



FCC RADIO TEST REPORT

FCC ID:O86T1500

Product : 10.1 Inch Full Ruggedized Tablet

Trade Name : N/A

Model Name : xTablet T1500

Serial Model : N/A

Report No. : NTEK-2015NT1211614F5

Prepared for

MobileDemand, LC.

1501 Boyson Square Drive Suite 101 Hiawatha, Iowa 52233, United States.

Prepared by

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TEST RESULT CERTIFICATION**Applicant's name** : MobileDemand, LC.Address : 1501 Boyson Square Drive Suite 101 Hiawatha, Iowa 52233,
United States.**Manufacture's Name** : Emdoor Information Co., Ltd.Address : 3A 1/F Jinfulai Tower, No. 49-1, Dabao Road, Baoan 28
District, Shenzhen, China.**Product description**

Product name : 10.1 Inch Full Ruggedized Tablet

Model and/or type reference : xTablet T1500

Serial Model : N/A

Standards : FCC Part 15.225:01 Oct. 2015

Test procedure ANSI C63.10-2013

This device described above has been tested by NTEK, and the test results show that the equipment under test (EUT) is in compliance with the FCC requirements. 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 : 11 Dec. 2015 ~ 15 Jan. 2016

Date of Issue : 15 Jan. 2016

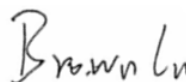
Test Result : **Pass**

Testing Engineer :



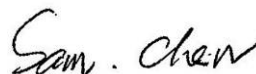
(Susan Su)

Technical Manager :



(Brown Lu)

Authorized Signatory :



(Sam Chen)

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1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15, Subpart C (15.231)			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	Pass	
15.205(a) 15.209 15.225	Radiated Spurious Emission	Pass	
15.225	20dB Bandwidth	Pass	
15.225	Frequency Tolerance	Pass	
15.203	Antenna Requirement	Pass	

NOTE:

(1) "N/A" denotes test is not applicable in this Test Report.

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 No.:238937; IC Registration No.:9270A-1

CNAS Registration No.: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 %**.

No.	Item	Uncertainty
1	Conducted Emission Test	$\pm 1.38\text{dB}$
2	RF power,conducted	$\pm 0.16\text{dB}$
3	Spurious emissions,conducted	$\pm 0.21\text{dB}$
4	All emissions,radiated(<1G)	$\pm 4.68\text{dB}$
5	All emissions,radiated(>1G)	$\pm 4.89\text{dB}$
6	Temperature	$\pm 0.5^{\circ}\text{C}$
7	Humidity	$\pm 2\%$

2. GENERAL INFORMATION

2.1 GENERAL DESCRIPTION OF EUT

Equipment	10.1 Inch Full Ruggedized Tablet	
Trade Name	N/A	
Model Name	xTablet T1500	
Serial Model	N/A	
Model Difference	N/A	
Product Description	The EUT is a 10.1 Inch Full Ruggedized Tablet	
	Operation Frequency:	13.56MHz
	Modulation Type:	ASK
	Number Of Channel	1CH.
	Antenna Designation:	FPCB Antenna
	Antenna Gain(Peak)	1.0 dBi
Adapter	Model:AW018WR-0500300UH Input: AC100-240V~, 50/60Hz,0.5A Output: 5V---, 3A	
Battery	DC 3.7V,10000mAh	

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.

2.

Table for Filed Antenna

Ant	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	NOTE
1	N/A	N/A	FPCB Antenna	N/A	1.0	Antenna

2.2 DESCRIPTION OF TEST MODES

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

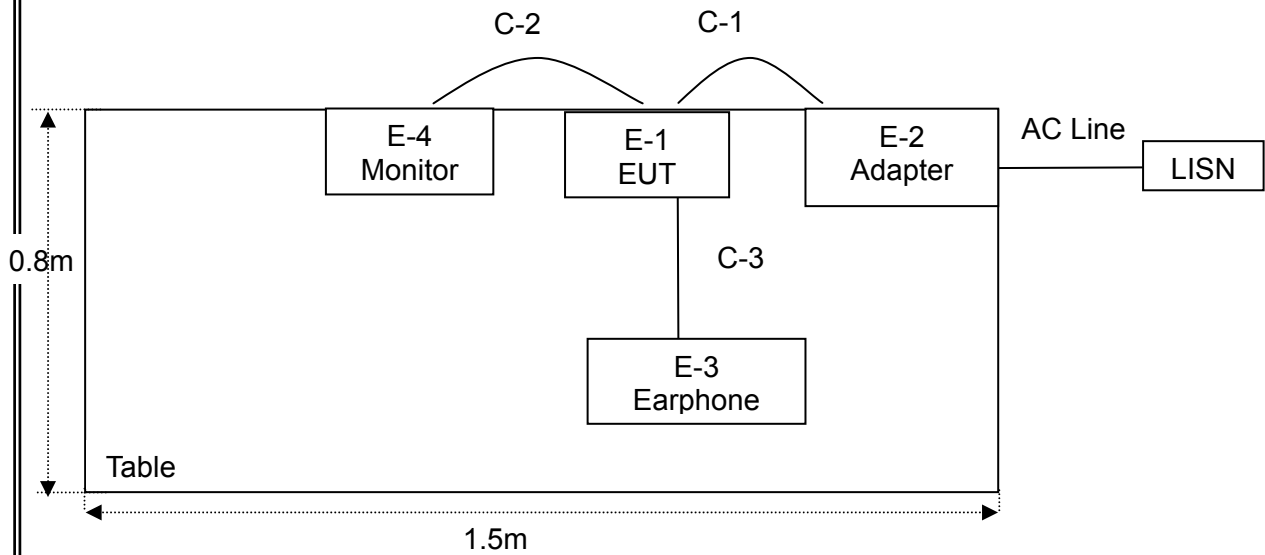
Pretest Mode	Description
Mode 1	TX

For Conducted Emission	
Final Test Mode	Description
Mode 1	TX

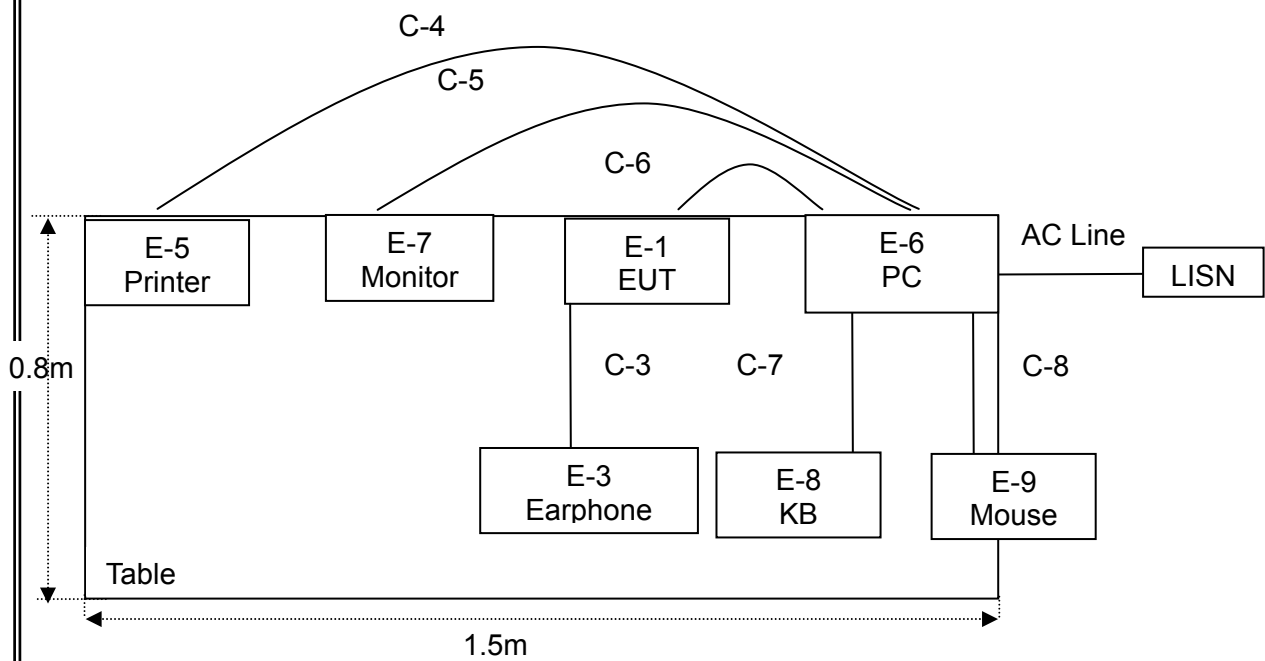
For Radiated Emission	
Final Test Mode	Description
Mode 1	TX

2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Conducted Emission Test 1



Conducted Emission Test 2



Radiated Spurious Emission Test

E-1
EUT

2.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)

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	10.1 Inch Full Ruggedized Tablet	N/A	xTablet T1500	N/A	E-1
E-2	ADAPTER	N/A	AW018WR-0500300UH	N/A	E-2
E-3	Earphone	N/A	2688	N/A	E-3
E-4	Monitor	SONY	KDL-24EX520	N/A	E-4
E-5	Printer	Canon	L11121E	LBP2900	E-5
E-6	Personal computer	DELL	FT4Y23X	34413561645	E-6
E-7	Monitor	DELL	IN2020MB	cn-0y6mhx-74261-11f-67es	E-7
E-8	Keyboard	DELL	SK-8185	OY526KUS	E-8
E-9	Mouse	DELL	MS111-P	cn-011d3v-71581-11e-1th7	E-9

Item	Cable Type	Shielded Type	Ferrite Core	Length	Note
C-1	Power line	NO	YES	1.2m	
C-2	HDMI	NO	NO	1.0m	
C-3	Earphone	NO	NO	1.0m	
C-4	USB Cable	NO	NO	1.0m	
C-5	HDMI	NO	NO	1.0m	
C-6	USB Cable	NO	NO	1.0m	
C-7	USB Cable	NO	NO	1.0m	
C-8	USB Cable	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.

