Product Service

EMC TEST REPORT

Report Number	:	**68.760.10.174.02**	Date of Issue:	10 December 2010

Model	:	**SMB-A1002**
Product Type	:	Tablet PC
Applicant	:	Wanlida Group Co., Ltd.
Address	:	No. 618 Jiahe Road, Wanlida Industry Zone,
		Xiamen Fujian, China 361006
Production Facility	:	Wanlida Group Co., Ltd.
Address	:	Wanlida Industry Zone, Nanjing, Fujian, China 363601

Test Result	:	■ **Positive** ☐ **Negative**
Total pages including Appendices	:	25

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6 floor, H Hall, Century Craftwork Culture Square, No. 4001, Fuqiang Road, Futian District, Shenzhen 518048, P. R. China, Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

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Jiangsu TÜV Product Service Ltd. – Shenzhen Branch
6 floor, H Hall, Century Craftwork Culture Square, No. 4001, Fuqiang Road, Futian District, Shenzhen 518048, P. R. China, Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

2 Details about the Test Laboratory

Details about the Test Laboratory

Company name: Jiangsu TÜV Product Service Ltd. – Shenzhen Branch
6th Floor, H Hall,
Century Craftwork Culture Square,
No. 4001, Fuqiang Road,
Futian District 518048,
Shenzhen,P.R.C.

Telephone: 86 755 8828 6998
Fax: 86 755 8828 5299

Company name: China Shenzhen Academy of Metrology and Quality Inspection,
Metrology and Quality Inspection building,
Central Section of LongZhu Road,
Nan Shan,
Shenzhen,

Telephone: 86 755 2694 1599
Fax: 86 755 2694 1545

3 Description of the Equipment Under Test

Description of the Equipment Under Test

Product:	Tablet PC
Model no.:	SMB-A1002
Brand Name:	MALATA
Options and accessories:	NIL
Rating:	DC 12V, 2A Test with adaptor: Input: AC 100-240V, 50/60Hz, 1A Output: DC 12V, 2A
Antenna:	Integral antenna inside enclosure of EUT, NOT accessible by end user
RF Transmission Frequency:	2412-2462MHz
Description of the EUT:	NIL

Auxiliary Equipment and Cable Used during Test:

DESCRIPTION	MANUFACTURER	MODEL NO.(SHIELD)	S/N(LENGTH)
SD card	Kingston	SD4/4GBFE	----
USB flash drive	Kingston	USB/4GB	---
LCD monitor	Lenovo	9227-AE1	V1TDB38
Keyboard	Lenovo	SK-8825 (L)	02553778
Mouse	Lenovo	MO28UOL	4418011108
PC host	Lenovo	9439	L3BDF2K
Headphone	Ouyun	OH601	----
VGA cable	Lenovo	Shield	140cm
AC Power cable	Lenovo	Unshield	180cm

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4 Summary of Test Standards

Test Standards	
Part 15 Subpart B, Oct. 1, 2009	PART 15 - RADIO FREQUENCY DEVICES Subpart B - Unintentional Radiators

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5 Summary of Test Results

Technical Requirements				
FCC Part 15 Subpart B				
Test Condition	Pages	Test Result		
		Pass	Fail	N/A
15.107 Conducted Emission AC Power Port	9	☒	☐	☐
15.109 Spurious radiated emissions	15	☒	☐	☐

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6 General Remarks

Remarks

This submittal(s) (test report) is intended for the Class 2 permissive change of Tablet PC, Model No.: SMB-A1002, FCC ID: SMFSMBA1002.

The product SMB-A1002 alternative 2 kinds of components as listed:

Items	Model	Manufacturer
Touch Pannel	1013V04	CANDO
Touch Pannel	3FA16-A1CC47	Sintek Photronic Corp.
Touch Pannel	1013F04	CANDO
LCD Pannel	AU101DP03V1	Wanlida Group Co., Ltd.
LCD Pannel	B101AW06	AUO

All the configurations of the product were tested and only the worst test results are listed in the report.

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SUMMARY:

All tests according to the regulations cited on page 5 were

■ - Performed

☐ - **Not** Performed

The Equipment Under Test

■ - **Fulfills** the general approval requirements.

☐ - **Does not** fulfill the general approval requirements.

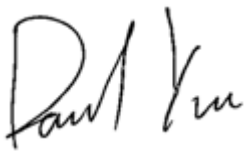
Sample Received Date: 5 December 2010

Testing Start Date: 6 December 2010

Testing End Date: 8 December 2010

- Jiangsu TÜV Product Service Ltd. – Shenzhen Branch -

Reviewed by:



Paul Yu
Assistant EMC Manager

Prepared by:

Ken Li
Senior EMC Project Engineer

Jiangsu TÜV Product Service Ltd. – Shenzhen Branch
6 floor, H Hall, Century Craftwork Culture Square, No. 4001, Fuqiang Road, Futian District, Shenzhen 518048, P. R. China, Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

7 Technical Requirement

7.1 Conducted Emission

Test Method

1 The EUT was placed on a table, which is 0.8m above ground plane
2 The power line of the EUT is connected to the AC mains through a Artificial Mains Network (A.M.N.).
3 Maximum procedure was performed to ensure EUT compliance
4 A EMI test receiver is used to test the emissions from both sides of AC line

Limit

Frequency MHz	QP Limit dBµV	AV Limit dBµV
0.150-0.500	66-56*	56-46*
0.500-5	56	46
5-30	60	50

Decreasing linearly with logarithm of the frequency

Remark: The worst test results are listed in report, which the EUT were test with LCD Panel B101AW06 and Touch Panel 1013V04.

