

FCC Radio Test Report

FCC ID: 2AUYFRMX3686


Report No. : BTL-FCCP-4-2208G029
Equipment : Mobile Phone
Model Name : RMX3686
Brand Name : realme
Applicant : Realme Chongqing Mobile Telecommunications Corp., Ltd.
Address : No.178 Yulong Avenue, Yufengshan, Yubei District, Chongqing,China.
Manufacturer : Realme Chongqing Mobile Telecommunications Corp., Ltd.
Address : No.178 Yulong Avenue, Yufengshan, Yubei District, Chongqing,China.
Factory : Realme Chongqing Mobile Telecommunications Corp., Ltd.
Address : No.178 Yulong Avenue, Yufengshan, Yubei District, Chongqing,China.

Radio Function : LTE Band 26

FCC Rule Part(s) : 47 CFR FCC Part 90 Subpart S
Measurement : ANSI C63.26-2015
Procedure(s) : ANSI/TIA-603-E-2016
FCC KDB 971168 D01 Power Meas License Digital Systems v03r01

Date of Receipt : 2022/8/18
Date of Test : 2022/10/13 ~ 2022/10/24
Issued Date : 2022/11/01

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.

CONTENTS

REVISION HISTORY	5
1 SUMMARY OF TEST RESULTS	6
1.1 TEST FACILITY	7
1.2 MEASUREMENT UNCERTAINTY	7
1.3 TEST ENVIRONMENT CONDITIONS	7
2 GENERAL INFORMATION	8
2.1 DESCRIPTION OF EUT	8
2.2 TEST MODES	10
2.3 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	11
2.4 SUPPORT UNITS	11
3 CONDUCTED OUTPUT POWER AND EFFECTIVE RADIATED POWER MEASUREMENT	12
3.1 LIMIT	12
3.2 TEST PROCEDURE	12
3.3 DEVIATION FROM TEST STANDARD	12
3.4 TEST SETUP	12
3.5 EUT OPERATING CONDITIONS	12
3.6 TEST RESULT	12
4 OCCUPIED BANDWIDTH MEASUREMENT	13
4.1 TEST PROCEDURE	13
4.2 DEVIATION FROM TEST STANDARD	13
4.3 TEST SETUP	13
4.4 TEST RESULT	13
5 CONDUCTED SPURIOUS EMISSIONS MEASUREMENT	14
5.1 LIMIT	14
5.2 TEST PROCEDURE	14
5.3 DEVIATION FROM TEST STANDARD	14
5.4 TEST SETUP	14
5.5 TEST RESULT	14
6 RADIATED SPURIOUS EMISSIONS TEST	15
6.1 LIMIT	15
6.2 TEST PROCEDURE	15
6.3 DEVIATION FROM TEST STANDARD	15
6.4 TEST SETUP	16
6.5 EUT OPERATING CONDITIONS	16
6.6 TEST RESULT	16
7 MASK MEASUREMENTS	17
7.1 LIMIT	17
7.2 TEST PROCEDURE	17
7.3 DEVIATION FROM TEST STANDARD	17
7.4 TEST SETUP	17
7.5 TEST RESULT	17
8 PEAK TO AVERAGE RATIO MEASUREMENT	18
8.1 LIMIT	18
8.2 TEST PROCEDURE	18
8.3 DEVIATION FROM TEST STANDARD	18
8.4 TEST SETUP	18
8.5 TEST RESULT	18

9	FREQUENCY STABILITY MEASUREMENT	19
9.1	LIMIT	19
9.2	TEST PROCEDURE	19
9.3	DEVIATION FROM TEST STANDARD	19
9.4	TEST SETUP	19
9.5	TEST RESULT	19
10	LIST OF MEASURING EQUIPMENTS	20
11	EUT TEST PHOTO	22
12	EUT PHOTOS	22
APPENDIX A	CONDUCTED OUTPUT POWER AND EFFECTIVE RADIATED POWER	23
APPENDIX B	OCCUPIED BANDWIDTH	30
APPENDIX C	CONDUCTED SPURIOUS EMISSION	41
APPENDIX D	RADIATED SPURIOUS EMISSIONS	45
APPENDIX E	MASK	50
APPENDIX F	PEAK TO AVERAGE RATIO	55
APPENDIX G	FREQUENCY STABILITY	63

REVISION HISTORY

Report No.	Version	Description	Issued Date	Note
BTL-FCCP-4-2208G029	R00	Original Report.	2022/10/25	Invalid
BTL-FCCP-4-2208G029	R01	Updated information in section 2.1.	2022/11/01	Valid

1 SUMMARY OF TEST RESULTS

Test procedures according to the technical standards.

FCC Clause No	Description	Test Result	Judgement	Remark
2.1046 90.635 (b)	Conducted Output Power Equivalent I Radiated Power (ERP)	APPENDIX A	Pass	-----
2.1049 90.209	Occupied Bandwidth	APPENDIX B	Pass	-----
2.1053 90.669	Conducted Spurious Emissions	APPENDIX C	Pass	-----
2.1053 90.669	Radiated Spurious Emissions	APPENDIX D	Pass	-----
2.1053 90.691	Mask Measurements	APPENDIX E	Pass	-----
-	Peak To Average Ratio	APPENDIX F	Pass	-----
2.1055 90.213	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.

1.1 TEST FACILITY

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

No. 72, 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.

C06 CB21 CB22

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 SR10

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)
CB21	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:

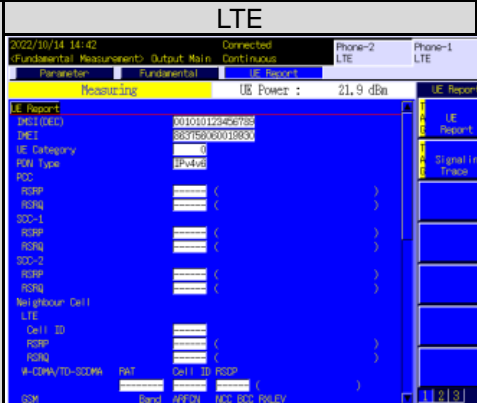
Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

1.3 TEST ENVIRONMENT CONDITIONS

Test Item	Environment Condition	Test Voltage	Tested by
Conducted Output Power and Effective Radiated Power	25.7°C, 52 %	DC 3.87 V	Paul Shen
Occupied Bandwidth	25.7°C, 52 %	DC 3.87 V	Paul Shen
Conducted Spurious Emissions	25.7°C, 52 %	DC 3.87 V	Paul Shen
Radiated Spurious Emissions	Refer to data	AC 120 V	Mark Wang
Band Edge	25.7°C, 52 %	DC 3.87 V	Paul Shen
Peak to Average Ratio	25.7°C, 52 %	DC 3.87 V	Paul Shen
Frequency Stability	Normal and Extreme		Paul Shen

2 GENERAL INFORMATION

2.1 DESCRIPTION OF EUT

Equipment	Mobile Phone
Model Name	RMX3686
Brand Name	realme
Model Difference	N/A
Power Source	#1 DC voltage supplied from AC/DC Adapter. #2 Supplied from Li-ion battery. #3 Supplied from USB port.
Power Rating	#1 For VCB7CAUH: 1. I/P: 100-130V~ 50/60Hz 1.8A O/P: 5V \equiv 2A or 5-11V \equiv 5A(MAX) I/P: 200-240V~ 50/60Hz 1.8A O/P: 5V \equiv 2A or 5-11V \equiv 6.1A(MAX) For VCB8JAUH: 1. I/P: 100-130V~ 50/60Hz 2.0A O/P: 5V \equiv 2A or 5.0-11.0V \equiv 6.1A MAX (67W MAX) 2. I/P: 200-240V~ 50/60Hz 2.0A O/P: 5V \equiv 2A or 5.0-11.0V \equiv 7.3A MAX (80W MAX) #2 DC 3.87V, 4890mAh/18.92Wh (Min) #3 DC 5V
Products Covered	2 * Adapter: (1) VCB7CAUH (2) VCB8JAUH 1 * Li-ion battery: realme / BLP951 1 * TYPE-C Cable
IMEI No.	<div style="text-align: center;">LTE</div>  <p>The screenshot shows LTE test results with the following key information:</p> <ul style="list-style-type: none"> Time: 2022/10/14 14:42 Status: Connected Mode: Fundamental Power: 21.9 dBm IMEI: 863758060018900 Cell ID: 112131

Operation Frequency	Band	UL Frequency (MHz)	DL Frequency (MHz)	
	LTE 26	814.7~ 823.3	859.7 ~ 868.3	
Maximum EIRP	Band	BW (MHz)	Mode	Power (W)
	LTE 26	1.4	QPSK	0.029
			16QAM	0.024
			64QAM	0.019
		3	QPSK	0.028
			16QAM	0.024
			64QAM	0.019
		5	QPSK	0.029
			16QAM	0.025
			64QAM	0.019
	10	QPSK	0.028	
		16QAM	0.024	
64QAM		0.018		
Test Model	RMX3686			
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:

LTE Band 26					
Test Frequency ID	Bandwidth (MHz)	N _{UL}	Frequency of Uplink (MHz)	N _{DL}	Frequency of Downlink (MHz)
Low Range	1.4	26697	814.7	8697	859.7
	3	26705	815.5	8705	860.5
	5	26715	816.5	8715	861.5
Mid Range	1.4/3/5/10	26740	819	8740	864
High Range	1.4	26783	823.3	8783	868.3
	3	26775	822.5	8775	867.5
	5	26765	821.5	8765	866.5

(3) Table for Filed Antenna:

Brand	Model Name	Type	Connector	Gain (dBi)	Note
realme	Ant 0	IFA	N/A	-6.76	LTE Band 26
	Ant 1	IFA	N/A	-9.70	

Note: The antenna gain is provided by the manufacturer.

