

FCC Test Report

FCC ID:LNQSBWD100B

Product : ScreenBeam Pro Wireless Display Receiver,
ScreenBeam Pro - Education Edition 2,
ScreenBeam Pro - Business Edition,
ScreenBeam Kit,
ScreenBeam Pro

Trade Name : Actiontec

Model Name : SBWD100B

Serial Model : N/A

Report No. : NTEK-2014NT0515718F2-01

Prepared for

Actiontec Electronics, Inc.

760 North Mary Ave., Sunnyvale, California 94085 United States

Prepared by

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TEST RESULT CERTIFICATION

Applicant's name : Actiontec Electronics, Inc.
Address : 760 North Mary Ave., Sunnyvale, California 94085 United States
Manufacturer's Name : Actiontec Electronics, Inc.
Address : 760 North Mary Ave., Sunnyvale, California 94085 United States

Product description

Product name : ScreenBeam Pro Wireless Display Receiver,
ScreenBeam Pro - Education Edition 2,
ScreenBeam Pro - Business Edition,
ScreenBeam Kit,
ScreenBeam Pro

Model and/or type reference : SBWD100B

Serial Model : N/A

FCC Part15B: 01 Oct.2014

Standards : ANSI C63.4:2003

ICES-003 Issue 5 August 2012

This device described above has been tested by NTEK, and the test results show that the equipment under test (EUT) is in compliance with Part 15 of FCC Rules. And it is applicable only to the tested sample identified in the report.

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Date of Test :

Date (s) of performance of tests : 24 Oct 2014 ~13 Jan. 2015

Date of Issue..... : 13 Jan. 2015

Test Result..... : **Pass**

Testing Engineer : Kyle Xu
(Kyle Xu)

Technical Manager : Brown Lu
(Brown Lu)

Authorized Signatory : Bill Yao
(Bill Yao)

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1. TEST SUMMARY

Test procedures according to the technical standards:

EMC Emission				
Standard	Test Item	Limit	Judgment	Remark
FCC Part15B: 01 Oct.2014 ANSI C63.4: 2003 ICES-003 Issue 5 August 2012	Conducted Emission	Class B	PASS	
	Radiated Emission	Class B	PASS	

NOTE:

- (1) 'N/A' denotes test is not applicable in this Test Report
- (2) For client's request and manual description, the test will not be executed.

1.1 TEST FACILITY

NTEK Testing Technology Co., Ltd

Add. : 1/F, Building E, Fenda Science Park, Sanwei Community, Xixiang Street, Bao'an District, Shenzhen P.R. China.

FCC Registration Number:238937; IC Registration Number:9270A-1

CNAS Registration Number:L5516

1.2 MEASUREMENT UNCERTAINTY

The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately 95 %.

A. Conducted Measurement :

Test Site	Method	Measurement Frequency Range	U , (dB)	NOTE
NTEKC01	ANSI	150 KHz ~ 30MHz	3.2	

B. Radiated Measurement :

Test Site	Method	Measurement Frequency Range	U , (dB)	NOTE
NTEKA01	ANSI	30MHz ~ 1000MHz	4.7	
		1GHz ~6GHz	5.0	

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	ScreenBeam Pro Wireless Display Receiver, ScreenBeam Pro - Education Edition 2, ScreenBeam Pro - Business Edition, ScreenBeam Kit, ScreenBeam Pro
Model Name	SBWD100B
Additional Model Number(s)	N/A
Model Difference	N/A
Product Description	
Operation Frequency:	802.11b/g/n(20MHz):2412~2462 MHz 802.11n(40MHz):2422~2452 MHz 802.11a/n(20):5180 MHz ~ 5240 MHz 802.11n(40): 5190 MHz ~ 5230 MHz
Modulation Type:	CCK/OFDM/DBPSK/DAPSK OFDM (BPSK / QPSK / 16QAM / 64QAM)
Connecting I/O port:	HDMI VGA RJ45
Adapter	Adapter 1: Mode: WA-10P05FU Input: 100-240V~, 50/60Hz, 0.3A Max Output: 5V $\overline{\text{---}}$, 2A Adapter 2: Mode: MU06-E050100-A1 Input: 100-240V~, 50/60Hz, 0.2A Output: 5V $\overline{\text{---}}$, 1A
Rating	Adapter 1: DC 5V,2A Adapter 2: DC 5V,1A
Battery	N/A

2.2 DESCRIPTION OF TEST MODES

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

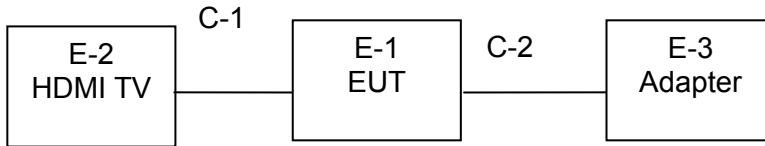
Pretest Mode	Description
Mode 1	HDMI TO VGA MODE
Mode 2	LAN MODE

For Conducted Test	
Final Test Mode	Description
Mode 1	HDMI TO VGA MODE
Mode 2	LAN MODE

For Radiated Test	
Final Test Mode	Description
Mode 1	HDMI TO VGA MODE
Mode 2	LAN MODE

2.3 DESCRIPTION OF TEST SETUP

Mode 1:Mode 1



2.4 DESCRIPTION TEST PERIPHERAL AND EUT PERIPHERAL

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Brand	Model/Type No.	Series No.	Note
E-1	ScreenBeam Pro Wireless Display Receiver, ScreenBeam Kit, ScreenBeam Pro, ScreenBeam Pro - Education Edition 2, ScreenBeam Pro - Business Edition	Actiontec	SBWD100B	N/A	EUT
E-2	TV	SONY	KDL-24EX520	N/A	
E-3	Adapter 1	Actiontec	WA-10P05FU	N/A	
E-3	Adapter 2	Actiontec	MU06-E050100-A1	N/A	

Item	Shielded Type	Ferrite Core	Length	Note
C-1	NO	NO	100cm	
C-2	NO	NO	80cm	

Note:

- (1) The support equipment was authorized by Declaration of Confirmation.
- (2) For detachable type I/O cable should be specified the length in cm in 『Length』 column.
- (3) “YES” means “shielded” “with core”; “NO” means “unshielded” “without core”.

2.5 MEASUREMENT INSTRUMENTS LIST

2.5.1 CONDUCTED TEST SITE

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	LISN	R&S	ENV216	101313	Jul. 06, 2014	Jul. 05, 2015	1 year
2	LISN	SCHWARZBECK	NNLK 8129	8129245	Dec. 25, 2014	Dec. 24, 2015	1 year
3	Pulse Limiter	SCHWARZBECK	VTSD 9561F	9716	Dec. 25, 2014	Dec. 24, 2015	1 year
4	50Ω Switch	ANRITSU CORP	MP59B	6200983704	Jul. 06, 2014	Jul. 05, 2015	1 year
5	Test Cable	N/A	C01	N/A	Jul. 06, 2014	Jul. 05, 2015	1 year
6	Test Cable	N/A	C02	N/A	Jul. 06, 2014	Jul. 05, 2015	1 year
7	Test Cable	N/A	C03	N/A	Jul. 06, 2014	Jul. 05, 2015	1 year
8	EMI Test Receiver	R&S	ESCI	101160	Jul. 06, 2014	Jul. 05, 2015	1 year
9	Passive Voltage Probe	ESH2-Z3	R&S	100196	Jul. 06, 2014	Jul. 05, 2015	1 year
10	Triple-Loop Antenna	EVERFINE	LIA-2	11020003	Jul. 06, 2014	Jul. 05, 2015	1 year
11	Absorbing Clamp	R&S	MDS-21	100423	Jul. 06, 2014	Jul. 05, 2015	1 year

2.5.2 RADIATED TEST SITE

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	Bilog Antenna	TESEQ	CBL6111D	31216	Jul. 06, 2014	Jul. 05, 2015	1 year
2	Test Cable	N/A	R-01	N/A	Dec. 25, 2014	Dec. 24, 2015	1 year
3	Test Cable	N/A	R-02	N/A	Dec. 25, 2014	Dec. 24, 2015	1 year
4	EMI Test Receiver	R&S	ESCI-7	101318	Jul. 06, 2014	Jul. 05, 2015	1 year
5	Antenna Mast	EM	SC100_1	N/A	N/A	N/A	N/A
6	Turn Table	EM	SC100	060531	N/A	N/A	N/A
7	50Ω Switch	Anritsu Corp	MP59B	6200983705	Jul. 06, 2014	Jul. 05, 2015	1 year
8	Spectrum Analyzer	Aglient	E4407B	MY45108040	Jul. 06, 2014	Jul. 05, 2015	1 year
9	Horn Antenna	EM	EM-AH-10180	2011071402	Jul. 06, 2014	Jul. 05, 2015	1 year
10	Amplifier	EM	EM-30180	060538	Jul. 06, 2014	Jul. 05, 2015	1 year

3. EMC EMISSION TEST

3.1 CONDUCTED EMISSION MEASUREMENT

3.1.1 POWER LINE CONDUCTED EMISSION (Frequency Range 150KHz-30MHz)

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *
0.50 -5.0	73.00	60.00	56.00	46.00
5.0 -30.0	73.00	60.00	60.00	50.00

Note:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.

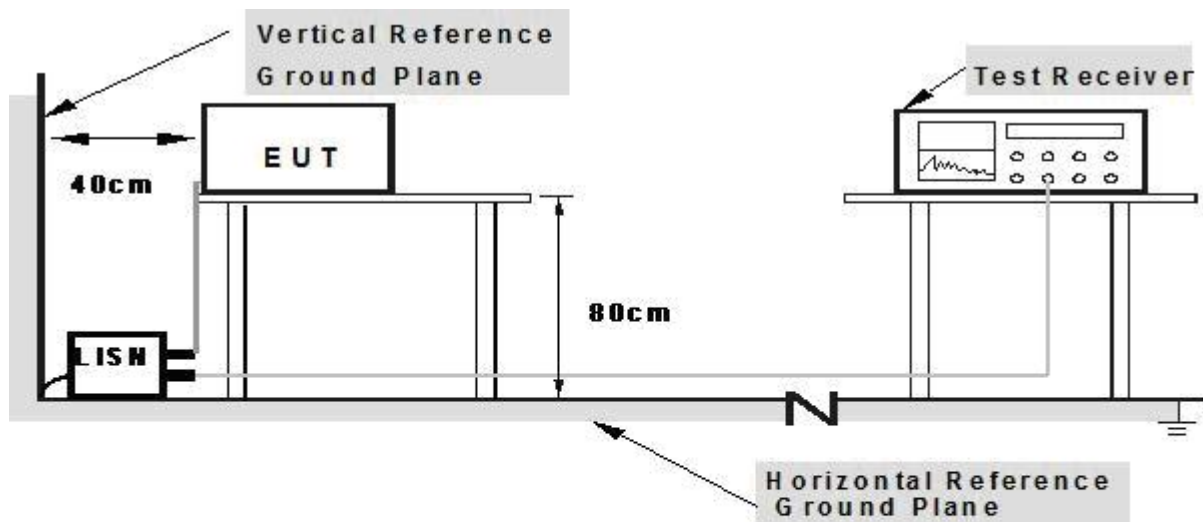
The following table is the setting of the receiver

Receiver Parameters	Setting
Attenuation	10 dB
Start Frequency	0.15 MHz
Stop Frequency	30 MHz
IF Bandwidth	9 kHz

3.1.2 TEST PROCEDURE

- a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

3.1.3 TEST SETUP



- Note: 1. Support units were connected to second LISN.**
2. Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

3.1.4 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.

