



# Wireless LAN Radio Test Report

## FCC ID: XHM-P2230000

This report concerns (check one) :  Original Grant  Class I Change

Issued Date : Sep. 03, 2010

Project No. : R1003005

Equipment : Handheld Terminal

Model Name : P223

Applicant : FLYTECH TECHNOLOGY CO., LTD.

Address : 1F, No. 168, Sing-Ai Rd., NeiHu District  
114, Taipei, Taiwan

Tested by: Neutron Engineering Inc. EMC Laboratory

Date of Receipt: Mar. 31, 2010

Date of Test: Mar. 31, 2010 ~ Apr. 12, 2010

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**Declaration**

**Neutron** represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with the standards traceable to National Measurement Laboratory (**NML**) of **R.O.C.**, or National Institute of Standards and Technology (**NIST**) of **U.S.A.**

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**Limitation**

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.



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## 1. CERTIFICATION

Equipment : Handheld Terminal  
Brand Name : FLYTECH  
Model Name : P223  
Applicant : FLYTECH TECHNOLOGY CO., LTD.  
Date of Test : Mar. 31, 2010 ~ Apr. 12, 2010  
Standards : FCC Part15, Subpart C / ANCI C63.4 : 2003

The above equipment has been tested and found compliance with the requirement of the relative standards by Neutron Engineering Inc. EMC Laboratory.

The test data, data evaluation, and equipment configuration contained in our test report (Ref No. NEI-FCCP-1-R1003005) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of NVLAP and TAF according to the ISO-17025 quality assessment standard and technical standard(s).



**2. SUMMARY OF TEST RESULTS**

Test procedures according to the technical standards:

<b>FCC Part15, Subpart C</b>			
<b>Standard Section</b>	<b>Test Item</b>	<b>Judgment</b>	<b>Remark</b>
<b>15.207</b>	Conducted Emission	PASS	
<b>15.247 (c)</b>	Antenna conducted Spurious Emission	PASS	
<b>15.247 (a)(2)</b>	6dB Bandwidth	PASS	
<b>15.247 (b)</b>	Peak Output Power	PASS	
<b>15.247 (c)</b>	Radiated Spurious Emission	PASS	
<b>15.247 (d)</b>	Power Spectral Density	PASS	
<b>15.203</b>	Antenna Requirement	PASS	
<b>1.1307 1.1310 2.1091 2.1093</b>	RF Exposure Compliance	N/A	<b>NOTE(2)</b>

**NOTE:**

- (1) "N/A" denotes test is not applicable in this Test Report
- (2) Portable device; SAR report is required.



**2.1 TEST FACILITY**

The test facilities used to collect the test data in this report is(are):

C01(EMI) - at the location of No.132-1, Lane 329, Sec. 2, Palian Road, Shijr City, Taipei, Taiwan.

CB08(FCC R.N.: 614388) - at the location of 1F., No. 61, Ln. 77, Sing-ai Rd., Neihu Dist., Taipei City 114, Taiwan (R.O.C.)

**2.2 MEASUREMENT UNCERTAINTY**

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

The measurement instrumentation uncertainty considerations contained in CISPR 16-4-2.

**A. Conducted Measurement :**

Test Site	Method	Measurement Frequency Range	U , (dB)	NOTE
C01	ANSI	150 KHz ~ 30MHz	1.94	

**B. Other Measurement :**

Test Site	Item	Measurement Frequency Range	Uncertainty	NOTE
CB08	Conducted Emission	Power Cable	< 30MHz	2.59 dB
	Radiated Emission at 3m	Horizontal Polarization	30 - 200MHz	3.35 dB
			200 - 1000MHz	3.11 dB
			1 - 18GHz	3.97 dB
		Vertical Polarization	18 - 40GHz	4.01 dB
			30 - 200MHz	3.22 dB
			200 - 1000MHz	3.24 dB
	Frequency Error Measurement	1	2.412GHz	290.00 Hz
		2	5.805GHz	724.30 Hz
	Output Power (Conducted)	-	2.412GHz	1.3 dB
		-	5.805GHz	1.55 dB
	Output Power (Radiated)	Horizontal Polarization	2.412GHz	4.21 dB
			5.805GHz	4.62 dB
		Vertical Polarization	2.412GHz	4.42 dB
			5.805GHz	4.74 dB
	Power Spectral Density	Conducted	2.412GHz	1.3 dB
			5.805GHz	1.67 dB
	Adjacent Channel Power Measurement (Radiated)	Horizontal Polarization	30 - 167MHz	4.22 dB
167 - 500MHz			3.44 dB	
500 - 1000MHz			3.39 dB	
Vertical Polarization		30 - 180MHz	3.37 dB	
		180 - 417MHz	3.19 dB	
		417 - 1000MHz	3.19 dB	

Our calculated Measurement Instrumentation Uncertainty is shown in the tables above. These are our  $U_{lab}$  values in CISPR 16-4-2 terminology.

Since Table 1 of CISPR 16-4-2 has values of measurement instrumentation uncertainty, called  $U_{CISPR}$ , as follows:

Conducted Disturbance (mains port) – 150 kHz – 30 MHz : 3.6 dB

Radiated Disturbance (electric field strength on an open area test site or alternative test site) – 30 MHz – 1000 MHz : 5.2 dB

It can be seen that our  $U_{lab}$  values are smaller than  $U_{CISPR}$ .



**3. GENERAL INFORMATION**

**3.1 GENERAL DESCRIPTION OF EUT**

Equipment	Handheld Terminal						
Brand Name	FLYTECH						
Model Name	P223						
OEM Brand/Model Name	N/A						
<b>Model Difference</b>	The EUT has two kinds of samples. Both samples are based on similar electrical circuit except the difference of list below:						
	<table border="1"> <tr> <td>Sample</td> <td>Bluetooth Antenna Type</td> </tr> <tr> <td>Sample 1</td> <td>Antenna is built inside an External Card Reader.</td> </tr> <tr> <td>Sample 2</td> <td>Antenna is built in the main part without an External Card Reader.</td> </tr> </table>	Sample	Bluetooth Antenna Type	Sample 1	Antenna is built inside an External Card Reader.	Sample 2	Antenna is built in the main part without an External Card Reader.
	Sample	Bluetooth Antenna Type					
	Sample 1	Antenna is built inside an External Card Reader.					
	Sample 2	Antenna is built in the main part without an External Card Reader.					
*Details please refer to the User's Manual.							
This report is issued for Wireless LAN function, so the difference is not considered. The Sample 2 was used for final testing and collecting test data included in this report.							
<b>Product Description</b>	The EUT is a Handheld Terminal. Wireless LAN:						
	<table border="1"> <tr> <td>Operation Frequency:</td> <td>2412 - 2462MHz</td> </tr> <tr> <td>Product Class:</td> <td>Class 1</td> </tr> <tr> <td>Receiver Class:</td> <td>Class 3</td> </tr> </table>	Operation Frequency:	2412 - 2462MHz	Product Class:	Class 1	Receiver Class:	Class 3
	Operation Frequency:	2412 - 2462MHz					
	Product Class:	Class 1					
	Receiver Class:	Class 3					
	<table border="1"> <tr> <td>Modulation Type:</td> <td>OFDM (54, 48, 36, 24, 18, 12, 9, 6Mbps) CCK (11Mbps, 5.5Mbps) DQPSK (2Mbps) DBPSK (1Mbps)</td> </tr> </table>	Modulation Type:	OFDM (54, 48, 36, 24, 18, 12, 9, 6Mbps) CCK (11Mbps, 5.5Mbps) DQPSK (2Mbps) DBPSK (1Mbps)				
	Modulation Type:	OFDM (54, 48, 36, 24, 18, 12, 9, 6Mbps) CCK (11Mbps, 5.5Mbps) DQPSK (2Mbps) DBPSK (1Mbps)					
	<table border="1"> <tr> <td>Bit Rate of Transmitter:</td> <td>802.11b: 11, 5.5, 2, 1 Mbps, auto rate 802.11g: 54, 48, 36, 24, 18, 12, 9, 6Mbps, auto rate</td> </tr> </table>	Bit Rate of Transmitter:	802.11b: 11, 5.5, 2, 1 Mbps, auto rate 802.11g: 54, 48, 36, 24, 18, 12, 9, 6Mbps, auto rate				
	Bit Rate of Transmitter:	802.11b: 11, 5.5, 2, 1 Mbps, auto rate 802.11g: 54, 48, 36, 24, 18, 12, 9, 6Mbps, auto rate					
	<table border="1"> <tr> <td>Number Of Channel:</td> <td>11 please refer to Note 2.</td> </tr> </table>	Number Of Channel:	11 please refer to Note 2.				
Number Of Channel:	11 please refer to Note 2.						
<table border="1"> <tr> <td>Output Power:</td> <td>802.11b: 17.32 dBm (Max.) 802.11g: 21.15 dBm (Max.)</td> </tr> </table>	Output Power:	802.11b: 17.32 dBm (Max.) 802.11g: 21.15 dBm (Max.)					
Output Power:	802.11b: 17.32 dBm (Max.) 802.11g: 21.15 dBm (Max.)						
<table border="1"> <tr> <td>Antenna Designation:</td> <td>Please see Note 3.</td> </tr> <tr> <td>Antenna Gain(Peak):</td> <td>Please see Note 3.</td> </tr> </table>	Antenna Designation:	Please see Note 3.	Antenna Gain(Peak):	Please see Note 3.			
Antenna Designation:	Please see Note 3.						
Antenna Gain(Peak):	Please see Note 3.						
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	Rechargeable battery supplied. (Charged by AC ADAPTER.)
Power Rating	Please refer to <b>Products Covered</b> .
Connecting I/O Port(s)	Please refer to the User's Manual
Products Covered	1* Motherboard: FLYTECH B24 1 * CPU: Marvell XScale270 1 * Main Display (3.5" LCD PANEL): SHARP LQ035Q1DG04 1 * Bluetooth Module: DELTA DFBM-CS320 1 * Wireless LAN Module (b/g): USI WM-G-MR-09 1 * Rechargeable battery: FORMOSA 1 * Cradle 1 * AC ADAPTER (optional): (1) EDAC EA1015A-2E; EDAC EA1015A-2L; EDAC EA1015A-2U I/P: AC 100-240V 1.0A 50-60Hz / O/P: DC 5.0V 2.0A (2) CWT CAP011051 I/P: AC 100-240V 47-63Hz 0.35A / O/P: DC 5.0V 2.2A
EUT Modification(s)	N/A

Note:

- For a more detailed features description, please refer to the manufacturer's specifications or the User's Manual.
- Wireless LAN Channel List:

Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
01	2412	05	2432	09	2452
02	2417	06	2437	10	2457
03	2422	07	2442	11	2462
04	2427	08	2447		

- Antenna List:

Antenna	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
Wireless LAN	foxconn	N/A	PIFA	I-PEX	2.05
Bluetooth (Sample 1)	foxconn	N/A	PCB	I-PEX	3.60
Bluetooth (Sample 2)	foxconn	N/A	PIFA	I-PEX	-0.03



**3.2 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 Test Mode	Description
Mode 1	802.11b/CH01, CH06, CH11
Mode 2	802.11g/CH01, CH06, CH11

<b>For Final Conducted Test</b>	
Final Test Mode	Description
Mode 1	POS223 (WITH CARD READER) / CHARGE (ADAPTER : EA1015A-2U)

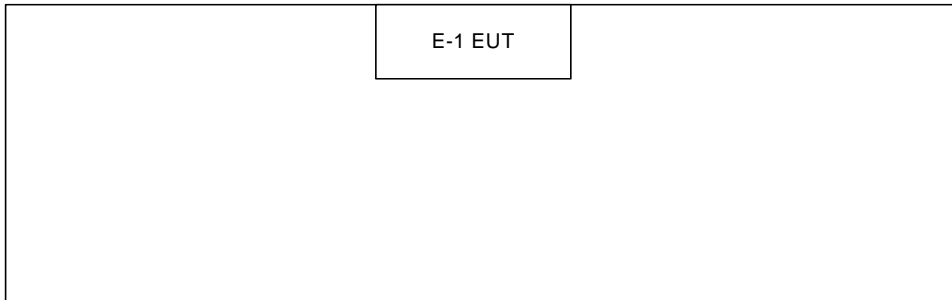
<b>For Final Radiated Test &lt; 1GHz</b>	
Final Test Mode	Description
Mode 1	CH06

<b>For Final Radiated Test &gt; 1GHz</b>	
Final Test Mode	Description
Mode 1	802.11b/CH01, CH06, CH11
Mode 2	802.11g/CH01, CH06, CH11

<b>For Final Antenna Port Conducted Measurement</b>	
Final Test Mode	Description
Mode 1	802.11b/CH01, CH06, CH11
Mode 2	802.11g/CH01, CH06, CH11



**3.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED**





**3.4 DESCRIPTION OF SUPPORT UNITS**

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.	FCC ID	Series No.	Note
E-1	Handheld Terminal	FLYTECH	P223	XHM-P2230000	N/A	EUT

Item	Shielded Type	Ferrite Core	Length	Note
N/A	-	-		

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.



**4. EMC EMISSION TEST**

**4.1 CONDUCTED EMISSION MEASUREMENT**

**4.1.1 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.

**4.1.2 MEASUREMENT INSTRUMENTS LIST**

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	LISN	EMCO	3816/2	00042991	Feb. 7, 2011
2	Test Cable	TIMES	LMR-400	SR03_C_01&02	Aug. 19, 2010
3	Pulse Limiter	Electro-Metrics	EM-7600	112644	Dec. 27, 2010
4	EMI Test Receiver	R&S	ESCI	100082	Mar. 16, 2011

Remark: " N/A" denotes No Model Name , Serial No. or No Calibration specified.

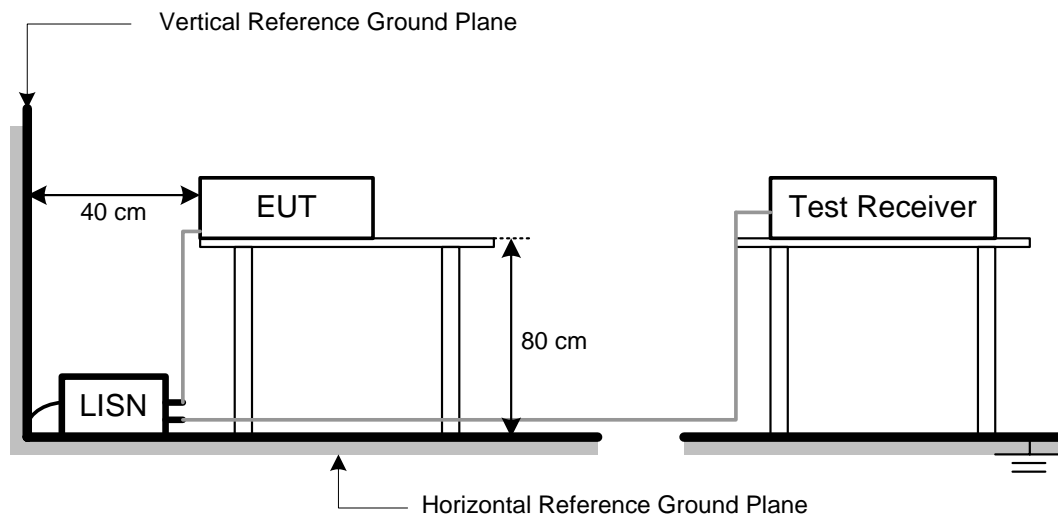
**4.1.3 TEST PROCEDURE**

- 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.

**4.1.4 DEVIATION FROM TEST STANDARD**

No deviation

**4.1.5 TEST SETUP**





#### 4.1.6 EUT OPERATING CONDITIONS

The EUT exercise program (EMC.exe) used during radiated and/or conducted emission measurement was designed to exercise the various system components in a manner similar to a typical use. The program contained on a PC hard disk and is auto-starting on power-up. Once loaded, the program sequentially exercises each system component in turn. The sequence used is:

1. Read (write) from (to) mass storage device (Disk).
2. Send "H" pattern to video port device (Monitor).
3. Send " H " pattern to parallel port device (Printer).
4. Send " H " pattern to serial port device (Modem).
5. Repeated from 2 to 4 continuously.

As the keyboard and mouse are strictly input devices, no data is transmitted to (from) them during test. They are, however, continuously scanned for data input activity.



4.1.7 TEST RESULTS

E.U.T :	Handheld Terminal	Model Name :	P223
Temperature :	24 ° C	Relative Humidity :	48%
Test Voltage :	AC 120V/60Hz		
Test Mode :	POS223 (WITH CARD READER) / CHARGE (ADAPTER : EA1015A-2U)		

Freq. (MHz)	Terminal L/N	Measured(dBuV)		Limits(dBuV)		Margin (dB)	Note
		QP-Mode	AV-Mode	QP-Mode	AV-Mode		
0.15	Line	46.61	*	65.85	55.85	-19.24	(QP)
0.26	Line	39.09	*	61.37	51.37	-22.28	(QP)
0.46	Line	46.60	29.61	56.74	46.74	-10.14	(QP)
0.53	Line	41.04	*	56.00	46.00	-14.96	(QP)
0.97	Line	39.00	*	56.00	46.00	-17.00	(QP)
1.13	Line	36.83	*	56.00	46.00	-19.17	(QP)

Remark

- (1) Reading in which marked as QP means measurements by using are Quasi-Peak Mode with Detector BW=9KHz ; SPA setting in RBW=10KHz,VBW =10KHz, Swp. Time = 0.2 sec./MHz ◦ Reading in which marked as AV means measurements by using are Average Mode with instrument setting in RBW=10KHz,VBW=10KHz, Swp. Time =0.2 sec./MHz ◦
- (2) All readings are QP Mode value unless otherwise stated AVG in column of 'Note'. If the QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only QP Mode was measured, but AVG Mode didn't perform ◦ In this case, a " \* " marked in AVG Mode column of Interference Voltage Measured ◦
- (3) Measuring frequency range from 150KHz to 30MHz ◦





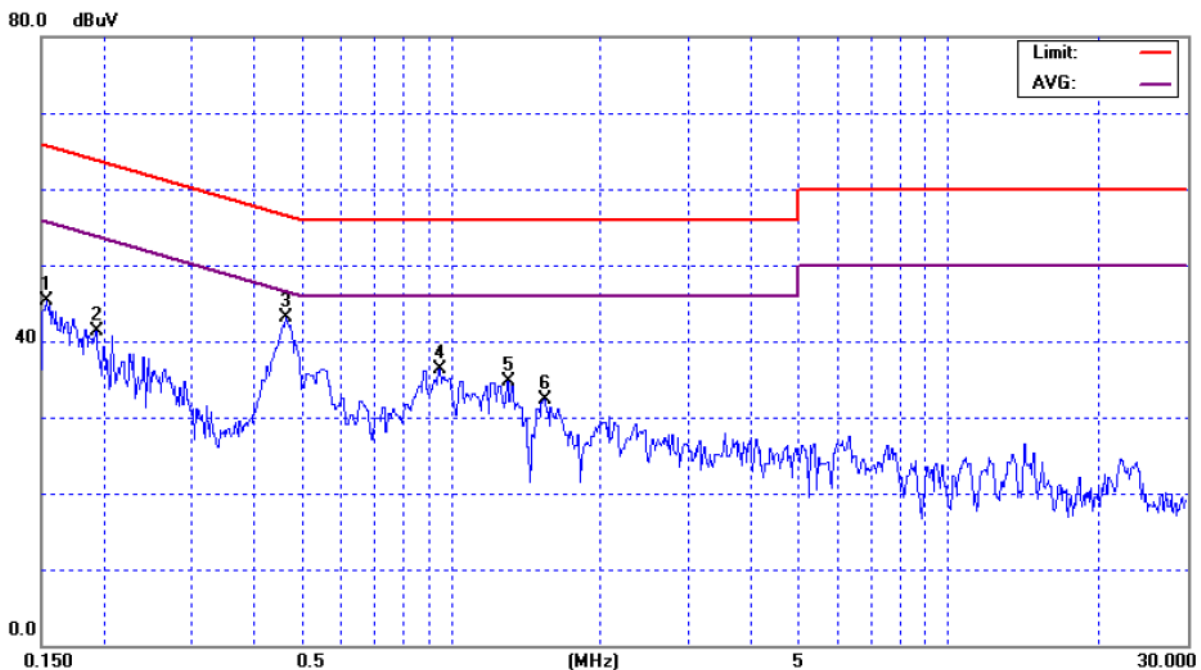


E.U.T :	Handheld Terminal	Model Name :	P223
Temperature :	24 ° C	Relative Humidity :	48%
Test Voltage :	AC 120V/60Hz		
Test Mode :	POS223 (WITH CARD READER) / CHARGE (ADAPTER : EA1015A-2U)		

Freq. (MHz)	Terminal L/N	Measured(dBuV)		Limits(dBuV)		Margin (dB)	Note
		QP-Mode	AV-Mode	QP-Mode	AV-Mode		
0.15	Neutral	45.28	*	65.81	55.81	-20.53	(QP)
0.19	Neutral	41.31	*	63.92	53.92	-22.61	(QP)
0.47	Neutral	43.08	*	56.59	46.59	-13.51	(QP)
0.95	Neutral	36.31	*	56.00	46.00	-19.69	(QP)
1.30	Neutral	34.73	*	56.00	46.00	-21.27	(QP)
1.54	Neutral	32.34	*	56.00	46.00	-23.66	(QP)

Remark

- (1) Reading in which marked as QP means measurements by using are Quasi-Peak Mode with Detector BW=9KHz ; SPA setting in RBW=10KHz,VBW =10KHz, Swp. Time = 0.2 sec./MHz ◦ Reading in which marked as AV means measurements by using are Average Mode with instrument setting in RBW=10KHz,VBW=10KHz, Swp. Time =0.2 sec./MHz ◦
- (2) All readings are QP Mode value unless otherwise stated AVG in column of 'Note'. If the QP Mode Measured value compliance with the QP Limits and lower than AVG Limits, the EUT shall be deemed to meet both QP & AVG Limits and then only QP Mode was measured, but AVG Mode didn't perform ◦ In this case, a " \* " marked in AVG Mode column of Interference Voltage Measured ◦
- (3) Measuring frequency range from 150KHz to 30MHz ◦





**4.2 RADIATED EMISSION MEASUREMENT**

**4.2.1 RADIATED EMISSION LIMITS (Frequency Range 9kHz-1000MHz)**

20dBc in any 100 kHz bandwidth outside the operating frequency band. In case the emission fall within the restricted band specified on 15.205(a), then the 15.209(a) limit in the table below has to be followed.

Frequencies (MHz)	Field Strength (micovolts/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

**LIMITS OF RADIATED EMISSION MEASUREMENT (Above 1000MHz)**

FREQUENCY (MHz)	Class A (dBuV/m) (at 3m)		Class B (dBuV/m) (at 3m)	
	PEAK	AVERAGE	PEAK	AVERAGE
Above 1000	80	60	74	54

Notes:

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



**4.2.2 MEASUREMENT INSTRUMENTS LIST**

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP-40	100129	Sep. 10, 2010
2	Horn Antenna	Schwarzbeck	BBHA 9120 D	9120D-546	Jun. 16, 2011
3	Microwave Pre_amplifier	Agilent	8449B	3008A01714	Apr. 19, 2011
4	Microflex Cable	N/A	N/A	1m	May. 19, 2011
5	Microflex Cable	AISI	S104-SMAP-1	10m	Aug. 23, 2010
6	Microflex Cable	N/A	N/A	3m	Aug. 23, 2010
7	Test Cable	N/A	LMR-400	966_12m	Jun. 17, 2011
8	Test Cable	N/A	LMR-400	966_3m	Jun. 17, 2011
9	Pre-Amplifier	EMC	EMC-330	980001	Jun. 02, 2011
10	Log-Bicon Antenna	Schwarzbeck	VULB9168-352	9168-352	Jun. 16, 2011

Remark: " N/A" denotes No Model Name / Serial No. and No Calibration specified.

**4.2.3 TEST PROCEDURE**

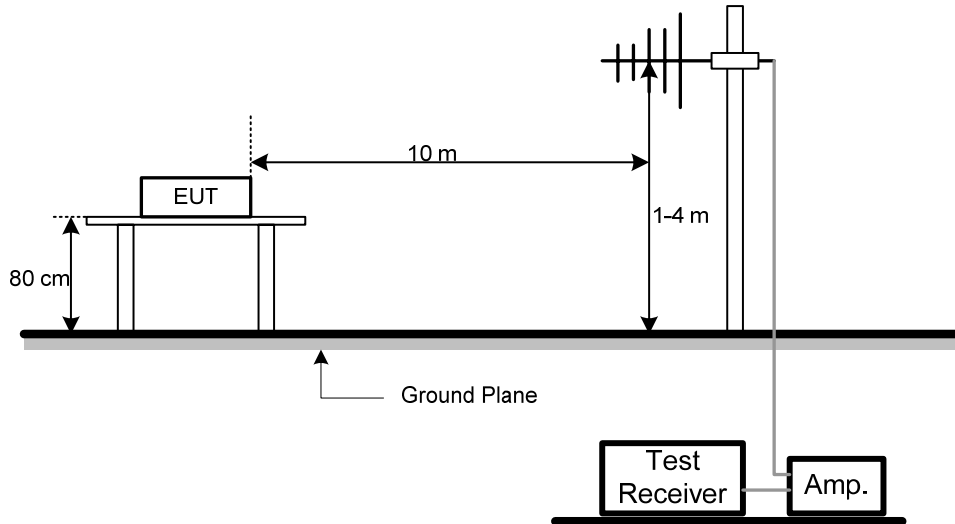
- a. The measuring distance of at 10 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
- b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3m or 10 meter open area test site. The table 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.
- 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.

