

FCC Test Report (NFC)

Report No.: RFBEOE-WTW-P21110648

FCC ID: MQT-C150SE

Test Model: xNFC_C150SE

Received Date: 2021/11/18

Test Date: 2021/11/26 ~ 2021/12/21

Issued Date: 2022/1/6

Applicant: XAC AUTOMATION CORP.

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**FCC Registration /
Designation Number:** 723255 / TW2022



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Release Control Record

Issue No.	Description	Date Issued
RFBEOE-WTW-P21110648	Original release.	2022/1/6

1 Certificate of Conformity

Product: Contactless Reader

Brand: XAC

Test Model: xNFC_C150SE

Sample Status: Engineering Sample

Applicant: XAC AUTOMATION CORP.

Test Date: 2021/11/26 ~ 2021/12/21

Standards: 47 CFR FCC Part 15, Subpart C (Section 15.225)
47 CFR FCC Part 15, Subpart C (Section 15.215)
ANSI C63.10:2013

The above equipment has been tested by **Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch**, and found compliance with the requirement of the above standards. The test record, data evaluation & Equipment Under Test (EUT) configurations represented herein are true and accurate accounts of the measurements of the sample's EMC characteristics under the conditions specified in this report.

Prepared by :



Date:

2022/1/6

Claire Kuan / Specialist

Approved by :



Date:

2022/1/6

Clark Lin / Technical Manager

2 Summary of Test Results

47 CFR FCC Part 15, Subpart C (Section 15.225, 15.215)			
FCC Clause	Test Item	Result	Remarks
15.207	Conducted emission test	PASS	Meet the requirement of limit. Minimum passing margin is -5.73 dB at 16.76172 MHz.
15.225 (a)	The field strength of any emissions within the band 13.553-13.567 MHz	PASS	Meet the requirement of limit. Minimum passing margin is -39.60 dB at 13.560 MHz.
15.225 (b)	The field strength of any emissions within the bands 13.410-13.553 MHz and 13.567-13.710 MHz	PASS	Meet the requirement of limit.
15.225 (c)	The field strength of any emissions within the bands 13.110-13.410 MHz and 13.710-14.010 MHz	PASS	Meet the requirement of limit.
15.225 (d)	The field strength of any emissions appearing outside of the 13.110-14.010 MHz band	PASS	Meet the requirement of limit. Minimum passing margin is -0.2 dB at 176.28 MHz.
15.225 (e)	The frequency tolerance	PASS	Meet the requirement of limit.
15.215 (c)	20dB Bandwidth	PASS	Meet the requirement of limit.
15.203	Antenna Requirement	PASS	No antenna connector is used.

Note:

Determining compliance based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.

2.1 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:

Measurement	Frequency	Expanded Uncertainty (k=2) (±)
Conducted Emissions at mains ports	150kHz ~ 30MHz	1.9 dB
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	3.1 dB
	30MHz ~ 1GHz	5.4 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Contactless Reader
Brand	XAC
Test Model	xNFC_C150SE
Status of EUT	Engineering Sample
Power Supply Rating	5Vdc
Modulation Type	ASK
Transfer Rate	106 kbit/s
Operating Frequency	13.56MHz
Number of Channel	1
Antenna Type	Refer to Note
Antenna Connector	Refer to Note
Accessory Device	NA
Cable Supplied	RS232 cable x1 (1.2m with core*1) (Option) USB cable x1 (1.2m with core*1) (Option) Customized cable x1 (0.7m with core*1) (Option)

Note:

1. The antenna provided to the EUT, please refer to the following table:

Brand	Model No.	Antenna Net Gain(dBi)	Frequency Range (MHz)	Antenna Type	Connector Type
XAC	PCB ENIG ANT BOARD (RFID) C150S (ROHS)	5	13.56	PCB (2 Layer)	NA

2. The EUT have three type for power provided as following table:

Test Mode	Description
Type A	Power from USB cable
Type B	Power from Y Cable(To RS232 & USB/DC Jack)
Type C	Power from Customized Cable to Y Cable(RS232 & USB/DC Jack)

3. For conducted emissions test, the EUT was pre-tested under the following modes:

Test Mode	Description
Mode A	NFC Tx , Type A , Laptop mode
Mode B	NFC Tx , Type B , Adapter mode
Mode C	NFC Tx , Type B , Laptop mode
Mode D	NFC Tx , Type C , Adapter mode
Mode E	NFC Tx , Type C , Laptop mode

Note: From the above modes, the worse case was found in **Mode A & Mode B & Mode D**. Therefore only the test data of the mode was recorded in this report.

4. For radiated emissions test, the EUT was pre-tested under the following modes:

Test Mode	Description	
Mode A	Below 30MHz	NFC Tx , Type A , Laptop , EUT Portrait
Mode B	Below 30MHz	NFC Tx , Type A , Laptop , EUT Landscape
Mode C	Below 30MHz	NFC Tx , Type B , Laptop , EUT Portrait
Mode D	Below 30MHz	NFC Tx , Type B , Laptop , EUT Landscape
Mode E	Below 30MHz	NFC Tx , Type C , Laptop , EUT Portrait
Mode F	Below 30MHz	NFC Tx , Type C , Laptop , EUT Landscape
Mode G	Below 1GHz	NFC Tx , Type A , Laptop , EUT Portrait
Mode H	Below 1GHz	NFC Tx , Type A , Laptop , EUT Landscape
Mode I	Below 1GHz	NFC Tx , Type B , Adapter , EUT Portrait
Mode J	Below 1GHz	NFC Tx , Type B , Laptop , EUT Portrait
Mode K	Below 1GHz	NFC Tx , Type B , Laptop , EUT Landscape
Mode L	Below 1GHz	NFC Tx , Type C , Adapter , EUT Portrait
Mode M	Below 1GHz	NFC Tx , Type C , Laptop , EUT Portrait
Mode N	Below 1GHz	NFC Tx , Type C , Laptop , EUT Landscape

Note: From the above modes, the worse case was found in **Mode A & Mode C & Mode E & Mode G & Mode I & Mode L**. Therefore only the test data of the mode was recorded in this report.

- The above EUT information is declared by manufacturer and for more detailed features description, please refers to the manufacturer's specifications or user's manual.
- The above antenna information is declared by manufacturer and for more detailed features description, please refer to the manufacturer's specifications, the laboratory shall not be held responsible.

3.2 Description of Test Modes

One channel was provided to this EUT:

Channel	Frequency (MHz)
1	13.56

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT Configure Mode	Applicable to				Description
	RE	PLC	FS	EB	
1	√	√	√	√	Power provided : Type A
2	√	√	√	√	Power provided : Type B
3	√	√	√	√	Power provided : Type C

Where

RE≥1G: Radiated Emission

PLC: Power Line Conducted Emission

FS: Frequency Stability

EB: 20dB Bandwidth measurement

Radiated Emission Test:

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

Available Channel	Tested Channel	Modulation Type
1	1	ASK

Power Line Conducted Emission Test:

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

Available Channel	Tested Channel	Modulation Type
1	1	ASK

Frequency Stability:

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

Available Channel	Tested Channel	Modulation Type
1	1	ASK

20dB Bandwidth:

- ☒ Pre-Scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates and antenna ports (if EUT with antenna diversity architecture).
- ☒ Following channel(s) was (were) selected for the final test as listed below.

Available Channel	Tested Channel	Modulation Type
1	1	ASK

Test Condition:

Applicable to	Environmental Conditions	Input Power (System)	Tested By
RE	25deg. C, 65%RH	120Vac, 60Hz	Nelson Teng
PLC	25deg. C, 66%RH	120Vac, 60Hz	Tom Yang
FS	25deg. C, 60%RH	120Vac, 60Hz	Leon Dai
EB	25deg. C, 60%RH	120Vac, 60Hz	Leon Dai

3.3 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.

ID	Product	Brand	Model No.	Serial No.	FCC ID	Remarks
A.	Laptop	Lenovo	20U5S01X00 L14	PF-28LKK7	NA	Provided by Lab
B.	Adapter	Lenovo	ADLX45YLC3D	NA	NA	Provided by Lab
C.	Adapter	HON-KWANG	HK-UA-050A100-US	NA	NA	Supplied by client

Note:

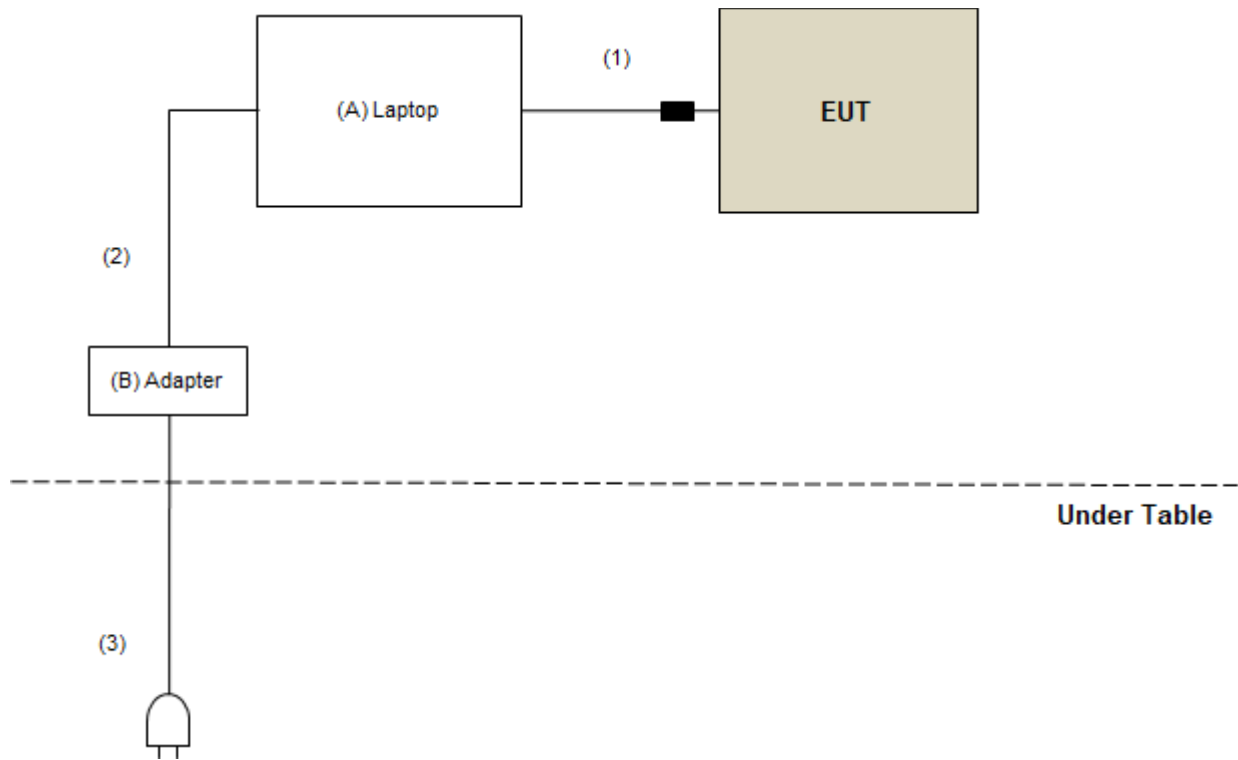
1. All power cords of the above support units are non-shielded (1.8m).

ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	USB Cable	1	1.2	No	1	Supplied by applicant
2.	DC Cable	1	1.8	No	0	Provided by Lab
3.	AC Cable	1	1.9	No	0	Provided by Lab
4.	Y Cable (To RS232 & DC Jack)	1	1.2	No	1	Supplied by applicant
5.	DC Jack cable	1	1.9	No	0	Supplied by applicant
6.	RS232 to USB Cable	1	1.8	No	0	Provided by Lab
7.	Customized Cable	1	0.7	No	1	Supplied by applicant
8.	Customized Cable to Y Cable (RS232 & DC Jack)	1	0.3	No	1	Supplied by applicant

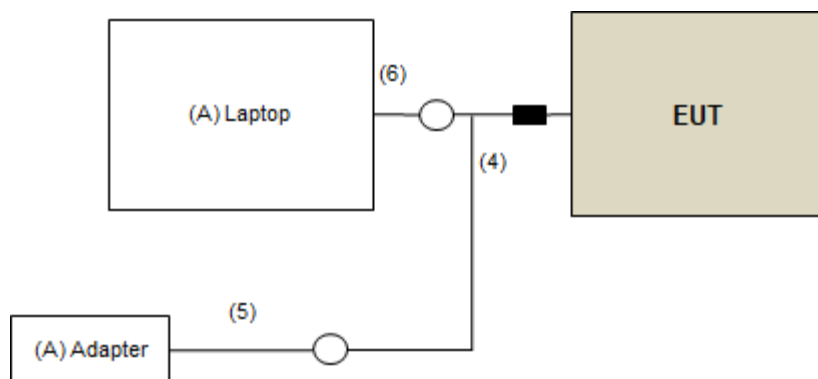
3.3.1 Configuration of System under Test

For Conducted emission test

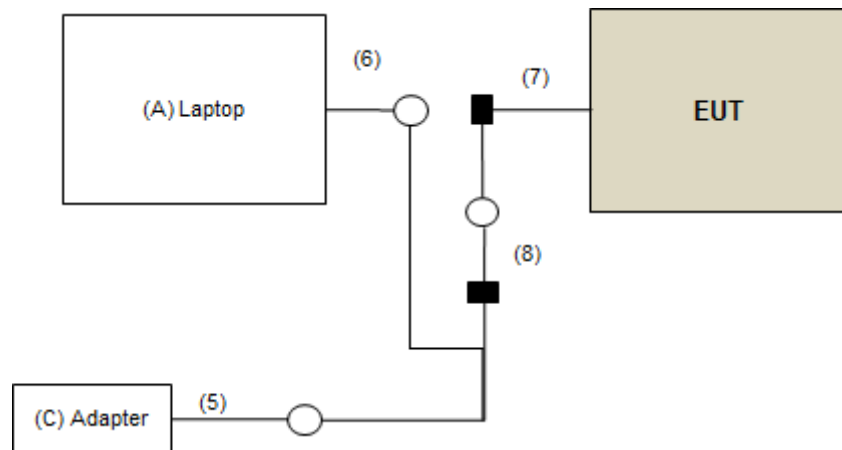
Mode 1



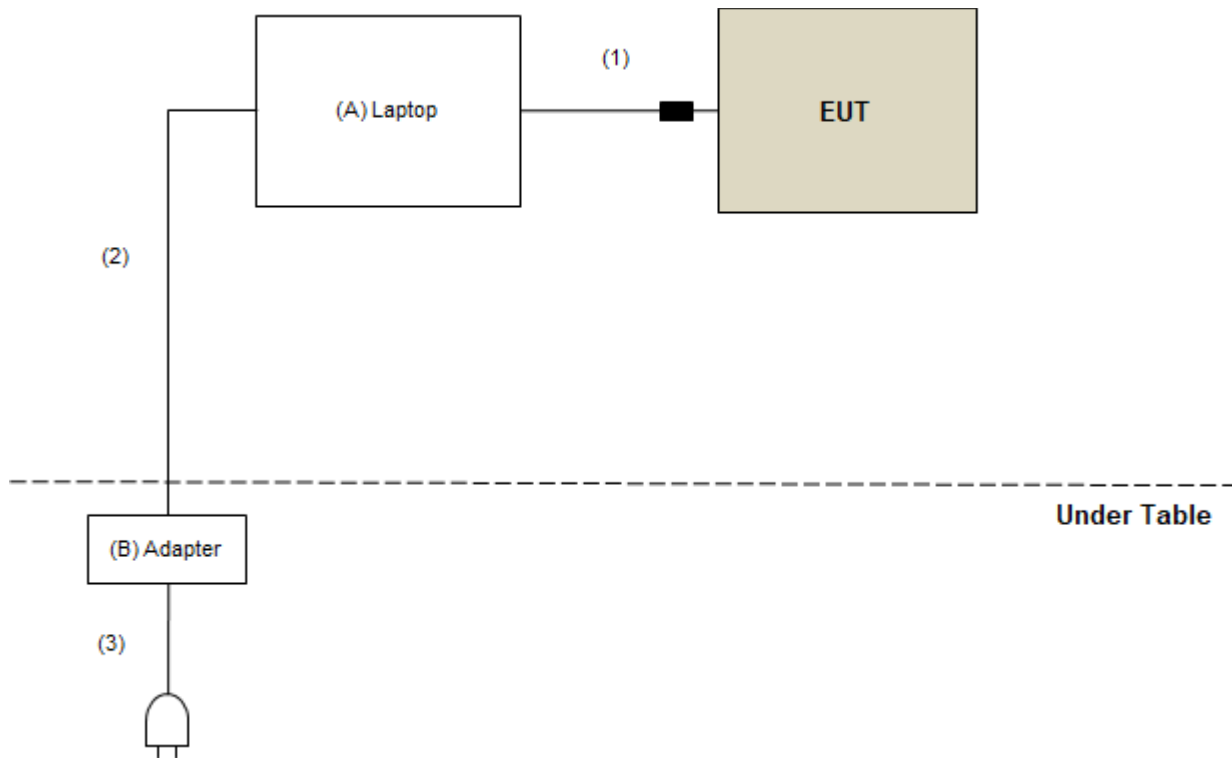
Mode 2



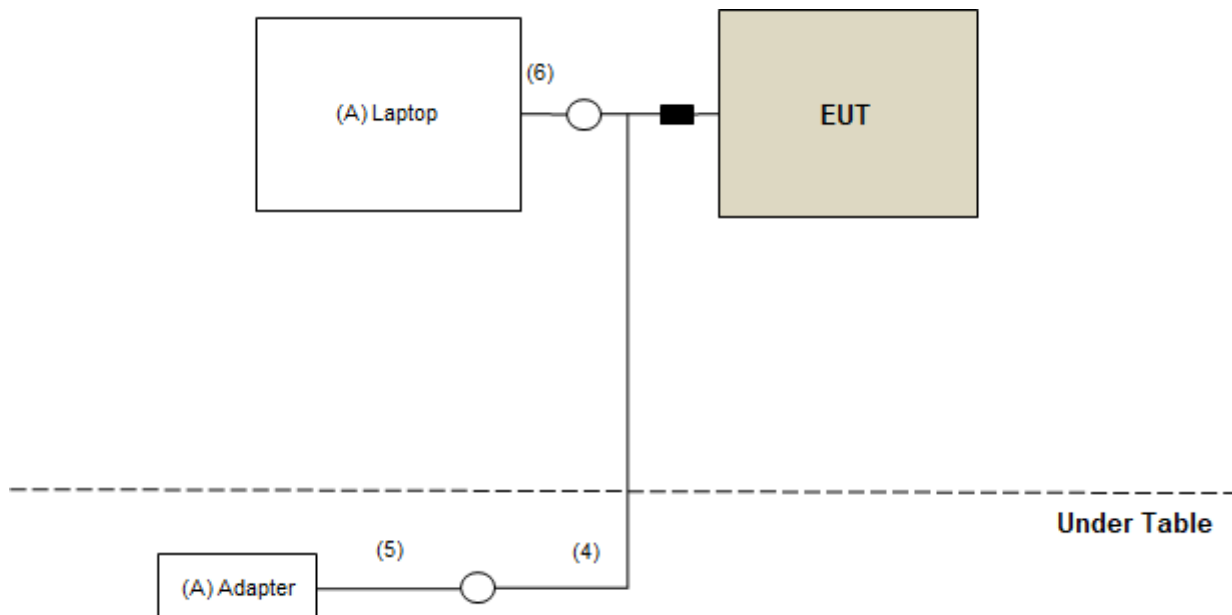
Mode 3



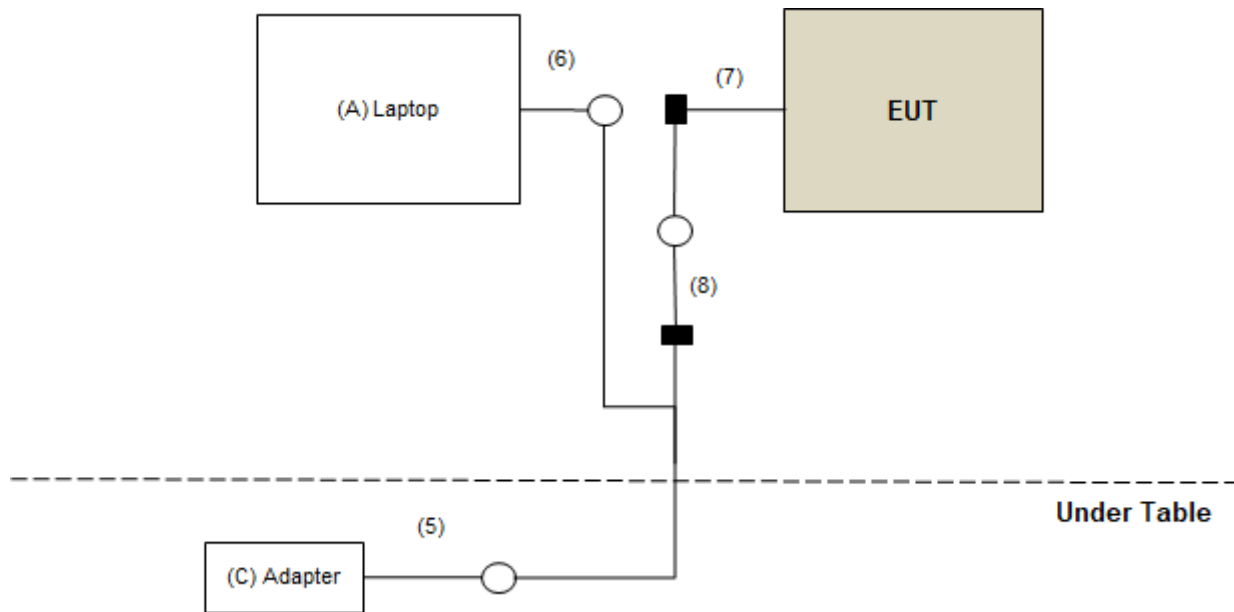
For Radiated emission test
Mode 1



Mode 2



Mode 3



3.4 General Description of Applied Standards

The EUT is a RF Product. According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC Part 15, Subpart C (15.225)

FCC Part 15, Subpart C (15.215)

ANSI C63.10-2013

All test items have been performed and recorded as per the above standards.

