



Product Service

EMC TEST REPORT

Report Number : **68.760.10.174.01** Date of Issue: 16 September 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 : 37

Jiangsu TÜV Product Service Ltd. – Shenzhen Branch is a subcontractor to TÜV SÜD Product Service GmbH according to the principles outlined in ISO 17025.

Jiangsu TÜV Product Service Ltd. – Shenzhen Branch reports apply only to the specific samples tested under stated test conditions. Construction of the actual test samples has been documented. It is the manufacturer's responsibility to assure that additional production units of this model are manufactured with identical electrical and mechanical components. The manufacturer/importer is responsible to the Competent Authorities in Europe for any modifications made to the production units which result in non-compliance to the relevant regulations. Jiangsu TÜV Product Service Ltd. – Shenzhen Branch shall have no liability for any deductions, inferences or generalizations drawn by the client or others from Jiangsu TÜV Product Service Ltd. – Shenzhen Branch issued reports.

This report is the confidential property of the client. As a mutual protection to our clients, the public and ourselves, extracts from the test report shall not be reproduced except in full without our written approval



1 Table of Contents

1	Table of Contents.....	2
2	Details about the Test Laboratory.....	3
3	Description of the Equipment Under Test.....	4
4	Summary of Test Standards.....	5
5	Summary of Test Results.....	6
6	General Remarks.....	7
7	Technical Requirements.....	9
	7.1 Conducted Emission AC Power Port.....	9
	7.2 Radiated emissions.....	19
8	System Measurement Uncertainty.....	37



Product Service

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)
Laptop	Lenovo	X61	L3-L3729 08/03
Headphone	Ouyun	OH601	----
SD card	Kingston	SD4/4GBFE	----
USB flash drive	Kingston	USB/4GB	---



Product Service

4 Summary of Test Standards

Test Standards	
FCC Part 15 Subpart B	PART 15 - RADIO FREQUENCY DEVICES Subpart B - Unintentional Radiators

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	19	☒	☐	☐

6 General Remarks

Remarks

This submittal(s) (test report) is intended for FCC ID: SMFSMBA1002 filing to comply with Section 15.107, 15.109 of the FCC Part 15, Subpart B Rules.

The product SMB-A1002 alternative 4 kinds of components as listed:

Items	Model	Manufacturer
Speaker	RZD221405	Xiamen Rong Zhong Da Electronics Co., Ltd
	MA2014FBOX	Nanjing Xin Rui Sheng Electronic Co.,Ltd.
Touch Panel	3FA16-A1CC47	Sintek Photronic Corp.
	1013F04	CANDO
Battery	BT-A0B1	YUKO Energy (Zhangzhou) Co., Ltd.
	BT-A0B2	Amperex Technology Limited
Shielded cover	N/A	Wanlida Group Co., Ltd.

Also the product SMB-A1002 alternative 2 kinds of constructions, one construction is the mainboard with shielded cover, another construction is the mainboard without shielded cover. For more detail information, please refer to the submitted exhibit "Internal Photos" under this application.

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



Product Service

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: 1 September 2010

Testing Start Date: 2 September 2010

Testing End Date: 10 September 2010

- Jiangsu TÜV Product Service Ltd. – Shenzhen Branch -

Reviewed by:

Prepared by:

Paul Yu
Assistant EMC Manager

Ken Li
Senior EMC Project Engineer

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

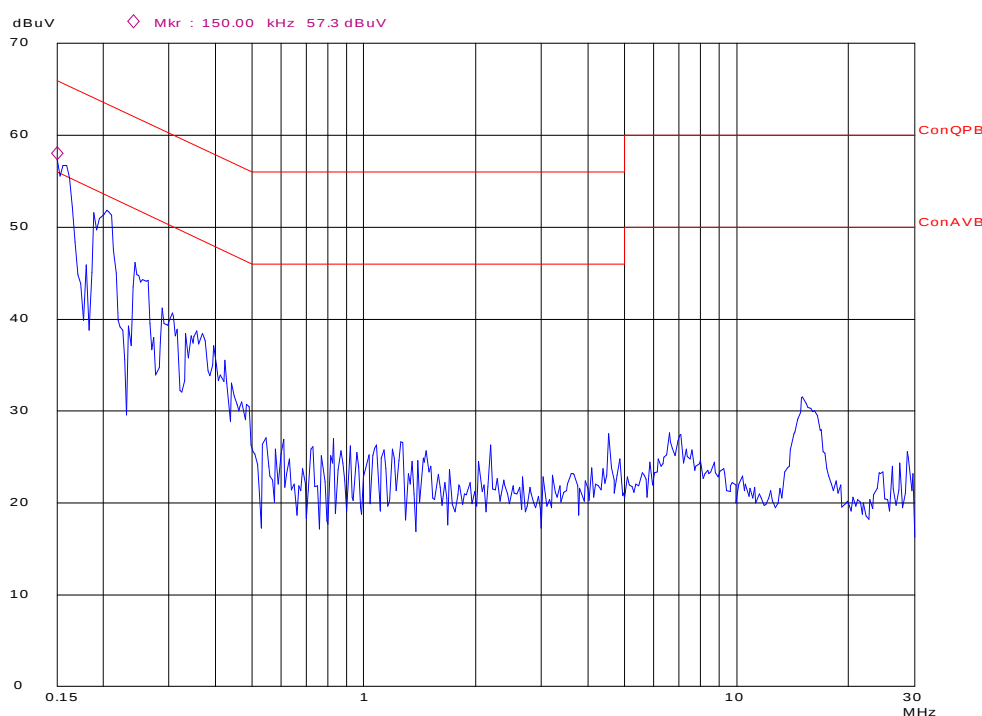
Frequency MHz	QP Limit dB μ V	AV Limit dB μ V
0.150-0.500	66-56*	56-46*
0.500-5	56	46
5-30	60	50

Decreasing linearly with logarithm of the frequency

Conducted Emission

Conducted Disturbance

EUT: M/N:SMB-A1002
Op Cond: Read Memory
Test Spec: L
Comment: AC 120V/60Hz, With shielded cover



Frequency MHz	Cable Loss dB	Reading dBμV	QP Test result dBμV	QP Limit dBμV	Margin dB
0.150	9.8	44.2	54.0	66.0	12.0
0.198	9.8	38.6	48.4	63.7	15.3
0.246	9.8	32.0	41.8	61.9	20.1

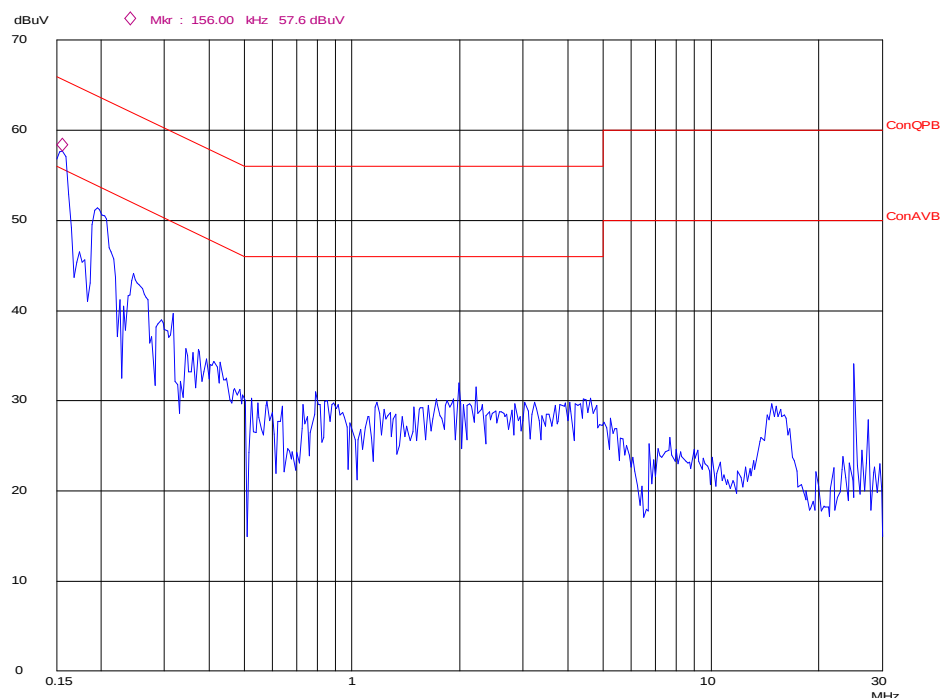
Frequency MHz	Cable Loss dB	Reading dBμV	AV Test result dBμV	AV Limit dBμV	Margin dB
0.150	9.8	30.7	40.5	56.0	15.5
0.198	9.8	26.2	36.0	53.7	17.7
0.246	9.8	18.0	27.8	51.9	24.1

Remark: Test Result= Reading + Cable Loss

Conducted Emission

Conducted Disturbance

EUT: MN:SMB-A1002
Op Cond: Read Memory
Test Spec: N
Comment: AC 120V/60Hz, With shielded cover



Frequency MHz	Cable Loss dB	Reading dB μ V	QP Test result dB μ V	QP Limit dB μ V	Margin dB
0.156	9.8	43.7	53.5	65.7	12.2
0.198	9.8	38.0	47.8	63.7	15.9
0.246	9.8	30.9	40.7	61.9	21.2

