



FCC&IC TEST REPORT

FCC ID: 2A7ZC-FC2

On Behalf of

GEOMATE POSITIONING PTE. LTD.

Handheld GNSS Data Collector

Model No.: FC2

Prepared for : GEOMATE POSITIONING PTE. LTD.
Address : 808 FRENCH ROAD #04-167 KITCHENER COMPLEX SINGAPORE
(200808)

Prepared By : Shenzhen Alpha Product Testing Co., Ltd.
Address : Building i, No.2, Lixin Road, Fuyong Street, Bao'an District, 518103,
Shenzhen, Guangdong, China

Report Number : A2312102-C01-R07
Date of Receipt : December 25, 2023
Date of Test : December 25, 2023 - June 20, 2024
Date of Report : June 20, 2024
Version Number : V0
Test Result : Pass

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TEST REPORT DECLARATION

Applicant : GEOMATE POSITIONING PTE. LTD.
Address : 808 FRENCH ROAD #04-167 KITCHENER COMPLEX SINGAPORE (200808)
Manufacturer : GEOMATE POSITIONING PTE. LTD.
Address : 808 FRENCH ROAD #04-167 KITCHENER COMPLEX SINGAPORE (200808)
EUT Description : Handheld GNSS Data Collector

(A) Model No. : FC2

(B) Trademark : 

Measurement Standard Used:

FCC CFR Title 47 Part 2
FCC CFR Title 47 Part 22 Subpart H
FCC CFR Title 47 Part 24 Subpart E
FCC CFR Title 47 Part 27

The device described above is tested by Shenzhen Alpha Product Testing Co., Ltd. to determine the maximum emission levels emanating from the device. The test results are contained in this test report and Shenzhen Alpha Product Testing Co., Ltd. is assumed of full responsibility for the accuracy and completeness of these tests.

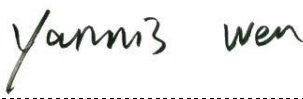
After the test, our opinion is that EUT compliance with the requirement of the above standards.

This report applies to above tested sample only. This report shall not be reproduced in parts without written approval of Shenzhen Alpha Product Testing Co., Ltd.

Tested by (name + signature).....:

Yannis Wen

Project Engineer



Approved by (name + signature).....:

Jack Xu

Project Manager



Date of issue.....:

June 20, 2024

Revision History

Revision	Issue Date	Revisions	Revised By
V0	June 20, 2024	Initial released Issue	Yannis Wen

1 Test Summary

Test Item	Section in CFR 47	Result
RF Exposure (SAR)	Part 1.1307 Part 2.1093	Pass*(Please refer to SAR Report)
RF Output Power	Part 2.1046 Part 22.913(a) (5) Part 24.232 (c) Part 27.50 (d)(4) Part 27.50 (h)	Pass
Peak-To-Average Ratio	Part 2.1046 Part 22.913(d) Part 24.232 (d) Part 27.50(d)	Pass
Modulation Characteristics	Part 2.1047	N/A
99% & -26 dB Occupied Bandwidth	Part 2.1049 Part 22.917 Part 24.238 Part 27.53(a)	Pass
Spurious Emissions at Antenna Terminal	Part 2.1051 Part 22.917 (a) Part 24.238 (a) Part 27.53 (h)/(m)	Pass
Field Strength of Spurious Radiation	Part 2.1053 Part 22.917 (a) Part 24.238 (a) Part 27.53 (h)/(m)	Pass
Out of band emission, Band Edge	Part 22.917 (a) Part 24.238 (a) Part 27.53(h)/(m)	Pass
Frequency stability vs. temperature	Part 2.1055(a)(1)(b)	Pass
Frequency stability vs. voltage	Part 2.1055(d)(1)(2)	Pass

Note: 1. Pass: The EUT complies with the essential requirements in the standard.

2. The conclusion of this test report is judged by actual test data without considering measurement uncertainty.

2 General Information

2.1 General Description of EUT

Description of Device (EUT)

Description/PMN	: Handheld GNSS Data Collector
Model Number	: FC2
Diff	: N/A
Test Voltage	: DC 5V from adapter and DC 3.8V from battery.

Support Bands	: LTE Band 2/4/5/7/12/17/41
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Channel Bandwidth	: LTE Band 2: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 4: 1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz LTE Band 5: 1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 7: 5MHz, 10MHz, 15MHz, 20MHz LTE Band 12: 1.4MHz, 3MHz, 5MHz, 10MHz LTE Band 17: 5MHz, 10MHz LTE Band 41: 5MHz, 10MHz, 15MHz, 20MHz
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TX Frequency	: LTE Band 2: 1850 ~ 1910 MHz LTE Band 4: 1710 ~ 1755 MHz LTE Band 5: 824 ~ 849 MHz LTE Band 7: 2500 ~ 2570 MHz LTE Band 12: 699MHz ~ 716MHz LTE Band 17: 704 MHz ~ 716 MHz LTE Band 41: 2496MHz ~ 2690MHz
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Modulation type	: QPSK, 16QAM
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Antenna Type	: Internal antenna, LTE Band 2: Maximum Gain is -4.1dBi. LTE Band 4: Maximum Gain is -5.06dBi. LTE Band 5: Maximum Gain is -4.7dBi. LTE Band 7: Maximum Gain is -3.55dBi. LTE Band 12: Maximum Gain is -4.1dBi. LTE Band 17: Maximum Gain is -4.1dBi. LTE Band 41: Maximum Gain is -3.55dBi. (Antenna information is provided by applicant.) There is WWAN diversity antenna inside the product, which is only for receiving function.
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Software version	: V1.0
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Hardware version	: V1.0
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Remark 1: The worst-case simultaneous transmission configuration was evaluated with no non-compliance found. Results in this report are only for 4G function, and there is no other transmitter involved.

2.2 Related Submittal(s) / Grant (s)

This submittal(s) (test report) is filing to comply with Section Part 22 subpart H and Part 24 subpart E of the FCC CFR 47 Rules, Part 27 of the FCC CFR 47 Rules, Part 90 of the FCC CFR 47 Rules.

2.3 Test Facility

Shenzhen Alpha Product Testing Co., Ltd

Building i, No.2, Lixin Road, Fuyong Street, Bao'an District, 518103, Shenzhen, Guangdong, China

June 21, 2018 File on Federal Communication Commission
Registration Number: 293961

July 15, 2019 Certificated by IC
Registration Number: 12135A

2.4 Accessories of Device (EUT)

Accessories 1 : AC Adapter
Manufacturer : EDAC POWER Electronics Co., Ltd
Model : EA1012AVRU-050
Ratings : Input: 100-240Vac~50/60Hz 1.0A
Output: 5.0V=2.4A

2.5 Tested Supporting System Details

No.	Description	Manufacturer	Model	Serial Number	Certification or SDoC
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2.6 Test Conditions

Items	Required	Actual
Temperature range:	15-35℃	24℃
Humidity range:	25-75%	56%
Pressure range:	86-106kPa	98kPa

2.7 Measurement Uncertainty

Item	Uncertainty
Uncertainty for Power point Conducted Emissions Test	1.63dB
Uncertainty for Radiation Emission test in 3m chamber (below 30MHz)	2.13 dB(Polarize: V)
	2.57dB(Polarize: H)
Uncertainty for Radiation Emission test in 3m chamber (30MHz to 1GHz)	3.77dB(Polarize: V)
	3.80dB(Polarize: H)
Uncertainty for Radiation Emission test in 3m chamber (1GHz to 25GHz)	4.16dB(Polarize: H)
	4.13dB(Polarize: V)
Uncertainty for radio frequency	5.4×10^{-8}
Uncertainty for conducted RF Power	0.37dB
Uncertainty for temperature	0.2°C
Uncertainty for humidity	1%
Uncertainty for DC and low frequency voltages	0.06%

3 Test Instruments list

Equipment	Manufacture	Model No.	Firmware version	Serial No.	Last cal.	Cal Interval
9*6*6 anechoic chamber	CHENYU	9*6*6	/	N/A	2022.05.17	3Year
Spectrum analyzer	ROHDE&SCHWARZ	FSV40-N	2.3	102137	2023.08.16	1Year
Spectrum analyzer	Agilent	N9020A	A.14.16	MY499100060	2023.08.16	1Year
Receiver	ROHDE&SCHWARZ	ESR	2.28 SP1	1316.3003K03-102082-Wa	2023.08.16	1Year
Receiver	R&S	ESCI	4.42 SP1	101165	2023.08.16	1Year
Bilog Antenna	Schwarzbeck	VULB 9168	/	VULB 9168#627	2023.08.28	1Year
Horn Antenna	SCHWARZBECK	BBHA 9120 D	/	2106	2023.08.19	1Year
Loop Antenna	SCHWARZBECK	FMZB 1519B	/	00128	2023.08.19	1Year
RF Cable	Resenberger	Cable 1	/	RE1	2023.08.16	1Year
RF Cable	Resenberger	Cable 2	/	RE2	2023.08.16	1Year
RF Cable	Resenberger	Cable 3	/	CE1	2023.08.16	1Year
Pre-amplifier	HP	HP8347A	/	2834A00455	2023.08.16	1Year
Pre-amplifier	Agilent	8449B	/	3008A02664	2023.08.16	1Year
L.I.S.N.#1	Schwarzbeck	NSLK8126	/	8126-466	2023.08.16	1Year
L.I.S.N.#2	ROHDE&SCHWARZ	ENV216	/	101043	2023.08.16	1Year
Horn Antenna	SCHWARZBECK	BBHA 9170	/	00946	2023.08.19	1Year
Preamplifier	SKET	LNPA_1840-50	/	SK2018101801	2023.08.16	1 Year
Power Meter	Agilent	E9300A	/	MY41496628	2023.08.16	1 Year
Power Sensor	DARE	RPR3006W	/	15100041SNO91	2023.08.16	1 Year
Temp. & Humid. Chamber	Teelong	TL-HW408S	/	TL-20191205-01	2023.07.25	1 Year
Switching Mode Power Supply	JUNKE	JK12010S	/	20140927-6	2023.08.16	1 Year
Adjustable attenuator	MWRFTest	N/A	/	N/A	N/A	N/A
10dB Attenuator	Mini-Circuits	DC-6G	/	N/A	N/A	N/A
Antenna	SCHWARZBECK	STLP 9149	STLP 9149 #456	/	/	

Software Information			
Test Item	Software Name	Manufacturer	Version
RE	EZ-EMC	EZ	Alpha-3A1
CE	EZ-EMC	EZ	Alpha-3A1
RF-CE	MTS 8310	MW	V2.0.0.0

4 System test configuration

4.1 Test mode

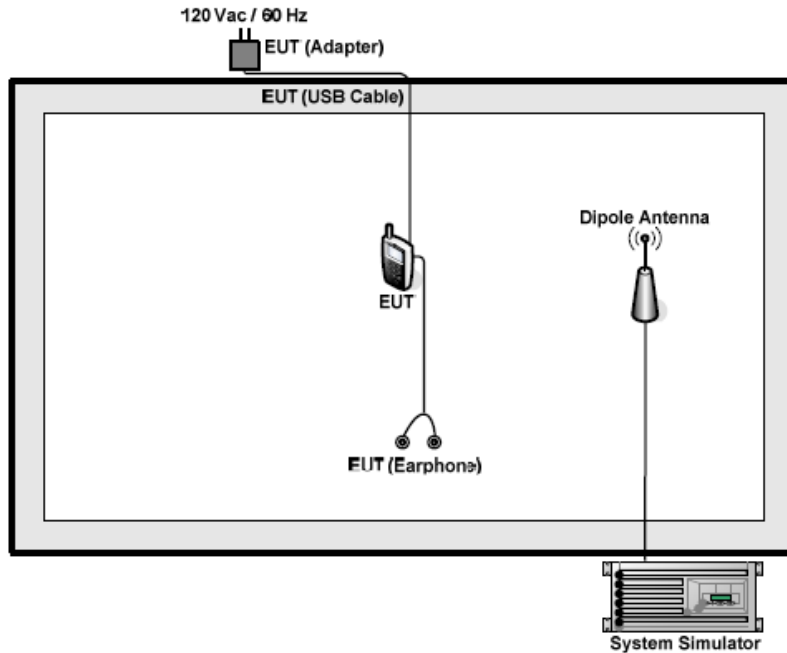
During all testing, EUT is in link mode with base station emulator at maximum power level. The spurious emission measurements were carried out in semi-anechoic chamber with 3-meter test range, and EUT is rotated on three test planes to find out the worst emission.

