FCC RADIO TEST REPORT

Applicant	:	COMTREND CORPORATION
Address	:	3F-1, 10 Lane 609, Chongxin Rd., Section 5, Sanchong Dist, New Taipei City 241405, Taiwan
Equipment	:	Home Gateway
Model No.	:	VR-3071v2、VR-3073u、PRT-6301v2、WR-2411u
Trade Name	:	COMTREND
FCC ID	:	L9VVR3071V2

I HEREBY CERTIFY THAT :

The sample was received on Nov. 23, 2022 and the testing was completed on Apr. 21, 2023 at Cerpass Technology Corp. The test result refers exclusively to the test presented test model / sample. Without written approval of Cerpass Technology Corp., the test report shall not be reproduced except in full.

Approved by:

Mark Liao / Supervisor

Laboratory Accreditation:

Cerpass Technology Corporation Test Laboratory

Contents

History of this test report

Report No.	Issued Date	Description
22110068-TRFCC01	Apr. 21, 2023	Original

1. Summary of Test Procedure and Test Results

1.1 Applicable Standards

ANSI C63.10:2013

FCC Rules and Regulations Part 15 Subpart C §15.247

FCC Rule	. Description of Test	Result
15.203	. Antenna Requirement	PASS
15.207	. AC Power Line Conducted Emission	PASS
15.209 15.205	. Radiated Spurious Emission	PASS
15.247(d)	. Conducted Spurious Emission	PASS
15.247(a)(2)	. 6dB Bandwidth	PASS
15.247(b)	. Output Power	PASS
15.247(e)	. Power Spectral Density	PASS
2.1091	. Radio Frequency Exposure	PASS

*The lab has reduced the uncertainty risk factor from test equipment, environment and staff technicians which according to the standard on contract. Therefore, the test result will only be determined by standard requirement.

*This EUT has been also tested and compiled with the requirement of FCC Part 15, Subpart B, recorded in a separate test report(22110068-TEFV01).

2. Test Configuration of Equipment under Test

2.1 Feature of Equipment under Test

Operation Frequency Range	802.11b/g/n/(Turbo QAM)/ax: 2400-2483.5MHz 802.11a/n/ac/ax: 5150-5250MHz, 5250-5350MHz, 5470-5725MHz, 5725-5850MHz
Center Frequency Range	802.11b/g/n/(Turbo QAM)/ax: 2412MHz~2462MHz 802.11a/n/ac/ax: 5180-5240MHz, 5260-5320MHz, 5500-5720MHz, 5745-5825MHz
Modulation Type	WLAN: 2.4GHz: 802.11b: CCK, DQPSK, DBPSK 802.11g/n: BPSK, QPSK, 16QAM, 64QAM, 256QAM(TurboQAM) 802.11ax: BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM 5GHz: 802.11n/a: BPSK, QPSK, 16QAM, 64QAM 802.11ac: BPSK, QPSK, 16QAM, 64QAM, 256QAM 802.11ax: BPSK, QPSK, 16QAM, 64QAM, 256QAM, 1024QAM
Modulation Technology	DSSS, OFDM, OFDMA
Data Rate	WLAN: 2.4GHz: 802.11b: 1, 2, 5.5, 11Mbps 802.11g: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: MCS0 – MCS15, HT20/40 MCS0 – MCS9, VHT20/40(TurboQAM) 802.11ax: MCS0 – MCS11,HE20/40 5GHz: 802.11a: 6, 9, 12, 18, 24, 36, 48, 54Mbps 802.11n: MCS0 – MCS31, HT20/40 802.11ac: MCS0 – MCS9, VHT20/40/80/160 802.11ax: MCS0 – MCS11,HE20/40/80/160
Antenna Type	Copper Tube Antenna (For ANT A & ANT B) PCB Tube Antenna (For ANT C & ANT D)
Antenna Gain	2400-2483.5MHz: ANT A: 4.35dBi, ANT B: 2.73dBi 5150-5250MHz: ANT A: 4.63dBi, ANT B: 2.74dBi, ANT C: 2.87dBi, ANT D: 2.51dBi 5250-5350MHz: ANT A: 5.23dBi, ANT B: 3.13dBi, ANT C: 2.73dBi, ANT D: 2.59dBi 5470-5725MHz: ANT A: 6.57dBi, ANT B: 4.93dBi, ANT C: 2.21dBi, ANT D: 2.33dBi 5725-5850MHz: ANT A: 5.58dBi, ANT B: 3.45dBi, ANT C: 2.52dBi, ANT D: 2.05dBi
Adapter	Brand: Amigo, Model: AMS200-1201500FU Spec.: Input: 100-240V~ 50/60Hz 0.8A Max. Output: 12V / 1.5A

Note:
1. EUT support TPC Function.
2. WLAN 2.4G and WLAN 5G can simultaneously transmission.
3. EUT support Master Mode.
4. WLAN 2.4G Turbo QAM / 802.11ax & 5GHz 802.11ac / 11ax support beamforming Function.
5. For more details, please refer to the User's manual of the EUT.

The differences between all model numbers as follow:

Model	XDSL	Remark
VR-3071v2	Yes	Market Segmentation.
VR-3073u		
PRT-6301v2	No	Market Segmentation.
WR-2411u		

Note:After engineering evaluation, VR-3071v2 are worst case , hence are used at test report.

2.2 Carrier Frequency of Channels

802.11b, 802.11g, 802.11n HT20, VHT20, 802.11ax HE20 (2412MHz-2462MHz)

Channel	Frequency(MHz)	Channel	Frequency(MHz)
***01**	**2412**	07	2442
02	2417	08	2447
03	2422	09	2452
04	2427	10	2457
05	2432	***11**	**2462**
***06**	**2437**	---	---

802.11n HT40, VHT40, 802.11ax HE40 (2422MHz-2452MHz)

Channel	Frequency(MHz)	Channel	Frequency(MHz)
---	---	07	2442
---	---	08	2447
***03**	**2422**	***09**	**2452**
04	2427	---	---
05	2432	---	---
***06**	**2437**	---	---

Note: Channels remarked * are selected to perform test.

2.3 Test Mode and Test Software

a. During testing, the interface cables and equipment positions were varied according to ANSI C63.10.

b. The complete test system included remote workstation and EUT for RF test. The remote workstation included Notebook.

c. An executive program, ” accessMTool ver. 3,1,0,1” under Windows OS system was executed to transmit and receive data via WLAN. (Non BeamForming)

d. An executive program, ” wl command” under Windows OS system was executed to transmit and receive data via WLAN. (BeamForming)

e. The following test modes is VR-3071v2 were performed for the test:

Conducted Emissions from the AC mains power ports	
Test Mode	Operating Description
1	802.11b (1Mbps) , Power from Adapter, Non BeamForming
2	802.11g (6Mbps) , Power from Adapter ,Non BeamForming
3	802.11ax HE20 (7.3Mbps) , Power from Adapter ,Non BeamForming
4	802.11ax HE40 (14.6Mbps) , Power from Adapter ,Non BeamForming
5	802.11ax HE20 (7.3Mbps) , Power from Adapter , BeamForming
6	802.11ax HE40 (14.6Mbps) , Power from Adapter , BeamForming
caused “Test Mode 2,6” generated the worst case, it was reported as the final data.	
Radiation Emissions (BELOW 1GHz)	
Test Mode	Operating Description
1	802.11b (1Mbps) , Power from Adapter, Non BeamForming
2	802.11g (6Mbps) , Power from Adapter ,Non BeamForming
3	802.11ax HE20 (7.3Mbps) , Power from Adapter ,Non BeamForming
4	802.11ax HE40 (14.6Mbps) , Power from Adapter ,Non BeamForming
5	802.11ax HE20 (7.3Mbps) , Power from Adapter , BeamForming
6	802.11ax HE40 (14.6Mbps) , Power from Adapter , BeamForming
caused “Test Mode 2,6” generated the worst case, they were reported as the final data.	
Radiation Emissions (1GHz ~ 25GHz)	
Test Mode	Operating Description
1	802.11b (1Mbps) , Power from Adapter, Non BeamForming
2	802.11g (6Mbps) , Power from Adapter ,Non BeamForming
3	802.11ax HE20 (7.3Mbps) , Power from Adapter ,Non BeamForming
4	802.11ax HE40 (14.6Mbps) , Power from Adapter ,Non BeamForming
5	802.11ax HE20 (7.3Mbps) , Power from Adapter , BeamForming
6	802.11ax HE40 (14.6Mbps) , Power from Adapter , BeamForming
caused “Test Mode 1~6” generated the worst case, they were reported as the final data.	

Note: 1.The EUT has two types (with XDSL and non XDSL), After engineering evaluation, XDSL are worst case, hence, are used at test report.

2.There are two kinds of test voltage: AC 120V / 60Hz and AC 240V / 60Hz.
(For Non BeamForming Mode):
AC Power Line Conducted Emission is AC 120V / 60Hz worst case.
Radiation Emissions (BELOW 1GHz) is AC 120V / 60Hz worst case.
(For BeamForming Mode):
AC Power Line Conducted Emission is AC 120V / 60Hz worst case.
Radiation Emissions (BELOW 1GHz) is AC 240V / 60Hz worst case.

The EUT incorporates a MIMO function

Modulation Type	TX CONFIGURATION
802.11b	2TX
802.11g	2TX
802.11n HT20	2TX
802.11n HT40	2TX
802.11n HT20(TurboQAM)	2TX
802.11n HT40(TurboQAM)	2TX
802.11ax HE20	2TX
802.11ax HE40	2TX

2.4 Description of Test System

Non BeamForming

RF Conducted				
Equipment	Brand	Model	Length/Type	Power cord/Length/Type
Notebook	Lenovo	S1GL2W	N/A	Adapter / 1.8m / NS
RJ45 Cable	TE CONNECTIVITY	CAT5E	1.2m / NS	N/A
Radiated Emissions				
Equipment	Brand	Model	Length/Type	Power cord/Length/Type
Notebook	ASUS	P2430U	N/A	Adapter / 1.8m / NS
RJ45 Cable	TE CONNECTIVITY	CAT5E	15m / NS	N/A
AC Power Line Conducted Emission				
Equipment	Brand	Model	Length/Type	Power cord/Length/Type
Notebook	ASUS	P2430U	N/A	Adapter / 1.8m / NS
RJ45 Cable	TE CONNECTIVITY	CAT5E	1.2m / NS	N/A

BeamForming

RF Conducted				
Equipment	Brand	Model	Length/Type	Power cord/Length/Type
Notebook	Lenovo	S1GL2W	N/A	Adapter / 1.8m / NS
Notebook	Lenovo	S1GL2W	N/A	Adapter / 1.8m / NS
RJ45 Cable * 2	TE CONNECTIVITY	CAT5E	1.2m / NS	N/A
Radiated Emissions				
Equipment	Brand	Model	Length/Type	Power cord/Length/Type
Notebook	ASUS	P2430U	N/A	Adapter / 1.8m / NS
RJ45 Cable	TE CONNECTIVITY	CAT5E	15m / NS	N/A
AC Power Line Conducted Emission				
Equipment	Brand	Model	Length/Type	Power cord/Length/Type
Notebook	ASUS	P2430U	N/A	Adapter / 1.8m / NS
RJ45 Cable	TE CONNECTIVITY	CAT5E	1.2m / NS	N/A

2.5 General Information of Test

Test Site	**Cerpass Technology Corporation Test Laboratory** Address: No.10, Ln. 2, Lianfu St., Luzhu Dist., Taoyuan City 33848, Taiwan (R.O.C.) Tel:+886-3-3226-888 Fax:+886-3-3226-881	
	FCC	TW1439, TW1079
	IC	4934E-1, 4934E-2
	VCCI	T-2205 for Telecommunication test C-4663 for Conducted emission test R-4218 for Radiated emission test G-10812, G-10813 for radiated disturbance above 1GHz
Frequency Range Investigated:	Conducted: from 150kHz to 30 MHz Radiation: from 30 MHz to 25,000MHz	
Test Distance:	The test distance of radiated emission from antenna to EUT is 3 M.	

Non BeamForming

Test Item	Test Site	Test period	Environmental Conditions	Tested By
RF Conducted	RFCON01-NK	2022/12/05~2022/12/16	24.2~25.0℃ / 50~57%	Leon Huang
Radiated Emissions	3M02-NK	2022/11/24~2022/11/28	21~24℃ / 36~49%	Dian Chen
AC Power Line Conducted Emission	CON01-NK	2023/04/21	25℃ / 55%	Leon Huang

BeamForming

Test Item	Test Site	Test period	Environmental Conditions	Tested By
RF Conducted	RFCON01-NK	2022/12/27~2023/01/25	21.5~26.7℃ / 45~59%	Leon Huang
Radiated Emissions	3M02-NK	2022/11/24~2022/11/28	21~24℃ / 36~49%	Leon Huang
AC Power Line Conducted Emission	CON01-NK	2023/04/21	25℃ / 55%	Leon Huang

2.6 Measurement Uncertainty

ISO/IEC 17025 requires that an estimate of the measurement uncertainties associated with the emissions test results be included in the report. The measurement uncertainties given below are based on a 95% confidence level (based on a coverage factor (k=2)

Measurement Item	Uncertainty
AC Power Line Conduction(150K~30MHz)	±3.28dB
Radiated Spurious Emission(9KHz~30MHz)	±3.4dB
Radiated Spurious Emission(30MHz~1GHz)	±5.7dB
Radiated Spurious Emission(1GHz~25GHz)	±6.8dB
Conducted Spurious Emission	±1.8dB
6dB Bandwidth	±4.4%
20dB Bandwidth	±4.4%
Occupied Bandwidth	±4.4%
Peak Output Power(Conducted Power Meter)	±1.1dB
Dwell Time / Deactivation Time	±1.2%
Power Spectral Density	±1.8dB
Duty Cycle	±1.2%

3. Test Equipment and Ancillaries Used for Tests

Test Item	Radiated Emissions				
Test Site	Semi Anechoic Room(3M02-NK)				
Instrument	**Manufacturer**	**Model No**	**Serial No**	**Calibration Date**	**Valid Date**
Bilog Antenna	Schwarzbeck	VULB9168	369	2022/04/22	2023/04/21
Active Loop Antenna	EMCO	6507	40855	2022/05/25	2023/05/24
Horn Antenna	EMCO	3115	31589	2022/04/08	2023/04/07
Horn Antenna	EMCO	3116	31970	2022/03/18	2023/03/17
EMI Receiver	ROHDE & SCHWARZ	ESCI	101423	2022/07/05	2023/07/04
Spectrum Analyzer	ROHDE & SCHWARZ	FSV 40-N	102151	2022/08/19	2023/08/18
Preamplifier	Agilent	8449B	3008A01954	2022/03/17	2023/03/16
Preamplifier	EMC INSTRUMENTS	EMC184045	980065	2022/11/11	2023/11/10
Preamplifier	EM Electronics corp.	EM330	60660	2022/04/08	2023/04/07
Cable-6m(9k~300M)	NA	EMC5D-BM-BM-6	130605	2022/09/06	2023/09/05
Cable-3in1(30M-1G)	HARBOUR INDUSTRIES	LL142	CCE1315	2022/03/21	2023/03/20
Cable-0.5m(1G-40G)	HUBER SUHNER	SUCOFLEX 104	805443/4	2022/01/11	2023/01/10
Cable-3m(1G-40G)	HUBER SUHNER	SUCOFLEX 104	805796/4	2022/01/11	2023/01/10
Cable-8m(1G-26.5G)	WOKEN	WCBA-WCA203SM	CCE1374	2022/04/25	2023/04/24
Cable-0.5m(30M-40G)	HUBER SUHNER	SUCOFLEX 102	28420/2	2022/4/9	2023/4/8
Cable-3m(30M-40G)	HUBER SUHNER	SUCOFLEX 102	MY2608/2	2022/4/9	2023/4/8
Cable-0.5m(1G-40G)	Rapidtek	40GHZ 50CM	38MS-38MS50 314	2022/4/9	2023/4/8
Cable-3m(1G-40G)	Rapidtek	40GHZ 300CM	38MS-38MS30 0314	2022/4/9	2023/4/8
E3	AUDIX	v8.2014-8-6	RK-000529	NA	NA

Test Item	RF Conducted				
Test Site	RFCON01-NK				
Instrument	**Manufacturer**	**Model No**	**Serial No**	**Calibration Date**	**Valid Date**
CAX Signal Analyzer	KEYSIGHT	N9000B	MY57100339	2022/11/29	2023/01/09
Power Meter	Anritsu	ML2495A	1224005	2022/04/12	2023/04/11
Power Sensor	Anritsu	MA2411B	1207295	2022/04/12	2023/04/11
Attenuator	KEYSIGHT	8491B	MY39250703	2022/04/12	2023/04/11

Test Item	AC Power Line Conducted Emission				
Test Site	CON01-NK				
Instrument	**Manufacturer**	**Model No**	**Serial No**	**Calibration Date**	**Valid Date**
EMI Receiver	ROHDE & SCHWARZ	ESCI	101200	2022/08/22	2023/08/21
Line Impedance Stabilization Network	Schwarzbeck	NSLK 8127	8127-740	2022/08/21	2023/08/20
Pulse Limiter	ROHDE & SCHWARZ	ESH3-Z2	101933	2022/09/29	2023/09/28
Cable-6m(9k~300M)	NA	EMC5D-BM-BM-6	130605	2022/09/06	2023/09/05
E3	AUDIX	v8.2014-8-6	RK-000531	NA	NA

4. Antenna Requirements

4.1 Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

And according to FCC 47 CFR Section 15.247 (b), if transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

4.2 Antenna Construction and Directional Gain

Antenna Type	Copper Tube Antenna (For ANT A & ANT B)
Antenna Gain	ANT A: 4.35dBi, ANT B: 2.73dBi

(Non-Beamforming)

For Power directional gain= 4.35 dBi
For PSD directional gain = 5.77 dBi
* Power and PSD directional gain refer to PAG Gain Report.