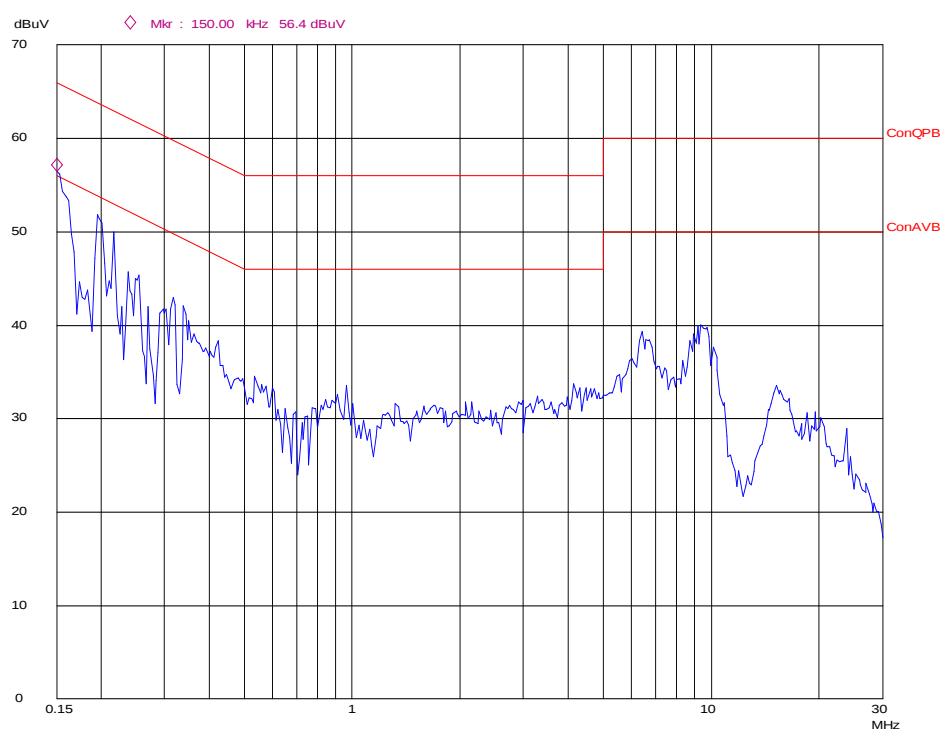
Frequency MHz	Cable Loss dB	Reading dB μ V	AV Test result dB μ V	AV Limit dB μ V	Margin dB
0.156	9.8	30.1	39.9	55.7	15.8
0.198	9.8	26.3	36.1	53.7	17.6
0.246	9.8	17.8	27.6	51.9	24.3

Remark: Test Result= Reading + Cable Loss

Conducted Emission

Conducted Disturbance

EUT: M/N:SMB-A1002
Op Cond: Connect to PC
Test Spec: L
Comment: AC 120V/60Hz, With shielded cover



Frequency MHz	Cable Loss dB	Reading dBμV	QP Test result dBμV	QP Limit dBμV	Margin dB
0.150	9.8	43.7	53.5	66.0	12.5
0.198	9.8	38.0	47.8	63.7	15.9
0.216	9.8	32.7	42.5	63.0	20.5

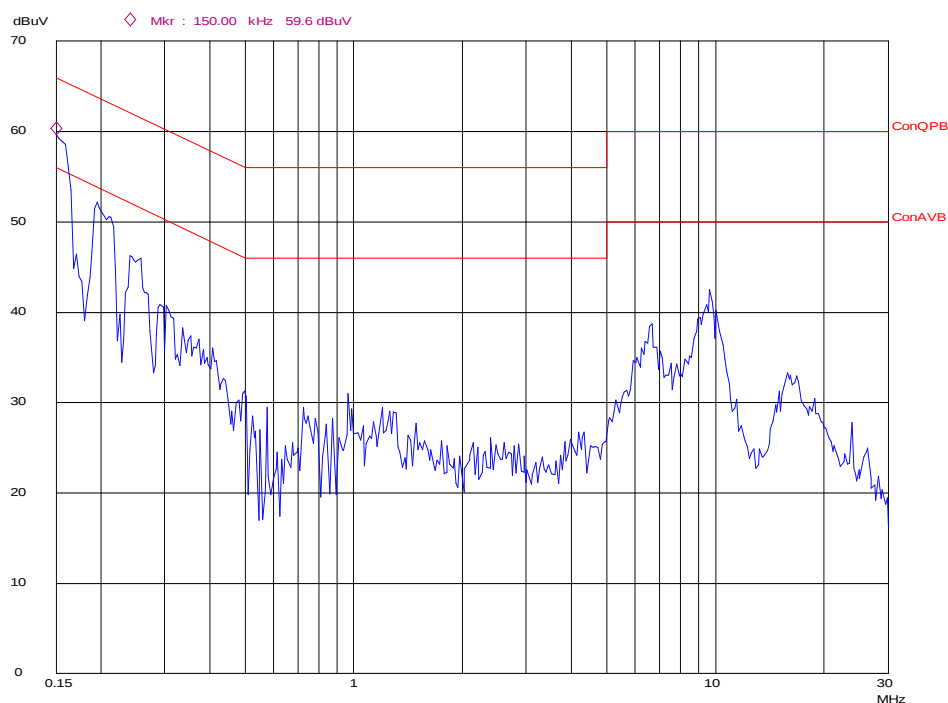
Frequency MHz	Cable Loss dB	Reading dBμV	AV Test result dBμV	AV Limit dBμV	Margin dB
0.150	9.8	30.8	40.6	56.0	15.4
0.198	9.8	25.0	34.8	53.7	18.9
0.216	9.8	14.2	24.0	53.0	29.0

Remark: Test Result= Reading + Cable Loss

Conducted Emission

Conducted Disturbance

EUT: M/N:SMB-A1002
Op Cond: Connect to PC
Test Spec: N
Comment: AC 120V/60Hz, With shielded cover



Frequency MHz	Cable Loss dB	Reading dBμV	QP Test result dBμV	QP Limit dBμV	Margin dB
0.150	9.8	47.2	57.0	66.0	9.0
0.196	9.8	39.5	49.3	63.8	14.5
0.249	9.8	32.4	42.2	61.8	19.6

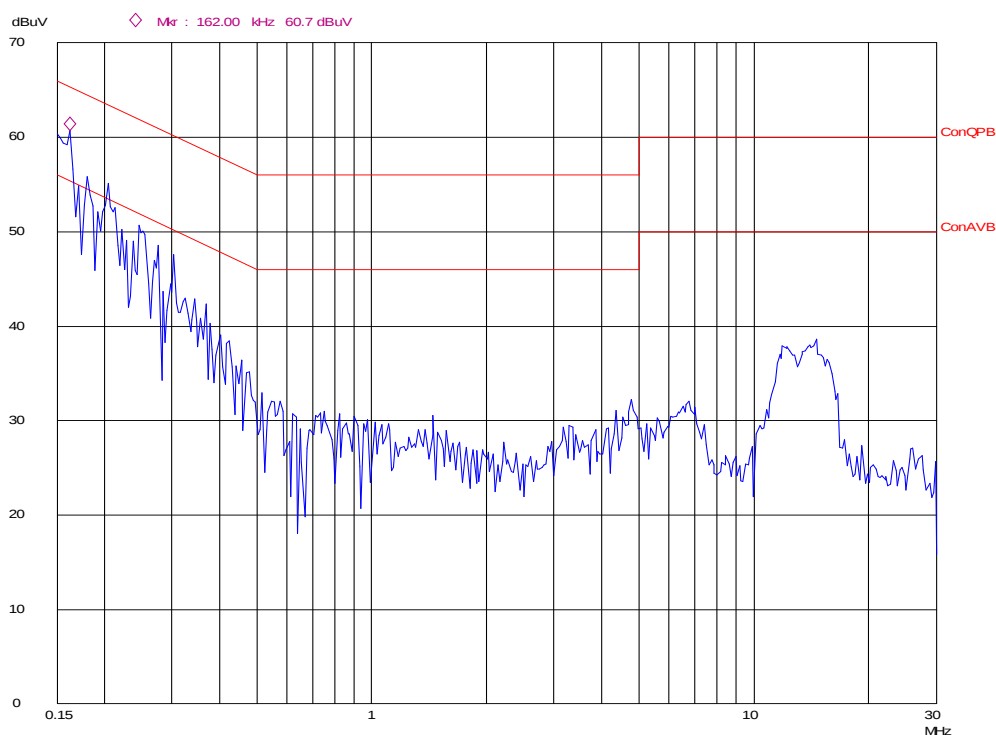
Frequency MHz	Cable Loss dB	Reading dBμV	AV Test result dBμV	AV Limit dBμV	Margin dB
0.150	9.8	33.9	43.7	56.0	12.3
0.196	9.8	24.1	33.9	53.8	19.9
0.249	9.8	17.9	27.7	51.8	24.1

Remark: Test Result= Reading + Cable Loss

Conducted Emission

Conducted Disturbance

EUT: MN-SMB-A1002
Op Cond: Read Memory
Test Spec: L
Comment: AC 120V/60Hz, Without shielded cover



Frequency MHz	Cable Loss dB	Reading dBμV	QP Test result dBμV	QP Limit dBμV	Margin dB
0.162	9.8	45.1	54.9	65.4	10.5
0.178	9.8	36.0	45.8	64.6	18.8
0.204	9.8	40.3	50.1	63.4	13.3

Frequency MHz	Cable Loss dB	Reading dBμV	AV Test result dBμV	AV Limit dBμV	Margin dB
0.162	9.8	25.1	34.9	55.4	20.5
0.178	9.8	11.8	21.6	54.6	33.0
0.204	9.8	27.0	36.8	53.4	16.6

