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CERTIFICATE # 4821.01

BACL
Bay Area Compliance Labs Corp.

FCC PART 15D
RSS-GEN ISSUE 5, FEBRUARY 2021 AMENDMENT 2
RSS-213, ISSUE 3, MARCH 2015

MEASUREMENT AND TEST REPORT

For

FCC: VTech Telecommunications Ltd

FCC: 23/F Tai Ping Ind Center Block 1 57 Ting Kok Rd Tai Po NT, Hong Kong

ISEDC: VTECH TELECOMMUNICATIONS LIMITED

ISEDC: BL.1 23/F Tai Ping Industr Ctr. 57 Ting Kok Road Tai Po, NT Hongkong

FCC ID: EW780-2261-00
IC: 1135B-80226100

Report Type:	**Product Type:**
Class II Permissive Change	DECT6.0 cordless phone

Report Number:	SZ1210721-30406EAA1
Report Date:	2021-08-04
Reviewed By:	Jacob Kong RF Engineer
Prepared By:	Bay Area Compliance Laboratories Corp. (Shenzhen) 5F(B-West) , 6F, 7F, the 3rd Phase of Wan Li Industrial Building D, Shihua Rd, FuTian Free Trade Zone, Shenzhen, China Tel: +86-755-33320018 Fax: +86-755-33320008 www.baclcorp.com.cn

Note: This report may contain data that are not covered by the A2LA accreditation and are marked with an asterisk "★".

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

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GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Product	DECT6.0 cordless phone
Tested Model	IS8251
Multiple Models (FCC)	IS8251-2, IS8251-3, IS8251-4, IS8251-5, IS8252-5, DLP73290,DLP73390,DLP73490,DLP73590, DLP73X90，IS825Z-XY (Z= any alphanumeric character is presenting different package type (material); X= any alphanumeric character or blank is presenting number of Handset and extra Charger; Y= any alphanumeric character or blank is presenting different color of enclosure.)
Multiple Models (ISEDC)	IS8251-2, IS8251-3, IS8251-4, IS8251-5, DLP73290,DLP73390,DLP73490,DLP73590
Model Differences	Refer to the DoS letter
HVIN	35-201430BS
Frequency Range	1921.536~1928.448 MHz
Maximum conducted peak output power	20.39dBm
Modulation Technique	GFSK
Antenna Specification*	0 dBi (provided by the applicant)
Voltage Range	DC 5.9V or 6.0V from adapter
Date of Test	2021-07-27 to 2021-07-31
Sample number	SZ1210721-30406E-RFA1-S1 (Assigned by BACL, Shenzhen)
Received date	2020-12-07
Sample/EUT Status	Good condition
Adapter 1 information	Model: A318-059060W-US1 Input: 100-240V, 50/60Hz, 0.15A Output: DC 5.9V, 0.6A
Adapter 2 information	Model: VT05EUS06060 Input: 100-240V, 50/60Hz, 0.15A Output: DC 6.0V, 0.6A 3.6W

Objective

The tests were performed in order to determine the compliance of the EUT with FCC Part 15-Subpart D, section 15.207, 15.315, 15.317, 15.319 and 15.323 rules. The EMI measurements were performed according to the measurement procedure described in ANSI C63.17 – 2013 and RSS-213 Issue 3, 2GHz License-Exempt Personal Communications Service Devices (PCS) OF THE Canadian Department of Industry rules and RSS-GEN ISSUE 5, FEBRUARY 2021 AMENDMENT 2 of the Innovation, Science and Economic Development Canada rules.

The objective of the manufacturer is to demonstrate the compliance of EUT with FCC Part 15-Subpart D and RSS-213 rules including Output Power, Occupied Bandwidth, Power Spectral Density, Unwanted Emissions, Frequency Stability.

This is a CIIPC application of the device; the differences between the original device and the current one are as follows:

(1) Adding the models of "DLP73290, DLP73390, DLP73490, DLP73590, DLP73X90" for FCC, and "DLP73290, DLP73390, DLP73490, DLP73590" for ISEDC;

(2) For the adding models, the DECT antenna 1 was changed, while antenna 0 is not change, detail refer to EUT photo

(3) The antenna gain is not change and same as previous.

(4) The PCB was changed a little in DECT antenna 1 port for installation, it will not affect RF character for it use same RF path and antenna match, detail refer to EUT photo and schematic.

Based on above difference listed, it's will affect the test items of "AC Line Conducted Emissions" and "Radiated Disturbance", those items will be performed ,the other test data and the EUT photos Please refer to the original report:RSZ201207006A.

Test Methodology

All measurements contained in this report were conducted with ANSI C63.17 - 2013, American National Standard Methods of Measurement of the Electromagnetic and Operational Compatibility of Unlicensed Personal Communications Services (UPCS) Devices.

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

In addition to the requirements in RSS-Gen, the limits and requirements set out in this standard and in associated Innovation, science and Economic Development Canada standards shall apply. Compliance with these limits shall be demonstrated using the method of measurement described in Section 3 of this standard.

A test report shall be prepared in accordance with RSS-Gen, ANSI C63.17-2013.

All radiated and conducted emissions measurement was performed BACL. The radiated testing was performed at an antenna-to –EUT distance of 3 Meters.

Measurement Uncertainty

Item	Uncertainty
AC Power Lines Conducted Emissions	±1.95dB
RF conducted test with spectrum	±1.5dB
Occupied Bandwidth	±5%
Temperature	±3℃
Humidity	±6%
Supply voltages	±0.4%
All emissions, radiated	±4.88dB

Note: The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval. Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.

Test Facility

The Test site used by Bay Area Compliance Laboratories Corp. (Shenzhen) to collect test data is located on the 5F(B-West), 6F, 7F, the 3rd Phase of Wan Li Industrial Building D, Shihua Rd, FuTian Free Trade Zone, Shenzhen, China.

The test site has been approved by the FCC under the KDB 974614 D01 and is listed in the FCC Public Access Link (PAL) database, FCC Registration No.: 342867, the FCC Designation No.: CN1221.

The test site has been registered with ISED Canada under ISED Canada Registration Number 3062B.

SYSTEM TEST CONFIGURATION

Description of Test Configuration

The system was configured to testing mode which is provided by the manufacturer.

Equipment Modifications

No modification was made to the EUT tested.

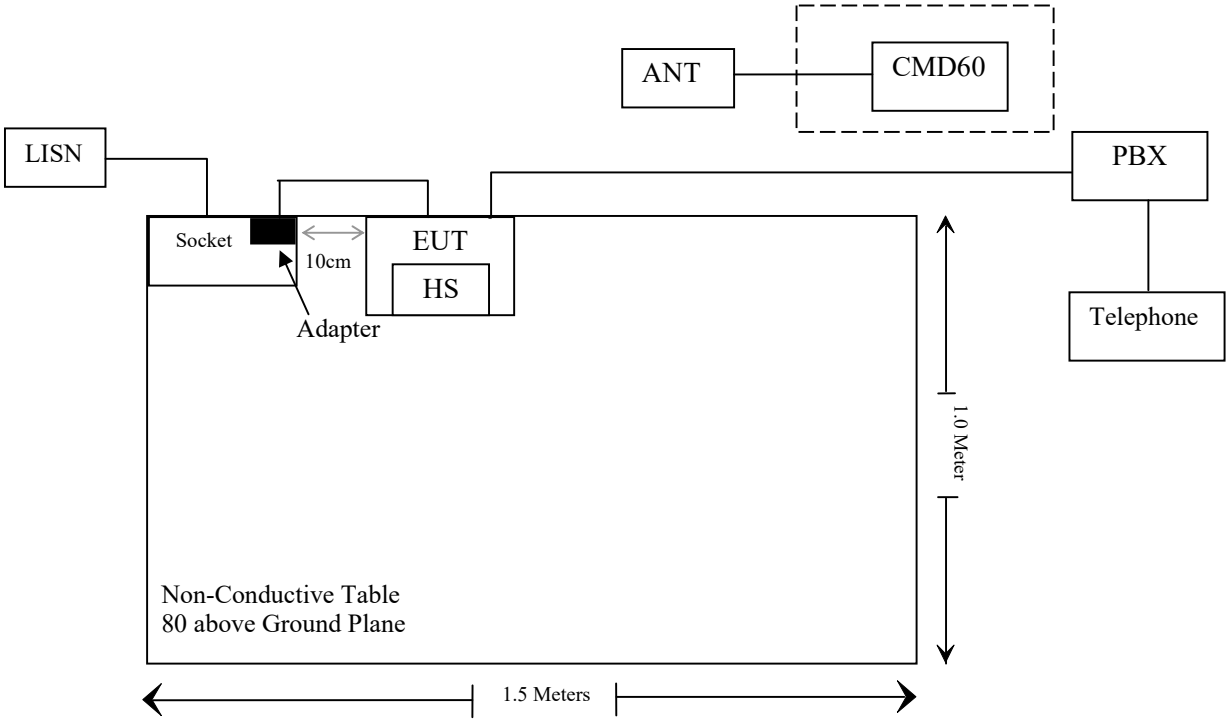
Local Support Equipment List and Details

