

FCC TEST REPORT

(PART 27)

Applicant:	PAX Technology Limited
Address:	Room 2416, 24/F., Sun Hung Kai Centre, 30 Harbour Hong Kong, China

Manufacturer or Supplier:	PAX Computer Technology (Shenzhen) Co., Ltd.
Address:	4/F, No.3 Building, Software Park, Second Central Science-Tech Road, High-Tech industrial Park, Shenzhen, Guangdong, P.R.C.
Product:	Smart Mobile Payment Terminal
Brand Name:	PAX
Model Name:	A920Pro
FCC ID:	V5PA920PRO
Date of tests:	Mar. 25, 2020 ~ May. 14, 2020

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

- ☒ FCC Part 27, Subpart C, L ☒ ANSI/TIA/EIA-603- D
☒ FCC Part 2 ☒ ANSI/TIA/EIA-603-E ☒ ANSI C63.26-2015

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

Prepared by Alex Chen Engineer / Mobile Department	Approved by Luke Lu Manager / Mobile Department
	
Date: May. 15, 2020	Date: May. 15, 2020

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Test Report No.: RF200324W001-6

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
RF200324W001-6	Original release	May. 15, 2020

1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 27 & Part 2			
STANDARD SECTION	TEST TYPE AND LIMIT	RESULT	TEST LAB*
2.1046 27.50(d)(4)	Maximum Peak Output Power	Compliance	A
2.1055 27.54	Frequency Stability	Compliance	A
2.1049 27.53(h)	Occupied Bandwidth	Compliance	A
27.50(d)(5)	Peak to average ratio	Compliance	A
27.53(h)	Band Edge Measurements	Compliance	A
2.1051 27.53(h)	Conducted Spurious Emissions	Compliance	A
2.1053 27.53(h)	Radiated Spurious Emissions	Compliance	B

*Test Lab Information Reference

Lab A:

BV 7Layers Communications Technology (Shenzhen) Co. Ltd

Lab Address:

No.B102, Dazhu Chuangxin Mansion, North of Beihuan Avenue, North Area, Hi-Tech Industrial Park, Nanshan District, Shenzhen, Guangdong, China

The FCC Site Registration No. is 525120; The Designation No. is CN1171.

Lab B:

SIEMIC (SHENZHEN-CHINA) LABORATORIES

Lab Address:

Zone A, Floor 1, Building 2 Wan Ye Long Technology Park
South Side of Zhoushi Road, Bao'an District, Shenzhen, Guangdong China 518108

The FCC Site Registration No. is 535293.

1.1 MEASUREMENT UNCERTAINTY

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

MEASUREMENT	UNCERTAINTY
Frequency Stability	$\pm 76.97\text{Hz}$
Radiated emissions & Radiated Power (30MHz~1GMHz)	$\pm 4.98\text{dB}$
Radiated emissions & Radiated Power (1GMHz ~6GMHz)	$\pm 4.70\text{dB}$
Radiated emissions (6GMHz ~18GMHz)	$\pm 4.60\text{dB}$
Radiated emissions (18GMHz ~40GMHz)	$\pm 4.12\text{dB}$
Conducted emissions	$\pm 4.01\text{dB}$
Occupied Channel Bandwidth	$\pm 43.58\text{KHz}$
Conducted Output power	$\pm 2.06\text{dB}$
Band Edge Measurements	$\pm 4.70\text{dB}$
Peak to average ratio	$\pm 0.76\text{dB}$

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

1.2 TEST SITE AND INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
MXE EMI Receiver	KEYSIGHT	N9038A-544	MY54450026	Feb. 28,20	Feb. 27,21
EXA Signal Analyzer	KEYSIGHT	N9010A-526	MY54510322	Feb. 28,20	Feb. 27,21
Bilog Antenna 1	ETS-LINDGREN	3143B	00161964	Feb. 28,20	Feb. 27,21
Bilog Antenna 2	ETS-LINDGREN	3143B	00161965	Feb. 28,20	Feb. 27,21
Horn Antenna 1	ETS-LINDGREN	3117	00168728	Feb. 28,20	Feb. 27,21
Horn Antenna 2	ETS-LINDGREN	3117	00168692	Nov. 24, 19	Nov. 23, 20
Horn Antenna (18GHz-40GHz)	N/A	QWH-SL-18-40-K-SG/QMS-00361	15433	Nov. 24, 19	Nov. 23, 20
Radio Communication Analyzer	ANRITSU	MT8820C	6201465426	Feb. 28,20	Feb. 27,21
Signal Pre-Amplifier	EMSI	EMC 9135	980249	Jun. 24,19	Jun. 23,20
Signal Pre-Amplifier	EMSI	EMC 012645B	980257	Jun. 24,19	Jun. 23,20
Signal Pre-Amplifier	EMSI	EMC 184045B	980259	Jun. 24,19	Jun. 23,20
3m Semi-anechoic Chamber	ETS-LINDGREN	9m*6m*6m	Euroshieldpn-CT0001143-1216	Feb. 28,20	Feb. 27,21
Test Software	E3	V 9.160323	N/A	N/A	N/A
Test Software	ADT	ADT_Radiated V7.6.15.9.2	N/A	N/A	N/A
10dB Attenuator	JFW/USA	50HF-010-SM A	1505	Jun. 24,19	Jun. 23,20
Power Meter	Anritsu	ML2495A	1506002	Feb. 28,20	Feb. 27,21
Power Sensor	Anritsu	MA2411B	1339352	Feb. 28,20	Feb. 27,21
Humid & Temp Programmable Tester	Juyi	ITH-120-45-CP-AR	IAA1504-001	Jun. 24,19	Jun. 23,20
MXG Analog Microwave Signal Generator	KEYSIGHT	N5183A	MY50143024	Feb. 28,20	Feb. 27,21

- 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 3m Semi-anechoic Chamber and RF Oven Room.
3. The horn antenna is used only for the measurement of emission frequency above 1GHz if tested.
4. The FCC Site Registration No. is 525120; The Designation No. is CN1171.

