

FCC PART 15 SUBPART C TEST REPORT

for

SmartWave Contactless Card Reader

Model No.: CC-1000

FCC ID: V93-POSIFCC1000

of

Applicant: Posiflex Technology, Inc.

**Address: No.6, Wuquan Rd., Wugu Dist., New Taipei City 248,
Taiwan (R.O.C.)**

Tested and Prepared

by

Worldwide Testing Services (Taiwan) Co., Ltd.

FCC Registration No.: 930600

Industry Canada filed test laboratory Reg. No. IC 5679A-1

A2LA Accredited No.: 2732.01



Report No.: W6M21103-11324-P-15

6F, NO. 58, LANE 188, RUEY-KUANG RD., NEIHU TAIPEI 114, TAIWAN, R.O.C.
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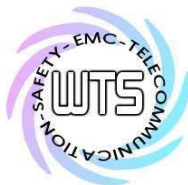


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1 General Information

1.1 Notes

The purpose of conformity testing is to increase the probability of adherence to the essential requirements or conformity specifications, as appropriate.

The complexity of the technical specifications, however, means that full and thorough testing is impractical for both technical and economic reasons.

Furthermore, there is no guarantee that a test sample which has passed all the relevant tests conforms to a specification.

Neither is there any guarantee that such a test sample will interwork with other genuinely open systems.

The existence of the tests nevertheless provides the confidence that the test sample possesses the qualities as maintained and that its performance generally conforms to representative cases of communications equipment.

The test results of this test report relate exclusively to the item tested as specified in 1.5.

The test report may only be reproduced or published in full.

Reproduction or publication of extracts from the report requires the prior written approval of the Worldwide Testing Services(Taiwan) Co., Ltd.

Tester:

April 7, 2011

Rick Chen

Rick Chen.

Date

WTS-Lab.

Name

Signature

Technical responsibility for area of testing:

April 7, 2011

Chang Tse-Ming

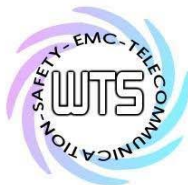
Chang Tse-Ming

Date

WTS

Name

Signature



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1.2 Testing laboratory

1.2.1 Location

OATS

No.5-1, Lishui, Shuang Sing Village,
Wanli Dist., New Taipei City 207,
Taiwan (R.O.C.)

Company

Worldwide Testing Services(Taiwan) Co., Ltd.
6F, NO. 58, LANE 188, RUEY-KUANG RD.
NEIHU, TAIPEI 114, TAIWAN R.O.C.

Tel : 886-2-66068877

Fax : 886-2-66068879

1.2.2 Details of accreditation status

Accredited testing laboratory

A2LA accredited number: 2732.01

FCC filed test laboratory Reg. No. 930600

Industry Canada filed test laboratory Reg. No. IC 5679A-1



Test location, where different from Worldwide Testing Services (Taiwan) Co., Ltd. :

Name: ./.

Accredited number: ./.

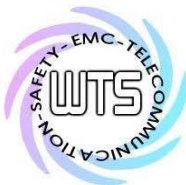
Street: ./.

Town: ./.

Country: ./.

Telephone: ./.

Fax: ./.



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1.3 Details of approval holder

Name:	Posiflex Technology, Inc.
Street:	No.6, Wuquan Rd., Wugu Dist.,
City:	New Taipei City 248,
Country:	Taiwan (R.O.C.)
Telephone:	+ 886 2 2299-1599
Fax:	+ 886 2 2299-1819

1.4 Application details

Date of receipt of test item:	March 11, 2011
Date of test:	from March 12, 2011 to April 6, 2011

1.5 General information of Test item

Description of test item:	SmartWave Contactless Card Reader
Type identification:	CC-1000
Multi-listing model number:	./.
Transmitting frequency:	13.56 MHz
Operation mode:	duplex
Voltage supply:	USB 5 VDC Adaptor (I/P: AC 100-240 V / 50-60 Hz / 0.4 A, O/P: 5 Vdc / 2 A)

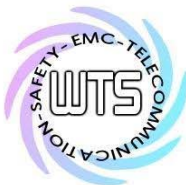
(If the device is using battery, please check if the device is tested under fresh battery condition.)

Antenna type:	Loop antenna
Photos:	see Annex

Manufacturer: (if applicable)

Name:	./.
Street:	./.
Town:	./.
Country:	./.

Additional information:	./.
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1.6 Test standards

Technical standard : FCC RULES PART 15 SUBPART C § 15.225 (2010-10)

2 Technical test

2.1 Summary of test results

No deviations from the technical specification(s) were ascertained in the course of the tests performed.



or

The deviations as specified in 3 were ascertained in the course of the tests performed.



2.2 Test environment

Temperature: 23 °C

Relative humidity content: 20 ... 75 %

Air pressure: 86 ... 103 kPa

Details of power supply: USB 5VDC
Adaptor (I/P: AC 100-240 V / 50-60 Hz / 0.4 A,
O/P: 5 Vdc / 2 A)

Extreme conditions parameters:./.



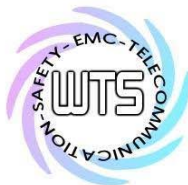
Worldwide Testing Services(Taiwan) Co., Ltd.

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2.3 Test Equipment List

No.	Test equipment	Type	Serial No.	Manufacturer	Cal. Date	Next Cal. Date
ETSTW-CE 001	EMI TEST RECEIVER	ESHS10	842121/013	R&S	2010/9/2	2011/9/1
ETSTW-CE 004	ZWEILEITER-V-NETZNACHBILDUNG TWO-LINE V-NETWORK	ESH3-Z5	840731/011	R&S	2011/3/10	2012/3/9
ETSTW-CE 005	Line-Impedance Stabilisation Network	NNBM 8126D	137	Schwarzbeck	2010/9/8	2011/9/7
ETSTW-CE 006	IMPULSBEGRENZER PULSE LIMITER	ESH3-Z2	100226	R&S	2010/5/8	2011/5/7
ETSTW-CE 007	SPECTRUM ANALYZER 5GHz	FSB	849670/001	R&S	Pre-test Use NCR	
ETSTW-CE 008	HF-EICHLITUNG RF STEP ATTENUATOR 139dB DPSP	334.6010.02	844581/024	R&S	Function Test	
ETSTW-CE 009	TEMP.&HUMIDITY CHAMBER	GTH-225-40-1P-U	MAA0305-009	GIANT FORCE	2010/7/21	2011/7/20
ETSTW-CE 013	CISPR 22 TWO BALANCED TELECOM PAIRS IMPEDANCE STABILIZATION NETWORK	FCC-TLISN-T4-02	20242	FCC	2010/10/21	2011/10/20
ETSTW-CE 015	CISPR 22 TWO BALANCED TELECOM PAIRS IMPEDANCE STABILIZATION NETWORK	FCC-TLISN-T8-02	20307	FCC	2010/9/6	2011/9/5
ETSTW-CE 016	TWO-LINE V-NETWORK	ENV216	100050	R&S	2011/2/21	2012/2/20
ETSTW-RE 002	Function Generator	33220A	MY43004982	Agilent	Function Test	
ETSTW-RE 003	EMI TEST RECEIVER	ESI 26	831438/001	R&S	2010/8/10	2011/8/9
ETSTW-RE 004	EMI TEST RECEIVER	ESI 40	832427/004	R&S	2010/9/14	2011/9/13
ETSTW-RE 005	EMI TEST RECEIVER	ESVS10	843207/020	R&S	2010/9/2	2011/9/1
ETSTW-RE 006	Attenuator 10dB	50HF-010-5N-1	None	STEP	2011/3/1	2012/2/28
ETSTW-RE 010	ABSORBING CLAMP	MDS 21	3469	Schwarzbeck	2010/9/6	2011/9/5
ETSTW-RE 012	TUNABLE BANDREJECT FILTER	D.C 0309	146	K&L	Function Test	
ETSTW-RE 013	TUNABLE BANDREJECT FILTER	D.C 0336	397	K&L	Function Test	
ETSTW-RE 018	MICROWAVE HORN ANTENNA	AT4560	27212	AR	2010/10/4	2011/10/3
ETSTW-RE 020	MICROWAVE HORN ANTENNA	AT4002A	306915	AR	Function Test	
ETSTW-RE 021	SWEEP GENERATOR	SWM05	835130/010	R&S	2010/8/20	2011/8/19
ETSTW-RE 027	Passive Loop Antenna	6512	00034563	EMCO	2010/7/22	2011/7/21
ETSTW-RE 030	Double-Ridged Guide Horn Antenna	3117	00035224	EMCO	2011/2/25	2012/2/24
ETSTW-RE 032	Millivoltmeter	URV 55	849086/013	R&S	2010/10/4	2011/10/3
ETSTW-RE 033	WaveRunner 6000A Serise Oscilloscope	WAVERUNNER 6100A	LCRY0604P14508	LeCroy	Function Test	
ETSTW-RE 034	Power Sensor	URV5-Z4	839313/006	R&S	2010/10/4	2011/10/3
ETSTW-RE 042	Biconical Antenna	HK116	100172	R&S	2011/1/14	2012/1/13
ETSTW-RE 043	Log-Periodic Dipole Antenna	HL223	100166	R&S	2010/4/29	2011/4/28
ETSTW-RE 044	Log-Periodic Antenna	HL050	100094	R&S	2010/5/11	2011/5/10
ETSTW-RE 045	ESA-E SERIES SPECTRUM ANALYZER	E4404B	MY45111242	Agilent	Pre-test Use NCR	
ETSTW-RE 047	PSA SERIES SPECTRUM ANALYZER	E4445A	MY46181369	Agilent	Pre-test Use NCR	
ETSTW-RE 048	Triple Loop Antenna	HXYZ 9170	HXYZ 9170-134	Schwarzbeck	2010/8/30	2011/8/29
ETSTW-RE 049	TRILOG Super Broadband test Antenna	VULB 9160	9160-3185	Schwarzbeck	2010/4/13	2011/4/12

