



FCC RADIO TEST REPORT

FCC ID: 2ACGPPR-08

Product : TOUCH PEN MOUSE WITH WEB
BROWSING LASER PRESENTER

Trade Name : N/A

Model Name : PR-08

Serial Model : PR-06, PR-03

Report No. : BZT-2014NT0502014F

Prepared for

PROMI TECHNOLOGY (HK) CO., LIMITED
UNIT A5,9/F SILVERCORP INT'L TOWER 707-703 NATHAN RD
MONGKOK KLN HONG KONG

Prepared by

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

TEST RESULT CERTIFICATION

Applicant's name : PROMI TECHNOLOGY (HK) CO., LIMITED

Address : UNIT A5.9/F SILVERCORP INT'L TOWER 707-703 NATHAN RD
MONGKOK KLN HONG KONG

Manufacture's Name..... : SHENZHEN PROMI DIGI-TECH CO.,LTD

Address : Yao Lu Industrial Park B Building 2 floor,two people Road No.
289 ,xixiang, Baoan, Shenzhen

Product description

Product name : TOUCH PEN MOUSE WITH WEB BROWSING LASER
PRESENTER

Model and/or type reference : PR-08

Serial Model : PR-06, PR-03

Rating(s) : DC 1.5V from battery

Standards : FCC Part15.249

Test procedure ANSI C63.4-2003

This device described above has been tested byBZT, 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.

This report shall not be reproduced except in full, without the written approval ofBZT, this document may be altered or revised byBZT, personal only, and shall be noted in the revision of the document.

Date of Test :

Date (s) of performance of tests : 04 May. 2014 ~09 May. 2014

Date of Issue : 10 May. 2014

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

Testing Engineer :



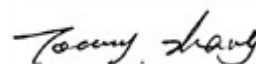
(Lynn Chen)

Technical Manager :



(Carlen Liu)

Authorized Signatory :



(Tommy zhang)

Table of Contents	Page
1 . SUMMARY OF TEST RESULTS	4
1.1 TEST FACILITY	5
1.2 MEASUREMENT UNCERTAINTY	5
2 . GENERAL INFORMATION	6
2.1 GENERAL DESCRIPTION OF EUT	6
2.2 DESCRIPTION OF TEST MODES	8
2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED	9
2.4 DESCRIPTION OF SUPPORT UNITS(CONDUCTED MODE)	10
2.5 EQUIPMENTS LIST FOR ALL TEST ITEMS	11
3 . ANTENNA REQUIREMENT	12
3.1 STANDARD REQUIREMENT	12
3.2 EUT ANTENNA	12
3.3 CONDUCTED EMISSION MEASUREMENT	13
3.3.1 POWER LINE CONDUCTED EMISSION LIMITS	13
3.3.2 TEST PROCEDURE	14
3.3.3 DEVIATION FROM TEST STANDARD	14
3.3.4 TEST SETUP	14
3.2.5 TEST RESULT	15
3.4 RADIATED EMISSION MEASUREMENT	16
3.4.1 RADIATED EMISSION LIMITS	16
3.4.2 TEST PROCEDURE	17
3.4.3 DEVIATION FROM TEST STANDARD	17
3.4.4 TEST SETUP	18
3.4.5 TEST RESULTS (BLOW 30MHZ)	20
3.4.6 TEST RESULTS (BETWEEN 30 – 1000 MHZ)	21
3.4.7 TEST RESULTS (ABOVE 1000 MHZ)	23
3.4.8 TEST RESULTS (RESTRICTED BANDS REQUIREMENTS)	26
4 . BANDWIDTH TEST	30
4.1 TEST PROCEDURE	30
4.2 DEVIATION FROM STANDARD	30
4.3 TEST SETUP	30
4.4 TEST RESULTS	31
5 . EUT TEST PHOTO	34
APPENDIX-PHOTOGRAPHS OF EUT CONSTRUCTIONAL DETAILS	

1. SUMMARY OF TEST RESULTS

Test procedures according to the technical standards:

FCC Part15, Subpart C (15.249)			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	N/A	
15.203	Antenna Requirement	Pass	
15.249	Radiated Spurious Emission	Pass	
15.205	Band Edge Emission	Pass	
15.249	Occupied Bandwidth	Pass	

NOTE:

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

1.1 TEST FACILITY

BZT Testing Technology Co., Ltd

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

FCC Registered No.: 701733

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	TOUCH PEN MOUSE WITH WEB BROWSING LASER PRESENTER	
Trade Name	N/A	
Model Name	PR-08	
Serial Model	PR-06, PR-03	
Model Difference	All model's the function, software and electric circuit are the same, only with a product color and model named different, test mode is PR-08.	
Product Description	The EUT is a TOUCH PEN MOUSE WITH WEB BROWSING LASER PRESENTER	
	Operation Frequency:	2408~2474MHz
	Modulation Type:	GFSK
	Antenna Designation:	PCB antenna
	Antenna Gain(Peak)	0 dBi
	EIRP	92.96 dbuv/m@3m
	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.	
Channel List	Please refer to the Note 2.	
Adapter	N/A	
Battery	DC 1.5V	

Note:

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

2.

Channel List					
Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2408	13	2432	25	2456
02	2410	14	2434	26	2458
03	2412	15	2436	27	2460
04	2414	16	2438	28	2462
05	2416	17	2440	29	2464
06	2418	18	2442	30	2466
07	2420	19	2444	31	2468
08	2422	20	2446	32	2470
09	2424	21	2448	33	2472
10	2426	22	2450	34	2474
11	2428	23	2452		
12	2430	24	2454		

3.

Table for Filed Antenna

Ant .	Brand	Model Name	Antenna Type	Connector	Gain (dBi)	NOTE
1	N/A	N/A	PCB antenna	NA	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	CH1
Mode 2	CH17
Mode 3	CH34
Mode 4	Link Mode

For Conducted Emission	
Final Test Mode	Description
Mode 4	Link Mode

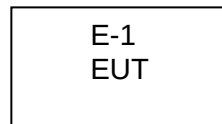
For Radiated Emission	
Final Test Mode	Description
Mode 1	CH1
Mode 2	CH17
Mode 3	CH34

Note:

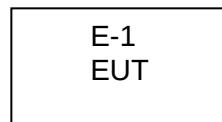
- (1) The measurements are performed at the highest, middle, lowest available channels.
- (2) The EUT use new battery.

