

FCC Test Report

for

Host Data Terminal

Model Number : HDT11
FCC ID : M8SNTN900H11
Report Number : RF-U070-0903-136
Date of Receipt : March 11, 2009
Date of Report : March 23, 2009

Prepared for

NTN BUZZTIME, INC.

5966 LA PLACE COURT, SUITE 100 CARLSBAD, CA 92008, USA

Prepared by



Central Research Technology Co.

EMC Test Laboratory

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NVLAP LAB CODE 200575-0

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Certification

Equipment under Test : Host Data Terminal
Model Number : HDT11
FCC ID : M8SNTN900H11
Manufacturer : CLIMAX TECHNOLOGY CO., LTD.
Applicant : NTN BUZZTIME, INC.
Address : 5966 LA PLACE COURT, SUITE 100 CARLSBAD, CA 92008,
USA
Date of Testing : March14, 2009
Applicable Standards : 47 CFR part 15, Subpart C
Deviation : NA
Condition of Test Sample : Engineering Sample



We, **Central Research Technology Co.**, hereby certify that one sample of the designated product was tested in our facility during the period mentioned above. The test records, data evaluation and Equipment Under Test (EUT) configurations shown in the present report are true and accurate representation of the measurements of the sample's RF characteristics under the conditions herein specified.

The test results show that the EUT as described in the present report is in compliance with the requirements set forth in the standards mentioned above and apply to the tested sample identified in the present report only. The test report shall not be reproduced, except in its entirety, without the written approval of Central Research Technology Co.

PREPARED BY : Cathy Chen , DATE : March 23, 2009
(Cathy Chen/ Technical Manager)
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(Tsun-Yu Shih/Laboratory head)

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1 General Description

1.1 General Description of EUT

Equipment under Test : Host Data Terminal
Model Number : HDT11
Power in : Power supplied by power adaptor
Test Voltage : 120Vac/60Hz to the connected power adaptor
Manufacturer : CLIMAX TECHNOLOGY CO., LTD.
Channel Numbers : 4
Frequency Range : 906.358MHz~908.18MHz
Operational Frequency : 906.358MHz, 907.28MHz, 907.88MHz, 908.18MHz
Modulation : FM
Function Description :

The EUT is used to transmit and receive control command. Please refer to the user's manual for the details.

1.2 Test Methodology

For this EUT, both conducted and radiated emissions were performed according to the procedures illustrated in ANSI C63.4:2003 and other required measurements were illustrated in separate sections of this test report for detail.

1.3 Applied standards

(1) Conduction Emission Requirement

For intentional device, according to §15.207(a) line conduction emission limit is as below table.

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 – 0.5	66 to 56*	56 to 46*
0.5 - 5	56	46
5 - 30	60	50

* Decreases with the logarithm of the frequency.

(2) Field strength of fundamental

According to 15.249(a), except as provided in paragraph (b) of this section, the field strength of emissions from intentional radiators operated within these frequency bands shall comply with the following:

Fundamental Frequency	Field Strength Fundamental (millivolts/meter)	Field Strength of Harmonics (microvolts/meter)
902 - 928 MHz	50	500
2400 - 2483.5 MHz	50	500
5725 - 5875 MHz	50	500
24.0 - 24.25 GHz	250	2500

(3) Radiated Emission Requirement

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 Section 15.209, whichever is the lesser attenuation.

For intentional device, according to §15.209, the general requirement of field strength of radiated emissions from intentional radiator at a distance of 3 meters shall not exceed the below table.

Frequency (MHz)	Measurement Distance (m)	Field Strength (uV/m)	Field Strength (dBuV/m)
30 – 88	3	100	40.0
88 – 216	3	150	43.5
216 – 960	3	200	46.0
960 – 1610	3	500	54.0
above 1610	3	500	54.0

Note 1- The lower limit shall apply at the transition frequency.

(4) Restricted Band

Frequency (MHz)	Frequency (MHz)	Frequency (MHz)	Frequency (MHz)
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	(2)
13.36 - 13.41			

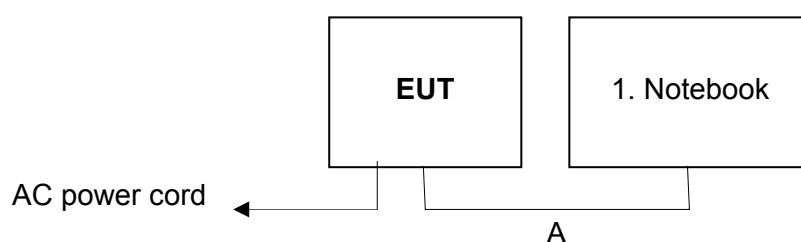
¹ Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz.

² Above 38.6

1.4 The Support Units

No.	Unit	Model No./ Serial No.	Trade Name	Power Code	Supported by lab.
1.	Notebook	LATITUDE D400/5FL891S	DELL	0.8m	✓

1.5 Layout of Setup



Connecting Cables :

No.	Cable	Length	Shielded	Core	Shielded Backshell	Supported by lab.	Note
A	RS232	0.8m					

Justification :

For both conducted and radiated emission below 1GHz, the system was configured for typical fashion as a customer could normal use it. The peripherals other than EUT was connected in normally standing by situation.

1.6 Test Capability

Test Facility

The test facility used for evaluating the conformance of the EUT with each standard in the present report meets what required in CISPR16-1-4, CISPR16-2-3 and ANSI C63.4.

Test Room	Type of Test Room	Descriptions
TR1	10m semi-anechoic chamber (23m×14m×9m)	Complying with the NSA requirements in documents CISPR 22 and ANSI C63.4. For the radiated emission measurement.
TR10	3m semi-anechoic chamber (9m × 6m × 6m)	
TR11	3m semi-anechoic chamber (9m × 6m × 6m)	
TR13	Chamber	For the RF conducted emission measurement.
TR5	Shielding Room (8m×5m×4m)	For the conducted emission measurement.

Test Laboratory Competence Information

Central Research Technology Co. has been accredited / filed / authorized by the agencies listed in the following table.

Certificate	Nation	Agency	Code	Mark
Accreditation Certificate	USA	NVLAP	200575-0	ISO/IEC 17025
	R.O.C. (Taiwan)	TAF	0905	ISO/IEC 17025
	R.O.C. (Taiwan)	BSMI	SL2-IN-E-0033, SL2-IS-E-0033, SL2-R1/R2-E-0033, SL2-A1-E-0033	ISO/IEC 17025
Site Filing Document	USA	FCC	474046, TW1053	Test facility list & NSA Data
	Canada	IC	4699A-1,-3	Test facility list & NSA Data
	Japan	VCCI	R-1527,C-1609,T-131,T-1441	Test facility list & NSA Data
Authorization Certificate	Germany	TUV	10021687-2007	ISO/IEC 17025
	Norway	Nemko	ELA212	ISO/IEC 17025

The copy of each certificate can be downloaded from our web site: www.crc-lab.com

1.7 Measurement Uncertainty

The assessed measurement uncertainty with a suitable coverage factor K to ensure 95% confidence level for the normal distribution are shown as below, the values are less than U_{cispr} in table 1 of CISPR 16-4-2.

Test Item	Measurement Uncertainty	
Peak Output Power	1.1dB	
Radiated Emission: (30MHz~200MHz)	Horizontal 2.8dB ; Vertical 3.5 dB	
Radiated Emission: (200MHz~1GHz)	Horizontal 3.4dB ; Vertical 2.8dB	
Radiated Emission: (1GHz~18GHz)	Horizontal 2.5dB ; Vertical 2.4dB	
Radiated Emission: (18GHz~26.5GHz)	Horizontal 4.0dB ; Vertical 3.9dB	
Line Conducted Emission	ESH2-Z5	3.1dB
	ENV 4200	3.8dB

2 Field strength of Fundamental

Result: Pass

2.1 Applied standard

Fundamental Frequency	Peak	Average
☒ 902 – 928 MHz	500mV/m (114dBuV/m)	50mV/m (94dBuV/m)
☐ 2400 – 2483.5 MHz	500 mV/m (114dBuV/m)	50 mV/m (94dBuV/m)
☐ 5725 – 5875 MHz	500 mV/m (114dBuV/m)	50 mV/m (94dBuV/m)
☐ 24.0 – 24.25 GHz	2500 mV/m (128dBuV/m)	250 mV/m (108dBuV/m)

2.2 Test Instruments

Test Site and Equipment	Manufacturer	Model No./ Serial No.	Last Calibration Date	Calibration Due Date
Test Receiver	R&S	ETSI 26/ 831438/001	2008/10/8	2009/10/7
Test Receiver	R&S	ETSI 40/ 832427/004	2008/9/22	2009/9/21
Antenna	EMCO	3148/34429	2008/4/23	2009/4/22

2.3 Test Data

Test Mode : 906.358MHz

Tester : Jacky

Frequency (MHz)	Polarization	Reading Data (dBuV)		Correction Factor (dB/m)	Output Field Strength (dBμV/m)		Limit (dBμV/m)		Margin (dB)	
		PK	AV		PK	AV	PK	AV	PK	AV
906.358	V	93.83	91.83	-0.55	93.28	91.28	114	94	20.72	2.72
	H	92.29	90.18	-0.55	91.74	89.63	114	94	22.26	4.37

Note :

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Preamplifier
2. Output Field Strength (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Output Field Strength

Test Mode : 908.18MHz

Tester : Jacky

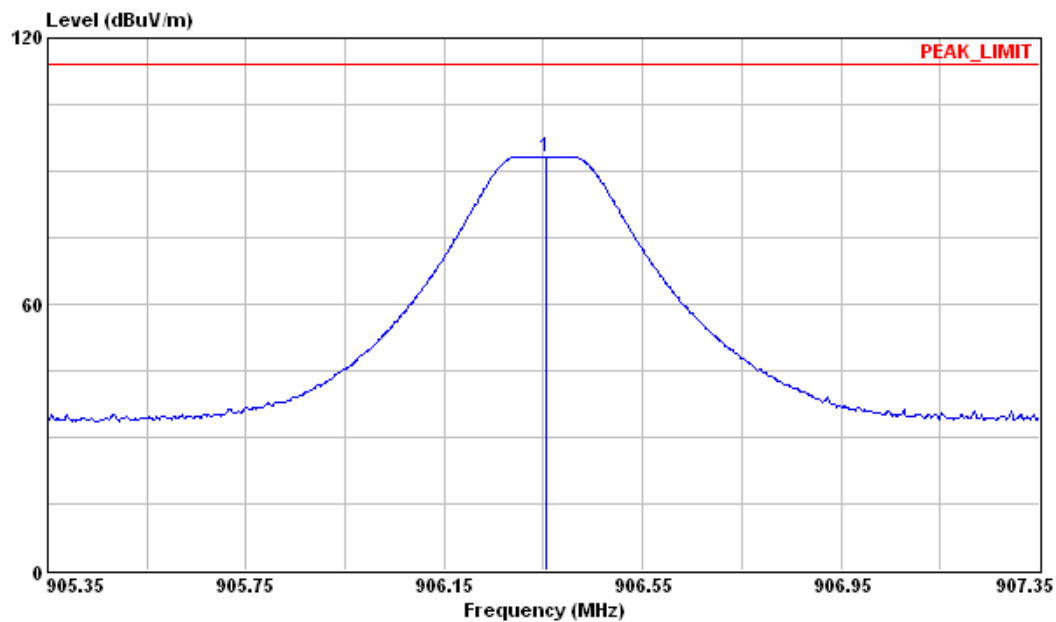
Frequency (MHz)	Polarization	Reading Data (dBuV)		Correction Factor (dB/m)	Output Field Strength (dBμV/m)		Limit (dBμV/m)		Margin (dB)	
		PK	AV		PK	AV	PK	AV	PK	AV
908.18	V	92.94	91.03	-0.55	92.39	90.48	114	94	21.61	3.52
	H	90.05	88.13	-0.55	89.5	87.58	114	94	24.5	6.42

Note :

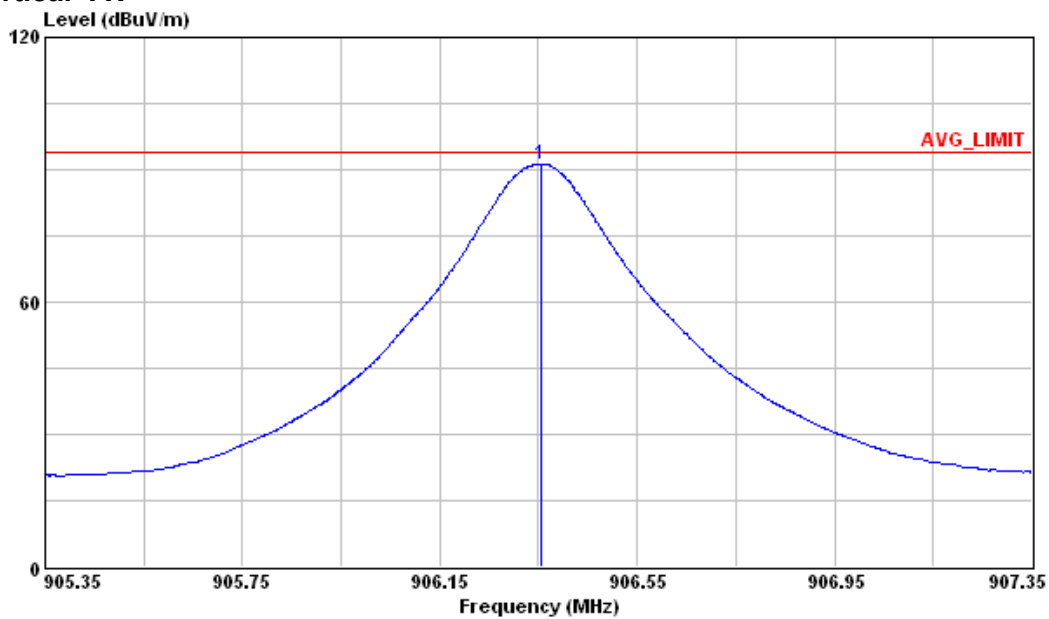
1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Preamplifier
2. Output Field Strength (dBuV/m) = Reading Data + Correction Factor
3. Margin (dB) = Limit – Output Field Strength