Manufacturer	Description	Model	Serial Number
Rohde & Schwarz	Digital Radio Communication Test	CMD60	830861/029
YIKE	PBX	TC-208H	Unknown
Kinhao	Telephone	KT86AS	Unknown
Vtech	PP	DLP73540	Unknown

External I/O Cable

Cable Description	Length (m)	From Port	To
Un-shield Detachable RJ11 cable	10	POE	BASE
Unshielded Un-detachable DC cable	1.5	Adapter	EUT
Un-shield detachable RJ11 cable	1.5	PBX	Telephone

Block Diagram of Test Setup



SUMMARY OF TEST RESULTS

FCC Rules	IC Rules	Description of Test	Result
§ 15.319 (i) & 2.1091	RSS-102 § 4	Maximum Permissible Exposure(MPE) & EXPOSURE LIMITS	Compliance
§ 15.317, § 15.203	RSS-Gen §6.8	Antenna Requirement	Compliance
§ 15.315, § 15.207	RSS-213 §5.4	Conducted Emission	Compliance
§ 15.323 (a)	RSS-213 §5.5	Emission Bandwidth	Compliance*
§ 15.319 (c)	RSS-213 §5.6	Peak Transmit Power	Compliance*
§ 15.319 (d)	RSS-213 §5.7	Power Spectral Density	Compliance*
§ 15.323 (d)	RSS-213 §5.8	Emission Inside and Outside the sub-band	Compliance*
/	RSS-213 §5.8	Radiated Emission	Compliance
§ 15.323 (f)	RSS-213 §5.3	Frequency Stability	Compliance*
§ 15.323 (c)(e) § 15.319 (f)	RSS-213 §5.1&§5.2	Specific Requirements for UPCS	Compliance*

Note: Radiated measurement was performed using the antenna 1 for this antenna was changed.

Compliance*: Please refer to the original report.

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Conducted Emissions Test					
Rohde & Schwarz	EMI Test Receiver	ESCI	101120	2021/07/07	2022/07/06
Rohde & Schwarz	LISN	ENV216	101613	2021/07/07	2022/07/06
Rohde & Schwarz	Transient Limitor	ESH3Z2	DE25985	2020/11/29	2021/11/28
Unknown	CE Cable	CE Cable	UF A210B-1-0720-504504	2020/11/29	2021/11/28
Rohde & Schwarz	CE Test software	EMC 32	V8.53.0	NCR	NCR
Radiated Emission Test					
R&S	EMI Test Receiver	ESR3	102455	2021/07/06	2022/07/05
Sonoma instrument	Pre-amplifier	310 N	186238	2021/08/03	2022/08/04
Sunol Sciences	Broadband Antenna	JB1	A040904-2	2020/12/22	2023/12/21
Unknown	Cable 2	RF Cable 2	F-03-EM197	2020/11/29	2021/11/28
Unknown	Cable	Chamber Cable 1	F-03-EM236	2021/08/03	2022/08/04
Unknown	Cable	Chamber Cable 4	EC-007	2021/08/03	2022/08/04
Rohde & Schwarz	CE Test software	EMC 32	V9.10	NCR	NCR
Rohde & Schwarz	Spectrum Analyzer	FSV40-N	102259	2021/07/06	2022/07/05
COM-POWER	Pre-amplifier	PA-122	181919	2020/11/29	2021/11/28
Quinstar	Amplifier	QLW-18405536-J0	15964001002	2020/11/28	2021/11/27
Sunol Sciences	Horn Antenna	3115	9107-3694	2021/01/15	2024/01/14
Insulted Wire Inc.	RF Cable	SPS-2503-3150	02222010	2020/11/29	2021/11/28
Unknown	RF Cable	W1101-EQ1 OUT	F-19-EM005	2020/11/29	2021/11/28
Ducommun Technolagies	Horn antenna	ARH-4223-02	1007726-02 1304	2020/12/06	2023/12/05

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

§1.1307 (b) (1) & §2.1091- MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Applicable Standard

According to FCC §15.319(i) and §1.1307(b)(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy level in excess of the Commission's guidelines.

Limits for Maximum Permissible Exposure (MPE) (§1.1310, §2.1091)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm^2)	Averaging Time (minute)
Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	842/f	2.19/f	*(180/f\2\)	30
30-300	27.5	0.073	0.2	30
300-1500	/	/	f/1500	30
1500-100,000	/	/	1.0	30

f = frequency in MHz
* = Plane-wave equivalent power density

MPE Calculation

Predication of MPE limit at a given distance

$$S = \frac{PG}{4\pi R^2}$$

Where: S = power density (in appropriate units, e.g. mW/cm^2);
P = power input to the antenna (in appropriate units, e.g., mW);
G = power gain of the antenna in the direction of interest relative to an isotropic radiator
R = distance to the center of radiation of the antenna (appropriate units, e.g., cm);

For simultaneously transmit system, the calculated power density should comply with:

$$\sum_i \frac{S_i}{S_{Limit,i}} \leq 1$$

Frequency (MHz)	Antenna Gain		Tune Up Conducted Power		Evaluation Distance (cm)	Power Density (mW/cm^2)	MPE Limit (mW/cm^2)
	(dBi)	(numeric)	(dBm)	(mW)			
2402-2480	0	1	5	3.16	20	0.0006	1.0
1921.536 - 1928.448	0	1	20.5	112.2	20	0.022	1.0

Note: 1. the tune up conducted power was declared by the applicant
2. the Bluetooth can transmit at the same time with the DECT function.

Simultaneous transmitting consideration:

The ratio=$MPE_{Bluetooth}$/limit+MPE_{DECT}/limit=0.0006+0.022=0.0226＜1.0

To maintain compliance with the FCC's RF exposure guidelines, place the equipment at least 20cm from nearby persons.

Result: Compliance

RSS-102 § 4 –EXPOSURE LIMITS

Applicable Standard

According to RSS-102 § 4:

Table 4: RF Field Strength Limits for Devices Used by the General Public (Uncontrolled Environment)

Frequency Range (MHz)	Electric Field (V/m rms)	Magnetic Field (A/m rms)	Power Density (W/m^2)	Reference Period (minutes)
0.003-10[21]	83	90	-	Instantaneous˙
0.1-10	-	0.73/ f	-	6¨
1.1-10	87/ $f^{0.5}$	-	-	6¨
10-20	27.46	0.0728	-2	6
20-48	58.07/ $f^{0.25}$	0.1540/ $f^{0.25}$	8.944/ $f^{0.5}$	6
48-300	22.06	0.05852	1.291	6
300-6000	3.142 $f^{0.3417}$	0.008335 $f^{0.3417}$	0.02619 $f^{0.6834}$	6
6000-15000	61.4	0.163	10	6
15000-150000	61.4	0.163	10	616000/ $f^{1.2}$
150000-300000	0.158 $f^{0.5}$	4.21 x 10^{-4} $f^{0.5}$	6.67 x 10^{-5} f	616000/f

Note: f is frequency in MHz.
˙ Based on nerve stimulation (NS).
¨ Based on specific absorption rate (SAR).

