Radio Test Report

FCC ID: X75WPC001B

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

Issued Date : Mar. 24, 2010
Project No. : R1002001
Equipment : Wise Control-USB Dongle
Model Name : PC-001

Applicant : WEIS DESIGN CO., LTD.
Address : 6F., No. 1-3, Sec. 5, Zhongxiao E. Rd., Xinyi Dist., Taipei City 11071, Taiwan

Tested by:
Neutron Engineering Inc. EMC Laboratory
Date of Test:
Feb. 10, 2010 ~ Mar. 08, 2010

Testing Engineer : Rush Kao
(Rush Kao)

Technical Manager : Jeff Yang
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NVLAP Lab Code: 200145-0

ilac-MRA TAF Testing Laboratory 0659

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 : Wise Control-USB Dongle
Brand Name : WeisDesign
Model No. : PC-001
Applicant : WEIS DESIGN CO., LTD.
Date of Test : Feb. 10, 2010 ~ Mar. 08, 2010
Test Item : ENGINEERING SAMPLE
Standards : FCC Part15, Subpart C(15.249) / RSS-210: 2004/ 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-2-R1002001) 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:

FCC Part15, Subpart C			
Standard Section	Test Item	Judgment	Remark
15.207	Conducted Emission	PASS	
15.249	Radiated Spurious Emission	PASS	

NOTE:

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

2.1 TEST FACILITY

The test facilities used to collect the test data in this report is **C01/ CB08 (FCC Test Firm Number: 95335)**
C01 - at the location of No.132-1, Lane 329, Sec. 2, Palian Road, Shijr City, Taipei, Taiwan.
CB08 - 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** ± **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**%。

A. Conducted Measurement :

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

B. Radiated Measurement :

Test Site	Method	Measurement Frequency Range	Ant. H / V	U，(dB)
CB08	ANSI	30MHz ~ 200MHz	V	3.22
		30MHz ~ 200MHz	H	3.35
		200MHz ~ 1,000MHz	V	3.24
		200MHz ~ 1,000MHz	H	3.11
		1000MHz ~ 1800MHz	V	4.05
		1000MHz ~ 18000MHz	H	3.97
		18000MHz ~ 40000MHz	V	4.04
		18000MHz ~ 40000MHz	H	4.01

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Equipment	Wise Control-USB Dongle
Brand Name	WeisDesign
Model No.	PC-001
OEM Brand	N/A
Model Difference	N/A
Product Description	The EUT is a Wise Control-USB Dongle. Operation Frequency: 2402~2478MHz Modulation Type: GFSK Number Of Channel 77CH, Please refer to the Note 2. Antenna Designation: High Frequency Ceramic Antenna Antenna Gain(Peak) Please refer to the 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	Supplied from PC USB port.
Power Rating	I/P: DC 5V 100mA
Connecting I/O Port(s)	Please refer to the User's Manual
Products Covered	NA

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)	Channel	Frequency (MHz)
00	**2402**	20	2422	40	2442	60	2462
01	2403	21	2423	41	2443	61	2463
02	2404	22	2424	42	2444	62	2464
03	2405	23	2425	43	2445	63	2465
04	2406	24	2426	44	2446	64	2466
05	2407	25	2427	45	2447	65	2467
06	2408	26	2428	46	2448	66	2468
07	2409	27	2429	47	2449	67	2469
08	2410	28	2430	48	2450	68	2470
09	2411	29	2431	49	2451	69	2471
10	2412	30	2432	50	2452	70	2472
11	2413	31	2433	51	2453	71	2473
12	2414	32	2434	52	2454	72	2474
13	2415	33	2435	53	2455	73	2475
14	2416	34	2436	54	2456	74	2476
15	2417	35	2437	55	2457	75	2477
16	2418	36	2438	56	2458	**76**	**2478**
17	2419	**37**	**2439**	57	2459		
18	2420	38	2440	58	2460		
19	2421	39	2441	59	2461		

3. Table for Filed Antenna

Ant.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	JOHANSON TECHNOLOGY	2450AT18A100	CHIP Ant	N/A	0.5

3.2 DESCRIPTION OF TEST MODES

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

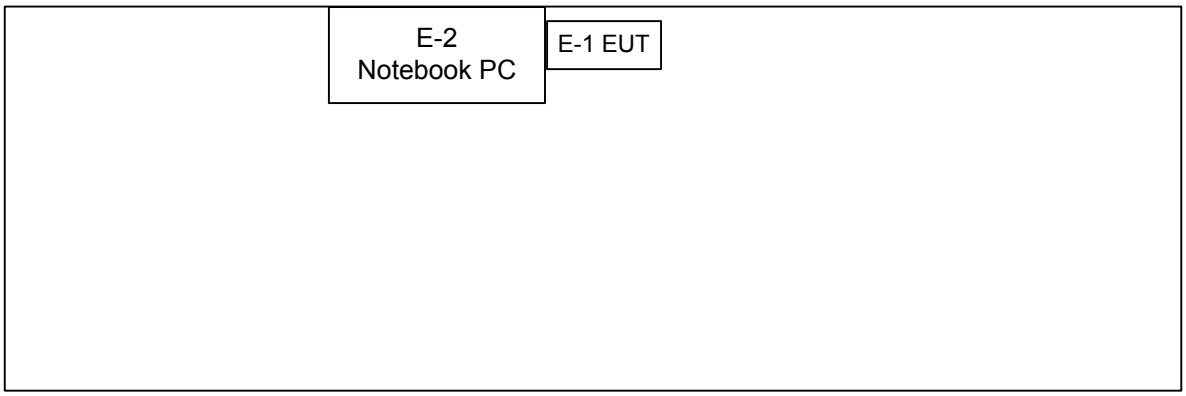
Pretest Test Mode	Description
Mode 1	2402MHz
Mode 2	2439MHz
Mode 3	2478MHz

For Conducted Test	
Final Test Mode	Description
Mode 1	2402MHz

For Radiated Test (30 – 1000 MHz)	
Final Test Mode	Description
Mode 2	2439MHz

For Radiated Test (Above 1000 MHz)	
Final Test Mode	Description
Mode 1	2402MHz
Mode 2	2439MHz
Mode 3	2478MHz

3.3 BLOCK DIGRAM SHOWING THE CONFIGURATION OF RADIATION EMISSION TEST



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	Wise Control-USB Dongle	WeisDesign	PC-001	X75WPC001B	N/A	EUT
E-2	Notebook PC	DELL	D600	DOC	7T390 A03	

Item	Shielded Type	Ferrite Core	Length	Note
	N/A	N/A	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	Test Cable	N/A	SR03_C_01&02	N/A	Aug. 19, 2010
2	Pulse Limiter	Electro-Metrics	EM-7600	112644	Dec. 27, 2010
3	EMI Test Receiver	R&S	ESCI	100082	Mar. 17, 2010
4	50Ω BNC TYPE Terminator	N/A	N/A	01	May 25, 2011
5	50Ω BNC TYPE Terminator	N/A	N/A	03	May 25, 2011
6	LISN	EMCO	4825/2	00028234	Jul. 13, 2010
7	LISN	EMCO	3816/2	00066528	Apr. 27, 2010

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

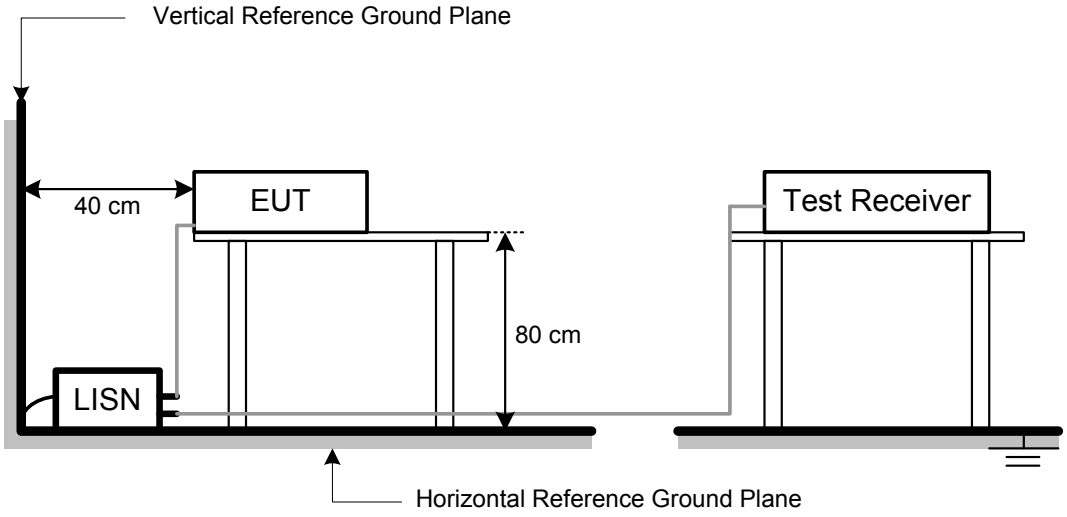
4.1.3 TEST PROCEDURE

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 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 operation condition was tested and used to collect the included data.

