

TEST REPORT

Product : WisePad 2 Plus
Trade mark : BBPOS
Model/Type reference : WisePad 2 Plus
Serial Number : N/A
Report Number : EED32J00012506
FCC ID : 2AB7X-WISEPAD2PLUS
Date of Issue : Mar. 20, 2017
Test Standards : 47 CFR Part 2(2015)
47 CFR Part 22 subpart H(2015)
47 CFR Part 24 subpart E(2015)
Test result : PASS

Prepared for:

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Date:

Mar. 20, 2017

Check No.: 2457559993



2 Version

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

3 Test Summary

GPRS 850			
Test Item	Test Requirement	Test method	Result
Conducted output power	Part 2.1046(a)/Part 22.913(a)	TIA-603-D-2010 &KDB 971168 D01v02r02	PASS
Effective Radiated Power of Transmitter(ERP)	Part 2.1046(a)/Part 22.913(a)	TIA-603-D-2010 &KDB 971168 D01v02r02	PASS
Field strength of spurious radiation	Part 2.1053/ Part 2.1057/ Part 22.917(a)(b)	TIA-603-D-2010 &KDB 971168 D01v02r02	PASS
GPRS 1900			
Test Item	Test Requirement	Test method	Result
Conducted output power	Part 2.1046(a) /Part 24.232(c)	TIA-603-D-2010&KDB 971168 D01v02r02	PASS
Effective Radiated Power of Transmitter(EIRP)	Part 2.1046(a) / Part 24.232(c)	TIA-603-D-2010 &KDB 971168 D01v02r02	PASS
Field strength of spurious radiation	Part 2.1053 /Part 2.1057 / Part 24.238(a)(b)	TIA-603-D-2010 &KDB 971168 D01v02r02	PASS

Remark:

The tested sample and the sample information are provided by the client.

Model No.: WisePad 2 Plus, WisePad 2

This test report (Ref. No.: EED32J00012506) is only valid with the original test report (Ref. No.: EED32I00208216).

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 Conducted output power, Effective Radiated Power of Transmitter(ERP) and Field strength of spurious radiation were fully retested on model WisePad 2 Plus and shown the data in this report, other tests please refer to original report EED32I00208216.

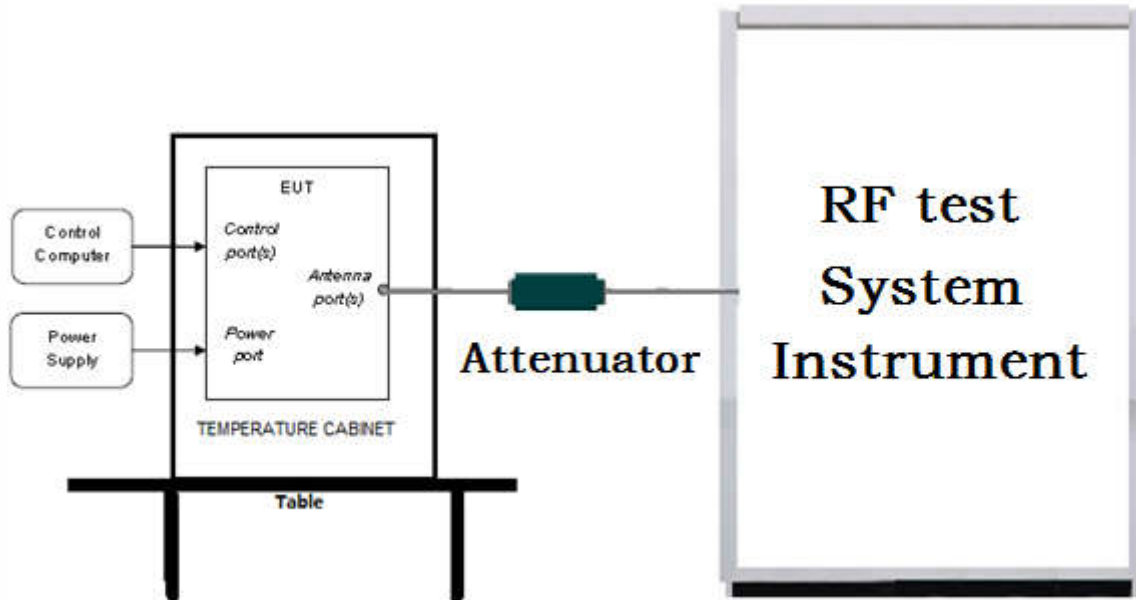
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5 Test Requirement

