Test Lab
Cert 2951.01

FCC TEST REPORT

(PART 90Z)

Product:	Outdoor CPE
Model Name:	WF820
FCC ID:	SRQ-WF820
Applicant:	ZTE Corporation
Address:	ZTE Plaza, Keji Road South, Hi-Tech, Industrial Park, Nanshan District, Shenzhen, Guangdong, P.R.China
Manufacturer:	ZTE Corporation
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Report No.:	RF160226W001
Received Date:	Mar. 26, 2016
Test Date:	Apr. 06, 2016 ~ Apr. 20, 2016
Issued Date:	Apr. 21, 2016

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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF160226W001	Original release	Apr. 21, 2016

1 CERTIFICATION

PRODUCT: Outdoor CPE
BRAND NAME: ZTE
MODEL NAME: WF820
APPLICANT: ZTE Corporation
TESTED DATE: Apr. 06, 2016 ~ Apr. 20, 2016
TEST SAMPLE: Identical Prototype
STANDARDS: **FCC Part 90 Subpart Z**
FCC Part 2

The above equipment has been tested by **Bureau Veritas Shenzhen Co., Ltd. Dongguan Branch,** and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

PREPARED BY : _____ , **DATE:** Apr. 21, 2016
(Amyee Qian / Engineer)

APPROVED BY : _____ , **DATE:** Apr. 21, 2016
(William Chung / Manager)

2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

STANDARD SECTION	TEST TYPE AND LIMIT	RESULT	REMARK
2.1046 90.1321	Maximum Peak Output Power Limit	PASS	Meet the requirement of limit.
2.1046 90.1321	Peak EIRP Power Density	PASS	Meet the requirement of limit.
2.1055 90.213	Frequency Stability	PASS	Meet the requirement of limit.
2.1049	Occupied Bandwidth	PASS	Meet the requirement of limit.
90.1323	Bandedge Emission	PASS	Meet the requirement of limit.
2.1051 90.1323	Conducted Spurious Emissions	PASS	Meet the requirement of limit.
---	Peak to average ratio	PASS	Meet the requirement of limit.
2.1053 90.1323	Radiated Spurious Emissions	PASS	Meet the requirement of limit. Minimum passing margin is -3.05dB at 14676.00MHz.

2.1 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	FREQUENCY	UNCERTAINTY
Conducted emissions	9kHz~30MHz	2.67dB
Radiated emissions	9KHz ~ 30MHz	2.74dB
	30MHz ~ 1GMHz	4.06dB
	1GHz ~ 18GHz	4.58dB
	18GHz ~ 40GHz	1.94dB

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

2.2 TEST SITE AND INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESR7	101494	Apr. 05,16	Apr. 04,17
Signal and Spectrum Analyzer	Rohde&Schwarz	FSV40	101094	Apr. 05,16	Apr. 04,17
Bilog Antenna 1	Teseq	CBL 6111D	30643	Jun. 25,15	Jun. 24,16
Bilog Antenna 2	Teseq	CBL 6111D	27089	Jun. 25,15	Jun. 24,16
Horn Antenna	ETS-Lindgren	3117	00062558	May 30,14	May 29,16
Horn Antenna (15GHz-40GHz)	SCHWARZBECK	BBHA 9170	BBHA9170147	Jan. 21,14	Jan. 20,17
Amplifier	Burgeon	BPA-530	100220	Apr. 05,16	Apr. 04,17
Pre-Amplifier	HP	8449B	3008A00409	Apr. 25,15	Apr. 24,16
Pre-Amplifier (18GHz-40GHz)	EMCI	EMC 184045	980102	Nov. 11,15	Nov. 10,16
GPS Generator+ Antenna	TOJOIN	GNSS-5000A	E1-010119	Aug. 08, 14	Aug. 07, 16
3m Semi-anechoic Chamber	ETS-LINDGREN	9m*6m*6m	NSEMC003	Mar. 12,16	Mar. 11,18
Test Software	ADT	ADT_Radiated _V7.6.15.9.2	N/A	N/A	N/A
Power Meter	Anritsu	ML2495A	1139001	Feb.19,16	Feb. 18,17
Power Sensor	Anritsu	MA2411B	1126068	Feb.19,16	Feb. 18,17
Power Sensor	Keysight	U2021XA	MY55060016	May 27,15	May 26,16
Power Sensor	Keysight	U2021XA	MY55060018	May 27,15	May 26,16
Digital Multimeter	FLUKE	15B	A1220010DG	Oct. 12, 15	Oct.11, 16
Humid & Temp Programmable Tester	Haida	HD-2257	110807201	Sep.07,15	Sep. 06,16
Oscilloscope	Agilent	DSO9254A	MY51260160	Nov. 09,15	Nov. 08,16
Signal Analyzer	Rohde & Schwarz	FSV7	102331	Nov. 09,15	Nov. 08,16
Signal Generator	Agilent	N5183A	MY50140980	Apr. 22, 15	Apr. 21, 16
ESG Vector Signal Generator	Agilent	E4438C	MY49072505	Sep. 01,15	Aug. 31,16

NOTE: 1. The calibration interval of the above test instruments is 12 months or 24 months and the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.

2. The test was performed in Dongguan 966 Chamber and RF Oven Room.

3. The horn antenna are used only for the measurement of emission frequency above 1GHz if tested.

4. The FCC Site Registration No. is 502831.

3 GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Outdoor CPE	
BRAND NAME	ZTE	
MODEL NAME	WF820	
PRODUCT TYPE	Fixed Station	
POWER SUPPLY	48Vdc (POE adapter)	
MODULATION TECHNOLOGY	LTE Band 43, QPSK, 16QAM	
FREQUENCY RANGE	**LTE Band 43 (Channel Bandwidth: 5MHz)**	3652.5MHz ~ 3697.5MHz
	LTE Band 43 (Channel Bandwidth: 10MHz)	3655.0MHz ~ 3695.0MHz
	LTE Band 43 (Channel Bandwidth: 15MHz)	3657.5MHz ~ 3692.5MHz
	LTE Band 43 (Channel Bandwidth: 20MHz)	3660.0MHz ~ 3690.0MHz
EMISSION DESIGNATOR	**LTE Band 43 (Channel Bandwidth: 5MHz)**	4M50W7D
	LTE Band 43 (Channel Bandwidth: 10MHz)	8M98W7D
	LTE Band 43 (Channel Bandwidth: 15MHz)	13M5G7D
	LTE Band 43 (Channel Bandwidth: 20MHz)	18M0W7D
MAX. ERP POWER	**LTE Band 43 (Channel Bandwidth: 5MHz)**	7586mW
	LTE Band 43 (Channel Bandwidth: 10MHz)	7261mW
	LTE Band 43 (Channel Bandwidth: 15MHz)	8318mW
	LTE Band 43 (Channel Bandwidth: 20MHz)	8279mW
ANTENNA TYPE	Fixed Internal antenna with 13dBi gain	
HW VERSION	B1	
SW VERSION	WF820V2.0.0B02	
DATA CABLE	N/A	
I/O PORTS	Refer to user's manual	

NOTE:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

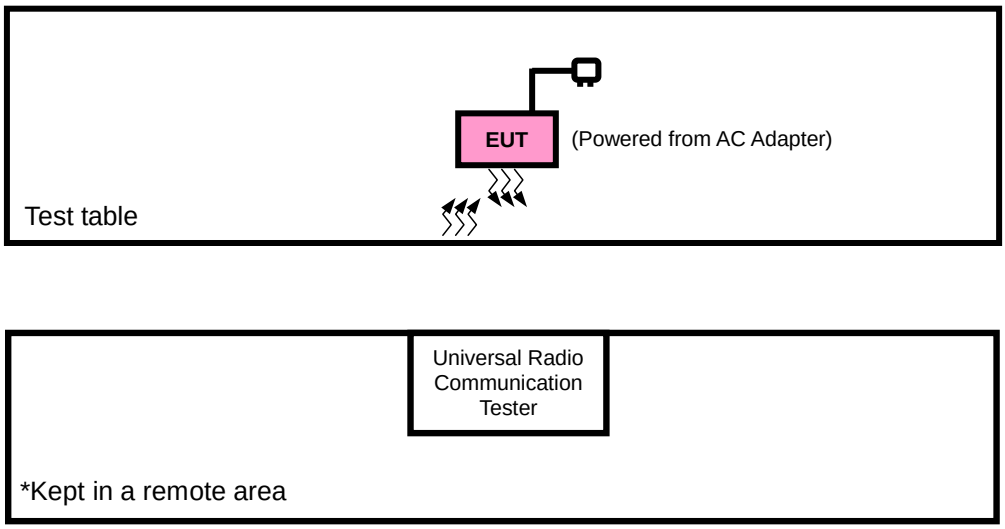
2. The EUT was powered by the following adapter:

POE ADAPTER	
BRAND:	N/A
MODEL:	N/A
INPUT:	AC 100-240V, 1000mA
OUTPUT:	DC 48V, 320mA

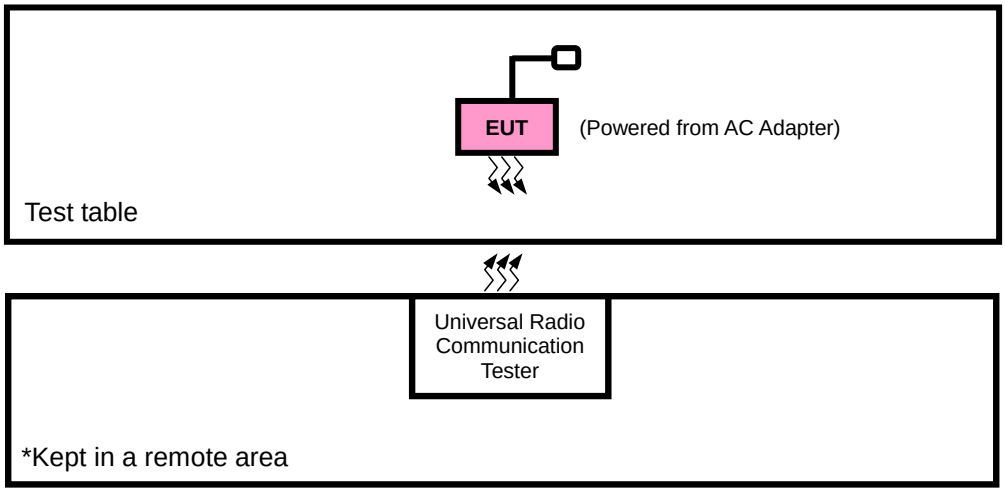
3. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.

3.2 CONFIGURATION OF SYSTEM UNDER TEST

FOR RADIATION EMISSION TEST



FOR E.I.R.P TEST



3.3 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	DC source	LONG WEI	PS-6403D	010934269	N/A
2	PC	HP	A6608CN	3CR83825X3	N/A

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	DC Line: Unshielded, Detachable 1.0m
2	AC Line: Unshielded, Detachable 1.5m

NOTE: All power cords of the above support units are non shielded (1.8m).

3.4 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 was found when positioned on Y-plane for EIRP and X-axis for radiated emission. Following channel(s) was (were) selected for the final test as listed below:

EUT CONFIGURE MODE	DESCRIPTION
A	**EUT + POE Charging with LTE link**

LTE BAND 43 MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	CHANNEL BANDWIDTH	MODULATION	MODE
A	EIRP	44115 to 44565	44115, 44340, 44565	5MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		44140 to 44540	44140, 44340, 44540	10MHz	QPSK, 16QAM	1 RB / 0RB Offset
		44165 to 44515	44165, 44340, 44515	15MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		44190 to 44490	44190, 44340, 44490	20MHz	QPSK, 16QAM	1 RB / 0 RB Offset
A	Power Density	44115 to 44565	44115, 44340, 44565	5MHz	QPSK	1 RB / 0 RB Offset
		44140 to 44540	44140, 44340, 44540	10MHz	QPSK	1 RB / 0RB Offset
		44165 to 44515	44165, 44340, 44515	15MHz	QPSK	1 RB / 0 RB Offset
		44190 to 44490	44190, 44340, 44490	20MHz	QPSK	1 RB / 0 RB Offset
A	FREQUENCY STABILITY	44115 to 44565	44340	5MHz	QPSK	1 RB / 0 RB Offset
		44140 to 44540	44340	10MHz	QPSK	1 RB / 0RB Offset
		44165 to 44515	44340	15MHz	QPSK	1 RB / 0 RB Offset
		44190 to 44490	44340	20MHz	QPSK	1 RB / 0 RB Offset
A	OCCUPIED BANDWIDTH	44115 to 44565	44115, 44340, 44565	5MHz	QPSK, 16QAM	25 RB / 0 RB Offset
		44140 to 44540	44140, 44340, 44540	10MHz	QPSK, 16QAM	50 RB / 0 RB Offset
		44165 to 44515	44165, 44340, 44515	15MHz	QPSK, 16QAM	75 RB / 0 RB Offset
		44190 to 44490	44190, 44340, 44490	20MHz	QPSK, 16QAM	100 RB / 0 RB Offset
A	PEAK TO AVERAGE RATIO	44115 to 44565	44115, 44340, 44565	5MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		44140 to 44540	44140, 44340, 44540	10MHz	QPSK, 16QAM	1 RB / 0RB Offset
		44165 to 44515	44165, 44340, 44515	15MHz	QPSK, 16QAM	1 RB / 0 RB Offset
		44190 to 44490	44190, 44340, 44490	20MHz	QPSK, 16QAM	1 RB / 0 RB Offset
A	BAND EDGE	44115 to 44565	44115, 44565	5MHz	QPSK	1 RB / 12 RB Offset
						25 RB / 0 RB Offset
		44140 to 44540	44140, 44540	10MHz	QPSK	1 RB / 24 RB Offset
						50 RB / 0 RB Offset
		44165 to 44515	44165, 44515	15MHz	QPSK	1 RB / 37 RB Offset
						75 RB / 0 RB Offset
		44190 to 44490	44190, 44490	20MHz	QPSK	1 RB / 50 RB Offset
						100 RB / 0 RB Offset
A	CONDCUDETED EMISSION	44115 to 44565	44340	5MHz	QPSK	1 RB / 0 RB Offset
		44140 to 44540	44340	10MHz	QPSK	1 RB / 0RB Offset
		44165 to 44515	44340	15MHz	QPSK	1 RB / 0 RB Offset
		44190 to 44490	44340	20MHz	QPSK	1 RB / 0 RB Offset
A	RADIATED EMISSION	44115 to 44565	44340	5MHz	QPSK	1 RB / 0 RB Offset
		44140 to 44540	44340	10MHz	QPSK	1 RB / 0RB Offset
		44165 to 44515	44340	15MHz	QPSK	1 RB / 0 RB Offset
		44190 to 44490	44340	20MHz	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
EIRP	24deg. C, 60%RH	48Vdc (adapter)	Blue Zheng
FREQUENCY STABILITY	24deg. C, 61%RH	48Vdc (adapter)	Yuqiang Yin
OCCUPIED BANDWIDTH	24deg. C, 61%RH	48Vdc (adapter)	Yuqiang Yin
PEAK TO AVERAGE RATIO	24deg. C, 61%RH	48Vdc (adapter)	Yuqiang Yin
BAND EDGE	24deg. C, 61%RH	48Vdc (adapter)	Yuqiang Yin
CONDCUDETED EMISSION	24deg. C, 61%RH	48Vdc (adapter)	Yuqiang Yin
RADIATED EMISSION	24deg. C, 60%RH	48Vdc (adapter)	Blue Zheng

3.5 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 90 Subpart Z

ANSI/TIA/EIA-603-D

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

4 TEST TYPES AND RESULTS

4.1 OUTPUT POWER MEASUREMENT

4.1.1 LIMITS OF OUTPUT POWER MEASUREMENT

Per FCC Part 90.1321(a),
Base stations and Fixed stations transmitting in the 3650-3700 MHz band are limited to 25 watts / 25MHz E.I.R.P.