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Wireless Connectivity Tester	R&S	CMW270	1201.0002K75	Dec. 18, 19	Dec. 17, 20
MXA VEXTOR SIGNAL	Agilent	n5182a	MY50140530	Mar. 24,20	Mar. 24,21
MXA signal analyzer	Agilent	n9020a	MY49100060	Mar. 24,20	Mar. 24,21
RF Control Unit	Tonscend	JS0806-2	188060112	Mar. 24,20	Mar. 24,21
Signal Generation	Agilent	E4421B	US40051152	Dec. 18, 19	Dec. 17, 20
DC Power Supply	Agilent	E3640A	MY40004013	Mar. 30,20	Mar. 30,21
Programmable Temperature & Humidity Chamber	Hongjin	HYC-TH-225 DH	DG-180746	Mar. 24,20	Mar. 24,21
Test System	Tonscend	JS 1120-3	N/A	N/A	N/A
Power Splitter	Weinschel	1580-1	TL177	Mar. 27,20	Mar. 27,21
Universal Radio Communication	ROHDE&SCHWARZ	CMU200	112012	Mar. 24,20	Mar. 24,21
Wireless Communication Test Set	ROHDE&SCHWARZ	CMW500	1201.0002K50 0-155842-Gd	Nov. 1, 19	Oct. 31, 20

NOTE:

1. The calibration interval of the above test instruments is 12 months (except 3m Semi-anechoic Chamber). And the calibrations are traceable to CEPREI/CHINA, GRGT/CHINA and NIM/CHINA.
2. The test was performed in 3m Semi-anechoic Chamber and RF Oven Room.
3. The horn antenna is used only for the measurement of emission frequency above 1GHz if tested.
4. The FCC Site Registration No. is 535293.

2 GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Smart Mobile Payment Terminal	
BRAND NAME	PAX	
MODEL NAME	A920Pro	
POWER SUPPLY	DC 3.7V	
MODULATION TECHNOLOGY	WCDMA	BPSK, QPSK
FREQUENCY RANGE	WCDMA IV	1712.4MHz ~ 1752.6MHz
EMISSION DESIGNATOR	WCDMA IV	4M16F9W
MAX. ERP/EIRP POWER	WCDMA IV	276mw
ANTENNA TYPE	FPC Antenna with 1.5dBi gain	
HW VERSION	N/A	
SW VERSION	N/A	
I/O PORTS	Refer to user's manual	
CABLE SUPPLIED	N/A	

NOTE:

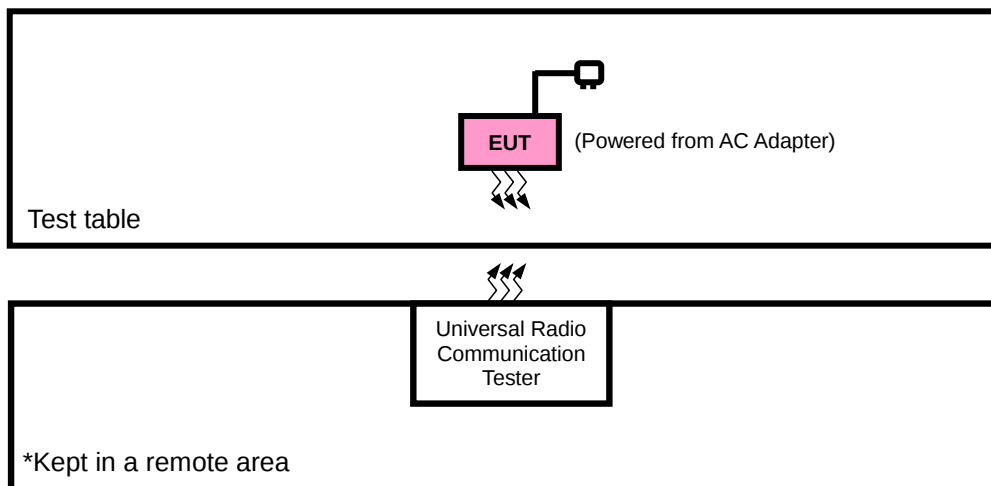
1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.
2. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.

3. List of Accessory:

ACCESSORIES	BRAND	MODEL	MANUFACTURER	SPECIFICATION
AC Adapter	N/A	GLH50D2000HW	/	Input: 100-240V~50/60Hz 0.40A Output: 5.0V--- 2000mA
Battery	VEKEN	YW-008	NingBo Veken Battery Co., Ltd.	Rating : 3.7V--- 5150mAh 19.05Wh, Rechargeable Li-ion Battery

2.2 CONFIGURATION OF SYSTEM UNDER TEST

FOR RADIATION EMISSION TEST



2.3 DESCRIPTION OF SUPPORT UNITS

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

NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	N/A	N/A	N/A	N/A	N/A

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	N/A

2.4 DESCRIPTION OF TEST MODES

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

EUT CONFIGURE MODE	DESCRIPTION
A	EUT + Adapter + USB Cable with WCDMA link
B	EUT + Battery with WCDMA link

WCDMA MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	MODE
B	EIRP	1312 to 1513	1312, 1413, 1513	WCDMA
B	FREQUENCY STABILITY	1312 to 1513	1312, 1513	WCDMA
B	OCCUPIED BANDWIDTH	1312 to 1513	1312, 1413, 1513	WCDMA
B	BAND EDGE	1312 to 1513	1312, 1513	WCDMA
B	PEAK TO AVERAGE RATIO	1312 to 1513	1312, 1413, 1513	WCDMA
B	CONDUCTED EMISSION	1312 to 1513	1312, 1413, 1513	WCDMA
A	RADIATED EMISSION	1312 to 1513	1312, 1413, 1513	WCDMA



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TEST CONDITION:

TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
EIRP	23deg. C, 70%RH	DC 3.7V	Tony Xiong
FREQUENCY STABILITY	23deg. C, 70%RH	DC 3.7V	Harris Wang
OCCUPIED BANDWIDTH	23deg. C, 70%RH	DC 3.7V	Harris Wang
PEAK TO AVERAGE RATIO	23deg. C, 70%RH	DC 3.7V	Harris Wang
BAND EDGE	23deg. C, 70%RH	DC 3.7V	Harris Wang
CONDCUDED EMISSION	23deg. C, 70%RH	DC 3.7V	Harris Wang
RADIATED EMISSION	23deg. C, 70%RH	DC 3.7V	Aaron Liang



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2.5 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 27

KDB 971168 D01 Power Meas License Digital Systems v03r01

ANSI/TIA/EIA-603-D

ANSI/TIA/EIA-603-E

ANSI C63.26-2015

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

3 TEST TYPES AND RESULTS

3.1 OUTPUT POWER MEASUREMENT

3.1.1 LIMITS OF OUTPUT POWER MEASUREMENT

Fixed, mobile, and portable (hand-held) stations operating in the 1710–1755 MHz band are limited to 1 watt EIRP.

