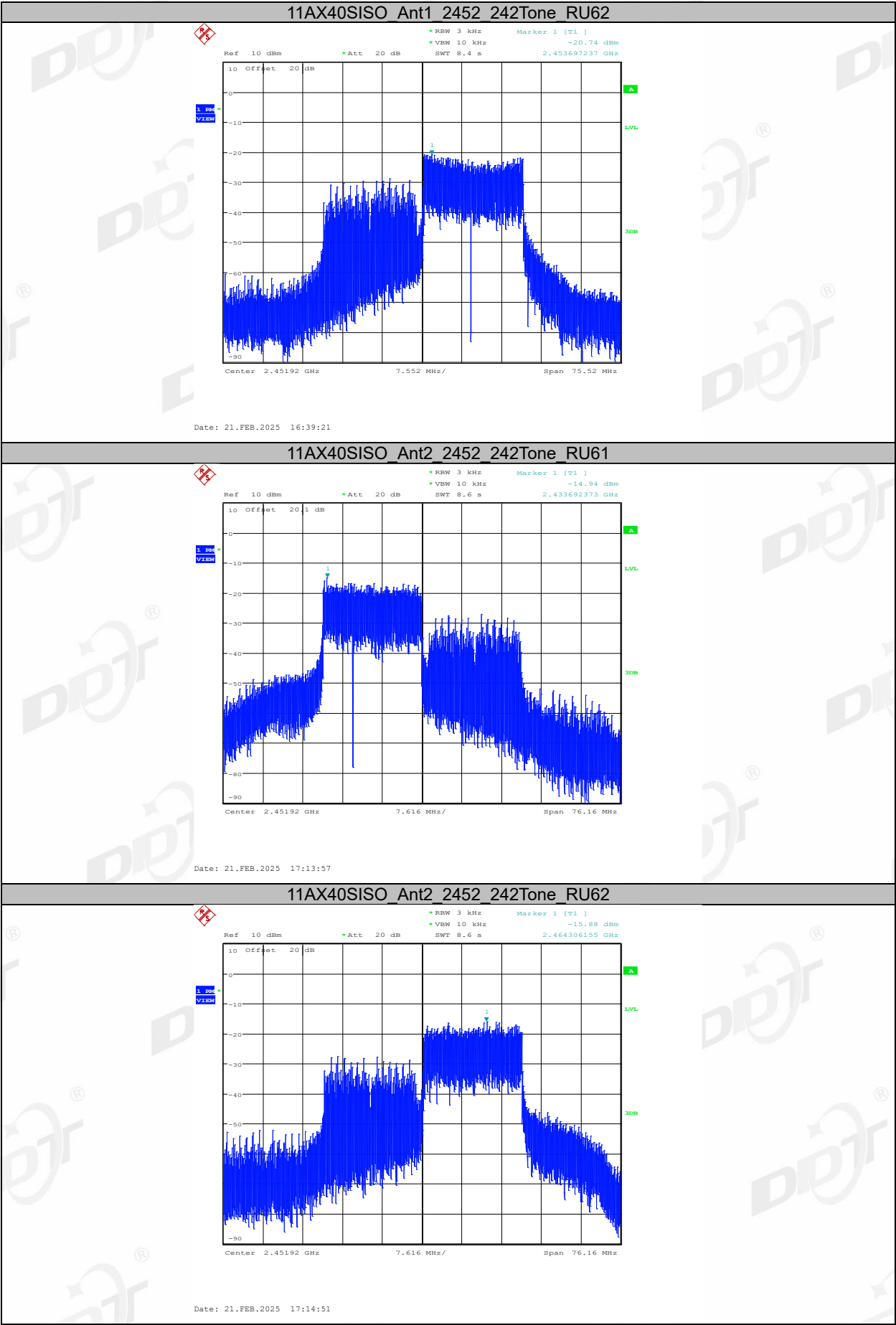
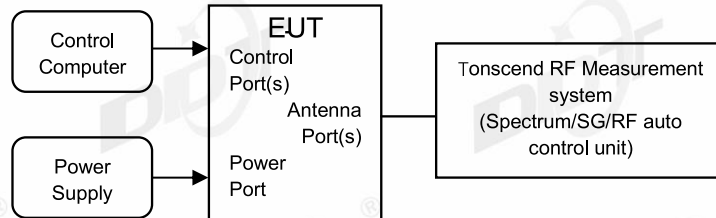




8. Band Edge Compliance (Conducted Method)

8.1. Block diagram of test setup



8.2. Limits

In any 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 30 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.

8.3. Test procedure

- (1) Connect EUT's antenna output to spectrum analyzer by RF cable.
- (2) Establish a reference level by using the following procedure:

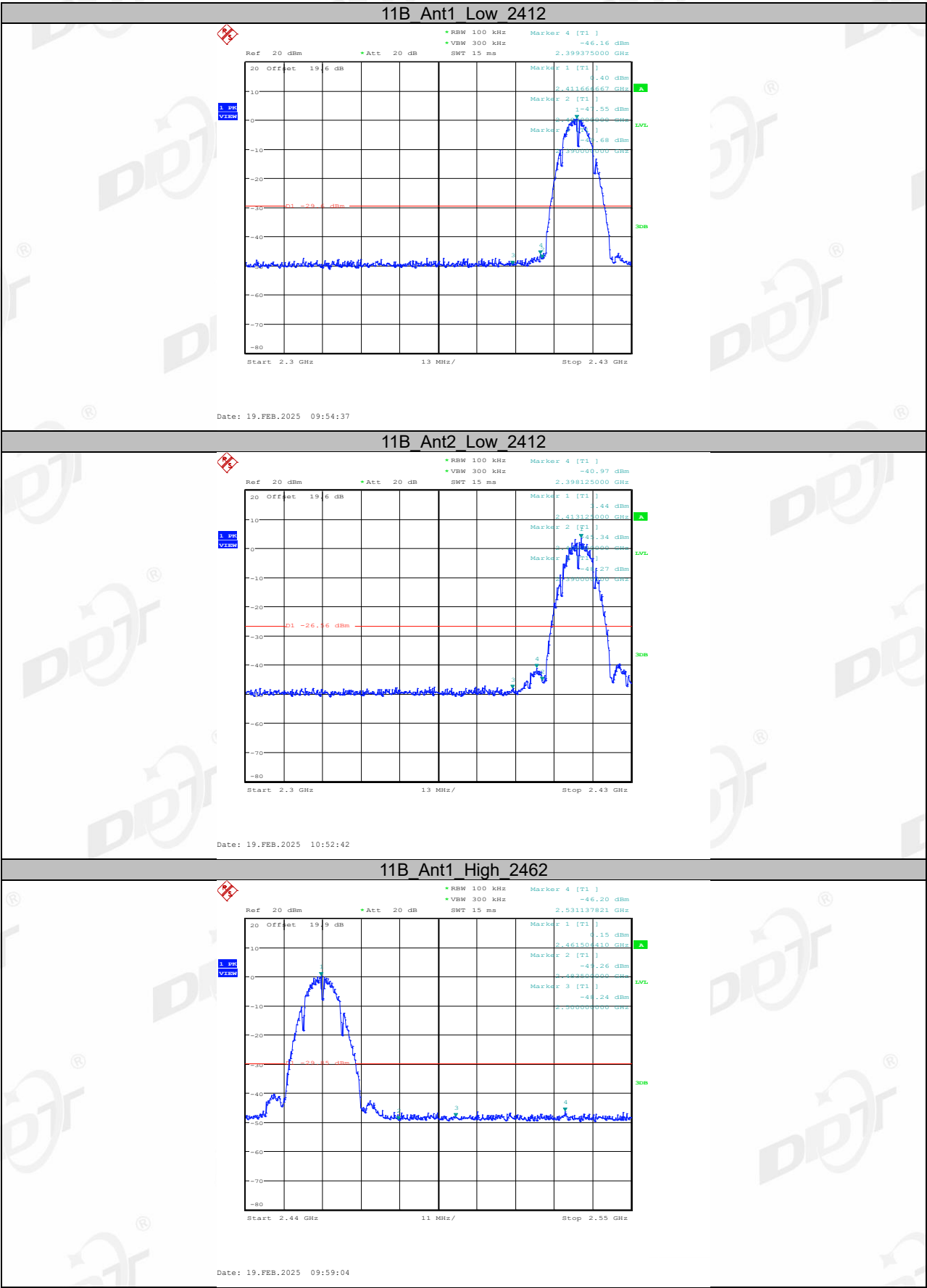
RBW:	100 kHz
VBW:	300 kHz
Span	Encompass frequency range to be measured
Detector Mode:	Peak
Sweep time:	auto
Trace mode	Max hold
- (3) Allow the trace to stabilize, use the peak marker function to determine the maximum peak power level to establish the reference level.
- (4) Then mark the maximum amplitude of all unwanted emissions outside of the authorized frequency band.

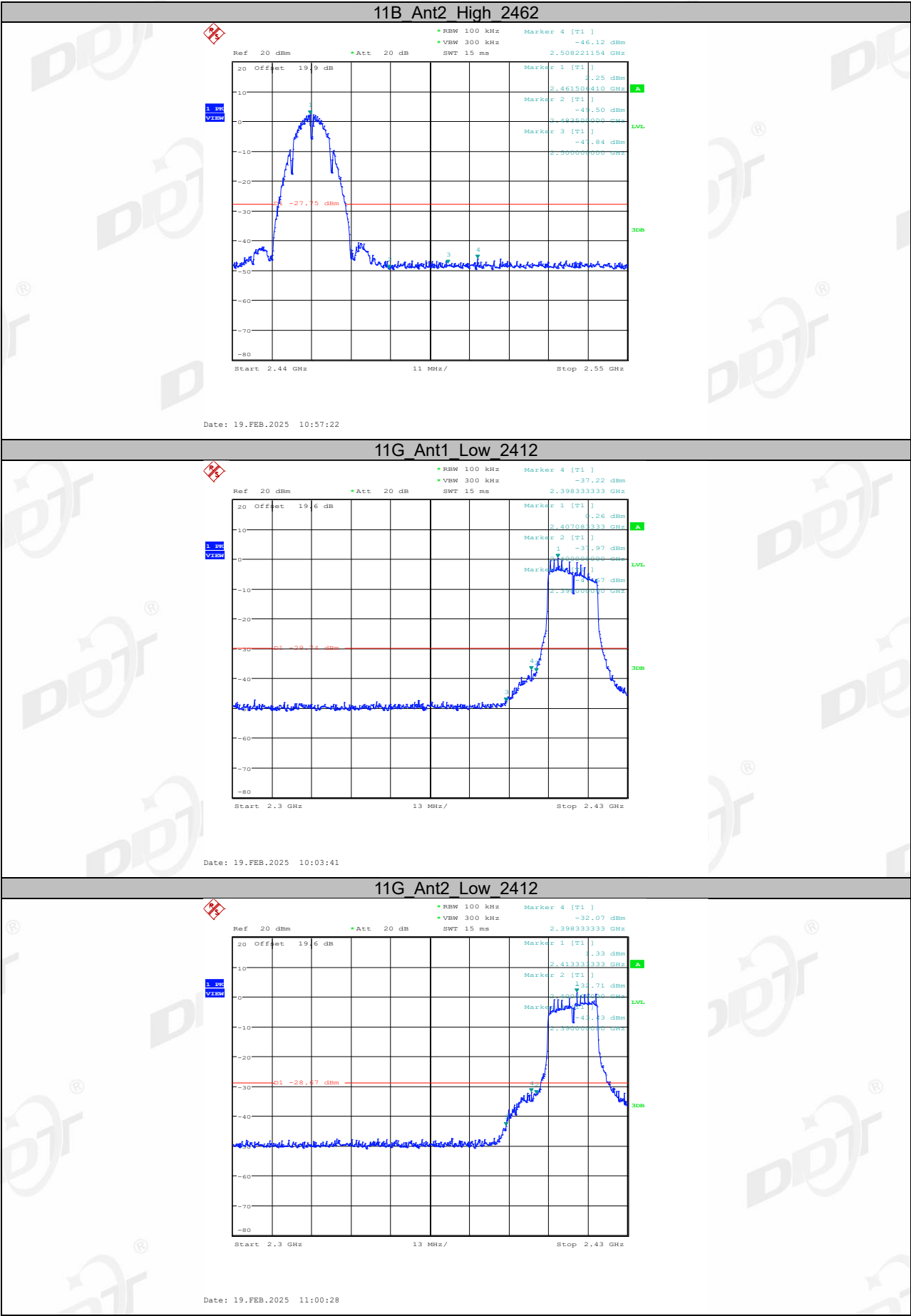
8.4. Test result

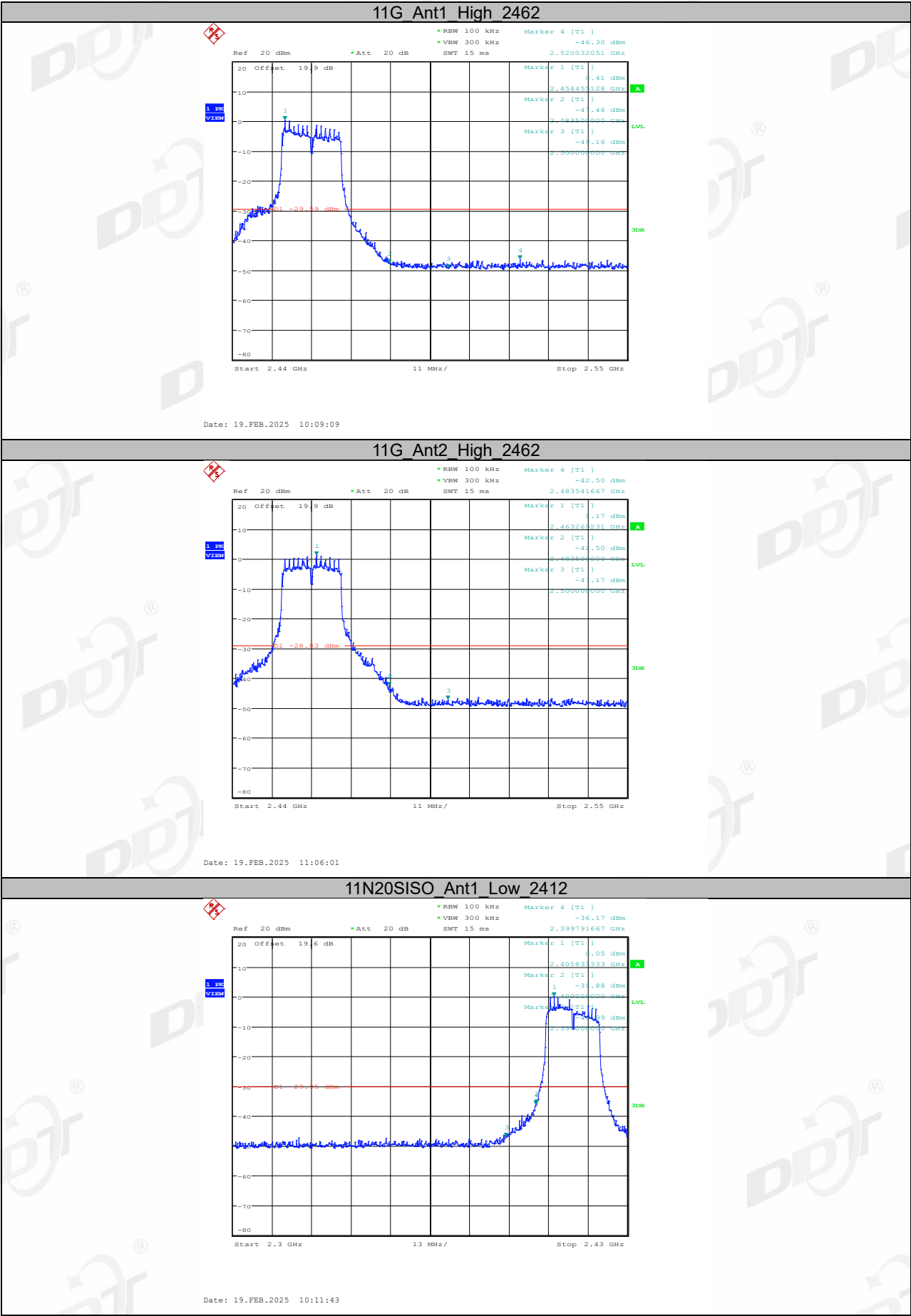
Test Engineer:	Zora Zhang	Test Site:	RF Measurement System 1#
Ambient Condition:	23.6℃, 45%RH	Test Date:	2025.01.21-2025.02.21
Test Power Supply:	DC 12V	Sample Number:	S24122405-001

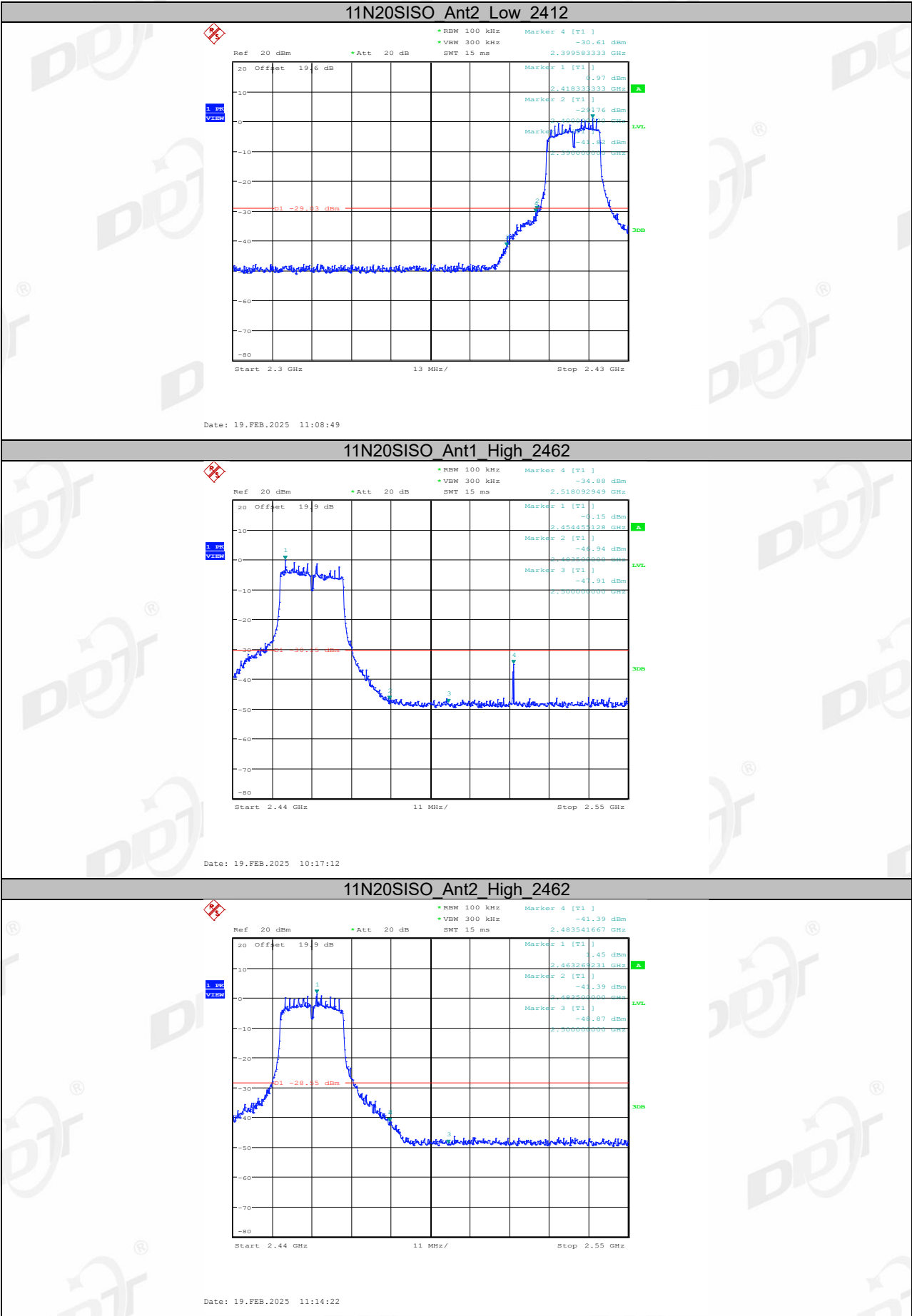
EUT Set Mode	CH or Frequency	Result (dBm)	EUT Set Mode	CH or Frequency	Result (dBm)
11b	CH1	Pass	11g	CH1	Pass
	CH11	Pass		CH11	Pass
11n HT 20	CH1	Pass	11n HT 40	CH3	Pass
	CH11	Pass		CH9	Pass
11ax HE 20	CH1	Pass	11ax HE 40	CH3	Pass
	CH11	Pass		CH9	Pass