(Beamforming)

For Power directional gain= 5.77 dBi
For PSD directional gain = 5.77 dBi
* Power and PSD directional gain refer to PAG Gain Report.

5. Test of AC Power Line Conducted Emission

5.1 Test Limit

Conducted Emissions were measured from 150 kHz to 30 MHz with a bandwidth of 9 KHz, according to the methods defined in ANSI C63.10-2013. The EUT was placed on a nonmetallic stand in a shielded room 0.8 meters above the ground plane. The interface cables and equipment positioning were varied within limits of reasonable applications to determine the position produced maximum conducted emissions.

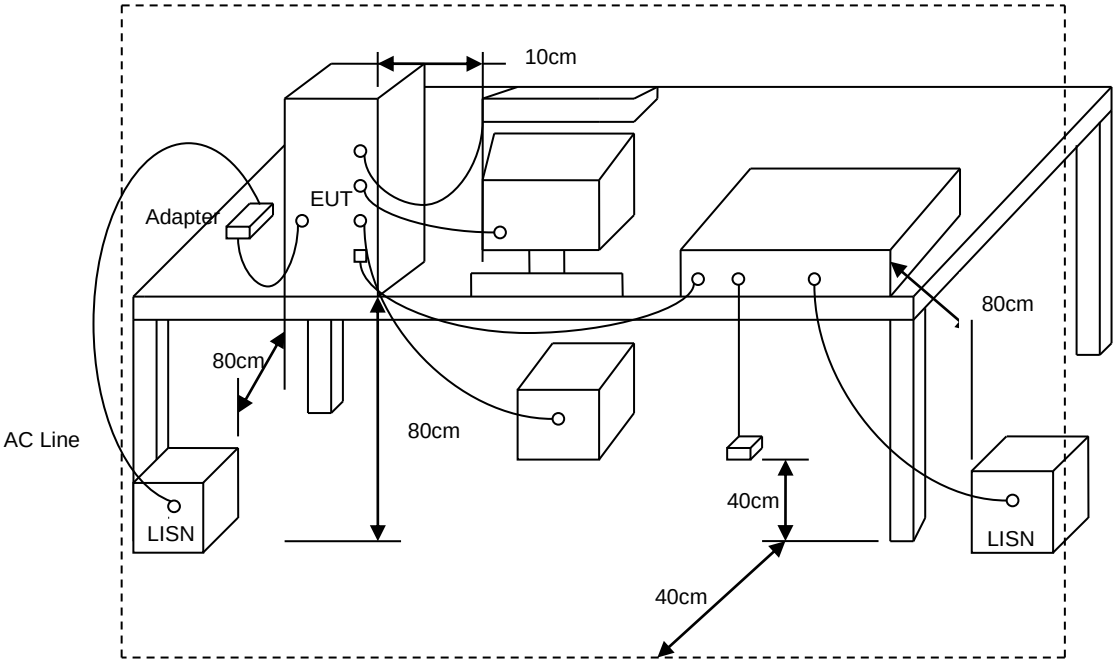
Frequency (MHz)	Quasi Peak (dB μ V)	Average (dB μ V)
0.15 – 0.5	66-56*	56-46*
0.5 – 5.0	56	46
5.0 – 30.0	60	50

*Decreases with the logarithm of the frequency.

5.2 Test Procedures

a. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
b. Connect EUT to the power mains through a line impedance stabilization network (LISN).
c. All the support units are connecting to the other LISN.
d. The LISN provides 50 ohm coupling impedance for the measuring instrument.
e. The FCC states that a 50 ohm, 50 micro-Henry LISN should be used.
f. Both sides of AC line were checked for maximum conducted interference.
g. The frequency range from 150 kHz to 30 MHz was searched.
h. Set the test-receiver system to Peak Detect Function and Specified Bandwidth with Maximum Hold Mode.

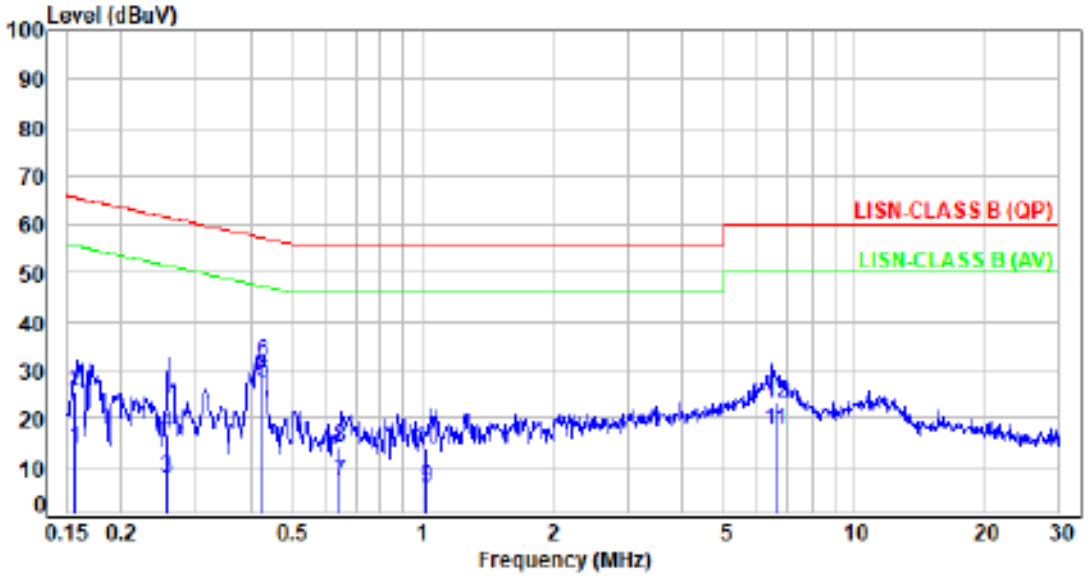
5.3 Typical Test Setup



5.4 Test Result and Data

Non BeamForming

Power	:	AC 120V / 60Hz	Pol/Phase	:	LINE
Test Mode	:	Mode 2		:	

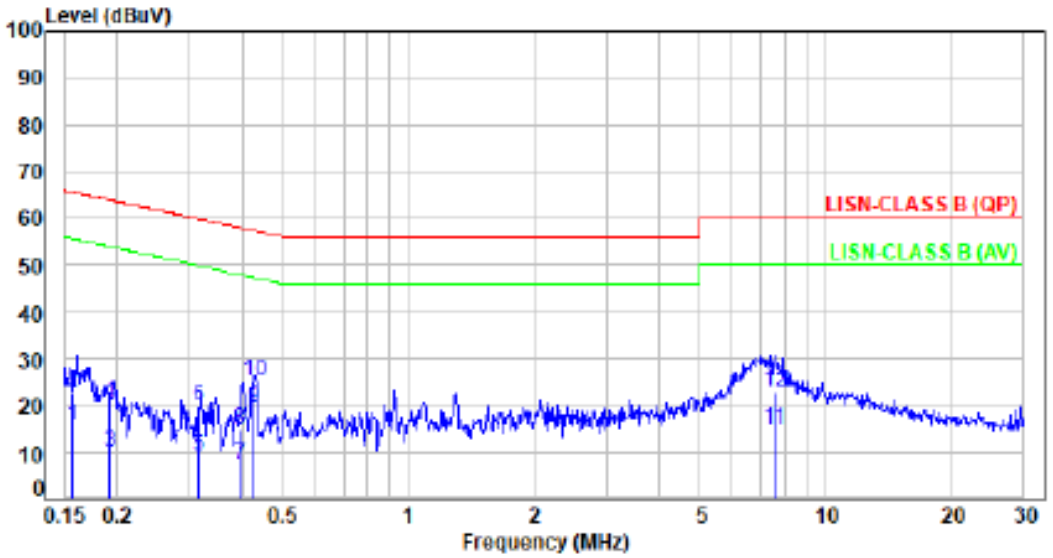


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.16	9.94	3.64	13.58	55.62	-42.04	Average	P
2	0.16	9.94	15.42	25.36	65.62	-40.26	QP	P
3	0.25	9.94	-2.20	7.74	51.60	-43.86	Average	P
4	0.25	9.94	6.93	16.87	61.60	-44.73	QP	P
5	0.43	9.96	17.32	27.28	47.34	-20.06	Average	P
6	0.43	9.96	21.68	31.64	57.34	-25.70	QP	P
7	0.64	9.98	-3.84	6.94	46.00	-39.06	Average	P
8	0.64	9.98	4.19	14.17	56.00	-41.83	QP	P
9	1.02	9.99	-4.42	5.57	46.00	-40.43	Average	P
10	1.02	9.99	3.67	13.66	56.00	-42.34	QP	P
11	6.57	10.21	7.12	17.33	50.00	-32.67	Average	P
12	6.57	10.21	13.07	23.28	60.00	-36.72	QP	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=(LISN or ISN or Current Probe)Factor + Cable Loss

Non BeamForming

Power	:	AC 120V / 60Hz	Pol/Phase	:	NEUTRAL
Test Mode	:	Mode 2		:	

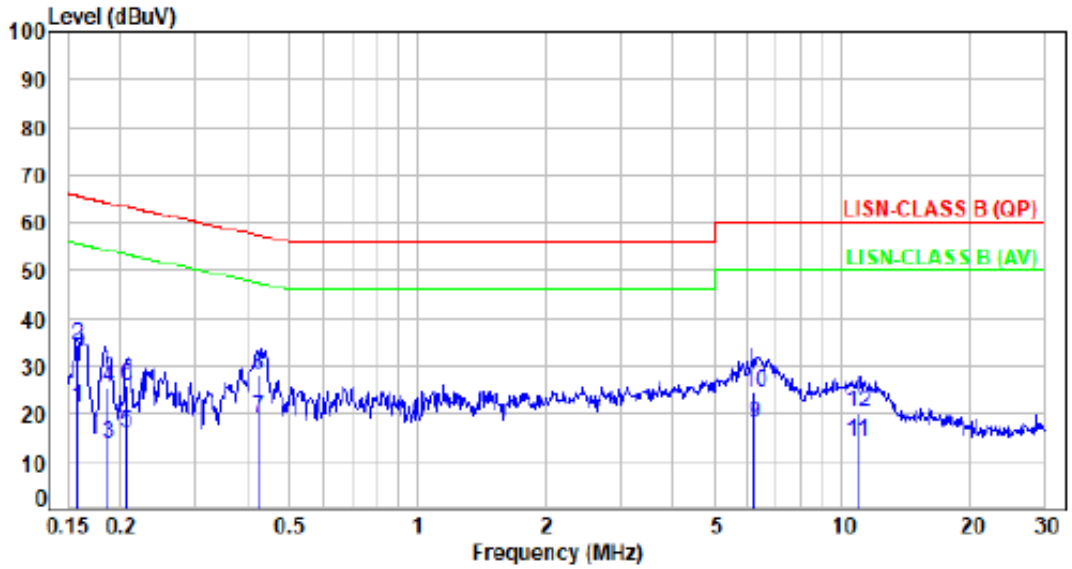


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.16	9.95	5.55	15.50	55.63	-40.13	Average	P
2	0.16	9.95	12.69	22.64	65.63	-42.99	QP	P
3	0.19	9.95	0.00	9.95	53.92	-43.97	Average	P
4	0.19	9.95	10.55	20.50	63.92	-43.42	QP	P
5	0.31	9.95	-0.79	9.16	49.84	-40.68	Average	P
6	0.31	9.95	9.82	19.77	59.84	-40.07	QP	P
7	0.39	9.96	-2.81	7.15	48.02	-40.87	Average	P
8	0.39	9.96	5.02	14.98	58.02	-43.04	QP	P
9	0.43	9.96	9.47	19.43	47.34	-27.91	Average	P
10	0.43	9.96	15.08	25.04	57.34	-32.30	QP	P
11	7.55	10.25	4.62	14.87	50.00	-35.13	Average	P
12	7.55	10.25	12.42	22.67	60.00	-37.33	QP	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=(LISN or ISN or Current Probe)Factor + Cable Loss

BeamForming

Power	:	AC 120V / 60Hz	Pol/Phase	:	LINE
Test Mode	:	Mode 6		:	

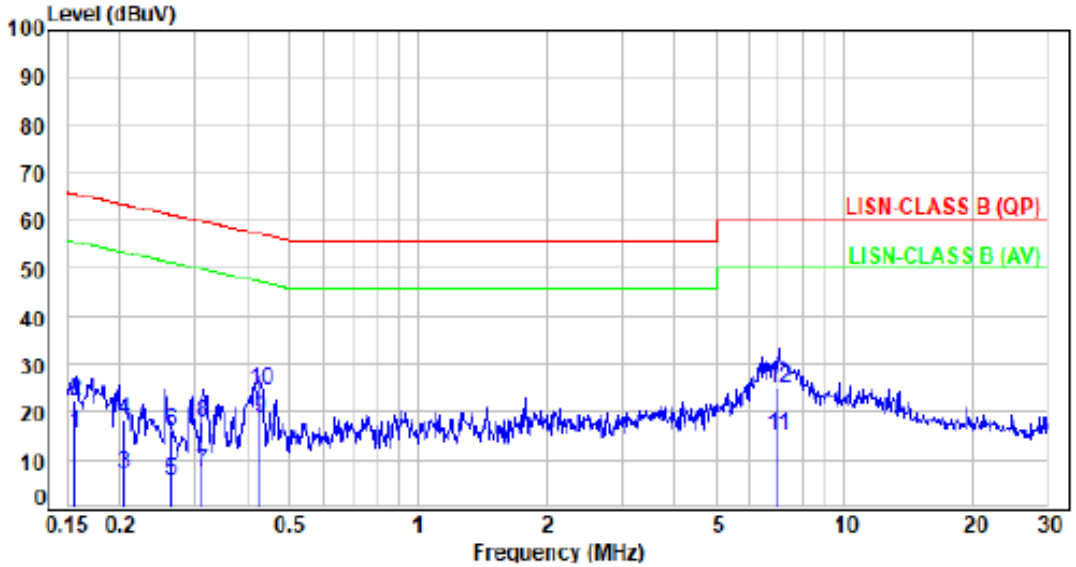


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.16	9.94	11.23	21.17	55.57	-34.40	Average	P
2	0.16	9.94	24.20	34.14	65.57	-31.43	QP	P
3	0.19	9.94	3.77	13.71	54.22	-40.51	Average	P
4	0.19	9.94	15.50	25.44	64.22	-38.78	QP	P
5	0.21	9.94	6.06	16.00	53.33	-37.33	Average	P
6	0.21	9.94	15.91	25.85	63.33	-37.48	QP	P
7	0.42	9.96	9.16	19.12	47.45	-28.33	Average	P
8	0.42	9.96	18.13	28.09	57.45	-29.36	QP	P
9	6.25	10.21	7.68	17.89	50.00	-32.11	Average	P
10	6.25	10.21	14.14	24.35	60.00	-35.65	QP	P
11	10.85	10.32	3.91	14.23	50.00	-35.77	Average	P
12	10.85	10.32	9.74	20.06	60.00	-39.94	QP	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=(LISN or ISN or Current Probe)Factor + Cable Loss