2.2 TEST MODES

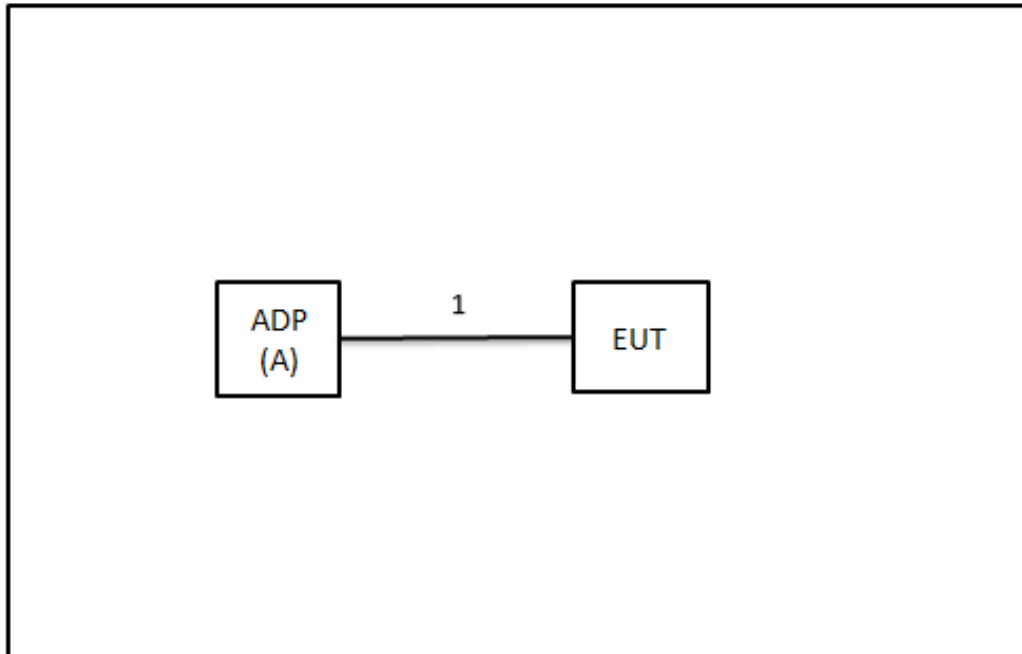
LTE BAND 26 MODE					
Test Item	Available Channel	Tested Channel	Channel Bandwidth	Modulation	Mode
Conducted Output Power & Effective Radiated Power	26697 to 26783	26697, 26740, 26783	1.4MHz	QPSK, 16QAM, 64QAM	1RB/3RB/6RB
	26705 to 26775	26705, 26740, 26775	3MHz	QPSK, 16QAM, 64QAM	1RB/8RB/15RB
	26715 to 26765	26715, 26740, 26765	5MHz	QPSK, 16QAM, 64QAM	1RB/12RB/25RB
	26740	26740	10MHz	QPSK, 16QAM, 64QAM	1RB/25RB/50RB
Occupied Bandwidth	26697 to 26783	26697, 26740, 26783	1.4MHz	QPSK, 16QAM, 64QAM	6RB
	26705 to 26775	26705, 26740, 26775	3MHz	QPSK, 16QAM, 64QAM	15RB
	26715 to 26765	26715, 26740, 26765	5MHz	QPSK, 16QAM, 64QAM	25RB
	26740	26740	10MHz	QPSK, 16QAM, 64QAM	50RB
Conducted Spurious Emissions	26697 to 26783	26740	1.4MHz	QPSK	1RB
	26705 to 26775	26740	5MHz	QPSK	1RB
	26715 to 26765	26740	10MHz	QPSK	1RB
Radiated Spurious Emissions	26715 to 26765	26740	10MHz	QPSK	1RB
Mask	26697 to 26783	26697, 26783	1.4MHz	QPSK	1RB/6RB
	26705 to 26775	26705, 26775	3MHz	QPSK	1RB/15RB
	26715 to 26765	26715, 26765	5MHz	QPSK	1RB/25RB
	26740	26740	10MHz	QPSK	1RB/50RB
Peak To Average Ratio	26697 to 26783	26697, 26740, 26783	1.4MHz	QPSK, 16QAM, 64QAM	1RB
	26705 to 26775	26705, 26740, 26775	3MHz	QPSK, 16QAM, 64QAM	1RB
	26715 to 26765	26715, 26740, 26765	5MHz	QPSK, 16QAM, 64QAM	1RB
	26740	26740	10MHz	QPSK, 16QAM, 64QAM	1RB
Frequency Stability	26715 to 26765	26740	10MHz	QPSK	50RB

NOTE:

- (1) All X, Y and Z axes are evaluated, but only the worst case (X axis) is recorded.
- (2) For Radiated Spurious Emissions of all modulation are evaluated, but only the worst case (QPSK) is recorded.
- (3) For radiated spurious emissions test item, all antennas had been evaluated, and in this report only recorded the worst case.
- (4) For effective radiated power test item only recorded the worst case in this report.

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	ADP	SUPERVOOC	VCB7CAUH	N/A	Supplied by test requester.

Item	Shielded	Ferrite Core	Length	Cable Type	Remarks
1	N/A	N/A	1m	USB to Type C Cable	Supplied by test requester.

3 CONDUCTED OUTPUT POWER AND EFFECTIVE RADIATED POWER MEASUREMENT

3.1 LIMIT

Mobile / Portable station are limited to 100 watts e.r.p.

3.2 TEST PROCEDURE

The testing follows FCC KDB 971168 v03r01 Section 5.0.

EIRP / ERP Power Measurement:

EIRP = Conducted Power + Antenna gain.

ERP power = EIPR power - 2.15 dBi.

Conducted Measurement:

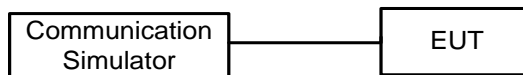
The EUT was set up for the maximum power with WCDMA and LTE link data modulation and link up with simulator. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

3.3 DEVIATION FROM TEST STANDARD

No deviation.

3.4 TEST SETUP

Conducted 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

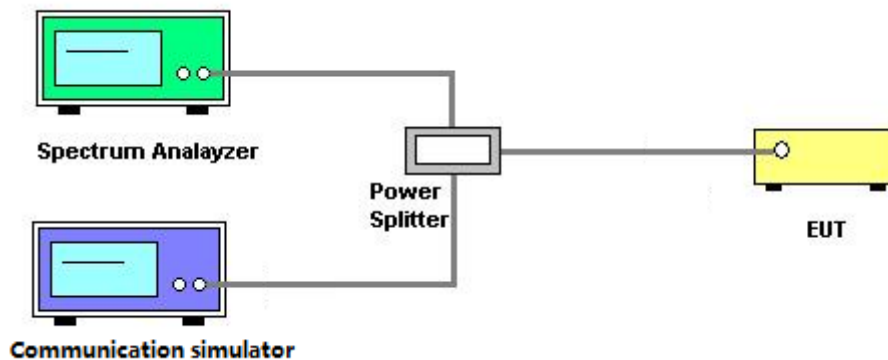
The testing follows FCC KDB 971168 v03r01 Section 4.

- 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.

5.2 TEST PROCEDURE

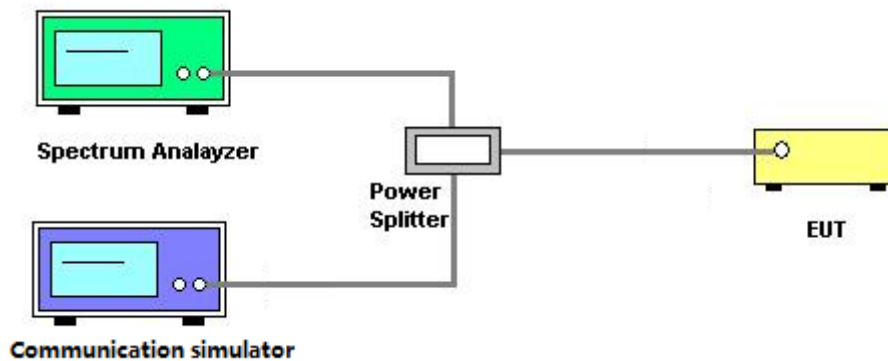
The testing follows FCC KDB 971168 v03r01 Section 6.

