NVLAP TESTING
NVLAP LAB CODE 600338-0

BACL Bay Area Compliance Labs Corp.

FCC PART 15.247
TEST REPORT

For

Hoymiles Power Electronics Inc.

No.18 Kangjing Road, Hangzhou, Zhejiang Province, P.R. China

FCC ID: 2ARNB-DTUPLUSSC

Report Type:	**Product Name:**
Class II permissive change Report	Data Transfer Unit

Report Number:	RSHA240204002-00A
Report Date:	2024-07-21
Reviewed By:	Bard Liu
Approved By:	Kyle Xu
Prepared By:	Bay Area Compliance Laboratories Corp. (Kunshan) No.248 Chenghu Road, Kunshan, Jiangsu Province, China Tel: +86-512-86175000 Fax: +86-512-88934268 www.baclcorp.com.cn

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DOCUMENT HISTORY

Revision	Release Date	Description of Revision	Report Number
R1V1	2024-07-21	Class II permissive change Report	RSHA240204002-00A

FILING DESCRIPTION

Report Number	Information about Changes
RSHA240204002-00A	Antenna; Power Supply

Note:

This is a C2PC report, based on report CR230847711-00B★, grant on 12/19/2023, the details as below:

1. Changed SRD and WWAN antenna.

2. Remove power supply (model: HDR-15-12), the EUT is sold without power supply

The above changes will affect test data, we retested the “Conducted Emissions” and “Radiated Emissions”. We also updated related photos, other data are referred to original report CR230847711-00B★.

GENERAL INFORMATION

Product Description for Equipment under Test (EUT)

Applicant:	Hoymiles Power Electronics Inc.
Tested Model:	DTU-Plus-S-C
Product Name:	Contactless Exit Button
Power Supply:	DC 12V
★Maximum peak Output Power:	15.5dBm
RF Function:	SRD
Operating Band/Frequency:	915.25-927.5 MHz
Antenna Type:	PCB Antenna
Modulation Type:	GFSK
★Maximum Antenna Gain:	3.47 dBi

Note: The maximum antenna gain and output power are provided by the applicant.

All measurement and test data in this report was gathered from production sample serial number: RSHA240204002-1 (Assigned by the BACL (Kunshan). The EUT supplied by the applicant was received on 2024-02-04.)

Objective

This type approval report is prepared for *Hoymiles Power Electronics Inc.* in accordance with Part 2-Subpart J, and Part 15-Subparts A and C of the Federal Communication Commission rules.

The tests were performed in order to determine compliance with FCC Part 15, Subpart C, and section 15.203, 15.205, 15.207, 15.209 and 15.247 rules.

Test Methodology

All measurements contained in this report were conducted with ANSI C63.10-2013, American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices.

Measurement Uncertainty

Item		Uncertainty
AC Power Lines Conducted Emissions		3.19 dB
RF conducted test with spectrum		0.9dB
RF Output Power with Power meter		0.5dB
Radiated emission	9 kHz~150 kHz	3.8dB
	150 kHz~30 MHz	3.4dB
	30MHz~1GHz	6.11dB
	1GHz~6GHz	4.45dB
	6GHz~18GHz	5.23dB
	18GHz~40GHz	5.65dB
Occupied Bandwidth		0.5kHz
Temperature		1.0℃
Humidity		6%

Test Facility

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

Bay Area Compliance Laboratories Corp. (Kunshan) is accredited in accordance with ISO/IEC 17025:2017 by NVLAP (Lab code: 600338-0), and the lab has been recognized as the FCC accredited lab under the KDB 974614 D01, the FCC Designation No. : CN5055.

SYSTEM TEST CONFIGURATION

Justification

Channel list:

Channel	Frequency (MHz)	Channel	Frequency (MHz)
0	915.25	26	921.75
1	915.5	27	922.00
…	…	…	…
…	…	…	…
…	…	49	927.5
25	921.5	/	/

EUT was tested with channel 0, 25, 49

EUT Exercise Software

SSCOM was used during the test.

★Power level: Default

Note: The power level is provided by the applicant.

Support Equipment List and Details

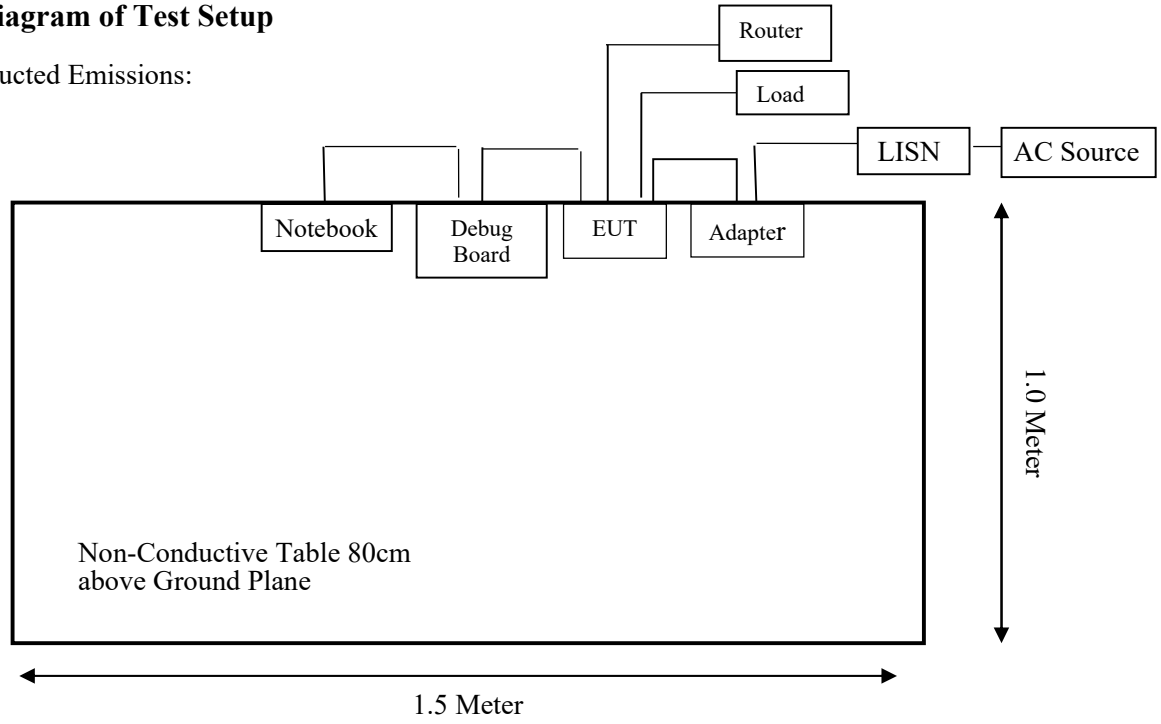
Manufacturer	Description	Model	Serial Number
MEAN WELL ENTERPRISES CO.,LTD	Adapter	HDR-15-12	/
DELL	Notebook	015K3N	00190-098-766-241
/	Debug board	/	/
/	Load	/	/
TP-LINK	Router	TL-WDR5620	1188431022424

