

FCC Test Report

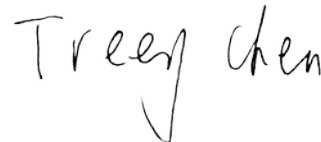
FCC ID: QISB315S-519B

This report concerns (check one): ☒ Original Grant ☐ Class I Change ☐ Class II Change

Project No. : 1606C182A
Equipment : LTE CPE
Model Name : B315s-519
Applicant : Huawei Technologies Co.,Ltd.
Address : Administration Building, Headquarters of Huawei Technologies Co., Ltd., Bantian, Longgang District, Shenzhen 518129 P.R.C

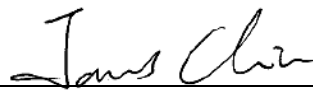
Date of Receipt : Jun. 14, 2016
Dec. 28, 2016
Date of Test : Jun. 14, 2016 ~ Jun. 20, 2016
Dec. 28, 2016 ~ Jan. 04, 2017
Issued Date : Jan. 05, 2017
Tested by : BTL Inc.

Testing Engineer :



(Terry Chen)

Technical Manager :



(James Chiu)

Authorized Signatory :



(Steven Lu)

B T L I N C .

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Declaration

BTL represents to the client that testing is done in accordance with standard procedures as applicable and that test instruments used has been calibrated with standards traceable to international standard(s) and/or national standard(s).

BTL's reports apply only to the specific samples tested under conditions. It is manufacture's responsibility to ensure that additional production units of this model are manufactured with the identical electrical and mechanical components. **BTL** shall have no liability for any declarations, inferences or generalizations drawn by the client or others from **BTL** issued reports.

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BTL's laboratory quality assurance procedures are in compliance with the **ISO Guide 17025** requirements, and accredited by the conformity assessment authorities listed in this test report.

Limitation

For the use of the authority's logo is limited unless the Test Standard(s)/Scope(s)/Item(s) mentioned in this test report is (are) included in the conformity assessment authorities acceptance respective.

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REPORT ISSUED HISTORY

Issued No.	Description	Issued Date
BTL-FCCE-1-1606C182	Original report.	Jun. 21, 2016
BTL-FCCE-1-1606C182A	Compared with previous report (BTL-FCCE-1-1606C182), two external antenna is added, the radiated emission have been re-evaluated and recorded in the test report, the rest are kept the same.	Jan. 05, 2017

1. CERTIFICATION

Equipment : LTE CPE
Brand Name : HUAWEI
Model Name : B315s-519
Applicant : Huawei Technologies Co.,Ltd.
Manufacturer : Huawei Technologies Co.,Ltd.
Address : Administration Building, Headquarters of Huawei Technologies Co., Ltd.,
Bantian, Longgang District, Shenzhen 518129 P.R.C
Factory : Huawei Technologies Co.,Ltd.
Address : Administration Building, Headquarters of Huawei Technologies Co., Ltd.,
Bantian, Longgang District, Shenzhen 518129 P.R.C
Date of Test : Jun. 14, 2016 ~ Jun. 20, 2016
Dec. 28, 2016 ~ Jan. 04, 2017
Test Sample : Engineering Sample
Standard(s) : FCC Part 15, Subpart B
ANSI C63.4-2014

The above equipment has been tested and found compliance with the requirement of the relative standards by BTL Inc.

The test data, data evaluation, and equipment configuration contained in our test report (Ref No. BTL-FCCE-1-1606C182A) were obtained utilizing the test procedures, test instruments, test sites that has been accredited by the Authority of TAF according to the ISO-17025 quality assessment standard and technical standard(s).

2. SUMMARY OF TEST RESULTS

Test procedures according to the technical standard(s):

EMC Emission				
Standard(s)	Test Item	Limit	Judgment	Remark
FCC Part15, Subpart B ANSI C63.4-2014	Conducted Emission	Class B	PASS	
	Radiated emission Below 1 GHz	Class B	PASS	
	Radiated emission Above 1 GHz	Class B	PASS	NOTE (2)

NOTE:

- (1) " N/A" denotes test is not applicable to this device.
- (2) The EUT's max operating frequency exceeds 108 MHz, so the test will be performed.

2.1 TEST FACILITY

The test facilities used to collect the test data in this report at the location of No.3, Jinshagang 1st Road, Shixia, Dalang Town, Dongguan, Guangdong, China.

2.2 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2. The BTL measurement uncertainty is less than the CISPR 16-4-2 U_{cispr} requirement.

The reported uncertainty of measurement $y \pm U$, where expanded uncertainty U is based on a standard uncertainty multiplied by a coverage factor of $k=2$, providing a level of confidence of approximately **95%**.

A. Conducted Measurement :

Test Site	Method	Measurement Frequency Range	U,(dB)
DG-C02	CISPR	150 kHz ~ 30MHz	2.32

B. Radiated Measurement :

Test Site	Method	Measurement Frequency Range	Ant. H / V	U,(dB)
DG-CB03 (3m)	CISPR	9KHz ~ 30MHz	V	3.79
		9KHz ~ 30MHz	H	3.57
		30MHz ~ 200MHz	V	3.82
		30MHz ~ 200MHz	H	3.78
		200MHz ~ 1,000MHz	V	4.10
		200MHz ~ 1,000MHz	H	4.06

Test Site	Method	Measurement Frequency Range	Ant. H / V	U,(dB)
DG-CB03 (3m)	CISPR	1GHz ~ 18GHz	V	3.12
		1GHz ~ 18GHz	H	3.68
		18GHz ~ 40GHz	V	4.15
		18GHz ~ 40GHz	H	4.14

Note: Unless specifically mentioned, the uncertainty of measurement has not been taken into account to declare the compliance or non-compliance to the specification.

3. GENERAL INFORMATION

3.1 GENERAL DESCRIPTION OF EUT

Equipment	LTE CPE
Brand Name	HUAWEI
Model Name	B315s-519
Model Difference	NA
Power Source	DC voltage supplied from AC Adapter. Brand / Model: HUAWEI / HW-120100U01 #1 S/N: G75002G4800038 #2 S/N: U75002G4C00684 #3 S/N: U75002G4501553
Power Rating	I/P: 100-240~ 50/60Hz, 0.5A O/P: 12V --- 1A
Frequency	LTE B2/4/5/13/17, WCDMA B2/5, GSM850/1900, WIFI 2.4G 11b/g/n

Note:

1. For a more detailed features description, please refer to the manufacturer's specifications or the user's manual.

3.2 DESCRIPTION OF TEST MODES

To investigate the maximum EMI emission characteristics generated from EUT, the test system was pre-scanning tested base on the consideration of following EUT operation mode or test configuration mode which possible have effect on EMI emission level. Each of these EUT operation mode(s) or test configuration mode(s) mentioned above was evaluated respectively.

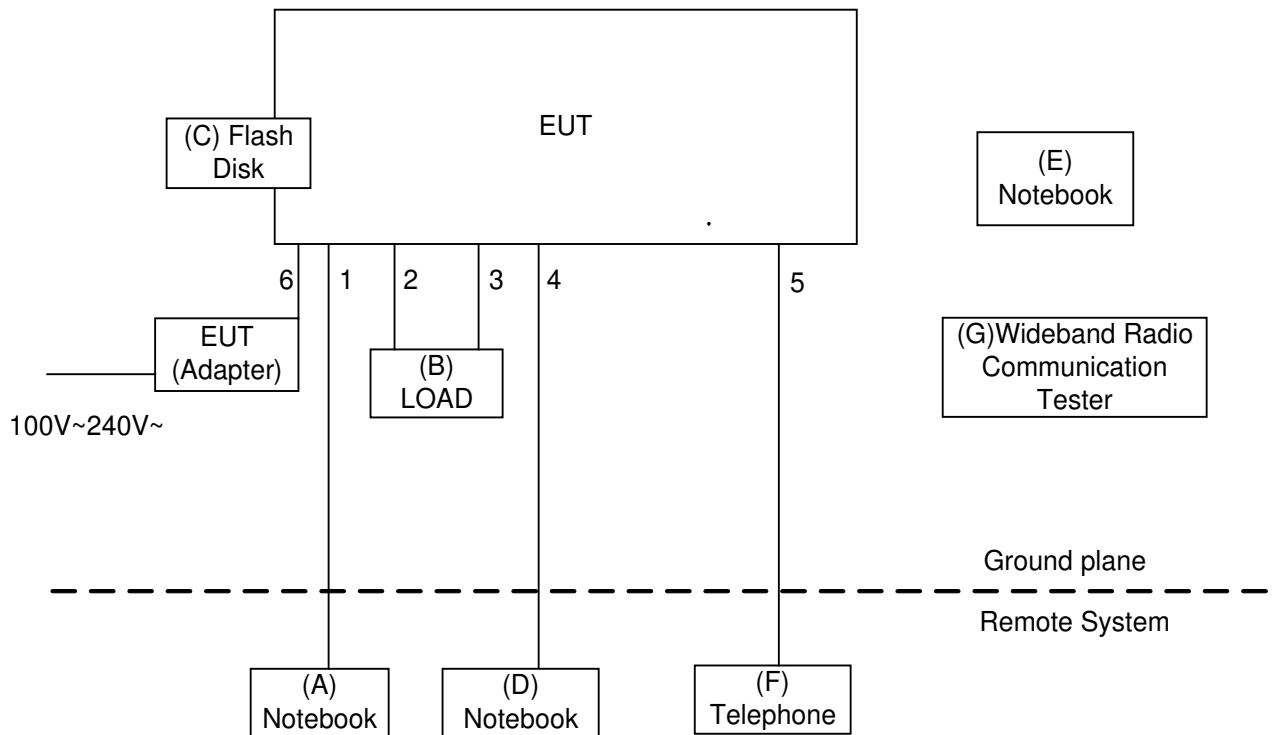
Pretest Mode	Description
Mode 1	FULL SYSTEM

The EUT system operated these modes were found to be the worst case during the pre-scanning test as following:

For Conducted Test	
Final Test Mode	Description
Mode 1	FULL SYSTEM

For Radiated Test	
Final Test Mode	Description
Mode 1	FULL SYSTEM

3.3 BLOCK DIAGRAM SHOWING THE CONFIGURATION OF SYSTEM TESTED



3.4 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Item	Equipment	Mfr/Brand	Model/Type No.	FCC ID	Series No.
A	Notebook	DELL	latitude E5510	DOC	N/A
B	LOAD	N/A	N/A	N/A	N/A
C	USB flash disk	Kingston	N/A	DOC	N/A
D	Notebook	Lenovo	E445	DOC	MP-05Y56S
E	Notebook	Lenovo	E445	DOC	MP-05Y3X6
F	Telephone	TCL	HCD868TSD	VER	N/A
G	Wideband Radio Communication Tester	RS	CMW500	N/A	122125

Item	Shielded Type	Ferrite Core	Length	Note
1	NO	NO	15m	RJ45 Cable
2	NO	NO	1.8m	RJ45 Cable
3	NO	NO	1.8m	RJ45 Cable
4	NO	NO	15m	RJ45 Cable
5	NO	NO	15m	RJ11 Cable
6	NO	NO	1.5m	DC Cable

Note:

- (1) For detachable type I/O cable should be specified the length in m in 『Length』 column.

4. EMC EMISSION TEST

4.1 CONDUCTED EMISSION MEASUREMENT

4.1.1 POWER LINE CONDUCTED EMISSION (FREQUENCY RANGE 150KHZ-30MHZ)

FREQUENCY (MHz)	Class A (dBuV)		Class B (dBuV)	
	Quasi-peak	Average	Quasi-peak	Average
0.15 -0.5	79.00	66.00	66 - 56 *	56 - 46 *
0.50 -5.0	73.00	60.00	56.00	46.00
5.0 -30.0	73.00	60.00	60.00	50.00

Note:

- (1) The tighter limit applies at the band edges.
- (2) The limit of " * " marked band means the limitation decreases linearly with the logarithm of the frequency in the range.
- (3) The test result calculated as following:
 Measurement Value = Reading Level + Correct Factor
 Correct Factor = Insertion Loss + Cable Loss + Attenuator Factor(if use)
 Margin Level = Measurement Value – Limit Value

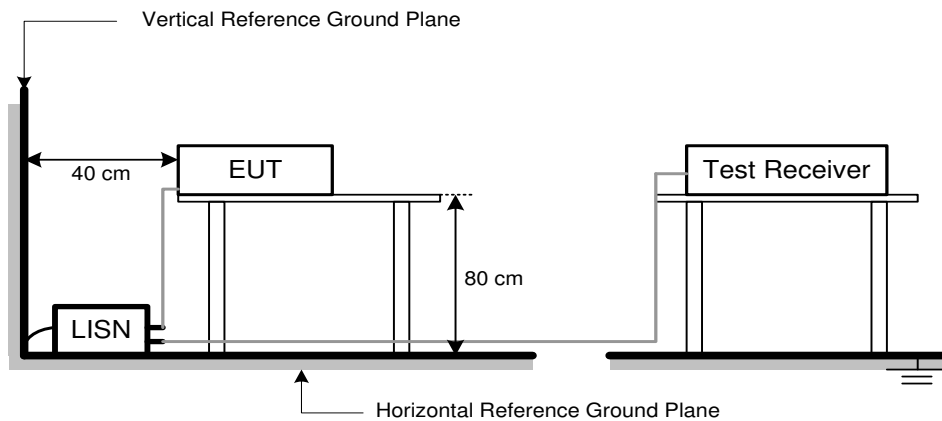
4.1.2 TEST PROCEDURE

- a. The EUT was placed 0.8 meters from the horizontal ground plane with EUT being connected to the power mains through a line impedance stabilization network (LISN). All other support equipments powered from additional LISN(s). The LISN provide 50 Ohm/ 50uH of coupling impedance for the measuring instrument.
- b. Interconnecting cables that hang closer than 40 cm to the ground plane shall be folded back and forth in the center forming a bundle 30 to 40 cm long.
- c. I/O cables that are not connected to a peripheral shall be bundled in the center. The end of the cable may be terminated, if required, using the correct terminating impedance. The overall length shall not exceed 1 m.
- d. LISN at least 80 cm from nearest part of EUT chassis.
- e. For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.1.3 DEVIATION FROM TEST STANDARD

No deviation

4.1.4 TEST SETUP



4.1.5 EUT OPERATING CONDITIONS

The EUT exercise program used during radiated and/or conducted emission measurement was designed to exercise the various system components in a manner similar to a typical use.
Temperature: 24°C Relative Humidity: 60%

4.1.6 TEST RESULTS

Please refer to the Attachment A.