8.5. Test graphs

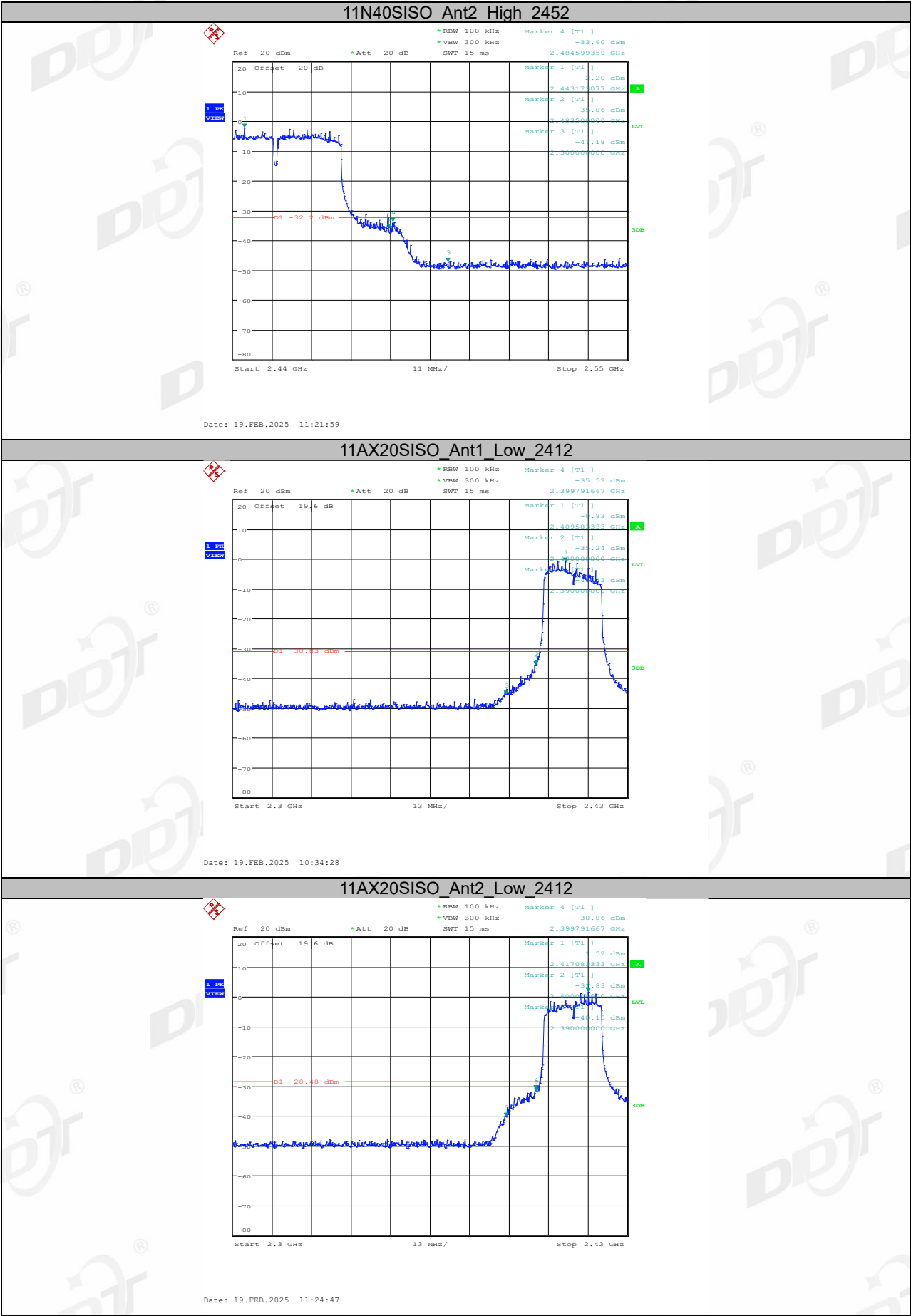


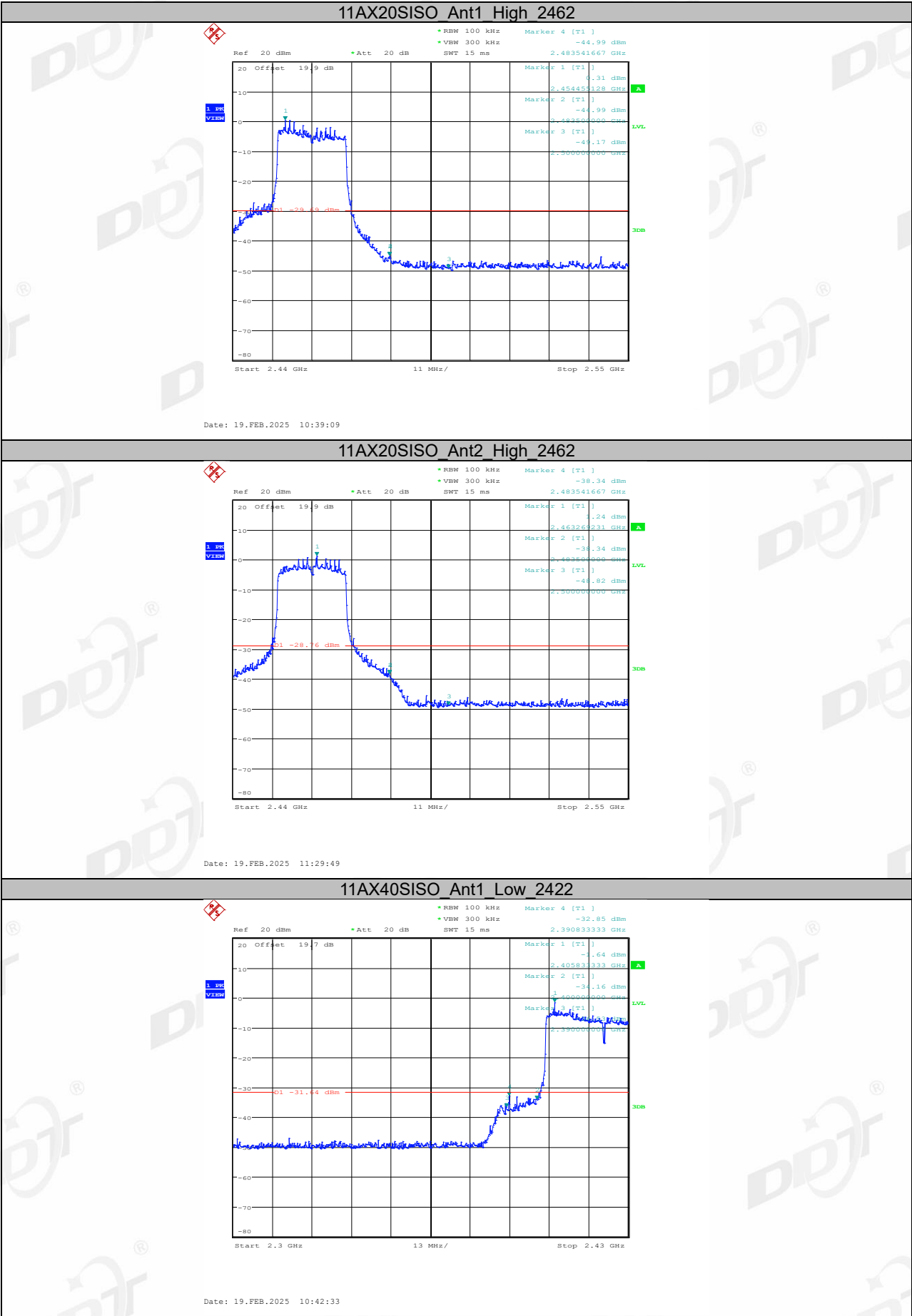


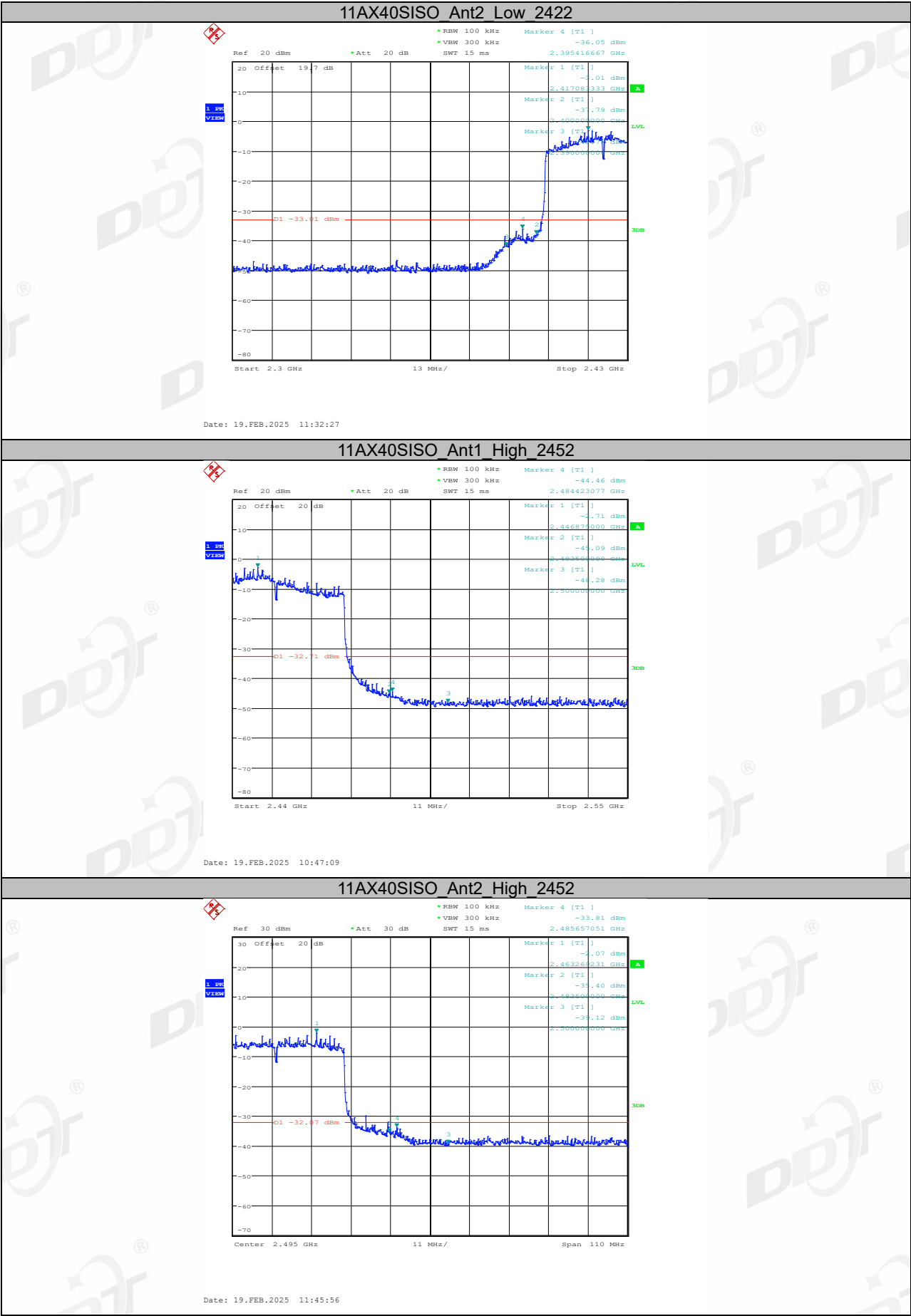












9. RF Conducted Spurious Emissions

9.1. Block diagram of test setup

Same as 8.1

9.2. Limits

In any 100 kHz bandwidth outside the frequency bands in which the spread spectrum intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 30 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power.

9.3. Test procedure

(1) Connect EUT's antenna output to spectrum analyzer by RF cable.

(2) Establish a reference level by using the following procedure:

Center frequency	Test frequency
RBW:	100 kHz
VBW:	300 kHz
Span	Wide enough to capture the peak level of the in-band emission
Detector Mode:	Peak
Sweep time:	auto
Trace mode	Max hold

(3) Allow the trace to stabilize, use the peak marker function to determine the maximum peak power level to establish the reference level.

(4) Set the spectrum analyzer as follows:

RBW:	100 kHz
VBW:	300 kHz
Span	Encompass frequency range to be measured
Number of measurement points	$\geq \text{Span/RBW}$
Detector Mode:	Peak
Sweep time:	auto
Trace mode	Max hold

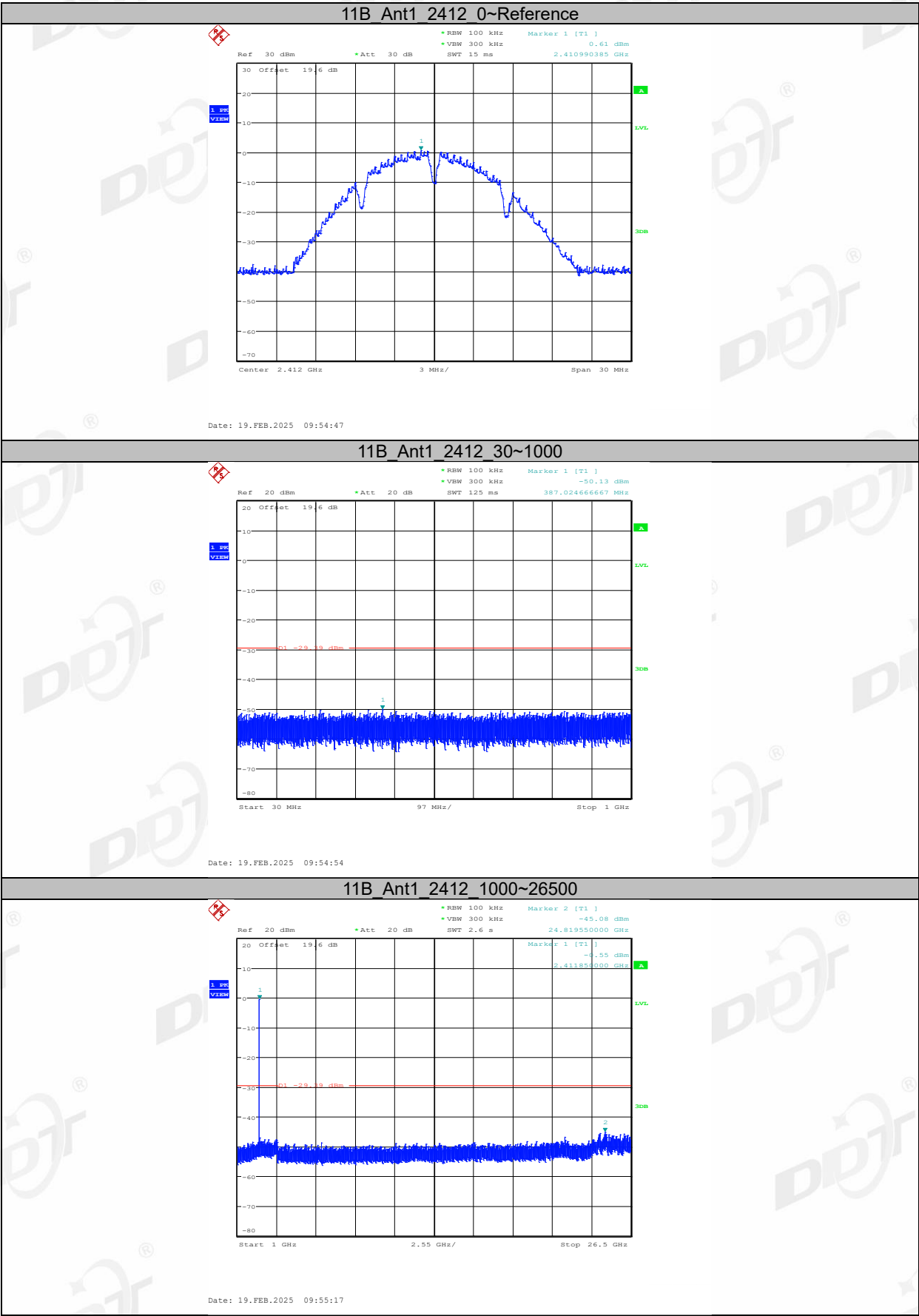
(5) Allow the trace to stabilize, use the peak marker function to determine the maximum amplitude of all unwanted emissions outside of the authorized frequency band

9.4. Test result

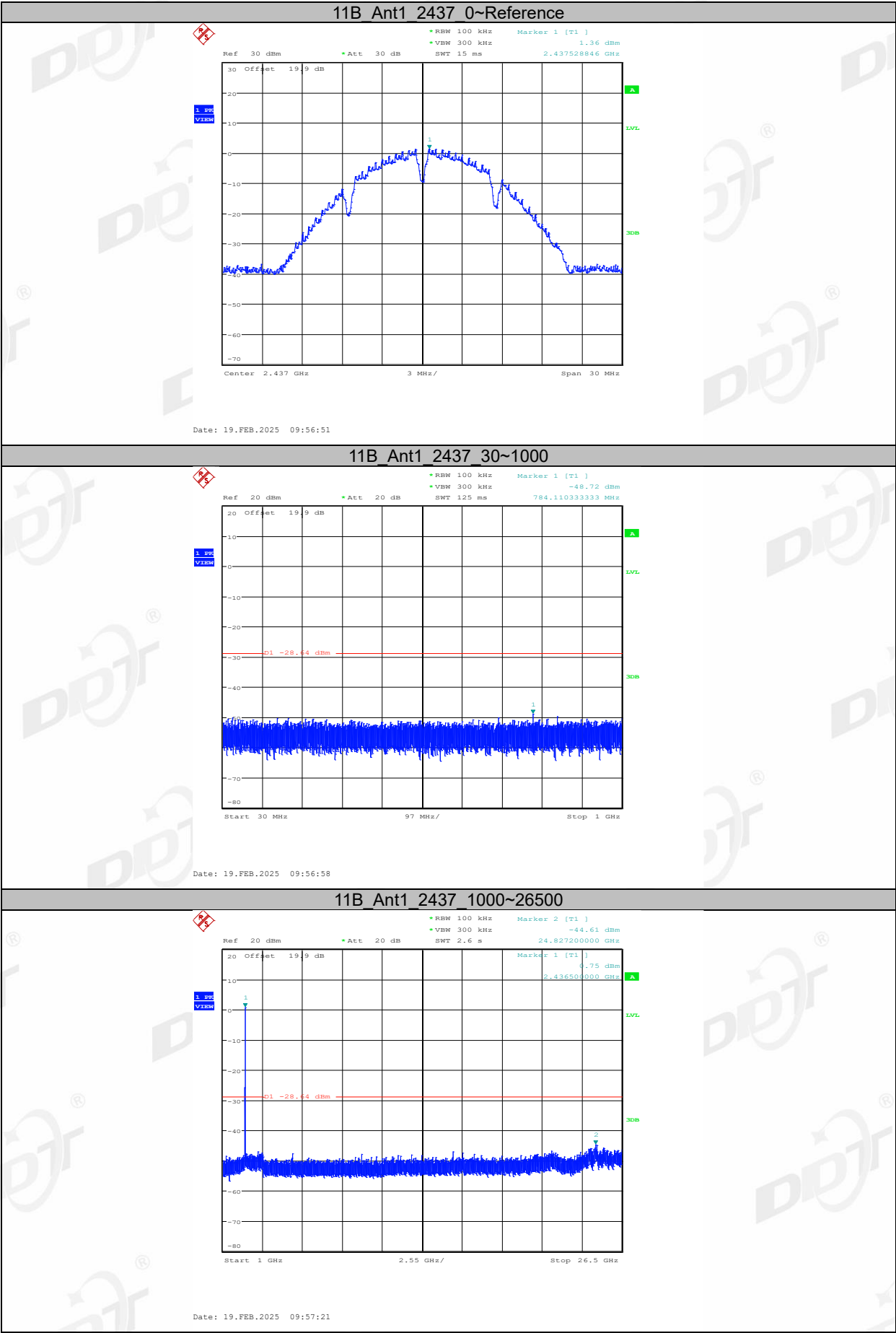
Test Engineer:	Zora Zhang	Test Site:	RF Measurement System 1#
Ambient Condition:	23.6℃ , 45%RH	Test Date:	2025.01.21-2025.02.21
Test Power Supply:	DC 12V	Sample Number:	S24122405-001

EUT Set Mode	CH or Frequency	Result (dBm)	EUT Set Mode	CH or Frequency	Result (dBm)
11b	CH1	Pass	11g	CH1	Pass
	CH11	Pass		CH11	Pass
11n HT 20	CH1	Pass	11n HT 40	CH3	Pass
	CH11	Pass		CH9	Pass
11ax HE 20	CH1	Pass	11ax HE 40	CH3	Pass
	CH11	Pass		CH9	Pass