906.358MHz

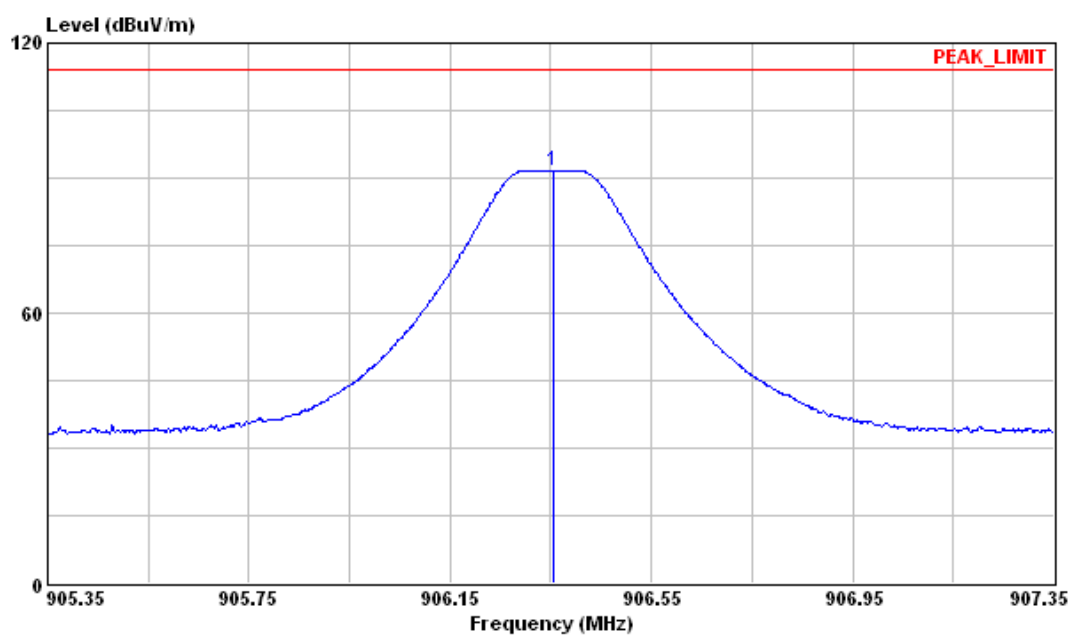
Vertical- PK



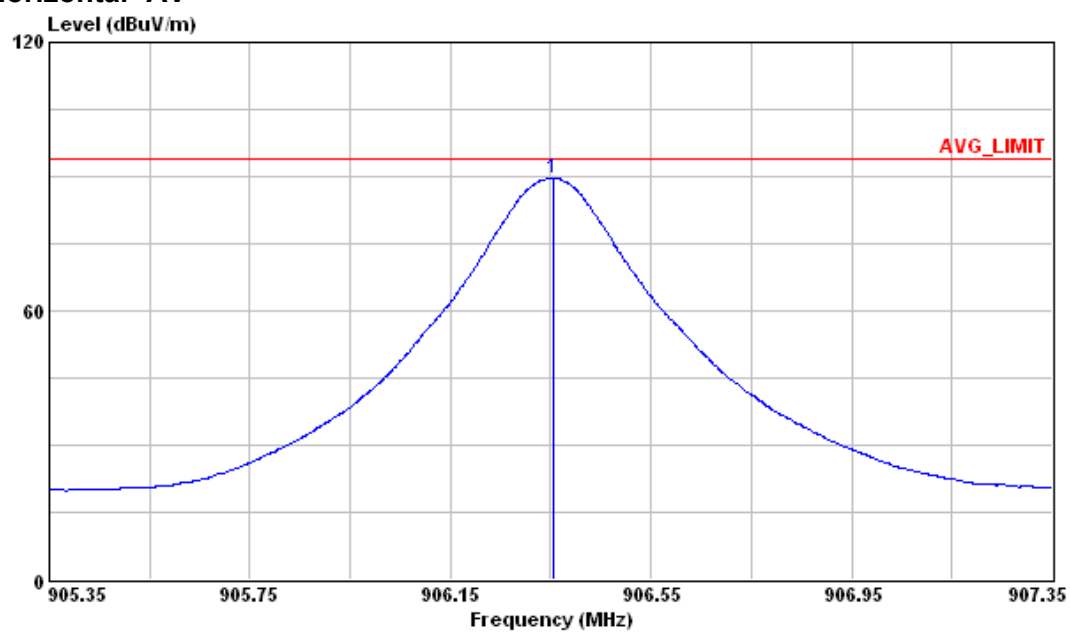
Vertical- AV



Horizontal- PK

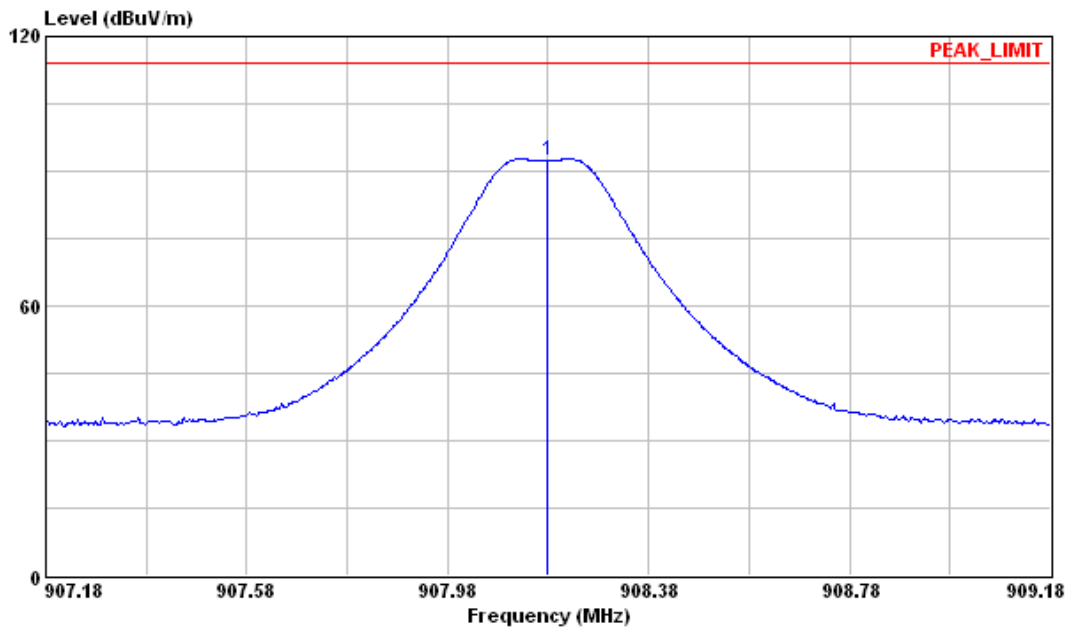


Horizontal- AV

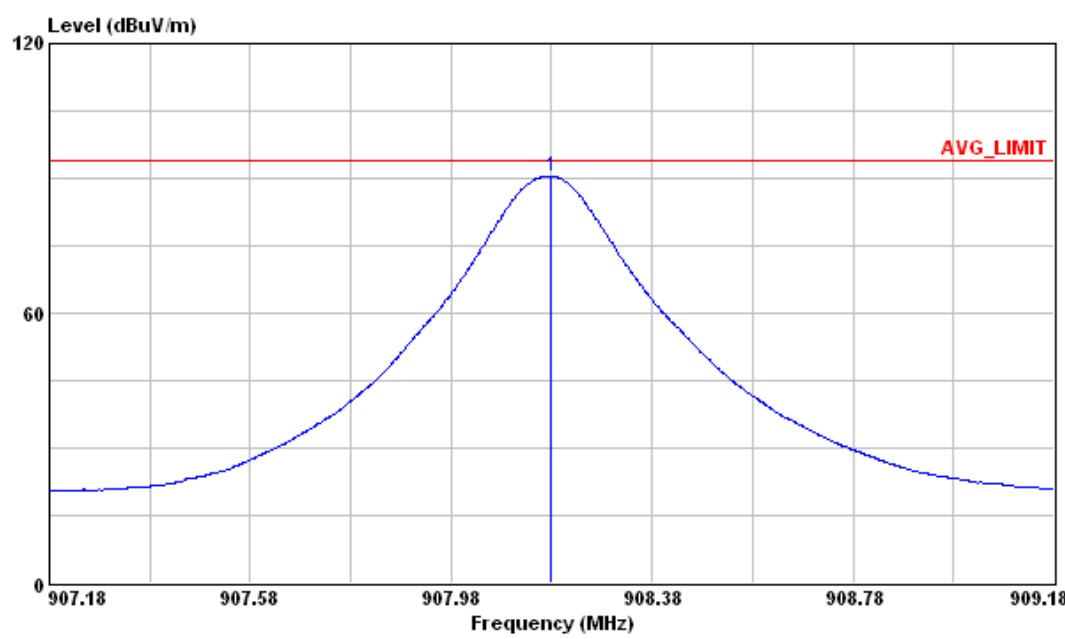


908.18MHz

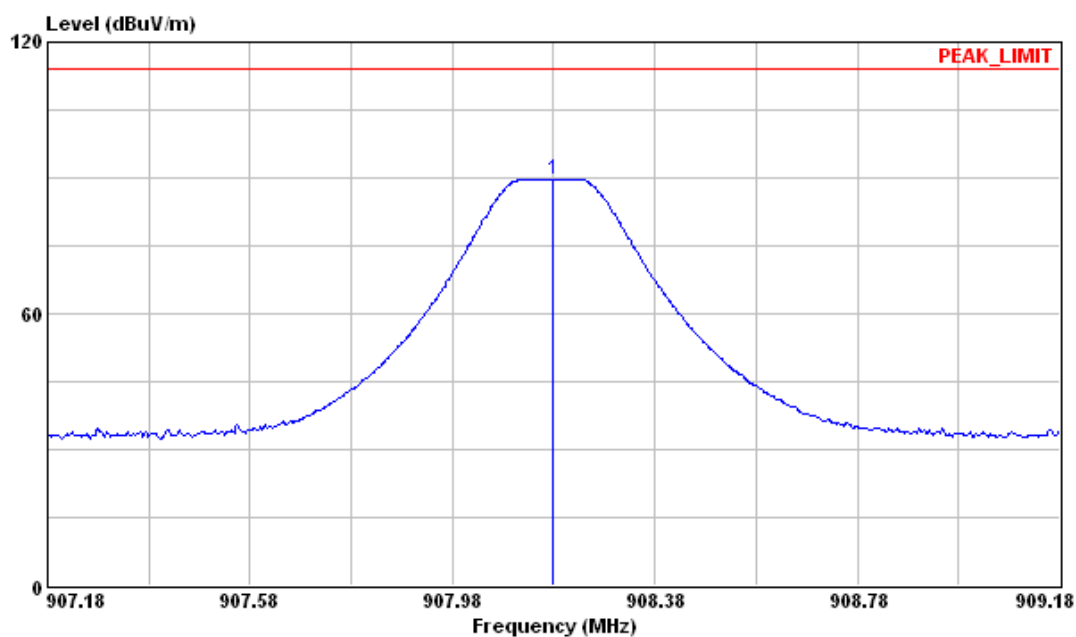
Vertical- PK



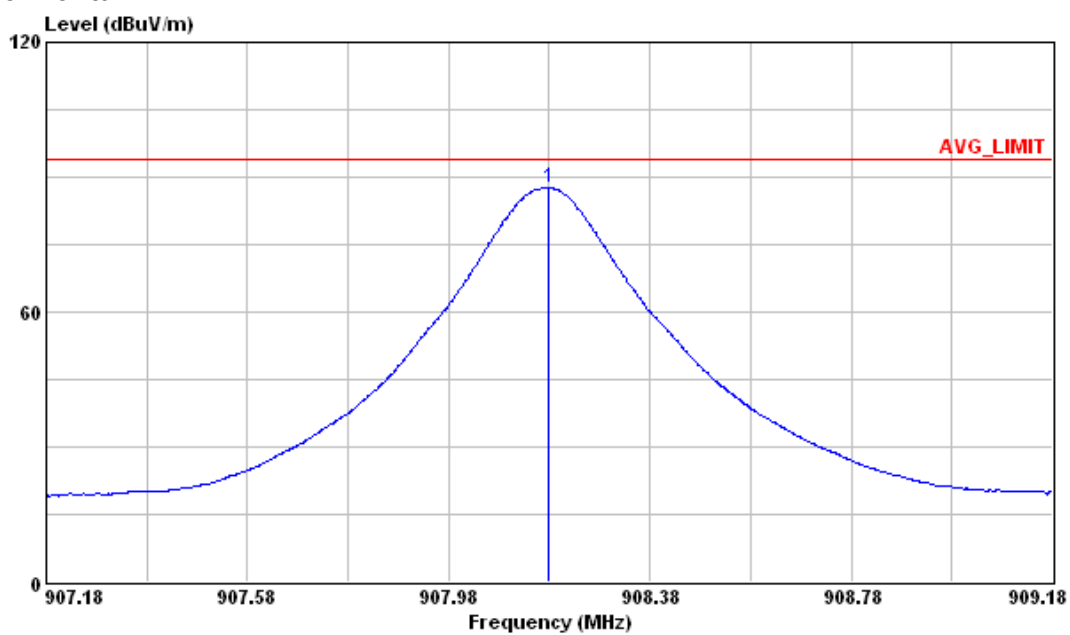
Vertical- AV



Horizontal- PK



Horizontal- AV



3 Radiated Emission Measurement

Result: Pass

3.1 Applied standard

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 Section 15.209, whichever is the lesser attenuation.

Limit for Harmonics Radiation Emission Measurement

Fundamental Frequency	Field Strength of Harmonics
☒ 902 – 928 MHz	500 uV/m (54dBuV/m)
☐ 2400 – 2483.5 MHz	500 uV/m (54dBuV/m)
☐ 5725 – 5875 MHz	500 uV/m (54dBuV/m)
☐ 24.0 – 24.25 GHz	2500 uV/m(68dBuV/m)

Limit for Other Emissions except Harmonics

Frequency (MHz)	Quasi-peak (dBμV/m)	
30 to 88	40	
88 to 216	43.5	
216 to 960	46	
960 to 1000	54	
Frequency (MHz)	Peak (dBμV/m)	Average (dBμV/m)
Above 1000	74	54
Note 1- The lower limit shall apply at the transition frequency. Note 2- Additional provisions may be required for cases where interference occurs.		