4 Test Types and Results

4.1 Radiated Emission Measurement

4.1.1 Limits of Radiated Emission Measurement

(a) The field strength of any emissions within the band 13.553-13.567 MHz shall not exceed 15,848 microvolts/meter at 30 meters.

(b) Within the bands 13.410-13.553 MHz and 13.567-13.710 MHz, the field strength of any emissions shall not exceed 334 microvolts/meter at 30 meters.

(c) Within the bands 13.110-13.410 MHz and 13.710-14.010 MHz the field strength of any emissions shall not exceed 106 microvolts/meter at 30 meters.

(d) The field strength of any emissions appearing outside of the 13.110-14.010 MHz band shall not exceed the general radiated emission limits in §15.209 as below table:

Frequencies (MHz)	Field Strength (microvolts/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

Note:

1. The lower limit shall apply at the transition frequencies.
2. Emission level (dBuV/m) = 20 log Emission level (uV/m).
3. The emission limits shown in the above table are based on measurements employing a CISPR quasi-peak detector except for the frequency bands 9–90 kHz, 110–490 kHz and above 1000 MHz. Radiated emission limits in these three bands are based on measurements employing an average detector.
4. For frequencies above 1000MHz, the field strength limits are based on average detector, however, the peak field strength of any emission shall not exceed the maximum permitted average limits, specified above by more than 20dB under any condition of modulation.

4.1.2 Test Instruments

For Radiated Emission test:

Description & Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Spectrum Analyzer KEYSIGHT	N9030B	MY57142938	2021/4/26	2022/4/25
Software	ADT_Radiated_V8.7.08	NA	NA	NA
Antenna Tower & Turn Table Max-Full	MF-7802	MF780208406	NA	NA
Pre_Amplifier EMCi	EMC001340	980142	2021/5/24	2022/5/23
LOOP ANTENNA Electro-Metrics	EM-6879	264	2021/3/5	2022/3/4
RF Coaxial Cable JYEBO	5D-FB	LOOPCAB-001	2021/1/7	2022/1/6
RF Coaxial Cable JYEBO	5D-FB	LOOPCAB-002	2021/1/7	2022/1/6
Pre_Amplifier Mini-Circuits	ZFL-1000VH2	QA0838008	2021/10/19	2022/10/18
Trilog Broadband Antenna Schwarzbeck	VULB 9168	9168-361	2021/10/26	2022/10/25
RF Coaxial Cable COMMATE/PEWC	8D	966-3-1	2021/3/16	2022/3/15
RF Coaxial Cable COMMATE/PEWC	8D	966-3-2	2021/3/16	2022/3/15
RF Coaxial Cable COMMATE/PEWC	8D	966-3-3	2021/3/16	2022/3/15
Fixed attenuator Mini-Circuits	UNAT-5+	PAD-3m-3-01	2021/9/23	2022/9/22

Note:

1. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
2. The test was performed in 966 Chamber No. 3.
3. Tested Date: 2021/11/26 ~ 2021/12/21

For other test items:

DESCRIPTION & MANUFACTURER	MODEL NO.	SERIAL NO.	CALIBRATED DATE	CALIBRATED UNTIL
Spectrum Analyzer R&S	FSV40	101516	2021/3/8	2022/3/7
Software	ADT_RF Test Software V6.6.5.4	NA	NA	NA
DC POWER SUPPLY Topward	6603D	795558	NA	NA
Temperature & Humidity Chamber Giant Force	GTH-150-40-SP-AR	MAA0812-008	2021/1/14	2022/1/13
True RMS Clamp Meter Fluke	325	31130711WS	2021/6/2	2022/6/1

NOTE:

1. The test was performed in Oven room 2.
2. The calibration interval of the above test instruments is 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
3. Tested Date: 2021/12/6

4.1.3 Test Procedures

For Radiated Emission below 30MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter chamber room. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. Parallel, perpendicular, and ground-parallel orientations of the antenna are set to make the measurement.
- d. For each suspected emission, the EUT was arranged to its worst case and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to Quasi-Peak or Peak / Average Detect Function and Specified Bandwidth with Maximum Hold Mode.

Note:

1. The resolution bandwidth of test receiver/spectrum analyzer is 200Hz at frequency below 150kHz.
2. The resolution bandwidth of test receiver/spectrum analyzer is 9kHz at frequency 150kHz~30MHz.

For Radiated Emission above 30MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters above the ground at 3 meter chamber room for test. The table was rotated 360 degrees to determine the position of the highest radiation.
- b. The EUT was set 3 meters away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower.
- c. The height of antenna is varied from one meter to four meters above the ground to determine the maximum value of the field strength. 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 from 1 meter to 4 meters and the rotatable table was turned from 0 degrees to 360 degrees to find the maximum reading.
- e. The test-receiver system was set to quasi-peak detect function and specified bandwidth with maximum hold mode when the test frequency is below 1 GHz.

Note:

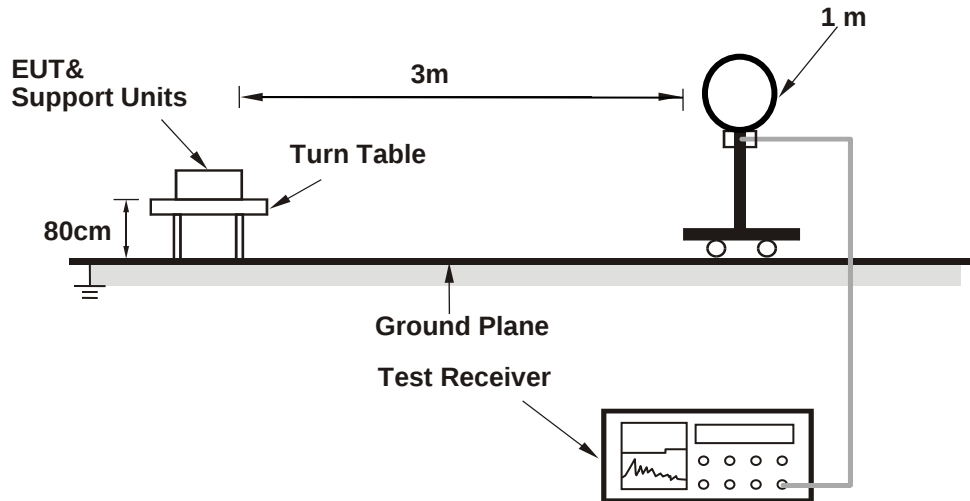
1. The resolution bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

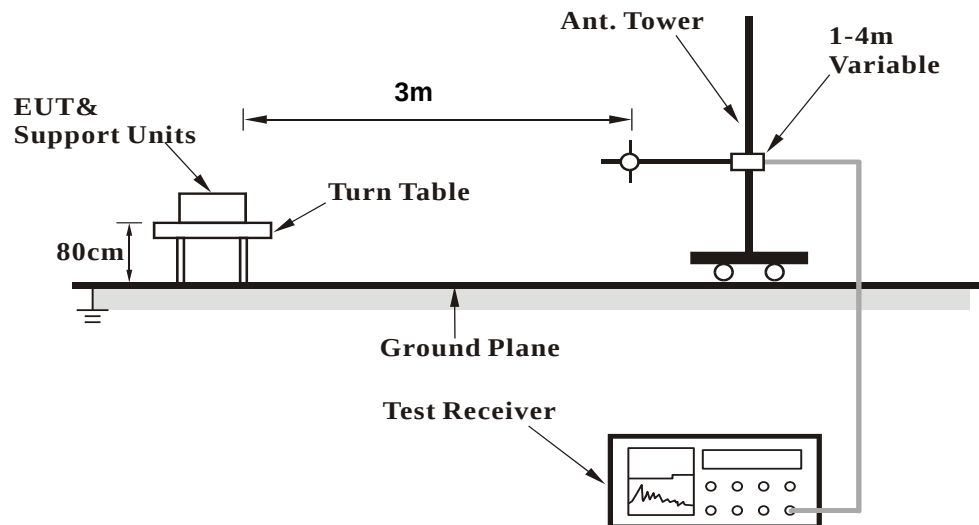
No deviation.

4.1.5 Test Setup

For Radiated Emission below 30MHz



For Radiated Emission 30MHz to 1GHz



For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.1.6 EUT Operating Conditions

- Placed the EUT on the testing table.
- Controlling software (Manufacture_C150S) has been activated to set the EUT under transmission condition continuously at specific channel frequency.

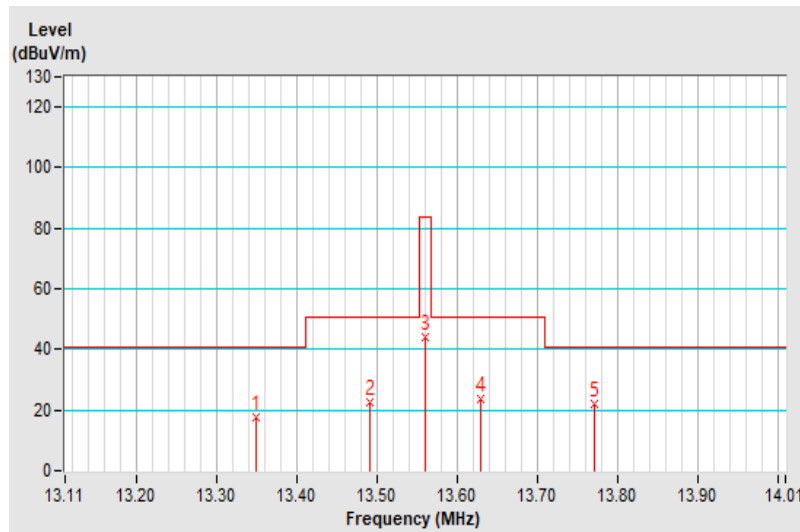
4.1.7 Test Results (Mode 1)

Frequency Range	13.11MHz ~ 14.01MHz	Detector Function & Bandwidth	Quasi-Peak (QP), 9kHz
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Antenna Polarity : Parallel								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	13.348	17.65 QP	40.51	-22.86	1.00	142	60.46	-42.81
2	13.491	22.78 QP	50.47	-27.69	1.00	142	65.61	-42.83
3	*13.560	44.25 QP	84.00	-39.75	1.00	142	87.08	-42.83
4	13.630	23.70 QP	50.47	-26.77	1.00	142	66.54	-42.84
5	13.771	21.76 QP	40.51	-18.75	1.00	142	64.63	-42.87

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. The test distance for 0.49 ~ 30MHz is 3m, extrapolate the measured field strength to a distance of 30 meters.
Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$

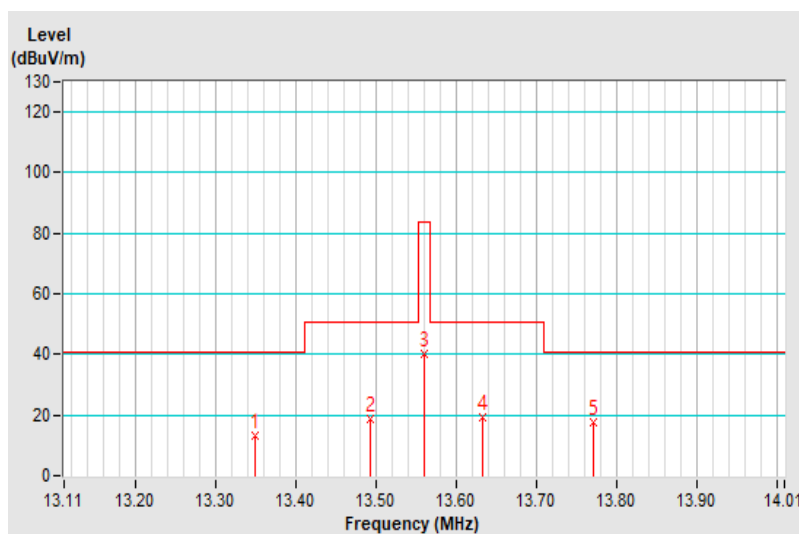


Frequency Range	13.11MHz ~ 14.01MHz	Detector Function & Bandwidth	Quasi-Peak (QP), 9kHz
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Antenna Polarity : Perpendicular								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	13.349	13.36 QP	40.51	-27.15	1.00	243	56.17	-42.81
2	13.492	18.80 QP	50.47	-31.67	1.00	243	61.63	-42.83
3	*13.560	40.28 QP	84.00	-43.72	1.00	243	83.11	-42.83
4	13.632	19.50 QP	50.47	-30.97	1.00	243	62.34	-42.84
5	13.771	17.67 QP	40.51	-22.84	1.00	243	60.54	-42.87

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. The test distance for 0.49 ~ 30MHz is 3m, extrapolate the measured field strength to a distance of 30 meters.
Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$

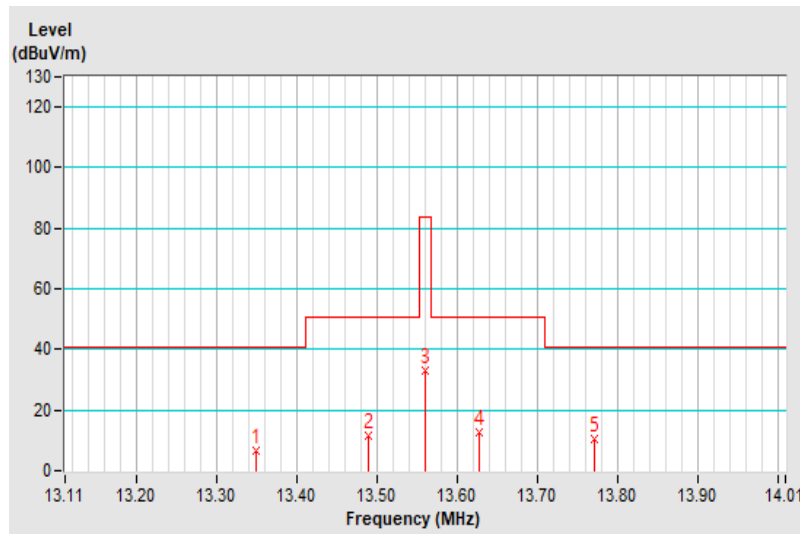


Frequency Range	13.11MHz ~ 14.01MHz	Detector Function & Bandwidth	Quasi-Peak (QP), 9kHz
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Antenna Polarity : Ground-parallel								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	13.349	6.61 QP	40.51	-33.90	1.00	166	49.42	-42.81
2	13.489	11.77 QP	50.47	-38.70	1.00	166	54.60	-42.83
3	*13.560	32.99 QP	84.00	-51.01	1.00	166	75.82	-42.83
4	13.627	12.59 QP	50.47	-37.88	1.00	166	55.43	-42.84
5	13.771	10.37 QP	40.51	-30.14	1.00	166	53.24	-42.87

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. The test distance for 0.49 ~ 30MHz is 3m, extrapolate the measured field strength to a distance of 30 meters.
Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$

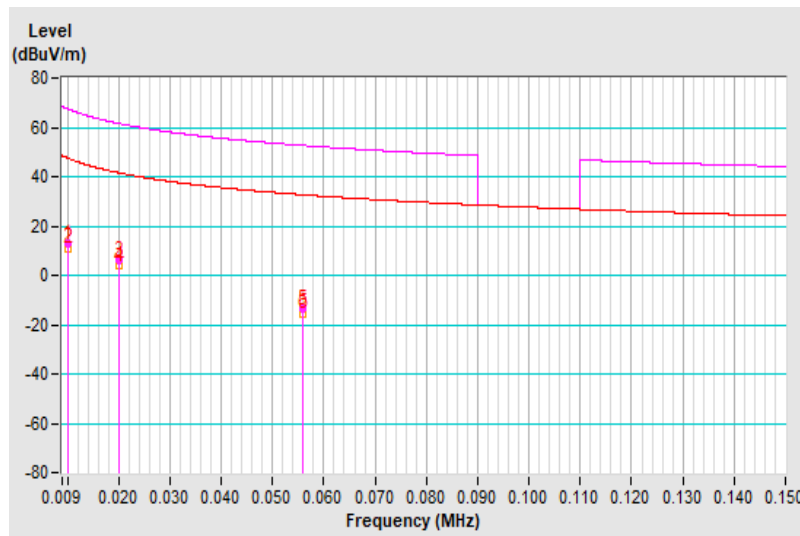


Frequency Range	9kHz ~ 150kHz	Detector Function & Bandwidth	Peak (PK) / Average (AV), 200Hz
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Antenna Polarity : Parallel								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	0.010	12.63 PK	67.60	-54.97	1.00	110	56.56	-43.93
2	0.010	11.04 AV	47.60	-36.56	1.00	110	54.97	-43.93
3	0.020	5.79 PK	61.58	-55.79	1.00	49	54.18	-48.39
4	0.020	4.13 AV	41.58	-37.45	1.00	49	52.52	-48.39
5	0.056	-13.55 PK	52.63	-66.18	1.00	96	44.15	-57.70
6	0.056	-15.39 AV	32.64	-48.03	1.00	96	42.31	-57.70

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. The test distance for below 0.49MHz is 3m, extrapolate the measured field strength to a distance of 300 meters.
Distance factor@3m = $40 \cdot \log(3/300) = -80\text{dB}$