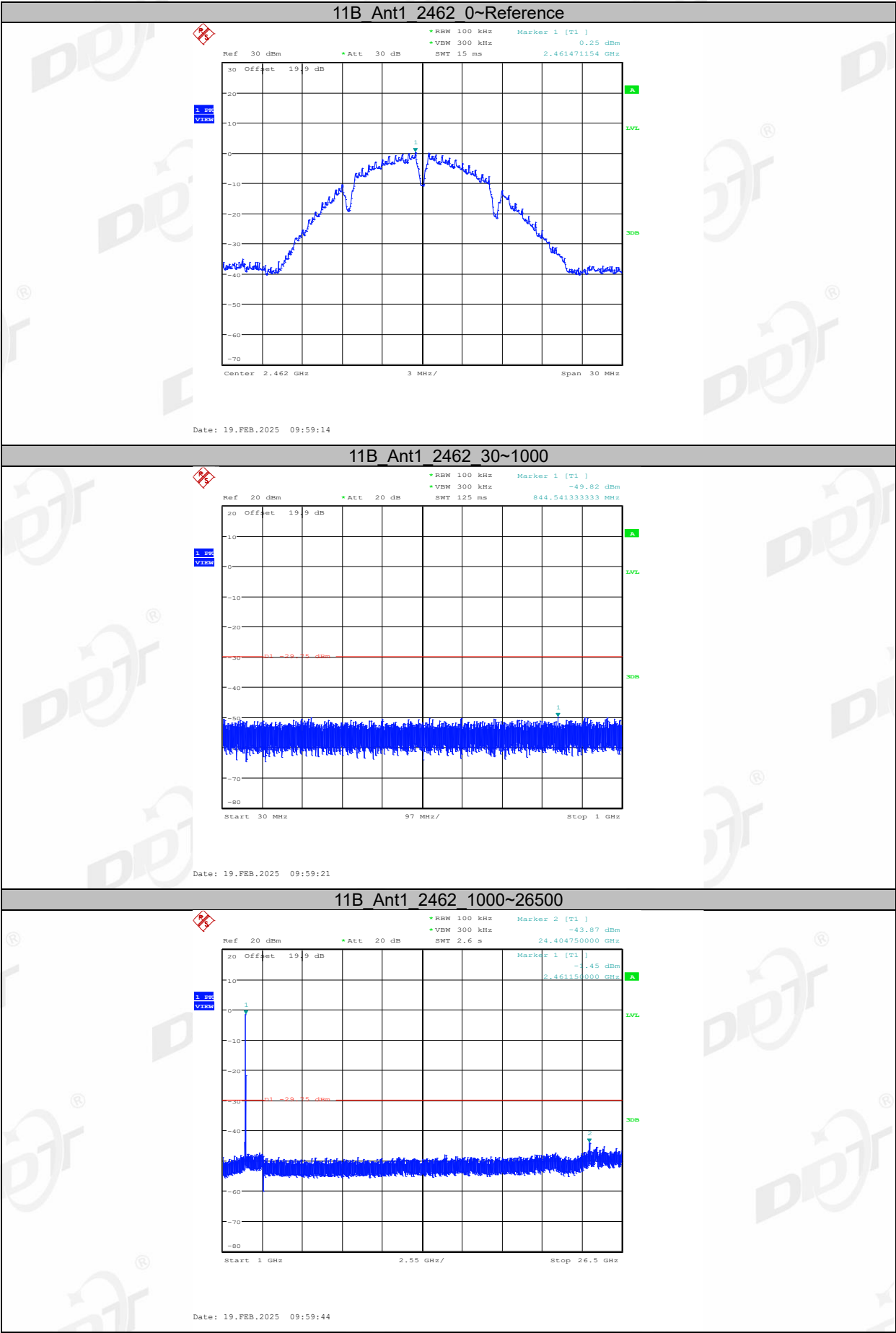
9.5. Test graphs



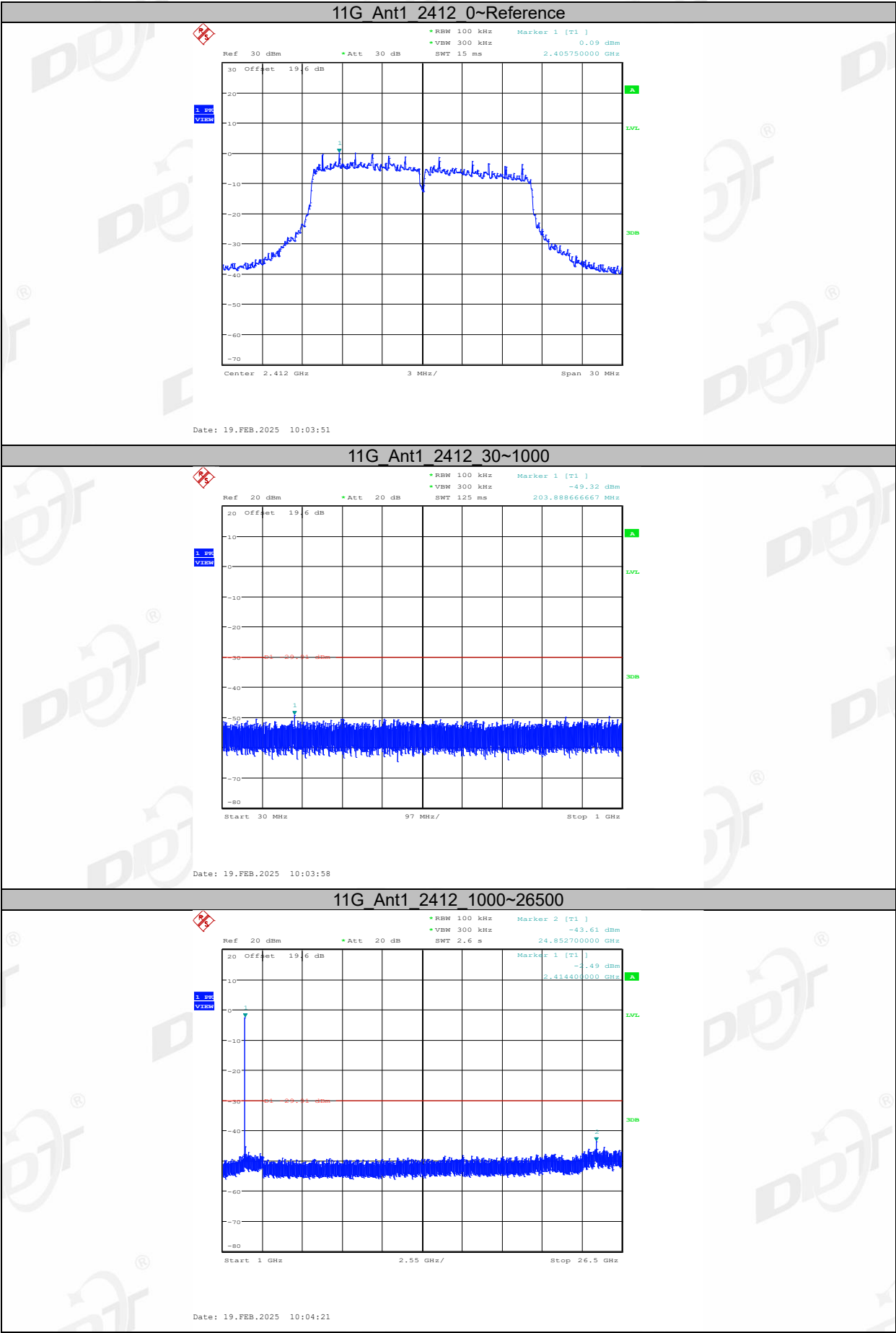
















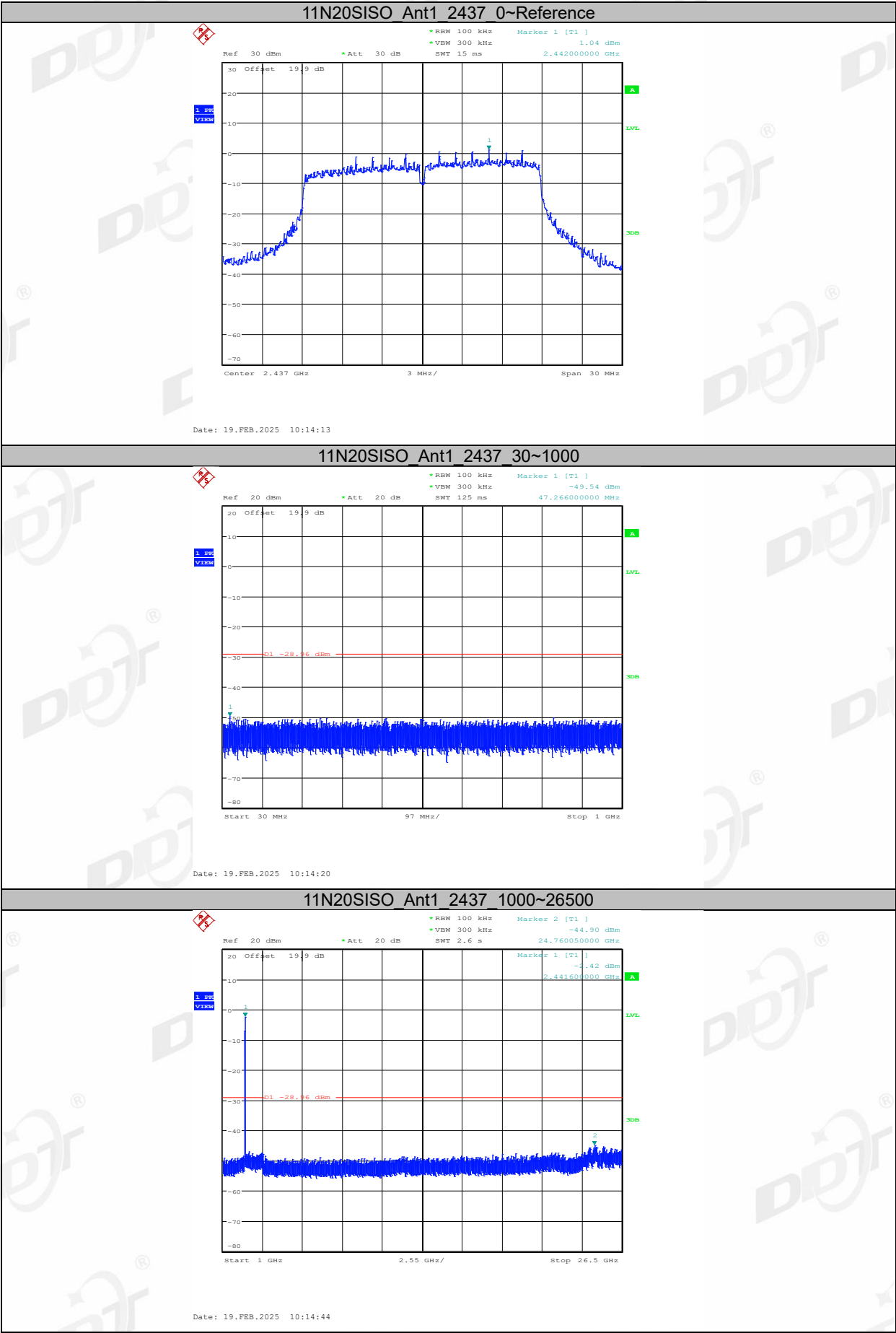


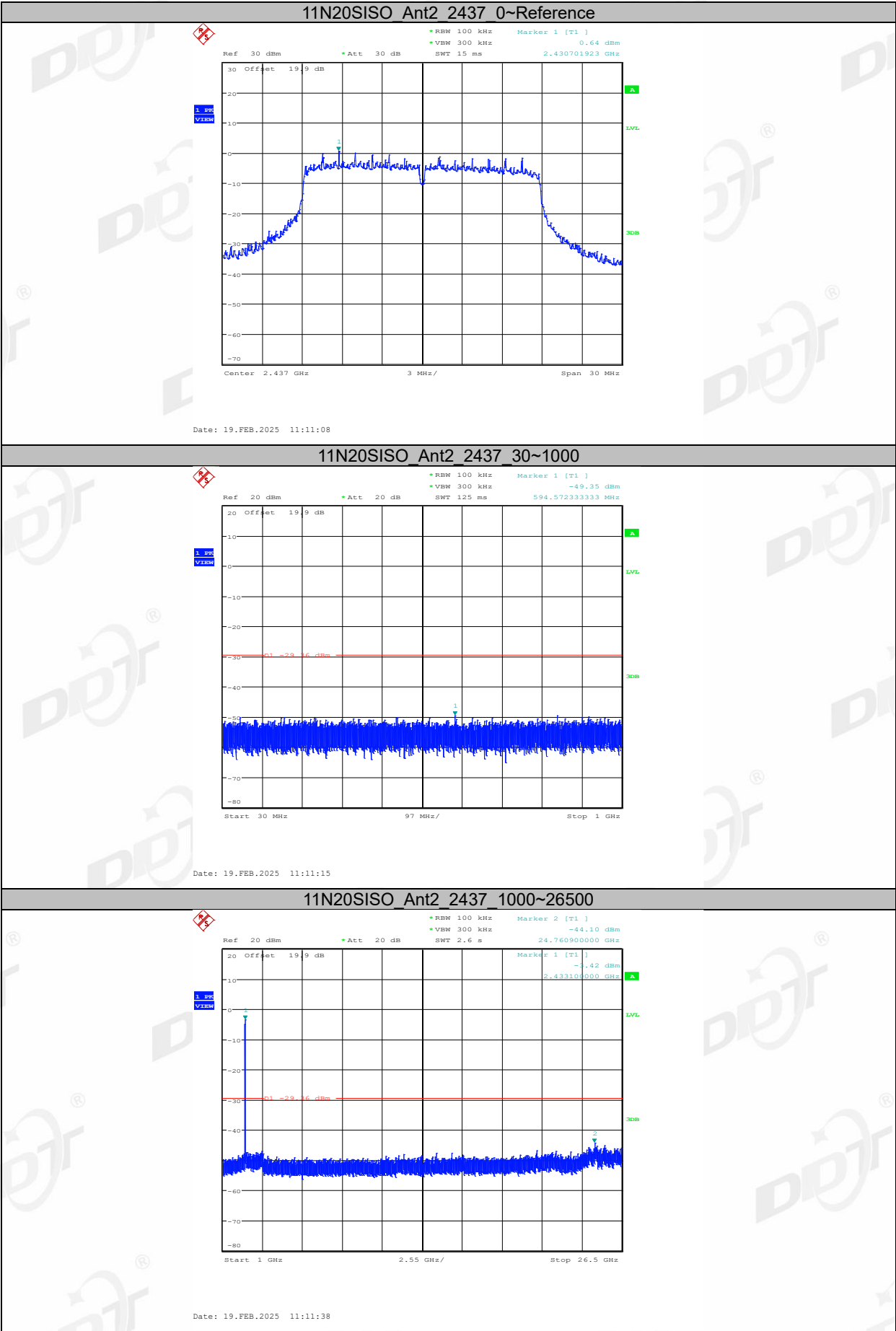


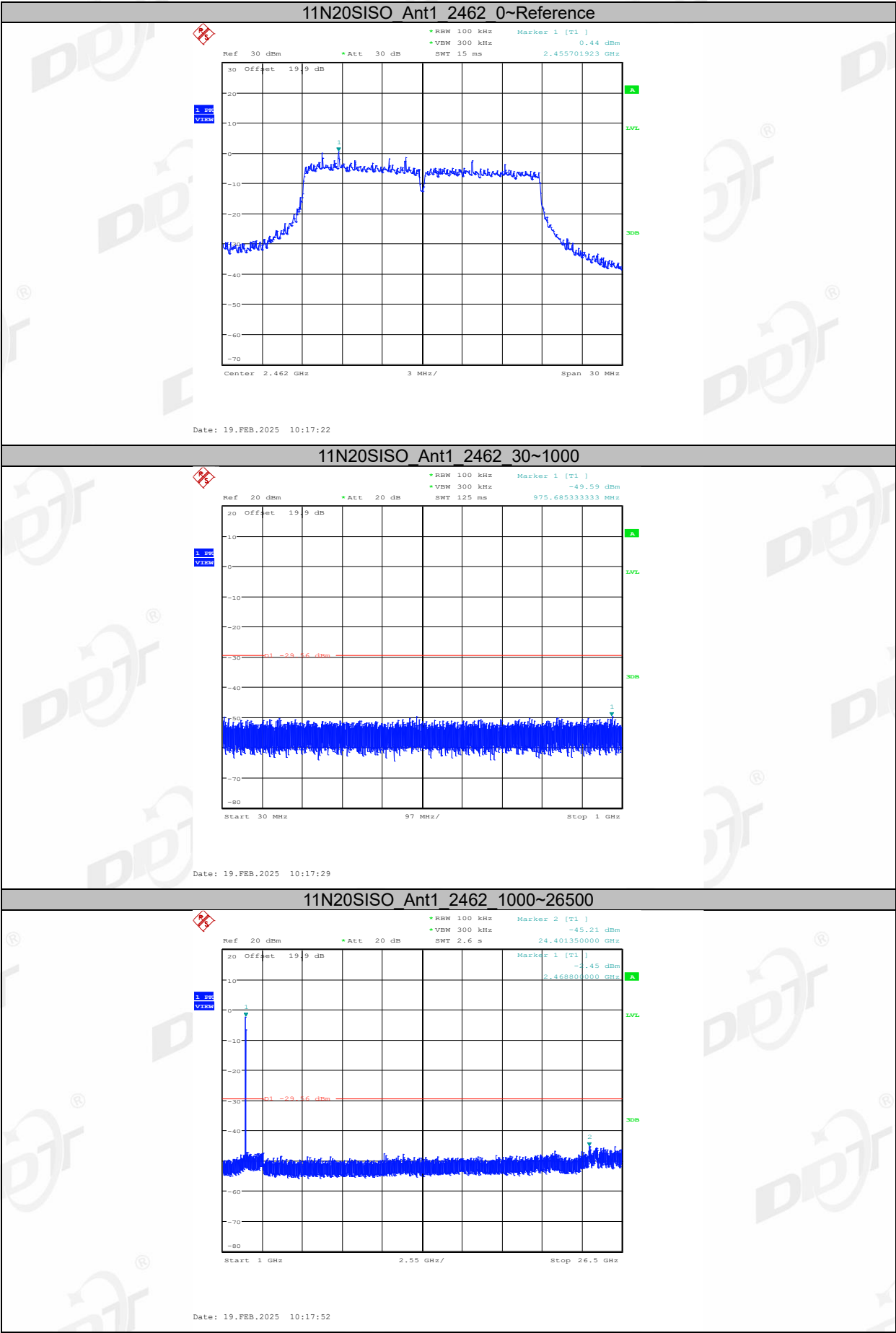


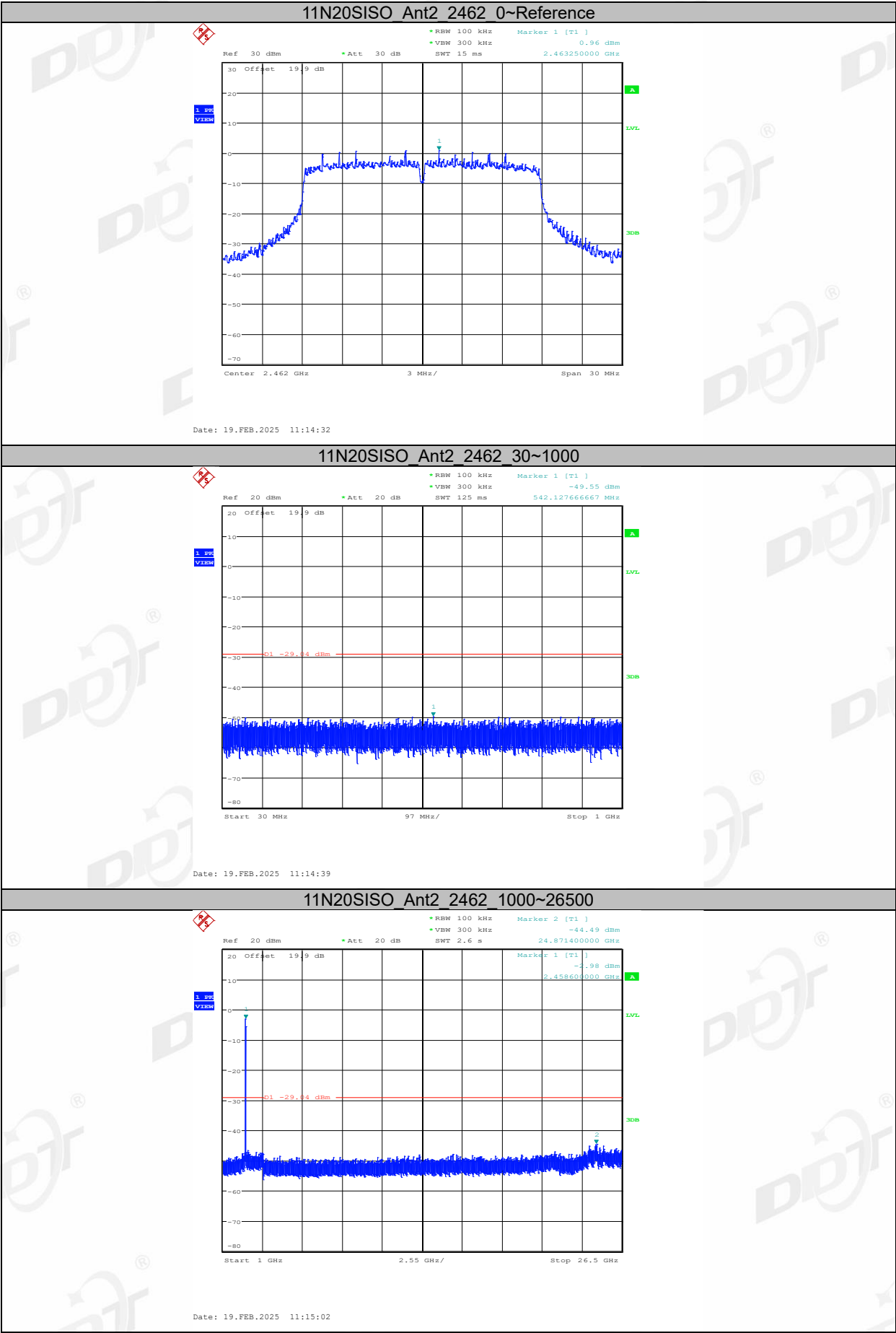


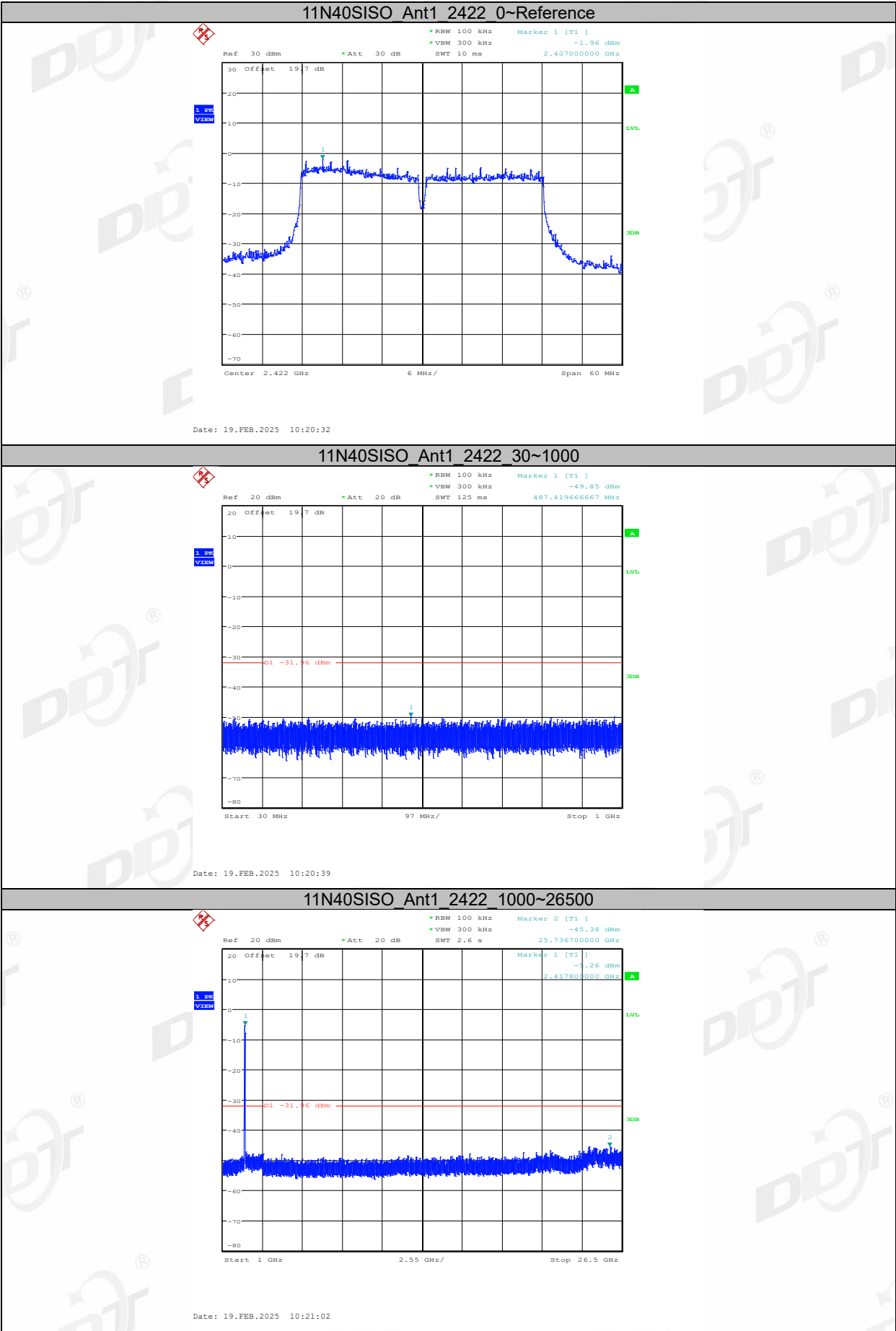


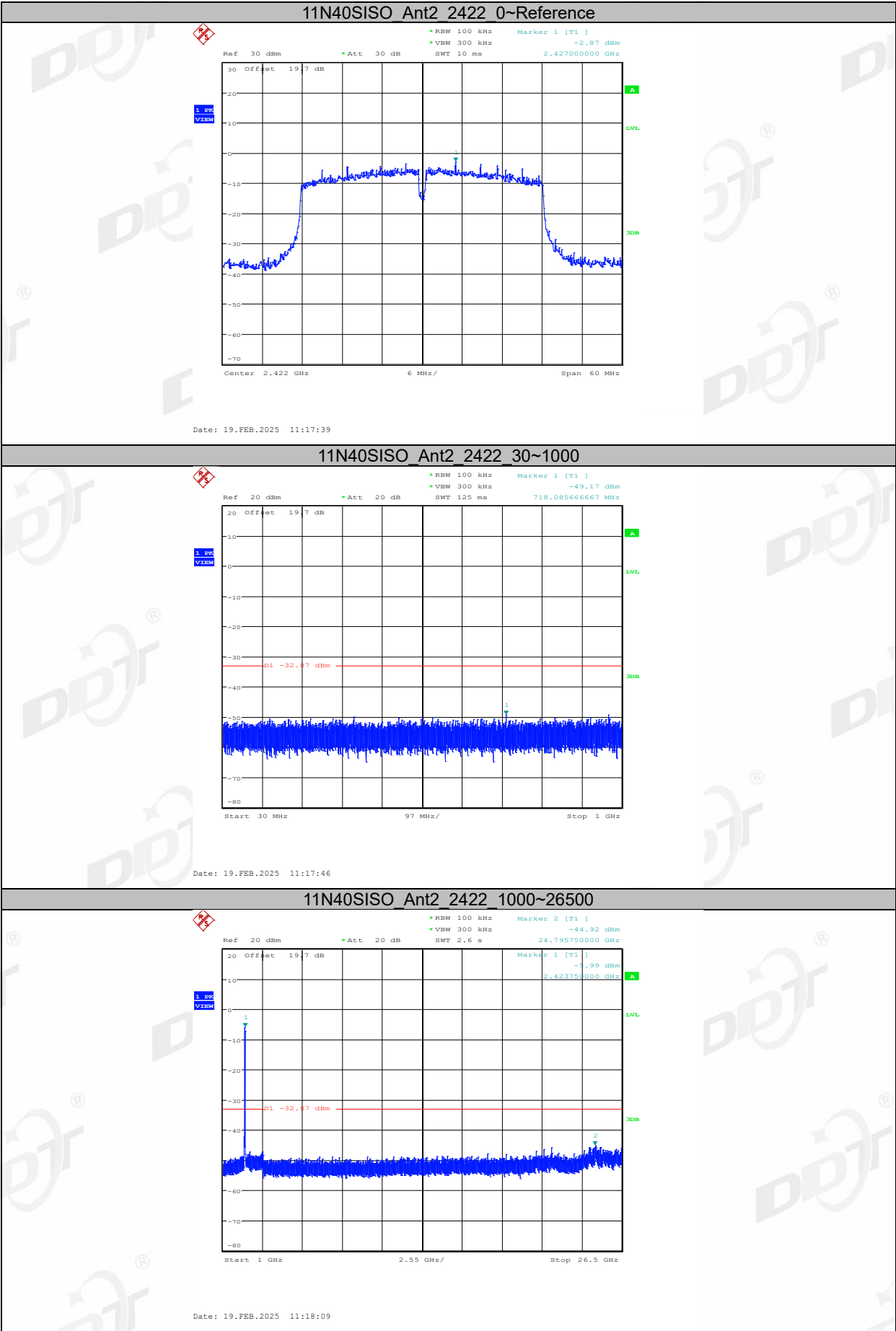


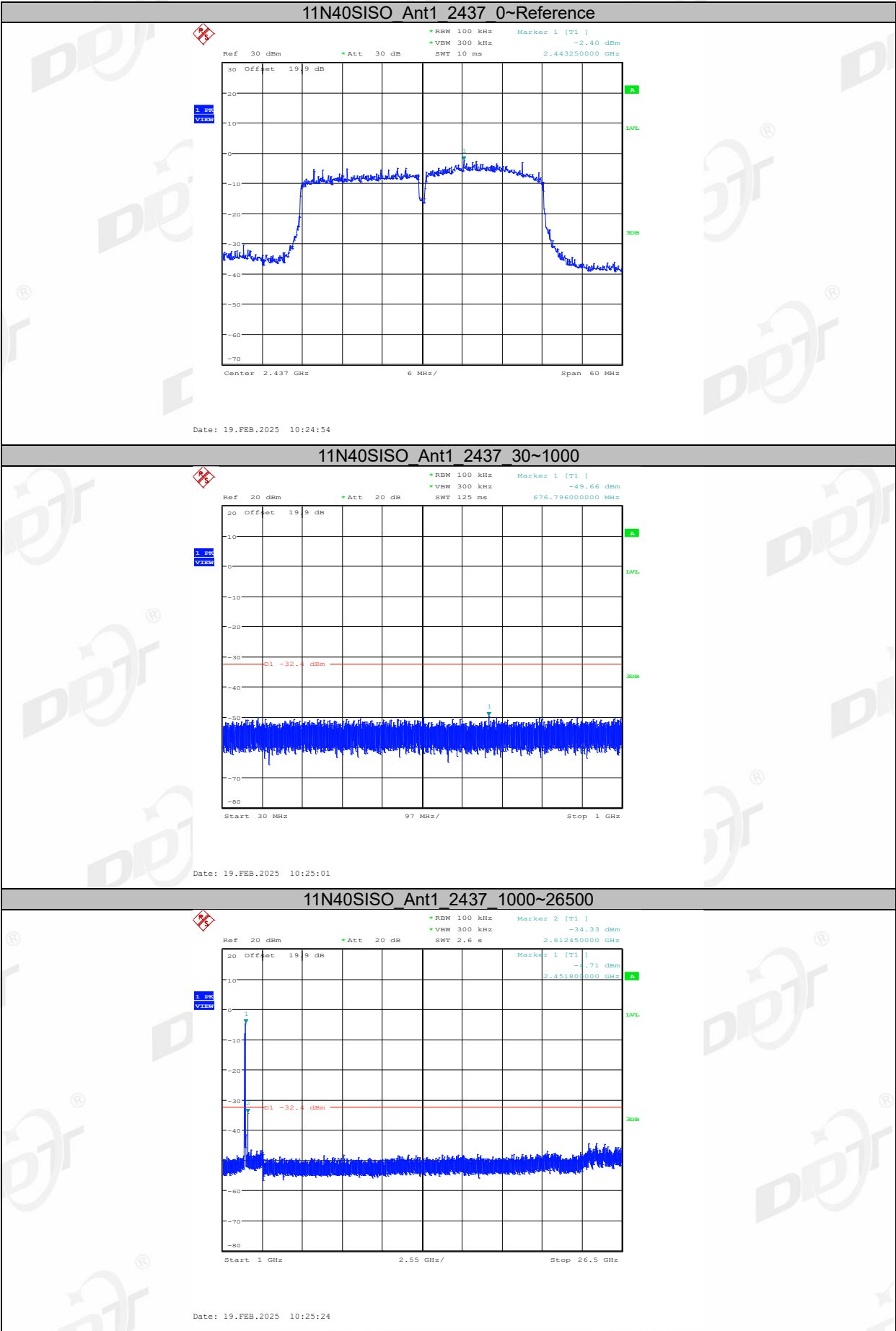


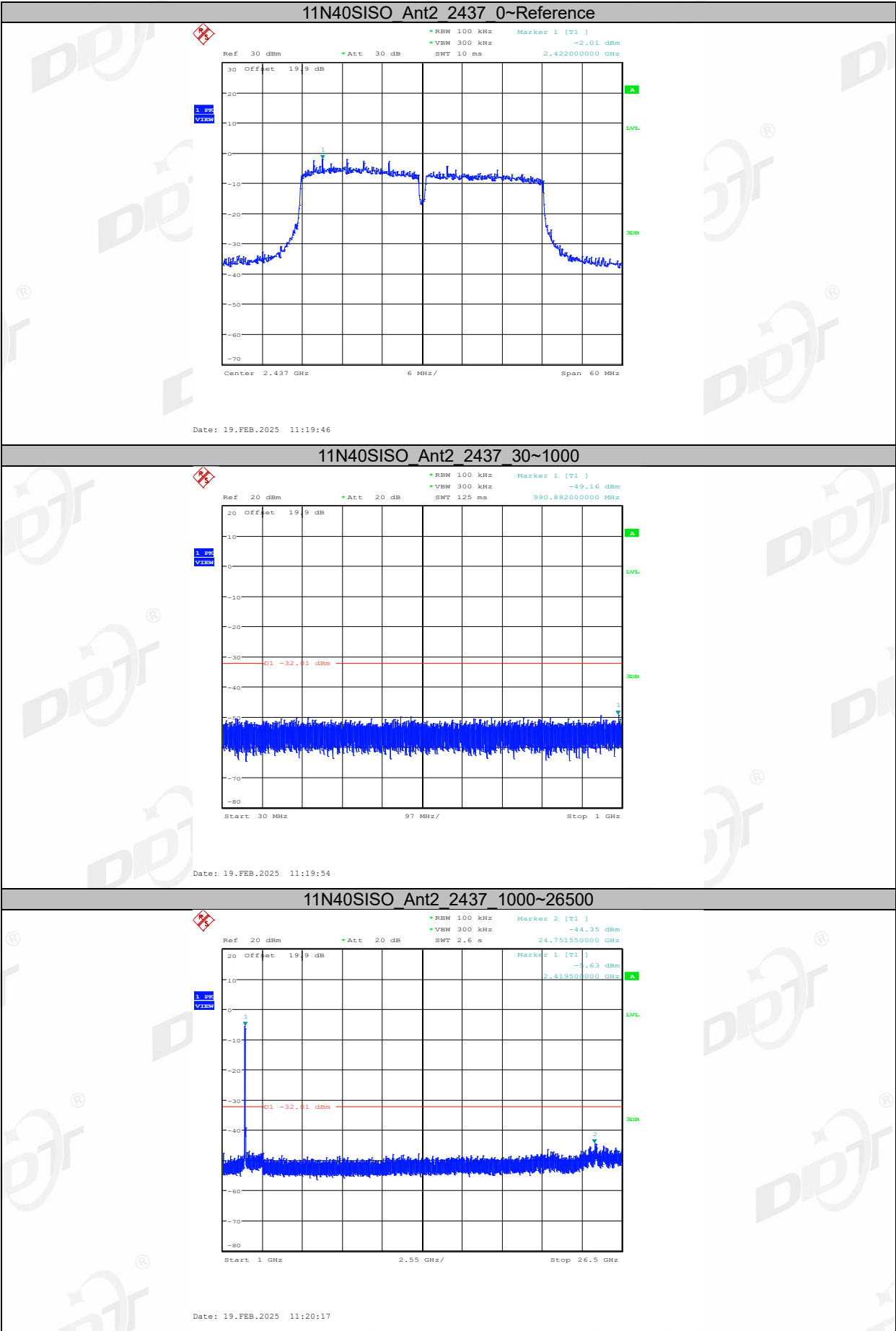


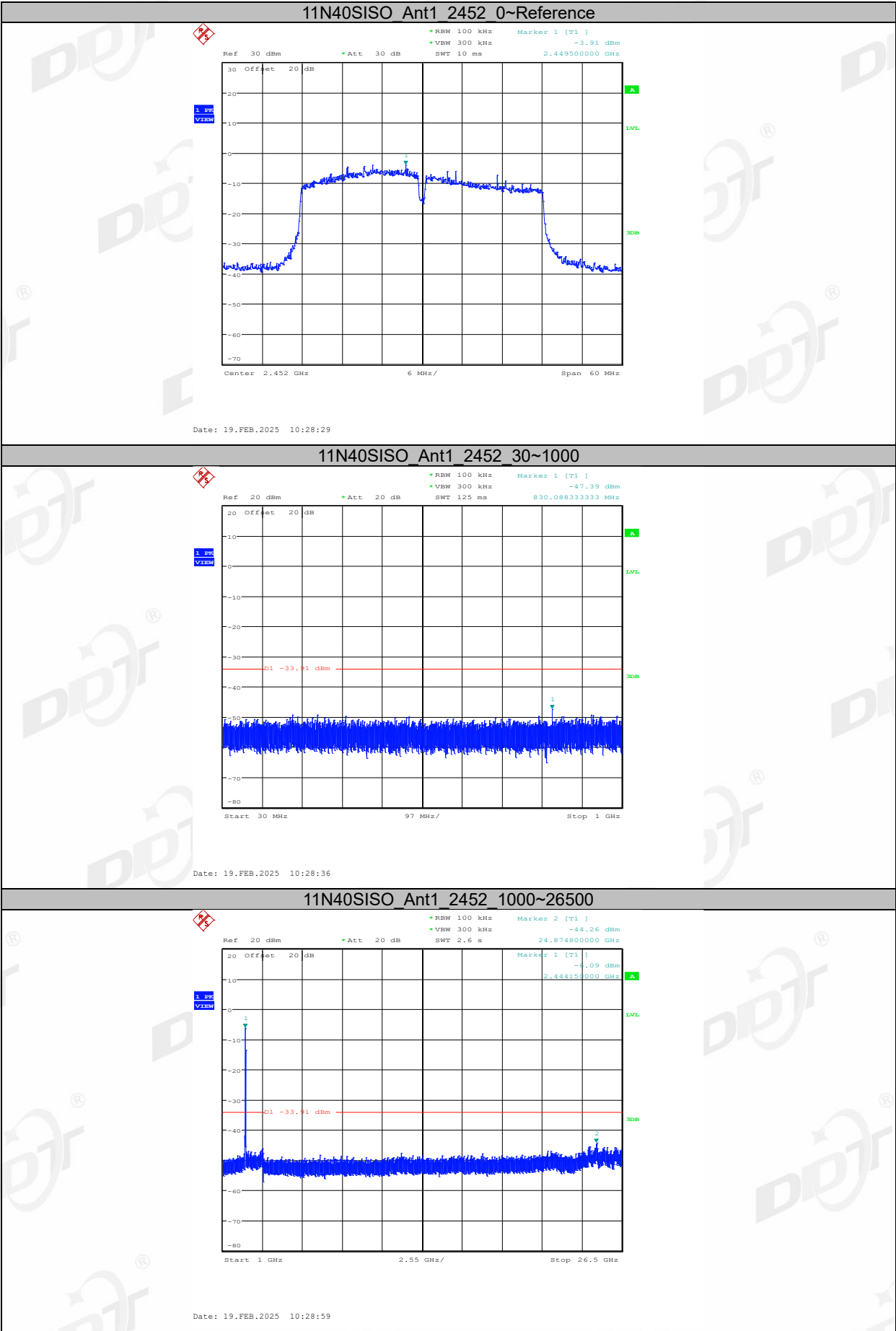


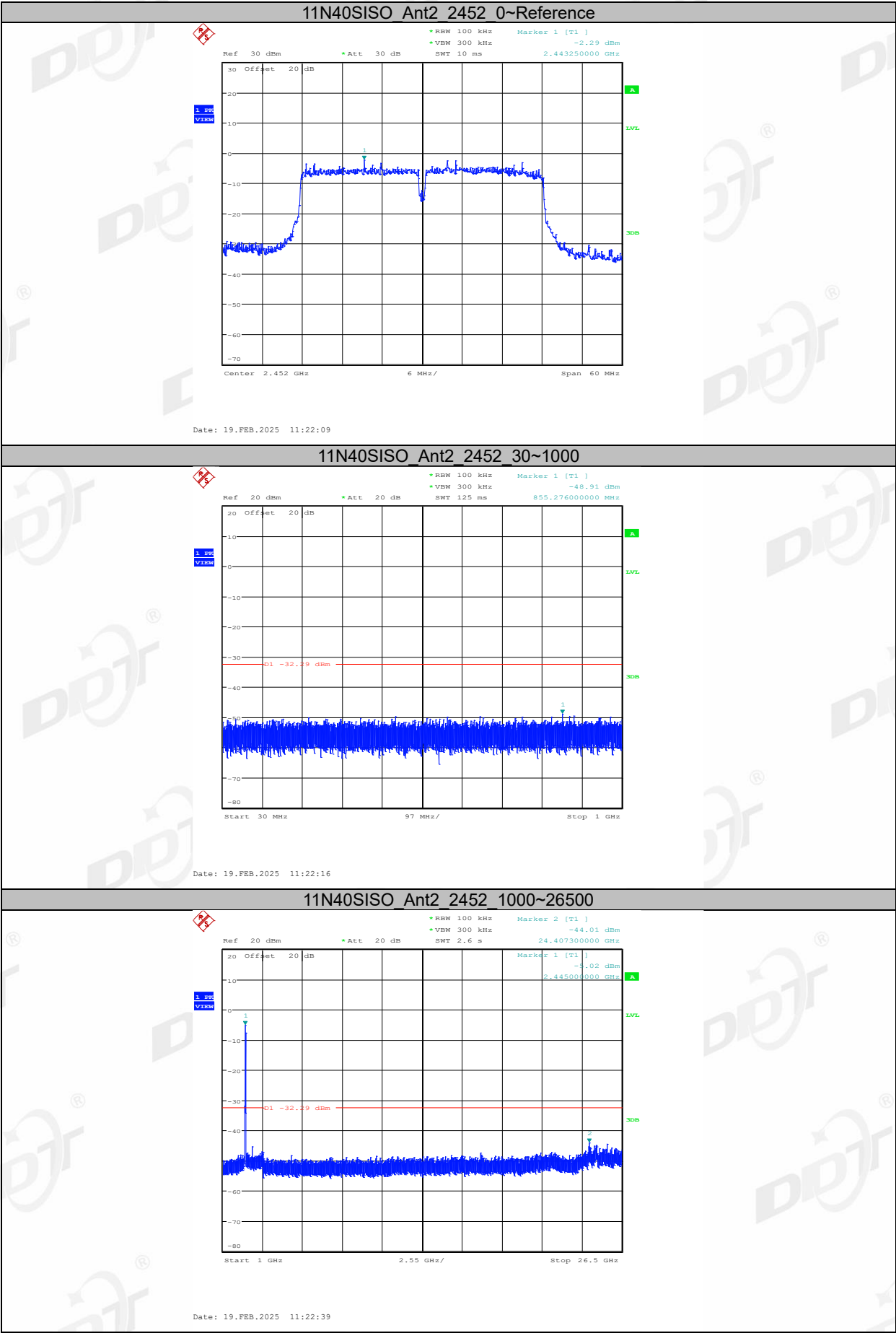


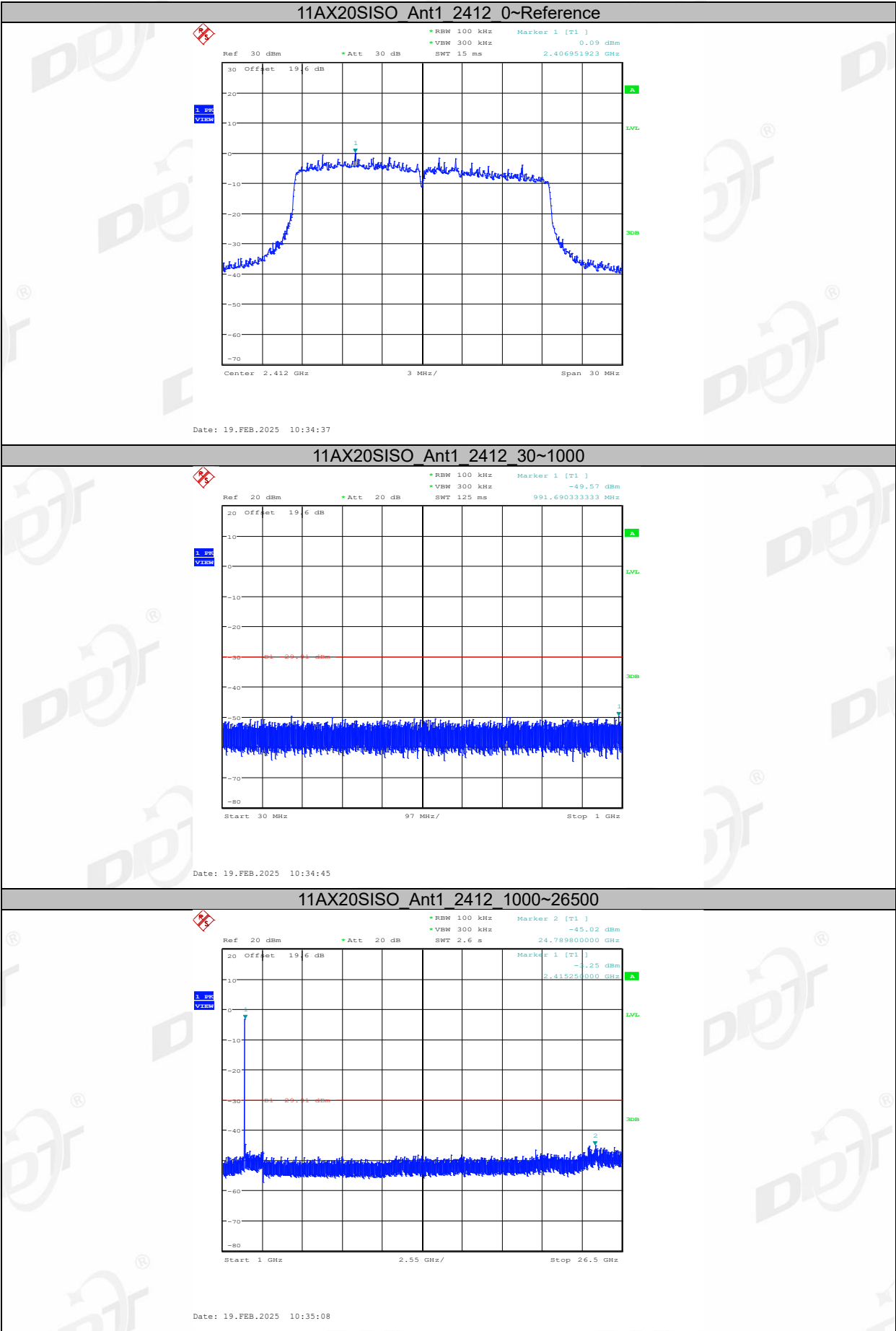




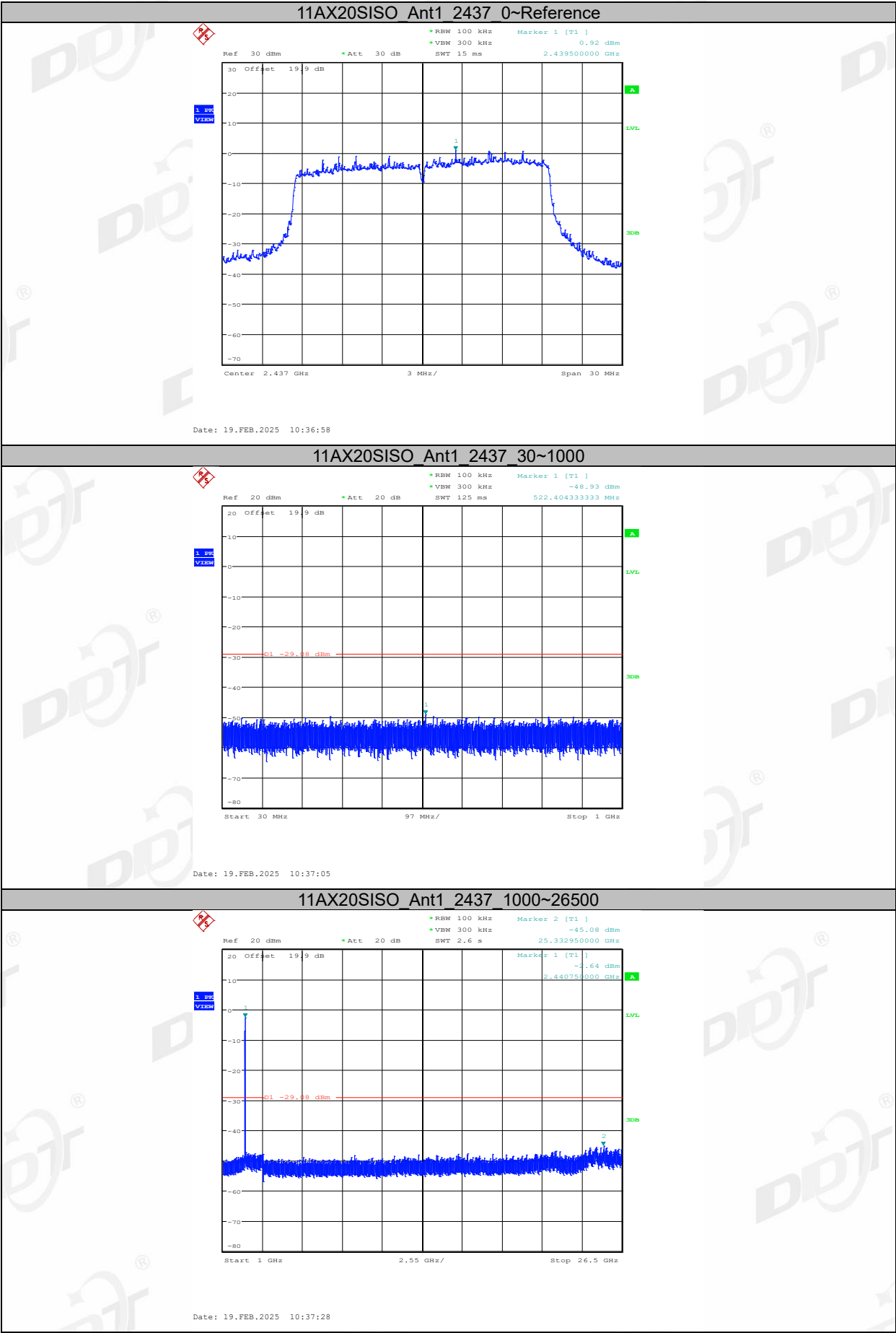


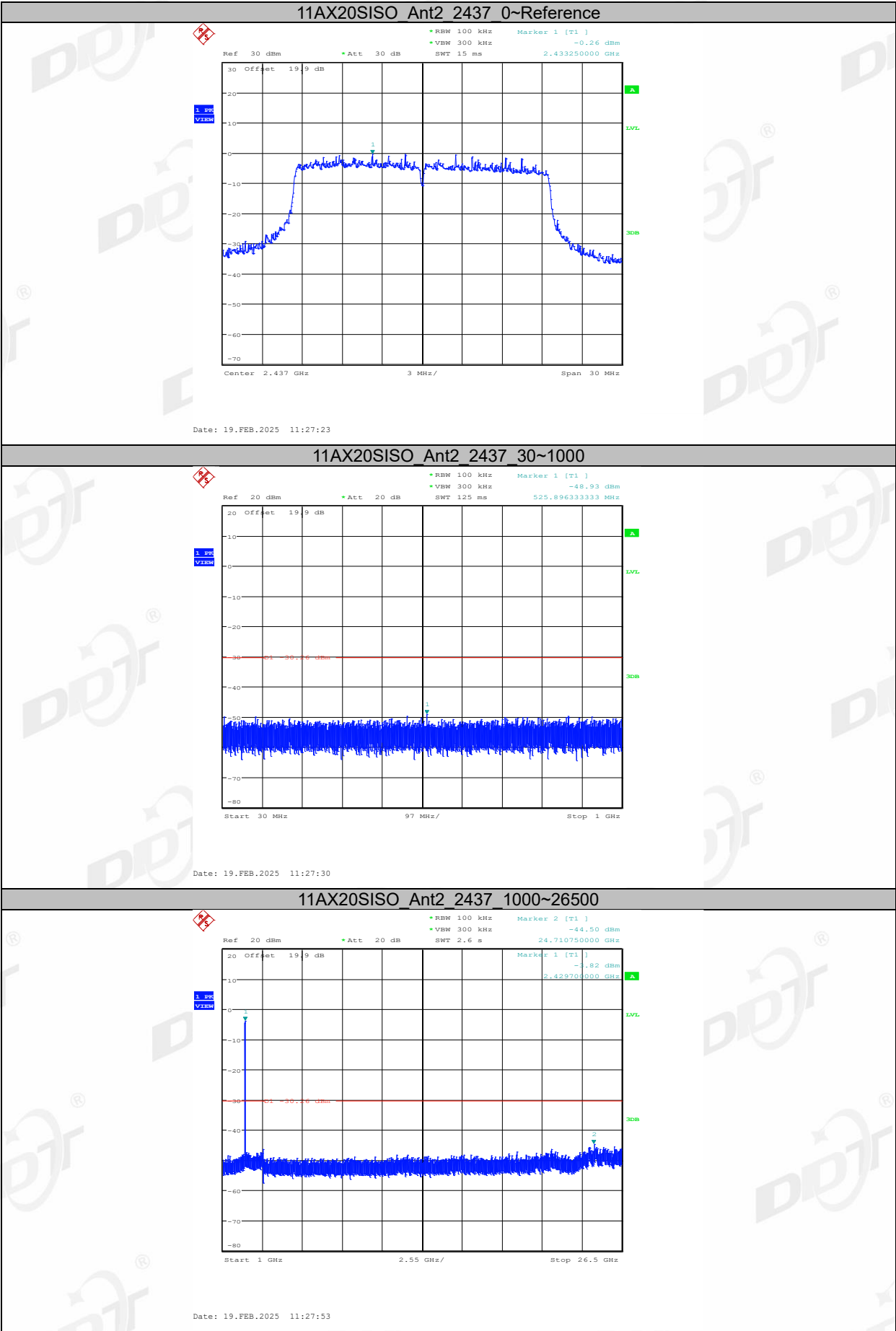


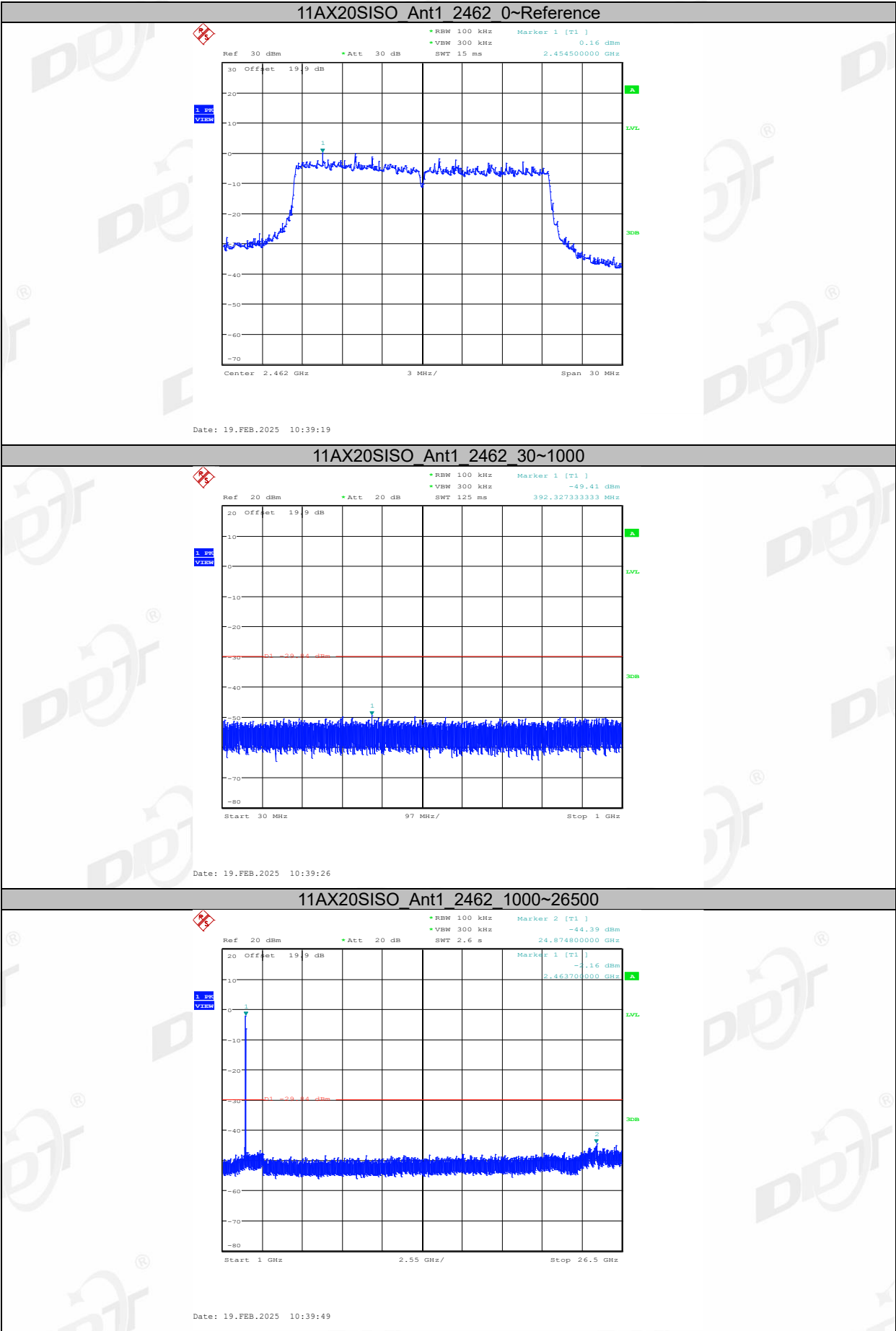


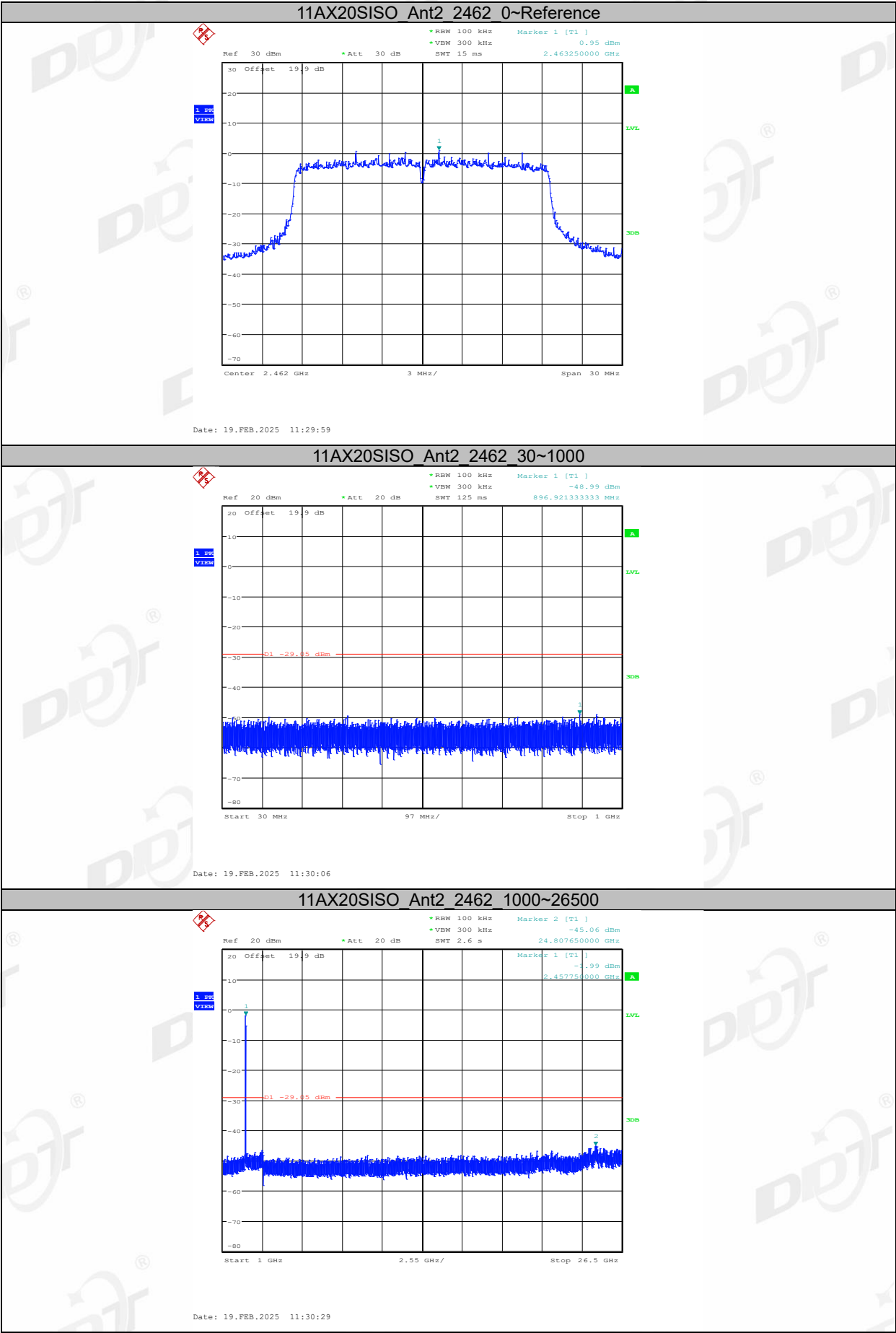


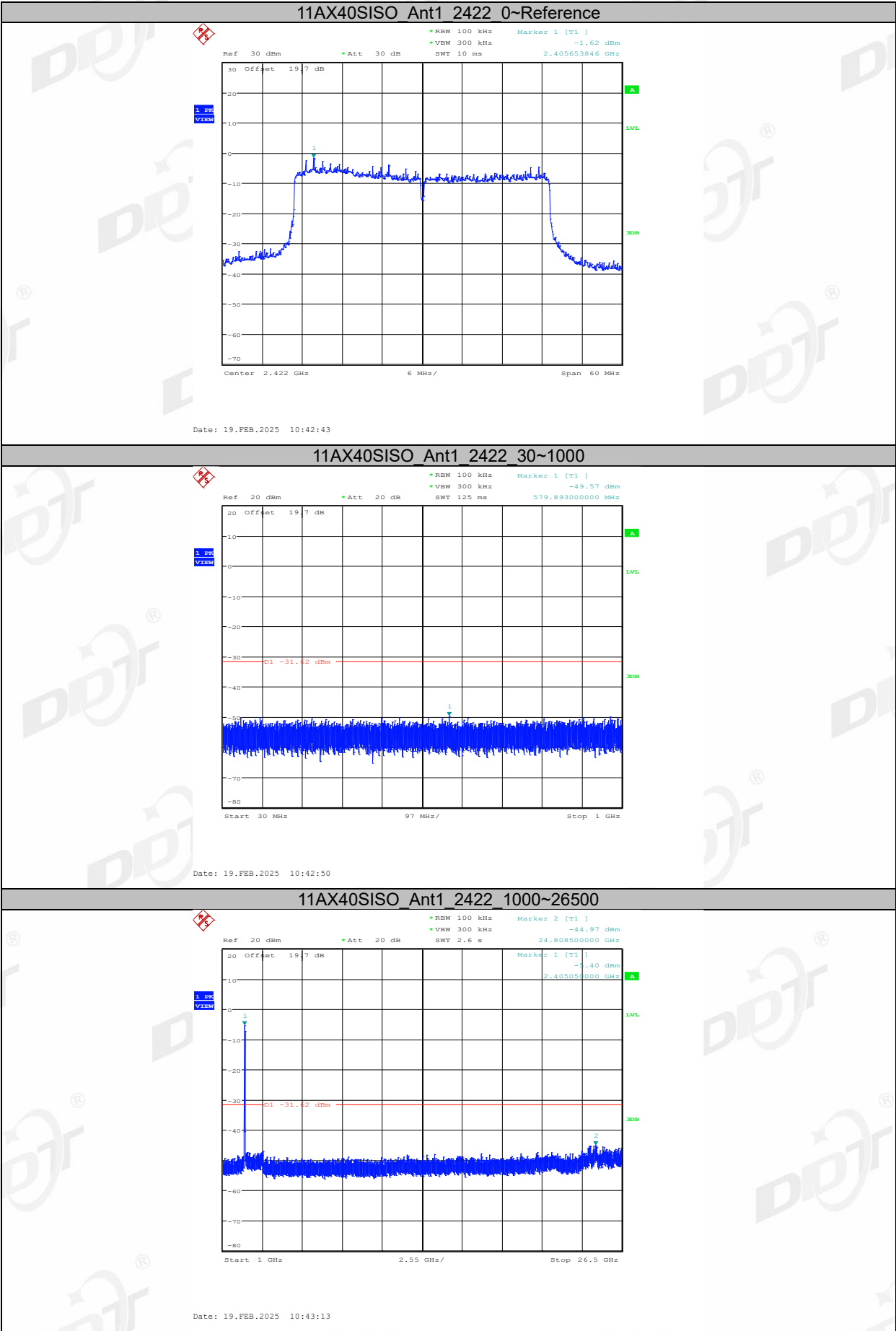


