FCC PART 15B

TEST REPORT

For

Quanzhou Wouxun Electronics Co., Ltd.

Jiangnan High Technology Industry Park, No.928 Nanhuan Road, Quanzhou, Fujian, China

FCC ID: WVTWOUXUN25

Report Type:	**Product Type:**
Original Report	TWO WAY RADIO(GMRS RADIO)

Test Engineer:	Gerry Xing
Report Number:	RXM210426052 -00A
Report Date:	2021-06-10
Reviewed By:	Oscar Ye EMC Manager
Prepared By:	Bay Area Compliance Laboratories Corp. (Kunshan) No.248 Chenghu Road, Kunshan, Jiangsu province, China Tel: +86-0512-86175000 Fax: +86-0512-88934268 www.baclcorp.com.cn

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Applicant:	Quanzhou Wouxun Electronics Co., Ltd.
Test Model:	KG-XS20G
Series Model:	KG-XS20G Plus, KG-XS20G+, XS20G, XS20G Plus, KG-XS20GR, KG-XS20GX, KG-XS20GR Plus, KG-XS20GX Plus
Model Difference:	See Declaration letter
Product:	TWO WAY RADIO(GMRS RADIO)
Rate Voltage:	DC 13.8V powered by DC power supply
*Highest Operation Frequency:	480 MHz

**Note: The highest operation frequency was declared by the applicant.*

**All measurement and test data in this report was gathered from production sample serial number: RXM210426052-1. (Assigned by the BACL. The EUT supplied by the applicant was received on 2021-04-26)*

Objective

This report is prepared on behalf of *Quanzhou Wouxun Electronics Co., Ltd.* in accordance with Part 2-Subpart J, and Part 15-Subparts A and B of the Federal Communication Commission's rules.
The objective of the manufacturer is to determine the compliance of EUT with FCC Part 15, Class B device.

Related Submittal(s)/Grant(s)

FCC Part 95 TNB Submittal with FCC ID: WVTWOUXUN25.

Test Methodology

All measurements contained in this report were conducted with ANSI C63.4-2014, American National Standard for Methods of Measurement of Radio-Noise Emissions from Low-Voltage Electrical and Electronic Equipment in the range of 9 kHz to 40 GHz.

All radiated and conducted emissions measurement was performed at Bay Area Compliance Laboratories Corp. (Kunshan). The radiated testing was performed at an antenna-to-EUT distance of 3 meters.

Test Facility

The test site used by Bay Area Compliance Laboratories Corp. (Kunshan) to collect test data is located on the No.248 Chenghu Road, Kunshan, Jiangsu province, China.

Bay Area Compliance Laboratories Corp. (Kunshan) Lab is accredited to ISO/IEC 17025 by A2LA (Lab code: 4323.01) and the FCC designation No. CN1185 under the FCC KDB 974614 D01 and CAB identifier CN0004 under the ISED requirement. The facility also complies with the radiated and AC line conducted test site criteria set forth in ANSI C63.4-2014.

SYSTEM TEST CONFIGURATION

Justification

The system was configured for testing in a typical mode (as normally used by a typical user).

Test Mode1: Normal Working

Test Mode2: Scanning Receiver Mode

Test Mode3: Receive at 136MHz

Test Mode4: Receive at 155MHz

Test Mode5: Receive at 174MHz

Test Mode6: Receive at 400MHz

Test Mode7: Receive at 440MHz

Test Mode8: Receive at 480MHz

EUT Exercise Software

No exercise software was used to test.

Special Accessories

No special accessory was used.

Equipment Modifications

No modification was made to the EUT tested.

Support Equipment List and Details

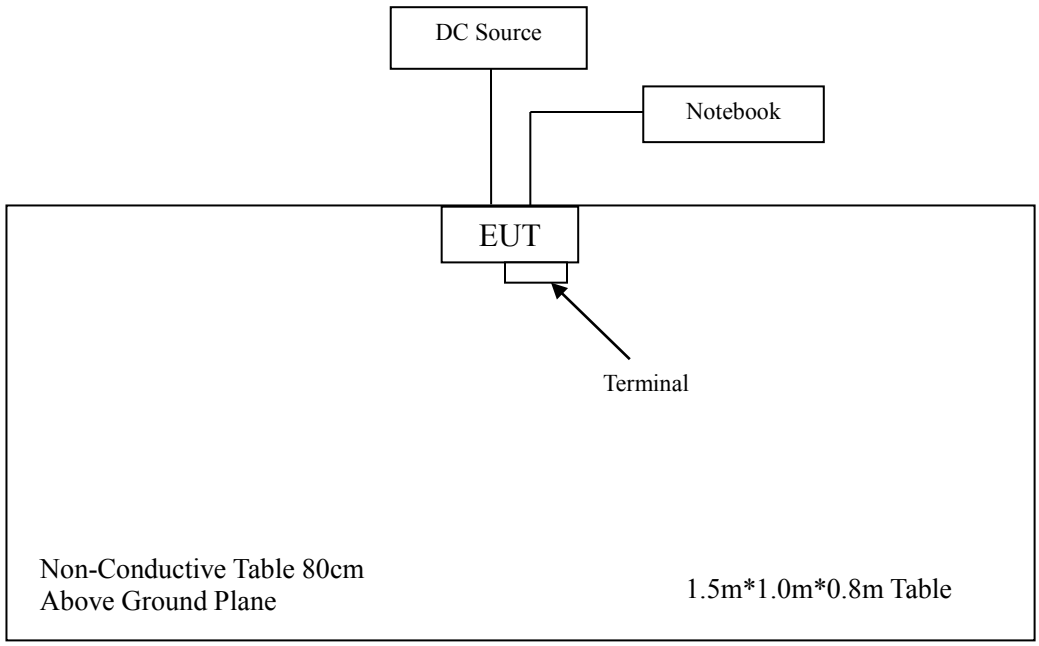
Manufacturer	Description	Model	Serial Number
Huaxiang	50OhmCoaxial Load	4.3/10TF20-8	17011301
ZHAOXIN	DC Power Supply	RXN-605D	DC002
Rohde & Schwarz	Signal Generator	/	/
/	Antenna	/	/

External I/O Cable

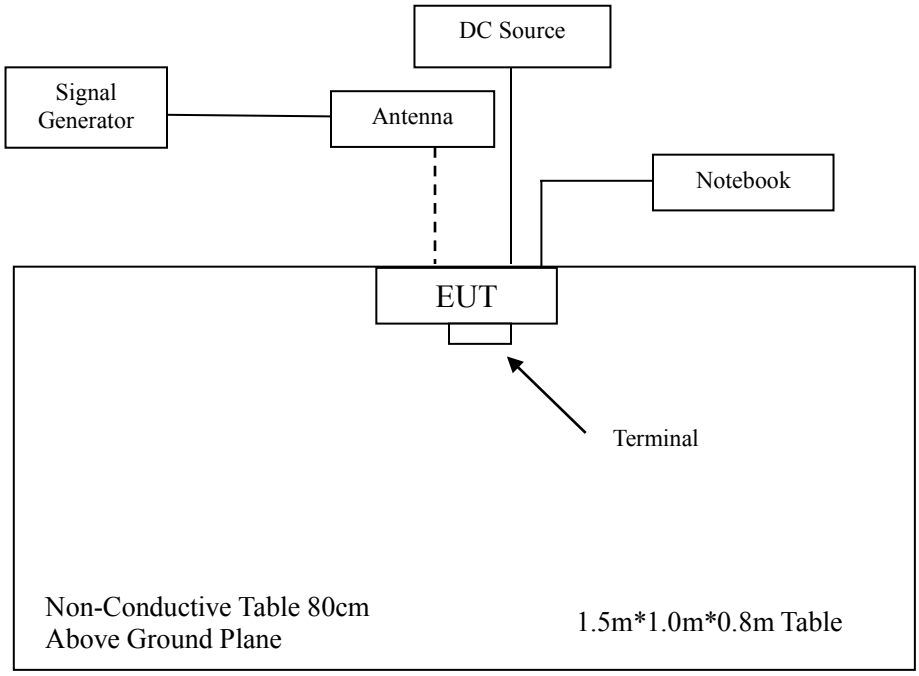
Cable Description	Length (m)	From Port	To Port
Power Cable	1.5	EUT	DC Source
USB Cable	1.0	EUT	Notebook

Block Diagram of Radiated Test Setup

Test mode1:



Test mode2-8:



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Results
§15.107	Conducted Emissions	Not Applicable (see note)
§15.109	Radiated Emissions	Compliant
§15.111	Antenna Conducted Power for receivers	Compliant
§15.121(b)	Scanning receivers and frequency converters used with scanning receivers	Compliant

Note: The EUT was used in a vehicle.

