

FC

Test Report

Product Name	PND
Model No.	MS-5654
FCC ID.	I4L-MS5654

Applicant	MICRO-STAR INT'L Co., LTD.
Address	No. 69, Li-De St., Jung-He City, Taipei Hsien, Taiwan, R.O.C.

Date of Receipt	Feb. 22, 2008
Issued Date	Apr. 23, 2008
Report No.	082260R-RFUSP02V01
Version	V1.0

The Test Results relate only to the samples tested.

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

Test Report Certification

Test Date : Apr. 23, 2008

Report No. : 082260R-RFUSP02V01



Product Name	PND
Applicant	MICRO-STAR INT'L Co., LTD.
Address	No. 69, Li-De St., Jung-He City, Taipei Hsien, Taiwan, R.O.C.
Manufacturer	MICRO-STAR INT'L Co., LTD.
Model No.	MS-5654
FCC ID.	I4L-MS5654
Rated Voltage	AC 120V/60Hz
EUT Voltage	DC 12V (Power by car charger)
Trade Name	MSI
Measurement Standard	FCC CFR Title 47 Part 15 Subpart C: 2007
Measurement Procedure	ANSI C63.4: 2003
Test Result	Complied



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Documented By : Leven Huang
 (Adm. Specialist / Leven Huang)



Tested By : Dino Chen
 (Engineer / Dino Chen)



Approved By : Vincent Lin
 (Deputy Manager / Vincent Lin)

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1. GENERAL INFORMATION

1.1. EUT Description

Product Name	PND
Trade Name	MSI
Model No.	MS-5654
FCC ID.	I4L-MS5654
Frequency Range	88.1-107.9 MHz
Channel Number	199
Channel Control	Auto
Type of Modulation	FM
Antenna Type	Dipole
Antenna Gain	Refer to the table "Antenna List"
Car Charger	MFR: TPT, M/N: TCP10050BC12-1 Cable Out: Shielded,1.2m

Frequency of Each Channel

Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	88.1 MHz	53	93.3 MHz	105	98.5 MHz	157	103.7 MHz
2	88.2 MHz	54	93.4 MHz	106	98.6 MHz	158	103.8 MHz
3	88.3 MHz	55	93.5 MHz	107	98.7 MHz	159	103.9 MHz
4	88.4 MHz	56	93.6 MHz	108	98.8 MHz	160	104.0 MHz
5	88.5 MHz	57	93.7 MHz	109	98.9 MHz	161	104.1 MHz
6	88.6 MHz	58	93.8 MHz	110	99.0 MHz	162	104.2 MHz
7	88.7 MHz	59	93.9 MHz	111	99.1 MHz	163	104.3 MHz
8	88.8 MHz	60	94.0 MHz	112	99.2 MHz	164	104.4 MHz
9	88.9 MHz	61	94.1 MHz	113	99.3 MHz	165	104.5 MHz
10	89.0 MHz	62	94.2 MHz	114	99.4 MHz	166	104.6 MHz
11	89.1 MHz	63	94.3 MHz	115	99.5 MHz	167	104.7 MHz
12	89.2 MHz	64	94.4 MHz	116	99.6 MHz	168	104.8 MHz
13	89.3 MHz	65	94.5 MHz	117	99.7 MHz	169	104.9 MHz
14	89.4 MHz	66	94.6 MHz	118	99.8 MHz	170	105.0 MHz
15	89.5 MHz	67	94.7 MHz	119	99.9 MHz	171	105.1 MHz
16	89.6 MHz	68	94.8 MHz	120	100.0 MHz	172	105.2 MHz
17	89.7 MHz	69	94.9 MHz	121	100.1 MHz	173	105.3 MHz
18	89.8 MHz	70	95.0 MHz	122	100.2 MHz	174	105.4 MHz
19	89.9 MHz	71	95.1 MHz	123	100.3 MHz	175	105.5 MHz
20	90.0 MHz	72	95.2 MHz	124	100.4 MHz	176	105.6 MHz
21	90.1 MHz	73	95.3 MHz	125	100.5 MHz	177	105.7 MHz
22	90.2 MHz	74	95.4 MHz	126	100.6 MHz	178	105.8 MHz
23	90.3 MHz	75	95.5 MHz	127	100.7 MHz	179	105.9 MHz
24	90.4 MHz	76	95.6 MHz	128	100.8 MHz	180	106.0 MHz
25	90.5 MHz	77	95.7 MHz	129	100.9 MHz	181	106.1 MHz
26	90.6 MHz	78	95.8 MHz	130	101.0 MHz	182	106.2 MHz
27	90.7 MHz	79	95.9 MHz	131	101.1 MHz	183	106.3 MHz
28	90.8 MHz	80	96.0 MHz	132	101.2 MHz	184	106.4 MHz
29	90.9 MHz	81	96.1 MHz	133	101.3 MHz	185	106.5 MHz
30	91.0 MHz	82	96.2 MHz	134	101.4 MHz	186	106.6 MHz
31	91.1 MHz	83	96.3 MHz	135	101.5 MHz	187	106.7 MHz
32	91.2 MHz	84	96.4 MHz	136	101.6 MHz	188	106.8 MHz

33	91.3 MHz	85	96.5 MHz	137	101.7 MHz	189	106.9 MHz
34	91.4 MHz	86	96.6 MHz	138	101.8 MHz	190	107.0 MHz
35	91.5 MHz	87	96.7 MHz	139	101.9 MHz	191	107.1 MHz
36	91.6 MHz	88	96.8 MHz	140	102.0 MHz	192	107.2 MHz
37	91.7 MHz	89	96.9 MHz	141	102.1 MHz	193	107.3 MHz
38	91.8 MHz	90	97.0 MHz	142	102.2 MHz	194	107.4 MHz
39	91.9 MHz	91	97.1 MHz	143	102.3 MHz	195	107.5 MHz
40	92.0 MHz	92	97.2 MHz	144	102.4 MHz	196	107.6 MHz
41	92.1 MHz	93	97.3 MHz	145	102.5 MHz	197	107.7 MHz
42	92.2 MHz	94	97.4 MHz	146	102.6 MHz	198	107.8 MHz
43	92.3 MHz	95	97.5 MHz	147	102.7 MHz	199	107.9 MHz
44	92.4 MHz	96	97.6 MHz	148	102.8 MHz		
45	92.5 MHz	97	97.7 MHz	149	102.9 MHz		
46	92.6 MHz	98	97.8 MHz	150	103.0 MHz		
47	92.7 MHz	99	97.9 MHz	151	103.1 MHz		
48	92.8 MHz	100	98.0 MHz	152	103.2 MHz		
49	92.9 MHz	101	98.1 MHz	153	103.3 MHz		
50	93.0 MHz	102	98.2 MHz	154	103.4 MHz		
51	93.1 MHz	103	98.3 MHz	155	103.5 MHz		
52	93.2 MHz	104	98.4 MHz	156	103.6 MHz		