External I/O Cable

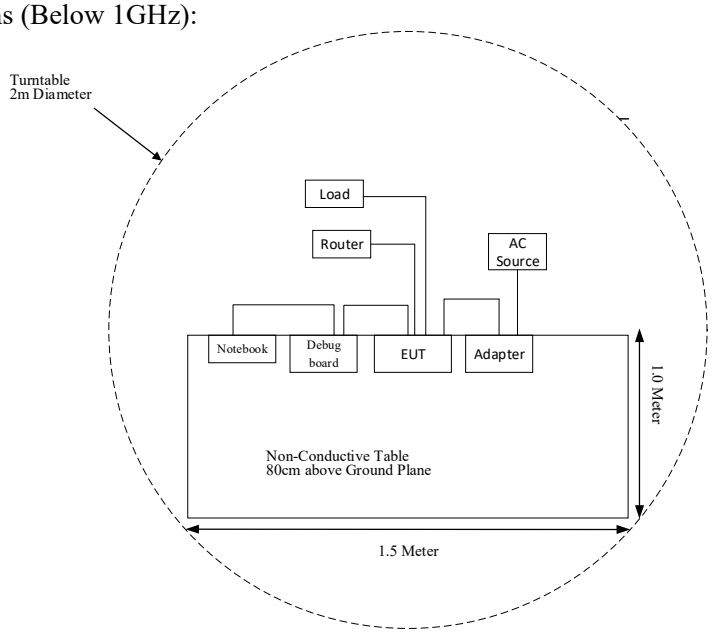
Cable Description	Length (m)	From Port	To
Data cable	0.3	EUT	Debug board
USB Cable 1	2.0	Debug board	Notebook
USB Cable 2	5.0	EUT	Load
RJ45 Cable	5.0	EUT	Router
USB Cable 2	1.0	EUT	Adapter
Power Cable	1.0	Adapter	AC Source/LISN

Block Diagram of Test Setup

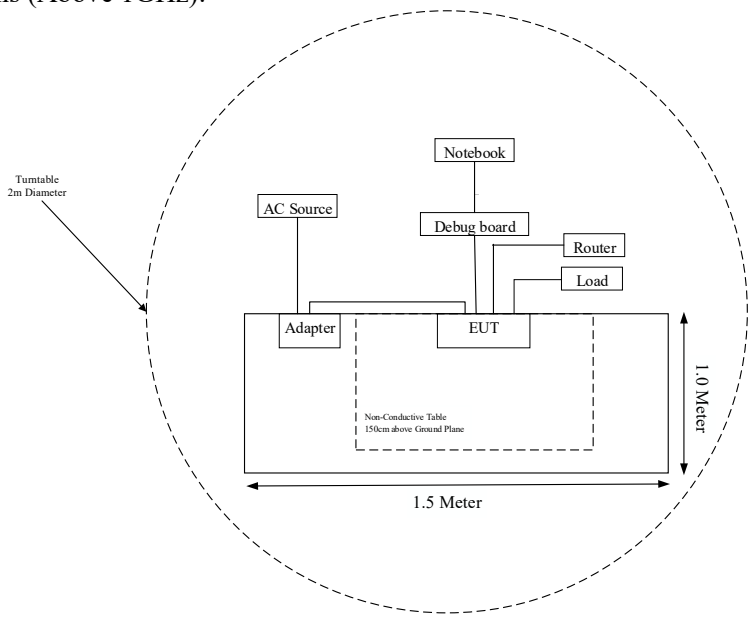
For Conducted Emissions:



For Radiated Emissions (Below 1GHz):



For Radiated Emissions (Above 1GHz):



SUMMARY OF TEST RESULTS

FCC Rules	Description of Test	Result	Remark
§15.203	Antenna Requirement	Compliant	---
§15.207 (a)	AC Line Conducted Emissions	Compliant	---
§15.205, §15.209, §15.247(d)	Spurious Emissions	Compliant	---
§15.247 (a)(2)	6 dB Emission Bandwidth	---	See Note★
§15.247(b)(3)	Maximum Conducted Output Power	---	See Note★
§15.247(d)	100 kHz Bandwidth of Frequency Band Edge	---	See Note★
§15.247(e)	Power Spectral Density	---	See Note★

Note: The changes will not affect test data, the data are referred to original report CR230847711-00B★ which provided by applicant.

TEST EQUIPMENT LIST

Manufacturer	Description	Model	Serial Number	Calibration Date	Calibration Due Date
Radiated Emission Test (Chamber 2#)					
ETS-LINDGREN	Horn Antenna	3115	9207-3900	2023-06-27	2024-06-26
ETS-LINDGREN	Horn Antenna	3115	9311-4159	2023-12-02	2024-12-01
Rohde & Schwarz	EMI Test Receiver	ESU40	100207	2023-06-27	2024-06-26
Rohde & Schwarz	EMI Test Receiver	ESU40	100207	2024-04-25	2025-04-24
A.H.Systems, inc	Amplifier	PAM-0118P	512	2023-05-23	2024-05-22
A.H.Systems, inc	Amplifier	PAM-0118P	512	2024-04-25	2025-04-24
Rohde & Schwarz	Auto test Software	EMC32	100361	N/A	N/A
MICRO-COAX	Coaxial Cable	Cable-11	011	2023-05-23	2024-05-22
MICRO-COAX	Coaxial Cable	Cable-11	011	2024-04-25	2025-04-24
MICRO-COAX	Coaxial Cable	Cable-12	012	2023-05-23	2024-05-22
MICRO-COAX	Coaxial Cable	Cable-12	012	2024-04-25	2025-04-24
MICRO-COAX	Coaxial Cable	Cable-13	013	2023-05-23	2024-05-22
MICRO-COAX	Coaxial Cable	Cable-13	013	2024-04-25	2025-04-24
Radiated Emission Test (Chamber 1#)					
Rohde & Schwarz	EMI Test Receiver	ESCI	100195	2024-04-23	2025-04-22
Sunol Sciences	Hybrid Antenna	JB3	A090314-1	2023-11-11	2024-11-10
Sonoma Instrument	Pre-amplifier	310N	171205	2024-04-23	2025-04-22
Rohde & Schwarz	Auto test Software	EMC32	100361	N/A	N/A
MICRO-COAX	Coaxial Cable	Cable-8	008	2024-04-23	2025-04-22
MICRO-COAX	Coaxial Cable	Cable-9	009	2024-04-23	2025-04-22
MICRO-COAX	Coaxial Cable	Cable-10	010	2024-04-23	2025-04-22
ETS-LINDGREN	Loop Antenna	6512	108100	2023-11-09	2024-11-08
Narda	6 dB Attenuator	773-6	10690812-2-1	2023-11-11	2024-11-10
Microtronics	Notch Filters	BRC50722	G013	2024-04-23	2025-04-22
Conducted Emission Test					
Rohde & Schwarz	EMI Test Receiver	ESR3	101746	2023-05-23	2024-05-22
Rohde & Schwarz	LISN	ENV216	101115	2023-05-23	2024-05-22
Audix	Test Software	e3	V9	N/A	N/A
Rohde & Schwarz	Pulse limiter	ESH3-Z2	100552	2023-10-10	2024-10-09
MICRO-COAX	Coaxial Cable	Cable-15	015	2023-05-23	2024-05-22

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

FCC §15.203 - ANTENNA REQUIREMENT

Applicable Standard

According to § 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 user of a standard antenna jack or electrical connector is prohibited. The structure and application of the EUT were analyzed to determine Compliant with section §15.203 of the rules. §15.203 state that the subject device must meet the following criteria:

a. Antenna must be permanently attached to the unit.
b. Antenna must use a unique type of connector to attach to the EUT.
c. Unit must be professionally installed, and installer shall be responsible for verifying that the correct antenna is employed with the unit.

