

EMC TEST REPORT



Applicant:	TCL Communication Ltd.
Address:	5F, C-Tower, No. 232, Liang Jing Road, ZhangJiang High-Tech Park, Pudong Area, Shanghai, 201203, P.R.China

Manufacturer or Supplier	TCL Communication Ltd.
Address	5F, C-Tower, No. 232, Liang Jing Road, ZhangJiang High-Tech Park, Pudong Area, Shanghai, 201203, P.R.China
Product	Mobile Phone
Brand Name	alcatel
Model Name	9008X
FCC ID	2ACCJBT04
Date of tests	Mar. 22, 2017 ~ Apr. 09, 2017

The submitted sample of the above equipment has been tested for according to the requirements of the following standards:

- ☒ **FCC Part 15, Subpart B, Class B**
- ☒ **ANSI C63.4:2014**

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

Issued by Harry Li Engineer / Mobile Department	Approved by Sam Tung Manager / Mobile Department
	
Date: Apr. 10, 2017	Date: Apr. 10, 2017

This report is for your exclusive use. Any copying or replication of this report to or for any other person or entity, or use of our name or trademark, is permitted only with our prior written permission. This report sets forth our findings solely with respect to the test samples identified herein. The results set forth in this report are not indicative or representative of the quality or characteristics of the lot from which a test sample was taken or any similar or identical product unless specifically and expressly noted. Our report includes all of the tests requested by you and the results thereof based upon the information that you provided to us. You have 60 days from date of issuance of this report to notify us of any material error or omission caused by our negligence, provided, however, that such notice shall be in writing and shall specifically address the issue you wish to raise. A failure to raise such issue within the prescribed time shall constitute your unqualified acceptance of the completeness of this report, the tests conducted and the correctness of the report contents. Unless specific mention, the uncertainty of measurement has been explicitly taken into account to declare the compliance or non-compliance to the specification

TABLE OF CONTENTS

RELEASE CONTROL RECORD	3
1 GENERAL INFORMATION	4
1.1 GENERAL DESCRIPTION OF EUT.....	4
1.2 SUMMARY OF TEST RESULTS.....	6
1.3 MEASUREMENT UNCERTAINTY	6
1.4 DESCRIPTION OF TEST MODES.....	7
1.5 DESCRIPTION OF SUPPORT UNITS.....	8
1.6 CONFIGURATION OF SYSTEM UNDER TEST	9
2 EMISSION TEST	11
2.1 CONDUCTED EMISSION MEASUREMENT	11
2.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT	11
2.1.2 TEST INSTRUMENTS.....	11
2.1.3 TEST PROCEDURES	12
2.1.4 DEVIATION FROM TEST STANDARD	12
2.1.5 TEST SETUP.....	13
2.1.6 EUT OPERATING CONDITIONS	13
2.1.7 TEST RESULTS	14
2.2 RADIATED EMISSION MEASUREMENT	16
2.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT	16
2.2.2 TEST INSTRUMENTS.....	18
2.2.3 TEST PROCEDURE.....	19
2.2.4 DEVIATION FROM TEST STANDARD	20
2.2.5 TEST SETUP.....	21
2.2.6 EUT OPERATING CONDITIONS	21
2.2.7 TEST RESULTS	22
3 APPENDIX A – MODIFICATIONS RECORDERS FOR ENGINEERING CHANGES TO THE EUT BY THE LAB	26



Test Report No.: FV170321W005

RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FV170321W005	Original release	Apr. 10, 2017



1 GENERAL INFORMATION

1.1 GENERAL DESCRIPTION OF EUT

PRODUCT	Mobile Phone	
BRAND NAME	alcatel	
MODEL NAME	9008X	
NOMINAL VOLTAGE	5.0Vdc (adapter or host equipment) 3.85Vdc (Li-polymer, battery)	
BATTERY	Brand Name: alcatel Model Name: TLp030JC Power Rating: DC 3.85V, 3000mAh, Li-polymer	
MODULATION TYPE	WLAN	CCK, DQPSK, DBPSK for DSSS 64QAM, 16QAM, QPSK, BPSK for OFDM
	BT_LE	DTS
	Bluetooth	GFSK, $\pi/4$ -DQPSK, 8DPSK
	GSM/EDGE	GMSK, 8PSK
	WCDMA	BPSK/QPSK
	LTE	QPSK/16QAM
OPERATING FREQUENCY	WLAN	2412 ~ 2462MHz for 11b/g/n(HT20) 2422 ~ 2452MHz for 11n(HT40)
	Bluetooth/BT_LE	2402MHz ~ 2480MHz
	GSM/EDGE	824.2MHz ~ 848.8MHz (FOR GSM 850) 1850.2MHz ~ 1909.8MHz (FOR PCS 1900)
	WCDMA	1852.4MHz ~ 1907.6MHz (FOR WCDMA Band 2) 826.4MHz ~ 846.6MHz (FOR WCDMA Band 5)
	LTE	2502.5MHz ~ 2567.5MHz (FOR LTE Band7)
HW VERSION	V04	
SW VERSION	F31	
I/O PORTS	Refer to user's manual	
CABLE	USB cable: non-shielded, detachable, 1.0m Earphone cable: non-shielded, detachable, 1.5m	
ACCESSORY DEVICES	Refer to note as below	

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 adapters:

ADAPTER 1	
BRAND:	alcatel
MODEL:	UC11US
INPUT:	AC 100-240V, 200mA
OUTPUT:	DC 5V, 1000mA

ADAPTER 2	
BRAND:	alcatel
MODEL:	UC11US
INPUT:	AC 100-240V, 200mA
OUTPUT:	DC 5V, 1000mA

3. The EUT matched the following USB cables and Earphones:

USB CABLE 1	
BRAND:	N/A
MODEL:	N/A
SIGNAL LINE:	1.0 METER

USB CABLE 2	
BRAND:	N/A
MODEL:	N/A
SIGNAL LINE:	1.0 METER

EARPHONE 1	
BRAND:	N/A
MODEL:	N/A
SIGNAL LINE:	1.5 METER

EARPHONE 2	
BRAND:	N/A
MODEL:	N/A
SIGNAL LINE:	1.5 METER

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

1.2 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 15, Subpart B			
Standard Section	Test Item	Result	Remark
FCC Part 15, Subpart B, Class B ANSI C63.4:2014	Conducted Test	PASS	Meets limits minimum passing margin is -5.19dB at 0.548000MHz.
	Radiated Emission Test (30MHz ~ 1GHz)	PASS	Meets Class B Limit Minimum passing margin is -3.94dB at 798.24MHz
	Radiated Emission Test (Above 1GHz)	PASS	Meets Class B Limit Minimum passing margin is -15.24dB at 3480MHz

