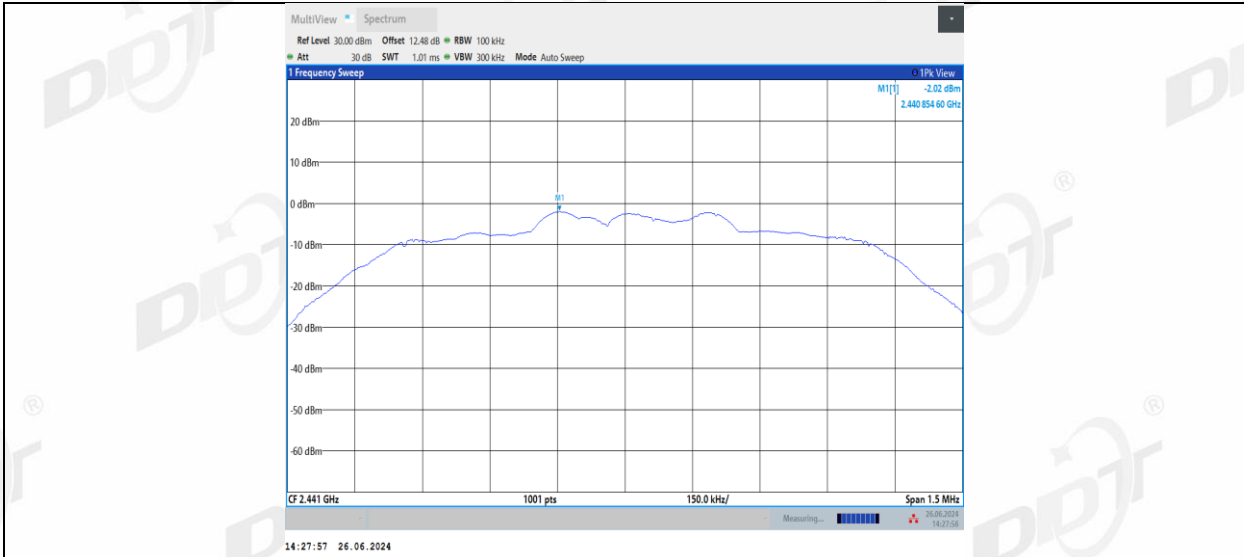
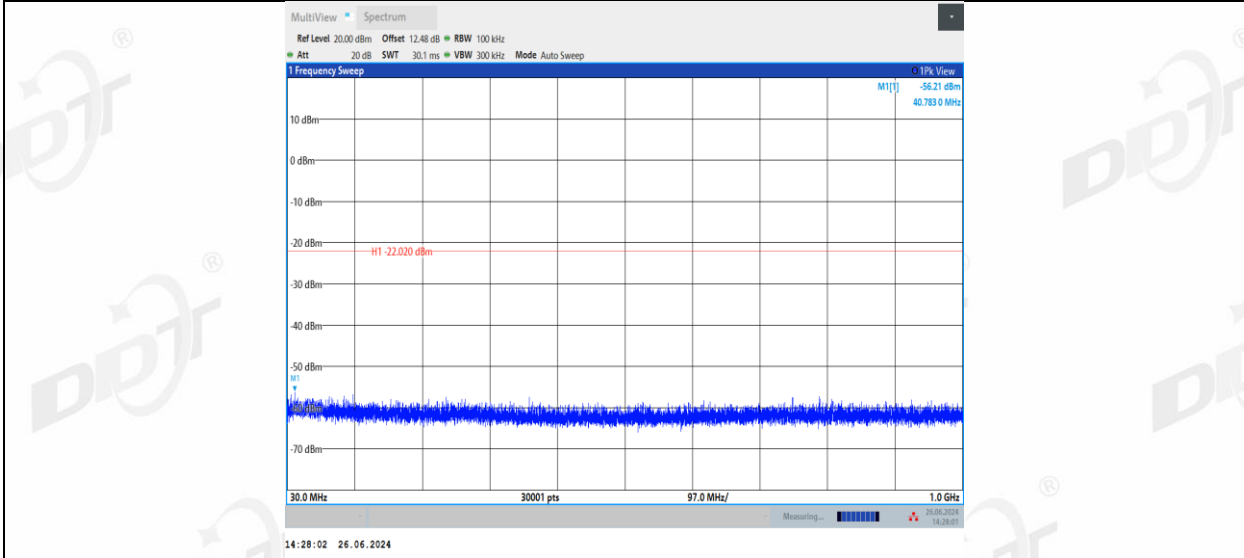
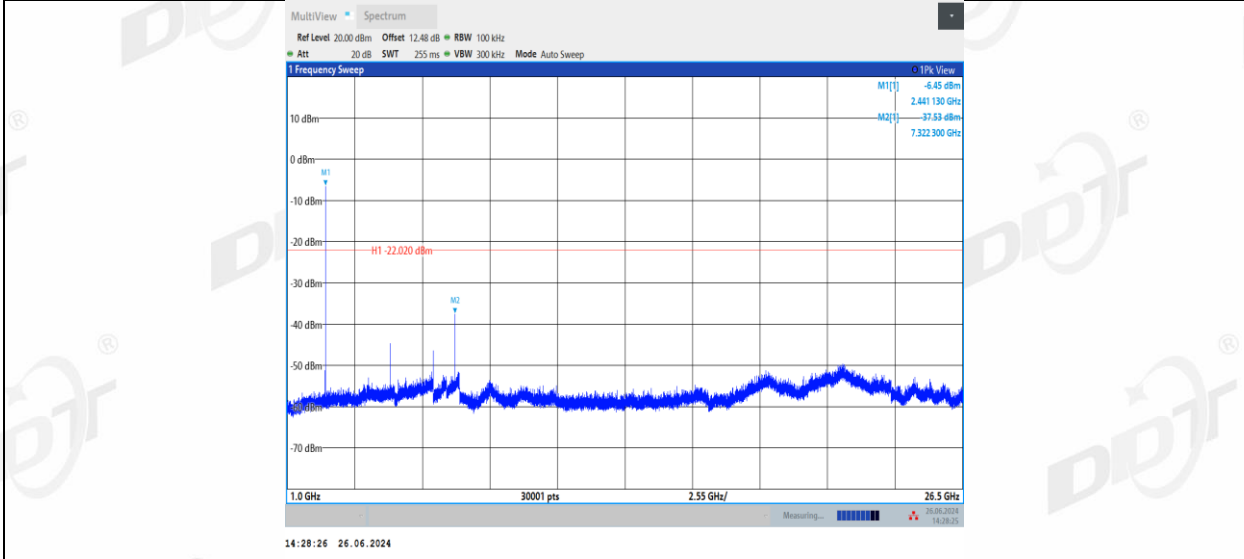




