FCC TEST REPORT

(PART 22)

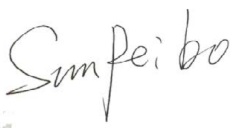
Applicant:	Shenzhen Jimi IoT Co., Ltd.
Address:	3-4/F, Block A, Building #7, Shenzhen International Innovation Valley, Dashi 1st Road, Nanshan District, Shenzhen, Guangdong, China

Manufacturer or Supplier:	Shenzhen Jimi IoT Co., Ltd.
Address:	3-4/F, Block A, Building #7, Shenzhen International Innovation Valley, Dashi 1st Road, Nanshan District, Shenzhen, Guangdong, China
Product:	Global container monitoring terminal
Brand Name:	JimiloT
Model Name:	LL306R LL306Pro
FCC ID	2AMLF-LL306R
Date of tests	Mar. 10, 2025 ~ Apr. 03, 2025

The tests have been carried out according to the requirements of the following standard:

☒ **FCC PART 22, Subpart H** ☒ **ANSI/TIA/EIA-603-D** ☒ **ANSI/TIA/EIA-603-E**	☒ **FCC Part 2** ☒ **ANSI C63.26-2015**

CONCLUSION: The submitted sample was found to COMPLY with the test requirement

Prepared by Hanwen Xu Engineer / Mobile Department	Approved by Peibo Sun Manager / Mobile Department
	
Date: Apr. 03, 2025	Date: Apr. 03, 2025

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
PSU-QSZ2503050113RF01	Original release	Apr. 03, 2025

1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 22 & Part 2			
STANDARD SECTION	**TEST TYPE**	**RESULT**	**Test lab***
§2.1046	Conducted Output Power	Compliance	A
§22.913 (a)(5)	Equivalent Isotropic Radiated Power	Compliance	A
§2.1055 §22.355	Frequency Stability	Compliance	A
§2.1049	Occupied Bandwidth	Compliance	A
§22.913 (d)	Peak to average ratio*	Compliance	A
§2.1051 §22.917(a)	Band Edge Measurements	Compliance	A
§2.1051 §22.917(a)	Conducted Spurious Emissions	Compliance	A
§2.1053 §22.917(a)	Radiated Spurious Emissions	Compliance	A

* Refer to KDB 971168 D01 Power Meas License Digital Systems v03r01.

***Test Lab Information Reference**

Lab A:

Huarui 7Layers High Technology (Suzhou) Co., Ltd.

Lab Address:

Tower N, Innovation Center, 88 Zuyi Road, High-tech District, Suzhou City, Anhui Province,China

Accredited Test Lab Cert 6613.01

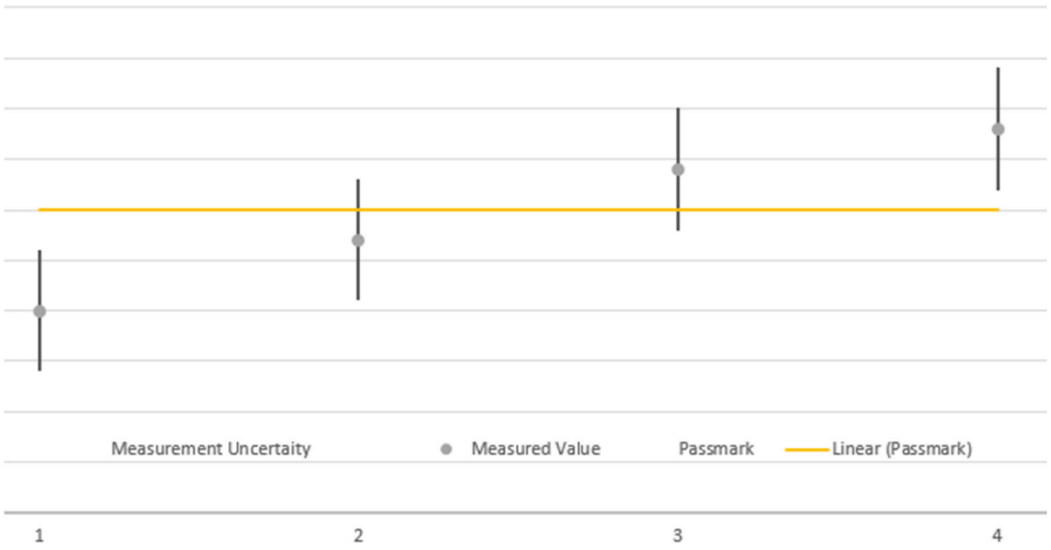
The FCC Site Registration No. is 434559; The Designation No. is CN1325.

1.1 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

MEASUREMENT	UNCERTAINTY
Maximum Peak Output Power	±2.06dB
Frequency Stability	±76.97Hz
Radiated emissions (9KHz~30MHz)	±2.68dB
Radiated emissions (30MHz~1GHz)	±4.98dB
Radiated emissions (1GHz ~6GHz)	±4.70dB
Radiated emissions (6GHz ~18GHz)	±4.60dB
Radiated emissions (18GHz ~40GHz)	±4.12dB
Conducted emissions	±4.01dB
Occupied Channel Bandwidth	±43.58KHz
Band Edge Measurements	±4.70dB
Peak to average ratio	±0.76dB

This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.



The verdicts in this test report are given according the above diagram:

Case	Measured Value	Uncertainty Range	Verdict
1	below pass mark	below pass mark	Passed
2	below pass mark	within pass mark	Passed
3	above pass mark	within pass mark	Failed
4	above pass mark	above pass mark	Failed

That means, the laboratory applies, as decision rule (see ISO/IEC 17025:2017), the so-called shared risk principle.

1.2 TEST SITE AND INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Pre-Amplifier	R&S	SCU18F1	100815	Aug.29,24	Aug.28,26
Pre-Amplifier	R&S	SCU08F1	101028	Sep.15,24	Sep.14,26
Vector Signal Generator	R&S	SMBV100B	102176	Feb.15,24	Feb.14,26
Signal Generator	R&S	SMB100A	182185	Feb.15,24	Feb.14,26
3m Fully-anechoic Chamber	TDK	9m*6m*6m	HRSW-SZ-EMC-01Chamber	Nov.25,22	Nov.24,25
3m Semi-anechoic Chamber	TDK	9m*6m*6m	HRSW-SZ-EMC-02Chamber	Nov.25,22	Nov.24,25
EMI TEST Receiver	R&S	ESR26	101734	Feb.24,24	Feb.23,26
EMI TEST Receiver	R&S	ESW44	101973	Feb.24,24	Feb.23,26
Bilog Antenna	SCHWARZBECK	VULB 9163	1264	Feb.27,24	Feb.26,26
Horn Antenna	ETS-LINDGREN	3117	227836	Aug.21,24	Aug.20,26
Horn Antenna (18GHz-40GHz)	Steatite Q-par Antennas	QMS 00880	23486	Feb.22,24	Feb.21,26
Horn Antenna	Steatite Q-par Antennas	QMS 00208	23485	Aug.21,24	Aug.20,26
Loop Antenna	SCHWARZ	HFH2-Z2/Z2E	100976	Feb.22,24	Feb.21,26
WIDEBANDRADIO COMMUNICATION TESTER	R&S	CMW500	169399	Jun.26,24	Jun.25,26
Test Software	EMC32	EMC32	N/A	N/A	N/A
Test Software	ELEKTRA	ELEKTRA4.32	N/A	N/A	N/A
Open Switch and Control Unit	R&S	OSP220	101964	Sep.30,24	Sep.29,26
DC Source	HYELEC	HY3010B	551016	Aug.30,24	Aug.29,26
Hygrothermograph	DELI	20210528	SZ014	Sep.05,24	Sep.04,26
PC	LENOVO	E14	HRSW0024	N/A	N/A
TMC-AMI18843A(CABLE)	R&S	HF290-NMNM-7.00M	N/A	N/A	N/A
TMC-AMI18843A(CABLE)	R&S	HF290-NMNM-4.00M	N/A	N/A	N/A
CABLE	R&S	W13.02	N/A	Oct.25,24	Apr.24,25
CABLE	R&S	W12.14	N/A	Oct.25,24	Apr.24,25
CABLE	R&S	J12J103539-00-1	SEP-03-20-069	Oct.25,24	Apr.24,25
CABLE	R&S	J12J103539-00-1	SEP-03-20-070	Oct.25,24	Apr.24,25
Temperature Chamber	votsch	VT4002	585660781000050	May.30,24	May.29,26

NOTE:

1. The calibration interval of the above test instruments is 6 months or 12 months or 36 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
2. The test was performed in 3m Semi-anechoic Chamber and RF Oven Room.
3. The horn antenna is used only for the measurement of emission frequency above 1GHz if tested.
4. The FCC Site Registration No. is 434559; The Designation No. is CN1325.

2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT*	Global container monitoring terminal	
BRAND NAME*	JimiloT	
MODEL NAME*	LL306R LL306Pro	
NOMINAL VOLTAGE*	3.7Vdc(Battery) 5Vdc(Adapter)	
MODULATION TYPE	**GSM**	GMSK
	WCDMA	BPSK, QPSK
	LTE	QPSK, 16QAM
FREQUENCY RANGE	**GSM**	824.2MHz ~ 848.8MHz
	LTE Band 5 (Channel Bandwidth: 1.4MHz)	824.7MHz ~ 848.3MHz
	LTE Band 5 (Channel Bandwidth: 3MHz)	825.5MHz ~ 847.5MHz
	LTE Band 5 (Channel Bandwidth: 5MHz)	826.5MHz ~ 846.5MHz
	LTE Band 5 (Channel Bandwidth: 10MHz)	829MHz ~ 844MHz
	LTE Band 18 (Channel Bandwidth: 5MHz)	826.5MHz ~ 827.5MHz
	LTE Band 19 (Channel Bandwidth: 5MHz)	832.5MHz ~ 842.5MHz
	LTE Band 19 (Channel Bandwidth: 10MHz)	835MHz ~ 840MHz
	LTE Band 19 (Channel Bandwidth: 15MHz)	837.5MHz
	LTE Band 26 (Channel Bandwidth: 1.4MHz)	824.7MHz ~ 848.3MHz
	LTE Band 26 (Channel Bandwidth: 3MHz)	825.5MHz ~ 847.5MHz
	LTE Band 26 (Channel Bandwidth: 5MHz)	826.5MHz ~ 846.5MHz
	LTE Band 26 (Channel Bandwidth: 10MHz)	829MHz ~ 844MHz
	LTE Band 26 (Channel Bandwidth: 15MHz)	831.5MHz ~ 841.5MHz
MAX. ERP POWER	**GSM850**	751.62mW
	LTE Band 5 (Channel Bandwidth: 1.4MHz)	246.04mW
	LTE Band 5 (Channel Bandwidth: 3MHz)	240.99mW
	LTE Band 5 (Channel Bandwidth: 5MHz)	244.34mW
	LTE Band 5 (Channel Bandwidth: 10MHz)	244.34mW

	LTE Band 5 (Channel Bandwidth: 15MHz)	237.68mW
	LTE Band 18 (Channel Bandwidth: 5MHz)	75.68mW
	LTE Band 19 (Channel Bandwidth: 5MHz)	84.53mW
	LTE Band 19 (Channel Bandwidth: 10MHz)	85.31mW
	LTE Band 19 (Channel Bandwidth: 15MHz)	85.51mW
	LTE Band 26 (Channel Bandwidth: 1.4MHz)	90.57mW
	LTE Band 26 (Channel Bandwidth: 3MHz)	90.36mW
	LTE Band 26 (Channel Bandwidth: 5MHz)	89.13mW
	LTE Band 26 (Channel Bandwidth: 10MHz)	87.30mW
	LTE Band 26 (Channel Bandwidth: 15MHz)	91.41mW
EMISSION DESIGNATORGOGN	**GSM850**	238KGXW
	LTE Band 18 (Channel Bandwidth: 5MHz)	QPSK: 4M48G7D
		16QAM: 4M49W7D
	LTE Band 19 (Channel Bandwidth: 5MHz)	QPSK: 4M49G7D
		16QAM: 4M49W7D
	LTE Band 19 (Channel Bandwidth: 10MHz)	QPSK: 8M95G7D
		16QAM: 5M17W7D
	LTE Band 19 (Channel Bandwidth: 15MHz)	QPSK: 13M5G7D
		16QAM: 5M50W7D
	LTE Band 26 (Channel Bandwidth: 1.4MHz)	QPSK: 1M10G7D
		16QAM: 1M11W7D
	LTE Band 26 (Channel Bandwidth: 3MHz)	QPSK: 2M70G7D
		16QAM: 2M69W7D
	LTE Band 26 (Channel Bandwidth: 5MHz)	QPSK: 4M48G7D
		16QAM: 4M48W7D
	LTE Band 26 (Channel Bandwidth: 10MHz)	QPSK: 8M94G7D
		16QAM: 5M22W7D
	LTE Band 26 (Channel Bandwidth: 15MHz)	QPSK: 13M5G7D
		16QAM: 5M37W7D
ANTENNA GAIN*	GSM850	-0.98dBi
	LTE B5	-0.98dBi
	LTE B18	-1.5dBi
	LTE B19	-0.98dBi
	LTE B26	-0.98dBi
ANTENNA TYPE*	PIFA	
HW VERSION*	CT10R_MB_V1.0	

SW VERSION*	LL306_LL306_WAAP_XQGL_V1.0_240517.1101
I/O PORTS*	Refer to user's manual
CABLE SUPPLIED*	N/A
EXTREME TEMPERATURE*	High Temperature:60℃ Low Temperature :-30℃
EXTREME VOLTAGE*	High Voltage: 4.2V Low Voltage: 3.4V

NOTE:

1. ***Since the above data and/or information is provided by the client relevant results or conclusions of this report are only made for these data and/or information, Test Lab is not responsible for the authenticity, integrity and results of the data and information and/or the validity of the conclusion.
2. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
3. The EUT incorporates a SISO function. Physically, the EUT provides one completed transmitter and one receivers.
4.

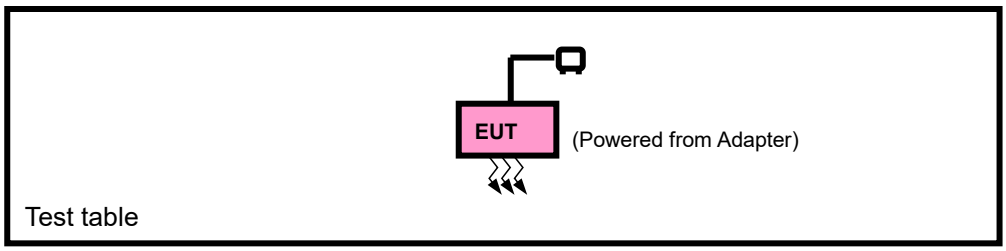
MODULATION MODE	TX FUNCTION
GSM	1TX/1RX
WCDMA	1TX/1RX
LTE	1TX/1RX

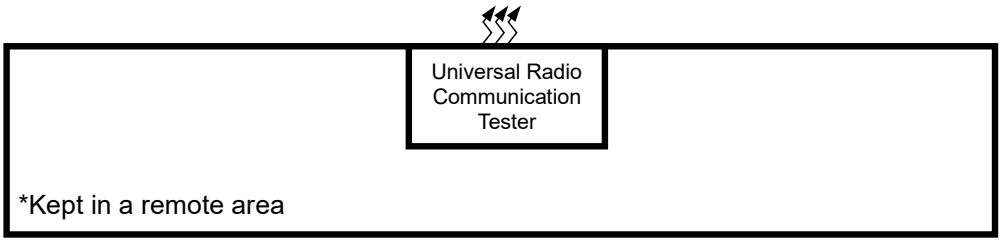
5. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in the test report.
6. The power of single LTE band is larger than that in CA mode, so single LTE band can cover the RSE risk of CA part.
7. To meet different market demands, LL306R and LL306Pro differ only in model names, with all other aspects being identical.
8. **List of Accessory:**

ACCESSORIES	Brand	MODEL / SPECIFICATION
Internal battery	N/A	Modle Name ： 122960L Power Rating：5Vdc, 2Ah
External battery	N/A	KR301_S_GO01_F010 Power Rating：5Vdc, 2Ah

2.2 CONFIGURATION OF SYSTEM UNDER TEST

FOR RADIATION EMISSION





2.3 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	Laptop	Lenovo	ThinkPad E14	HRSW00024	N/A

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	NA

2.4 TEST ITEM AND TEST CONFIGURATION

Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and antenna ports.The worst case in ERP and radiated emission was found when positioned on X-plane for GSM/WCDMA /LTE. Following channel(s) was (were) selected for the final test as listed below:

EUT CONFIGURE MODE	DESCRIPTION
A	EUT + Adapter with GSM or LTE link
B	EUT + DC Supply with GSM or LTE link

GSM MODE

EUT CONFIGURE MODE	TEST ITEM	Available Channel	Tested Channel	MODE
A	ERP	128 to 251	128, 189, 251	GSM
B	FREQUENCY STABILITY	128 to 251	128, 189, 251	GSM
A	OCCUPIED BANDWIDTH	128 to 251	128, 189, 251	GSM
A	BAND EDGE	128 to 251	128, 251	GSM
A	CONDUCTED EMISSION	128 to 251	128, 189, 251	GSM
A	RADIATED EMISSION	128 to 251	128, 189, 251	GSM
A	PEAK TO AVERAGE RATIO	128 to 251	128, 189, 251	GSM

LTE BAND 5 MODE

EUT CONFIGURE MODE	TEST ITEM	Available Channel	Tested Channel	Channel bandwidth	modulation	mode
A	ERP	20407 to 20643	20407, 20525, 20643	1.4MHz	QPSK,16QAM	1 RB / 0 RB offset
		20415 to 20635	20415, 20525, 20635	3MHz	QPSK,16QAM	1 RB / 0 RB offset
		20425 to 20625	20425, 20525, 20625	5MHz	QPSK,16QAM	1 RB / 0 RB offset
		20450 to 20600	20450, 20525, 20600	10MHz	QPSK,16QAM	1 RB / 0 RB offset

Note:

1. This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.
2. LTE Band 5 are covered by LTE Band 26, Because it is a subset of LTE Band 26 with the same output power and supported bandwidths, So the test data please refer to LTE Band 26

LTE BAND 18 MODE

EUT CONFIGURE MODE	TEST ITEM	Available Channel	Tested Channel	Channel bandwidth	modulation	mode
A	ERP	23965 to 23975	23965,23970, 23975	5MHz	QPSK,16QAM	1 RB / 0 RB offset
B	FREQUENCY STABILITY	23965 to 23975	23965	5MHz	QPSK	25 RB / 0 RB offset
A	OCCUPIED BANDWIDTH	23965 to 23975	23965,23970, 23975	5MHz	QPSK,16QAM	25 RB / 0 RB offset
A	PEAK TO AVERAGE RATIO	23965 to 23975	23965,23970, 23975	15MHz	QPSK,16QAM	1 RB / 0 RB offset 75 RB / 0 RB offset
A	BAND EDGE	23965 to 23975	23965	5MHz	QPSK,16QAM	1 RB / 0 RB offset
						25 RB / 0 RB offset
		23965 to 23975	23965	5MHz	QPSK,16QAM	1 RB / 24 RB offset
						25 RB / 0 RB offset
A	CONDCUDETED EMISSION	23965 to 23975	23965,23970, 23975	5MHz	QPSK	1 RB / 0 RB offset

Note:

1. This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.
2. LTE Band 18 are covered by LTE Band 26, Because it is a subset of LTE Band 26 with the same ,So the RSE test data please refer to LTE Band 26

LTE BAND 19 MODE

EUT CONFIGURE MODE	TEST ITEM	Available Channel	Tested Channel	Channel bandwidth	modulation	mode
A	ERP	24025 to 24125	24025, 24075,24125	5MHz	QPSK,16QAM	1 RB / 0 RB offset
		24050 to 24100	24050, 24075, 24100	10MHz	QPSK,16QAM	1 RB / 0 RB offset
		24075	24075	15MHz	QPSK,16QAM	1 RB / 0 RB offset
B	FREQUENCY STABILITY	24075	24075	15MHz	QPSK	75 RB / 0 RB offset
A	OCCUPIED BANDWIDTH	24025 to 24125	24025, 24075,24125	5MHz	QPSK,16QAM	25 RB / 0 RB offset
		24050 to 24100	24050, 24075, 24100	10MHz	QPSK,16QAM	50 RB / 0 RB offset
		24075	24075	15MHz	QPSK,16QAM	75 RB / 0 RB offset
A	PEAK TO AVERAGE RATIO	24075	24075	15MHz	QPSK,16QAM	1 RB /75 RB offset 1 RB / 27 RB offset
A	BAND EDGE	24025 to 24125	24025	5MHz	QPSK,16QAM	1 RB / 0 RB offset
						25 RB / 0 RB offset
		24025 to 24125	24125	5MHz	QPSK,16QAM	1 RB / 24 RB offset
						25 RB / 0 RB offset
		24050 to 24100	24050	10MHz	QPSK,16QAM	1 RB / 0 RB offset
						50 RB / 0 RB offset
		24050 to 24100	24100	10MHz	QPSK,16QAM	1 RB / 49 RB offset
						50 RB / 0 RB offset
		24075	24075	15MHz	QPSK,16QAM	1 RB / 0 RB offset
						75 RB / 0 RB offset
		24075	24075	15MHz	QPSK,16QAM	1 RB / 74 RB offset
						75 RB / 0 RB offset
A	CONDCUDETED EMISSION	24025 to 24125	24025, 24075,24125	5MHz	QPSK	1 RB / 0 RB offset
		24050 to 24100	24050, 24075, 24100	10MHz	QPSK	1 RB / 0 RB offset
		24075	24075	15MHz	QPSK	1 RB / 0 RB offset

Note:

1. This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.
2. LTE Band 19 are covered by LTE Band 26, Because it is a subset of LTE Band 26 with the same, So the RSE test data please refer to LTE Band 26

LTE BAND 26 MODE

EUT CONFIGURE MODE	TEST ITEM	Available Channel	Tested Channel	Channel bandwidth	modulation	mode
A	ERP	26797 to 27033	26797, 26915, 27033	1.4MHz	QPSK,16QAM	1 RB / 0 RB offset
		26805 to 27025	26805, 26915, 27025	3MHz	QPSK,16QAM	1 RB / 0 RB offset
		26815 to 27015	26815, 26915, 27015	5MHz	QPSK,16QAM	1 RB / 0 RB offset
		26840 to 26990	26840, 26915, 26990	10MHz	QPSK,16QAM	1 RB / 0 RB offset
		26865 to 26965	26865, 26915, 26965	15MHz	QPSK,16QAM	1 RB / 0 RB offset
B	FREQUENCY STABILITY	26865 to 26965	26865, 26915, 26965	10MHz	QPSK	75 RB / 0 RB offset
A	OCCUPIED BANDWIDTH	26797 to 27033	26797, 26915, 27033	1.4MHz	QPSK,16QAM	6 RB / 0 RB offset
		26805 to 27025	26805, 26915, 27025	3MHz	QPSK,16QAM	15 RB / 0 RB offset
		26815 to 27015	26815, 26915, 27015	5MHz	QPSK,16QAM	25 RB / 0 RB offset
		26840 to 26990	26840, 26915, 26990	10MHz	QPSK,16QAM	50 RB / 0 RB offset
		26865 to 26965	26865, 26915, 26965	15MHz	QPSK,16QAM	75 RB / 0 RB offset
A	PEAK TO AVERAGE RATIO	26865 to 26965	26865, 26915, 26965	15MHz	QPSK,16QAM	1 RB / 0 RB offset 75 RB / 0 RB offset
A	BAND EDGE	26797 to 27033	26797	1.4 MHz	QPSK,16QAM	1 RB / 0 RB offset
						6 RB / 0 RB offset
		26797 to 27033	27033	1.4 MHz	QPSK,16QAM	1 RB / 5 RB offset
						6 RB / 0 RB offset
		26805 to 27025	26805	3 MHz	QPSK,16QAM	1 RB / 0 RB offset
						15 RB / 0 RB offset
		26805 to 27025	27025	3 MHz	QPSK,16QAM	1 RB / 14 RB offset
						15 RB / 0 RB offset
		26815 to 27015	26815	5MHz	QPSK,16QAM	1 RB / 0 RB offset
						25 RB / 0 RB offset
		26815 to 27015	27015	5MHz	QPSK,16QAM	1 RB / 24 RB offset
						25 RB / 0 RB offset
		26840 to 26990	26840	10MHz	QPSK,16QAM	1 RB / 0 RB offset
						50 RB / 0 RB offset
		26840 to 26990	26990	10MHz	QPSK,16QAM	1 RB / 49 RB offset
						50 RB / 0 RB offset
		26865 to 26965	26865	15MHz	QPSK,16QAM	1 RB / 0 RB offset
						75 RB / 0 RB offset

		26865 to 26965	26965	15MHz	QPSK,16QAM	1 RB / 74 RB offset
						75 RB / 0 RB offset
A	CONDCUDETED EMISSION	26797 to 27033	26797, 26915, 27033	1.4MHz	QPSK	1 RB / 0 RB offset
		26805 to 27025	26805, 26915, 27025	3MHz	QPSK	1 RB / 0 RB offset
		26815 to 27015	26815, 26915, 27015	5MHz	QPSK	1 RB / 0 RB offset
		26840 to 26990	26840, 26915, 26990	10MHz	QPSK	1 RB / 0 RB offset
		26865 to 26965	26865, 26915, 26965	15MHz	QPSK	1 RB / 0 RB offset
A	RADIATED EMISSION	26797 to 27033	26915	1.4MHz	QPSK	1 RB / 0 RB offset
		26805 to 27025	26915	3MHz	QPSK	1 RB / 0 RB offset
		26815 to 27015	26815,26915,27015	5MHz	QPSK	1 RB / 0 RB offset
		26840 to 26990	26915	10MHz	QPSK	1 RB / 0 RB offset
		26865 to 26965	26915	15MHz	QPSK	1 RB / 0 RB offset

Note: This device was tested under all bandwidths, RB configurations and modulations. The worst case was found in QPSK modulation.

