

RF Test Data for Zigbee (Conducted Measurements)

General Description of EUT	
Product Name:	4G multimode engineering gateway
Test Model:	UX33-US
Sample ID:	202305-0073-2-2#
Environmental Conditions	
Temperature:	25°C
Relative Humidity:	55%
Test Voltage:	DC 5V
Test Engineer:	Zhou zhen
Note: For a more detailed features description, please refer to the report TBR-C-202305-0073-11 The report only show the worst case data.	

Contents

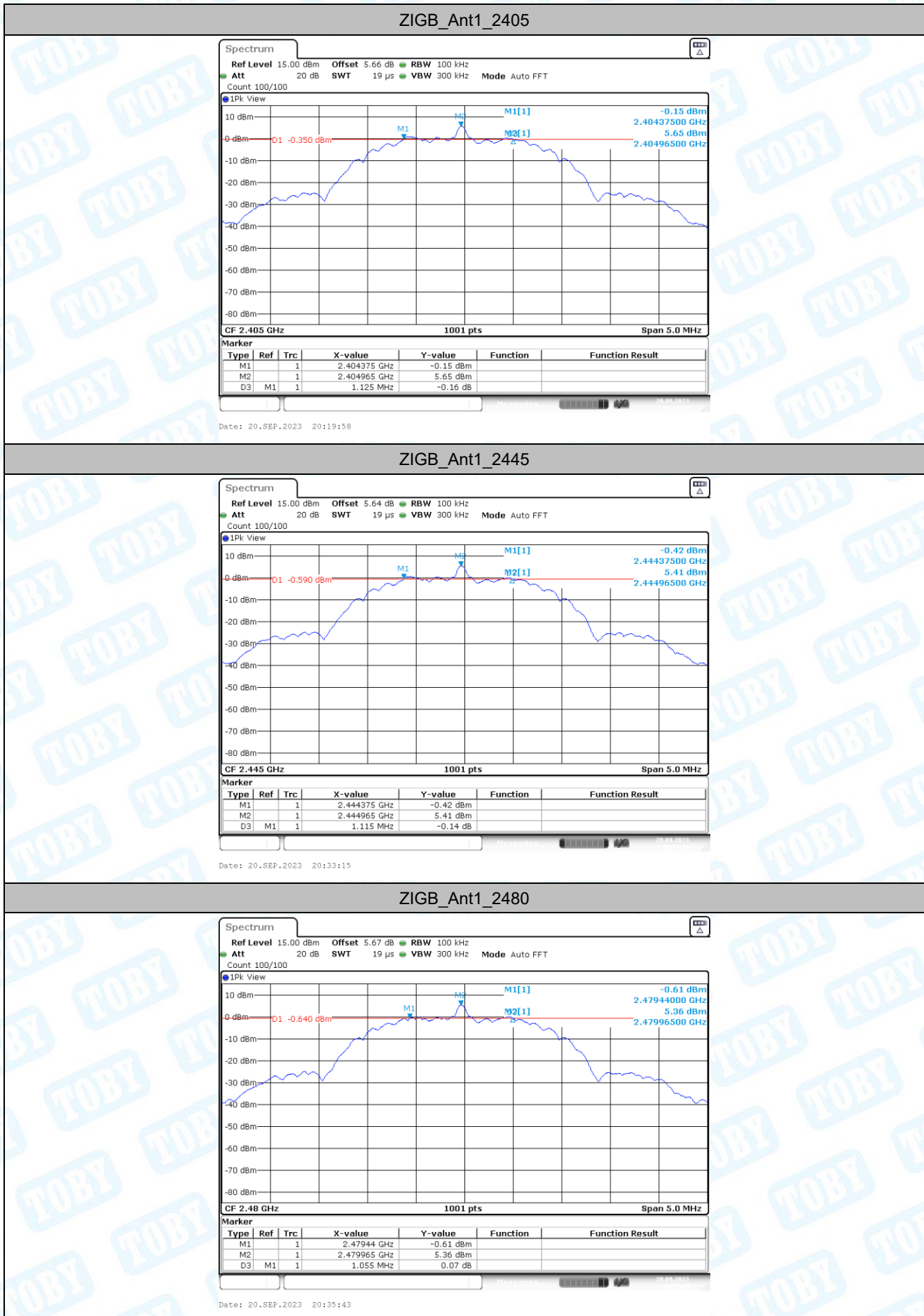
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1: DTS Bandwidth

1.1 Test Result

TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
ZIGB	Ant1	2405	1.13	2404.38	2405.50	0.5	PASS
		2445	1.11	2444.38	2445.49	0.5	PASS
		2480	1.05	2479.44	2480.50	0.5	PASS

