



Test Report

Product Name : Solus Series iConnect
Model No. : iConnect
FCC ID. : BJM-ICONNECT

Applicant : TATUNG CO.

Address : 22, Chungshan N. Rd., 3rd Sec. Taipei, Taiwan, 104, R.O.C.

Date of Receipt : Apr. 28, 2008
Issued Date : May. 14, 2008
Report No. : 085019R-RFUSP07V01
Version : V1.0

The Test Results relate only to the samples tested.

The test report shall not be reproduced except in full without the written approval of Quietek Corporation.

This report must not be used to claim product endorsement by NVLAP any agency of the U.S. Government

Test Report Certification

Issued Date: May. 14, 2008

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Product Name : Solus Series iConnect
 Applicant : TATUNG CO.
 Address : 22, Chungshan N. Rd., 3rd Sec. Taipei, Taiwan, 104, R.O.C.
 Manufacturer : TATUNG CO.
 Model No. : iConnect
 FCC ID. : BJM-ICONNECT
 Rated Voltage : 120V/60Hz
 Working Voltage : DC 5V(Power by I Pod)
 Trade Name : SoundOn
 Applicable Standard : FCC CFR Title 47 Part 15 Subpart C: 2007
 ANSI C63.4: 2003

Test Result : Complied



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1. GENERAL INFORMATION

1.1. EUT Description

Product Name	: Solus Series iConnect
Trade Name	: SoundOn
FCC ID.	: BJM-ICONNECT
Model No.	: iConnect
Frequency Range	: 2405 – 2477MHz
Type of Modulation	: $\pi/4$ DQPSK (Differential Quadrature Phase Shift Keying)
Number of Channels	: 37
Channel Control	: Auto
Antenna Type	: Printed on PCB
Antenna Gain	: Refer to the table “Antenna List”

Antenna List

No.	Manufacturer	Part No.	Peak Gain
1	TATUNG	N/A	2.0 dBi for 2.4 GHz

Center Frequency of Each Channel:

Channel	Frequency	Channel	Frequency	Channel	Frequency
Channel 2:	2405 MHz	Channel 3:	2407 MHz	Channel 4:	2409 MHz
Channel 5:	2411 MHz	Channel 6:	2413 MHz	Channel 7:	2415 MHz
Channel 8:	2417 MHz	Channel 9:	2419 MHz	Channel 10:	2421 MHz
Channel 11:	2423 MHz	Channel 12:	2425 MHz	Channel 13:	2427 MHz
Channel 14:	2429 MHz	Channel 15:	2431 MHz	Channel 16:	2433 MHz
Channel 17:	2435 MHz	Channel 18:	2437 MHz	Channel 19:	2439 MHz
Channel 20:	2441 MHz	Channel 21:	2443 MHz	Channel 22:	2445 MHz
Channel 23:	2447 MHz	Channel 24:	2449 MHz	Channel 25:	2451 MHz
Channel 26:	2453 MHz	Channel 27:	2455 MHz	Channel 28:	2457 MHz
Channel 29:	2459 MHz	Channel 30:	2461 MHz	Channel 31:	2463 MHz
Channel 32:	2465 MHz	Channel 33:	2467 MHz	Channel 34:	2469 MHz
Channel 35:	2471 MHz	Channel 36:	2473 MHz	Channel 37:	2475 MHz
Channel 38:	2477 MHz				

Note:

1. The EUT is a Solus Series iConnect with a built-in 2.4GHz transceiver
2. These tests are conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15 Subpart C Paragraph 15.249.
3. Regarding to the operation frequency, the lowest, middle and highest frequency are selected to perform the test.
4. The radiation measurements are performed in X, Y, Z axis positioning. Only the worst case is shown in the report.

EMI Test Mode	Mode 1: Transmitter
---------------	---------------------

1.2. Operation Description

The EUT is a Solus Series iConnect with a built-in 2.4GHz transceiver. The EUT operation frequency is 2.405GHz-2.477GHz. The signals modulated by $\pi/4$ DQPSK (Differential Quadrature Phase Shift Keying) are transmitted from the Printed on the PCB of the EUT.

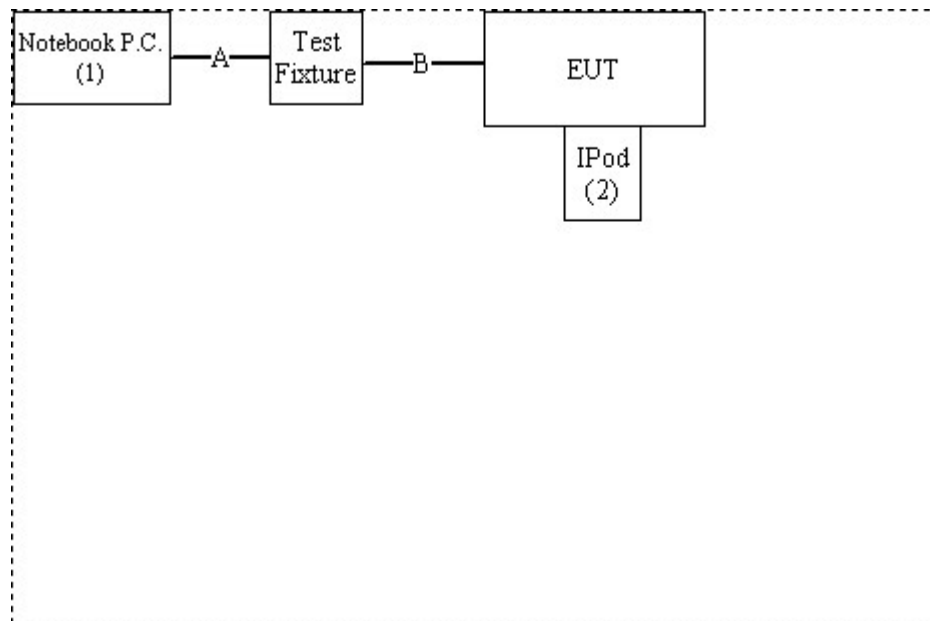
1.3. Tested System Details

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

	Product	Manufacturer	Model No.	Serial No.	Power Cord
1.	Notebook PC	DELL	PPT	N/A	Non-Shielded, 0.8m
2.	iPod nano	Apple	A1199	YM706LT0VQ5	N/A

	Signal Cable Type	Signal cable Description
A.	USB Cable	Shielded, 1.2m
B.	Controller Cable	Non-Shielded, 0.3m

1.4. Configuration of Test System



1.5. EUT Exercise Software

- (1) Setup the EUT as shown in section 1.4.
- (2) Connect the EUT to a notebook via a USB.
- (3) Execute Avnera Wireless.exe on the notebook.
- (4) Double-click “Audio Suite Ver1.67” and select USB as a primary connection interface.
- (5) Setup the test channel.
- (6) Presses “Apply” to start the continuous transmit.
- (7) Verify that the EUT works correctly.

