



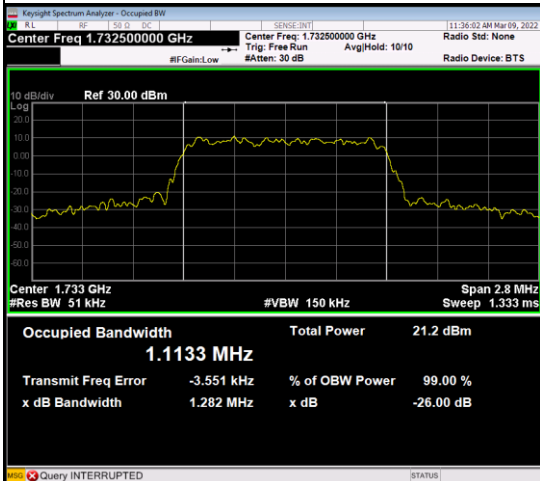
QPSK-20393



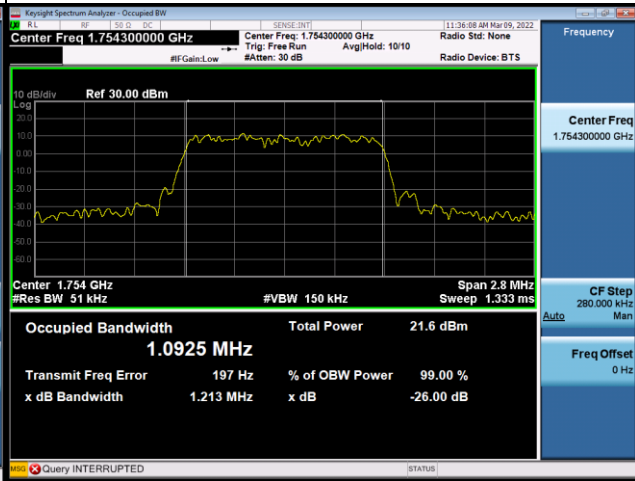
16QAM-19957



16QAM-20175

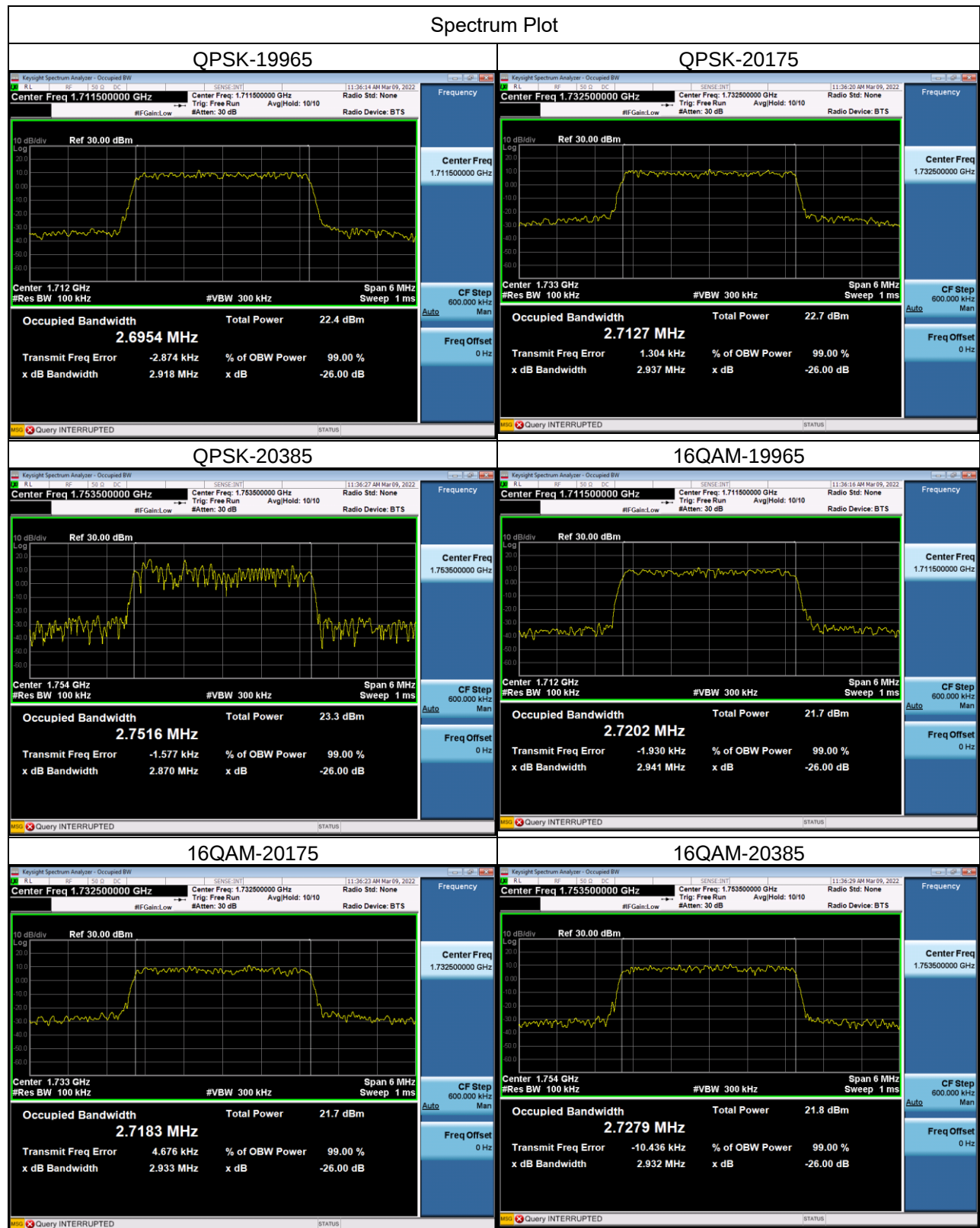


16QAM-20393





LTE Band 4_3M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
19965	1711.5	2.6954	19965	1711.5	2.918
20175	1732.5	2.7127	20175	1732.5	2.937
20385	1753.5	2.7516	20385	1753.5	2.870
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
19965	1711.5	2.7202	19965	1711.5	2.941
20175	1732.5	2.7183	20175	1732.5	2.933
20385	1753.5	2.7279	20385	1753.5	2.932
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
19965	1711.5	2.6999	19965	1711.5	2.923
20175	1732.5	2.7210	20175	1732.5	2.942