3.1.2 TEST PROCEDURES

EIRP / ERP MEASUREMENT:

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

$$\text{ERP or EIRP} = P_{\text{Meas}} + G_T - L_C$$

Where:

ERP or EIRP = effective radiated power or equivalent isotropically radiated power, respectively
(expressed in the same units as P_{Meas} , typically dBW or dBm);

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

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

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

CONDUCTED POWER MEASUREMENT:

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

3.1.3 TEST SETUP

EIRP MEASUREMENT:

CONDUCTED POWER MEASUREMENT:



3.1.4 TEST RESULTS

AVERAGE CONDUCTED OUTPUT POWER (dBm)

Band	WCDMA IV			WCDMA IV
Channel	1312	1413	1513	Max. Tune-up Power
Rx Channel	1537	1638	1738	
Frequency	1712.4	1732.6	1752.6	
AMR	-	-	-	
RMC 12.2K	22.89	22.91	22.86	23.5
HSDPA Subtest-1	21.75	21.92	21.88	22.5
HSDPA Subtest-2	21.76	21.85	21.76	22.5
HSDPA Subtest-3	21.24	21.31	21.23	22.0
HSDPA Subtest-4	21.31	21.18	21.22	22.0
HSUPA Subtest-1	21.86	21.75	21.76	22.5
HSUPA Subtest-2	19.92	19.77	19.64	20.5
HSUPA Subtest-3	20.93	20.81	20.71	21.5
HSUPA Subtest-4	19.84	19.69	19.58	20.5
HSUPA Subtest-5	21.80	21.83	21.85	22.5

EIRP

WCDMA IV

Channel	Frequency (MHz)	Conducted Power (dBm)	G _T -L _c (dB)	EIRP (dBm)	EIRP (mW)	Limit (W)
1313	1712.6	22.89	1.50	24.39	274.79	1
1450	1740.0	22.91	1.50	24.41	276.06	1
1512	1752.4	22.86	1.50	24.36	272.90	1

REMARKS: 1. EIRP Output Power (dBm) = SPA LVL (dBm) + Correction Factor (dB).
 2. Correction factor (dB) = Free Space Loss + Antenna Factor + Cable Loss

3.2 FREQUENCY STABILITY MEASUREMENT

3.2.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

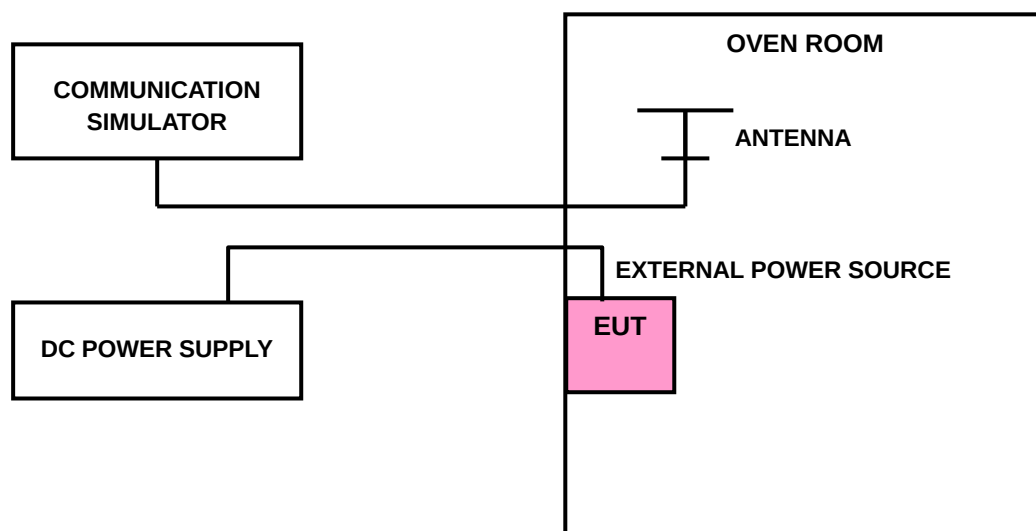
The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

3.2.2 TEST PROCEDURE

- Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.
- EUT is connected the external power supply to control the DC input power. The test voltage range is from minimum to maximum working voltage. Each step shall be record the frequency error rate.
- The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the $\pm 0.5^{\circ}\text{C}$ during the measurement testing. The each temperature step shall be at least 0.5 hours, consider the EUT could be test under the stability condition.

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

3.2.3 TEST SETUP



3.2.4 TEST RESULTS

WCDMA BAND IV

FREQUENCY ERROR VS. VOLTAGE

VOLTAGE (Volts)	FREQUENCY ERROR (ppm)		LIMIT (ppm)
	Low Channel	High Channel	
V_{nor}	0.0022	0.0021	2.5
V_{min}	-0.0026	-0.0020	2.5
V_{max}	0.0024	0.0021	2.5

NOTE: The applicant defined the normal working voltage of the battery is from V_{min} to V_{dc} .

FREQUENCY ERROR vs. TEMPERATURE.

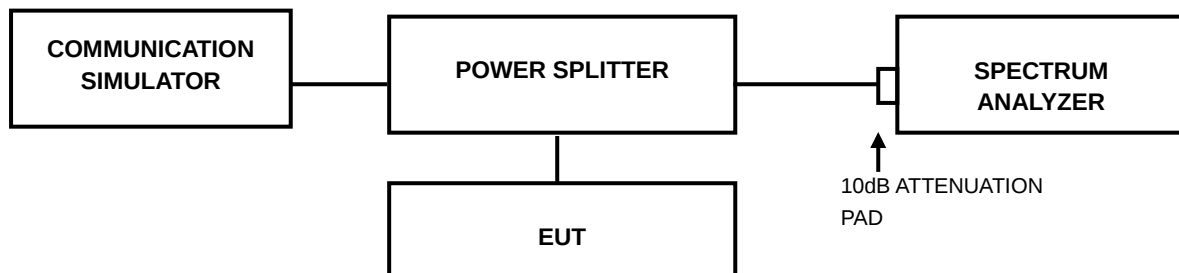
TEMP. (°C)	FREQUENCY ERROR (ppm)		LIMIT (ppm)
	Low Channel	High Channel	
-30	-0.0122	-0.0118	2.5
-20	-0.0105	-0.0108	2.5
-10	-0.0082	-0.0084	2.5
0	-0.0077	-0.0073	2.5
10	-0.0056	-0.0044	2.5
20	-0.0038	-0.0042	2.5
30	-0.0041	-0.0038	2.5
40	-0.0017	-0.0020	2.5
50	-0.0003	-0.0005	2.5