BeamForming

Power	:	AC 120V / 60Hz	Pol/Phase	:	NEUTRAL
Test Mode	:	Mode 6		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV)	Limit (dBuV)	Margin (dB)	Detector	P/F
1	0.16	9.95	5.63	15.58	55.65	-40.07	Average	P
2	0.16	9.95	12.39	22.34	65.65	-43.31	QP	P
3	0.20	9.95	-2.58	7.37	53.44	-46.07	Average	P
4	0.20	9.95	8.47	18.42	63.44	-45.02	QP	P
5	0.26	9.95	-4.23	5.72	51.35	-45.63	Average	P
6	0.26	9.95	6.04	15.99	61.35	-45.36	QP	P
7	0.31	9.95	-2.19	7.76	49.91	-42.15	Average	P
8	0.31	9.95	8.11	18.06	59.91	-41.85	QP	P
9	0.42	9.96	8.62	18.58	47.36	-28.78	Average	P
10	0.42	9.96	14.90	24.86	57.36	-32.50	QP	P
11	7.00	10.23	4.88	15.11	50.00	-34.89	Average	P
12	7.00	10.23	14.70	24.93	60.00	-35.07	QP	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=(LISN or ISN or Current Probe)Factor + Cable Loss

6. Test of Radiated Spurious Emission

6.1 Test Limit

In any 100kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20dB below that in the 100kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement. If the transmitter measurement is based on the maximum conducted output power, the attenuation required under this paragraph shall be 30dB instead of 20dB. In addition, radiated emissions which fall in section 15.205(a) the restricted bands must also comply with the radiated emission limit specified in section 15.209(a).

Frequency (MHz)	Field Strength (microvolt/meter)	Measurement Distance (meters)
0.009 ~ 0.490	2400/F(kHz)	300
0.490 ~ 1.705	24000/F(kHz)	30
1.705 ~ 30.0	30	30
30 ~ 88	100	3
88 ~ 216	150	3
216 ~ 960	200	3
Above 960	500	3

6.2 Test Procedures

a. The EUT was placed on a rotatable table top 0.8 meter above ground.

b. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.

c. The table was rotated 360 degrees to determine the position of the highest radiation.

d. The antenna is a broadband antenna and its height is varied between one meter and four meters above ground to find the maximum value of the field strength both horizontal polarization and vertical polarization of the antenna are set to make the measurement.

e. For each suspected emission the EUT was arranged to its worst case and then tune the antenna tower (from 1 M to 4 M) and turn table (from 0 degree to 360 degrees) to find the maximum reading.

f. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function and specified bandwidth with Maximum Hold Mode.

g. If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions which do not have 3 dB margin will be repeated one by one using the quasi-peak method and reported.

h. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in peak mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

i. “Cone of radiation” has been considered to be 3dB bandwidth of the measurement antenna.

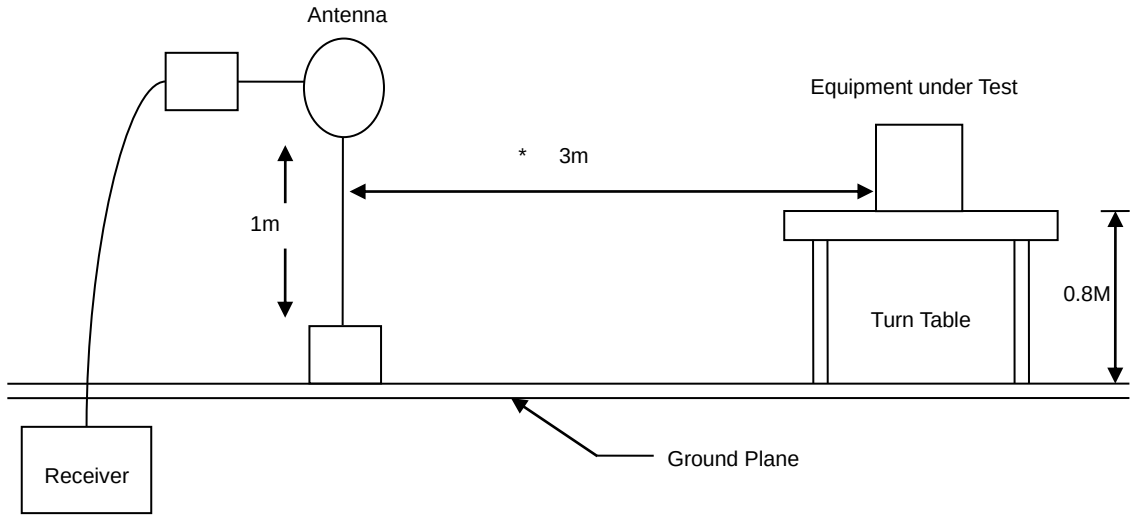
Note:

1.The supporting fixture shall permit orientation of the EUT in each of three orthogonal axis positions such that emissions from the EUT are maximized.
(Y-AXIS is the worst.)

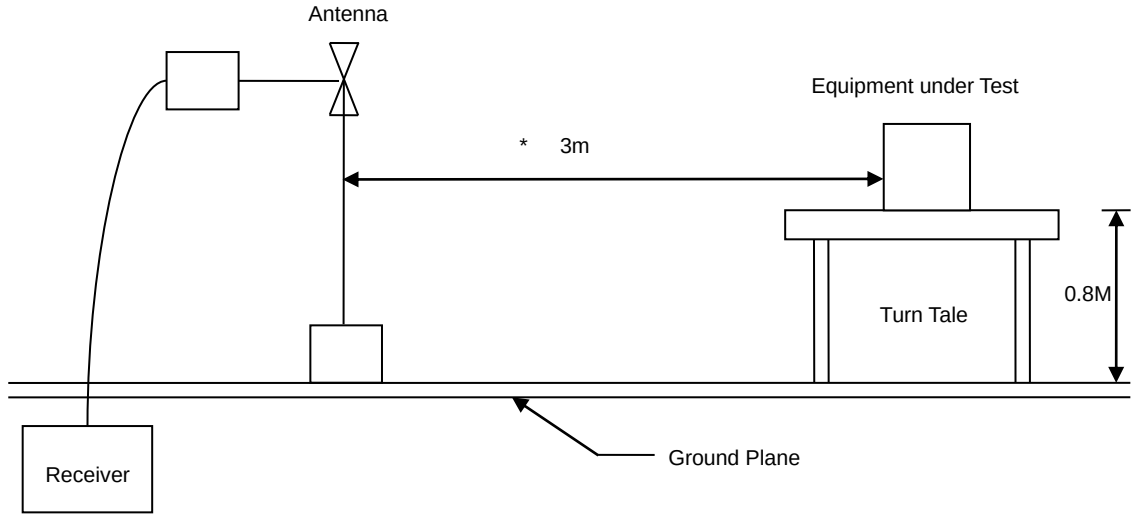
2.Due to the test software function limit the operation band setting(200dBuV/m).
There's no corresponding limitation in the actual test item.

6.3 Typical Test Setup

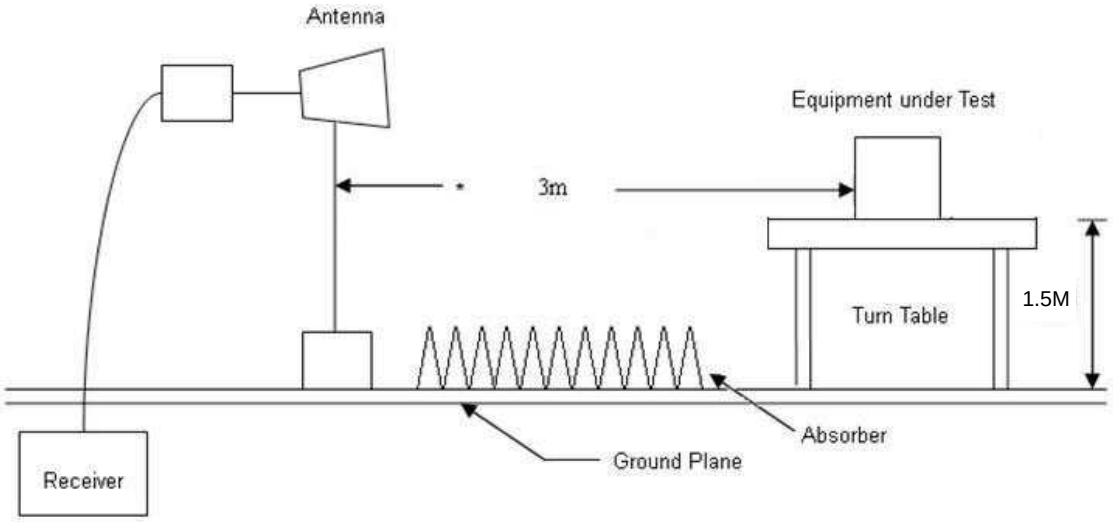
Below 30MHz test setup



30MHz- 1GHz Test Setup



Above 1GHz Test Setup



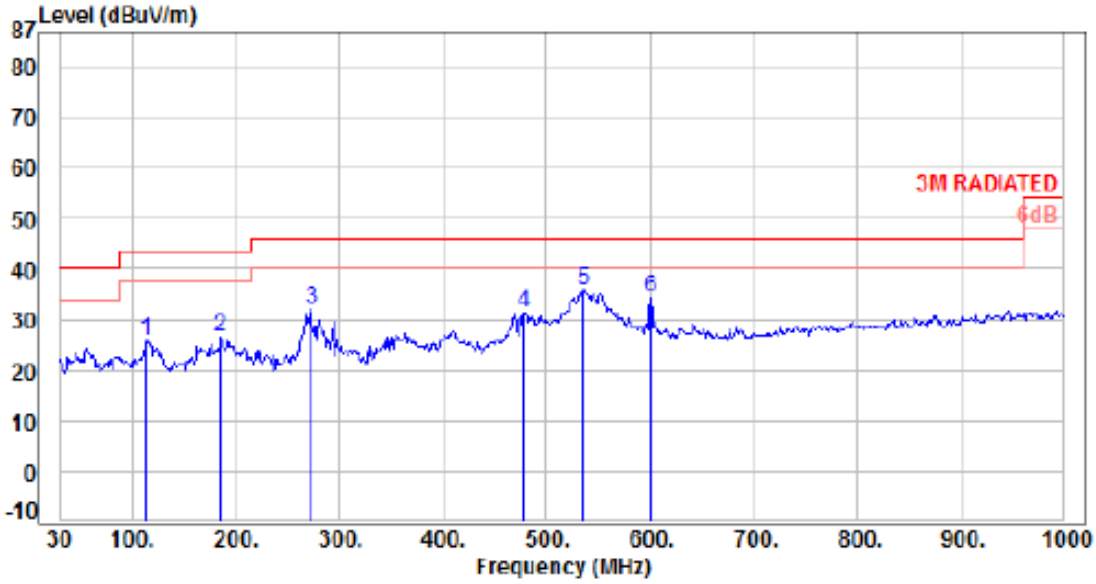
6.4 Test Result and Data (9KHz ~ 30MHz)

The 9kHz - 30MHz spurious emission is under limit 20dB more.

6.5 Test Result and Data (30MHz ~ 1GHz)

Non BeamForming

Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2		:	

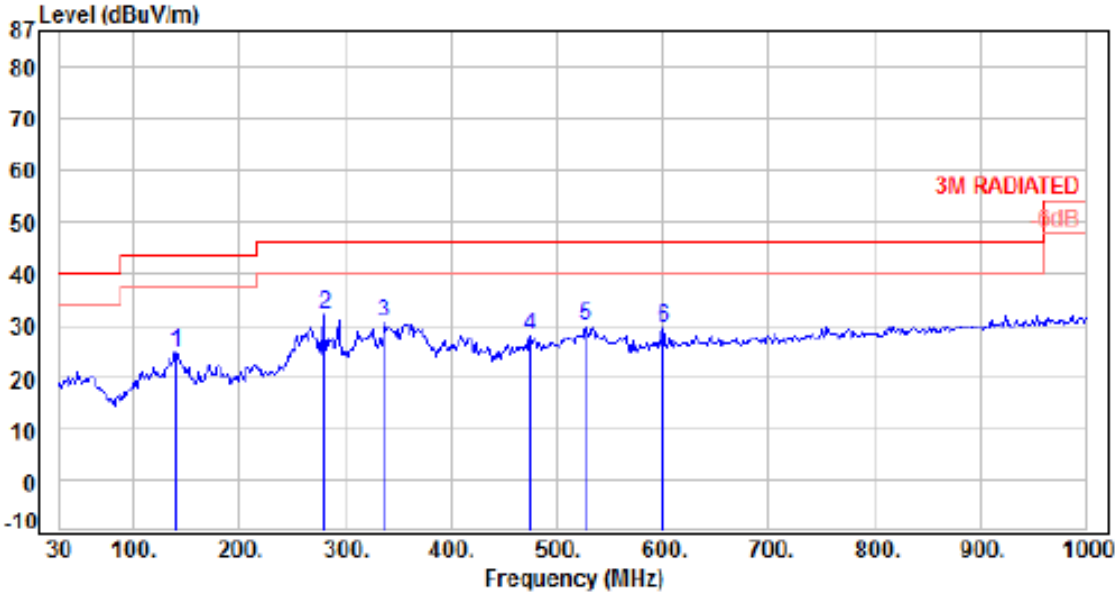


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	113.42	-11.72	37.52	25.80	43.50	-17.70	Peak	400	360	P
2	185.20	-11.32	37.66	26.34	43.50	-17.16	Peak	400	360	P
3	272.50	-9.19	41.12	31.93	46.00	-14.07	Peak	400	360	P
4	478.14	-3.77	34.97	31.20	46.00	-14.80	Peak	400	360	P
5	536.34	-2.37	38.25	35.88	46.00	-10.12	Peak	400	360	P
6	600.36	-0.78	35.19	34.41	46.00	-11.59	Peak	400	360	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

Non BeamForming

Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2		:	