2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS

Radiation Test equipment

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	Spectrum Analyzer	Agilent	E4407B	MY45108040	2015.07.06	2016.07.05	1 year
2	Test Receiver	R&S	ESPI	101318	2015.06.07	2016.06.06	1 year
3	Bilog Antenna	TESEQ	CBL6111D	31216	2015.07.06	2016.07.05	1 year
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264416	2015.06.07	2016.06.06	1 year
5	Spectrum Analyzer	ADVANTEST	R3132	150900201	2015.06.07	2016.06.06	1 year
6	Horn Antenna	EM	EM-AH-10180	2011071402	2015.07.06	2016.07.05	1 year
7	Horn Ant	Schwarzbeck	BBHA 9170	9170-181	2015.07.06	2016.07.05	1 year
8	Amplifier	EM	EM-30180	060538	2015.12.22	2016.12.21	1 year
9	Loop Antenna	ARA	PLA-1030/B	1029	2015.06.08	2016.06.07	1 year
10	Power Meter	R&S	NRVS	100696	2015.07.06	2016.07.05	1 year
11	Power Sensor	R&S	URV5-Z4	0395.1619.05	2015.07.06	2016.07.05	1 year

Conduction Test equipment

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Last calibration	Calibrated until	Calibration period
1	Test Receiver	R&S	ESCI	101160	2015.06.06	2016.06.05	1 year
2	LISN	R&S	ENV216	101313	2015.08.24	2016.08.23	1 year
3	LISN	EMCO	3816/2	00042990	2015.08.24	2016.08.23	1 year
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264417	2015.06.07	2016.06.06	1 year
5	Passive Voltage Probe	R&S	ESH2-Z3	100196	2015.06.07	2016.06.06	1 year
6	Absorbing clamp	R&S	MOS-21	100423	2015.06.08	2016.06.07	1 year

3. ANTENNA REQUIREMENT

3.1 STANDARD REQUIREMENT

15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

3.2 EUT ANTENNA

The EUT antenna is permanent attached antenna. It comply with the standard requirement.

4. EMC EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

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

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

0.15 -0.5			66 - 56 *	56 - 46 *	LP002.
0.50 -5.0			56.00	46.00	LP002.
5.0 -30.0			60.00	50.00	LP002.

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

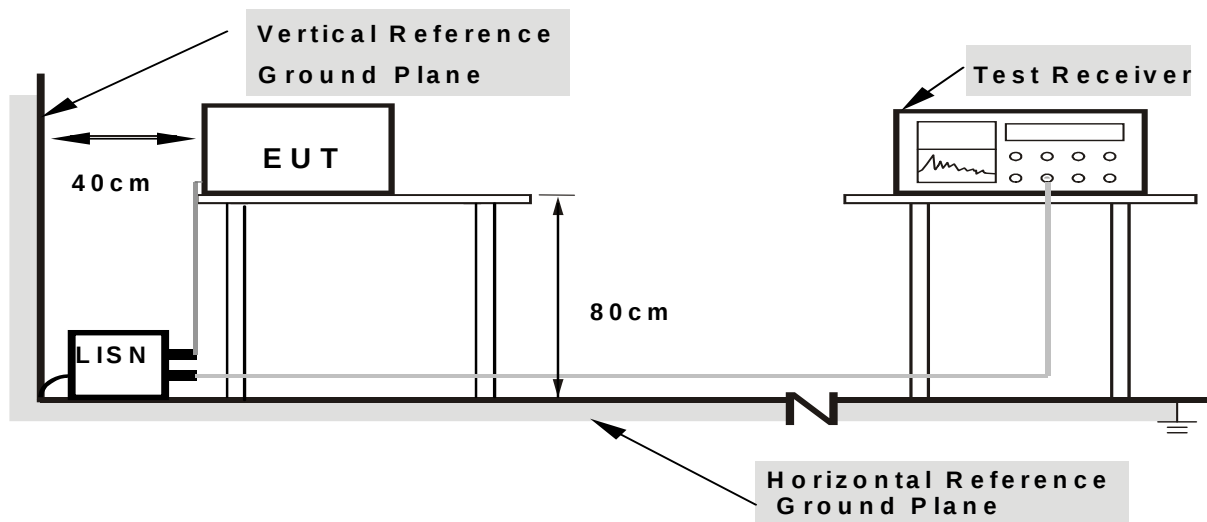
4.1.2 TEST PROCEDURE

- 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.
- 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.
- 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.
- LISN at least 80 cm from nearest part of EUT chassis.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.1.3 DEVIATION FROM TEST STANDARD

No deviation

4.1.4 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

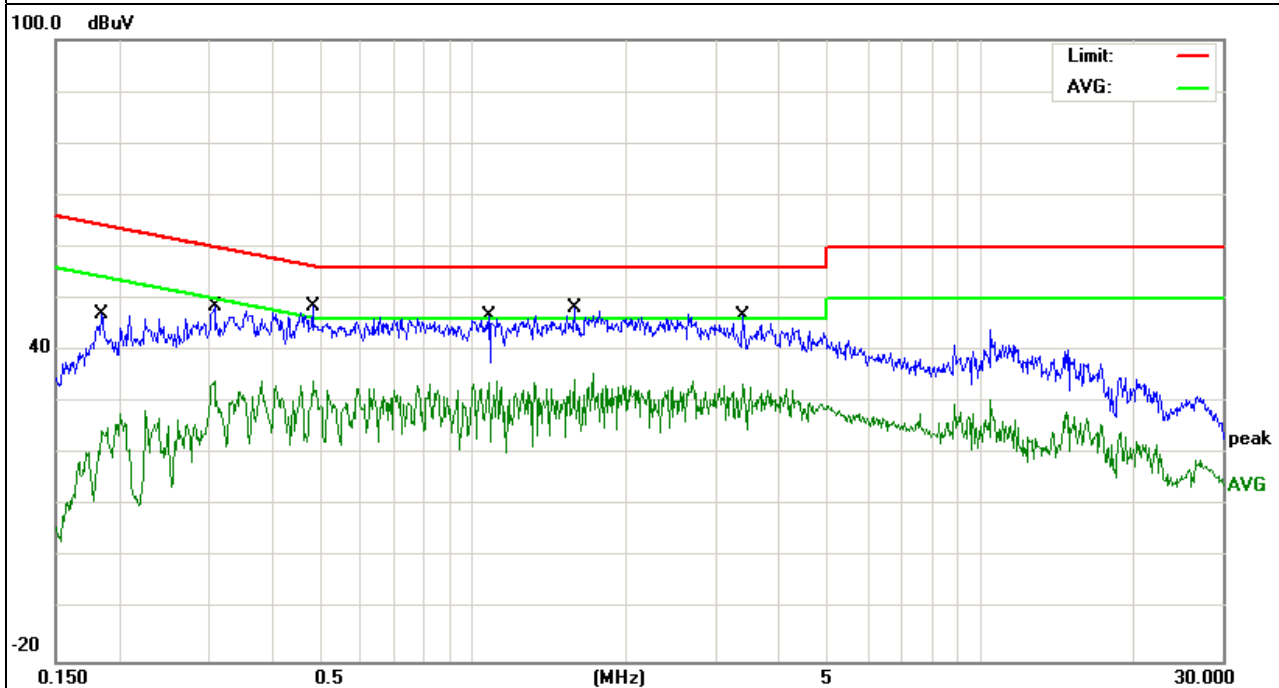
4.1.5 TEST RESULT

EUT :	10.1 Inch Full Ruggedized Tablet	Model Name :	xTablet T1500
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Phase :	L
Test Voltage :	DC 5.0V from adapter AC 120V/60Hz	Test Mode :	Mode 1

Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Remark
(MHz)	(dBμV)	(dB)	(dBμV)	(dBμV)	(dB)	
0.1844	37.64	9.46	47.10	64.28	-17.18	QP
0.1844	10.46	9.46	19.92	54.28	-34.36	AVG
0.3082	38.96	9.54	48.50	60.02	-11.52	QP
0.3082	23.97	9.54	33.51	50.02	-16.51	AVG
0.4818	39.22	9.48	48.70	56.31	-7.61	QP
0.4818	19.82	9.48	29.30	46.31	-17.01	AVG
1.0740	37.14	9.56	46.70	56.00	-9.30	QP
1.0740	21.16	9.56	30.72	46.00	-15.28	AVG
1.5820	38.64	9.56	48.20	56.00	-7.80	QP
1.5820	20.63	9.56	30.19	46.00	-15.81	AVG
3.3820	37.13	9.64	46.77	56.00	-9.23	QP
3.3820	23.83	9.64	33.47	46.00	-12.53	AVG