TEST CONDITION			
TEST ITEM	**ENVIRONMENTAL CONDITIONS**	**INPUT POWER**	**TESTED BY**
ERP	23deg. C, 70%RH	DC 3.7V By Battery	Hanwen Xu
FREQUENCY STABILITY	23deg. C, 70%RH	DC 3.4V/ 3.7V/ 4.2V By DC Source	Hanwen Xu
OCCUPIED BANDWIDTH	23deg. C, 70%RH	DC 3.7V By Battery	Hanwen Xu
BAND EDGE	23deg. C, 70%RH	DC 3.7V By Battery	Hanwen Xu
CONDCUDETED EMISSION	23deg. C, 70%RH	DC 3.7V By Battery	Hanwen Xu
RADIATED EMISSION	23deg. C, 70%RH	AC 120V/60Hz	Hanwen Xu
PEAK TO AVERAGE RATIO	23deg. C, 70%RH	DC 3.7V By Battery	Hanwen Xu

2.5 EUT OPERATING CONDITIONS

The EUT makes a call to the communication simulator. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency

2.6 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC 47 CFR Part 2

FCC 47 CFR Part 22

KDB 971168 D01 Power Meas License Digital Systems v03r01

ANSI/TIA/EIA-603-D

ANSI/TIA/EIA-603-E

ANSI C63.26-2015

NOTE: All test items have been performed and recorded as per the above standards.

3 TEST TYPES AND RESULTS

3.1 OUTPUT POWER MEASUREMENT

3.1.1 LIMITS OF OUTPUT POWER MEASUREMENT

Mobile / Portable station are limited to 7 watts e.r.p.

3.1.2 TEST PROCEDURES

EIRP / ERP MEASUREMENT:

Per KDB 971168 D01 Power Meas License Digital Systems v03r01 or subclause 5.2.5.5 of ANSI C63.26-2015, the relevant equation for determing the ERP or EIRP from the conducted RF output power measured using the guidance provided above is:

ERP or EIRP = $P_{Meas} + G_T – L_C$

Where:

ERP or EIRP = effective radiated power or equivalent isotropically radiated power, respectively

(expressed in the same units as P_{Meas}, typically dBW or dBm);

P_{Meas} = measured transmitter output power or PSD, in dBm or dBW;

G_T = gain of the transmitting antenna, in dBd (ERP) or dBi (EIRP);

L_C = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

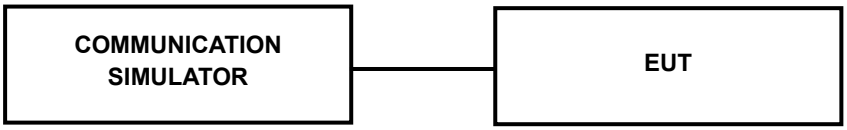
CONDUCTED POWER MEASUREMENT:

The EUT was set up for the maximum power with WCDMA 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.

3.1.3 TEST SETUP

EIRP / ERP Measurement:

CONDUCTED POWER MEASUREMENT:



3.1.4 TEST RESULTS

CONDUCTED OUTPUT POWER (dBm):

Band	GSM850		
Channel	128	189	251
Frequency	824.2	836.4	848.8
GPRS 1Tx Slot	31.67	31.88	31.89
GPRS 2Tx Slot	30.32	30.41	30.61
GPRS 3Tx Slot	28.10	28.27	28.36
GPRS 4Tx Slot	26.20	26.33	26.35

LTE Band 5						
Band/BW	Modulation	RB Size	RB offset	Low CH20407 Frequency 824.7 MHz	Mid CH20525 Frequency 836.5 MHz	High CH20643 Frequency 848.3 MHz
5/ 1.4	QPSK	1	0	23.52	21.15	21.47
		1	2	22.31	22.29	22.30
		1	5	20.91	20.42	22.89
		3	0	23.35	21.11	21.32
		3	1	22.26	22.27	22.24
		3	3	21.21	20.88	22.85
		6	0	21.08	20.87	21.29
	16QAM	1	0	22.82	20.53	20.63
		1	2	21.36	21.49	21.09
		1	5	20.29	19.93	21.90
		3	0	22.64	20.45	20.40
		3	1	21.31	21.40	21.12
		3	3	20.20	19.88	21.88
		6	0	20.24	20.02	20.08
	64QAM	1	0	23.52	21.15	21.47
		1	2	22.31	22.29	22.30
		1	5	20.91	20.42	22.89
		3	0	23.35	21.11	21.32
		3	1	22.26	22.27	22.24
		3	3	21.21	20.88	22.85
		6	0	21.08	20.87	21.29
Band/BW	Modulation	RB Size	RB offset	Low CH20415 Frequency 825.5 MHz	Mid CH20525 Frequency 836.5 MHz	High CH20635 Frequency 847.5 MHz
5/ 3	QPSK	1	0	23.56	21.22	21.48
		1	7	22.32	22.30	22.34
		1	14	20.83	20.56	22.99
		8	0	22.11	20.29	21.39
		8	3	22.23	20.45	21.36
		8	7	21.31	20.99	21.82
		15	0	21.21	20.87	21.21
	16QAM	1	0	22.99	20.51	20.54
		1	7	21.48	21.54	21.17
		1	14	20.31	19.75	21.88
		8	0	21.29	19.34	20.48
		8	3	21.26	19.60	20.31
		8	7	20.30	19.92	20.84
		15	0	20.27	20.06	20.26
	64QAM	1	0	23.56	21.22	21.48
		1	7	22.32	22.30	22.34
		1	14	20.83	20.56	22.99
		8	0	22.11	20.29	21.39
		8	3	22.23	20.45	21.36
		8	7	21.31	20.99	21.82
		15	0	21.21	20.87	21.21

LTE Band 5						
Band/BW	Modulation	RB Size	RB offset	Low CH20425 Frequency 826.5 MHz	Mid CH20525 Frequency 836.5 MHz	High CH20625 Frequency 846.5 MHz
5/ 5	QPSK	1	0	23.60	21.28	21.54
		1	12	22.32	22.15	22.47
		1	24	20.89	20.41	22.94
		12	0	22.26	20.36	21.36
		12	6	22.37	20.51	21.35
		12	13	21.13	20.95	21.97
		25	0	21.13	20.89	21.28
	16QAM	1	0	22.95	20.43	20.73
		1	12	21.34	21.44	21.21
		1	24	20.36	19.71	21.87
		12	0	21.31	19.47	20.32
		12	6	21.34	19.59	20.39
		12	13	20.14	19.83	20.93
		25	0	20.21	20.01	20.27
	64QAM	1	0	23.60	21.28	21.54
		1	12	22.32	22.15	22.47
		1	24	20.89	20.41	22.94
		12	0	22.26	20.36	21.36
		12	6	22.37	20.51	21.35
		12	13	21.13	20.95	21.97
		25	0	21.13	20.89	21.28
Band/BW	Modulation	RB Size	RB offset	Low CH20450 Frequency 829 MHz	Mid CH20525 Frequency 836.5 MHz	High CH20600 Frequency 844 MHz
5/ 10	QPSK	1	0	23.73	21.35	21.53
		1	24	22.34	22.34	22.46
		1	49	21.03	20.59	23.00
		25	0	22.31	20.48	21.53
		25	12	22.37	20.58	21.47
		25	25	21.32	21.02	22.03
		50	0	21.29	21.07	21.28
	16QAM	1	0	23.03	20.64	20.72
		1	24	21.50	21.54	21.27
		1	49	20.38	19.92	21.89
		12	0	21.36	19.55	20.49
		12	18	21.39	19.65	20.47
		12	37	20.34	20.03	21.04
		27	0	20.32	20.08	20.27
	64QAM	1	0	23.73	21.35	21.53
		1	24	22.34	22.34	22.46
		1	49	21.03	20.59	23.00
		25	0	22.31	20.48	21.53
		25	12	22.37	20.58	21.47
		25	25	21.32	21.02	22.03
		50	0	21.29	21.07	21.28

LTE BAND 18						
Band/BW	Modulation	RB Size	RB offset	Low CH23965 Frequency 826.5 MHz	Mid CH23970 Frequency 827 MHz	High CH23975 Frequency 827.5 MHz
18/ 5	QPSK	1	0	21.76	21.69	21.63
		1	12	**22.44**	**22.37**	**22.27**
		1	24	21.38	21.24	21.14
		12	0	**21.51**	**21.54**	**21.40**
		12	6	21.44	21.34	21.35
		12	13	21.42	21.15	21.34
		25	0	**21.41**	21.41	21.41
	16QAM	1	0	20.71	20.78	20.76
		1	12	21.56	21.31	21.40
		1	24	20.74	20.63	20.48
		12	0	20.49	20.51	20.54
		12	6	20.38	20.34	20.23
		12	13	20.29	20.21	20.31
		25	0	20.40	20.47	20.44

LTE BAND 19						
Band/BW	Modulation	RB Size	RB offset	Low CH24025 Frequency 832.5 MHz	Mid CH24075 Frequency 837.5 MHz	High CH24125 Frequency 842.5 MHz
19/ 5 Band/BW	QPSK	1	0	21.84	21.72	21.82
		1	12	22.40	22.30	22.32
		1	24	21.31	21.32	21.21
		12	0	21.31	21.48	21.31
		12	6	21.58	21.61	21.59
		12	13	20.96	21.11	21.16
		25	0	21.31	21.26	21.31
	16QAM	1	0	21.13	21.18	21.30
		1	12	21.76	21.60	21.61
		1	24	20.66	20.53	20.53
		12	0	20.44	20.36	20.44
		12	6	20.59	20.54	20.64
		12	13	20.08	20.06	20.07
		25	0	20.50	20.33	20.48
Band/BW	Modulation	RB Size	RB offset	Low CH24050 Frequency 835 MHz	Mid CH24075 Frequency 837 MHz	High CH24100 Frequency 840 MHz
19/ 10 Band/BW	QPSK	1	0	21.72	21.90	21.82
		1	24	22.32	22.38	22.44
		1	49	21.29	21.35	21.22
		25	0	21.31	21.42	21.42
		25	12	21.55	21.47	21.50
		25	25	21.15	20.97	21.01
		50	0	21.39	21.28	21.43
	16QAM	1	0	21.21	21.29	21.29
		1	24	21.60	21.65	21.77
		1	49	20.58	20.65	20.50
		12	0	20.28	20.33	20.43
		12	18	20.59	20.48	20.65
		12	37	19.93	20.06	19.96
		27	0	20.43	20.46	20.31

LTE BAND 19						
Band/BW	Modulation	RB Size	RB offset	\	Mid CH24075	\
				\	Frequency 837.5 MHz	\
19/ 15 Band/BW	QPSK	1	0	\	21.92	\
		1	37	\	**22.45**	\
		1	74	\	21.40	\
		36	0	\	21.52	\
		36	19	\	**21.62**	\
		36	39	\	21.16	\
		75	0	\	**21.45**	\
	16QAM	1	0	\	21.31	\
		1	37	\	21.78	\
		1	74	\	20.66	\
		12	0	\	20.49	\
		12	31	\	20.65	\
		12	62	\	20.10	\
		27	0	\	20.51	\

LTE BAND 26						
Band/BW	Modulation	RB Size	RB offset	Low CH26797 Frequency 824.7 MHz	Mid CH26915 Frequency 836.5 MHz	High CH27033 Frequency 848.3 MHz
26/ 1.4	QPSK	1	0	21.89	21.76	22.47
		1	2	22.37	22.08	22.70
		1	5	21.63	21.45	22.27
		3	0	21.79	21.68	22.43
		3	1	22.16	21.90	22.63
		3	3	21.39	21.15	21.83
		6	0	21.29	21.15	21.93
	16QAM	1	0	20.65	20.58	21.48
		1	2	21.31	21.13	21.98
		1	5	20.55	20.64	21.43
		3	0	21.07	21.00	21.68
		3	1	21.13	20.96	21.82
		3	3	21.11	21.04	21.93
		6	0	20.95	20.94	21.92
Band/BW	Modulation	RB Size	RB offset	Low CH26805 Frequency 825.5 MHz	Mid CH26915 Frequency 836.5 MHz	High CH27025 Frequency 847.5 MHz
26/ 3	QPSK	1	0	21.70	21.68	22.64
		1	7	21.87	21.97	22.69
		1	14	21.58	21.16	22.21
		8	0	20.89	20.85	21.70
		8	3	21.14	20.89	21.81
		8	7	21.14	20.99	21.92
		15	0	20.99	20.86	21.75
	16QAM	1	0	20.59	20.61	21.54
		1	7	21.32	21.08	22.04
		1	14	20.59	20.49	21.48
		8	0	20.96	21.03	21.56
		8	3	21.21	20.97	21.85
		8	7	21.05	21.09	21.71
		15	0	20.97	21.07	21.75

LTE BAND 26						
Band/BW	Modulation	RB Size	RB offset	Low CH26815 Frequency 826.5 MHz	Mid CH26915 Frequency 836.5 MHz	High CH27015 Frequency 846.5 MHz
26/ 5	QPSK	1	0	21.74	21.70	22.49
		1	12	21.89	21.95	22.63
		1	24	21.57	21.27	22.22
		12	0	21.03	20.98	21.79
		12	6	21.16	20.92	21.79

		12	13	21.17	20.90	21.86
		25	0	21.15	20.90	21.83
		1	0	20.71	20.65	21.40
		1	12	21.33	21.15	21.93
		1	24	20.66	20.70	21.45
	16QAM	12	0	20.92	20.87	21.72
		12	6	21.21	20.99	21.94
		12	13	21.00	20.97	21.83
		25	0	20.96	20.99	21.85
Band/BW	Modulation	RB Size	RB offset	Low CH26840	Mid CH26915	High CH26990
				Frequency 829 MHz	Frequency 836.5 MHz	Frequency 844 MHz
		1	0	21.69	21.76	22.54
		1	24	22.07	22.05	22.54
		1	49	21.37	21.15	22.17
	QPSK	25	0	20.87	20.92	21.59
		25	12	21.31	20.96	21.75
		25	25	21.17	20.99	21.91
		50	0	21.07	20.99	21.92
26/10		1	0	20.57	20.47	21.53
		1	24	21.20	21.05	22.05
		1	49	20.69	20.52	21.37
	16QAM	12	0	20.91	21.01	21.78
		12	18	21.14	20.91	21.88
		12	37	21.01	21.08	21.93
		27	0	21.09	21.00	21.76

LTE BAND 26						
Band/BW	Modulation	RB Size	RB offset	Low CH26865	Mid CH26915	High CH26965
				Frequency 831.5 MHz	Frequency 836.5 MHz	Frequency 841.5 MHz
		1	0	21.83	21.88	22.64
		1	37	**22.08**	**22.09**	**22.74**
		1	74	21.57	21.52	22.38
	QPSK	36	0	21.08	20.98	21.80
		36	19	**21.30**	**21.09**	**21.98**
		36	39	21.24	21.04	21.95
		75	0	21.17	21.05	**21.94**
26/ 15		1	0	20.78	20.66	21.58
		1	37	21.39	21.24	22.11
		1	74	20.74	20.69	21.50
	16QAM	12	0	21.08	21.07	21.77
		12	31	21.28	21.11	22.01
		12	62	21.19	21.13	21.92
		27	0	21.14	21.15	21.94

ERP POWER (dBm)

GSM 850						
Channel	**Frequency (MHz)**	**Conducted Power (dBm)**	**G_T-L_C (dB)**	**ERP (dBm)**	**ERP (mW)**	**Limit (W)**
128	824.2	31.67	-0.98	28.54	714.50	7
189	836.4	31.88	-0.98	28.75	749.89	7
251	848.8	31.89	-0.98	28.76	751.62	7

CHANNEL BANDWIDTH: 1.4MHz QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20407	824.7	23.52	-0.98	20.39	109.40	7
20525	836.5	22.29	-0.98	19.16	82.41	7
20643	848.3	22.89	-0.98	19.76	94.62	7

CHANNEL BANDWIDTH: 1.4MHz 16QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20407	824.7	22.82	-0.98	19.69	93.11	7
20525	836.5	21.49	-0.98	18.36	68.55	7
20643	848.3	21.90	-0.98	18.77	75.34	7

CHANNEL BANDWIDTH: 3MHz QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20415	825.5	23.56	-0.98	20.43	110.41	7
20525	836.5	22.30	-0.98	19.17	82.60	7
20635	847.5	22.99	-0.98	19.86	96.83	7

CHANNEL BANDWIDTH: 3MHz 16QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20415	825.5	22.99	-0.98	19.86	96.83	7
20525	836.5	21.54	-0.98	18.41	69.34	7
20635	847.5	21.88	-0.98	18.75	74.99	7

CHANNEL BANDWIDTH: 5MHz QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20425	826.5	23.60	-0.98	20.47	111.43	7
20525	836.5	22.15	-0.98	19.02	79.80	7
20625	846.5	22.94	-0.98	19.81	95.72	7

CHANNEL BANDWIDTH: 5MHz 16QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20425	826.5	22.95	-0.98	19.82	95.94	7
20525	836.5	21.44	-0.98	18.31	67.76	7
20625	846.5	21.87	-0.98	18.74	74.82	7

CHANNEL BANDWIDTH: 10MHz QPSK

Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20450	829	23.73	-0.98	20.60	114.82	7
20525	836.5	22.34	-0.98	19.21	83.37	7
20600	844	23.00	-0.98	19.87	97.05	7

CHANNEL BANDWIDTH: 10MHz 16QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
20450	829	23.03	-0.98	19.90	97.72	7
20525	836.5	21.54	-0.98	18.41	69.34	7
20600	844	21.89	-0.98	18.76	75.16	7

LTE BAND 18

CHANNEL BANDWIDTH: 5MHz QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23965	826.5	22.44	-1.5	18.79	75.68	7
23970	827	22.37	-1.5	18.72	74.47	7
23975	827.5	22.27	-1.5	18.62	72.78	7

CHANNEL BANDWIDTH: 5MHz 16QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
23965	826.5	21.56	-1.5	17.91	61.80	7
23970	827	21.31	-1.5	17.66	58.34	7
23975	827.5	21.40	-1.5	17.75	59.57	7

LTE BAND 19

CHANNEL BANDWIDTH: 5MHz QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
24025	832.5	22.40	-0.98	19.27	84.53	7
24075	837.5	22.30	-0.98	19.17	82.60	7
24125	842.5	22.32	-0.98	19.19	82.99	7

CHANNEL BANDWIDTH: 5MHz 16QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
24025	832.5	21.76	-0.98	18.63	72.95	7
24075	837.5	21.60	-0.98	18.47	70.31	7
24125	842.5	21.61	-0.98	18.48	70.47	7

CHANNEL BANDWIDTH: 10MHz QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
24050	835	22.32	-0.98	19.19	82.99	7
24075	837.5	22.38	-0.98	19.25	84.14	7
24100	840	22.44	-0.98	19.31	85.31	7

CHANNEL BANDWIDTH: 10MHz 16QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
24050	835	21.60	-0.98	18.47	70.31	7
24075	837.5	21.65	-0.98	18.52	71.12	7
24100	840	21.77	-0.98	18.64	73.11	7

CHANNEL BANDWIDTH: 15MHz QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
24075	837.5	22.45	-0.98	19.32	85.51	7

CHANNEL BANDWIDTH: 15MHz 16QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
24075	837.5	21.78	-0.98	18.65	73.28	7

LTE BAND 26

CHANNEL BANDWIDTH: 1.4MHz QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26797	824.7	21.97	-0.98	18.84	76.56	7
26915	836.5	22.09	-0.98	18.96	78.70	7
27033	848.3	22.70	-0.98	19.57	90.57	7

CHANNEL BANDWIDTH: 1.4MHz 16QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26797	824.7	21.31	-0.98	18.18	65.77	7
26915	836.5	21.13	-0.98	18.00	63.10	7
27033	848.3	21.98	-0.98	18.85	76.74	7

CHANNEL BANDWIDTH: 3MHz QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26805	825.5	21.87	-0.98	18.74	74.82	7
26915	836.5	21.97	-0.98	18.84	76.56	7
27025	847.5	22.69	-0.98	19.56	90.36	7

CHANNEL BANDWIDTH: 3MHz 16QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26805	825.5	21.32	-0.98	18.19	65.92	7
26915	836.5	21.09	-0.98	17.96	62.52	7
27025	847.5	22.04	-0.98	18.91	77.80	7

CHANNEL BANDWIDTH: 5MHz QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26815	826.5	21.89	-0.98	18.76	75.16	7
26915	836.5	21.95	-0.98	18.82	76.21	7
27015	846.5	22.63	-0.98	19.50	89.13	7

CHANNEL BANDWIDTH: 5MHz 16QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26815	826.5	21.33	-0.98	18.20	66.07	7
26915	836.5	21.15	-0.98	18.02	63.39	7
27015	846.5	21.94	-0.98	18.81	76.03	7

CHANNEL BANDWIDTH: 10MHz QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26840	829	22.07	-0.98	18.94	78.34	7
26915	836.5	22.05	-0.98	18.92	77.98	7
26990	844	22.54	-0.98	19.41	87.30	7

CHANNEL BANDWIDTH: 10MHz 16QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26840	829	21.20	-0.98	18.07	64.12	7
26915	836.5	21.08	-0.98	17.95	62.37	7
26990	844	22.05	-0.98	18.92	77.98	7

CHANNEL BANDWIDTH: 15MHz QPSK						
Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26865	831.5	22.08	-0.98	18.95	78.52	7
26915	836.5	22.09	-0.98	18.96	78.70	7
26965	841.5	22.74	-0.98	19.61	91.41	7

CHANNEL BANDWIDTH: 15MHz 16QAM						
Channel	Frequency (MHz)	Conducted Power (dBm)	G_T-L_C (dB)	ERP (dBm)	ERP (mW)	Limit (W)
26865	831.5	21.39	-0.98	18.26	66.99	7
26915	836.5	21.24	-0.98	18.11	64.71	7
26965	841.5	22.11	-0.98	18.98	79.07	7

REMARKS: ERP Output Power (dBm) = EIRP (dBm) -2.15(dB).