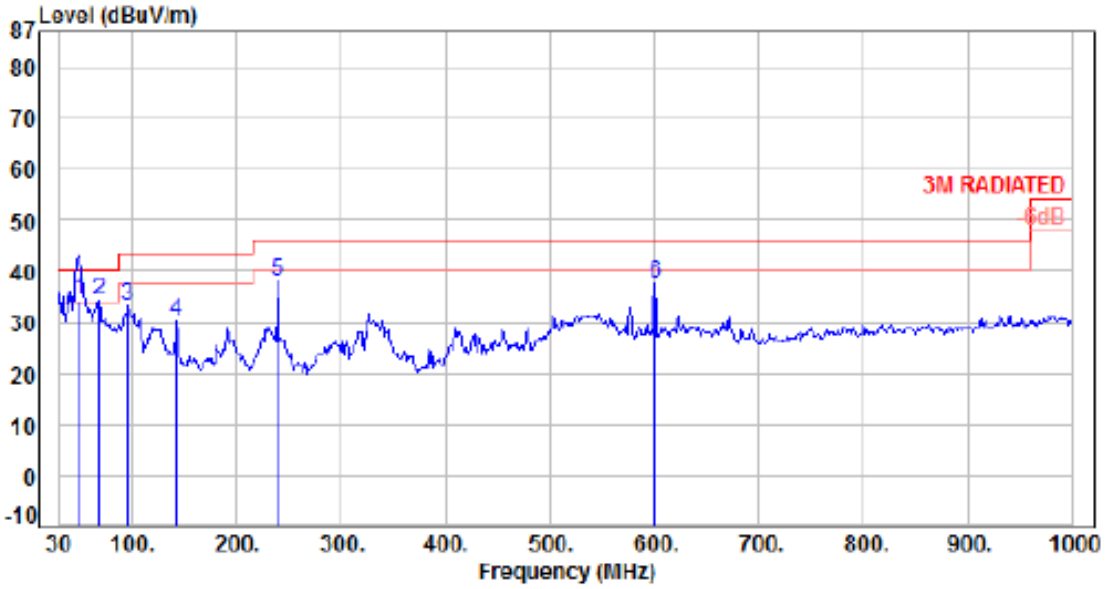


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	140.58	-9.54	34.30	24.76	43.50	-18.74	Peak	400	0	P
2	280.26	-8.91	40.83	31.92	46.00	-14.08	Peak	400	0	P
3	336.52	-7.26	37.74	30.48	46.00	-15.52	Peak	400	0	P
4	474.26	-3.93	31.89	27.96	46.00	-18.04	Peak	400	0	P
5	526.64	-2.59	32.28	29.69	46.00	-16.31	Peak	400	0	P
6	600.36	-0.78	30.34	29.56	46.00	-16.44	Peak	400	0	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

BeamForming

Power	:	AC 240V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 6		:	

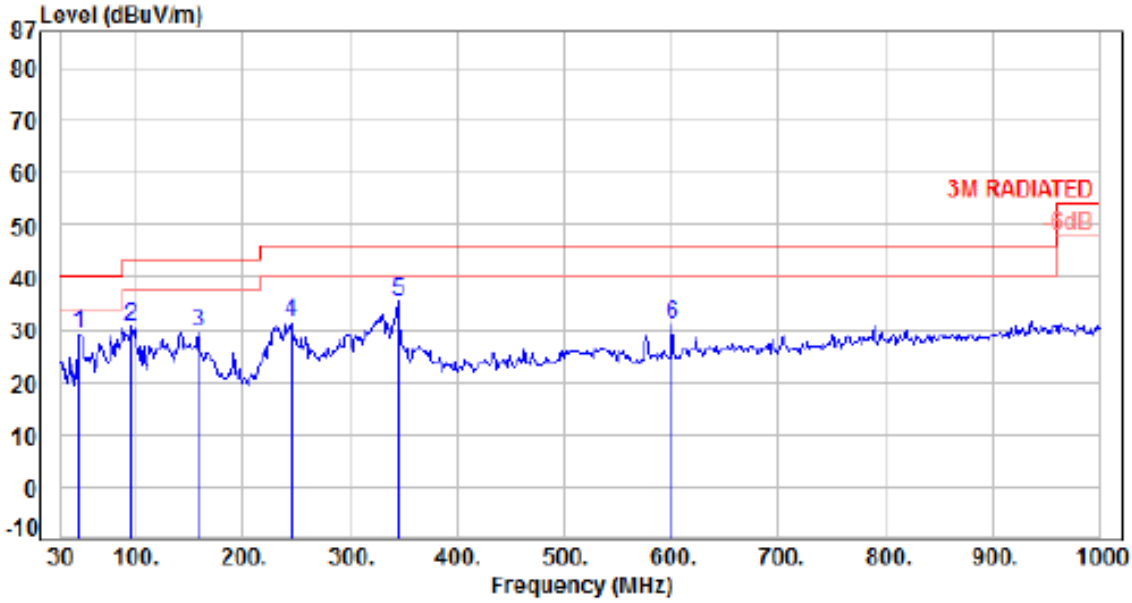


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	49.80	-10.07	44.20	34.13	40.00	-5.87	QP	100	30	P
2	67.83	-11.54	45.75	34.21	40.00	-5.79	Peak	400	0	P
3	95.96	-15.00	48.09	33.09	43.50	-10.41	Peak	400	0	P
4	142.52	-10.43	40.73	30.30	43.50	-13.20	Peak	400	0	P
5	239.52	-11.78	49.63	37.85	46.00	-8.15	Peak	400	0	P
6	600.36	-1.59	39.01	37.42	46.00	-8.58	Peak	400	0	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

BeamForming

Power	:	AC 240V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 6		:	



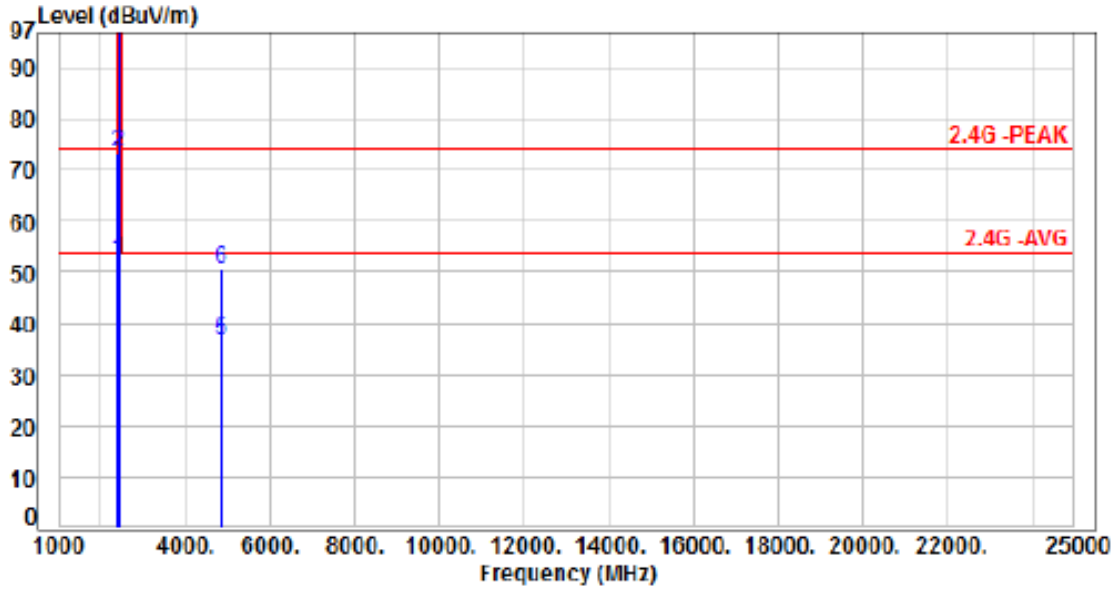
No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	47.46	-10.19	39.29	29.10	40.00	-10.90	Peak	400	0	P
2	95.96	-15.00	45.66	30.66	43.50	-12.84	Peak	400	0	P
3	158.04	-9.87	39.28	29.41	43.50	-14.09	Peak	400	0	P
4	245.34	-11.25	42.46	31.21	46.00	-14.79	Peak	400	0	P
5	344.28	-7.98	43.35	35.37	46.00	-10.63	Peak	400	0	P
6	600.36	-1.59	32.35	30.76	46.00	-15.24	Peak	400	0	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

6.6 Test Result and Data (1GHz ~ 25GHz)

Non BeamForming

Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, CH01		:	

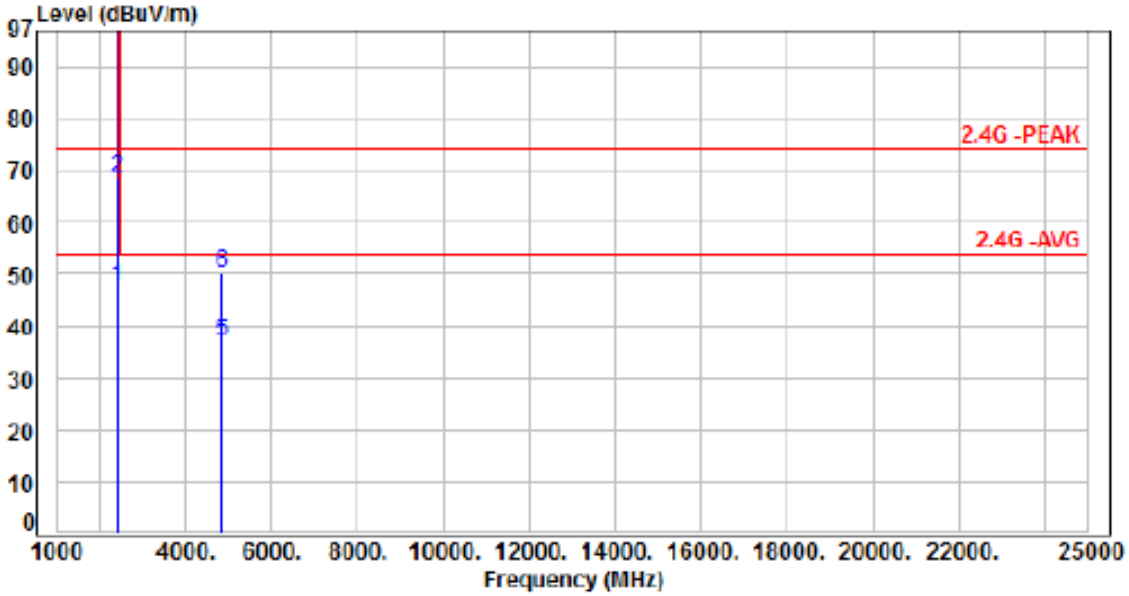


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-3.22	55.41	52.19	54.00	-1.81	Average	186	51	P
2	2390.00	-3.22	76.72	73.50	74.00	-0.50	Peak	186	51	P
3	2412.00	-3.18	108.23	105.05	200.00	-94.95	Average	186	51	P
4	2412.00	-3.18	121.36	118.18	200.00	-81.82	Peak	186	51	P
5	4824.00	5.28	31.24	36.52	54.00	-17.48	Average	100	63	P
6	4824.00	5.28	45.33	50.61	74.00	-23.39	Peak	100	63	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

Non BeamForming

Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, CH01		:	

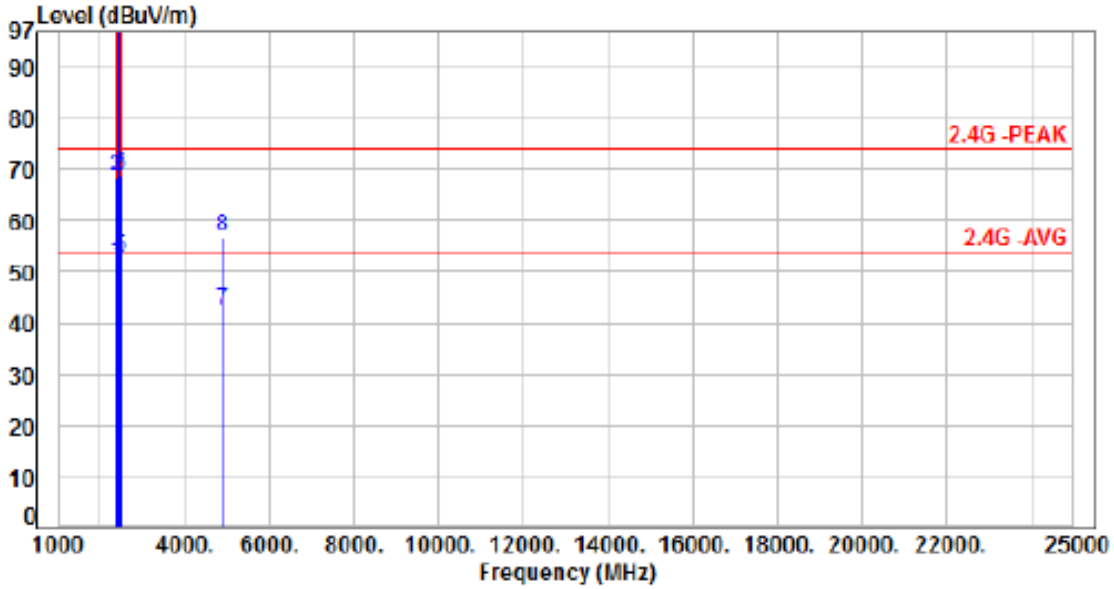


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-3.22	50.89	47.67	54.00	-6.33	Average	199	54	P
2	2390.00	-3.22	71.86	68.64	74.00	-5.36	Peak	199	54	P
3	2412.00	-3.18	102.87	99.69	200.00	-100.31	Average	199	54	P
4	2412.00	-3.18	114.70	111.52	200.00	-88.48	Peak	199	54	P
5	4824.00	5.28	31.74	37.02	54.00	-16.98	Average	244	135	P
6	4824.00	5.28	45.00	50.28	74.00	-23.72	Peak	244	135	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

Non BeamForming

Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, CH06		:	

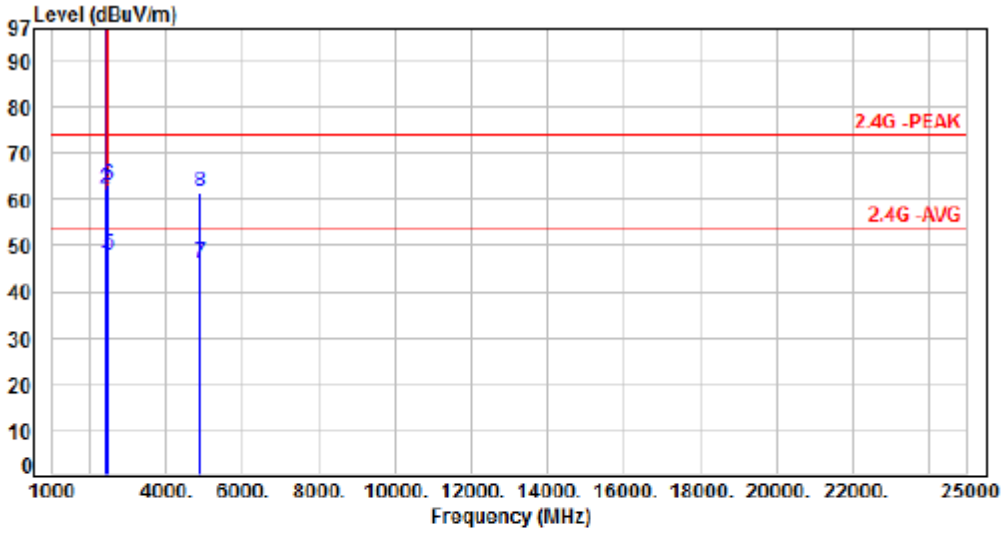


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-3.22	54.97	51.75	54.00	-2.25	Average	205	29	P
2	2390.00	-3.22	71.88	68.66	74.00	-5.34	Peak	205	29	P
3	2437.00	-2.70	113.76	111.06	200.00	-88.94	Average	205	29	P
4	2437.00	-2.70	126.66	123.96	200.00	-76.04	Peak	205	29	P
5	2483.50	-2.35	54.91	52.56	54.00	-1.44	Average	205	29	P
6	2483.50	-2.35	71.31	68.96	74.00	-5.04	Peak	205	29	P
7	4874.00	5.48	36.97	42.45	54.00	-11.55	Average	156	102	P
8	4874.00	5.48	51.18	56.66	74.00	-17.34	Peak	156	102	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

Non BeamForming

Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, CH06		:	