4.2 RADIATED EMISSION MEASUREMENT

4.2.1 LIMITS OF RADIATED EMISSION MEASUREMENT

Below 1 GHz

Measurement Method and Applied Limits:

ANSI C63.4:

Frequency (MHz)	Class A (at 10m)		Class B (at 3m)	
	(uV/m) Field strength	(dBuV/m) Field strength	(uV/m) Field strength	(dBuV/m) Field strength
30 - 88	90	39	100	40
88 - 216	150	43.5	150	43.5
216 - 960	210	46.4	200	46
Above 960	300	49.5	500	54

CISPR 22 or CAN/CSA-CISPR 22-10:

Frequency (MHz)	Class A (at 10m)	Class B (at 10m)
	dBuV/m	dBuV/m
30 - 230	40	30
230 - 1000	47	37

Above 1 GHz

Measurement Method and Applied Limits:

ANSI C63.4:

Frequency (MHz)	Class A				Class B	
	(dBuV/m) (at 3m)		(dBuV/m) (at 10m)		(dBuV/m) (at 3m)	
	Peak	Average	Peak	Average	Peak	Average
Above 1000	80	60	69.5	49.5	74	54

FREQUENCY RANGE OF RADIATED MEASUREMENT (FOR UNINTENTIONAL RADIATORS)

Highest frequency generated or Upper frequency of measurement used in the device or on which the device operates or tunes (MHz)	Range (MHz)
Below 1.705	30
1.705 - 108	1000
108 - 500	2000
500 - 1000	5000
Above 1000	5 th harmonic of the highest frequency or 40 GHz, whichever is lower

NOTE:

- (1) The limit for radiated test was performed according to as following:
FCC Part 15, Subpart B.
- (2) The tighter limit applies at the band edges.
- (3) Emission level (dBuV/m)=20log Emission level (uV/m).
3m Emission level = 10m Emission level + 20log(10m/3m).
- (4) The test result calculated as following:
Measurement Value = Reading Level + Correct Factor
Correct Factor = Antenna Factor + Cable Loss - Amplifier Gain(if use)
Margin Level = Measurement Value - Limit Value

4.2.2 TEST PROCEDURE

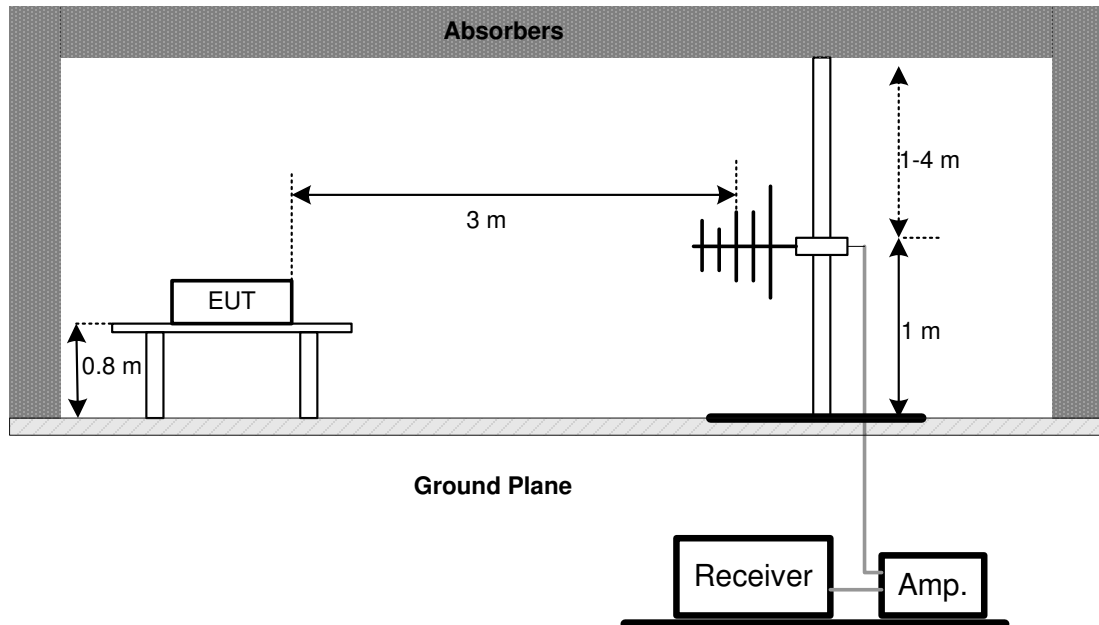
- a. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(below 1GHz)
- b. The measuring distance of 3 m shall be used for measurements. The EUT was placed on the top of a rotating table 0.8 meter above the ground at a 3 meter semi-anechoic chamber. The table was rotated 360 degrees to determine the position of the highest radiation.(above 1GHz)
- c. The height of the equipment or of the substitution antenna shall be 0.8 m, the height of the test antenna shall vary between 1 m to 4 m. Both horizontal and vertical polarizations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and then the antenna was tuned to heights find the maximum reading (used Bore sight function).
- e. The receiver system was set to peak and average detect function and specified bandwidth with maximum hold mode when the test frequency is above 1GHz.
- f. The initial step in collecting radiated emission data is a receiver peak detector mode pre-scanning the measurement frequency range. Significant peaks are then marked and then Quasi Peak detector mode re-measured.
- g. All readings are Peak unless otherwise stated QP in column of Note. Peak denotes that the Peak reading compliance with the QP Limits and then QP Mode measurement didn't perform. (below 1GHz)
- h. All readings are Peak Mode value unless otherwise stated AVG in column of Note. If the Peak Mode Measured value compliance with the Peak Limits and lower than AVG Limits, the EUT shall be deemed to meet both Peak & AVG Limits and then only Peak Mode was measured, but AVG Mode didn't perform. (above 1GHz)
- i. For the actual test configuration, please refer to the related Item –EUT Test Photos.

4.2.3 DEVIATION FROM TEST STANDARD

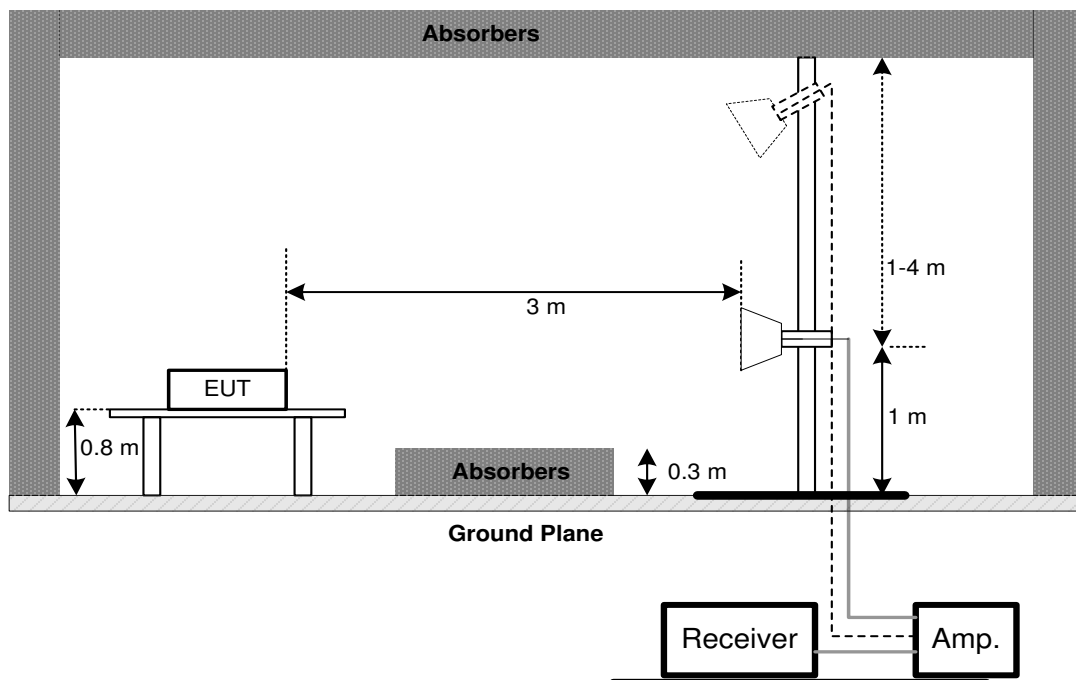
No deviation

4.2.4 TEST SETUP

(A) Radiated Emission Test Set-Up Frequency Below 1 GHz



(B) Radiated Emission Test Set-Up Frequency 1 GHz-18GHz



4.2.5 EUT OPERATING CONDITIONS

The EUT tested system was configured as the statements of 4.1.5 unless otherwise a special operating condition is specified in the follows during the testing.

4.2.6 TEST RESULTS (30 TO 1000 MHz)

Please refer to the Attachment B.

Temperature: 24°C Relative Humidity: 52%

4.2.7 TEST RESULTS (Above 1000 MHz)

Please refer to the Attachment C.

Temperature: 24°C Relative Humidity: 52%

5. MEASUREMENT INSTRUMENTS LIST

Conducted Emission					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	LISN	EMCO	3816/2	0052765	Mar. 27, 2017
2	LISN	R&S	ENV216	101447	Mar. 27, 2017
3	Test Cable	emci	RG223(9KHz-30 MHz)	C_17	Mar. 10, 2017
4	EMI Test Receiver	R&S	ESCI	100382	Mar. 27, 2017
5	50Ω Terminator	SHX	TF2-3G-A	08122901	Mar. 27, 2017
6	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A

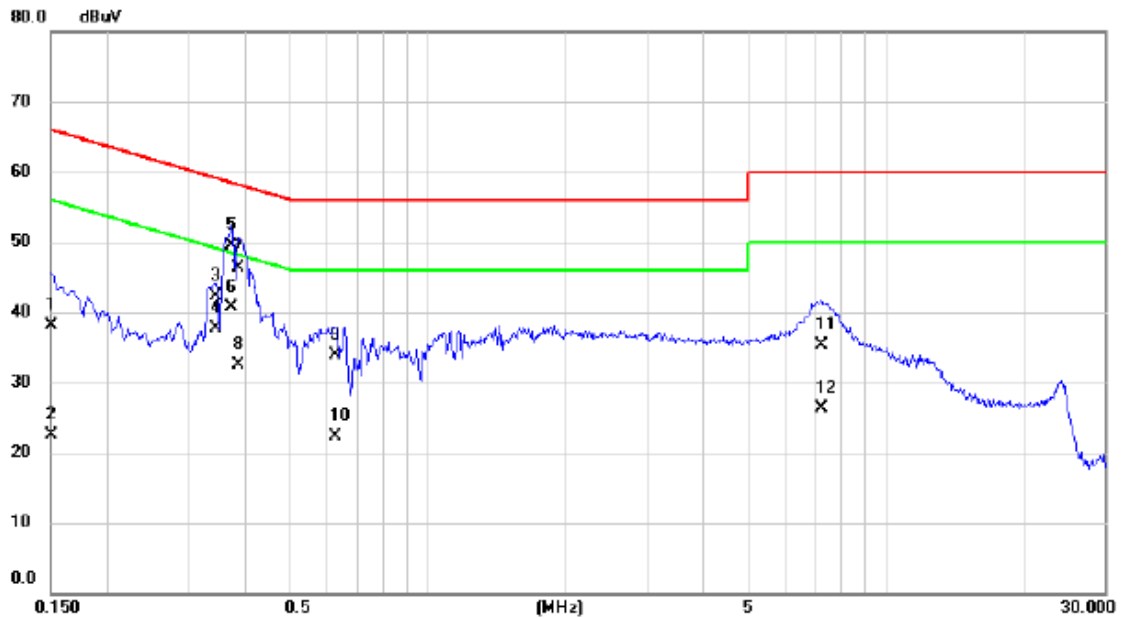
Radiated Emission					
Item	Kind of Equipment	Manufacturer	Type No.	Serial No.	Calibrated until
1	Antenna	Schwarbeck	VULB9160	9160-3232	Mar. 27, 2017
2	Amplifier	HP	8447D	2944A09673	Oct. 20, 2017
3	Receiver	Agilent	N9038A	MY52130039	Sep. 04, 2017
4	Cable	emci	LMR-400(30MHz-1GHz)(8m+5m)	N/A	Jun. 27, 2017
5	Controller	CT	SC100	N/A	N/A
6	Controller	MF	MF-7802	MF780208416	N/A
7	Measurement Software	Farad	EZ-EMC Ver.NB-03A1-01	N/A	N/A
8	Double Ridged Guide Antenna	ETS	3115	75789	Mar. 27, 2017
9	Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	9170319	Apr. 23, 2017
10	Amplifier	Agilent	8449B	3008A02274	Mar. 10, 2017
11	Microwave Preamplifier With Adaptor	EMC INSTRUMENT	EMC2654045	980039 & HA01	Mar. 27, 2017
12	Antenna	EM	EM-6876-1	230	Jul. 08, 2017
13	Cable	emci	EMC104-SM-SM-12000(12m)	N/A	Jul. 06, 2017

Remark: "N/A" denotes no model name, serial no. or calibration specified.
All calibration period of equipment list is one year.