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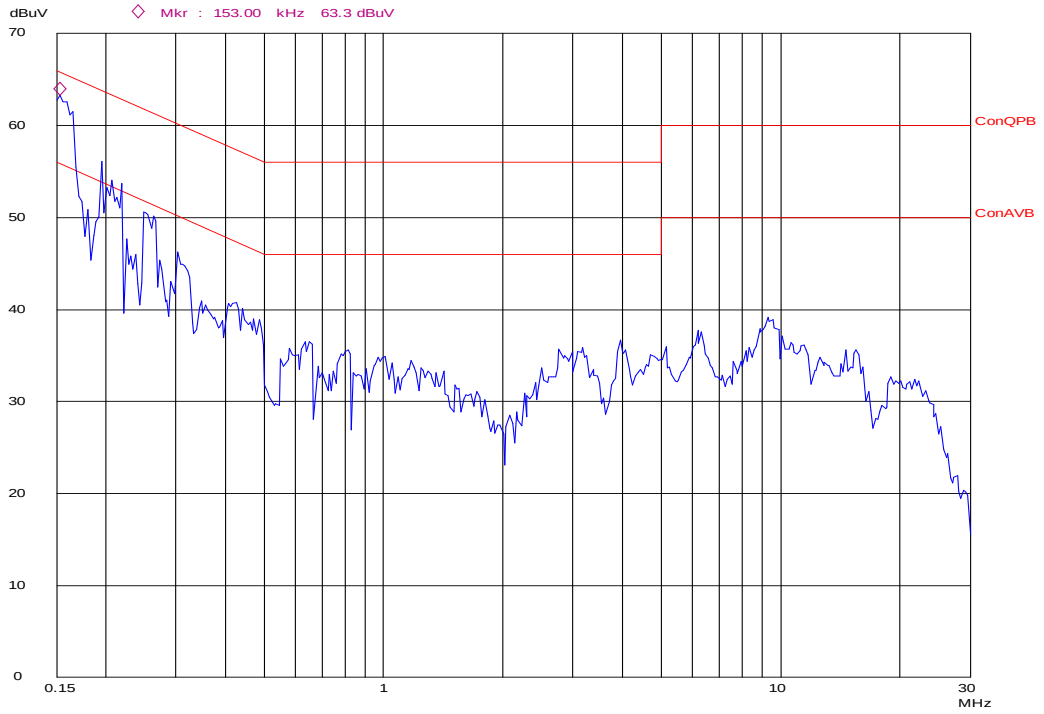
6 floor, H Hall, Century Craftwork Culture Square, No. 4001, Fuqiang Road, Futian District, Shenzhen 518048, P. R. China, Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

Conducted Emission

Conducted Disturbance

EUT: M/N:SMB-A1002
Op Cond: READ MEMORY
Test Spec: L
Comment: AC 120V/60Hz



Frequency MHz	Cable Loss dB	Reading dBµV	QP Test result dBµV	QP Limit dBµV	Margin dB
0.153	9.8	50.6	60.4	65.8	5.4
0.207	9.8	40.7	50.5	63.3	12.8
0.249	9.8	36.8	46.6	61.8	15.2

Frequency MHz	Cable Loss dB	Reading dBµV	AV Test result dBµV	AV Limit dBµV	Margin dB
0.153	9.8	34.4	44.2	55.8	11.6
0.207	9.8	26.7	36.5	53.3	16.8
0.249	9.8	21.6	31.4	51.8	20.4

Remark: Test Result= Reading + Cable Loss

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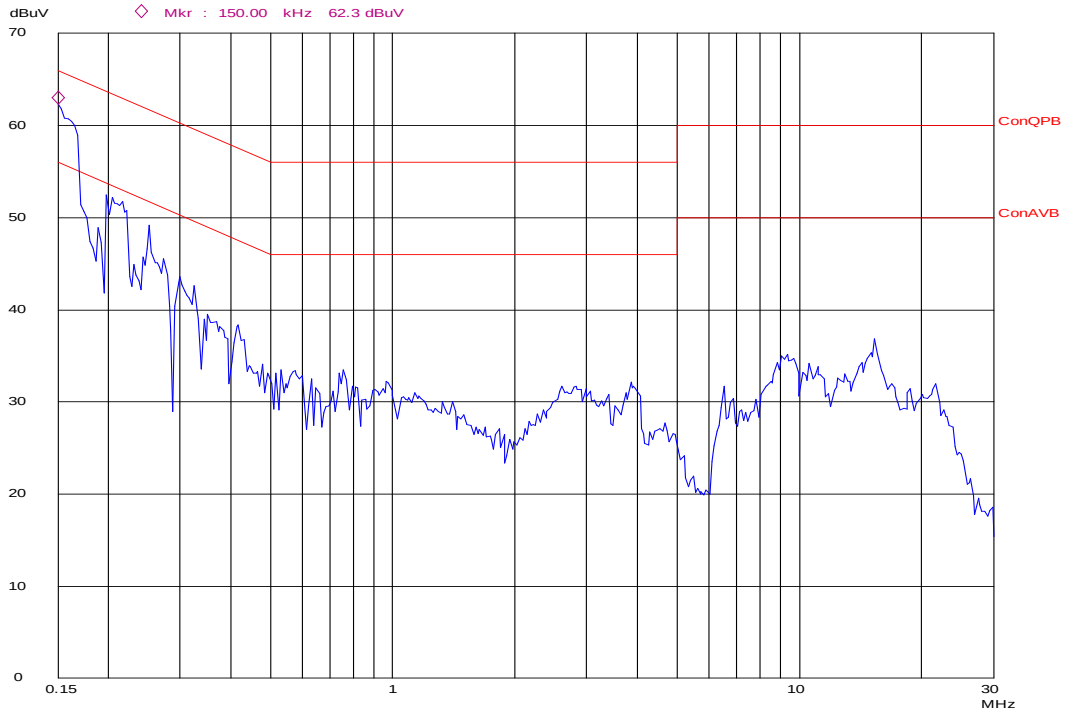
Conducted Emission

Conducted Disturbance

EUT: M/N:SMB-A1002
Op Cond: READ MEMORY
Test Spec: N
Comment: AC 120V/60Hz



Frequency MHz	Cable Loss dB	Reading dBµV	QP Test result dBµV	QP Limit dBµV	Margin dB
0.150	9.8	49.6	59.4	66	6.6
0.162	9.8	47.8	57.6	65.4	7.8
0.198	9.8	39.7	49.5	63.7	14.2

Frequency MHz	Cable Loss dB	Reading dBµV	AV Test result dBµV	AV Limit dBµV	Margin dB
0.150	9.8	31.8	41.6	56	14.4
0.162	9.8	29.9	39.7	55.4	15.7
0.198	9.8	22.3	32.1	53.7	21.6