3.2 Test Instruments

Test Site and Equipment	Manufacturer	Model No./ Serial No.	Last Calibration Date	Calibration Due Date
Test Receiver	R&S	ETSI 26/ 831438/001	2008/10/8	2009/10/7
Test Receiver	R&S	ETSI 40/ 832427/004	2008/9/22	2009/9/21
Antenna	EMCO	3117/00035224	2008/3/26	2009/3/25
Antenna	EMCO	3148/34429	2008/4/23	2009/4/22
Antenna	EMCO	3109/33524	2008/4/23	2009/4/22

3.3 Test Data

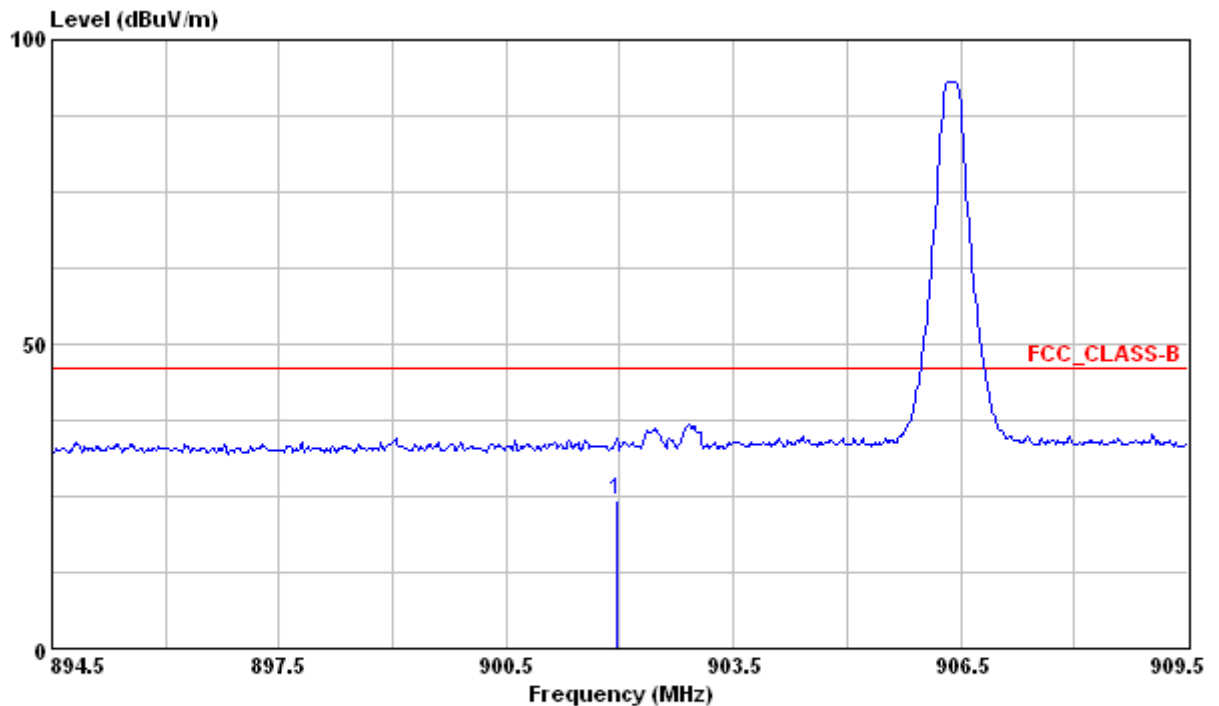
Band Edge

Test Mode : Continuous Transmitting, 906.358MHz

Test Distance : 3m

Tester : Jacky

Polarization :Vertical



	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Ant Pos	Table Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	901.970	24.21	24.79	-0.58	46.00	-21.79	172	206	VERTICAL	QP

Note :

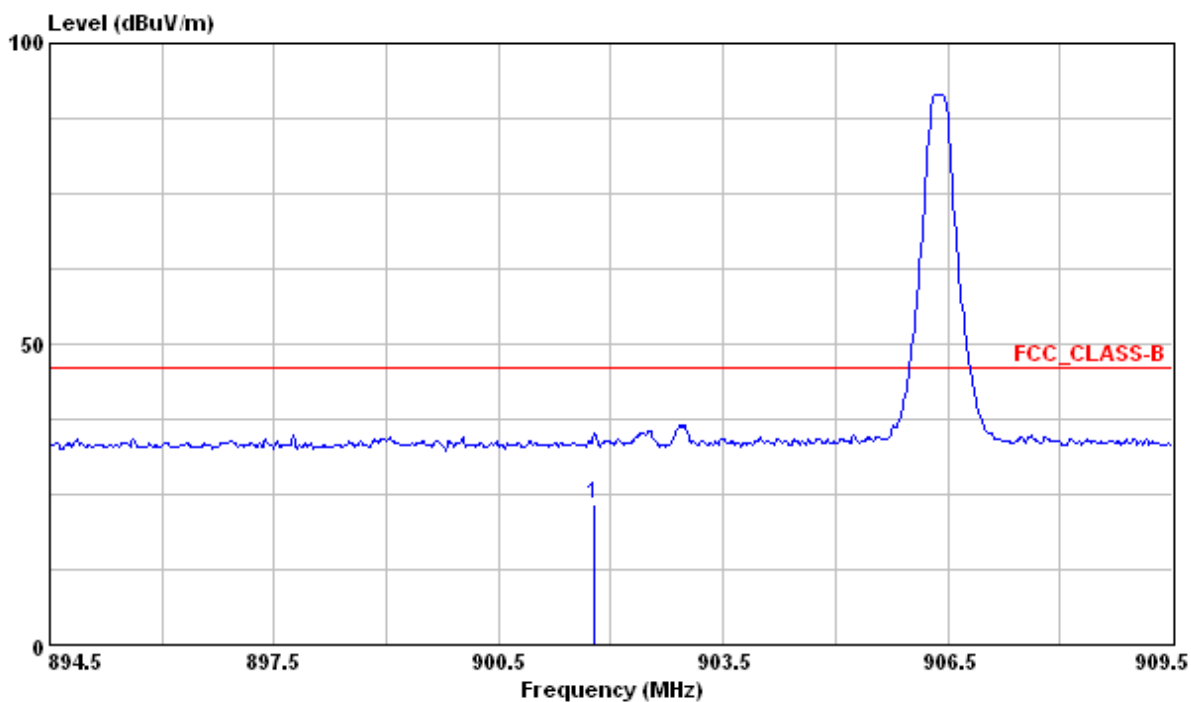
1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Preamplifier
2. Emission Level (dBUV/m) = Reading Data + Correction Factor

Test Mode : Continuous Transmitting, 906.358MHz

Test Distance : 3m

Tester : Jacky

Polarization :Horizontal



	Freq	Level	Read	Factor	Limit	Over	Ant	Table		
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg	Pol/Phase	Remark
1	901.780	23.44	24.02	-0.58	46.00	-22.56	100	166	HORIZONTAL	QP

Note :

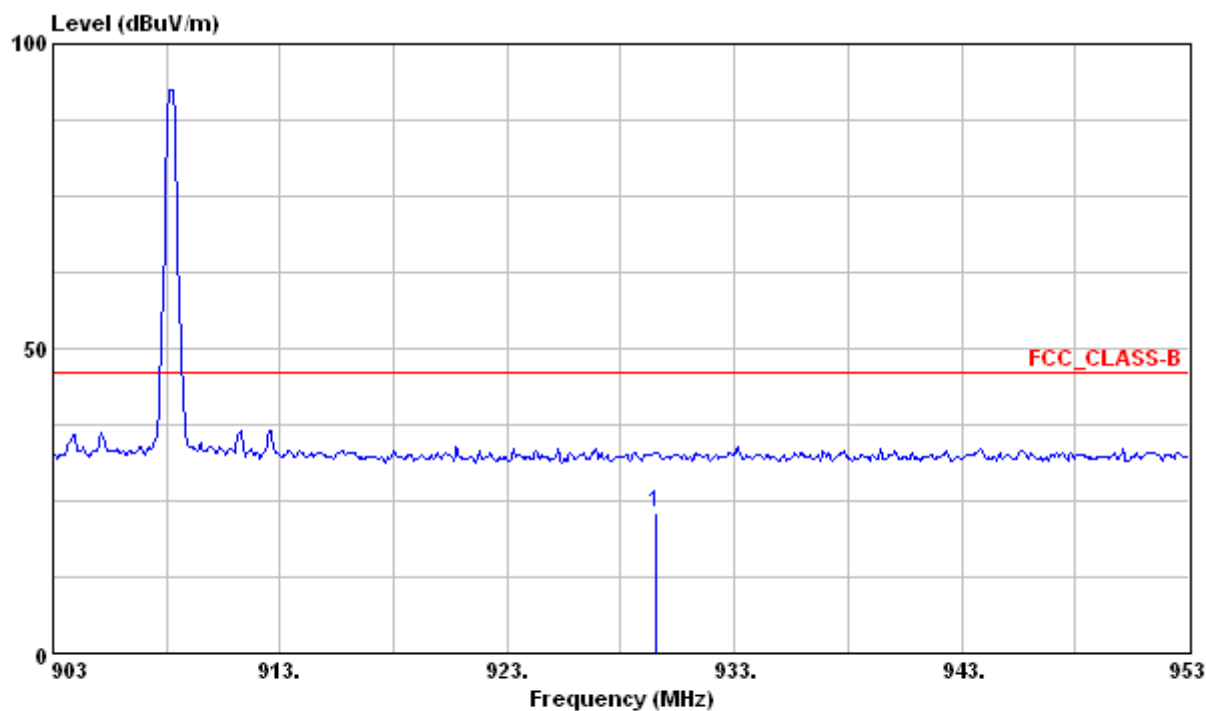
1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Preamplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor

Test Mode : Continuous Transmitting, 908.18MHz

Test Distance : 3m

Tester : Jacky

Polarization :Vertical



	Freq	Level	Read	Limit	Over	Ant	Table		
	MHz	dBuV/m	Level	Line	Limit	Pos	Pos	Pol/Phase	Remark
			dBuV	dB/m	dBuV/m	dB	cm	deg	
1	929.550	23.06	23.53	-0.47	46.00	-22.94	177	200	VERTICAL QP

Note :

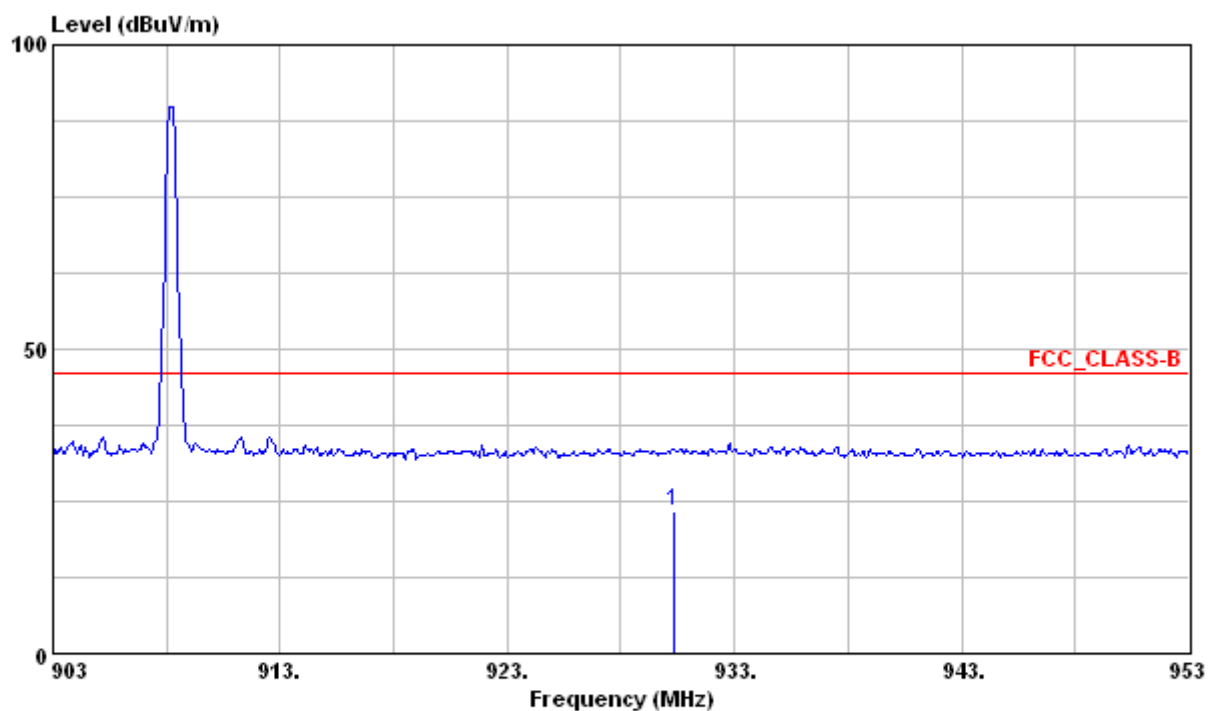
1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Preamplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor

Test Mode : Continuous Transmitting, 908.18MHz

Test Distance : 3m

Tester : Jacky

Polarization : Horizontal



	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Ant Pos	Table Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	930.300	23.47	23.94	-0.47	46.00	-22.53	100	154	HORIZONTAL	QP

Note :

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Preamplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor

Radiated Emission Measurement below 1000MHz

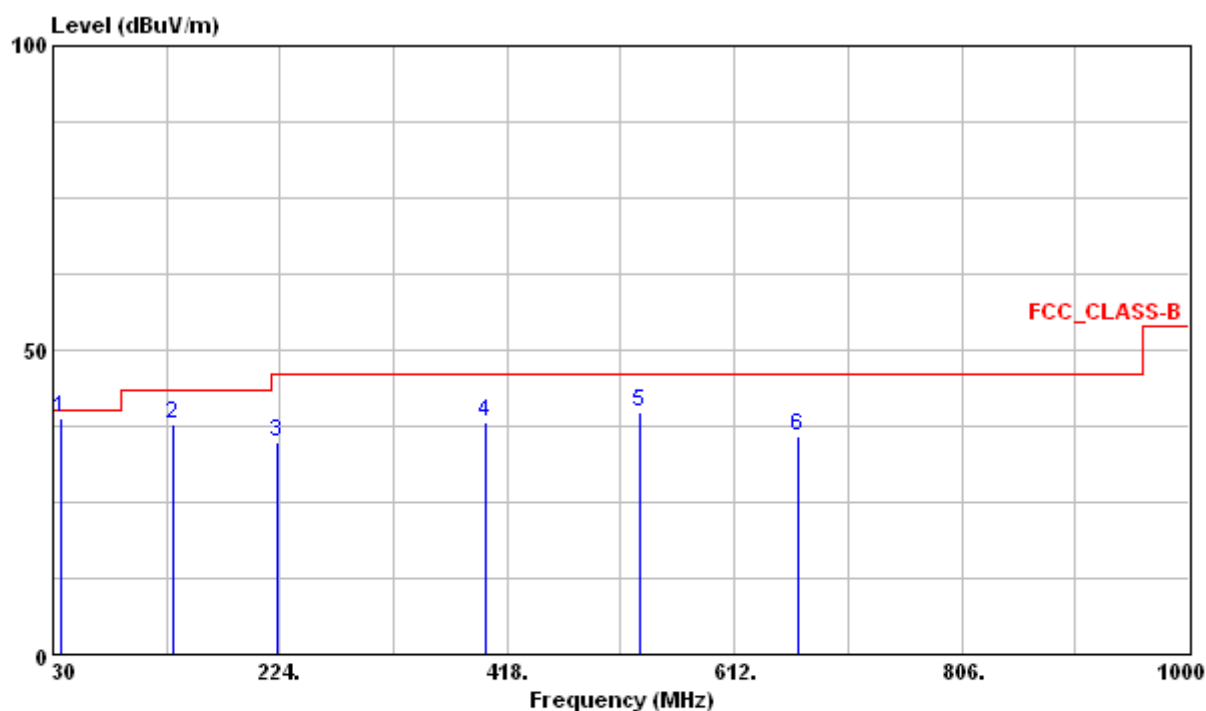
Test Mode : Continuous Transmitting, 906.358MHz