ATTACHMENT A - CONDUCTED EMISSION

Test Voltage:	AC120V/60Hz
Test Mode:	FULL SYSTEM – S/N: U75002G4C00684

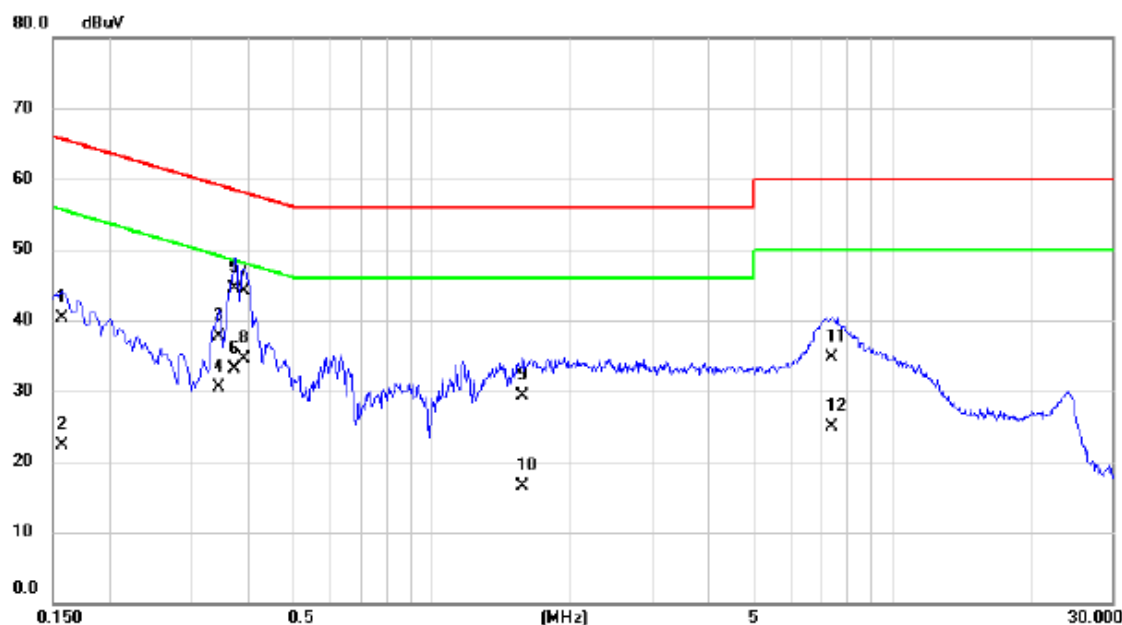
Line



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1		0.1500	28.50	9.64	38.14	66.00	-27.86	QP	
2		0.1500	12.80	9.64	22.44	56.00	-33.56	AVG	
3		0.3435	32.30	9.93	42.23	59.12	-16.89	QP	
4		0.3435	27.80	9.93	37.73	49.12	-11.39	AVG	
5		0.3727	39.70	9.90	49.60	58.44	-8.84	QP	
6	*	0.3727	30.80	9.90	40.70	48.44	-7.74	AVG	
7		0.3840	36.40	9.89	46.29	58.19	-11.90	QP	
8		0.3840	22.60	9.89	32.49	48.19	-15.70	AVG	
9		0.6292	23.80	10.04	33.84	56.00	-22.16	QP	
10		0.6292	12.20	10.04	22.24	46.00	-23.76	AVG	
11		7.2488	25.10	10.21	35.31	60.00	-24.69	QP	
12		7.2488	16.00	10.21	26.21	50.00	-23.79	AVG	

Test Voltage:	AC120V/60Hz
Test Mode:	FULL SYSTEM – S/N: U75002G4C00684

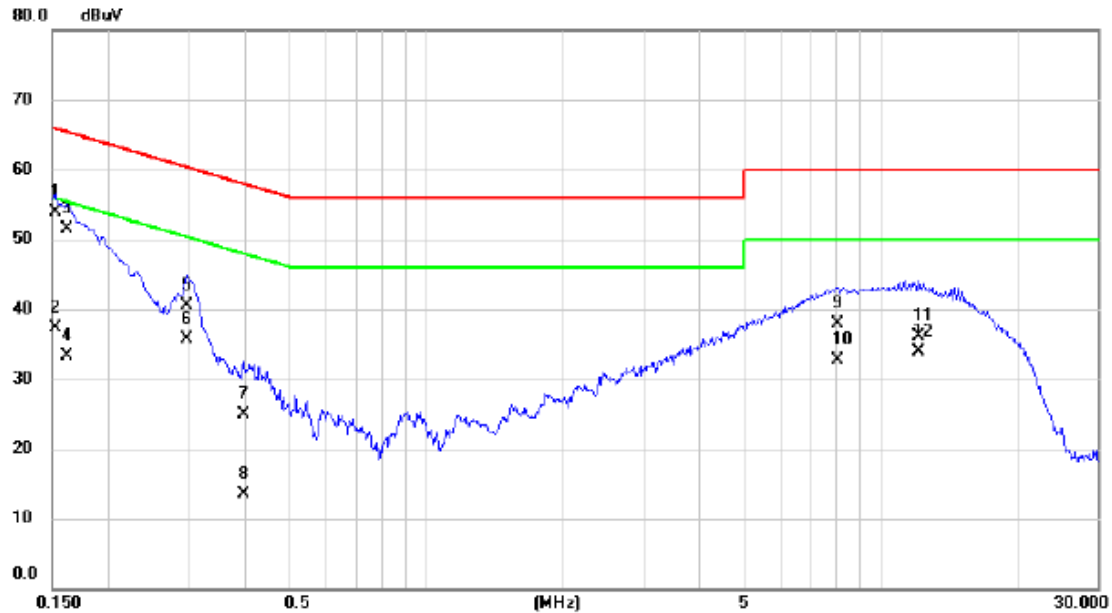
Neutral



No.	Mk.	Freq.	Reading	Correct	Measure-	Limit	Margin		
		MHz	Level	Factor	ment			Detector	Comment
			dBuV	dB	dBuV	dBuV	dB		
1		0.1568	30.70	9.54	40.24	65.63	-25.39	QP	
2		0.1568	12.80	9.54	22.34	55.63	-33.29	AVG	
3		0.3435	28.00	9.74	37.74	59.12	-21.38	QP	
4		0.3435	20.80	9.74	30.54	49.12	-18.58	AVG	
5		0.3727	34.80	9.75	44.55	58.44	-13.89	QP	
6		0.3727	23.40	9.75	33.15	48.44	-15.29	AVG	
7		0.3907	34.40	9.76	44.16	58.05	-13.89	QP	
8	*	0.3907	24.70	9.76	34.46	48.05	-13.59	AVG	
9		1.5743	19.20	10.05	29.25	56.00	-26.75	QP	
10		1.5743	6.50	10.05	16.55	46.00	-29.45	AVG	
11		7.3658	24.40	10.29	34.69	60.00	-25.31	QP	
12		7.3658	14.70	10.29	24.99	50.00	-25.01	AVG	

Test Voltage:	AC120V/60Hz
Test Mode:	FULL SYSTEM - S/N: G75002C4800038

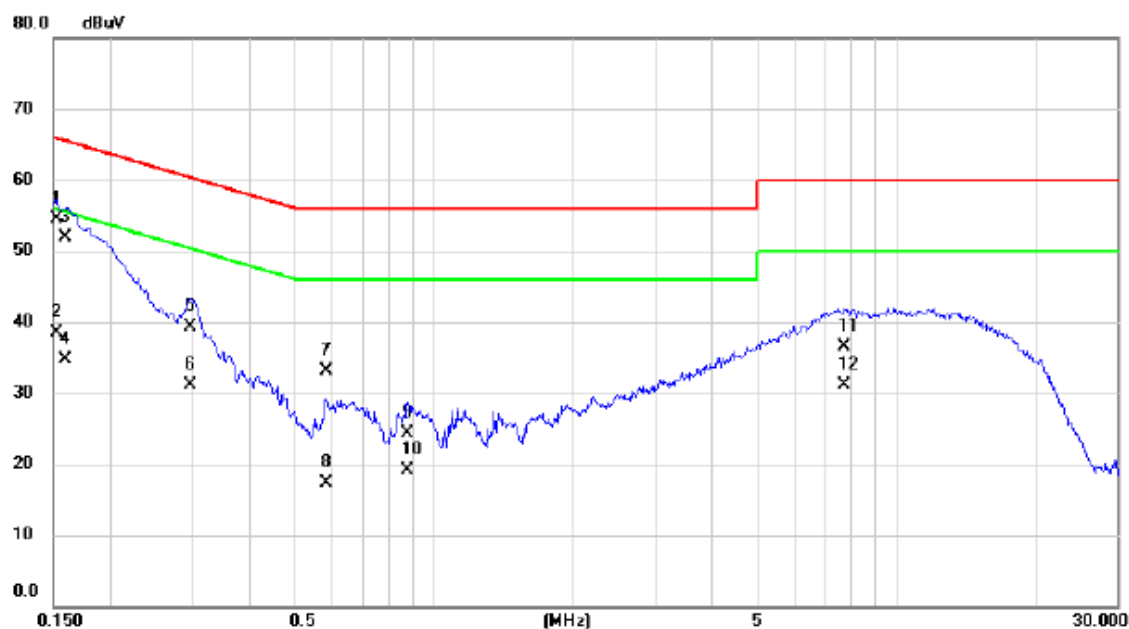
Line



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1	*	0.1522	44.30	9.64	53.94	65.88	-11.94	QP	
2		0.1522	27.70	9.64	37.34	55.88	-18.54	AVG	
3		0.1613	41.80	9.65	51.45	65.40	-13.95	QP	
4		0.1613	23.70	9.65	33.35	55.40	-22.05	AVG	
5		0.2962	30.70	9.81	40.51	60.35	-19.84	QP	
6		0.2962	25.90	9.81	35.71	50.35	-14.64	AVG	
7		0.3952	15.00	9.87	24.87	57.95	-33.08	QP	
8		0.3952	3.70	9.87	13.57	47.95	-34.38	AVG	
9		8.0408	27.60	10.29	37.89	60.00	-22.11	QP	
10		8.0408	22.50	10.29	32.79	50.00	-17.21	AVG	
11		12.1290	25.60	10.55	36.15	60.00	-23.85	QP	
12		12.1290	23.30	10.55	33.85	50.00	-16.15	AVG	

Test Voltage:	AC120V/60Hz
Test Mode:	FULL SYSTEM - S/N: G75002C4800038

Neutral

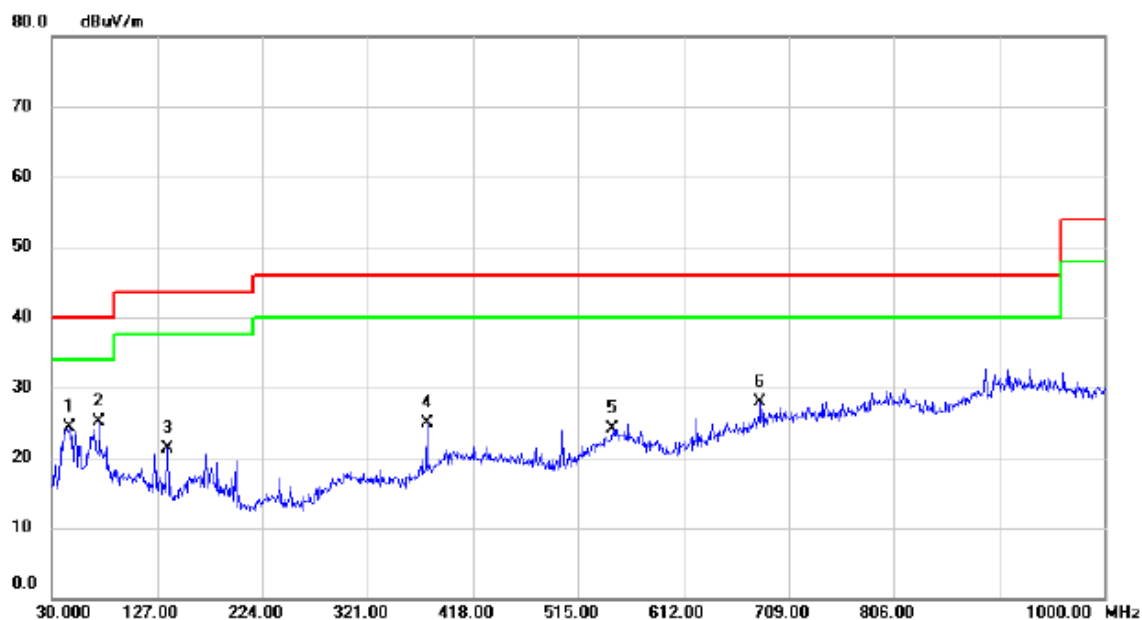


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV	Limit dBuV	Margin dB	Detector	Comment
1	*	0.1522	44.90	9.54	54.44	65.88	-11.44	QP	
2		0.1522	28.90	9.54	38.44	55.88	-17.44	AVG	
3		0.1590	42.30	9.55	51.85	65.52	-13.67	QP	
4		0.1590	25.10	9.55	34.65	55.52	-20.87	AVG	
5		0.2962	29.60	9.71	39.31	60.35	-21.04	QP	
6		0.2962	21.40	9.71	31.11	50.35	-19.24	AVG	
7		0.5842	23.20	9.83	33.03	56.00	-22.97	QP	
8		0.5842	7.40	9.83	17.23	46.00	-28.77	AVG	
9		0.8722	14.40	9.89	24.29	56.00	-31.71	QP	
10		0.8722	9.20	9.89	19.09	46.00	-26.91	AVG	
11		7.7258	26.20	10.29	36.49	60.00	-23.51	QP	
12		7.7258	20.90	10.29	31.19	50.00	-18.81	AVG	