4.1.7 TEST RESULTS

EUT：	Wise Control-USB Dongle	Model No. ：	PC-001
Temperature：	26°C	Relative Humidity：	42%
Test Power ：	AC 120V/60Hz		
Test Mode ：	2439MHz		

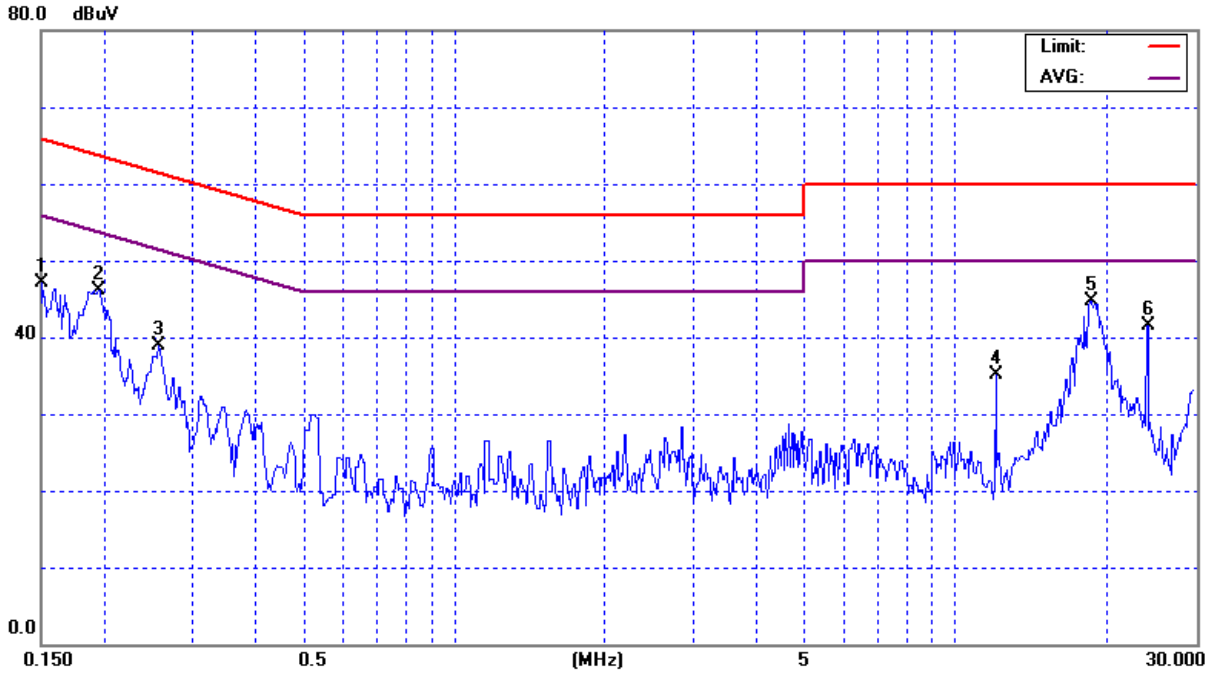
Freq. (MHz)	Terminal L/N	Measured(dBuV)		Limits(dBuV)		Margin (dB)	Note
		QP-Mode	AV-Mode	QP-Mode	AV-Mode		
0.15	Line	47.13	*	65.96	55.96	-18.83	(QP)
0.20	Line	46.13	*	63.80	53.80	-17.67	(QP)
0.26	Line	38.90	*	61.52	51.52	-22.62	(QP)
12.05	Line	35.08	*	60.00	50.00	-24.92	(QP)
18.65	Line	44.64	*	60.00	50.00	-15.36	(QP)
24.15	Line	41.45	*	60.00	50.00	-18.55	(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 。



EUT：	Wise Control-USB Dongle	Model No. ：	PC-001
Temperature：	26°C	Relative Humidity：	42%
Test Power ：	AC 120V/60Hz		
Test Mode ：	2439MHz		

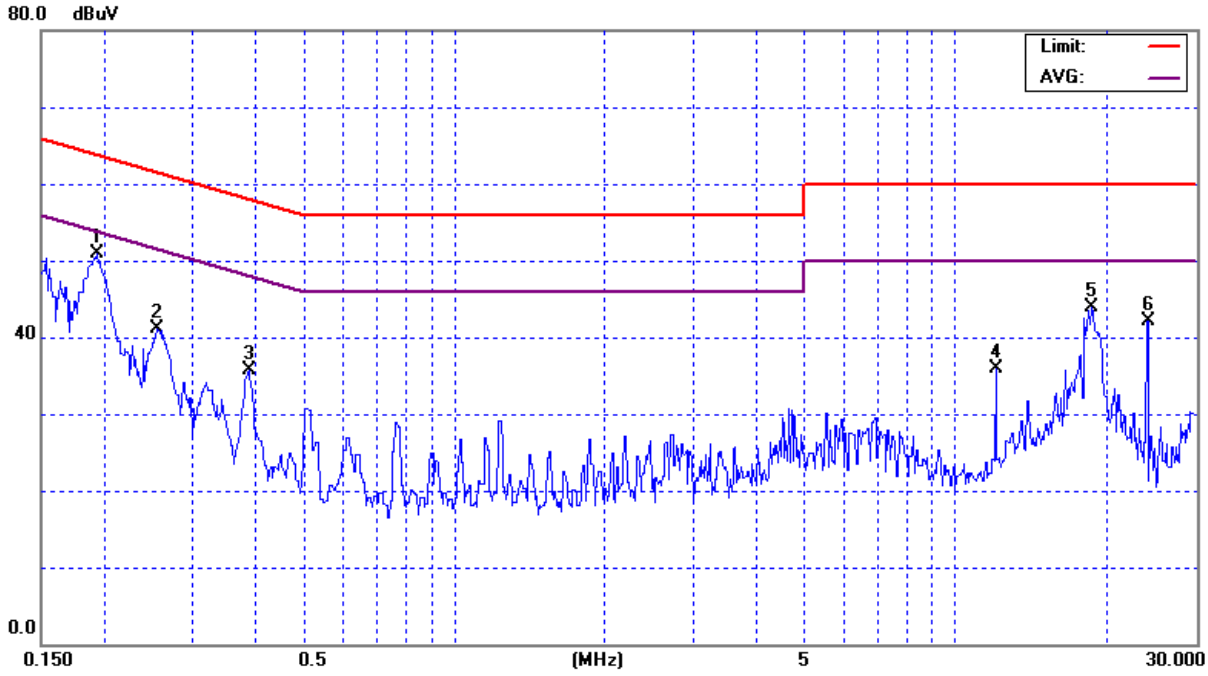
Freq. (MHz)	Terminal L/N	Measured(dBuV)		Limits(dBuV)		Margin (dB)	Note
		QP-Mode	AV-Mode	QP-Mode	AV-Mode		
0.19	Neutral	50.90	*	63.89	53.89	-12.99	(QP)
0.26	Neutral	41.02	*	61.59	51.59	-20.57	(QP)
0.39	Neutral	35.70	*	58.09	48.09	-22.39	(QP)
12.05	Neutral	35.99	*	60.00	50.00	-24.01	(QP)
18.70	Neutral	43.95	*	60.00	50.00	-16.05	(QP)
24.15	Neutral	42.17	*	60.00	50.00	-17.83	(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 (FCC 15.209)

requencies (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

Harmonic emissions limits comply with below 54 dBuV/m at 3m. Other 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 comply with the radiated emissions limits specified in section 15.209(a) limit in the table below has to be followed.

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 15.209)

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).

LIMITS OF RADIATED EMISSION MEASUREMENT (FCC Part 15.249)

FCC Part15 (15.249) , Subpart C	
Limit	Frequency Range (MHz)
Field strength of fundamental 50000 μV/m (94 dBμV/m) @ 3 m	2400-2483.5
Field strength of harmonics 500 μV/m (54 dBμV/m) @ 3 m	Above 2483.5

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. 04, 2010
3	Microwave Pre_amplifier	Agilent	8449B	3008A01714	Apr. 20, 2010
4	Microflex Cable	N/A	N/A	1m	May. 20, 2010
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. 18, 2010
8	Test Cable	N/A	LMR-400	966_3m	Jun. 18, 2010
9	Pre-Amplifier	EMC	EMC-330	980001	Jun. 04, 2010
10	Log-Bicon Antenna	Schwarzbeck	VULB9168-352	9168-352	Jun. 17, 2010

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

4.2.3 TEST PROCEDURE

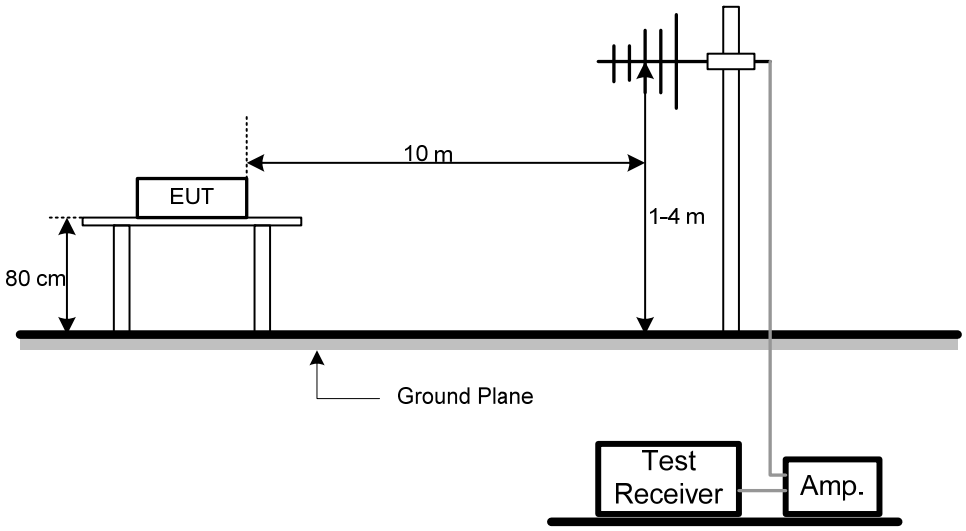
a. The measuring distance of at 3 m shall be used for measurements at frequency up to 1GHz. For frequencies above 1GHz, any suitable measuring distance may be used.
b. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3m meter open area test site. The table was rotated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

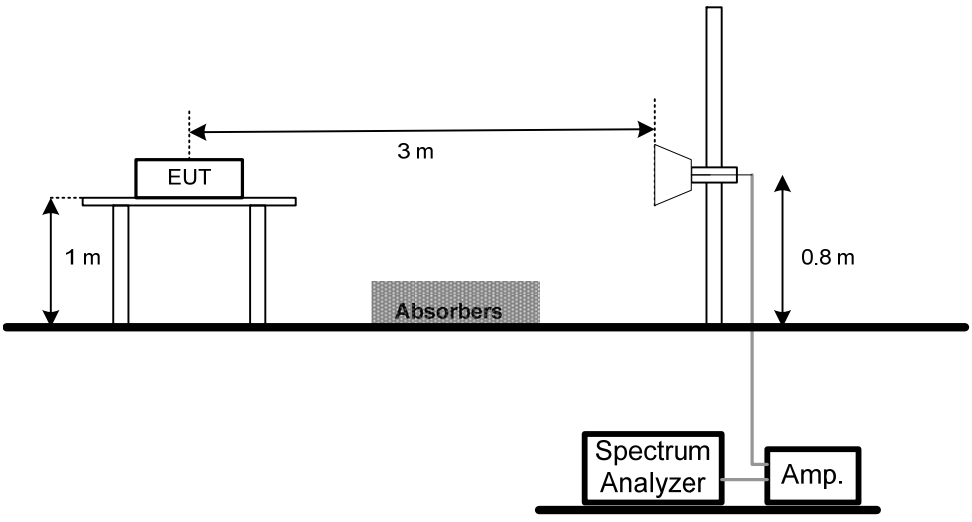
No deviation

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 operation condition was tested and used to collect the included data.