1.3 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:

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

MEASUREMENT	FREQUENCY	UNCERTAINTY
Conducted emissions	150kHz ~ 30MHz	+/-2.70dB
Radiated emissions	30MHz ~ 1GHz	+/-4.06dB
	1GHz ~ 18GHz	+/-4.58dB



1.4 DESCRIPTION OF TEST MODES

Test Mode	Test Condition
Radiated emission test	
1	GSM850 Idle+ Adapter1+ Earphone1+ USB cable1+ BT Idle+ WIFI Idle(2.4G)+ GPS Rx+ Back camera on
2	GSM1900 Idle+ Adapter2+ Earphone1+ USB cable1+ BT Idle+ WIFI Idle(2.4G)+ GPS Rx+ Front camera on
3	WCDMA850 Idle + Adapter2+ Earphone1+ USB cable2+ BT Idle+ WIFI Idle(2.4G)+ GPS Rx+ MPEG4
4	WCDMA1900 Idle + Adapter2+ Earphone2+ USB cable1+ BT Idle+ WIFI Idle(2.4G)+ GPS Rx + FM Rx
5	LTE B7 Idle + USB Link + Earphone1+ USB cable1+ BT Idle+ WIFI Idle(2.4G)+ GPS Rx
6	LTE B7 Idle + USB Link + Earphone2+ USB cable2+ BT Idle+ WIFI Idle(2.4G)+ GPS Rx
Conducted emission test	
1	GSM850 Idle+ Adapter1+ Earphone1+ USB cable1+ BT Idle+ WIFI Idle(2.4G)+ GPS Rx+ Back camera on
2	GSM1900 Idle+ Adapter2+ Earphone1+ USB cable1+ BT Idle+ WIFI Idle(2.4G)+ GPS Rx+ Front camera on
3	WCDMA850 Idle + Adapter2+ Earphone1+ USB cable2+ BT Idle+ WIFI Idle(2.4G)+ GPS Rx+ MPEG4
4	WCDMA1900 Idle + Adapter2+ Earphone2+ USB cable1+ BT Idle+ WIFI Idle(2.4G)+ GPS Rx + FM Rx
5	LTE B7 Idle + USB Link + Earphone1+ USB cable1+ BT Idle+ WIFI Idle(2.4G)+ GPS Rx
6	LTE B7 Idle + USB Link + Earphone2+ USB cable2+ BT Idle+ WIFI Idle(2.4G)+ GPS Rx

NOTE:

1. For conducted emission test, test mode 3 was the worst case and only this mode was presented in this report.
2. For radiated emission test, test mode 6 was the worst case and only this mode was presented in this report.

1.5 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.

FOR EMISSION TESTS

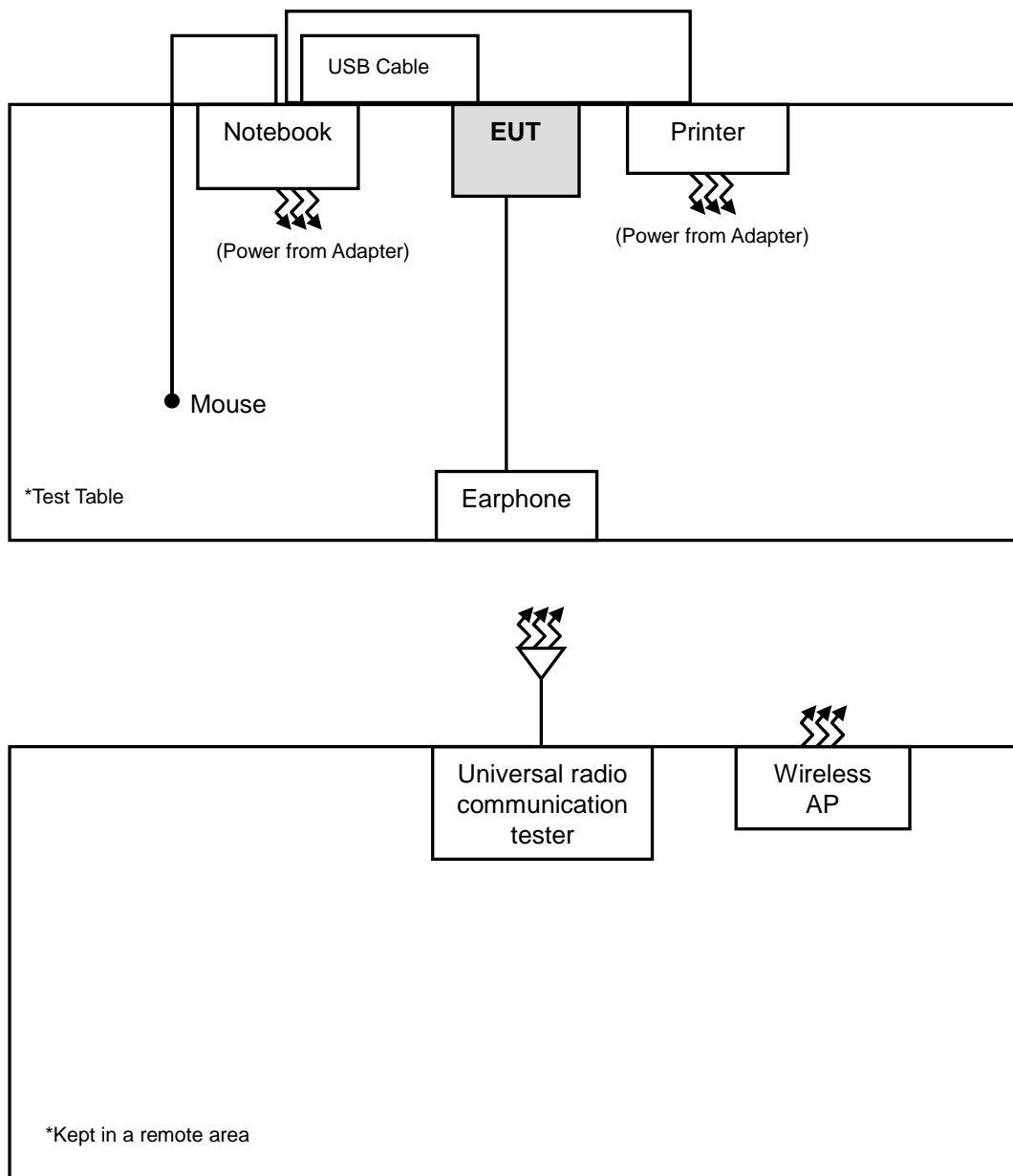
NO.	PRODUCT	BRAND	MODEL NO.	SERIAL NO.	FCC ID
1	Wireless AP	ABOCOM	WR224GR	060500749P	N/A
2	Notebook	DELL	E6420	9H12FS1	N/A
3	Printer	HP	hp LaserJet 1300	CNSJF75989	N/A
4	Mouse	DELL	M056UOA	01688082	N/A