3.2 FREQUENCY STABILITY MEASUREMENT

3.2.1 LIMITS OF FREQUENCY STABILIITY MEASUREMENT

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

3.2.2 TEST PROCEDURE

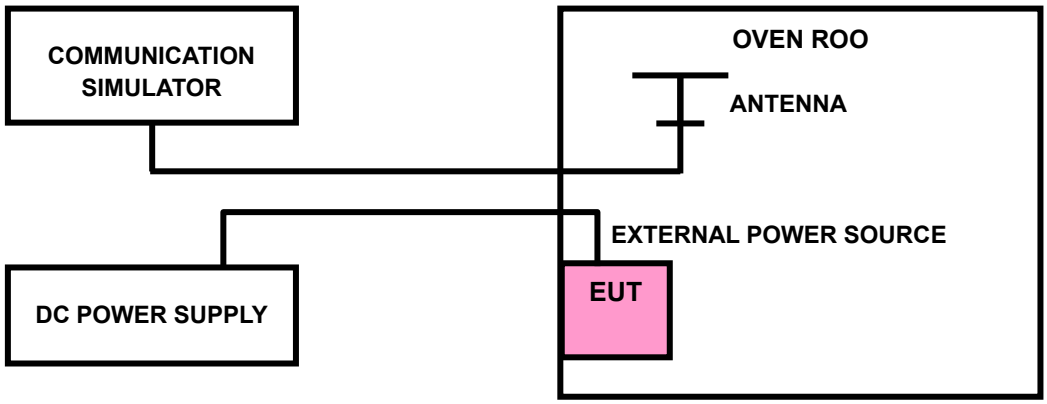
a. Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.

b. 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.

c. The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the ±0.5℃ 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.

NOTE: The frequency error was recorded frequency error from the communication simulator.

3.2.3 TEST SETUP



3.2.4 TEST RESULTS

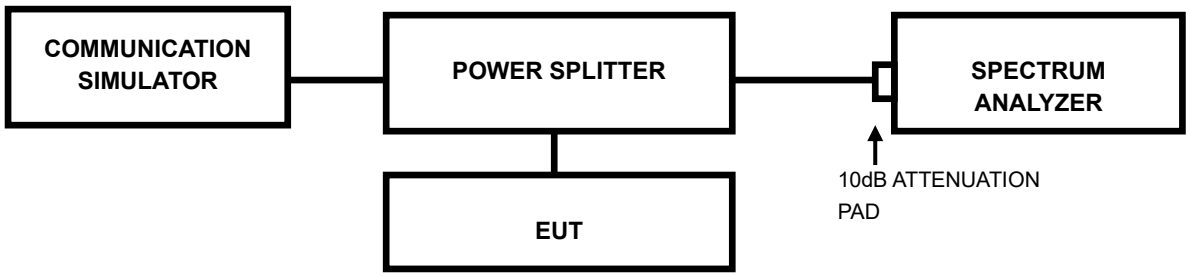
Please Refer to Appendix of this test report.

3.3 OCCUPIED BANDWIDTH MEASUREMENT

3.3.1 LIMITS OF OCCUPIED BANDWIDTH MEASUREMENT

The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 %of the total mean power of a given emission.

3.3.2 TEST SETUP



3.3.3 TEST PROCEDURES

a. The conducted occupied bandwidth used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.
b. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.

3.3.4 TEST RESULTS

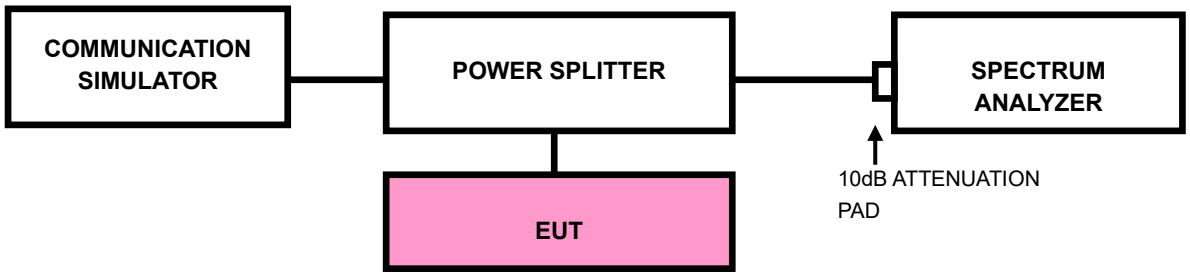
Please Refer to Appendix of this test report.

3.4 BAND EDGE MEASUREMENT

3.4.1 LIMITS OF BAND EDGE MEASUREMENT

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. In the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

3.4.2 TEST SETUP



3.4.3 TEST PROCEDURES

a) All measurements were done at low and high operational frequency range

b) Connect the transmitter to the spectrum analyzer via coaxial cable while ensuring proper impedance matching.

c) Tune the analyzer to the nominal center frequency of the emission bandwidth

(EBW)

d) .Set the resolution bandwidth (RBW) ≧ 1% EBW in the 1MHz band immediately outside and adjacent to the band edge.

e) Beyond the 1MHz band from the band edge, RBW=1MHz was used.

f) Set the video bandwidth (VBW) to ≧3 x RBW.

g) Select the average power (RMS) display detector.

h) Set the number of measurement points to ≧ 1001.

i) Use auto-coupled sweep time.

j) Perform the measurement over an interval of time when the transmission is continuous and at its maximum power level.

k) The RF fundamental frequency should be excluded against the limit line in the operating frequency band and use RBW is 10KHz or 100KHz.

l) Record the max trace plot into the test report.

3.4.4 TEST RESULTS

Please Refer to Appendix of this test report.

3.5 CONDUCTED SPURIOUS EMISSIONS

3.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

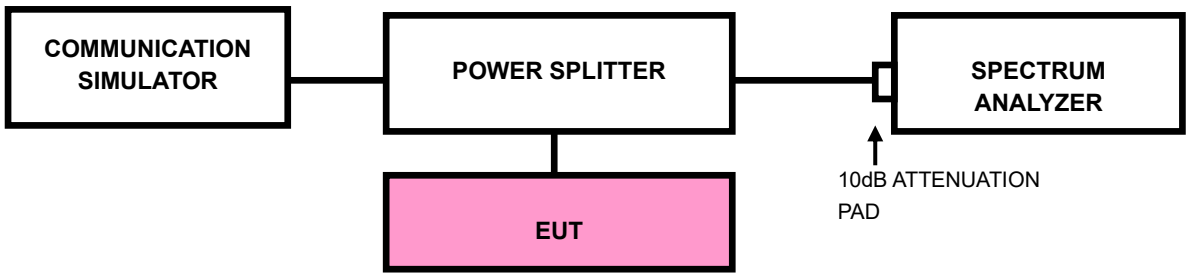
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB. The emission limit equal to –13dBm.

3.5.2 TEST PROCEDURE

a. The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range.

b. Measuring frequency range is from 9kHz up to a frequency including its 10 th harmonic. 10dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz is used for conducted emission measurement.

3.5.3 TEST SETUP



3.5.4 TEST RESULTS

NOTE： The 9K~30MHz amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required in the report.

Please Refer to Appendix of this test report.

3.6 RADIATED EMISSION MEASUREMENT

3.6.1 LIMITS OF RADIATED EMISSION MEASUREMENT

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.

3.6.2 TEST PROCEDURES

a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.

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. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole, E.R.P power = E.I.P.R power - 2.15dBi.

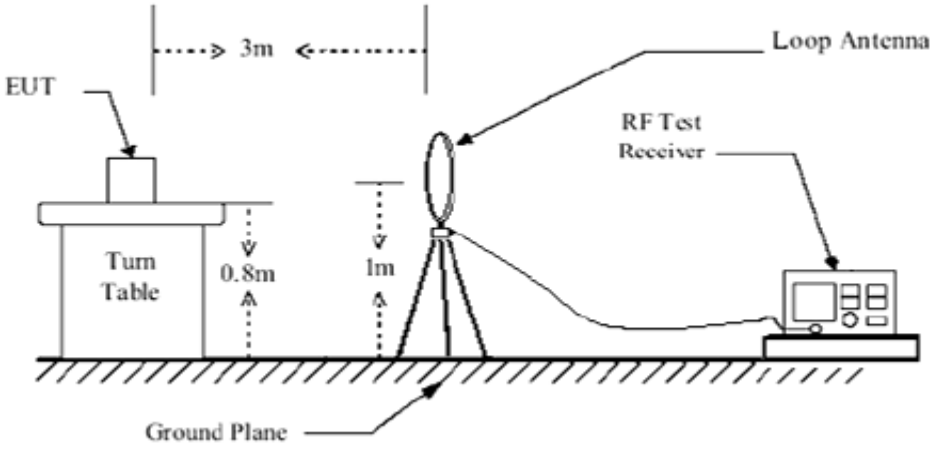
NOTE: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

3.6.3 DEVIATION FROM TEST STANDARD

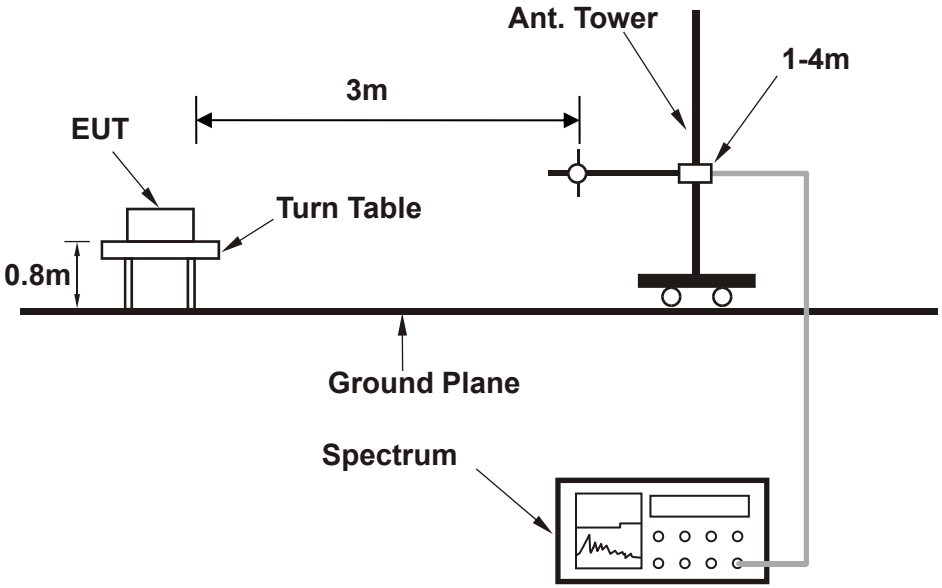
No deviation

3.6.4 TEST SETUP

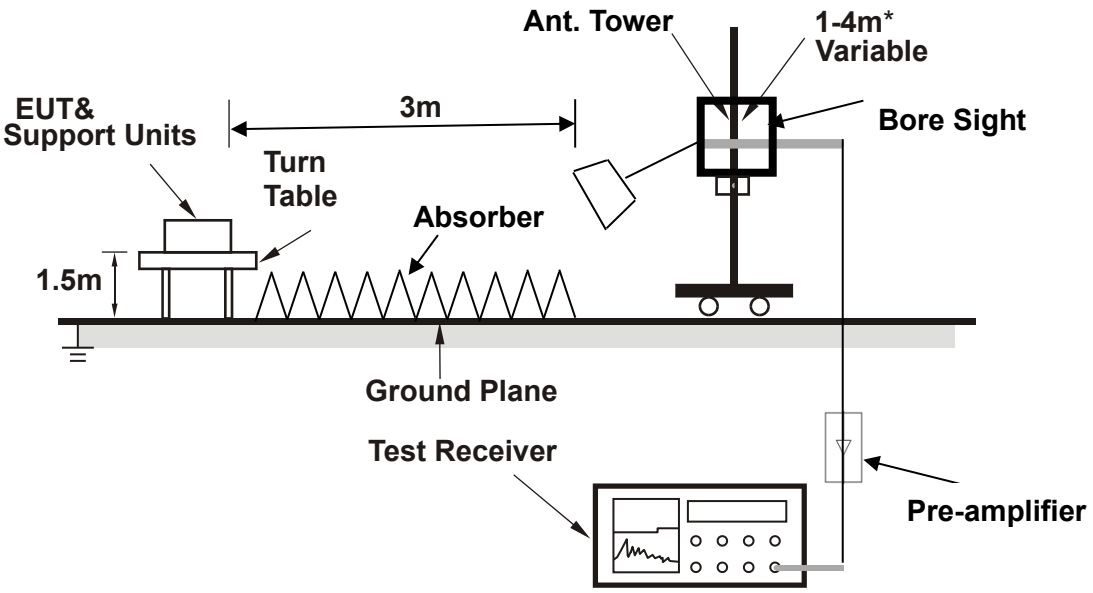
< Frequency Range below 30MHz >



< Frequency Range 30MHz~1GHz >



<Frequency Range above 1GHz>



Note: Above 1G is a directional antenna

Depends on the EUT height and the antenna 3dB beamwidth both, refer to section 7.3 of CISPR 16-2-3.

For the actual test configuration, please refer to the attached file (Test Setup Photo).

3.6.5 TEST RESULTS

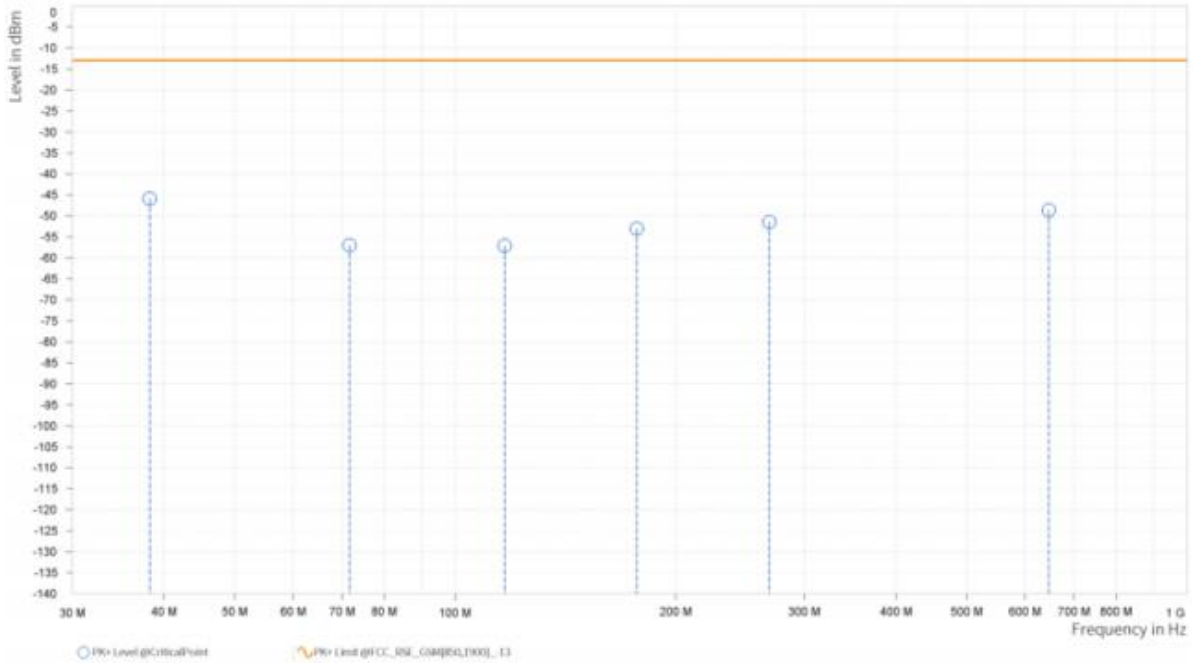
NOTE： The 9K~30MHz amplitude of spurious emissions attenuated more than 20 dB below the permissible value is not required in the report.

BELOW 1GHz WORST-CASE DATA

GSM 850			
MODE	TX channel 128	**FREQUENCY RANGE**	Below 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

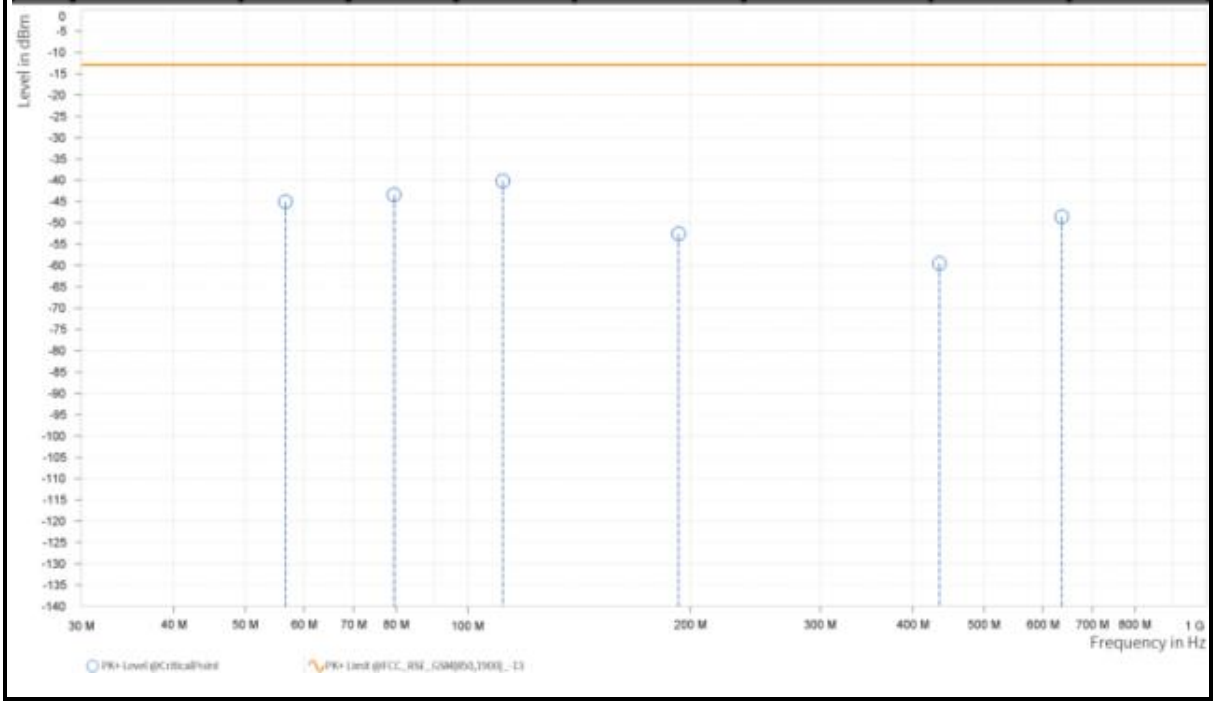
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	38.245	-45.91	-13.00	32.91	3.78	H	6.2	2.00
1	71.710	-57.01	-13.00	44.01	-5.87	H	84.6	2.00
1	116.815	-57.11	-13.00	44.11	-7.86	H	176.6	2.00
1	176.955	-53.01	-13.00	40.01	-3.94	H	84.6	2.00
1	268.620	-51.46	-13.00	38.46	3.12	H	93.6	1.00
1	646.920	-48.62	-13.00	35.62	7.02	H	184.5	1.00



MODE	TX channel 20525	**FREQUENCY RANGE**	Below 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
1	56.675	-45.07	-13.00	32.07	-5.28	V	83.4	2.00
1	79.470	-43.43	-13.00	30.43	-6.40	V	268.7	2.00
1	111.480	-40.23	-13.00	27.23	6.13	V	268.7	2.00
1	192.960	-52.58	-13.00	39.58	-2.98	V	274.2	1.00
1	434.490	-59.51	-13.00	46.51	6.76	V	359.1	1.00
1	636.250	-48.55	-13.00	35.55	5.24	V	181	1.00



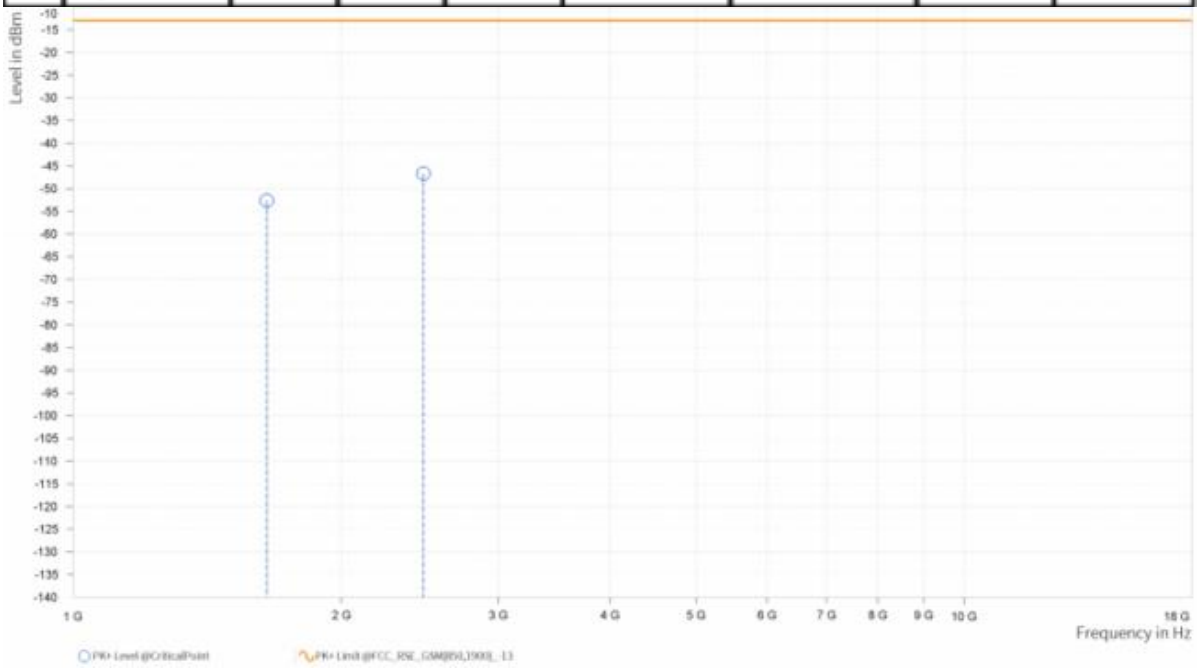
ABOVE 1GHz DATA

Note: For higher frequency, the emission is too low to be detected.