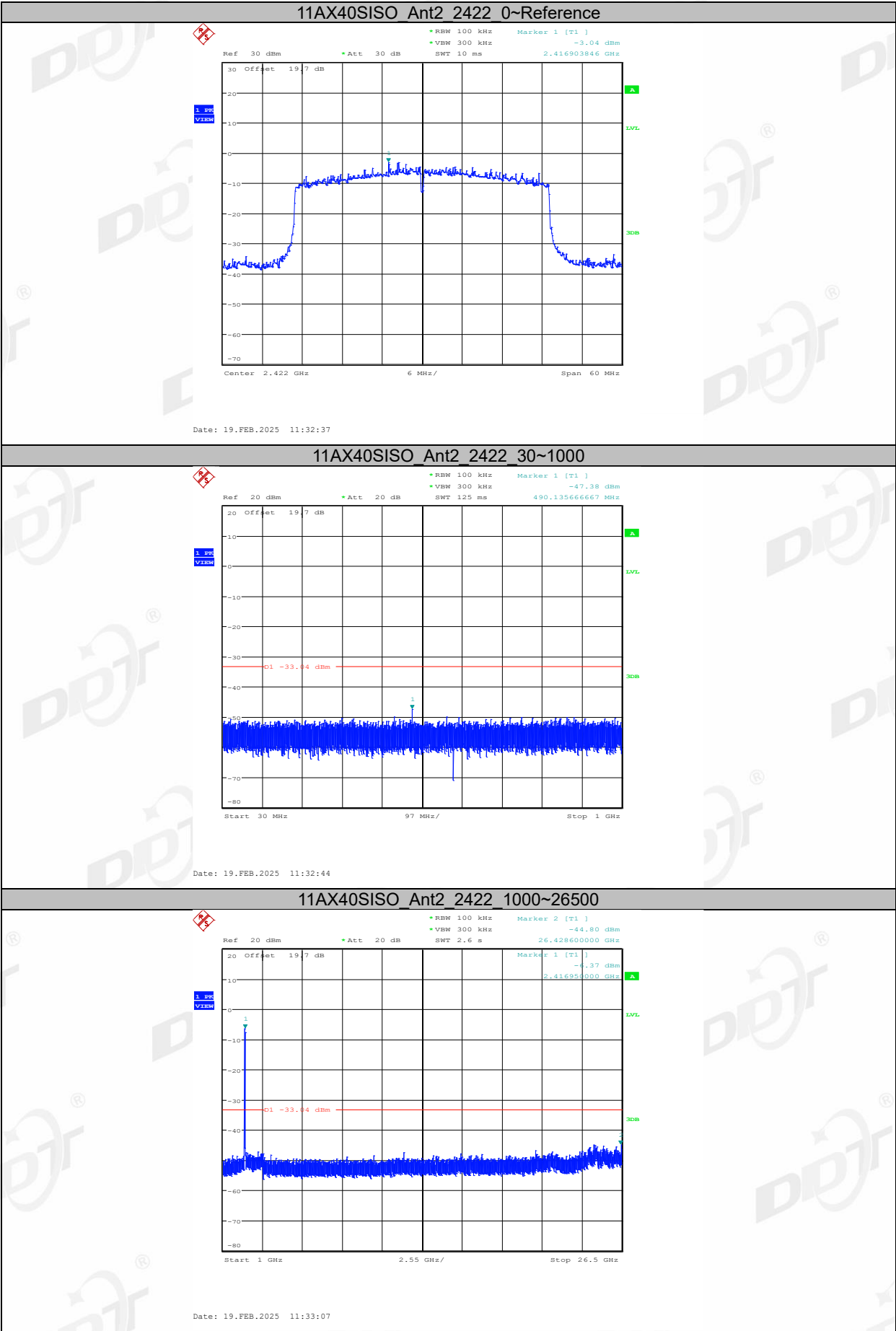


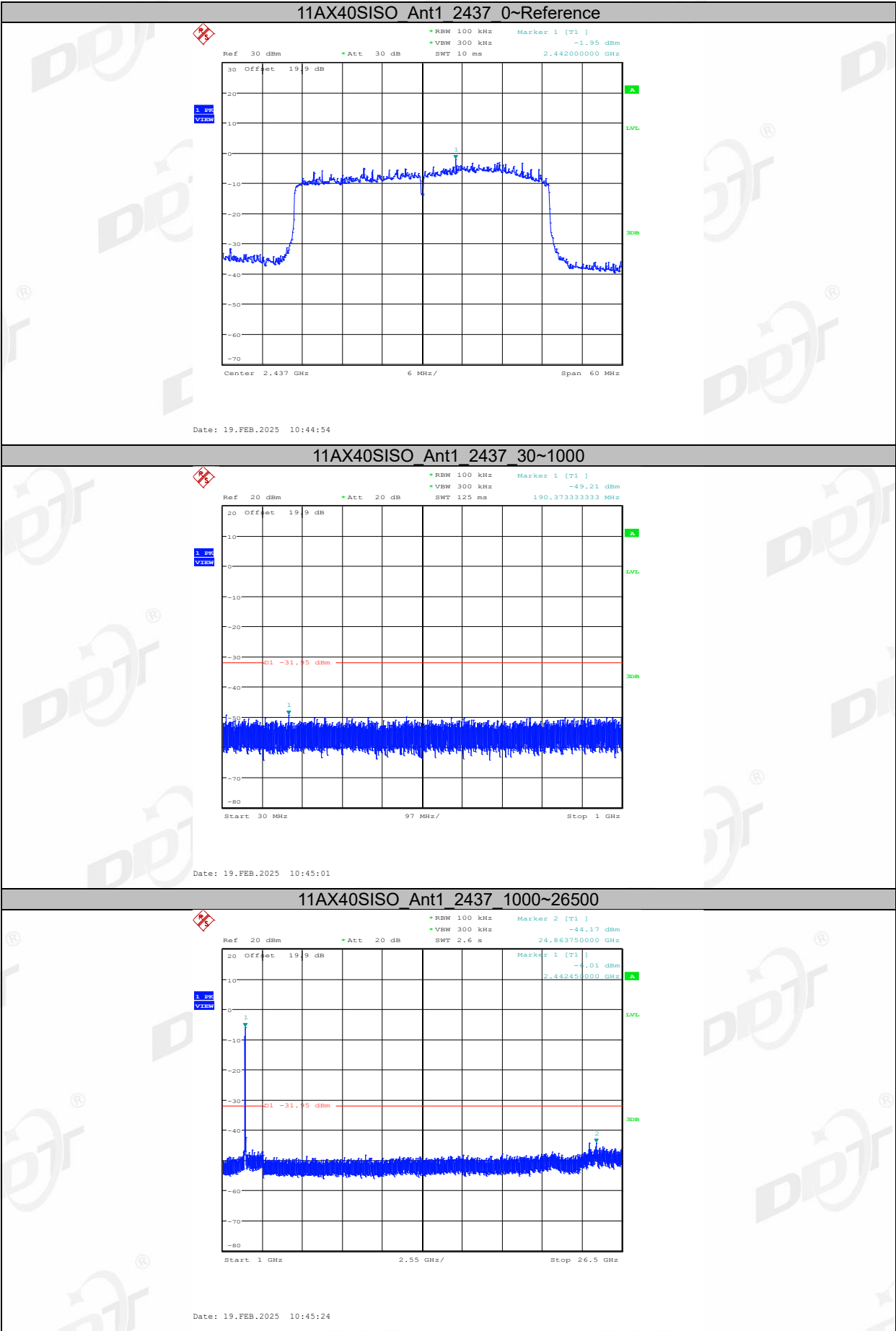


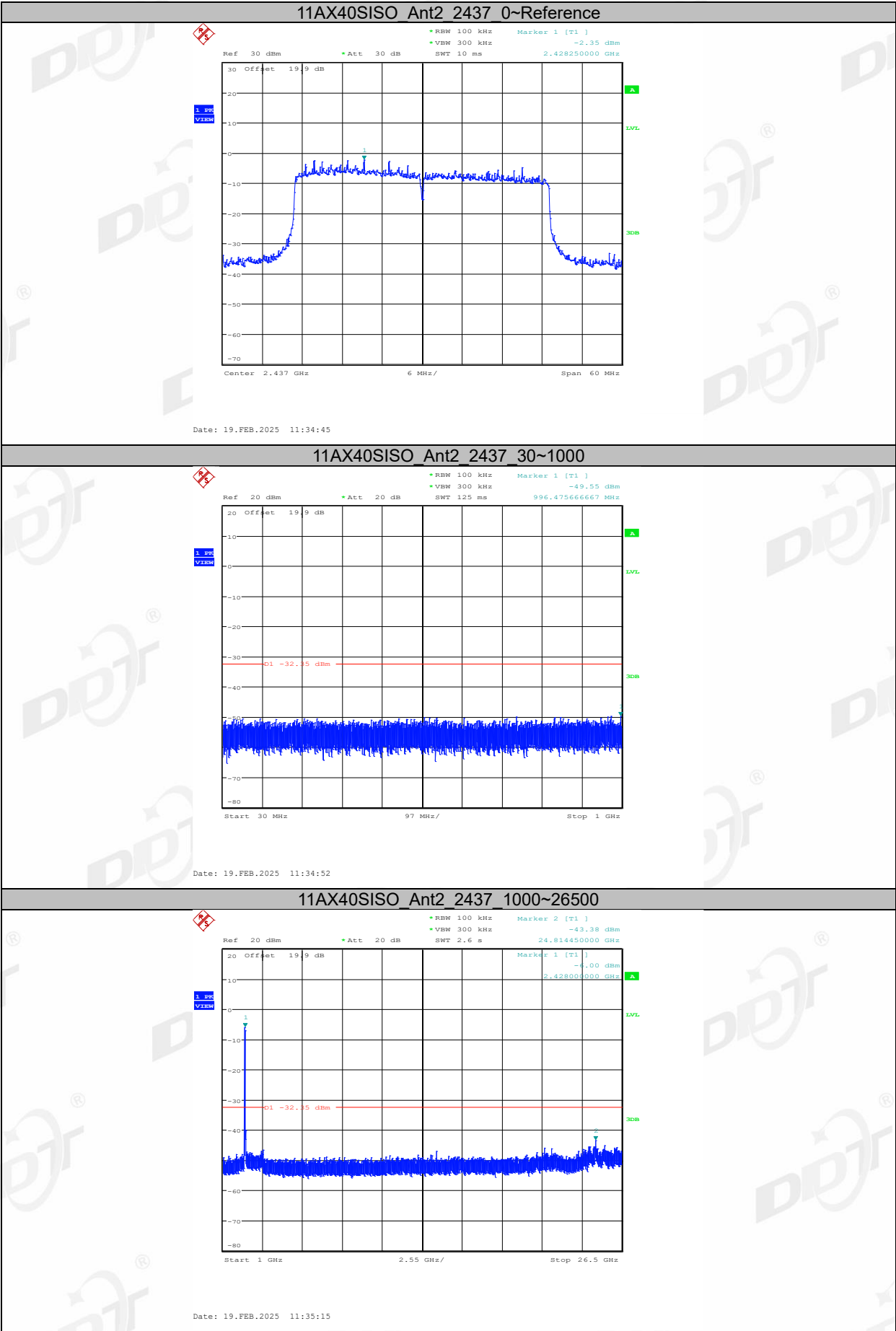


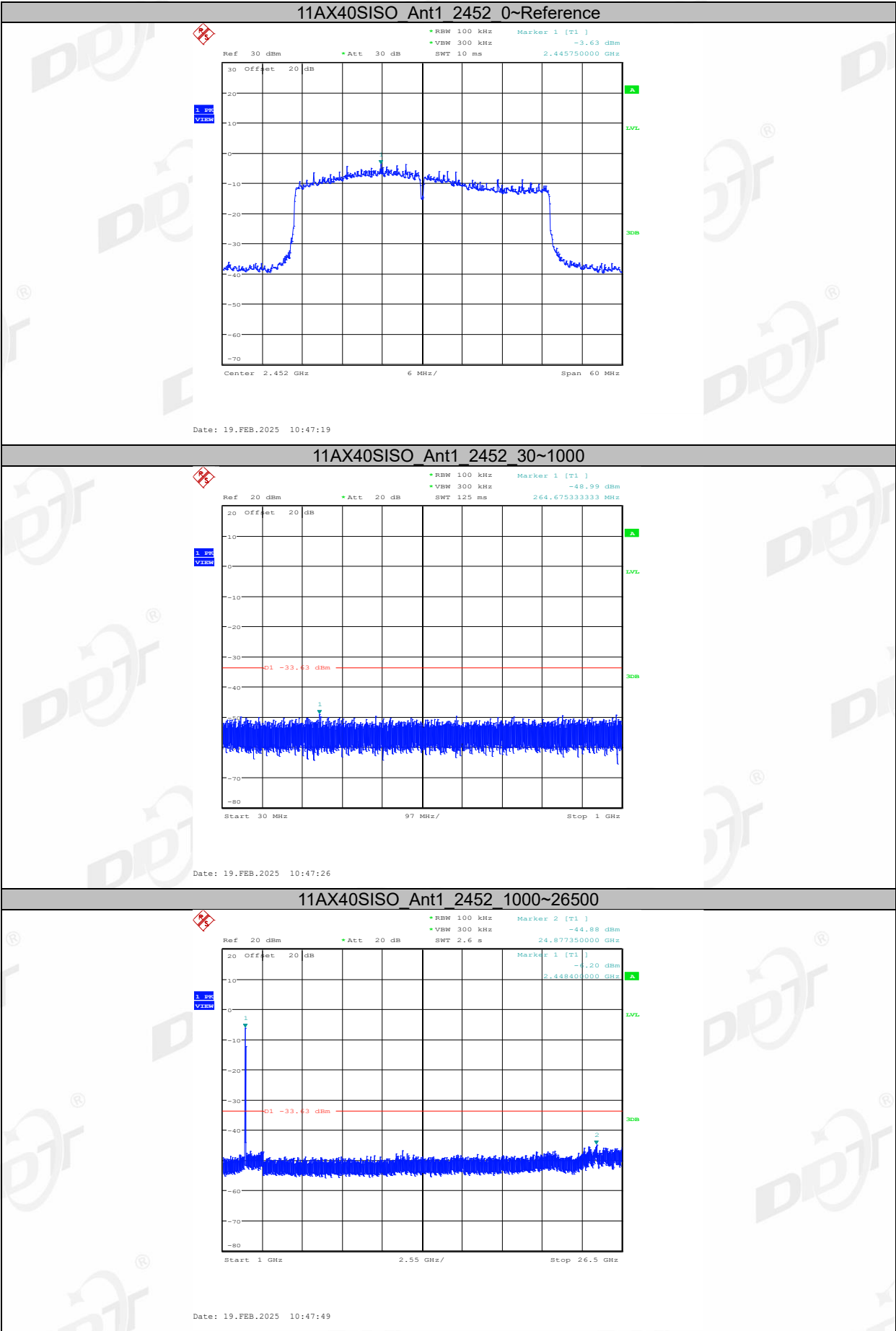


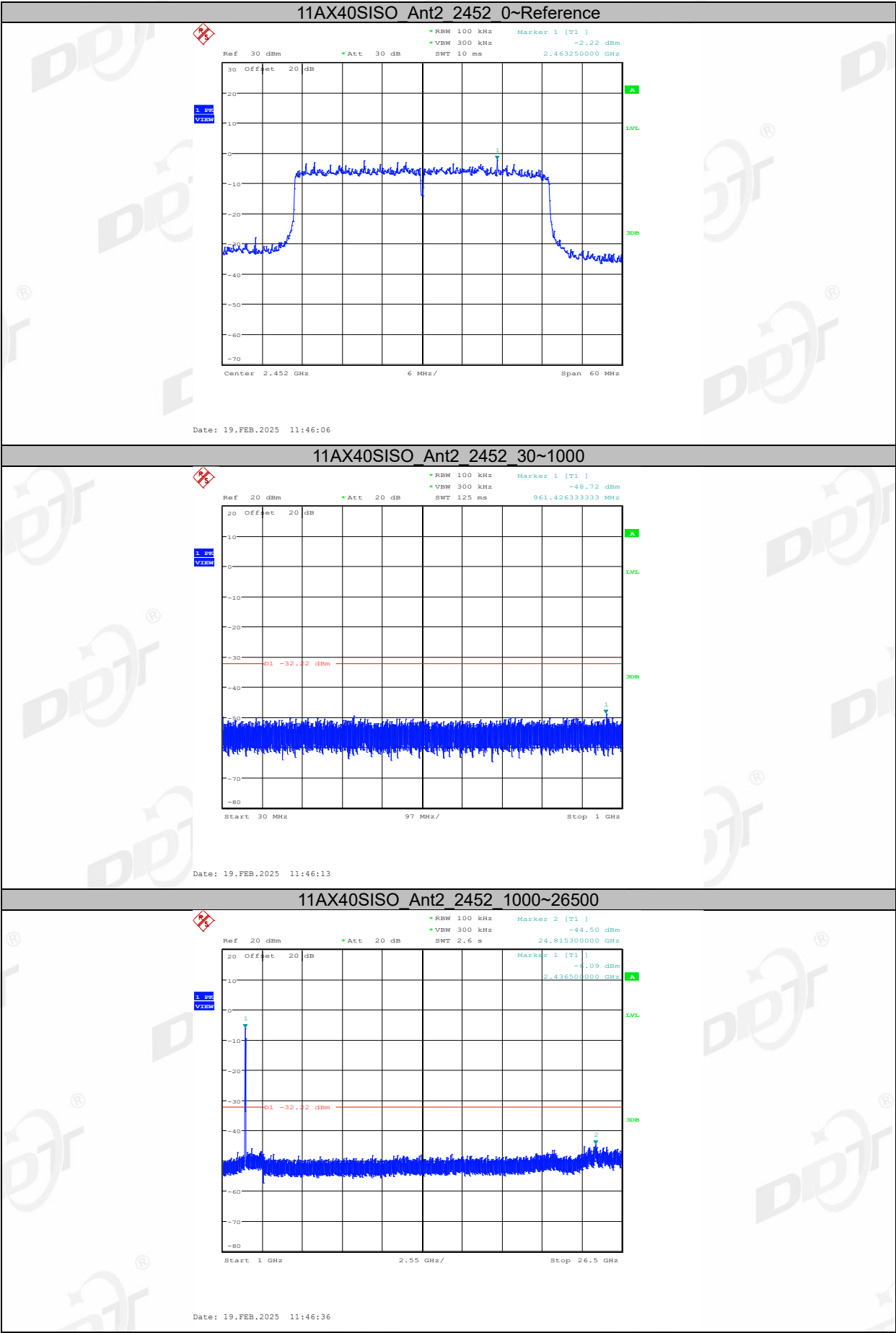












10. Antenna Requirements

10.1. 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.

10.2. Result

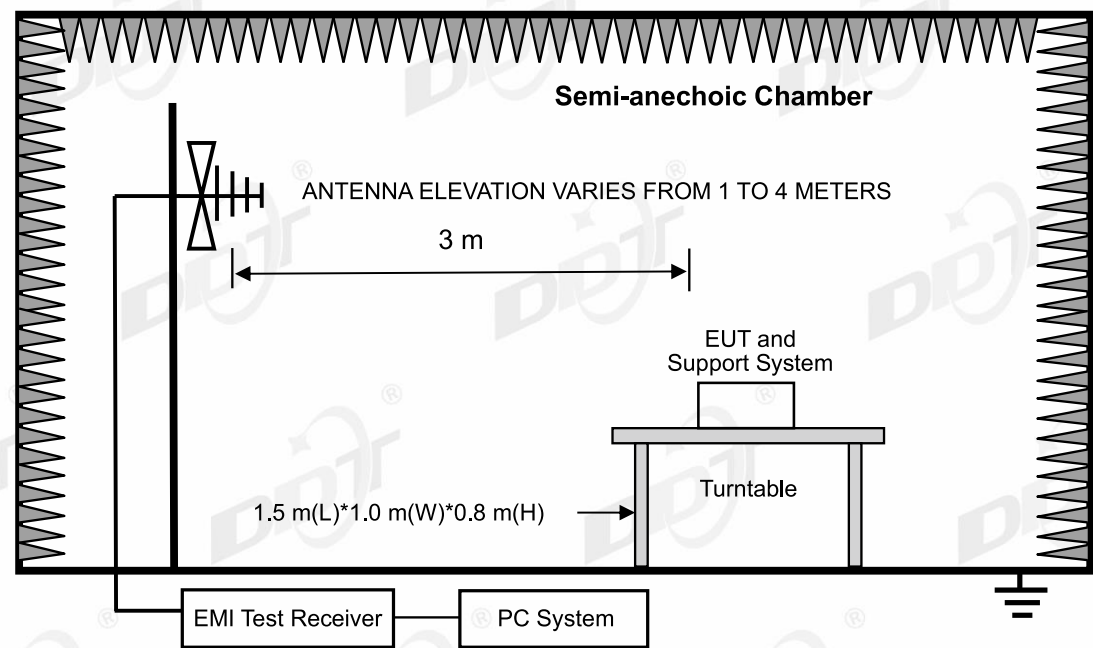
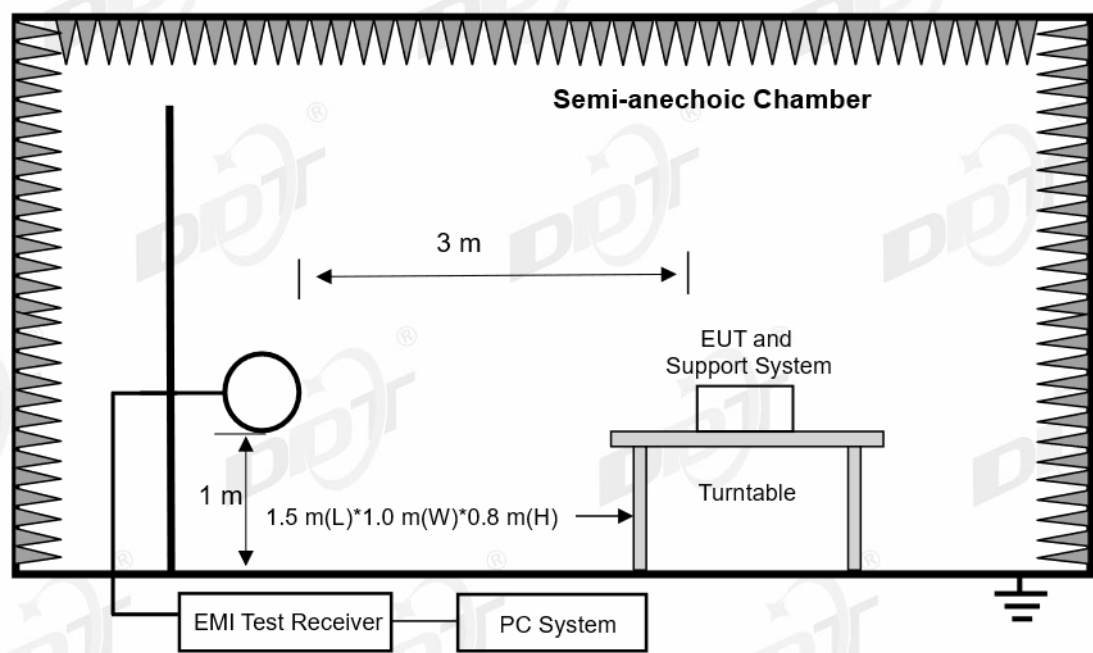
The antenna used for this product as Antenna information described in section 2.1 of the report, and there is no other antenna than that furnished by the responsible party shall be used with the device.

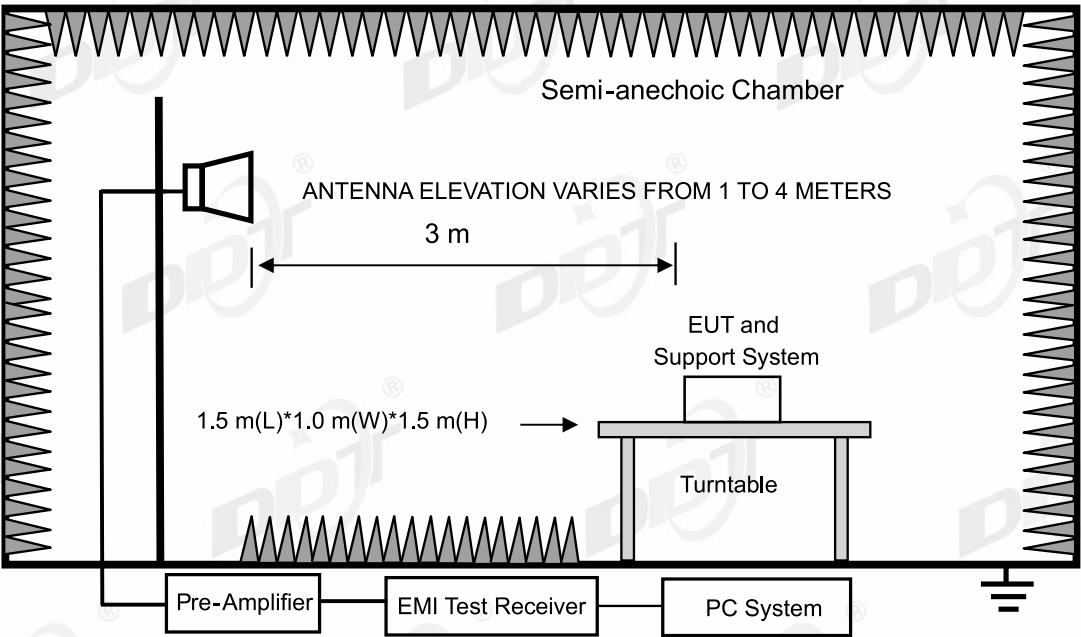
11. Radiated Emission

11.1. Test equipment

Equipment	Manufacturer	Model No.	Serial No.	Cal Due To	Cal. Interval