NO.	SIGNAL CABLE DESCRIPTION OF THE ABOVE SUPPORT UNITS
1	N/A
2	DC Line: Unshielded, Undetachable, 2.0m
3	USB Line: Shielded, Detachable 1.5m;
4	USB Line: Unshielded, Undetachable 1.8m;

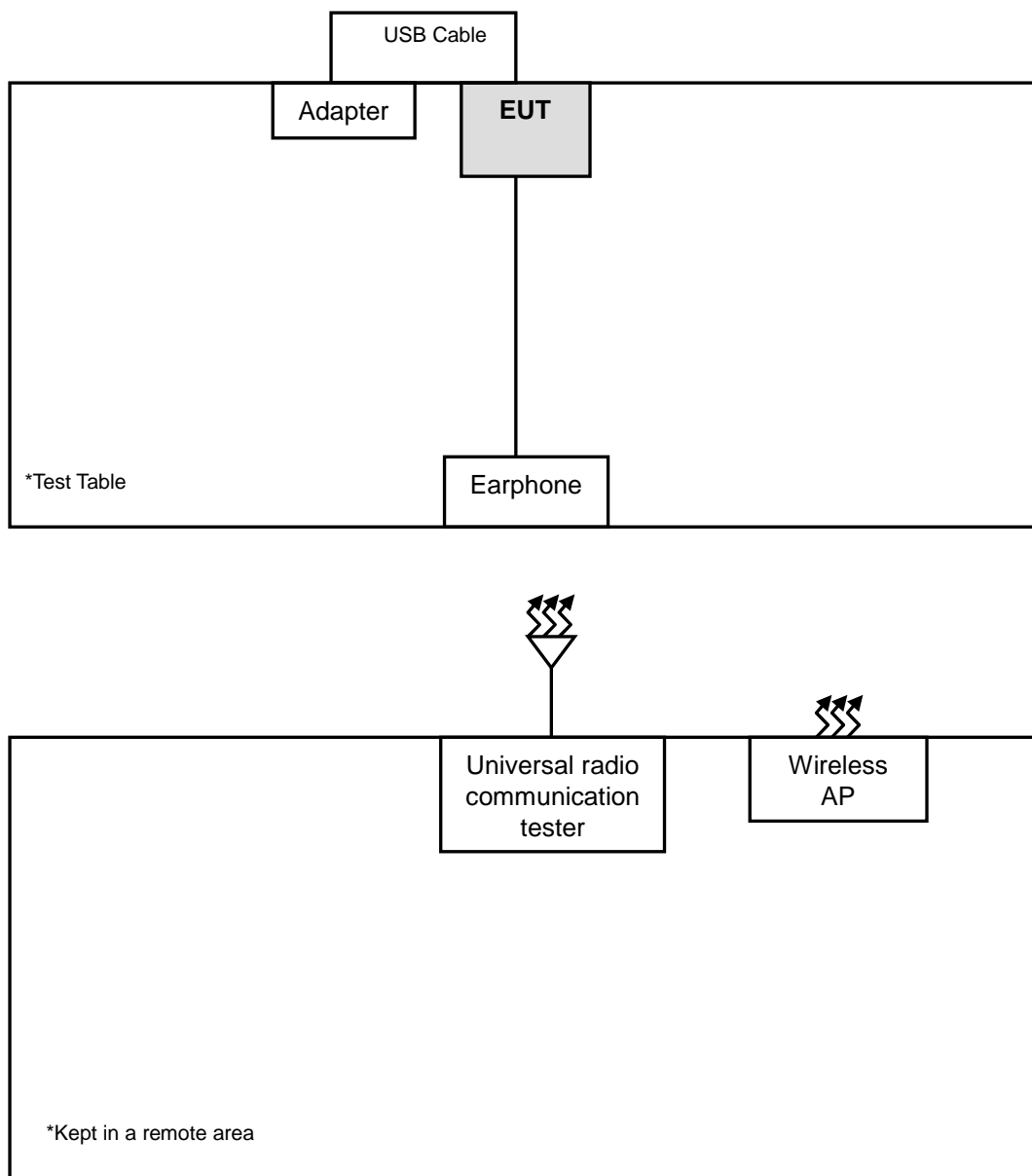


1.6 CONFIGURATION OF SYSTEM UNDER TEST

Test configuration 1



Test configuration 2



2 EMISSION TEST

2.1 CONDUCTED EMISSION MEASUREMENT

2.1.1 LIMITS OF CONDUCTED EMISSION MEASUREMENT

TEST STANDARD: FCC Part 15, Subpart B (Section: 15.107)

FREQUENCY OF EMISSION (MHz)	CONDUCTED LIMIT (dBμV)	
	Quasi-peak	Average
0.15 ~ 0.5	66 to 56	56 to 46
0.5 ~ 5	56	46
5 ~ 30	60	50

NOTE: 1. The lower limit shall apply at the transition frequencies.

2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.