GSM 850			
MODE	TX channel 128	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

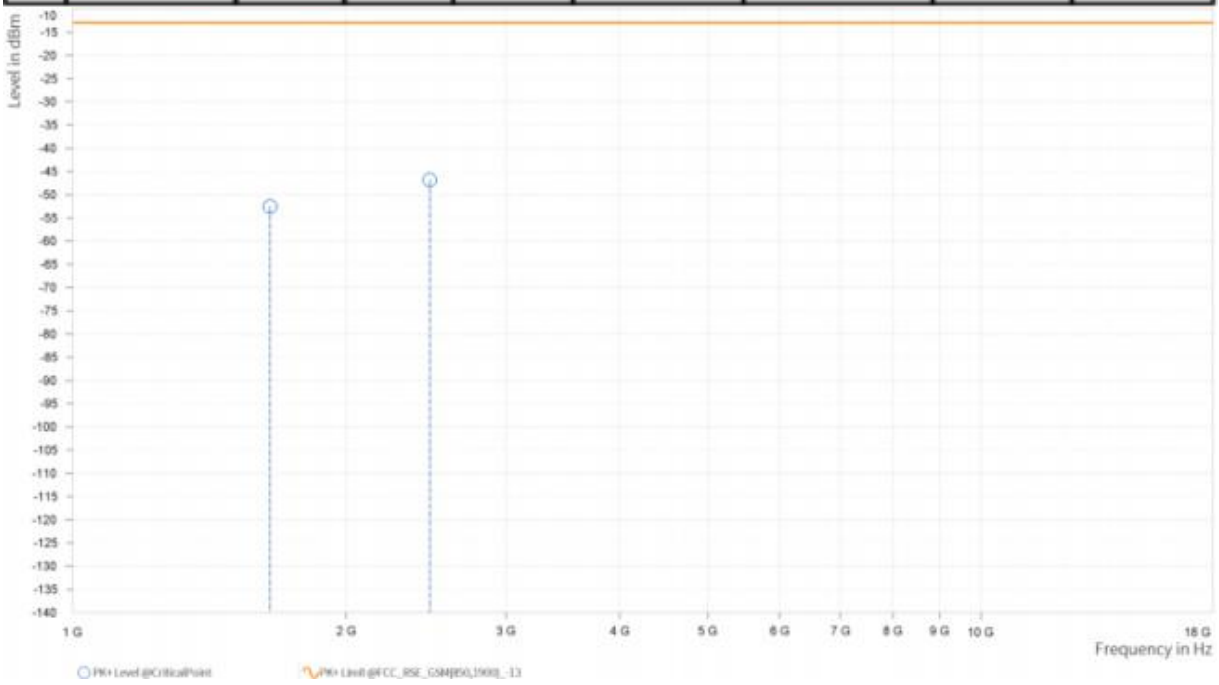
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,648.400	-52.62	-13.00	39.62	16.68	H	1	1.00
3	2,472.600	-46.68	-13.00	33.68	21.67	H	359	1.00



MODE	TX channel 128	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

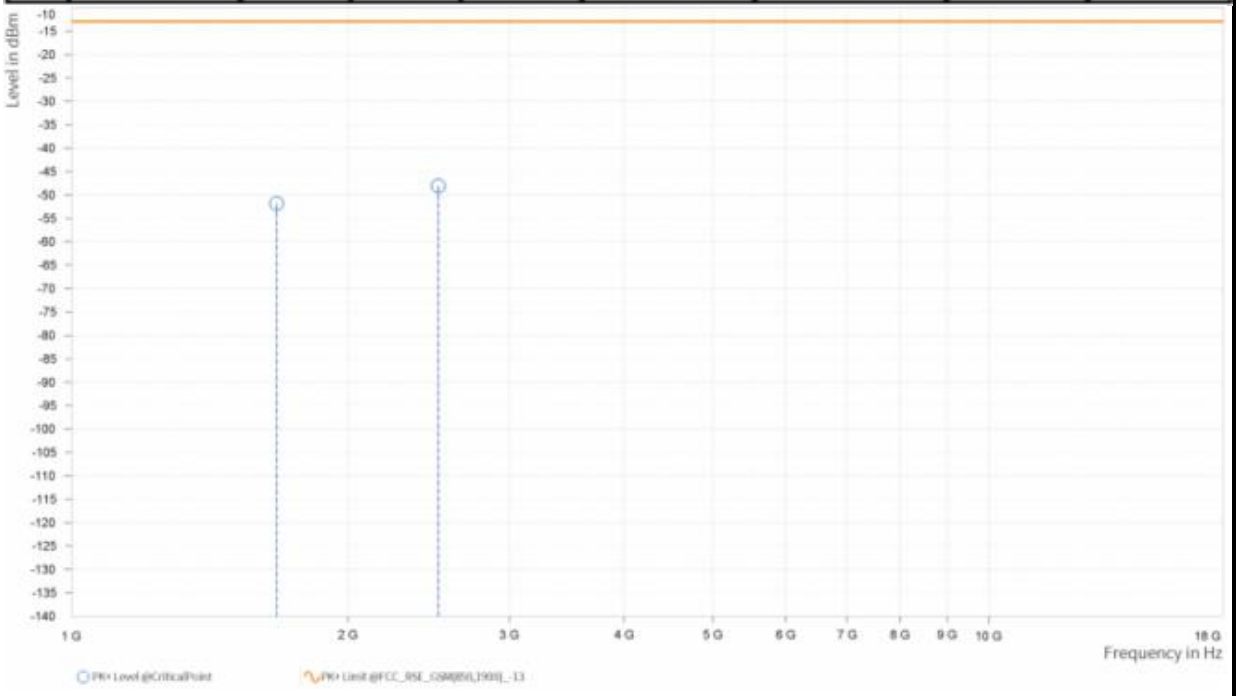
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,648.400	-52.58	-13.00	39.58	16.26	V	269.8	2.00
3	2,472.600	-46.80	-13.00	33.80	21.92	V	1	2.00



MODE	TX channel 189	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

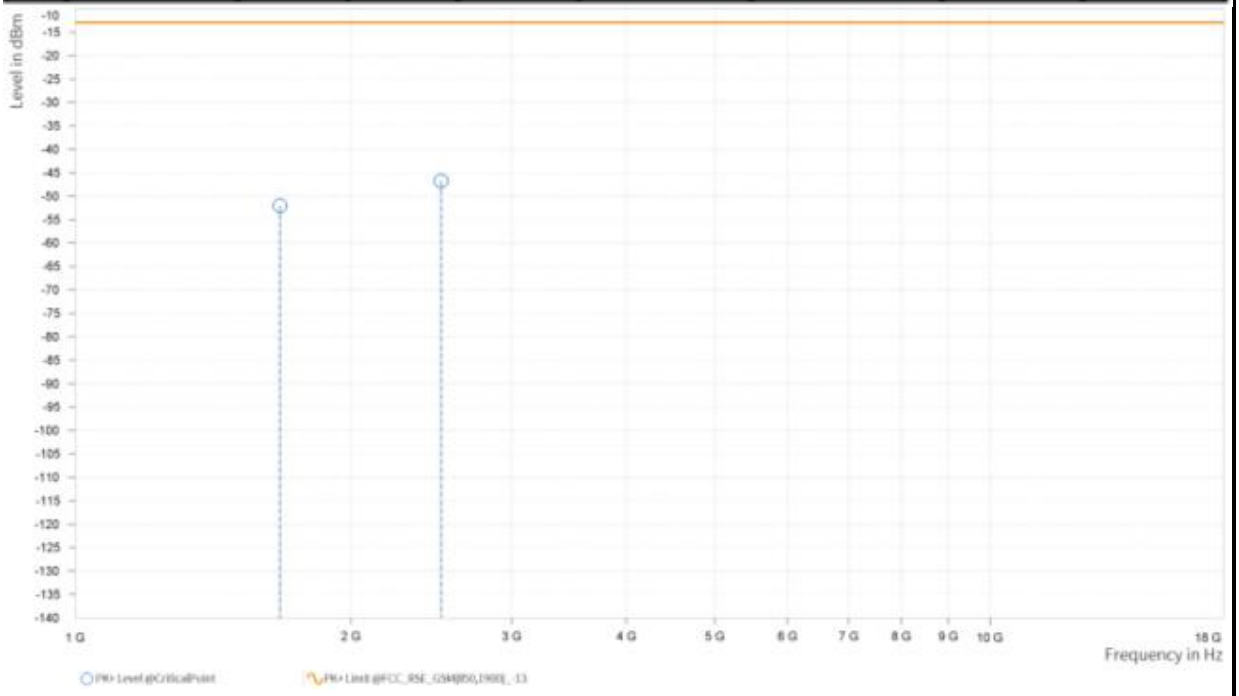
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,672.800	-51.87	-13.00	38.87	17.47	H	269.9	2.00
3	2,509.200	-48.09	-13.00	35.09	21.81	H	1	1.00



MODE	TX channel 189	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

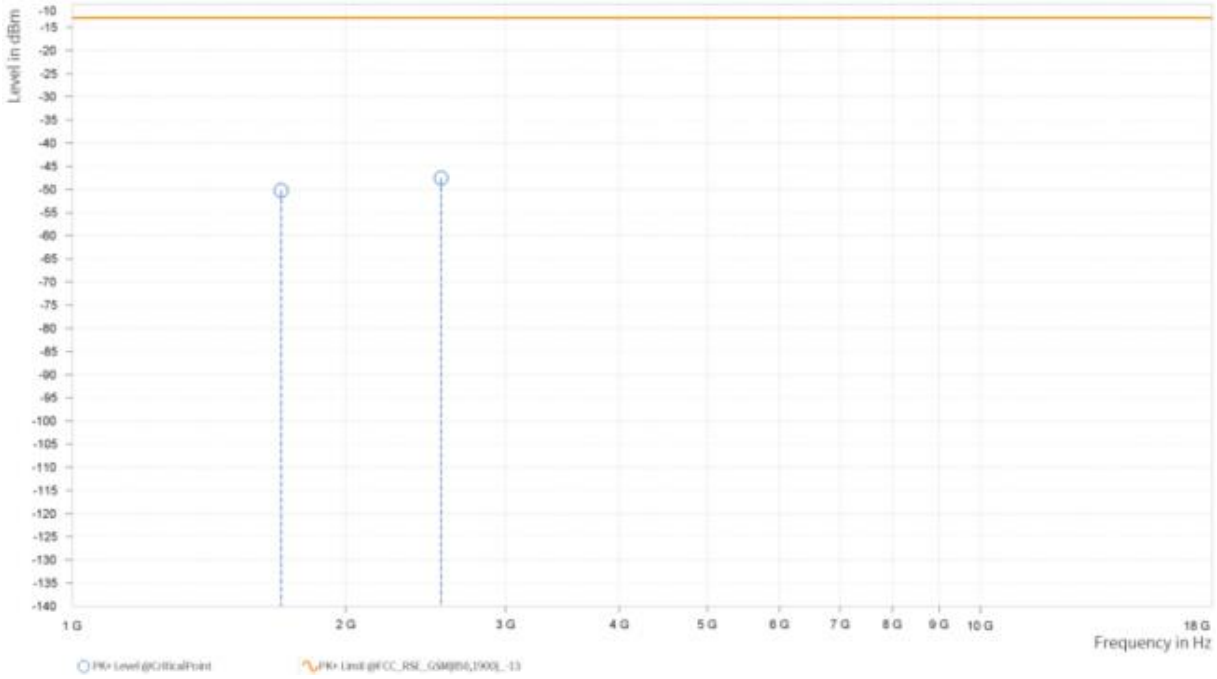
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,672.800	-52.02	-13.00	39.02	16.36	V	359	2.00
3	2,509.200	-46.76	-13.00	33.76	22.42	V	1	1.00



MODE	TX channel 251	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	**INPUT POWER**	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

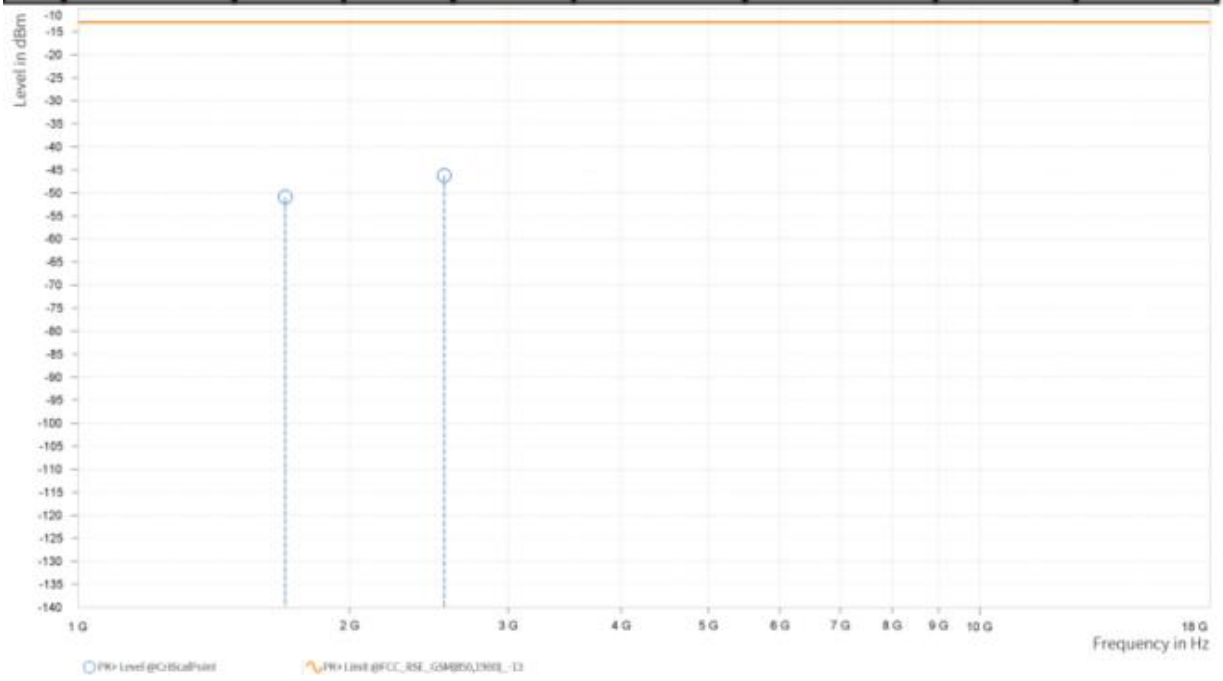
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,697.600	-50.22	-13.00	37.22	17.92	H	1	1.00
3	2,546.400	-47.51	-13.00	34.51	21.95	H	1	1.00



MODE	TX channel 251	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	120Vac 60HZ
TESTED BY	Hanwen Xu		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

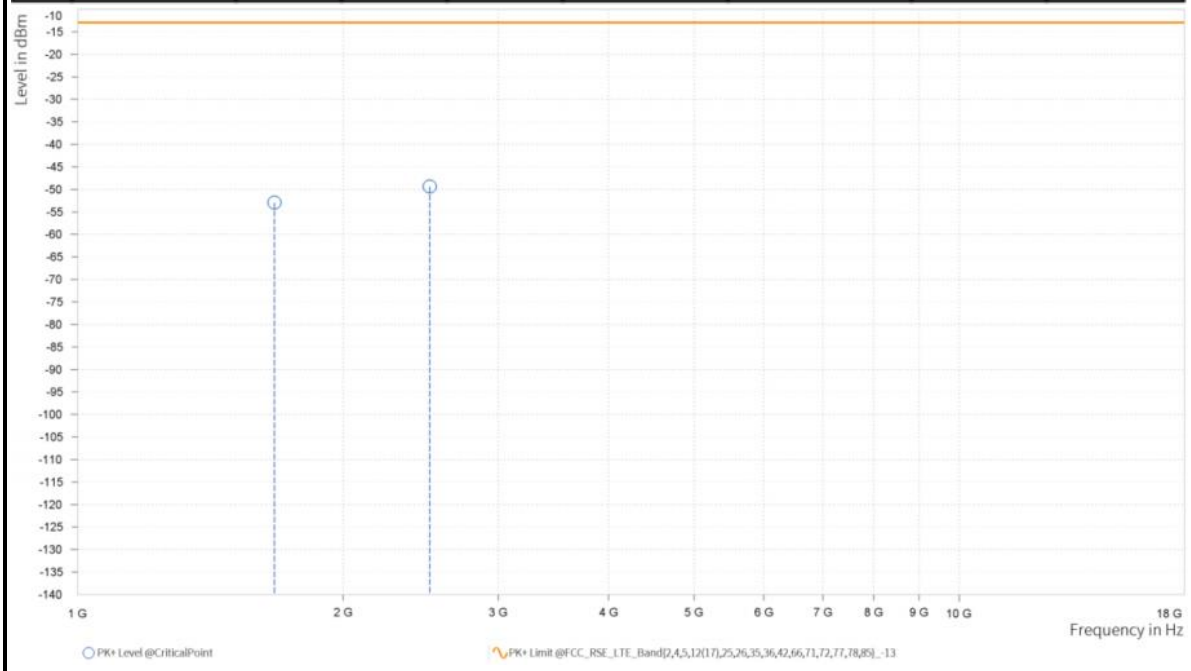
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,697.600	-50.92	-13.00	37.92	17.14	V	1	2.00
3	2,546.400	-46.24	-13.00	33.24	22.57	V	176.6	2.00



LTE Band 26			
CHANNEL BANDWIDTH	1.4MHz/QPSK	**MODE**	TX channel 26915
FREQUENCY RANGE	Above 1000MHz	**ENVIRONMENTAL CONDITIONS**	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	**TESTED BY**	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

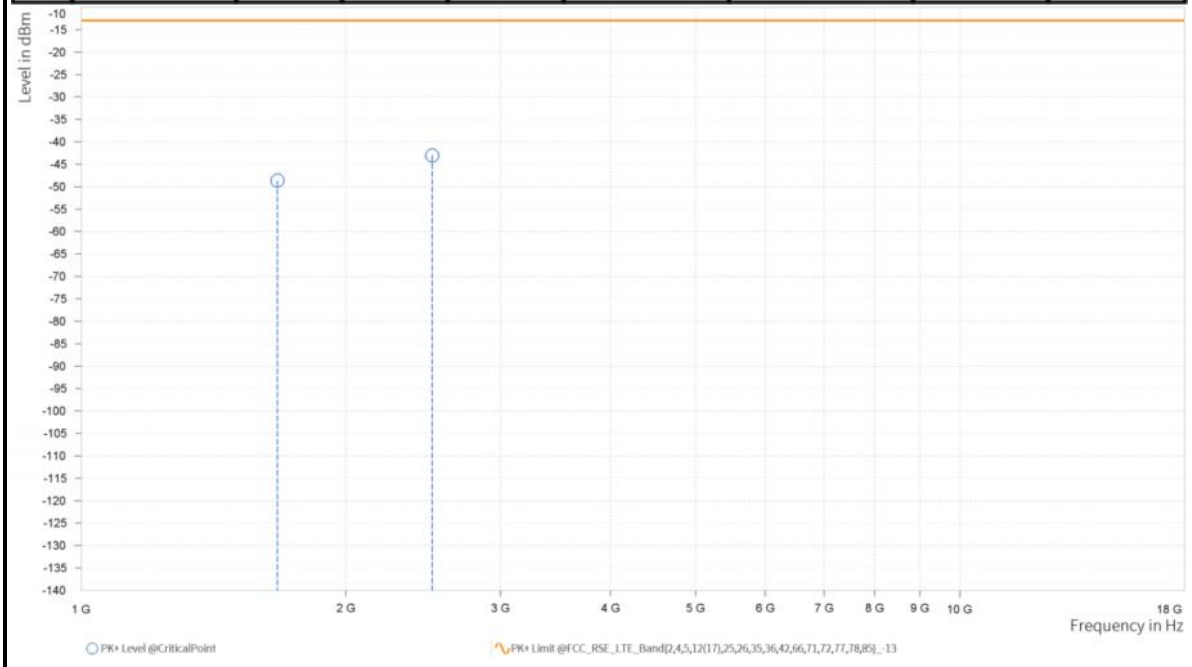
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,671.000	-52.92	-13.00	39.92	15.45	H	326.1	2.00
3	2,507.000	-49.39	-13.00	36.39	20.56	H	177.5	1.00



CHANNEL BANDWIDTH	1.4MHz/QPSK	**MODE**	TX channel 26915
FREQUENCY RANGE	Above 1000MHz	**ENVIRONMENTAL CONDITIONS**	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	**TESTED BY**	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