Remark: Test Result= Reading + Cable Loss

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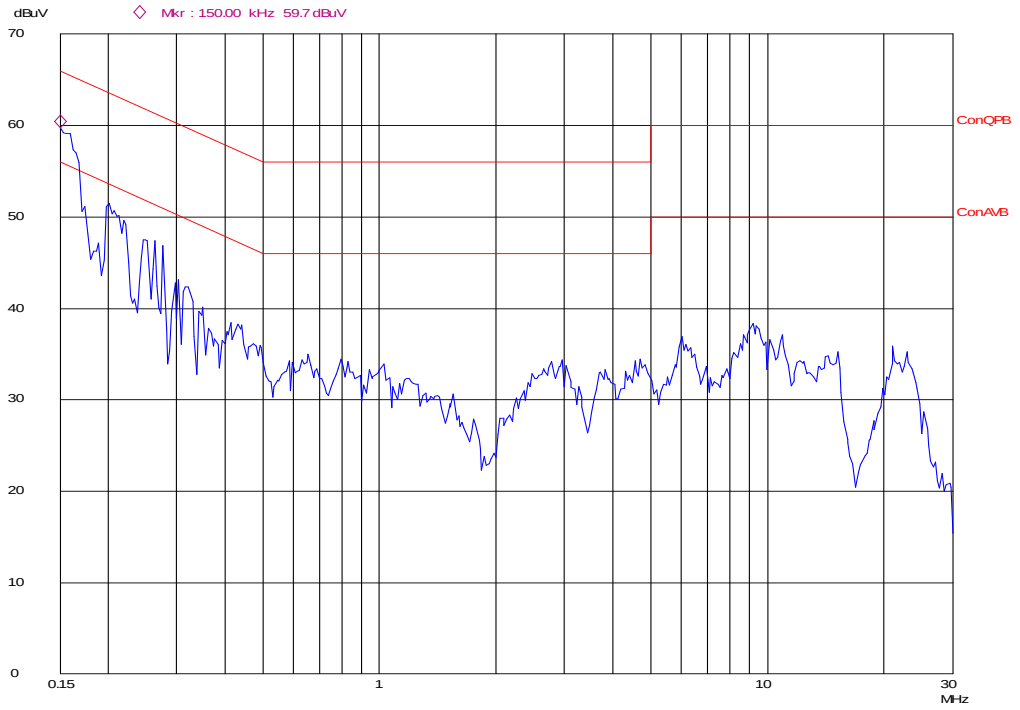
Conducted Emission

Conducted Disturbance

EUT:	MN:SMB-A1002
Op Cond:	Connect to PC
Test Spec:	L
Comment:	AC 120V/60Hz



Frequency MHz	Cable Loss dB	Reading dBµV	QP Test result dBµV	QP Limit dBµV	Margin dB
0.150	9.8	46.8	56.6	66	9.4
0.201	9.8	37.8	47.6	63.6	16
0.249	9.8	33.7	43.5	61.8	18.3

Frequency MHz	Cable Loss dB	Reading dBµV	AV Test result dBµV	AV Limit dBµV	Margin dB
0.150	9.8	29.1	38.9	56	17.1
0.201	9.8	23.5	33.3	53.6	20.3
0.249	9.8	19.3	29.1	51.8	22.7

Remark: Test Result= Reading + Cable Loss

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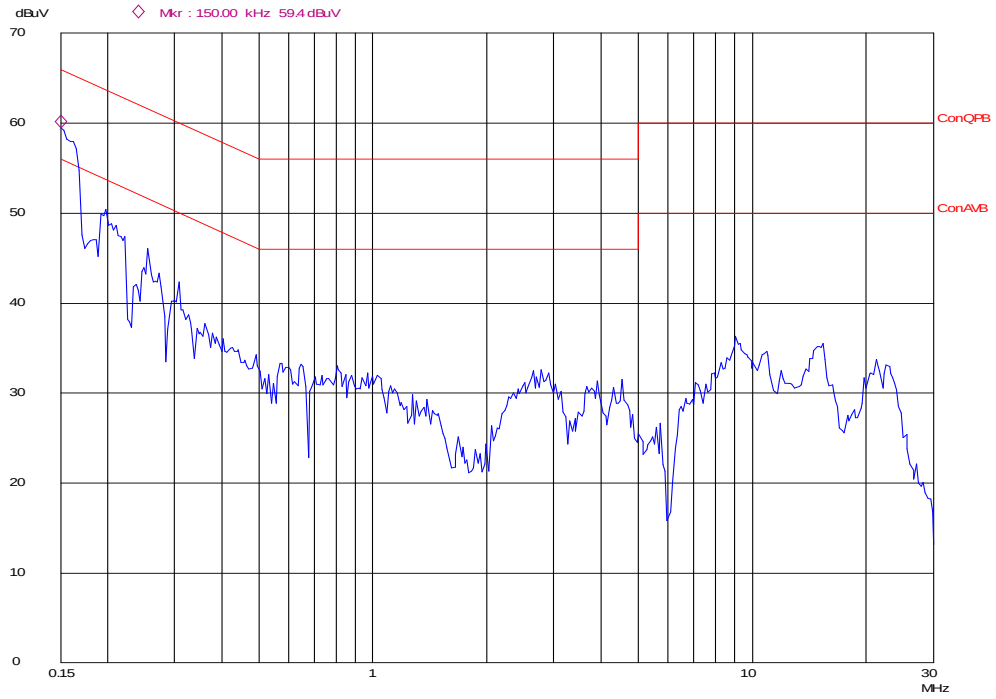
Conducted Emission

Conducted Disturbance

EUT:	MN:SMB-A1002
Op Cond:	Connect to PC
Test Spec:	N
Comment:	AC 120V/60Hz



Frequency MHz	Cable Loss dB	Reading dBµV	QP Test result dBµV	QP Limit dBµV	Margin dB
0.150	9.8	46.6	56.4	66	9.6
0.198	9.8	36.9	46.7	63.7	17
0.255	9.8	30.9	40.7	61.6	20.9

