

FCC EMC Test Report

FCC ID:YH5-14DTB1

(Verification of Conformity)

For

Electromagnetic Interference

Of

Product : Notebook

Trade Name : Hipstreet

Model Name : 14DTB1

Serial Model : N/A

Report No. : NTEK-2015NT1105513E

Prepared for

Kobian Canada INC.

560 Denison Street, Unit 5, Markham, Ontario, L3R 2M8, Canada

Prepared by

Shenzhen NTEK Testing Technology Co., Ltd.

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

Tel.: +86-0755-61156588 Fax.: +86-0755-61156599

Website: www.ntek.org.cn

TEST RESULT CERTIFICATION

Applicant's name : Kobian Canada INC.

Address : 560 Denison Street, Unit 5, Markham, Ontario, L3R 2M8, Canada

Manufacturer's Name : Kobian Canada INC.

Address : 560 Denison Street, Unit 5, Markham, Ontario, L3R 2M8, Canada

Product description

Product name : Notebook

Model and/or type reference : 14DTB1

47 CFR FCC part15 subpart B, 10-1-2015

Standards : ANSI C63.4:2014

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 : 05 Nov. 2015 ~10 Nov. 2015

Date of Issue : 10 Nov. 2015

Test Result : **Pass**

Testing Engineer : _____



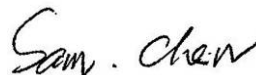
(Bing He)

Technical Manager : _____



(Jane Lv)

Authorized Signatory : _____



(Sam Chen)

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1. TEST SUMMARY

Test procedures according to the technical standards:

EMC Emission				
Standard	Test Item	Limit	Judgment	Remark
FCC part15 subpart B, 10-1-2015 ANSI C63.4: 2014	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	3.6	

B. Radiated Measurement :

Test Site	Method	Measurement Frequency Range	U , (dB)	NOTE
NTEKA01	ANSI	30MHz ~ 1000MHz	4.8	
		1GHz ~6GHz	4.5	

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	Notebook	
Model Name	14DTB1	
Additional Model Number(s)	N/A	
Model Difference	N/A	
Product Description	The EUT is a Notebook.	
	Connecting I/O port:	USB, DC in, HDMI Output
	Operation Frequency:	BT:2402~2480 MHz WIFI:802.11b/g/n(20MHz): 2412~2462 802.11n(40MHz):2422~2452MHz
	Modulation Type:	BT(1Mbps): GFSK BT EDR(2Mbps): $\pi/4$ -DQPSK BT EDR(3Mbps): 8-DPSK IEEE 802.11b : DSSS (CCK, QPSK, DBPSK) IEEE 802.11g/n (HT20/HT40) : OFDM (64QAM, 16QAM, QPSK, BPSK)
	Based on the application, features, or specification exhibited in User's Manual, the EUT is considered as an ITE/Computing Device. More details of EUT technical specification, please refer to the User's Manual.	
Power Source	AC Voltage	
Power Rating	Input: AC 100-240V, 50/60Hz, 0.4A Max Output: DC 5V, 2.5A	

2.2 DESCRIPTION OF TEST MODES

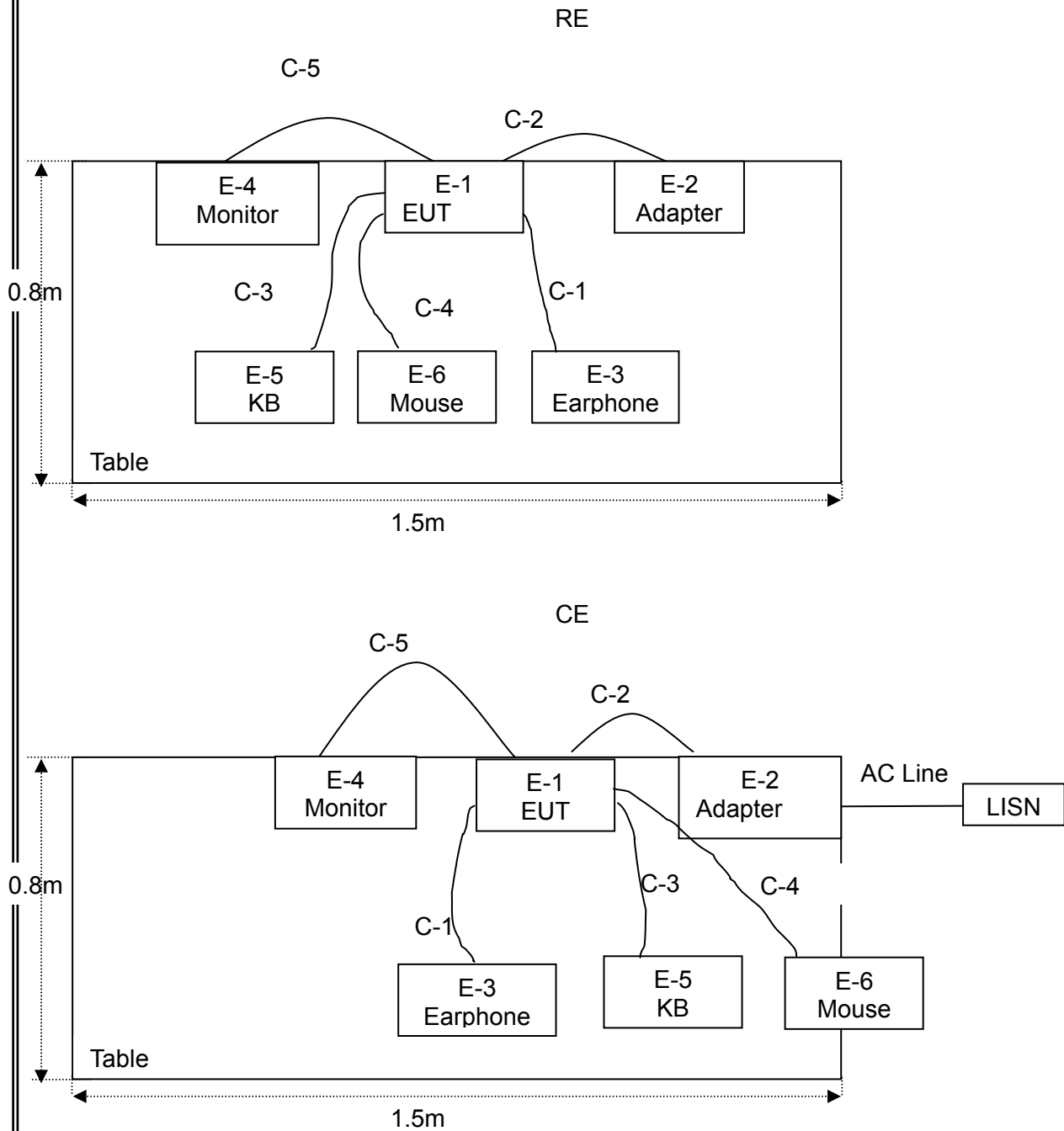
To investigate the maximum EMI emission characteristics generated from EUT, the test system was pre-scanning tested based on the consideration of following EUT operation mode or test configuration mode which possibly have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration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