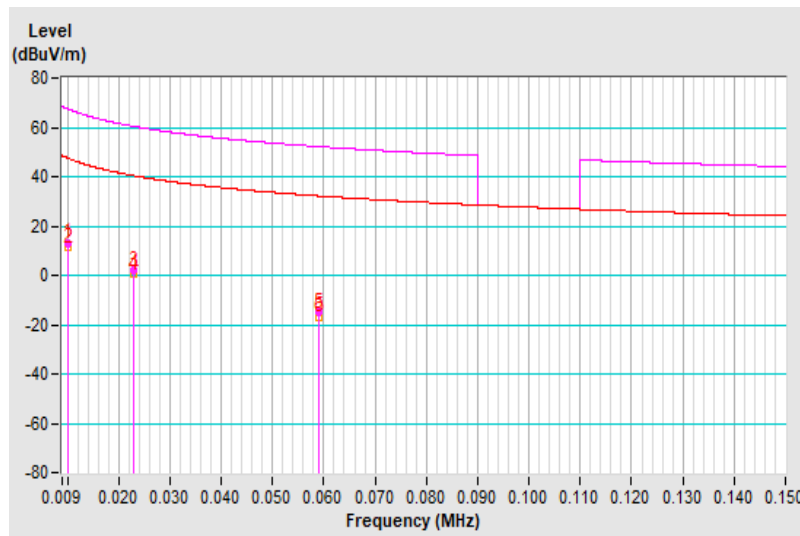


Frequency Range	9kHz ~ 150kHz	Detector Function & Bandwidth	Peak (PK) / Average (AV), 200Hz
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Antenna Polarity : Perpendicular								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	0.010	13.10 PK	67.60	-54.50	1.00	87	57.03	-43.93
2	0.010	11.29 AV	47.60	-36.31	1.00	87	55.22	-43.93
3	0.023	2.08 PK	60.37	-58.29	1.00	59	51.67	-49.59
4	0.023	0.52 AV	40.37	-39.85	1.00	59	50.11	-49.59
5	0.059	-15.03 PK	52.18	-67.21	1.00	126	43.10	-58.13
6	0.059	-16.85 AV	32.19	-49.04	1.00	126	41.28	-58.13

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. The test distance for below 0.49MHz is 3m, extrapolate the measured field strength to a distance of 300 meters.
Distance factor@3m = $40 \cdot \log(3/300) = -80\text{dB}$

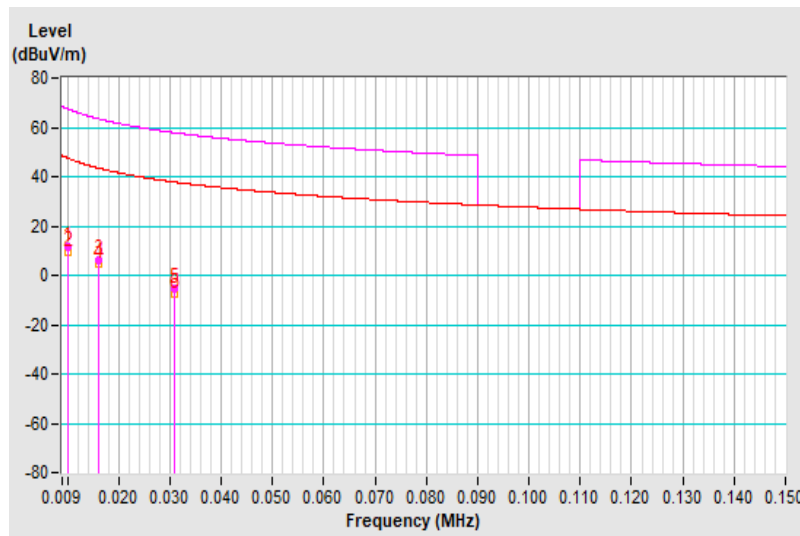


Frequency Range	9kHz ~ 150kHz	Detector Function & Bandwidth	Peak (PK) / Average (AV), 200Hz
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Antenna Polarity : Ground-parallel								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	0.010	11.81 PK	67.60	-55.79	1.00	43	55.74	-43.93
2	0.010	9.69 AV	47.60	-37.91	1.00	43	53.62	-43.93
3	0.016	6.35 PK	63.52	-57.17	1.00	139	52.96	-46.61
4	0.016	4.88 AV	43.52	-38.64	1.00	139	51.49	-46.61
5	0.031	-5.15 PK	57.77	-62.92	1.00	142	47.47	-52.62
6	0.031	-7.25 AV	37.78	-45.03	1.00	142	45.37	-52.62

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. The test distance for below 0.49MHz is 3m, extrapolate the measured field strength to a distance of 300 meters.
Distance factor@3m = $40 \cdot \log(3/300) = -80\text{dB}$

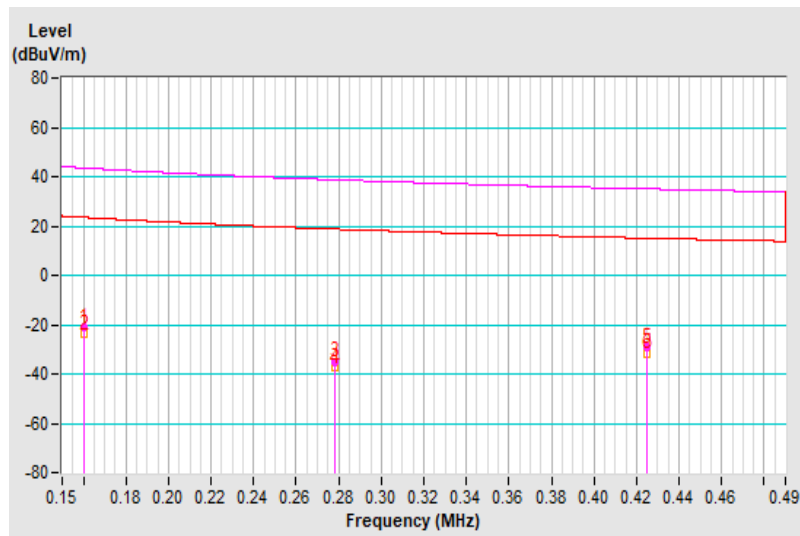


Frequency Range	150kHz ~ 490kHz	Detector Function & Bandwidth	Peak (PK) / Average (AV), 9kHz
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Antenna Polarity : Parallel								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	0.160	-21.12 PK	43.52	-64.64	1.00	230	45.04	-66.16
2	0.160	-23.67 AV	23.52	-47.19	1.00	230	42.49	-66.16
3	0.278	-35.10 PK	38.72	-73.82	1.00	94	35.73	-70.83
4	0.278	-37.49 AV	18.72	-56.21	1.00	94	33.34	-70.83
5	0.425	-29.43 PK	35.04	-64.47	1.00	152	44.53	-73.96
6	0.425	-31.77 AV	15.04	-46.81	1.00	152	42.19	-73.96

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. The test distance for below 0.49MHz is 3m, extrapolate the measured field strength to a distance of 300 meters.
Distance factor@3m = $40 \cdot \log(3/300) = -80\text{dB}$

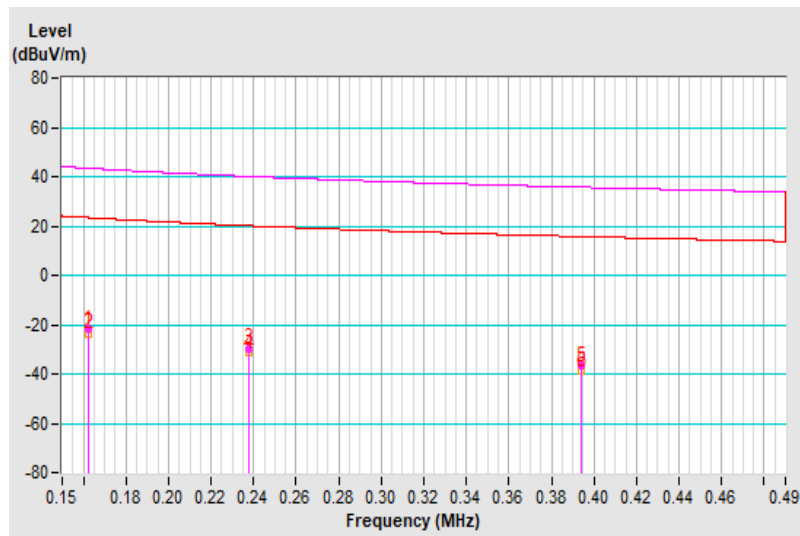


Frequency Range	150kHz ~ 490kHz	Detector Function & Bandwidth	Peak (PK) / Average (AV), 9kHz
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Antenna Polarity : Perpendicular								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	0.162	-21.96 PK	43.41	-65.37	1.00	175	44.27	-66.23
2	0.162	-23.55 AV	23.41	-46.96	1.00	175	42.68	-66.23
3	0.238	-29.62 PK	40.07	-69.69	1.00	210	39.61	-69.23
4	0.238	-31.39 AV	20.07	-51.46	1.00	210	37.84	-69.23
5	0.394	-36.85 PK	35.69	-72.54	1.00	112	36.54	-73.39
6	0.394	-38.96 AV	15.69	-54.65	1.00	112	34.43	-73.39

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. The test distance for below 0.49MHz is 3m, extrapolate the measured field strength to a distance of 300 meters.
Distance factor@3m = $40 \cdot \log(3/300) = -80\text{dB}$

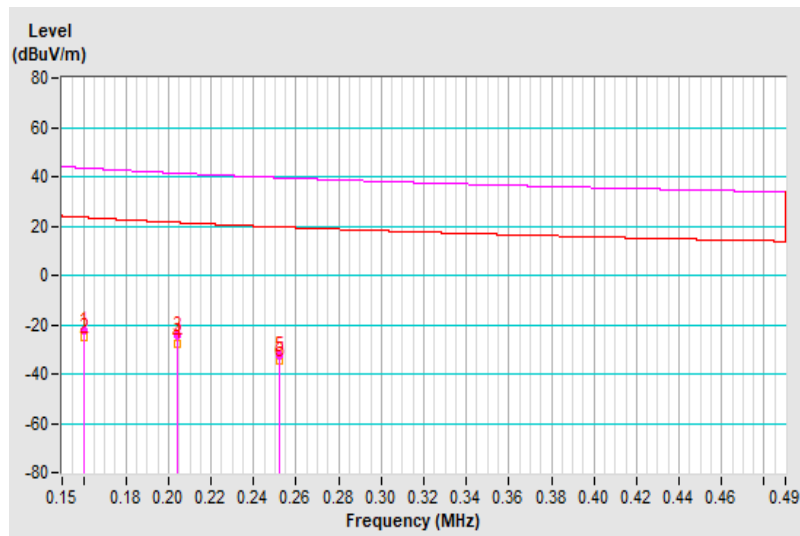


Frequency Range	150kHz ~ 490kHz	Detector Function & Bandwidth	Peak (PK) / Average (AV), 9kHz
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Antenna Polarity : Ground-parallel								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	0.160	-22.57 PK	43.52	-66.09	1.00	52	43.59	-66.16
2	0.160	-25.15 AV	23.52	-48.67	1.00	52	41.01	-66.16
3	0.204	-24.66 PK	41.41	-66.07	1.00	133	43.22	-67.88
4	0.204	-27.59 AV	21.41	-49.00	1.00	133	40.29	-67.88
5	0.252	-32.61 PK	39.57	-72.18	1.00	27	37.18	-69.79
6	0.252	-34.91 AV	19.57	-54.48	1.00	27	34.88	-69.79

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. The test distance for below 0.49MHz is 3m, extrapolate the measured field strength to a distance of 300 meters.
Distance factor@3m = $40 \cdot \log(3/300) = -80\text{dB}$

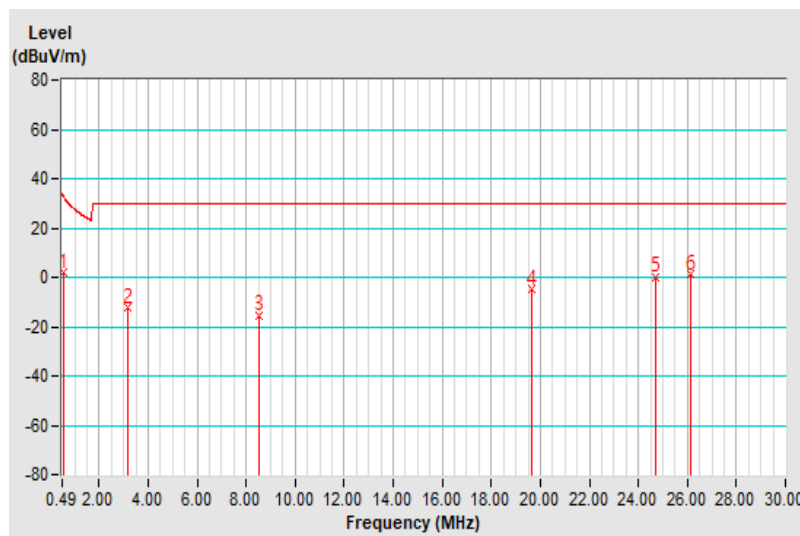


Frequency Range	490kHz ~ 30MHz	Detector Function & Bandwidth	Quasi-Peak (QP), 9kHz
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Antenna Polarity : Parallel								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	0.550	1.94 QP	32.80	-30.86	1.00	129	37.72	-35.78
2	3.170	-12.28 QP	29.54	-41.82	1.00	51	30.96	-43.24
3	8.510	-15.43 QP	29.54	-44.97	1.00	42	27.29	-42.72
4	19.618	-4.99 QP	29.54	-34.53	1.00	169	38.76	-43.75
5	24.731	0.33 QP	29.54	-29.21	1.00	28	43.45	-43.12
6	26.114	1.04 QP	29.54	-28.50	1.00	35	43.98	-42.94

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. The test distance for 0.49 ~ 30MHz is 3m, extrapolate the measured field strength to a distance of 30 meters.
Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$

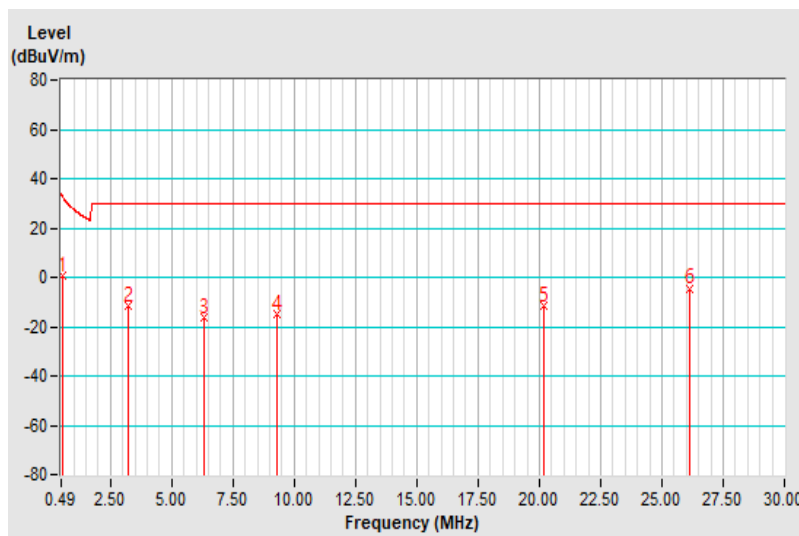


Frequency Range	490kHz ~ 30MHz	Detector Function & Bandwidth	Quasi-Peak (QP), 9kHz
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Antenna Polarity : Perpendicular								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	0.553	0.43 QP	32.75	-32.32	1.00	35	36.23	-35.80
2	3.198	-11.76 QP	29.54	-41.30	1.00	68	31.49	-43.25
3	6.312	-16.29 QP	29.54	-45.83	1.00	58	27.07	-43.36
4	9.325	-15.00 QP	29.54	-44.54	1.00	103	27.48	-42.48
5	20.177	-11.67 QP	29.54	-41.21	1.00	27	32.11	-43.78
6	26.110	-4.49 QP	29.54	-34.03	1.00	153	38.45	-42.94

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. The test distance for 0.49 ~ 30MHz is 3m, extrapolate the measured field strength to a distance of 30 meters.
Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$

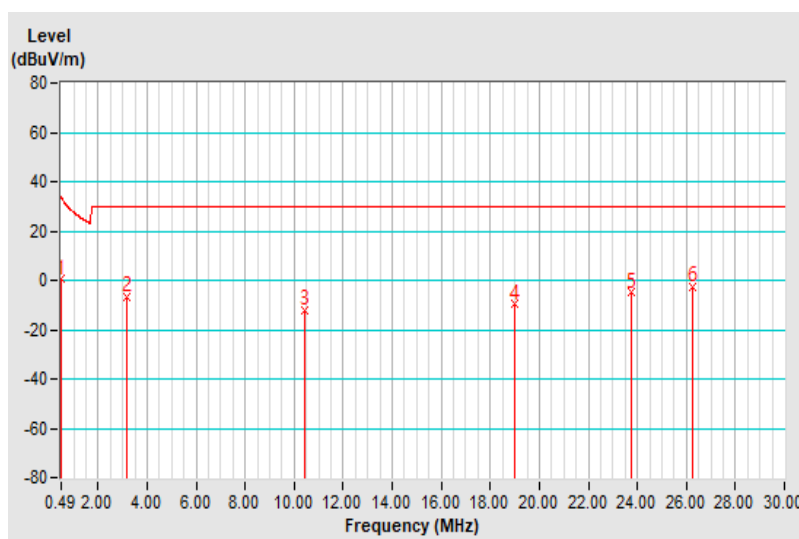


Frequency Range	490kHz ~ 30MHz	Detector Function & Bandwidth	Quasi-Peak (QP), 9kHz
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Antenna Polarity : Ground-parallel								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	0.503	0.73 QP	33.57	-32.84	1.00	22	36.15	-35.42
2	3.181	-6.61 QP	29.54	-36.15	1.00	97	36.64	-43.25
3	10.435	-12.07 QP	29.54	-41.61	1.00	58	30.28	-42.35
4	18.991	-9.42 QP	29.54	-38.96	1.00	125	34.23	-43.65
5	23.779	-4.91 QP	29.54	-34.45	1.00	63	38.35	-43.26
6	26.228	-2.60 QP	29.54	-32.14	1.00	112	40.32	-42.92

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. The test distance for 0.49 ~ 30MHz is 3m, extrapolate the measured field strength to a distance of 30 meters.
Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$

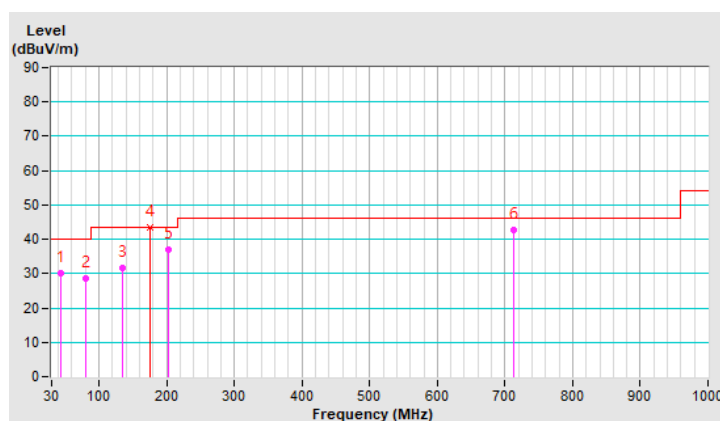


Frequency Range	30MHz ~ 1GHz	Detector Function & Bandwidth	Quasi-Peak (QP), 120kHz
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Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	43.99	30.1 QP	40.0	-9.9	1.50 H	360	38.3	-8.2
2	80.63	28.7 QP	40.0	-11.3	3.00 H	324	41.7	-13.0
3	135.61	31.8 QP	43.5	-11.7	2.00 H	334	40.0	-8.2
4	176.28	43.3 QP	43.5	-0.2	1.50 H	340	52.0	-8.7
5	203.41	37.1 QP	43.5	-6.4	1.00 H	194	47.6	-10.5
6	713.83	42.8 QP	46.0	-3.2	3.00 H	139	39.3	3.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

