SPORTON International Inc.
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FCC RADIO TEST REPORT

Applicant's company	**PEGATRON CORPORATION**
Applicant Address	5F., NO. 76, LIGONG ST., BEITOU DISTRICT, TAIPEI CITY 112 Taiwan
FCC ID	**VUIDPC3941**
Manufacturer's company	**MAINTEK COMPUTER**
Manufacturer Address	233 Jinfeng Rd., Suzhou, Jiangsu, PRC

Product Name	Wireless Residential Voice Gateway
Brand Name	Cisco
Model No.	DPC3941, DPC3941T
Test Rule Part(s)	47 CFR FCC Part 15 Subpart C § 15.247
Test Freq. Range	2400 ~ 2483.5MHz / 5725 ~ 5850MHz
Received Date	Dec. 16, 2013
Final Test Date	Apr. 29, 2014
Submission Type	Class II Change

Statement

Test result included is only for the IEEE 802.11n, IEEE 802.11b/g and IEEE 802.11a/ac of the product.

The test result in this report refers exclusively to the presented test model / sample.

Without written approval of SPORTON International Inc., the test report shall not be reproduced except in full.

The measurements and test results shown in this test report were made in accordance with the procedures and found in compliance with the limit given in **ANSI C63.10-2009**, **47 CFR FCC Part 15 Subpart C**, **KDB 558074 D01 v03r01**, **KDB 662911 D01 v02r01**, **KDB644545 D01v01r02.**

The test equipment used to perform the test is calibrated and traceable to NML/ROC.

TAF
Testing Laboratory
1190

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History of This Test Report

REPORT NO.	VERSION	DESCRIPTION	ISSUED DATE
FR3D1632-01AA	Rev. 01	Initial issue of report	May 05, 2014

Certificate No.: CB10304162

1. CERTIFICATE OF COMPLIANCE

Product Name	:	Wireless Residential Voice Gateway
Brand Name	:	Cisco
Model No.	:	DPC3941, DPC3941T
Applicant	:	PEGATRON CORPORATION
Test Rule Part(s)	:	47 CFR FCC Part 15 Subpart C § 15.247

Sporton International as requested by the applicant to evaluate the EMC performance of the product sample received on Dec. 16, 2013 would like to declare that the tested sample has been evaluated and found to be in compliance with the tested rule parts. The data recorded as well as the test configuration specified is true and accurate for showing the sample's EMC nature.

Sam Chen
SPORTON INTERNATIONAL INC.

2. SUMMARY OF THE TEST RESULT

Applied Standard: 47 CFR FCC Part 15 Subpart C				
Part	**Rule Section**	**Description of Test**	**Result**	**Under Limit**
4.1	15.247(b)(3)	Maximum Conducted Output Power	Complies	0.01 dB
4.2	15.247(d)	Radiated Emissions	Complies	0.10 dB
4.3	15.203	Antenna Requirements	Complies	-

Note: Test result of maximum conducted output power is based on original test report.

3. GENERAL INFORMATION

3.1. Product Details

IEEE 802.11n/ac

Items	Description
Product Type	WLAN (3TX, 3RX)
Radio Type	Intentional Transceiver
Power Type	Internal power supply
Modulation	see the below table for IEEE 802.11n/ac
Data Modulation	For 802.11n: OFDM (BPSK / QPSK / 16QAM / 64QAM) For 802.11ac: OFDM (BPSK / QPSK / 16QAM / 64QAM / 256QAM)
Data Rate (Mbps)	see the below table for IEEE 802.11n/ac
Frequency Range	2400 ~ 2483.5MHz / 5725 ~ 5850MHz
Channel Number	For 2.4GHz Band: 11 for 20MHz bandwidth ; 7 for 40MHz bandwidth For 5GHz Band: 5 for 20MHz bandwidth ; 2 for 40MHz bandwidth ; 1 for 80MHz bandwidth
Maximum Conducted Output Power	For 2.4GHz Band: MCS0 (HT20): 26.65 dBm ; MCS0 (HT40): 21.45 dBm For 5GHz Band: 802.11ac MCS0/Nss1 (VHT20): 29.97 dBm ; 802.11ac MCS0/Nss1 (VHT40): 29.64 dBm ; 802.11ac MCS0/Nss1 (VHT80): 29.45 dBm
Carrier Frequencies	Please refer to section 3.4
Antenna	Please refer to section 3.3

IEEE 802.11a/b/g

Items	Description
Product Type	WLAN (3TX, 3RX)
Radio Type	Intentional Transceiver
Power Type	Internal power supply
Modulation	DSSS for IEEE 802.11b ; OFDM for IEEE 802.11a/g
Data Modulation	DSSS (BPSK / QPSK / CCK) ; OFDM (BPSK / QPSK / 16QAM / 64QAM)
Data Rate (Mbps)	DSSS (1/ 2/ 5.5/11) ; OFDM (6/9/12/18/24/36/48/54)
Frequency Range	2400 ~ 2483.5MHz / 5725 ~ 5850MHz
Channel Number	11b/g: 11 ; 11a: 5
Maximum Conducted Output Power	11b: 26.49 dBm ; 11g: 26.68 dBm ; 11a: 29.99 dBm
Carrier Frequencies	Please refer to section 3.4
Antenna	Please refer to section 3.3

Items	Description	
Beamforming Function	☐ With beamforming	☒ Without beamforming

Antenna and Band width

Antenna	Three (TX)		
Band width Mode	20 MHz	40 MHz	80 MHz
IEEE 802.11a	V	X	X
IEEE 802.11b	V	X	X
IEEE 802.11g	V	X	X
IEEE 802.11n	V	V	X
IEEE 802.11ac	V	V	V

IEEE 11n/ac Spec.

Protocol	Number of Transmit Chains (NTX)	Data Rate / MCS
802.11n (HT20)	3	MCS0-23
802.11n (HT40)	3	MCS0-23
802.11ac (VHT20)	3	MCS 0-9/Nss1-3
802.11ac (VHT40)	3	MCS 0-9/Nss1-3
802.11ac (VHT80)	3	MCS 0-9/Nss1-3

Note 1: IEEE Std. 802.11n modulation consists of HT20 and HT40 (HT: High Throughput). Then EUT support HT20 and HT40.

Note 2: IEEE Std. 802.11ac modulation consists of VHT20, VHT40, VHT80 and VHT160 (VHT: Very High Throughput). Then EUT support VHT20, VHT40 and VHT80.

Note 3: Modulation modes consist of below configuration: HT20/HT40: IEEE 802.11n, VHT20/VHT40/VHT80: IEEE 802.11ac

3.2. Accessories

Power line*1, Non-shielded, 2m

3.3. Table for Filed Antenna

Ant.	Brand	Model Name	P/N	Antenna Type	Connector	Gain (dBi)	
						2.4GHz	5GHz
1	Wanshih	WPB263	UC3WFI0087	PCB Antenna	MHF	2.03	-
2	Wanshih	WPB264	UC3WFI0088	PCB Antenna	MHF	2.11	-
3	Wanshih	WPB265	UC3WFI0089	PCB Antenna	MHF	1.73	-
4	Wanshih	WPB266	UC3WFI0090	PCB Antenna	MHF	-	2.08
5	Wanshih	WPB268	UC3WFI0092	PCB Antenna	MHF	-	2.03
6	Wanshih	WPB267	UC3WFI0091	PCB Antenna	MHF	-	1.99
7	ACON	Cisco_DPC_3941	APP6P-701222	PCB Antenna	MHF	-	1.95
8	ACON	Cisco_DPC_3941	APP6P-701220	PCB Antenna	MHF	-	2.03
9	ACON	Cisco_DPC_3941	APP6P-701221	PCB Antenna	MHF	-	1.34

Note: The EUT has nine antennas.

