

FCC Test Report

Report No.: RFBDTL-WTW-P22030483

FCC ID: HV4DTC121

Test Model: DTC121*****("*" may be alphanumeric/symbol or blank)

Received Date: Apr. 20, 2022

Test Date: May 09 ~ Jun. 09, 2022

Issued Date: Jul. 19, 2022

Applicant: Wacom Co., Ltd.

Address: 2-510-1 Toyonodai, Kazo-shi, Saitama 349-1148 Japan

Issued By: Bureau Veritas Consumer Products Services (H.K.) Ltd., Taoyuan Branch
Lin Kou Laboratories

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33383, TAIWAN

FCC Registration / 788550 / TW0003
Designation Number:



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Release Control Record

Issue No.	Description	Date Issued
RFBDTL-WTW-P22030483	Original release	Jul. 19, 2022

1 Certificate of Conformity

Product: Pen display

Brand: Wacom

Test Model: DTC121*****("*" may be alphanumeric/symbol or blank)

Sample Status: Engineering sample

Applicant: Wacom Co., Ltd.

Test Date: May 09 ~ Jun. 09, 2022

Standards: 47 CFR FCC Part 15, Subpart C (Section 15.209)
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 RF characteristics under the conditions specified in this report.

Prepared by : Polly Chien , **Date:** Jul. 19, 2022
Polly Chien / Specialist

Approved by : Jeremy Lin , **Date:** Jul. 19, 2022
Jeremy Lin / Project Engineer

2 Summary of Test Results

47 CFR FCC Part 15, Subpart C (Section 15.209)			
FCC Clause	Test Item	Result	Remarks
15.207	AC Power Conducted Emission	Pass	Meet the requirement of limit. Minimum passing margin is -15.98dB at 0.73233MHz.
15.209	Radiated Emission Test	Pass	Meet the requirement of limit. Minimum passing margin is -2.3dB at 30.000MHz

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) ($\pm$)
Conducted Emissions at mains ports	150kHz ~ 30MHz	2.79 dB
Radiated Emissions up to 1 GHz	9kHz ~ 30MHz	2.44 dB
	30MHz ~ 200MHz	2.93 dB
	200MHz ~ 1000MHz	2.95 dB

2.2 Modification Record

There were no modifications required for compliance.

3 General Information

3.1 General Description of EUT

Product	Pen display
Brand	Wacom
Test Model	DTC121*****("*" may be alphanumeric/symbol or blank)
Model Difference	For marketing purpose.
Sample Status	Engineering sample
Power Supply Rating	5Vdc or 9Vdc or 15Vdc or 20Vdc (from adapter)
Modulation Type	ASK
Operating Frequency	531.25kHz, 562.50kHz, 593.75kHz
Antenna Type	Coil Antenna (The Antenna information refers to the manufacturer's antenna specifications, the laboratory shall not be held responsible)
Antenna Connector	NA
Field Strength	6.6dBuV/m (30m)
Accessory Device	Refer to note as below
Data Cable Supplied	Refer to note as below

Note:

1. The EUT contains following accessory devices.

Accessories information		
Adapter	Brand	Jiangsu Leader Electronics Inc.
	Model	IU25-2200125-U
	Part Number	NA
	AC Input	100-240V~50/60Hz, 55VA-77VA, 0.7A
	DC Output	5.0Vdc, 3.0A, 15.0W 9.0Vdc, 2.77A, 24.93W 15.0Vdc, 1.66A, 24.9W 20.0Vdc, 1.25A, 25.0W
Type C Cable	Brand	NA
	Model	NA
	Signal Line	2.25meter
USB To Type C Cable	Brand	NA
	Model	NA
	Signal Line	1.72meter
Touch Pen	Brand	Wacom
	Model	ACP-500-00

2. 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.

3.2 Description of Test Modes

Channel	Tested Frequency (kHz)
1	531.25
2	562.50
3	593.75

3.2.1 Test Mode Applicability and Tested Channel Detail

EUT configure mode	Applicable to			Description
	RE<1G	PLC	BW	
-	√	√	√	

Where **RE<1G**: Radiated Emission below 1GHz

PLC: Power Line Conducted Emission

BW: 20dB Bandwidth

Note:

1. The EUT had been pre-tested on the positioned of each 3 axis. The worst case was found when positioned on **X-plane**.
2. For power line conducted emission and standby mode test items chosen the worst case test mode and chosen for final test.

Radiated Emission Test (9kHz ~ 30MHz):

- ☒ 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.

EUT Configure Mode	Available Channel	Tested Channel
-	1, 2, 3	1, 2, 3

Radiated Emission Test (Below 1GHz):

- ☒ 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.

EUT Configure Mode	Available Channel	Tested Channel
-	1, 2, 3	1, 2, 3

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.

EUT Configure Mode	Available Channel	Tested Channel
-	3	3

Bandwidth Measurement:

- ☒ 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.

EUT Configure Mode	Available Channel	Tested Channel
-	1, 2, 3	1, 2, 3

Test Condition:

Applicable To	Environmental Conditions	Input Power	Tested by
RE<1G	23 deg. C, 69% RH	120Vac, 60Hz	Vincent Chen
PLC	24 deg. C, 70% RH	120Vac, 60Hz	Thomas Cheng
BW	23 deg. C, 69% RH	120Vac, 60Hz	Vincent Chen

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.	Adapter	Jiangsu Leader Electronics Inc.	IU25-2200125-U	NA	NA	Provided by client
B.	Notebook	DELL	P137G	NA	NA	Provided by Lab

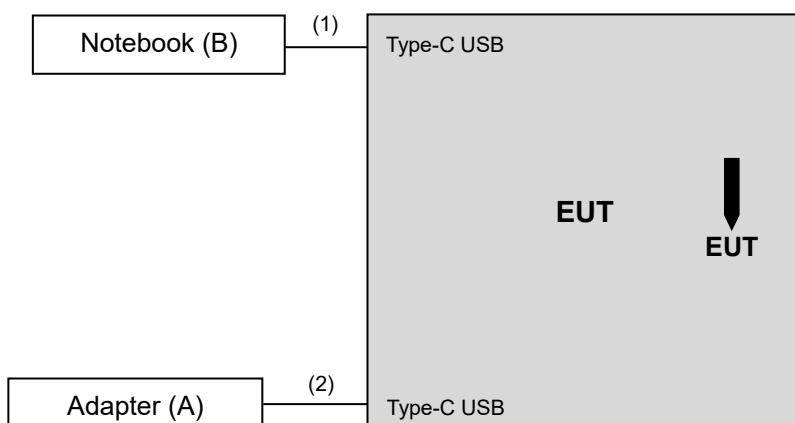
Note:

1. All power cords of the above support units are non-shielded (1.8m).
2. Items B acted as a communication partner to transfer data.

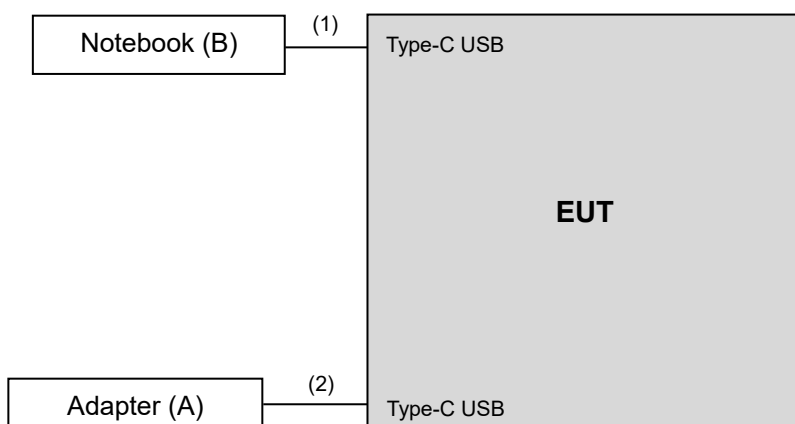
ID	Descriptions	Qty.	Length (m)	Shielding (Yes/No)	Cores (Qty.)	Remarks
1.	Type C Cable	1	2.25	-	0	Provided by client
2.	USB To Type C Cable	1	1.72	-	0	Provided by client

3.3.1 Configuration of System under Test

Operated Mode:



Standby Mode:



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 (15.209)

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 and Bandedge Measurement

4.1.1 Limits of Radiated Emission and Bandedge Measurement

FOR FREQUENCY BELOW 30MHz

Frequency (MHz)	Field Strength (dBuV/m)		Measurement Distance (meters)
	uV/m	dBuV/m	
0.009 – 0.490	2400 / F (kHz)	48.52-13.80	300
0.490 – 1.705	24000 / F (kHz)	33.80-22.97	30
1.705 – 30.0	30	29.54	30

FOR FREQUENCY BETWEEN 30-1000MHz

Frequency (MHz)	Measurement Distance (at 3m)	
	uV/m	dBuV/m
30-88	100	40.0
88-216	150	43.5
216-960	200	46.0
Above 960	500	54.0

4.1.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver Agilent	N9038A	MY51210203	Sep. 22, 2021	Sep. 21, 2022
Spectrum Analyzer Agilent	N9010A	MY52220207	Jan. 06, 2022	Jan. 05, 2023
HORN Antenna SCHWARZBECK	BBHA 9120D	9120D-969	Nov. 14, 2021	Nov. 13, 2022
BILOG Antenna SCHWARZBECK	VULB 9168	9168-472	Oct. 28, 2021	Oct. 27, 2022
Fixed Attenuator WOKEN	MDCS18N-10	MDCS18N-10-01	Apr. 05, 2022	Apr. 04, 2023
Loop Antenna TESEQ	HLA 6121	45745	Jul. 21, 2021	Jul. 20, 2022
Preamplifier EMCI	EMC 012645	980115	Oct. 05, 2021	Oct. 04, 2022
RF Coaxial Cable EMCI	EMC104-SM-SM-800 0	171005	Oct. 05, 2021	Oct. 04, 2022
RF Coaxial Cable HUBER+SUHNNER	SUCOFLEX 104	EMC104-SM-SM-1000 (140807)	Oct. 05, 2021	Oct. 04, 2022
RF Coaxial Cable WOKEN	8D-FB	Cable-Ch10-01	Oct. 05, 2021	Oct. 04, 2022
Boresight Antenna Fixture	FBA-01	FBA-SIP01	NA	NA
Software BV ADT	E3 6.120103	NA	NA	NA
Antenna Tower MF	MFA-440H	NA	NA	NA
Turn Table MF	MFT-201SS	NA	NA	NA
Antenna Tower & Turn Table Controller MF	MF-7802	NA	NA	NA

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 HwaYa Chamber 10.

