TEST REPORT

Product	:	WisePad 2 Plus
Trade mark	:	BBPOS
Model/Type reference	:	WisePad 2 Plus
Serial Number	:	N/A
Report Number	:	EED32J00012503
FCC ID	:	2AB7X-WISEPAD2PLUS
Date of Issue	:	Mar. 20, 2017
Test Standards	:	47 CFR Part 15 Subpart C (2015)
Test result	:	PASS

Prepared for:

BBPOS International Limited
Suite 1602, 16/F, Tower 2, Nina Tower, No. 8 Yeung Uk Road,
Tsuen Wan, N.T. HK, Hong Kong

Prepared by:

Centre Testing International Group Co., Ltd.
Hongwei Industrial Zone, Bao'an 70 District,
Shenzhen, Guangdong, China
TEL: +86-755-3368 3668
FAX: +86-755-3368 3385

Tested By: Tom-chen
Tom chen (Test Project)

Compiled by: Kevin Yang
Kevin yang (Project Engineer)

Reviewed by: Ware xin
Ware xin (Reviewer)

Approved by: Sheek Luo
Sheek Luo (Lab supervisor)

Date: Mar. 20, 2017

Check No.: 2457559993

2 Version

Version No.	Date	Description
00	Mar. 20, 2017	Original

3 Test Summary

Test Item	Test Requirement	Test method	Result
AC Power Line Conducted Emission	47 CFR Part 15 Subpart C Section 15.207	ANSI C63.10-2013	PASS
Conducted Peak Output Power	47 CFR Part 15 Subpart C Section 15.247 (b)(1)	ANSI C63.10-2013	PASS
Radiated Spurious emissions	47 CFR Part 15 Subpart C Section 15.205/15.209	ANSI C63.10-2013	PASS

Remark:
Test according to ANSI C63.4-2014 & ANSI C63.10-2013.
The tested sample and the sample information are provided by the client.
Model No.: WisePad 2 Plus, WisePad 2
This test report (Ref. No.: EED32J00012503) is only valid with the original test report (Ref. No.: EED32I00208213).
According to the declaration from the applicant, their RF part, main board, electrical circuit design, layout, components used and internal wiring are identical, only the WisePad 2 Plus is consisted by printer function part, but WisePad 2 is not included.
Therefore in this report AC Power Line Conducted Emission, Conducted Peak Output Power and Radiated Spurious emissions were fully retested on model WisePad 2 Plus and shown the data in this report, other tests please refer to original report EED32I00208213.

4 Content

1 COVER PAGE 1

2 VERSION 2

3 TEST SUMMARY 3

4 CONTENT 4

5 TEST REQUIREMENT 5

5.1 TEST SETUP 5
5.1.1 For Conducted test setup 5
5.1.2 For Radiated Emissions test setup 5
5.1.3 For Conducted Emissions test setup 6
5.2 TEST ENVIRONMENT 6
5.3 TEST CONDITION 6

6 GENERAL INFORMATION 7

6.1 CLIENT INFORMATION 7
6.2 GENERAL DESCRIPTION OF EUT 7
6.3 PRODUCT SPECIFICATION SUBJECTIVE TO THIS STANDARD 7
6.4 DESCRIPTION OF SUPPORT UNITS 8
6.5 TEST LOCATION 8
6.6 TEST FACILITY 8
6.7 DEVIATION FROM STANDARDS 9
6.8 ABNORMALITIES FROM STANDARD CONDITIONS 9
6.9 OTHER INFORMATION REQUESTED BY THE CUSTOMER 9
6.10 MEASUREMENT UNCERTAINTY (95% CONFIDENCE LEVELS, K=2) 10

7 EQUIPMENT LIST 11

8 RADIO TECHNICAL REQUIREMENTS SPECIFICATION 13

Appendix A): Conducted Peak Output Power 14
Appendix B): AC Power Line Conducted Emission 18
Appendix C): Radiated Spurious Emissions 21

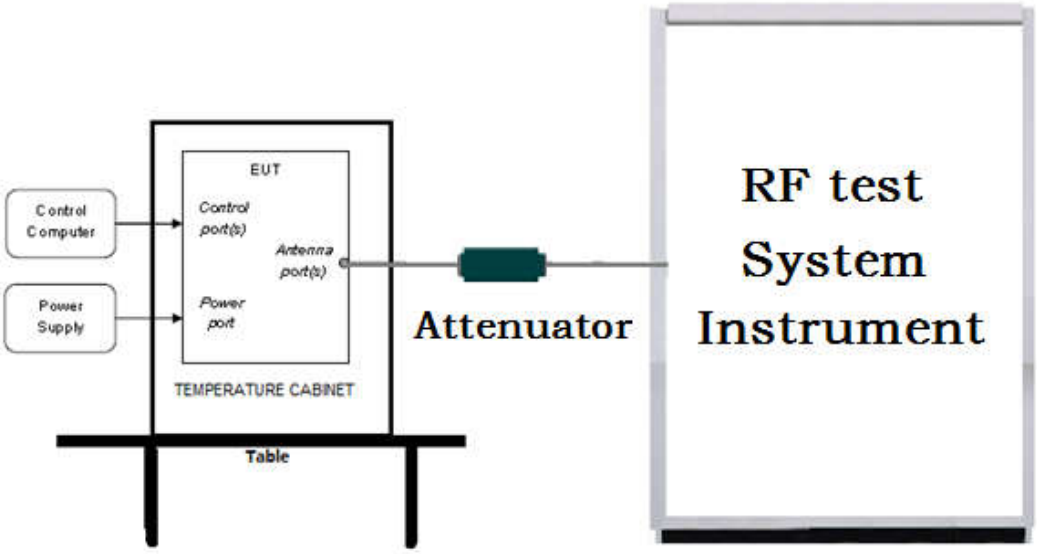
PHOTOGRAPHS OF TEST SETUP 29

PHOTOGRAPHS OF EUT CONSTRUCTIONAL DETAILS 31

5 Test Requirement

5.1 Test setup

5.1.1 For Conducted test setup



5.1.2 For Radiated Emissions test setup

Radiated Emissions setup:

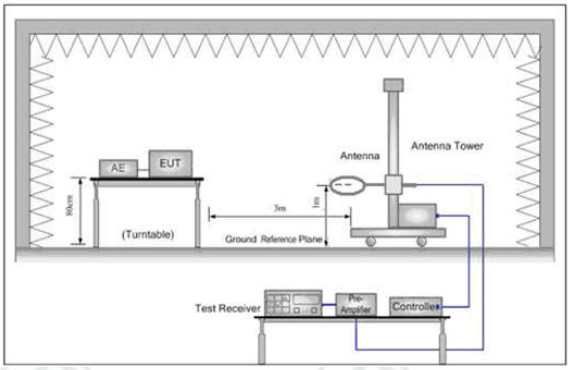


Figure 1. Below 30MHz

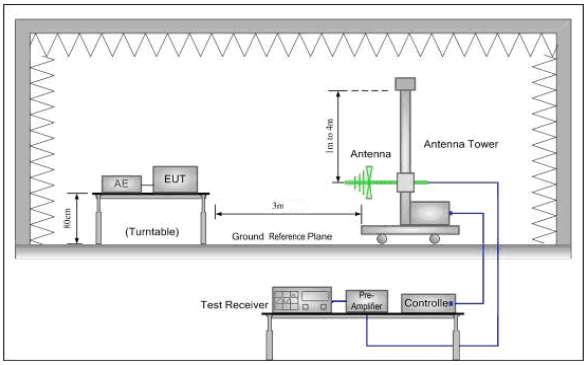


Figure 2. 30MHz to 1GHz

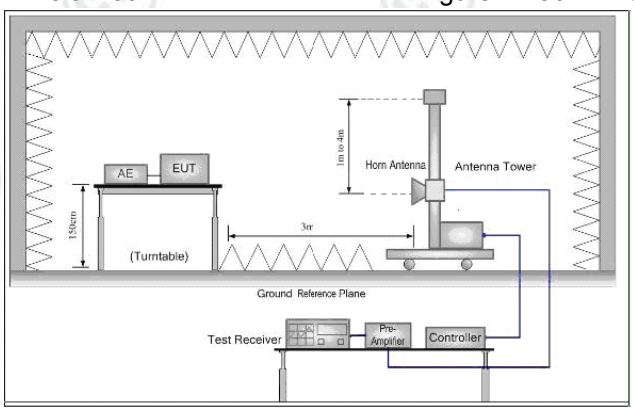
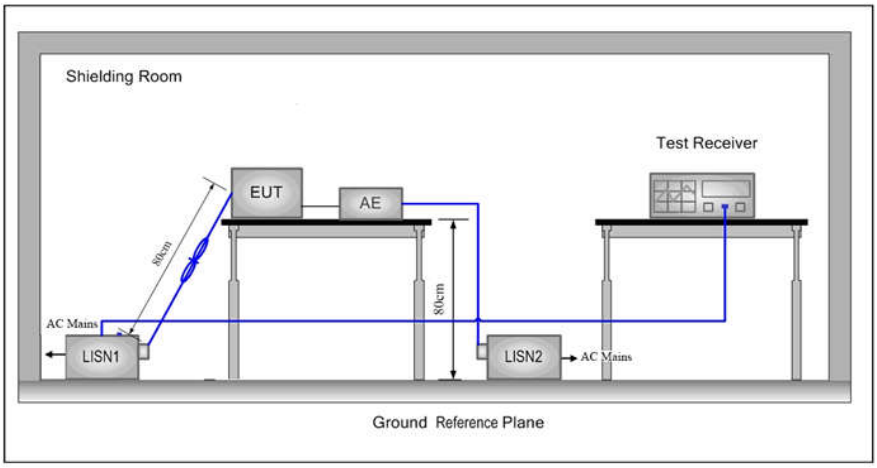