5.1 Test setup

5.1.1 For Conducted test setup



5.1.2 For Radiated Emissions test setup

Radiated Emissions setup:

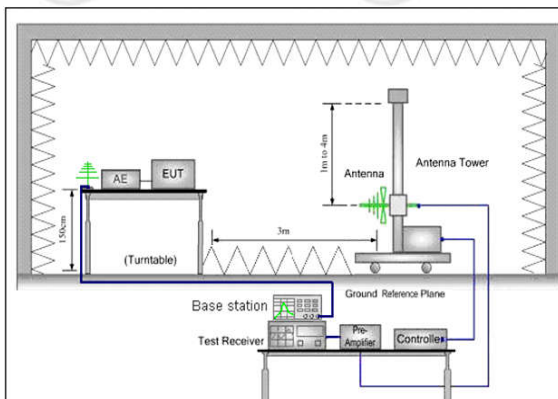


Figure 1.30MHz to 1GHz

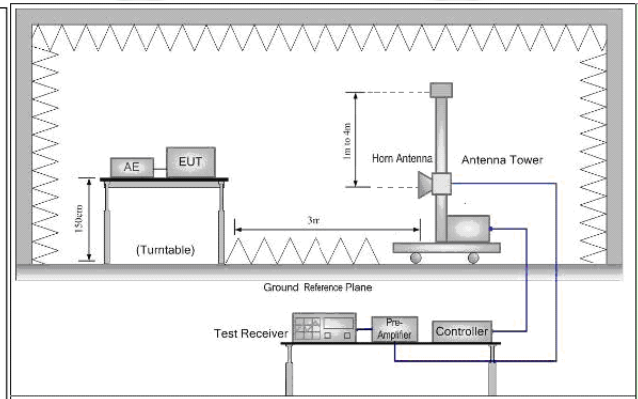


Figure 2. above 1GHz

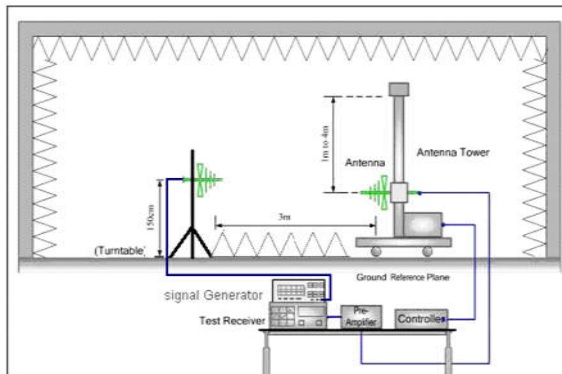


Figure 1. 30MHz to 1GHz

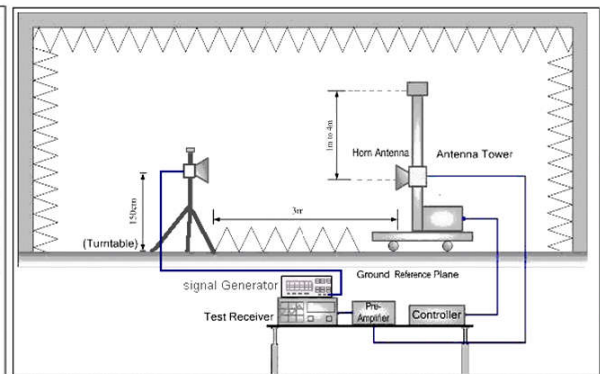


Figure 2. above 1GHz

5.2 Test Environment

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

5.3 Test Condition

Test channel:

Test Mode	Tx	RF Channel		
		Low(L)	Middle(cm)	High(H)
GPRS850	Tx (824 MHz ~849 MHz)	Channel 128	Channel 190	Channel 251
		824.2MHz	836.6 MHz	848.8 MHz
	Rx (869 MHz ~894 MHz)	Channel 128	Channel 190	Channel 251
		869.2 MHz	881.6 MHz	893.8 MHz
GPRS1900	Tx (1850 MHz ~1910 MHz)	Channel 512	Channel 661	Channel 810
		1850.2MHz	1880.0 MHz	1909.8 MHz
	Rx (1930 MHz ~1990 MHz)	Channel 512	Channel 661	Channel 810
		1930.2 MHz	1960.0 MHz	1989.8 MHz