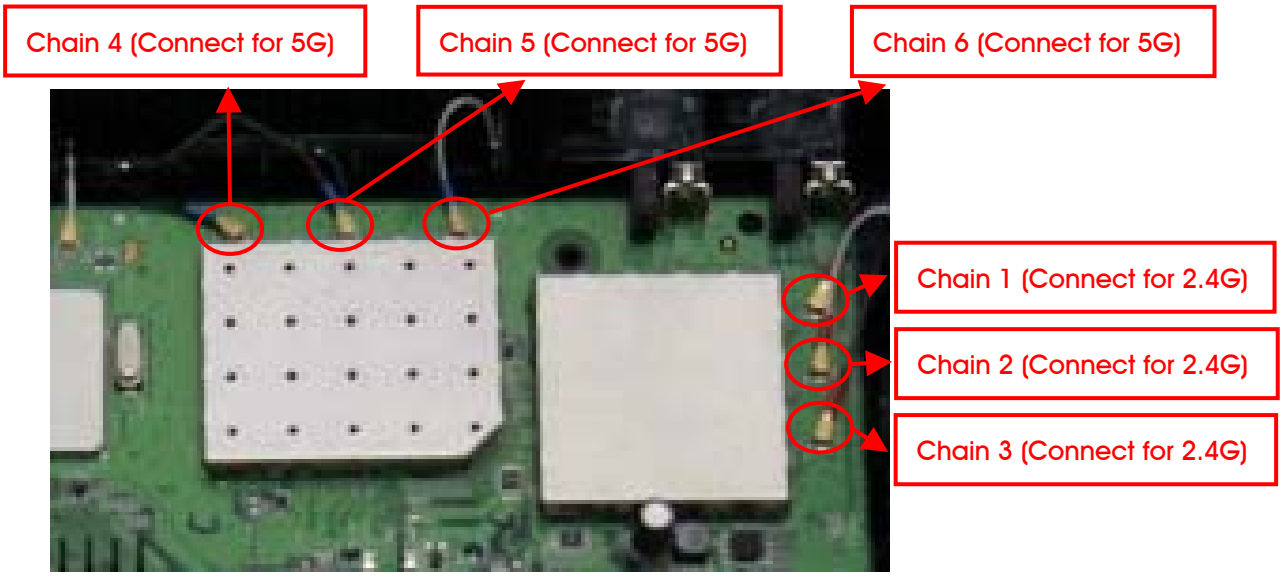
Chain 1: Connect to Ant. 1, Chain 2: Connect to Ant. 2, Chain 3: Connect to Ant. 3, Chain 4: Connect to Ant. 4 or Ant. 7, Chain 5: Connect to Ant. 5 or Ant. 8, Chain 6: Connect to Ant. 6. or Ant. 9.

For 2.4GHz Band (3TX/3RX):

Chain 1, Chain 2 and Chain 3 could transmit/receive simultaneously.

For 5 GHz Band (3TX/3RX):

Chain 4, Chain 5 and Chain 6 could transmit/receive simultaneously.



3.4. Table for Carrier Frequencies

For 2.4GHz Band:

There are two bandwidth systems.

For 20MHz bandwidth systems, use Channel 1~Channel 11.

For 40MHz bandwidth systems, use Channel 3~Channel 9.

Frequency Band	Channel No.	Frequency	Channel No.	Frequency
2400~2483.5MHz	1	2412 MHz	7	2442 MHz
	2	2417 MHz	8	2447 MHz
	3	2422 MHz	9	2452 MHz
	4	2427 MHz	10	2457 MHz
	5	2432 MHz	11	2462 MHz
	6	2437 MHz	-	-

For 5GHz Band:

There are three bandwidth systems.

For 20MHz bandwidth systems, use Channel 149, 153, 157, 161, 165.

For 40MHz bandwidth systems, use Channel 151, 159.

For 80MHz bandwidth systems, use Channel 155.

Frequency Band	Channel No.	Frequency	Channel No.	Frequency
5725~5850 MHz Band 4	149	5745 MHz	157	5785 MHz
	151	5755 MHz	159	5795 MHz
	153	5765 MHz	161	5805 MHz
	155	5775 MHz	165	5825 MHz

3.5. Table for Test Modes

Preliminary tests were performed in different data rate to find the worst radiated emission. The data rate shown in the table below is the worst-case rate with respect to the specific test item. Investigation has been done on all the possible configurations for searching the worst cases. The following table is a list of the test modes shown in this test report.

For 2.4GHz Band:

Test Items	Mode	Data Rate	Channel	Chain
Maximum Conducted Output Power	11n HT20	MCS0	1/6/11	1+2+3
	11n HT40	MCS0	3/6/9	1+2+3
	11b/CCK	1 Mbps	1/6/11	1+2+3
	11g/BPSK	6 Mbps	1/6/11	1+2+3
Radiated Emissions Below 1GHz	CTX	-	-	-

For 5GHz Band:

Test Items	Mode	Data Rate	Channel	Chain
Maximum Conducted Output Power	11ac VHT20	MCS0/Nss1	149/157/165	4+5+6
	11ac VHT40	MCS0/Nss1	151/159	4+5+6
	11ac VHT80	MCS0/Nss1	155	4+5+6
	11a/BPSK	6 Mbps	149/157/165	4+5+6
Radiated Emissions Below 1GHz	CTX	-	-	-

Note: Test result of maximum conducted output power is based on original test report.

The following test modes were performed for all tests:

For Radiated Emissions Below 1GHz test:

Mode 1. CTX- EUT 2.4G

Mode 2. CTX- EUT 5G

Mode 2 is the worst case, so it was selected to record in this test report.

3.6. Table for Testing Locations

Test Site Location				
Address:	No.8, Lane 724, Bo-ai St., Jhubei City, Hsinchu County 302, Taiwan, R.O.C.			
TEL:	886-3-656-9065			
FAX:	886-3-656-9085			
Test Site No.	**Site Category**	**Location**	**FCC Reg. No.**	**IC File No.**
03CH01-CB	SAC	Hsin Chu	262045	IC 4086D
TH01-CB	OVEN Room	Hsin Chu	-	-

Open Area Test Site (OATS); Semi Anechoic Chamber (SAC).

3.7. Table for Multiple List

The model numbers in the following table are all refer to the identical product.

Model No.	Information of Tuner Chip
DPC3941	1. Mxl267, Upstream channels (24 x 8) 2. Mxl265, Upstream channels (16 x 8)
DPC3941T	Mxl267, Upstream channels (24 x 8)

From the above models, model: DPC3941 was selected as representative model for the test and its data was recorded in this report.

3.8. Table for Class II Change

This product is an extension of original one reported under Sporton project number: FR3D1632AA
Below is the table for the change of the product with respect to the original one.