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

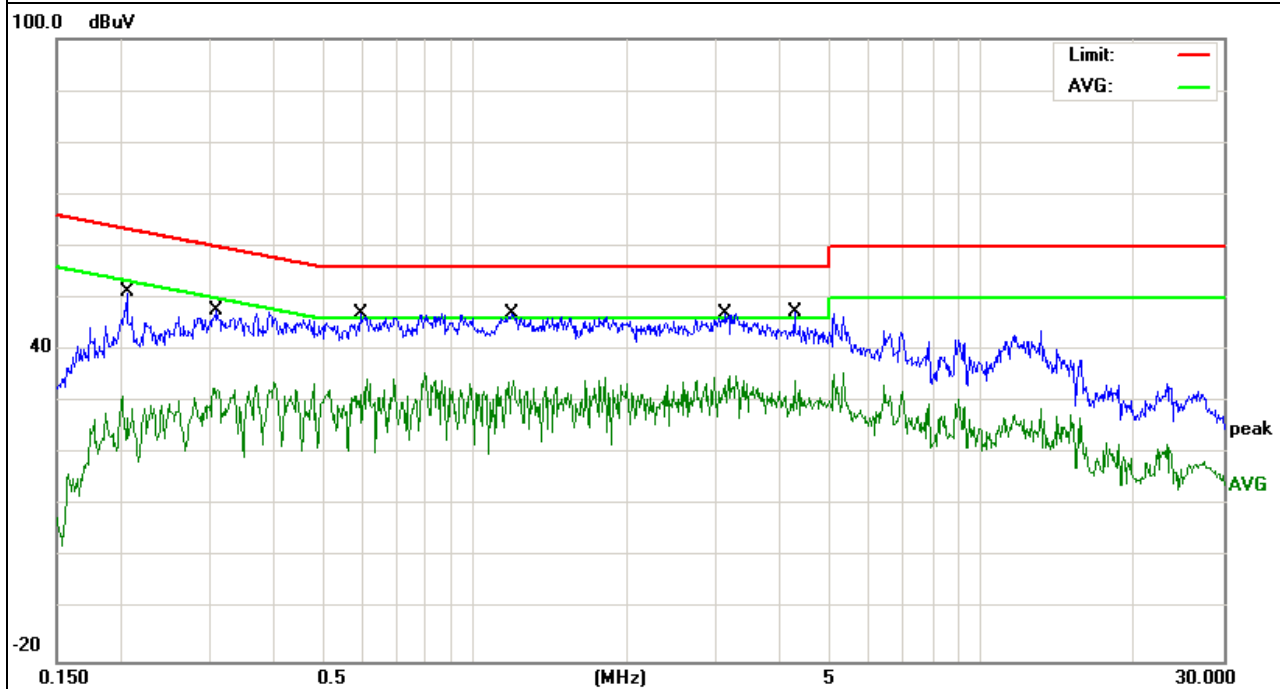


EUT :	10.1 Inch Full Ruggedized Tablet	Model Name :	xTablet T1500
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Phase :	N
Test Voltage :	DC 5.0V from adapter AC 120V/60Hz	Test Mode :	Mode 1

Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Remark
(MHz)	(dBμV)	(dB)	(dBμV)	(dBμV)	(dB)	
0.2061	41.64	9.46	51.10	63.36	-12.26	QP
0.2061	13.45	9.46	22.91	53.36	-30.45	AVG
0.3099	38.36	9.44	47.80	59.97	-12.17	QP
0.3099	22.57	9.44	32.01	49.97	-17.96	AVG
0.5947	37.55	9.45	47.00	56.00	-9.00	QP
0.5947	19.54	9.45	28.99	46.00	-17.01	AVG
1.1895	37.56	9.44	47.00	56.00	-9.00	QP
1.1895	20.86	9.44	30.30	46.00	-15.70	AVG
3.1299	37.73	9.47	47.20	56.00	-8.80	QP
3.1299	23.76	9.47	33.23	46.00	-12.77	AVG
4.2738	37.72	9.48	47.20	56.00	-8.80	QP
4.2738	21.27	9.48	30.75	46.00	-15.25	AVG

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

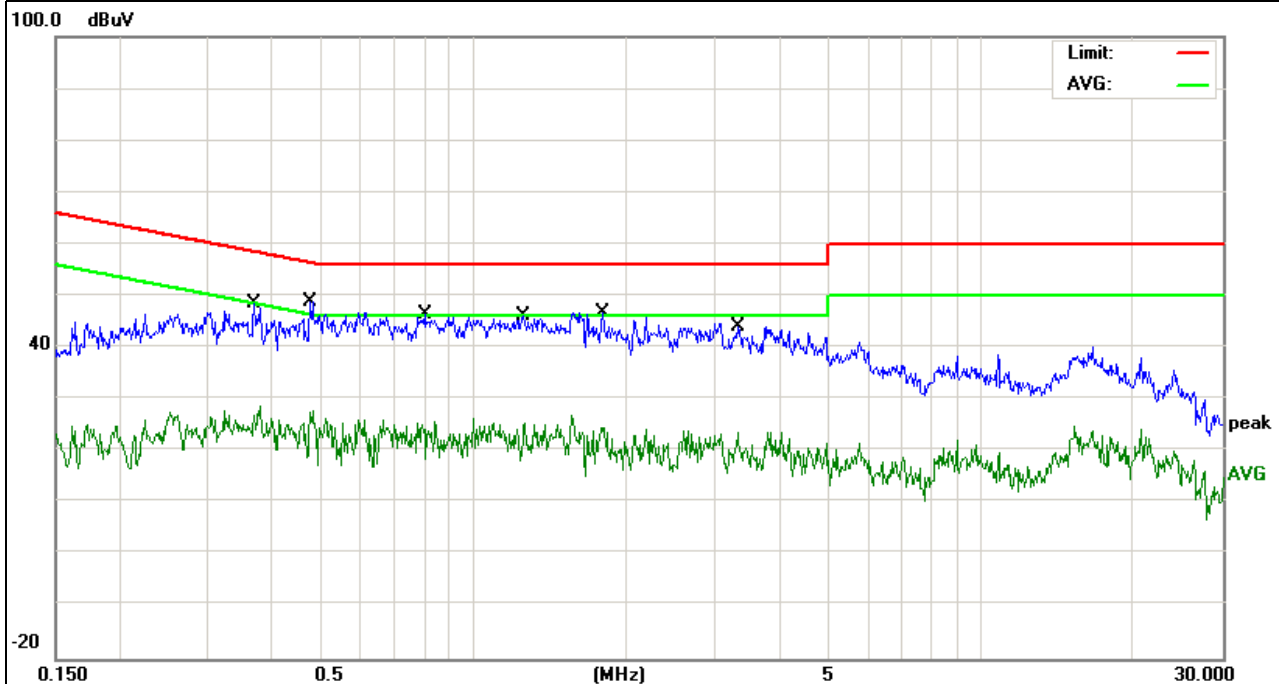


EUT :	10.1 Inch Full Ruggedized Tablet	Model Name :	xTablet T1500
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Phase :	L
Test Voltage :	DC 5.0V from adapter AC 240V/60Hz	Test Mode :	Mode 1

Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Remark
(MHz)	(dBμV)	(dB)	(dBμV)	(dBμV)	(dB)	
0.3699	39.32	9.28	48.60	58.50	-9.90	QP
0.3699	17.80	9.28	27.08	48.50	-21.42	AVG
0.4778	39.44	9.46	48.90	56.38	-7.48	QP
0.4778	17.99	9.46	27.45	46.38	-18.93	AVG
0.8020	36.93	9.57	46.50	56.00	-9.50	QP
0.8020	9.07	9.57	18.64	46.00	-27.36	AVG
1.2540	36.63	9.57	46.20	56.00	-9.80	QP
1.2540	9.95	9.57	19.52	46.00	-26.48	AVG
1.8020	37.23	9.57	46.80	56.00	-9.20	QP
1.8020	14.90	9.57	24.47	46.00	-21.53	AVG
3.3180	34.46	9.64	44.10	56.00	-11.90	QP
3.3180	11.34	9.64	20.98	46.00	-25.02	AVG