1.2 Test Graphs

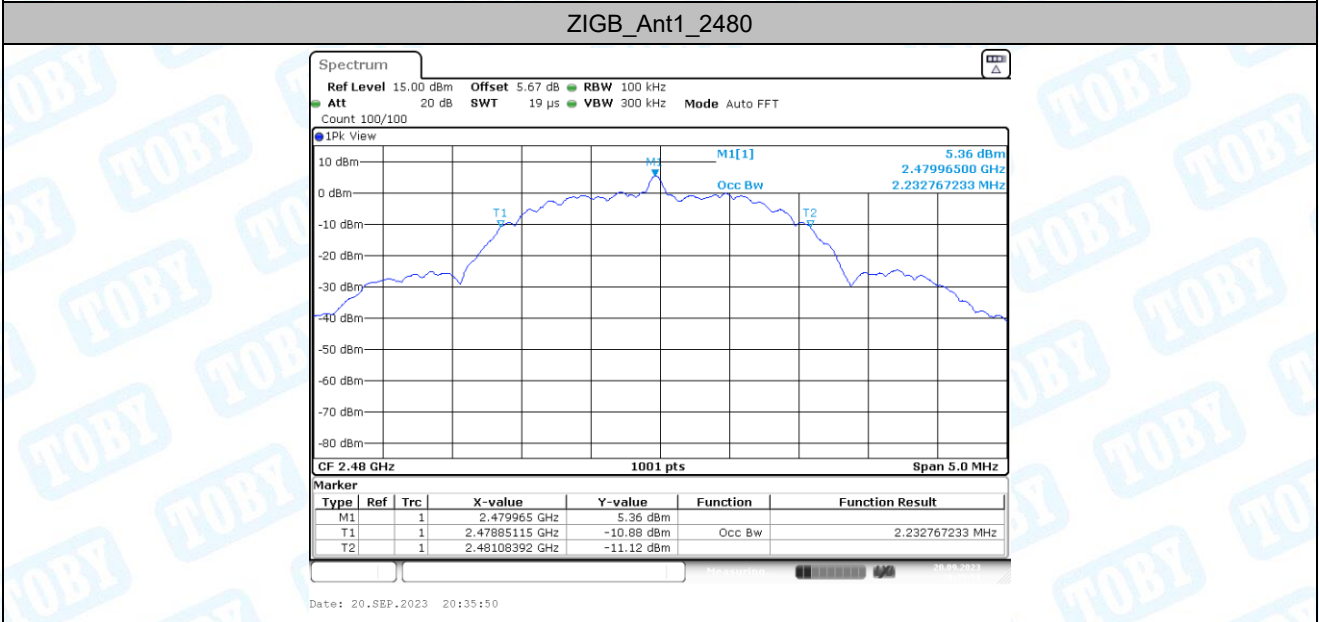
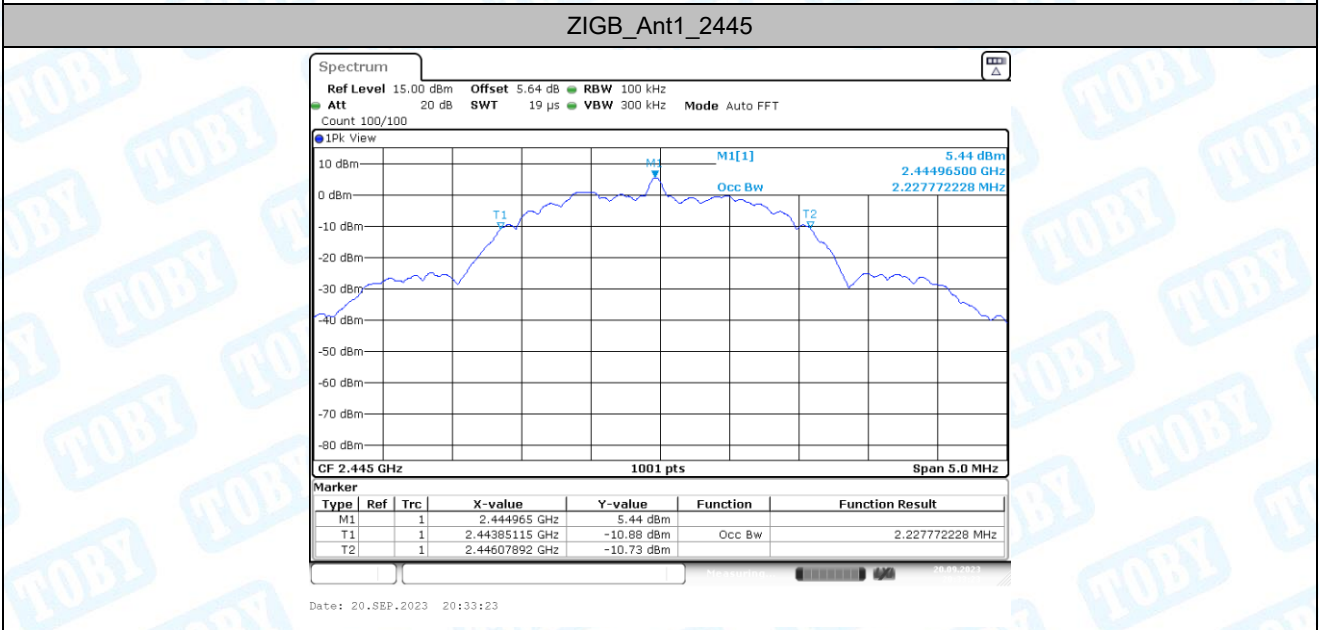
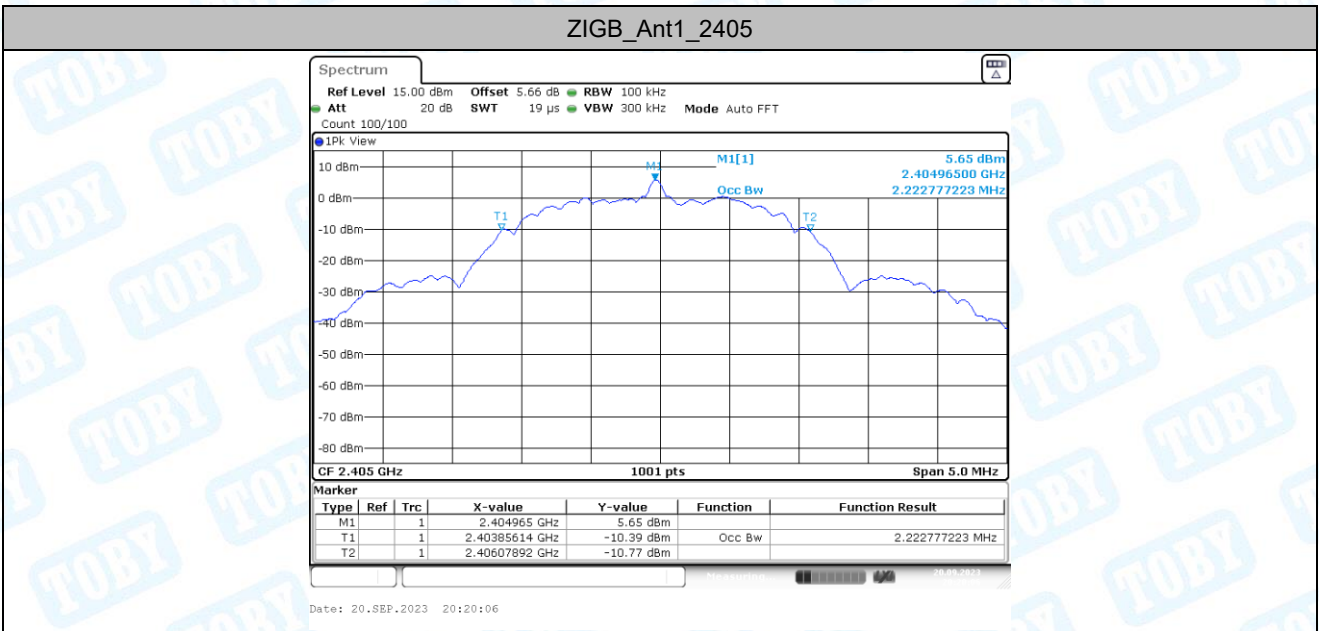


2: Occupied Channel Bandwidth

2.1 Test Result

TestMode	Antenna	Frequency[MHz]	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
ZIGB	Ant1	2405	2.223	2403.8561	2406.0789	---	---
		2445	2.228	2443.8511	2446.0789	---	---
		2480	2.233	2478.8511	2481.0839	---	---

2.2 Test Graphs



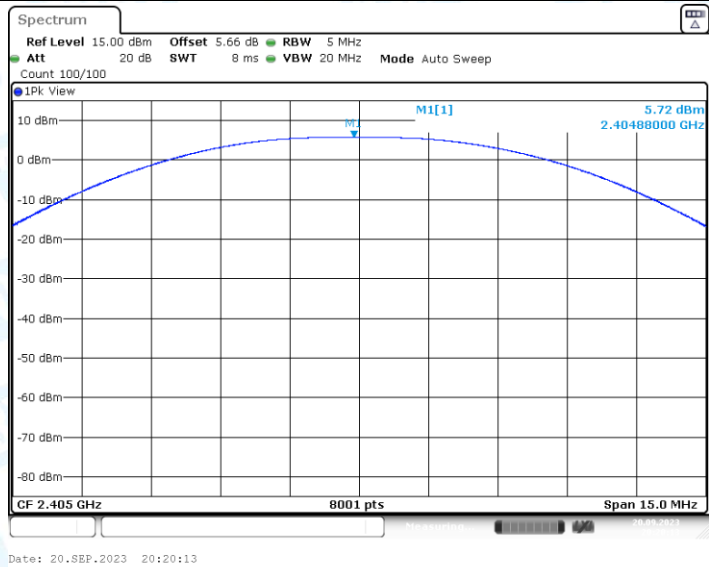
3: Maximum conducted output power

3.1 Test Result

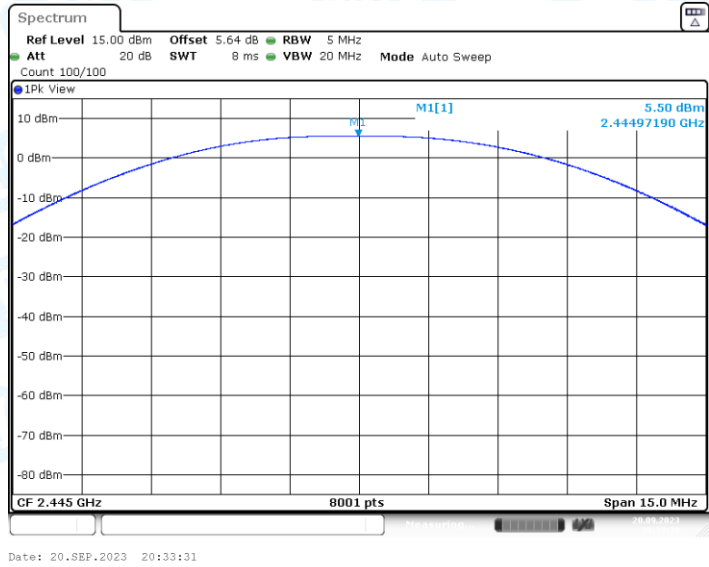
TestMode	Antenna	Frequency[MHz]	Result[dBm]	Limit[dBm]	Verdict
ZIGB	Ant1	2405	5.72	≤30	PASS
		2445	5.50	≤30	PASS
		2480	5.42	≤30	PASS