<table>
<tr><th>Modifications</th><th>Performance Checking</th></tr>
<tr><td>1. Adding a new tuner chip Mxl265 (Upstream channels 16 x 8), only for model number DPC3941.
2. Adding a new model number DPC3941T. The difference between original model number and new model number as below:
<table>
<tr><th>Model No.</th><th>Information of Tuner Chip</th></tr>
<tr><td>DPC3941 (original)</td><td>1. Mxl267, Upstream channels (24 x 8)
2. Mxl265, Upstream channels (16 x 8)</td></tr>
<tr><td>DPC3941T (new)</td><td>Mxl267, Upstream channels (24 x 8)</td></tr>
</table>
3. Adding 3 5GHz antennas. The antenna type is same as original certified antennas, but the antenna gain is lower than original certified antennas.</td><td>Radiated Emissions Below 1GHz.</td></tr>
</table>

Note: Test result of maximum conducted output power is based on original test report.

3.9. Table for Supporting Units

Test Site No: TH01-CB

Support Unit	Brand	Model	FCC ID
NB	DELL	E6430	DoC

For Test Site No: 03CH01-CB

Support Unit	Brand	Model	FCC ID
NB	DELL	M1330	DoC

3.10. Table for Parameters of Test Software Setting

During testing, Channel and Power Controlling Software provided by the customer was used to control the operating channel as well as the output power level. The RF output power selection is for the setting of RF output power expected by the customer and is going to be fixed on the firmware of the final end product.

For 2.4GHz Band

Power Parameters of IEEE 802.11n MCS0 HT20

Test Software Version	DOS		
Frequency	2412 MHz	2437 MHz	2462 MHz
MCS0 HT20	15	23	17.5

Power Parameters of IEEE 802.11n MCS0 HT40

Test Software Version	DOS		
Frequency	2422 MHz	2437 MHz	2452 MHz
MCS0 HT40	12.5	16.5	14

Power Parameters of IEEE 802.11b/g

Test Software Version	DOS		
Frequency	2412 MHz	2437 MHz	2462 MHz
IEEE 802.11b	19.5	22.5	22.5
IEEE 802.11g	15.5	23	18

For 5GHz Band

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT20

Test Software Version	DOS		
Frequency	5745 MHz	5785 MHz	5825 MHz
MCS0/Nss1 VHT20	29	29	29

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT40

Test Software Version	DOS	
Frequency	5755 MHz	5795 MHz
MCS0/Nss1 VHT40	27	29

Power Parameters of IEEE 802.11ac MCS0/Nss1 VHT80

Test Software Version	DOS
Frequency	5775 MHz
MCS0/Nss1 VHT80	29

Power Parameters of IEEE 802.11a

Test Software Version	DOS		
Frequency	5745 MHz	5785 MHz	5825 MHz
IEEE 802.11a	29	29	29

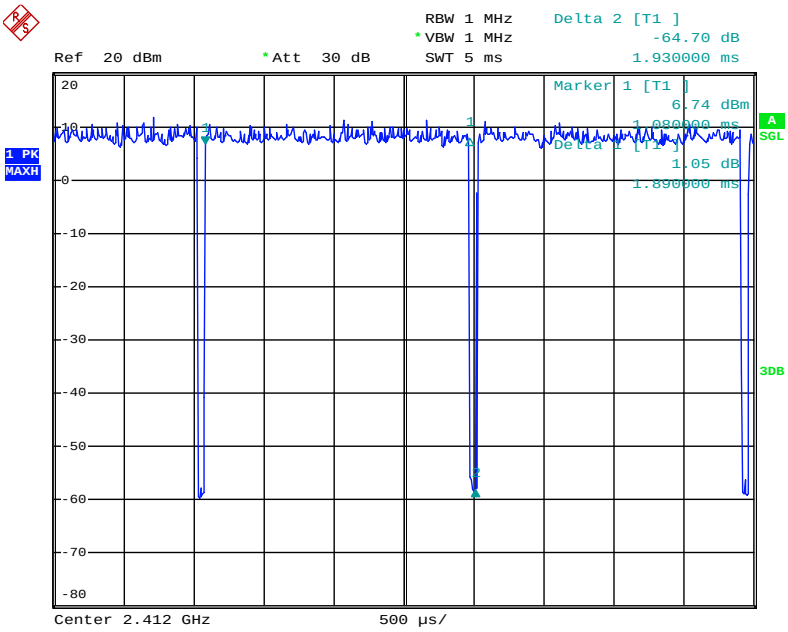
3.11. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

3.12. Duty Cycle

For 2.4GHz Band:

IEEE 802.11n MCS0 HT20



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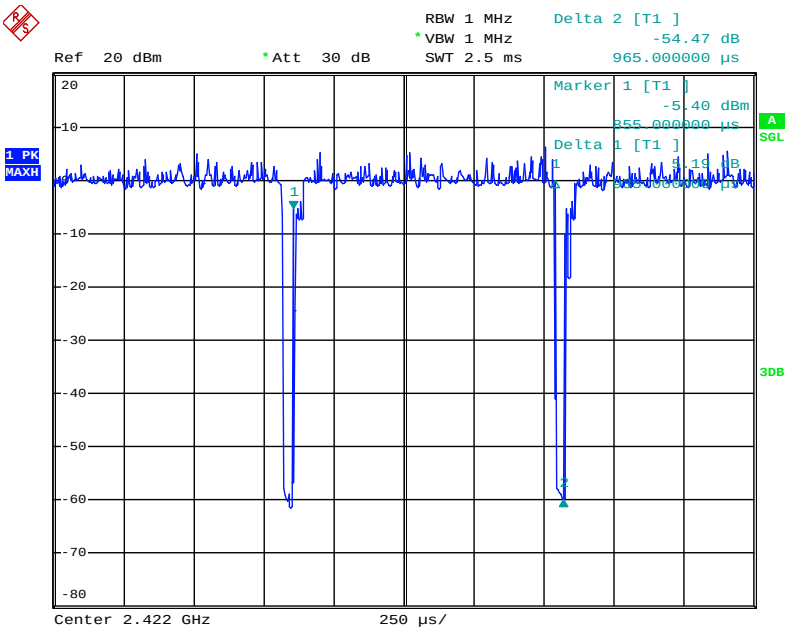
IEEE 802.11n MCS0 HT40



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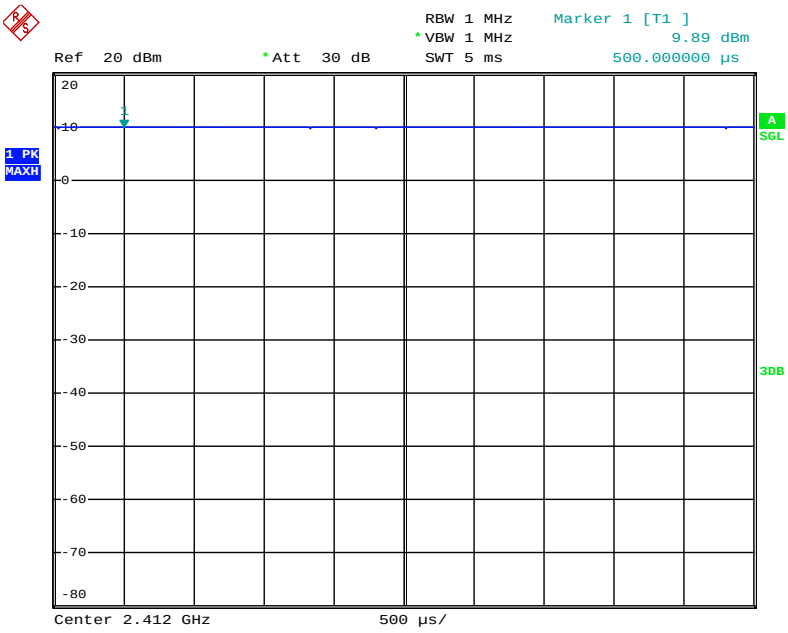
IEEE 802.11b