Note:

1. This device is a PND with built-in FM transmitter.
2. Regarding to the operation frequency, the lowest, middle, and highest channels are selected to perform the test.
3. These tests were conducted on a sample of the equipment for the purpose of demonstrating compliance with Part 15 Subpart C Paragraph 15.239.
4. Quietek verified the construction and function in typical operation, and then shown in this test report.

Mode 1: Transmitter

1.2. Operation Description

The EUT is a PND. The operation frequency is from 88.1 to 107.9MHz with FM modulation. 199 manually selectable channels were built in the EUT.

The channels are separated by 100kHz. The signals are modulated by FM. RF signals are transmitted from the Dipole antenna. DC 12V-DC24V shall be provided for EUT operation.

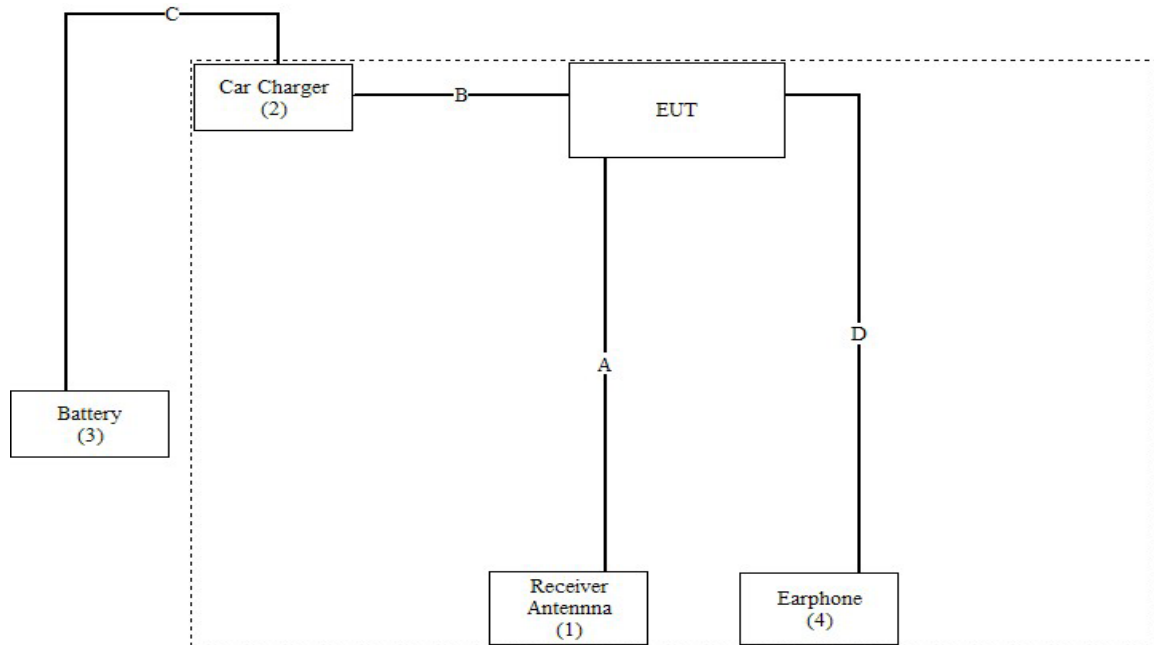
1.3. Test System Details

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)	Receiver Antenna	MSI	N/A	N/A	N/A
(2)	Car Charger	MSI	N/A	N/A	N/A
(3)	Battery (DC 12V)	TRANE	12B50PE	N/A	N/A
(4)	Earphone	AIWA	N/A	N/A	N/A

	Signal Cable Type	Signal cable Description
A.	Antenna Cable	Non-Shielded, 1.5m
B.	USB Cable	Shielded, 1.2m
C.	Car Charge Cable	Non-Shielded,1.5m
D.	Earphone Cable	Non-Shielded, 1.2m

1.4. Configuration of Tested System



1.5. EUT Exercise Description

1	Setup the EUT as shown in Section 1.4.
2	Player 1KHz tone music on the EUT.
3	The EUT will start transmitting RF signals.
4	Verify that the EUT works properly.

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,
 Lin-Kou Shiang, Taipei,
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 E-Mail : service@quietek.com



FCC Accreditation Number: TW1014

2. Conducted Emission

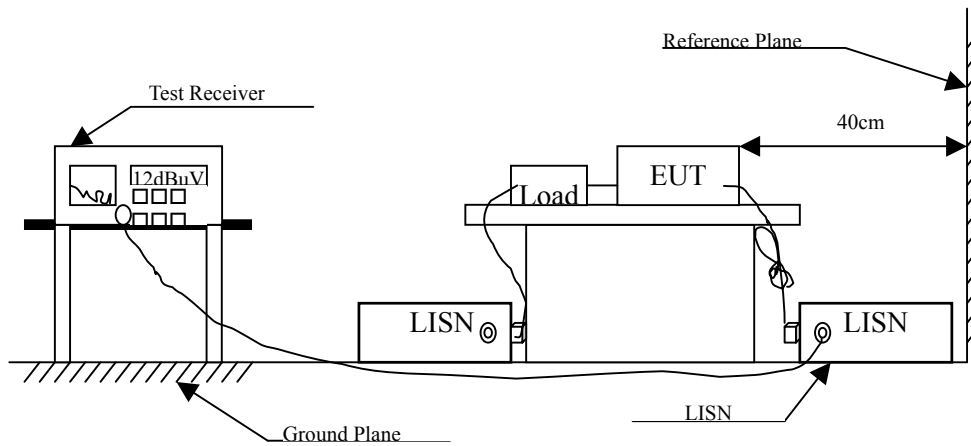
2.1. Test Equipment

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, 2007	
2	L.I.S.N.	R & S	ESH3-Z5/825016/6	May, 2007	EUT
3	L.I.S.N.	Kyoritsu	KNW-407/8-1420-3	May, 2007	Peripherals
4	Pulse Limiter	R & S	ESH3-Z2	May, 2007	
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	AVG
0.15 - 0.50	66-56 ^(註)	56-46 ^(註)
0.50-5.0	56	46
5.0 - 30	60	50

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 refer 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 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

Owing to the DC operation of EUT, this test item is not performed.