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 Detect Function and Specified Bandwidth with Maximum Hold Mode, except for the frequency band (9kHz-90kHz, 110kHz-490kHz) set to average detect function and peak detect function.

Note:

1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 200 Hz at frequency band (9 kHz~150 kHz) and 9 kHz or 10 kHz at frequency below 30MHz (except 9 kHz~150 kHz).
2. There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

For Radiated emission above 30MHz

- a. The EUT was placed on the top of a rotating table 0.8 meters (for below 1GHz) 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:

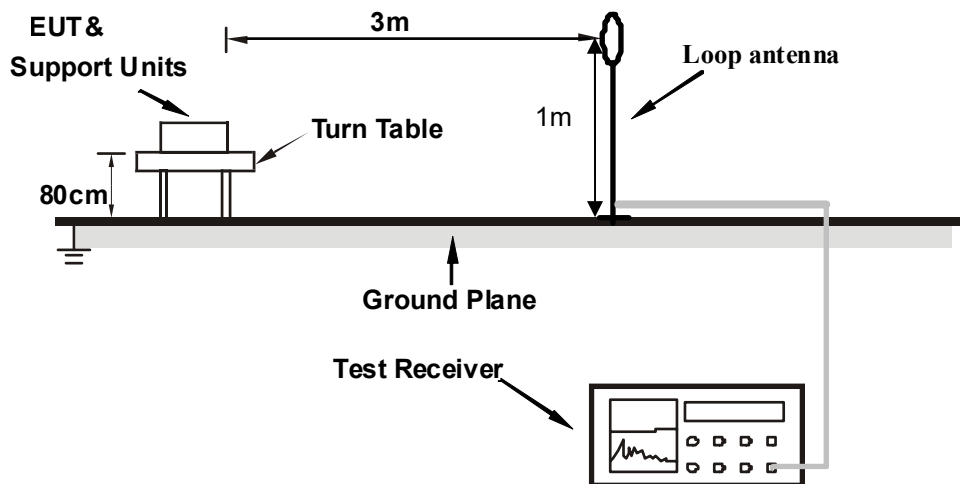
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 120kHz for Quasi-peak detection (QP) at frequency below 1GHz.
2. All modes of operation were investigated and the worst-case emissions are reported.

4.1.4 Deviation from Test Standard

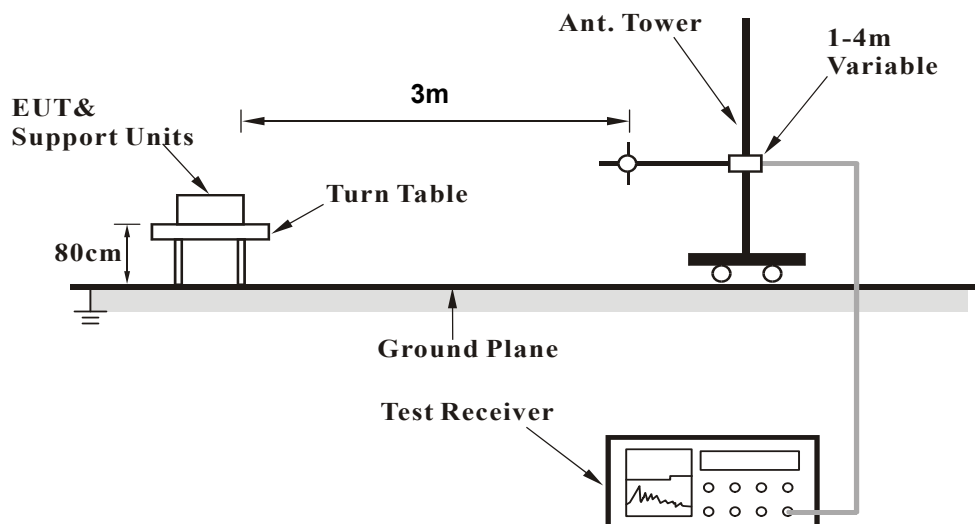
No deviation.

4.1.5 Test Set Up

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

Set the EUT under transmission condition continuously at specific channel frequency.

4.1.7 Test Results

Below 30MHz Data:

Operated Mode

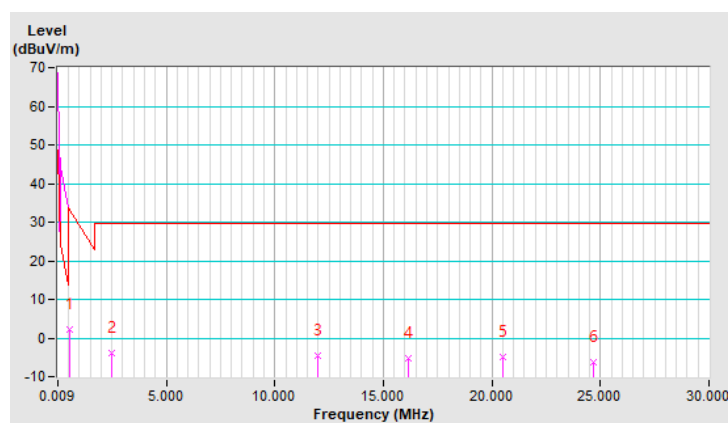
531.25kHz

Channel	TX Channel 1	Detector Function	Quasi-Peak (QP)
Frequency Range	9 kHz ~ 30 MHz		

Antenna Polarity & Test Distance: Loop antenna Parallel at 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*0.5312	2.2 QP	33.1	-30.9	1.00	37	22.0	-19.8
2	2.4983	-4.0 QP	29.5	-33.5	1.00	38	15.9	-19.9
3	11.9754	-4.7 QP	29.5	-34.2	1.00	262	13.4	-18.0
4	16.1741	-5.3 QP	29.5	-34.8	1.00	209	12.6	-17.9
5	20.5228	-4.9 QP	29.5	-34.4	1.00	230	12.9	-17.8
6	24.6616	-6.3 QP	29.5	-35.8	1.00	88	11.6	-17.9

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) + Distance Factor
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. Loop antenna was used for all radiated emission below 30MHz.
7. 0.009 ~ 0.49MHz, the measured field strength was extrapolated to distance 300 meters Distance factor@3m = $40 \cdot \log(3/300) = -80\text{dB}$
For 0.49 ~ 30MHz, the measured field strength was extrapolated to distance 30 meters Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$

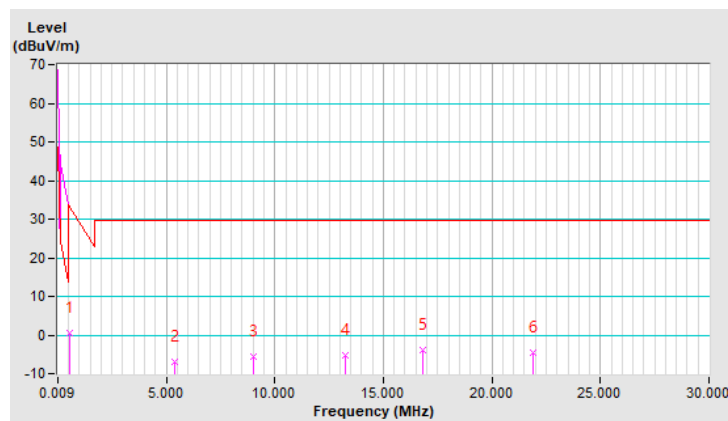


Channel	TX Channel 1	Detector Function	Quasi-Peak (QP)
Frequency Range	9 kHz ~ 30 MHz		

Antenna Polarity & Test Distance: Loop antenna Perpendicular at 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*0.5312	0.5 QP	33.1	-32.6	1.00	104	20.3	-19.8
2	5.3774	-6.9 QP	29.5	-36.4	1.00	264	12.7	-19.7
3	9.0363	-5.7 QP	29.5	-35.2	1.00	281	12.7	-18.4
4	13.2650	-5.1 QP	29.5	-34.6	1.00	187	12.9	-18.0
5	16.8040	-4.0 QP	29.5	-33.5	1.00	94	13.9	-17.9
6	21.8724	-4.7 QP	29.5	-34.2	1.00	218	13.1	-17.8

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
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. Loop antenna was used for all radiated emission below 30MHz.
7. 0.009 ~ 0.49MHz, the measured field strength was extrapolated to distance 300 meters Distance factor@3m = $40 \cdot \log(3/300) = -80\text{dB}$
For 0.49 ~ 30MHz, the measured field strength was extrapolated to distance 30 meters Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$

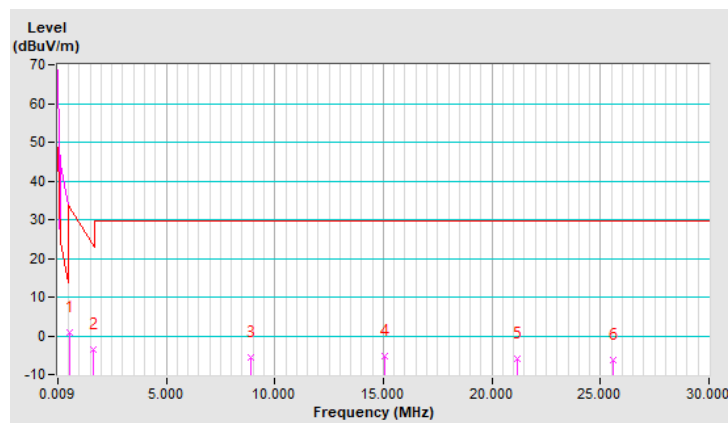


Channel	TX Channel 1	Detector Function	Quasi-Peak (QP)
Frequency Range	9 kHz ~ 30 MHz		