ATTACHMENT B - RADIATED EMISSION (30MHZ TO 1000MHZ)

Test Voltage:	AC120V/60Hz
Test Mode:	FULL SYSTEM – S/N: U75002G4C00684

Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		45.5200	36.87	-12.56	24.31	40.00	-15.69	QP	
2	*	73.6500	41.65	-16.50	25.15	40.00	-14.85	QP	
3		136.7000	34.68	-13.30	21.38	43.50	-22.12	QP	
4		375.3200	34.77	-9.92	24.85	46.00	-21.15	QP	
5		547.0100	29.72	-5.58	24.14	46.00	-21.86	QP	
6		682.8100	31.61	-3.71	27.90	46.00	-18.10	QP	

Test Voltage:	AC120V/60Hz
Test Mode:	FULL SYSTEM – S/N: U75002G4C00684

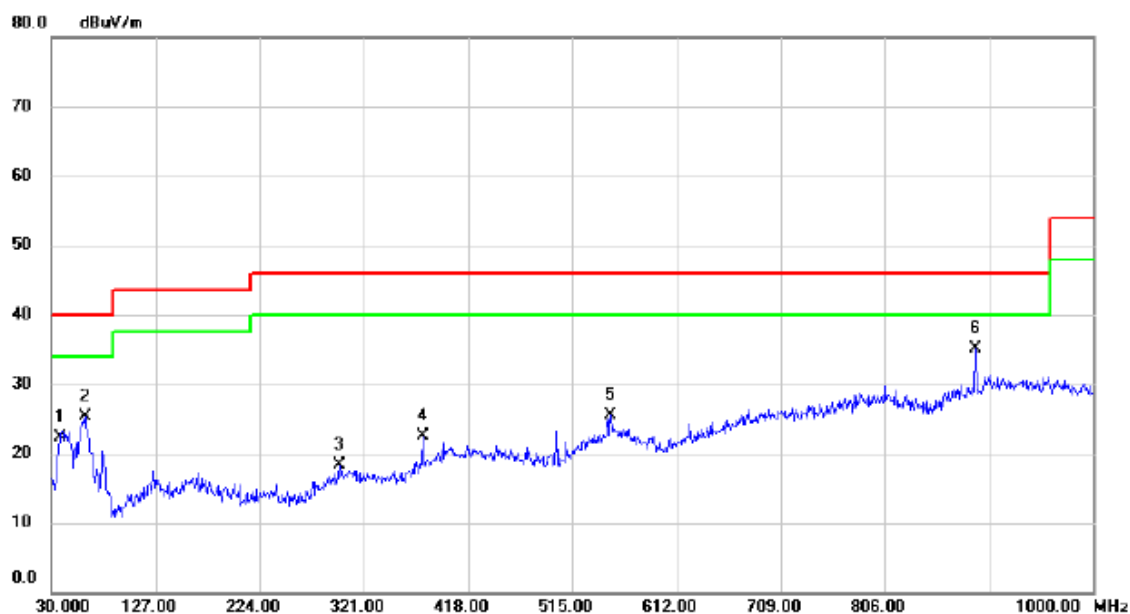
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		46.4900	29.63	-12.56	17.07	40.00	-22.93	QP	
2		172.5900	29.76	-12.46	17.30	43.50	-26.20	QP	
3		375.3200	34.43	-9.92	24.51	46.00	-21.49	QP	
4		500.4500	34.35	-10.34	24.01	46.00	-21.99	QP	
5		705.1200	29.93	-3.00	26.93	46.00	-19.07	QP	
6	*	800.1800	30.09	-0.75	29.34	46.00	-16.66	QP	

Test Voltage:	AC120V/60Hz
Test Mode:	FULL SYSTEM - S/N: G75002C4800038

Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		37.7600	36.31	-14.04	22.27	40.00	-17.73	QP	
2		61.0400	39.22	-13.97	25.25	40.00	-14.75	QP	
3		297.7200	29.01	-10.70	18.31	46.00	-27.69	QP	
4		375.3200	32.44	-9.92	22.52	46.00	-23.48	QP	
5		550.8900	30.84	-5.33	25.51	46.00	-20.49	QP	
6	*	890.3900	34.29	0.82	35.11	46.00	-10.89	QP	

Test Voltage:	AC120V/60Hz
Test Mode:	FULL SYSTEM - S/N: G75002C4800038

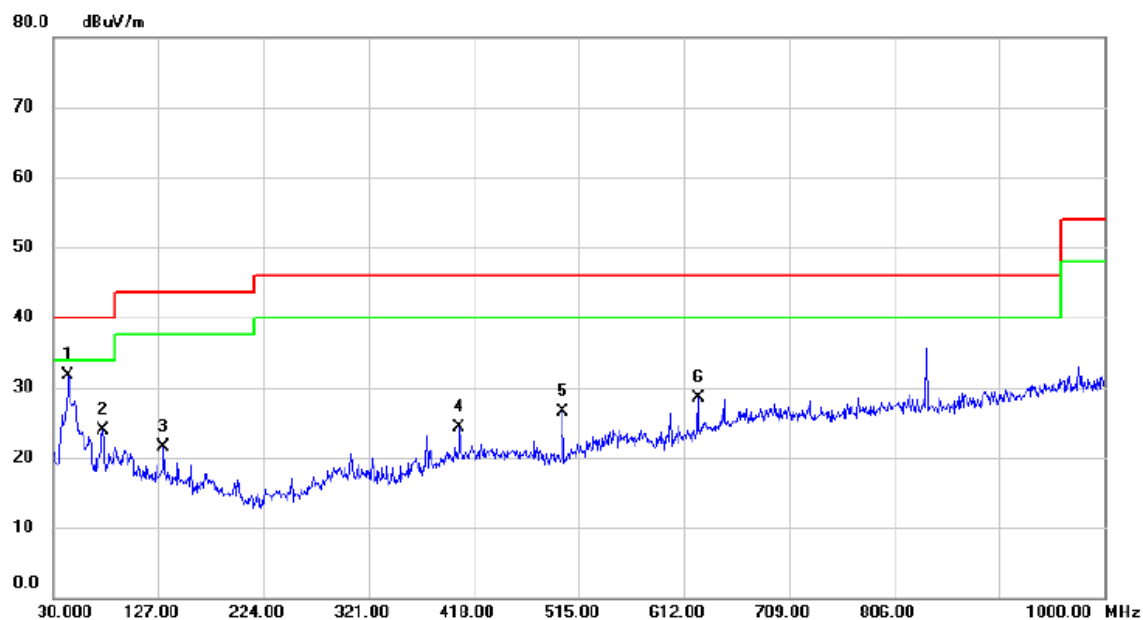
Horizontal



No.	Mk.	Freq.	Reading Level	Correct Factor	Measurement	Limit	Margin		
		MHz	dBuV	dB	dBuV/m	dBuV/m	dB	Detector	Comment
1		40.6700	29.49	-13.72	15.77	40.00	-24.23	QP	
2		160.9500	28.82	-12.21	16.61	43.50	-26.89	QP	
3		375.3200	31.66	-9.92	21.74	46.00	-24.26	QP	
4		548.9500	30.27	-5.37	24.90	46.00	-21.10	QP	
5		678.9300	30.40	-3.86	26.54	46.00	-19.46	QP	
6	*	826.3700	30.50	-1.56	28.94	46.00	-17.06	QP	

Test Voltage:	AC120V/60Hz
Test Mode:	FULL SYSTEM - S/N: U75002G4501553 - The bigger antenna

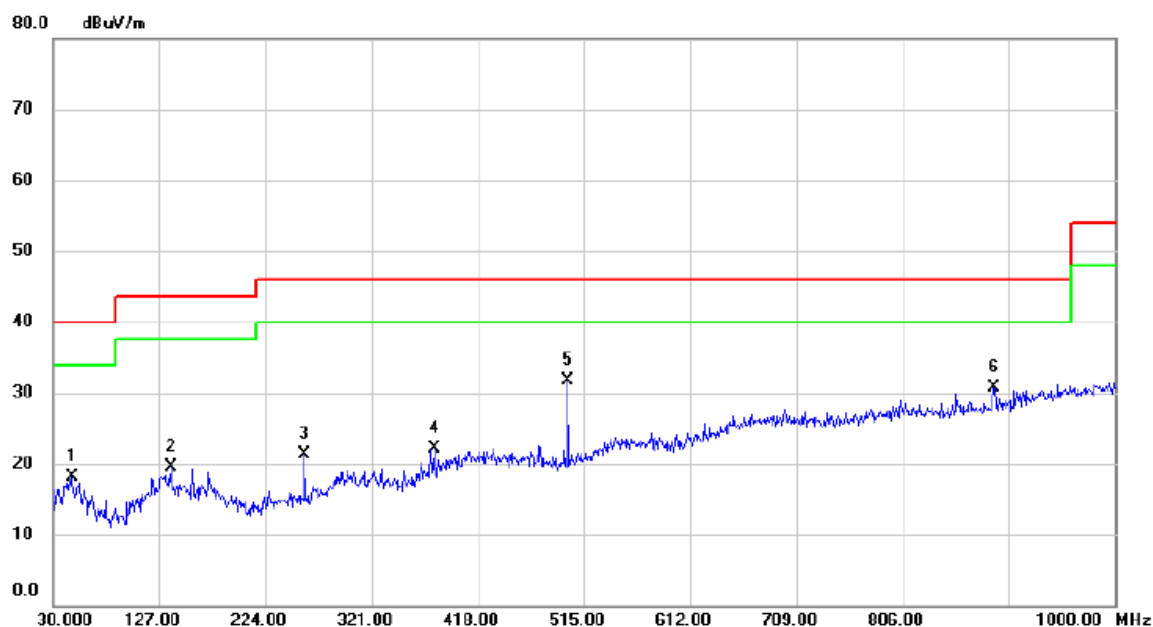
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	43.5800	43.54	-11.77	31.77	40.00	-8.23	QP	
2		75.5900	40.15	-16.25	23.90	40.00	-16.10	QP	
3		131.8500	32.77	-11.28	21.49	43.50	-22.01	QP	
4		404.9050	31.43	-7.19	24.24	46.00	-21.76	QP	
5		499.9650	34.07	-7.65	26.42	46.00	-19.58	QP	
6		625.0950	31.69	-3.24	28.45	46.00	-17.55	QP	

Test Voltage:	AC120V/60Hz
Test Mode:	FULL SYSTEM - S/N: U75002G4501553 - The bigger antenna