3. Radiated Emission

3.1. Test Equipment

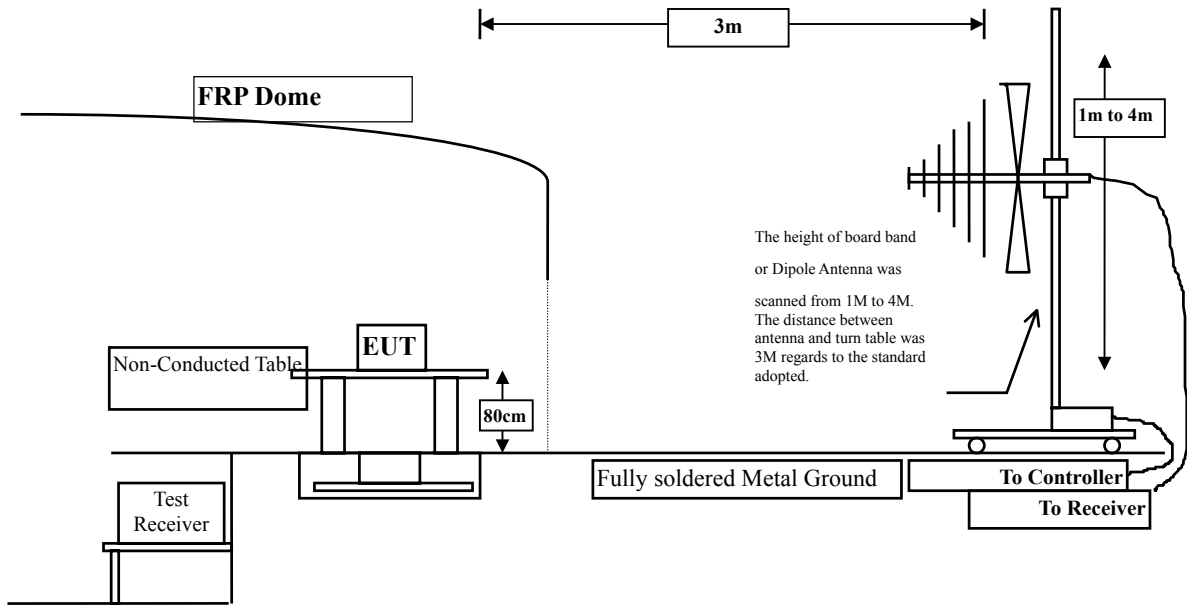
The following test equipment are used during the radiated emission test:

Test Site	Equipment	Manufacturer	Model No./Serial No.	Last Cal.
Site # 1	Test Receiver	R & S	ESCS 30 / 825442/14	May, 2007
	Spectrum Analyzer	Advantest	R3261C / 71720140	May, 2007
	Pre-Amplifier	HP	8447D/3307A01812	May, 2007
	Bilog Antenna	Chase	CBL6112B / 12452	Sep., 2007
	Horn Antenna	EM	EM6917 / 103325	May, 2007
Site # 2	Test Receiver	R & S	ESCS 30 / 825442/17	May, 2007
	Spectrum Analyzer	Advantest	R3261C / 71720609	May, 2007
	Pre-Amplifier	HP	8447D/3307A01814	May, 2007
	Bilog Antenna	Chase	CBL6112B / 2455	Sep., 2007
	Horn Antenna	EM	EM6917 / 103325	May, 2007
Site # 3	X Test Receiver	R & S	ESI 26 / 838786 / 004	May, 2007
	X Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2007
	X Bilog Antenna	SCHAFFNER	CBL6112B / 2697	May, 2007
	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, 2007
	X Pre-Amplifier	HP	8449B / 3008A01123	July, 2007

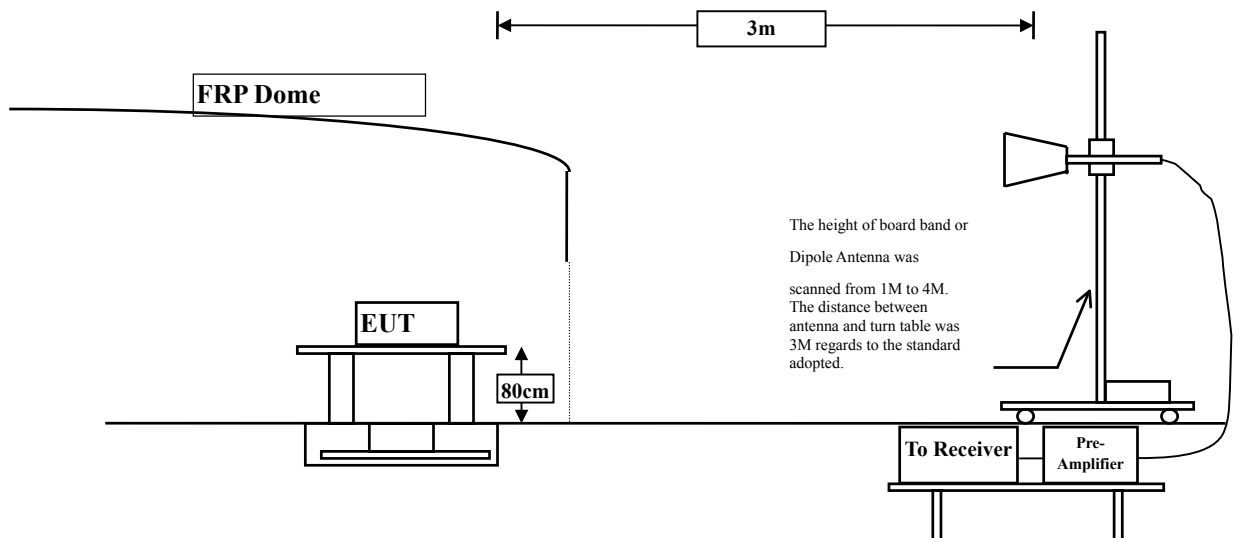
- Note:
1. All instruments are calibrated every one year.
 2. The test instruments marked by "X" are used to measure the final test results.