Figure 3. Above 1GHz

5.1.3 For Conducted Emissions test setup

Conducted Emissions setup



5.2 Test Environment

Operating Environment:	
Temperature:	22°C
Humidity:	53% RH
Atmospheric Pressure:	1010 mbar

5.3 Test Condition

Test Mode	Tx	RF Channel		
		Low(L)	Middle(M)	High(H)
GFSK/π/4DQPSK/ 8DPSK(DH1,DH3,DH5)	2402MHz ~2480 MHz	Channel 1	Channel 40	Channel79
		2402MHz	2441MHz	2480MHz
Transmitting mode:	Keep the EUT in transmitting mode with all kind of modulation and all kind of data rate.			

Test mode:

Pre-scan under all rate at lowest channel 1

Mode	**GFSK**		
packets	**1-DH1**	**1-DH3**	**1-DH5**
Power(dBm)	4.759	4.761	4.777

Mode	π/4DQPSK		
packets	**2-DH1**	**2-DH3**	**2-DH5**
Power(dBm)			5.626
Mode	8DPSK		
packets	**3-DH1**	**3-DH3**	**3-DH5**
Power(dBm)	5.927	5.933	5.946

Through Pre-scan, 1-DH5 packet the power is the worst case of GFSK, 2-DH5 packet the power is the worst case ofπ/4DQPSK, 3-DH5 packet the power is the worst case of 8DPSK.

6 General Information

6.1 Client Information

Applicant:	BBPOS International Limited
Address of Applicant:	Suite 1602, 16/F, Tower 2, Nina Tower, No. 8 Yeung Uk Road, Tsuen Wan, N.T. HK, Hong Kong
Manufacturer:	BBPOS International Limited
Address of Manufacturer:	Suite 1602, 16/F, Tower 2, Nina Tower, No. 8 Yeung Uk Road, Tsuen Wan, N.T. HK, Hong Kong

6.2 General Description of EUT

Product Name:	WisePad 2 Plus
Model No.(EUT):	WisePad 2 Plus
Trade Mark:	BBPOS
EUT Supports Radios application	BT 2.1(2402MHz-2480MHz), BT 4.0(2402MHz-2480MHz), NFC(13.56MHz), WIFIb/g/n(HT20)(2412MHz-2472MHz), 2G(850MHz/1900MHz)GPRS
Power Supply:	DC 3.7V by Battery DC 5V by USB port
Battery:	Li-polymer 3.7V, 1300mAh
Sample Received Date:	Jan. 23, 2017
Sample tested Date:	Jan. 23, 2017 to Mar. 20, 2017

6.3 Product Specification subjective to this standard

Operation Frequency:	2402MHz~2480MHz
Bluetooth Version:	2.1+EDR
Modulation Technique:	Frequency Hopping Spread Spectrum(FHSS)
Modulation Type:	GFSK, π/4DQPSK, 8DPSK
Number of Channel:	79
Hopping Channel Type:	Adaptive Frequency Hopping systems
Sample Type:	Portable production
Antenna Type:	Integral
Test Power Grade:	N/A
Test Software of EUT:	BBPOS_FCC_0713 (Version: 20160713)
Antenna Gain:	1dBi
Test Voltage:	AC 120V/60Hz, DC 3.7V

Operation Frequency each of channel

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2402MHz	21	2422MHz	41	2442MHz	61	2462MHz
2	2403MHz	22	2423MHz	42	2443MHz	62	2463MHz
3	2404MHz	23	2424MHz	43	2444MHz	63	2464MHz
4	2405MHz	24	2425MHz	44	2445MHz	64	2465MHz
5	2406MHz	25	2426MHz	45	2446MHz	65	2466MHz
6	2407MHz	26	2427MHz	46	2447MHz	66	2467MHz
7	2408MHz	27	2428MHz	47	2448MHz	67	2468MHz
8	2409MHz	28	2429MHz	48	2449MHz	68	2469MHz

9	2410MHz	29	2430MHz	49	2450MHz	69	2470MHz
10	2411MHz	30	2431MHz	50	2451MHz	70	2471MHz
11	2412MHz	31	2432MHz	51	2452MHz	71	2472MHz
12	2413MHz	32	2433MHz	52	2453MHz	72	2473MHz
13	2414MHz	33	2434MHz	53	2454MHz	73	2474MHz
14	2415MHz	34	2435MHz	54	2455MHz	74	2475MHz
15	2416MHz	35	2436MHz	55	2456MHz	75	2476MHz
16	2417MHz	36	2437MHz	56	2457MHz	76	2477MHz
17	2418MHz	37	2438MHz	57	2458MHz	77	2478MHz
18	2419MHz	38	2439MHz	58	2459MHz	78	2479MHz
19	2420MHz	39	2440MHz	59	2460MHz	79	2480MHz
20	2421MHz	40	2441MHz	60	2461MHz		

6.4 Description of Support Units

The EUT has been tested with associated equipment below.

Description	Manufacturer	Model No.	Certification	Supplied by
laptop	LENOVO	T3900	FCC DOC	CTI
Mouse	L.Selectron	GL-204	FCC DOC	CTI

6.5 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd.
Hongwei Industrial Zone, Bao'an 70 District, Shenzhen, Guangdong, China 518101
Telephone: +86 (0) 755 33683668 Fax:+86 (0) 755 33683385
No tests were sub-contracted.

6.6 Test Facility

The test facility is recognized, certified, or accredited by the following organizations:

CNAS-Lab Code: L1910

Centre Testing International Group Co., Ltd. has been assessed and proved to be in compliance with CNAS-CL01 Accreditation Criteria for Testing and Calibration Laboratories (identical to ISO/IEC 17025: 2005 General Requirements) for the Competence of Testing and Calibration Laboratories..

A2LA-Lab Cert. No. 3061.01

Centre Testing International Group Co., Ltd. EMC Laboratory has been accredited by A2LA for technical competence in the field of electrical testing, and proved to be in compliance with ISO/IEC 17025: 2005 General Requirements for the Competence of Testing and Calibration Laboratories and any additional program requirements in the identified field of testing.

FCC-Registration No.: 886427

Centre Testing International Group Co., Ltd. EMC Laboratory has been registered and fully described in a report filed with the FCC (Federal Communications Commission). The acceptance letter from the FCC is maintained in our files. Registration 886427.

IC-Registration No.: 7408A-2

The 3m Alternate Test Site of Centre Testing International Group Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 7408A-2 .

IC-Registration No.: 7408B-1

The 10m Alternate Test Site of Centre Testing International Group Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for the performance of radiated measurements with Registration No. 7408B-1.

NEMKO-Aut. No.: ELA503

Centre Testing International Group Co., Ltd. has been assessed the quality assurance system, the testing facilities, qualifications and testing practices of the relevant parts of the organization. The quality assurance system of the Laboratory has been validated against ISO/IEC 17025 or equivalent. The laboratory also fulfils the conditions described in Nemko Document NLA-10.

VCCI

The Radiation 3 &10 meters site of Centre Testing International Group Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: R-4096.

Main Ports Conducted Interference Measurement of Centre Testing International Group Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: C-4563.

Telecommunication Ports Conducted Disturbance Measurement of Centre Testing International Group Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: T-2146.

The Radiation 3 meters site of Centre Testing International Group Co., Ltd. has been registered in accordance with the Regulations for Voluntary Control Measures with Registration No.: G-758

6.7 Deviation from Standards

None.

6.8 Abnormalities from Standard Conditions

None.

6.9 Other Information Requested by the Customer

None.