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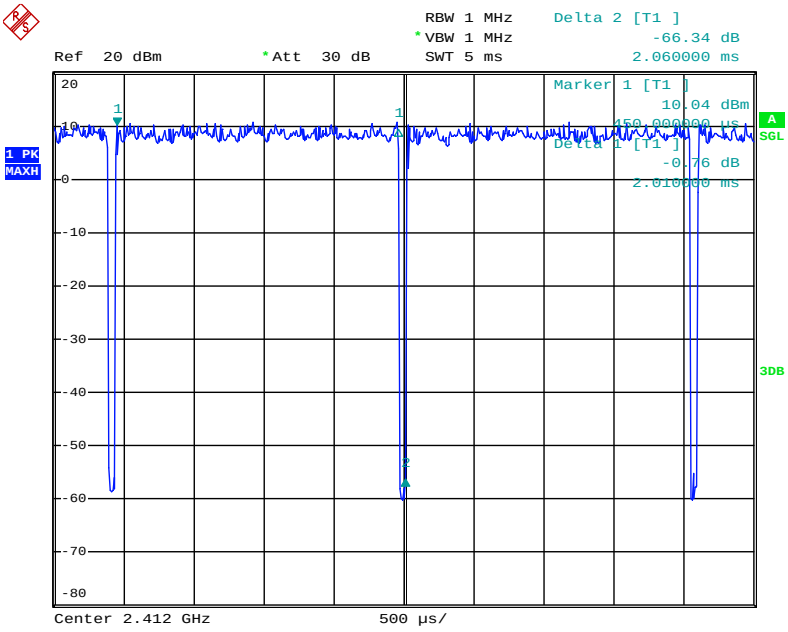
IEEE 802.11g



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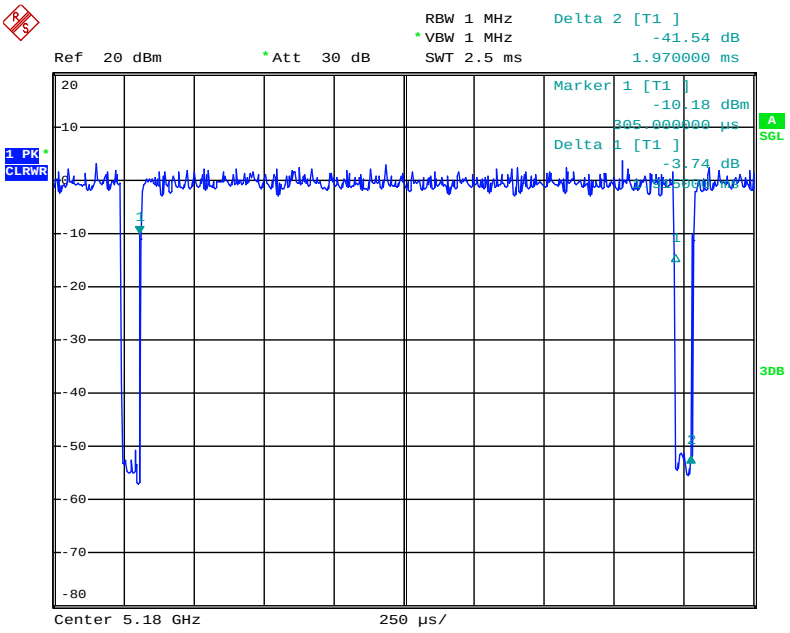
For 5GHz Band:

IEEE 802.11ac MCS0/Nss1 VHT20



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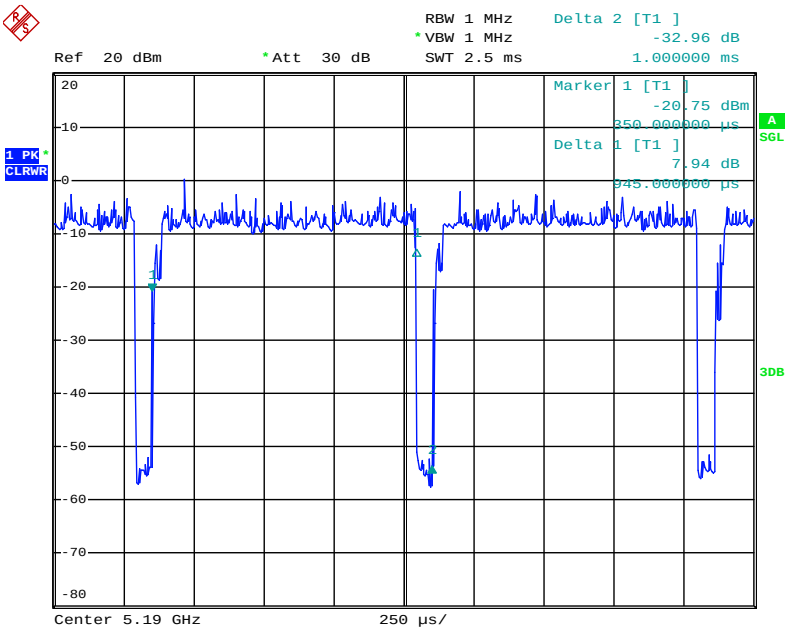
IEEE 802.11ac MCS0/Nss1 VHT40



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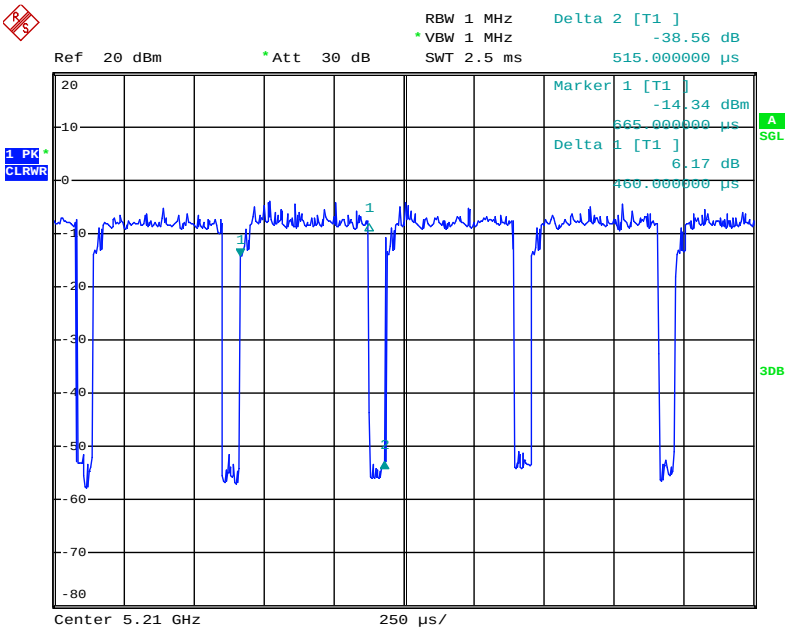
IEEE 802.11ac MCS0/Nss1 VHT80