3.2. Test Setup

Below 1GHz



Above 1GHz



3.3. Limits

➤ General Radiated Emission Limits

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 20dB 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(a) 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) = 20 log RF Voltage (uV)
 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 : PND
 Test Item : Fundamental Radiated Emission
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmitter

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
Peak Detector:					
88.100	-10.892	37.020	26.128	-41.822	67.950
98.100	-6.232	44.290	38.058	-29.892	67.950
107.900	-7.735	55.030	47.295	-20.655	67.950
Average					
Detector:					
88.100	-10.892	26.870	15.978	-31.972	47.950
98.100	-6.232	42.730	36.498	-11.452	47.950
107.900	-7.735	53.400	45.665	-2.285	47.950
Vertical					
Peak Detector:					
88.100	-9.321	56.690	47.369	-20.581	67.950
98.100	-5.840	48.350	42.510	-25.440	67.950
107.900	-7.034	48.600	41.566	-26.384	67.950
Average					
Detector:					
88.100	-9.321	53.780	44.459	-3.491	47.950
98.100	-5.840	47.380	41.540	-6.410	47.950
107.900	-7.034	47.290	40.256	-7.694	47.950

Note:

1. The reading levels below 1GHz and above 1GHz are quasi-peak values and peak/average values, respectively.
2. Receiver setting (Peak Detector) : RBW:120KHz ◦
3. Receiver setting (AVG Detector) : RBW:120KHz ◦
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 : PND
 Test Item : General Radiated Emission
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmitter (88.1 MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
208.838	-11.256	45.870	34.614	-5.386	40.000
372.124	-3.216	38.341	35.125	-11.875	47.000
620.942	4.128	30.832	34.960	-12.040	47.000
817.275	4.780	33.309	38.089	-8.911	47.000
867.816	4.366	36.562	40.927	-6.073	47.000
912.525	4.317	34.818	39.136	-7.864	47.000
Vertical					
140.802	-7.245	43.130	35.885	-4.115	40.000
201.062	-2.414	38.545	36.131	-3.869	40.000
352.685	-5.457	37.279	31.822	-15.178	47.000
620.942	1.122	29.669	30.791	-16.209	47.000
867.816	4.555	28.798	33.353	-13.647	47.000
912.525	5.399	30.096	35.496	-11.504	47.000

Note:

1. The reading levels below 1GHz are quasi-peak values.
2. "█" means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Product : PND
 Test Item : General Radiated Emission
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmitter (98.1 MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
203.006	-11.682	47.568	35.885	-4.115	40.000
372.124	-3.216	38.071	34.855	-12.145	47.000
620.942	4.128	30.854	34.982	-12.018	47.000
817.275	4.780	33.138	37.918	-9.082	47.000
867.816	4.366	36.346	40.711	-6.289	47.000
912.525	4.317	33.718	38.036	-8.964	47.000
Vertical					
98.036	-5.862	41.781	35.919	-4.081	40.000
136.914	-7.584	43.686	36.102	-3.898	40.000
195.230	-3.076	39.644	36.568	-3.432	40.000
352.685	-5.457	37.420	31.963	-15.037	47.000
494.589	-1.820	34.106	32.286	-14.714	47.000
912.525	5.399	29.695	35.095	-11.905	47.000

Note:

1. The reading levels below 1GHz are quasi-peak values.
2. "■" means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

Product : PND
 Test Item : General Radiated Emission
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmitter (107.9 MHz)

Frequency MHz	Correct Factor dB	Reading Level dBuV	Measurement Level dBuV/m	Margin dB	Limit dBuV/m
Horizontal					
208.838	-11.256	46.482	35.226	-4.774	40.000
372.124	-3.216	38.154	34.938	-12.062	47.000
620.942	4.128	30.690	34.818	-12.182	47.000
817.275	4.780	32.872	37.652	-9.348	47.000
867.816	4.366	36.704	41.069	-5.931	47.000
912.525	4.317	34.326	38.644	-8.356	47.000
Vertical					
107.756	-7.002	42.704	35.702	-4.298	40.000
140.802	-7.245	43.226	35.981	-4.019	40.000
204.950	-2.472	37.403	34.931	-5.069	40.000
352.685	-5.457	37.395	31.938	-15.062	47.000
494.589	-1.820	33.718	31.898	-15.102	47.000
912.525	5.399	30.244	35.644	-11.356	47.000

Note:

1. The reading levels below 1GHz are quasi-peak values.
2. "■" means the worst emission level.
3. Measurement Level = Reading Level + Correct Factor.

4. Occupied Bandwidth

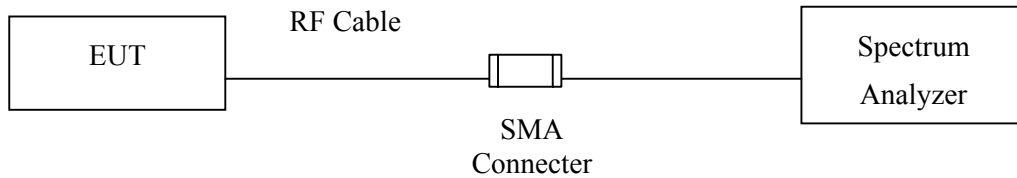
4.1. Test Equipment

The following test equipments are used during the radiated emission tests:

Equipment	Manufacturer	Model No./Serial No.	Last Cal.
Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2007
X Spectrum Analyzer	R & S	FSP40 / 100170	Nov, 2007

Note: 1. All instruments are calibrated every one year.
 2. The test instruments marked by “X” are used to measure the final test results.

