TESTING (OR CALIBRATION)
NVLAP LAB CODE 600141-0

Registration
No.788871

.

TEST REPORT FOR RF TESTING

Report No.: SRTC2019-9004(F)-19051701(C)

Product Name: LTE/Multi-Mode Digital Mobile Phone

Marketing Name: ZTE Axon 10 Pro

Product Model: ZTE Axon 10 Pro

Applicant: ZTE Corporation

Manufacturer: ZTE Corporation

Specification: FCC CFR47 PART 2, 22, 24, 27 (2019)

FCC ID: SRQ-AXON10PRO

The State Radio_monitoring_center Testing Center (SRTC)

15th Building, No.30, Shixing Street, Shijingshan District,

Beijing, P.R.China

Tel: 86-10-57996183 Fax: 86-10-57996388

CONTENTS

1. GENERAL INFORMATION

1.1 Notes of the test report

The test report may only be reproduced or published in full. Reproduction or publication of extracts from the report requires the prior written permission of The State Radio_monitoring_center Testing Center (SRTC).
The test results relate only to individual items of the samples which have been tested.
The certification and accreditation identifiers used in this report shall not be applicable to the tested or calibrated samples thereof. The manufacturer shall not mark the tested samples or items (or a separate part of the item) with the identifiers of certification and accreditation to mislead relevant parties about the tested samples or items.

1.2 Information about the testing laboratory

Company:	The State Radio_monitoring_center Testing Center (SRTC)
Address:	15th Building, No.30 Shixing Street, Shijingshan District, P.R.China
City:	Beijing
Country or Region:	P.R.China
Contacted person:	Liu Jia
Tel:	+86 10 57996183
Fax:	+86 10 57996388
Email:	liujiaf@srtc.org.cn

1.3 Applicant's details

Company:	ZTE Corporation
Address:	ZTE Plaza, #55 Keji Road South, Hi-Tech, Industrial Park, Nanshan District,Guangdong
City:	Shenzhen
Country or Region:	P.R.China
Contacted person:	Gong Yu
Tel:	021-68895397
Fax:	---
Email:	gongyu@zte.com.cn

1.4 Manufacturer's details

Company:	ZTE Corporation
Address:	ZTE Plaza, #55 Keji Road South, Hi-Tech, Industrial Park, Nanshan District,Guangdong
City:	Shenzhen
Country or Region:	P.R.China
Contacted person:	Gong Yu
Tel:	021-68895397
Fax:	---
Email:	gongyu@zte.com.cn

1.5 Test Environment

Date of Receipt of test sample at SRTC:	2019-05-17
Testing Start Date:	2019-05-17
Testing End Date:	2019-06-13
Testing Site 1:	Building 15,No.30,Shixing Street,Shijingshan District,Beijing,China
Testing Site 2:	Zhaojiachang,Beijing,Daxing District,Beijing,China

Environmental Data:	Temperature (°C)	Humidity (%)
Ambient	25	30
Maximum Extreme	55	---
Minimum Extreme	-10	---

Normal Supply Voltage (V d.c.):	3.70
Maximum Extreme Supply Voltage (V d.c.):	4.20
Minimum Extreme Supply Voltage (V d.c.):	3.65

2 DESCRIPTION OF THE EQUIPMENT UNDER TEST

2.1 Final Equipment Build Status

Frequency Range	LTE Band 2: Tx:1850~1910MHz Rx:1930~1990MHz LTE Band 4: Tx:1710~1755MHz Rx:2110~2155MHz LTE Band 5: Tx:824~849 MHz Rx:869 ~894MHz LTE Band 7: Tx:2500~2570MHz Rx:2620~2690MHz LTE Band 12: Tx:699~716 MHz Rx:729~746 MHz LTE Band 13: Tx:777~787 MHz Rx:746~756 MHz LTE Band 66: Tx:1710~1780 MHz Rx:2110~2200 MHz
Modulation Type	QPSK/16QAM/64QAM
Duplex Mode	FDD
Antenna Type	Fixed Internal Antenna
Antenna Gain	Up ANT LTE B2:-0.94dBi, Down ANT LTE B2:0.23dBi Up ANT LTE B4:-1.31dBi, Down ANT LTE B4:-0.39dBi Up ANT LTE B5:-5.9dBi, Down ANT LTE B5:-3.64dBi Up ANT LTE B7:-2.7dBi, Down ANT LTE B7:0.21dBi Up ANT LTE B12:-6.41dBi, Down ANT LTE B12:-4.41dBi Up ANT LTE B13:-6.24dBi, Down ANT LTE B13:-4.24dBi Up ANT LTE B66:-1.49dBi, Down ANT LTE B66:-0.14dBi
Power Supply	Battery/Charger
HW Version	twfB
SW Version	TEL_MX_ZTE_Axon_10_ProV1.0
IMEI	865174040000165

Worst Case Test Mode:

Band	Conducted Measurement Test Mode	Radiated Measurement Test Mode
LTE B2	Down Ant	Down Ant
LTE B4	Down Ant	Down Ant
LTE B5	Down Ant	Down Ant
LTE B7	Down Ant	Down Ant
LTE B12	Down Ant	Down Ant
LTE B13	Down Ant	Down Ant
LTE B66	Down Ant	Down Ant
Upper Ant and Down Ant are TX diversity switching. Both the up and down antennas of the conducted power were tested. Up Ant and Down Ant are both verified，we test the worst mode.		

2.2 Summary table

FCC Rule Part	Frequency Range(MHz)	EIRP/ERP (dBm)	EIRP/ERP (W)	Frequency Tolerance (ppm)	Emission Designator	Emission Bandwidth (MHz)	Measured 26dBC Bandwidth (MHz)	Communication Type
LTE BAND2								
24E	1850.7-1909.3	24.81	0.30	0.089	1M40G7D	1.4M	1.23	QPSK
	1850.7-1909.3	23.68	0.23	0.089	1M40D7W	1.4M	1.22	16QAM
	1850.7-1909.3	24.48	0.28	0.089	1M40W7D	1.4M	1.22	64QAM
	1851.5-1908.5	24.77	0.30	0.096	3M00G7D	3M	2.99	QPSK
	1851.5-1908.5	24.19	0.26	0.096	3M00D7W	3M	3.00	16QAM
	1851.5-1908.5	23.82	0.24	0.096	3M00W7D	3M	2.97	64QAM
	1852.5-1907.5	24.47	0.28	0.098	5M00G7D	5M	4.90	QPSK
	1852.5-1907.5	23.75	0.24	0.098	5M00D7W	5M	4.86	16QAM
	1852.5-1907.5	23.86	0.24	0.098	5M00W7D	5M	4.89	64QAM
	1855-1905	24.66	0.29	0.085	10M0G7D	10M	9.68	QPSK
	1855-1905	24.69	0.29	0.085	10M0D7W	10M	9.71	16QAM
	1855-1905	23.50	0.22	0.085	10M0W7D	10M	9.69	64QAM
	1857.5-1902.5	24.97	0.31	0.086	15M0G7D	15M	14.47	QPSK
	1857.5-1902.5	24.42	0.28	0.086	15M0D7W	15M	14.39	16QAM
	1857.5-1902.5	23.81	0.24	0.086	15M0W7D	15M	14.43	64QAM
	1860-1900	24.94	0.31	0.100	20M0G7D	20M	19.14	QPSK
	1860-1900	24.04	0.25	0.100	20M0D7W	20M	19.32	16QAM
	1860-1900	24.13	0.26	0.100	20M0W7D	20M	19.23	64QAM
LTE BAND4								
27	1710.7-1754.3	24.25	0.27	0.088	1M40G7D	1.4M	1.22	QPSK
	1710.7-1754.3	23.70	0.23	0.088	1M40D7W	1.4M	1.22	16QAM
	1710.7-1754.3	23.41	0.22	0.088	1M40W7D	1.4M	1.23	64QAM
	1711.5-1753.5	24.18	0.26	0.100	3M00G7D	3M	3.00	QPSK
	1711.5-1753.5	23.63	0.23	0.100	3M00D7W	3M	2.98	16QAM
	1711.5-1753.5	23.38	0.22	0.100	3M00W7D	3M	2.99	64QAM
	1712.5-1752.5	24.55	0.29	0.096	5M00G7D	5M	4.89	QPSK
	1712.5-1752.5	23.33	0.22	0.096	5M00D7W	5M	4.90	16QAM
	1712.5-1752.5	23.57	0.23	0.096	5M00W7D	5M	4.90	64QAM
	1715-1750	24.15	0.26	0.079	10M0G7D	10M	9.71	QPSK
	1715-1750	23.30	0.21	0.079	10M0D7W	10M	9.68	16QAM
	1715-1750	23.77	0.24	0.079	10M0W7D	10M	9.68	64QAM
	1717.5-1747.5	23.66	0.23	0.088	15M0G7D	15M	14.47	QPSK
	1717.5-1747.5	23.35	0.22	0.088	15M0D7W	15M	14.43	16QAM
	1717.5-1747.5	23.71	0.23	0.088	15M0W7D	15M	14.37	64QAM
	1720-1745	23.87	0.24	0.097	20M0G7D	20M	19.14	QPSK
	1720-1745	24.03	0.25	0.097	20M0D7W	20M	19.10	16QAM
	1720-1745	23.47	0.22	0.097	20M0W7D	20M	19.32	64QAM

LTE BAND5								
22H	824.7-848.3	21.94	0.16	0.090	1M40G7D	1.4M	1.22	QPSK
	824.7-848.3	21.06	0.13	0.090	1M40D7W	1.4M	1.22	16QAM
	824.7-848.3	20.34	0.11	0.090	1M40W7D	1.4M	1.21	64QAM
	825.5-847.5	21.44	0.14	0.094	3M00G7D	3M	2.99	QPSK
	825.5-847.5	21.09	0.13	0.094	3M00D7W	3M	2.99	16QAM
	825.5-847.5	21.12	0.13	0.094	3M00W7D	3M	3.02	64QAM
	826.5-846.5	21.34	0.14	0.096	5M00G7D	5M	4.91	QPSK
	826.5-846.5	20.84	0.12	0.096	5M00D7W	5M	4.88	16QAM
	826.5-846.5	21.22	0.13	0.096	5M00W7D	5M	4.88	64QAM
	829-844	22.00	0.16	0.086	10M0G7D	10M	9.63	QPSK
	829-844	20.93	0.12	0.086	10M0D7W	10M	9.65	16QAM
	829-844	20.93	0.12	0.086	10M0W7D	10M	9.67	64QAM
LTE BAND7								
27	2502.5-2567.5	24.73	0.30	0.089	5M00G7D	5M	4.91	QPSK
	2502.5-2567.5	24.09	0.26	0.089	5M00D7W	5M	4.88	16QAM
	2502.5-2567.5	24.58	0.28	0.089	5M00W7D	5M	4.89	64QAM
	2505-2565	24.82	0.30	0.090	10M0G7D	10M	9.66	QPSK
	2505-2565	24.70	0.29	0.090	10M0D7W	10M	9.67	16QAM
	2505-2565	24.83	0.30	0.090	10M0W7D	10M	9.62	64QAM
	2507.5-2562.5	25.15	0.33	0.095	15M0G7D	15M	14.52	QPSK
	2507.5-2562.5	24.81	0.31	0.095	15M0D7W	15M	14.48	16QAM
	2507.5-2562.5	24.83	0.30	0.095	15M0W7D	15M	14.32	64QAM
	2510-2560	24.77	0.30	0.086	20M0G7D	20M	19.20	QPSK
	2510-2560	24.03	0.25	0.086	20M0D7W	20M	19.18	16QAM
	2510-2560	25.18	0.33	0.086	20M0W7D	20M	19.26	64QAM
LTE BAND12								
27	699.7-715.3	20.35	0.11	0.084	1M40G7D	1.4M	1.21	QPSK
	699.7-715.3	19.51	0.09	0.084	1M40D7W	1.4M	1.20	16QAM
	699.7-715.3	18.82	0.08	0.084	1M40W7D	1.4M	1.21	64QAM
	700.5-714.5	20.05	0.10	0.096	3M00G7D	3M	2.99	QPSK
	700.5-714.5	19.63	0.09	0.096	3M00D7W	3M	2.97	16QAM
	700.5-714.5	19.10	0.08	0.096	3M00W7D	3M	2.98	64QAM
	701.5-713.5	20.47	0.11	0.099	5M00G7D	5M	4.86	QPSK
	701.5-713.5	19.61	0.09	0.099	5M00D7W	5M	4.87	16QAM
	701.5-713.5	19.39	0.09	0.099	5M00W7D	5M	4.89	64QAM
	704-711	20.32	0.11	0.077	10M0G7D	10M	9.64	QPSK
	704-711	19.56	0.09	0.077	10M0D7W	10M	9.63	16QAM
	704-711	19.47	0.09	0.077	10M0W7D	10M	9.69	64QAM
LTE BAND13								
27	779.5-784.5	24.18	0.26	0.081	5M00G7D	5M	4.92	QPSK
	779.5-784.5	23.08	0.20	0.081	5M00D7W	5M	4.89	16QAM
	779.5-784.5	23.15	0.21	0.081	5M00W7D	5M	4.85	64QAM
	782	24.17	0.26	0.090	10M0G7D	10M	9.62	QPSK
	782	24.04	0.25	0.090	10M0D7W	10M	9.59	16QAM
	782	24.16	0.26	0.090	10M0W7D	10M	9.58	64QAM

LTE BAND66								
27	1710.7-1779.3	24.52	0.28	0.089	1M40G7D	1.4M	1.22	QPSK
	1710.7-1779.3	23.39	0.22	0.089	1M40D7W	1.4M	1.21	16QAM
	1710.7-1779.3	24.27	0.27	0.089	1M40W7D	1.4M	1.21	64QAM
	1711.5-1778.5	25.14	0.33	0.097	3M00G7D	3M	2.99	QPSK
	1711.5-1778.5	23.98	0.25	0.097	3M00D7W	3M	2.99	16QAM
	1711.5-1778.5	23.84	0.24	0.097	3M00W7D	3M	2.98	64QAM
	1712.5-1777.5	24.55	0.28	0.095	5M00G7D	5M	4.92	QPSK
	1712.5-1777.5	24.08	0.26	0.095	5M00D7W	5M	4.88	16QAM
	1712.5-1777.5	23.85	0.24	0.095	5M00W7D	5M	4.94	64QAM
	1715-1775	24.90	0.31	0.082	10M0G7D	10M	9.71	QPSK
	1715-1775	24.13	0.26	0.082	10M0D7W	10M	9.72	16QAM
	1715-1775	24.16	0.26	0.082	10M0W7D	10M	9.70	64QAM
	1717.5-1772.5	25.00	0.32	0.090	15M0G7D	15M	14.45	QPSK
	1717.5-1772.5	24.06	0.25	0.090	15M0D7W	15M	14.48	16QAM
	1717.5-1772.5	23.61	0.23	0.090	15M0W7D	15M	14.51	64QAM
	1720-1770	25.11	0.32	0.093	20M0G7D	20M	19.29	QPSK
	1720-1770	24.00	0.25	0.093	20M0D7W	20M	19.15	16QAM
	1720-1770	24.09	0.26	0.093	20M0W7D	20M	19.25	64QAM

2.3 Support Equipment

The following support equipment was used to exercise the EUT during testing:

Equipment	Battery
Manufacturer	Zhuhai Coslight Battery Co.,Ltd.
Model Number	Li3939T44P8h756547
Equipment	Charger
Manufacturer	SALCOMP
Model Number	STC-A5930A-Z
Equipment	Headset1
Manufacturer	Shen Zhen FDC Electronic Co., Ltd.
Model Number	DTM-02//JWEP1053-Z01R
Equipment	Headset2
Manufacturer	JUWEI ELECTRONICS CO.,LTD
Model Number	DTM-02//JWEP1053-Z01R
Equipment	USB Cable1
Manufacturer	Luxshare-ICT Co., Ltd
Model Number	USB-TC20-W-100-M-L-HF
Equipment	USB Cable2
Manufacturer	King Power Electronics Co., Ltd.
Model Number	USB-TC20-W-100-M-L-HF

2.4 Conducted measurement Path Loss

Band	Conducted Measurement Offset
LTE B5/12/13	6.5dB
LTE B2/4/66	6.8dB
LTE B7	7.0dB

3 REFERENCE SPECIFICATION

The tests documented in this report were performed in accordance with ANSI C63.26:2015, FCC CFR 47 Part 2, FCC KDB 971168 D01 v02r02, KDB 971168 D02 v01, Part 22, Part 24, Part 27.