3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

2.1.2 TEST INSTRUMENTS

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESR7	101494	Apr. 01,17	Mar. 31,18
Artificial Mains Network	Rohde&Schwarz	ENV216	101173	Mar. 03,17	Mar. 02,18
Artificial Mains Network	Rohde&Schwarz	ESH3-Z5	100317	Apr. 01,17	Mar. 31,18
Voltage probe	SCHWARZBECK	TK 9421	TK 9421-176	Nov. 25,16	Nov. 24,17
Test software	ADT	ADT_Cond_V7.3.7	N/A	N/A	N/A

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

2. The test was performed in Dongguan Shielded Room 553.

3. The FCC Site Registration No. is 502831.



2.1.3 TEST PROCEDURES

- a. The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- c. The frequency range from 150 kHz to 30MHz was searched. Emission levels under (Limit - 20dB) were not recorded.

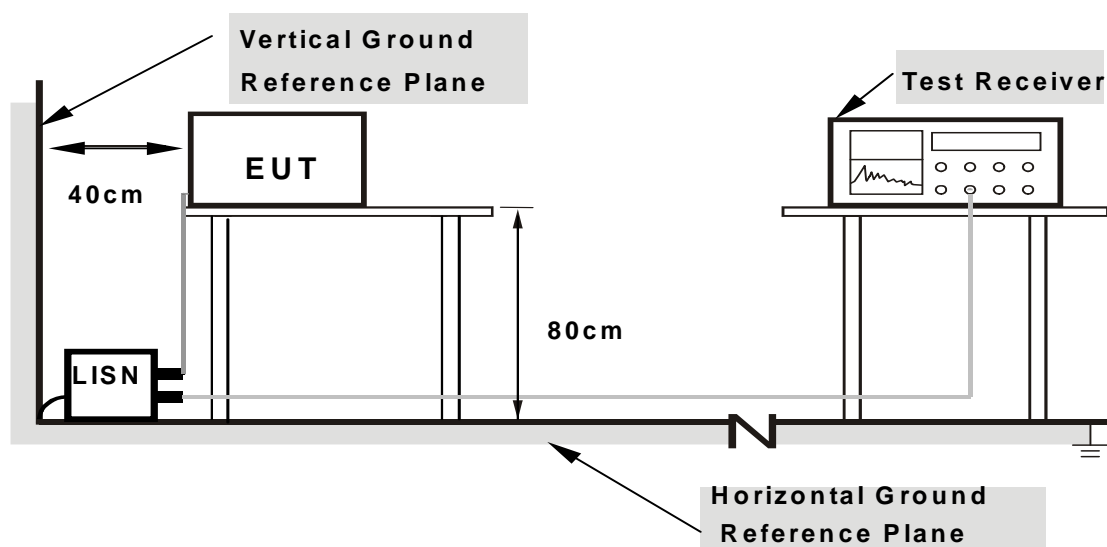
NOTE: All modes of operation were investigated and the worst-case emissions are reported.

2.1.4 DEVIATION FROM TEST STANDARD

No deviation.



2.1.5 TEST SETUP



- Note:**
- 1.Support units were connected to second LISN.
 - 2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

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

2.1.6 EUT OPERATING CONDITIONS

- a. Turned on the power and connected of all equipment.
- b. EUT was operated according to the use type described in the manufacturer's specifications or the user's manual.



**BUREAU
VERITAS**

Test Report No.: FV170321W005

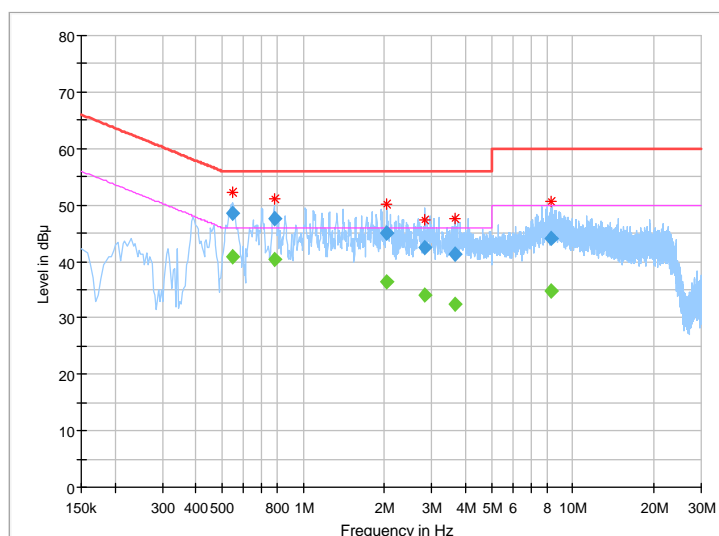
2.1.7 TEST RESULTS

TEST VOLTAGE	DC 5V From Adapter Input 120 Vac, 60 Hz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
ENVIRONMENTAL CONDITIONS	24deg. C, 55RH	TESTED BY	Alex Chen

Frequency (MHz)	QuasiPeak (dB μ V)	CAverage (dB μ V)	Limit (dB μ V)	Margin (dB)	Line	Filter	Corr. (dB)
0.548000	---	40.81	46.00	-5.19	L	ON	9.7
0.548000	48.42	---	56.00	-7.58	L	ON	9.7
0.784000	---	40.34	46.00	-5.66	L	ON	9.7
0.784000	47.47	---	56.00	-8.53	L	ON	9.7
2.032000	---	36.49	46.00	-9.51	L	ON	9.7
2.032000	45.05	---	56.00	-10.95	L	ON	9.7
2.820000	---	34.05	46.00	-11.95	L	ON	9.7
2.820000	42.54	---	56.00	-13.46	L	ON	9.7
3.676000	---	32.41	46.00	-13.59	L	ON	9.7
3.676000	41.27	---	56.00	-14.73	L	ON	9.7
8.360000	---	34.68	50.00	-15.32	L	ON	9.8
8.360000	44.19	---	60.00	-15.81	L	ON	9.8

- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = Emission level - Limit value
 5. Correction factor = Insertion loss + Cable loss
 6. Emission Level = Correction Factor + Reading Value.