Mobile and Portable stations (hand-held devices) transmitting in the 3650-3700 MHz band are limited to 1 watts / 25MHz E.I.R.P.

4.1.2 TEST PROCEDURES

ERP MEASUREMENT:

a. The EUT was set up for the maximum power with LTE link data modulation. The power was measured with Agilent Spectrum Analyzer. All measurements were done at 1 channel. RWB and VBW is 5MHz for LTE

b. E.I.R.P power 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.

c. 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

d. EIRP = Output power level of S.G – TX cable loss + Antenna gain of substitution horn

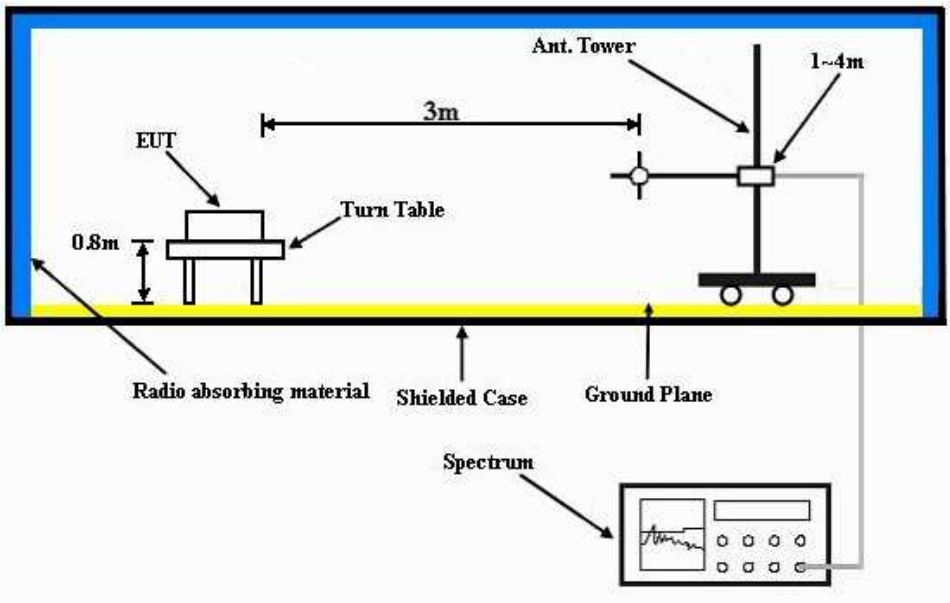
e. E.R.P = E.I.R.P- 2.15 dB

CONDUCTED POWER MEASUREMENT:

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

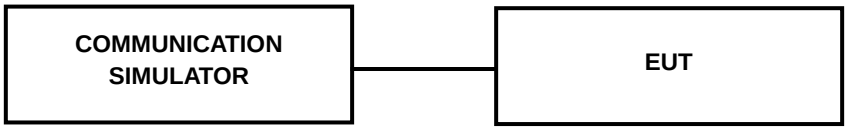
4.1.3 TEST SETUP

ERP MEASUREMENT:



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

CONDUCTED POWER MEASUREMENT:



4.1.4 EUT OPERATING CONDITIONS

1) Upload test waveform to signal generator and produce test signal to link up with EUT.

2) Execute test tool to control EUT transmit at specific modulation, RB size, frequency and output power level continuously.

Note: Test waveform and tool are provided by client.

4.1.5 TEST RESULTS

CONDUCTED OUTPUT POWER (dBm)

Band/BW	Modulation	RB Size	RB Offset	CH 44115 3652.5 MHz	CH 44340 3675.0 MHz	CH 44565 3697.5 MHz	MPR
43 / 5	QPSK	1	0	27.89	27.55	27.88	0
		1	12	27.64	27.38	27.75	0
		1	24	27.34	27.08	27.31	0
		12	0	26.59	26.50	26.68	1
		12	6	26.43	26.49	26.57	1
		12	13	26.30	26.28	26.38	1
		25	0	26.47	26.37	26.48	1
	16QAM	1	0	26.49	26.85	26.79	1
		1	12	26.40	26.57	26.70	1
		1	24	26.29	26.07	26.48	1
		12	0	25.57	25.60	25.65	2
		12	6	25.48	25.48	25.59	2
		12	13	25.37	25.35	25.31	2
		25	0	25.45	25.47	25.49	2

Band/BW	Modulation	RB Size	RB Offset	CH 44140 3655.0 MHz	CH 44340 3675.0 MHz	CH 44540 3695.0 MHz	MPR
43 / 10	QPSK	1	0	27.93	27.59	27.92	0
		1	24	27.68	27.42	27.79	0
		1	49	27.38	27.12	27.35	0
		25	0	26.63	26.54	26.72	1
		25	12	26.47	26.53	26.61	1
		25	25	26.34	26.32	26.42	1
		50	0	26.51	26.41	26.52	1
	16QAM	1	0	26.53	26.89	26.83	1
		1	24	26.44	26.61	26.74	1
		1	49	26.33	26.11	26.52	1
		25	0	25.61	25.64	25.69	2
		25	12	25.52	25.52	25.63	2
		25	25	25.41	25.39	25.35	2
		50	0	25.49	25.51	25.53	2

Band/BW	Modulation	RB Size	RB Offset	CH 44165 3657.5 MHz	CH 44340 3675.0 MHz	CH 44515 3692.5 MHz	MPR
43 / 15	QPSK	1	0	27.99	27.65	27.98	0
		1	37	27.74	27.48	27.85	0
		1	74	27.44	27.18	27.41	0
		36	0	26.69	26.60	26.78	1
		36	19	26.53	26.59	26.67	1
		36	39	26.40	26.38	26.48	1
		75	0	26.57	26.47	26.58	1
	16QAM	1	0	26.59	26.95	26.89	1
		1	37	26.50	26.67	26.80	1
		1	74	26.39	26.17	26.58	1
		36	0	25.67	25.70	25.75	2
		36	19	25.58	25.58	25.69	2
		36	39	25.47	25.45	25.41	2
		75	0	25.55	25.57	25.59	2

Band/BW	Modulation	RB Size	RB Offset	CH 44190 3660.0 MHz	CH 44340 3675.0 MHz	CH 44490 3690.0 MHz	MPR
43 / 20	QPSK	1	0	**28.02**	27.68	28.01	0
		1	50	27.77	27.51	27.88	0
		1	99	27.47	27.21	27.44	0
		50	0	26.72	26.63	26.81	1
		50	25	26.56	26.62	26.70	1
		50	50	26.43	26.41	26.51	1
		100	0	26.60	26.50	26.61	1
	16QAM	1	0	26.62	26.98	26.92	1
		1	50	26.53	26.70	26.83	1
		1	99	26.42	26.20	26.61	1
		50	0	25.70	25.73	25.78	2
		50	25	25.61	25.61	25.72	2
		50	50	25.50	25.48	25.44	2
		100	0	25.58	25.60	25.62	2

EIRP

LTE BAND 43

CHANNEL BANDWIDTH: 5MHz QPSK

Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)	Polarization (H/V)	Limit (W)
44115	3652.5	-9.42	48.22	38.80	**7585.78**	H	25
44340	3675.0	-9.26	48.00	38.74	7481.70	H	25
44565	3697.5	-10.05	48.09	38.04	6367.96	H	25
44115	3652.5	-12.27	48.97	36.70	4677.35	V	25
44340	3675.0	-12.05	48.78	36.73	4709.77	V	25
44565	3697.5	-12.74	49.22	36.48	4446.31	V	25

NOTE: EIRP (dBm) = LVL (dBm) + Correction Factor (dB)

CHANNEL BANDWIDTH: 5MHz 16QAM

Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)	Polarization (H/V)	Limit (W)
44115	3652.5	-10.35	48.22	37.87	6123.50	H	25
44340	3675.0	-10.33	48.00	37.67	5847.90	H	25
44565	3697.5	-10.88	48.09	37.21	5260.17	H	25
44115	3652.5	-13.20	48.97	35.77	3775.72	V	25
44340	3675.0	-13.12	48.78	35.66	3681.29	V	25
44565	3697.5	-13.57	49.22	35.65	3672.82	V	25

NOTE: EIRP (dBm) = LVL (dBm) + Correction Factor (dB)-2.15dB.

CHANNEL BANDWIDTH: 10MHz QPSK

Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)	Polarization (H/V)	Limit (W)
44140	3655.0	-9.64	48.24	38.60	7244.36	H	25
44340	3675.0	-9.39	48.00	38.61	**7261.06**	H	25
44540	3695.0	-10.16	48.03	37.87	6123.50	H	25
44140	3655.0	-12.49	49.10	36.61	4581.42	V	25
44340	3675.0	-12.18	48.78	36.60	4570.88	V	25
44540	3695.0	-12.85	49.25	36.40	4365.16	V	25

NOTE: EIRP (dBm) = LVL (dBm) + Correction Factor (dB)

CHANNEL BANDWIDTH: 10MHz 16QAM

Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)	Polarization (H/V)	Limit (W)
44140	3655.0	-10.47	48.24	37.77	5984.12	H	25
44340	3675.0	-10.30	48.00	37.70	5888.44	H	25
44540	3695.0	-10.99	48.03	37.04	5058.25	H	25
44140	3655.0	-13.32	49.10	35.78	3784.43	V	25
44340	3675.0	-13.09	48.78	35.69	3706.81	V	25
44540	3695.0	-13.68	49.25	35.57	3605.79	V	25

NOTE: EIRP (dBm) = LVL (dBm) + Correction Factor (dB)

CHANNEL BANDWIDTH: 15MHz QPSK

Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)	Polarization (H/V)	Limit (W)
44165	3657.5	-9.02	48.16	39.14	8203.52	H	25
44340	3675.0	-8.80	48.00	39.20	**8317.64**	H	25
44515	3692.5	-9.53	47.99	38.46	7014.55	H	25
44165	3657.5	-11.87	49.02	37.15	5188.00	V	25
44340	3675.0	-11.59	48.78	37.19	5236.00	V	25
44515	3692.5	-12.22	49.31	37.09	5116.82	V	25

NOTE: EIRP (dBm) = LVL (dBm) + Correction Factor (dB)

CHANNEL BANDWIDTH: 15MHz 16QAM

Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)	Polarization (H/V)	Limit (W)
44165	3657.5	-9.85	48.16	38.31	6776.42	H	25
44340	3675.0	-9.82	48.00	38.18	6576.58	H	25
44515	3692.5	-10.63	47.99	37.36	5445.03	H	25
44165	3657.5	-12.70	49.02	36.32	4285.49	V	25
44340	3675.0	-12.61	48.78	36.17	4140.00	V	25
44515	3692.5	-13.32	49.31	35.99	3971.92	V	25

NOTE: EIRP (dBm) = LVL (dBm) + Correction Factor (dB)

CHANNEL BANDWIDTH: 20MHz QPSK

Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)	Polarization (H/V)	Limit (W)
44190	3660.0	-8.96	48.14	39.18	**8279.42**	H	25
44340	3675.0	-8.85	48.00	39.15	8222.43	H	25
44490	3690.0	-9.58	48.07	38.49	7063.18	H	25
44190	3660.0	-11.81	48.93	37.12	5152.29	V	25
44340	3675.0	-11.64	48.78	37.14	5176.07	V	25
44490	3690.0	-12.27	49.27	37.00	5011.87	V	25

NOTE: EIRP (dBm) = LVL (dBm) + Correction Factor (dB)

CHANNEL BANDWIDTH: 20MHz 16QAM

Channel	Frequency (MHz)	LVL (dBm)	Correction Factor(dB)	EIRP(dBm)	EIRP(mW)	Polarization (H/V)	Limit (W)
44190	3660.0	-10.03	48.14	38.11	6471.43	H	25
44340	3675.0	-9.74	48.00	38.26	6698.85	H	25
44490	3690.0	-10.57	48.07	37.50	5623.41	H	25
44190	3660.0	-12.88	48.93	36.05	4027.17	V	25
44340	3675.0	-12.53	48.78	36.25	4216.97	V	25
44490	3690.0	-13.26	49.27	36.01	3990.25	V	25

NOTE: EIRP (dBm) = LVL (dBm) + Correction Factor (dB)

4.2 FREQUENCY STABILITY MEASUREMENT

4.2.1 LIMITS OF FREQUENCY STABILIITY MEASUREMENT

Per FCC 90.213, No Limit for Transmitter which frequency range above 2400MHz

4.2.2 TEST PROCEDURE

a. The oven room could control the temperatures and humidity.

b. Power must be removed when changing from one temperature to another or one voltage to another voltage. Power warm up is at least 15 min and power applied should perform before recording frequency error.