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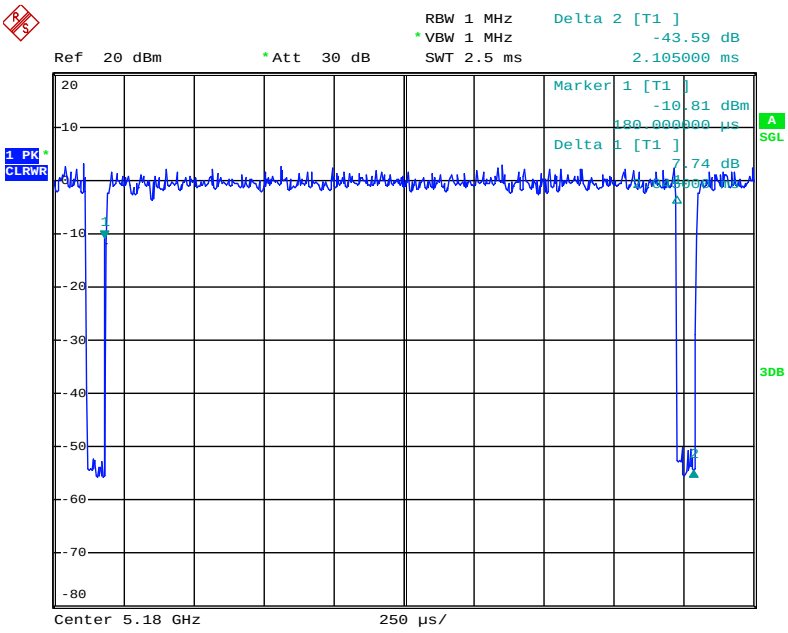
IEEE 802.11a



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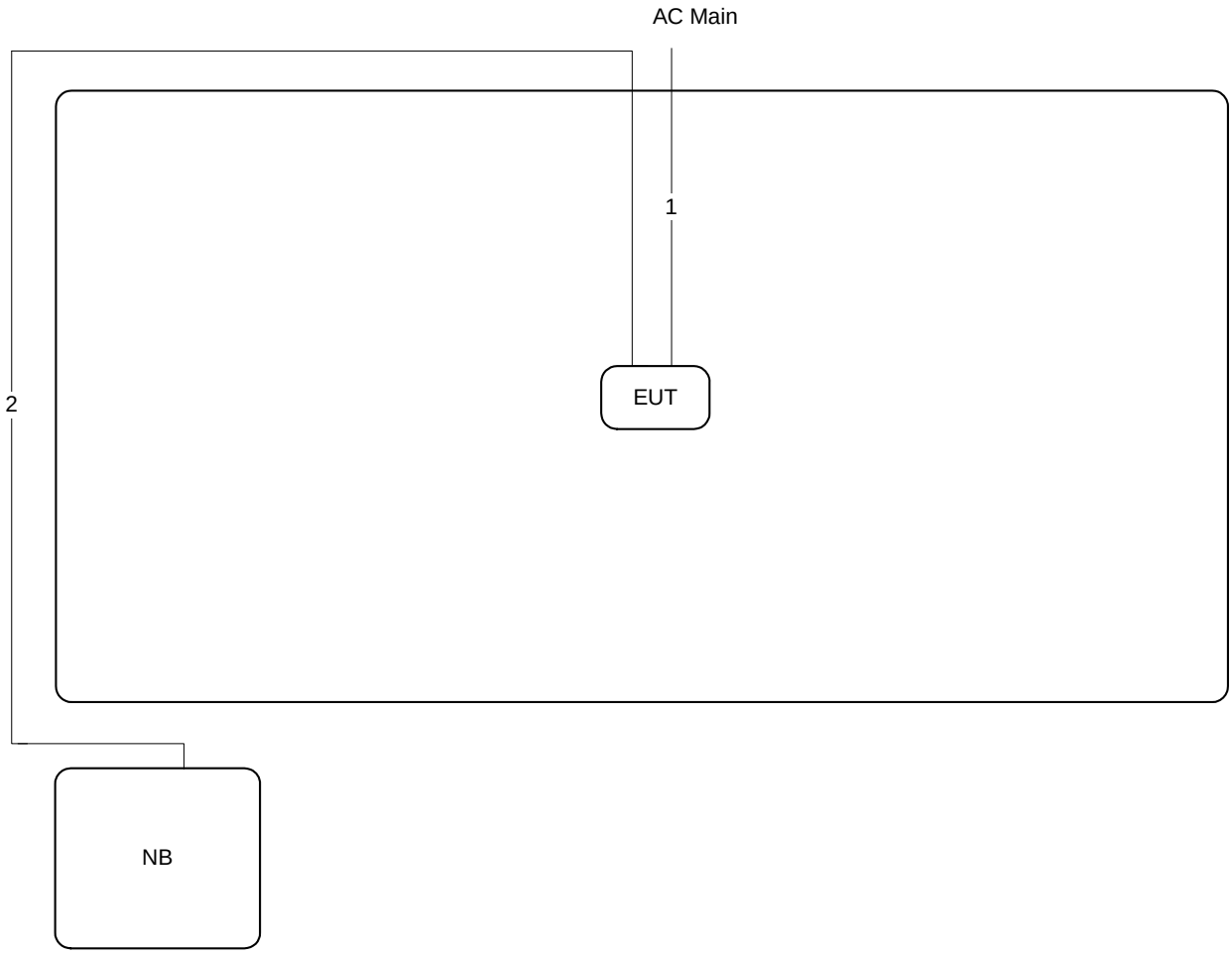
3.13. Test Configurations

3.13.1. Radiation Emissions Test Configuration



Item	Connection	Shielded	Length
1	Power cable	No	2m
2	RJ-45 cable	No	10m

4. TEST RESULT

4.1. Maximum Conducted Output Power Measurement

4.1.1. Limit

For systems using digital modulation in the 2400-2483.5MHz, the limit for output power is 30dBm. The limited has to be reduced by the amount in dB that the gain of the antenna exceed 6dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of the antenna exceeds 6dBi. Systems operating in the 5725-5850 MHz band that are used exclusively for fixed, point-to-point operations may employ transmitting antennas with directional gain greater than 6 dBi without any corresponding reduction in transmitter output power.

4.1.2. Measuring Instruments and Setting

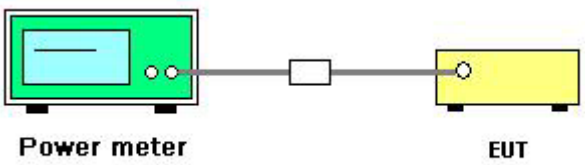
Please refer to section 5 of equipments list in this report. The following table is the setting of the power meter.

Power Meter Parameter	Setting
Detector	Average

4.1.3. Test Procedures

1. Test procedures refer KDB 558074 D01 v03r01 section 9.2.2 Measurement using a power meter (PM).
2. This procedure provides an alternative for determining the RMS output power using a broadband RF average power meter with a thermocouple detector.