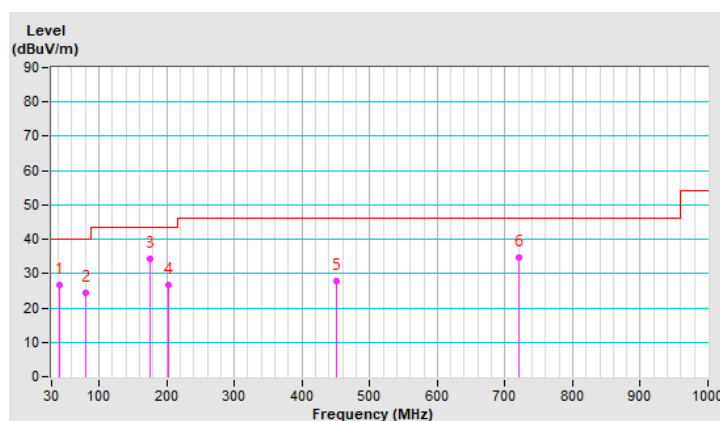


Frequency Range	30MHz ~ 1GHz	Detector Function & Bandwidth	Quasi-Peak (QP), 120kHz
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Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	41.59	26.5 QP	40.0	-13.5	1.00 V	64	34.8	-8.3
2	80.42	24.5 QP	40.0	-15.5	3.00 V	267	37.4	-12.9
3	176.28	34.2 QP	43.5	-9.3	2.00 V	257	42.9	-8.7
4	203.39	26.8 QP	43.5	-16.7	2.00 V	90	37.3	-10.5
5	450.79	27.8 QP	46.0	-18.2	1.00 V	169	29.8	-2.0
6	721.44	34.6 QP	46.0	-11.4	2.00 V	208	31.1	3.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



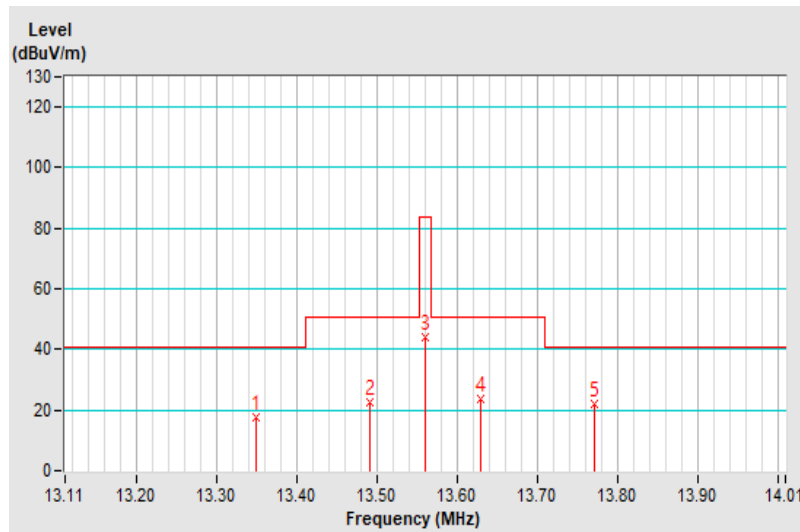
4.1.8 Test Results (Mode 2)

Frequency Range	13.11MHz ~ 14.01MHz	Detector Function & Bandwidth	Quasi-Peak (QP), 9kHz
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Antenna Polarity : Parallel								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	13.348	17.77 QP	40.51	-22.74	1.00	28	60.58	-42.81
2	13.491	22.75 QP	50.47	-27.72	1.00	28	65.58	-42.83
3	*13.560	44.28 QP	84.00	-39.72	1.00	28	87.11	-42.83
4	13.630	23.71 QP	50.47	-26.76	1.00	28	66.55	-42.84
5	13.772	22.12 QP	40.51	-18.39	1.00	28	64.99	-42.87

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. The test distance for 0.49 ~ 30MHz is 3m, extrapolate the measured field strength to a distance of 30 meters.
Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$

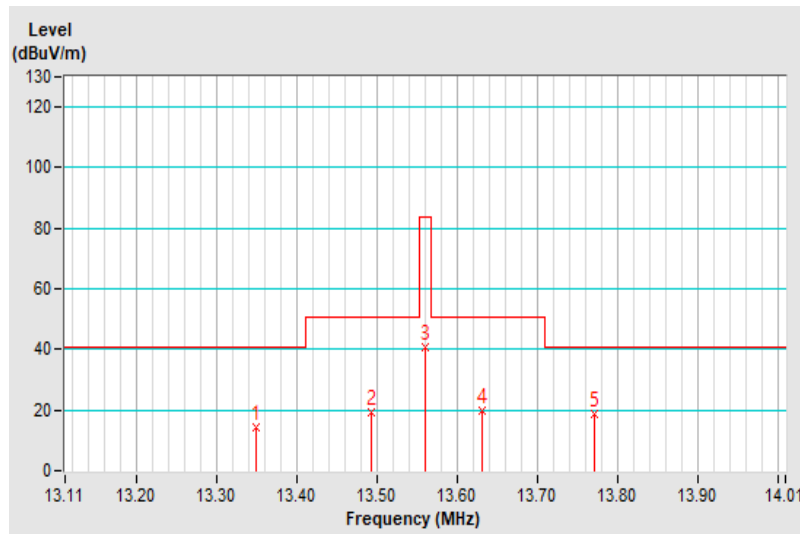


Frequency Range	13.11MHz ~ 14.01MHz	Detector Function & Bandwidth	Quasi-Peak (QP), 9kHz
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Antenna Polarity : Perpendicular								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	13.349	14.08 QP	40.51	-26.43	1.00	276	56.89	-42.81
2	13.493	19.02 QP	50.47	-31.45	1.00	276	61.85	-42.83
3	*13.560	40.55 QP	84.00	-43.45	1.00	276	83.38	-42.83
4	13.631	19.94 QP	50.47	-30.53	1.00	276	62.78	-42.84
5	13.771	18.50 QP	40.51	-22.01	1.00	276	61.37	-42.87

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. The test distance for 0.49 ~ 30MHz is 3m, extrapolate the measured field strength to a distance of 30 meters.
Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$

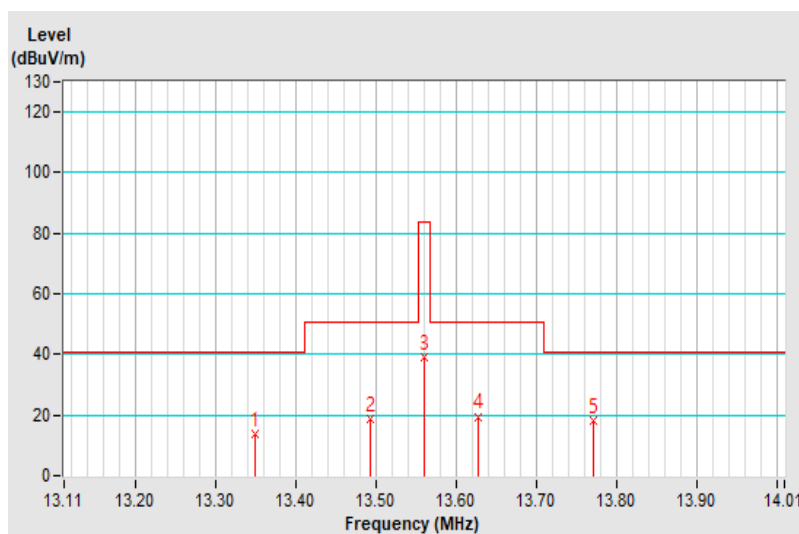


Frequency Range	13.11MHz ~ 14.01MHz	Detector Function & Bandwidth	Quasi-Peak (QP), 9kHz
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Antenna Polarity : Ground-parallel								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	13.349	13.67 QP	40.51	-26.84	1.00	222	56.48	-42.81
2	13.493	18.68 QP	50.47	-31.79	1.00	222	61.51	-42.83
3	*13.560	38.92 QP	84.00	-45.08	1.00	222	81.75	-42.83
4	13.628	19.55 QP	50.47	-30.92	1.00	222	62.39	-42.84
5	13.771	18.13 QP	40.51	-22.38	1.00	222	61.00	-42.87

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. The test distance for 0.49 ~ 30MHz is 3m, extrapolate the measured field strength to a distance of 30 meters.
Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$

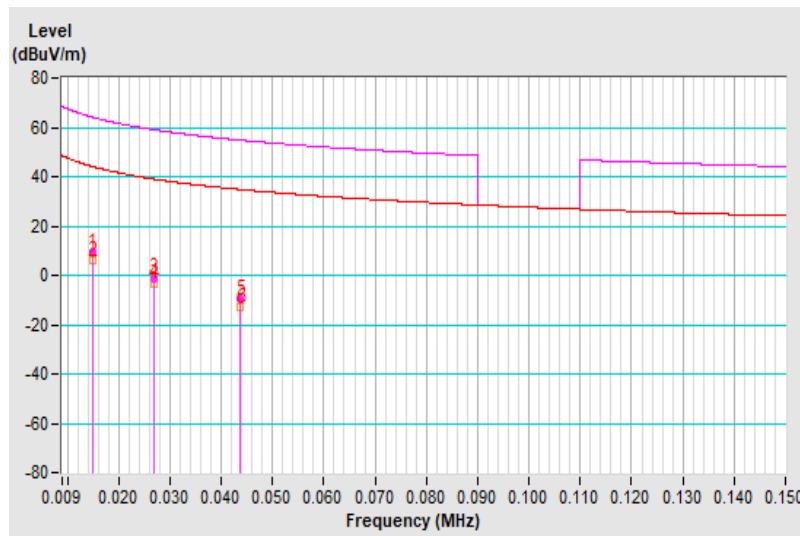


Frequency Range	9kHz ~ 150kHz	Detector Function & Bandwidth	Peak (PK) / Average (AV), 200Hz
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Antenna Polarity : Parallel								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	0.015	9.23 PK	64.08	-54.85	1.00	250	55.39	-46.16
2	0.015	6.13 AV	44.08	-37.95	1.00	250	52.29	-46.16
3	0.027	-1.08 PK	58.97	-60.05	1.00	256	50.12	-51.20
4	0.027	-3.27 AV	38.98	-42.25	1.00	256	47.93	-51.20
5	0.044	-9.79 PK	54.73	-64.52	1.00	68	45.73	-55.52
6	0.044	-12.91 AV	34.73	-47.64	1.00	68	42.61	-55.52

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. The test distance for below 0.49MHz is 3m, extrapolate the measured field strength to a distance of 300 meters.
Distance factor@3m = $40 \cdot \log(3/300) = -80\text{dB}$

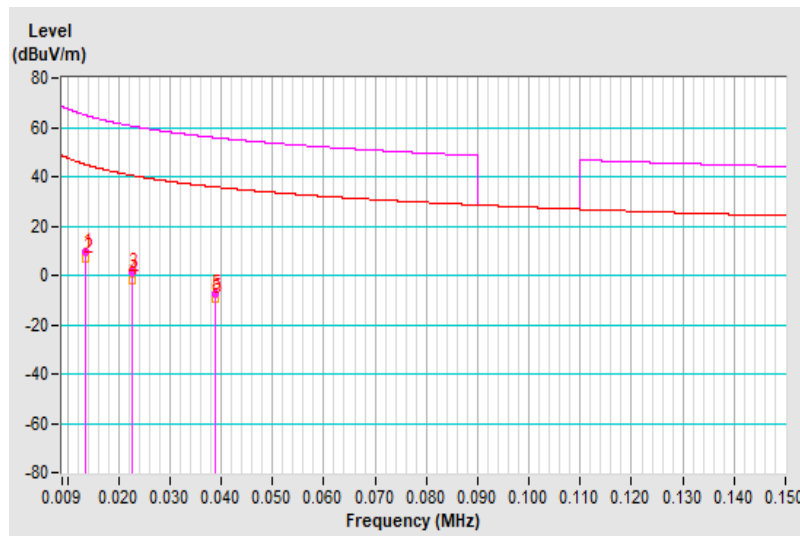


Frequency Range	9kHz ~ 150kHz	Detector Function & Bandwidth	Peak (PK) / Average (AV), 200Hz
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Antenna Polarity : Perpendicular								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	0.014	9.49 PK	64.68	-55.19	1.00	156	55.20	-45.71
2	0.014	6.93 AV	44.68	-37.75	1.00	156	52.64	-45.71
3	0.023	1.37 PK	60.37	-59.00	1.00	54	50.96	-49.59
4	0.023	-1.93 AV	40.37	-42.30	1.00	54	47.66	-49.59
5	0.039	-7.60 PK	55.78	-63.38	1.00	224	46.81	-54.41
6	0.039	-9.36 AV	35.78	-45.14	1.00	224	45.05	-54.41

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. The test distance for below 0.49MHz is 3m, extrapolate the measured field strength to a distance of 300 meters.
Distance factor@3m = $40 \cdot \log(3/300) = -80\text{dB}$

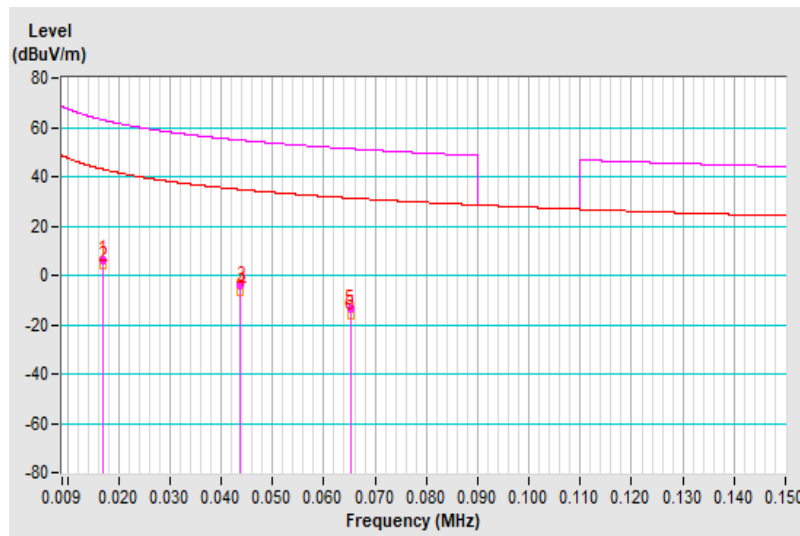


Frequency Range	9kHz ~ 150kHz	Detector Function & Bandwidth	Peak (PK) / Average (AV), 200Hz
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Antenna Polarity : Ground-parallel								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	0.017	6.22 PK	62.99	-56.77	1.00	19	53.27	-47.05
2	0.017	3.87 AV	43.00	-39.13	1.00	19	50.92	-47.05
3	0.044	-4.25 PK	54.73	-58.98	1.00	113	51.27	-55.52
4	0.044	-6.54 AV	34.73	-41.27	1.00	113	48.98	-55.52
5	0.065	-13.82 PK	51.34	-65.16	1.00	107	45.15	-58.97
6	0.065	-16.07 AV	31.34	-47.41	1.00	107	42.90	-58.97

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. The test distance for below 0.49MHz is 3m, extrapolate the measured field strength to a distance of 300 meters.
Distance factor@3m = $40 \cdot \log(3/300) = -80\text{dB}$

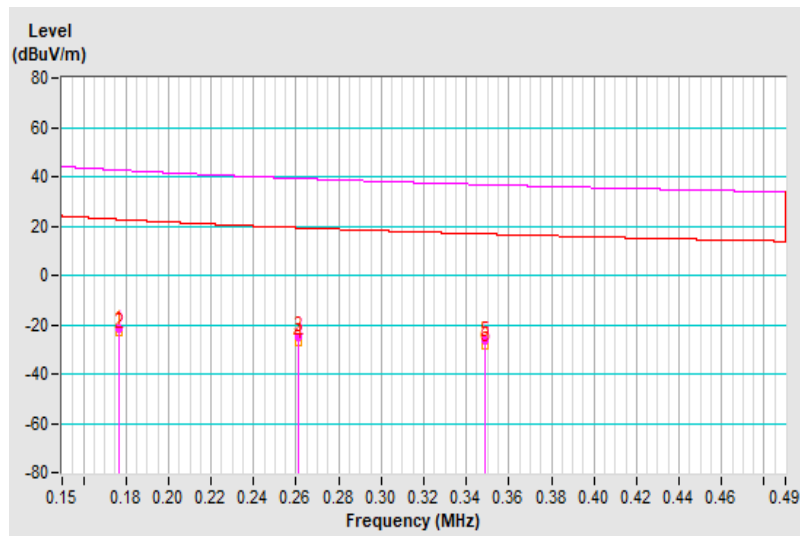


Frequency Range	150kHz ~ 490kHz	Detector Function & Bandwidth	Peak (PK) / Average (AV), 9kHz
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Antenna Polarity : Parallel								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	0.177	-21.93 PK	42.64	-64.57	1.00	92	44.89	-66.82
2	0.177	-23.14 AV	22.64	-45.78	1.00	92	43.68	-66.82
3	0.261	-24.99 PK	39.27	-64.26	1.00	120	45.16	-70.15
4	0.261	-27.45 AV	19.27	-46.72	1.00	120	42.70	-70.15
5	0.349	-26.46 PK	36.75	-63.21	1.00	133	46.12	-72.58
6	0.349	-28.76 AV	16.75	-45.51	1.00	133	43.82	-72.58

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. The test distance for below 0.49MHz is 3m, extrapolate the measured field strength to a distance of 300 meters.
Distance factor@3m = $40 \cdot \log(3/300) = -80\text{dB}$

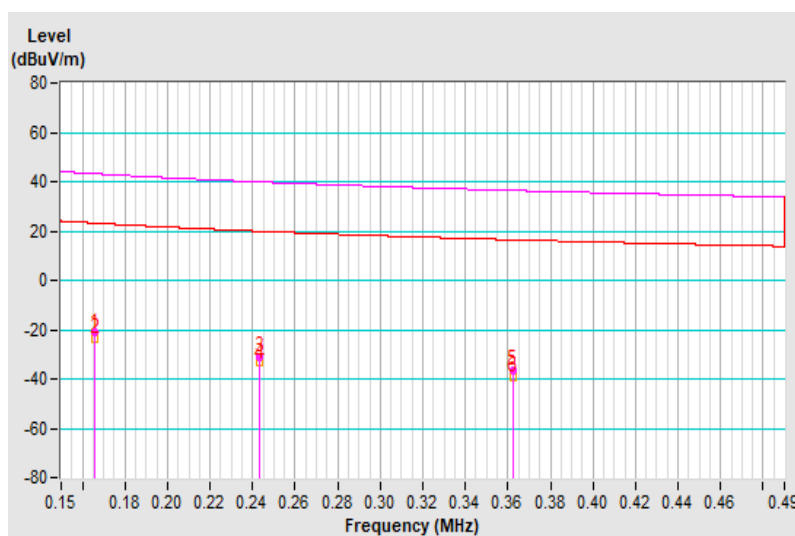


Frequency Range	150kHz ~ 490kHz	Detector Function & Bandwidth	Peak (PK) / Average (AV), 9kHz
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Antenna Polarity : Perpendicular								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	0.166	-21.11 PK	43.20	-64.31	1.00	104	45.28	-66.39
2	0.166	-23.56 AV	23.20	-46.76	1.00	104	42.83	-66.39
3	0.243	-31.10 PK	39.89	-70.99	1.00	141	38.33	-69.43
4	0.243	-33.17 AV	19.89	-53.06	1.00	141	36.26	-69.43
5	0.362	-36.51 PK	36.43	-72.94	1.00	120	36.31	-72.82
6	0.362	-39.13 AV	16.43	-55.56	1.00	120	33.69	-72.82

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. The test distance for below 0.49MHz is 3m, extrapolate the measured field strength to a distance of 300 meters.
Distance factor@3m = $40 \cdot \log(3/300) = -80\text{dB}$