4.2.7 TEST RESULTS-BETWEEN 30MHz – 1000MHz

EUT：	Wise Control-USB Dongle	Model No. ：	PC-001
Temperature：	22°C	Relative Humidity：	42%
Test Power ：	AC 120V/60Hz		
Test Mode ：	2439MHz		

Freq. (MHz)	Ant. H/V	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
57.16	V	49.82	-21.25	28.57	40.00	- 11.43	
220.12	V	51.11	-23.03	28.08	46.00	- 17.92	
365.62	V	50.68	-19.09	31.59	46.00	- 14.41	
431.58	V	48.67	-17.43	31.24	46.00	- 14.76	
499.48	V	47.89	-16.30	31.59	46.00	- 14.41	
528.58	V	45.52	-15.70	29.82	46.00	- 16.18	

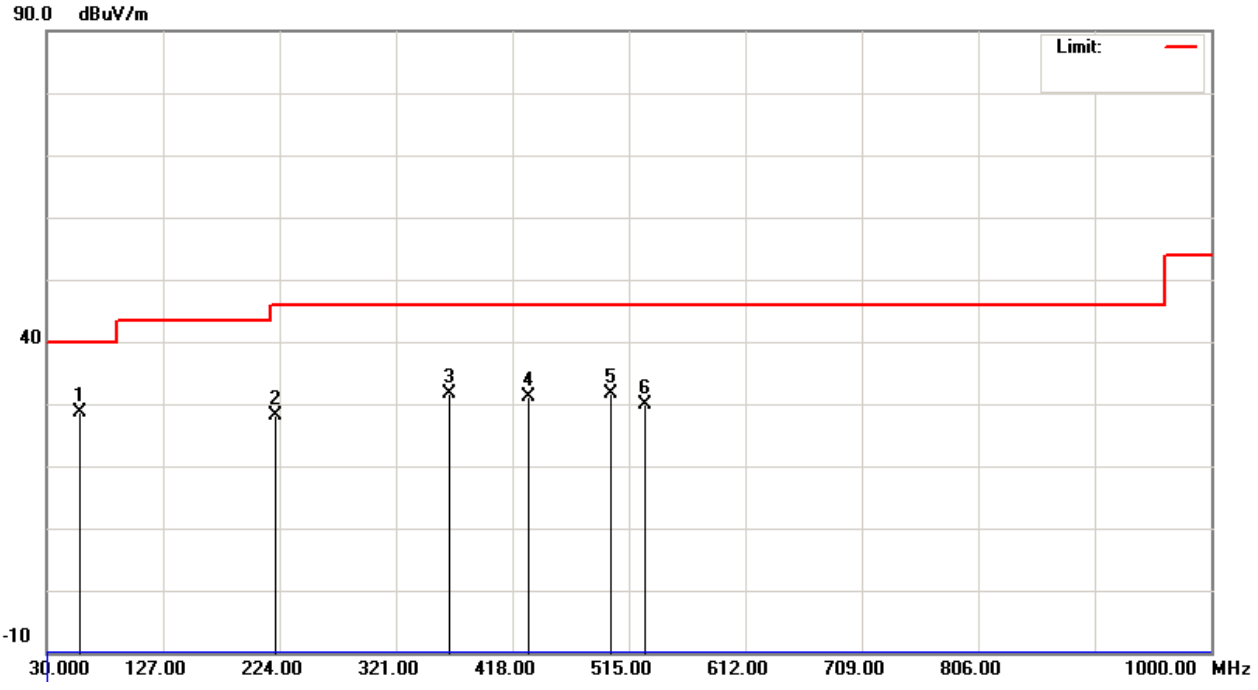
Remark：

(1) Reading in which marked as QP or Peak means measurements by using are Quasi-Peak Mode or Peak Mode with Detector BW=120KHz；SPA setting in RBW=120KHz, VBW =120KHz, Swp. Time = 0.3 sec./MHz。

(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 measure-ment didn't perform。

(3) Measuring frequency range from 30MHz to 1000MHz。

(4) If the peak scan value is under the limit for more than 20dB, the signal will not show in table。



EUT：	Wise Control-USB Dongle	Model No. ：	PC-001
Temperature：	22°C	Relative Humidity：	42%
Test Power ：	AC 120V/60Hz		
Test Mode ：	2439MHz		

Freq. (MHz)	Ant. H/V	Reading(RA) (dBuV)	Corr.Factor(CF) (dB)	Measured(FS) (dBuV/m)	Limits(QP) (dBuV/m)	Margin (dB)	Note
220.12	H	60.45	-23.03	37.42	46.00	- 8.58	
231.76	H	55.20	-22.42	32.78	46.00	- 13.22	
336.52	H	53.14	-19.71	33.43	46.00	- 12.57	
365.62	H	59.91	-19.09	40.82	46.00	- 5.18	
431.58	H	53.07	-17.43	35.64	46.00	- 10.36	
528.58	H	47.34	-15.70	31.64	46.00	- 14.36	

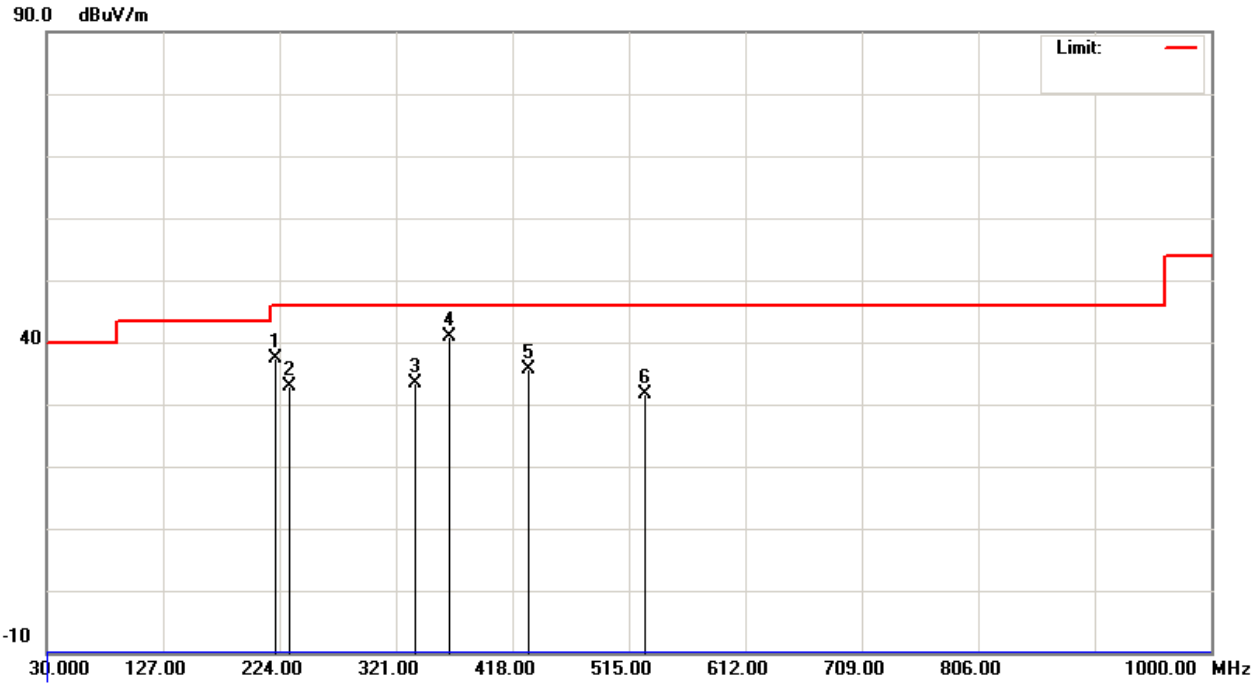
Remark：

(1) Reading in which marked as QP or Peak means measurements by using are Quasi-Peak Mode or Peak Mode with Detector BW=120KHz；SPA setting in RBW=120KHz, VBW =120KHz, Swp. Time = 0.3 sec./MHz。

(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 measure-ment didn't perform。

(3) Measuring frequency range from 30MHz to 1000MHz。

(4) If the peak scan value is under the limit for more than 20dB, the signal will not show in table。



4.2.8 TEST RESULTS-ABOVE 1000MHz

EUT：	Wise Control-USB Dongle	Model No. ：	PC-001
Temperature：	22°C	Relative Humidity：	42%
Test Power ：	AC 120V/60Hz		
Test Mode ：	2402MHz		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2390.00	V	21.68	11.18	31.93	53.61	43.11	74.00	54.00	X/E
2402.00	**V**								**X/F**
4803.93	V	47.77	43.65	3.68	51.45	47.33	74.00	54.00	X/H
7205.87	V	45.16	37.65	8.97	54.13	46.62	74.00	54.00	X/H
9607.89	V	42.48	32.46	11.90	54.38	44.36	74.00	54.00	X/H

Remark：

(1) 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。

(2) 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.)