3.3 OCCUPIED BANDWIDTH MEASUREMENT

3.3.1 LIMITS OF OCCUPIED BANDWIDTH MEASUREMENT

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

3.3.2 TEST SETUP



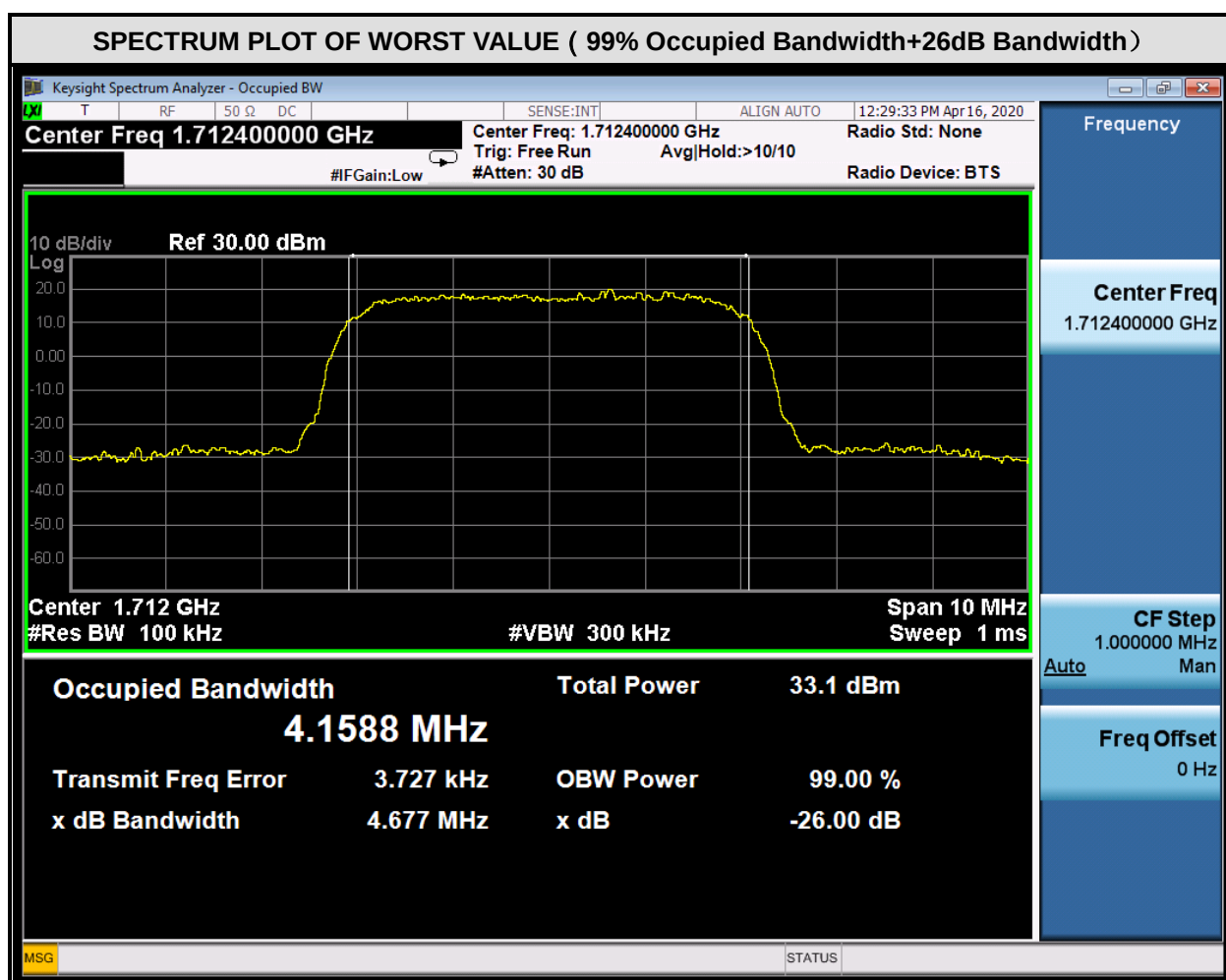
3.3.3 TEST PROCEDURES

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

3.3.4 TEST RESULTS

WCDMA BAND IV

Channel	FREQ. (MHz)	99% Occupied Bandwidth (MHz)	Channel	FREQ. (MHz)	26dB Bandwidth (MHz)
		WCDMA			WCDMA
1312	1712.40	4.159	1312	1712.40	4.677
1413	1732.60	4.146	1413	1732.60	4.684
1513	1752.60	4.143	1513	1752.60	4.688

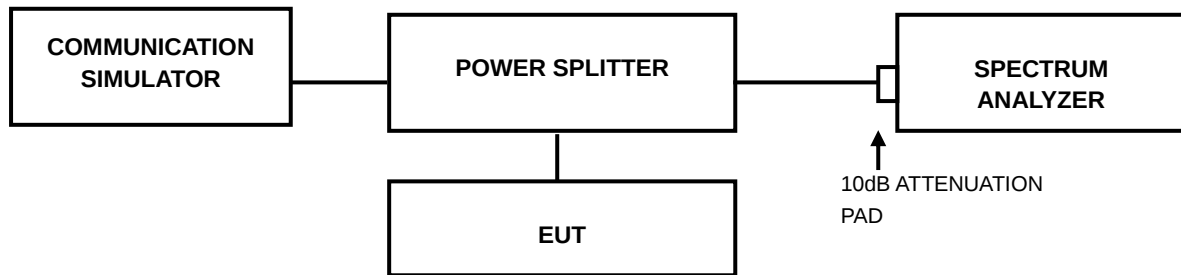


3.4 PEAK TO AVERAGE RATIO

3.4.1 LIMITS OF PEAK TO AVERAGE RATIO MEASUREMENT

In measuring transmissions in this band using an average power technique, the peak to-average ratio (PAR) of the transmission may not exceed 13 dB