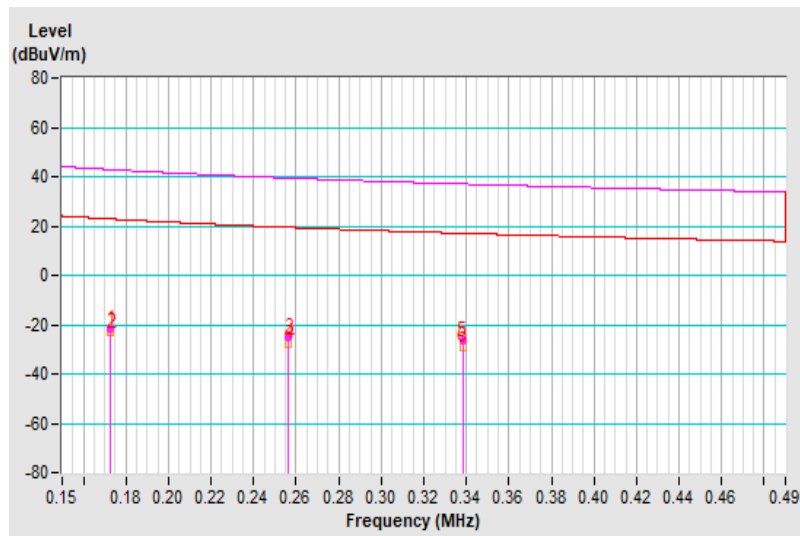


Frequency Range	150kHz ~ 490kHz	Detector Function & Bandwidth	Peak (PK) / Average (AV), 9kHz
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Antenna Polarity : Ground-parallel								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	0.173	-21.96 PK	42.84	-64.80	1.00	79	44.70	-66.66
2	0.173	-23.07 AV	22.84	-45.91	1.00	79	43.59	-66.66
3	0.257	-25.17 PK	39.40	-64.57	1.00	108	44.82	-69.99
4	0.257	-27.53 AV	19.40	-46.93	1.00	108	42.46	-69.99
5	0.338	-26.73 PK	37.02	-63.75	1.00	116	45.65	-72.38
6	0.338	-28.84 AV	17.02	-45.86	1.00	116	43.54	-72.38

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. The test distance for below 0.49MHz is 3m, extrapolate the measured field strength to a distance of 300 meters.
Distance factor@3m = $40 \cdot \log(3/300) = -80\text{dB}$

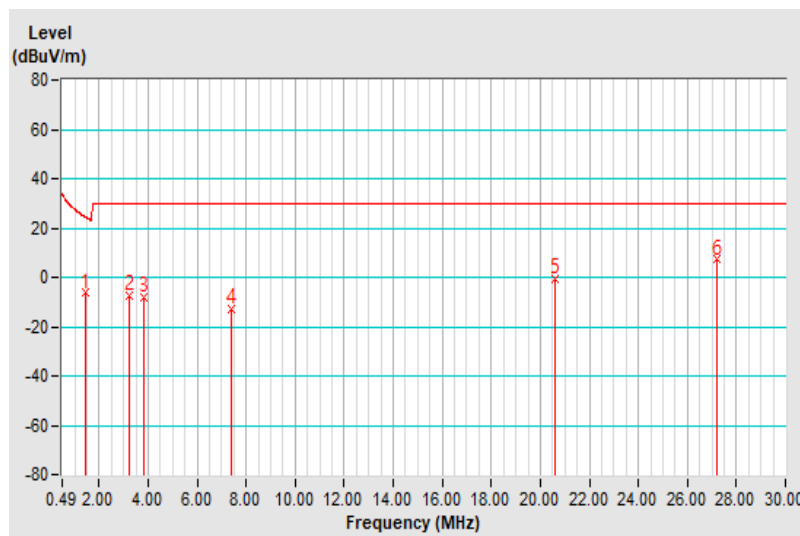


Frequency Range	490kHz ~ 30MHz	Detector Function & Bandwidth	Quasi-Peak (QP), 9kHz
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Antenna Polarity : Parallel								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1.446	-6.30 QP	24.39	-30.69	1.00	104	33.70	-40.00
2	3.198	-7.21 QP	29.54	-36.75	1.00	360	36.04	-43.25
3	3.848	-7.81 QP	29.54	-37.35	1.00	61	35.64	-43.45
4	7.375	-12.61 QP	29.54	-42.15	1.00	11	30.44	-43.05
5	20.628	-0.49 QP	29.54	-30.03	1.00	70	43.22	-43.71
6	27.180	7.19 QP	29.54	-22.35	1.00	102	49.99	-42.80

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. The test distance for 0.49 ~ 30MHz is 3m, extrapolate the measured field strength to a distance of 30 meters.
Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$

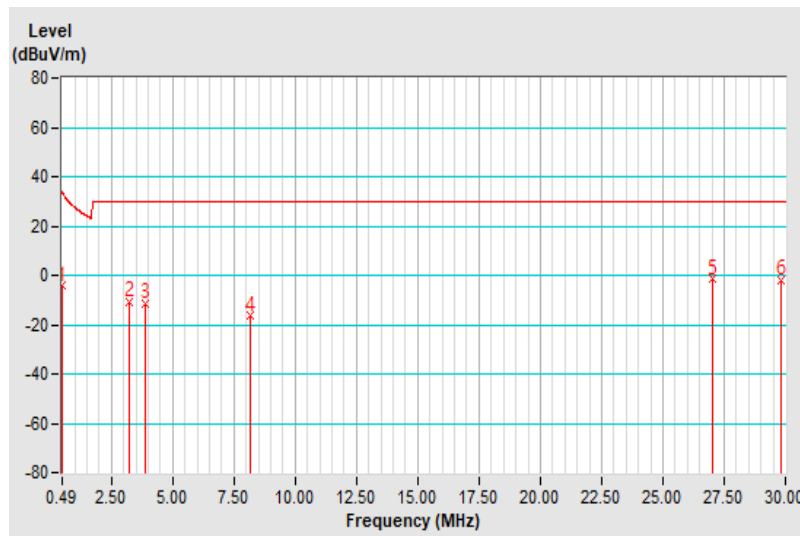


Frequency Range	490kHz ~ 30MHz	Detector Function & Bandwidth	Quasi-Peak (QP), 9kHz
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Antenna Polarity : Perpendicular								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	0.504	-4.05 QP	33.56	-37.61	1.00	35	31.38	-35.43
2	3.239	-10.72 QP	29.54	-40.26	1.00	276	32.54	-43.26
3	3.906	-11.30 QP	29.54	-40.84	1.00	175	32.16	-43.46
4	8.142	-16.59 QP	29.54	-46.13	1.00	112	26.23	-42.82
5	26.997	-1.56 QP	29.54	-31.10	1.00	331	41.26	-42.82
6	29.826	-1.77 QP	29.54	-31.31	1.00	63	40.66	-42.43

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. The test distance for 0.49 ~ 30MHz is 3m, extrapolate the measured field strength to a distance of 30 meters.
Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$

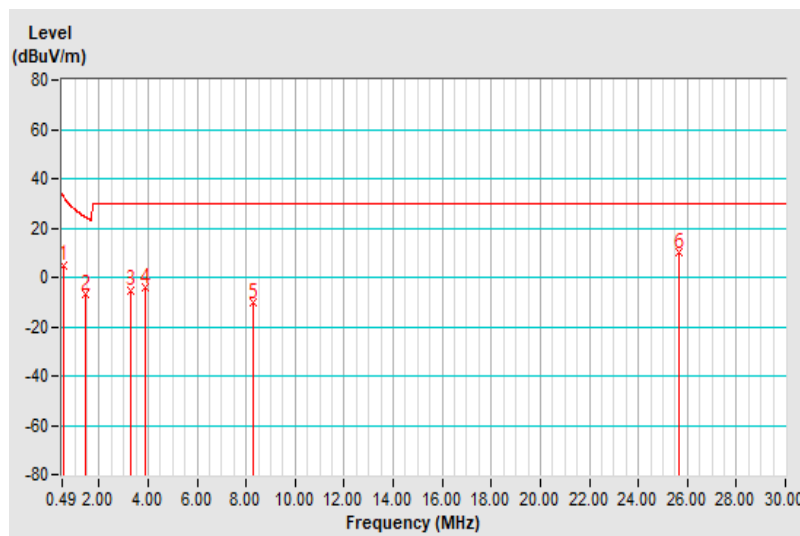


Frequency Range	490kHz ~ 30MHz	Detector Function & Bandwidth	Quasi-Peak (QP), 9kHz
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Antenna Polarity : Ground-parallel								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	0.526	4.90 QP	33.18	-28.28	1.00	69	40.49	-35.59
2	1.451	-7.09 QP	24.36	-31.45	1.00	100	32.92	-40.01
3	3.270	-5.11 QP	29.54	-34.65	1.00	174	38.16	-43.27
4	3.907	-4.30 QP	29.54	-33.84	1.00	249	39.16	-43.46
5	8.309	-10.25 QP	29.54	-39.79	1.00	154	32.53	-42.78
6	25.669	10.12 QP	29.54	-19.42	1.00	281	53.12	-43.00

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. The test distance for 0.49 ~ 30MHz is 3m, extrapolate the measured field strength to a distance of 30 meters.
Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$

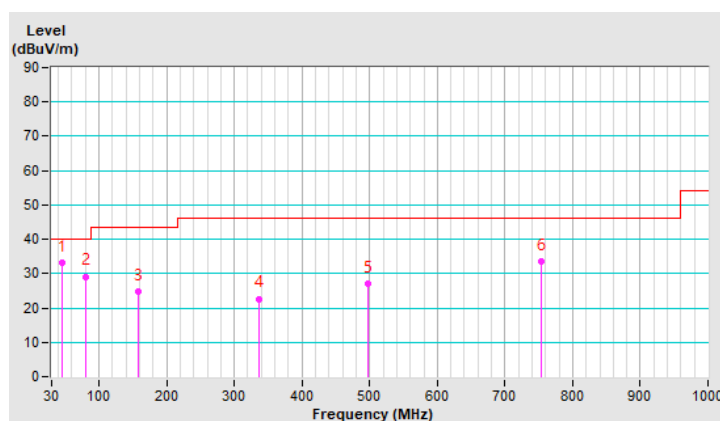


Frequency Range	30MHz ~ 1GHz	Detector Function & Bandwidth	Quasi-Peak (QP), 120kHz
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Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	45.52	33.1 QP	40.0	-6.9	3.00 H	0	41.2	-8.1
2	80.73	29.2 QP	40.0	-10.8	3.00 H	299	42.2	-13.0
3	158.84	24.6 QP	43.5	-18.9	1.00 H	84	32.4	-7.8
4	336.33	22.7 QP	46.0	-23.3	3.00 H	300	28.0	-5.3
5	498.24	27.0 QP	46.0	-19.0	2.00 H	283	28.0	-1.0
6	753.62	33.4 QP	46.0	-12.6	1.50 H	314	28.5	4.9

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

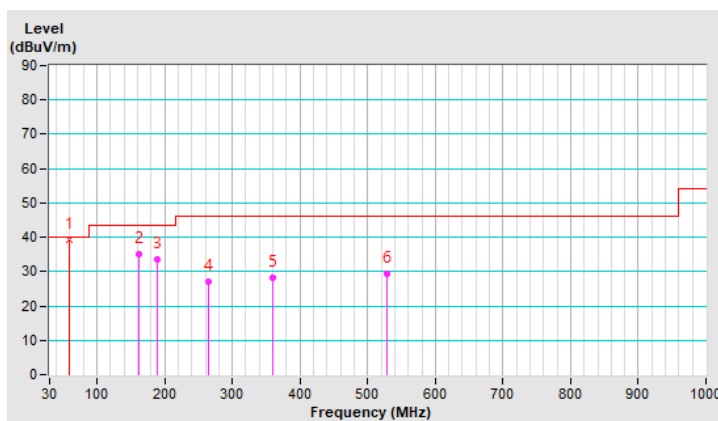


Frequency Range	30MHz ~ 1GHz	Detector Function & Bandwidth	Quasi-Peak (QP), 120kHz
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Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	60.00	39.1 QP	40.0	-0.9	1.00 V	349	47.7	-8.6
2	162.72	34.9 QP	43.5	-8.6	1.00 V	266	42.7	-7.8
3	189.83	33.6 QP	43.5	-9.9	1.00 V	301	43.7	-10.1
4	264.01	26.9 QP	46.0	-19.1	1.00 V	279	34.9	-8.0
5	360.02	28.1 QP	46.0	-17.9	1.00 V	247	32.9	-4.8
6	528.02	29.3 QP	46.0	-16.7	1.00 V	192	29.6	-0.3

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



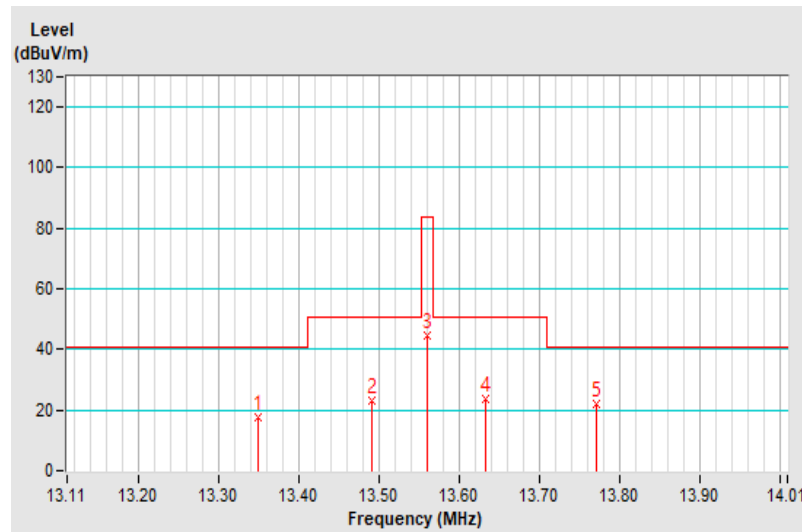
4.1.9 Test Results (Mode 3)

Frequency Range	13.11MHz ~ 14.01MHz	Detector Function & Bandwidth	Quasi-Peak (QP), 9kHz
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Antenna Polarity : Parallel								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	13.349	17.70 QP	40.51	-22.81	1.00	83	60.51	-42.81
2	13.490	22.87 QP	50.47	-27.60	1.00	83	65.70	-42.83
3	*13.560	44.40 QP	84.00	-39.60	1.00	83	87.23	-42.83
4	13.633	23.59 QP	50.47	-26.88	1.00	83	66.43	-42.84
5	13.772	22.10 QP	40.51	-18.41	1.00	83	64.97	-42.87

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. The test distance for 0.49 ~ 30MHz is 3m, extrapolate the measured field strength to a distance of 30 meters.
Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$

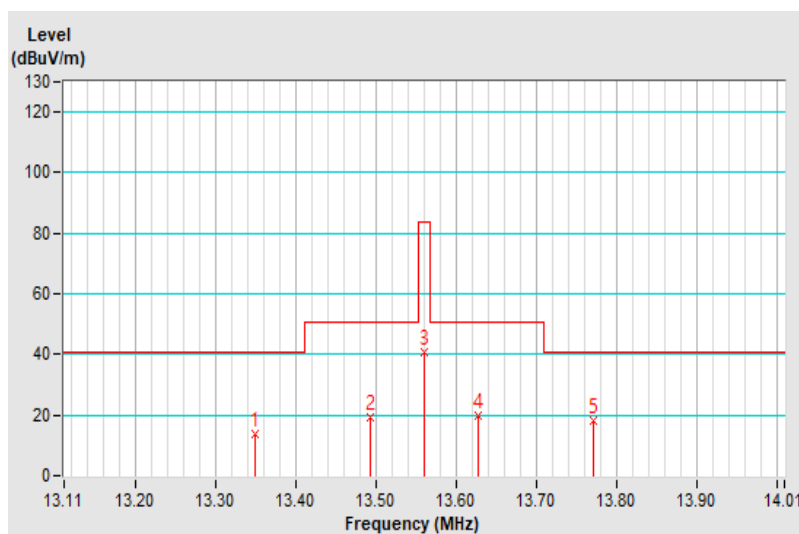


Frequency Range	13.11MHz ~ 14.01MHz	Detector Function & Bandwidth	Quasi-Peak (QP), 9kHz
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Antenna Polarity : Perpendicular								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	13.349	14.00 QP	40.51	-26.51	1.00	197	56.81	-42.81
2	13.492	19.06 QP	50.47	-31.41	1.00	197	61.89	-42.83
3	*13.560	40.62 QP	84.00	-43.38	1.00	197	83.45	-42.83
4	13.628	19.97 QP	50.47	-30.50	1.00	197	62.81	-42.84
5	13.772	18.24 QP	40.51	-22.27	1.00	197	61.11	-42.87

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. The test distance for 0.49 ~ 30MHz is 3m, extrapolate the measured field strength to a distance of 30 meters.
Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$

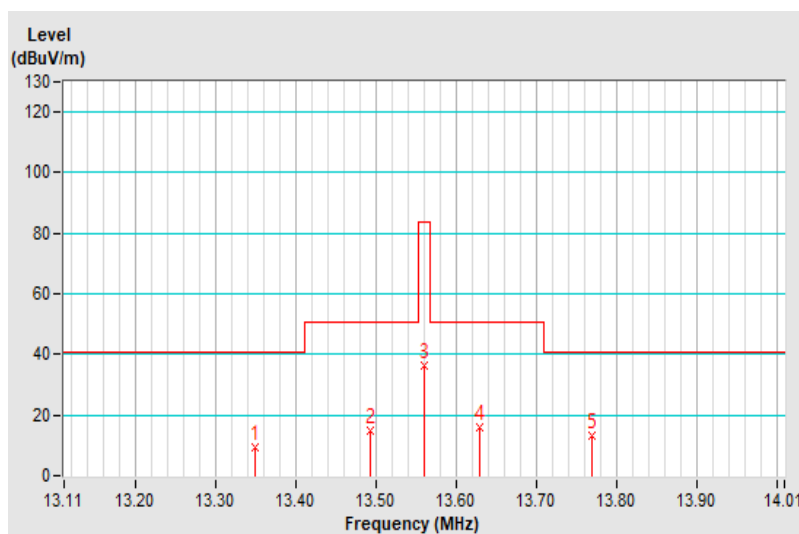


Frequency Range	13.11MHz ~ 14.01MHz	Detector Function & Bandwidth	Quasi-Peak (QP), 9kHz
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Antenna Polarity : Ground-parallel								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	13.348	9.29 QP	40.51	-31.22	1.00	169	52.10	-42.81
2	13.492	14.71 QP	50.47	-35.76	1.00	169	57.54	-42.83
3	*13.560	36.26 QP	84.00	-47.74	1.00	169	79.09	-42.83
4	13.629	15.91 QP	50.47	-34.56	1.00	169	58.75	-42.84
5	13.770	13.40 QP	40.51	-27.11	1.00	169	56.27	-42.87

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. " * ": Fundamental frequency.
6. The test distance for 0.49 ~ 30MHz is 3m, extrapolate the measured field strength to a distance of 30 meters.
Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$

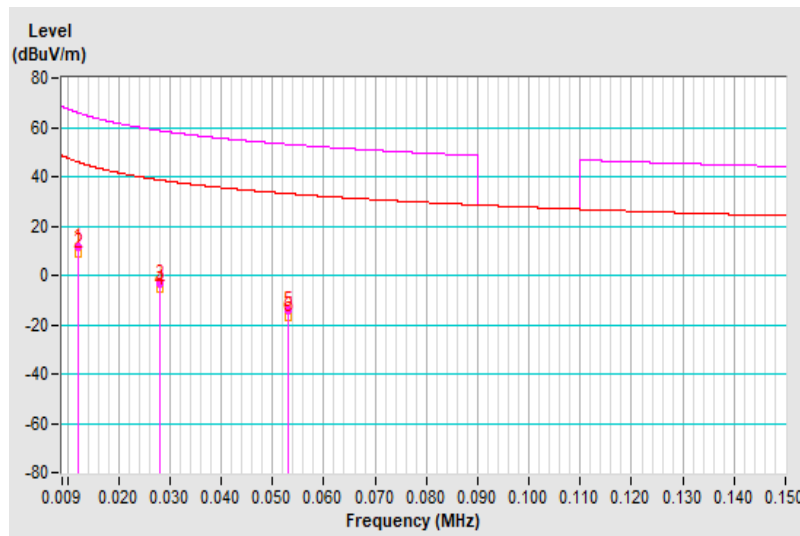


Frequency Range	9kHz ~ 150kHz	Detector Function & Bandwidth	Peak (PK) / Average (AV), 200Hz
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Antenna Polarity : Parallel								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	0.012	11.37 PK	66.02	-54.65	1.00	71	56.19	-44.82
2	0.012	9.13 AV	46.02	-36.89	1.00	71	53.95	-44.82
3	0.028	-3.36 PK	58.66	-62.02	1.00	142	48.24	-51.60
4	0.028	-5.47 AV	38.66	-44.13	1.00	142	46.13	-51.60
5	0.053	-14.21 PK	53.11	-67.32	1.00	93	43.08	-57.29
6	0.053	-16.85 AV	33.12	-49.97	1.00	93	40.44	-57.29