Remark: Test Result= Reading + Cable Loss

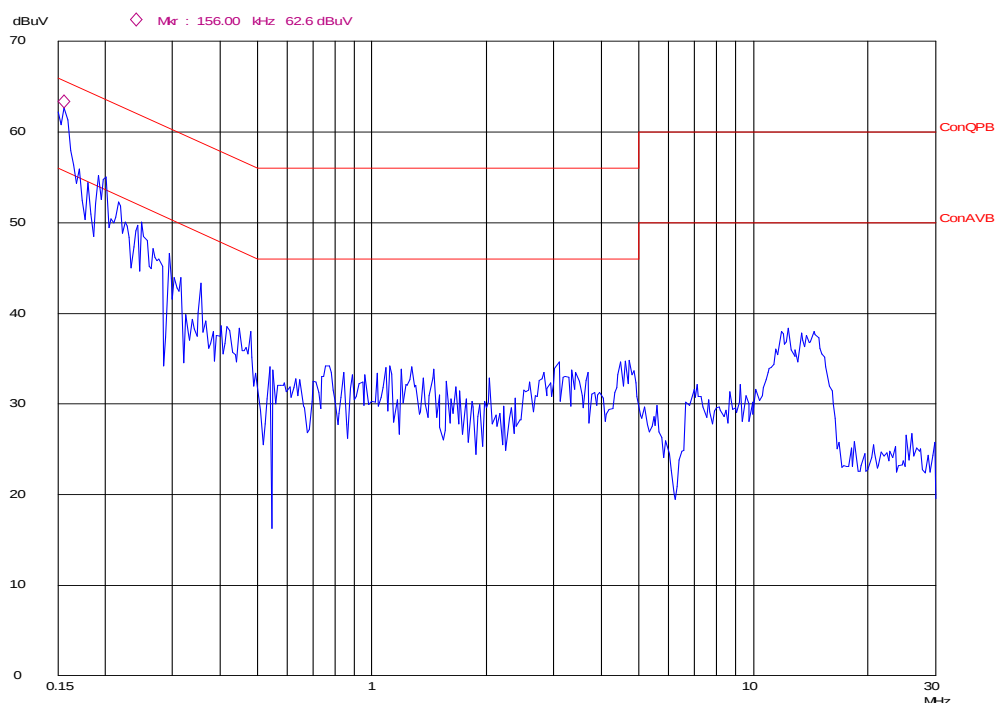
Report Number: 68.760.10.174.01

Page 14 of 37

Conducted Emission

Conducted Disturbance

EUT: MN:SMB-A1002
Op Cond: Read Memory
Test Spec: N
Comment: AC 120V/60Hz, Without shielded cover



Frequency MHz	Cable Loss dB	Reading dB μ V	QP Test result dB μ V	QP Limit dB μ V	Margin dB
0.156	9.8	47.1	56.9	65.7	8.8
0.198	9.8	39.1	48.9	63.7	14.8
0.216	9.8	34.3	44.1	63.0	18.9

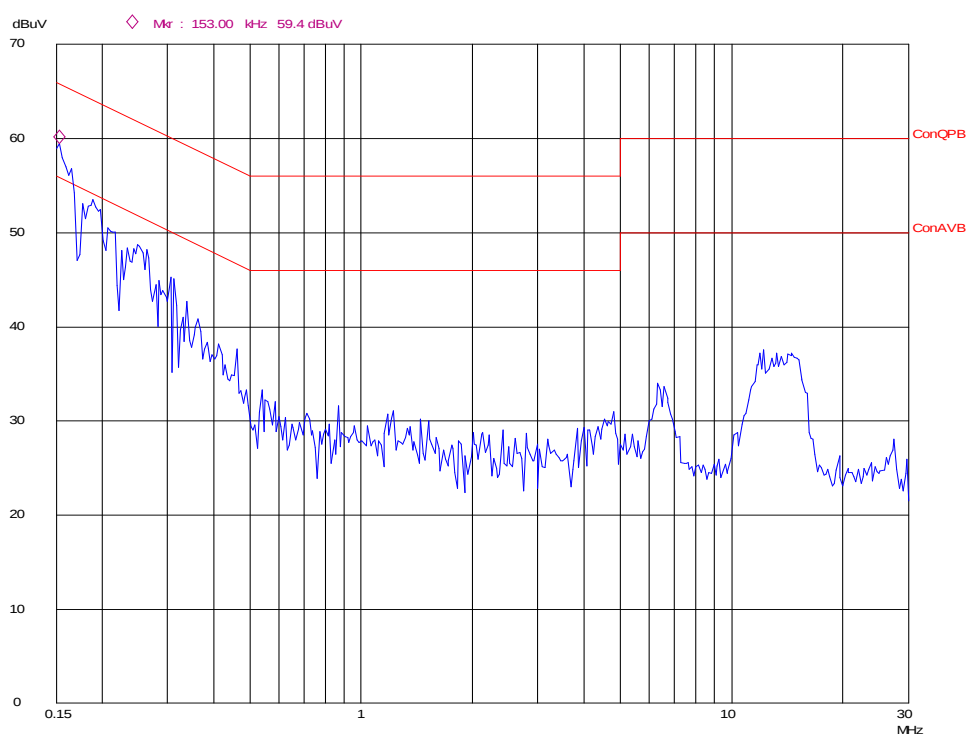
Frequency MHz	Cable Loss dB	Reading dB μ V	AV Test result dB μ V	AV Limit dB μ V	Margin dB
0.156	9.8	32.3	42.1	55.7	13.6
0.198	9.8	26.3	36.1	53.7	17.6
0.216	9.8	17.5	27.3	53.0	25.7

Remark: Test Result= Reading + Cable Loss

Conducted Emission

Conducted Disturbance

EUT: MN:SMB-A1002
Op Cond: Connect to PC
Test Spec: L
Comment: AC 120V/60Hz, Without shielded cover



Frequency MHz	Cable Loss dB	Reading dBμV	QP Test result dBμV	QP Limit dBμV	Margin dB
0.153	9.8	46.8	56.6	65.8	9.2
0.189	9.8	36.6	46.4	64.1	17.7
0.207	9.8	37.8	47.6	63.3	15.7

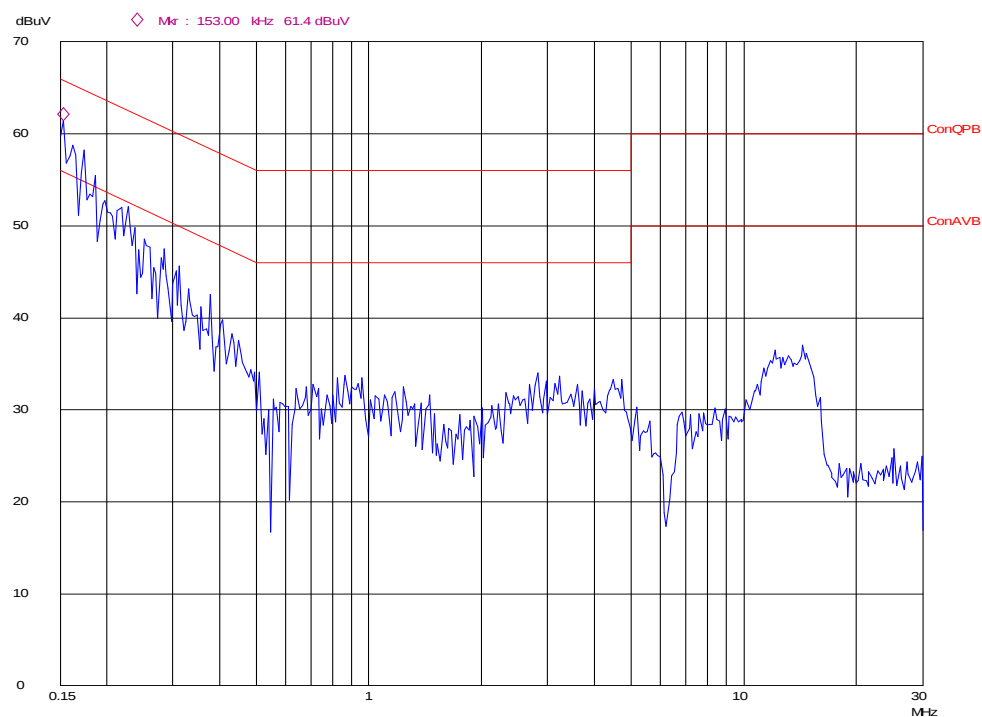
Frequency MHz	Cable Loss dB	Reading dBμV	AV Test result dBμV	AV Limit dBμV	Margin dB
0.153	9.8	33.7	43.5	55.8	12.3
0.189	9.8	17.2	27.0	54.1	27.1
0.207	9.8	24.5	34.3	53.3	19.0

Remark: Test Result= Reading + Cable Loss

Conducted Emission

Conducted Disturbance

EUT: MN:SMB-A1002
Op Cond: Connect to PC
Test Spec: N
Comment: AC 120V/60Hz, Without shielded cover



Frequency MHz	Cable Loss dB	Reading dBμV	QP Test result dBμV	QP Limit dBμV	Margin dB
0.153	9.8	46.0	55.8	65.8	10.0
0.162	9.8	41.6	51.4	65.4	14.0
0.193	9.8	37.8	47.6	63.9	16.3

Frequency MHz	Cable Loss dB	Reading dBμV	AV Test result dBμV	AV Limit dBμV	Margin dB
0.153	9.8	32.4	42.2	55.8	13.6
0.162	9.8	21.9	31.7	55.4	23.7
0.193	9.8	22.3	32.1	53.9	21.8

Remark: Test Result= Reading + Cable Loss



Product Service

Test Equipment List

Conducted Emission Test

DESCRIPTION	MANUFACTURER	MODEL NO.	SERIAL NO.	CAL DUE DATE
EMI Test Receiver	Rohde & Schwarz	ESCS30	100003	Sep 21 2010
AMN	Rohde & Schwarz	ESH3-Z5	100229	Sep 21 2010
AMN	Rohde & Schwarz	ENV216	100042	Sep 21 2010