Result

Calculated Formulary:

Predication of MPE limit at a given distance

$$S = \frac{PG}{4\pi R^2}$$

S = power density (in appropriate units, e.g. W/m^2)
P = power input to the antenna (in appropriate units, e.g., W).
G = power gain of the antenna in the direction of interest relative to an isotropic radiator, the power gain factor, is normally numeric gain.
R = distance to the center of radiation of the antenna (appropriate units, e.g., cm)

For simultaneously transmit system, the calculated power density should comply with:

$$\sum_i \frac{S_i}{S_{Limit,i}} \leq 1$$

Frequency (MHz)	Antenna Gain		Tune Up Conducted Power		Evaluation Distance (m)	Power Density (W/m^2)	MPE Limit (W/m^2)
	(dBi)	(numeric)	(dBm)	(W)			
2402-2480	0	1	5	0.003	0.2	0.006	5.35
1921.536 - 1928.448	0	1	20.5	0.112	0.2	0.223	4.59

Note: 1. the tune up conducted power was declared by the applicant
2. the Bluetooth can transmit at the same time with the DECT function.

Simultaneous transmitting consideration:

The ratio=$MPE_{Bluetooth}$/limit+MPE_{DECT}/limit=0.006/5.35+0.223/4.59=0.05＜1.0

To maintain compliance with the ISEDC's RF exposure guidelines, place the equipment at least 20cm from nearby persons.

Result: Compliance

§ 15.317, § 15.203 & RSS-Gen §6.8 ANTENNA REQUIREMENT

Applicable Standard

According to FCC § 15.203, an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this Section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

The applicant for equipment certification shall provide a list of all antenna types that may be used with the transmitter, where applicable (i.e. for transmitters with detachable antenna), indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna. The test report shall demonstrate the compliance of the transmitter with the limit for maximum equivalent isotropically radiated power (e.i.r.p.) specified in the applicable RSS, when the transmitter is equipped with any antenna type, selected from this list.

For expediting the testing, measurements may be performed using only the antenna with highest gain of each combination of transmitter and antenna type, with the transmitter output power set at the maximum level. However, the transmitter shall comply with the applicable requirements under all operational conditions and when in combination with any type of antenna from the list provided in the test report (and in the notice to be included in the user manual, provided below).

When measurements at the antenna port are used to determine the RF output power, the effective gain of the device's antenna shall be stated, based on a measurement or on data from the antenna's manufacturer.

The test report shall state the RF power, output power setting and spurious emission measurements with each antenna type that is used with the transmitter being tested.

For licence-exempt equipment with detachable antennas, the user manual shall also contain the following notice in a conspicuous location:

This radio transmitter [enter the device's ISED certification number] has been approved by Innovation, Science and Economic Development Canada to operate with the antenna types listed below, with the maximum permissible gain indicated. Antenna types not included in this list that have a gain greater than the maximum gain indicated for any type listed are strictly prohibited for use with this device.
Immediately following the above notice, the manufacturer shall provide a list of all antenna types which can be used with the transmitter, indicating the maximum permissible antenna gain (in dBi) and the required impedance for each antenna type.

Antenna Connector Construction

The EUT has two antenna arrangements which were permanently attached and the gain is 0dBi, fulfill the requirement of this section. Please refer to the EUT photos.

ANT	Type	Antenna Gain	Impedance
ANT 0	PCB	0dBi	50 Ω
ANT 1	Monopole	0dBi	50 Ω

§ 15.315, § 15.207 & RSS-213 §5.4 CONDUCTED EMISSIONS

Applicable Standard

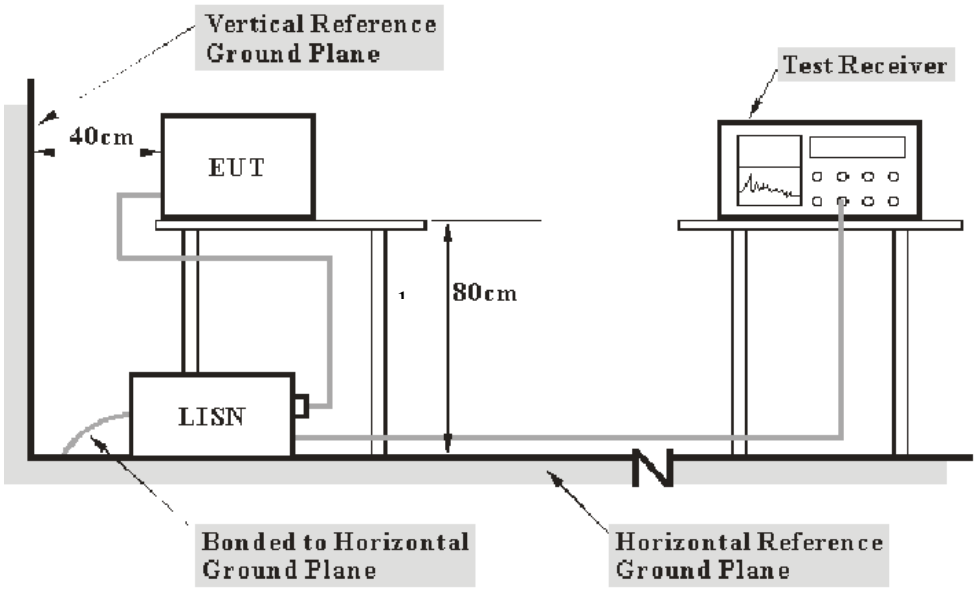
FCC§15.315, an unlicensed PCS device that is designed to be connected to the public utility (AC) power line must meet the limits specified in §15.207.

A radio apparatus that is designed to be connected to the public utility (AC) power line shall ensure that the radio frequency voltage, which is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz-30 MHz, shall not exceed the limits in the below table.

Unless the requirements applicable to a given device state otherwise, for any radio apparatus equipped to operate from the public utility AC power supply either directly or indirectly (such as with a battery charger), the radio frequency voltage of emissions conducted back onto the AC power lines in the frequency range of 0.15 MHz to 30 MHz shall not exceed the limits shown in below table. The more stringent limit applies at the frequency range boundaries.

Table - AC Power Lines Conducted Emission Limits		
Frequency range (MHz)	**Conducted limit (dBμV)**	
	Quasi-Peak	**Average****
0.15 – 0.5	66 to 56*	56 to 46*
0.5 – 5	56	46
5 – 30	60	50
Note: *Decreases with the logarithm of the frequency ** A linear average detector is required		

EUT Setup



Note: 1. Support units were connected to second LISN.
2. Both of LISNs (AMN) 80 cm from EUT and at the least 80 cm from other units and other metal planes support units.

The setup of EUT is according with per ANSI C63.10-2013 measurement procedure. The specification used was with the FCC 15.315, FCC 15.207 and RSS-Gen limits.

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

The spacing between the peripherals was 10 cm.

The adapter was connected to a 120 VAC/60 Hz power source.

EMI Test Receiver Setup

The EMI test receiver was set to investigate the spectrum from 150 kHz to 30 MHz.

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

Frequency Range	IF B/W
150 kHz – 30 MHz	9 kHz

Test Procedure

During the conducted emission test, adapter was connected to the outlet of the LISN.

Maximizing procedure was performed on the six (6) highest emissions of the EUT.

All final data was recorded in the Quasi-peak and average detection mode.