6.10 Measurement Uncertainty (95% confidence levels, k=2)

No.	Item	Measurement Uncertainty
1	Radio Frequency	7.9×10^{-8}
2	RF power, conducted	0.31dB (30MHz-1GHz)
		0.57dB (1GHz-18GHz)
3	Radiated Spurious emission test	4.5dB (30MHz-1GHz)
		4.8dB (1GHz-12.75GHz)
4	Conduction emission	3.6dB (9kHz to 150kHz)
		3.2dB (150kHz to 30MHz)
5	Temperature test	0.64°C
6	Humidity test	2.8%
7	DC power voltages	0.025%

7 Equipment List

RF test system					
Equipment	**Manufacturer**	**Model No.**	**Serial Number**	**Cal. Date (mm-dd-yyyy)**	**Cal. Due date (mm-dd-yyyy)**
Signal Generator	Keysight	E8257D	MY53401106	04-01-2016	03-31-2017
Communication test set test set	Agilent	N4010A	MY51400230	04-01-2016	03-31-2017
Spectrum Analyzer	Keysight	N9010A	MY54510339	04-01-2016	03-31-2017
Signal Generator	Keysight	N5182B	MY53051549	04-01-2016	03-31-2017
High-pass filter	Sinoscite	FL3CX03WG18 NM12-0398-002	---	01-11-2017	01-10-2018
High-pass filter	MICRO-TRONICS	SPA-F-63029-4	---	01-11-2017	01-10-2018
DC Power	Keysight	E3642A	MY54436035	04-01-2016	03-31-2017
PC-1	Lenovo	R4960d	---	04-01-2016	03-31-2017
power meter & power sensor	R&S	OSP120	101374	04-01-2016	03-31-2017
RF control unit	JS Tonscend	JS0806-2	158060006	04-01-2016	03-31-2017
BT&WI-FI Automatic test software	JS Tonscend	JS1120-2	---	04-01-2016	03-31-2017

Conducted disturbance Test					
Equipment	**Manufacturer**	**Model No.**	**Serial Number**	**Cal. date (mm-dd-yyyy)**	**Cal. Due date (mm-dd-yyyy)**
Receiver	R&S	ESCI	100009	06-16-2016	06-15-2017
Temperature/ Humidity Indicator	TAYLOR	1451	1905	04-27-2016	04-26-2017
Communication test set	Agilent	E5515C	GB47050534	04-01-2016	03-31-2017
Communication test set	R&S	CMW500	152394	04-01-2016	03-31-2017
LISN	R&S	ENV216	100098	06-16-2016	06-15-2017
LISN	schwarzbeck	NNLK8121	8121-529	06-16-2016	06-15-2017
Voltage Probe	R&S	ESH2-Z3	--	07-09-2014	07-07-2017
Current Probe	R&S	EZ17	100106	06-16-2016	06-15-2017
ISN	TESEQ GmbH	ISN T800	30297	02-23-2017	02-22-2018

3M Semi/full-anechoic Chamber					
Equipment	**Manufacturer**	**Model No.**	**Serial Number**	**Cal. date (mm-dd-yyyy)**	**Cal. Due date (mm-dd-yyyy)**
3M Chamber & Accessory Equipment	TDK	SAC-3	---	06-05-2016	06-05-2019
TRILOG Broadband Antenna	SCHWARZBECK	VULB9163	9163-484	05-23-2016	05-22-2017
Microwave Preamplifier	Agilent	8449B	3008A02425	02-16-2017	02-15-2018
Horn Antenna	ETS-LINDGREN	3117	00057407	07-20-2015	07-18-2018
Loop Antenna	ETS	6502	00071730	07-30-2015	07-28-2017
Spectrum Analyzer	R&S	FSP40	100416	06-16-2016	06-15-2017
Receiver	R&S	ESCI	100435	06-16-2016	06-15-2017
Multi device Controller	maturo	NCD/070/10711112	---	01-11-2017	01-10-2018
LISN	schwarzbeck	NNBM8125	81251547	06-16-2016	06-15-2017
LISN	schwarzbeck	NNBM8125	81251548	06-16-2016	06-15-2017
Signal Generator	Agilent	E4438C	MY45095744	04-01-2016	03-31-2017
Signal Generator	Keysight	E8257D	MY53401106	04-01-2016	03-31-2017
Temperature/ Humidity Indicator	TAYLOR	1451	1905	04-27-2016	04-26-2017
Communication test set	Agilent	E5515C	GB47050534	04-01-2016	03-31-2017
Cable line	Fulai(7M)	SF106	5219/6A	01-11-2017	01-10-2018
Cable line	Fulai(6M)	SF106	5220/6A	01-11-2017	01-10-2018
Cable line	Fulai(3M)	SF106	5216/6A	01-11-2017	01-10-2018
Cable line	Fulai(3M)	SF106	5217/6A	01-11-2017	01-10-2018
Communication test set	R&S	CMW500	152394	04-01-2016	03-31-2017
High-pass filter	Sinoscite	FL3CX03WG18NM12-0398-002	---	01-11-2017	01-10-2018
High-pass filter	MICRO-TRONICS	SPA-F-63029-4	---	01-11-2017	01-10-2018
band rejection filter	Sinoscite	FL5CX01CA09CL12-0395-001	---	01-11-2017	01-10-2018
band rejection filter	Sinoscite	FL5CX01CA08CL12-0393-001	---	01-11-2017	01-10-2018
band rejection filter	Sinoscite	FL5CX02CA04CL12-0396-002	---	01-11-2017	01-10-2018
band rejection filter	Sinoscite	FL5CX02CA03CL12-0394-001	---	01-11-2017	01-10-2018

8 Radio Technical Requirements Specification

Reference documents for testing:

No.	Identity	Document Title
1	FCC Part15C (2015)	Subpart C-Intentional Radiators
2	ANSI C63.10-2013	American National Standard for Testing Unlicesed Wireless Devices

Test Results List:

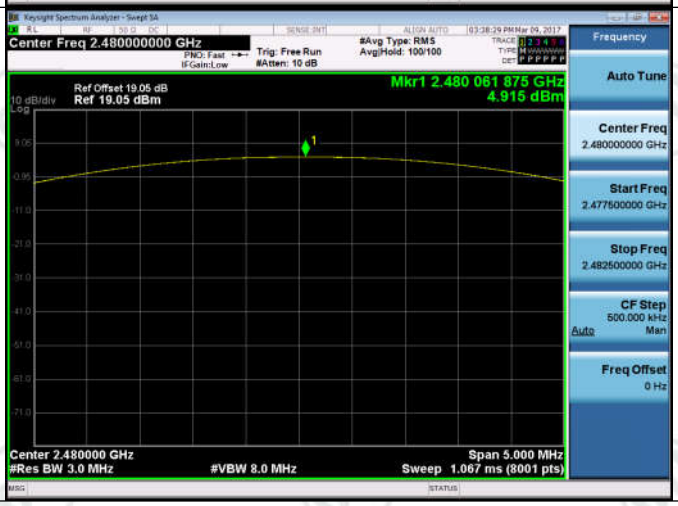
Test requirement	Test method	Test item	Verdict	Note
Part15C Section 15.247 (b)(1)	ANSI 63.10	Conducted Peak Output Power	PASS	Appendix A)
Part15C Section 15.207	ANSI 63.10	AC Power Line Conducted Emission	PASS	Appendix B)
Part15C Section 15.205/15.209	ANSI 63.10	Radiated Spurious Emissions	PASS	Appendix C)

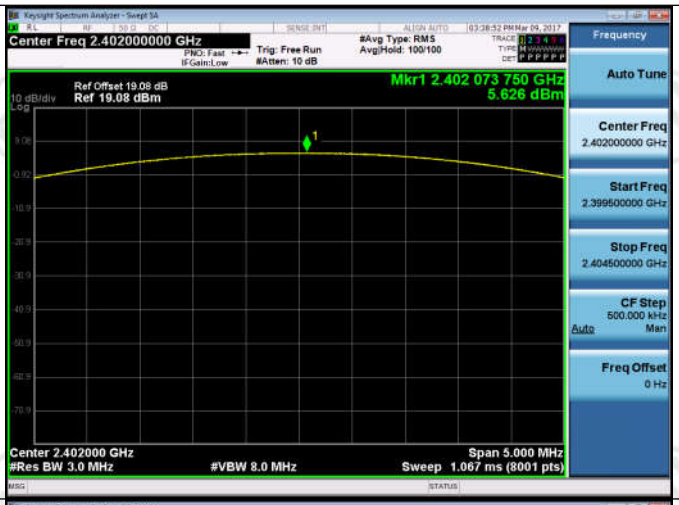
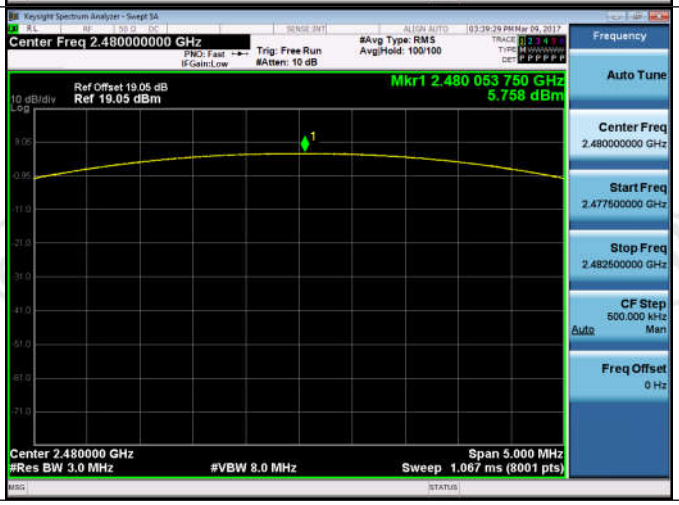
Appendix A): Conducted Peak Output Power