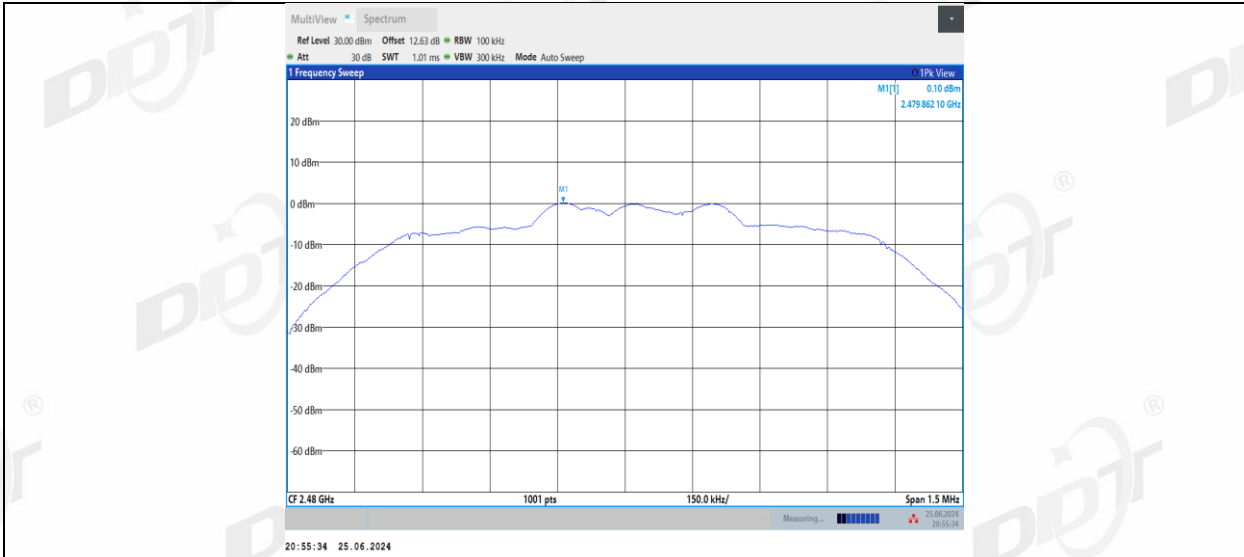
2DH5_Left side_2441_30~1000



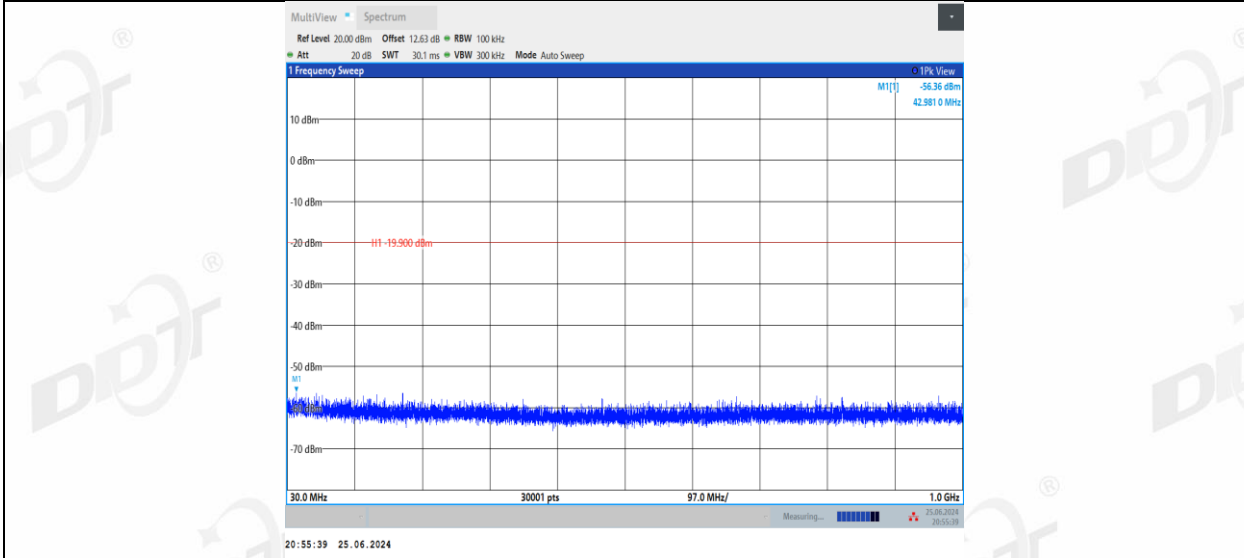
2DH5_Left side_2441_1000~26500



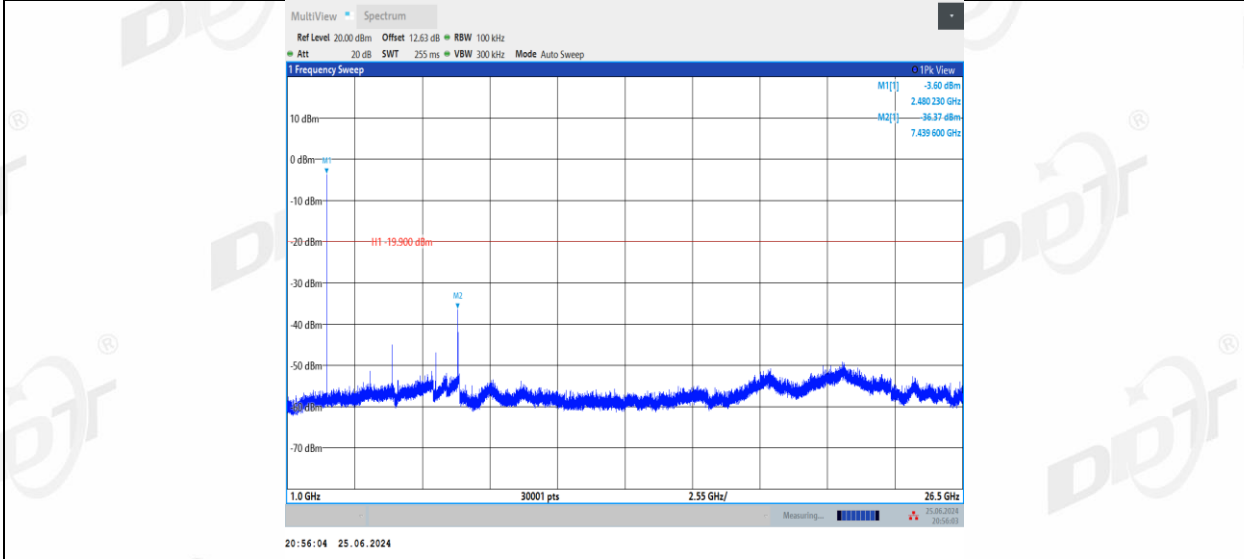
2DH5_Right side_2480_0~Reference



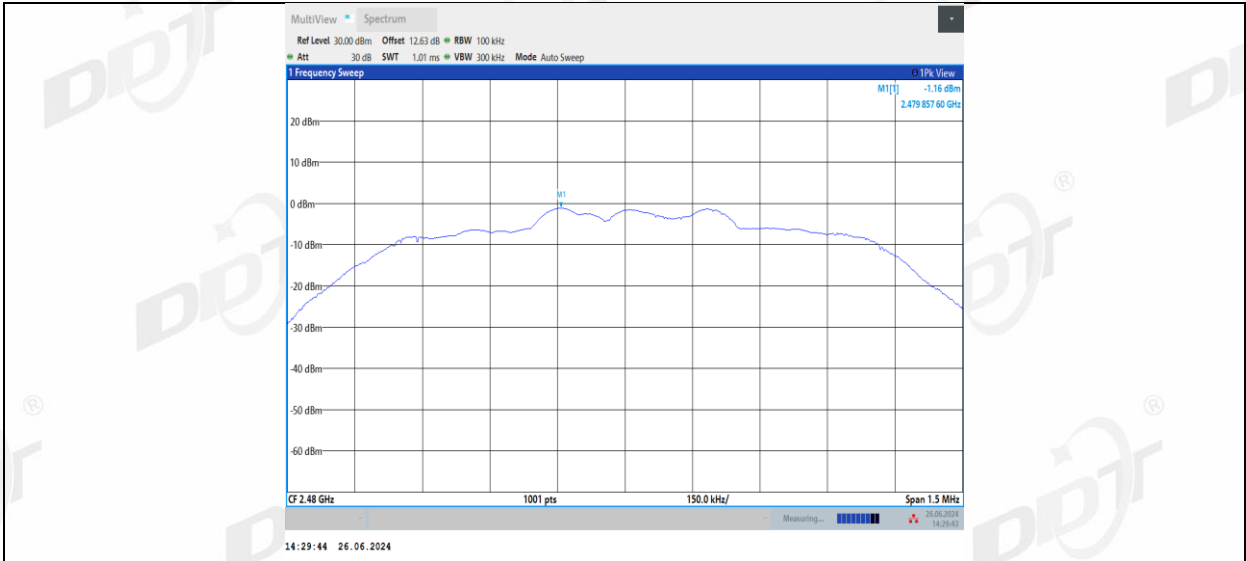
2DH5_Right side_2480_30~1000



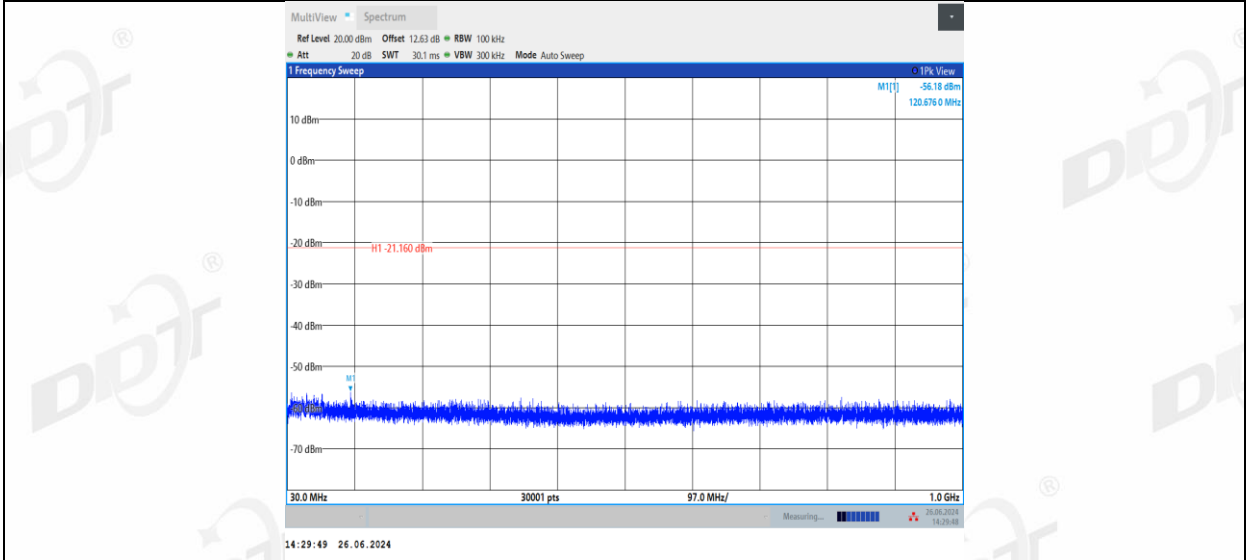
2DH5_Right side_2480_1000~26500



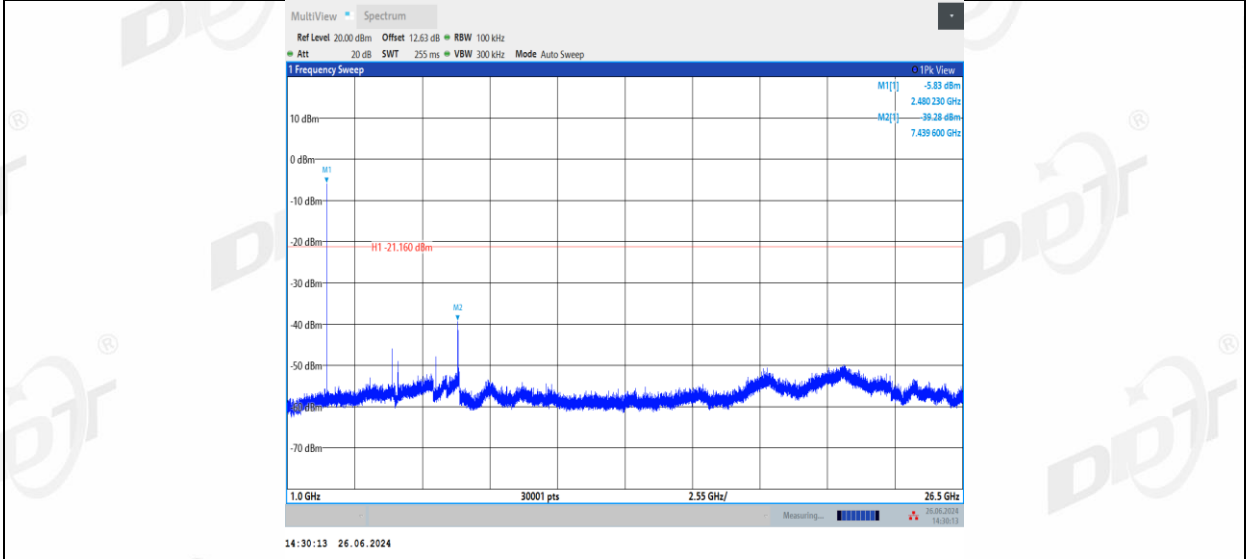
2DH5_Left side_2480_0~Reference



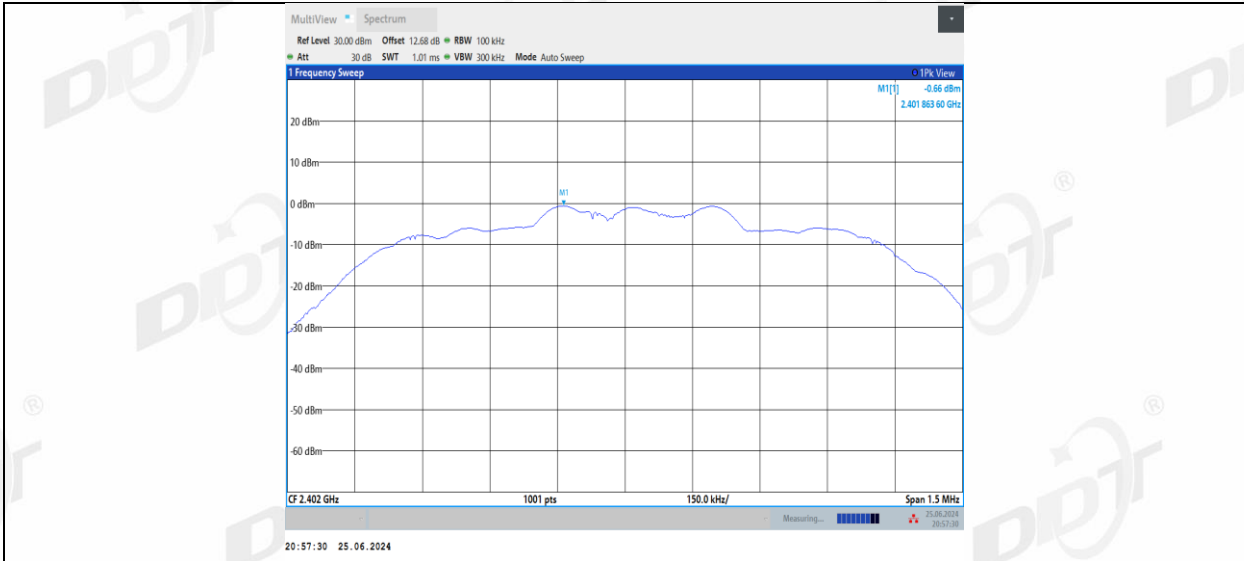
2DH5_Left side_2480_30~1000



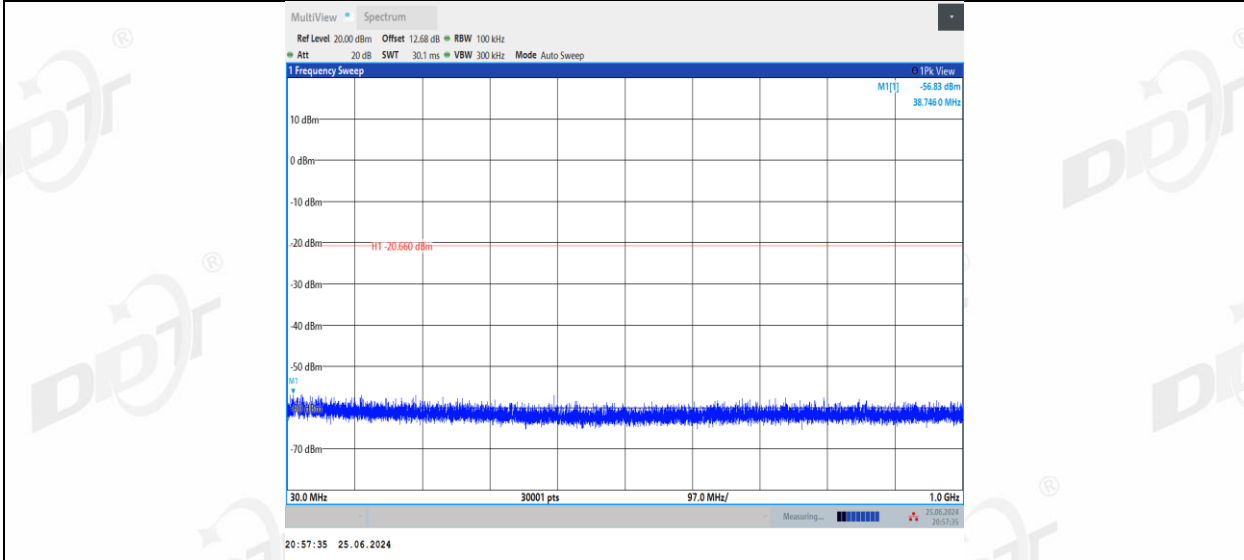
2DH5_Left side_2480_1000~26500



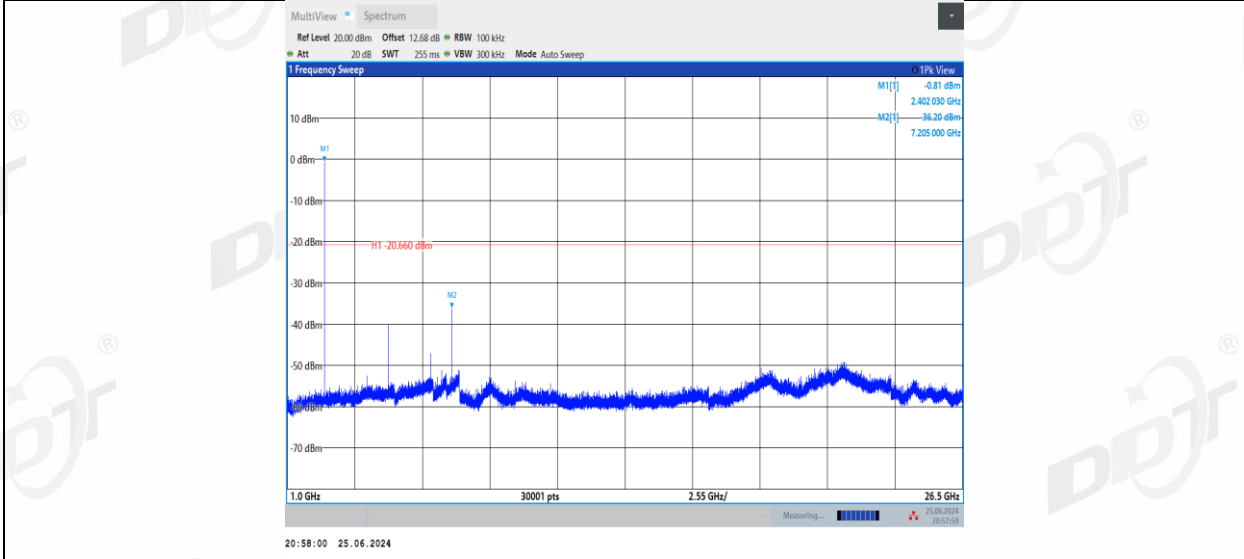
3DH5_Right side_2402_0~Reference



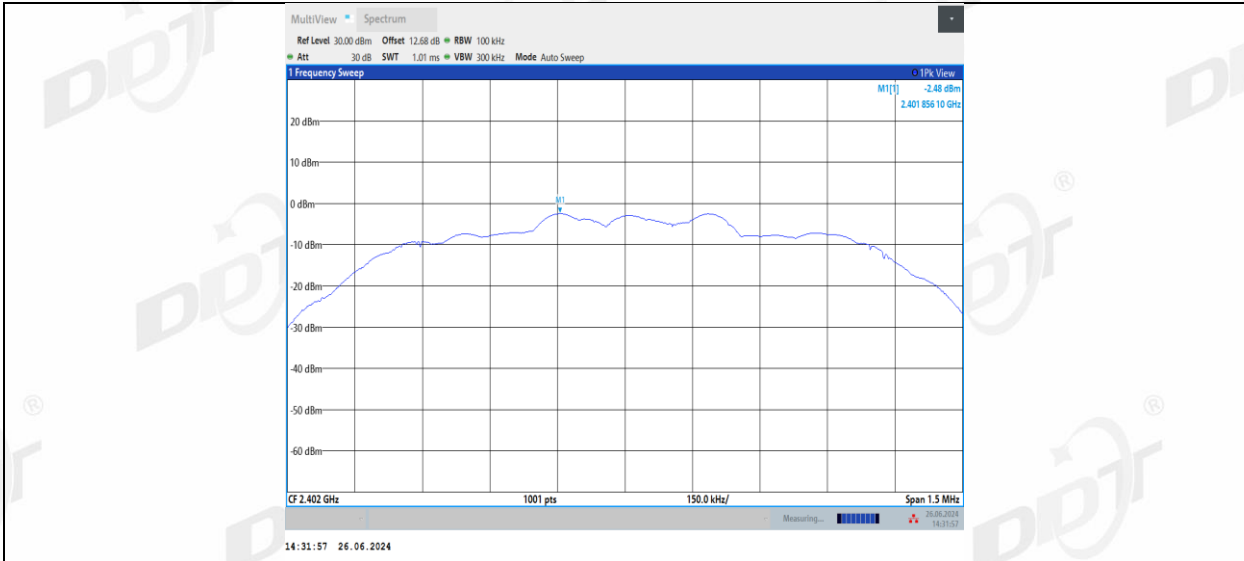
3DH5_Right side_2402_30~1000



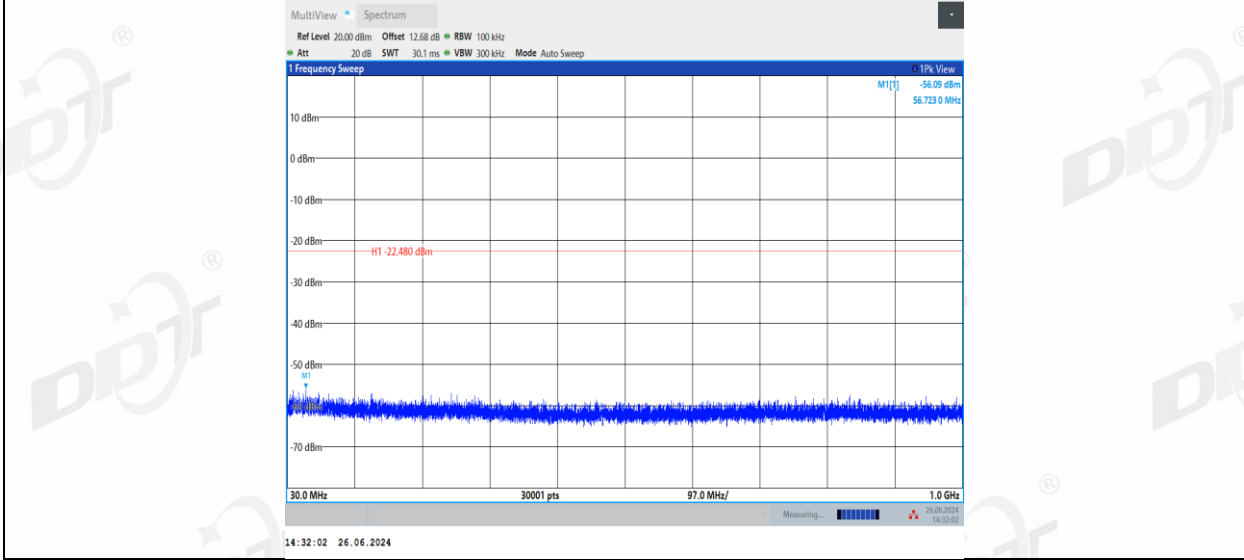
3DH5_Right side_2402_1000~26500



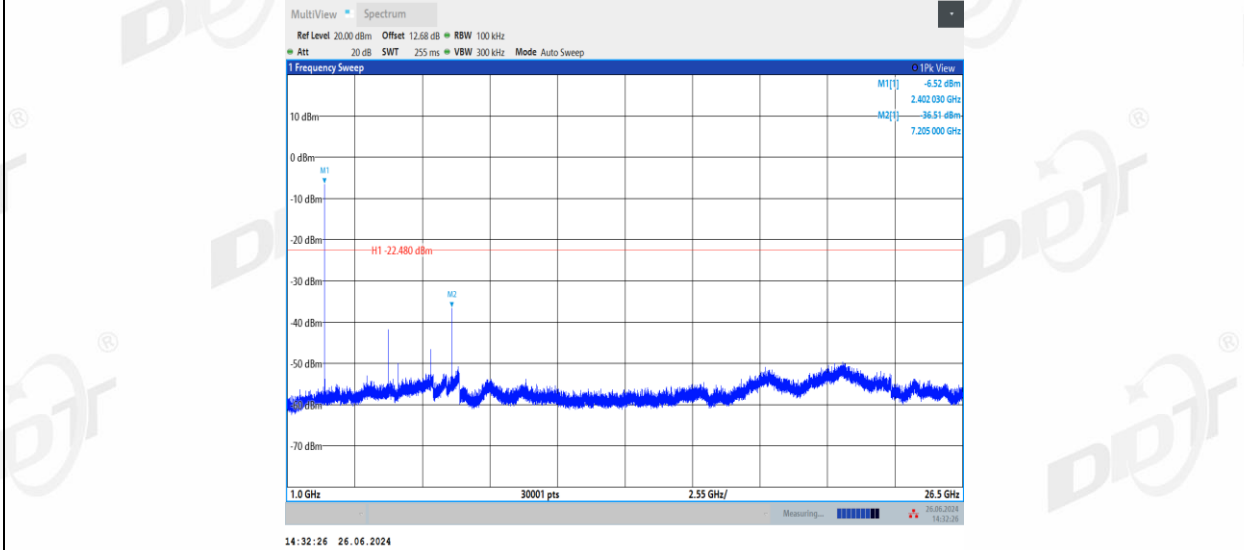
3DH5_Left side_2402_0~Reference



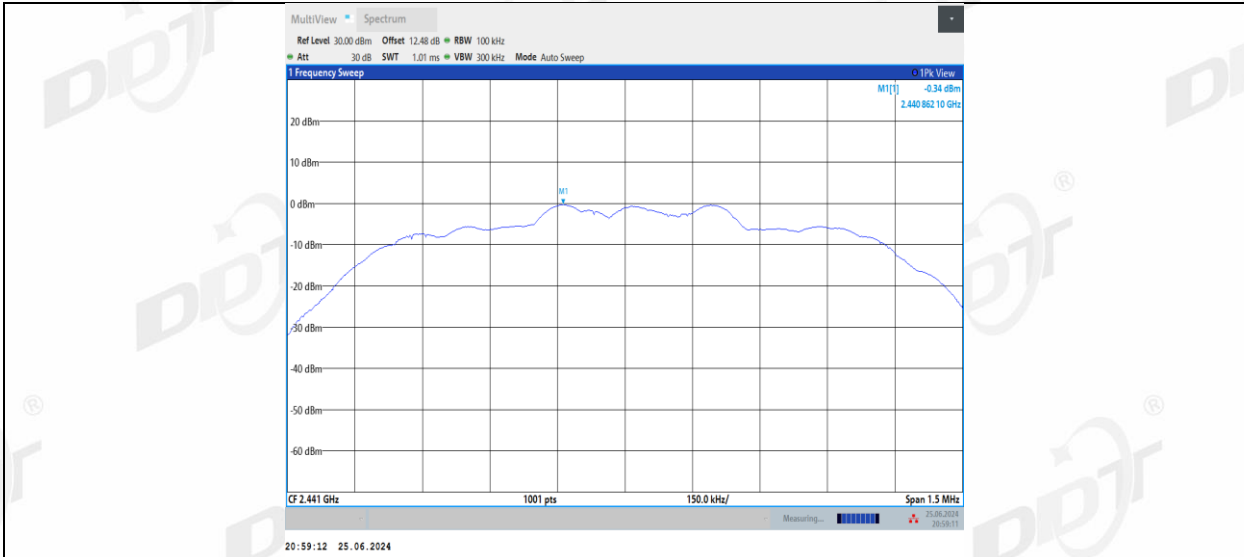
3DH5_Left side_2402_30~1000



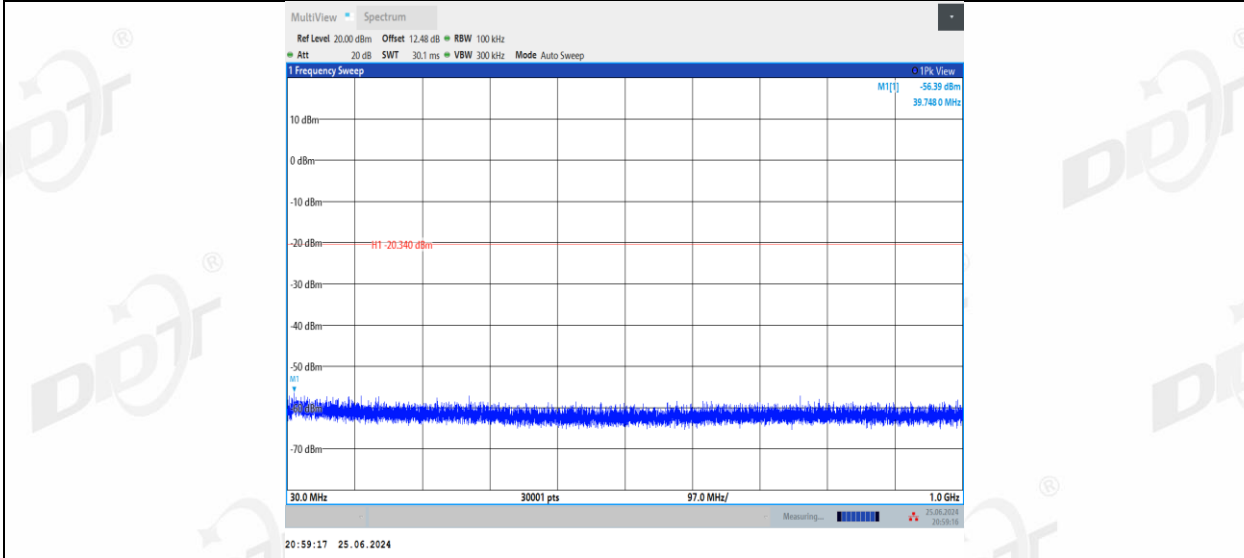
3DH5_Left side_2402_1000~26500



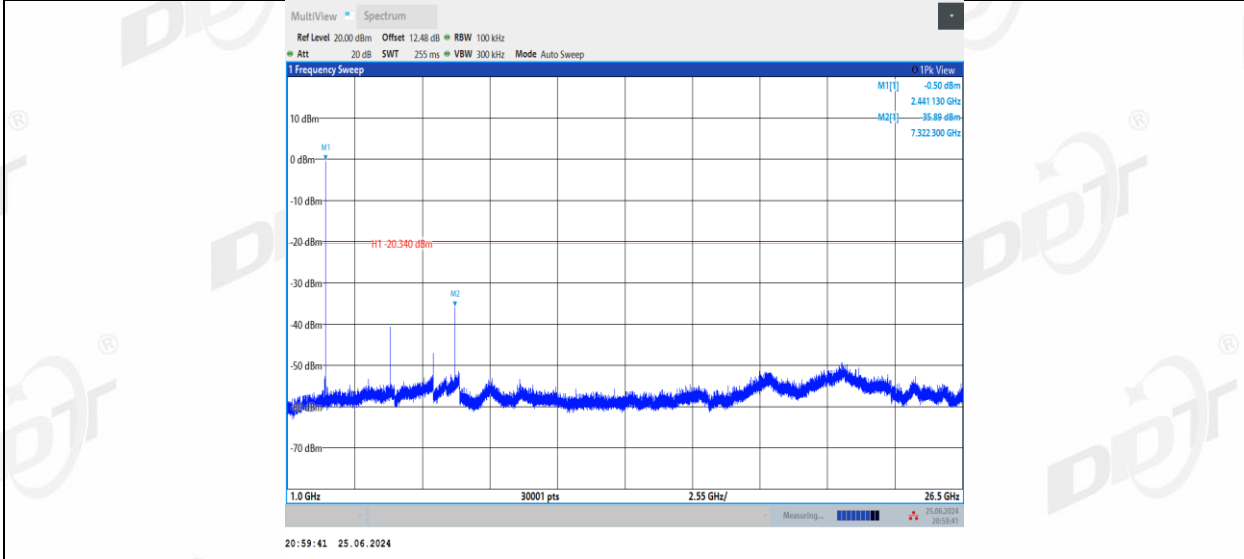
3DH5_Right side_2441_0~Reference



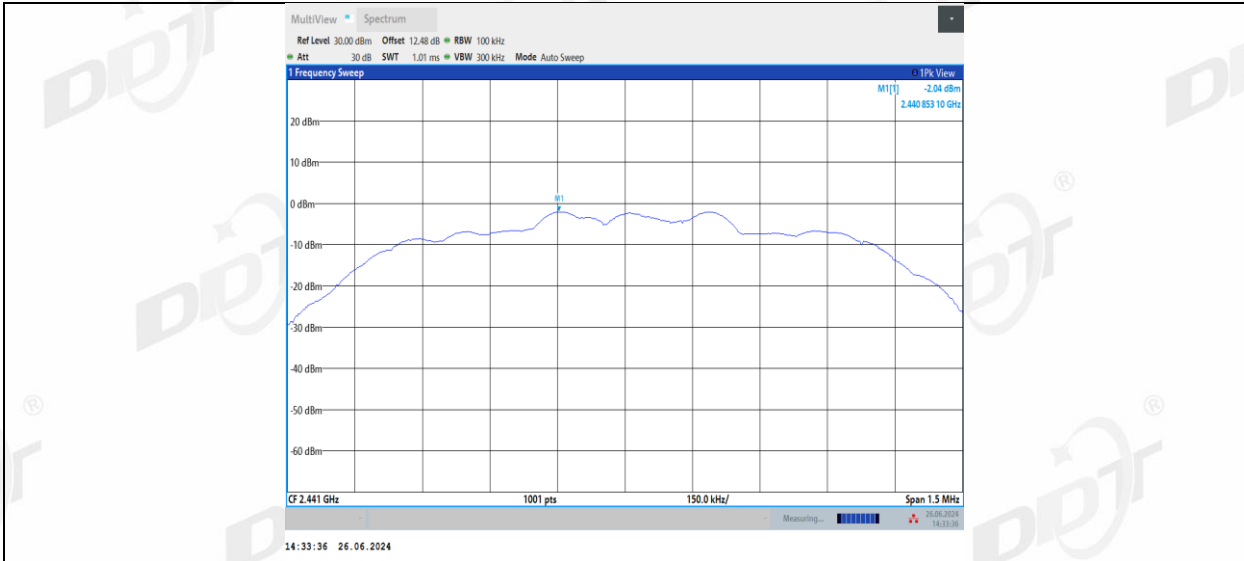
3DH5_Right side_2441_30~1000