Pretest Mode	Description
Mode 1	Running

For Conducted Test	
Final Test Mode	Description
Mode 1	Running

For Radiated Test	
Final Test Mode	Description
Mode 1	Running

2.3 DESCRIPTION OF TEST SETUP



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	Notebook	Hipstreet	14DTB1	N/A	EUT
E-2	Adapter	N/A	SUN-0500250	N/A	
E-3	Earphone	N/A	2688	N/A	
E-4	Monitor	DELL	IN2020MB	cn-0y6mhx-74261-11f-67e s	
E-5	Keyboard	DELL	SK-8185	OY526KUS	
E-6	Mouse	DELL	MS111-P	cn-011d3v-71581-11e-1th7	

Item	Shielded Type	Ferrite Core	Length	Note
C-1	NO	NO	80cm	
C-1	NO	NO	1.2m	
C-2	NO	NO	1.0m	
C-3	NO	NO	1.0m	
C-4	NO	NO	1.0m	
C-5	NO	NO	1.0m	

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	101490	Dec. 08, 2014	Dec. 07, 2015	1 year
2	LISN	R&S	ENV216	101313	Dec. 08, 2014	Dec. 07, 2015	1 year
3	50Ω Switch	ANRITSU CORP	MP59B	6200983704	Jun. 28, 2015	Jun. 27, 2016	1 year
4	Low frequency cable	N/A	C-2	C-2	Dec. 02, 2014	Dec. 01, 2015	1 year
5	EMI Test Receiver	R&S	ESCI	101160	Jun. 28, 2015	Jun. 27, 2016	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	Jun. 26, 2015	Jun. 25, 2016	1 year
2	Test Cable	N/A	R-01	N/A	Jun. 28, 2015	Jun. 27, 2016	1 year
3	Test Cable	N/A	R-02	N/A	Jun. 28, 2015	Jun. 27, 2016	1 year
4	EMI Test Receiver	R&S	ESCI-7	101318	Jun. 28, 2015	Jun. 27, 2016	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	MP59B	6200983705	Jun. 28, 2015	Jun. 27, 2016	1 year
8	Horn Antenna	EM	EM-AH-10180	60538	Jun. 26, 2015	Jun. 25, 2016	1 year
9	BBV9718 Broadband Preamplifier 0.15-18GHz	SCHWARZBECK	9718-218	N/A	Dec. 24, 2014	Dec. 23, 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 (dB μ V)		☒ Class B (dB μ V)	
	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.

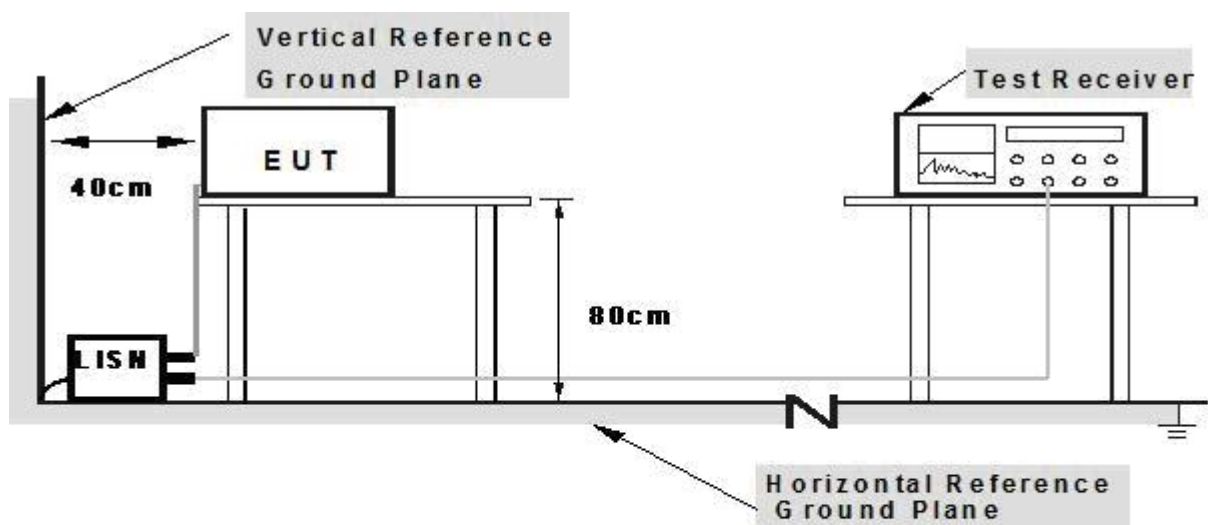
The following table is the setting of the receiver

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 cm 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.