3.2 Test Graphs

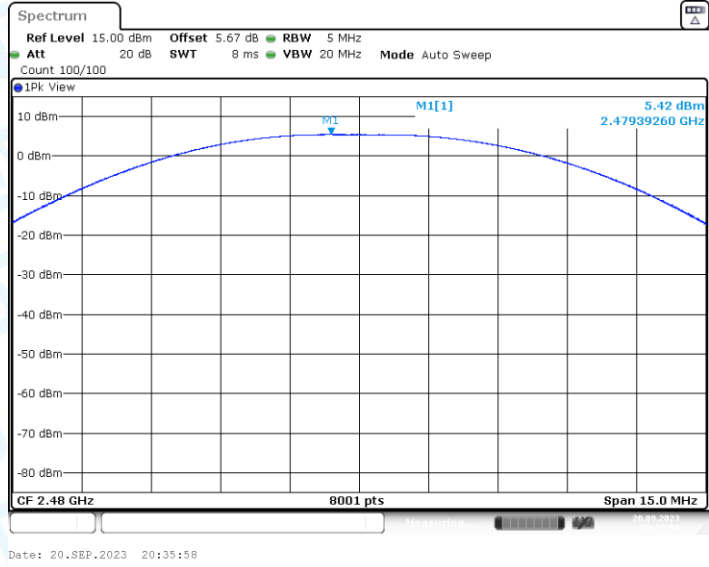
ZIGB_Ant1_2405



ZIGB_Ant1_2445



ZIGB_Ant1_2480



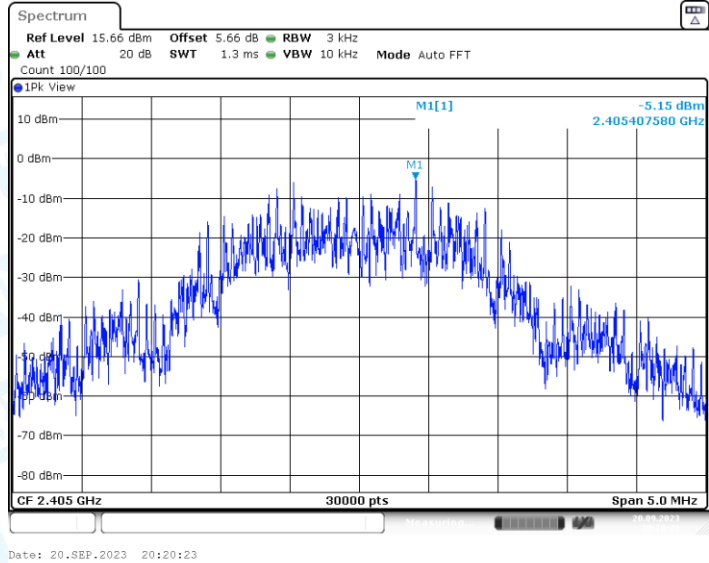
4: Maximum power spectral density

4.1 Test Result

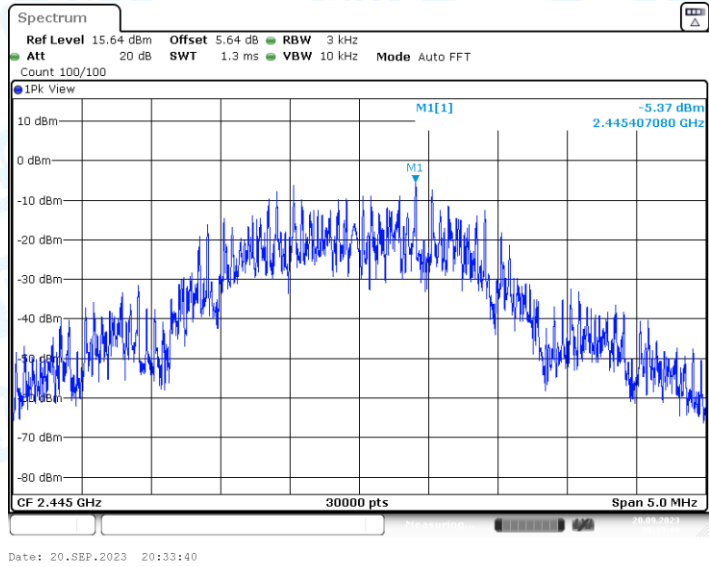
TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
ZIGB	Ant1	2405	-5.15	≤8.00	PASS
		2445	-5.37	≤8.00	PASS
		2480	-5.48	≤8.00	PASS