Test mode:

Pre-scan under all rate at lowest middle and highest channel ,find the transmitter power as below:
 Conducted transmitter power measurement result.

band	GPRS850			GPRS1900		
Channel	128	190	251	512	661	810
Frequency(MHz)	824.2MHz	836.6MHz	848.8MHz	1850.2MHz	1880MHz	1909.8MHz
GPRS Class 8	32.20dBm	32.71dBm	32.69dBm	29.18dBm	28.99dBm	29.07dBm

Pre-scan all mode and data rates and positions,find worse case mode are chosen to the report ,the worse case mode as below:

band	Radiated	Conducted
GPRS 850	1) GPRS 8 Link	1) GPRS 8 Link
GPRS 1900	1) GPRS 8 Link	1) GPRS 8 Link

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

Frequency Band:	GPRS 850: Tx:824.20 -848.80MHz; Rx: 869.20 – 893.80MHz GPRS 1900: Tx:1850.20 – 1909.80MHz; Rx:1930.20 – 1989.80MHz
Modulation Type:	GPRS Mode with GMSK Modulation
Sample Type:	Portable production
Antenna gain:	GPRS850: -3dBi; GPRS1900: 0.5dBi
Antenna Type:	Integral
Test voltage:	DC 3.7V

6.4 Description of Support Units

The EUT has been tested independently.

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 x 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

Communication RF test system					
Equipment	Manufacturer	Mode No.	Serial Number	Cal. Date (mm-dd-yyyy)	Cal. Due date (mm-dd-yyyy)
Spectrum Analyzer	Agilent	E4440A	MY46185649	12-16-2016	12-15-2017
Signal Generator	Agilent	E4438C	MY45095744	04-01-2016	03-31-2017
Communication test set	Agilent	E5515C	GB47050534	04-01-2016	03-31-2017
Signal Generator	Keysight	E8257D	MY53401106	04-01-2016	03-31-2017
Communication test set	R&S	CMW500	152394	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
band rejection filter	Sinoscite	FL5CX01CA09C L12-0395-001	---	01-11-2017	01-10-2018
band rejection filter	Sinoscite	FL5CX01CA08C L12-0393-001	---	01-11-2017	01-10-2018
band rejection filter	Sinoscite	FL5CX02CA04C L12-0396-002	---	01-11-2017	01-10-2018
band rejection filter	Sinoscite	FL5CX02CA03C L12-0394-001	---	01-11-2017	01-10-2018
DC Power	Keysight	E3642A	MY54426112	04-08-2016	04-07-2017
DC Power	Keysight	E3642A	MY54426115	04-01-2016	03-31-2017
PC-2	Lenovo	R4960d	---	04-01-2016	03-31-2017
PC-3	Lenovo	R4960d	---	04-01-2016	03-31-2017
RF control unit	JS Tonscend	JS0806-1	158060004	04-01-2016	03-31-2017
DC power Box	JS Tonscend	JS0806-4	158060007	04-01-2016	03-31-2017
LTE Automatic test software	JS Tonscend	JS1120-1	---	04-01-2016	03-31-2017
WCDMA Automatic test software	JS Tonscend	JS1120-3	---	04-01-2016	03-31-2017
GSM Automatic test software	JS Tonscend	JS1120-3	---	04-01-2016	03-31-2017

Radiated Spurious Emission & Radiated Emission					
Equipment	Manufacturer	Mode 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 Preampfier	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	maturio	NCD/070/10711 112	---	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	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
band rejection filter	Sinoscite	FL5CX01CA09C L12-0395-001	---	01-11-2017	01-10-2018
band rejection filter	Sinoscite	FL5CX01CA08C L12-0393-001	---	01-11-2017	01-10-2018
band rejection filter	Sinoscite	FL5CX02CA04C L12-0396-002	---	01-11-2017	01-10-2018
band rejection filter	Sinoscite	FL5CX02CA03C L12-0394-001	---	01-11-2017	01-10-2018

8 Radio Technical Requirements Specification

Reference documents for testing:

No.	Identity	Document Title
1	PART 22 (2015)	PART 22 – PUBLIC MOBILE SERVICES Subpart H – Cellular Radiotelephone Service
2	PART 24 (2015)	PART 24 – PERSONAL COMMUNICATIONS SERVICES Subpart E – Broadband PCS
3	PART 2 (2015)	Frequency allocations and radio treaty matters; general rules and regulations
4	TIA-603-C-2004	Land Mobile FM or PM -Communications Equipment -Measurement and Performance Standards
5	KDB971168 D01	KDB971168 D01 Power Meas License Digital Systems v02r02

Test Results List:

Test Requirement	Test method	Test item	Verdict	Note
Part 2.1046(a)/Part 22.913(a)/ part 24.232(c)	TIA-603-D&KDB 971168 D01v02r02	Conducted output power	PASS	Appendix A)
Part 2.1053/ Part 2.1057/ Part 22.917(a)(b)/ Part 24.238(a)(b)	TIA-603-D &KDB 971168 D01v02r02	Field strength of spurious radiation	PASS	Appendix C)
Part 2.1046(a)/Part 22.913(a)/ Part 24.232(c)	TIA-603-D &KDB 971168 D01v02r02	Effective Radiated Power of Transmitter(ERP)	PASS	Appendix B)

Test Mode	Test Modes description
GPRS/TM2	GPRS,GMSK modulation

Appendix A) RF Power Output

Test Requirement:	Part 2.1046(a)		
Test Method:	TIA-603-D-2010 Clause 2.2.1		
Test Setup:	Refer to section 5 for details		
Limit:	Mode	GSM 850/WCDMA/HSDPA /HSUPA 850 Band V	GSM 1900/WCDMA/HSDPA /HSUPA 1900 Band II
	Frequency	824 – 849MHz	1850 – 1910MHz
	Limit	38.45dBm (ERP)	33.01dBm (EIRP)
Measurement Procedure:	The transmitter output was connected to a calibrated coaxial cable, attenuator and power meter, the other end of which was connected to a Base Station Simulator. The Base Station Simulator was set to force the EUT to its maximum power setting. The power output at the transmitter antenna port was determined by adding the value of the cable insertion loss to the power reading. The tests were performed at three frequencies (low channel, middle channel and high channel) and on the highest power levels, which can be setup on the transmitters.		
Instruments Used:	Refer to section 7 for details		
Test Results:	Pass		

Test Data:

Test Band	Test Mode	Test Channel	Measured(dbm)	Limit(dbm)	Verdict
GSM850	GSM/TM2	LCH	32.20	38.5	PASS
		MCH	32.71	38.5	PASS
		HCH	32.69	38.5	PASS
Test Band	Test Mode	Test Channel	Measured(dbm)	Limit(dbm)	Verdict
GSM1900	GSM/TM2	LCH	29.18	33	PASS
		MCH	28.99	33	PASS
		HCH	29.07	33	PASS

Appendix B) Effective Radiated Power of Transmitter (ERP/EIRP)

