



Shenzhen Huaxia Testing Technology Co., Ltd.

1F., Block A of Tongsheng Technology Building, Huahui Road, Dalang Street, Longhua District, Shenzhen, China

Telephone: +86-755-26648640

Fax: +86-755-26648637

Website: www.cqa-cert.com

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TEST REPORT

Report No.: CQASZ20240901962E-04
Applicant: Innovative Eyewear, Inc
Address of Applicant: 11900 Biscayne Blvd #630, North Miami, FL 33181, United States
Equipment Under Test (EUT):
EUT Name: Smart Eyewear
Model No.: LCD008-10, LCD010-10, LCD010-11, LCD010-20, LCD010-21, LCD010-30, LCD010-31, LCD010-40, LCD010-41
Test Model No.: LCD008-10
Brand Name: Lucyd Reebok
Standards: ETSI EN 300 328 V2.2.2 (2019-07)
Date of Receipt: 2024-09-10
Date of Test: 2024-09-10 to 2024-09-19
Date of Issue: 2024-10-12
Test Result: **PASS***

*In the configuration tested, the EUT complied with the standards specified above

Tested By:

Lewis Zhou

(Lewis Zhou)

Reviewed By:

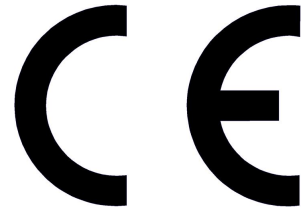
Timo Lei

(Timo Lei)

Approved By:

Alex

(Alex Wang)



1 Version

Revision History of Report

Report No.	Version	Description	Issue Date
CQASZ20240901962E-04	Rev.01	Initial report	2024-10-12

2 Test Summary

Test Item	Test Requirement	Test Method	Limit	Result
RF output power	ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.2.2	ETSI EN 300 328 V2.2.2 (2019-07) Clause 5.4.2	Refer clause 4.3.2.2.3	PASS
Power Spectral Density	ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.2.3	ETSI EN 300 328 V2.2.2 (2019-07) Clause 5.4.3	Refer clause 4.3.2.3.3	PASS
Duty Cycle, Tx-sequence, Tx-gap	ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.2.4	ETSI EN 300 328 V2.2.2 (2019-07) Clause 5.4.2	Refer clause 4.3.2.4.3	N/A ¹
Medium Utilization (MU) factor	ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.2.5	ETSI EN 300 328 V2.2.2 (2019-07) Clause 5.4.2	Refer clause 4.3.2.5.3	N/A ²
Adaptivity (Adaptive Frequency Hopping)	ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.2.6	ETSI EN 300 328 V2.2.2 (2019-07) Clause 5.4.6	Refer clause 4.3.2.6.3.2	N/A ³
Occupied Channel Bandwidth	ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.2.7	ETSI EN 300 328 V2.2.2 (2019-07) Clause 5.4.7	Refer clause 4.3.2.7.3	PASS
Transmitter unwanted emissions in the out-of-band domain	ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.2.8	ETSI EN 300 328 V2.2.2 (2019-07) Clause 5.4.8	Refer clause 4.3.2.8.3	PASS
Transmitter unwanted emissions in the spurious domain	ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.2.9	ETSI EN 300 328 V2.2.2 (2019-07) Clause 5.4.9	Refer clause 4.3.2.9.3	PASS
Receiver spurious emissions	ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.2.10	ETSI EN 300 328 V2.2.2 (2019-07) Clause 5.4.10	Refer clause 4.3.2.10.3	PASS
Receiver Blocking	ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.2.11	ETSI EN 300 328 V2.2.2 (2019-07) Clause 5.4.11	Refer clause 4.3.2.11.4	PASS
Geo-location capability	ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.13	ETSI EN 300 328 V2.2.2 (2019-07) Clause 4.3.1.13	Refer Clause 4.3.1.13.3	N/A ⁴

Remark:

N/A¹: Because these requirements apply to non-adaptive frequency hopping equipment mode and RF output power of greater than or equal to 10 dBm.

N/A²: Because these requirements apply to non-adaptive frequency hopping equipment mode and RF output power of greater than or equal to 10 dBm.

N/A³: Because these requirements apply to adaptive equipment mode and RF output power of greater than or equal to 10 dBm.

N/A⁴: Because these requirements apply to equipment with geo-location capability

Tx: In this whole report Tx (or tx) means Transmitter.

Rx: In this whole report Rx (or rx) means Receiver.

RF: In this whole report RF means Radiated Frequency.

CH: In this whole report CH means channel.

Volt: In this whole report Volt means Voltage.

Temp: In this whole report Temp means Temperature.

Humid: In this whole report Humid means humidity.

Press: In this whole report Press means Pressure.

N/A: In this whole report not application.

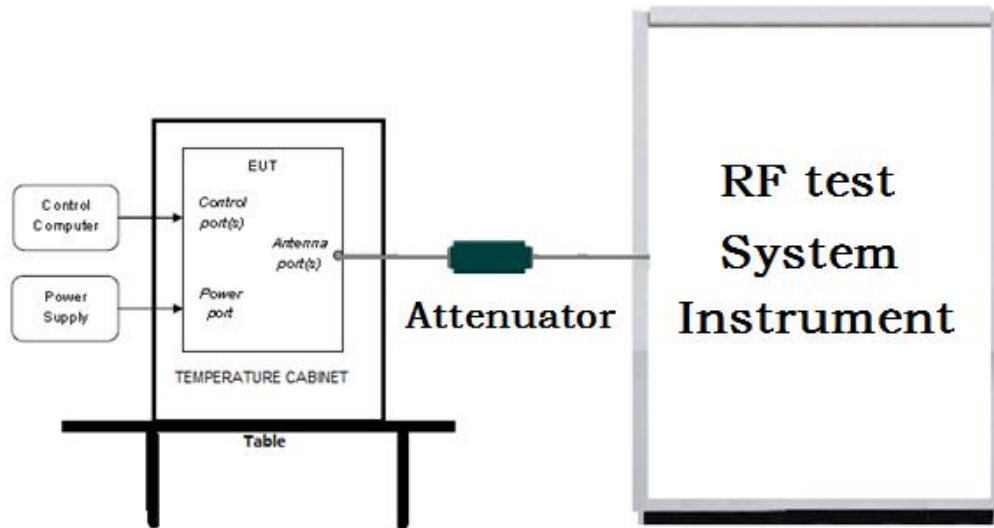
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4 Test Requirement

4.1 Test setup

4.1.1 For Conducted test setup



4.1.2 For Radiated Emissions test setup

Radiated Emissions setup:

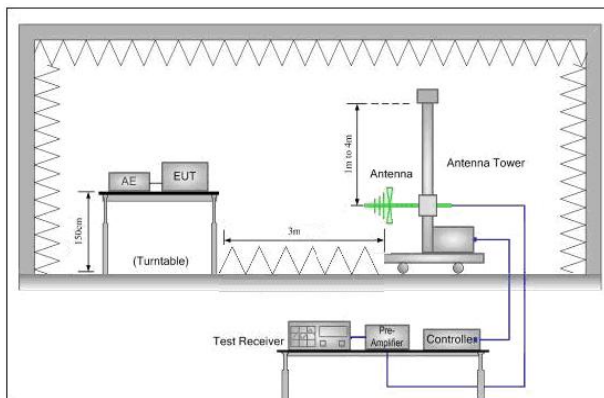


Figure 1. 30MHz to 1GHz

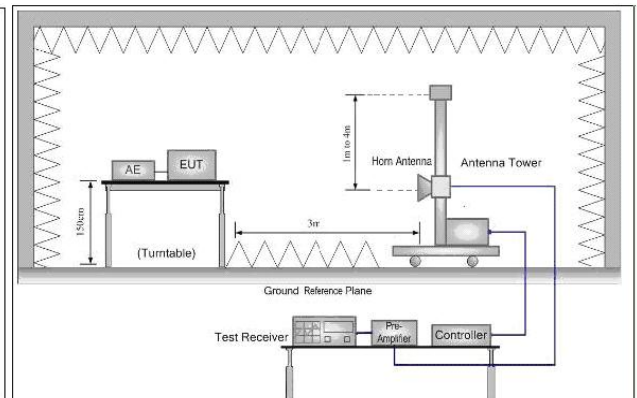


Figure 2. Above 1GHz

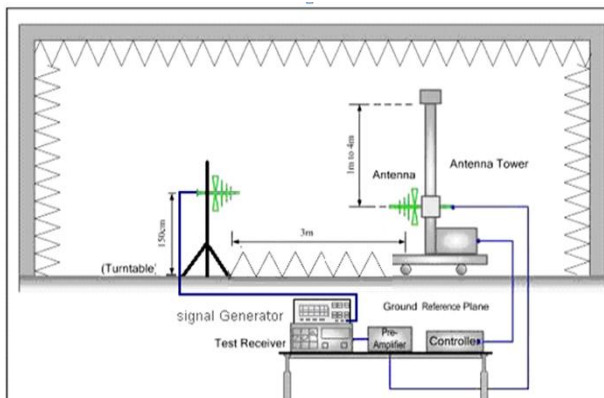


Figure 1. 30MHz to 1GHz

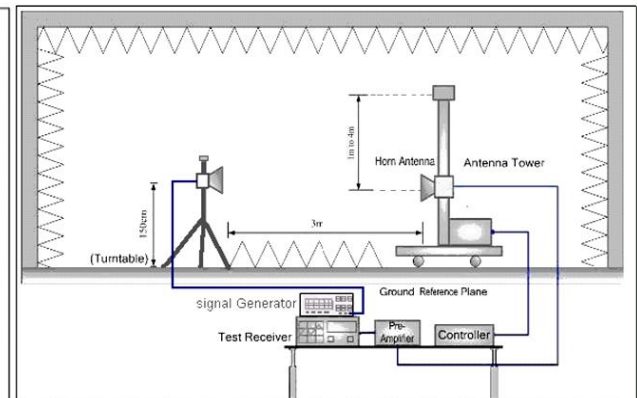


Figure 2. Above 1GHz

4.2 Test Environment

Environment Parameter	Selected Values During Tests		
Test condition	Ambient		
	Temperature(°C)	Voltage(V)	Relative Humidity(%)
TN/VN	25.2	3.7	50
TL/VN	-10	3.7	50
TH/VN	55	3.7	50

Note:

- 1) The EUT just work in such extreme temperature of -10°C~+55°C, so here the EUT is tested in the temperature of -10°C~+55°C
- 2) VN: Normal Voltage TN:Normal Temperature
TL: Low Extreme Test Temperature TH: High Extreme Test Temperature

4.3 Test Condition

Test channel

Test Mode	Tx/Rx	RF Channel		
		Low(L)	Middle(M)	High(H)
GFSK	2402MHz ~2480 MHz	Channel 1	Channel 20	Channel40
		2402MHz	2440MHz	2480MHz

5 General Information

5.1 Client Information

Applicant:	Innovative Eyewear, Inc
Address of Applicant:	11900 Biscayne Blvd #630, North Miami, FL 33181, United States
Manufacturer:	Shenzhen Gonbes Technology Co. Ltd
Address of Manufacturer:	RM501, Bldg 3, Mengliyuan Industrial Park, 124 Yousong Rd, Longhua Str, Longhua Dist, Shenzhen, Guangdong Province, 518000, CHINA
Factory:	Shenzhen Gonbes Technology Co. Ltd
Address of Factory:	RM501, Bldg 3, Mengliyuan Industrial Park, 124 Yousong Rd, Longhua Str, Longhua Dist, Shenzhen, Guangdong Province, 518000, CHINA

5.2 General Description of EUT

Product Name:	Smart Eyewear
Model No.:	LCD008-10, LCD010-10, LCD010-11, LCD010-20, LCD010-21, LCD010-30, LCD010-31, LCD010-40, LCD010-41
Test Model No.:	LCD008-10
Trade Mark:	Lucyd Reebok
EUT Supports Radios application:	Bluetooth mode: 2402MHz~2480MHz
Software Version:	GBS_ATS3025_GK28_V2.2_20240806.fw
Hardware Version:	GK28(ATS3025)-V1.1
Power Supply:	Li-ion battery: DC 3.7V 180mAh, Charge by DC 5V for adapter

5.3 Product Specification subjective to this standard

Frequency Range:	2402MHz to 2480MHz
Bluetooth Version:	V5.3
Modulation Type:	GFSK
Transfer Rate:	1Mbps/2Mbps
Number of Channels:	40
Sample Type:	☐ Mobile ☒ Portable
Test Software of EUT:	FCC
Antenna Type:	Chip antenna
Antenna Gain:	1.15dBi

5.4 Other Information

RED Directive:			2014/53/EU				
Operation Frequency each of channel							
Channel	Frequency	Channel	Frequency	Channel	Frequency	Channel	Frequency
1	2402MHz	11	2422MHz	21	2442MHz	31	2462MHz
2	2404MHz	12	2424MHz	22	2444MHz	32	2464MHz
3	2406MHz	13	2426MHz	23	2446MHz	33	2466MHz
4	2408MHz	14	2428MHz	24	2448MHz	34	2468MHz
5	2410MHz	15	2430MHz	25	2450MHz	35	2470MHz
6	2412MHz	16	2432MHz	26	2452MHz	36	2472MHz
7	2414MHz	17	2434MHz	27	2454MHz	37	2474MHz
8	2416MHz	18	2436MHz	28	2456MHz	38	2476MHz
9	2418MHz	19	2438MHz	29	2458MHz	39	2478MHz
10	2420MHz	20	2440MHz	30	2460MHz	40	2480MHz

5.5 Description of Support Units

The EUT has been tested with associated equipment below.

1) support equipment

Description	Manufacturer	Model No.	Certification	Supplied by
/	/	/	/	/

2) Cable

Cable No.	Description	Manufacturer	Cable Type/Length	Supplied by
/	/	/	/	/

5.6 Test Location

All tests were performed at:

Shenzhen Huaxia Testing Technology Co., Ltd.

1F., Block A of Tongsheng Technology Building, Huahui Road, Dalang Street, Longhua District, Shenzhen, China

No tests were sub-contracted.

5.7 Deviation from Standards

None.

5.8 Abnormalities from Standard Conditions

None.

5.9 Other Information Requested by the Customer

None.