**4.2.4 DEVIATION FROM TEST STANDARD**

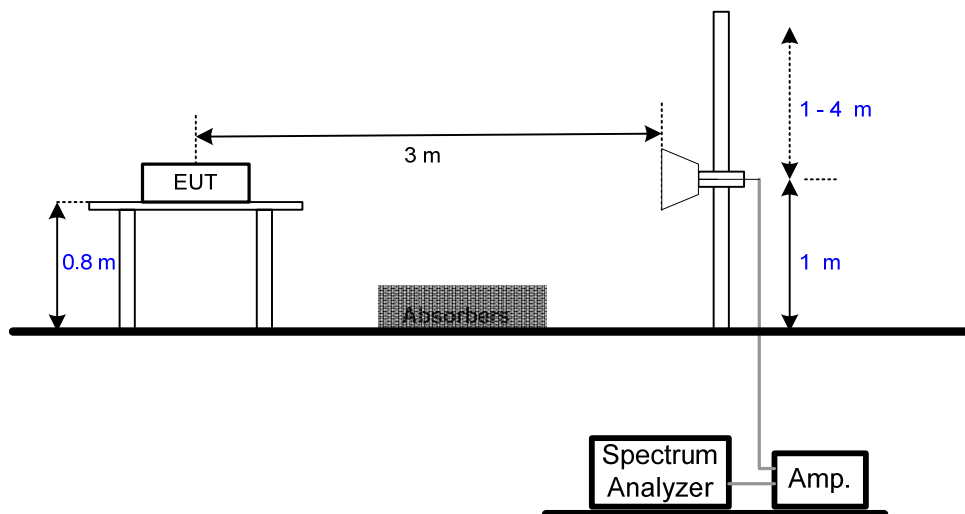
No deviation

**4.2.5 TEST SETUP**

**Radiated Emission Test Set-Up Frequency 30 - 1000MHz**



**Radiated Emission Test Set-Up Frequency Above 1 GHz**



**4.2.6 EUT OPERATING CONDITIONS**

The EUT was configured for testing in a typical fashion (as a customer would normally use it). The EUT has been programmed to continuously transmit during test. This operating condition was tested and used to collect the included data.



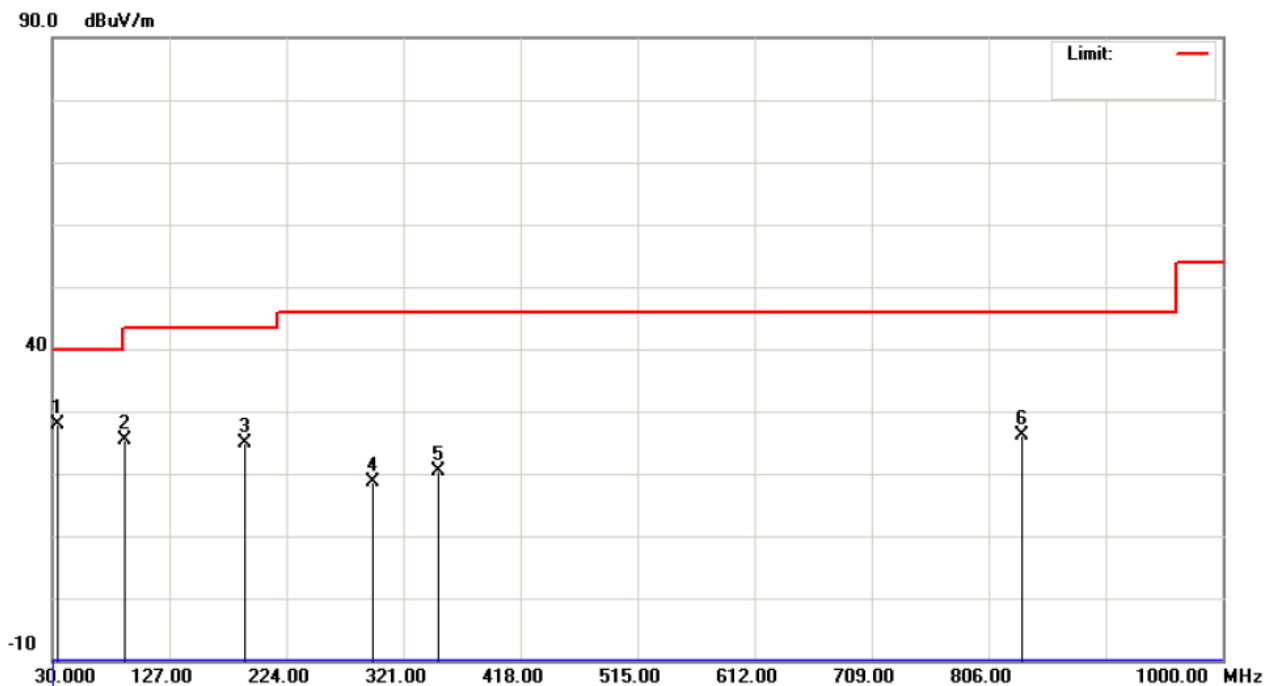
**4.2.7 TEST RESULTS-BETWEEN 30MHZ - 1000MHZ**

EUT :	Handheld Terminal	Model Name :	P223
Temperature :	23 °C	Relative Humidity :	54%
Test Voltage :	AC 120V/60Hz		
Test Mode :	CH06		

Freq. (MHz)	Ant. H/V	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
33.88	V	48.82	-20.97	27.85	40.00	- 12.15	
90.14	V	50.06	-24.75	25.31	43.50	- 18.19	
189.08	V	47.90	-23.14	24.76	43.50	- 18.74	
295.78	V	39.33	-20.64	18.69	46.00	- 27.31	
350.10	V	39.88	-19.42	20.46	46.00	- 25.54	
833.16	V	37.14	-11.01	26.13	46.00	- 19.87	

Remark :

- (1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto
- (2) All readings are Peak unless otherwise stated QP in column of 『Note』 . Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform ◦
- (3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency ◦ “F” denotes fundamental frequency; “ H” denotes spurious frequency. “E” denotes band edge frequency.
- (4) Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Peak detector mode or QP detector mode of the emission ◦
- (5) Data of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.



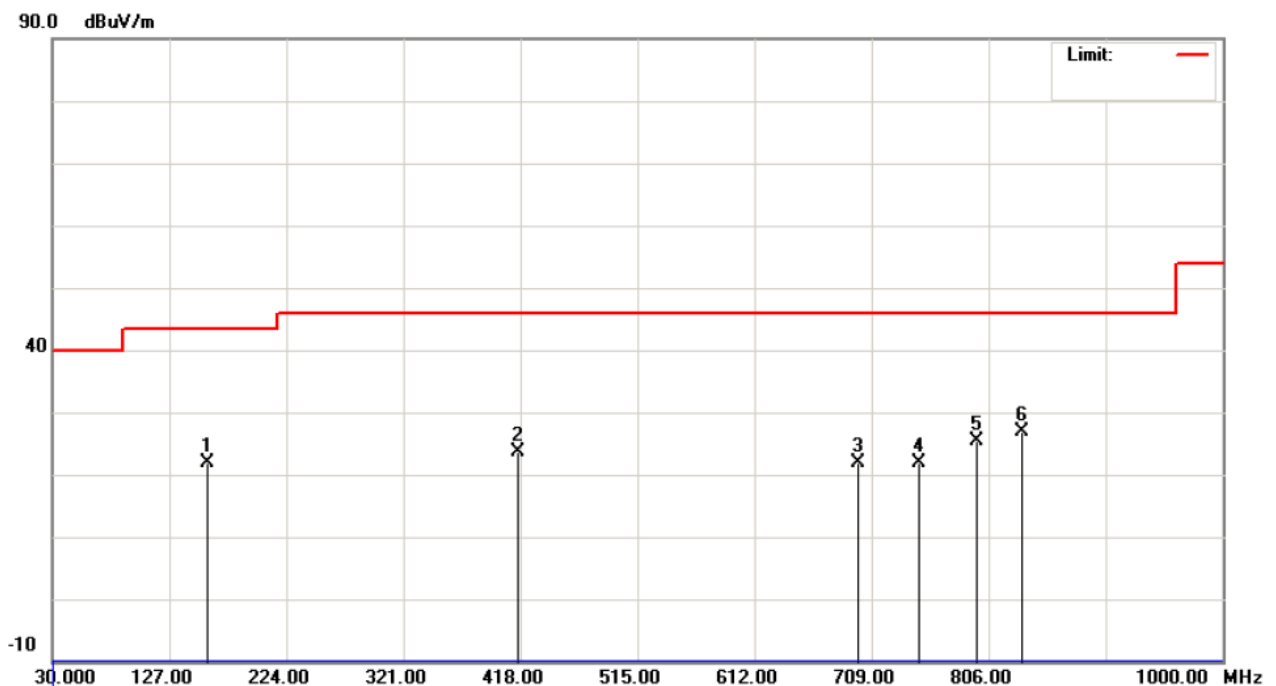


EUT :	Handheld Terminal	Model Name :	P223
Temperature :	23 °C	Relative Humidity :	54%
Test Voltage :	AC 120V/60Hz		
Test Mode :	CH06		

Freq. (MHz)	Ant. H/V	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
158.04	H	41.61	-19.70	21.91	43.50	- 21.59	
416.06	H	41.44	-17.88	23.56	46.00	- 22.44	
697.36	H	34.51	-12.60	21.91	46.00	- 24.09	
747.80	H	33.67	-11.91	21.76	46.00	- 24.24	
796.30	H	36.81	-11.34	25.47	46.00	- 20.53	
833.16	H	37.86	-11.01	26.85	46.00	- 19.15	

Remark :

- (1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto
- (2) All readings are Peak unless otherwise stated QP in column of 『Note』 . Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform ◦
- (3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency ◦ “F” denotes fundamental frequency; “ H” denotes spurious frequency. “E” denotes band edge frequency.
- (4) Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Peak detector mode or QP detector mode of the emission ◦
- (5) Data of measurement within this frequency range shown “ - ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.





**4.2.8 TEST RESULTS - ABOVE 1000MHZ**

EUT :	Handheld Terminal	Model Name :	P223
Temperature :	23 °C	Relative Humidity :	54%
Test Voltage :	AC 120V/60Hz		
Test Mode :	802.11b/CH01		

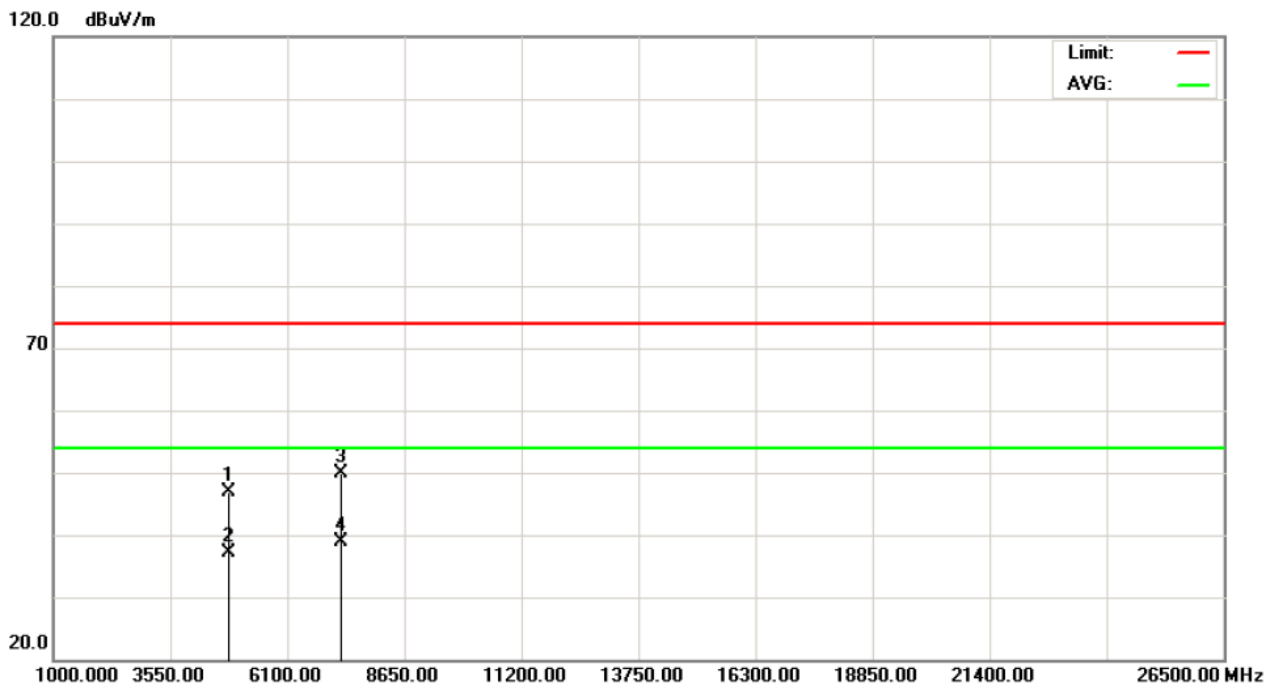
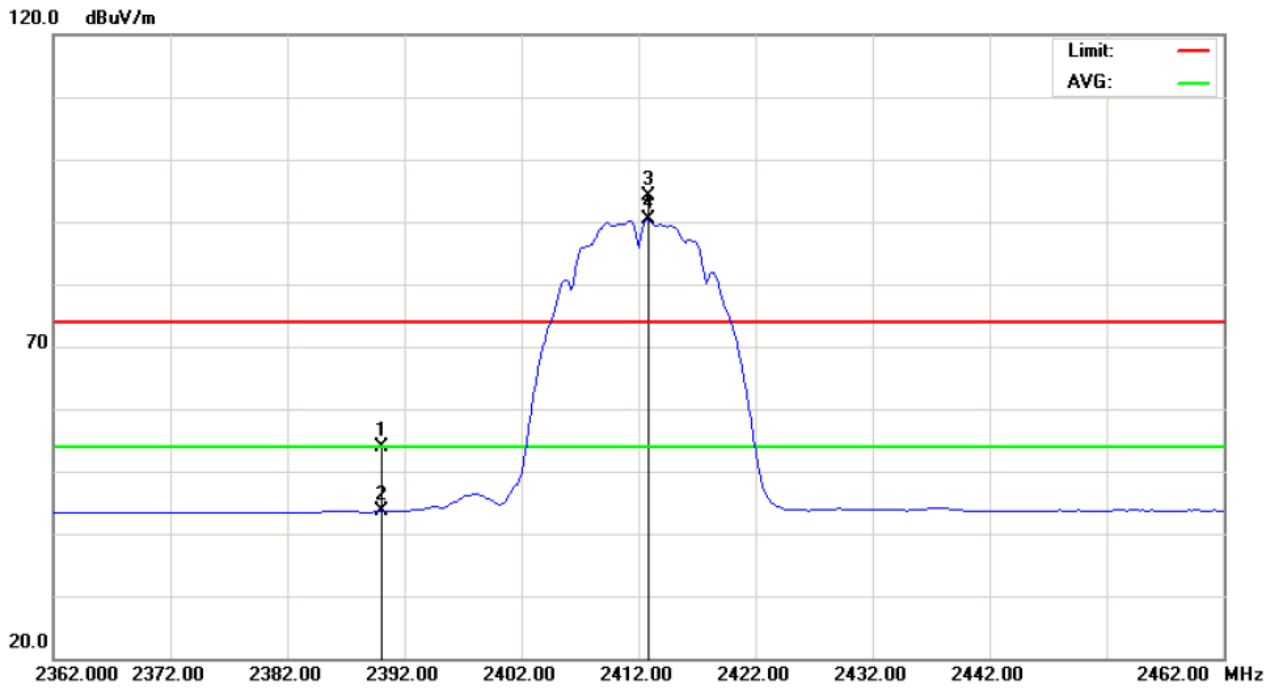
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
2390.00	V	21.88	11.64	31.93	53.81	43.57	74.00	54.00	Y/E
2412.80	V	62.02	58.33	32.01	94.03	90.34			Y/F
4823.95	V	43.08	33.42	3.75	46.83	37.17	74.00	54.00	Y/H
7235.90	V	40.98	29.98	9.02	50.00	39.00	74.00	54.00	Y/H

**Remark :**

- (1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto
- (2) All readings are Peak unless otherwise stated QP in column of 『Note』 . Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform ◦
- (3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency ◦ "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦
- (5) Data of measurement within this frequency range shown " \* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (7) EUT Orthogonal Axes :  
"X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand
- (8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.



Orthogonal Axis : Y  
802.11b/CH01 (Above 1000 MHz, Vertical)







EUT :	Handheld Terminal	Model Name :	P223
Temperature :	23 ° C	Relative Humidity :	54%
Test Voltage :	AC 120V/60Hz		
Test Mode :	802.11b/CH01		

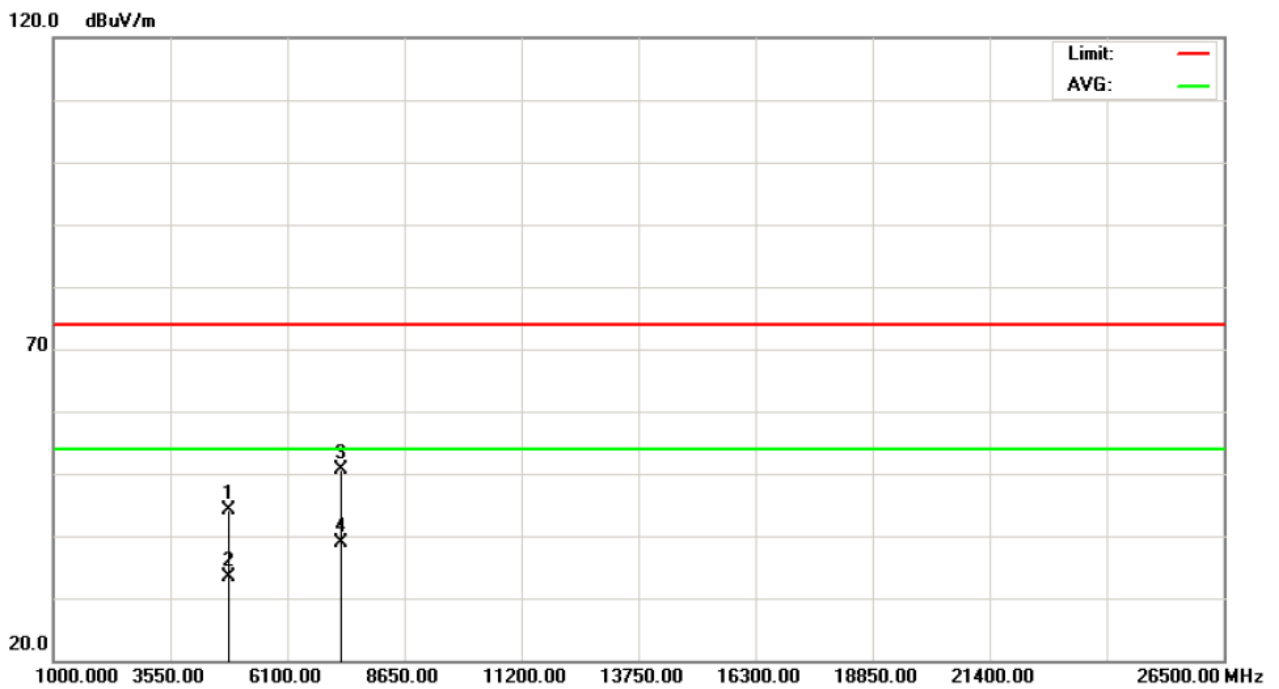
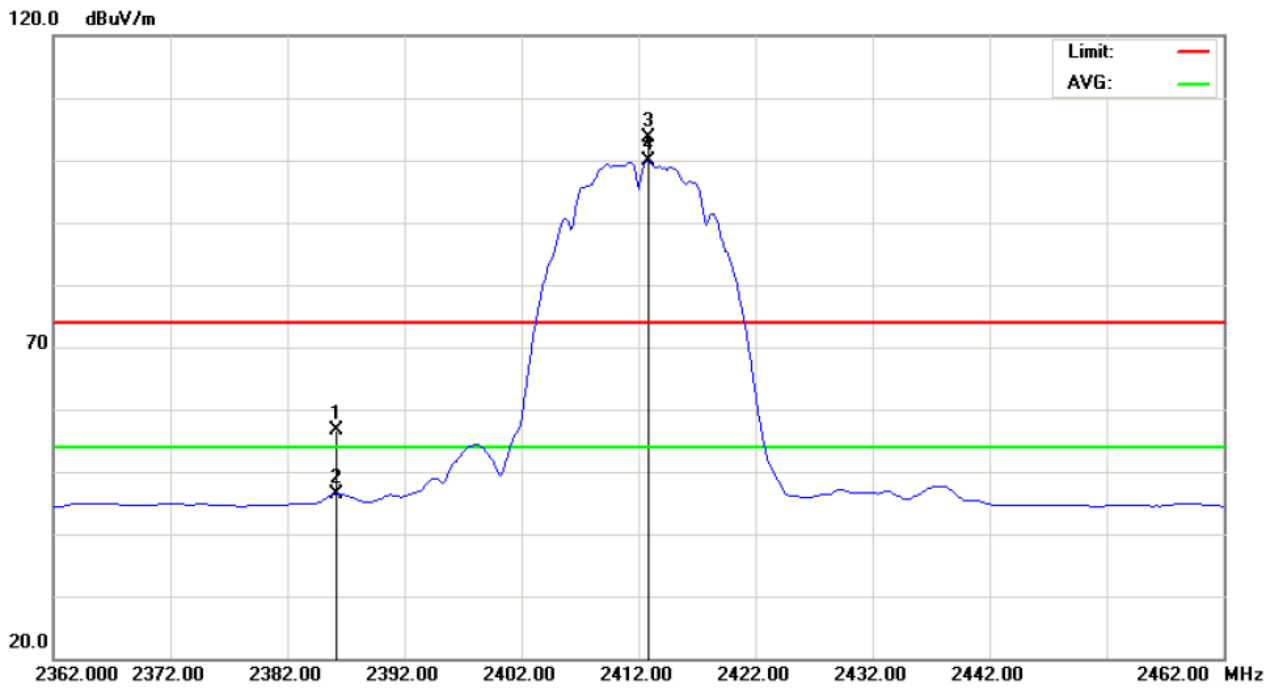
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
2386.20	H	24.73	14.44	31.91	56.64	46.35	74.00	54.00	Y/E
2412.80	H	71.53	67.81	32.01	103.54	99.82			Y/F
4824.03	H	40.37	29.69	3.75	44.12	33.44	74.00	54.00	Y/H
7236.07	H	41.52	29.95	9.02	50.54	38.97	74.00	54.00	Y/H

**Remark :**

- (1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto
- (2) All readings are Peak unless otherwise stated QP in column of 『Note』 . Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform ◦
- (3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency ◦“F” denotes fundamental frequency; “H” denotes spurious frequency. “E” denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦
- (5) Data of measurement within this frequency range shown “ \* ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (7) EUT Orthogonal Axes :  
“X” - denotes Laid on Table ; “Y” - denotes Vertical Stand ; “Z” - denotes Side Stand
- (8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.



Orthogonal Axis : Y  
802.11b/CH01 (Above 1000 MHz, Horizontal)





EUT :	Handheld Terminal	Model Name :	P223
Temperature :	23 °C	Relative Humidity :	54%
Test Voltage :	AC 120V/60Hz		
Test Mode :	802.11b/CH06		

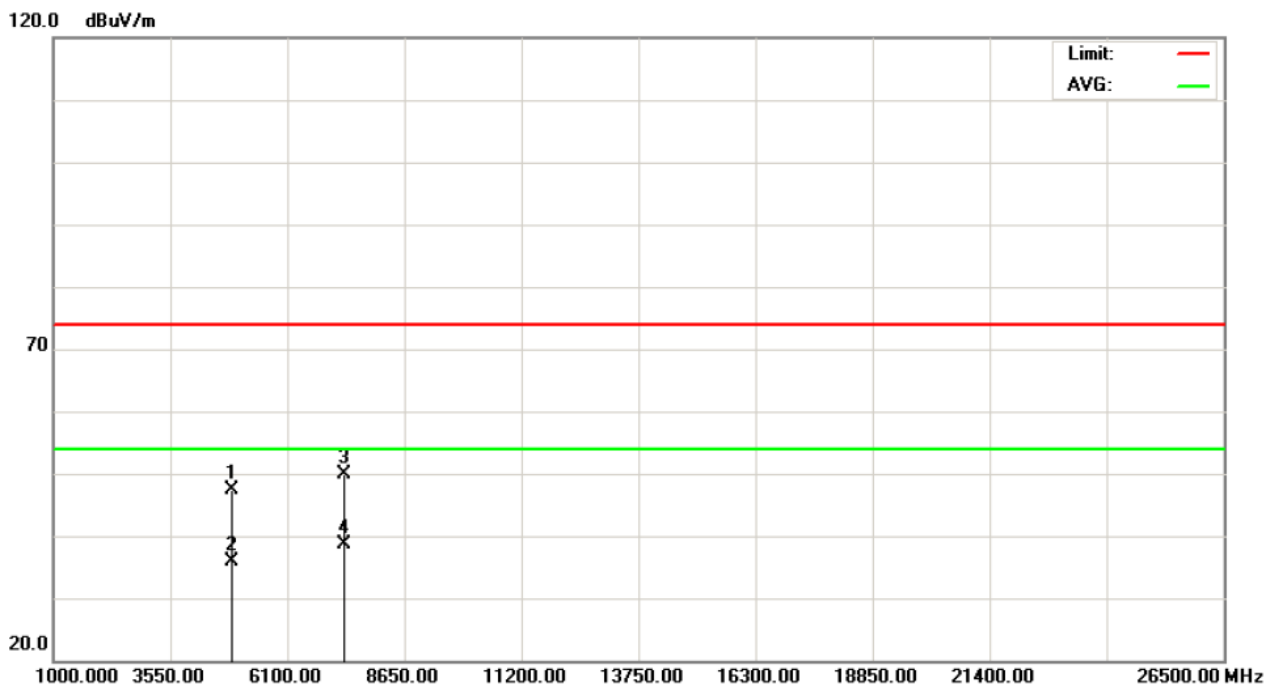
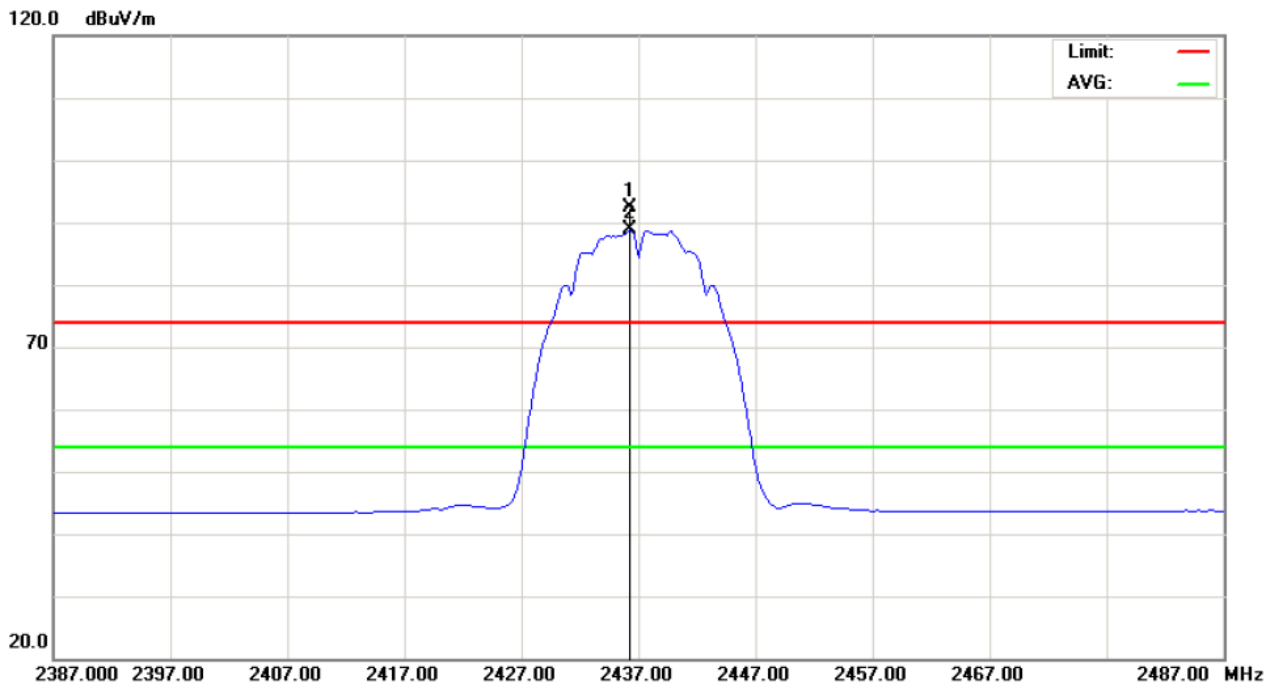
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
2436.20	V	60.29	56.66	32.10	92.39	88.76			Y/F
4874.03	V	43.46	31.89	3.90	47.36	35.79	74.00	54.00	Y/H
7311.13	V	40.85	29.43	9.14	49.99	38.57	74.00	54.00	Y/H

**Remark :**

- (1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto
- (2) All readings are Peak unless otherwise stated QP in column of 『Note』 . Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform ◦
- (3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency ◦ "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦
- (5) Data of measurement within this frequency range shown " \* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (7) EUT Orthogonal Axes :  
"X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand
- (8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.