Test modes		
Band	Radiated	Conducted
LTE Band 2	■ QPSK link, 16QAM link	■ QPSK link, 16QAM link
LTE Band 4	■ QPSK link, 16QAM link	■ QPSK link, 16QAM link
LTE Band 5	■ QPSK link, 16QAM link	■ QPSK link, 16QAM link
LTE Band 7	■ QPSK link, 16QAM link	■ QPSK link, 16QAM link
LTE Band 12	■ QPSK link, 16QAM link	■ QPSK link, 16QAM link
LTE Band 17	■ QPSK link, 16QAM link	■ QPSK link, 16QAM link
LTE Band 41	■ QPSK link, 16QAM link	■ QPSK link, 16QAM link

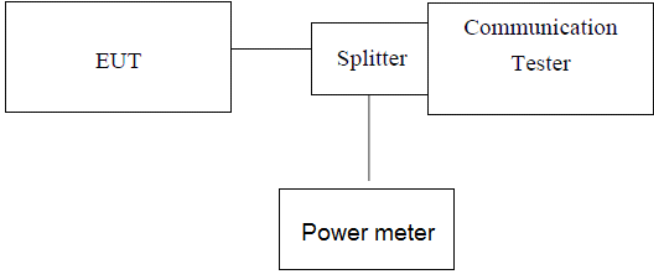
Note: Antenna port conducted and radiated test items were performed according to KDB 971168 D01 Power Meas License Digital Systems v03r1 with maximum output power.

Radiated measurements were performed with rotating EUT in different three orthogonal test planes to find the maximum emission.

4.2 Configuration of Tested System



4.3 Conducted Output Power

Test Requirement:	FCC part22.913(a) (5), FCC part24.232(b) and FCC Part 27.50 (d)(4)/(h)
Test Method:	ANSI C63.26:2015
Limit:	LTE Band 2: 2W LTE Band 4: 1W LTE Band 5: 7W LTE Band 7: 2W LTE Band 12: 3W LTE Band 17: 3W LTE Band 41: 2W
Test setup:	 <i>Note: Measurement setup for testing on Antenna connector</i>
Test Procedure:	1. The transmitter output port was connected to base station. 2. The RF output of EUT was connected to the power meter by RF cable and attenuator, the path loss was compensated to the results for each measurement. 3. Set EUT at maximum power through base station. 4. Select lowest, middle, and highest channels for each band and different modulation. 5. Measure the maximum burst average power.
Test Instruments:	Refer to section 3 for details
Test mode:	Refer to section 4.1 for details
Test results:	Pass

Measurement Data

LTE Band2

Bandwidth	Modulation	RB size	RB offset	Output Power (dBm) for low/mid/high channel		
				18607/1850.7	18900/1880	19193/1909.3
1.4MHz	QPSK	1	0	22.89	21.97	22.87
			2	22.83	22.11	22.93
			5	22.45	22.50	22.68
		3	0	22.90	21.94	22.95
			2	22.68	21.81	22.70
			3	22.81	21.71	22.32
		6	0	22.47	22.22	22.93
	QAM16	1	0	22.99	21.93	22.71
			2	22.62	22.65	22.14
			5	23.20	22.36	22.74
		3	0	22.17	22.48	22.43
			2	22.62	22.23	22.12
			3	22.63	22.33	23.40
		6	0	23.15	22.25	23.36

Bandwidth	Modulation	RB size	RB offset	Output Power (dBm) for low/mid/high channel		
				18615/1851.5	18900/1880	19185/1908.5
3MHz	QPSK	1	0	22.84	22.40	23.05
			7	22.55	21.57	22.64
			14	22.23	22.10	22.99
		8	0	23.02	22.20	22.68
			4	22.16	21.96	22.81
			7	22.69	21.90	22.20
		15	0	22.65	22.56	22.12
	QAM16	1	0	22.85	21.30	22.72
			7	22.43	22.08	22.74
			14	23.12	22.55	22.88
		8	0	22.70	21.74	22.12
			4	22.04	22.26	22.05
			7	22.66	22.34	23.04
		15	0	23.33	21.67	22.89

Bandwidth	Modulation	RB size	RB offset	Output Power (dBm) for low/mid/high channel		
				18625/1852.5	18900/1880	19175/1907.5
5MHz	QPSK	1	0	22.88	22.00	22.51
			13	22.83	21.73	22.97
			24	22.11	22.44	22.79
		12	0	23.07	22.32	23.05
			6	22.69	22.53	22.85
			13	22.58	21.97	22.46
		25	0	22.62	22.84	22.70
	QAM16	1	0	23.01	22.11	22.31
			13	22.83	22.29	22.41
			24	22.67	21.80	22.92
		12	0	22.29	21.75	22.53
			6	22.37	22.24	22.87
			13	22.88	21.59	23.03
		25	0	22.90	21.86	23.30

Bandwidth	Modulation	RB size	RB offset	Output Power (dBm) for low/mid/high channel		
				18650/1855	18900/1880	19150/1905
10MHz	QPSK	1	0	22.16	22.37	22.97
			25	22.82	21.26	23.07
			49	22.28	22.68	22.12
		25	0	22.62	21.80	22.33
			13	22.66	22.29	22.20
			25	22.90	21.49	22.67
		50	0	22.28	22.77	22.89
	QAM16	1	0	22.57	21.23	22.69
			25	22.65	21.90	22.16
			49	22.54	22.30	22.39
		25	0	22.31	22.25	22.33
			13	22.37	22.44	22.52
			25	23.10	22.43	22.66
		50	0	22.98	21.45	22.62

Bandwidth	Modulation	RB size	RB offset	Output Power (dBm) for low/mid/high channel		
				18675/1857.5	18900/1880	19125/1902.5
15MHz	QPSK	1	0	22.65	22.82	23.06
			38	22.67	21.66	23.00
			74	22.19	22.22	22.10
		36	0	22.34	21.97	22.53
			18	22.21	22.44	22.45
			39	22.19	22.35	22.60
		75	0	22.79	22.45	22.33
	QAM16	1	0	22.86	21.68	22.29
			38	22.87	22.76	22.80
			74	23.15	22.49	22.44
		36	0	22.80	21.91	22.67
			18	22.49	22.36	22.86
			39	22.78	21.99	22.79
		75	0	23.13	21.66	23.19

Bandwidth	Modulation	RB size	RB offset	Output Power (dBm) for low/mid/high channel		
				18700/1860	18900/1880	19100/1900
20MHz	QPSK	1	0	22.29	22.06	23.06
			50	22.39	21.74	22.58
			99	22.50	22.03	22.20
		50	0	22.45	22.20	23.08
			25	22.57	22.15	22.76
			50	22.81	21.94	22.48
		100	0	22.78	22.07	22.50
	QAM16	1	0	22.57	21.82	22.22
			50	22.76	22.42	22.11
			99	23.16	22.41	22.31
		50	0	22.24	21.69	22.36
			25	22.16	22.33	22.46
			50	22.92	22.29	23.03
		100	0	22.99	21.97	23.46

LTE Band4

Bandwidth	Modulation	RB size	RB offset	Output Power (dBm) for low/mid/high channel		
				19957/1710.7	20175/1732.5	20393/1754.3
1.4MHz	QPSK	1	0	22.75	22.88	23.05
			2	22.70	21.19	23.03
			5	22.98	22.22	22.16
		3	0	22.32	22.57	22.33
			2	22.22	22.10	22.87
			3	22.20	21.94	22.28
		6	0	22.77	22.56	22.80
	QAM16	1	0	23.14	21.21	23.00
			2	22.85	21.96	22.03
			5	22.32	21.79	22.78
		3	0	22.35	22.51	22.13
			2	22.13	22.02	22.44
			3	22.76	21.84	22.92
		6	0	23.50	21.99	23.40

Bandwidth	Modulation	RB size	RB offset	Output Power (dBm) for low/mid/high channel		
				19965/1711.5	20175/1732.5	20385/1753.5
3MHz	QPSK	1	0	22.20	22.66	22.62
			7	22.59	21.94	22.78
			14	22.30	22.67	22.30
		8	0	22.31	21.67	22.92
			4	22.76	21.60	22.68
			7	22.86	21.99	22.86
		15	0	22.87	22.62	22.39
	QAM16	1	0	22.84	21.82	22.43
			7	22.36	22.21	22.95
			14	23.16	22.43	22.51
		8	0	22.75	22.36	23.03
			4	22.68	22.43	22.27
			7	22.81	21.78	22.74
		15	0	23.40	21.58	22.60

Bandwidth	Modulation	RB size	RB offset	Output Power (dBm) for low/mid/high channel		
				19975/1712.5	20175/1732.5	20375/1752.5
5MHz	QPSK	1	0	22.63	22.81	22.94
			13	22.85	21.71	22.32
			24	22.29	22.07	22.08
		12	0	22.87	21.78	22.73
			6	22.32	22.03	22.25
			13	22.96	21.97	22.29
		25	0	23.00	22.37	22.26
	QAM16	1	0	22.77	21.47	22.50
			13	22.48	22.49	22.52
			24	22.69	21.79	22.66
		12	0	22.25	22.00	22.12
			6	22.67	22.40	22.91
			13	22.68	22.48	23.17
		25	0	22.67	21.68	22.77

Bandwidth	Modulation	RB size	RB offset	Output Power (dBm) for low/mid/high channel		
				20000/1715	20175/1732.5	20350/1750
10MHz	QPSK	1	0	22.74	22.50	22.23
			25	22.38	22.00	22.19
			49	22.79	22.32	22.59
		25	0	22.95	22.60	23.25
			13	22.97	22.57	22.15
			25	22.17	22.36	22.40
		50	0	23.04	22.41	22.73
	QAM16	1	0	22.71	21.31	22.58
			25	22.34	22.75	22.92
			49	22.51	21.66	22.39
		25	0	22.72	22.54	22.72
			13	22.82	22.08	22.80
			25	22.93	21.67	23.14
		50	0	23.16	21.35	23.19