5.10 Measurement Uncertainty (95% confidence levels, k=2)

No.	Item	Measurement Uncertainty
1	Radiated Emission (Below 1GHz)	5.12dB
2	Radiated Emission (Above 1GHz)	4.60dB
3	Conducted Disturbance (0.15~30MHz)	3.34dB
4	Radio Frequency	3×10^{-8}
5	Duty cycle	0.6 %
6	Occupied Bandwidth	1.1%
7	RF conducted power	0.86dB
8	RF power density	0.74
9	Conducted Spurious emissions	0.86dB
10	Temperature test	0.8℃
11	Humidity test	2.0%
12	Supply voltages	0.5 %
13	Frequency Error	5.5 Hz

6 Equipment List

Equipment	Manufacturer	Model No	Inventory No	Cal Date	Cal Due Date
Horn Antenna	R&S	HF906	CQA-012	2023/11/01	2026/10/31
Bilog Antenna	R&S	HL562	CQA-011	2023/9/7	2026/9/6
EMI Test Receiver	R&S	ESR7	CQA-005	2024/9/2	2025/9/1
Spectrum analyzer	R&S	FSU26	CQA-038	2024/9/2	2025/9/1
Preamplifier	MITEQ	AMF-6D-02001800-29-20P	CQA-036	2024/9/2	2025/9/1
high-low temperature chamber	Auchno	OJN-9606	CQA-CB2	2024/9/2	2025/9/1
Signal generator	ANRITSU	MG3692B	CQA-019	2024/9/2	2025/9/1
Signal generator	R&S	SME06	CQA-024	2024/9/2	2025/9/1
Vector signal generator	R&S	SMBV100A	CQA-039	2024/9/2	2025/9/1
DC power	KEYSIGHT	E3631A	CQA-028	2024/9/2	2025/9/1
Power probe	KEYSIGHT	U2021XA	CQA-030	2024/9/2	2025/9/1
Coaxial Cable (Above 1GHz)	CQA	N/A	C019	2024/9/2	2025/9/1
Coaxial Cable (Below 1GHz)	CQA	N/A	C020	2024/9/2	2025/9/1
RF Cable (9KHz~40GHz)	CQA	N/A	C005	2024/9/2	2025/9/1

7 Radio Technical Requirements Specification

Reference documents for testing:

No.	Identity	Document Title
1	ETSI EN 300 328 V2.2.2 (2019-07)	Wideband transmission systems;Data transmission equipment operating in the 2.4 GHz ISM band and using wide band modulation techniques; Harmonised Standard covering the essential requirements of article 3.2 of Directive 2014/53/EU

Test Results List:

EN300328V2.2.2		Test Descriptions & Test Conditions	Verdict	Note
Test Requirement	Test Method			
Clause 4.3.2.2	Clause 5.4.2	RF output power,		Appendix B)
		TN/VN	PASS	
		TL/VN	PASS	
		TH/VN	PASS	
Clause 4.3.2.3	Clause 5.4.3	Power Spectral Density		Appendix B)
		TN/VN	PASS	
Clause 4.3.2.4	Clause 5.4.2	Duty Cycle, Tx-sequence, Tx-gap		N/A
		TN/VN	N/A	
Clause 4.3.2.5	Clause 5.4.2	Medium Utilisation (MU) factor		N/A
		TN/VN	N/A	
Clause 4.3.2.6	Clause 5.4.6	Adaptivity (adaptive equipment using modulations other than FHSS)		N/A
		TN/VN	N/A	
Clause 4.3.2.7	Clause 5.4.7	Occupied Channel Bandwidth		Appendix B)
		TN/VN	PASS	
Clause 4.3.2.8	Clause 5.4.8	Transmitter unwanted emissions in the out-of-band domain		Appendix B)
		TN/VN	PASS	
Clause 4.3.2.11	Clause 5.4.11	Receiver Blocking		Appendix B)
		TN/VN	PASS	
Clause 4.3.2.9	Clause 5.4.9	Transmitter unwanted emissions in the spurious domain		Appendix A)
		TN/VN	PASS	
Clause 4.3.2.10	Clause 5.4.10	Receiver spurious emissions		Appendix A)
		TN/VN	PASS	

Appendix A: Spurious emissions

Test Procedure:		
1. Scan from 30MHz to 12.75GHz; find the maximum radiation frequency to measure. 2. The technique used to find the Spurious Emissions of the transmitter was the antenna substitution method. Substitution method was performed to determine the actual ERP/EIRP emission levels of the EUT. Test procedure as below: 1) The EUT was powered ON and placed on a 1.5m high table at a 3 meter fully Anechoic Chamber. The antenna of the transmitter was extended to its maximum length. Modulation mode and the measuring receiver shall be tuned to the frequency of the transmitter under test. 2) The EUT was set 3 meters (above 18GHz the distance is 1 meter) away from the interference-receiving antenna, which was mounted on the top of a variable-height antenna tower. 3) The disturbance of the transmitter was maximized on the test receiver display by raising and lowering from 1m to 4m the receive antenna and by rotating through 360° the turntable. After the fundamental emission was maximized, a field strength measurement was made. 4) Steps 1) to 3) were performed with the EUT and the receive antenna in both vertical and horizontal polarization. 5) The transmitter was then removed and replaced with another antenna. The center of the antenna was approximately at the same location as the center of the transmitter. 6) A signal at the disturbance was fed to the substitution antenna by means of a non-radiating cable. With both the substitution and the receive antennas horizontally polarized, the receive antenna was raised and lowered to obtain a maximum reading at the test receiver. The level of the signal generator was adjusted until the measured field strength level in step 3) is obtained for this set of conditions. 7) The output power into the substitution antenna was then measured. 8) Steps 6) and 7) were repeated with both antennas polarized. 9) Calculate power in dBm by the following formula: $\text{ERP(dBm)} = \text{Pg(dBm)} - \text{cable loss (dB)} + \text{antenna gain (dBi)}$ $\text{EIRP(dBm)} = \text{Pg(dBm)} - \text{cable loss (dB)} + \text{antenna gain (dBi)}$ $\text{EIRP} = \text{ERP} + 2.15\text{dB}$ where: Pg is the generator output power into the substitution antenna. 10) Test the EUT in the lowest channel, the Highest channel 11) Repeat above procedures until all frequencies measured was complete.		
Limit:	Transmitter limits for spurious emissions	
	Frequency range	Maximum power, e.r.p. (≤ 1 GHz) e.i.r.p. (> 1 GHz)
	30 MHz to 47 MHz	-36dBm
	47 MHz to 74 MHz	-54 dBm
	74 MHz to 87,5 MHz	-36dBm
	87,5 MHz to 118 MHz	-54 dBm
	118 MHz to 174 MHz	-36dBm
	174 MHz to 230 MHz	-54 dBm
	230 MHz to 470 MHz	-36dBm
	470 MHz to 694 MHz	-54 dBm
	694 MHz to 1 GHz	-36dBm
	1 GHz to 12.75 GHz	-30dBm
	Spurious emission limits for receivers	
	Frequency range	Maximum power e.r.p. (≤ 1 GHz) e.i.r.p. (> 1 GHz)
	30MHz to 1GHz	-57dBm
	1GHz to 12.75GHz	-47dBm
	bandwidth	
	100kHz	
	1MHz	

Radiated Spurious Emissions test Data:

1) Transmitter unwanted emissions in the spurious domain

Transmitting with modulation Mode at 2402MHz(1Mbps)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
4804	181	358	-44.76	-30	-14.76	Pass	H
4804	157	28	-42.53	-30	-12.53	Pass	V
7206	174	252	-44.66	-30	-14.66	Pass	H
7206	180	321	-42.57	-30	-12.57	Pass	V
9608	174	211	-43.35	-30	-13.35	Pass	H
9608	157	176	-43.64	-30	-13.64	Pass	V

Transmitting with modulation Mode at 2480MHz(1Mbps)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
4960	107	335	-43.50	-30	-13.50	Pass	H
4960	109	50	-42.19	-30	-12.19	Pass	V
7440	189	345	-44.73	-30	-14.73	Pass	H
7440	196	132	-42.07	-30	-12.07	Pass	V
9920	174	190	-44.28	-30	-14.28	Pass	H
9920	107	230	-42.24	-30	-12.24	Pass	V

Remark: 1. The disturbance below 1GHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.

Transmitting with modulation Mode at 2402MHz(2Mbps)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
4804	181	358	-44.91	-30	-14.91	Pass	H
4804	157	28	-43.67	-30	-13.67	Pass	V
7206	174	252	-44.88	-30	-14.88	Pass	H
7206	180	321	-42.29	-30	-12.29	Pass	V
9608	174	211	-43.15	-30	-13.15	Pass	H
9608	157	176	-42.44	-30	-12.44	Pass	V

Transmitting with modulation Mode at 2480MHz(2Mbps)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
4960	107	335	-43.19	-30	-13.19	Pass	H
4960	109	50	-43.74	-30	-13.74	Pass	V
7440	189	345	-42.36	-30	-12.36	Pass	H
7440	196	132	-44.49	-30	-14.49	Pass	V
9920	174	190	-43.93	-30	-13.93	Pass	H
9920	107	230	-43.05	-30	-13.05	Pass	V
Remark: 1. The disturbance below 1GHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.							

2) Receiver spurious emissions test data

Receiving mode at 2402MHz(1Mbps)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
4802.37	153	59	-55.45	-47	-8.45	Pass	H
4801.67	196	186	-56.61	-47	-9.61	Pass	V
7206.36	200	176	-56.72	-47	-9.72	Pass	H
7200.81	143	115	-55.55	-47	-8.55	Pass	V
9611.76	181	128	-56.70	-47	-9.70	Pass	H
9606.6	168	196	-55.54	-47	-8.54	Pass	V

Receiving mode at 2480MHz(1Mbps)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
4966.96	139	208	-56.39	-47	-9.39	Pass	H
4967.9	163	143	-55.31	-47	-8.31	Pass	V
7438.49	141	133	-56.74	-47	-9.74	Pass	H
7445	115	266	-55.90	-47	-8.90	Pass	V
9928.56	112	89	-56.16	-47	-9.16	Pass	H
9939.27	108	172	-55.74	-47	-8.74	Pass	V

Remark: 1. The disturbance below 1GHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.

Receiving mode at 2402MHz(2Mbps)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
4802.37	153	59	-55.19	-47	-8.19	Pass	H
4801.67	196	186	-56.34	-47	-9.34	Pass	V
7206.36	200	176	-56.00	-47	-9.00	Pass	H
7200.81	143	115	-56.00	-47	-9.00	Pass	V
9611.76	181	128	-55.64	-47	-8.64	Pass	H
9606.6	168	196	-55.61	-47	-8.61	Pass	V

Receiving mode at 2480MHz(2Mbps)							
Frequency (MHz)	Height (cm)	Azimuth (deg)	Spurious Emission Level (dBm)	Limit (dBm)	Over Limit (dB)	Result	Antenna Polaxis.
4966.96	139	208	-55.29	-47	-8.29	Pass	H
4967.9	163	143	-56.50	-47	-9.50	Pass	V
7438.49	141	133	-56.95	-47	-9.95	Pass	H
7445	115	266	-56.66	-47	-9.66	Pass	V
9928.56	112	89	-56.42	-47	-9.42	Pass	H
9939.27	108	172	-55.32	-47	-8.32	Pass	V
Remark: 1. The disturbance below 1GHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.							