4.2. Test Setup



4.3. Limits

The minimum bandwidth shall be at least 200kHz.

4.4. Uncertainty

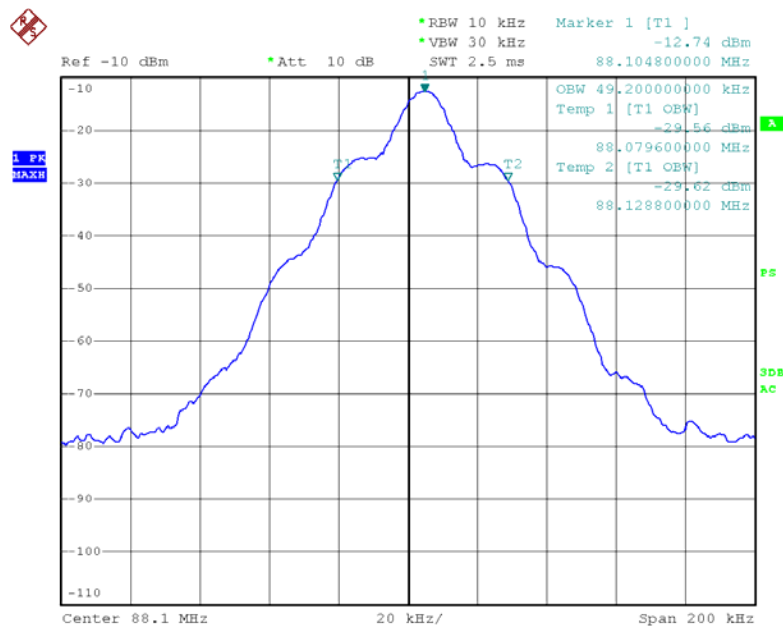
± 150Hz

4.5. Test Result of Occupied Bandwidth

Product : PND
 Test Item : Occupied Bandwidth (modulation)
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmitter

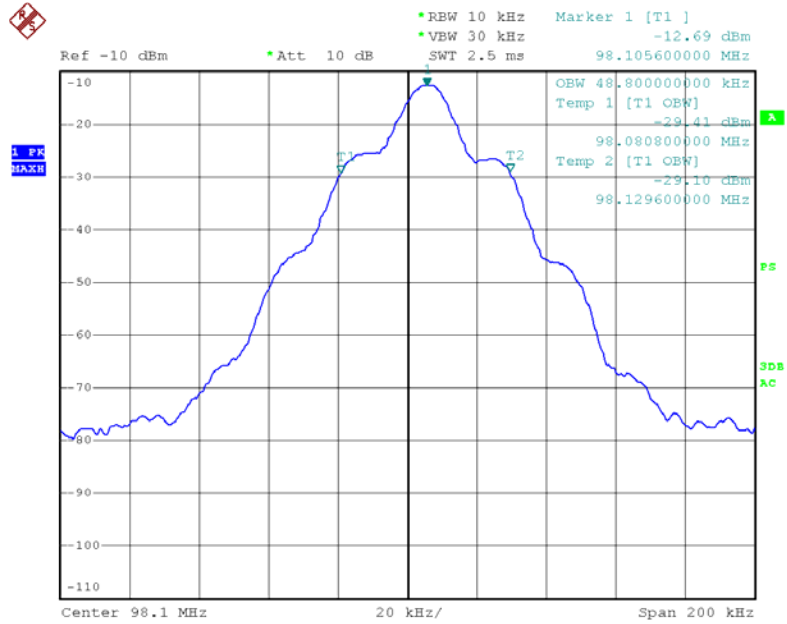
Channel No.	Frequency (MHz)	Measurement Level (kHz)	Required Limit (kHz)	Result
01	88.1	49.2	200	Pass
101	98.1	48.8	200	Pass
199	107.9	48.4	200	Pass

Channel 01:



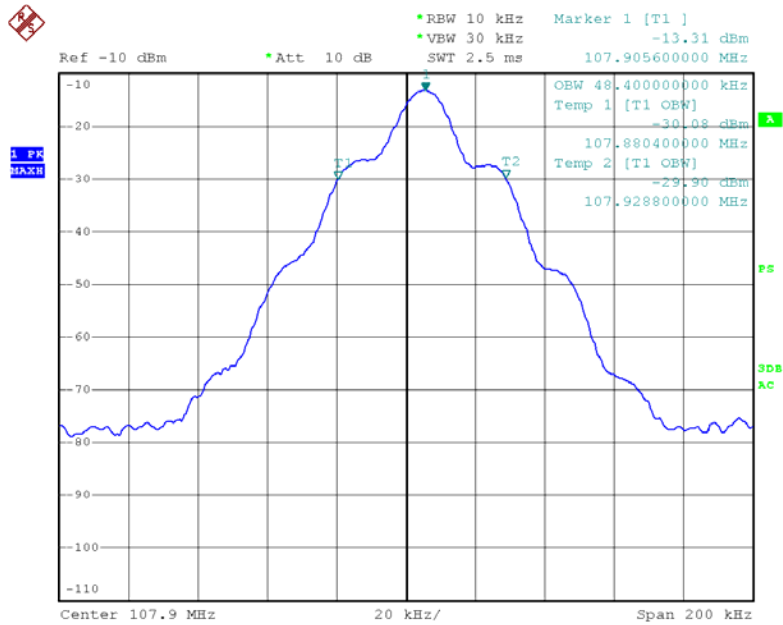
Date: 21.APR.2008 07:40:56

Channel 101:



Date: 21.APR.2008 07:42:14

Channel 199:



Date: 21.APR.2008 07:43:45

5. Band Edge

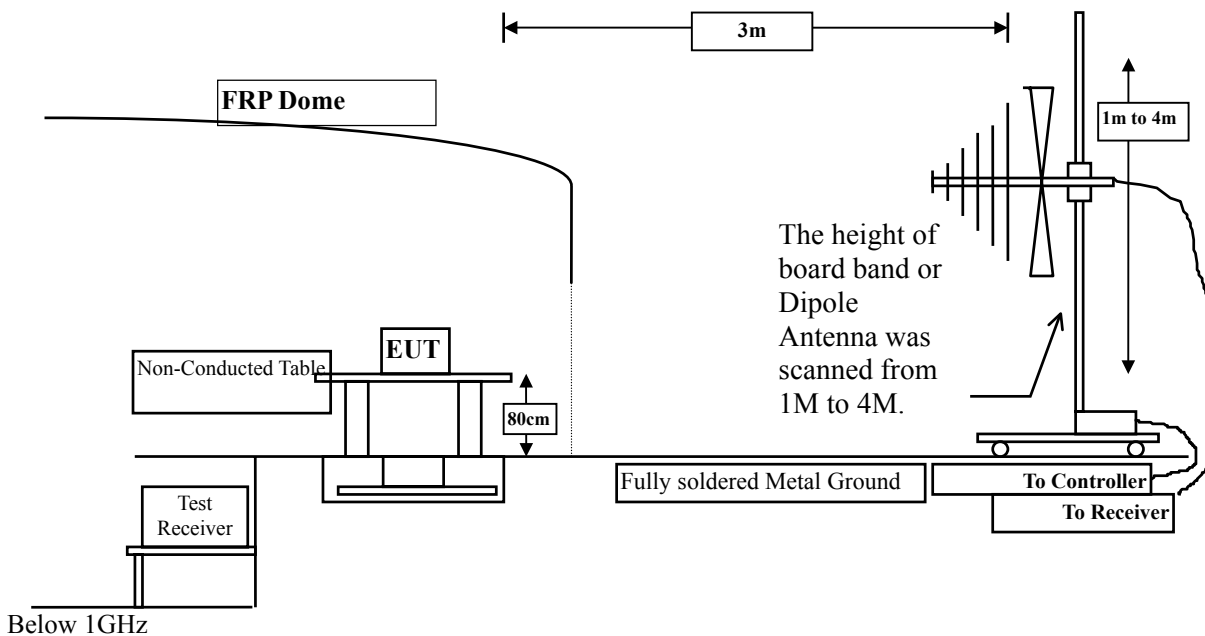
5.1. Test Equipment

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, 2007
X	Spectrum Analyzer	Agilent	E4407B / US39440758	May, 2007
X	Bilog Antenna	SCHAFFNER	CBL6112B / 2697	May, 2007
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, 2007
X	Pre-Amplifier	HP	8449B / 3008A01123	July, 2007

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

5.2. Test Setup



5.3. Limits

The field strength of any emissions radiated on any frequency outside of the specified 200 kHz band shall not exceed the general radiated emission limits in Section 15.239.

5.4. 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 is 120 kHz, above 1GHz are 1 MHz.

5.5. Uncertainty

± 3.9 dB above 1GHz

± 3.8 dB below 1GHz

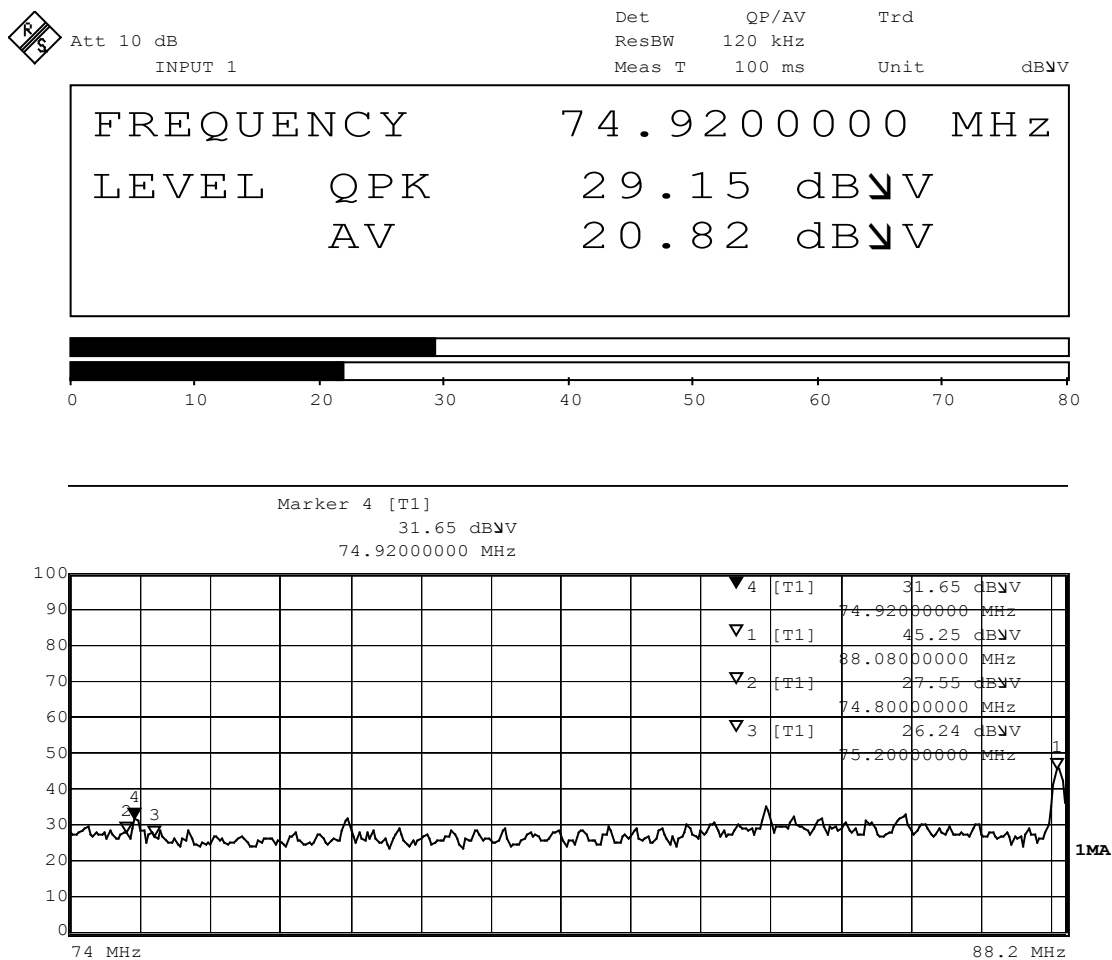
5.6. Test Result of Band Edge

Product : PND
 Test Item : Band Edge
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmitter (88.1 MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Quasi-Peak Limit (dBuV/m)	Result
1	74.920	-14.811	29.150	14.339	40.000	Pass