And according to FCC 47 CFR section 15.247 (b), if the transmitting antennas of directional gain greater than 6dBi are used, the power shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Antenna Connector Construction

The EUT has a PCB antenna for SRD, and the antenna gain is 3.47 dBi, which use a unique type of connector to attach to the EUT, fulfill the requirement of this section. Please refer to the EUT photos.

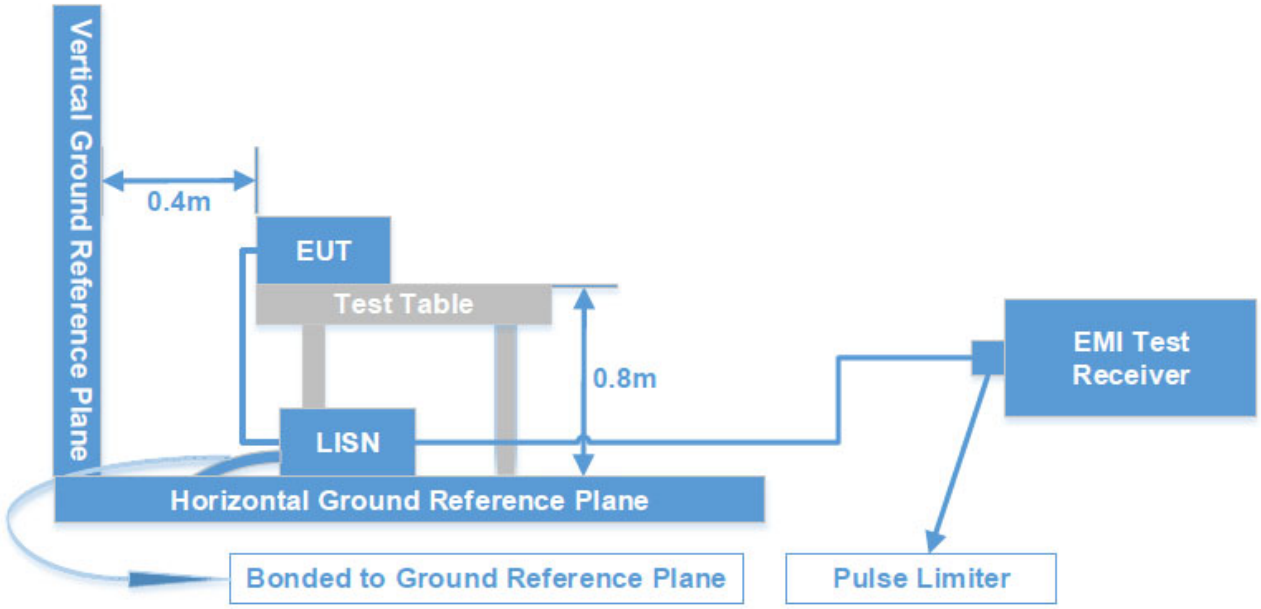
Result: Compliant.

FCC §15.207 (a) – AC LINE CONDUCTED EMISSIONS

Applicable Standard

FCC §15.207(a)

Test System Setup



The measurement procedure of EUT setup is according with ANSI C63.10-2013. The related limit was specified in FCC Part 15.207.

The spacing between the peripherals was 10 cm.

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	RBW	VBW
150 kHz - 30 MHz	9 kHz	30 kHz

Test Procedure

ANSI C63.10-2013 clause 6.2

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

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

If the maximum peak value of the emissions is below the average limit, the QP value and average value measurement will not need to be performed and only record the maximum peak measured value to meet the requirements.

Level & Over Limit Calculation

The Level is calculated by adding LISN VDF (Voltage Division Factor), Cable Loss and Transient Limiter Attenuation from the Meter Reading. The basic equation is as follows:

Factor (dB) = LISN VDF (dB) + Cable Loss (dB) + Transient Limiter Attenuation (dB)
Level (dBµV) = Read level (dBµV) + Factor (dB)

The "**Over Limit**" column of the following data tables indicates the degree of compliance with the applicable limit. For example, an Over Limit of 7 dB means the emission is 7 dB above the limit. The equation for Over Limit calculation is as follows:

Over Limit (dB) = Level (dBµV) - Limit (dBµV)

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Title 47, FCC Part 15.207.

Test Data: See Exhibit A

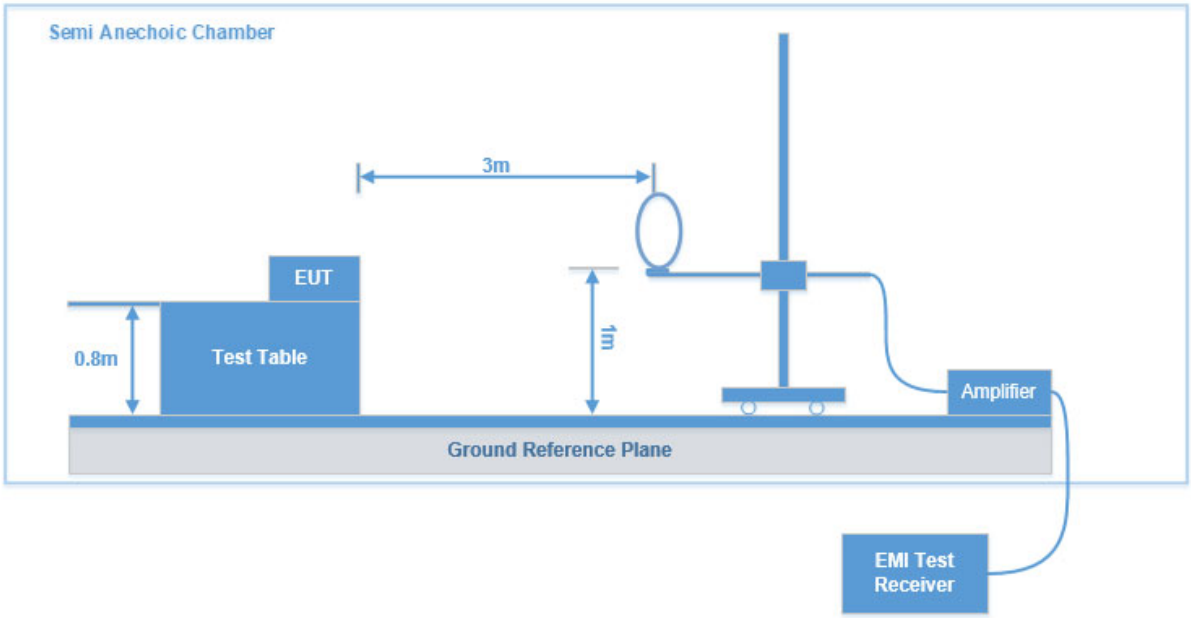
FCC §15.209, §15.205 & §15.247(d) - SPURIOUS EMISSIONS