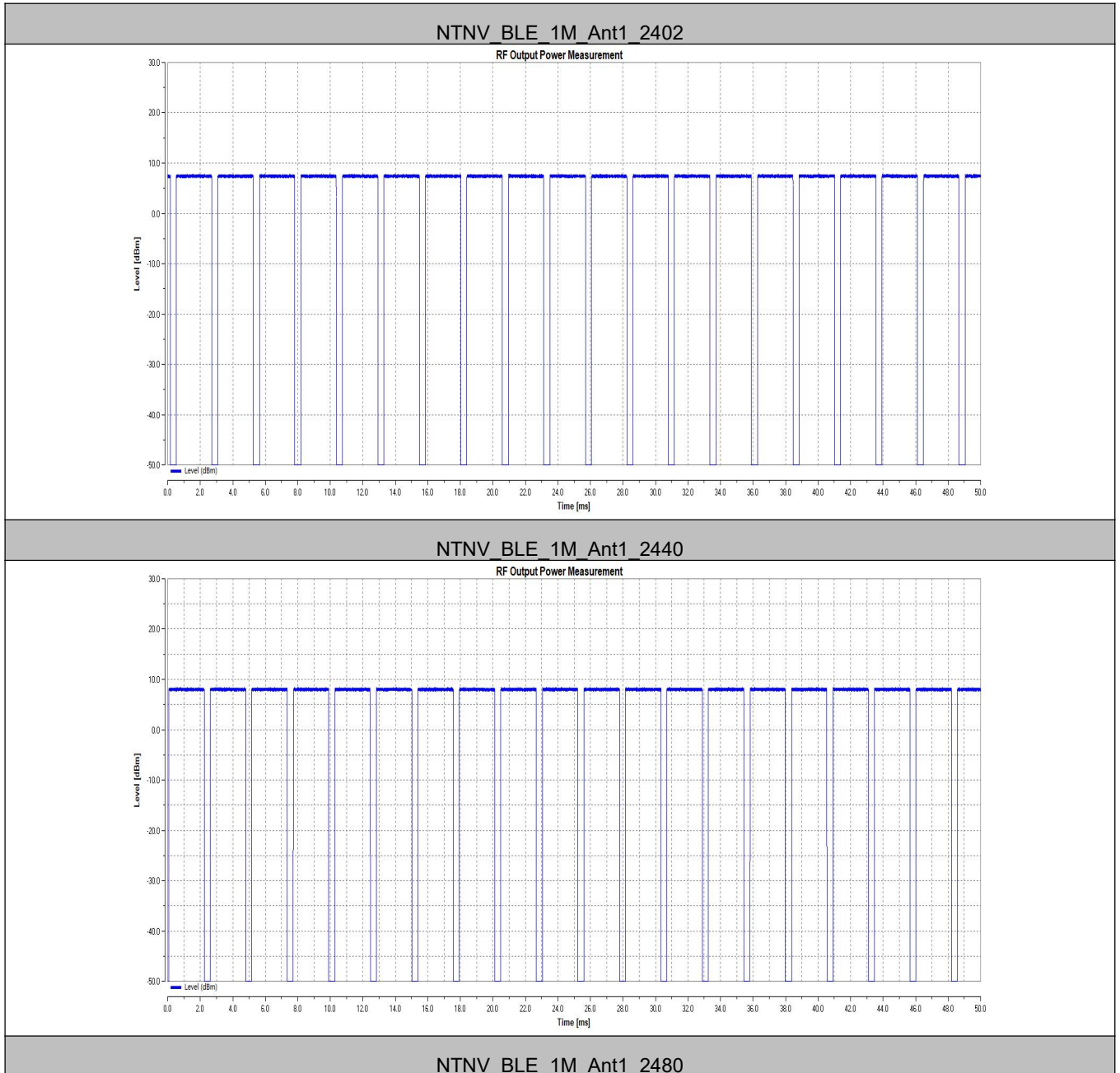
Appendix B: Test Data

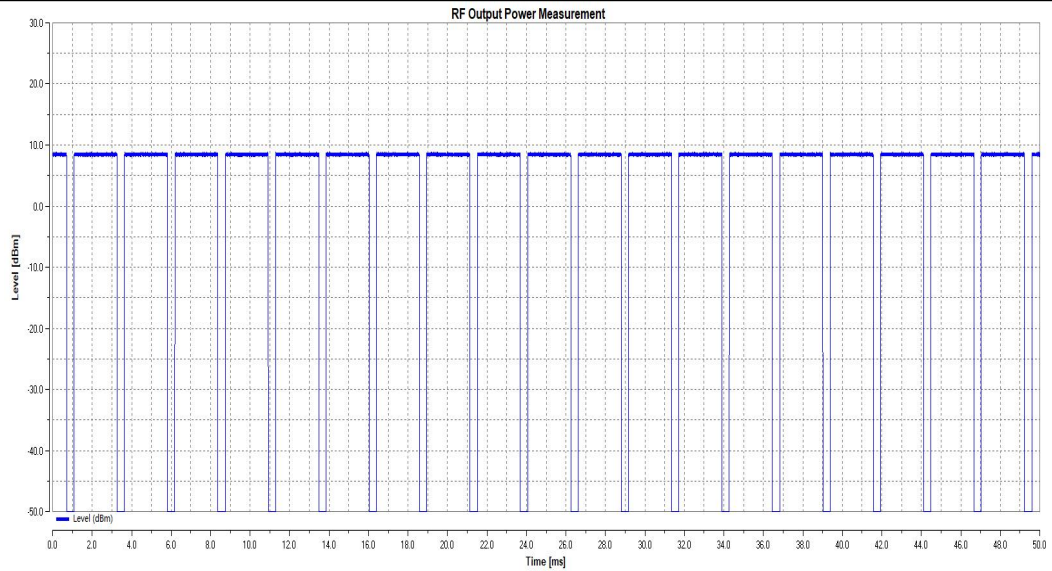
7.1 Appendix A: RF Output Power

7.1.1 Test Result

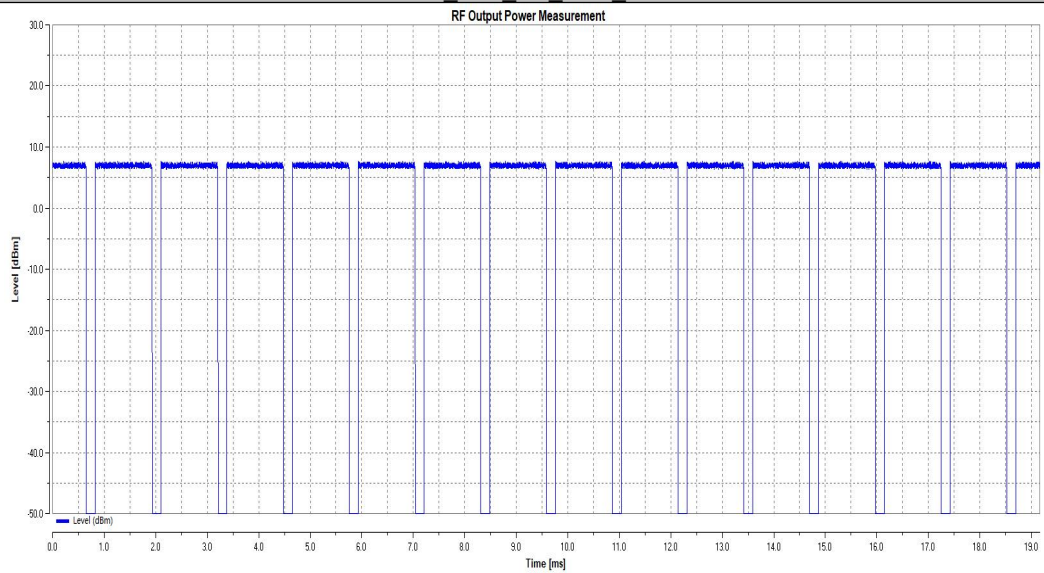
Test Condition	Test Mode	Antenna	Freq(MHz)	EIRP [dBm]	EIRP Limit [dBm]	Verdict
NTNV	BLE_1M	Ant1	2402	8.62	20	PASS
			2440	9.23	20	PASS
			2480	9.68	20	PASS
	BLE_2M	Ant1	2402	8.19	20	PASS
			2440	8.82	20	PASS
			2480	9.28	20	PASS
LTVN	BLE_1M	Ant1	2402	8.62	20	PASS
			2440	9.24	20	PASS
			2480	9.69	20	PASS
	BLE_2M	Ant1	2402	8.19	20	PASS
			2440	8.83	20	PASS
			2480	9.27	20	PASS
HTNV	BLE_1M	Ant1	2402	8.61	20	PASS
			2440	9.23	20	PASS
			2480	9.67	20	PASS
	BLE_2M	Ant1	2402	8.19	20	PASS
			2440	8.82	20	PASS
			2480	9.27	20	PASS