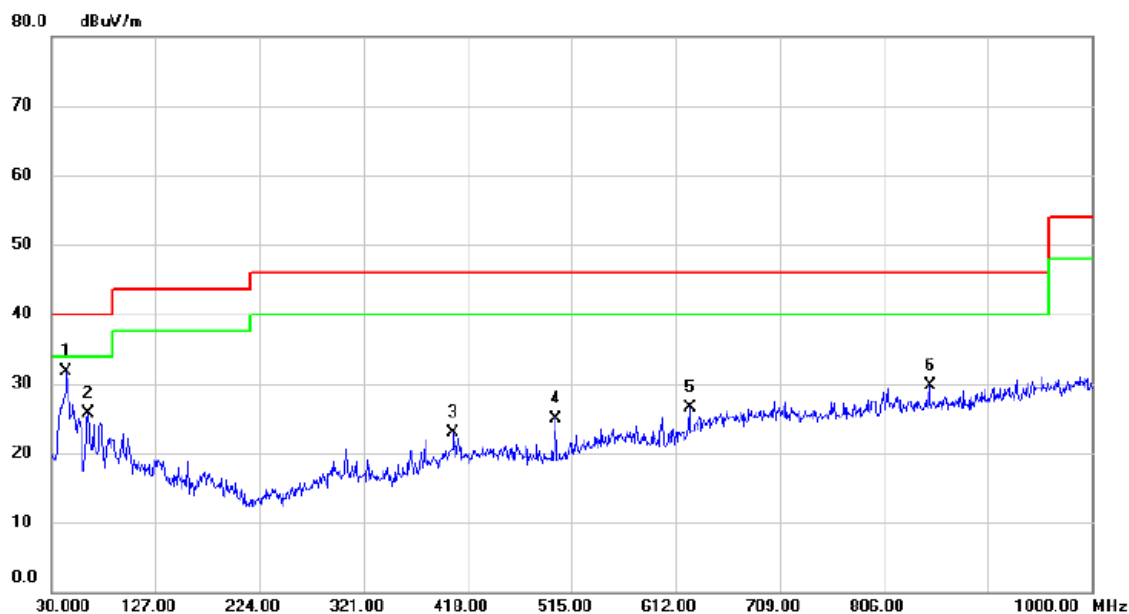
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		46.9750	30.28	-12.26	18.02	40.00	-21.98	QP	
2		137.6700	31.13	-11.70	19.43	43.50	-24.07	QP	
3		259.8900	34.16	-12.90	21.26	46.00	-24.74	QP	
4		378.2300	30.88	-8.75	22.13	46.00	-23.87	QP	
5	*	499.9650	39.40	-7.65	31.75	46.00	-14.25	QP	
6		889.9050	29.31	1.46	30.77	46.00	-15.23	QP	

Test Voltage:	AC120V/60Hz
Test Mode:	FULL SYSTEM - S/N: U75002G4501553 - The smaller antenna

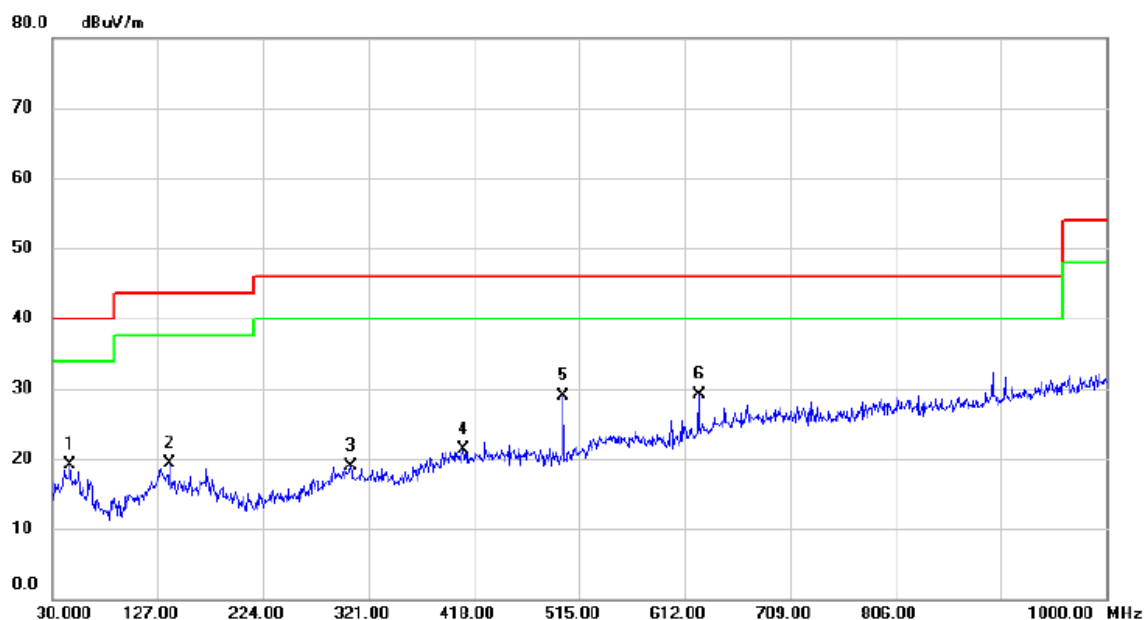
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1	*	44.0650	43.48	-11.70	31.78	40.00	-8.22	QP	
2		63.9500	39.53	-13.85	25.68	40.00	-14.32	QP	
3		404.9050	30.04	-7.19	22.85	46.00	-23.15	QP	
4		499.9650	32.61	-7.65	24.96	46.00	-21.04	QP	
5		625.0950	29.69	-3.24	26.45	46.00	-19.55	QP	
6		848.6800	29.16	0.60	29.76	46.00	-16.24	QP	

Test Voltage:	AC120V/60Hz
Test Mode:	FULL SYSTEM - S/N: U75002G4501553 - The smaller antenna

Horizontal

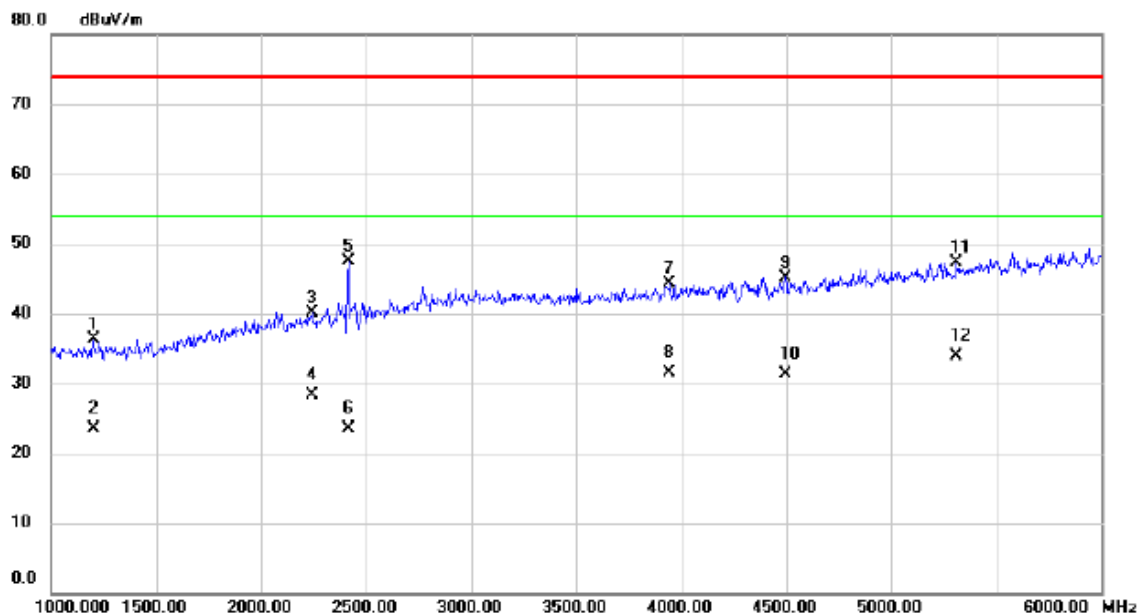


No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		46.4900	31.18	-12.17	19.01	40.00	-20.99	QP	
2		137.6700	31.04	-11.70	19.34	43.50	-24.16	QP	
3		304.9950	28.92	-10.02	18.90	46.00	-27.10	QP	
4		408.7850	28.42	-7.18	21.24	46.00	-24.76	QP	
5		499.9650	36.46	-7.65	28.81	46.00	-17.19	QP	
6	*	625.0950	32.32	-3.24	29.08	46.00	-16.92	QP	

ATTACHMENT C - RADIATED EMISSION (ABOVE 1000MHZ)

Test Voltage:	AC 120V/60Hz
Test Mode:	FULL SYSTEM – S/N: U75002G4C00684

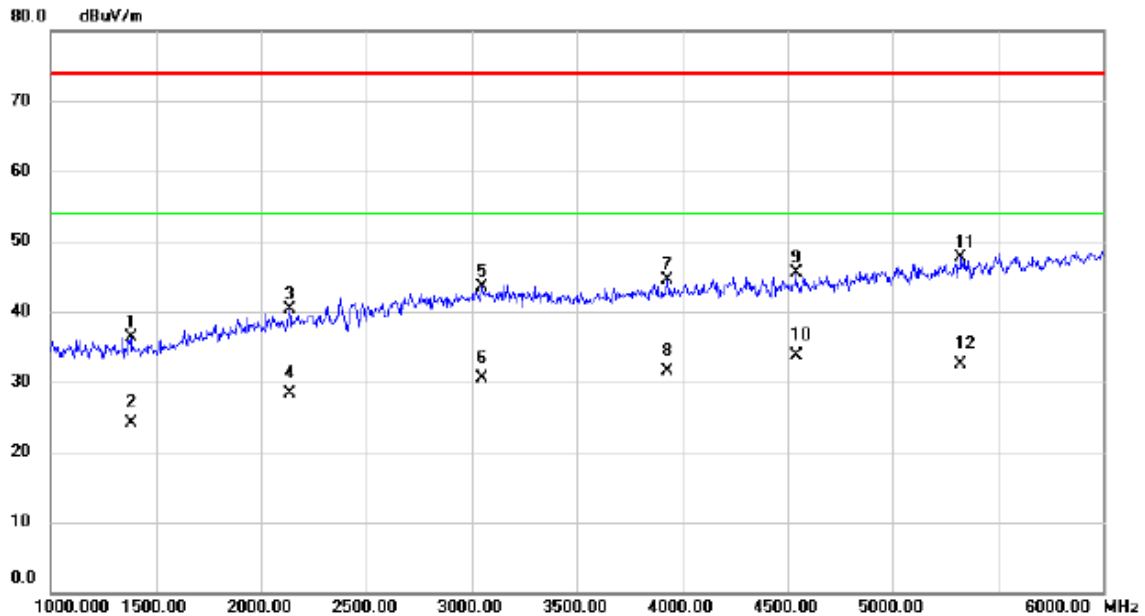
Polarization: Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		1200.000	43.93	-7.67	36.26	74.00	-37.74	peak	
2		1200.000	31.17	-7.67	23.50	54.00	-30.50	AVG	
3		2240.000	42.34	-2.17	40.17	74.00	-33.83	peak	
4		2240.000	30.57	-2.17	28.40	54.00	-25.60	AVG	
5		2415.000	49.06	-1.53	47.53	74.00	-26.47	peak	
6		2415.000	25.03	-1.53	23.50	54.00	-30.50	AVG	
7		3945.000	41.67	2.62	44.29	74.00	-29.71	peak	
8		3945.000	28.98	2.62	31.60	54.00	-22.40	AVG	
9		4495.000	41.78	3.42	45.20	74.00	-28.80	peak	
10		4495.000	27.98	3.42	31.40	54.00	-22.60	AVG	
11		5310.000	41.00	6.39	47.39	74.00	-26.61	peak	
12	*	5310.000	27.51	6.39	33.90	54.00	-20.10	AVG	

Test Voltage:	AC 120V/60Hz
Test Mode:	FULL SYSTEM – S/N: U75002G4C00684

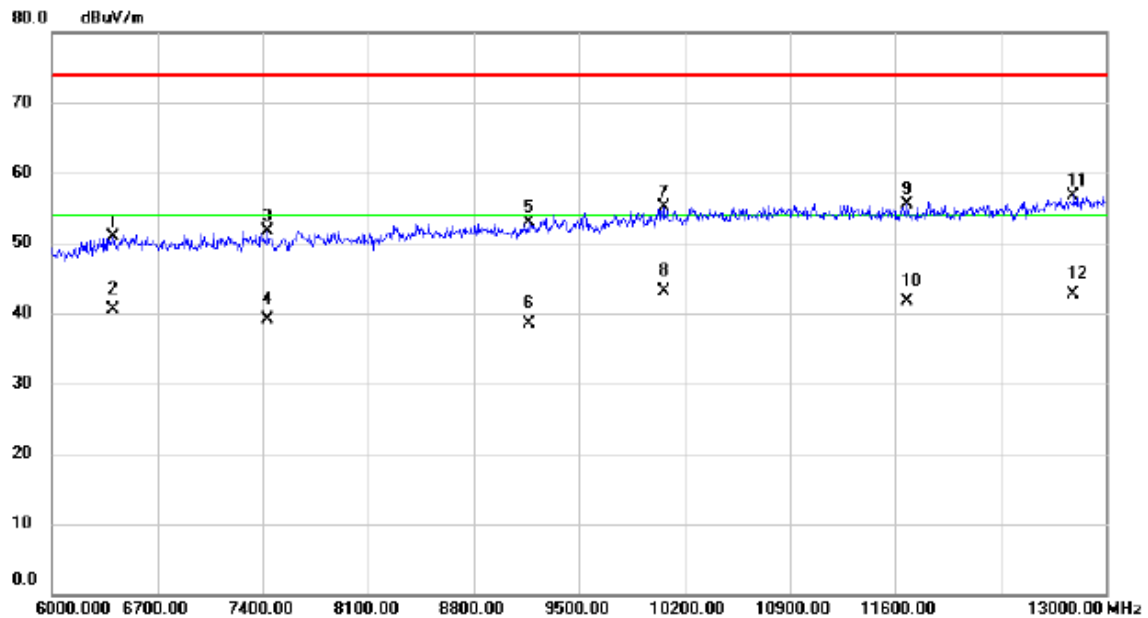
Polarization: Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		1380.000	43.45	-7.19	36.26	74.00	-37.74	peak	
2		1380.000	31.29	-7.19	24.10	54.00	-29.90	AVG	
3		2135.000	42.79	-2.55	40.24	74.00	-33.76	peak	
4		2135.000	30.95	-2.55	28.40	54.00	-25.60	AVG	
5		3050.000	42.21	1.21	43.42	74.00	-30.58	peak	
6		3050.000	29.39	1.21	30.60	54.00	-23.40	AVG	
7		3930.000	41.98	2.57	44.55	74.00	-29.45	peak	
8		3930.000	28.93	2.57	31.50	54.00	-22.50	AVG	
9		4540.000	41.84	3.59	45.43	74.00	-28.57	peak	
10	*	4540.000	30.11	3.59	33.70	54.00	-20.30	AVG	
11		5325.000	41.22	6.44	47.66	74.00	-26.34	peak	
12		5325.000	26.06	6.44	32.50	54.00	-21.50	AVG	