Specification	Version	Title
ANSI C63.26:2015	11 December 2015	American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services
FCC CFR 47 Part 2	2019	FREQUENCY ALLOCATIONS AND RADIO TREATY MATTERS; GENERAL RULES AND REGULATIONS
FCC CFR 47 Part 22	2019	PUBLIC MOBILE SERVICES
FCC CFR 47 Part 24	2019	PERSONAL COMMUNICATIONS SERVICES
FCC CFR 47 Part 27	2019	MISCELLANEOUS WIRELESS COMMUNICATIONS SERVICES
KDB 971168 D01	v03r01	MEASUREMENT GUIDANCE FOR CERTIFICATION OF LICENSED DIGITAL TRANSMITTERS
KDB 971168 D02	v02r01	MISCELLANEOUS AND BASIC REVIEW AND APPROVAL ITEMS FOR TRANSMITTING EQUIPMENT USED IN LICENSED RADIO SERVICES
ANSI C63.26	2015	American National Standard for Compliance Testing of Transmitters Used in Licensed Radio Services
KDB 971168 D01	April 9, 2018	MEASUREMENT GUIDANCE FOR CERTIFICATION OF LICENSED DIGITAL TRANSMITTERS

4 KEY TO NOTES AND RESULT CODES

The following are the definition of the test result.

Code	Meaning
PASS	Test result shows that the requirements of the relevant specification have been met.
FAIL	Test result shows that the requirements of the relevant specification have not been met.
N/T	Test case is not tested.
NTNV	Nominal voltage, Normal Temperature
HV	High voltage, Normal Temperature
LV	Low voltage, Normal Temperature
HTHV	high voltage, High Temperature
LTHV	High voltage, Low Temperature
HTLV	Low voltage, High Temperature
LTLV	Low voltage, Low Temperature

5 RESULT SUMMARY

The following table summarizes the test results obtained.

No.	Test case	FCC reference	Verdict
1	RF Power Output	2.1046	Pass
2	Effective Radiated Power and Effective Isotropic Radiated Power	22.913, 24.232, 27.50	Pass
3	Occupied Bandwidth	2.1049	Pass
4	Peak-Average Ratio	22.913, 24.232, 27.50	Pass
5	Emission Bandwidth	2.1049	Pass
6	Spurious Emissions at antenna terminals	2.1051, 22.901, 22.917, 24.238, 27.53	Pass
7	Band Edges Compliance	2.1051, 22.359, 22.917, 24.238, 27.53	Pass
8	Frequency Stability	2.1055, 22.355, 24.235, 27.54	Pass
9	Radiated Spurious Emissions	2.1053, 22.917, 24.238, 27.53	Pass

This Test Report Is Issued by: Mr. Peng Zhen	Checked by: Mr. Li Bin
Tested by: Mr. He Dengshun	Issued date: 20190614

6 TEST RESULT

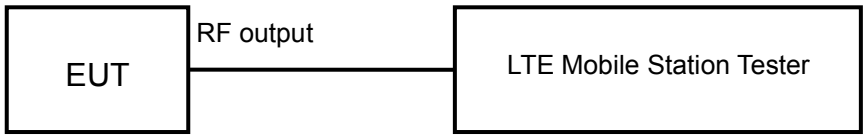
6.1 RF Power Output

Rule Part(s)
FCC: 2.1046

Ambient condition:

Temperature	Relative humidity	Pressure
25°C	30%	101.9kPa

Test Setup:



Test procedure:

After a radio link has been established between EUT and Tester, the output power of the cell signal of the testing equipment will be decreased until the output power of the EUT reach a maximum value. Then the test data can be read at the tester screen. The loss between RF output port of the EUT and the input port of the tester will be taken into consideration.

Limits	≤30dBm

Test result:
The test results are shown in Appendix A.

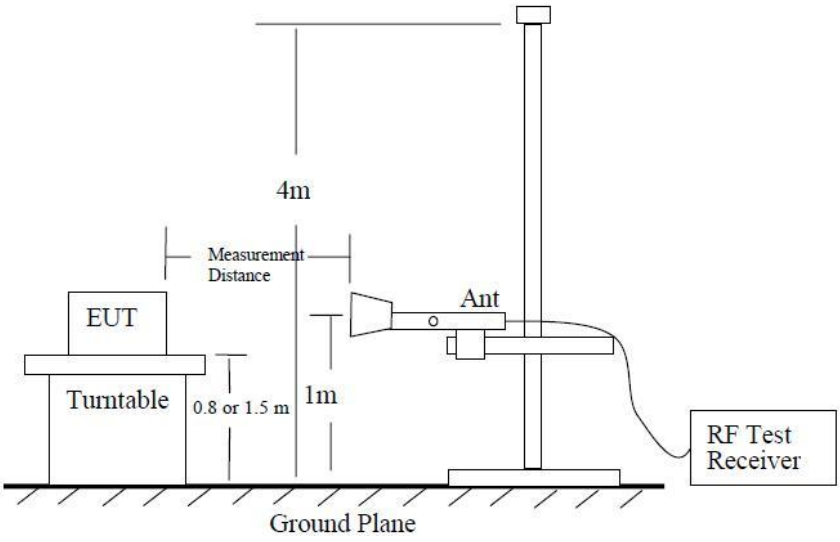
6.2 Effective Radiated Power

Rule Part(s)
FCC: 22.913, 24.232, 27.50

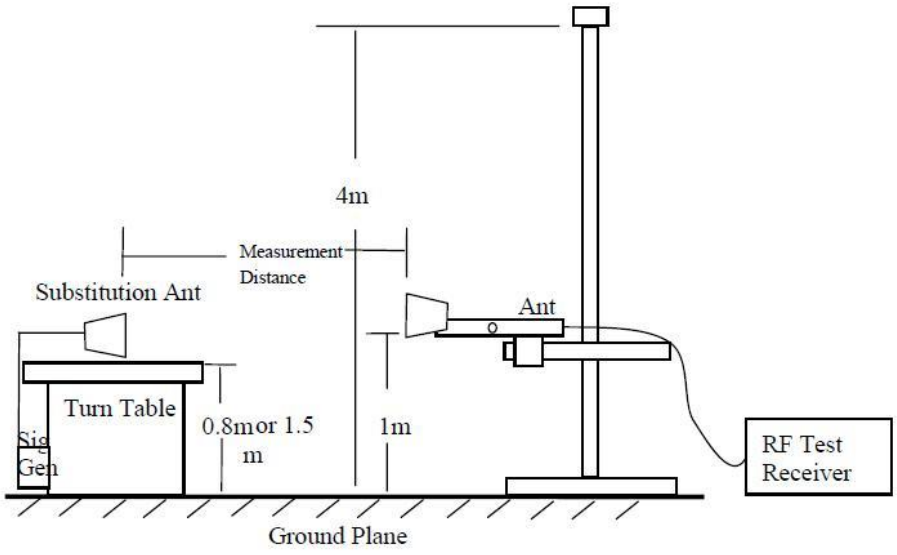
Ambient condition:

Temperature	Relative humidity	Pressure
25°C	30%	101.9kPa

Test setup:



Step 1



Step 2

Test procedure:
The measurements procedures in TIA-603-E-2016, are used.
Step 1:
The measurement is carried out in the fully anechoic chamber. EUT was placed on a 2.4 meters high non-conductive table at a 3 meters test distance from the test receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the EUT. The height of receiving antenna is 2.4m and varies in certain range to find the maximum power value. A radio link shall be established between EUT and Tester. The output power of the cell signal of the tester will be decreased until the output power of the EUT reach a maximum value. A peak detector is used and RBW is set to 3MHz. Then the height of receive antenna shall be moved from 1 to 4 meters, and the antenna shall be performed under horizontal and vertical polarization. The turn table shall be rotated from 0 to 360 degrees for detecting the maximum power value on spectrum analyzer or receiver. And the maximum value of the receiver should be recorded as (Pr).

Step 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. To repeat the same procedure as step1 and the level of signal generator will be adjusted till the same power value on the spectrum analyzer or receiver. The ERP/EIRP of the EUT 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.
A power (Pmea) is applied to the input of the substitution antenna, and adjusts the level of the signal generator output until the value of the receiver reach the previously recorded (Pr). The power of signal source (Pmea) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.
A “reference path loss” should be calculated after test. The attenuation of “reference path loss” is the cable loss between the Signal Source with the Substitution Antenna (Pca) and the Substitution Antenna Gain (Ga).

The measurement results are obtained as described below:
Power (EIRP) = Pmea+ Pca+ Ga

ERP/EIRP LIMIT
This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15dB) and known input power. ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP = EIRP – 2.15 (dB).
22.913(a) - The ERP of mobile transmitters and auxiliary test transmitters must not exceed 7Watts.
24.232(c) - Mobile/portable stations are limited to 2 watts e.i.r.p. peak power and the equipment must employ means to limit the power to the minimum necessary for successful communications.
27.50 (c) (10) the following power and antenna height requirements apply to stations transmitting in the 698–746 MHz band, the portable stations (hand-held devices) are limited to 3 watts ERP.
27.50 (b)(10) Portable stations (hand-held devices) transmitting in the 746–757 MHz, 758–763 MHz, 776–793 MHz, and 805–806 MHz bands are limited to 3 watts ERP.

27.50 (d)(4) The following power and antenna height requirements apply to stations transmitting in the 1710–1755 MHz and 2110–2155 MHz bands: Fixed, mobile, and portable (hand-held) stations operating in the 1710–1755 MHz band are limited to 1 watt EIRP
27.50 (h) The following power limits shall apply in the BRS and EBS: (2)Mobile and other user stations. Mobile stations are limited to 2.0 watts EIRP. All user stations are limited to 2.0 watts transmitter output power.

Antenna height (ATT) meters (feet)	Effective radiated power (watts)[1 2 4]
Above 1,372 (4,500)	65
Above 1,220 (4,000) to 1,372 (4,500)	70
Above 1,067 (3,500) to 1,220 (4,000)	75
Above 915 (3,000) to 1,067 (3,500)	100
Above 763 (2,500) to 915 (3,000)	140
Above 610 (2,000) to 763 (2,500)	200
Above 458 (1,500) to 610 (2,000)	350
Above 305 (1,000) to 458 (1,500)	600
Up to 305 (1,000)	[3]1,000

1Power is given in terms of effective radiated power (ERP).
2Applicants in the Los Angeles, CA, area who demonstrate a need to serve both the downtown and fringe areas will be permitted to utilize an ERP of 1 kw at the following mountaintop sites: Santiago Park, Sierra Peak, Mount Lukens, and Mount Wilson.
3Stations with antennas below 305 m (1,000 ft) (AAT) will be restricted to a maximum power of 1 kw (ERP).
4Licensees in San Diego, CA, will be permitted to utilize an ERP of 500 watts at the following mountaintop sites: Palomar, Otay, Woodson and Miguel.

Test result:
The test results are shown in Appendix B.

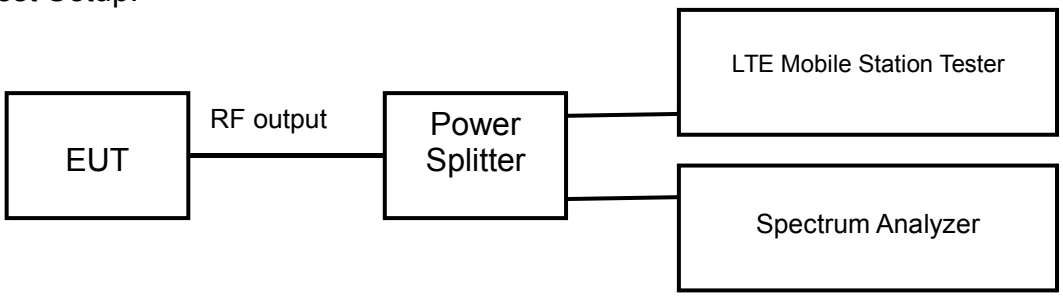
6.3 Occupied Bandwidth

Rule Part(s)
FCC: 2.1049

Ambient condition:

Temperature	Relative humidity	Pressure
25°C	30%	101.9kPa

Test Setup:



Test procedure:

After a radio link has been established between EUT and Tester, the output power of the cell signal of the testing equipment will be decreased until the output power of the EUT reach a maximum value. The occupied bandwidth is measured using spectrum analyzer. RBW is set to 30kHz on spectrum analyzer. The bandwidth of 99% power can be read on spectrum analyzer.

The measurement will be conducted at three channels (Bottom, middle and top channels of LTE band)

Limits: No specific occupied bandwidth requirements in part 2.1049

Test result:
The test results are shown in Appendix A.