Receiver Setup:	<table border="1"> <thead> <tr> <th>Frequency</th> <th>Detector</th> <th>RBW</th> <th>VBW</th> <th>Remark</th> </tr> </thead> <tbody> <tr> <td>30MHz-1GHz</td> <td>peak</td> <td>120kHz</td> <td>300kHz</td> <td>Peak</td> </tr> <tr> <td>Above 1GHz</td> <td>Peak</td> <td>1MHz</td> <td>3MHz</td> <td>Peak</td> </tr> </tbody> </table>	Frequency	Detector	RBW	VBW	Remark	30MHz-1GHz	peak	120kHz	300kHz	Peak	Above 1GHz	Peak	1MHz	3MHz	Peak
Frequency	Detector	RBW	VBW	Remark												
30MHz-1GHz	peak	120kHz	300kHz	Peak												
Above 1GHz	Peak	1MHz	3MHz	Peak												
Measurement Procedure:	<p>Below 1GHz test procedure as below:</p> <ol style="list-style-type: none"> The EUT was powered ON and placed on a 1.5m high table in the chamber.,mount the equipment with the manufacturer specified antenna in a vertical orientation on a manufacturer.The antenna of the transmitter was extended to its maximum length. The disturbance of the transmitter was maximized on the test receiver display by raising and lowering from 1m to 4m the receive antenna and by rotating through 360° the turntable. After the fundamental emission was maximized, a field strength measurement was made. Steps 1) and 2) were performed with the EUT and the receive antenna in both vertical and horizontal polarization. The transmitter was then removed and replaced with another antenna. The center of the antenna was approximately at the same location as the center of the transmitter. A signal at the disturbance was fed to the substitution antenna by means of a non-radiating cable. With both the substitution and the receive antennas horizontally polarized, the receive antenna was raised and lowered to obtain a maximum reading at the test receiver. The level of the signal generator was adjusted until the measured field strength level in step 2) is obtained for this set of conditions. The output power into the substitution antenna was then measured. Steps 5) and 6) were repeated with both antennas polarization. Calculate power in dBm by the following formula: $\text{ERP(dBm)} = \text{Pg(dBm)} - \text{cable loss (dB)} + \text{antenna gain (dBd)}$ where: Pg is the generator output power into the substitution antenna. <p>Above 1GHz test procedure as below:</p> <ol style="list-style-type: none"> Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber ; up to 18GHz a measurement distance of 3 meters is used, Above 18GHz the distance is 1 meter. Calculate power in dBm by the following formula: $\text{EIRP(dBm)} = \text{Pg(dBm)} - \text{cable loss (dB)} + \text{antenna gain (dBi)}$ $\text{EIRP} = \text{ERP} + 2.15\text{dB}$ where: Pg is the generator output power into the substitution antenna. Test the EUT in the lowest channel, the middle channel the Highest channel The radiation measurements are performed in X, Y, Z axis positioning for EUT operation mode,And found the X axis positioning which it is worse case. Repeat above procedures until all frequencies measured was complete. 															
Limit:	<table border="1"> <thead> <tr> <th>Mode</th> <th>GSM 850</th> <th>GSM 1900</th> </tr> </thead> <tbody> <tr> <td>Frequency</td> <td>824 – 849MHz</td> <td>1850 – 1910MHz</td> </tr> <tr> <td>Limit</td> <td>38.45dBm (7W)</td> <td>33.01dBm (2W)</td> </tr> </tbody> </table>	Mode	GSM 850	GSM 1900	Frequency	824 – 849MHz	1850 – 1910MHz	Limit	38.45dBm (7W)	33.01dBm (2W)						
Mode	GSM 850	GSM 1900														
Frequency	824 – 849MHz	1850 – 1910MHz														
Limit	38.45dBm (7W)	33.01dBm (2W)														

Measurement Data

GPRS 850							
Channel/fc (MHz)	Height (cm)	Azimuth (deg)	ERP (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
128/824.2	151	360	19.63	38.45	-18.82	Pass	H
	150	121	22.08	38.45	-16.37	Pass	V
190/836.6	151	13	19.76	38.45	-18.69	Pass	H
	150	200	21.23	38.45	-17.22	Pass	V
251/848.8	153	360	18.59	38.45	-19.86	Pass	H
	151	78	23.01	38.45	-15.44	Pass	V

GPRS 1900							
Channel/fc (MHz)	Height (cm)	Azimuth (deg)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
512/1850.2	151	360	17.67	33.01	-15.34	Pass	H
	153	51	21.12	33.01	-11.89	Pass	V
661/1880.0	150	225	19.79	33.01	-13.22	Pass	H
	151	20	21.98	33.01	-11.03	Pass	V
810/1909.8	150	147	18.64	33.01	-14.37	Pass	H
	153	306	21.54	33.01	-11.47	Pass	V