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. The test distance for below 0.49MHz is 3m, extrapolate the measured field strength to a distance of 300 meters.
Distance factor@3m = $40 \cdot \log(3/300) = -80\text{dB}$

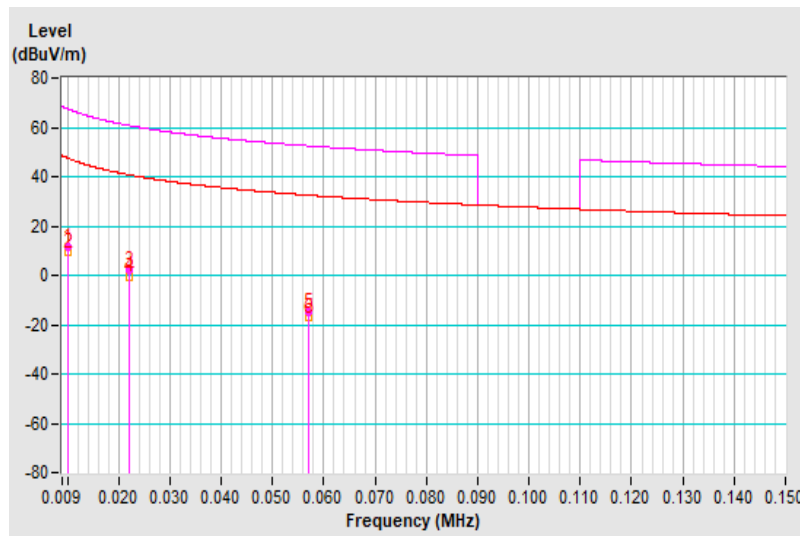


Frequency Range	9kHz ~ 150kHz	Detector Function & Bandwidth	Peak (PK) / Average (AV), 200Hz
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Antenna Polarity : Perpendicular								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	0.010	11.43 PK	67.60	-56.17	1.00	43	55.36	-43.93
2	0.010	9.34 AV	47.60	-38.26	1.00	43	53.27	-43.93
3	0.022	1.97 PK	60.75	-58.78	1.00	147	51.16	-49.19
4	0.022	-0.41 AV	40.76	-41.17	1.00	147	48.78	-49.19
5	0.057	-14.94 PK	52.48	-67.42	1.00	185	42.90	-57.84
6	0.057	-17.22 AV	32.49	-49.71	1.00	185	40.62	-57.84

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. The test distance for below 0.49MHz is 3m, extrapolate the measured field strength to a distance of 300 meters.
Distance factor@3m = $40 \cdot \log(3/300) = -80\text{dB}$

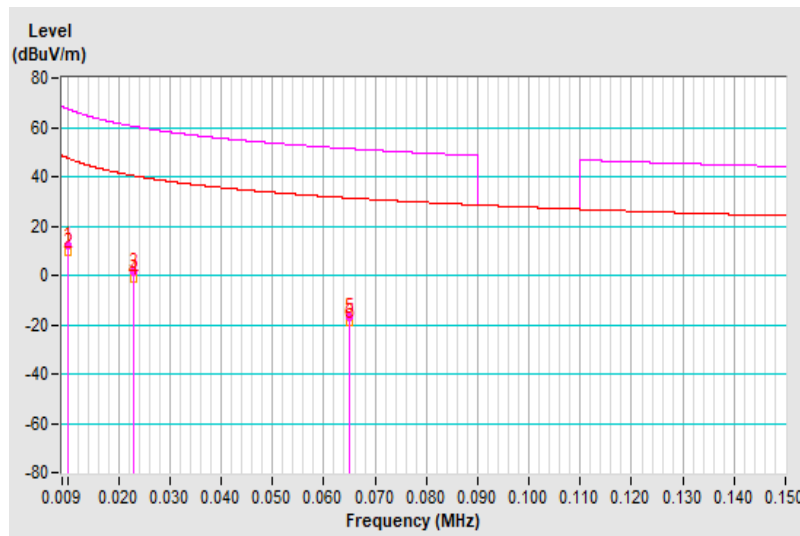


Frequency Range	9kHz ~ 150kHz	Detector Function & Bandwidth	Peak (PK) / Average (AV), 200Hz
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Antenna Polarity : Ground-parallel								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	0.010	11.94 PK	67.60	-55.66	1.00	42	55.87	-43.93
2	0.010	9.53 AV	47.60	-38.07	1.00	42	53.46	-43.93
3	0.023	1.10 PK	60.37	-59.27	1.00	13	50.69	-49.59
4	0.023	-1.69 AV	40.37	-42.06	1.00	13	47.90	-49.59
5	0.065	-16.92 PK	51.34	-68.26	1.00	154	42.05	-58.97
6	0.065	-19.11 AV	31.34	-50.45	1.00	154	39.86	-58.97

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. The test distance for below 0.49MHz is 3m, extrapolate the measured field strength to a distance of 300 meters.
Distance factor@3m = $40 \cdot \log(3/300) = -80\text{dB}$

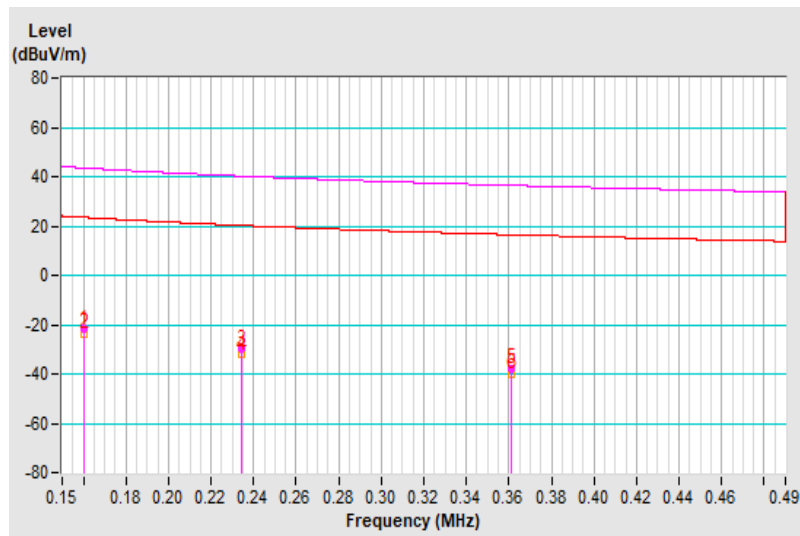


Frequency Range	150kHz ~ 490kHz	Detector Function & Bandwidth	Peak (PK) / Average (AV), 9kHz
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Antenna Polarity : Parallel								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	0.160	-21.92 PK	43.52	-65.44	1.00	24	44.24	-66.16
2	0.160	-23.55 AV	23.52	-47.07	1.00	24	42.61	-66.16
3	0.234	-29.94 PK	40.22	-70.16	1.00	74	39.13	-69.07
4	0.234	-31.79 AV	20.22	-52.01	1.00	74	37.28	-69.07
5	0.361	-37.71 PK	36.45	-74.16	1.00	126	35.09	-72.80
6	0.361	-39.81 AV	16.45	-56.26	1.00	126	32.99	-72.80

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. The test distance for below 0.49MHz is 3m, extrapolate the measured field strength to a distance of 300 meters.
Distance factor@3m = $40 \cdot \log(3/300) = -80\text{dB}$

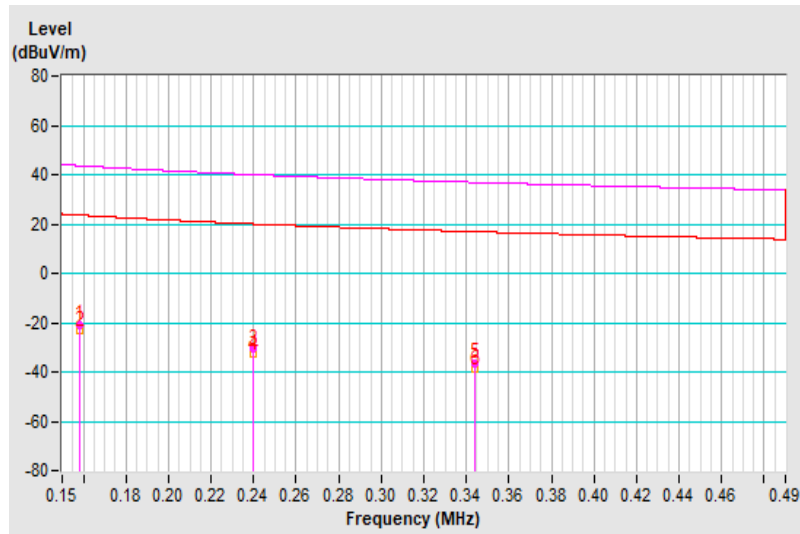


Frequency Range	150kHz ~ 490kHz	Detector Function & Bandwidth	Peak (PK) / Average (AV), 9kHz
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Antenna Polarity : Perpendicular								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	0.158	-20.68 PK	43.63	-64.31	1.00	227	45.40	-66.08
2	0.158	-22.99 AV	23.63	-46.62	1.00	227	43.09	-66.08
3	0.240	-30.49 PK	40.00	-70.49	1.00	173	38.82	-69.31
4	0.240	-32.75 AV	20.00	-52.75	1.00	173	36.56	-69.31
5	0.344	-36.52 PK	36.87	-73.39	1.00	143	35.98	-72.50
6	0.344	-38.79 AV	16.87	-55.66	1.00	143	33.71	-72.50

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. The test distance for below 0.49MHz is 3m, extrapolate the measured field strength to a distance of 300 meters.
Distance factor@3m = $40 \cdot \log(3/300) = -80\text{dB}$

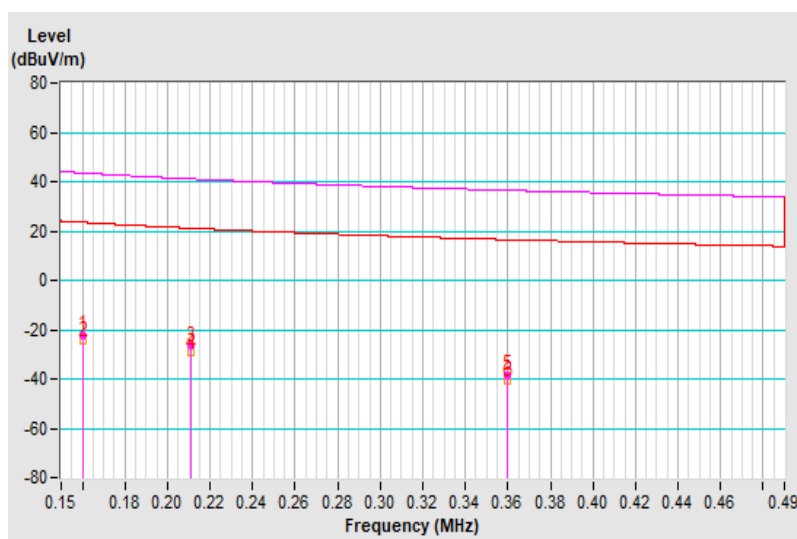


Frequency Range	150kHz ~ 490kHz	Detector Function & Bandwidth	Peak (PK) / Average (AV), 9kHz
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Antenna Polarity : Ground-parallel								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	0.160	-22.09 PK	43.52	-65.61	1.00	52	44.07	-66.16
2	0.160	-24.33 AV	23.52	-47.85	1.00	52	41.83	-66.16
3	0.211	-26.73 PK	41.12	-67.85	1.00	267	41.43	-68.16
4	0.211	-29.14 AV	21.12	-50.26	1.00	267	39.02	-68.16
5	0.360	-38.43 PK	36.48	-74.91	1.00	168	34.35	-72.78
6	0.360	-40.76 AV	16.48	-57.24	1.00	168	32.02	-72.78

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. The test distance for below 0.49MHz is 3m, extrapolate the measured field strength to a distance of 300 meters.
Distance factor@3m = $40 \cdot \log(3/300) = -80\text{dB}$

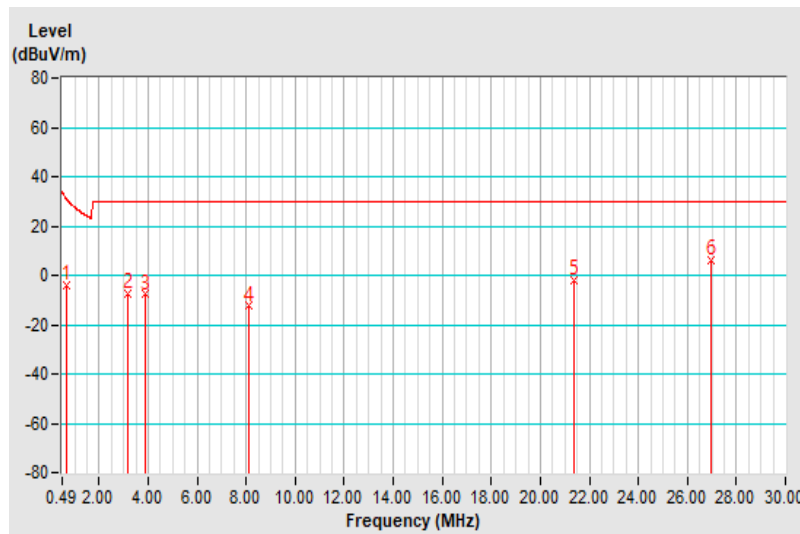


Frequency Range	490kHz ~ 30MHz	Detector Function & Bandwidth	Quasi-Peak (QP), 9kHz
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Antenna Polarity : Parallel								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	0.697	-3.78 QP	30.74	-34.52	1.00	142	33.10	-36.88
2	3.150	-7.26 QP	29.54	-36.80	1.00	75	35.97	-43.23
3	3.853	-7.64 QP	29.54	-37.18	1.00	234	35.81	-43.45
4	8.082	-12.51 QP	29.54	-42.05	1.00	29	30.33	-42.84
5	21.365	-1.84 QP	29.54	-31.38	1.00	39	41.77	-43.61
6	26.991	6.44 QP	29.54	-23.10	1.00	175	49.26	-42.82

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. The test distance for 0.49 ~ 30MHz is 3m, extrapolate the measured field strength to a distance of 30 meters.
Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$

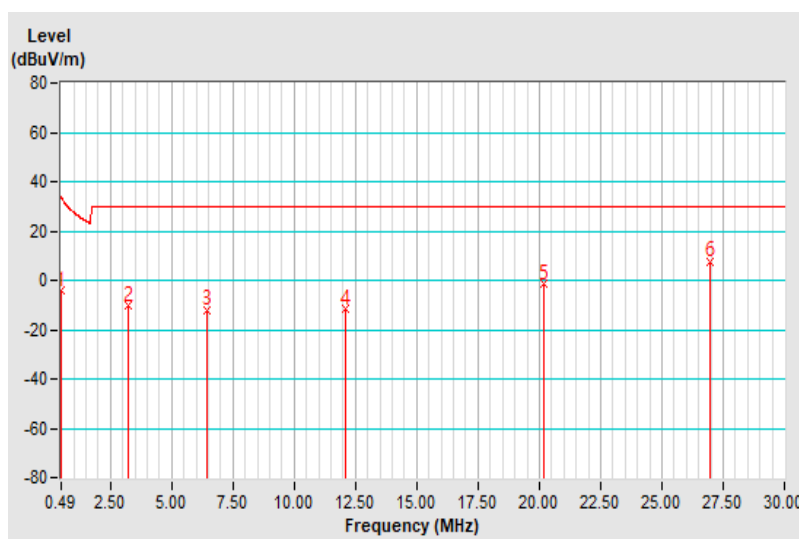


Frequency Range	490kHz ~ 30MHz	Detector Function & Bandwidth	Quasi-Peak (QP), 9kHz
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Antenna Polarity : Perpendicular								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	0.494	-4.10 QP	33.73	-37.83	1.00	36	31.19	-35.29
2	3.218	-10.50 QP	29.54	-40.04	1.00	78	32.75	-43.25
3	6.452	-11.94 QP	29.54	-41.48	1.00	57	31.38	-43.32
4	12.075	-11.64 QP	29.54	-41.18	1.00	75	30.96	-42.60
5	20.179	-1.36 QP	29.54	-30.90	1.00	145	42.42	-43.78
6	26.984	7.61 QP	29.54	-21.93	1.00	83	50.43	-42.82

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. The test distance for 0.49 ~ 30MHz is 3m, extrapolate the measured field strength to a distance of 30 meters.
Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$

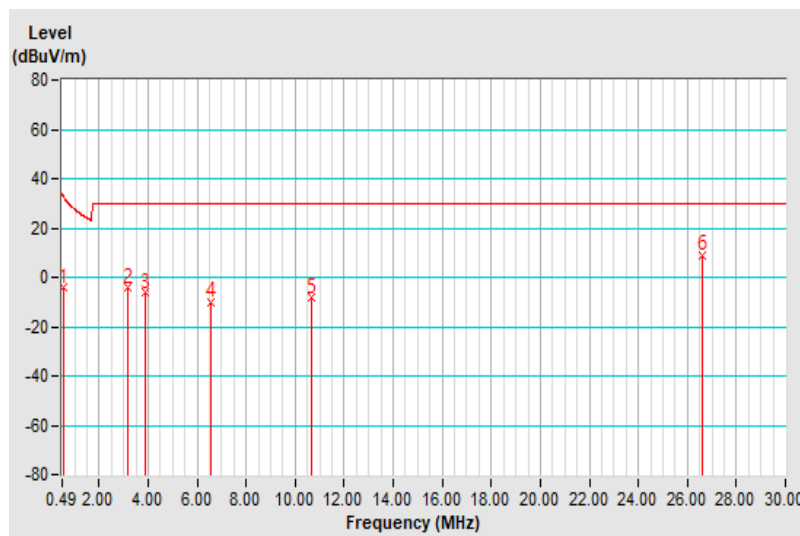


Frequency Range	490kHz ~ 30MHz	Detector Function & Bandwidth	Quasi-Peak (QP), 9kHz
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Antenna Polarity : Ground-parallel								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	0.559	-4.39 QP	32.65	-37.04	1.00	189	31.46	-35.85
2	3.179	-4.04 QP	29.54	-33.58	1.00	29	39.20	-43.24
3	3.862	-6.06 QP	29.54	-35.60	1.00	74	37.39	-43.45
4	6.553	-9.91 QP	29.54	-39.45	1.00	143	33.38	-43.29
5	10.650	-8.29 QP	29.54	-37.83	1.00	121	34.08	-42.37
6	26.610	9.14 QP	29.54	-20.40	1.00	166	52.01	-42.87

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB) + Distance Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit.
5. The test distance for 0.49 ~ 30MHz is 3m, extrapolate the measured field strength to a distance of 30 meters.
Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$

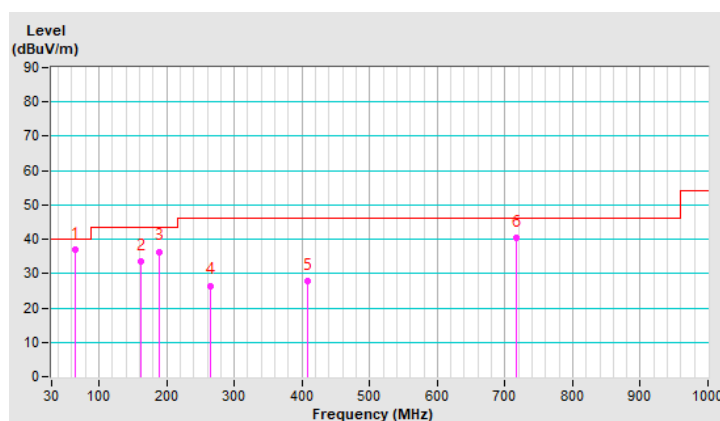


Frequency Range	30MHz ~ 1GHz	Detector Function & Bandwidth	Quasi-Peak (QP), 120kHz
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Antenna Polarity & Test Distance : Horizontal at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	65.55	36.8 QP	40.0	-3.2	3.00 H	295	46.4	-9.6
2	162.72	33.4 QP	43.5	-10.1	2.00 H	246	41.2	-7.8
3	189.83	36.4 QP	43.5	-7.1	1.50 H	255	46.5	-10.1
4	264.04	26.5 QP	46.0	-19.5	1.00 H	360	34.5	-8.0
5	408.11	27.9 QP	46.0	-18.1	1.00 H	150	31.4	-3.5
6	715.96	40.5 QP	46.0	-5.5	1.00 H	359	37.0	3.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.