7.1.2 Test Graphs

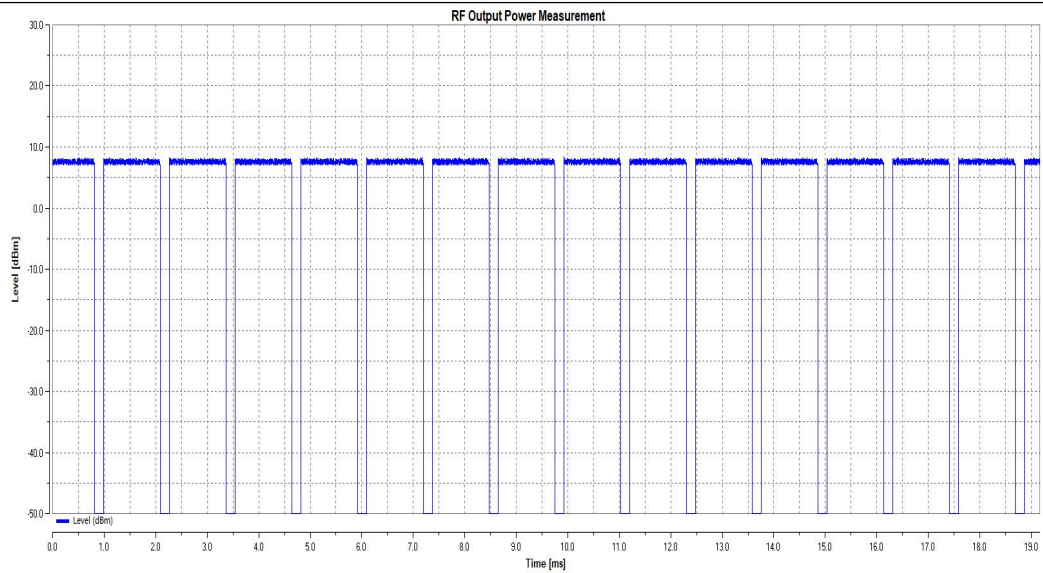




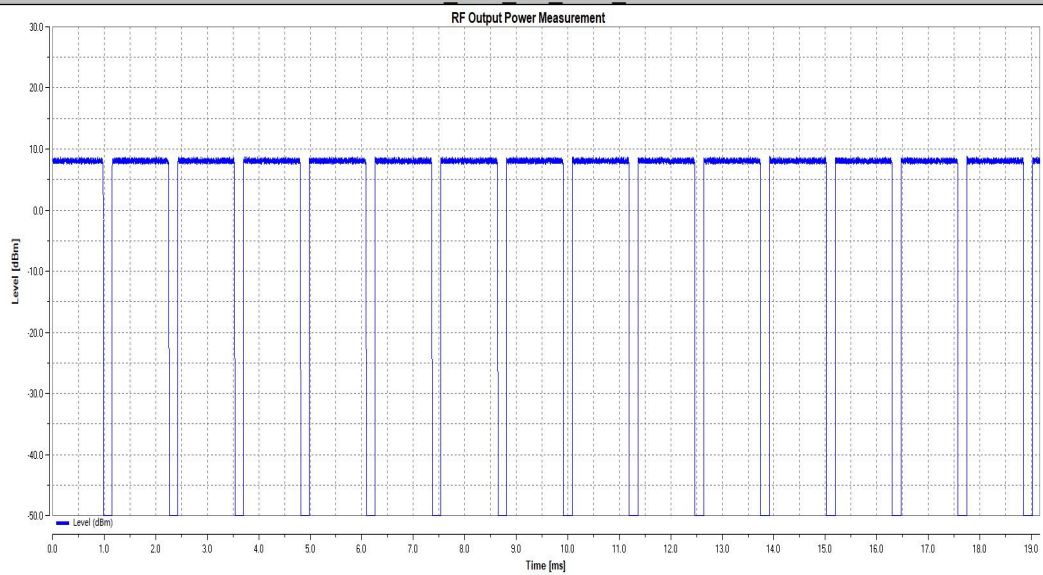
NTNV_BLE_2M_Ant1_2402



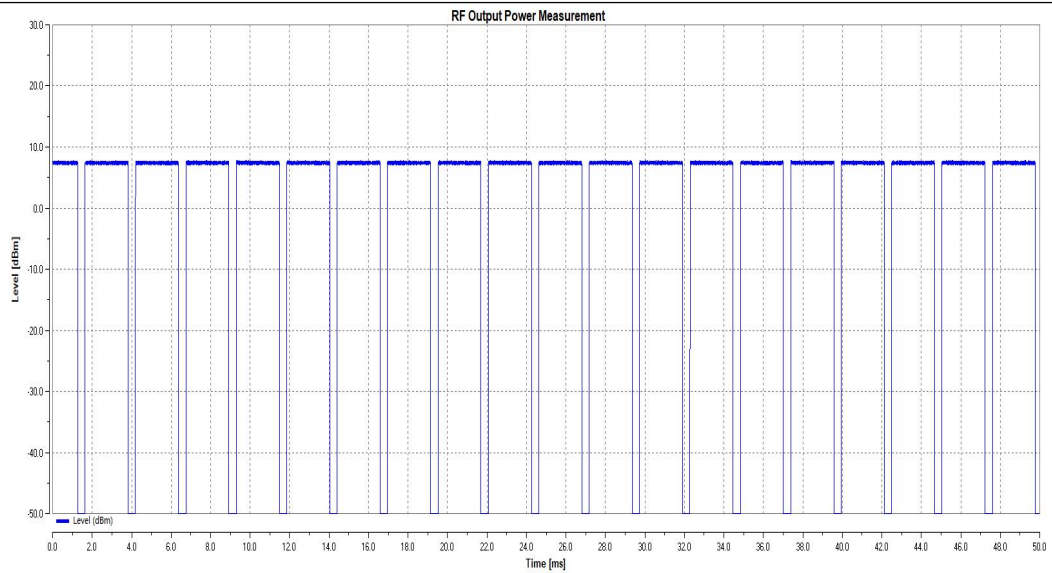
NTNV_BLE_2M_Ant1_2440



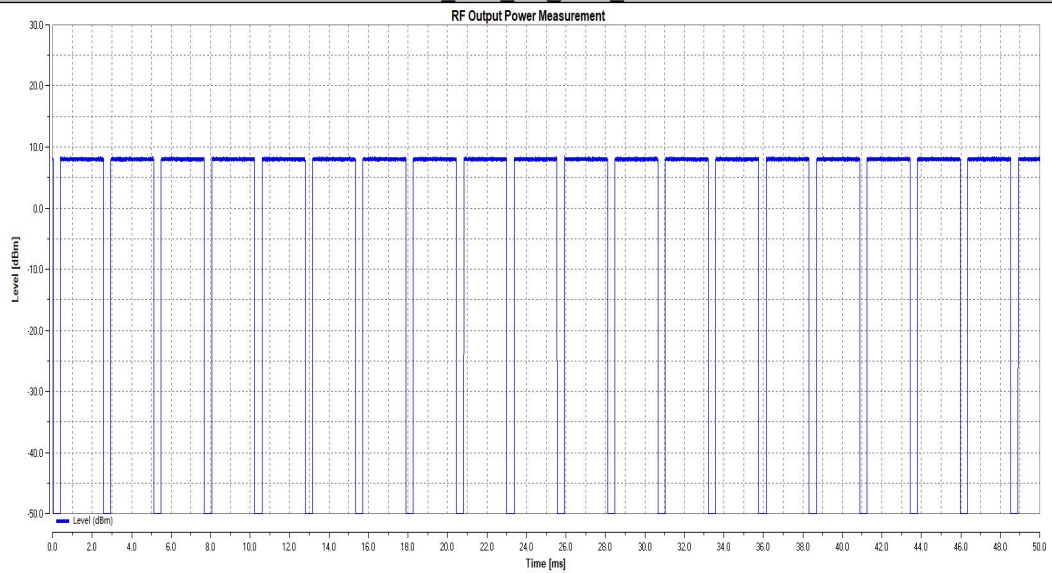
NTNV_BLE_2M_Ant1_2480



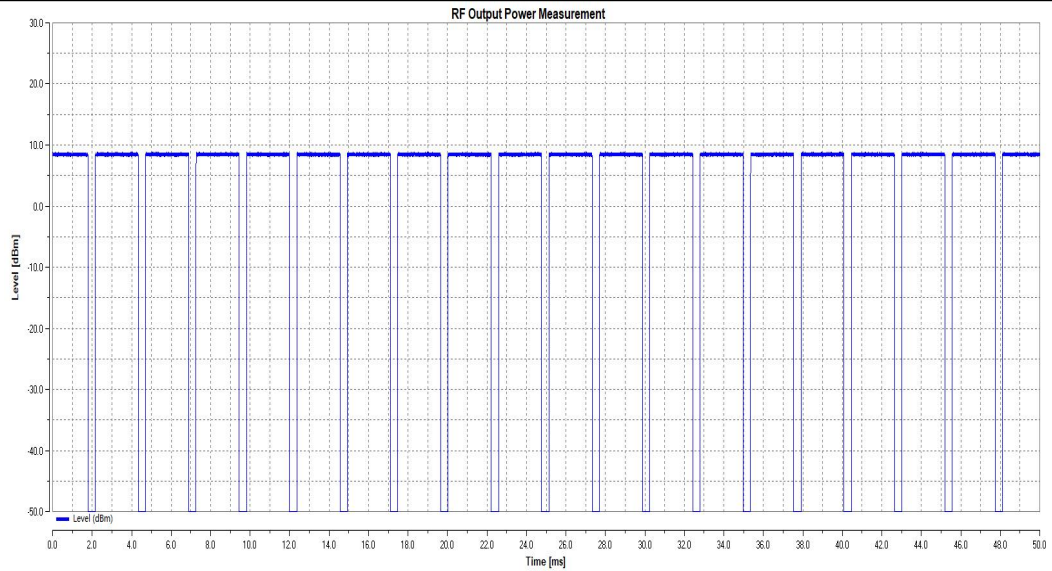
LTNV_BLE_1M_Ant1_2402



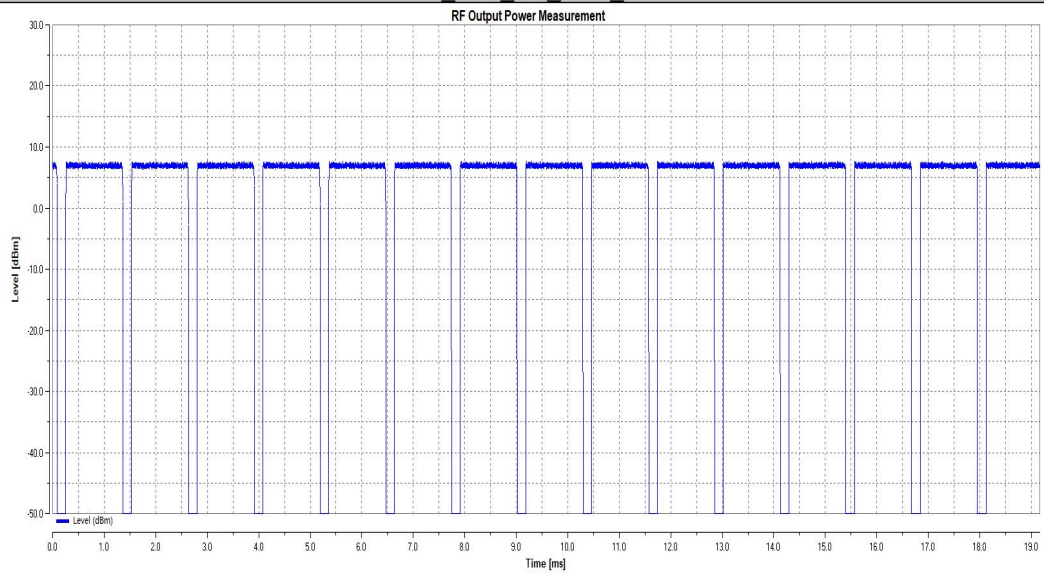
LTNV_BLE_1M_Ant1_2440



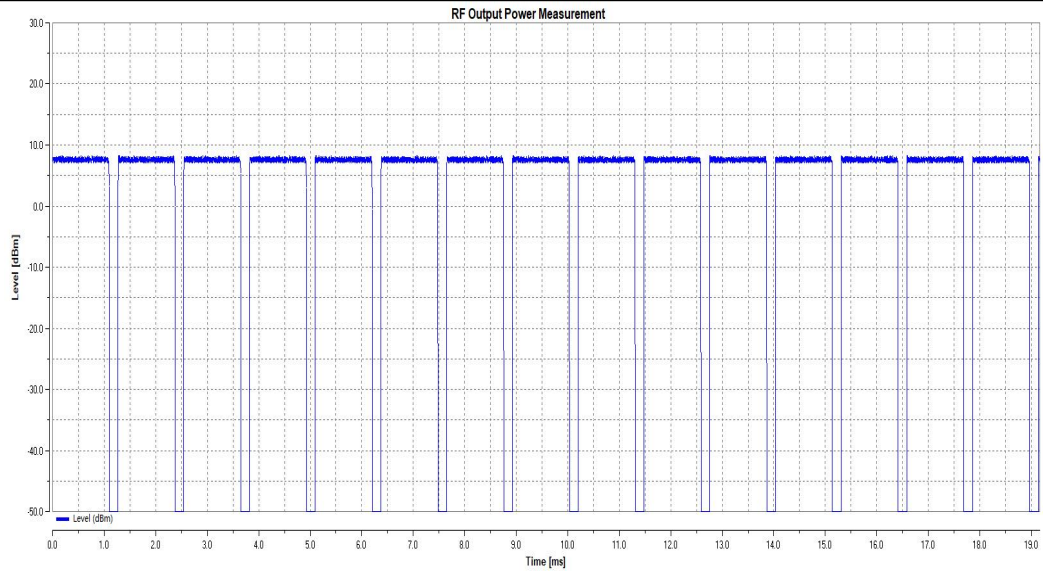
LTNV_BLE_1M_Ant1_2480



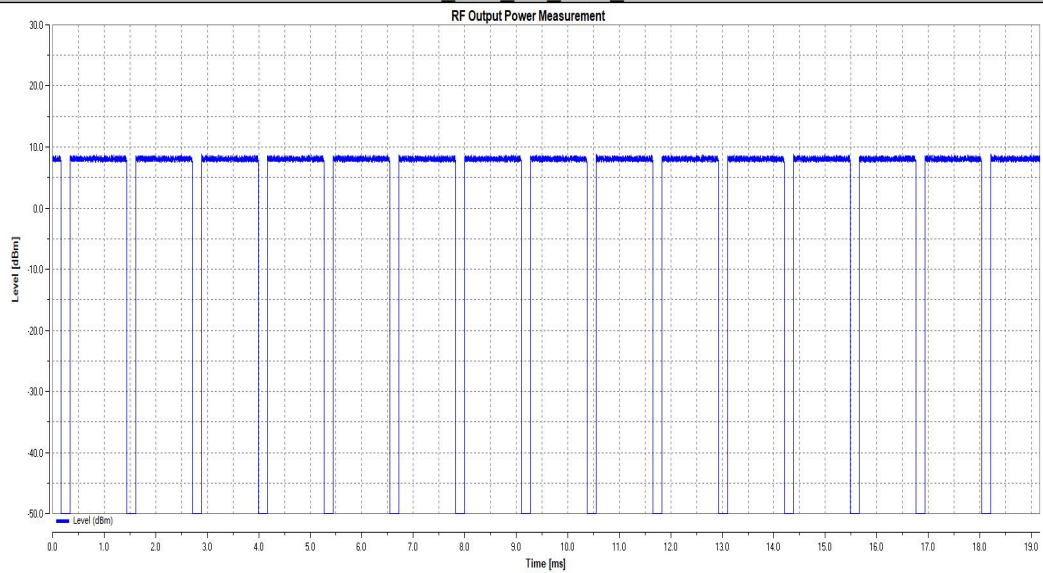
LTNV_BLE_2M_Ant1_2402



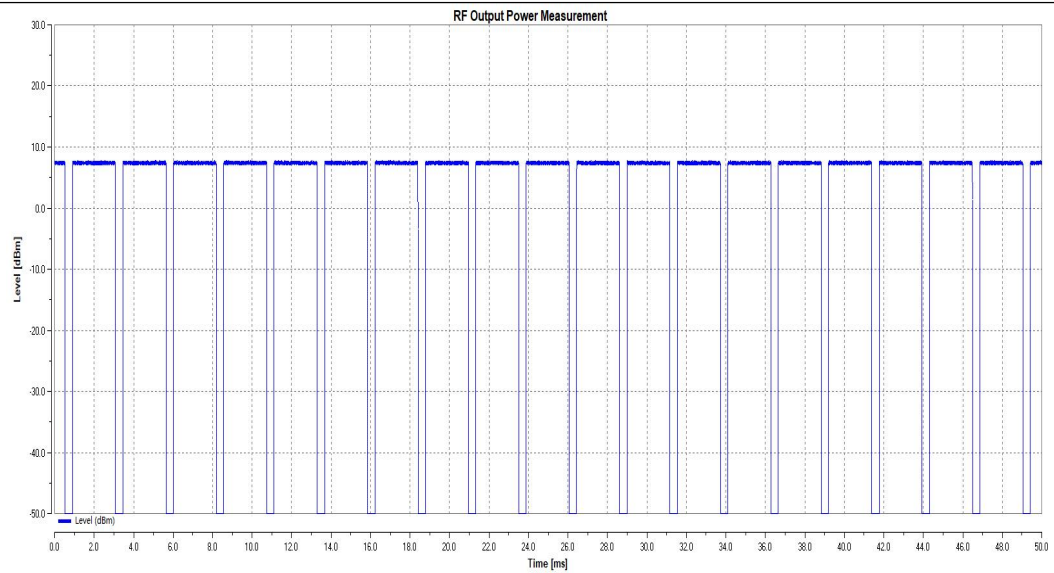
LTNV_BLE_2M_Ant1_2440



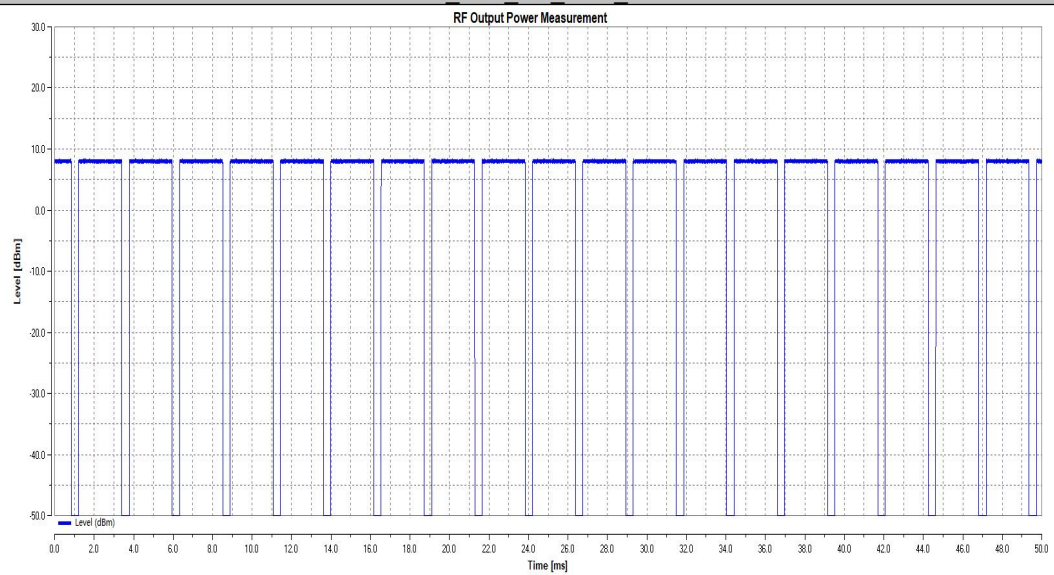
LTNV_BLE_2M_Ant1_2480



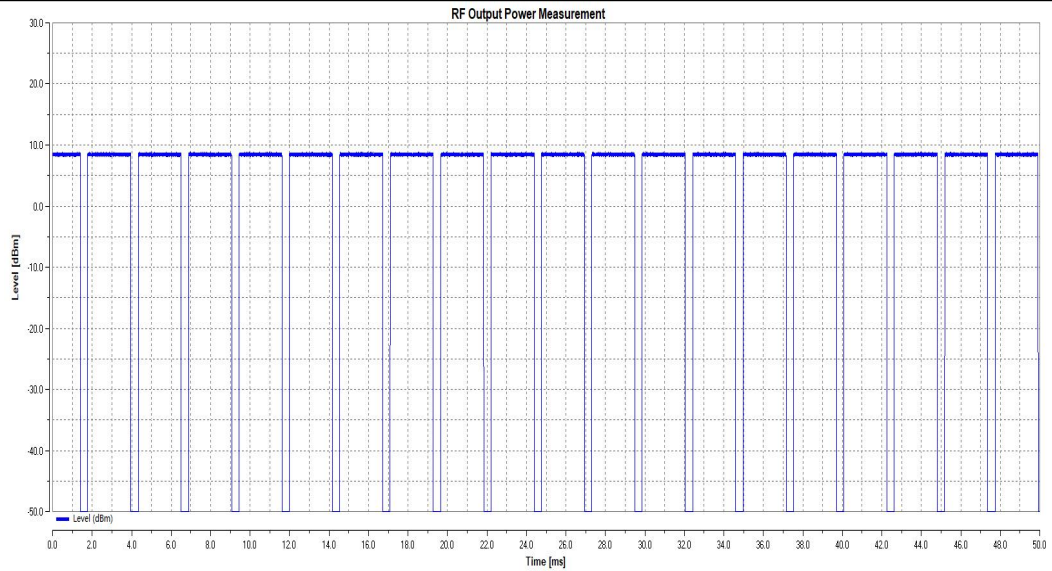
