



Report No.: HA130548-FD

FCC COMPLIANCE TEST REPORT

Technical Statement of Conformity in accordance with 47 CFR Part 15 Subpart C

The product

Equipment Under Test : smartScanndy AutoID

Model Number : smartScanndy 2

Product Series : N/A

is produced by

advanced PANMOBIL Systems GmbH & Co. KG Hansestrasse 91, D- 51149 Koeln, Germany



HongAn TECHNOLOGY CO., LTD.

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BSMI Registration No.: SL2-IN-E-0023, SL2-A1-E-0023, FCC Designation No.: TW1071

SL2-IS-E-0023, SL2-R1-E-0023, **TAF Accreditation No.:** 1163

SL2-R2-E-0023, SL2-L1-E-0023 **VCCI Registration No.:** R-2156, C-2329, T-219

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Photographs of the EUT

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Test Result Certification

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Applicant	advanced PANMOBIL Systems GmbH & Co. KG				
Address of Applicant	: Hansestrasse 91, D- 51149 Koeln, Germany				
Manufacturer	: advanced PANMOBIL Systems GmbH & Co. KG				
Address of Manufacturer	: Hansestrasse 91, D- 51149 Koeln, Germany				
Trade Name	: N/A				
Equipment Under Test	: smartScanndy AutoID				
Model Number	: smartScanndy 2				
Product Series	: N/A				
FCC ID	: 2AACD-SMARTSCANNDY				
Filing Type	: Certification				
Sample Received Date	: 17-Sep-2013				
Test Standard	:				

Remark:

- 1. This report details the results of the test carried out on one sample.
- 2. The test data, data evaluation, test procedures, and equipment configurations shown in this report were made in accordance with the procedures given in ANSI C63.4 (2009) and the energy emitted by the sample EUT tested as described in this report is in compliance with the requirements of FCC Rules Part 15.203, 15.207, 15.209, 15.247.

Deviations from standard test methods & any other specifications: NONE

3. This report applies to the above sample only and shall not be reproduced in part without written approval of HongAn Technology Co., Ltd.

	Kaghang		
Documented by:			2013-11-29
	Kay Wang/ ADM. Dept Staff		
Tested by:	Kidd liao		2013-10-09
	Kidd Liao/ ENG. Dept. Staff		
	Peter Chin		
Approved by:		Date:	2013-11-29
	Peter Chin / Section Manager		

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Summary of Test Result

	Test Item	Applicable Standard	Test Result
1	Antenna Requirement	FCC part 15 subpart C §203	Compliance
2	Conducted limits	FCC part 15 subpart C §207	Compliance
3	Radiated emission limits	FCC part 15 subpart C §209	Compliance
4	Hopping Frequency Separation	FCC part 15 subpart C §247(a)(1)	Compliance
5	Number of Hopping Channels	FCC part 15 subpart C §247(a)(1)	Compliance
6	Average Time of Occupancy	FCC part 15 subpart C §247(a)(1)(iii)	Compliance
7	Peak Output Power	FCC part 15 subpart C §247(b)	Compliance
8	100kHz Bandwidth of Band Edges	FCC part 15 subpart C §247(d)	Compliance

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1 General Description

1.1 Description of EUT

Equipment Under Test	:	smartScanndy AutoID									
Model Number of EUT	:	smartSca	anndy 2								
Product Series	:	N/A	N/A								
Power Supply	:		nput:USB 5 Vdc _i-ion Battery Pack Output:Input <u>3.6 Vdc, 1050</u> mAh.								
Frequency Range	:	2402~24	2402~2480 MHz								
Transmit Power	:	2.61 dBn	n								
Number of Channels	:	79 Chanı	nels								
		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		
Carrier Frequency of		09	2411	29	2431	49	2451	69	2471		
Each Channel	:	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	77	2479		
		18	2420	38	2440	58	2460	78	2480		
		19	2421	39	2441	59	2461	-	_		
Antenna Specification	:	Printed A	Printed Antenna/ Gain: 1.8 dBi								
		FHSS									
Modulation Technique	:	Bluetootl	า : GFSK								
•			n EDR : т		SK, 8-DP	PSK					
			า : 1Mbps		<u> </u>						
Transmit Data Rate	:		າ EDR : 2								

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HongAn TECHNOLOGY Co)., LT	D. Report No.: HA130548-	FL
		Dimensions: 115 mm (L) X 53 mm (W) X 30 mm (H) Weight: 90g	
Specification	_	Function: The EUT is a barcode scanner, using BT as its wireless transmitting technology. **For more detail specification, please refer to the User Manual.	

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1.2 Test Instruments

3.3.1. Instruments Used for Measurement

HA1

Instrument Name	Manufacture Mode	Model Number	Serial Number	Last Cal. Date	Next Cal. Date
RF Amplifier	AR	15S1G3	306578	11-AUG-2012	11-AUG-2013
EMI Receiver	R&S	ESCI	100615	03-MAR-2013	03-MAR-2014
Spectrum Analyzer	R&S	FSL6	100323	11-JUN-2012	11-JUN-2013
Spectrum Analyzer	Advantest	R3172	101202158	24-JUN-2012	24-JUN-2013
Preamplifier	WIRELESS	FPA-6592G	060009	09-JUL-2012	09-JUL-2013
Preamplifier	HD	HD17187	004	04-AUG-2012	04-AUG-2013
Bilog Antenna	TESEQ	CBL6111D	25769	03-MAR-2013	03-MAR-2014
Bilog Antenna	Schaffner	CBL6112B	2860	12-AUG-2012	12-AUG-2013
Double-Ridged Waveguide Horn	EMCO	3115	9912-5992	04-MAY-2013	04-MAY-2014
Temp. & Humidity Chamber	Giant Force	GTH-150-20-SP -AR	MMA0907-012	22-JUL-2012	22-JUL-2013

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^{*} The test equipments used are calibrated and can be traced to National ITRI and International Standards.

1.3 Auxiliary Equipments

1.3.1. Provided by HongAn Technology Co., Ltd. for Emission Test.

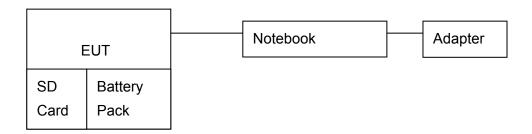
		EMC		FMC		Description		
No.	Equipment	Model No.	Serial No. Approved		Brand	Data Cable	Power Cable	
01	Notebook	N61J	N61JV-021A520M	CE,FCC, C-TICK N13219, BSMI R31018	ASUS	Adapter to Notebook Unshielded*1.8 m	AC to Adapter Unshielded*1.8 m	

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1.3.2. Provided by the Manufacturer

				EMC		Description		
No.	Equipment	Model No.	Serial No.	Approved Brand		Data Cable	Power Cable	
01	MicroSD Card	MM8GR01GJCCA-MGI	F0230000050	CE	Transcend	N/A	N/A	

1.4 EUT SETUP



Note: Main Test Sample: smartScanndy 2

1.5 Identifying the Final Test Mode

- 1. Mode 1: TX BT mode (1Mbps) CH 00.
- 2. Mode 2: TX BT mode (1Mbps) CH 39.
- 3. Mode 3: TX BT mode (1Mbps) CH 78.
- 4. Mode 4: TX BT EDR mode (2Mbps) CH 00.
- 5. Mode 5: TX BT EDR mode (2Mbps) CH 39.
- 6. Mode 6: TX BT EDR mode (2Mbps) CH 78.
- 7. Mode 7: TX BT EDR mode (3Mbps) CH 00.
- 8. Mode 8: TX BT EDR mode (3Mbps) CH 39.
- 9. Mode 9: TX BT EDR mode (3Mbps) CH 78.
- 10. Mode 10: RX mode.

Note:

- 1. To access into different Bluetooth modes, the EUT is connected to Notebook through USB cable. Notebook executes PUTTY testing program to control the Bluetooth function.
- 2. EUT has been evaluated placing in all three orthogonal directions. In horizontal position, the EUT

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was most likely to cause maximum unwanted disturbance. Therefore, the final assessments were performed in horizontal position.

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- 3. After pre-test, we identified that the Mode 9 (the worst case) was most likely to cause maximum unwanted disturbance on 30~1GHz. Mode 10 (the worst case) was most likely to cause maximum unwanted disturbance on 1~26.5 GHz. Therefore, the Final Assessments were performed for the worst cases, respectively. All pre-test data show at appendix.
- 4. Channel Low (2402 MHz), Mid (2441 MHz) and High (2480 MHz) were chosen for full testing.
- 5. According to its specifications, the EUT must comply with the requirements of the Section 15.203, 15.207, 15.209 and 15.247 under the FCC Rules Part 15 Subpart C.

Remark:

The EUT could perform scanning function through USB connection. In real world, however, when using USB mode, Bluetooth function will be disabled. In other words, Bluetooth function could only work when powering by battery.

1.6 Final Test Mode

- 1. Radiated Emission (30~960MHz): Mode 9.
- 2. Radiated Emission (above 960MHz): Mode 10.
- 3. Conducted Emission: Mode 5.

1.7 Condition of Power Supply

DC 3.6 V, 1050 mAh (Li-ion battery pack)

1.8 EUT Configuration

- 1. Setup the EUT as shown in Sec.1.4 Block Diagram.
- 2. Turn on the power of all equipments.
- 3. Activate the selected Final Test Mode.

1.9 Test Methodology

The tests documented in this report were performed in accordance with ANSI C63.4 (2009) and FCC CFR 47 2.1046, 2.1047, 2.1049, 2.1051, 2.1053, 2.1055, 2.1057, 15.203, 15.207, 15.209 and 15.247.

1.10 General Test Procedures

Conducted Emissions

The EUT is placed on the turntable, which is 0.8 m above ground plane. According to the requirements in Section 13.3 of ANSI C63.4 (2009) Conducted emissions from the EUT measured in the frequency range between 0.15 MHz and 30 MHz using CISPR Quasi-peak and average detector modes.

Radiated Emissions

The EUT is placed on a turn table, which is 0.8 m above ground plane. The turntable shall rotate 360 degrees to determine the position of maximum emission level. EUT is set 3 m away from the receiving antenna, which varied from 1 m to 4 m to find out the highest emission. And also, each emission was

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to be maximized by changing the polarization of receiving antenna both horizontal and vertical. The EUT was designed to be mounted on back of front seat, according to the requirements in Section 13.4.1 of ANSI C 63.4 (2009), only one axe of the EUT has to be measured.

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1.11 Modification

N/A

1.12 FCC Part 15.205 restricted bands of operations

(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

	and modules by some necessary								
MHz	MHz	MHz	GHz						
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15						
¹ 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46						
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75						
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5						
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2						
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5						
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7						
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4						
6.31175-6.31225	123-138	2200-2300	14.47-14.5						
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2						
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4						
8.37635-8.38675	156.7-156.9	2690-2900	22.01-23.12						
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0						
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8						
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5						
12.57675-12.57725	322-335.4	3600-4400	(²)						
13.36-13.41									

¹ Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz

(b) Except as provided in paragraphs (d) and (e), the field strength of emissions appearing within these frequency bands shall not exceed the limits shown in Section 15.209. At frequencies equal to or less than 1000 MHz, compliance with the limits in Section 15.209 shall be demonstrated using measurement instrumentation employing a CISPR quasi-peak detector. Above 1000 MHz, compliance with the emission limits in Section 15.209 shall be demonstrated based on the average value of the measured emissions. The provisions in Section 15.35 apply to these measurements.

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² Above 38.6

1.13 Qualification of Test Facility

SL2-IS-E-0023, SL2-IN-E-0023, SL2-R1-E-0023, SL2-R2-E-0023, SL2-R3-E-0023, SL2-R3-E-0025, SL2-R3-E-0025, SL2-R3-E-0025, SL2-R3-E-0025, SL2-R3-E-0025, SL2-R3-E-0025, SL2-R3-E-0025, SL2-R3

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SL2-A1-E-0023, SL2-L1-E-0023.

FCC Designation No. : TW1071

TAF Accreditation No. : 1163

VCCI Certificate No. : R-2156, C-2329, T-219

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2 Power line Conducted Emission Measurement

2.1 Test Instruments

Refer to Sec. 1.2 Test Instruments.

2.2 Test Arrangement and Procedure

- 1. The EUT was placed on a table, which is 0.8m above ground plane.
- 2. Maximum procedure was performed on the six highest emissions to ensure EUT compliance.

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3. Repeat above procedures until all frequency measured were complete.

2.3 Limit (§ 15.207)

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 power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed 250 microvolts (The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz). The limits at specific frequency range is listed as follows:

Fraguency (MHz)	Limits (dBuV)				
Frequency (MHz)	Q.P. (Quasi-Peak)	A.V. (Average)			
0.15 to 0.50	66 to 56	56 to 46			
0.50 to 5.0	56	46			
5.0 to 30	60	50			

Compliance with this provision shall be based on the measurement of the radio frequency voltage between each power line (LINE and NEUTRAL) and ground at the power terminals.

2.4 Test Result

N/A.