1.6. Test Facility

Ambient conditions in the laboratory:

Items	Required (IEC 68-1)	Actual
Temperature (°C)	15-35	20-35
Humidity (%RH)	25-75	50-65
Barometric pressure (mbar)	860-1060	950-1000

Site Description: File on
 Federal Communications Commission
 FCC Engineering Laboratory
 7435 Oakland Mills Road
 Columbia, MD 21046
 Registration Number: 92195



Accreditation on NVLAP
 NVLAP Lab Code: 200533-0



Site Name: Quietek Corporation

Site Address: No. 5-22, Ruei-Shu Valley, Ruei-Ping Tsuen,
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 Taiwan, R.O.C.
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FCC Accreditation Number: TW1014



2. Conducted Emission

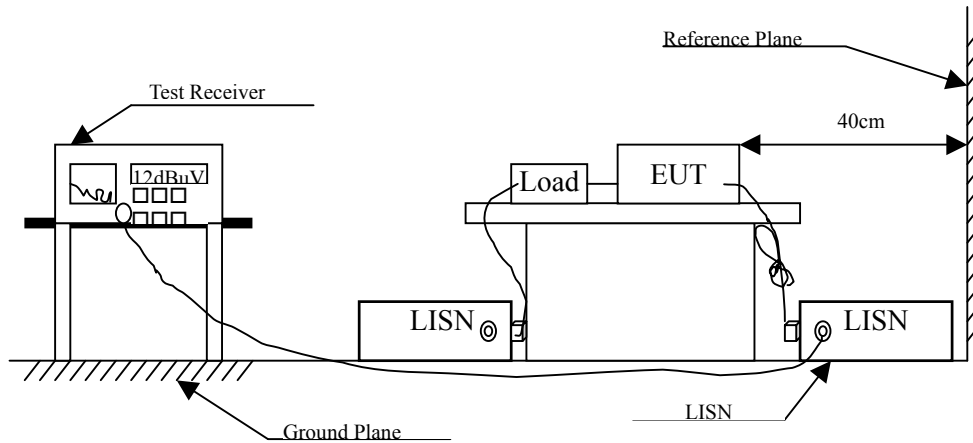
2.1. Test Equipment

The following test equipment are used during the conducted emission test:

Item	Instrument	Manufacturer	Type No./Serial No	Last Cal.	Remark
1	Test Receiver	R & S	ESCS 30/825442/17	May, 2008	
2	L.I.S.N.	R & S	ESH3-Z5/825016/6	May, 2008	EUT
3	L.I.S.N.	Kyoritsu	KNW-407/8-1420-3	May, 2008	Peripherals
4	Pulse Limiter	R & S	ESH3-Z2	May, 2008	
5	No.1 Shielded Room			N/A	

Note: All instruments are calibrated every one year.

2.2. Test Setup



2.3. Limits

FCC Part 15 Subpart C Paragraph 15.207 (dBuV) Limit		
Frequency MHz	Limits	
	QP	AV
0.15 - 0.50	66-56	56-46
0.50-5.0	56	46
5.0 - 30	60	50

Remarks: In the above table, the tighter limit applies at the band edges.

2.4. Test Procedure

The EUT and simulators are connected to the main power through a line impedance stabilization network (L.I.S.N.). This provides a 50 ohm /50uH coupling impedance for the measuring equipment. The peripheral devices are also connected to the main power through a LISN that provides a 50ohm /50uH coupling impedance with 50ohm termination. (Please refers to the block diagram of the test setup and photographs.)

Both sides of A.C. line are checked for maximum conducted interference. In order to find the maximum emission, the relative positions of equipment and all of the interface cables must be changed according to ANSI C63.4: 2003 on conducted measurement.

Conducted emissions were investigated over the frequency range from 0.15MHz to 30MHz using a receiver bandwidth of 9kHz.

2.5. Uncertainty

± 2.26 dB

2.6. Test Result of Conducted Emission

Product : Solus Series iConnect
 Test Item : Conducted Emission Test
 Power Line : Line 1
 Test Mode : Mode 1: Transmitter (2441MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
LINE 1					
Quasi-Peak					
0.166	0.556	42.770	43.326	-22.217	65.543
0.509	0.300	37.910	38.210	-17.790	56.000
1.302	0.320	35.590	35.910	-20.090	56.000
1.982	0.340	35.570	35.910	-20.090	56.000
3.341	0.380	45.560	45.940	-10.060	56.000
10.080	0.600	32.620	33.220	-26.780	60.000
Average					
0.166	0.556	35.940	36.496	-19.047	55.543
0.509	0.300	29.970	30.270	-15.730	46.000
1.302	0.320	30.180	30.500	-15.500	46.000
1.982	0.340	30.800	31.140	-14.860	46.000
3.341	0.380	34.070	34.450	-11.550	46.000
10.080	0.600	27.250	27.850	-22.150	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. "■" means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

Product : Solus Series iConnect
 Test Item : Conducted Emission Test
 Power Line : Line 2
 Test Mode : Mode 1: Transmitter (2441MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV	Margin dB	Limit dBuV
LINE 2					
Quasi-Peak					
0.228	0.300	39.380	39.680	-24.091	63.771
0.341	0.304	39.810	40.114	-20.429	60.543
0.904	0.320	36.220	36.540	-19.460	56.000
1.869	0.340	36.640	36.980	-19.020	56.000
3.509	0.390	44.200	44.590	-11.410	56.000
10.134	0.500	29.710	30.210	-29.790	60.000
Average					
0.228	0.300	35.680	35.980	-17.791	53.771
0.341	0.304	35.050	35.354	-15.189	50.543
0.904	0.320	26.370	26.690	-19.310	46.000
1.869	0.340	29.840	30.180	-15.820	46.000
3.509	0.390	32.660	33.050	-12.950	46.000
10.134	0.500	22.800	23.300	-26.700	50.000