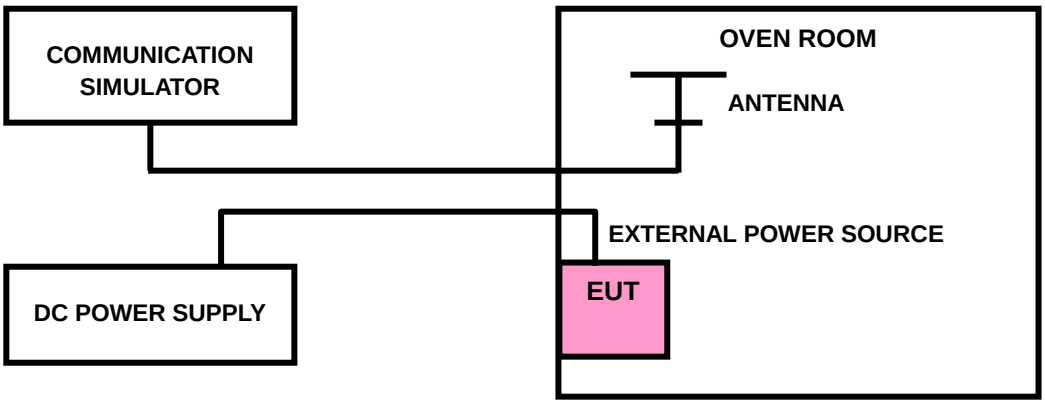
c. Laptop pc is connected the external power supply to control the DC input power. The various Volts from the minimum to maximum working voltage. Each step shall be record the frequency error rate.

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

e. 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.

4.2.3 TEST SETUP



4.2.4 EUT OPERATING CONDITIONS

Same as 4.1.4.

4.2.5 TEST RESULTS

FREQUENCY ERROR vs. VOLTAGE

VOLTAGE (Volts)	FREQUENCY ERROR (ppm)				LIMIT (ppm)
	LTE BAND 43				
	5MHz	10MHz	15MHz	20MHz	
46	0.0004	0.0002	0.0001	0.0001	NA
48	-0.0013	-0.0013	-0.0009	-0.0009	NA
50	-0.0015	-0.0011	-0.0012	-0.0012	NA

NOTE: The applicant defined the normal working voltage of the battery is from 46Vdc to 50Vdc.

FREQUENCY ERROR vs. TEMPERATURE

TEMP. (℃)	FREQUENCY ERROR (ppm)				LIMIT (ppm)
	LTE BAND 43				
	5MHz	10MHz	15MHz	20MHz	
-30	-0.0045	-0.0051	-0.0046	-0.0045	NA
-20	-0.3953	-0.0045	-0.0043	-0.0043	NA
-10	-0.0036	-0.0041	-0.0037	-0.0037	NA
0	-0.0031	-0.0036	-0.0032	-0.0030	NA
+10	-0.0026	-0.0030	-0.0029	-0.0025	NA
+20	-0.0021	-0.0025	-0.0024	-0.0020	NA
+30	-0.0015	-0.0019	-0.0017	-0.0015	NA
+40	-0.0008	-0.0012	-0.0011	-0.0009	NA
+50	-0.0006	-0.0006	-0.0004	-0.0004	NA
+60	-0.0003	-0.0001	-0.0002	-0.0002	NA

4.3 PEAK EIRP POWER DENSITY MEASUREMENT

4.3.1 LIMITS OF Peak EIRP Power Density MEASUREMENT

Per FCC Part 90.1321(a),

Base stations and Fixed stations transmitting in the 3650-3700 MHz band，In any event, the peak EIRP power density shall not exceed 1 Watt in any one-megahertz slice of spectrum.

Mobile and Portable stations (hand-held devices) transmitting in the 3650-3700 MHz band，In any event, the peak EIRP power density shall not exceed 40 milliwatts in any one-megahertz slice of spectrum.

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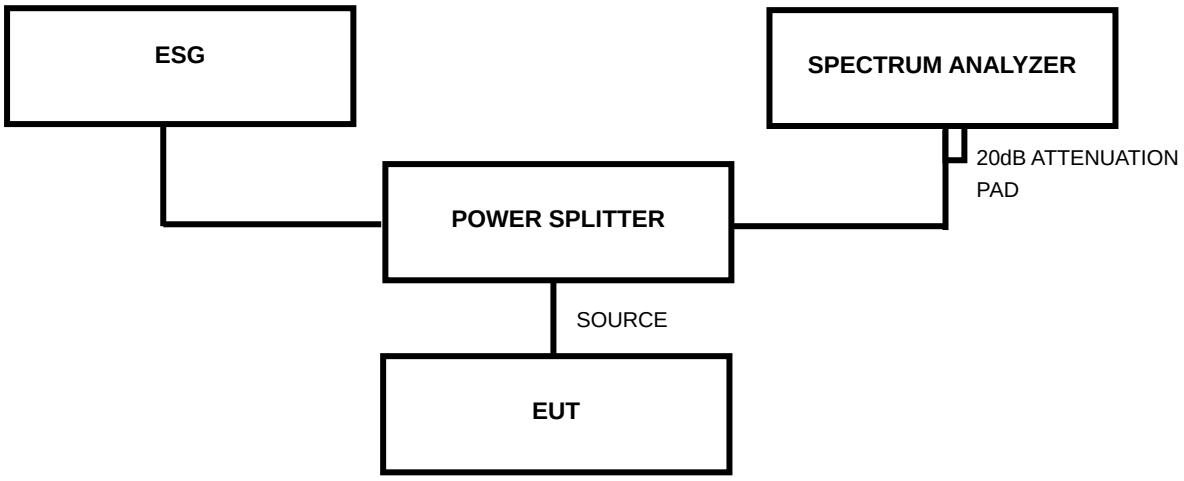
4.3.2 TEST SETUP



4.3.3 TEST PROCEDURES

a. The conducted occupied bandwidth used the power splitter via EUT RF power connector between signal generator and spectrum analyzer.
b. Set the RBW = 1 MHz, VBW ≥ 3 x RBW, Detector = peak.
c. Sweep time = auto couple, Trace mode = max hold, allow trace to fully stabilize.
d. Use the peak marker function to determine the maximum amplitude level.

4.3.4 EUT OPERATING CONDITIONS

Same as 4.1.4.

4.3.5 TEST RESULTS

Antenna Gain =13dBi

	LTE BAND 43/ 5MHz					
Channel	**FREQ. (MHz)**	**Modulation**	**PSD (dBm/ 1MHz)**	**EIRPPSD (dBm/ 1MHz)**	**Limit (dBm/1MHz)**	**PASS /FAIL**
44115	3652.5	QPSK	**16.11**	**29.11**	30	PASS
44340	3675	QPSK	16.05	29.05	30	PASS
44565	3697.5	QPSK	15.98	28.98	30	PASS

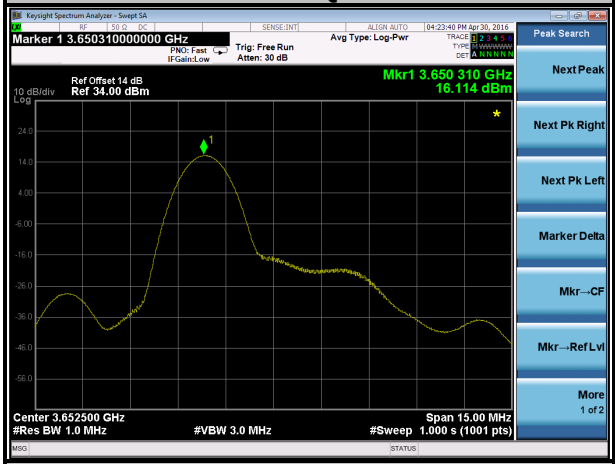
	LTE BAND 43/ 10MHz					
Channel	**FREQ. (MHz)**	**Modulation**	**PSD (dBm/ 1MHz)**	**EIRPPSD (dBm/ 1MHz)**	**Limit (dBm/1MHz)**	**PASS /FAIL**
44140	3655	QPSK	**16.48**	**29.48**	30	PASS
44340	3675	QPSK	16.32	29.32	30	PASS
44540	3695	QPSK	16.38	29.38	30	PASS

	LTE BAND 43/ 15MHz					
Channel	**FREQ. (MHz)**	**Modulation**	**PSD (dBm/ 1MHz)**	**EIRPPSD (dBm/ 1MHz)**	**Limit (dBm/1MHz)**	**PASS /FAIL**
44165	3657.5	QPSK	**16.63**	**29.63**	30	PASS
44340	3675	QPSK	16.46	29.46	30	PASS
44515	3692.5	QPSK	16.53	29.53	30	PASS

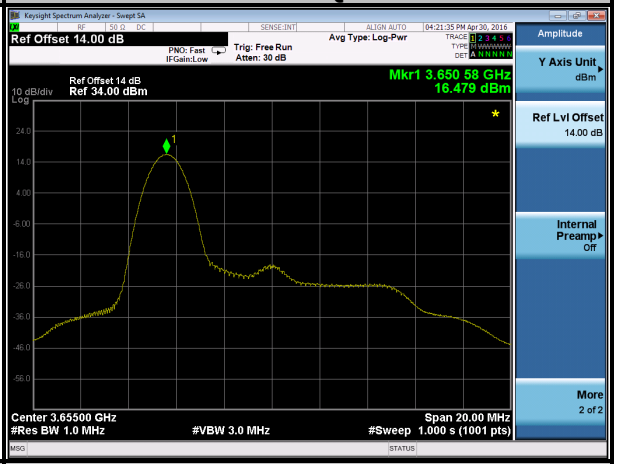
	LTE BAND 43/ 20MHz					
Channel	**FREQ. (MHz)**	**Modulation**	**PSD (dBm/ 1MHz)**	**EIRPPSD (dBm/ 1MHz)**	**Limit (dBm/1MHz)**	**PASS /FAIL**
44190	3660	QPSK	**16.45**	**29.45**	30	PASS
44340	3675	QPSK	16.35	29.35	30	PASS
44490	3690	QPSK	16.24	29.24	30	PASS

SPECTRUM PLOT OF WORST VALUE

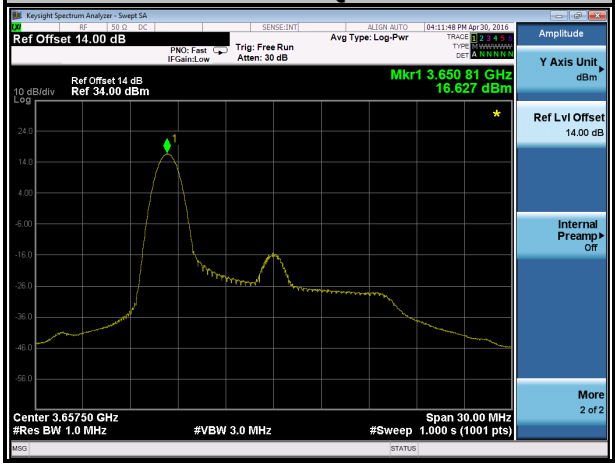
5MHz / QPSK



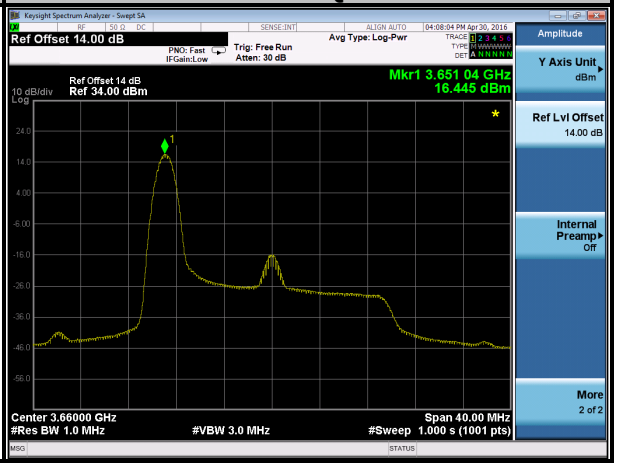
10MHz / QPSK



15MHz / QPSK



20MHz / QPSK

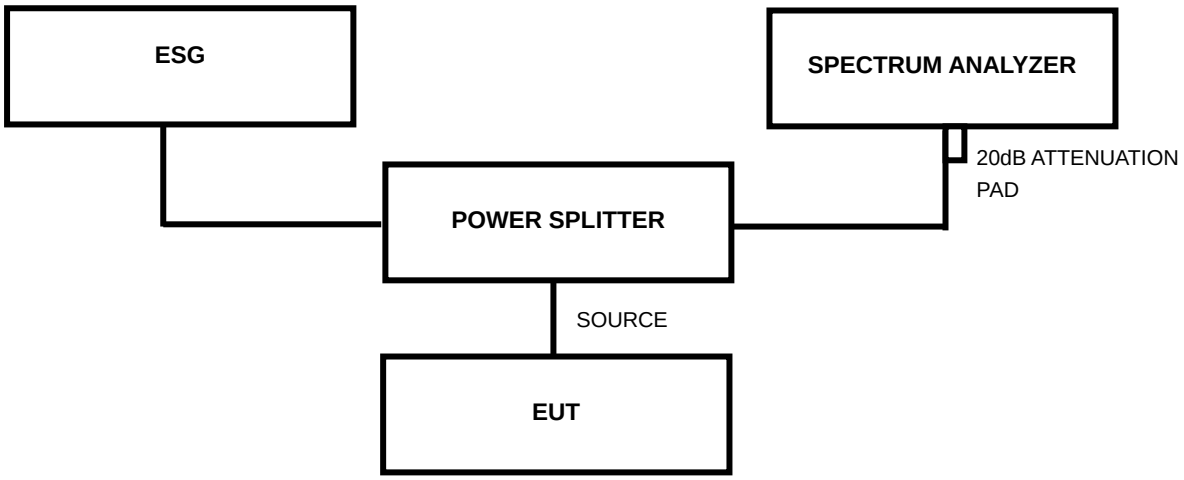


4.4 OCCUPIED BANDWIDTH MEASUREMENT

4.4.1 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.

4.4.2 TEST SETUP



4.4.3 TEST PROCEDURES

e. The conducted occupied bandwidth used the power splitter via EUT RF power connector between signal generator and spectrum analyzer.

f. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.