HTNV_BLE_1M_Ant1_2402



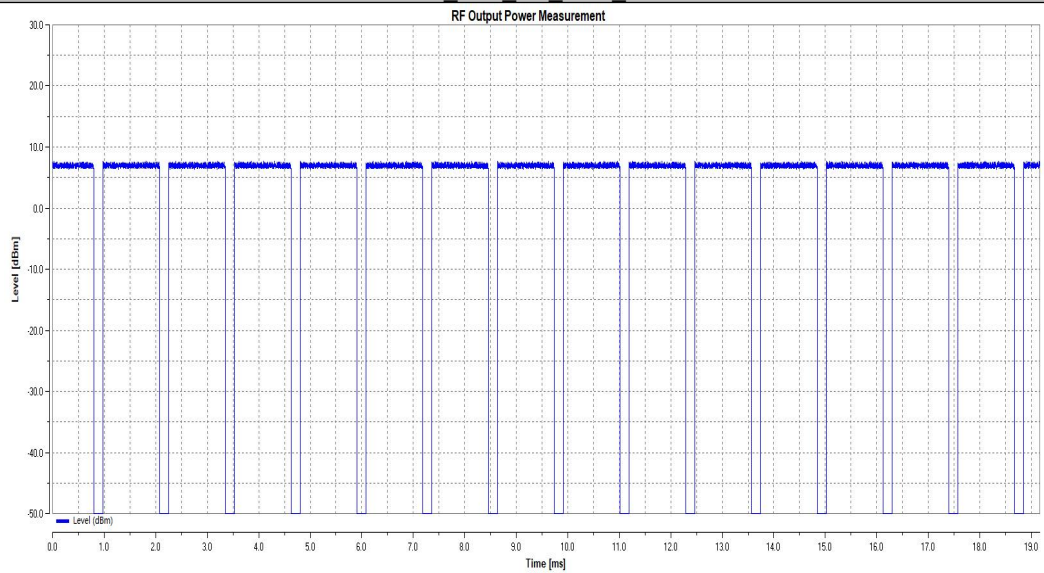
HTNV_BLE_1M_Ant1_2440



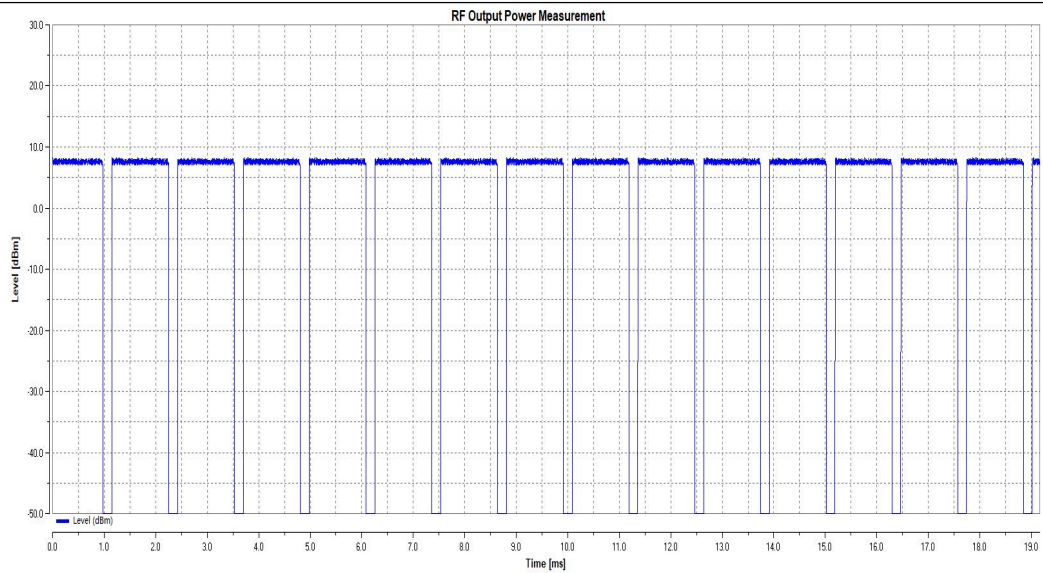
HTNV_BLE_1M_Ant1_2480



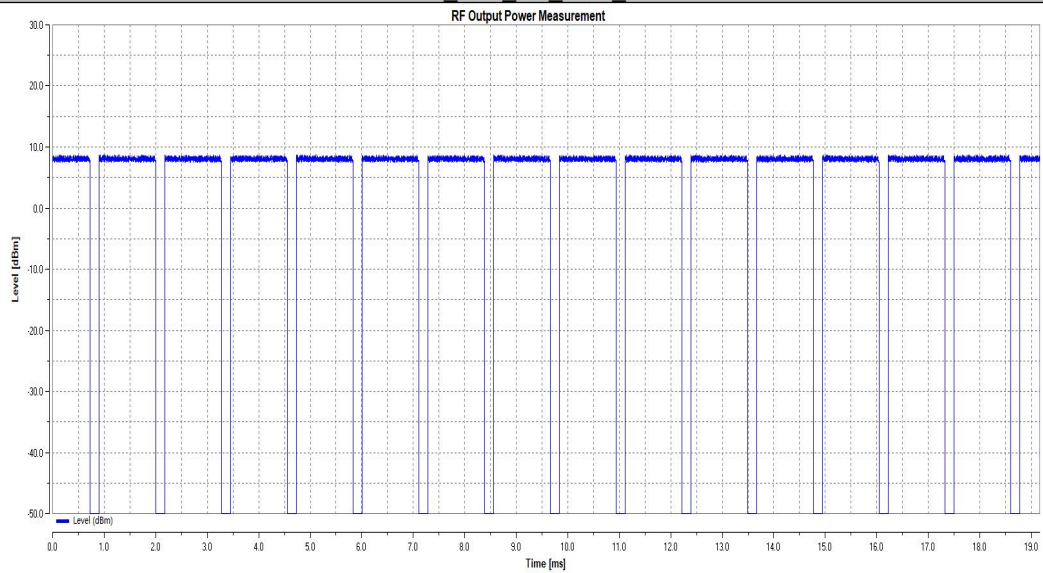
HTNV_BLE_2M_Ant1_2402



HTNV_BLE_2M_Ant1_2440



HTNV_BLE_2M_Ant1_2480

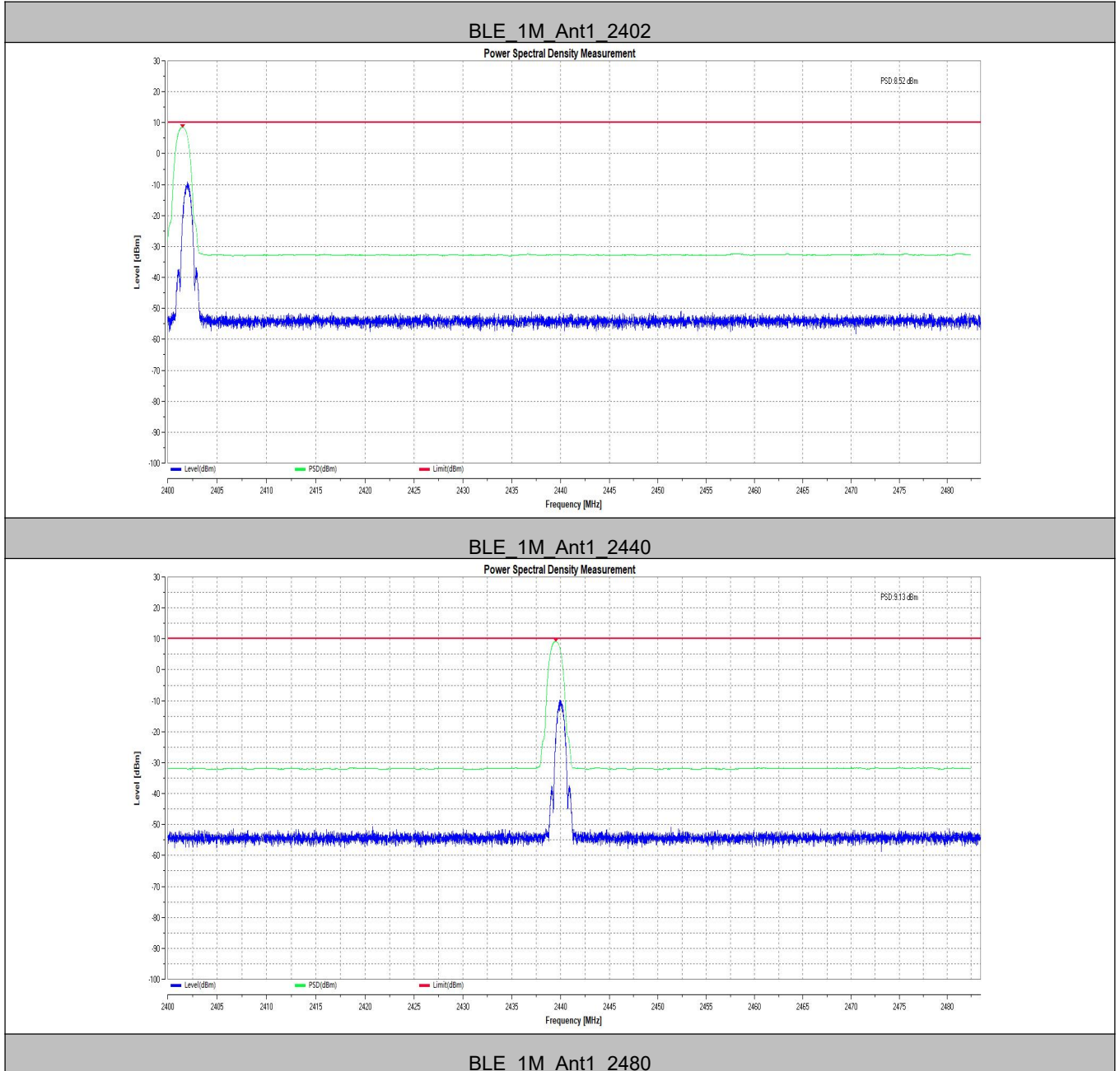


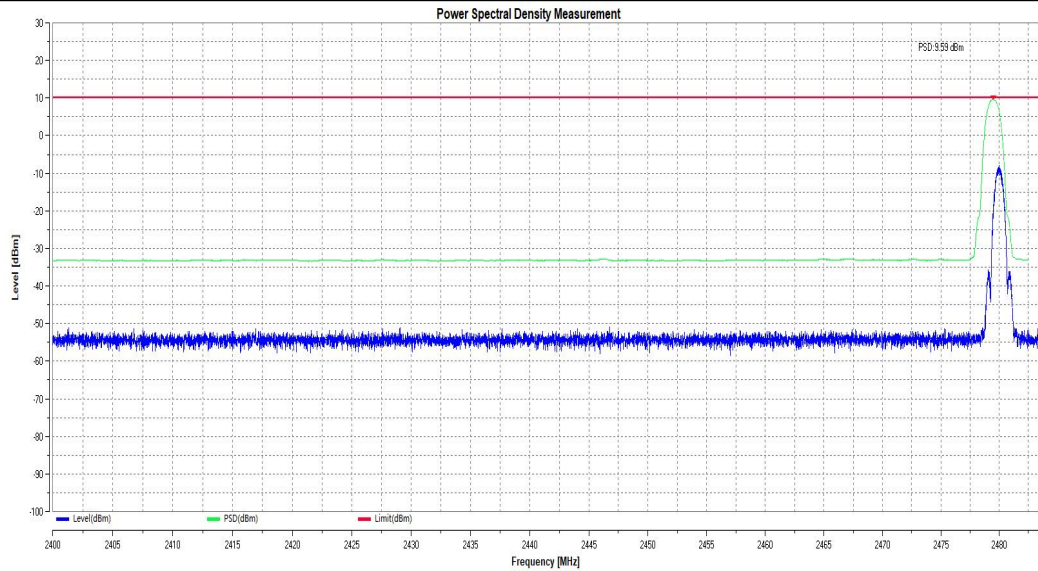
7.2 Appendix B: Power Spectral Density

7.2.1 Test Result

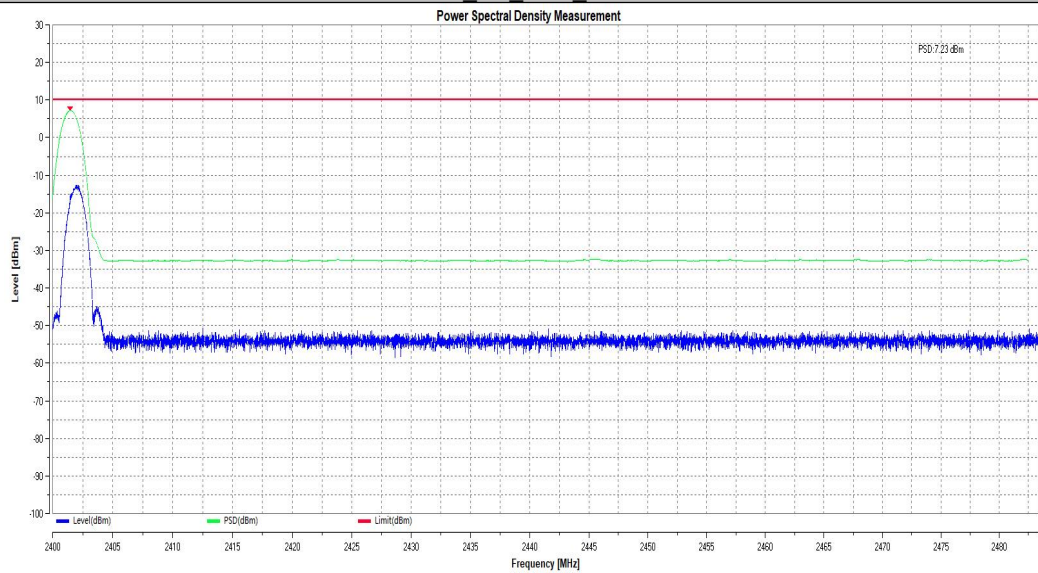
TestMode	Antenna	Freq(MHz)	EIRP PSD[dBm/MHz]	Limit[dBm/MHz]	Verdict
BLE_1M	Ant1	2402	8.52	10	PASS
		2440	9.13	10	PASS
		2480	9.59	10	PASS
BLE_2M	Ant1	2402	7.23	10	PASS
		2440	7.86	10	PASS
		2480	8.33	10	PASS