2.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED

Conducted Emission Test



Radiated Spurious Emission Test



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	Mfr/Brand	Model/Type No.	Series No.	Note
E-1	TOUCH PEN MOUSE WITH WEB BROWSING LASER PRESENTER	N/A	PR-08	N/A	EUT

Item	Shielded Type	Ferrite Core	Length	Note
C-1	NO	NO	1.2m	

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	2013.07.06	2014.07.05	1 year
2	Test Receiver	R&S	ESPI	101318	2013.07.06	2014.07.05	1 year
3	Bilog Antenna	TESEQ	CBL6111D	31216	2013.08.12	2014.08.11	1 year
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264416	2013.07.06	2014.07.05	1 year
5	Spectrum Analyzer	ADVANTEST	R3132	150900201	2013.07.06	2014.07.05	1 year
6	Horn Antenna	EM	EM-AH-10180	2011071402	2013.08.12	2014.08.11	1 year
7	Horn Ant	Schwarzbeck	BBHA 9170	9170-181	2013.08.12	2014.08.11	1 year
8	Amplifier	EM	EM-30180	060538	2013.07.06	2014.07.05	1 year
9	Loop Antenna	ARA	PLA-1030/B	1029	2013.08.12	2014.08.11	1 year
10	Power Meter	R&S	NRVS	100696	2013.06.21	2014.06.20	1 year
11	Power Sensor	R&S	URV5-Z4	0395.1619.05	2013.06.21	2014.06.20	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	2013.07.06	2014.07.05	1 year
2	LISN	R&S	ENV216	101313	2013.07.06	2014.07.05	1 year
3	LISN	EMCO	3816/2	00042990	2013.07.06	2014.07.05	1 year
4	50Ω Coaxial Switch	Anritsu	MP59B	6200264417	2013.07.06	2014.07.05	1 year
5	Passive Voltage Probe	R&S	ESH2-Z3	100196	2013.07.06	2014.07.05	1 year
6	Absorbing clamp	R&S	MOS-21	100423	2013.07.06	2014.07.05	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 antennas used in this product are no detachable antenna, using a PCB antenna(Provided by non-manufacturers will use the product can not work), The maximum Gain of the antenna is 0dBi, fulfill the requirement of this section.

3.3 CONDUCTED EMISSION MEASUREMENT

3.3.1 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

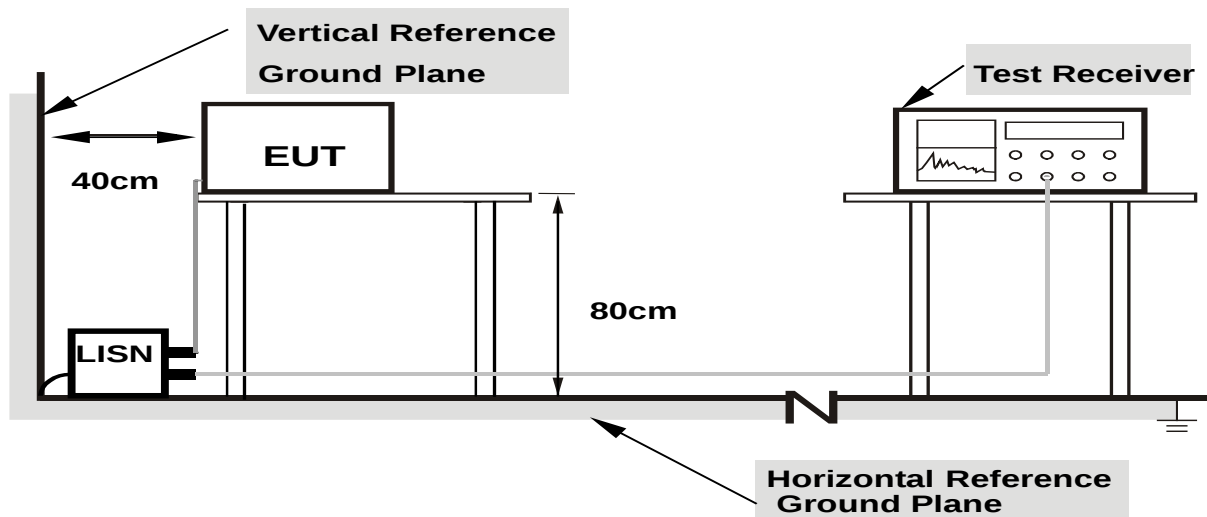
3.3.2 TEST PROCEDURE

- The EUT was placed 0.4 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.

3.3.3 DEVIATION FROM TEST STANDARD

No deviation

3.3.4 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 cm from other units and other metal planes

3.2.5 TEST RESULT

EUT :	TOUCH PEN MOUSE WITH WEB BROWSING LASER PRESENTER	Model Name. :	PR-08
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 1.5V from battery
Test Mode :	N/A	Phase :	N/A
Note: EUT power supply by battery, so the test not applicable.			

3.4 RADIATED EMISSION MEASUREMENT

3.4.1 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 15.249)

Frequency of Emission (MHz)	Field Strength of fundamental ((millivolts /meter)	Field Strength of Harmonics (microvolts/meter)
2400 - 2483.5	50	500

Notes:

- (1) Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.

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

3.4.2 TEST PROCEDURE

- a. The measuring distance of at 3 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 3m 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.
- 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.
- e. 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.
- f. For the actual test configuration, please refer to the related Item –EUT Test Photos.

Note:

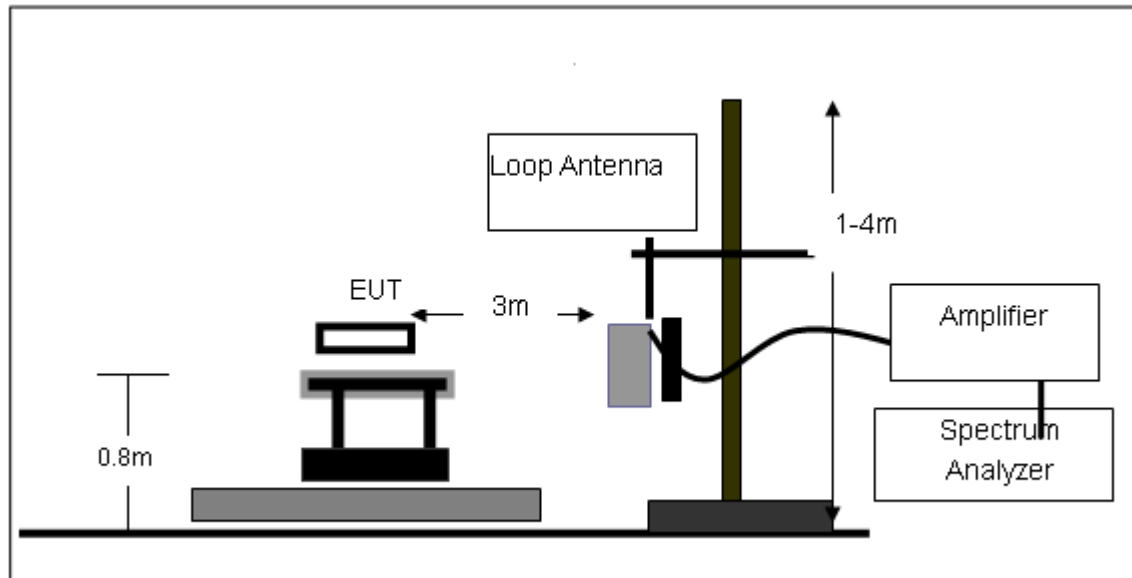
Both horizontal and vertical antenna polarities were tested and performed pretest to three orthogonal axis. The worst case emissions were reported

3.4.3 DEVIATION FROM TEST STANDARD

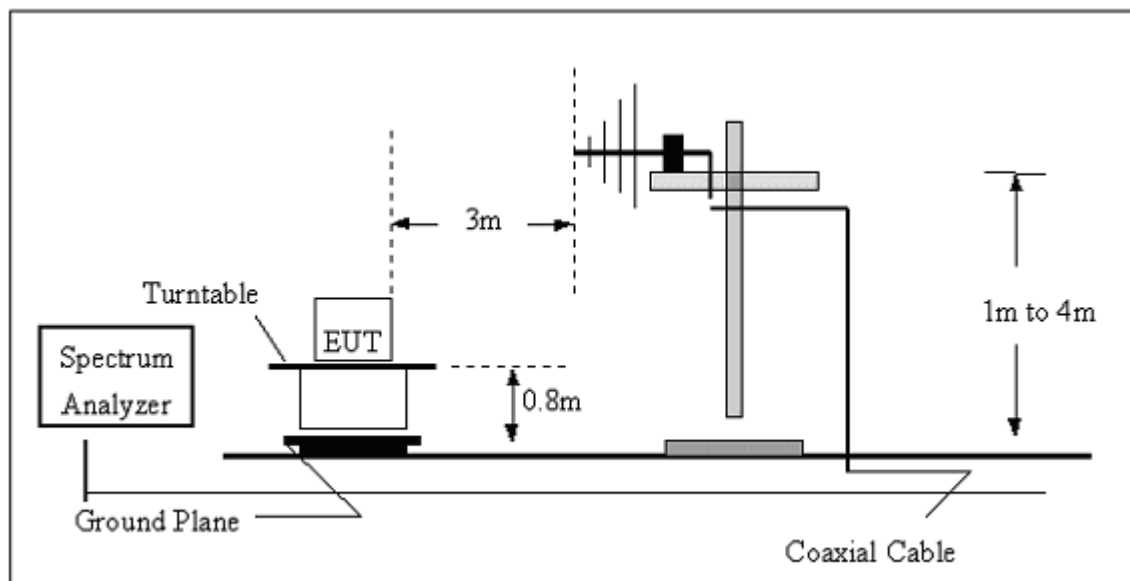
No deviation

3.4.4 TEST SETUP

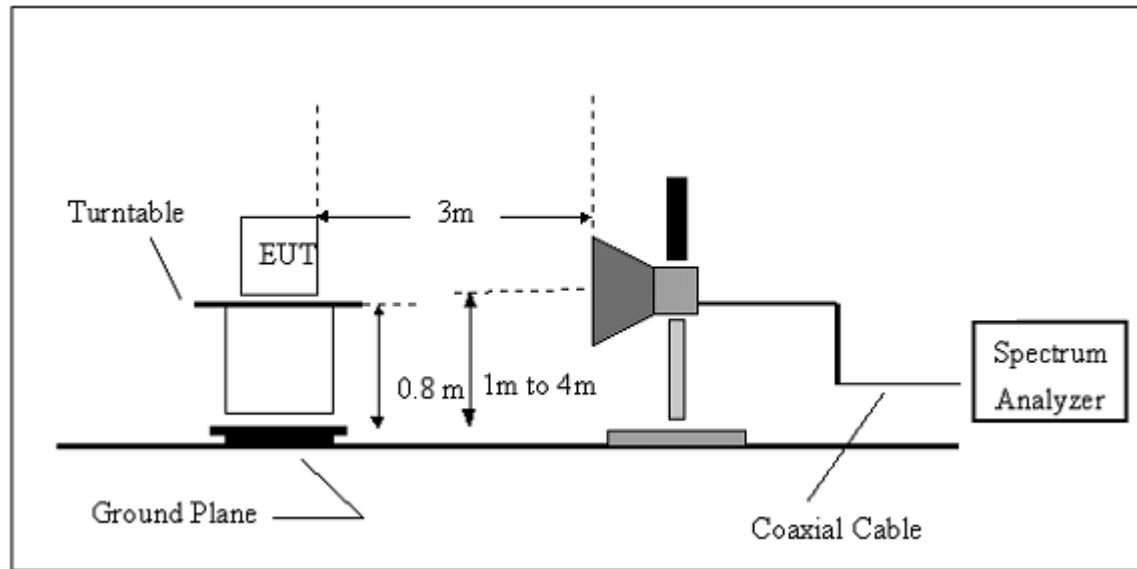
(A) Radiated Emission Test-Up Frequency Below 30MHz



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



(C) Radiated Emission Test-Up Frequency Above 1GHz



3.4.5 TEST RESULTS (BLOW 30MHz)

EUT :	TOUCH PEN MOUSE WITH WEB BROWSING LASER PRESENTER	Model Name. :	PR-08
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 1.5V from battery
Test Mode :	TX	Polarization :	--

Freq.	Reading	Limit	Margin	State
(MHz)	(dBuV/m)	(dBuV/m)	(dB)	P/F
--	--	--	--	PASS
--	--	--	--	PASS

NOTE:

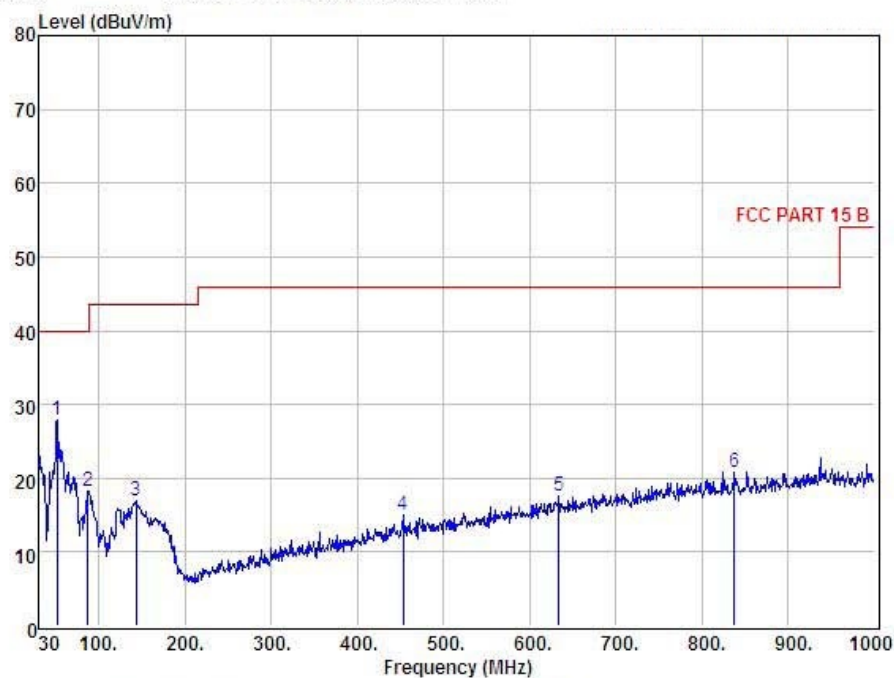
The amplitude of spurious emissions which are attenuated by more than 20dB below the permissible value has no need to be reported.

Distance extrapolation factor = $20 \log (\text{specific distance/test distance})(\text{dB})$;

Limit line = specific limits(dBuv) + distance extrapolation factor.

3.4.6 TEST RESULTS (BETWEEN 30 – 1000 MHZ)

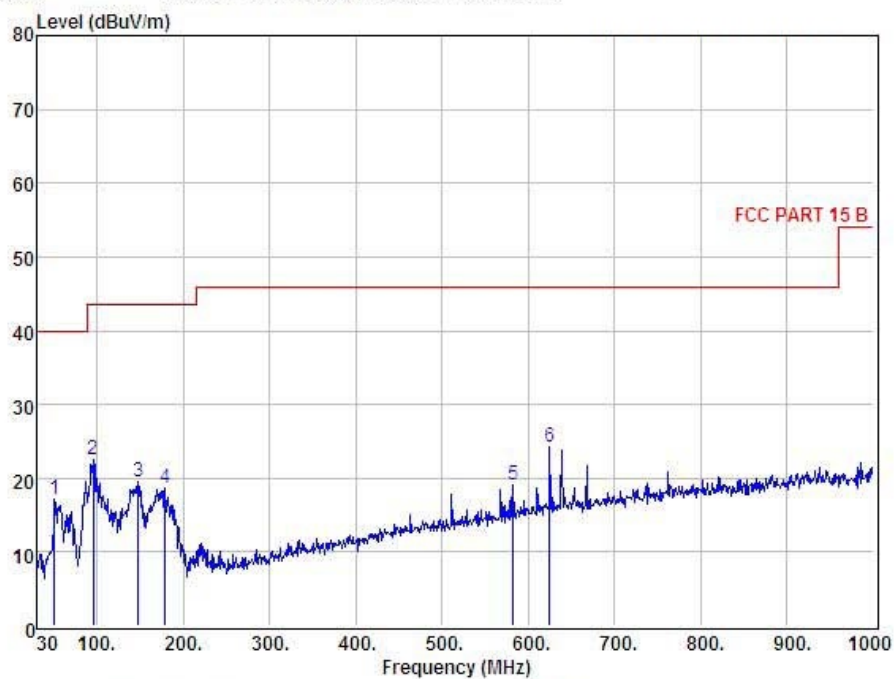
EUT :	TOUCH PEN MOUSE WITH WEB BROWSING LASER PRESENTER	Model Name :	PR-08
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 1.5V from battery
Test Mode :	TX	Polarization :	Vertical



Condition		: FCC PART 15 B		3m	POL: VERTICAL				
Item	Freq MHz	Read Level dBuV	Antenna Factor dB	Preamp Factor dB	Cable Loss dB	Level dBuV	Limit dBuV	Margin dBuV	Remark
1	51.34	14.45	13.38	0.00	0.00	27.83	40.00	-12.17	QP
2	87.23	8.85	9.41	0.00	0.00	18.26	40.00	-21.74	QP
3	143.49	3.33	13.64	0.00	0.00	16.97	43.50	-26.53	QP
4	452.92	-1.03	16.01	0.00	0.00	14.98	46.00	-31.02	QP
5	633.34	-1.36	18.90	0.00	0.00	17.54	46.00	-28.46	QP
6	837.04	-0.16	20.96	0.00	0.00	20.80	46.00	-25.20	QP

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss

EUT :	TOUCH PEN MOUSE WITH WEB BROWSING LASER PRESENTER	Model Name :	PR-08
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 1.5V from battery
Test Mode :	TX	Polarization :	Horizontal



Condition : FCC PART 15 B 3m POL: HORIZONTAL									
Item	Freq	Read	Antenna	Preamp	Cable	Level	Limit	Margin	Remark
	MHz	Level	Factor	Factor	Loss	dBuV	dBuV	dBuV	
		dBuV	dB	dB	dB				
1	50.37	3.62	13.54	0.00	0.00	17.16	40.00	-22.84	QP
2	95.96	12.75	9.87	0.00	0.00	22.62	43.50	-20.88	QP
3	147.37	5.56	13.90	0.00	0.00	19.46	43.50	-24.04	QP
4	179.38	6.60	11.98	0.00	0.00	18.58	43.50	-24.92	QP
5	581.93	1.03	17.97	0.00	0.00	19.00	46.00	-27.00	QP
6	624.61	5.45	18.76	0.00	0.00	24.21	46.00	-21.79	QP

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss

3.4.7 TEST RESULTS (ABOVE 1000 MHZ)

EUT :	TOUCH PEN MOUSE WITH WEB BROWSING LASER PRESENTER	Model Name :	PR-08
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 1.5V from battery
Test Mode :	TX /2408MHz	Polarization :	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2408	104.42	-12.99	91.43	114.00	-22.57	peak
2408	95.18	-12.99	82.19	94	-11.81	AVG
4816	59.05	-3.57	55.48	74	-18.52	peak
4816	47.08	-3.57	43.51	54	-10.49	AVG
9624	54.08	1.78	55.86	74	-18.14	peak
9624	41.05	1.78	42.83	54	-11.17	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

No emission detected above 18GHz.