4.4.4 EUT OPERATING CONDITIONS

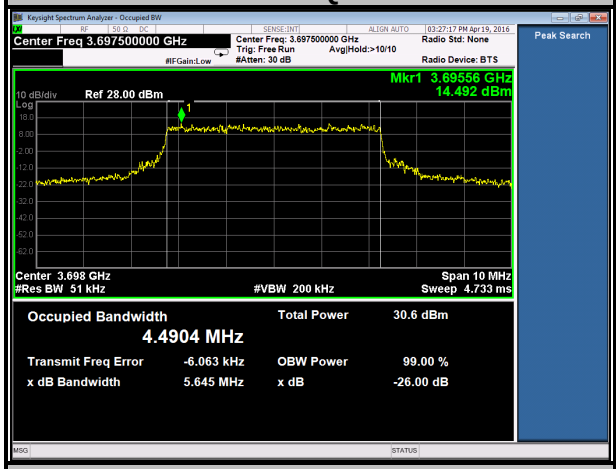
Same as 4.1.4.

4.4.5 TEST RESULTS

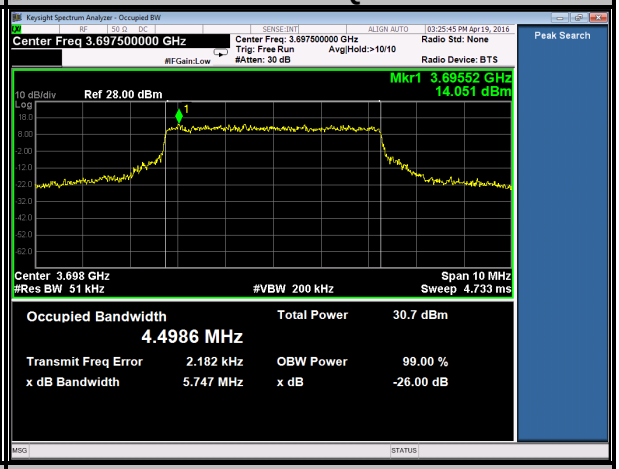
LTE BAND 43							
CHANNEL BANDWIDTH: 5MHz				CHANNEL BANDWIDTH: 10MHz			
CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)		CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)	
		QPSK	16QAM			QPSK	16QAM
44115	3652.5	4.49	4.49	44140	3655	8.94	8.98
44340	3675	4.48	4.49	44340	3675	8.96	8.96
44565	3697.5	4.49	4.50	44540	3695	8.94	8.95

SPECTRUM PLOT OF WORST VALUE

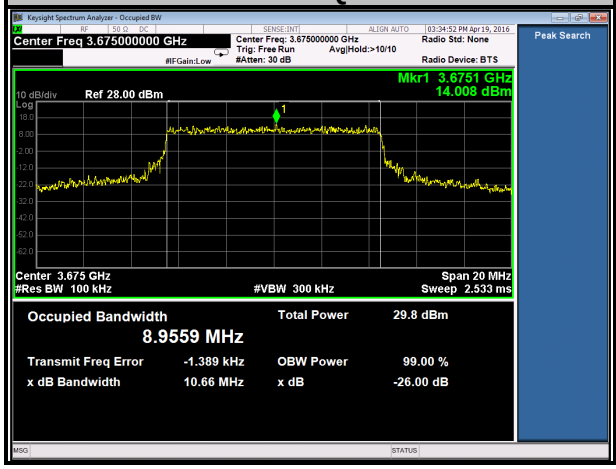
5MHz / QPSK



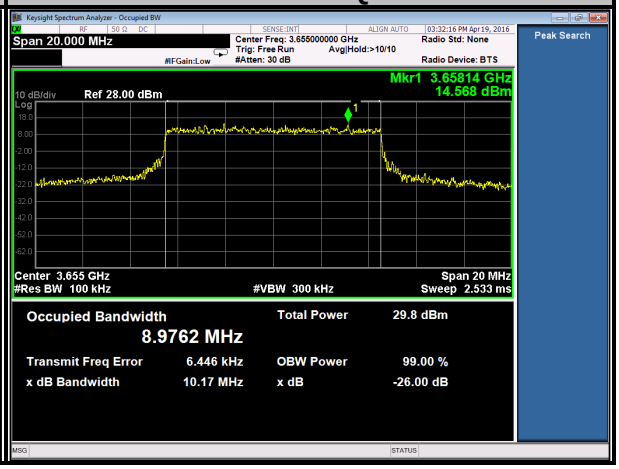
5MHz / 16QAM



10MHz / QPSK



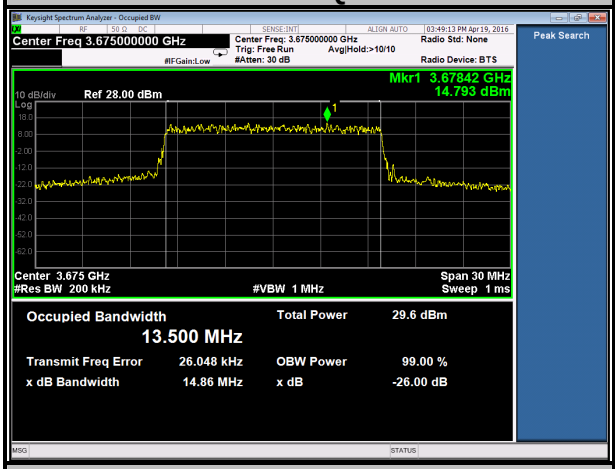
10MHz / 16QAM



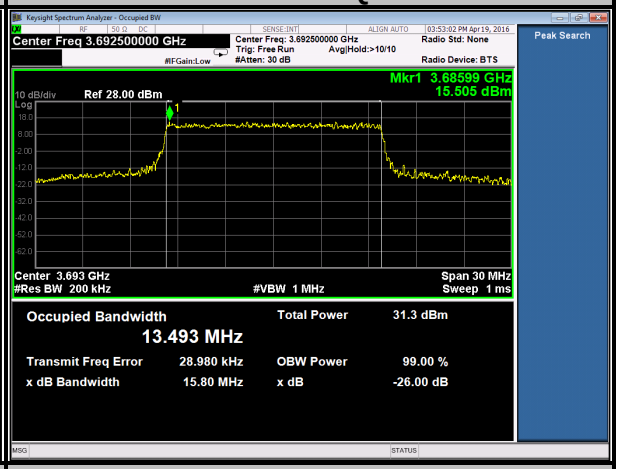
LTE BAND 43							
CHANNEL BANDWIDTH: 15MHz				CHANNEL BANDWIDTH: 20MHz			
CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)		CHANNEL	FREQUENCY (MHz)	99% OCCUPIED BANDWIDTH (MHz)	
		QPSK	16QAM			QPSK	16QAM
44165	3657.5	13.47	13.48	44190	3660	17.88	17.92
44340	3675	13.50	13.47	44340	3675	17.90	17.91
44515	3692.5	13.45	13.49	44490	3690	17.89	17.96

SPECTRUM PLOT OF WORST VALUE

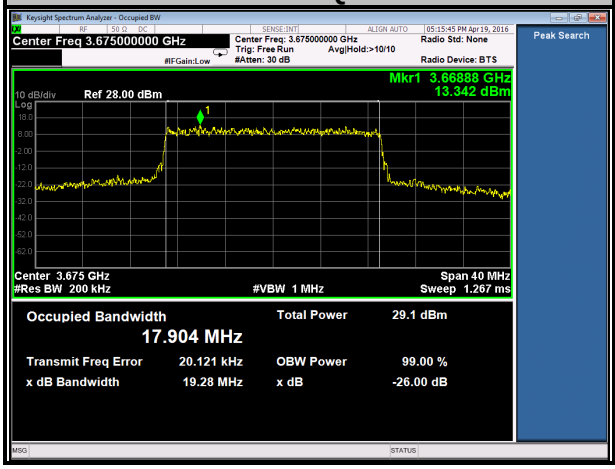
15MHz / QPSK



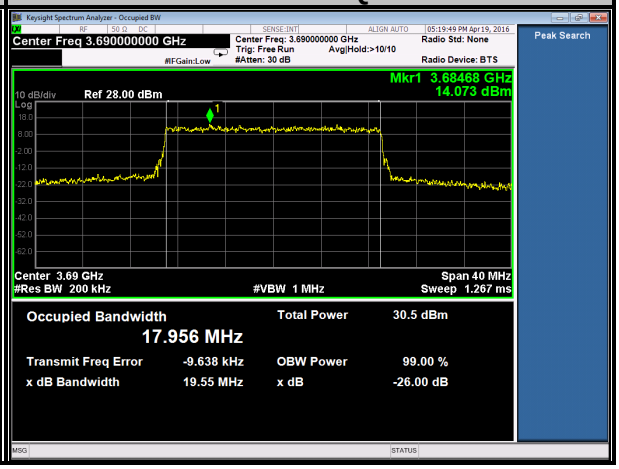
15MHz / 16QAM



20MHz / QPSK



20MHz / 16QAM



4.5 EMISSION BANDEDGE MEASUREMENT

4.5.1 LIMITS OF EMISSION BANDEDGE MEASUREMENT

Per 90.1323, Emission bandedge shall comply with 90.1323 (a)
The power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or less, but at least one percent of the emission bandwidth of the fundamental emission of the transmitter, provided the measured energy is integrated over a 1 MHz bandwidth.

4.5.2 TEST PROCEDURES

1. The power was measured with Agilent Spectrum Analyzer. All measurements were done at 1 channel.
2. The measurement used the power splitter via EUT RF power connector between signal generator and spectrum analyzer.
3. Record the test plot.

4.5.3 TEST SETUP

Same as Item 4.3.3

4.5.4 EUT OPERATING CONDITIONS

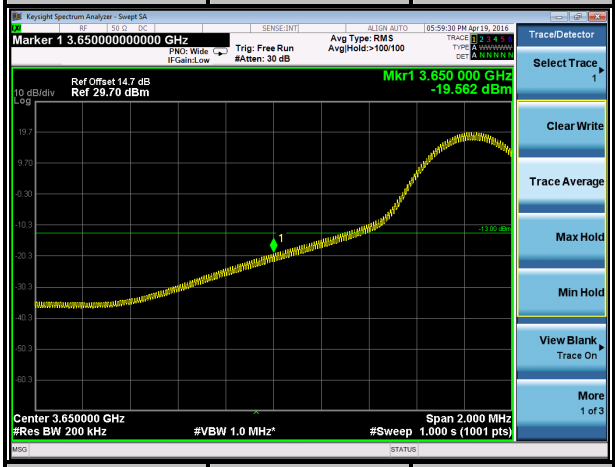
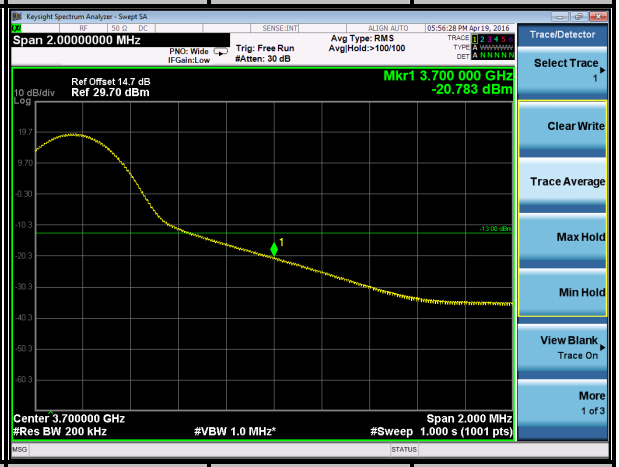
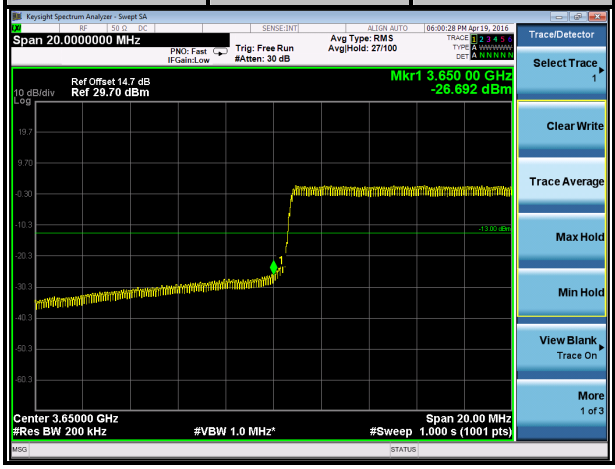
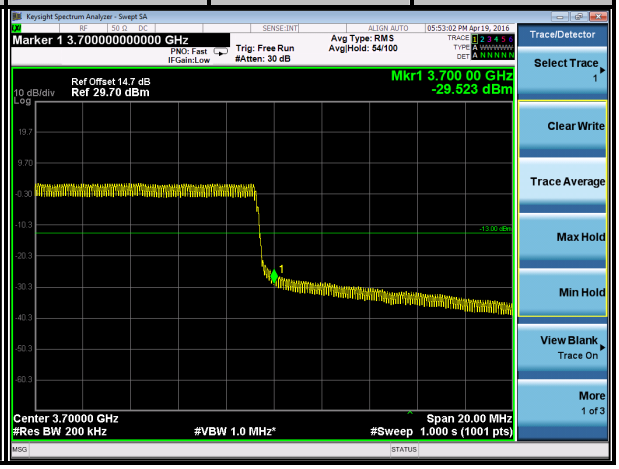
Same as 4.1.4.