4.2 Test Graphs

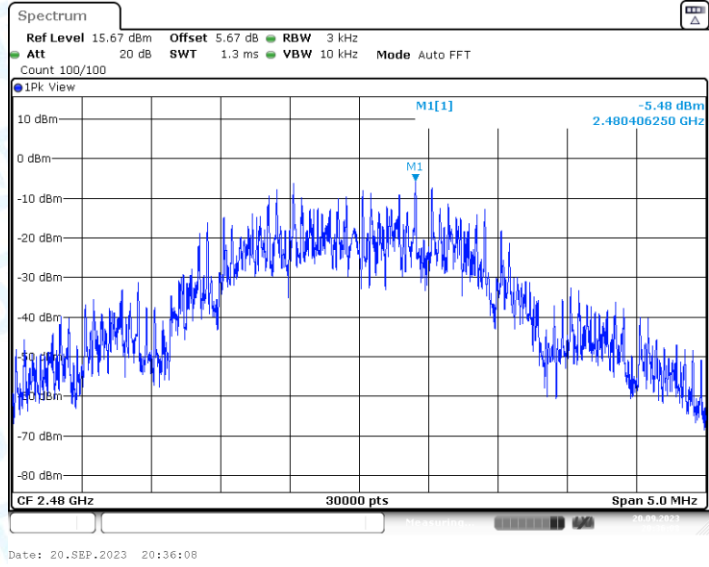
ZIGB_Ant1_2405



ZIGB_Ant1_2445



ZIGB_Ant1_2480

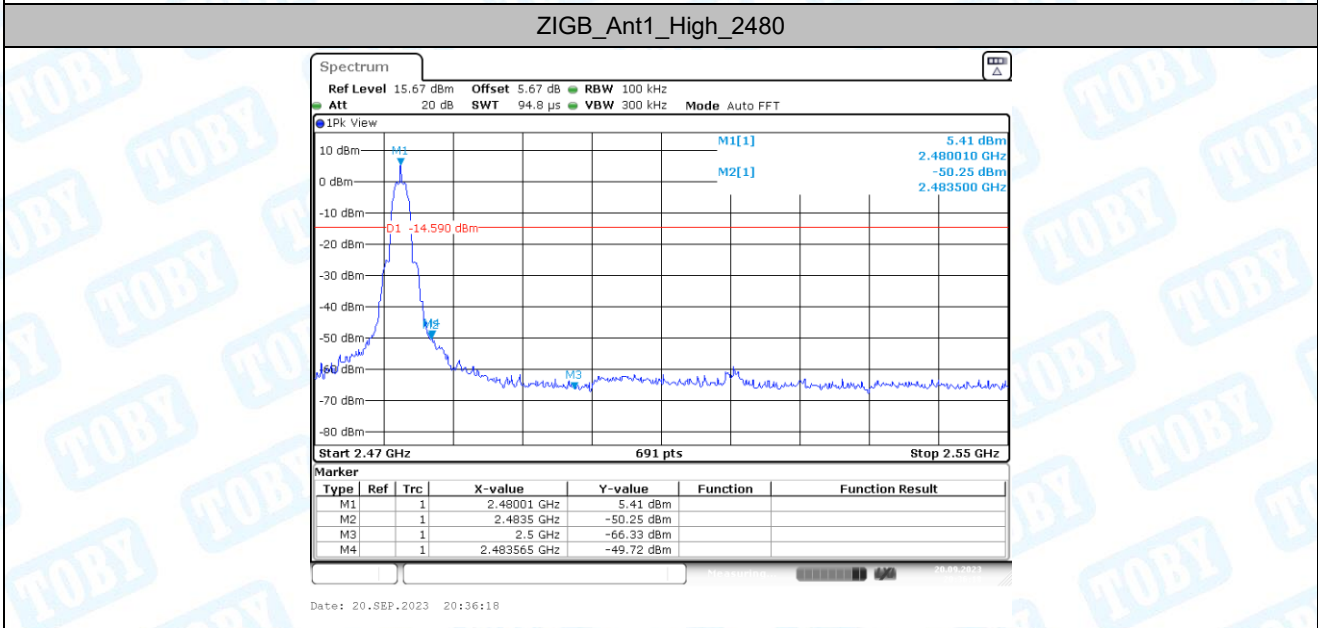
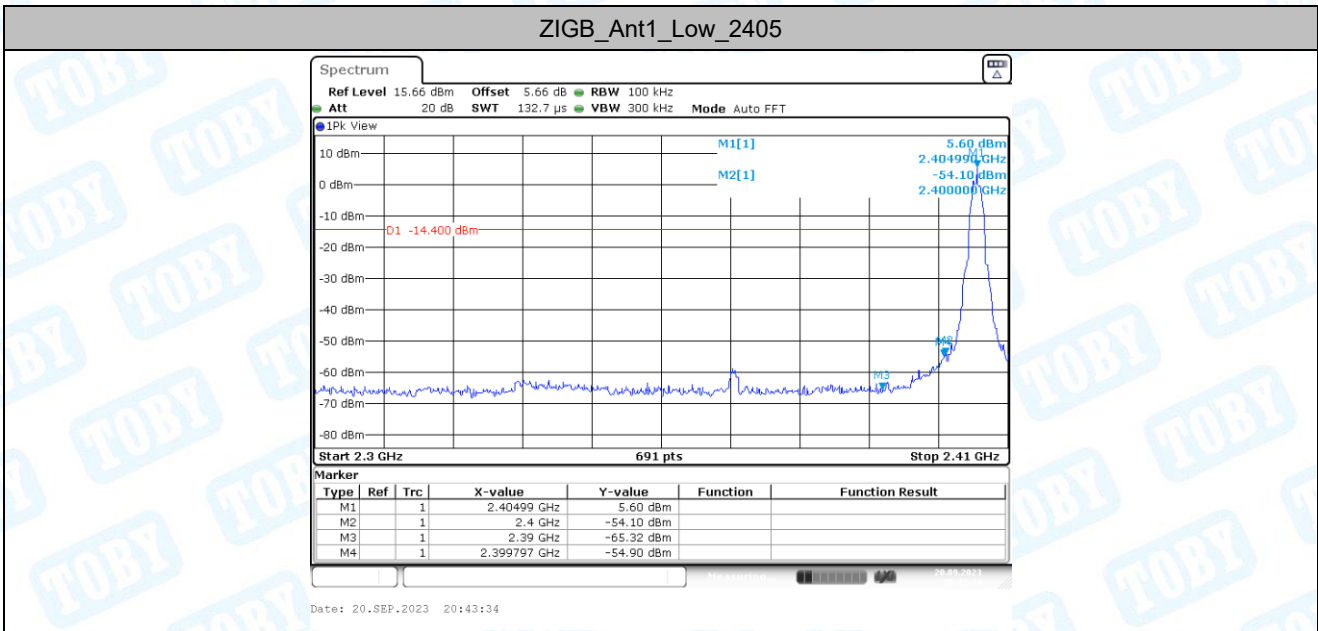


5: Band edge measurements

5.1 Test Result

TestMode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
ZIGB	Ant1	Low	2405	5.60	-54.9	≤-14.4	PASS
		High	2480	5.41	-49.72	≤-14.59	PASS

5.2 Test Graphs

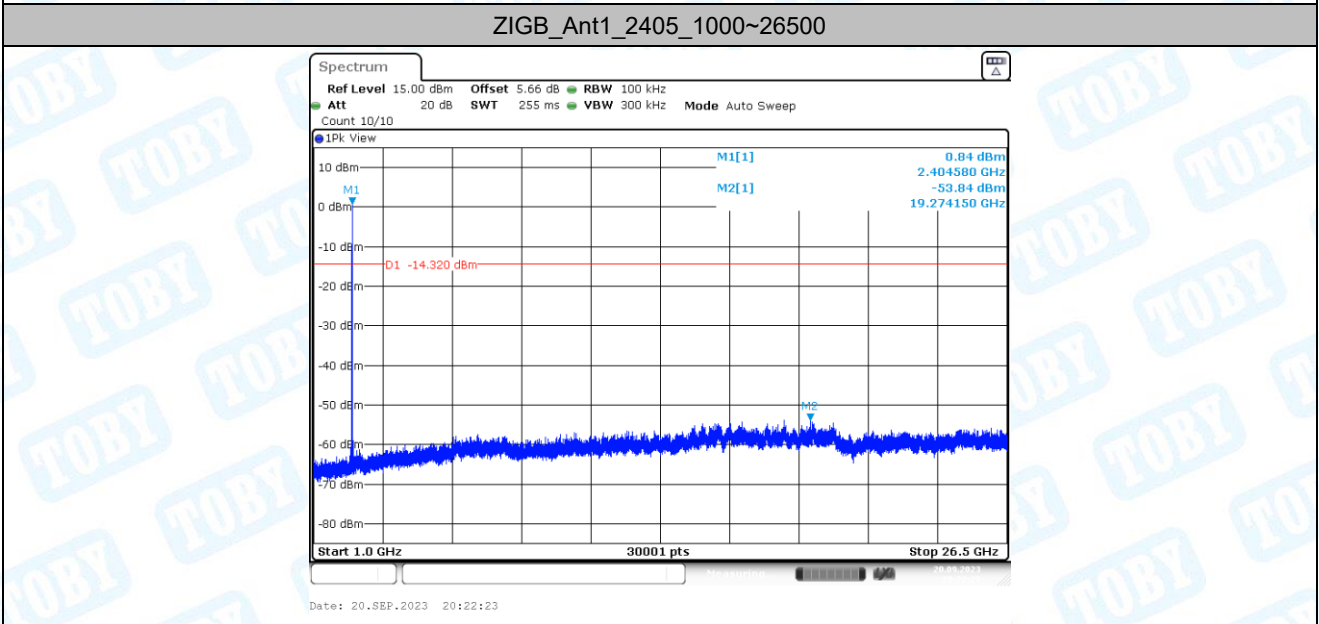
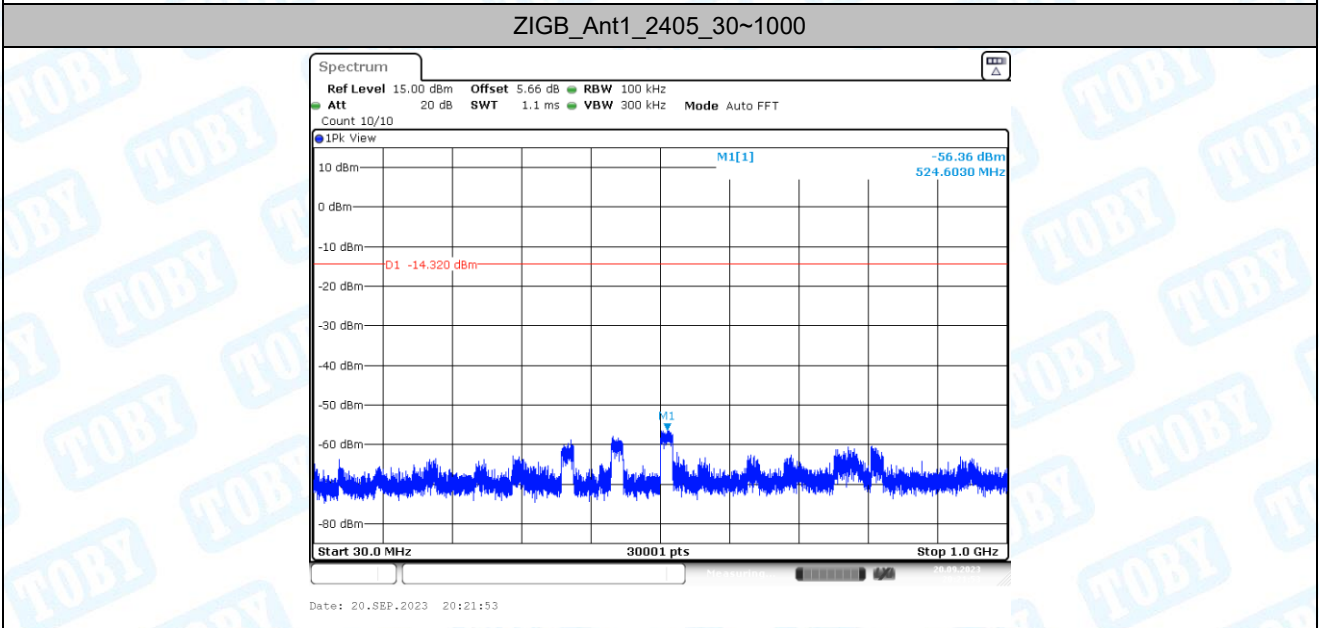
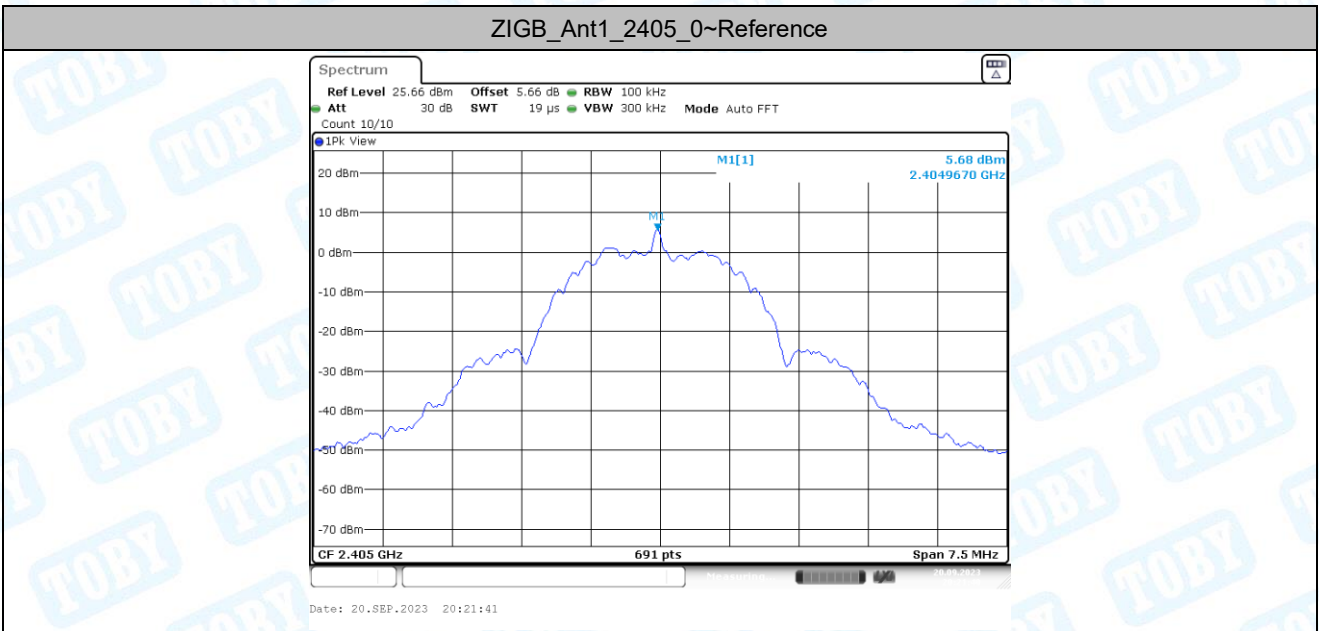