Compliance

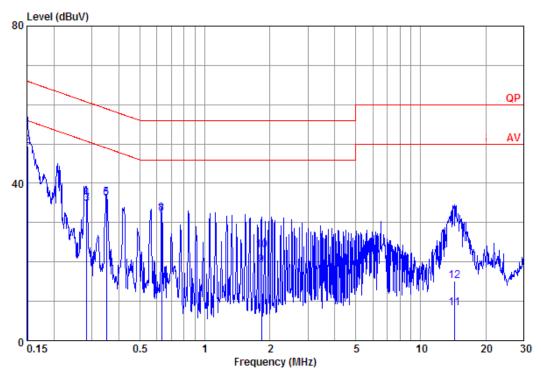
The final test data are shown on the following page(s).

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Conducted Emission Test Data

Test Date : 2013-11-08 Power Line : Line Temperature : 26° C Humidity : 33%



	Freq	Reading	C.F	Result	Limit	Margin	Remark
	MHz	dBuV	dBuV	dB	dBuV	dB	
1 2 3 4 5 7 8 9 10 11 11	0.151 0.151 0.283 0.283 0.350 0.350 0.630 0.630 1.829 14.288 14.288	37.27 49.34 34.39 35.72 36.03 35.90 31.85 32.27 19.00 22.90 7.38 14.46	0.10 0.41 0.41 0.22 0.22 0.10 0.10 0.14 0.14	37.37 49.44 34.80 36.13 36.25 36.12 31.95 32.37 19.14 23.04 8.14 15.22	55.96 65.96 50.72 60.72 48.96 58.96 46.00 56.00 56.00 50.00	-18.59 -16.52 -15.92 -24.59 -12.71 -22.84 -14.05 -23.63 -26.86 -32.96 -41.86 -44.78	Average QP Average QP Average QP Average QP Average QP Average

Remark: All readings are Quasi-Peak and Average values.

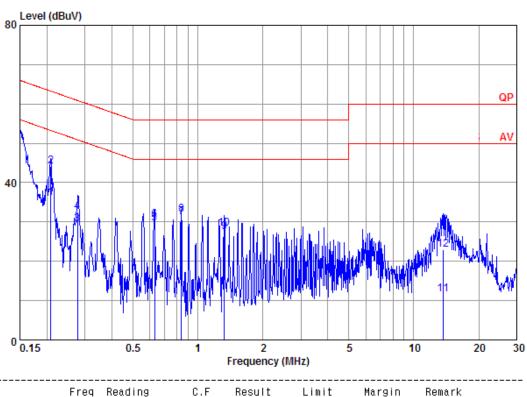
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Conducted Emission Test Data

Test Date : 2013-11-08 Power Line : Neutral

Temperature : 26° C Humidity : 33%



		Freq	Reading	C.F	Result	Limit	Margin	Remark	
		MHz	dBuV	dBuY	dB	dBuV	dB		
1 2 3 4 5 6 7	@ *	0.208 0.208 0.277 0.277 0.630 0.630 0.839	35,93 43,98 29,25 32,48 29,57 30,39 31,11	0.10 0.10 0.09 0.09 0.09 0.09 0.10	36.03 44.08 29.34 32.57 29.66 30.48 31.21	53.27 63.27 50.90 60.90 46.00 56.00 46.00	-17.24 -19.19 -21.56 -28.33 -16.34 -25.52 -14.79	Average QP Average QP Average QP Average	
8 9 10 11 12		0.839 1.324 1.324 13.623 13.623	31.73 27.29 28.22 10.89 22.09	0.10 0.11 0.11 0.75 0.75	31.83 27.40 28.33 11.64 22.84	56.00 46.00 56.00 50.00 60.00	-24.17 -18.60 -27.67 -38.36 -37.16	QP Average QP Average QP	

Remark: All readings are Quasi-Peak and Average values.

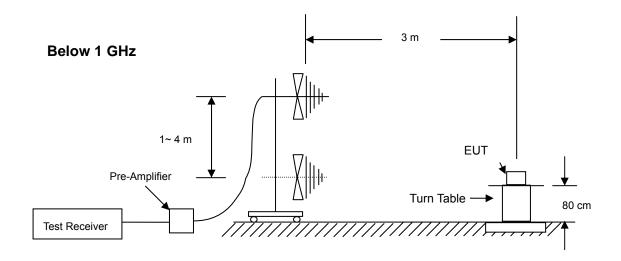
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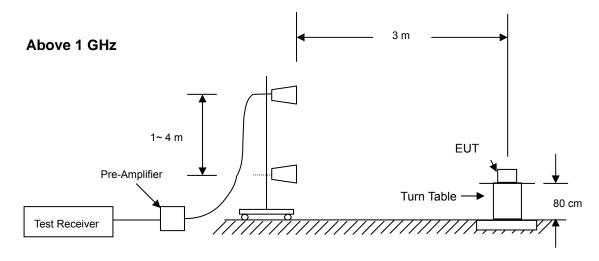
3 Radiated Emission Test

3.1 Test Instruments

Refer to Sec. 1.2 Test Instruments.

3.2 Test Arrangement and Procedure





- 1. The EUT is placed on a turntable, which is 0.8 m above ground plane.
- 2. The turntable shall be rotated for 360 degrees to determine the position of maximum emission level.
- 3. EUT is set 3 m away from the receiving antenna, which is varied from 1 m to 4 m to find out the highest emissions.
- 4. Maxium procedure was performed on the six highest emissions to ensure EUT compliance.
- 5. And also, each emission was to be maximized by changing the polarization of receiving antenna both horizontal and vertical.
- 6. Set the spectrum analyzer in the following setting as:
 - (a) Below 1 GHz: RBW =100 kHz/ VBW = 1 MHz/ Sweep = AUTO.
 - (b) Above 1 GHz: Peak: RBW = VBW = 1MHz/ Sweep = AUTO; Average: RBW = 1MHz/ VBW =

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10Hz/ Sweep = AUTO.

7. Repeat above procedures until the meausreemnts for all frequencies are complete.

3.3 Limit (§ 15.205 & § 15.209)

3.3.1. Limit of Restricted Band of Operation (§ 15.205)

(a) Except as shown in paragraph (d) of this section, only spurious emissions are permitted in any of the frequency bands listed below:

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	Frequen	cy Band	
MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
¹ 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.17725-4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.20725-4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	
13.36-13.41			

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3.3.2. Limit of Spurious Emission (§ 15.209)

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

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Frequency	Field strength	Measurement distance
(MHz)	(microvolts/ meter)	(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

^{**} Except as provided in paragraph (g), fundamental emissions from intentional radiators operating under this section shall not be located in the frequency bands 54-72 MHz, 76-88 MHz, 174-216 MHz or 470-806 MHz. However, operation within these frequency bands is permitted under other sections of this part, e.g.§§ 15.231 and 15.241.

3.4 Test Result

Compliance

The final test data are shown on the following page(s).

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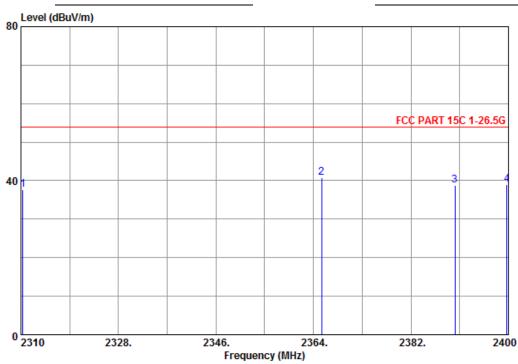
Report No.: HA130548-FD

Temperature : 26° C Humidity : 33%

Test Date : 09-Oct-2013 Tested by : Kidd Liao

Polarization : Horizontal Channel : 00

Test Mode : Mode 1



Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
MHz	dBuV	dB	dBuY/m	dBuV/m	dB			
1 2310.360 2 @2365.530 3 2390.100 4 2399.730	45.48 48.41 46.31 46.56	-7.88 -7.74 -7.63 -7.63	37.60 40.67 38.68 38.93	54.00 54.00 54.00 54.00	-16.40 -13.33 -15.32 -15.07			

S. F. Jahren, Francisco, Orbital Lange, Brancisco, and Company of the Company of

C.F = Antenna Factor + Cable Loss - Preamp gain Result = Reading + C.F ; Margin = Result - Limit

@:Maximum Nata x:Over Limit

Remark:

- 1. Measuring frequencies from 2310 to 2400 MHz.
- 2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
- 5. Spectrum setting:
 - (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.
 - (b) Average Setting 1GHz to 10th harmonics of fundamental,: RBW = 1MHz, VBW = 10Hz, Sweep = AUTO.

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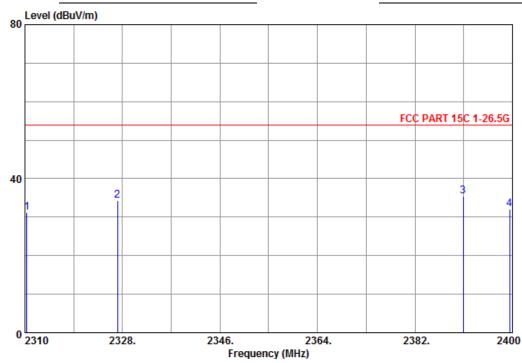
Report No.: HA130548-FD

Temperature : 26° C Humidity : 33%

Test Date : 09-Oct-2013 Tested by : Kidd Liao

Polarization : Vertical Channel : 00

Test Mode : Mode 1



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1	2310.360	39.03	-7.88	31.15	54.00	-22.85			
2	2327.100	42.11	-7.84	34.27	54.00	-19.73			
3	02390.910	43.11	-7.63	35.48	54.00	-18.52			
4	2399.500	39.65	-7.63	32.02	54.00	-21.98			

C.F = Antenna Factor + Cable Loss - Preamp gain Result = Reading + C.F ; Margin = Result - Limit

@:Maximum Nata x:Nverlimit

Remark:

- 1. Measuring frequencies from 2310 to 2400 MHz.
- Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
- 5. Spectrum setting:
 - (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.
 - (b) Average Setting 1GHz to 10th harmonics of fundamental,: RBW = 1MHz, VBW = 10Hz, Sweep = AUTO.

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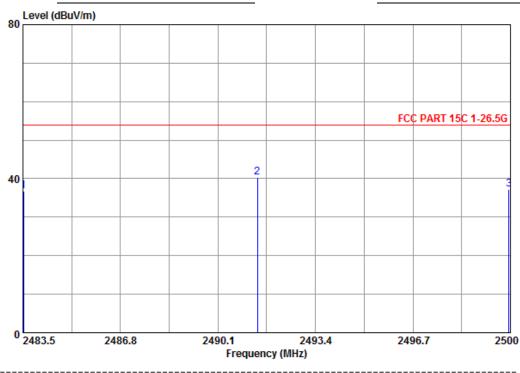
Report No.: HA130548-FD

Temperature : 26° C Humidity : 33%

Test Date : 09-Oct-2013 Tested by : Kidd Liao

Polarization : Horizontal Channel : 78

Test Mode : Mode 3



Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
MHz	dBuV	dB	dBuY/m	dBuV/m	dB			
1 2483.517 2 @2491.437	44.17 47.66	-7.39 -7.33	36.78 40.33	54.00 54.00	-17.22 -13.67			
3 2499.950	44.47	-7.33	37.14	54.00	-16.86			

C.F = Antenna Factor + Cable Loss - Preamp gain Result = Reading + C.F ; Margin = Result - Limit

@:Maximum Data x:Over Limit

Remark:

- 1. Measuring frequencies from 2483.5 to 2500 MHz.
- 2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
- 5. Spectrum setting:
 - (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.
 - (b) Average Setting 1GHz to 10th harmonics of fundamental,: RBW = 1MHz, VBW = 10Hz, Sweep = AUTO.

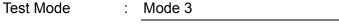
FCC Test Report Page 21 of 144

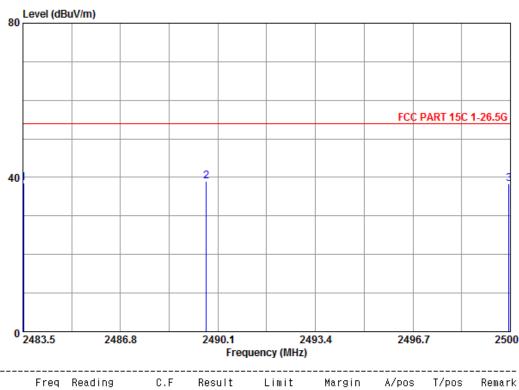
Report No.: HA130548-FD

Temperature : 26° C Humidity : 33%

Test Date : 09-Oct-2013 Tested by : Kidd Liao

Polarization : Vertical Channel : 78





Freq	Reading	C.F	Result	Limit	Margin	A∕pos	T/pos	Remark
MHz	dBuV	dB	dBuY/m	dBuV/m	dB			
1 2483.517	45.91	-7.39	38.52	54.00	-15.48			
2 @2489.704	46.38	-7.33	39.05	54.00	-14.95			
3 2499.950	45.77	-7.33	38.44	54.00	-15.56			

C.F = Antenna Factor + Cable Loss - Preamp gain Result = Reading + C.F ; Margin = Result - Limit

@:Maximum Data x:Over Limit

Remark:

- 1. Measuring frequencies from 2483.5 to 2500 MHz.
- Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
- 5. Spectrum setting:
 - (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.
 - (b) Average Setting 1GHz to 10th harmonics of fundamental,: RBW = 1MHz, VBW = 10Hz, Sweep = AUTO.