EUT :	TOUCH PEN MOUSE WITH WEB BROWSING LASER PRESENTER	Model Name :	PR-08
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 1.5V from battery
Test Mode :	TX /2408MHz	Polarization :	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2408	102.56	-12.99	89.57	114.0 0	-24.43	peak
2408	94.42	-12.99	81.43	94	-12.57	AVG
4816	59.65	-3.59	56.06	74	-17.94	peak
4816	45.74	-3.59	42.15	54	-11.85	AVG
9624	58.72	-0.96	57.76	74	-16.24	peak
9624	44.25	-0.96	43.29	54	-10.71	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

No emission detected above 18GHz.

EUT :	TOUCH PEN MOUSE WITH WEB BROWSING LASER PRESENTER	Model Name :	PR-08
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 1.5V from battery
Test Mode :	TX /2440 MHz	Polarization :	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2440	100.35	-12.93	87.42	114.0 0	-26.58	peak
2440	94.04	-12.93	81.11	94	-12.89	AVG
4880	59.34	-3.55	55.79	74	-18.21	peak
4880	45.52	-3.55	41.97	54	-12.03	AVG
7320	58.03	-0.72	57.31	74	-16.69	peak
7320	44.97	-0.72	44.25	54	-9.75	AVG

Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.
No emission detected above 18GHz.

EUT :	TOUCH PEN MOUSE WITH WEB BROWSING LASER PRESENTER	Model Name :	PR-08
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 1.5V from battery
Test Mode :	TX /2440 MHz	Polarization :	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2440	104.51	-12.93	91.58	114.0 0	-22.42	peak
2440	98.67	-12.93	85.74	94	-8.26	AVG
4880	60.02	-3.55	56.47	74	-17.53	peak
4880	46.13	-3.55	42.58	54	-11.42	AVG
7320	57.88	-0.72	57.16	74	-16.84	peak
7320	44.55	-0.72	43.83	54	-10.17	AVG

Remark:
Factor = Antenna Factor + Cable Loss – Pre-amplifier.
No emission detected above 18GHz.

EUT :	TOUCH PEN MOUSE WITH WEB BROWSING LASER PRESENTER	Model Name :	PR-08
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 1.5V from battery
Test Mode :	TX /2474 MHz	Polarization :	Horizontal

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2474	101.57	-12.92	88.65	114.0 0	-25.35	peak
2474	96.23	-12.92	83.31	94	-10.69	AVG
4948	58.72	-3.55	55.17	74	-18.83	peak
4948	44.91	-3.55	41.36	54	-12.64	AVG
7422	57.15	-0.68	56.47	74	-17.53	peak
7422	42.76	-0.68	42.08	54	-11.92	AVG

Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

No emission detected above 18GHz.

EUT :	TOUCH PEN MOUSE WITH WEB BROWSING LASER PRESENTER	Model Name :	PR-08
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 1.5V from battery
Test Mode :	TX /2474 MHz	Polarization :	Vertical

Frequency	Meter Reading	Factor	Emission Level	Limits	Margin	Detector Type
(MHz)	(dBμV)	(dB)	(dBμV/m)	(dBμV/m)	(dB)	
2474	105.88	-12.92	92.96	114.0 0	-21.04	peak
2474	98.17	-12.92	85.25	94	-8.75	AVG
4948	61.21	-3.8	57.41	74	-16.59	peak
4948	46.32	-3.8	42.52	54	-11.48	AVG
7422	56.74	-0.68	56.06	74	-17.94	peak
7422	44.15	-0.68	43.47	54	-10.53	AVG

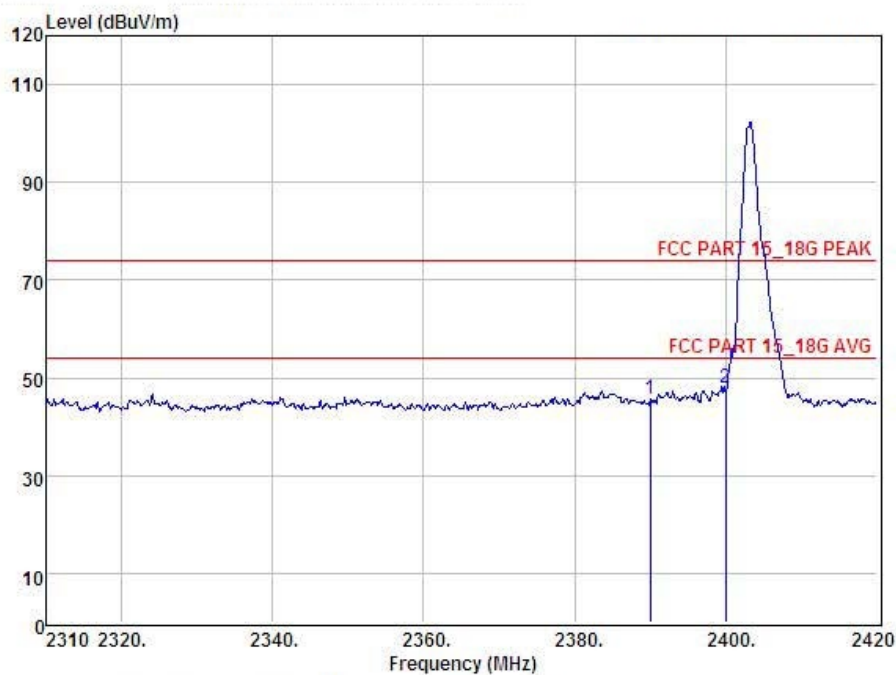
Remark:

Factor = Antenna Factor + Cable Loss – Pre-amplifier.