6: Conducted Spurious Emission

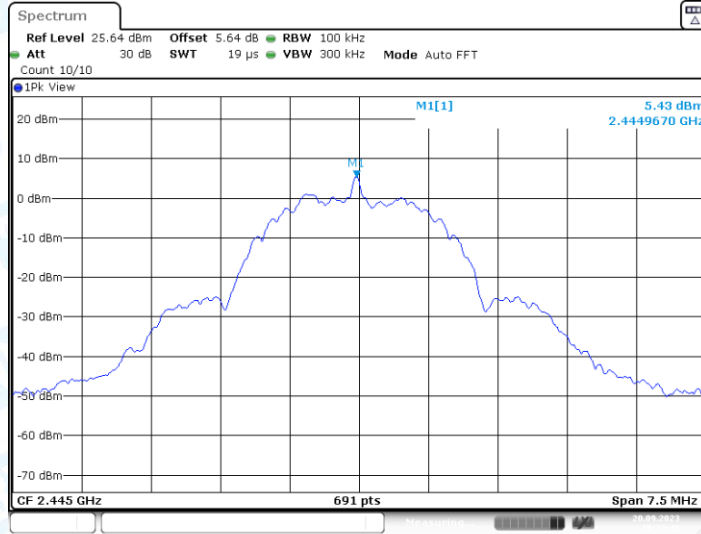
6.1 Test Result

TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
ZIGB	Ant1	2405	Reference	5.68	5.68	---	PASS
			30~1000	5.68	-56.36	≤-14.32	PASS
			1000~26500	5.68	-53.84	≤-14.32	PASS
		2445	Reference	5.43	5.43	---	PASS
			30~1000	5.43	-58.46	≤-14.57	PASS
			1000~26500	5.43	-53.88	≤-14.57	PASS
		2480	Reference	5.34	5.34	---	PASS
			30~1000	5.34	-59.24	≤-14.66	PASS
			1000~26500	5.34	-53.85	≤-14.66	PASS