FCC §15.109 - RADIATED EMISSIONS

Applicable Standard

FCC §15.109

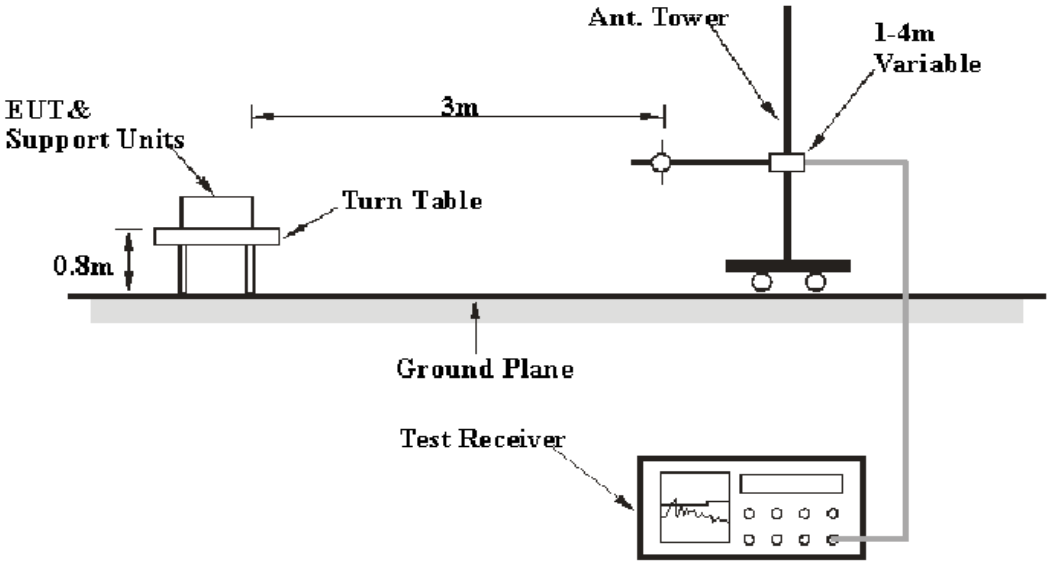
Measurement Uncertainty

All measurements involve certain levels of uncertainties, especially in field of EMC. The factors contributing to uncertainties are spectrum analyzer, cable loss, antenna factor calibration, antenna directivity, antenna factor variation with height, antenna phase center variation, antenna factor frequency interpolation, measurement distance variation, site imperfections, mismatch (average) and system repeatability.

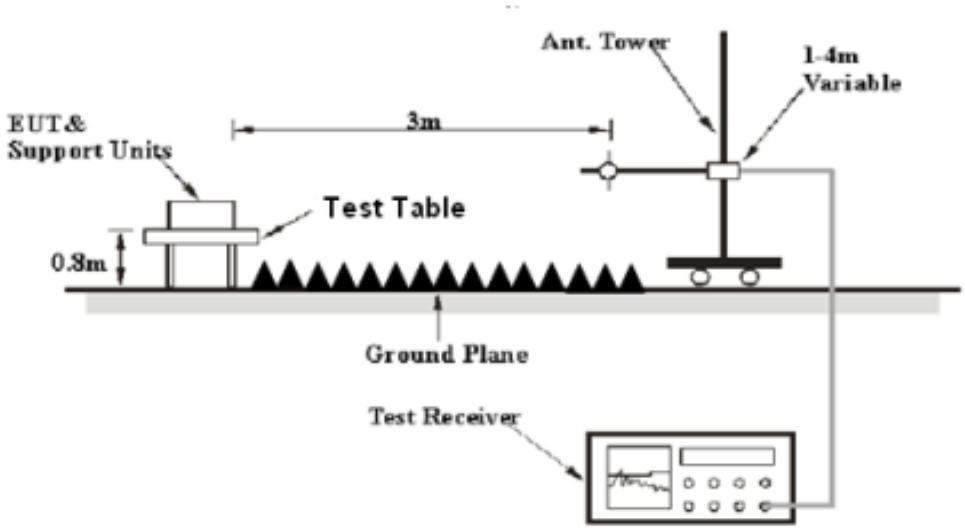
Item		Measurement Uncertainty	U_{cispr}
Radiated Emission	30MHz~1GHz	6.11dB	6.3 dB
	1GHz~6GHz	4.45dB	5.2dB

EUT Setup

Below 1GHz:



Above 1GHz:



The radiated emission tests were performed in the 3 meters chamber test site, using the setup accordance with the ANSI C63.4-2014. The specification used was the FCC Part 15.109 Class B limits.

The external I/O cables were draped along the test table and formed a bundle 30 to 40 cm long in the middle.

The spacing between the peripherals was 10 cm.

EMI Test Receiver Setup

The system was investigated from 30 MHz to 2 GHz.

During the radiated emission test, the EMI test receiver was set with the following configurations:

Frequency Range	RBW	Video B/W	Detector
30MHz – 1000 MHz	120 kHz	300 kHz	Peak
Above 1GHz	1MHz	3MHz	Peak
	1MHz	3MHz	Average

Test Procedure

Maximizing procedure was performed on the highest emissions to ensure that the EUT complied with all installation combinations.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Sonoma Instrument	Amplifier	310N	171205	2020-08-14	2021-08-13
Rohde & Schwarz	EMI Test Receiver	ESCI	100195	2020-11-27	2021-11-26
Champrotek	Chamber1#	3m-SAC 966	N/A	2019-05-08	2022-05-07
Sunol Sciences	Hybrid Antenna	JB3	A090314-2	2020-01-07	2023-01-06
Narda	Attenuator	26850-6	N/A	2020-01-07	2023-01-06
Rohde & Schwarz	Auto test Software	EMC32	100361	N/A	N/A
MICRO-COAX	Coaxial Cable	Cable-8	008	2020-08-15	2021-08-14
MICRO-COAX	Coaxial Cable	Cable-9	009	2020-08-15	2021-08-14
MICRO-COAX	Coaxial Cable	Cable-10	010	2020-08-15	2021-08-14
A.H. Systems, inc.	Amplifier	PAM-0118P	512	2020-08-14	2021-08-13
Albatross	Chamber 2#	3m-SAC 966	N/A	2019-05-08	2022-05-07
ETS	Horn Antenna	3115	9311-4159	2020-07-15	2023-07-14
Rohde & Schwarz	EMI Test Receiver	ESU40	100207/040	2021-04-01	2022-03-31
Rohde & Schwarz	Auto test Software	EMC32	100361	N/A	N/A
MICRO-COAX	Coaxial Cable	Cable-4	004	2020-08-15	2021-08-14
MICRO-COAX	Coaxial Cable	Cable-5	005	2020-08-15	2021-08-14

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Kunshan) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

Corrected Amplitude & Margin Calculation

The Corrected Amplitude is calculated by adding the Antenna Factor and Cable Loss, and subtracting the Amplifier Gain from the Meter Reading. The basic equation is as follows:

Corrected Amplitude (dBµV/m) = Meter Reading (dBµV) + Antenna Factor (dB/m) + Cable Loss (dB) - Amplifier Gain (dB)

The "**Margin**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, a margin of 7dB means the emission is 7dB below the limit. The equation for margin calculation is as follows:

Margin (dB) = Limit (dBµV/m) – Corrected Amplitude (dBµV/m)

Test Data

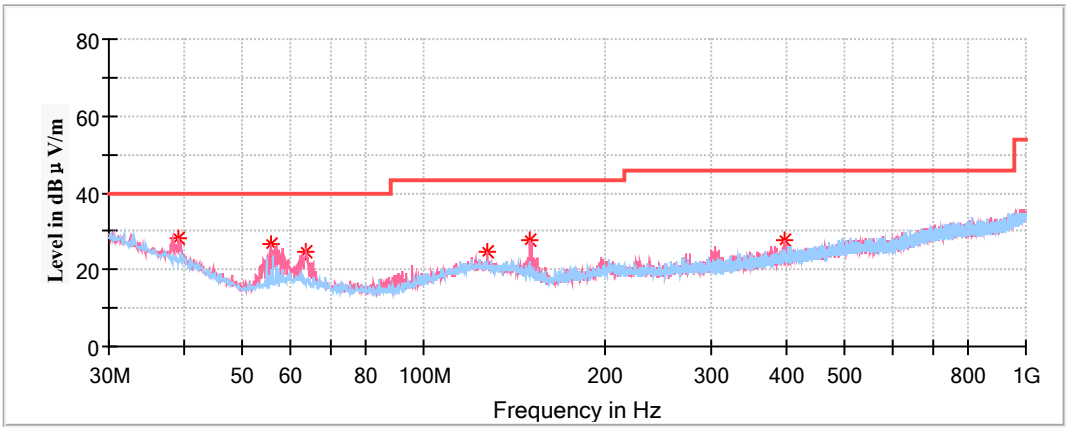
Environmental Conditions

Temperature:	24.3℃
Relative Humidity:	53 %
ATM Pressure:	101.5 kPa

The testing was performed by Gerry Xing on 2021-06-01.