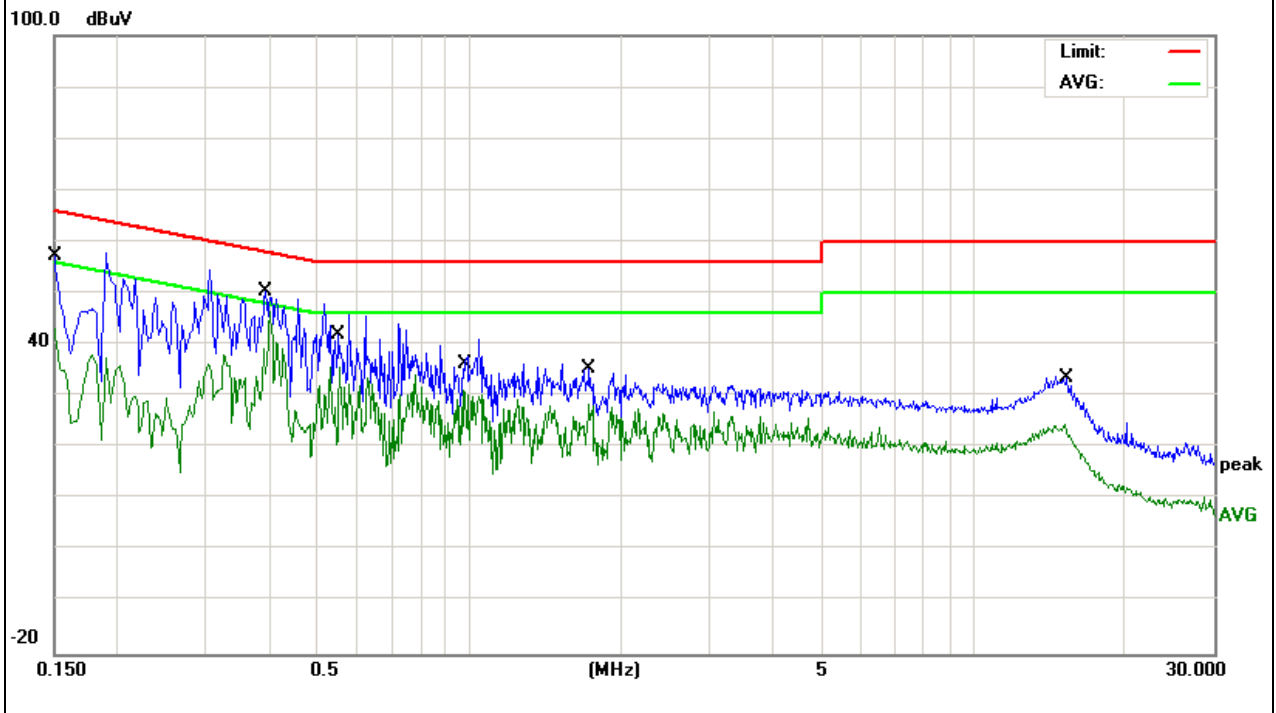
3.1.5 TEST RESULTS

EUT :	Refer to Page 6	Model Name. :	SBWD100B
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Test Date :	2015-1-13
Test Mode :	Mode 1- Adapter 1	Phase :	L
Test Voltage :	DC 5V From Adapter AC120V/60Hz		

Freq. (MHz)	Reading (dBuV)	Factor (dBuV)	Measurement (dBuV)	Limit (dBuV)	Over (dB)	Detector
0.1500	45.63	9.66	55.29	65.99	-10.70	QP
0.1500	33.64	9.66	43.30	55.99	-12.69	AVG
0.3899	37.17	9.52	46.69	58.06	-11.37	QP
0.3899	29.64	9.52	39.16	48.06	-8.90	AVG
0.5540	28.95	9.53	38.48	56.00	-17.52	QP
0.5540	26.24	9.53	35.77	46.00	-10.23	AVG
0.9699	25.65	9.55	35.20	56.00	-20.80	QP
0.9699	21.50	9.55	31.05	46.00	-14.95	AVG
1.7339	25.76	9.56	35.32	56.00	-20.68	QP
1.7339	18.94	9.56	28.50	46.00	-17.50	AVG
15.1979	22.62	9.85	32.47	60.00	-27.53	QP
15.1979	14.56	9.85	24.41	50.00	-25.59	AVG

Remark:

Factor = Insertion Loss + Cable Loss.

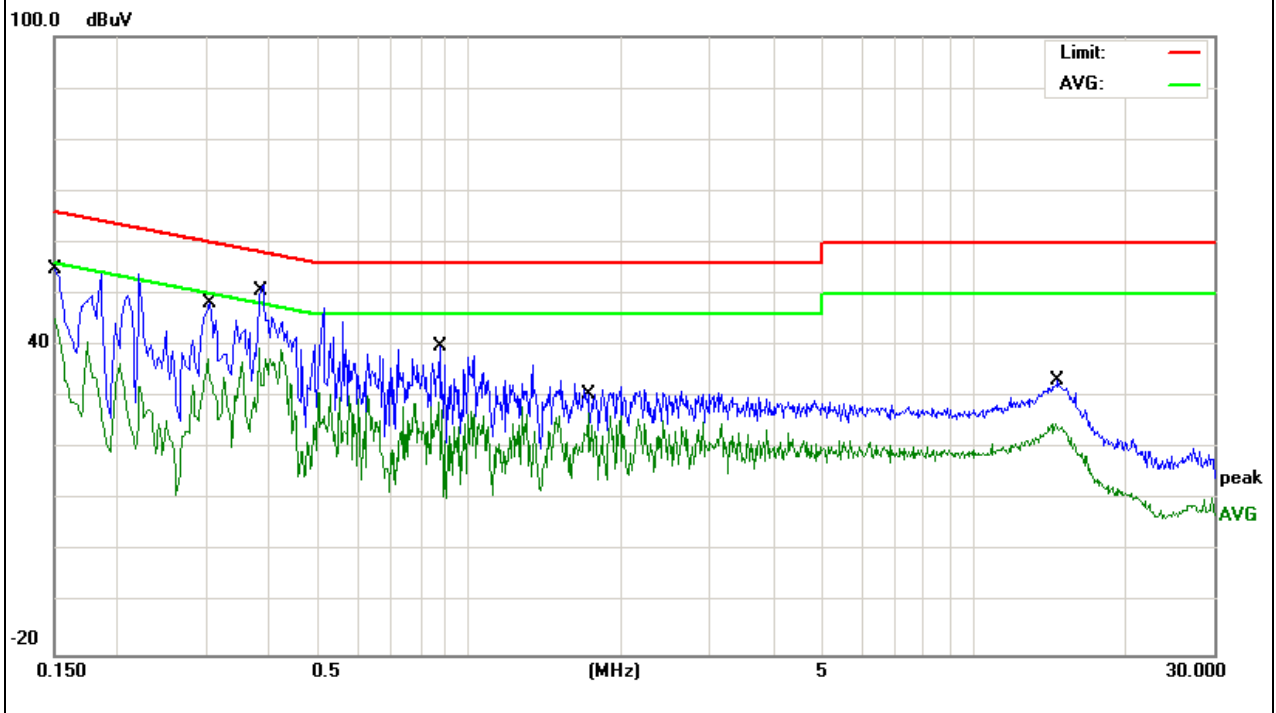


EUT :	Refer to Page 6	Model Name. :	SBWD100B
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Test Date :	2015-1-13
Test Mode :	Mode 1- Adapter 1	Phase :	N
Test Voltage :	DC5V From Adapter AC120V/60Hz		

Freq. (MHz)	Reading (dBuV)	Factor (dBuV)	Measurement (dBuV)	Limit (dBuV)	Over (dB)	Detector
0.1500	44.88	9.66	54.54	65.99	-11.45	QP
0.1500	35.69	9.66	45.35	55.99	-10.64	AVG
0.3020	37.70	9.51	47.21	60.19	-12.98	QP
0.3020	28.00	9.51	37.51	50.19	-12.68	AVG
0.3820	38.80	9.52	48.32	58.23	-9.91	QP
0.3820	29.97	9.52	39.49	48.23	-8.74	AVG
0.8700	24.27	9.55	33.82	56.00	-22.18	QP
0.8700	19.48	9.55	29.03	46.00	-16.97	AVG
1.7180	20.92	9.56	30.48	56.00	-25.52	QP
1.7180	17.28	9.56	26.84	46.00	-19.16	AVG
14.5259	22.47	9.83	32.30	60.00	-27.70	QP
14.5259	15.10	9.83	24.93	50.00	-25.07	AVG

Remark:

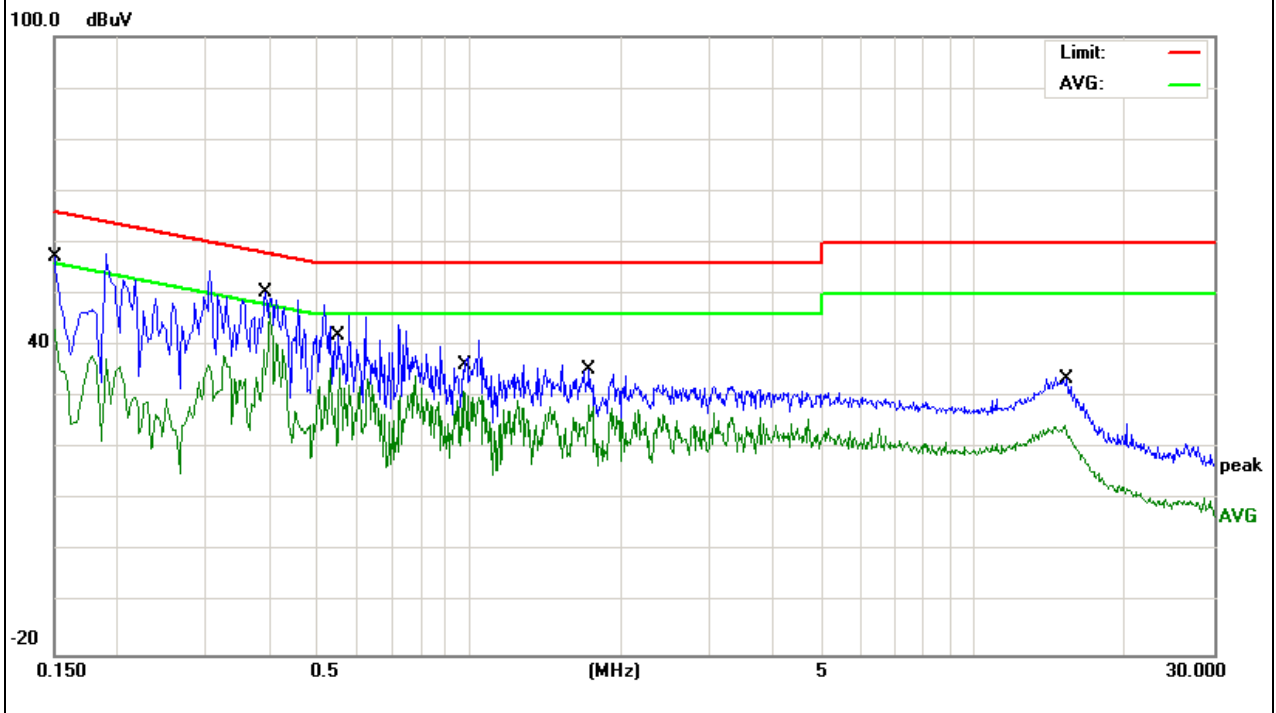
Factor = Insertion Loss + Cable Loss.