Test Voltage:	AC 120V/60Hz
Test Mode:	FULL SYSTEM – S/N: U75002G4C00684

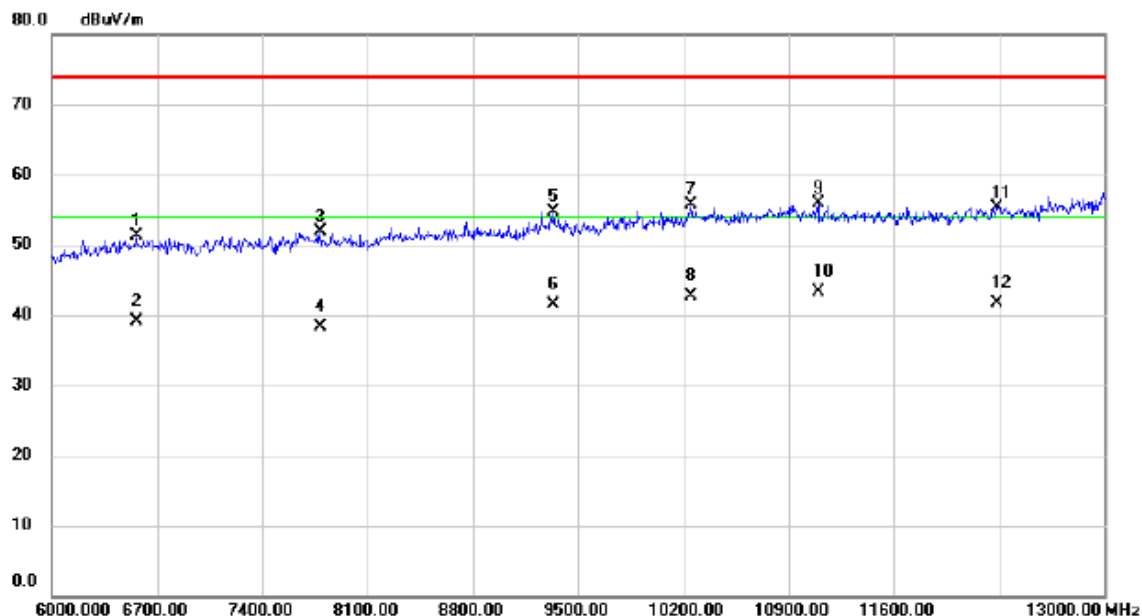
Polarization: Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		6406.000	40.83	10.08	50.91	74.00	-23.09	peak	
2		6406.000	30.52	10.08	40.60	54.00	-13.40	AVG	
3		7435.000	40.76	10.97	51.73	74.00	-22.27	peak	
4		7435.000	28.13	10.97	39.10	54.00	-14.90	AVG	
5		9171.000	40.65	12.32	52.97	74.00	-21.03	peak	
6		9171.000	26.18	12.32	38.50	54.00	-15.50	AVG	
7		10060.00	41.57	13.59	55.16	74.00	-18.84	peak	
8	*	10060.00	29.61	13.59	43.20	54.00	-10.80	AVG	
9		11677.00	41.11	14.45	55.56	74.00	-18.44	peak	
10		11677.00	27.35	14.45	41.80	54.00	-12.20	AVG	
11		12783.00	40.87	15.93	56.80	74.00	-17.20	peak	
12		12783.00	26.77	15.93	42.70	54.00	-11.30	AVG	

Test Voltage:	AC 120V/60Hz
Test Mode:	FULL SYSTEM – S/N: U75002G4C00684

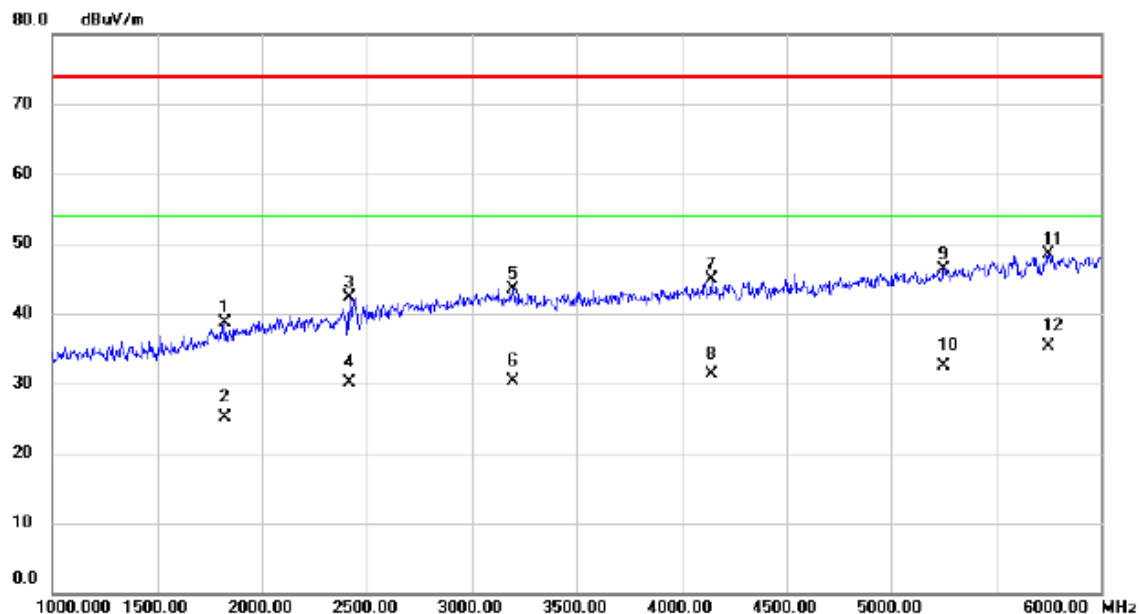
Polarization: Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		6560.000	40.94	10.43	51.37	74.00	-22.63	peak	
2		6560.000	28.77	10.43	39.20	54.00	-14.80	AVG	
3		7785.000	40.96	11.01	51.97	74.00	-22.03	peak	
4		7785.000	27.39	11.01	38.40	54.00	-15.60	AVG	
5		9339.000	42.21	12.50	54.71	74.00	-19.29	peak	
6		9339.000	29.10	12.50	41.60	54.00	-12.40	AVG	
7		10249.00	41.83	13.85	55.68	74.00	-18.32	peak	
8		10249.00	28.95	13.85	42.80	54.00	-11.20	AVG	
9		11096.00	41.03	14.78	55.81	74.00	-18.19	peak	
10	*	11096.00	28.62	14.78	43.40	54.00	-10.60	AVG	
11		12286.00	40.50	14.83	55.33	74.00	-18.67	peak	
12		12286.00	26.97	14.83	41.80	54.00	-12.20	AVG	

Test Voltage:	AC 120V/60Hz
Test Mode:	FULL SYSTEM - S/N: G75002C4800038

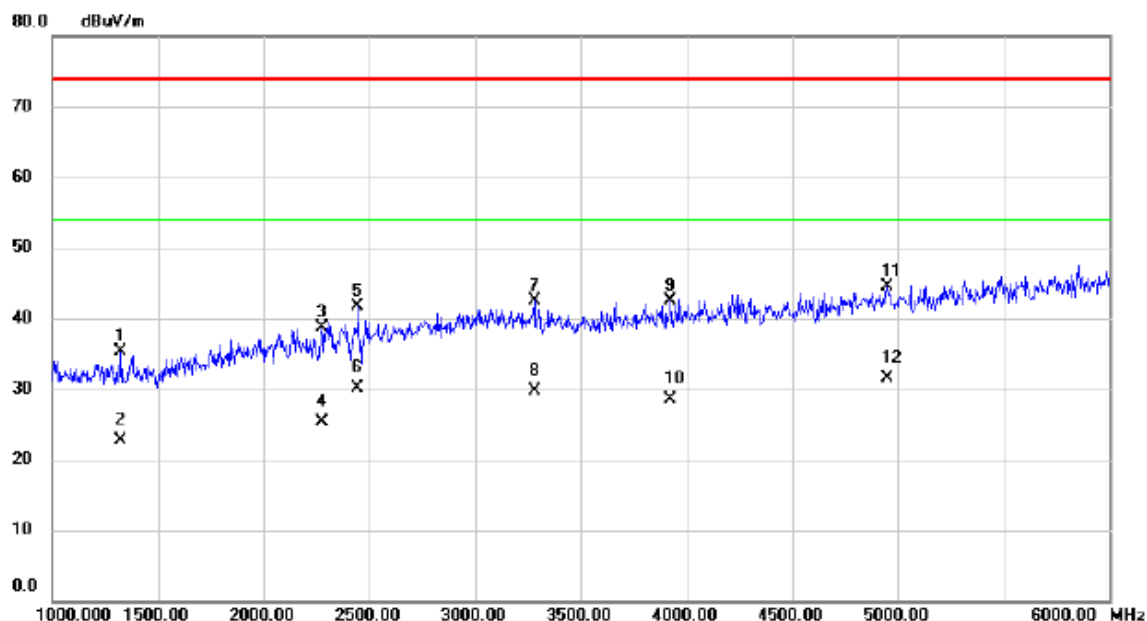
Polarization: Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		1825.000	43.05	-4.39	38.66	74.00	-35.34	peak	
2		1825.000	29.52	-4.39	25.13	54.00	-28.87	AVG	
3		2415.000	43.92	-1.53	42.39	74.00	-31.61	peak	
4		2415.000	31.55	-1.53	30.02	54.00	-23.98	AVG	
5		3195.000	42.38	1.18	43.56	74.00	-30.44	peak	
6		3195.000	29.06	1.18	30.24	54.00	-23.76	AVG	
7		4140.000	41.98	2.98	44.96	74.00	-29.04	peak	
8		4140.000	28.24	2.98	31.22	54.00	-22.78	AVG	
9		5250.000	40.17	6.19	46.36	74.00	-27.64	peak	
10		5250.000	26.38	6.19	32.57	54.00	-21.43	AVG	
11		5750.000	40.82	7.76	48.58	74.00	-25.42	peak	
12	*	5750.000	27.50	7.76	35.26	54.00	-18.74	AVG	

Test Voltage:	AC 120V/60Hz
Test Mode:	FULL SYSTEM - S/N: G75002C4800038

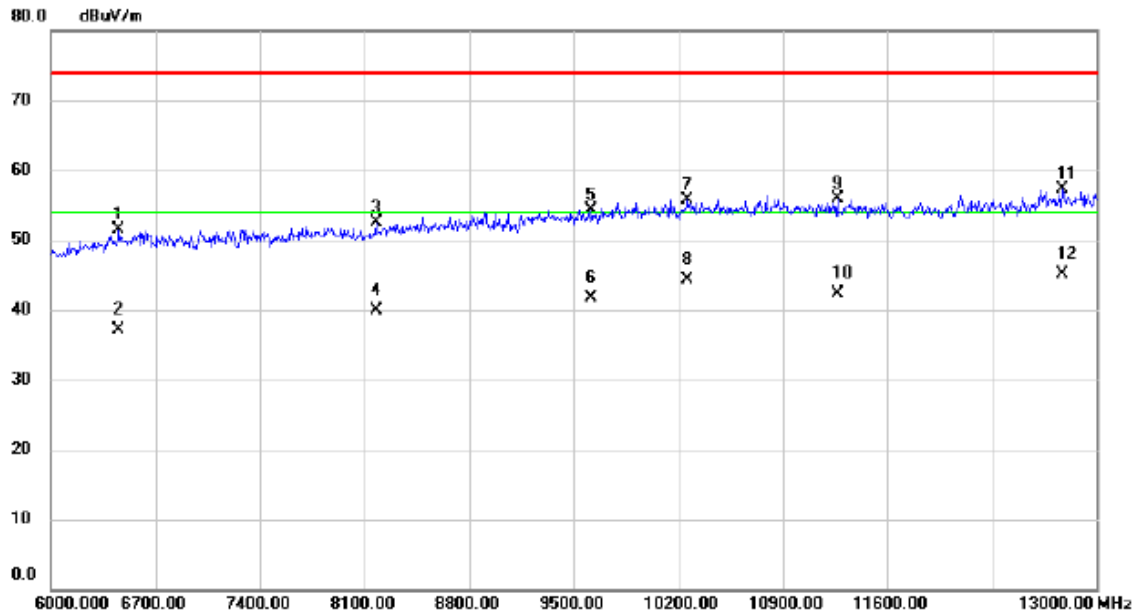
Polarization: Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		1325.000	42.67	-7.34	35.33	74.00	-38.67	peak	
2		1325.000	30.04	-7.34	22.70	54.00	-31.30	AVG	
3		2275.000	40.66	-2.04	38.62	74.00	-35.38	peak	
4		2275.000	27.44	-2.04	25.40	54.00	-28.60	AVG	
5		2445.000	43.16	-1.42	41.74	74.00	-32.26	peak	
6		2445.000	31.52	-1.42	30.10	54.00	-23.90	AVG	
7		3280.000	41.32	1.17	42.49	74.00	-31.51	peak	
8		3280.000	28.53	1.17	29.70	54.00	-24.30	AVG	
9		3925.000	39.92	2.56	42.48	74.00	-31.52	peak	
10		3925.000	25.94	2.56	28.50	54.00	-25.50	AVG	
11		4950.000	39.39	5.19	44.58	74.00	-29.42	peak	
12	*	4950.000	26.41	5.19	31.60	54.00	-22.40	AVG	