Test Distance : 3m

Tester : Jacky

Polarization : Vertical

Frequency Range : 30MHz~1000MHz



	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Ant Pos	Table Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1 @	36.868	38.80	51.43	-12.63	40.00	-1.20	101	120	VERTICAL	QP
2	133.410	37.95	57.29	-19.34	43.50	-5.55	---	---	VERTICAL	Peak
3	221.430	35.02	49.97	-14.95	46.00	-10.98	---	---	VERTICAL	Peak
4	399.400	38.15	46.99	-8.84	46.00	-7.85	---	---	VERTICAL	Peak
5	531.000	39.74	45.93	-6.19	46.00	-6.26	---	---	VERTICAL	Peak
6	666.100	36.00	40.12	-4.12	46.00	-10.00	---	---	VERTICAL	Peak

Note :

- Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Preamplifier
- Emission Level (dBuV/m) = Reading Data + Correction Factor

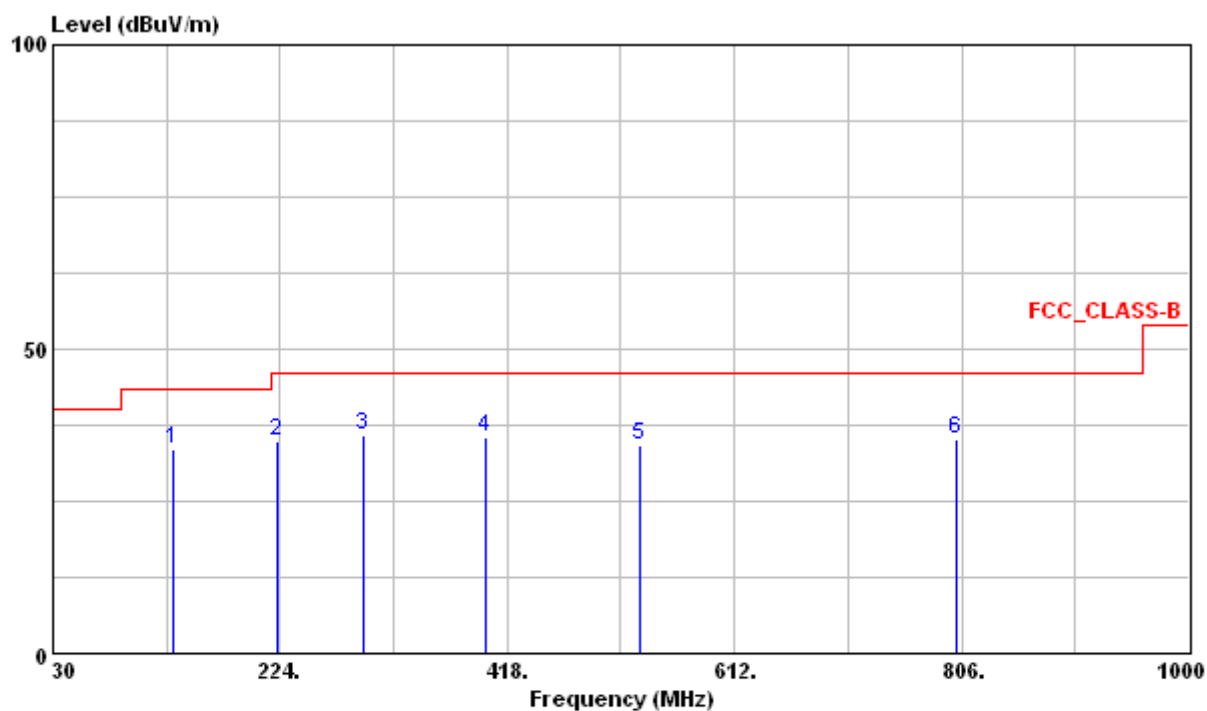
Test Mode : Continuous Transmitting, 906.358MHz

Test Distance : 3m

Tester : Jacky

Polarization : Horizontal

Frequency Range : 30MHz~1000MHz



	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Ant Pos	Table Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	132.613	33.60	53.00	-19.40	43.50	-9.90	217	121	HORIZONTAL	QP
2	221.430	34.99	49.94	-14.95	46.00	-11.01	---	---	HORIZONTAL	Peak
3	295.680	36.00	48.58	-12.58	46.00	-10.00	---	---	HORIZONTAL	Peak
4	399.400	35.50	44.34	-8.84	46.00	-10.50	---	---	HORIZONTAL	Peak
5	531.000	34.26	40.45	-6.19	46.00	-11.74	---	---	HORIZONTAL	Peak
6	801.200	35.26	37.57	-2.31	46.00	-10.74	---	---	HORIZONTAL	Peak

Note :

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Preamplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor

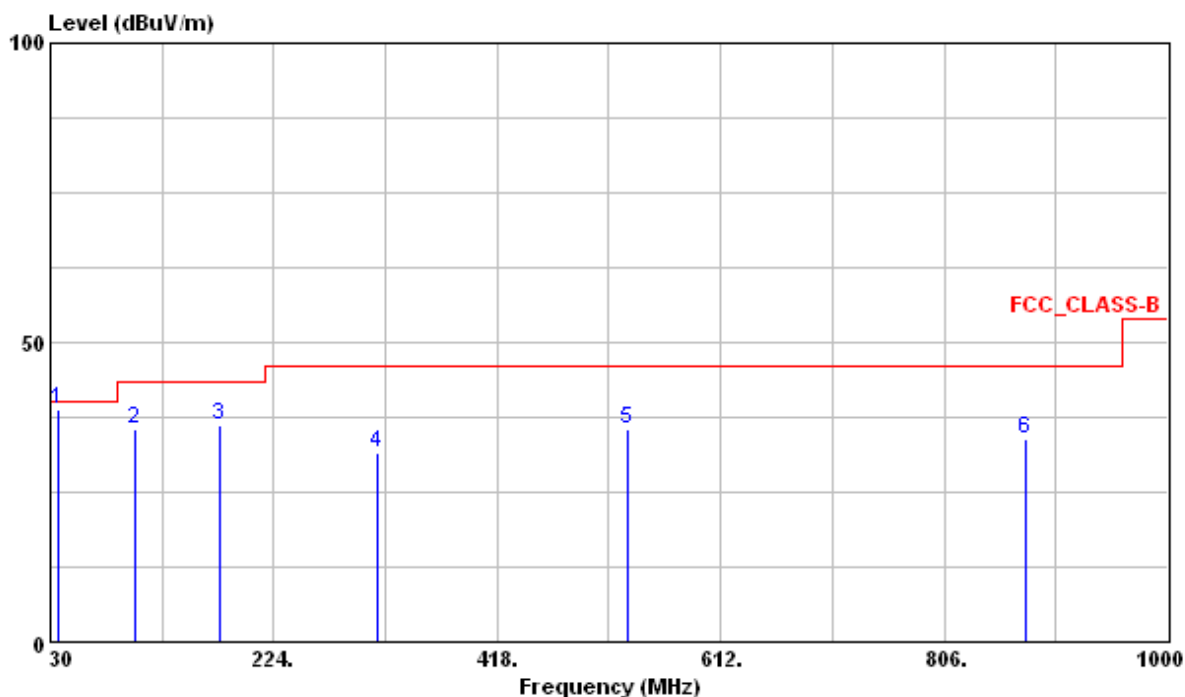
Test Mode : Continuous Transmitting, 908.18MHz

Test Distance : 3m

Tester : Jacky

Polarization : Vertical

Frequency Range : 30MHz~1000MHz

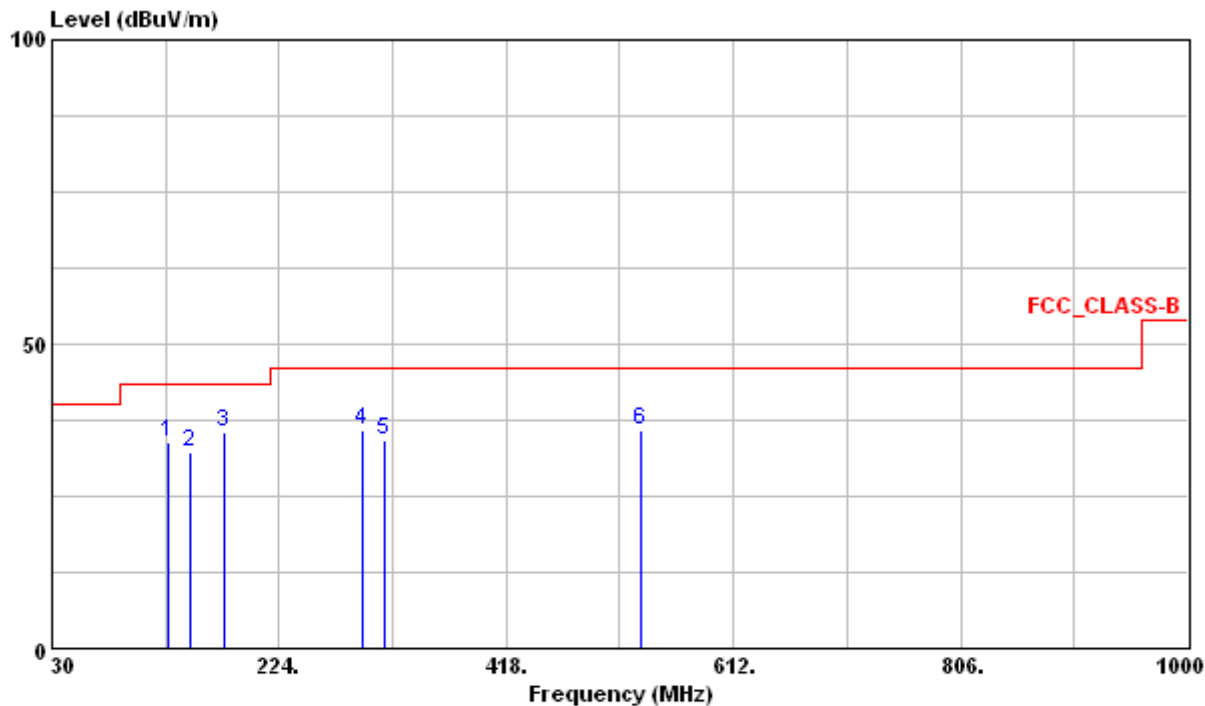


	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Ant Pos	Table Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	36.480	38.70	51.11	-12.41	40.00	-1.30	100	150	VERTICAL	QP
2	102.900	35.67	54.50	-18.83	43.50	-7.83	---	---	VERTICAL	Peak
3	177.420	36.22	51.93	-15.71	43.50	-7.28	---	---	VERTICAL	Peak
4	313.300	31.61	43.41	-11.80	46.00	-14.39	---	---	VERTICAL	Peak
5	531.000	35.68	41.87	-6.19	46.00	-10.32	---	---	VERTICAL	Peak
6	876.800	33.95	35.03	-1.08	46.00	-12.05	---	---	VERTICAL	Peak

Note :

- Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Preamplifier
- Emission Level (dBuV/m) = Reading Data + Correction Factor

Test Mode : Continuous Transmitting, 908.18MHz
Test Distance : 3m Tester : Jacky
Polarization : Horizontal Frequency Range : 30MHz~1000MHz



	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Ant Pos	Table Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	129.360	33.83	53.42	-19.59	43.50	-9.67	---	---	HORIZONTAL	Peak
2	147.450	32.24	50.22	-17.98	43.50	-11.26	---	---	HORIZONTAL	Peak
3	177.420	35.43	51.14	-15.71	43.50	-8.07	---	---	HORIZONTAL	Peak
4	295.680	35.76	48.34	-12.58	46.00	-10.24	---	---	HORIZONTAL	Peak
5	313.300	34.21	46.01	-11.80	46.00	-11.79	---	---	HORIZONTAL	Peak
6	533.100	35.72	41.85	-6.13	46.00	-10.28	---	---	HORIZONTAL	Peak

- Note :
- 1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Preamplifier
 - 2. Emission Level (dBuV/m) = Reading Data + Correction Factor

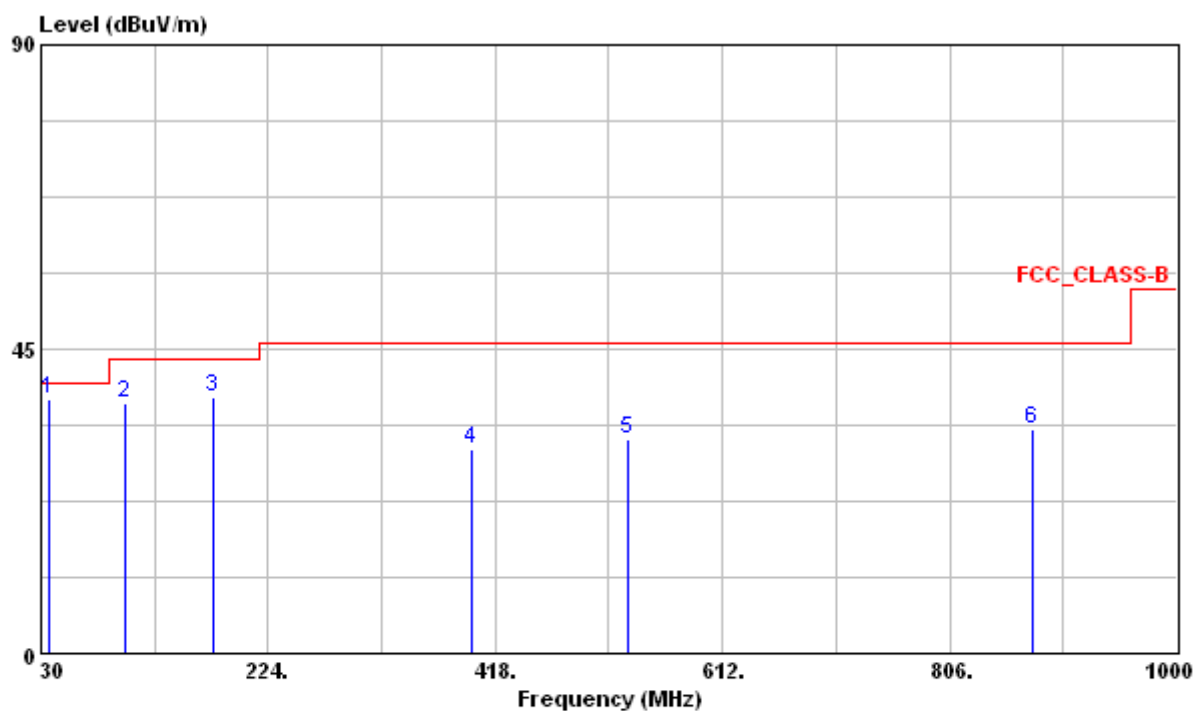
Test Mode : Continuous Receiving, 906.358MHz