Antenna Polarity & Test Distance: Loop antenna Ground-Parallel at 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*0.5312	0.8 QP	33.1	-32.3	1.00	201	20.6	-19.8
2	1.6285	-3.5 QP	23.4	-26.9	1.00	73	16.3	-19.8
3	8.8863	-5.8 QP	29.5	-35.3	1.00	350	12.7	-18.5
4	15.0645	-5.3 QP	29.5	-34.8	1.00	9	12.7	-18.0
5	21.1527	-5.8 QP	29.5	-35.3	1.00	2	12.0	-17.8
6	25.5913	-6.4 QP	29.5	-35.9	1.00	2	11.6	-17.9

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) + Distance Factor
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. Loop antenna was used for all radiated emission below 30MHz.
7. 0.009 ~ 0.49MHz, the measured field strength was extrapolated to distance 300 meters Distance factor@3m = $40 \cdot \log(3/300) = -80\text{dB}$
For 0.49 ~ 30MHz, the measured field strength was extrapolated to distance 30 meters Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$



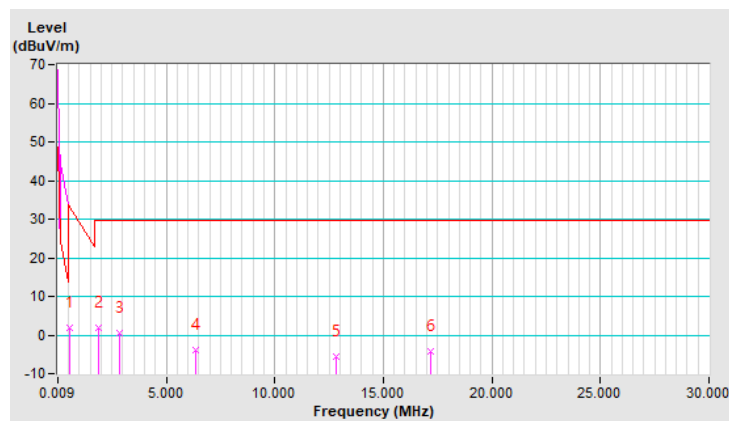
562.50kHz

Channel	TX Channel 1	Detector Function	Quasi-Peak (QP)
Frequency Range	9 kHz ~ 30 MHz		

Antenna Polarity & Test Distance: Loop antenna Parallel at 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*0.5625	1.8 QP	32.6	-30.8	1.00	73	21.6	-19.8
2	1.8984	1.7 QP	29.5	-27.8	1.00	74	21.5	-19.8
3	2.8282	0.6 QP	29.5	-28.9	1.00	166	20.6	-20.0
4	6.3671	-3.9 QP	29.5	-33.4	1.00	350	15.4	-19.3
5	12.8451	-5.5 QP	29.5	-35.0	1.00	208	12.5	-18.0
6	17.1639	-4.2 QP	29.5	-33.7	1.00	14	13.7	-17.9

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) + Distance Factor
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. Loop antenna was used for all radiated emission below 30MHz.
7. 0.009 ~ 0.49MHz, the measured field strength was extrapolated to distance 300 meters Distance factor@3m = $40 \cdot \log(3/300) = -80\text{dB}$
For 0.49 ~ 30MHz, the measured field strength was extrapolated to distance 30 meters Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$

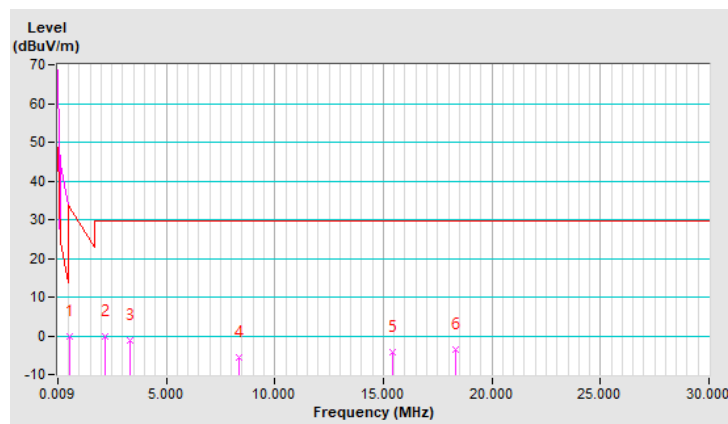


Channel	TX Channel 1	Detector Function	Quasi-Peak (QP)
Frequency Range	9 kHz ~ 30 MHz		

Antenna Polarity & Test Distance: Loop antenna Perpendicular at 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*0.5625	-0.2 QP	32.6	-32.8	1.00	291	19.6	-19.8
2	2.1983	-0.3 QP	29.5	-29.8	1.00	165	19.6	-19.9
3	3.3380	-1.1 QP	29.5	-30.6	1.00	38	18.9	-20.0
4	8.3765	-5.7 QP	29.5	-35.2	1.00	132	13.0	-18.7
5	15.4544	-4.1 QP	29.5	-33.6	1.00	227	13.8	-17.9
6	18.3035	-3.7 QP	29.5	-33.2	1.00	83	14.2	-17.9

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) + Distance Factor
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. Loop antenna was used for all radiated emission below 30MHz.
7. 0.009 ~ 0.49MHz, the measured field strength was extrapolated to distance 300 meters Distance factor@3m = $40 \cdot \log(3/300) = -80\text{dB}$
For 0.49 ~ 30MHz, the measured field strength was extrapolated to distance 30 meters Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$

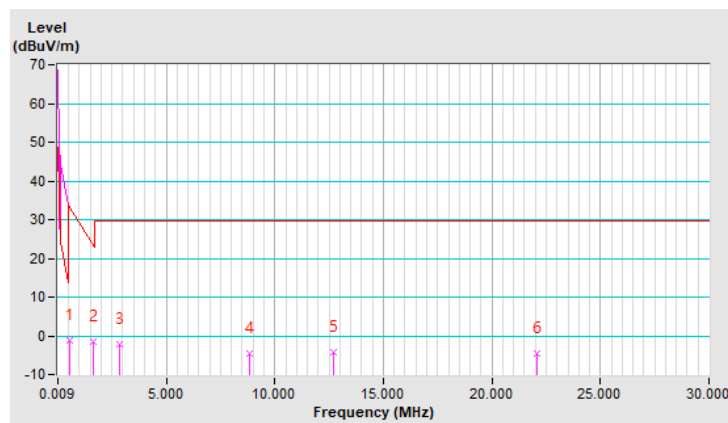


Channel	TX Channel 1	Detector Function	Quasi-Peak (QP)
Frequency Range	9 kHz ~ 30 MHz		

Antenna Polarity & Test Distance: Loop antenna Ground-Parallel at 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*0.5625	-1.2 QP	32.6	-33.8	1.00	49	18.6	-19.8
2	1.6585	-1.6 QP	23.2	-24.8	1.00	49	18.2	-19.8
3	2.8282	-2.1 QP	29.5	-31.6	1.00	157	17.9	-20.0
4	8.8563	-4.5 QP	29.5	-34.0	1.00	354	14.0	-18.5
5	12.7252	-4.4 QP	29.5	-33.9	1.00	6	13.6	-18.0
6	22.0824	-4.6 QP	29.5	-34.1	1.00	19	13.2	-17.8

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
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. Loop antenna was used for all radiated emission below 30MHz.
7. 0.009 ~ 0.49MHz, the measured field strength was extrapolated to distance 300 meters Distance factor@3m = $40 \cdot \log(3/300) = -80\text{dB}$
For 0.49 ~ 30MHz, the measured field strength was extrapolated to distance 30 meters Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$



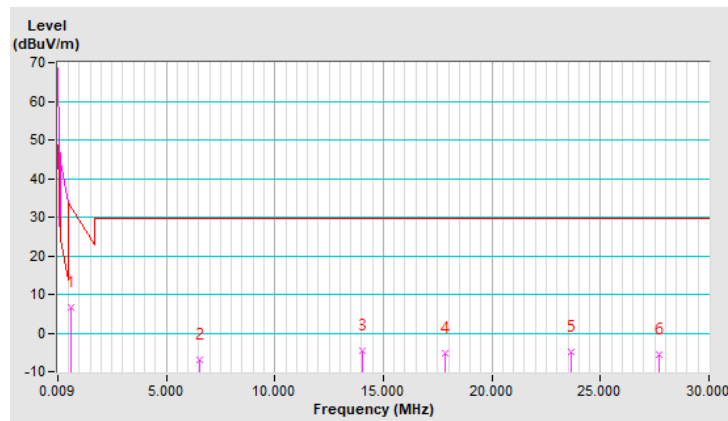
593.75kHz

Channel	TX Channel 1	Detector Function	Quasi-Peak (QP)
Frequency Range	9 kHz ~ 30 MHz		

Antenna Polarity & Test Distance: Loop antenna Parallel at 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*0.5937	6.6 QP	32.1	-25.5	1.00	66	26.4	-19.8
2	6.5170	-6.8 QP	29.5	-36.3	1.00	246	12.5	-19.3
3	14.0148	-4.6 QP	29.5	-34.1	1.00	5	13.4	-18.0
4	17.8536	-5.2 QP	29.5	-34.7	1.00	148	12.7	-17.9
5	23.6719	-5.0 QP	29.5	-34.5	1.00	3	12.9	-17.9
6	27.6907	-5.7 QP	29.5	-35.2	1.00	270	12.3	-18.0

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
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. Loop antenna was used for all radiated emission below 30MHz.
7. 0.009 ~ 0.49MHz, the measured field strength was extrapolated to distance 300 meters Distance factor@3m = $40 \cdot \log(3/300) = -80\text{dB}$
For 0.49 ~ 30MHz, the measured field strength was extrapolated to distance 30 meters Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$