Orthogonal Axis : Y  
802.11b/CH06 (Above 1000 MHz, Vertical)





EUT :	Handheld Terminal	Model Name :	P223
Temperature :	23 °C	Relative Humidity :	54%
Test Voltage :	AC 120V/60Hz		
Test Mode :	802.11b/CH06		

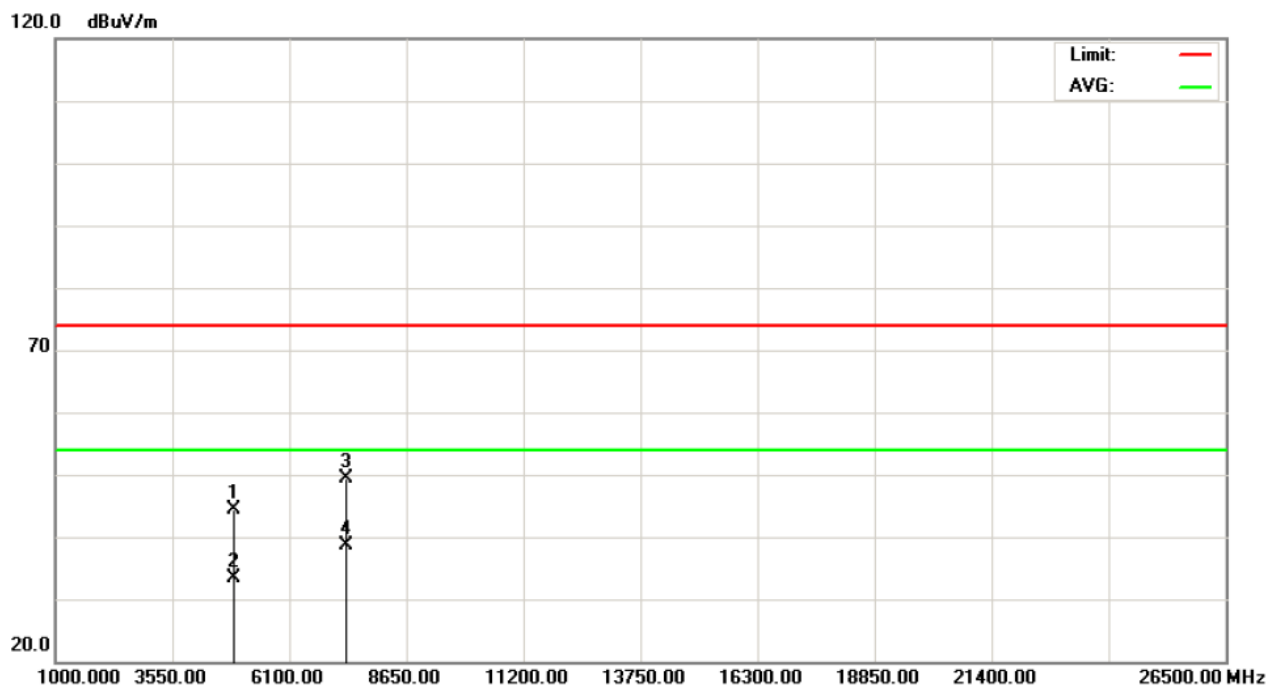
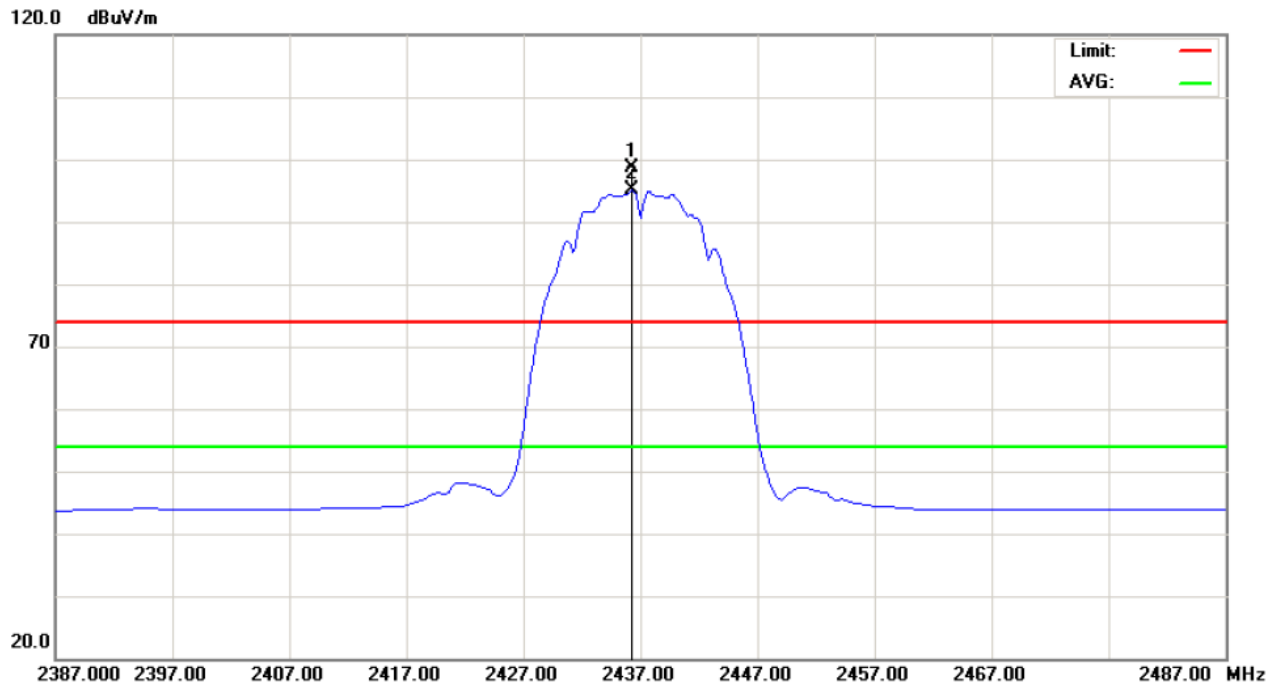
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
2436.20	H	66.61	62.92	32.10	98.71	95.02			Y/F
4874.14	H	40.54	29.45	3.90	44.44	33.35	74.00	54.00	Y/H
7311.13	H	40.26	29.39	9.14	49.40	38.53	74.00	54.00	Y/H

**Remark :**

- (1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto
- (2) All readings are Peak unless otherwise stated QP in column of 『Note』 . Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform ◦
- (3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency ◦“F” denotes fundamental frequency; “H” denotes spurious frequency. “E” denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦
- (5) Data of measurement within this frequency range shown “ \* ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (7) EUT Orthogonal Axes :  
“X” - denotes Laid on Table ; “Y” - denotes Vertical Stand ; “Z” - denotes Side Stand
- (8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.



Orthogonal Axis : Y  
802.11b/CH06 (Above 1000 MHz, Horizontal)





EUT :	Handheld Terminal	Model Name :	P223
Temperature :	23 °C	Relative Humidity :	54%
Test Voltage :	AC 120V/60Hz		
Test Mode :	802.11b/CH11		

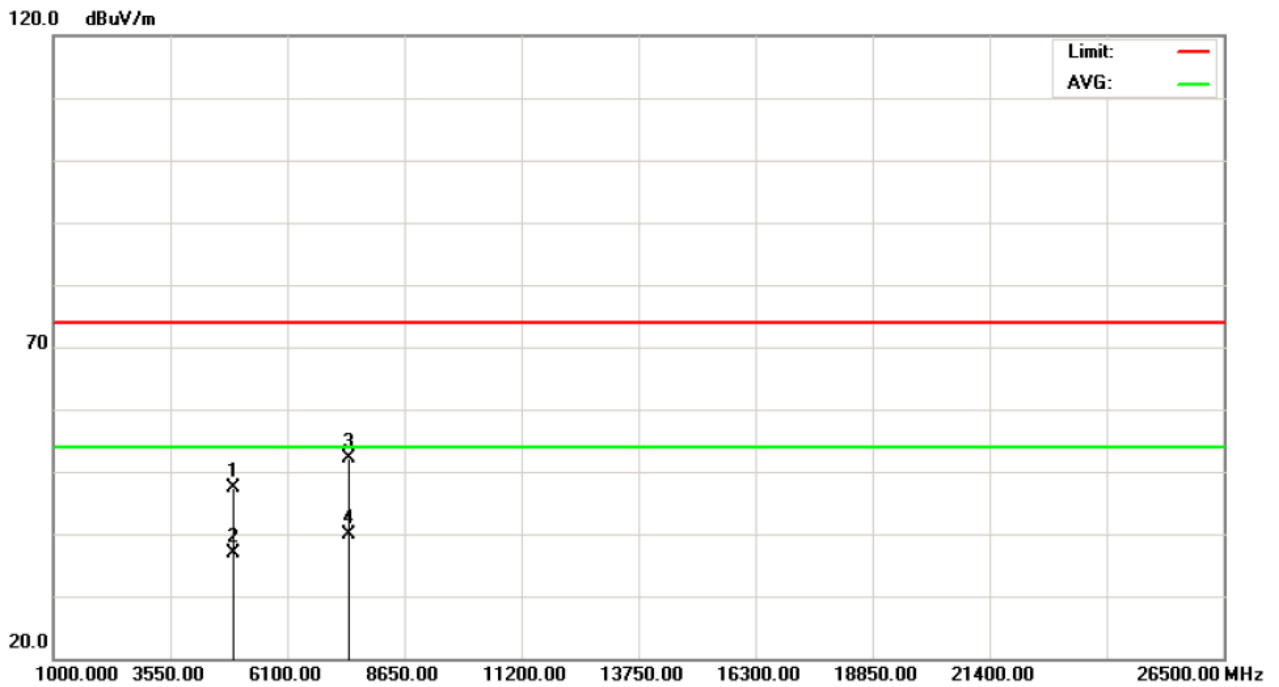
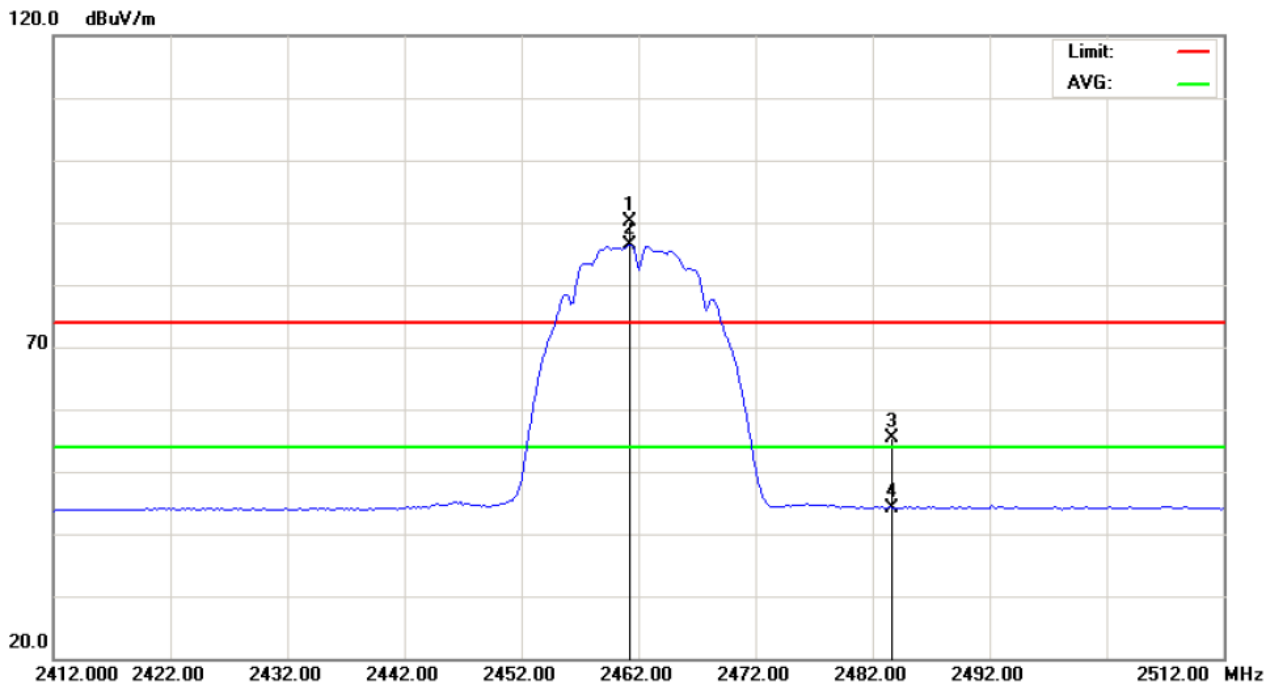
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
2461.20	V	57.96	54.21	32.20	90.16	86.41			Y/F
2483.50	V	23.02	11.95	32.29	55.31	44.24	74.00	54.00	Y/E
4924.01	V	43.21	32.75	4.06	47.27	36.81	74.00	54.00	Y/H
7385.92	V	42.74	30.73	9.27	52.01	40.00	74.00	54.00	Y/H

**Remark :**

- (1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto
- (2) All readings are Peak unless otherwise stated QP in column of 『Note』 . Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform ◦
- (3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency ◦ "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦
- (5) Data of measurement within this frequency range shown " \* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (7) EUT Orthogonal Axes :  
"X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand
- (8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.



Orthogonal Axis : Y  
802.11b/CH11 (Above 1000 MHz, Vertical)







EUT :	Handheld Terminal	Model Name :	P223
Temperature :	23 ° C	Relative Humidity :	54%
Test Voltage :	AC 120V/60Hz		
Test Mode :	802.11b/CH11		

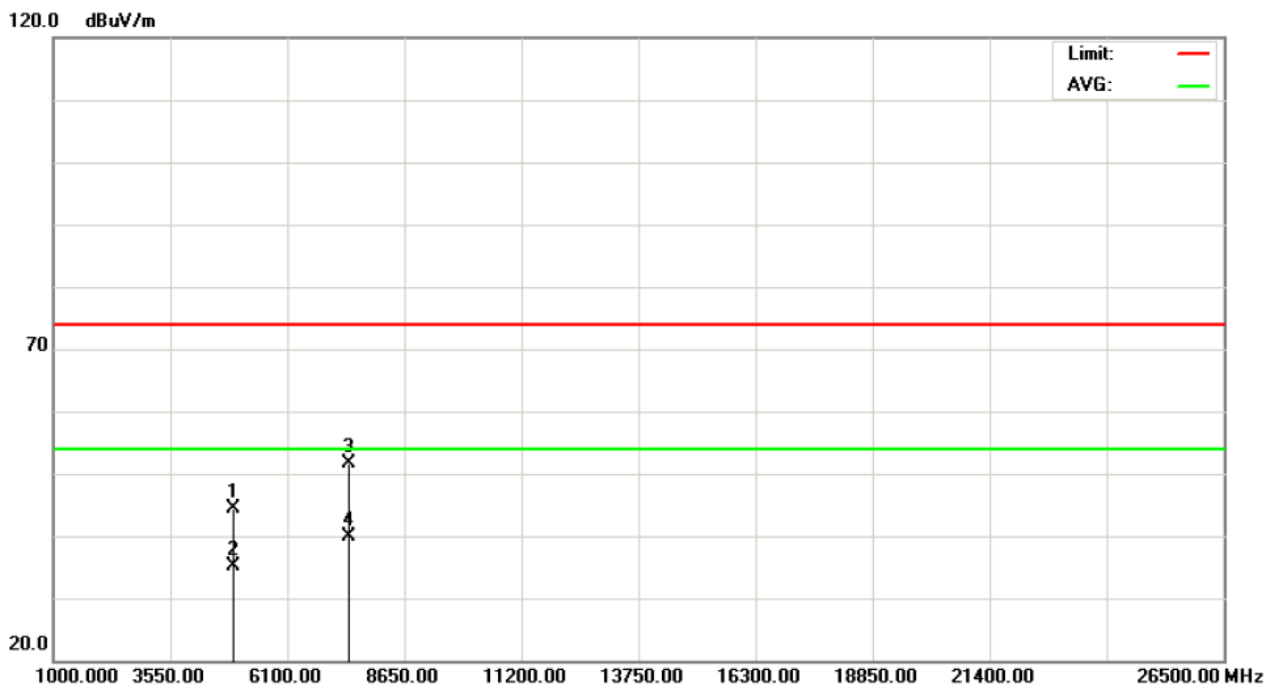
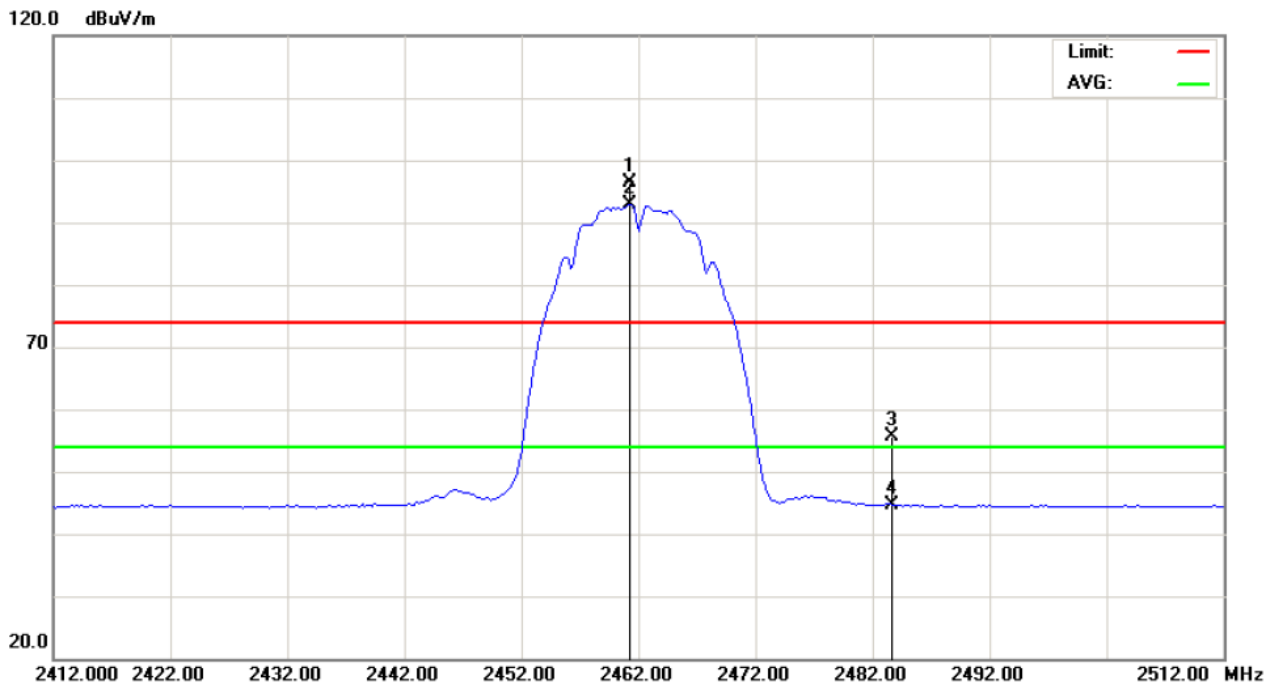
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
2461.20	H	64.27	60.67	32.20	96.47	92.87			Y/F
2483.50	H	23.36	12.36	32.29	55.65	44.65	74.00	54.00	Y/E
4924.12	H	40.37	31.09	4.06	44.43	35.15	74.00	54.00	Y/H
7386.09	H	42.44	30.70	9.27	51.71	39.97	74.00	54.00	Y/H

Remark :

- (1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto
- (2) All readings are Peak unless otherwise stated QP in column of 『Note』 . Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform ◦
- (3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency ◦“F” denotes fundamental frequency; “H” denotes spurious frequency. “E” denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦
- (5) Data of measurement within this frequency range shown “ \* ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (7) EUT Orthogonal Axes :  
“X” - denotes Laid on Table ; “Y” - denotes Vertical Stand ; “Z” - denotes Side Stand
- (8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.



Orthogonal Axis : Y  
802.11b/CH11 (Above 1000 MHz, Horizontal)





EUT :	Handheld Terminal	Model Name :	P223
Temperature :	23 °C	Relative Humidity :	54%
Test Voltage :	AC 120V/60Hz		
Test Mode :	802.11g/CH01		

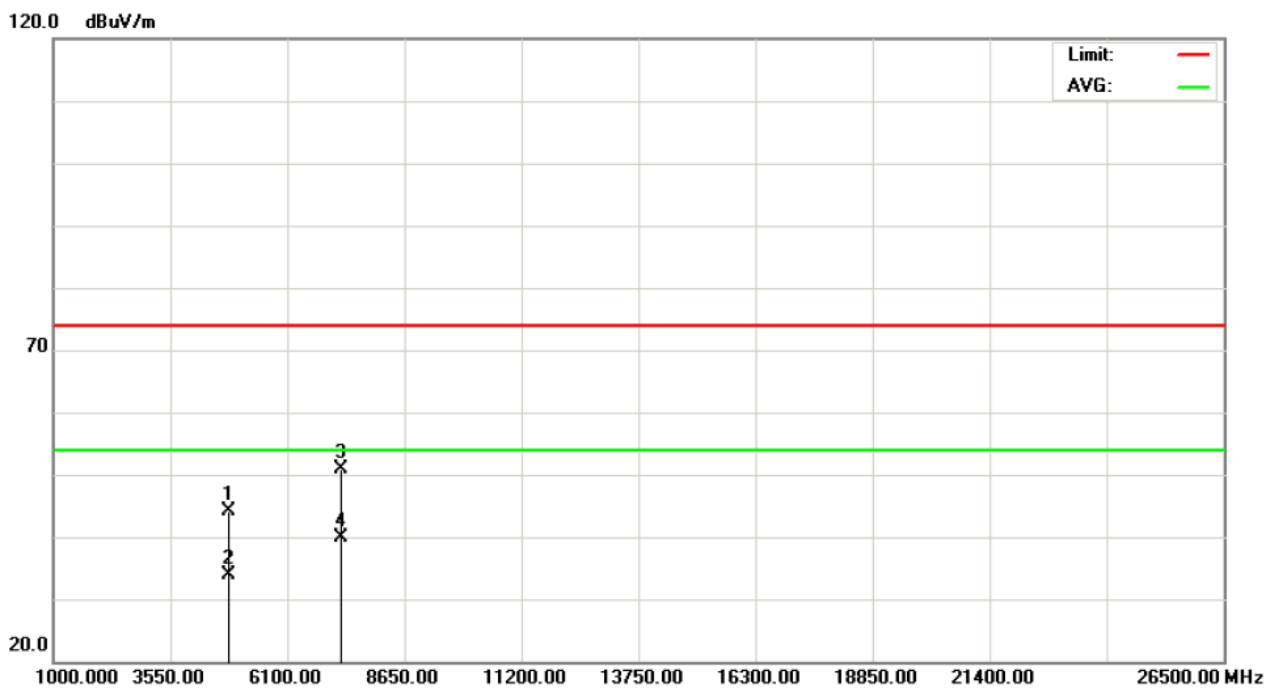
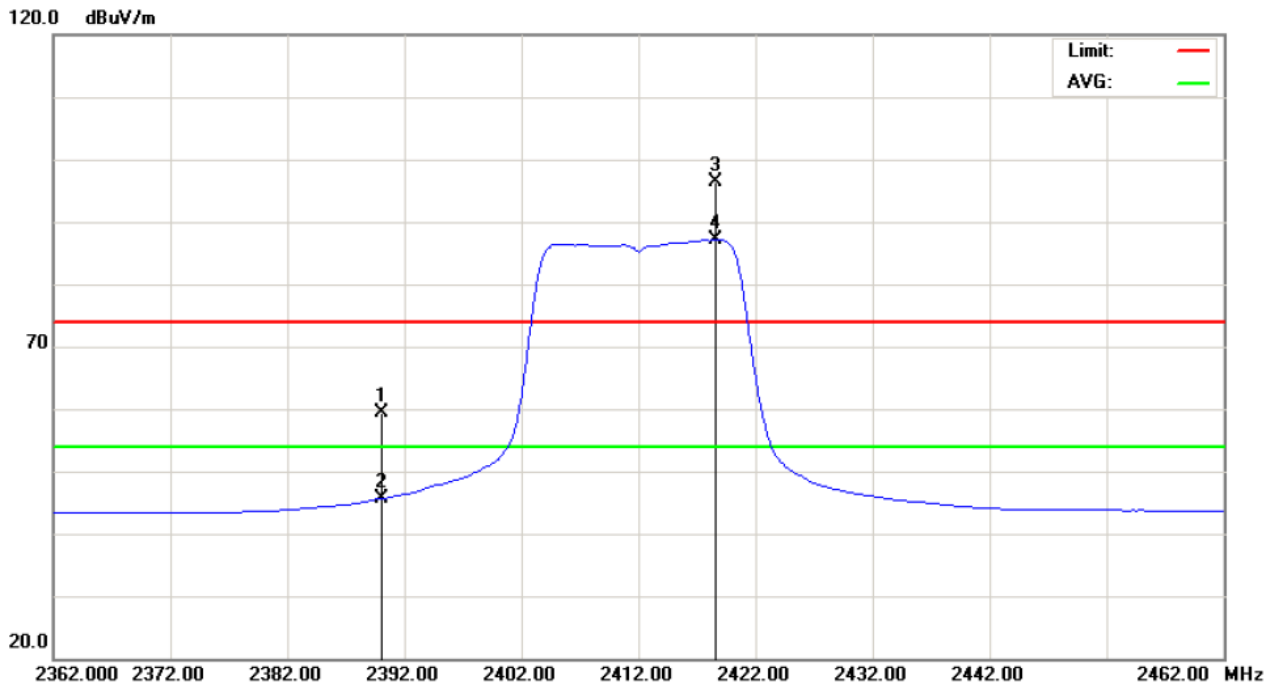
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
2390.00	V	27.56	13.70	31.93	59.49	45.63	74.00	54.00	Y/E
2418.60	V	64.27	55.06	32.04	96.31	87.10			Y/F
4822.80	V	40.34	30.17	3.74	44.08	33.91	74.00	54.00	Y/H
7239.20	V	41.86	30.76	9.03	50.89	39.79	74.00	54.00	Y/H

**Remark :**

- (1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto
- (2) All readings are Peak unless otherwise stated QP in column of 『Note』 . Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform ◦
- (3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency ◦ "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦
- (5) Data of measurement within this frequency range shown " \* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (7) EUT Orthogonal Axes :  
"X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand
- (8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.