Note:

1. All Reading Levels are Quasi-Peak and average value.
2. "■" means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

3. Radiated Emission

3.1. Test Equipment

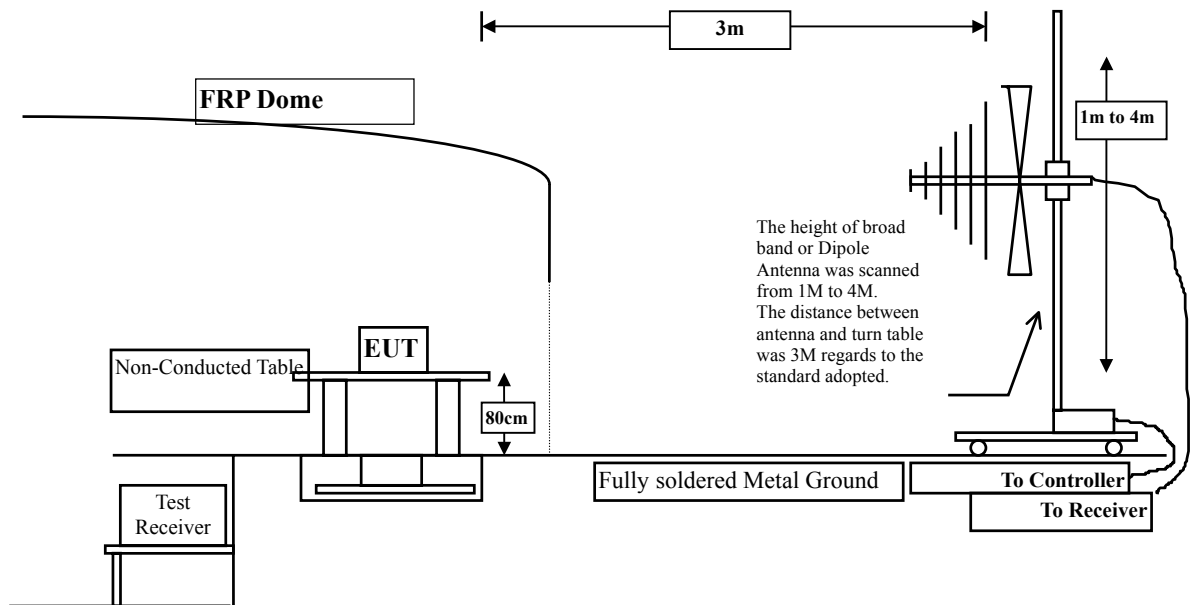
The following test equipment are used during the radiated emission test:

Test Site		Equipment	Manufacturer	Model No./Serial No.	Last Cal.
<input type="checkbox"/> Site # 1		Test Receiver	R & S	ESVS 10 / 834468/003	May, 2008
		Spectrum Analyzer	Advantest	R3162/ 00803480	May, 2008
		Pre-Amplifier	Advantest	BB525C/ 3307A01812	May, 2008
		Bilog Antenna	SCHAFFNER	CBL6112B / 2697	Sep., 2007
<input type="checkbox"/> Site # 2		Test Receiver	R & S	ESCS 30 / 836858 / 022	May, 2008
		Spectrum Analyzer	Advantest	R3162 / 100803466	May, 2008
		Pre-Amplifier	Advantest	BB525C/3307A01814	May, 2008
		Bilog Antenna	SCHAFFNER	CBL6112B / 2705	May, 2008
		Horn Antenna	ETS	3115 / 0005-6160	Sep., 2007
		Pre-Amplifier	QTK	QTK-AMP-01/ 0001	May, 2008
<input checked="" type="checkbox"/> Site # 3	X	Test Receiver	R & S	ESI 26 / 838786/004	May, 2008
	X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2008
	X	Bilog Antenna	SCHAFFNER	CBL6112B / 2697	May, 2008
	X	Horn Antenna	Schwarzbeck	BBHA9120D / 305, 306	July, 2007
	X	Horn Antenna	Schwarzbeck	BBHA9170 / 208, 209	July, 2007
	X	Pre-Amplifier	QTK	QTK-AMP-01 / 0001	July, 2007
	X	Pre-Amplifier	QTK	QTK-AMP-03 / 0003	May, 2008
	X	Pre-Amplifier	HP	8449B / 3008A01123	July, 2007

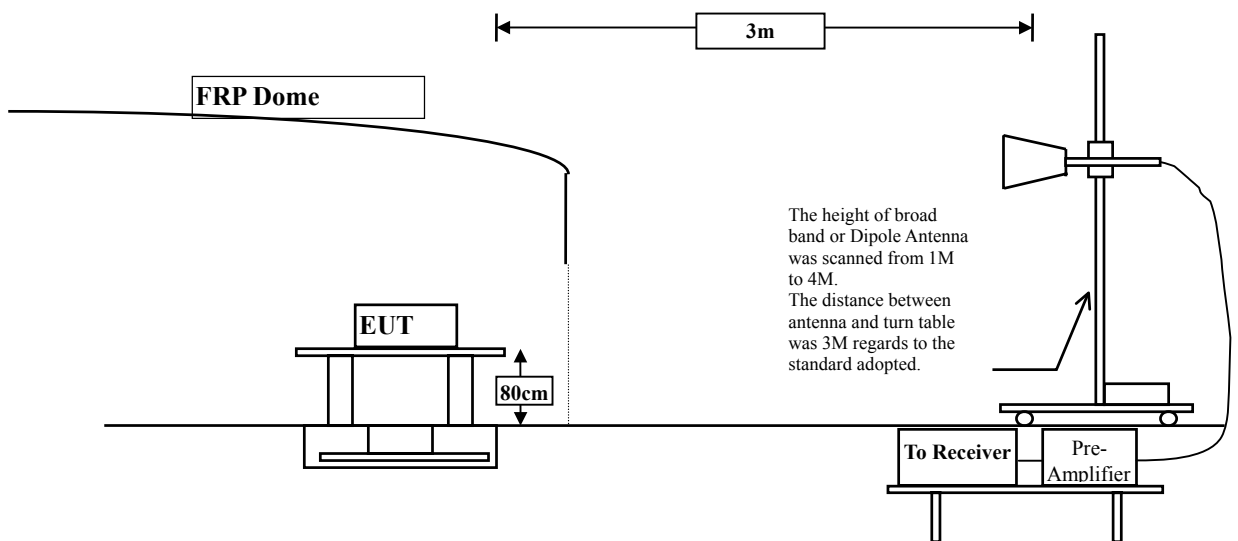
- Note:
1. All equipments are calibrated every one year.
 2. Test equipments marked by "X" are used to measure the final test results.

