

Test Report

Report No.: MTi180724E141

Date of issue: July 25, 2018

Sample Description:	Tablet PC
Model(s):	Hi9 Air-CWI546
Applicant:	CHUWI TECHNOLOGY (ShenZhen) CO., LIMITED
Address:	2 Floor Building 3 LiJinCheng Industrial park the east of Gongye road LongHua Shenzhen China
Date of Test:	Apr. 25, 2018 to July 25, 2018

Shenzhen Microtest Co., Ltd.
<http://www.mtitest.com>

Table of Contents

1	General description	4
1.1	Description of EUT	4
1.2	Test mode	4
1.3	EUT test setup	4
1.4	Ancillary equipment	5
2	Summary of Test Result	6
3	Test Facilities and Accreditations	7
3.1	Test laboratory	7
3.2	Environmental conditions	7
3.3	Measurement uncertainty	7
3.4	Test software	8
4	List of test equipment	9
5	Test Results	10
5.1	Conducted emission	10
5.2	Radiated emission	15
	Photographs of the Test Setup	20
	Photographs of the EUT	22

TEST REPORT

Applicant's name: CHUWI TECHNOLOGY (ShenZhen) CO., LIMITED

Address: 2 Floor Building 3 LiJinCheng Industrial park the east of Gongye road LongHua Shenzhen China

Manufacture's Name: Shenzhen Sunty Technology Co., Ltd.

Address: F7-8, Building 7, ZhongYunTai Industry Park, Songbai Road, Shiyan Street, Bao'an District, Shenzhen, China.

Product name: Tablet PC

Trademark: CHUWI

Model name: Hi9 Air-CWI546

Standards: FCC Part 15 Subpart B

Test methods ANSI C63.4-2014

This device described above has been tested by Shenzhen Microtest Co., Ltd. and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. And it is applicable only to the tested sample identified in the report.

Tested by: Leo Su
Leo Su July 25, 2018

Reviewed by: Blue Zheng
Blue Zheng July 25, 2018

Approved by: Smith Chen
Smith Chen July 25, 2018

1 General description

1.1 Description of EUT

Product name:	Tablet PC
Model name:	Hi9 Air-CWI546
Series model	N/A
Different of series model:	N/A
Power supply:	DC 5V from PC AC120V/60Hz
Adapter information:	N/A
Battery:	DC 3.8V 8000mAh
Crystal frequency:	2.3GHz

1.2 Test mode

To investigate the maximum EMI emission characteristics generates from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

Test mode	Description
Mode 1	Connect to PC
Mode 2	TF card Play
Mode 3	BT
Mode 4	WIFI
Mode 5	GSM/GPRS/EGPRS
Mode 6	WCDMA BAND II/ V
Mode 7	LTE BAND 2/4/5/17/40
Mode 8	CAMERA

Note: Final Test Mode: Through Pre-scan, find the mode 1 is the worst case.

Only the worst case mode is recorded in the report.

1.3 EUT test setup

See photographs of the test setup in the report for the actual setup and connections between EUT and support equipment.

1.4 Ancillary equipment

Item	Equipment	Model	S/N	Manufacturer
E-1	Tablet PC	Hi9 Air-CWI546	/	EUT
E-2	Personal computer	DELL	/	PC
E-3	Monitor	DELL	/	Peripherals
E-4	Printer	Canon	/	Peripherals
E-5	KB	DELL	/	Peripherals
E-6	Mouse	DELL	/	Peripherals

2 Summary of Test Result

Item	Description of Test	Result
FCC Part 15 Subpart B		
1	Conducted emission	Pass
2	Radiated emission	Pass

N/A: Mean not applicable.

3 Test Facilities and Accreditations

3.1 Test laboratory

Test Site	Shenzhen Microtest Co., Ltd.
Test Site Location	No.102A & 302A, East Block, Hengfang Industrial Park, Xingye Road, Xixiang, Bao'an District, Shenzhen, Guangdong, China
Telephone:	(86-755)88850135
Fax:	(86-755)88850136
CNAS Registration No.:	CNAS L5868
FCC Registration No.:	448573

3.2 Environmental conditions

During the measurement the environmental conditions were within the listed ranges:

Temperature:	20°C~30°C
Humidity	30%~70%(30%~60% for ESD)
Atmospheric pressure	98kPa~101kPa

3.3 Measurement uncertainty

Measurement Uncertainty for a Level of Confidence of 95 %, $U=2xUc(y)$

Conducted emission(150kHz~30MHz)	± 2.5 dB
Radiated emission(30MHz~1GHz)	± 4.2 dB
Radiated emission (above 1GHz)	± 4.3 dB
Temperature	±1 degree
Humidity	± 5 %

Conducted Measurement :

Test Site	Method	Measurement Frequency Range	U, (dB)	NOTE
CE	ANSI	150 KHz ~ 30MHz	3.2	

Radiated Measurement :

Test Site	Method	Measurement Frequency Range	U, (dB)	NOTE
RE	ANSI	30MHz ~ 1000MHz	4.7	
		1GHz ~12.4GHz	5.0	

3.4 Test software

Software name	Manufacturer	Model	Version
EMI Measurement Software	Farad	EZ-EMC	V1.1.4.2
Conducted immunity test system	Scholder	EN61000-4-6.exe	V1.3.0
Harmonics and flicker test system	TTI	HA-PC Link	V2.02
Firmware DIPS Test Firmware	Prima	DRP61011AG	V4.1.2
Firmware EFT Test Firmware	HTEC	HCOMPACT	V1.0.1
Firmware Surge Test Firmware	HTEC	HCOMPACT	V1.0.1