- 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 \geq 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.

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

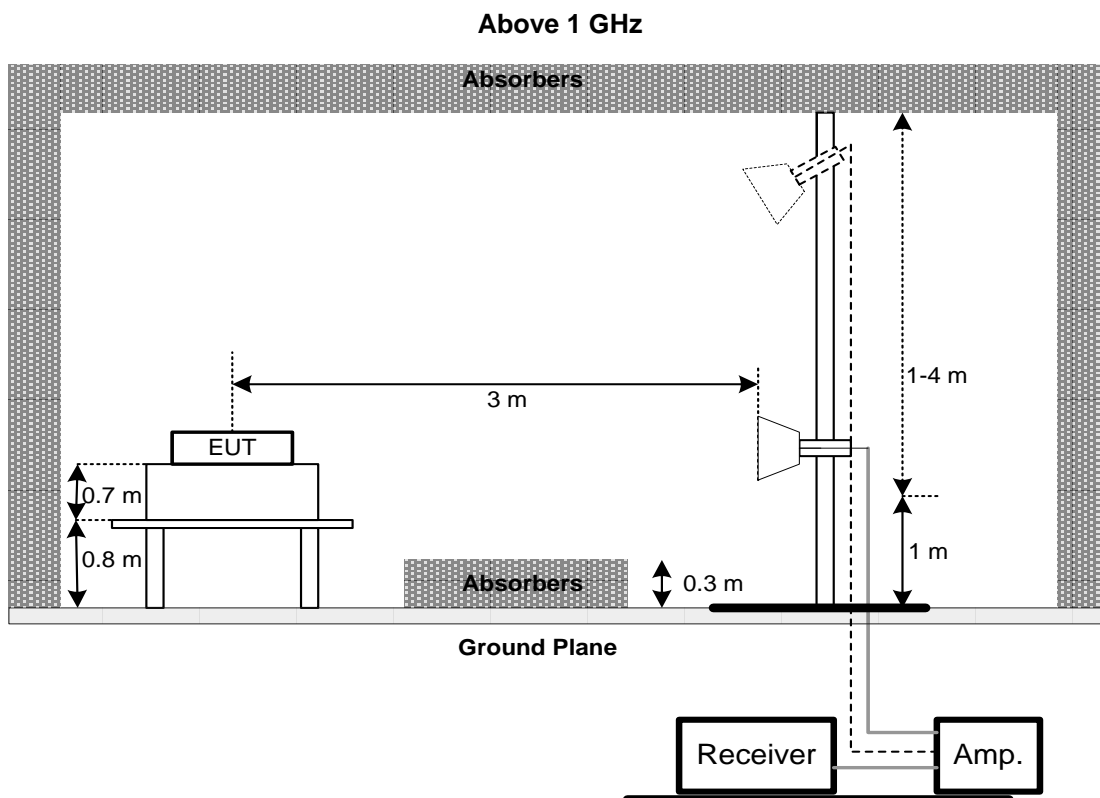
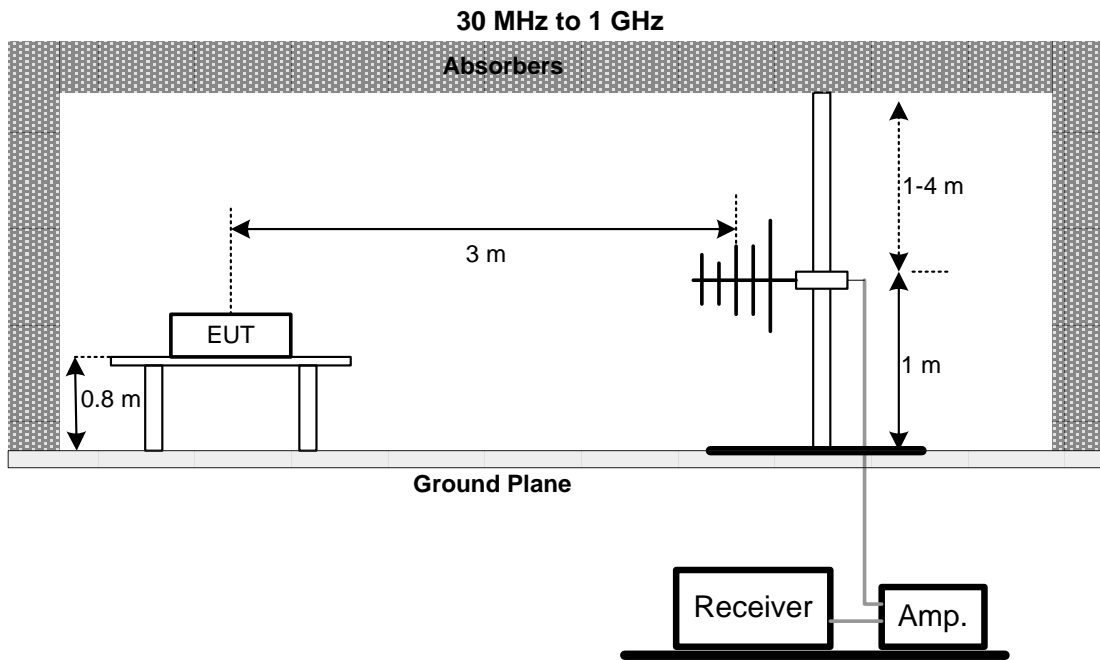
The testing follows FCC KDB 971168 v03r01 Section 6.2.

- a. 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.
- b. 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
- c. EIRP = Output power level of S.G - TX cable loss + Antenna gain of substitution horn.
- d. ERP can be calculated form EIRP by subtracting the gain of dipole, $ERP = EIPR - 2.15\text{dBi}$.
- e. 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 Mask Measurements

7.1 LIMIT

According to FCC part 90.691 shall be tested the emission mask. For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least $116 \log_{10}(f/6.1)$ decibels or $50 + 10 \log_{10}(P)$ decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5 kHz. For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10}(P)$ decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz.

7.2 TEST PROCEDURE

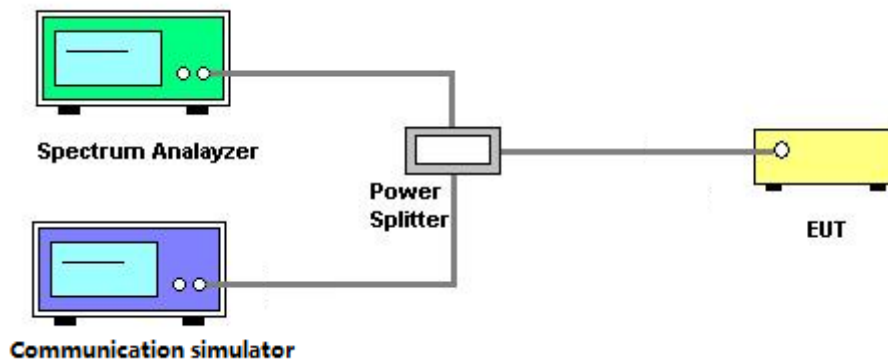
The testing follows FCC KDB 971168 v03r01 Section 6.

- All measurements were done at low and high operational frequency range.
- Set RBW=1% of 26dBc bandwidth, VBW=3 X RBW, detector=RMS, Sweep time = Auto.
For Section 90.691(a) compliance testing, use RBW = 300 Hz for offsets less than 37.5 kHz from a channel edge; RBW = 100 kHz for offsets greater than 37.5 kHz is allowed.
- 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 错误!未找到引用源。

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

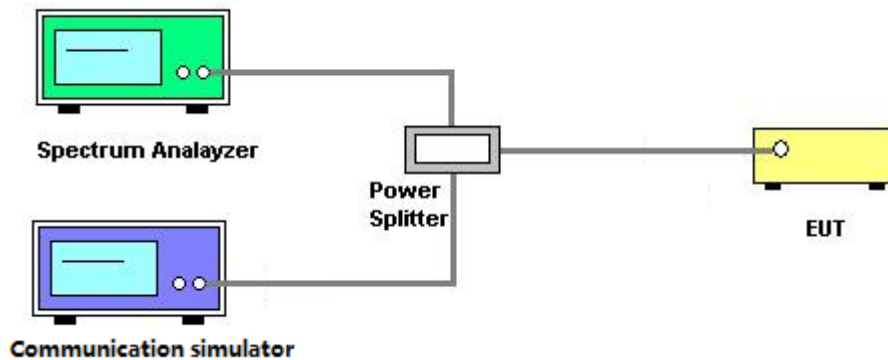
The testing follows FCC KDB 971168 v03r01 Section 5.7.