Test mode 1:

Below 1 GHz:

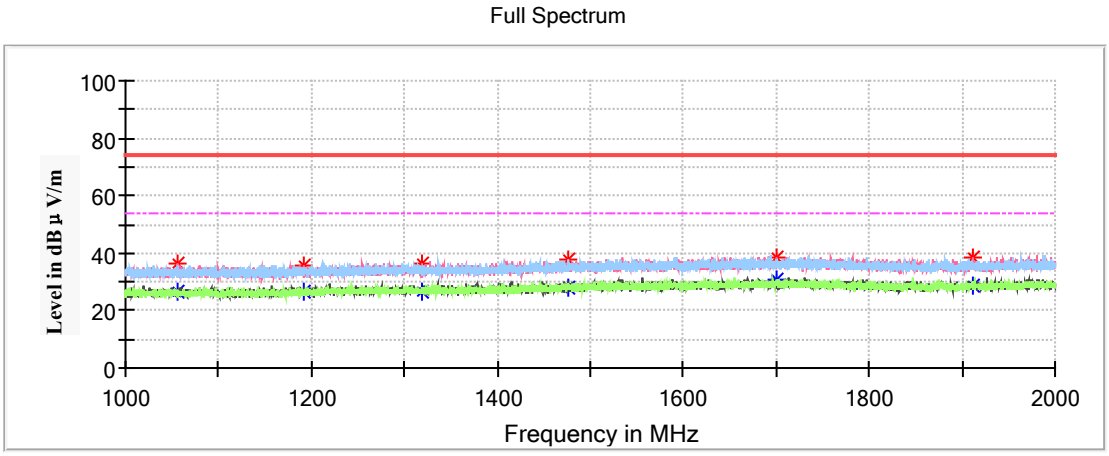


Frequency (MHz)	Corrected Amplitude Max Peak (dB µ V/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
39.215000	28.29	40.00	11.71	100.0	V	248.0	-9.9
55.583750	26.54	40.00	13.46	100.0	V	324.0	-15.7
63.828750	24.56	40.00	15.44	100.0	V	0.0	-15.4
127.727500	24.49	43.50	19.01	100.0	V	0.0	-11.1
150.401250	27.62	43.50	15.88	100.0	V	222.0	-13.0
396.538750	27.87	46.00	18.13	100.0	V	188.0	-8.1

Note:

1)Corrected Amplitude = Meter Reading + Antenna Factor + Cable Loss - Amplifier Gain
2)Margin = Limit –Corrected Amplitude
3) The PK values of the emissions are 6dB below the QP Limit, So the QP values of the emissions were not recorded.

Above 1 GHz:



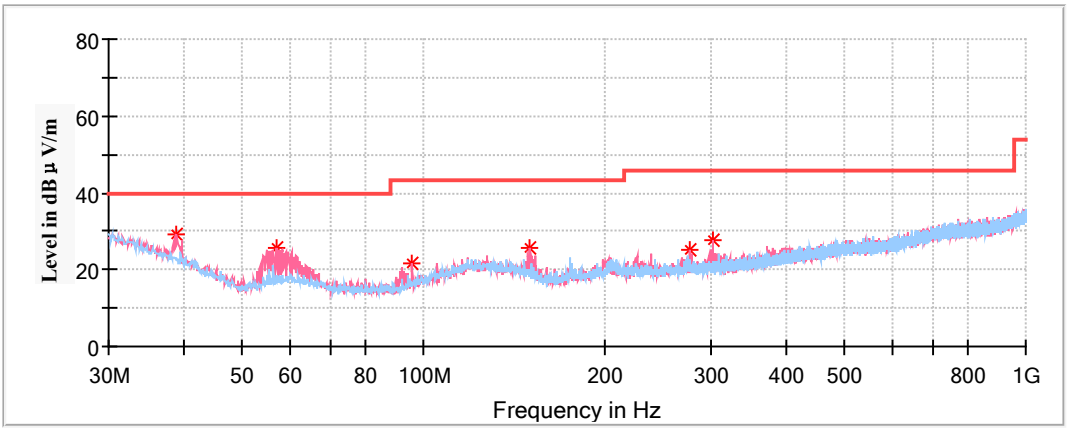
Frequency (MHz)	Corrected Amplitude		Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
	Max Peak (dBµV/m)	Average (dBµV/m)						
1056.900000	---	26.50	54.00	27.50	200.0	H	20.0	-12.1
1056.900000	36.47	---	74.00	37.53	200.0	H	20.0	-12.1
1192.400000	---	26.60	54.00	27.40	100.0	H	292.0	-11.3
1192.400000	36.00	---	74.00	38.00	100.0	H	292.0	-11.3
1319.300000	---	26.53	54.00	27.47	200.0	H	266.0	-10.5
1319.300000	36.54	---	74.00	37.46	200.0	H	266.0	-10.5
1476.100000	---	27.84	54.00	26.16	200.0	H	213.0	-9.5
1476.100000	37.76	---	74.00	36.24	200.0	H	213.0	-9.5
1699.900000	---	30.83	54.00	23.17	100.0	V	30.0	-8.7
1699.900000	38.79	---	74.00	35.21	100.0	V	30.0	-8.7
1911.600000	---	28.72	54.00	25.28	100.0	V	115.0	-8.0
1911.600000	38.19	---	74.00	35.81	100.0	V	115.0	-8.0

Note:

1)Corrected Amplitude = Meter Reading + Antenna Factor + Cable Loss - Amplifier Gain
2)Margin = Limit –Corrected Amplitude

Test mode 2:

Below 1 GHz:

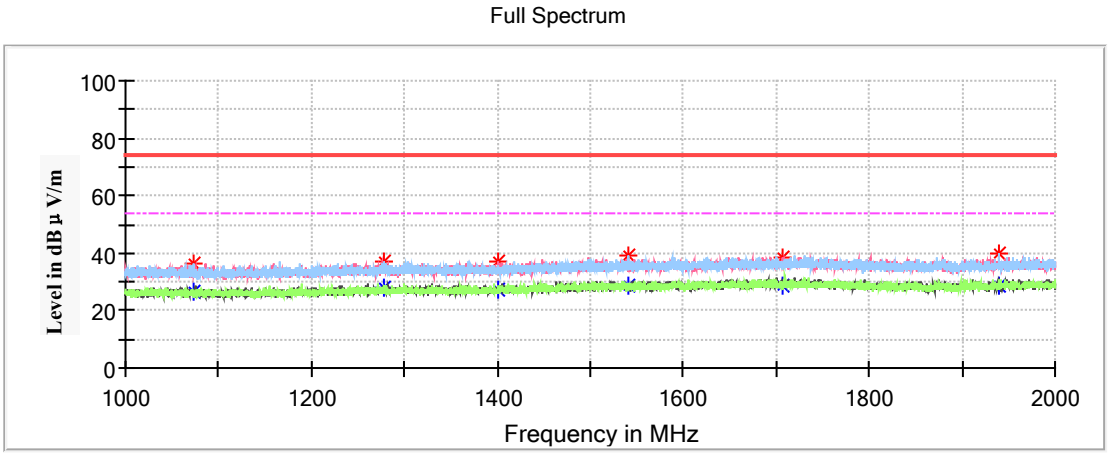


Frequency (MHz)	Corrected Amplitude Max Peak (dB µ V/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
38.972500	28.96	40.00	11.04	100.0	V	280.0	-9.7
56.917500	25.69	40.00	14.31	100.0	V	268.0	-15.3
95.717500	21.75	43.50	21.75	100.0	V	324.0	-15.6
150.401250	25.58	43.50	17.92	100.0	V	163.0	-13.0
277.592500	25.07	46.00	20.93	100.0	V	296.0	-11.3
301.963750	27.83	46.00	18.17	100.0	V	296.0	-10.8

Note:

1)Corrected Amplitude = Meter Reading + Antenna Factor + Cable Loss - Amplifier Gain
2)Margin = Limit –Corrected Amplitude
3) The PK values of the emissions are 6dB below the QP Limit, So the QP values of the emissions were not recorded.