Appendix C) Field strength of spurious radiation

Receiver Setup:	<table border="1"> <thead> <tr> <th>Frequency</th> <th>Detector</th> <th>RBW</th> <th>VBW</th> <th>Remark</th> </tr> </thead> <tbody> <tr> <td>0.009MHz-30MHz</td> <td>Peak</td> <td>10kHz</td> <td>30kHz</td> <td>Peak</td> </tr> <tr> <td>30MHz-1GHz</td> <td>Peak</td> <td>120kHz</td> <td>300kHz</td> <td>Peak</td> </tr> <tr> <td>Above 1GHz</td> <td>Peak</td> <td>1MHz</td> <td>3MHz</td> <td>Peak</td> </tr> </tbody> </table>	Frequency	Detector	RBW	VBW	Remark	0.009MHz-30MHz	Peak	10kHz	30kHz	Peak	30MHz-1GHz	Peak	120kHz	300kHz	Peak	Above 1GHz	Peak	1MHz	3MHz	Peak
Frequency	Detector	RBW	VBW	Remark																	
0.009MHz-30MHz	Peak	10kHz	30kHz	Peak																	
30MHz-1GHz	Peak	120kHz	300kHz	Peak																	
Above 1GHz	Peak	1MHz	3MHz	Peak																	
Measurement Procedure:	<p>Below 1GHz test procedure as below:</p> <ol style="list-style-type: none"> The EUT was powered ON and placed on a 1.5m high table in the chamber. ,mount the equipment with the manufacturer specified antenna in a vertical orientation on a manufacturer.The antenna of the transmitter was extended to its maximum length. The disturbance of the transmitter was maximized on the test receiver display by raising and lowering from 1m to 4m (for the test frequency of below 30MHz, the antenna was tuned to heights 1 meter) the receive antenna and by rotating through 360° the turntable. After the fundamental emission was maximized, a field strength measurement was made(the radiation measurements are performed in X, Y, Z axis positioning be lower 30 MHz.) Steps 1) and 2) were performed with the EUT and the receive antenna in both vertical and horizontal polarization. The transmitter was then removed and replaced with another antenna. The center of the antenna was approximately at the same location as the center of the transmitter. A signal at the disturbance was fed to the substitution antenna by means of a non-radiating cable. With both the substitution and the receive antennas horizontally polarized, the receive antenna was raised and lowered to obtain a maximum reading at the test receiver. The level of the signal generator was adjusted until the measured field strength level in step 2) is obtained for this set of conditions. The output power into the substitution antenna was then measured. Steps 5) and 6) were repeated with both antennas polarized and EUT . Calculate power in dBm by the following formula: $ERP(dBm) = Pg(dBm) - \text{cable loss (dB)} + \text{antenna gain (dBd)}$ where: Pg is the generator output power into the substitution antenna. <p>Above 1GHz test procedure as below:</p> <ol style="list-style-type: none"> Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber ; up to 18GHz a measurement distance of 3 meters is used, Above 18GHz the distance is 1 meter. Calculate power in dBm by the following formula: $EIRP(dBm) = Pg(dBm) - \text{cable loss (dB)} + \text{antenna gain (dBi)}$ $EIRP=ERP+2.15dB$ where: Pg is the generator output power into the substitution antenna. Test the EUT in the lowest channel, the middle channel the Highest channel The radiation measurements are performed in X, Y, Z axis positioning for EUT operation mode,And found the X axis positioning which it is worse case. Repeat above procedures until all frequencies measured was complete. 																				
Limit:	Attenuated at least $43+10\log(P)$																				

Test data:
Above 1GHz

GPRS 850 128channel/824.2MHz(lowest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1597.401	153	52	-52.32	-13.00	-39.32	Pass	H
2500.251	150	100	-52.81	-13.00	-39.81	Pass	H
3766.785	151	97	-55.27	-13.00	-42.27	Pass	H
5379.504	150	256	-54.25	-13.00	-41.25	Pass	H
6921.301	155	57	-50.56	-13.00	-37.56	Pass	H
10833.220	150	10	-48.13	-13.00	-35.13	Pass	H
1593.340	145	337	-49.14	-13.00	-36.14	Pass	V
2065.715	150	345	-54.40	-13.00	-41.40	Pass	V
3096.325	150	249	-56.12	-13.00	-43.12	Pass	V
4223.950	153	360	-55.46	-13.00	-42.46	Pass	V
5791.646	154	151	-51.57	-13.00	-38.57	Pass	V
8042.903	151	33	-49.95	-13.00	-36.95	Pass	V

GPRS 850 190channel/836.6MHz(middle channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1365.835	151	78	-55.48	-13.00	-42.48	Pass	H
1593.380	155	57	-47.08	-13.00	-34.08	Pass	H
2498.247	150	10	-51.40	-13.00	-38.40	Pass	H
3524.036	153	215	-54.19	-13.00	-41.19	Pass	H
4710.867	151	321	-53.50	-13.00	-40.50	Pass	H
5799.177	150	89	-50.79	-13.00	-37.79	Pass	H
1158.266	150	249	-56.12	-13.00	-43.12	Pass	V
1923.203	153	360	-54.14	-13.00	-41.14	Pass	V
2489.310	154	151	-52.41	-13.00	-39.41	Pass	V
3199.044	159	100	-54.17	-13.00	-41.17	Pass	V
4710.867	155	57	-53.59	-13.00	-40.59	Pass	V
5799.177	150	10	-50.79	-13.00	-37.79	Pass	V