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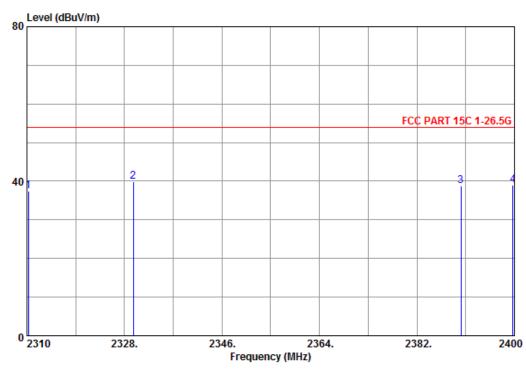
Report No.: HA130548-FD

Temperature **26**℃ Humidity 33%

Test Date 09-Oct-2013 Tested by Kidd Liao

Polarization Horizontal Channel 00

Test Mode Mode 4



Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
MHz	dBuV	dB	dBuY/m	dBuV/m	dB			
1 2310.270 2 @2329.620	45.36 47.73	-7.88 -7.84	37.48 39.89	54.00 54.00	-16.52 -14.11			
3 2390.100 4 2399.730	46.31 46.56	-7.63 -7.63	38.68 38.93	54.00 54.00	-15.32 -15.07			

C.F = Antenna Factor + Cable Loss - Preamp gain Result = Reading + C.F ; Margin = Result - Limit

@ :Maximum Data x:Over Limit

Remark:

- Measuring frequencies from 2310 to 2400 MHz.
- 2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
- Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
- 5. Spectrum setting:
 - (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.
 - (b) Average Setting 1GHz to 10th harmonics of fundamental,: RBW = 1MHz, VBW = 10Hz, Sweep = AUTO.

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(and

Radiated Emission Test Data (Restricted Band Edge)

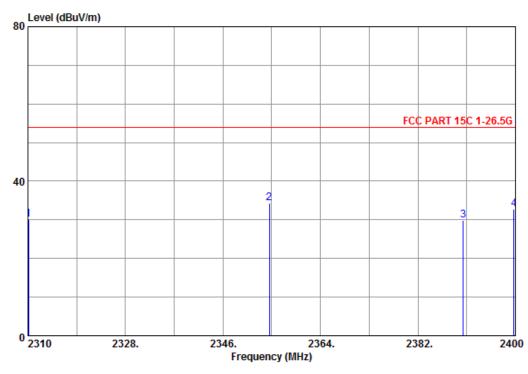
Report No.: HA130548-FD

Temperature : 26° C Humidity : 33%

Test Date : 09-Oct-2013 Tested by : Kidd Liao

Polarization : Vertical Channel : 00

Test Mode : Mode 4



Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
MHz	dBuY	dB	dBuY/m	dBuV/m	dB			
1 2310.090 2 @2354.550	38.04 41.95	-7.88 -7.74	30.16 34.21	54.00 54.00	-23.84 -19.79			
3 2390.370 4 2399.730	37.52 40.36	-7.63 -7.63	29.89 32.73	54.00 54.00	-24.11 -21.27			

0.5 - 1

C.F = Antenna Factor + Cable Loss - Preamp gain Result = Reading + C.F ; Margin = Result - Limit

@:Maximum Data x:Over Limit

Remark:

- 1. Measuring frequencies from 2310 to 2400 MHz.
- 2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
- 5. Spectrum setting:
 - (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.
 - (b) Average Setting 1GHz to 10th harmonics of fundamental,: RBW = 1MHz, VBW = 10Hz, Sweep = AUTO.

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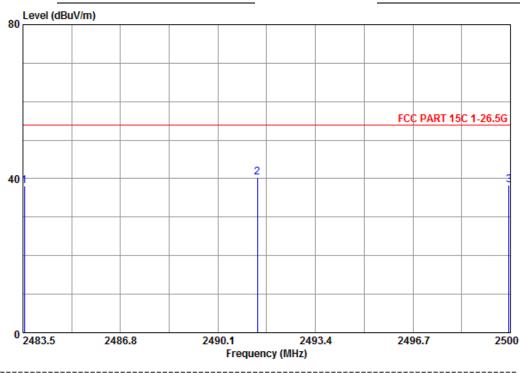
Report No.: HA130548-FD

Temperature : 26° C Humidity : 33%

Test Date : 09-Oct-2013 Tested by : Kidd Liao

Polarization : Horizontal Channel : 78

Test Mode : Mode 6



Freq Re	eading C.	F Result	Limit	Margin	A/pos	T/pos	Remark
MHz	dBuV c	IB dBuY/m	dBuV/m	dB			
1 2483.550	45.59 -7.3			-15.80			
2 @2491.437 3 2499.950	47.66 -7.3 45.75 -7.3			-13.67 -15.58			

C.F = Antenna Factor + Cable Loss - Preamp gain Result = Reading + C.F ; Margin = Result - Limit

@:Maximum Data x:Over Limit

Remark:

- 1. Measuring frequencies from 2483.5 to 2500 MHz.
- Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
- Spectrum setting:
 - (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.
 - (b) Average Setting 1GHz to 10th harmonics of fundamental,: RBW = 1MHz, VBW = 10Hz, Sweep = AUTO.

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Radiated Emission Test Data (Restricted Band Edge)

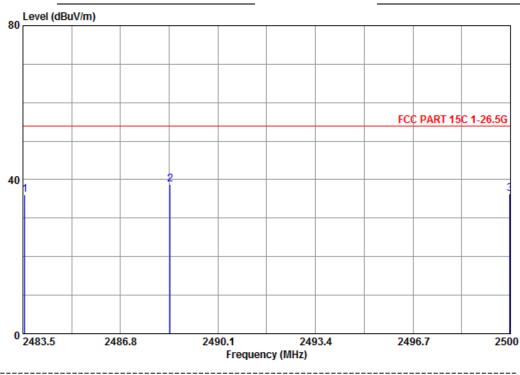
Report No.: HA130548-FD

Temperature : 26° C Humidity : 33%

Test Date : 09-Oct-2013 Tested by : Kidd Liao

Polarization : Vertical Channel : 78

Test Mode : Mode 6



Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
MHz	dBuV	dB	dBuY/m	dBuV/m	dB			
1 2483.566	43.59	-7.39	36.20	54.00	-17.80			
2 @2488.483 3 2499.983	46.00 43.65	-7.33 -7.33	38.67 36.32	54.00 54.00	-15.33 -17.68			

C.F = Antenna Factor + Cable Loss - Preamp gain Result = Reading + C.F ; Margin = Result - Limit

@:Maximum Data x:Over Limit

Remark:

- 1. Measuring frequencies from 2483.5 to 2500 MHz.
- 2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
- 5. Spectrum setting:
 - (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.
 - (b) Average Setting 1GHz to 10th harmonics of fundamental,: RBW = 1MHz, VBW = 10Hz, Sweep = AUTO.

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Test Mode

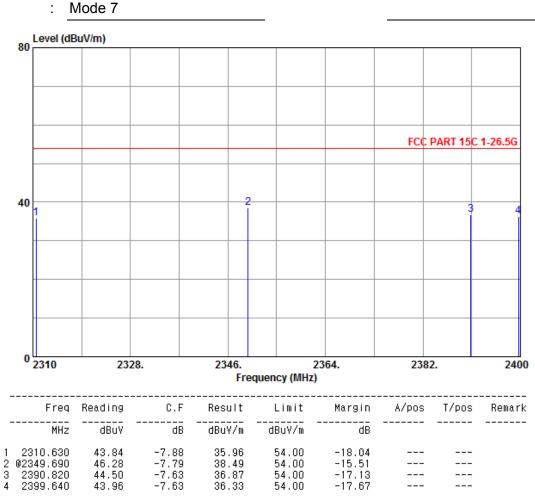
Radiated Emission Test Data (Restricted Band Edge)

Report No.: HA130548-FD

Temperature **26**℃ Humidity 33%

Test Date 09-Oct-2013 Tested by Kidd Liao

Polarization Horizontal Channel 00



C.F = Antenna Factor + Cable Loss - Preamp gain Result = Reading + C.F ; Margin = Result - Limit

@ :Maximum Data x:Over Limit

Remark:

- Measuring frequencies from 2310 to 2400 MHz.
- 2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
- Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
- Spectrum setting: 5.
 - (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.
 - (b) Average Setting 1GHz to 10th harmonics of fundamental,: RBW = 1MHz, VBW = 10Hz, Sweep = AUTO.

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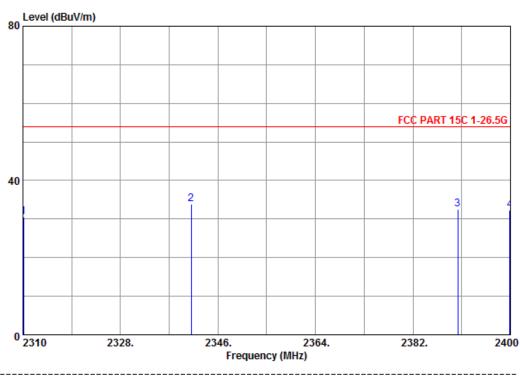
Report No.: HA130548-FD

Temperature **26**℃ Humidity 33%

Test Date 09-Oct-2013 Tested by Kidd Liao

Polarization Vertical Channel 00

Test Mode Mode 7



Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1 2310.090 2 @2341.050 3 2390.280 4 2399.910	38.43 41.64 40.18 40.01	-7.88 -7.79 -7.63 -7.63	30.55 33.85 32.55 32.38	54.00 54.00 54.00 54.00	-23.45 -20.15 -21.45 -21.62	 	 	

C.F = Antenna Factor + Cable Loss - Preamp gain Result = Reading + C.F ; Margin = Result - Limit

@ :Maximum Data x:Over Limit

Remark:

- Measuring frequencies from 2310 to 2400 MHz.
- 2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
- Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
- 5. Spectrum setting:
 - (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.
 - (b) Average Setting 1GHz to 10th harmonics of fundamental,: RBW = 1MHz, VBW = 10Hz, Sweep = AUTO.

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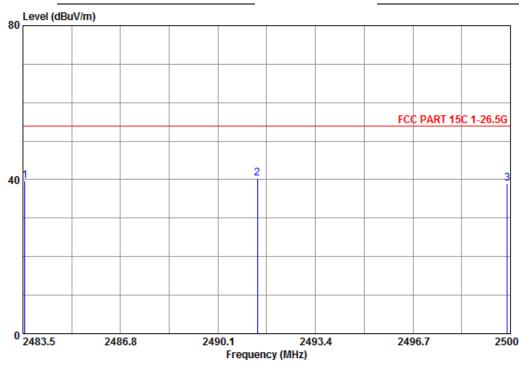
Report No.: HA130548-FD

Temperature : 26° C Humidity : 33%

Test Date : 09-Oct-2013 Tested by : Kidd Liao

Polarization : Horizontal Channel : 78

Test Mode : Mode 9



Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1 2483.566	47.02	-7.39	39.63	54.00	-14.37			
2 @2491.437 3 2499.885	47.66 46.23	-7.33 -7.33	40.33 38.90	54.00 54.00	-13.67 -15.10			
3 2499,885	40.23	-7.33	38.90	54.00	-15.10			

C.F = Antenna Factor + Cable Loss - Preamp gain Result = Reading + C.F ; Margin = Result - Limit

@ :Maximum Data x :Over Limit

Remark:

- 1. Measuring frequencies from 2483.5 to 2500 MHz.
- 2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
- 5. Spectrum setting:
 - (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.
 - (b) Average Setting 1GHz to 10th harmonics of fundamental,: RBW = 1MHz, VBW = 10Hz, Sweep = AUTO.

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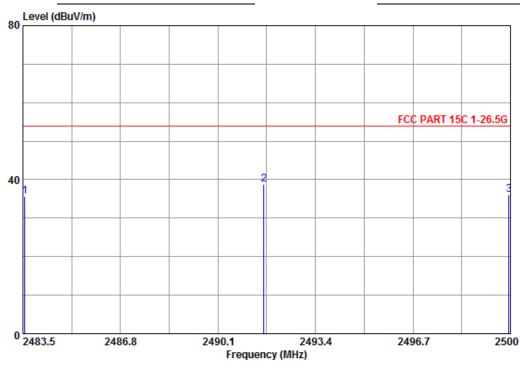
Report No.: HA130548-FD

Temperature : 26° C Humidity : 33%

Test Date : 09-Oct-2013 Tested by : Kidd Liao

Polarization : Vertical Channel : 78

Test Mode : Mode 9



Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1 2483.566 2 @2491.651	43.11 46.12	-7.39 -7.33	35.72 38.79	54.00 54.00	-18.28 -15.21			
3 2499.950	43.47	-7.33 -7.33	36.14	54.00	-17.86			

C.F = Antenna Factor + Cable Loss - Preamp gain

Result = Reading + C.F ; Margin = Result - Limit

@ :Maximum Data x :Over Limit

Remark:

- 1. Measuring frequencies from 2483.5 to 2500 MHz.
- Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
- 5. Spectrum setting:
 - (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.
 - (b) Average Setting 1GHz to 10th harmonics of fundamental,: RBW = 1MHz, VBW = 10Hz, Sweep = AUTO.

