



FCC Part 24E Test Report

FCC ID: 2BTUR-Q10PRO

Applicant: Shenzhen Coler Intelligent Technology Co. LTD

Address: Room 301, No.39, Zone 1 of the 5th Industrial Zone, Shangfen Community, Minzhi Sub-district, Longhua District, Shenzhen City, Guangdong Province, China

Manufacturer: Shenzhen Coler Intelligent Technology Co. LTD

Address: Room 301, No.39, Zone 1 of the 5th Industrial Zone, Shangfen Community, Minzhi Sub-district, Longhua District, Shenzhen City, Guangdong Province, China

Product Name: Low-power battery surveillance camera

Trade Mark: N/A

Model Number: Q10Pro

Date of Receipt: Mar. 09, 2026

Test Date: Mar. 09, 2026 - Apr. 22, 2026

Date of Report: Apr. 22, 2026

Prepared By: Shenzhen DL Testing Technology Co., Ltd.

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Applicable Standards: FCC CFR Title 47 Part 2, Part 24E

Test Result: Pass

Report Number: DLE-260409007R

Prepared by(Engineer): Ken Tan

Reviewer(Supervisor): Jack Bu

Approved(Manager): Jade Yang



This test report is based on a single evaluation of one sample of above mentioned products. It is not permitted to be duplicated in extracts without written approval of Shenzhen DL Testing Technology Co., Ltd.



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**** Issued history ****

Revision	Description	Issued Date	Remark
Revision 1.0	Initial Test Report Release	Apr. 22, 2026	



1 Test Standards

The tests were performed according to following standards:

[FCC Part 24](#): Public Mobile Services.

[ANSI/TIA-603-E-2016](#): Land Mobile FM or PM Communications Equipment Measurement and Performance Standards.

[FCC Part 2](#): Frequency Allocations and Radio Treaty Matters; General Rules and Regulations.

[KDB971168 D01:v03r01](#): Measurement Guidance For Certification of Licensed Digital Transmitters.

[ANSI C63.4](#): Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the Range of 9 kHz to 40 GHz.



2 Summary

2.1 General Remarks

Date of receipt of test sample	:	Mar. 09, 2026
Testing commenced on	:	Mar. 09, 2026
Testing concluded on	:	Apr. 22, 2026

2.2 Product Description

The **Shenzhen Coler Intelligent Technology Co. LTD's** Model: Q10Pro or the "EUT" as referred to in this report; more general information as follows, for more details, refer to the user's manual of the EUT.

Name of EUT:	Low-power battery surveillance camera
Model/Type reference:	Q10Pro
Series Model(s):	N/A
Model Difference:	N/A
Power Supply:	DC5V From Type-C or DC3.7V From Battery
Modulation Type:	QPSK, 16QAM
Antenna Type:	External Antenna
Antenna Gain:	0.78dBi
Operation Frequency Band:	Cat1 Band 2
Operation Frequency:	Cat1 Band 2: 1850~1910 MHz(TX), 1930~1990 MHz(TX)
Extreme Temp. Tolerance:	-30°C to +70°C
Extreme Vol. Limits:	4.25VDC to 5.75VDC (nominal: 5VDC)
Note: 1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual. 2. Antenna gain Refer to the antenna specifications. 3. The cable loss data is obtained from the supplier. 4. The test results in the report only apply to the tested sample.	

2.3 Equipment Under Test

Power supply system utilised

Power supply voltage	:	☐ 120V/ 60 Hz	☐ 115V/60Hz
		☐ 12 V DC	☐ 24 V DC
		☒ Other (specified in blank below)	

DC5V From Type-C or DC3.7V From Battery

2.4 Short Description of The Equipment Under Test (EUT)

2.4.1 General Description

This is a Low-power battery surveillance camera.
For more details, refer to the user's manual of the EUT.



2.5 Test Frequency List

TX Channel Bandwidth	Frequency (MHz)	Channel
1.4 MHz	1850.7	18607
	1880.0	18900
	1909.3	19193
3 MHz	1851.5	18615
	1880.0	18900
	1908.5	19185
5 MHz	1852.5	18625
	1880.0	18900
	1907.5	19175
10 MHz	1855.0	18650
	1880.0	18900
	1905.0	19150
15 MHz	1857.5	18675
	1880.0	18900
	1902.5	19125
20 MHz	1860.0	18700
	1880.0	18900
	1900.0	19100

2.6 Normal Accessory Setting

Fully charged battery was used during the test.

2.7 EUT Configuration

The following peripheral devices and interface cables were connected during the measurement:

- - supplied by the manufacturer
- - supplied by the lab

○	Power Cable	Length (m) :	/
		Shield :	/
		Detachable :	/
○	Multimeter	Manufacturer :	/
		Model No. :	/

2.8 Related Submittal(s) / Grant (s)

This submittal(s) (test report) is intended for **FCC ID: 2BTUR-Q10PRO** filing to comply with FCC Part 24, Rules.

2.9 Modifications

No modifications were implemented to meet testing criteria.



2.10 GeneralTest Conditions/Configurations

2.10.1 Test Environment

Environment Parameter	Selected Values During Tests	
Relative Humidity	Ambient	
Temperature	TN	Ambient
Voltage	VL	4.25V
	VN	5.0V
	VH	5.75V

NOTE: VL = lower extreme test voltage, VN = nominal voltage
VH = upper extreme test voltage, TN = normal temperature



3 Test Environment

3.1 Information of The Test Laboratory

Shenzhen DL Testing Technology Co., Ltd.
101-201, Comprehensive Building, Tongzhou Electronics Longgang Factory Area, No.1 Baolong Fifth Road,
Baolong Community, Baolong Street, Longgang District, Shenzhen, China

3.2 Environmental Conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	15-35 °C
Humidity:	30-60 %
Atmospheric pressure:	950-1050mbar

3.3 Test Description

PCSBand (1850-1915MHz pairedwith 1930-1995MHz)

Test Item	FCCRuleNo.	Requirements	Verdict
Effective (Isotropic) Radiated Output Power	Part§2.1046, Part§24.232	EIRP $\leq$ 2W	Pass
Peak-Average Ratio	Part§2.1046, Part§24.232	FCC: Limit $\leq$ 13dB	Pass
Bandwidth	Part§2.1049 RSS-133	OBW: Nolimit. EBW: Nolimit.	Pass
Band Edges Compliance	Part§2.1051, Part§24.238	$\leq -13\text{dBm}/1\%*\text{EBW}$, In1MHz bands immediately outside and adjacent to The frequency block.	Pass
Spurious Emission at Antenna Terminals	Part§2.1051, Part§24.238	$\leq -13\text{dBm}/1\text{MHz}$, from 9kHz to10th harmonics but outside authorized Operating frequency ranges.	Pass
Field Strength of Spurious Radiation	Part§2.1053, Part§24.238	$\leq -13\text{dBm}/1\text{MHz}$.	Pass
Frequency Stability	Part§2.1055, Part§24.235	FCC: within authorized frequency block.	Pass

Note:

1. Pass: Test item meets the requirement.
2. Fail: Test item does not meet the requirement.
3. N/A: Test case does not apply to the test object.
4. The test result judgment is decided by the limit of test standard.

Remark:

1. The measurement uncertainty is not included in the test result.



3.4 Equipments Used During The Test

3.4.1 For conducted emission at the mains terminals test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
843 Shielded Room	ChengYu	843 Room	843	Nov. 05, 2023	Nov. 04, 2026
EMI Receiver	R&S	ESR	101421	Oct. 25, 2025	Oct. 24, 2026
LISN	R&S	ENV216	102417	Oct. 25, 2025	Oct. 24, 2026
843 Cable 1#	ChengYu	CE Cable	001	Oct. 25, 2025	Oct. 24, 2026
843 Cable 1#	FUJIKURA	843C1#	001	Oct. 25, 2025	Oct. 24, 2026

3.4.2 For radiated test

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Spectrum Analyzer (9kHz-26.5GHz)	Agilent	E4408B	MY50140780	Oct. 25, 2025	Oct. 24, 2026
Test Receiver (9kHz-7GHz)	R&S	ESRP7	101393	Oct. 25, 2025	Oct. 24, 2026
Bilog Antenna (30MHz-1GHz)	R&S	VULB9162	00306	Oct. 25, 2025	Oct. 24, 2026
Horn Antenna (1GHz-18GHz)	Schwarzbeck	BBHA9120D	02139	Oct. 25, 2025	Oct. 24, 2026
Horn Antenna (18GHz-40GHz)	A.H. Systems	SAS-574	588	Oct. 25, 2025	Oct. 24, 2026
Amplifier (9KHz-6GHz)	Schwarzbeck	BBV9743B	00153	Oct. 25, 2025	Oct. 24, 2026
Amplifier (1GHz-18GHz)	EMEC	EM01G8GA	00270	Oct. 25, 2025	Oct. 24, 2026
Amplifier(18GHz-40GHz)	Quanjuda	DLE-161	97	Oct. 25, 2025	Oct. 24, 2026
Loop Antenna(9KHz-30MHz)	Schwarzbeck	FMZB1519B	00014	Oct. 25, 2025	Oct. 24, 2026
RF cables1 (9kHz-1GHz)	ChengYu	966	004	Oct. 25, 2025	Oct. 24, 2026
RF cables2 (1GHz-40GHz)	ChengYu	966	003	Oct. 25, 2025	Oct. 24, 2026
Antenna connector	Florida RF Labs	N/A	RF 01#	Oct. 25, 2025	Oct. 24, 2026
Power probe	KEYSIGHT	U2021XA	MY55210018	Oct. 25, 2025	Oct. 24, 2026
Signal Analyzer	Agilent	N9020A	MY55370280	Oct. 25, 2025	Oct. 24, 2026
Test Receiver	R&S	ESU 40	100376	Oct. 25, 2025	Oct. 24, 2026
D.C. Power Supply	LongWei	PS-305D	010964729	Oct. 25, 2025	Oct. 24, 2026
Signal Amplifier	DAZE	ZN3380B	11235	Oct. 25, 2025	Oct. 24, 2026
High Pass filter	KANGMAI	WHKX1.0/1.5G-10SS	40	Oct. 25, 2025	Oct. 24, 2026
Filter	COM-MW	ZBSF-C836.5-25-X	BCTC042	Oct. 25, 2025	Oct. 24, 2026
Filter	COM-MW	ZBSF-C1747.5-75-X2	BCTC045	Oct. 25, 2025	Oct. 24, 2026
Filter	COM-MW	ZBSF-C1880-60-X2	BCTC047	Oct. 25, 2025	Oct. 24, 2026
Splitter	Agilent	11435B	1125162	Oct. 25, 2025	Oct. 24, 2026
RF CONDUCTED TEST					
System Simulator	Agilent	E5515C	GB43130252	Oct. 25, 2025	Oct. 24, 2026
Spectrum Analyzer	Agilent	N9020A	MY45108040	Oct. 25, 2025	Oct. 24, 2026
DC Power Supply	LongWei	PS-305D	010965682	Oct. 25, 2025	Oct. 24, 2026
Constant temperature and humidity box	GF	GTH-800-40-2P	MAA9906-012	Oct. 25, 2025	Oct. 24, 2026
Universal radio communication tester	R&S	CMW500	115295	Oct. 25, 2025	Oct. 24, 2026



4 Test Conditions and Results

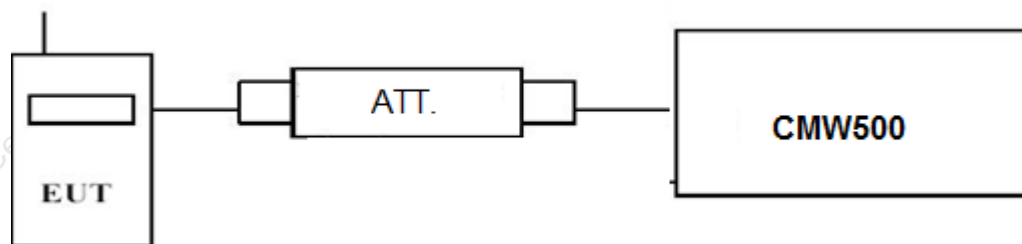
4.1 Output Power

4.1.1 Conducted Output Power

TEST APPLICABLE

During the process of testing, the EUT was controlled via R&S Digital Radio Communication tester (CMW500) to ensure max power transmission and proper modulation. This result contains output power and EIRP measurements for the EUT. In all cases, output power is within the specified limits.