GPRS 850 251channel/848.8MHz(highest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1597.401	152	168	-53.37	-13.00	-40.37	Pass	H
2493.895	153	94	-52.13	-13.00	-39.13	Pass	H
3662.775	150	30	-55.62	-13.00	-42.62	Pass	H
5393.215	150	179	-53.25	-13.00	-40.25	Pass	H
7547.013	151	100	-50.87	-13.00	-37.87	Pass	H
10348.050	150	25	-49.14	-13.00	-36.14	Pass	H
1597.401	153	172	-55.41	-13.00	-42.41	Pass	V
1998.475	151	200	-53.28	-13.00	-40.28	Pass	V
2493.895	152	252	-53.24	-13.00	-40.24	Pass	V
3757.208	150	360	-54.95	-13.00	-41.95	Pass	V
5151.676	147	30	-52.82	-13.00	-39.82	Pass	V
6363.645	144	265	-50.76	-13.00	-37.76	Pass	V

GPRS 1900 512channel/1850.2MHz(lowest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1593.340	152	36	-54.52	-13.00	-41.52	Pass	H
2493.895	148	358	-53.20	-13.00	-40.20	Pass	H
3766.785	150	179	-54.56	-13.00	-41.56	Pass	H
5204.399	151	100	-53.28	-13.00	-40.28	Pass	H
6816.394	150	25	-51.36	-13.00	-38.36	Pass	H
7900.858	152	360	-50.59	-13.00	-37.59	Pass	H
1593.340	150	18	-48.74	-13.00	-35.74	Pass	V
2135.217	149	180	-54.78	-13.00	-41.78	Pass	V
3241.498	151	297	-57.32	-13.00	-44.32	Pass	V
5217.664	152	168	-52.27	-13.00	-39.27	Pass	V
6938.942	153	94	-50.83	-13.00	-37.83	Pass	V
8187.502	150	30	-51.48	-13.00	-38.48	Pass	V

GPRS 1900 661channel/1880MHz(middle channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1597.401	150	36	-53.24	-13.00	-40.24	Pass	H
2157.069	149	180	-54.90	-13.00	-41.90	Pass	H
2493.895	151	360	-52.62	-13.00	-39.62	Pass	H
3776.385	152	168	-55.61	-13.00	-42.61	Pass	H
5462.297	153	94	-53.67	-13.00	-40.67	Pass	H
6799.064	150	79	-50.59	-13.00	-37.59	Pass	H
1593.340	153	172	-51.82	-13.00	-38.82	Pass	V
2076.259	151	200	-54.77	-13.00	-41.77	Pass	V
2630.837	152	252	-55.72	-13.00	-42.72	Pass	V
3738.129	150	360	-53.94	-13.00	-40.94	Pass	V
5311.469	147	30	-52.82	-13.00	-39.82	Pass	V
6903.705	144	265	-50.36	-13.00	-37.36	Pass	V