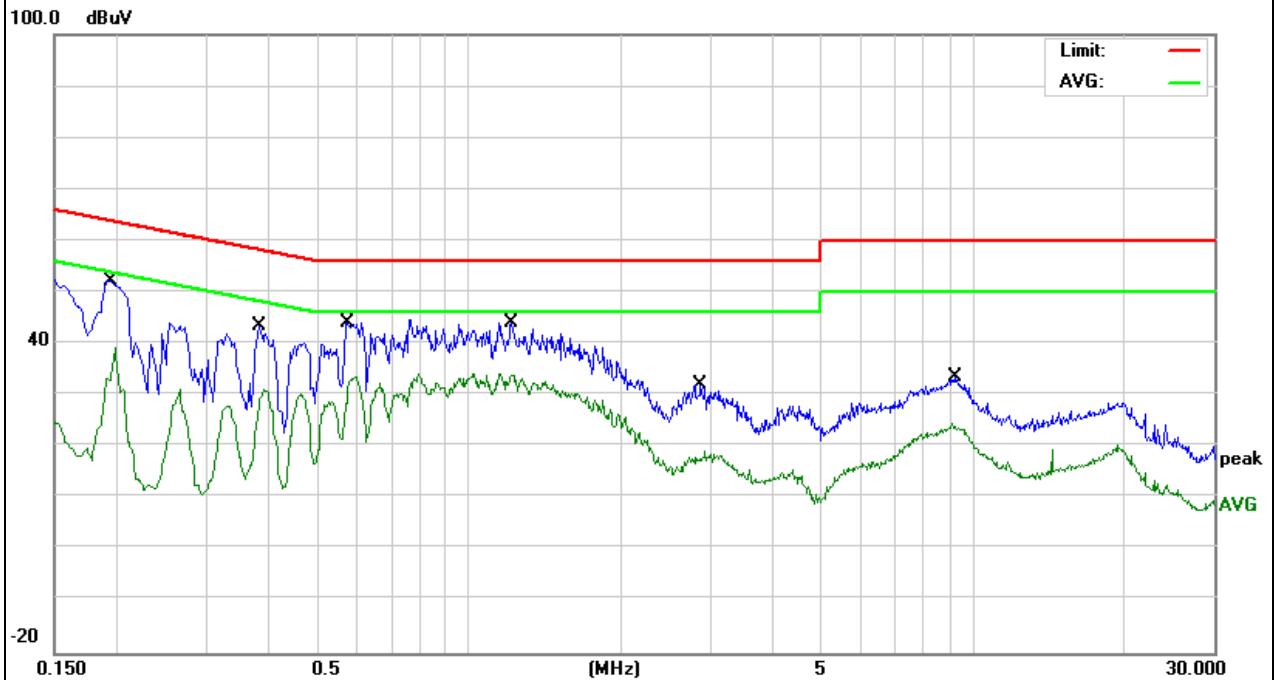
3.1.5 TEST RESULTS

EUT:	Notebook	Model Name. :	14DTB1
Temperature:	26°C	Relative Humidity:	54%
Pressure:	1010hPa	Test Date:	2015-11-06
Test Mode:	Running	Phase:	L
Test Voltage:	DC 5V from Adapter AC 120V/60Hz		

Freq. (MHz)	Reading (dBμV)	Factor (dB)	Measurement (dBμV)	Limit (dBμV)	Over (dB)	Detector
0.1940	42.79	9.45	52.24	63.86	-11.62	QP
0.1940	29.95	9.45	39.40	53.86	-14.46	AVG
0.3820	34.18	9.23	43.41	58.23	-14.82	QP
0.3820	21.85	9.23	31.08	48.23	-17.15	AVG
0.5740	34.53	9.56	44.09	56.00	-11.91	QP
0.5740	23.98	9.56	33.54	46.00	-12.46	AVG
1.2140	34.60	9.56	44.16	56.00	-11.84	QP
1.2140	24.64	9.56	34.20	46.00	-11.80	AVG
2.8780	22.40	9.62	32.02	56.00	-23.98	QP
2.8780	9.63	9.62	19.25	46.00	-26.75	AVG
9.1579	23.75	9.73	33.48	60.00	-26.52	QP
9.1579	14.68	9.73	24.41	50.00	-25.59	AVG

Remark:

Factor = Insertion Loss + Cable Loss.

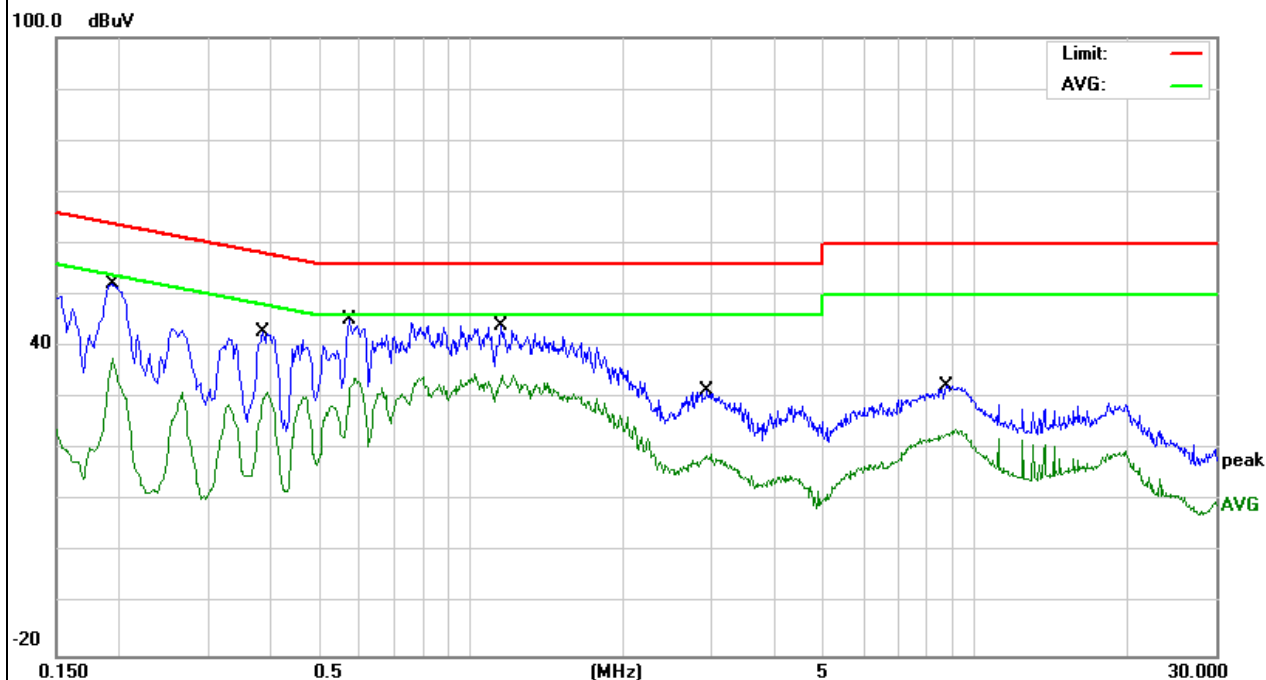


EUT:	Notebook	Model Name. :	14DTB1
Temperature:	26°C	Relative Humidity:	54%
Pressure:	1010hPa	Test Date:	2015-11-06
Test Mode:	Running	Phase:	N
Test Voltage:	DC 5V from Adapter AC 120V/60Hz		

Freq. (MHz)	Reading (dBμV)	Factor (dB)	Measurement (dBμV)	Limit (dBμV)	Over (dB)	Detector
0.1940	42.65	9.45	52.10	63.86	-11.76	QP
0.1940	28.44	9.45	37.89	53.86	-15.97	AVG
0.3860	33.50	9.22	42.72	58.15	-15.43	QP
0.3860	21.90	9.22	31.12	48.15	-17.03	AVG
0.5740	35.71	9.56	45.27	56.00	-10.73	QP
0.5740	24.23	9.56	33.79	46.00	-12.21	AVG
1.1460	34.56	9.56	44.12	56.00	-11.88	QP
1.1460	25.29	9.56	34.85	46.00	-11.15	AVG
2.9340	21.84	9.62	31.46	56.00	-24.54	QP
2.9340	9.59	9.62	19.21	46.00	-26.79	AVG
8.7577	22.69	9.73	32.42	60.00	-27.58	QP
8.7577	14.26	9.73	23.99	50.00	-26.01	AVG

Remark:

Factor = Insertion Loss + Cable Loss.