TEST CONFIGURATION



TEST PROCEDURE

Conducted Power Measurement:

- Place the EUT on a bench and set it in transmitting mode.
- Connect a low loss RF cable from the antenna port to a CMW500 by an Att.
- EUT Communicate with CMW500 then selects a channel for testing.
- Add a correction factor to the display CMW500, and then test.

TEST RESULTS

Remark:

- We measured all RB Configuration refer 3GPP TS136 521 for each Channel Bandwidth of FDD Band 2;

FDD Band 2				
TX Channel Bandwidth	Frequency (MHz)	RB Size/Offset	Burst Average Power [dBm]	
			QPSK	16QAM
1.4 MHz	1850.7	1 RB low	24.05	23.03
		1 RB high	23.90	23.96
		50% RB mid	23.76	23.72
		100% RB	23.81	23.70
	1880.0	1 RB low	23.98	23.92
		1 RB high	23.87	23.94
		50% RB mid	23.76	23.82
		100% RB	23.85	23.73
	1909.3	1 RB low	25.47	24.47
		1 RB high	25.37	24.41
		50% RB mid	25.11	24.15
		100% RB	25.31	24.20
3 MHz	1851.5	1 RB low	24.19	23.36
		1 RB high	24.18	23.20
		50% RB mid	23.96	23.14
		100% RB	23.33	23.47
	1880.0	1 RB low	24.90	23.99
		1 RB high	24.83	23.92
		50% RB mid	24.61	23.76
		100% RB	24.01	23.02



	1908.5	1 RB low	24.65	23.70
		1 RB high	24.63	23.62
		50% RB mid	24.09	23.33
		100% RB	23.67	23.89
5 MHz	1852.5	1 RB low	24.45	23.51
		1 RB high	24.15	23.23
		50% RB mid	24.11	23.16
		100% RB	23.43	23.43
	1880.0	1 RB low	24.05	24.04
		1 RB high	24.83	23.93
		50% RB mid	24.68	23.75
		100% RB	24.05	23.06
	1907.5	1 RB low	24.44	23.40
		1 RB high	24.63	23.73
		50% RB mid	24.49	23.51
		100% RB	23.52	23.62
10 MHz	1855.0	1 RB low	24.26	23.36
		1 RB high	23.91	23.03
		50% RB mid	23.86	23.97
		100% RB	23.01	/
	1880.0	1 RB low	24.77	23.76
		1 RB high	24.71	23.77
		50% RB mid	24.13	23.28
		100% RB	23.69	/
	1905.0	1 RB low	23.73	23.78
		1 RB high	23.97	23.13
		50% RB mid	24.47	23.56
		100% RB	23.21	/
15 MHz	1857.5	1 RB low	24.31	23.55
		1 RB high	24.06	23.17
		50% RB mid	24.15	23.26
		100% RB	23.14	/
	1880.0	1 RB low	24.57	23.57
		1 RB high	24.92	23.90
		50% RB mid	24.08	23.19
		100% RB	23.76	/
	1902.5	1 RB low	23.24	23.18
		1 RB high	23.19	23.31
		50% RB mid	24.86	23.84
		100% RB	23.33	/
20 MHz	1860.0	1 RB low	24.31	23.93
		1 RB high	23.91	23.29
		50% RB mid	24.35	23.67
		100% RB	23.06	/
	1880.0	1 RB low	24.61	23.85
		1 RB high	24.88	23.75
		50% RB mid	23.62	23.54
		100% RB	23.74	/
	1900.0	1 RB low	24.36	24.33
		1 RB high	24.63	24.56
		50% RB mid	24.76	24.37
		100% RB	25.88	/



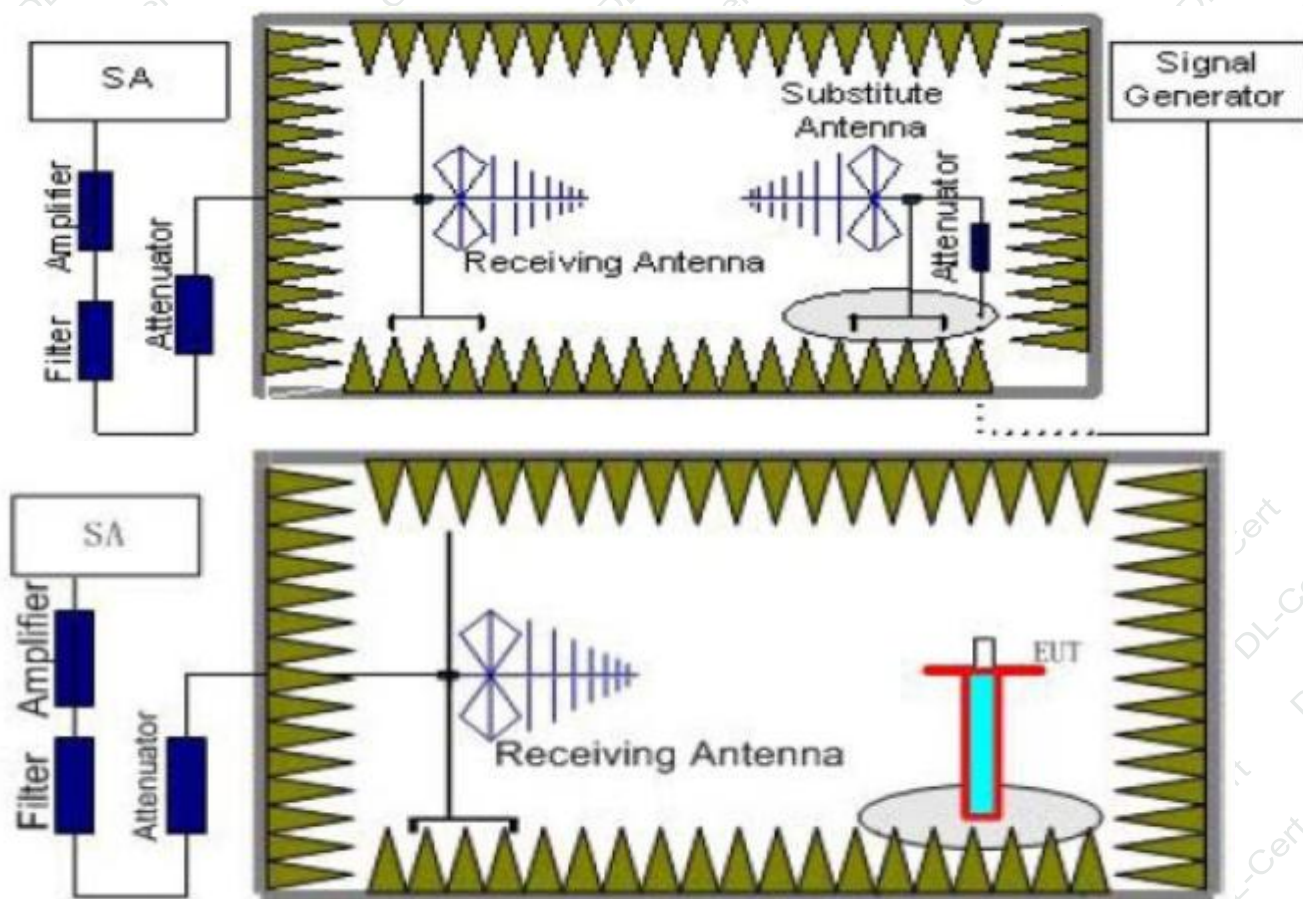
4.1.2. Radiated Output Power

LIMIT

This is the test for the maximum radiated power from the EUT.

Rule Part 24.232(b) specifies, "Mobile/portable stations are limited to 2 watts e.i.r.p.

TEST CONFIGURATION



TEST PROCEDURE

1. EUT was placed on a 1.5 meter high non-conductive stand at a 3 meter test distance from the receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the EUT for emission measurements. The height of receiving antenna is 1.5m. Detected emissions were maximized at each frequency by rotating the EUT through 360° and adjusting the receiving antenna polarization. The radiated emission measurements of all transmit frequencies in three channels (High, Middle, Low) were measured with peak detector.
2. A log-periodic antenna or double-ridged waveguide horn antenna shall be substituted in place of the EUT. The log-periodic antenna will be driven by a signal generator and the level will be adjusted till the same power value on the spectrum analyzer or receiver. The level of the spurious emissions can be calculated through the level of the signal generator, cable loss, the gain of the substitution antenna and the reading of the spectrum analyzer or receiver.
3. The EUT is then put into continuously transmitting mode at its maximum power level during the test. Set Test Receiver or Spectrum RBW=1MHz, VBW=3MHz, And the maximum value of the receiver should be recorded as (P_r).



- The EUT shall be replaced by a substitution antenna. In the chamber, a substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna.
- A power (P_{Mea}) is applied to the input of the substitution antenna, and adjust the level of the signal generator output until the value of the receiver reach the previously recorded (P_r). The power of signal source (P_{Mea}) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.
- An amplifier should be connected to the Signal Source output port. And the cable should be connect between the Amplifier and the Substitution Antenna. The cable loss (P_{cl}), the Substitution Antenna Gain (G_a) and the Amplifier Gain (P_{Ag}) should be recorded after test. The measurement results are obtained as described below:

$$\text{Power(EIRP)} = P_{Mea} - G_a + P_{cl} - P_{Ag}$$
We used SMF100A microwave signal generator which signal level can up to 33dBm, so we not used power Amplifier for substitution test; The measurement results are amend as described below:

$$\text{Power(EIRP)} = P_{Mea} - P_{cl} + G_a$$
- This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dBi) and known input power.
- ERP can be calculated from EIRP by subtracting the gain of the dipole, $ERP = EIRP - 2.15\text{dBi}$.

TEST RESULTS

Radiated Measurement:

Remark:

- We measured all RB Configuration refer 3GPP TS136 521 for each Channel Bandwidth of FDD Band 2; recorded worst case for each Channel Bandwidth of FDD Band 2.
- $EIRP = P_{Mea}(\text{dBm}) - G_a(\text{dBi}) + P_{cl}(\text{dB}) - P_{Ag}(\text{dB})$
- We measured both Horizontal and Vertical direction, recorded worst case direction.

FDD Band 2 Channel Bandwidth 1.4MHz_QPSK

Frequency (MHz)	P_{Mea} (dBm)	P_{cl} (dB)	G_a Antenna Gain(dB)	P_{Ag} (dB)	Burst Average EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1850.7	65.73	3.41	10.24	33.60	25.30	33.01	7.71	V
1880.0	66.02	3.49	10.24	33.60	25.67	33.01	7.34	V
1909.3	64.38	3.55	10.23	33.60	24.10	33.01	8.91	V

FDD Band 2 Channel Bandwidth 3MHz_QPSK

Frequency (MHz)	P_{Mea} (dBm)	P_{cl} (dB)	G_a Antenna Gain(dB)	P_{Ag} (dB)	Burst Average EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1851.5	66.60	3.41	10.24	33.60	26.17	33.01	6.84	V
1880.0	65.99	3.49	10.24	33.60	25.64	33.01	7.37	V
1908.5	64.17	3.55	10.23	33.60	23.89	33.01	9.12	V

FDD Band 2 Channel Bandwidth 5MHz_QPSK

Frequency (MHz)	P_{Mea} (dBm)	P_{cl} (dB)	G_a Antenna Gain(dB)	P_{Ag} (dB)	Burst Average EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1852.5	66.57	3.41	10.24	33.60	26.14	33.01	6.87	V
1880.0	64.67	3.49	10.24	33.60	24.32	33.01	8.69	V
1907.5	64.39	3.55	10.23	33.60	24.11	33.01	8.90	V

**FDD Band 2 Channel Bandwidth 10MHz_QPSK**

Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	G _a Antenna Gain(dB)	P _{Aq} (dB)	Burst Average EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1855.0	66.01	3.41	10.24	33.60	25.58	33.01	7.43	V
1880.0	65.01	3.49	10.24	33.60	24.66	33.01	8.35	V
1905.0	65.89	3.55	10.23	33.60	25.61	33.01	7.40	V

FDD Band 2 Channel Bandwidth 15MHz_QPSK

Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	G _a Antenna Gain(dB)	P _{Aq} (dB)	Burst Average EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1857.5	64.87	3.41	10.24	33.60	24.44	33.01	8.57	V
1880.0	64.54	3.49	10.24	33.60	24.19	33.01	8.82	V
1902.5	64.45	3.55	10.23	33.60	24.17	33.01	8.84	V