4.1.4. Test Setup Layout



4.1.5. Test Deviation

There is no deviation with the original standard.

4.1.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.1.7. Test Result of Maximum Conducted Output Power

Temperature	22°C	Humidity	57%
Test Engineer	Kenneth Huang / Wen Chao	Configurations	IEEE 802.11n/ac
Test Date	Feb. 20, 2014~Feb. 21, 2014		

For 2.4GHz Band

Configuration IEEE 802.11n MCS0 HT20 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
1	2412 MHz	14.43	15.86	14.39	19.72	30.00	Complies
6	2437 MHz	21.93	22.52	21.08	26.65	30.00	Complies
11	2462 MHz	17.36	17.55	16.55	21.95	30.00	Complies

Configuration IEEE 802.11n MCS0 HT40 / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
3	2422 MHz	12.58	13.52	12.94	17.80	30.00	Complies
6	2437 MHz	16.26	17.58	16.03	21.45	30.00	Complies
9	2452 MHz	13.63	14.02	12.91	18.32	30.00	Complies

For 5GHz Band

Configuration IEEE 802.11ac MCS0/Nss1 VHT20 / Chain 4 + Chain 5 + Chain 6

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 4	Chain 5	Chain 6	Total		
149	5745 MHz	25.16	25.26	25.09	29.94	30.00	Complies
157	5785 MHz	25.05	25.32	25.17	29.95	30.00	Complies
165	5825 MHz	24.84	25.42	25.31	29.97	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT40 / Chain 4 + Chain 5 + Chain 6

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 4	Chain 5	Chain 6	Total		
151	5755 MHz	23.7	24.28	23.78	28.70	30.00	Complies
159	5795 MHz	24.57	25.24	24.78	29.64	30.00	Complies

Configuration IEEE 802.11ac MCS0/Nss1 VHT80 / Chain 4 + Chain 5 + Chain 6

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 4	Chain 5	Chain 6	Total		
155	5775 MHz	24.35	24.92	24.76	29.45	30.00	Complies

Temperature	22°C	Humidity	57%
Test Engineer	Kenneth Huang / Wen Chao	Configurations	IEEE 802.11a/b/g
Test Date	Feb. 20, 2014~Feb. 21, 2014		

Configuration IEEE 802.11b / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
1	2412 MHz	19.02	19.82	18.21	23.84	30.00	Complies
6	2437 MHz	21.86	22.17	21.04	26.49	30.00	Complies
11	2462 MHz	21.37	22.18	20.34	26.13	30.00	Complies

Configuration IEEE 802.11g / Chain 1 + Chain 2 + Chain 3

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 1	Chain 2	Chain 3	Total		
1	2412 MHz	15.08	16.45	15.24	20.41	30.00	Complies
6	2437 MHz	21.86	22.63	21.11	26.68	30.00	Complies
11	2462 MHz	18.11	16.78	16.72	22.02	30.00	Complies

Configuration IEEE 802.11a / Chain 4 + Chain 5 + Chain 6

Channel	Frequency	Conducted Power (dBm)				Max. Limit (dBm)	Result
		Chain 4	Chain 5	Chain 6	Total		
149	5745 MHz	25.13	25.5	25.01	29.99	30.00	Complies
157	5785 MHz	24.9	25.53	25.13	29.97	30.00	Complies
165	5825 MHz	24.87	25.39	25.28	29.96	30.00	Complies

4.2. Radiated Emissions Measurement

4.2.1. Limit

30dBc 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 (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

4.2.2. Measuring Instruments and Setting

Please refer to section 5 of equipments list in this report. The following table is the setting of spectrum analyzer and receiver.

Spectrum Parameter	Setting
Attenuation	Auto
Start Frequency	1GHz
Stop Frequency	10th carrier harmonic
RBW / VBW (Emission in restricted band)	1MHz / 3MHz for Peak, 1MHz / 10Hz for Average
RBW / VBW (Emission in non-restricted band)	100kHz / 300kHz for peak

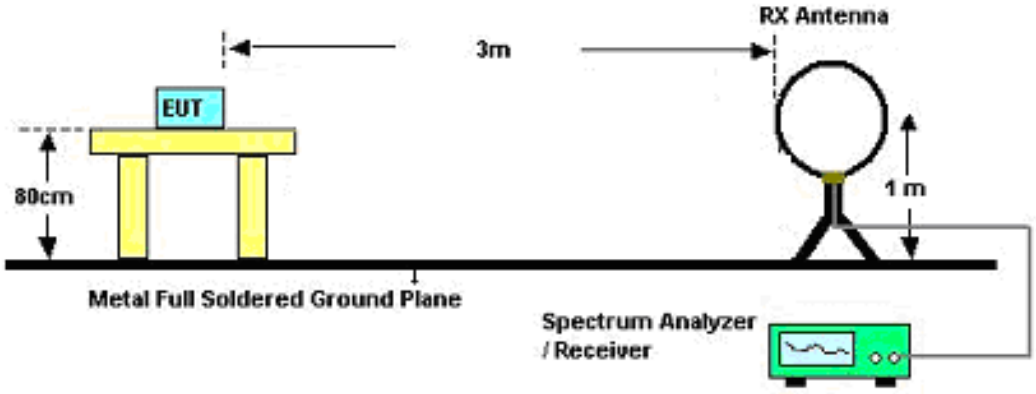
Receiver Parameter	Setting
Attenuation	Auto
Start ~ Stop Frequency	9kHz~150kHz / RBW 200Hz for QP
Start ~ Stop Frequency	150kHz~30MHz / RBW 9kHz for QP
Start ~ Stop Frequency	30MHz~1GHz / RBW 120kHz for QP

4.2.3. Test Procedures

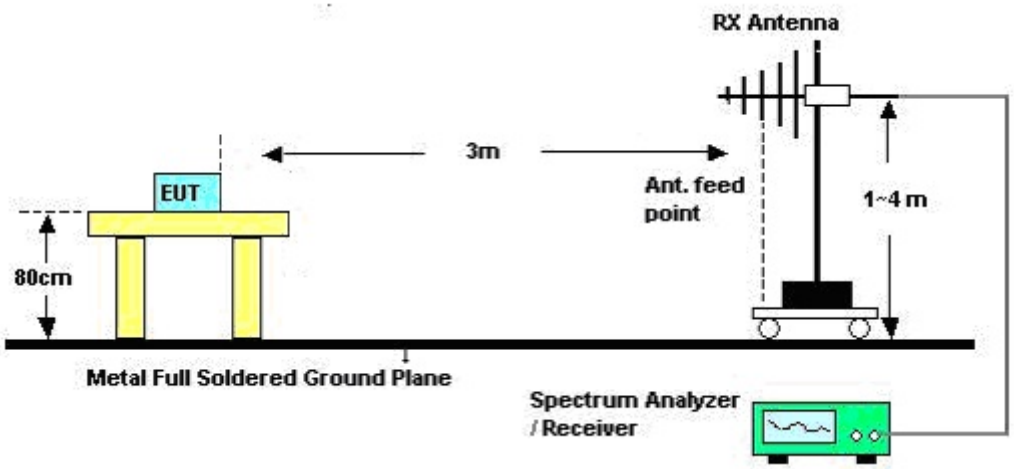
1. Configure the EUT according to ANSI C63.10. The EUT was placed on the top of the turntable 0.8 meter above ground. The phase center of the receiving antenna mounted on the top of a height-variable antenna tower was placed 3 meters far away from the turntable.
2. Power on the EUT and all the supporting units. The turntable was rotated by 360 degrees to determine the position of the highest radiation.
3. The height of the broadband receiving antenna was varied between one meter and four meters above ground to find the maximum emissions field strength of both horizontal and vertical polarization.
4. For each suspected emissions, the antenna tower was scan (from 1 M to 4 M) and then the turntable was rotated (from 0 degree to 360 degrees) to find the maximum reading.
5. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function with specified bandwidth under Maximum Hold Mode.
6. For emissions above 1GHz, use 1MHz VBW and 3MHz RBW for peak reading. Then 1MHz RBW and 10Hz VBW for average reading in spectrum analyzer.
7. When the radiated emissions limits are expressed in terms of the average value of the emissions, 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.
8. If the emissions level of the EUT in peak mode was 3 dB lower than the average limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method for below 1GHz.
9. For testing above 1GHz, the emissions level of the EUT in peak mode was lower than average limit (that means the emissions level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
10. In case the emission is lower than 30MHz, loop antenna has to be used for measurement and the recorded data should be QP measured by receiver. High – Low scan is not required in this case.