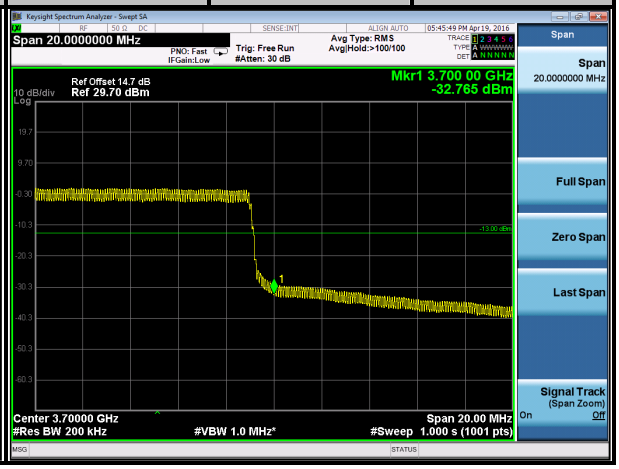
4.5.5 TEST RESULTS

LTE BAND 43					
Channel Bandwidth: 5MHz / QPSK					
CHANNEL	44115	1 RB	CHANNEL	44565	1 RB
CHANNEL	44115	Full RB	CHANNEL	44565	Full RB

LTE BAND 43					
Channel Bandwidth: 10MHz / QPSK					
CHANNEL	44140	1 RB	CHANNEL	44540	1 RB

CHANNEL	44140	Full RB	CHANNEL	44540	Full RB

LTE BAND 43					
Channel Bandwidth: 15MHz / QPSK					
CHANNEL	44165	1 RB	CHANNEL	44515	1 RB
					
CHANNEL	44165	Full RB	CHANNEL	44515	Full RB
					

LTE BAND 43					
Channel Bandwidth: 20MHz / QPSK					
CHANNEL	44190	1 RB	CHANNEL	44490	1 RB
CHANNEL	44190	Full RB	CHANNEL	44490	Full RB
					

4.6 CONDUCTED SPURIOUS EMISSIONS

4.6.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

The power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 1 MHz or less, but at least one percent of the emission bandwidth of the fundamental emission of the transmitter, provided the measured energy is integrated over a 1 MHz bandwidth.

4.6.2 TEST PROCEDURE

a. The EUT was set up for the maximum peak power with LTE link data modulation. The power was measured with Agilent Spectrum Analyzer. All measurements were done at 1 channel.
b. The conducted spurious emission used the power splitter via EUT RF power connector between signal generator and spectrum analyzer.
c. When the spectrum scanned from 769MHz to 805MHz, The spectrum set RB=6.25kHz, VB=50kHz.
d. When the spectrum scanned from 30MHz to 8GHz, The spectrum set RB=1MHz, VB=3MHz.

4.6.3 TEST SETUP

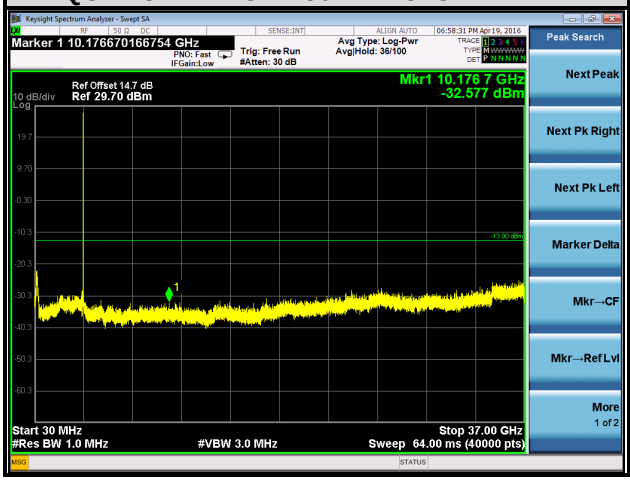
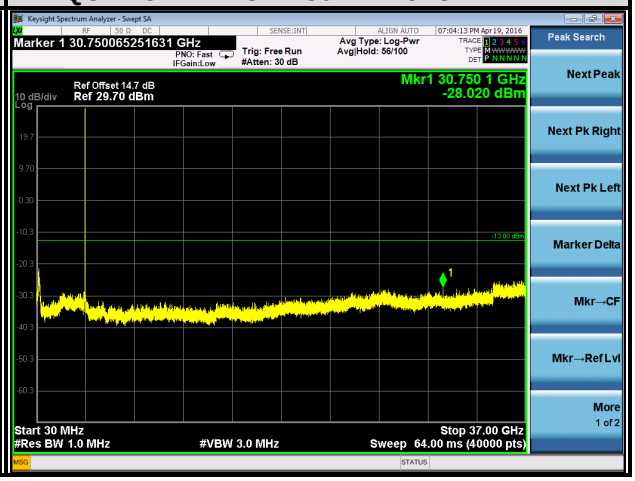
Same as 4.3.3

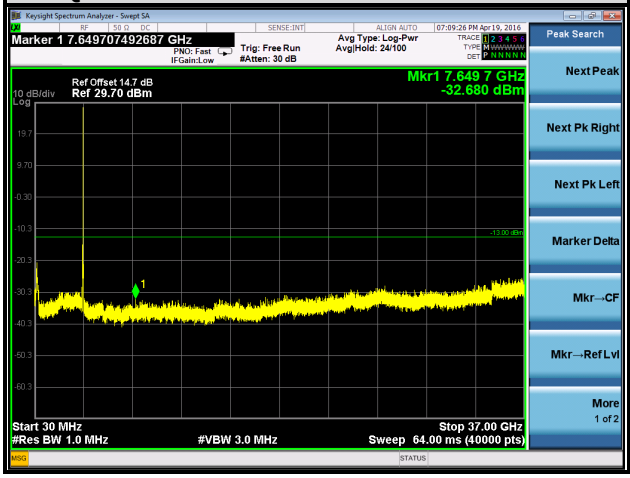
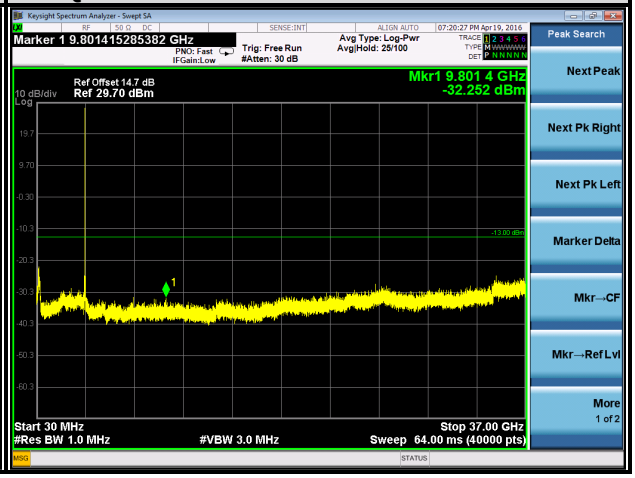
4.6.4 EUT OPERATING CONDITIONS

Same as 4.1.4.

4.6.5 TEST RESULTS

LTE BAND 43

CHANNEL 44340	CHANNEL 44340
5MHz / QPSK	10MHz / QPSK
FREQUENCY RANGE : 30MHz~37GHz	FREQUENCY RANGE : 30MHz~37GHz
	

CHANNEL 44340	CHANNEL 44340
15MHz / QPSK	20MHz / QPSK
FREQUENCY RANGE : 30MHz~37GHz	FREQUENCY RANGE : 30MHz~37GHz
	

4.7 RADIATED EMISSION MEASUREMENT

4.7.1 LIMITS OF RADIATED EMISSION MEASUREMENT

(1)The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least 43 +10 log10(P) dB. The limit of emission equal to –13dBm

4.7.2 TEST INSTRUMENTS

Same as 4.1.2.

4.7.3 TEST PROCEDURES

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground. The table was rotated 360 degrees to determine the position of the highest radiation.

b. The EUT was set 3 meters away from the receiving antenna, which was mounted on antenna tower and its position at 0.8 m above the ground.

c. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading and recorded the value.

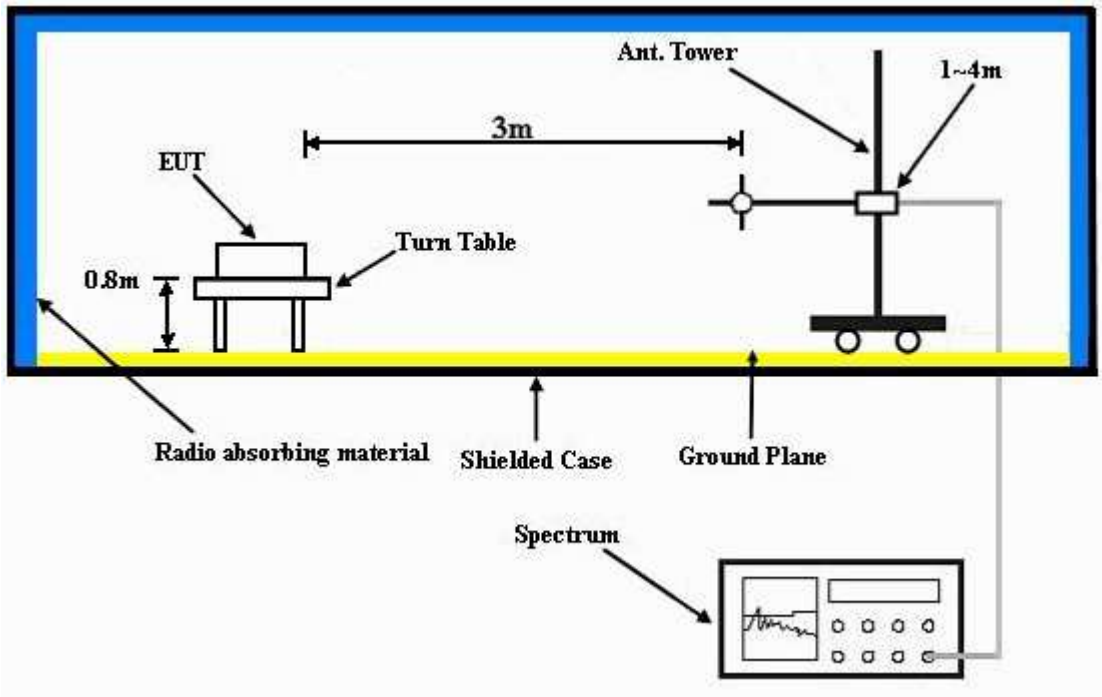
d. Repeat step a ~ c for horizontal polarization.

NOTE: The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

4.7.4 DEVIATION FROM TEST STANDARD

No deviation

4.7.5 TEST SETUP



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

4.7.6 EUT OPERATING CONDITIONS

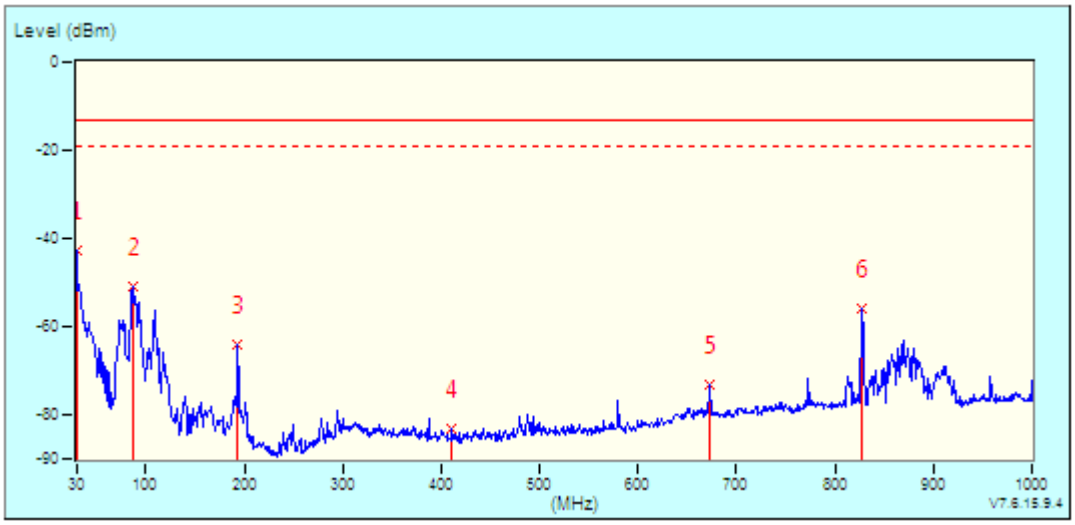
Same as 4.1.4.

4.7.7 TEST RESULTS

BELOW 1GHz WORST-CASE DATA

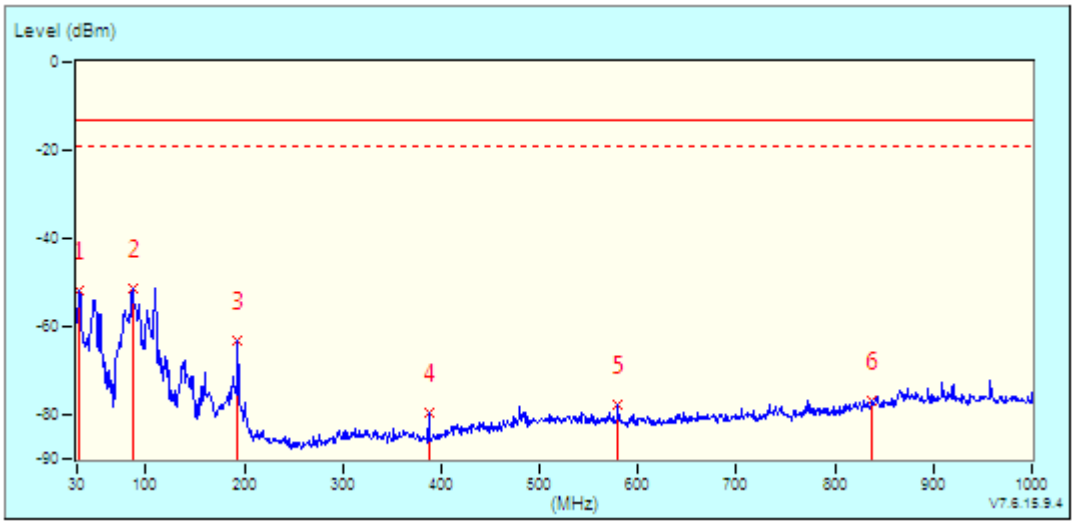
LTE Band 43:

MODE	TX channel 44340	**FREQUENCY RANGE**	Below 1000MHz
ENVIRONMENTAL CONDITIONS	26deg. C, 56%RH	**INPUT POWER**	DC 48V from POE
TESTED BY	Alex Chen		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			



	No.	Frequency MHz	Factor dB	Reading dBm	Emission dBm	Limit dBm	Margin dB	Tower / Table cm	deg
*	1	30.00	19.34	-61.97	-42.63	-13.00	-29.63	--	--
	2	86.26	-8.52	-42.55	-51.07	-13.00	-38.07	--	--
	3	192.96	-17.42	-46.54	-63.96	-13.00	-50.96	--	--
	4	411.21	-10.45	-72.75	-83.20	-13.00	-70.20	--	--
	5	673.11	-6.26	-67.12	-73.38	-13.00	-60.38	--	--
	6	827.34	-3.90	-52.14	-56.04	-13.00	-43.04	--	--