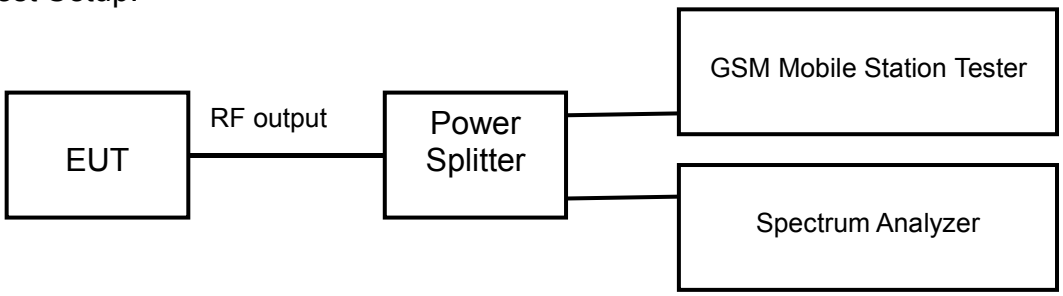
6.4 Emission Bandwidth

Rule Part(s)
FCC: 2.1049

Ambient condition:

Temperature	Relative humidity	Pressure
25°C	30%	101.9kPa

Test Setup:



Test procedure:

After a radio link has been established between EUT and Tester, the output power of the cell signal of the testing equipment will be decreased until the output power of the EUT reach a maximum value. The emission bandwidth is measured using spectrum analyzer. RBW is set to 3 kHz on spectrum analyzer. The bandwidth of -26dB transmitter power can be read on spectrum analyzer.

Limits: No specific emission bandwidth requirements in part 22.917(b)

Test result:
The test results are shown in Appendix A.

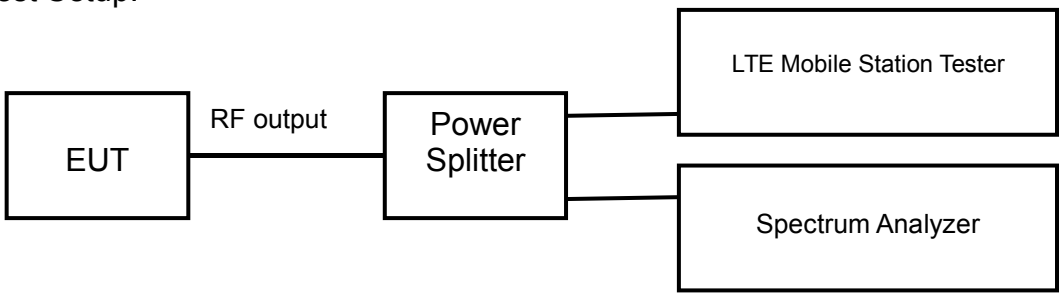
6.5 Peak-Average Ratio

Rule Part(s)
FCC: 22.913, 24.232, 27.50

Ambient condition:

Temperature	Relative humidity	Pressure
25°C	30%	101.9kPa

Test Setup:



Test procedure:
After a radio link has been established between EUT and Tester, the output power of the cell signal of the testing equipment will be decreased until the output power of the EUT reach a maximum value. The Peak-Average Ratio is measured using spectrum analyzer. RBW is set to 30 kHz on spectrum analyzer. The Peak-Average Ratio can be read on spectrum analyzer.

Limits	≤13dB

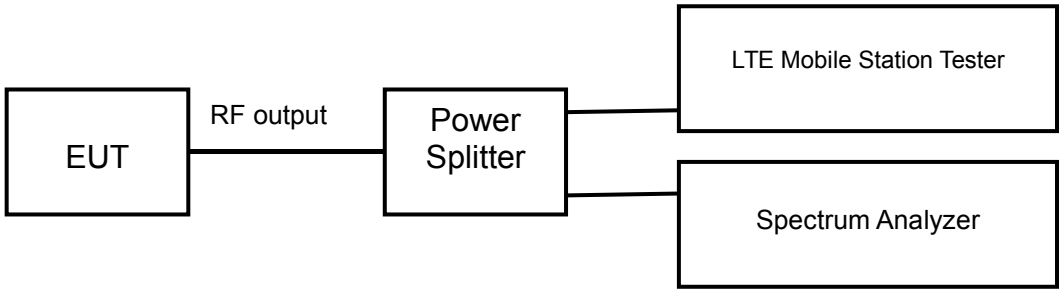
Test result:
The test results are shown in Appendix A.

6.6 Spurious Emissions at antenna terminal

Ambient condition:

Temperature	Relative humidity	Pressure
25°C	30%	101.9kPa

Test Setup:



Test procedure:

After a radio link has been established between EUT and Tester, the output power of the cell signal of the testing equipment will be decreased until the output power of the EUT reach a maximum value. The measurement is carried out using a spectrum analyzer. The spectrum analyzer scans from 30MHz to 20GHz (higher than the 10th harmonic of the carrier). The peak detector is used and RBW is set to 1MHz on spectrum analyzer.

Limits	≤-13dBm

Test result:
The test results are shown in Appendix A.

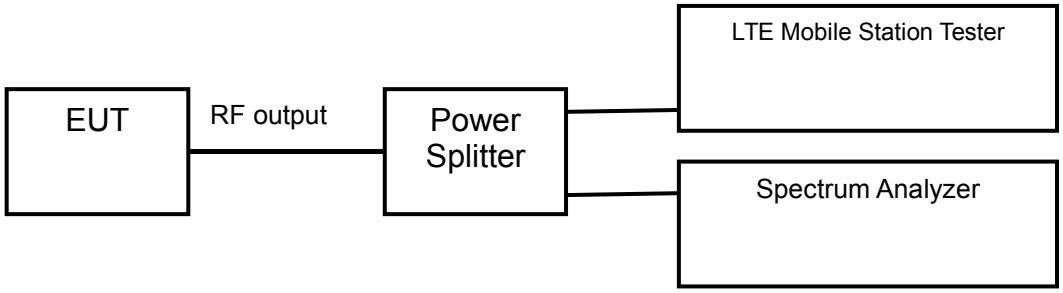
6.7 Band Edges Compliance

Rule Part(s)
FCC: 2.1051, 22.359, 22.917, 24.238, 27.53

Ambient condition:

Temperature	Relative humidity	Pressure
25°C	30%	101.9kPa

Test Setup:



Test procedure:

After a radio link has been established between EUT and Tester, the output power of the cell signal of the testing equipment will be decreased until the output power of the EUT reach a maximum value. The measurement is carried out using a spectrum analyzer. The peak detector is used and RBW is set to at least 1% of the emission bandwidth on spectrum analyzer.

Limits	≤-13dBm

Test result:
The test results are shown in Appendix A.

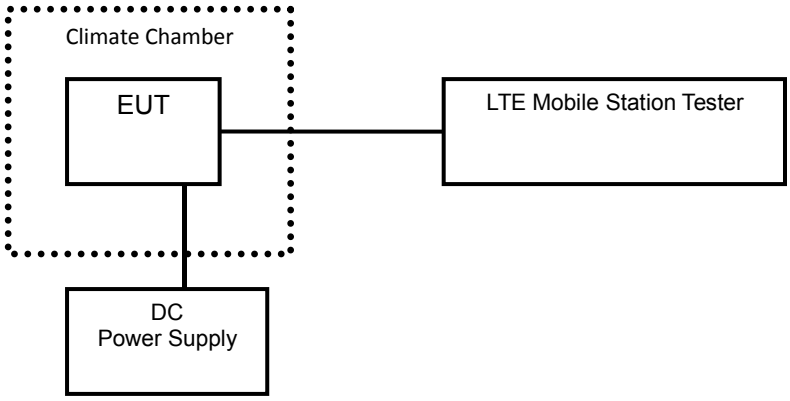
6.8 Frequency Stability

Rule Part(s)
FCC: 2.1055, 22.355, 24.235, 27.54

Ambient condition:

Temperature	Relative humidity	Pressure
25°C	30%	101.9kPa

Test setup:



Test Procedure:
A radio link shall be established between EUT and Tester. The tester will sample the transmitter RF output signal and measure its frequency. The temperature inside the climate chamber is varied from -30 to +50°C in 10°C step size, and also the DC power supply voltage to the EUT is varied from LV to HV. The measurement will be conducted at three channels No18100, No18300 and No18500 (Bottom, middle and top channels of LTE band I).

Limits: No specific frequency stability requirements in part 2.1055 and part 22.355.

Test result:
The test results are shown in Appendix A.

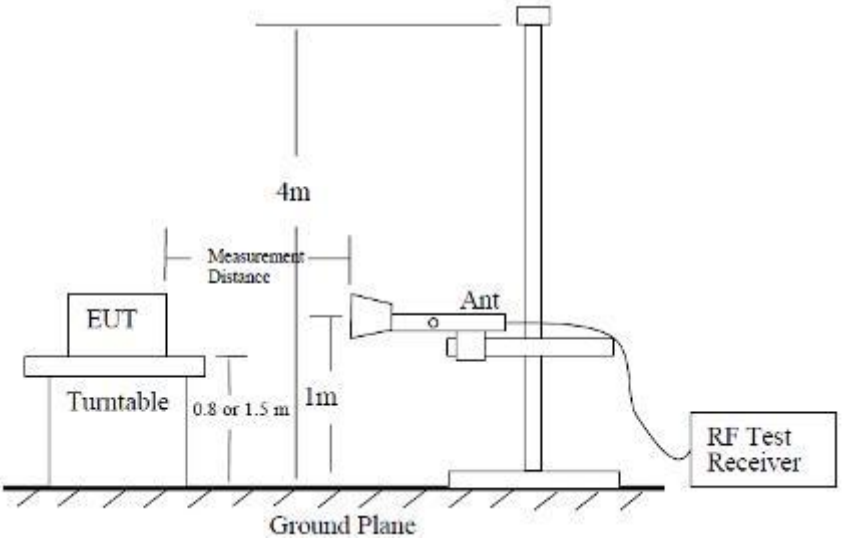
6.9 Radiated Spurious Emissions

Rule Part(s)
FCC: 2.1053, 22.917, 24.238, 27.53

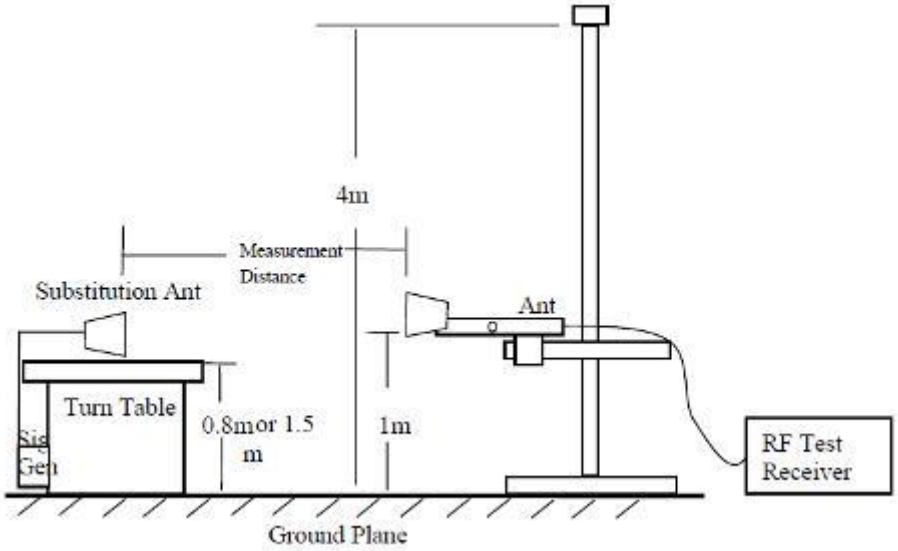
Ambient condition:

Temperature	Relative humidity	Pressure
25°C	30%	101.9kPa

Test Setup:



Step 1



Step 2

Test procedure:
The measurements procedures in TIA-603-E-2016 are used.
The spectrum was scanned from 30MHz to the 10th harmonic of the highest frequency generated within the equipment.

Step 1:
The measurement is carried out in the fully anechoic chamber. EUT was placed on a 2.4 meter high non-conductive table at a 3 meter test distance from the test receive antenna. A receiving antenna was placed on the antenna mast 3 meters from the EUT. The height of receiving antenna is 2.4m and varies in certain range to find the maximum power value. A radio link shall be established between EUT and Tester. The output power of the cell signal of the tester will be decreased until the output power of the EUT reach a maximum value. The measurement is carried out using a spectrum analyzer or receiver. The spectrum analyzer scans from 30MHz to 20GHz (higher than the 10th harmonic of the carrier). The peak detector is used and RBW is set to 1MHz on spectrum analyzer. Then the antenna height and turn table rotation is adjusted till the maximum power value is founded on spectrum analyzer or receiver. A notch filter is necessary in the band near to the carrier frequency. A high pass filter is needed to avoid the distortion of the testing equipment in the band above the carrier frequency.

Step 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.
A power (Pmea) is applied to the input of the substitution antenna, and adjusts the level of the signal generator output until the value of the receiver reach the previously recorded (Pr). The power of signal source (Pmea) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.
A “reference path loss” should be calculated after test. The attenuation of “reference path loss” is the cable loss between the Signal Source with the Substitution Antenna (Pca) and the Substitution Antenna Gain (Ga).

Calculation procedure:
The data of cable loss and antenna gain has been calibrated in full testing frequency range before the testing.

The power of the Radiated Spurious Emissions is calculated by adding the cable loss and antenna gain. The basic equation with a sample calculation is as followed:
Power(EIRP) = Pmea+ Pca + Ga
This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15dB) and known input power. ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP = EIRP – 2.15 (dB).

Assumed the power of signal source record is -20dBm. A cable loss of -30dB, and an antenna gain of 11dB are added.
P=Pmea+Pca+Ga=(-20dBm)+(-30dB)+(11dB)= -39dBm

Test result:
The test results are shown in Appendix B.

7 MEASUREMENT UNCERTAINTIES

Items	Uncertainty	
RF Power Output	0.6 dB	
Occupied Bandwidth	3 kHz	
Spurious Emissions	30MHz～1GHz	2.83 dB
	1GHz～12.75GHz	2.50 dB
	12.75GHz～25GHz	2.75 dB
Band Edges Compliance	1.2dB	
Frequency Stability	4 Hz	

8 TEST EQUIPMENTS

No.	Name/Model	Manufacturer	S/N	Calibration Date	Calibration Due Date
1	MT8820C Mobile Station Tester	Anritsu	6201300660	2018.08.20	2019.08.19
2	FSV40 Spectrum Analyzer	R&S	101065	2018.08.20	2019.08.19
2	N9020A Spectrum Analyzer	Agilent	MY48010771	2018.08.20	2019.08.19
3	6007 Power Divider	Weinschel	6007-GJ-1	2018.08.20	2019.08.19
4	DC Power Supply E3645A	Agilent	MY40000741	2019.03.01	2020.02.28
5	Temperature chamber SH241	ESPEC	92013758	2018.08.20	2019.08.19
6	12.65m×8.03m×7.50m Fully-Anechoic Chamber	FRANKONIA	-----	-----	-----
7	23.18m×16.88m×9.60m Semi-Anechoic Chamber	FRANKONIA	---	-----	-----
8	Turn table Diameter:1m	FRANKONIA	-----	-----	-----
9	Turn table Diameter:5m	FRANKONIA	-----	-----	-----
10	Antenna master FAC(MA4.0)	MATURO	-----	-----	-----
11	Antenna master SAC(MA4.0)	MATURO	-----	-----	-----
12	9.080m×5.255m×3.525m Shielding room	FRANKONIA	-----	-----	-----
13	HF 907 Double-Ridged Waveguide Horn Antenna	R&S	100512	2018.08.20	2019.08.19
14	HF 907 Double-Ridged Waveguide Horn Antenna	R&S	100513	2018.08.20	2019.08.19
15	HL562 Ultra log antenna	R&S	100016	2018.08.20	2019.08.19
16	3160-09 Receive antenna	SCHWARZ-BECK	002058-002	2018.08.20	2019.08.19
17	ESI 40 EMI test receiver	R&S	100015	2018.08.20	2019.08.19
18	ESCS30 EMI test receiver	R&S	100029	2018.08.20	2019.08.19
19	HL562 Receive antenna	R&S	100167	2018.08.20	2019.08.19
20	ENV216 AMN	R&S	3560.6550.12	2018.08.20	2019.08.19

APPENDIX A – TEST DATA OF CONDUCTED EMISSION

Please refer to the attachment.