Frequency MHz	Cable Loss dB	Reading dBµV	AV Test result dBµV	AV Limit dBµV	Margin dB
0.150	9.8	29.1	38.9	56	17.1
0.198	9.8	20.5	30.3	53.7	23.4
0.255	9.8	18.9	28.7	51.6	22.9

Remark: Test Result= Reading + Cable Loss

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6 floor, H Hall, Century Craftwork Culture Square, No. 4001, Fuqiang Road, Futian District, Shenzhen 518048, P. R. China, Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

Test Equipment List

Conducted Emission Test

DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	CAL DUE DATE
EMI Test Receiver	Rohde & Schwarz	ESCS30	100003	Sep 21 2011
AMN	Rohde & Schwarz	ESH3-Z5	100229	Sep 21 2011
AMN	Rohde & Schwarz	ENV216	100042	Sep 21 2011

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7.2 Radiated emissions

Test Method

1 The EUT is placed on a turntable, which is 0.8m above ground plane.
2 The turntable shall be rotated for 360 degrees to determine the position of maximum emission level
3 EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
4 Maximum procedure was performed on the six highest emissions to ensure EUT compliance.
5 Each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.

Limit

Frequency MHz	Field Strength uV/m	Field Strength dBµV/m	Detector
30-88	100	40	QP
88-216	150	43.5	QP
216-960	200	46	QP
960-1000	500	54	QP
Above 1000	500	54	AV
Above 1000	5000	74	PK

Remark: The worst test results are listed in report, which the EUT were test with LCD Panel B101AW06 and Touch Panel 1013V04.

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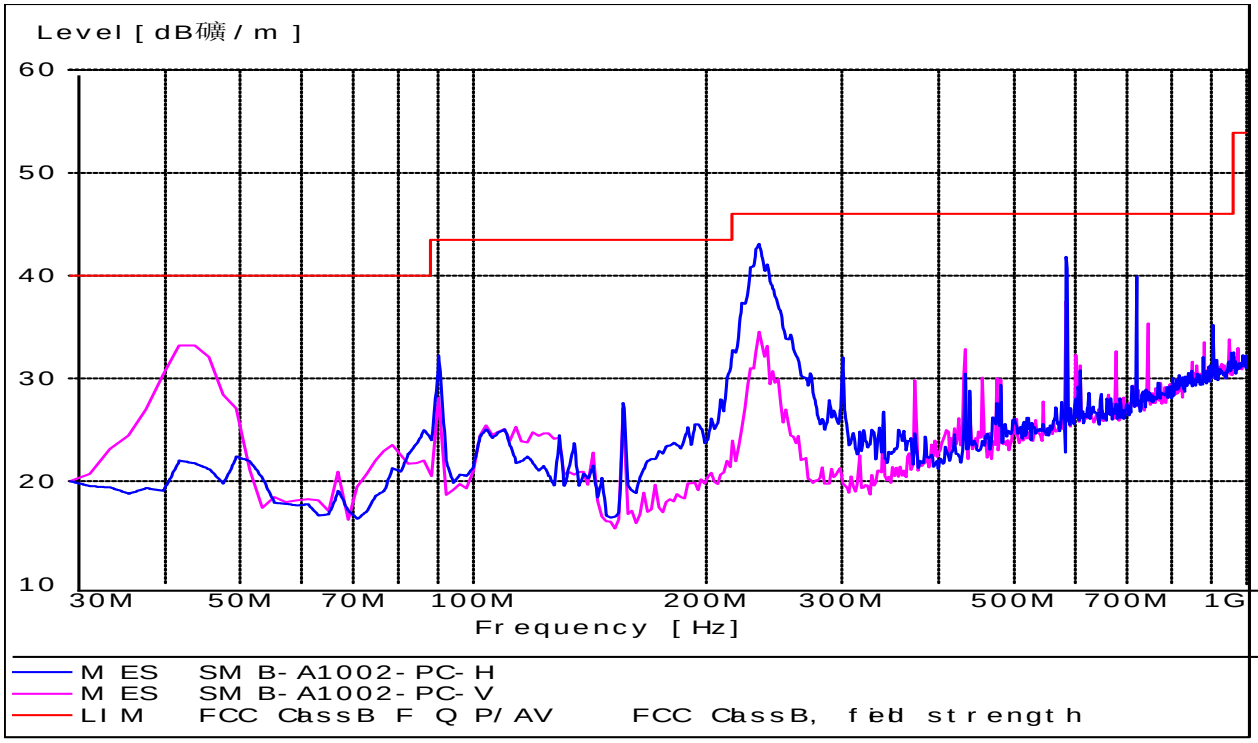
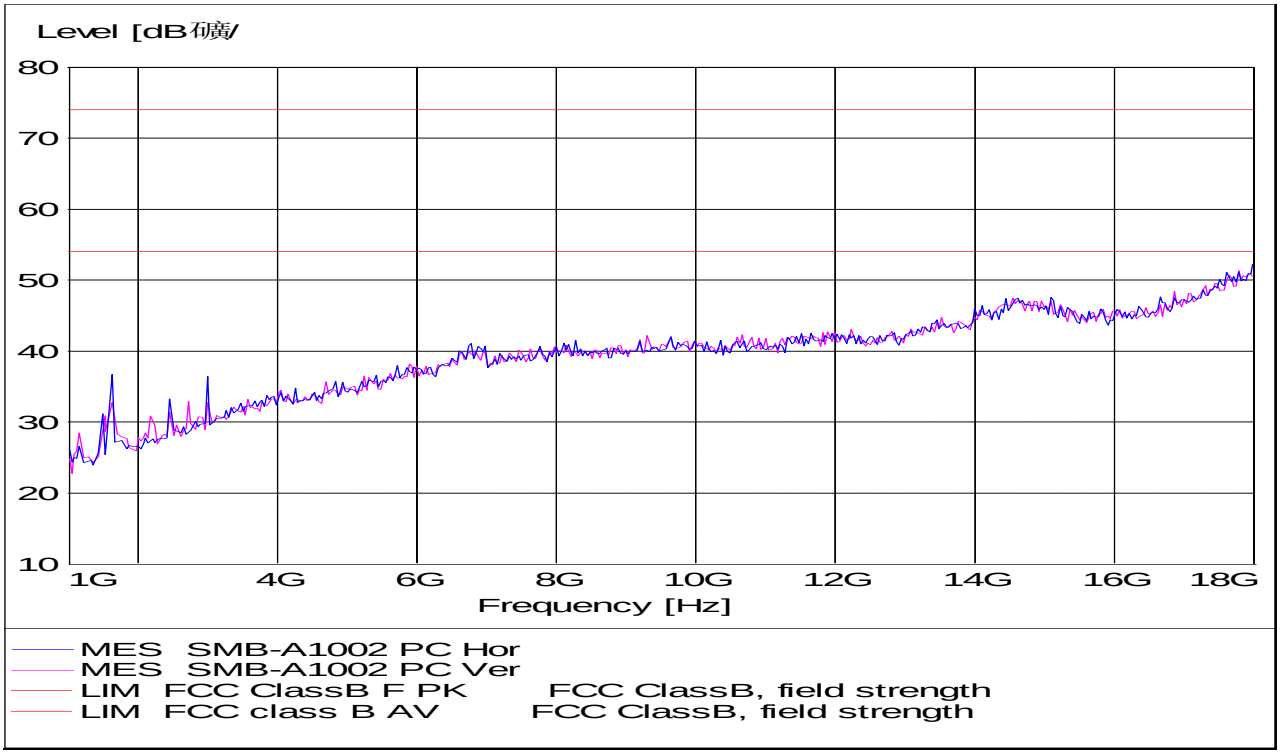
Radiated Emission