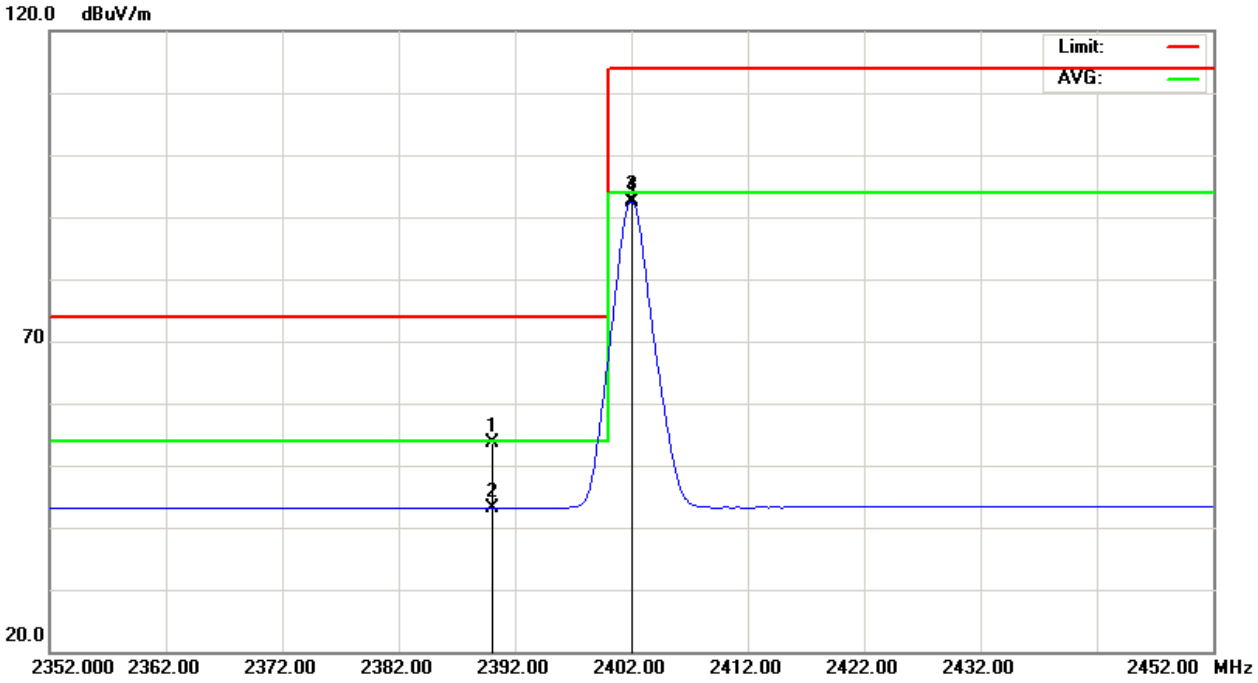
(3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

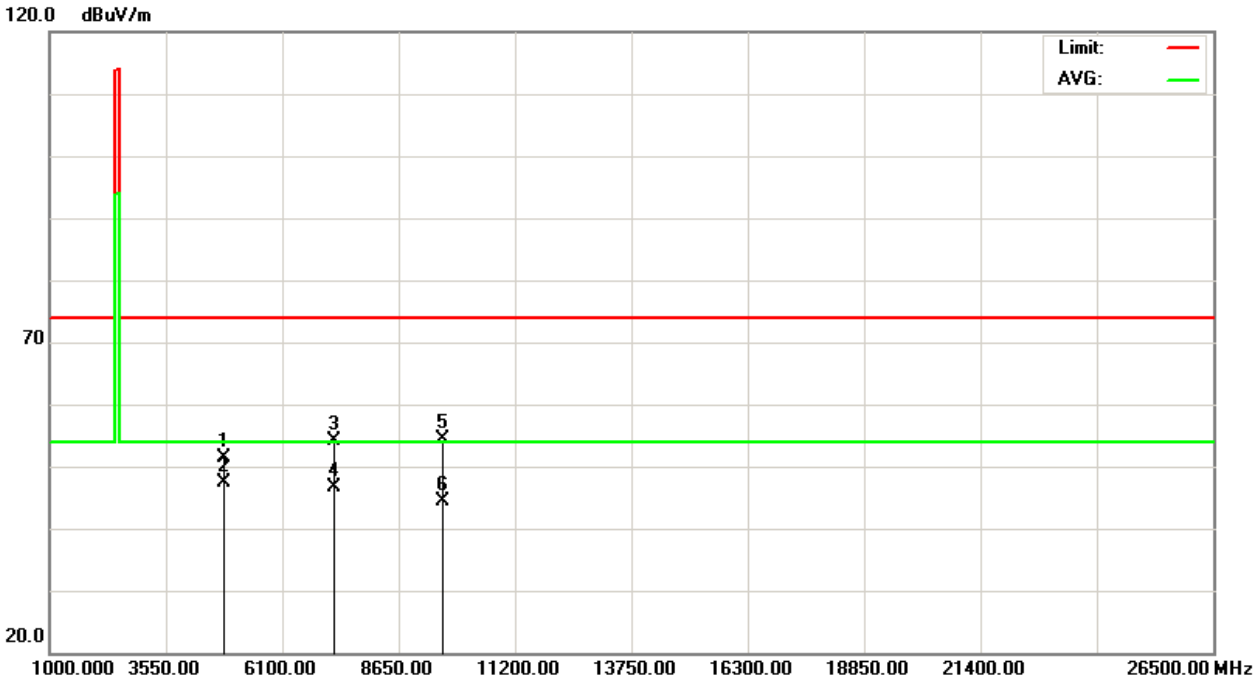
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(6) EUT Orthogonal Axes：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

Orthogonal Axes：X
2402MHz (Above 1000 MHz, Vertical)





EUT：	Wise Control-USB Dongle	Model No. ：	PC-001
Temperature：	22°C	Relative Humidity：	42%
Test Power ：	AC 120V/60Hz		
Test Mode ：	2402MHz		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2390.00	H	21.88	59.50	31.93	53.81	91.43	74.00	54.00	X/E
2402.00	**H**								**X/F**
4803.93	H	46.13	40.01	3.68	49.81	43.69	74.00	54.00	X/H
7205.91	H	44.97	39.18	8.97	53.94	48.15	74.00	54.00	X/H
9607.90	H	44.48	32.27	11.90	56.38	44.17	74.00	54.00	X/H

Remark：

(1) 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。

(2) 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.)

(3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

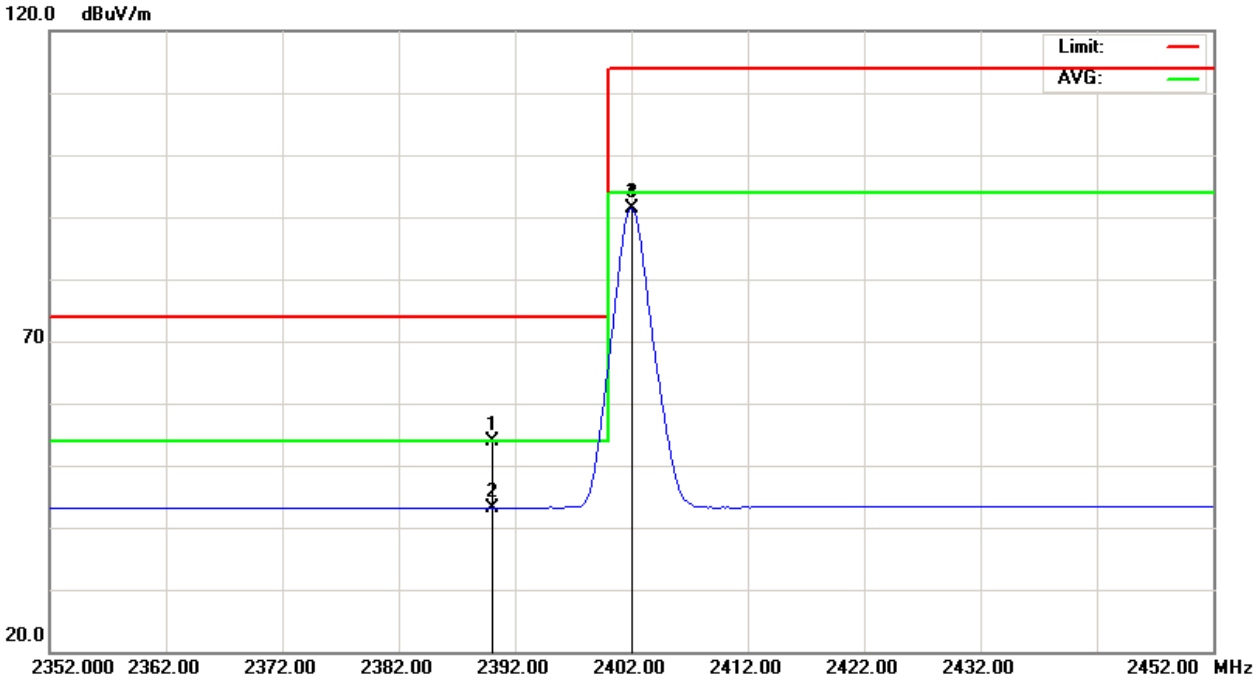
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