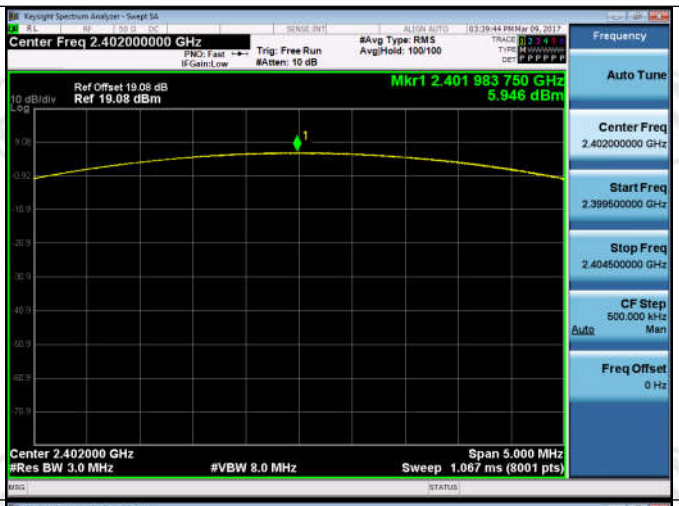
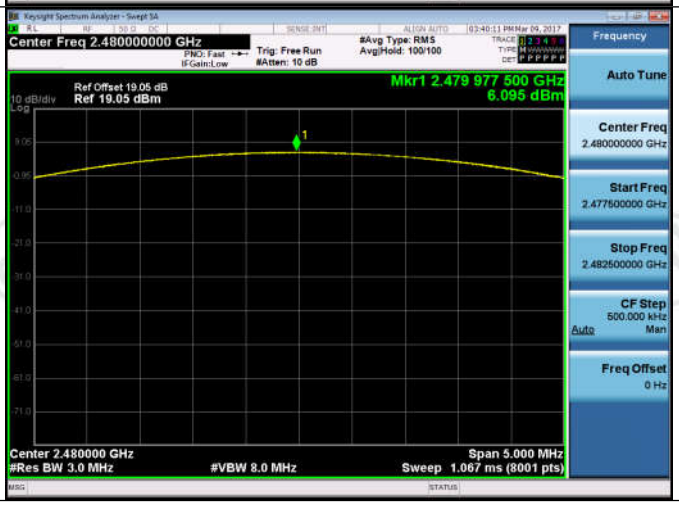
Result Table

Mode	Channel.	Maximum Peak Output Power [dBm]	Verdict
GFSK	LCH	4.777	PASS
GFSK	MCH	4.834	PASS
GFSK	HCH	4.915	PASS
π/4DQPSK	LCH	5.626	PASS
π/4DQPSK	MCH	5.680	PASS
π/4DQPSK	HCH	5.758	PASS
8DPSK	LCH	5.946	PASS
8DPSK	MCH	5.979	PASS
8DPSK	HCH	6.095	PASS

Test Graph

Graphs			
GFSK/LCH			
GFSK/MCH			
GFSK/HCH			

π/4DQPSK/L CH			
π/4DQPSK/M CH			
π/4DQPSK/H CH			

8DPSK/LCH			
8DPSK/MCH			
8DPSK/HCH			

Appendix B): AC Power Line Conducted Emission

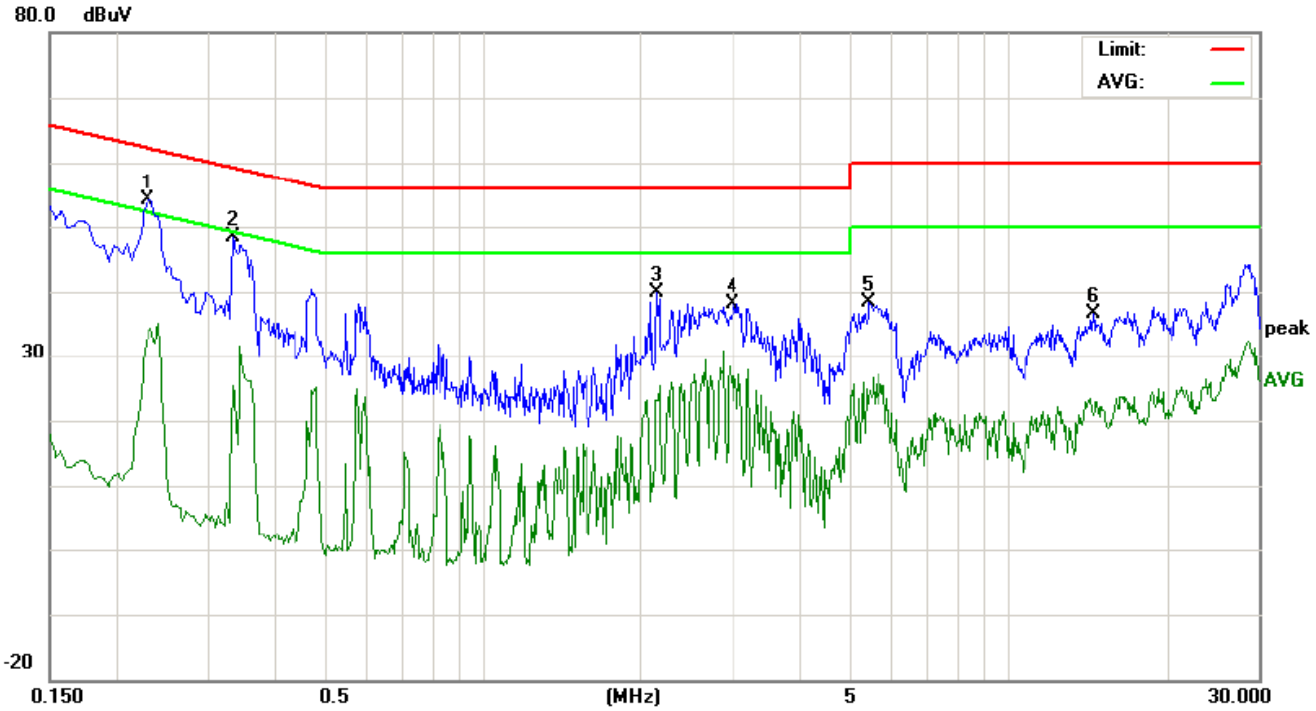
<table>
<tr><td>Test Procedure:</td><td>Test frequency range :150KHz-30MHz
1)The mains terminal disturbance voltage test was conducted in a shielded room.
2) The EUT was connected to AC power source through a LISN 1 (Line Impedance Stabilization Network) which provides a 50Ω/50μH + 5Ω linear impedance. The power cables of all other units of the EUT were connected to a second LISN 2, which was bonded to the ground reference plane in the same way as the LISN 1 for the unit being measured. A multiple socket outlet strip was used to connect multiple power cables to a single LISN provided the rating of the LISN was not exceeded.
3)The tabletop EUT was placed upon a non-metallic table 0.8m above the ground reference plane. And for floor-standing arrangement, the EUT was placed on the horizontal ground reference plane,
4) The test was performed with a vertical ground reference plane. The rear of the EUT shall be 0.4 m from the vertical ground reference plane. The vertical ground reference plane was bonded to the horizontal ground reference plane. The LISN 1 was placed 0.8 m from the boundary of the unit under test and bonded to a ground reference plane for LISNs mounted on top of the ground reference plane. This distance was between the closest points of the LISN 1 and the EUT. All other units of the EUT and associated equipment was at least 0.8 m from the LISN 2.
5) In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.10 on conducted measurement.</td></tr>
<tr><td>Limit:</td><td>
<table>
<tr><td rowspan="2">Frequency range (MHz)</td><td colspan="2">Limit (dBμV)</td></tr>
<tr><td>Quasi-peak</td><td>Average</td></tr>
<tr><td>0.15-0.5</td><td>66 to 56*</td><td>56 to 46*</td></tr>
<tr><td>0.5-5</td><td>56</td><td>46</td></tr>
<tr><td>5-30</td><td>60</td><td>50</td></tr>
</table>
* The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.
NOTE : The lower limit is applicable at the transition frequency</td></tr>
</table>

Measurement Data

An initial pre-scan was performed on the live and neutral lines with peak detector.