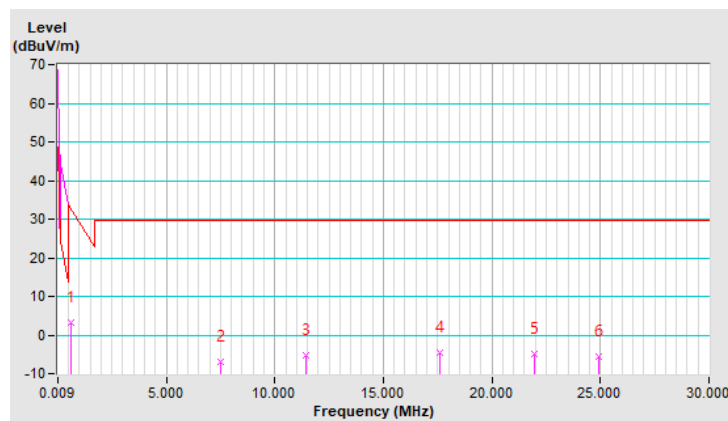


Channel	TX Channel 1	Detector Function	Quasi-Peak (QP)
Frequency Range	9 kHz ~ 30 MHz		

Antenna Polarity & Test Distance: Loop antenna Perpendicular at 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*0.5937	3.1 QP	32.1	-29.0	1.00	2	22.9	-19.8
2	7.5068	-6.8 QP	29.5	-36.3	1.00	351	12.1	-19.0
3	11.4656	-5.1 QP	29.5	-34.6	1.00	208	13.0	-18.1
4	17.5837	-4.6 QP	29.5	-34.1	1.00	65	13.3	-17.9
5	21.9324	-5.0 QP	29.5	-34.5	1.00	213	12.8	-17.8
6	24.9315	-5.6 QP	29.5	-35.1	1.00	34	12.3	-17.9

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) + Distance Factor
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. Loop antenna was used for all radiated emission below 30MHz.
7. 0.009 ~ 0.49MHz, the measured field strength was extrapolated to distance 300 meters Distance factor@3m = $40 \cdot \log(3/300) = -80\text{dB}$
For 0.49 ~ 30MHz, the measured field strength was extrapolated to distance 30 meters Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$

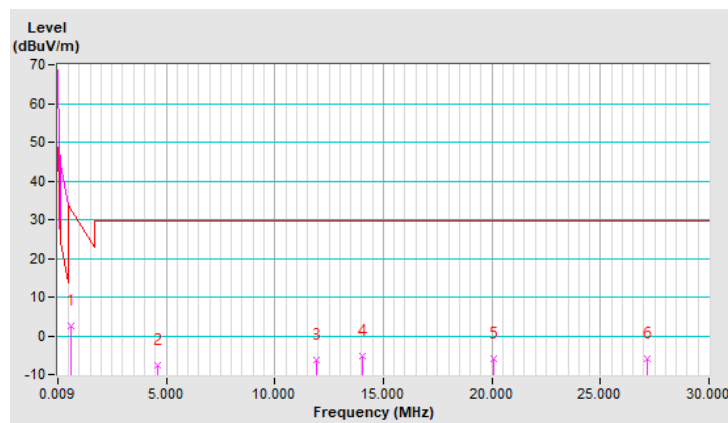


Channel	TX Channel 1	Detector Function	Quasi-Peak (QP)
Frequency Range	9 kHz ~ 30 MHz		

Antenna Polarity & Test Distance: Loop antenna Ground-Parallel at 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	*0.5937	2.5 QP	32.1	-29.6	1.00	17	22.2	-19.8
2	4.5976	-7.5 QP	29.5	-37.0	1.00	65	12.3	-19.8
3	11.9454	-6.2 QP	29.5	-35.7	1.00	297	11.8	-18.0
4	14.0148	-5.3 QP	29.5	-34.8	1.00	18	12.7	-18.0
5	20.0730	-6.1 QP	29.5	-35.6	1.00	274	11.7	-17.8
6	27.1808	-6.0 QP	29.5	-35.5	1.00	252	12.0	-17.9

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) + Distance Factor
3. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. Loop antenna was used for all radiated emission below 30MHz.
7. 0.009 ~ 0.49MHz, the measured field strength was extrapolated to distance 300 meters Distance factor@3m = $40 \cdot \log(3/300) = -80\text{dB}$
For 0.49 ~ 30MHz, the measured field strength was extrapolated to distance 30 meters Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$



Standby Mode

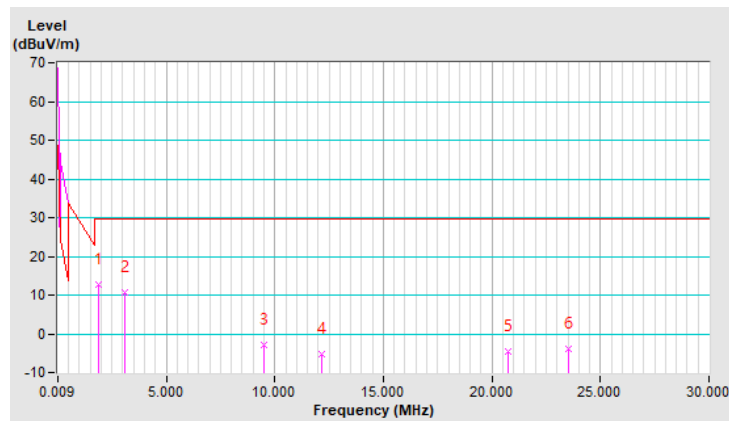
593.75kHz

Channel	Channel 1	Detector Function	Quasi-Peak (QP)
Frequency Range	9 kHz ~ 30 MHz		

Antenna Polarity & Test Distance: Loop antenna Parallel at 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1.8980	12.6 QP	29.5	-16.9	1.00	74	32.4	-19.8
2	3.0680	10.7 QP	29.5	-18.8	1.00	75	30.7	-20.0
3	9.4860	-3.0 QP	29.5	-32.5	1.00	187	15.3	-18.3
4	12.1850	-5.1 QP	29.5	-34.6	1.00	62	12.9	-18.0
5	20.7630	-4.6 QP	29.5	-34.1	1.00	159	13.2	-17.8
6	23.5520	-3.8 QP	29.5	-33.3	1.00	68	14.1	-17.9

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. Loop antenna was used for all radiated emission below 30MHz.
7. For 0.49 ~ 30MHz, the measured field strength was extrapolated to distance 30 meters Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$

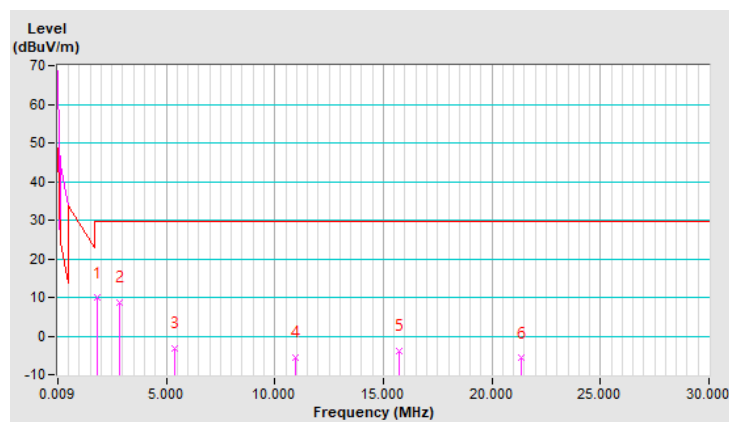


Channel	Channel 1	Detector Function	Quasi-Peak (QP)
Frequency Range	9 kHz ~ 30 MHz		

Antenna Polarity & Test Distance: Loop antenna Perpendicular at 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1.8380	9.8 QP	29.5	-19.7	1.00	357	29.6	-19.8
2	2.8280	8.7 QP	29.5	-20.8	1.00	230	28.7	-20.0
3	5.4070	-3.1 QP	29.5	-32.6	1.00	191	16.6	-19.7
4	10.9260	-5.7 QP	29.5	-35.2	1.00	10	12.4	-18.1
5	15.7240	-3.8 QP	29.5	-33.3	1.00	21	14.1	-17.9
6	21.3330	-5.8 QP	29.5	-35.3	1.00	18	12.0	-17.8

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. Loop antenna was used for all radiated emission below 30MHz.
7. For 0.49 ~ 30MHz, the measured field strength was extrapolated to distance 30 meters Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$

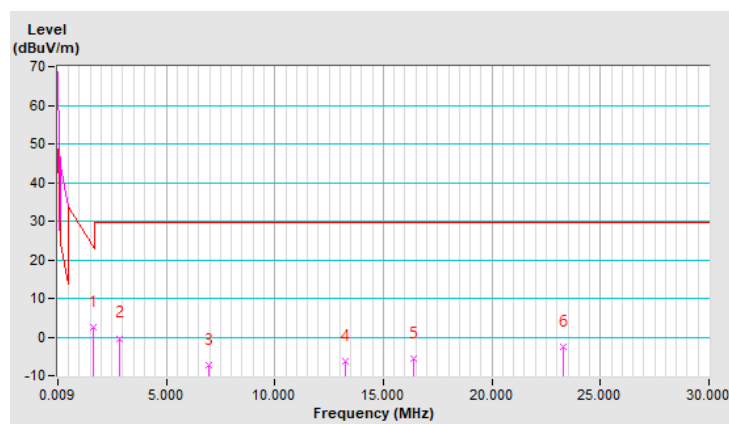


Channel	Channel 1	Detector Function	Quasi-Peak (QP)
Frequency Range	9 kHz ~ 30 MHz		

Antenna Polarity & Test Distance: Loop antenna Ground-Parallel at 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	1.6590	2.4 QP	23.2	-20.8	1.00	310	22.2	-19.8
2	2.8280	-0.3 QP	29.5	-29.8	1.00	165	19.7	-20.0
3	6.9670	-7.2 QP	29.5	-36.7	1.00	4	11.9	-19.1
4	13.2350	-6.3 QP	29.5	-35.8	1.00	208	11.7	-18.0
5	16.3840	-5.5 QP	29.5	-35.0	1.00	2	12.4	-17.9
6	23.3120	-2.5 QP	29.5	-32.0	1.00	233	15.4	-17.9