4 List of test equipment

Radiation emission							
Item	Equipment name	Equipment No.	Manufacturer	Model	Serial No.	Calibration date	Due date
1	EMI Test Receiver	MTI-E004	Rohde&schwarz	ESPI	1000314	2017/11/04	2018/11/03
2	Broadband antenna	MTI-E006	schwarabeck	VULB9163	872	2017/11/17	2018/11/16
3	Horn antenna	MTI-E007	schwarabeck	BBHA9120D	1201	2017/11/15	2018/11/14
4	amplifier	MTI-E014	America	8447D	3113A06150	2017/11/13	2018/11/12
5	amplifier	MTI-E034	Agilent	8449B	3008A02400	2017/08/22	2018/08/21
6	18-40GHz amplifier	MTI-E052	Chengdu step Micro Technology	ZLNA-18-40G-21	1608001	2017/09/18	2018/09/17
7	spectrum analyzer	MTI-E049	Rohde&schwarz	FSP-38	100019	2017/09/18	2018/09/17
8	15-40G Antenna	MTI-E053	Schwarzbeek	BBHA9170	BBHA9170582	2017/09/18	2018/09/17
9	Active Loop Antenna 9kHz - 30MHz	MTI-E051	Schwarzbeck	FMZB 1519 B	00044	2018/02/26	2019/02/25

Conduction emission							
Item	Equipment name	Equipment No.	Manufacturer	Model	Serial No.	Calibration date	Due date
1	Artificial power network	MTI-E037	Schwarzbeck	NSLK8127	NSLK8127#841	2017/09/26	2018/09/25
2	EMI Test Receiver	MTI-E003	Rohde&schwarz	ESCI	101368	2017/11/13	2018/11/12
3	LISN	MTI-E027	Laplace	LISN-16A	003420	2017/11/04	2018/11/03

Note: the calibration interval of the above test instruments is 12 months and the calibrations are traceable to international system unit (SI).

5 Test Results

5.1 Conducted emission

5.1.1 Limits

Frequency (MHz)	Class A (dB μ V)		Class B (dB μ V)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 -0.5	79	66	66 - 56 *	56 - 46 *
0.5 -5	73	60	56	46
5 -30	73	60	60	50

Note 1: the tighter limit applies at the band edges.

Note 2: the limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

5.1.2 Test Procedures

The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipment powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.

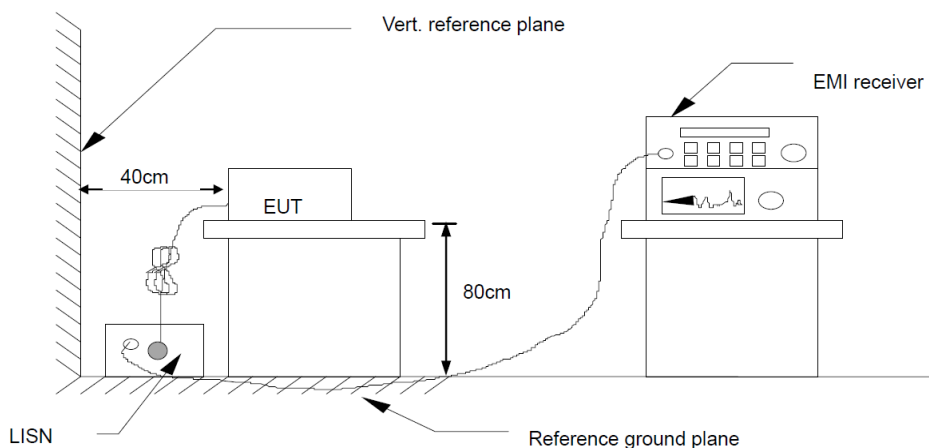
Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.

I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.

LISN is at least 80 cm from nearest part of EUT chassis.

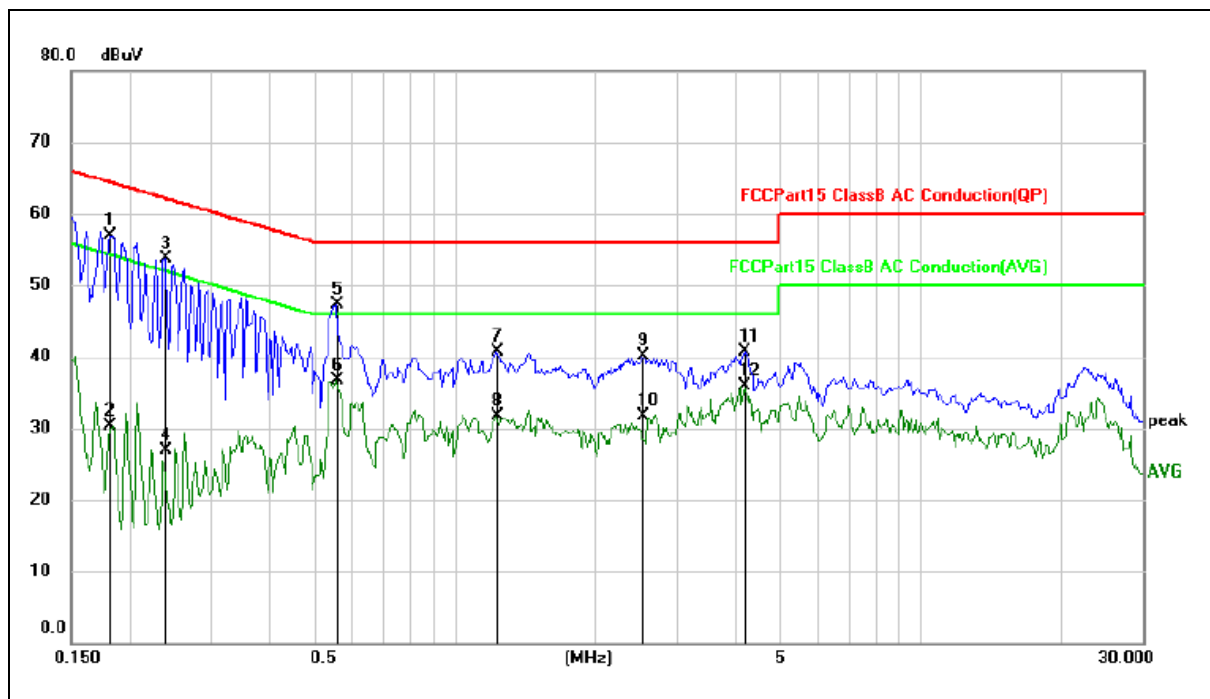
For the actual test configuration, please refer to the related Item – photographs of the test setup.