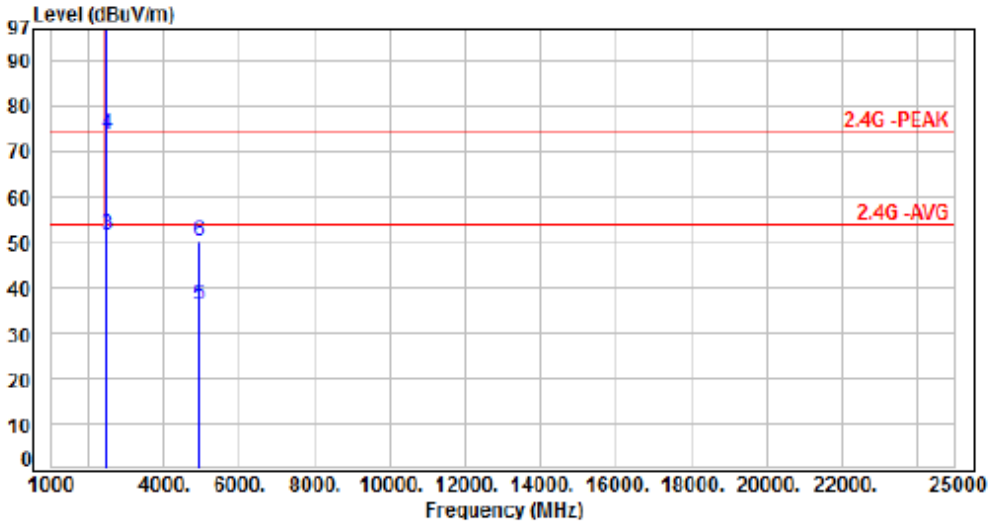


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-3.22	49.34	46.12	54.00	-7.88	Average	258	222	P
2	2390.00	-3.22	65.41	62.19	74.00	-11.81	Peak	258	222	P
3	2437.00	-2.70	107.37	104.67	200.00	-95.33	Average	258	222	P
4	2437.00	-2.70	120.19	117.49	200.00	-82.51	Peak	258	222	P
5	2483.50	-2.35	50.27	47.92	54.00	-6.08	Average	258	222	P
6	2483.50	-2.35	65.29	62.94	74.00	-11.06	Peak	258	222	P
7	4874.00	5.48	40.58	46.06	54.00	-7.94	Average	100	192	P
8	4874.00	5.48	55.99	61.47	74.00	-12.53	Peak	100	192	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

Non BeamForming

Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 1, CH11		:	

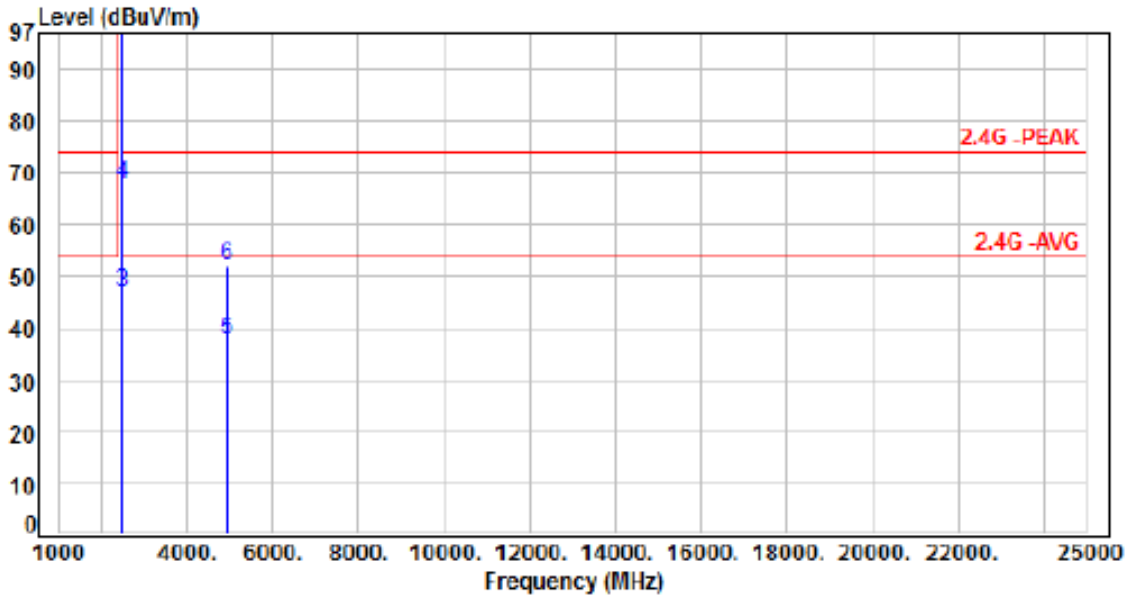


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2462.00	-2.42	107.44	105.02	200.00	-94.98	Average	211	68	P
2	2462.00	-2.42	120.13	117.71	200.00	-82.29	Peak	211	68	P
3	2483.50	-2.35	53.99	51.64	54.00	-2.36	Average	211	68	P
4	2483.50	-2.35	76.21	73.86	74.00	-0.14	Peak	211	68	P
5	4924.00	5.59	30.51	36.10	54.00	-17.90	Average	100	97	P
6	4924.00	5.59	44.54	50.13	74.00	-23.87	Peak	100	97	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

Non BeamForming

Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 1, CH11		:	

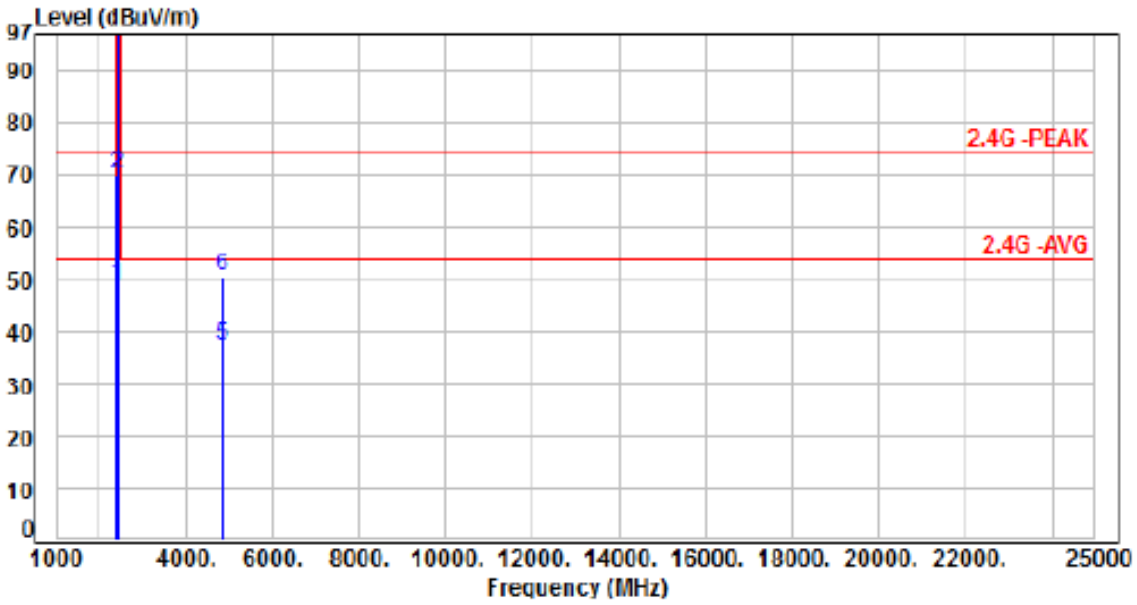


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2462.00	-2.42	101.94	99.52	200.00	-100.48	Average	215	63	P
2	2462.00	-2.42	114.33	111.91	200.00	-88.09	Peak	215	63	P
3	2483.50	-2.35	49.28	46.93	54.00	-7.07	Average	215	63	P
4	2483.50	-2.35	70.37	68.02	74.00	-5.98	Peak	215	63	P
5	4924.00	5.59	32.17	37.76	54.00	-16.24	Average	100	194	P
6	4924.00	5.59	46.43	52.02	74.00	-21.98	Peak	100	194	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

Non BeamForming

Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, CH01		:	

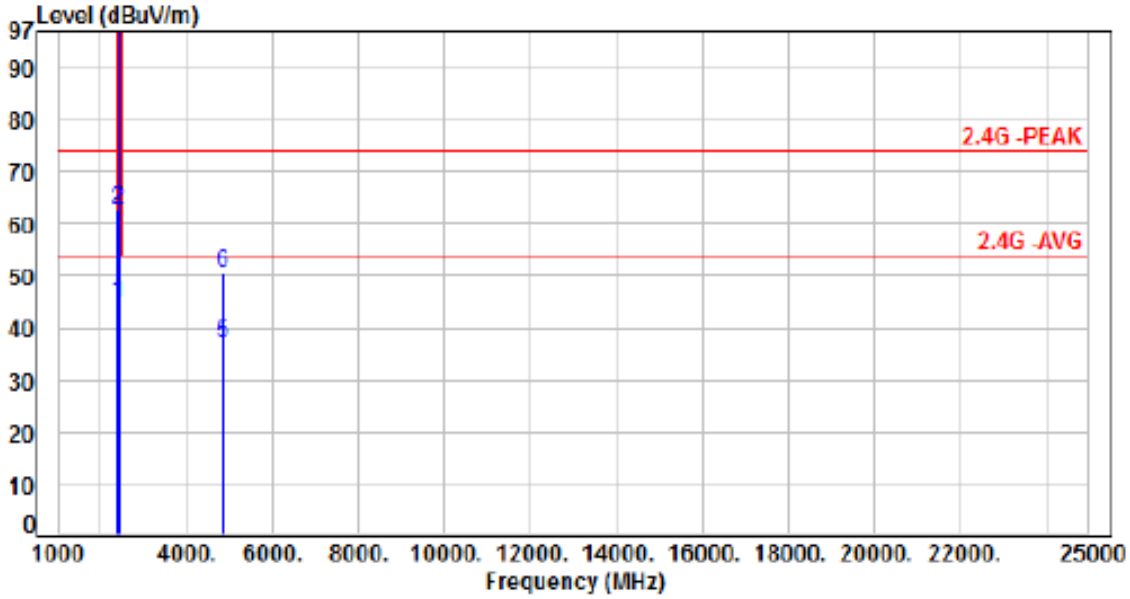


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-3.22	52.04	48.82	54.00	-5.18	Average	127	72	P
2	2390.00	-3.22	73.18	69.96	74.00	-4.04	Peak	127	72	P
3	2412.00	-3.18	108.60	105.42	200.00	-94.58	Average	127	72	P
4	2412.00	-3.18	117.42	114.24	200.00	-85.76	Peak	127	72	P
5	4824.00	5.28	31.91	37.19	54.00	-16.81	Average	106	68	P
6	4824.00	5.28	45.20	50.48	74.00	-23.52	Peak	106	68	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

Non BeamForming

Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, CH01		:	

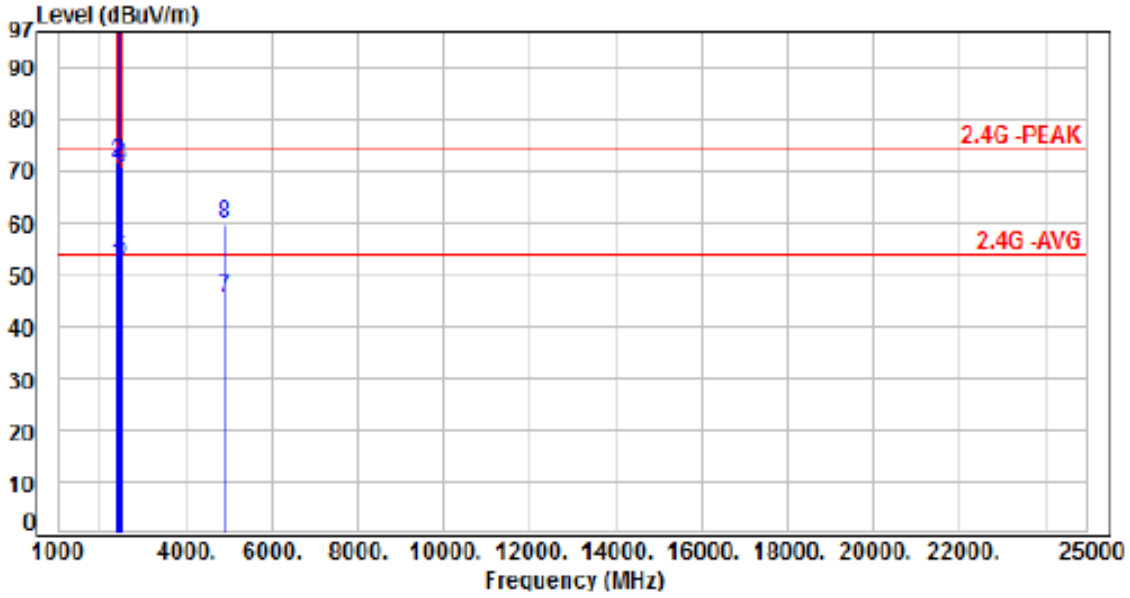


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-3.22	47.87	44.65	54.00	-9.35	Average	226	59	P
2	2390.00	-3.22	65.79	62.57	74.00	-11.43	Peak	226	59	P
3	2412.00	-3.18	102.81	99.63	200.00	-100.37	Average	226	59	P
4	2412.00	-3.18	112.05	108.87	200.00	-91.13	Peak	226	59	P
5	4824.00	5.28	31.61	36.89	54.00	-17.11	Average	100	143	P
6	4824.00	5.28	45.25	50.53	74.00	-23.47	Peak	100	143	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

Non BeamForming

Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, CH06		:	

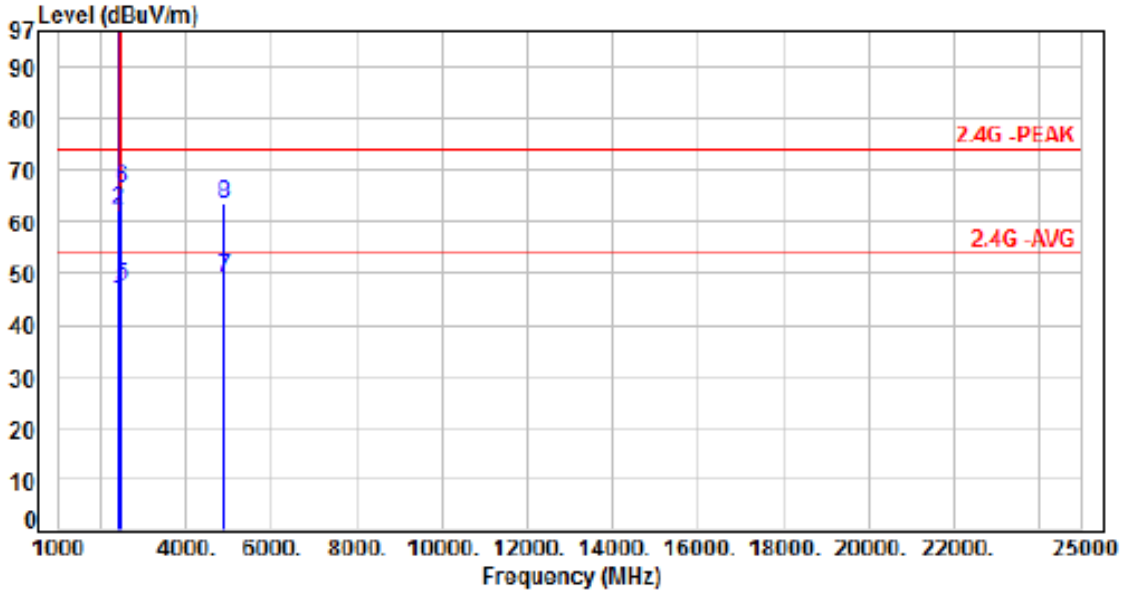


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-3.22	55.08	51.86	54.00	-2.14	Average	155	50	P
2	2390.00	-3.22	74.64	71.42	74.00	-2.58	Peak	155	50	P
3	2437.00	-2.70	115.14	112.44	200.00	-87.56	Average	155	50	P
4	2437.00	-2.70	124.85	122.15	200.00	-77.85	Peak	155	50	P
5	2483.50	-2.35	54.92	52.57	54.00	-1.43	Average	155	50	P
6	2483.50	-2.35	73.26	70.91	74.00	-3.09	Peak	155	50	P
7	4874.00	5.48	39.81	45.29	54.00	-8.71	Average	153	104	P
8	4874.00	5.48	54.12	59.60	74.00	-14.40	Peak	153	104	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

Non BeamForming

Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, CH06		:	