- 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

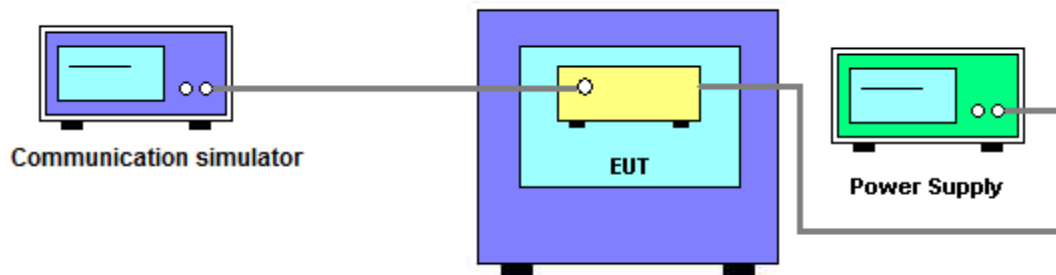
The testing follows FCC KDB 971168 v03r01 Section 9.

- 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
Conducted Output Power and Effective Radiated Power

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	Radio Communication Analyzer	Anritsu	MT8820C	6201381608	2021/12/15	2022/12/14

Radiated Spurious Emissions

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	Preamplifier	EMCI	EMC330N	980850	2022/9/19	2023/9/18
2	Preamplifier	EMCI	EMC118A45SE	980819	2022/3/8	2023/3/7
3	Preamplifier	EMCI	EMC184045SE	980882	2022/2/9	2023/2/8
4	Test Cable	EMCI	EMC104-SM-SM-1000	220319	2022/3/15	2023/3/14
5	Test Cable	EMCI	EMC104-SM-SM-3000	220322	2022/3/15	2023/3/14
6	Test Cable	EMCI	EMC104-SM-SM-7000	220324	2022/3/15	2023/3/14
7	EXA Signal Analyzer	keysight	N9020B	MY57120120	2022/3/7	2023/3/6
8	Horn Antenna	RFSPIN	DRH18-E	211202A18EN	2022/5/18	2023/5/17
9	Horn Ant	Schwarzbeck	BBHA 9170D	1136	2022/5/18	2023/5/17
10	Log-bicon Antenna	Schwarzbeck	VULB9168	1369	2022/5/20	2023/5/19
11	6dB Attenuator	EMCI	EMCI-N-6-06	AT-N0625	2022/5/20	2023/5/19
12	Test Cable	EMCI	EMC101G-KM-KM-3000	220329	2022/3/15	2023/3/14
13	Test Cable	EMCI	EMC102-KM-KM-1000	220327	2022/3/15	2023/3/14
14	Measurement Software	EZ	EZ_EMC (Version NB-03A1-01)	N/A	N/A	N/A
15	Radio Communication Analyzer (LTE)	Anritsu	MT8820C	6201381608	2021/12/15	2022/12/14

Frequency Stability Measurement

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	Radio Communication Analyzer	Anritsu	MT8820C	6201381608	2021/12/15	2022/12/14
2	Thermal Chamber	HOLINK	H-TH-2SP-B	EK04101902	2022/6/27	2023/6/26

Others Conducted Measurement

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated Date	Calibrated Until
1	Radio Communication Analyzer	Anritsu	MT8820C	6201381608	2021/12/15	2022/12/14
2	Spectrum Analyzer	Agilent	N9010A	MY54200240	2022/6/9	2023/6/8

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-2208G029-FCCP-1 (APPENDIX-TEST PHOTOS).

12 EUT PHOTOS

Please refer to document Appendix No.: EP-2208G029-1 (APPENDIX-EUT PHOTOS).

APPENDIX A CONDUCTED OUTPUT POWER AND EFFECTIVE RADIATED POWER

Conducted Output Power:

Ant Gain(Ant 0)	-6.76					
LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				26697CH	26740CH	26783CH
				814.7MHz	819MHz	823.3MHz
26 / 1.4MHz	QPSK	1	0	23.44	23.36	23.29
		1	2	23.46	23.37	23.30
		1	5	23.43	23.35	23.34
		3	0	23.36	23.36	23.31
		3	1	23.36	23.39	23.33
		3	2	23.34	23.40	23.34
		6	0	22.37	22.36	22.31
	16QAM	1	0	22.45	22.75	22.42
		1	2	22.49	22.77	22.38
		1	5	22.50	22.74	22.39
		3	0	22.41	22.50	22.54
		3	1	22.39	22.51	22.53
		3	2	22.42	22.54	22.47
		6	0	21.46	21.27	21.48
	64QAM	1	0	21.66	21.50	21.54
		1	2	21.73	21.56	21.52
		1	5	21.63	21.48	21.56
		3	0	21.61	21.43	21.27
		3	1	21.63	21.46	21.29
		3	2	21.63	21.45	21.28
		6	0	20.29	20.62	20.36

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				26705CH	26740CH	26775CH
				815.5MHz	819MHz	822.5MHz
26 / 3MHz	QPSK	1	0	23.31	23.32	23.29
		1	7	23.30	23.38	23.31
		1	14	23.30	23.40	23.36
		8	0	22.33	22.34	22.32
		8	4	22.30	22.31	22.29
		8	7	22.35	22.36	22.34
		15	0	22.34	22.35	22.30
	16QAM	1	0	22.70	22.46	22.30
		1	7	22.71	22.48	22.25
		1	14	22.72	22.44	22.29
		8	0	21.42	21.38	21.43
		8	4	21.38	21.37	21.41
		8	7	21.41	21.41	21.45
		15	0	21.34	21.31	21.35
	64QAM	1	0	21.53	21.57	21.62
		1	7	21.58	21.57	21.60
		1	14	21.54	21.54	21.64
		8	0	20.36	20.27	20.34
		8	4	20.35	20.27	20.34
		8	7	20.36	20.30	20.37
		15	0	20.31	20.37	20.27

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				26715CH	26740CH	26765CH
				816.5MHz	819MHz	821.5MHz
26 / 5MHz	QPSK	1	0	23.45	23.40	23.43
		1	13	23.43	23.49	23.33
		1	24	23.51	23.47	23.43
		12	0	22.41	22.34	22.30
		12	6	22.36	22.38	22.30
		12	11	22.38	22.41	22.33
		25	0	22.39	22.38	22.35
	16QAM	1	0	22.93	22.41	22.61
		1	13	22.91	22.44	22.50
		1	24	22.94	22.47	22.60
		12	0	21.53	21.36	21.35
		12	6	21.46	21.41	21.39
		12	11	21.48	21.45	21.43
		25	0	21.46	21.34	21.38
	64QAM	1	0	21.61	21.55	21.31
		1	13	21.64	21.58	21.25
		1	24	21.74	21.62	21.32
		12	0	20.31	20.35	20.27
		12	6	20.26	20.40	20.31
		12	11	20.28	20.41	20.34
		25	0	20.34	20.37	20.30

LTE Band / BW	Modulation	RB Size	RB Offset	Mid CH
				26740CH
				819MHz
26 / 10MHz	QPSK	1	0	23.30
		1	25	23.42
		1	49	23.37
		25	0	22.34
		25	13	22.31
		25	25	22.42
		50	0	22.45
	16QAM	1	0	22.66
		1	25	22.77
		1	49	22.69
		25	0	21.38
		25	13	21.37
		25	25	21.51
		50	0	21.46
	64QAM	1	0	21.46
		1	25	21.58
		1	49	21.53
		25	0	20.42
		25	13	20.40
		25	25	20.53
		50	0	20.41

Ant Gain(Ant 1)	-9.70					
LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				26697CH	26740CH	26783CH
				814.7MHz	819MHz	823.3MHz
26 / 1.4MHz	QPSK	1	0	23.48	23.47	23.57
		1	2	23.44	23.53	23.54
		1	5	23.46	23.49	23.59
		3	0	23.49	23.51	23.50
		3	1	23.46	23.53	23.50
		3	2	23.45	23.54	23.52
		6	0	22.53	22.51	22.53
	16QAM	1	0	22.62	22.94	22.58
		1	2	22.65	22.96	22.57
		1	5	22.63	22.94	22.57
		3	0	22.58	22.72	22.70
		3	1	22.57	22.71	22.70
		3	2	22.60	22.71	22.65
		6	0	21.64	21.45	21.66
	64QAM	1	0	21.83	21.67	21.72
		1	2	21.88	21.72	21.70
		1	5	21.81	21.64	21.75
		3	0	21.78	21.58	21.46
		3	1	21.80	21.62	21.45
		3	2	21.80	21.61	21.47
		6	0	20.47	20.79	20.55

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				26705CH	26740CH	26775CH
				815.5MHz	819MHz	822.5MHz
26 / 3MHz	QPSK	1	0	23.50	23.53	23.48
		1	7	23.52	23.50	23.50
		1	14	23.47	23.51	23.55
		8	0	22.50	22.50	22.51
		8	4	22.49	22.49	22.48
		8	7	22.50	22.53	22.54
		15	0	22.49	22.52	22.49
	16QAM	1	0	22.88	22.59	22.47
		1	7	22.89	22.62	22.41
		1	14	22.89	22.60	22.45
		8	0	21.60	21.54	21.59
		8	4	21.56	21.51	21.59
		8	7	21.58	21.57	21.65
		15	0	21.52	21.48	21.51
	64QAM	1	0	21.68	21.75	21.79
		1	7	21.72	21.73	21.79
		1	14	21.70	21.71	21.84
		8	0	20.53	20.45	20.50
		8	4	20.51	20.44	20.55
		8	7	20.53	20.48	20.55
		15	0	20.50	20.55	20.45