20385	1753.5	2.7141	20385	1753.5	2.946

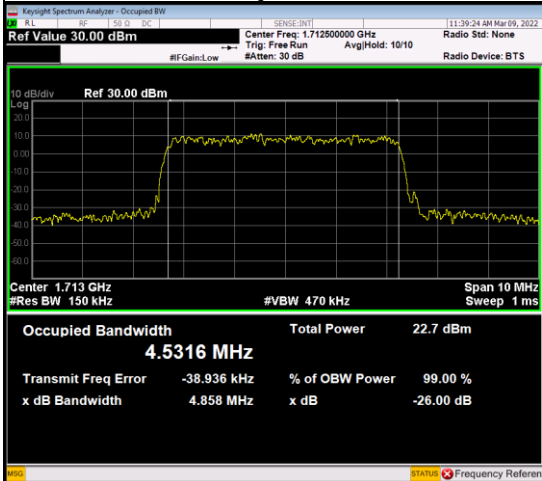




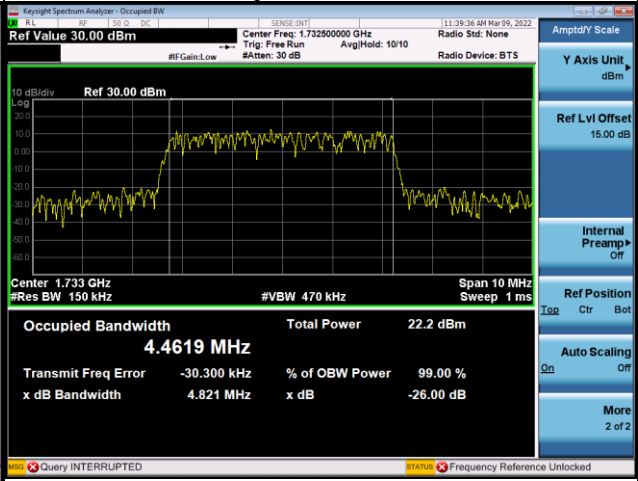
LTE Band 4_5M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
19975	1712.5	4.5316	19975	1712.5	4.858
20175	1732.5	4.4619	20175	1732.5	4.821
20375	1752.5	4.5258	20375	1752.5	4.812
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
19975	1712.5	4.5458	19975	1712.5	4.919
20175	1732.5	4.5380	20175	1732.5	4.856
20375	1752.5	4.5077	20375	1752.5	4.882
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
19975	1712.5	4.5207	19975	1712.5	4.855
20175	1732.5	4.4741	20175	1732.5	4.873
20375	1752.5	4.5022	20375	1752.5	4.852