Connect to PC mode test result:





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6 floor, H Hall, Century Craftwork Culture Square, No. 4001, Fuqiang Road, Futian District, Shenzhen 518048, P. R. China, Tel. +86 755 8828 6998, Fax: +86 755 8828 5299

Radiated Emission

Connect to PC mode test result

Frequency MHz	Cable Loss dB	Antenna Factor dB/m	Reading dBuV	Emission Level dBuV/m	Polarization	Limit dBµV/m	Detector	Result
42.664	1.2	11.7	18.3	31.2	Vertical	40.0	QP	Pass
234.108	2.6	11.5	18.3	32.3	Vertical	46.0	QP	Pass
584.008	3.9	18.6	14.0	36.5	Vertical	46.0	QP	Pass
235.222	2.7	12.0	27.5	42.1	Horizontal	46.0	QP	Pass
584.174	3.9	18.6	16.6	39.1	Horizontal	46.0	QP	Pass
1671.774	4.8	27.2	10.2	32.2	Horizontal	74.0	PK	Pass
1671.774	4.8	27.2	6.1	38.1	Horizontal	54.0	AV	Pass

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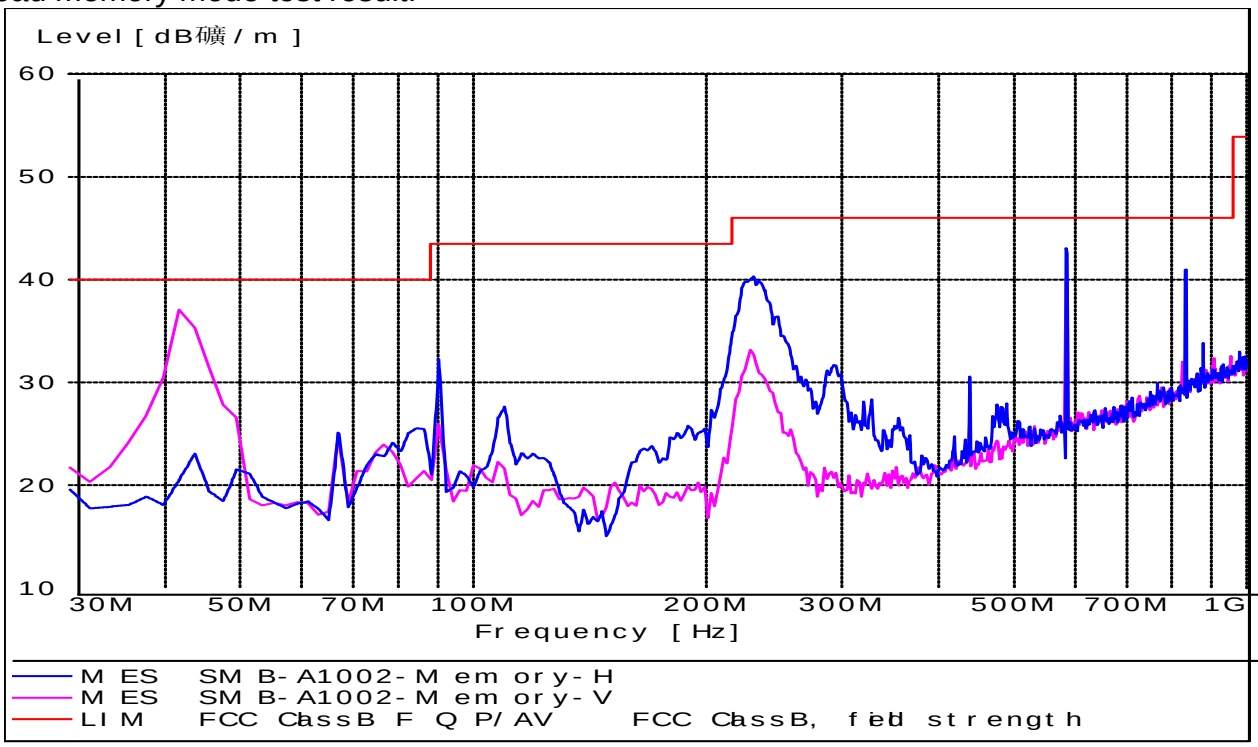
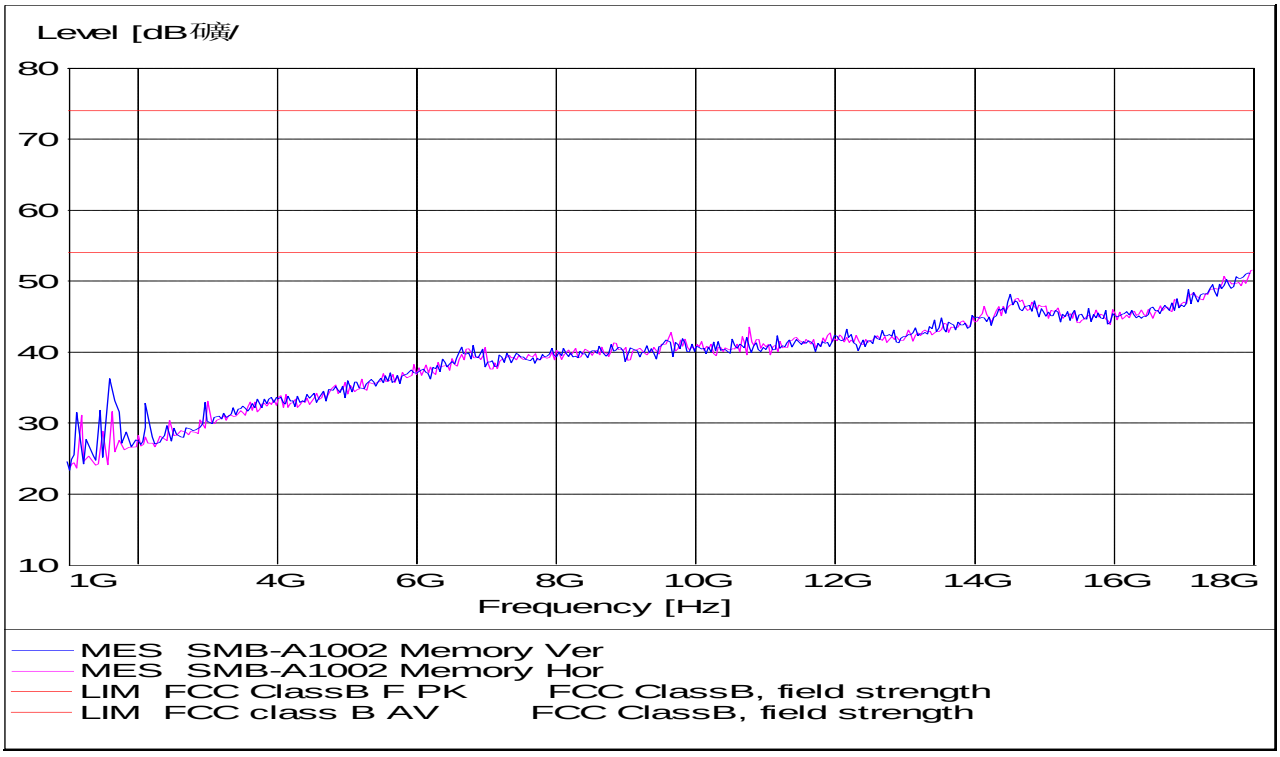
Radiated Emission