Corrected Factor & Margin Calculation

The Corrected factor is calculated by adding the Outlet Cable Loss, LISN Insertion Loss, Cable Loss and Transient Limiter Attenuation. The basic equation is as follows:

Correction Factor = Outlet Cable Loss + LISN Insertion Loss + Cable Loss + Transient Limiter Attenuation

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

Margin = Limit – Corrected Amplitude

Test Data

Environmental Conditions

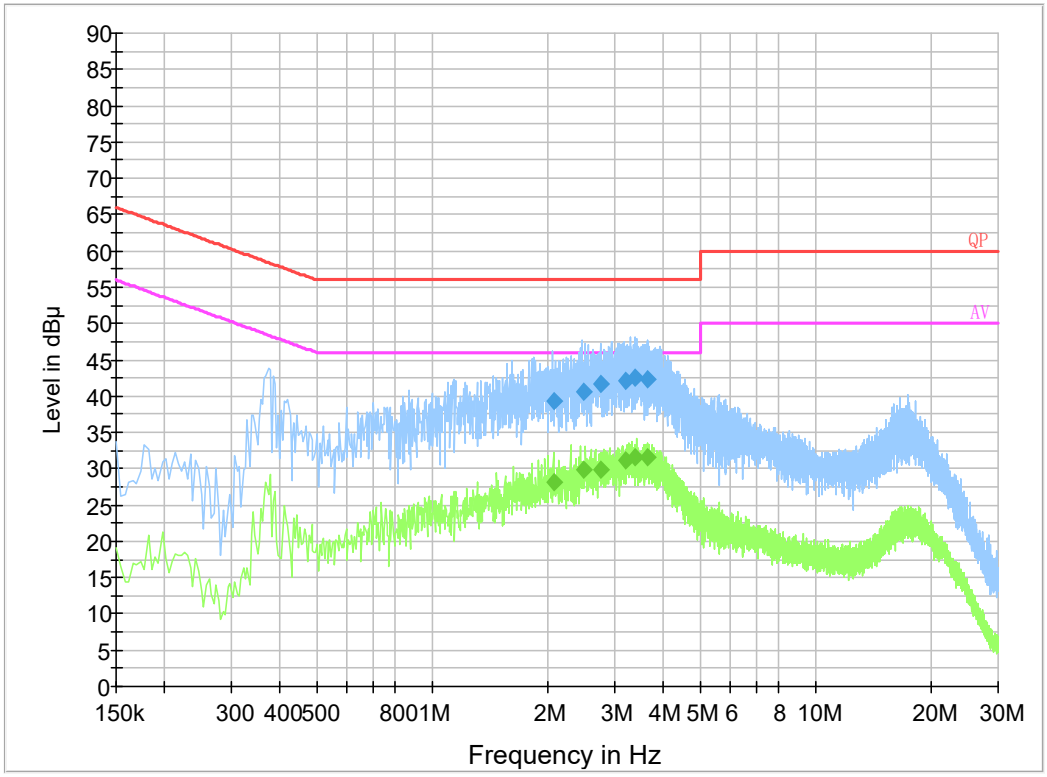
Temperature:	25℃
Relative Humidity:	65 %
ATM Pressure:	101.0 kPa

The testing was performed by Haiguo Li on 2021-07-27.

EUT operation mode: Charging & transmitting

Adapter 1 (A318-059060W-US1)

AC 120V/60 Hz, Line



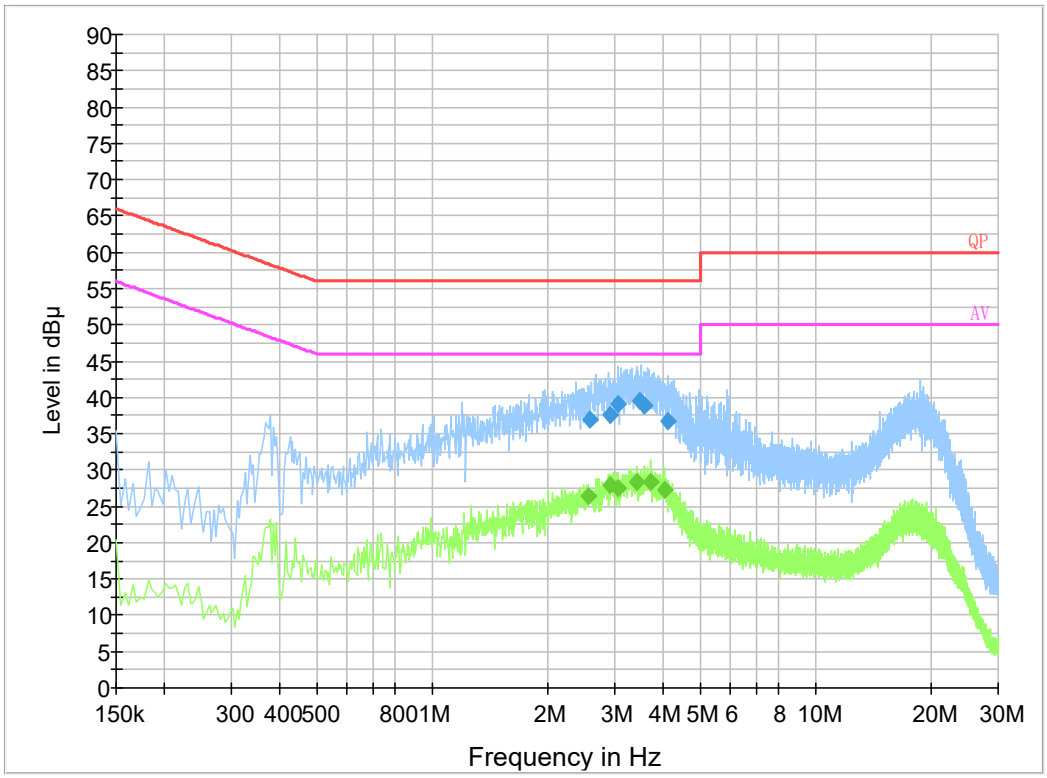
Final Result 1

Frequency (MHz)	QuasiPeak (dB µ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB µ V)
2.088870	39.4	9.000	L1	19.9	16.6	56.0
2.485010	40.5	9.000	L1	19.8	15.5	56.0
2.756810	41.7	9.000	L1	19.9	14.3	56.0
3.194570	42.0	9.000	L1	19.9	14.0	56.0
3.379210	42.6	9.000	L1	19.9	13.4	56.0
3.659370	42.4	9.000	L1	19.9	13.6	56.0

Final Result 2

Frequency (MHz)	Average (dB µ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB µ V)
2.088870	28.2	9.000	L1	19.9	17.8	46.0
2.485010	29.9	9.000	L1	19.8	16.1	46.0
2.756810	29.8	9.000	L1	19.9	16.2	46.0
3.194570	31.2	9.000	L1	19.9	14.8	46.0
3.379210	31.7	9.000	L1	19.9	14.3	46.0
3.659370	31.6	9.000	L1	19.9	14.4	46.0

AC 120V/60 Hz, Neutral



Final Result 1

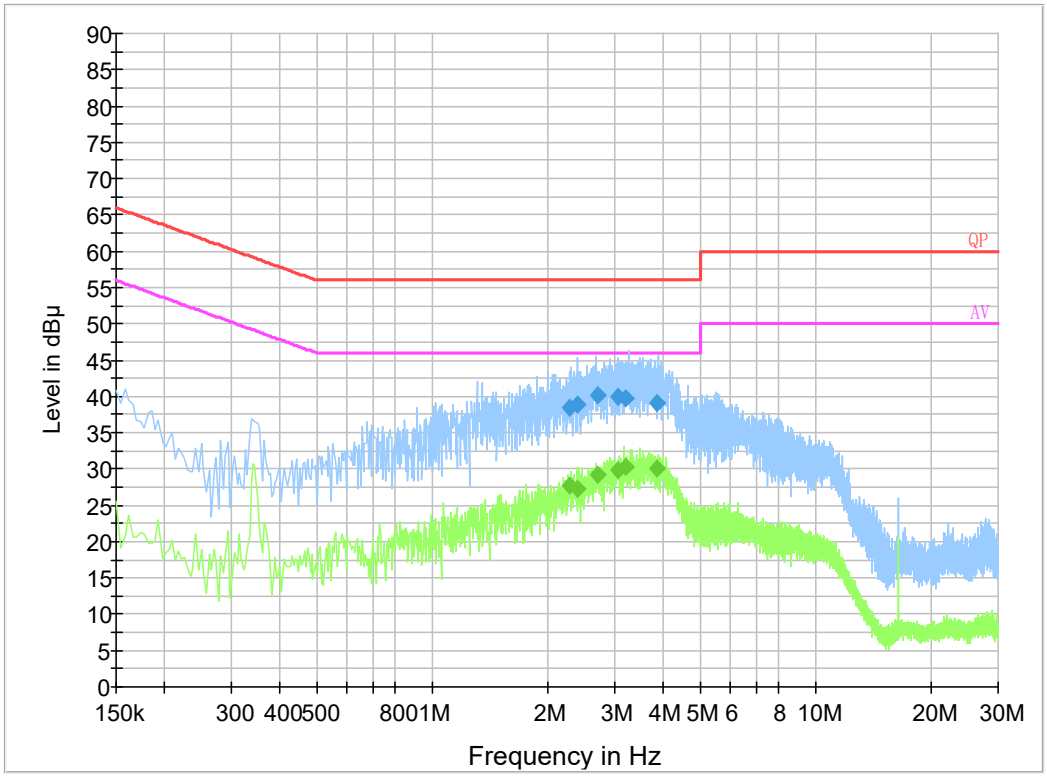
Frequency (MHz)	QuasiPeak (dB µ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB µ V)
2.582910	37.0	9.000	N	19.8	19.0	56.0
2.914530	37.6	9.000	N	19.9	18.4	56.0
3.048310	39.1	9.000	N	19.9	16.9	56.0
3.489110	39.5	9.000	N	19.9	16.5	56.0
3.599370	38.9	9.000	N	19.9	17.1	56.0
4.108110	36.6	9.000	N	19.9	19.4	56.0