Applicable Standard

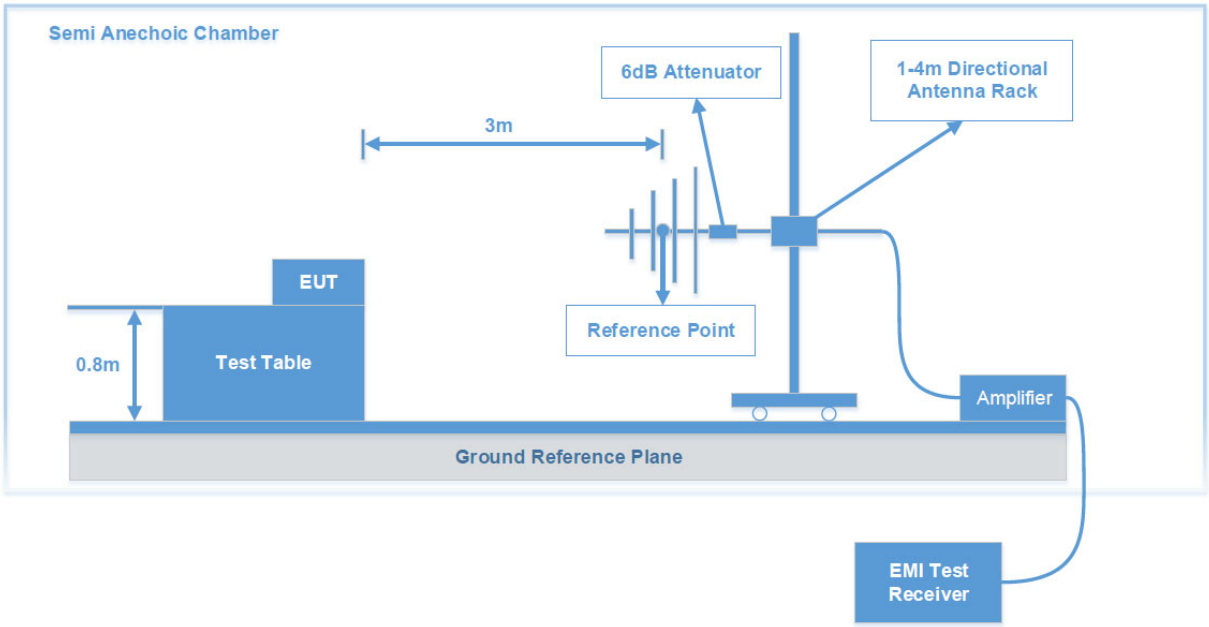
FCC §15.247 (d); §15.209; §15.205;

Test System Setup

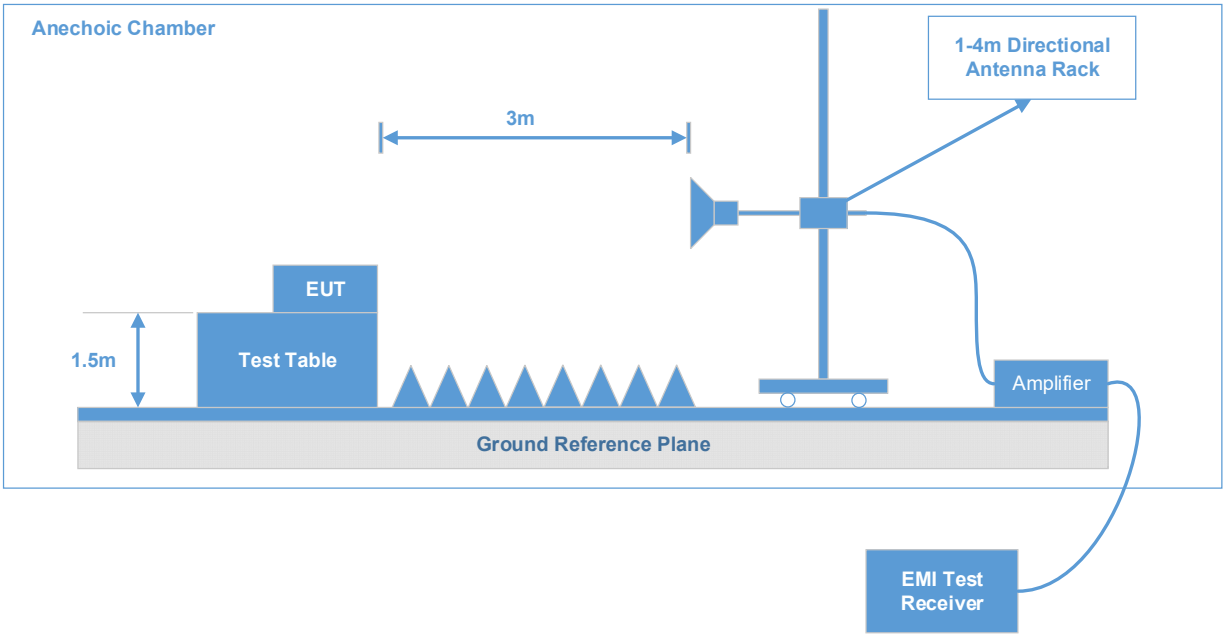
9 kHz-30MHz:



30MHz-1GHz:



Above 1 GHz:



The radiated emission tests were performed in the 3 meters test site, using the setup accordance with the ANSI C63.10-2013. The specification used was the FCC 15.209, and FCC 15.247 limits.

EMI Test Receiver Setup

The system was investigated from 9 kHz to 10 GHz.

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

Frequency Range	RBW	VBW	IF B/W	Detector
9 kHz – 150 kHz	200 Hz	1 kHz	200 Hz	QP/Average
150 kHz – 30 MHz	9 kHz	30 kHz	9 kHz	QP/ Average
30 MHz – 1000 MHz	100 kHz	300 kHz	/	Peak
	/	/	120 kHz	QP
Above 1GHz	1MHz	3 MHz	/	Peak
	1MHz	3 MHz	/	Average

Note: If the maximized peak measured value complies with under the QP/Average limit more than 6dB, then it is unnecessary to perform a QP/Average measurement.

Test Procedure

According to ANSI C63.10-2013 clause 6.5, 6.6 and 6.7.