FDD Band 2 Channel Bandwidth 20MHz_QPSK

Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	G _a Antenna Gain(dB)	P _{Aq} (dB)	Burst Average EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1860.0	64.76	3.41	10.24	33.60	24.33	33.01	8.68	V
1880.0	65.91	3.49	10.24	33.60	25.56	33.01	7.45	V
1900.0	67.11	3.55	10.23	33.60	26.83	33.01	6.18	V

FDD Band 2 Channel Bandwidth 1.4MHz_16QAM

Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	G _a Antenna Gain(dB)	P _{Aq} (dB)	Burst Average EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1850.7	65.13	3.41	10.24	33.60	24.70	33.01	8.31	V
1880.0	66.08	3.49	10.24	33.60	25.73	33.01	7.28	V
1909.3	65.90	3.55	10.23	33.60	25.62	33.01	7.39	V

FDD Band 2 Channel Bandwidth 3MHz_16QAM

Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	G _a Antenna Gain(dB)	P _{Aq} (dB)	Burst Average EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1851.5	66.82	3.41	10.24	33.60	26.39	33.01	6.62	V
1880.0	65.04	3.49	10.24	33.60	24.69	33.01	8.32	V
1908.5	64.94	3.55	10.23	33.60	24.66	33.01	8.35	V

FDD Band 2 Channel Bandwidth 5MHz_16QAM

Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	G _a Antenna Gain(dB)	P _{Aq} (dB)	Burst Average EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1852.5	66.30	3.41	10.24	33.60	25.87	33.01	7.14	V
1880.0	64.44	3.49	10.24	33.60	24.09	33.01	8.92	V
1907.5	66.44	3.55	10.23	33.60	26.16	33.01	6.85	V

**FDD Band 2 Channel Bandwidth 10MHz_16QAM**

Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	G _a Antenna Gain(dB)	P _{Aq} (dB)	Burst Average EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1855.0	66.14	3.41	10.24	33.60	25.71	33.01	7.30	V
1880.0	66.05	3.49	10.24	33.60	25.70	33.01	7.31	V
1905.0	67.02	3.55	10.23	33.60	26.74	33.01	6.27	V

FDD Band 2 Channel Bandwidth 15MHz_16QAM

Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	G _a Antenna Gain(dB)	P _{Aq} (dB)	Burst Average EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1857.5	65.40	3.41	10.24	33.60	24.97	33.01	8.04	V
1880.0	65.28	3.49	10.24	33.60	24.93	33.01	8.08	V
1902.5	65.79	3.55	10.23	33.60	25.51	33.01	7.50	V

FDD Band 2 Channel Bandwidth 20MHz_16QAM

Frequency (MHz)	P _{Mea} (dBm)	P _{cl} (dB)	G _a Antenna Gain(dB)	P _{Aq} (dB)	Burst Average EIRP (dBm)	Limit (dBm)	Margin (dB)	Polarization
1860.0	65.43	3.41	10.24	33.60	25.00	33.01	8.01	V
1880.0	67.96	3.49	10.24	33.60	27.61	33.01	5.40	V
1900.0	66.49	3.55	10.23	33.60	26.21	33.01	6.80	V

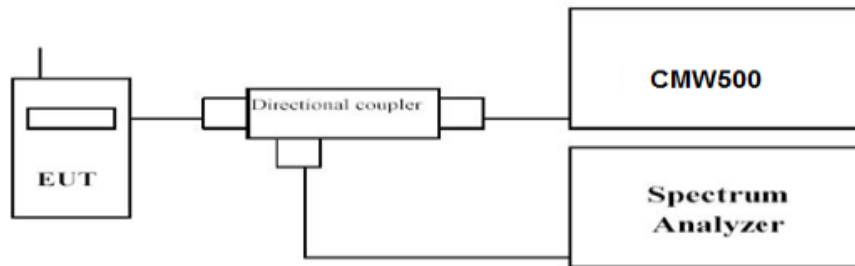


4.2 Peak-to-Average Ratio (PAR)

LIMIT

The Peak-to-Average Ratio (PAR) of the transmission may not exceed 13 dB.

TEST CONFIGURATION



TEST PROCEDURE

1. Refer to instrument's analyzer instruction manual for details on how to use the power statistics/CCDF function;
2. Set resolution/measurement bandwidth $\geq$ signal's occupied bandwidth;
3. Set the number of counts to a value that stabilizes the measured CCDF curve;
4. Set the measurement interval as follows:
 - 1). for continuous transmissions, set to 1 ms;
 - 2). for burst transmissions, employ an external trigger that is synchronized with the EUT burst timing sequence, or use the internal burst trigger with a trigger level that allows the burst to stabilize and set the measurement interval to a time that is less than or equal to the burst duration.
5. Record the maximum PAPR level associated with a probability of 0.1%.

TEST RESULTS

Remark:

1. We measured all RB Configuration refer 3GPP TS136 521 for each Channel Bandwidth of FDD Band 2; recorded worst case for each Channel Bandwidth of FDD Band 2.

FDD Band 2				
TX Channel Bandwidth	Frequency (MHz)	RB Size/Offset	PAPR(dB)	
			QPSK	16QAM
1.4 MHz	1850.7	1RB#0	4.09	4.97
	1880.0		4.03	4.94
	1909.3		3.80	4.74
3 MHz	1851.5	1RB#0	4.22	4.93
	1880.0		4.15	4.93
	1908.5		4.26	5.05
5 MHz	1852.5	1RB#0	4.07	4.77
	1880.0		4.53	5.14
	1907.5		4.89	5.54
10 MHz	1855.0	1RB#0	4.09	4.87
	1880.0		4.22	5.05
	1905.0		5.34	6.11
15 MHz	1857.5	1RB#0	4.13	4.96
	1880.0		4.63	5.46
	1902.5		5.01	5.82
20 MHz	1860.0	1RB#0	4.09	5.23
	1880.0		4.83	6.14
	1900.0		4.47	5.22

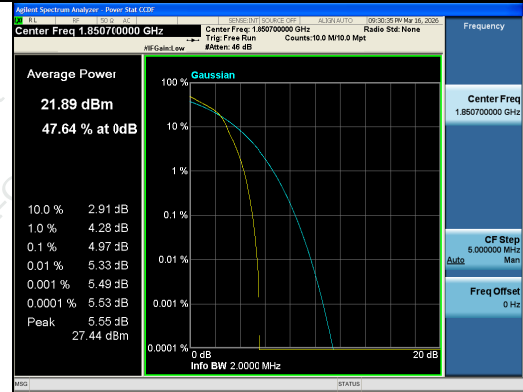
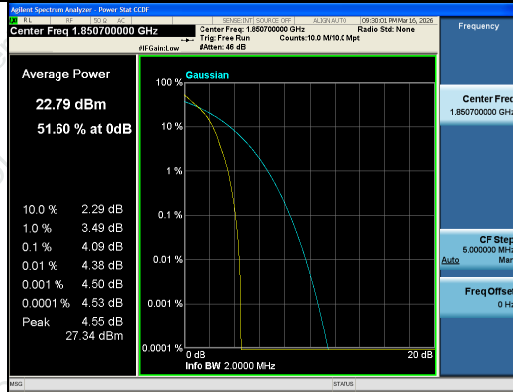


FDD Band 2 – 1.4 MHz Channel Bandwidth PAPR

QPSK

16QAM

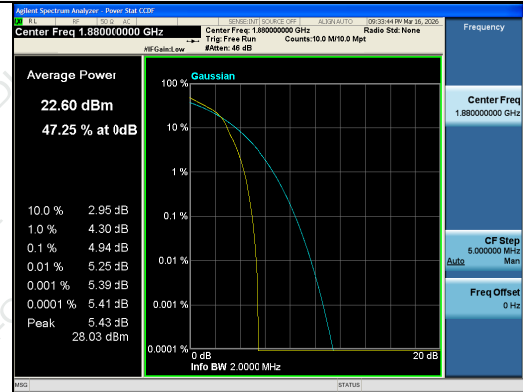
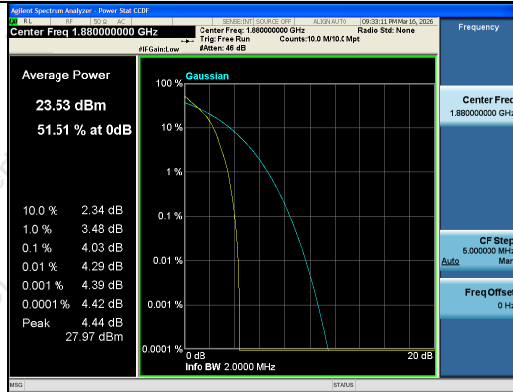
Low Channel



1RB#0

1RB#0

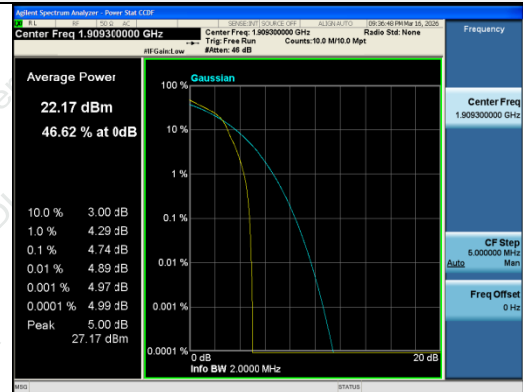
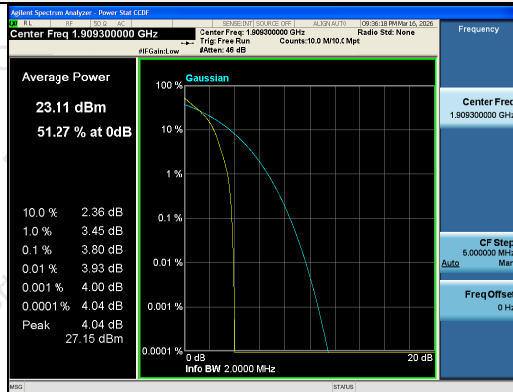
Middle Channel



1RB#0

1RB#0

High Channel



1RB#0

1RB#0

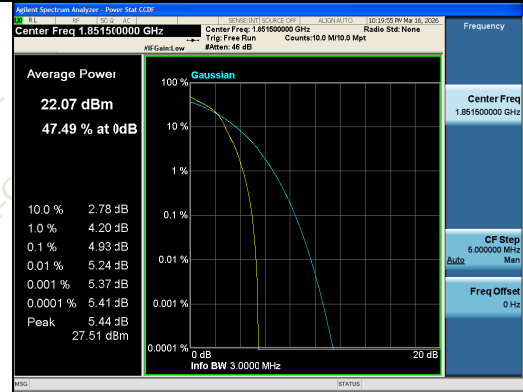
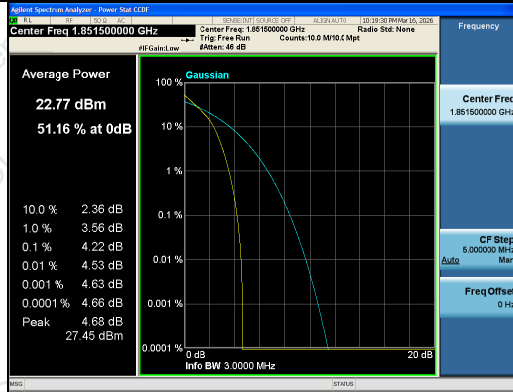


FDD Band 2-3MHz Channel Bandwidth PAPR

QPSK

16QAM

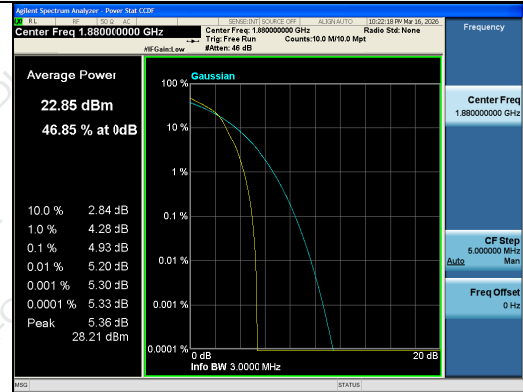
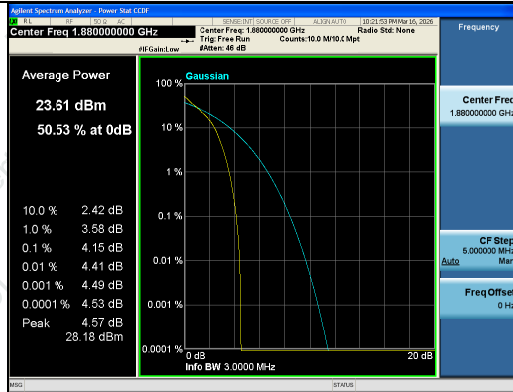
Low Channel