Final Result 2

Frequency (MHz)	Average (dB µ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB µ V)
2.562000	26.4	9.000	N	19.8	19.6	46.0
2.906000	27.8	9.000	N	19.9	18.2	46.0
3.058000	27.6	9.000	N	19.9	18.4	46.0
3.430000	28.3	9.000	N	19.9	17.7	46.0
3.726000	28.2	9.000	N	19.9	17.8	46.0
4.030000	27.2	9.000	N	19.9	18.8	46.0

Adapter 2 (VT05EUS06060)

AC 120V/60 Hz, Line



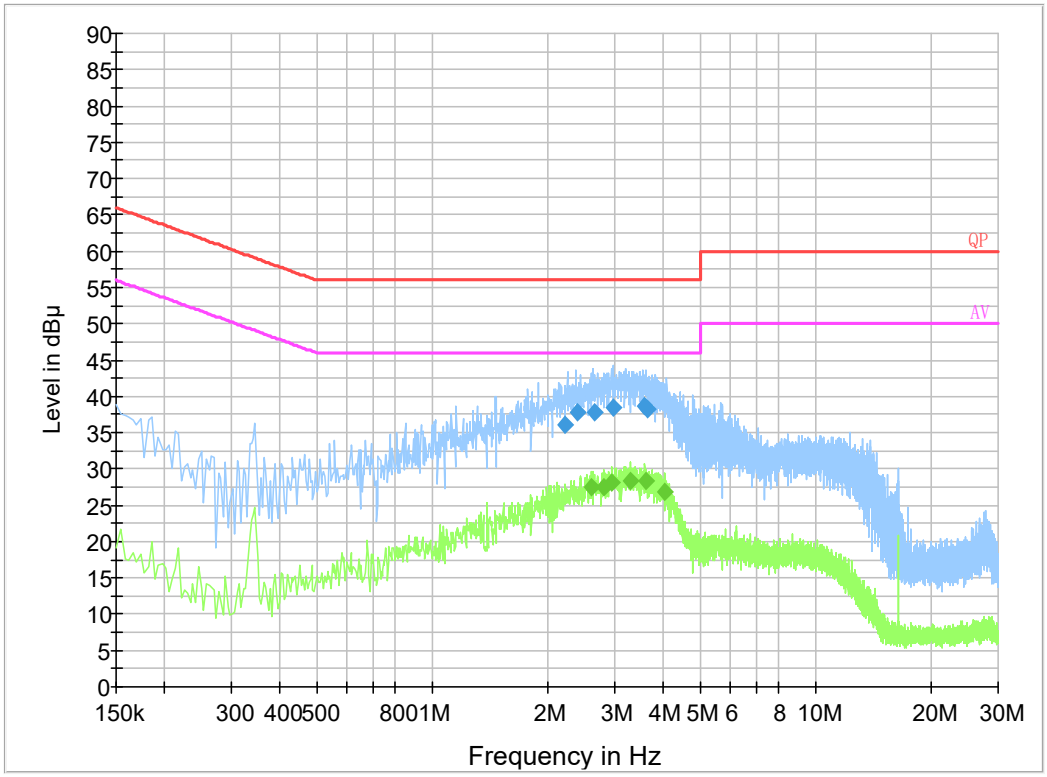
Final Result 1

Frequency (MHz)	QuasiPeak (dB µ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB µ V)
2.287230	38.3	9.000	L1	19.9	17.7	56.0
2.394090	38.9	9.000	L1	19.9	17.1	56.0
2.705650	40.1	9.000	L1	19.9	15.9	56.0
3.055950	40.0	9.000	L1	19.9	16.0	56.0
3.209250	39.7	9.000	L1	19.9	16.3	56.0
3.879770	39.1	9.000	L1	19.9	16.9	56.0

Final Result 2

Frequency (MHz)	Average (dB µ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB µ V)
2.287230	27.7	9.000	L1	19.9	18.3	46.0
2.394090	27.3	9.000	L1	19.9	18.7	46.0
2.705650	29.1	9.000	L1	19.9	16.9	46.0
3.055950	29.9	9.000	L1	19.9	16.1	46.0
3.209250	30.4	9.000	L1	19.9	15.6	46.0
3.879770	30.0	9.000	L1	19.9	16.0	46.0

AC 120V/60 Hz, Neutral



Final Result 1

Frequency (MHz)	QuasiPeak (dB µ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB µ V)
2.228130	36.0	9.000	N	19.8	20.0	56.0
2.394450	37.8	9.000	N	19.8	18.2	56.0
2.662550	37.8	9.000	N	19.8	18.2	56.0
2.961510	38.5	9.000	N	19.9	17.5	56.0
3.596810	38.6	9.000	N	19.9	17.4	56.0
3.647610	38.2	9.000	N	19.9	17.8	56.0

Final Result 2

Frequency (MHz)	Average (dB µ V)	Bandwidth (kHz)	Line	Corr. (dB)	Margin (dB)	Limit (dB µ V)
2.602000	27.5	9.000	N	19.8	18.5	46.0
2.810000	27.5	9.000	N	19.9	18.5	46.0
2.934000	28.2	9.000	N	19.9	17.8	46.0
3.294000	28.4	9.000	N	19.9	17.6	46.0
3.618000	28.4	9.000	N	19.9	17.6	46.0
4.046000	26.9	9.000	N	19.9	19.1	46.0

§ 15.323 (d) & RSS-213 §5.8 EMISSION INSIDE AND OUTSIDE THE SUB-BAND

Applicable Standard

Emissions inside the sub-band must comply with the following emission mask:

1. In the bands between 1B and 2B measured from the center of the emission bandwidth the total power emitted by the device shall be at least 30 dB below the transmit power permitted for that device;
2. in the bands between 2B and 3B measured from the center of the emission bandwidth the total power emitted by an intentional radiator shall be at least 50 dB below the transmit power permitted for that radiator;
3. in the bands between 3B and the sub-band edge the total power emitted by an intentional radiator in the measurement bandwidth shall be at least 60 dB below the transmit power permitted for that radiator.

Where B = emission bandwidth

Emission Outside the sub-band shall be attenuated below a reference power of 112 mw (20.5 dBm) as follows:

1. 30 dB between the sub-band and 1.25 MHz above or below the sub-band;
2. 50 dB between 1.25 and 2.5 MHz above or below the sub-band;
3. 60 dB at 2.5 MHz or greater above or below the sub-band.

Emissions outside the 1920-1930 MHz Band

Emissions outside the 1920-1930 MHz band shall be attenuated below a reference power of 112 milliwatts (-9.5 dBW) by at least:
• 30 dB between the band edges and 1.25 MHz above and below the band edges;
• 50 dB between 1.25 MHz and 2.5 MHz above or below the band edges; and
• 60 dB at 2.5 MHz or greater above or below the band edges.

Emissions inside the 1920-1930 MHz Band

Emissions inside the 1920-1930 MHz band shall be attenuated below the transmit power permitted for that device, as follows:
• 30 dB between the frequencies 1B and 2B measured from the centre of the occupied bandwidth;
• 50 dB between the frequencies 2B and 3B measured from the centre of the occupied bandwidth; and
• 60 dB between the frequencies 3B and band edge, where B is the occupied bandwidth in hertz.

Test Procedure

According to ANSI C63.17.2013 Clause 6.1.6.