7.2 Radiated emissions

Test Method

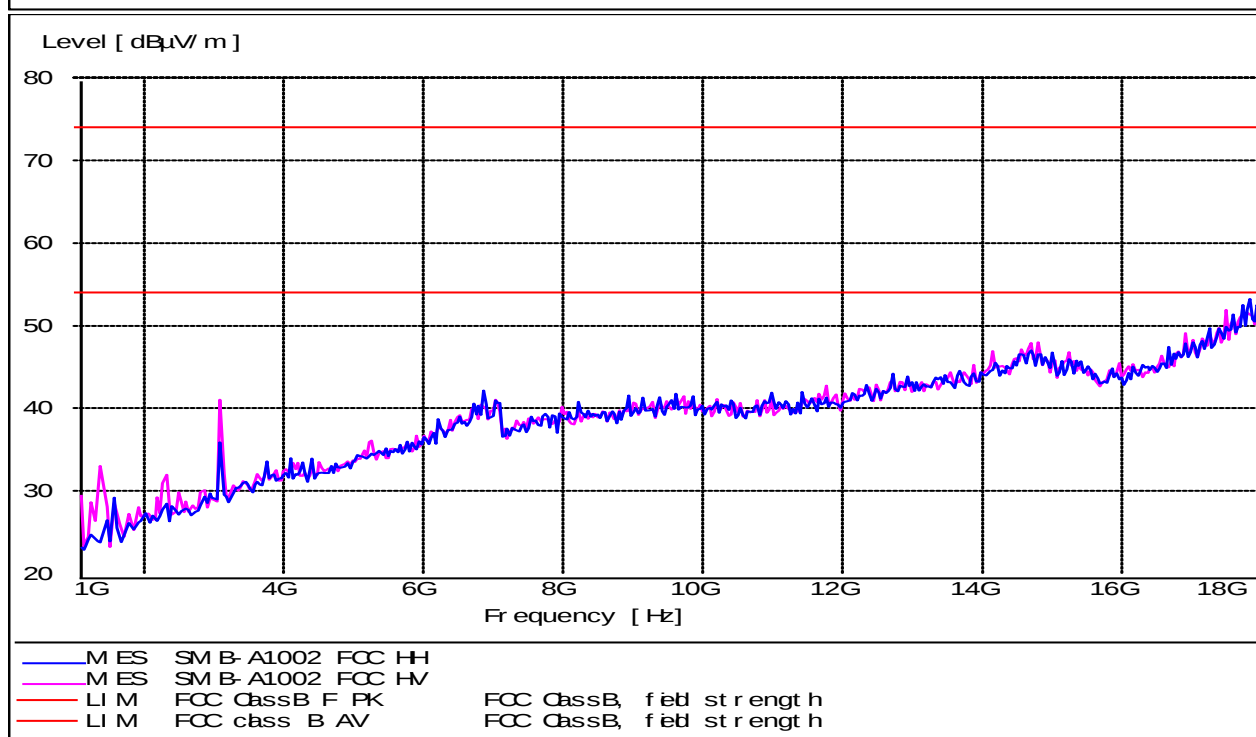
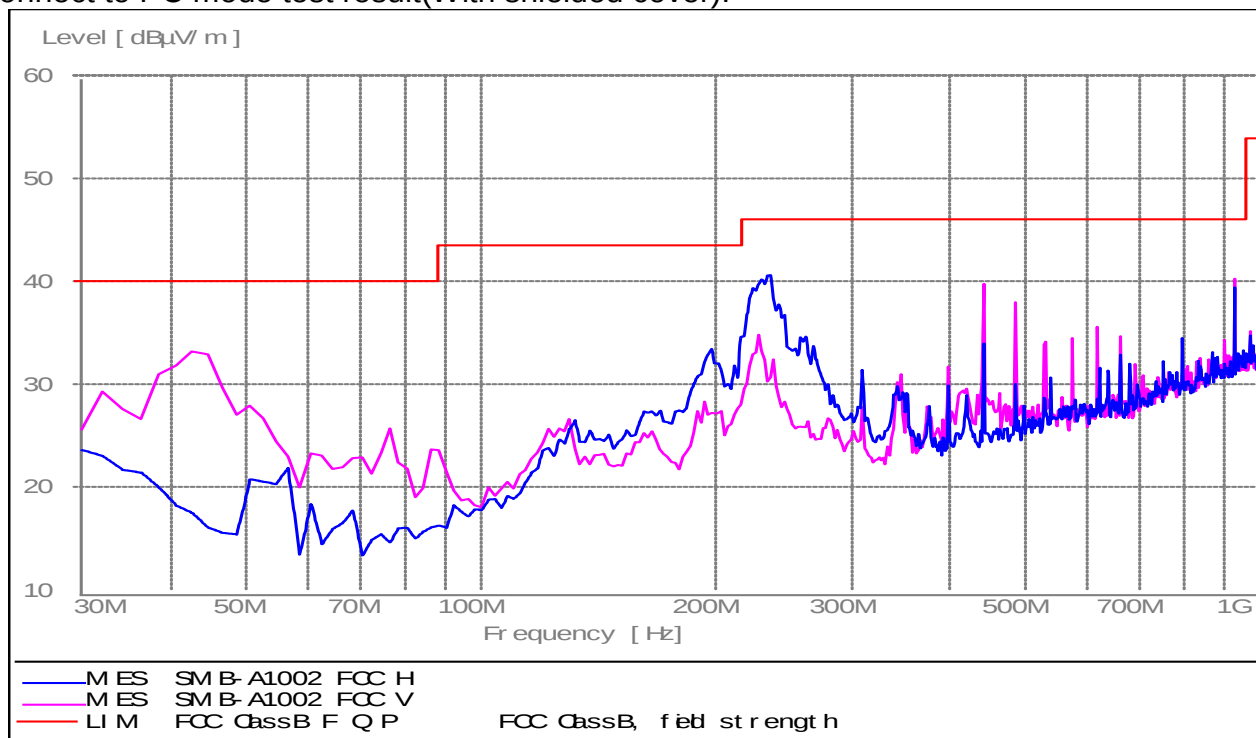
- 1 The EUT is placed on a turntable, which is 0.8m above ground plane.
- 2 The turntable shall be rotated for 360 degrees to determine the position of maximum emission level
- 3 EUT is set 3m away from the receiving antenna, which is varied from 1m to 4m to find out the highest emissions.
- 4 Maximum 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

Radiated Emission

Connect to PC mode test result(With shielded cover):



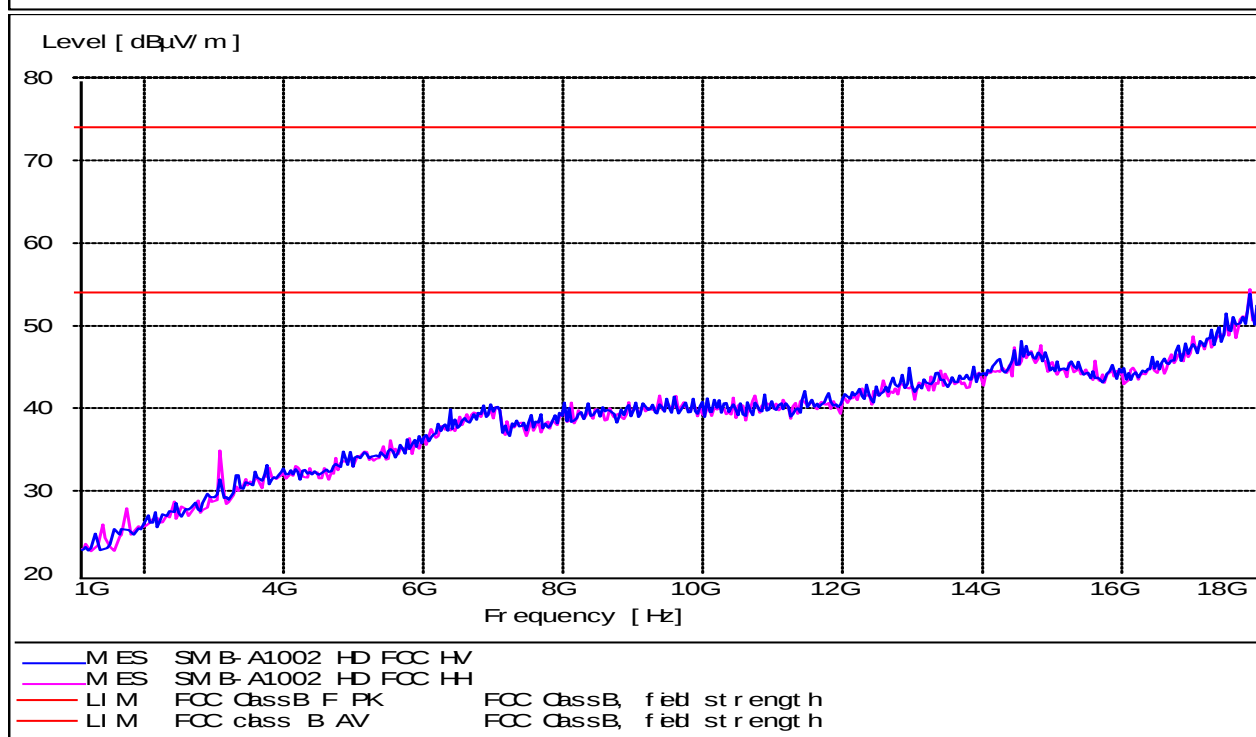
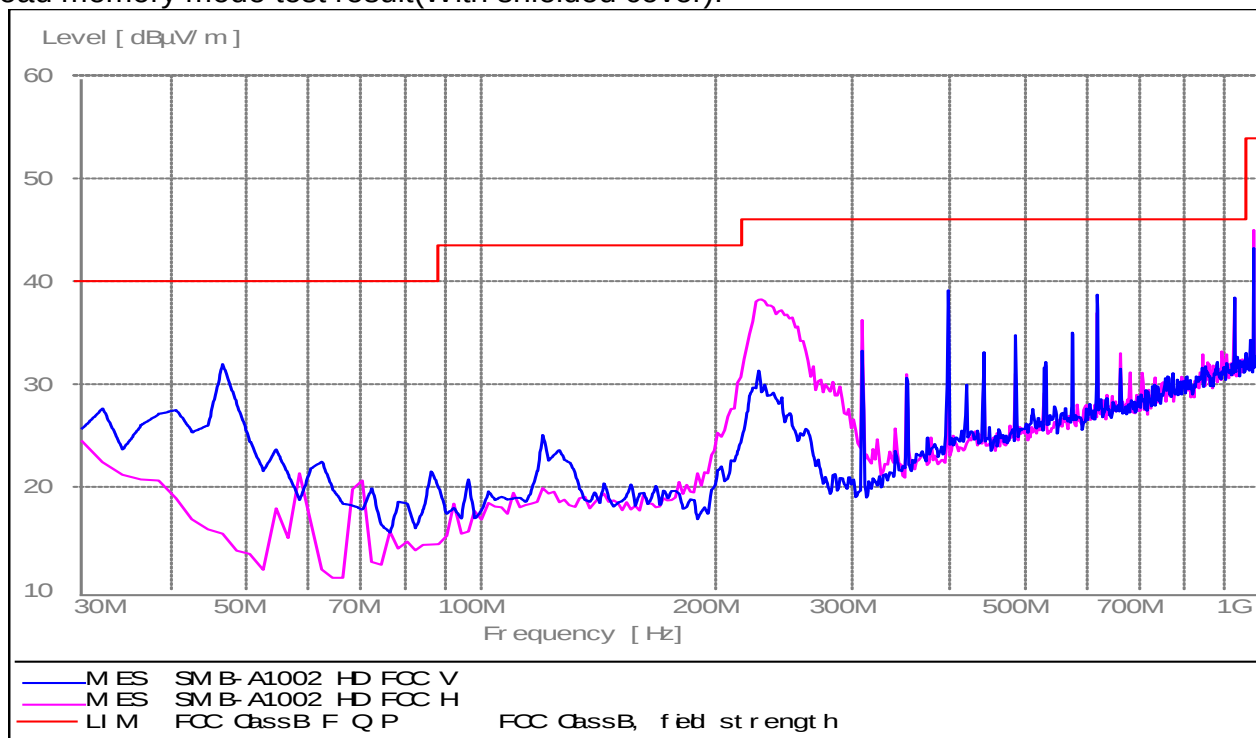
Radiated Emission