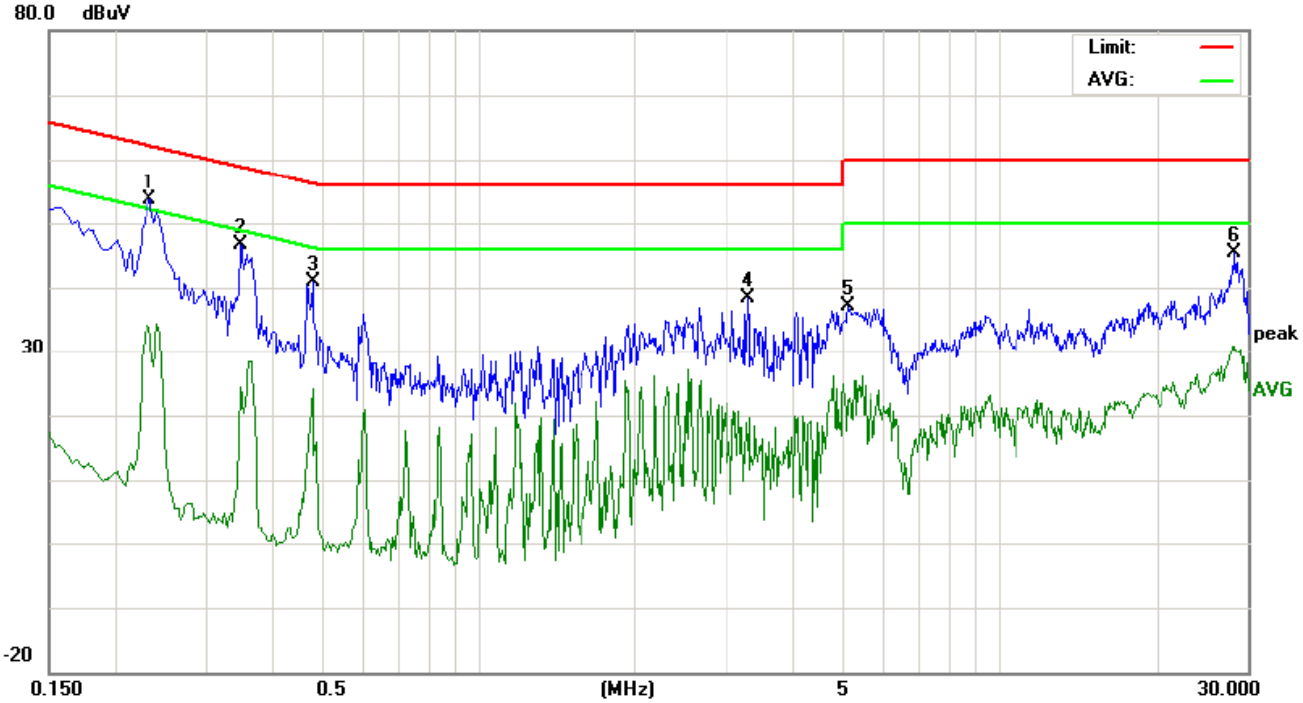
Quasi-Peak and Average measurement were performed at the frequencies with maximized peak emission were detected.

Live line:



No.	Freq.	Reading_Level (dBuV)			Correct Factor	Measurement (dBuV)			Limit (dBuV)		Margin (dB)			
	MHz	Peak	QP	AVG	dB	peak	QP	AVG	QP	AVG	QP	AVG	P/F	Comment
1	0.2300	44.27		23.58	9.80	54.07		33.38	62.45	52.45	-8.38	-19.07	P	
2	0.3339	38.42		15.60	9.83	48.25		25.43	59.35	49.35	-11.10	-23.92	P	
3	2.1540	29.90		13.05	10.00	39.90		23.05	56.00	46.00	-16.10	-22.95	P	
4	3.0059	28.15		13.24	10.00	38.15		23.24	56.00	46.00	-17.85	-22.76	P	
5	5.4420	28.29		13.07	10.00	38.29		23.07	60.00	50.00	-21.71	-26.93	P	
6	14.5780	26.41		10.68	10.09	36.50		20.77	60.00	50.00	-23.50	-29.23	P	

Neutral line:



No.	Freq.	Reading_Level (dBuV)			Correct Factor	Measurement (dBuV)			Limit (dBuV)		Margin (dB)			
	MHz	Peak	QP	AVG	dB	peak	QP	AVG	QP	AVG	QP	AVG	P/F	Comment
1	0.2340	43.80		24.17	9.80	53.60		33.97	62.30	52.30	-8.70	-18.33	P	
2	0.3500	36.77		14.56	9.85	46.62		24.41	58.96	48.96	-12.34	-24.55	P	
3	0.4820	30.87		14.23	9.90	40.77		24.13	56.30	46.30	-15.53	-22.17	P	
4	3.3060	28.40		4.63	10.00	38.40		14.63	56.00	46.00	-17.60	-31.37	P	
5	5.1340	27.06		12.04	10.00	37.06		22.04	60.00	50.00	-22.94	-27.96	P	
6	28.4380	35.69		21.10	9.80	45.49		30.90	60.00	50.00	-14.51	-19.10	P	

Notes:

1. The following Quasi-Peak and Average measurements were performed on the EUT:
2. Final Test Level =Receiver Reading + LISN Factor + Cable Loss.

Appendix C): Radiated Spurious Emissions

Receiver Setup:

Frequency	Detector	RBW	VBW	Remark
0.009MHz-0.090MHz	Peak	10kHz	30kHz	Peak
0.009MHz-0.090MHz	Average	10kHz	30kHz	Average
0.090MHz-0.110MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
0.110MHz-0.490MHz	Peak	10kHz	30kHz	Peak
0.110MHz-0.490MHz	Average	10kHz	30kHz	Average
0.490MHz -30MHz	Quasi-peak	10kHz	30kHz	Quasi-peak
30MHz-1GHz	Quasi-peak	120kHz	300kHz	Quasi-peak
Above 1GHz	Peak	1MHz	3MHz	Peak
	Peak	1MHz	10Hz	Average

Test Procedure:

Below 1GHz test procedure as below:

a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter semi-anechoic camber. 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, whichwas mounted on the top of a variable-height antenna tower.
c. The antenna height 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.
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 (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) 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 Detect Function and Specified Bandwidth with Maximum Hold Mode.
f. If the emission level of the EUT in peak mode was 10dB lower than the limit specified, then testing could be stopped and the peak values of the EUT would be reported. Otherwise the emissions that did not have 10dB margin would be re-tested one by one using peak, quasi-peak or average method as specified and then reported in a data sheet.

Above 1GHz test procedure as below:

g. Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber and change form table 0.8 meter to 1.5 meter(Above 18GHz the distance is 1 meter and table is 1.5 meter).
h. Test the EUT in the lowest channel ,the middle channel ,the Highest channel
i. The radiation measurements are performed in X, Y, Z axis positioning for Transmitting mode, and found the X axis positioning which it is worse case.
j. Repeat above procedures until all frequencies measured was complete.

Limit:

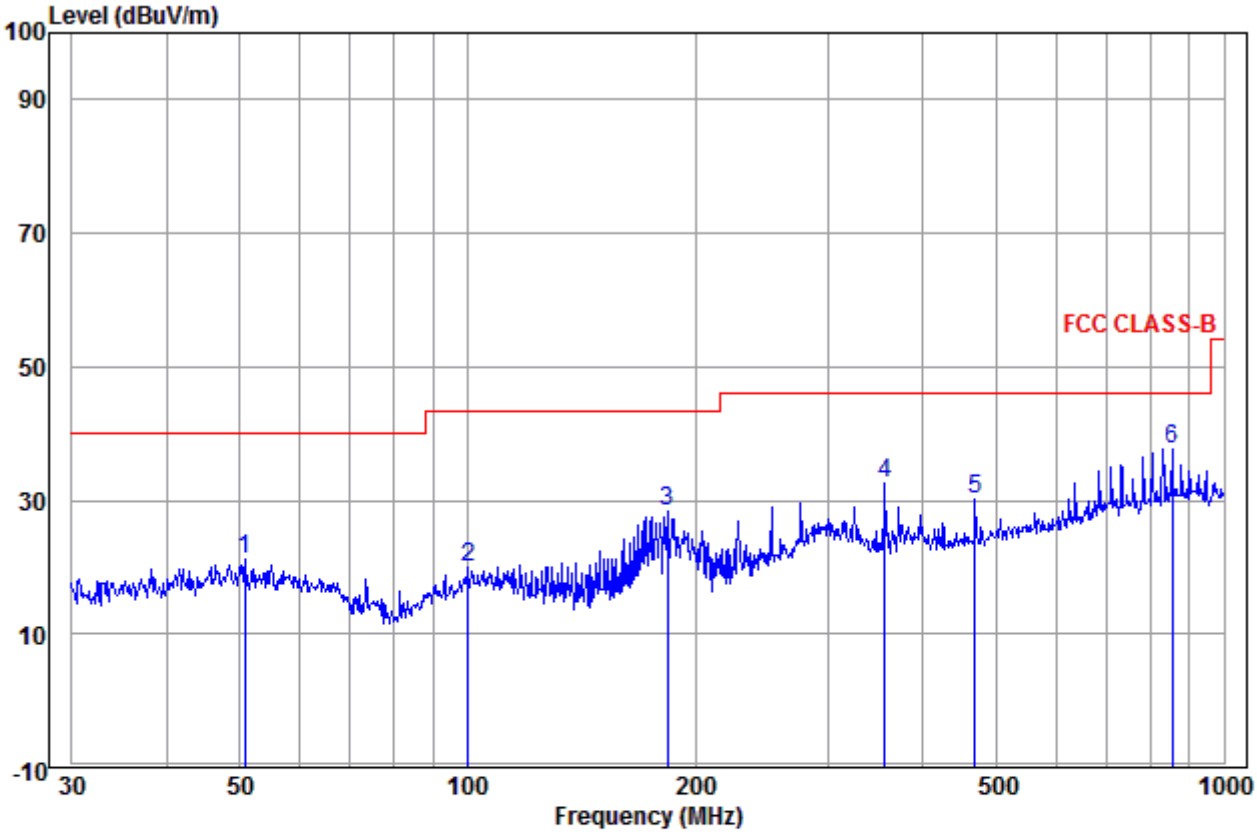
Frequency	Field strength (microvolt/meter)	Limit (dBμV/m)	Remark	Measurement distance (m)
0.009MHz-0.490MHz	2400/F(kHz)	-	-	300
0.490MHz-1.705MHz	24000/F(kHz)	-	-	30
1.705MHz-30MHz	30	-	-	30
30MHz-88MHz	100	40.0	Quasi-peak	3
88MHz-216MHz	150	43.5	Quasi-peak	3
216MHz-960MHz	200	46.0	Quasi-peak	3
960MHz-1GHz	500	54.0	Quasi-peak	3
Above 1GHz	500	54.0	Average	3

Note: 15.35(b), Unless otherwise specified, the limit on peak radio frequency emissions is 20dB above the maximum permitted average emission limit applicable to the equipment under test. This peak limit applies to the total peak emission level radiated by the device.