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(and

Radiated Emission Test Data (Below 1 GHz)

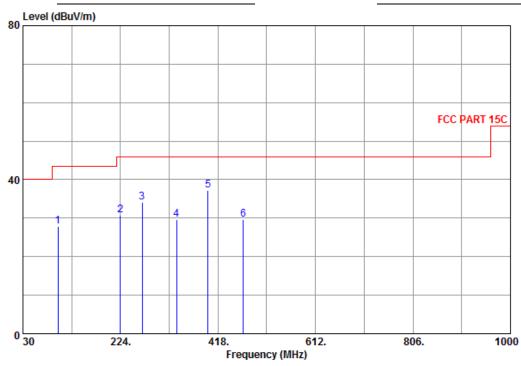
Report No.: HA130548-FD

Temperature : 26° C Humidity : 33%

Test Date : 09-Oct-2013 Tested by : Kidd Liao

Polarization : Horizontal : 00

Test Mode : Mode 1



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1	99.840 224.000	50.17 48.86	-22.28 -18.17	27.89 30.69	43.50 46.00	-15.61 -15.31			
3	267.650	52.96	-18.92	34.04	46.00	-11.96			
= -	335.550 398.600	44.83 51.09	-15.25 -13.85	29.58 37.24	46.00 46.00	-16.42 -8.76			
6	468.440	42.43	-12.75	29.68	46.00	-16.32			

C.F = Antenna Factor + Cable Loss - Preamp gain Result = Reading + C.F ; Margin = Result - Limit

@ :Maximum Data x :Over Limit

Remark:

1. Measuring frequencies from 30 MHz to 1 GHz.

- 2. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Q.P. detector mode.
- 3. Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
- 4. The IF bandwidth of SPA between 30 MHz to 1 GHz was 100 kHz.

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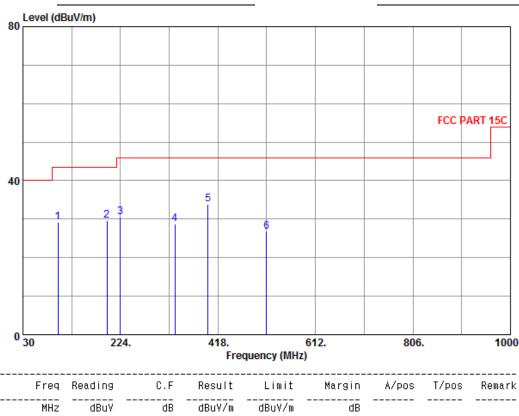
Radiated Emission Test Data (Below 1 GHz)

Temperature : 26° C Humidity : 33%

Test Date : 09-Oct-2013 Tested by : Kidd Liao

Polarization : Vertical Channel : 00

Test Mode : Mode 1



	Freq	Reading	C.F	Result	Limit	Margin	A∕pos	T/pos	Remark
	MHz	dBuV	dB	dBuY/m	dBuV/m	dB			
1	99.840	51.57	-22.28	29.29	43.50	-14.21			
2	196.840	47.00	-17.28	29.72	43.50	-13.78			
3	224.000	48.65	-18.17	30.48	46.00	-15.52			
4	332.640	44.16	-15.44	28.72	46.00	-17.28			
5 (398.600	47.72	-13.85	33.87	46.00	-12.13			
6	515.000	37.55	-10.87	26.68	46.00	-19.32			

C.F = Antenna Factor + Cable Loss - Preamp gain Result = Reading + C.F ; Margin = Result - Limit

@:Maximum Data x:Over Limit

Remark:

- 1. Measuring frequencies from 30 MHz to 1 GHz.
- 2. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Q.P. detector mode.
- 3. Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
- 4. The IF bandwidth of SPA between 30 MHz to 1 GHz was 100 kHz.

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(and

Radiated Emission Test Data (Below 1 GHz)

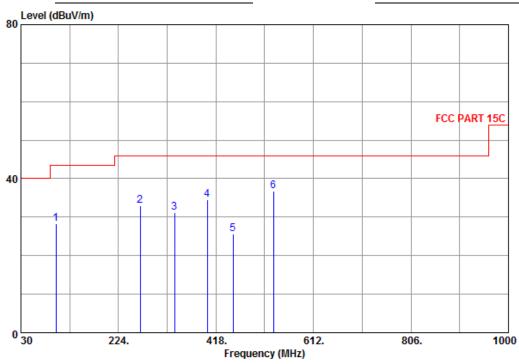
Report No.: HA130548-FD

Temperature : 26° C Humidity : 33%

Test Date : 09-Oct-2013 Tested by : Kidd Liao

Polarization : Horizontal Channel : 39

Test Mode : Mode 2



Remark	T/pos	A/pos	Margin	Limit	Result	C.F	Reading	Freq	
			dB	dBuV/m	dBuY/m	dB	dBuV	MHz	-
			-15.13	43.50	28.37	-22.28	50.65	99.840	1
			-13.12	46.00	32.88	-18.92	51.80	267.650	2
			-14.69	46.00	31.31	-15.25	46.56	335.550	3
			-11.52	46.00	34.48	-13.97	48.45	400.540	4
			-20.47	46.00	25.53	-12.84	38.37	451.950	5
			-9.27	46.00	36.73	-10.60	47.33	@ 532.460	6

C.F = Antenna Factor + Cable Loss - Preamp gain
Result = Reading + C.F ; Margin = Result - Limit

@ :Maximum Data x :Over Limit

Remark:

1. Measuring frequencies from 30 MHz to 1 GHz.

- 2. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Q.P. detector mode.
- 3. Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
- 4. The IF bandwidth of SPA between 30 MHz to 1 GHz was 100 kHz.

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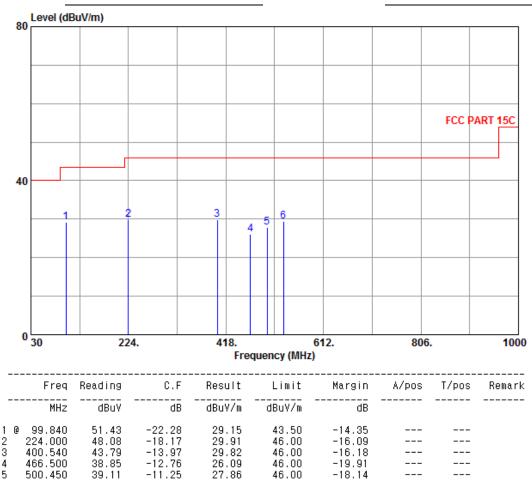
Radiated Emission Test Data (Below 1 GHz)

Temperature **26**℃ Humidity 33%

Test Date 09-Oct-2013 Tested by Kidd Liao

Polarization Vertical Channel 39

Test Mode Mode 2



29.44

46.00

46.00

-18.14

-16.56

C.F = Antenna Factor + Cable Loss - Preamp gain Result = Reading + C.F ; Margin = Result - Limit Result = Reading + C.F ;

-10.60

x:Over Limit @ :Maximum Data

39.11

40.04

Remark:

Measuring frequencies from 30 MHz to 1 GHz.

532.460

- Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Q.P. detector mode.
- 3. Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
- The IF bandwidth of SPA between 30 MHz to 1 GHz was 100 kHz.

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(and

Radiated Emission Test Data (Below 1 GHz)

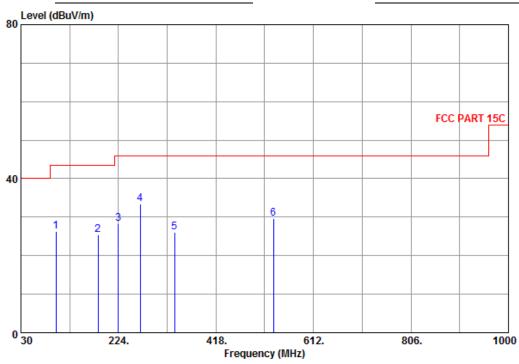
Report No.: HA130548-FD

Temperature : 26° C Humidity : 33%

Test Date : 09-Oct-2013 Tested by : Kidd Liao

Polarization : Horizontal Channel : 78

Test Mode : Mode 3



Remark	T/pos	A/pos	Margin	Limit	Result	C.F	Reading	Freq	
			dB	dBuV/m	dBuY/m	dB	dBuV	MHz	
			-17.11	43.50	26.39	-22.28	48.67	99.840	1
			-17.99	43.50	25.51	-17.38	42.89	183.260	2
			-17.78	46.00	28.22	-18.17	46.39	224.000	3
			-12.63	46.00	33.37	-18.92	52.29	0 267.650	4
			-20.02	46.00	25.98	-15.25	41.23	335.550	5
			-16.38	46.00	29.62	-10.60	40.22		6

C.F = Antenna Factor + Cable Loss - Preamp gain Result = Reading + C.F ; Margin = Result - Limit

@:Maximum Data x:Over Limit

Remark:

- 1. Measuring frequencies from 30 MHz to 1 GHz.
- 2. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Q.P. detector mode.
- 3. Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
- 4. The IF bandwidth of SPA between 30 MHz to 1 GHz was 100 kHz.

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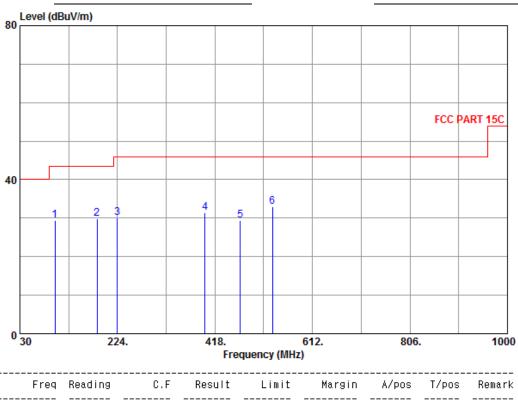
Radiated Emission Test Data (Below 1 GHz)

Temperature : 26° C Humidity : 33%

Test Date : 09-Oct-2013 Tested by : Kidd Liao

Polarization : Vertical Channel : 78

Test Mode : Mode 3



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuY	dB	dBuY/m	dBuV/m	dB			
1	99.840	51.73	-22.28	29.45	43.50	-14.05			
2	183.260	47.25	-17.38	29.87	43.50	-13.63			
3	224.000	48.27	-18.17	30.10	46.00	-15.90			
4	398.600	45.17	-13.85	31.32	46.00	-14.68			
5	468.440	42.15	-12.75	29.40	46.00	-16.60			
6 0	532,460	43.55	-10.60	32.95	46.00	-13.05			

C.E. - Antonno Factor + Cable Look - Bream dain

C.F = Antenna Factor + Cable Loss - Preamp gain Result = Reading + C.F ; Margin = Result - Limit

@:Maximum Data x:Over Limit

Remark:

- 1. Measuring frequencies from 30 MHz to 1 GHz.
- 2. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Q.P. detector mode.
- 3. Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
- 4. The IF bandwidth of SPA between 30 MHz to 1 GHz was 100 kHz.

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(and

Radiated Emission Test Data (Below 1 GHz)

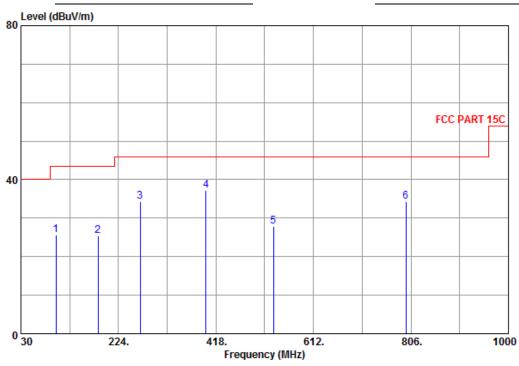
Report No.: HA130548-FD

Temperature : 26° C Humidity : 33%

Test Date : 09-Oct-2013 Tested by : Kidd Liao

Polarization : Horizontal : 00

Test Mode : Mode 4



Freq MHz	Reading dBuV	C.F dB	Result dBuV/m	Limit dBuV/m	Margin dB	A/pos	T/pos	Remark
1 99.840 2 183.260 3 267.650 4 0 398.600 5 532.460 6 796.300	47.92 42.77 53.34 51.02 38.40 39.88	-22.28 -17.38 -18.92 -13.85 -10.60 -5.61	25.64 25.39 34.42 37.17 27.80 34.27	43.50 43.50 46.00 46.00 46.00	-17.86 -18.11 -11.58 -8.83 -18.20 -11.73	 	 	

C.F = Antenna Factor + Cable Loss - Preamp gain Result = Reading + C.F ; Margin = Result - Limit

@:Maximum Data x:Over Limit

Remark:

- 1. Measuring frequencies from 30 MHz to 1 GHz.
- 2. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Q.P. detector mode.
- 3. Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
- 4. The IF bandwidth of SPA between 30 MHz to 1 GHz was 100 kHz.