Connect to PC mode test result(With shielded cover):

Frequency MHz	Cable Loss dB	Antenna Factor dB/m	Reading dBuV	Emission Level dBuV/m	Polarization	Limit dBuV/m	Detector	Result
41.663	1.2	12.8	19.6	33.6	Horizontal	40.0	QP	Pass
222.444	2.6	10.6	22.2	35.3	Horizontal	46.0	QP	Pass
432.384	3.3	16.8	20.2	40.3	Horizontal	46.0	QP	Pass
908.637	5.1	20.7	14.9	40.7	Horizontal	46.0	QP	Pass
227.705	2.6	11.0	25.1	38.7	Vertical	46.0	QP	Pass
908.637	5.1	20.7	14.1	39.9	Vertical	46.0	QP	Pass
3001.255	3.2	31.4	13.4	48.5	Vertical	74.0	PK	Pass
3001.255	3.2	31.4	7.4	43.5	Vertical	54.0	AV	Pass

Radiated Emission

Read memory mode test result(With shielded cover):



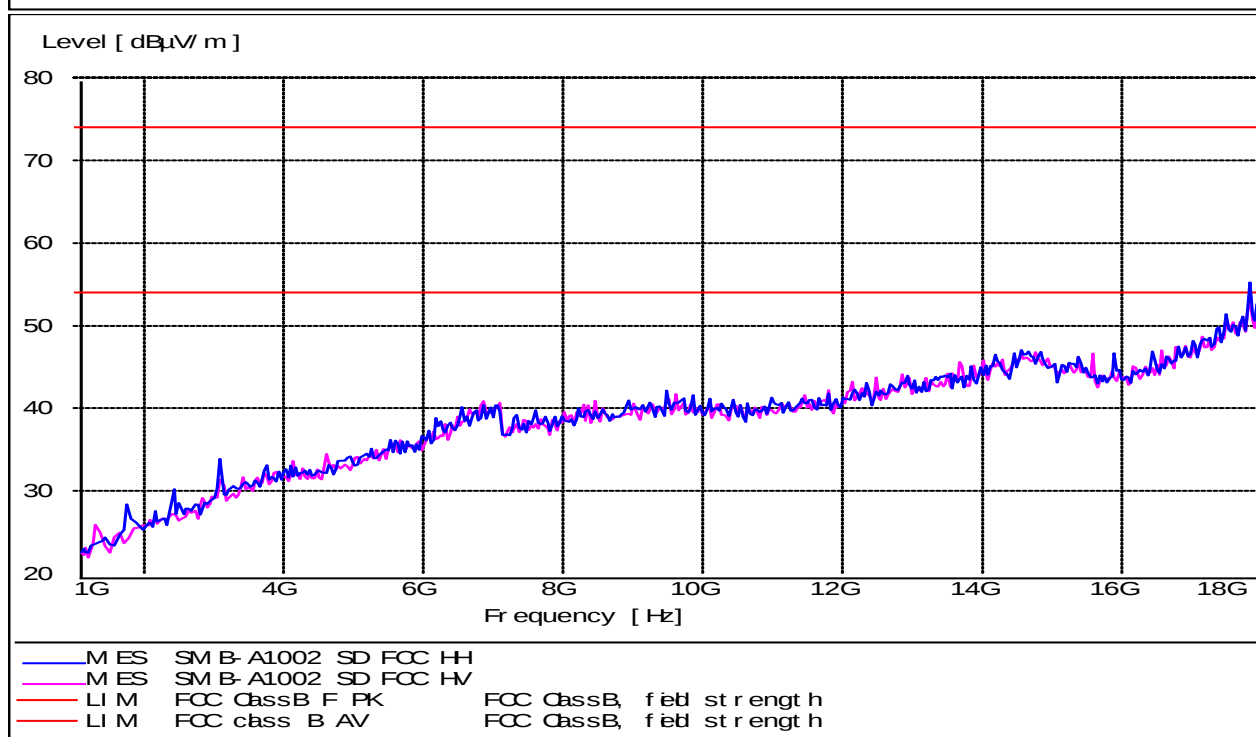
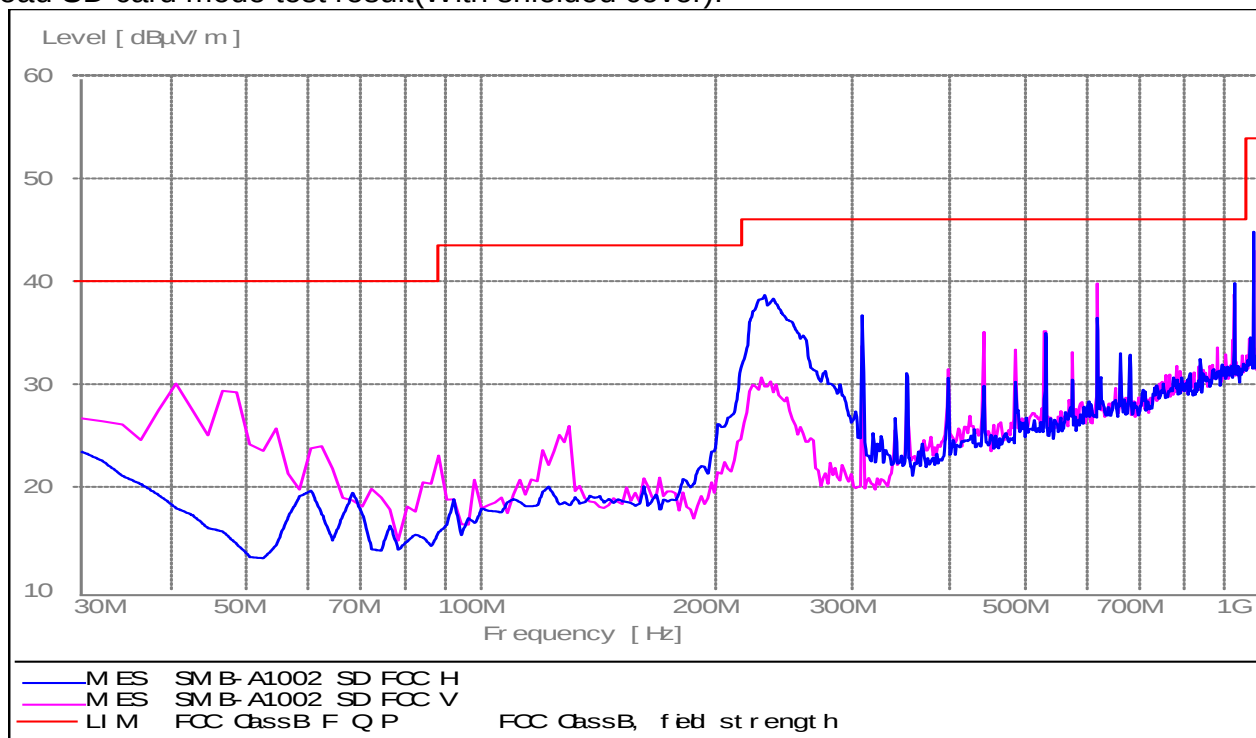
Radiated Emission

Read memory mode test result(With shielded cover):

Frequency MHz	Cable Loss dB	Antenna Factor dB/m	Reading dBuV	Emission Level dBuV/m	Polarization	Limit dBuV/m	Detector	Result
605.39	4.1	18.8	17.4	40.3	Vertical	46.0	QP	Pass
961.122	5.2	21.2	17.1	43.5	Vertical	54.0	QP	Pass
223.388	2.6	10.6	25.7	38.9	Horizontal	46.0	QP	Pass
908.637	5.1	20.7	14.5	40.3	Horizontal	46.0	QP	Pass
961.122	5.2	21.2	18.9	45.3	Horizontal	54.0	QP	Pass