3.4.2 TEST SETUP



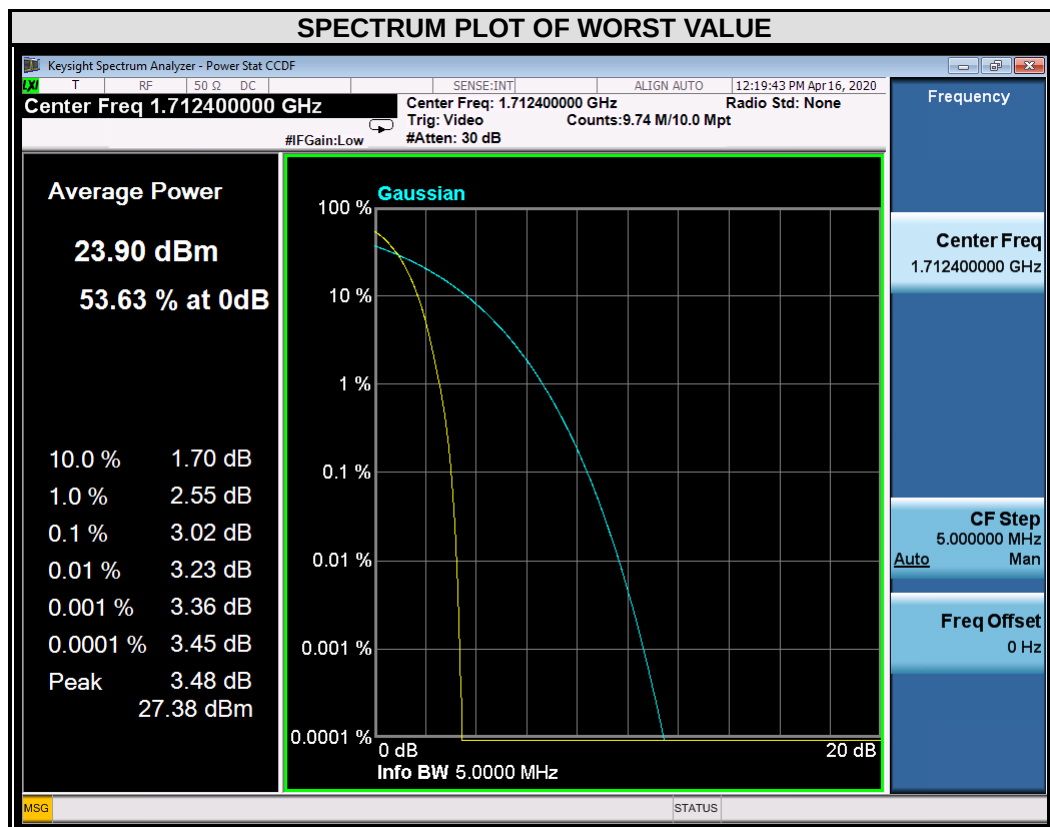
3.4.3 TEST PROCEDURES

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

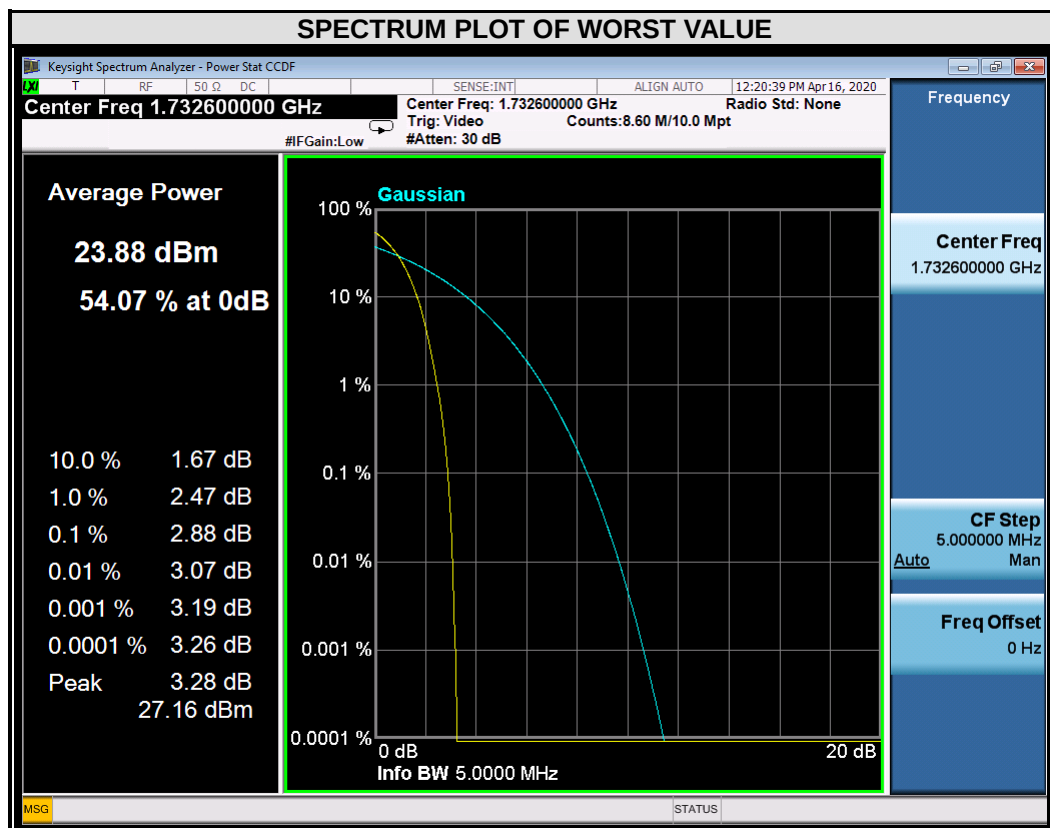
3.4.4 TEST RESULTS

WCDMA Band IV

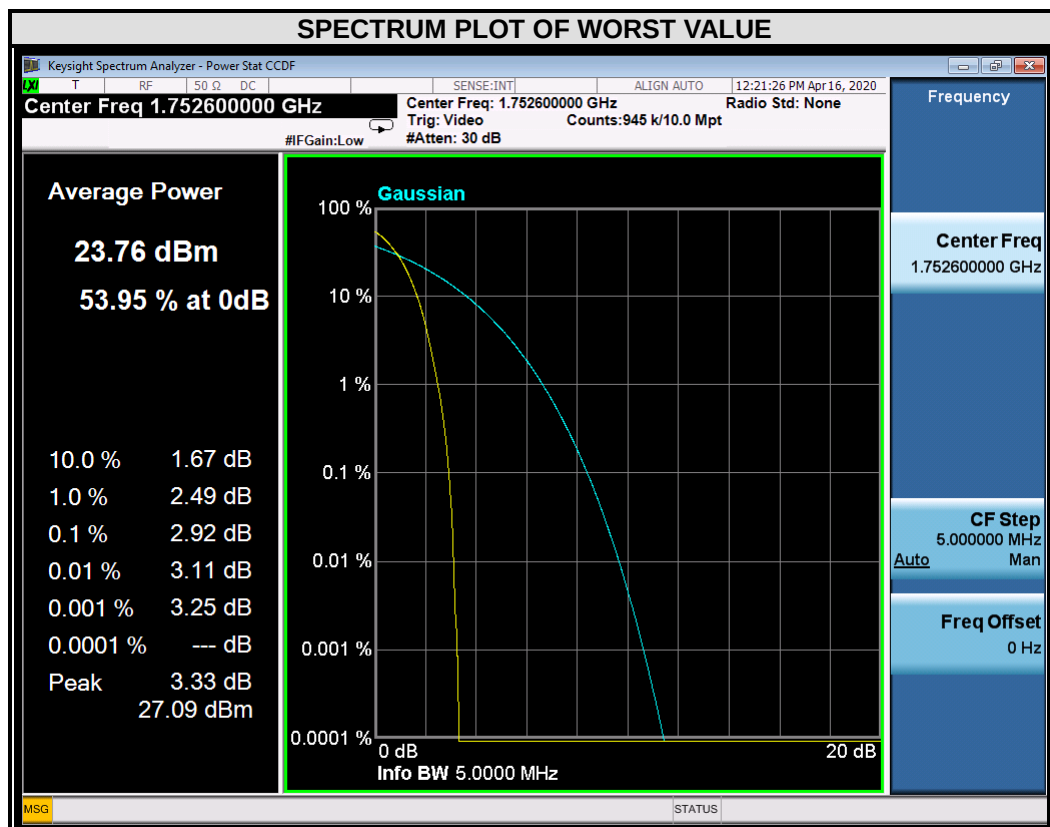
CHANNEL	FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
1312	1712.4	3.02