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

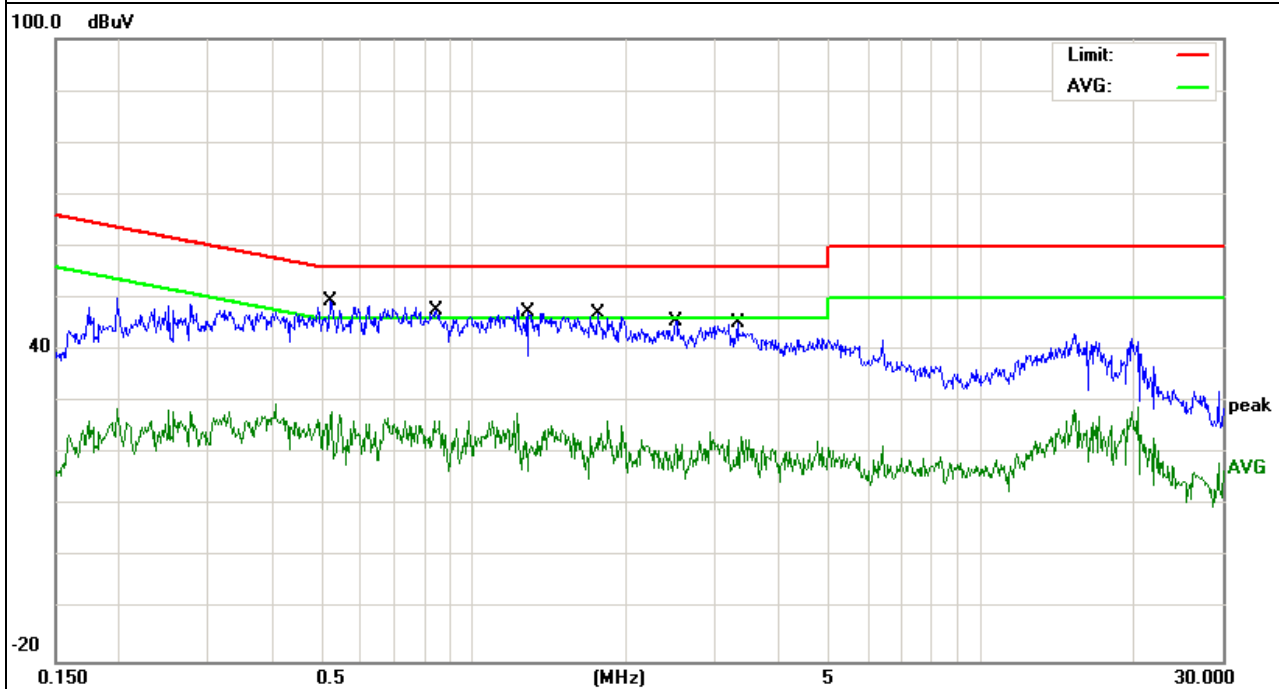


EUT :	10.1 Inch Full Ruggedized Tablet	Model Name :	xTablet T1500
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Phase :	N
Test Voltage :	DC 5.0V from adapter AC 240V/60Hz	Test Mode :	Mode 1

Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Remark
(MHz)	(dBμV)	(dB)	(dBμV)	(dBμV)	(dB)	
0.5220	40.04	9.46	49.50	56.00	-6.50	QP
0.5220	16.60	9.46	26.06	46.00	-19.94	AVG
0.8457	38.17	9.43	47.60	56.00	-8.40	QP
0.8457	14.72	9.43	24.15	46.00	-21.85	AVG
1.2860	37.75	9.45	47.20	56.00	-8.80	QP
1.2860	10.09	9.45	19.54	46.00	-26.46	AVG
1.7580	37.54	9.46	47.00	56.00	-9.00	QP
1.7580	11.89	9.46	21.35	46.00	-24.65	AVG
2.5099	36.13	9.47	45.60	56.00	-10.40	QP
2.5099	7.97	9.47	17.44	46.00	-28.56	AVG
3.3140	35.93	9.47	45.40	56.00	-10.60	QP
3.3140	7.83	9.47	17.30	46.00	-28.70	AVG

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

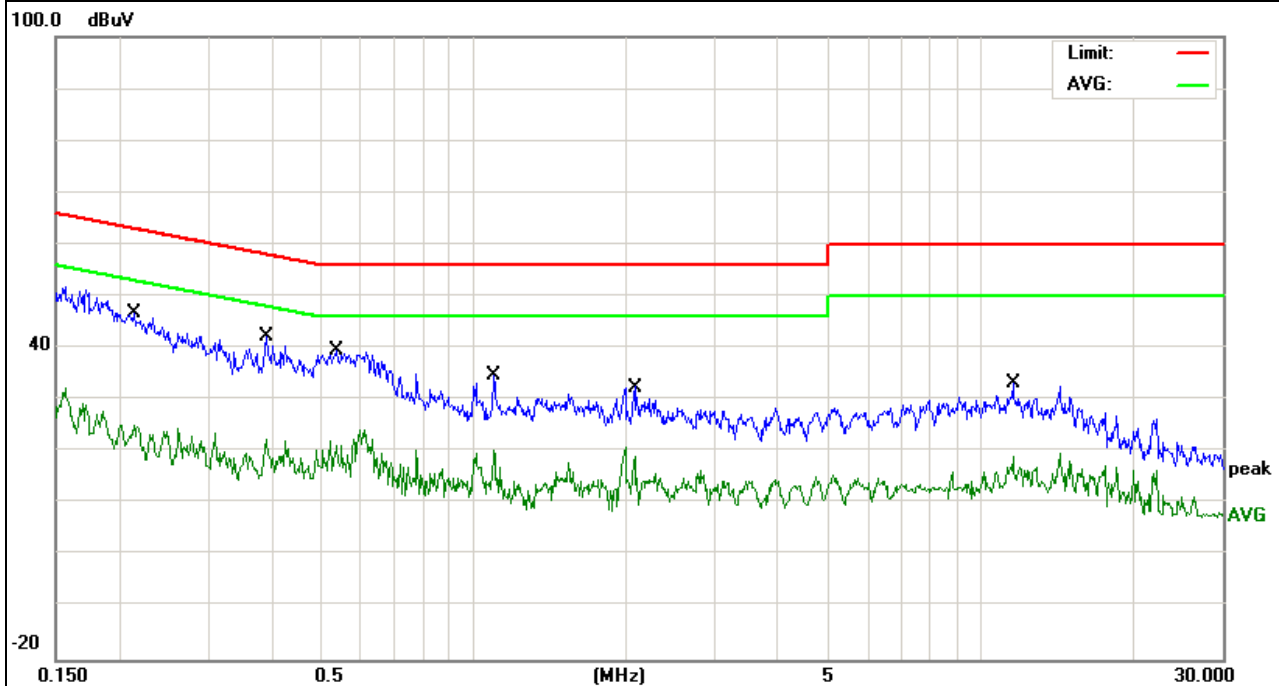


EUT :	10.1 Inch Full Ruggedized Tablet	Model Name :	xTablet T1500
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Phase :	L
Test Voltage :	DC 5.0V from PC AC 120V/60Hz	Test Mode :	Mode 1

Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Remark
(MHz)	(dBμV)	(dB)	(dBμV)	(dBμV)	(dB)	
0.2139	37.34	9.46	46.80	63.05	-16.25	QP
0.2139	13.94	9.46	23.40	53.05	-29.65	AVG
0.3911	32.96	9.44	42.40	58.04	-15.64	QP
0.3911	12.97	9.44	22.41	48.04	-25.63	AVG
0.5380	30.05	9.45	39.50	56.00	-16.50	QP
0.5380	10.71	9.45	20.16	46.00	-25.84	AVG
1.0980	25.36	9.44	34.80	56.00	-21.20	QP
1.0980	10.86	9.44	20.30	46.00	-25.70	AVG
2.0859	23.04	9.46	32.50	56.00	-23.50	QP
2.0859	4.37	9.46	13.83	46.00	-32.17	AVG
11.5859	23.59	9.71	33.30	60.00	-26.70	QP
11.5859	6.46	9.71	16.17	50.00	-33.83	AVG

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

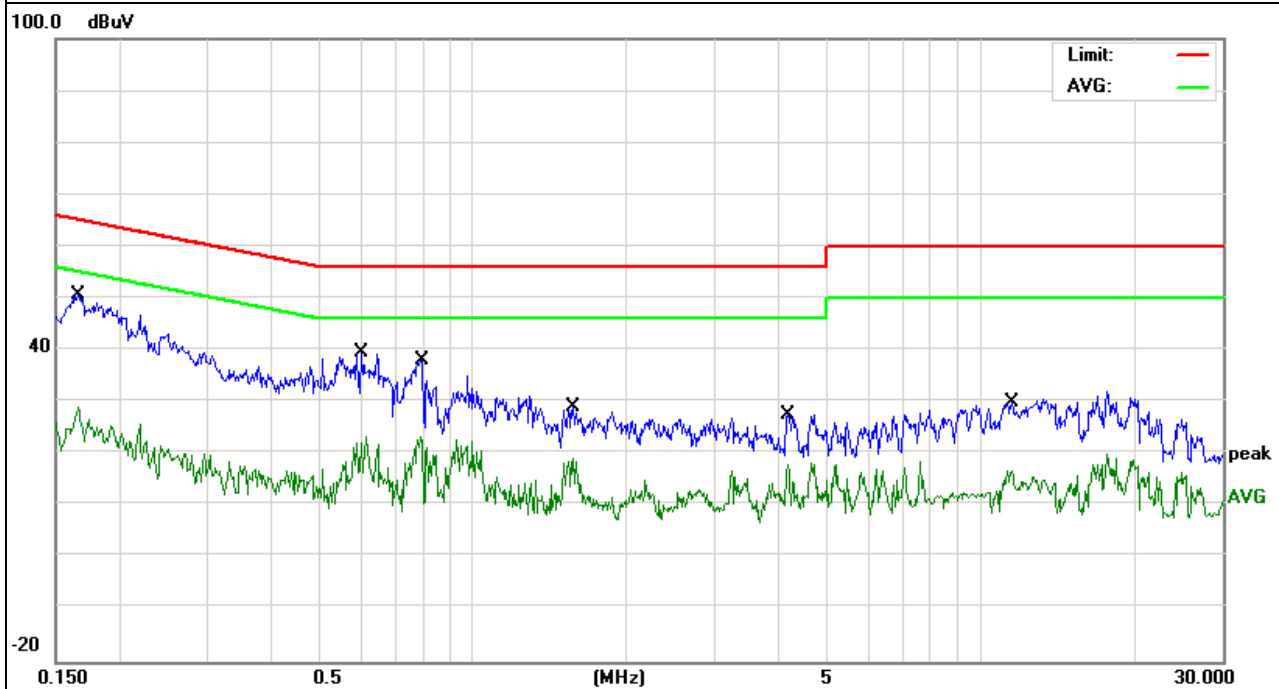


EUT :	10.1 Inch Full Ruggedized Tablet	Model Name :	xTablet T1500
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Phase :	N
Test Voltage :	DC 5.0V from PC AC 120V/60Hz	Test Mode :	Mode 1

Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Remark
(MHz)	(dBμV)	(dB)	(dBμV)	(dBμV)	(dB)	
0.1660	41.14	9.46	50.60	65.15	-14.55	QP
0.1660	19.49	9.46	28.95	55.15	-26.20	AVG
0.6018	30.26	9.44	39.70	56.00	-16.30	QP
0.6018	6.92	9.44	16.36	46.00	-29.64	AVG
0.7940	28.67	9.43	38.10	56.00	-17.90	QP
0.7940	0.94	9.43	10.37	46.00	-35.63	AVG
1.5700	19.75	9.45	29.20	56.00	-26.80	QP
1.5700	6.16	9.45	15.61	46.00	-30.39	AVG
4.1619	18.23	9.47	27.70	56.00	-28.30	QP
4.1619	8.53	9.47	18.00	46.00	-28.00	AVG
11.5297	20.19	9.71	29.90	60.00	-30.10	QP
11.5297	7.05	9.71	16.76	50.00	-33.24	AVG

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

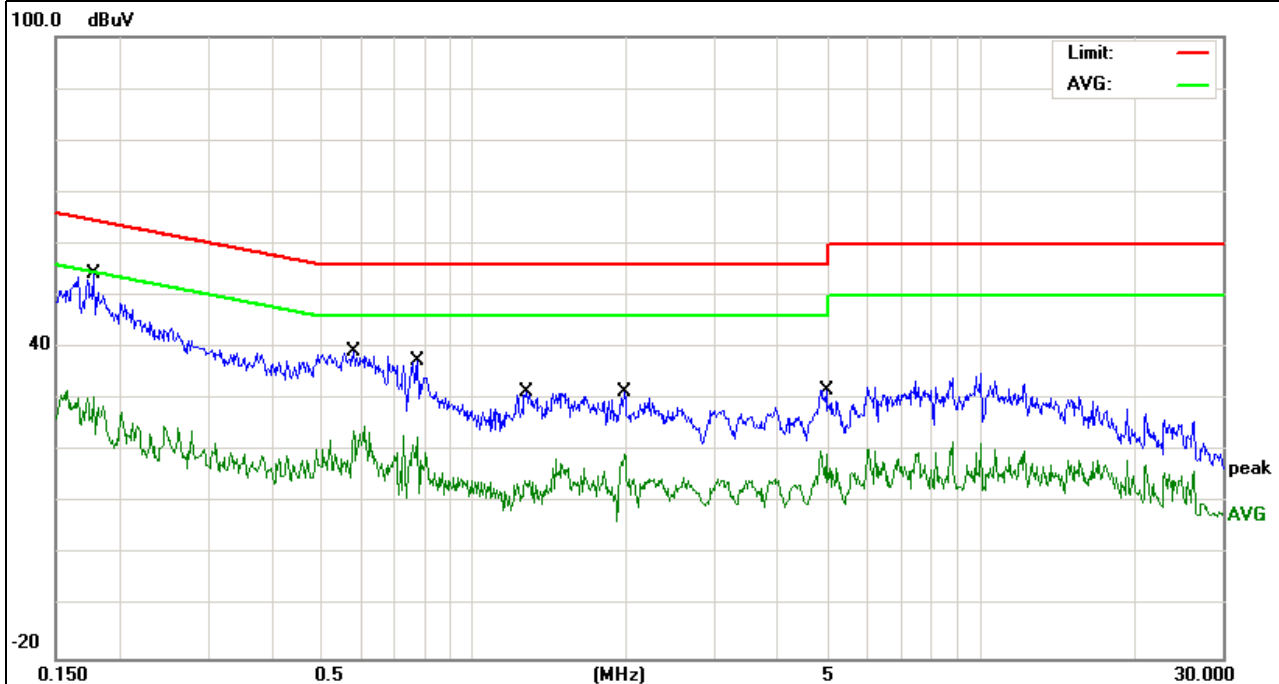


EUT :	10.1 Inch Full Ruggedized Tablet	Model Name :	xTablet T1500
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Phase :	L
Test Voltage :	DC 5.0V from PC AC 240V/60Hz	Test Mode :	Mode 1

Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Remark
(MHz)	(dBμV)	(dB)	(dBμV)	(dBμV)	(dB)	
0.1779	44.94	9.46	54.40	64.58	-10.18	QP
0.1779	13.87	9.46	23.33	54.58	-31.25	AVG
0.5816	29.85	9.45	39.30	56.00	-16.70	QP
0.5816	14.49	9.45	23.94	46.00	-22.06	AVG
0.7780	28.07	9.43	37.50	56.00	-18.50	QP
0.7780	2.40	9.43	11.83	46.00	-34.17	AVG
1.2700	21.95	9.45	31.40	56.00	-24.60	QP
1.2700	3.93	9.45	13.38	46.00	-32.62	AVG
1.9899	22.04	9.46	31.50	56.00	-24.50	QP
1.9899	10.02	9.46	19.48	46.00	-26.52	AVG
4.9579	22.41	9.49	31.90	56.00	-24.10	QP
4.9579	4.63	9.49	14.12	46.00	-31.88	AVG

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.

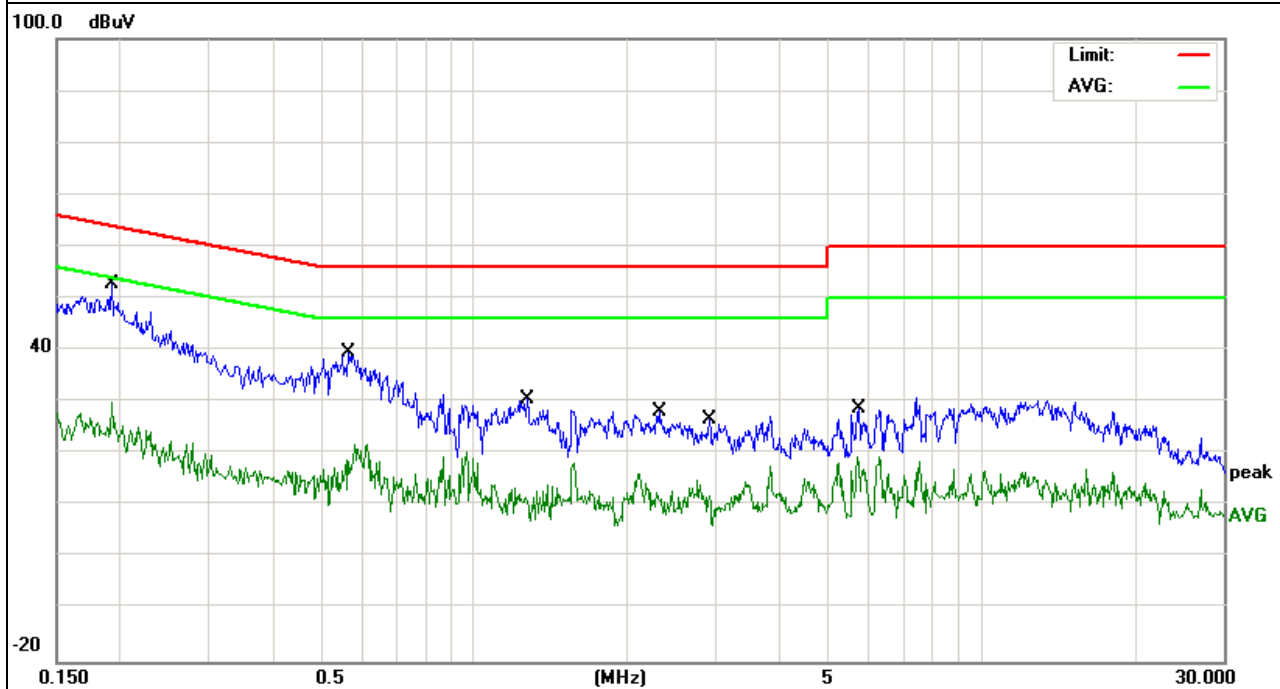


EUT :	10.1 Inch Full Ruggedized Tablet	Model Name :	xTablet T1500
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1010hPa	Phase :	N
Test Voltage :	DC 5.0V from PC AC 240V/60Hz	Test Mode :	Mode 1

Frequency	Reading Level	Correct Factor	Measure-ment	Limits	Margin	Remark
(MHz)	(dBμV)	(dB)	(dBμV)	(dBμV)	(dB)	
0.1922	43.24	9.46	52.70	63.94	-11.24	QP
0.1922	17.85	9.46	27.31	53.94	-26.63	AVG
0.5655	30.05	9.45	39.50	56.00	-16.50	QP
0.5655	3.72	9.45	13.17	46.00	-32.83	AVG
1.2700	21.19	9.45	30.64	56.00	-25.36	QP
1.2700	2.26	9.45	11.71	46.00	-34.29	AVG
2.3140	18.74	9.46	28.20	56.00	-27.80	QP
2.3140	1.81	9.46	11.27	46.00	-34.73	AVG
2.9100	17.12	9.47	26.59	56.00	-29.41	QP
2.9100	2.38	9.47	11.85	46.00	-34.15	AVG
5.7217	19.40	9.50	28.90	60.00	-31.10	QP
5.7217	4.88	9.50	14.38	50.00	-35.62	AVG

Remark:

1. All readings are Quasi-Peak and Average values.
2. Factor = Insertion Loss + Cable Loss.



4.2 RADIATED EMISSION MEASUREMENT

4.2.1 Radiated Emission Limits (FCC 15.209)

Frequencies (MHz)	Field Strength (micorvolts/meter)	Measurement Distance (meters)
0.009~0.490	2400/F(KHz)	300
0.490~1.705	24000/F(KHz)	30
1.705~30.0	30	30
30~88	100	3
88~216	150	3
216~960	200	3
Above 960	500	3

Note:

- (1) The tighter limit applies at the band edges.
- (2) Emission level (dBuV/m)=20log Emission level (uV/m).