Active Loop Antenna	Schwarzbeck	FMZB1519	DDT-ZC00524	2025/09/11	2 Year
RF Cable	N/A	W24.02 HL-562	DDT-ZC04022	2025/03/31	1 Year
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	DDT-ZC00506	2025/04/26	1 Year
RF Cable	N/A	W13.02 AP1-X2	DDT-ZC04023	2025/03/31	1 Year
High Pass filter	Xi'an Xingbo	XBLBQ-GTA67	DDT-ZC02179	2025/04/22	1 Year
EMI TEST RECEIVER	R&S	ESU26	DDT-ZC01909	2025/03/31	1 Year
PSA Series Spectrum Analyzer	Agilent	E4447A	DDT-ZC00517	2025/03/31	1 Year
RF cable	Zhongke Junchuang	JCT26S-NJ-NJ-1.5M	DDT-ZC02762	2025/03/31	1 Year
Micro-Tronics filters	REBES	BRM50716	DDT-ZC03240	/	/
High pass filter	Micro-Tronics	HPM50108	DDT-ZC00560	2025/04/22	1 Year
Trilog Broadband Antenna	Schwarzbeck	VULB 9163	DDT-ZC02050	2025/07/11	2 Year
RF cable	Yuhu Technology	ZT26S-SMAJ-SMAJ-1M	DDT-ZC02037	2025/03/31	1 Year
Hochgewinn-Hornantenne	SCHWARZBECK	BBHA 9120 D	DDT-ZC02129	2025/09/18	2 Year
Micro-Tronics filters	REBES	BRM50702	DDT-ZC03242	/	/
High pass filter	Micro-Tronics	HPM50102	DDT-ZC00561	2025/04/22	1 Year
Pre-amplifier	COM-POWER	PAM-118A	DDT-ZC01293	2025/08/25	1 Year
RF cable	Yuhu Technology	JCTB810-NJ-NJ-9M	DDT-ZC02538	2025/03/31	1 Year
Pre-amplifier	COM-POWER	PAM-840A	DDT-ZC01693	2025/03/31	1 Year

11.2. Block diagram of test setup





11.3. 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	
		uV/m	dBuV/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 dBuV/m (Peak) 54.0 dBuV/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:

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

(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.