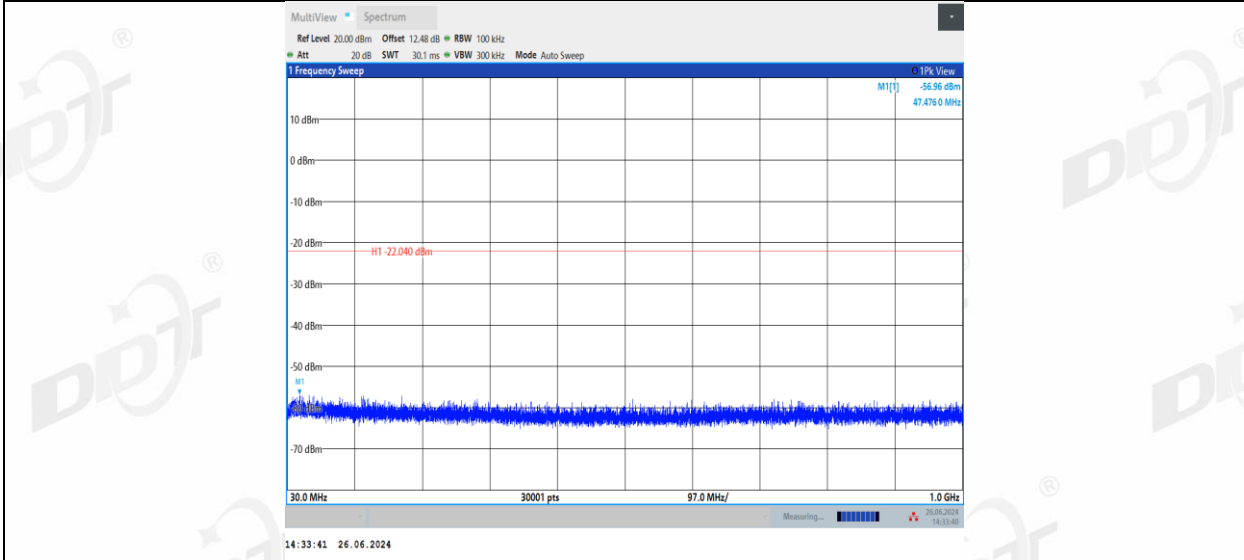
3DH5_Right side_2441_1000~26500



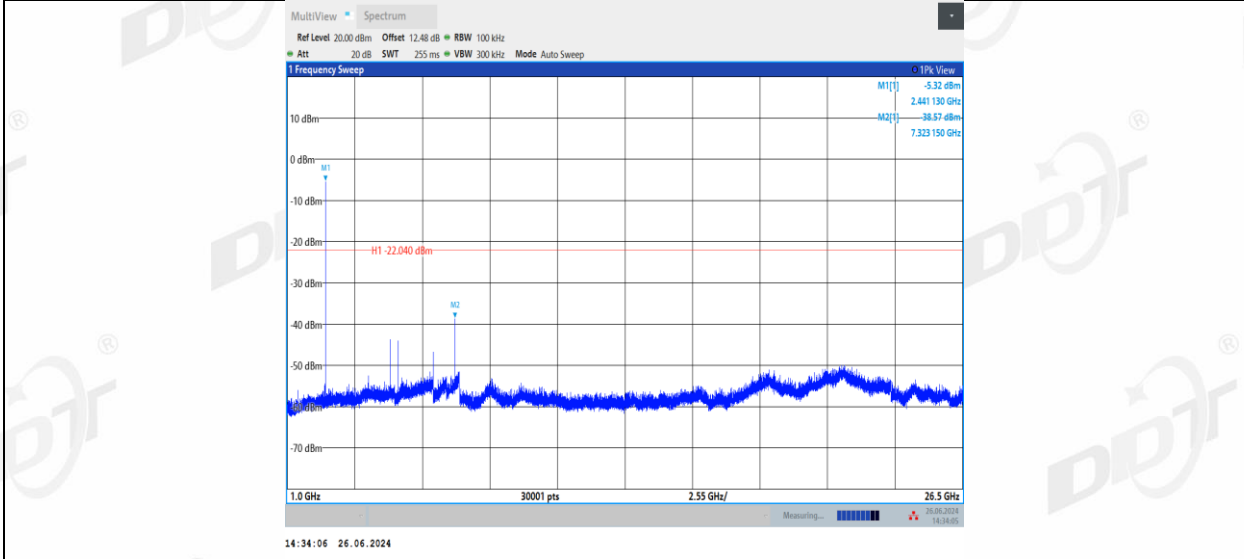
3DH5_Left side_2441_0~Reference



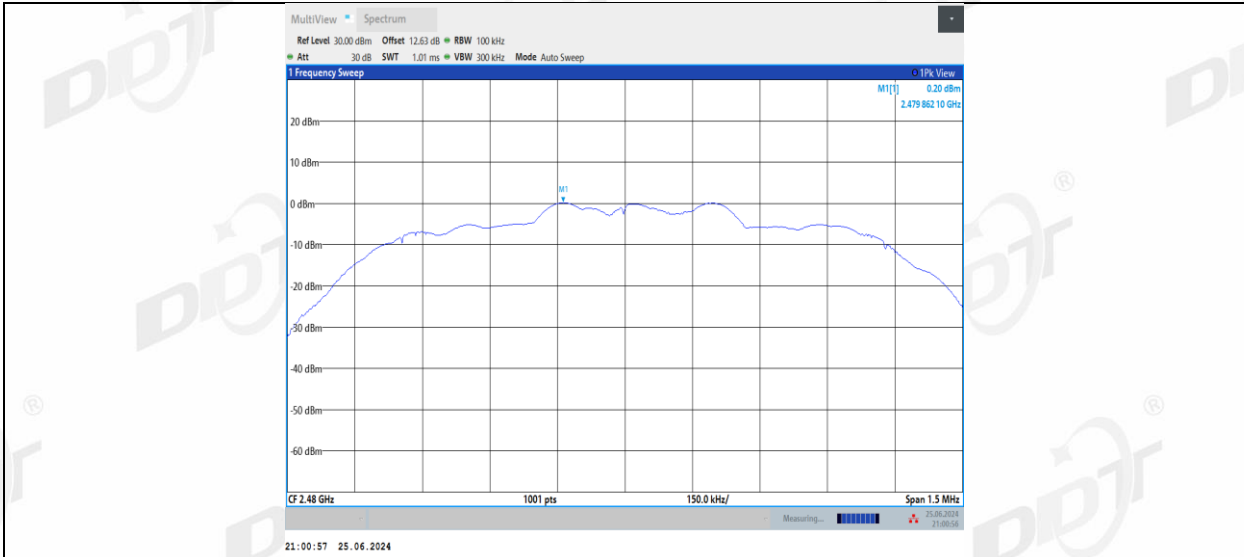
3DH5_Left side_2441_30~1000



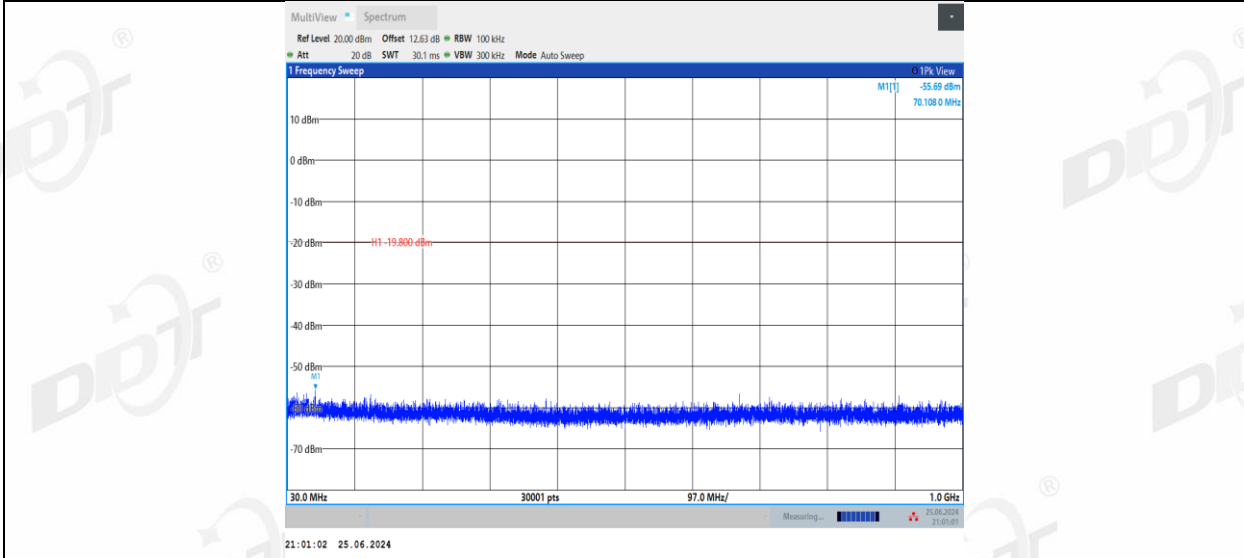
3DH5_Left side_2441_1000~26500



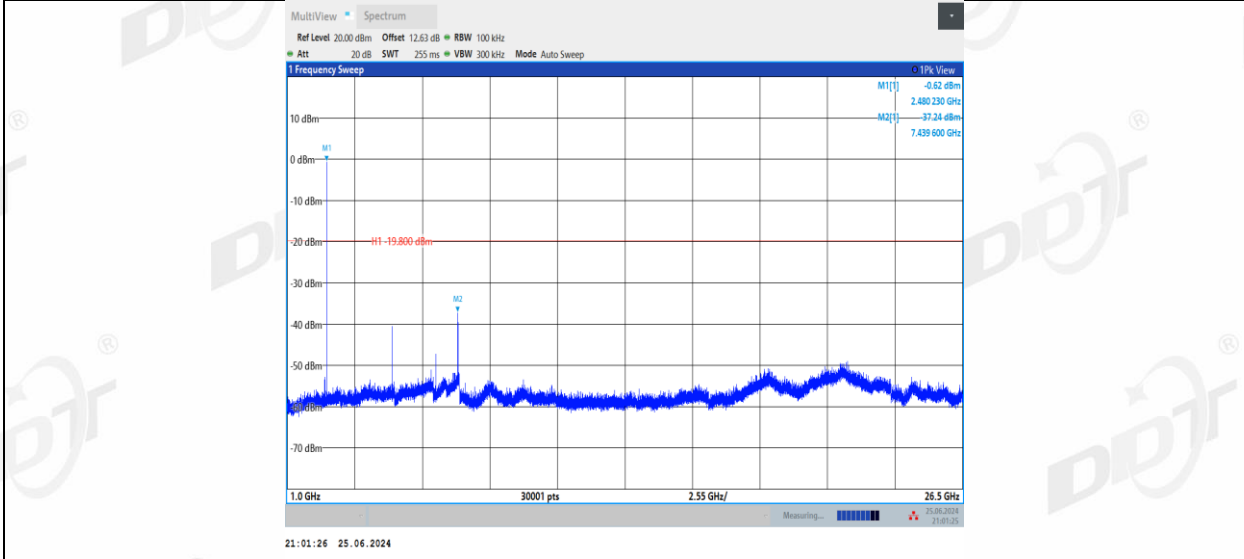
3DH5_Right side_2480_0~Reference



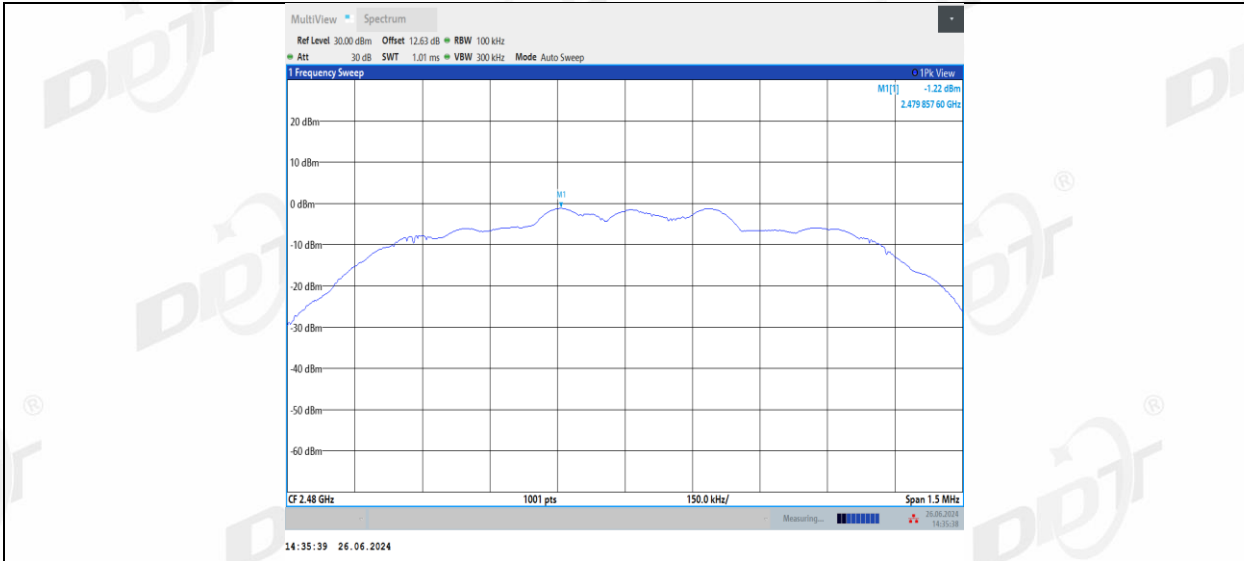
3DH5_Right side_2480_30~1000



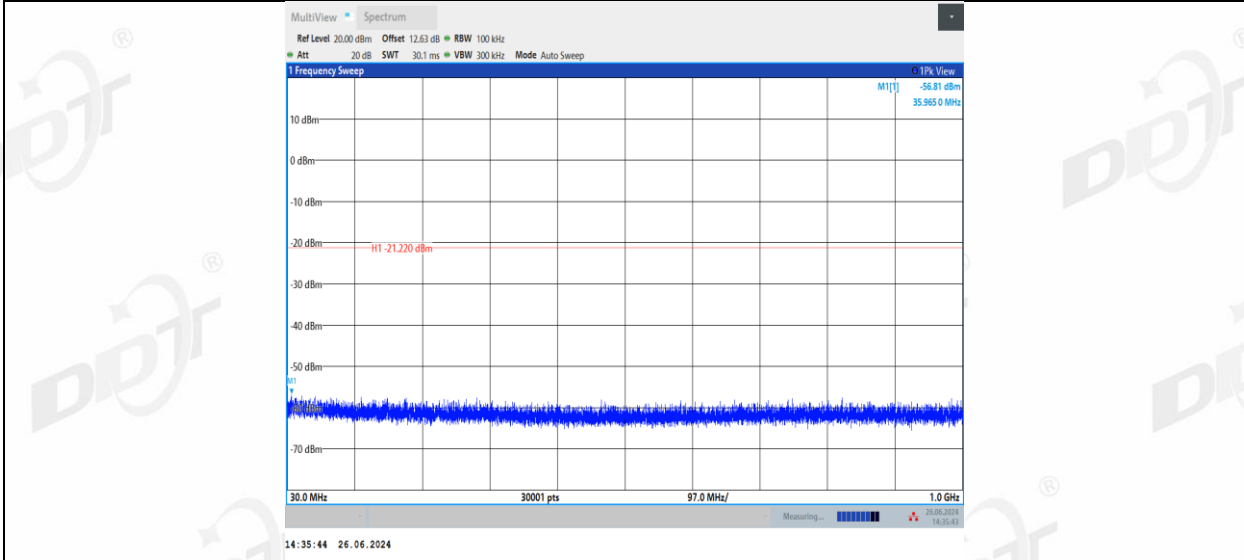
3DH5_Right side_2480_1000~26500



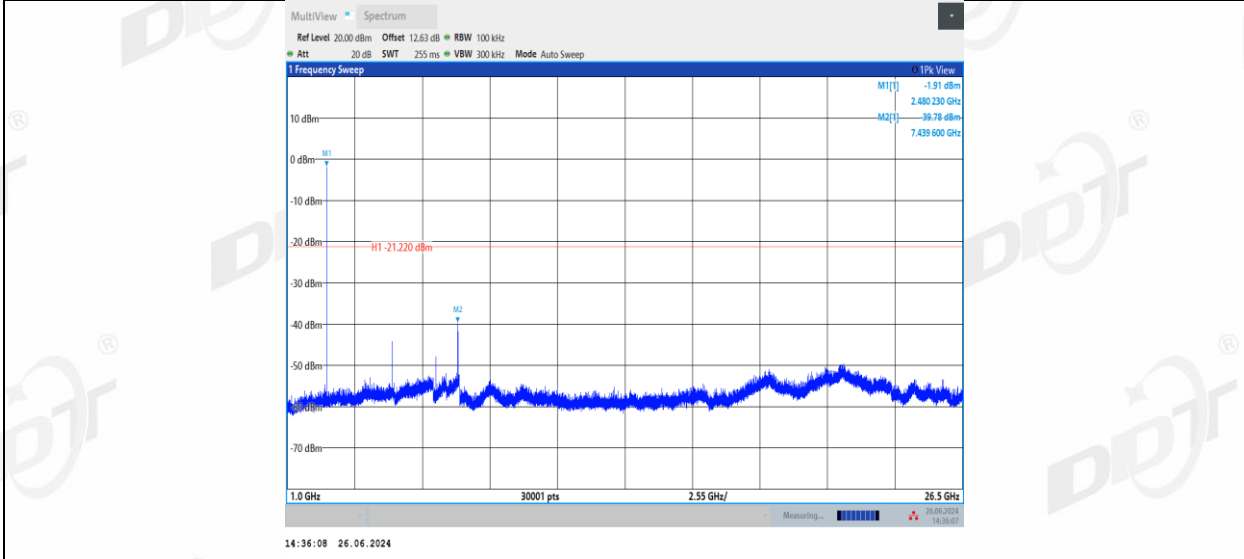
3DH5_Left side_2480_0~Reference



3DH5_Left side_2480_30~1000

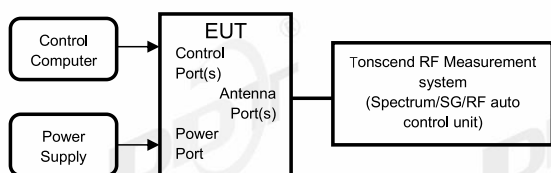


3DH5_Left side_2480_1000~26500



12. Duty cycle

12.1. Block diagram of test setup



12.2. Limit

Just for Report.

12.3. Test procedure

- (1) Connected the EUT's antenna port to the Spectrum Analyzer by suitable attenuator, The cable loss and attenuator loss have been put into spectrum analyzer as amplitude offset.

set the Spectrum Analyzer as below:

Centre Frequency: The centre frequency of the middle hopping channel.

Resolution BW: 10 MHz.

Video BW: 10 MHz.

Span: Zero span.

Detector: Peak.

Trace Mode: Clear Write.