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value
5. “ * “: Fundamental frequency.
6. Loop antenna was used for all radiated emission below 30MHz.
7. For 0.49 ~ 30MHz, the measured field strength was extrapolated to distance 30 meters Distance factor@3m = $40 \cdot \log(3/30) = -40\text{dB}$



Below 1GHz Data:

Operated Mode

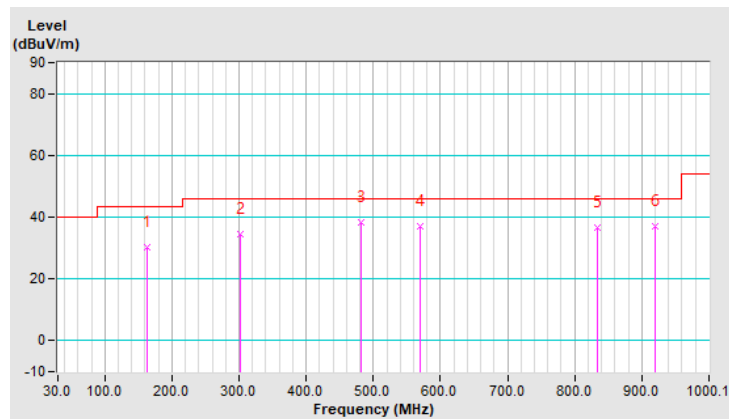
531.25kHz

Channel	TX Channel 1	Detector Function	Quasi-Peak (QP)
Frequency Range	30MHz ~ 1GHz		

Antenna Polarity & Test Distance: Horizontal At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	162.904	30.3 QP	43.5	-13.2	1.65 H	148	42.9	-12.5
2	301.628	34.5 QP	46.0	-11.5	1.07 H	19	46.6	-12.0
3	482.067	38.4 QP	46.0	-7.6	2.32 H	252	45.2	-6.7
4	570.346	36.9 QP	46.0	-9.1	1.88 H	2	41.7	-4.8
5	833.243	36.5 QP	46.0	-9.5	2.46 H	70	35.5	1.0
6	920.552	36.9 QP	46.0	-9.1	3.32 H	15	34.8	2.1

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

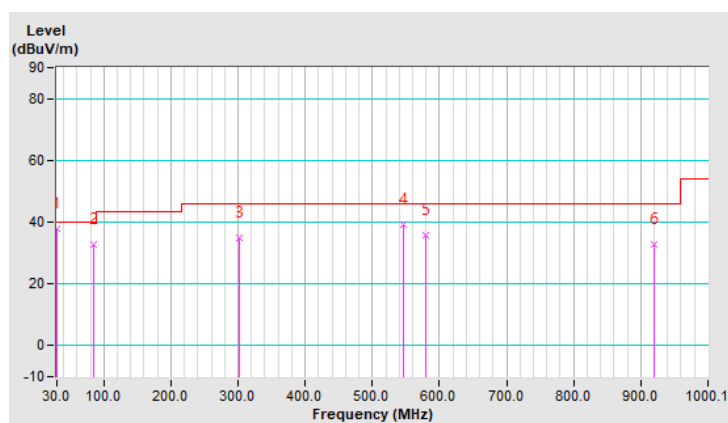


Channel	TX Channel 1	Detector Function	Quasi-Peak (QP)
Frequency Range	30MHz ~ 1GHz		

Antenna Polarity & Test Distance: Vertical At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	30.000	37.7 QP	40.0	-2.3	1.55 V	340	51.7	-14.0
2	84.326	32.6 QP	40.0	-7.4	1.86 V	35	50.9	-18.3
3	301.628	34.8 QP	46.0	-11.2	3.41 V	140	46.9	-12.0
4	546.093	39.3 QP	46.0	-6.7	2.29 V	11	44.5	-5.2
5	580.047	35.6 QP	46.0	-10.4	1.04 V	5	39.8	-4.3
6	920.552	32.9 QP	46.0	-13.1	2.32 V	334	30.8	2.1

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value



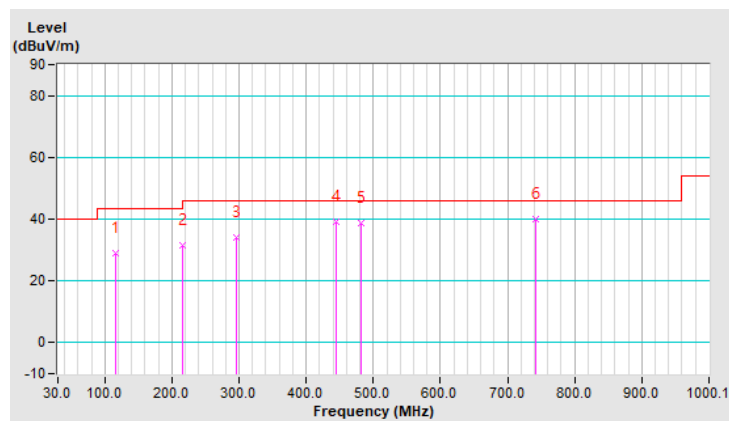
562.50kHz

Channel	TX Channel 1	Detector Function	Quasi-Peak (QP)
Frequency Range	30MHz ~ 1GHz		

Antenna Polarity & Test Distance: Horizontal At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	115.369	28.9 QP	43.5	-14.6	1.26 H	307	43.7	-14.8
2	216.259	31.6 QP	46.0	-14.4	2.27 H	302	47.9	-16.3
3	296.777	33.9 QP	46.0	-12.1	1.39 H	11	46.1	-12.2
4	445.203	39.1 QP	46.0	-6.9	2.68 H	165	46.6	-7.5
5	482.067	38.7 QP	46.0	-7.3	1.57 H	255	45.5	-6.8
6	742.053	39.9 QP	46.0	-6.1	2.06 H	18	40.7	-0.8

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

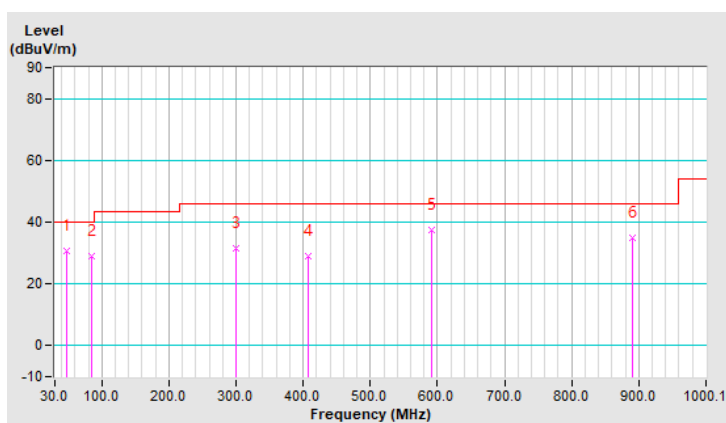


Channel	TX Channel 1	Detector Function	Quasi-Peak (QP)
Frequency Range	30MHz ~ 1GHz		

Antenna Polarity & Test Distance: Vertical At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	48.432	30.7 QP	40.0	-9.3	1.20 V	104	43.2	-12.5
2	84.326	28.8 QP	40.0	-11.2	2.63 V	2	47.1	-18.3
3	299.688	31.7 QP	46.0	-14.3	1.87 V	18	43.8	-12.1
4	407.369	28.8 QP	46.0	-17.2	2.25 V	18	37.9	-9.1
5	591.688	37.4 QP	46.0	-8.6	1.36 V	18	41.2	-3.8
6	890.479	34.8 QP	46.0	-11.2	2.04 V	345	33.3	1.5

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value



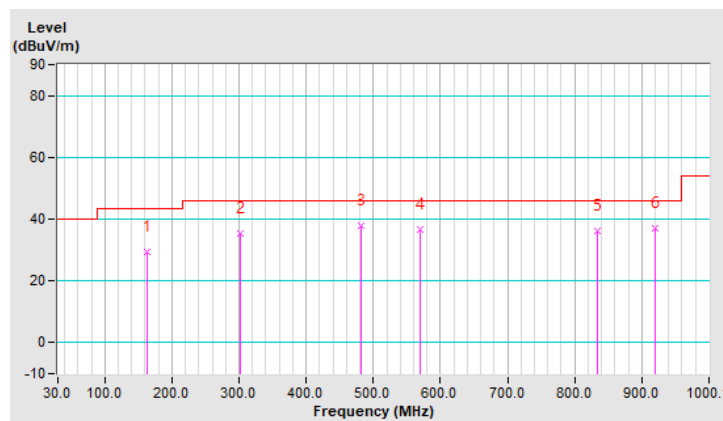
593.75kHz

Channel	TX Channel 1	Detector Function	Quasi-Peak (QP)
Frequency Range	30MHz ~ 1GHz		

Antenna Polarity & Test Distance: Horizontal At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	162.904	29.2 QP	43.5	-14.3	2.32 H	168	41.7	-12.5
2	301.628	35.2 QP	46.0	-10.8	1.54 H	18	47.2	-12.0
3	482.067	38.0 QP	46.0	-8.0	3.29 H	255	44.7	-6.7
4	570.346	36.8 QP	46.0	-9.2	1.55 H	2	41.6	-4.8
5	833.243	36.3 QP	46.0	-9.7	1.07 H	81	35.2	1.0
6	920.552	37.1 QP	46.0	-8.9	2.32 H	13	35.0	2.1