Full Spectrum

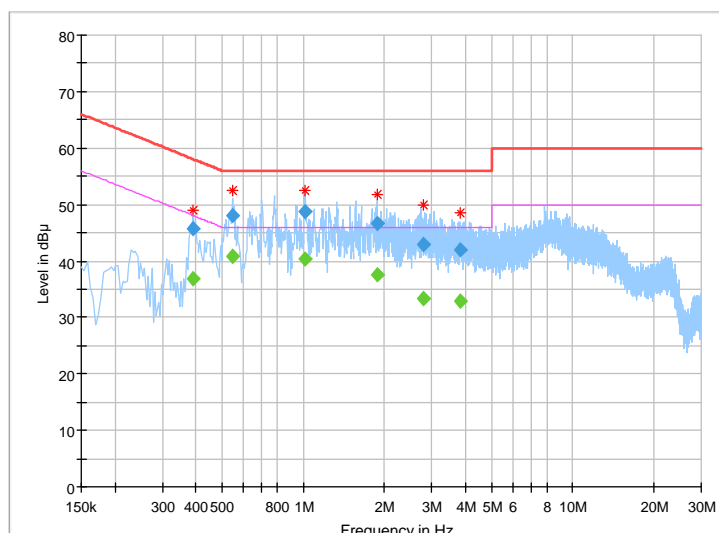


TEST VOLTAGE	DC 5V From Adapter Input 120 Vac, 60 Hz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9 kHz
ENVIRONMENTAL CONDITIONS	24deg. C, 55RH	TESTED BY	Alex Chen

Frequency (MHz)	QuasiPeak (dBuV)	CAverage (dBuV)	Limit (dBuV)	Margin (dB)	Line	Filter	Corr. (dB)
0.392000	---	36.84	48.02	-11.18	N	ON	10.1
0.392000	45.61	---	58.02	-12.41	N	ON	10.1
0.544000	---	40.73	46.00	-5.27	N	ON	10.1
0.544000	47.96	---	56.00	-8.04	N	ON	10.1
1.020000	---	40.32	46.00	-5.68	N	ON	9.9
1.020000	48.75	---	56.00	-7.25	N	ON	9.9
1.876000	---	37.65	46.00	-8.35	N	ON	9.8
1.876000	46.74	---	56.00	-9.26	N	ON	9.8
2.780000	---	33.24	46.00	-12.76	N	ON	9.8
2.780000	42.93	---	56.00	-13.07	N	ON	9.8
3.828000	---	32.85	46.00	-13.15	N	ON	9.8
3.828000	42.02	---	56.00	-13.98	N	ON	9.8

- REMARKS:**
1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
 2. "-": The Quasi-peak reading value also meets average limit and measurement with the average detector is unnecessary.
 3. The emission levels of other frequencies were very low against the limit.
 4. Margin value = Emission level - Limit value
 5. Correction factor = Insertion loss + Cable loss
 6. Emission Level = Correction Factor + Reading Value.

Full Spectrum



2.2 RADIATED EMISSION MEASUREMENT

2.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

TEST STANDARD: FCC Part 15, Subpart B (Section: 15.109)

Emissions radiated outside of the specified bands, shall be according to the general radiated limits as following:

Radiated Emissions Limits at 10 meters (dBμV/m)				
Frequencies (MHz)	FCC 15B/ ICES-003, Class A	FCC 15B / ICES-003, Class B	CISPR 22, Class A	CISPR 22, Class B
30-88	39	29.5	40	30
88-216	43.5	33.1		
216-230	46.4	35.6		
230-960			47	37
960-1000	49.5	43.5		
1000-3000	Avg: 49.5	Avg: 43.5	Not defined	Not defined
3000+	Peak: 69.5	Peak: 63.5	Not defined	Not defined

Radiated Emissions Limits at 3 meters (dBµV/m)				
Frequencies (MHz)	FCC 15B / ICES-003, Class A	FCC 15B / ICES-003, Class B	CISPR 22, Class A	CISPR 22, Class B
30-88	49.5	40	50.5	40.5
88-216	54	43.5		
216-230	56.9	46		
230-960				
960-1000	60	54	57.5	47.5
1000-3000	Avg: 60 Peak: 80	Avg: 54 Peak: 74	Avg: 56 Peak: 76	Avg: 50 Peak: 70
3000+			Avg: 60 Peak: 80	Avg: 54 Peak: 74

Frequency Range (For unintentional radiators)

Highest frequency generated or used in the device or on which the device operates or tunes (MHz)	Upper frequency of measurement range (MHz)
Below 1.705	30
1.705-108	1000
108-500	2000
500-1000	5000
Above 1000	5 th harmonic of the highest frequency or 40GHz, whichever is lower

- NOTE:**
1. The lower limit shall apply at the transition frequencies.
 2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
 3. As shown in 15.35(b), for frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.
 4. QP detector shall be applied if not specified.

2.2.2 TEST INSTRUMENTS

Frequency range below 1GHz

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
EMI Test Receiver	Rohde&Schwarz	ESCI	100962	Feb. 18,17	Feb. 17,18
EMI Test Receiver	Rohde&Schwarz	ESCI	101418	Feb. 18,17	Feb. 17,18
Trilog-Broadband Antenna	SCHWARZBECK	VULB 9168	9168-554	Nov. 13, 16	Nov. 12, 17
Trilog-Broadband Antenna	SCHWARZBECK	VULB 9168	9168-555	Nov. 20, 16	Nov. 19, 17
Signal Amplifier	Agilent	8447D	2944A10488	Jun. 25,16	Jun. 24, 17
Signal Amplifier	Agilent	8447D	2944A11174	Jun. 25,16	Jun. 24, 17
10m Semi-anechoic Chamber	CHANGLING	21.4m*12.1m*8.8m	NSEMC006	Mar. 12,16	Mar. 11,18
Test Software	ADT	ADT_Radiated_V8.7.x	N/A	N/A	N/A

Frequency range above 1GHz

Equipment	Manufacturer	Model No.	Serial No.	Last Cal.	Next Cal.
Horn Antenna	ETS-Lindgren	3117	00085519	Dec. 30,15	Dec. 29,17
Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170242	Mar. 02,17	Mar. 01,18
Signal and Spectrum Analyzer	Rohde&Schwarz	FSV40	101003	Apr. 01,17	Mar. 31,18
Broadband Preamplifier	SCHWARZBECK	BBV9718	266	Mar. 21,17	Mar. 20,18
Pre-Amplifier (100MHz-26.5G Hz)	EMCI	EMC 012645	980077	May 04,16	May 03,17
Pre-Amplifier (18GHz-40GHz)	EMCI	EMC 184045	980102	Nov. 04,16	Nov. 03,17

- NOTE:**
1. The test was performed in 10m chamber.
 2. 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.
 3. The FCC Site Registration No. is 502831.