Above 1 GHz:



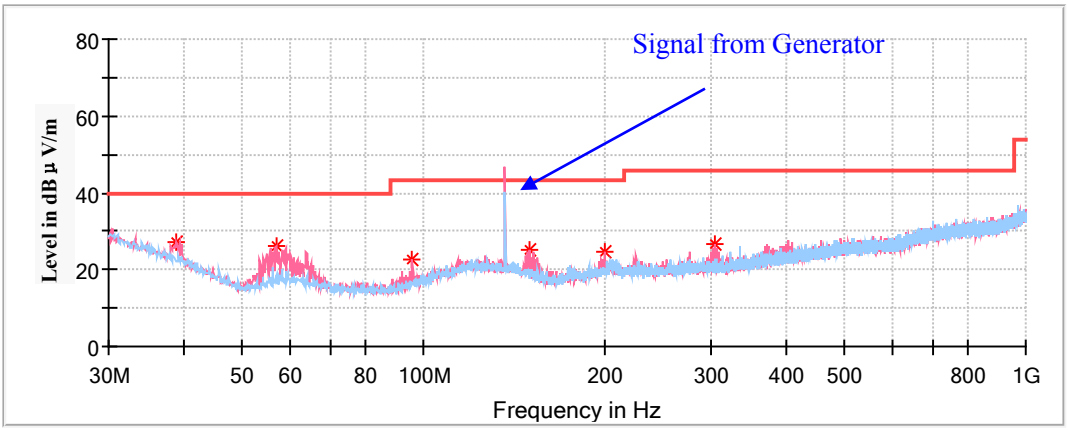
Frequency (MHz)	Corrected Amplitude		Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
	Max Peak (dBµV/m)	Average (dBµV/m)						
1073.300000	---	26.56	54.00	27.44	200.0	H	0.0	-12.0
1073.300000	36.53	---	74.00	37.47	200.0	H	0.0	-12.0
1279.000000	---	27.66	54.00	26.34	100.0	H	292.0	-10.8
1279.000000	37.14	---	74.00	36.86	100.0	H	292.0	-10.8
1400.300000	---	26.99	54.00	27.01	100.0	H	245.0	-10.0
1400.300000	37.29	---	74.00	36.71	100.0	H	245.0	-10.0
1540.100000	---	28.61	54.00	25.39	100.0	V	222.0	-9.3
1540.100000	38.84	---	74.00	35.16	100.0	V	222.0	-9.3
1706.600000	---	28.90	54.00	25.10	100.0	H	303.0	-8.7
1706.600000	38.72	---	74.00	35.28	100.0	H	303.0	-8.7
1939.400000	---	28.85	54.00	25.15	200.0	H	61.0	-7.9
1939.400000	39.62	---	74.00	34.38	200.0	H	61.0	-7.9

Note:

1)Corrected Amplitude = Meter Reading + Antenna Factor + Cable Loss - Amplifier Gain
2)Margin = Limit –Corrected Amplitude

Test mode 3:

Below 1 GHz:

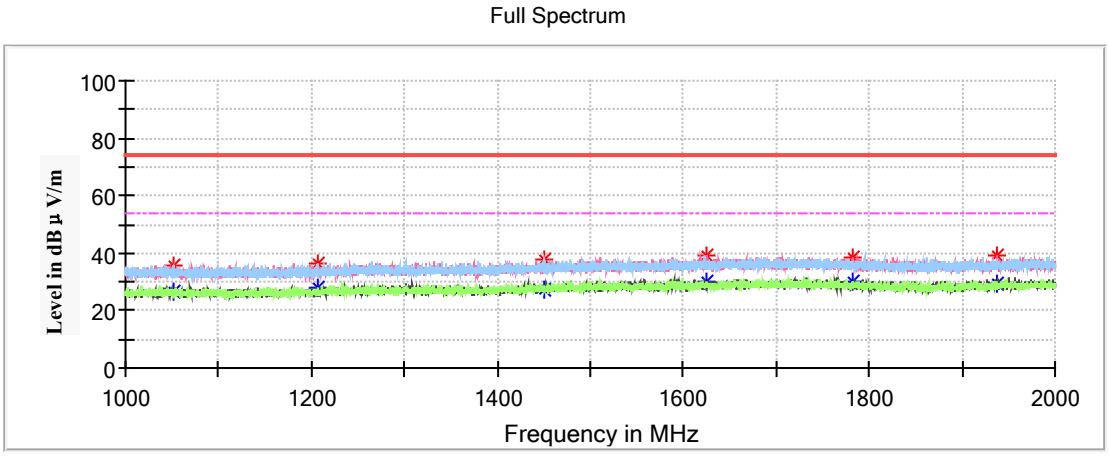


Frequency (MHz)	Corrected Amplitude Max Peak (dB µ V/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
38.972500	27.36	40.00	12.64	100.0	V	122.0	-9.7
56.917500	26.03	40.00	13.97	100.0	V	0.0	-15.3
95.838750	22.66	43.50	20.84	100.0	V	290.0	-15.6
149.795000	25.33	43.50	18.17	100.0	V	0.0	-12.9
199.992500	24.71	43.50	18.79	100.0	V	56.0	-12.0
304.388750	26.73	46.00	19.27	100.0	V	353.0	-10.7

Note:

1)Corrected Amplitude = Meter Reading + Antenna Factor + Cable Loss - Amplifier Gain
2)Margin = Limit –Corrected Amplitude
3) The PK values of the emissions are 6dB below the QP Limit, So the QP values of the emissions were not recorded.

Above 1 GHz:



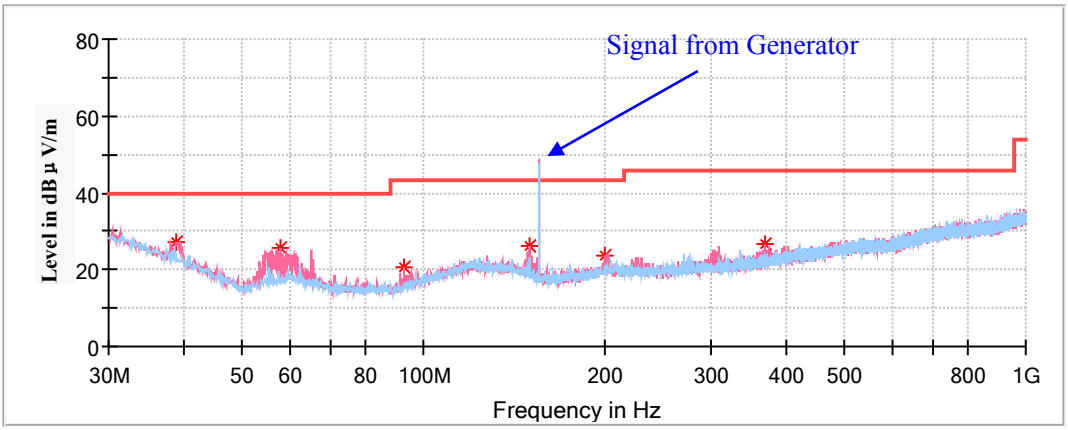
Frequency (MHz)	Corrected Amplitude		Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
	Max Peak (dBµV/m)	Average (dBµV/m)						
1050.700000	---	26.62	54.00	27.38	100.0	V	7.0	-12.2
1050.700000	35.89	---	74.00	38.11	100.0	V	7.0	-12.2
1206.200000	---	27.63	54.00	26.37	200.0	H	29.0	-11.2
1206.200000	36.24	---	74.00	37.76	200.0	H	29.0	-11.2
1451.500000	---	27.24	54.00	26.76	200.0	V	88.0	-9.7
1451.500000	37.69	---	74.00	36.31	200.0	V	88.0	-9.7
1625.700000	---	30.29	54.00	23.71	100.0	V	88.0	-9.0
1625.700000	38.90	---	74.00	35.10	100.0	V	7.0	-9.0
1781.800000	---	30.06	54.00	23.94	200.0	V	0.0	-8.4
1781.800000	38.63	---	74.00	35.37	200.0	V	0.0	-8.4
1938.100000	---	29.71	54.00	24.29	100.0	V	158.0	-7.9
1938.100000	38.88	---	74.00	35.12	100.0	V	158.0	-7.9

Note:

1)Corrected Amplitude = Meter Reading + Antenna Factor + Cable Loss - Amplifier Gain
2)Margin = Limit –Corrected Amplitude

Test mode 4:

Below 1 GHz:

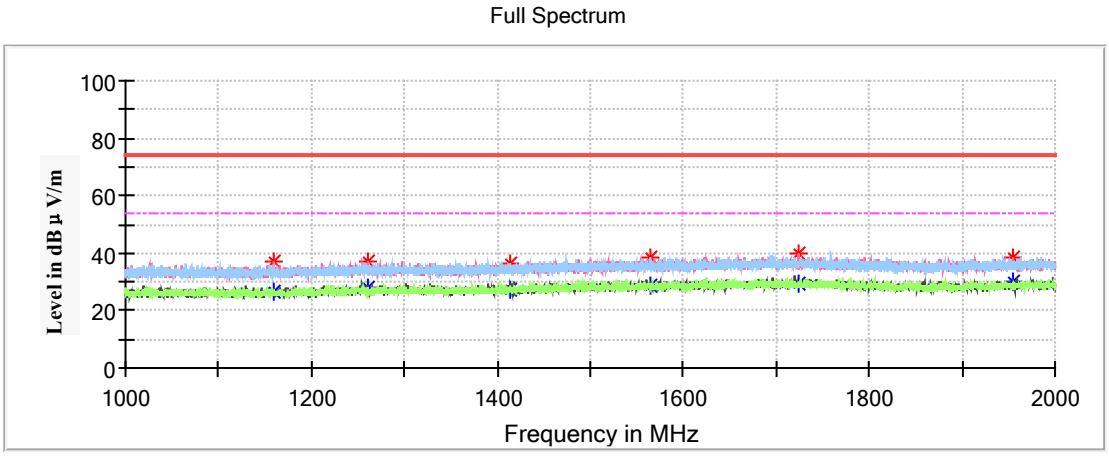


Frequency (MHz)	Corrected Amplitude Max Peak (dB µ V/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
38.730000	27.30	40.00	12.70	100.0	V	46.0	-9.6
58.008750	25.61	40.00	14.39	100.0	V	203.0	-15.0
92.807500	20.62	43.50	22.88	100.0	V	319.0	-16.3
149.673750	26.19	43.50	17.31	100.0	V	324.0	-12.9
199.750000	23.83	43.50	19.67	100.0	V	137.0	-12.1
369.985000	26.58	46.00	19.42	100.0	V	246.0	-8.9

Note:

1)Corrected Amplitude = Meter Reading + Antenna Factor + Cable Loss - Amplifier Gain
2)Margin = Limit –Corrected Amplitude
3) The PK values of the emissions are 6dB below the QP Limit, So the QP values of the emissions were not recorded.