CHANNEL	FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
1413	1732.6	2.88



CHANNEL	FREQUENCY (MHz)	PEAK TO AVERAGE RATIO (dB)
1513	1752.6	2.92



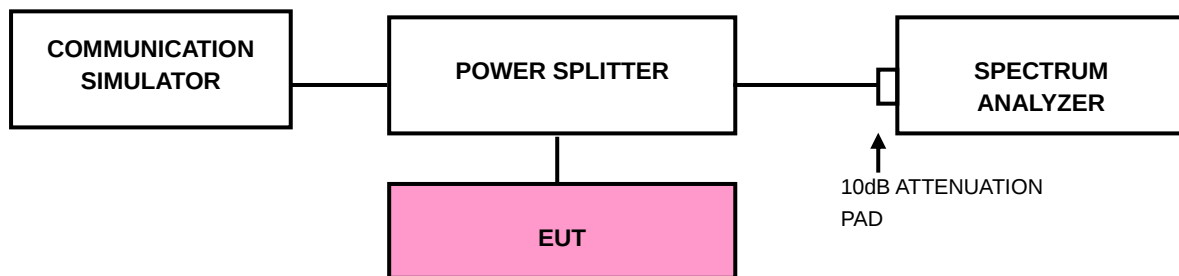
3.5 BAND EDGE MEASUREMENT

3.5.1 LIMITS OF BAND EDGE 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 100 kilohertz or greater.

However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

3.5.2 TEST SETUP



3.5.3 TEST PROCEDURES

- a. The EUT was set up for the maximum peak power with LTE link data modulation. The power was measured with R&S Spectrum Analyzer. All measurements were done at 2 channels (low and high operational frequency range.).
- b. The band edge measurement used the power splitter via EUT RF power connector between simulation base station and spectrum analyzer.
- c. The center frequency of spectrum is the band edge frequency and span is 10MHz. RBW of the spectrum is 100kHz and VBW of the spectrum is 300kHz (WCDMA).
- d. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz. RBW of the spectrum is 20kHz and VBW of the spectrum is 100 kHz. (LTE bandwidth 1.4MHz)
- e. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz. RBW of the spectrum is 30kHz and VBW of the spectrum is 100kHz. (LTE bandwidth 3MHz)
- f. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz. RBW of the spectrum is 50kHz and VBW of the spectrum is 200kHz. (LTE bandwidth 5MHz)
- g. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz. RBW of the spectrum is 100kHz and VBW of the spectrum is 300kHz. (LTE bandwidth 10MHz)
- h. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz. RBW of the spectrum is 200kHz and VBW of the spectrum is 1MHz. (LTE bandwidth 15MHz)
- i. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz. RBW of the spectrum is 200kHz and VBW of the spectrum is 1MHz. (LTE bandwidth 20MHz)
- j. Record the max trace plot into the test report.