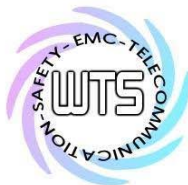


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ETSTW-RE 050	Attenuator 10dB	50HF-010-1	None	JFW	2011/3/4	2012/3/3
ETSTW-RE 051	Attenuator 6dB	50HF-006-1	None	JFW	2011/3/4	2012/3/3
ETSTW-RE 053	Attenuator 3dB	50HF-003-1	None	JFW	2011/3/4	2012/3/3
ETSTW-RE 055	SPECTRUM ANALYZER	FSU 26	200074	R&S	2010/6/3	2011/6/2
ETSTW-RE 060	Attenuator 30dB	5015-30	F651012z-01	ATM	2011/3/1	2012/2/28
ETSTW-RE 061	Amplifier Module	CHC 1	None	ETS	2010/9/27	2011/9/26
ETSTW-RE 062	Amplifier Module	CHC 2	None	KMIC	2010/11/30	2011/11/29
ETSTW-RE 064	Bluetooth Test Set	MT8852B-042	6K00005709	Anritsu	Function Test	
ETSTW-RE 065	Amplifier	AMF-6F-18002650-25-10P	941608	MITEQ	2010/4/13	2011/4/12
ETSTW-RE 066	Highpass Filter	H1G013G1	206015	MICROWAVE CIRCUITS, INC.	2011/3/4	2012/3/3
ETSTW-RE 072	CELL SITE TEST SET	8921A	3339A00375	HP	2010/10/7	2011/10/6
ETSTW-RE 073	Power Meter	N1911A	MY45100769	Agilent	2011/1/10	2012/1/9
ETSTW-RE 074	Power Sensor	N1921A	MY45241198	Agilent	2011/1/10	2012/1/9
ETSTW-RE 081	Highpass Filter	H03G13G1	4260-02 DC0428	MICROWAVE CIRCUITS, INC.	2011/3/4	2012/3/3
ETSTW-RE 096	SIGNAL GENERATOR	SMIQ 03B	102274	R&S	2010/5/31	2011/5/30
ETSTW-RE 099	DC Block	50DB-007-1	None	JFW	2011/3/10	2012/3/9
ETSTW-RE 105	2.4GHz Notch Filter	NO124411	39555	MICROWAVE CIRCUITS, INC.	2011/3/11	2012/3/10
ETSTW-RE 106	Humidity Temperature Meter	TES-1366	091011113	TES	2011/3/24	2012/3/23
ETSTW-RE 111	Log-Periodic Dipole Array Antenna	VULB 9160	9160-3309	Schwarz beck	2010/12/17	2011/12/16
ETSTW-RE 114	2.4GHz Notch Filter	N0124411	473873	MICROWAVE CIRCUITS	2011/1/13	2012/1/12
ETSTW-GSM 002	Universal Radio Communication Tester	CMU 200	109439	R&S	2010/10/7	2011/10/6
ETSTW-GSM 019	Band Reject Filter	WRCTF824/849-822/851-40 /12+9SS	3	WI	2011/1/14	2012/1/13
ETSTW-GSM 020	Band Reject Filter	WRCD1747/1748-1743/1752-32/5SS	1	WI	2011/1/14	2012/1/13
ETSTW-GSM 021	Band Reject Filter	WRCD1879.5/1880.5-1875.5/1884.5-32/5SS	3	WI	2011/1/14	2012/1/13
ETSTW-GSM 022	Band Reject Filter	WRCT901.9/903.1-904.25-50/8SS	1	WI	2011/1/14	2012/1/13
ETSTW-GSM 023	Power Divider	4901.19.A	None	SUHNER	2010/9/20	2011/9/19
ETSTW-Cable 002	Microwave Cable	SUCOFLEX 104 (S_Cable 7)	238093	HUBER+SUHNER	2010/9/27	2011/9/26
ETSTW-Cable 003	Microwave Cable	SUCOFLEX 104 (S_Cable 11)	209953	HUBER+SUHNER	2011/3/4	2012/3/3
ETSTW-Cable 010	BNC Cable	5 M BNC Cable	None	JYE BAO CO.,LTD.	2011/3/8	2012/3/7
ETSTW-Cable 011	BNC Cable	BNC Cable 1	None	JYE BAO CO.,LTD.	Pre-test Use NCR	
ETSTW-Cable 012	BNC Cable	BNC Cable 2	None	JYE BAO CO.,LTD.	2011/3/8	2012/3/7
ETSTW-Cable 013	Microwave Cable	SUCOFLEX 104 (S_Cable 5)	232345	HUBER+SUHNER	2011/3/1	2012/2/28
ETSTW-Cable 022	N TYPE Cable	OATS Cable 3	0002	JYE BAO CO.,LTD.	2011/3/1	2012/2/28
ETSTW-Cable 026	Microwave Cable	SUCOFLEX 104	279075	HUBER+SUHNER	2011/3/10	2012/3/9
ETSTW-Cable 027	Microwave Cable	SUCOFLEX 104	279083	HUBER+SUHNER	2011/3/10	2012/3/9
ETSTW-Cable 028	Microwave Cable	FA147A0015M2020	30064-2	UTIFLEX	2010/9/13	2011/9/12

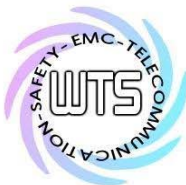


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ETSTW-Cable 029	Microwave Cable	FA147A0015M2020	30064-3	UTIFLEX	2010/9/13	2011/9/12
ETSTW-Cable 030	Microwave Cable	SUCOFLEX 104 (S_Cable 9)	279067	SPECTRUM	2011/3/10	2012/3/9
ETSTW-Cable 031	Microwave Cable	SUCOFLEX 104 (S_Cable 10)	238092	HUBER+SUHNER	2010/11/30	2011/11/29
ETSTW-Cable 039	Microwave Cable	SUCOFLEX 104 (S_Cable 19)	316739	HUBER+SUHNER	2011/3/4	2012/3/3
ETSTW-Cable 043	Microwave Cable	SUCOFLEX 104	317576	HUBER+SUHNER	2010/11/30	2011/11/29
ETSTW-Cable 047	Microwave Cable	SUCOFLEX 104	325518	HUBER+SUHNER	2010/11/30	2011/11/29
WTSTW-SW 001	EMI TEST SOFTWARE	Harmonics-1000	None	EMC PARTNER	HARCS Version 4.16 Firmware Version 2.18	
WTSTW-SW 002	EMI TEST SOFTWARE	EZ EMC	None	Farad	Version ETS-03A1	
WTSTW-SW 003	EMS TEST SOFTWARE	i2	None	AUDIX	Version 3.2007-8-17b	
WTSTW-SW 005	GSM Fading Level Correction	GSMFadLevCor	None	R&S	Version 1.66	



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2.4 General Test Procedure

POWER LINE CONDUCTED INTERFERENCE: The procedure used was ANSI STANDARD C63.4-2009 5.2 using a 50μH LISN (if necessary). Both lines were observed. The bandwidth of the spectrum analyzer was 10 kHz with an appropriate sweep speed.

RADIATION INTERFERENCE: The test procedure used was according to ANSI STANDARD C63.4-2009 6.4 employing a spectrum analyzer. For investigated frequency is equal to or below 1GHz, the RBW and VBW of the spectrum analyzer was 100 kHz and 100kHz respectively with an appropriate sweep speed. For investigated frequency is above 1GHz, both of RBW and VBW of the spectrum analyzer were 1 MHz with an appropriate sweep speed. The analyzer was calibrated in dB above a microvolt at the output of the antenna.

FORMULA OF CONVERSION FACTORS: The Field Strength at 3m was established by adding the meter reading of the spectrum analyzer (which is set to read in units of dBμV) to the antenna correction factor supplied by the antenna manufacturer. The antenna correction factors are stated in terms of dB.