In-band emission:

Spectrum analyzer settings for measuring in-band emission

RBW	Approximately 1% of the emission bandwidth (*B*)
Video bandwidth	3 × RBW
Sweep time	The sweep time shall be sufficiently slow that the swept frequency rate shall not exceed one RBW per three transmit bursts.
Number of sweeps	Sufficient to stabilize the trace
Amplitude scale	Log
Detection	Peak detection and max hold enabled
Span	Approximately equal to 3.5 *B*

Out-band emission:

RBW	30kHz
Video bandwidth	100kHz
Center frequency	Nominal center frequency of channels
Amplitude scale	Log (linear may be used if analyzer has sufficient linear dynamic range and accuracy)
Detection	Peak detection

Test Data

Environmental Conditions

Temperature:	28.1~29℃
Relative Humidity:	54~56 %
ATM Pressure:	101.0 kPa

The testing was performed by Williarm Wang on 2021-07-30 for below 1GHz and Dio Ding on 2021-07-31 for above 1GHz.

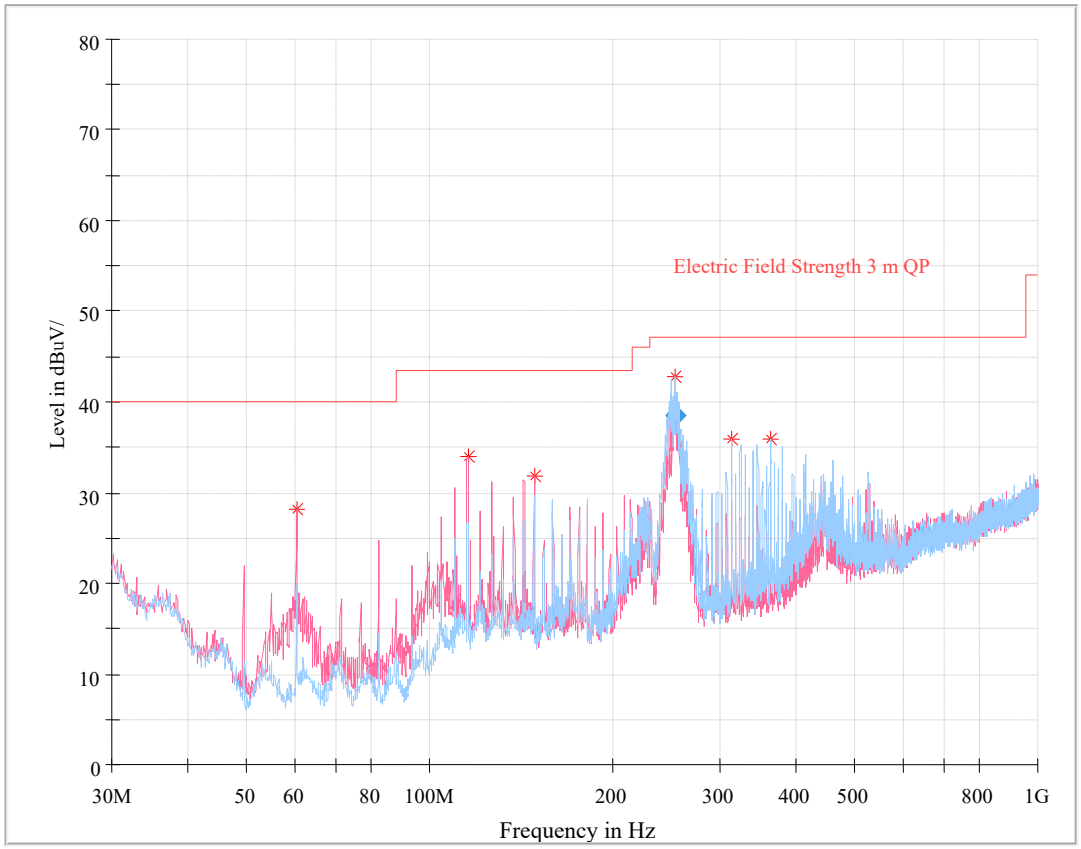
Test mode: Transmitting

Test Result: Pass

Please refer to following plots

30MHz-1GHz: (High channel was worst case)

Adapter 1 (A318-059060W-US1)



Final_Result

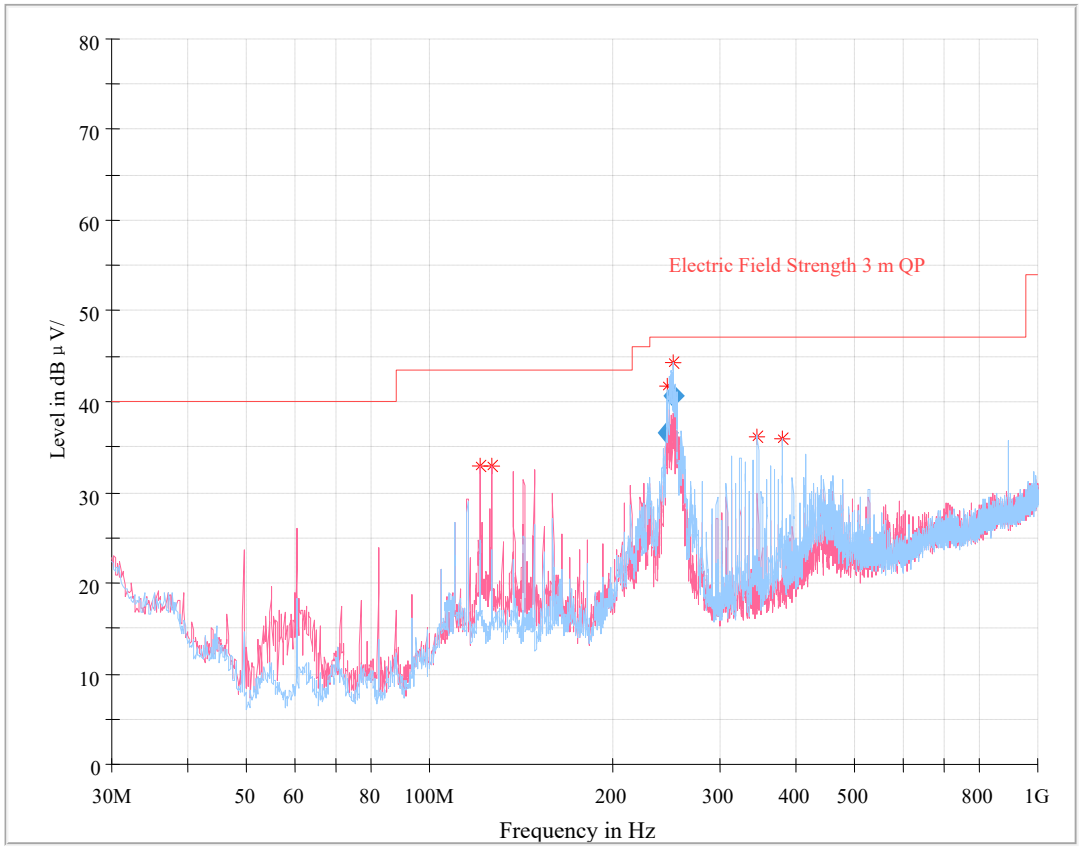
Frequency (MHz)	QuasiPeak (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
253.170750	38.52	47.00	8.48	149.0	H	166.0	-11.7

Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
60.433750	28.26	40.00	11.74	100.0	V	0.0	-16.5
115.481250	33.95	43.50	9.55	100.0	V	349.0	-10.7
148.461250	31.91	43.50	11.59	100.0	V	101.0	-11.3
313.482500	36.02	47.00	10.98	100.0	H	215.0	-9.6
362.952500	36.01	47.00	10.99	100.0	H	205.0	-8.4

Note: The QP measurement not performed when the Peak result is more than 6dB lower than QP limit.

Adapter 2 (VT05EUS06060)



Final_Result

Frequency (MHz)	QuasiPeak (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
246.245875	36.65	47.00	10.35	148.0	H	175.0	-11.8
250.888125	40.71	47.00	6.29	137.0	H	190.0	-11.8

Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB)
120.816250	32.92	43.50	10.58	100.0	V	358.0	-10.3
126.393750	32.97	43.50	10.53	100.0	V	287.0	-10.3
346.583750	36.23	47.00	10.77	100.0	H	181.0	-8.9
379.563750	36.02	47.00	10.98	100.0	H	205.0	-7.9

Note: The QP measurement not performed when the Peak result is more than 6dB lower than QP limit.