2.2.3 TEST PROCEDURE

<Frequency Range below 1GHz>

The basic test procedure was in accordance with ANSI C63.4:2014 (section 12).

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meter semi-anechoic chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from 1 meter to 4 meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1GHz.

NOTE:

1. The resolution bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. $\text{Emission level(dBuV/m)} = \text{Raw Value(dBuV)} + \text{Correction Factor(dB/m)}$
3. $\text{Correction Factor(dB/m)} = \text{Antenna Factor (dB/m)} + \text{Cable Factor (dB)}$ (if the raw value not contains the amplifier);
4. $\text{Correction Factor(dB/m)} = \text{Antenna Factor (dB/m)} + \text{Cable Factor (dB)} - \text{Amplifier Gain(dB)}$ (if the raw value contains the amplifier).
5. $\text{Margin value} = \text{Emission level} - \text{Limit value}$.

<Frequency Range above 1GHz>

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meter fully-anechoic chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. Both horizontal and vertical polarizations of the antenna are set to make the measurement. The bore sight should be used during the test above 1GHz.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1 GHz

NOTE:

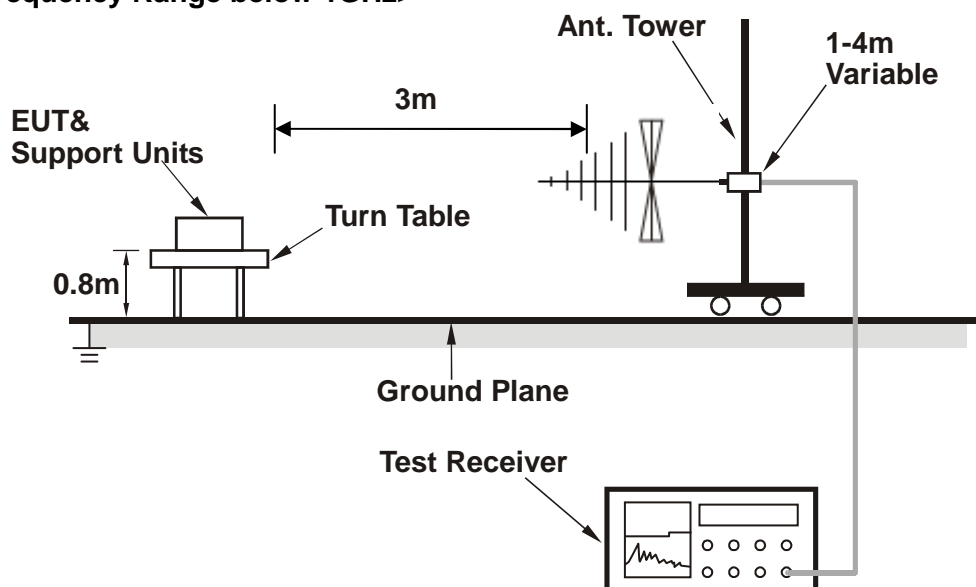
1. The resolution bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. The resolution bandwidth is 1MHz and video bandwidth of test receiver/spectrum analyzer is 3MHz for Peak detection at frequency above 1GHz. The resolution bandwidth of test receiver/spectrum analyzer is 1 MHz and video bandwidth of test receiver/spectrum analyzer is 3MHz for Average detection (AV) at frequency above 1GHz.
3. For measurement of frequency above 1000 MHz, the EUT was set 3 meters away from the receiver antenna.
4. $\text{Emission level(dBuV/m)} = \text{Raw Value(dBuV)} + \text{Correction Factor(dB/m)}$
5. $\text{Correction Factor(dB/m)} = \text{Antenna Factor (dB/m)} + \text{Cable Factor (dB)}$ (if the raw value not contains the amplifier);
6. $\text{Correction Factor(dB/m)} = \text{Antenna Factor (dB/m)} + \text{Cable Factor (dB)} - \text{Amplifier Gain(dB)}$ (if the raw value contains the amplifier)
7. $\text{Margin value} = \text{Emission level} - \text{Limit value}$.

2.2.4 DEVIATION FROM TEST STANDARD

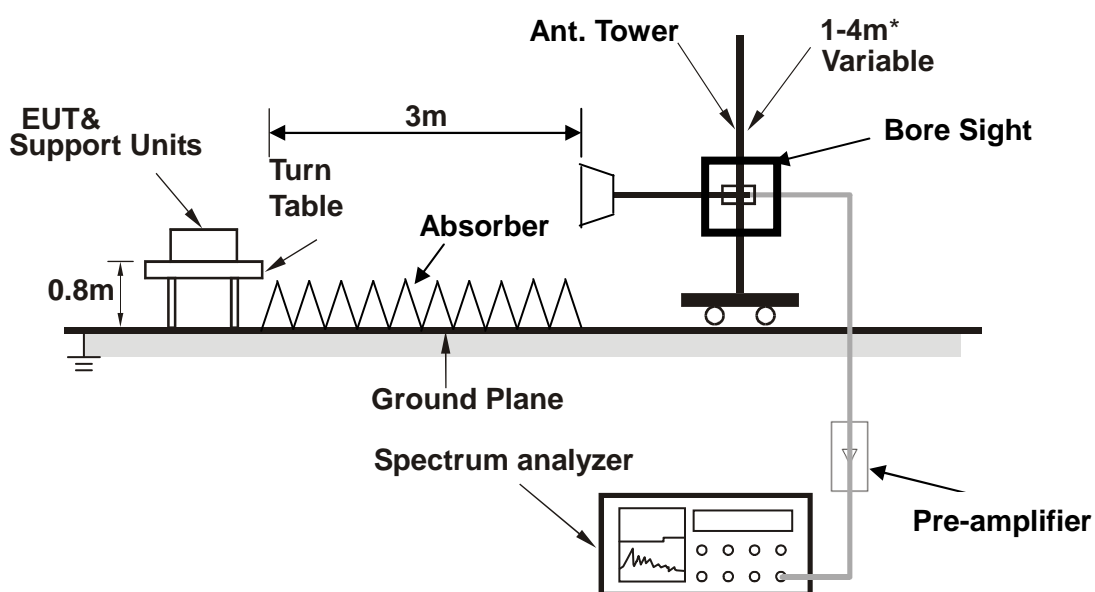
No deviation.