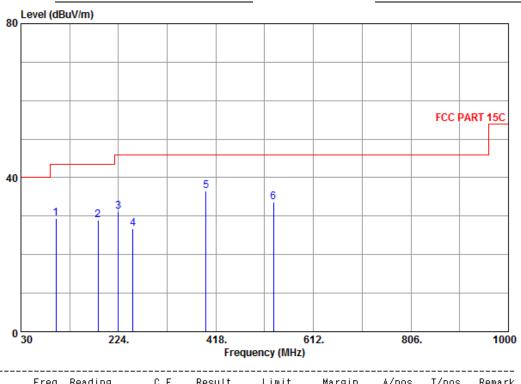
FCC Test Report Page 37 of 144

Temperature : 26° C Humidity : 33%

Test Date : 09-Oct-2013 Tested by : Kidd Liao

Polarization : Vertical Channel : 00

Test Mode : Mode 4



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuY	dB	dBuY/m	dBuV/m	dB			
1	99.840	51.69	-22.28	29.41	43.50	-14.09			
2	183.260	46.32	-17.38	28.94	43.50	-14.56			
3	224.000	49.28	-18.17	31.11	46.00	-14.89			
4	253.100	46.00	-19.19	26.81	46.00	-19.19			
5 @	398.600	50.37	-13.85	36.52	46.00	-9.48			
6	532.460	44.29	-10.60	33.69	46.00	-12.31			

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C.F = Antenna Factor + Cable Loss - Preamp gain Result = Reading + C.F ; Margin = Result - Limit

@:Maximum Data x:Over Limit

Remark:

- 1. Measuring frequencies from 30 MHz to 1 GHz.
- 2. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Q.P. detector mode.
- 3. Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
- 4. The IF bandwidth of SPA between 30 MHz to 1 GHz was 100 kHz.

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Radiated Emission Test Data (Below 1 GHz)

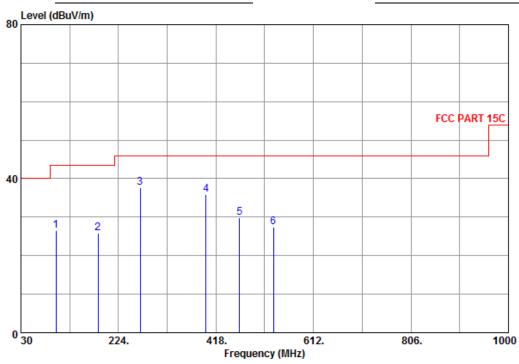
Report No.: HA130548-FD

Temperature : 26° C Humidity : 33%

Test Date : 09-Oct-2013 Tested by : Kidd Liao

Polarization : Horizontal Channel : 39

Test Mode : Mode 5



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuY	dB	dBuY/m	dBuV/m	dB			
1	99.840	48.69	-22.28	26.41	43.50	-17.09			
2	183.260	43.22	-17.38	25.84	43.50	-17.66			
3 @	267.650	56.48	-18.92	37.56	46.00	-8.44			
4	398.600	49.83	-13.85	35.98	46.00	-10.02			
5	464.560	42.57	-12.78	29.79	46.00	-16.21			
6	532.460	38.03	-10.60	27.43	46.00	-18.57			

C.F = Antenna Factor + Cable Loss - Preamp gain

C.F = Antenna Factor + Cable Loss - Preamp gain Result = Reading + C.F ; Margin = Result - Limit

@ :Maximum Data x :Over Limit

Remark:

1. Measuring frequencies from 30 MHz to 1 GHz.

- 2. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Q.P. detector mode.
- 3. Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
- 4. The IF bandwidth of SPA between 30 MHz to 1 GHz was 100 kHz.

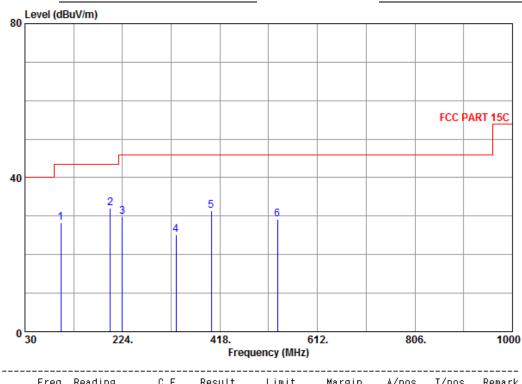
FCC Test Report Page 39 of 144

Temperature : 26° C Humidity : 33%

Test Date : 09-Oct-2013 Tested by : Kidd Liao

Polarization : Vertical Channel : 38

Test Mode : Mode 5



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuV	dB	dBuY/m	dBuV/m	dB			
1	101.780	51.47	-23.21	28.26	43.50	-15.24			
2 @	199.750	49.25	-17.24	32.01	43.50	-11.49			
3	224.000	47.94	-18.17	29.77	46.00	-16.23			
4	330.700	40.68	-15.58	25.10	46.00	-20.90			
5	400.540	45.48	-13.97	31.51	46.00	-14.49			
6	532.460	39.88	-10.60	29.28	46.00	-16.72			

C.F = Antenna Factor + Cable Loss - Preamp gain Result = Reading + C.F ; Margin = Result - Limit

@:Maximum Data x:Over Limit

Remark:

- 1. Measuring frequencies from 30 MHz to 1 GHz.
- 2. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Q.P. detector mode.
- 3. Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
- 4. The IF bandwidth of SPA between 30 MHz to 1 GHz was 100 kHz.

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Radiated Emission Test Data (Below 1 GHz)

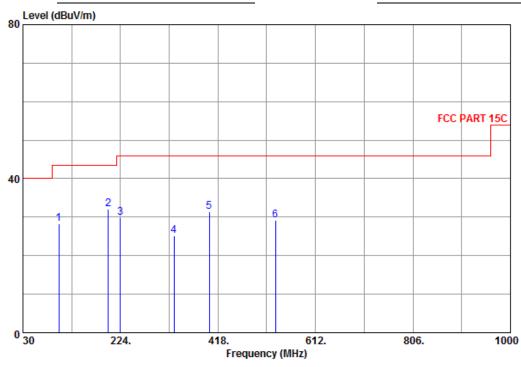
Report No.: HA130548-FD

Temperature : 26° C Humidity : 33%

Test Date : 09-Oct-2013 Tested by : Kidd Liao

Polarization : Horizontal : 38

Test Mode : Mode 5



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1 2 0	101.780	51.47 49.25	-23.21 -17.24	28.26 32.01	43.50 43.50	-15.24 -11.49			
3 4	224.000 330.700	47.94 40.68	-18.17 -15.58	29.77 25.10	46.00 46.00	-16.23 -20.90			
5	400.540	45.48	-13.97	31.51	46.00	-14.49			
6	532.460	39.88	-10.60	29.28	46.00	-16.72			

C.F = Antenna Factor + Cable Loss - Preamp gain Result = Reading + C.F ; Margin = Result - Limit

@:Maximum Data x:Over Limit

Remark:

- 1. Measuring frequencies from 30 MHz to 1 GHz.
- 2. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Q.P. detector mode.
- 3. Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
- 4. The IF bandwidth of SPA between 30 MHz to 1 GHz was 100 kHz.

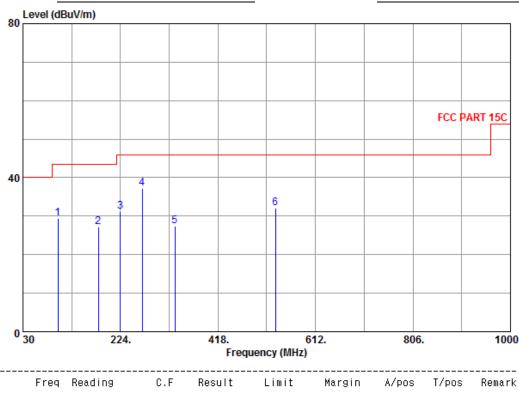
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Temperature : 26° C Humidity : 33%

Test Date : 09-Oct-2013 Tested by : Kidd Liao

Polarization : Horizontal Channel : 79

Test Mode : Mode 6



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuV	dB	dBuY/m	dBuV/m	dB			
1	99.840	51.59	-22.28	29.31	43.50	-14.19			
2	180.350	44.69	-17.39	27.30	43.50	-16.20			
3	224.000	49.32	-18.17	31.15	46.00	-14.85			
4 6	267.650	56.13	-18.92	37.21	46.00	-8.79			
5	332.640	42.74	-15.44	27.30	46.00	-18.70			
6	532.460	42.74	-10.60	32.14	46.00	-13.86			

C.F = Antenna Factor + Cable Loss - Preamp gain Result = Reading + C.F ; Margin = Result - Limit

@:Maximum Data x:Over Limit

Remark:

- 1. Measuring frequencies from 30 MHz to 1 GHz.
- 2. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Q.P. detector mode.
- 3. Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
- 4. The IF bandwidth of SPA between 30 MHz to 1 GHz was 100 kHz.

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Carl

Radiated Emission Test Data (Below 1 GHz)

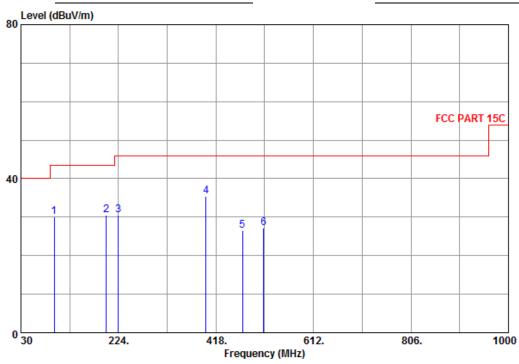
Report No.: HA130548-FD

Temperature : 26° C Humidity : 33%

Test Date : 09-Oct-2013 Tested by : Kidd Liao

Polarization : Vertical Channel : 79

Test Mode : Mode 6



Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
MHz	dBuV	dB	dBuY/m	dBuV/m	dB			
95.960 2 199.750 3 224.000 4 @ 398.600 5 471.350 6 513.060	53.12 47.75 48.69 49.24 39.21 38.22	-23.07 -17.24 -18.17 -13.85 -12.73 -10.92	30.05 30.51 30.52 35.39 26.48 27.30	43.50 43.50 46.00 46.00 46.00	-13.45 -12.99 -15.48 -10.61 -19.52 -18.70	 	 	

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C.F = Antenna Factor + Cable Loss - Preamp gain Result = Reading + C.F ; Margin = Result - Limit

@ :Maximum Data x :Over Limit

Remark:

1. Measuring frequencies from 30 MHz to 1 GHz.

- 2. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Q.P. detector mode.
- 3. Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
- 4. The IF bandwidth of SPA between 30 MHz to 1 GHz was 100 kHz.

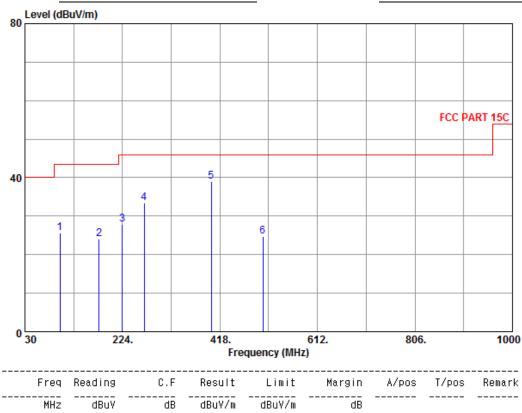
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Temperature : 26° C Humidity : 33%

Test Date : 09-Oct-2013 Tested by : Kidd Liao

Polarization : Horizontal Channel : 00

Test Mode : Mode 7



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuY	dB	dBuY/m	dBuV/m	dB			
1	99.840	47.82	-22.28	25.54	43.50	-17.96			
2	177.440	42.82	-18.74	24.08	43.50	-19.42			
3	224.000	46.13	-18.17	27.96	46.00	-18.04			
4	267.650	52.41	-18.92	33.49	46.00	-12.51			
5 (400.540	52.95	-13.97	38.98	46.00	-7.02			
6	503.360	35.99	-11.18	24.81	46.00	-21.19			

C.F = Antenna Factor + Cable Loss - Preamp gain Result = Reading + C.F ; Margin = Result - Limit

@:Maximum Data x:Over Limit

Remark:

- 1. Measuring frequencies from 30 MHz to 1 GHz.
- 2. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Q.P. detector mode.
- 3. Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
- 4. The IF bandwidth of SPA between 30 MHz to 1 GHz was 100 kHz.

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(and

Radiated Emission Test Data (Below 1 GHz)

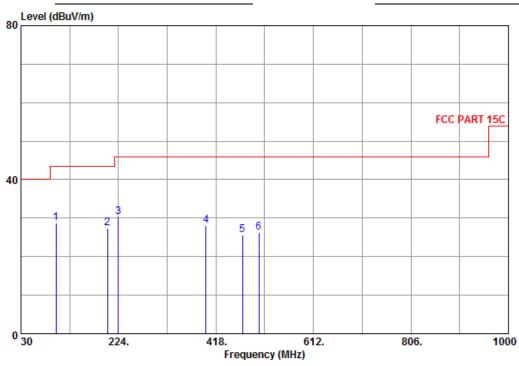
Report No.: HA130548-FD

Temperature : 26° C Humidity : 33%

Test Date : 09-Oct-2013 Tested by : Kidd Liao

Polarization : Vertical Channel : 00

Test Mode : Mode 7



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuV	dB	dBuY/m	dBuV/m	dB			
1 @	99.840	50.93	-22.28	28.65	43.50	-14.85			
2	202.660	44.65	-17.33	27.32	43.50	-16.18			
3	224.000	48.57	-18.17	30.40	46.00	-15.60			
4	398.600	41.87	-13.85	28.02	46.00	-17.98			
5	471.350	38.26	-12.73	25.53	46.00	-20.47			
6	503.360	37.52	-11.18	26.34	46.00	-19.66			

C.F = Antenna Factor + Cable Loss - Preamp gain Result = Reading + C.F ; Margin = Result - Limit

@:Maximum Data x:Over Limit

Remark:

- 1. Measuring frequencies from 30 MHz to 1 GHz.
- 2. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Q.P. detector mode.
- 3. Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
- 4. The IF bandwidth of SPA between 30 MHz to 1 GHz was 100 kHz.