Bandwidth	Modulation	RB size	RB offset	Output Power (dBm) for low/mid/high channel		
				20025/1717.5	20175/1732.5	20325/1747.5
15MHz	QPSK	1	0	22.58	22.40	22.69
			38	22.48	21.96	22.38
			74	22.95	21.89	22.61
		36	0	23.15	21.69	22.72
			18	23.02	22.43	22.69
			39	22.65	22.04	22.46
		75	0	22.19	22.09	23.06
	QAM16	1	0	22.84	21.99	22.97
			38	22.39	22.67	22.07
			74	23.25	22.45	22.82
		36	0	22.47	21.94	22.20
			18	22.54	22.07	22.85
			39	22.93	22.42	23.15
		75	0	23.51	21.90	23.40

Bandwidth	Modulation	RB size	RB offset	Output Power (dBm) for low/mid/high channel		
				20050/1720	20175/1732.5	20300/1745
20MHz	QPSK	1	0	22.78	22.49	22.94
			50	22.95	21.41	22.64
			99	22.66	22.27	22.21
		50	0	22.44	22.05	22.79
			25	22.61	22.18	22.94
			50	22.08	22.22	22.13
		100	0	23.07	22.69	22.68
	QAM16	1	0	22.33	21.56	22.50
			50	22.60	21.91	22.42
			99	23.23	22.03	22.31
		50	0	22.57	22.22	22.10
			25	22.69	22.44	22.69
			50	23.13	22.02	22.67
		100	0	23.34	21.80	23.41

Bandwidth	Modulation	RB size	RB offset	Output Power (dBm) for low/mid/high channel			
				20417/825.7	20530/837	20643/848.3	
1.4MHz	QPSK	1	0	23.03	22.95	22.50	
			2	22.75	21.93	23.11	
			5	22.53	22.18	22.21	
		3	0	22.88	21.92	22.92	
			2	22.15	22.04	22.60	
			3	22.58	21.99	22.32	
		6	0	22.48	22.62	22.73	
		QAM16	1	0	22.37	21.51	22.58
				2	22.25	22.67	22.60
	5			22.71	22.60	22.80	
	3		0	22.33	22.49	22.41	
			2	22.81	22.73	22.72	
			3	22.81	21.93	22.47	
	6	0	22.76	21.33	22.56		

Bandwidth	Modulation	RB size	RB offset	Output Power (dBm) for low/mid/high channel				
				20425/826.5	20530/837	20635/847.5		
3MHz	QPSK	1	0	22.46	22.08	22.57		
			7	22.66	22.10	22.72		
			14	22.97	22.48	22.73		
		8	0	23.01	22.24	22.59		
			4	22.75	21.75	22.99		
			7	22.36	22.09	22.11		
			15	0	22.20	22.39	23.11	
			QAM16	1	0	22.88	21.65	22.25
					7	22.06	22.11	22.78
	14	23.19			21.75	22.57		
	8	0		23.02	21.74	22.13		
		4		22.87	22.18	22.86		
		7		23.28	22.18	22.59		
	15	0		23.26	21.87	23.42		

Bandwidth	Modulation	RB size	RB offset	Output Power (dBm) for low/mid/high channel			
				20435/827.5	20530/837	20625/846.5	
5MHz	QPSK	1	0	22.98	22.00	22.90	
			13	22.71	21.88	22.41	
			24	22.28	21.92	22.58	
		12	0	23.03	22.20	22.77	
			6	22.59	21.86	22.38	
			13	22.08	22.31	22.41	
		25	0	22.86	22.81	22.23	
		QAM16	1	0	22.26	22.11	22.94
				13	22.29	22.67	22.18
	24			22.95	21.95	23.15	
	12		0	22.35	22.35	22.67	
			6	22.27	22.54	21.95	
			13	22.53	21.93	23.13	
	25		0	23.05	21.82	22.99	

Bandwidth	Modulation	RB size	RB offset	Output Power (dBm) for low/mid/high channel		
				20460/830	20530/837	20600/844
10MHz	QPSK	1	0	23.07	22.91	22.95
			25	22.56	21.52	22.35
			49	22.50	22.02	22.51
		25	0	22.33	21.92	22.55
			13	22.32	21.92	22.30
			25	22.72	21.59	22.35
		50	0	22.12	22.54	22.60
	QAM16	1	0	23.10	21.96	22.47
			25	22.99	22.26	22.88
			49	22.46	21.68	22.72
		25	0	22.86	22.38	22.57
			13	22.17	22.60	22.18
			25	23.16	22.37	22.49
		50	0	22.91	21.92	22.84

LTE Band7

Bandwidth	Modulation	RB size	RB offset	Output Power (dBm) for low/mid/high channel		
				20775/2502.5	21100/2535	21425/2567.5
5MHz	QPSK	1	0	22.86	22.76	22.17
			13	23.04	21.36	22.58
			24	22.30	21.84	22.61
		12	0	22.96	21.93	22.35
			6	23.02	22.15	22.46
			13	22.92	21.37	22.87
		25	0	22.91	22.63	22.70
	QAM16	1	0	22.26	21.56	22.32
			13	22.74	22.44	22.08
			24	23.00	21.79	22.56
		12	0	22.75	22.16	22.38
			6	22.82	22.17	22.45
			13	23.23	22.49	23.20
		25	0	22.80	21.73	23.43

Bandwidth	Modulation	RB size	RB offset	Output Power (dBm) for low/mid/high channel		
				20800/2505	21100/2535	21400/2565
10MHz	QPSK	1	0	22.77	22.17	22.31
			25	22.80	22.06	23.16
			49	22.22	21.97	22.11
		25	0	22.96	22.01	22.40
			13	22.77	21.77	22.25
			25	22.37	21.67	22.09
		50	0	23.05	22.26	22.14
	QAM16	1	0	23.12	21.36	22.73
			25	22.33	22.41	22.22
			49	22.28	22.33	22.61
		25	0	22.23	22.58	22.46
			13	22.87	22.25	22.05
			25	22.68	21.77	23.38
		50	0	23.27	21.66	22.98

Bandwidth	Modulation	RB size	RB offset	Output Power (dBm) for low/mid/high channel		
				20825/2507.5	21100/2535	21375/2562.5
15MHz	QPSK	1	0	22.32	21.97	22.78
			38	22.72	21.93	23.11
			74	22.87	22.65	22.30
		36	0	22.99	21.96	22.93
			18	22.50	22.11	22.67
			39	22.60	21.87	22.18
		75	0	23.05	22.14	22.69
	QAM16	1	0	22.54	21.33	22.24
			38	22.56	22.67	22.44
			74	22.28	22.33	23.19
		36	0	22.89	21.85	22.29
			18	22.77	22.00	22.08
			39	23.24	21.85	22.99
		75	0	22.86	21.83	23.37

Bandwidth	Modulation	RB size	RB offset	Output Power (dBm) for low/mid/high channel		
				20850/2510	21100/2535	21350/2560
20MHz	QPSK	1	0	22.61	22.20	22.69
			50	23.04	21.80	22.47
			99	22.98	22.57	22.61
		50	0	22.60	22.06	22.38
			25	22.81	22.42	22.84
			50	22.14	21.81	22.29
		100	0	22.63	22.01	23.07
	QAM16	1	0	23.03	21.46	22.39
			50	22.89	22.14	22.51
			99	22.77	22.49	22.49
		50	0	22.19	22.44	22.43
			25	22.89	21.84	22.00
			50	23.25	21.80	22.66
		100	0	23.54	22.03	22.82

LTE Band12

Bandwidth	Modulation	RB size	RB offset	Output Power (dBm) for low/mid/high channel			
				23017/699.7	23095/707.5	23173/715.3	
1.4MHz	QPSK	1	0	22.80	22.82	22.61	
			2	22.96	21.71	22.56	
			5	22.03	22.72	22.02	
		3	0	23.00	22.13	22.46	
			2	22.46	22.27	22.16	
			3	22.61	22.28	22.40	
		6	0	22.84	22.92	22.18	
		QAM16	1	0	22.85	21.97	22.30
				2	22.08	22.46	22.91
	5			22.47	22.32	22.91	
	3		0	22.22	21.91	22.22	
			2	22.01	21.76	22.00	
			3	23.16	21.60	22.79	
	6	0	22.60	21.58	23.08		

Bandwidth	Modulation	RB size	RB offset	Output Power (dBm) for low/mid/high channel		
				23025/700.5	23095/707.5	23165/714.5
3MHz	QPSK	1	0	22.55	21.98	22.79
			7	22.26	21.34	22.50
			14	22.48	22.69	22.44
		8	0	23.25	22.20	22.59
			4	23.02	22.52	22.49
			7	22.87	21.88	22.26
		15	0	22.37	22.77	23.00
	QAM16	1	0	22.29	21.31	22.91
			7	22.56	22.81	22.60
			14	22.92	22.27	23.04
		8	0	22.90	21.92	22.37
			4	22.08	22.05	22.19
			7	23.39	22.23	22.97
		15	0	23.47	21.77	22.72

Bandwidth	Modulation	RB size	RB offset	Output Power (dBm) for low/mid/high channel			
				23035/701.5	23095/707.5	23155/713.5	
5MHz	QPSK	1	0	22.60	22.76	22.94	
			13	23.01	21.45	22.98	
			24	22.78	22.60	22.52	
		12	0	22.49	22.53	23.01	
			6	22.74	22.48	22.95	
			13	22.04	21.77	22.06	
		25	0	22.83	22.77	23.08	
		QAM16	1	0	23.07	22.14	22.82
				13	22.57	22.34	22.10
	24			22.90	22.14	23.18	
	12		0	22.21	22.43	22.75	
			6	22.85	22.21	22.22	
			13	23.03	22.18	23.38	
	25	0	23.48	22.21	22.87		

Bandwidth	Modulation	RB size	RB offset	Output Power (dBm) for low/mid/high channel		
				23060/704	23095/707.5	23130/711
10MHz	QPSK	1	0	22.49	22.53	23.01
			25	22.74	22.48	22.95
			49	22.04	21.77	22.06
		25	0	22.83	22.77	23.08
			13	23.07	22.14	22.82
			25	22.57	22.34	22.10
		50	0	22.90	22.14	23.18
	QAM16	1	0	22.21	22.43	22.75
			25	22.85	22.21	22.22
			49	23.03	22.18	23.38
		25	0	23.48	22.21	22.87
			13	23.27	21.69	23.04
			25	22.62	21.89	22.95
		50	0	23.08	22.27	22.79

LTE Band17

Bandwidth	Modulation	RB size	RB offset	Output Power (dBm) for low/mid/high channel		
				23755/706.5	23790/710	23825/713.5
5MHz	QPSK	1	0	22.31	21.62	23.04
			13	23.00	22.15	22.96
			24	22.97	21.44	22.84
		12	0	22.46	22.49	22.71
			6	22.23	21.30	22.98
			13	22.97	22.51	22.90
		25	0	23.24	22.20	22.49
	QAM16	1	0	22.84	22.15	22.29
			13	21.97	21.87	21.92
			24	22.87	22.09	23.09
		12	0	23.49	21.48	23.26
			6	22.99	21.84	22.96
			13	22.36	22.43	22.22
		25	0	22.59	21.83	23.18

Bandwidth	Modulation	RB size	RB offset	Output Power (dBm) for low/mid/high channel		
				23780/709	23790/710	23800/711
10MHz	QPSK	1	0	22.36	22.19	22.58
			25	22.75	22.11	22.67
			49	22.19	22.00	22.58
		25	0	22.48	22.95	22.73
			13	22.74	22.04	23.12
			25	22.96	22.27	22.30
		50	0	22.48	22.29	22.91
	QAM16	1	0	22.53	21.89	22.67
			25	22.54	22.15	22.62
			49	23.19	21.66	22.76
		25	0	22.91	21.40	23.38
			13	22.69	22.36	23.02
			25	22.90	22.82	22.99
		50	0	22.47	22.17	22.94