APPENDIX B – TEST DATA OF RADIATED EMISSION

Please refer to the attachment.

APPENDIX A – TEST DATA OF CONDUCTED EMISSION

LTE Band 2

1 RF Power Output up Ant

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1850.7	18607	1.4	1	0	18.87
				1	5	18.87
				3	2	17.85
				6	0	17.82
	1880	18900		1	0	18.91
				1	5	18.91
				3	2	17.93
				6	0	17.92
	1909.3	19193		1	0	18.90
				1	5	18.90
				3	2	17.97
				6	0	17.93
16QAM	1850.7	18607	1.4	1	0	18.43
				1	5	18.43
				3	2	16.93
				6	0	16.86
	1880	18900		1	0	18.28
				1	5	18.28
				3	2	16.97
				6	0	16.95
	1909.3	19193		1	0	18.26
				1	5	18.26
				3	2	16.97
				6	0	16.88
64QAM	1850.7	18607	1.4	1	0	18.39
				1	5	18.39
				3	2	16.89
				6	0	16.83
	1880	18900		1	0	18.23
				1	5	18.23
				3	2	16.90
				6	0	16.81
	1909.3	19193		1	0	18.25
				1	5	18.25
				3	2	16.92
				6	0	16.87

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1851.5	18615	3	1	0	18.85
				1	14	18.85
				8	4	17.83
				15	0	17.80
	1880	18900		1	0	18.89
				1	14	18.89
				8	4	17.91
				15	0	17.90
	1908.5	19185		1	0	18.88
				1	14	18.88
				8	4	17.95
				15	0	17.91
16QAM	1851.5	18615	3	1	0	18.41
				1	14	18.41
				8	4	16.91
				15	0	16.84
	1880	18900		1	0	18.26
				1	14	18.26
				8	4	16.95
				15	0	16.93
	1908.5	19185		1	0	18.24
				1	14	18.24
				8	4	16.95
				15	0	16.86
64QAM	1851.5	18615	3	1	0	18.37
				1	14	18.37
				8	4	16.87
				15	0	16.81
	1880	18900		1	0	18.21
				1	14	18.21
				8	4	16.88
				15	0	16.79
	1908.5	19185		1	0	18.23
				1	14	18.23
				8	4	16.90
				15	0	16.85

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1852.5	18625	5	1	0	18.86
				1	24	18.86
				12	6	17.84
				25	0	17.81
	1880	18900		1	0	18.90
				1	24	18.90
				12	6	17.92
				25	0	17.91
	1907.5	19175		1	0	18.89
				1	24	18.89
				12	6	17.96
				25	0	17.92
16QAM	1852.5	18625	5	1	0	18.42
				1	24	18.42
				12	6	16.92
				25	0	16.85
	1880	18900		1	0	18.27
				1	24	18.27
				12	6	16.96
				25	0	16.94
	1907.5	19175		1	0	18.25
				1	24	18.25
				12	6	16.96
				25	0	16.87
64QAM	1852.5	18625	5	1	0	18.38
				1	24	18.38
				12	6	16.88
				25	0	16.82
	1880	18900		1	0	18.22
				1	24	18.22
				12	6	16.89
				25	0	16.80
	1907.5	19175		1	0	18.24
				1	24	18.24
				12	6	16.91
				25	0	16.86

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1855	18650	10	1	0	18.89
				1	49	18.89
				24	12	17.87
				50	0	17.84
	1880	18900		1	0	18.93
				1	49	18.93
				24	12	17.95
				50	0	17.94
	1905	19150		1	0	18.92
				1	49	18.92
				24	12	17.99
				50	0	17.95
16QAM	1855	18650	10	1	0	18.45
				1	49	18.45
				24	12	16.95
				50	0	16.88
	1880	18900		1	0	18.30
				1	49	18.30
				24	12	16.99
				50	0	16.97
	1905	19150		1	0	18.28
				1	49	18.28
				24	12	16.99
				50	0	16.90
64QAM	1855	18650	10	1	0	18.41
				1	49	18.41
				24	12	16.91
				50	0	16.85
	1880	18900		1	0	18.25
				1	49	18.25
				24	12	16.92
				50	0	16.83
	1905	19150		1	0	18.27
				1	49	18.27
				24	12	16.94
				50	0	16.89

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1857.5	18675	15	1	0	18.91
				1	74	18.91
				40	18	17.89
				75	0	17.86
	1880	18900		1	0	18.95
				1	74	18.95
				40	18	17.97
				75	0	17.96
	1902.5	19125		1	0	18.94
				1	74	18.94
				40	18	18.01
				75	0	17.97
16QAM	1857.5	18675	15	1	0	18.47
				1	74	18.47
				40	18	16.97
				75	0	16.90
	1880	18900		1	0	18.32
				1	74	18.32
				40	18	17.01
				75	0	16.99
	1902.5	19125		1	0	18.30
				1	74	18.30
				40	18	17.01
				75	0	16.92
64QAM	1857.5	18675	15	1	0	18.43
				1	74	18.43
				40	18	16.93
				75	0	16.87
	1880	18900		1	0	18.27
				1	74	18.27
				40	18	16.94
				75	0	16.85
	1902.5	19125		1	0	18.29
				1	74	18.29
				40	18	16.96
				75	0	16.91

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1860	18700	20	1	0	18.94
				1	99	18.94
				50	25	17.92
				100	0	17.89
	1880	18900		1	0	18.98
				1	99	18.98
				50	25	18.00
				100	0	17.99
	1900	19100		1	0	18.97
				1	99	18.97
				50	25	18.04
				100	0	18.00
16QAM	1860	18700	20	1	0	18.50
				1	99	18.50
				50	25	17.00
				100	0	16.93
	1880	18900		1	0	18.35
				1	99	18.35
				50	25	17.04
				100	0	17.02
	1900	19100		1	0	18.33
				1	99	18.33
				50	25	17.04
				100	0	16.95
64QAM	1860	18700	20	1	0	18.46
				1	99	18.46
				50	25	16.96
				100	0	16.90
	1880	18900		1	0	18.30
				1	99	18.30
				50	25	16.97
				100	0	16.88
	1900	19100		1	0	18.32
				1	99	18.32
				50	25	16.99
				100	0	16.94

1 RF Power Output down Ant

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1850.7	18607	1.4	1	0	24.09
				1	5	24.09
				3	2	23.07
				6	0	23.04
	1880	18900		1	0	24.13
				1	5	24.13
				3	2	23.15
				6	0	23.14
	1909.3	19193		1	0	24.12
				1	5	24.12
				3	2	23.19
				6	0	23.15
16QAM	1850.7	18607	1.4	1	0	23.65
				1	5	23.65
				3	2	22.15
				6	0	22.08
	1880	18900		1	0	23.50
				1	5	23.50
				3	2	22.19
				6	0	22.17
	1909.3	19193		1	0	23.48
				1	5	23.48
				3	2	22.19
				6	0	22.10
64QAM	1850.7	18607	1.4	1	0	23.61
				1	5	23.61
				3	2	22.11
				6	0	22.05
	1880	18900		1	0	23.45
				1	5	23.45
				3	2	22.12
				6	0	22.03
	1909.3	19193		1	0	23.47
				1	5	23.47
				3	2	22.14
				6	0	22.09

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1851.5	18615	3	1	0	24.03
				1	14	24.03
				8	4	23.01
				15	0	22.98
	1880	18900		1	0	24.07
				1	14	24.07
				8	4	23.09
				15	0	23.08
	1908.5	19185		1	0	24.06
				1	14	24.06
				8	4	23.13
				15	0	23.09
16QAM	1851.5	18615	3	1	0	23.59
				1	14	23.59
				8	4	22.09
				15	0	22.02
	1880	18900		1	0	23.44
				1	14	23.44
				8	4	22.13
				15	0	22.11
	1908.5	19185		1	0	23.42
				1	14	23.42
				8	4	22.13
				15	0	22.04
64QAM	1851.5	18615	3	1	0	23.55
				1	14	23.55
				8	4	22.05
				15	0	21.99
	1880	18900		1	0	23.39
				1	14	23.39
				8	4	22.06
				15	0	21.97
	1908.5	19185		1	0	23.41
				1	14	23.41
				8	4	22.08
				15	0	22.03

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1852.5	18625	5	1	0	24.01
				1	24	24.01
				12	6	22.99
				25	0	22.96
	1880	18900		1	0	24.05
				1	24	24.05
				12	6	23.07
				25	0	23.06
	1907.5	19175		1	0	24.04
				1	24	24.04
				12	6	23.11
				25	0	23.07
16QAM	1852.5	18625	5	1	0	23.57
				1	24	23.57
				12	6	22.07
				25	0	22.00
	1880	18900		1	0	23.42
				1	24	23.42
				12	6	22.11
				25	0	22.09
	1907.5	19175		1	0	23.40
				1	24	23.40
				12	6	22.11
				25	0	22.02
64QAM	1852.5	18625	5	1	0	23.53
				1	24	23.53
				12	6	22.03
				25	0	21.97
	1880	18900		1	0	23.37
				1	24	23.37
				12	6	22.04
				25	0	21.95
	1907.5	19175		1	0	23.39
				1	24	23.39
				12	6	22.06
				25	0	22.01

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1855	18650	10	1	0	24.04
				1	49	24.04
				24	12	23.02
				50	0	22.99
	1880	18900		1	0	24.08
				1	49	24.08
				24	12	23.10
				50	0	23.09
	1905	19150		1	0	24.07
				1	49	24.07
				24	12	23.14
				50	0	23.10
16QAM	1855	18650	10	1	0	23.60
				1	49	23.60
				24	12	22.10
				50	0	22.03
	1880	18900		1	0	23.45
				1	49	23.45
				24	12	22.14
				50	0	22.12
	1905	19150		1	0	23.43
				1	49	23.43
				24	12	22.14
				50	0	22.05
64QAM	1855	18650	10	1	0	23.56
				1	49	23.56
				24	12	22.06
				50	0	22.00
	1880	18900		1	0	23.40
				1	49	23.40
				24	12	22.07
				50	0	21.98
	1905	19150		1	0	23.42
				1	49	23.42
				24	12	22.09
				50	0	22.04

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1857.5	18675	15	1	0	24.07
				1	74	24.07
				40	18	23.05
				75	0	23.02
	1880	18900		1	0	24.11
				1	74	24.11
				40	18	23.13
				75	0	23.12
	1902.5	19125		1	0	24.10
				1	74	24.10
				40	18	23.17
				75	0	23.13
16QAM	1857.5	18675	15	1	0	23.63
				1	74	23.63
				40	18	22.13
				75	0	22.06
	1880	18900		1	0	23.48
				1	74	23.48
				40	18	22.17
				75	0	22.15
	1902.5	19125		1	0	23.46
				1	74	23.46
				40	18	22.17
				75	0	22.08
64QAM	1857.5	18675	15	1	0	23.59
				1	74	23.59
				40	18	22.09
				75	0	22.03
	1880	18900		1	0	23.43
				1	74	23.43
				40	18	22.10
				75	0	22.01
	1902.5	19125		1	0	23.45
				1	74	23.45
				40	18	22.12
				75	0	22.07

Modulation	Carrier frequency (MHz)	UL Channel	BW	RB Size	RB Offset	Conducted power (dBm)
QPSK	1860	18700	20	1	0	24.12
				1	99	24.12
				50	25	23.10
				100	0	23.07
	1880	18900		1	0	24.16
				1	99	24.16
				50	25	23.18
				100	0	23.17
	1900	19100		1	0	24.15
				1	99	24.15
				50	25	23.22
				100	0	23.18
16QAM	1860	18700	20	1	0	23.68
				1	99	23.68
				50	25	22.18
				100	0	22.11
	1880	18900		1	0	23.53
				1	99	23.53
				50	25	22.22
				100	0	22.20
	1900	19100		1	0	23.51
				1	99	23.51
				50	25	22.22
				100	0	22.13
64QAM	1860	18700	20	1	0	23.64
				1	99	23.64
				50	25	22.14
				100	0	22.08
	1880	18900		1	0	23.48
				1	99	23.48
				50	25	22.15
				100	0	22.06
	1900	19100		1	0	23.50
				1	99	23.50
				50	25	22.17
				100	0	22.12

2 Occupied Bandwidth

Test result

Band	Carrier frequency (MHz)	Channel	BW (MHz)	RB Size	RB Offset	Bandwidth of 99% Power (MHz)					
						QPSK		16-QAM		64-QAM	
2	1850.7	18607	1.4	6	0	1.08	Fig.1	1.08	Fig.2	1.08	Fig.3
	1880.0	18900		6	0	1.08	Fig.4	1.08	Fig.5	1.08	Fig.6
	1909.3	19193		6	0	1.08	Fig.7	1.08	Fig.8	1.08	Fig.9
	1851.5	18615	3	15	0	2.69	Fig.10	2.69	Fig.11	2.69	Fig.12
	1880.0	18900		15	0	2.69	Fig.13	2.69	Fig.14	2.70	Fig.15
	1908.5	19185		15	0	2.69	Fig.16	2.69	Fig.17	2.70	Fig.18
	1852.5	18625	5	25	0	4.47	Fig.19	4.47	Fig.20	4.47	Fig.21
	1880.0	18900		25	0	4.46	Fig.22	4.47	Fig.23	4.47	Fig.24
	1907.5	19175		25	0	4.48	Fig.25	4.47	Fig.26	4.46	Fig.27
	1855	18650	10	50	0	8.92	Fig.28	8.94	Fig.29	8.92	Fig.30
	1880	18900		50	0	8.93	Fig.31	8.94	Fig.32	8.92	Fig.33
	1905	19150		50	0	8.92	Fig.34	8.93	Fig.35	8.93	Fig.36
	1857.5	18675	15	75	0	13.38	Fig.37	13.40	Fig.38	13.39	Fig.39
	1880.0	18900		75	0	13.39	Fig.40	13.37	Fig.41	13.42	Fig.42
	1902.5	19125		75	0	13.40	Fig.43	13.41	Fig.44	13.41	Fig.45
	1860	18700	20	100	0	17.85	Fig.46	17.86	Fig.47	17.86	Fig.48
	1880	18900		100	0	17.85	Fig.49	17.86	Fig.50	17.84	Fig.51
	1900	19100		100	0	17.89	Fig.52	17.91	Fig.53	17.89	Fig.54