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

Data was recorded in Quasi-peak detection mode for frequency range of 9 kHz-1 GHz except 9–90 kHz, 110–490 kHz, employing an average detector, peak and Average detection modes for frequencies above 1GHz.

For 9 kHz-30MHz test, the lowest height of the magnetic antenna shall be 1 m above the ground and three antenna orientations (parallel, perpendicular, and ground-parallel) shall be measured.

Corrected Amplitude & Margin Calculation

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

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

Note: The QuasiPeak (dBμV/m), MaxPeak (dBμV/m), Average (dBμV/m) which shown in the data table are all Corrected Amplitude.

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

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

Test Results Summary

According to the recorded data in following table, the EUT complied with the FCC Title 47, Part 15, Subpart C, section 15.205, 15.209 and 15.247.

Test Data: See Exhibit A

EUT PHOTOGRAPHS

Please refer to the attachment EXHIBIT A - EUT EXTERNAL PHOTOGRAPHS

TEST SETUP PHOTOGRAPHS

Please refer to the attachment EXHIBIT B - TEST SETUP PHOTOGRAPHS.

EXHIBIT D - TEST DATA

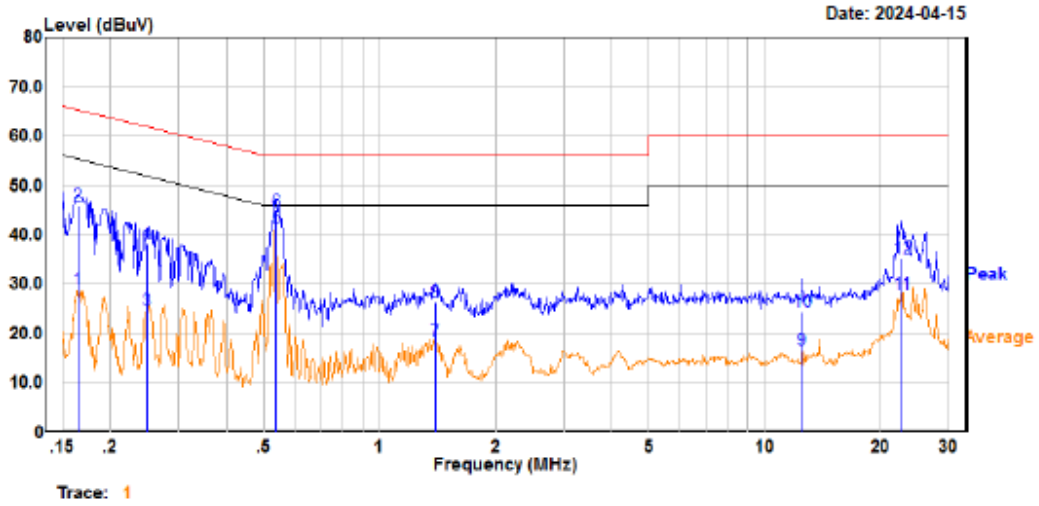
Environmental Conditions & Test Information

Test Item:	SPURIOUS EMISSIONS				AC LINE CONDUCTED EMISSIONS
	9 kHz - 1 GHz	1 GHz - 10 GHz			
Test Date:	2024-07-12	2024-03-29	2024-07-12	2024-07-17	2024-04-15
Temperature:	24.7 ℃	20.3℃	24.7 ℃	23.4 ℃	21.0 ℃
Relative Humidity:	55 %	52 %	55 %	52 %	65 %
ATM Pressure:	100.3kPa	102.6kPa	100.3kPa	100.9kPa	101.3kPa
Test Result:	Pass	Pass	Pass	Pass	Pass
Test Engineer:	Grace Luo	Peter Wang	Grace Luo	Grace Luo	Frank Liu

AC LINE CONDUCTED EMISSIONS

Test mode：Transmitter in maximum output channel low channel

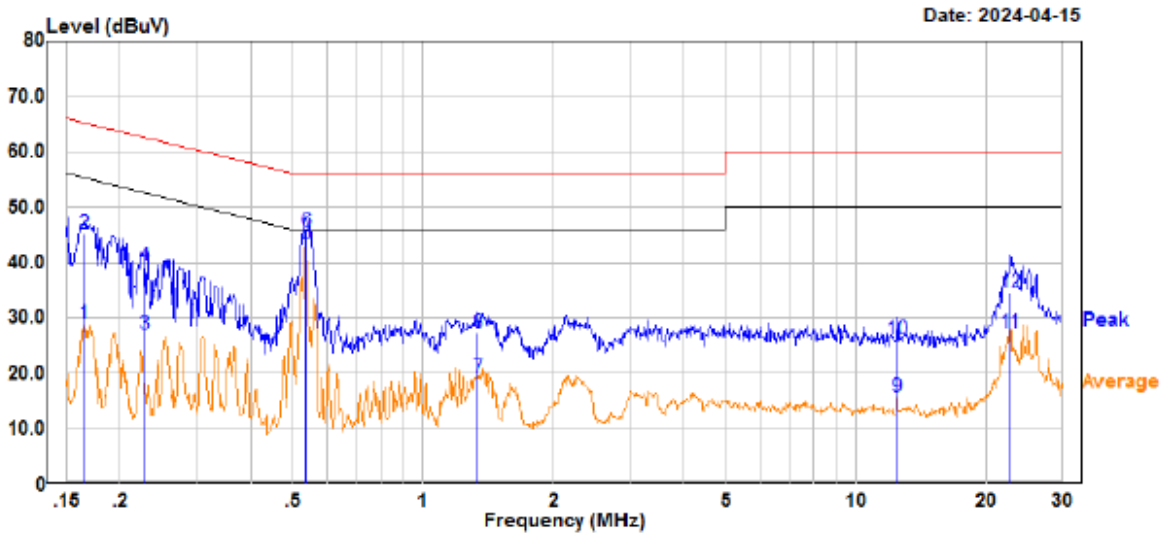
Line



Site : CE
Condition : limit\FCC PART 15.207
: DET:Peak
Project No. : RSHA240204002
Model : DTU-Plus-S-C
Phase : L
Voltage : 120V/60Hz
Mode : Transmitter in low channel
Test Equipment : ENV216,ESR
Temperature : 21.0℃
Humidity : 65%
Atmospheric pressure: 101.3kPa
Test Engineer : Frank Liu

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.164	9.19	19.91	29.10	55.25	-26.15	Average
2	0.164	25.99	19.91	45.90	65.25	-19.35	QP
3	0.248	4.60	19.98	24.58	51.82	-27.24	Average
4	0.248	18.30	19.98	38.28	61.82	-23.54	QP
5	0.537	21.20	20.10	41.30	46.00	-4.70	Average
6	0.537	24.60	20.10	44.70	56.00	-11.30	QP
7	1.392	-1.50	19.97	18.47	46.00	-27.53	Average
8	1.392	6.40	19.97	26.37	56.00	-29.63	QP
9	12.478	-3.19	19.90	16.71	50.00	-33.29	Average
10	12.478	4.41	19.90	24.31	60.00	-35.69	QP
11	22.693	8.20	19.90	28.10	50.00	-21.90	Average
12	22.693	15.30	19.90	35.20	60.00	-24.80	QP