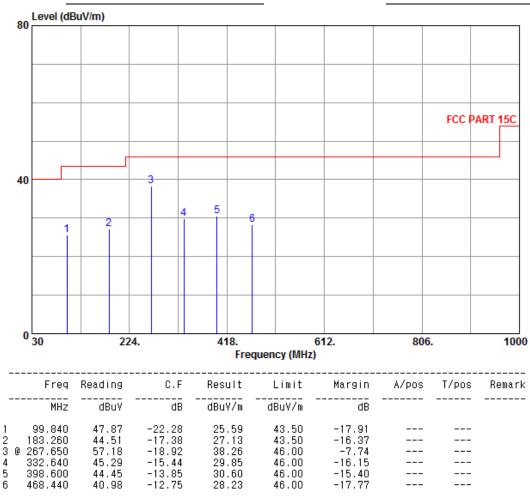
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Temperature : 26° C Humidity : 33%

Test Date : 09-Oct-2013 Tested by : Kidd Liao

Polarization : Horizontal Channel : 39

Test Mode : Mode 8



C.F = Antenna Factor + Cable Loss - Preamp gain Result = Reading + C.F ; Margin = Result - Limit

@:Maximum Data x:Over Limit

Remark:

- 1. Measuring frequencies from 30 MHz to 1 GHz.
- 2. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Q.P. detector mode.
- 3. Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
- 4. The IF bandwidth of SPA between 30 MHz to 1 GHz was 100 kHz.

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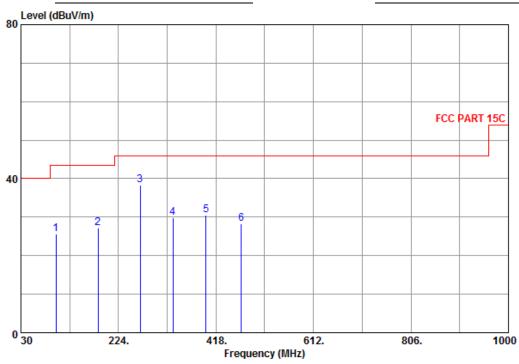
Report No.: HA130548-FD

Temperature : 26° C Humidity : 33%

Test Date : 09-Oct-2013 Tested by : Kidd Liao

Polarization : Vertical Channel : 39

Test Mode : Mode 8



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1	99.840	47.87	-22.28	25.59	43.50	-17.91			
2	183.260	44.51	-17.38	27.13	43.50	-16.37			
3 0	267.650 °C	57.18	-18.92	38.26	46.00	-7.74			
4	332.640	45.29	-15.44	29.85	46.00	-16.15			
5	398.600	44.45	-13.85	30.60	46.00	-15.40			
6	468.440	40.98	-12.75	28.23	46.00	-17.77			

C.F = Antenna Factor + Cable Loss - Preamp gain
Result = Reading + C.F ; Margin = Result - Limit

@:Maximum Data x:Over Limit

Remark:

1. Measuring frequencies from 30 MHz to 1 GHz.

- 2. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Q.P. detector mode.
- 3. Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
- 4. The IF bandwidth of SPA between 30 MHz to 1 GHz was 100 kHz.

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600

Radiated Emission Test Data (Below 1 GHz)

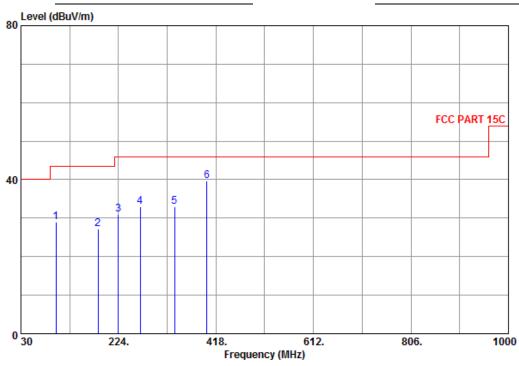
Report No.: HA130548-FD

Temperature : 26° C Humidity : 33%

Test Date : 09-Oct-2013 Tested by : Kidd Liao

Polarization : Horizontal Channel : 78

Test Mode : Mode 9



Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
MHz	dBuV	dB	dBuY/m	dBuV/m	dB			
99.840	51.15	-22.28	28.87	43.50	-14.63			
183.260	44.63	-17.38	27.25	43.50	-16.25			
224.000	49.18	-18.17	31.01	46.00	-14.99			
267.650	51.98	-18.92	33.06	46.00	-12.94			
335.550	48.31	-15.25	33.06	46.00	-12.94			
399.570	53.46	-13.86	39.60	46.00	-6.40			
	99.840 183.260 224.000 267.650 335.550	MHz dBuV 99.840 51.15 183.260 44.63 224.000 49.18 267.650 51.98 335.550 48.31	MHz dBuV dB 99.840 51.15 -22.28 183.260 44.63 -17.38 224.000 49.18 -18.17 267.650 51.98 -18.92 335.550 48.31 -15.25	MHz dBuV dB dBuV/m 99.840 51.15 -22.28 28.87 183.260 44.63 -17.38 27.25 224.000 49.18 -18.17 31.01 267.650 51.98 -18.92 33.06 335.550 48.31 -15.25 33.06	MHz dBuV dB dBuV/m dBuV/m 99.840 51.15 -22.28 28.87 43.50 183.260 44.63 -17.38 27.25 43.50 224.000 49.18 -18.17 31.01 46.00 267.650 51.98 -18.92 33.06 46.00 335.550 48.31 -15.25 33.06 46.00	MHz dBuV dB dBuV/m dBuV/m dB 99.840 51.15 -22.28 28.87 43.50 -14.63 183.260 44.63 -17.38 27.25 43.50 -16.25 224.000 49.18 -18.17 31.01 46.00 -14.99 267.650 51.98 -18.92 33.06 46.00 -12.94 335.550 48.31 -15.25 33.06 46.00 -12.94	MHz dBuV dB dBuV/m dBuV/m dB 99.840 51.15 -22.28 28.87 43.50 -14.63 183.260 44.63 -17.38 27.25 43.50 -16.25 224.000 49.18 -18.17 31.01 46.00 -14.99 267.650 51.98 -18.92 33.06 46.00 -12.94 335.550 48.31 -15.25 33.06 46.00 -12.94	MHz dBuV dB dBuV/m dBuV/m dB 99.840 51.15 -22.28 28.87 43.50 -14.63 183.260 44.63 -17.38 27.25 43.50 -16.25 224.000 49.18 -18.17 31.01 46.00 -14.99 267.650 51.98 -18.92 33.06 46.00 -12.94 335.550 48.31 -15.25 33.06 46.00 -12.94

C.F = Antenna Factor + Cable Loss - Preamp gain Result = Reading + C.F ; Margin = Result - Limit

@ :Maximum Data x :Over Limit

Remark:

- 1. Measuring frequencies from 30 MHz to 1 GHz.
- 2. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Q.P. detector mode.
- 3. Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
- 4. The IF bandwidth of SPA between 30 MHz to 1 GHz was 100 kHz.

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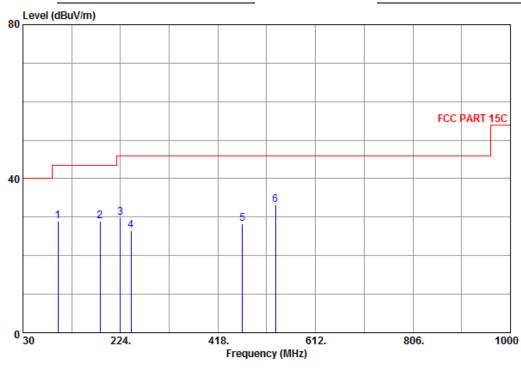
Report No.: HA130548-FD

Temperature **26**℃ Humidity 33%

Test Date 09-Oct-2013 Tested by Kidd Liao

Polarization Vertical Channel 78

Test Mode Mode 9



	Freq	Reading	C.F	Result	Limit	Margin	A∕pos	T/pos	Remark
	MHz	dBuV	dB	dBuY/m	dBuV/m	dB			
1	99.840	51.17	-22.28	28.89	43.50	-14.61			
2	183.260	46.41	-17.38	29.03	43.50	-14.47			
3	224.000	47.97	-18.17	29.80	46.00	-16.20			
4	245.340	45.62	-19.07	26.55	46.00	-19.45			
5	466.500	40.97	-12.76	28.21	46.00	-17.79			
6	@ 532,460	43.89	-10.60	33.29	46.00	-12.71			

C.F = Antenna Factor + Cable Loss - Preamp gain Result = Reading + C.F ; Margin = Result - Limit

@ :Maximum Data x:Over Limit

Remark:

- 1. Measuring frequencies from 30 MHz to 1 GHz.
- 2. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Q.P. detector mode.
- 3. Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
- 4. The IF bandwidth of SPA between 30 MHz to 1 GHz was 100 kHz.

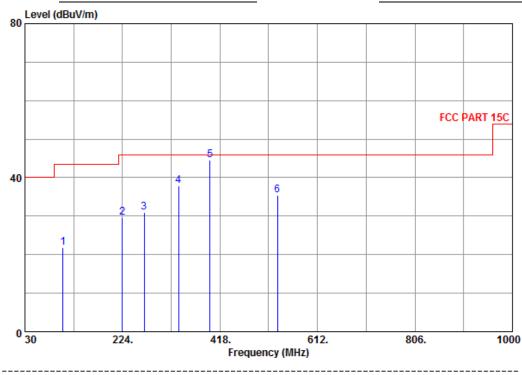
FCC Test Report Page 49 of 144

Temperature : 26° C Humidity : 33%

Test Date : 09-Oct-2013 Tested by : Kidd Liao

Polarization : Horizontal Channel : RX

Test Mode : Mode 10



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuV	dB	dBuY/m	dBuV/m	dB			
1	105.660	46.36	-24.47	21.89	43.50	-21.61			
2	224.000	47.80	-18.17	29.63	46.00	-16.37			
3	267.650	49.93	-18.92	31.01	46.00	-14.99			
4	335.550	53.15	-15.25	37.90	46.00	-8.10			
5 0	398.600	58.48	-13.85	44.63	46.00	-1.37			
6	532.460	46.13	-10.60	35.53	46.00	-10.47			

C.F = Antenna Factor + Cable Loss - Preamp gain Result = Reading + C.F ; Margin = Result - Limit

@:Maximum Data x:Over Limit

Remark:

- 1. Measuring frequencies from 30 MHz to 1 GHz.
- 2. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Q.P. detector mode.
- 3. Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
- 4. The IF bandwidth of SPA between 30 MHz to 1 GHz was 100 kHz.

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(and

Radiated Emission Test Data (Below 1 GHz)

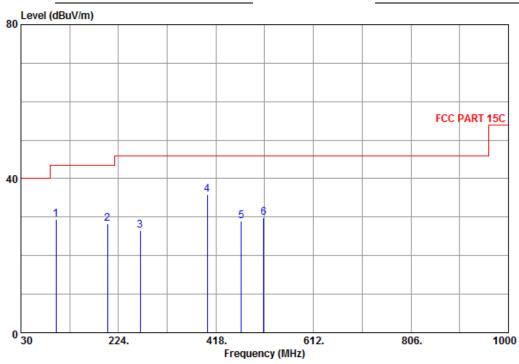
Report No.: HA130548-FD

Temperature : 26° C Humidity : 33%

Test Date : 09-Oct-2013 Tested by : Kidd Liao

Polarization : Vertical Channel : RX

Test Mode : Mode 10



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBu∀	dB	dBuV/m	dBuV/m	dB			
1	99.840	51.73	-22.28	29.45	43.50	-14.05			
2	202.660 267.650	45.61 45.54	-17.33 -18.92	28.28 26.62	43.50 46.00	-15.22 -19.38			
4 @ 5	400.540 468.440	49.76 41.66	-13.97 -12.75	35.79 28.91	46.00 46.00	-10.21 -17.09			
6	513.060	40.71	-10.92	29.79	46.00	-16.21			

C.F = Antenna Factor + Cable Loss - Preamp gain Result = Reading + C.F ; Margin = Result - Limit

@:Maximum Data x:Over Limit

Remark:

- 1. Measuring frequencies from 30 MHz to 1 GHz.
- 2. Radiated emissions measured in frequency range from 30 MHz to 1000 MHz were made with an instrument using Q.P. detector mode.
- 3. Data of measurement within this frequency range shown "---" in the table above means the reading of emissions are attenuated more than 20 dB below the permissible limits or the field strength is too small to be measured.
- 4. The IF bandwidth of SPA between 30 MHz to 1 GHz was 100 kHz.