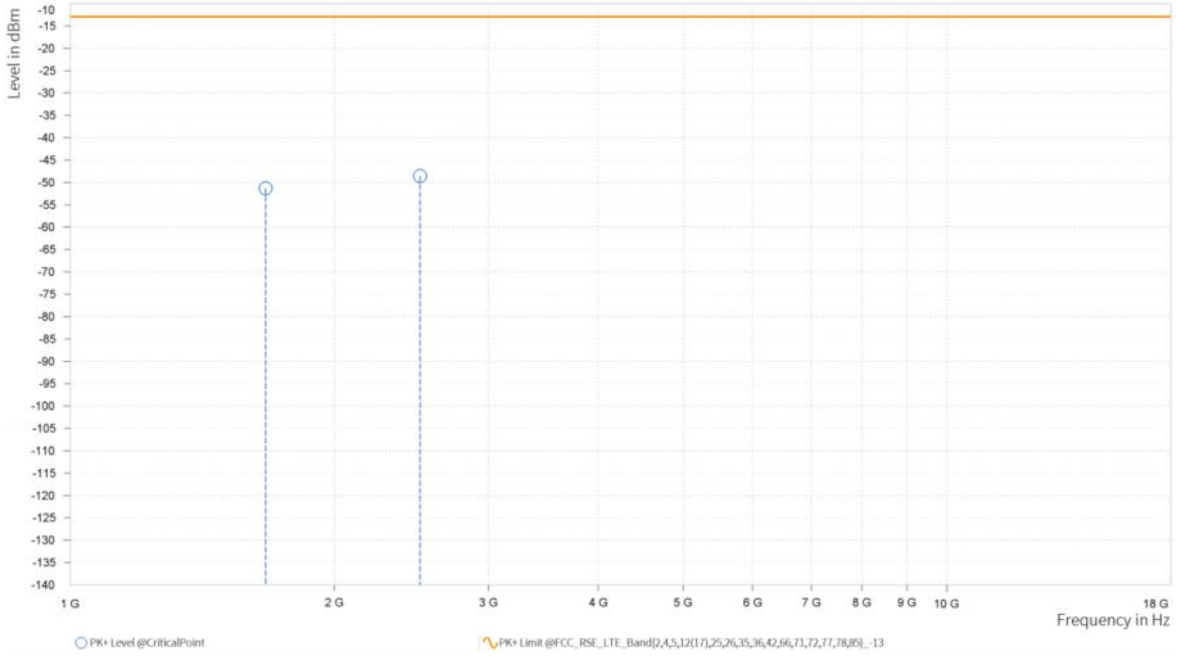
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,672.000	-48.66	-13.00	35.66	14.36	V	262.5	1.00
3	2,508.500	-43.04	-13.00	30.04	21.13	V	358.4	1.00



CHANNEL BANDWIDTH	3MHz/QPSK	**MODE**	TX channel 26915
FREQUENCY RANGE	Above 1000MHz	**ENVIRONMENTAL CONDITIONS**	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	**TESTED BY**	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

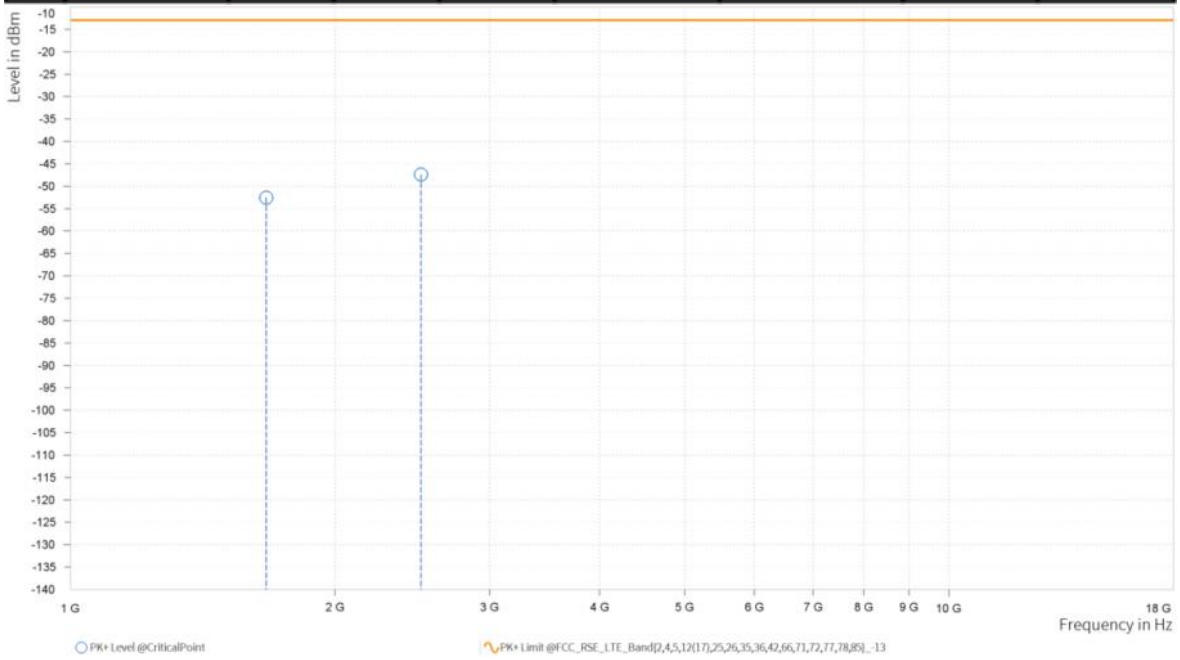
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,670.000	-51.31	-13.00	38.31	15.43	H	327.6	1.00
3	2,505.000	-48.58	-13.00	35.58	20.60	H	283	1.00



CHANNEL BANDWIDTH	3MHz/QPSK	**MODE**	TX channel 26915
FREQUENCY RANGE	Above 1000MHz	**ENVIRONMENTAL CONDITIONS**	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	**TESTED BY**	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

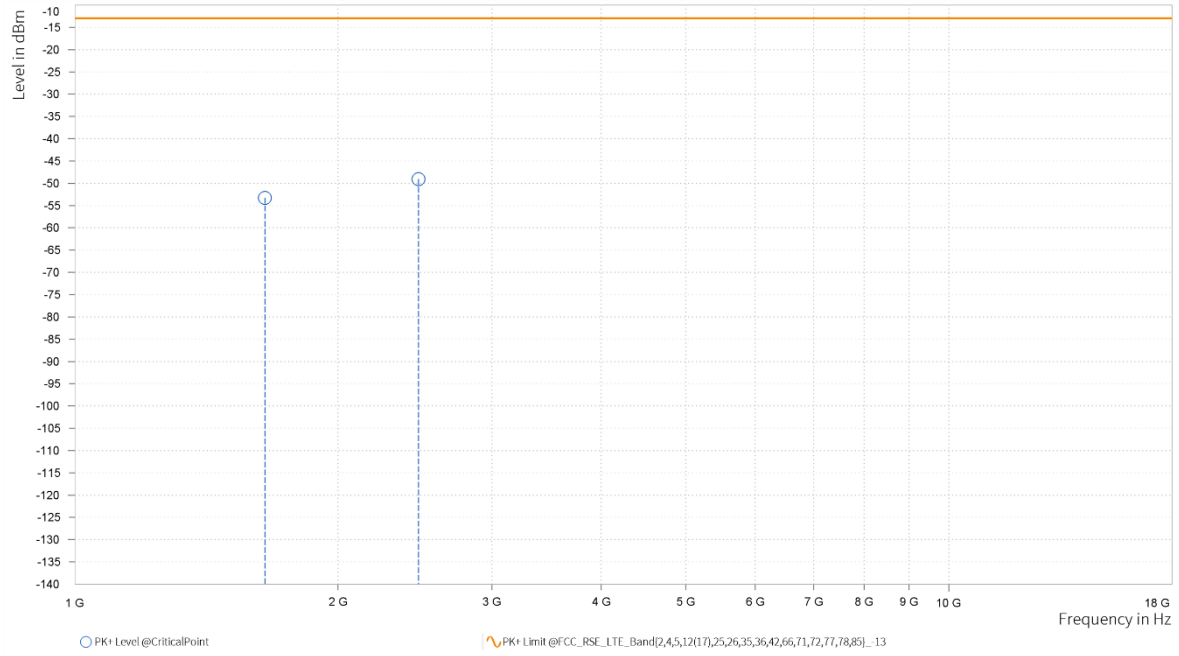
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,670.000	-52.55	-13.00	39.55	14.31	V	326.1	2.00
3	2,505.000	-47.40	-13.00	34.40	21.10	V	244.1	1.00



CHANNEL BANDWIDTH	5MHz/QPSK	**MODE**	TX channel 26815
FREQUENCY RANGE	Above 1000MHz	**ENVIRONMENTAL CONDITIONS**	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	**TESTED BY**	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

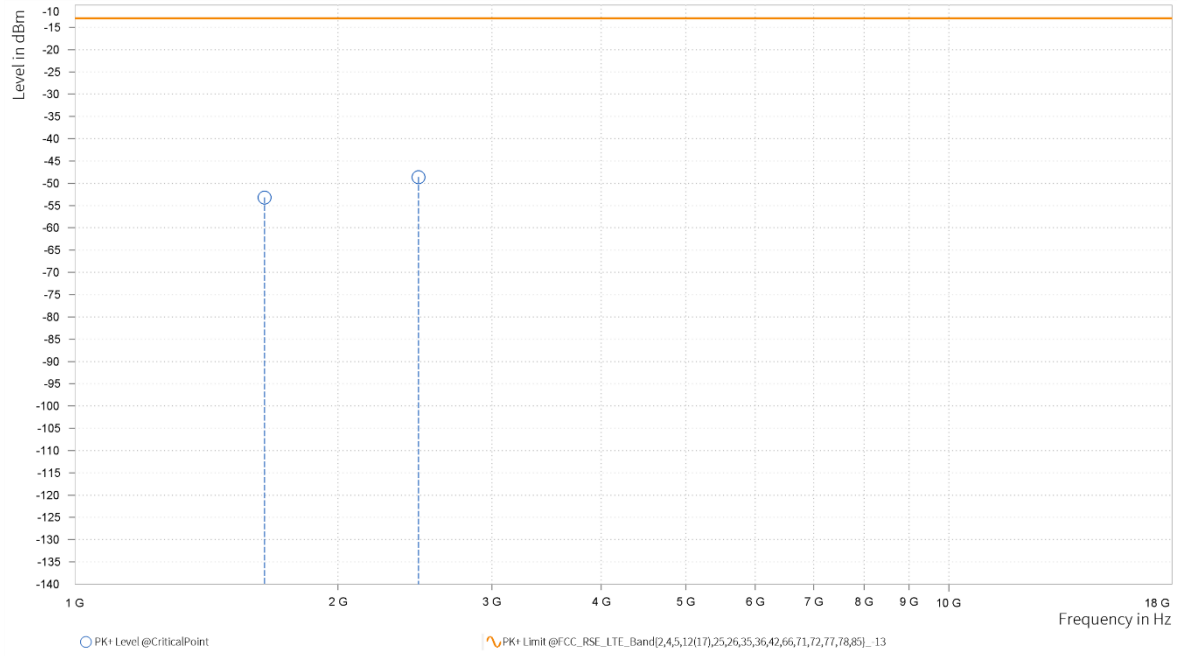
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,648.500	-53.28	-13.00	40.28	14.80	H	277.3	1.00
3	2,472.000	-49.05	-13.00	36.05	20.27	H	1	1.00



CHANNEL BANDWIDTH	5MHz/QPSK	**MODE**	TX channel 26815
FREQUENCY RANGE	Above 1000MHz	**ENVIRONMENTAL CONDITIONS**	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	**TESTED BY**	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

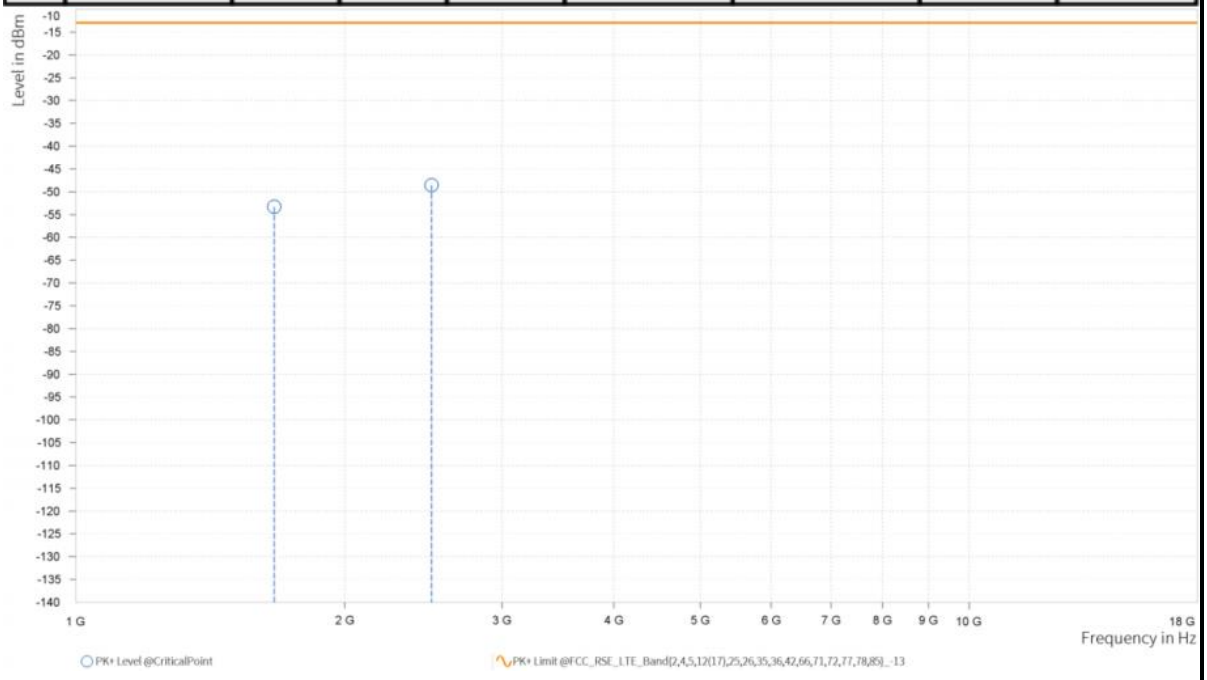
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,648.000	-53.20	-13.00	40.20	14.39	V	331	1.00
3	2,472.000	-48.62	-13.00	35.62	20.52	V	285.8	1.00



CHANNEL BANDWIDTH	5MHz/QPSK	**MODE**	TX channel 26915
FREQUENCY RANGE	Above 1000MHz	**ENVIRONMENTAL CONDITIONS**	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	**TESTED BY**	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

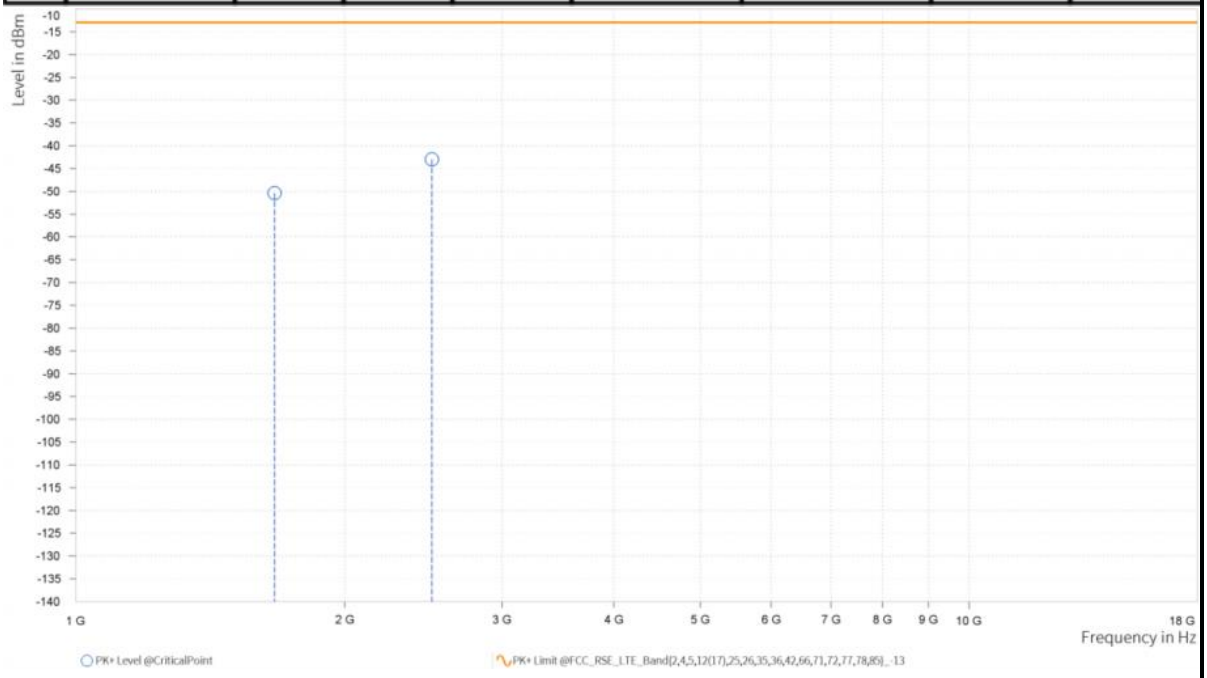
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,668.000	-53.32	-13.00	40.32	15.39	H	326.8	1.00
3	2,502.000	-48.55	-13.00	35.55	20.65	H	180.2	2.00



CHANNEL BANDWIDTH	5MHz/QPSK	**MODE**	TX channel 26915
FREQUENCY RANGE	Above 1000MHz	**ENVIRONMENTAL CONDITIONS**	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	**TESTED BY**	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

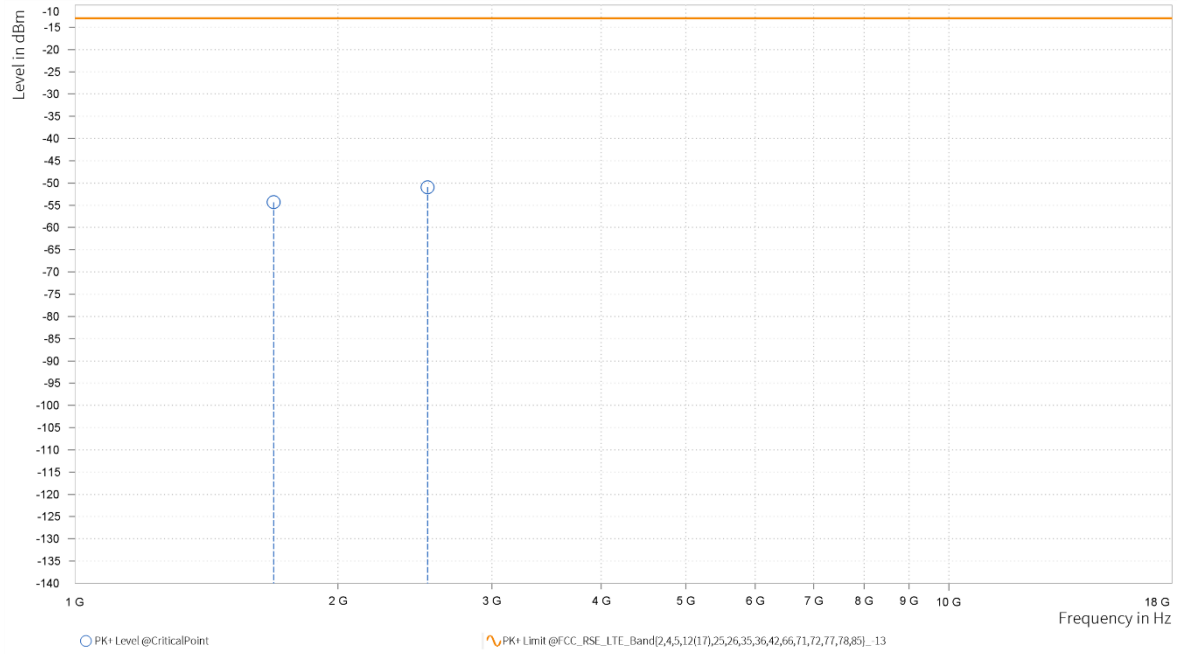
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,669.000	-50.39	-13.00	37.39	14.30	V	34.6	1.00
3	2,503.000	-42.98	-13.00	29.98	21.09	V	359	1.00



CHANNEL BANDWIDTH	5MHz/QPSK	**MODE**	TX channel 27015
FREQUENCY RANGE	Above 1000MHz	**ENVIRONMENTAL CONDITIONS**	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	**TESTED BY**	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

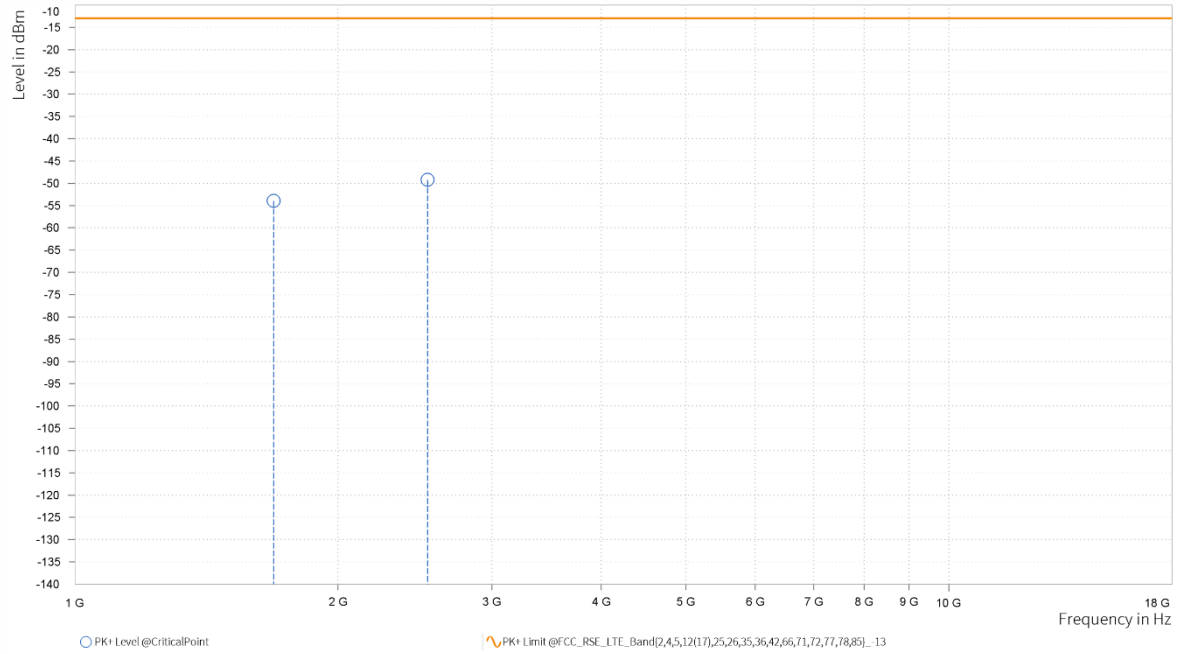
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,688.000	-54.31	-13.00	41.31	15.93	H	325.4	2.00
3	2,532.000	-50.95	-13.00	37.95	20.29	H	1	1.00