Example:

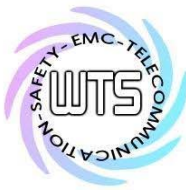
Freq (MHz)	METER READING + ACF + CABLE LOSS (to the receiver) = FS
33	20 dBμV + 10.36 dB + 6 dB = 36.36 dBμV/m @3m

The EUT was placed on a table 80 cm high and with dimensions of 1m by 1.5m (non metallic table) and arranged according to ANSI C63.4-2009 Section 6.3.1. The table used for radiated measurements is capable of continuous rotation. The spectrum was scanned from 30 MHz to the frequency specified as follows:

- (1) If the intentional radiator operates below 10 GHz: to the tenth harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower.
- (2) If the intentional radiator operates at or above 10 GHz and below 30 GHz: to the fifth harmonic of the highest fundamental frequency or to 100 GHz, whichever is lower.
- (3) If the intentional radiator operates at or above 30 GHz: to the fifth harmonic of the highest fundamental frequency or to 200 GHz, whichever is lower, unless specified otherwise elsewhere in the rules.
- (4) If the intentional radiator contains a digital device, regardless of whether this digital device controls the functions of the intentional radiator or the digital device is used for additional control or function purposes other than to enable the operation of the intentional radiator, the frequency range shall be investigated up to the range specified in paragraphs (a)(1)-(a)(3) of this section or the range applicable to the digital device, as shown in paragraph (b)(1) of this Section, whichever is the higher frequency range of investigation.

For hand-held devices, a exploratory test was performed with three (3) orthogonal planes to determine the highest emissions.

Measurements were made by Worldwide Testing Services(Taiwan) Co., Ltd. at the registered open field test site located No.5-1, Lishui, Shuang Sing Village, Wanli Dist., New Taipei City 207, Taiwan (R.O.C.). The Registration Number: **930600**.



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When an emission was found, the table was rotated to produce the maximum signal strength. At this point, the antenna was raised and lowered from 1m to 4m. The antenna was placed in both the horizontal and vertical planes.

When the radiated emission limits are expressed in terms of the average value of the emission, and pulsed operation is employed, the measurement field strength shall be determined by averaging over one complete pulse train, including blanking intervals, as long as the pulse train does not exceed 0.1 seconds. As an alternative (provided the transmitter operates for longer than 0.1 seconds) or in cases where the pulse train exceeds 0.1 seconds, the measured field strength shall be determined from the average absolute voltage during a 0.1 second interval during which the field strength is at its maximum value.

The formula is as follows:

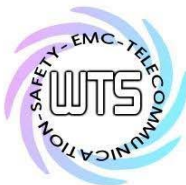
Average = Peak + Duty Factor

Duty Factor = $20 \log (\text{dwell time}/T)$

$T = 100\text{ms}$ when the pulse train period is over 100 ms or the period of the pulse train.

Modified Limits for peak according to 15.35 (b) = Max Permitted average Limits + 20dB

ANSI STANDARD C63.4-2009 10.2.7: Any measurements that utilize special test software shall be indicated and referenced in the test report. During testing, test software 'EZ EMC' was used for setting up different operation modes.

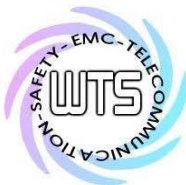


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3 Test results (enclosure)

TEST CASE	Para. Number	Required	Test passed	Test failed
Output Power Field Strength	15.225 (a) (b) (c)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Out of Band Radiated Emissions	15.225 (d)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Band Edge	15.225 (d)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Occupied bandwidth	2.1049	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Frequency Stability	15.225 (e)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>
Power Line Conducted Emission	15.207 (a)	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>

The follows is intended to leave blank.



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3.1 Output Power (Field Strength)

FCC Rules: 15.225 (a) (b) (c), 15.205, 15.209, 15.35
Operation within the band 13.110 - 14.010 MHz
Limit

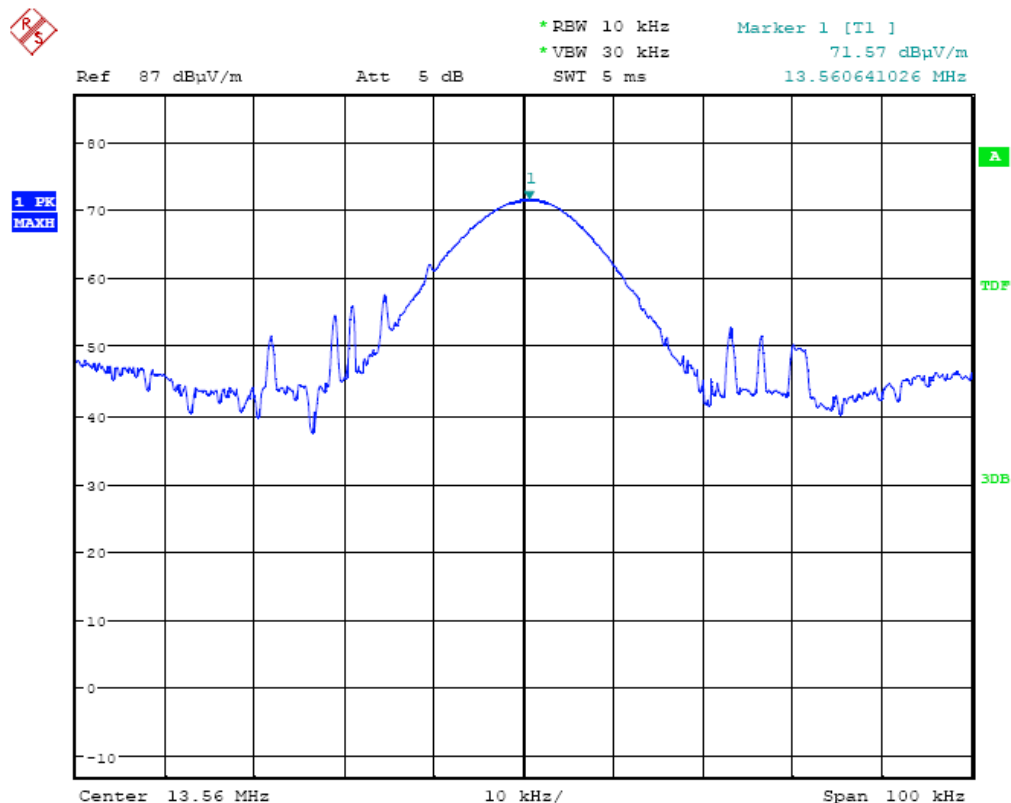
(a) The field strength of any emissions within the band 13.553–13.567 MHz shall not exceed 15.848 microvolts/meter at 30 meters.

(b) Within the bands 13.410–13.553 MHz and 13.567–13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.

(c) Within the bands 13.110–13.410 MHz and 13.710–14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.

Measurement Results:

The field strength at 3 meter distance as 71.57 dB μ V/m. Extrapolated with 40dB to 30 meter distance it would be 31.57 dB μ V/m.



Max output power
Date: 29.MAR.2011 11:39:23

Test equipment used: ETSTW-RE 027, ETSTW-RE 055

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3.2 Out of Band Radiated Emissions

(d) The field strength of any emissions appearing outside of the 13.110-14.010 MHz band shall not exceed the general radiated emission limits in § 15.209.

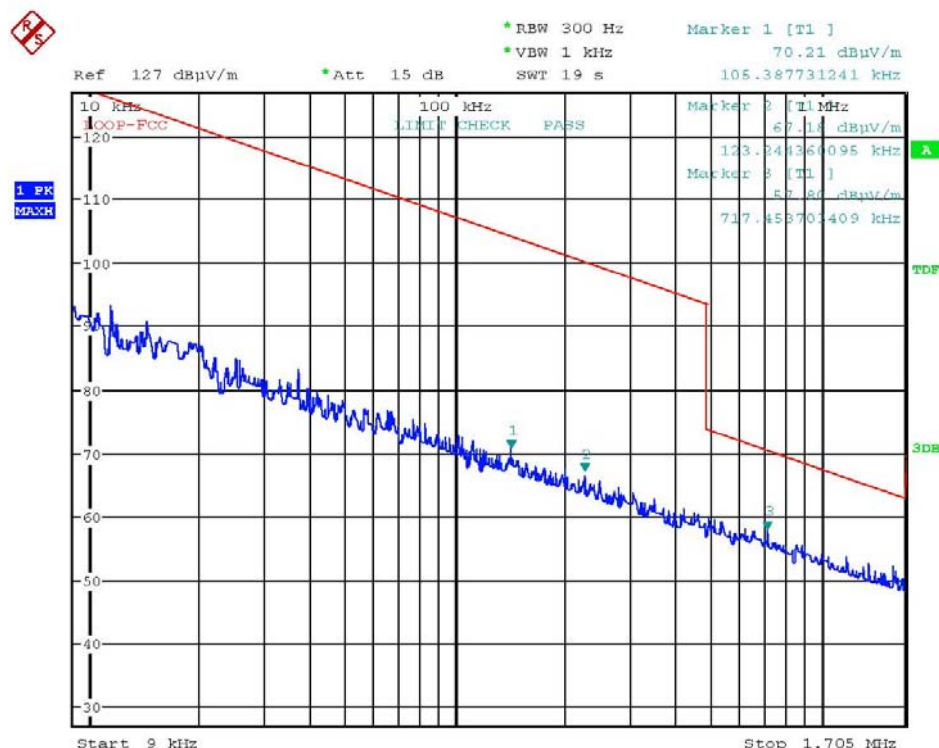
Frequency of Emission (MHz)	Limit	Measurement distance
0.009 – 0.490	2400 / f (KHz)	300
0.49 – 1.705	24000 / f (KHz)	30
1.705 – 30	30	30
30 – 88	100	3
88 – 216	150	3
216 – 960	200	3
Above 960	500	3

Calculation of test results:

Such factors like antenna correction, cable loss, external attenuation etc. are already included in the provided measurement results. This is done by using validated test software and calibrated test system according the accreditation requirements.