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Radiated Emission Test Data (Above 1 GHz)

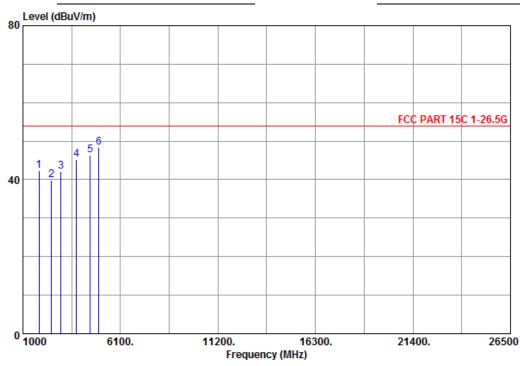
Report No.: HA130548-FD

Temperature : 26° C Humidity : 33%

Test Date : 09-Oct-2013 Tested by : Kidd Liao

Polarization : Horizontal : 00

Test Mode : Mode 1



Freq MHz	Reading dBuV	C.F dB	Result dBuV/m	Limit dBuV/m	Margin	A/pos	T/pos	Remark
1 1841.500 2 2504.500 3 2989.000 4 3805.000 5 4519.000 6 @4978.000	51.71 47.27 48.01 48.70 47.03 47.06	-9.47 -7.33 -5.88 -3.52 -0.74	42.24 39.94 42.13 45.18 46.29 48.28	54.00 54.00 54.00 54.00 54.00 54.00	-11.76 -14.06 -11.87 -8.82 -7.71 -5.72	 	 	

C.F = Antenna Factor + Cable Loss - Preamp gain Result = Reading + C.F ; Margin = Result - Limit

@:Maximum Data x:Over Limit

Remark:

- 6. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 7. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 8. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 9. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
- 10. Spectrum setting:
 - (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.
 - (b) Average Setting 1GHz to 10th harmonics of fundamental,: RBW = 1MHz, VBW = 10Hz, Sweep = AUTO.

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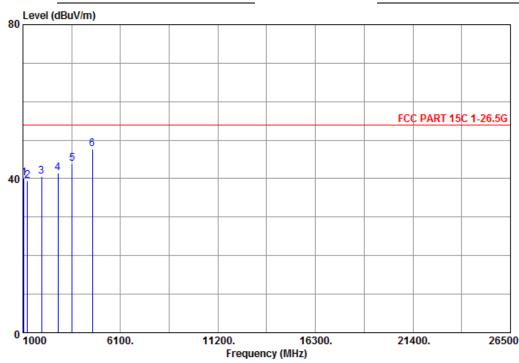
Report No.: HA130548-FD

Temperature : 26° C Humidity : 33%

Test Date : 09-Oct-2013 Tested by : Kidd Liao

Polarization : Vertical Channel : 00

Test Mode : Mode 1



	Freq	Reading	C.F	Result	Limit	 Margin	A/pos	T/pos	Remark
	MHz	dBu∀	dB	dBuY/m	dBuV/m	dB			
1	1051.000	53.11	-13.10	40.01	54.00	-13.99			
2	1229.500	51.65	-12.25	39.40	54.00	-14.60			
3	1969.000	49.51	-8.94	40.57	54.00	-13.43			
4	2836.000	47.88	-6.34	41.54	54.00	-12.46			
5	3575.500	48.07	-4.17	43.90	54.00	-10.10			
6	@4621.000	48.07	-0.30	47.77	54.00	-6.23			

C.F = Antenna Factor + Cable Loss - Preamp gain
Result = Reading + C.F ; Margin = Result - Limit

@ :Maximum Data x :Over Limit

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
- Spectrum setting:
 - (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.
 - (b) Average Setting 1GHz to 10th harmonics of fundamental,: RBW = 1MHz, VBW = 10Hz, Sweep = AUTO.

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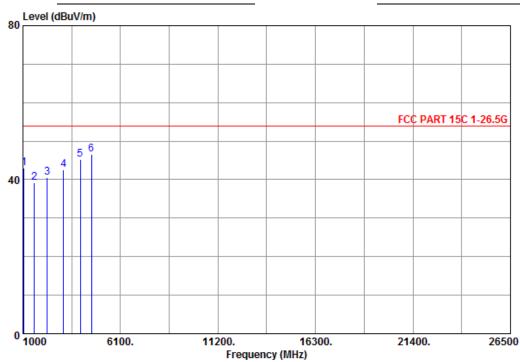
Report No.: HA130548-FD

Temperature : 26° C Humidity : 33%

Test Date : 09-Oct-2013 Tested by : Kidd Liao

Polarization : Horizontal Channel : 39

Test Mode : Mode 2



Remark	T/pos	A/pos	Margin	Limit	Result	C.F	Reading	Freq	
			dB	dBuV/m	dBuY/m	dB	dBuV	MHz	-
			-11.05	54.00	42.95	-13.10	56.05	1051.000	1
			-14.75 -13.41	54.00 54.00	39.25 40.59	-10.70 -7.98	49.95 48.57	1586.500 2275.000	2
			-11.51	54.00	40.39	-7.90 -5.54	48.03	3116.500	4
			-8.87	54.00	45.13	-2.91	48.04	4009.000	5
			-7.41	54.00	46.59	-0.38	46.97	@4595.500	6

C.F = Antenna Factor + Cable Loss - Preamp gain Result = Reading + C.F ; Margin = Result - Limit

@:Maximum Data x:Over Limit

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
- 5. Spectrum setting:
 - (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.
 - (b) Average Setting 1GHz to 10th harmonics of fundamental,: RBW = 1MHz, VBW = 10Hz, Sweep = AUTO.

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HongAn TECHNOLOGY CO., LTD.

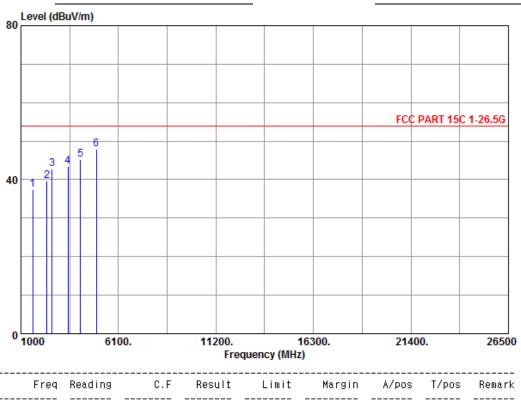
Radiated Emission Test Data (Above 1 GHz)

Temperature : 26° C Humidity : 33%

Test Date : 09-Oct-2013 Tested by : Kidd Liao

Polarization : Vertical Channel : 39

Test Mode : Mode 2



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1 2 3 4 5 6	2632.000 3473.500	47.92 47.33 49.75 47.86 47.77 46.79	-10.55 -7.74 -6.93 -4.46 -2.48 1.08	37.37 39.59 42.82 43.40 45.29 47.87	54.00 54.00 54.00 54.00 54.00 54.00	-16.63 -14.41 -11.18 -10.60 -8.71 -6.13	 	 	

C.F = Antenna Factor + Cable Loss - Preamp gain Result = Reading + C.F ; Margin = Result - Limit

@:Maximum Data x:Over Limit

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
- 5. Spectrum setting:
 - (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.
 - (b) Average Setting 1GHz to 10th harmonics of fundamental,: RBW = 1MHz, VBW = 10Hz, Sweep = AUTO.

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Radiated Emission Test Data (Above 1 GHz)

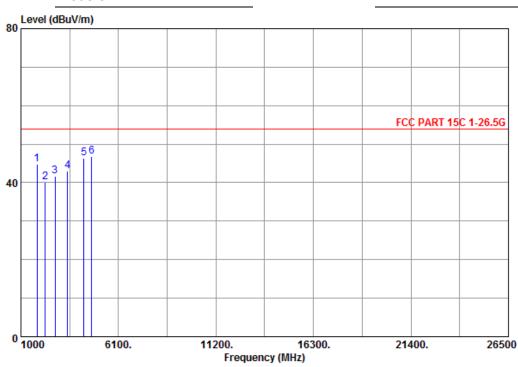
Report No.: HA130548-FD

Temperature : 26° C Humidity : 33%

Test Date : 09-Oct-2013 Tested by : Kidd Liao

Polarization : Horizontal Channel : 78

Test Mode : Mode 3



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuY	dB	dBuY/m	dBuV/m	dB			
1	1841.500	54.34	-9.47	44.87	54.00	-9.13			
2	2275.000	48.12	-7.98	40.14	54.00	-13.86			
3	2785.000	48.11	-6.49	41.62	54.00	-12.38			
4	3448.000	47.58	-4.56	43.02	54.00	-10.98			
5	4289.500	48.04	-1.68	46.36	54.00	-7.64			
_	@4697.500	46.62	0.07	46.69	54.00	-7.31			

C.F = Antenna Factor + Cable Loss - Preamp gain Result = Reading + C.F ; Margin = Result - Limit

@:Maximum Data x:Over Limit

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
- 5. Spectrum setting:
 - (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.
 - (b) Average Setting 1GHz to 10th harmonics of fundamental,: RBW = 1MHz, VBW = 10Hz, Sweep = AUTO.

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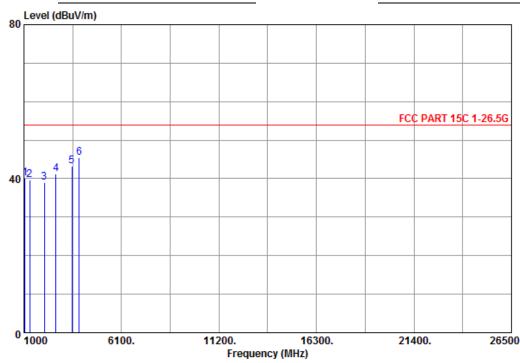
Report No.: HA130548-FD

Temperature : 26° C Humidity : 33%

Test Date : 09-Oct-2013 Tested by : Kidd Liao

Polarization : Vertical Channel : 78

Test Mode : Mode 3



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuV	dB	dBuY/m	dBuV/m	dB			
2 1 3 2 4 2 5 3	051.000 306.000 071.000 683.000 499.000	53.28 51.71 47.52 47.95 47.60 48.78	-13.10 -11.93 -8.58 -6.78 -4.40 -3.29	40.18 39.78 38.94 41.17 43.20 45.49	54.00 54.00 54.00 54.00 54.00 54.00	-13.82 -14.22 -15.06 -12.83 -10.80 -8.51	 	 	

C.F = Antenna Factor + Cable Loss - Preamp gain

Result = Reading + C.F ; Margin = Result - Limit

@:Maximum Data x:Over Limit

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
- 5. Spectrum setting:
 - i. Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.
 - ii. Average Setting 1GHz to 10th harmonics of fundamental,: RBW = 1MHz, VBW = 10Hz, Sweep = AUTO.

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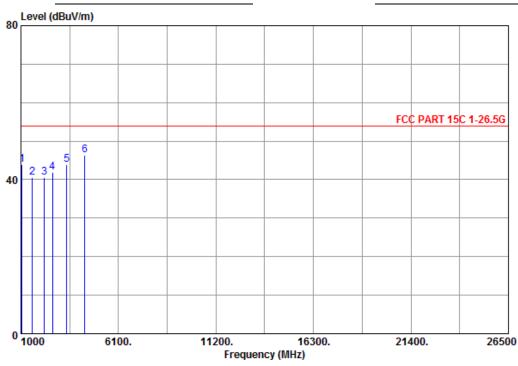
Report No.: HA130548-FD

Temperature : 26° C Humidity : 33%

Test Date : 09-Oct-2013 Tested by : Kidd Liao

Polarization : Horizontal Channel : 00

Test Mode : Mode 4



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuY	dB	dBuY/m	dBuV/m	dB			
1	1051.000	56.94	-13.10	43.84	54.00	-10.16			
2	1586.500	51.31	-10.70	40.61	54.00	-13.39			
3	2224.000	48.73	-8.13	40.60	54.00	-13.40			
4	2657.500	48.71	-6.83	41.88	54.00	-12.12			
5	3397.000	48.63	-4.70	43.93	54.00	-10.07			
6	@4340.500	47.84	-1.53	46.31	54.00	-7.69			

C.F = Antenna Factor + Cable Loss - Preamp gain
Result = Reading + C.F ; Margin = Result - Limit

@:Maximum Data x:Over Limit

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
- 5. Spectrum setting:
 - (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.
 - (b) Average Setting 1GHz to 10th harmonics of fundamental,: RBW = 1MHz, VBW = 10Hz, Sweep = AUTO.

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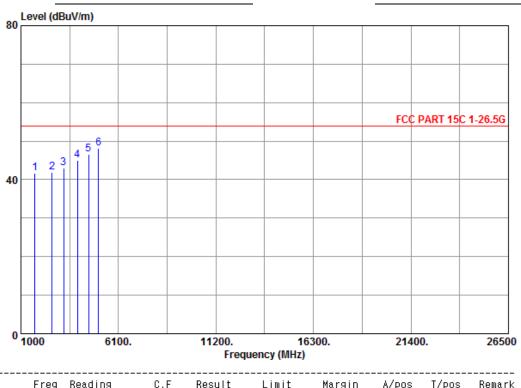


Temperature : 26° C Humidity : 33%

Test Date : 09-Oct-2013 Tested by : Kidd Liao

Polarization : Vertical Channel : 00

Test Mode : Mode 4



	Freq	Reading	C.F	Result	Limit	Margin	A∕pos	T/pos	Remark
-	MHz	dBuV	dB	dBuY/m	dBuV/m	dB			
1	1739.500	51.66	-9.94	41.72	54.00	-12.28			
2	2632.000	48.79	-6.93	41.86	54.00	-12.14			
3	3244.000	48.06	-5.15	42.91	54.00	-11.09			
4	3958.000	47.99	-3.08	44.91	54.00	-9.09			
5	4544.500	47.27	-0.66	46.61	54.00	-7.39			
6	@5054.500	46.62	1.43	48.05	54.00	-5.95			

C.F = Antenna Factor + Cable Loss - Preamp gain Result = Reading + C.F ; Margin = Result - Limit

@:Maximum Data x:Over Limit

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- 2. Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
- 5. Spectrum setting:
 - (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.
 - (b) Average Setting 1GHz to 10th harmonics of fundamental,: RBW = 1MHz, VBW = 10Hz, Sweep = AUTO.