LTE Band41

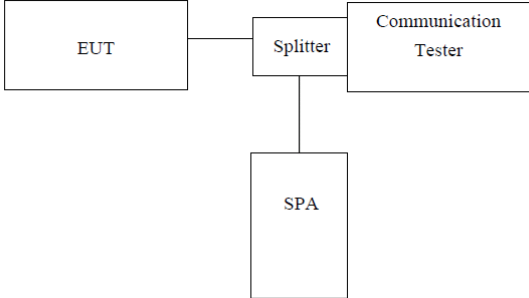
Bandwidth	Modulation	RB size	RB offset	Output Power (dBm) for low/mid/high channel		
				39675/2498.5	40620/2593	41565/2687.5
5MHz	QPSK	1	0	23.09	22.18	22.55
			13	22.44	21.80	22.70
			24	22.77	22.09	22.72
		12	0	22.92	22.52	22.45
			6	23.07	21.52	22.90
			13	22.18	22.74	22.20
		25	0	22.35	22.40	22.91
	QAM16	1	0	22.68	21.73	22.72
			13	22.42	22.72	22.20
			24	22.65	21.56	22.93
		12	0	23.51	22.21	22.83
			6	22.68	22.20	23.46
			13	22.23	22.64	22.59
		25	0	22.66	22.06	23.24

Bandwidth	Modulation	RB size	RB offset	Output Power (dBm) for low/mid/high channel		
				39700/2501	40620/2593	41540/2685
10MHz	QPSK	1	0	22.99	22.36	22.58
			25	23.06	21.92	22.95
			49	22.41	21.45	21.98
		25	0	22.98	22.65	22.25
			13	22.71	21.63	22.44
			25	22.91	22.64	22.82
		50	0	22.80	21.67	22.38
	QAM16	1	0	22.09	22.13	22.66
			25	22.64	22.02	22.17
			49	22.54	22.18	22.98
		25	0	23.45	21.95	23.01
			13	22.80	21.93	22.88
			25	22.96	21.96	22.62
		50	0	22.31	21.50	22.75

Bandwidth	Modulation	RB size	RB offset	Output Power (dBm) for low/mid/high channel		
				39725/2503.5	40620/2593	41515/2682.5
15MHz	QPSK	1	0	22.81	21.72	23.05
			38	22.72	22.24	22.25
			74	22.07	22.07	22.15
		36	0	22.94	22.70	22.58
			18	22.98	21.68	22.30
			39	23.00	22.27	22.09
		75	0	22.89	22.06	23.14
	QAM16	1	0	22.42	21.64	22.18
			38	22.07	22.04	22.73
			74	23.00	22.10	22.77
		36	0	23.26	22.09	22.83
			18	23.09	21.72	22.90
			39	22.68	22.64	22.54
		75	0	22.80	21.75	22.84

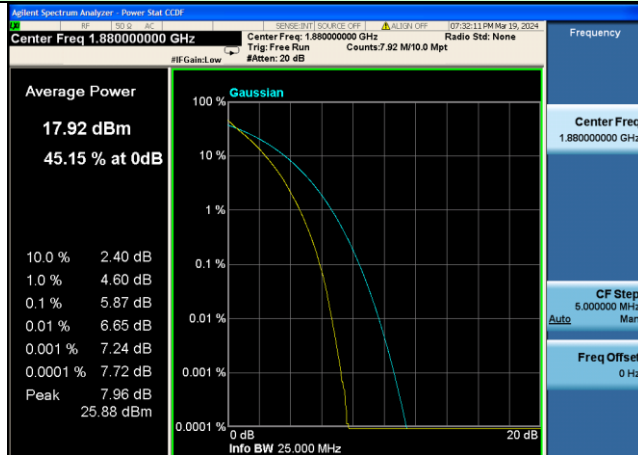
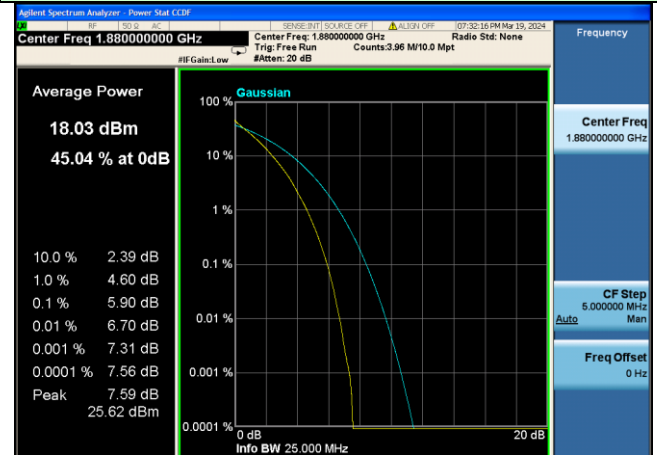
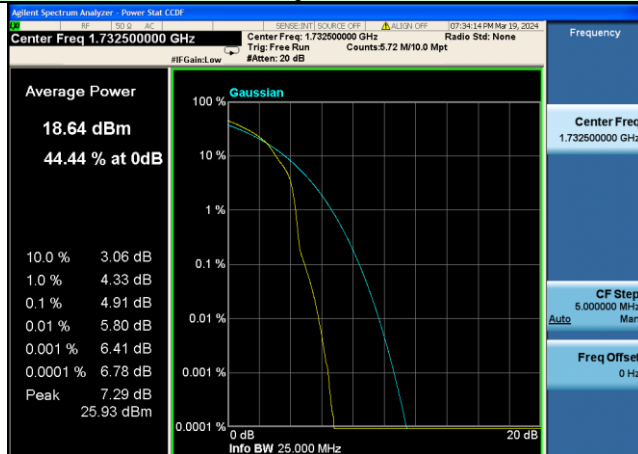
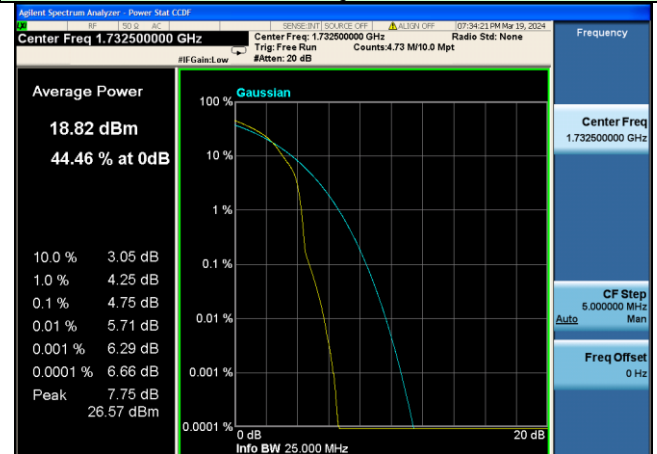
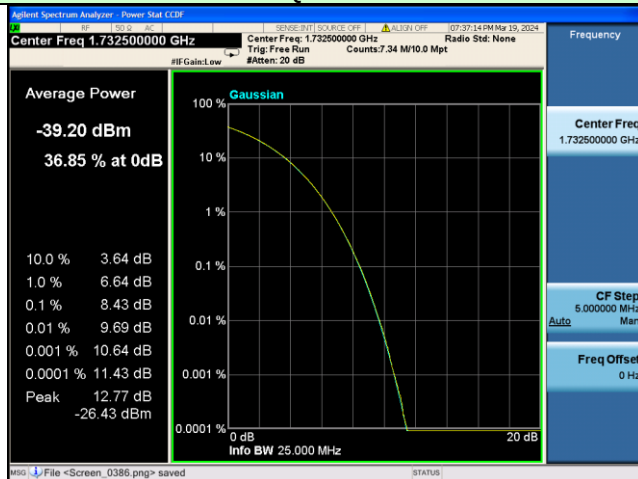
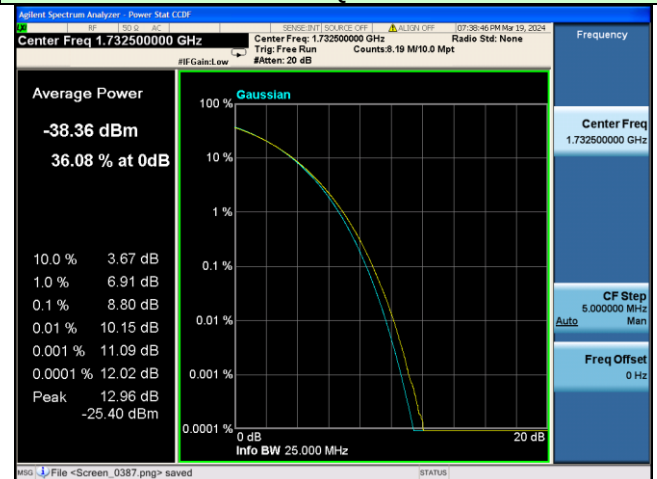
Bandwidth	Modulation	RB size	RB offset	Output Power (dBm) for low/mid/high channel		
				39750/2506	40620/2593	41490/2680
20MHz	QPSK	1	0	23.05	22.56	22.83
			50	22.89	21.85	22.25
			99	22.60	22.04	22.75
		50	0	22.48	22.04	22.63
			25	22.61	21.59	22.35
			50	22.12	22.71	22.98
		100	0	22.87	22.42	22.31
	QAM16	1	0	22.43	22.36	22.76
			50	22.13	22.05	22.22
			99	22.63	22.43	22.81
		50	0	23.23	21.77	22.88
			25	22.91	22.11	23.06
			50	22.52	22.28	22.02
		100	0	23.05	21.56	23.16