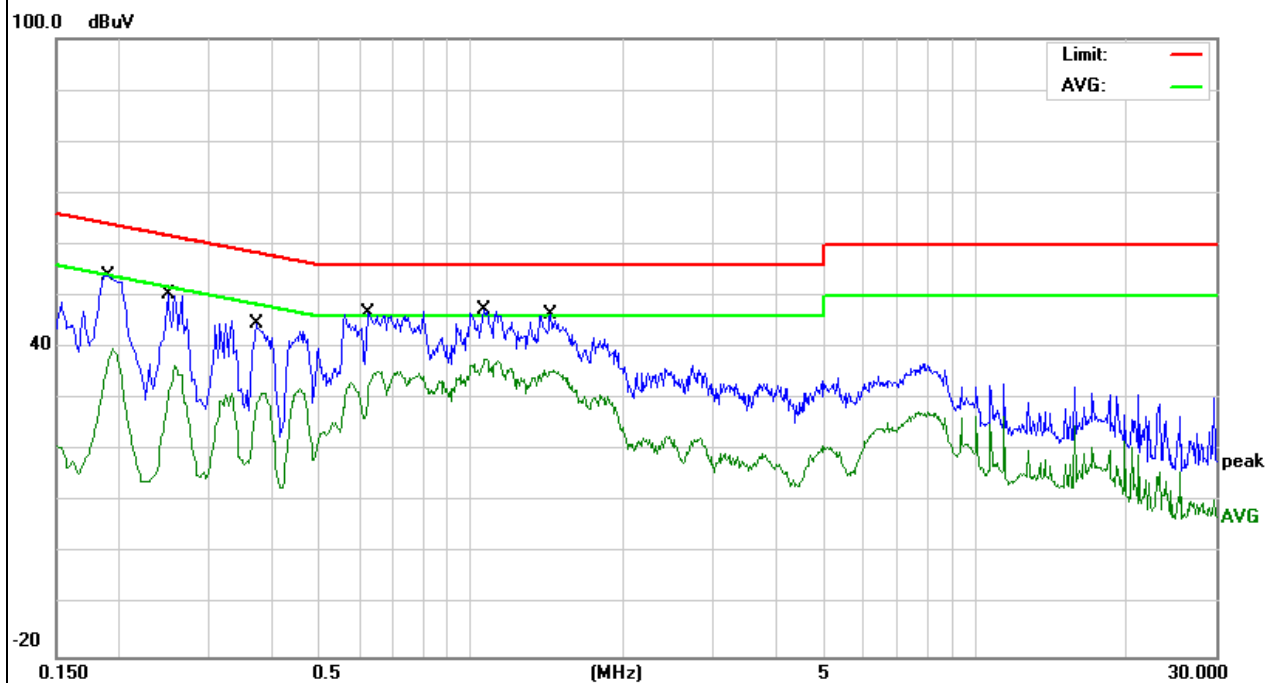


EUT:	Notebook	Model Name. :	14DTB1
Temperature:	26°C	Relative Humidity:	54%
Pressure:	1010hPa	Test Date:	2015-11-06
Test Mode:	Running	Phase:	L
Test Voltage:	DC 5V from Adapter AC 240V/50Hz		

Freq. (MHz)	Reading (dBμV)	Factor (dB)	Measurement (dBμV)	Limit (dBμV)	Over (dB)	Detector
0.1900	44.51	9.46	53.97	64.03	-10.06	QP
0.1900	30.26	9.46	39.72	54.03	-14.31	AVG
0.2500	40.92	9.51	50.43	61.75	-11.32	QP
0.2500	27.09	9.51	36.60	51.75	-15.15	AVG
0.3740	35.24	9.27	44.51	58.41	-13.90	QP
0.3740	22.02	9.27	31.29	48.41	-17.12	AVG
0.6260	37.29	9.56	46.85	56.00	-9.15	QP
0.6260	25.77	9.56	35.33	46.00	-10.67	AVG
1.0580	37.73	9.56	47.29	56.00	-8.71	QP
1.0580	28.20	9.56	37.76	46.00	-8.24	AVG
1.4340	36.74	9.57	46.31	56.00	-9.69	QP
1.4340	26.08	9.57	35.65	46.00	-10.35	AVG

Remark:

Factor = Insertion Loss + Cable Loss.

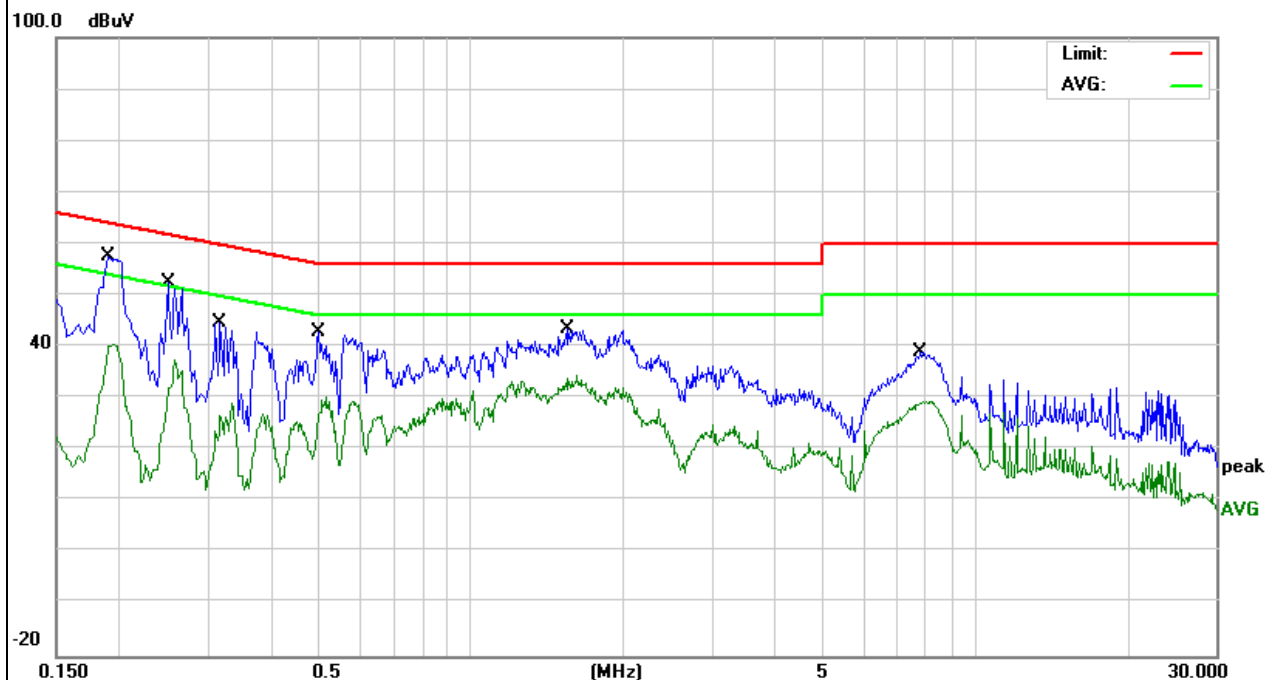


EUT:	Notebook	Model Name. :	14DTB1
Temperature:	26°C	Relative Humidity:	54%
Pressure:	1010hPa	Test Date:	2015-11-06
Test Mode:	Running	Phase:	N
Test Voltage:	DC 5V from Adapter AC 240V/50Hz		