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				26715CH	26740CH	26765CH
				816.5MHz	819MHz	821.5MHz
26 / 5MHz	QPSK	1	0	23.57	23.60	23.71
		1	13	23.55	23.64	23.63
		1	24	23.63	23.66	23.68
		12	0	22.61	22.49	22.46
		12	6	22.54	22.56	22.49
		12	11	22.56	22.58	22.56
		25	0	22.58	22.56	22.53
	16QAM	1	0	23.10	22.56	22.77
		1	13	23.07	22.60	22.71
		1	24	23.10	22.64	22.78
		12	0	21.70	21.55	21.52
		12	6	21.62	21.58	21.56
		12	11	21.64	21.61	21.62
		25	0	21.63	21.53	21.56
	64QAM	1	0	21.78	21.70	21.48
		1	13	21.81	21.73	21.42
		1	24	21.91	21.79	21.50
		12	0	20.50	20.53	20.45
		12	6	20.43	20.55	20.48
		12	11	20.45	20.56	20.52
		25	0	20.52	20.52	20.48

LTE Band / BW	Modulation	RB Size	RB Offset	Mid CH
				26740CH
				819MHz
26 / 10MHz	QPSK	1	0	23.46
		1	25	23.59
		1	49	23.54
		25	0	22.54
		25	13	22.51
		25	25	22.60
		50	0	22.65
	16QAM	1	0	22.82
		1	25	22.98
		1	49	22.88
		25	0	21.59
		25	13	21.57
		25	25	21.72
		50	0	21.66
	64QAM	1	0	21.63
		1	25	21.74
		1	49	21.66
		25	0	20.62
		25	13	20.56
		25	25	20.72
		50	0	20.66

Effective Radiated Power:

Ant Gain(Ant 0)	-6.76					
LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				26697CH	26740CH	26783CH
				814.7MHz	819MHz	823.3MHz
26 / 1.4MHz	QPSK	1	0	14.53	14.45	14.38
		1	2	14.55	14.46	14.39
		1	5	14.52	14.44	14.43
		3	0	14.45	14.45	14.40
		3	1	14.45	14.48	14.42
		3	2	14.43	14.49	14.43
	16QAM	6	0	13.46	13.45	13.40
		1	0	13.54	13.84	13.51
		1	2	13.58	13.86	13.47
		1	5	13.59	13.83	13.48
		3	0	13.50	13.59	13.63
		3	1	13.48	13.60	13.62
	64QAM	3	2	13.51	13.63	13.56
		6	0	12.55	12.36	12.57
		1	0	12.75	12.59	12.63
		1	2	12.82	12.65	12.61
		1	5	12.72	12.57	12.65
		3	0	12.70	12.52	12.36
		3	1	12.72	12.55	12.38
		3	2	12.72	12.54	12.37
		6	0	11.38	11.71	11.45

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				26705CH	26740CH	26775CH
				815.5MHz	819MHz	822.5MHz
26 / 3MHz	QPSK	1	0	14.40	14.41	14.38
		1	7	14.39	14.47	14.40
		1	14	14.39	14.49	14.45
		8	0	13.42	13.43	13.41
		8	4	13.39	13.40	13.38
		8	7	13.44	13.45	13.43
		15	0	13.43	13.44	13.39
	16QAM	1	0	13.79	13.55	13.39
		1	7	13.80	13.57	13.34
		1	14	13.81	13.53	13.38
		8	0	12.51	12.47	12.52
		8	4	12.47	12.46	12.50
		8	7	12.50	12.50	12.54
		15	0	12.43	12.40	12.44
	64QAM	1	0	12.62	12.66	12.71
		1	7	12.67	12.66	12.69
		1	14	12.63	12.63	12.73
		8	0	11.45	11.36	11.43
		8	4	11.44	11.36	11.43
		8	7	11.45	11.39	11.46
		15	0	11.40	11.46	11.36

LTE Band / BW	Modulation	RB Size	RB Offset	Low CH	Mid CH	High CH
				26715CH	26740CH	26765CH
				816.5MHz	819MHz	821.5MHz
26 / 5MHz	QPSK	1	0	14.54	14.49	14.52
		1	13	14.52	14.58	14.42
		1	24	14.60	14.56	14.52
		12	0	13.50	13.43	13.39
		12	6	13.45	13.47	13.39
		12	11	13.47	13.50	13.42
		25	0	13.48	13.47	13.44
	16QAM	1	0	14.02	13.50	13.70
		1	13	14.00	13.53	13.59
		1	24	14.03	13.56	13.69
		12	0	12.62	12.45	12.44
		12	6	12.55	12.50	12.48
		12	11	12.57	12.54	12.52
		25	0	12.55	12.43	12.47
	64QAM	1	0	12.70	12.64	12.40
		1	13	12.73	12.67	12.34
		1	24	12.83	12.71	12.41
		12	0	11.40	11.44	11.36
		12	6	11.35	11.49	11.40
		12	11	11.37	11.50	11.43
		25	0	11.43	11.46	11.39

LTE Band / BW	Modulation	RB Size	RB Offset	Mid CH
				26740CH
				819MHz
26 / 10MHz	QPSK	1	0	14.39
		1	25	14.51
		1	49	14.46
		25	0	13.43
		25	13	13.40
		25	25	13.51
		50	0	13.54
	16QAM	1	0	13.75
		1	25	13.86
		1	49	13.78
		25	0	12.47
		25	13	12.46
		25	25	12.60
		50	0	12.55
	64QAM	1	0	12.55
		1	25	12.67
		1	49	12.62
		25	0	11.51
		25	13	11.49
		25	25	11.62
		50	0	11.50

NOTE:

(1) EIRP = Average power + Antenna gain.

(2) ERP = EIRP - 2.15.

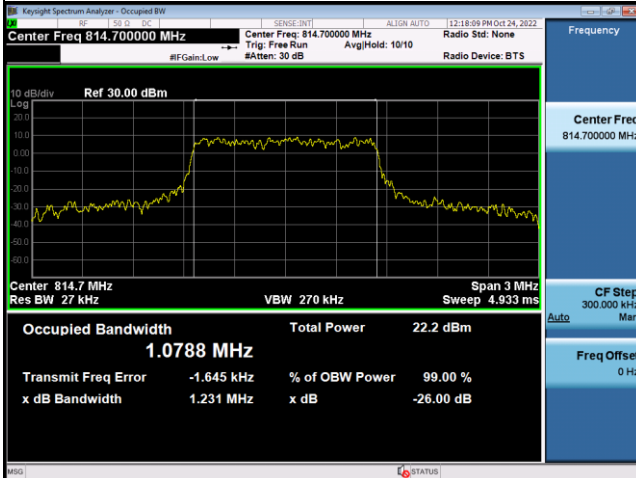
 (3) $P(W) = 1 W \cdot 10^{(P(dBm) / 10)} / 1000$

APPENDIX B OCCUPIED BANDWIDTH

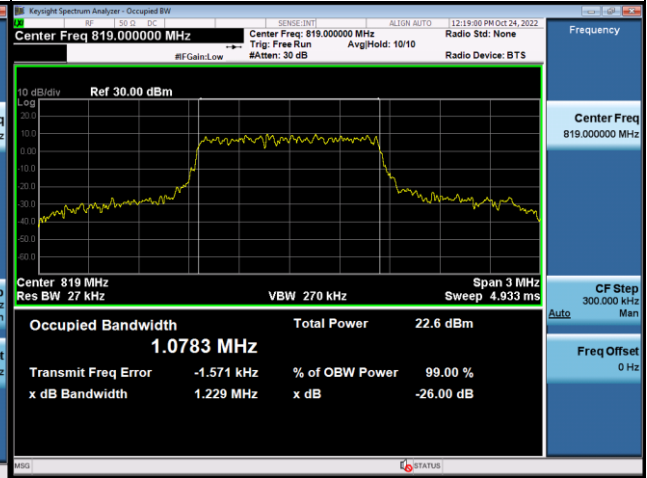
LTE Band 26_1.4M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
26697	814.7	1.0788	26697	814.7	1.231
26740	819	1.0783	26740	819	1.229
26783	823.3	1.0791	26783	823.3	1.229
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
26697	814.7	1.0873	26697	814.7	1.263
26740	819	1.0843	26740	819	1.229
26783	823.3	1.0769	26783	823.3	1.225
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
26697	814.7	1.0769	26697	814.7	1.264
26740	819	1.0819	26740	819	1.225
26783	823.3	1.0827	26783	823.3	1.265