Spectrum Plot

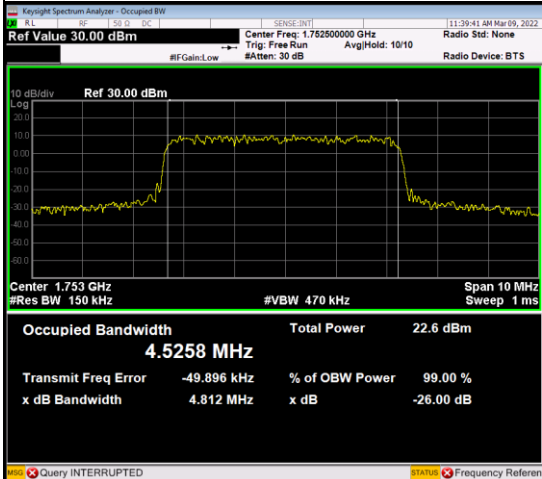
QPSK-19975



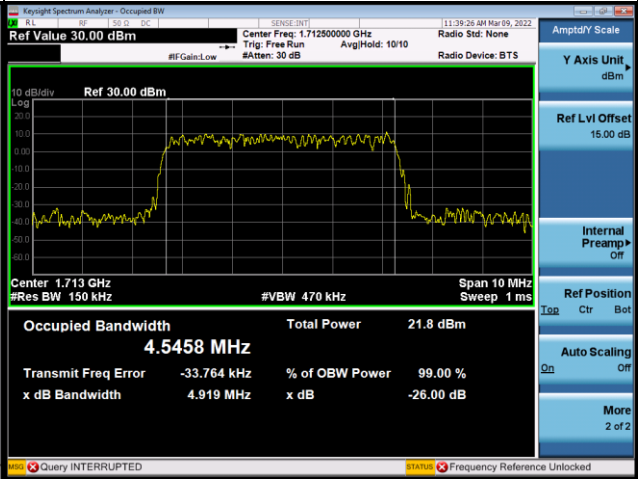
QPSK-20175



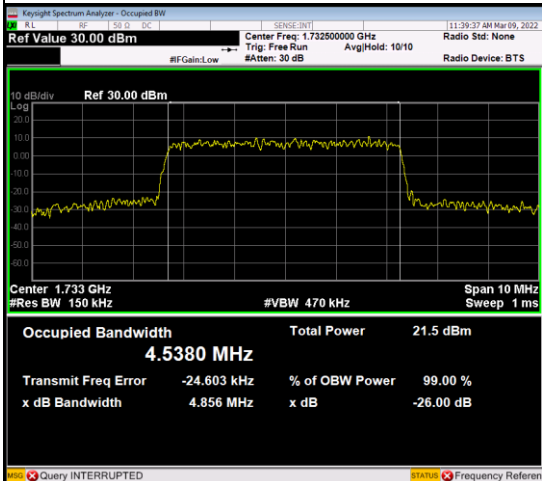
QPSK-20375



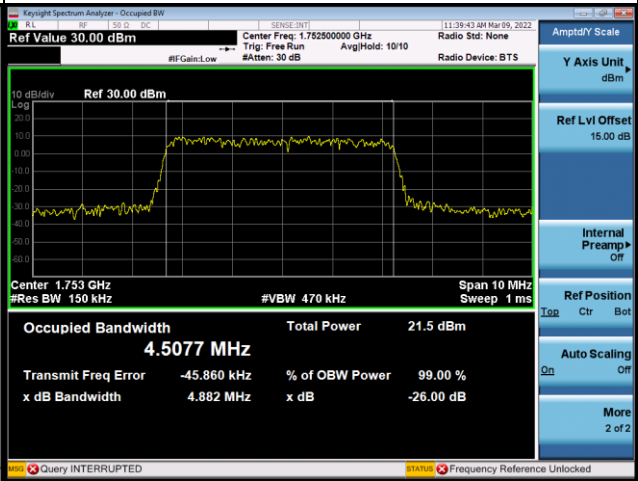
16QAM-19975



16QAM-20175



16QAM-20375





LTE Band 4_10M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
20000	1715	8.9740	20000	1715	9.483
20175	1732.5	8.9413	20175	1732.5	9.417
20350	1750	8.8982	20350	1750	9.467
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
20000	1715	8.8920	20000	1715	9.477
20175	1732.5	8.9294	20175	1732.5	9.437
20350	1750	8.9375	20350	1750	9.490
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
20000	1715	8.8918	20000	1715	9.520
20175	1732.5	8.9404	20175	1732.5	9.484
20350	1750	8.9460	20350	1750	9.568