1 GHz ~ 20 GHz:

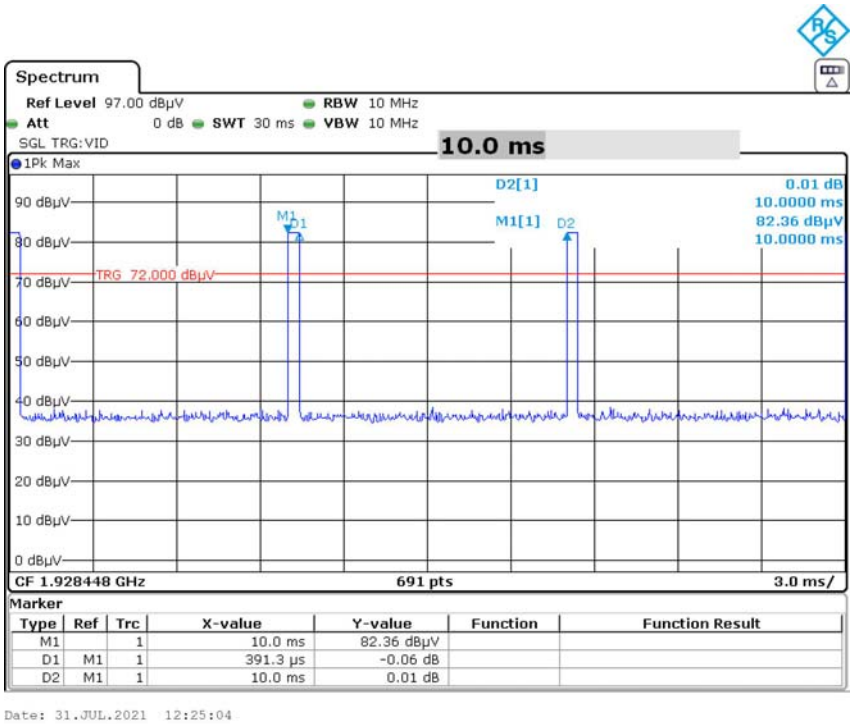
Frequency (MHz)	Receiver		Turntable Degree	Rx Antenna		Corrected Factor (dB)	Corrected Amplitude (dBμV/m)	Limit (dBμV/m)	Margin (dB)
	Reading (dBμV)	Detector (PK/QP/Ave.)		Height (m)	Polar (H/V)				
Low Channel (1921.536 MHz)									
1921.54	81.56	PK	347	1.7	H	30.71	112.27	/	/
1921.54	81.38	PK	53	1.4	V	30.71	112.09	/	/
3843.07	61.79	PK	248	1.9	H	3.95	65.74	74	8.26
3843.07	66.47	PK	248	1.9	V	3.95	70.42	74	3.58
5764.61	52.1	PK	0	1.4	H	8.28	60.38	74	13.62
5764.61	54.77	PK	0	1.4	V	8.28	63.05	74	10.95
7686.14	53.09	PK	152	1.5	H	12.98	66.07	74	7.93
7686.14	56.14	PK	152	1.5	V	12.98	69.12	74	4.88
9607.68	46.16	PK	200	1.7	H	14.29	60.45	74	13.55
9607.68	49.89	PK	200	1.7	V	14.29	64.18	74	9.82
Middle Channel (1924.992 MHz)									
1924.99	81.11	PK	346	1.1	H	30.71	111.82	/	/
1924.99	80.05	PK	243	1.7	V	30.71	110.76	/	/
3849.98	61.01	PK	167	1.4	H	3.95	64.96	74	9.04
3849.98	64.21	PK	167	1.4	V	3.95	68.16	74	5.84
5774.98	51.15	PK	107	1.6	H	8.28	59.43	74	14.57
5774.98	54.61	PK	107	1.6	V	8.28	62.89	74	11.11
7699.97	52.05	PK	2	1.8	H	13.08	65.13	74	8.87
7699.97	54.52	PK	2	1.8	V	13.08	67.60	74	6.40
9624.96	45.79	PK	216	2.0	H	14.29	60.08	74	13.92
9624.96	47.33	PK	216	2.0	V	14.29	61.62	74	12.38
High Channel (1928.448 MHz)									
1928.45	82.69	PK	332	2.0	H	30.71	113.40	/	/
1928.45	82.44	PK	248	2.1	V	30.71	113.15	/	/
3856.90	61.55	PK	61	1.3	H	4.10	65.65	74	8.35
3856.90	65.61	PK	61	1.3	V	4.10	69.71	74	4.29
5785.34	52.54	PK	79	1.8	H	8.28	60.82	74	13.18
5785.34	54.67	PK	79	1.8	V	8.28	62.95	74	11.05
7713.79	53.12	PK	13	1.6	H	13.08	66.20	74	7.80
7713.79	55.42	PK	13	1.6	V	13.08	68.50	74	5.50
9642.24	45.83	PK	17	2.4	H	14.29	60.12	74	13.88
9642.24	46.77	PK	17	2.4	V	14.29	61.06	74	12.94

Field Strength of Average Emission							
Frequency (MHz)	**Peak Measurement @3m (dBμV/m)**	**Polar (H/V)**	**Duty Cycle Correction Factor (dB)**	**Corrected Ampitude (dBμV/m)**	**Limit (dBμV/m)**	**Margin (dB)**	**Comment**
Low Channel (1921.536 MHz)							
1921.54	112.27	H	-28.15	84.12	/	/	Fundamental
1921.54	112.09	V	-28.15	83.94	/	/	Fundamental
3843.07	65.74	H	-28.15	37.59	54	16.41	Spurious
3843.07	70.42	V	-28.15	42.27	54	11.73	Spurious
5764.61	60.38	H	-28.15	32.23	54	21.77	Spurious
5764.61	63.05	V	-28.15	34.9	54	19.1	Spurious
7686.14	66.07	H	-28.15	37.92	54	16.08	Spurious
7686.14	69.12	V	-28.15	40.97	54	13.03	Spurious
9607.68	60.45	H	-28.15	32.3	54	21.7	Spurious
9607.68	64.18	V	-28.15	36.03	54	17.97	Spurious
Middle Channel (1924.992 MHz)							
1924.99	111.82	H	-28.15	83.67	/	/	Fundamental
1924.99	110.76	V	-28.15	82.61	/	/	Fundamental
3849.98	64.96	H	-28.15	36.81	54	17.19	Spurious
3849.98	68.16	V	-28.15	40.01	54	13.99	Spurious
5774.98	59.43	H	-28.15	31.28	54	22.72	Spurious
5774.98	62.89	V	-28.15	34.74	54	19.26	Spurious
7699.97	65.13	H	-28.15	36.98	54	17.02	Spurious
7699.97	67.60	V	-28.15	39.45	54	14.55	Spurious
9624.96	60.08	H	-28.15	31.93	54	22.07	Spurious
9624.96	61.62	V	-28.15	33.47	54	20.53	Spurious
High Channel (1928.448 MHz)							
1928.45	113.40	H	-28.15	85.25	/	/	Fundamental
1928.45	113.15	V	-28.15	85	/	/	Fundamental
3856.90	65.65	H	-28.15	37.5	54	16.5	Spurious
3856.90	69.71	V	-28.15	41.56	54	12.44	Spurious
5785.34	60.82	H	-28.15	32.67	54	21.33	Spurious
5785.34	62.95	V	-28.15	34.8	54	19.2	Spurious
7713.79	66.20	H	-28.15	38.05	54	15.95	Spurious
7713.79	68.50	V	-28.15	40.35	54	13.65	Spurious
9642.24	60.12	H	-28.15	31.97	54	22.03	Spurious
9642.24	61.06	V	-28.15	32.91	54	21.09	Spurious