Freq. (MHz)	Reading (dBμV)	Factor (dB)	Measurement (dBμV)	Limit (dBμV)	Over (dB)	Detector
0.1900	47.95	9.46	57.41	64.03	-6.62	QP
0.1900	30.90	9.46	40.36	54.03	-13.67	AVG
0.2500	42.89	9.45	52.34	61.75	-9.41	QP
0.2500	28.03	9.45	37.48	51.75	-14.27	AVG
0.3180	35.16	9.44	44.60	59.76	-15.16	QP
0.3180	19.59	9.44	29.03	49.76	-20.73	AVG
0.4980	33.38	9.46	42.84	56.03	-13.19	QP
0.4980	20.82	9.46	30.28	46.03	-15.75	AVG
1.5580	33.95	9.45	43.40	56.00	-12.60	QP
1.5580	25.08	9.45	34.53	46.00	-11.47	AVG
7.7899	29.39	9.56	38.95	60.00	-21.05	QP
7.7899	19.91	9.56	29.47	50.00	-20.53	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 3m)	☒ Class B (at 3m)
	dB μ V/m	dB μ V/m
30 ~ 88	49.0	40.0
88 ~ 216	53.5	43.5
216 ~ 960	56.5	46.0
Above 960	59.5	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 (dB μ V/m)=20log Emission level (uV/m).

3.2.2 TEST PROCEDURE

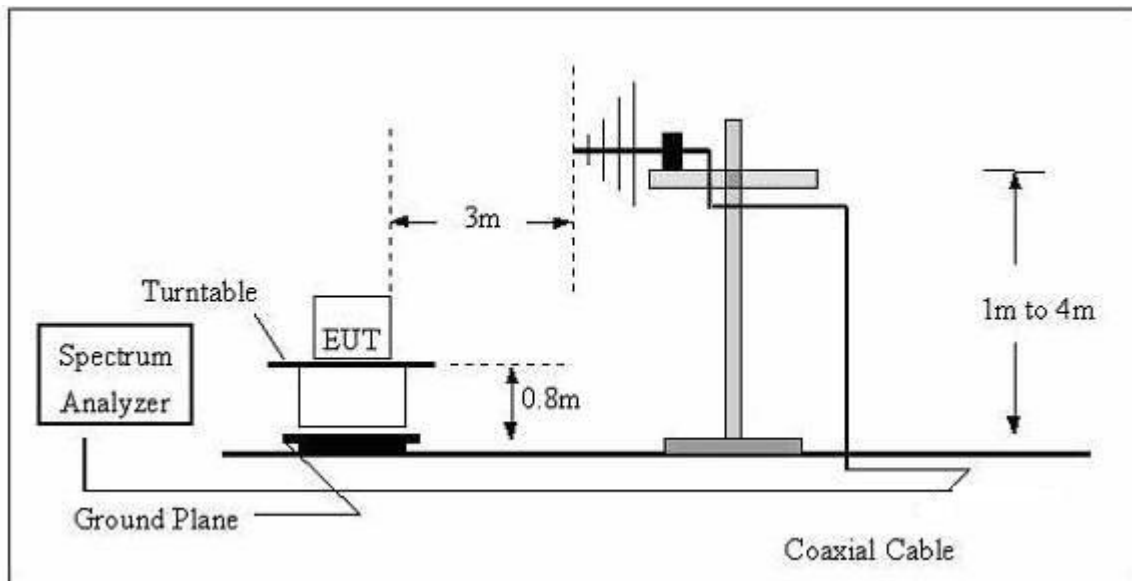
- a. The measuring distance of at 10 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 10 meter open area test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- c. The height of the equipment or of the substitution antenna shall be 0.8 m; the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. The initial step in collecting conducted emission data is a spectrum analyzer peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured, above 1G Average detector mode will be instead.
- e. If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP(AV) Limits and then no additional QP Mode measurement performed.
- f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

During the radiated emission test, the Spectrum Analyzer was set with the following configurations:

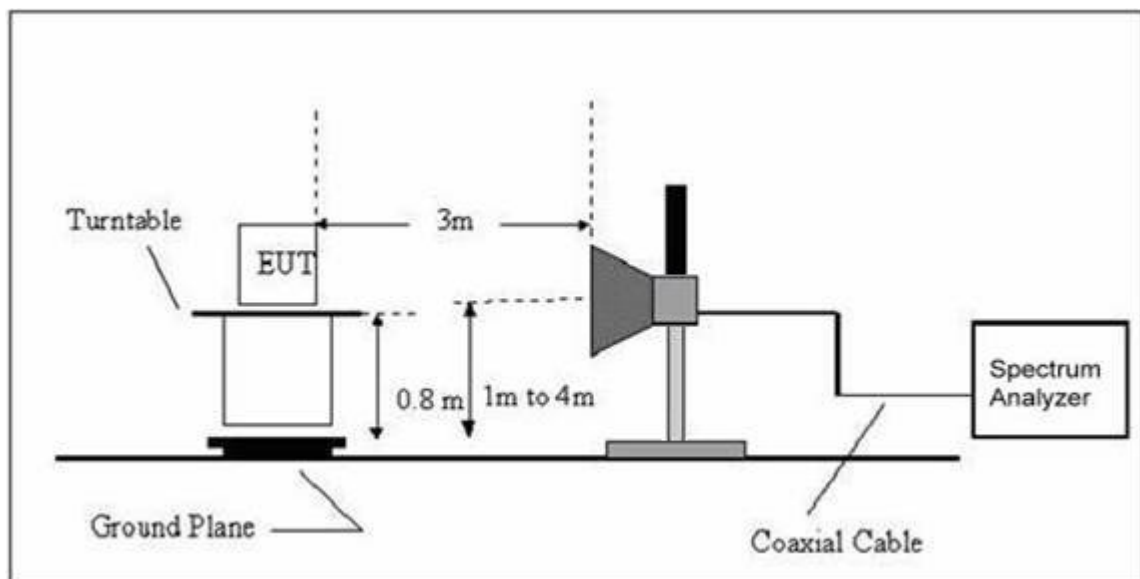
Frequency Band (MHz)	Function	Resolution bandwidth	Video Bandwidth
30 to 1000	Peak	100 kHz	100 kHz
Above 1000	Peak	1 MHz	1 MHz
	Average	1 MHz	10 Hz

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.