Radiated Emission

Read SD card mode test result(With shielded cover):



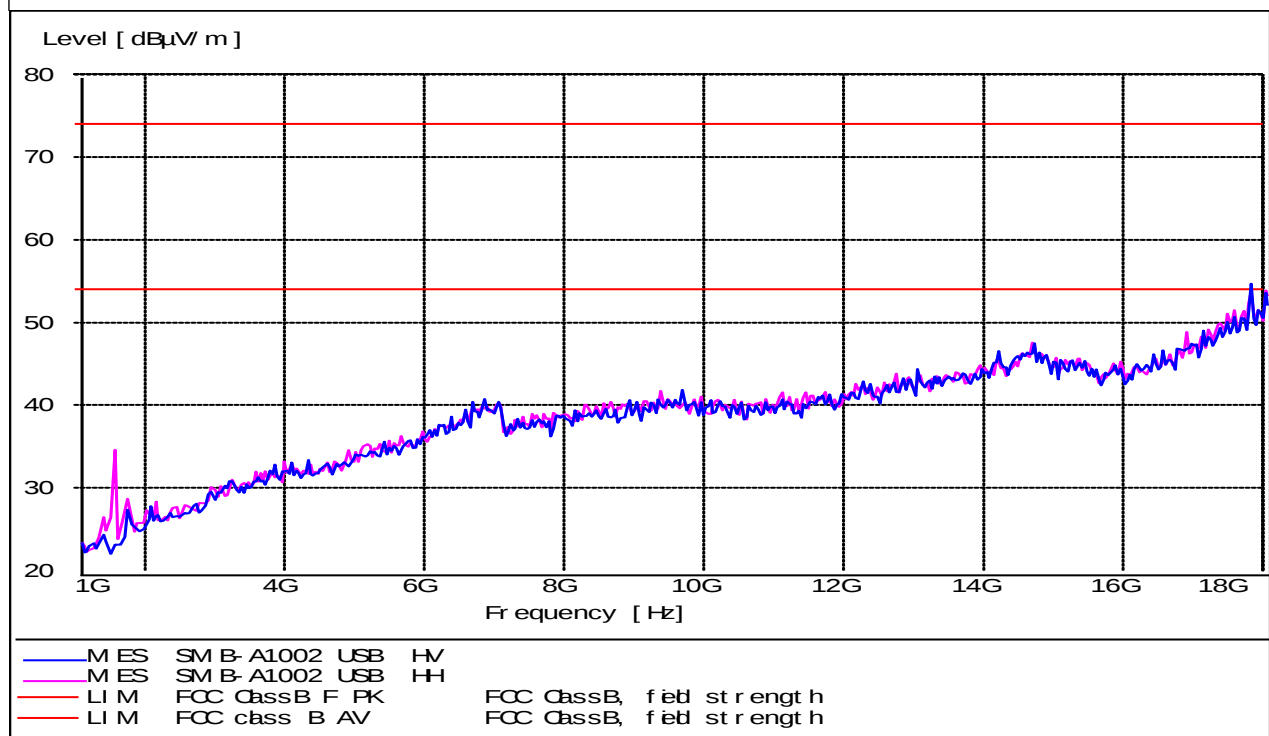
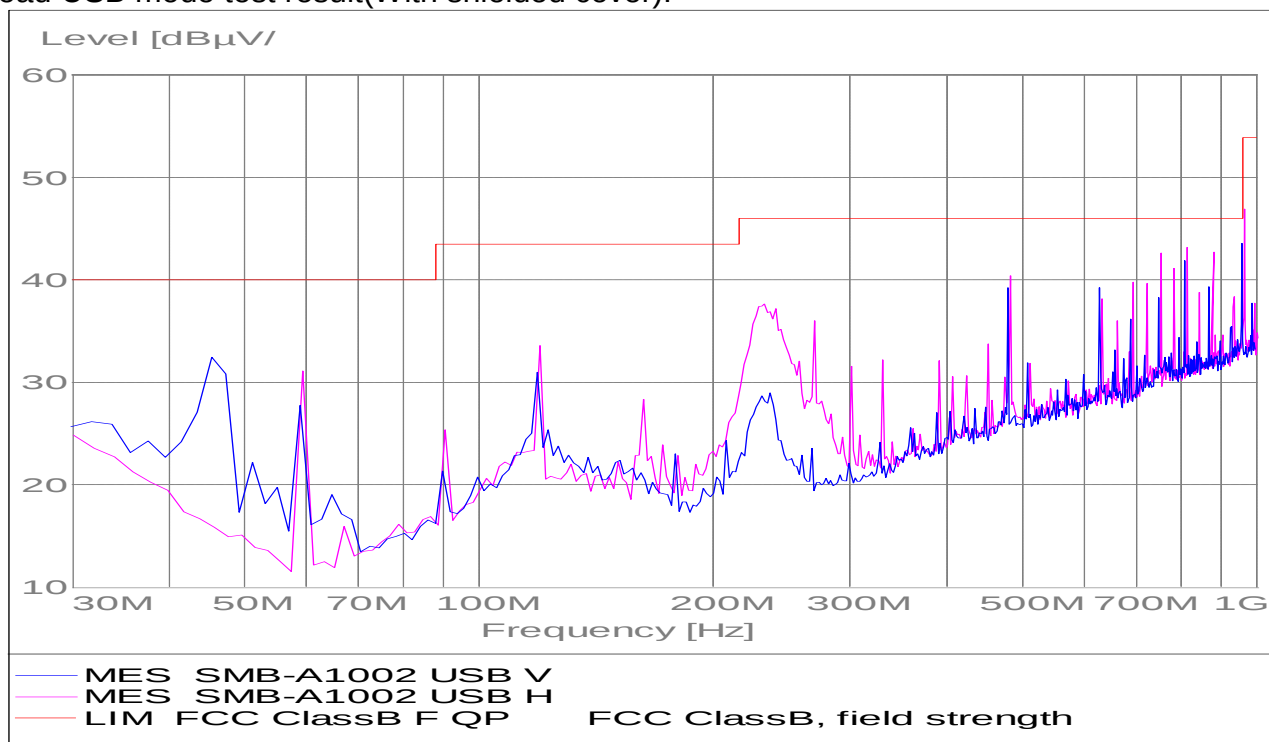
Radiated Emission

Read SD card mode test result(With shielded cover):

Frequency MHz	Cable Loss dB	Antenna Factor dB/m	Reading dBuV	Emission Level dBuV/m	Polarization	Limit dBuV/m	Detector	Result
222.444	2.6	10.6	25.6	38.7	Horizontal	46.0	QP	Pass
961.122	5.2	21.2	19.1	45.5	Horizontal	53.9	QP	Pass
45.551	1.2	10.5	20.8	32.5	Vertical	40.0	QP	Pass
389.619	3.2	16.1	20.3	39.6	Vertical	46.0	QP	Pass
961.122	5.2	21.2	17.4	43.8	Vertical	53.9	QP	Pass

Radiated Emission

Read USB mode test result(With shielded cover):



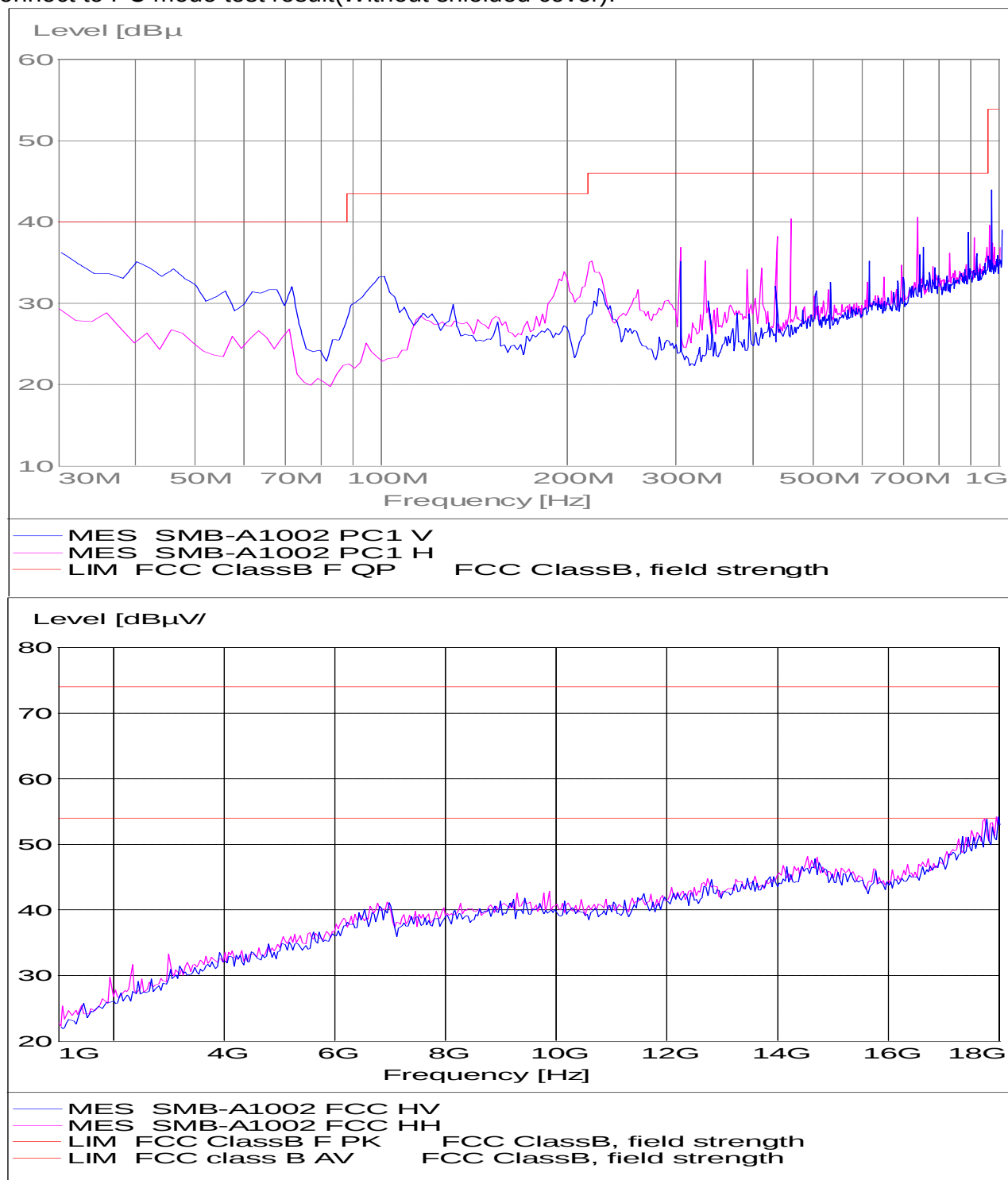
Radiated Emission

Read USB mode test result(With shielded cover):