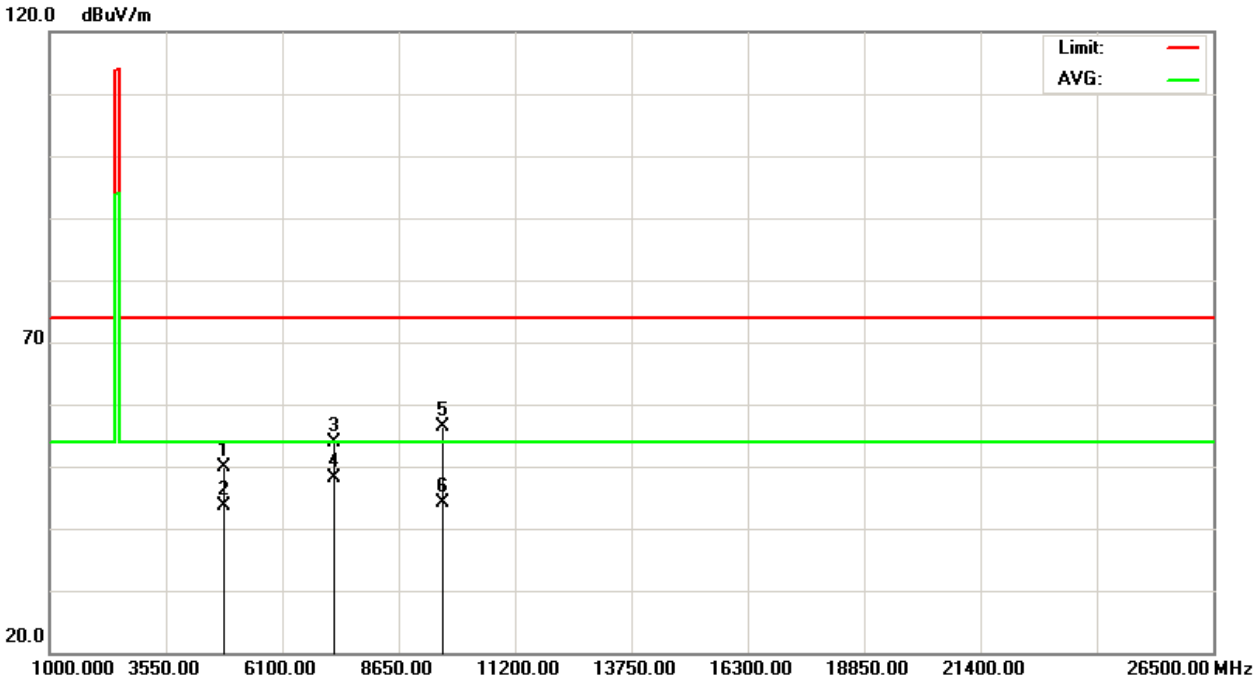
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(6) EUT Orthogonal Axes：

"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

Orthogonal Axes：X
2402MHz (Above 1000 MHz, Horizontal)





EUT：	Wise Control-USB Dongle	Model No. ：	PC-001
Temperature：	22°C	Relative Humidity：	42%
Test Power ：	AC 120V/60Hz		
Test Mode ：	2439MHz		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2439.00	**V**								**X/F**
4877.95	V	45.76	40.11	3.92	49.68	44.03	74.00	54.00	X/H
7316.99	V	42.74	31.30	9.15	51.89	40.45	74.00	54.00	X/H
9755.94	V	43.62	31.42	12.12	55.74	43.54	74.00	54.00	X/H

Remark：

(1) 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。

(2) 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.)

(3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

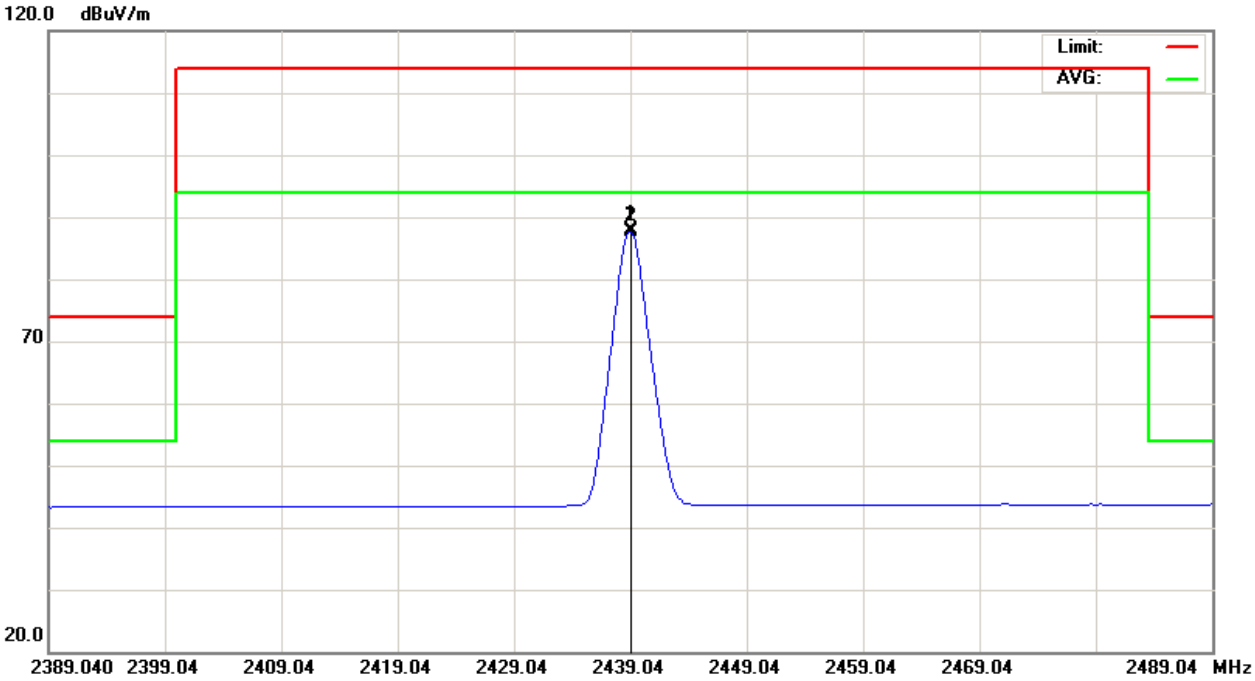
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

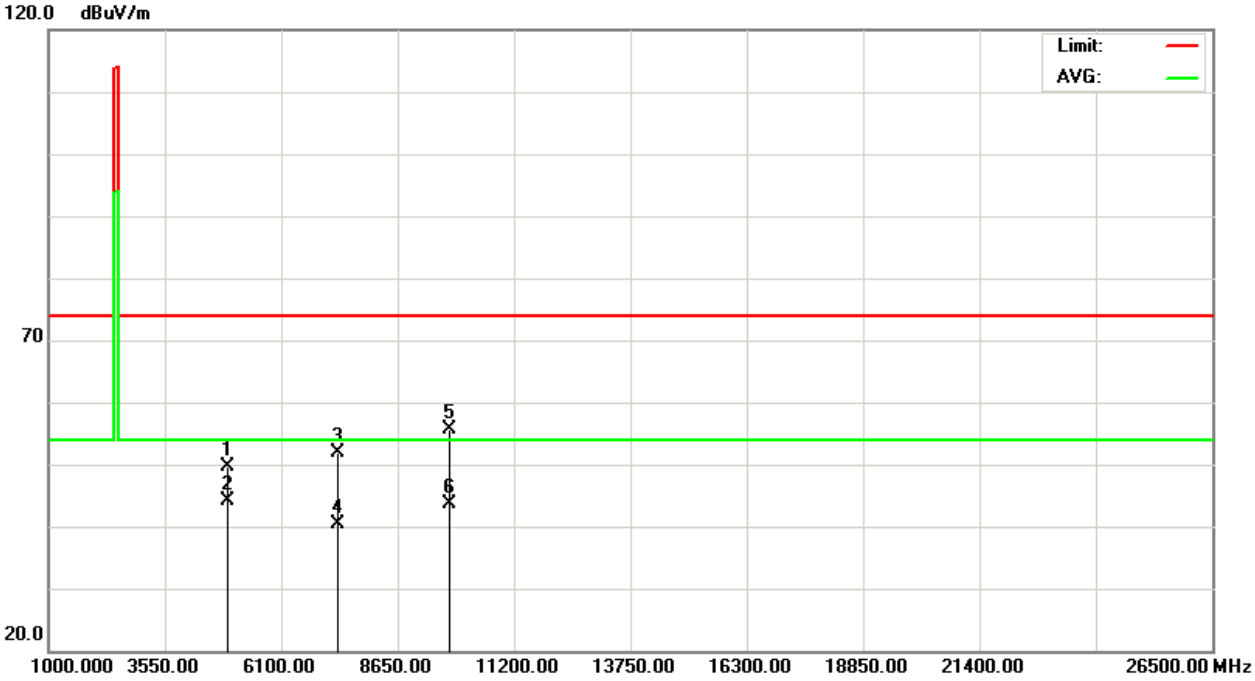
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(6) EUT Orthogonal Axes：

"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

Orthogonal Axes：X
2439MHz(Above 1000 MHz, Vertical)





EUT：	Wise Control-USB Dongle	Model No. ：	PC-001
Temperature：	22°C	Relative Humidity：	42%
Test Power ：	AC 120V/60Hz		
Test Mode ：	2439MHz		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2439.00	**H**								**X/F**
4877.91	H	44.12	36.79	3.92	48.04	40.71	74.00	54.00	X/H
7317.00	H	41.03	30.87	9.15	50.18	40.02	74.00	54.00	X/H
9756.04	H	41.26	31.43	12.12	53.38	43.55	74.00	54.00	X/H

Remark：

(1) 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。

(2) 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.)