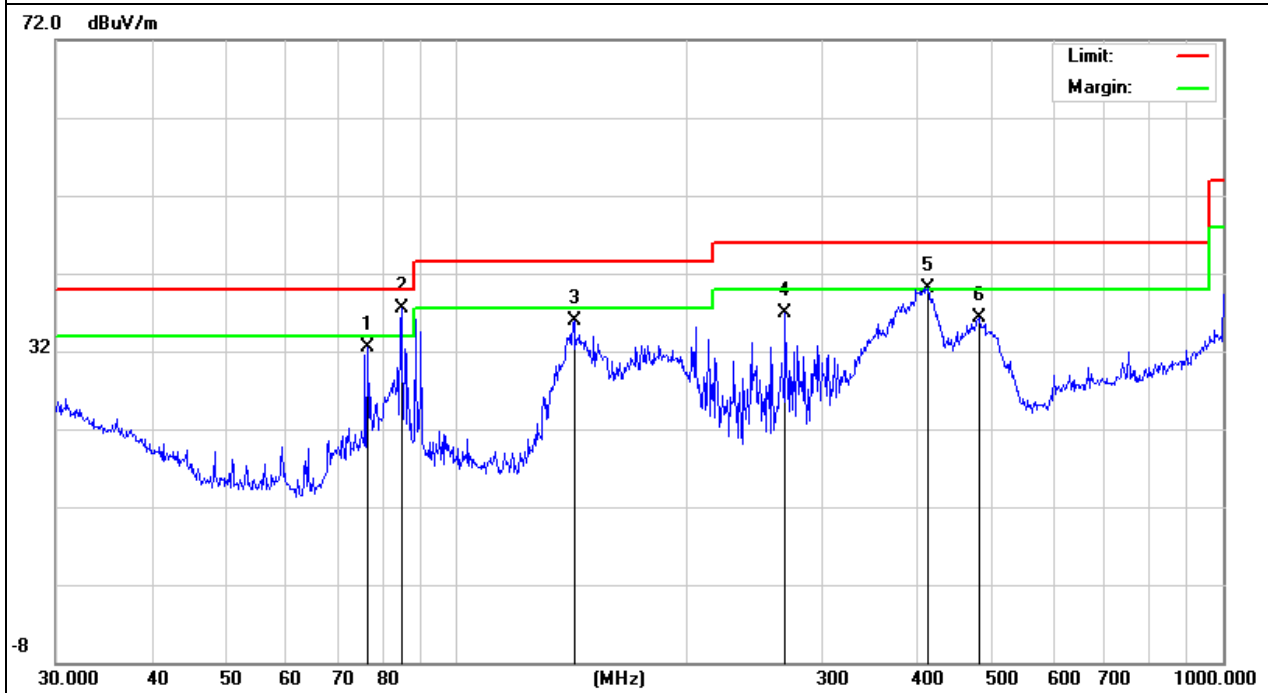
3.2.5 TEST RESULTS

EUT:	Notebook	Model Name :	14DTB1
Temperature:	24°C	Relative Humidity:	54%
Pressure:	1010hPa	Test Date:	2015-11-06
Test Mode:	Running	Polarization:	Horizontal
Test Power:	DC 5V from Adapter AC 120V/60Hz		

Freq. (MHz)	Reading (dBμV/m)	Factor (dB)	Measurement (dBμV/m)	Limit (dBμV/m)	Over (dB)	Detector
76.5121	22.96	9.55	32.51	40.00	-7.49	QP
84.7018	28.43	9.16	37.59	40.00	-2.41	QP
142.3243	24.81	11.13	35.94	43.50	-7.56	QP
268.4852	25.34	11.53	36.87	46.00	-9.13	QP
411.8240	25.39	14.70	40.09	46.00	-5.91	QP
480.5276	19.79	16.56	36.35	46.00	-9.65	QP

Remark:

Factor = Antenna Factor + Cable Loss.

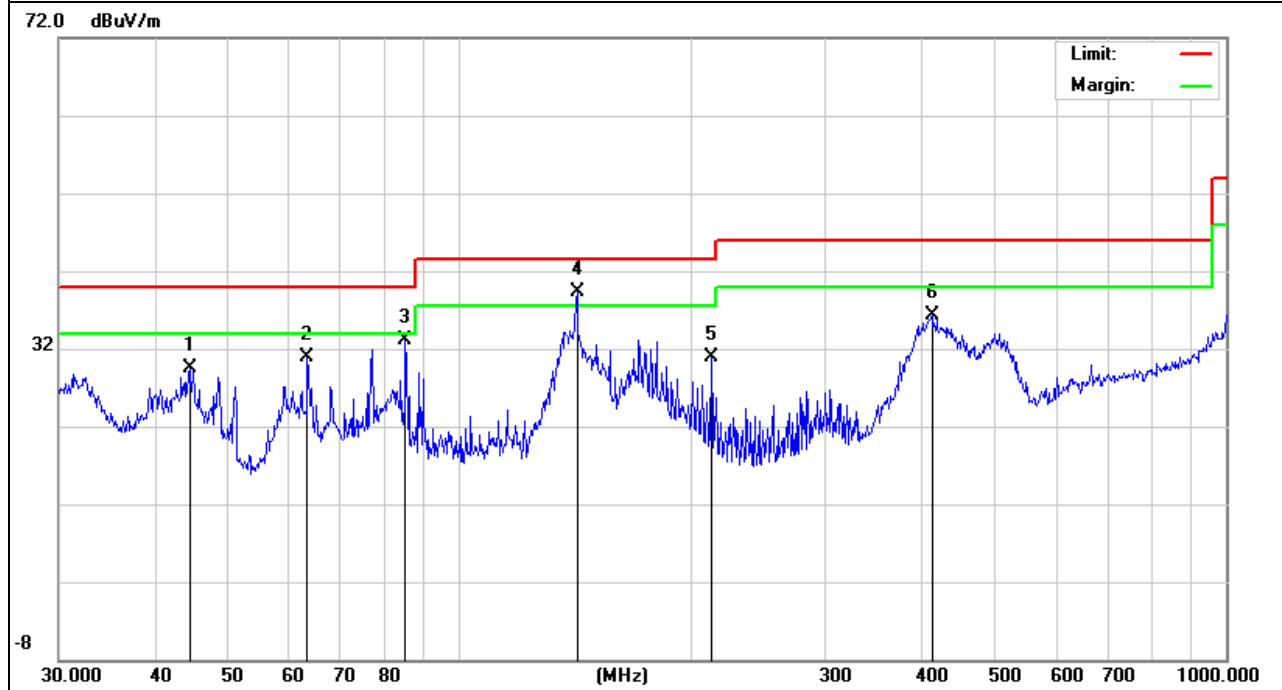


EUT:	Notebook	Model Name :	14DTB1
Temperature:	24°C	Relative Humidity:	54%
Pressure:	1010hPa	Test Date:	2015-11-06
Test Mode:	Running	Polarization:	Vertical
Test Power:	DC 5V from Adapter AC 120V/60Hz		

Freq. (MHz)	Reading (dBμV/m)	Factor (dB)	Measurement (dBμV/m)	Limit (dBμV/m)	Over (dB)	Detector
44.4307	17.26	12.22	29.48	40.00	-10.52	QP
63.3132	25.17	5.71	30.88	40.00	-9.12	QP
84.9995	23.91	9.17	33.08	40.00	-6.92	QP
142.3243	28.18	11.13	39.31	43.50	-4.19	QP
213.0150	19.84	11.03	30.87	43.50	-12.63	QP
413.2706	21.53	14.69	36.22	46.00	-9.78	QP

Remark:

Factor = Antenna Factor + Cable Loss.