4.2.4. Test Setup Layout

For Radiated Emissions: 9kHz ~30MHz



For Radiated Emissions: 30MHz~1GHz



4.2.5. Test Deviation

There is no deviation with the original standard.

4.2.6. EUT Operation during Test

The EUT was programmed to be in continuously transmitting mode.

4.2.7. Results of Radiated Emissions (9kHz~30MHz)

Temperature	21°C	Humidity	58%
Test Engineer	Magic Lai	Configurations	CTX
Test Date	Apr. 29, 2014	Test Mode	Mode 2

Freq. (MHz)	Level (dBuV)	Over Limit (dB)	Limit Line (dBuV)	Remark
-	-	-	-	See Note

Note:

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

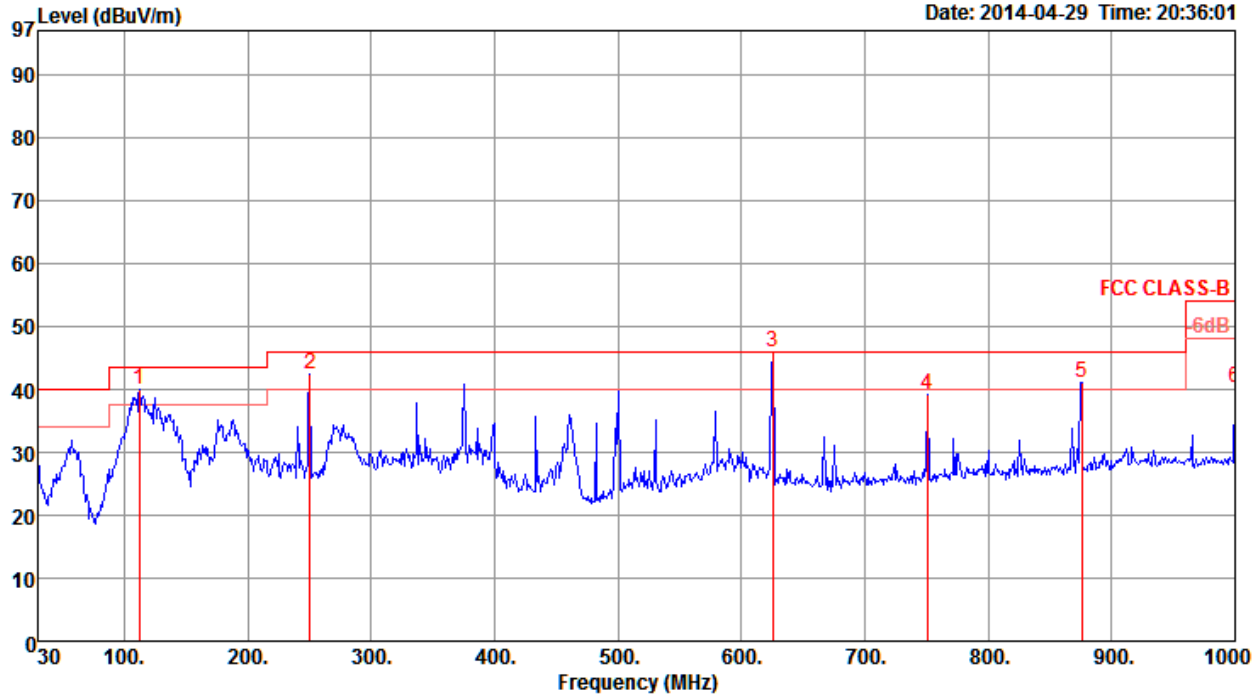
Distance extrapolation factor = 40 log (specific distance / test distance) (dB);

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

4.2.8. Results of Radiated Emissions (30MHz~1GHz)

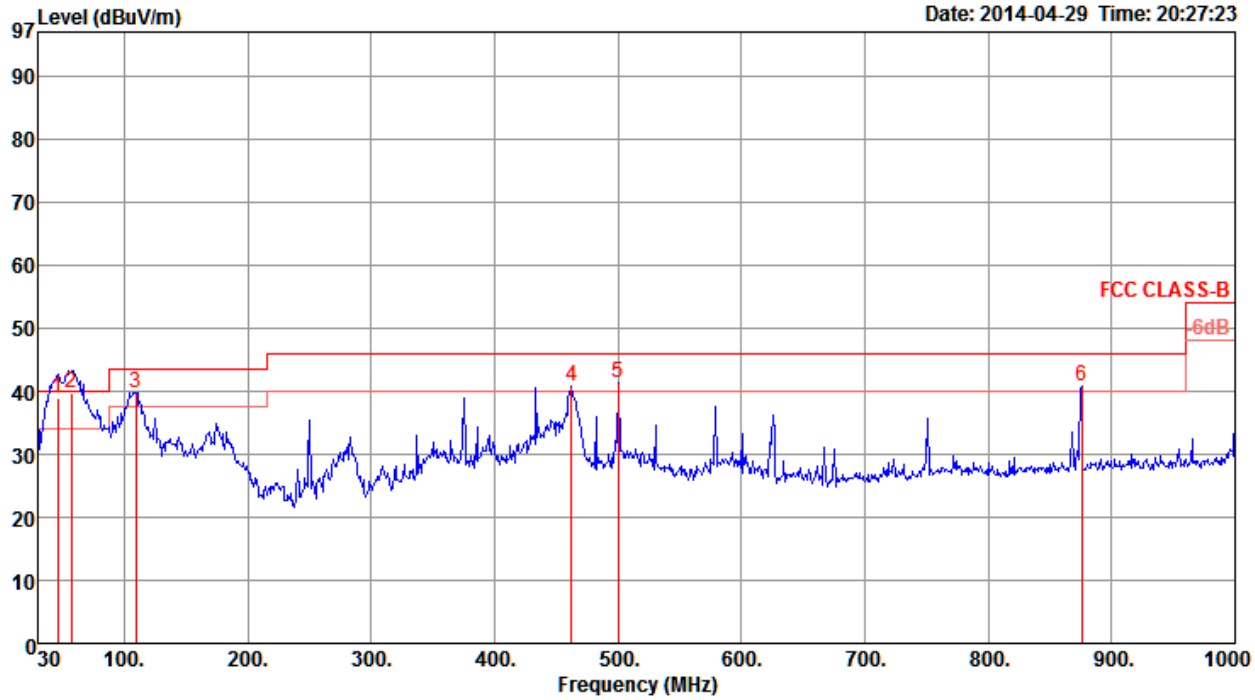
Temperature	21°C	Humidity	58%
Test Engineer	Magic Lai	Configurations	CTX
Test Mode	Mode 2		