Test Voltage:	AC 120V/60Hz
Test Mode:	FULL SYSTEM - S/N: G75002C4800038

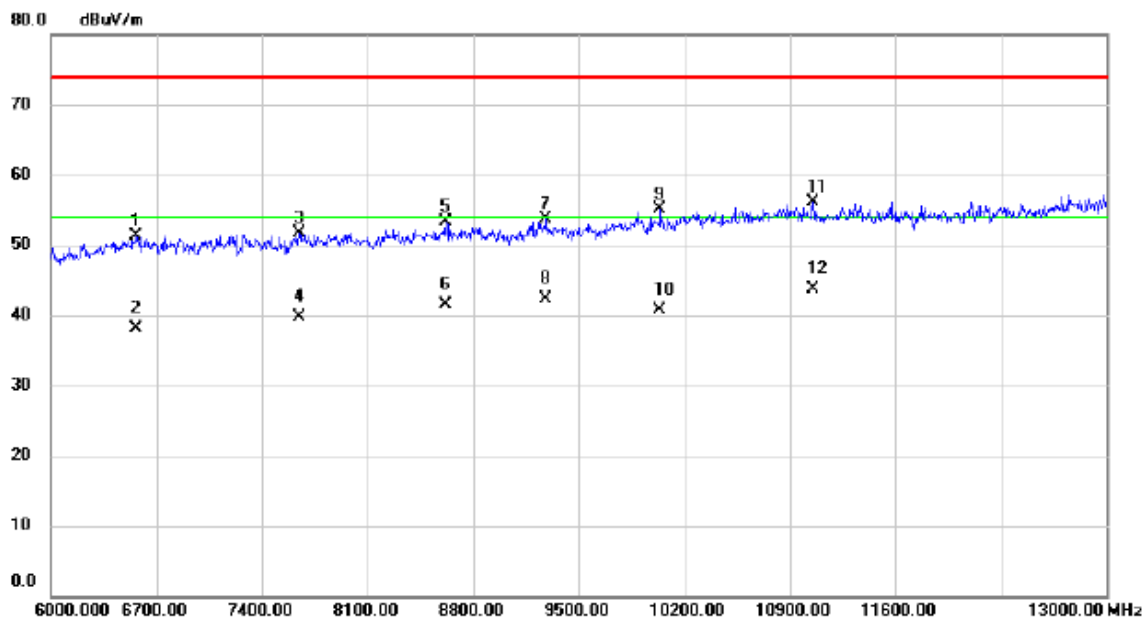
Polarization: Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		6455.000	41.30	10.28	51.58	74.00	-22.42	peak	
2		6455.000	26.92	10.28	37.20	54.00	-16.80	AVG	
3		8177.000	41.19	11.31	52.50	74.00	-21.50	peak	
4		8177.000	28.59	11.31	39.90	54.00	-14.10	AVG	
5		9619.000	41.46	12.87	54.33	74.00	-19.67	peak	
6		9619.000	28.93	12.87	41.80	54.00	-12.20	AVG	
7		10263.00	41.79	13.87	55.66	74.00	-18.34	peak	
8		10263.00	30.43	13.87	44.30	54.00	-9.70	AVG	
9		11264.00	41.27	14.66	55.93	74.00	-18.07	peak	
10		11264.00	27.74	14.66	42.40	54.00	-11.60	AVG	
11		12769.00	41.33	15.89	57.22	74.00	-16.78	peak	
12	*	12769.00	29.21	15.89	45.10	54.00	-8.90	AVG	

Test Voltage:	AC 120V/60Hz
Test Mode:	FULL SYSTEM - S/N: G75002C4800038

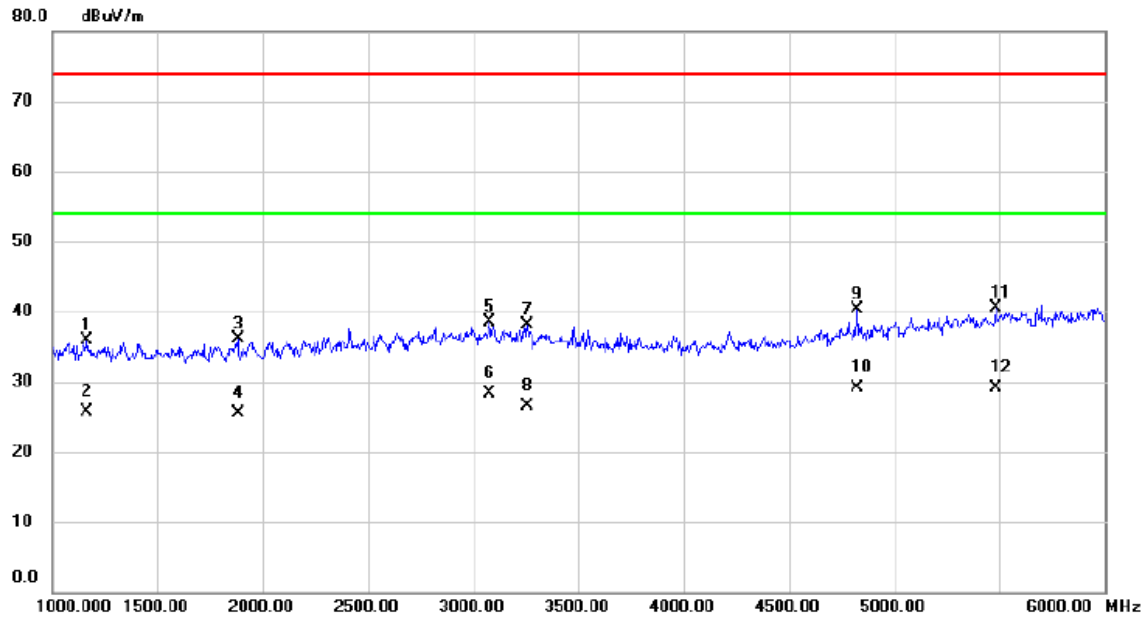
Polarization: Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		6567.000	40.84	10.44	51.28	74.00	-22.72	peak	
2		6567.000	27.76	10.44	38.20	54.00	-15.80	AVG	
3		7645.000	40.69	11.04	51.73	74.00	-22.27	peak	
4		7645.000	28.76	11.04	39.80	54.00	-14.20	AVG	
5		8618.000	41.26	12.01	53.27	74.00	-20.73	peak	
6		8618.000	29.59	12.01	41.60	54.00	-12.40	AVG	
7		9283.000	41.26	12.44	53.70	74.00	-20.30	peak	
8		9283.000	29.96	12.44	42.40	54.00	-11.60	AVG	
9		10039.00	41.50	13.56	55.06	74.00	-18.94	peak	
10		10039.00	27.24	13.56	40.80	54.00	-13.20	AVG	
11		11054.00	41.30	14.82	56.12	74.00	-17.88	peak	
12	*	11054.00	28.88	14.82	43.70	54.00	-10.30	AVG	

Test Voltage:	AC120V/60Hz
Test Mode:	FULL SYSTEM - S/N: U75002G4501553 - The bigger antenna

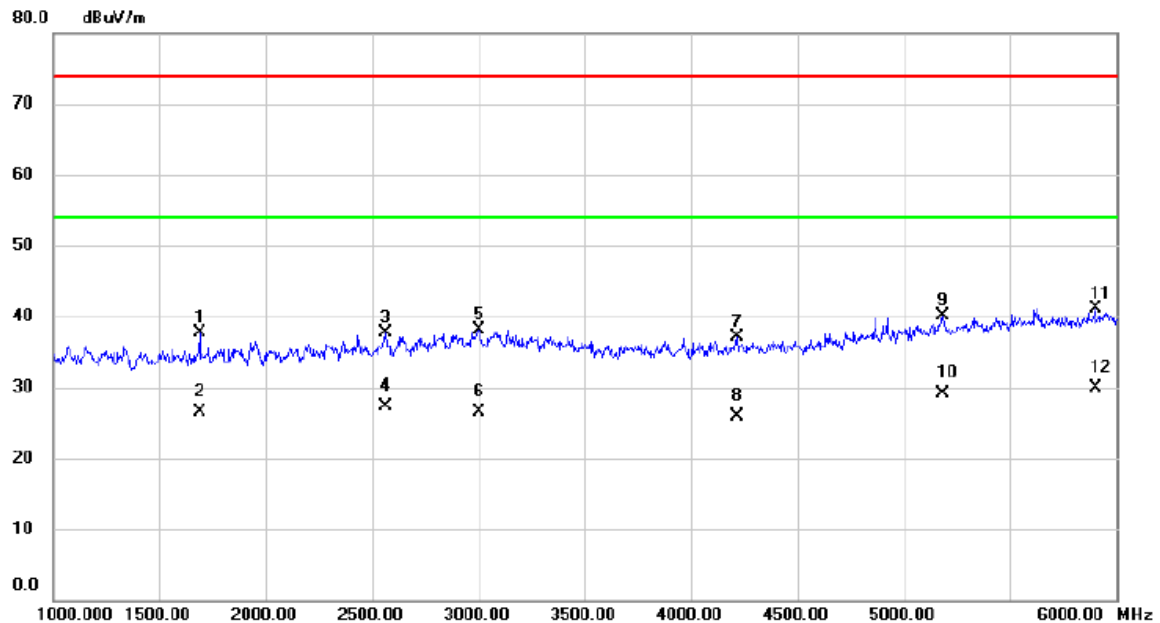
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		1165.000	42.08	-6.15	35.93	74.00	-38.07	peak	
2		1165.000	31.85	-6.15	25.70	54.00	-28.30	AVG	
3		1880.000	39.18	-3.14	36.04	74.00	-37.96	peak	
4		1880.000	28.61	-3.14	25.47	54.00	-28.53	AVG	
5		3077.500	36.17	2.38	38.55	74.00	-35.45	peak	
6		3077.500	25.84	2.38	28.22	54.00	-25.78	AVG	
7		3257.500	35.81	2.33	38.14	74.00	-35.86	peak	
8		3257.500	24.15	2.33	26.48	54.00	-27.52	AVG	
9		4825.000	34.80	5.46	40.26	74.00	-33.74	peak	
10		4825.000	23.55	5.46	29.01	54.00	-24.99	AVG	
11		5480.000	32.50	7.94	40.44	74.00	-33.56	peak	
12	*	5480.000	21.26	7.94	29.20	54.00	-24.80	AVG	

Test Voltage:	AC120V/60Hz
Test Mode:	FULL SYSTEM - S/N: U75002G4501553 - The bigger antenna

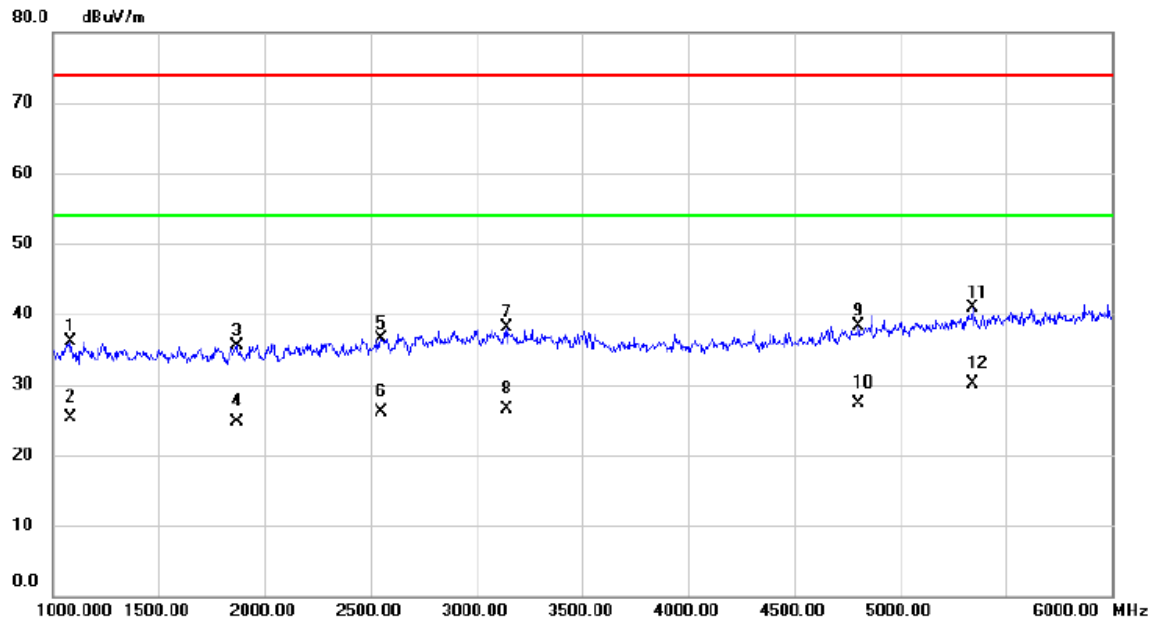
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		1687.500	41.77	-4.06	37.71	74.00	-36.29	peak	
2		1687.500	30.51	-4.06	26.45	54.00	-27.55	AVG	
3		2560.000	37.34	0.43	37.77	74.00	-36.23	peak	
4		2560.000	26.81	0.43	27.24	54.00	-26.76	AVG	
5		3002.500	35.75	2.40	38.15	74.00	-35.85	peak	
6		3002.500	24.15	2.40	26.55	54.00	-27.45	AVG	
7		4215.000	33.90	3.22	37.12	74.00	-36.88	peak	
8		4215.000	22.68	3.22	25.90	54.00	-28.10	AVG	
9		5182.500	33.10	6.93	40.03	74.00	-33.97	peak	
10		5182.500	22.13	6.93	29.06	54.00	-24.94	AVG	
11		5900.000	32.67	8.37	41.04	74.00	-32.96	peak	
12	*	5900.000	21.47	8.37	29.84	54.00	-24.16	AVG	