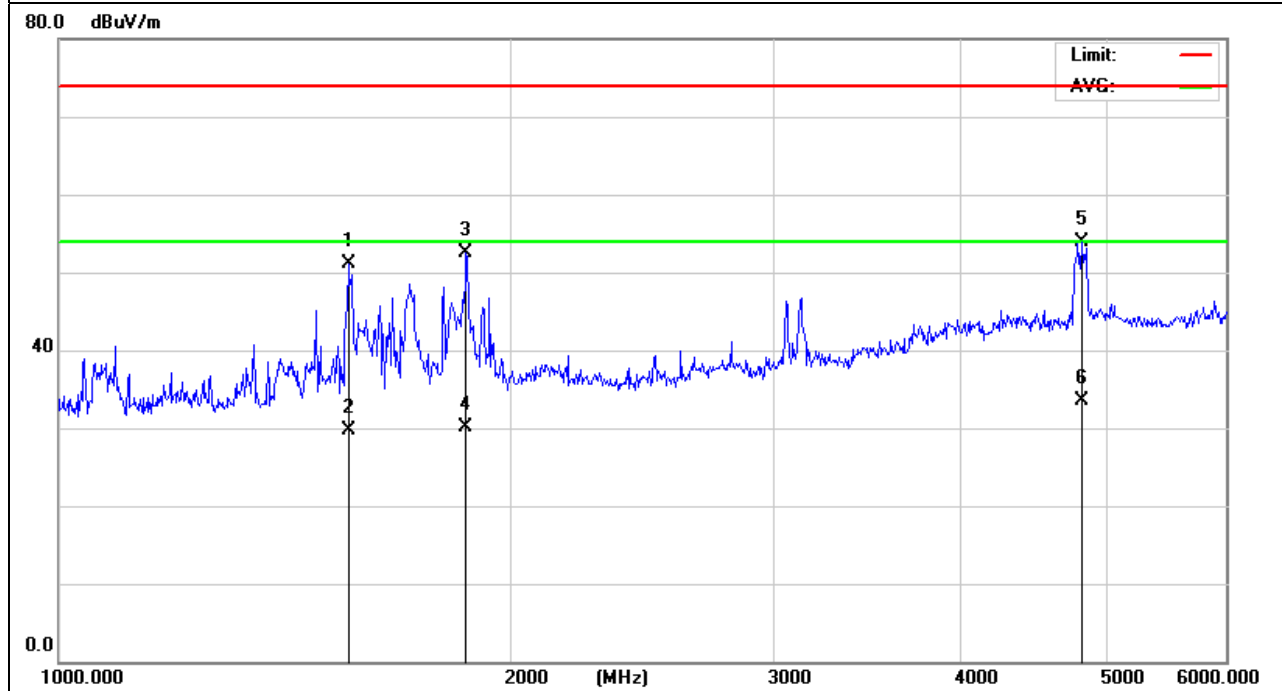
3.2.6 TEST RESULTS(Above 1GHz)

EUT:	Notebook	Model Name :	14DTB1
Temperature:	24°C	Relative Humidity:	54%
Pressure:	1010hPa	Test Date:	2015-11-06
Test Mode:	Running	Polarization:	Horizontal
Test Power:	DC 5V from Adapter AC 120V/60Hz		

Freq. (MHz)	Reading (dBμV/m)	Factor (dB)	Measurement (dBμV/m)	Limit (dBμV/m)	Over (dB)	Detector
1559.486	62.08	-10.96	51.12	74.00	-22.88	peak
1559.486	40.76	-10.96	29.80	54.00	-24.20	AVG
1868.851	61.91	-9.45	52.46	74.00	-21.54	peak
1868.851	39.48	-9.45	30.03	54.00	-23.97	AVG
4804.636	52.06	1.78	53.84	74.00	-20.16	peak
4804.636	31.74	1.78	33.52	54.00	-20.48	AVG

Remark:

Factor = Antenna Factor + Cable Loss.