Summary table with radiated data of the test plots

Operating: TX mode

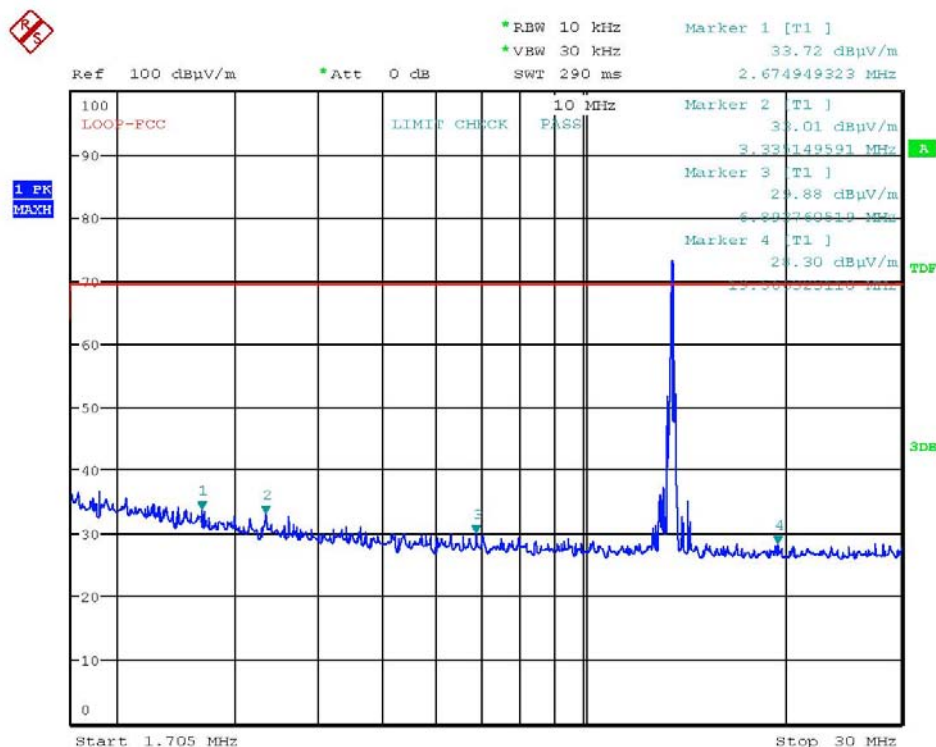


Date: 28.MAR.2011 10:15:33



Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21103-11324-P-15
FCC ID: V93-POSIFCC1000



Date: 28.MAR.2011 10:20:56

Model: CC-1000 Date: 2011/3/25
Mode: TX Temperature: 24 °C Engineer: Rick
Polarization: Horizontal Humidity: 60 %

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
144.1683	20.39	peak	15.69	36.08	43.50	-7.42	170	150
203.6874	25.52	peak	12.81	38.33	43.50	-5.17	250	150
232.9057	26.30	peak	13.87	40.17	46.00	-5.83	210	150
305.6113	23.56	peak	16.08	39.64	46.00	-6.36	220	150
367.3346	22.09	peak	17.52	39.61	46.00	-6.39	130	150
841.4830	17.93	peak	26.08	44.01	46.00	-1.99	240	150

Polarization: Vertical

Frequency (MHz)	Reading (dBuV)	Detector	Factor (dB)	Result (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Table Degree (Deg.)	Ant. High (cm)
40.2806	24.23	peak	14.24	38.47	40.00	-1.53	130	150
203.6874	24.57	peak	12.81	37.38	43.50	-6.12	210	150
233.9880	25.92	peak	13.92	39.84	46.00	-6.16	170	150
305.6113	26.57	peak	16.08	42.65	46.00	-3.35	170	150
365.9320	23.64	peak	17.49	41.13	46.00	-4.87	130	150
841.4830	18.16	peak	26.08	44.24	46.00	-1.76	220	150

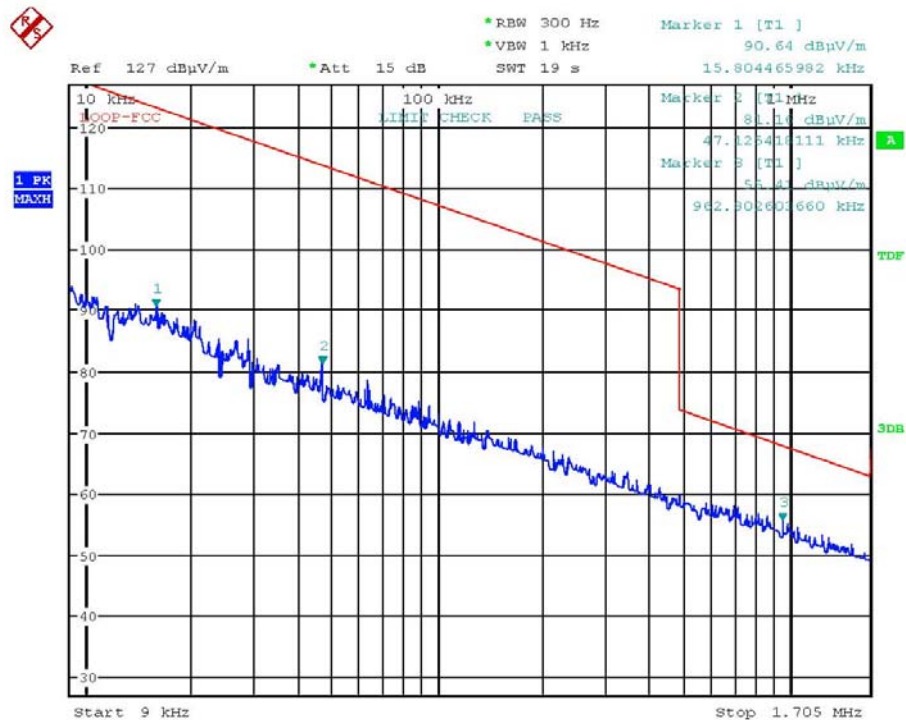


Worldwide Testing Services(Taiwan) Co., Ltd.

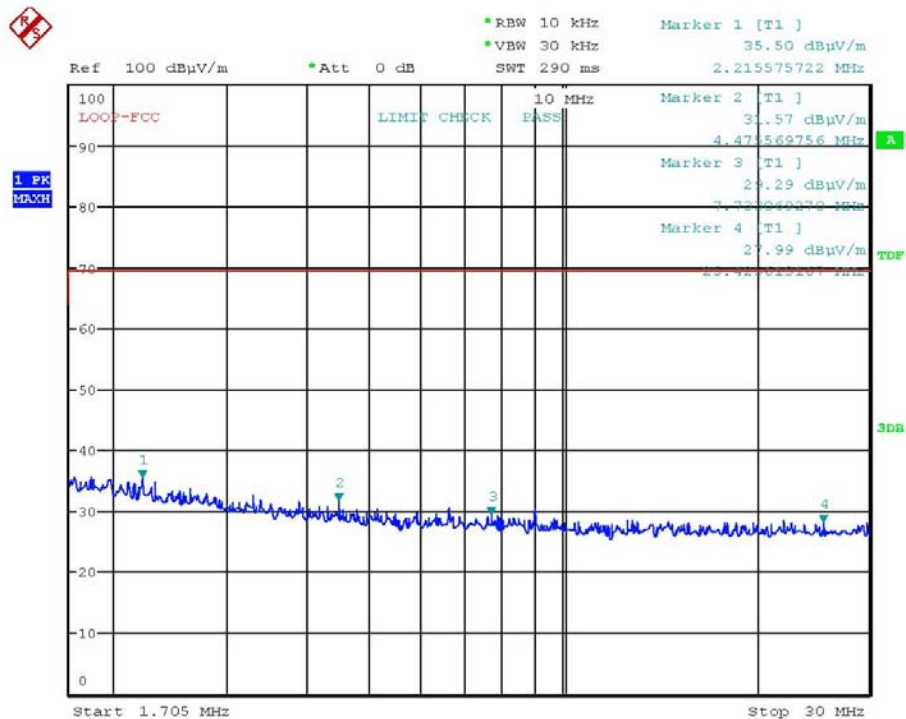
Registration number: W6M21103-11324-P-15