Test Voltage:	AC120V/60Hz
Test Mode:	FULL SYSTEM - S/N: U75002G4501553 - The smaller antenna

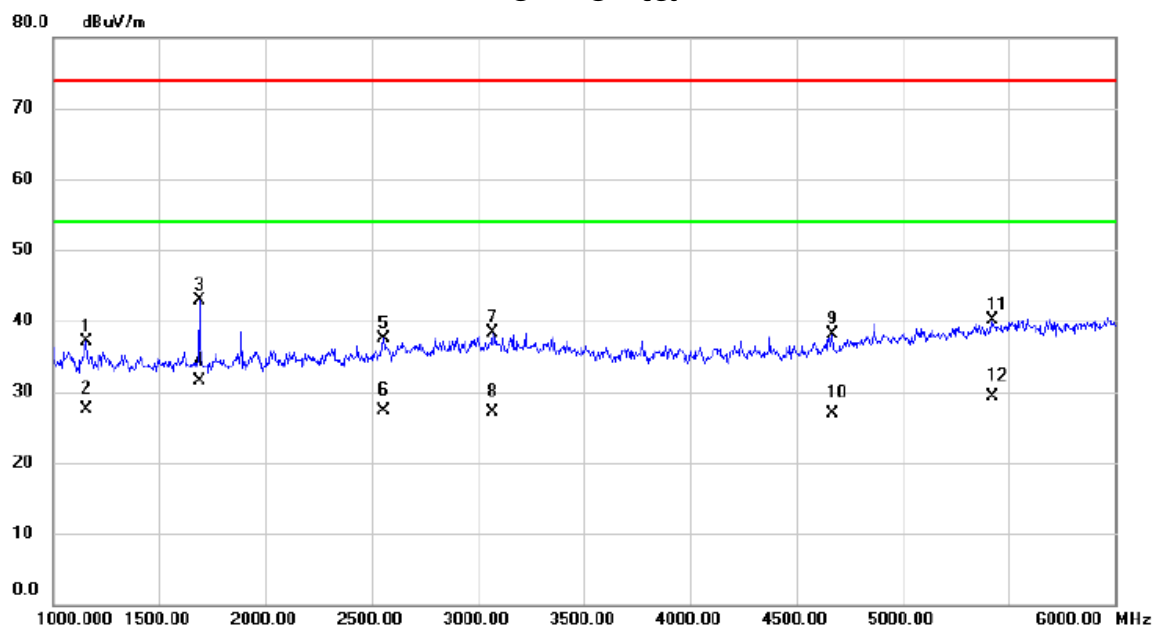
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		1082.500	42.58	-6.44	36.14	74.00	-37.86	peak	
2		1082.500	31.84	-6.44	25.40	54.00	-28.60	AVG	
3		1867.500	38.62	-3.20	35.42	74.00	-38.58	peak	
4		1867.500	27.86	-3.20	24.66	54.00	-29.34	AVG	
5		2552.500	36.11	0.41	36.52	74.00	-37.48	peak	
6		2552.500	25.64	0.41	26.05	54.00	-27.95	AVG	
7		3145.000	35.80	2.36	38.16	74.00	-35.84	peak	
8		3145.000	24.15	2.36	26.51	54.00	-27.49	AVG	
9		4802.500	32.89	5.35	38.24	74.00	-35.76	peak	
10		4802.500	21.94	5.35	27.29	54.00	-26.71	AVG	
11		5340.000	33.44	7.47	40.91	74.00	-33.09	peak	
12	*	5340.000	22.63	7.47	30.10	54.00	-23.90	AVG	

Test Voltage:	AC120V/60Hz
Test Mode:	FULL SYSTEM - S/N: U75002G4501553 - The smaller antenna

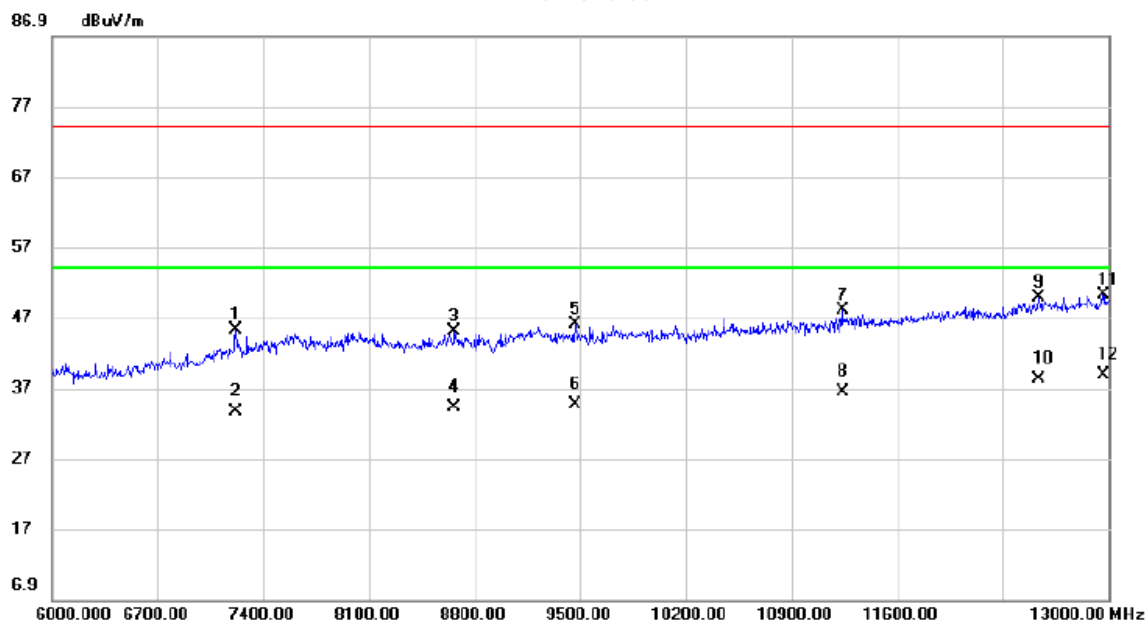
Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		1155.000	43.22	-6.18	37.04	74.00	-36.96	peak	
2		1155.000	33.59	-6.18	27.41	54.00	-26.59	AVG	
3		1687.500	46.89	-4.06	42.83	74.00	-31.17	peak	
4	*	1687.500	35.57	-4.06	31.51	54.00	-22.49	AVG	
5		2555.000	37.10	0.41	37.51	74.00	-36.49	peak	
6		2555.000	26.82	0.41	27.23	54.00	-26.77	AVG	
7		3072.500	35.98	2.38	38.36	74.00	-35.64	peak	
8		3072.500	24.81	2.38	27.19	54.00	-26.81	AVG	
9		4672.500	33.30	4.72	38.02	74.00	-35.98	peak	
10		4672.500	22.15	4.72	26.87	54.00	-27.13	AVG	
11		5425.000	32.33	7.76	40.09	74.00	-33.91	peak	
12		5425.000	21.57	7.76	29.33	54.00	-24.67	AVG	

Test Voltage:	AC120V/60Hz
Test Mode:	FULL SYSTEM - S/N: U75002G4501553 - The smaller antenna

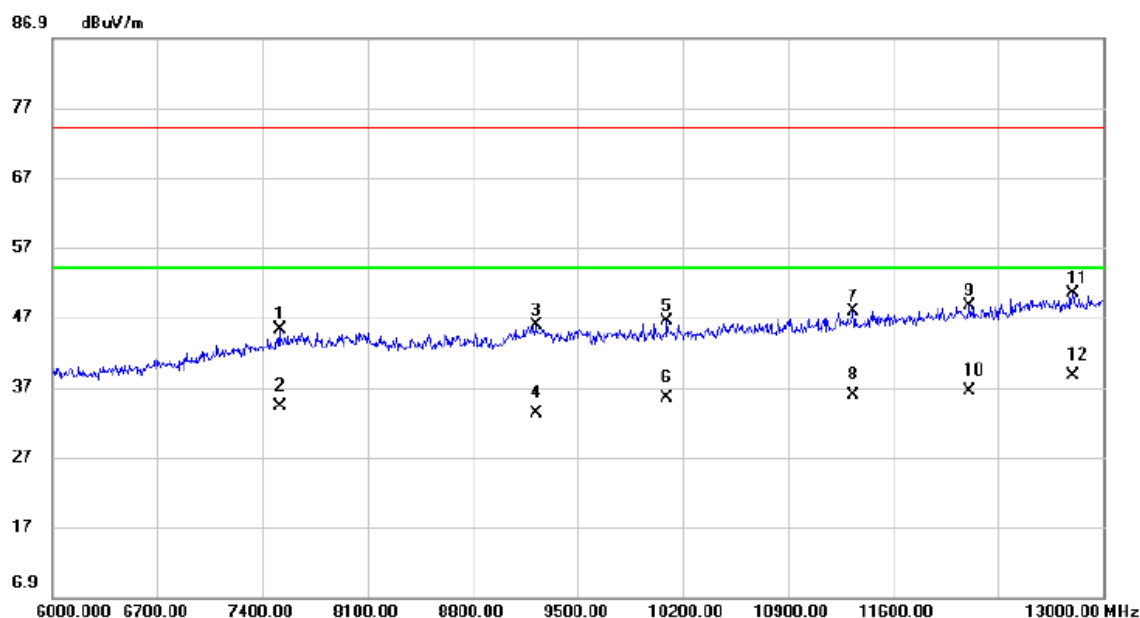
Vertical



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		7218.000	35.40	9.78	45.18	74.00	-28.82	peak	
2		7218.000	23.76	9.78	33.54	54.00	-20.46	AVG	
3		8667.000	33.63	11.42	45.05	74.00	-28.95	peak	
4		8667.000	22.80	11.42	34.22	54.00	-19.78	AVG	
5		9465.000	33.31	12.79	46.10	74.00	-27.90	peak	
6		9465.000	21.78	12.79	34.57	54.00	-19.43	AVG	
7		11236.00	32.90	15.15	48.05	74.00	-25.95	peak	
8		11236.00	21.33	15.15	36.48	54.00	-17.52	AVG	
9		12538.00	33.94	15.89	49.83	74.00	-24.17	peak	
10		12538.00	22.34	15.89	38.23	54.00	-15.77	AVG	
11		12965.00	33.68	16.56	50.24	74.00	-23.76	peak	
12	*	12965.00	22.18	16.56	38.74	54.00	-15.26	AVG	

Test Voltage:	AC120V/60Hz
Test Mode:	FULL SYSTEM - S/N: U75002G4501553 - The smaller antenna

Horizontal



No.	Mk.	Freq. MHz	Reading Level dBuV	Correct Factor dB	Measure- ment dBuV/m	Limit dBuV/m	Margin dB	Detector	Comment
1		7512.000	34.89	10.35	45.24	74.00	-28.76	peak	
2		7512.000	23.92	10.35	34.27	54.00	-19.73	AVG	
3		9220.000	33.37	12.37	45.74	74.00	-28.26	peak	
4		9220.000	20.89	12.37	33.26	54.00	-20.74	AVG	
5		10095.000	33.18	13.21	46.39	74.00	-27.61	peak	
6		10095.000	22.20	13.21	35.41	54.00	-18.59	AVG	
7		11334.000	32.45	15.30	47.75	74.00	-26.25	peak	
8		11334.000	20.48	15.30	35.78	54.00	-18.22	AVG	
9		12111.000	33.27	15.33	48.60	74.00	-25.40	peak	
10		12111.000	21.13	15.33	36.46	54.00	-17.54	AVG	
11		12797.000	34.08	16.30	50.38	74.00	-23.62	peak	
12	*	12797.000	22.35	16.30	38.65	54.00	-15.35	AVG	