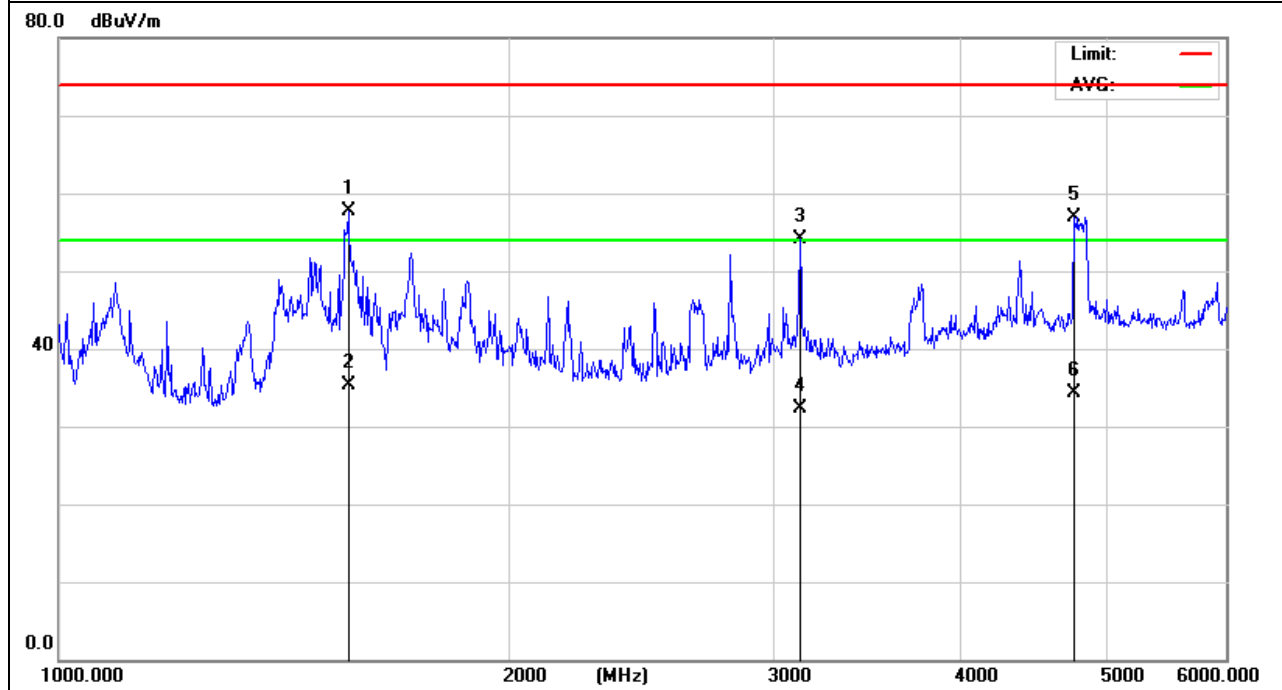


EUT:	Notebook	Model Name :	14DTB1
Temperature:	24°C	Relative Humidity:	54%
Pressure:	1010hPa	Test Date:	2015-11-06
Test Mode:	Running	Polarization:	Vertical
Test Power:	DC 5V from Adapter AC 120V/60Hz		

Freq. (MHz)	Reading (dBμV/m)	Factor (dB)	Measurement (dBμV/m)	Limit (dBμV/m)	Over (dB)	Detector
1559.4860	68.68	-10.96	57.72	74.00	-16.28	peak
1559.4860	46.25	-10.96	35.29	54.00	-18.71	AVG
3119.7950	60.05	-5.90	54.15	74.00	-19.85	peak
3119.7950	38.14	-5.90	32.24	54.00	-21.76	AVG
4753.2600	55.98	1.01	56.99	74.00	-17.01	peak
4753.2600	33.27	1.01	34.28	54.00	-19.72	AVG

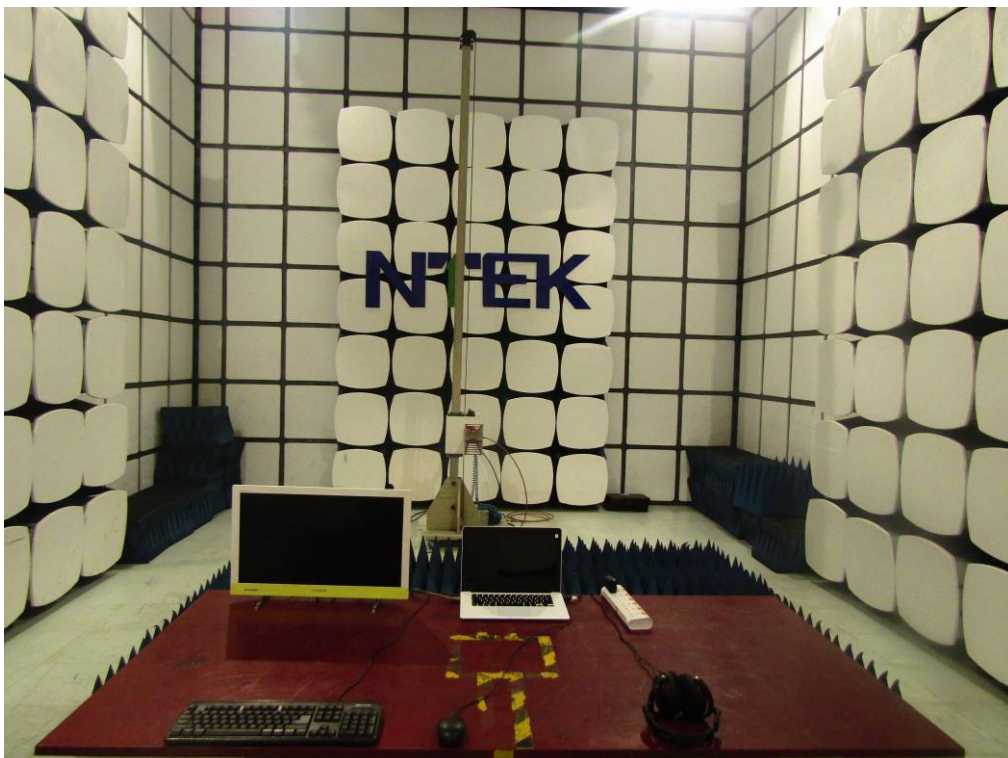
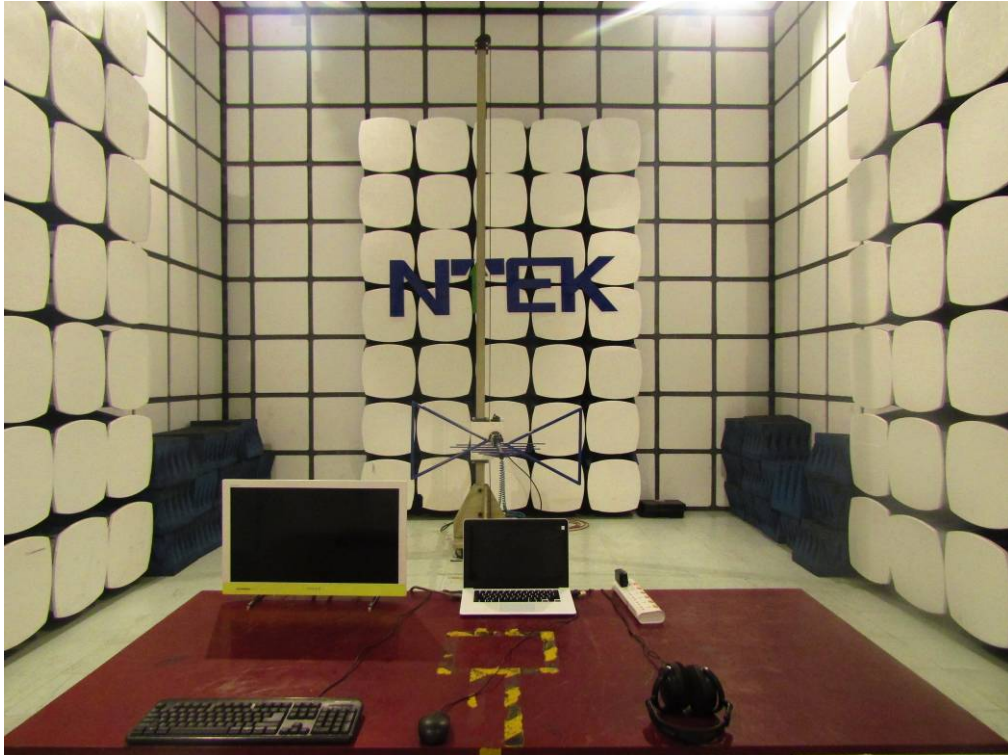
Remark:

Factor = Antenna Factor + Cable Loss.



4. EUT TEST PHOTO

Radiated Measurement Photos



Conducted Measurement Photos