MODE	TX channel 44340	FREQUENCY RANGE	Below 1000MHz
ENVIRONMENTAL CONDITIONS	26deg. C, 56%RH	INPUT POWER	DC 48V from POE
TESTED BY	Alex Chen		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

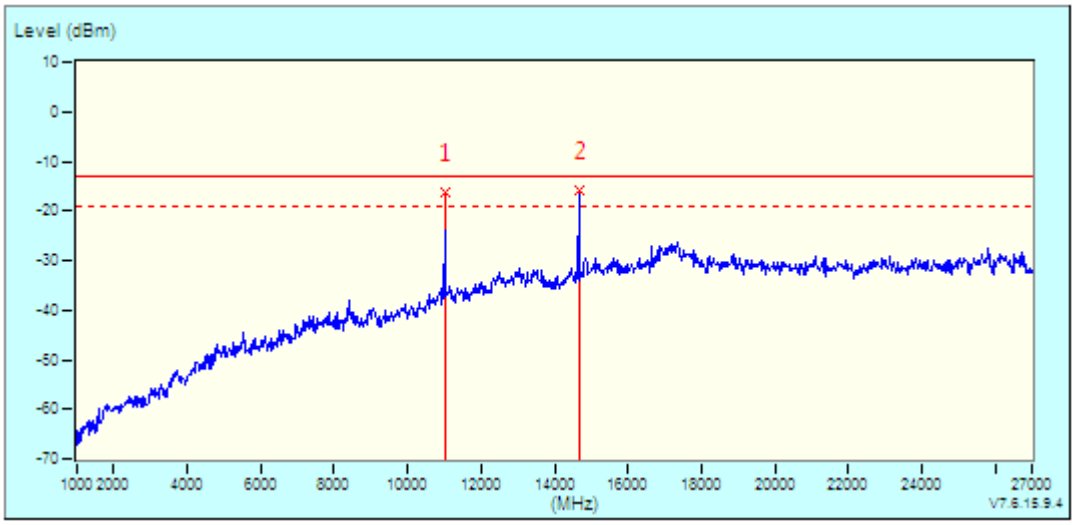


	No.	Frequency MHz	Factor dB	Reading dBm	Emission dBm	Limit dBm	Margin dB	Tower / Table cm	deg
	1	32.91	1.46	-53.13	-51.67	-13.00	-38.67	--	--
*	2	86.26	-10.43	-40.87	-51.30	-13.00	-38.30	--	--
	3	192.96	-11.53	-51.53	-63.06	-13.00	-50.06	--	--
	4	386.96	-10.98	-68.64	-79.62	-13.00	-66.62	--	--
	5	579.99	-7.32	-70.46	-77.78	-13.00	-64.78	--	--
	6	838.01	-4.19	-72.47	-76.66	-13.00	-63.66	--	--

ABOVE 1 GHz

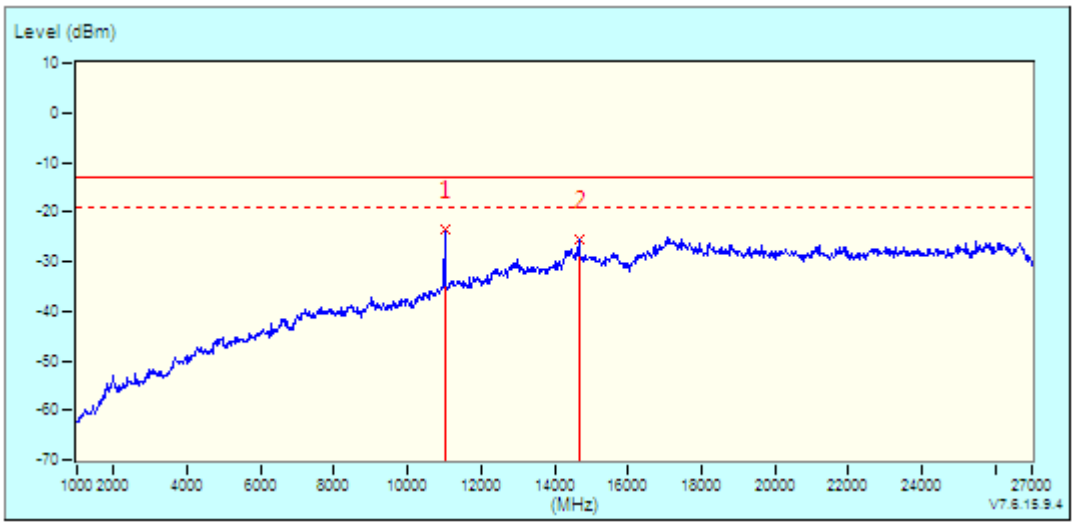
LTE Band 43
CHANNEL BANDWIDTH: 5MHz / QPSK

MODE	TX channel 44340	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	26deg. C, 56%RH	**INPUT POWER**	DC 48V from POE
TESTED BY	Alex Chen		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			



	No.	Frequency MHz	Factor dB	Reading dBm	Emission dBm	Limit dBm	Margin dB	Tower / Table cm	deg
	1	11010.00 (PK)	20.10	-36.35	-16.25	-13.00	-3.25	100	340
*	2	14676.00 (PK)	26.57	-42.62	-16.05	-13.00	-3.05	100	340

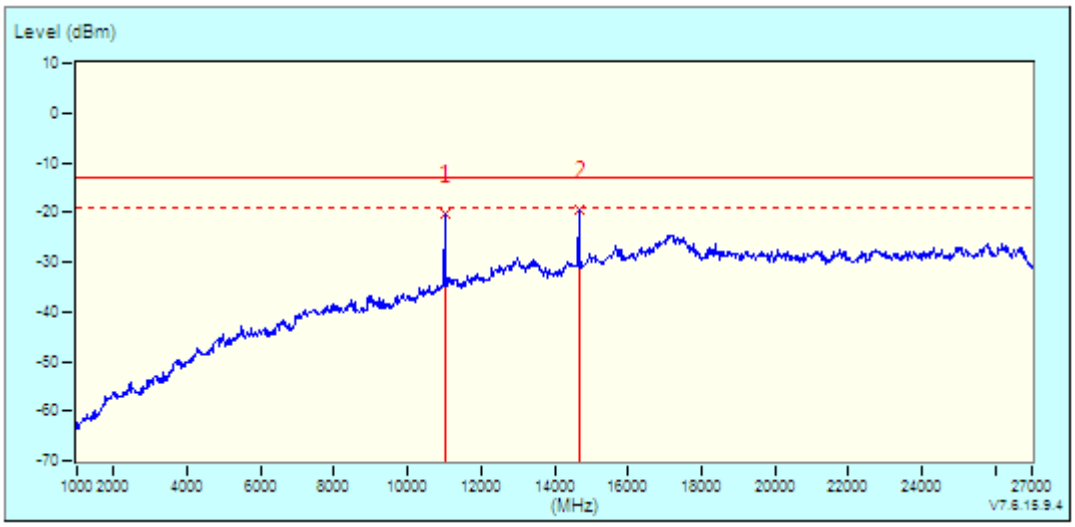
MODE	TX channel 44340	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	26deg. C, 56%RH	INPUT POWER	DC 48V from POE
TESTED BY	Alex Chen		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			



	No.	Frequency MHz	Factor dB	Reading dBm	Emission dBm	Limit dBm	Margin dB	Tower / Table cm	deg
*	1	11010.00 (PK)	19.51	-42.95	-23.44	-13.00	-10.44	200	360
	2	14676.00 (PK)	28.21	-53.78	-25.57	-13.00	-12.57	100	360

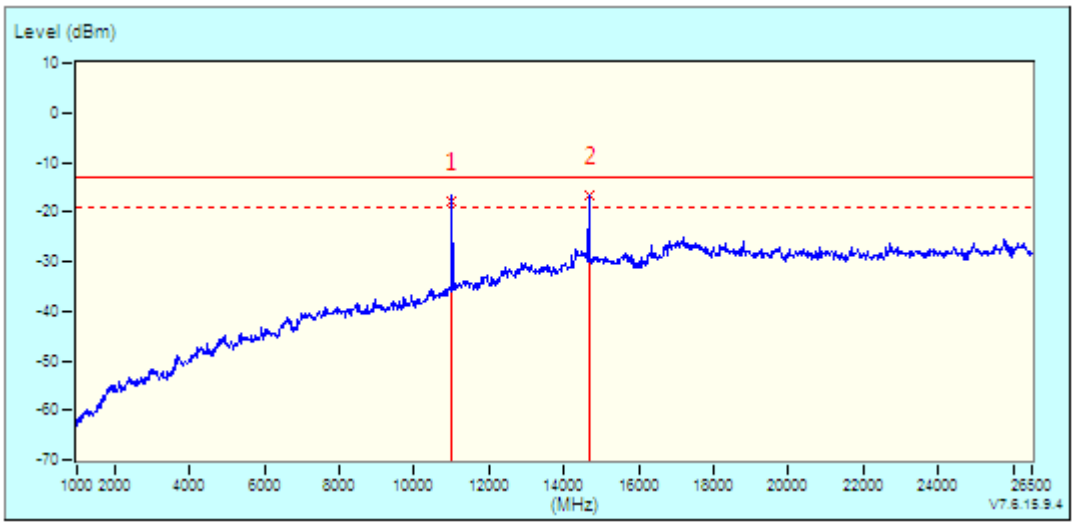
CHANNEL BANDWIDTH: 10MHz / QPSK

MODE	TX channel 44340	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	26deg. C, 56%RH	INPUT POWER	DC 48V from POE
TESTED BY	Alex Chen		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			



	No.	Frequency MHz	Factor dB	Reading dBm	Emission dBm	Limit dBm	Margin dB	Tower / Table cm	deg
	1	11010.00 (PK)	20.10	-40.56	-20.46	-13.00	-7.46	200	360
*	2	14676.00 (PK)	26.57	-46.06	-19.49	-13.00	-6.49	200	360

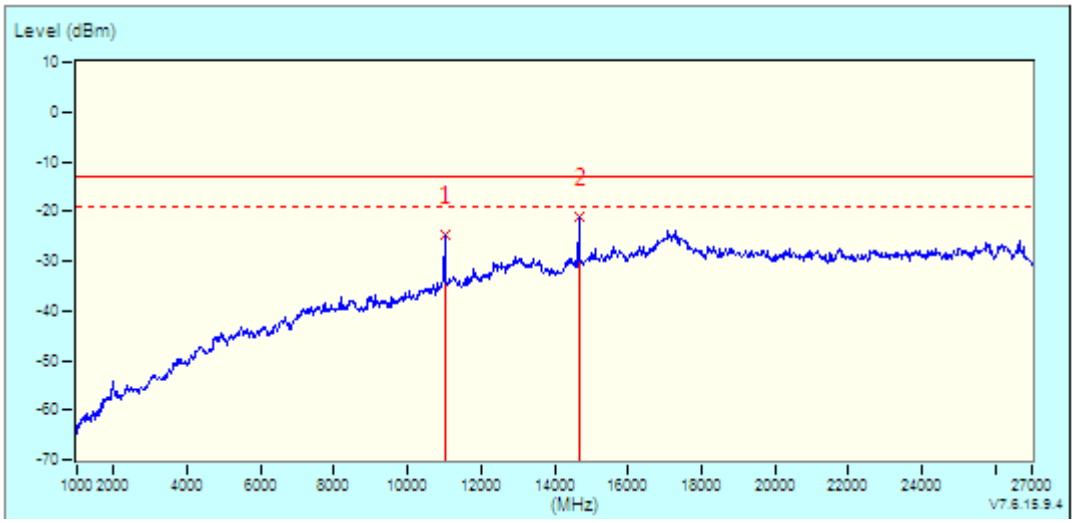
MODE	TX channel 44340	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	26deg. C, 56%RH	INPUT POWER	DC 48V from POE
TESTED BY	Alex Chen		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			



	No.	Frequency MHz	Factor dB	Reading dBm	Emission dBm	Limit dBm	Margin dB	Tower / Table cm	deg
	1	11010.00 (PK)	19.51	-37.56	-18.05	-13.00	-5.05	100	35
*	2	14676.00 (PK)	28.21	-44.78	-16.57	-13.00	-3.57	100	35

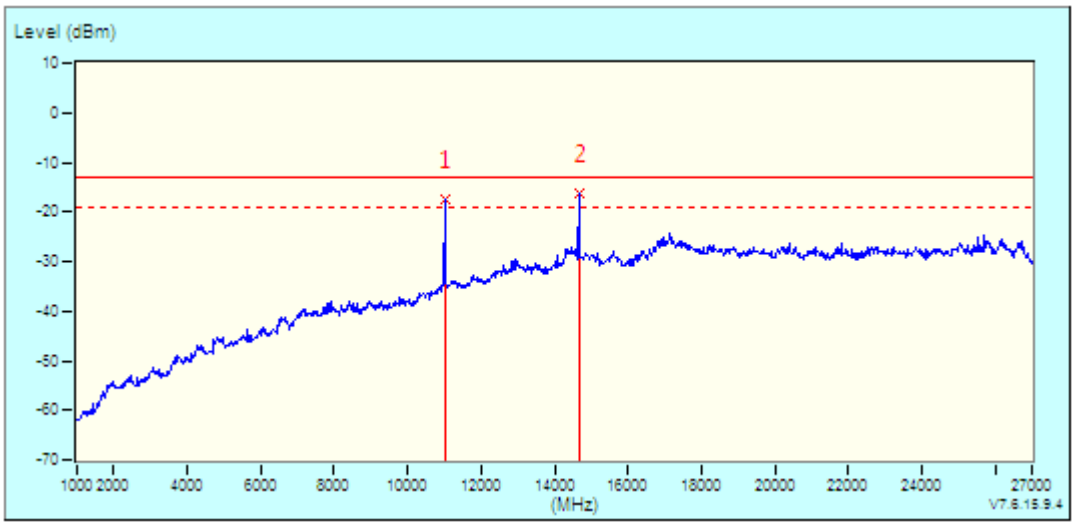
CHANNEL BANDWIDTH: 15MHz / QPSK

MODE	TX channel 44340	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	26deg. C, 56%RH	**INPUT POWER**	DC 48V from POE
TESTED BY	Alex Chen		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			