Spectrum Plot

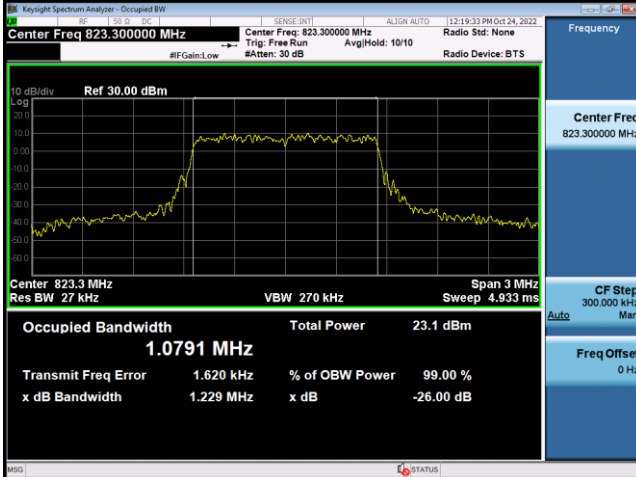
QPSK-26697



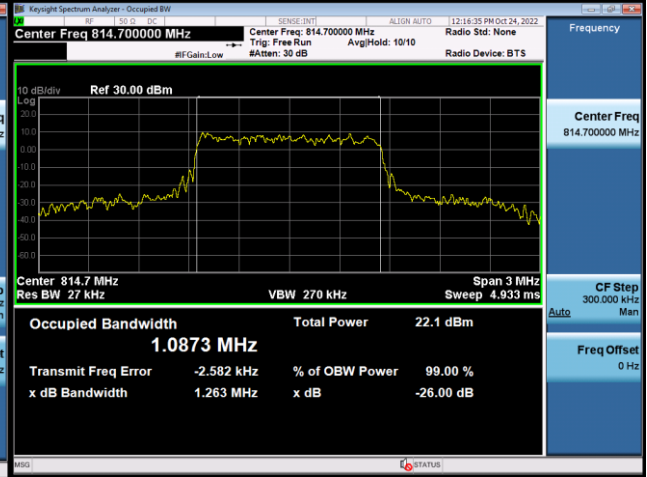
QPSK-26740



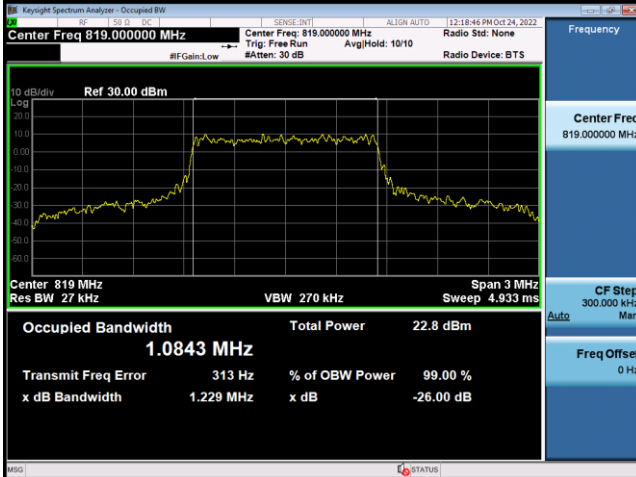
QPSK-26783



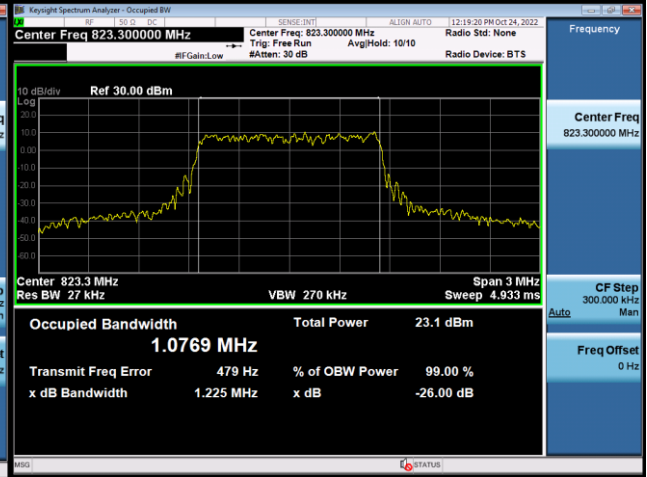
16QAM-26697



16QAM-26740

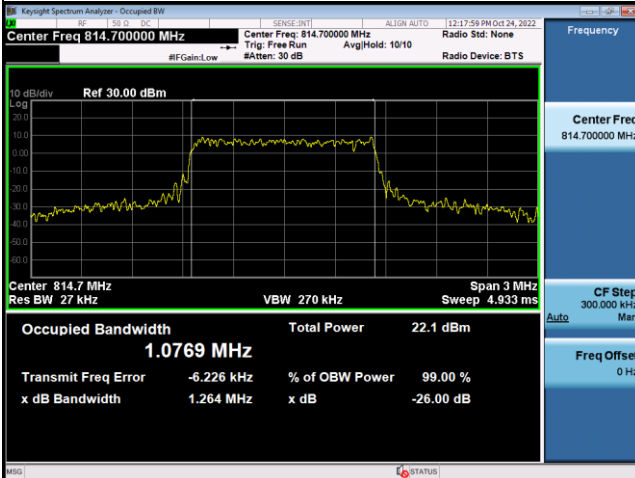


16QAM-26783

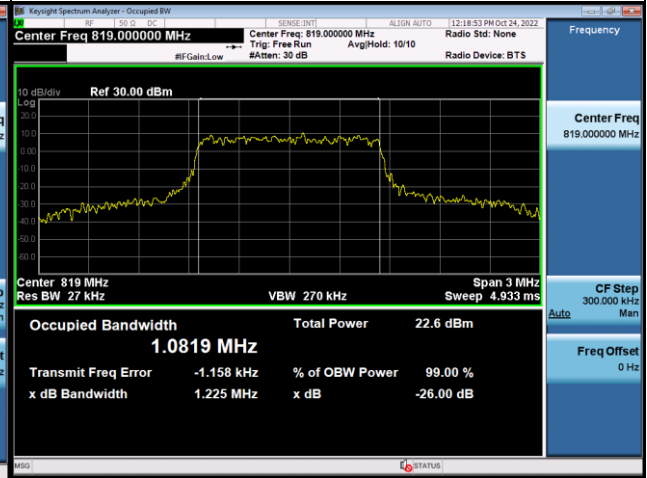


Spectrum Plot

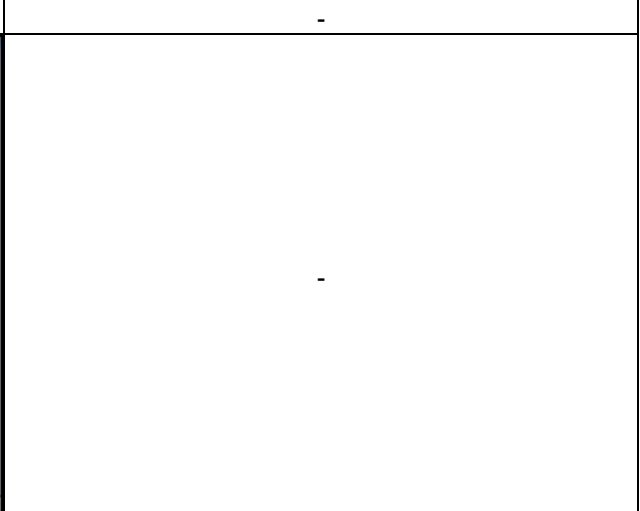
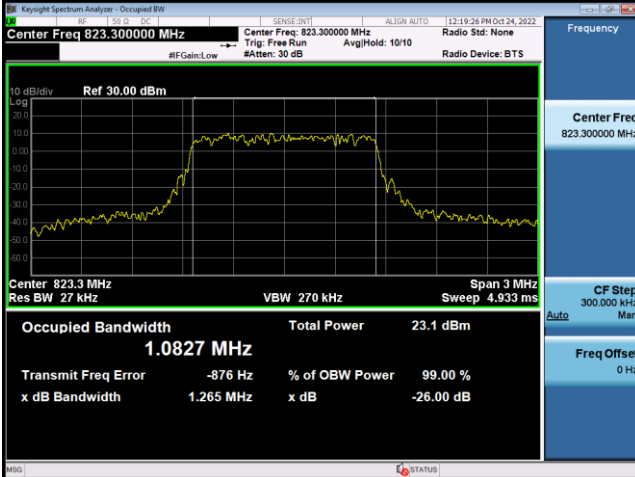
64QAM-26697