Orthogonal Axis : Y  
802.11g/CH01 (Above 1000 MHz, Vertical)





EUT :	Handheld Terminal	Model Name :	P223
Temperature :	23 ° C	Relative Humidity :	54%
Test Voltage :	AC 120V/60Hz		
Test Mode :	802.11g/CH01		

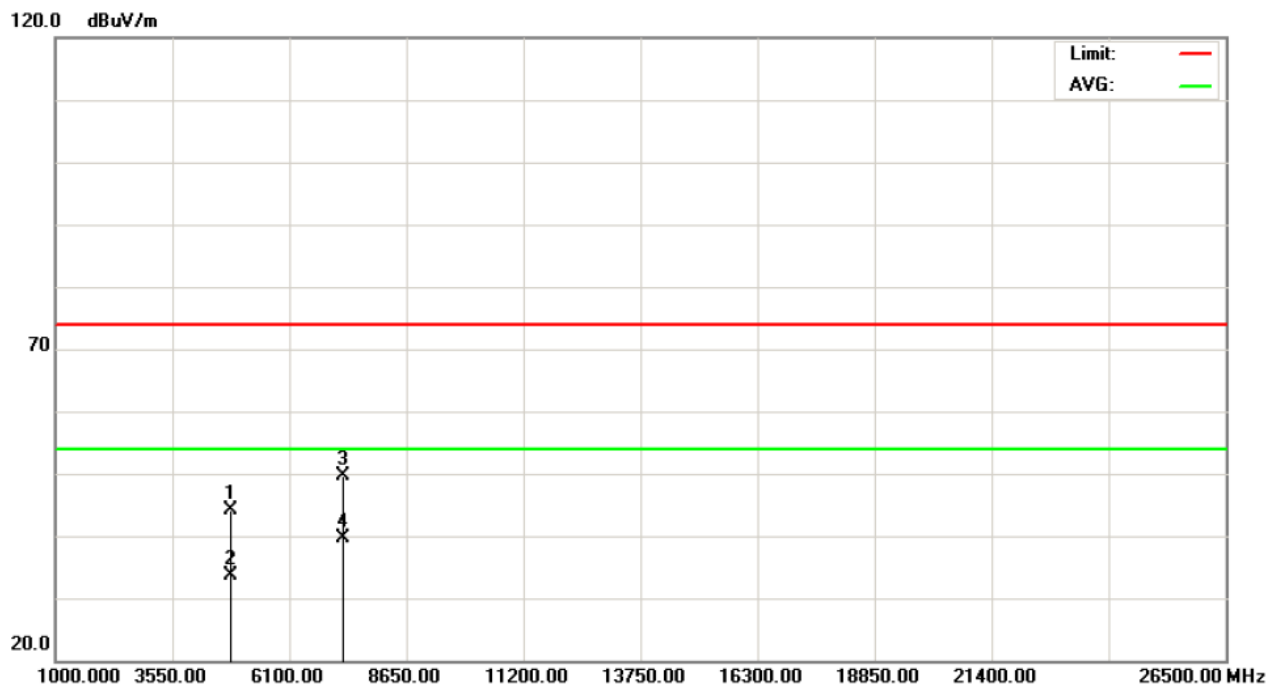
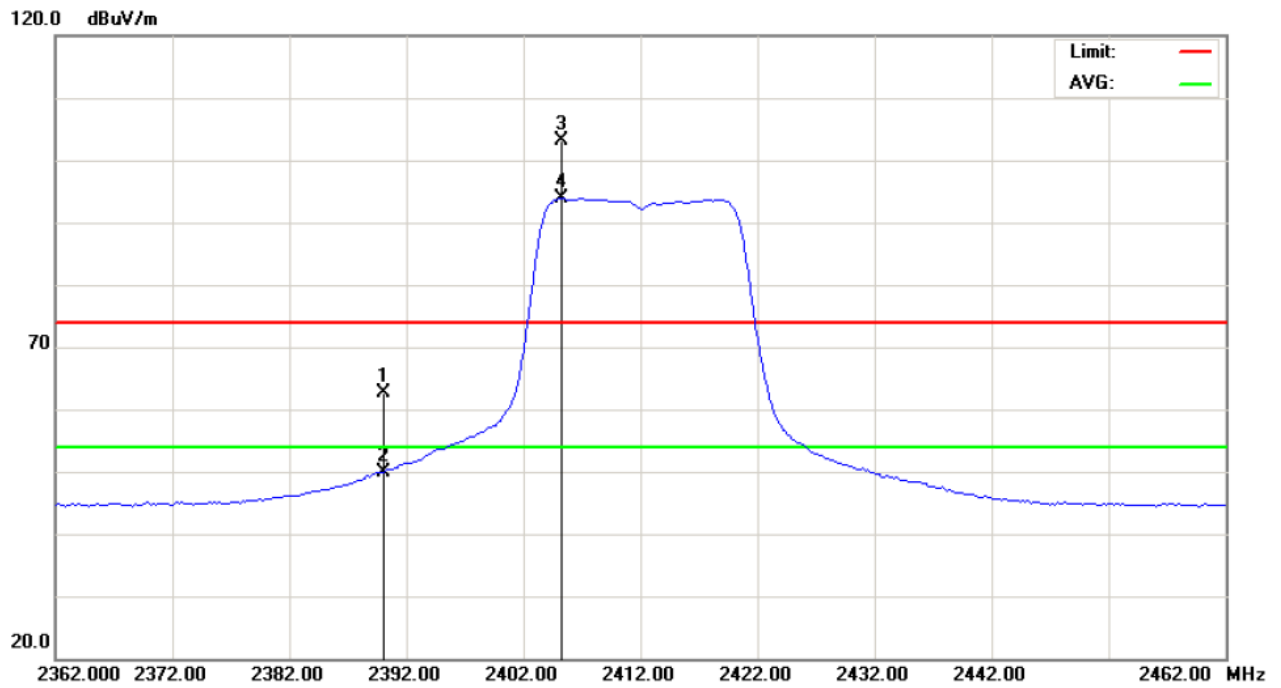
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
2390.00	H	30.80	18.00	31.93	62.73	49.93	74.00	54.00	Y/E
2405.20	H	71.26	61.85	31.99	103.25	93.84			Y/F
4820.20	H	40.38	29.92	3.74	44.12	33.66	74.00	54.00	Y/H
7233.40	H	40.70	30.71	9.02	49.72	39.73	74.00	54.00	Y/H

**Remark :**

- (1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto
- (2) All readings are Peak unless otherwise stated QP in column of 『Note』 . Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform ◦
- (3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency ◦“F” denotes fundamental frequency; “H” denotes spurious frequency. “E” denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦
- (5) Data of measurement within this frequency range shown “ \* ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (7) EUT Orthogonal Axes :  
“X” - denotes Laid on Table ; “Y” - denotes Vertical Stand ; “Z” - denotes Side Stand
- (8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.



Orthogonal Axis : Y  
802.11g/CH01 (Above 1000 MHz, Horizontal)





EUT :	Handheld Terminal	Model Name :	P223
Temperature :	23 °C	Relative Humidity :	54%
Test Voltage :	AC 120V/60Hz		
Test Mode :	802.11g/CH06		

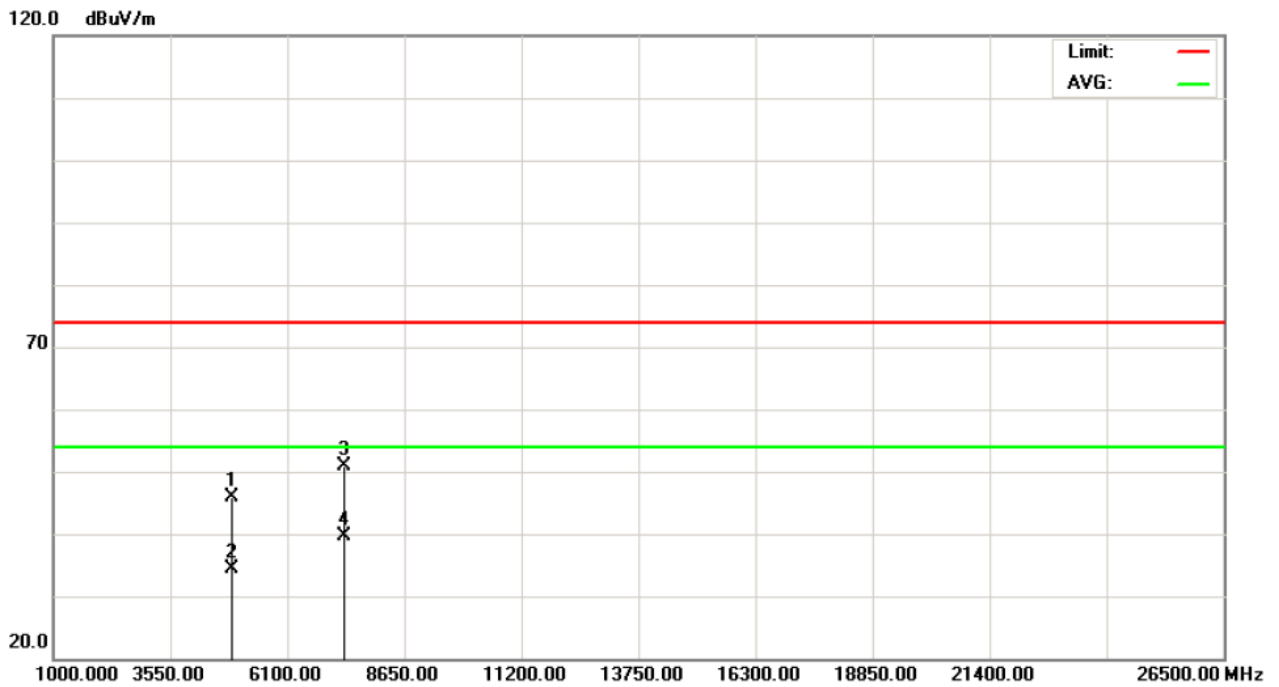
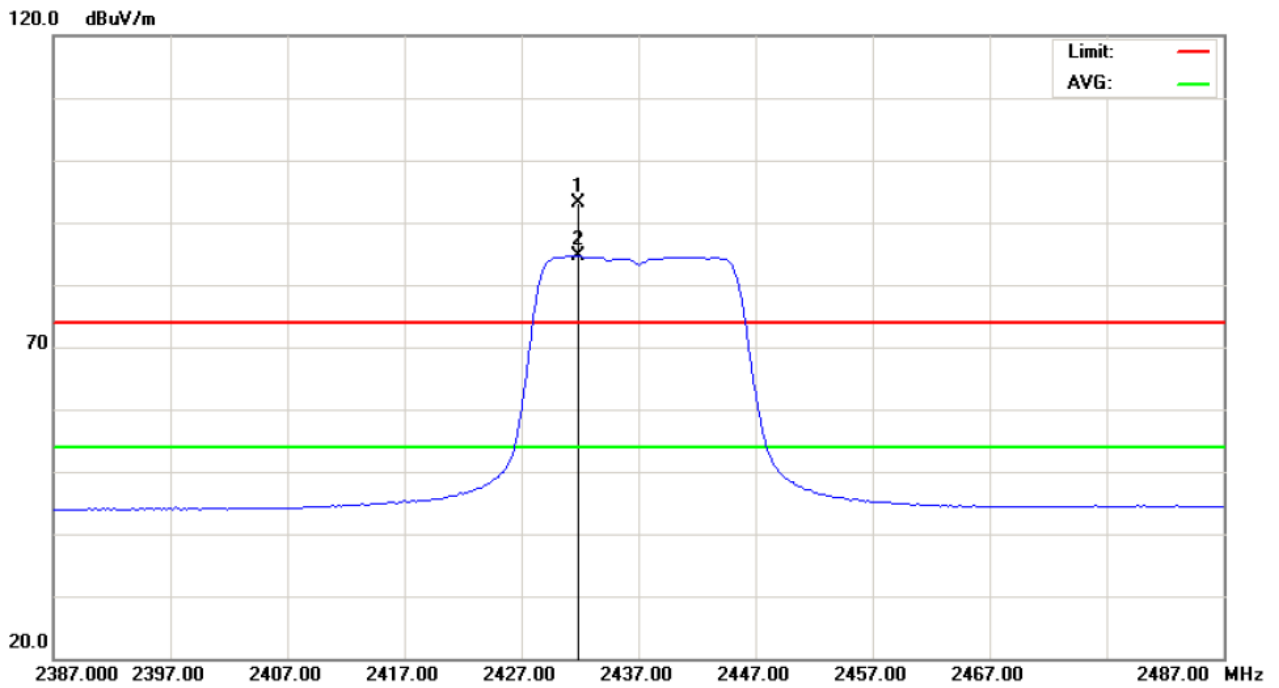
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
2431.80	V	61.00	52.49	32.09	93.09	84.58			Y/F
4875.80	V	42.09	30.44	3.91	46.00	34.35	74.00	54.00	Y/H
7303.00	V	41.87	30.60	9.13	51.00	39.73	74.00	54.00	Y/H

**Remark :**

- (1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto
- (2) All readings are Peak unless otherwise stated QP in column of 『Note』 . Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform ◦
- (3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency ◦ "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦
- (5) Data of measurement within this frequency range shown " \* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (7) EUT Orthogonal Axes :  
"X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand
- (8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.



Orthogonal Axis : Y  
802.11g/CH06 (Above 1000 MHz, Vertical)







EUT :	Handheld Terminal	Model Name :	P223
Temperature :	23 °C	Relative Humidity :	54%
Test Voltage :	AC 120V/60Hz		
Test Mode :	802.11g/CH06		

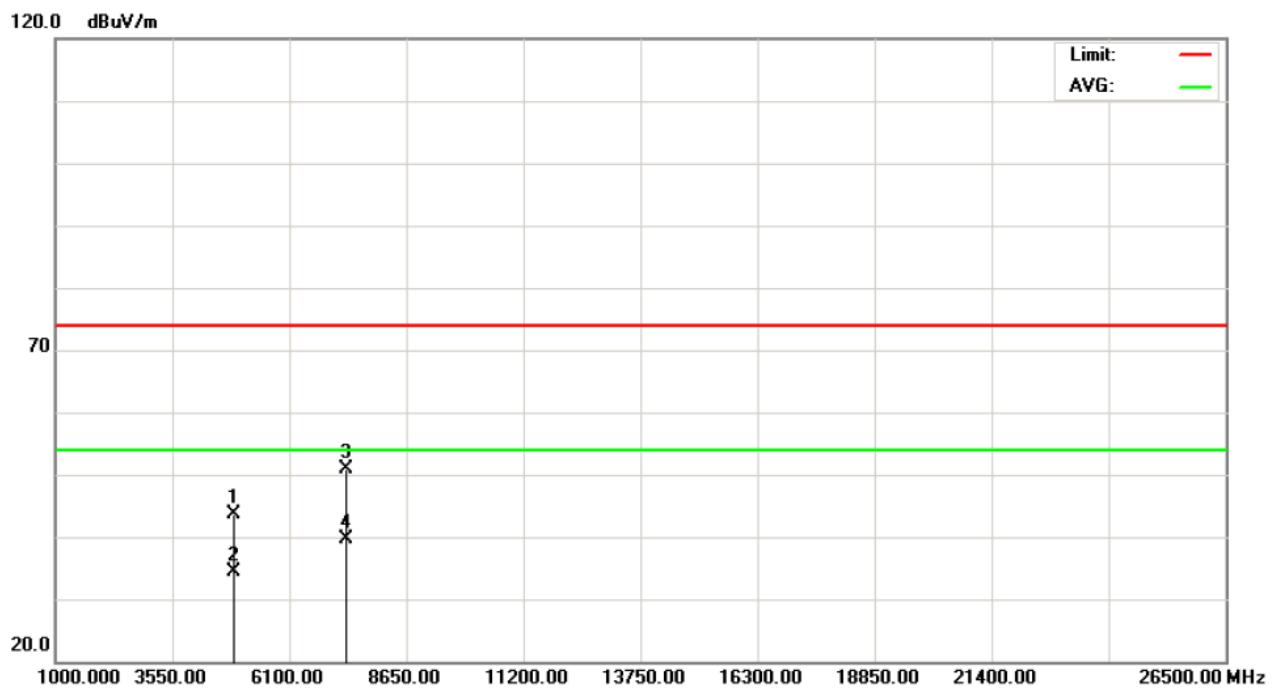
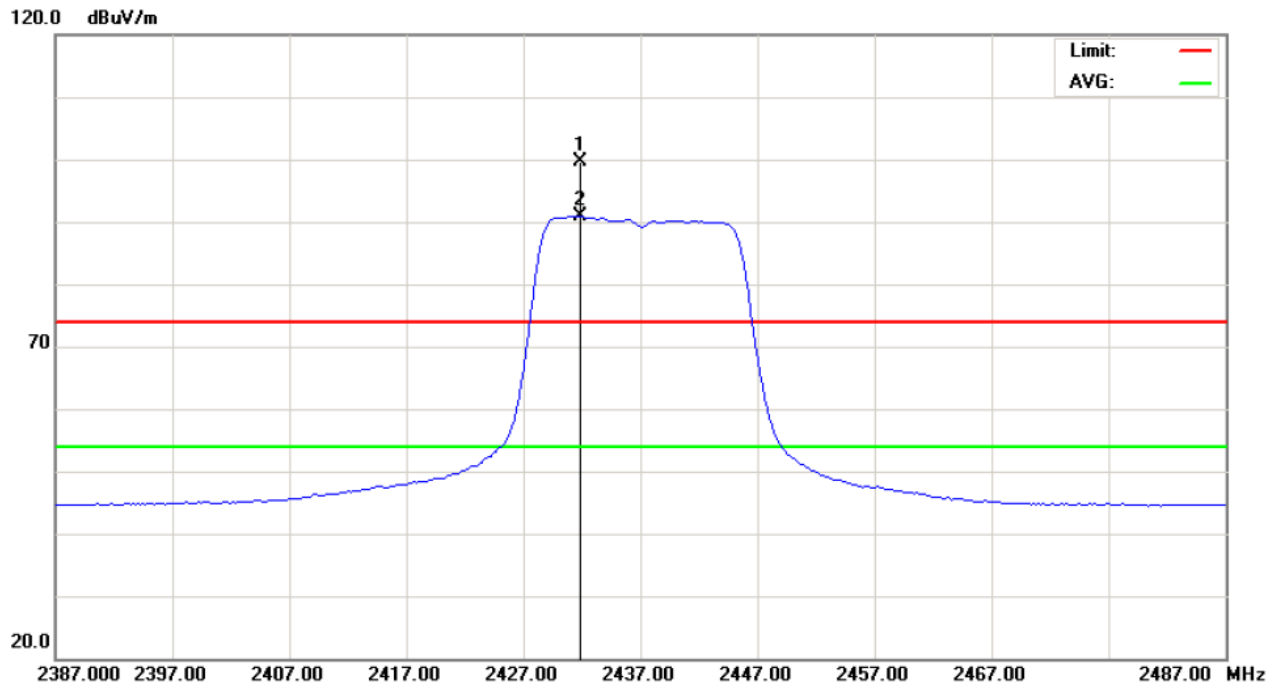
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
2431.80	H	67.53	58.77	32.09	99.62	90.86			Y/F
4871.80	H	39.74	30.44	3.90	43.64	34.34	74.00	54.00	Y/H
7303.60	H	41.74	30.43	9.13	50.87	39.56	74.00	54.00	Y/H

**Remark :**

- (1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto
- (2) All readings are Peak unless otherwise stated QP in column of 『Note』 . Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform ◦
- (3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency ◦“F” denotes fundamental frequency; “H” denotes spurious frequency. “E” denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦
- (5) Data of measurement within this frequency range shown “ \* ” in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (7) EUT Orthogonal Axes :  
“X” - denotes Laid on Table ; “Y” - denotes Vertical Stand ; “Z” - denotes Side Stand
- (8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.



Orthogonal Axis : Y  
802.11g/CH06 (Above 1000 MHz, Horizontal)





EUT :	Handheld Terminal	Model Name :	P223
Temperature :	23 °C	Relative Humidity :	54%
Test Voltage :	AC 120V/60Hz		
Test Mode :	802.11g/CH11		

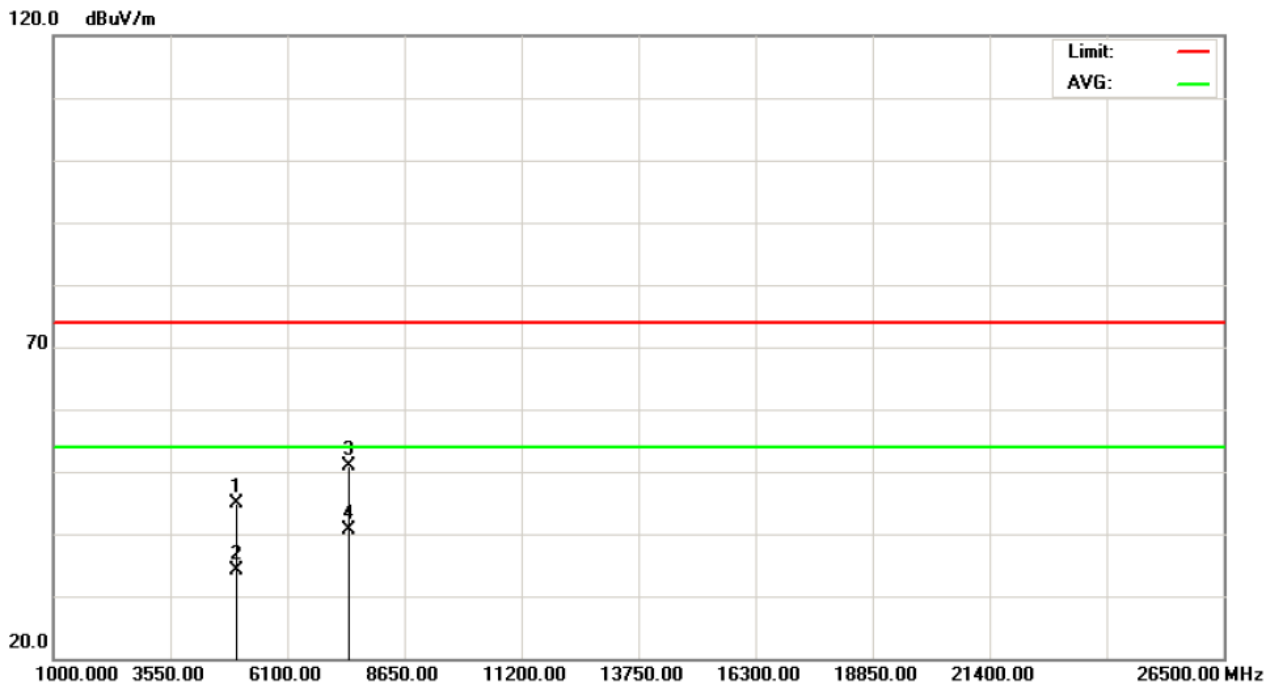
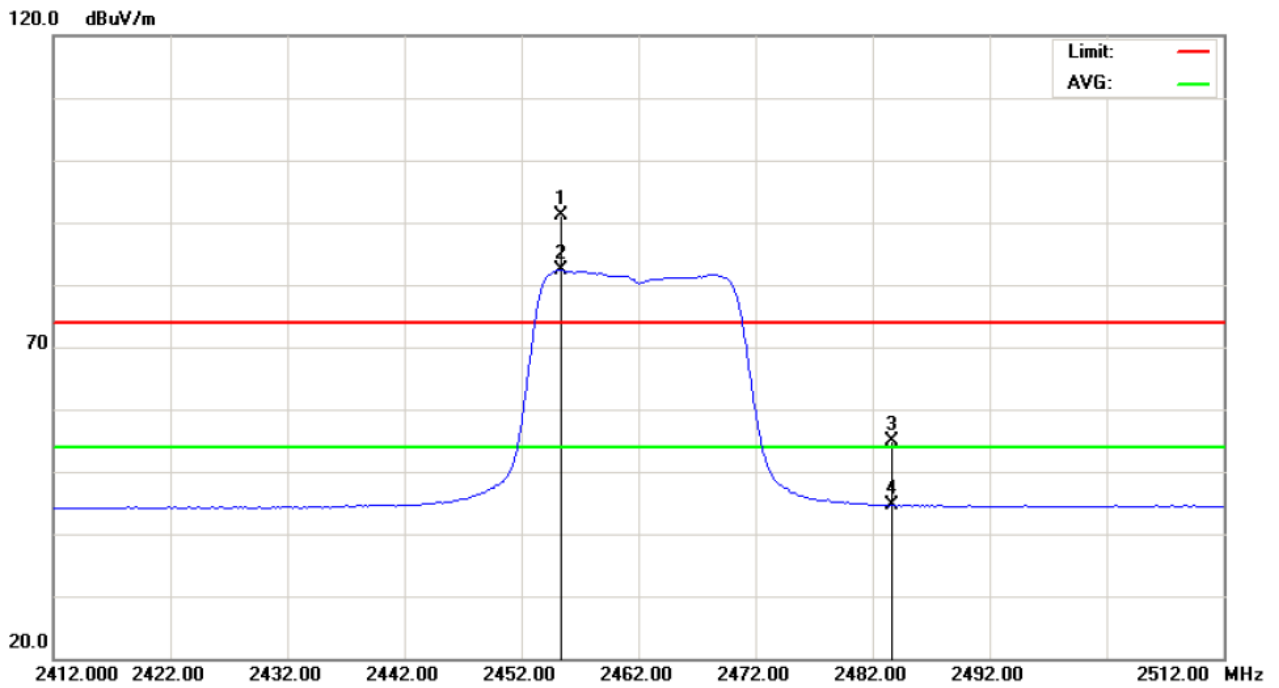
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
2455.40	V	59.00	50.24	32.18	91.18	82.42			Y/F
2483.50	V	22.48	12.35	32.29	54.77	44.64	74.00	54.00	Y/E
4928.60	V	40.72	30.00	4.08	44.80	34.08	74.00	54.00	Y/H
7383.00	V	41.70	31.48	9.26	50.96	40.74	74.00	54.00	Y/H

**Remark :**

- (1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto
- (2) All readings are Peak unless otherwise stated QP in column of 『Note』 . Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform ◦
- (3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency ◦ "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦
- (5) Data of measurement within this frequency range shown " \* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (7) EUT Orthogonal Axes :  
"X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand
- (8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.