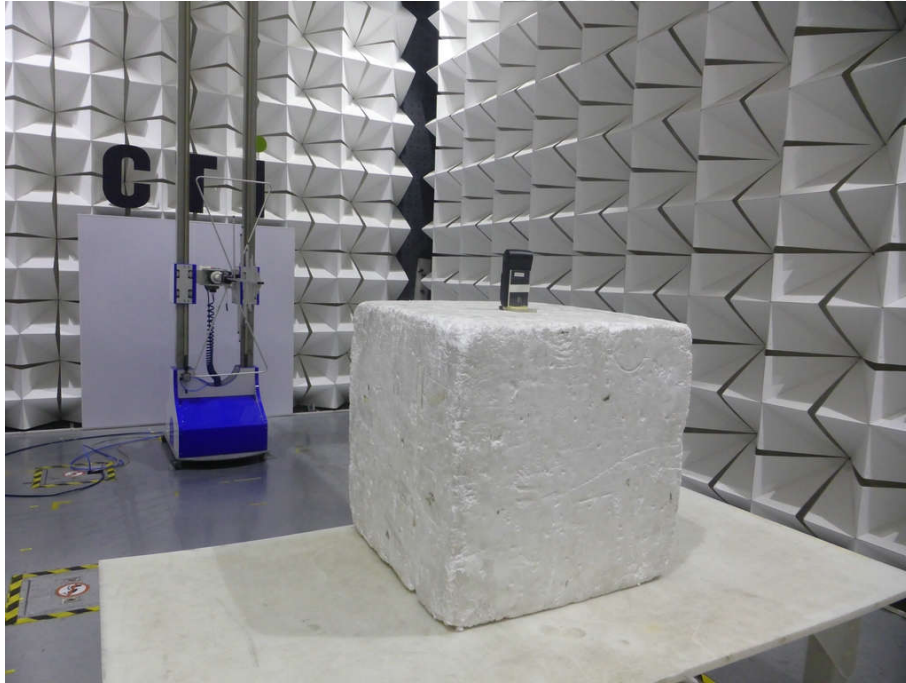
GPRS 1900 810channel/1909.8MHz(highest channel)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
1597.401	153	172	-53.86	-13.00	-40.86	Pass	H
2076.259	151	200	-52.67	-13.00	-39.67	Pass	H
2487.555	152	252	-52.72	-13.00	-39.72	Pass	H
3757.208	150	360	-55.09	-13.00	-42.09	Pass	H
5204.399	152	168	-52.54	-13.00	-39.54	Pass	H
6938.942	153	94	-50.65	-13.00	-37.65	Pass	H
1597.401	150	79	-54.57	-13.00	-41.57	Pass	V
2118.973	151	126	-54.06	-13.00	-41.06	Pass	V
2493.895	150	25	-53.61	-13.00	-40.61	Pass	V
3805.334	152	360	-55.07	-13.00	-42.07	Pass	V
5297.966	148	236	-53.62	-13.00	-40.62	Pass	V
6868.647	151	68	-50.82	-13.00	-37.82	Pass	V

Note:

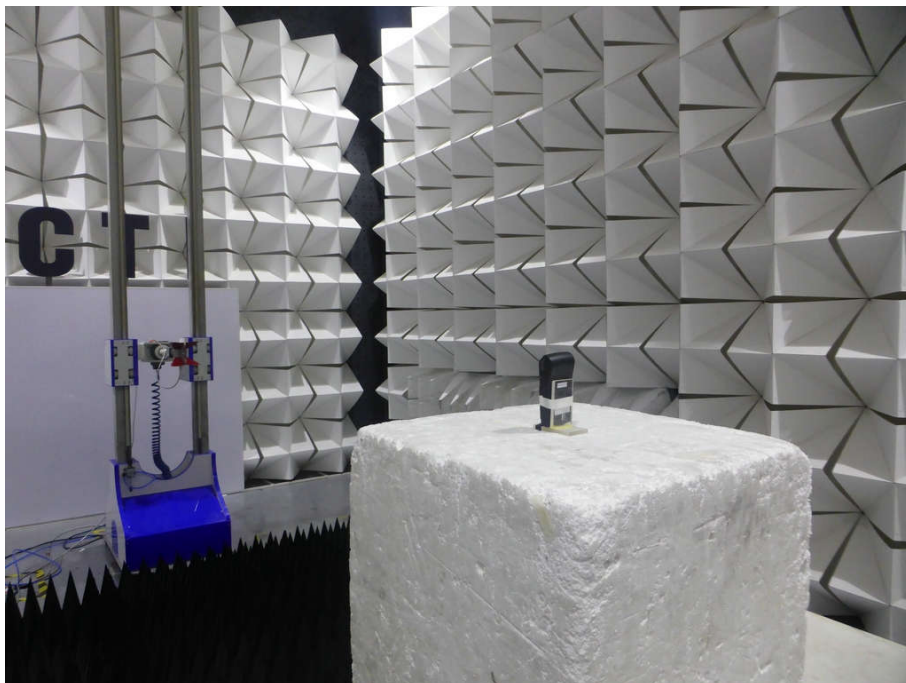
1) Scan from 9kHz to 25GHz, the disturbance above 13GHz and below 1GHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed. The amplitude of spurious emissions from the radiator which are attenuated more than 20dB below the limit need not be reported.

PHOTOGRAPHS OF TEST SETUP

Test model No.: WisePad 2 Plus



Radiated spurious emission Test Setup-1(Below 1GHz)



Radiated spurious emission Test Setup-2(Above 1GHz)

PHOTOGRAPHS OF EUT Constructional Details

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

*** End of Report ***

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