Band	Carrier frequency (MHz)	Channel	BW (MHz)	RB Size	RB Offset	Bandwidth of -26dB transmitter power (MHz)					
						QPSK		16-QAM		64-QAM	
2	1850.7	18607	1.4	6	0	1.22	Fig.1	1.20	Fig.2	1.22	Fig.3
	1880.0	18900		6	0	1.20	Fig.4	1.21	Fig.5	1.20	Fig.6
	1909.3	19193		6	0	1.20	Fig.7	1.21	Fig.8	1.20	Fig.9
	1851.5	18615	3	15	0	2.99	Fig.10	2.96	Fig.11	2.95	Fig.12
	1880.0	18900		15	0	3.00	Fig.13	2.98	Fig.14	2.98	Fig.15
	1908.5	19185		15	0	2.96	Fig.16	2.99	Fig.17	3.00	Fig.18
	1852.5	18625	5	25	0	4.85	Fig.19	4.88	Fig.20	4.87	Fig.21
	1880.0	18900		25	0	4.90	Fig.22	4.86	Fig.23	4.85	Fig.24
	1907.5	19175		25	0	4.85	Fig.25	4.84	Fig.26	4.86	Fig.27
	1855	18650	10	50	0	9.60	Fig.28	9.64	Fig.29	9.60	Fig.30
	1880	18900		50	0	9.53	Fig.31	9.56	Fig.32	9.67	Fig.33
	1905	19150		50	0	9.64	Fig.34	9.48	Fig.35	9.59	Fig.36
	1857.5	18675	15	75	0	14.34	Fig.37	14.59	Fig.38	14.36	Fig.39
	1880.0	18900		75	0	14.51	Fig.40	14.39	Fig.41	14.40	Fig.42
	1902.5	19125		75	0	14.38	Fig.43	14.36	Fig.44	14.39	Fig.45
	1860	18700	20	100	0	19.30	Fig.46	19.08	Fig.47	19.06	Fig.48
	1880	18900		100	0	19.09	Fig.49	19.19	Fig.50	18.98	Fig.51
	1900	19100		100	0	19.32	Fig.52	19.27	Fig.53	19.24	Fig.54