5.1.3 Test Setup



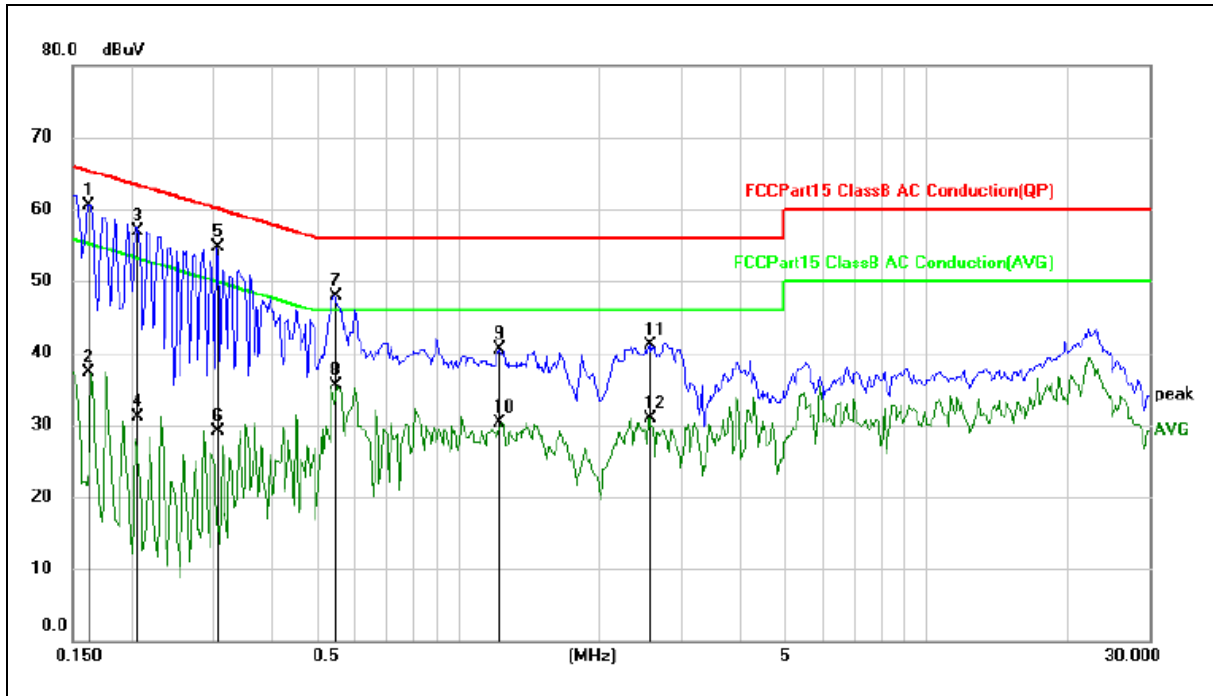
5.1.4 Test Result

Temperature:	27°C	Relative Humidity:	65%
Pressure:	101kPa	Phase:	L
Test voltage:	DC 5V from PC AC120V/60Hz	Test mode:	Mode 1



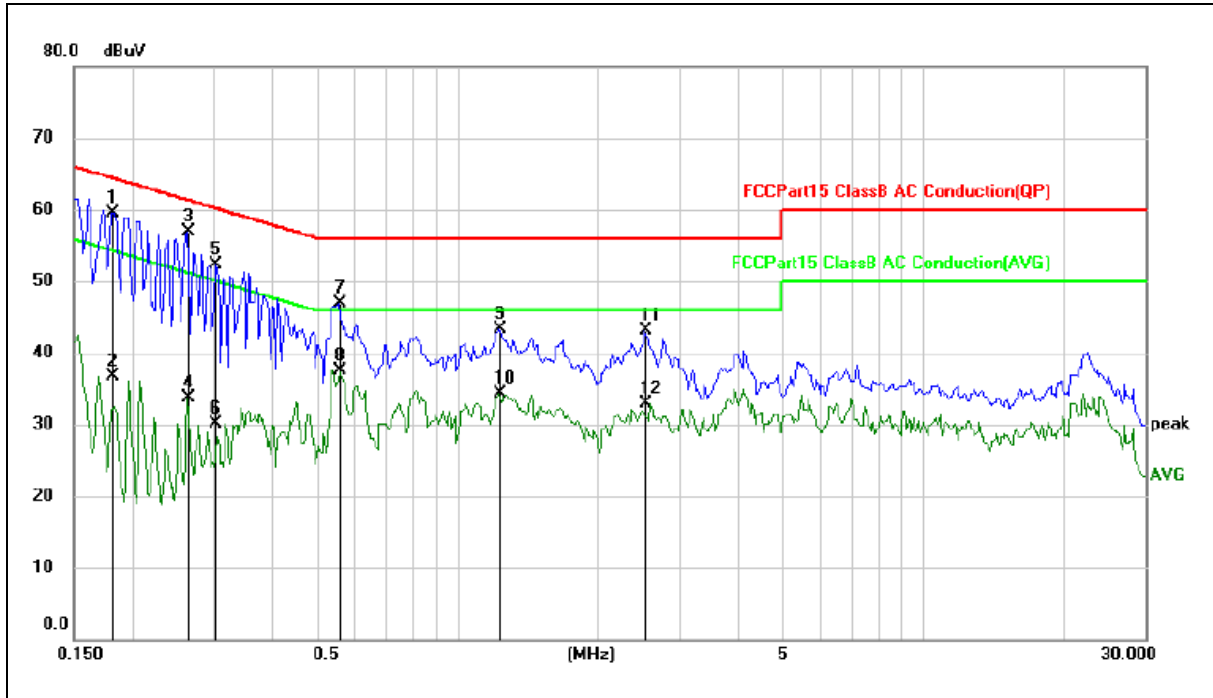
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	*	0.1814	56.95	0.04	56.99	64.42	-7.43	QP	
2		0.1814	30.35	0.04	30.39	54.42	-24.03	AVG	
3		0.2398	53.75	0.04	53.79	62.10	-8.31	QP	
4		0.2398	26.78	0.04	26.82	52.10	-25.28	AVG	
5		0.5562	47.28	0.04	47.32	56.00	-8.68	QP	
6		0.5562	36.57	0.04	36.61	46.00	-9.39	AVG	
7		1.2318	40.70	0.10	40.80	56.00	-15.20	QP	
8		1.2318	31.68	0.10	31.78	46.00	-14.22	AVG	
9		2.5367	39.81	0.25	40.06	56.00	-15.94	QP	
10		2.5367	31.53	0.25	31.78	46.00	-14.22	AVG	
11		4.1835	40.26	0.38	40.64	56.00	-15.36	QP	
12		4.1835	35.60	0.38	35.98	46.00	-10.02	AVG	