Test Distance : 3m

Tester : Jacky

Polarization : Vertical

Frequency Range : 30MHz~1000MHz



	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Ant Pos	Table Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	36.480	37.71	50.12	-12.41	40.00	-2.29	100	150	VERTICAL	QP
2	101.550	37.04	55.84	-18.80	43.50	-6.46	---	---	VERTICAL	Peak
3	177.420	38.04	53.75	-15.71	43.50	-5.46	---	---	VERTICAL	Peak
4	398.000	30.24	39.13	-8.89	46.00	-15.76	---	---	VERTICAL	Peak
5	531.000	31.60	37.79	-6.19	46.00	-14.40	---	---	VERTICAL	Peak
6	876.800	33.20	34.28	-1.08	46.00	-12.80	---	---	VERTICAL	Peak

Note :

- Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Preamplifier
- Emission Level (dBuV/m) = Reading Data + Correction Factor

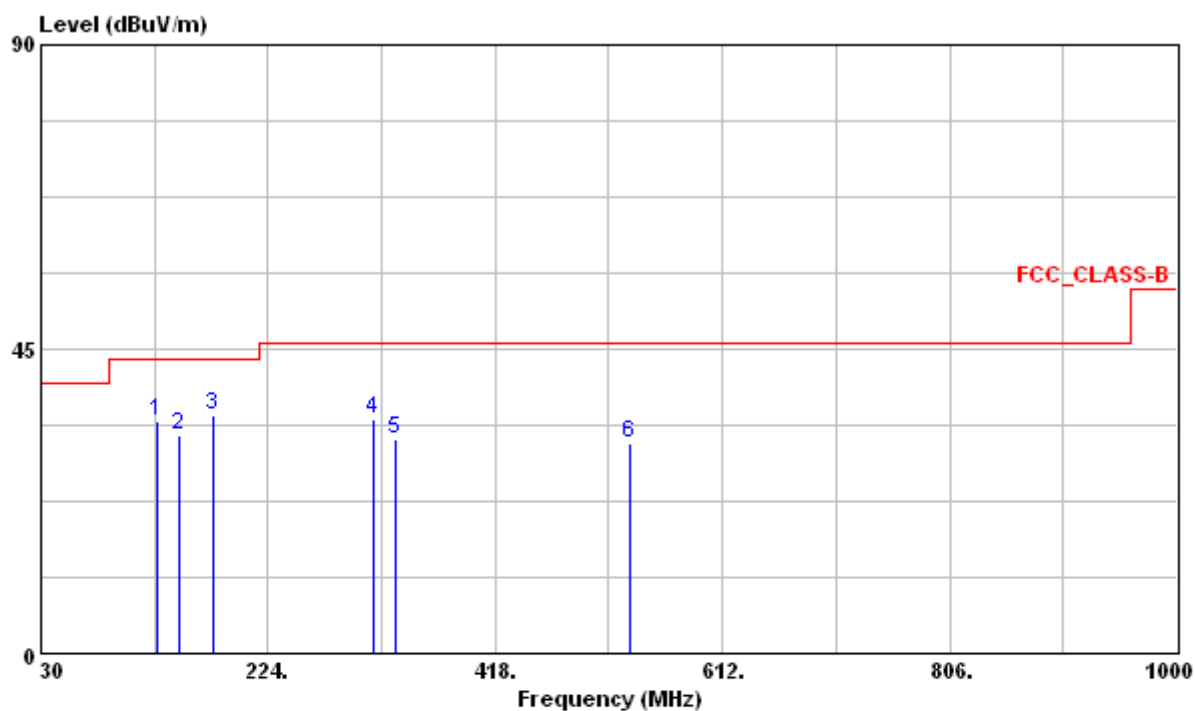
Test Mode : Continuous Receiving, 906.358MHz

Test Distance : 3m

Tester : Jacky

Polarization : Horizontal

Frequency Range : 30MHz~1000MHz



	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Ant Pos	Table Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	129.360	34.25	53.84	-19.59	43.50	-9.25	---	---	HORIZONTAL	Peak
2	147.450	32.40	50.38	-17.98	43.50	-11.10	---	---	HORIZONTAL	Peak
3	177.420	35.35	51.06	-15.71	43.50	-8.15	---	---	HORIZONTAL	Peak
4	313.300	34.61	46.41	-11.80	46.00	-11.39	---	---	HORIZONTAL	Peak
5	332.900	31.58	42.64	-11.06	46.00	-14.42	---	---	HORIZONTAL	Peak
6	533.100	31.22	37.35	-6.13	46.00	-14.78	---	---	HORIZONTAL	Peak

Note :

- Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Preamplifier
- Emission Level (dBuV/m) = Reading Data + Correction Factor

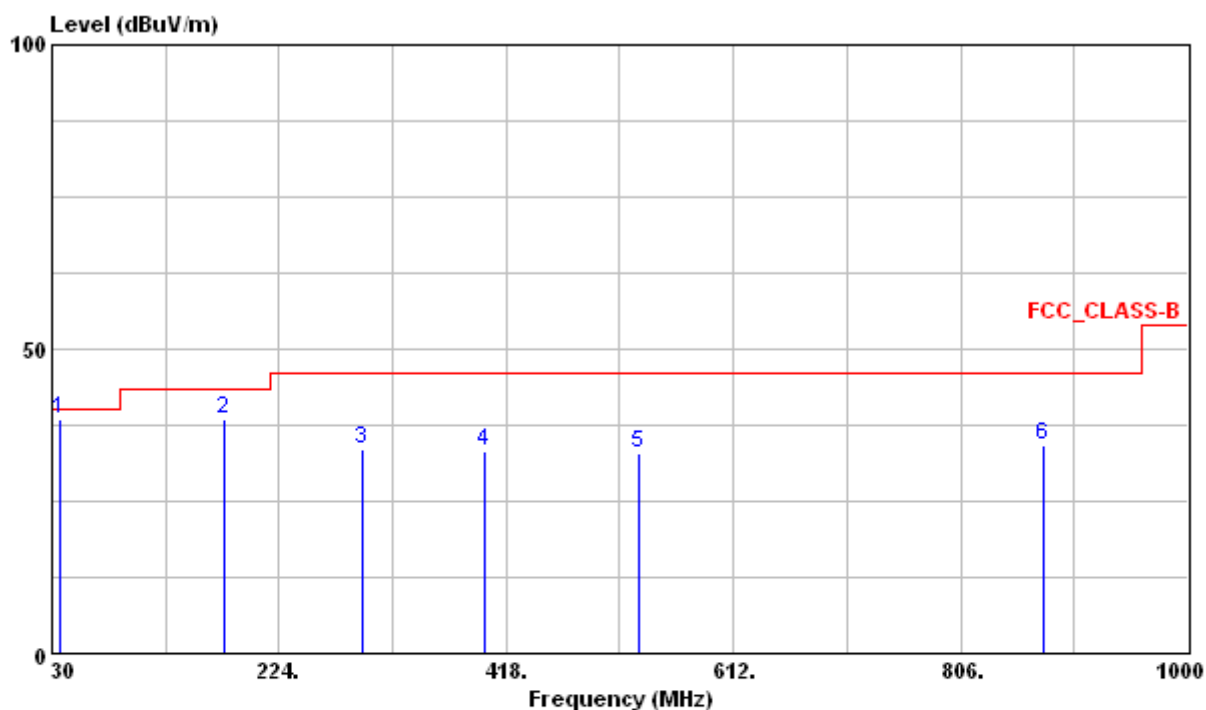
Test Mode : Continuous Receiving, 908.18MHz

Test Distance : 3m

Tester : Jacky

Polarization : Vertical

Frequency Range : 30MHz~1000MHz



	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Ant Pos	Table Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	36.480	38.54	50.95	-12.41	40.00	-1.46	100	116	VERTICAL	QP
2	177.420	38.44	54.15	-15.71	43.50	-5.06	---	---	VERTICAL	Peak
3	295.680	33.39	45.97	-12.58	46.00	-12.61	---	---	VERTICAL	Peak
4	399.400	33.34	42.18	-8.84	46.00	-12.66	---	---	VERTICAL	Peak
5	531.000	32.74	38.93	-6.19	46.00	-13.26	---	---	VERTICAL	Peak
6	876.800	34.11	35.19	-1.08	46.00	-11.89	---	---	VERTICAL	Peak

Note :

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Preamplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor

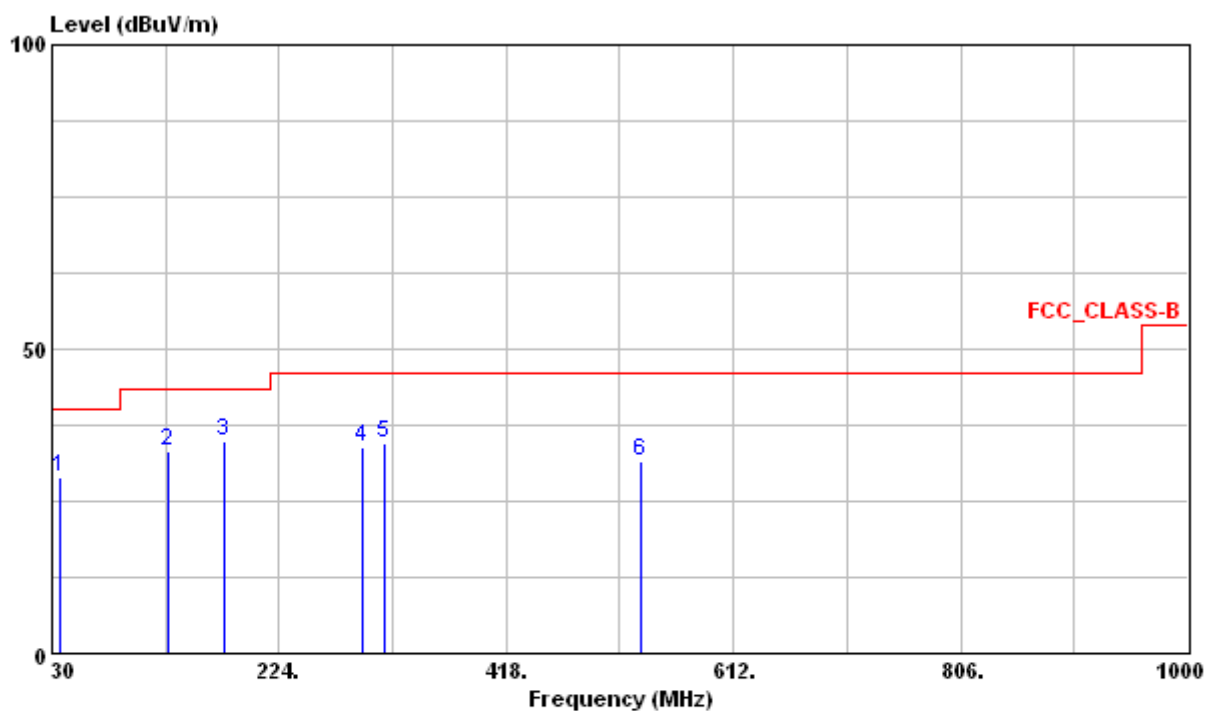
Test Mode : Continuous Receiving, 908.18MHz

Test Distance : 3m

Tester : Jacky

Polarization : Horizontal

Frequency Range : 30MHz~1000MHz



	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Ant Pos	Table Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	36.480	29.02	41.43	-12.41	40.00	-10.98	---	---	HORIZONTAL	Peak
2	129.360	33.19	52.78	-19.59	43.50	-10.31	---	---	HORIZONTAL	Peak
3	177.420	34.82	50.53	-15.71	43.50	-8.68	---	---	HORIZONTAL	Peak
4	295.680	33.72	46.30	-12.58	46.00	-12.28	---	---	HORIZONTAL	Peak
5	313.300	34.64	46.44	-11.80	46.00	-11.36	---	---	HORIZONTAL	Peak
6	533.100	31.43	37.56	-6.13	46.00	-14.57	---	---	HORIZONTAL	Peak

Note :

1. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Preamplifier
2. Emission Level (dBuV/m) = Reading Data + Correction Factor

Radiated Emission Measurement above 1000MHz

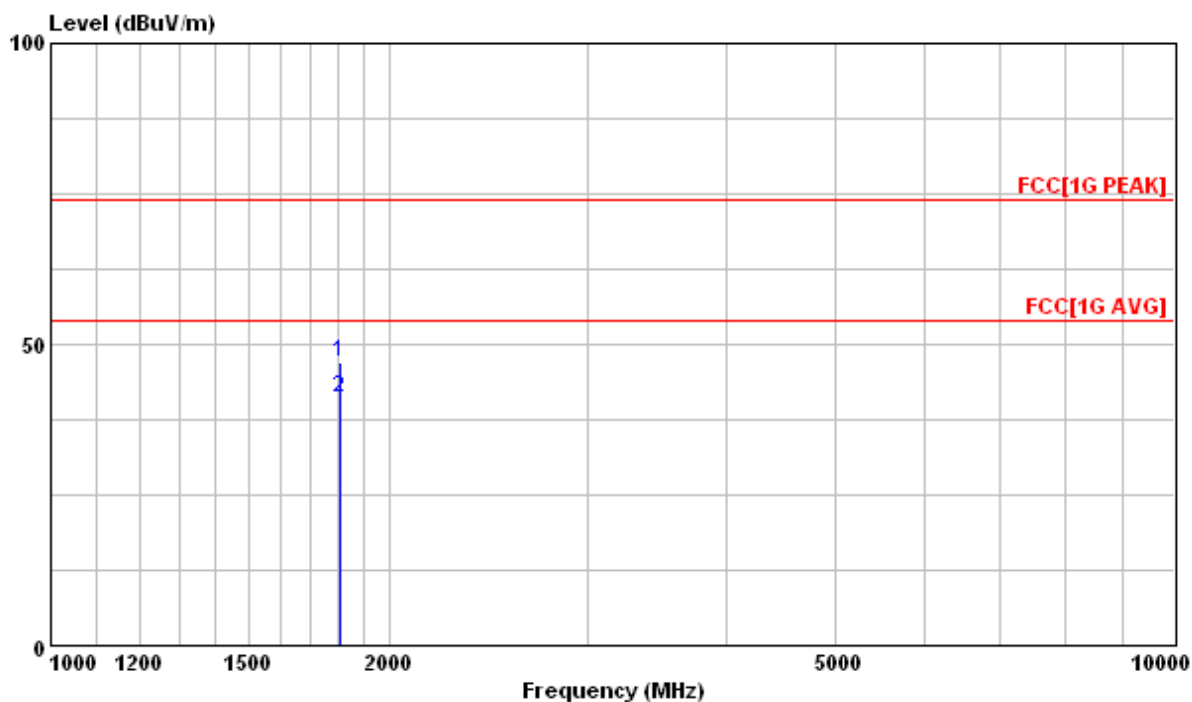
Test Mode : Continuous Transmitting, 906.358MHz

Test Distance : 3m

Tester : Jacky

Antenna Polarization : Vertical

Frequency Range :1GHz~10GHz



	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Ant Pos	Table Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	1812.738	47.03	77.10	-30.07	74.00	-26.97	133	33	VERTICAL	Peak
2	1812.738	40.97	71.04	-30.07	54.00	-13.03	133	33	VERTICAL	Average

Note:

1. Emission Level (dBUV/m) = Reading Value + Correction Factor.
2. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Preamplifier.
3. PK. and AV. are abbreviation of peak and average respectively.