Figure Channel 1: Horizontal (Quasi-Peak)



Date: 3.APR.2008 07:24:30

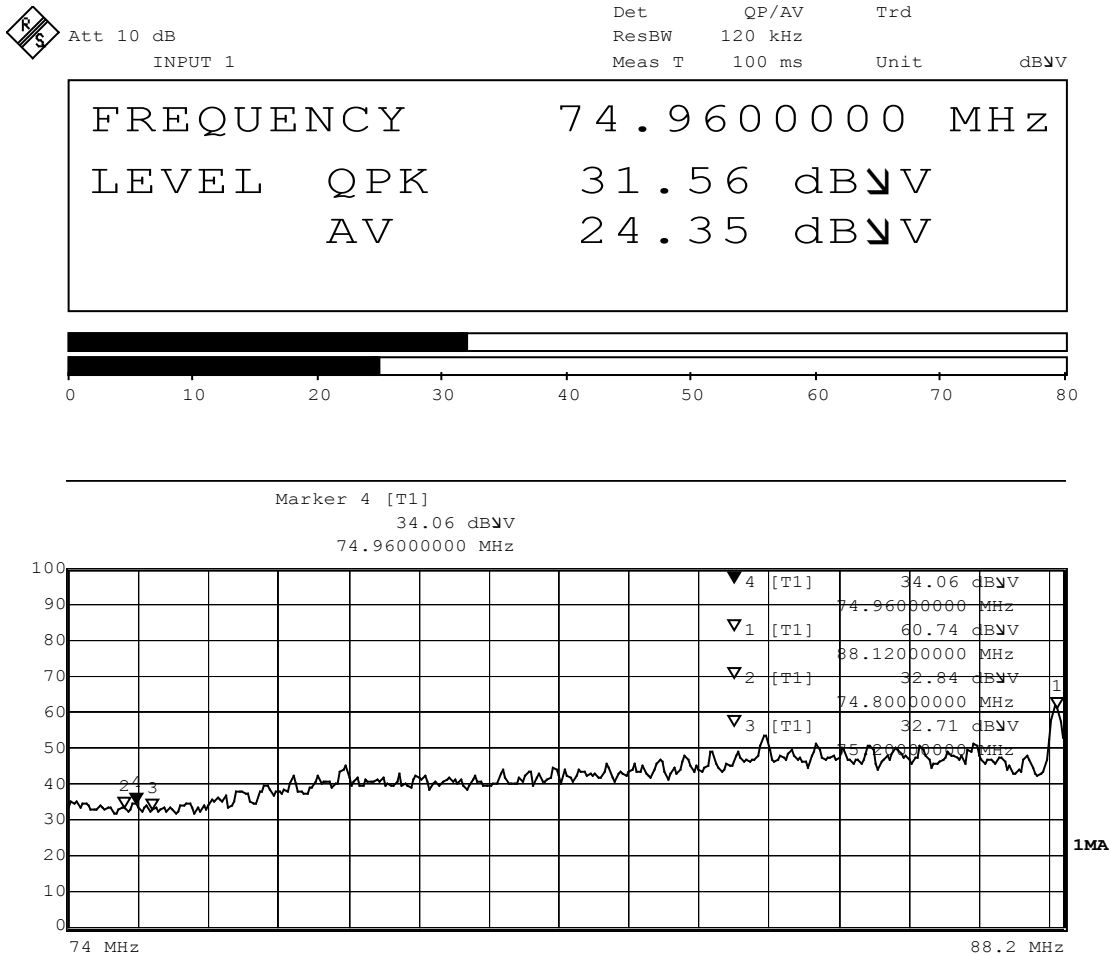
Note: RBW=120KHz

Product : PND
 Test Item : Band Edge
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmitter (88.1 MHz)

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Quasi-Peak Limit (dBuV/m)	Result
1	74.960	-10.203	31.560	21.357	40.000	Pass

Figure Channel 1: Vertical (Quasi-Peak)



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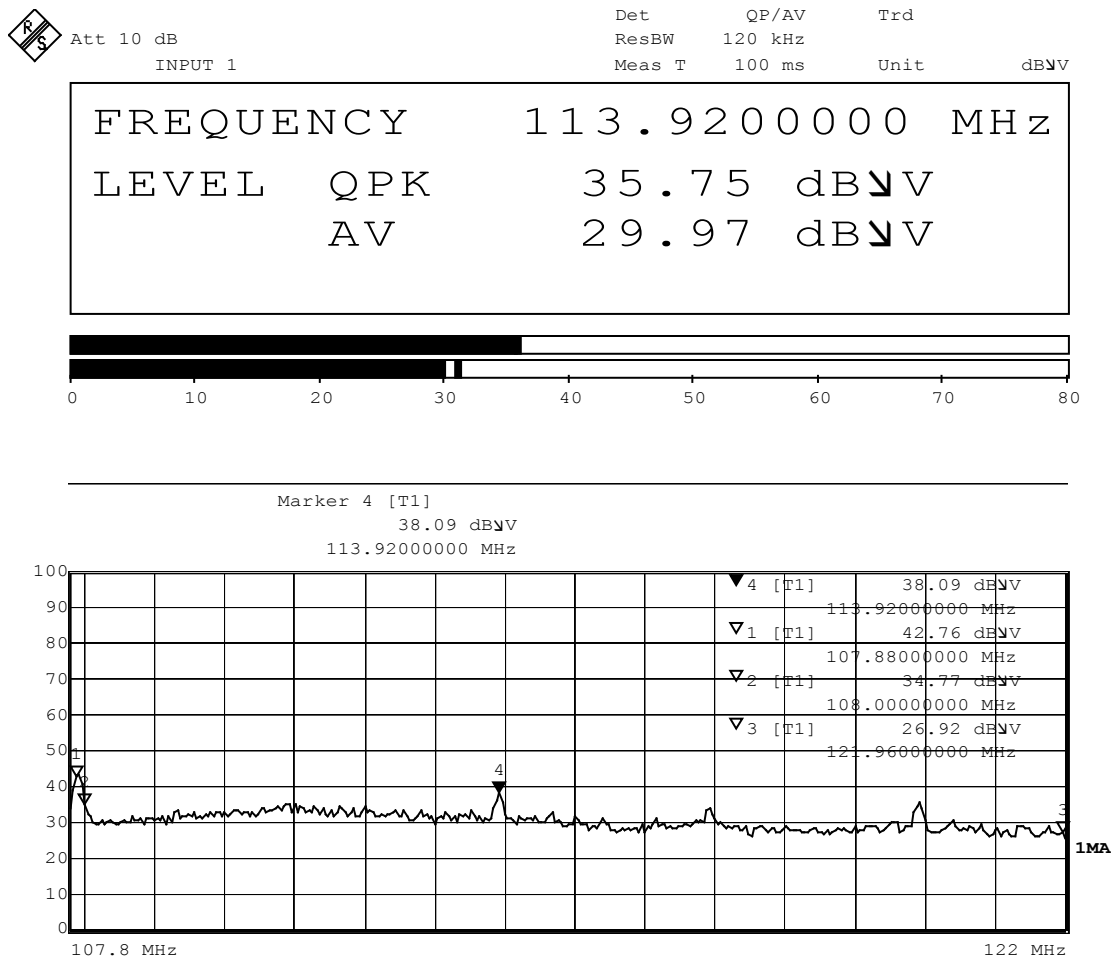
Note: RBW=120KHz