Temperature:	27°C	Relative Humidity:	65%
Pressure:	101kPa	Phase:	N
Test voltage:	DC 5V from PC AC120V/60Hz	Test mode:	Mode 1



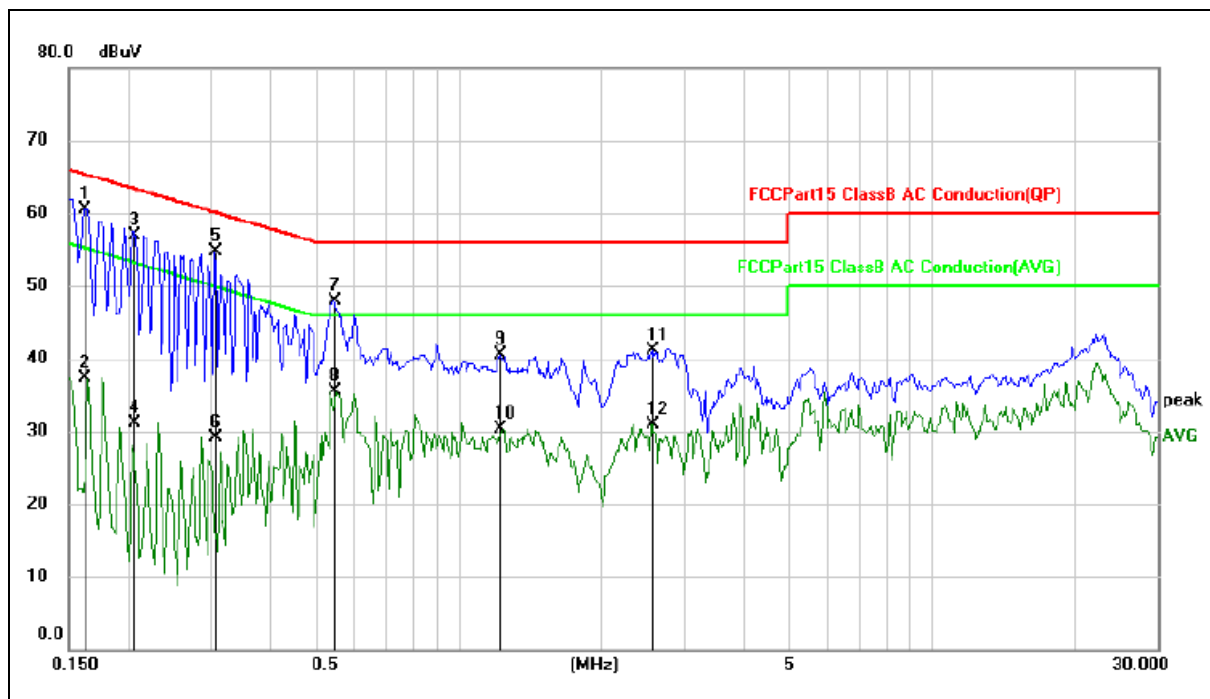
No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	*	0.1617	60.48	0.04	60.52	65.38	-4.86	QP	
2		0.1617	37.18	0.04	37.22	55.38	-18.16	AVG	
3		0.2071	56.91	0.04	56.95	63.32	-6.37	QP	
4		0.2071	30.98	0.04	31.02	53.32	-22.30	AVG	
5		0.3062	54.57	0.04	54.61	60.07	-5.46	QP	
6		0.3062	29.14	0.04	29.18	50.07	-20.89	AVG	
7		0.5443	47.85	0.04	47.89	56.00	-8.11	QP	
8		0.5443	35.40	0.04	35.44	46.00	-10.56	AVG	
9		1.2238	40.46	0.10	40.56	56.00	-15.44	QP	
10		1.2238	30.18	0.10	30.28	46.00	-15.72	AVG	
11		2.5670	40.78	0.25	41.03	56.00	-14.97	QP	
12		2.5670	30.72	0.25	30.97	46.00	-15.03	AVG	

Temperature:	27°C	Relative Humidity:	65%
Pressure:	101kPa	Phase:	L
Test voltage:	DC 5V from PC AC240V/60Hz	Test mode:	Mode 1