2.2.5 TEST SETUP

<Frequency Range below 1GHz>



<Frequency Range above 1GHz>



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

2.2.6 EUT OPERATING CONDITIONS

Same as item 2.1.6.

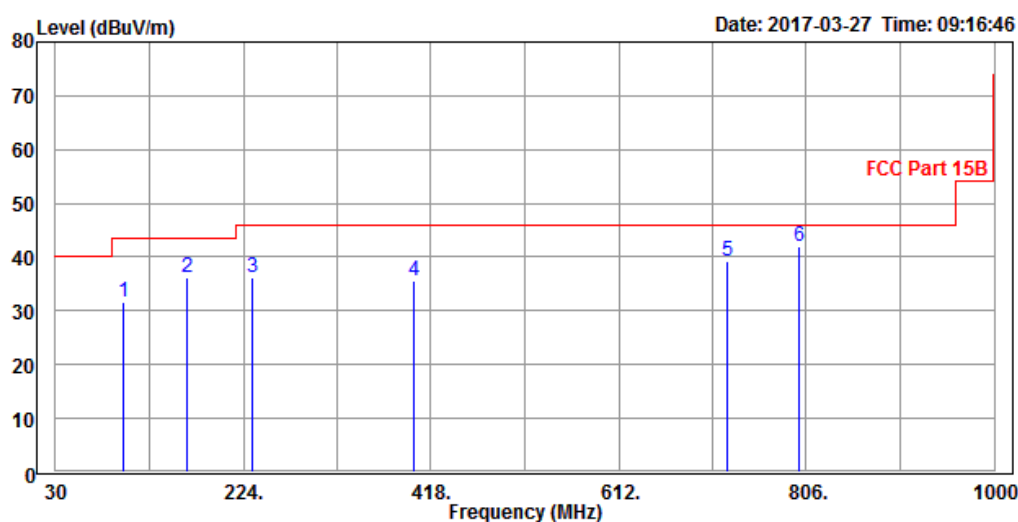


2.2.7 TEST RESULTS

TEST VOLTAGE	DC 5V From Adapter Input 120 Vac, 60 Hz	FREQUENCY RANGE	30-1000 MHz
ENVIRONMENTAL CONDITIONS	24deg. C, 58 %RH	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	Quasi-Peak , 120 kHz
TESTED BY	Tony Zou		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
99.84	31.58	59.05	43.50	-11.92	7.98	1.54	36.99	200	35	QP
165.80	36.32	60.97	43.50	-7.18	10.11	1.97	36.73	200	67	QP
232.73	36.23	58.80	46.00	-9.77	11.61	2.35	36.53	200	120	QP
399.57	35.51	51.90	46.00	-10.49	17.18	3.15	36.72	200	284	QP
723.55	39.18	49.15	46.00	-6.82	23.08	4.37	37.42	200	196	QP
798.24	42.06	52.01	46.00	-3.94	23.00	4.67	37.62	200	85	QP

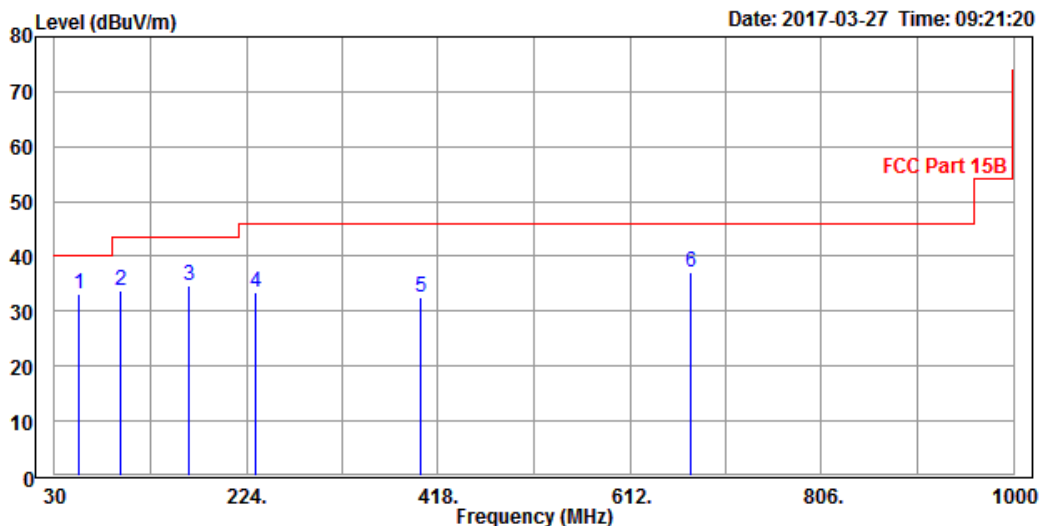
- REMARKS:**
1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
 2. Negative sign (-) in the margin column signify levels below the limit.
 3. Frequency range scanned: 30MHz to 1000MHz.
 4. Only emissions significantly above equipment noise floor are reported.



TEST VOLTAGE	DC 5V From Adapter Input 120 Vac, 60 Hz	FREQUENCY RANGE	30-1000 MHz
ENVIRONMENTAL CONDITIONS	24deg. C, 58 %RH	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	Quasi-Peak , 120 kHz
TESTED BY	Tony Zou		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
54.25	33.06	62.83	40.00	-6.94	6.46	1.12	37.35	100	24	QP
96.93	33.77	61.60	43.50	-9.73	7.66	1.52	37.01	100	63	QP
165.80	34.74	59.39	43.50	-8.76	10.11	1.97	36.73	100	150	QP
232.73	33.39	55.96	46.00	-12.61	11.61	2.35	36.53	100	240	QP
399.57	32.42	48.81	46.00	-13.58	17.18	3.15	36.72	100	86	QP
673.11	37.16	47.93	46.00	-8.84	22.35	4.21	37.33	100	78	QP

- REMARKS:**
1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
 2. Negative sign (-) in the margin column signify levels below the limit.
 3. Frequency range scanned: 30MHz to 1000MHz.
 4. Only emissions significantly above equipment noise floor are reported.