Frequency MHz	Cable Loss dB	Antenna Factor dB/m	Reading dBuV	Emission Level dBuV/m	Polarization	Limit dBuV/m	Detector	Result
45.551	1.2	10.5	20.8	32.5	Vertical	40.0	QP	Pass
480.981	3.6	17.6	20.9	42.1	Vertical	46.0	QP	Pass
811.442	4.9	20.3	15.9	41.1	Vertical	46.0	QP	Pass
230.22	2.6	11.5	23.5	37.5	Horizontal	46.0	QP	Pass
480.981	3.6	17.6	20.7	41.9	Horizontal	46.0	QP	Pass
871.703	5.0	20.7	15.7	41.4	Horizontal	46.0	QP	Pass

Radiated Emission

Connect to PC mode test result(Without shielded cover):



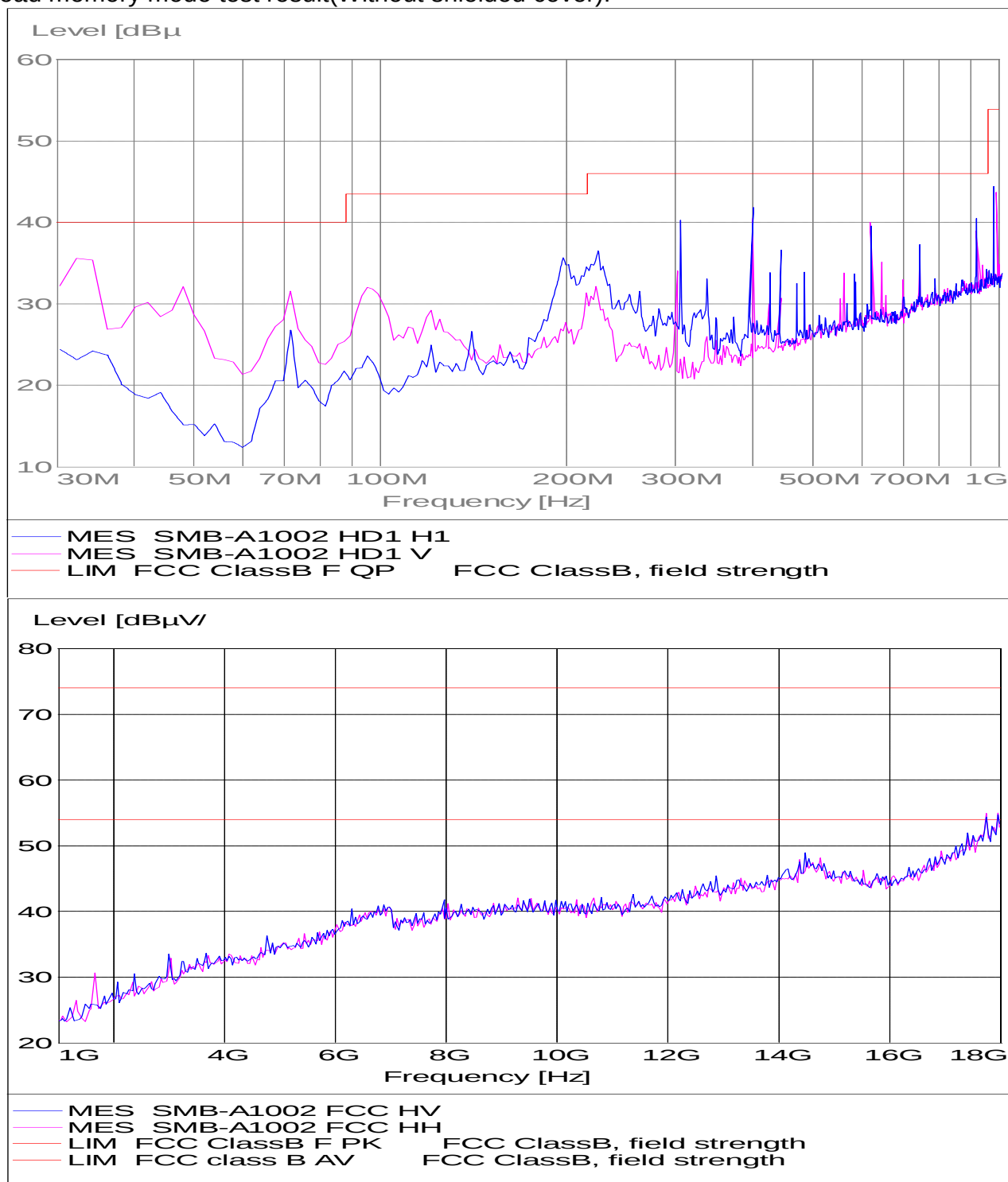
**Radiated Emission**

Connect to PC mode test result(Without shielded cover):

Frequency MHz	Cable Loss dB	Antenna Factor dB/m	Reading dBuV	Emission Level dBuV/m	Polarization	Limit dBuV/m	Detector	Result
455.711	3.4	17.1	16.8	37.3	Horizontal	46.0	QP	Pass
735.631	4.6	20.1	13.1	37.7	Horizontal	46.0	QP	Pass
333.246	2.9	14.7	15.7	33.3	Horizontal	46.0	QP	Pass
30.010	0.9	18.8	14.4	34.1	Vertical	40.0	QP	Pass
39.719	1.2	14.1	18.4	33.7	Vertical	40.0	QP	Pass
98.036	1.6	11.9	18.6	32.1	Vertical	43.5	QP	Pass

Radiated Emission

Read memory mode test result(Without shielded cover):