Read memory mode test result:





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Radiated Emission

Read memory mode test result:

Frequency MHz	Cable Loss dB	Antenna Factor dB/m	Reading dBuV	Emission Level dBuV/m	Polarization	Limit dBµV/m	Detector	Result
227.966	2.6	11.0	24.2	37.8	Horizontal	46.0	QP	Pass
584.188	3.9	18.6	16.7	39.2	Horizontal	46.0	QP	Pass
41.276	1.2	12.8	18.1	32.1	Vertical	40.0	QP	Pass
228.276	2.6	11.0	16.9	30.5	Vertical	46.0	QP	Pass
584.375	3.9	18.6	16.2	38.7	Vertical	46.0	QP	Pass

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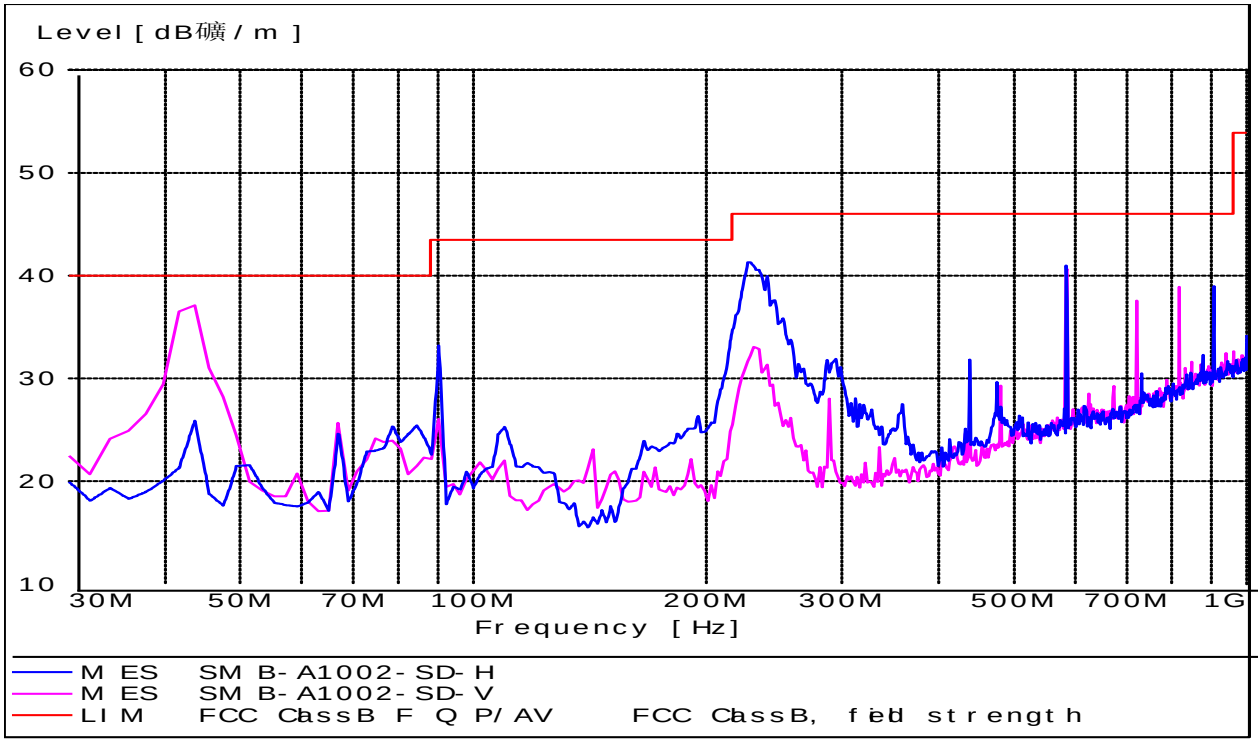
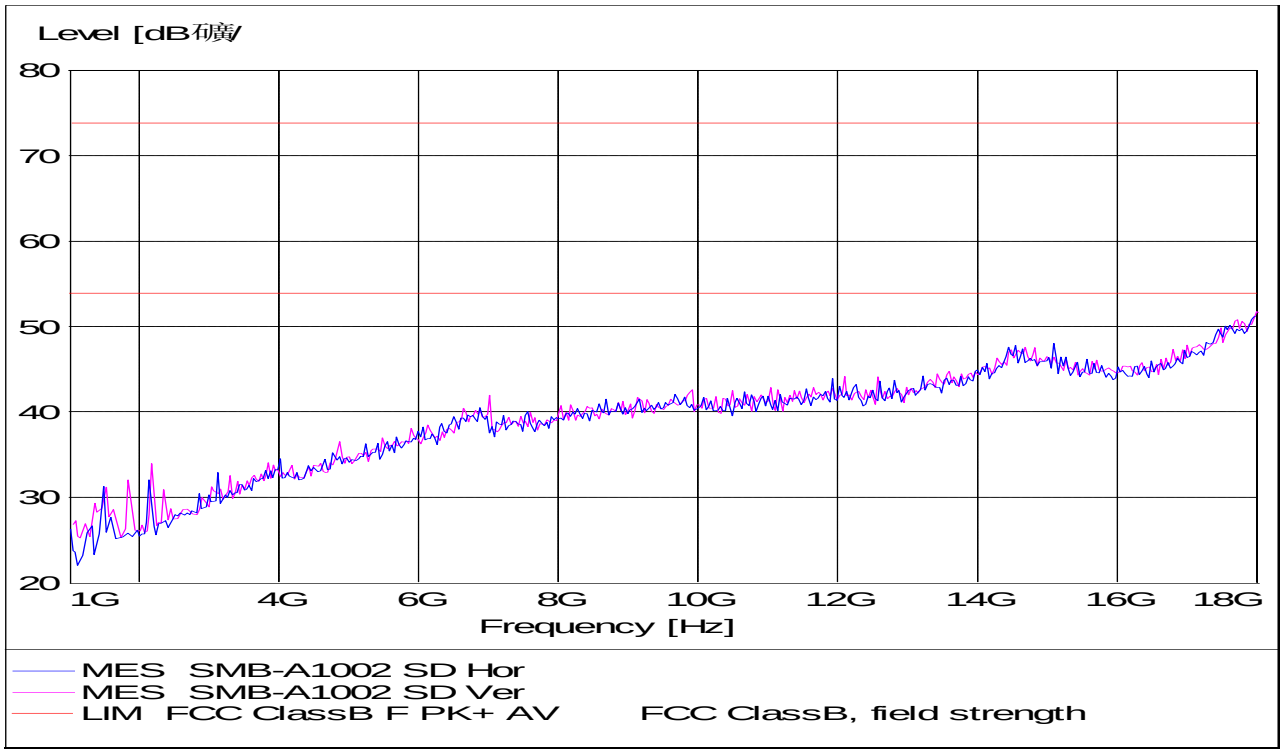
Radiated Emission

Read SD card mode test result:





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Radiated Emission

Read SD card mode test result:

Frequency MHz	Cable Loss dB	Antenna Factor dB/m	Reading dBuV	Emission Level dBuV/m	Polarization	Limit dBµV/m	Detector	Result
226.374	2.6	11.0	25.9	39.5	Horizontal	46.0	QP	Pass
584.471	3.9	18.6	15.8	38.3	Horizontal	46.0	QP	Pass
42.345	1.2	11.7	19.2	32.1	Vertical	40.0	QP	Pass
227.206	2.6	11.0	17.6	31.2	Vertical	46.0	QP	Pass
585.951	4.1	18.6	14.8	37.5	Vertical	46.0	QP	Pass