Radiated Spurious Emissions test Data:

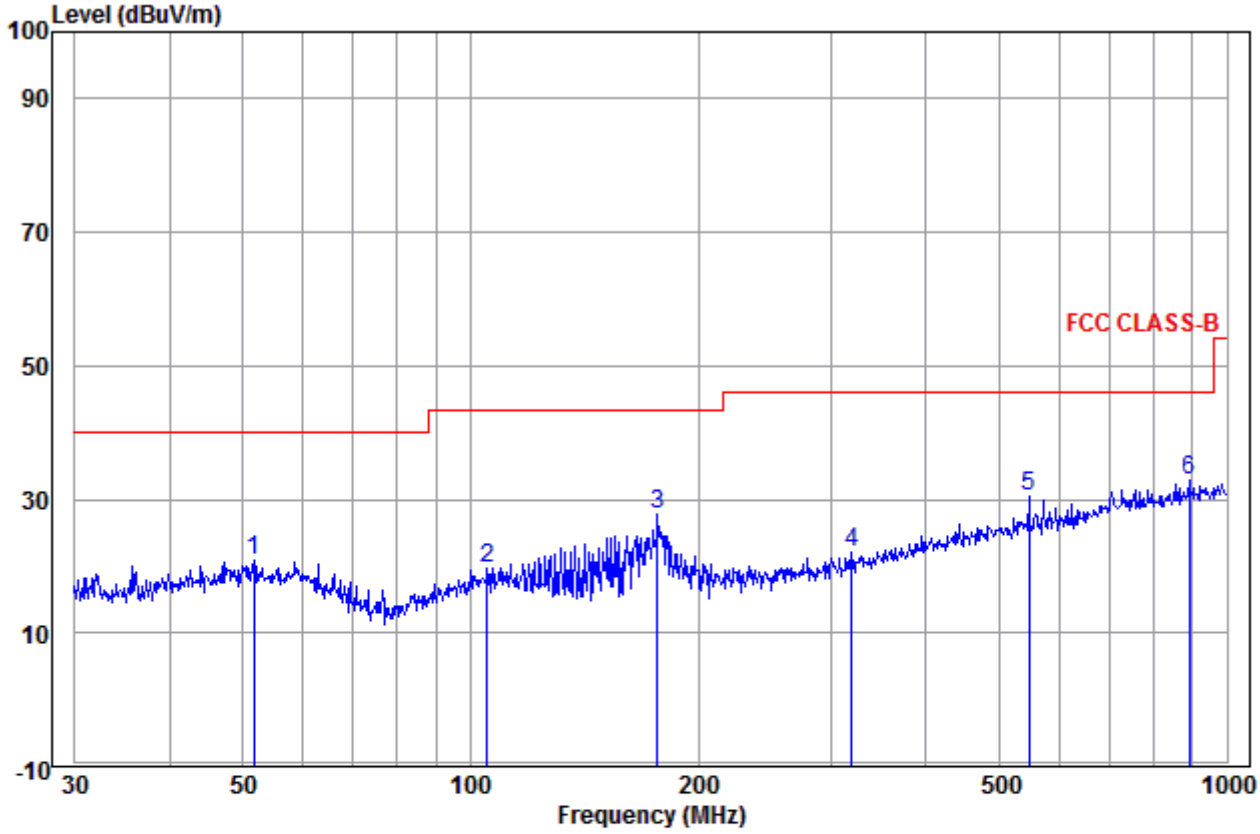
Radiated Emission below 1GHz

30MHz~1GHz (QP)		
Test mode:	Transmitting	Horizontal



	Freq	Ant Factor	Cable Loss	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	50.764	14.99	1.40	4.64	21.03	40.00	-18.97	
2	100.229	13.20	1.57	5.09	19.86	43.50	-23.64	
3	183.844	10.97	2.03	15.28	28.28	43.50	-15.22	
4	356.676	15.18	2.72	14.53	32.43	46.00	-13.57	
5	468.876	17.80	3.04	9.23	30.07	46.00	-15.93	
6 pp	854.025	22.04	4.19	11.48	37.71	46.00	-8.29	

Test mode:	Transmitting	Vertical



	Freq	Ant Factor	Cable Loss	Read Level	Level	Limit Line	Over Limit	Remark
	MHz	dB/m	dB	dBuV	dBuV/m	dBuV/m	dB	
1	51.662	14.87	1.41	4.69	20.97	40.00	-19.03	
2	105.272	13.31	1.57	4.80	19.68	43.50	-23.82	
3	176.888	10.46	1.94	15.34	27.74	43.50	-15.76	
4	318.817	14.09	2.51	5.54	22.14	46.00	-23.86	
5	547.098	18.60	3.21	8.79	30.60	46.00	-15.40	
6 pp	890.728	22.33	4.31	6.11	32.75	46.00	-13.25	

Transmitter Emission above 1GHz

Worse case mode:		GFSK(1-DH5)		Test channel:		Lowest	Remark: Peak		
Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Result	Antenna Polaxis
1340.089	30.54	2.67	44.19	48.00	37.02	74.00	-36.98	Pass	H
2129.789	31.99	3.60	43.69	47.99	39.89	74.00	-34.11	Pass	H
3747.656	32.98	5.48	44.62	49.49	43.33	74.00	-30.67	Pass	H
4804.000	34.69	5.11	44.60	46.33	41.53	74.00	-32.47	Pass	H
7206.000	36.42	6.66	44.77	50.34	48.65	74.00	-25.35	Pass	H
9608.000	37.88	7.73	45.58	42.77	42.80	74.00	-31.20	Pass	H
1367.659	30.60	2.70	44.16	49.40	38.54	74.00	-35.46	Pass	V
2118.973	31.97	3.57	43.67	48.18	40.05	74.00	-33.95	Pass	V
2957.654	33.53	5.54	44.66	49.81	44.22	74.00	-29.78	Pass	V
4804.000	34.69	5.11	44.60	46.57	41.77	74.00	-32.23	Pass	V
7206.000	36.42	6.66	44.77	50.48	48.79	74.00	-25.21	Pass	V
9608.000	37.88	7.73	45.58	43.13	43.16	74.00	-30.84	Pass	V

Worse case mode:		GFSK(1-DH5)		Test channel:		Middle	Remark: Peak		
Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Result	Antenna Polaxis
1498.912	30.87	2.83	44.00	47.76	37.46	74.00	-36.54	Pass	H
2108.213	31.95	3.54	43.66	47.26	39.09	74.00	-34.91	Pass	H
3333.545	33.31	5.55	44.66	49.08	43.28	74.00	-30.72	Pass	H
4882.000	34.86	5.08	44.60	45.76	41.10	74.00	-32.90	Pass	H
7323.000	36.43	6.70	44.81	52.14	50.46	74.00	-23.54	Pass	H
9764.000	38.05	7.60	45.55	41.54	41.64	74.00	-32.36	Pass	H
1251.079	30.35	2.57	44.31	47.51	36.12	74.00	-37.88	Pass	V
1732.967	31.29	3.03	43.75	47.97	38.54	74.00	-35.46	Pass	V
3249.760	33.38	5.57	44.67	49.08	43.36	74.00	-30.64	Pass	V
4882.000	34.85	5.08	44.60	45.08	40.41	74.00	-33.59	Pass	V
7323.000	36.43	6.77	44.87	51.83	50.16	74.00	-23.84	Pass	V
9764.000	38.05	7.60	45.55	42.02	42.12	74.00	-31.88	Pass	V

Worse case mode:		GFSK(1-DH5)		Test channel:		Highest	Remark: Peak		
Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Result	Antenna Polaxis
1222.743	30.28	2.54	44.35	47.70	36.17	74.00	-37.83	Pass	H
1832.785	31.45	3.11	43.65	48.96	39.87	74.00	-34.13	Pass	H
3225.037	33.40	5.57	44.67	49.21	43.51	74.00	-30.49	Pass	H
4960.000	35.02	5.05	44.60	44.91	40.38	74.00	-33.62	Pass	H
7440.000	36.45	6.88	44.97	51.45	49.81	74.00	-24.19	Pass	H
9920.000	38.22	7.47	45.52	43.70	43.87	74.00	-30.13	Pass	H
1457.523	30.79	2.79	44.05	48.84	38.37	74.00	-35.63	Pass	V
2113.586	31.96	3.56	43.66	47.85	39.71	74.00	-34.29	Pass	V
3200.502	33.42	5.58	44.68	48.67	42.99	74.00	-31.01	Pass	V
4960.000	35.02	5.05	44.60	44.89	40.36	74.00	-33.64	Pass	V
7440.000	36.45	6.88	44.97	52.04	50.40	74.00	-23.60	Pass	V
9920.000	38.22	7.47	45.52	44.06	44.23	74.00	-29.77	Pass	V