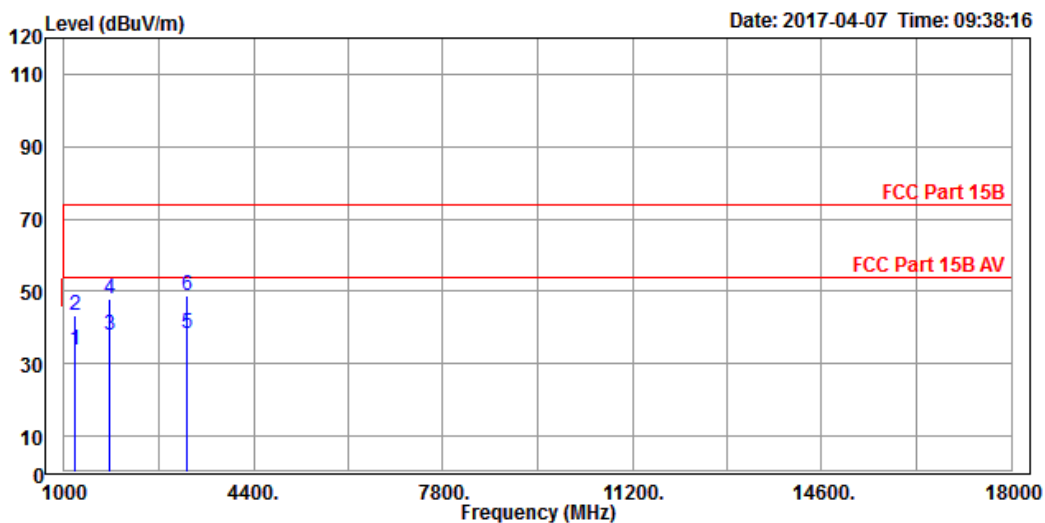


TEST VOLTAGE	DC 5V From Adapter Input 120 Vac, 60 Hz	FREQUENCY RANGE	1-18 GHz
ENVIRONMENTAL CONDITIONS	20deg. C, 58 %RH	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	Peak/Average, 1 MHz
TESTED BY	Tony Zou		

ANTENNA POLARITY & TEST DISTANCE: HORIZONTAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
1200	33.69	47.43	54.00	-20.31	29.00	5.62	48.36	101	125	Average
1200	43.45	57.19	74.00	-30.55	29.00	5.62	48.36	101	125	Peak
1800	37.85	48.58	54.00	-16.15	30.62	7.00	48.35	101	215	Average
1800	47.86	58.59	74.00	-26.14	30.62	7.00	48.35	101	215	Peak
3190	38.42	44.35	54.00	-15.58	32.94	9.49	48.36	101	45	Average
3190	48.96	54.89	74.00	-25.04	32.94	9.49	48.36	101	45	Peak

REMARKS:

1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
2. Negative sign (-) in the margin column signify levels below the limit.
3. Frequency range scanned: 1GHz to 18GHz.
4. Only emissions significantly above equipment noise floor are reported.

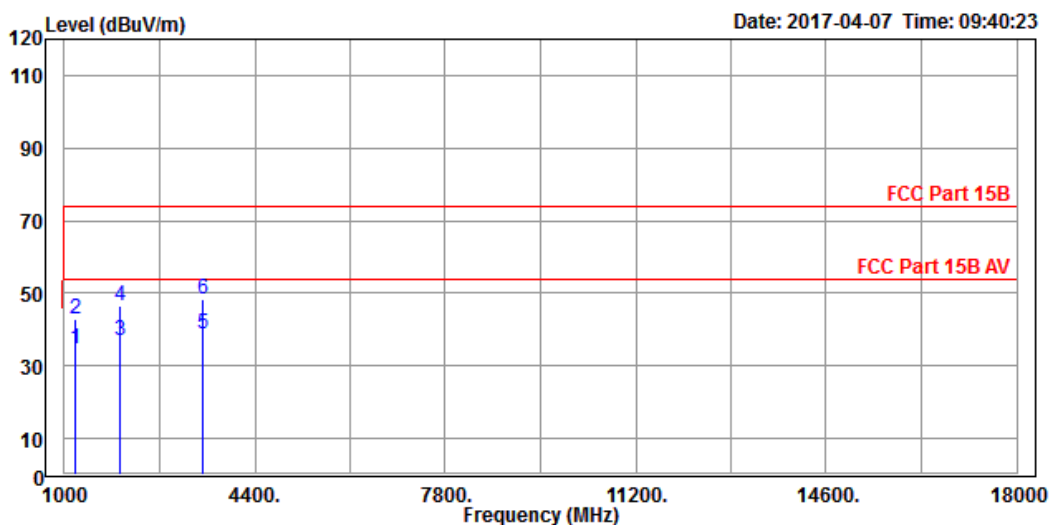


TEST VOLTAGE	DC 5V From Adapter Input 120 Vac, 60 Hz	FREQUENCY RANGE	1-18 GHz
ENVIRONMENTAL CONDITIONS	20deg. C, 58 %RH	DETECTOR FUNCTION & RESOLUTION BANDWIDTH	Peak/Average, 1 MHz
TESTED BY	Tony Zou		

ANTENNA POLARITY & TEST DISTANCE: VERTICAL AT 3 M										
FREQ. (MHz)	EMISSION LEVEL (dBuV/m)	READ LEVEL (dBuV)	LIMIT (dBuV/m)	MARGIN (dB)	ANTENNA FACTOR (dB /m)	CABLE LOSS (dB)	PREAMP FACTOR (dB)	ANTENNA HEIGHT (cm)	TABLE ANGLE (Degree)	REMARK
1200	34.52	48.26	54.00	-19.48	29.00	5.62	48.36	100	75	Average
1200	42.87	56.61	74.00	-31.13	29.00	5.62	48.36	100	75	Peak
2000	37.12	46.12	54.00	-16.88	31.90	7.45	48.35	100	220	Average
2000	46.53	55.53	74.00	-27.47	31.90	7.45	48.35	100	220	Peak
3480	38.76	44.25	54.00	-15.24	33.00	9.92	48.41	100	278	Average
3480	48.35	53.84	74.00	-25.65	33.00	9.92	48.41	100	278	Peak

REMARKS:

1. Peak detector quick scan is showed on the graph and final quasi-peak detector data is measured corresponding to relevant limit and recorded in the data table.
2. Negative sign (-) in the margin column signify levels below the limit.
3. Frequency range scanned: 1GHz to 18GHz.
4. Only emissions significantly above equipment noise floor are reported.





Test Report No.: FV170321W005

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

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

---END---