(3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

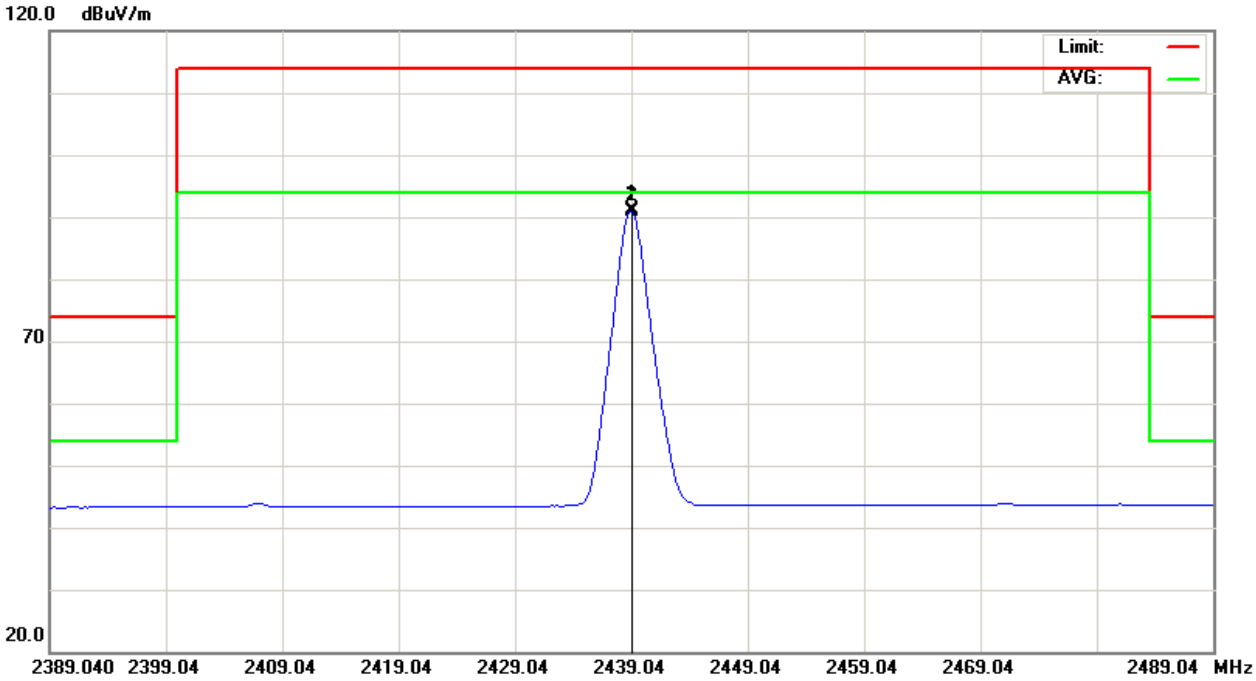
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

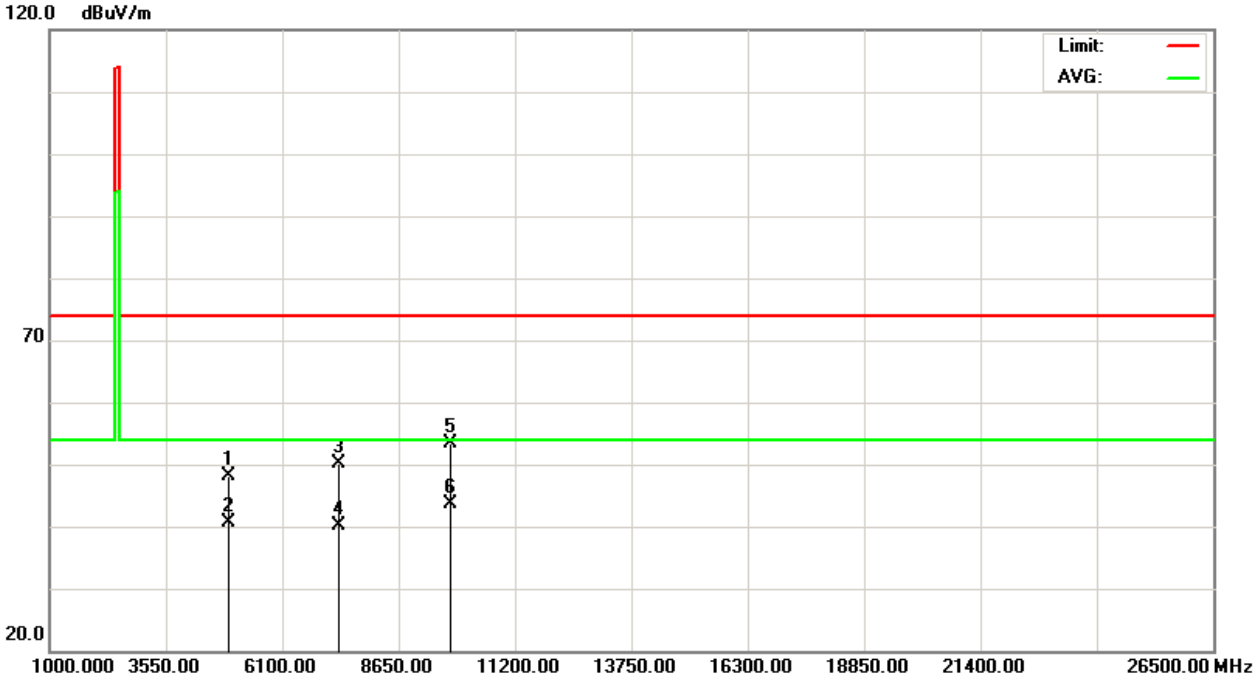
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(6) EUT Orthogonal Axes：

"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

Orthogonal Axes：X
2439MHz(Above 1000 MHz, Horizontal)





EUT：	Wise Control-USB Dongle	Model No. ：	PC-001
Temperature：	22°C	Relative Humidity：	42%
Test Power ：	AC 120V/60Hz		
Test Mode ：	2478MHz		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2478.00	**V**								**X/F**
2483.50	V	23.78	11.49	32.29	56.07	43.78	74.00	54.00	X/E
4955.95	V	45.32	39.17	4.16	49.48	43.33	74.00	54.00	X/H
7433.91	V	43.26	32.89	9.34	52.60	42.23	74.00	54.00	X/H
9911.88	V	42.86	31.63	12.36	55.22	43.99	74.00	54.00	X/H

Remark：

(1) 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。

(2) 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.)

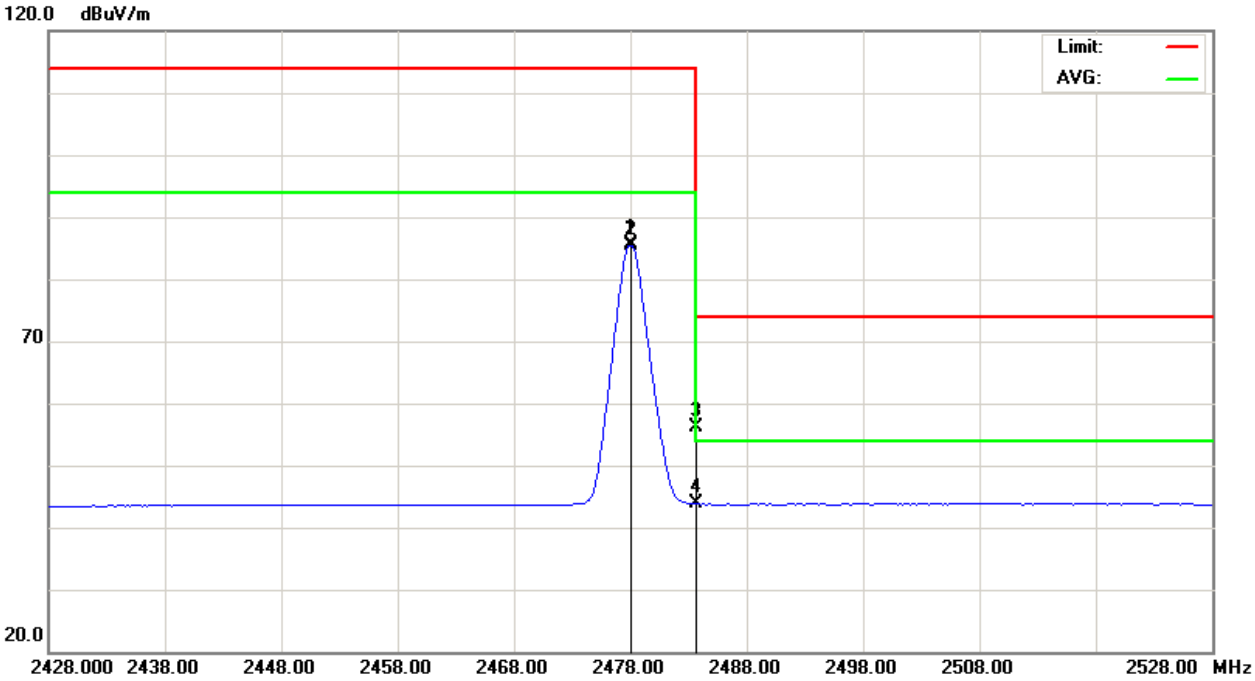
(3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

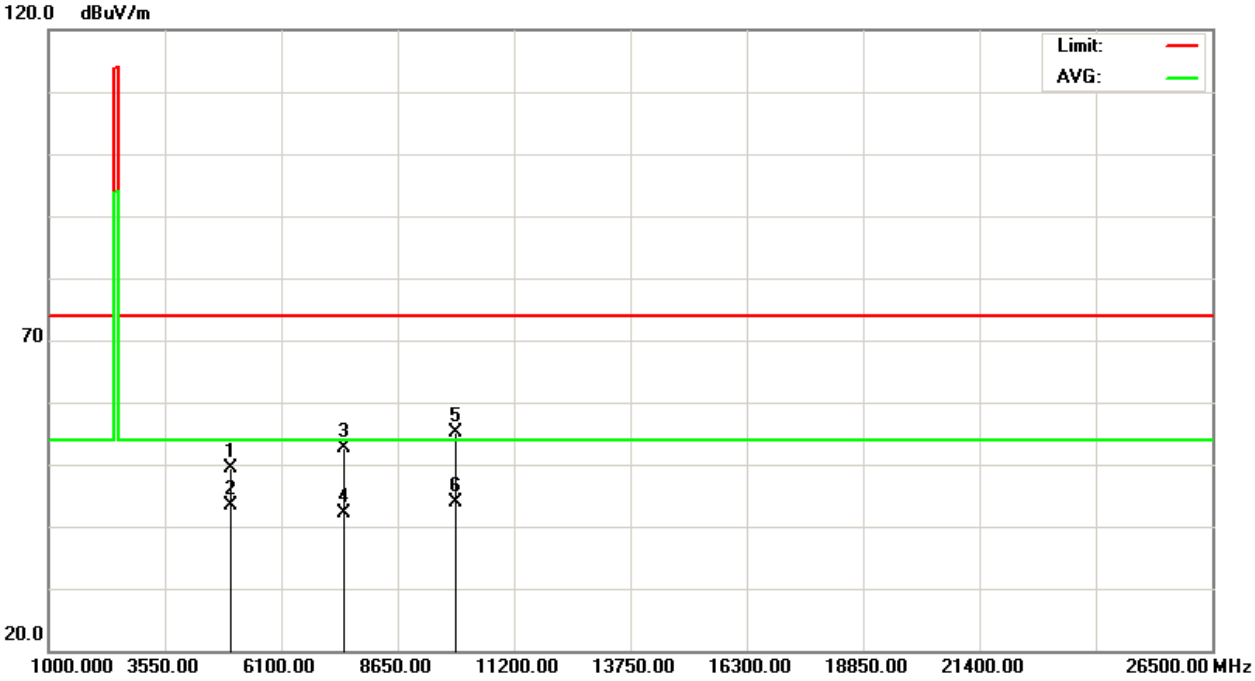
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(6) EUT Orthogonal Axes：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