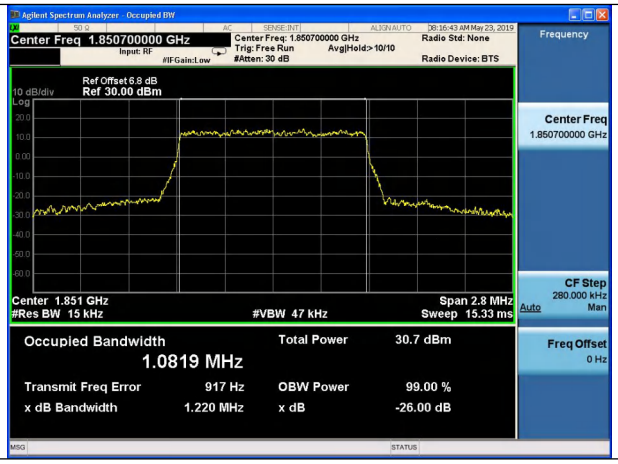


Fig.1

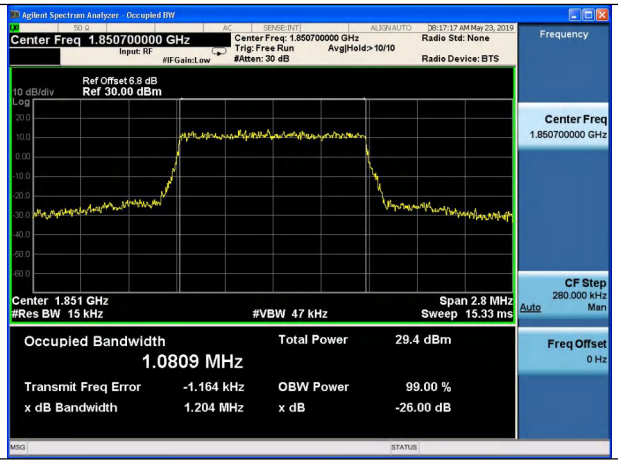


Fig.2

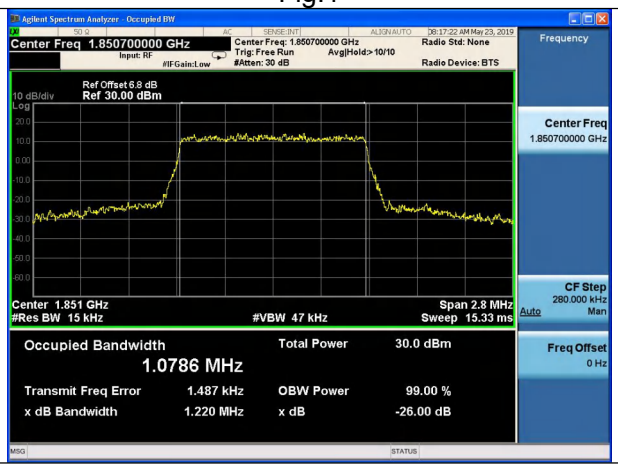


Fig.3

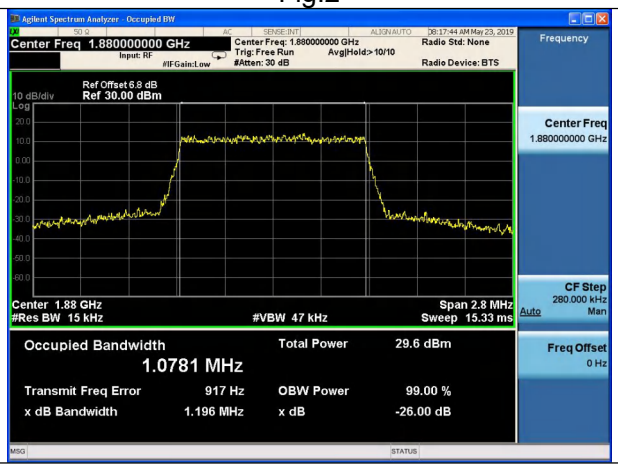


Fig.4

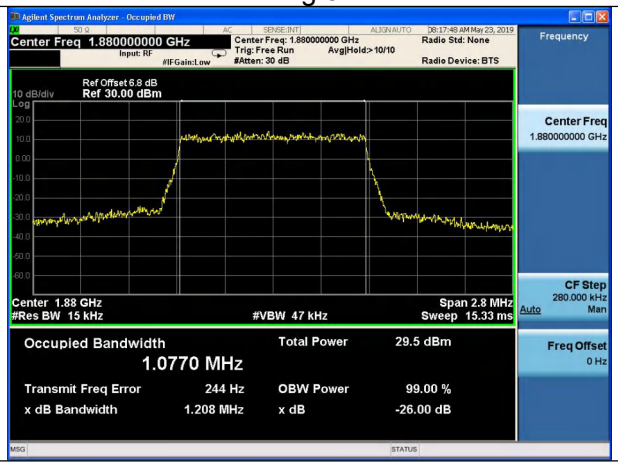


Fig.5

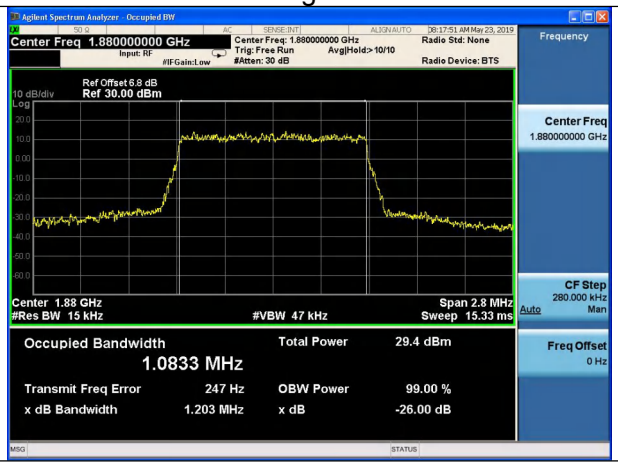


Fig.6

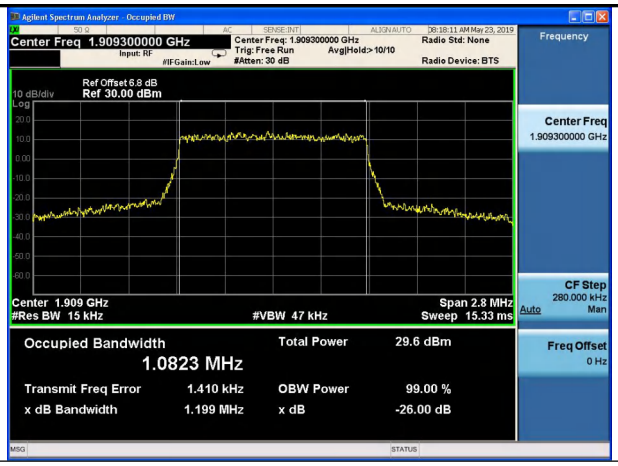


Fig.7

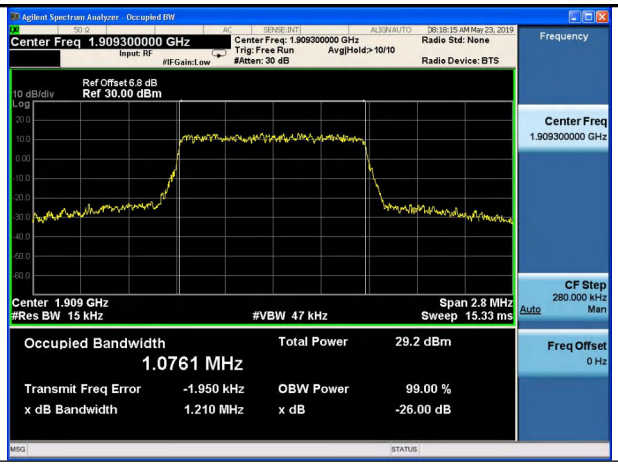


Fig.8

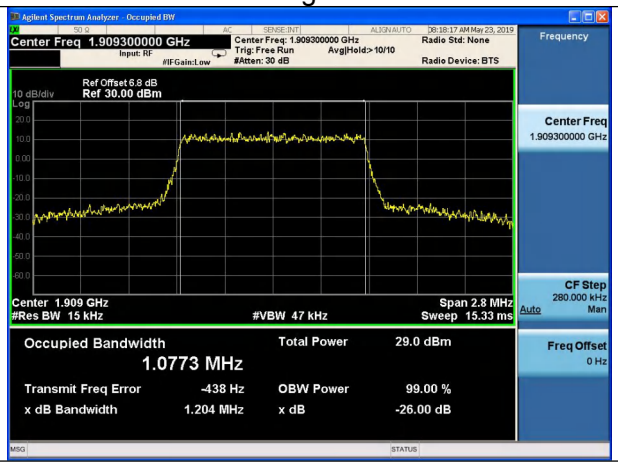


Fig.9

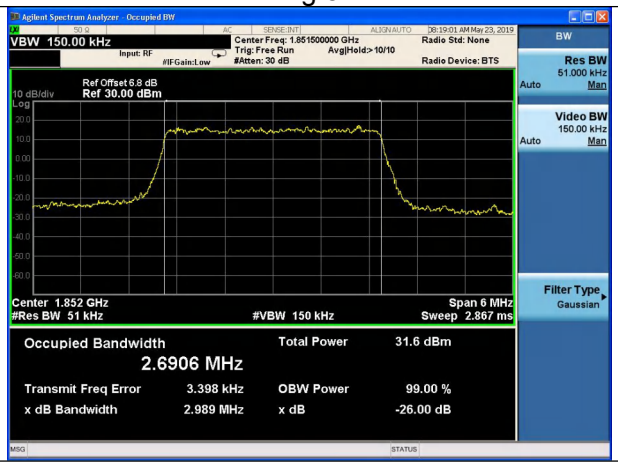


Fig.10

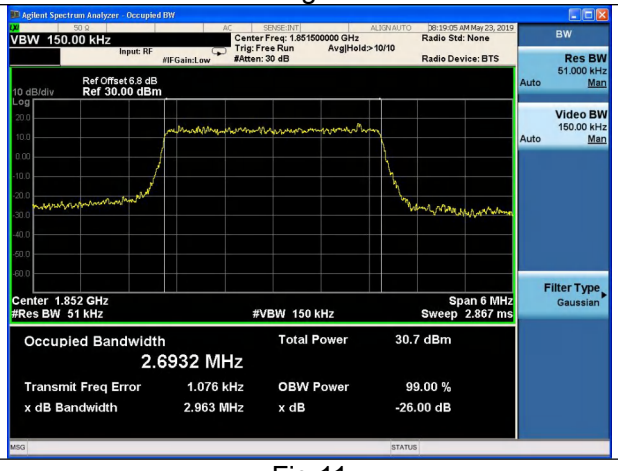


Fig.11

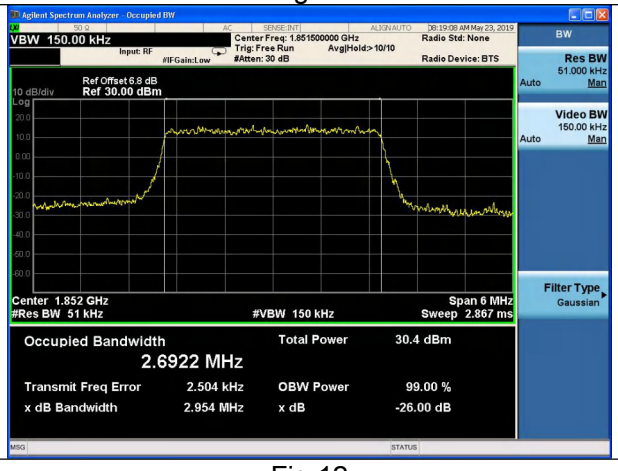


Fig.12

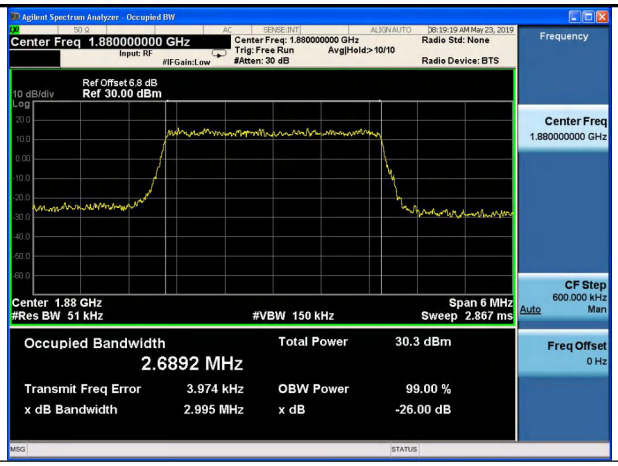


Fig.13

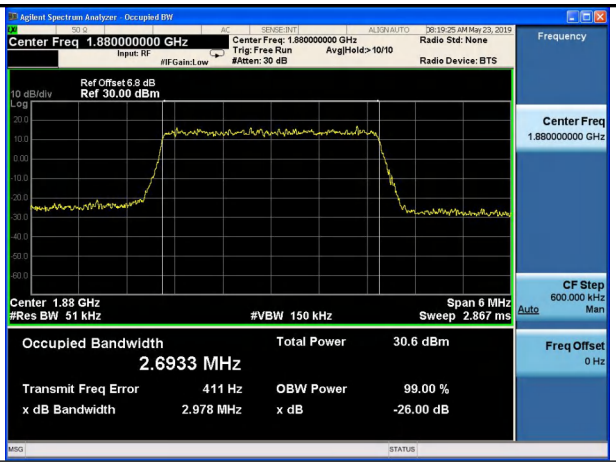


Fig.14

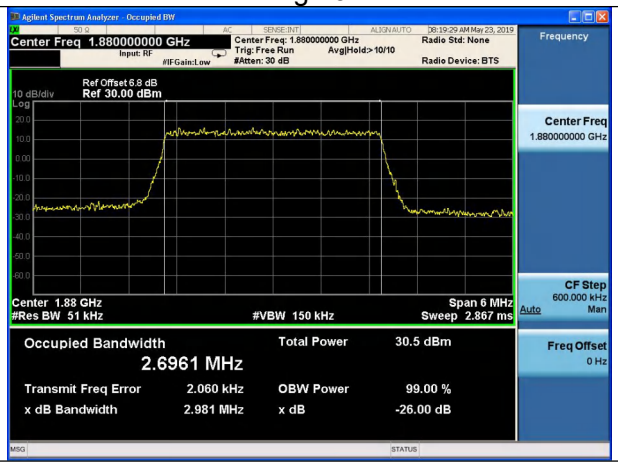


Fig.15

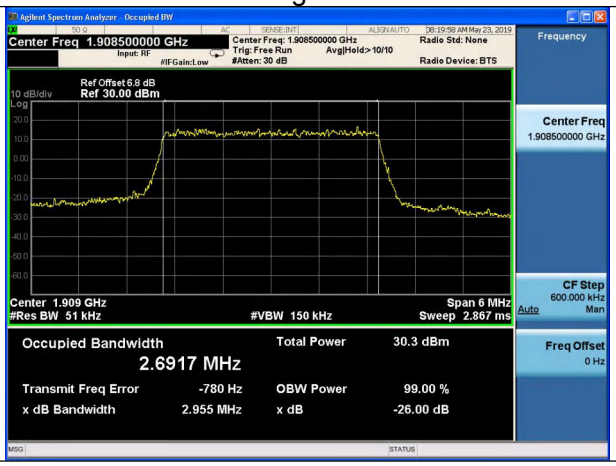


Fig.16

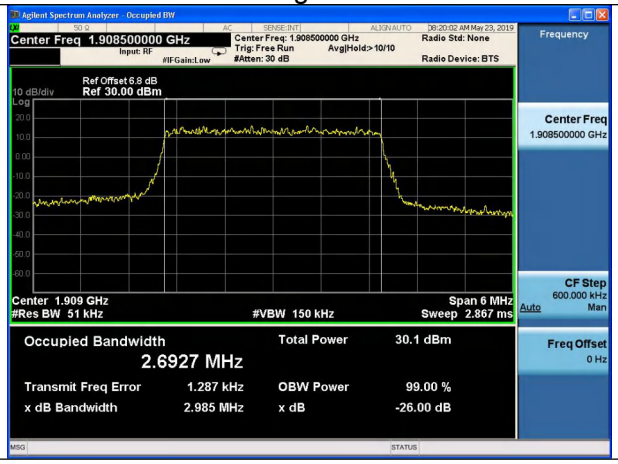


Fig.17

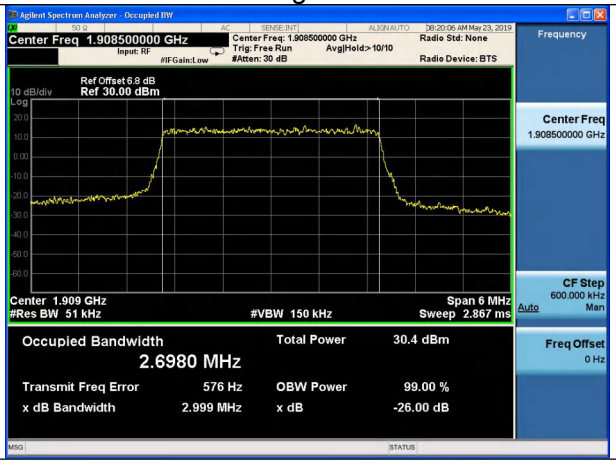


Fig.18

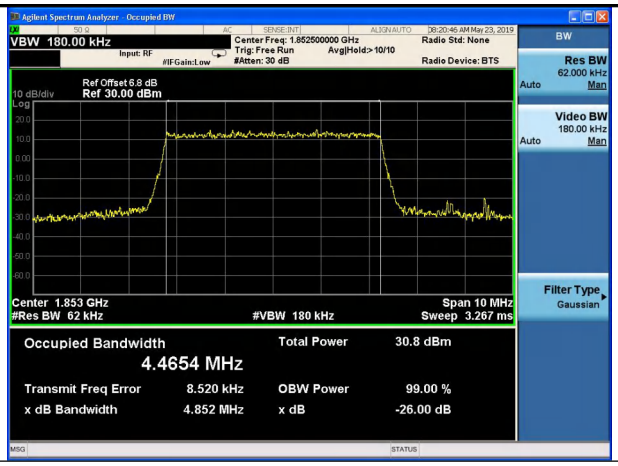


Fig.19

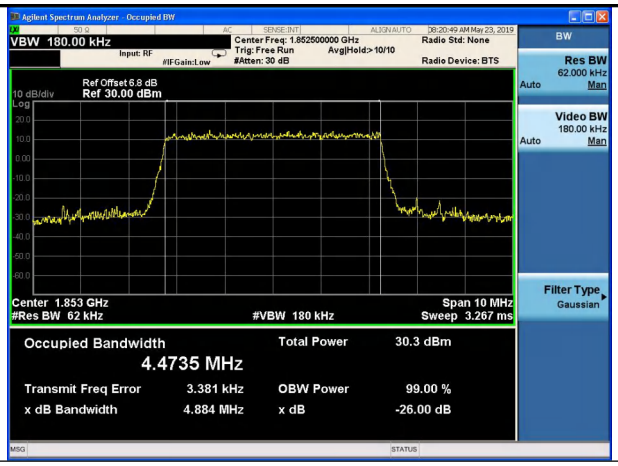


Fig.20

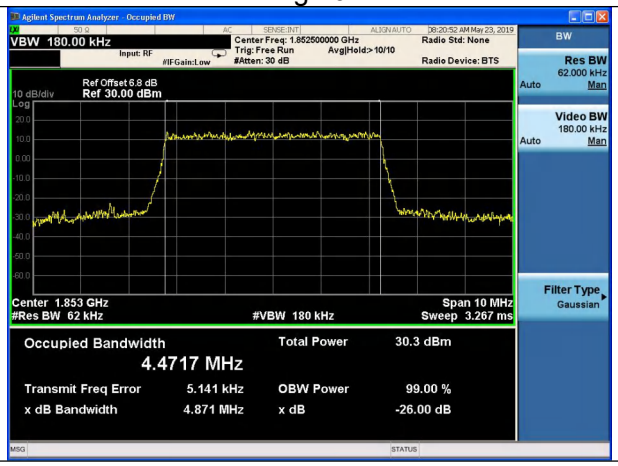


Fig.21

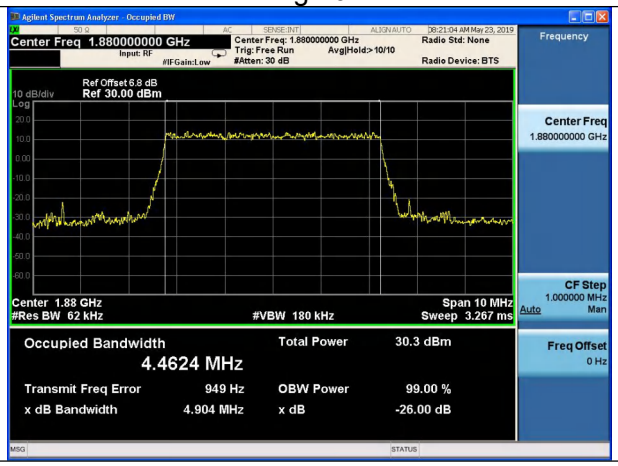