Neutral



Trace: 1

Site : CE
Condition : limit\FCC PART 15.207
: DET:Peak
Project No. : RSHA240204002
Model : DTU-Plus-S-C
Phase : N
Voltage : 120V/60Hz
Mode : Transmitter in low channel
Test Equipment : ENV216,ESR
Temperature : 21.0℃
Humidity : 65%
Atmospheric pressure: 101.3kPa
Test Engineer : Frank Liu

	Freq	Read Level	Factor	Level	Limit Line	Over Limit	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	
1	0.165	9.20	19.91	29.11	55.21	-26.10	Average
2	0.165	25.40	19.91	45.31	65.21	-19.90	QP
3	0.227	7.20	19.97	27.17	52.56	-25.39	Average
4	0.227	19.50	19.97	39.47	62.56	-23.09	QP
5	0.537	23.10	20.10	43.20	46.00	-2.80	Average
6	0.537	25.70	20.10	45.80	56.00	-10.20	QP
7	1.338	-0.90	19.94	19.04	46.00	-26.96	Average
8	1.338	7.50	19.94	27.44	56.00	-28.56	QP
9	12.416	-4.10	19.91	15.81	50.00	-34.19	Average
10	12.416	6.30	19.91	26.21	60.00	-33.79	QP
11	22.693	7.50	19.90	27.40	50.00	-22.60	Average
12	22.693	14.70	19.90	34.60	60.00	-25.40	QP

SPURIOUS EMISSIONS

After pre-scan in the X, Y and Z axes of orientation, the worst case is below:

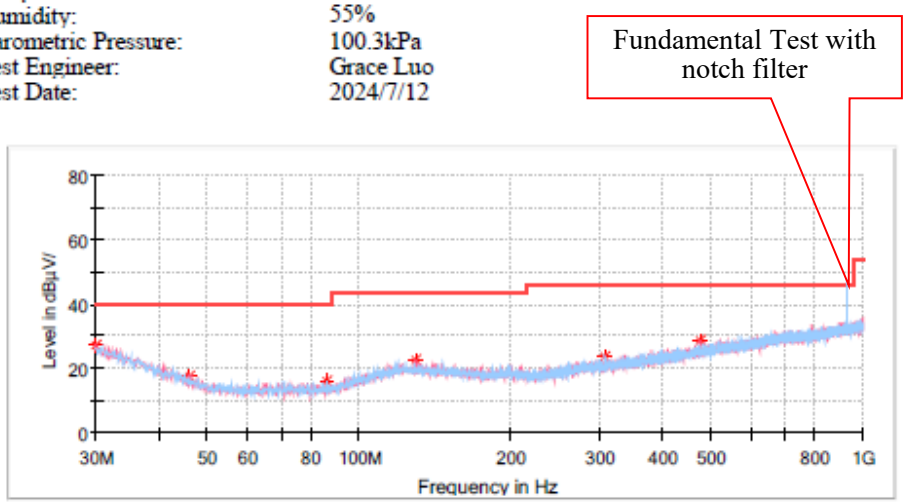
9 kHz-30 MHz（*Transmitter in maximum output channel low channel*）
The amplitude of spurious emissions attenuated more than 20 dB below the limit was not be recorded.

30 MHz - 1 GHz:

Low channel: 915.25 MHz

Common Information

Project No:	RSHA240204002
EUT Model:	DTU-Plus-S-C
Test Mode:	LOW Channel
Standard:	FCC Part 15.247&15.209&15.205
Test Equipment:	ESCI, JB3, 310N
Temperature:	24.7°C
Humidity:	55%
Barometric Pressure:	100.3kPa
Test Engineer:	Grace Luo
Test Date:	2024/7/12



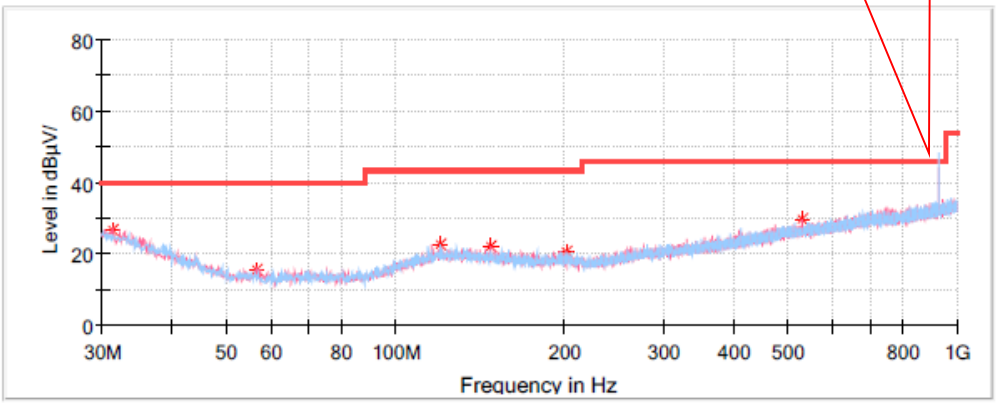
Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
30.000000	27.07	40.00	12.93	V	-4.7
45.883750	17.84	40.00	22.16	V	-14.6
86.381250	16.24	40.00	23.76	H	-17.1
129.182500	22.62	43.50	20.88	V	-11.1
308.026250	23.64	46.00	22.36	H	-10.3
475.715000	28.48	46.00	17.52	V	-6.0

Middle channel: 921.5MHz

Common Information

Project No:	RSHA240204002
EUT Model:	DTU-Plus-S-C
Test Mode:	Middle Channel
Standard:	FCC Part 15.247&15.209&15.205
Test Equipment:	ESCI, JB3, 310N
Temperature:	24.7°C
Humidity:	55%
Barometric Pressure:	100.3kPa
Test Engineer:	Grace Luo
Test Date:	2024/7/12



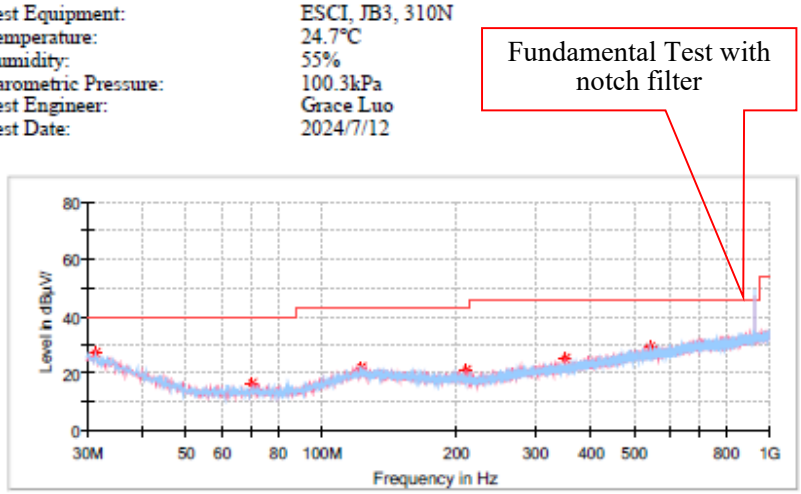
Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
31.333750	26.44	40.00	13.56	V	-5.6
56.432500	15.65	40.00	24.35	V	-17.3
120.331250	22.73	43.50	20.77	H	-10.9
147.612500	22.19	43.50	21.31	V	-11.7
200.962500	20.76	43.50	22.74	H	-12.3
528.458750	29.50	46.00	16.50	V	-5.1