CHANNEL BANDWIDTH	5MHz/QPSK	**MODE**	TX channel 27015
FREQUENCY RANGE	Above 1000MHz	**ENVIRONMENTAL CONDITIONS**	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	**TESTED BY**	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

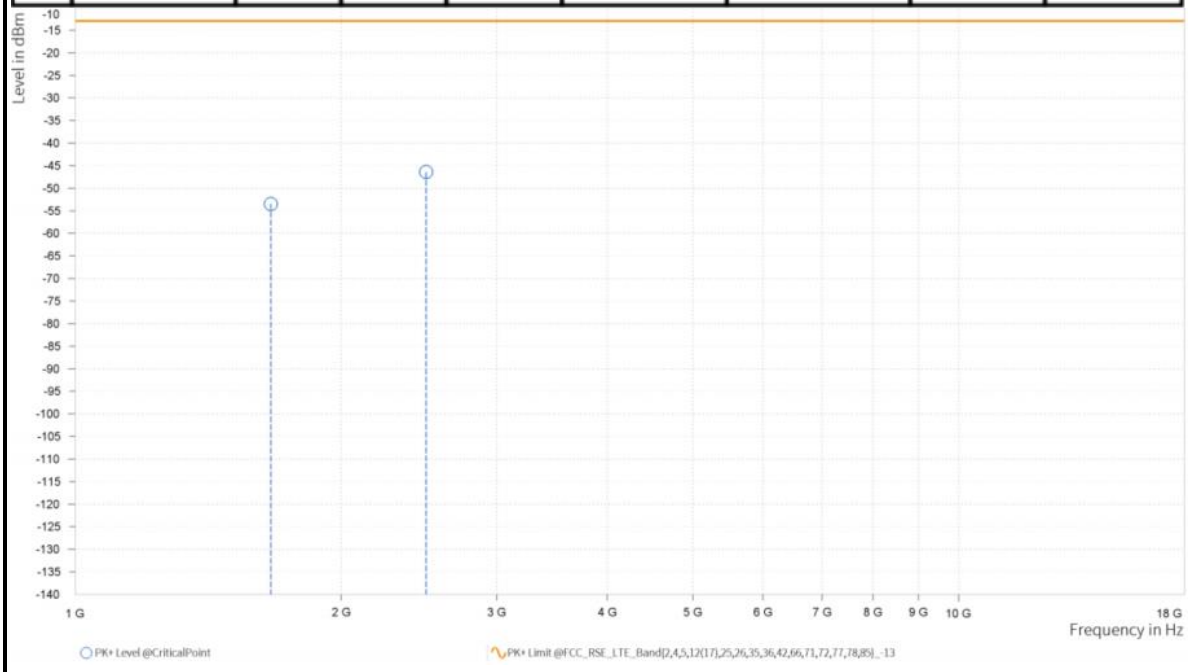
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,688.000	-53.96	-13.00	40.96	14.91	V	240.5	1.00
3	2,532.000	-49.23	-13.00	36.23	21.04	V	359	1.00



CHANNEL BANDWIDTH	10MHz/QPSK	**MODE**	TX channel 26915
FREQUENCY RANGE	Above 1000MHz	**ENVIRONMENTAL CONDITIONS**	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	**TESTED BY**	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

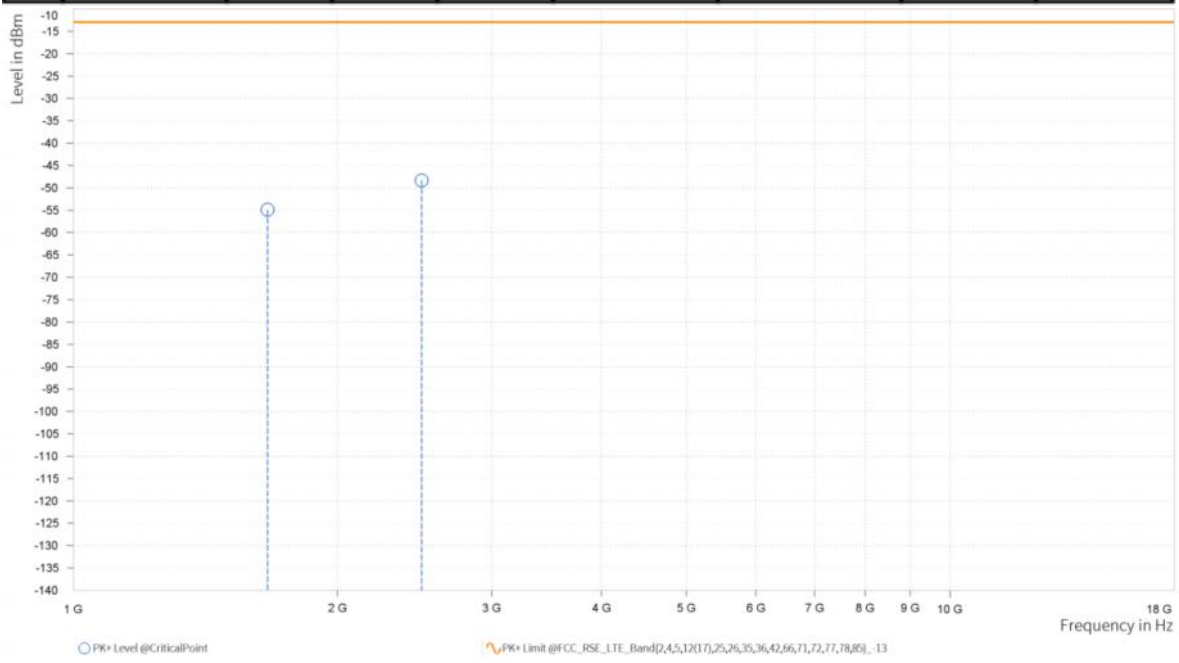
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,664.000	-53.47	-13.00	40.47	15.32	H	1.5	2.00
3	2,496.000	-46.40	-13.00	33.40	20.76	H	253.9	1.00



CHANNEL BANDWIDTH	10MHz/QPSK	**MODE**	TX channel 26915
FREQUENCY RANGE	Above 1000MHz	**ENVIRONMENTAL CONDITIONS**	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	**TESTED BY**	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

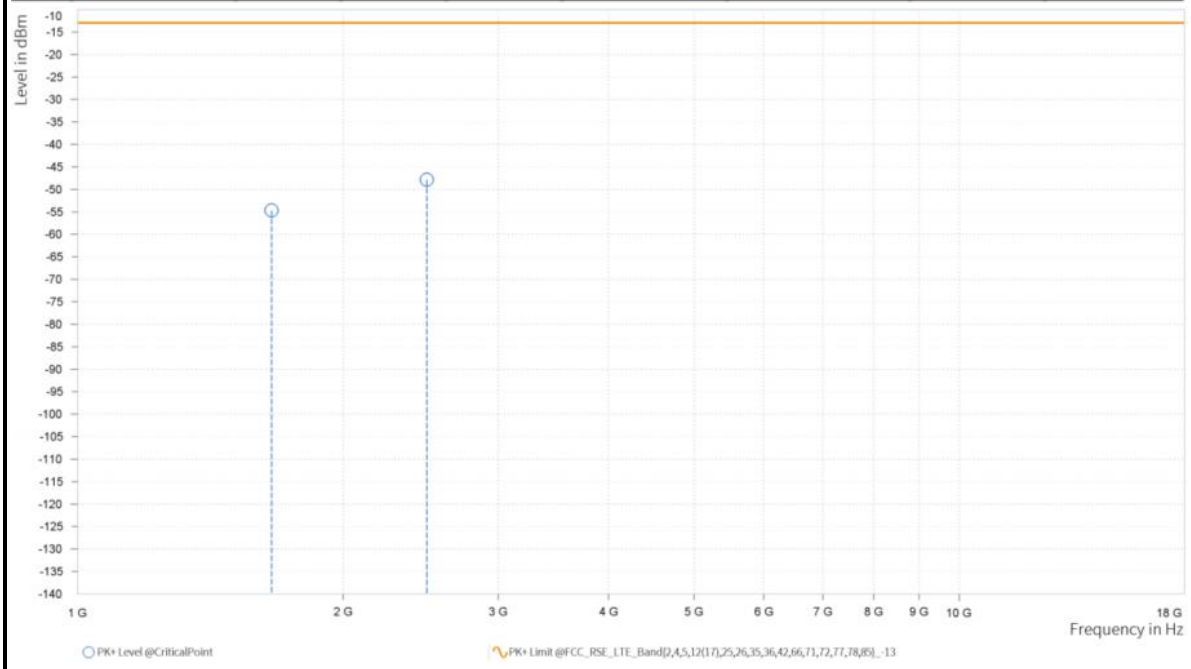
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,664.000	-54.91	-13.00	41.91	14.20	V	171.2	1.00
3	2,496.000	-48.31	-13.00	35.31	21.03	V	26	2.00



CHANNEL BANDWIDTH	15MHz/QPSK	MODE	TX channel 26915
FREQUENCY RANGE	Above 1000MHz	ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	TESTED BY	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M

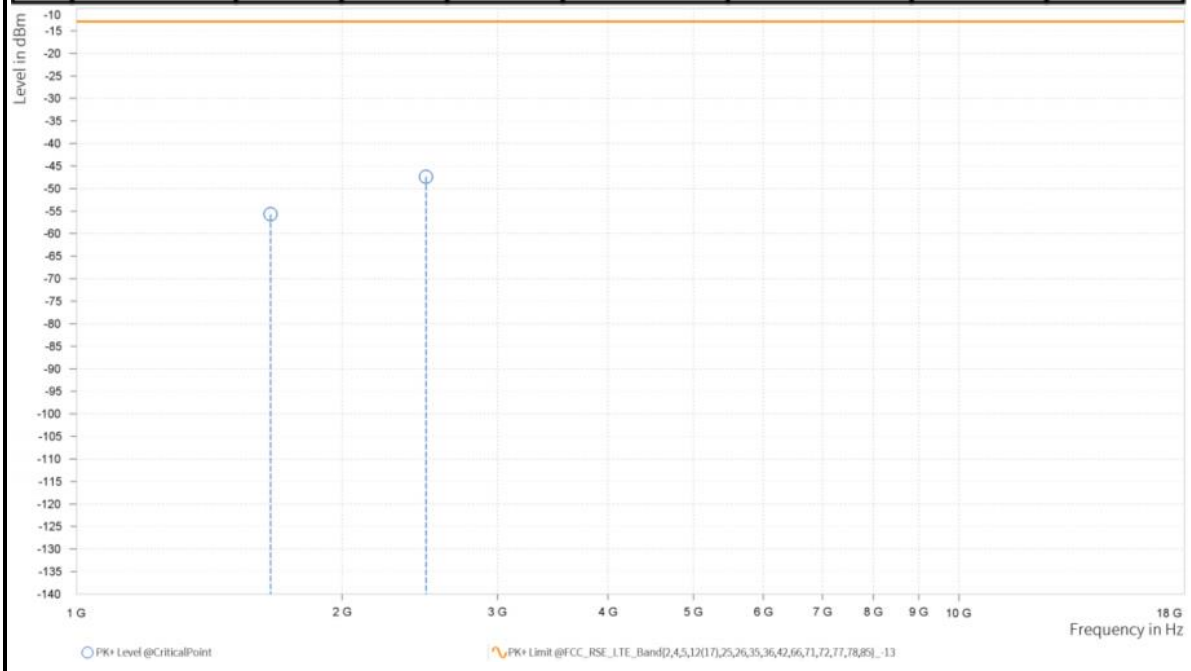
Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,659.500	-54.68	-13.00	41.68	15.24	H	326	2.00
3	2,489.000	-47.85	-13.00	34.85	20.68	H	1	2.00



CHANNEL BANDWIDTH	15MHz/QPSK	**MODE**	TX channel 26915
FREQUENCY RANGE	Above 1000MHz	**ENVIRONMENTAL CONDITIONS**	23deg. C, 70%RH
INPUT POWER	120Vac 60HZ	**TESTED BY**	Hanwen Xu

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M

Rg	Frequency [MHz]	PK+ Level [dBm]	PK+ Limit [dBm]	PK+ Margin [dB]	Correction [dB]	Polarization	Azimuth [deg]	Antenna Height [m]
2	1,659.500	-55.70	-13.00	42.70	14.12	V	225	1.00
3	2,489.000	-47.38	-13.00	34.38	20.91	V	337.5	1.00

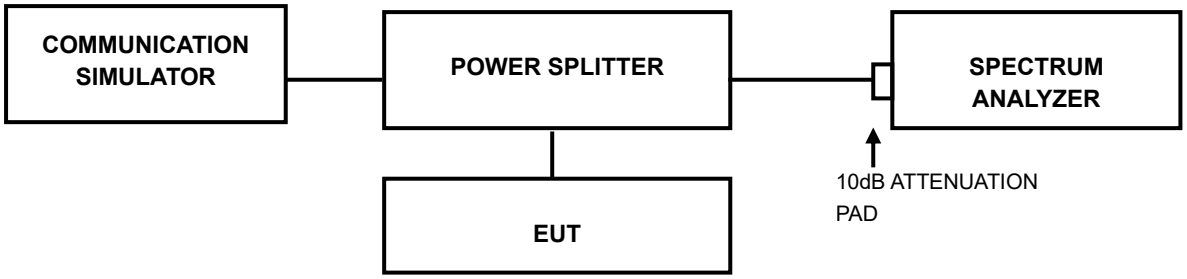


3.7 PEAK TO AVERAGE RATIO

3.7.1 LIMITS OF PEAK TO AVERAGE RATIO MEASUREMENT

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

3.7.2 TEST SETUP



3.7.3 TEST PROCEDURES

1. Set resolution/measurement bandwidth ≥ signal's occupied bandwidth;
2. Set the number of counts to a value that stabilizes the measured CCDF curve;
3. Record the maximum PAPR level associated with a probability of 0.1%.

3.7.4 TEST RESULTS

Please Refer to Appendix of this test report.

4 PHOTOGRAPHS OF THE TEST CONFIGURATION

Please refer to the attached file (Test Setup Photo).

5 INFORMATION ON THE TESTING LABORATORIES

We, Huarui 7layers High Technology (Suzhou) Co., Ltd. ,were founded in 2020 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

Huarui 7Layers High Technology (Suzhou) Co., Ltd.
Lab Address:
Tower N, Innovation Center, 88 Zuyi Road, High-tech District, Suzhou City, Anhui Province
Accredited Test Lab Cert 6613.01

If you have any comments, please feel free to contact us at the following:

Suzhou EMC/RF Lab:
Tel: +86 (0557) 368 1008

6 MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No any modifications are made to the EUT by the lab during the test.

7 APPENDIX:

GSM850:

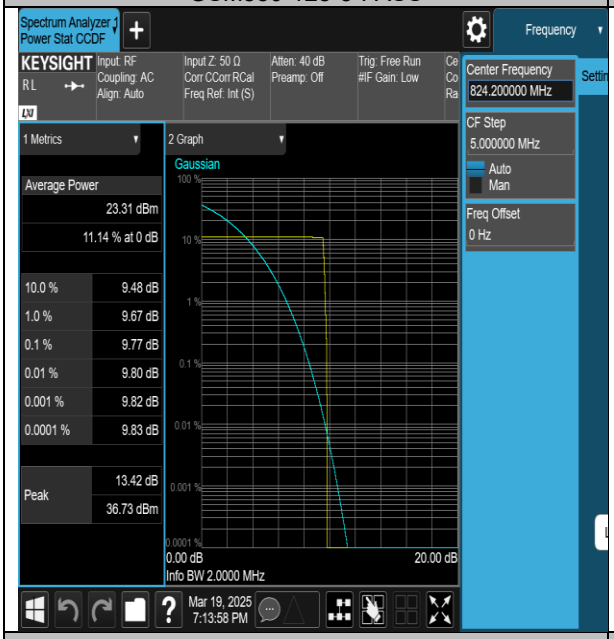
PEAK-TO-AVERAGE RATIO(CCDF)

Test Result

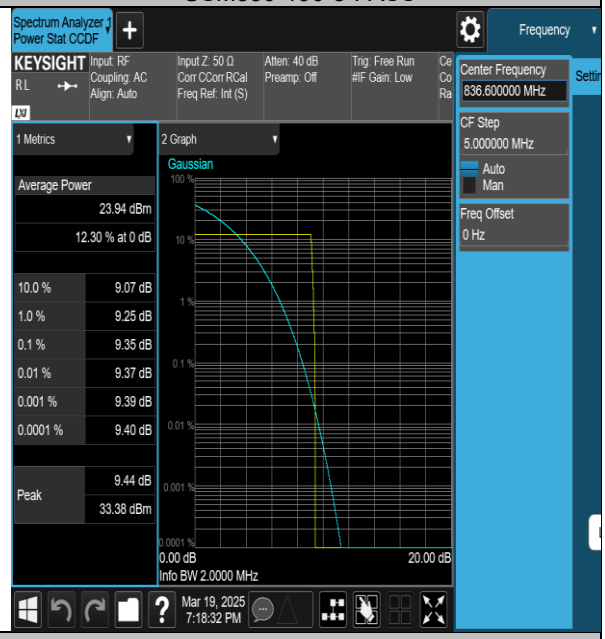
Band	Channel	Result(dB)	Limit(dB)	Verdict
GSM850	128	9.77	13	PASS
GSM850	190	9.35	13	PASS
GSM850	251	9.66	13	PASS

Test Graphs

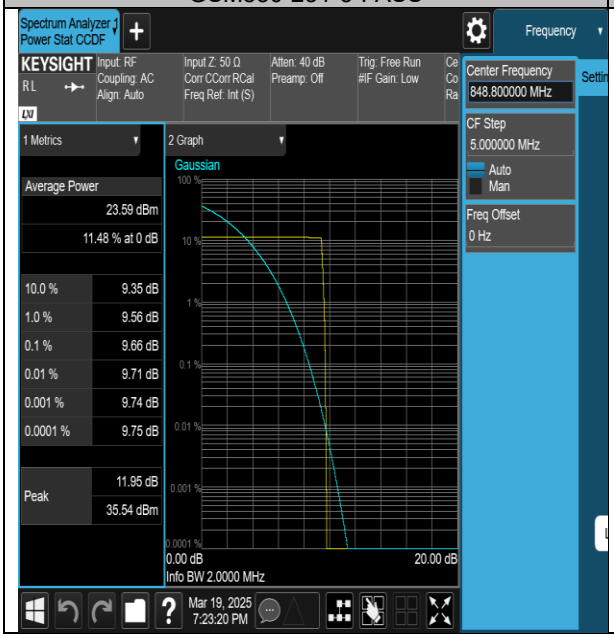
GSM850-128-5-PASS



GSM850-190-5-PASS



GSM850-251-5-PASS



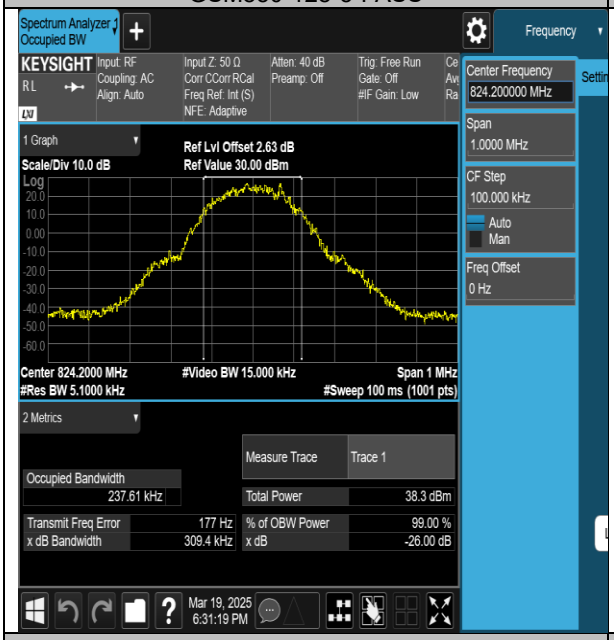
APPENDIX : 26DB BANDWIDTH AND OCCUPIED BANDWIDTH

Test Result

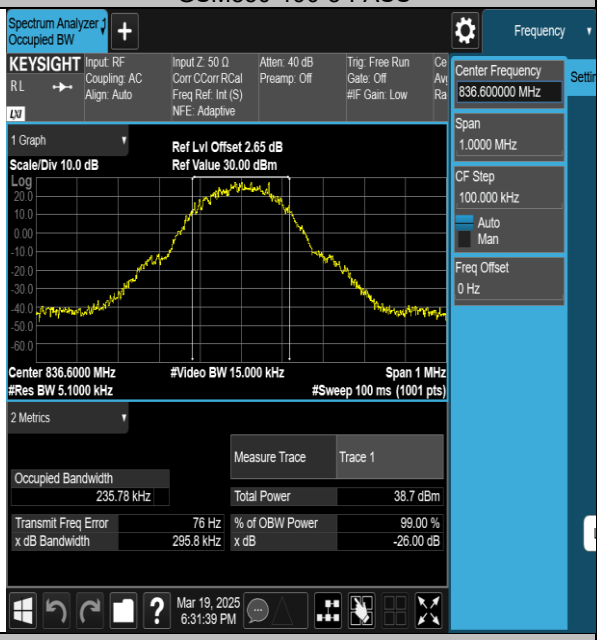
Band	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit (MHz)	Verdict
GSM850	128	0.23761	0.3094	---	PASS
GSM850	190	0.23578	0.2958	---	PASS
GSM850	251	0.23609	0.3041	---	PASS

Test Graphs

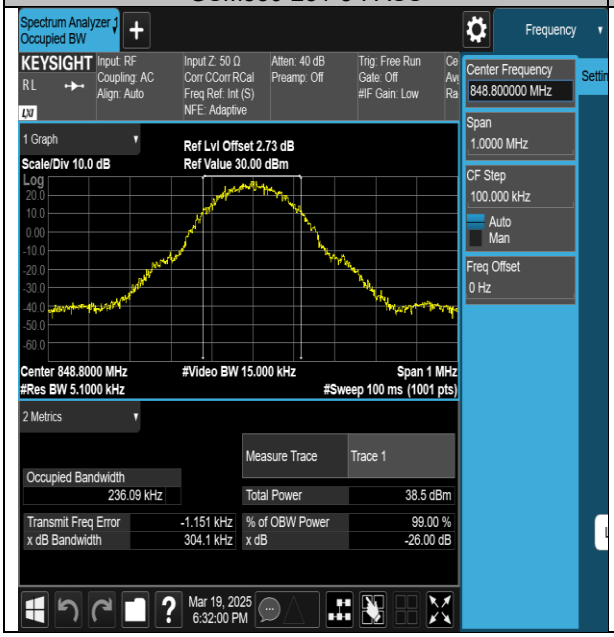
GSM850-128-5-PASS



GSM850-190-5-PASS



GSM850-251-5-PASS

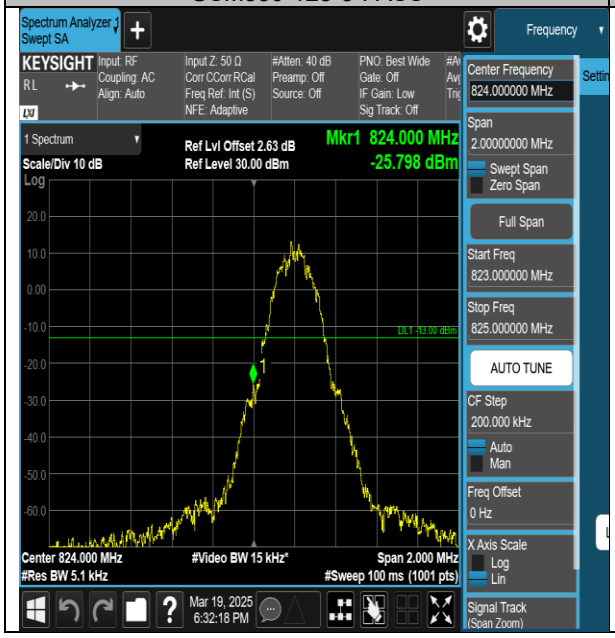


APPENDIX : BAND EDGE

Test Result

Band	Channel	Freq (MHz)	Result (dBm)	Limit(dBm)	Verdict
GSM850	128	824.00	-25.80	-13	PASS
GSM850	251	849.02	-26.94	-13	PASS