Orthogonal Axes：X
2478MHz (Above 1000 MHz, Vertical)





EUT：	Wise Control-USB Dongle	Model No. ：	PC-001
Temperature：	22°C	Relative Humidity：	42%
Test Power ：	AC 120V/60Hz		
Test Mode ：	2478MHz		

Freq. (MHz)	Ant.Pol. H/V	Reading Peak (dBuV)	Reading AV (dBuV)	Ant./CF CF(dB)	Act. Peak (dBuV/m)	Act. AV (dBuV/m)	Limit Peak (dBuV/m)	Limit AV (dBuV/m)	Note
2478.00	**H**								**X/F**
2483.50	H	21.79	11.53	32.29	54.08	43.82	74.00	54.00	X/E
4955.93	H	44.88	37.39	4.16	49.04	41.55	74.00	54.00	X/H
7434.10	H	41.51	30.45	9.34	50.85	39.79	74.00	54.00	X/H
9911.88	H	42.47	31.59	12.36	54.83	43.95	74.00	54.00	X/H

Remark：

(1) 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。

(2) 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.)

(3) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission 。

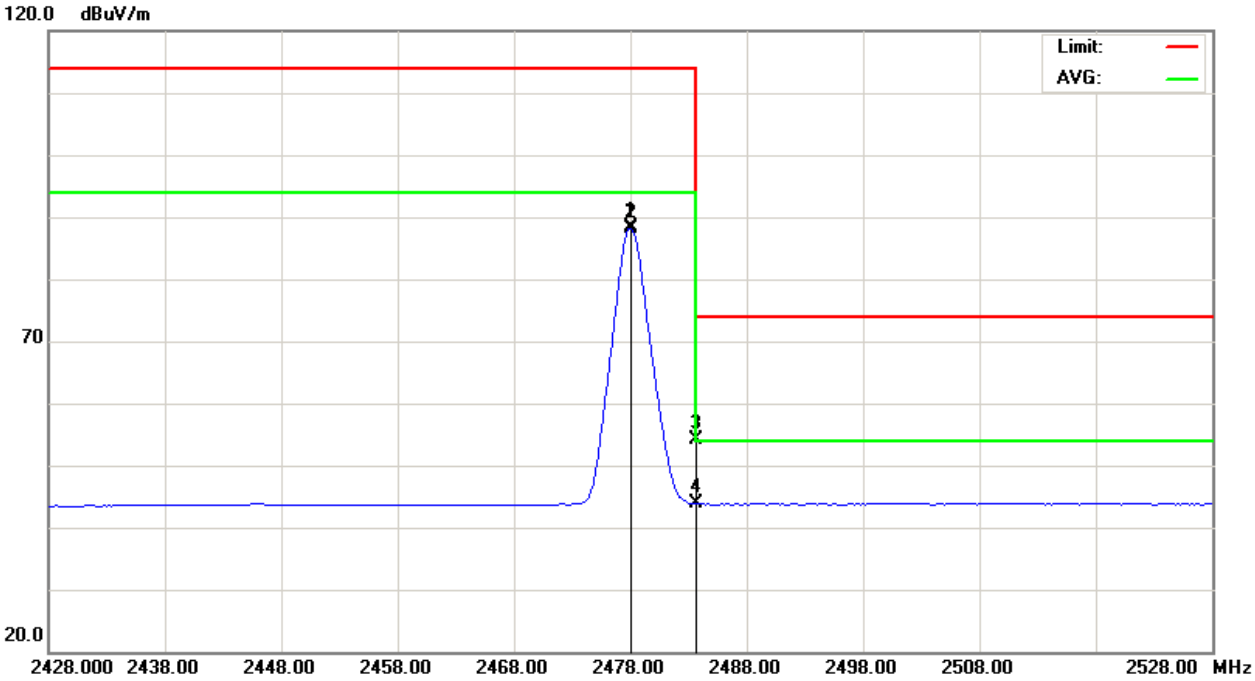
(4) Data of measurement within this frequency range shown " * " in the table above means the reading of emissions are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

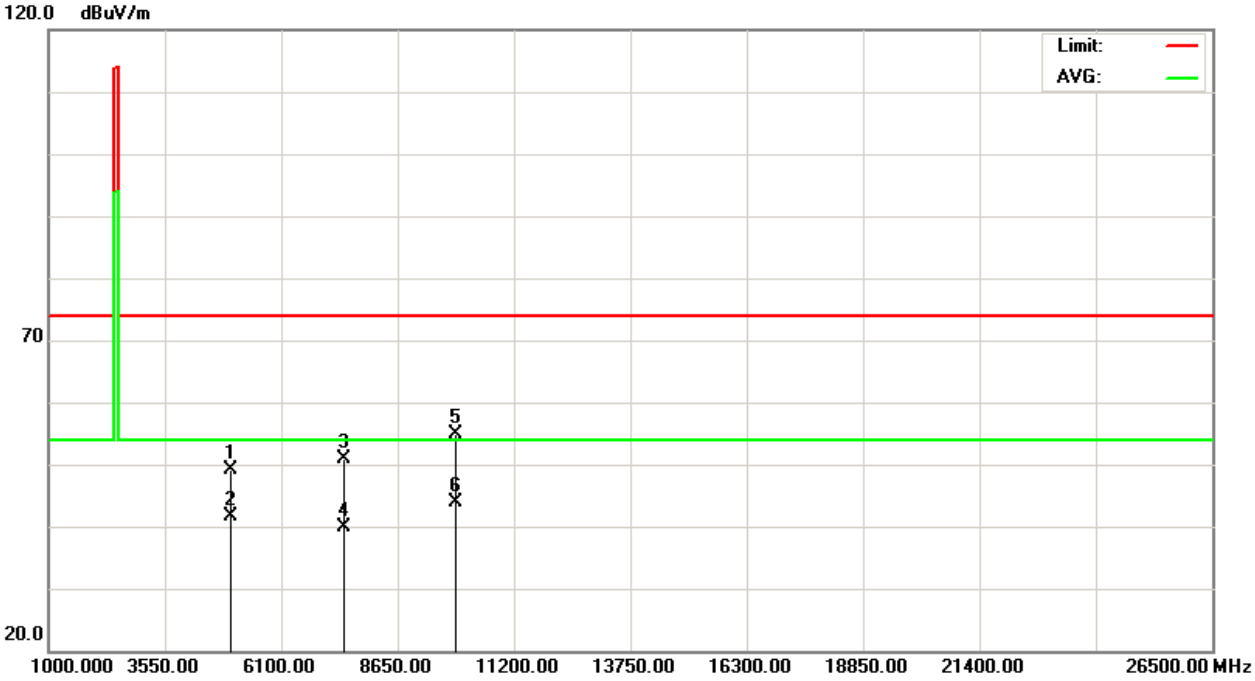
(5) A preamp and high pass filter were used for this test in order to provide sufficient measurement sensitivity.

(6) EUT Orthogonal Axes：

"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

Orthogonal Axes：X
2478MHz (Above 1000 MHz, Horizontal)





4.2.9 TEST RESULTS-2402MHz – 2480MHz

EUT：	Wise Control-USB Dongle	Model No. ：	PC-001
Temperature：	22°C	Relative Humidity：	42%
Test Power ：	AC 120V/60Hz		
Test Mode ：	TX Mode 2402MHz/2440MHz/2480MHz		

Freq.	Ant.Pol.	Reading		Ant./CF	Actual FS		Limit3m		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	(H/V)	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2402.00	V	60.76	60.51	31.97	92.73	92.48	114.00	94.00	CH01
2402.00	H	59.50	59.30	31.97	91.47	91.27	114.00	94.00	CH01
2439.04	V	55.80	55.56	32.12	87.92	87.68	114.00	94.00	CH04
2439.04	H	58.94	58.73	32.12	91.06	90.85	114.00	94.00	CH04
2478.00	V	53.48	53.18	32.27	85.75	85.45	114.00	94.00	CH07
2478.00	H	56.16	55.90	32.27	88.43	88.17	114.00	94.00	CH07

Remark：

(1) 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。

(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) 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) EUT Orthogonal Axes：
"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

4.2.10 TEST RESULTS-RESTRICTED BANDS REQUIREMENTS

EUT：	Wise Control-USB Dongle	Model No. ：	PC-001
Temperature：	22°C	Relative Humidity：	42%
Test Power ：	AC 120V/60Hz		
Test Mode ：	TX Mode 2402MHz/2480MHz(Vertical)		
Note：	The emission of the carrier radiated field strength is measured for (Peak and AV) as following: 1. The transmitter was then configured with the worst case antenna and setup to transmit at the lowest channel (CH00). Then the field strength was measured at 2310-2390 MHz. 2. The transmitter was configured with the worst case antenna and setup to transmit at the highest channel (CH76). Then the field strength was measured at 2483.5-2500 MHz.		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2390.00	V	21.68	11.18	31.93	53.61	43.11	74.00	54.00	CH01
2483.50	V	23.78	11.49	32.29	56.07	43.78	74.00	54.00	CH07