High Channel: 927.5MHz

Common Information

Project No:	RSHA240204002
EUT Model:	DTU-Plus-S-C
Test Mode:	High Channel
Standard:	FCC Part 15.247&15.209&15.205
Test Equipment:	ESCI, JB3, 310N
Temperature:	24.7℃
Humidity:	55%
Barometric Pressure:	100.3kPa
Test Engineer:	Grace Luo
Test Date:	2024/7/12



Critical_Freqs

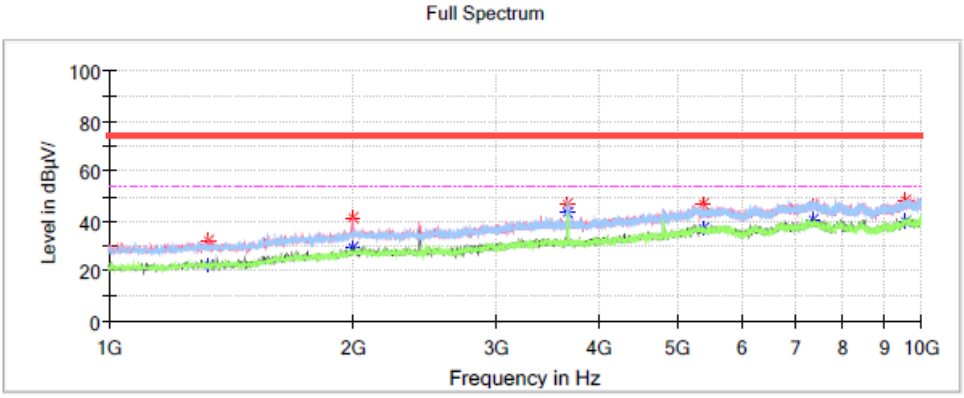
Frequency (MHz)	MaxPeak (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
31.333750	27.28	40.00	12.72	V	-5.6
70.255000	16.45	40.00	23.55	V	-17.1
122.513750	22.21	43.50	21.29	H	-10.9
210.177500	20.91	43.50	22.59	V	-12.9
349.978750	24.92	46.00	21.08	V	-9.3
543.857500	29.27	46.00	16.73	H	-4.9

1 GHz - 10 GHz:

Low Channel: 915.25 MHz

Common Information

Project No.:	RSHA240204002
EUT Model:	DTU-Plus-S-C
Test Mode:	Low channel
Standard:	FCC PART 15.247 & 15.209 & 15.205
Test Equipment:	ESU40,3115,PAM-0118P
Temperature:	20.3℃
Humidity:	52%
Atmospheric pressure:	102.6kPa
Test Engineer:	Peter Wang
Test Date	2024/3/29



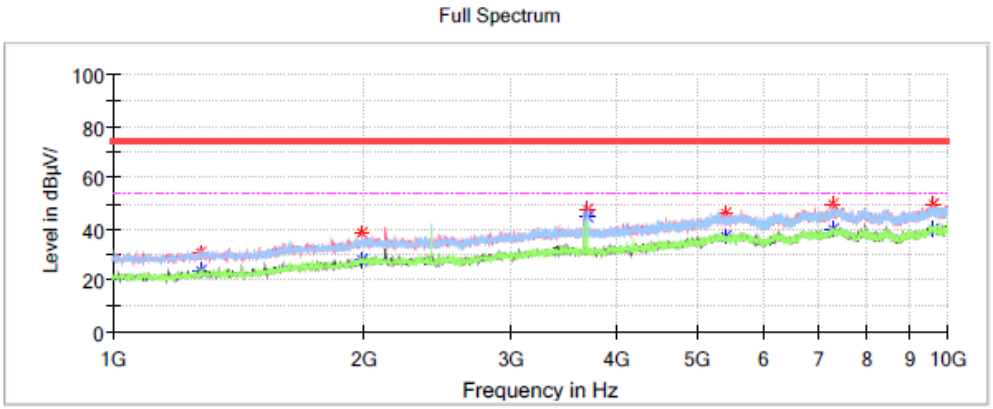
Critical_Freqs

Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1328.500000	32.11	---	74.00	41.89	V	-14.5
1328.500000	---	22.49	54.00	31.51	V	-14.5
1992.700000	40.95	---	74.00	33.05	V	-10.6
1992.700000	---	29.08	54.00	24.92	V	-10.6
3663.100000	46.80	---	74.00	27.20	H	-5.8
3663.100000	---	43.18	54.00	10.82	H	-5.8
5387.500000	46.87	---	74.00	27.13	V	0.4
5387.500000	---	37.06	54.00	16.94	V	0.4
7356.700000	46.24	---	74.00	27.76	V	4.1
7356.700000	---	40.42	54.00	13.58	V	4.1
9572.500000	48.26	---	74.00	25.74	V	6.5
9572.500000	---	40.17	54.00	13.83	V	6.5

Middle Channel: 921.5 MHz

Common Information

Project No.:	RSHA240204002
EUT Model:	DTU-Plus-S-C
Test Mode:	Mid channel
Standard:	FCC PART 15.247 & 15.209 & 15.205
Test Equipment:	ESU40,3115,PAM-0118P
Temperature:	20.3℃
Humidity:	52%
Atmospheric pressure:	102.6kPa
Test Engineer:	Peter Wang
Test Date	2024/3/29