64QAM-26740

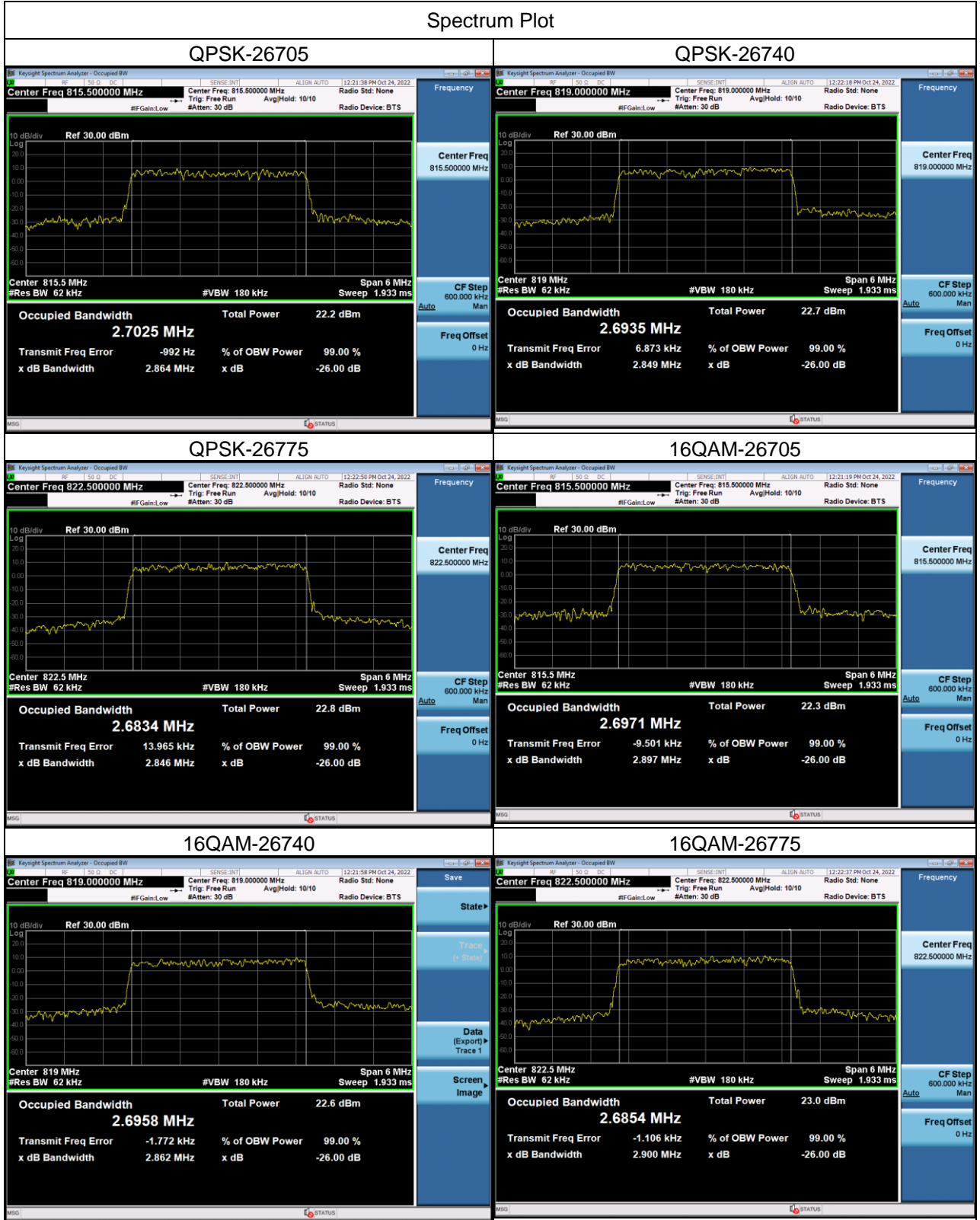


64QAM-26783



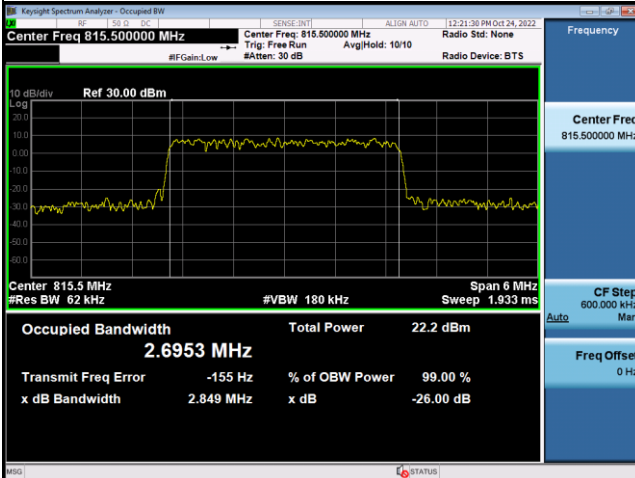
LTE Band 26_3M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
26705	815.5	2.7025	26705	815.5	2.864
26740	819	2.6935	26740	819	2.849
26775	822.5	2.6834	26775	822.5	2.846
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
26705	815.5	2.6971	26705	815.5	2.897
26740	819	2.6958	26740	819	2.862
26775	822.5	2.6854	26775	822.5	2.900
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
26705	815.5	2.6953	26705	815.5	2.849
26740	819	2.6950	26740	819	2.860
26775	822.5	2.6841	26775	822.5	2.848

Spectrum Plot

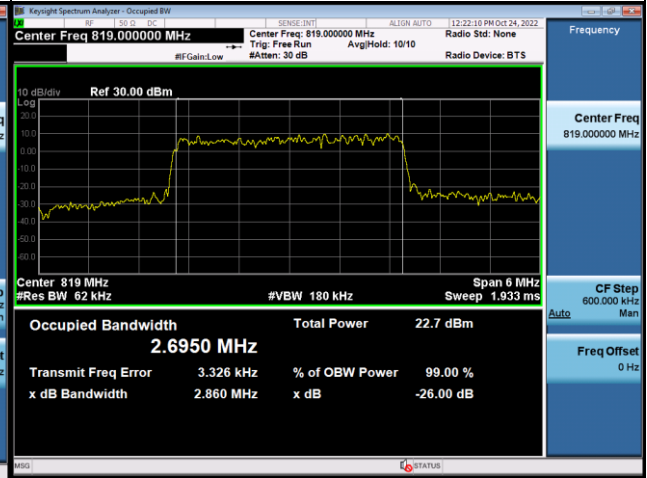


Spectrum Plot

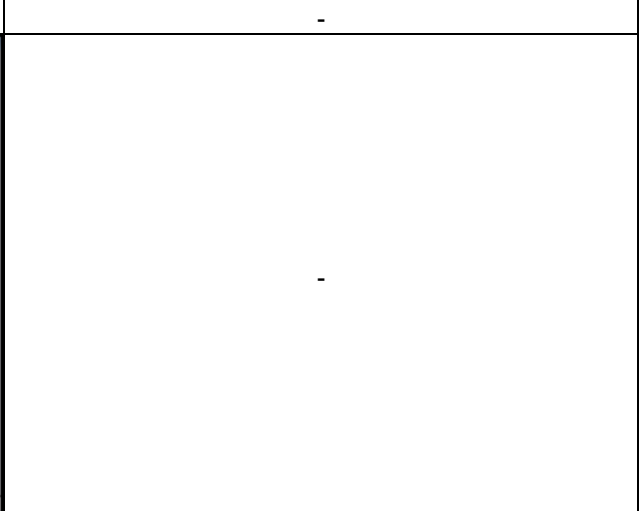
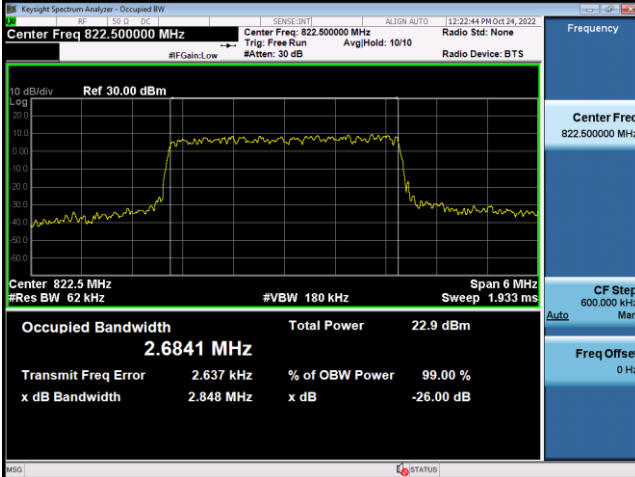
64QAM-26705