EUT :	Refer to Page 6	Model Name. :	SBWD100B
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Test Date :	2015-1-13
Test Mode :	Mode 2- Adapter 1	Phase :	L
Test Voltage :	DC5V From Adapter AC120V/60Hz		

Freq. (MHz)	Reading (dBuV)	Factor (dBuV)	Measurement (dBuV)	Limit (dBuV)	Over (dB)	Detector
0.1500	45.63	9.66	55.29	65.99	-10.70	QP
0.1500	33.64	9.66	43.30	55.99	-12.69	AVG
0.3899	37.17	9.52	46.69	58.06	-11.37	QP
0.3899	29.64	9.52	39.16	48.06	-8.90	AVG
0.5540	28.95	9.53	38.48	56.00	-17.52	QP
0.5540	26.24	9.53	35.77	46.00	-10.23	AVG
0.9699	25.65	9.55	35.20	56.00	-20.80	QP
0.9699	21.50	9.55	31.05	46.00	-14.95	AVG
1.7339	25.76	9.56	35.32	56.00	-20.68	QP
1.7339	18.94	9.56	28.50	46.00	-17.50	AVG
15.1979	22.62	9.85	32.47	60.00	-27.53	QP
15.1979	14.56	9.85	24.41	50.00	-25.59	AVG

Remark:
Factor = Insertion Loss + Cable Loss.

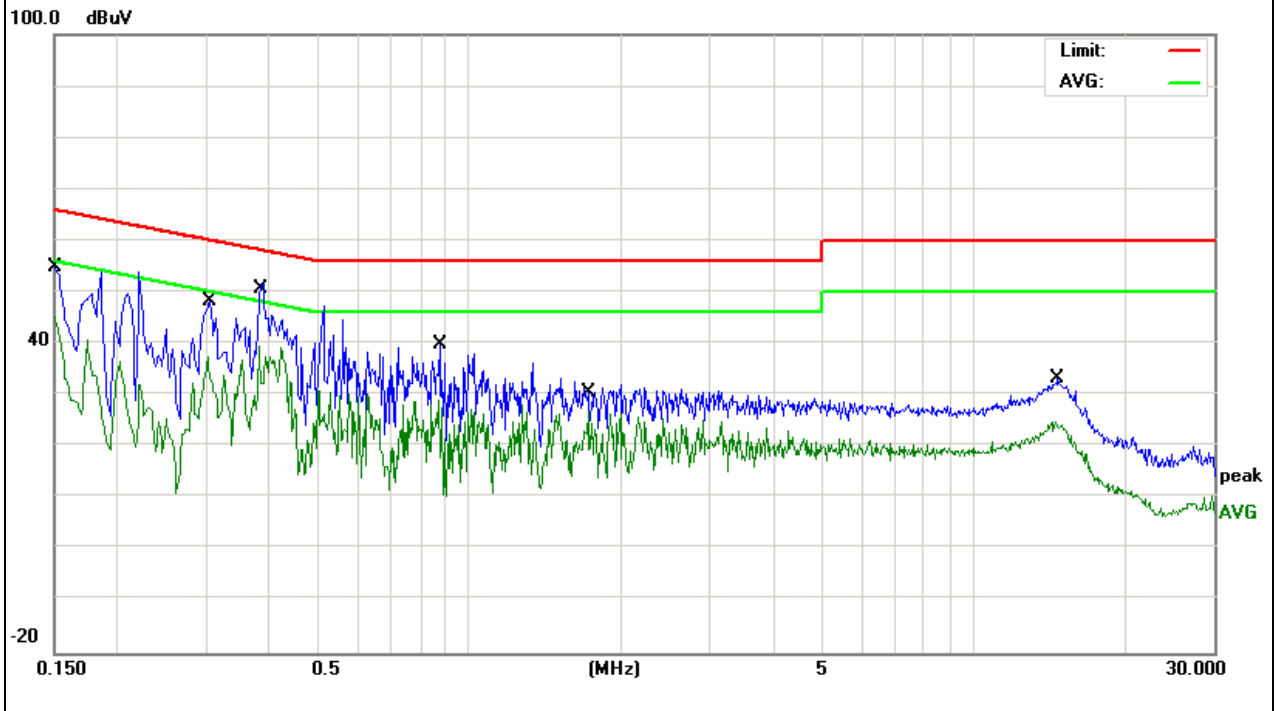


EUT :	Refer to Page 6	Model Name. :	SBWD100B
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Test Date :	2015-1-13
Test Mode :	Mode2- Adapter 1	Phase :	N
Test Voltage :	DC5V From Adapter AC120V/60Hz		

Freq. (MHz)	Reading (dBuV)	Factor (dBuV)	Measurement (dBuV)	Limit (dBuV)	Over (dB)	Detector
0.1500	44.88	9.66	54.54	65.99	-11.45	QP
0.1500	35.69	9.66	45.35	55.99	-10.64	AVG
0.3020	37.70	9.51	47.21	60.19	-12.98	QP
0.3020	28.00	9.51	37.51	50.19	-12.68	AVG
0.3820	38.80	9.52	48.32	58.23	-9.91	QP
0.3820	29.97	9.52	39.49	48.23	-8.74	AVG
0.8700	24.27	9.55	33.82	56.00	-22.18	QP
0.8700	19.48	9.55	29.03	46.00	-16.97	AVG
1.7180	20.92	9.56	30.48	56.00	-25.52	QP
1.7180	17.28	9.56	26.84	46.00	-19.16	AVG
14.5259	22.47	9.83	32.30	60.00	-27.70	QP
14.5259	15.10	9.83	24.93	50.00	-25.07	AVG

Remark:

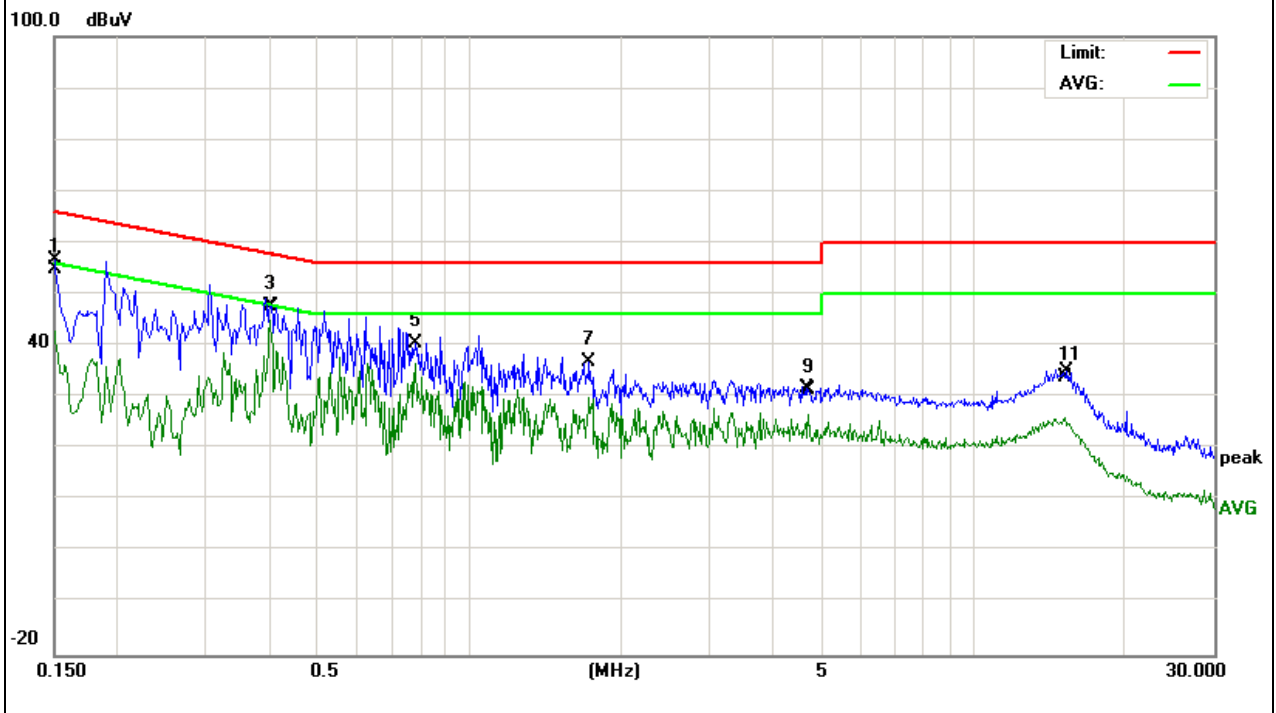
Factor = Insertion Loss + Cable Loss.



EUT :	Refer to Page 6	Model Name. :	SBWD100B
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Test Date :	2015-1-13
Test Mode :	Mode 1- Adapter 2	Phase :	L
Test Voltage :	DC 5V From Adapter AC120V/60Hz		

Freq. (MHz)	Reading (dBuV)	Factor (dBuV)	Measurement (dBuV)	Limit (dBuV)	Over (dB)	Detector
0.1500	45.13	9.66	54.79	65.99	-11.20	QP
0.1500	33.14	9.66	42.80	55.99	-13.19	AVG
0.4020	38.00	9.52	47.52	57.81	-10.29	QP
0.4020	35.50	9.52	45.02	47.81	-2.79	AVG
0.7820	30.95	9.54	40.49	56.00	-15.51	QP
0.7820	26.98	9.54	36.52	46.00	-9.48	AVG
1.7338	27.26	9.56	36.82	56.00	-19.18	QP
1.7338	20.44	9.56	30.00	46.00	-16.00	AVG
4.7019	21.91	9.60	31.51	56.00	-24.49	QP
4.7019	17.13	9.60	26.73	46.00	-19.27	AVG
15.1979	24.12	9.85	33.97	60.00	-26.03	QP
15.1979	16.06	9.85	25.91	50.00	-24.09	AVG

Remark:
Factor = Insertion Loss + Cable Loss.

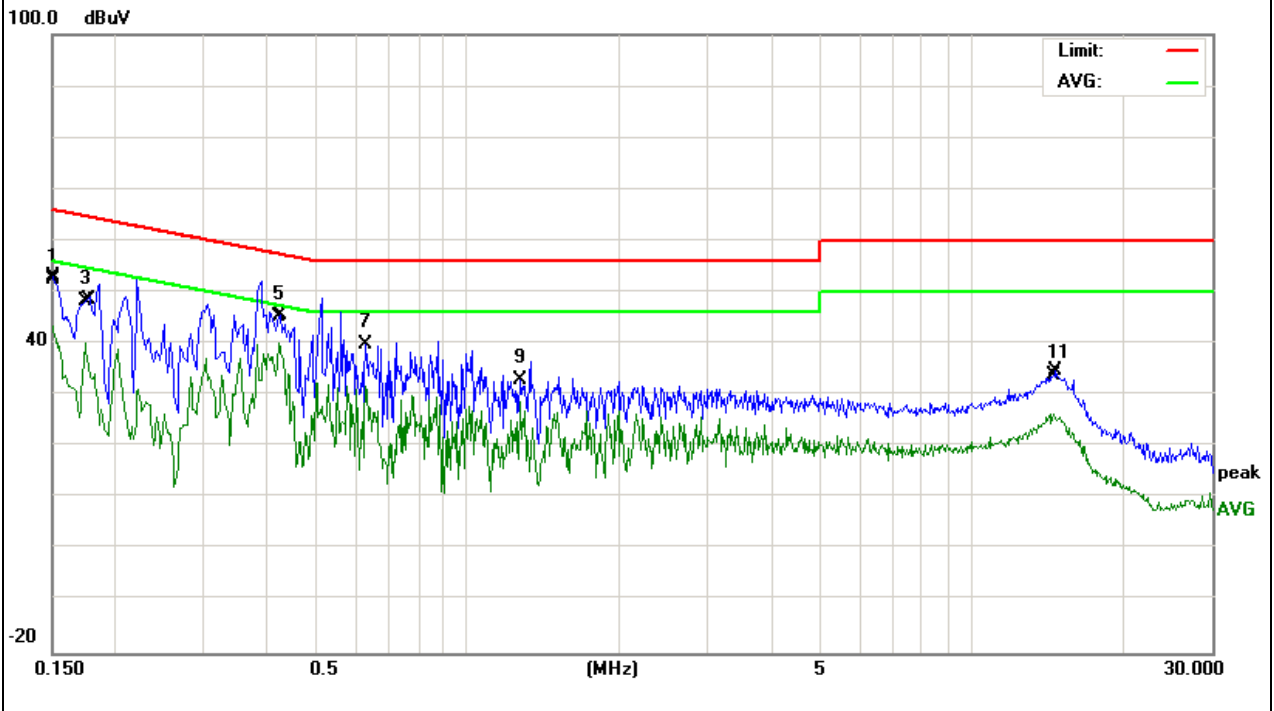


EUT :	Refer to Page 6	Model Name. :	SBWD100B
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Test Date :	2015-1-13
Test Mode :	Mode 1- Adapter 2	Phase :	N
Test Voltage :	DC5V From Adapter AC120V/60Hz		