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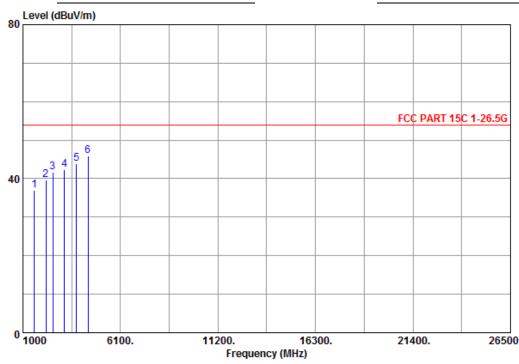
Report No.: HA130548-FD

Temperature : 26° C Humidity : 33%

Test Date : 09-Oct-2013 Tested by : Kidd Liao

Polarization : Horizontal Channel : 39

Test Mode : Mode 5



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuV	dB	dBuY/m	dBuV/m	dB			
1	1586.500	47.63	-10.70	36.93	54.00	-17.07			
2	2198.500	47.83	-8.23	39.60	54.00	-14.40			
3	2555.500	48.70	-7.13	41.57	54.00	-12.43			
4	3167.500	47.62	-5.35	42.27	54.00	-11.73			
5	3805.000	47.51	-3.52	43.99	54.00	-10.01			
6	@4417.000	47.01	-1.17	45.84	54.00	-8.16			

C.F = Antenna Factor + Cable Loss - Preamp gain

Result = Reading + C.F ; Margin = Result - Limit

@:Maximum Data x:Over Limit

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
- 5. Spectrum setting:
 - (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.
 - (b) Average Setting 1GHz to 10th harmonics of fundamental,: RBW = 1MHz, VBW = 10Hz, Sweep = AUTO.

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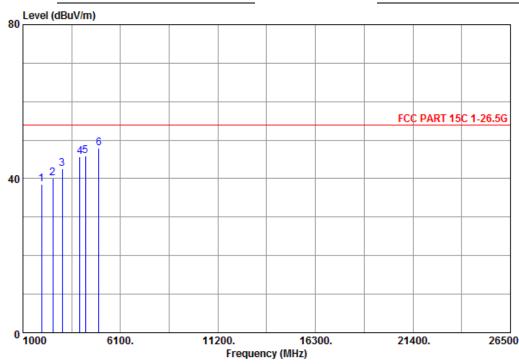
Report No.: HA130548-FD

Temperature : 26° C Humidity : 33%

Test Date : 09-Oct-2013 Tested by : Kidd Liao

Polarization : Vertical Channel : 38

Test Mode : Mode 5



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuV	dB	dBuY/m	dBuV/m	dB			
1	1969.000	47.59	-8.94	38.65	54.00	-15.35			
2	2555.500	47.27	-7.13	40.14	54.00	-13.86			
3	3065.500	48.18	-5.64	42.54	54.00	-11.46			
4		48.78	-2.99	45.79	54.00	-8.21			
5		47.74	-1.83	45.91	54.00	-8.09			
6	@4978.000	46.76	1.22	47.98	54.00	-6.02			

C.F = Antenna Factor + Cable Loss - Preamp gain

Result = Reading + C.F ; Margin = Result - Limit

@ :Maximum Data x :Over Limit

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
- Spectrum setting:
 - (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.
 - (b) Average Setting 1GHz to 10th harmonics of fundamental,: RBW = 1MHz, VBW = 10Hz, Sweep = AUTO.

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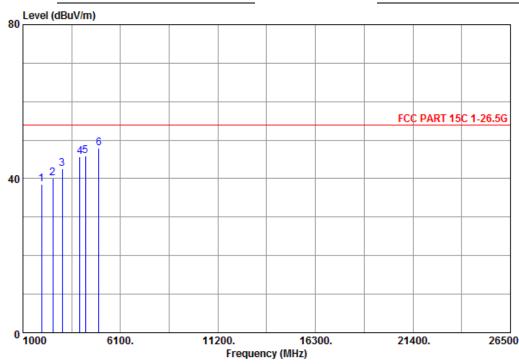
Report No.: HA130548-FD

Temperature : 26° C Humidity : 33%

Test Date : 09-Oct-2013 Tested by : Kidd Liao

Polarization : Horizontal Channel : 38

Test Mode : Mode 5



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuV	dB	dBuY/m	dBuV/m	dB			
1	1969.000	47.59	-8.94	38.65	54.00	-15.35			
3	2555.500 3065.500	47.27 48.18	-7.13 -5.64	40.14 42.54	54.00 54.00	-13.86 -11.46			
4 5	3983.500 4264.000	48.78 47.74	-2.99 -1.83	45.79 45.91	54.00 54.00	-8.21 -8.09			
6	@4978.000	46.76	1.22	47.98	54.00	-6.02			

C.F = Antenna Factor + Cable Loss - Preamp gain Result = Reading + C.F ; Margin = Result - Limit

@ :Maximum Data x :Over Limit

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
- Spectrum setting:
 - (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.
 - (b) Average Setting 1GHz to 10th harmonics of fundamental,: RBW = 1MHz, VBW = 10Hz, Sweep = AUTO.

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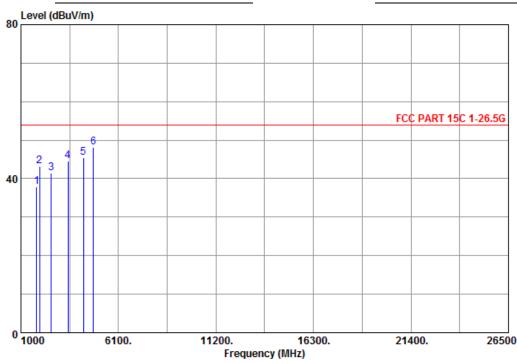
Report No.: HA130548-FD

Temperature : 26° C Humidity : 33%

Test Date : 09-Oct-2013 Tested by : Kidd Liao

Polarization : Horizontal Channel : 79

Test Mode : Mode 6



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuV	dB	dBuV/m	dBuV/m	dB			
1	1816.000	47.55	-9.63	37.92	54.00	-16.08			
2	1969.000	52.11	-8.94	43.17	54.00	-10.83			
3	2581.000	48.55	-7.09	41.46	54.00	-12.54			
4		48.95	-4.46	44.49	54.00	-9.51			
5		47.33	-1.83	45.50	54.00	-8.50			
6	04799.500	47.55	0.49	48.04	54.00	-5.96			

C.F = Antenna Factor + Cable Loss - Preamp gain Result = Reading + C.F ; Margin = Result - Limit

@:Maximum Data x:Over Limit

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
- Spectrum setting:
 - (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.
 - (b) Average Setting 1GHz to 10th harmonics of fundamental,: RBW = 1MHz, VBW = 10Hz, Sweep = AUTO.

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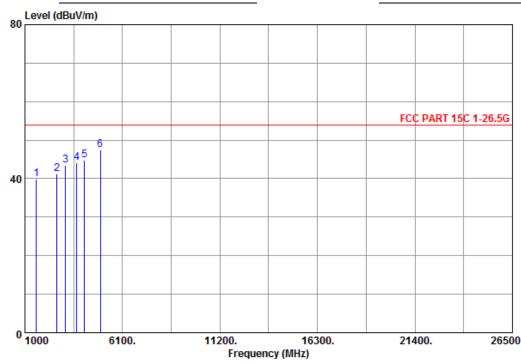
Report No.: HA130548-FD

Temperature : 26° C Humidity : 33%

Test Date : 09-Oct-2013 Tested by : Kidd Liao

Polarization : Vertical Channel : 79

Test Mode : Mode 6



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuV	dB	dBuY/m	dBuV/m	dB			
1	1586.500	50.69	-10.70	39.99	54.00	-14.01			
2	2683.000	47.90	-6.78	41.12	54.00	-12.88			
3	3116.500	49.05	-5.54	43.51	54.00	-10.49			
4	3703.000	47.89	-3.82	44.07	54.00	-9.93			
5	4111.000	47.28	-2.48	44.80	54.00	-9.20			
6	@4952.500	46.42	1.08	47.50	54.00	-6.50			

C.F = Antenna Factor + Cable Loss - Preamp gain
Result = Reading + C.F ; Margin = Result - Limit

@:Maximum Data x:Over Limit

Remark:

- Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
- 5. Spectrum setting:
 - i. Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.
 - ii. Average Setting 1GHz to 10th harmonics of fundamental,: RBW = 1MHz, VBW = 10Hz, Sweep = AUTO.

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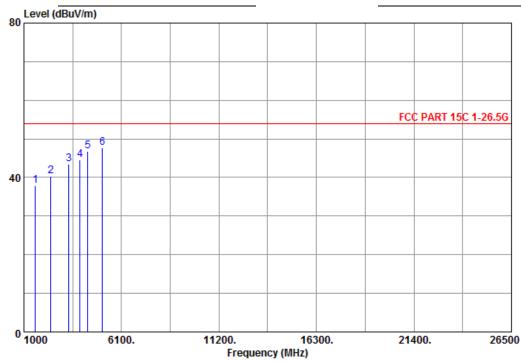
Report No.: HA130548-FD

Temperature : 26° C Humidity : 33%

Test Date : 09-Oct-2013 Tested by : Kidd Liao

Polarization : Horizontal Channel : 00

Test Mode : Mode 7



Freq MHz	Reading dBuV	C.F dB	Result dBuY/m	Limit dBuY/m	Margin dB	A/pos	T/pos	Remark
1 1586.500 2 2402.500 3 3346.000 4 3932.500 5 4340.500 6 @5105.500	48.61 48.02 48.38 47.75 48.23 46.16	-10.70 -7.63 -4.85 -3.19 -1.53 1.61	37.91 40.39 43.53 44.56 46.70 47.77	54.00 54.00 54.00 54.00 54.00 54.00	-16.09 -13.61 -10.47 -9.44 -7.30 -6.23	 	 	

C.F = Antenna Factor + Cable Loss - Preamp gain Result = Reading + C.F ; Margin = Result - Limit

@:Maximum Data x:Over Limit

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
- Spectrum setting:
 - (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.
 - (b) Average Setting 1GHz to 10th harmonics of fundamental,: RBW = 1MHz, VBW = 10Hz, Sweep = AUTO.

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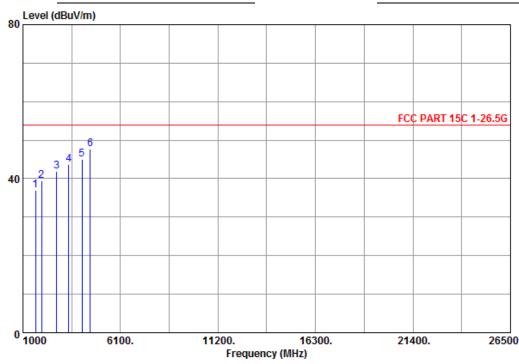
Report No.: HA130548-FD

Temperature : 26° C Humidity : 33%

Test Date : 09-Oct-2013 Tested by : Kidd Liao

Polarization : Vertical Channel : 00

Test Mode : Mode 7



	Freq	Reading	C.F	Result	Limit	Margin	A/pos	T/pos	Remark
	MHz	dBuV	dB	dBuY/m	dBuV/m	dB			
1	1663.000	47.37	-10.32	37.05	54.00	-16.95			
2	1969.000	48.47	-8.94	39.53	54.00	-14.47			
3	2759.500	48.36	-6.54	41.82	54.00	-12.18			
4	3397.000	48.47	-4.70	43.77	54.00	-10.23			
5	4085.500	47.50	-2.55	44.95	54.00	-9.05			
6	@4519.000	48.42	-0.74	47.68	54.00	-6.32			

C.F = Antenna Factor + Cable Loss - Preamp gain Result = Reading + C.F ; Margin = Result - Limit

@:Maximum Data x:Over Limit

Remark:

- 1. Measuring frequencies from 1 GHz to the 10th harmonic of highest fundamental frequency.
- Measurements above show only up to 6 maximum emissions noted, or would be lesser if no specific emissions from the EUT are recorded (ie: margin > 20dB from the applicable limit) and considered that's already beyond the background noise floor.
- 3. Radiated emissions measured in frequency above 1000 MHz were made with an instrument using Peak detector mode and average detector mode of the emission shown in Actual FS column.
- 4. All readings are Peak values. None of the peak value reading exceeds the A.V. limit. Hence, A.V. reading was not measured.
- Spectrum setting:
 - (a) Peak Setting 1GHz to 10th harmonics of fundamental, RBW = VBW = 1MHz, Sweep = AUTO.
 - (b) Average Setting 1GHz to 10th harmonics of fundamental,: RBW = 1MHz, VBW = 10Hz, Sweep = AUTO.

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