LIMITS OF RADIATED EMISSION MEASUREMENT (FCC 15.225)

- (a) The field strength of any emissions within the band 13.553-13.567 MHz shall not exceed 15,848 microvolts/meter at 30 meters, equal to 124dBuV/m at 3 meters.
- (b) Within the bands 13.410-13.553 MHz and 13.567-13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters, equal to 90.5dBuV/m at 3 meters.
- (c) Within the bands 13.110-13.410 MHz and 13.710-14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters, equal to 80.5dBuV/m at 3 meters..
- (d) The field strength of any emissions appearing outside of the 13.110-14.010 MHz band shall not exceed the general radiated emission limits in § 15.209.

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1000 MHz
Stop Frequency	10th carrier harmonic
RB / VB (emission in restricted band)	1MHz / 1MHz for Peak

Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RB 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RB 9kHz for QP
Start ~ Stop Frequency	30MHz~1000MHz / RB 120kHz for QP

4.2.2 TEST PROCEDURE

- The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz And above 1GHz,
- The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3m meter test site. The table was rotated 360 degrees to determine the position of the highest radiation.
- 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.
- 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.
- If the Peak Mode measured value compliance with and lower than Quasi Peak Mode Limit, the EUT shall be deemed to meet QP Limits and then no additional QP Mode measurement performed.
- For the actual test configuration, please refer to the related Item –EUT Test Photos.

Note:

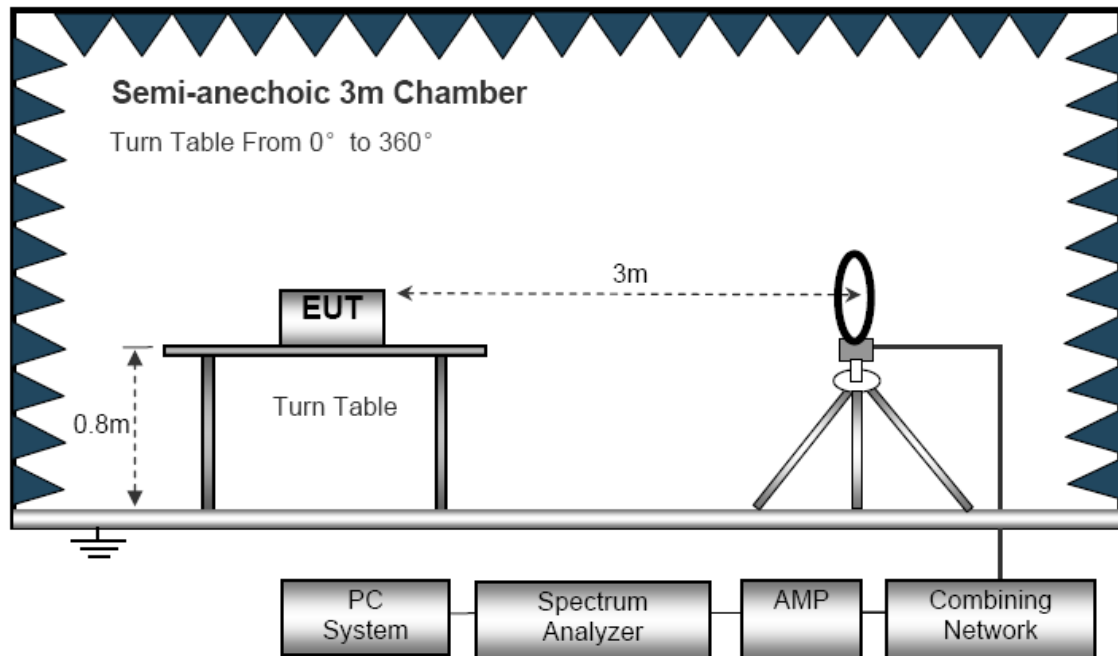
Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

4.2.3 DEVIATION FROM TEST STANDARD

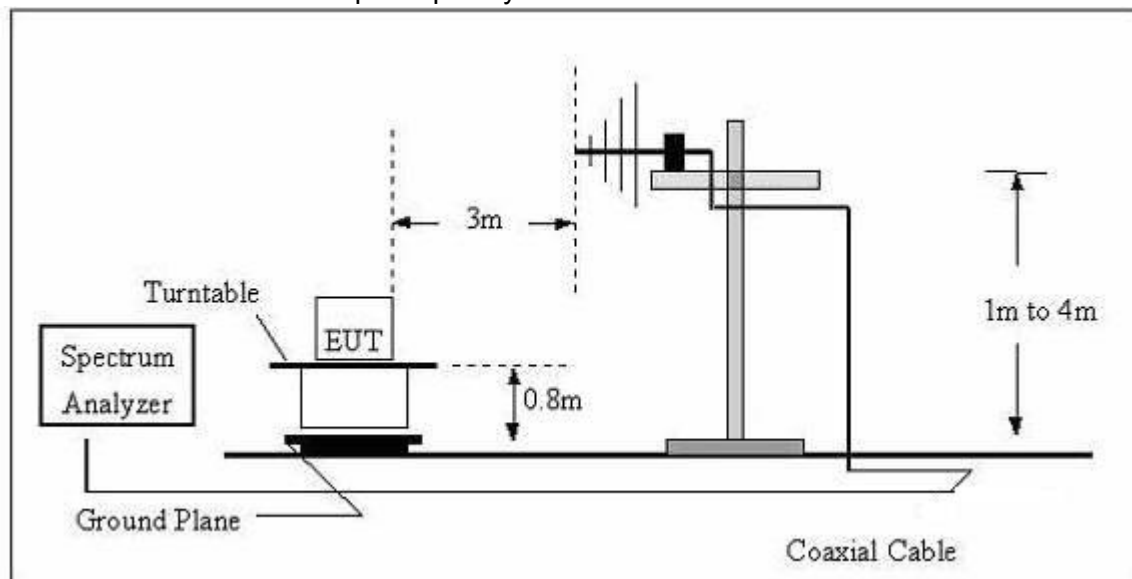
No deviation

4.2.4 TEST SETUP

(A) Radiated Emission Test-Up Frequency Below 30MHz



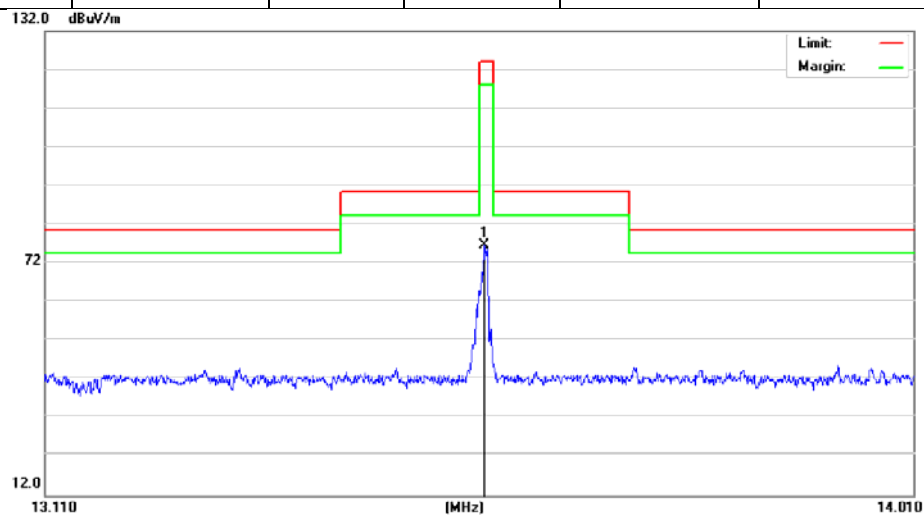
(B) Radiated Emission Test-Up Frequency 30MHz~1GHz



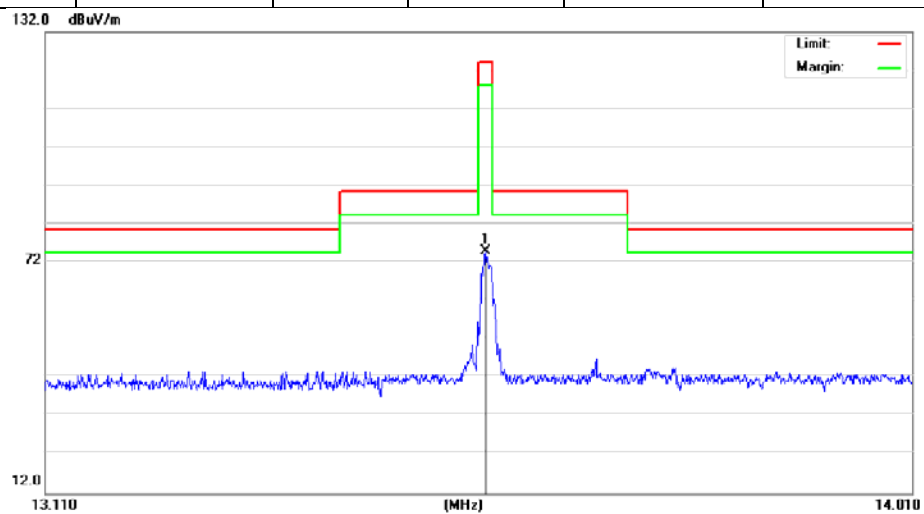
4.2.5 TEST RESULTS (BELOW 30MHz)