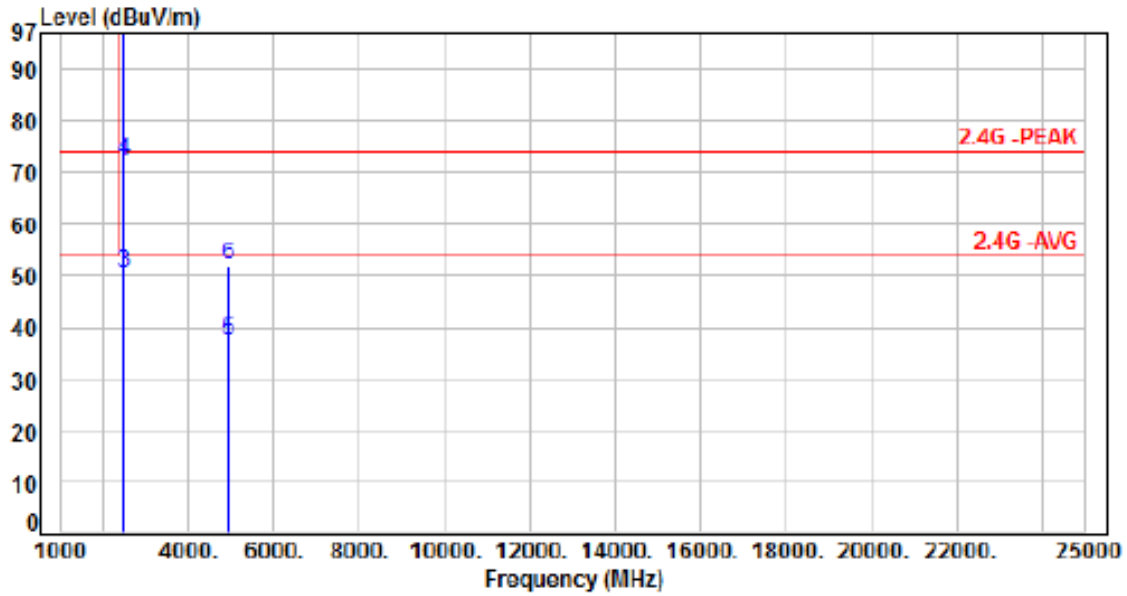


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-3.22	47.91	44.69	54.00	-9.31	Average	256	224	P
2	2390.00	-3.22	65.45	62.23	74.00	-11.77	Peak	256	224	P
3	2437.00	-2.70	108.77	106.07	200.00	-93.93	Average	256	224	P
4	2437.00	-2.70	119.42	116.72	200.00	-83.28	Peak	256	224	P
5	2483.50	-2.35	50.07	47.72	54.00	-6.28	Average	256	224	P
6	2483.50	-2.35	68.60	66.25	74.00	-7.75	Peak	256	224	P
7	4874.00	5.48	43.64	49.12	54.00	-4.88	Average	100	242	P
8	4874.00	5.48	58.13	63.61	74.00	-10.39	Peak	100	242	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

Non BeamForming

Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 2, CH11		:	

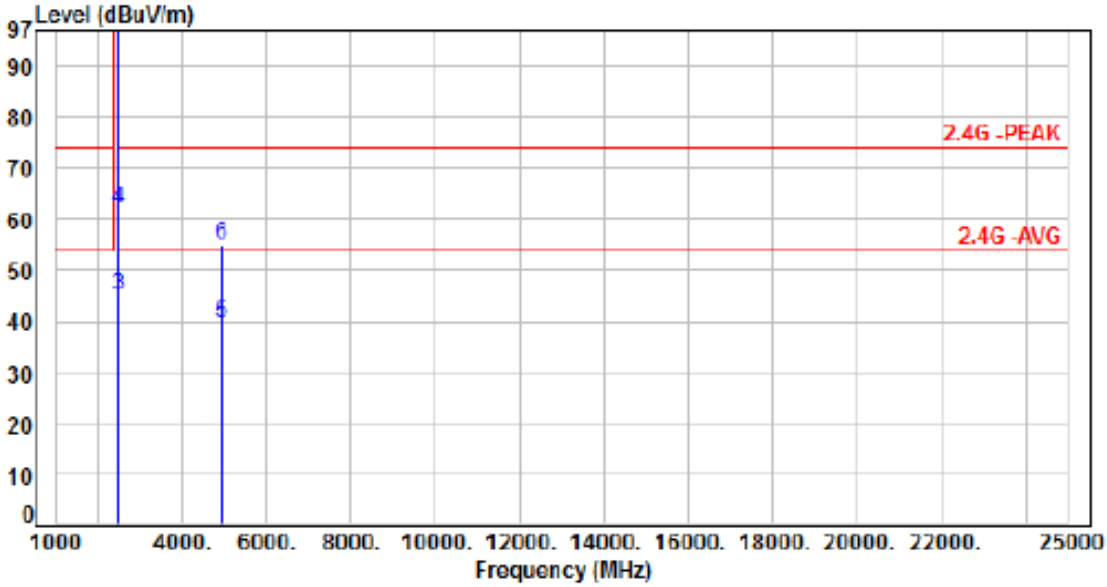


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2462.00	-2.42	108.91	106.49	200.00	-93.51	Average	199	63	P
2	2462.00	-2.42	118.51	116.09	200.00	-83.91	Peak	199	63	P
3	2483.50	-2.35	52.92	50.57	54.00	-3.43	Average	199	63	P
4	2483.50	-2.35	74.59	72.24	74.00	-1.76	Peak	199	63	P
5	4924.00	5.59	31.70	37.29	54.00	-16.71	Average	160	99	P
6	4924.00	5.59	46.26	51.85	74.00	-22.15	Peak	160	99	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

Non BeamForming

Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 2, CH11		:	

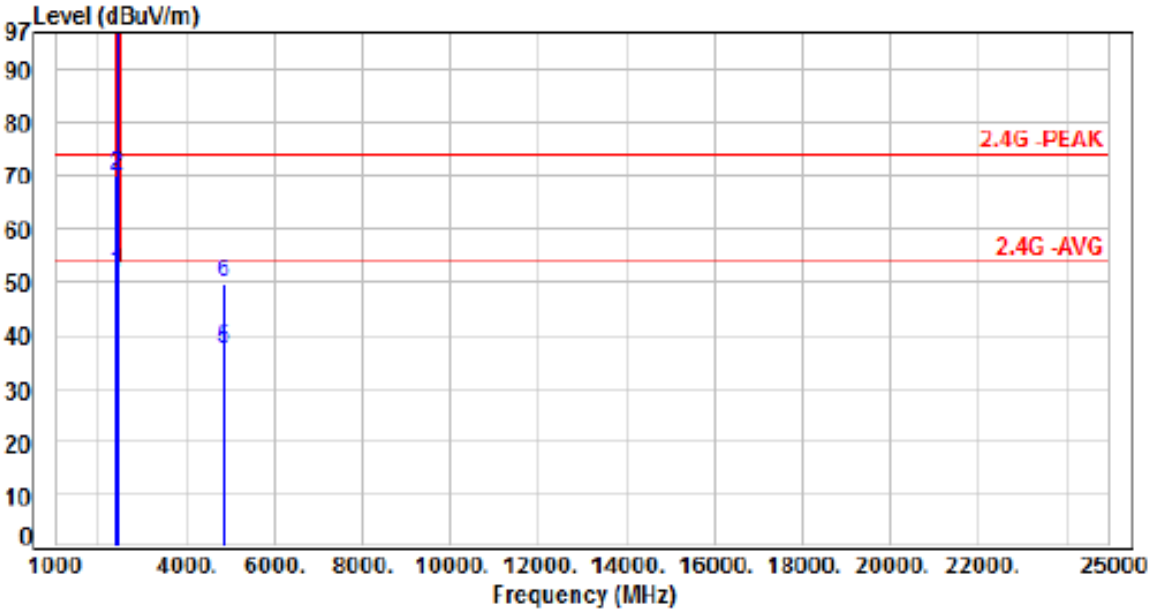


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2462.00	-2.42	102.15	99.73	200.00	-100.27	Average	283	224	P
2	2462.00	-2.42	111.87	109.45	200.00	-90.55	Peak	283	224	P
3	2483.50	-2.35	47.20	44.85	54.00	-9.15	Average	283	224	P
4	2483.50	-2.35	64.19	61.84	74.00	-12.16	Peak	283	224	P
5	4924.00	5.59	33.85	39.44	54.00	-14.56	Average	100	190	P
6	4924.00	5.59	49.42	55.01	74.00	-18.99	Peak	100	190	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

Non BeamForming

Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 3, CH01		:	

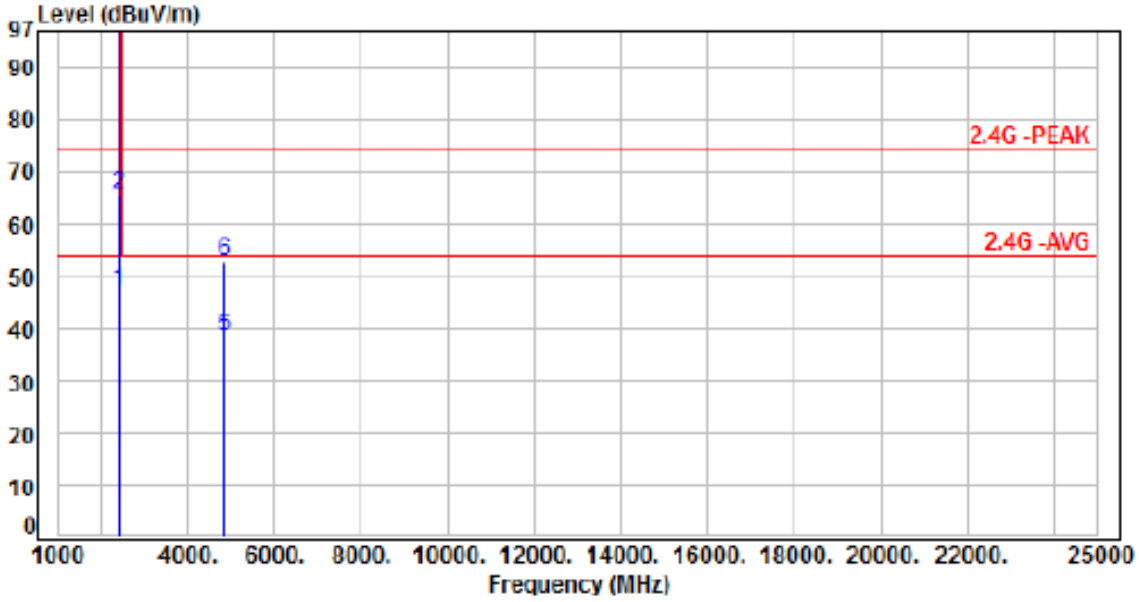


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-3.22	54.92	51.70	54.00	-2.30	Average	154	66	P
2	2390.00	-3.22	73.47	70.25	74.00	-3.75	Peak	154	66	P
3	2412.00	-3.18	108.48	105.30	200.00	-94.70	Average	154	66	P
4	2412.00	-3.18	118.39	115.21	200.00	-84.79	Peak	154	66	P
5	4824.00	5.28	31.96	37.24	54.00	-16.76	Average	103	66	P
6	4824.00	5.28	44.49	49.77	74.00	-24.23	Peak	103	66	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

Non BeamForming

Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 3, CH01		:	

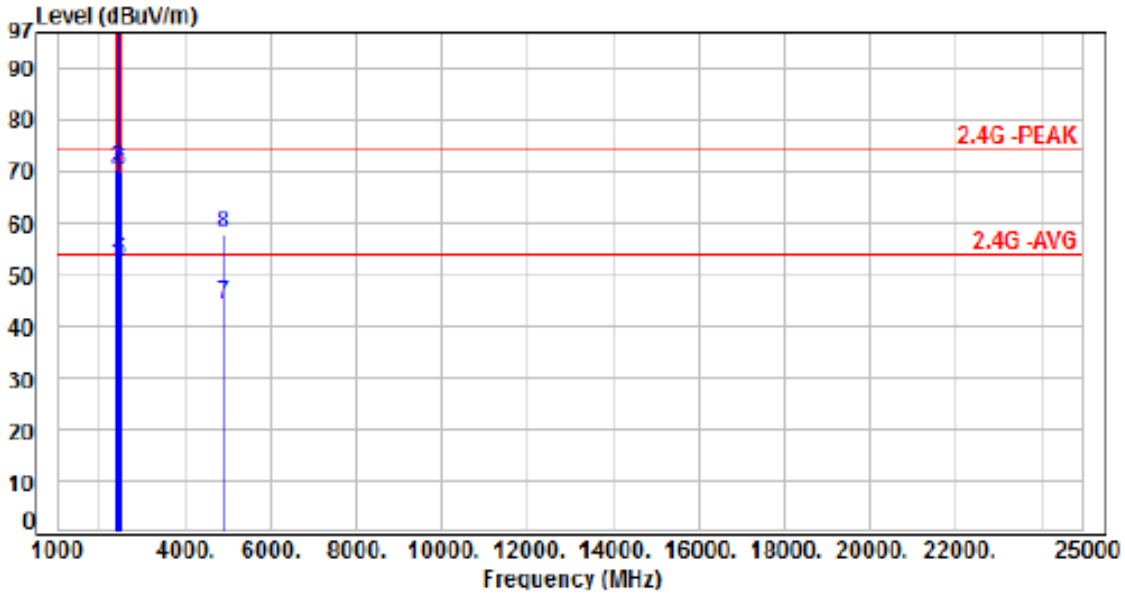


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-3.22	50.31	47.09	54.00	-6.91	Average	198	50	P
2	2390.00	-3.22	68.95	65.73	74.00	-8.27	Peak	198	50	P
3	2412.00	-3.18	103.45	100.27	200.00	-99.73	Average	198	50	P
4	2412.00	-3.18	113.29	110.11	200.00	-89.89	Peak	198	50	P
5	4824.00	5.28	32.90	38.18	54.00	-15.82	Average	100	248	P
6	4824.00	5.28	47.43	52.71	74.00	-21.29	Peak	100	248	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

Non BeamForming

Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 3, CH06		:	

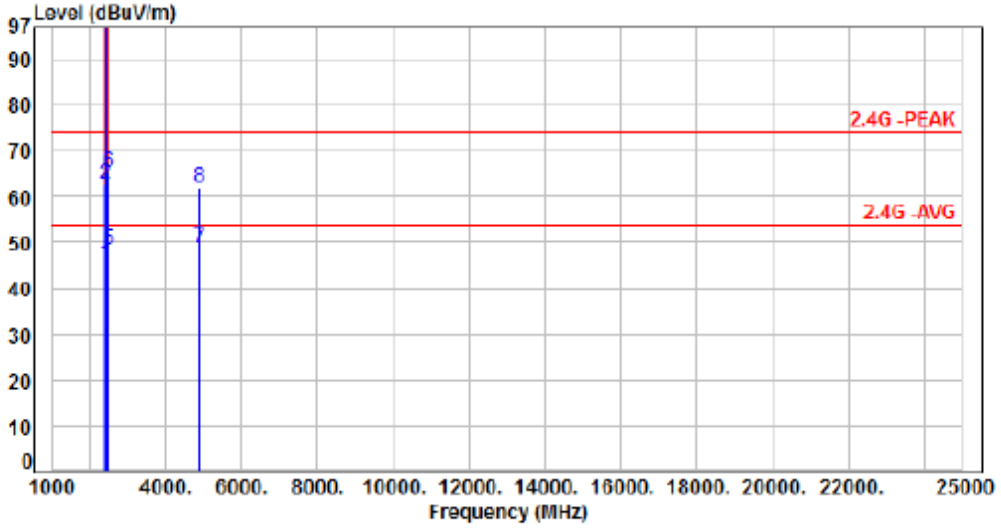


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-3.22	55.26	52.04	54.00	-1.96	Average	137	52	P
2	2390.00	-3.22	73.50	70.28	74.00	-3.72	Peak	137	52	P
3	2437.00	-2.70	113.96	111.26	200.00	-88.74	Average	137	52	P
4	2437.00	-2.70	124.13	121.43	200.00	-78.57	Peak	137	52	P
5	2483.50	-2.35	54.89	52.54	54.00	-1.46	Average	137	52	P
6	2483.50	-2.35	72.41	70.06	74.00	-3.94	Peak	137	52	P
7	4874.00	5.48	38.86	44.34	54.00	-9.66	Average	151	105	P
8	4874.00	5.48	52.44	57.92	74.00	-16.08	Peak	151	105	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