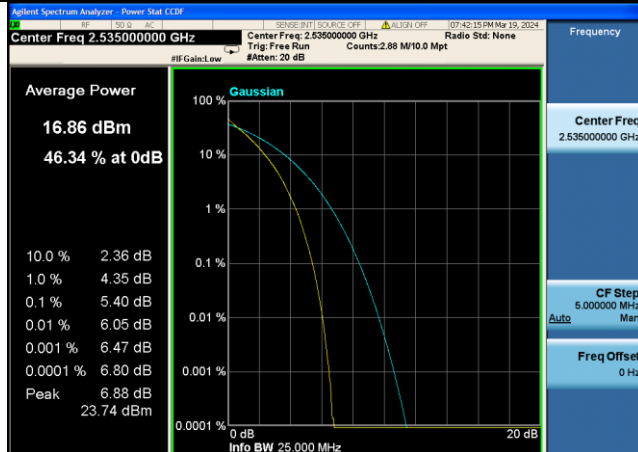
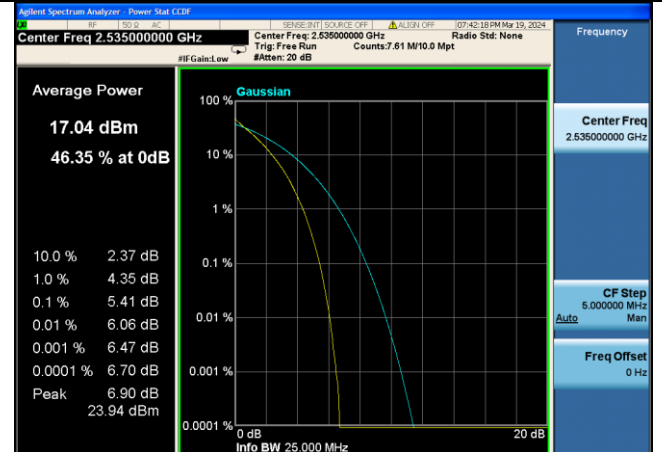
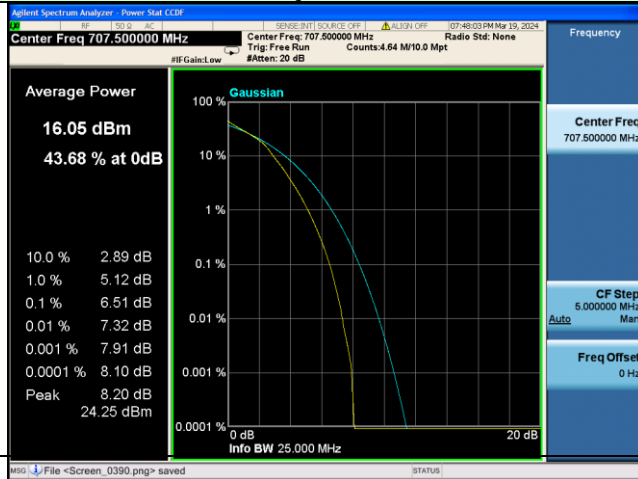
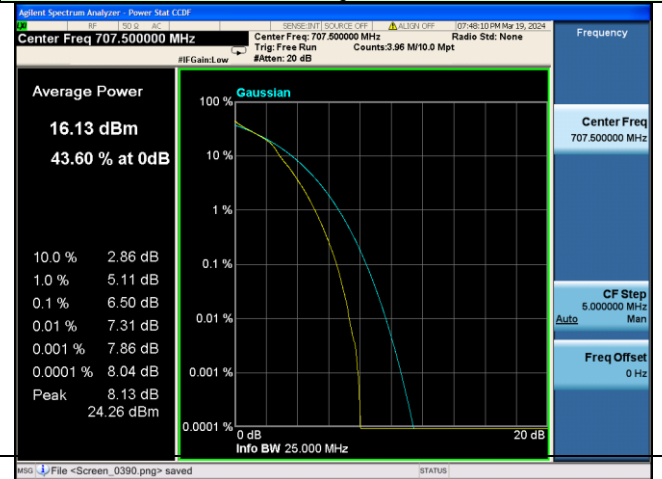
4.4 Peak-to-Average Ratio

Test Requirement:	Part 22.913(d), FCC part24.232(d) and FCC part27.50(d)(5)
Test Method:	ANSI C63.26:2015
Test Limit:	Used complementary cumulative distribution function (CCDF) of analyzer to determine that PAPR will not exceed 13 dB for more than 0.1 percent of the time
Test setup:	 <i>Note: Measurement setup for testing on Antenna connector</i>
Test Procedure:	1. The testing follows FCC KDB 971168 D01 v03r01 Section 5.7 2. The EUT was connected to spectrum and system simulator via a power divider 3. Using the CCDF measurement of spectrum analyzer; 4. Set $RBW \geq OBW$ or specified reference bandwidth; 5. Set the number of counts to a value that stabilizes the measured CCDF curve; 6. Set the measurement interval as 1ms 7. Record the maximum PAPR level associated with a probability of 0.1%.
Test Instruments:	Refer to section 3 for details
Test mode:	Refer to section 4.1 for details
Test results:	Pass

Test plots are listed as below:

Test mode	Peak to Average Ratio (dB)	Limit (dB)	Result
LTE Band 2 Middle channel/20MHz/QPSK	5.87	13	Pass
LTE Band 2 Middle channel/20MHz/16-QAM	5.90	13	Pass
LTE Band 4 Middle channel/20MHz/QPSK	4.91	13	Pass
LTE Band 4 Middle channel/20MHz/16-QAM	4.75	13	Pass
LTE Band 5 Middle channel/10MHz/QPSK	8.43	13	Pass
LTE Band 5 Middle channel/10MHz/16-QAM	8.80	13	Pass
LTE Band 7 Middle channel/20MHz/QPSK	5.40	13	Pass
LTE Band 7 Middle channel/20MHz/16-QAM	5.41	13	Pass
LTE Band 12 Middle channel/10MHz/QPSK	6.51	13	Pass
LTE Band 12 Middle channel/10MHz/16-QAM	6.50	13	Pass
LTE Band 17 Middle channel/10MHz/QPSK	6.40	13	Pass
LTE Band 17 Middle channel/10MHz/16-QAM	6.41	13	Pass
LTE Band 41 Middle channel/20MHz/QPSK	9.74	13	Pass
LTE Band 41 Middle channel/20MHz/16-QAM	9.21	13	Pass

Test Mode: LTE Band 2
Middle channel/20MHz/QPSK**Test Mode: LTE Band 2**
Middle channel/20MHz/16-QAM**Test Mode: LTE Band 4**
Middle channel/20MHz/QPSK**Test Mode: LTE Band 4**
Middle channel/20MHz/16-QAM**Test Mode: LTE Band 5**
Middle channel/10MHz/QPSK**Test Mode: LTE Band 5**
Middle channel/10MHz/16-QAM

Test Mode: LTE Band 7
Middle channel/20MHz/QPSK**Test Mode: LTE Band 7**
Middle channel/20MHz/16-QAM**Test Mode: LTE Band 12**
Middle channel/10MHz/QPSK**Test Mode: LTE Band 12**
Middle channel/10MHz/16-QAM

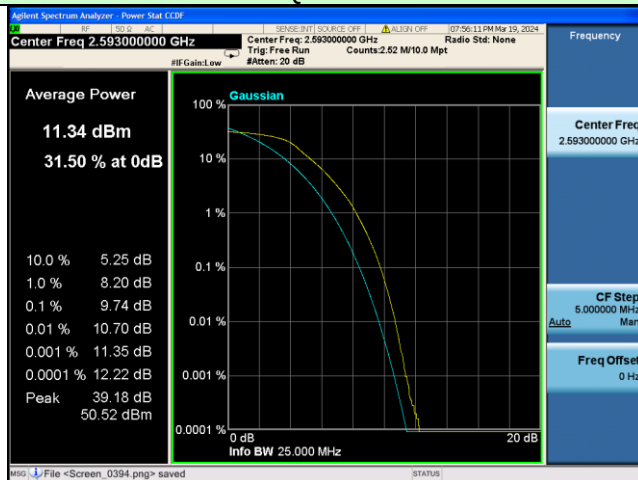
Test Mode: LTE Band 17
Middle channel/10MHz/QPSK



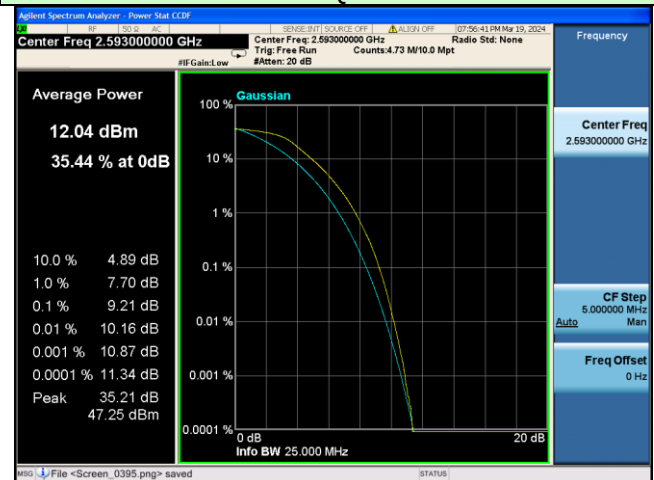
Test Mode: LTE Band 17
Middle channel/10MHz/16-QAM



Test Mode: LTE Band 41
Middle channel/20MHz/QPSK

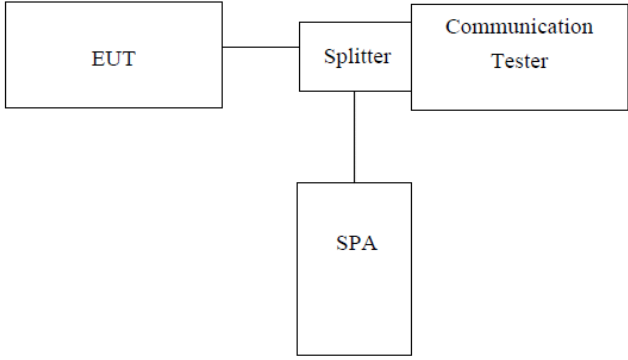


Test Mode: LTE Band 41
Middle channel/20MHz/16-QAM



Note: All bandwidth and modulation are tested, only the worst results are reported.

4.5 Occupy Bandwidth

Test Requirement:	FCC part22.913(a), FCC part24.232(b) and FCC part27.53(a)
Test Method:	ANSI C63.26:2015
Test setup:	 <i>Note: Measurement setup for testing on Antenna connector</i>
Test Procedure:	1. The EUT's output RF connector was connected with a short cable to the spectrum analyzer, set center frequency to channel center frequency. 2. RBW was set to about 1%-5% of emission OBW, VBW$\geq$ 3 X RBW. 3. Set spectrum analyzer detection mode to peak, and the trace mode to max hold. 4. Use the 99% OBW function, The 99% power OBW can be found on the plot, determine the "-26dB amplitude" as equal to reference value -26dB.
Test Instruments:	Refer to section 3 for details
Test mode:	Refer to section 4.1 for details
Test results:	Pass

Measurement Data

Band2						
RB	Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
100%	QPSK	1.4	Lowest	1850.7	1.1863	1.415
		3	Lowest	1851.5	2.7197	2.988
		5	Lowest	1852.5	4.5075	4.938
		10	Lowest	1855	8.9415	9.568
		15	Lowest	1857.5	13.372	14.15
		20	Lowest	1860	17.830	18.59
	QAM16	1.4	Lowest	1850.7	1.1830	1.409
		3	Lowest	1851.5	2.7191	2.988
		5	Lowest	1852.5	4.5034	4.944
		10	Lowest	1855	8.9412	9.565
		15	Lowest	1857.5	13.382	14.24
		20	Lowest	1860	17.828	18.59

Band2						
RB	Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
100%	QPSK	1.4	Middle	1880	1.1780	1.416
		3	Middle	1880	2.72	2.978
		5	Middle	1880	4.4898	4.922
		10	Middle	1880	8.9381	9.652
		15	Middle	1880	13.393	14.08
		20	Middle	1880	17.859	18.72
	QAM16	1.4	Middle	1880	1.1721	1.408
		3	Middle	1880	2.7205	2.977
		5	Middle	1880	4.4927	4.879
		10	Middle	1880	8.9446	9.660
		15	Middle	1880	13.403	14.08
		20	Middle	1880	17.860	18.67

Band2						
RB	Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
100%	QPSK	1.4	Highest	1909.3	1.1775	1.412
		3	Highest	1908.5	2.7160	2.979
		5	Highest	1907.5	4.4981	4.928
		10	Highest	1905	8.9366	9.623
		15	Highest	1902.5	13.362	14.07
		20	Highest	1900	17.796	18.70
	QAM16	1.4	Highest	1909.3	1.1760	1.405
		3	Highest	1908.5	2.7149	2.997
		5	Highest	1907.5	4.5008	4.944
		10	Highest	1905	8.9391	9.568
		15	Highest	1902.5	13.358	14.10
		20	Highest	1900	17.793	18.70