No emission detected above 18GHz.

3.4.8 TEST RESULTS (RESTRICTED BANDS REQUIREMENTS)

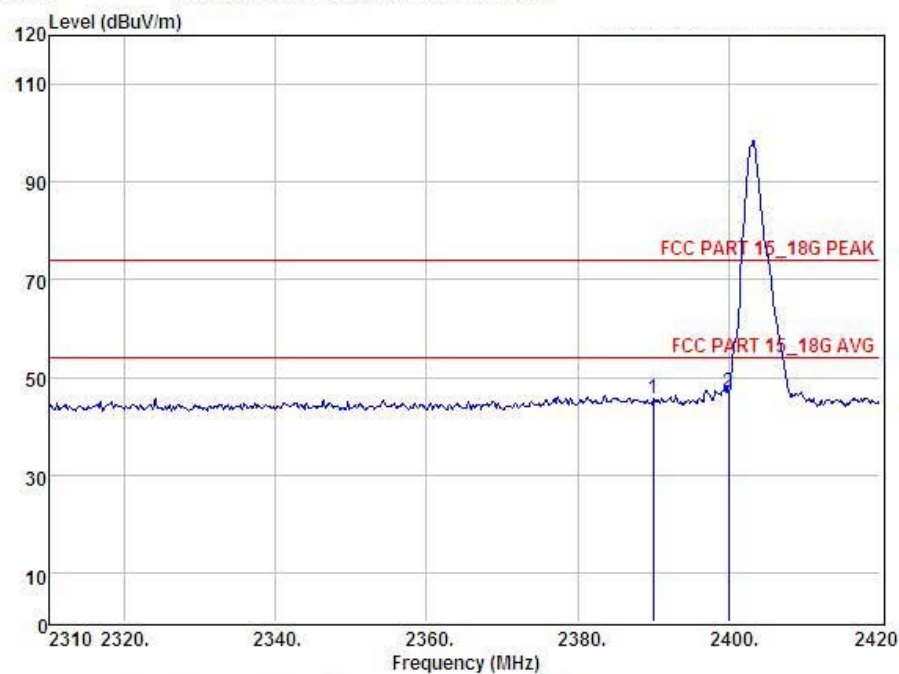
EUT :	TOUCH PEN MOUSE WITH WEB BROWSING LASER PRESENTER	Model Name :	PR-08
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 1.5V from battery
Test Mode :	TX Low	Polarization :	Vertical



Condition : FCC PART 15_18G PEAK 3m POL: VERTICAL									
Item	Freq	Read	Antenna	Preamp	Cable	Level	Limit	Margin	Remark
	MHz	dBuV	Factor	Factor	Loss	dBuV	dBuV	dBuV	
			dB	dB	dB				
1	2390.00	49.08	27.62	34.97	3.92	45.65	74.00	-28.35	Peak
2	2400.00	51.34	27.62	34.97	3.94	47.93	74.00	-26.07	Peak

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss

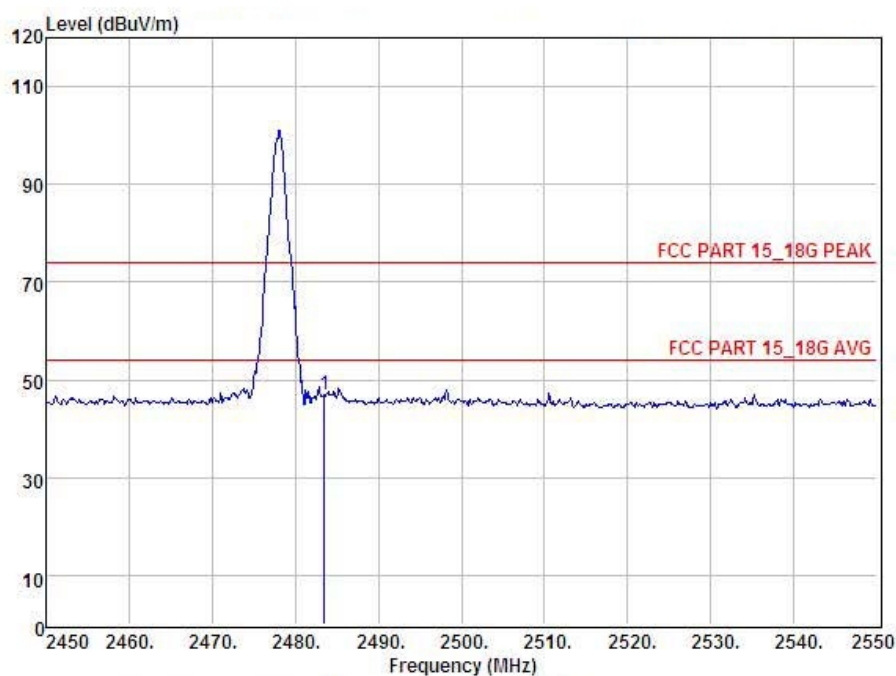
EUT :	TOUCH PEN MOUSE WITH WEB BROWSING LASER PRESENTER	Model Name :	PR-08
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 1.5V from battery
Test Mode :	TX Low	Polarization :	Horizontal



Condition		: FCC PART 15_18G PEAK 3m				POL: HORIZONTAL			
Item	Freq	Read	Antenna	Preamp	Cable	Level	Limit	Margin	Remark
	MHz	dBuV	Factor	Factor	Loss	dBuV	dBuV	dBuV	
			dB	dB	dB				
1	2390.00	49.16	27.62	34.97	3.92	45.73	74.00	-28.27	Peak
2	2400.00	50.23	27.62	34.97	3.94	46.82	74.00	-27.18	Peak