Non BeamForming

Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 3, CH06		:	

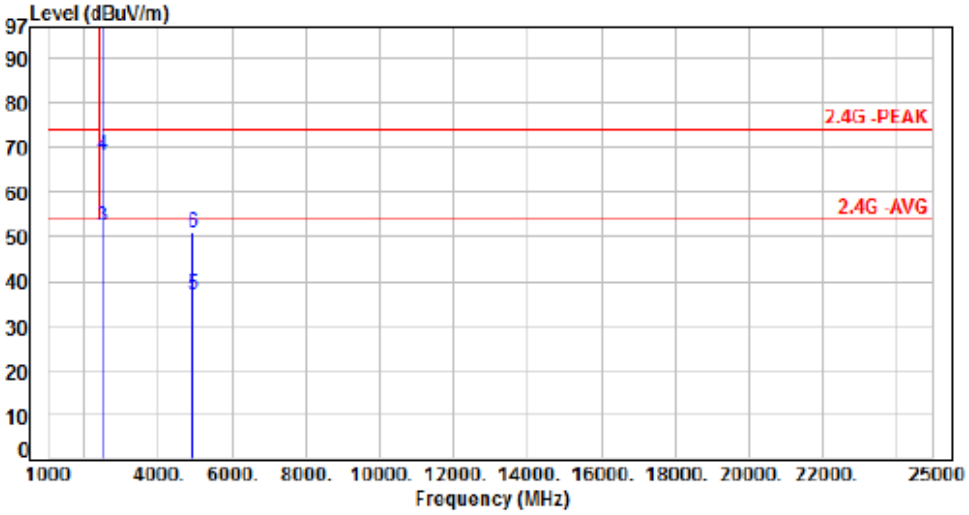


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-3.22	48.57	45.35	54.00	-8.65	Average	253	226	P
2	2390.00	-3.22	65.96	62.74	74.00	-11.26	Peak	253	226	P
3	2437.00	-2.70	108.14	105.44	200.00	-94.56	Average	253	226	P
4	2437.00	-2.70	118.57	115.87	200.00	-84.13	Peak	253	226	P
5	2483.50	-2.35	50.55	48.20	54.00	-5.80	Average	253	226	P
6	2483.50	-2.35	67.61	65.26	74.00	-8.74	Peak	253	226	P
7	4874.00	5.48	43.21	48.69	54.00	-5.31	Average	100	194	P
8	4874.00	5.48	56.59	62.07	74.00	-11.93	Peak	100	194	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

Non BeamForming

Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 3, CH11		:	

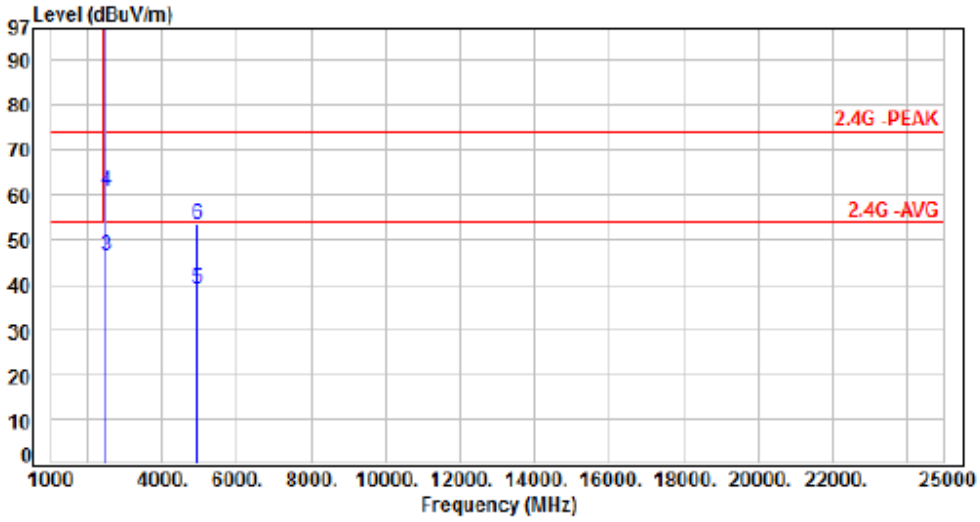


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2462.00	-2.42	108.66	106.24	200.00	-93.76	Average	172	46	P
2	2462.00	-2.42	118.55	116.13	200.00	-83.87	Peak	172	46	P
3	2483.50	-2.35	54.79	52.44	54.00	-1.56	Average	172	46	P
4	2483.50	-2.35	70.68	68.33	74.00	-5.67	Peak	172	46	P
5	4924.00	5.59	31.42	37.01	54.00	-16.99	Average	100	87	P
6	4924.00	5.59	45.42	51.01	74.00	-22.99	Peak	100	87	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

Non BeamForming

Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 3, CH11		:	

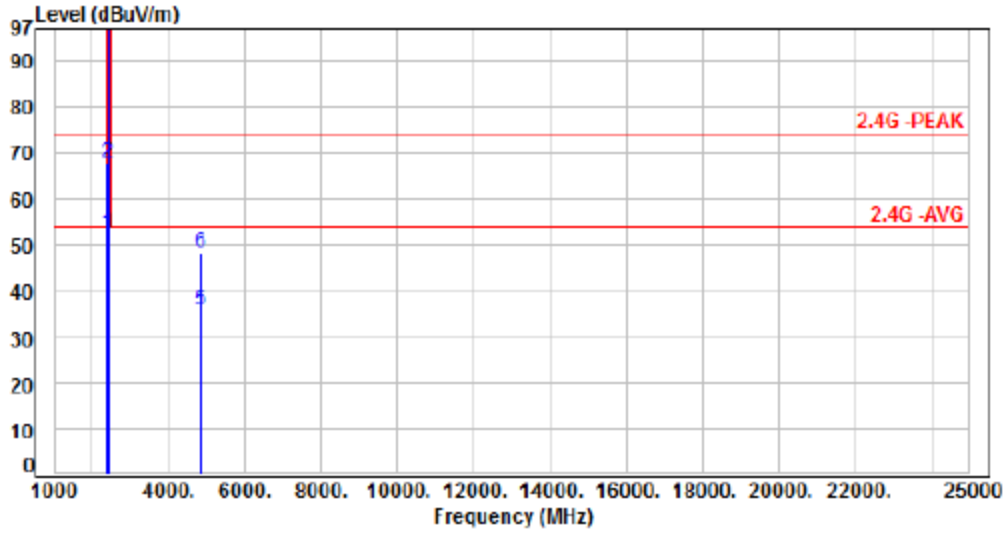


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2462.00	-2.42	102.00	99.58	200.00	-100.42	Average	192	39	P
2	2462.00	-2.42	111.87	109.45	200.00	-90.55	Peak	192	39	P
3	2483.50	-2.35	48.81	46.46	54.00	-7.54	Average	192	39	P
4	2483.50	-2.35	63.38	61.03	74.00	-12.97	Peak	192	39	P
5	4924.00	5.59	33.45	39.04	54.00	-14.96	Average	100	245	P
6	4924.00	5.59	48.05	53.64	74.00	-20.36	Peak	100	245	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

Non BeamForming

Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 4, CH03		:	

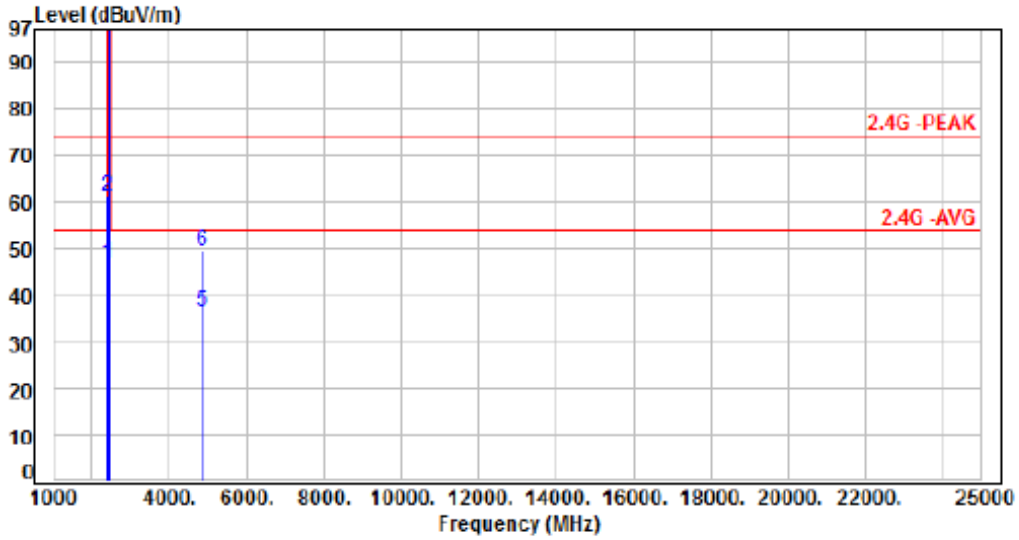


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-3.22	55.65	52.43	54.00	-1.57	Average	180	36	P
2	2390.00	-3.22	71.01	67.79	74.00	-6.21	Peak	180	36	P
3	2422.00	-2.99	105.22	102.23	200.00	-97.77	Average	180	36	P
4	2422.00	-2.99	113.70	110.71	200.00	-89.29	Peak	180	36	P
5	4844.00	5.38	30.57	35.95	54.00	-18.05	Average	132	60	P
6	4844.00	5.38	42.97	48.35	74.00	-25.65	Peak	132	60	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

Non BeamForming

Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 4, CH03		:	

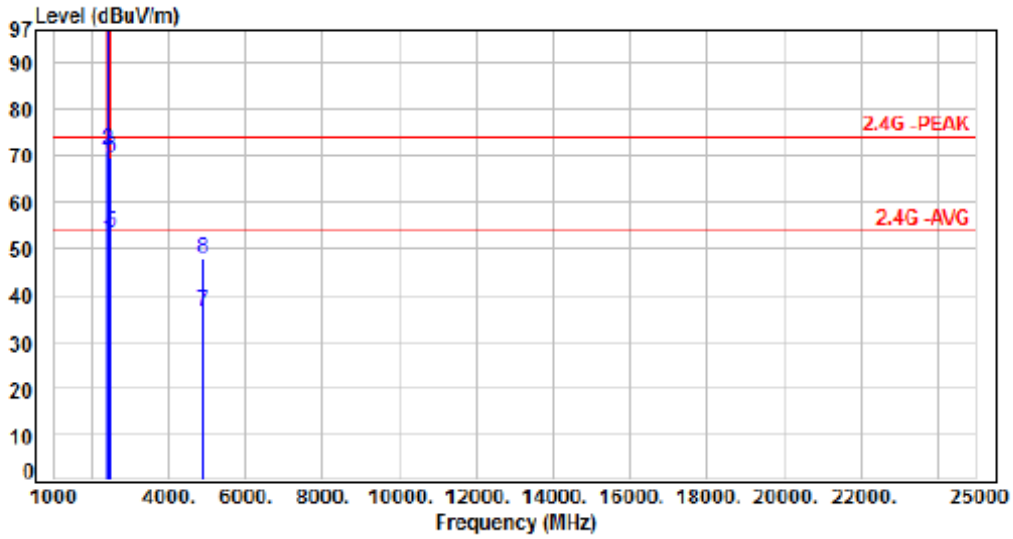


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-3.22	50.22	47.00	54.00	-7.00	Average	226	61	P
2	2390.00	-3.22	64.51	61.29	74.00	-12.71	Peak	226	61	P
3	2422.00	-2.99	99.11	96.12	200.00	-103.88	Average	226	61	P
4	2422.00	-2.99	108.25	105.26	200.00	-94.74	Peak	226	61	P
5	4844.00	5.38	31.05	36.43	54.00	-17.57	Average	100	145	P
6	4844.00	5.38	43.91	49.29	74.00	-24.71	Peak	100	145	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

Non BeamForming

Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 4, CH06		:	

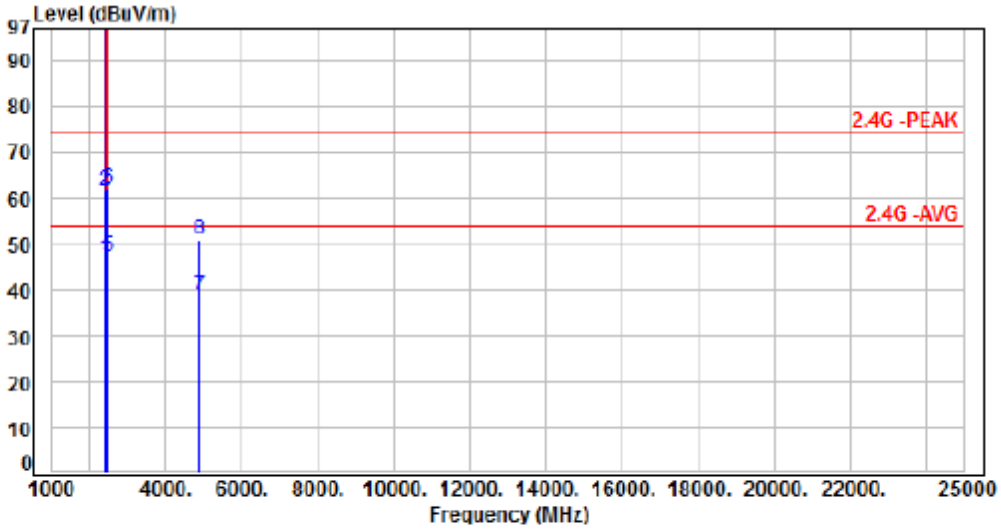


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-3.22	55.25	52.03	54.00	-1.97	Average	152	65	P
2	2390.00	-3.22	74.46	71.26	74.00	-2.74	Peak	152	65	P
3	2437.00	-2.70	107.47	104.77	200.00	-95.23	Average	152	65	P
4	2437.00	-2.70	115.89	113.19	200.00	-86.81	Peak	152	65	P
5	2483.50	-2.35	55.97	53.62	54.00	-0.38	Average	152	65	P
6	2483.50	-2.35	72.06	69.71	74.00	-4.29	Peak	152	65	P
7	4874.00	5.48	30.96	36.44	54.00	-17.56	Average	100	77	P
8	4874.00	5.48	42.64	48.12	74.00	-25.88	Peak	100	77	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

Non BeamForming

Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 4, CH06		:	

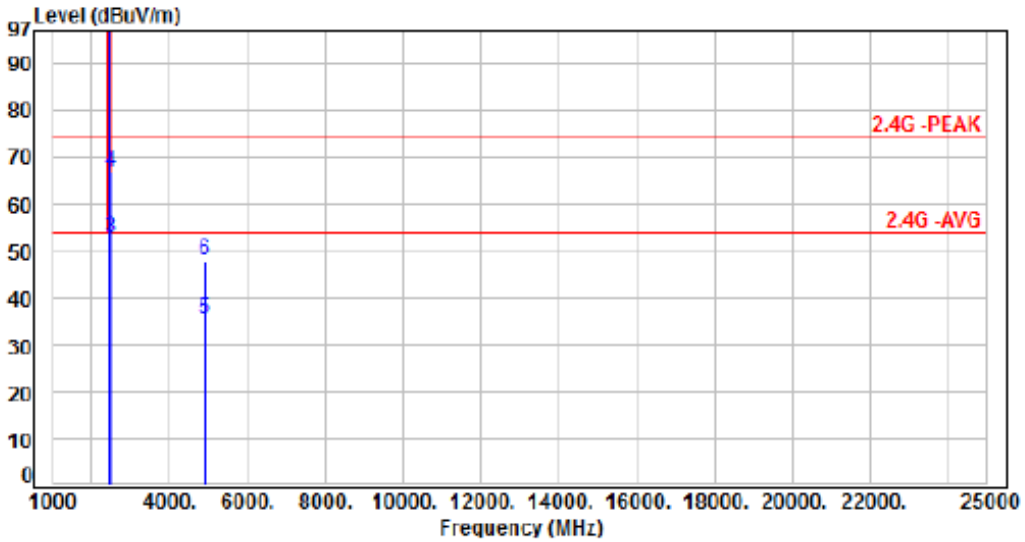


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-3.22	49.91	46.69	54.00	-7.31	Average	100	244	P
2	2390.00	-3.22	64.76	61.54	74.00	-12.46	Peak	100	244	P
3	2437.00	-2.70	100.01	97.31	200.00	-102.69	Average	100	244	P
4	2437.00	-2.70	109.28	106.58	200.00	-93.42	Peak	100	244	P
5	2483.50	-2.35	49.66	47.31	54.00	-6.69	Average	100	244	P
6	2483.50	-2.35	64.15	61.80	74.00	-12.20	Peak	100	244	P
7	4874.00	5.48	33.21	38.69	54.00	-15.31	Average	100	246	P
8	4874.00	5.48	45.55	51.03	74.00	-22.97	Peak	100	246	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