64QAM-26740



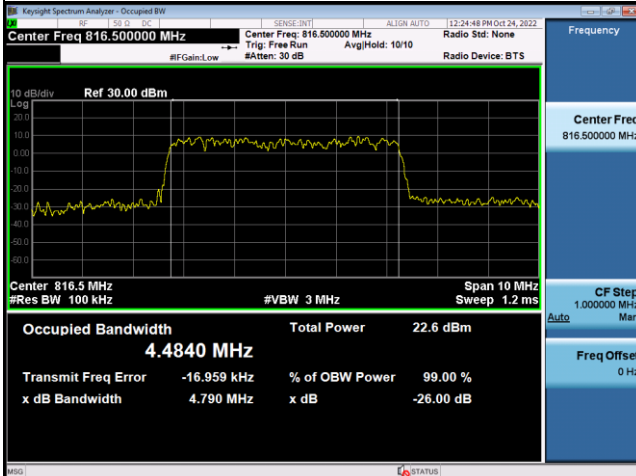
64QAM-26775



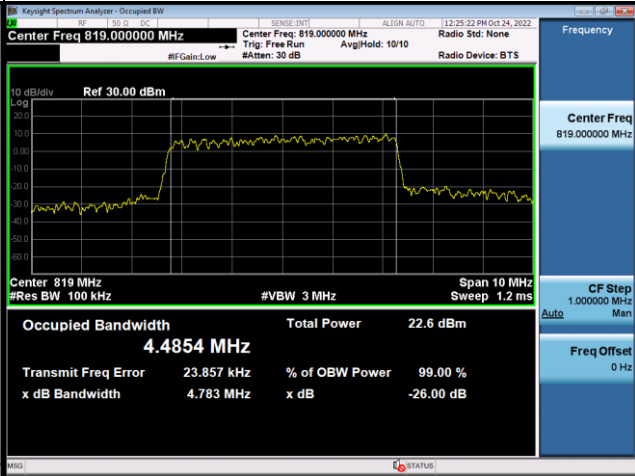
LTE Band 26_5M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
26715	816.5	4.4840	26715	816.5	4.790
26740	819	4.4854	26740	819	4.783
26765	821.5	4.4682	26765	821.5	4.792
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
26715	816.5	4.4754	26715	816.5	4.753
26740	819	4.5103	26740	819	4.746
26765	821.5	4.4906	26765	821.5	4.758
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
26715	816.5	4.4976	26715	816.5	4.744
26740	819	4.5004	26740	819	4.759
26765	821.5	4.4782	26765	821.5	4.771

Spectrum Plot

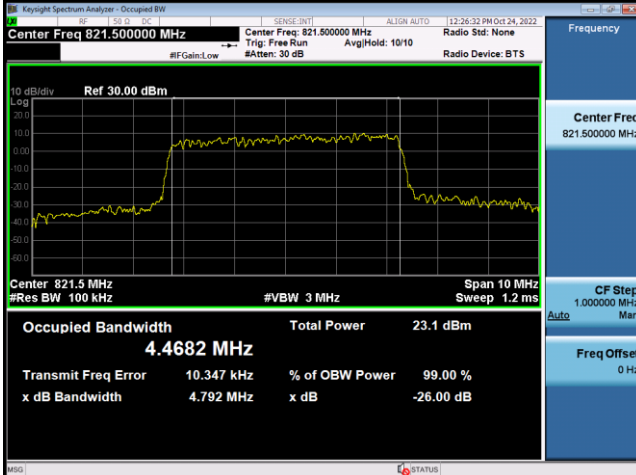
QPSK-26715



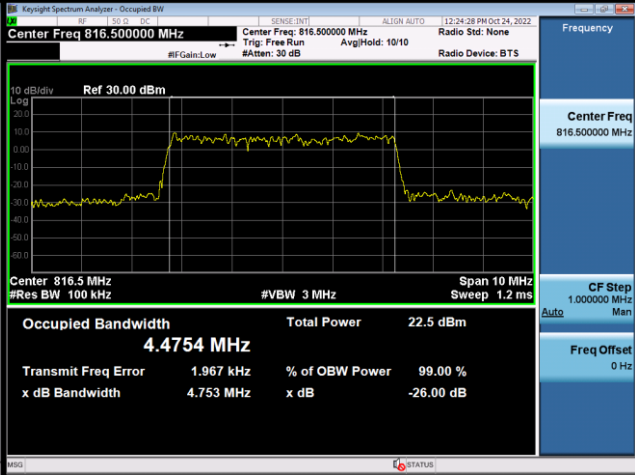
QPSK-26740



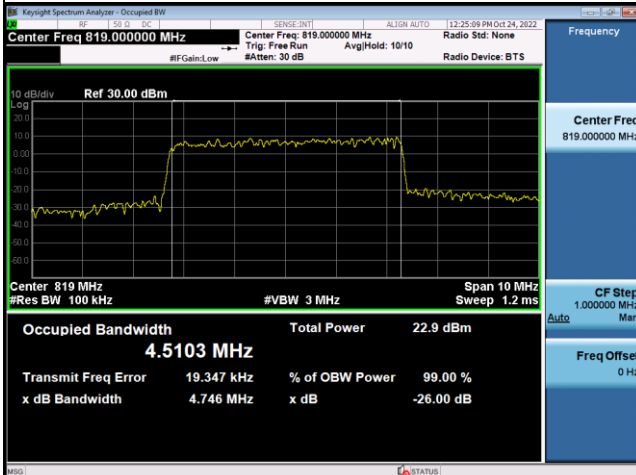
QPSK-26765



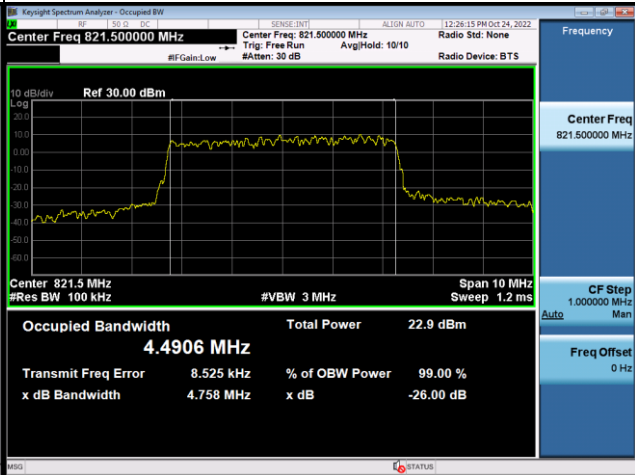
16QAM-26715



16QAM-26740

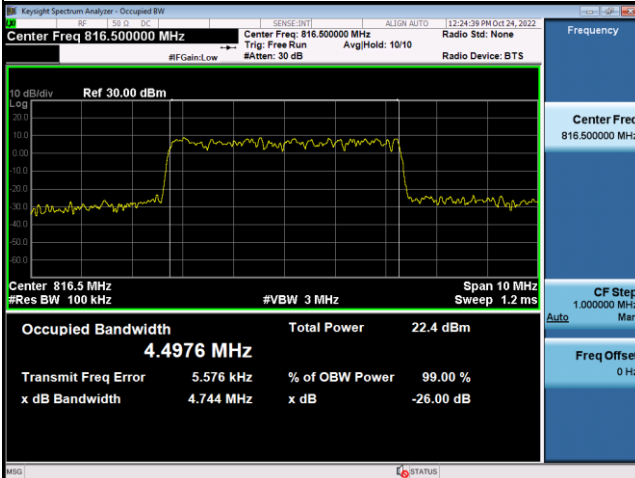


16QAM-26765



Spectrum Plot

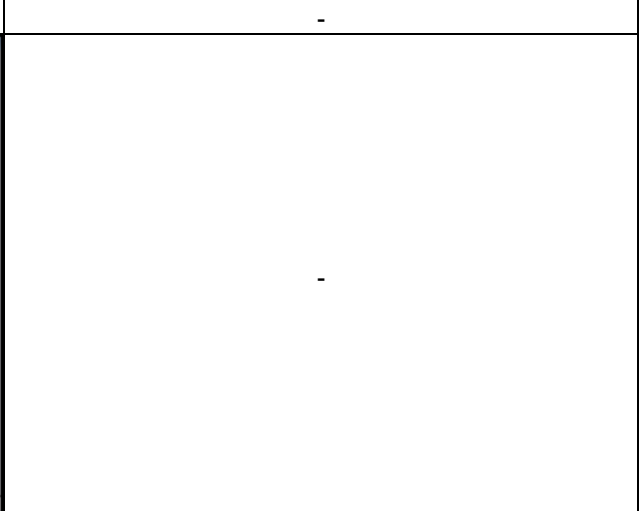
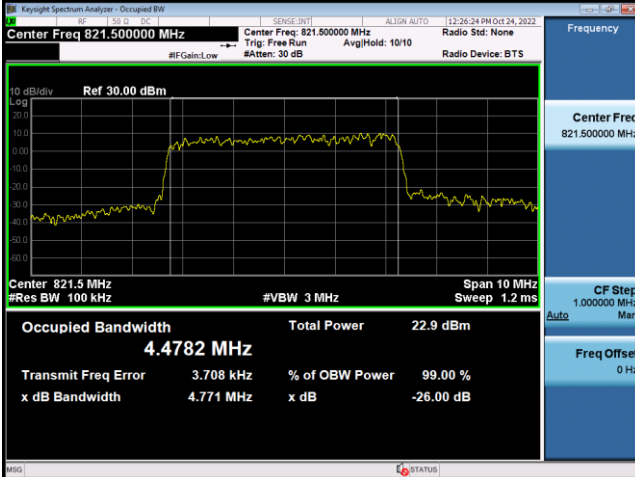
64QAM-26715



64QAM-26740



64QAM-26765



LTE Band 26_10M					
QPSK					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
26740	819	8.9817	26740	819	9.421
16QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
26740	819	8.9659	26740	819	9.469
64QAM					
Channel	Frequency (MHz)	99% Occupied Bandwidth (MHz)	Channel	Frequency (MHz)	26dB Bandwidth (MHz)
26740	819	8.9454	26740	819	9.461



APPENDIX C CONDUCTED SPURIOUS EMISSION