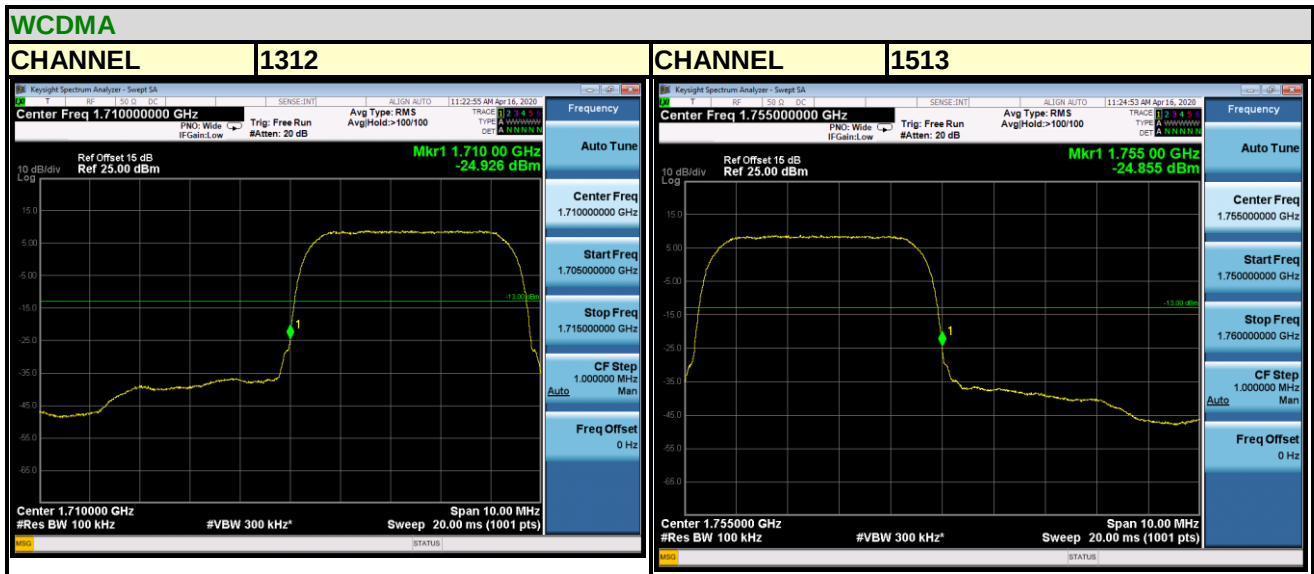


BUREAU
VERITAS

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3.5.4 TEST RESULTS

WCDMA BAND 4



3.6 CONDUCTED SPURIOUS EMISSIONS

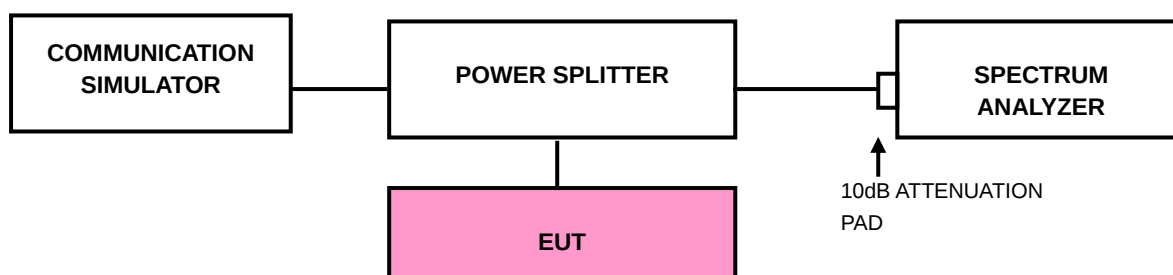
3.6.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least $43 + 10 \log_{10}(P)$ dB. The limit of emission equal to -13dBm

3.6.2 TEST PROCEDURE

- The EUT makes a phone call to the communication simulator. All measurements were done at middle operational frequency range.
- Measuring frequency range is from 30 MHz to 19.1GHz for WCDMA Band 4 & LTE Band 4. 10dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz are used for conducted emission measurement.

3.6.3 TEST SETUP



3.6.4 TEST RESULTS



3.7 RADIATED EMISSION MEASUREMENT

3.7.1 LIMITS OF RADIATED EMISSION MEASUREMENT

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least $43 + 10 \log_{10}(P)$ dB. The limit of emission equal to -13dBm

3.7.2 TEST PROCEDURES

- a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The "Read Value" is the spectrum reading the maximum power value.
- b. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to "Read Value" of step a. Record the power level of S.G
- c. $\text{EIRP} = \text{Output power level of S.G} - \text{TX cable loss} + \text{Antenna gain of substitution horn}.$
- d. E.R.P power can be calculated form E.I.R.P power by subtracting the gain of dipole, $\text{E.R.P power} = \text{E.I.P.R power} - 2.15\text{dBi}.$

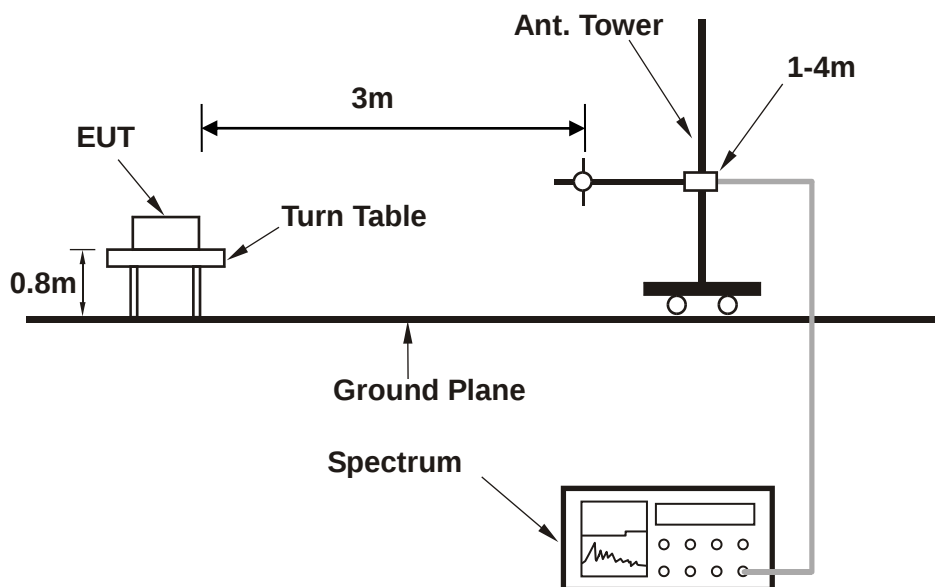
NOTE: The resolution bandwidth of spectrum analyzer is 1 MHz and the video bandwidth is 3 MHz.