1RB#0

1RB#0

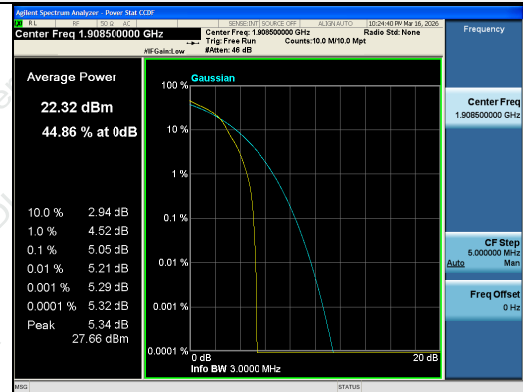
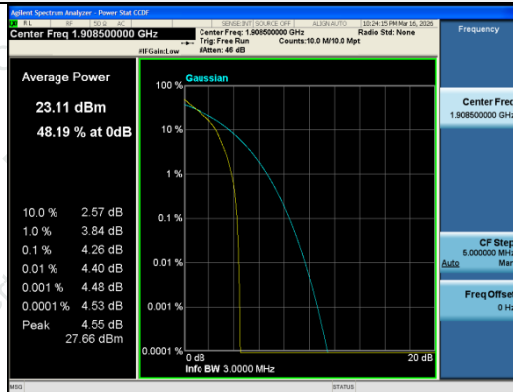
Middle Channel



1RB#0

1RB#0

High Channel



1RB#0

1RB#0

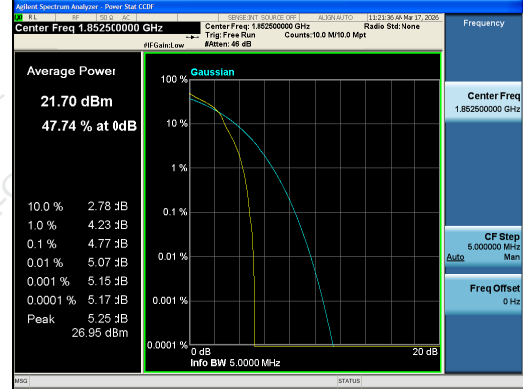
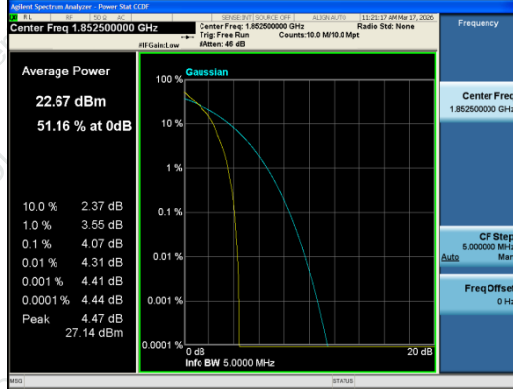


FDD Band 2-5MHz Channel Bandwidth PAPR

QPSK

16QAM

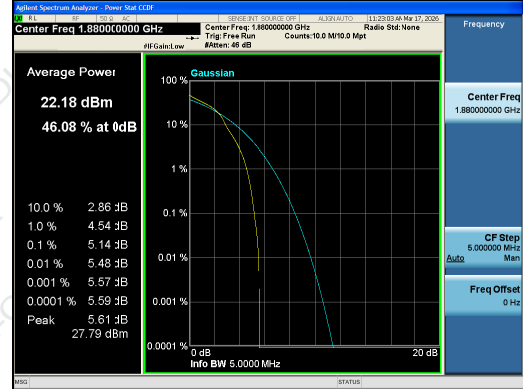
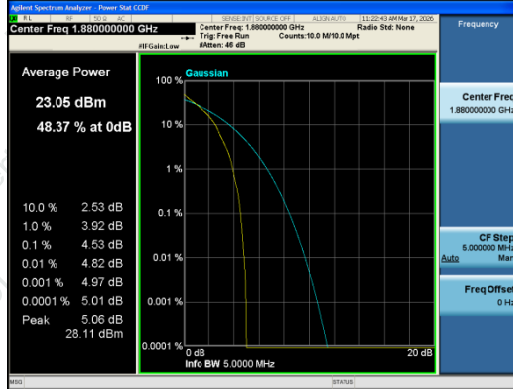
Low Channel



1RB#0

1RB#0

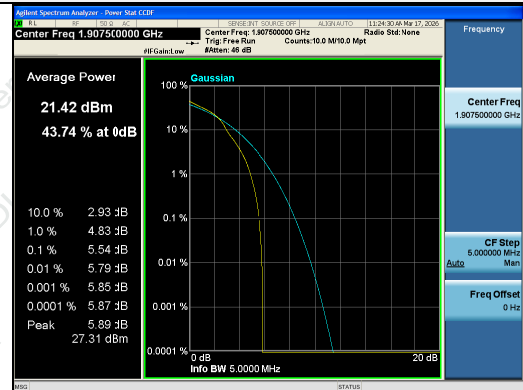
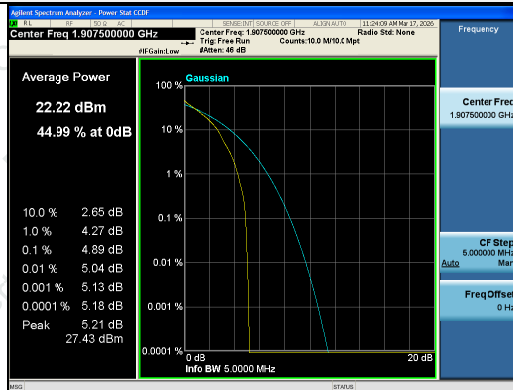
Middle Channel