FCC ID: V93-POSIFCC1000

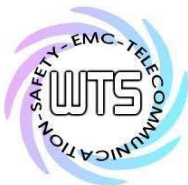
Operating: RX mode



Date: 28.MAR.2011 11:02:14



Date: 28.MAR.2011 10:55:03



Registration number: W6M21103-11324-P-15
FCC ID: V93-POSIFCC1000

Note

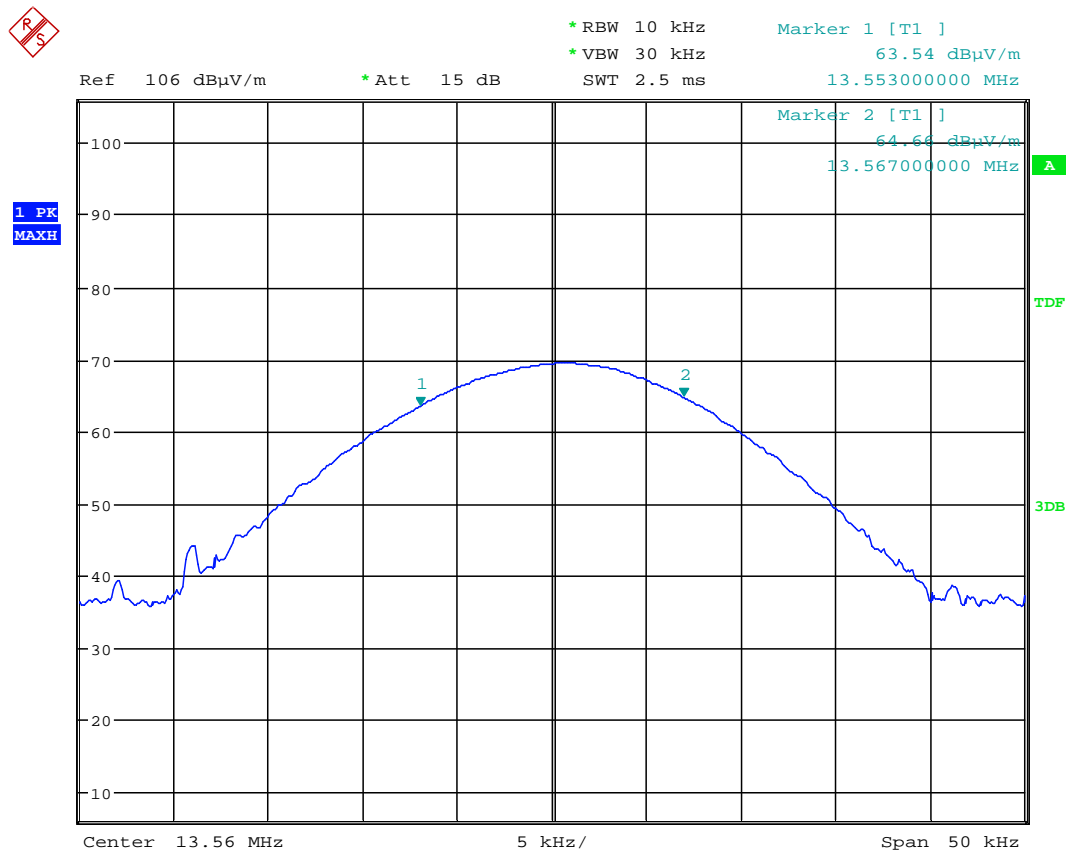
1. **Correction Factor = Antenna factor + Cable loss - Preamplifier**
2. **The formula of measured value as: Test Result = Reading + Correction Factor**
3. **Detector function in the form : PK = Peak, QP = Quasi Peak, AV = Average**
4. **All not in the table noted test results are more than 20 dB below the relevant limits.**

All other not noted test plots do not contain significant test results in relation to the limits
Test results: The unit meet the FCC requirements.

Explanation: See attached diagrams for above 30MHz in appendix. For receiver part of above 30 MHz,
Please refer to test report no.: W6M21103-11324-P-15B.

Test equipment used: ETSTW-RE 003, ETSTW-RE 004, ETSTW-RE 027, ETSTW-RE 028,
ETSTW-RE 029, ETSTW-RE 042, ETSTW-RE 043

Test result of Band Edge



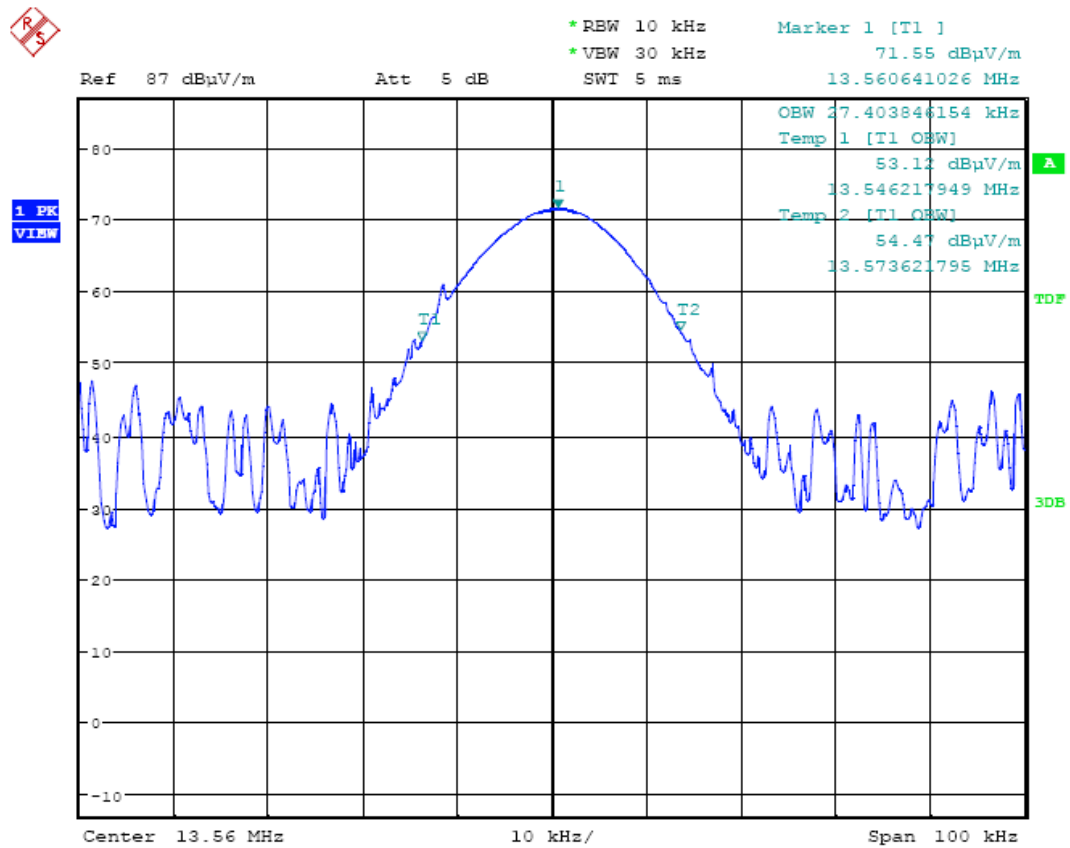
Date: 1.APR.2011 15:35:01

Test equipment used: ETSTW-RE 055

Registration number: W6M21103-11324-P-15

FCC ID: V93-POSIFCC1000

3.3 Occupied bandwidth



Occupied Bandwidth

Date: 29.MAR.2011 11:40:21

Test equipment used: ETSTW-RE 055, ETSTW-RE 064



Registration number: W6M21103-11324-P-15
FCC ID: V93-POSIFCC1000

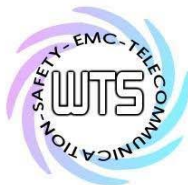
3.4 Frequency tolerance

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

Measurement Results:

Temperature Degrees °C	Voltage	Frequency MHz	Frequency deviation Hz	Limit Hz (0.01%)
20°C	93.5	13.560643	643	1356
20°C	126.5	13.560643	643	1356
50°C	110	13.560482	482	1356
40°C	110	13.560647	647	1356
30°C	110	13.560325	325	1356
20°C	110	13.560643	643	1356
10°C	110	13.560482	482	1356
0°C	110	13.560647	647	1356
-10°C	110	13.560647	647	1356
-20°C	110	13.560801	801	1356

Test equipment used: ETSTW-RE 055, ETSTW-CE 009



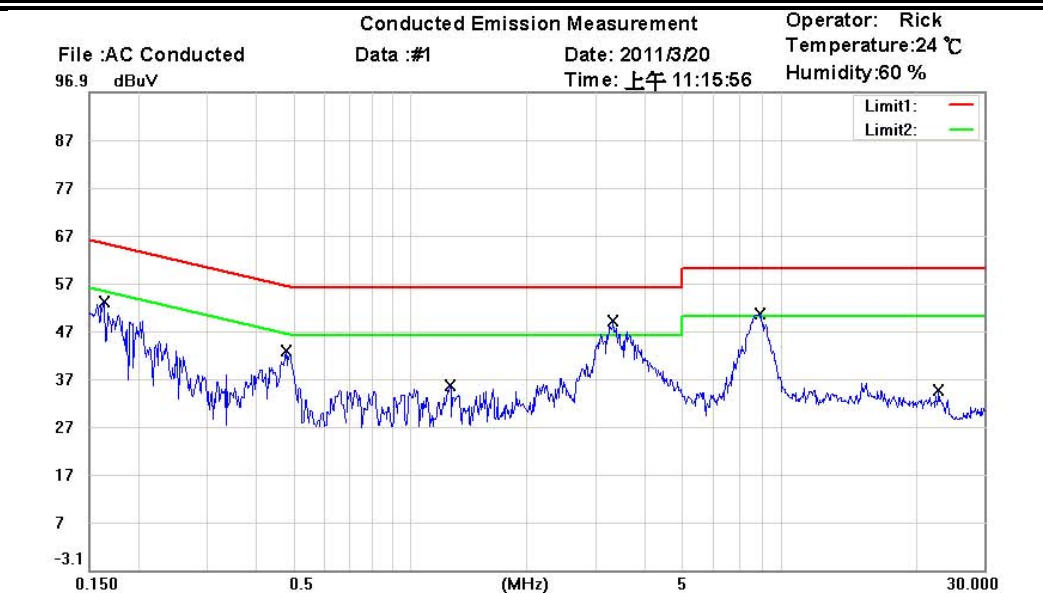
Registration number: W6M21103-11324-P-15
FCC ID: V93-POSIFCC1000

3.5 Power Line Conducted Emission

For an intentional radiator which is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the table bellows with this provision shall be based on the measurement of the radio frequency voltage between each power line and ground at the power terminals.