Product : PND
 Test Item : Band Edge
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmitter (107.9 MHz)

RF Radiated Measurement (Horizontal):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Quasi-Peak Limit (dBuV/m)	Result
199	113.920	-9.180	35.750	26.570	43.500	Pass

Figure Channel 199: Horizontal (Quasi-Peak)



Date: 3.APR.2008 07:16:53

Note: RBW=120KHz

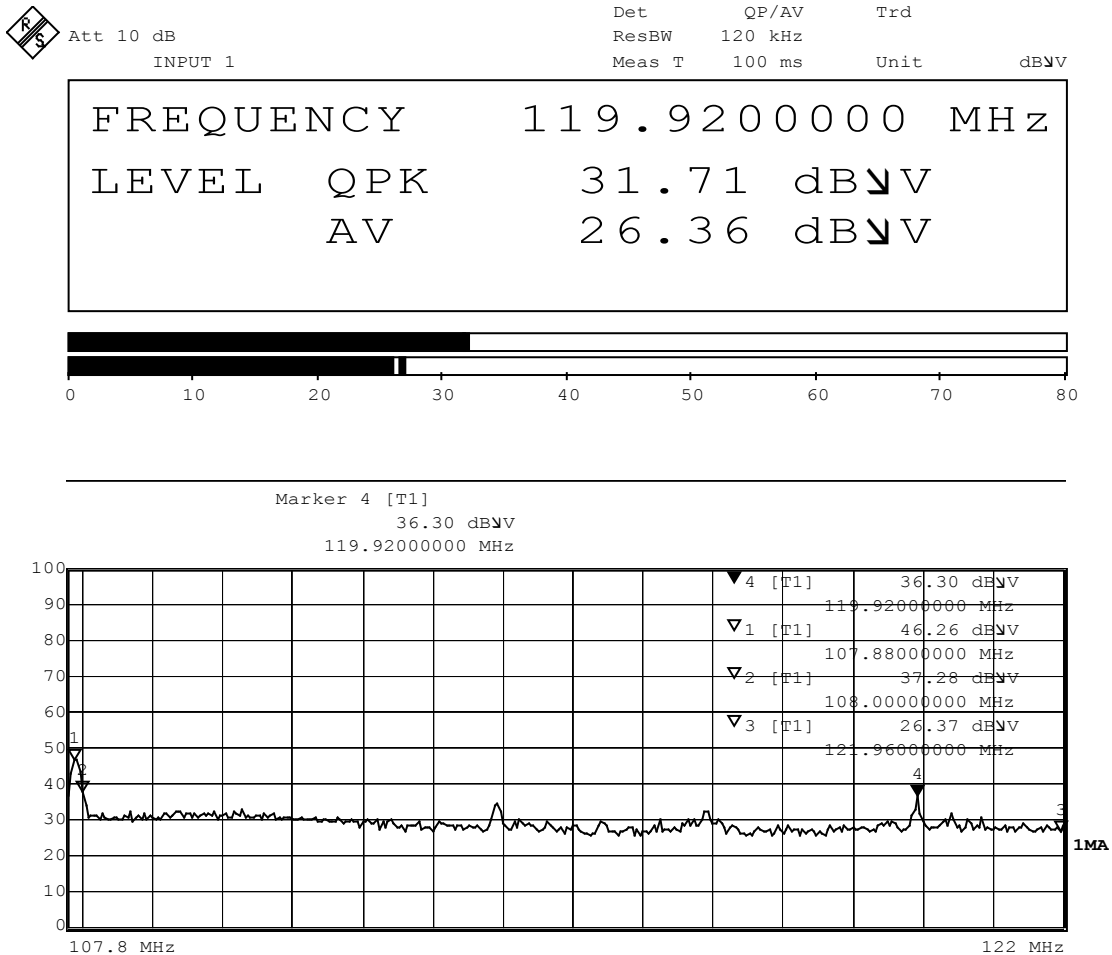
Product : PND
 Test Item : Band Edge
 Test Site : No.3 OATS
 Test Mode : Mode 1: Transmitter (107.9 MHz)

RF Radiated Measurement (Vertical):

Channel No.	Frequency (MHz)	Correct Factor (dB)	Reading Level (dBuV)	Emission Level (dBuV/m)	Quasi-Peak Limit (dBuV/m)	Result
199	119.920	-6.407	31.710	25.302	43.500	Pass

Figure Channel 199:

Vertical (Quasi-Peak)



Date: 3.APR.2008 07:19:56

Note: RBW=120KHz

6. EMI Reduction Method During Compliance Testing

No modification was made during testing.