1RB#0

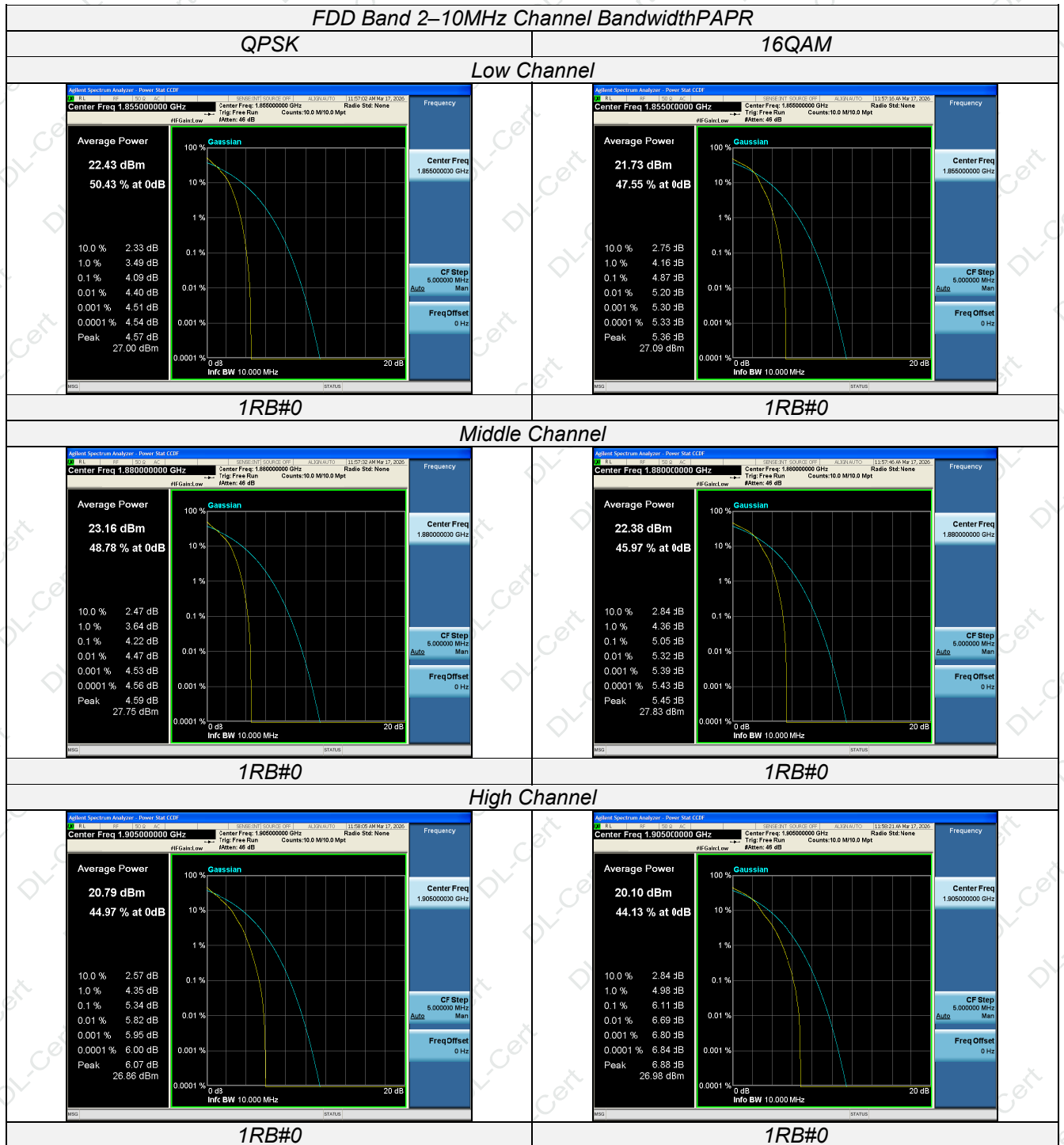
1RB#0

High Channel



1RB#0

1RB#0



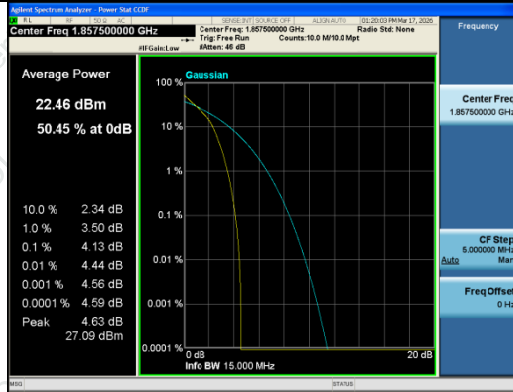


FDD Band 2-15MHz Channel Bandwidth PAPR

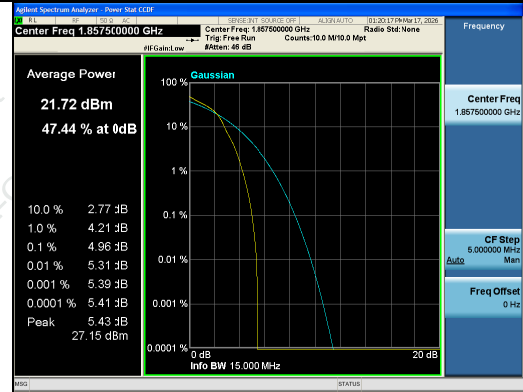
QPSK

16QAM

Low Channel

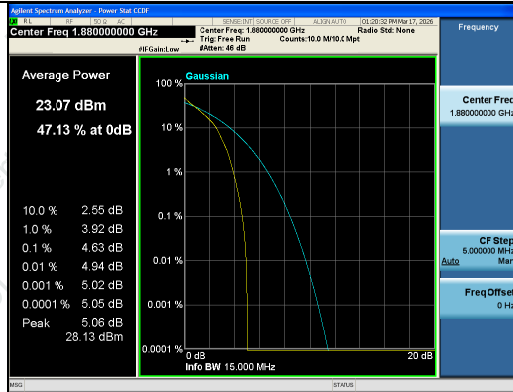


1RB#0

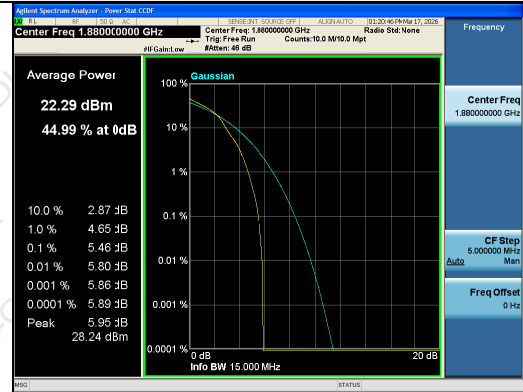


1RB#0

Middle Channel

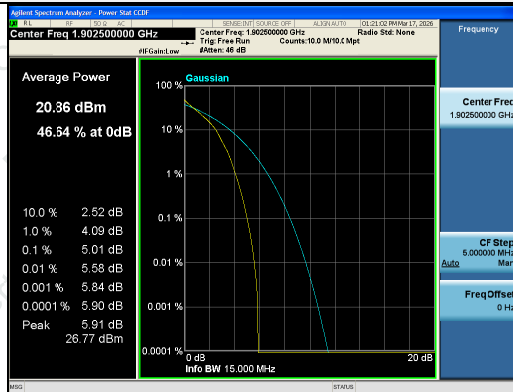


1RB#0

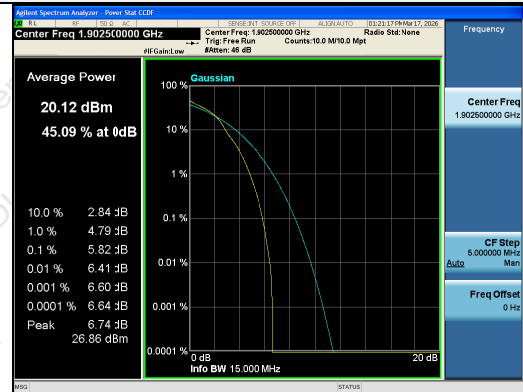


1RB#0

High Channel



1RB#0



1RB#0

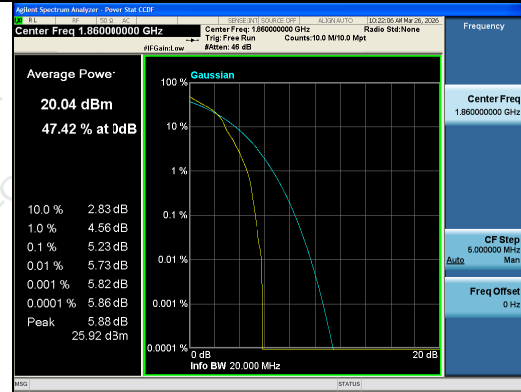
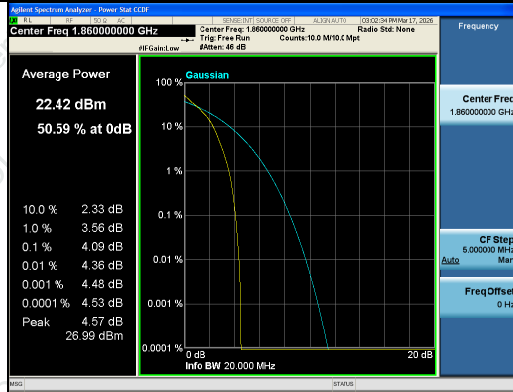


FDD Band 2-20MHz Channel Bandwidth PAPR

QPSK

16QAM

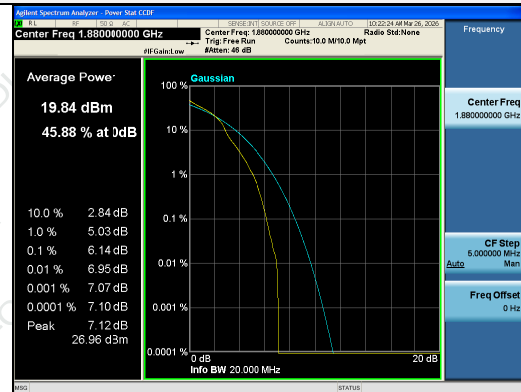
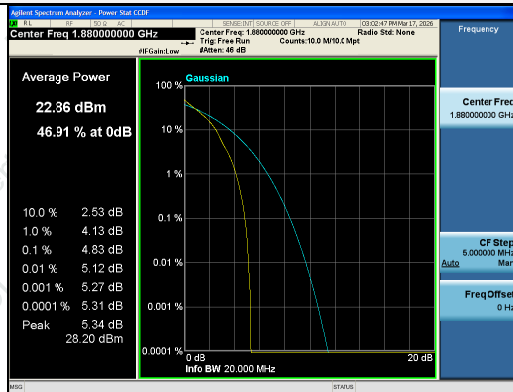
Low Channel



1RB#0

1RB#0

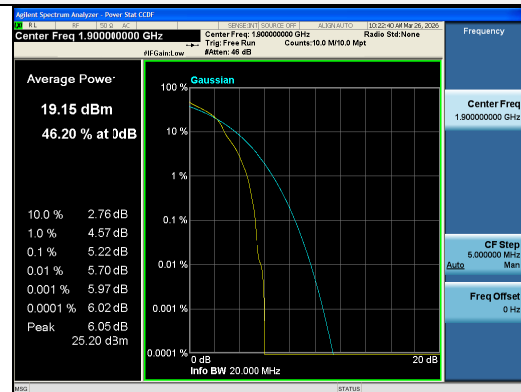
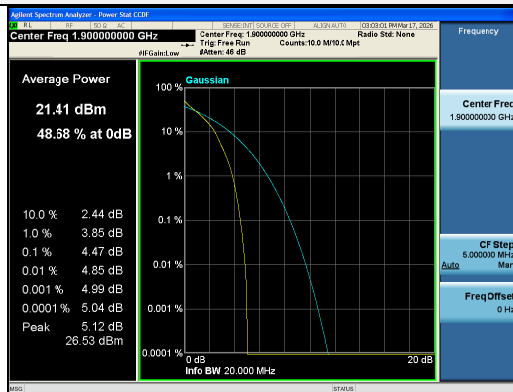
Middle Channel



1RB#0

1RB#0

High Channel



1RB#0

1RB#0

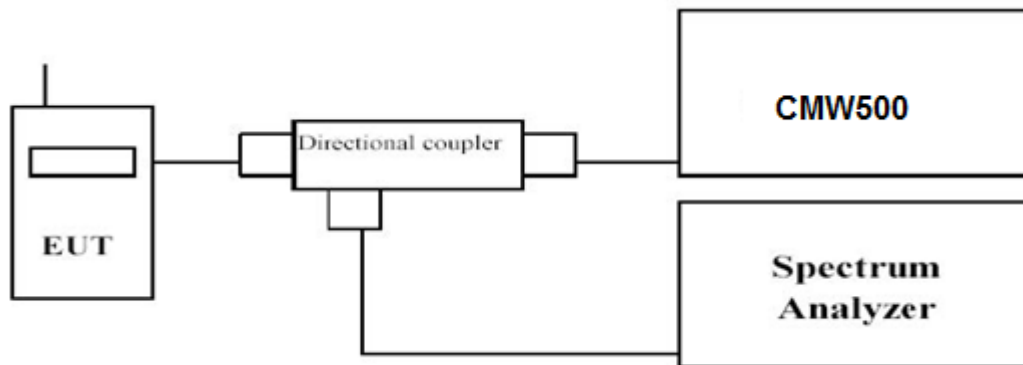


4.3 Occupied Bandwidth and Emission Bandwidth

LIMIT

N/A

TEST CONFIGURATION



TEST PROCEDURE

The transmitter output was connected to a calibrated coaxial cable and coupler, the other end of which was connected to a spectrum analyzer. The occupied bandwidth was measured with the spectrum analyzer at low, middle and high channel in each band. The -26dBc Emission bandwidth was also measured and recorded. Set RBW was set to about 1% of emission BW, VBW ≥ 3 times RBW.

-26dBc display line was placed on the screen (or 99% bandwidth), the occupied bandwidth is the delta frequency between the two points where the display line intersects the signal trace.

TEST RESULTS

Remark:

1. We were tested all RB Configuration refer 3GPP TS136 521 for each Channel Bandwidth of FDD Band 2; recorded worst case for each Channel Bandwidth of FDD Band 2.

FDD Band 2						
TX Channel Bandwidth	RB Size/Offset	Frequency (MHz)	-26dBc Emission bandwidth (MHz)		99% Occupied bandwidth (MHz)	
			QPSK	16QAM	QPSK	16QAM
1.4 MHz	6RB#0	1850.7	1.273	1.294	1.0933	1.0981
		1880.0	1.275	1.273	1.0942	1.0963
		1909.3	1.281	1.277	1.0932	1.0960
3 MHz	15RB#0	1851.5	2.926	2.929	2.6977	2.6825
		1880.0	2.916	2.915	2.6979	2.6882
		1908.5	2.930	2.924	2.7014	2.6907
5 MHz	25RB#0	1852.5	4.979	4.960	4.5047	4.5018
		1880.0	4.969	4.949	4.5029	4.5028
		1907.5	4.972	4.927	4.5021	4.5011
10 MHz	50RB#0	1855.0	9.812	5.286	8.9696	4.6023
		1880.0	9.785	5.267	8.9740	4.5862
		1905.0	9.762	5.298	8.9693	4.5973
15 MHz	75RB#0	1857.5	14.53	9.140	13.471	6.7948
		1880.0	14.59	9.028	13.465	6.7947
		1902.5	14.63	8.985	13.490	6.7637
20 MHz	100RB#0	1860.0	19.16	10.80	17.923	9.1626
		1880.0	19.26	10.70	17.893	9.1688
		1900.0	19.17	10.75	17.950	9.1938

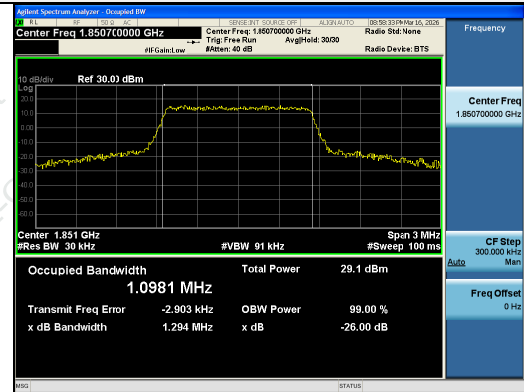
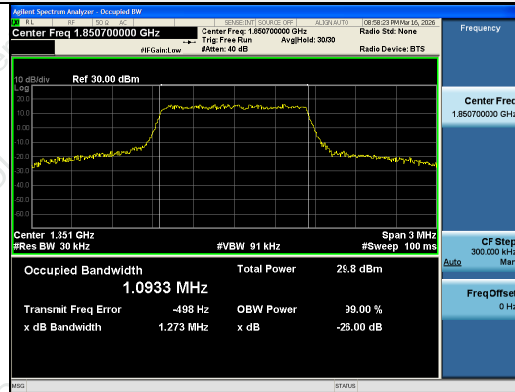


FDD Band 2 – 1.4 MHz Channel Bandwidth Occupied Bandwidth and Emission Bandwidth

QPSK

16QAM

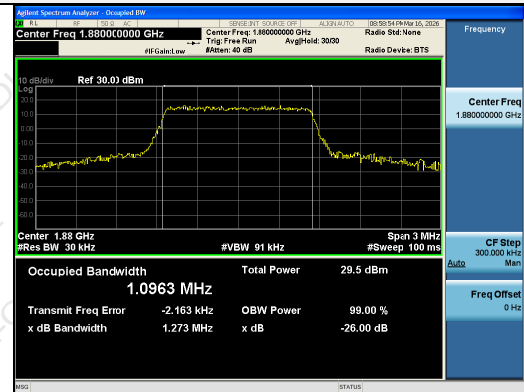
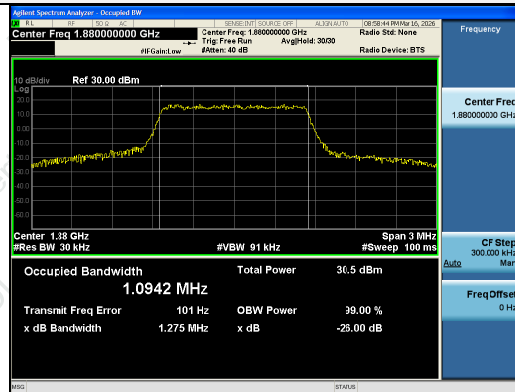
Low Channel



6RB#0

6RB#0

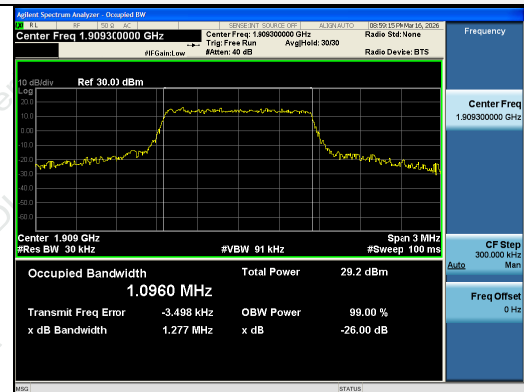
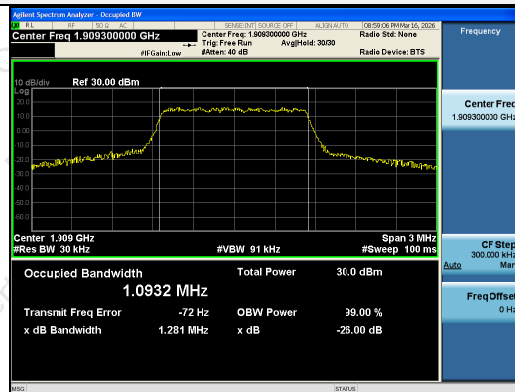
Middle Channel