	No.	Frequency MHz	Factor dB	Reading dBm	Emission dBm	Limit dBm	Margin dB	Tower / Table cm	deg
	1	11010.00 (PK)	20.10	-44.99	-24.89	-13.00	-11.89	100	0
*	2	14676.00 (PK)	26.57	-47.64	-21.07	-13.00	-8.07	100	0

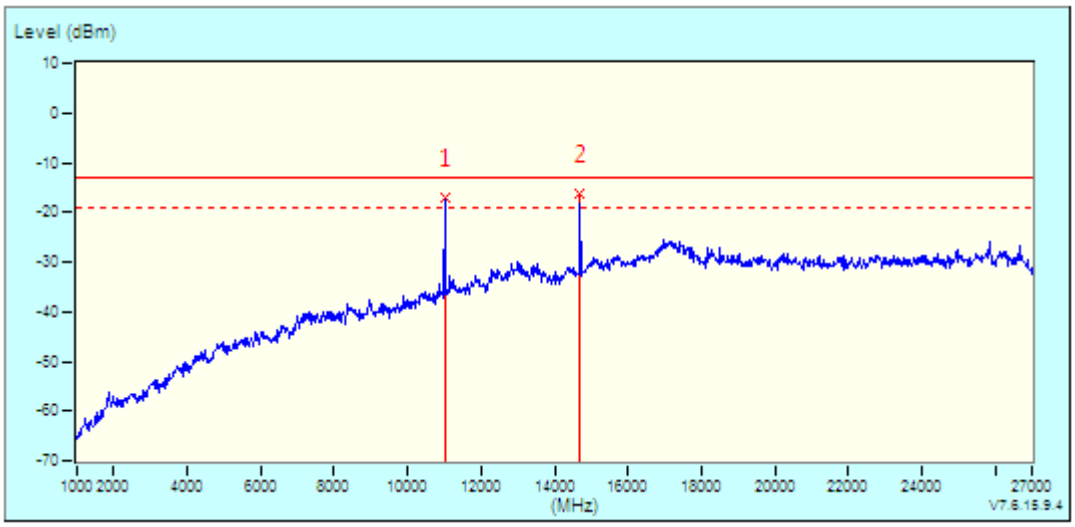
MODE	TX channel 44340	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	26deg. C, 56%RH	INPUT POWER	DC 48V from POE
TESTED BY	Alex Chen		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			



	No.	Frequency MHz	Factor dB	Reading dBm	Emission dBm	Limit dBm	Margin dB	Tower / Table cm	deg
	1	11010.00 (PK)	19.51	-36.94	-17.43	-13.00	-4.43	200	360
*	2	14676.00 (PK)	28.21	-44.62	-16.41	-13.00	-3.41	200	360

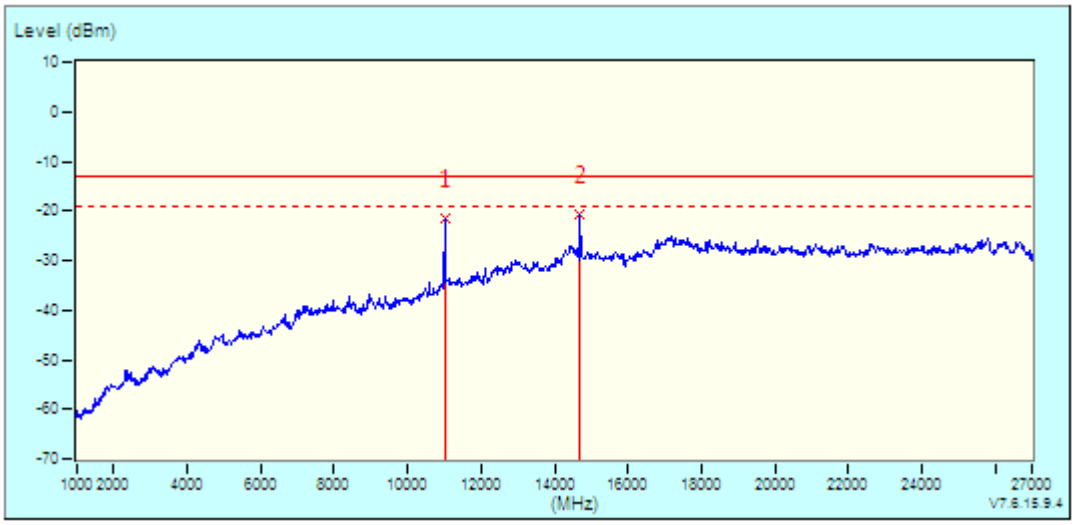
CHANNEL BANDWIDTH: 20MHz / QPSK

MODE	TX channel 44340	**FREQUENCY RANGE**	Above 1000MHz
ENVIRONMENTAL CONDITIONS	26deg. C, 56%RH	**INPUT POWER**	DC 48V from POE
TESTED BY	Alex Chen		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			



	No.	Frequency MHz	Factor dB	Reading dBm	Emission dBm	Limit dBm	Margin dB	Tower / Table cm	deg
	1	11010.00 (PK)	20.10	-37.04	-16.94	-13.00	-3.94	100	334
*	2	14702.00 (PK)	26.68	-42.81	-16.13	-13.00	-3.13	100	334

MODE	TX channel 44340	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	26deg. C, 56%RH	INPUT POWER	DC 48V from POE
TESTED BY	Alex Chen		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			



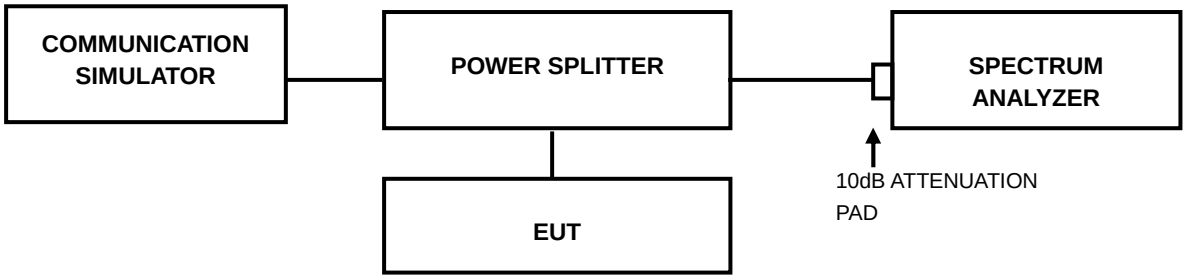
	No.	Frequency MHz	Factor dB	Reading dBm	Emission dBm	Limit dBm	Margin dB	Tower / Table cm	deg
	1	11010.00 (PK)	19.51	-41.02	-21.51	-13.00	-8.51	100	0
*	2	14702.00 (PK)	28.18	-48.93	-20.75	-13.00	-7.75	100	0

4.8 PEAK TO AVERAGE RATIO

4.8.1 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.

4.8.2 TEST SETUP



4.8.3 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%.

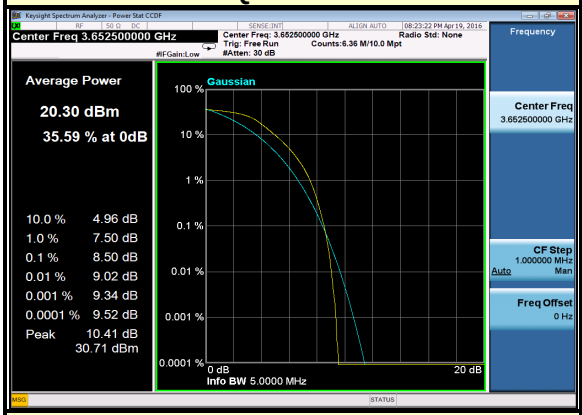
4.8.4 TEST RESULTS

LTE BAND 43

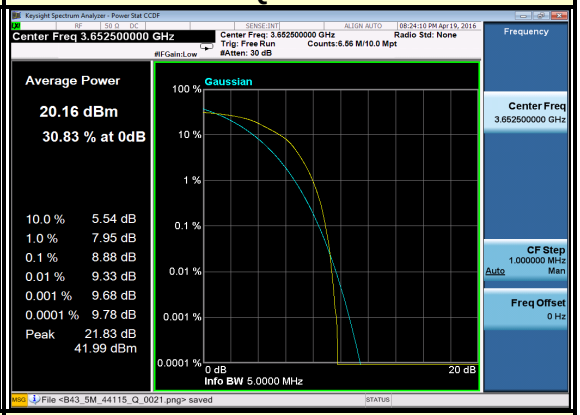
CHANNEL BANDWIDTH: 5MHz			
CHANNEL	FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)	
		QPSK	16QAM
44115	3652.5	8.50	8.88
44340	3675	8.64	8.89
44565	3697.5	8.43	8.92

SPECTRUM PLOT OF WORST VALUE

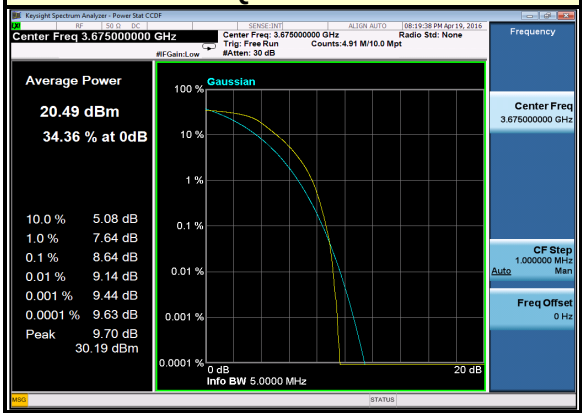
5MHz / QPSK / CH 44115



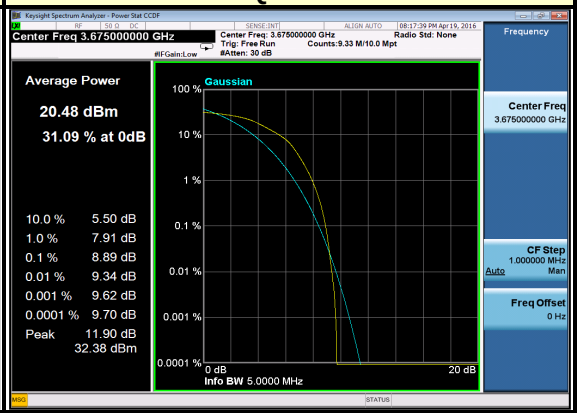
5MHz / 16QAM / CH 44115



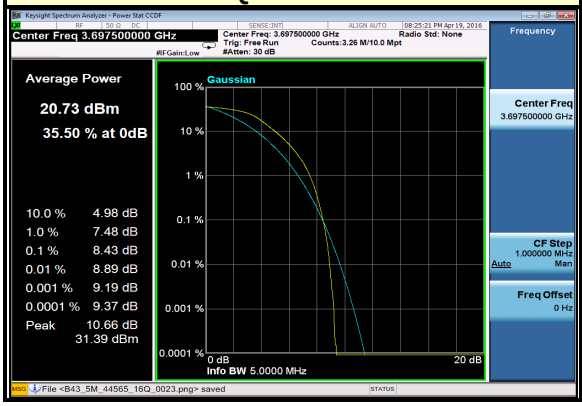
5MHz / QPSK / CH 44340



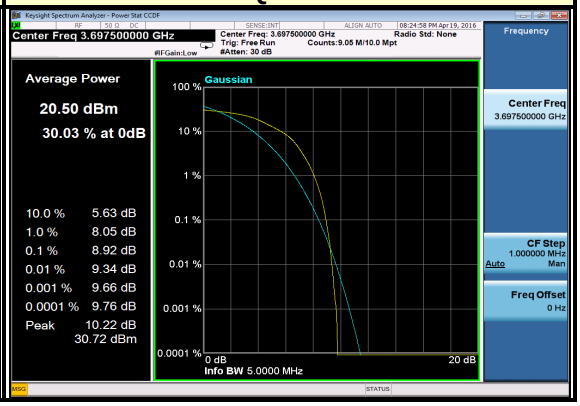
5MHz / 16QAM / CH 44340



5MHz / QPSK / CH 44565



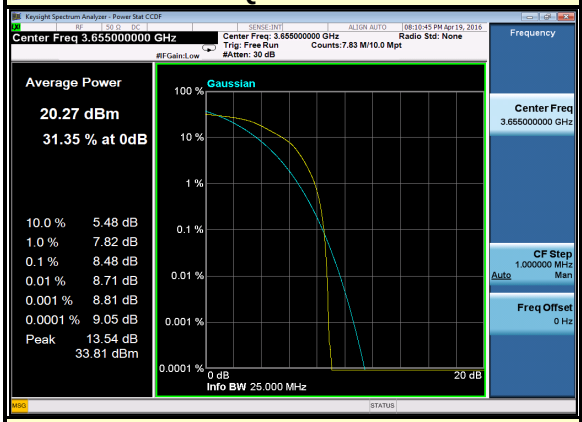
5MHz / 16QAM / CH 44565



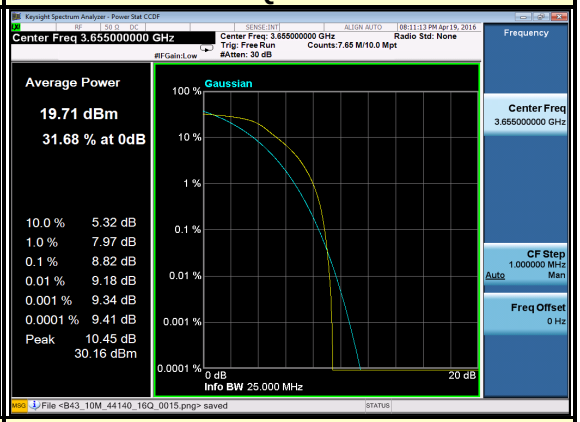
CHANNEL BANDWIDTH: 10MHz			
CHANNEL	FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)	
		QPSK	16QAM
44140	3655	8.48	8.82
44340	3675	8.08	9.15
44540	3695	8.78	8.92