7.2.2 Test Graphs

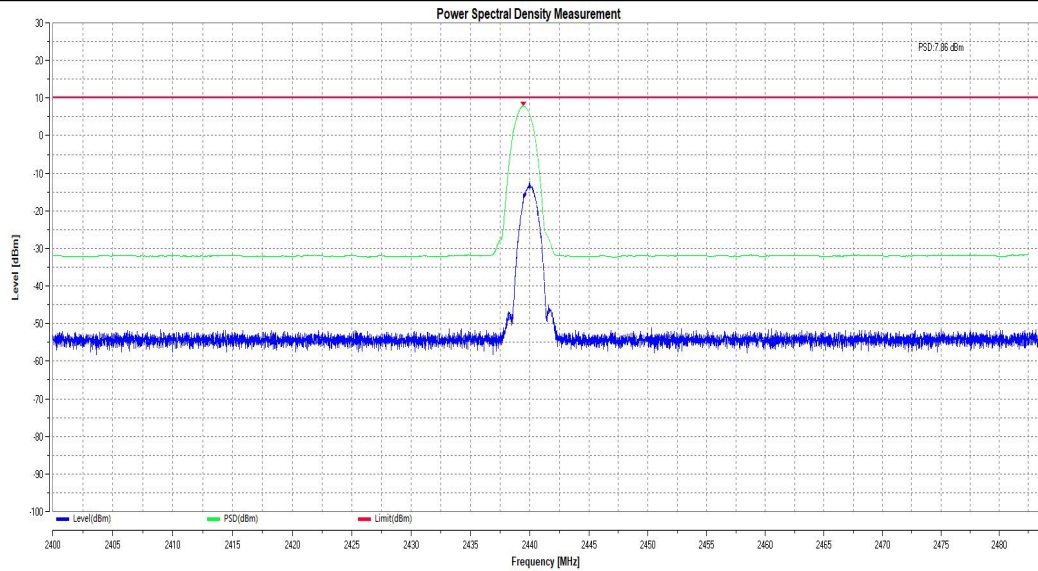




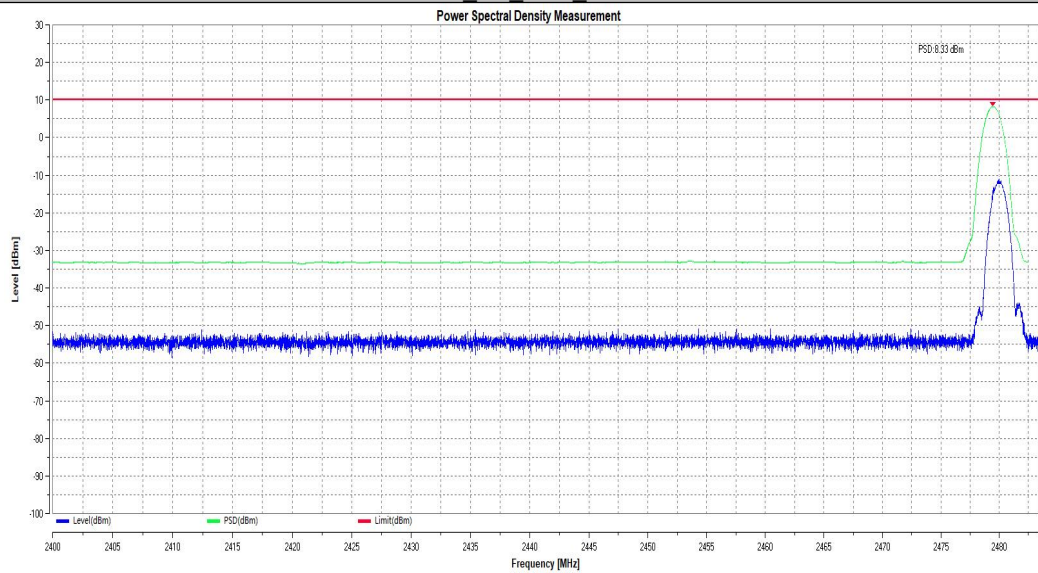
BLE 2M Ant1 2402



BLE 2M Ant1 2440



BLE 2M Ant1 2480

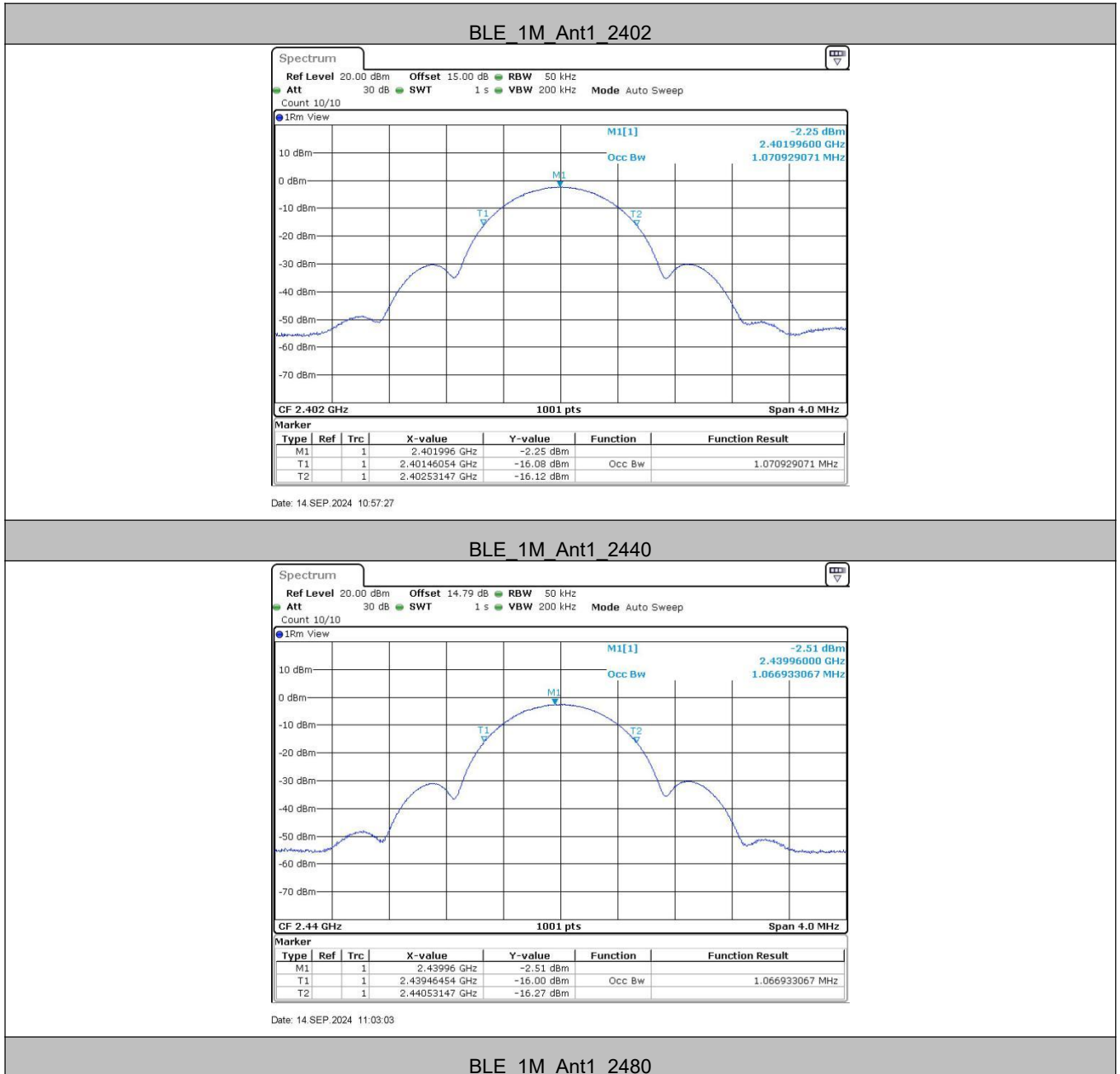


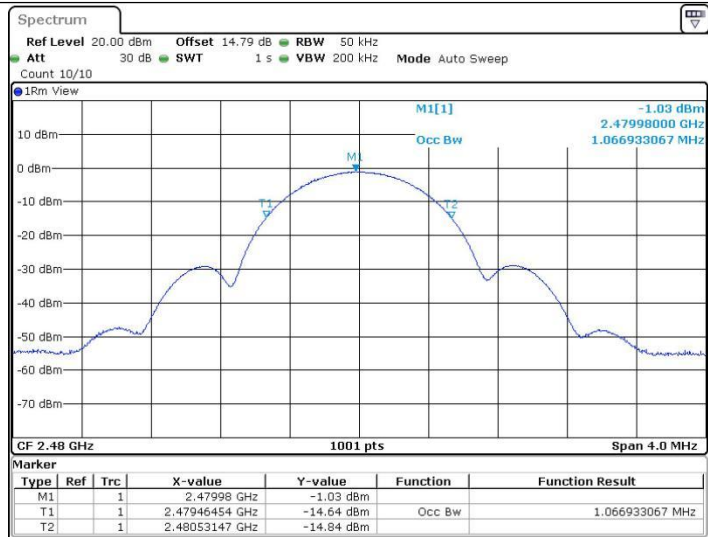
7.3 Appendix C: Occupied Channel Bandwidth

7.3.1 Test Result

TestMode	Antenna	Freq(MHz)	OCB[MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.071	2401.4605	2402.5315	2400 to 2483.5	PASS
		2440	1.067	2439.4645	2440.5315	2400 to 2483.5	PASS
		2480	1.067	2479.4645	2480.5315	2400 to 2483.5	PASS
BLE_2M	Ant1	2402	1.926	2401.0290	2402.9550	2400 to 2483.5	PASS
		2440	1.922	2439.0330	2440.9550	2400 to 2483.5	PASS
		2480	1.926	2479.0290	2480.9550	2400 to 2483.5	PASS

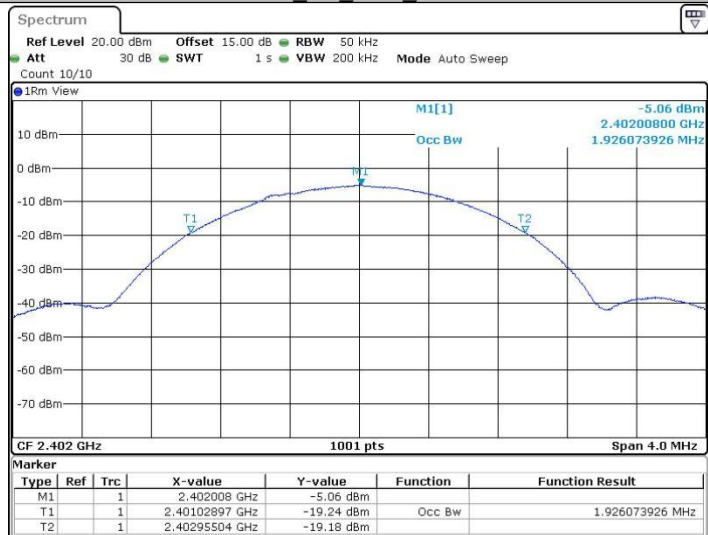
7.3.2 Test Graphs





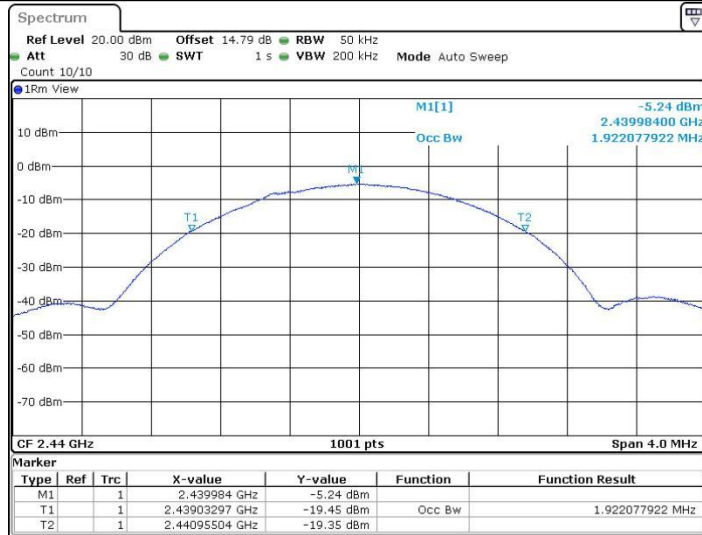
Date: 14 SEP. 2024 11:04:51

BLE_2M_Ant1_2402



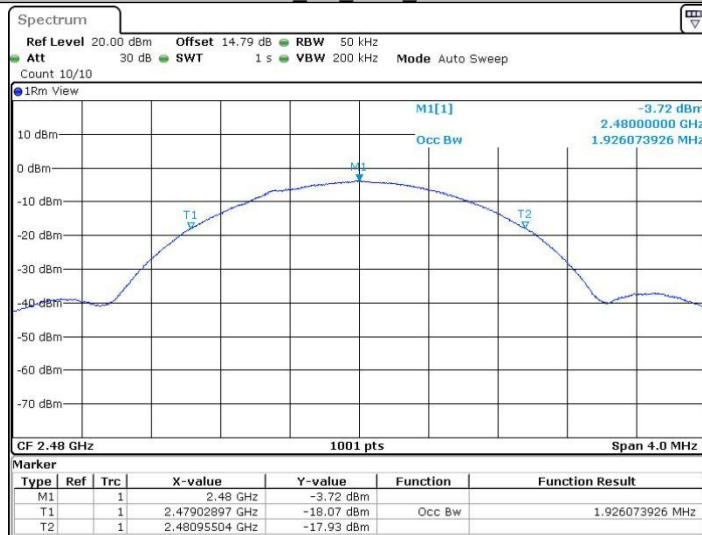
Date: 14 SEP. 2024 11:12:05

BLE_2M_Ant1_2440



Date: 14 SEP. 2024 11:17:49

BLE_2M_Ant1_2480



Date: 14 SEP. 2024 11:19:55

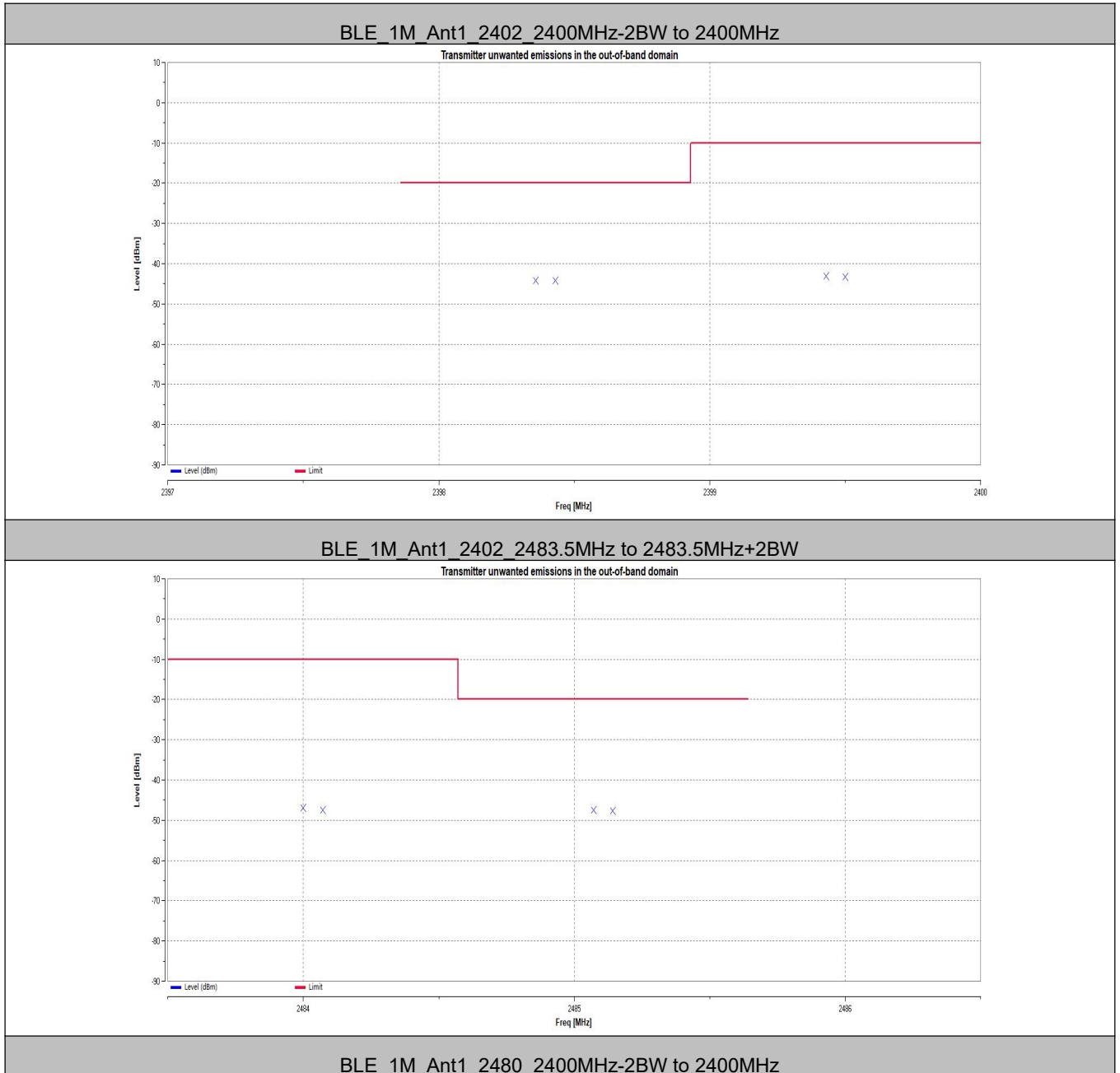
7.4 Appendix D: Transmitter Unwanted Emissions In The Out-Of-BandDomain