Freq. (MHz)	Reading (dBuV)	Factor (dBuV)	Measurement (dBuV)	Limit (dBuV)	Over (dB)	Detector
0.1500	42.88	9.66	52.54	65.99	-13.45	QP
0.1500	33.69	9.66	43.35	55.99	-12.64	AVG
0.1737	38.57	9.58	48.15	64.78	-16.63	QP
0.1737	30.56	9.58	40.14	54.78	-14.64	AVG
0.4218	35.86	9.52	45.38	57.41	-12.03	QP
0.4218	30.73	9.52	40.25	47.41	-7.16	AVG
0.6300	30.41	9.53	39.94	56.00	-16.06	QP
0.6300	22.19	9.53	31.72	46.00	-14.28	AVG
1.2700	23.46	9.56	33.02	56.00	-22.98	QP
1.2700	19.23	9.56	28.79	46.00	-17.21	AVG
14.5259	23.97	9.83	33.80	60.00	-26.20	QP
14.5259	16.60	9.83	26.43	50.00	-23.57	AVG

Remark:

Factor = Insertion Loss + Cable Loss.

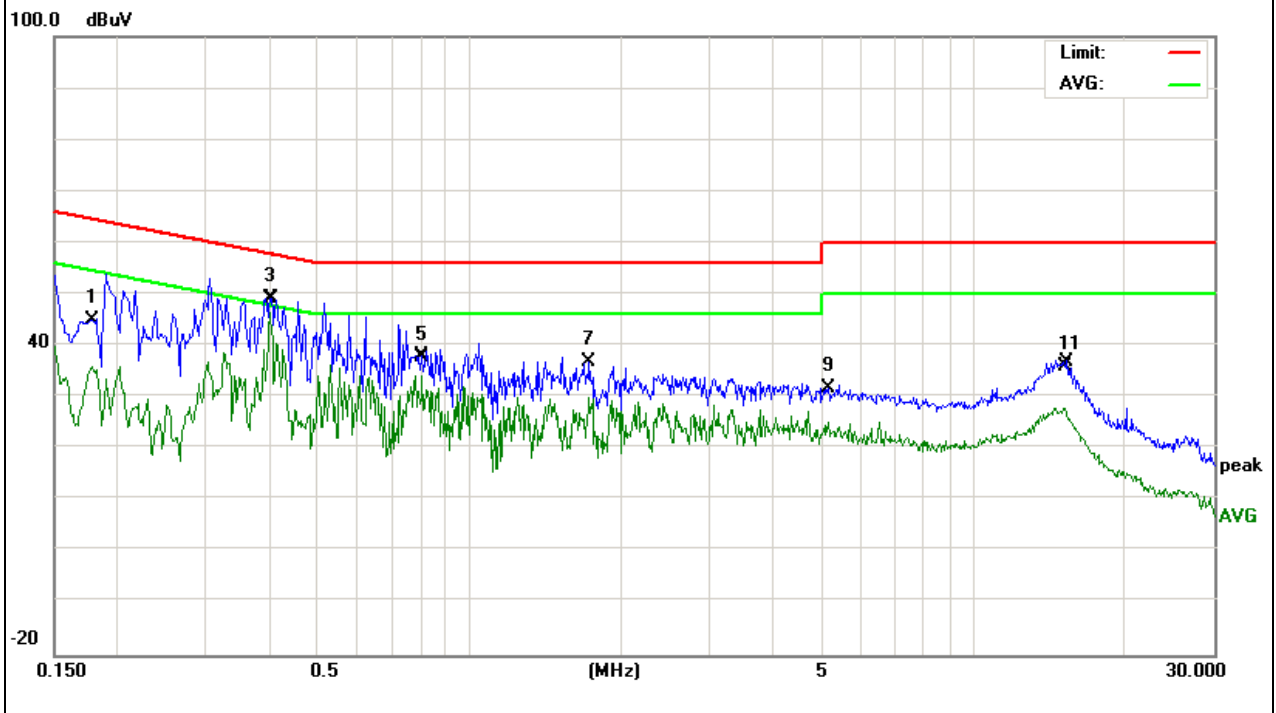


EUT :	Refer to Page 6	Model Name. :	SBWD100B
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Test Date :	2015-1-13
Test Mode :	Mode 2- Adapter 2	Phase :	L
Test Voltage :	DC5V From Adapter AC120V/60Hz		

Freq. (MHz)	Reading (dBuV)	Factor (dBuV)	Measurement (dBuV)	Limit (dBuV)	Over (dB)	Detector
0.1779	35.49	9.58	45.07	64.58	-19.51	QP
0.1779	26.50	9.58	36.08	54.58	-18.50	AVG
0.4020	39.50	9.52	49.02	57.81	-8.79	QP
0.4020	37.00	9.52	46.52	47.81	-1.29	AVG
0.8059	28.20	9.54	37.74	56.00	-18.26	QP
0.8059	24.74	9.54	34.28	46.00	-11.72	AVG
1.7338	27.26	9.56	36.82	56.00	-19.18	QP
1.7338	20.44	9.56	30.00	46.00	-16.00	AVG
5.1459	22.23	9.60	31.83	60.00	-28.17	QP
5.1459	15.49	9.60	25.09	50.00	-24.91	AVG
15.1979	26.12	9.85	35.97	60.00	-24.03	QP
15.1979	18.06	9.85	27.91	50.00	-22.09	AVG

Remark:

Factor = Insertion Loss + Cable Loss.

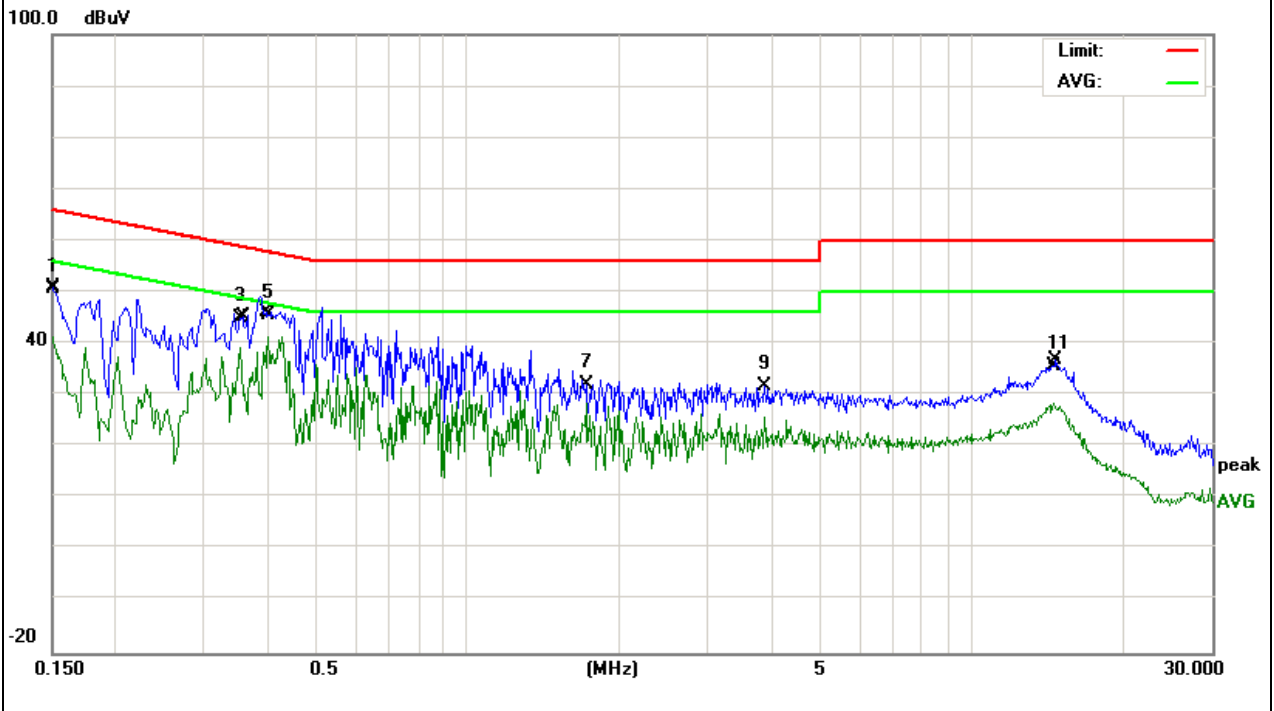


EUT :	Refer to Page 6	Model Name. :	SBWD100B
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Test Mode :	Mode 2- Adapter 2	Phase :	N
Test Voltage :	DC5V From Adapter AC120V/60Hz		

Freq. (MHz)	Reading (dBuV)	Factor (dBuV)	Measurement (dBuV)	Limit (dBuV)	Over (dB)	Detector
0.1500	40.88	9.66	50.54	65.99	-15.45	QP
0.1500	31.69	9.66	41.35	55.99	-14.64	AVG
0.3537	35.48	9.52	45.00	58.87	-13.87	QP
0.3537	29.70	9.52	39.22	48.87	-9.65	AVG
0.4020	36.17	9.52	45.69	57.81	-12.12	QP
0.4020	31.97	9.52	41.49	47.81	-6.32	AVG
1.7177	22.42	9.56	31.98	56.00	-24.02	QP
1.7177	18.78	9.56	28.34	46.00	-17.66	AVG
3.8940	22.14	9.59	31.73	56.00	-24.27	QP
3.8940	16.20	9.59	25.79	46.00	-20.21	AVG
14.5259	25.97	9.83	35.80	60.00	-24.20	QP
14.5259	18.60	9.83	28.43	50.00	-21.57	AVG

Remark:

Factor = Insertion Loss + Cable Loss.



3.2 RADIATED EMISSION MEASUREMENT

3.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

FREQUENCY (MHz)	Class A (at 10m)	Class B (at 3m)
	dBuV/m	dBuV/m
30 ~ 88	39.0	40.0
88 ~ 216	43.5	43.5
216 ~ 960	46.5	46.0
Above 960	49.5	54.0

Notes:

- (1) The limit for radiated test was performed according to as following:
FCC PART 15B /ICES-003.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).

3.2.2 TEST PROCEDURE

Test Arrangement for Radiated Emissions up to 1 GHz

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at an accredited test facility. 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, which was mounted on the top of a variable-height antenna tower.
- c. The antenna is a broadband antenna, and its 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 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 quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

Note: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for quasi-peak detection (QP) at frequency below 1GHz.