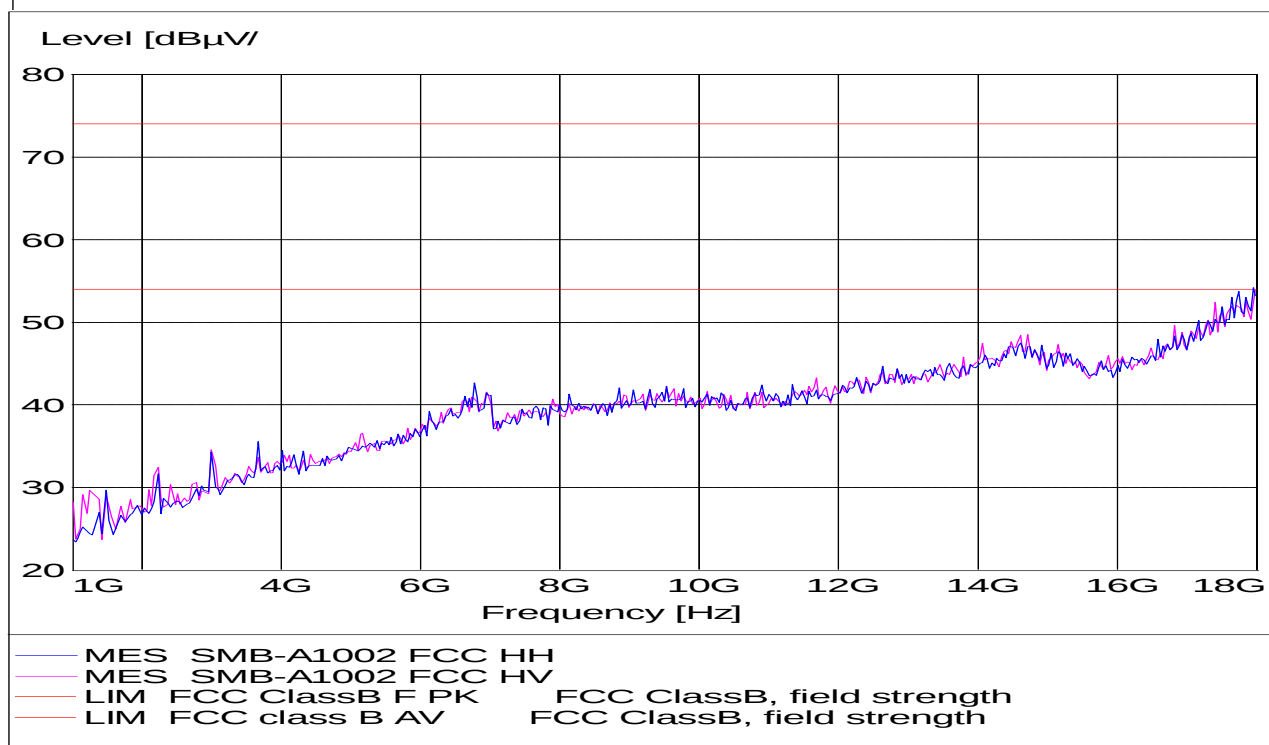
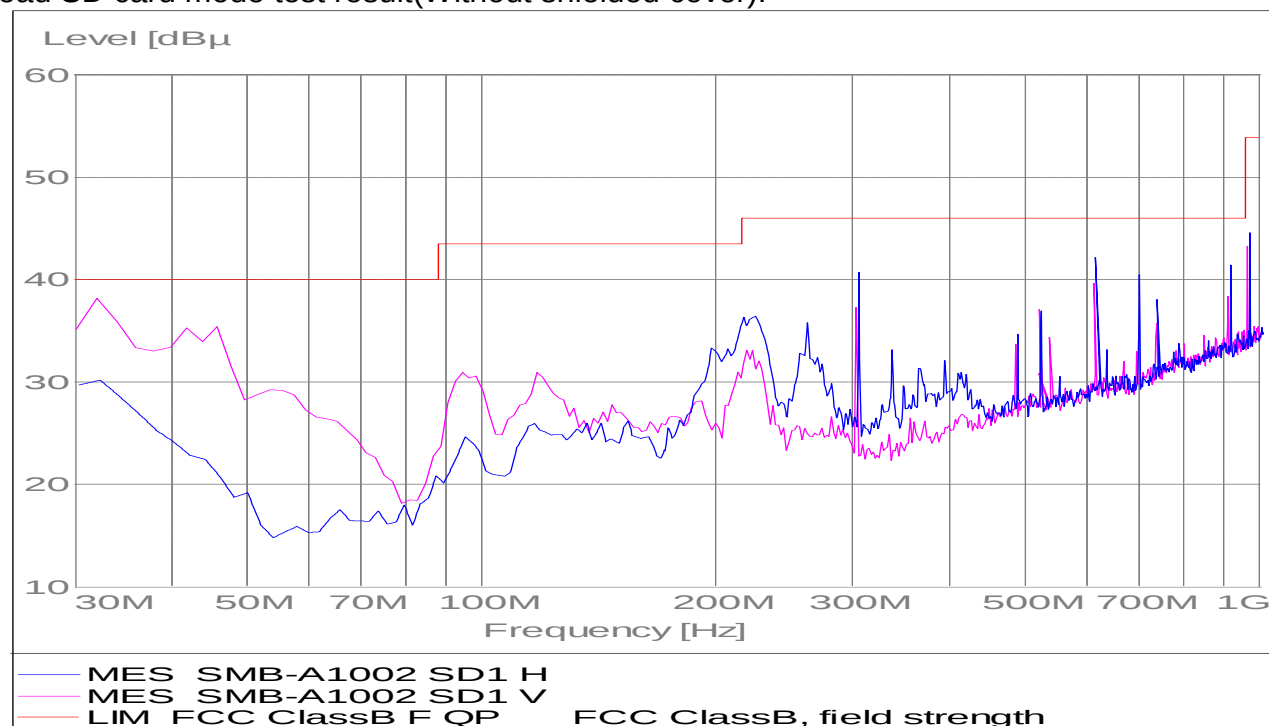
Radiated Emission

Read memory mode test result(Without shielded cover):

Frequency MHz	Cable Loss dB	Antenna Factor dB/m	Reading dBuV	Emission Level dBuV/m	Polarization	Limit dBuV/m	Detector	Result
33.887	0.9	17.6	15.8	34.3	Vertical	40.0	QP	Pass
402.01	3.2	17.0	20.3	40.5	Vertical	46.0	QP	Pass
225.134	2.6	11.0	25.4	39.0	Horizontal	46.0	QP	Pass
402.011	3.2	17.0	21.7	41.9	Horizontal	46.0	QP	Pass
960.080	5.2	21.2	17.2	43.6	Horizontal	54.0	QP	Pass

Radiated Emission

Read SD card mode test result(Without shielded cover):



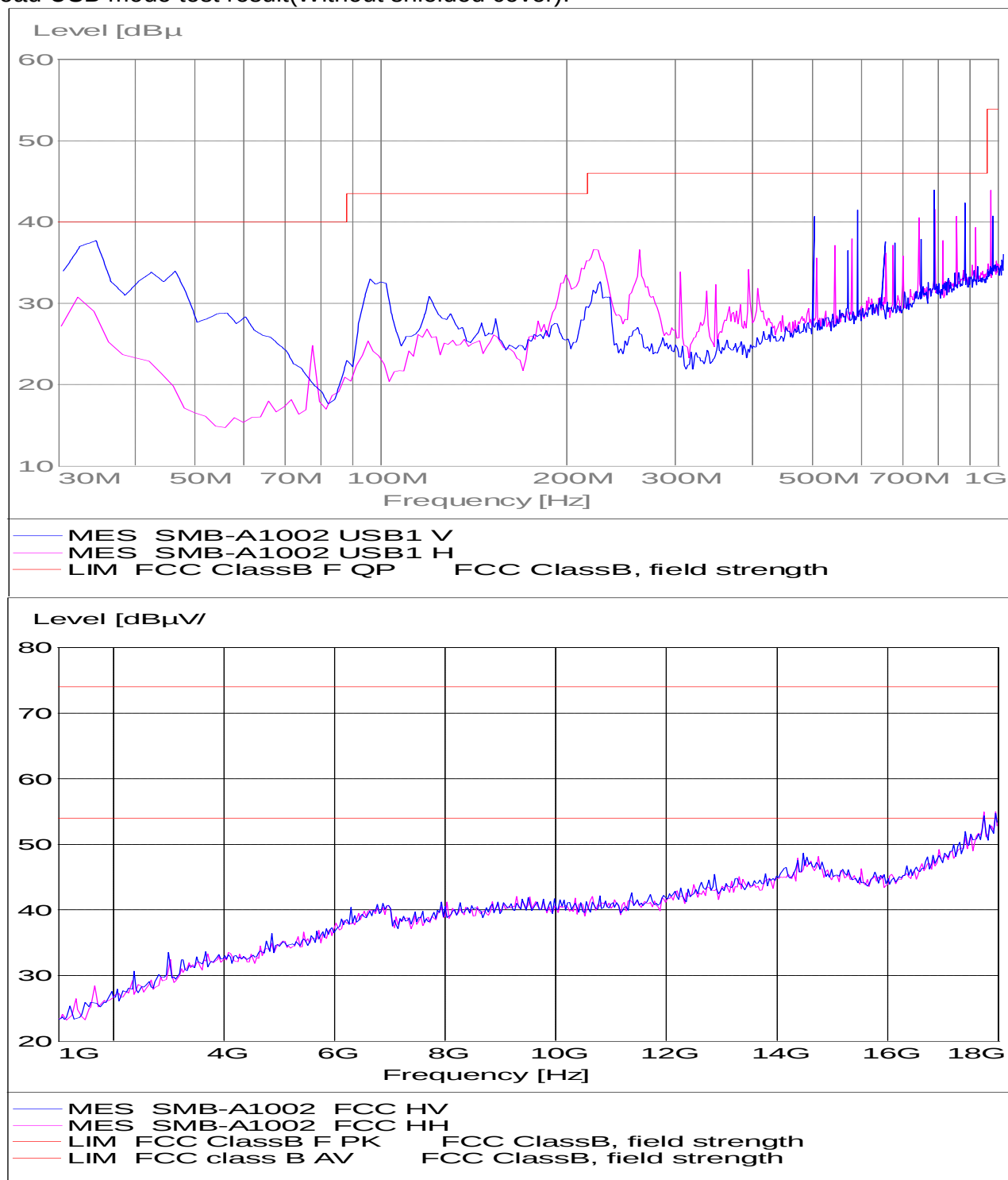
Radiated Emission

Read SD card mode test result(Without shielded cover):

Frequency MHz	Cable Loss dB	Antenna Factor dB/m	Reading dBuV	Emission Level dBuV/m	Polarization	Limit dBuV/m	Detector	Result
31.943	0.9	18.8	16.2	35.9	Horizontal	40.0	QP	Pass
45.551	1.2	10.5	21.4	33.1	Horizontal	40.0	QP	Pass
602.155	4.1	18.8	17.2	40.1	Horizontal	46.0	QP	Pass
220.501	2.6	10.6	22.0	35.1	Vertical	46.0	QP	Pass
303.133	2.9	13.8	23.9	40.6	Vertical	46.0	QP	Pass
608.865	4.1	18.8	19.7	42.6	Vertical	46.0	QP	Pass

Radiated Emission

Read USB mode test result(Without shielded cover):



Radiated Emission

Read USB mode test result(Without shielded cover):

Frequency MHz	Cable Loss dB	Antenna Factor dB/m	Reading dBuV	Emission Level dBuV/m	Polarization	Limit dBuV/m	Detector	Result
31.943	0.9	18.8	11.1	30.8	Vertical	40.0	QP	Pass
33.887	0.9	17.6	18.3	36.8	Vertical	46.0	QP	Pass
500.01	3.7	17.6	19.2	40.5	Vertical	46.0	QP	Pass
593.211	4.1	18.7	19.3	42.0	Horizontal	46.0	QP	Pass
694.446	4.5	19.2	18.8	42.5	Horizontal	46.0	QP	Pass
792.455	4.8	20.1	16.7	41.6	Horizontal	46.0	QP	Pass



Product Service

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 2010
Bilog Antenna	Chase	CBL6112B	2591	Sep 21 2010
Signal Generator	Rohde & Schwarz	SMR20	100047	Sep 21 2010
Antenna	Schwarzbeck	VUBA9117	115	Sep 21 2010
Horn Antenna	Rohde & Schwarz	HF906	100013	Sep 21 2010

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 (dB μ V/m)	U=4.6dB (30MHz-25GHz)
CE	Disturbance Voltage (dB μ V)	U=3.3dB