Horizontal



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	112.45	39.97	43.50	-3.53	53.51	1.58	12.60	27.72	Peak	0	100	HORIZONTAL
2	250.19	42.41	46.00	-3.59	53.78	2.38	13.20	26.95	Peak	0	100	HORIZONTAL
3	625.58	45.90	46.00	-0.10	49.86	3.82	19.80	27.58	QP	297	126	HORIZONTAL
4	750.71	39.09	46.00	-6.91	41.39	4.21	20.61	27.12	Peak	0	100	HORIZONTAL
5	875.84	41.17	46.00	-4.83	41.76	4.51	21.76	26.86	Peak	0	100	HORIZONTAL
6	1000.00	40.30	54.00	-13.70	39.18	4.84	22.50	26.22	Peak	0	100	HORIZONTAL

Vertical



	Freq	Level	Limit Line	Over Limit	Read Level	Cable Loss	Antenna Factor	Preamp Factor	Remark	T/Pos	A/Pos	Pol/Phase
	MHz	dBuV/m	dBuV/m	dB	dBuV	dB	dB/m	dB		deg	cm	
1	46.49	38.92	40.00	-1.08	55.57	1.01	10.27	27.93	QP	15	100	VERTICAL
2	57.16	39.70	40.00	-0.30	59.08	1.15	7.40	27.93	QP	18	100	VERTICAL
3	109.54	39.73	43.50	-3.77	53.29	1.57	12.60	27.73	Peak	0	400	VERTICAL
4	462.62	40.68	46.00	-5.32	47.98	3.28	17.27	27.85	Peak	0	400	VERTICAL
5	500.45	41.34	46.00	-4.66	48.09	3.38	17.80	27.93	Peak	0	400	VERTICAL
6	875.84	40.90	46.00	-5.10	41.49	4.51	21.76	26.86	Peak	0	400	VERTICAL

Note:

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

Emission level (dBuV/m) = 20 log Emission level (uV/m).

Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level.

4.3. Antenna Requirements

4.3.1. Limit

Except for special regulations, the Low-power Radio-frequency Devices must not be equipped with any jacket for installing an antenna with extension cable. An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that the user can replace a broken antenna, but the use of a standard antenna jack or electrical connector is prohibited. Further, this requirement does not apply to intentional radiators that must be professionally installed.

4.3.2. Antenna Connector Construction

Please refer to section 3.3 in this test report; antenna connector complied with the requirements.

5. LIST OF MEASURING EQUIPMENTS

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Remark
Signal analyzer	R&S	FSV40	100979	9kHz~40GHz	Nov. 29, 2013	Conducted (TH01-CB)
RF Cable-high	Woken	High Cable-7	-	1 GHz – 26.5 GHz	Nov. 17, 2013	Conducted (TH01-CB)
RF Cable-high	Woken	High Cable-8	-	1 GHz – 26.5 GHz	Nov. 17, 2013	Conducted (TH01-CB)
RF Cable-high	Woken	High Cable-9	-	1 GHz – 26.5 GHz	Nov. 17, 2013	Conducted (TH01-CB)
RF Cable-high	Woken	High Cable-10	-	1 GHz – 26.5 GHz	Nov. 17, 2013	Conducted (TH01-CB)
RF Cable-high	Woken	High Cable-11	-	1 GHz – 26.5 GHz	Nov. 17, 2013	Conducted (TH01-CB)
Power Sensor	Anritsu	MA2411B	0917223	300MHz~40GHz	Sep. 18, 2013	Conducted (TH01-CB)
Power Meter	Anritsu	ML2495A	1035008	300MHz~40GHz	Sep. 18, 2013	Conducted (TH01-CB)
BILOG ANTENNA	Teseq GmbH	CBL 6112D	35236	30MHz ~ 2GHz	Nov. 29, 2013	Radiation (03CH01-CB)
Loop Antenna	Teseq	HLA 6120	24155	9 kHz - 30 MHz	Nov. 05, 2012*	Radiation (03CH01-CB)
Pre-Amplifier	Agilent	8447D	2944A10991	0.1MHz ~ 1.3GHz	Nov. 12, 2013	Radiation (03CH01-CB)
Spectrum analyzer	R&S	FSP40	100019	9kHz~40GHz	Dec. 02, 2013	Radiation (03CH01-CB)
EMI Test Receiver	Agilent	N9038A	MY52260123	9kHz ~ 8GHz	Dec. 12, 2013	Radiation (03CH01-CB)
Turn Table	INN CO	CO 2000	N/A	0 ~ 360 degree	N.C.R.	Radiation (03CH01-CB)
Antenna Mast	INN CO	CO2000	N/A	1 m - 4 m	N.C.R.	Radiation (03CH01-CB)
RF Cable-low	Woken	Low Cable-1	N/A	30 MHz - 1 GHz	Nov. 17, 2013	Radiation (03CH01-CB)

Note: Calibration Interval of instruments listed above is one year.

"*" Calibration Interval of instruments listed above is two years.

N.C.R. means Non-Calibration required.

6. MEASUREMENT UNCERTAINTY

Uncertainty of Radiated Emission Measurement (30MHz ~ 1,000MHz)

Contribution	Uncertainty of x_i			$u(x_i)$
	Value	Unit	Probability Distribution k	
Receiver reading	±0.173	dB	k=1	0.086
Cable loss	±0.174	dB	k=2	0.087
Antenna gain	±0.169	dB	k=2	0.084
Site imperfection	±0.433	dB	Triangular	0.214
Pre-amplifier gain	±0.366	dB	k=2	0.183
Transmitter antenna	±1.200	dB	Rectangular	0.600
Signal generator	±0.461	dB	Rectangular	0.231
Mismatch	±0.080	dB	U-shape	0.040
Spectrum analyzer	±0.500	dB	Rectangular	0.250
Combined standard uncertainty Uc(y)				1.778
Measuring uncertainty for a level of confidence of 95% U=2Uc(y)				3.555

Uncertainty of Conducted Emission Measurement

Contribution	Uncertainty of x_i			$u(x_i)$
	Value	Unit	Probability Distribution k	
Cable loss	±0.038	dB	k=2	0.019
Attenuator	±0.047	dB	k=2	0.024
Power Meter specification	±0.300	dB	Triangular	0.150
Power Sensor specification	±0.300	dB	Rectangular	0.150
Signal generator	±0.461	dB	Rectangular	0.231
Mismatch	±0.080	dB	U-shape	0.040
Spectrum analyzer	±0.500	dB	Rectangular	0.250
Combined standard uncertainty Uc(y)				0.863
Measuring uncertainty for a level of confidence of 95% U=2Uc(y)				1.726