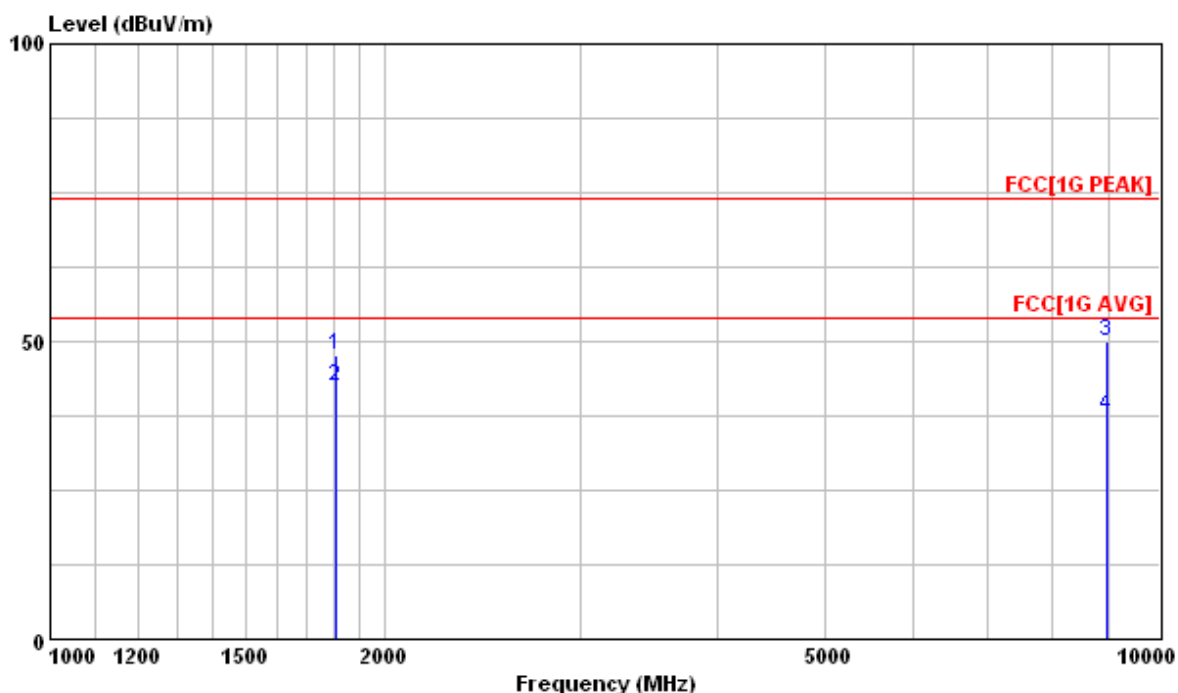
Test Mode : Continuous Transmitting, 906.358MHz

Test Distance : 3m

Tester : Jacky

Antenna Polarization : Horizontal

Frequency Range :1GHz~10GHz



	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Ant Pos	Table Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	1812.825	47.64	77.70	-30.06	74.00	-26.36	272	270	HORIZONTAL	Peak
2	1812.825	42.39	72.45	-30.06	54.00	-11.61	272	270	HORIZONTAL	Average
3	8973.750	50.04	64.93	-14.89	74.00	-23.96	135	204	HORIZONTAL	Peak
4	8973.750	37.48	52.37	-14.89	54.00	-16.52	135	204	HORIZONTAL	Average

Note:

1. Emission Level (dBuV/m) = Reading Value + Correction Factor.
2. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Preamplifier.
3. PK. and AV. are abbreviation of peak and average respectively.

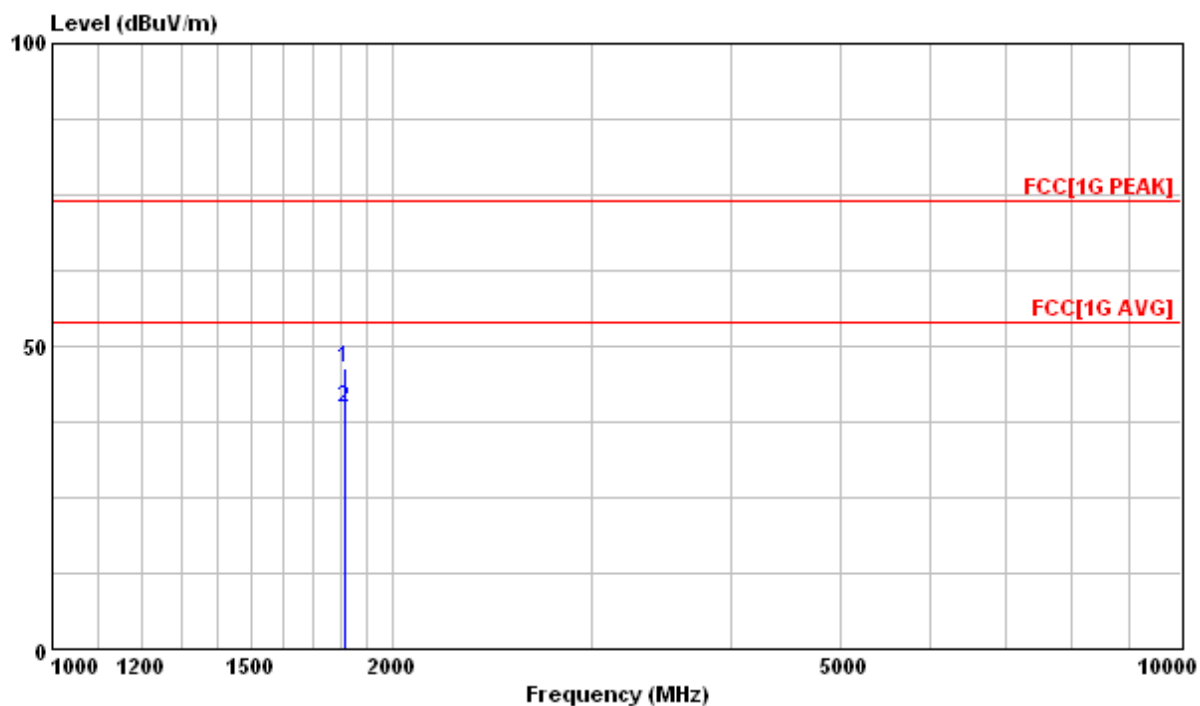
Test Mode : Continuous Transmitting, 908.18MHz

Test Distance : 3m

Tester : Jacky

Antenna Polarization : Vertical

Frequency Range :1GHz~10GHz



	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Ant Pos	Table Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	1816.387	46.45	76.49	-30.04	74.00	-27.55	144	284	VERTICAL	Peak
2	1816.387	39.82	69.86	-30.04	54.00	-14.18	144	284	VERTICAL	Average

Note:

1. Emission Level (dBuV/m) = Reading Value + Correction Factor.
2. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Preamplifier.
3. PK. and AV. are abbreviation of peak and average respectively.

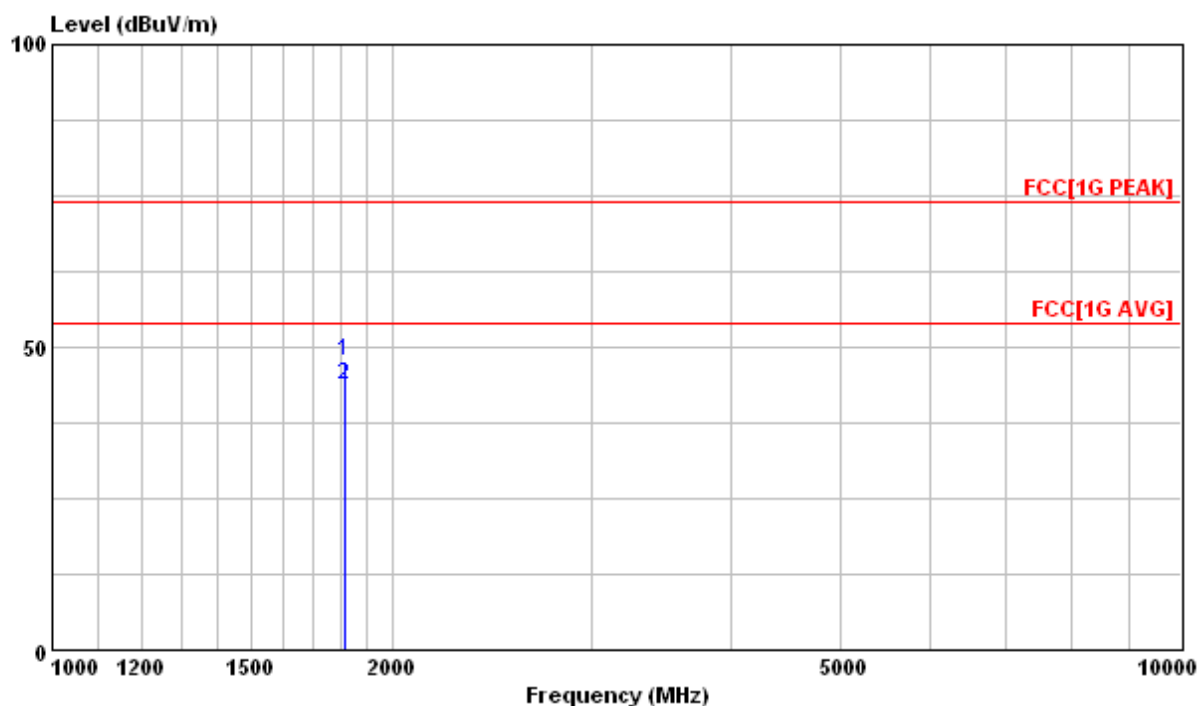
Test Mode : Continuous Transmitting, 908.18MHz

Test Distance : 3m

Tester : Jacky

Antenna Polarization : Horizontal

Frequency Range :1GHz~10GHz



	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Ant Pos	Table Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	1816.175	47.86	77.90	-30.04	74.00	-26.14	119	261	HORIZONTAL	Peak
2 @	1816.175	43.62	73.66	-30.04	54.00	-10.38	119	261	HORIZONTAL	Average

Note:

1. Emission Level (dBuV/m) = Reading Value + Correction Factor.
2. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Preamplifier.
3. PK. and AV. are abbreviation of peak and average respectively.

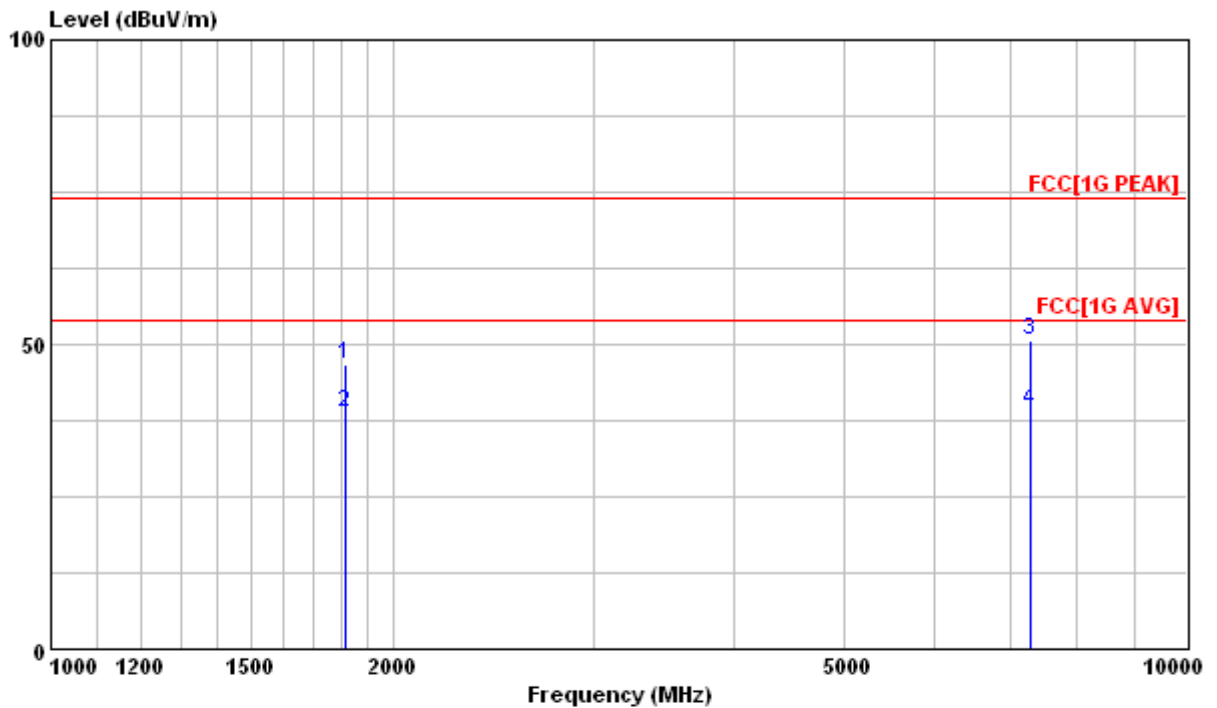
Test Mode : Continuous Receiving, 906.358MHz

Test Distance : 3m

Tester : Jacky

Antenna Polarization : Vertical

Frequency Range :1GHz~10GHz



	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Ant Pos	Table Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	1815.813	46.74	76.78	-30.04	74.00	-27.26	123	141	VERTICAL	Peak
2	1815.813	38.76	68.80	-30.04	54.00	-15.24	123	141	VERTICAL	Average
3	7276.000	50.72	69.92	-19.20	74.00	-23.28	108	0	VERTICAL	Peak
4	7276.000	39.01	58.21	-19.20	54.00	-14.99	108	0	VERTICAL	Average

Note:

1. Emission Level (dBuV/m) = Reading Value + Correction Factor.
2. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Preamplifier.
3. PK. and AV. are abbreviation of peak and average respectively.