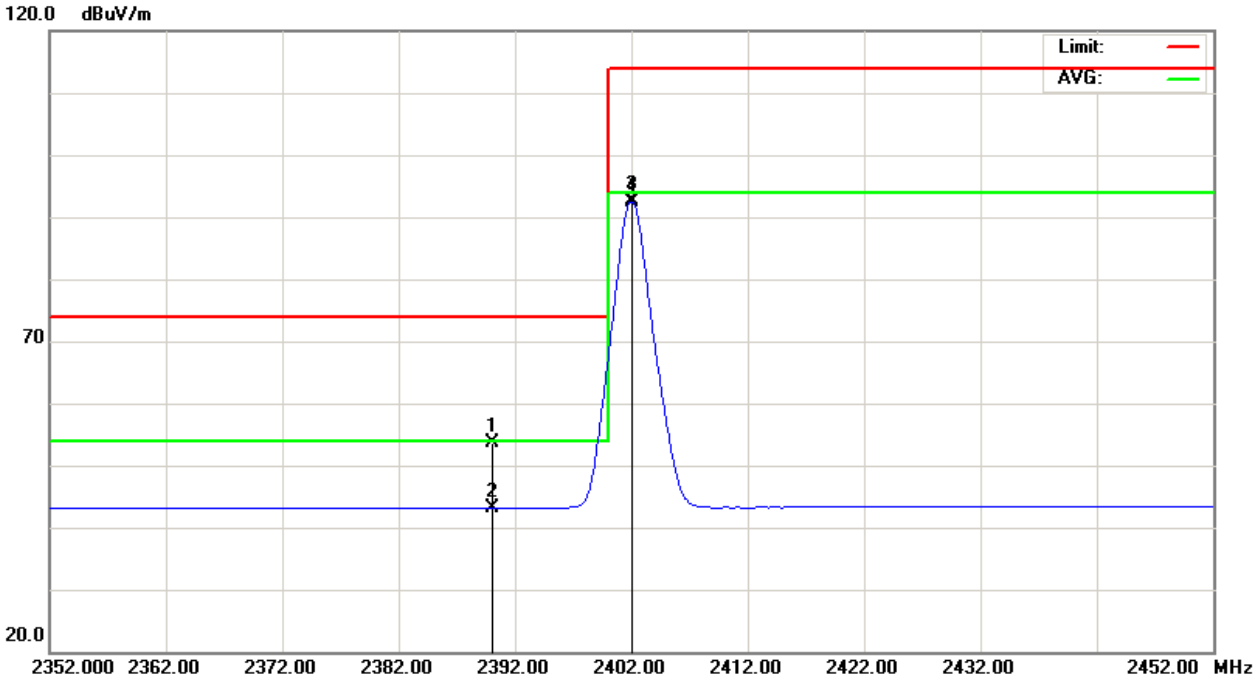
Remark：

(1) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦

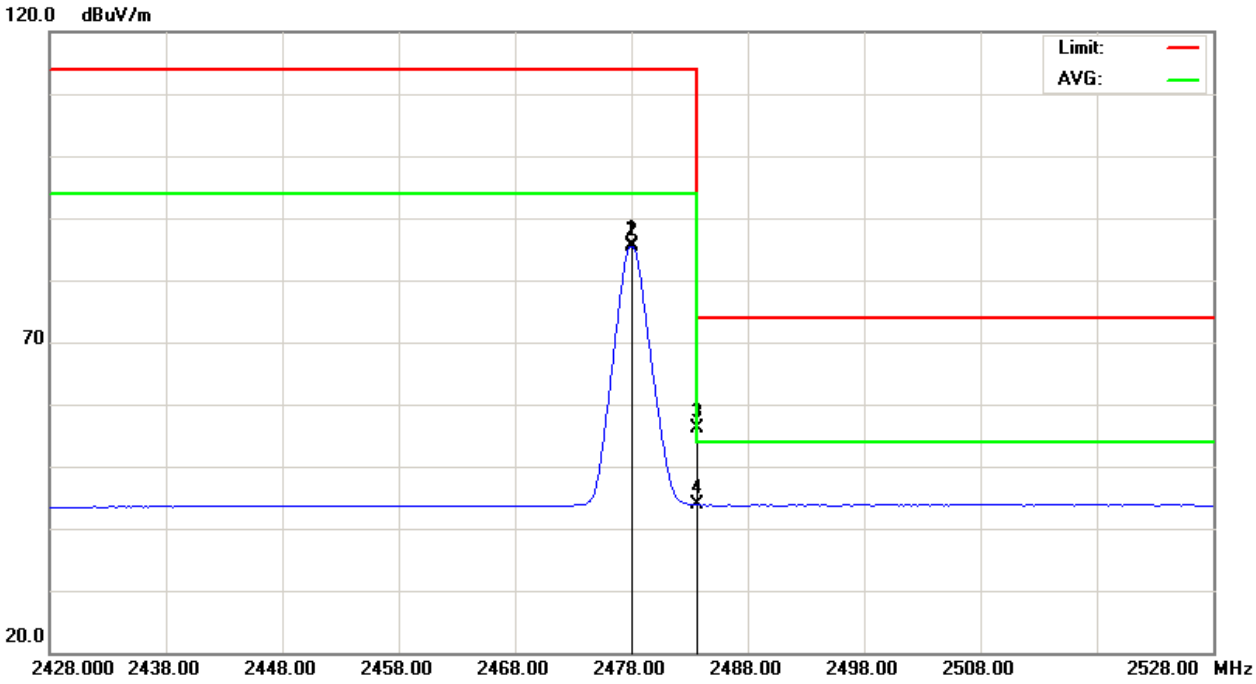
(2) EUT Orthogonal Axes：

"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

TX 2402MHz (Restricted Bands Requirements, Vertical)



TX 2478MHz (Restricted Bands Requirements, Vertical)



EUT：	Wise Control-USB Dongle	Model No. ：	PC-001
Temperature：	22°C	Relative Humidity：	42%
Test Power ：	AC 120V/60Hz		
Test Mode ：	TX Mode 2402MHz/2480MHz (Horizontal)		
Note：	The emission of the carrier radiated field strength is measured for (Peak and AV) as following: 1. The transmitter was then configured with the worst case antenna and setup to transmit at the lowest channel (CH00). Then the field strength was measured at 2310-2390 MHz. 2. The transmitter was configured with the worst case antenna and setup to transmit at the highest channel (CH76). Then the field strength was measured at 2483.5-2500 MHz.		

Freq.	Ant.Pol.	Reading		Ant./CF	Act.		Limit		Note
		Peak	AV		Peak	AV	Peak	AV	
(MHz)	H/V	(dBuV)	(dBuV)	CF(dB)	(dBuV/m)	(dBuV/m)	(dBuV/m)	(dBuV/m)	
2390.00	H	21.88	11.24	31.93	53.81	43.17	74.00	54.00	CH01
2483.50	H	21.79	11.53	32.29	54.08	43.82	74.00	54.00	CH07

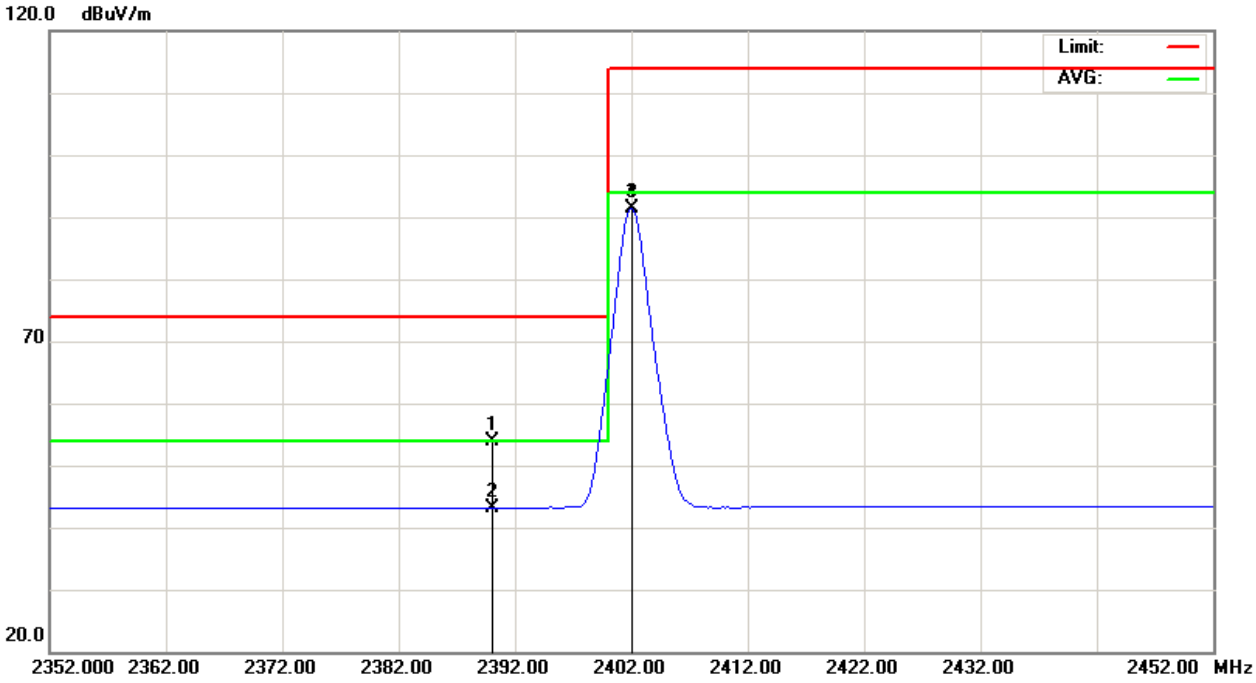
Remark：

(1) Radiated emissions measured in frequency range above 1000MHz were made with an instrument using Peak detector mode and AV detector mode of the emission ◦

(2) EUT Orthogonal Axes：

"X" - denotes Laid on Table；"Y" - denotes Vertical Stand；"Z" - denotes Side Stand

TX 2402MHz (Restricted Bands Requirements, Horizontal)



TX 2478MHz (Restricted Bands Requirements, Horizontal)