Band4						
RB	Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
100%	QPSK	1.4	Lowest	1710.7	1.1725	1.407
		3	Lowest	1711.5	2.7201	2.988
		5	Lowest	1712.5	4.5015	4.924
		10	Lowest	1715	8.9434	9.592
		15	Lowest	1717.5	13.384	14.15
		20	Lowest	1720	17.841	18.67
	QAM16	1.4	Lowest	1710.7	1.1729	1.407
		3	Lowest	1711.5	2.7221	2.992
		5	Lowest	1712.5	4.5010	4.926
		10	Lowest	1715	8.9469	9.590
		15	Lowest	1717.5	13.383	14.23
		20	Lowest	1720	17.833	18.72

Band4						
RB	Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
100%	QPSK	1.4	Middle	1732.5	1.1798	1.412
		3	Middle	1732.5	2.7228	2.997
		5	Middle	1732.5	4.4763	4.842
		10	Middle	1732.5	8.9414	9.506
		15	Middle	1732.5	13.389	14.20
		20	Middle	1732.5	17.845	18.74
	QAM16	1.4	Middle	1732.5	1.1852	1.411
		3	Middle	1732.5	2.7147	2.974
		5	Middle	1732.5	4.5062	4.918
		10	Middle	1732.5	8.9364	9.560
		15	Middle	1732.5	13.388	14.20
		20	Middle	1732.5	17.836	18.75

Band4						
RB	Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
100%	QPSK	1.4	Highest	1754.3	1.1718	1.422
		3	Highest	1753.5	2.7205	2.981
		5	Highest	1752.5	4.5048	4.892
		10	Highest	1750	8.9273	9.573
		15	Highest	1747.5	13.403	14.19
		20	Highest	1745	17.852	18.78
	QAM16	1.4	Highest	1754.3	1.1861	1.422
		3	Highest	1753.5	2.7183	2.986
		5	Highest	1752.5	4.5068	4.920
		10	Highest	1750	8.9233	9.527
		15	Highest	1747.5	13.402	14.32
		20	Highest	1745	17.860	18.87

Band5						
RB	Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
100%	QPSK	1.4	Lowest	824.7	1.1856	1.415
		3	Lowest	825.5	2.7224	2.989
		5	Lowest	826.5	4.5117	4.914
		10	Lowest	829	8.9463	9.579
	QAM16	1.4	Lowest	824.7	1.1865	1.415
		3	Lowest	825.5	2.7223	2.990
		5	Lowest	826.5	4.5070	4.914
		10	Lowest	829	8.9430	9.580

Band5						
RB	Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
100%	QPSK	1.4	Middle	836.5	1.1740	1.415
		3	Middle	836.5	2.7240	2.995
		5	Middle	836.5	4.5084	4.907
		10	Middle	836.5	8.9452	9.581
	QAM16	1.4	Middle	836.5	1.1760	1.415
		3	Middle	836.5	2.7214	3.002
		5	Middle	836.5	4.5135	4.899
		10	Middle	836.5	8.9370	9.596

Band5						
RB	Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
100%	QPSK	1.4	Highest	848.3	1.1877	1.414
		3	Highest	847.5	2.7170	2.975
		5	Highest	846.5	4.5004	4.931
		10	Highest	844	8.9259	9.473
	QAM16	1.4	Highest	848.3	1.1872	1.418
		3	Highest	847.5	2.7150	2.977
		5	Highest	846.5	4.4989	4.929
		10	Highest	844	8.9240	9.473

Band7						
RB	Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
100%	QPSK	5	Lowest	2502.5	4.5089	4.918
		10	Lowest	2505	8.9473	9.549
		15	Lowest	2507.5	13.386	14.12
		20	Lowest	2510	17.831	18.72
	QAM16	5	Lowest	2502.5	4.5077	4.919
		10	Lowest	2505	8.9457	9.558
		15	Lowest	2507.5	13.378	14.14
		20	Lowest	2510	17.826	18.72

Band7						
RB	Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
100%	QPSK	5	Middle	2535	4.5080	4.933
		10	Middle	2535	8.9406	9.499
		15	Middle	2535	13.384	14.19
		20	Middle	2535	17.842	18.65
	QAM16	5	Middle	2535	4.5070	4.941
		10	Middle	2535	8.9456	9.503
		15	Middle	2535	13.374	14.19
		20	Middle	2535	17.834	18.68

Band7						
RB	Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
100%	QPSK	5	Highest	2567.5	4.4920	4.887
		10	Highest	2565	8.9346	9.592
		15	Highest	2562.5	13.391	14.14
		20	Highest	2560	17.847	18.73
	QAM16	5	Highest	2567.5	4.4970	4.893
		10	Highest	2565	8.9457	9.557
		15	Highest	2562.5	13.403	14.01
		20	Highest	2560	17.849	18.78

Band12						
RB	Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
100%	QPSK	1.4	Lowest	699.7	1.1745	1.416
		3	Lowest	700.5	2.7177	2.978
		5	Lowest	701.5	4.5119	5.182
		10	Lowest	704	8.9479	9.892
	QAM16	1.4	Lowest	699.7	1.1743	1.416
		3	Lowest	700.5	2.7181	2.978
		5	Lowest	701.5	4.5137	5.182
		10	Lowest	704	8.9447	9.892

Band12						
RB	Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
100%	QPSK	1.4	Middle	707.5	1.1821	1.401
		3	Middle	707.5	2.7252	2.967
		5	Middle	707.5	4.5191	5.137
		10	Middle	707.5	8.9382	9.754
	QAM16	1.4	Middle	707.5	1.1847	1.406
		3	Middle	707.5	2.7219	2.974
		5	Middle	707.5	4.5166	5.137
		10	Middle	707.5	8.9430	9.783

Band12						
RB	Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
100%	QPSK	1.4	Highest	715.3	1.1895	1.432
		3	Highest	714.5	2.7236	2.992
		5	Highest	713.5	4.5077	5.111
		10	Highest	711	8.9529	9.810
	QAM16	1.4	Highest	715.3	1.1925	1.432
		3	Highest	714.5	2.7229	2.992
		5	Highest	713.5	4.5082	5.111
		10	Highest	711	8.9598	9.825

Band17						
RB	Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
100%	QPSK	5	Lowest	706.5	4.5145	5.118
		10	Lowest	709	8.9276	9.681
	QAM16	5	Lowest	706.5	4.5162	5.161
		10	Lowest	709	8.9291	9.677

Band17						
RB	Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
100%	QPSK	5	Middle	710	4.5178	5.091
		10	Middle	710	8.9474	9.704
	QAM16	5	Middle	710	4.5155	5.102
		10	Middle	710	8.9441	9.710

Band17						
RB	Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
100%	QPSK	5	Highest	713.5	4.5137	5.172
		10	Highest	711	8.9522	9.813
	QAM16	5	Highest	713.5	4.5134	5.172
		10	Highest	711	8.9546	9.811

Band41						
RB	Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
100%	QPSK	5	Lowest	2498.5	4.4883	4.989
		10	Lowest	2501	8.9410	9.947
		15	Lowest	2503.5	13.393	14.13
		20	Lowest	2506	17.839	18.52
100%	QAM16	5	Lowest	2498.5	4.4889	4.961
		10	Lowest	2501	8.9407	9.947
		15	Lowest	2503.5	13.388	14.13
		20	Lowest	2506	17.837	18.56

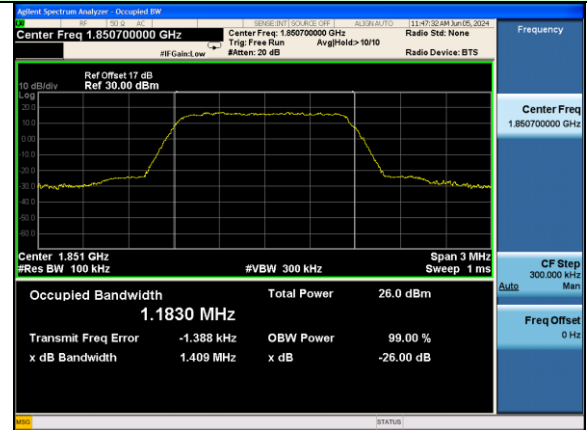
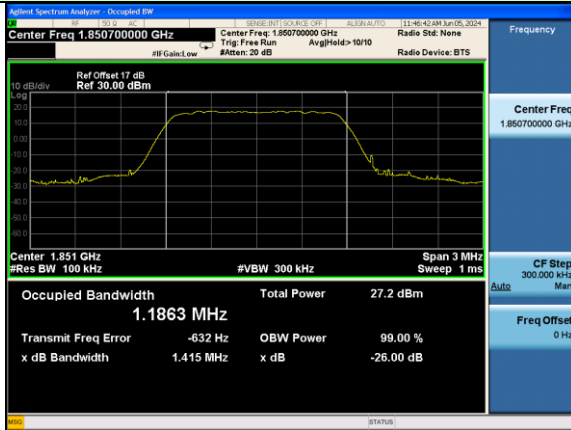
Band41						
RB	Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
100%	QPSK	5	Middle	2593	4.4971	4.893
		10	Middle	2593	8.9334	9.452
		15	Middle	2593	13.377	13.96
		20	Middle	2593	17.857	18.68
100%	QAM16	5	Middle	2593	4.4918	4.833
		10	Middle	2593	8.9319	9.464
		15	Middle	2593	13.393	14.11
		20	Middle	2593	17.847	18.68

Band41						
RB	Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	99% Power Bandwidth(MHz)	-26dBc Bandwidth(MHz)
100%	QPSK	5	Highest	2687.5	4.5106	5.181
		10	Highest	2685	8.9353	9.722
		15	Highest	2682.5	13.381	14.11
		20	Highest	2680	17.842	18.71
100%	QAM16	5	Highest	2687.5	4.5101	5.144
		10	Highest	2685	8.9361	9.722
		15	Highest	2682.5	13.383	14.11
		20	Highest	2680	17.838	18.71

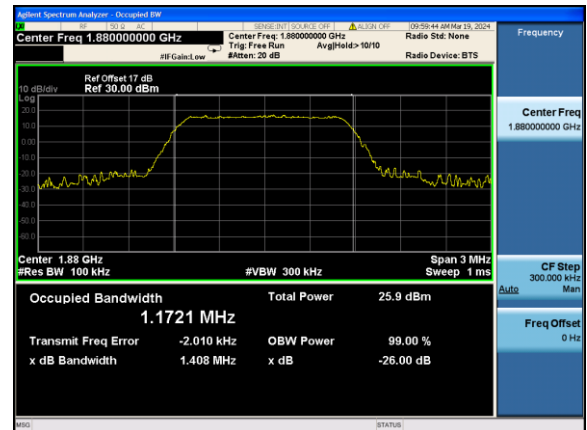
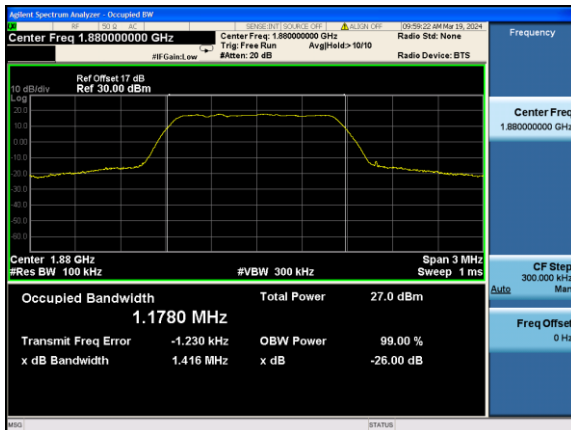
Test plot as follows:

Test Mode: LTE Band 2 / 1.4MHz /QPSK

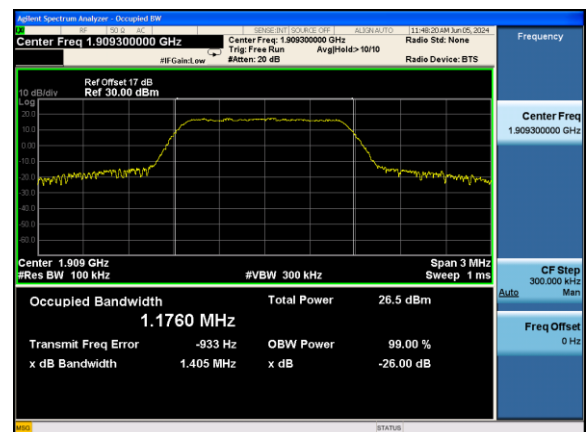
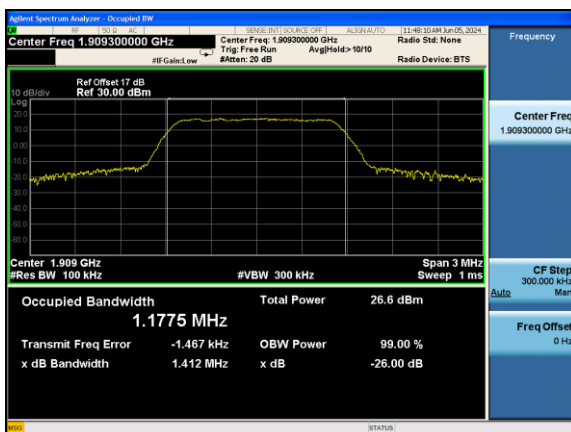
Test Mode: LTE Band 2 / 1.4MHz /16-QAM



Lowest channel

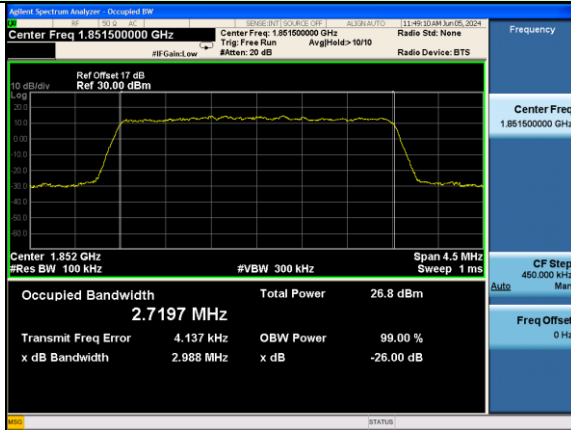


Middle channel

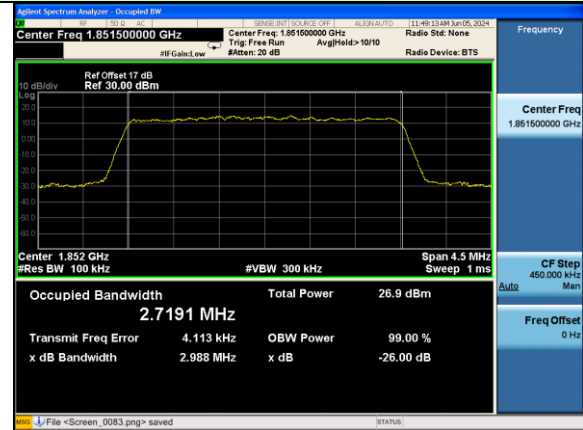


Highest channel

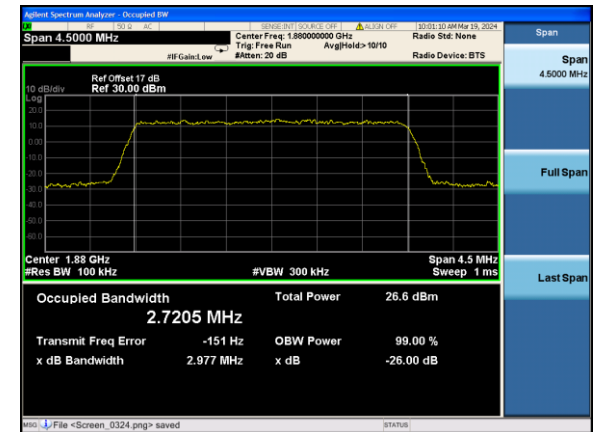
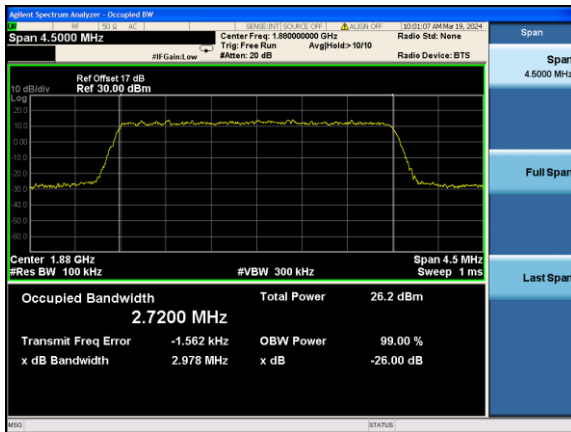
Test Mode: LTE Band 2 / 3MHz /QPSK



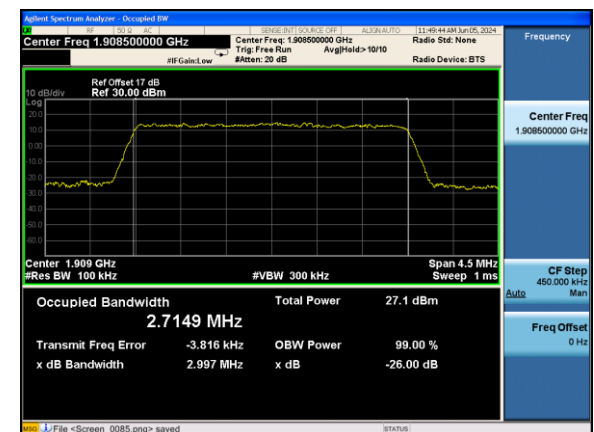
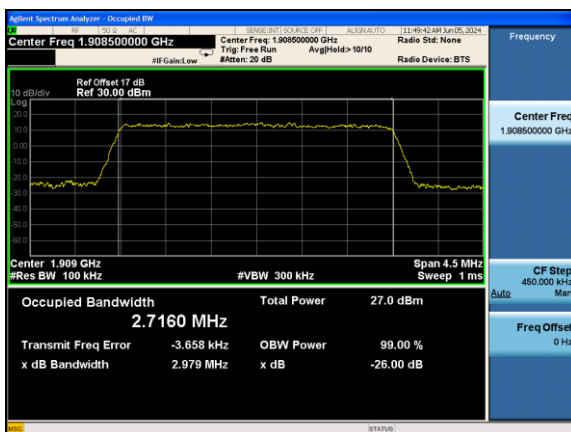
Test Mode: LTE Band 2 / 3MHz /16-QAM



Lowest channel

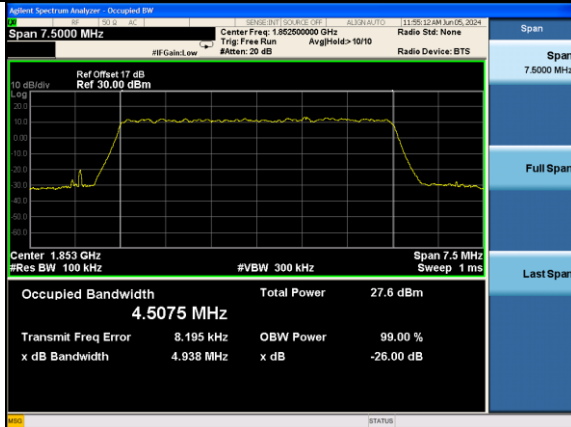


Middle channel

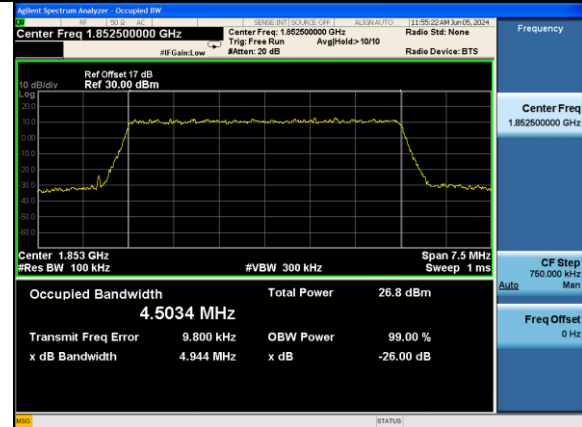


Highest channel

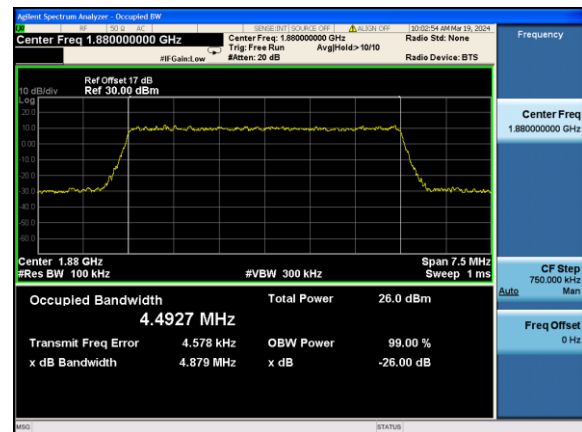
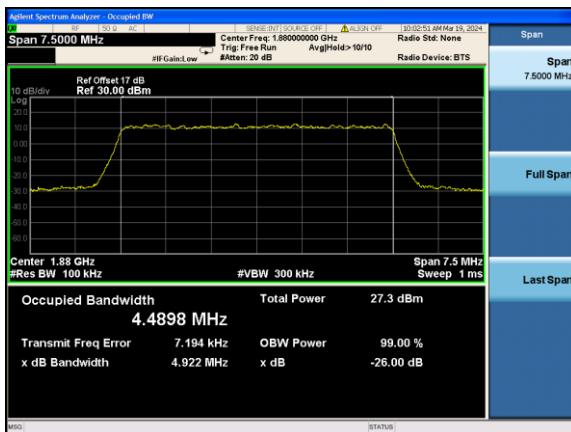
Test Mode: LTE Band 2 / 5MHz /QPSK