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1		0.1811	59.45	0.04	59.49	64.44	-4.95	QP	
2		0.1811	36.72	0.04	36.76	54.44	-17.68	AVG	
3	*	0.2631	56.80	0.04	56.84	61.33	-4.49	QP	
4		0.2631	33.72	0.04	33.76	51.33	-17.57	AVG	
5		0.3023	52.35	0.04	52.39	60.18	-7.79	QP	
6		0.3023	30.12	0.04	30.16	50.18	-20.02	AVG	
7		0.5562	46.78	0.04	46.82	56.00	-9.18	QP	
8		0.5562	37.53	0.04	37.57	46.00	-8.43	AVG	
9		1.2318	43.20	0.10	43.30	56.00	-12.70	QP	
10		1.2318	34.18	0.10	34.28	46.00	-11.72	AVG	
11		2.5367	42.81	0.25	43.06	56.00	-12.94	QP	
12		2.5367	32.69	0.25	32.94	46.00	-13.06	AVG	

Temperature:	27°C	Relative Humidity:	65%
Pressure:	101kPa	Phase:	N
Test voltage:	DC 5V from PC AC240V/60Hz	Test mode:	Mode 1



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Over dB	Detector	Comment
1	*	0.1617	60.48	0.04	60.52	65.38	-4.86	QP	
2		0.1617	37.18	0.04	37.22	55.38	-18.16	AVG	
3		0.2071	56.91	0.04	56.95	63.32	-6.37	QP	
4		0.2071	30.98	0.04	31.02	53.32	-22.30	AVG	
5		0.3062	54.57	0.04	54.61	60.07	-5.46	QP	
6		0.3062	29.14	0.04	29.18	50.07	-20.89	AVG	
7		0.5443	47.85	0.04	47.89	56.00	-8.11	QP	
8		0.5443	35.40	0.04	35.44	46.00	-10.56	AVG	
9		1.2238	40.46	0.10	40.56	56.00	-15.44	QP	
10		1.2238	30.18	0.10	30.28	46.00	-15.72	AVG	
11		2.5670	40.78	0.25	41.03	56.00	-14.97	QP	
12		2.5670	30.72	0.25	30.97	46.00	-15.03	AVG	

5.2 Radiated emission

5.2.1 Limits

Frequency (MHz)	Class B device (at 3m) dB μ V/m	Class A device (at 3m) dB μ V/m	Detector
30-88	40	49	QP
88-216	43.5	53.5	QP
216-960	46	56.4	QP
960-1000	54	59.5	QP
Above 1000	54	59.5	AV
Above 1000	74	79.5	PK

5.2.2 Test Procedures

The radiated emission tests were performed in the 3 meters.

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.

The height of the test antenna shall vary between 1m to 4m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.

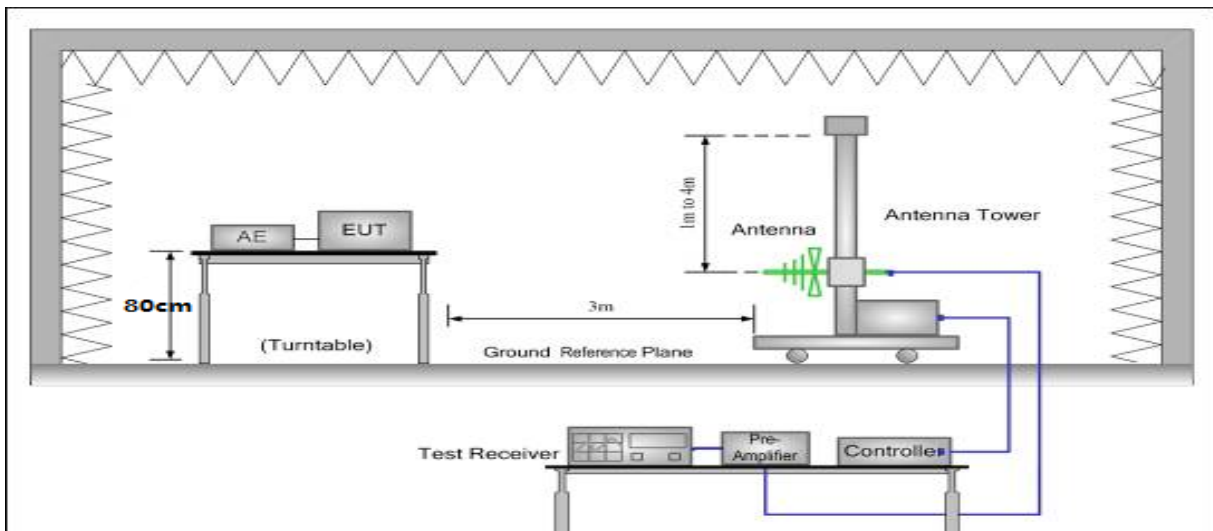
If the peak mode measured value compliance with and lower than quasi peak mode limit, the EUT shall be deemed to meet QP limits and then no additional QP mode measurement performed.

If the peak mode measured value compliance with and lower than average mode limit, the EUT shall be deemed to meet average limits and then no additional average mode measurement performed.

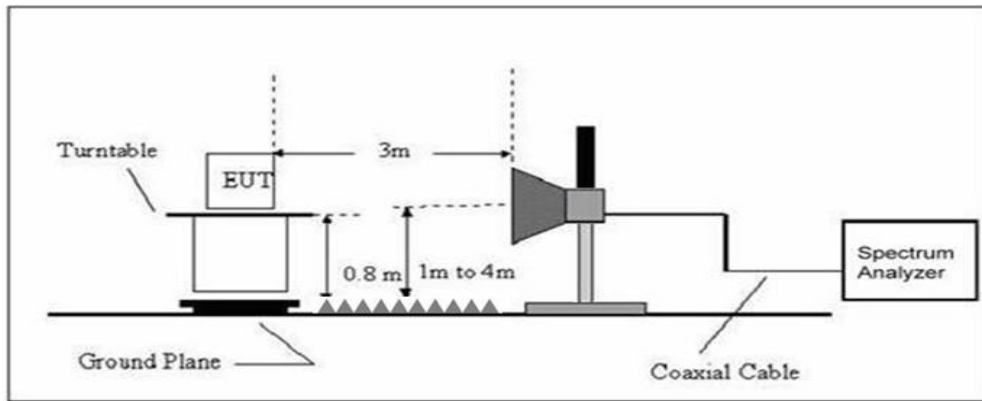
For the actual test configuration, please refer to the related item – EUT test photos.