SPECTRUM PLOT OF WORST VALUE

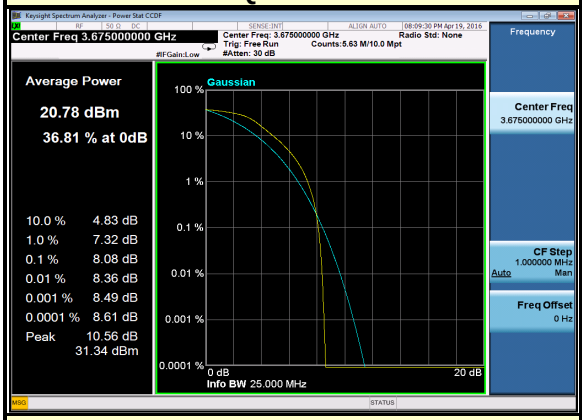
10MHz / QPSK / CH 44140



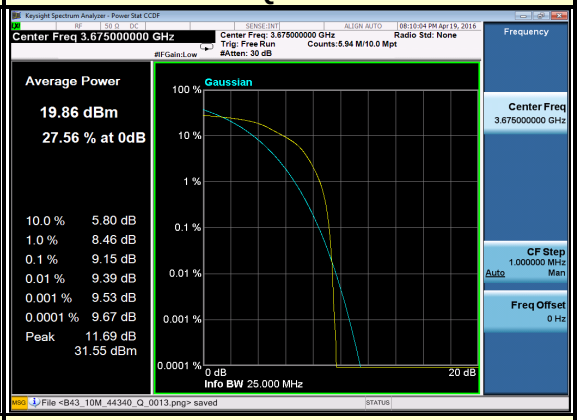
10MHz / 16QAM / CH 44140



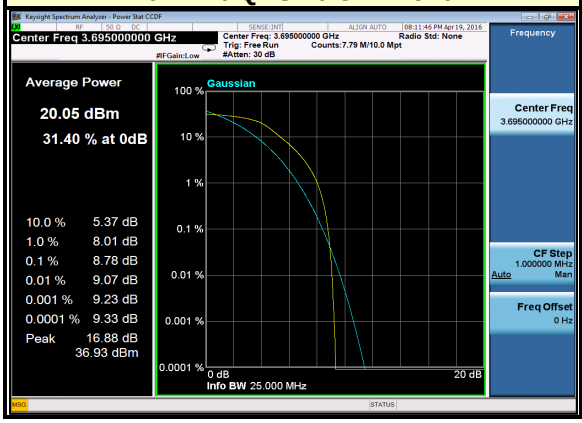
10MHz / QPSK / CH 44340



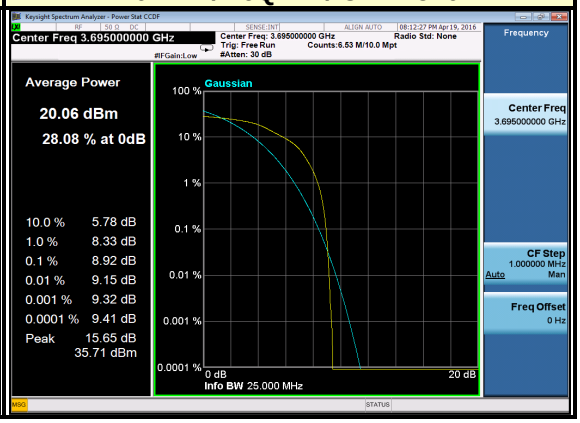
10MHz / 16QAM / CH 44340



10MHz / QPSK / CH 44540



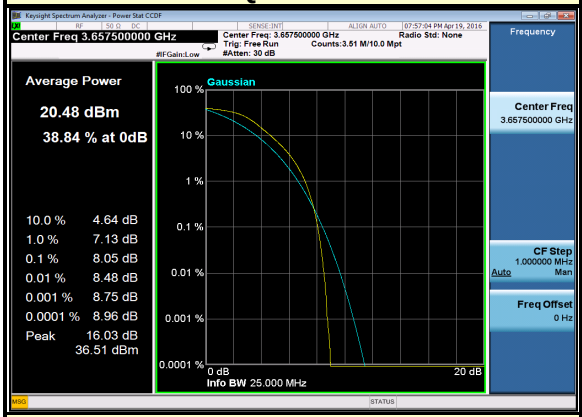
10MHz / 16QAM / CH 44540



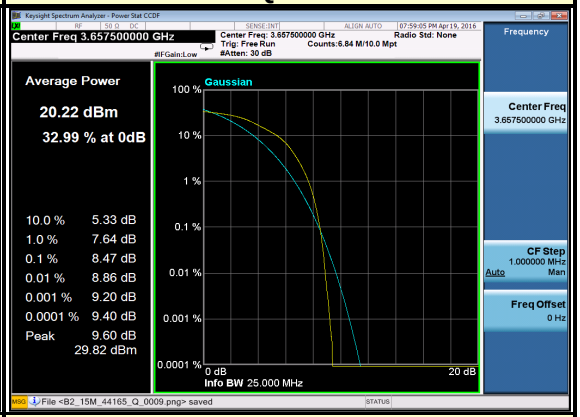
CHANNEL BANDWIDTH: 15MHz			
CHANNEL	FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)	
		QPSK	16QAM
44165	3657.5	8.05	8.47
44340	3675	7.64	8.84
44515	3692.5	8.57	8.58

SPECTRUM PLOT OF WORST VALUE

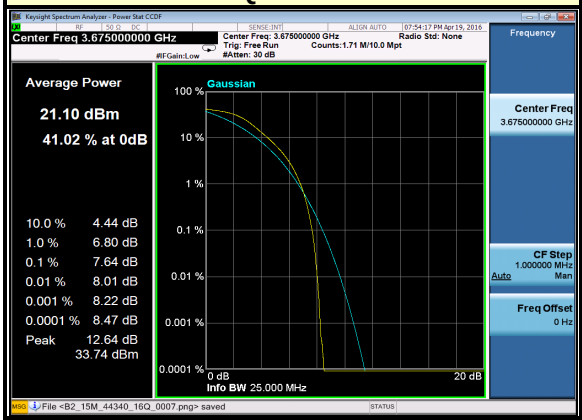
15MHz / QPSK / CH 44165



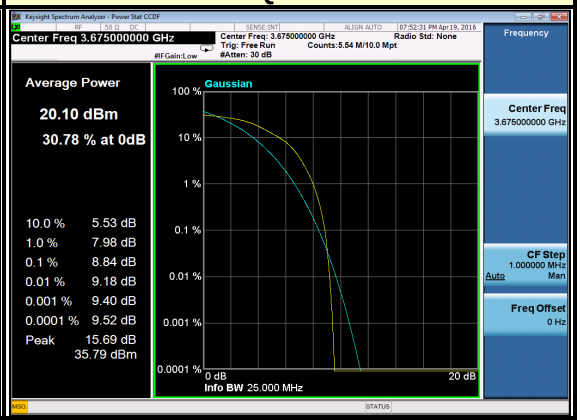
15MHz / 16QAM / CH 44165



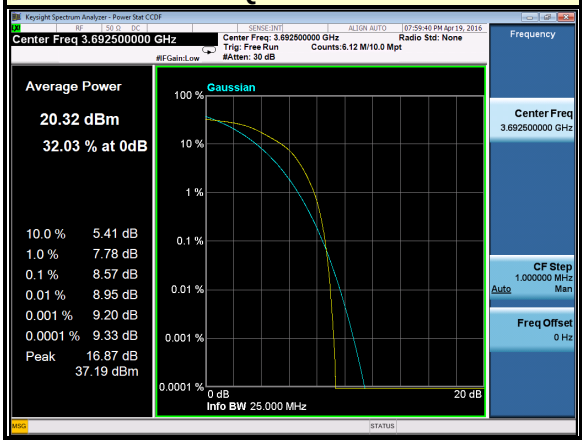
15MHz / QPSK / CH 44340



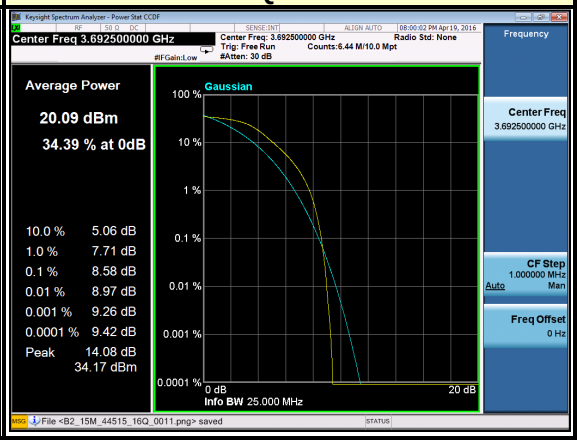
15MHz / 16QAM / CH 44340



15MHz / QPSK / CH 44515



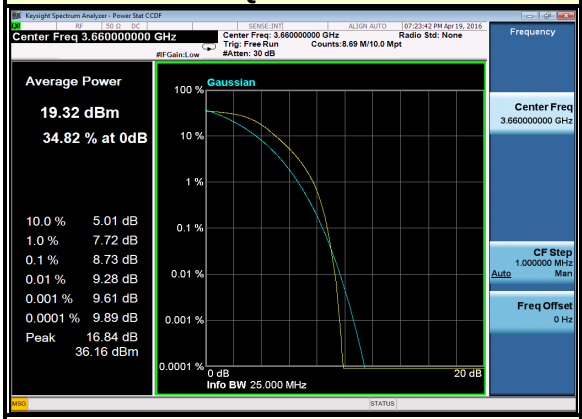
15MHz / 16QAM / CH 44515



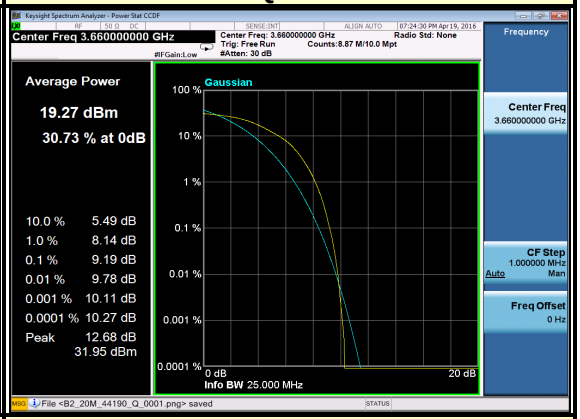
CHANNEL BANDWIDTH: 20MHz			
CHANNEL	FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)	
		QPSK	16QAM
44190	3660	8.73	9.19
44340	3675	8.73	9.58
44490	3690	8.40	9.38

SPECTRUM PLOT OF WORST VALUE

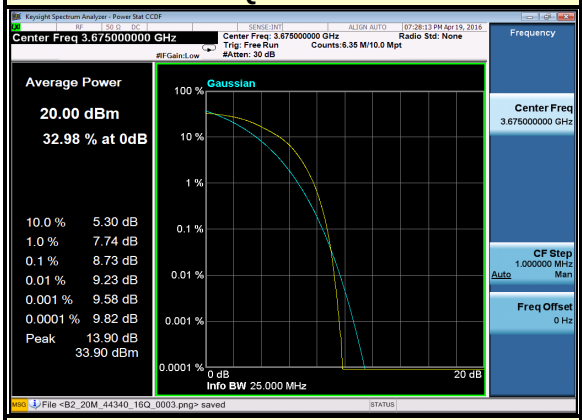
20MHz / QPSK / CH 44190



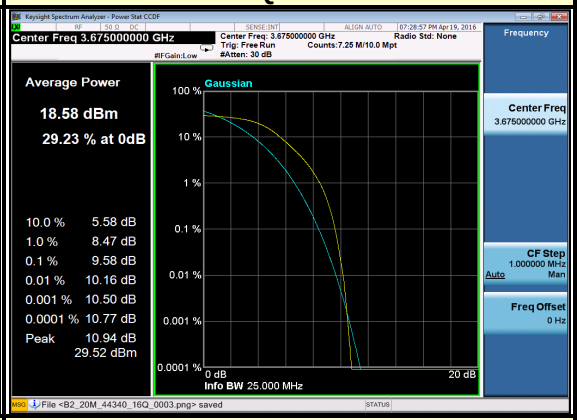
20MHz / 16QAM / CH 44190



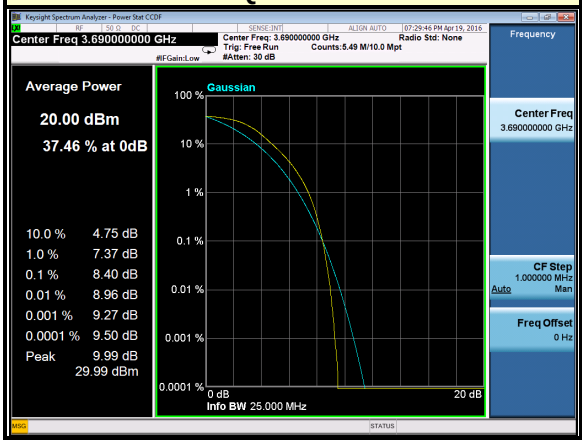
20MHz / QPSK / CH 44340



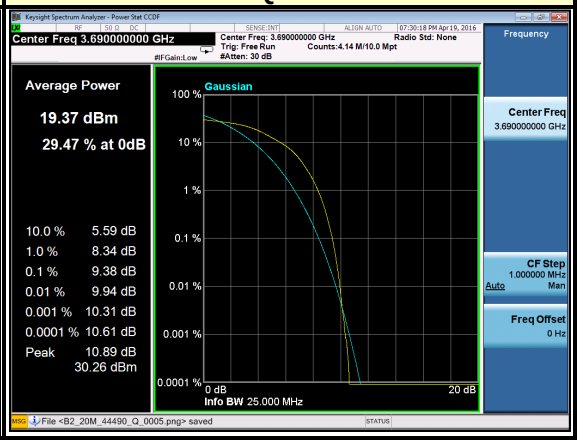
20MHz / 16QAM / CH 44340



20MHz / QPSK / CH 44490



20MHz / 16QAM / CH 44490



5 INFORMATION ON THE TESTING LABORATORIES

We, Bureau Veritas Shenzhen Co., Ltd. Dongguan Branch, were founded in 2002 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are accredited and approved according to ISO/IEC 17025.

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

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Email: customerservice.dg@cn.bureauveritas.com
Web Site: www.adt.com.tw

The address and road map of all our labs can be found in our web site also.

6 APPENDIX A – 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.

---END---