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

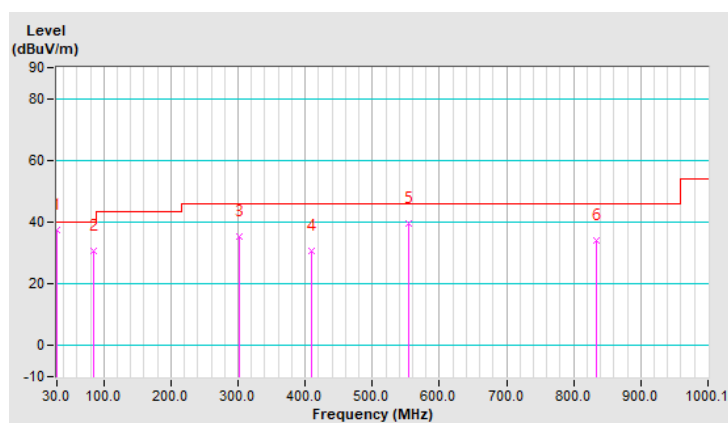


Channel	TX Channel 1	Detector Function	Quasi-Peak (QP)
Frequency Range	30MHz ~ 1GHz		

Antenna Polarity & Test Distance: Vertical At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	30.000	37.3 QP	40.0	-2.7	2.78 V	156	51.3	-14.0
2	84.326	30.5 QP	40.0	-9.5	1.87 V	42	48.8	-18.3
3	301.628	35.2 QP	46.0	-10.8	2.65 V	26	47.2	-12.0
4	410.279	30.7 QP	46.0	-15.3	1.52 V	338	39.7	-9.0
5	554.824	39.5 QP	46.0	-6.5	1.07 V	18	44.6	-5.1
6	833.243	34.1 QP	46.0	-11.9	2.33 V	2	33.0	1.0

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value



Standby Mode

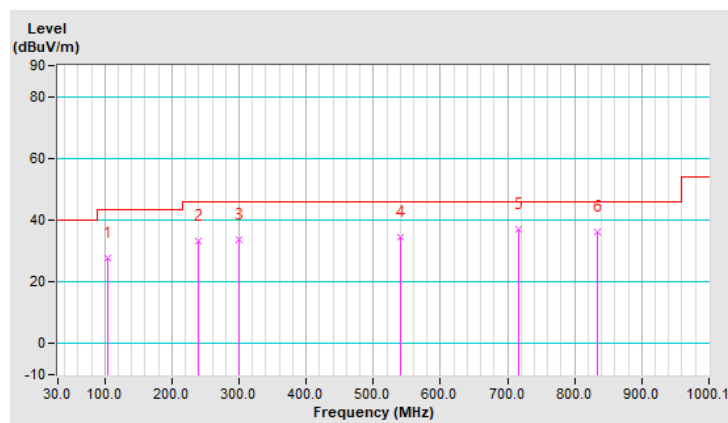
593.75kHz

Channel	Channel 1	Detector Function	Quasi-Peak (QP)
Frequency Range	30MHz ~ 1GHz		

Antenna Polarity & Test Distance: Horizontal At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	103.728	27.9 QP	43.5	-15.6	1.69 H	19	43.9	-16.0
2	239.542	33.3 QP	46.0	-12.7	2.14 H	18	48.0	-14.7
3	300.658	33.7 QP	46.0	-12.3	2.06 H	58	45.8	-12.1
4	540.273	34.7 QP	46.0	-11.3	1.18 H	327	40.1	-5.4
5	715.861	37.1 QP	46.0	-8.9	1.47 H	6	38.8	-1.7
6	833.243	36.2 QP	46.0	-9.8	3.32 H	5	35.2	1.0

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value

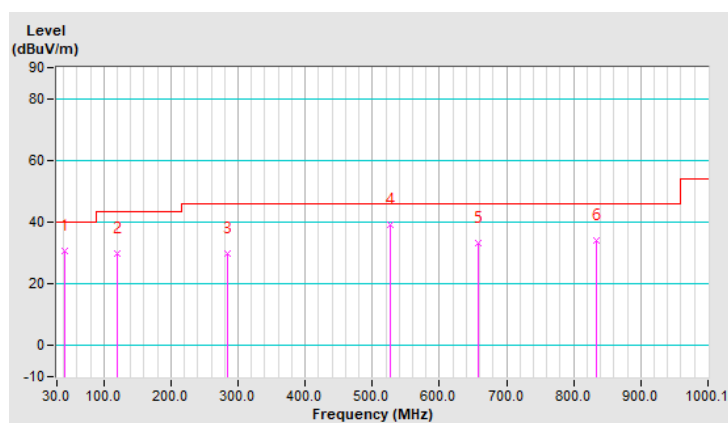


Channel	Channel 1	Detector Function	Quasi-Peak (QP)
Frequency Range	30MHz ~ 1GHz		

Antenna Polarity & Test Distance: Vertical At 3m								
No.	Freq. (MHz)	Emission Level (dBuV/m)	Limit (dBuV/m)	Margin (dB)	Antenna Height (m)	Table Angle (Degree)	Raw Value (dBuV)	Correction Factor (dB/m)
1	41.641	30.7 QP	40.0	-9.3	1.64 V	268	43.8	-13.1
2	120.219	29.7 QP	43.5	-13.8	2.07 V	335	44.0	-14.3
3	285.136	30.0 QP	46.0	-16.0	1.98 V	18	42.7	-12.7
4	527.661	39.0 QP	46.0	-7.0	2.30 V	19	44.7	-5.7
5	657.655	33.3 QP	46.0	-12.7	1.04 V	18	35.8	-2.5
6	833.243	34.0 QP	46.0	-12.0	2.32 V	119	33.0	1.0

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. The other emission levels were very low against the limit.
4. Margin value = Emission Level – Limit value



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.

4.2.2 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Cal. Date	Cal. Due
Test Receiver ROHDE & SCHWARZ	ESR3	102412	Jan. 22, 2022	Jan. 21, 2023
RF signal cable (with 10dB PAD) Woken	5D-FB	Cable-cond2-01	Sep. 04, 2021	Sep. 03, 2022
LISN/AMN ROHDE & SCHWARZ (EUT)	ESH2-Z5	100100	Feb. 17, 2022	Feb. 16, 2023
LISN/AMN ROHDE & SCHWARZ (Peripheral)	ESH3-Z5	100312	Sep. 17, 2021	Sep. 16, 2022
Software ADT	BV ADT_Cond_ V7.3.7.4	NA	NA	NA

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 HwaYa Shielded Room 2 (Conduction 2).

3. The VCCI Site Registration No. is C-12047.

4. Tested date: May 09, 2022

4.2.3 Test Procedures

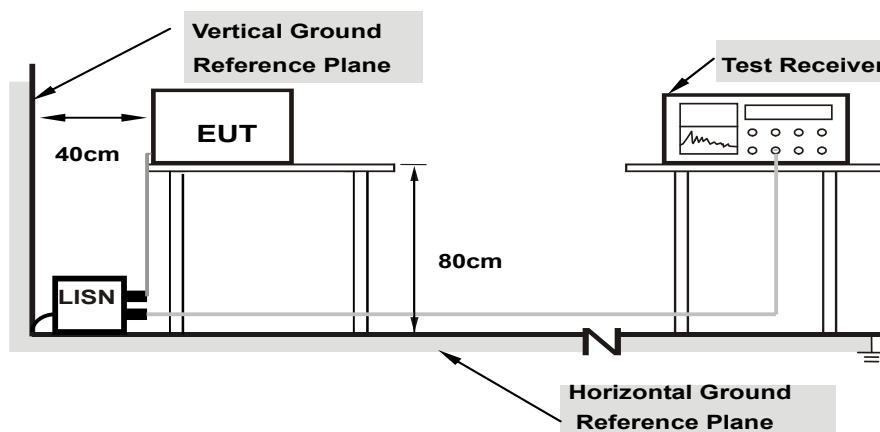
- The EUT was placed 0.4 meters from the conducting wall of the shielded room with EUT being connected to the power mains through a line impedance stabilization network (LISN). Other support units were connected to the power mains through another LISN. The two LISNs provide 50 ohm/ 50uH of coupling impedance 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) were 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.

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

Operated Mode

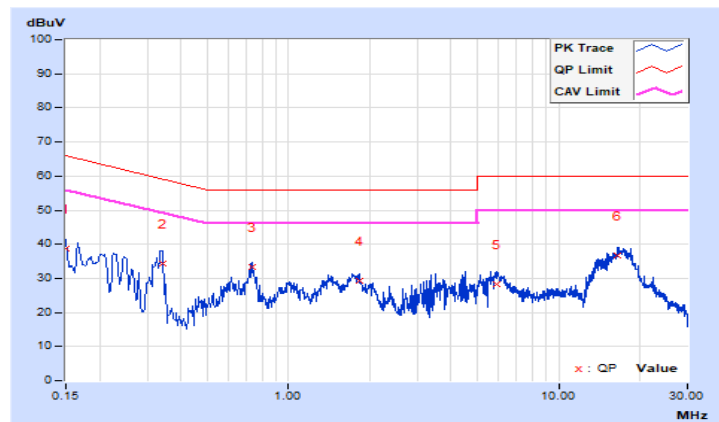
593.75kHz

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.15000	10.13	28.65	11.54	38.78	21.67	66.00	56.00	-27.22	-34.33
2	0.34108	10.22	24.24	7.89	34.46	18.11	59.18	49.18	-24.72	-31.07
3	0.73040	10.27	23.22	19.61	33.49	29.88	56.00	46.00	-22.51	-16.12
4	1.82739	10.36	18.99	8.74	29.35	19.10	56.00	46.00	-26.65	-26.90
5	5.87815	10.42	17.99	6.57	28.41	16.99	60.00	50.00	-31.59	-33.01
6	16.49771	10.55	26.22	14.90	36.77	25.45	60.00	50.00	-23.23	-24.55

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.