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss

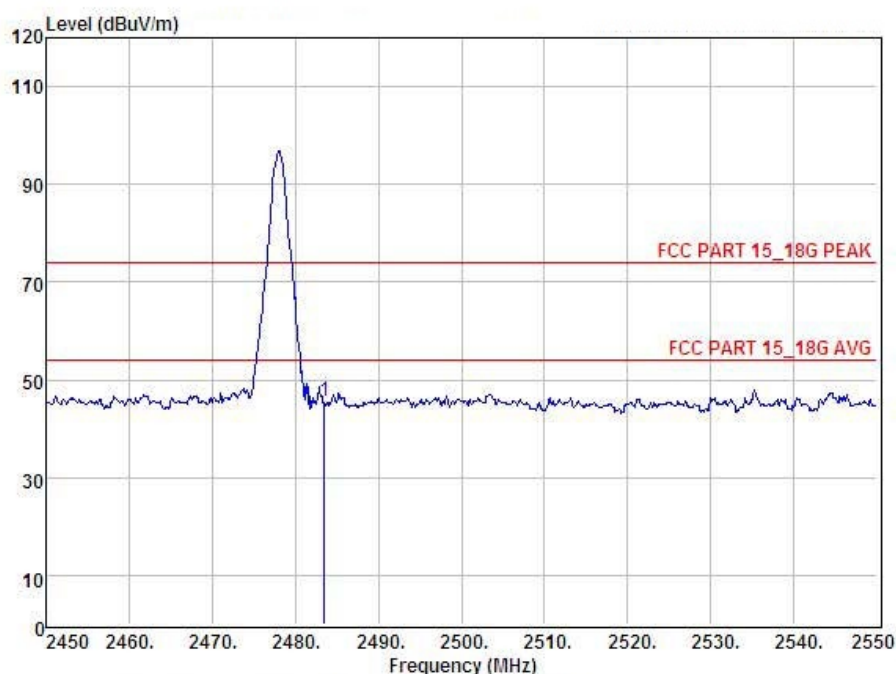
EUT :	TOUCH PEN MOUSE WITH WEB BROWSING LASER PRESENTER	Model Name :	PR-08
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 1.5V from battery
Test Mode :	TX Low	Polarization :	Vertical



Condition		: FCC PART 15_18G PEAK 3m				POL: HORIZONTAL			
Item	Freq	Read Level	Antenna Factor	Preamp Factor	Cable Loss	Level	Limit	Margin	Remark
	MHz	dBuV	dB	dB	dB	dBuV	dBuV	dBuV	
1	2483.50	50.32	27.59	34.97	4.00	46.94	74.00	-27.06	Peak

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss

EUT :	TOUCH PEN MOUSE WITH WEB BROWSING LASER PRESENTER	Model Name :	PR-08
Temperature :	20 °C	Relative Humidity :	48%
Pressure :	1010 hPa	Test Voltage :	DC 1.5V from battery
Test Mode :	TX Low	Polarization :	Horizontal



Condition		: FCC PART 15_18G PEAK 3m				POL: HORIZONTAL			
Item	Freq	Read	Antenna	Preamp	Cable	Level	Limit	Margin	Remark
	MHz	dBuV	Factor	Factor	Loss	dBuV	dBuV	dBuV	
			dB	dB	dB				
1	2483.50	49.12	27.59	34.97	4.00	45.74	74.00	-28.26	Peak

Remark: Level = Read Level + Antenna Factor - Preamp Factor + Cable Loss

4. BANDWIDTH TEST

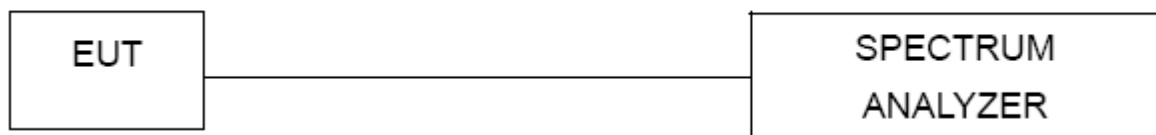
4.1 TEST PROCEDURE

- a. The EUT was directly connected to the spectrum analyzer and antenna output port as show in the block diagram below,
- b. Spectrum Setting : RBW= 30KHz, VBW=100KHz, Sweep time = Auto.

4.2 DEVIATION FROM STANDARD

No deviation.