6.2 Test Graphs

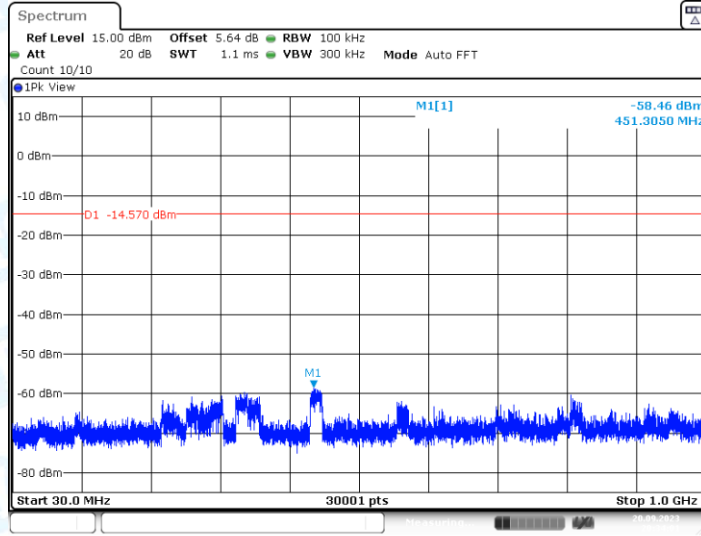


ZIGB_Ant1_2445_0~Reference



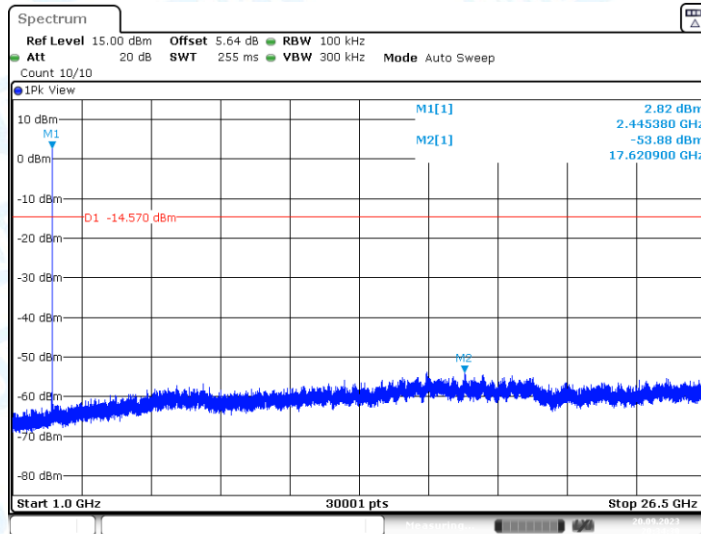
Date: 20_SEP.2023 20:33:49

ZIGB_Ant1_2445_30~1000



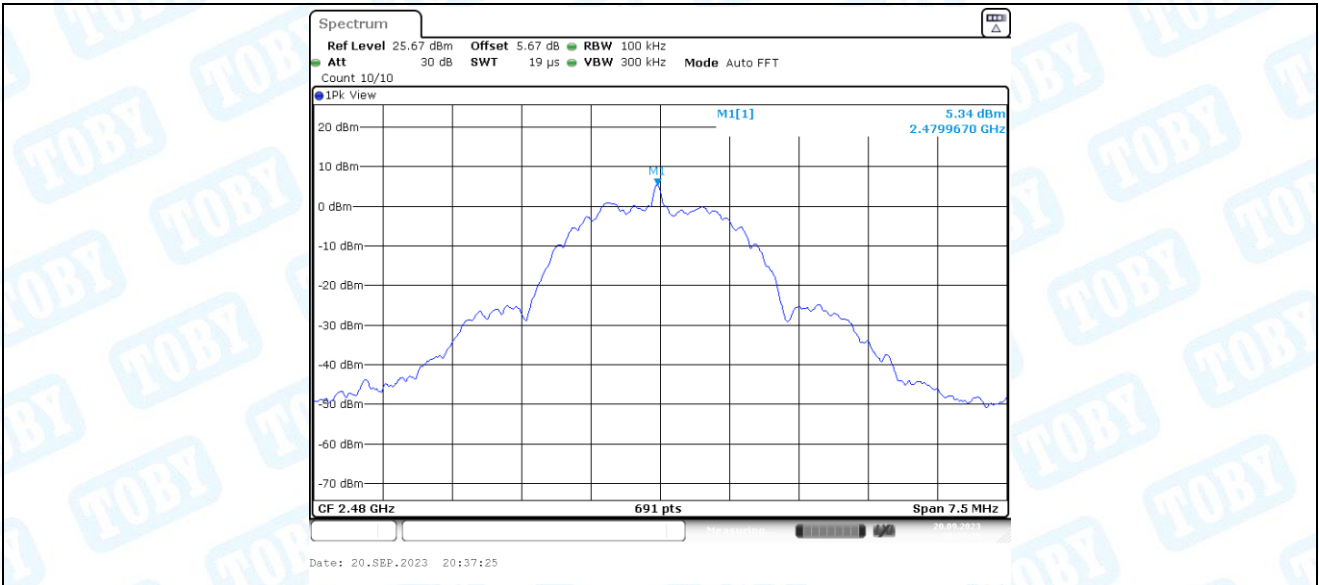
Date: 20_SEP.2023 20:34:01

ZIGB_Ant1_2445_1000~26500

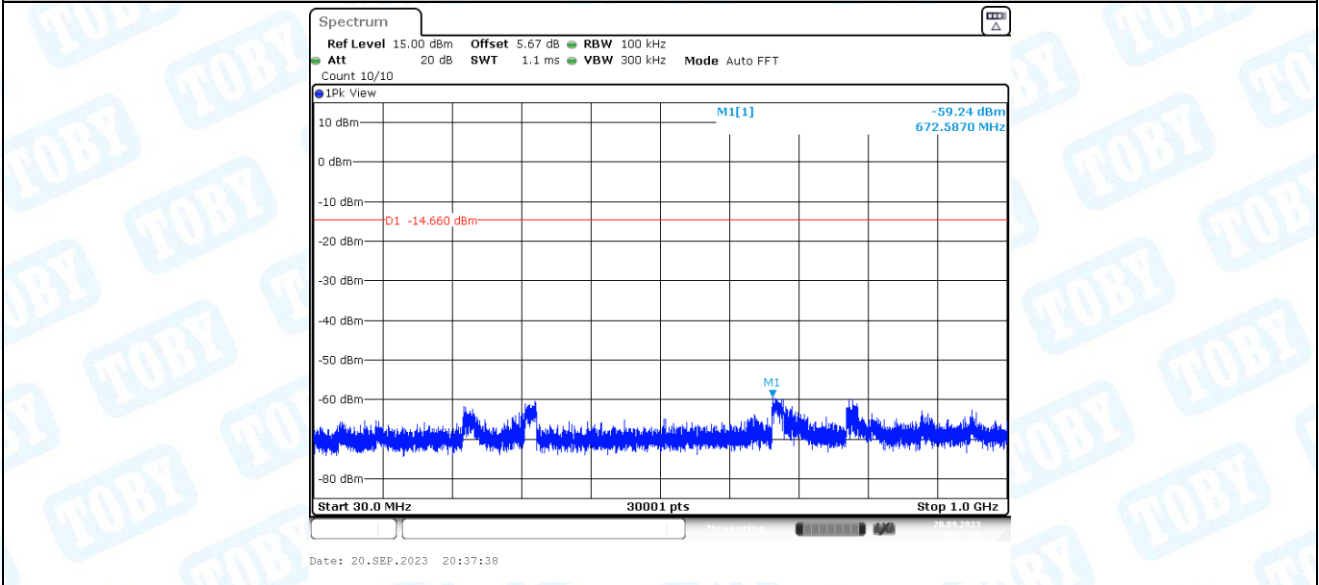


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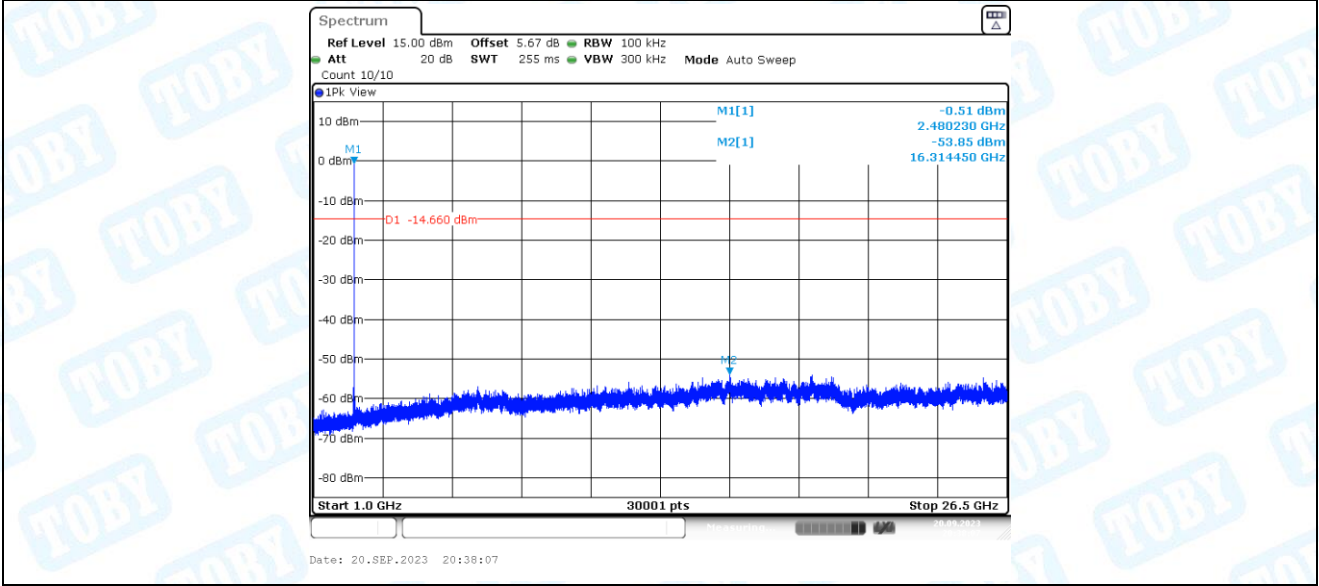
ZIGB_Ant1_2480_0~Reference