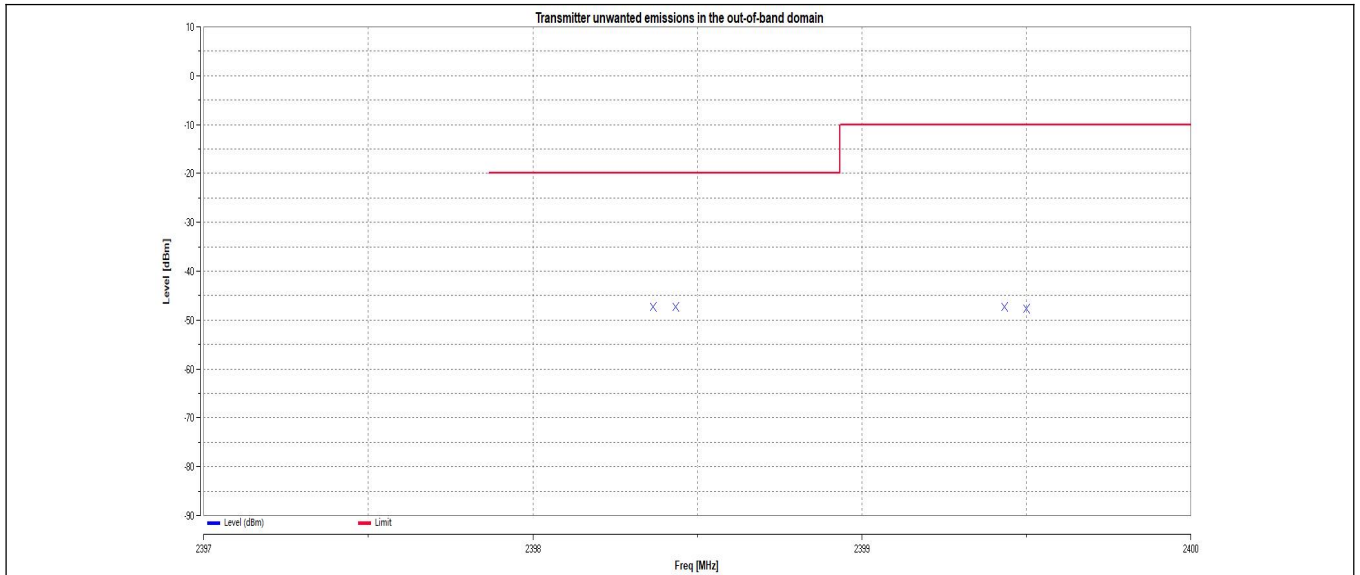
7.4.1 Test Result

TestMode	Antenna	Freq(MHz)	Freq. [MHz]	Level[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	2398.358	-44.20	-20.00	PASS
			2398.429	-44.15	-20.00	PASS
			2399.429	-43.02	-10.00	PASS
			2399.5	-43.23	-10.00	PASS
			2484	-46.91	-10.00	PASS
			2484.071	-47.57	-10.00	PASS
			2485.071	-47.40	-20.00	PASS
			2485.142	-47.63	-20.00	PASS
		2480	2398.366	-47.33	-20.00	PASS
			2398.433	-47.24	-20.00	PASS
			2399.433	-47.28	-10.00	PASS
			2399.5	-47.70	-10.00	PASS
			2484	-45.46	-10.00	PASS
			2484.067	-45.77	-10.00	PASS
			2485.067	-46.43	-20.00	PASS
			2485.134	-45.97	-20.00	PASS
BLE_2M	Ant1	2402	2396.574	-46.14	-20.00	PASS
			2396.648	-46.52	-20.00	PASS
			2397.574	-46.10	-20.00	PASS
			2398.5	-43.18	-10.00	PASS
			2398.574	-43.64	-10.00	PASS
			2399.5	-33.04	-10.00	PASS
			2484	-47.71	-10.00	PASS
			2484.926	-47.24	-10.00	PASS
			2485	-47.55	-10.00	PASS
			2485.926	-47.28	-20.00	PASS
			2486.852	-47.53	-20.00	PASS
			2486.926	-47.56	-20.00	PASS
		2480	2396.574	-47.60	-20.00	PASS
			2396.648	-47.44	-20.00	PASS
			2397.574	-47.42	-20.00	PASS

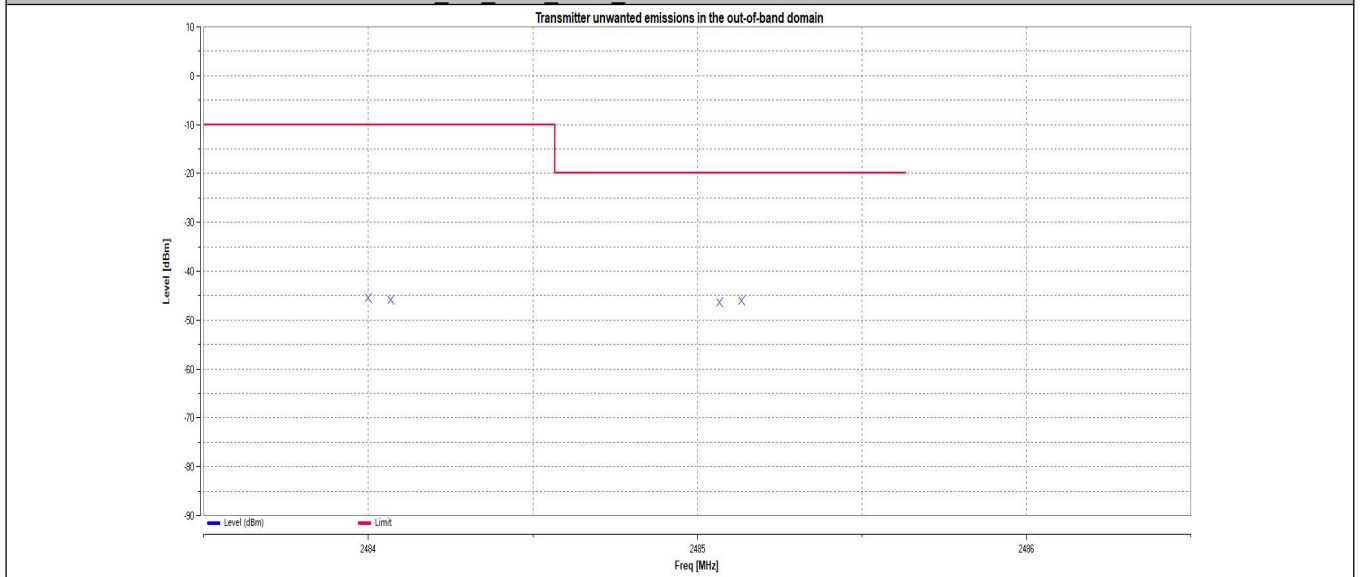
			2398.5	-47.40	-10.00	PASS
			2398.574	-47.66	-10.00	PASS
			2399.5	-47.61	-10.00	PASS
			2484	-46.63	-10.00	PASS
			2484.926	-46.95	-10.00	PASS
			2485	-46.56	-10.00	PASS
			2485.926	-47.26	-20.00	PASS
			2486.852	-46.87	-20.00	PASS
			2486.926	-47.12	-20.00	PASS

7.4.2 Test Graphs

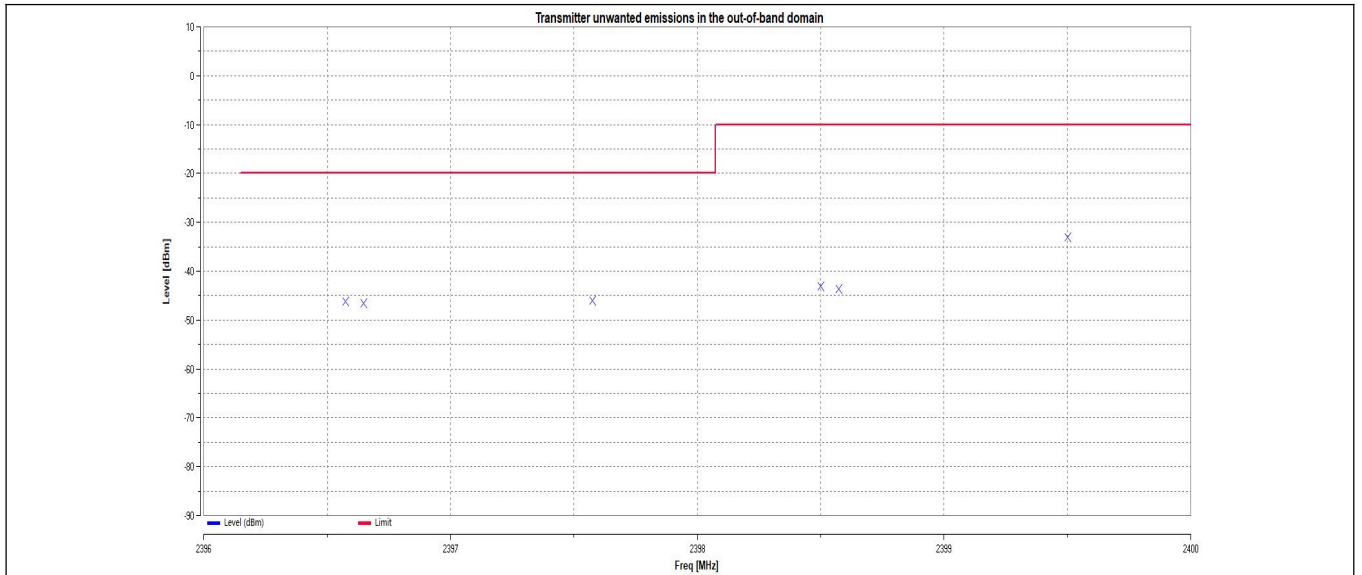




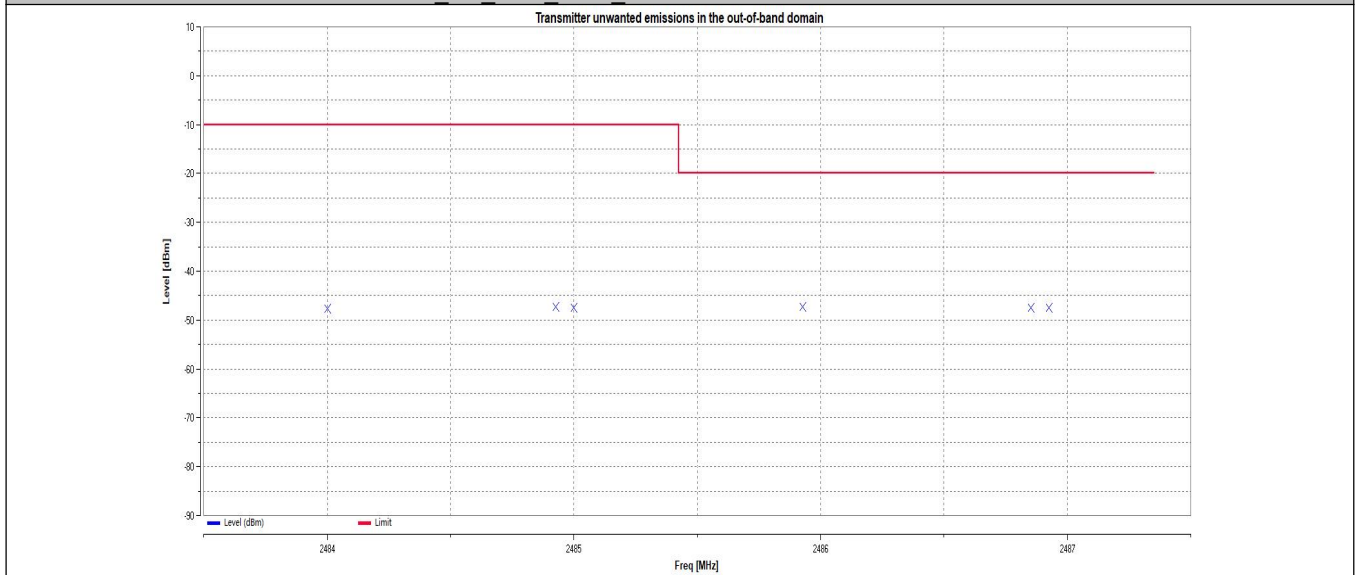
BLE_1M_Ant1_2480_2483.5MHz to 2483.5MHz+2BW