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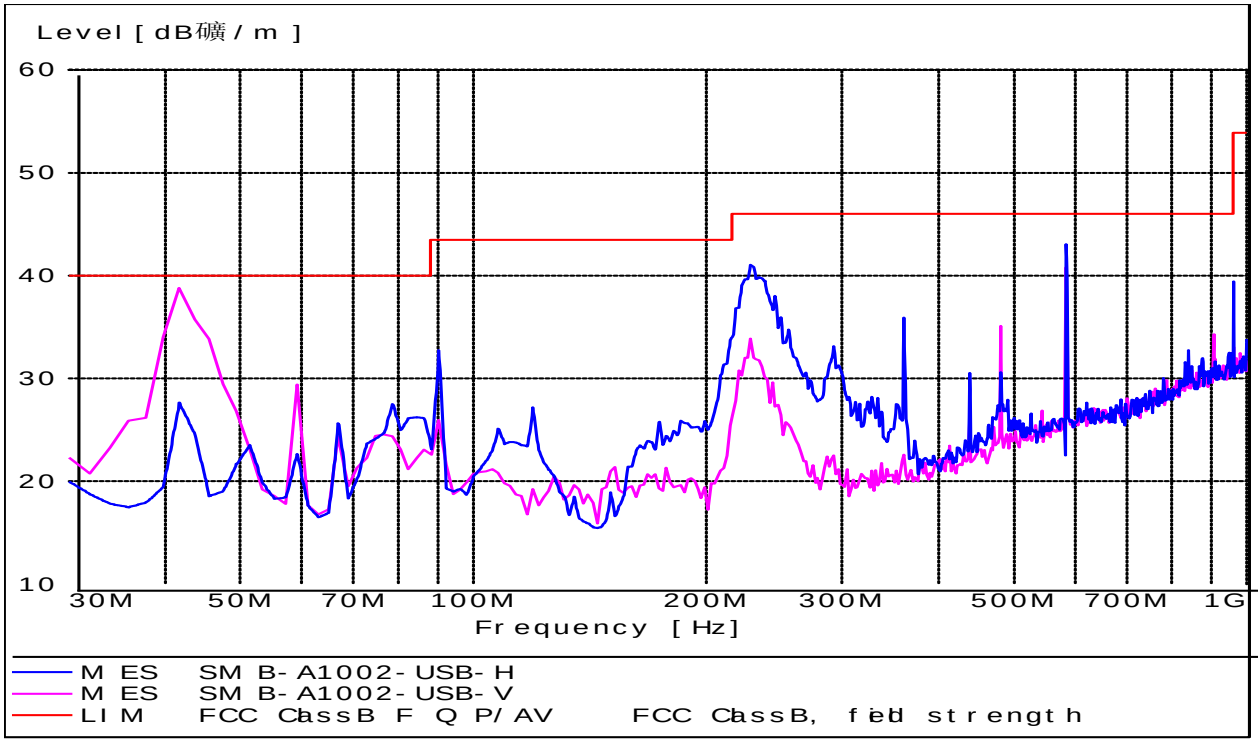
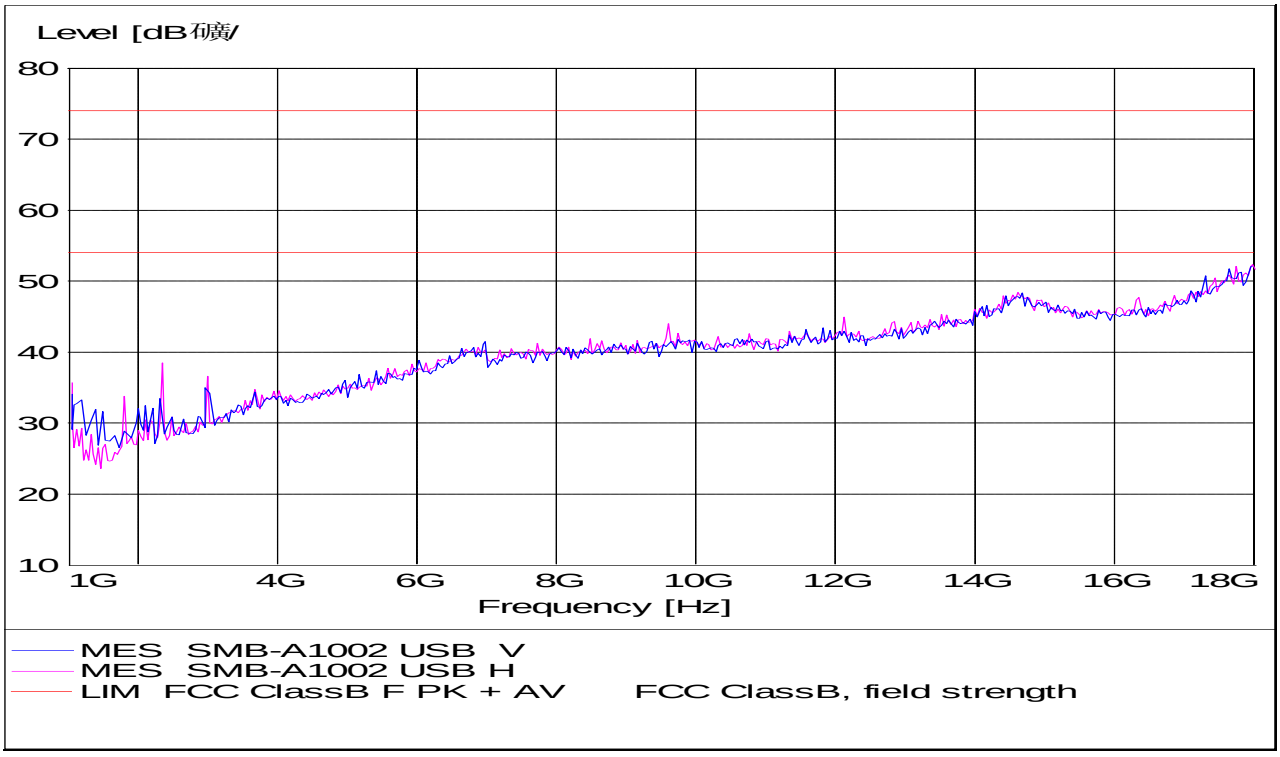
Radiated Emission

Read USB mode test result:





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Radiated Emission

Read USB mode test result:

Frequency MHz	Cable Loss dB	Antenna Factor dB/m	Reading dBuV	Emission Level dBuV/m	Polarization	Limit dBµV/m	Detector	Result
228.977	2.6	11.0	24.9	38.5	Horizontal	46.0	QP	Pass
583.949	3.9	18.6	17.3	39.8	Horizontal	46.0	QP	Pass
42.519	1.2	11.7	18.3	31.2	Vertical	40.0	QP	Pass
228.276	2.6	11.0	17.0	30.6	Vertical	46.0	QP	Pass
583.807	3.9	18.6	16.1	38.6	Vertical	46.0	QP	Pass

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Test Equipment List

Radiated Emission Test

DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	CAL DUE DATE
EMI Test Receiver	Rohde & Schwarz	ESI26	838786/013	Sep 21 2011
Bilog Antenna	Chase	CBL6112B	2591	Sep 21 2011
Signal Generator	Rohde & Schwarz	SMR20	100047	Sep 21 2011
Antenna	Schwarzbeck	VUBA9117	115	Sep 21 2011
Horn Antenna	Rohde & Schwarz	HF906	100013	Sep 21 2011

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8 System Measurement Uncertainty

For a 95% confidence level, the measurement expanded uncertainties for defined systems, in accordance with the recommendations of ISO 17025 were:

System Measurement Uncertainty

Items		Extended Uncertainty
RE	Field strength (dBμV/m)	U=4.6dB (30MHz-25GHz)
CE	Disturbance Voltage (dBμV)	U=3.3dB(150kHz-30MHz)

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