Test Graphs

GSM850-128-5-PASS	GSM850-251-5-PASS
	

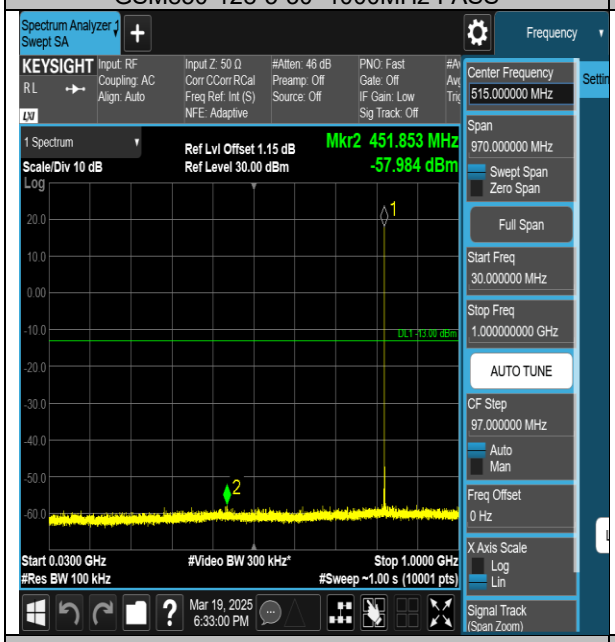
APPENDIX : CONDUCTED SPURIOUS EMISSION

Test Result

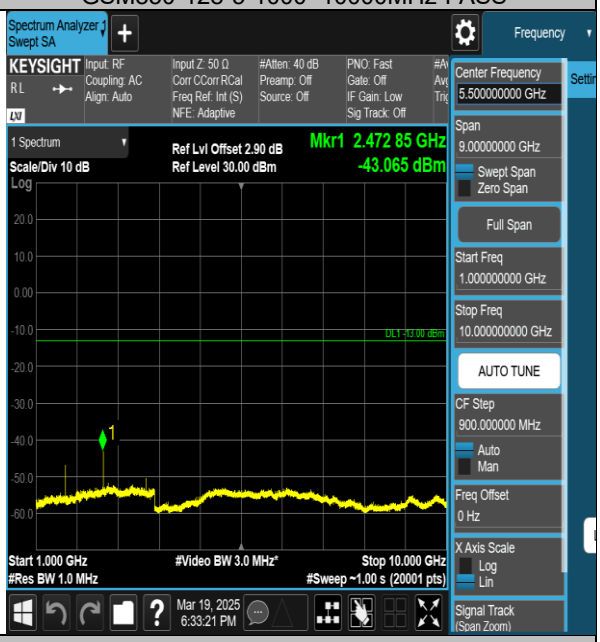
Band	Channel	Frequency Range(MHz)	Max.Freq. (MHz)	Result (dBm)	Limit (dBm)	Verdict
GSM850	128	30~1000MHz	451.85	-57.98	-13	PASS
GSM850	128	1000~10000MHz	2472.85	-43.07	-13	PASS
GSM850	190	30~1000MHz	729.66	-57.65	-13	PASS
GSM850	190	1000~10000MHz	2509.75	-41.24	-13	PASS
GSM850	251	30~1000MHz	966.15	-57.86	-13	PASS
GSM850	251	1000~10000MHz	2547.1	-48.98	-13	PASS

Test Graphs

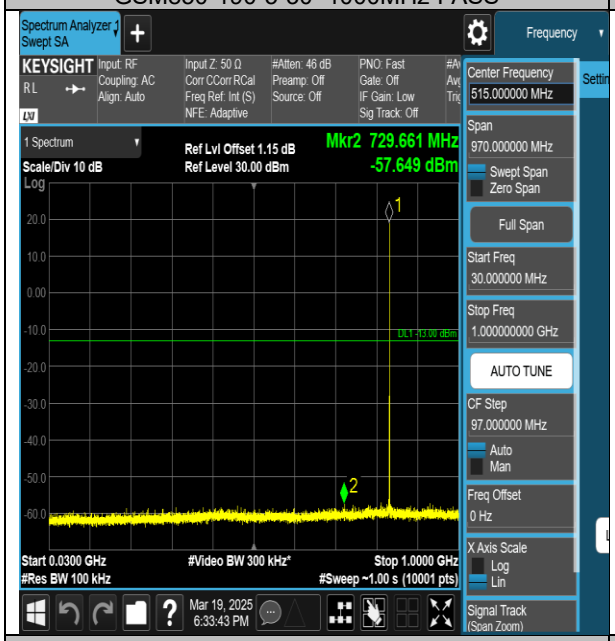
GSM850-128-5-30~1000MHz-PASS



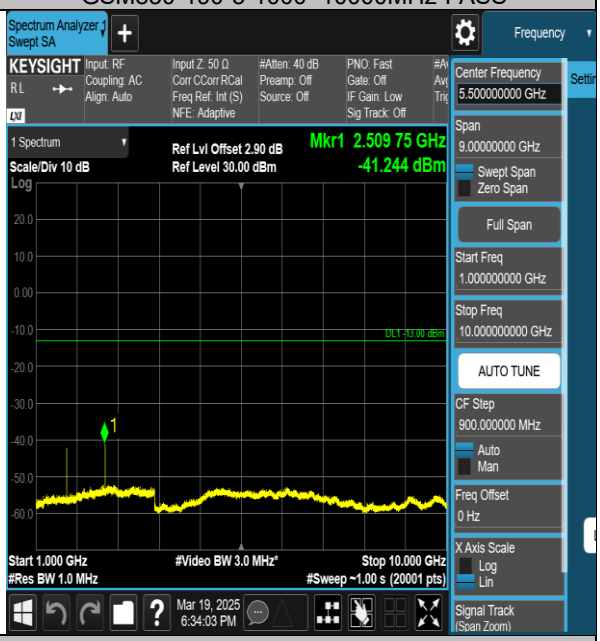
GSM850-128-5-1000~10000MHz-PASS



GSM850-190-5-30~1000MHz-PASS

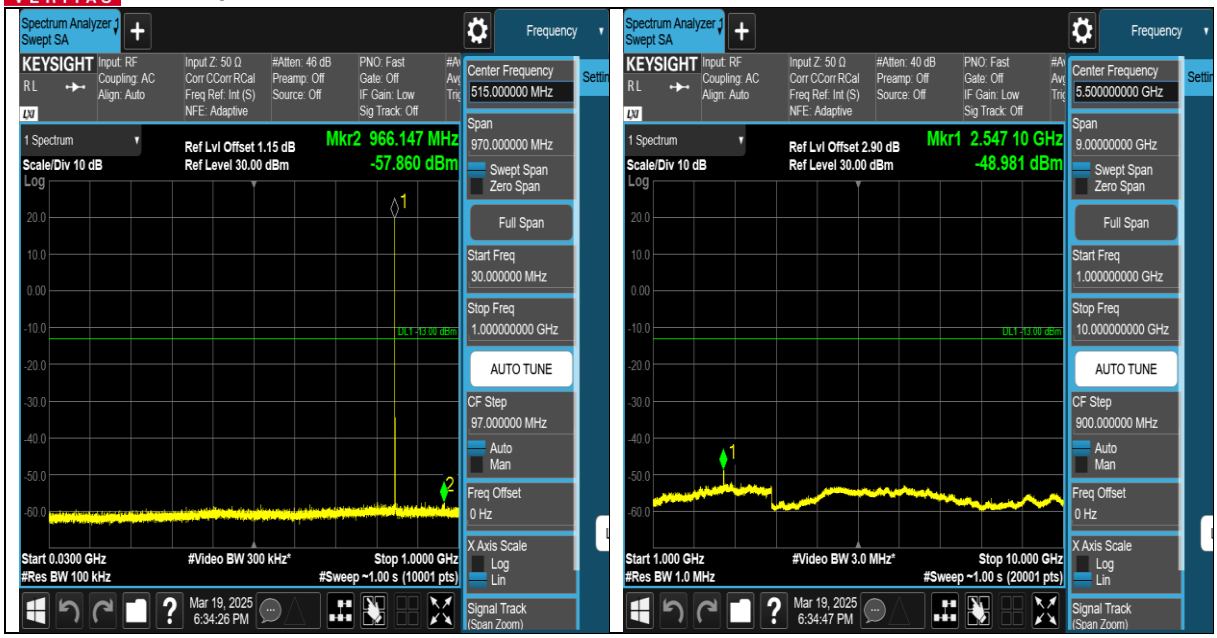


GSM850-190-5-1000~10000MHz-PASS



GSM850-251-5-30~1000MHz-PASS

GSM850-251-5-1000~10000MHz-PASS


Spectrum Analyzer 1
Swept SA
KEYSIGHT
Input: RF
Coupling: AC
Align: Auto
Input Z: 50 Ω
Corr CCorr RCal
Freq Ref: Int (S)
NFE: Adaptive
#Atten: 46 dB
Preamp: Off
Source: Off
PNO: Fast
Gate: Off
IF Gain: Low
Sig Track: Off
Frequency
Center Frequency
515.000000 MHz
Span
970.000000 MHz
Swept Span
Zero Span
Full Span
Start Freq
30.000000 MHz
Stop Freq
1.000000000 GHz
AUTO TUNE
CF Step
97.000000 MHz
Auto
Man
Freq Offset
0 Hz
X Axis Scale
Log
Lin
Signal Track
(Span Zoom)
1 Spectrum
Ref Lvl Offset 1.15 dB
Ref Level 30.00 dBm
Mkr2 966.147 MHz
-57.860 dBm
Scale/Div 10 dB
Log
Start 0.0300 GHz
#Res BW 100 kHz
#Video BW 300 kHz*
Stop 1.0000 GHz
#Sweep ~1.00 s (10001 pts)
Mar 19, 2025
6:34:26 PM
Spectrum Analyzer 1
Swept SA
KEYSIGHT
Input: RF
Coupling: AC
Align: Auto
Input Z: 50 Ω
Corr CCorr RCal
Freq Ref: Int (S)
NFE: Adaptive
#Atten: 40 dB
Preamp: Off
Source: Off
PNO: Fast
Gate: Off
IF Gain: Low
Sig Track: Off
Frequency
Center Frequency
5.500000000 GHz
Span
9.00000000 GHz
Swept Span
Zero Span
Full Span
Start Freq
1.000000000 GHz
Stop Freq
10.000000000 GHz
AUTO TUNE
CF Step
900.000000 MHz
Auto
Man
Freq Offset
0 Hz
X Axis Scale
Log
Lin
Signal Track
(Span Zoom)
1 Spectrum
Ref Lvl Offset 2.90 dB
Ref Level 30.00 dBm
Mkr1 2.547 10 GHz
-48.981 dBm
Scale/Div 10 dB
Log
Start 1.000 GHz
#Res BW 1.0 MHz
#Video BW 3.0 MHz*
Stop 10.000 GHz
#Sweep ~1.00 s (20001 pts)
Mar 19, 2025
6:34:47 PM

APPENDIX : FREQUENCY STABILITY

Test Result

Voltage							
Band	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
GSM850	128	VL	NT	7.86	0.009537	±2.5	PASS
GSM850	128	VN	NT	9.67	0.011733	±2.5	PASS
GSM850	128	VH	NT	8.25	0.010010	±2.5	PASS
GSM850	190	VL	NT	10.17	0.012156	±2.5	PASS
GSM850	190	VN	NT	9.66	0.011547	±2.5	PASS
GSM850	190	VH	NT	10.07	0.012037	±2.5	PASS
GSM850	251	VL	NT	7.86	0.009260	±2.5	PASS
GSM850	251	VN	NT	9.67	0.011393	±2.5	PASS
GSM850	251	VH	NT	8.25	0.009720	±2.5	PASS

Temperature							
Band	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
GSM850	128	NV	-30	9.56	0.011599	±2.5	PASS
GSM850	128	NV	-20	8.58	0.010410	±2.5	PASS
GSM850	128	NV	-10	8.58	0.010410	±2.5	PASS
GSM850	128	NV	0	9.07	0.011005	±2.5	PASS
GSM850	128	NV	10	10.73	0.013019	±2.5	PASS
GSM850	128	NV	20	9.53	0.011563	±2.5	PASS
GSM850	128	NV	30	9.81	0.011902	±2.5	PASS
GSM850	128	NV	40	8.62	0.010459	±2.5	PASS
GSM850	128	NV	50	9.22	0.011187	±2.5	PASS
GSM850	190	NV	-30	9.04	0.010806	±2.5	PASS
GSM850	190	NV	-20	11.51	0.013758	±2.5	PASS
GSM850	190	NV	-10	11.45	0.013686	±2.5	PASS
GSM850	190	NV	0	10.38	0.012407	±2.5	PASS
GSM850	190	NV	10	8.91	0.010650	±2.5	PASS
GSM850	190	NV	20	8.87	0.010602	±2.5	PASS
GSM850	190	NV	30	7.74	0.009252	±2.5	PASS
GSM850	190	NV	40	10.67	0.012754	±2.5	PASS
GSM850	190	NV	50	9.81	0.011726	±2.5	PASS
GSM850	251	NV	-30	8.22	0.009684	±2.5	PASS
GSM850	251	NV	-20	7.72	0.009095	±2.5	PASS
GSM850	251	NV	-10	8.96	0.010556	±2.5	PASS
GSM850	251	NV	0	7.07	0.008329	±2.5	PASS
GSM850	251	NV	10	6.91	0.008141	±2.5	PASS
GSM850	251	NV	20	8.96	0.010556	±2.5	PASS
GSM850	251	NV	30	7.94	0.009354	±2.5	PASS
GSM850	251	NV	40	7.83	0.009225	±2.5	PASS
GSM850	251	NV	50	7.18	0.008459	±2.5	PASS

LTE B26(INCLUDING B5):

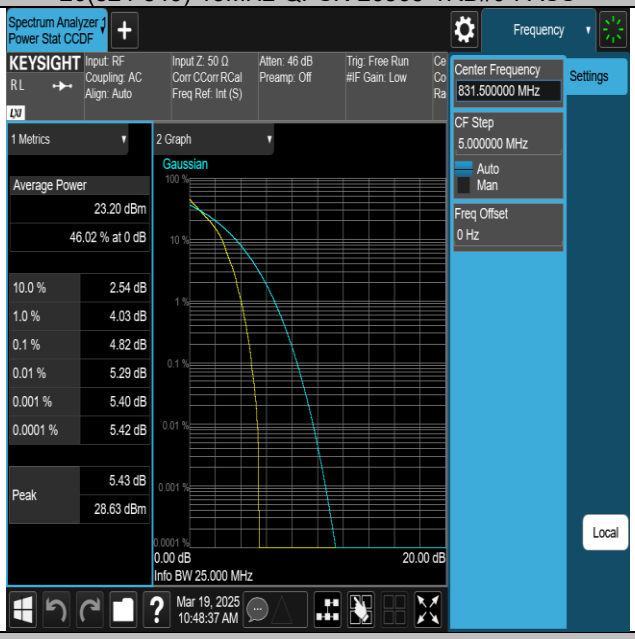
APPENDIX : PEAK-TO-AVERAGE RATIO(CCDF)

Test Result

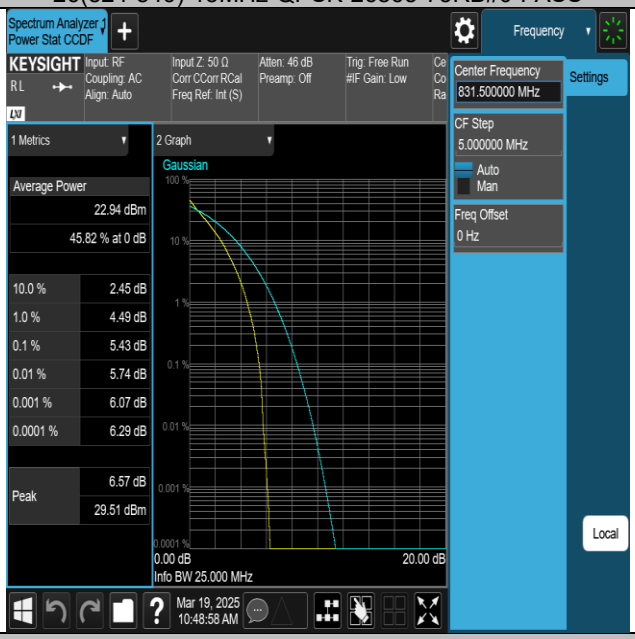
Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
26(824-849)	15MHz	QPSK	26865	1RB#0	4.82	13	PASS
26(824-849)	15MHz	QPSK	26865	75RB#0	5.43	13	PASS
26(824-849)	15MHz	QPSK	26915	1RB#0	4.49	13	PASS
26(824-849)	15MHz	QPSK	26915	75RB#0	5.53	13	PASS
26(824-849)	15MHz	QPSK	26965	1RB#0	4.80	13	PASS
26(824-849)	15MHz	QPSK	26965	75RB#0	5.67	13	PASS
26(824-849)	15MHz	16QAM	26865	1RB#0	5.89	13	PASS
26(824-849)	15MHz	16QAM	26865	27RB#0	5.76	13	PASS
26(824-849)	15MHz	16QAM	26915	1RB#0	5.35	13	PASS
26(824-849)	15MHz	16QAM	26915	27RB#0	5.86	13	PASS
26(824-849)	15MHz	16QAM	26965	1RB#0	5.77	13	PASS
26(824-849)	15MHz	16QAM	26965	27RB#0	6.09	13	PASS

Test Graphs

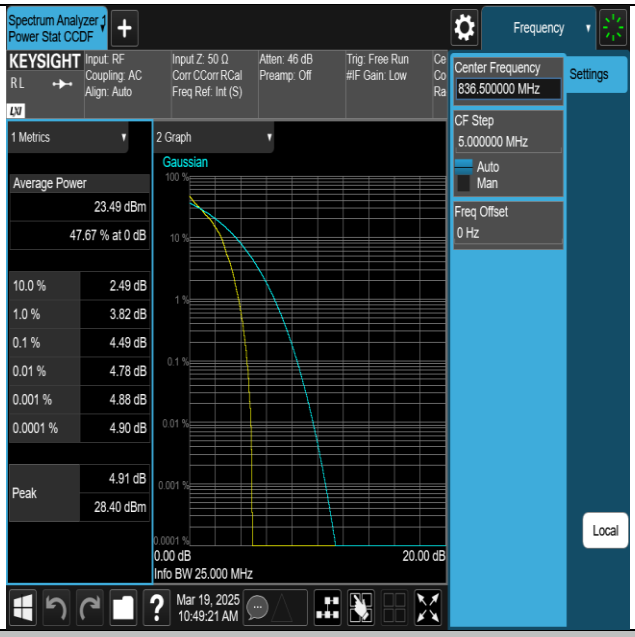
26(824-849)-15MHz-QPSK-26865-1RB#0-PASS



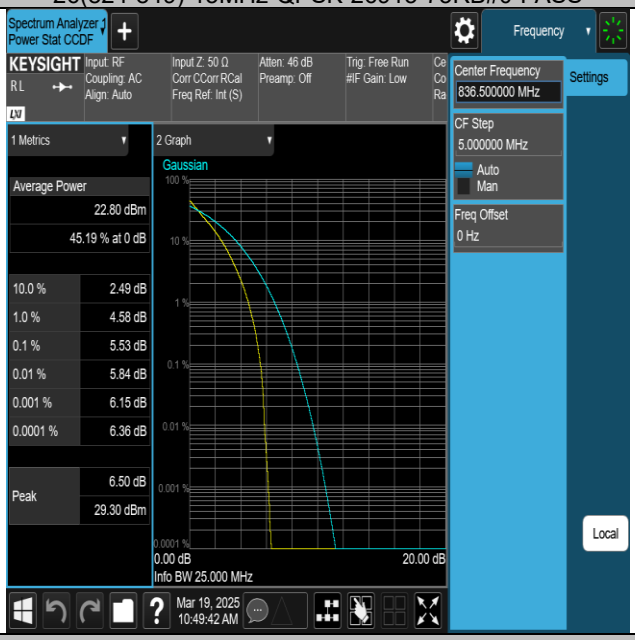
26(824-849)-15MHz-QPSK-26865-75RB#0-PASS