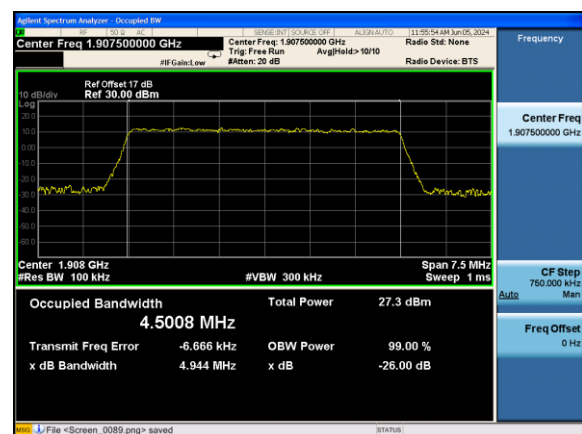
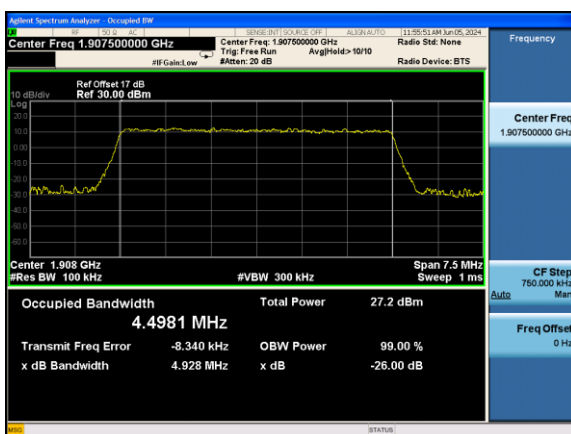
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Lowest channel

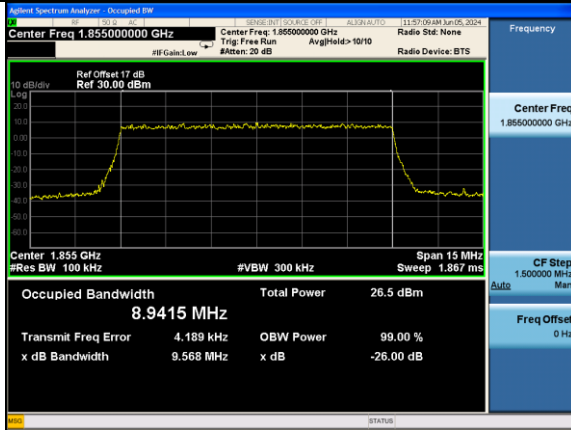


Middle channel

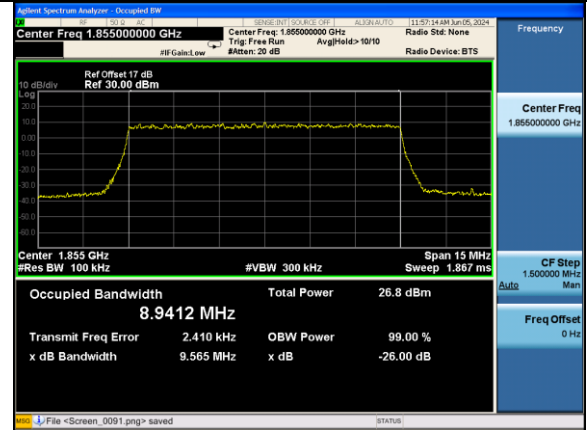


Highest channel

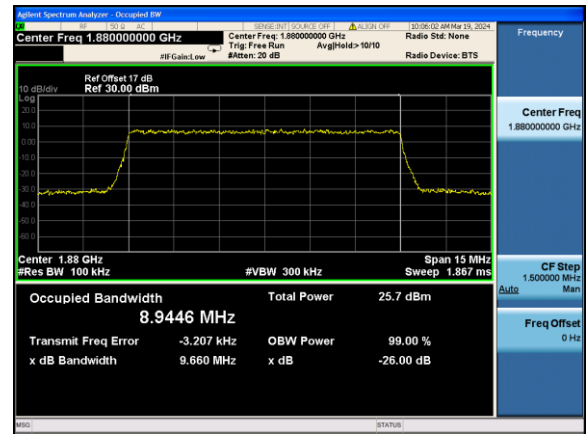
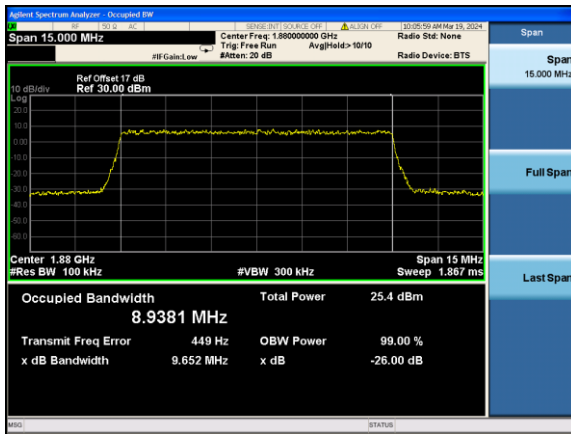
Test Mode: LTE Band 2 / 10MHz /QPSK



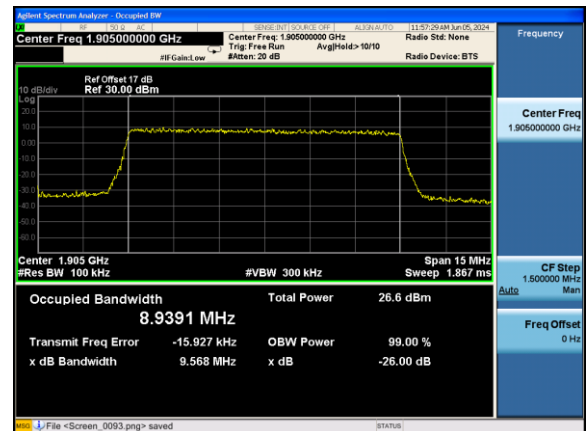
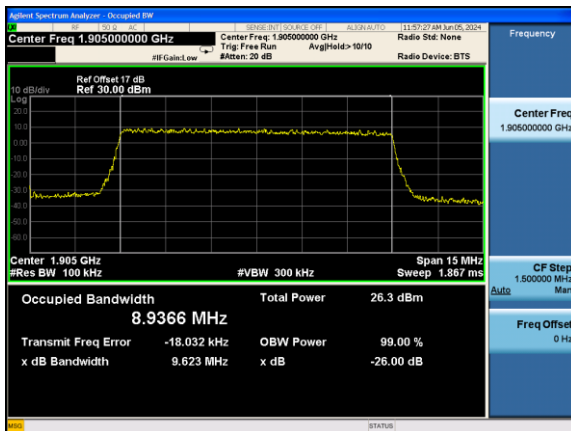
Test Mode: LTE Band 2 / 10MHz /16-QAM



Lowest channel

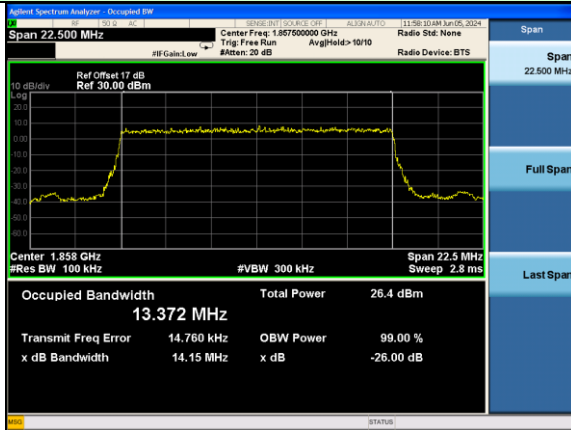


Middle channel

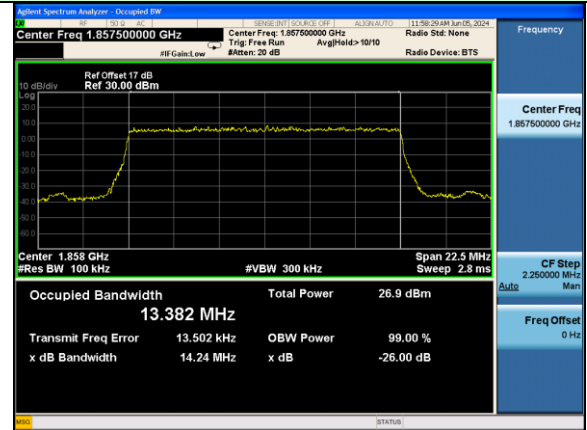


Highest channel

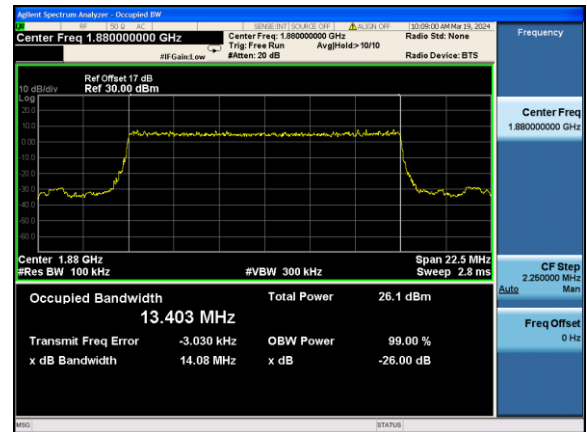
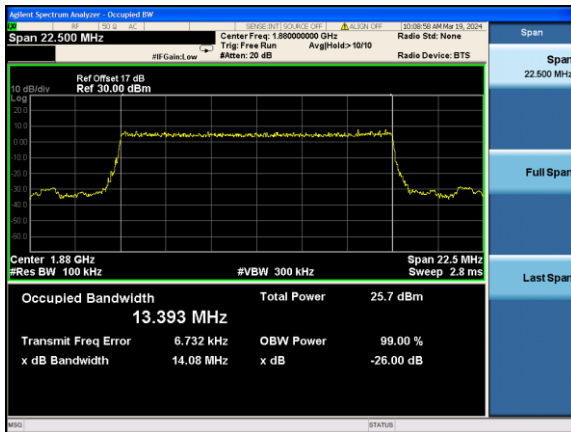
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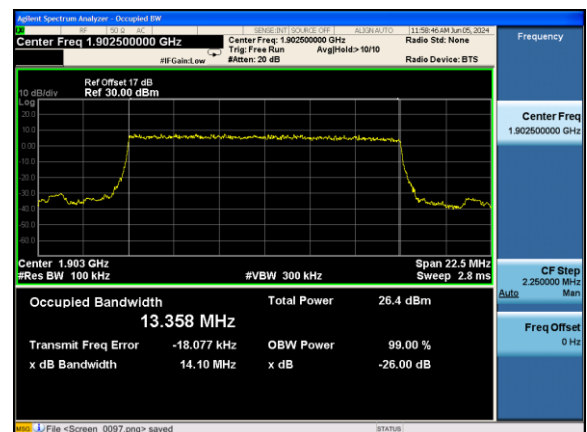
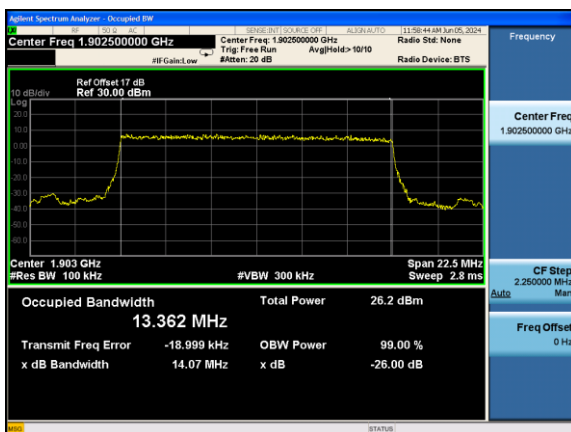
Test Mode: LTE Band 2 / 15MHz /16-QAM



Lowest channel



Middle channel



Highest channel