Above 1 GHz:



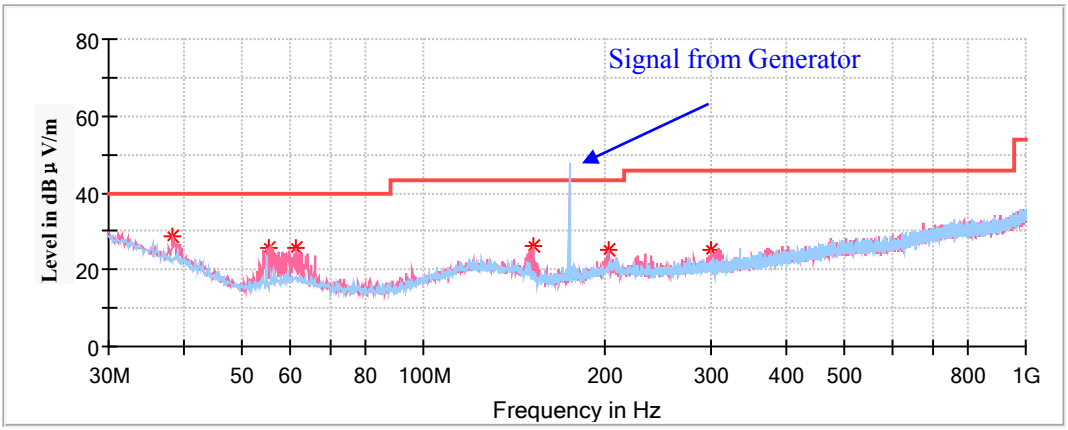
Frequency (MHz)	Corrected Amplitude		Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
	Max Peak (dBµV/m)	Average (dBµV/m)						
1159.000000	---	26.79	54.00	27.21	100.0	H	320.0	-11.5
1159.000000	36.78	---	74.00	37.22	100.0	H	320.0	-11.5
1259.900000	---	27.64	54.00	26.36	100.0	V	122.0	-10.9
1259.900000	37.08	---	74.00	36.92	100.0	V	122.0	-10.9
1414.300000	---	27.37	54.00	26.63	200.0	H	192.0	-9.9
1414.300000	36.34	---	74.00	37.66	200.0	H	192.0	-9.9
1564.500000	---	28.41	54.00	25.59	100.0	H	277.0	-9.2
1564.500000	38.78	---	74.00	35.22	100.0	H	277.0	-9.2
1724.800000	---	29.31	54.00	24.69	200.0	V	36.0	-8.6
1724.800000	39.97	---	74.00	34.03	200.0	V	36.0	-8.6
1954.000000	---	30.00	54.00	24.00	200.0	V	207.0	-7.8
1954.000000	38.26	---	74.00	35.74	200.0	V	207.0	-7.8

Note:

1)Corrected Amplitude = Meter Reading + Antenna Factor + Cable Loss - Amplifier Gain
2)Margin = Limit –Corrected Amplitude

Test mode 5:

Below 1 GHz:

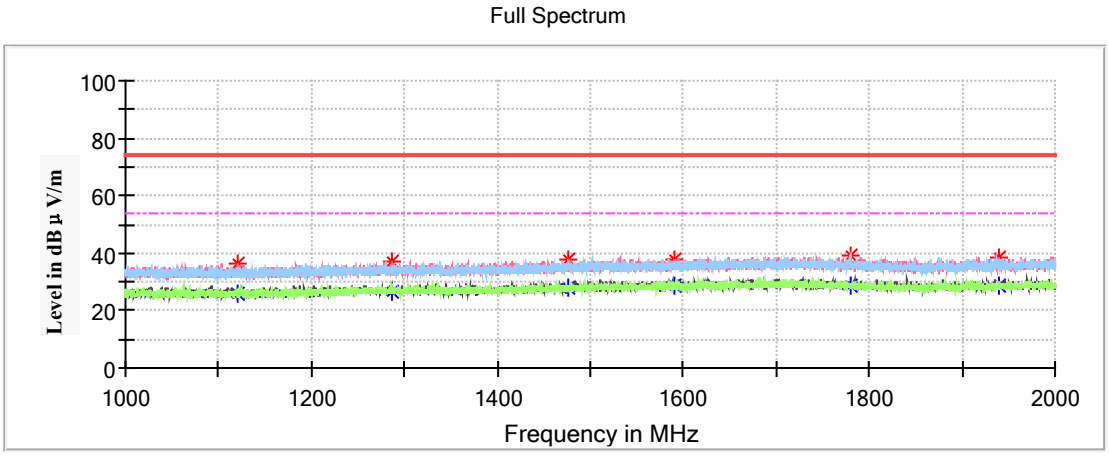


Frequency (MHz)	Corrected Amplitude Max Peak (dB µ V/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
38.366250	28.79	40.00	11.21	100.0	V	63.0	-9.3
55.462500	25.85	40.00	14.15	100.0	V	80.0	-15.7
61.403750	25.42	40.00	14.58	200.0	V	188.0	-14.8
152.462500	25.96	43.50	17.54	100.0	V	178.0	-13.3
202.660000	24.93	43.50	18.57	100.0	V	151.0	-12.0
300.266250	25.23	46.00	20.77	100.0	V	243.0	-10.8

Note:

1)Corrected Amplitude = Meter Reading + Antenna Factor + Cable Loss - Amplifier Gain
2)Margin = Limit –Corrected Amplitude
3) The PK values of the emissions are 6dB below the QP Limit, So the QP values of the emissions were not recorded.

Above 1 GHz:



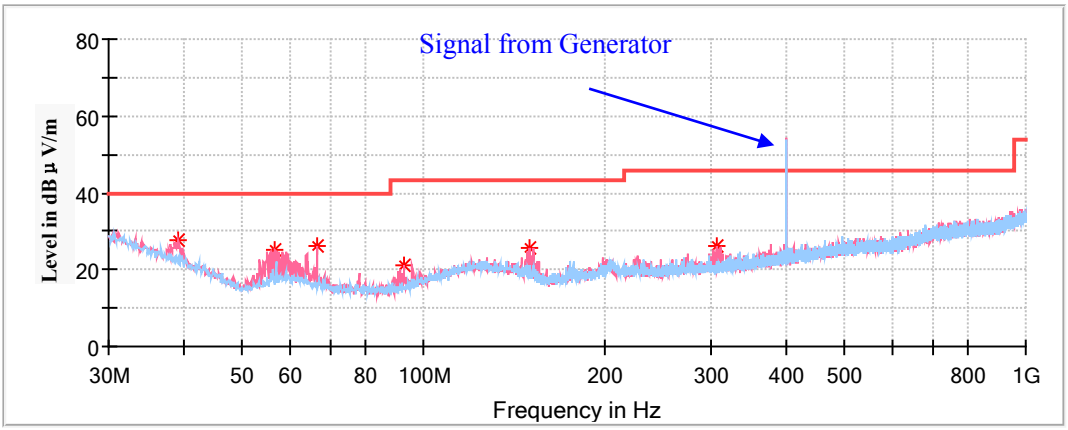
Frequency (MHz)	Corrected Amplitude		Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
	Max Peak (dBµV/m)	Average (dBµV/m)						
1121.000000	---	26.07	54.00	27.93	100.0	V	20.0	-11.7
1121.000000	36.44	---	74.00	37.56	100.0	V	20.0	-11.7
1286.700000	---	26.83	54.00	27.17	200.0	V	1.0	-10.7
1286.700000	37.24	---	74.00	36.76	200.0	V	1.0	-10.7
1477.100000	---	28.30	54.00	25.70	200.0	V	1.0	-9.5
1477.100000	37.93	---	74.00	36.07	200.0	V	1.0	-9.5
1589.600000	---	28.91	54.00	25.09	100.0	V	1.0	-9.1
1589.600000	37.94	---	74.00	36.06	100.0	V	1.0	-9.1
1779.100000	---	28.54	54.00	25.46	200.0	V	255.0	-8.4
1779.100000	39.14	---	74.00	34.86	200.0	V	255.0	-8.4
1939.300000	---	28.99	54.00	25.01	100.0	H	234.0	-7.9
1939.300000	38.37	---	74.00	35.63	100.0	H	234.0	-7.9

Note:

1)Corrected Amplitude = Meter Reading + Antenna Factor + Cable Loss - Amplifier Gain
2)Margin = Limit –Corrected Amplitude

Test mode 6:

Below 1 GHz:

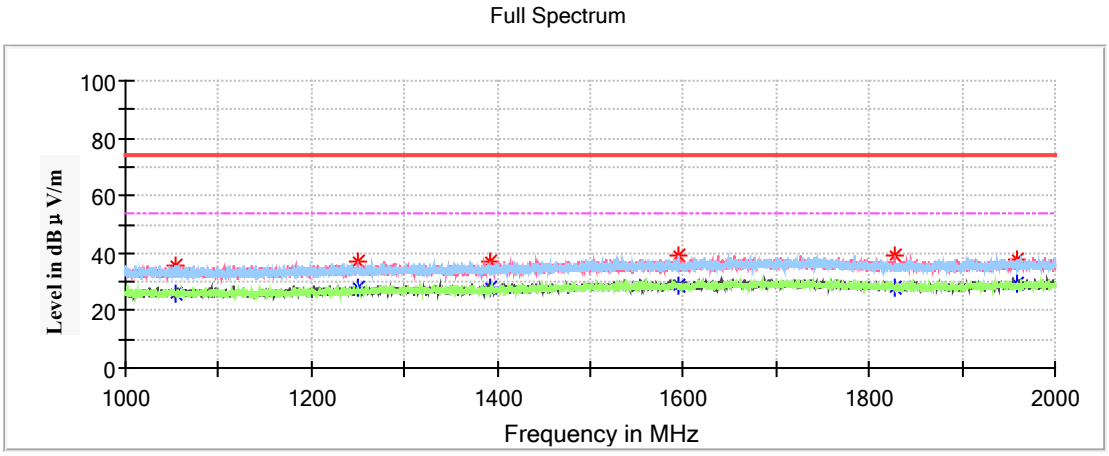


Frequency (MHz)	Corrected Amplitude Max Peak (dB µ V/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
39.215000	27.53	40.00	12.47	100.0	V	291.0	-9.9
56.796250	25.06	40.00	14.94	100.0	V	280.0	-15.3
66.496250	26.12	40.00	13.88	200.0	V	147.0	-16.0
92.686250	21.14	43.50	22.36	100.0	V	219.0	-16.4
150.401250	25.84	43.50	17.66	100.0	V	175.0	-13.0
306.692500	25.92	46.00	20.08	100.0	V	341.0	-10.6

Note:

1)Corrected Amplitude = Meter Reading + Antenna Factor + Cable Loss - Amplifier Gain
2)Margin = Limit –Corrected Amplitude
3) The PK values of the emissions are 6dB below the QP Limit, So the QP values of the emissions were not recorded.

Above 1 GHz:



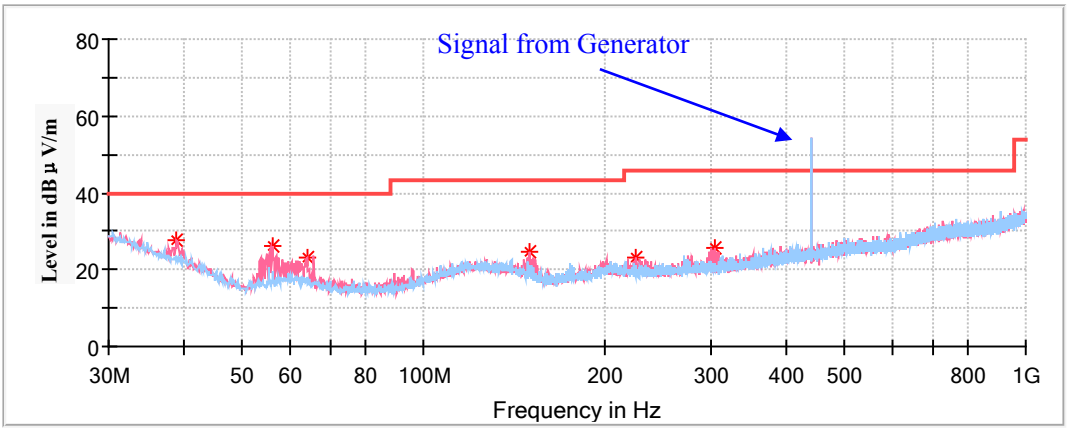
Frequency (MHz)	Corrected Amplitude		Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
	Max Peak (dBµV/m)	Average (dBµV/m)						
1053.800000	35.87	---	74.00	38.13	200.0	H	29.0	-12.2
1053.800000	---	26.03	54.00	27.97	200.0	H	29.0	-12.2
1250.500000	37.33	---	74.00	36.67	200.0	V	287.0	-10.9
1250.500000	---	27.71	54.00	26.29	200.0	V	287.0	-10.9
1392.600000	---	28.09	54.00	25.91	100.0	H	13.0	-10.1
1392.600000	36.97	---	74.00	37.03	100.0	H	13.0	-10.1
1595.400000	39.18	---	74.00	34.82	200.0	H	196.0	-9.1
1595.400000	---	28.95	54.00	25.05	200.0	H	196.0	-9.1
1827.700000	---	28.08	54.00	25.92	200.0	V	222.0	-8.3
1827.700000	39.02	---	74.00	34.98	200.0	V	222.0	-8.3
1959.400000	37.58	---	74.00	36.42	200.0	H	324.0	-7.8
1959.400000	---	29.56	54.00	24.44	200.0	H	324.0	-7.8

Note:

1)Corrected Amplitude = Meter Reading + Antenna Factor + Cable Loss - Amplifier Gain
2)Margin = Limit –Corrected Amplitude

Test mode 7:

Below 1 GHz:

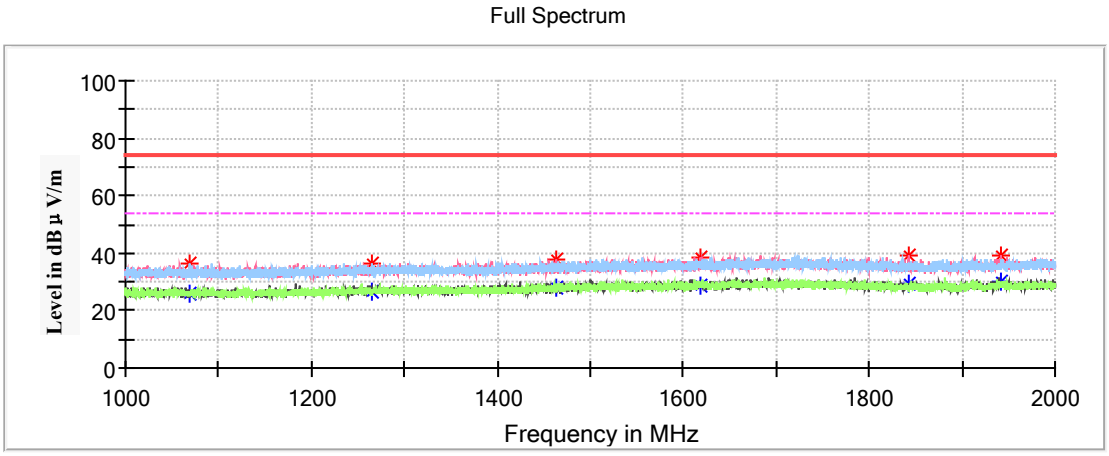


Frequency (MHz)	Corrected Amplitude Max Peak (dB µ V/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
38.972500	27.60	40.00	12.40	100.0	V	302.0	-9.7
56.190000	26.08	40.00	13.92	100.0	V	182.0	-15.5
63.950000	23.36	40.00	16.64	100.0	V	0.0	-15.4
150.037500	24.82	43.50	18.68	100.0	V	182.0	-12.9
225.818750	23.33	46.00	22.67	100.0	V	45.0	-12.0
304.267500	25.50	46.00	20.50	100.0	V	279.0	-10.7

Note:

1)Corrected Amplitude = Meter Reading + Antenna Factor + Cable Loss - Amplifier Gain
2)Margin = Limit –Corrected Amplitude
3) The PK values of the emissions are 6dB below the QP Limit, So the QP values of the emissions were not recorded.