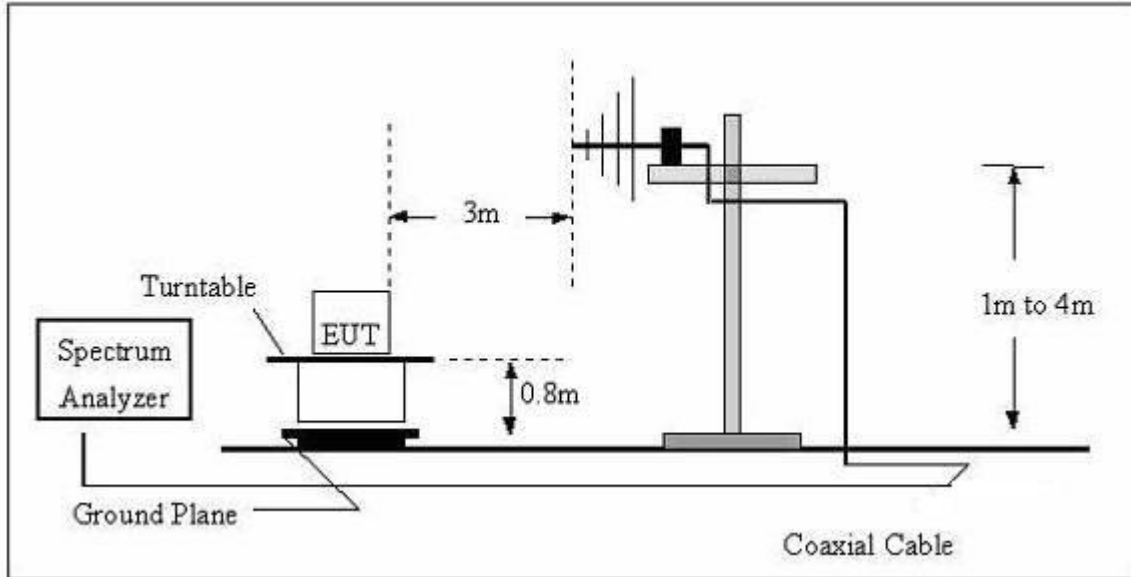
Test Arrangement for Radiated Emissions above 1 GHz.

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at an accredited chamber room. 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, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna can be varied from one meter to four meters, the height of adjustment depends on the EUT height and the antenna 3dB beamwidth both, to detect 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 and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The spectrum analyzer system was set to peak and average detect function and specified

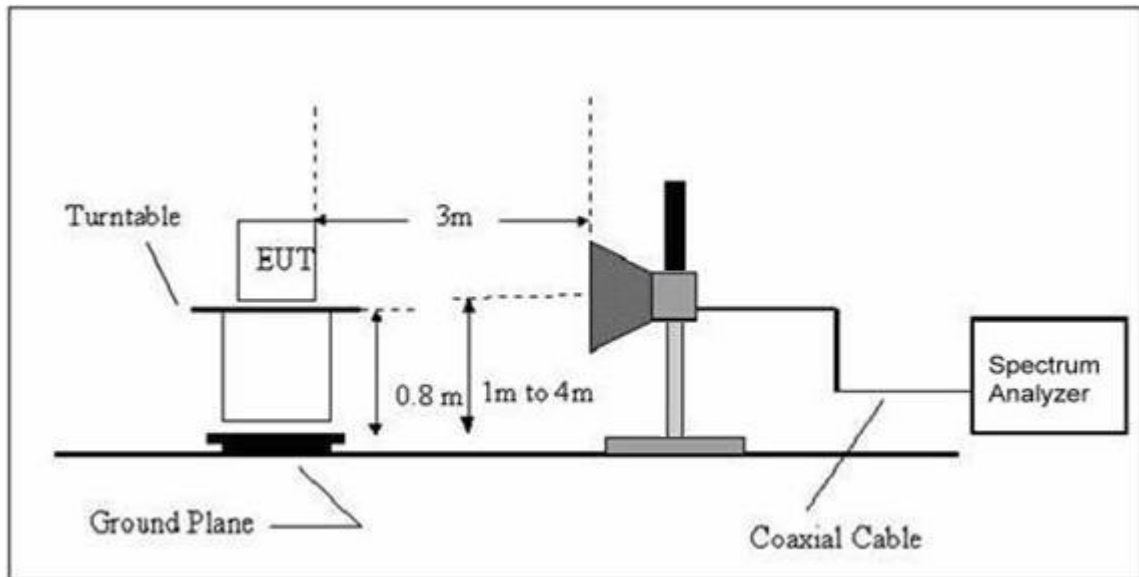
bandwidth with maximum hold mode when the test frequency is above 1 GHz

3.2.3 TEST SETUP

(A) Radiated Emission Test Set-Up Frequency Below 1 GHz



(B) Radiated Emission Test Set-Up Frequency Above 1GHz



3.2.4 EUT OPERATING CONDITIONS

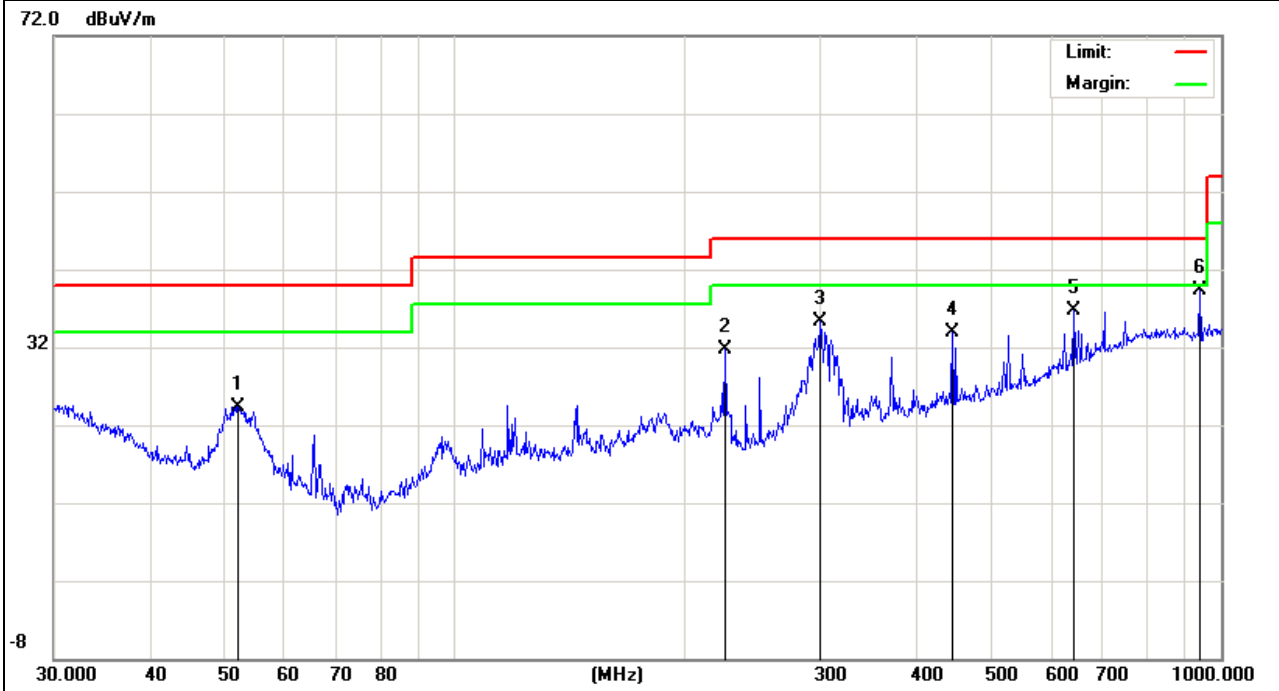
The EUT tested system was configured as the statements of 2.3 Unless otherwise a special operating condition is specified in the follows during the testing.

3.2.5 TEST RESULTS

EUT :	Refer to Page 6	Model Name :	SBWD100B
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2015-1-13
Test Mode :	Mode 1- Adapter 1	Polarization :	Horizontal
Test Power :	DC5V From Adapter AC120V/60Hz		

Freq. (MHz)	Reading (dBuV)	Factor (dBuV)	Measurement (dBuV)	Limit (dBuV)	Over (dB)	Detector
52.2079	14.21	10.06	24.27	40.00	-15.73	QP
225.3077	19.16	12.49	31.65	46.00	-14.35	QP
300.3672	21.18	14.16	35.34	46.00	-10.66	QP
446.4141	14.77	19.23	34.00	46.00	-12.00	QP
642.8613	13.39	23.26	36.65	46.00	-9.35	QP

Remark:
Factor = Antenna Factor + Cable Loss.

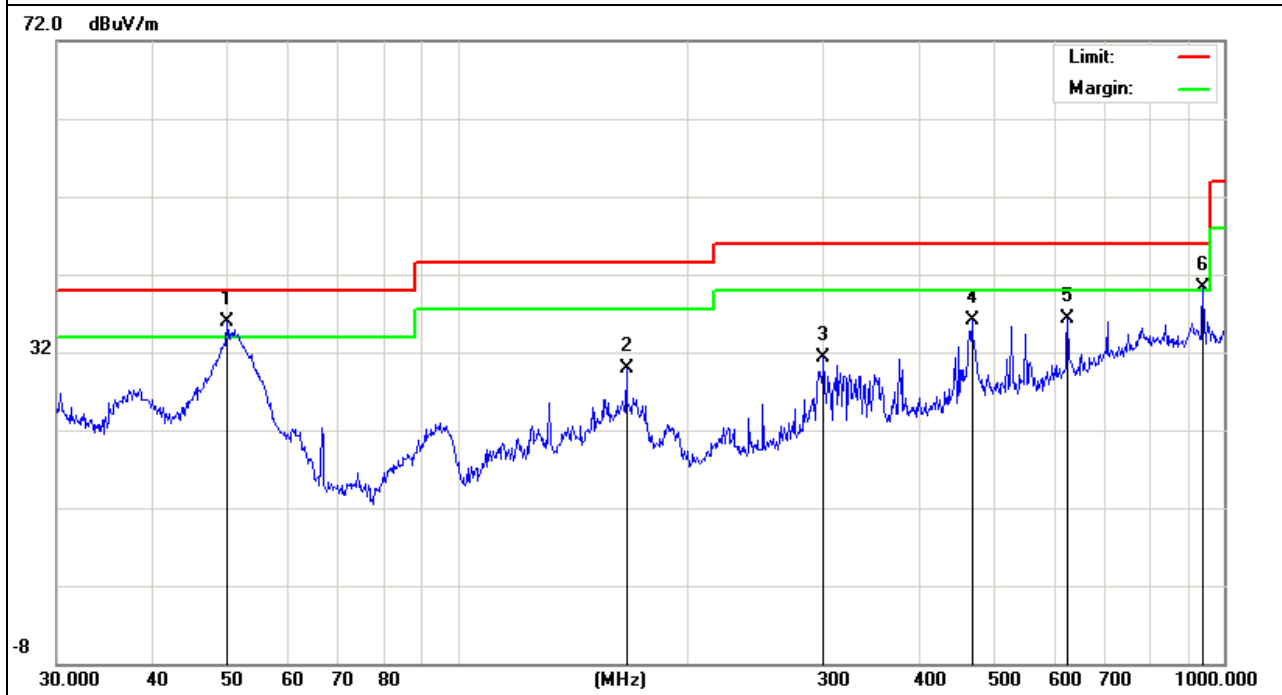


EUT :	Refer to Page 6	Model Name :	SBWD100B
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2015-1-13
Test Mode :	Mode 1- Adapter 1	Polarization :	Vetical
Test Power :	DC5V From Adapter AC120V/60Hz		

Freq. (MHz)	Reading (dBuV)	Factor (dBuV)	Measurement (dBuV)	Limit (dBuV)	Over (dB)	Detector
50.0566	25.28	10.67	35.95	40.00	-4.05	QP
166.068	19.41	10.53	29.94	43.50	-13.56	QP
300.3672	17.24	14.16	31.40	46.00	-14.60	QP
468.8761	16.45	19.68	36.13	46.00	-9.87	QP
625.0778	13.44	22.91	36.35	46.00	-9.65	QP
938.8324	12.99	27.25	40.24	46.00	-5.76	QP

Remark:

Factor = Antenna Factor + Cable Loss.