Fig.22

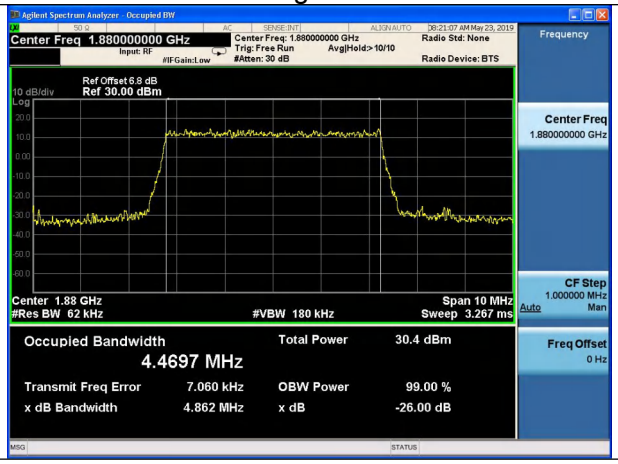


Fig.23

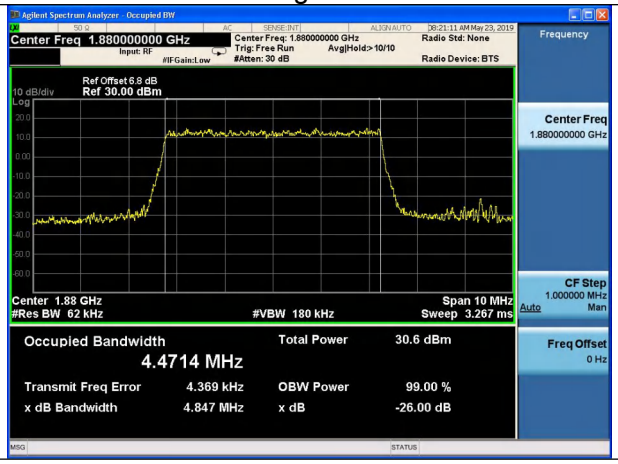


Fig.24

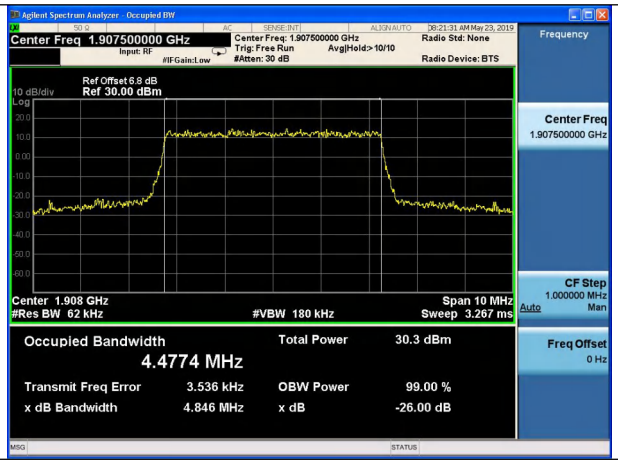


Fig.25

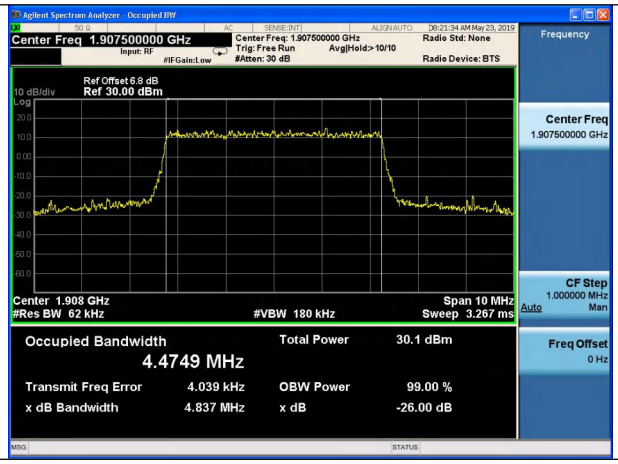


Fig.26

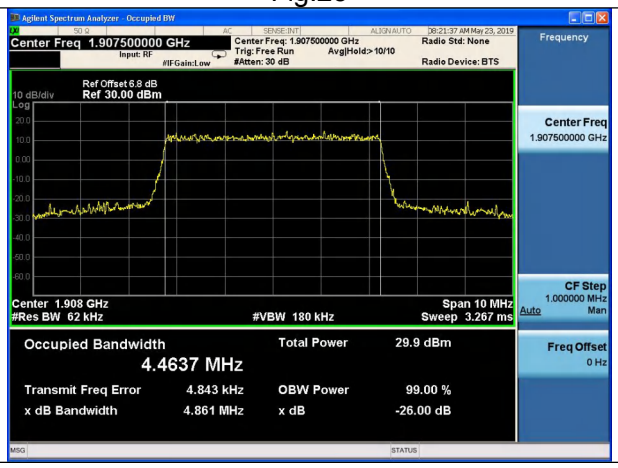


Fig.27

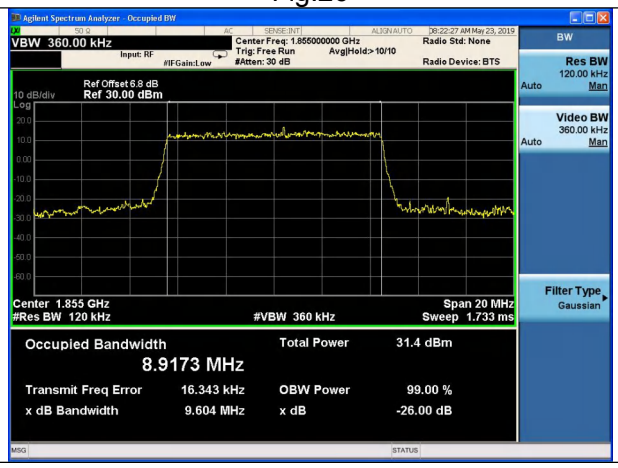


Fig.28

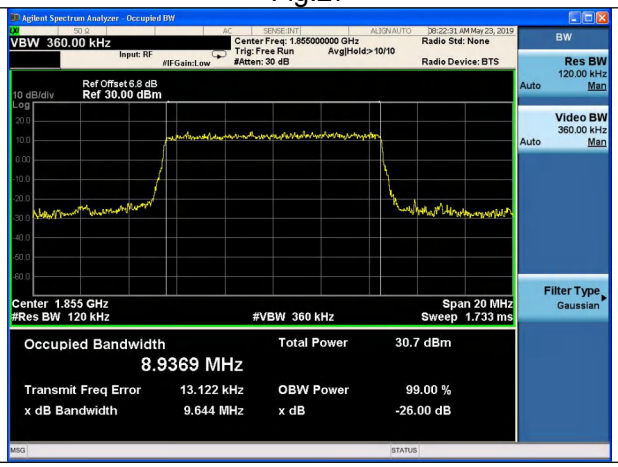


Fig.29

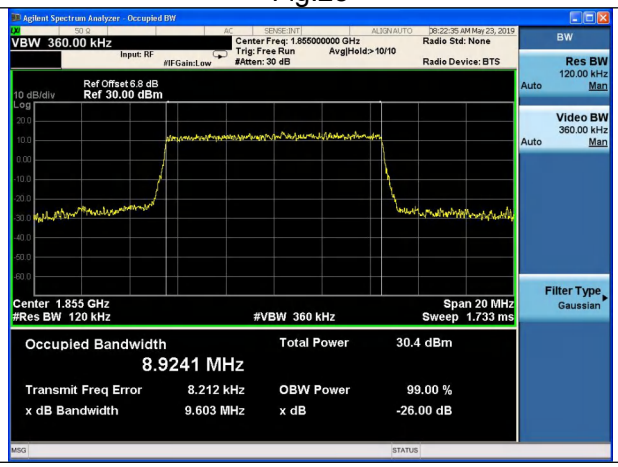


Fig.30

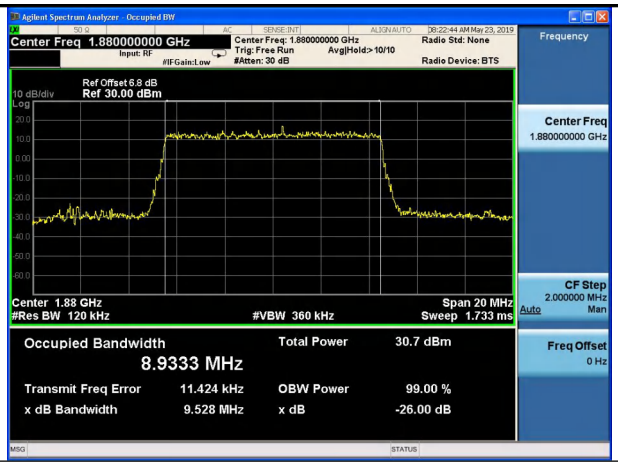


Fig.31

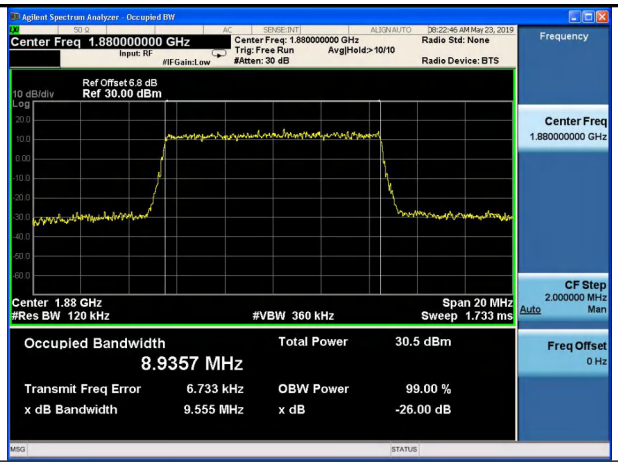


Fig.32

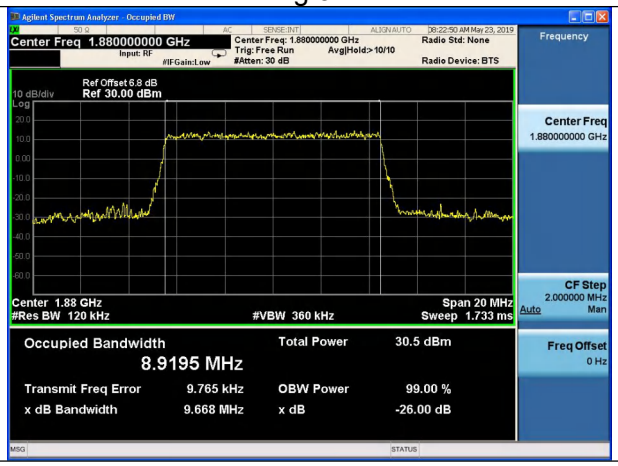


Fig.33

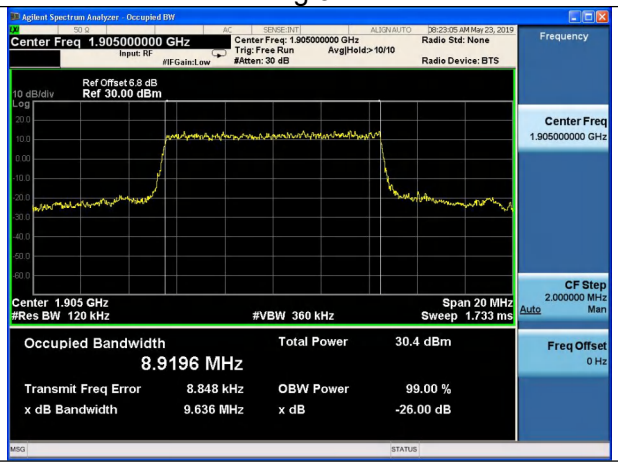


Fig.34

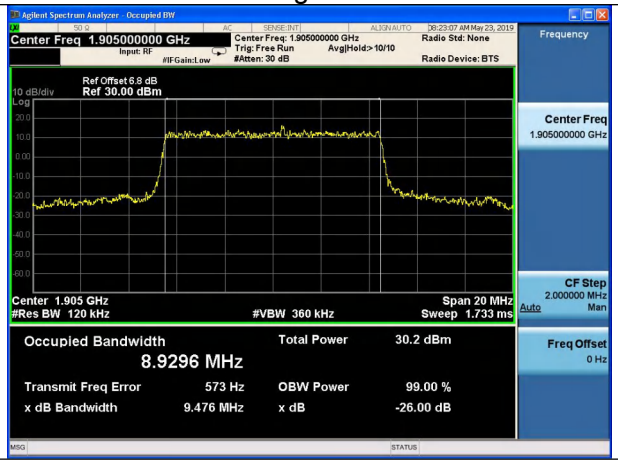


Fig.35

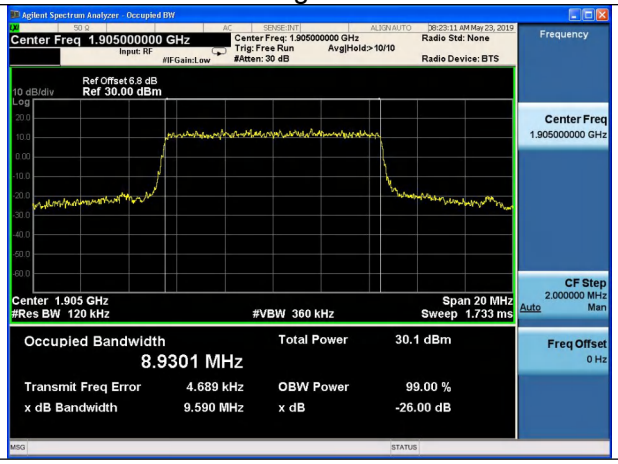


Fig.36

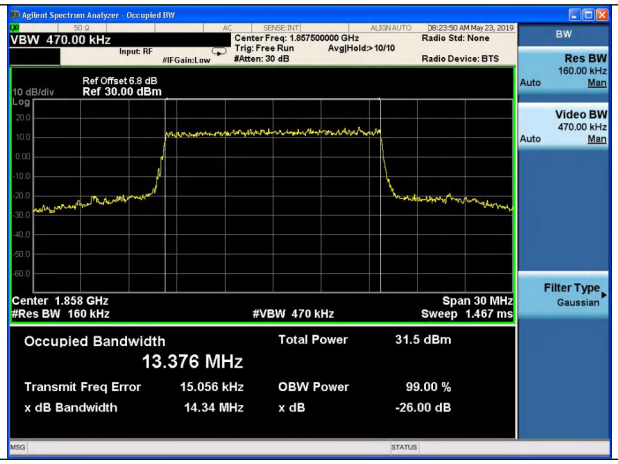


Fig.37

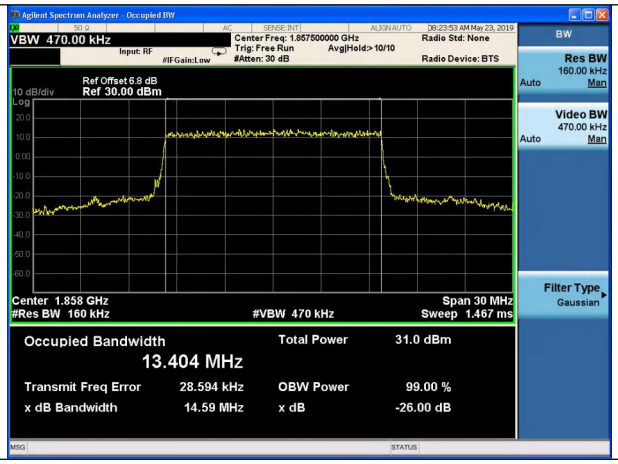


Fig.38

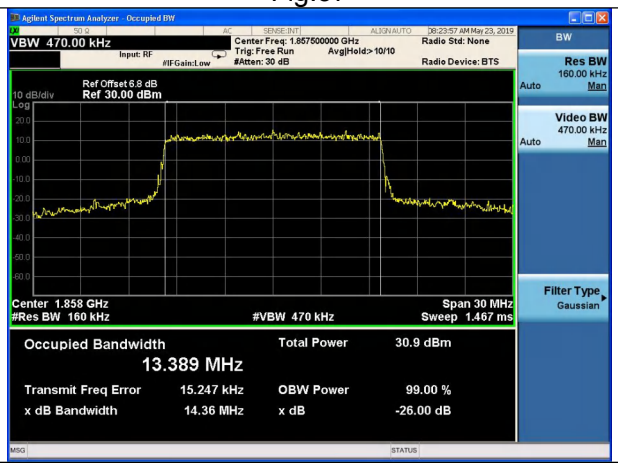


Fig.39

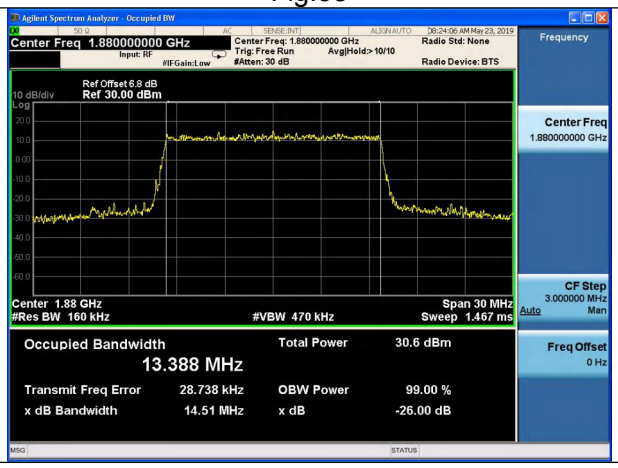


Fig.40

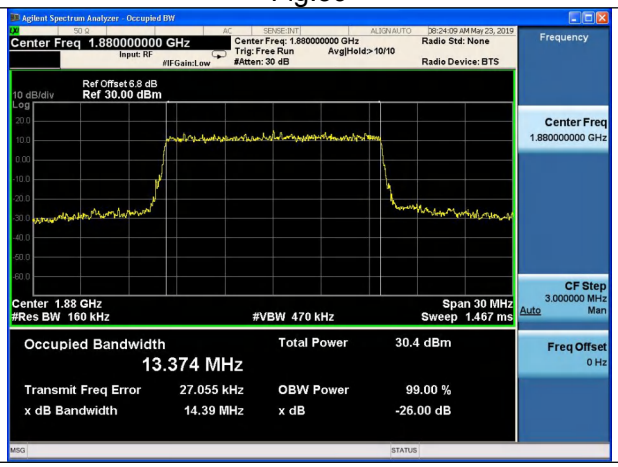


Fig.41

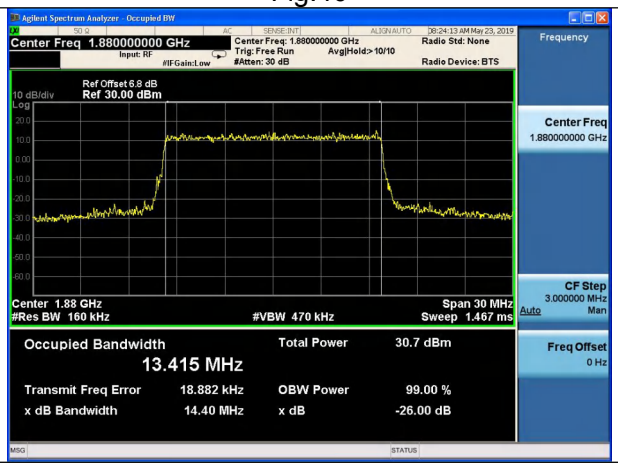


Fig.42

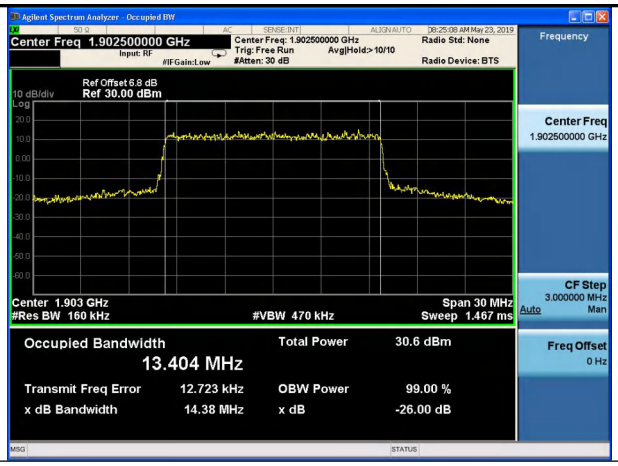


Fig.43