Above 1 GHz:



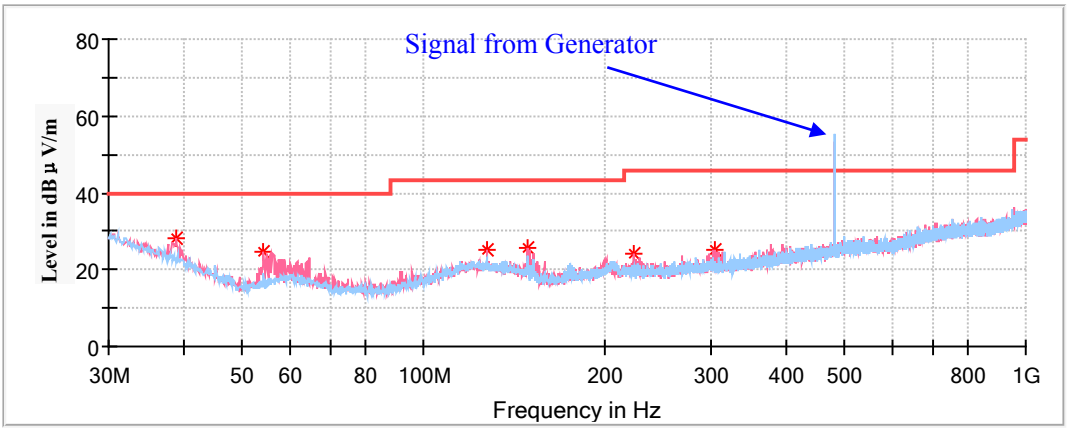
Frequency (MHz)	Corrected Amplitude		Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
	Max Peak (dBµV/m)	Average (dBµV/m)						
1068.100000	---	25.79	54.00	28.21	100.0	V	201.0	-12.1
1068.100000	36.50	---	74.00	37.50	100.0	V	201.0	-12.1
1265.800000	---	26.90	54.00	27.10	200.0	V	8.0	-10.9
1265.800000	36.25	---	74.00	37.75	200.0	V	8.0	-10.9
1463.200000	---	27.87	54.00	26.13	100.0	V	0.0	-9.6
1463.200000	37.75	---	74.00	36.25	100.0	V	0.0	-9.6
1619.200000	---	28.68	54.00	25.32	200.0	H	229.0	-9.0
1619.200000	38.64	---	74.00	35.36	200.0	H	229.0	-9.0
1841.700000	---	29.09	54.00	24.91	100.0	V	52.0	-8.2
1841.700000	38.90	---	74.00	35.10	100.0	V	52.0	-8.2
1941.100000	---	30.15	54.00	23.85	100.0	V	288.0	-7.9
1941.100000	39.02	---	74.00	34.98	100.0	V	288.0	-7.9

Note:

1)Corrected Amplitude = Meter Reading + Antenna Factor + Cable Loss - Amplifier Gain
2)Margin = Limit –Corrected Amplitude

Test mode 8:

Below 1 GHz:

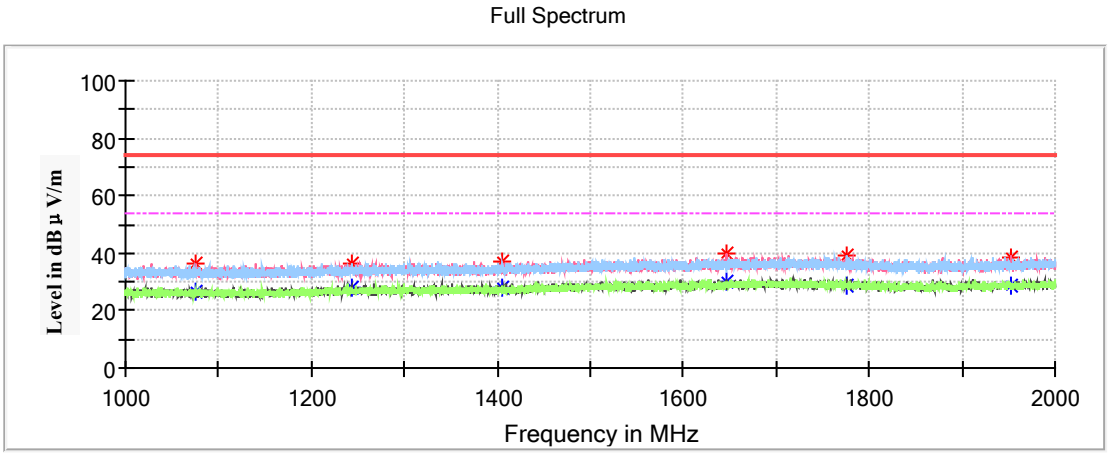


Frequency (MHz)	Corrected Amplitude Max Peak (dB µ V/m)	Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
38.851250	28.04	40.00	11.96	100.0	V	236.0	-9.7
54.250000	24.76	40.00	15.24	100.0	V	302.0	-16.1
127.727500	25.06	43.50	18.44	100.0	V	35.0	-11.1
148.582500	25.62	43.50	17.88	100.0	V	225.0	-12.7
223.636250	24.27	46.00	21.73	100.0	V	41.0	-12.0
303.903750	25.12	46.00	20.88	100.0	V	13.0	-10.7

Note:

1)Corrected Amplitude = Meter Reading + Antenna Factor + Cable Loss - Amplifier Gain
2)Margin = Limit –Corrected Amplitude
3) The PK values of the emissions are 6dB below the QP Limit, So the QP values of the emissions were not recorded.

Above 1 GHz:



Frequency (MHz)	Corrected Amplitude		Limit (dBµV/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
	Max Peak (dBµV/m)	Average (dBµV/m)						
1076.100000	---	26.25	54.00	27.75	100.0	H	121.0	-12.0
1076.100000	36.31	---	74.00	37.69	100.0	H	121.0	-12.0
1244.500000	---	28.05	54.00	25.95	100.0	V	99.0	-11.0
1244.500000	36.68	---	74.00	37.32	100.0	V	99.0	-11.0
1406.100000	---	27.82	54.00	26.18	200.0	H	0.0	-10.0
1406.100000	36.90	---	74.00	37.10	200.0	H	0.0	-10.0
1647.000000	---	30.23	54.00	23.77	100.0	V	227.0	-8.9
1647.000000	39.91	---	74.00	34.09	100.0	V	227.0	-8.9
1776.500000	---	28.80	54.00	25.20	200.0	V	227.0	-8.4
1776.500000	38.92	---	74.00	35.08	200.0	V	227.0	-8.4
1953.500000	---	28.53	54.00	25.47	200.0	V	238.0	-7.8
1953.500000	38.78	---	74.00	35.22	200.0	V	238.0	-7.8

Note:

1)Corrected Amplitude = Meter Reading + Antenna Factor + Cable Loss - Amplifier Gain
2)Margin = Limit –Corrected Amplitude

FCC §15.111 - ANTENNA CONDUCTED POWER FOR RECEIVERS

Applicable Standard

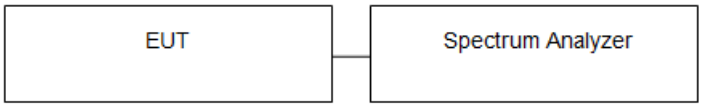
FCC §15.111

Limit

The antenna conducted power of the receiver as defined in §15.111 shall not exceed the values given in the following tables

Frequency Range	Limit
9 kHz to 2 GHz	2.0 nW (-57 dBm)

EUT Setup



Test Procedure

1. The receiver antenna terminal connected to a spectrum analyzer.

2. The test data of the worst case condition (mode 2) was reported on the following Data page.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Rohde & Schwarz	EMI Test Receiver	ESIB26	100146/026	2020-12-14	2021-12-13
WouXun	RF Cable	WouXun C01	C01	Each Time	/

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Kunshan) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

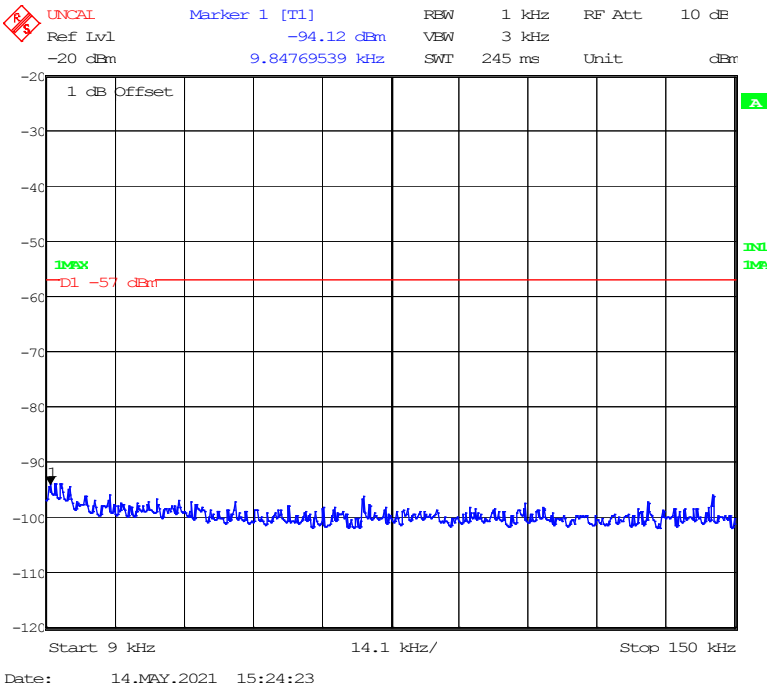
Temperature:	25.2 ℃
Relative Humidity:	51 %
SDATM Pressure:	101.5 kPa

The testing was performed by Gerry Xing on 2021-05-14.