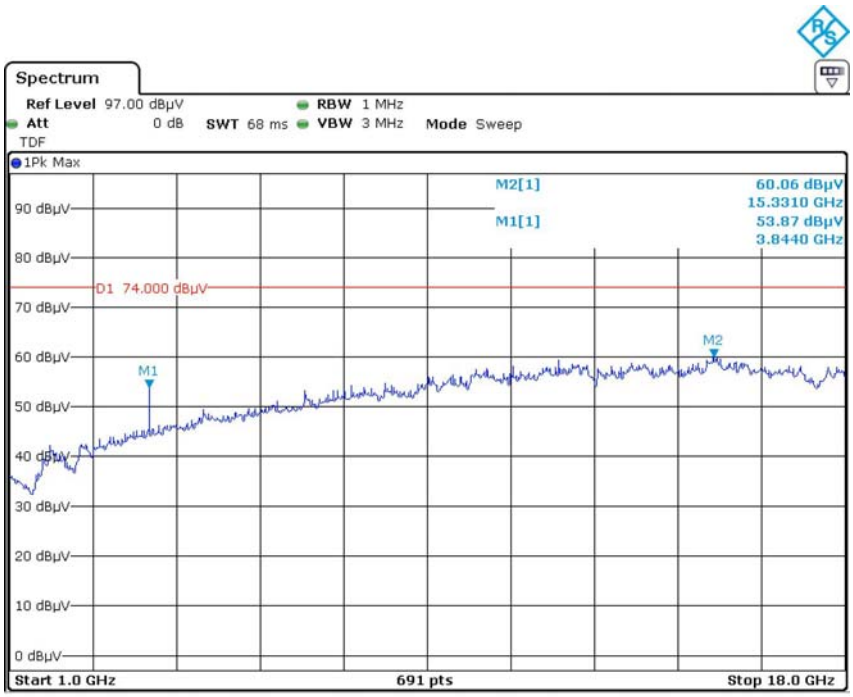
Note:
Corrected Amplitude = Corrected Factor + Reading
Corrected Factor=Antenna factor（RX）+cable loss － amplifier factor
Margin = Limit- Corr. Amplitude

Duty Cycle:
Duty cycle = Ton/Tp*100%, Ton =391.3μs, Tp= 10.0ms
Duty Cycle Corrected Factor = 20lg (Duty cycle) = 20lg(0.03913) = -28.15
Ave.=PK+20*lg(Duty Cycle)

Duty Cycle



Pre-scan with the Low Channel
Horizontal (1-18 GHz)



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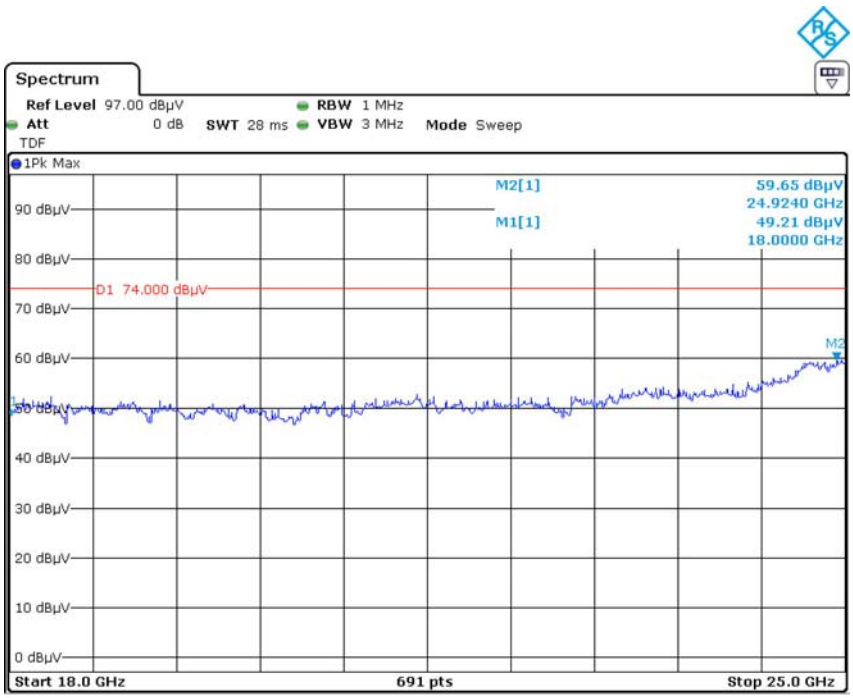
Horizontal (18-25 GHz)



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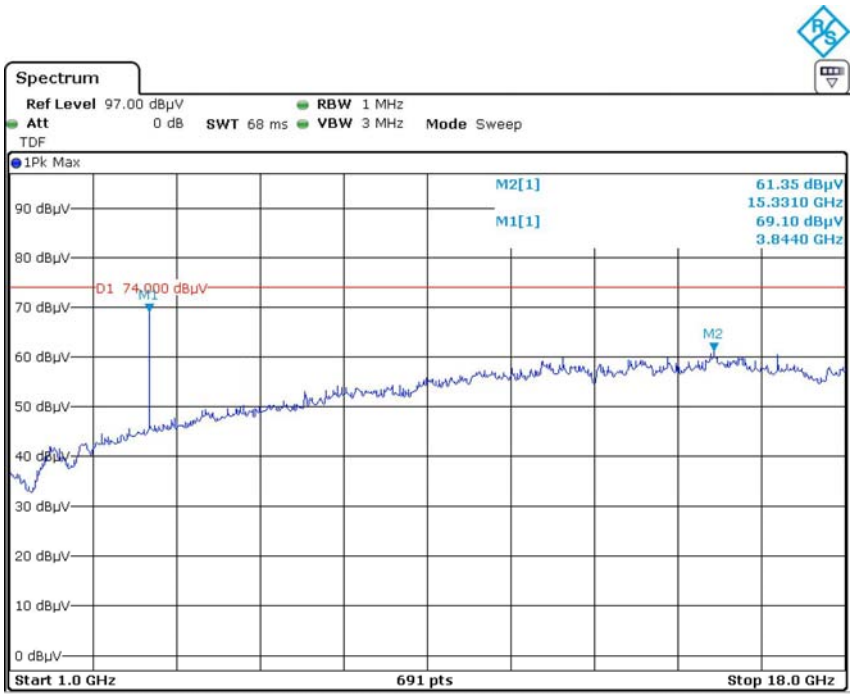
Vertical (1-18 GHz)



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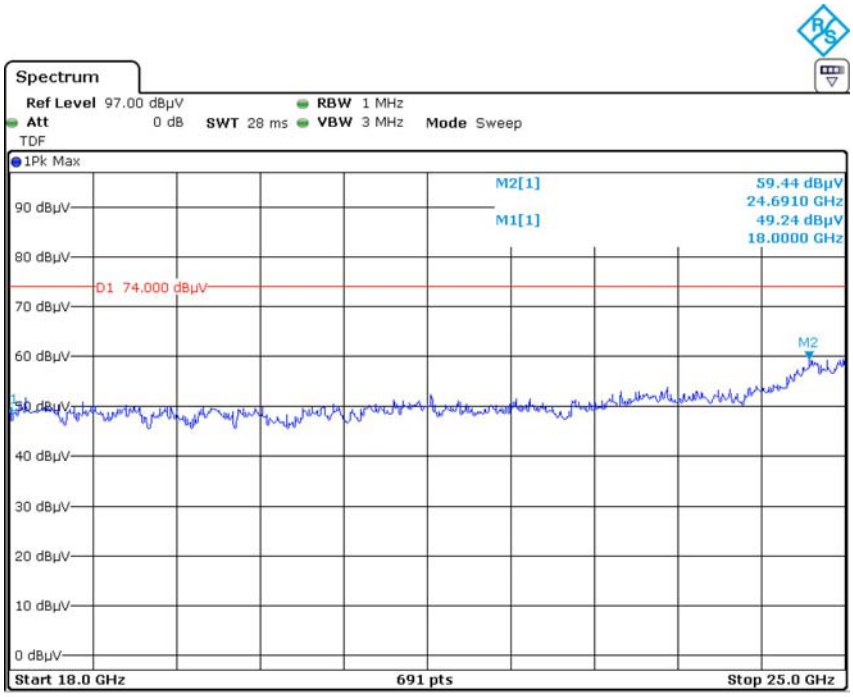
Vertical (18-25 GHz)



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