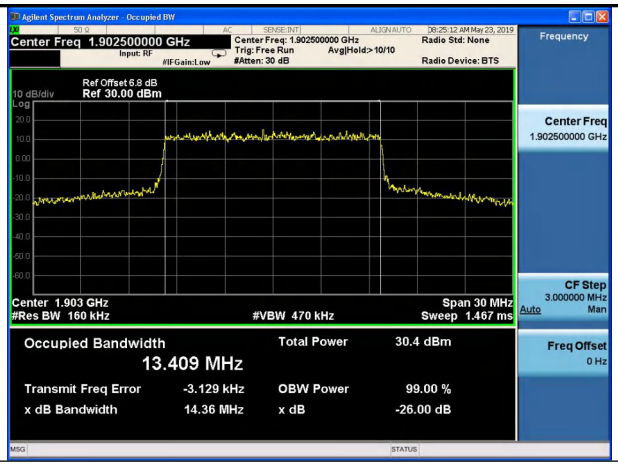


Fig.44

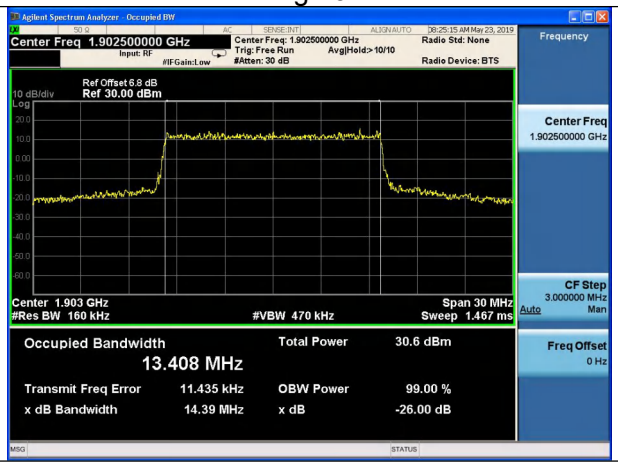


Fig.45

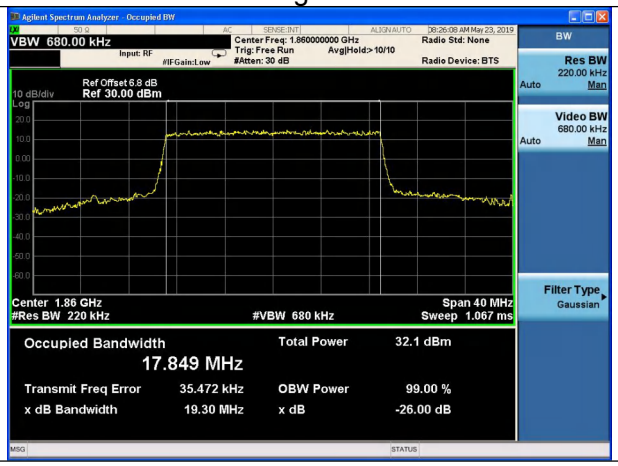


Fig.46

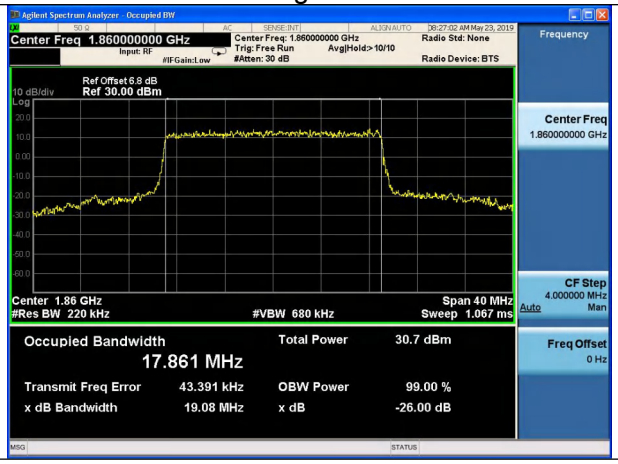


Fig.47

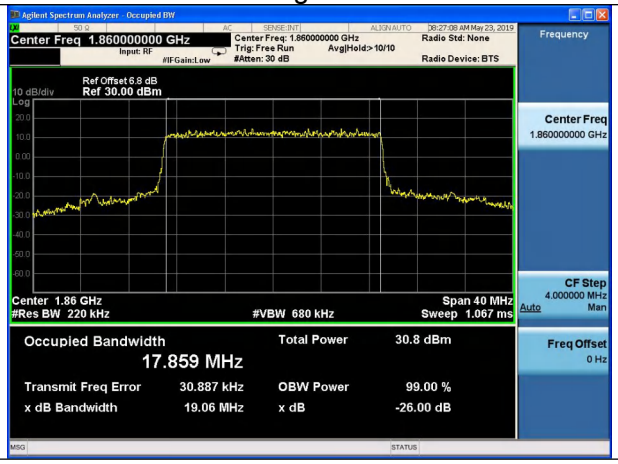


Fig.48

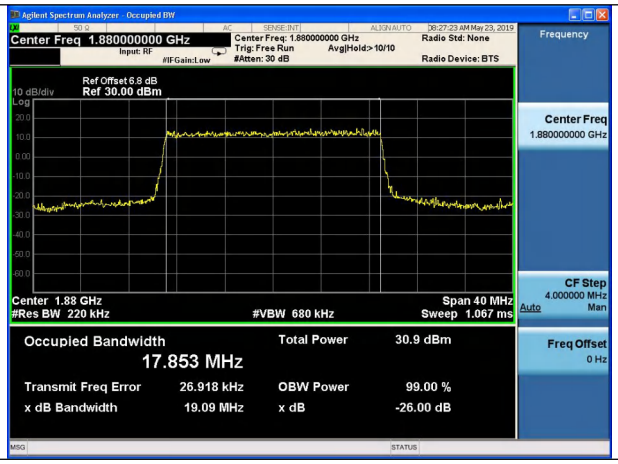


Fig.49

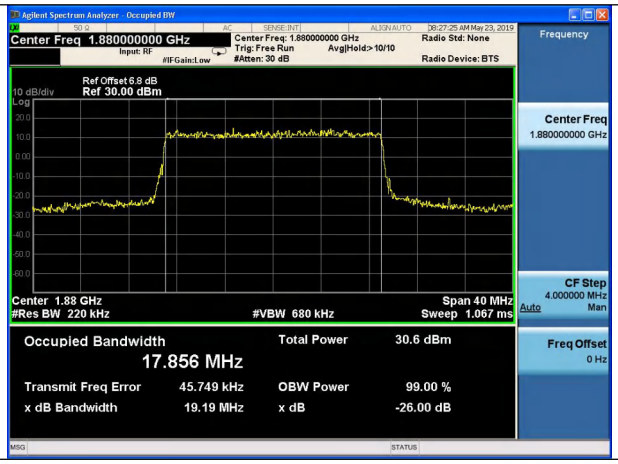


Fig.50

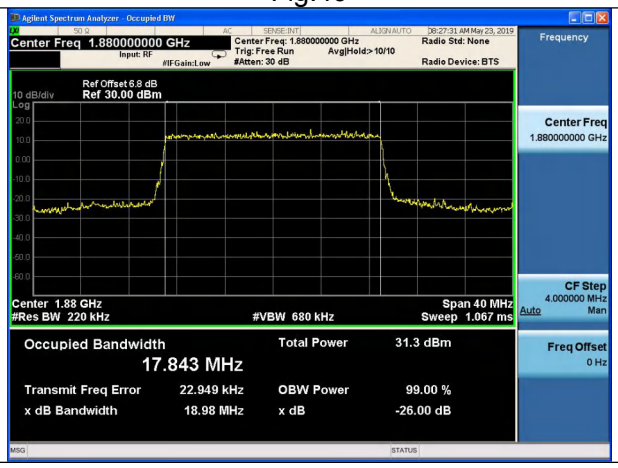


Fig.51

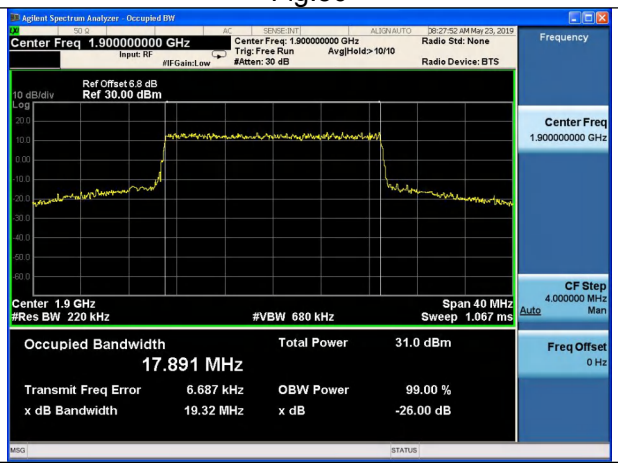


Fig.52

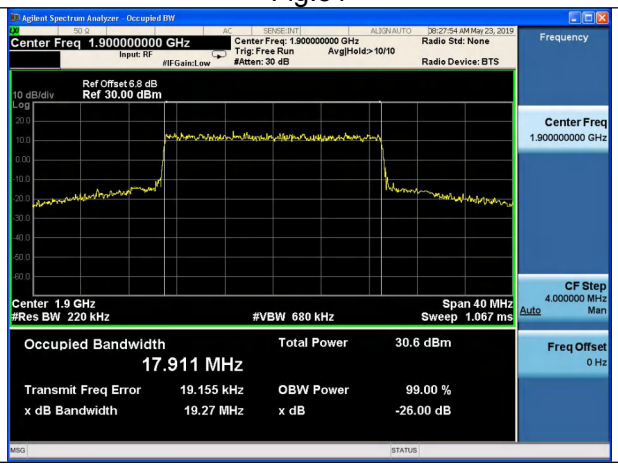


Fig.53

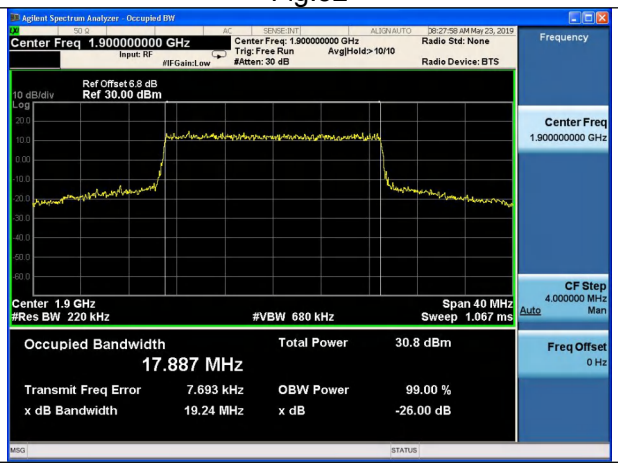


Fig.54

3 Peak-Average Ratio

Band	Carrier frequency (MHz)	Channel	BW (MHz)	RB Size	RB Offset	QPSK	16-QAM	64-QAM
2	1880.0	18900	1.4	1	0	Fig.1	Fig.2	Fig.3
			3	1	0	Fig.4	Fig.5	Fig.6
			5	1	0	Fig.7	Fig.8	Fig.9
			10	1	0	Fig.10	Fig.11	Fig.12
			15	1	0	Fig.13	Fig.14	Fig.15
			20	1	0	Fig.16	Fig.17	Fig.18

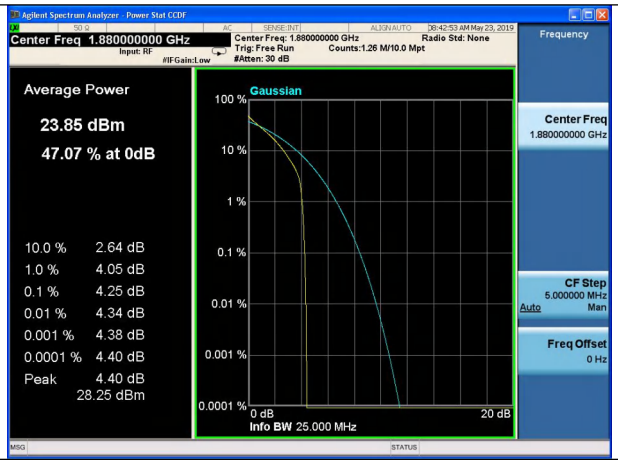


Fig.1

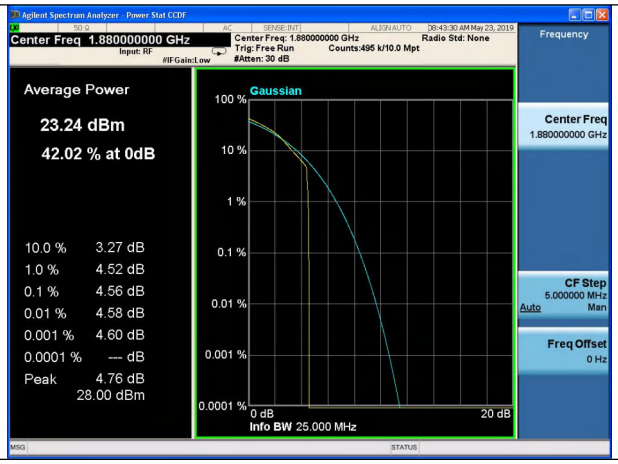


Fig.2

Fig.3

Fig.4

Fig.5

Fig.6

Fig.7

Fig.8

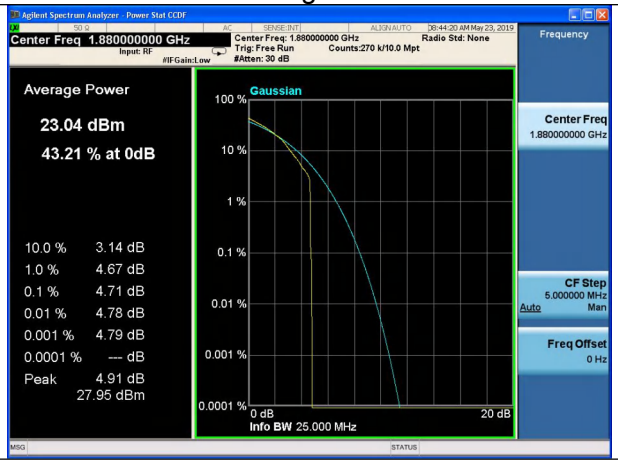


Fig.9

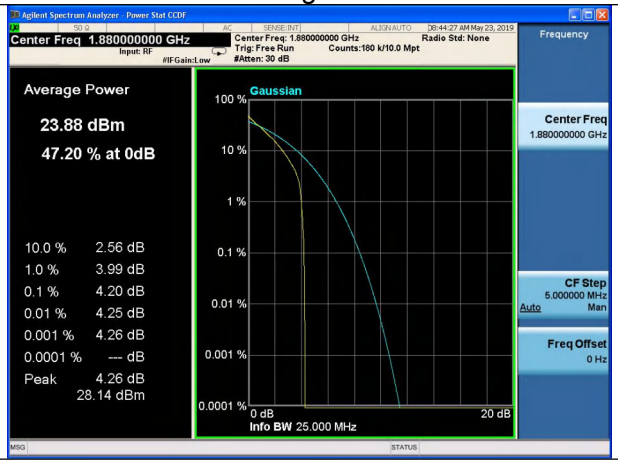


Fig.10