Sweep: Video Trigger

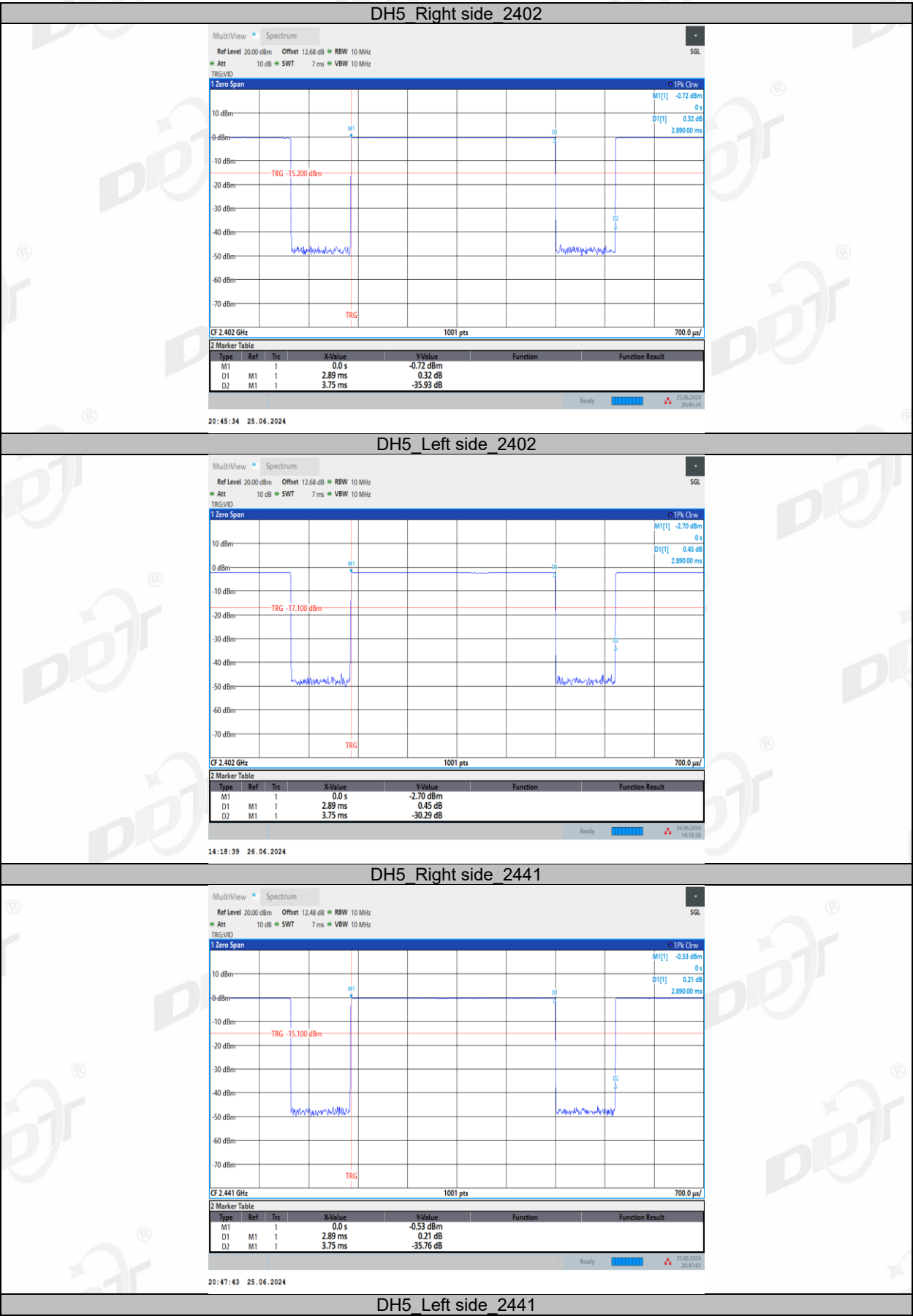
- (2) When the trace is complete, measure the sending time of 1 burst and the duty cycle of 1 burst cycle.
- (3) Calculate dwell time follow below formula:
Duty cycle= Pulse's on time / Burst cycle

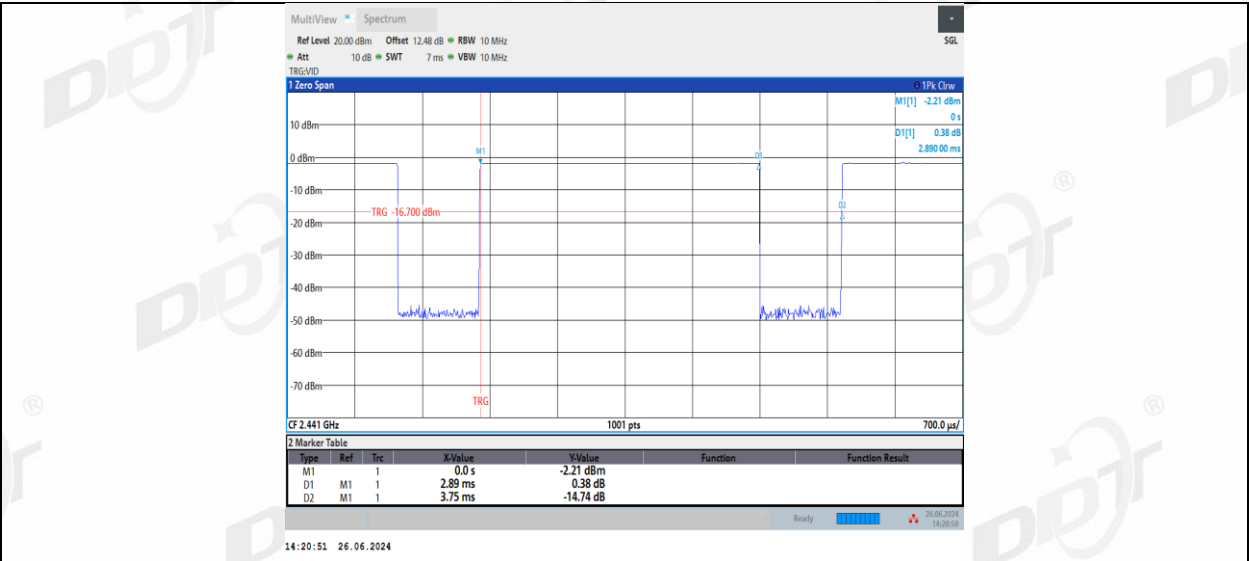
12.4. Test result

Test Engineer:	Zoe	Test Site:	RF Measurement System 4#
Ambient Condition:	25.6-26.1℃,41.8-45.3%RH	Test Date:	2024.06.25-2024.06.26
Test Power Supply:	Battery	Sample Number:	S24053007-001

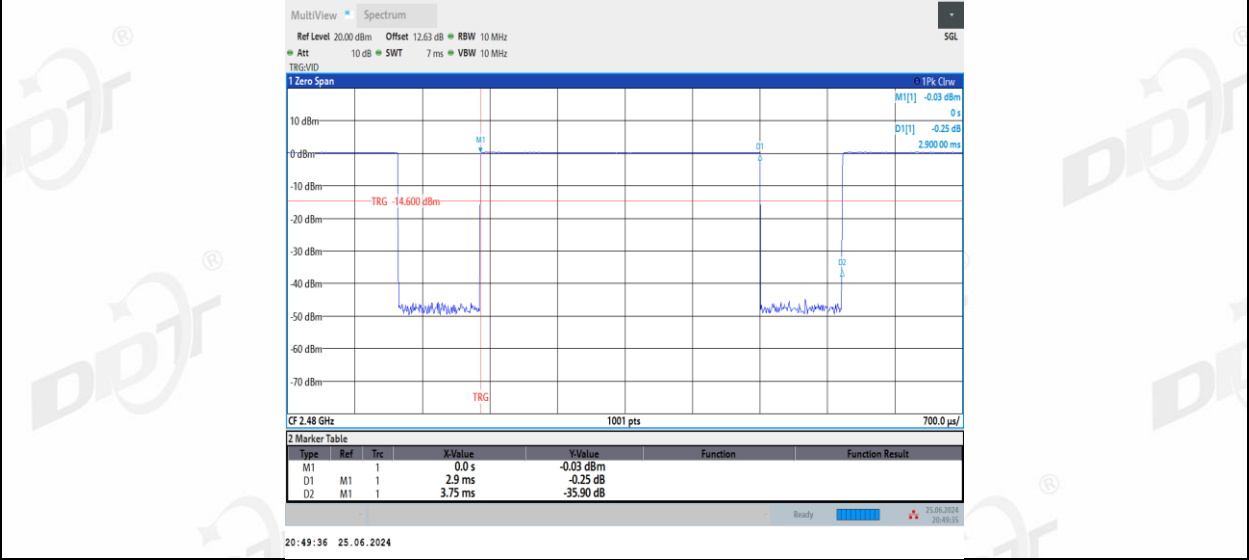
Test Mode	Antenna	Frequency [MHz]	ON Time [ms]	Period [ms]	Duty Cycle [%]	Duty Cycle Factor[dB]
DH5	Right side	2402	2.89	3.75	77.07	1.13
	Left side	2402	2.89	3.75	77.07	1.13
	Right side	2441	2.89	3.75	77.07	1.13
	Left side	2441	2.89	3.75	77.07	1.13
	Right side	2480	2.90	3.75	77.33	1.12
	Left side	2480	2.89	3.75	77.07	1.13
2DH5	Right side	2402	2.89	3.75	77.07	1.13
	Left side	2402	2.89	3.75	77.07	1.13
	Right side	2441	2.89	3.75	77.07	1.13
	Left side	2441	2.90	3.76	77.13	1.13
	Right side	2480	2.89	3.75	77.07	1.13
	Left side	2480	2.89	3.75	77.07	1.13
3DH5	Right side	2402	2.89	3.75	77.07	1.13
	Left side	2402	2.89	3.75	77.07	1.13
	Right side	2441	2.89	3.75	77.07	1.13
	Left side	2441	2.89	3.75	77.07	1.13
	Right side	2480	2.90	3.76	77.13	1.13
	Left side	2480	2.89	3.75	77.07	1.13