Critical_Freqs

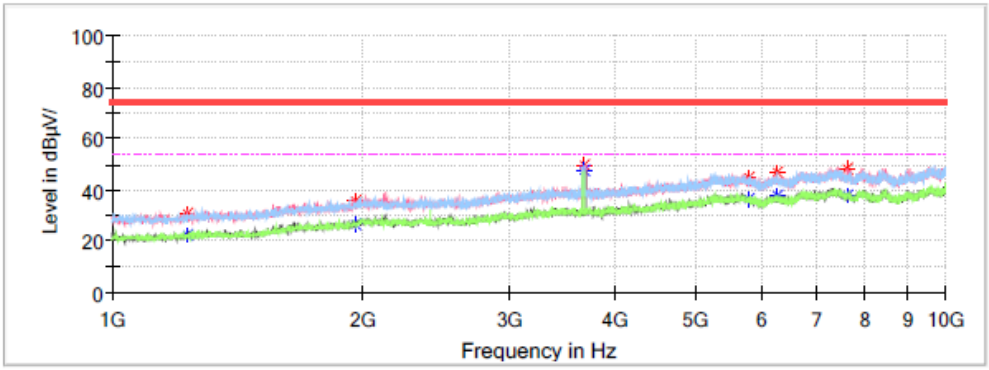
Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1270.900000	31.00	---	74.00	43.00	H	-14.7
1270.900000	---	23.45	54.00	30.55	H	-14.7
1990.900000	38.55	---	74.00	35.45	V	-10.6
1990.900000	---	28.14	54.00	25.86	V	-10.6
3703.600000	47.23	---	74.00	26.77	H	-5.7
3703.600000	---	45.06	54.00	8.94	H	-5.7
5405.500000	46.21	---	74.00	27.79	V	0.5
5405.500000	---	37.34	54.00	16.66	V	0.5
7271.200000	49.33	---	74.00	24.67	V	4.0
7271.200000	---	39.83	54.00	14.17	V	4.0
9619.300000	49.88	---	74.00	24.12	V	6.6
9619.300000	---	39.97	54.00	14.03	V	6.6

High Channel: 927.5 MHz

Common Information

Project No.:	RSHA240204002
EUT Model:	DTU-Plus-S-C
Test Mode:	High channel
Standard:	FCC PART 15.247 & 15.209 & 15.205
Test Equipment:	ESU40,3115,PAM-0118P
Temperature:	20.3℃
Humidity:	52%
Atmospheric pressure:	102.6kPa
Test Engineer:	Peter Wang
Test Date	2024/3/29

Full Spectrum



Critical_Freqs

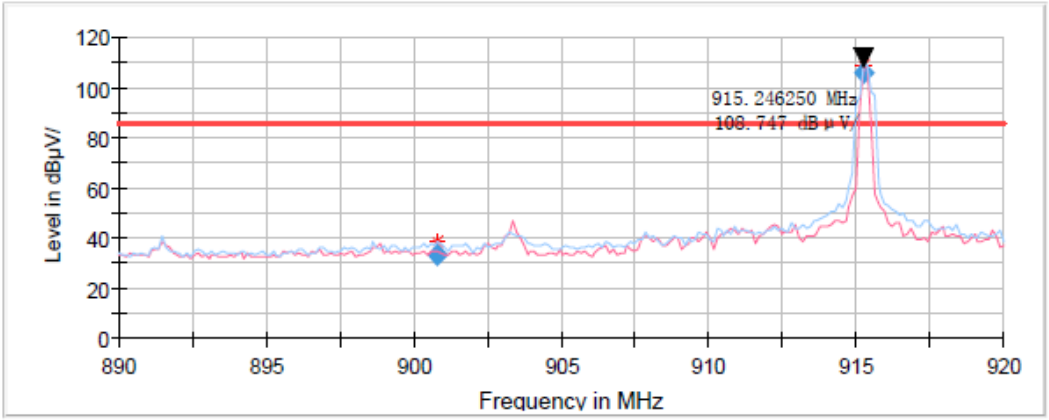
Frequency (MHz)	MaxPeak (dB µ V/m)	Average (dB µ V/m)	Limit (dB µ V/m)	Margin (dB)	Pol	Corr. (dB/m)
1227.700000	30.57	---	74.00	43.43	V	-14.8
1227.700000	---	22.67	54.00	31.33	V	-14.8
1955.800000	---	26.85	54.00	27.15	V	-10.9
1955.800000	35.55	---	74.00	38.45	V	-10.9
3684.700000	---	47.39	54.00	6.61	H	-5.7
3684.700000	49.51	---	74.00	24.49	H	-5.7
5806.000000	45.06	---	74.00	28.94	H	0.4
5806.000000	---	36.27	54.00	17.73	H	0.4
6289.300000	46.55	---	74.00	27.45	H	0.6
6289.300000	---	37.59	54.00	16.41	H	0.6
7638.400000	48.33	---	74.00	25.67	V	4.1
7638.400000	---	37.83	54.00	16.17	V	4.1

Band Edge:

Left Side

Common Information

Project No:	RSHA240204002
EUT Model:	DTU-Plus-S-C
Test Mode: :	Low Channel
Test Equipment:	ESCI, JB3, 310N
Temperature:	23.4℃
Humidity:	52%
Barometric Pressure:	100.9kPa
Test Engineer:	Grace Luo
Test Date:	2024/7/17



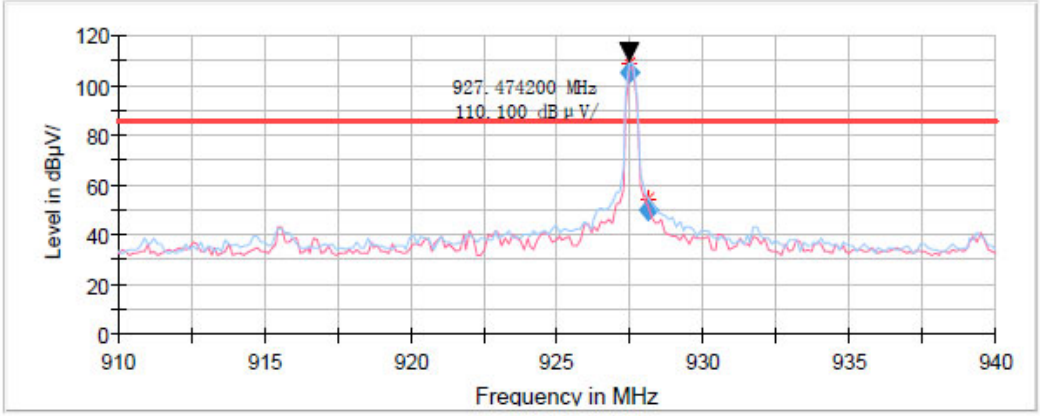
Final_Result

Frequency (MHz)	QuasiPeak (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Pol	Corr. (dB/m)
900.817500	32.91	85.40	52.49	H	1.0
915.246250	105.40	-	-	H	1.2

Right Side

Common Information

Project No:	RSHA240204002
EUT Model:	DTU-Plus-S-C
Test Mode:	High Channel
Test Equipment:	ESCI, JB3, 310N
Temperature:	23.4℃
Humidity:	52%
Barometric Pressure:	100.9kPa
Test Engineer:	Grace Luo
Test Date:	2024/7/17



Final_Result

Frequency (MHz)	QuasiPeak (dBµ V/m)	Limit (dBµ V/m)	Margin (dB)	Pol	Corr. (dB/m)
927.474200	105.10	-	-	H	1.4
928.098750	50.10	85.10	35.00	H	1.4

Declarations

1. The laboratory is not responsible for the authenticity of any information provided by the applicant. Information from the applicant that may affect test results is marked with "★".

2. The test data was only valid for the test sample(s).

3. This report is valid only with a valid digital signature. The digital signature may be available only under the Adobe software above version 7.0.

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

5. The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor k=2 with the 95.45% confidence interval.

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