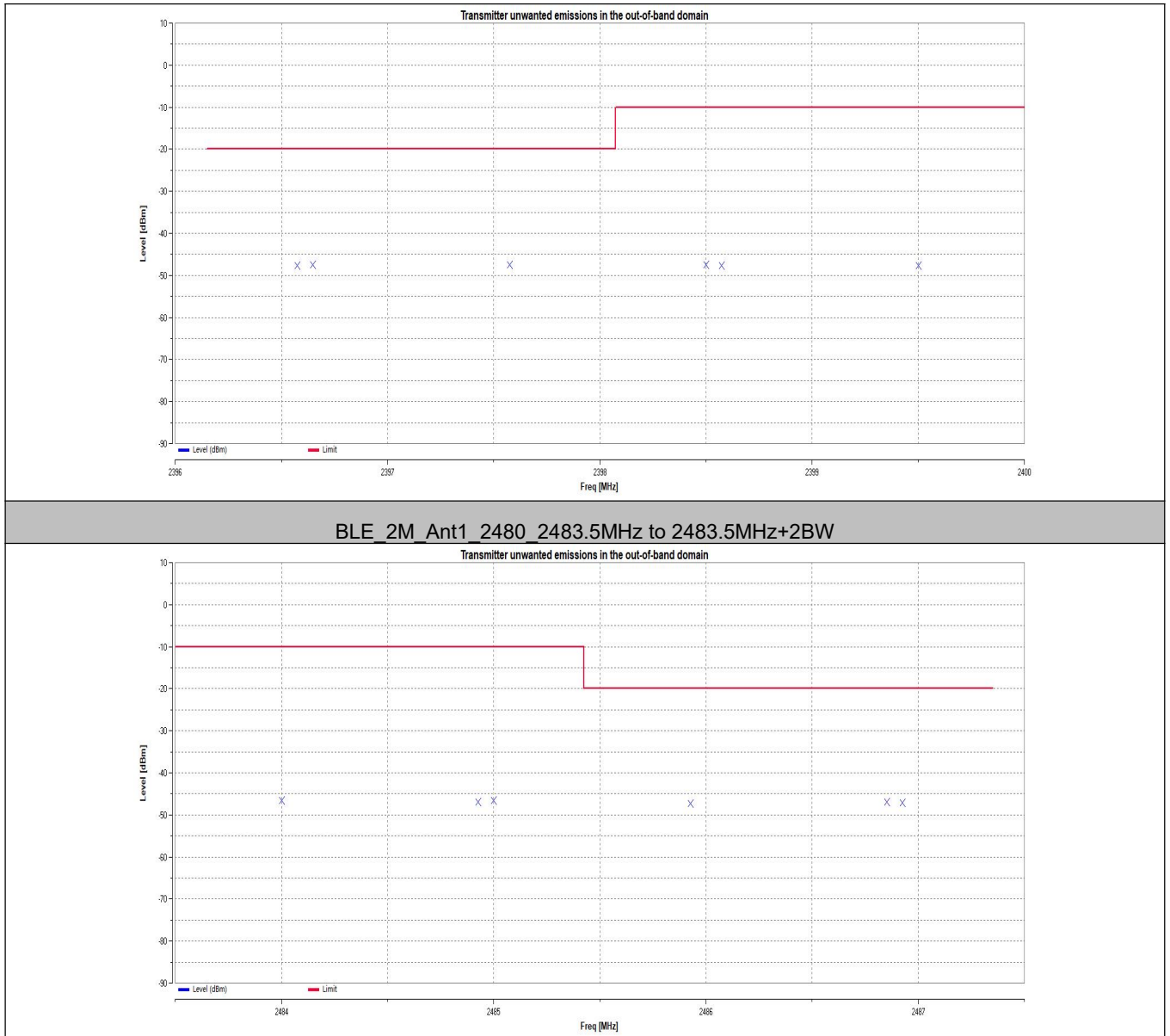
BLE_2M_Ant1_2402_2400MHz-2BW to 2400MHz



BLE_2M_Ant1_2402_2483.5MHz to 2483.5MHz+2BW



BLE_2M_Ant1_2480_2400MHz-2BW to 2400MHz



7.5 Appendix E: Transmitter unwanted emissions in the spurious domain

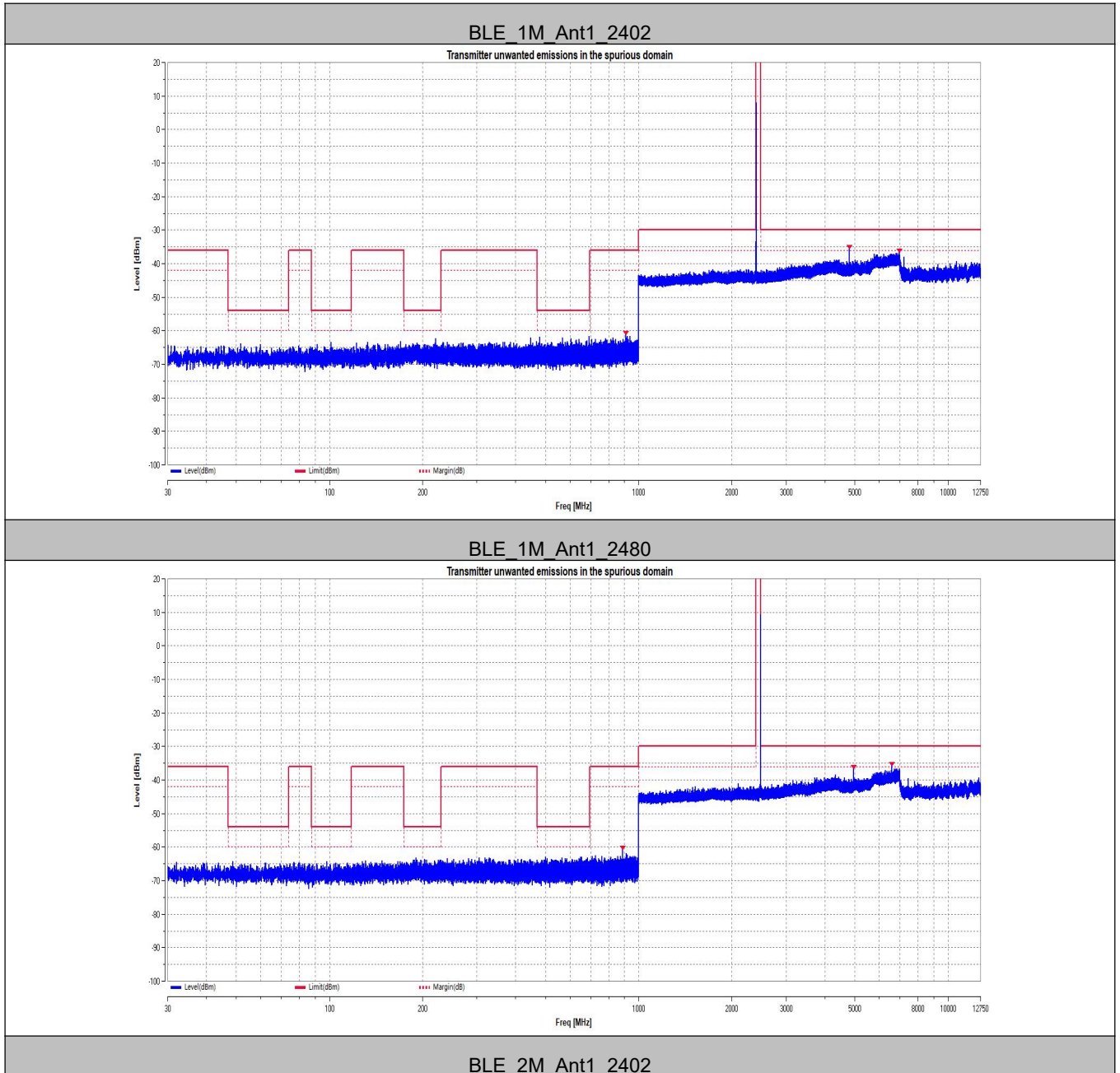
7.5.1 Test Result-Pre-scan

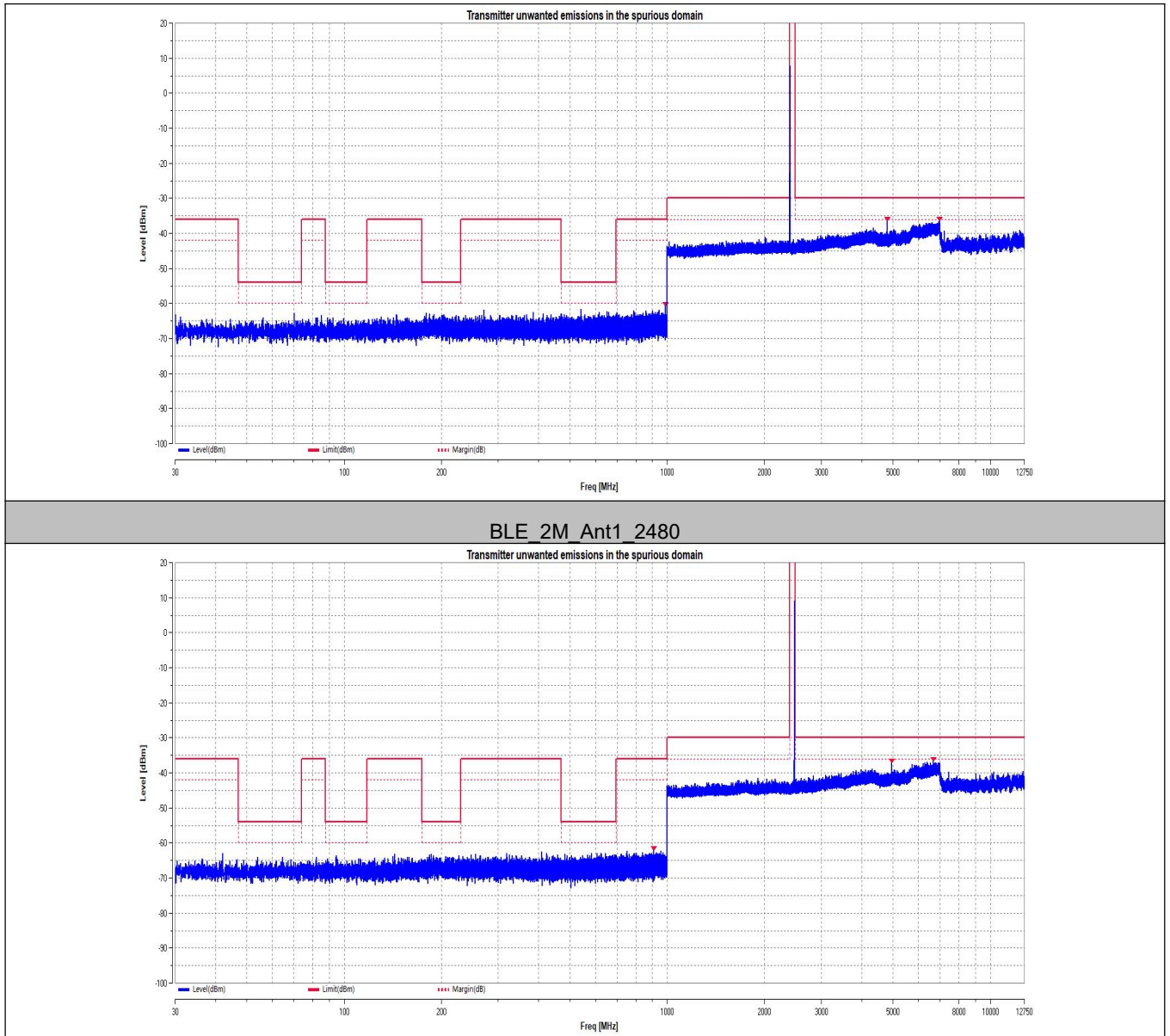
TestMode	Antenna	Freq(MHz)	Freq. [MHz]	Level[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	910.21	-61.33	-36	PASS
			4804.26	-35.71	-30	See table below
			6970.12	-36.66	-30	PASS
		2480	886.57	-60.84	-36	PASS
			4960.53	-36.78	-30	PASS
			6589.58	-35.88	-30	See table below
BLE_2M	Ant1	2402	986.52	-60.91	-36	PASS
			4804.13	-36.58	-30	PASS
			6972.18	-36.53	-30	PASS
		2480	909.53	-62.21	-36	PASS
			4959.73	-37.23	-30	PASS
			6668.89	-36.72	-30	PASS

7.5.2 Test Result- Emissions identified during the pre-scan

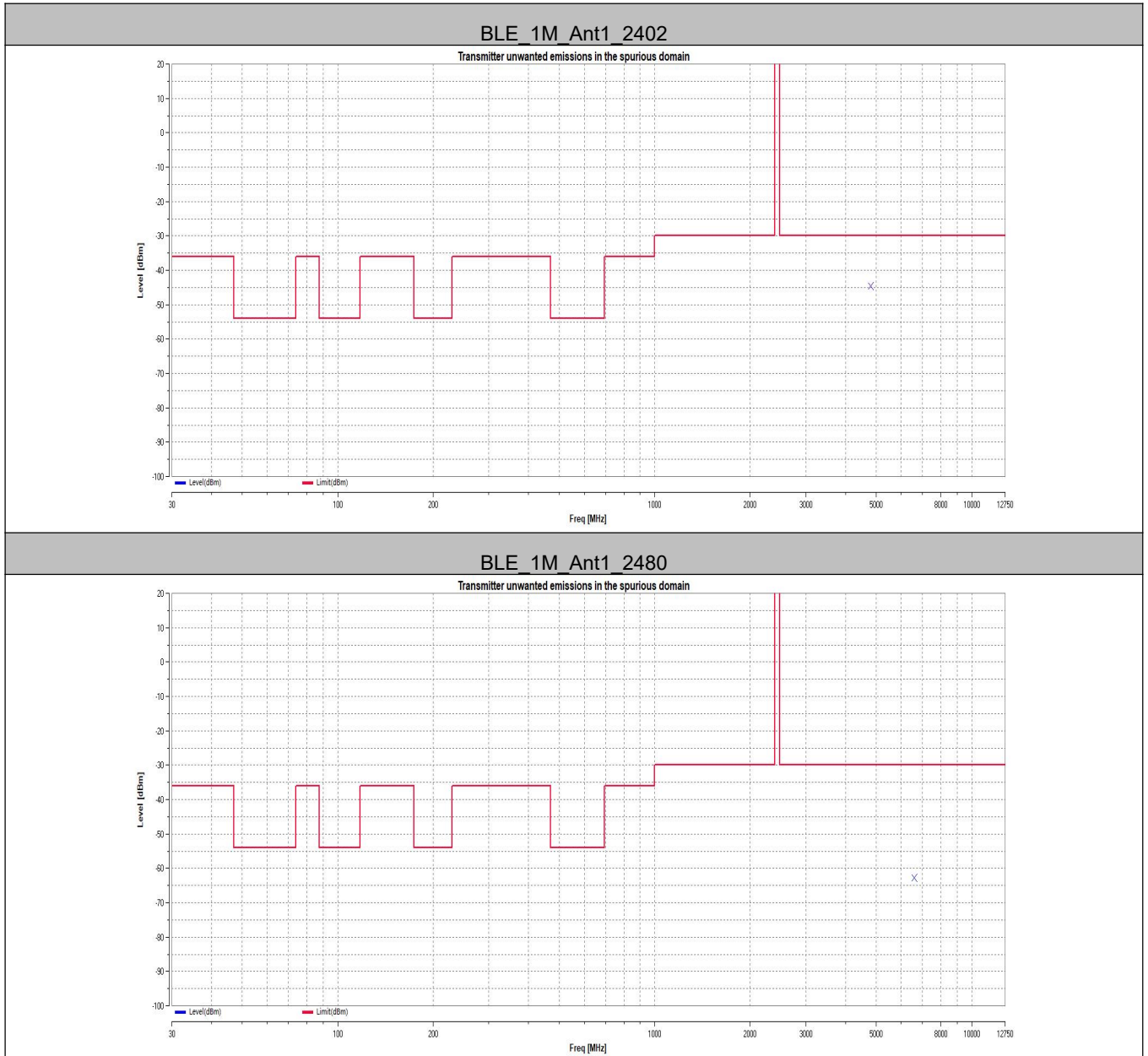
TestMode	Antenna	Freq(MHz)	Freq. [MHz]	Level[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	4804.26	-44.65	-30	PASS
		2480	6589.58	-62.70	-30	PASS

7.5.3 Test Graphs-Pre-scan





7.5.4 Test Graphs- Emissions identified during the pre-scan



Appendix F:Receiver Blocking

Test Condition	Test Mode	Test Channel	Ant	Wanted signal Level[dBm]	Freq [MHz]	CW Level [dBm]	PER	Limit [%]	Verdict
TNVN	BLE	2402	Ant1	-68.71	2380	-34	1.04%	<=10	PASS
TNVN	BLE	2402	Ant1	-68.71	2504	-34	0.33%	<=10	PASS
TNVN	BLE	2402	Ant1	-68.71	2300	-34	0.33%	<=10	PASS
TNVN	BLE	2402	Ant1	-68.71	2584	-34	0.52%	<=10	PASS
TNVN	BLE	2480	Ant1	-68.75	2380	-34	0.46%	<=10	PASS
TNVN	BLE	2480	Ant1	-68.75	2504	-34	0.96%	<=10	PASS
TNVN	BLE	2480	Ant1	-68.75	2300	-34	0.31%	<=10	PASS
TNVN	BLE	2480	Ant1	-68.75	2584	-34	0.81%	<=10	PASS

APPENDIX 1 PHOTOGRAPHS OF TEST SETUP

Radiated spurious emission Test Setup-1(Below 1GHz)



Radiated spurious emission Test Setup-2(Above 1GHz)



APPENDIX 2 PHOTOGRAPHS OF EUT

Refer to APPENDIX 2 PHOTOGRAPHS OF EUT for CQASZ20240901962E-01.

*** END OF REPORT ***