12.5. Test graphs

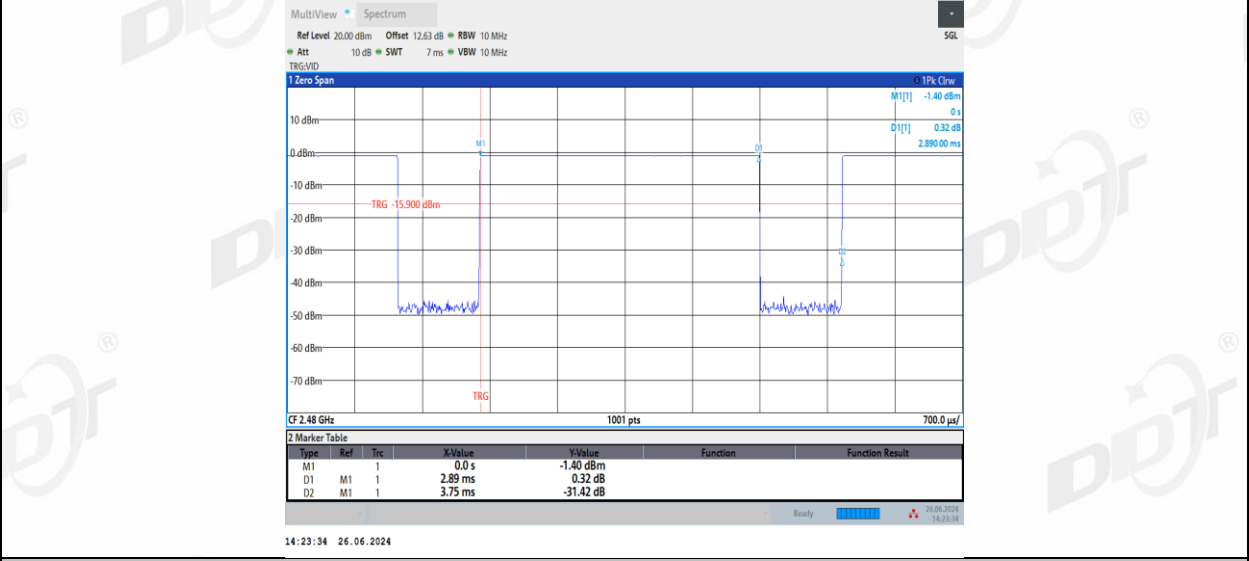




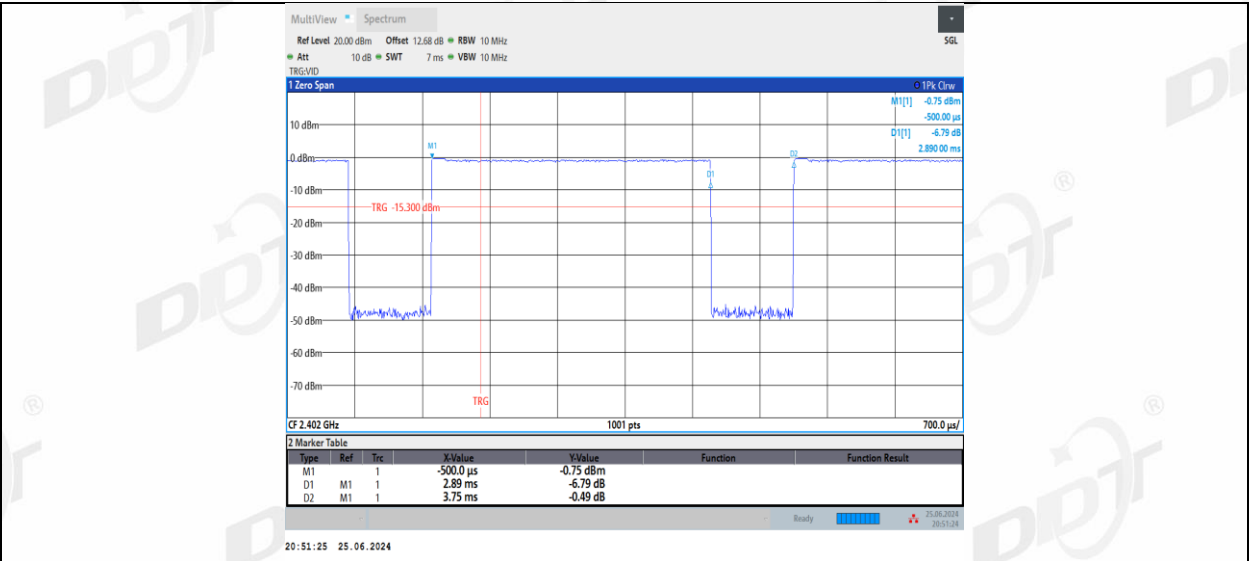
DH5_Right side_2480



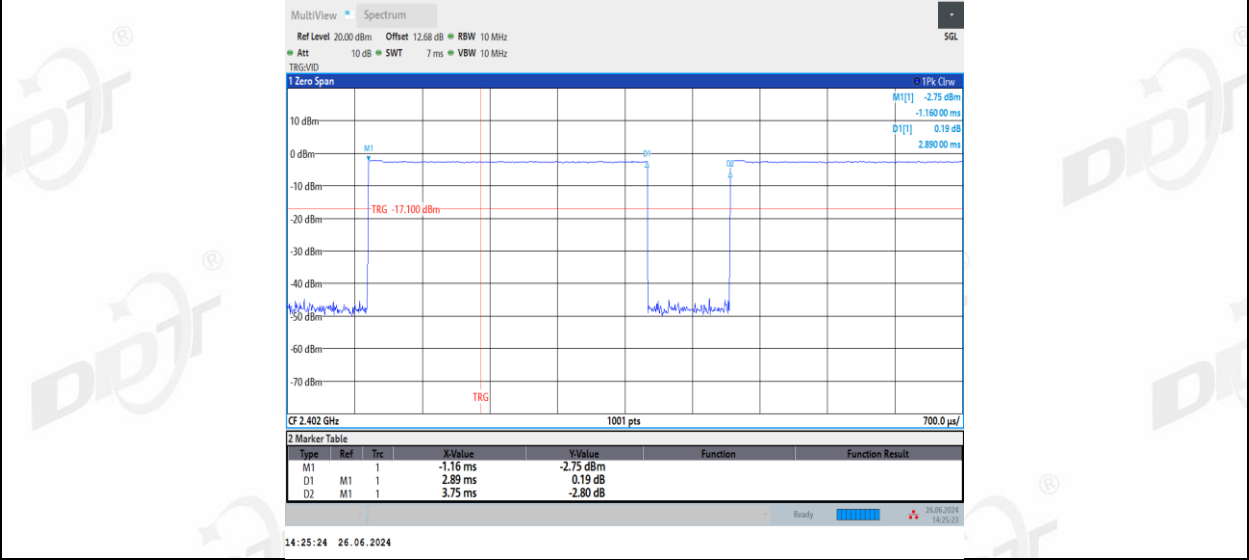
DH5_Left side_2480



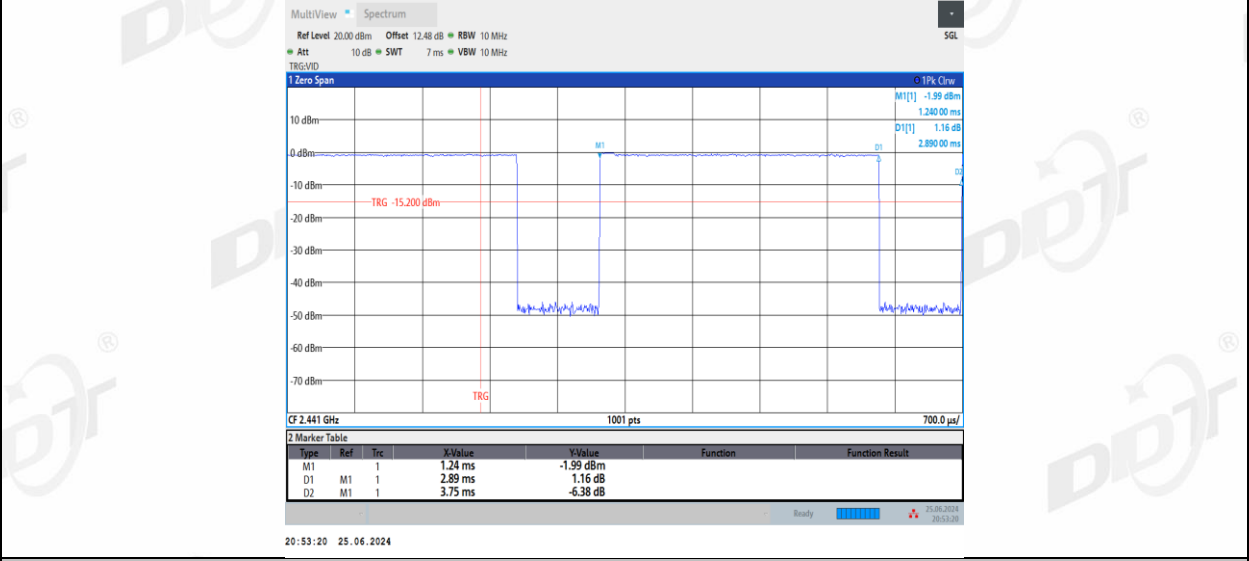
2DH5_Right side_2402



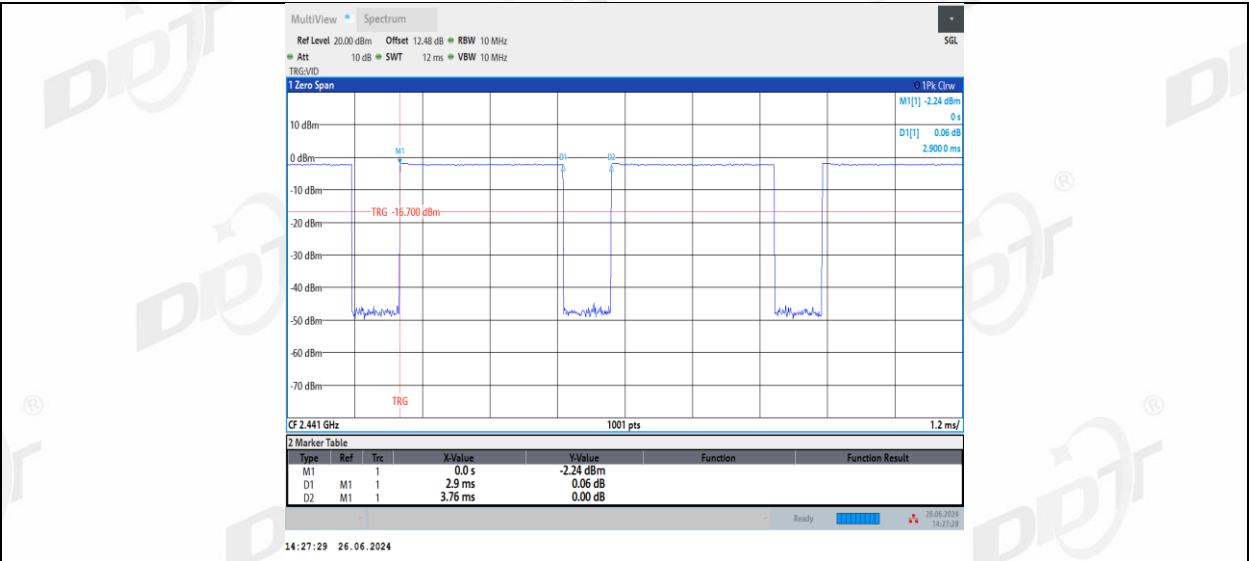
2DH5_Left side_2402



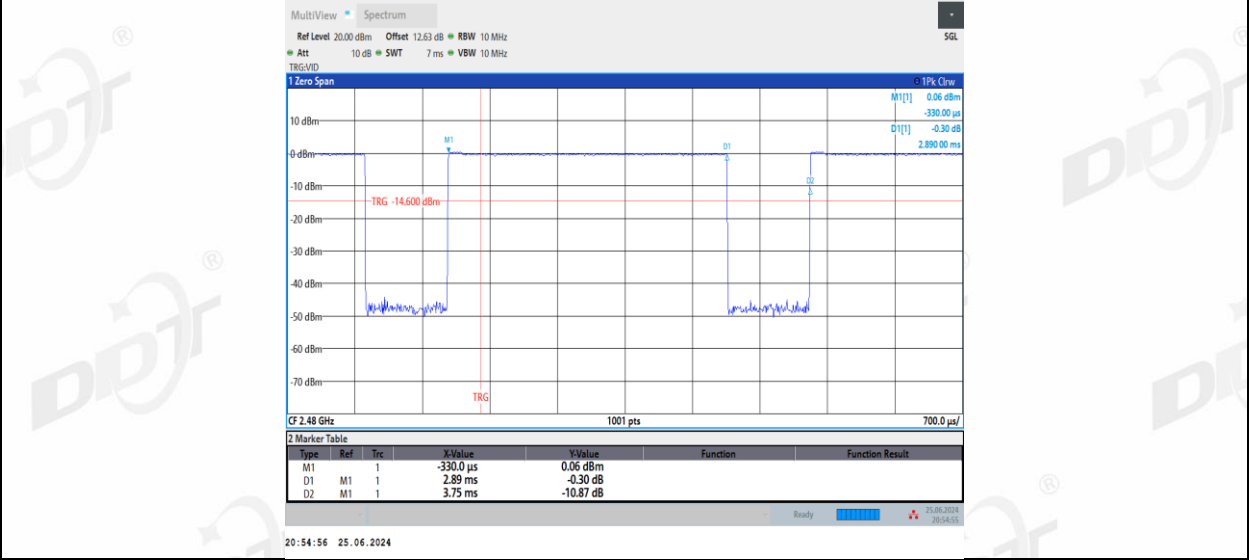
2DH5_Right side_2441



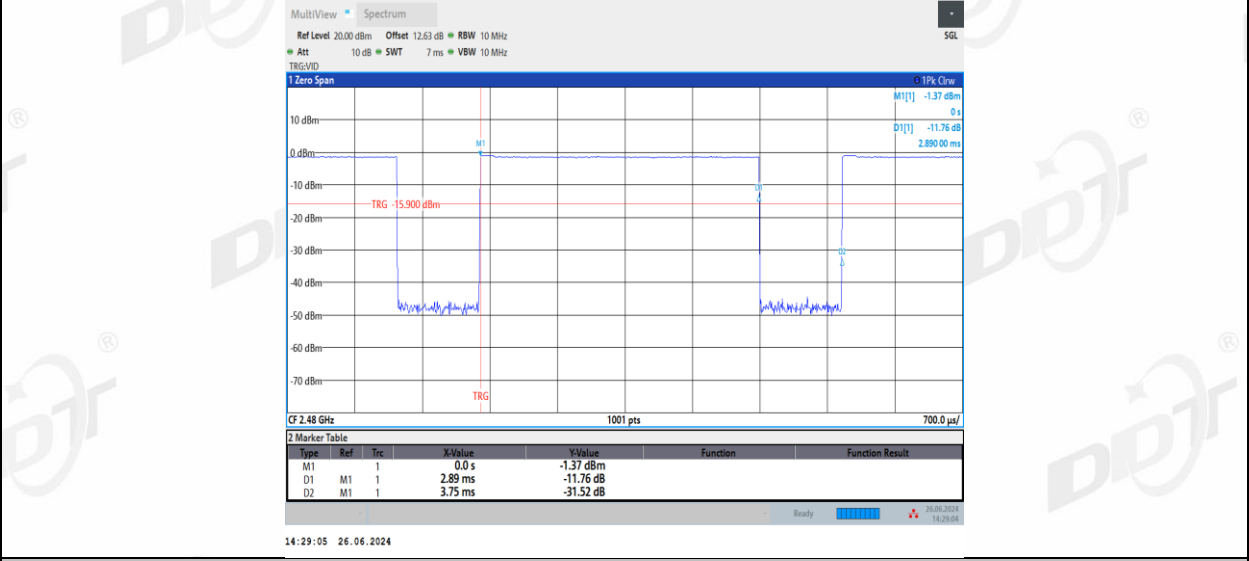
2DH5_Left side_2441



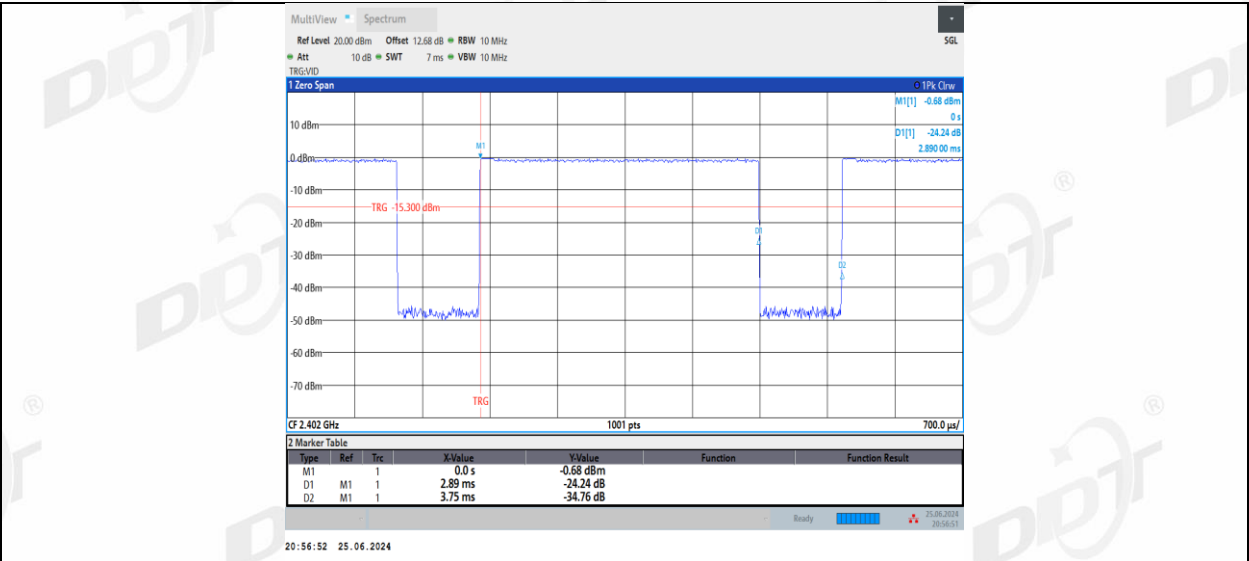
2DH5_Right side_2480



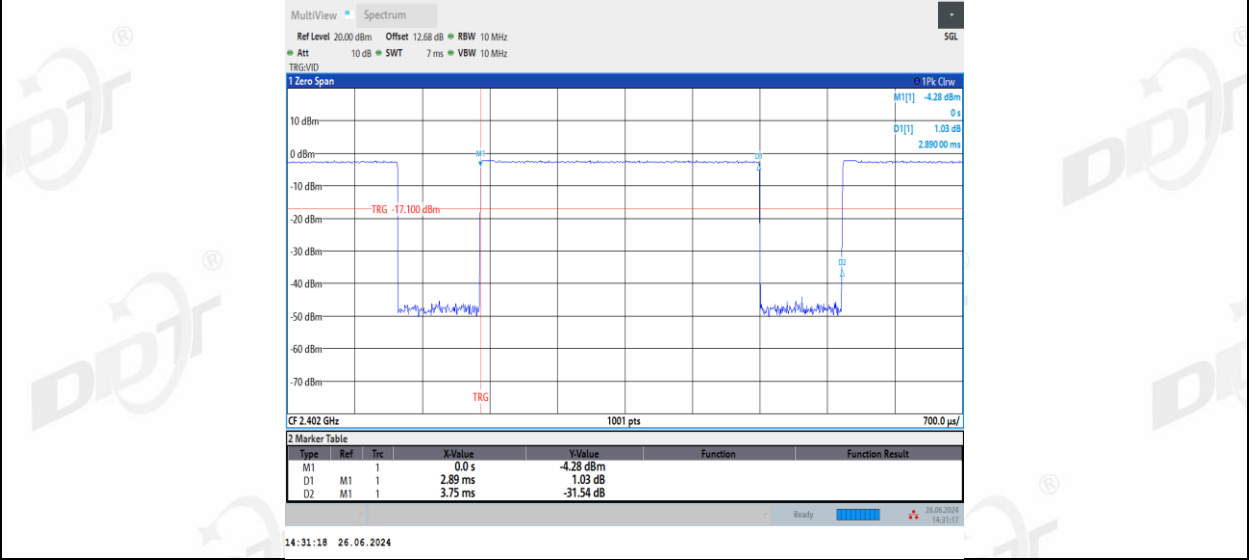
2DH5_Left side_2480



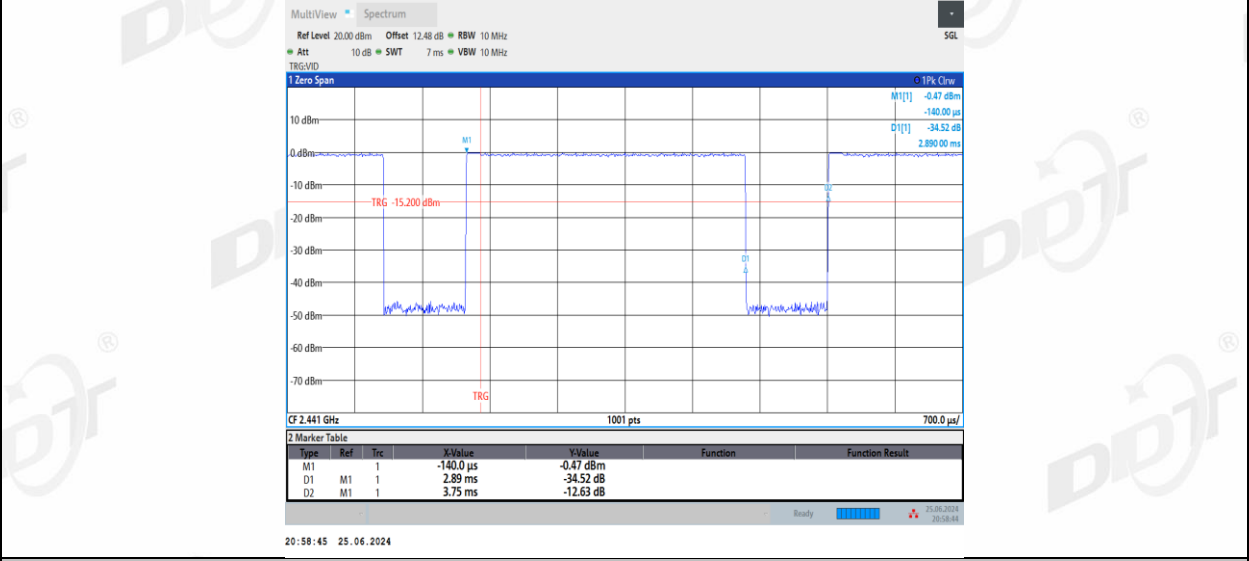
3DH5_Right side_2402



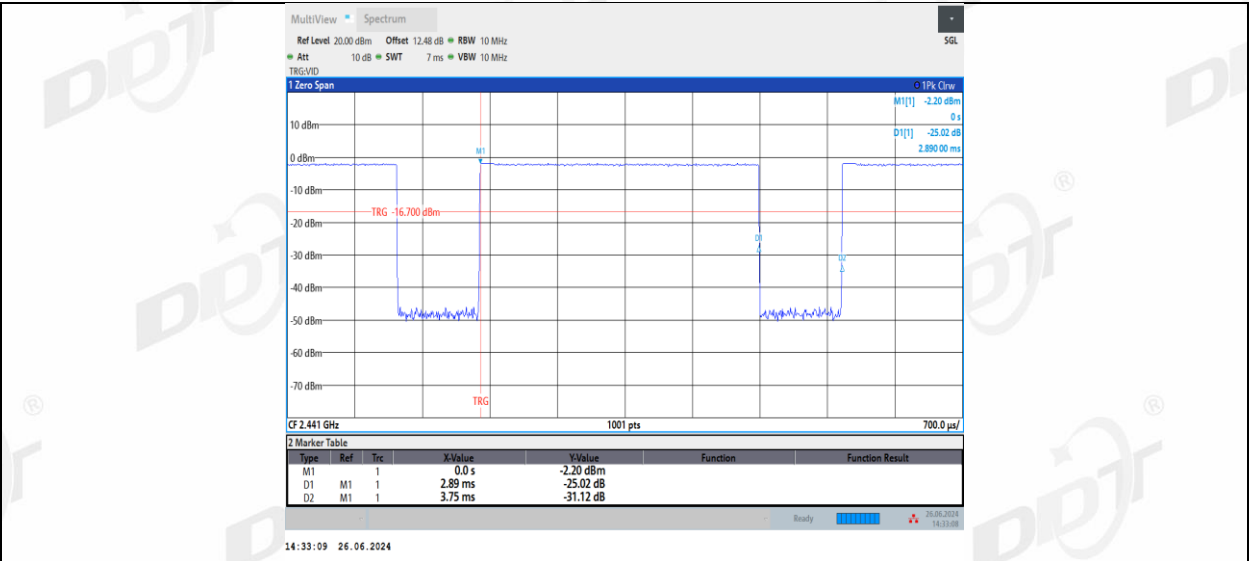
3DH5_Left side_2402



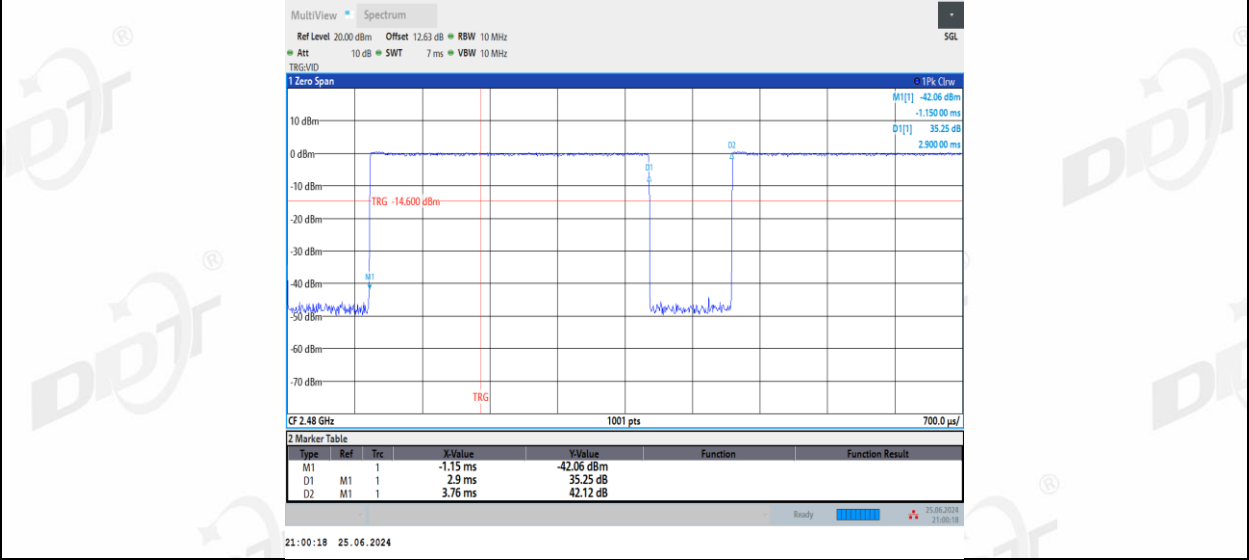
3DH5_Right side_2441



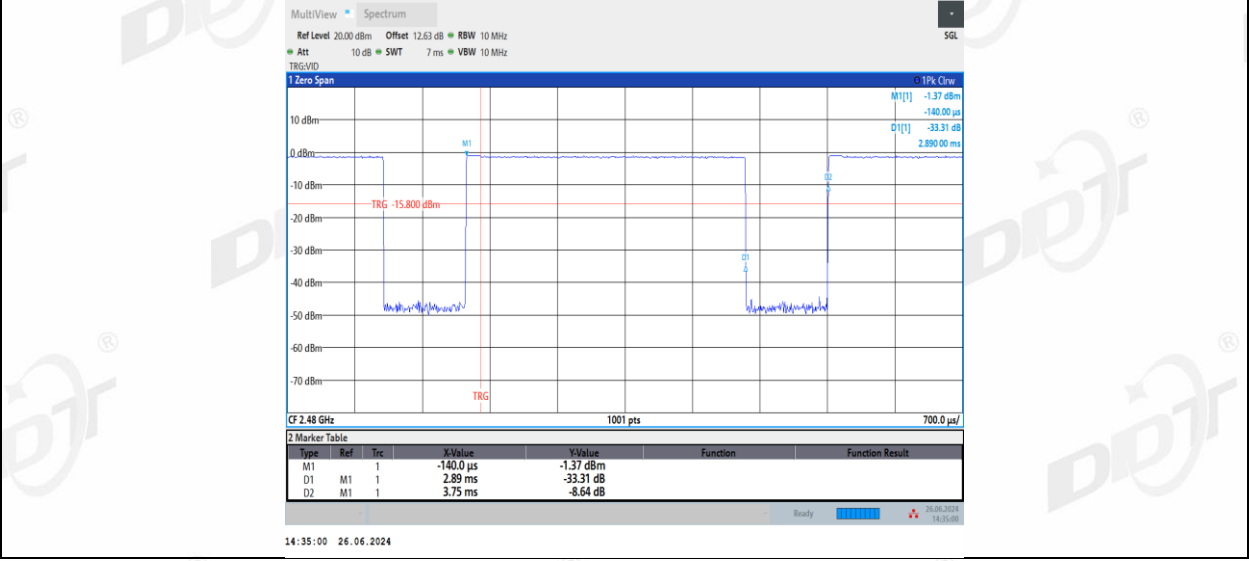
3DH5_Left side_2441



3DH5_Right side_2480



3DH5_Left side_2480



13. Antenna Requirements

13.1. Limit

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

For intentional device, according to RSS-Gen issue 5 section 6.8.

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.

13.2. Result

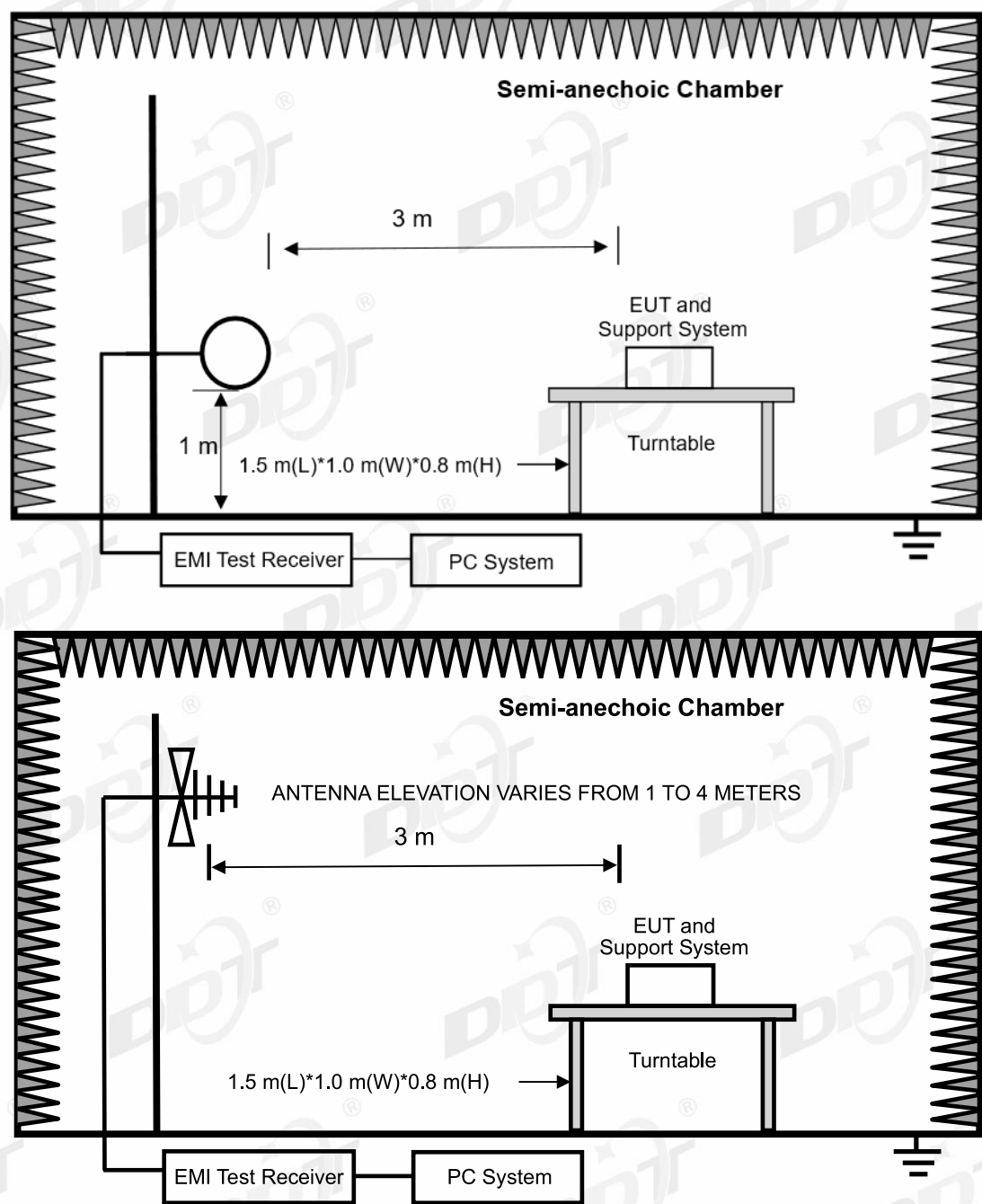
The antenna used for this product as Antenna information described in section 2.1 of the report, and there is no other antenna than that furnished by the responsible party shall be used with the device.