This measurement was transact first with instrumentation using an average and peak detector and a 10 kHz bandwidth. If the peak detector achieves a calculated level, the measurement is repeated by an instrumentation using a quasi-peak detector.

Frequency	Level (dB μ V)	
	quasi-peak	average
150 kHz	lower limit line	Lower limit line

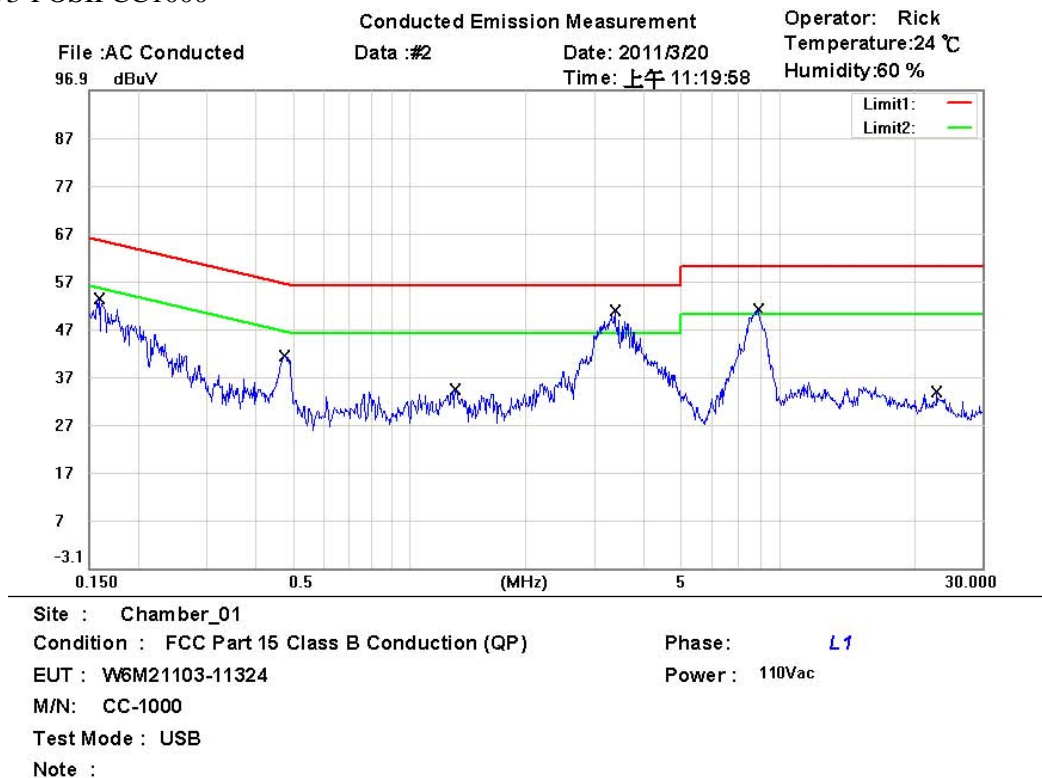


Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Comment
	0.1630	41.94	QP	9.98	51.92	65.31	-13.39	
	0.1630	28.71	AVG	9.98	38.69	55.31	-16.62	
	0.4781	30.48	QP	10.00	40.48	56.37	-15.89	
	0.4781	17.41	AVG	10.00	27.41	46.37	-18.96	
	1.2672	20.36	QP	10.03	30.39	56.00	-25.61	
	1.2672	7.18	AVG	10.03	17.21	46.00	-28.79	
	3.3148	35.14	QP	10.17	45.31	56.00	-10.69	
*	3.3148	27.70	AVG	10.17	37.87	46.00	-8.13	
	7.8875	37.29	QP	10.45	47.74	60.00	-12.26	
	7.8875	30.77	AVG	10.45	41.22	50.00	-8.78	
	22.8250	19.53	QP	11.41	30.94	60.00	-29.06	
	22.8250	15.62	AVG	11.41	27.03	50.00	-22.97	



Worldwide Testing Services(Taiwan) Co., Ltd.

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FCC ID: V93-POSIFCC1000



Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Comment
	0.1587	40.22	QP	9.99	50.21	65.53	-15.32	
	0.1587	22.71	AVG	9.99	32.70	55.53	-22.83	
	0.4740	27.80	QP	10.00	37.80	56.44	-18.64	
	0.4740	16.81	AVG	10.00	26.81	46.44	-19.63	
	1.3167	20.10	QP	10.04	30.14	56.00	-25.86	
	1.3167	10.89	AVG	10.04	20.93	46.00	-25.07	
	3.3800	36.82	QP	10.17	46.99	56.00	-9.01	
*	3.3800	30.07	AVG	10.17	40.24	46.00	-5.76	
	7.8750	36.57	QP	10.45	47.02	60.00	-12.98	
	7.8750	29.79	AVG	10.45	40.24	50.00	-9.76	
	22.8250	20.22	QP	11.41	31.63	60.00	-28.37	
	22.8250	16.98	AVG	11.41	28.39	50.00	-21.61	



Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21103-11324-P-15

FCC ID: V93-POSIFCC1000

Conducted Emission Measurement

Operator: Rick

Temperature: 24 °C

Humidity: 60 %

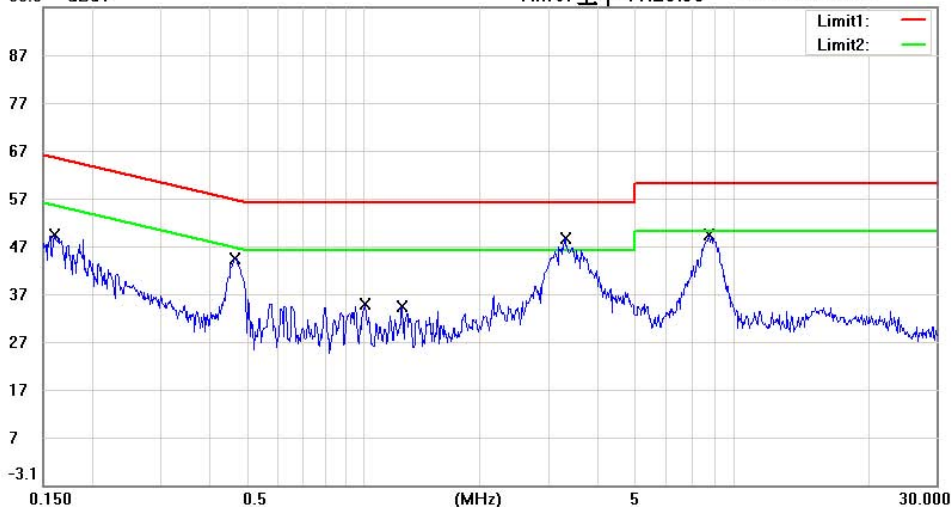
File : AC Conducted

Data : #2

Date: 2011/3/20

Time: 上午 11:25:53

96.9 dBuV



Site : Chamber_01

Condition : FCC Part 15 Class B Conduction (QP)