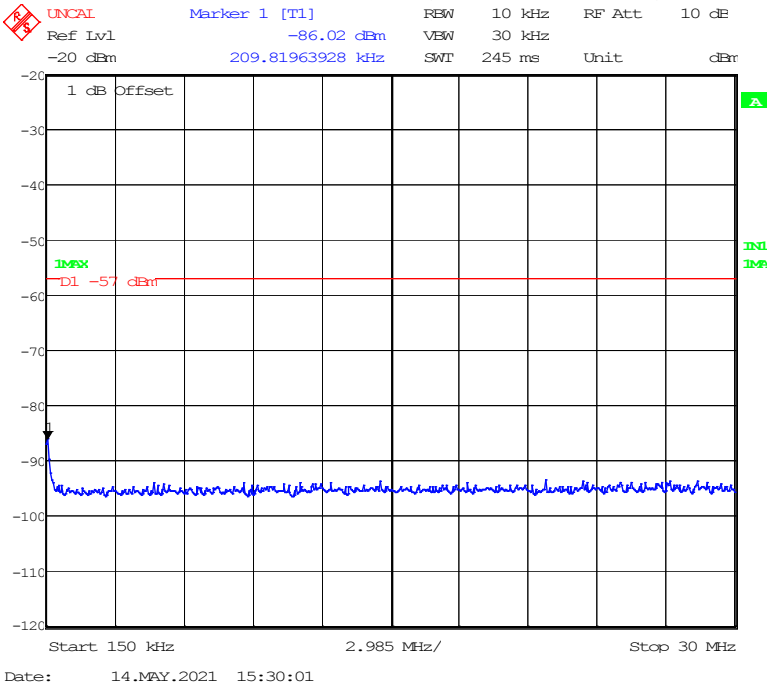
Test Mode2:

Antenna conducted power for receivers :

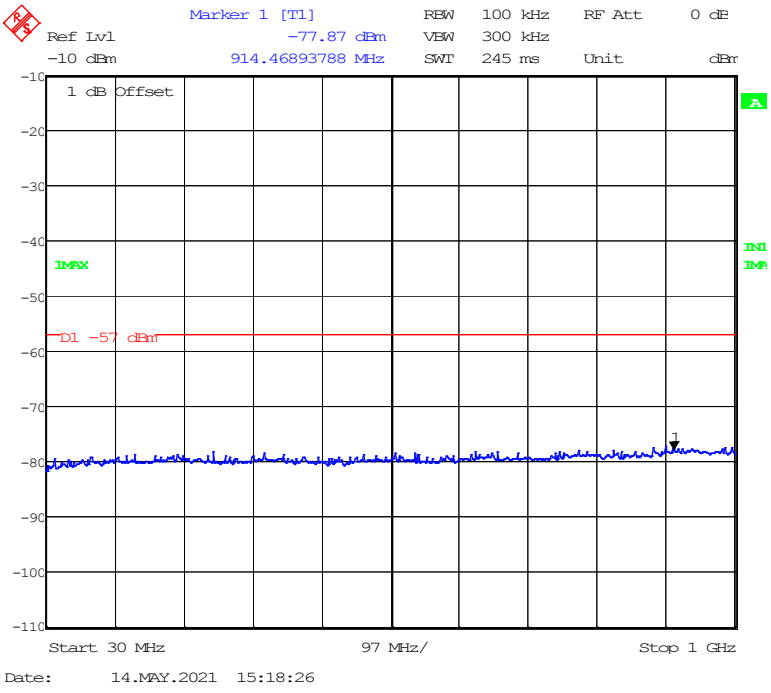
Conducted Measurement (9 kHz to 150 kHz)



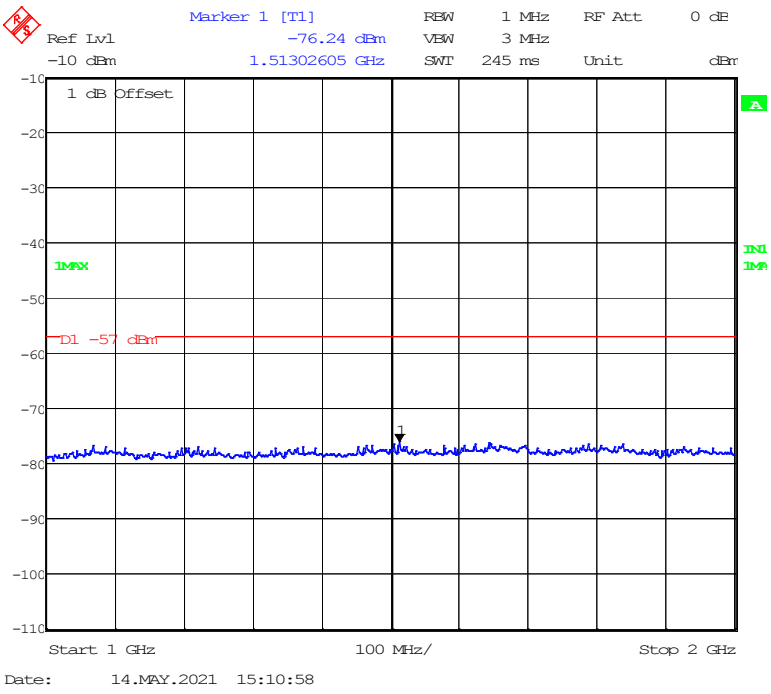
Conducted Measurement (150 kHz to 30MHz)



Conducted Measurement (30MHz to 1GHz)



Conducted Measurement (1GHz to 2GHz)



FCC §15.121(b) - SCANNING RECEIVERS AND FREQUENCY CONVERTERS USED WITH SCANNING RECEIVERS

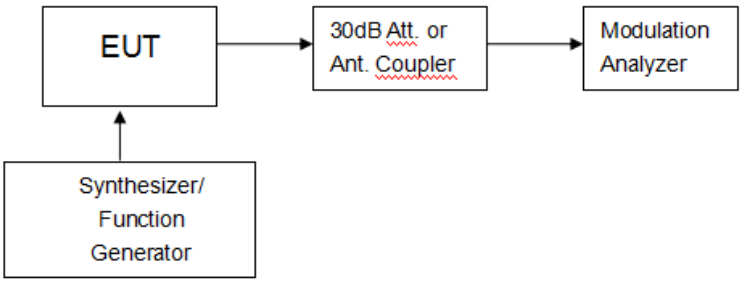
Applicable Standard

FCC §15.121(b)

Limit

Except as provided in paragraph (c) of this section, scanning receivers shall reject any signals from the Cellular Radiotelephone Service frequency bands that are 38 dB or lower based upon a 12 dB SINAD measurement, which is considered the threshold where a signal can be clearly discerned from any interference that may be present.

EUT Setup



Test Procedure

Test Procedure

1) Connected the EUT as shown in the above block diagram.
2) Apply a RF signal to the receiver input port at lowest, middle and highest channel frequencies of receiver operation band.
3) Adjust the audio output level of the receiver to it's rated value with the distortion less than 10%.
4) Adjust the RF Signal Generator Output Power to produce 12 dB SINAD without the audio output power dropping by more than 3 dB.This output level of the RF SG at each channel frequency is the sensitivity of the receiver.
5) Select the lowest or worse-case sensitivity level for all of the bands as the reference sensitivity.
6) Adjust the RF Signal Generator output to a level of +60 dB above the reference sensitivity obtained in step 5) and its frequency to the frequency points in the cellular band.
7) Set the Receiver squelch to threshold, the signal required to open the squelch must be lower than the reference sensitivity level.
8) Set the receiver in a scanning mode and allow it to scan through it's complete receiving range.
9) If the receiver unsquelched or stopped on any frequency, receiving at this frequency, then adjust the signal generator output level until 12 dB SINAD is produced, this level is the spurious value and the difference between the reference sensitivity and the spurious value is the rejection ratio and must be at least 38dB.
10) Repeat above procedure at the frequencies 824, 836.0, and 849 MHz for the mobile band, and 869, 881.5, and 894 MHz for the cellular base band.

Test Equipment List and Details

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Narda	Attenuator	30dB	030	2020-08-15	2021-08-14
Rohde & Schwarz	SMBV100A Vector Signal Generator	SMBV100A	261558	2020-07-28	2021-07-27
HP	RF communication test SET.	8920B	079	2021-03-13	2022-04-12
WouXun	RF Cable	WouXun C01	C01	Each Time	/

*** Statement of Traceability:** Bay Area Compliance Laboratories Corp. (Kunshan) attests that all calibrations have been performed in accordance to requirements that traceable to National Primary Standards and International System of Units (SI).

Test Data

Environmental Conditions

Temperature:	25.2 ℃
Relative Humidity:	51 %
ATM Pressure:	101.5 kPa

The testing was performed by Gerry Xing on 2021-05-16.

Test mode: Receive

EUT's Scanning Frequency Range (MHz)	Test Frequencies of Cellular Band (MHz)	Measurement Result (dB)	Limit (dB)
136-174	824,836,849,869,881.5,894	51	＞38
400-480	824,836,849,869,881.5,894	54	＞38

Note:The test report only shows the worst test results

Declarations

1: BACL is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect test results are marked with an asterisk '*'. Customer model name, addresses, names, trademarks etc. are not considered data.

2: Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

3: Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.

4: The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval.

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*******END OF REPORT*******