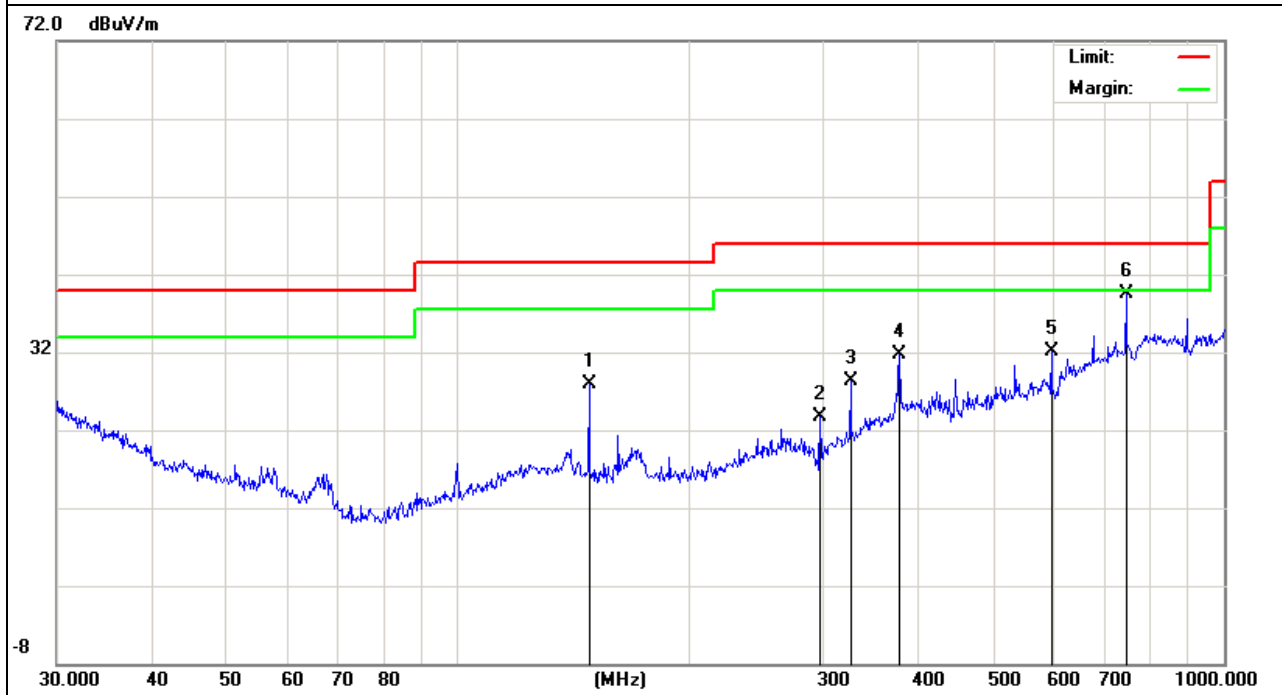


EUT :	Refer to Page 6	Model Name :	SBWD100B
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2015-1-13
Test Mode :	Mode 2- Adapter 1	Polarization :	Horizontal
Test Power :	DC5V From Adapter AC120V/60Hz		

Freq. (MHz)	Reading (dBuV)	Factor (dBuV)	Measurement (dBuV)	Limit (dBuV)	Over (dB)	Detector
148.441	17.27	10.57	27.84	43.50	-15.66	QP
297.2241	9.58	14.12	23.70	46.00	-22.30	QP
325.5957	13.08	15.22	28.30	46.00	-17.70	QP
377.259	14.25	17.37	31.62	46.00	-14.38	QP
595.1326	9.81	22.31	32.12	46.00	-13.88	QP
744.8659	13.52	25.96	39.48	46.00	-6.52	QP

Remark:

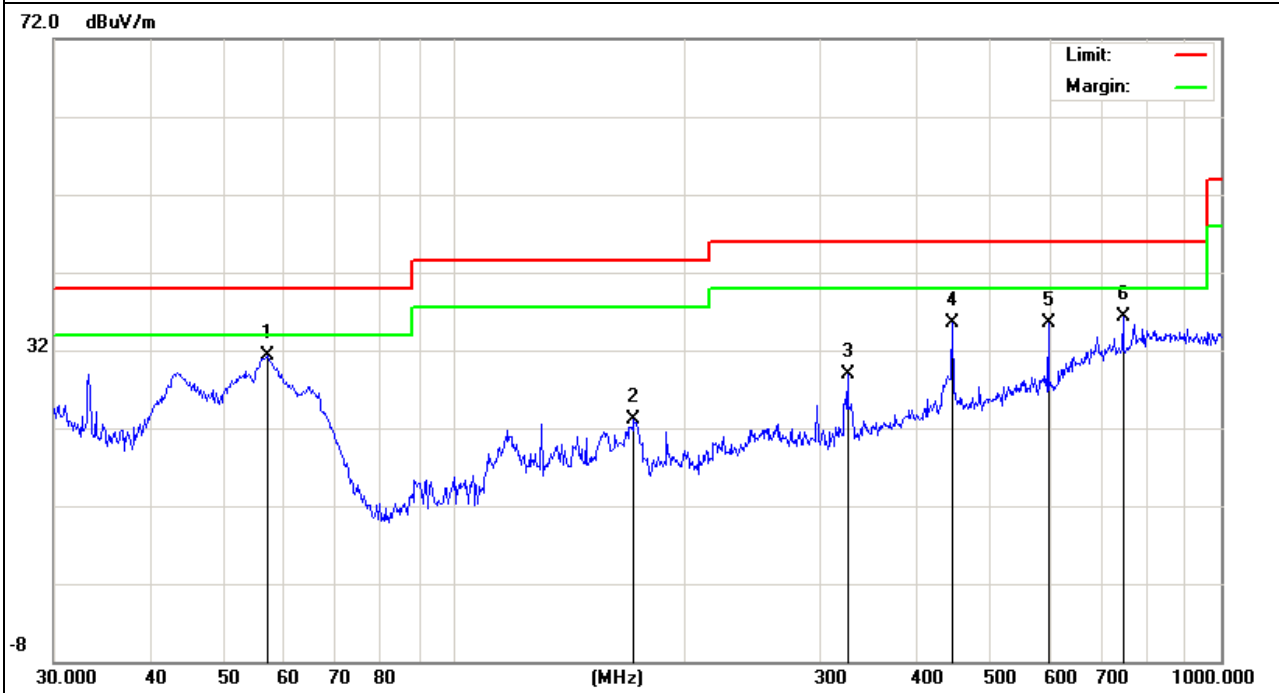
Factor = Antenna Factor + Cable Loss.



EUT :	Refer to Page 6	Model Name :	SBWD100B
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2015-1-13
Test Mode :	Mode 2- Adapter 1	Polarization :	Vetical
Test Power :	DC5V From Adapter AC120V/60Hz		

Freq. (MHz)	Reading (dBuV)	Factor (dBuV)	Measurement (dBuV)	Limit (dBuV)	Over (dB)	Detector
56.9911	22.59	8.70	31.29	40.00	-8.71	QP
171.3925	12.54	10.57	23.11	43.50	-20.39	QP
325.5957	13.76	15.22	28.98	46.00	-17.02	QP
446.4141	16.23	19.23	35.46	46.00	-10.54	QP
595.1327	13.27	22.31	35.58	46.00	-10.42	QP
744.8659	10.25	25.96	36.21	46.00	-9.79	QP

Remark:
Factor = Antenna Factor + Cable Loss.

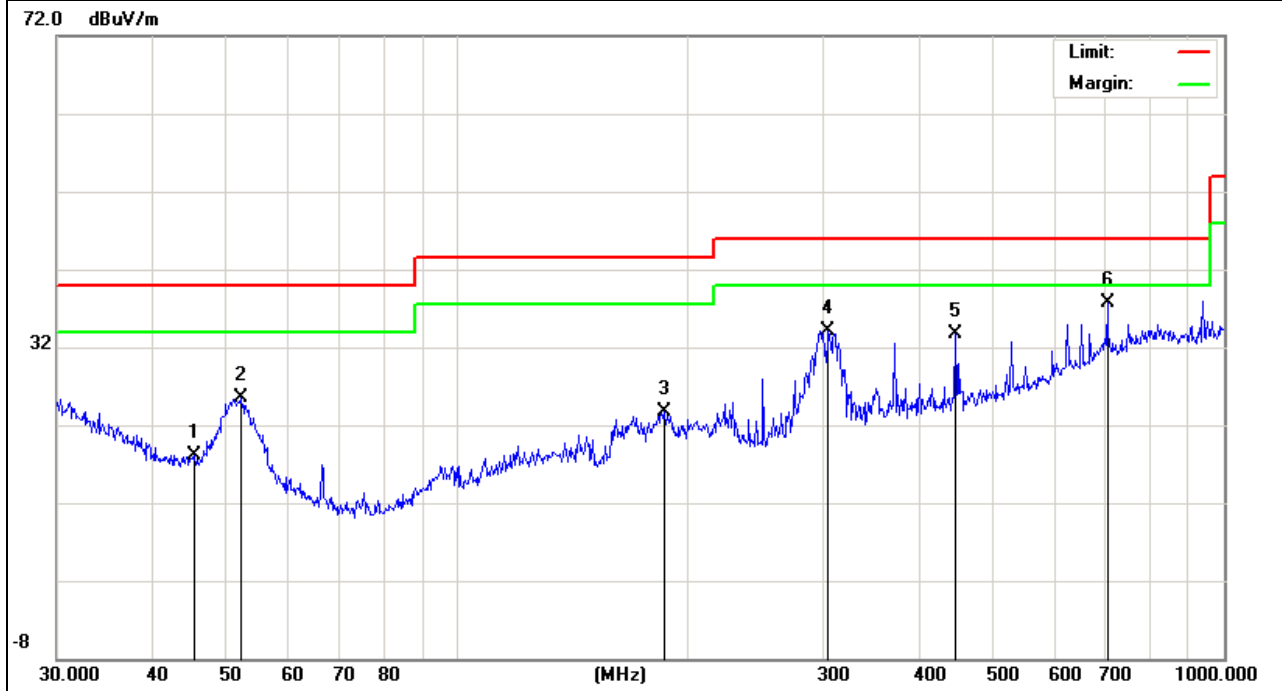


EUT :	Refer to Page 6	Model Name :	SBWD100B
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2015-1-13
Test Mode :	Mode 1- Adapter 2	Polarization :	Horizontal
Test Power :	DC5V From Adapter AC120V/60Hz		

Freq. (MHz)	Reading (dBuV)	Factor (dBuV)	Measurement (dBuV)	Limit (dBuV)	Over (dB)	Detector
45.3755	6.20	11.84	18.04	40.00	-21.96	QP
52.2079	15.53	10.06	25.59	40.00	-14.41	QP
185.7880	13.04	10.67	23.71	43.50	-19.79	QP
304.6099	19.84	14.34	34.18	46.00	-11.82	QP
446.4141	14.38	19.23	33.61	46.00	-12.39	QP
704.2259	12.85	24.91	37.76	46.00	-8.24	QP

Remark:

Factor = Antenna Factor + Cable Loss.