Phase: N

EUT : W6M21103-11324

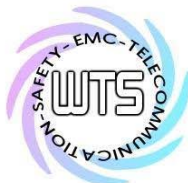
Power : 110Vac

M/N: CC-1000

Test Mode : RS232

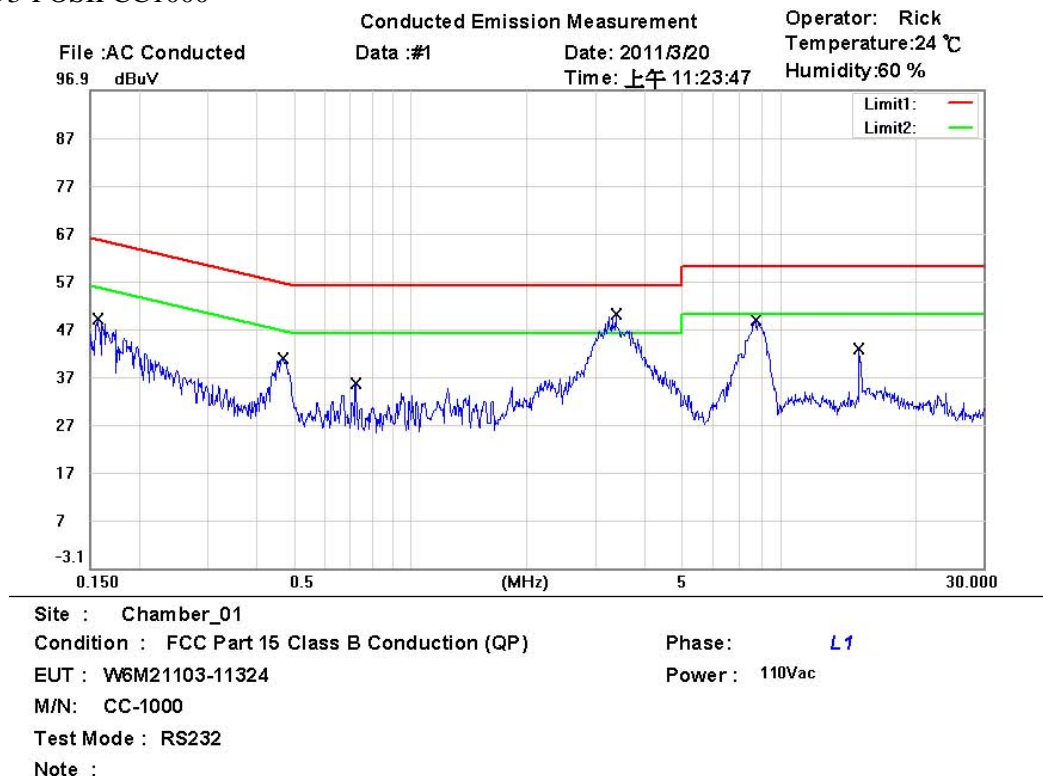
Note :

Mk.	Frequency (MHz)	Reading (dBuV)	Detector	Corrected factor(dB)	Result (dBuV)	Limit (dBuV)	Margin (dB)	Comment
	0.1604	36.86	QP	9.93	46.79	65.44	-18.65	
	0.1604	21.40	AVG	9.93	31.33	55.44	-24.11	
	0.4655	31.00	QP	9.93	40.93	56.59	-15.66	
	0.4655	16.46	AVG	9.93	26.39	46.59	-20.20	
	1.0152	19.43	QP	9.96	29.39	56.00	-26.61	
	1.0152	5.90	AVG	9.96	15.86	46.00	-30.14	
	1.2560	14.85	QP	9.97	24.82	56.00	-31.18	
	1.2560	4.21	AVG	9.97	14.18	46.00	-31.82	
	3.2945	32.96	QP	10.08	43.04	56.00	-12.96	
	3.2945	24.71	AVG	10.08	34.79	46.00	-11.21	
	7.7375	36.21	QP	10.32	46.53	60.00	-13.47	
*	7.7375	29.10	AVG	10.32	39.42	50.00	-10.58	



Worldwide Testing Services(Taiwan) Co., Ltd.

Registration number: W6M21103-11324-P-15
FCC ID: V93-POSIFCC1000



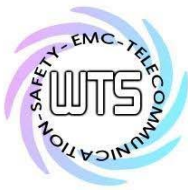
Mk.	Frequency (MHz)	Reading (dBUV)	Detector	Corrected factor(dB)	Result (dBUV)	Limit (dBUV)	Margin (dB)	Comment
	0.1560	36.72	QP	9.99	46.71	65.67	-18.96	
	0.1560	19.25	AVG	9.99	29.24	55.67	-26.43	
	0.4683	31.79	QP	10.00	41.79	56.54	-14.75	
	0.4683	16.17	AVG	10.00	26.17	46.54	-20.37	
	0.7250	17.50	QP	10.01	27.51	56.00	-28.49	
	0.7250	3.76	AVG	10.01	13.77	46.00	-32.23	
	3.3755	35.13	QP	10.17	45.30	56.00	-10.70	
*	3.3755	28.26	AVG	10.17	38.43	46.00	-7.57	
	7.7125	35.39	QP	10.45	45.84	60.00	-14.16	
	7.7125	28.28	AVG	10.45	38.73	50.00	-11.27	
	14.3250	17.28	QP	10.95	28.23	60.00	-31.77	
	14.3250	9.93	AVG	10.95	20.88	50.00	-29.12	

- Note: 1. The formula of measured value as: Test Result = Reading + Correction Factor
2. The Correction Factor = Cable Loss + LISN Insertion Loss + Pulse Limit Loss
3. Detector function in the form : PK = Peak, QP = Quasi Peak, AV = Average
4. All not in the table noted test results are more than 20 dB below the relevant limits.
5. Up Line: QP Limit Line, Down Line: Ave Limit Line.

Limits:

Frequency of Emission (MHz)	Conducted Limit (dBUV)	
	Quasi Peak	Average
0.15-0.5	66 to 56	56 to 46
0.5-5	56	46
5-30	60	50

Test equipment used: ETSTW-CE 001, ETSTW-CE 004, ETSTW-CE 006

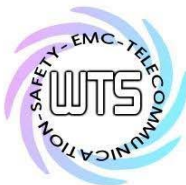


Registration number: W6M21103-11324-P-15
FCC ID: V93-POSIFCC1000

Appendix

Measurement diagrams

Out of Band Radiated Emissions



Worldwide Testing Services(Taiwan) Co., Ltd.

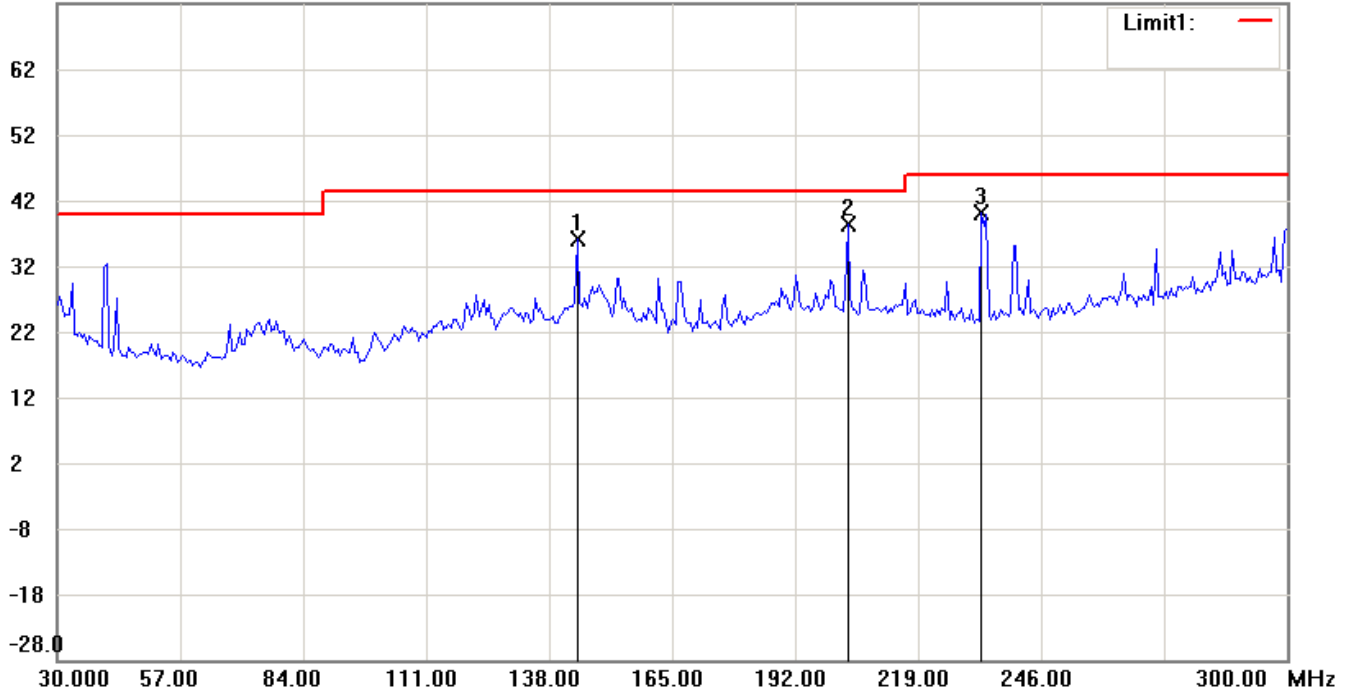
Registration number: W6M21103-11324-P-15