6RB#0

6RB#0

High Channel



6RB#0

6RB#0

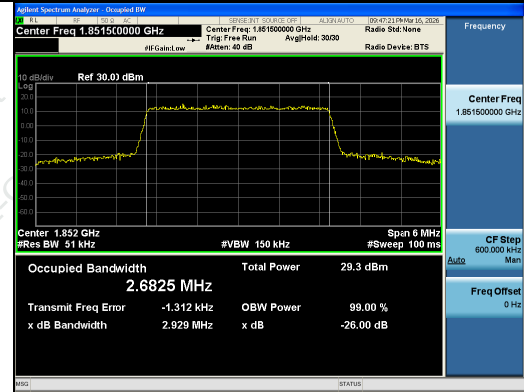
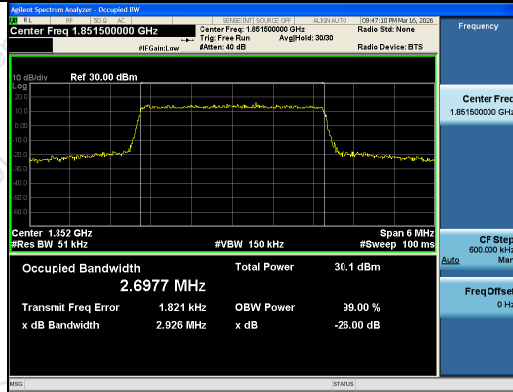


FDD Band 2-3MHz Channel Bandwidth Occupied Bandwidth and Emission Bandwidth

QPSK

16QAM

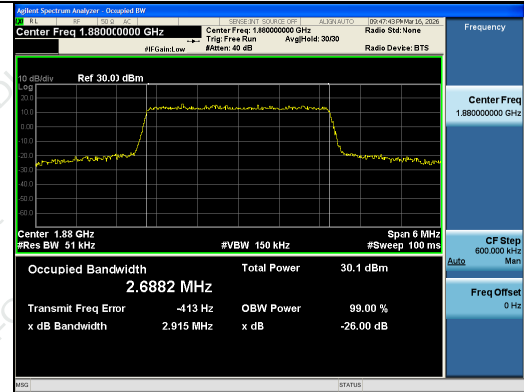
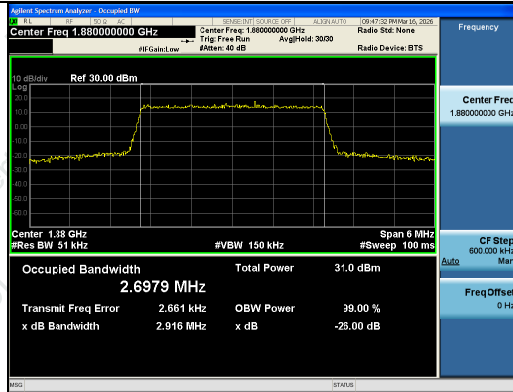
Low Channel



15RB#0

15RB#0

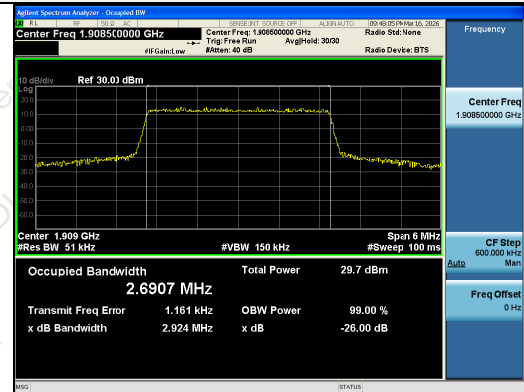
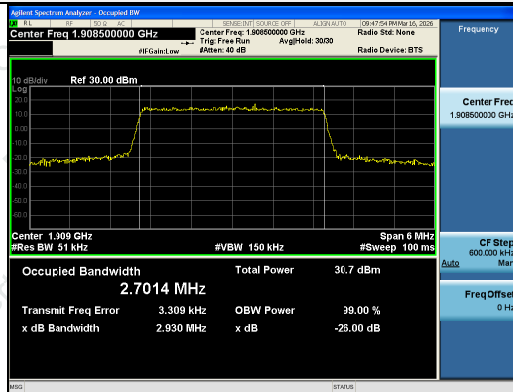
Middle Channel



15RB#0

15RB#0

High Channel



15RB#0

15RB#0

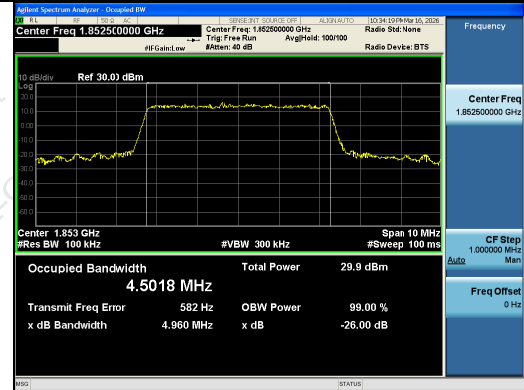
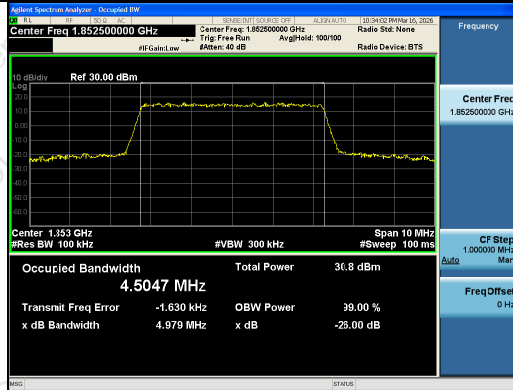


FDD Band 2-5MHz Channel Bandwidth Occupied Bandwidth and Emission Bandwidth

QPSK

16QAM

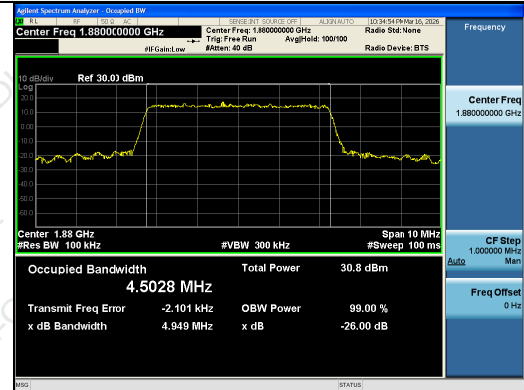
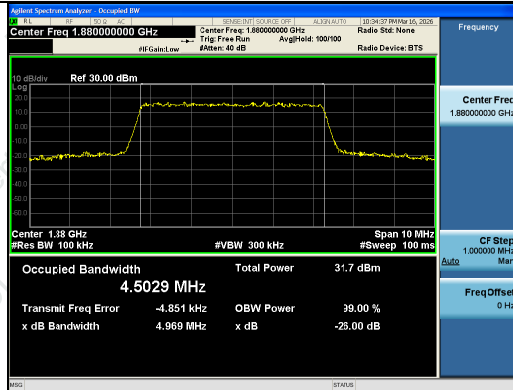
Low Channel



25RB#0

25RB#0

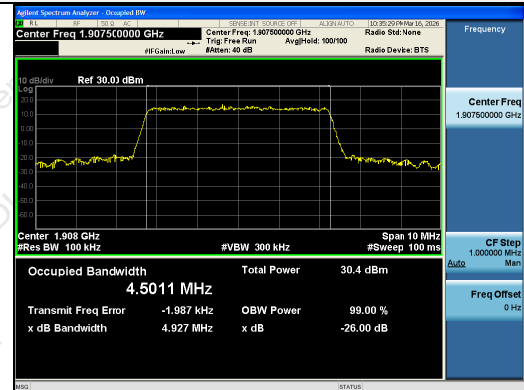
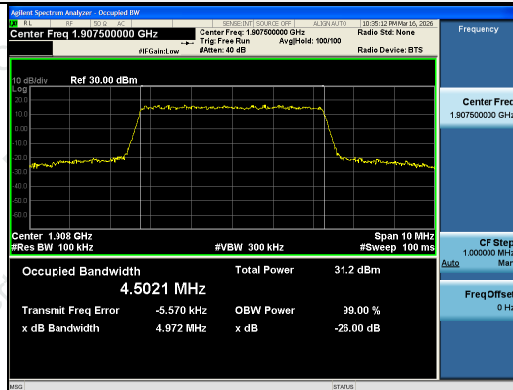
Middle Channel



25RB#0

25RB#0

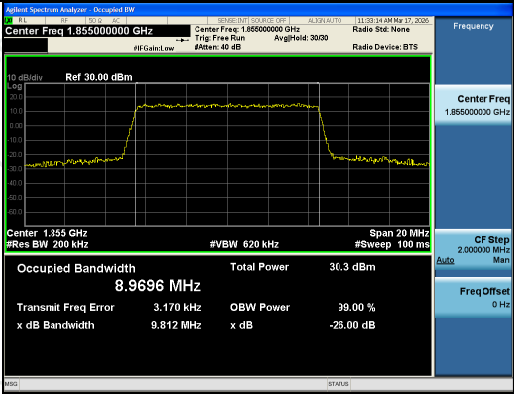
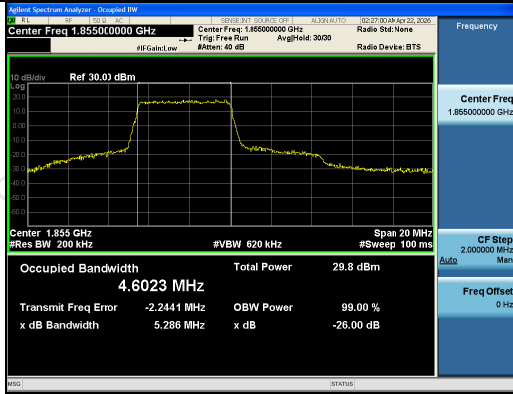
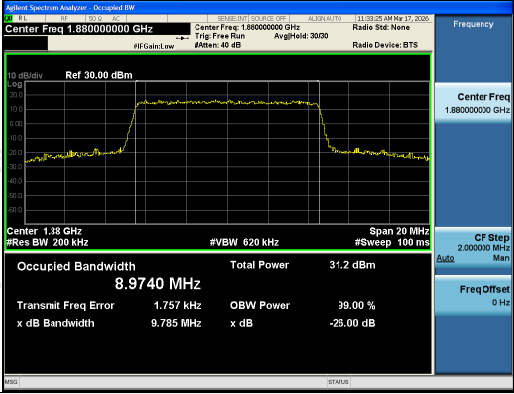
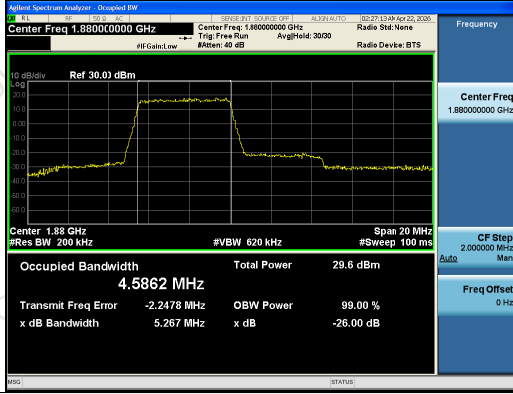
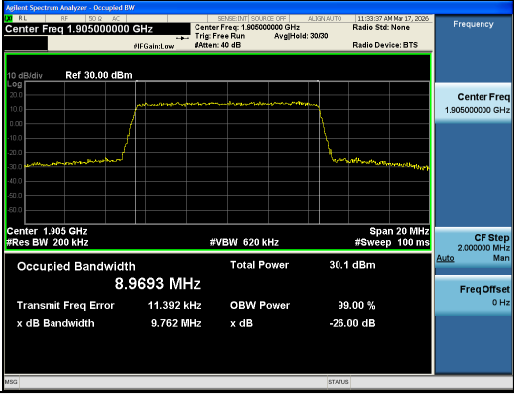
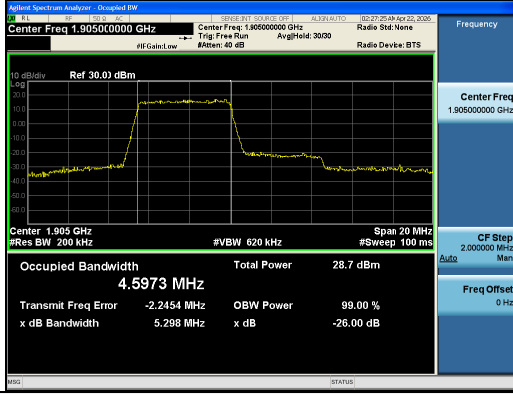
High Channel