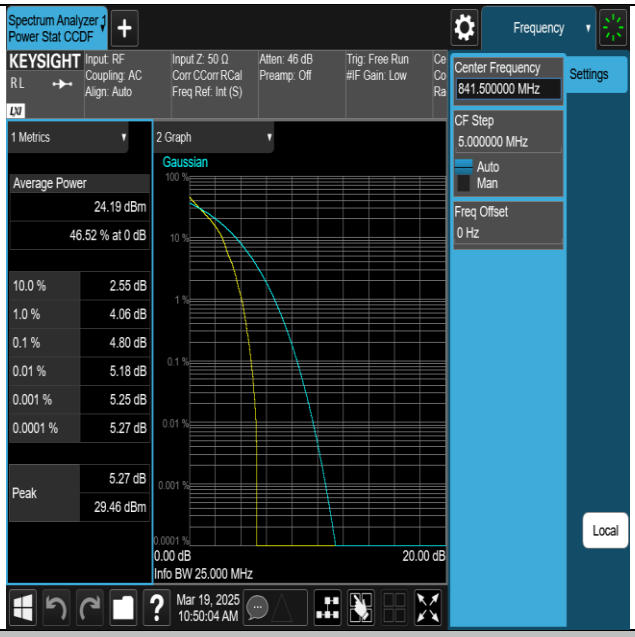
26(824-849)-15MHz-QPSK-26915-1RB#0-PASS



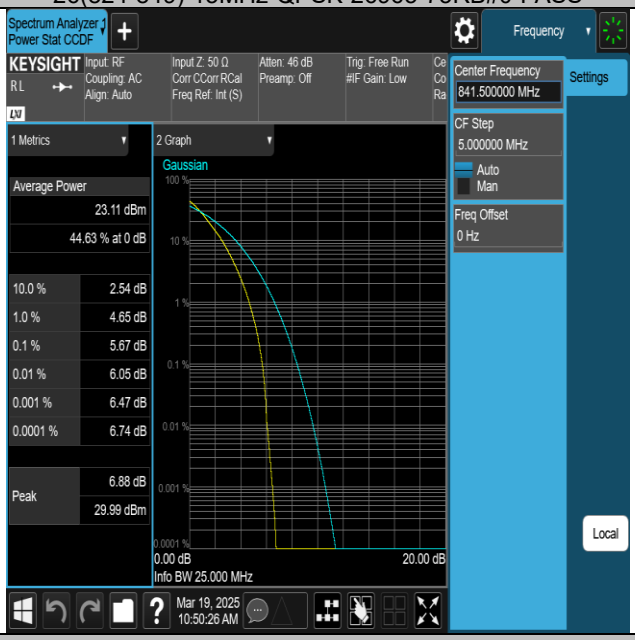
26(824-849)-15MHz-QPSK-26915-75RB#0-PASS



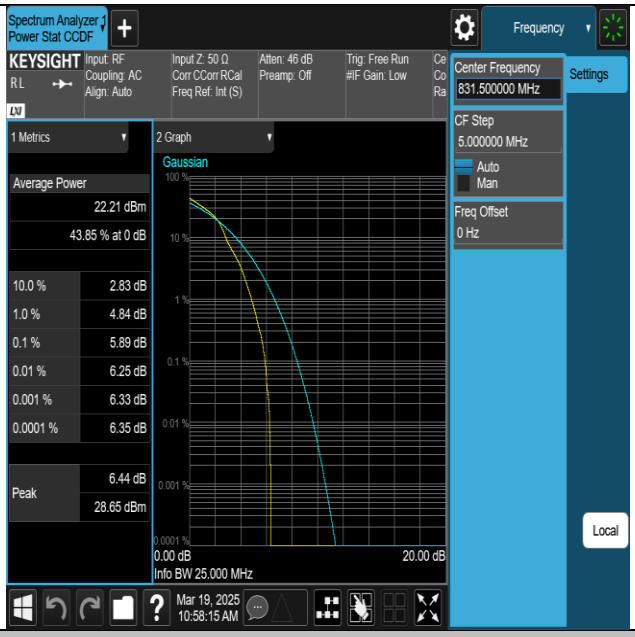
26(824-849)-15MHz-QPSK-26965-1RB#0-PASS



26(824-849)-15MHz-QPSK-26965-75RB#0-PASS

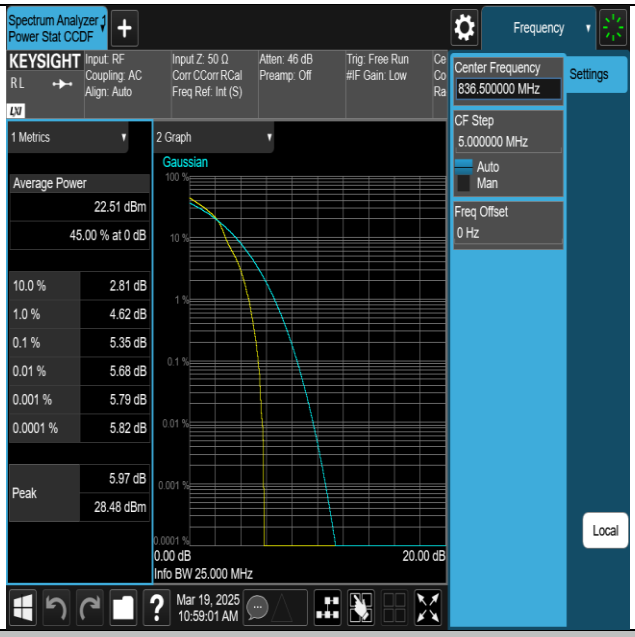


26(824-849)-15MHz-16QAM-26865-1RB#0-PASS



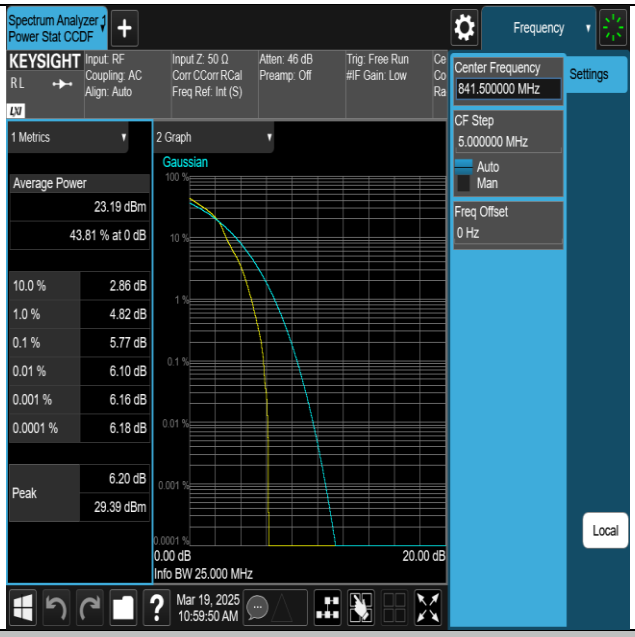
26(824-849)-15MHz-16QAM-26865-27RB#0-PASS

26(824-849)-15MHz-16QAM-26915-1RB#0-PASS

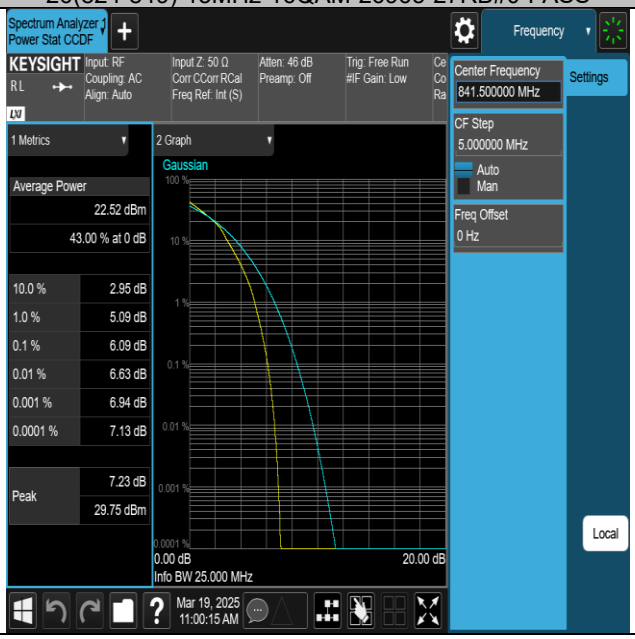


26(824-849)-15MHz-16QAM-26915-27RB#0-PASS

26(824-849)-15MHz-16QAM-26965-1RB#0-PASS



26(824-849)-15MHz-16QAM-26965-27RB#0-PASS



APPENDIX : 26DB BANDWIDTH AND OCCUPIED BANDWIDTH

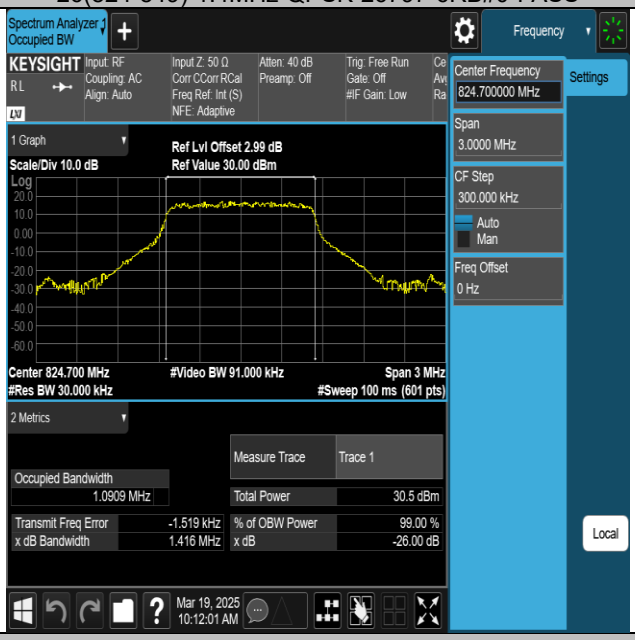
Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
26(824-849)	1.4MHz	QPSK	26797	6RB#0	1.0909	1.416	PASS
26(824-849)	1.4MHz	QPSK	26915	6RB#0	1.0904	1.431	PASS
26(824-849)	1.4MHz	QPSK	27033	6RB#0	1.0959	1.459	PASS
26(824-849)	1.4MHz	16QAM	26797	6RB#0	1.1062	1.469	PASS
26(824-849)	1.4MHz	16QAM	26915	6RB#0	1.1049	1.469	PASS
26(824-849)	1.4MHz	16QAM	27033	6RB#0	1.1043	1.458	PASS
26(824-849)	3MHz	QPSK	26805	15RB#0	2.6867	3.141	PASS
26(824-849)	3MHz	QPSK	26915	15RB#0	2.6863	3.131	PASS
26(824-849)	3MHz	QPSK	27025	15RB#0	2.6955	3.155	PASS
26(824-849)	3MHz	16QAM	26805	15RB#0	2.6788	3.109	PASS
26(824-849)	3MHz	16QAM	26915	15RB#0	2.6908	3.213	PASS
26(824-849)	3MHz	16QAM	27025	15RB#0	2.6877	3.217	PASS
26(824-849)	5MHz	QPSK	26815	25RB#0	4.4777	5.076	PASS
26(824-849)	5MHz	QPSK	26915	25RB#0	4.4711	5.068	PASS
26(824-849)	5MHz	QPSK	27015	25RB#0	4.4815	5.103	PASS
26(824-849)	5MHz	16QAM	26815	25RB#0	4.4811	5.135	PASS
26(824-849)	5MHz	16QAM	26915	25RB#0	4.4829	5.101	PASS
26(824-849)	5MHz	16QAM	27015	25RB#0	4.4797	5.118	PASS
26(824-849)	10MHz	QPSK	26840	50RB#0	8.9393	9.688	PASS
26(824-849)	10MHz	QPSK	26915	50RB#0	8.9371	9.677	PASS
26(824-849)	10MHz	QPSK	26990	50RB#0	8.9173	9.677	PASS
26(824-849)	10MHz	16QAM	26840	27RB#0	5.2150	7.974	PASS

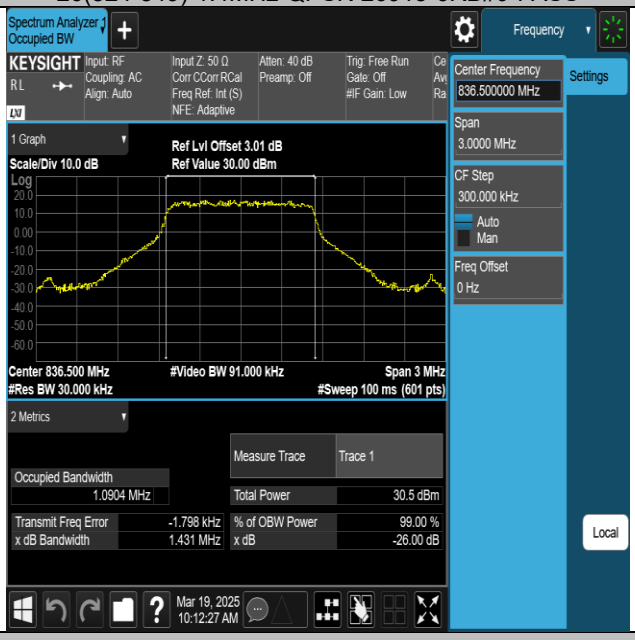
26(824-849)	10MHz	16QAM	26915	27RB#0	5.1569	7.496	PASS
26(824-849)	10MHz	16QAM	26990	27RB#0	5.1337	7.194	PASS
26(824-849)	15MHz	QPSK	26865	75RB#0	13.536	16.42	PASS
26(824-849)	15MHz	QPSK	26915	75RB#0	13.519	16.50	PASS
26(824-849)	15MHz	QPSK	26965	75RB#0	13.520	16.30	PASS
26(824-849)	15MHz	16QAM	26865	27RB#0	5.3656	8.293	PASS
26(824-849)	15MHz	16QAM	26915	27RB#0	5.2888	7.970	PASS
26(824-849)	15MHz	16QAM	26965	27RB#0	5.2338	7.604	PASS

Test Graphs

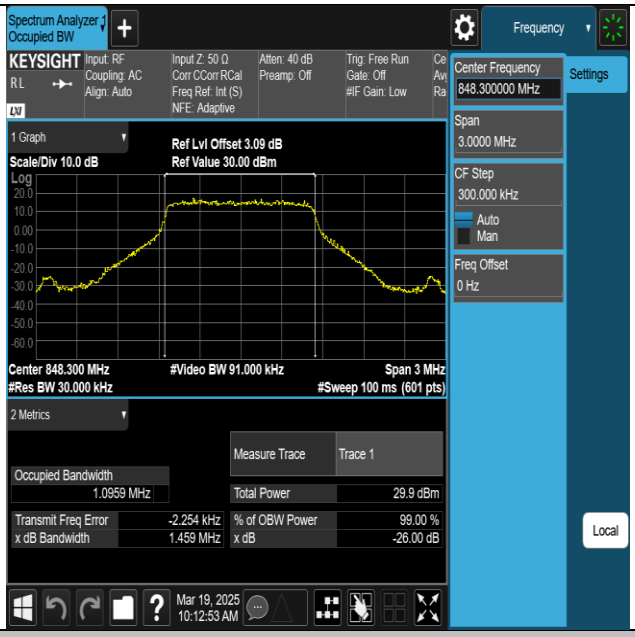
26(824-849)-1.4MHz-QPSK-26797-6RB#0-PASS



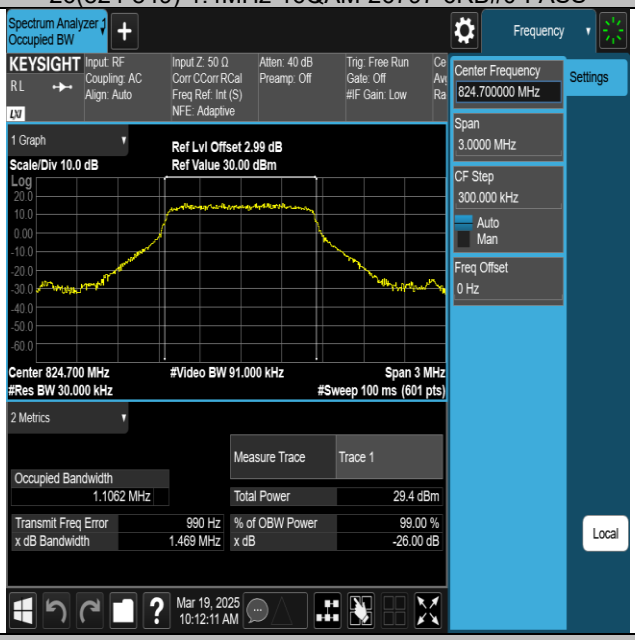
26(824-849)-1.4MHz-QPSK-26915-6RB#0-PASS



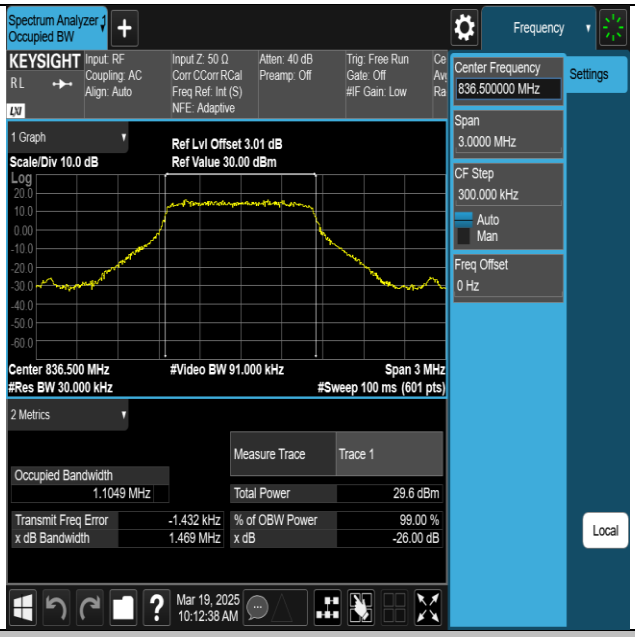
26(824-849)-1.4MHz-QPSK-27033-6RB#0-PASS



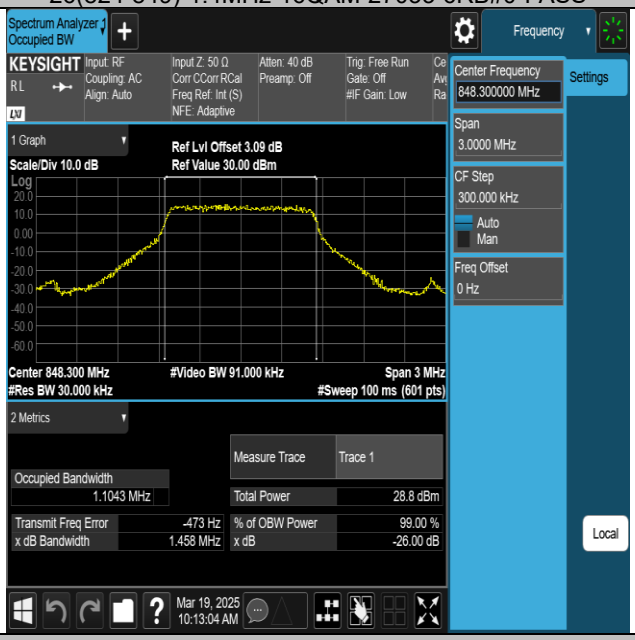
26(824-849)-1.4MHz-16QAM-26797-6RB#0-PASS



26(824-849)-1.4MHz-16QAM-26915-6RB#0-PASS

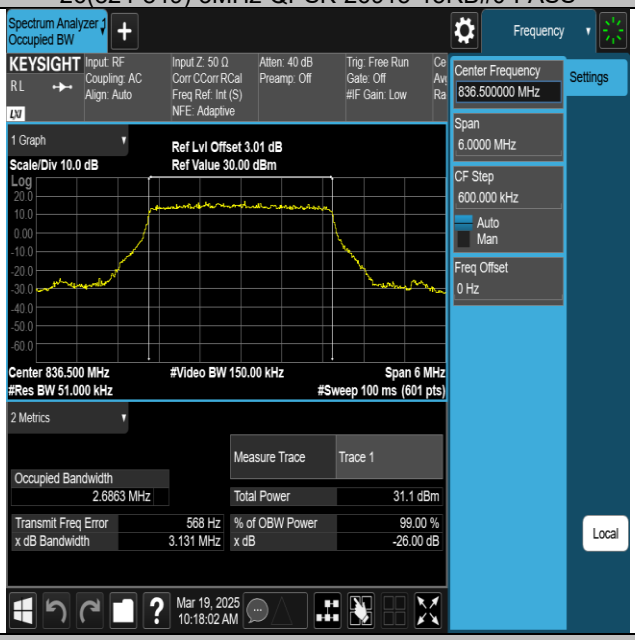


26(824-849)-1.4MHz-16QAM-27033-6RB#0-PASS

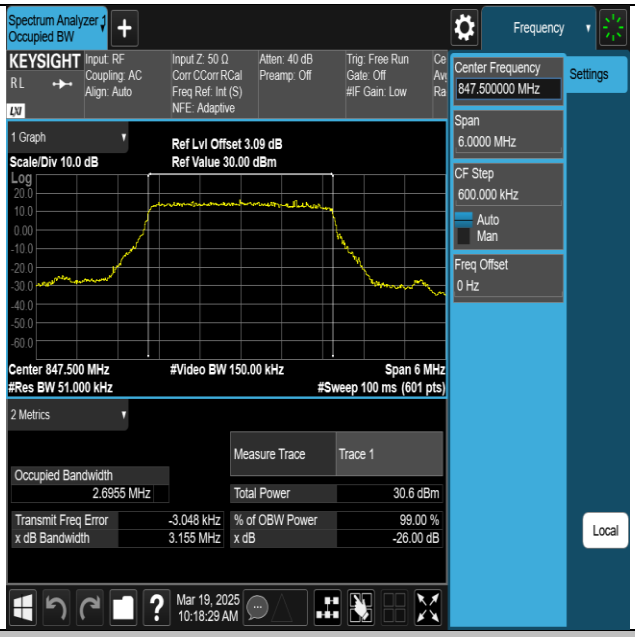


26(824-849)-3MHz-QPSK-26805-15RB#0-PASS

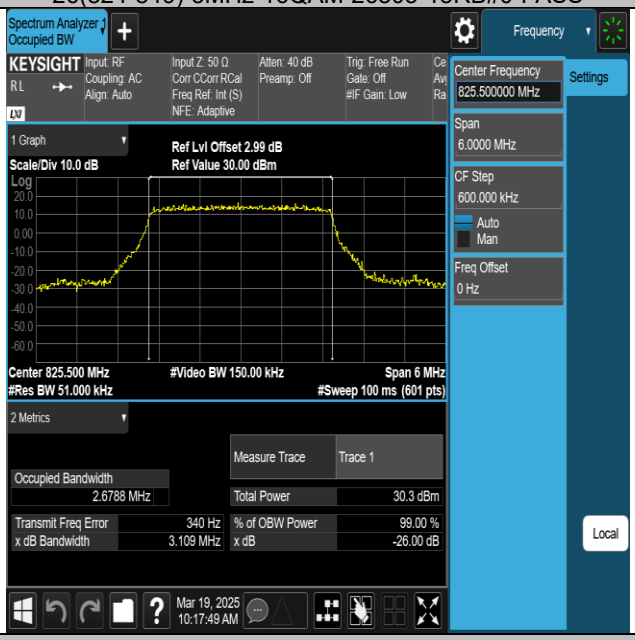
26(824-849)-3MHz-QPSK-26915-15RB#0-PASS



26(824-849)-3MHz-QPSK-27025-15RB#0-PASS



26(824-849)-3MHz-16QAM-26805-15RB#0-PASS



26(824-849)-3MHz-16QAM-26915-15RB#0-PASS

26(824-849)-3MHz-16QAM-27025-15RB#0-PASS

26(824-849)-5MHz-QPSK-26815-25RB#0-PASS

26(824-849)-5MHz-QPSK-26915-25RB#0-PASS

26(824-849)-5MHz-QPSK-27015-25RB#0-PASS