Orthogonal Axis : Y  
802.11g/CH11 (Above 1000 MHz, Vertical)





EUT :	Handheld Terminal	Model Name :	P223
Temperature :	23 ° C	Relative Humidity :	54%
Test Voltage :	AC 120V/60Hz		
Test Mode :	802.11g/CH11		

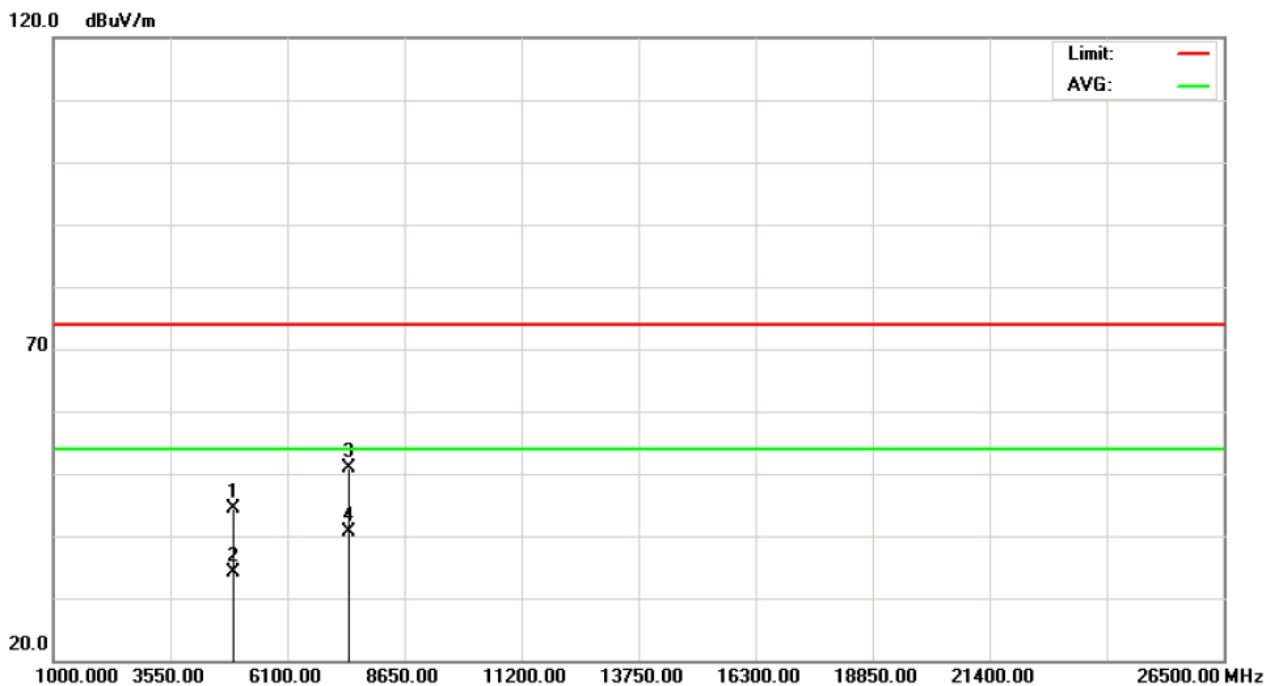
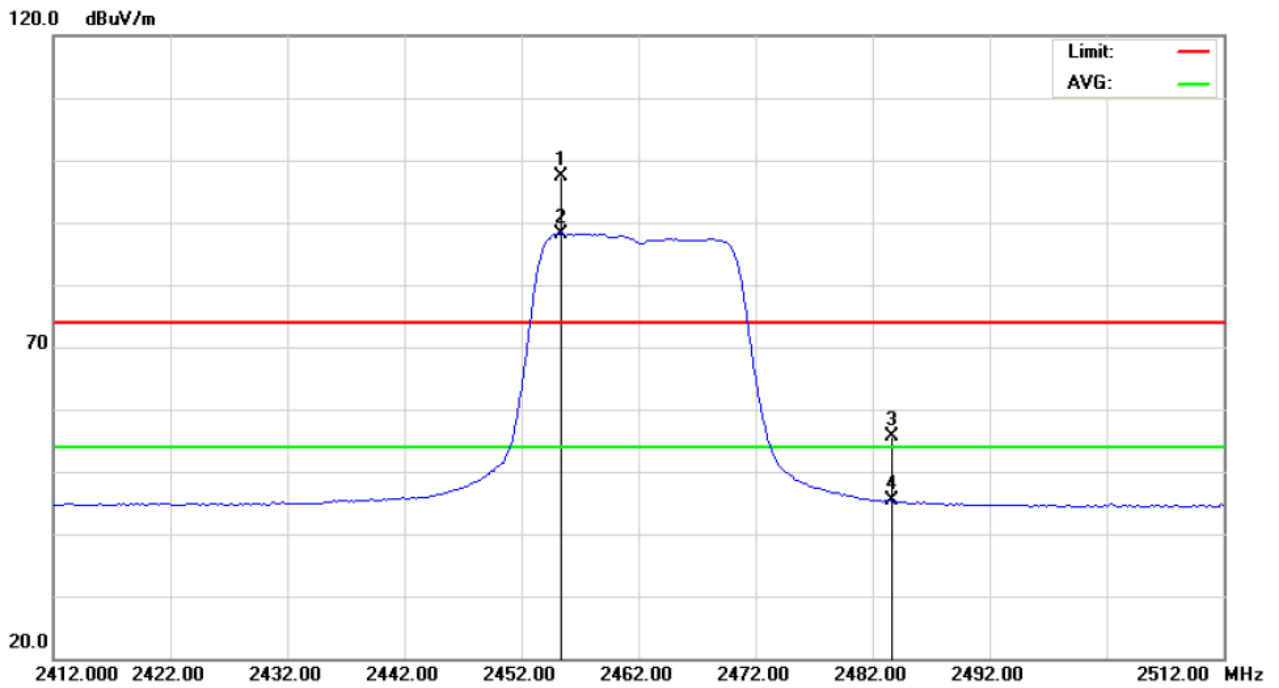
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
2455.40	H	65.14	56.07	32.18	97.32	88.25			Y/F
2483.50	H	23.30	12.97	32.29	55.59	45.26	74.00	54.00	Y/E
4926.20	H	40.42	29.95	4.07	44.49	34.02	74.00	54.00	Y/H
7387.00	H	41.66	31.26	9.27	50.93	40.53	74.00	54.00	Y/H

Remark :

- (1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto
- (2) All readings are Peak unless otherwise stated QP in column of 『Note』 . Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform ◦
- (3) Measuring frequency range from 30MHz to 1000MHz or the 10th harmonic of highest fundamental frequency ◦ "F" denotes fundamental frequency; "H" denotes spurious frequency. "E" denotes band edge frequency. (This judgment method includes the Band Edge Requirement.)
- (4) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦
- (5) Data of measurement within this frequency range shown " \* " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
- (6) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.
- (7) EUT Orthogonal Axes :  
"X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand
- (8) During the measurements above 1GHz it is taken care of that the EUT is always within the 3dB cone of radiation BW of the used antenna.



Orthogonal Axis : Y  
802.11g/CH11 (Above 1000 MHz, Horizontal)





**4.2.9 TEST RESULTS-RESTRICTED BANDS REQUIREMENTS**

EUT :	Handheld Terminal	Model Name :	P223
Temperature :	23 °C	Relative Humidity :	54%
Test Voltage :	AC 120V/60Hz		
Test Mode :	802.11b/CH01, CH11 (Vertical)		
Note :	<p>The emission of the carrier radiated field strength is measured for CH01, CH11 (Peak and AV) as following:</p> <ol style="list-style-type: none"> <li>1. The transmitter was then configured with the worst case antenna and setup to transmit at the lowest channel (CH01). Then the field strength was measured at 2310-2390 MHz.</li> <li>2. The transmitter was configured with the worst case antenna and setup to transmit at the highest channel (CH11). Then the field strength was measured at 2483.5-2500 MHz.</li> </ol>		

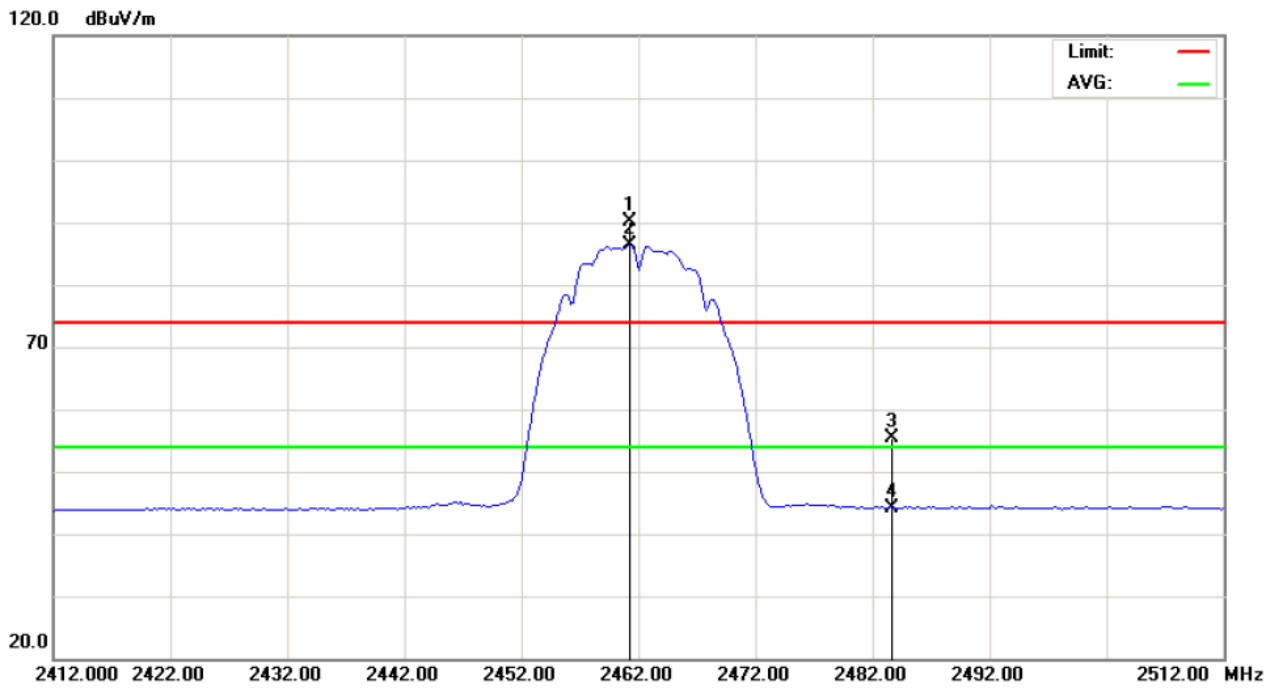
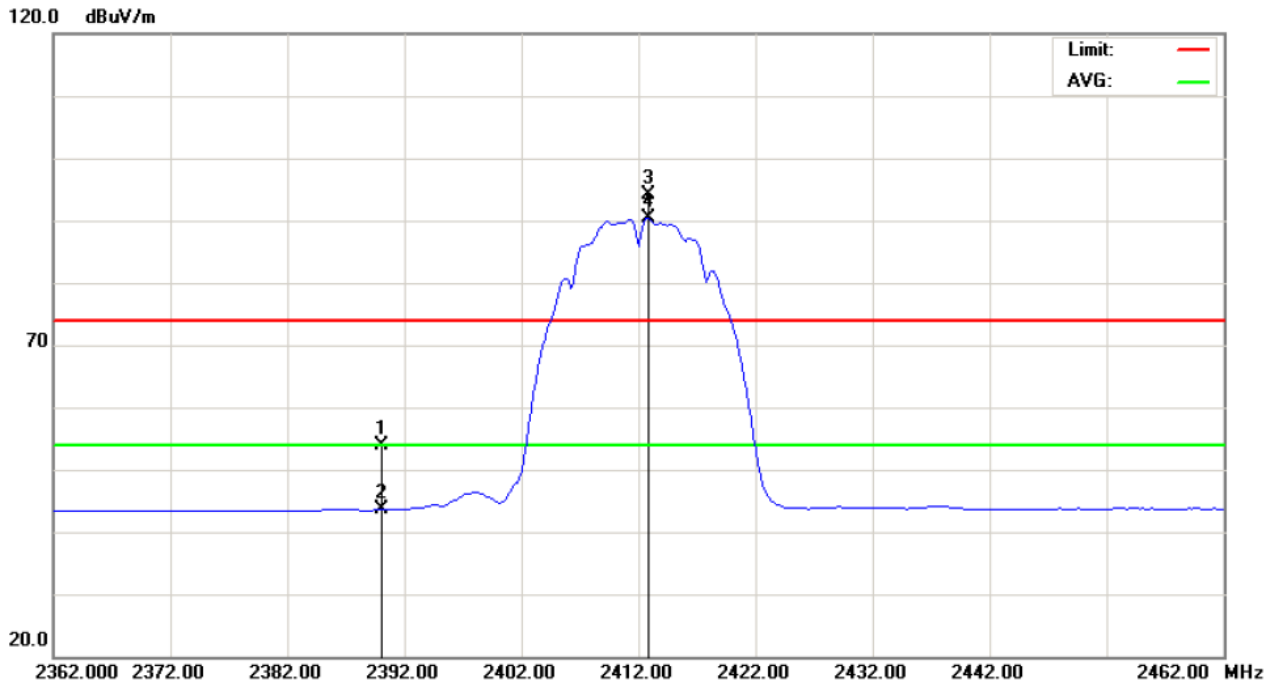
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
2390.00	V	21.88	11.64	31.93	53.81	43.57	74.00	54.00	CH01
2483.50	V	23.02	11.95	32.29	55.31	44.24	74.00	54.00	CH11

**Remark :**

- (1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto
- (2) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦
- (3) EUT Orthogonal Axes :  
 "X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand



802.11b/CH01, CH11 (Restricted Bands Requirements, Vertical)







EUT :	Handheld Terminal	Model Name :	P223
Temperature :	23 °C	Relative Humidity :	54%
Test Voltage :	AC 120V/60Hz		
Test Mode :	802.11b/CH01, CH11 (Horizontal)		
Note :	<p>The emission of the carrier radiated field strength is measured for CH01, CH11 (Peak and AV) as following:</p> <ol style="list-style-type: none"> <li>1. The transmitter was then configured with the worst case antenna and setup to transmit at the lowest channel (CH01). Then the field strength was measured at 2310-2390 MHz.</li> <li>2. The transmitter was configured with the worst case antenna and setup to transmit at the highest channel (CH11). Then the field strength was measured at 2483.5-2500 MHz.</li> </ol>		

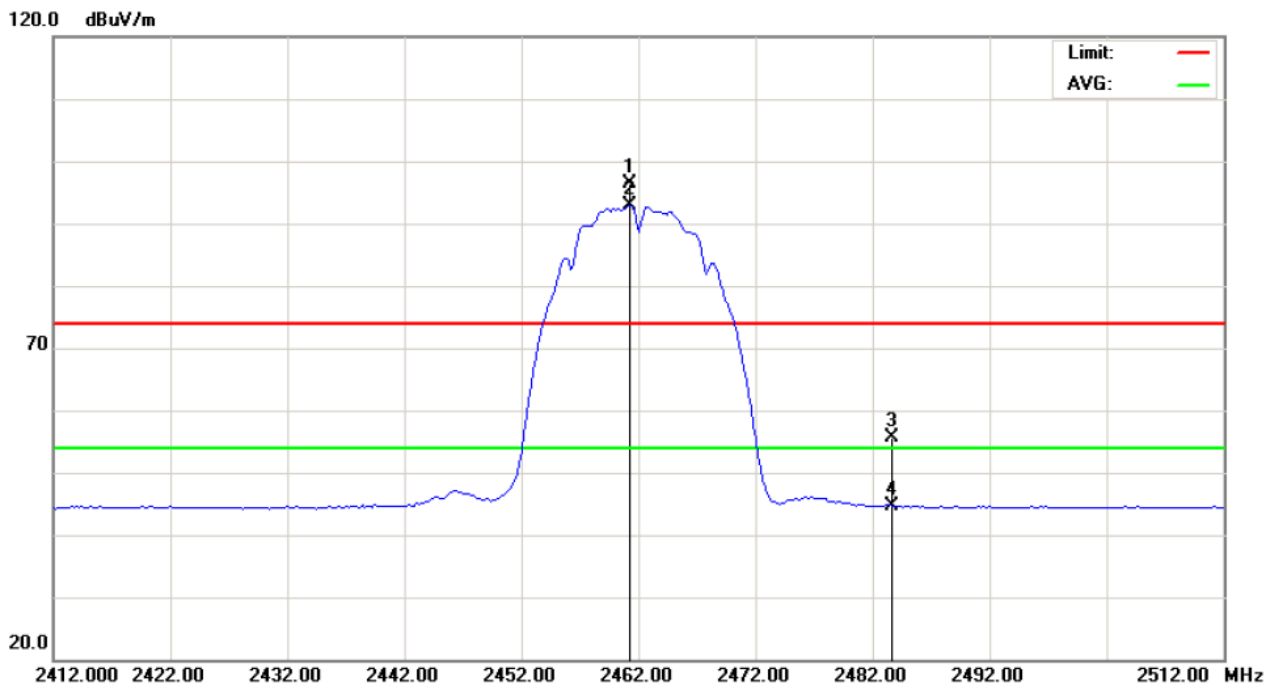
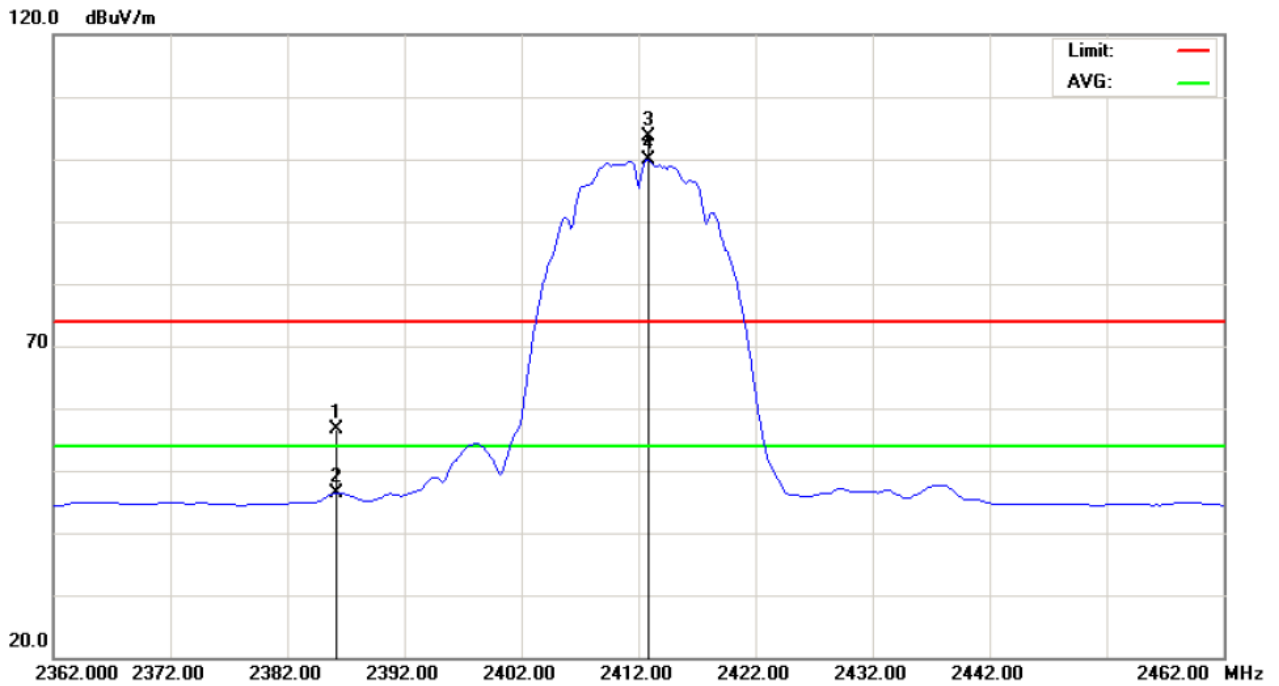
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
2386.20	H	24.73	14.44	31.91	56.64	46.35	74.00	54.00	CH01
2483.50	H	23.36	12.36	32.29	55.65	44.65	74.00	54.00	CH11

**Remark :**

- (1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto
- (2) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦
- (3) EUT Orthogonal Axes :  
 "X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand



802.11b/CH01, CH11 (Restricted Bands Requirements, Horizontal)





EUT :	Handheld Terminal	Model Name :	P223
Temperature :	23 °C	Relative Humidity :	54%
Test Voltage :	AC 120V/60Hz		
Test Mode :	802.11g/CH01, CH11 (Vertical)		
Note :	<p>The emission of the carrier radiated field strength is measured for CH01, CH11 (Peak and AV) as following:</p> <ol style="list-style-type: none"> <li>1. The transmitter was then configured with the worst case antenna and setup to transmit at the lowest channel (CH01). Then the field strength was measured at 2310-2390 MHz.</li> <li>2. The transmitter was configured with the worst case antenna and setup to transmit at the highest channel (CH11). Then the field strength was measured at 2483.5-2500 MHz.</li> </ol>		

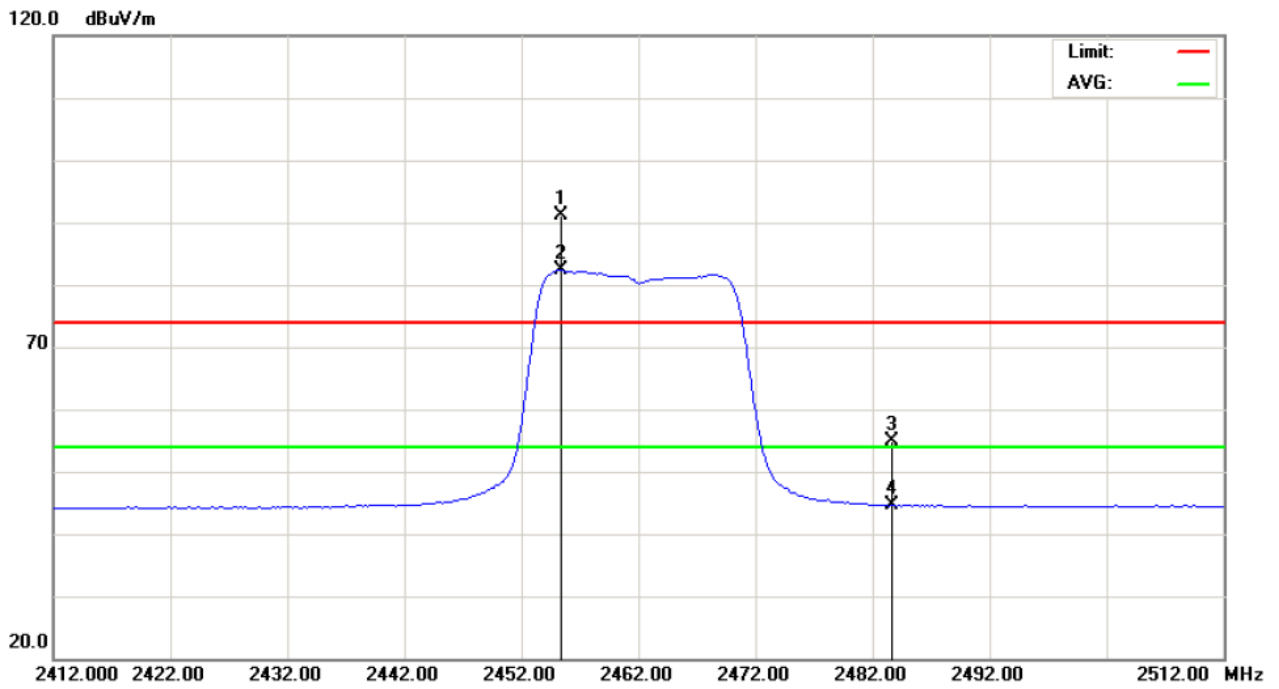
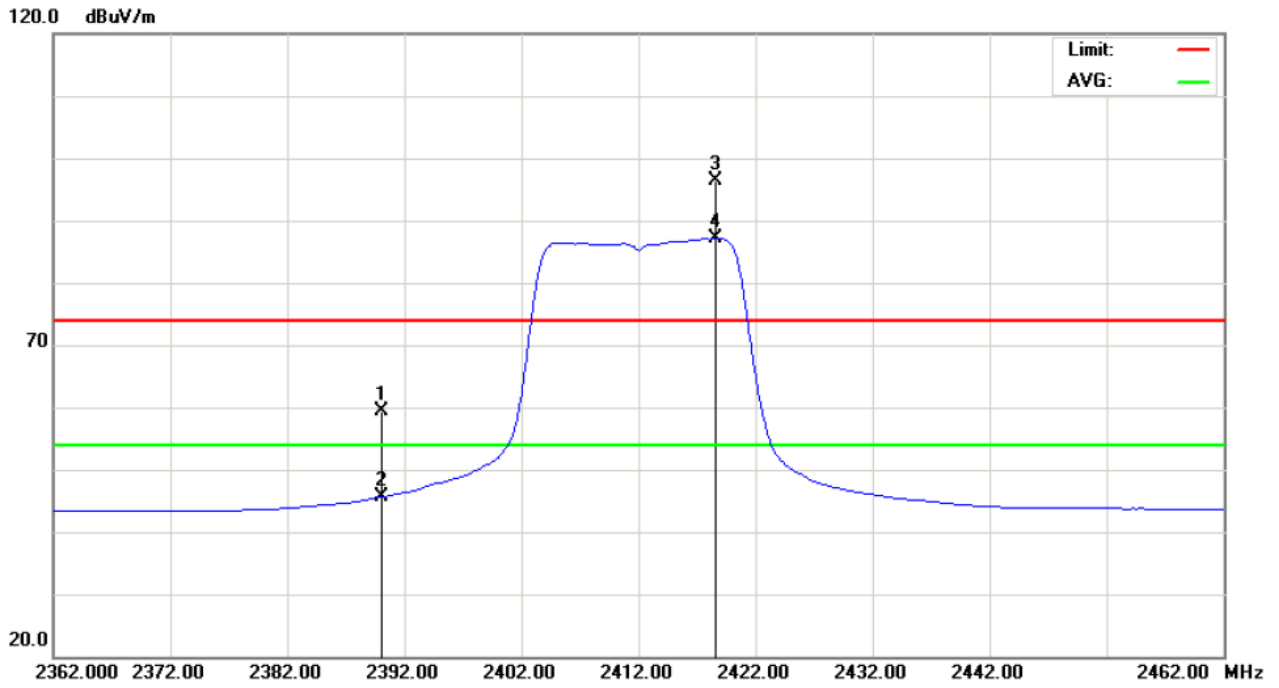
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
2390.00	V	27.56	13.70	31.93	59.49	45.63	74.00	54.00	CH01
2483.50	V	22.48	12.35	32.29	54.77	44.64	74.00	54.00	CH11