Worse case mode:		π/4DQPSK(2-DH5)		Test channel:		Lowest	Remark: Peak		
Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Result	Antenna Polaxis
1491.300	30.85	2.82	44.01	47.62	37.28	74.00	-36.72	Pass	H
2124.374	31.98	3.59	43.68	48.29	40.18	74.00	-33.82	Pass	H
3200.502	33.42	5.58	44.68	49.68	44.00	74.00	-30.00	Pass	H
4804.000	34.69	5.11	44.60	46.52	41.72	74.00	-32.28	Pass	H
7206.000	36.42	6.66	44.77	43.55	41.86	74.00	-32.14	Pass	H
9608.000	37.88	7.73	45.58	43.59	43.62	74.00	-30.38	Pass	H
1533.648	30.93	2.86	43.96	47.19	37.02	74.00	-36.98	Pass	V
2118.973	31.97	3.57	43.67	47.14	39.01	74.00	-34.99	Pass	V
3200.502	33.42	5.58	44.68	49.41	43.73	74.00	-30.27	Pass	V
4804.000	34.69	5.11	44.60	45.03	40.23	74.00	-33.77	Pass	V
7206.000	36.42	6.66	44.77	43.56	41.87	74.00	-32.13	Pass	V
9608.000	37.88	7.73	45.58	43.84	43.87	74.00	-30.13	Pass	V

Worse case mode:		π/4DQPSK(2-DH5)		Test channel:		Middle	Remark: Peak		
Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Result	Antenna Polaxis
1537.557	30.94	2.86	43.96	47.81	37.65	74.00	-36.35	Pass	H
2135.217	32.01	3.62	43.69	48.06	40.00	74.00	-34.00	Pass	H
3258.042	33.37	5.57	44.67	51.19	45.46	74.00	-28.54	Pass	H
4882.000	34.85	5.08	44.60	45.27	40.60	74.00	-33.40	Pass	H
7323.000	36.43	6.77	44.87	44.21	42.54	74.00	-31.46	Pass	H
9764.000	38.05	7.60	45.55	42.97	43.07	74.00	-30.93	Pass	H
1514.252	30.90	2.84	43.98	47.71	37.47	74.00	-36.53	Pass	V
2065.715	31.85	3.42	43.60	46.68	38.35	74.00	-35.65	Pass	V
3258.042	33.37	5.57	44.67	48.75	43.02	74.00	-30.98	Pass	V
4882.000	34.85	5.08	44.60	45.49	40.82	74.00	-33.18	Pass	V
7323.000	36.43	6.77	44.87	45.03	43.36	74.00	-30.64	Pass	V
9764.000	38.05	7.60	45.55	41.82	41.92	74.00	-32.08	Pass	V

Worse case mode:		π/4DQPSK(2-DH5)		Test channel:		Highest	Remark: Peak		
Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Result	Antenna Polaxis
1533.648	30.93	2.86	43.96	47.99	37.82	74.00	-36.18	Pass	H
2076.259	31.88	3.45	43.61	47.89	39.61	74.00	-34.39	Pass	H
3308.185	33.33	5.56	44.67	50.83	45.05	74.00	-28.95	Pass	H
4960.000	35.02	5.05	44.60	45.83	41.30	74.00	-32.70	Pass	H
7440.000	36.45	6.88	44.97	43.35	41.71	74.00	-32.29	Pass	H
9920.000	38.22	7.47	45.52	44.08	44.25	74.00	-29.75	Pass	H
1545.405	30.96	2.87	43.95	49.03	38.91	74.00	-35.09	Pass	V
2076.259	31.88	3.45	43.61	47.89	39.61	74.00	-34.39	Pass	V
3308.185	33.33	5.56	44.67	50.83	45.05	74.00	-28.95	Pass	V
4960.000	35.02	5.05	44.60	45.83	41.30	74.00	-32.70	Pass	V
7440.000	36.45	6.88	44.97	43.83	42.19	74.00	-31.81	Pass	V
9920.000	38.22	7.47	45.52	44.08	44.25	74.00	-29.75	Pass	V

Worse case mode:		8DPSK(3-DH5)		Test channel:		Lowest	Remark: Peak		
Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Result	Antenna Polaxis
1601.472	31.06	2.92	43.88	47.56	37.66	74.00	-36.34	Pass	H
2124.374	31.98	3.59	43.68	47.14	39.03	74.00	-34.97	Pass	H
3200.502	33.42	5.58	44.68	51.46	45.78	74.00	-28.22	Pass	H
4804.000	34.69	5.11	44.60	45.32	40.52	74.00	-33.48	Pass	H
4809.499	34.70	5.11	44.60	45.31	40.52	74.00	-33.48	Pass	H
9608.000	37.88	7.73	45.58	42.80	42.83	74.00	-31.17	Pass	H
1569.189	31.00	2.89	43.92	48.04	38.01	74.00	-35.99	Pass	V
2076.259	31.88	3.45	43.61	47.72	39.44	74.00	-34.56	Pass	V
3057.166	33.55	5.61	44.69	49.02	43.49	74.00	-30.51	Pass	V
4804.000	34.69	5.11	44.60	45.14	40.34	74.00	-33.66	Pass	V
7206.000	36.42	6.66	44.77	43.70	42.01	74.00	-31.99	Pass	V
9608.000	37.88	7.73	45.58	43.44	43.47	74.00	-30.53	Pass	V

Worse case mode:		8DPSK(3-DH5)		Test channel:		Middle	Remark: Peak		
Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Result	Antenna Polaxis
1353.804	30.57	2.68	44.18	47.81	36.88	74.00	-37.12	Pass	H
2086.856	31.90	3.48	43.63	47.78	39.53	74.00	-34.47	Pass	H
3258.042	33.37	5.57	44.67	51.54	45.81	74.00	-28.19	Pass	H
4882.000	34.85	5.08	44.60	45.05	40.38	74.00	-33.62	Pass	H
7323.000	36.43	6.77	44.87	44.31	42.64	74.00	-31.36	Pass	H
9764.000	38.05	7.60	45.55	42.25	42.35	74.00	-31.65	Pass	H
1510.402	30.89	2.84	43.99	48.19	37.93	74.00	-36.07	Pass	V
2086.856	31.90	3.48	43.63	47.34	39.09	74.00	-34.91	Pass	V
3258.042	33.37	5.57	44.67	49.36	43.63	74.00	-30.37	Pass	V
4882.000	34.85	5.08	44.60	44.55	39.88	74.00	-34.12	Pass	V
7323.000	36.43	6.77	44.87	44.80	43.13	74.00	-30.87	Pass	V
9764.000	38.05	7.60	45.55	42.82	42.92	74.00	-31.08	Pass	V

Worse case mode:		8DPSK(3-DH5)		Test channel:		Highest	Remark: Peak		
Frequency (MHz)	Antenna Factor (dB/m)	Cable Loss (dB)	Preamp Gain (dB)	Read Level (dBμV)	Level (dBμV/m)	Limit Line (dBμV/m)	Over Limit (dB)	Result	Antenna Polaxis
1545.405	30.96	2.87	43.95	47.14	37.02	74.00	-36.98	Pass	H
2024.074	31.76	3.30	43.54	47.40	38.92	74.00	-35.08	Pass	H
3308.185	33.33	5.56	44.67	50.42	44.64	74.00	-29.36	Pass	H
4960.000	35.02	5.05	44.60	45.16	40.63	74.00	-33.37	Pass	H
7440.000	36.45	6.88	44.97	44.33	42.69	74.00	-31.31	Pass	H
9920.000	38.22	7.47	45.52	43.93	44.10	74.00	-29.90	Pass	H
1457.523	30.79	2.79	44.05	47.76	37.29	74.00	-36.71	Pass	V
2108.213	31.95	3.54	43.66	47.92	39.75	74.00	-34.25	Pass	V
3308.185	33.33	5.56	44.67	49.07	43.29	74.00	-30.71	Pass	V
4960.000	35.02	5.05	44.60	45.01	40.48	74.00	-33.52	Pass	V
7440.000	36.45	6.88	44.97	43.49	41.85	74.00	-32.15	Pass	V
9920.000	38.22	7.47	45.52	44.10	44.27	74.00	-29.73	Pass	V

Note:

1) Pre-scan transmitting mode with all kind of modulation and all kind of data type, find the 1-DH5 of data type is the worse case of GFSK modulation type, the 2-DH5 of data type is the worse case of π/4DQPSK modulation type, the 3-DH5 of data type is the worse case of 8DPSKmodulation type in transmitter mode.