3.2. Test Setup

Below 1GHz



Above 1GHz



3.3. Limits

➤ Fundamental and Harmonics Emission Limits

FCC Part 15 Subpart C Paragraph 15.249 Limits				
Frequency MHz	Field Strength of Fundamental		Field Strength of Harmonics	
	(mV/m @3m)	(dBuV/m @3m)	(uV/m @3m)	(dBuV/m @3m)
902-928	50	94	500	54
2400-2483.5	50	94	500	54
5725-5875	50	94	500	54

- Remarks :
1. RF Voltage (dBuV/m) = 20 log RF Voltage (uV/m)
 2. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

➤ General Radiated Emission Limits

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

FCC Part 15 Subpart C Paragraph 15.209 Limits		
Frequency MHz	uV/m @3m	dBuV/m@3m
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

- Remarks :
1. RF Voltage (dBuV/m) = 20 log RF Voltage (uV/m)
 2. In the Above Table, the tighter limit applies at the band edges.
 3. Distance refers to the distance in meters between the measuring instrument antenna and the closed point of any part of the device or system.

3.4. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4: 2003 on radiated measurement.

The resolution bandwidth below 1GHz setting on the field strength meter is 120 kHz and above 1GHz is 1MHz.

Radiated emission measurements below 1GHz are made using broadband Bilog antenna and above 1GHz are made using Horn Antennas.

The measurement is divided into the Preliminary Measurement and the Final Measurement.

The suspected frequencies are searched for in Preliminary Measurement with the measurement antenna kept pointed at the source of the emission both in azimuth and elevation, with the polarization of the antenna oriented for maximum response. The antenna is pointed at an angle towards the source of the emission, and the EUT is rotated in both height and polarization to maximize the measured emission. The emission is kept within the illumination area of the 3 dB beamwidth of the antenna.

The worst radiated emission is measured on the Final Measurement.

The frequency range from 30MHz to 10th harmonics is checked.

3.5. Uncertainty

± 3.9 dB above 1GHz

± 3.8 dB below 1GHz

3.6. Test Result of Radiated Emission

Product : Solus Series iConnect
 Test Item : Fundamental Radiated Emission
 Test Site : No.3OATS
 Test Mode : Mode 1: Transmitter (2405 MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector					
Channel 02					
2405.000	-6.715	96.890	90.174	-23.826	114.000
Average Detector					
Channel 02					
2405.000	-6.715	95.100	88.384	-5.616	94.000
Vertical					
Peak Detector					
Channel 02					
2405.000	-6.715	98.550	91.834	-22.166	114.000
Average Detector					
Channel 02					
2405.000	-6.715	95.870	89.154	-4.846	94.000

Note:

1. Measurement Level = Reading Level + Correct Factor.
2. Correct Factor = Antenna Factor + Cable Loss – PreAMP.

Product : Solus Series iConnect
 Test Item : Fundamental Radiated Emission
 Test Site : No.3OATS
 Test Mode : Mode 1: Transmitter (2441 MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Average Detector					
Channel 20					
2441.000	-6.584	94.240	87.656	-26.344	114.000
Average Detector					
Channel 20					
2441.000	-6.584	93.330	86.746	-7.254	94.000
Vertical					
Peak Detector					
Channel 20					
2441.000	-6.584	96.850	90.266	-23.734	114.000
Average Detector					
Channel 20					
2441.000	-6.584	95.270	88.686	-5.314	94.000

Note:

1. Measurement Level = Reading Level + Correct Factor.
2. Correct Factor = Antenna Factor + Cable Loss – PreAMP.

Product : Solus Series iConnect
 Test Item : Fundamental Radiated Emission
 Test Site : No.3OATS
 Test Mode : Mode 1: Transmitter (2477 MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Average Detector					
Channel 38					
2477.000	-6.489	93.850	87.361	-26.639	114.000
Average Detector					
Channel 38					
2477.000	-6.489	91.510	85.021	-8.979	94.000
Vertical					
Peak Detector					
Channel 38					
2477.000	-6.489	95.730	89.241	-24.759	114.000
Average Detector					
Channel 38					
2477.000	-6.489	93.620	87.131	-6.869	94.000

Note:

1. Measurement Level = Reading Level + Correct Factor.
2. Correct Factor = Antenna Factor + Cable Loss – PreAMP.

Product : Solus Series iConnect
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmitter (2405 MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Peak Limit dBuV/m
Horizontal					
Peak Detector:					
4808.000	-0.210	48.140	47.930	-26.040	74.000
7215.000	3.233	43.240	46.472	-27.498	74.000
9620.000	5.722	42.670	48.391	-25.579	74.000
Average Detector					
4808.000	-0.210	44.240	44.030	-9.970	54.000
7215.000	3.233	40.960	44.192	-9.808	54.000
9620.000	5.722	39.244	44.965	-9.035	54.000
Vertical					
Peak Detector:					
4808.000	-0.210	50.520	50.310	-23.660	74.000
7215.000	3.233	42.670	45.902	-28.068	74.000
9620.000	5.722	42.980	48.701	-25.269	74.000
Average Detector					
4808.000	-0.210	47.320	47.110	-6.890	54.000
7215.000	3.233	39.980	43.212	-10.788	54.000
9620.000	5.722	39.020	44.741	-9.259	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz ◦
3. Receiver setting (AVG Detector) : RBW:1MHz; VBW:30Hz; Span:20MHz ◦
4. Emission Level = Reading Level + Correct Factor.
5. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product : Solus Series iConnect
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmitter (2441 MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Peak Limit dBuV/m
Horizontal					
Peak Detector:					
4880.000	-0.274	47.150	46.876	-27.094	74.000
7323.000	3.330	42.610	45.939	-28.031	74.000
9764.000	6.262	41.020	47.283	-26.687	74.000
Average Detector					
4880.000	-0.274	44.260	43.986	-10.014	54.000
7323.000	3.330	39.110	42.439	-11.561	54.000
9764.000	6.262	38.020	44.283	-9.717	54.000
Vertical					
Peak Detector:					
4880.000	-0.274	49.930	49.656	-24.314	74.000
7323.000	3.330	41.970	45.299	-28.671	74.000
9764.000	6.262	41.180	47.443	-26.527	74.000
Average Detector					
4880.000	-0.274	45.320	45.046	-8.954	54.000
7323.000	3.330	39.040	42.369	-11.631	54.000
9764.000	6.262	39.030	45.293	-8.707	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz °
3. Receiver setting (AVG Detector) : RBW:1MHz; VBW:30Hz; Span:20MHz °
4. Emission Level = Reading Level + Correct Factor.
5. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product : Solus Series iConnect
 Test Item : Harmonic Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmitter (2477 MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Peak Limit dBuV/m
Horizontal					
Peak Detector:					
4952.000	0.487	46.230	46.717	-27.253	74.000
7431.000	3.877	42.920	46.797	-27.173	74.000
9908.000	6.488	40.890	47.379	-26.591	74.000
Average Detector					
4952.000	0.487	43.220	43.707	-10.293	54.000
7431.000	3.877	39.170	43.047	-10.953	54.000
9908.000	6.488	38.350	44.839	-9.161	54.000
Vertical					
Peak Detector:					
4952.000	0.487	49.790	50.277	-23.693	74.000
7431.000	3.877	43.830	47.707	-26.263	74.000
9908.000	6.488	39.680	46.169	-27.801	74.000
Average Detector					
4952.000	0.487	46.930	47.417	-6.583	54.000
7431.000	3.877	39.630	43.507	-10.493	54.000
9908.000	6.488	38.940	45.429	-8.571	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. Receiver setting (Peak Detector) : RBW:1MHz; VBW:1MHz; Span:100MHz ◦
3. Receiver setting (AVG Detector) : RBW:1MHz; VBW:30Hz; Span:20MHz ◦
4. Emission Level = Reading Level + Correct Factor.
5. The average measurement was not performed when the peak measured data under the limit of average detection. If the readings given are average, peak measurement should also be supplied.

Product : Solus Series iConnect
 Test Item : General Radiated Emission Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmitter (2441 MHz)

Frequency	Correct	Reading	Measurement	Margin	Limit
MHz	Factor	Level	Level	dB	dBuV/m
	dB	dBuV	dBuV/m		
Horizontal					
472.320	18.759	16.440	35.199	-10.801	46.000
551.860	19.993	14.213	34.206	-11.794	46.000
648.860	20.951	14.020	34.971	-11.029	46.000
769.140	21.924	15.954	37.878	-8.122	46.000
840.920	21.987	13.456	35.443	-10.557	46.000
924.340	22.992	12.199	35.191	-10.809	46.000
Vertical					
336.520	14.364	22.344	36.708	-9.292	46.000
497.540	18.301	17.522	35.823	-10.177	46.000
600.360	21.951	9.938	31.889	-14.111	46.000
720.640	22.223	11.213	33.436	-12.564	46.000
815.700	21.536	11.697	33.233	-12.767	46.000
963.140	23.018	6.627	29.645	-24.355	54.000

Note:

1. All Readings below 1GHz are Quasi-Peak, above are performed with peak and/or average measurements as necessary.
2. "■" means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor

4. Band Edge

4.1. Test Equipment

The following test equipments are used during the band edge tests:

	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
X	Test Receiver	R & S	ESI 26 / 838786/004	May, 2008
X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2008
X	Bilog Antenna	SCHAFFNER	CBL6112B / 2697	May, 2008
X	Horn Antenna	Schwarzbeck	BBHA9120D / 305, 306	July, 2007
X	Horn Antenna	Schwarzbeck	BBHA9170 / 208, 209	July, 2007
X	Pre-Amplifier	QTK	QTK-AMP-01 / 0001	July, 2007
X	Pre-Amplifier	QTK	QTK-AMP-03 / 0003	May, 2008
X	Pre-Amplifier	HP	8449B / 3008A01123	July, 2007

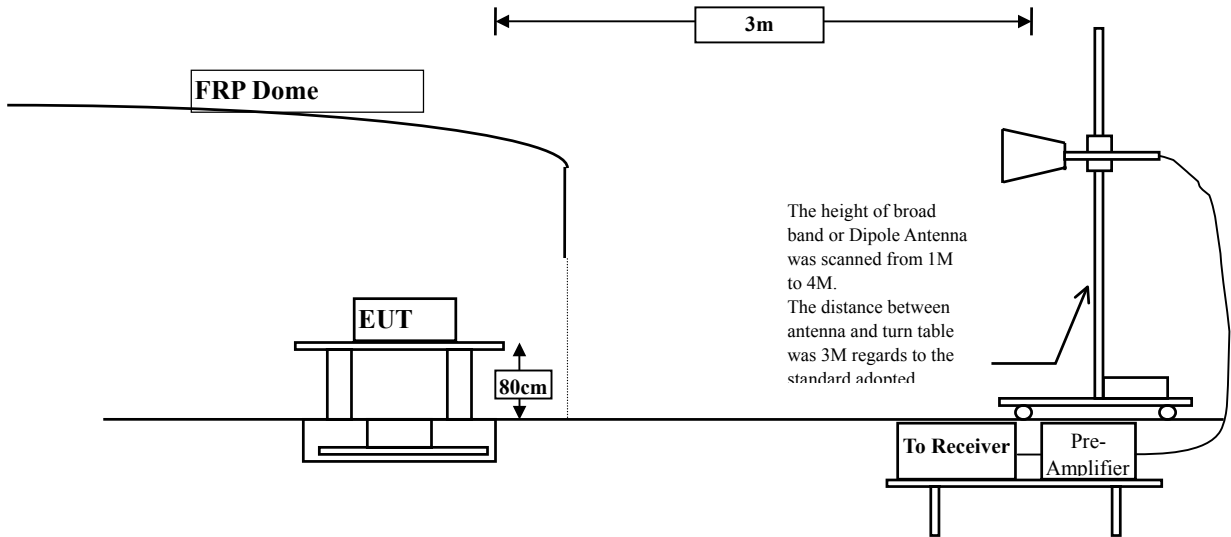
OATS No.3

- Note:
1. All equipments are calibrated every one year.
 2. The test equipments marked by "X" are used to measure the final test results.