5.2.3 Test Setup

Radiated Emission 30~1000MHz



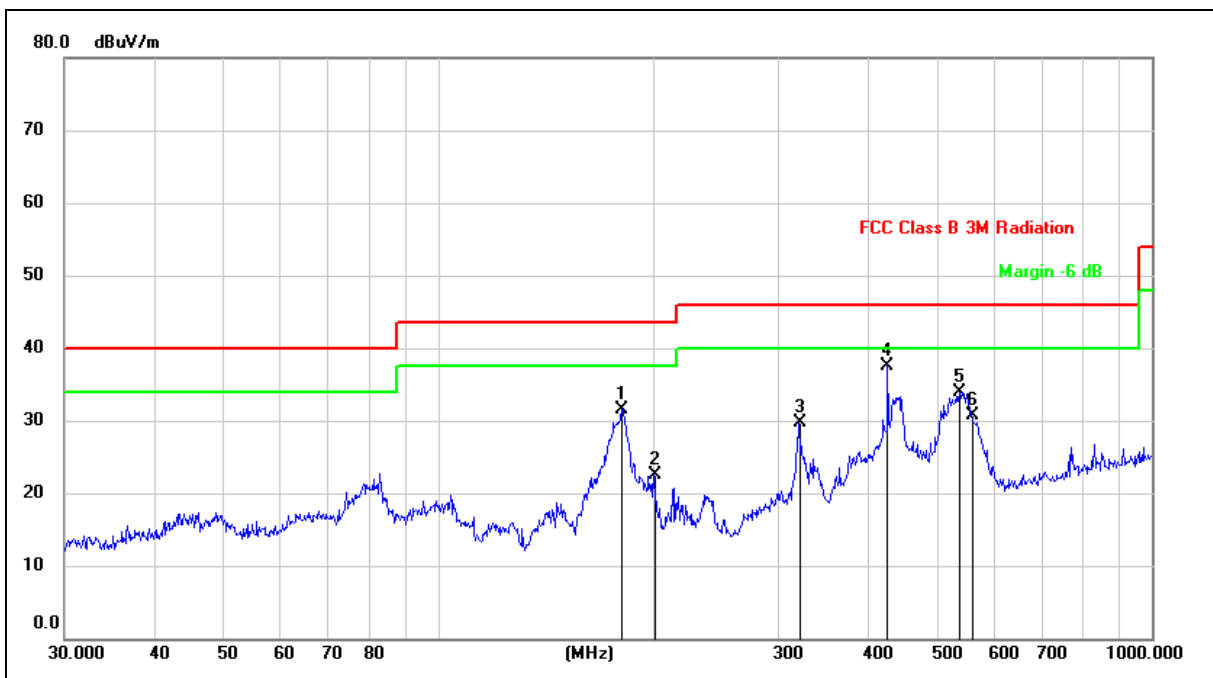
Radiated Emission Above 1GHz



5.2.4 Test Result

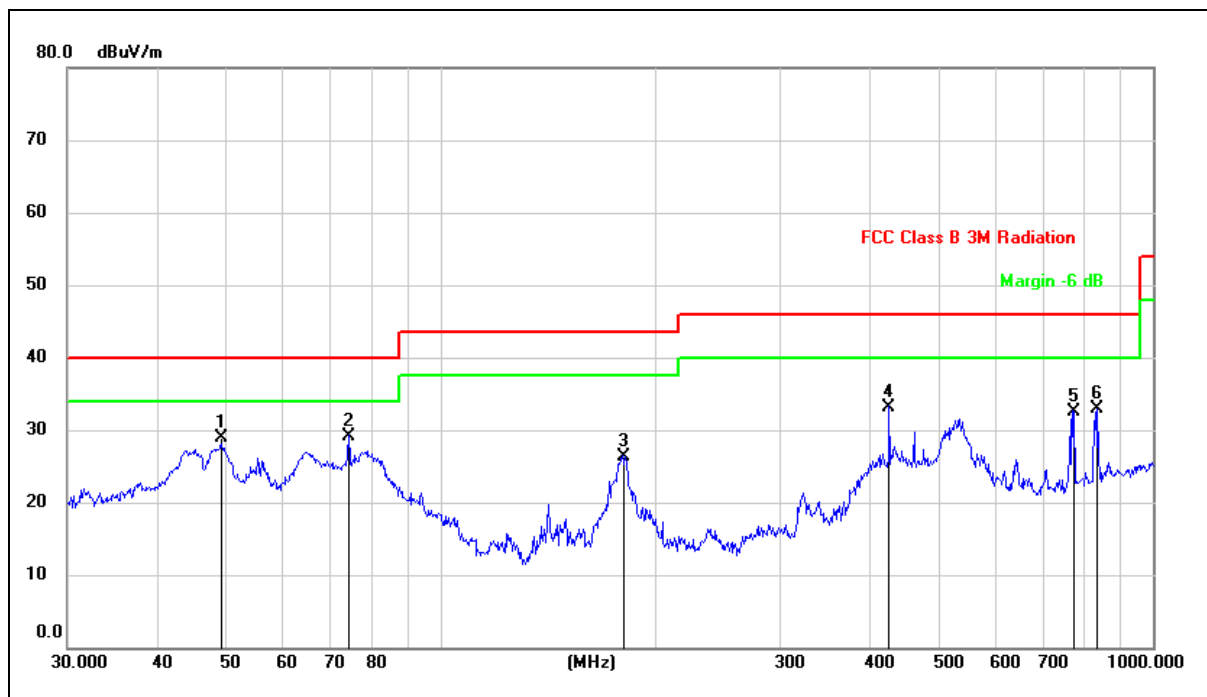
30~1000 MHz:

Temperature:	25°C	Relative Humidity:	55%
Pressure:	101kPa	Polarization:	Horizontal
Test voltage:	DC 5V from PC AC120V/60Hz	Test mode:	Mode 1



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dBuV/m	Measurement dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna Height cm	Table Degree	Comment
1	180.6488	46.29	-14.69	31.60	43.50	-11.90	QP			
2	200.6881	34.30	-11.70	22.60	43.50	-20.90	QP			
3	319.9370	37.91	-8.21	29.70	46.00	-16.30	QP			
4 *	426.5210	43.76	-6.16	37.60	46.00	-8.40	QP			
5	537.5891	39.08	-5.18	33.90	46.00	-12.10	QP			
6	558.7302	36.03	-5.23	30.80	46.00	-15.20	QP			

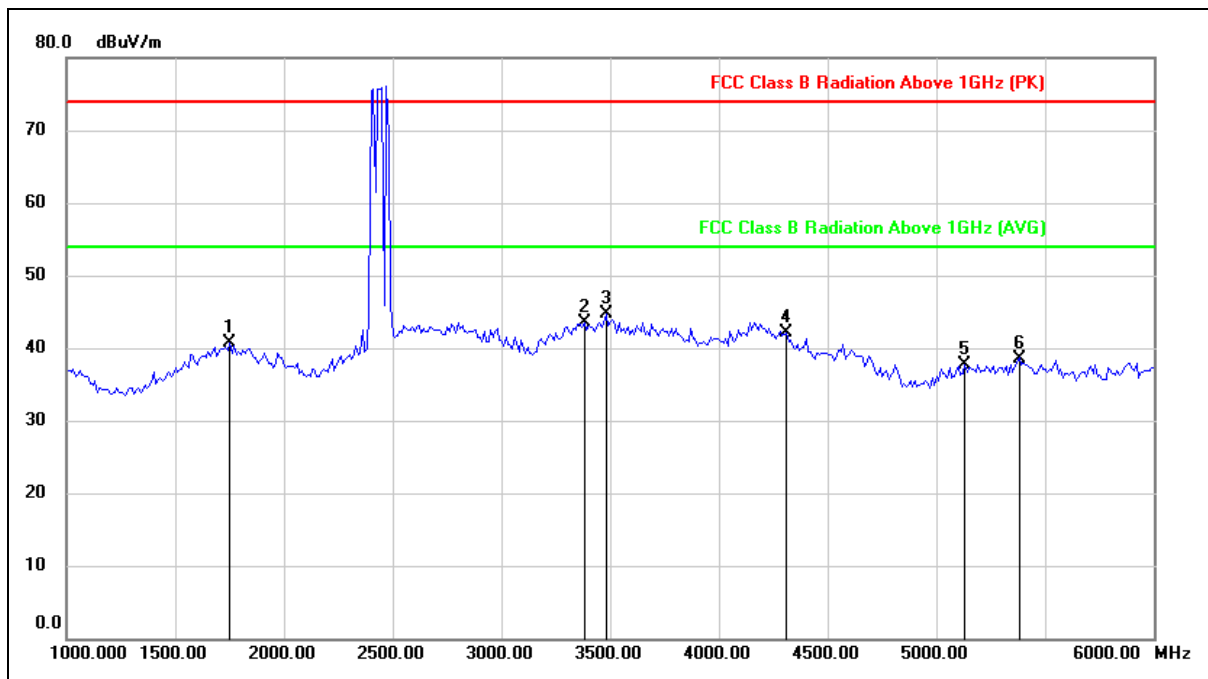
Temperature:	25°C	Relative Humidity:	55%
Pressure:	101kPa	Polarization:	Vertical
Test voltage:	DC 5V from PC AC120V/60Hz	Test mode:	Mode 1



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dBuV/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna Height cm	Table Degree degree	Comment
1		49.3594	38.66	-9.66	29.00	40.00	-11.00	QP			
2	*	74.3955	42.81	-13.61	29.20	40.00	-10.80	QP			
3		180.0165	38.19	-11.79	26.40	43.50	-17.10	QP			
4		426.5210	39.36	-6.16	33.20	46.00	-12.80	QP			
5		771.4486	35.80	-3.20	32.60	46.00	-13.40	QP			
6		836.2443	35.15	-2.25	32.90	46.00	-13.10	QP			