**Remark :**

- (1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto
- (2) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦
- (3) EUT Orthogonal Axes :  
 "X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand



802.11g/CH01, CH11 (Restricted Bands Requirements, Vertical)





EUT :	Handheld Terminal	Model Name :	P223
Temperature :	23 °C	Relative Humidity :	54%
Test Voltage :	AC 120V/60Hz		
Test Mode :	802.11g/CH01, CH11 (Horizontal)		
Note :	<p>The emission of the carrier radiated field strength is measured for CH01, CH11 (Peak and AV) as following:</p> <ol style="list-style-type: none"> <li>1. The transmitter was then configured with the worst case antenna and setup to transmit at the lowest channel (CH01). Then the field strength was measured at 2310-2390 MHz.</li> <li>2. The transmitter was configured with the worst case antenna and setup to transmit at the highest channel (CH11). Then the field strength was measured at 2483.5-2500 MHz.</li> </ol>		

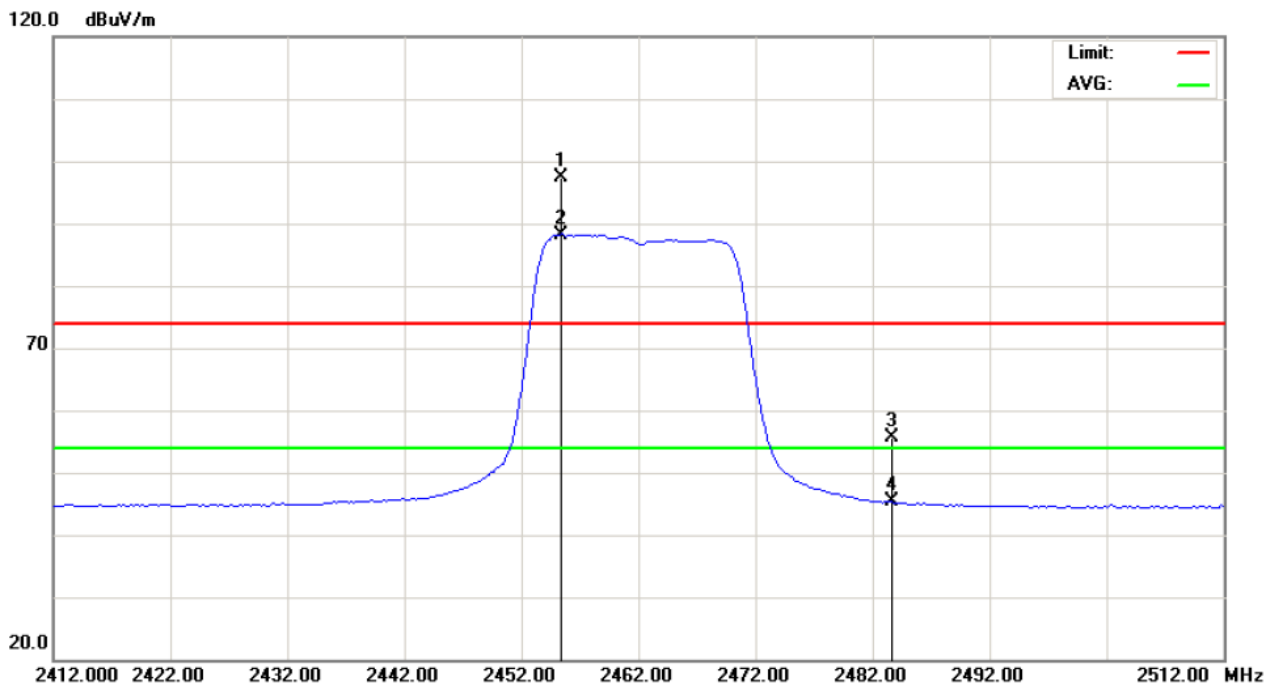
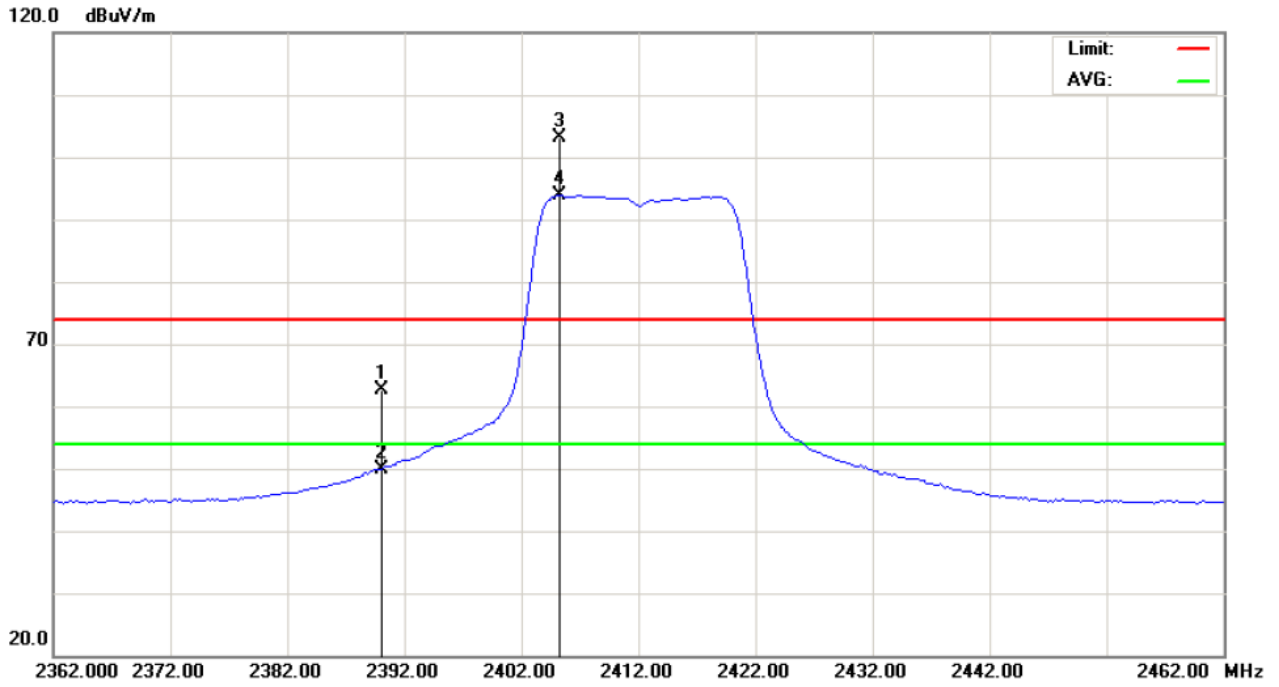
Freq. (MHz)	Ant.Pol. H/V	Reading		Ant./CF CF(dB)	Act.		Limit		Note
		Peak (dBuV)	AV (dBuV)		Peak (dBuV/m)	AV (dBuV/m)	Peak (dBuV/m)	AV (dBuV/m)	
2390.00	H	30.80	18.00	31.93	62.73	49.93	74.00	54.00	CH01
2483.50	H	23.30	12.97	32.29	55.59	45.26	74.00	54.00	CH11

**Remark :**

- (1) Spectrum Setting : 30MHz – 1000MHz , RBW= 100KHz, VBW=100KHz, Sweep time = 200 ms. 1GHz- 25GHz, RBW= 1MHz, VBW= 1MHz, Sweep time = Auto
- (2) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦
- (3) EUT Orthogonal Axes :  
 "X" - denotes Laid on Table ; "Y" - denotes Vertical Stand ; "Z" - denotes Side Stand



802.11g/CH01, CH11 (Restricted Bands Requirements, Horizontal)





**5. BANDWIDTH TEST**

**5.1 APPLIED PROCEDURES / LIMIT**

FCC Part15, Subpart C			
Test Item	Limit	Frequency Range (MHz)	Result
Bandwidth	>= 500KHz (6dB bandwidth)	2400-2483.5	PASS

**5.1.1 MEASUREMENT INSTRUMENTS LIST**

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP-40	100129	Sep. 10, 2010

Remark: " N/A" denotes No Model Name , Serial No. or No Calibration specified.

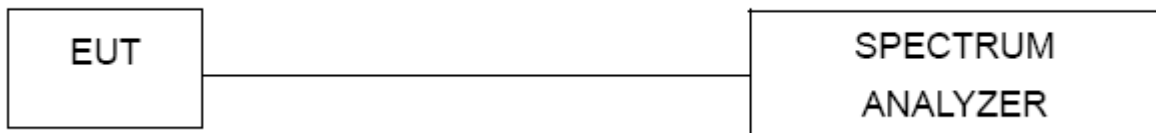
**5.1.2 TEST PROCEDURE**

- a. The EUT was directly connected to the power meter and antenna output port as show in the block diagram below,

**5.1.3 DEVIATION FROM STANDARD**

No deviation.

**5.1.4 TEST SETUP**



**5.1.5 EUT OPERATION CONDITIONS**

The EUT tested system was configured as the statements of 4.2.6 Unless otherwise a special operating condition is specified in the follows during the testing.  
Chip antenna measurement result.

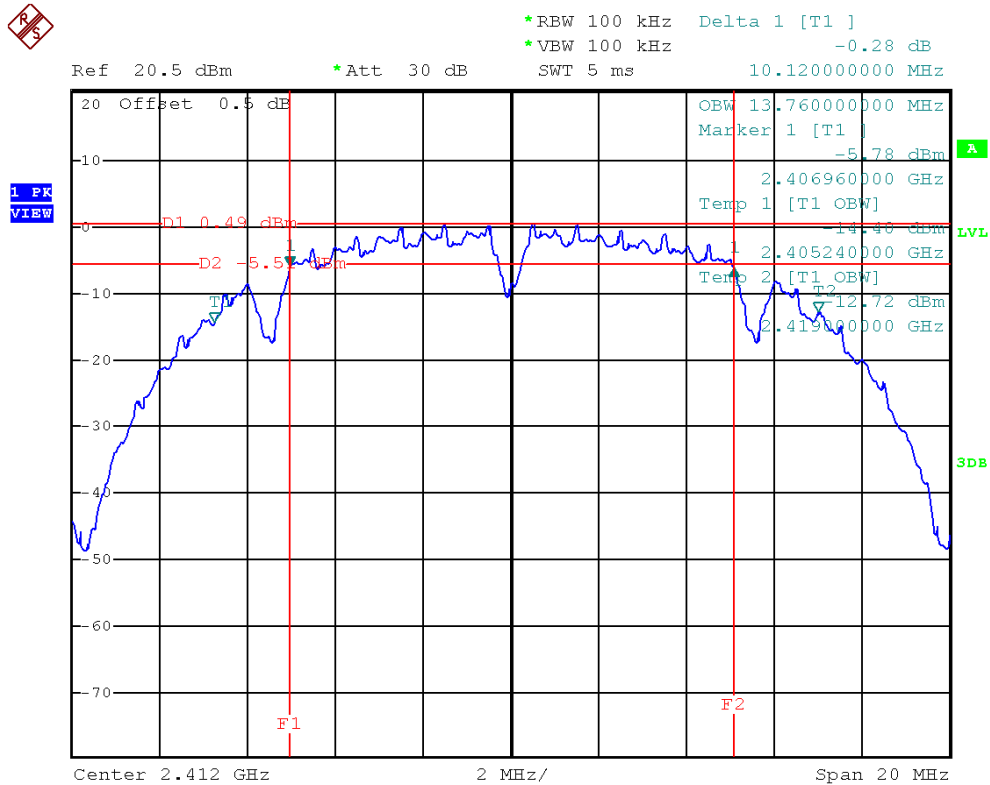


5.1.6 TEST RESULTS

EUT :	Handheld Terminal	Model Name :	P223
Temperature :	17 °C	Relative Humidity :	89%
Test Voltage :	AC 120V/60Hz		
Test Mode :	802.11b/CH01, CH06, CH11		

Test Channel	Frequency (MHz)	Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	LIMIT (MHz)
CH01	2412	10.12	13.76	>=500KHz
CH06	2437	10.16	13.80	>=500KHz
CH11	2462	10.20	13.84	>=500KHz

802.11b/CH01



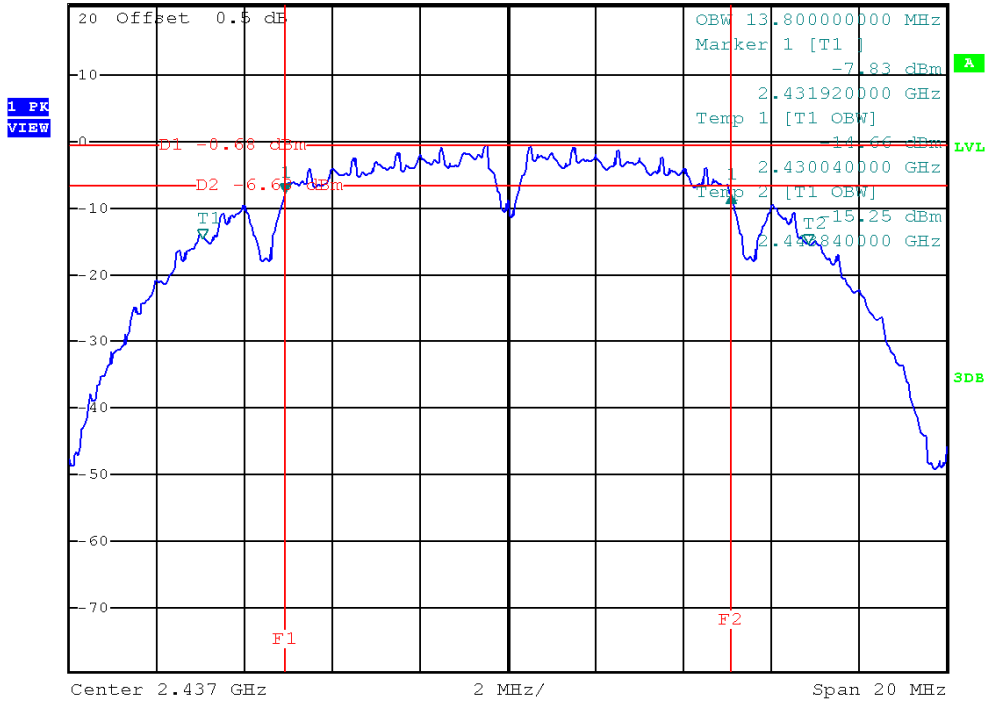




802.11b/CH06



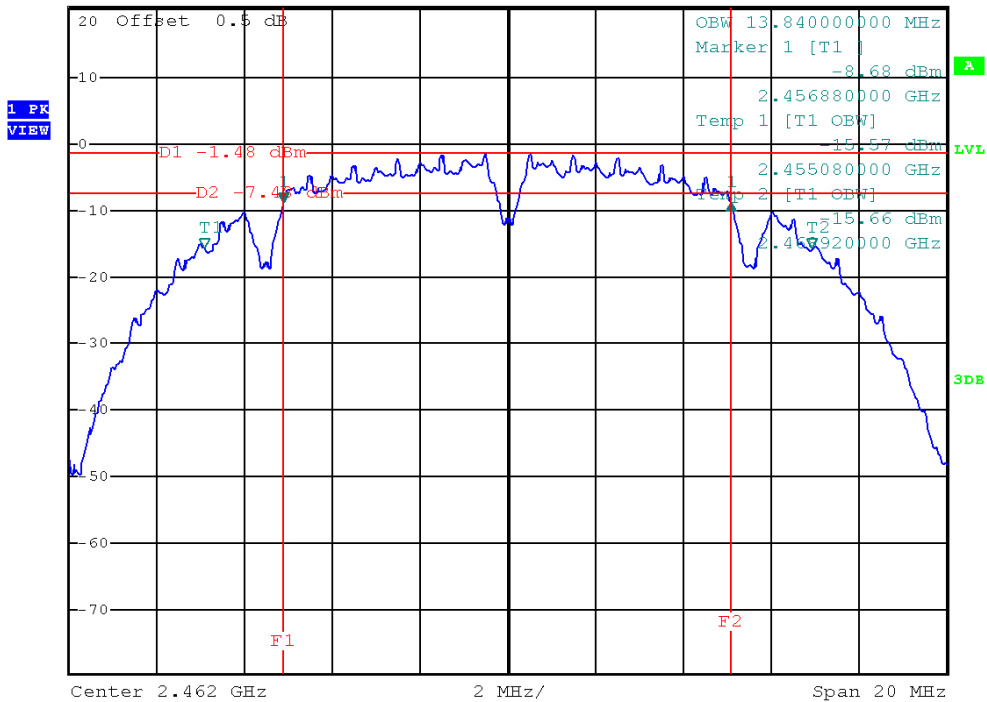
\*RBW 100 kHz Delta 1 [T1 ]
\*VBW 100 kHz -0.06 dB
Ref 20.5 dBm \*Att 30 dB SWT 5 ms 10.160000000 MHz



802.11b/CH11



\*RBW 100 kHz Delta 1 [T1 ]
\*VBW 100 kHz -0.07 dB
Ref 20.5 dBm \*Att 30 dB SWT 5 ms 10.200000000 MHz

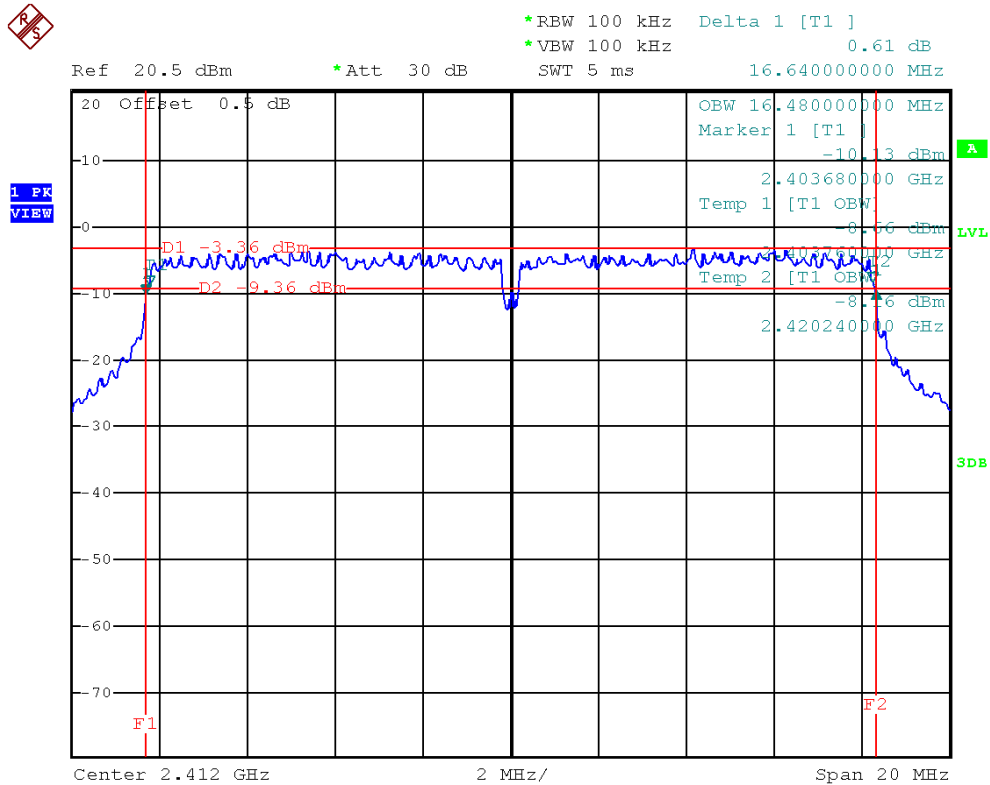




EUT :	Handheld Terminal	Model Name :	P223
Temperature :	17 °C	Relative Humidity :	89%
Test Voltage :	AC 120V/60Hz		
Test Mode :	802.11g/CH01, CH06, CH11		

Test Channel	Frequency (MHz)	Bandwidth (MHz)	99% Occupied Bandwidth (MHz)	LIMIT (MHz)
CH01	2412	16.64	16.48	>=500KHz
CH06	2437	16.64	16.48	>=500KHz
CH11	2462	16.64	16.48	>=500KHz

802.11g/CH01

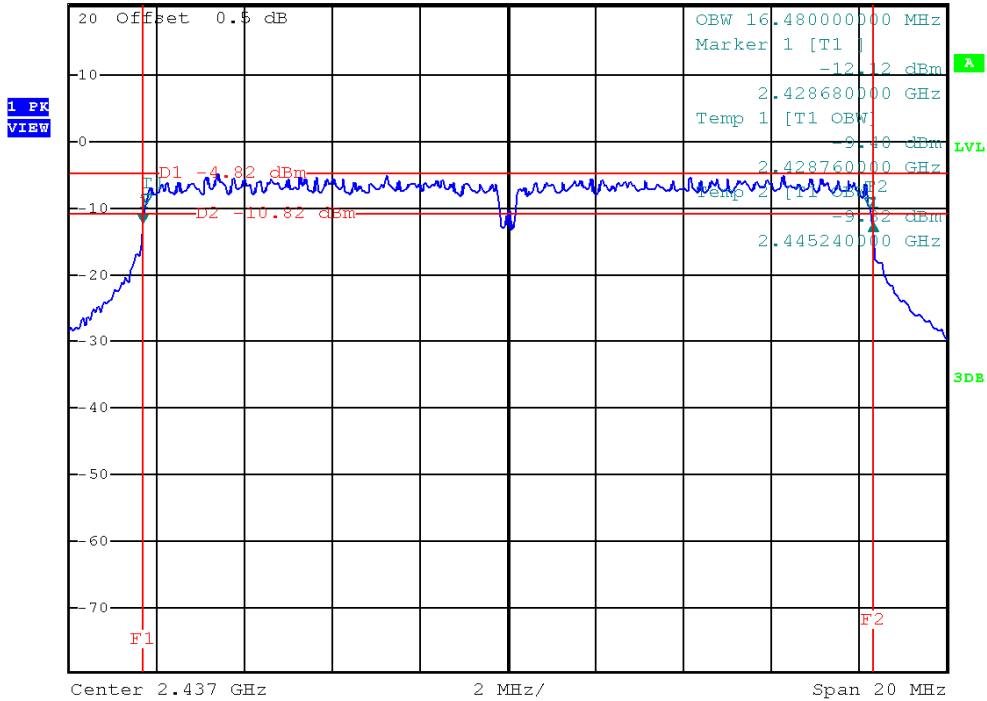




### 802.11g/CH06



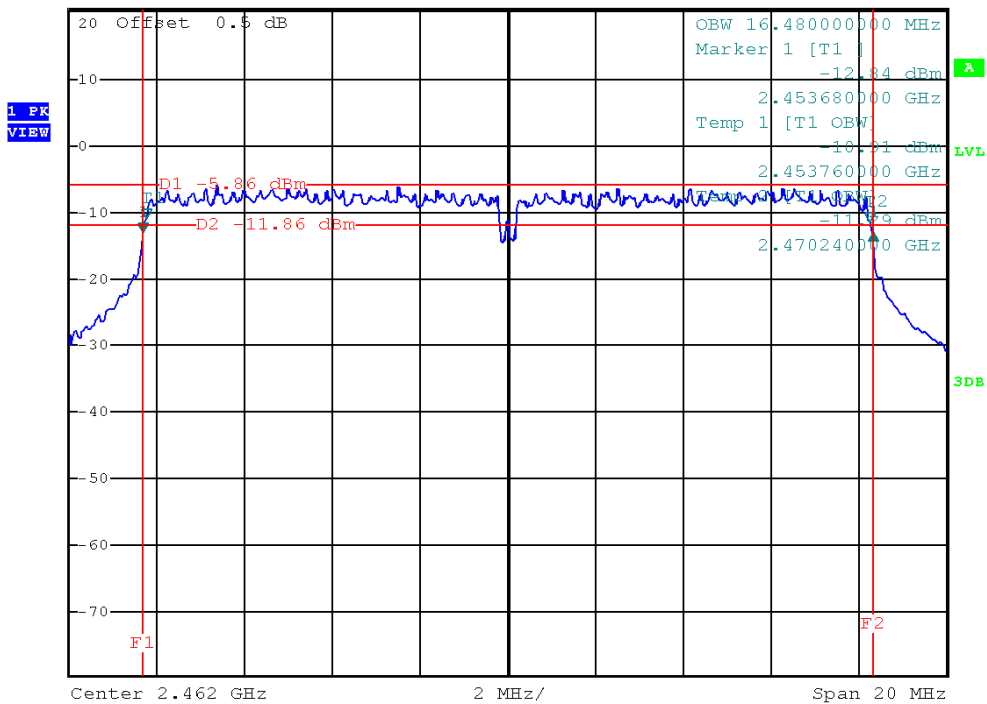
\*RBW 100 kHz Delta 1 [T1 ]  
 \*VBW 100 kHz -0.08 dB  
 Ref 20.5 dBm \*Att 30 dB SWT 5 ms 16.640000000 MHz



### 802.11g/CH11



\*RBW 100 kHz Delta 1 [T1 ]  
 \*VBW 100 kHz -0.18 dB  
 Ref 20.5 dBm \*Att 30 dB SWT 5 ms 16.640000000 MHz





**6. PEAK OUTPUT POWER TEST**

**6.1 APPLIED PROCEDURES / LIMIT**

FCC Part15, Subpart C			
Test Item	Limit	Frequency Range (MHz)	Result
Peak Output Power	1 watt or 30dBm	2400-2483.5	PASS

**6.1.1 MEASUREMENT INSTRUMENTS LIST**

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Power Meter	Anritsu	ML2487A	6K00004714	Feb. 10, 2011
2	Power Meter Sensor	Anritsu	MA2491A	34138	Feb. 10, 2011

Remark: " N/A" denotes No Model Name , Serial No. or No Calibration specified.