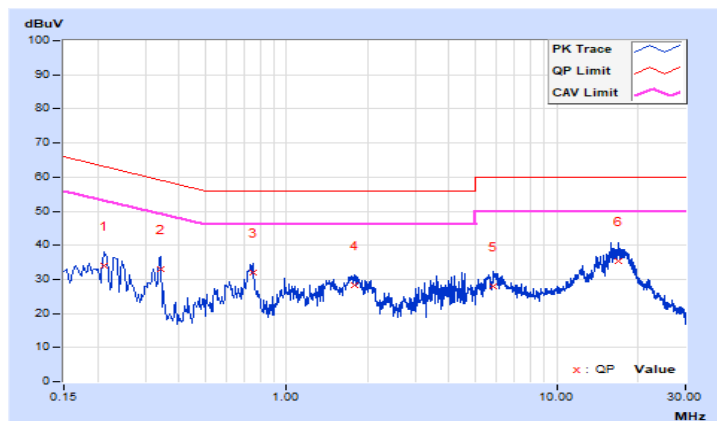


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.21256	10.19	23.87	9.57	34.06	19.76	63.10	53.10	-29.04	-33.34
2	0.34108	10.24	22.78	10.14	33.02	20.38	59.18	49.18	-26.16	-28.80
3	0.75188	10.29	21.63	15.61	31.92	25.90	56.00	46.00	-24.08	-20.10
4	1.78436	10.35	18.05	8.09	28.40	18.44	56.00	46.00	-27.60	-27.56
5	5.84687	10.43	17.59	5.67	28.02	16.10	60.00	50.00	-31.98	-33.90
6	16.99037	10.67	24.80	15.93	35.47	26.60	60.00	50.00	-24.53	-23.40

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.



Standby Mode

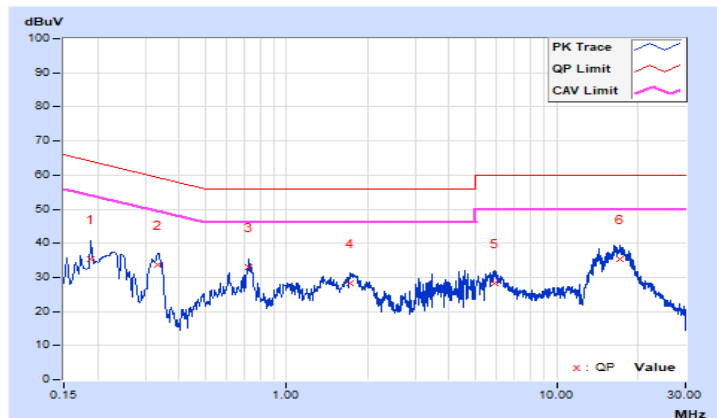
593.75kHz

Phase	Line (L)	Detector Function	Quasi-Peak (QP) / Average (AV)
-------	----------	-------------------	-----------------------------------

No	Freq. [MHz]	Corr. Factor (dB)	Reading Value		Emission Level		Limit		Margin	
			[dB (uV)]		[dB (uV)]		[dB (uV)]		(dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.18903	10.15	25.10	9.36	35.25	19.51	64.08	54.08	-28.83	-34.57
2	0.33377	10.21	23.40	6.36	33.61	16.57	59.36	49.36	-25.75	-32.79
3	0.72848	10.27	22.68	17.71	32.95	27.98	56.00	46.00	-23.05	-18.02
4	1.72573	10.35	17.84	9.05	28.19	19.40	56.00	46.00	-27.81	-26.60
5	5.88988	10.42	18.03	7.68	28.45	18.10	60.00	50.00	-31.55	-31.90
6	17.13504	10.56	24.81	16.04	35.37	26.60	60.00	50.00	-24.63	-23.40

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.

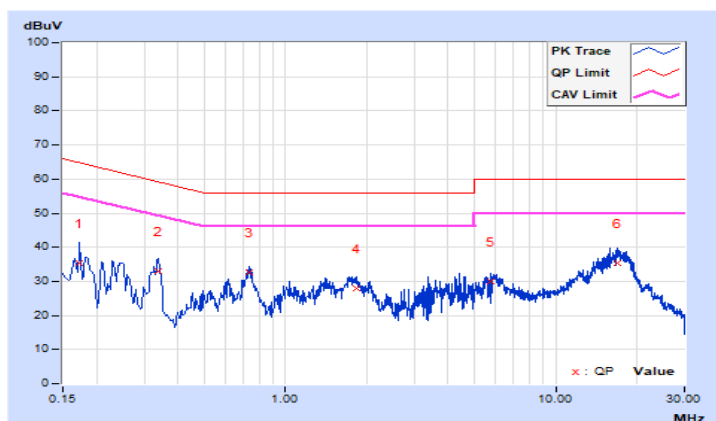


Phase	Neutral (N)	Detector Function	Quasi-Peak (QP) / Average (AV)
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No	Freq. [MHz]	Corr. Factor (dB)	Reading Value [dB (uV)]		Emission Level [dB (uV)]		Limit [dB (uV)]		Margin (dB)	
			Q.P.	AV.	Q.P.	AV.	Q.P.	AV.	Q.P.	AV.
1	0.17346	10.16	25.20	10.37	35.36	20.53	64.79	54.79	-29.43	-34.26
2	0.33750	10.24	22.60	6.25	32.84	16.49	59.26	49.26	-26.42	-32.77
3	0.73233	10.29	22.40	19.73	32.69	30.02	56.00	46.00	-23.31	-15.98
4	1.82238	10.35	17.64	7.29	27.99	17.64	56.00	46.00	-28.01	-28.36
5	5.76867	10.43	19.43	8.18	29.86	18.61	60.00	50.00	-30.14	-31.39
6	16.88089	10.67	24.81	15.83	35.48	26.50	60.00	50.00	-24.52	-23.50

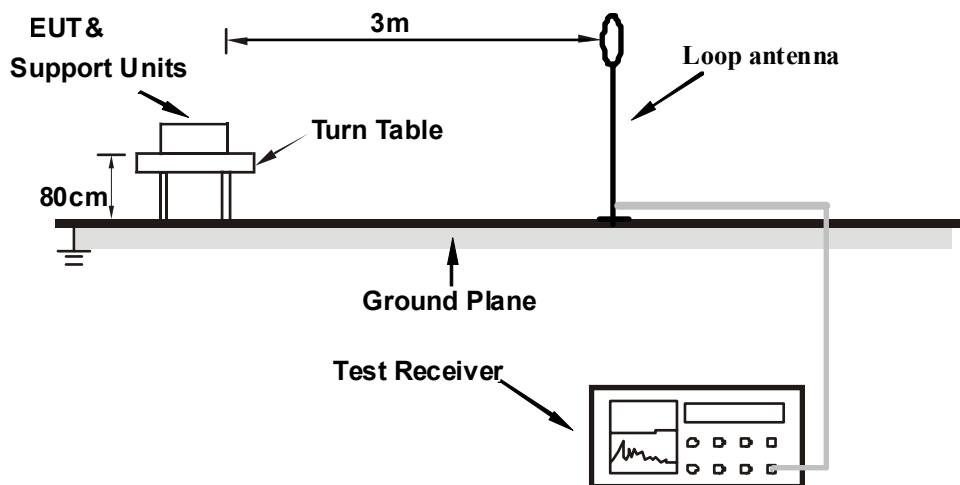
Remarks:

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 20dB Bandwidth Measurement

4.3.1 Test Setup



4.3.2 Test Instruments

Refer to section 4.1.2 to get information of above instrument.

4.3.3 Test Procedure

- The EUT was placed on the top of a rotating table 0.8 meters above the ground at a 3 meter Semi-anechoic chamber room. The table was rotated 360 degrees to determine the position of the highest radiation. Then the Loop antenna was rotated 360 degrees to determine the position of the highest radiation.
- The antenna is a broadband loop antenna, which is fixed of a 1m height above the ground, and set away from 3m to the EUT to find the disturbance reading on each frequency.
- The test- spectrum system was set to Peak detect function and specified bandwidth.
- Measurement method refers to Section 6.9.2 of ANSI C63.10.

4.3.4 Deviation from Test Standard

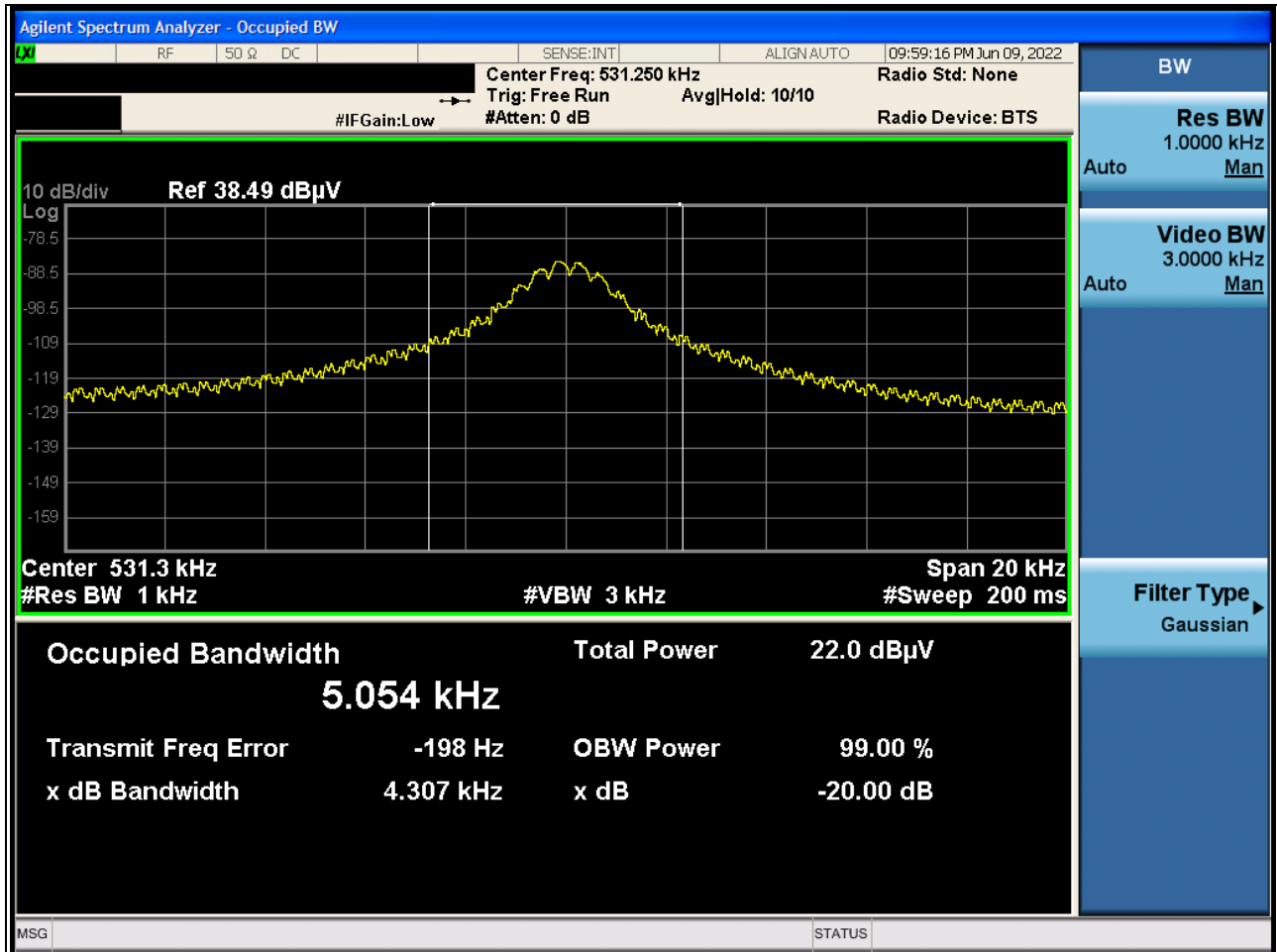
No deviation.