FCC ID: V93-POSIFCC1000

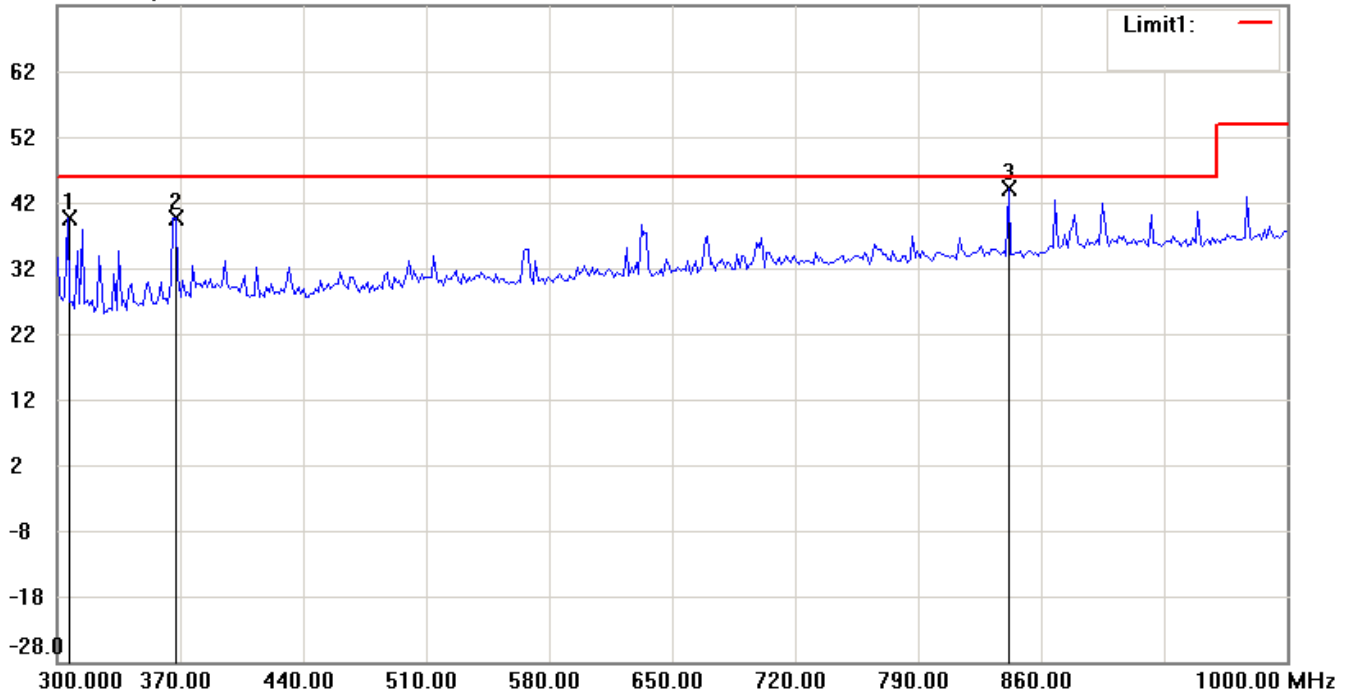
TX mode (Above 30 MHz)

Antenna Polarization H

72.0 dBuV/m

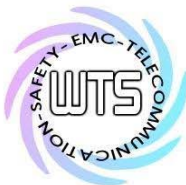


72.0 dBuV/m



Note:

1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
3. For corrected test results are listed in the relevant table of radiated test data of this test report.

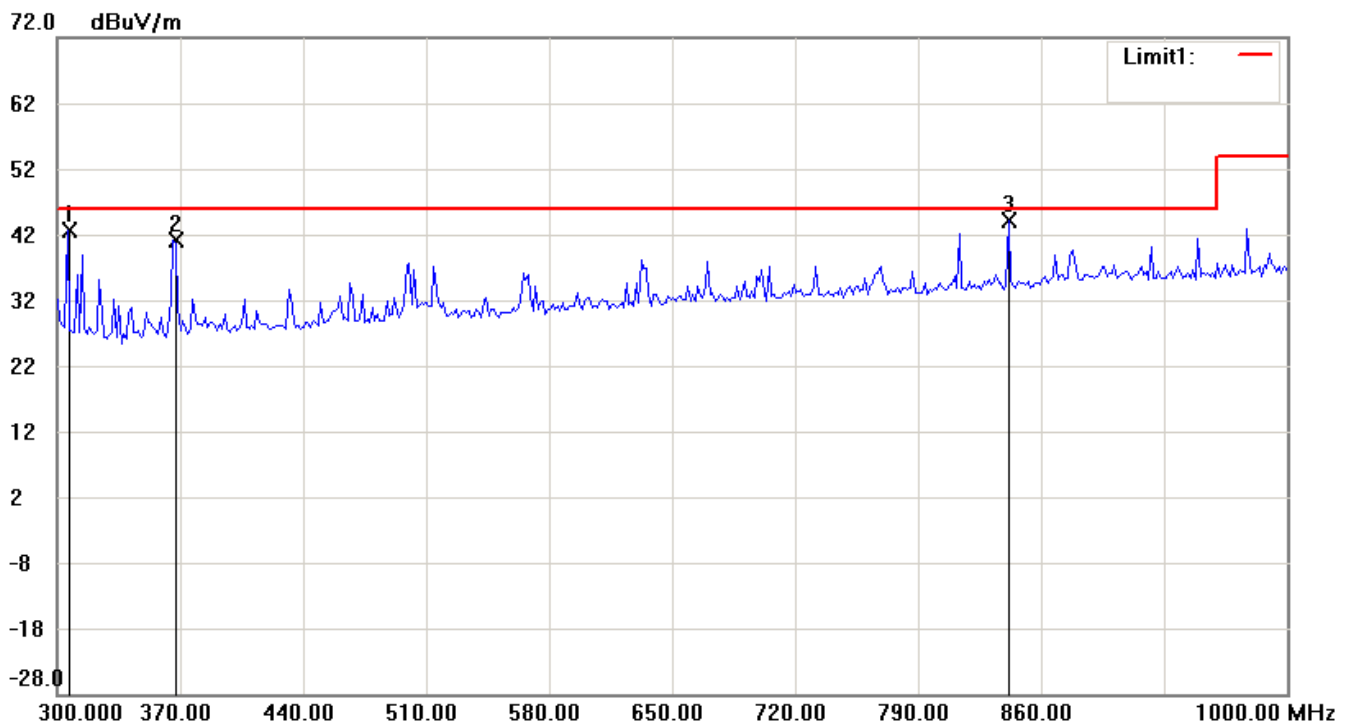
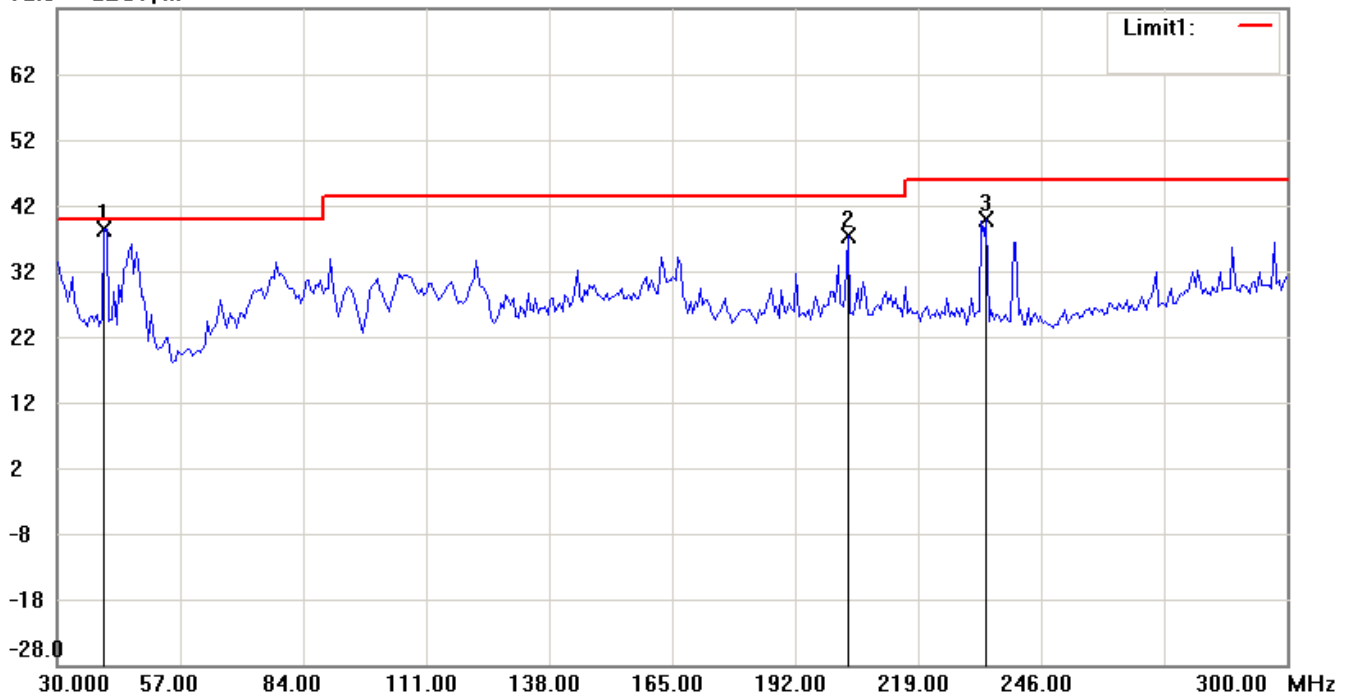


Registration number: W6M21103-11324-P-15

FCC ID: V93-POSIFCC1000

Antenna Polarization V

72.0 dBuV/m



Note:

1. The attached measurement plots are preliminarily pre-scanned with peak detector for determining the final checking frequencies and are for reference only.
2. The some frequencies may exceed the limit line without the specified detectors, but that cannot present the results are failed to the specification of test standard.
3. For corrected test results are listed in the relevant table of radiated test data of this test report.