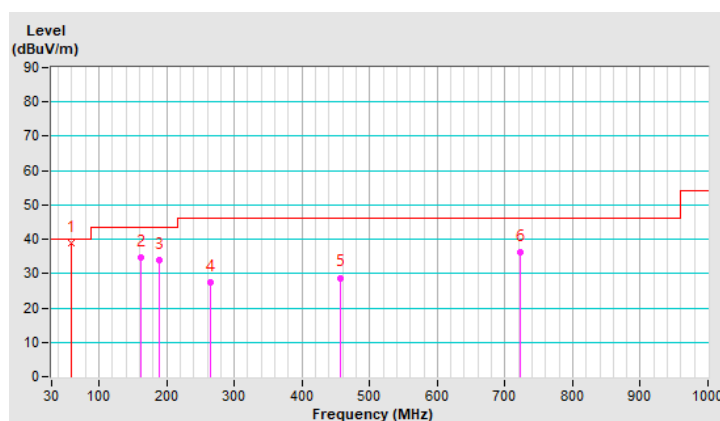


Frequency Range	30MHz ~ 1GHz	Detector Function & Bandwidth	Quasi-Peak (QP), 120kHz
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Antenna Polarity & Test Distance : Vertical at 3 m								
No	Frequency (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	60.00	39.0 QP	40.0	-1.0	1.00 V	345	47.6	-8.6
2	162.72	34.7 QP	43.5	-8.8	1.00 V	261	42.5	-7.8
3	189.83	34.0 QP	43.5	-9.5	2.00 V	154	44.1	-10.1
4	264.04	27.6 QP	46.0	-18.4	1.00 V	296	35.6	-8.0
5	456.02	28.8 QP	46.0	-17.2	1.00 V	185	30.6	-1.8
6	721.63	36.3 QP	46.0	-9.7	2.00 V	234	32.8	3.5

Remarks:

1. Emission Level(dBuV/m) = Raw Value(dBuV) + Correction Factor(dB/m)
2. Correction Factor(dB/m) = Antenna Factor(dB/m) + Cable Factor(dB) – Pre-Amplifier Factor(dB)
3. Margin value = Emission Level – Limit value
4. The other emission levels were very low against the limit of frequency range 30MHz~1000MHz.
5. The emission levels were very low against the limit of frequency range 9kHz~30MHz: the amplitude of spurious emissions attenuated more than 20 dB below the permissible value to be report.



4.2 Conducted Emission Measurement

4.2.1 Limits of Conducted Emission Measurement

Frequency (MHz)	Conducted Limit (dBuV)	
	Quasi-peak	Average
0.15 - 0.5	66 - 56	56 - 46
0.50 - 5.0	56	46
5.0 - 30.0	60	50

- Note: 1. The lower limit shall apply at the transition frequencies.
 2. The limit decreases in line with the logarithm of the frequency in the range of 0.15 to 0.50MHz.
 3. All emanations from a class A/B digital device or system, including any network of conductors and apparatus connected thereto, shall not exceed the level of field strengths specified above.

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Calibrated Date	Calibrated Until
Test Receiver R&S	ESCS 30	847124/029	2021/10/13	2022/10/12
LISN R&S	ESH3-Z5	848773/004	2021/10/29	2022/10/28
LISN R & S	ESH3-Z5	835239/001	2021/3/26	2022/3/25
50 ohms Terminator	50	3	2021/10/27	2022/10/26
RF Coaxial Cable JYEBO	5D-FB	COCCAB-001	2021/9/25	2022/9/24
Fixed attenuator STI	STI02-2200-10	005	2021/8/27	2022/8/26
Software BVADT	BVADT_Cond_V7.3.7.4	NA	NA	NA

Note:

- The calibration interval of the above test instruments are 12 months and the calibrations are traceable to NML/ROC and NIST/USA.
- The test was performed in Conduction 1.
- Tested Date: 2021/12/21

4.2.3 Test Procedures

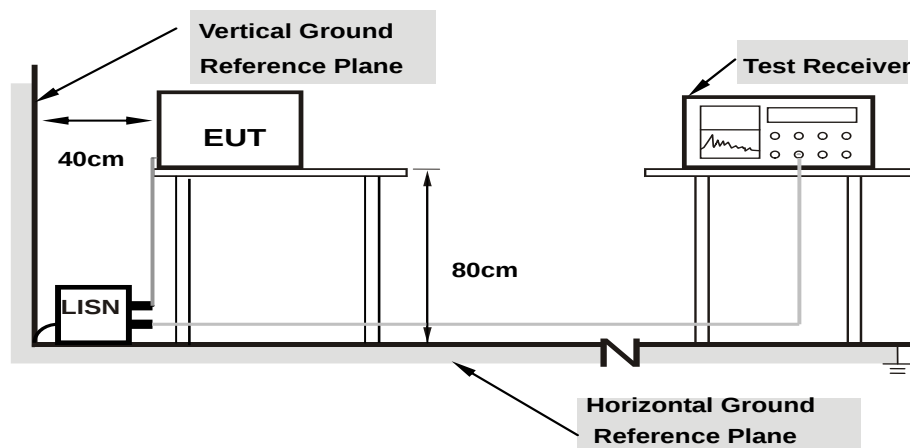
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance for the measuring instrument.
- Both lines of the power mains connected to the EUT were checked for maximum conducted interference.
- The frequency range from 150kHz to 30MHz was searched. Emission levels under (Limit - 20dB) was not recorded.

Note: The resolution bandwidth and video bandwidth of test receiver is 9kHz for quasi-peak detection (QP) and average detection (AV) at frequency 0.15MHz-30MHz.

4.2.4 Deviation from Test Standard

No deviation.

4.2.5 Test Setup



Note: 1.Support units were connected to second LISN.

2.Both of LISNs (AMN) are 80 cm from EUT and at least 80 from other units and other metal planes

For the actual test configuration, please refer to the attached file (Test Setup Photo).

4.2.6 EUT Operating Conditions

Same as 4.1.6.

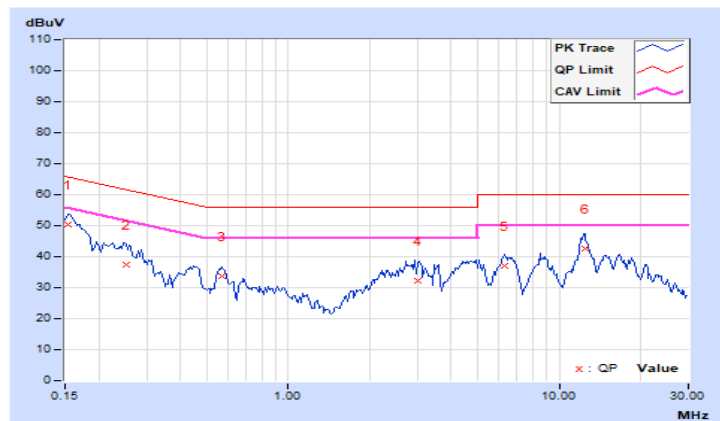
4.2.7 Test Results (Mode 1)

Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
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Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15391	10.05	40.27	26.47	50.32	36.52	65.79	55.79	-15.47	-19.27
2	0.25156	10.06	27.36	15.67	37.42	25.73	61.71	51.71	-24.29	-25.98
3	0.56797	10.08	23.78	15.32	33.86	25.40	56.00	46.00	-22.14	-20.60
4	3.00391	10.21	22.12	14.82	32.33	25.03	56.00	46.00	-23.67	-20.97
5	6.26563	10.39	26.56	20.96	36.95	31.35	60.00	50.00	-23.05	-18.65
6	12.45703	10.76	31.93	25.40	42.69	36.16	60.00	50.00	-17.31	-13.84

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

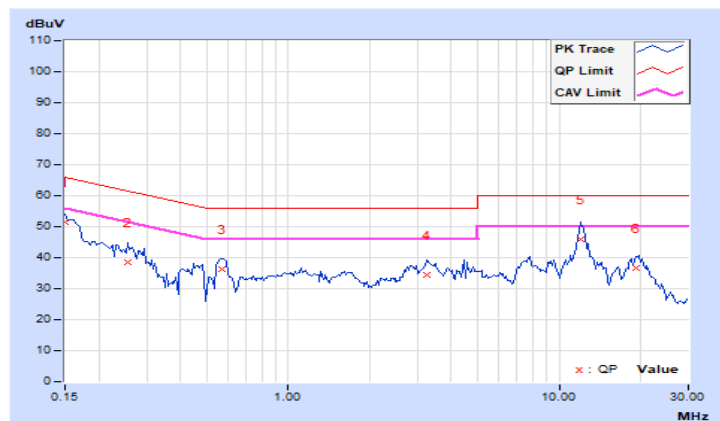


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
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Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	10.02	41.42	26.81	51.44	36.83	66.00	56.00	-14.56	-19.17
2	0.25547	10.03	28.33	15.51	38.36	25.54	61.58	51.58	-23.22	-26.04
3	0.56797	10.05	26.38	17.77	36.43	27.82	56.00	46.00	-19.57	-18.18
4	3.26563	10.18	24.37	17.40	34.55	27.58	56.00	46.00	-21.45	-18.42
5	12.00000	10.58	35.30	28.91	45.88	39.49	60.00	50.00	-14.12	-10.51
6	19.20313	10.91	25.62	20.27	36.53	31.18	60.00	50.00	-23.47	-18.82

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value



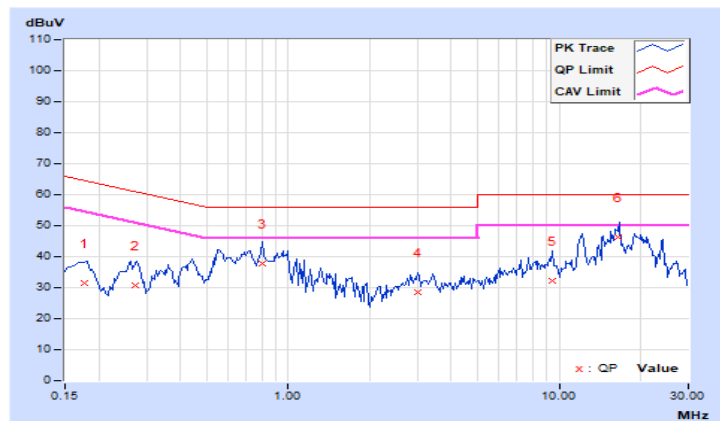
4.2.8 Test Results (Mode 2)

Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
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Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.17734	10.08	21.37	8.09	31.45	18.17	64.61	54.61	-33.16	-36.44
2	0.27109	10.09	20.54	8.48	30.63	18.57	61.08	51.08	-30.45	-32.51
3	0.80234	10.14	27.54	22.42	37.68	32.56	56.00	46.00	-18.32	-13.44
4	2.99609	10.28	18.08	8.33	28.36	18.61	56.00	46.00	-27.64	-27.39
5	9.46094	10.74	21.31	13.23	32.05	23.97	60.00	50.00	-27.95	-26.03
6	16.52344	11.30	35.09	30.71	46.39	42.01	60.00	50.00	-13.61	-7.99

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

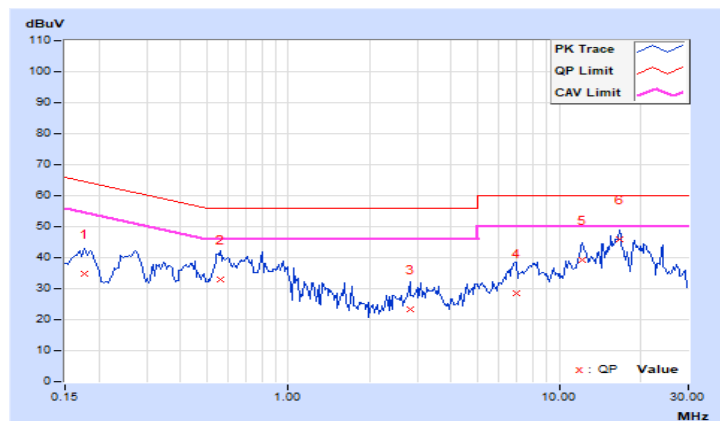


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
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Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.17734	10.07	24.77	7.31	34.84	17.38	64.61	54.61	-29.77	-37.23
2	0.56406	10.11	22.91	10.08	33.02	20.19	56.00	46.00	-22.98	-25.81
3	2.81250	10.26	12.97	2.52	23.23	12.78	56.00	46.00	-32.77	-33.22
4	6.92969	10.50	18.17	7.10	28.67	17.60	60.00	50.00	-31.33	-32.40
5	12.23438	10.82	28.50	18.09	39.32	28.91	60.00	50.00	-20.68	-21.09
6	16.72266	11.09	34.87	30.31	45.96	41.40	60.00	50.00	-14.04	-8.60

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value



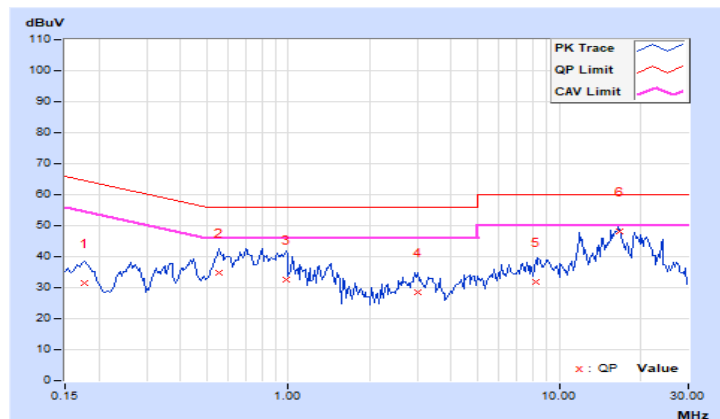
4.2.9 Test Results (Mode 3)

Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
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Phase Of Power : Line (L)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.17734	10.08	21.23	8.13	31.31	18.21	64.61	54.61	-33.30	-36.40
2	0.55625	10.12	24.75	14.27	34.87	24.39	56.00	46.00	-21.13	-21.61
3	0.98203	10.15	22.48	10.25	32.63	20.40	56.00	46.00	-23.37	-25.60
4	3.01172	10.28	18.22	7.97	28.50	18.25	56.00	46.00	-27.50	-27.75
5	8.17188	10.65	21.38	12.93	32.03	23.58	60.00	50.00	-27.97	-26.42
6	16.76172	11.32	36.65	32.95	47.97	44.27	60.00	50.00	-12.03	-5.73

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

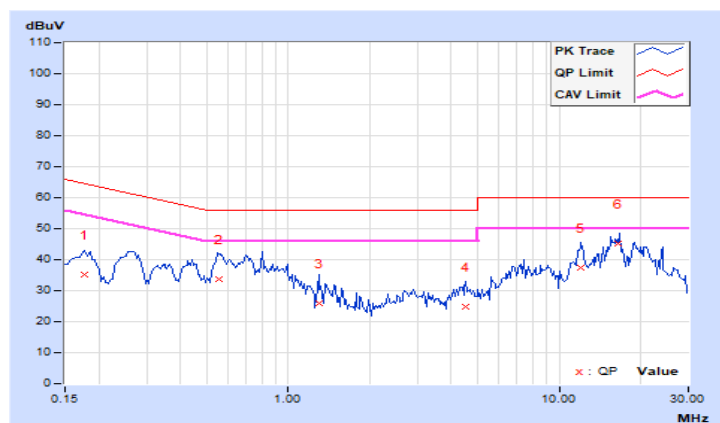


Frequency Range	150kHz ~ 30MHz	Detector Function & Resolution Bandwidth	Quasi-Peak (QP) / Average (AV), 9kHz
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Phase Of Power : Neutral (N)										
No	Frequency (MHz)	Correction Factor (dB)	Reading Value (dBuV)		Emission Level (dBuV)		Limit (dBuV)		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.17734	10.07	25.11	7.61	35.18	17.68	64.61	54.61	-29.43	-36.93
2	0.55234	10.11	23.77	9.63	33.88	19.74	56.00	46.00	-22.12	-26.26
3	1.29688	10.16	15.78	2.07	25.94	12.23	56.00	46.00	-30.06	-33.77
4	4.53516	10.36	14.47	3.87	24.83	14.23	56.00	46.00	-31.17	-31.77
5	11.97266	10.80	26.76	18.45	37.56	29.25	60.00	50.00	-22.44	-20.75
6	16.51953	11.07	33.99	29.86	45.06	40.93	60.00	50.00	-14.94	-9.07

Remarks:

1. Q.P. and AV. are abbreviations of quasi-peak and average individually.
2. The emission levels of other frequencies were very low against the limit.
3. Margin value = Emission level – Limit value
4. Correction factor = Insertion loss + Cable loss
5. Emission Level = Correction Factor + Reading Value

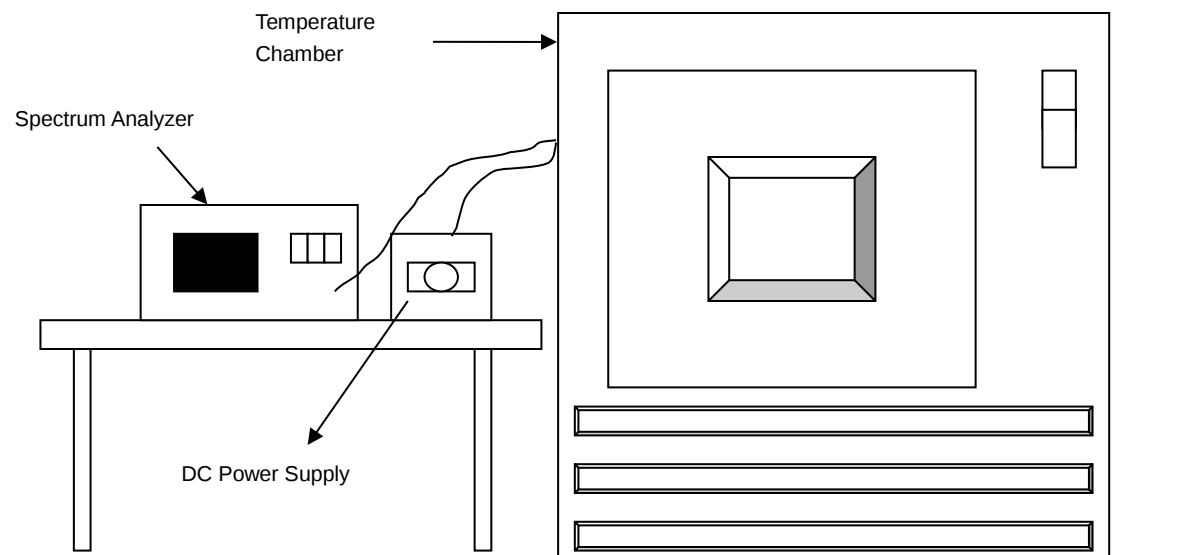


4.3 Frequency Stability

4.3.1 Limits of Frequency Stability Measurement

The frequency tolerance of the carrier signal shall be maintained within $\pm 0.01\%$ of the operating frequency over a temperature variation of -40 degrees to 70 degrees C at normal supply voltage, and for a variation in the primary supply voltage from 85% to 115% of the rated supply voltage at a temperature of 20 degrees C.

4.3.2 Test Setup



4.3.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.4 Test Procedure

- The EUT was placed inside the environmental test chamber and powered by nominal DC voltage.
- Turn the EUT on and couple its output to a spectrum analyzer.
- Turn the EUT off and set the chamber to the highest temperature specified.
- Allow sufficient time (approximately 30 min) for the temperature of the chamber to stabilize, turn the EUT on and measure the operating frequency after 2, 5, and 10 Minutes.
- Repeat step (d) with the temperature chamber set to the next desired temperature until measurements down to the lowest specified temperature have been completed.
- The test chamber was allowed to stabilize at $+20$ degree C for a minimum of 30 Minutes. The supply voltage was then adjusted on the EUT from 85% to 115% and the frequency record.