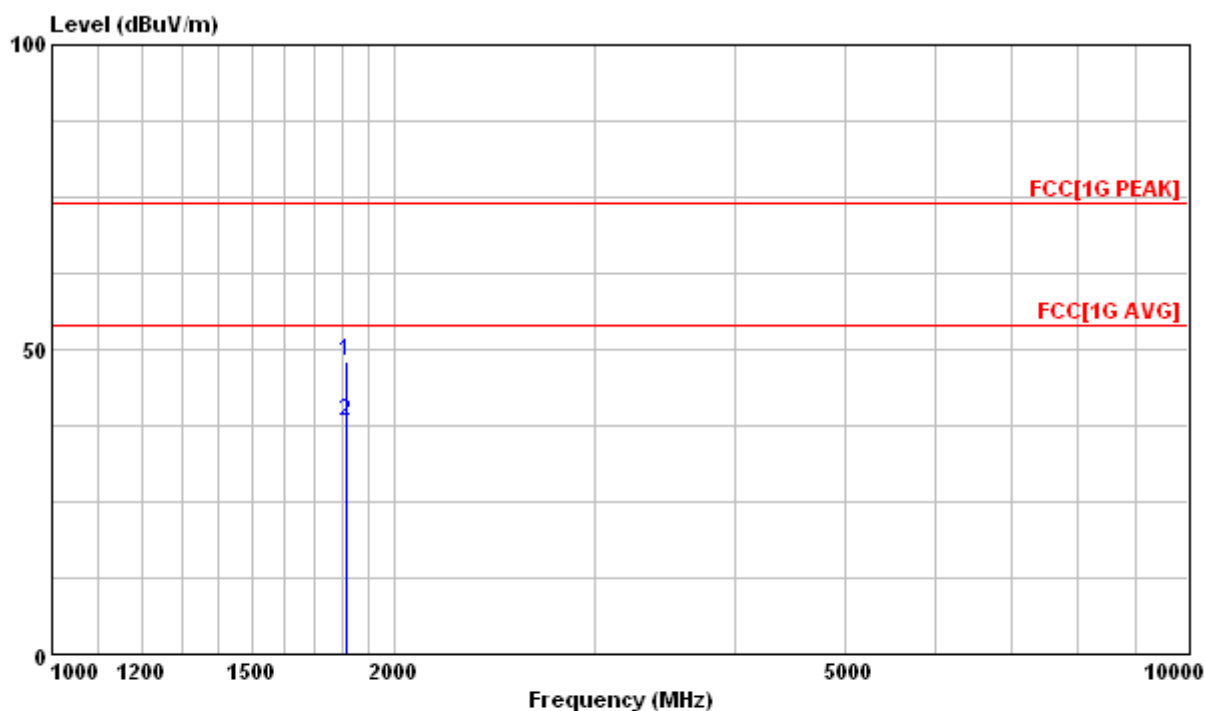
Test Mode : Continuous Receiving, 906.358MHz

Test Distance : 3m

Tester : Jacky

Antenna Polarization : Horizontal

Frequency Range :1GHz~10GHz



	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Ant Pos	Table Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	1815.887	48.00	78.04	-30.04	74.00	-26.00	114	94	HORIZONTAL	Peak
2	1815.887	38.20	68.24	-30.04	54.00	-15.80	114	94	HORIZONTAL	Average

Note:

1. Emission Level (dBuV/m) = Reading Value + Correction Factor.
2. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Preamplifier.
3. PK. and AV. are abbreviation of peak and average respectively.

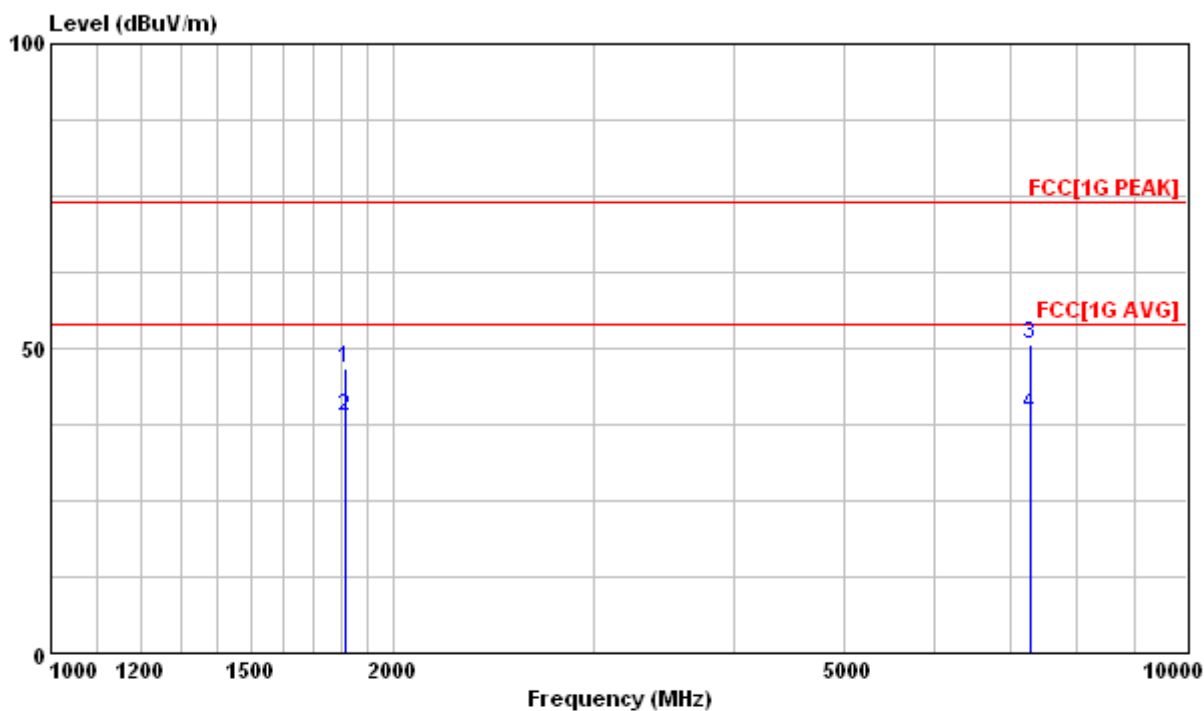
Test Mode : Continuous Receiving, 908.18MHz

Test Distance : 3m

Tester : Jacky

Antenna Polarization : Vertical

Frequency Range :1GHz~10GHz



	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Ant Pos	Table Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	1815.813	46.74	76.78	-30.04	74.00	-27.26	123	141	VERTICAL	Peak
2	1815.813	38.76	68.80	-30.04	54.00	-15.24	123	141	VERTICAL	Average
3	7276.000	50.72	69.92	-19.20	74.00	-23.28	108	0	VERTICAL	Peak
4	7276.000	39.01	58.21	-19.20	54.00	-14.99	108	0	VERTICAL	Average

Note:

1. Emission Level (dBuV/m) = Reading Value + Correction Factor.
2. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Preamplifier.
3. PK. and AV. are abbreviation of peak and average respectively.

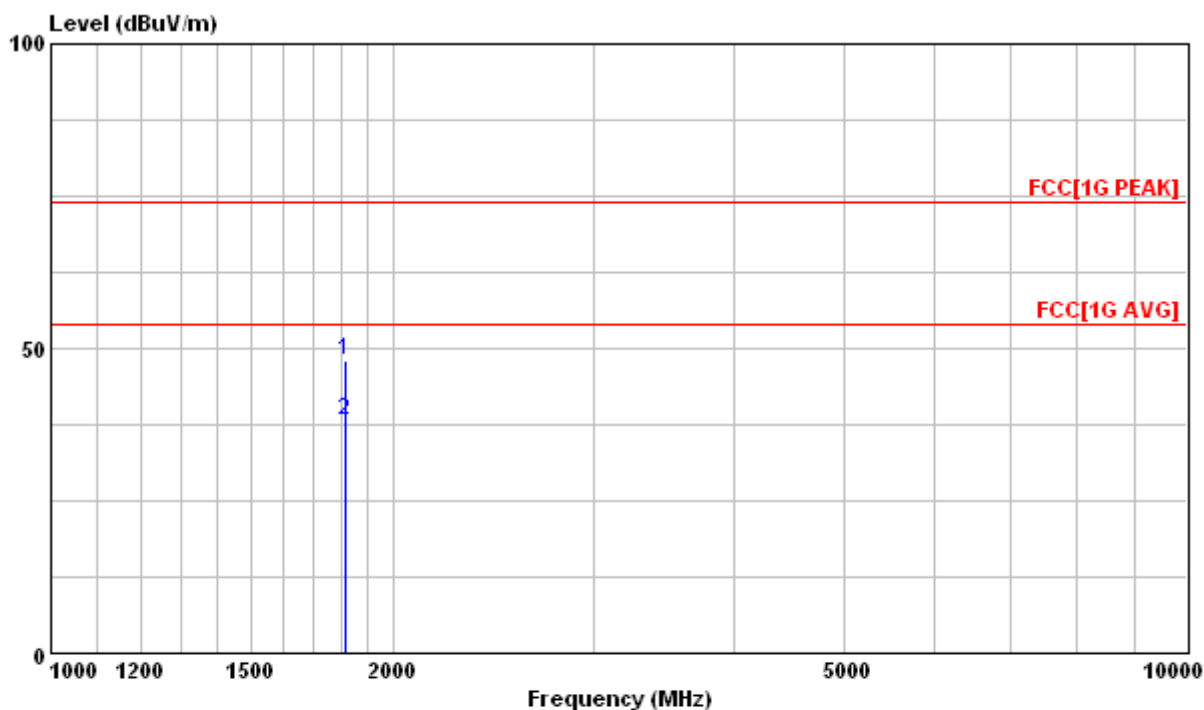
Test Mode : Continuous Receiving, 908.18MHz

Test Distance : 3m

Tester : Jacky

Antenna Polarization : Horizontal

Frequency Range :1GHz~10GHz



	Freq	Level	Read Level	Factor	Limit Line	Over Limit	Ant Pos	Table Pos	Pol/Phase	Remark
	MHz	dBuV/m	dBuV	dB/m	dBuV/m	dB	cm	deg		
1	1815.887	48.00	78.04	-30.04	74.00	-26.00	114	94	HORIZONTAL	Peak
2	1815.887	38.20	68.24	-30.04	54.00	-15.80	114	94	HORIZONTAL	Average

Note:

1. Emission Level (dBuV/m) = Reading Value + Correction Factor.
2. Correction Factor (dB/m) = Cable Loss + Antenna Factor – Gain of Preamplifier.
3. PK. and AV. are abbreviation of peak and average respectively.

4 Conducted Emission Measurement

Test Result: Pass

4.1 Limits for Emission Measurement

For intentional device, according to §15.207(a) line conduction emission limit is as below table.

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 – 0.5	66 to 56*	56 to 46*
0.5 - 5	56	46
5 - 30	60	50

* Decreases with the logarithm of the frequency.

4.2 Test Instruments

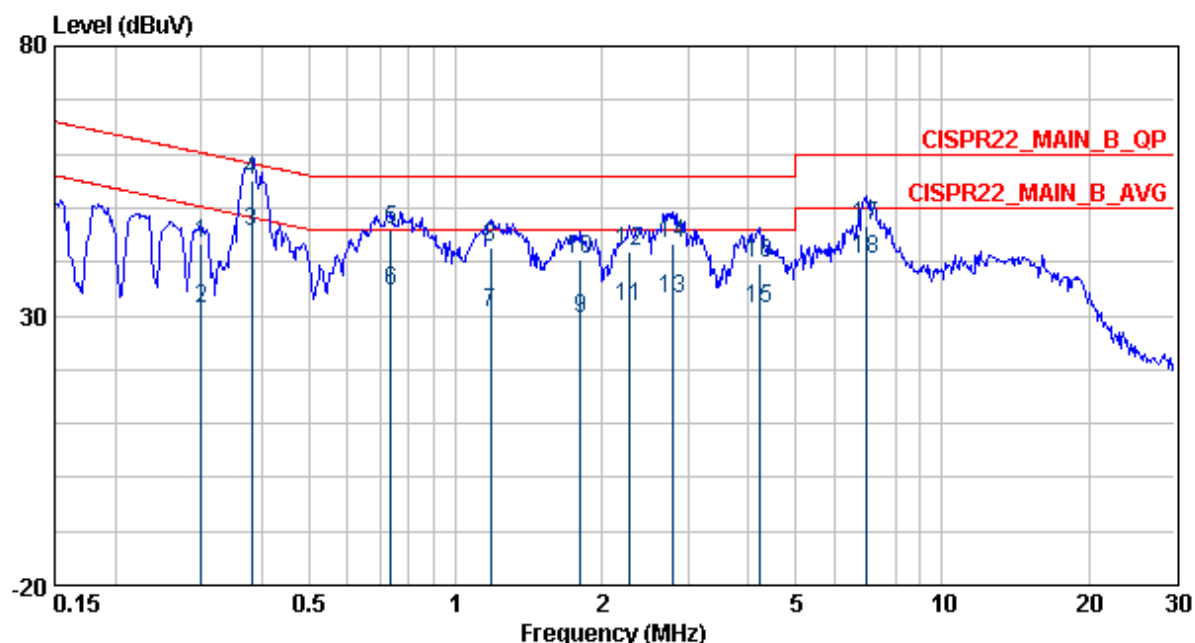
Test Site and Equipment	Manufacturer	Model No./ Serial No.	Last Calibration Date	Calibration Due Date
Test Receiver	R&S	ESCS 30/ 836858/021	Jan. 13, 2009	Jan. 13, 2010
LISN	R&S	ESH2-Z5/ 836613/001	Aug. 13, 2008	Aug. 13, 2009
2 nd LISN	R&S	ENV4200/ 833209/010	Jan. 13, 2008	Jan. 13, 2009
50Ω terminator	N/A	N/A/ 001	Aug. 26, 2008	Aug. 26, 2009
RF Switch	N/A	RSU28/ 338965/002	Sept. 2, 2008	March 2, 2009
RF Cable	N/A	N/A/ C0052 ~ 56	Sept. 2, 2008	March 2, 2009
Test Software	Audix	e3/ Ver. 5.2004-2-19j	NCR	NCR
TR5 shielded room	ETS LINDGREN	TR5/ 15353-F	NCR	NCR

Note:

1. The calibrations are traceable to NML/ROC.
2. NCR : No Calibration Required.

4.3 Test Data

Test Mode : Continuous Transmitting, 906.358MHz
 Tester : CDC Frequency Range : 150kHz~30MHz
 Phase : Line