3.7.3 DEVIATION FROM TEST STANDARD

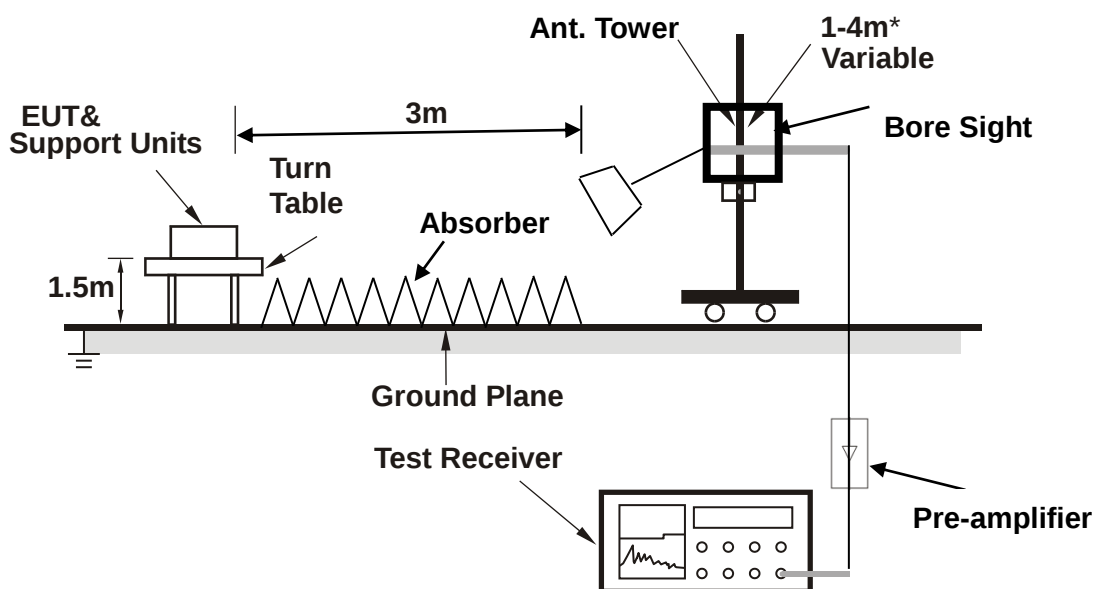
No deviation

3.7.4 TEST SETUP

< Frequency Range 30MHz~1GHz >



<Frequency Range above 1GHz>



Note: Above 1G is a directional antenna

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

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

3.7.5 TEST RESULTS

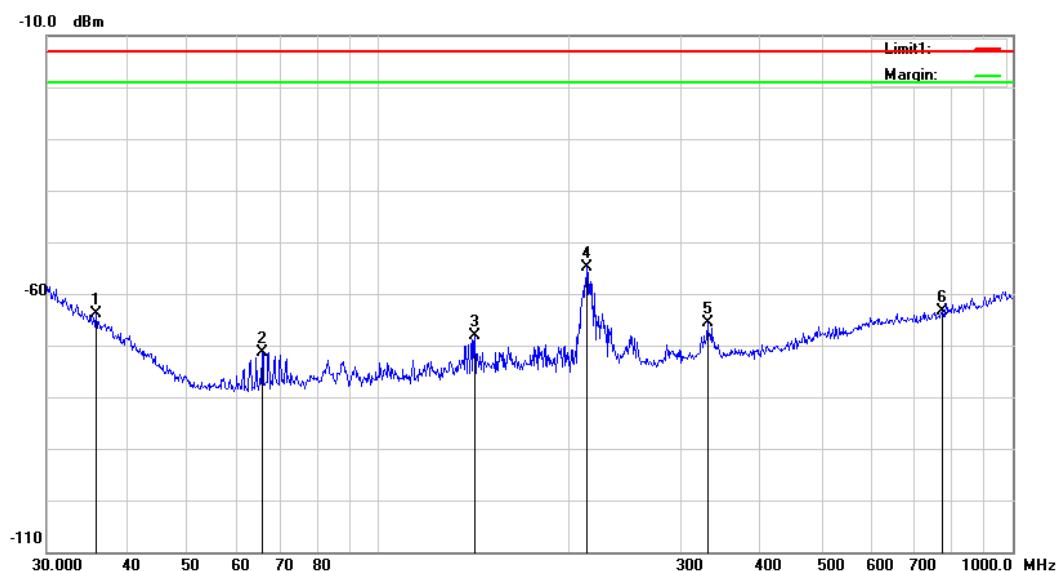
BELOW 1GHz WORST-CASE DATA

30 MHz – 1GHz data:

WCDMA IV

MODE	TX channel 1413	FREQUENCY RANGE	Below 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 3.7
TESTED BY	Aaron Liang		
ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M			

FREQ. (MHz)	Antenna Polarization(H/V)	EMISSION LEVEL (dBm/m)	DETECTOR(PK/AV)	LIMIT (dBm/m)	MARGIN (dB)	RAW VALUE (dBm)	CORRECTION FACTOR (dB/m)
35.8747	H	-63.89	PK	-13	-50.89	-72.65	-8.76
65.5727	H	-71.31	PK	-13	-58.31	-68.3	3.01
141.8262	H	-68.01	PK	-13	-55.01	-68.21	-0.2
213.0151	H	-54.92	PK	-13	-41.92	-55.31	-0.39
330.1949	H	-65.63	PK	-13	-52.63	-67.62	-1.99
774.1584	H	-63.47	PK	-13	-50.47	-72.9	-9.43



MODE	TX channel 1413	FREQUENCY RANGE	Below 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 3.7
TESTED BY	Aaron Liang		
ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M			

FREQ. (MHz)	Antenna Polarization(H/V)	EMISSION LEVEL (dBm/m)	DETECTOR(PK/AV)	LIMIT (dBm/m)	MARGIN (dB)	RAW VALUE (dBm)	CORRECTION FACTOR (dB/m)
32.4059	V	-62.84	PK	-13	-49.84	-67.9	-5.06
41.713	V	-63.69	PK	-13	-50.69	-62.44	1.25
67.2022	V	-57.53	PK	-13	-44.53	-55.65	1.88
87.7248	V	-63.84	PK	-13	-50.84	-66.76	-2.92
144.3348	V	-63.99	PK	-13	-50.99	-68.95	-4.96
217.5443	V	-59.04	PK	-13	-46.04	-61.83	-2.79





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ABOVE 1GHz

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

WORST-CASE DATA

WCDMA Band IV:

CH 1312

MODE	TX channel 1312	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 3.7
TESTED BY	Aaron Liang		

FREQ. (MHz)	Antenna Polarization(H/V)	EMISSION LEVEL (dBm/m)	DETECTOR(PK/AV)	LIMIT (dBm/m)	MARGIN (dB)	RAW VALUE (dBm)	CORRECTION FACTOR (dB/m)
3424.8	V	-47.27	PK	-13	-34.27	-65.23	17.96
3424.8	H	-45.9	PK	-13	-32.9	-63.86	17.96
5137.2	V	-42.09	PK	-13	-29.09	-63.29	21.2
5137.2	H	-41.81	PK	-13	-28.81	-63.01	21.2

CH 1413

MODE	TX channel 1413	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 3.7
TESTED BY	Aaron Liang		

FREQ. (MHz)	Antenna Polarization(H/V)	EMISSION LEVEL (dBm/m)	DETECTOR(PK/AV)	LIMIT (dBm/m)	MARGIN (dB)	RAW VALUE (dBm)	CORRECTION FACTOR (dB/m)
3465.2	V	-46.59	PK	-13	-33.59	-64.55	17.96
3465.2	H	-47.3	PK	-13	-34.3	-65.26	17.96
5197.8	V	-42.29	PK	-13	-29.29	-63.49	21.2
5197.8	H	-42.22	PK	-13	-29.22	-63.42	21.2

CH 1513

MODE	TX channel 1513	FREQUENCY RANGE	Above 1000MHz
ENVIRONMENTAL CONDITIONS	23deg. C, 70%RH	INPUT POWER	DC 3.7
TESTED BY	Aaron Liang		

FREQ. (MHz)	Antenna Polarization(H/V)	EMISSION LEVEL (dBm/m)	DETECTOR(PK/AV)	LIMIT (dBm/m)	MARGIN (dB)	RAW VALUE (dBm)	CORRECTION FACTOR (dB/m)
3704.8	V	-45.35	PK	-13	-32.35	-63.79	18.44
3704.8	H	-45.34	PK	-13	-32.34	-63.78	18.44
5557.2	V	-41.45	PK	-13	-28.45	-60.98	19.53
5557.2	H	-44.1	PK	-13	-31.1	-63.63	19.53

Note: Radiated Emission AND BANDEDGE Measurement Test was performed by **Lab B**.



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INFORMATION ON THE TESTING LABORATORIES

We, BV 7LAYERS COMMUNICATIONS TECHNOLOGY (SHENZHEN) CO. LTD., were founded in 2015 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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The address and road map of all our labs can be found in our web site also.



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4 APPENDIX A – MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB

No modifications were made to the EUT by the lab during the test.

---END---