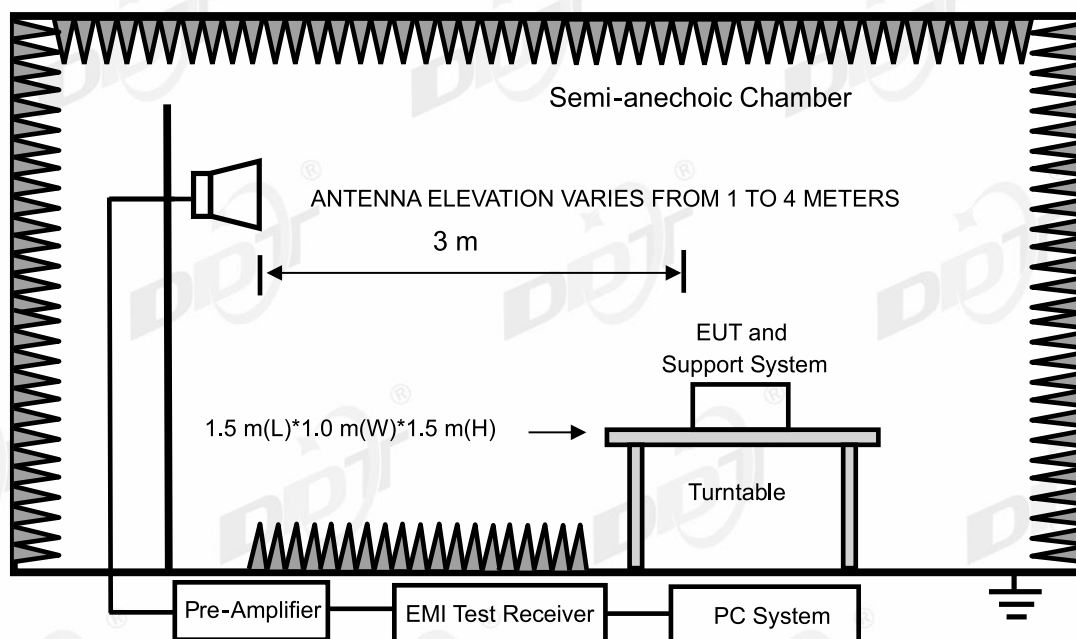
14.Radiated Emission

14.1. Test equipment

Equipment	Manufacturer	Model No.	Serial No.	Cal Due To
EMI TEST RECEIVER	R&S	ESU26	DDT-ZC01909	2025/03/31
High pass filter	Micro-Tronics	HPM50108	DDT-ZC00560	2025/04/22
RF Cable	N/A	W24.02 HL-562	DDT-ZC04022	2025/03/31
Active Loop Antenna	Schwarzbeck	FMZB1519	DDT-ZC00524	2025/09/11
ELECTRIC AND MAGNETIC FIELD ANALYZER	Narda	EHP-200A	DDT-ZC01401	2024/09/20
RF cable	Yuhu Technology	ZT26S-SMAJ- SMAJ-1M	DDT-ZC02037	2025/03/31
Micro-Tronics filters	REBES	BRM50716	DDT-ZC03240	/
RF Cable	N/A	W13.02 AP1-X2	DDT-ZC04023	2025/03/31
Hochgewinn- Hornantenne	SCHWARZBEC K	BBHA 9120 D	DDT-ZC02129	2025/09/18
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	DDT-ZC00506	2025/04/26
High pass filter	Micro-Tronics	HPM50102	DDT-ZC00561	2025/04/22
RF cable	Zhongke Junchuang	JCT26S-NJ-NJ- 1.5M	DDT-ZC02762	2025/03/31
Pre-amplifier	COM-POWER	PAM-840A	DDT-ZC01693	2025/03/31
Micro-Tronics filters	REBES	BRM50702	DDT-ZC03242	/
PSA Series Spectrum Analyzer	Agilent	E4447A	DDT-ZC00517	2025/03/31
Trilog Broadband Antenna	Schwarzbeck	VULB 9163	DDT-ZC02050	2025/07/11
Pre-amplifier	COM-POWER	PAM-118A	DDT-ZC01293	2025/07/08
RF cable	Yuhu Technology	JCTB810-NJ-NJ- 9M	DDT-ZC02538	2025/03/31
High Pass filter	Xi'an Xingbo	XBLBQ-GTA67	DDT-ZC02179	2025/04/22

14.2. Block diagram of test setup





14.3. Limits

(1) FCC 15.205 Restricted frequency band

MHz	MHz	MHz	GHz
0.090-0.110	16.42-16.423	399.9-410	4.5-5.15
¹ 0.495-0.505	16.69475-16.69525	608-614	5.35-5.46
2.1735-2.1905	16.80425-16.80475	960-1240	7.25-7.75
4.125-4.128	25.5-25.67	1300-1427	8.025-8.5
4.1772&4.17775	37.5-38.25	1435-1626.5	9.0-9.2
4.2072&4.20775	73-74.6	1645.5-1646.5	9.3-9.5
6.215-6.218	74.8-75.2	1660-1710	10.6-12.7
6.26775-6.26825	108-121.94	1718.8-1722.2	13.25-13.4
6.31175-6.31225	123-138	2200-2300	14.47-14.5
8.291-8.294	149.9-150.05	2310-2390	15.35-16.2
8.362-8.366	156.52475-156.52525	2483.5-2500	17.7-21.4
8.37625-8.38675	156.7-156.9	2690-2900	22.01-23.12
8.41425-8.41475	162.0125-167.17	3260-3267	23.6-24.0
12.29-12.293	167.72-173.2	3332-3339	31.2-31.8
12.51975-12.52025	240-285	3345.8-3358	36.43-36.5
12.57675-12.57725	322-335.4	3600-4400	⁽²⁾
13.36-13.41			

¹Until February 1, 1999, this restricted band shall be 0.490-0.510 MHz

²Above 38.6

RSS-Gen section 8.10 Restricted frequency bands*

MHz	MHz	MHz	GHz
0.090-0.110	12.51975-12.52025	240-285	3.5-4.4
0.495-0.505	12.57675-12.57725	322-335.4	4.5-5.15
2.1735-2.1905	13.36-13.41	399.9-410	5.35-5.46
3.020-3.026	16.42-16.423	608-614	7.25-7.75
4.125-4.128	16.69475-16.69525	960-1427	8.025-8.5
4.1772&4.17775	16.80425-16.80475	1435-1626.5	9.0-9.2
4.2072&4.20775	25.5-25.67	1645.5-1646.5	9.3-9.5
5.677-5.683	37.5-38.25	1660-1710	10.6-12.7
6.215-6.218	73-74.6	1718.8-1722.2	13.25-13.4
6.26775-6.26825	74.8-75.2	2200-2300	14.47-14.5
6.31175-6.31225	108-138	2310-2390	15.35-16.2
8.291-8.294	149.9-150.05	2483.5-2500	17.7-21.4
8.362-8.366	156.52475-156.52525	2655-2900	22.01-23.12
8.37625-8.38675	156.7-156.9	3260-3267	23.6-24.0
8.41425-8.41475	162.0125-167.17	3332-3339	31.2-31.8
12.29-12.293	167.72-173.2	3345.8-3358	36.43-36.5
			Above 38.6

* Certain frequency bands listed in table and in bands above 38.6 GHz are designated for licence-exempt applications. These frequency bands and the requirements that apply to related devices are set out in the 200 and 300 series of RSSs.

(2) FCC 15.209 Limit & RSS-Gen section 8.9 Limit

FREQUENCY MHz	DISTANCE Meters	FIELD STRENGTHS LIMIT	
		mV/m	dB(mV)/m
0.009 ~ 0.490	300	2400/F(kHz)	67.6-20log(F)
0.490 ~ 1.705	30	24000/F(kHz)	87.6-20log(F)
1.705 ~ 30.0	30	30	29.54
30 ~ 88	3	100	40.0
88 ~ 216	3	150	43.5
216 ~ 960	3	200	46.0
960 ~ 1000	3	500	54.0
Above 1000	3	74.0 dB(mV)/m (Peak) 54.0 dB(mV)/m (Average)	

Note:

(1) The emission limits shown in the above table are based on measurements employing a CISPR QP detector except for the frequency bands 9 - 90 kHz, 110 - 490 kHz and above 1000 MHz, radiated emissions limits in these three bands are based on measurements employing an average detector.

(2) At frequencies below 30 MHz, measurement may be performed at a distance closer than that specified, and the limit at closer measurement distance can be extrapolated by below formula:

$$\text{Limit}_{3\text{m}}(\text{dBuV/m}) = \text{Limit}_{30\text{m}}(\text{dBuV/m}) + 40\log(30\text{m}/3\text{m})$$

(3) Limit for this EUT

The emissions appearing within 15.205 restricted frequency bands shall not exceed the limits shown in 15.209, and the emissions appearing within RSS-Gen section 8.10 Restricted frequency bands shall not exceed the limits shown in RSS-Gen section 8.9, all the other emissions shall be at least 20 dB below the fundamental emissions or comply with 15.209 limits and RSS-Gen section 8.9 limits.

14.4. Assistant equipment used for test

Assistant equipment	Manufacturer	Model number	Description	other
/	/	/	/	/

14.5. Test procedure

- (1) EUT was placed on a non-metallic table, 80 cm above the ground plane inside a semi-anechoic chamber for below 1G and 150 cm above the ground plane inside a fully-anechoic chamber for above 1G.
- (2) Test antenna was located 3 m from the EUT on an adjustable mast, and the antenna used as below table.

Test frequency range	Test antenna used	Test antenna distance
9 kHz - 30 MHz	Active Loop antenna	3 m
30 MHz - 1 GHz	Trilog Broadband Antenna	3 m
1 GHz - 18 GHz	Double Ridged Horn Antenna(1 GHz-18 GHz)	3 m
18 GHz - 40 GHz	Horn Antenna(18 GHz-40 GHz)	1 m

According ANSI C63.10:2013 clause 6.4.6 and 6.5.3, for measurements below 30 MHz, Antenna was located 3 m from EUT, the loop antenna was positioned in three antenna orientations (parallel, perpendicular, and round-parallel), for each measurement antenna alignment, the EUT shall be rotated through 0° to 360° on a turntable, and the lowest height of the magnetic antenna shall be 1 m above the ground. For measurement above 30MHz, the trilog Broadband Antenna or Horn Antenna was located 3m from EUT, Measurements were made with the antenna positioned in both the horizontal and vertical planes of Polarization, and the measurement antenna was varied from 1 m to 4 m. in height above the reference ground plane to obtain the maximum signal strength.

(3) Below pre-scan procedure was first performed in order to find prominent frequency spectrum radiated emissions from 9 kHz to 25 GHz:

(a) Scanning the peak frequency spectrum with the antenna specified in step (3), and the EUT was rotated 360 degree, the antenna height was varied from 1 m to 4 m (Except loop antenna, it's fixed 1 m above ground.)

(b) Change work frequency or channel of device if practicable.

(c) Change modulation type of device if practicable.

(d) Change power supply range from 85% to 115% of the rated supply voltage

(e) Rotated EUT through three orthogonal axes to determine the attitude of EUT arrangement produces highest emissions.

Spectrum frequency from 9 kHz to 25 GHz (tenth harmonic of fundamental frequency) was investigated, and no any obvious emission were detected from 18 GHz to 25 GHz, so below final test was performed with frequency range from 9 kHz to 18 GHz.

(4) For final emissions measurements at each frequency of interest, the EUT was rotated and the antenna height was varied between 1 m and 4 m in order to maximize the emission. Measurements in both horizontal and vertical polarities were made and the data was recorded. In order to find the maximum emission, the relative positions of equipment and all of the interface cables were changed according to ANSI C63.10:2013 on Radiated Emission test.

(5) The emissions from 9 kHz to 1 GHz were measured based on CISPR QP detector except for the frequency bands 9 - 90 kHz, 110 - 490 kHz, for emissions from 9 kHz - 90 kHz, 110 kHz - 490 kHz and above 1 GHz were measured based on average detector, for emissions above 1 GHz, peak emissions also be measured and need comply with Peak limit.

(6) The emissions from 9 kHz to 1 GHz, QP or average values were measured with EMI receiver with below RBW.

Frequency band	RBW
9 kHz - 150 kHz	200 Hz
150 kHz - 30 MHz	9 kHz
30 MHz - 1 GHz	120 kHz

(7) For emissions above 1GHz, both Peak and Average level were measured with Spectrum Analyzer, and the RBW is set at 1 MHz, VBW is set at 3 MHz for Peak measure; According ANSI C63.10:2013 clause 4.1.4.2.2 procedure for average measure.

(8) For portable device, X axis, Y axis, Z axis are tested, and worse setup is reported.

(9) According exploratory test, the emission levels are 20 dB below the limit detected from 9 kHz to 30 MHz and 18 GHz to 25 GHz, so the final test was performed with frequency range from 30 MHz to 18 GHz and recorded in below.

(10) For 30 MHz ~ 25 GHz: (Scan with GFSK, $\pi/4$ -DQPSK and 8DPSK, the worst case is record and reported)

(11) For emissions below 1 GHz, according exploratory explorer test, when change Tx mode and channel, have no distinct influence on emissions level, so for emissions below 1 GHz, the final test was only performed with EUT working in worst mode.

14.6. Test result

PASS. (See below detailed test result)

14.7. Test data

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-07-02

Tested By:

Genliu

EUT:

Hardhat Bluetooth Speaker

Model Number:

AEPHS1

Test Mode:

BT TX

Power Supply:

Battery

Condition:

Temp:22.4°C;Humi:70.9%

Test Site:

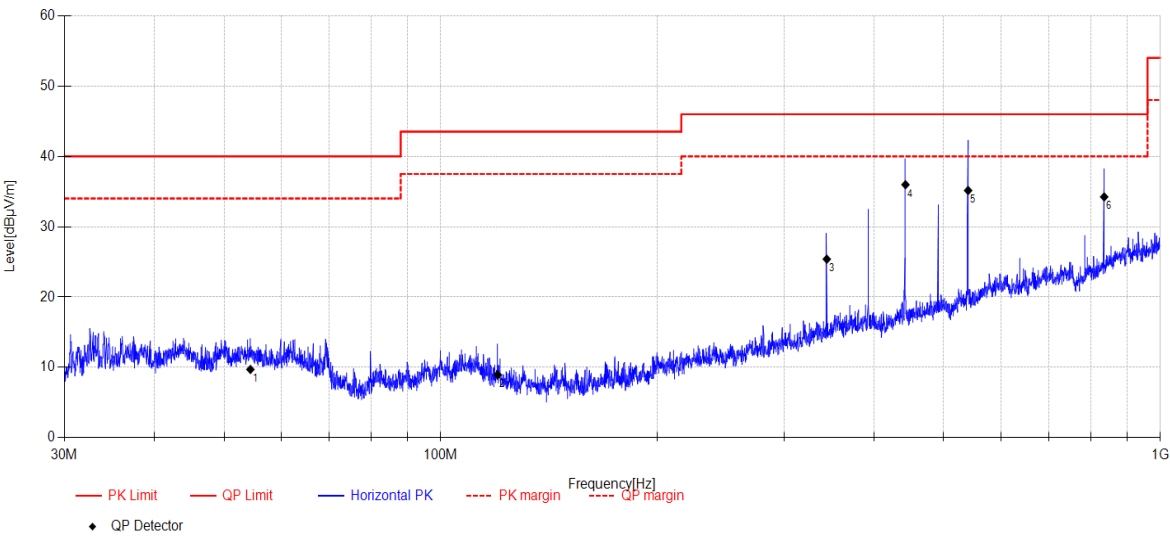
DDT 3# Chamber

File Path:

d:\ts\2024 report data\Q24053007-1E\FCC BELOW1G\20240702-004700_H

Memo:

Left side Sample Number:S24053007-003 Power Setting:1



Data List										
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable Loss [dB]	AMP [dB]	Result [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	54.407	24	12.46	3.92	-30.67	9.71	40.00	30.29	QP	Horizontal
2	119.991	25.45	10.00	4.33	-30.84	8.94	43.50	34.56	QP	Horizontal
3	343.976	35.96	14.24	5.40	-30.21	25.39	46.00	20.61	QP	Horizontal
4	442.435	44.27	15.95	5.78	-30.02	35.98	46.00	10.02	QP	Horizontal
5	540.680	41.73	17.17	6.15	-29.90	35.15	46.00	10.85	QP	Horizontal
6	835.688	36.59	20.19	7.04	-29.58	34.24	46.00	11.76	QP	Horizontal

Note:

1. Result Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.

3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-07-02

Tested By:

Genliu

EUT:

Hardhat Bluetooth Speaker

Model Number:

AEPHS1

Test Mode:

BT TX

Power Supply:

Battery

Condition:

Temp:22.4°C;Humi:70.9%

Test Site:

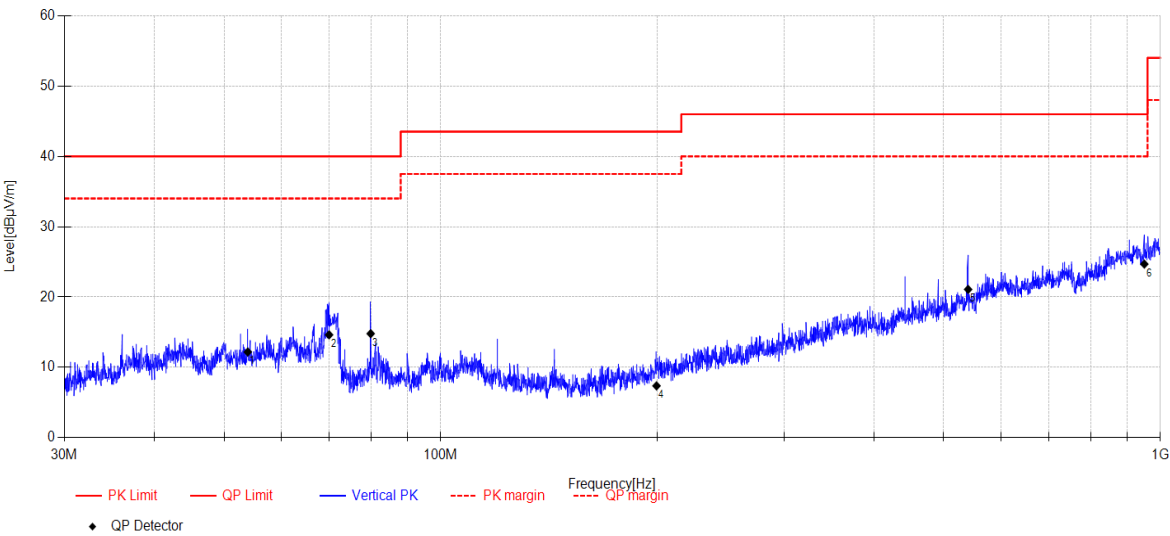
DDT 3# Chamber

File Path:

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Memo:

Left side Sample Number:S24053007-003 Power Setting:1



Data List										
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable Loss [dB]	AMP [dB]	Result [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	53.951	26.6	12.36	3.91	-30.67	12.20	40.00	27.80	QP	Vertical
2	69.980	31.37	9.81	4.02	-30.57	14.63	40.00	25.37	QP	Vertical
3	79.953	32.53	8.68	4.09	-30.50	14.80	40.00	25.20	QP	Vertical
4	199.490	22.68	10.54	4.76	-30.60	7.38	43.50	36.12	QP	Vertical
5	540.680	27.67	17.17	6.15	-29.90	21.09	46.00	24.91	QP	Vertical
6	950.102	23.23	22.68	7.33	-28.55	24.69	46.00	21.31	QP	Vertical

Note:

1. Result Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.

3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-07-02

Tested By:

Genliu

EUT:

Hardhat Bluetooth Speaker

Model Number:

AEPHS1

Test Mode:

BT TX

Power Supply:

Battery

Condition:

Temp:22.4°C;Humi:70.9%

Test Site:

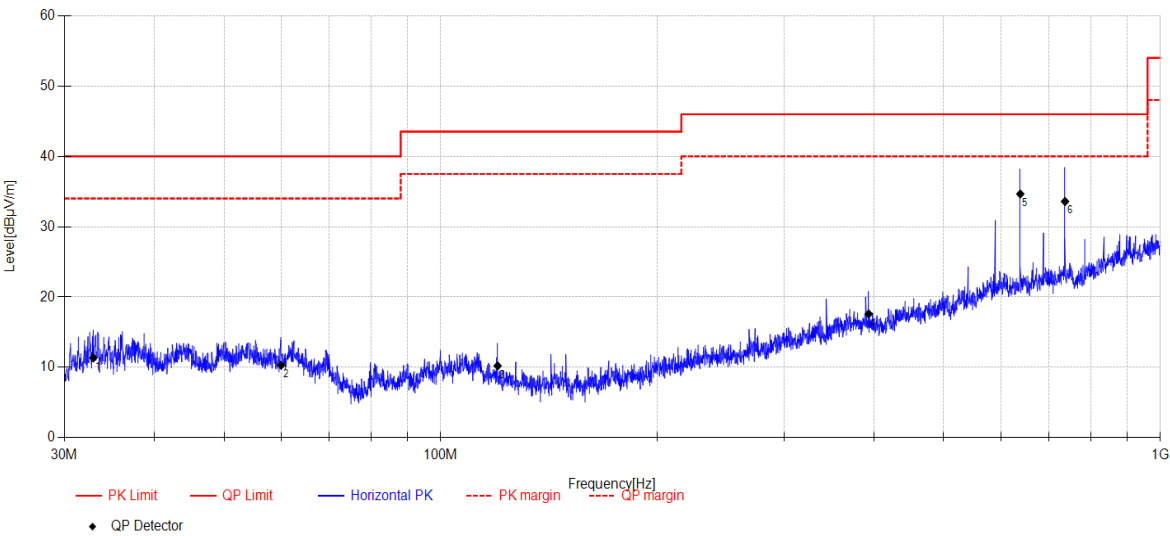
DDT 3# Chamber

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Memo:

Right side Sample Number:S24053007-005 Power Setting:1



Data List										
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable Loss [dB]	AMP [dB]	Result [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	32.909	27.71	10.83	3.78	-30.96	11.36	40.00	28.64	QP	Horizontal
2	60.019	24.21	12.79	3.96	-30.63	10.33	40.00	29.67	QP	Horizontal
3	119.991	26.73	10.00	4.33	-30.84	10.22	43.50	33.28	QP	Horizontal
4	393.270	26.78	15.34	5.59	-30.11	17.60	46.00	28.40	QP	Horizontal
5	638.874	39.55	18.52	6.49	-29.90	34.66	46.00	11.34	QP	Horizontal
6	737.116	36.78	19.92	6.79	-29.90	33.59	46.00	12.41	QP	Horizontal

Note:

1. Result Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.

3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-07-02

Tested By:

Genliu

EUT:

Hardhat Bluetooth Speaker

Model Number:

AEPHS1

Test Mode:

BT TX

Power Supply:

Battery

Condition:

Temp:22.4°C;Humi:70.9%

Test Site:

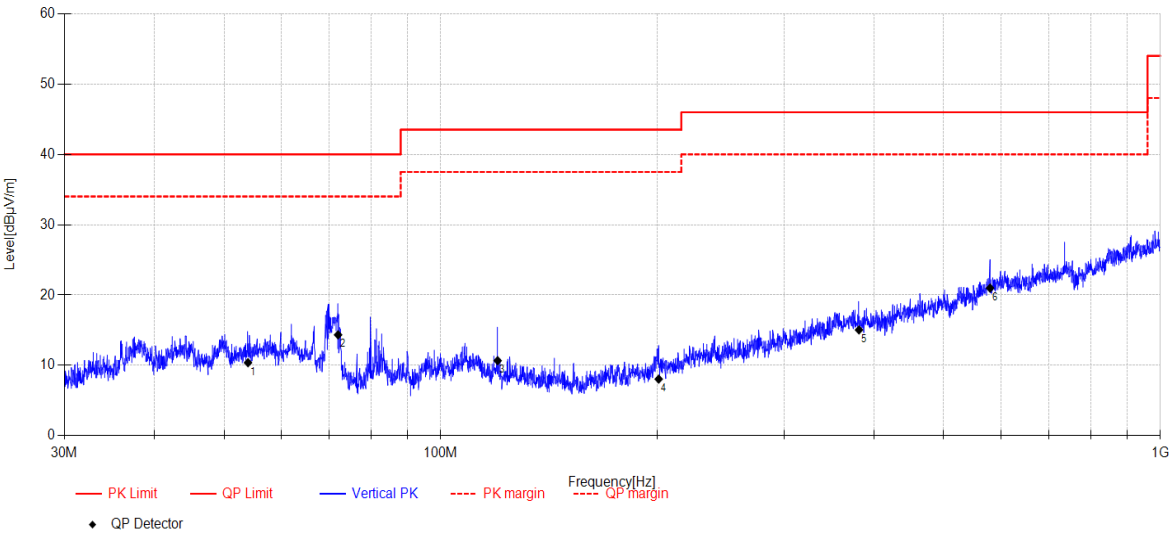
DDT 3# Chamber

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Memo:

Right side Sample Number:S24053007-005 Power Setting:1



Data List										
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable Loss [dB]	AMP [dB]	Result [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	53.989	24.84	12.31	3.91	-30.67	10.39	40.00	29.61	QP	Vertical
2	72.021	31.28	9.59	4.03	-30.55	14.35	40.00	25.65	QP	Vertical
3	119.991	27.19	10.00	4.33	-30.84	10.68	43.50	32.82	QP	Vertical
4	200.893	23.14	10.76	4.76	-30.60	8.06	43.50	35.44	QP	Vertical
5	381.322	24.19	15.45	5.55	-30.14	15.05	46.00	30.95	QP	Vertical
6	579.952	25.6	18.99	6.30	-29.90	20.99	46.00	25.01	QP	Vertical

Note:

1. Result Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with QP limit, QP Result is deemed to comply with QP limit.

3. Test setup: RBW: 120 kHz, VBW: 300 kHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-06-25

Tested By:

Genliu

EUT:

Hardhat Bluetooth Speaker

Model Number:

AEPHS1

Test Mode:

DH5 TX 2441MHz

Power Supply:

Battery

Condition:

Temp:22.4°C;Humi:70.9%

Test Site:

DDT 3# Chamber

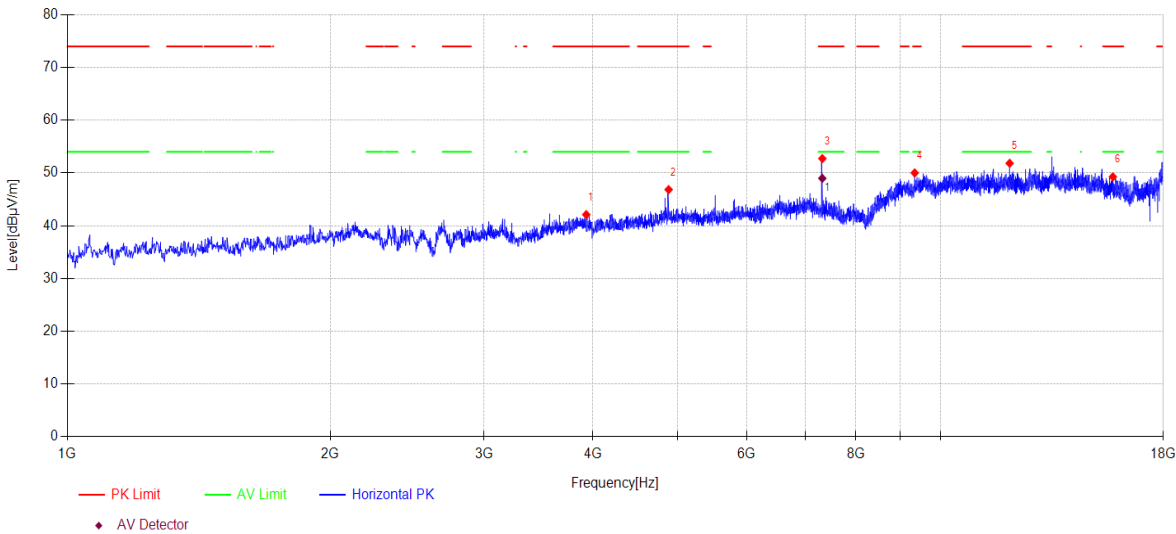
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Memo:

R Sample Number:S24053007-005 Power Setting:1

Test Graph



Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	3929.100	46.31	31.14	5.06	-40.41	42.10	74.00	31.90	PK	Horizontal
2	4882.800	48.11	33.28	5.58	-40.12	46.85	74.00	27.15	PK	Horizontal
3	7324.000	50.78	36.85	6.61	-41.51	52.73	74.00	21.27	PK	Horizontal
4	9343.600	42.68	38.69	7.41	-38.77	50.01	74.00	23.99	PK	Horizontal
5	12002.400	43.43	39.20	8.76	-39.56	51.83	74.00	22.17	PK	Horizontal
6	15757.700	40.11	38.38	9.99	-39.21	49.27	74.00	24.73	PK	Horizontal

Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	7323.105	47.03	36.85	6.61	-41.51	48.98	54.0	5.02	AV	Horizontal

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-06-25

Tested By:

Genliu

EUT:

Hardhat Bluetooth Speaker

Model Number:

AEPHS1

Test Mode:

DH5 TX 2441MHz

Power Supply:

Battery

Condition:

Temp:22.4°C;Humi:70.9%

Test Site:

DDT 3# Chamber

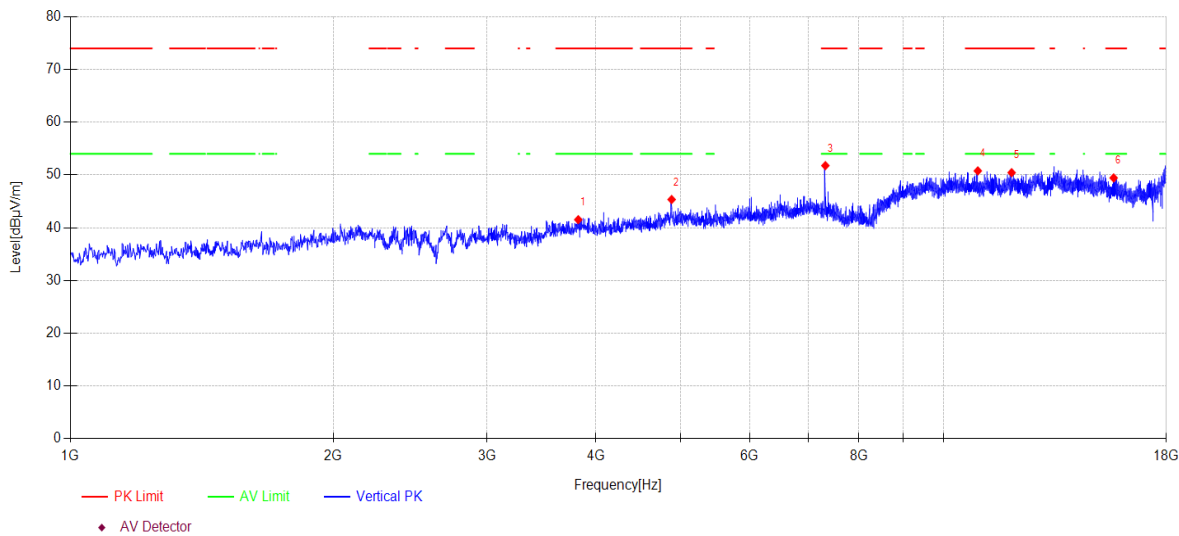
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Memo:

R Sample Number:S24053007-005 Power Setting:1

Test Graph



Data List										
N O.	Freq. [MHz]	Reading [dBµV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Detector	Polarity
1	3816.900	46.02	30.77	5.08	-40.34	41.53	74.00	32.47	PK	Vertical
2	4882.800	46.61	33.28	5.58	-40.12	45.35	74.00	28.65	PK	Vertical
3	7324.000	49.82	36.85	6.61	-41.51	51.77	74.00	22.23	PK	Vertical
4	10948.400	42.44	39.30	8.10	-39.07	50.77	74.00	23.23	PK	Vertical
5	11970.100	42.14	39.11	8.74	-39.55	50.44	74.00	23.56	PK	Vertical
6	15664.200	40.13	38.54	9.93	-39.16	49.44	74.00	24.56	PK	Vertical

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-06-25

Tested By:

Genliu

EUT:

Hardhat Bluetooth Speaker

Model Number:

AEPHS1

Test Mode:

DH5 TX 2480MHz

Power Supply:

Battery

Condition:

Temp:22.4°C;Humi:70.9%

Test Site:

DDT 3# Chamber

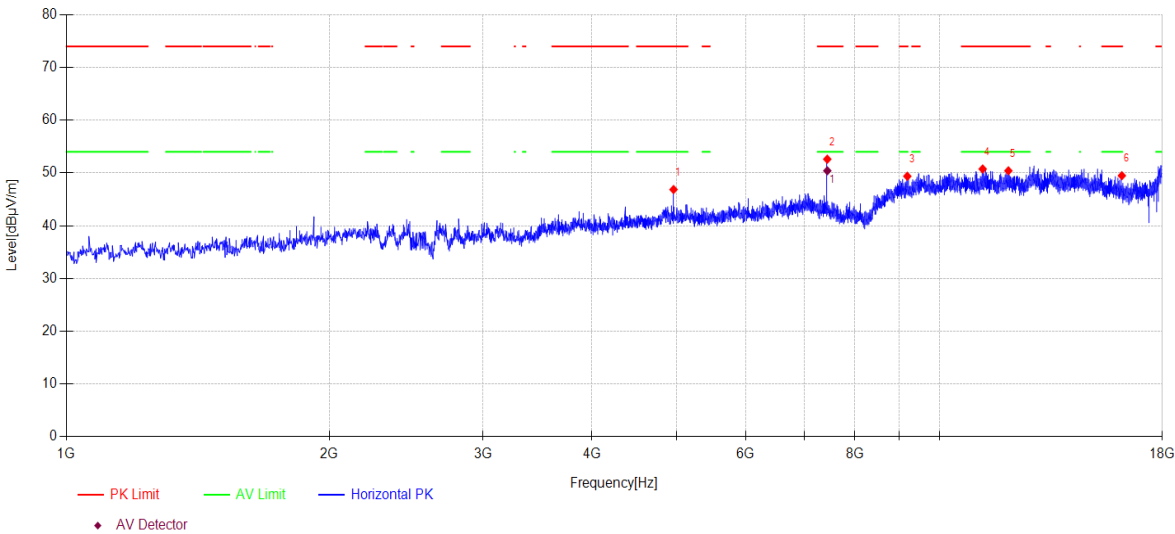
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Memo:

R Sample Number:S24053007-005 Power Setting:1

Test Graph



Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	4959.300	48.21	33.12	5.63	-40.10	46.86	74.00	27.14	PK	Horizontal
2	7439.600	51.12	36.62	6.67	-41.80	52.61	74.00	21.39	PK	Horizontal
3	9187.200	42.22	38.57	7.36	-38.78	49.37	74.00	24.63	PK	Horizontal
4	11206.800	42.48	39.20	8.26	-39.19	50.75	74.00	23.25	PK	Horizontal
5	11993.900	42.03	39.18	8.76	-39.56	50.41	74.00	23.59	PK	Horizontal
6	16177.600	40.97	37.82	10.19	-39.50	49.48	74.00	24.52	PK	Horizontal

Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	7440.110	48.92	36.62	6.67	-41.80	50.41	54.0	3.59	AV	Horizontal

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-06-25

Tested By:

Genliu

EUT:

Hardhat Bluetooth Speaker

Model Number:

AEPHS1

Test Mode:

DH5 TX 2480MHz

Power Supply:

Battery

Condition:

Temp:22.4°C;Humi:70.9%

Test Site:

DDT 3# Chamber

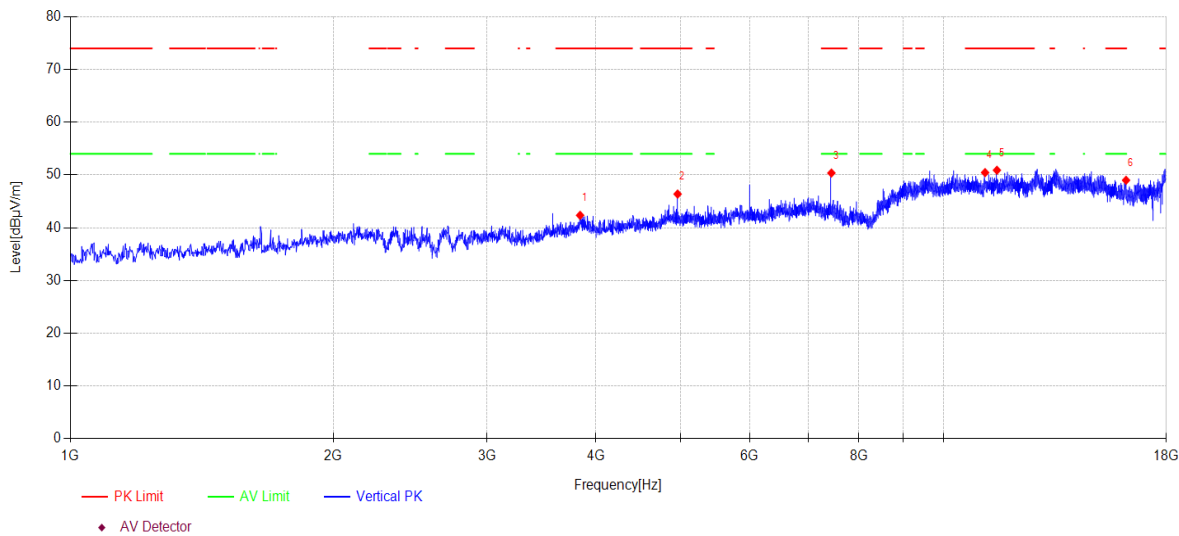
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Memo:

R Sample Number:S24053007-005 Power Setting:1

Test Graph



Data List										
N O.	Freq. [MHz]	Reading [dBµV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Detector	Polarity
1	3835.600	46.78	30.84	5.08	-40.35	42.35	74.00	31.65	PK	Vertical
2	4961.000	47.72	33.12	5.63	-40.09	46.38	74.00	27.62	PK	Vertical
3	7441.300	48.88	36.62	6.67	-41.80	50.37	74.00	23.63	PK	Vertical
4	11160.900	42.15	39.24	8.23	-39.17	50.45	74.00	23.55	PK	Vertical
5	11514.500	42.61	39.17	8.45	-39.33	50.90	74.00	23.10	PK	Vertical
6	16186.100	40.51	37.81	10.19	-39.51	49.00	74.00	25.00	PK	Vertical

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-06-25

Tested By:

Genliu

EUT:

Hardhat Bluetooth Speaker

Model Number:

AEPHS1

Test Mode:

DH5 TX 2402MHz

Power Supply:

Battery

Condition:

Temp:22.4°C;Humi:70.9%

Test Site:

DDT 3# Chamber

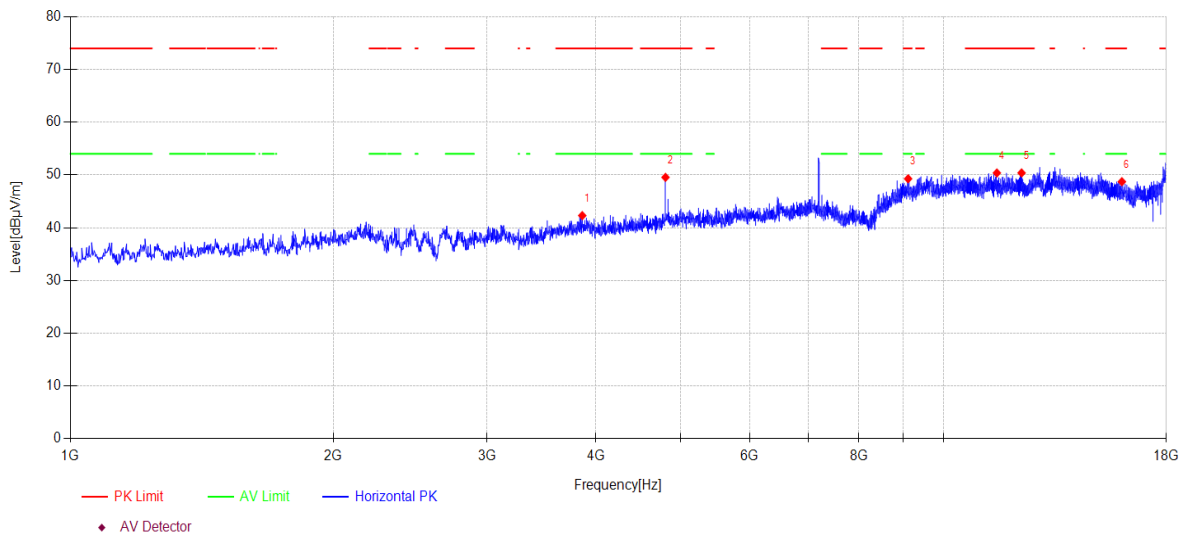
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Memo:

R Sample Number:S24053007-005 Power Setting:1

Test Graph



Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	3857.700	46.64	30.95	5.07	-40.36	42.30	74.00	31.70	PK	Horizontal
2	4804.600	51.55	32.62	5.53	-40.15	49.55	74.00	24.45	PK	Horizontal
3	9110.700	42.22	38.50	7.34	-38.78	49.28	74.00	24.72	PK	Horizontal
4	11512.800	42.09	39.17	8.45	-39.33	50.38	74.00	23.62	PK	Horizontal
5	12288.000	41.85	39.30	8.91	-39.67	50.39	74.00	23.61	PK	Horizontal
6	16009.300	39.95	37.99	10.15	-39.37	48.72	74.00	25.28	PK	Horizontal

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-06-25

Tested By:

Genliu

EUT:

Hardhat Bluetooth Speaker

Model Number:

AEPHS1

Test Mode:

DH5 TX 2402MHz

Power Supply:

Battery

Condition:

Temp:22.4°C;Humi:70.9%

Test Site:

DDT 3# Chamber

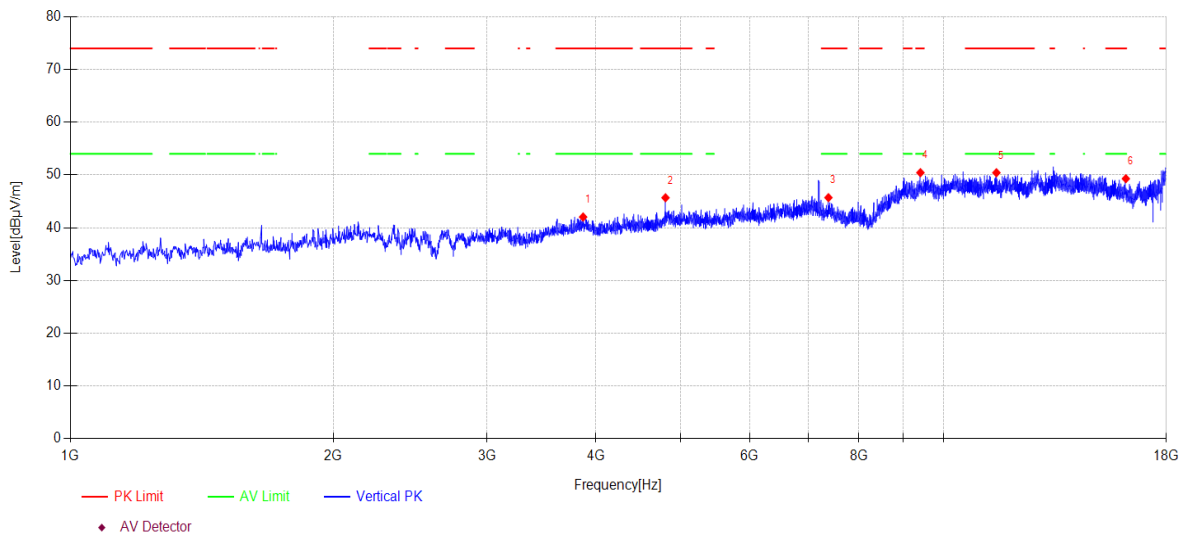
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Memo:

R Sample Number:S24053007-005 Power Setting:1

Test Graph



Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	3866.200	46.33	31.00	5.07	-40.37	42.03	74.00	31.97	PK	Vertical
2	4804.600	47.68	32.62	5.53	-40.15	45.68	74.00	28.32	PK	Vertical
3	7383.500	44.00	36.73	6.64	-41.66	45.71	74.00	28.29	PK	Vertical
4	9409.900	43.05	38.70	7.44	-38.76	50.43	74.00	23.57	PK	Vertical
5	11499.200	42.10	39.20	8.44	-39.32	50.42	74.00	23.58	PK	Vertical
6	16177.600	40.78	37.82	10.19	-39.50	49.29	74.00	24.71	PK	Vertical

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-06-25

Tested By:

Genliu

EUT:

Hardhat Bluetooth Speaker

Model Number:

AEPHS1

Test Mode:

DH5 TX 2402MHz

Power Supply:

Battery

Condition:

Temp:22.4°C;Humi:70.9%

Test Site:

DDT 3# Chamber

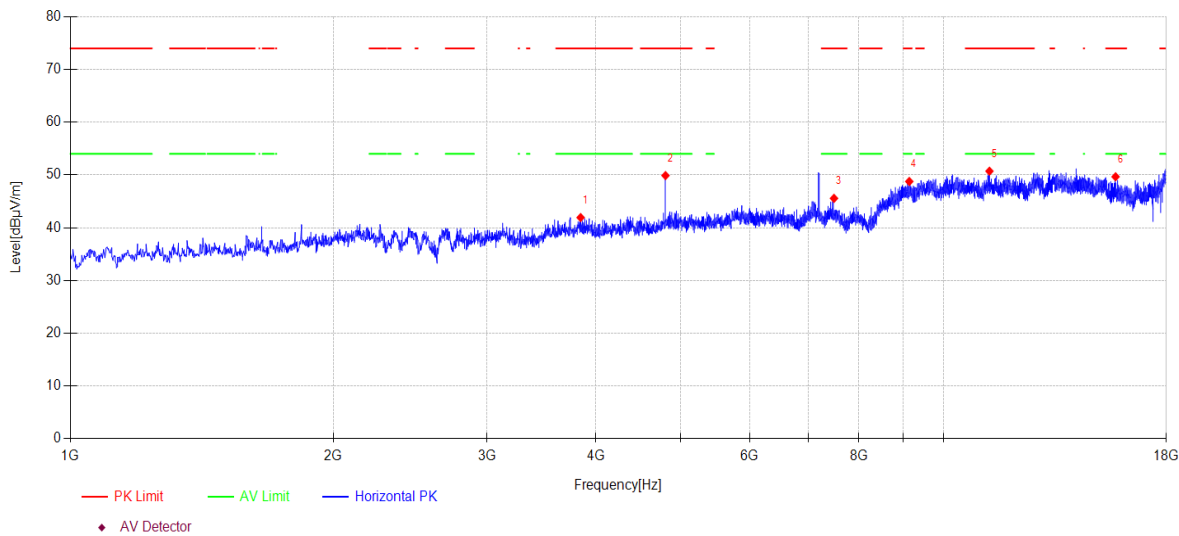
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Memo:

L Sample Number:S24053007-003 Power Setting:1

Test Graph



Data List										
N O.	Freq. [MHz]	Reading [dBµV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Detector	Polarity
1	3840.700	46.34	30.86	5.08	-40.35	41.93	74.00	32.07	PK	Horizontal
2	4804.600	51.89	32.62	5.53	-40.15	49.89	74.00	24.11	PK	Horizontal
3	7492.300	44.28	36.52	6.70	-41.93	45.57	74.00	28.43	PK	Horizontal
4	9137.900	41.70	38.50	7.35	-38.78	48.77	74.00	25.23	PK	Horizontal
5	11290.100	42.44	39.20	8.31	-39.23	50.72	74.00	23.28	PK	Horizontal
6	15744.100	40.48	38.41	9.98	-39.21	49.66	74.00	24.34	PK	Horizontal

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-06-25

Tested By:

Genliu

EUT:

Hardhat Bluetooth Speaker

Model Number:

AEPHS1

Test Mode:

DH5 TX 2402MHz

Power Supply:

Battery

Condition:

Temp:22.4°C;Humi:70.9%

Test Site:

DDT 3# Chamber

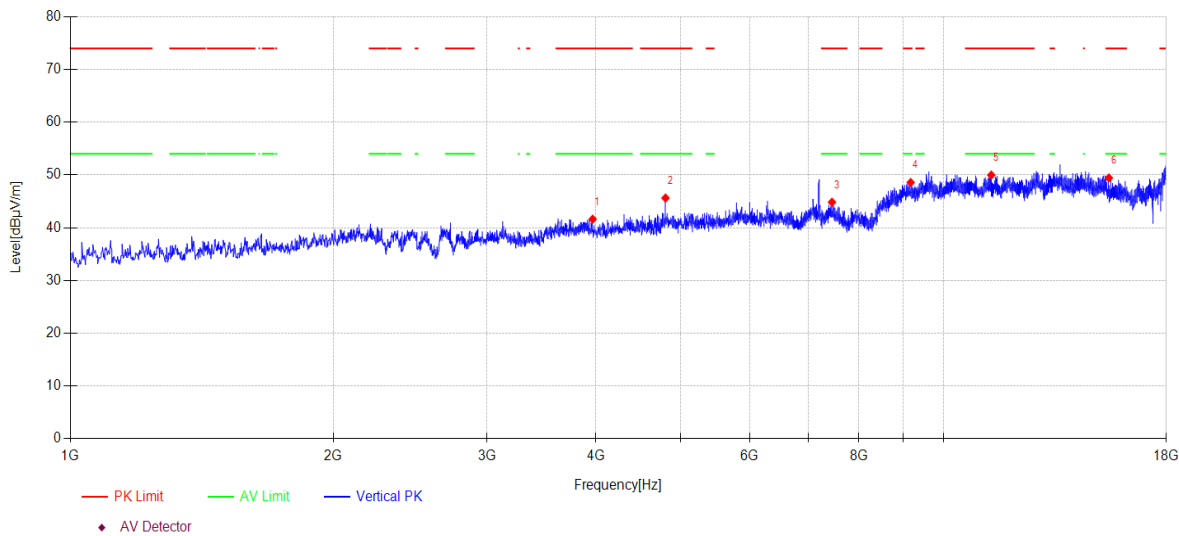
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Memo:

L Sample Number:S24053007-003 Power Setting:1

Test Graph



Data List										
N O.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	3964.800	45.95	31.04	5.06	-40.43	41.62	74.00	32.38	PK	Vertical
2	4804.600	47.63	32.62	5.53	-40.15	45.63	74.00	28.37	PK	Vertical
3	7453.200	43.40	36.59	6.68	-41.83	44.84	74.00	29.16	PK	Vertical
4	9171.900	41.46	38.54	7.36	-38.78	48.58	74.00	25.42	PK	Vertical
5	11342.800	41.64	39.24	8.35	-39.25	49.98	74.00	24.02	PK	Vertical
6	15470.400	39.81	38.86	9.80	-39.04	49.43	74.00	24.57	PK	Vertical

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-06-25

Tested By:

Genliu

EUT:

Hardhat Bluetooth Speaker

Model Number:

AEPHS1

Test Mode:

DH5 TX 2441MHz

Power Supply:

Battery

Condition:

Temp:22.4°C;Humi:70.9%

Test Site:

DDT 3# Chamber

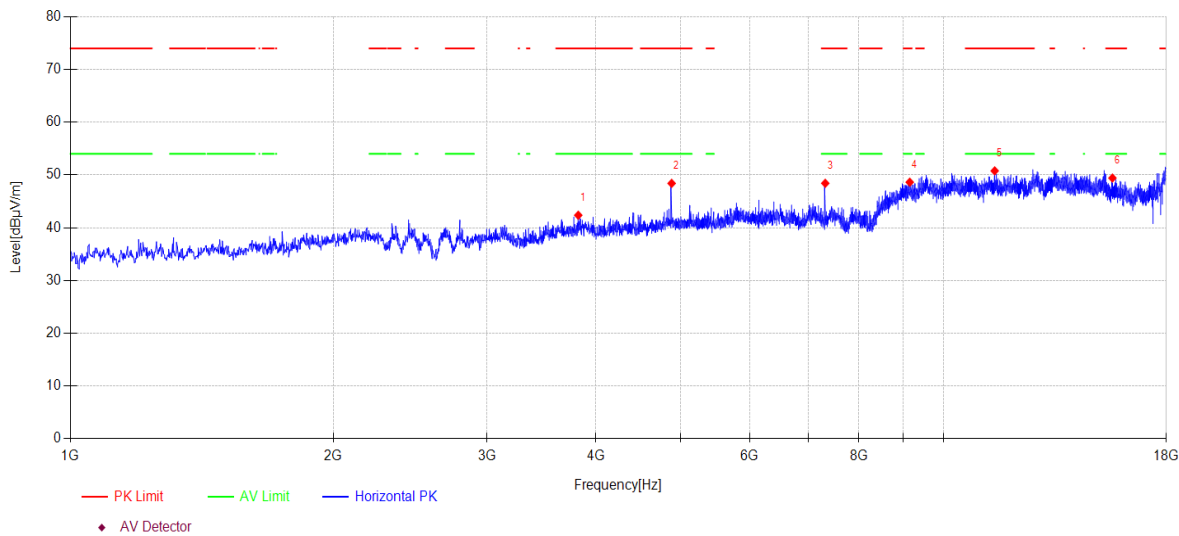
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Memo:

L Sample Number:S24053007-003 Power Setting:1

Test Graph



Data List										
N O.	Freq. [MHz]	Reading [dBµV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Detector	Polarity
1	3816.900	46.86	30.77	5.08	-40.34	42.37	74.00	31.63	PK	Horizontal
2	4882.800	49.67	33.28	5.58	-40.12	48.41	74.00	25.59	PK	Horizontal
3	7322.300	46.46	36.86	6.61	-41.51	48.42	74.00	25.58	PK	Horizontal
4	9149.800	41.56	38.50	7.35	-38.78	48.63	74.00	25.37	PK	Horizontal
5	11446.500	42.42	39.25	8.41	-39.30	50.78	74.00	23.22	PK	Horizontal
6	15614.900	40.07	38.59	9.89	-39.13	49.42	74.00	24.58	PK	Horizontal

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-06-25

Tested By:

Genliu

EUT:

Hardhat Bluetooth Speaker

Model Number:

AEPHS1

Test Mode:

DH5 TX 2441MHz

Power Supply:

Battery

Condition:

Temp:22.4°C;Humi:70.9%

Test Site:

DDT 3# Chamber

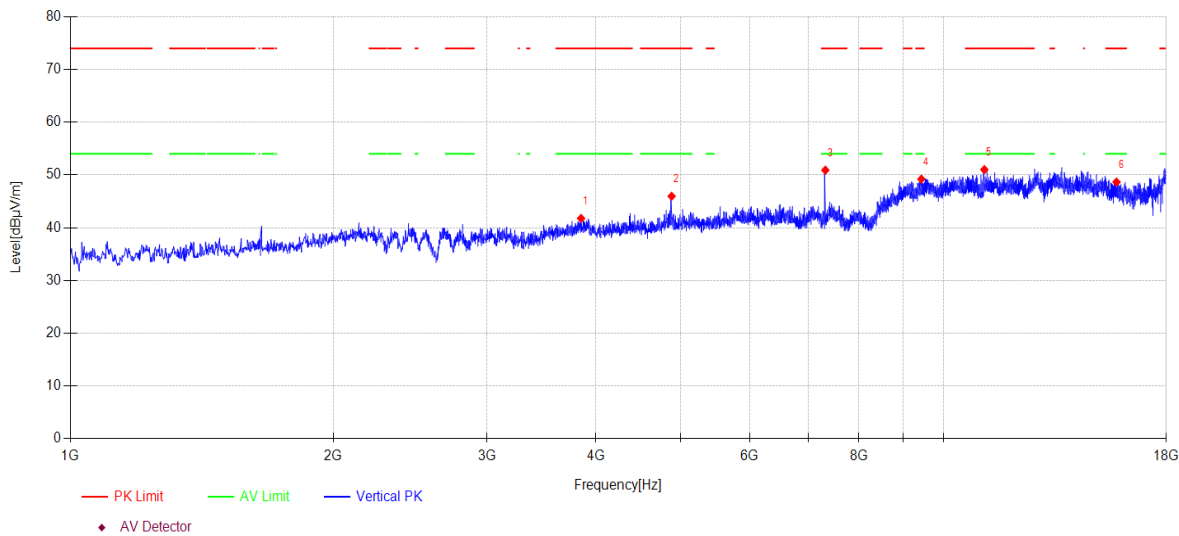
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Memo:

L Sample Number:S24053007-003 Power Setting:1

Test Graph



Data List										
N O.	Freq. [MHz]	Reading [dBµV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Detector	Polarity
1	3845.800	46.17	30.88	5.08	-40.36	41.77	74.00	32.23	PK	Vertical
2	4882.800	47.23	33.28	5.58	-40.12	45.97	74.00	28.03	PK	Vertical
3	7324.000	48.96	36.85	6.61	-41.51	50.91	74.00	23.09	PK	Vertical
4	9433.700	41.84	38.70	7.44	-38.76	49.22	74.00	24.78	PK	Vertical
5	11138.800	42.70	39.26	8.22	-39.16	51.02	74.00	22.98	PK	Vertical
6	15784.900	39.55	38.33	10.01	-39.23	48.66	74.00	25.34	PK	Vertical

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-06-25

Tested By:

Genliu

EUT:

Hardhat Bluetooth Speaker

Model Number:

AEPHS1

Test Mode:

DH5 TX 2480MHz

Power Supply:

Battery

Condition:

Temp:22.4°C;Humi:70.9%

Test Site:

DDT 3# Chamber

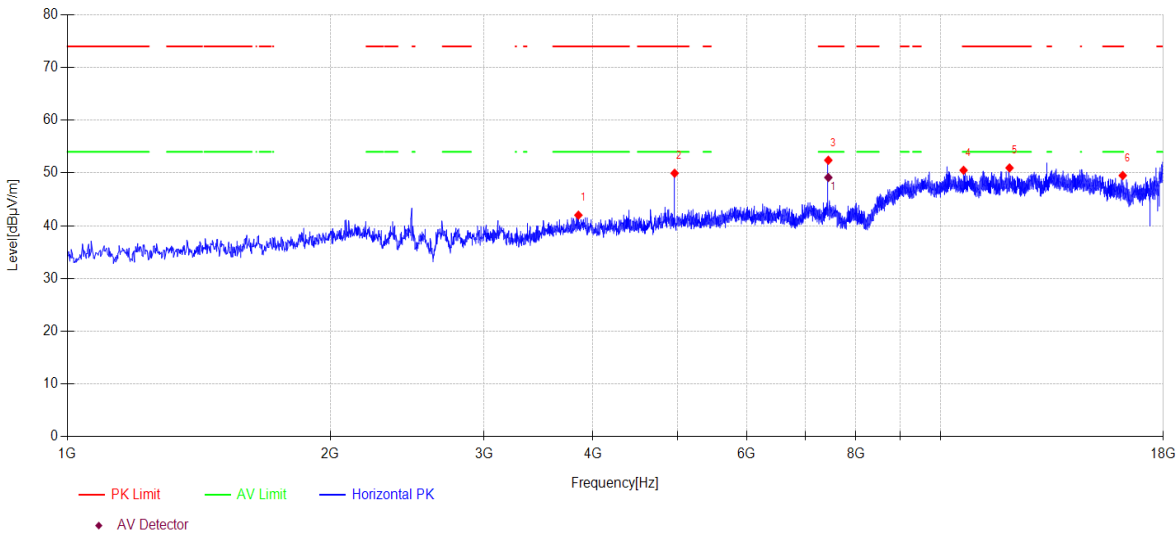
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Memo:

L Sample Number:S24053007-003 Power Setting:1

Test Graph



Data List										
N O.	Freq. [MHz]	Reading [dBµV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Detector	Polarity
1	3849.200	46.38	30.90	5.08	-40.36	42.00	74.00	32.00	PK	Horizontal
2	4961.000	51.29	33.12	5.63	-40.09	49.95	74.00	24.05	PK	Horizontal
3	7439.600	50.92	36.62	6.67	-41.80	52.41	74.00	21.59	PK	Horizontal
4	10628.800	42.26	39.26	7.94	-38.95	50.51	74.00	23.49	PK	Horizontal
5	11997.300	42.57	39.19	8.76	-39.56	50.96	74.00	23.04	PK	Horizontal
6	16172.500	41.00	37.83	10.19	-39.50	49.52	74.00	24.48	PK	Horizontal

Data List										
N O.	Freq. [MHz]	Reading [dBµV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Detector	Polarity
1	7440.170	47.65	36.62	6.67	-41.80	49.14	54.0	4.86	AV	Horizontal

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

TR-4-E-009 Radiated Emission Test Result

Test Date:

2024-06-25

Tested By:

Genliu

EUT:

Hardhat Bluetooth Speaker

Model Number:

AEPHS1

Test Mode:

DH5 TX 2480MHz

Power Supply:

Battery

Condition:

Temp:22.4°C;Humi:70.9%

Test Site:

DDT 3# Chamber

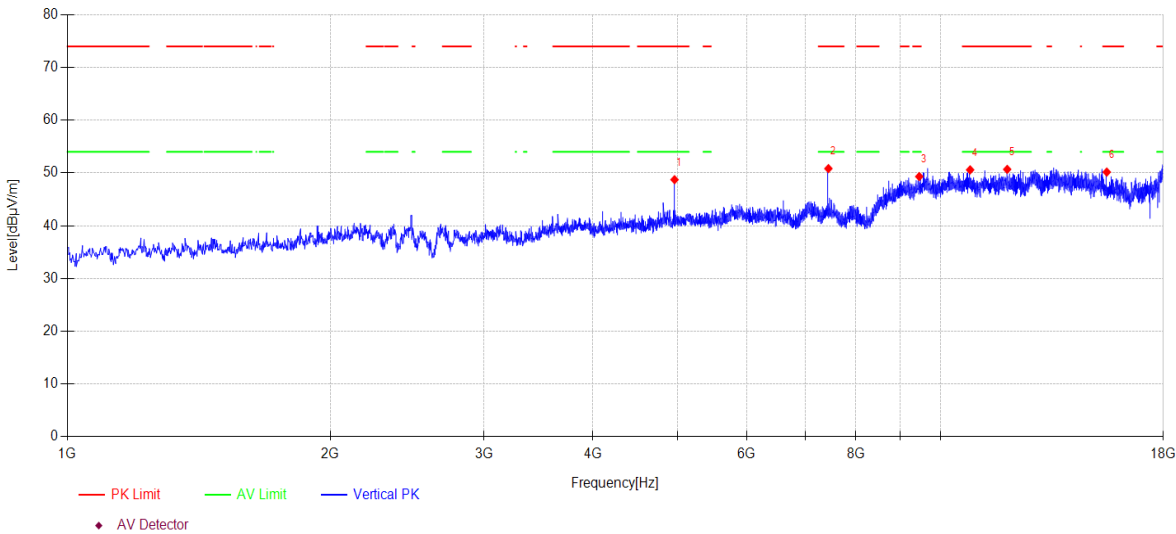
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Memo:

L Sample Number:S24053007-003 Power Setting:1

Test Graph



Data List										
N O.	Freq. [MHz]	Reading [dBµV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Detector	Polarity
1	4959.300	50.08	33.12	5.63	-40.10	48.73	74.00	25.27	PK	Vertical
2	7441.300	49.34	36.62	6.67	-41.80	50.83	74.00	23.17	PK	Vertical
3	9455.800	41.93	38.70	7.45	-38.76	49.32	74.00	24.68	PK	Vertical
4	10814.100	42.18	39.39	8.04	-39.02	50.59	74.00	23.41	PK	Vertical
5	11924.200	42.52	38.97	8.71	-39.52	50.68	74.00	23.32	PK	Vertical
6	15504.400	40.62	38.79	9.82	-39.06	50.17	74.00	23.83	PK	Vertical

Note:

1. Level = Reading + Cable loss + Antenna Factor + AMP

2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.