ZIGB_Ant1_2480_30~1000



ZIGB_Ant1_2480_1000~26500

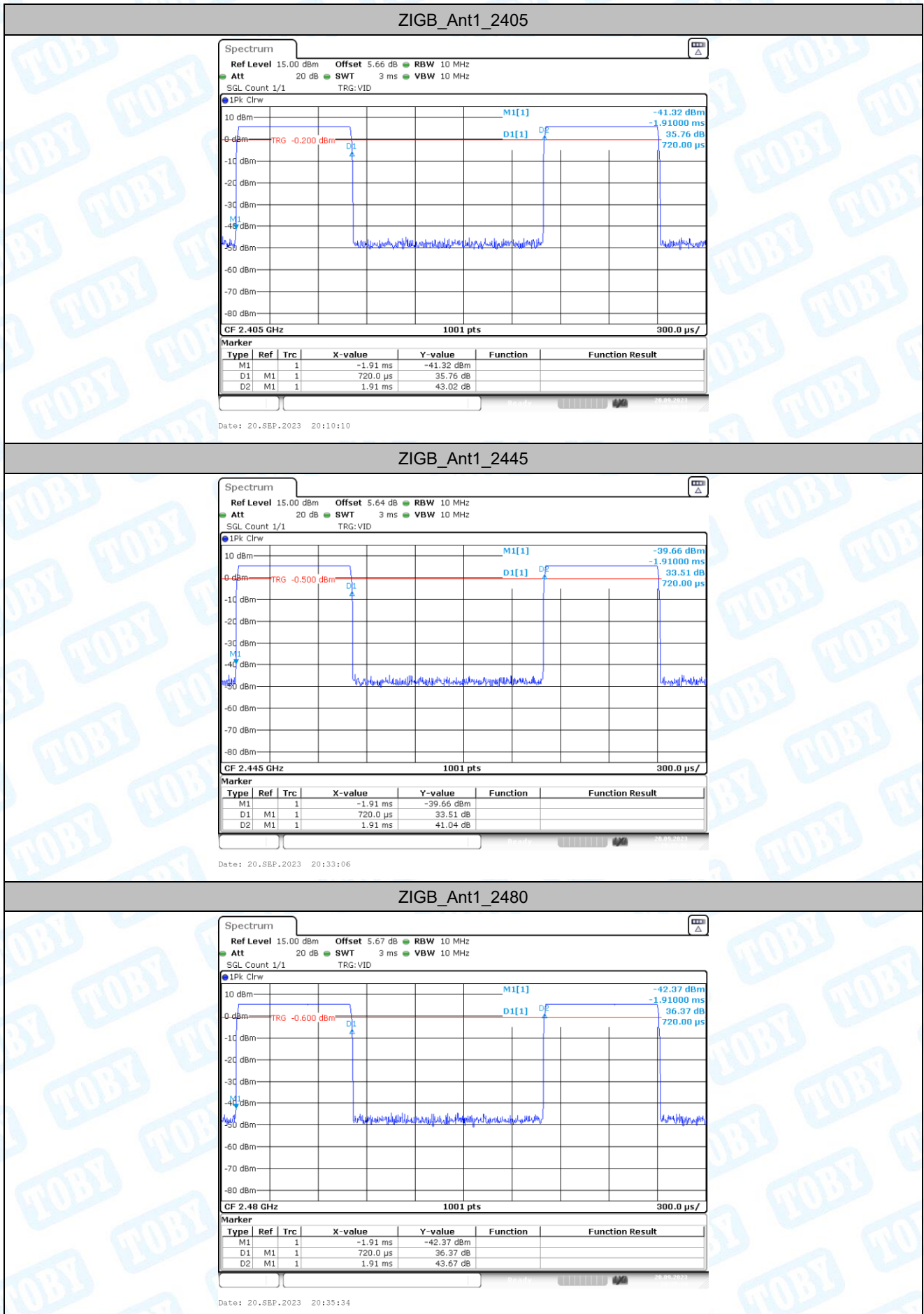


7: Duty Cycle

7.1 Test Result

TestMode	Antenna	Frequency[MHz]	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Limit	Verdict
ZIGB	Ant1	2405	0.72	1.91	37.70	---	---
		2445	0.72	1.91	37.70	---	---
		2480	0.72	1.91	37.70	---	---