2) The field strength is calculated by adding the Antenna Factor, Cable Factor & Preamplifier. The basic equation with a sample calculation is as follows:

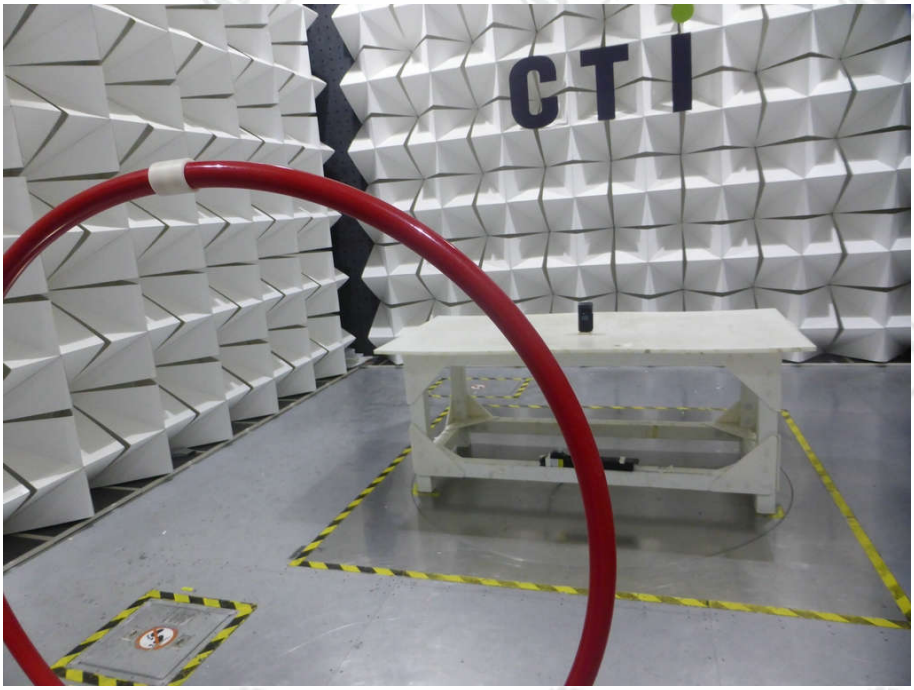
Final Test Level =Receiver Reading -Correct Factor

Correct Factor = Preamplifier Factor– Antenna Factor–Cable Factor

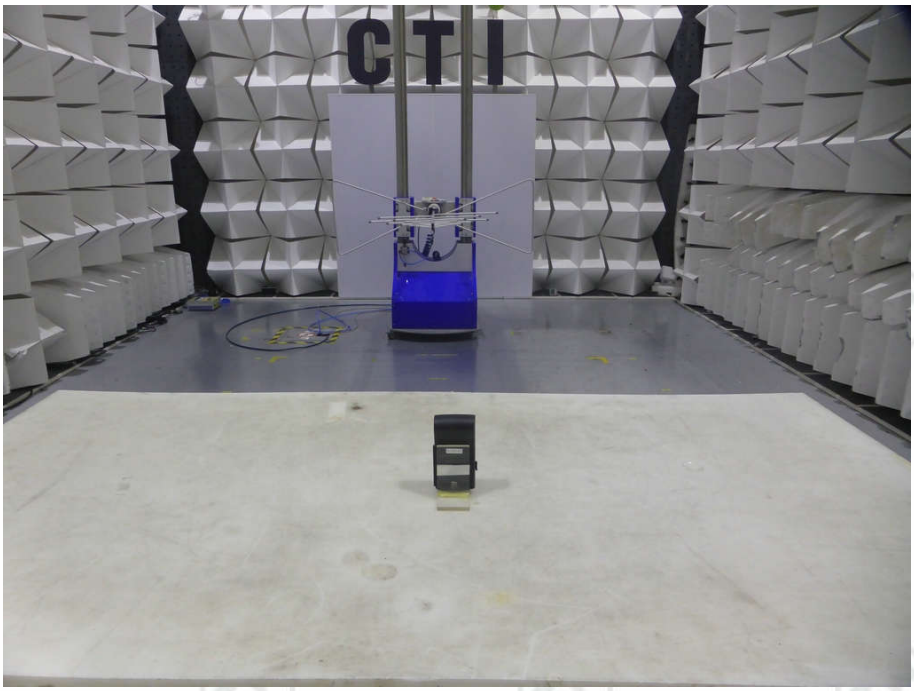
3) Scan from 9kHz to 25GHz, the disturbance above 13GHz and below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.

PHOTOGRAPHS OF TEST SETUP

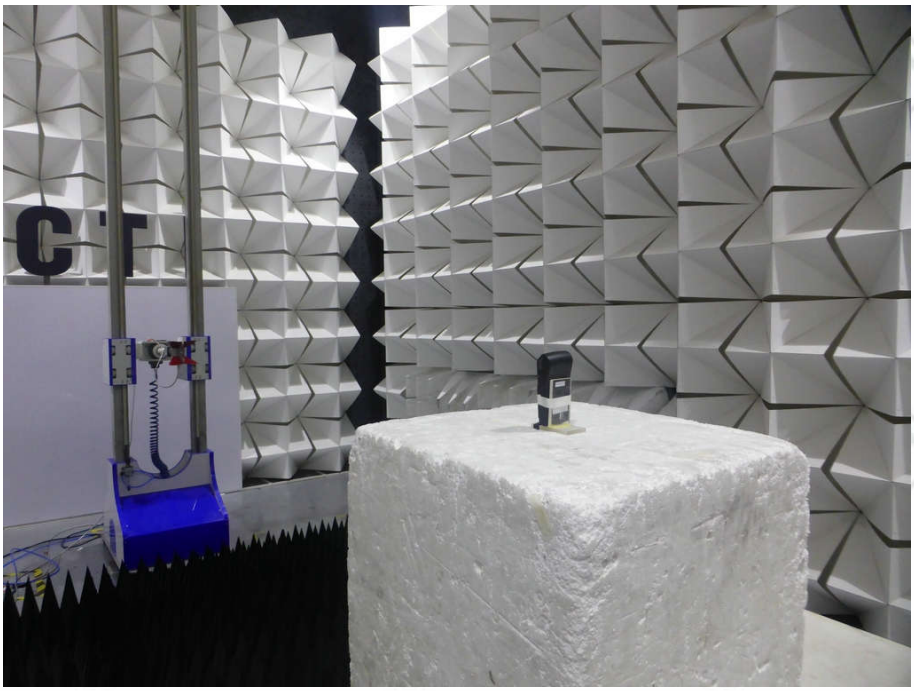
Test model No.: WisePad 2 Plus



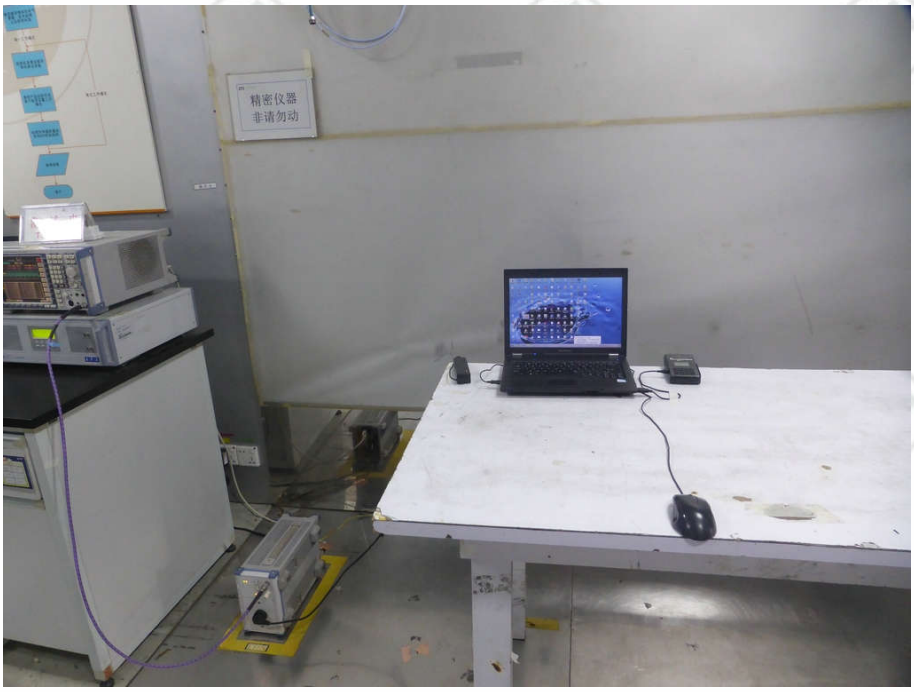
Radiated spurious emission Test Setup-1(Below 30MHz)



Radiated spurious emission Test Setup-2(30MHz-1GHz)



Radiated spurious emission Test Setup-3(Above 1GHz)



Conducted Emissions Test Setup

PHOTOGRAPHS OF EUT Constructional Details

Refer to Report No.EED32J00012502 for EUT external and internal photos.

*** End of Report ***

The test report is effective only with both signature and specialized stamp, The result(s) shown in this report refer only to the sample(s) tested. Without written approval of CTI, this report can't be reproduced except in full.