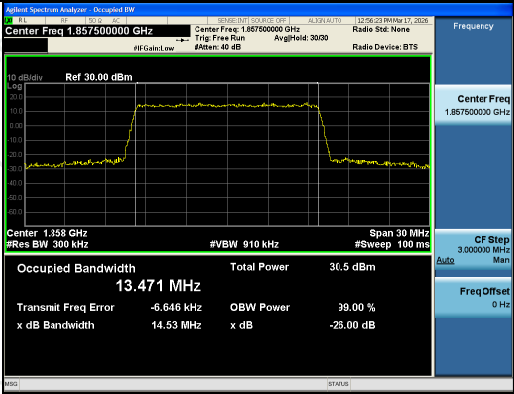
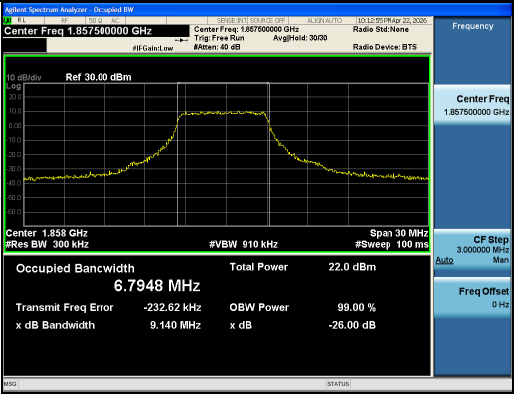
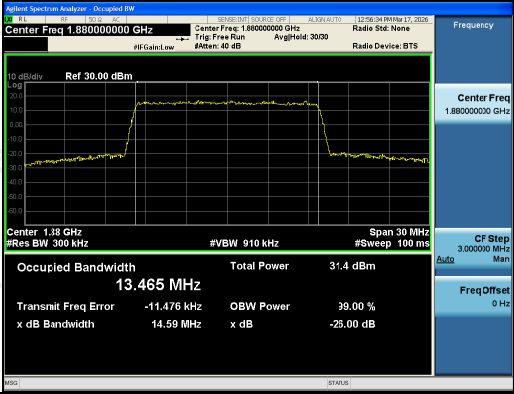
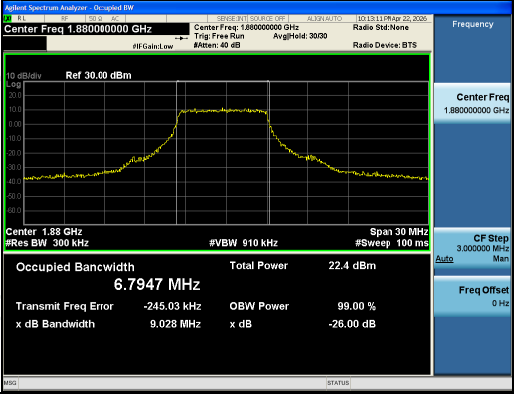
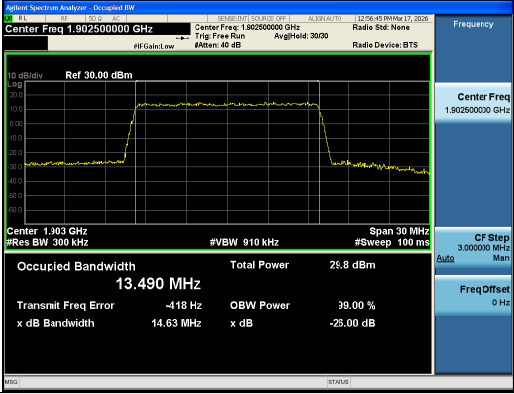
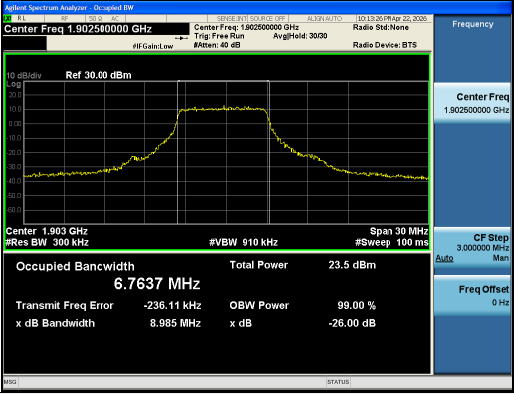
25RB#0

25RB#0

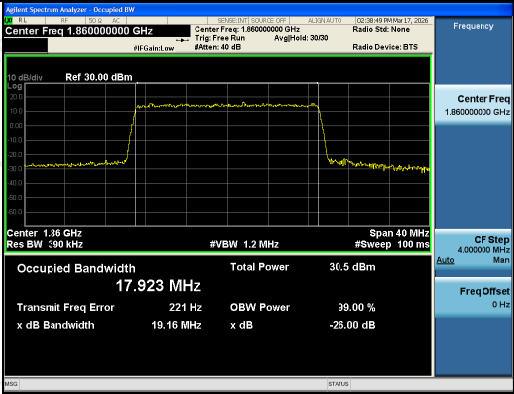
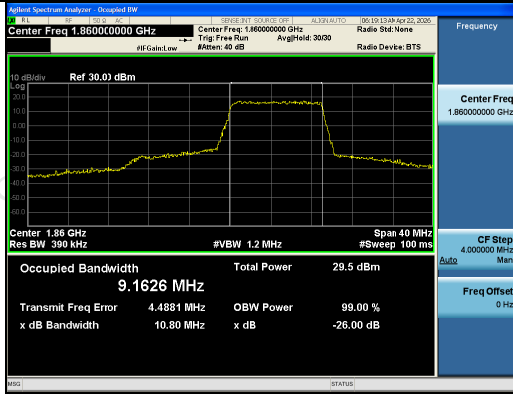
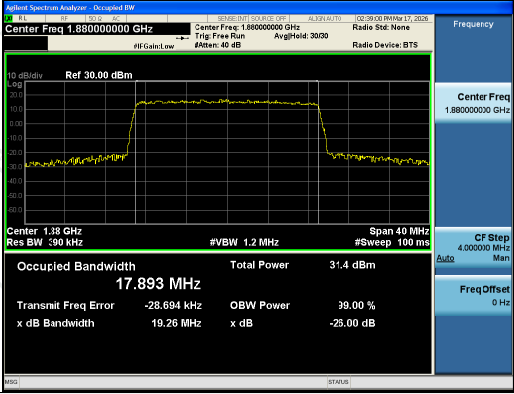
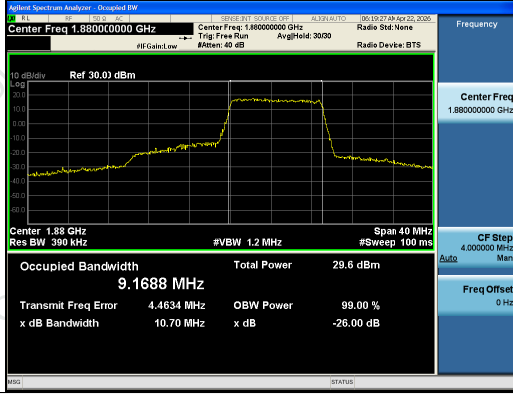
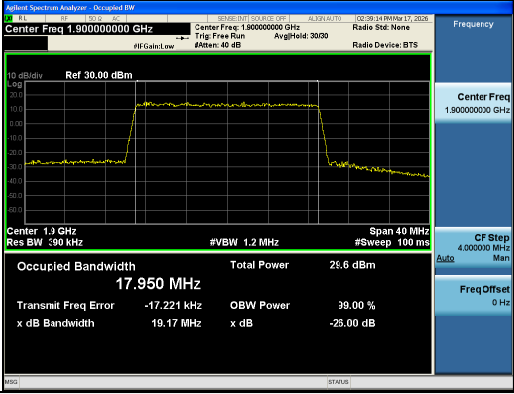
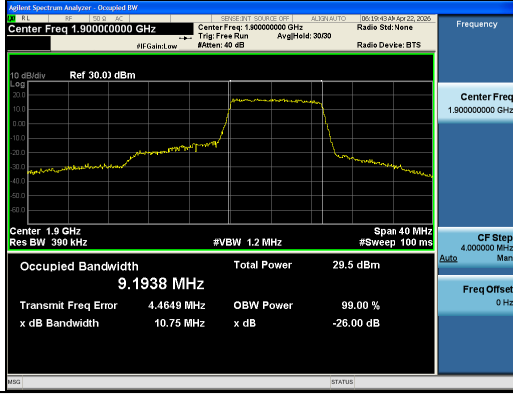
**FDD Band 2-10MHz Channel Bandwidth Occupied Bandwidth and Emission Bandwidth**

QPSK		16QAM	
Low Channel		Low Channel	
			
50RB#0		25RB#0	
Middle Channel		Middle Channel	
			
50RB#0		25RB#0	
High Channel		High Channel	
			
50RB#0		25RB#0	

**FDD Band 2-15MHz Channel Bandwidth Occupied Bandwidth and Emission Bandwidth**

QPSK		16QAM	
Low Channel		Low Channel	
			
75RB#0		38RB#18	
Middle Channel		Middle Channel	
			
75RB#0		38RB#18	
High Channel		High Channel	
			
75RB#0		38RB#18	

**FDD Band 2-20MHz Channel Bandwidth Occupied Bandwidth and Emission Bandwidth**

QPSK		16QAM	
Low Channel		Low Channel	
			
100RB#0		50RB#50	
Middle Channel		Middle Channel	
			
100RB#0		50RB#50	
High Channel		High Channel	
			
100RB#0		50RB#50	

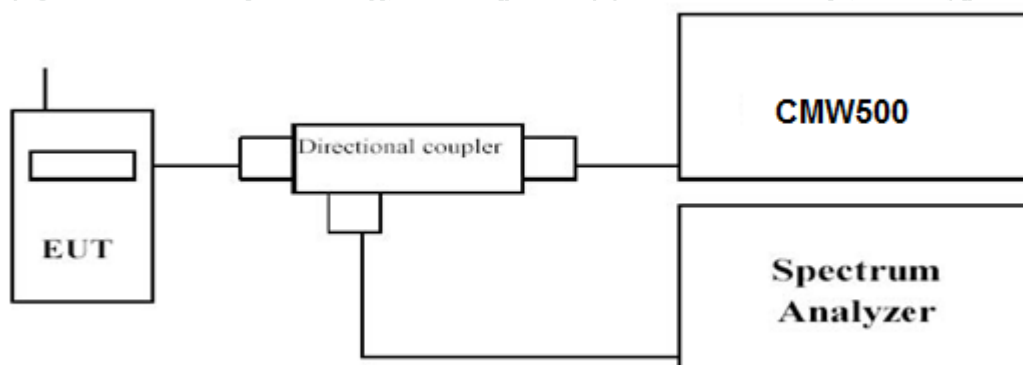


4.4 Band Edge Compliance

LIMIT

Per FCC §24.238 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.

TEST CONFIGURATION



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 and highest channels for each band and different modulation.
5. Measure Band edge using RMS (Average) detector by spectrum.

TEST RESULTS

Remark:

1. We were tested all RB Configuration refer 3GPP TS136 521 for each Channel Bandwidth of FDD Band 2; recorded worst case for each Channel Bandwidth of FDD Band 2.