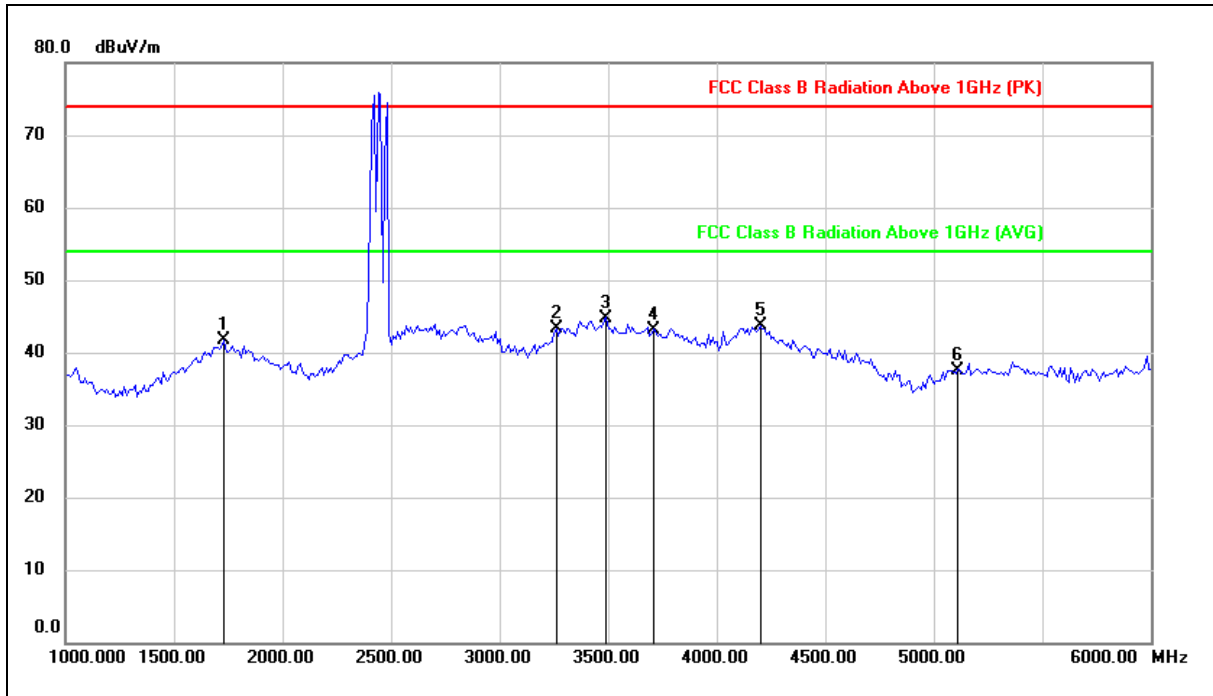
1000~12400MHz:

Temperature:	25°C	Relative Humidity:	55%
Pressure:	101kPa	Polarization:	Horizontal
Test voltage:	DC 5V from PC AC120V/60Hz	Test mode:	Mode 1



No. Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dBuV/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna Height cm	Table Degree degree	Comment
1	1750.000	54.97	-14.27	40.70	74.00	-33.30	peak			
2	3380.000	48.16	-4.66	43.50	74.00	-30.50	peak			
3	* 3480.000	49.32	-4.62	44.70	74.00	-29.30	peak			
4	4310.000	46.47	-4.37	42.10	74.00	-31.90	peak			
5	5130.000	45.80	-8.10	37.70	74.00	-36.30	peak			
6	5380.000	46.36	-7.76	38.60	74.00	-35.40	peak			

Temperature:	25°C	Relative Humidity:	55%
Pressure:	101kPa	Polarization:	Vertical
Test voltage:	DC 5V from PC AC120V/60Hz	Test mode:	Mode 1



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dBuV/m	Measure- ment dBuV/m	Limit dBuV/m	Over dB	Detector	Antenna Height cm	Table Degree degree	Comment
1		1730.000	56.74	-15.04	41.70	74.00	-32.30	peak			
2		3260.000	49.65	-6.35	43.30	74.00	-30.70	peak			
3	*	3490.000	50.82	-6.02	44.80	74.00	-29.20	peak			
4		3710.000	48.47	-5.27	43.20	74.00	-30.80	peak			
5		4200.000	49.13	-5.43	43.70	74.00	-30.30	peak			
6		5110.000	47.38	-9.78	37.60	74.00	-36.40	peak			

Note 1: The test modes were carried out for all operation modes. The worst test mode for test data was showed in the report.

2: Exceeding the emission limit is the main frequency.

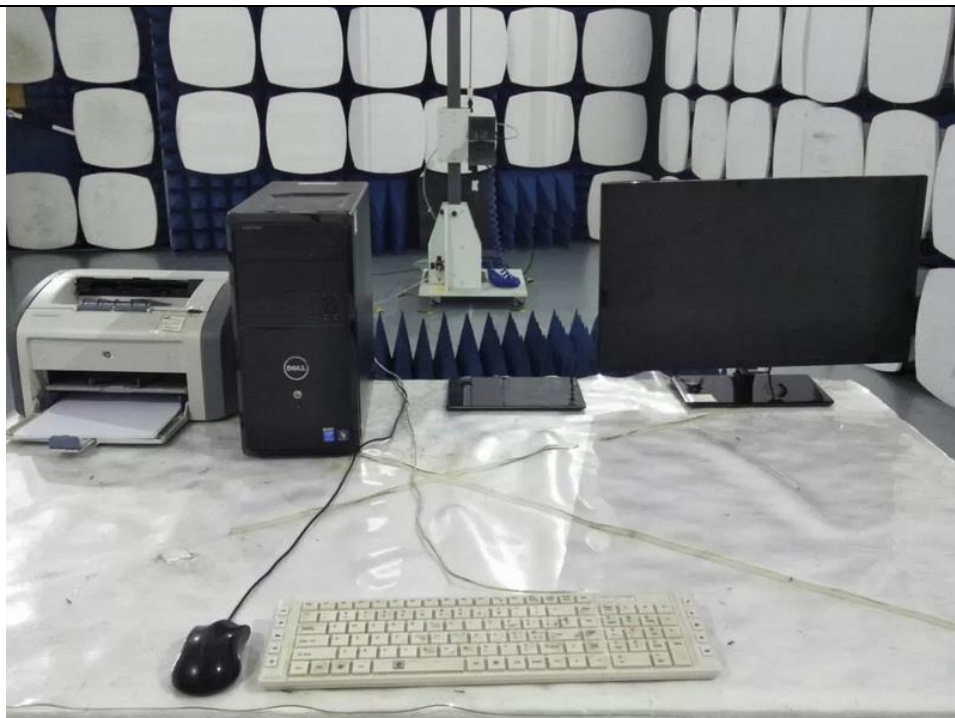
3: Peak test margin is greater than 20dBm, so AVG is also pass.

Photographs of the Test Setup

Radiated emission



Radiated emission



Conducted emission



Photographs of the EUT

See the APPENDIX 1: EUT PHOTO in the report No.: MTi180724E135-1

----End of Report----