**6.1.2 TEST PROCEDURE**

- a. The EUT was directly connected to the power meter and antenna output port as show in the block diagram below,

**6.1.3 DEVIATION FROM STANDARD**

No deviation.

**6.1.4 TEST SETUP**



**6.1.5 EUT OPERATION CONDITIONS**

The EUT tested system was configured as the statements of 4.2.6 Unless otherwise a special operating condition is specified in the follows during the testing.  
Chip antenna measurement result.



**6.1.6 TEST RESULTS**

EUT :	Handheld Terminal	Model Name :	P223
Temperature :	17 °C	Relative Humidity :	89%
Test Voltage :	AC 120V/60Hz		
Test Mode :	802.11b/CH01, CH06, CH11		

Test Channel	Frequency (MHz)	Peak Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH01	2412	17.32	30	1
CH06	2437	16.15	30	1
CH11	2462	14.55	30	1

Remark :

- (1) **The test requirement, RF conducted output power shall measure each transmitter chain by using channel power method.**
- (2) **Antenna Gain=2.05 dBi.**



EUT :	Handheld Terminal	Model Name :	P223
Temperature :	17 °C	Relative Humidity :	89%
Test Voltage :	AC 120V/60Hz		
Test Mode :	802.11g/CH01, CH06, CH11		

Test Channel	Frequency (MHz)	Peak Output Power (dBm)	LIMIT (dBm)	LIMIT (W)
CH01	2412	21.15	30	1
CH06	2437	19.85	30	1
CH11	2462	18.7	30	1

Remark :

- (1) **The test requirement, RF conducted output power shall measure each transmitter chain by using channel power method.**
- (2) **Antenna Gain=2.05 dBi.**



**7. ANTENNA CONDUCTED SPURIOUS EMISSION**

**7.1 APPLIED PROCEDURES / LIMIT**

FCC Part15, Subpart C			
Test Item	Limit	Frequency Range (MHz)	Result
Antenna conducted Spurious Emission	20dB less than the peak value of fundamental frequency	30-25000	PASS

**7.1.1 MEASUREMENT INSTRUMENTS LIST**

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP-40	100129	Sep. 10, 2010

Remark: " N/A" denotes No Model Name , Serial No. or No Calibration specified.

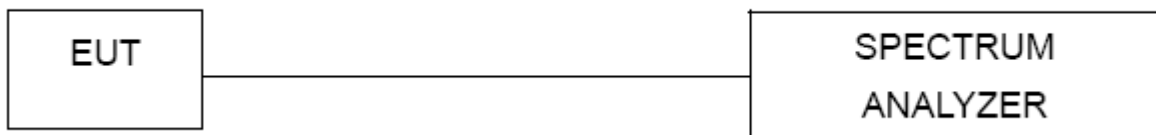
**7.1.2 TEST PROCEDURE**

- 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= 100KHz, VBW=100KHz, Sweep time = Auto.

**7.1.3 DEVIATION FROM STANDARD**

No deviation.

**7.1.4 TEST SETUP**



**7.1.5 EUT OPERATION CONDITIONS**

The EUT tested system was configured as the statements of 4.2.6 Unless otherwise a special operating condition is specified in the follows during the testing.  
Chip antenna measurement result.



**7.1.6 TEST RESULTS**

EUT :	Handheld Terminal	Model Name :	P223
Temperature :	17 °C	Relative Humidity :	89%
Test Voltage :	AC 120V/60Hz		
Test Mode :	802.11b/CH01, CH11		

Channel of Worst Data: CH01,CH11			
The max. radio frequency power in any 100kHz bandwidth outside the frequency band		The max. radio frequency power in any 100 kHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
2366.0	-46.94	2483.5	-47.53
Result			
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.			

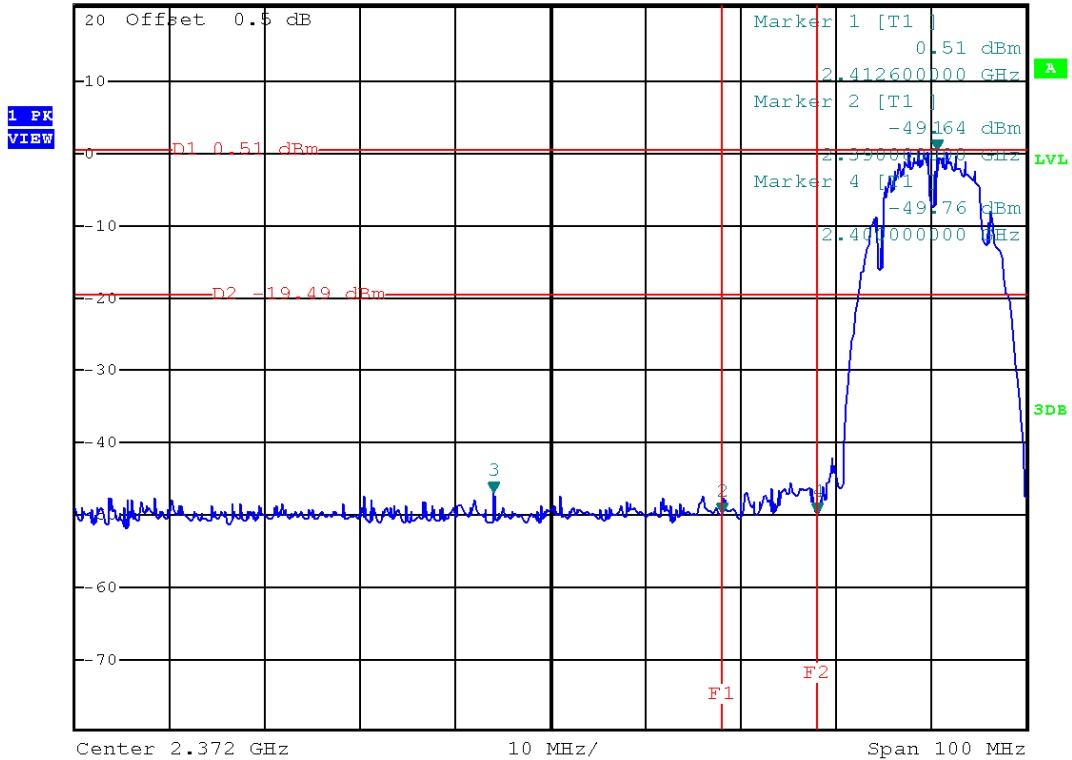




802.11b/CH01



\*RBW 100 kHz Marker 3 [T1 ] -46.94 dBm
\*VBW 100 kHz
Ref 20.5 dBm \*Att 30 dB SWT 10 ms 2.366000000 GHz

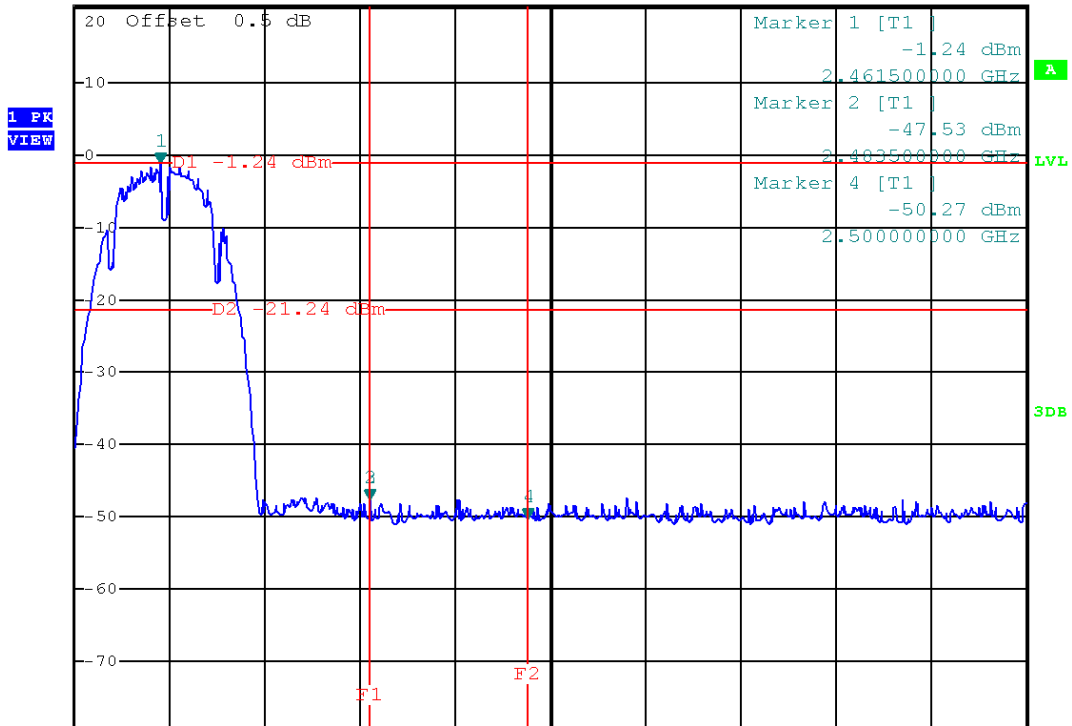


Center 2.372 GHz 10 MHz/ Span 100 MHz

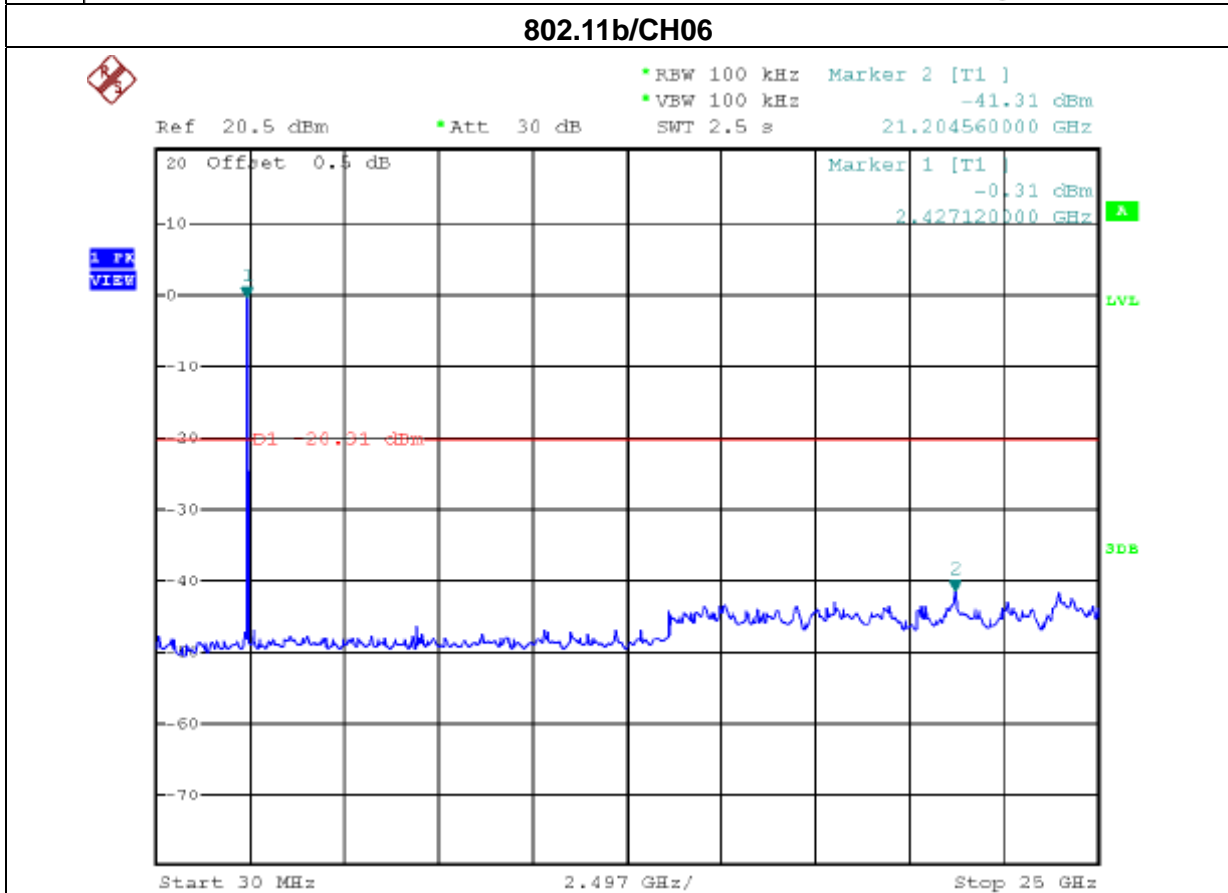
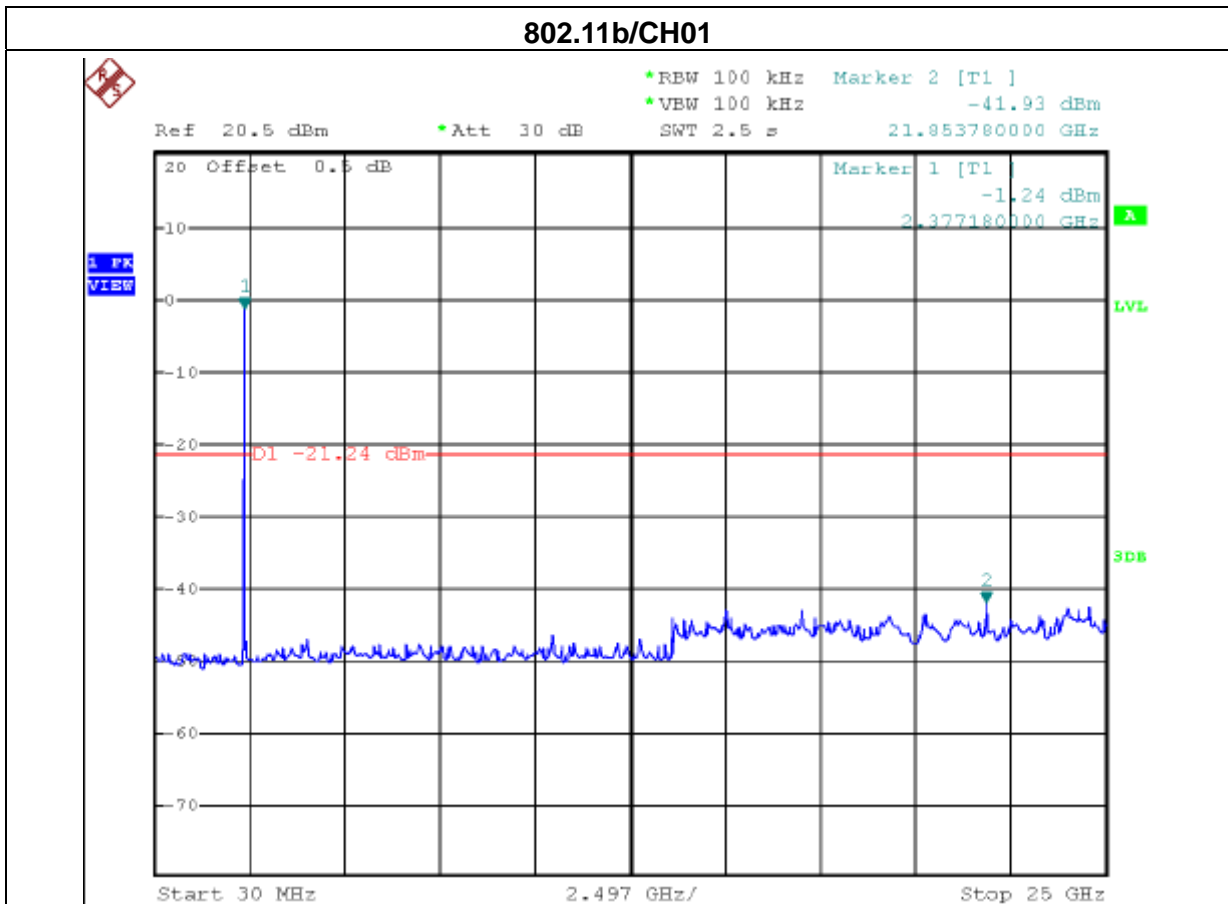
802.11b/CH11

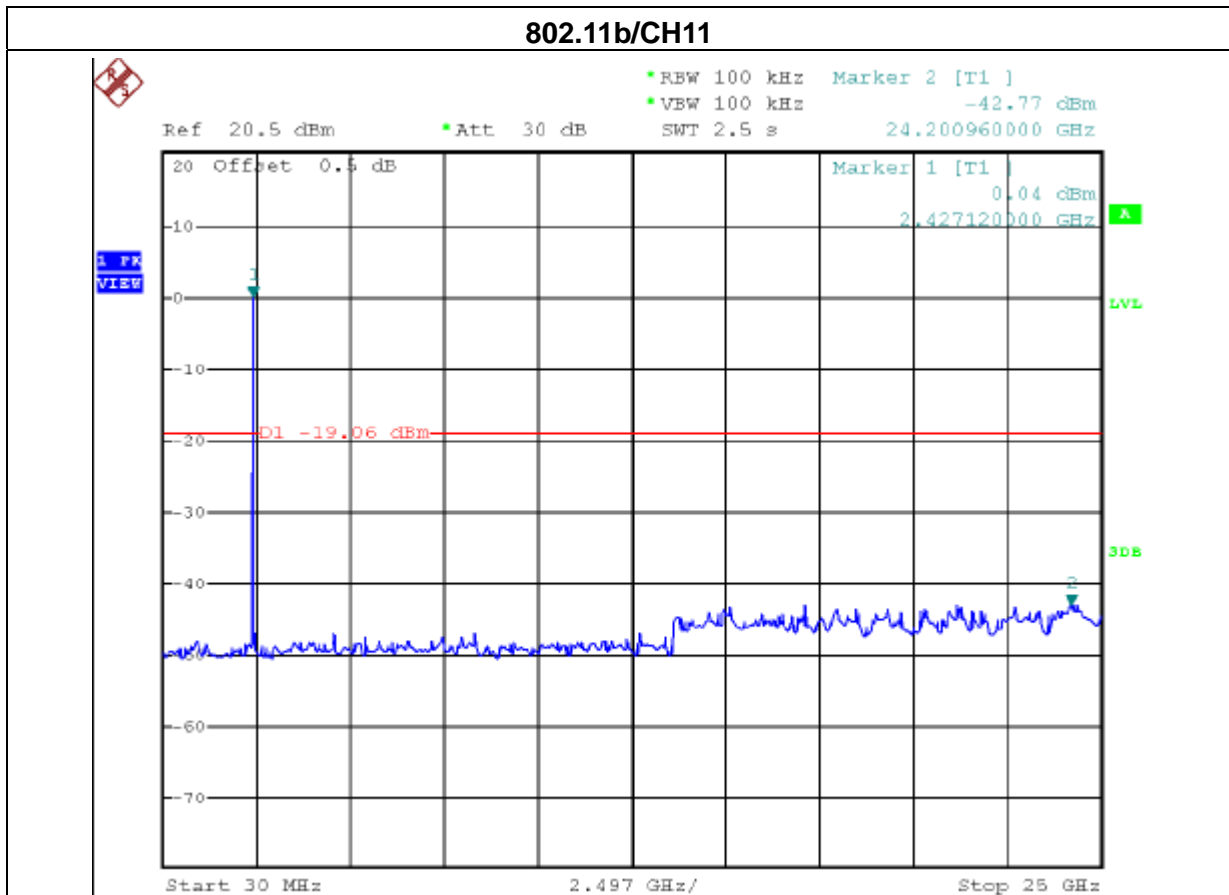


\*RBW 100 kHz Marker 3 [T1 ] -47.53 dBm
\*VBW 100 kHz
Ref 20.5 dBm \*Att 30 dB SWT 10 ms 2.483500000 GHz



Center 2.5025 GHz 10 MHz/ Span 100 MHz







EUT :	Handheld Terminal	Model Name :	P223
Temperature :	17 °C	Relative Humidity :	89%
Test Voltage :	AC 120V/60Hz		
Test Mode :	802.11g/CH01, CH11		

Channel of Worst Data: CH01,CH11			
The max. radio frequency power in any 100kHz bandwidth outside the frequency band		The max. radio frequency power in any 100 kHz bandwidth within the frequency band.	
FREQUENCY(MHz)	POWER(dBm)	FREQUENCY(MHz)	POWER(dBm)
2389.2	-43.43	2483.5	-46.50
Result			
In any 100kHz bandwidth outside the frequency band, the radio frequency power is at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power.			

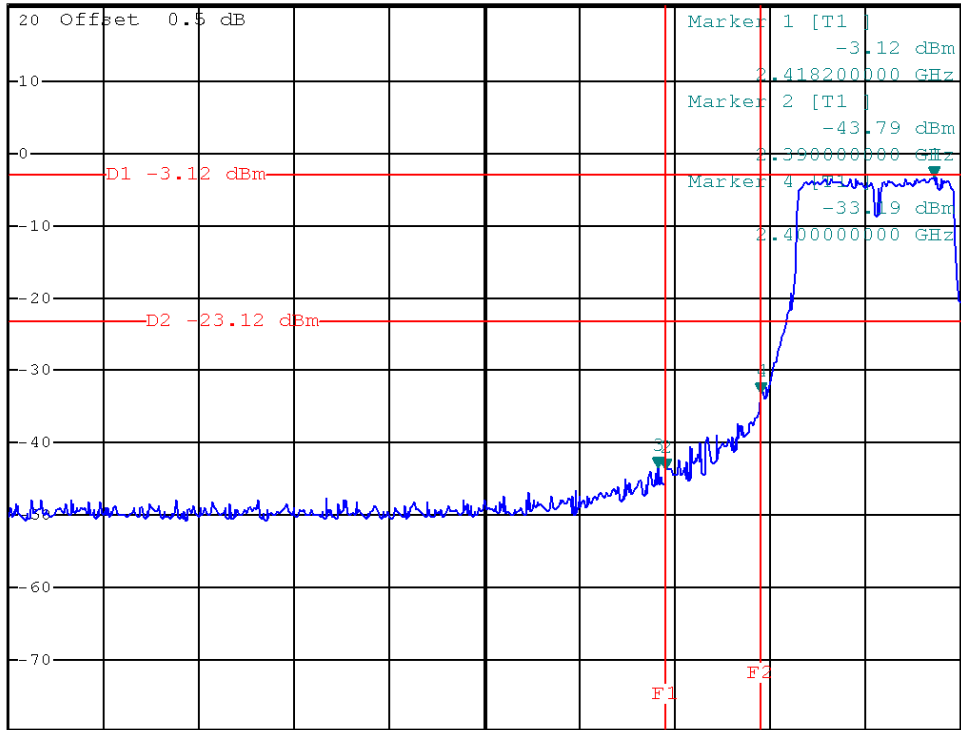


### 802.11g/CH01



\*RBW 100 kHz Marker 3 [T1 ]  
\*VBW 100 kHz -43.43 dBm  
Ref 20.5 dBm \*Att 30 dB SWT 10 ms 2.389200000 GHz