4.3.5 EUT Operating Conditions

The software provided by client to enable the EUT under transmission condition continuously.

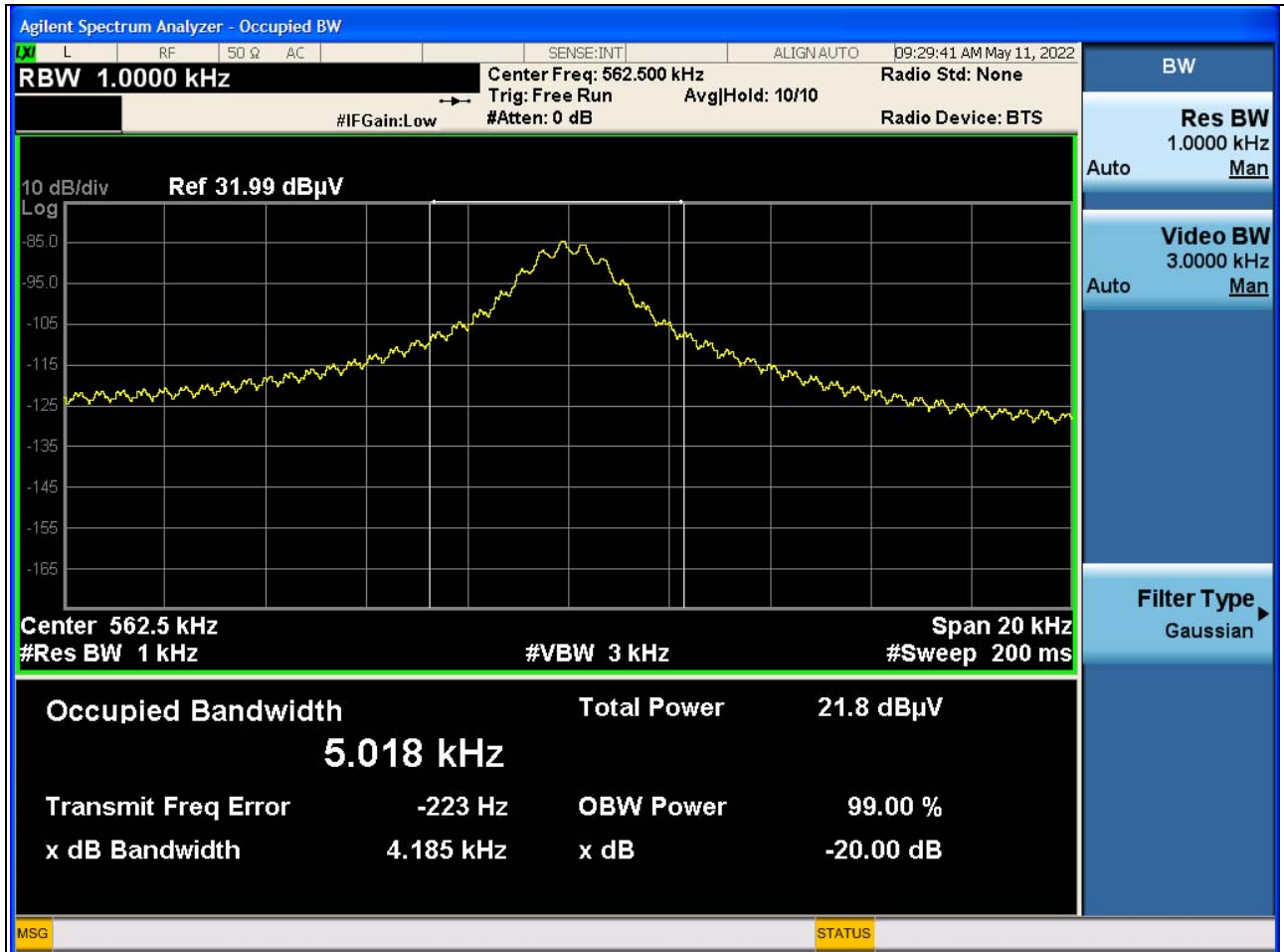
4.3.6 Test Results

Frequency (kHz)	20dB Bandwidth (kHz)	Pass / Fail
531.25	4.307	Pass



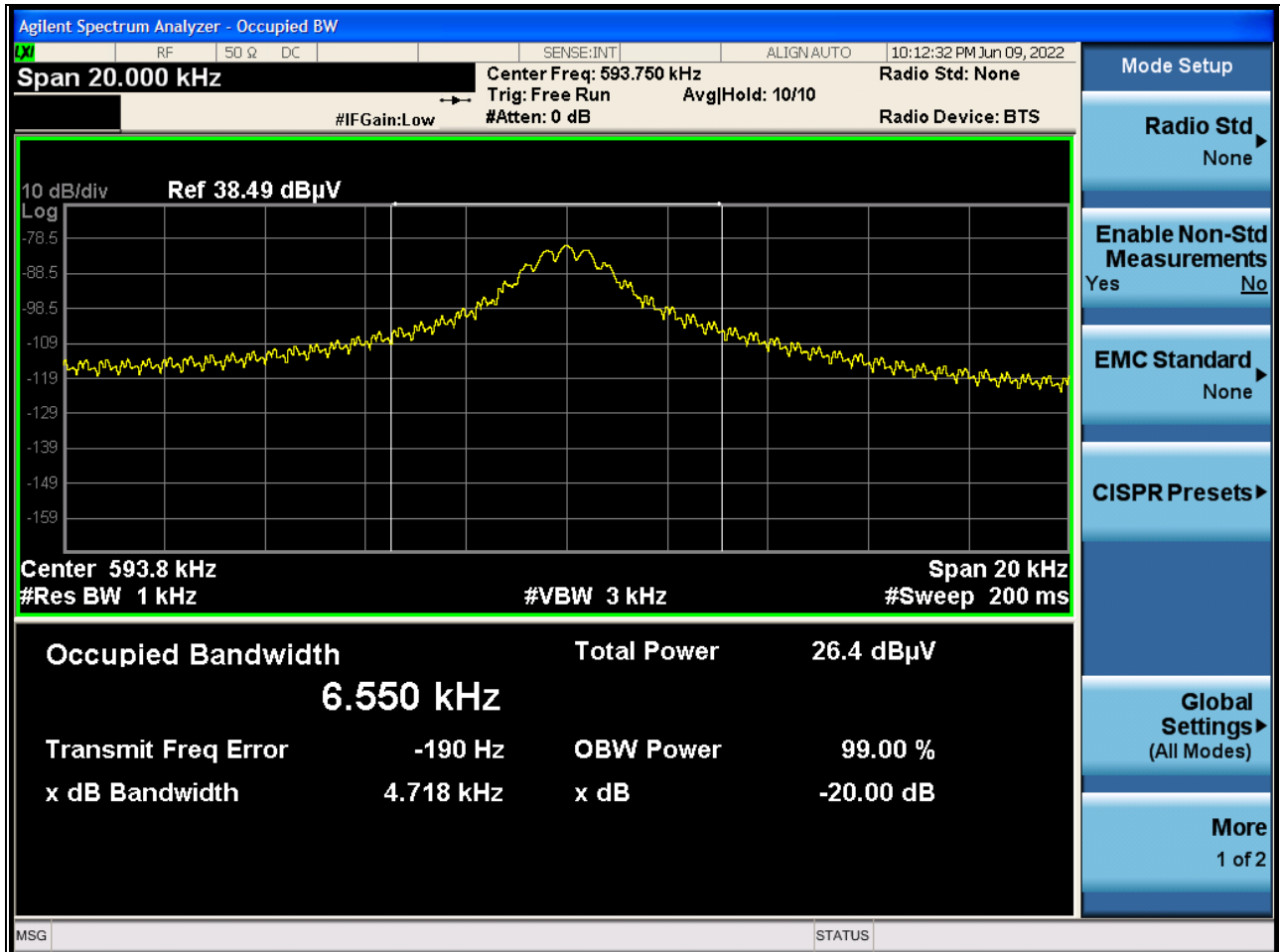
Note: The signal look like CW signal, so RBW can't be match 1~5 % OBW.

Frequency (kHz)	20dB Bandwidth (kHz)	Pass / Fail
562.5	4.185	Pass



Note: The signal look like CW signal, so RBW can't be match 1~5 % OBW.

Frequency (kHz)	20dB Bandwidth (kHz)	Pass / Fail
593.75	4.718	Pass



Note: The signal look like CW signal, so RBW can't be match 1~5 % OBW.

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 and approved according to ISO/IEC 17025.

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

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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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