4.3.5 Deviation from Test Standard

No deviation.

4.3.6 EUT Operating Conditions

Same as Item 4.1.6.

4.3.7 Test Result (Mode 1)

Frequency Stability Versus Temp.									
Temp. (°C)	Power Supply (Vdc)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift
		(MHz)	%	(MHz)	%	(MHz)	%	(MHz)	%
70	5	13.56	0.00000	13.56	0.00000	13.56001	0.00007	13.55999	-0.00007
60	5	13.55995	-0.00037	13.55993	-0.00052	13.55994	-0.00044	13.55994	-0.00044
50	5	13.55999	-0.00007	13.56001	0.00007	13.56	0.00000	13.56	0.00000
40	5	13.56006	0.00044	13.56007	0.00052	13.56006	0.00044	13.56006	0.00044
30	5	13.55995	-0.00037	13.55993	-0.00052	13.55994	-0.00044	13.55994	-0.00044
20	5	13.56004	0.00029	13.56006	0.00044	13.56004	0.00029	13.56005	0.00037
10	5	13.56007	0.00052	13.56007	0.00052	13.56006	0.00044	13.56005	0.00037
0	5	13.56005	0.00037	13.56007	0.00052	13.56006	0.00044	13.56006	0.00044
-10	5	13.56001	0.00007	13.56	0.00000	13.56001	0.00007	13.56	0.00000
-20	5	13.56004	0.00029	13.56003	0.00022	13.56005	0.00037	13.56003	0.00022
-30	5	13.55999	-0.00007	13.55999	-0.00007	13.56	0.00000	13.55999	-0.00007
-40	5	13.56003	0.00022	13.56003	0.00022	13.56003	0.00022	13.56004	0.00029

Frequency Stability Versus Voltage									
Temp. (°C)	Power Supply (Vdc)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift
		(MHz)	%	(MHz)	%	(MHz)	%	(MHz)	%
20	5.75	13.56004	0.00029	13.56006	0.00044	13.56004	0.00029	13.56005	0.00037
	5	13.56004	0.00029	13.56006	0.00044	13.56004	0.00029	13.56005	0.00037
	4.25	13.56004	0.00029	13.56006	0.00044	13.56004	0.00029	13.56005	0.00037

4.3.8 Test Result (Mode 2)

Frequency Stability Versus Temp.									
Temp. (°C)	Power Supply (Vdc)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift
		(MHz)	%	(MHz)	%	(MHz)	%	(MHz)	%
70	5	13.55998	-0.00015	13.55999	-0.00007	13.55998	-0.00015	13.56	0.00000
60	5	13.56004	0.00029	13.56004	0.00029	13.56003	0.00022	13.56002	0.00015
50	5	13.55998	-0.00015	13.55999	-0.00007	13.55997	-0.00022	13.55998	-0.00015
40	5	13.55995	-0.00037	13.55994	-0.00044	13.55994	-0.00044	13.55994	-0.00044
30	5	13.55992	-0.00059	13.55994	-0.00044	13.55993	-0.00052	13.55993	-0.00052
20	5	13.55999	-0.00007	13.55999	-0.00007	13.55997	-0.00022	13.55999	-0.00007
10	5	13.55993	-0.00052	13.55994	-0.00044	13.55993	-0.00052	13.55993	-0.00052
0	5	13.55994	-0.00044	13.55993	-0.00052	13.55994	-0.00044	13.55994	-0.00044
-10	5	13.55997	-0.00022	13.55995	-0.00037	13.55996	-0.00029	13.55995	-0.00037
-20	5	13.55999	-0.00007	13.55999	-0.00007	13.56	0.00000	13.55998	-0.00015
-30	5	13.55997	-0.00022	13.55997	-0.00022	13.55997	-0.00022	13.55996	-0.00029
-40	5	13.56	0.00000	13.55999	-0.00007	13.56001	0.00007	13.56	0.00000

Frequency Stability Versus Voltage									
Temp. (°C)	Power Supply (Vdc)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift
		(MHz)	%	(MHz)	%	(MHz)	%	(MHz)	%
20	5.75	13.55999	-0.00007	13.55999	-0.00007	13.55997	-0.00022	13.55999	-0.00007
	5	13.55999	-0.00007	13.55999	-0.00007	13.55997	-0.00022	13.55999	-0.00007
	4.25	13.55999	-0.00007	13.55999	-0.00007	13.55997	-0.00022	13.55999	-0.00007

4.3.9 Test Result (Mode 3)

Frequency Stability Versus Temp.									
Temp. (°C)	Power Supply (Vdc)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift
		(MHz)	%	(MHz)	%	(MHz)	%	(MHz)	%
70	5	13.55995	-0.00037	13.55995	-0.00037	13.55996	-0.00029	13.55994	-0.00044
60	5	13.56001	0.00007	13.56001	0.00007	13.56002	0.00015	13.56	0.00000
50	5	13.56002	0.00015	13.56002	0.00015	13.56001	0.00007	13.56001	0.00007
40	5	13.55994	-0.00044	13.55993	-0.00052	13.55994	-0.00044	13.55993	-0.00052
30	5	13.56002	0.00015	13.56003	0.00022	13.56003	0.00022	13.56003	0.00022
20	5	13.56006	0.00044	13.56008	0.00059	13.56006	0.00044	13.56007	0.00052
10	5	13.56007	0.00052	13.56005	0.00037	13.56005	0.00037	13.56007	0.00052
0	5	13.55994	-0.00044	13.55994	-0.00044	13.55993	-0.00052	13.55994	-0.00044
-10	5	13.55999	-0.00007	13.56001	0.00007	13.56001	0.00007	13.56	0.00000
-20	5	13.55998	-0.00015	13.55998	-0.00015	13.55998	-0.00015	13.55999	-0.00007
-30	5	13.56003	0.00022	13.56002	0.00015	13.56002	0.00015	13.56001	0.00007
-40	5	13.55997	-0.00022	13.55997	-0.00022	13.55997	-0.00022	13.55998	-0.00015

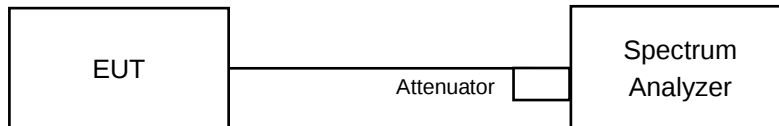
Frequency Stability Versus Voltage									
Temp. (°C)	Power Supply (Vdc)	0 Minute		2 Minutes		5 Minutes		10 Minutes	
		Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift	Measured Frequency	Frequency Drift
		(MHz)	%	(MHz)	%	(MHz)	%	(MHz)	%
20	5.75	13.56006	0.00044	13.56008	0.00059	13.56006	0.00044	13.56007	0.00052
	5	13.56006	0.00044	13.56008	0.00059	13.56006	0.00044	13.56007	0.00052
	4.25	13.56006	0.00044	13.56008	0.00059	13.56006	0.00044	13.56007	0.00052

4.4 20dB Bandwidth

4.4.1 Limits of 20dB BANDWIDTH Measurement

The 20dB bandwidth shall be specified in operating frequency band.

4.4.2 Test Setup



4.4.3 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.4.4 Test Procedures

The bandwidth of the fundamental frequency was measured by spectrum analyzer with 10Hz RBW and 30Hz VBW. The 20dB bandwidth is defined as the total spectrum the power of which is higher than peak power minus 20dB.

4.4.5 Deviation from Test Standard

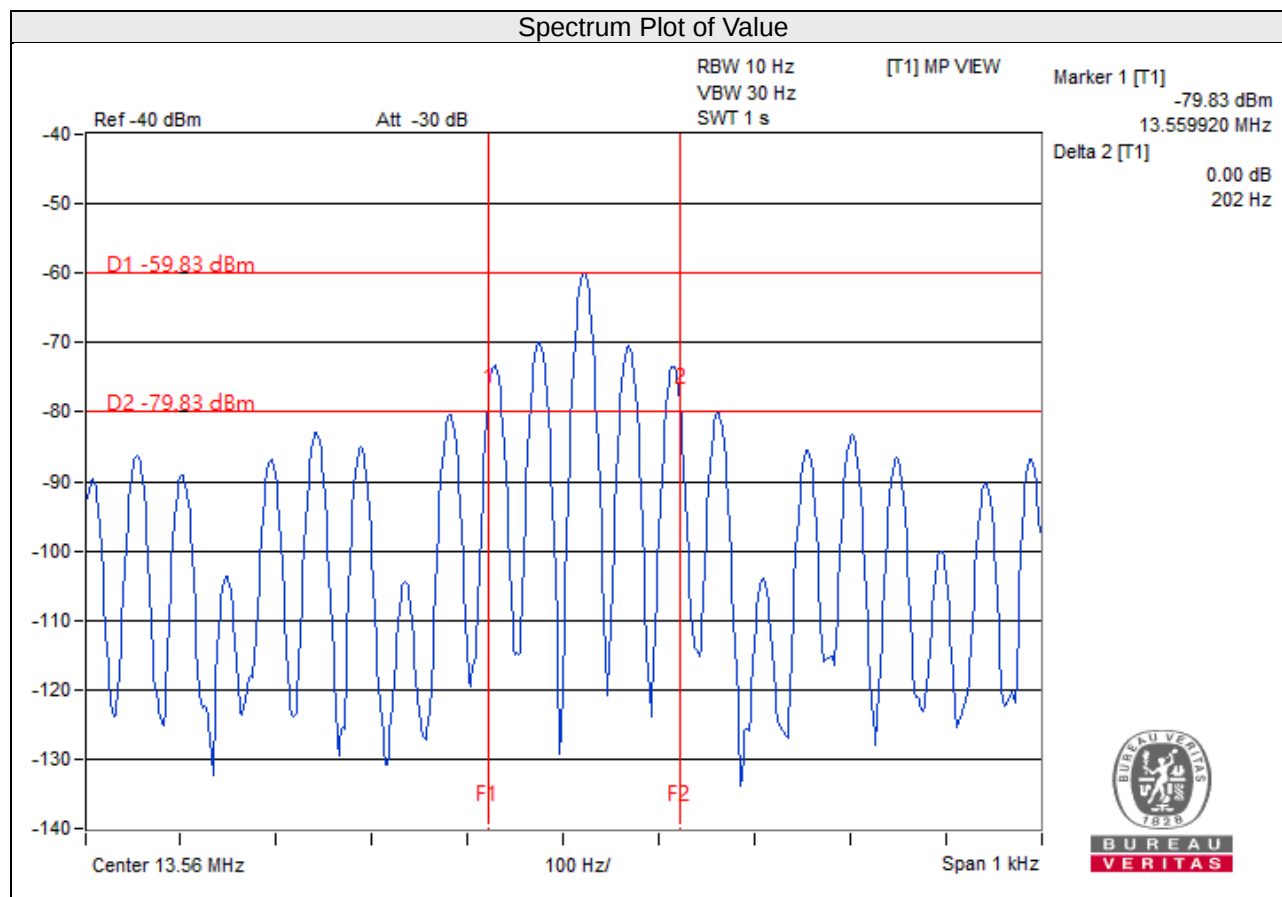
No deviation.

4.4.6 EUT Operating Conditions

Same as Item 4.1.6.

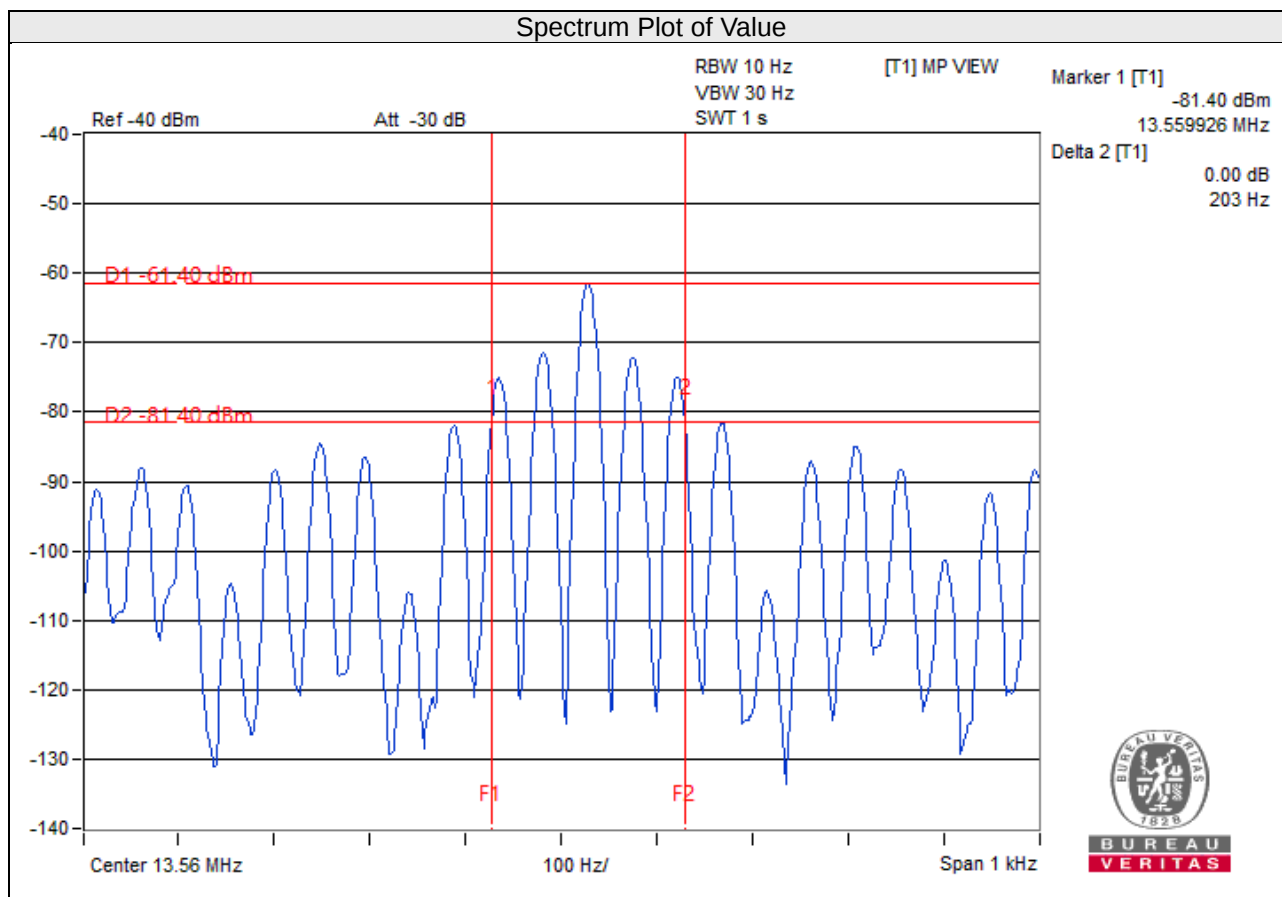
4.4.7 Test Results (Mode 1)

20dBc Point (Low) (MHz)	20dBc Point (High) (MHz)	Operating Frequency Band (MHz)	Pass/Fail
13.55992	13.560122	13.11 – 14.01	Pass



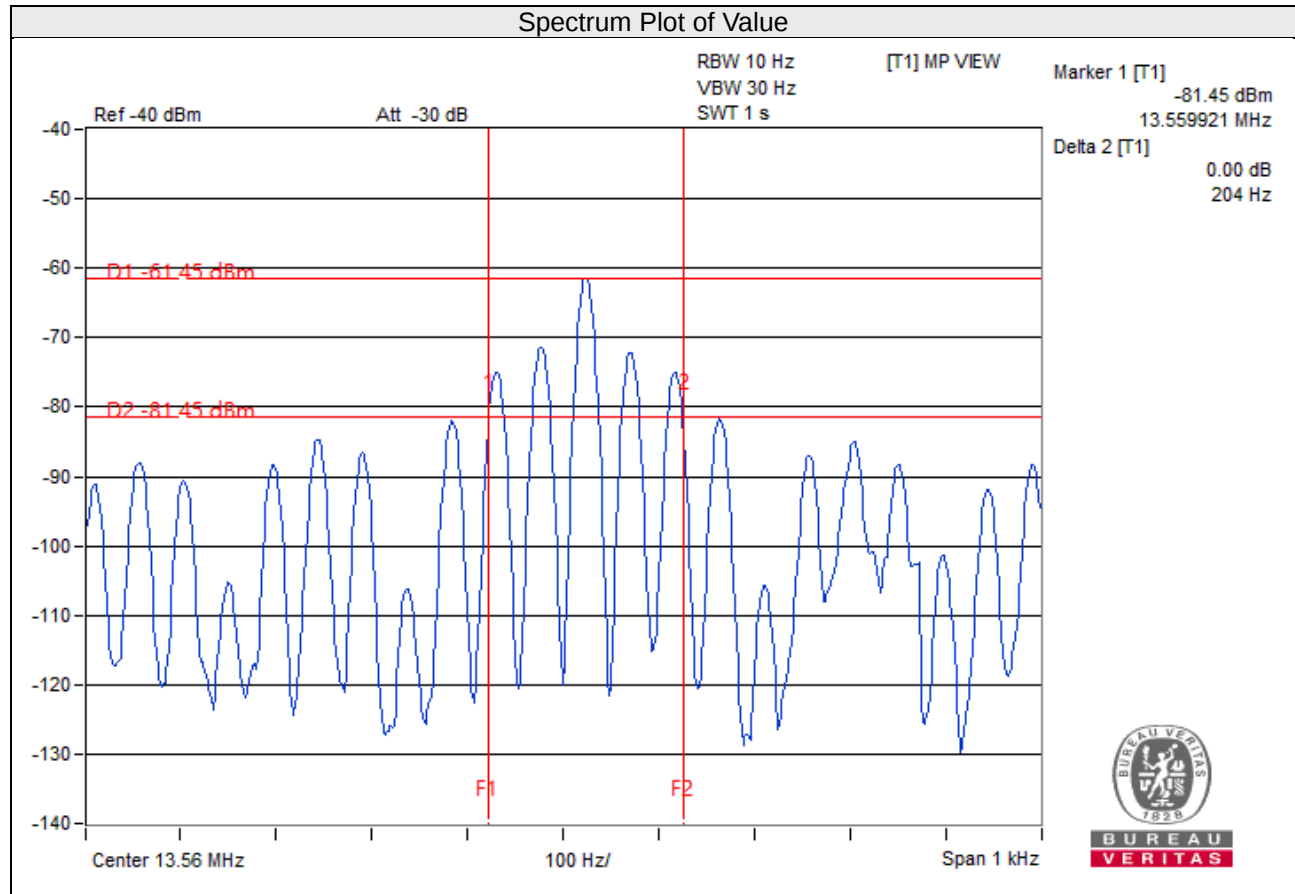
4.4.8 Test Results (Mode 2)

20dBc Point (Low) (MHz)	20dBc Point (High) (MHz)	Operating Frequency Band (MHz)	Pass/Fail
13.559926	13.560129	13.11 – 14.01	Pass



4.4.9 Test Results (Mode 3)

20dBc Point (Low) (MHz)	20dBc Point (High) (MHz)	Operating Frequency Band (MHz)	Pass/Fail
13.559921	13.560125	13.11 – 14.01	Pass



5 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).

Appendix – Information of the Testing Laboratories

We, Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch, were founded in 1988 to provide our best service in EMC, Radio, Telecom and Safety consultation. Our laboratories are FCC recognized accredited test firms and accredited according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

Lin Kou EMC/RF Lab

Tel: 886-2-26052180

Fax: 886-2-26051924

Hsin Chu EMC/RF/Telecom Lab

Tel: 886-3-6668565

Fax: 886-3-6668323

Hwa Ya EMC/RF/Safety Lab

Tel: 886-3-3183232

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Email: service.adt@tw.bureauveritas.com

Web Site: www.bureauveritas-adt.com

The address and road map of all our labs can be found in our web site also.

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