4.2. Test Setup

RF Radiated Measurement:

Above 1GHz



4.3. Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 50 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. Attenuation below the general limits specified in Section 15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

4.4. Test Procedure

The EUT and its simulators are placed on a turn table which is 0.8 meter above ground. The turn table can rotate 360 degrees to determine the position of the maximum emission level. The EUT was positioned such that the distance from antenna to the EUT was 3 meters.

The antenna can move up and down between 1 meter and 4 meters to find out the maximum emission level.

Both horizontal and vertical polarization of the antenna are set on measurement. In order to find the maximum emission, all of the interface cables must be manipulated according to ANSI C63.4:2003 on radiated measurement.

The bandwidth below 1GHz setting on the field strength meter (R&S Test Receiver ESCS 30)is 120 kHz, above 1GHz are 1 MHz.

4.5. Uncertainty

Conducted is ± 1.27 dB

Radiated is ± 3.9 dB.

4.6. Test Result of Band Edge

Product : Solus Series iConnect
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmitter (2405 MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
02(Peak)	2385.400	-6.782	46.289	39.507	74.000	54.000	Pass
02(Average)	2385.400	-6.782	32.323	25.541	74.000	54.000	Pass

Figure Channel 02: Horizontal (Peak)

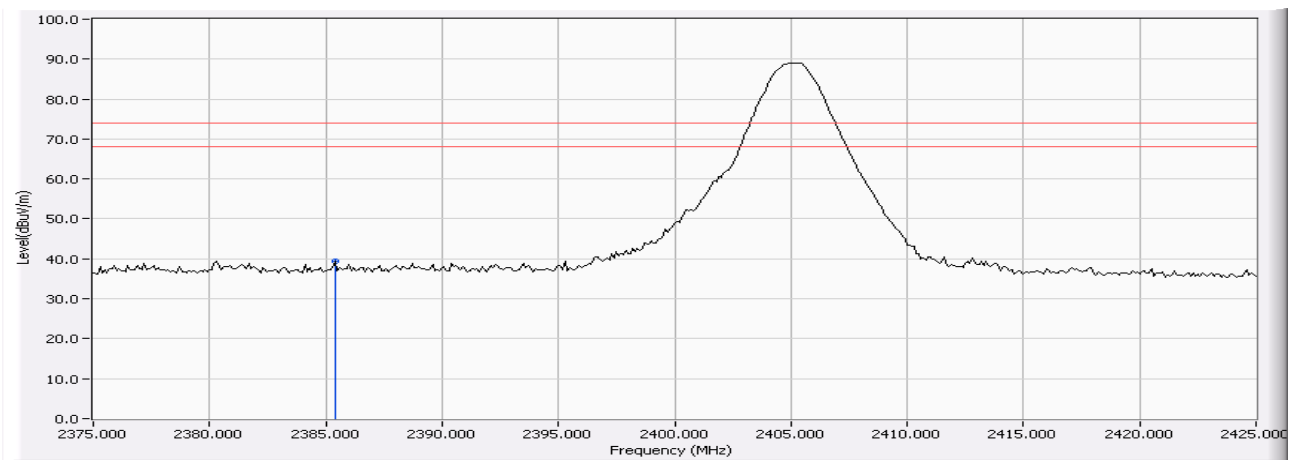
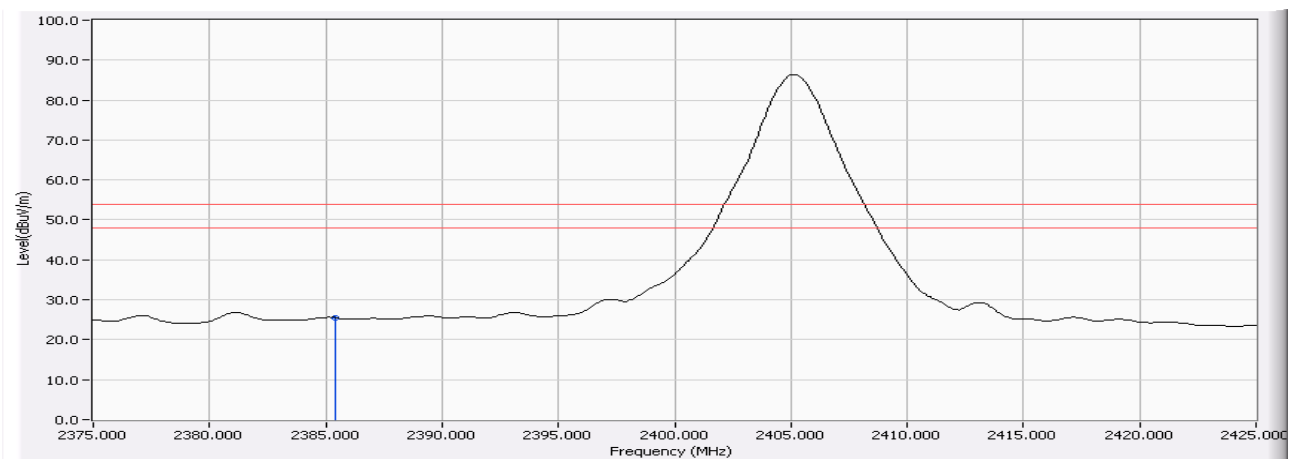


Figure Channel 02: Horizontal (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Solus Series iConnect
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmitter (2405 MHz)

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
02(Peak)	2388.600	-6.772	47.381	40.609	74.000	54.000	Pass
02(Average)	2388.600	-6.772	35.494	28.722	74.000	54.000	Pass

Figure Channel 02: Vertical (Peak)