11.4. Assistant equipment used for test

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

11.5. 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 though 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) 30 MHz ~ 25 GHz: (Scan with all mode, the worst case is record and report)

(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 the worst mode.

(12) The worst simultaneous case and was recorded.

11.6. Test result

PASS. (See below detailed test result)

11.7. Test data

TR-4-E-009 Radiated Emission Test Result

Test Date:

2025-01-21

Tested By:

Zhong Nan

EUT:

In-vehicle Multimedia Host

Model Number:

MTCJ06-A03

Test Mode:

2.4G WIFI TX Mode

Power Supply:

DC 12V

Condition:

Temp:23°C;Humi:59.5%

Test Site:

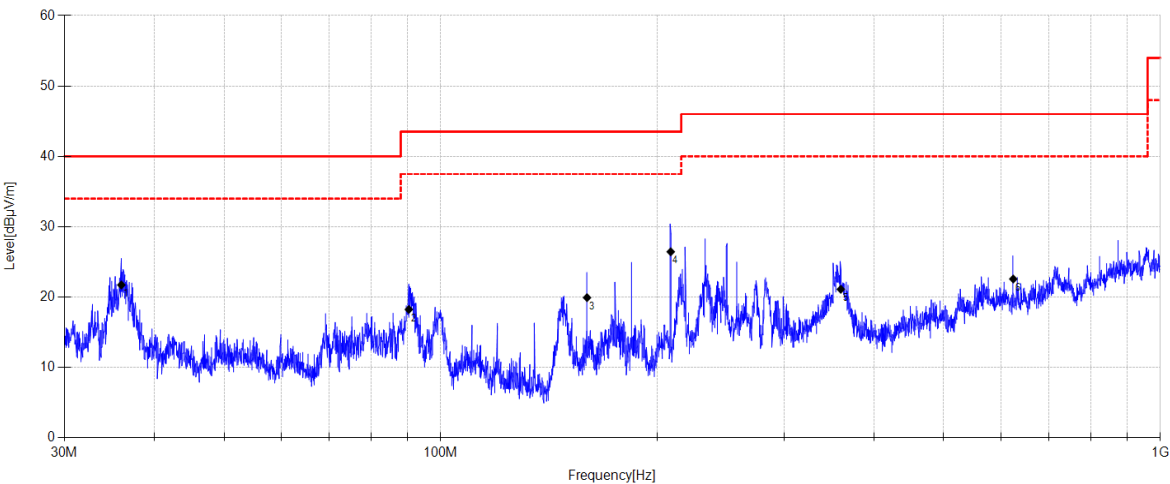
DDT 3# Chamber

File Path:

d:\ts\2024 report data\Q24122405-5E\FCC BELOW1G\20250121-000206_H

Memo:

Sample Number:S24122405-001 Power Setting:10



Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable Loss [dB]	Result [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	35.999	37.12	11.90	3.80	21.72	40.00	18.28	QP	Horizontal
2	90.327	35.69	9.50	4.15	18.24	43.50	25.26	QP	Horizontal
3	159.731	37.72	8.82	4.54	19.92	43.50	23.58	QP	Horizontal
4	208.792	42.34	10.52	4.80	26.44	43.50	17.06	QP	Horizontal
5	359.764	32.15	14.93	5.46	21.11	46.00	24.89	QP	Horizontal
6	624.699	29.14	18.48	6.45	22.57	46.00	23.43	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:

2025-01-21

Tested By:

Zhong Nan

EUT:

In-vehicle Multimedia Host

Model Number:

MTCJ06-A03

Test Mode:

2.4G WIFI TX Mode

Power Supply:

DC 12V

Condition:

Temp:23°C;Humi:59.5%

Test Site:

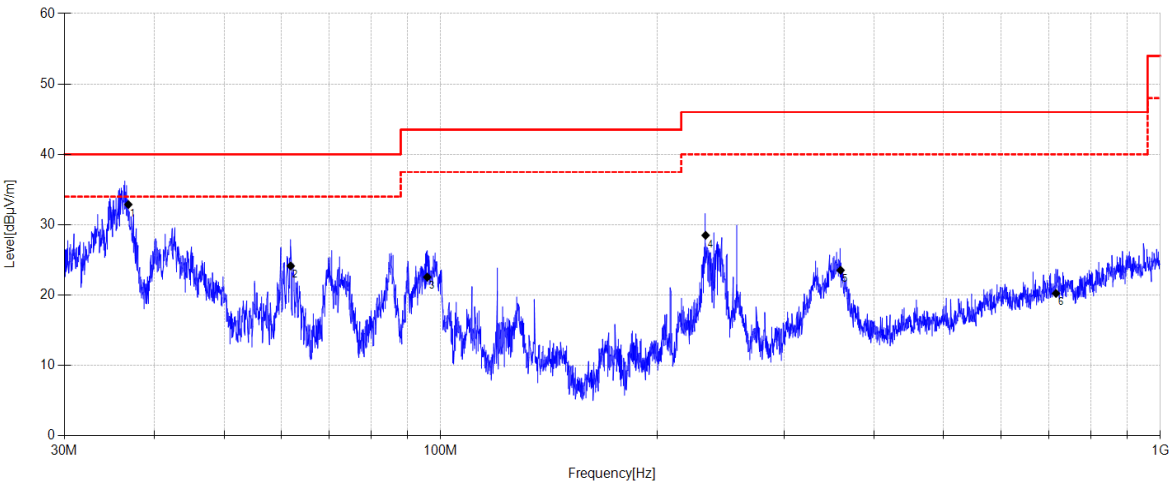
DDT 3# Chamber

File Path:

d:\ts\2024 report data\Q24122405-5E\FCC BELOW1G\20250121-000234_V

Memo:

Sample Number:S24122405-001 Power Setting:10



Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable Loss [dB]	Result [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	36.817	48.36	11.81	3.80	32.87	40.00	7.13	QP	Vertical
2	61.899	38.51	12.76	3.97	24.14	40.00	15.86	QP	Vertical
3	95.807	38.72	10.74	4.19	22.55	43.50	20.95	QP	Vertical
4	233.417	43.32	11.53	4.91	28.49	46.00	17.51	QP	Vertical
5	359.512	34.54	14.96	5.46	23.53	46.00	22.47	QP	Vertical
6	716.227	25.72	19.20	6.73	20.23	46.00	25.77	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:

2025-01-21

Tested By:

Zhong Nan

EUT:

In-vehicle Multimedia Host

Model Number:

MTCJ06-A03

Test Mode:

ANT1 11ax20 TX 2412MHz Mode

Power Supply:

DC 12V

Condition:

Temp:23°C;Humi:59.5%

Test Site:

DDT 3# Chamber

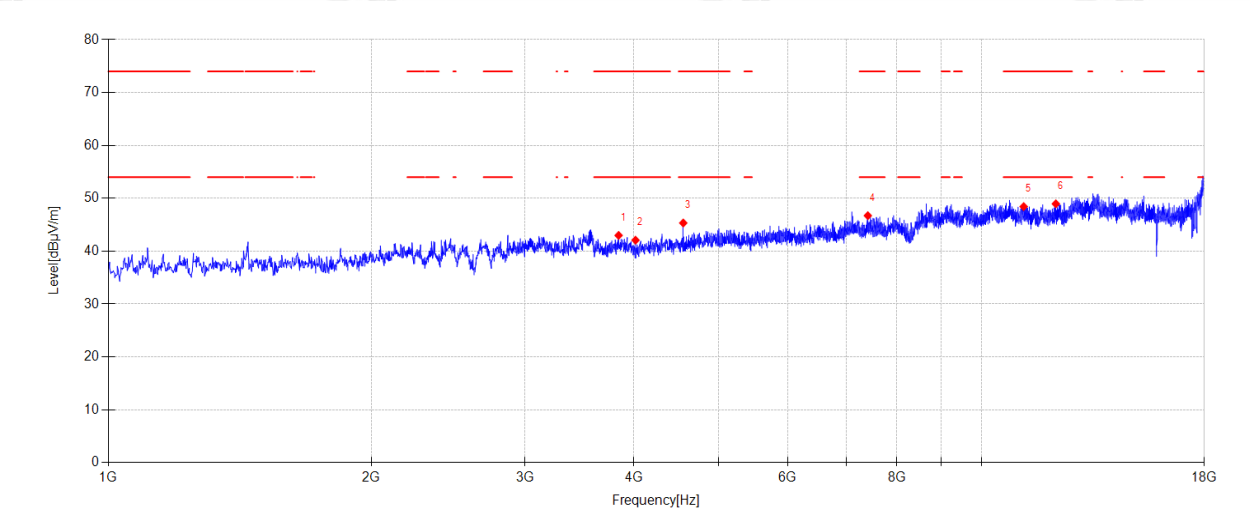
File Path:

d:\ts\2024 report data\Q24122405-5E\FCC ABOVE1G 2.4G\3

Memo:

Sample Number:S24122405-001 Power Setting:10

Test Graph



Data List										
NO.	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	46.68	30.86	5.08	-39.64	42.98	74.00	31.02	PK	Horizontal
2	4015.800	45.77	30.93	5.06	-39.68	42.08	74.00	31.92	PK	Horizontal
3	4554.700	47.69	31.90	5.38	-39.64	45.33	74.00	28.67	PK	Horizontal
4	7410.700	44.01	36.68	6.66	-40.63	46.72	74.00	27.28	PK	Horizontal
5	11177.900	40.15	39.22	8.24	-39.18	48.43	74.00	25.57	PK	Horizontal
6	12167.300	40.77	39.30	8.85	-39.97	48.95	74.00	25.05	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:

2025-01-21

Tested By:

Zhong Nan

EUT:

In-vehicle Multimedia Host

Model Number:

MTCJ06-A03

Test Mode:

ANT1 11ax20 TX 2412MHz Mode

Power Supply:

DC 12V

Condition:

Temp:23°C;Humi:59.5%

Test Site:

DDT 3# Chamber

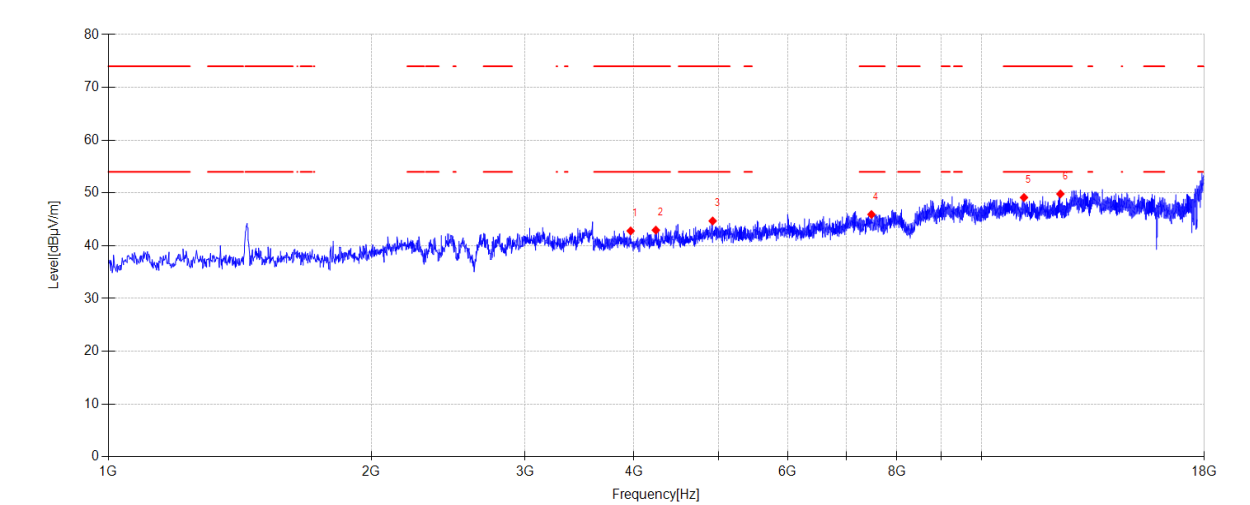
File Path:

d:\ts\2024 report data\Q24122405-5E\FCC ABOVE1G 2.4G\4

Memo:

Sample Number:S24122405-001 Power Setting:10

Test Graph



Data List										
NO.	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	46.38	31.04	5.06	-39.67	42.81	74.00	31.19	PK	Vertical
2	4236.800	46.08	31.35	5.19	-39.66	42.96	74.00	31.04	PK	Vertical
3	4921.900	45.66	33.04	5.60	-39.61	44.69	74.00	29.31	PK	Vertical
4	7482.100	43.25	36.54	6.70	-40.57	45.92	74.00	28.08	PK	Vertical
5	11186.400	40.87	39.21	8.25	-39.19	49.14	74.00	24.86	PK	Vertical
6	12315.200	41.54	39.30	8.92	-39.94	49.82	74.00	24.18	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:

2025-01-21

Tested By:

Zhong Nan

EUT:

In-vehicle Multimedia Host

Model Number:

MTCJ06-A03

Test Mode:

ANT1 11ax20 TX 2437MHz Mode

Power Supply:

DC 12V

Condition:

Temp:23°C;Humi:59.5%

Test Site:

DDT 3# Chamber

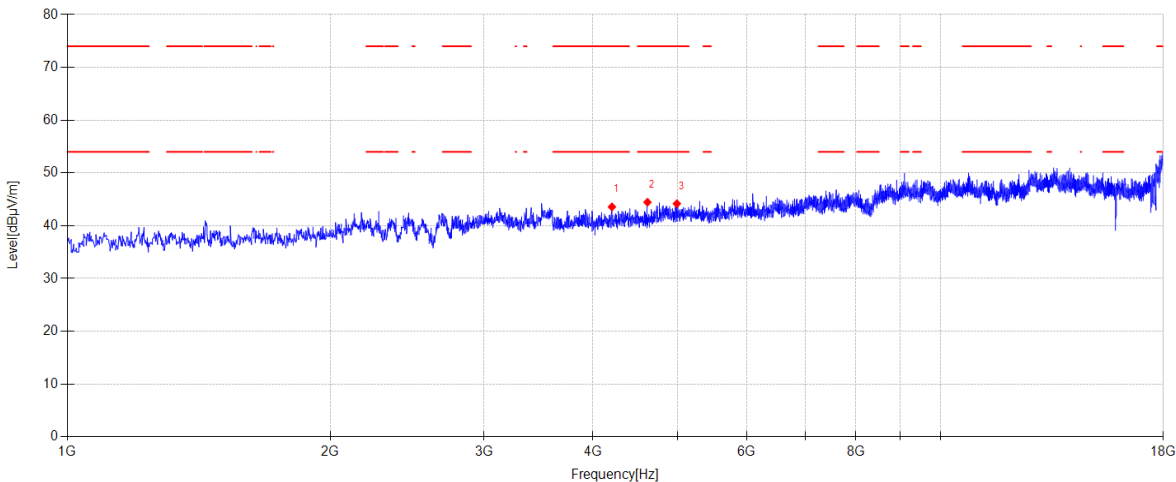
File Path:

d:\ts\2024 report data\Q24122405-5E\FCC ABOVE1G 2.4G\5

Memo:

Sample Number:S24122405-001 Power Setting:10

Test Graph



Data List										
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	4204.500	46.84	31.22	5.17	-39.66	43.57	74.00	30.43	PK	Horizontal
2	4617.600	46.73	31.94	5.42	-39.63	44.46	74.00	29.54	PK	Horizontal
3	4989.900	44.96	33.18	5.64	-39.60	44.18	74.00	29.82	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:

2025-01-21

Tested By:

Zhong Nan

EUT:

In-vehicle Multimedia Host

Model Number:

MTCJ06-A03

Test Mode:

ANT1 11ax20 TX 2437MHz Mode

Power Supply:

DC 12V

Condition:

Temp:23°C;Humi:59.5%

Test Site:

DDT 3# Chamber

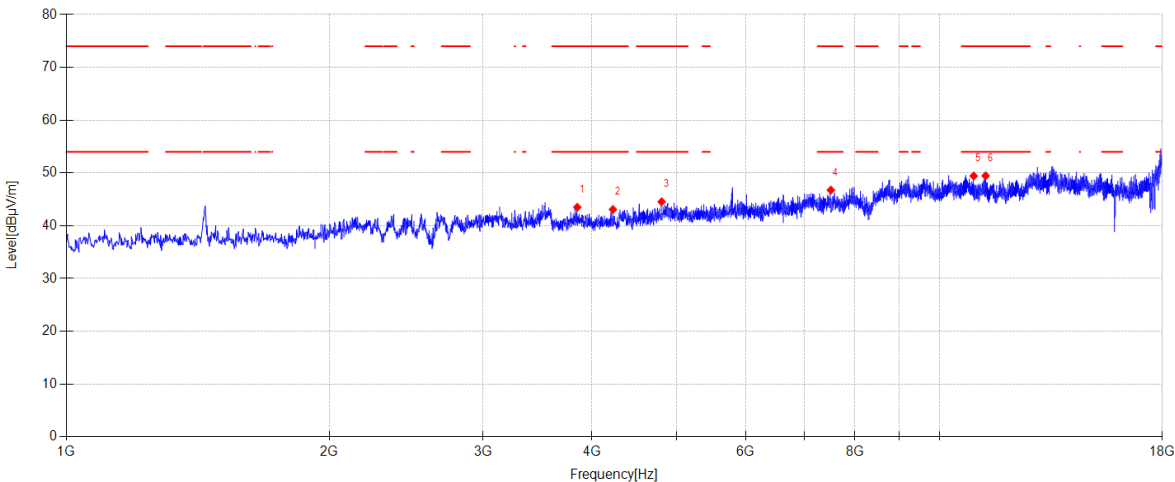
File Path:

d:\ts\2024 report data\Q24122405-5E\FCC ABOVE1G 2.4G\6

Memo:

Sample Number:S24122405-001 Power Setting:10

Test Graph



Data List										
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	3847.500	47.18	30.89	5.08	-39.64	43.51	74.00	30.49	PK	Vertical
2	4226.600	46.24	31.31	5.19	-39.66	43.08	74.00	30.92	PK	Vertical
3	4806.300	45.97	32.66	5.53	-39.62	44.54	74.00	29.46	PK	Vertical
4	7509.300	44.10	36.48	6.71	-40.54	46.75	74.00	27.25	PK	Vertical
5	10946.700	41.06	39.30	8.10	-39.03	49.43	74.00	24.57	PK	Vertical
6	11293.500	41.24	39.20	8.31	-39.29	49.46	74.00	24.54	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:

2025-01-21

Tested By:

Zhong Nan

EUT:

In-vehicle Multimedia Host

Model Number:

MTCJ06-A03

Test Mode:

ANT1 11ax20 TX 2462MHz Mode

Power Supply:

DC 12V

Condition:

Temp:23°C;Humi:59.5%

Test Site:

DDT 3# Chamber

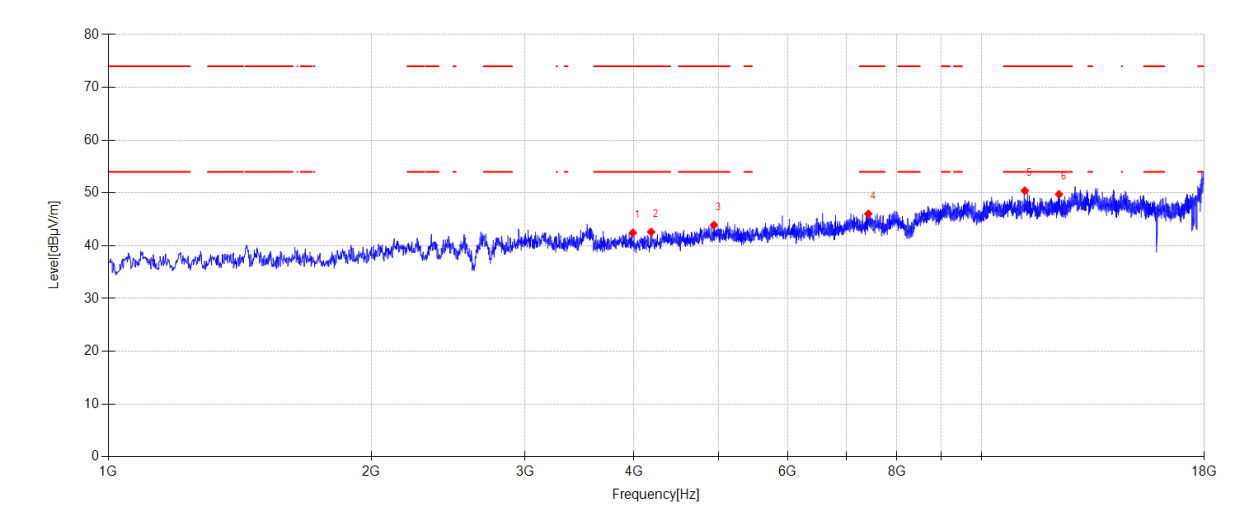
File Path:

d:\ts\2024 report data\Q24122405-5E\FCC ABOVE1G 2.4G\7

Memo:

Sample Number:S24122405-001 Power Setting:10

Test Graph



Data List											
NO.	Freq. [MHz]	Reading [dBµV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Detector	Polarity	
1	3986.900	46.12	30.95	5.05	-39.68	42.44	74.00	31.56	PK	Horizontal	
2	4184.100	45.92	31.20	5.16	-39.67	42.61	74.00	31.39	PK	Horizontal	
3	4938.900	44.82	33.08	5.61	-39.60	43.91	74.00	30.09	PK	Horizontal	
4	7420.900	43.35	36.66	6.66	-40.62	46.05	74.00	27.95	PK	Horizontal	
5	11211.900	42.17	39.20	8.26	-39.21	50.42	74.00	23.58	PK	Horizontal	
6	12269.300	41.49	39.30	8.90	-39.95	49.74	74.00	24.26	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:

2025-01-21

Tested By:

Zhong Nan

EUT:

In-vehicle Multimedia Host

Model Number:

MTCJ06-A03

Test Mode:

ANT1 11ax20 TX 2462MHz Mode

Power Supply:

DC 12V

Condition:

Temp:23°C;Humi:59.5%

Test Site:

DDT 3# Chamber

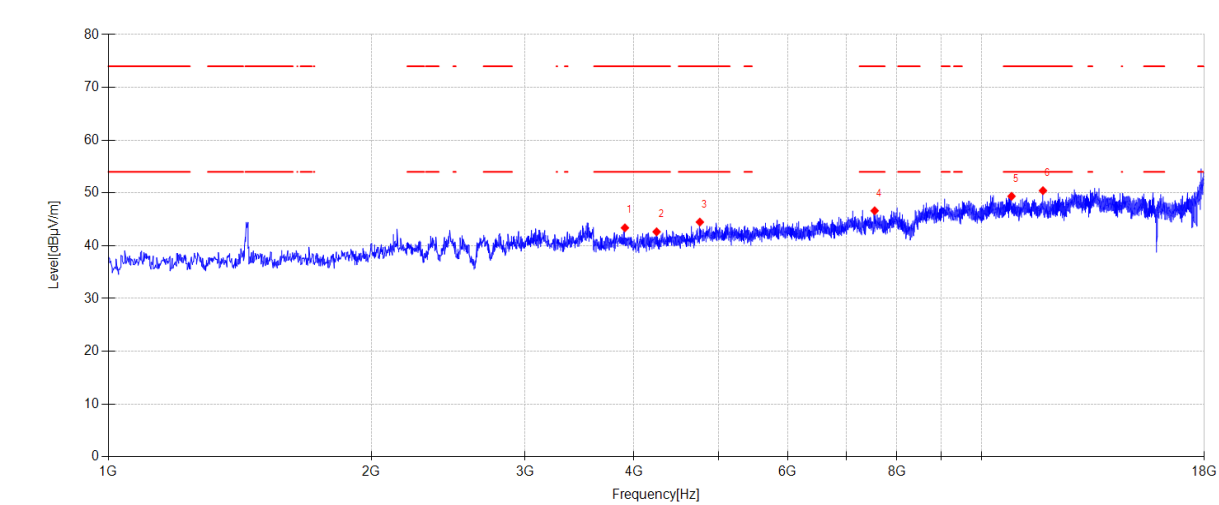
File Path:

d:\ts\2024 report data\Q24122405-5E\FCC ABOVE1G 2.4G\8

Memo:

Sample Number:S24122405-001 Power Setting:10

Test Graph



Data List											
NO.	Freq. [MHz]	Reading [dBµV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBµV/m]	Limit [dBµV/m]	Margin [dB]	Detector	Polarity	
1	3905.300	46.79	31.19	5.07	-39.66	43.39	74.00	30.61	PK	Vertical	
2	4245.300	45.72	31.38	5.20	-39.66	42.64	74.00	31.36	PK	Vertical	
3	4758.700	46.26	32.33	5.51	-39.62	44.48	74.00	29.52	PK	Vertical	
4	7545.000	43.99	36.41	6.73	-40.51	46.62	74.00	27.38	PK	Vertical	
5	10826.000	41.06	39.37	8.04	-39.10	49.37	74.00	24.63	PK	Vertical	
6	11761.000	42.64	38.94	8.61	-39.76	50.43	74.00	23.57	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.

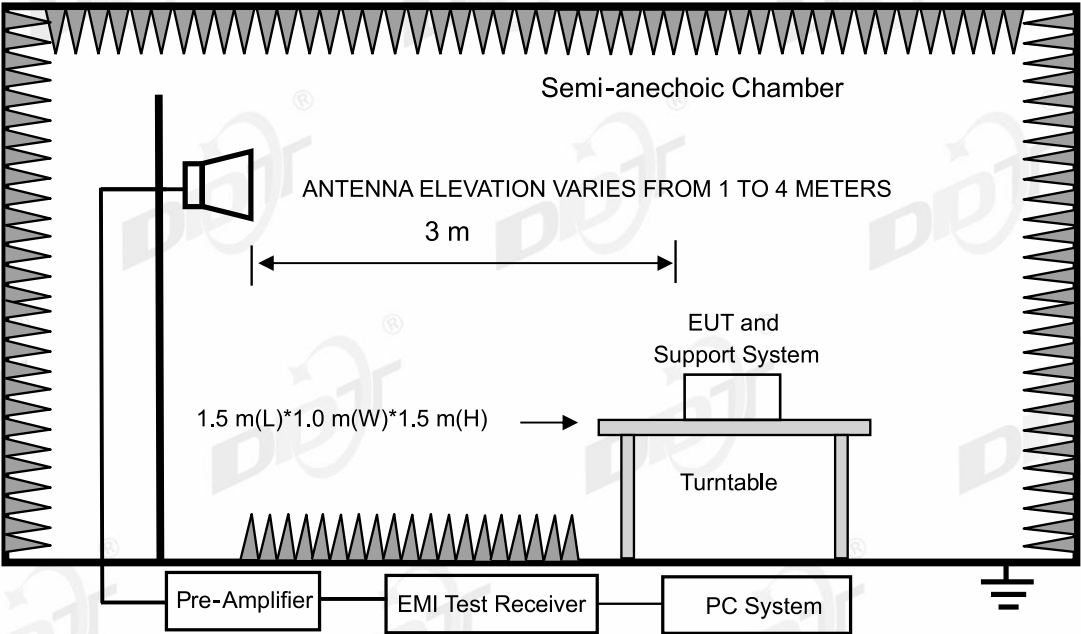
3. Test setup: RBW: 1 MHz, VBW: 3 MHz, Sweep time: auto.

12. Band Edge Compliance

12.1. Test equipment

Equipment	Manufacturer	Model No.	Serial No.	Cal Due To	Cal. Interval
Active Loop Antenna	Schwarzbeck	FMZB1519	DDT-ZC00524	2025/09/11	2 Year
RF Cable	N/A	W24.02 HL-562	DDT-ZC04022	2025/03/31	1 Year
Broad-Band Horn Antenna	Schwarzbeck	BBHA 9170	DDT-ZC00506	2025/04/26	1 Year
RF Cable	N/A	W13.02 AP1-X2	DDT-ZC04023	2025/03/31	1 Year
High Pass filter	Xi'an Xingbo	XBLBQ-GTA67	DDT-ZC02179	2025/04/22	1 Year
EMI TEST RECEIVER	R&S	ESU26	DDT-ZC01909	2025/03/31	1 Year
PSA Series Spectrum Analyzer	Agilent	E4447A	DDT-ZC00517	2025/03/31	1 Year
RF cable	Zhongke Junchuang	JCT26S-NJ-NJ-1.5M	DDT-ZC02762	2025/03/31	1 Year
Micro-Tronics filters	REBES	BRM50716	DDT-ZC03240	/	/
High pass filter	Micro-Tronics	HPM50108	DDT-ZC00560	2025/04/22	1 Year
Trilog Broadband Antenna	Schwarzbeck	VULB 9163	DDT-ZC02050	2025/07/11	2 Year
RF cable	Yuhu Technology	ZT26S-SMAJ-SMAJ-1M	DDT-ZC02037	2025/03/31	1 Year
Hochgewinn-Hornantenne	SCHWARZBECK	BBHA 9120 D	DDT-ZC02129	2025/09/18	2 Year
Micro-Tronics filters	REBES	BRM50702	DDT-ZC03242	/	/
High pass filter	Micro-Tronics	HPM50102	DDT-ZC00561	2025/04/22	1 Year
Pre-amplifier	COM-POWER	PAM-118A	DDT-ZC01293	2025/08/25	1 Year
RF cable	Yuhu Technology	JCTB810-NJ-NJ-9M	DDT-ZC02538	2025/03/31	1 Year
Pre-amplifier	COM-POWER	PAM-840A	DDT-ZC01693	2025/03/31	1 Year

12.2. Block diagram of test setup



12.3. Limits

All restriction band should comply with 15.209 and RSS-Gen section 8.9 limits, other emission should be at least 20 dB below the fundamental.

12.4. Assistant equipment used for test

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

12.5. Test procedure

Same with Radiated Emission except change investigated frequency range.

Remark: All restriction band have been tested, and only the worst case is shown in report.

12.6. Test result

PASS. (See below detailed test result)

12.7. Test data

TR-4-E-009 Radiated Emission Test Result

Test Date:

2025-01-21

Tested By:

Zhong Nan

EUT:

In-vehicle Multimedia Host

Model Number:

MTCJ06-A03

Test Mode:

ANT1 11b TX 2462MHz Mode

Power Supply:

DC 12V

Condition:

Temp:23°C;Humi:59.5%

Test Site:

DDT 3# Chamber

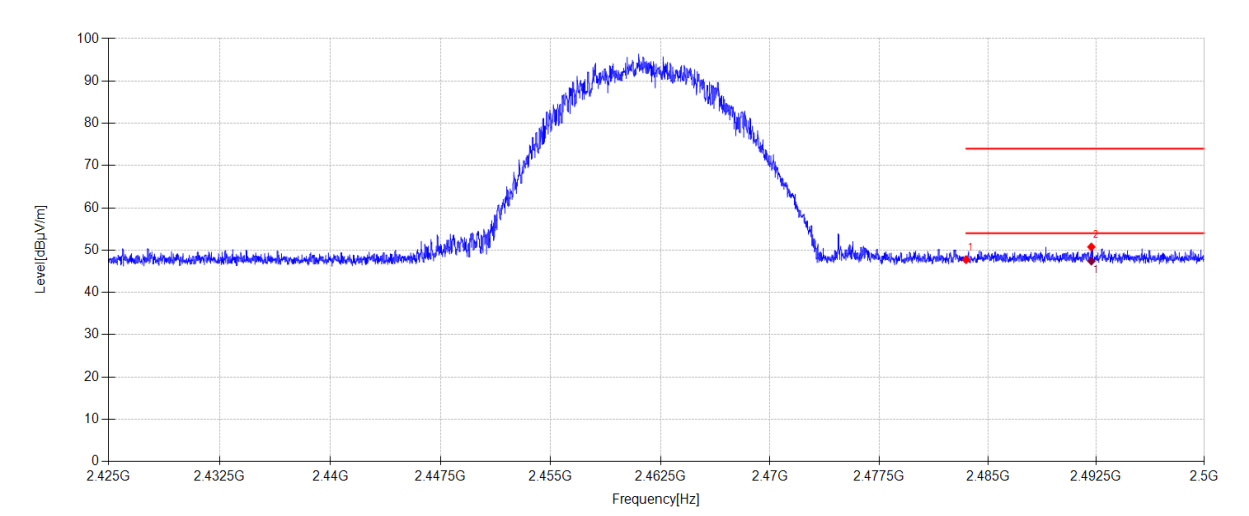
File Path:

d:\ts\2024 report data\Q24122405-5E\FCC ABOVE1G 2.4G\9

Memo:

Sample Number:S24122405-001 Power Setting:10

Test Graph



Data List										
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	2483.500	16.60	27.53	3.62	0.00	47.75	74.00	26.25	PK	Horizontal
2	2492.163	19.57	27.57	3.63	0.00	50.77	74.00	23.23	PK	Horizontal

Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	2492.163	16.21	27.57	3.63	47.41	54.00	6.59	AV	Horizontal

Note:

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

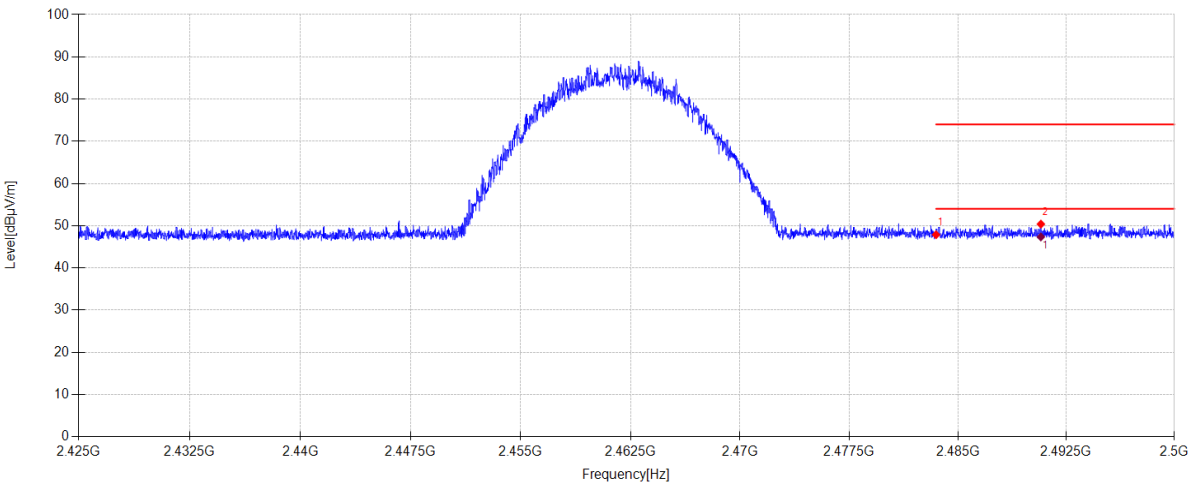
2. If Peak Result complies with AV limit, AV Result is deemed to comply with AV limit.

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

TR-4-E-009 Radiated Emission Test Result

Test Date: 2025-01-21 Tested By: Zhong Nan
EUT: In-vehicle Multimedia Host Model Number: MTCJ06-A03
Test Mode: ANT1 11b TX 2462MHz Mode Power Supply: DC 12V
Condition: Temp:23°C;Humi:59.5% Test Site: DDT 3# Chamber
File Path: d:\ts\2024 report data\Q24122405-5E\FCC ABOVE1G 2.4G\10
Memo: Sample Number:S24122405-001 Power Setting:10

Test Graph



Data List										
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	2483.500	16.72	27.53	3.62	0.00	47.87	74.00	26.13	PK	Vertical
2	2490.745	19.21	27.56	3.62	0.00	50.39	74.00	23.61	PK	Vertical

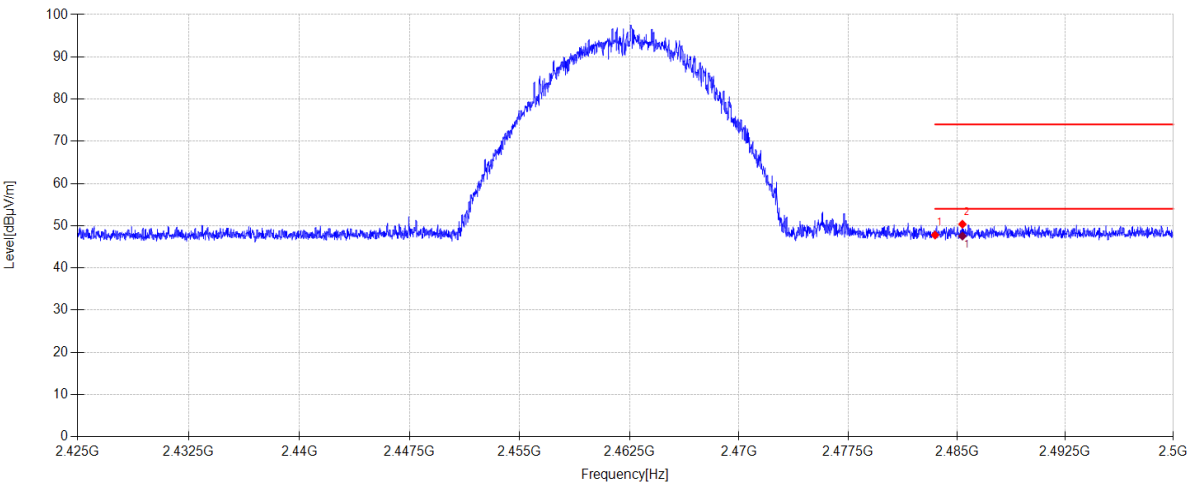
Data List										
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity	
1	2490.745	16.17	27.56	3.62	47.35	54.00	6.65	AV	Vertical	

- 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: 2025-01-21 Tested By: Zhong Nan
EUT: In-vehicle Multimedia Host Model Number: MTCJ06-A03
Test Mode: ANT2 11b TX 2462MHz Mode Power Supply: DC 12V
Condition: Temp:23°C;Humi:59.5% Test Site: DDT 3# Chamber
File Path: d:\ts\2024 report data\Q24122405-5E\FCC ABOVE1G 2.4G\11
Memo: Sample Number:S24122405-001 Power Setting:10

Test Graph



Data List										
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	2483.500	16.64	27.53	3.62	0.00	47.79	74.00	26.21	PK	Horizontal
2	2485.390	19.20	27.54	3.62	0.00	50.36	74.00	23.64	PK	Horizontal

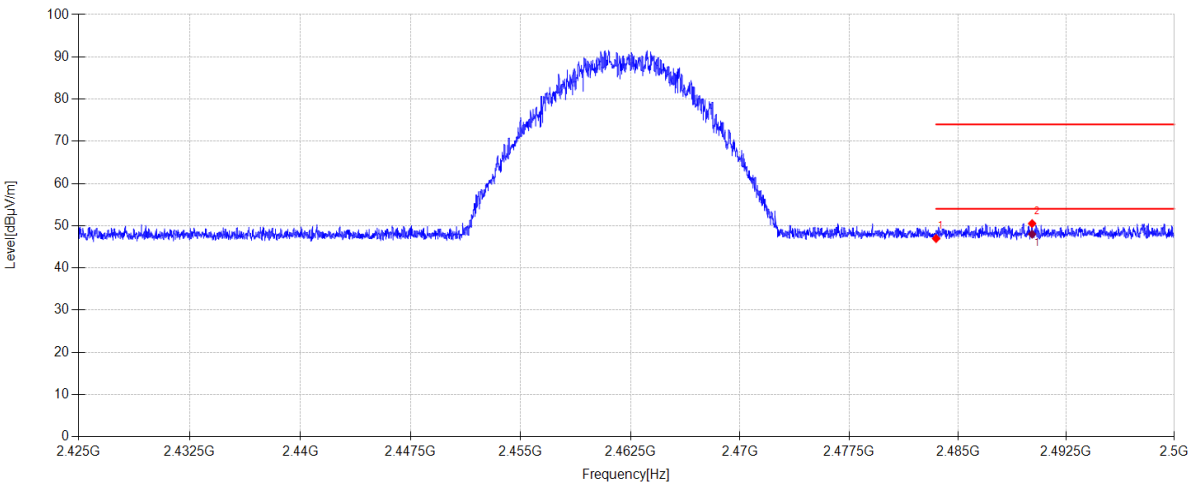
Data List										
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity	
1	2485.390	16.39	27.54	3.62	47.55	54.00	6.45	AV	Horizontal	

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: 2025-01-21 Tested By: Zhong Nan
EUT: In-vehicle Multimedia Host Model Number: MTCJ06-A03
Test Mode: ANT2 11b TX 2462MHz Mode Power Supply: DC 12V
Condition: Temp:23°C;Humi:59.5% Test Site: DDT 3# Chamber
File Path: d:\ts\2024 report data\Q24122405-5E\FCC ABOVE1G 2.4G\12
Memo: Sample Number:S24122405-001 Power Setting:10

Test Graph



Data List										
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	2483.500	15.81	27.53	3.62	0.00	46.96	74.00	27.04	PK	Vertical
2	2490.138	19.34	27.56	3.62	0.00	50.52	74.00	23.48	PK	Vertical

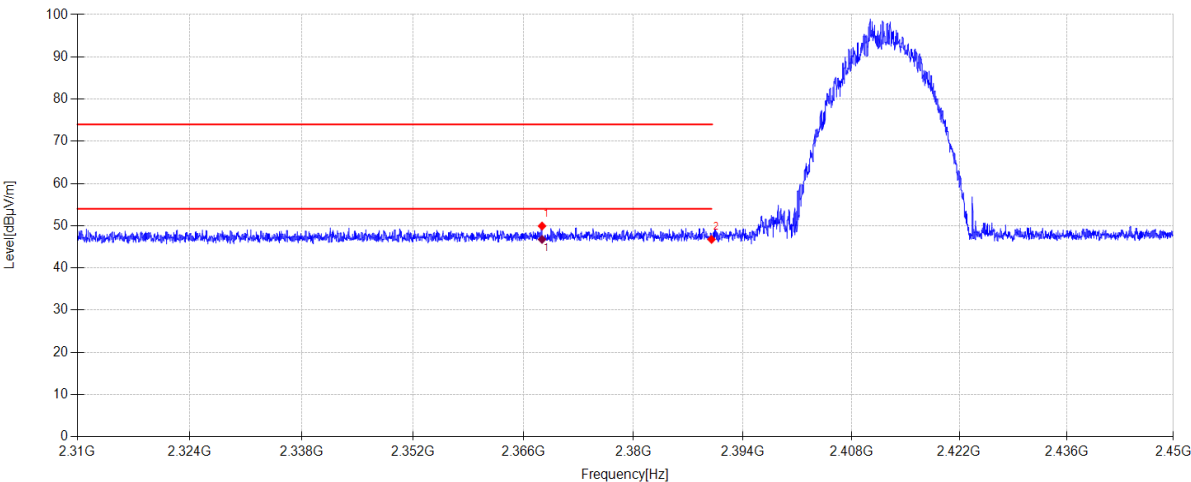
Data List									
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	2490.138	16.81	27.56	3.62	47.99	54.00	6.01	AV	Vertical

- 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: 2025-01-21 Tested By: Zhong Nan
EUT: In-vehicle Multimedia Host Model Number: MTCJ06-A03
Test Mode: ANT2 11b TX 2412MHz Mode Power Supply: DC 12V
Condition: Temp:23°C;Humi:59.5% Test Site: DDT 3# Chamber
File Path: d:\ts\2024 report data\Q24122405-5E\FCC ABOVE1G 2.4G\13
Memo: Sample Number:S24122405-001 Power Setting:10

Test Graph



Data List										
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	AMP [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity
1	2368.352	19.20	27.17	3.56	0.00	49.93	74.00	24.07	PK	Horizontal
2	2390.000	15.93	27.26	3.57	0.00	46.76	74.00	27.24	PK	Horizontal

Data List										
NO.	Freq. [MHz]	Reading [dBμV/m]	Antenna Factor [dB]	Cable loss [dB]	Level [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Detector	Polarity	
1	2368.352	16.03	27.17	3.56	46.76	54.00	7.24	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.