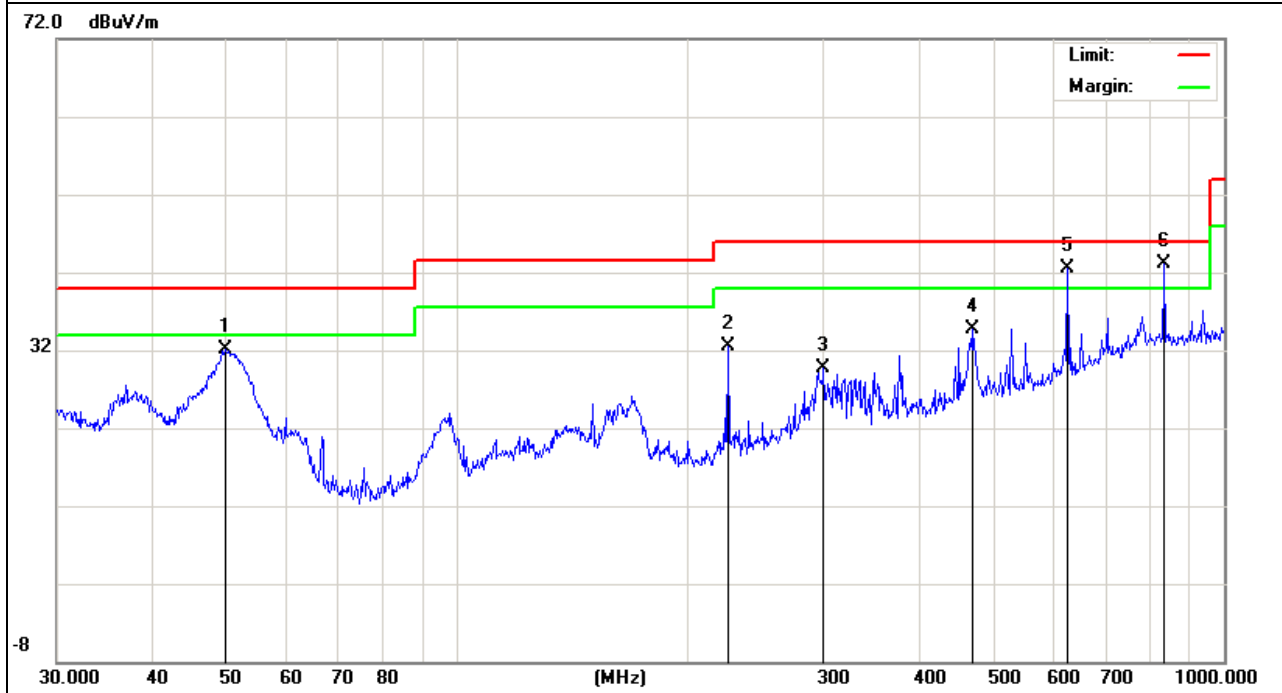


EUT :	Refer to Page 6	Model Name :	SBWD100B
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2015-1-13
Test Mode :	Mode 1- Adapter 2	Polarization :	Vetical
Test Power :	DC5V From Adapter AC120V/60Hz		

Freq. (MHz)	Reading (dBuV)	Factor (dBuV)	Measurement (dBuV)	Limit (dBuV)	Over (dB)	Detector
49.8813	21.36	10.71	32.07	40.00	-7.93	QP
225.3079	19.96	12.49	32.45	46.00	-13.55	QP
300.3672	15.64	14.16	29.80	46.00	-16.20	QP
468.8761	15.06	19.68	34.74	46.00	-11.26	QP
625.0779	19.57	22.91	42.48	46.00	-3.52	QP
836.2441	15.81	27.28	43.09	46.00	-2.91	QP

Remark:

Factor = Antenna Factor + Cable Loss.

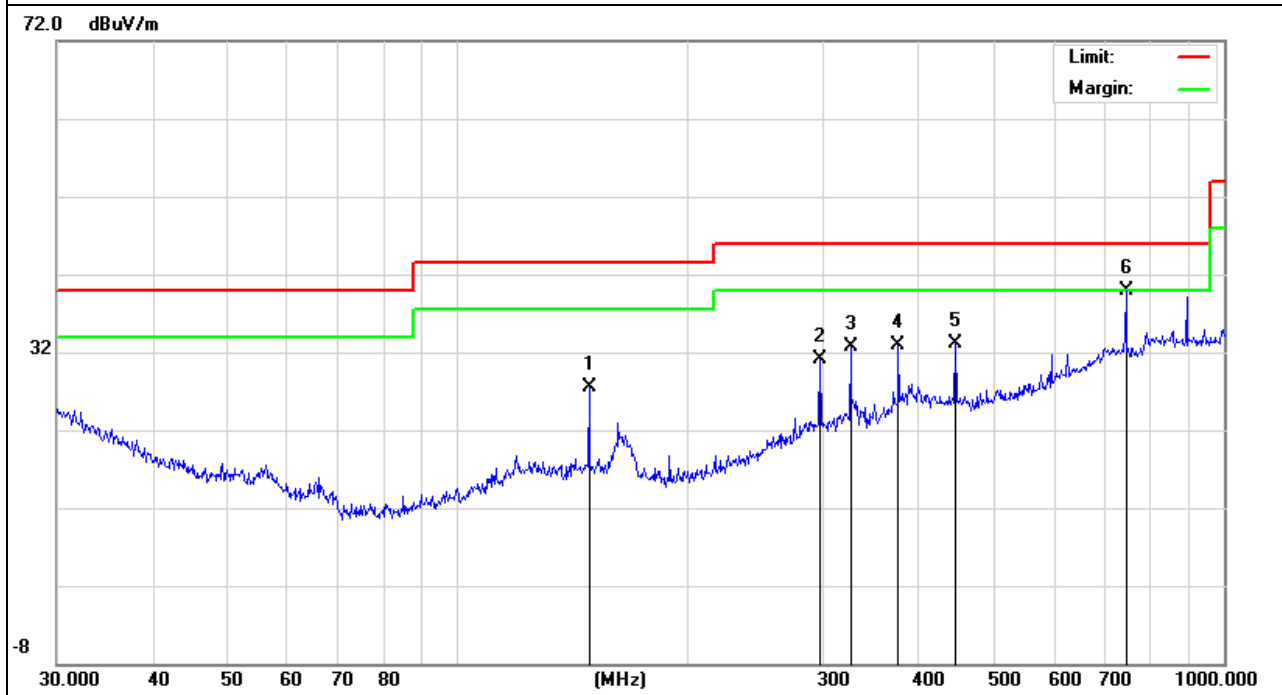


EUT :	Refer to Page 6	Model Name :	SBWD100B
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2015-1-13
Test Mode :	Mode2- Adapter 2	Polarization :	Horizontal
Test Power :	DC5V From Adapter AC120V/60Hz		

Freq. (MHz)	Reading (dBuV)	Factor (dBuV)	Measurement (dBuV)	Limit (dBuV)	Over (dB)	Detector
148.441	16.96	10.57	27.53	43.50	-15.97	QP
297.2241	16.92	14.12	31.04	46.00	-14.96	QP
325.5957	17.46	15.22	32.68	46.00	-13.32	QP
375.9384	15.68	17.31	32.99	46.00	-13.01	QP
446.4141	13.89	19.23	33.12	46.00	-12.88	QP
744.8659	13.98	25.96	39.94	46.00	-6.06	QP

Remark:

Factor = Antenna Factor + Cable Loss.

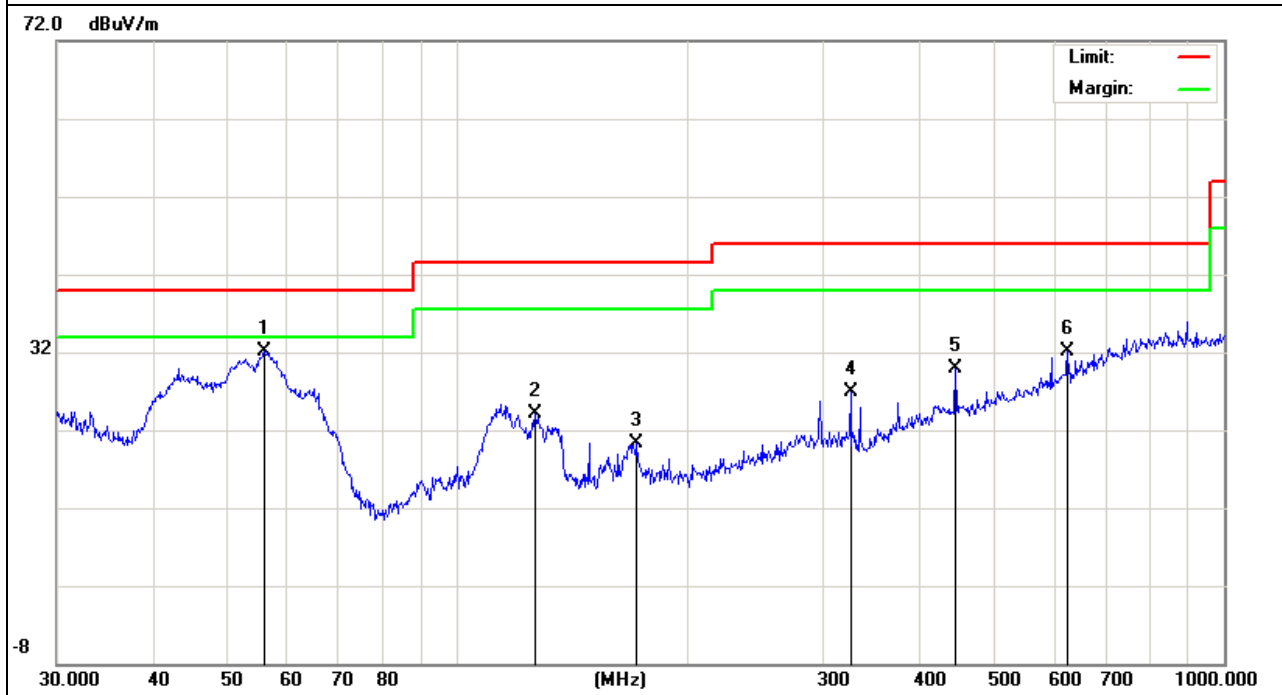


EUT :	Refer to Page 6	Model Name :	SBWD100B
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2015-1-13
Test Mode :	Mode 2- Adapter 2	Polarization :	Vetical
Test Power :	DC5V From Adapter AC120V/60Hz		

Freq. (MHz)	Reading (dBuV)	Factor (dBuV)	Measurement (dBuV)	Limit (dBuV)	Over (dB)	Detector
56.0007	23.06	8.97	32.03	40.00	-7.97	QP
126.3285	12.10	11.97	24.07	43.50	-19.43	QP
171.3925	9.64	10.57	20.21	43.50	-23.29	QP
325.5957	11.66	15.22	26.88	46.00	-19.12	QP
446.4141	10.73	19.23	29.96	46.00	-16.04	QP
625.0778	9.10	22.91	32.01	46.00	-13.99	QP

Remark:

Factor = Antenna Factor + Cable Loss.