EUT :	10.1 Inch Full Ruggedized Tablet	Model Name. :	xTablet T1500
Temperature :	20 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX		

Freq.	Reading	Factor	Emission Level	Limit	Margin	Polar
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/@3m)	(dB)	
13.56	61.73	13.03	74.76	124	-49.24	H



Freq.	Reading	Factor	Emission Level	Limit	Margin	Polar
(MHz)	(dBuV/m)	(dB)	(dBuV/m)	(dBuV/@3m)	(dB)	
13.56	58.65	13.03	71.68	124	-52.32	V



Freq.	Reading	Factor	Emission Level	Extrapolation factor	Measurement results (calculated)	Limits	Margin
(MHz)	dB μ V@3m	(dB)	(dB μ V/m)	(dB)	dB μ V/m @30m	dB μ V/m @30m	(dB)
27.05	15.24	13.17	28.41	40	-11.59	30	-41.13

Frequency Range	Frequency	Reading	Factor	Extrapolation factor	Measurement results (calculated)	Limits	Margin
(MHz)	(MHz)	dB μ V @3m	(dB)	(dB)	dB μ V/m &30m	dB μ V/m @30m	(dB)
13.110~13.41	13.375	28.57	21.55	40	10.12	40.50	-30.38
13.410~13.553	13.517	36.54	21.55	40	18.09	50.50	-32.41
13.553~13.567	13.559	62.75	21.55	40	44.3	84.00	-39.7
13.567~13.71	13.568	37.48	21.55	40	19.03	50.50	-31.47
13.710~14.01	13.818	31.69	21.55	40	13.24	40.50	-27.26

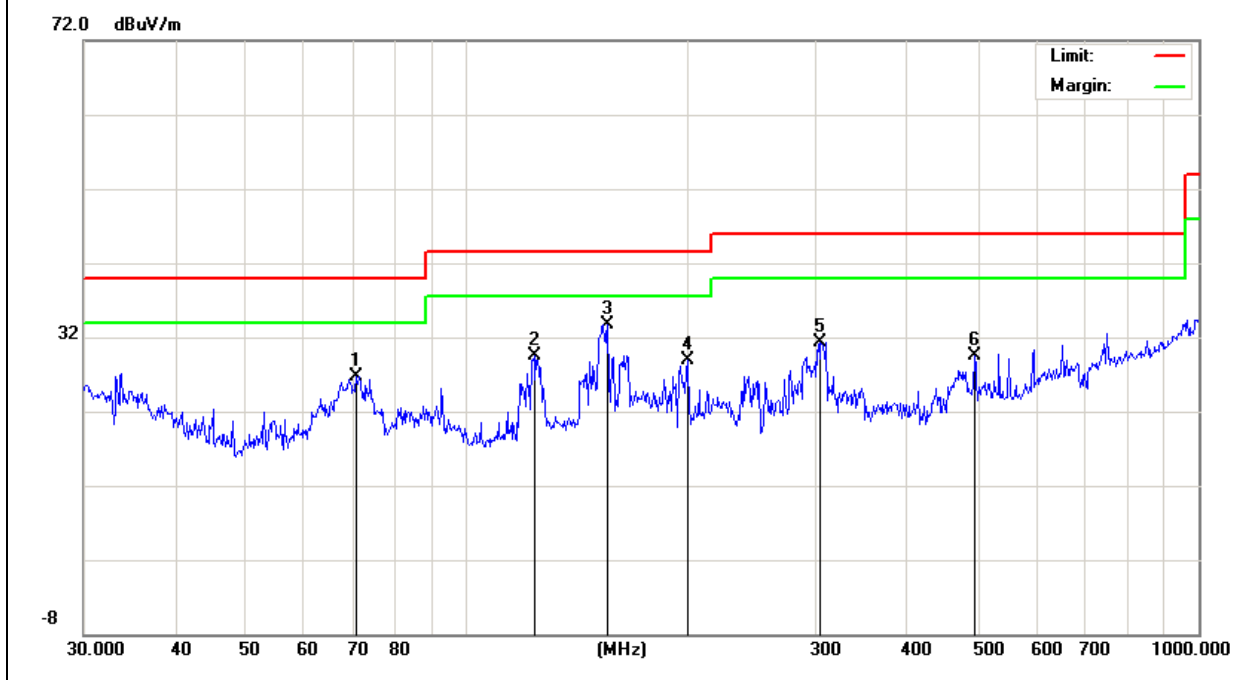
4.2.6 TEST RESULTS (BETWEEN 30 – 1000 MHZ)

EUT :	10.1 Inch Full Ruggedized Tablet	Model Name :	xTablet T1500
Temperature :	20 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX	Polarization :	Horizontal

Freq. (MHz)	Reading (dBμV/m)	Factor (dB)	Measurement (dBμV/m)	Limit (dBμV/m)	Over (dB)	Detector
70.58	17.67	9.13	26.80	40.00	-13.20	QP
123.70	18.88	10.62	29.50	43.50	-14.00	QP
155.91	21.91	11.79	33.70	43.50	-9.80	QP
200.69	17.52	11.48	29.00	43.50	-14.50	QP
304.6099	18.62	12.78	31.40	46.00	-14.60	QP
494.1983	12.19	17.31	29.50	46.00	-16.50	QP

Remark:

Factor = Antenna Factor + Cable Loss.

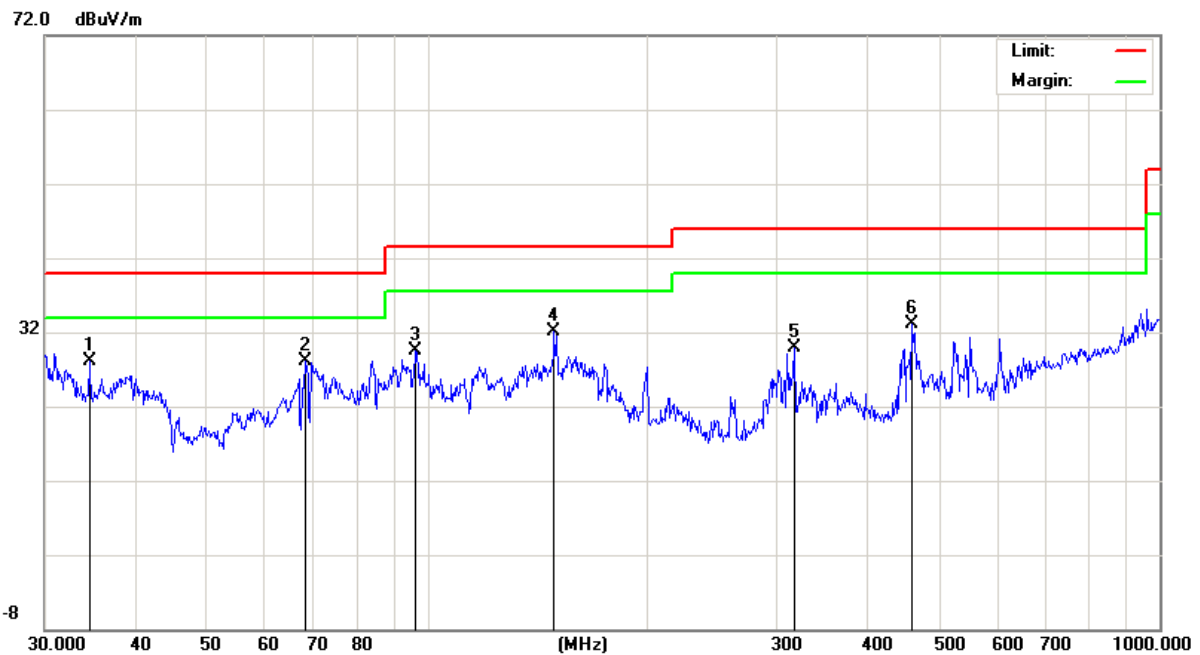


EUT :	10.1 Inch Full Ruggedized Tablet	Model Name :	xTablet T1500
Temperature :	20 °C	Relative Humidity :	54%
Pressure :	1010 hPa	Test Voltage :	DC 3.7V
Test Mode :	TX	Polarization :	Vertical

Freq. (MHz)	Reading (dBμV/m)	Factor (dB)	Measurement (dBμV/m)	Limit (dBμV/m)	Over (dB)	Detector
34.52	10.72	17.38	28.10	40.00	-11.90	QP
68.15	20.05	8.13	28.18	40.00	-11.82	QP
96.44	19.35	10.22	29.57	43.50	-13.93	QP
148.96	20.49	11.61	32.10	43.50	-11.40	QP
316.5889	16.76	13.14	29.90	46.00	-16.10	QP
459.1143	16.99	16.11	33.10	46.00	-12.90	QP

Remark:

Factor = Antenna Factor + Cable Loss.



5. BANDWIDTH TEST

5.1 TEST PROCEDURE

1. The transmitter output (antenna port) was connected to the spectrum analyzer in peak mode.
2. 20dB Bandwidth the resolution bandwidth of 1 kHz and the video bandwidth of 1 kHz were used.
3. Measured the spectrum width with power higher than 20dB below carrier.