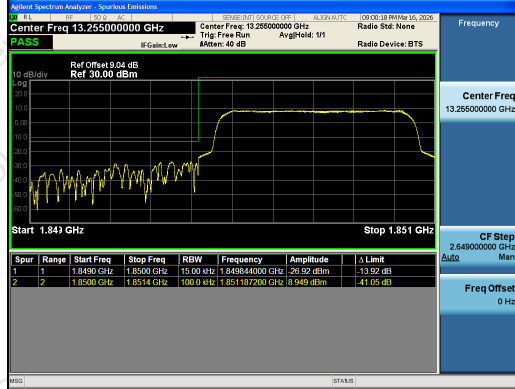


FDD Band 2 –1.4 MHz Channel BandwidthBand Edge Compliance

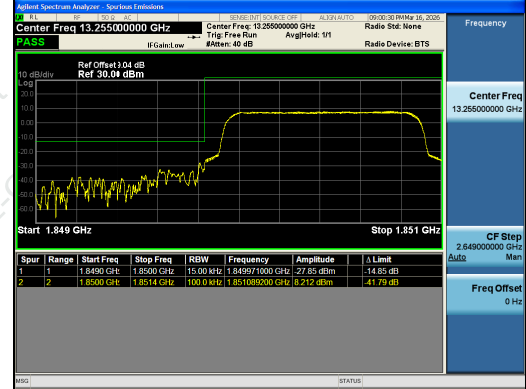
QPSK

16QAM

Low Channel

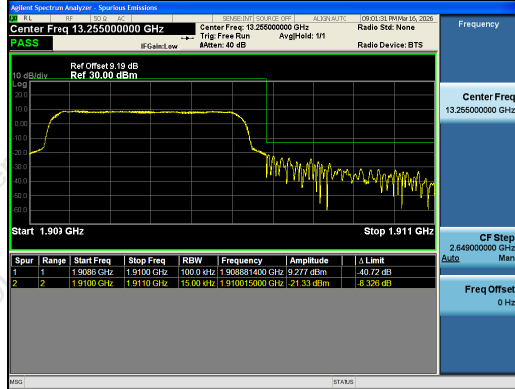


6RB#0

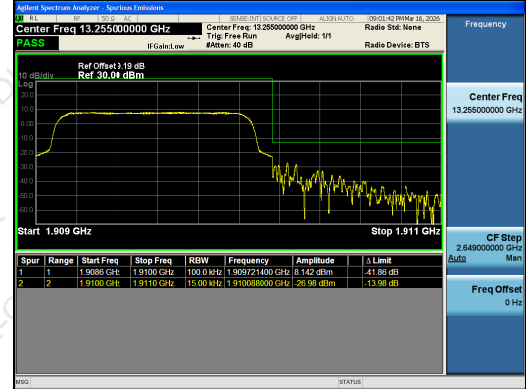


6RB#0

High Channel



6RB#0



6RB#0

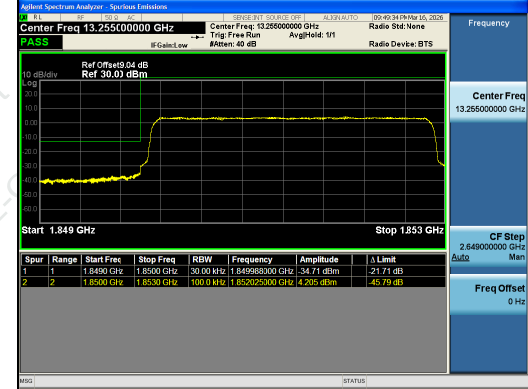
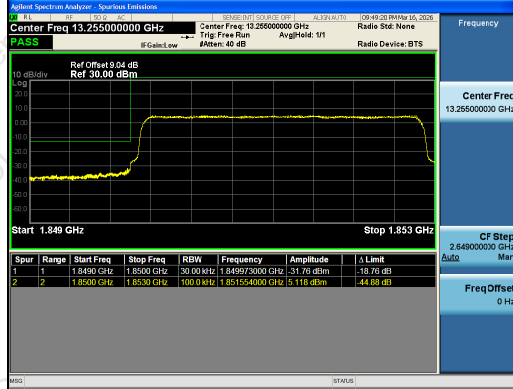


FDD Band 2-3MHz Channel Bandwidth Band Edge Compliance

QPSK

16QAM

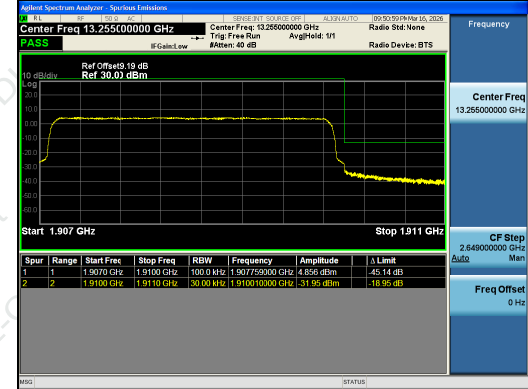
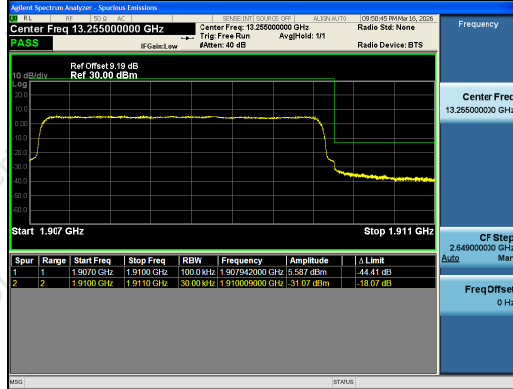
Low Channel



15RB#0

15RB#0

High Channel



15RB#0

15RB#0

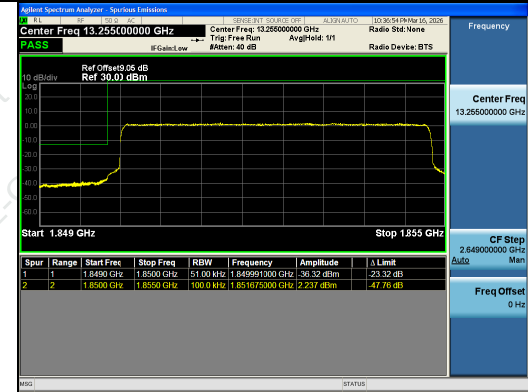
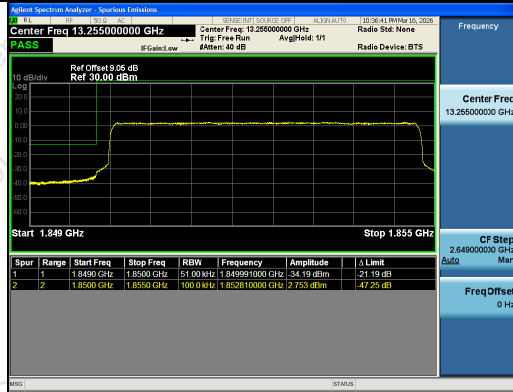


FDD Band 2-5MHz Channel Bandwidth Band Edge Compliance

QPSK

16QAM

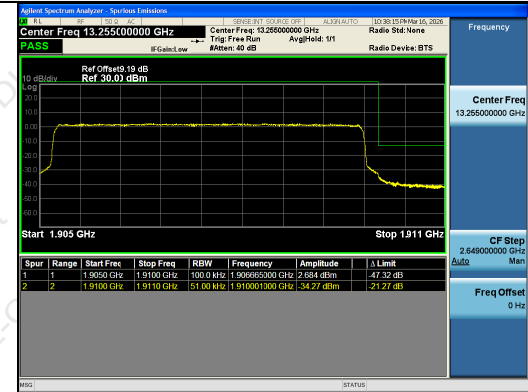
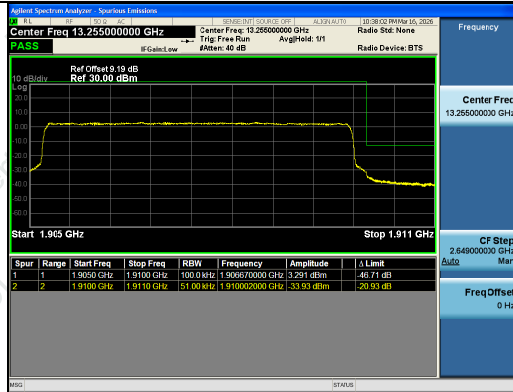
Low Channel



25RB#0

25RB#0

High Channel



25RB#0

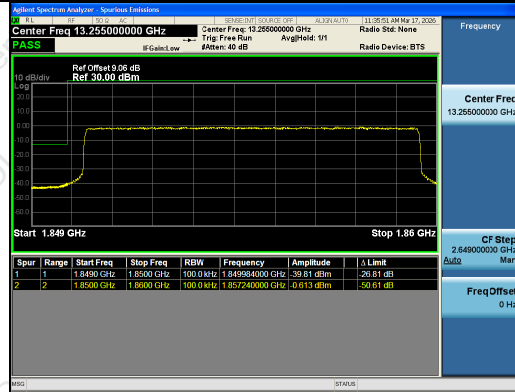
25RB#0



FDD Band 2-10MHz Channel BandwidthBand Edge Compliance

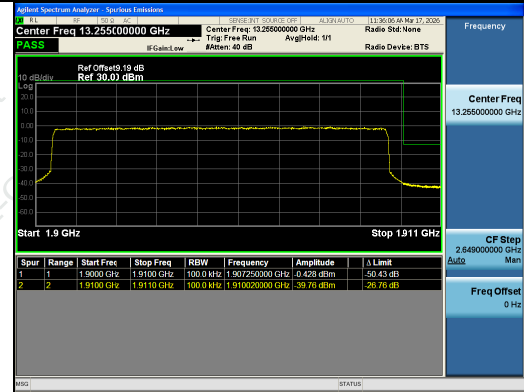
QPSK

Low Channel



50RB#0

High Channel

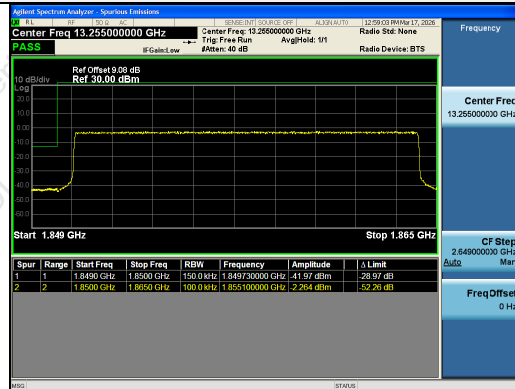


50RB#0

FDD Band 2-15MHz Channel BandwidthBand Edge Compliance

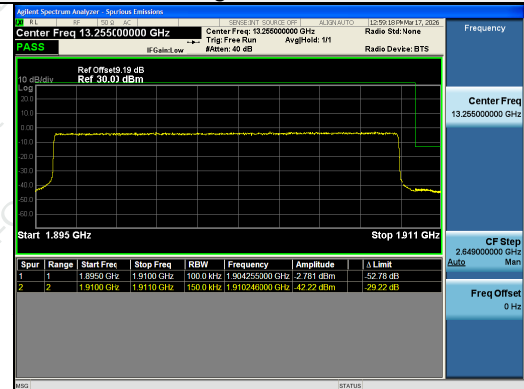
QPSK

Low Channel



75RB#0

High Channel

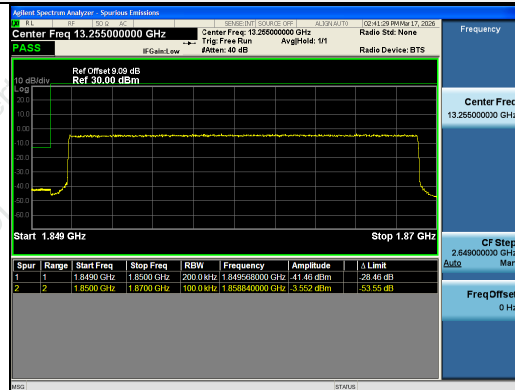


75RB#0

FDD Band 2-20MHz Channel BandwidthBand Edge Compliance

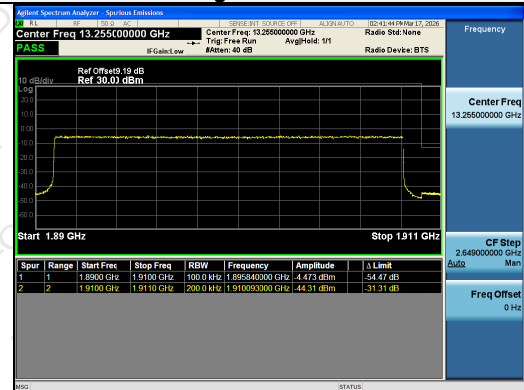
QPSK

Low Channel



100RB#0

High Channel



100RB#0