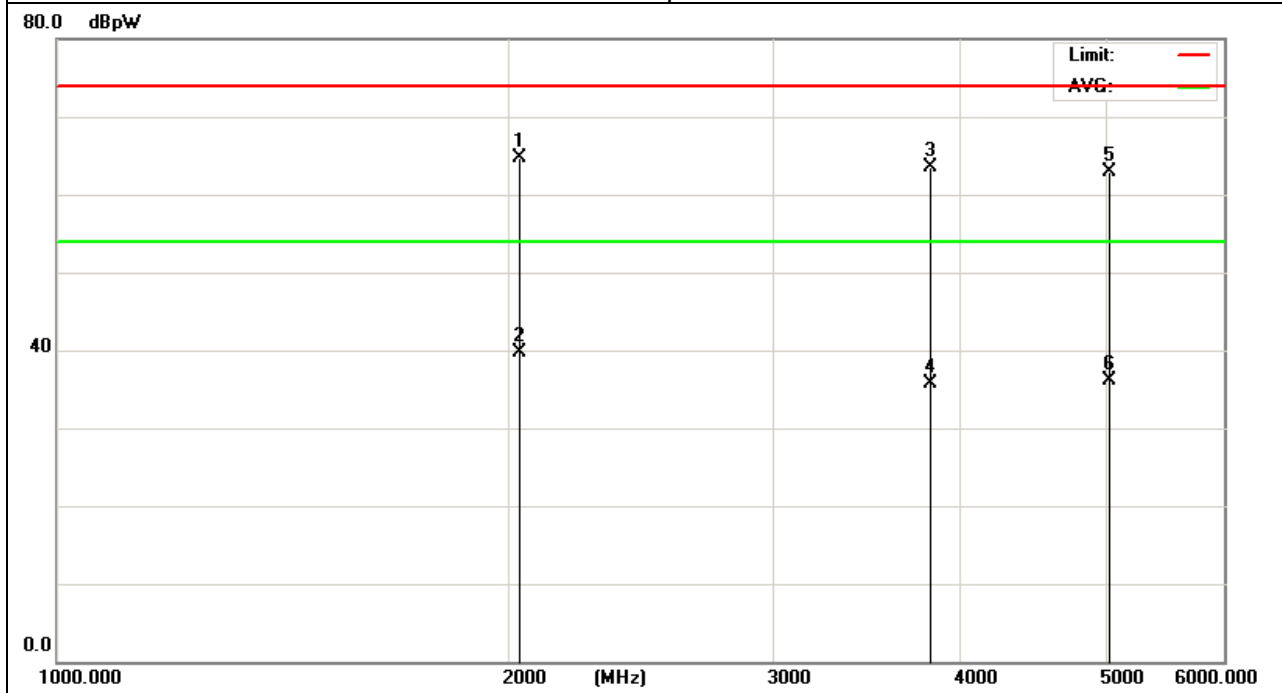
3.2.6 TEST RESULTS(Above 1GHz)

EUT :	Refer to Page 6	Model Name :	SBWD100B
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2015-1-13
Test Mode :	Mode 1	Polarization :	Horizontal
Test Power :	DC 5V From AC 120V/60Hz		

Freq. (MHz)	Reading (dBuV)	Factor (dBuV)	Measurement (dBuV)	Limit (dBuV)	Over (dB)	Detector
2034.86	77.33	-12.63	64.70	74.00	-9.30	Pk
2034.86	52.33	-12.63	39.70	54.00	-14.30	Av
3819.74	70.97	-7.47	63.50	74.00	-10.50	Pk
3819.74	43.17	-7.47	35.70	54.00	-18.30	Av
5028.31	66.73	-3.83	62.90	74.00	-11.10	Pk
5028.31	39.93	-3.83	36.10	54.00	-17.90	Av

Remark:

1. When PK value is lower than the Average value limit, average not record.
2. Factor = Antenna Factor + Cable Loss - Amplifier.

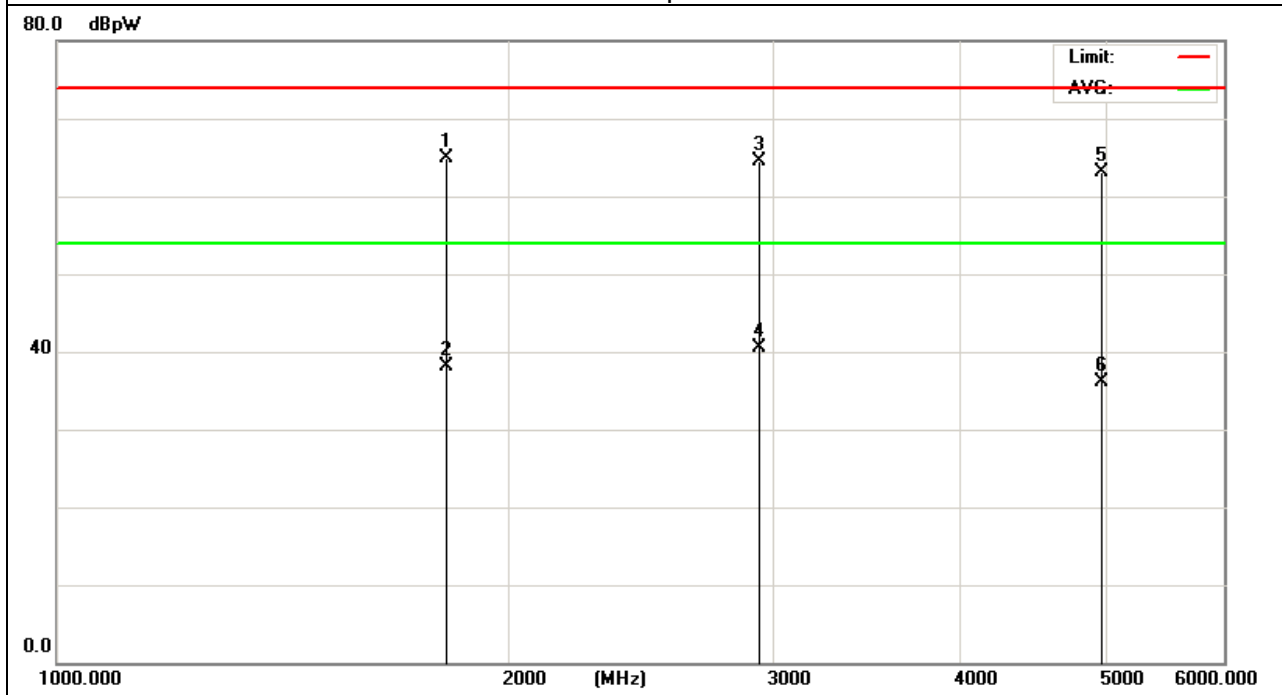


EUT :	Refer to Page 6	Model Name :	SBWD100B
Temperature :	24 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Date :	2015-1-13
Test Mode :	Mode 1	Polarization :	Vertical
Test Power :	DC 5V From AC 120V/60Hz		

Freq. (MHz)	Reading (dBuV)	Factor (dBuV)	Measurement (dBuV)	Limit (dBuV)	Over (dB)	Detector
1818.834	79.84	-14.84	65.00	74.00	-9.00	Pk
1818.834	52.94	-14.84	38.10	54.00	-15.90	Av
2937.62	76.63	-12.03	64.60	74.00	-9.40	Pk
2937.62	52.63	-12.03	40.60	54.00	-13.40	Av
4964.15	66.72	-3.62	63.10	74.00	-10.90	Pk
4964.15	39.72	-3.62	36.10	54.00	-17.90	Av

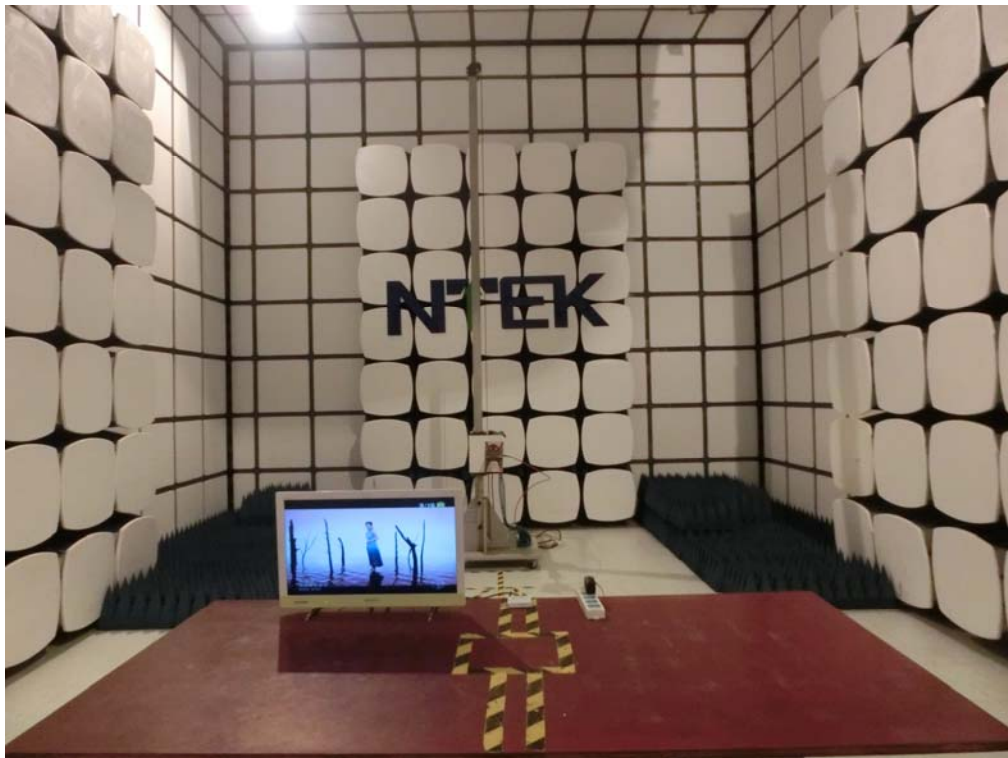
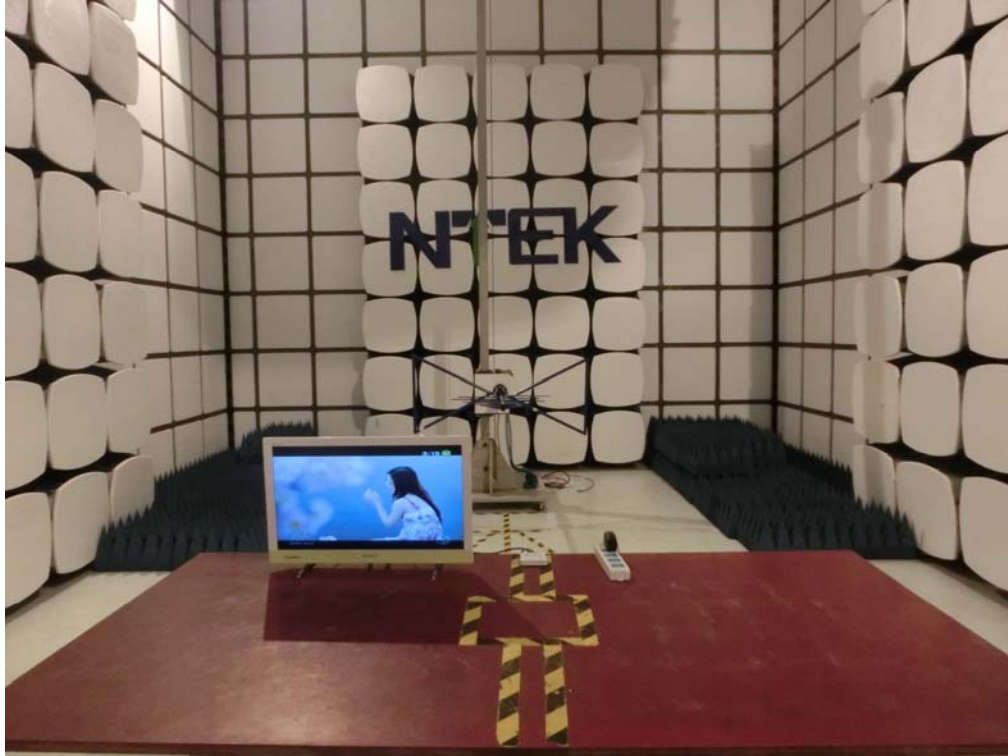
Remark:

1. When PK value is lower than the Average value limit, average not record.
2. Factor = Antenna Factor + Cable Loss - Amplifier.



4. EUT TEST PHOTO

Radiated Measurement Photos



Conducted Measurement Photos