5.2 DEVIATION FROM STANDARD

FCC Part15.225

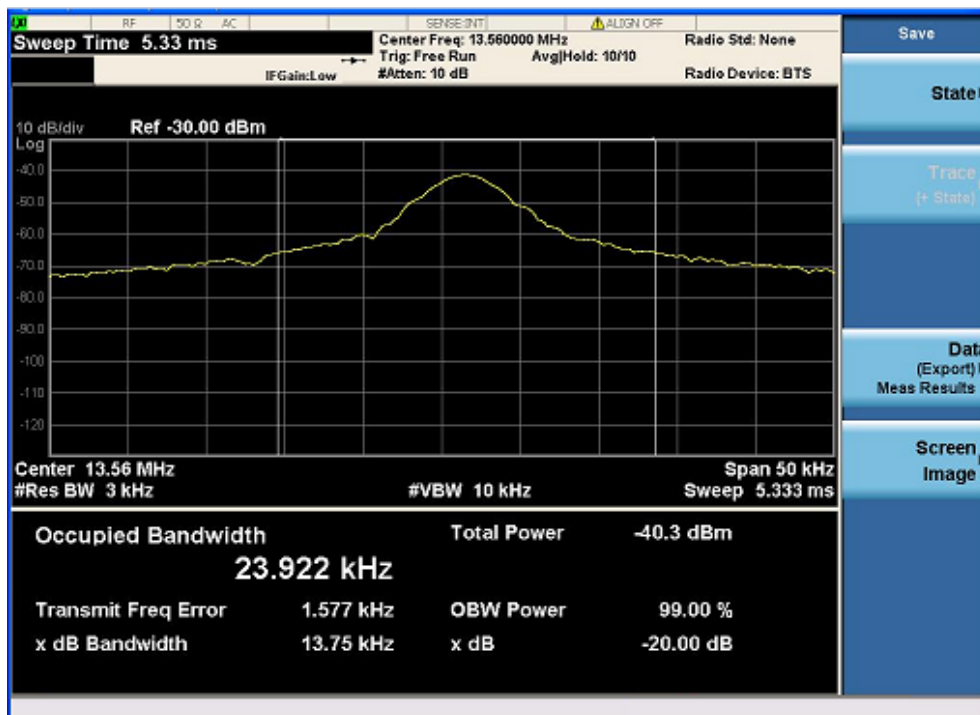
5.3 TEST SETUP



5.4 TEST RESULTS

EUT :	10.1 Inch Full Ruggedized Tablet	Model Name :	xTablet T1500
Temperature :	26 °C	Relative Humidity :	54%
Pressure :	1020 hPa	Test Power :	DC 3.7V
Test Mode :	TX CH 1		

Test Channel	Frequency (MHz)	20 dBc Bandwidth (kHz)
CH01	13.56	13.75



6. FREQUENCY TOLERANCE

6.1 Requirement:

Test Requirement: FCC Part15.225

Requirement:

Test Method: ANSI C63.4:2003

Requirement: The frequency tolerance of the carrier signal shall be maintained within $\pm 0.01\%$ of the operating frequency over a temperature variation of -20 degrees to $+50$ degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C. For battery operated equipment, the equipment tests shall be performed using a new battery.

6.2 Test Procedure

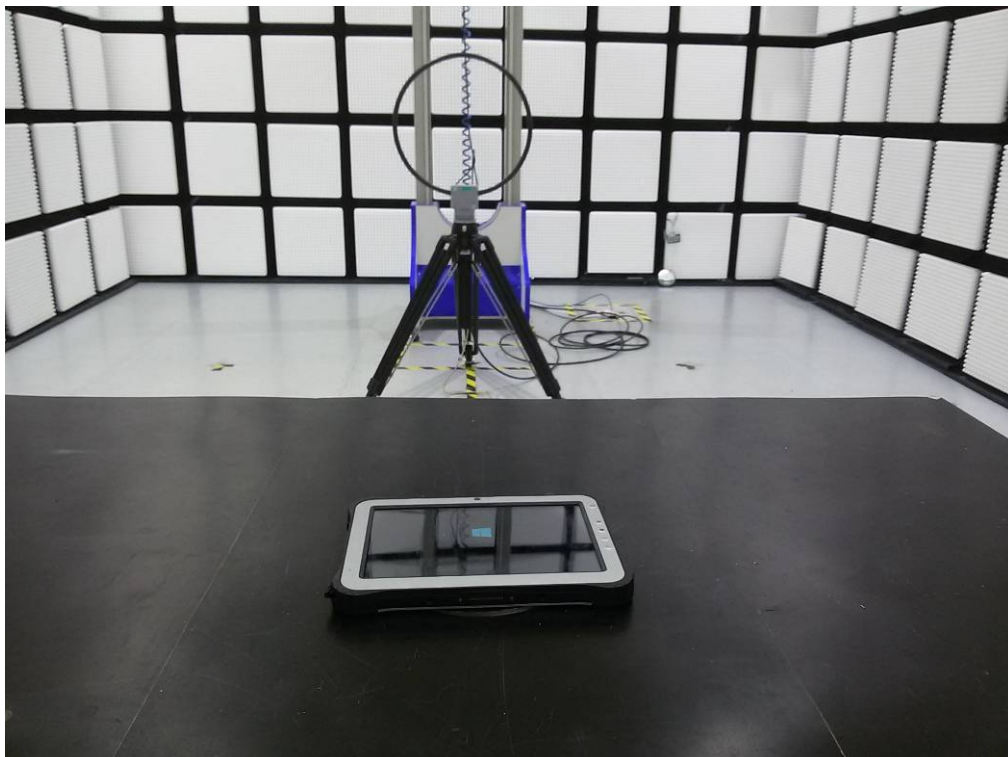
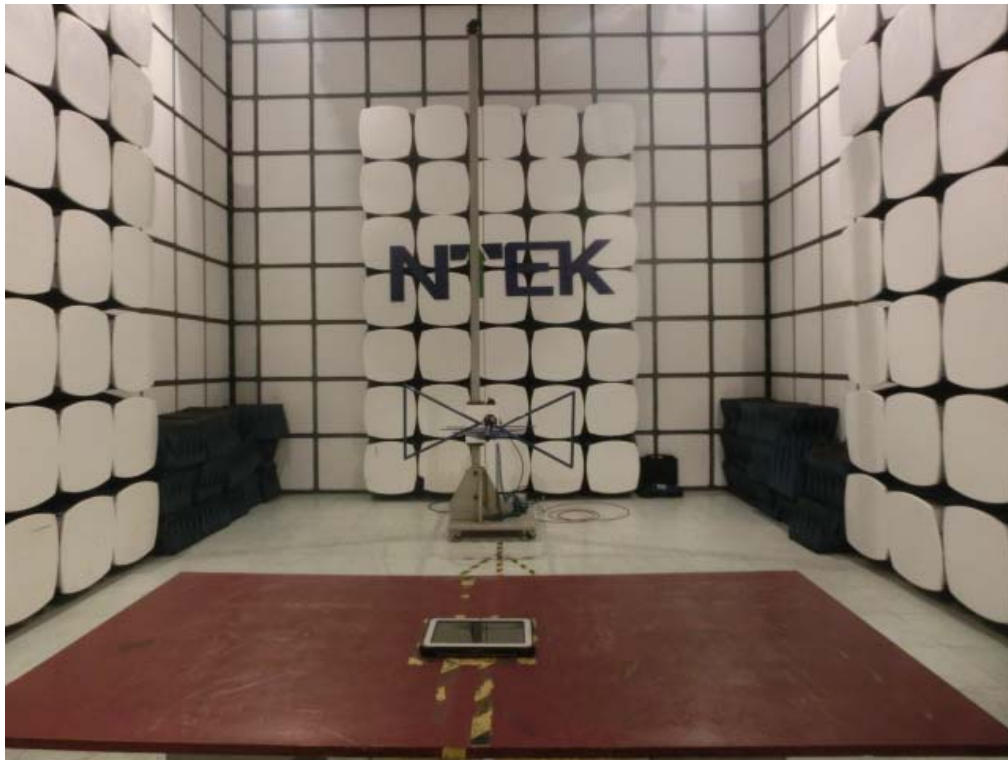
- 1.The EUT was placed on a turn table which is 0.8m above ground plane.
- 2.Set EUT as normal operation
- 3.Set SPA Center Frequency = fundamental frequency, RBW, VBW= 10kHz, Span =100kHz.
- 4.Set SPA Max hold. Mark peak.

Test Result

Power Supply	Temperature (°C)	Measured Frequency (MHz)	Frequency Error (MHz)	Result %	Part 15.225 Limit
DC 5.0V	-20	13.560072	0.000072	0.00053	+/- 0.01%
	20	13.560077	0.000077	0.00057	+/- 0.01%
	50	13.560075	0.000075	0.00055	+/- 0.01%
DC 4.25V	-20	13.560076	0.000076	0.00056	+/- 0.01%
	20	13.560074	0.000074	0.00055	+/- 0.01%
	50	13.560075	0.000075	0.00055	+/- 0.01%
DC 5.75V	-20	13.560070	0.000070	0.00052	+/- 0.01%
	20	13.560074	0.000074	0.00055	+/- 0.01%
	50	13.560069	0.000069	0.00051	+/- 0.01%

7. EUT TEST PHOTO

Radiated Measurement Photos



Conducted Measurement Photos