1 PK  
VIEW



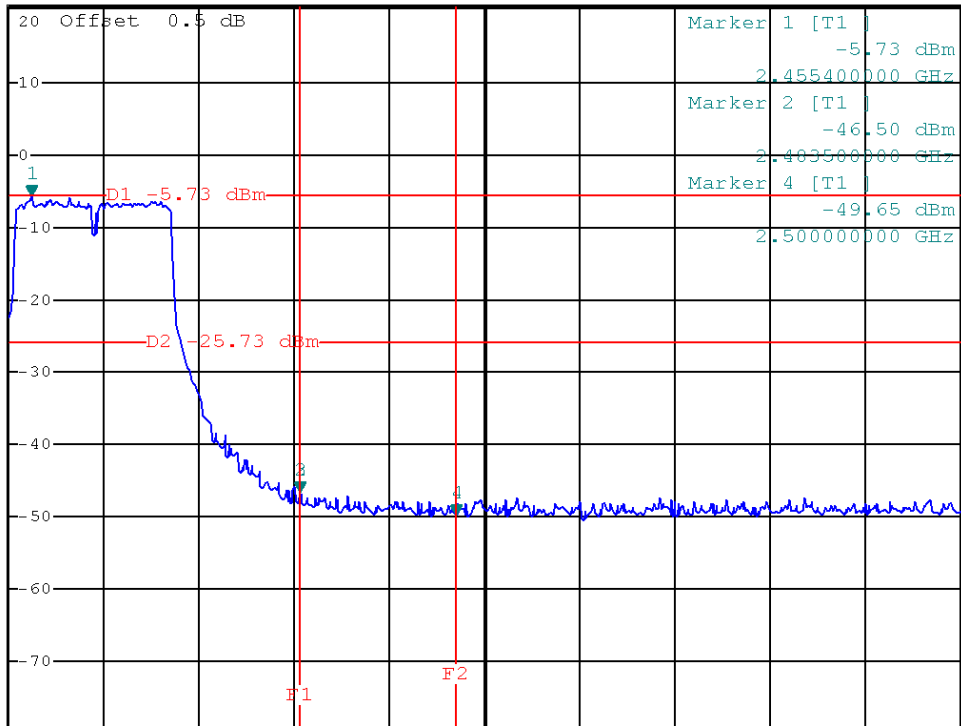
Center 2.371 GHz 10 MHz/ Span 100 MHz

### 802.11g/CH11

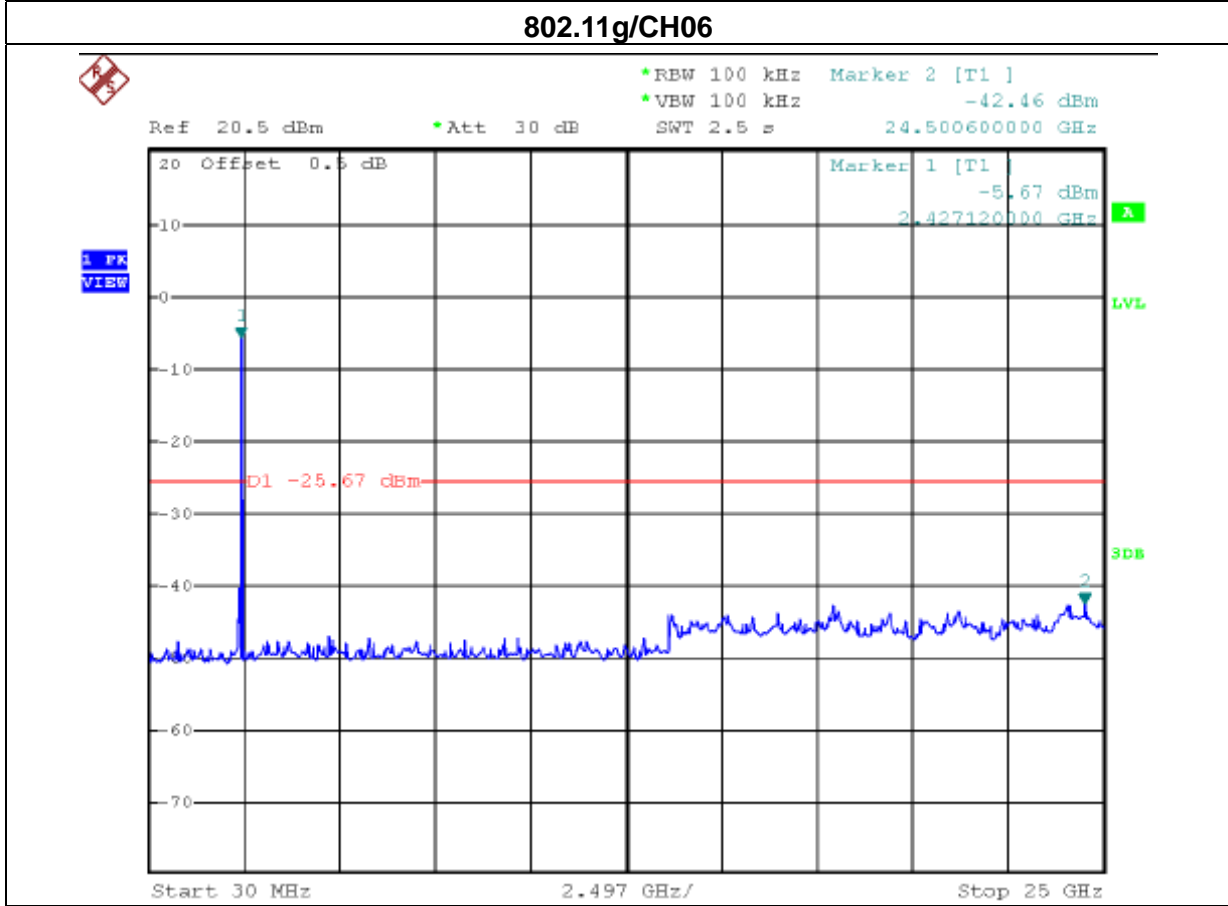
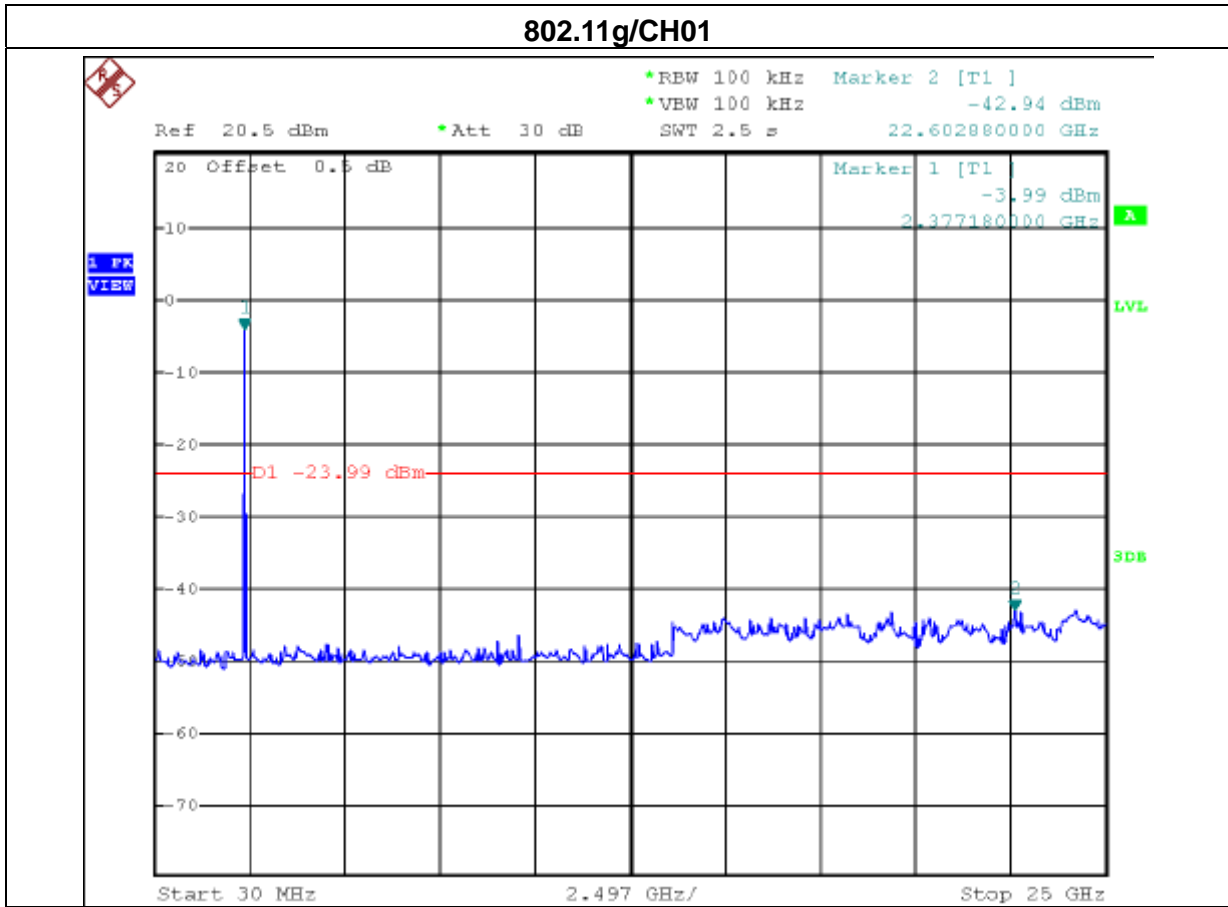


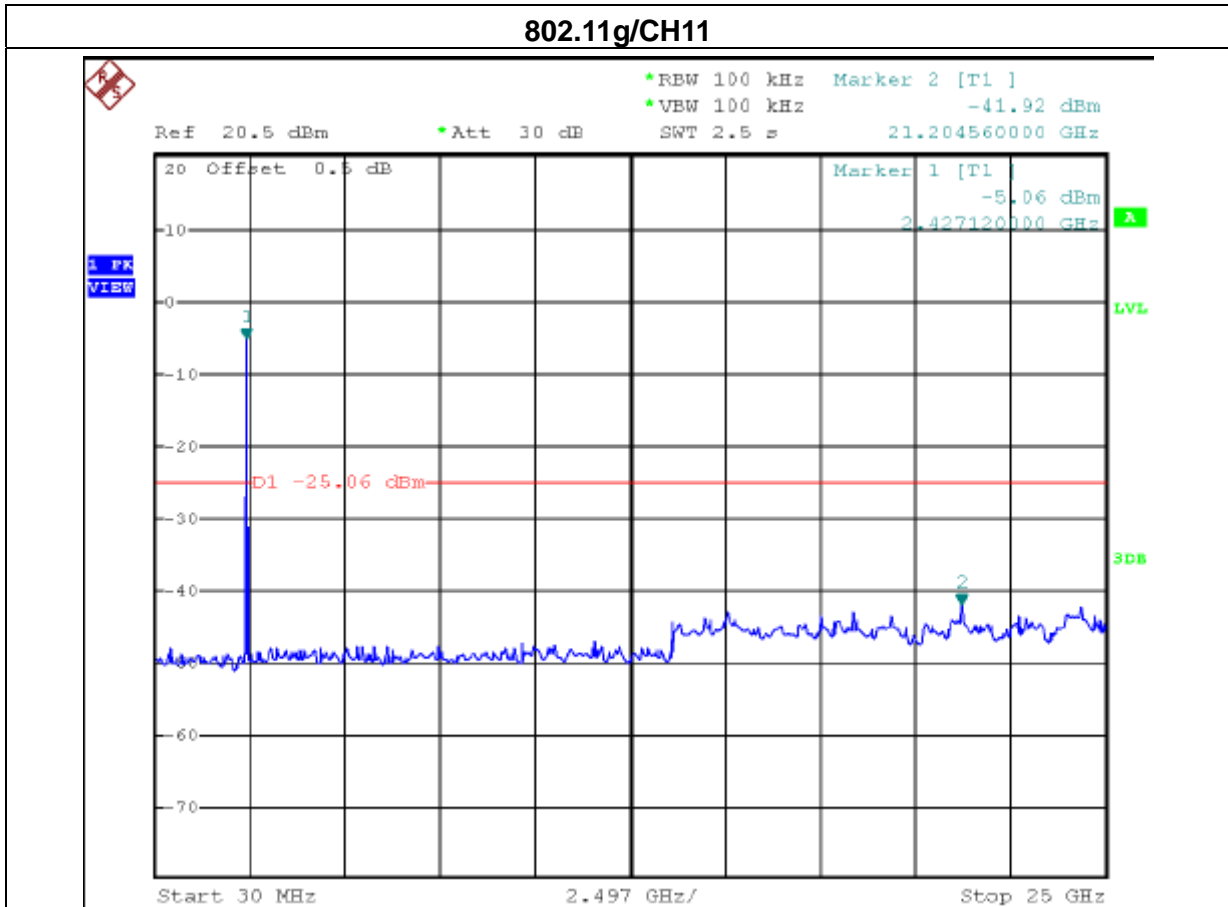
\*RBW 100 kHz Marker 3 [T1 ]  
\*VBW 100 kHz -46.50 dBm  
Ref 20.5 dBm \*Att 30 dB SWT 10 ms 2.483500000 GHz

1 PK  
VIEW



Center 2.503 GHz 10 MHz/ Span 100 MHz







**8. POWER SPECTRAL DENSITY TEST**

**8.1 APPLIED PROCEDURES / LIMIT**

FCC Part15, Subpart C			
Test Item	Limit	Frequency Range (MHz)	Result
Power Spectral Density	8 dBm (in any 3KHz)	2400-2483.5	PASS

**8.1.1 MEASUREMENT INSTRUMENTS LIST**

Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Spectrum Analyzer	R&S	FSP-40	100129	Sep. 10, 2010

Remark: " N/A" denotes No Model Name, Serial No. or No Calibration specified.

**8.1.2 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=3KHz, VBW=30KHz, Sweep time = 500s.

**8.1.3 DEVIATION FROM STANDARD**

No deviation.

**8.1.4 TEST SETUP**



**8.1.5 EUT OPERATION CONDITIONS**

The EUT tested system was configured as the statements of 4.2.6 Unless otherwise a special operating condition is specified in the follows during the testing.  
Chip antenna measurement result.



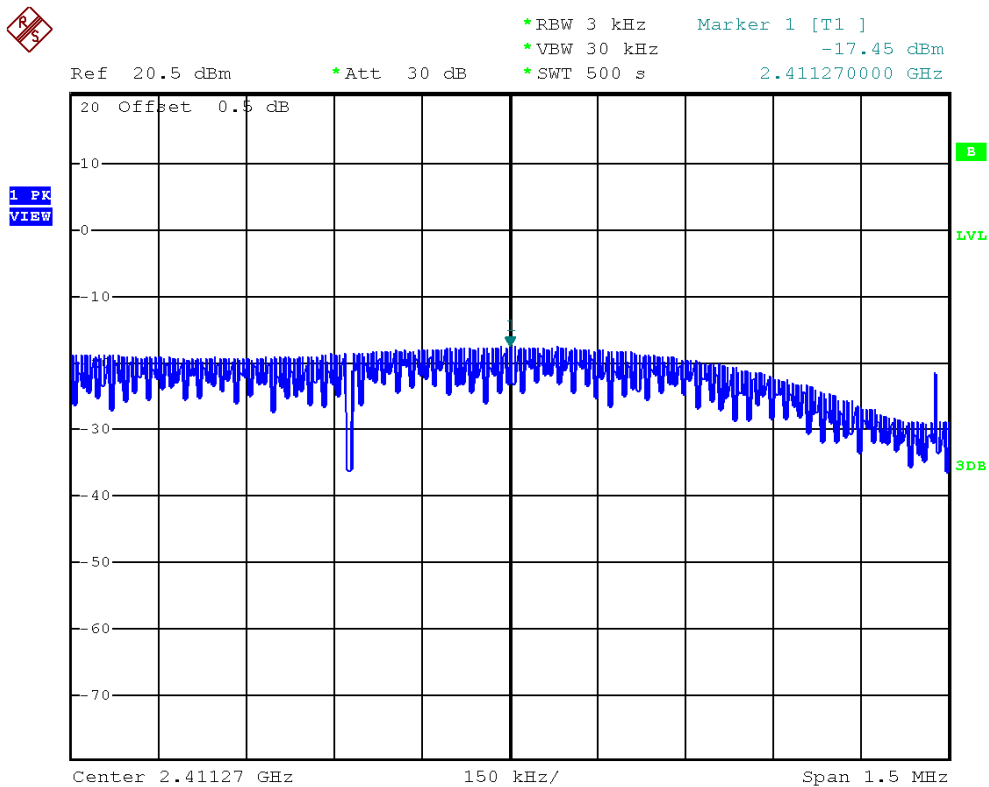


8.1.6 TEST RESULTS

EUT :	Handheld Terminal	Model Name :	P223
Temperature :	17 °C	Relative Humidity :	89%
Test Voltage :	AC 120V/60Hz		
Test Mode :	802.11b/CH01, CH06, CH11		

Test Channel	Frequency (MHz)	Power Density (dBm)	LIMIT (dBm)
CH01	2412	-17.45	8
CH06	2437	-18.14	8
CH11	2462	-19.44	8

802.11b/CH01

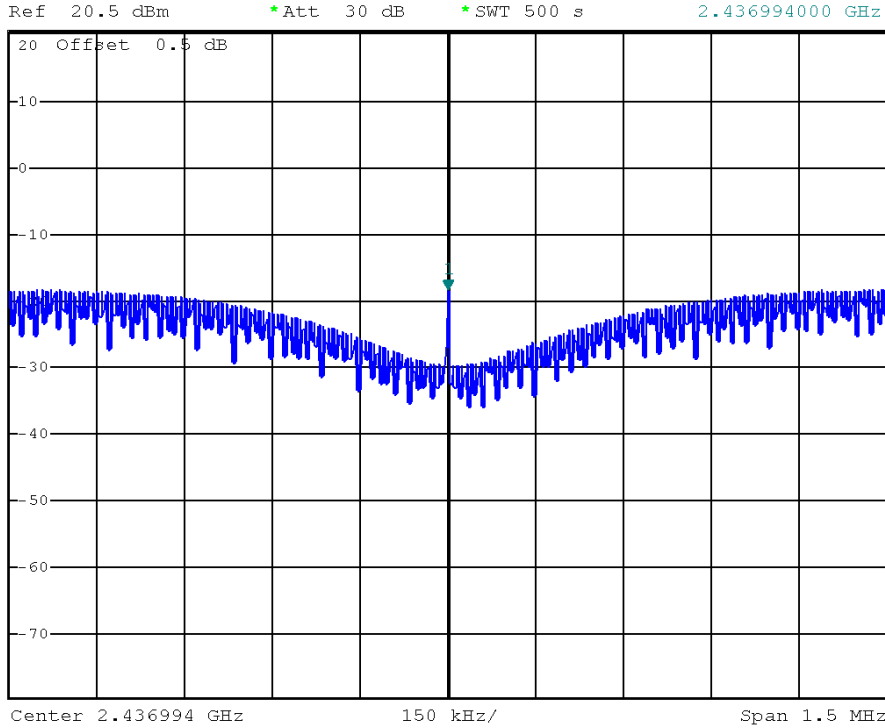




### 802.11b/CH06



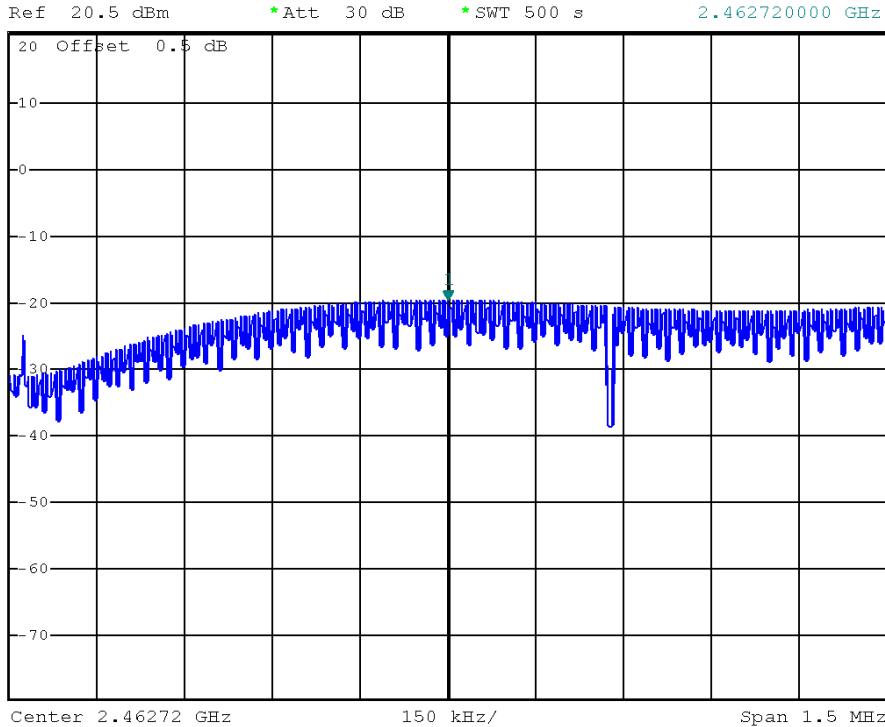
\*RBW 3 kHz      Marker 1 [T1 ]  
\*VBW 30 kHz      -18.14 dBm  
\*SWT 500 s      2.436994000 GHz



### 802.11b/CH11



\*RBW 3 kHz      Marker 1 [T1 ]  
\*VBW 30 kHz      -19.44 dBm  
\*SWT 500 s      2.462720000 GHz

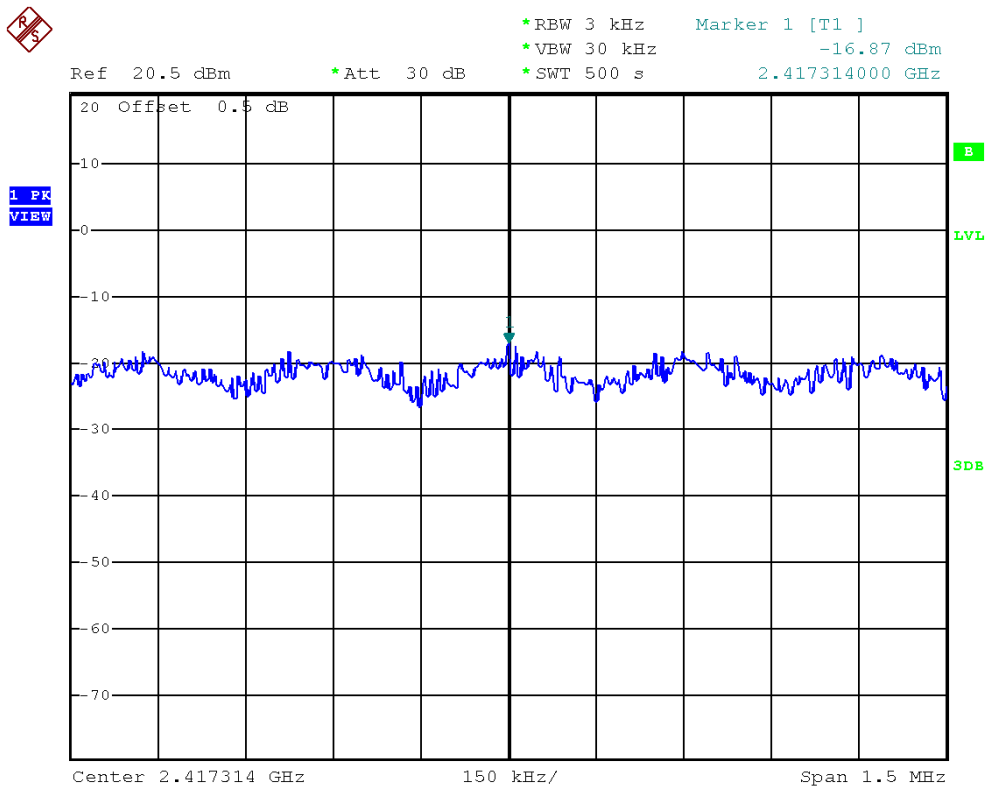




EUT :	Handheld Terminal	Model Name :	P223
Temperature :	17 °C	Relative Humidity :	89%
Test Voltage :	AC 120V/60Hz		
Test Mode :	802.11g/CH01, CH06, CH11		

Test Channel	Frequency (MHz)	Power Density (dBm)	LIMIT (dBm)
CH01	2412	-16.87	8
CH06	2437	-17.02	8
CH11	2462	-17.66	8

802.11g/CH01



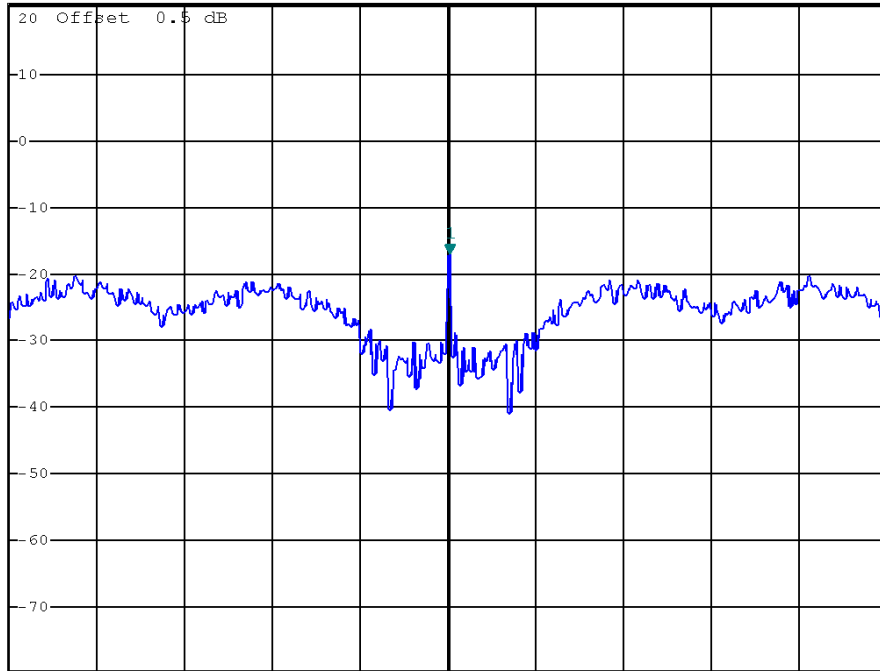


### 802.11g/CH06



\*RBW 3 kHz      Marker 1 [T1 ]  
\*VBW 30 kHz      -17.02 dBm  
\*SWT 500 s      2.437000000 GHz

Ref 20.5 dBm      \*Att 30 dB



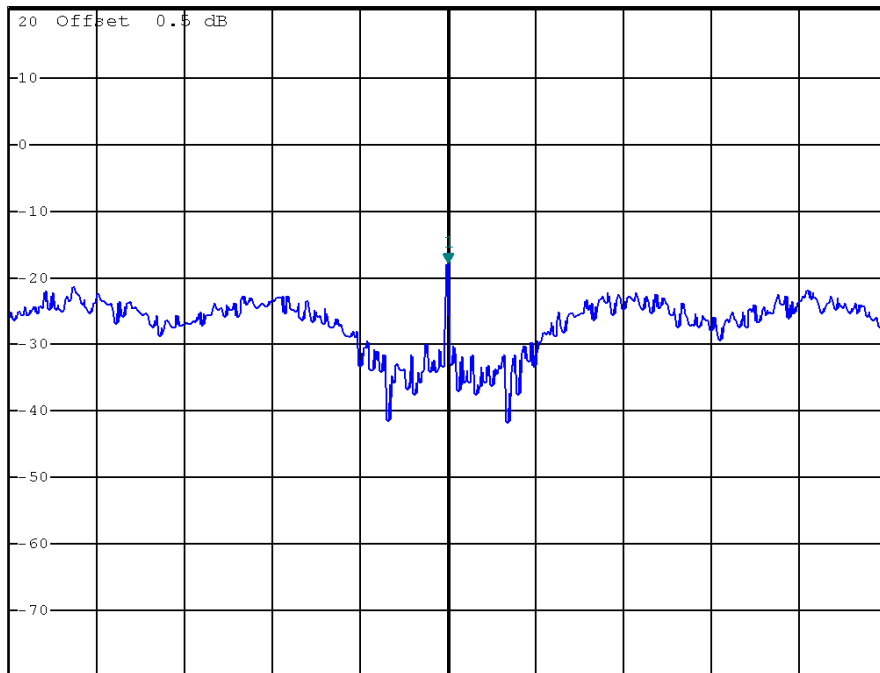
Center 2.436997 GHz      150 kHz/      Span 1.5 MHz

### 802.11g/CH11



\*RBW 3 kHz      Marker 1 [T1 ]  
\*VBW 30 kHz      -17.66 dBm  
\*SWT 500 s      2.462000000 GHz

Ref 20.5 dBm      \*Att 30 dB



Center 2.462 GHz      150 kHz/      Span 1.5 MHz