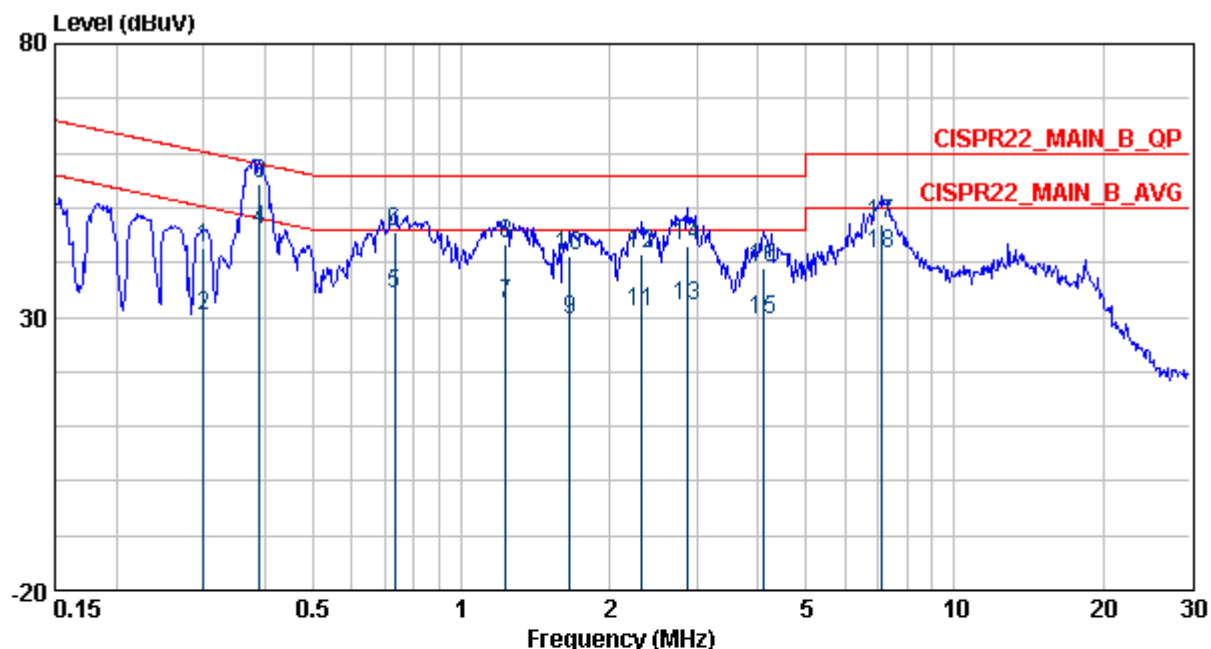


	Freq	Level	Factor	Read Level	Limit Line	Over Limit	Ant Pos	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	cm		
1	0.30	43.49	0.16	43.33	60.24	-16.75	---	LINE	QP
2	0.30	31.29	0.16	31.13	50.24	-18.95	---	LINE	AVERAGE
3	0.38	45.55	0.15	45.40	48.27	-2.71	---	LINE	AVERAGE
4	0.38	55.04	0.15	54.89	58.27	-3.22	---	LINE	QP
5	0.74	45.97	0.18	45.79	56.00	-10.03	---	LINE	QP
6	0.74	34.75	0.18	34.57	46.00	-11.25	---	LINE	AVERAGE
7	1.18	30.47	0.21	30.26	46.00	-15.53	---	LINE	AVERAGE
8	1.18	42.69	0.21	42.48	56.00	-13.31	---	LINE	QP
9	1.81	29.29	0.23	29.06	46.00	-16.71	---	LINE	AVERAGE
10	1.81	40.56	0.23	40.33	56.00	-15.44	---	LINE	QP
11	2.28	31.57	0.26	31.31	46.00	-14.43	---	LINE	AVERAGE
12	2.28	41.94	0.26	41.68	56.00	-14.06	---	LINE	QP
13	2.79	33.18	0.30	32.88	46.00	-12.82	---	LINE	AVERAGE
14	2.79	43.46	0.30	43.16	56.00	-12.54	---	LINE	QP
15	4.22	31.12	0.39	30.73	46.00	-14.88	---	LINE	AVERAGE
16	4.22	39.86	0.39	39.47	56.00	-16.14	---	LINE	QP
17	6.99	46.53	0.53	46.00	60.00	-13.47	---	LINE	QP
18	6.99	40.49	0.53	39.96	50.00	-9.51	---	LINE	AVERAGE

Note:

1. Emission Level = reading value + correction factor.
2. Correction factor = cable loss + insertion loss of LISN.
3. Q.P. is abbreviation of quasi-peak.

Test Mode : Continuous Transmitting, 906.358MHz
Tester : CDC **Frequency Range** : 150kHz~30MHz
Phase : Neutral

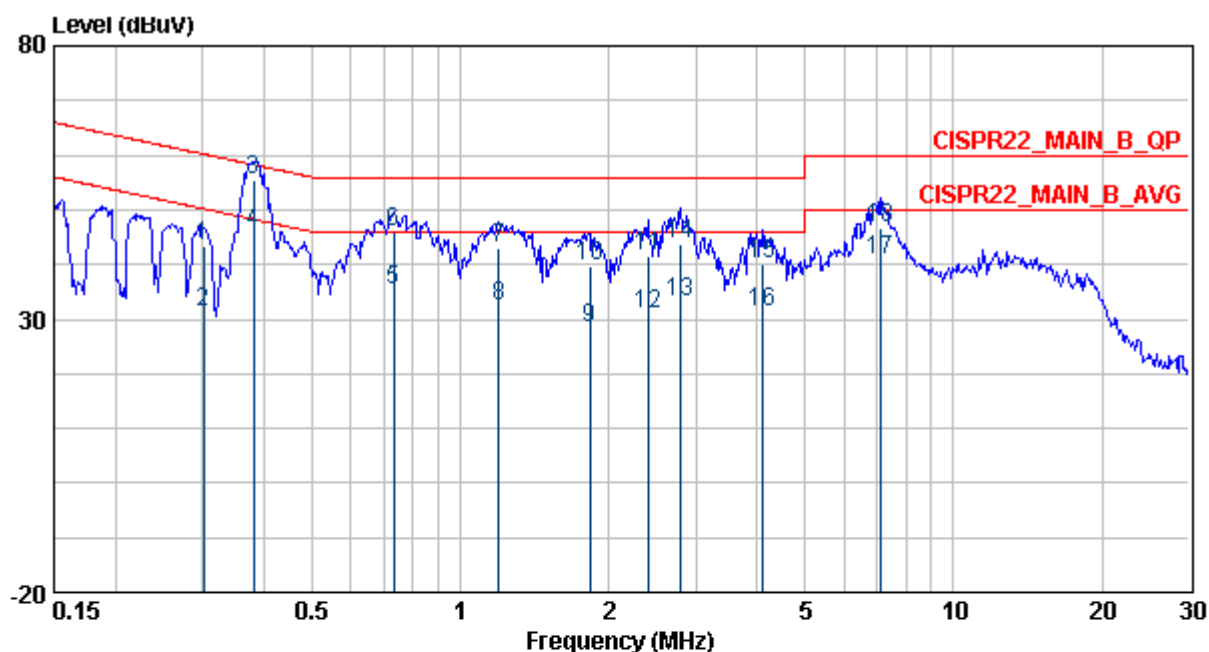


	Freq	Level	Factor	Read Level	Limit Line	Over Limit	Ant Pos	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	cm		
1	0.30	42.64	0.17	42.47	60.23	-17.60	---	NEUTRAL	QP
2	0.30	30.20	0.17	30.03	50.23	-20.04	---	NEUTRAL	AVERAGE
3	0.39	54.54	0.16	54.38	58.08	-3.54	---	NEUTRAL	QP
4 @	0.39	46.06	0.16	45.90	48.08	-2.02	---	NEUTRAL	AVERAGE
5	0.73	34.36	0.19	34.17	46.00	-11.64	---	NEUTRAL	AVERAGE
6	0.73	45.49	0.19	45.30	56.00	-10.51	---	NEUTRAL	QP
7	1.23	32.41	0.22	32.19	46.00	-13.59	---	NEUTRAL	AVERAGE
8	1.23	43.23	0.22	43.01	56.00	-12.77	---	NEUTRAL	QP
9	1.66	29.51	0.24	29.27	46.00	-16.49	---	NEUTRAL	AVERAGE
10	1.66	41.04	0.24	40.80	56.00	-14.96	---	NEUTRAL	QP
11	2.32	30.94	0.28	30.66	46.00	-15.06	---	NEUTRAL	AVERAGE
12	2.32	41.46	0.28	41.18	56.00	-14.54	---	NEUTRAL	QP
13	2.88	32.12	0.33	31.79	46.00	-13.88	---	NEUTRAL	AVERAGE
14	2.88	42.94	0.33	42.61	56.00	-13.06	---	NEUTRAL	QP
15	4.09	29.47	0.41	29.06	46.00	-16.53	---	NEUTRAL	AVERAGE
16	4.09	38.91	0.41	38.50	56.00	-17.09	---	NEUTRAL	QP
17	7.14	47.13	0.59	46.54	60.00	-12.87	---	NEUTRAL	QP
18	7.14	41.36	0.59	40.77	50.00	-8.64	---	NEUTRAL	AVERAGE

Note:

1. Emission Level = reading value + correction factor.
2. Correction factor = cable loss + insertion loss of LISN.
3. Q.P. is abbreviation of quasi-peak.

Test Mode : Continuous Receiving, 906.358MHz
Tester : CDC **Frequency Range** : 150kHz~30MHz
Phase : Line

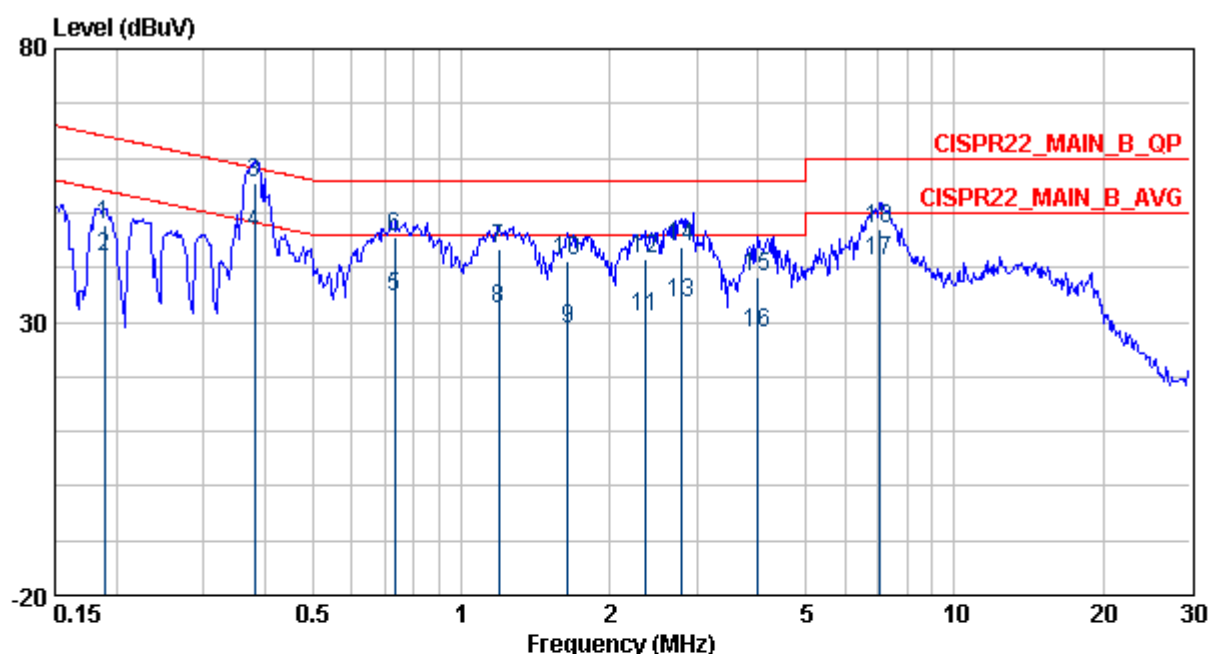


	Freq	Level	Factor	Read Level	Limit Line	Over Limit	Ant Pos	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	cm		
1	0.30	43.45	0.16	43.29	60.19	-16.74	---	LINE	QP
2	0.30	31.39	0.16	31.23	50.19	-18.80	---	LINE	AVERAGE
3	0.38	55.54	0.15	55.39	58.25	-2.71	---	LINE	QP
4 @	0.38	46.10	0.15	45.95	48.25	-2.15	---	LINE	AVERAGE
5	0.73	35.21	0.18	35.03	46.00	-10.79	---	LINE	AVERAGE
6	0.73	45.92	0.18	45.74	56.00	-10.08	---	LINE	QP
7	1.20	43.18	0.21	42.97	56.00	-12.82	---	LINE	QP
8	1.20	32.24	0.21	32.03	46.00	-13.76	---	LINE	AVERAGE
9	1.83	28.53	0.23	28.30	46.00	-17.47	---	LINE	AVERAGE
10	1.83	39.83	0.23	39.60	56.00	-16.17	---	LINE	QP
11	2.40	41.48	0.27	41.21	56.00	-14.52	---	LINE	QP
12	2.40	30.74	0.27	30.47	46.00	-15.26	---	LINE	AVERAGE
13	2.79	33.18	0.30	32.88	46.00	-12.82	---	LINE	AVERAGE
14	2.79	43.73	0.30	43.43	56.00	-12.27	---	LINE	QP
15	4.11	40.25	0.38	39.87	56.00	-15.75	---	LINE	QP
16	4.11	31.45	0.38	31.07	46.00	-14.55	---	LINE	AVERAGE
17	7.10	40.77	0.53	40.24	50.00	-9.23	---	LINE	AVERAGE
18	7.10	46.68	0.53	46.15	60.00	-13.32	---	LINE	QP

Note:

1. Emission Level = reading value + correction factor.
2. Correction factor = cable loss + insertion loss of LISN.
3. Q.P. is abbreviation of quasi-peak.

Test Mode : Continuous Receiving, 906.358MHz
Tester : CDC **Frequency Range** : 150kHz~30MHz
Phase : Neutral



	Freq	Level	Factor	Read Level	Limit Line	Over Limit	Ant Pos	Pol/Phase	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	cm		
1	0.19	47.86	0.16	47.70	64.08	-16.23	---	NEUTRAL	QP
2	0.19	41.78	0.16	41.62	54.08	-12.31	---	NEUTRAL	AVERAGE
3	0.38	55.47	0.16	55.31	58.25	-2.78	---	NEUTRAL	QP
4 @	0.38	46.23	0.16	46.07	48.25	-2.02	---	NEUTRAL	AVERAGE
5	0.73	34.60	0.19	34.41	46.00	-11.40	---	NEUTRAL	AVERAGE
6	0.73	45.49	0.19	45.30	56.00	-10.51	---	NEUTRAL	QP
7	1.19	43.46	0.22	43.24	56.00	-12.54	---	NEUTRAL	QP
8	1.19	32.39	0.22	32.17	46.00	-13.61	---	NEUTRAL	AVERAGE
9	1.64	28.77	0.24	28.53	46.00	-17.23	---	NEUTRAL	AVERAGE
10	1.64	41.14	0.24	40.90	56.00	-14.86	---	NEUTRAL	QP
11	2.36	31.03	0.28	30.75	46.00	-14.97	---	NEUTRAL	AVERAGE
12	2.36	41.49	0.28	41.21	56.00	-14.51	---	NEUTRAL	QP
13	2.79	33.38	0.32	33.06	46.00	-12.62	---	NEUTRAL	AVERAGE
14	2.79	43.79	0.32	43.47	56.00	-12.21	---	NEUTRAL	QP
15	3.99	38.22	0.40	37.82	56.00	-17.78	---	NEUTRAL	QP
16	3.99	27.98	0.40	27.58	46.00	-18.02	---	NEUTRAL	AVERAGE
17	7.02	41.25	0.59	40.66	50.00	-8.75	---	NEUTRAL	AVERAGE
18	7.02	47.18	0.59	46.59	60.00	-12.82	---	NEUTRAL	QP

Note:

1. Emission Level = reading value + correction factor.
2. Correction factor = cable loss + insertion loss of LISN.
3. Q.P. is abbreviation of quasi-peak.