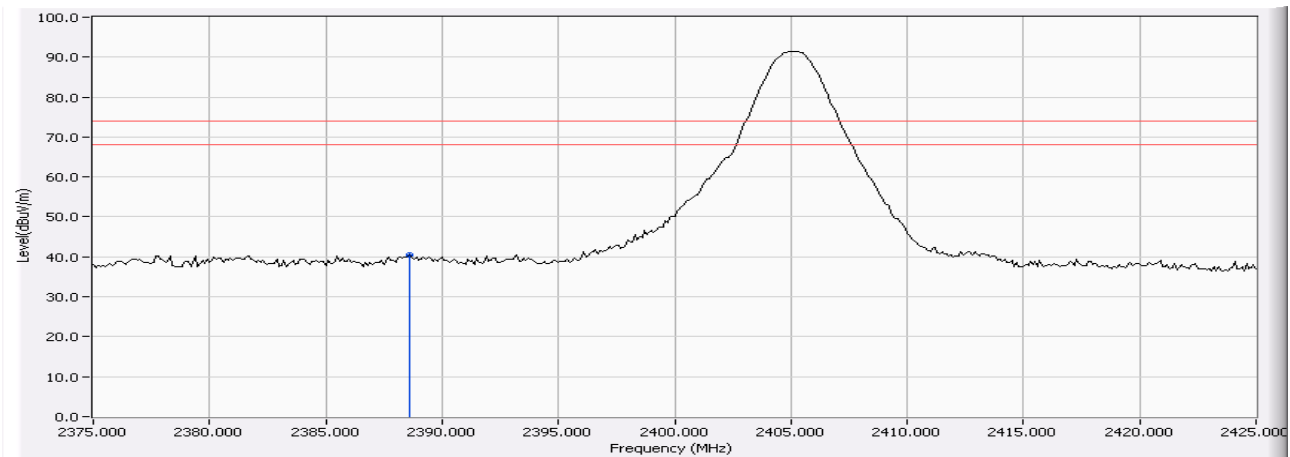
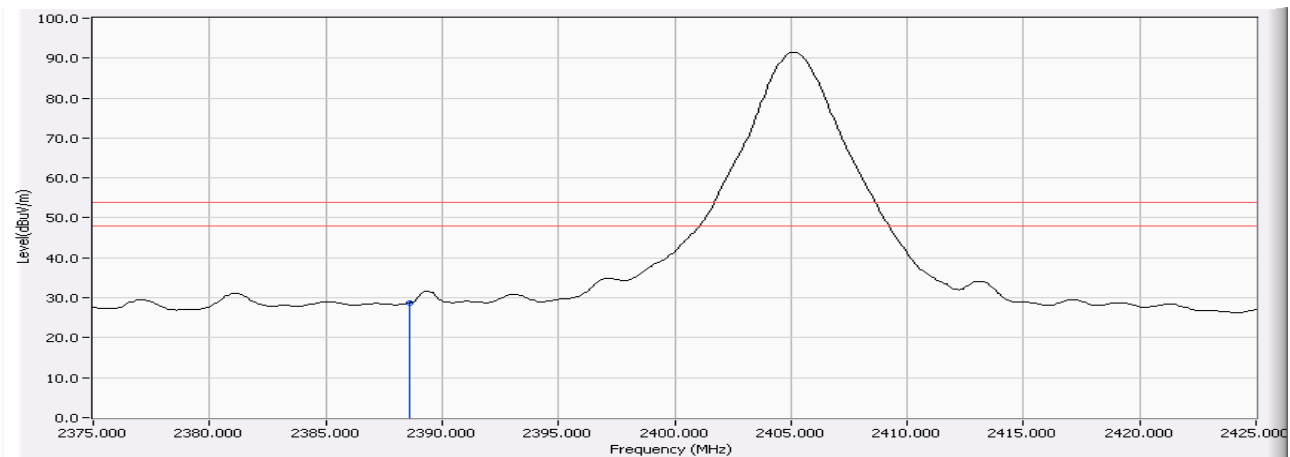


Figure Channel 02: Vertical (Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Solus Series iConnect
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmitter (2477 MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
38(Peak)	2483.500	-6.469	46.713	40.245	74.000	54.000	Pass
38(Average)	2483.500	-6.469	34.246	27.778	74.000	54.000	Pass

Figure Channel 38: Horizontal(Peak)

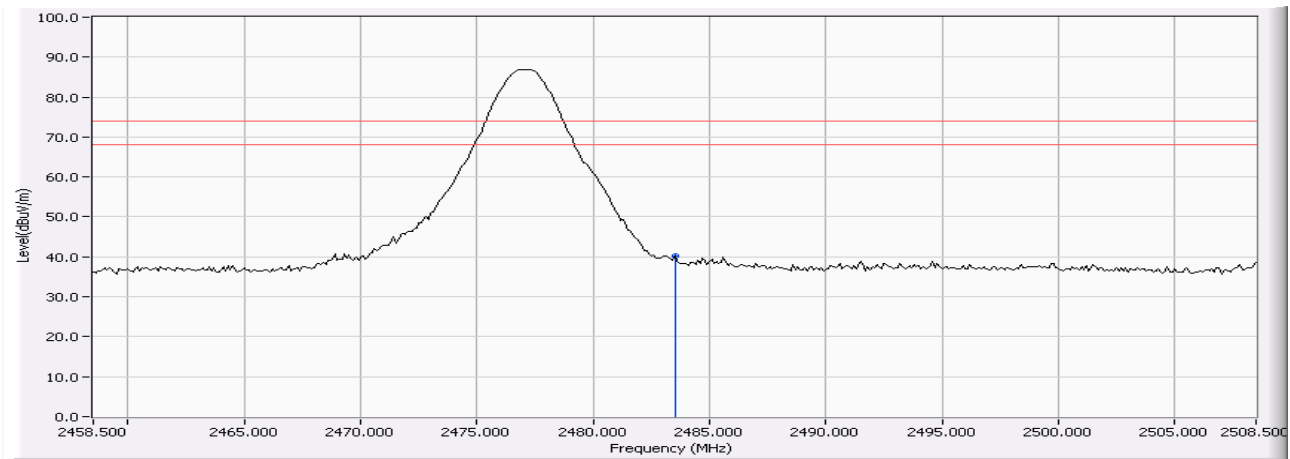
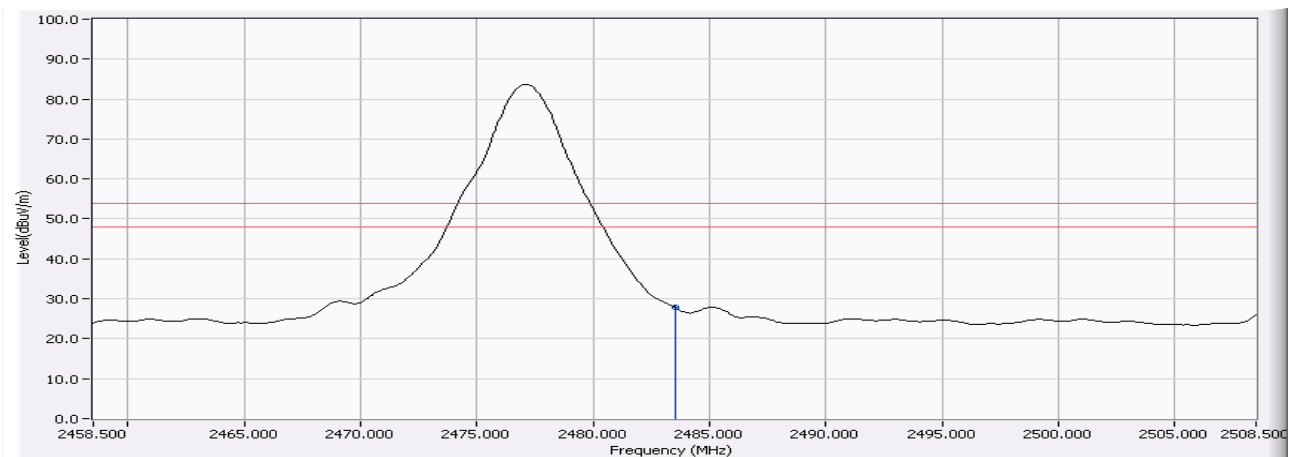