4.3 TEST SETUP

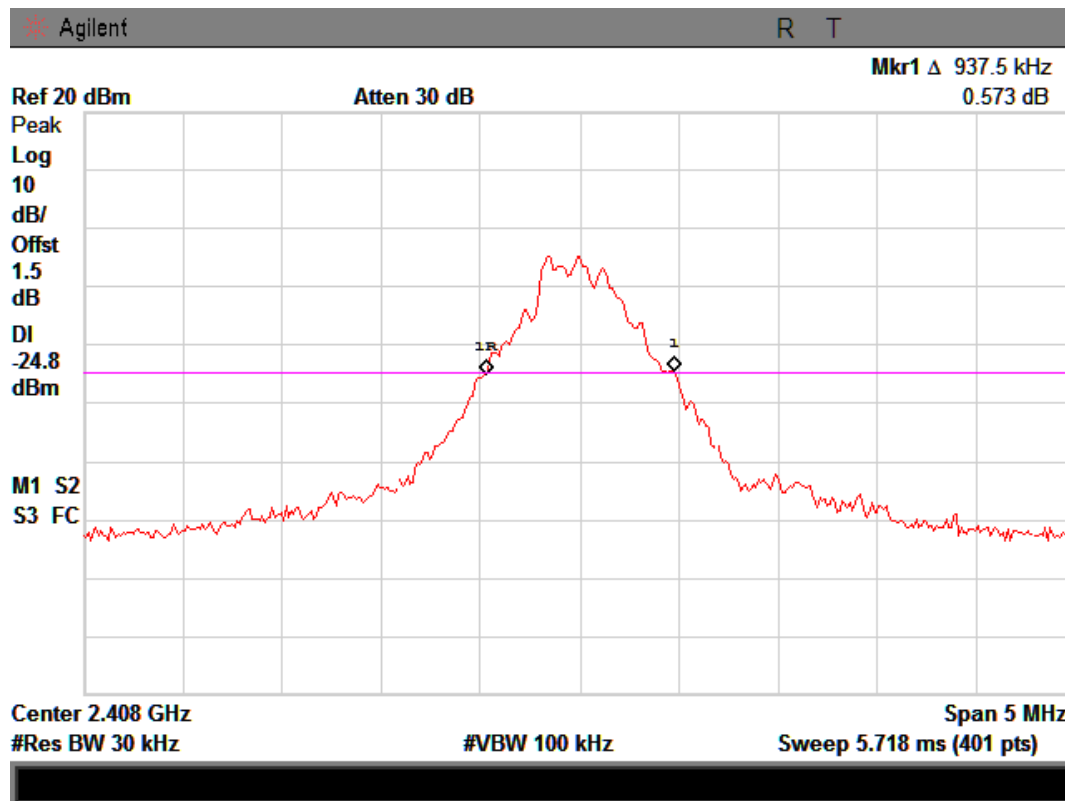


4.4 TEST RESULTS

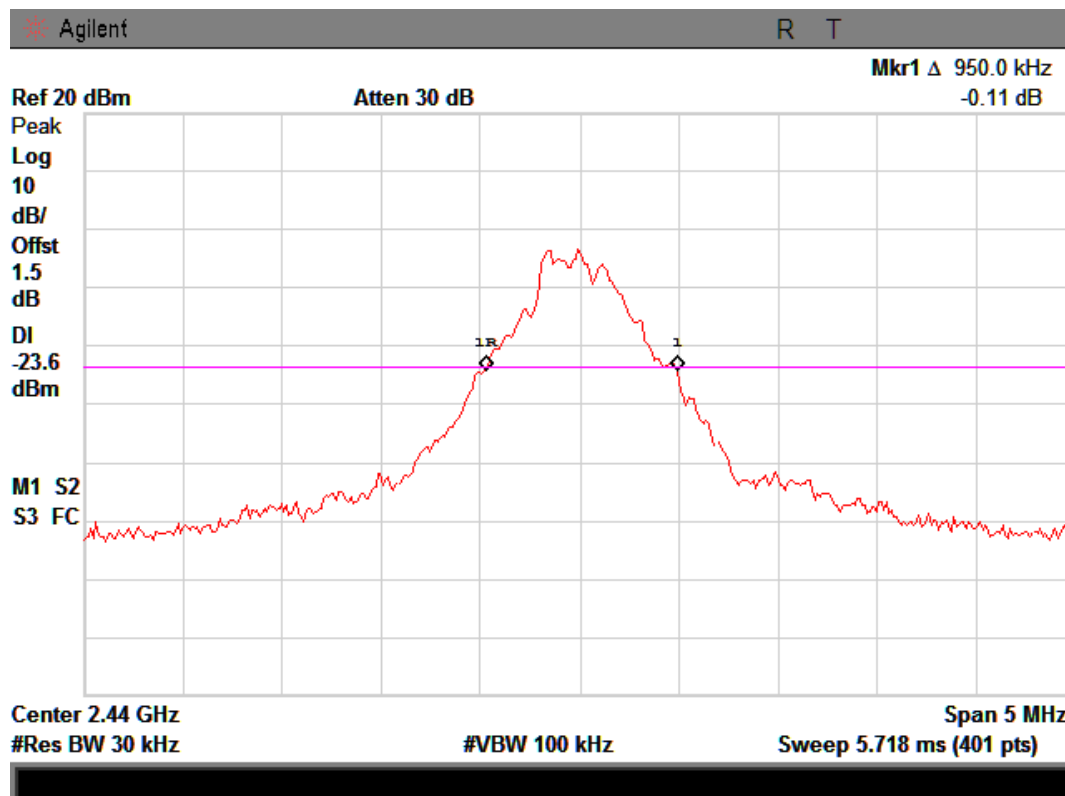
EUT :	TOUCH PEN MOUSE WITH WEB BROWSING LASER PRESENTER	Model Name :	PR-08
Temperature :	26 °C	Relative Humidity :	53%
Pressure :	1020 hPa	Test Power :	DC 1.5V from battery
Test Mode :	TX CH 1/17/34		

Test Channel	Frequency (MHz)	20 dBc Bandwidth (MHz)
CH01	2404	0.9375
CH17	2440	0.9500
CH34	2478	0.9375

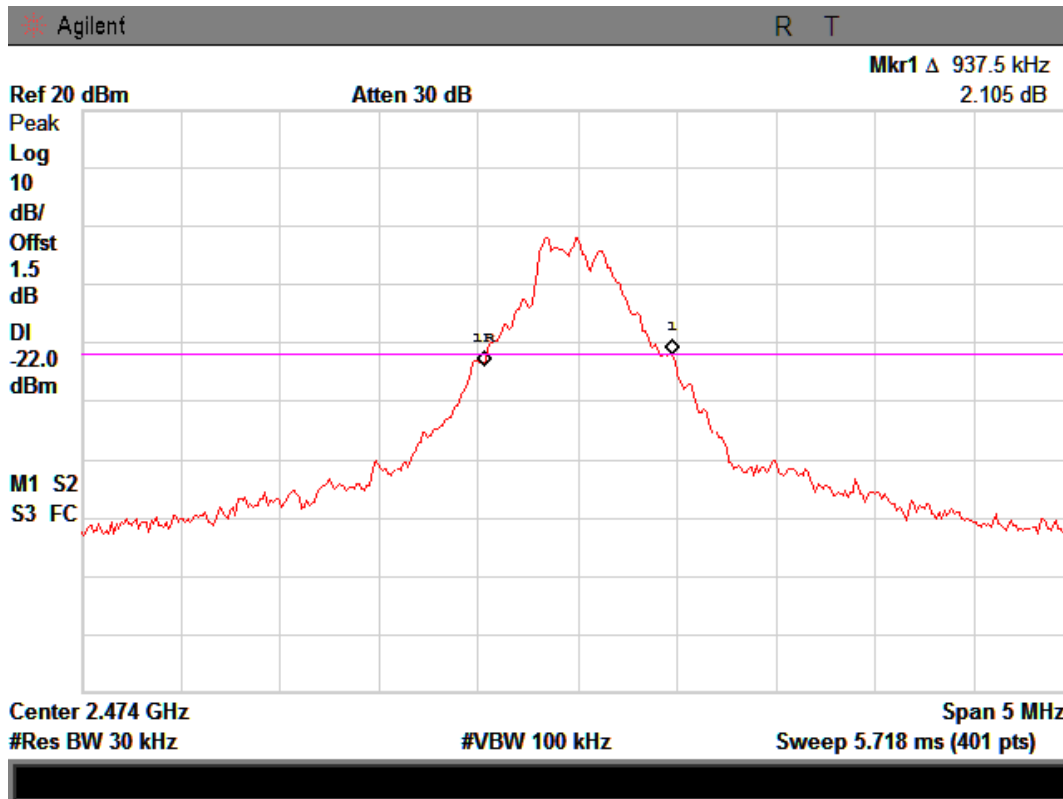
The Lowest Channel:2402MHz



The Middle Channel: 2441MHz



The High Channel:2480MHz



5. EUT TEST PHOTO

Radiated Measurement Photos(worst case position)