Non BeamForming

Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 4, CH09		:	

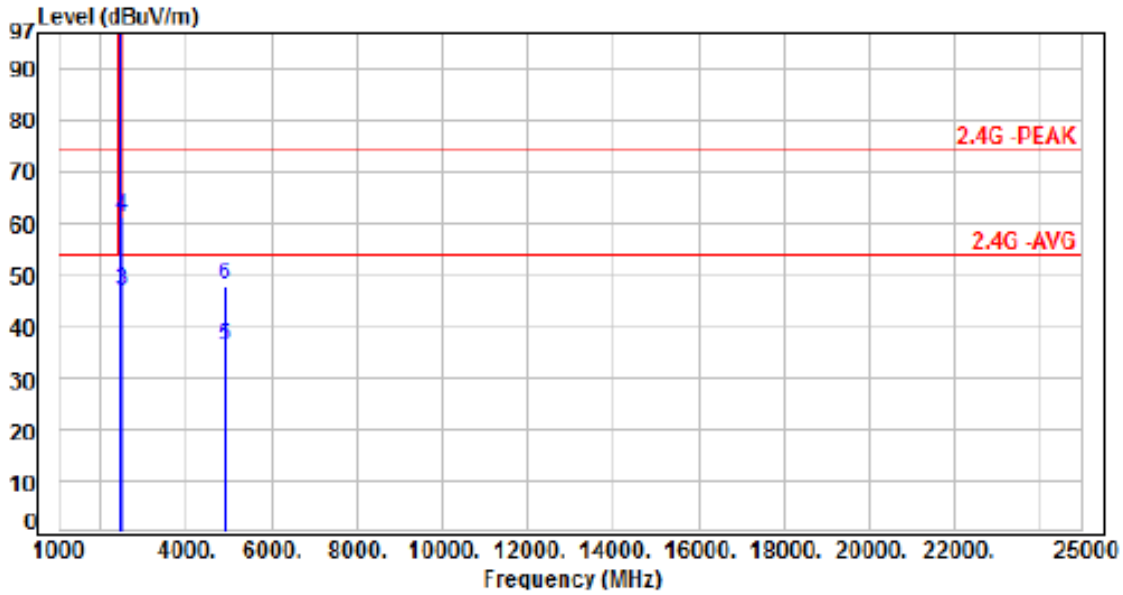


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2452.00	-2.45	104.24	101.79	200.00	-98.21	Average	200	42	P
2	2452.00	-2.45	113.15	110.70	200.00	-89.30	Peak	200	42	P
3	2483.50	-2.35	55.08	52.73	54.00	-1.27	Average	200	42	P
4	2483.50	-2.35	69.10	66.75	74.00	-7.25	Peak	200	42	P
5	4904.00	5.57	29.79	35.36	54.00	-18.64	Average	100	105	P
6	4904.00	5.57	42.40	47.97	74.00	-26.03	Peak	100	105	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

Non BeamForming

Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 4, CH09		:	

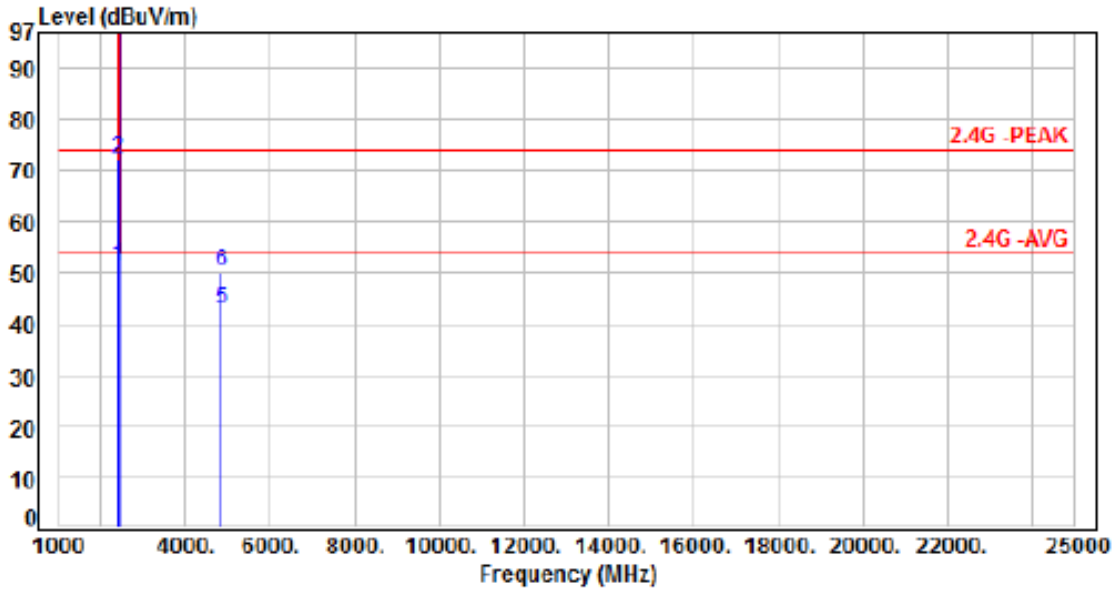


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2452.00	-2.45	97.95	95.50	200.00	-104.50	Average	192	40	P
2	2452.00	-2.45	107.10	104.65	200.00	-95.35	Peak	192	40	P
3	2483.50	-2.35	49.14	46.79	54.00	-7.21	Average	192	40	P
4	2483.50	-2.35	63.40	61.05	74.00	-12.95	Peak	192	40	P
5	4904.00	5.57	30.42	35.99	54.00	-18.01	Average	100	202	P
6	4904.00	5.57	42.24	47.81	74.00	-26.19	Peak	100	202	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

BeamForming

Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 5, CH01		:	

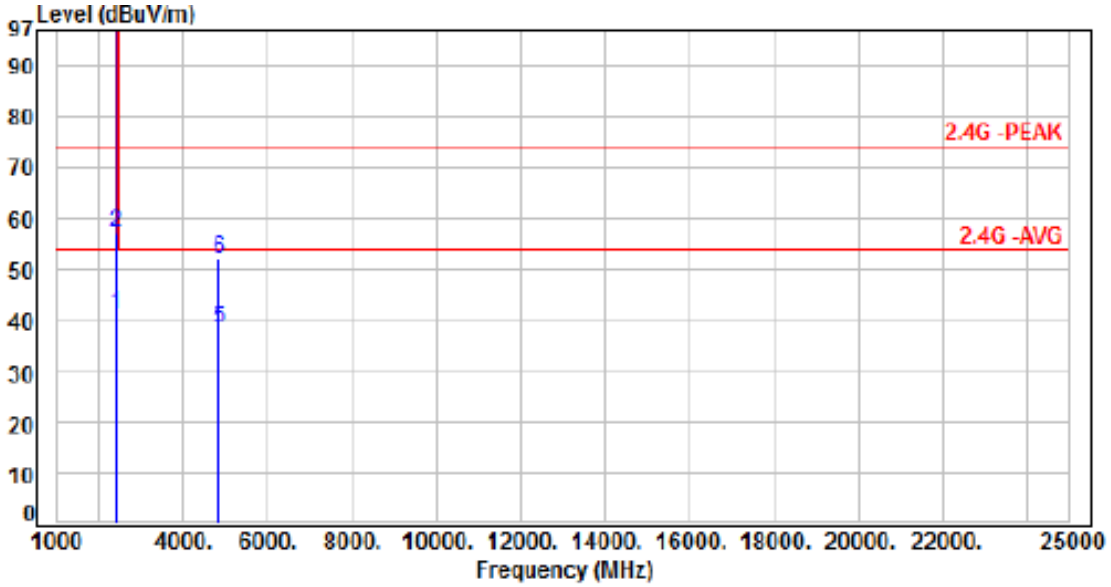


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-3.22	54.40	51.18	54.00	-2.82	Average	100	350	P
2	2390.00	-3.22	75.33	72.11	74.00	-1.89	Peak	100	350	P
3	2412.00	-3.18	113.37	110.19	200.00	-89.81	Average	100	350	P
4	2412.00	-3.18	120.26	117.08	200.00	-82.92	Peak	100	350	P
5	4824.00	5.28	37.61	42.89	54.00	-11.11	Average	108	65	P
6	4824.00	5.28	44.85	50.13	74.00	-23.87	Peak	108	65	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

BeamForming

Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 5, CH01		:	

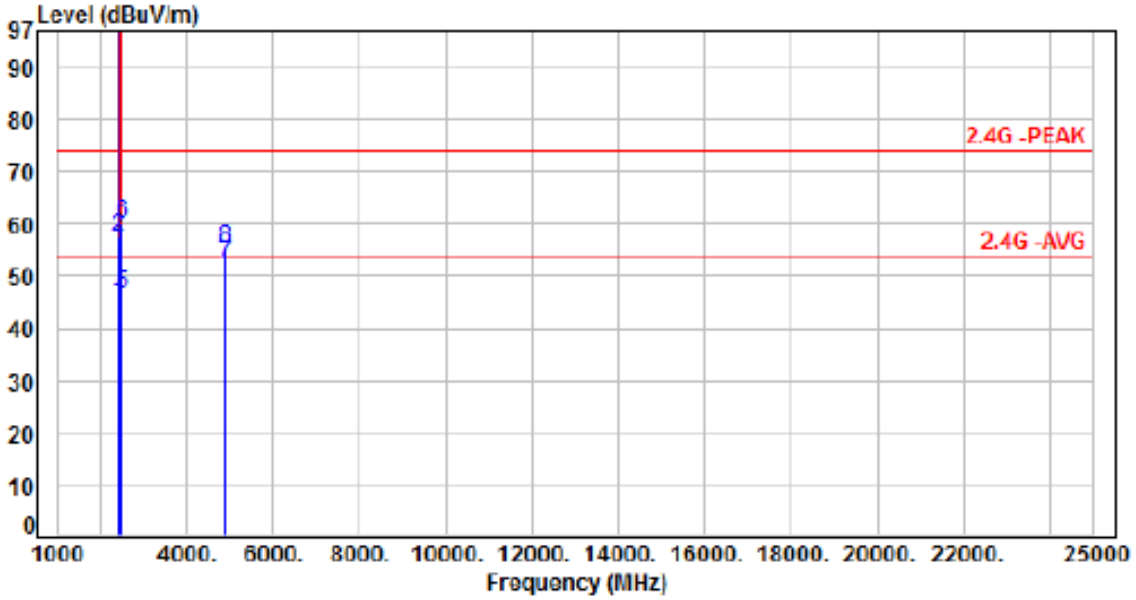


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-3.22	44.39	41.17	54.00	-12.83	Average	100	103	P
2	2390.00	-3.22	60.52	57.30	74.00	-16.70	Peak	100	103	P
3	2412.00	-3.18	108.47	105.29	200.00	-94.71	Average	100	103	P
4	2412.00	-3.18	111.61	108.43	200.00	-91.57	Peak	100	103	P
5	4824.00	5.28	33.19	38.47	54.00	-15.53	Average	100	101	P
6	4824.00	5.28	46.63	51.91	74.00	-22.09	Peak	100	101	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

BeamForming

Power	:	AC 120V / 60Hz	Pol/Phase	:	VERTICAL
Test Mode	:	Mode 5, CH06		:	

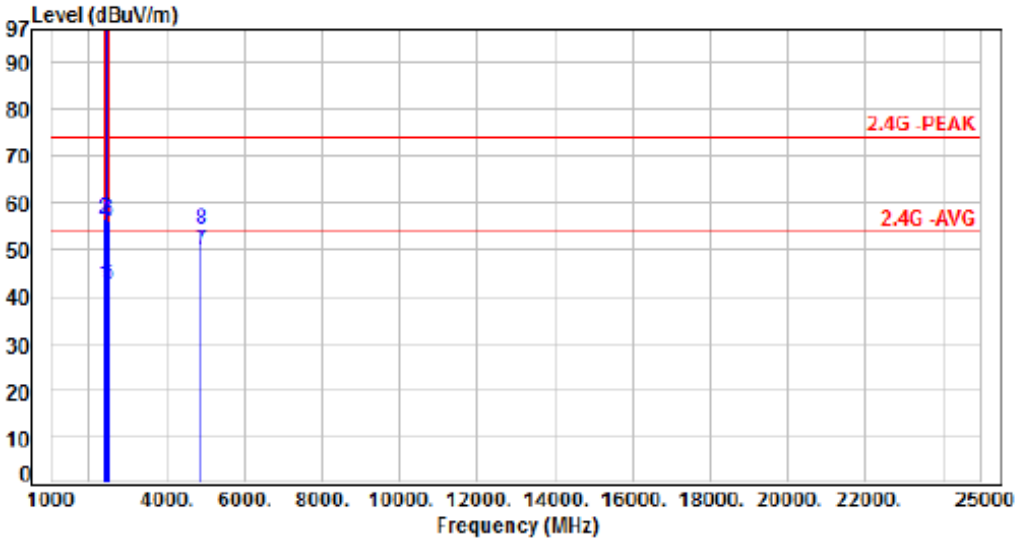


No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-3.22	47.91	44.69	54.00	-9.31	Average	157	52	P
2	2390.00	-3.22	60.63	57.41	74.00	-16.59	Peak	157	52	P
3	2437.00	-2.70	117.55	114.85	200.00	-85.15	Average	157	52	P
4	2437.00	-2.70	122.29	119.59	200.00	-80.41	Peak	157	52	P
5	2483.50	-2.35	48.70	46.35	54.00	-7.65	Average	157	52	P
6	2483.50	-2.35	62.65	60.30	74.00	-13.70	Peak	157	52	P
7	4874.00	5.48	46.79	52.27	54.00	-1.73	Average	100	68	P
8	4874.00	5.48	49.91	55.39	74.00	-18.61	Peak	100	68	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor

BeamForming

Power	:	AC 120V / 60Hz	Pol/Phase	:	HORIZONTAL
Test Mode	:	Mode 5, CH06		:	



No.	Frequency (MHz)	Factor (dB)	Reading (dBuV)	Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Detector	Height (cm)	Azimuth (deg)	P/F
1	2390.00	-3.22	45.70	42.48	54.00	-11.52	Average	300	139	P
2	2390.00	-3.22	59.64	56.42	74.00	-17.58	Peak	300	139	P
3	2437.00	-2.70	105.47	102.77	200.00	-97.23	Average	300	139	P
4	2437.00	-2.70	108.57	105.87	200.00	-94.13	Peak	300	139	P
5	2483.50	-2.35	44.80	42.45	54.00	-11.55	Average	300	139	P
6	2483.50	-2.35	58.55	56.20	74.00	-17.80	Peak	300	139	P
7	4874.00	5.48	44.43	49.91	54.00	-4.09	Average	180	91	P
8	4874.00	5.48	48.59	54.07	74.00	-19.93	Peak	180	91	P

Note: Level=Reading+Factor
Margin=Level-Limit
Factor=Antenna Factor + cable loss - Amplifier Factor