Figure Channel 38: Horizontal(Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

Product : Solus Series iConnect
 Test Item : Band Edge Data
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmitter (2477 MHz)

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Peak Limit (dBuV/m)	Average Limit (dBuV/m)	Result
38(Peak)	2483.500	-6.469	48.198	41.730	74.000	54.000	Pass
38(Average)	2483.500	-6.469	40.455	33.987	74.000	54.000	Pass

Figure Channel 38: Vertical(Peak)

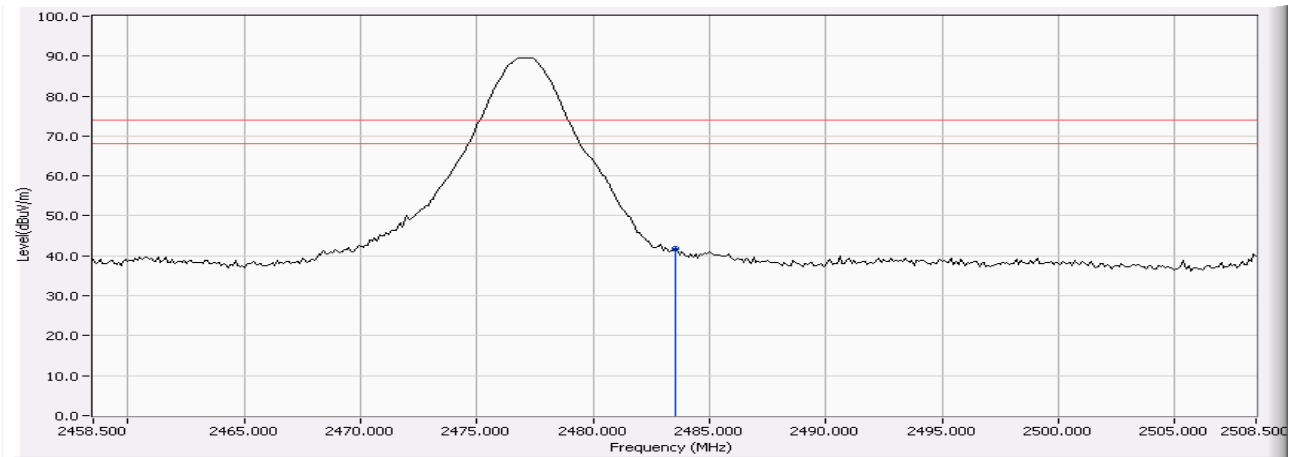
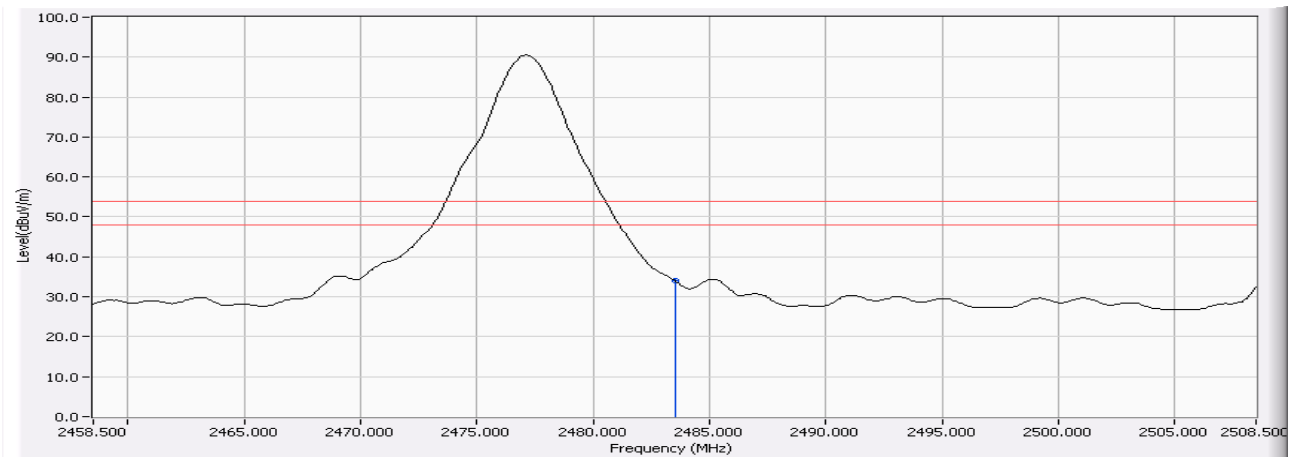


Figure Channel 38: Vertical(Average)



Note:

1. All readings above 1GHz are performed with peak and/or average measurements as necessary.
2. Peak measurements: RBW = 1MHz, VBW = 3 MHz, Sweep: Auto.
3. Average measurements: RBW = 1MHz, VBW = 10 Hz, Sweep: Auto.
4. “ * ”, means this data is the worst emission level.
5. Measurement Level = Reading Level + Correct Factor.
6. The average measurement was not performed when the peak measured data under the limit of average detection.

5. EMI Reduction Method During Compliance Testing

No modification was made during testing.