7.2 Test Graphs



8: Emissions in Restricted Bands

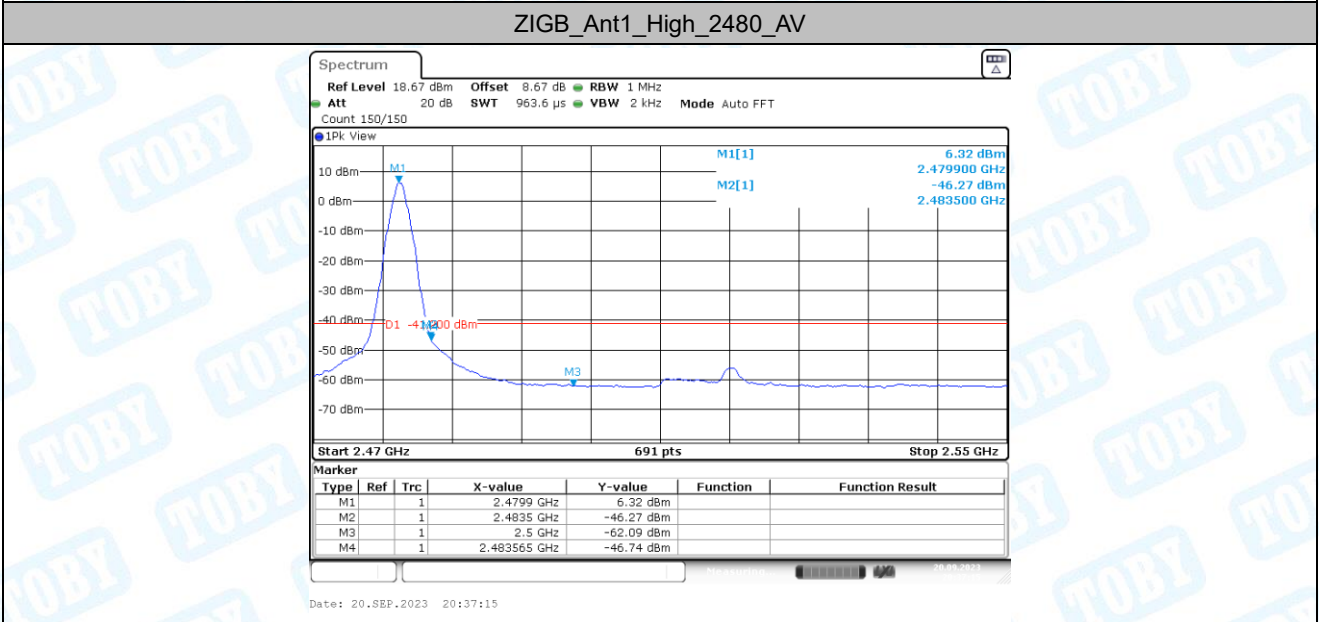
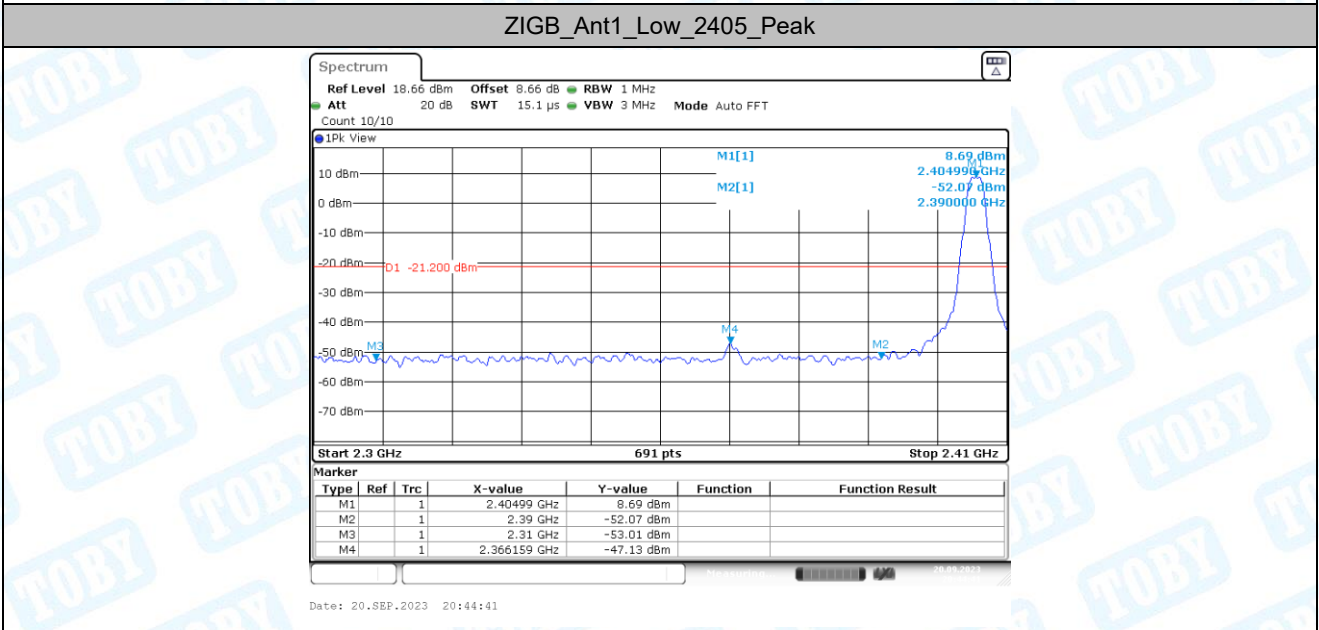
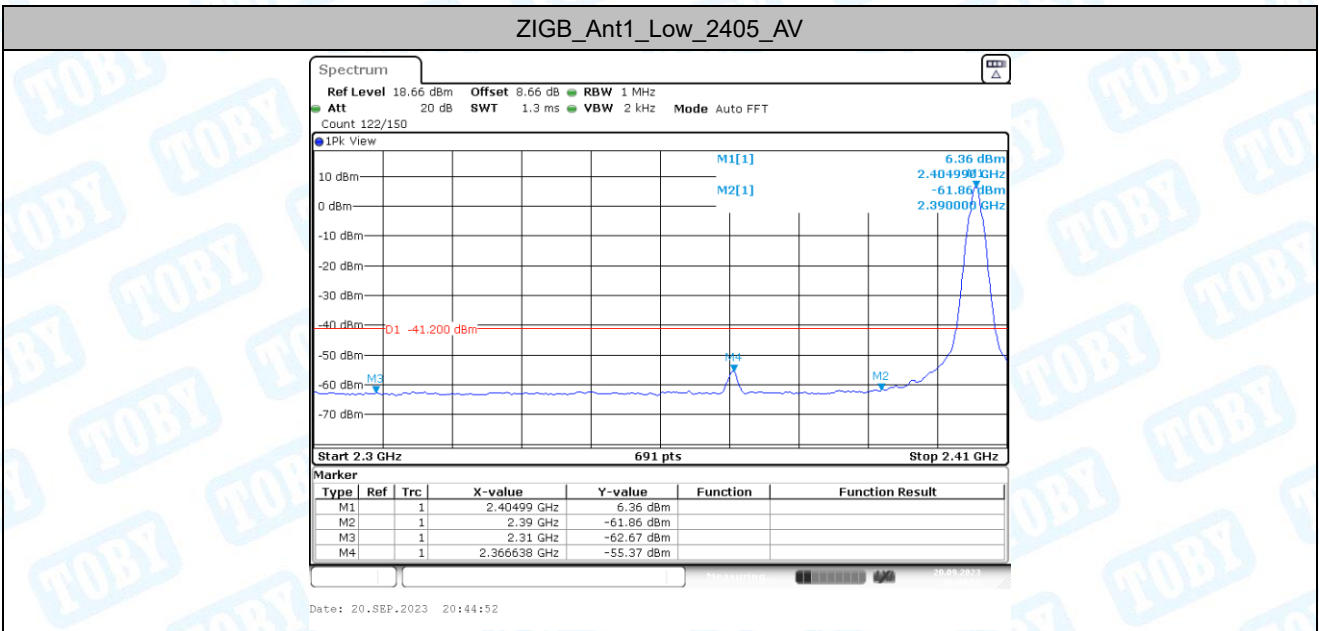
8.1 Test Result

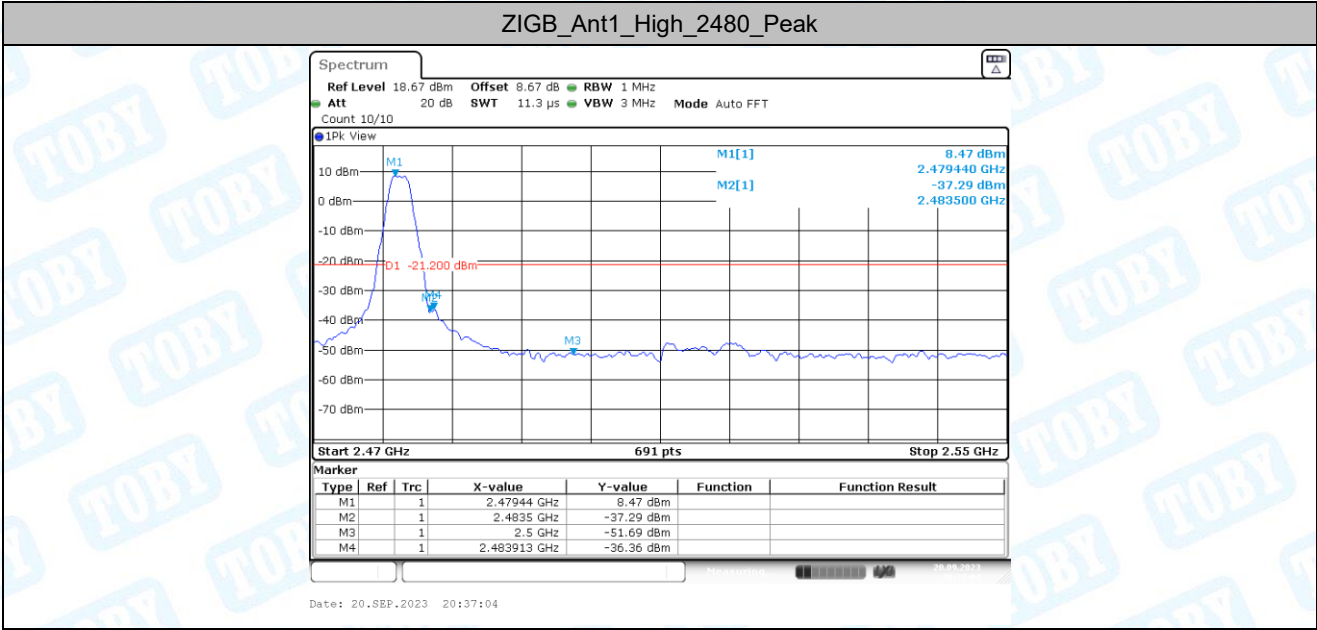
TestMode	Antenna	ChName	Frequency [MHz]	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Verdict
ZIGB	Ant1	Low	2405	AV	2310.000	-62.67	≤-41.20	PASS
				AV	2366.638	-55.37	≤-41.20	PASS
				AV	2390.000	-61.86	≤-41.20	PASS
				Peak	2310.000	-53.01	≤-21.20	PASS
				Peak	2366.159	-47.13	≤-21.20	PASS
				Peak	2390.000	-52.07	≤-21.20	PASS
		High	2480	AV	2483.500	-46.27	≤-41.20	PASS
				AV	2483.565	-46.74	≤-41.20	PASS
				AV	2500.000	-62.09	≤-41.20	PASS
				Peak	2483.500	-37.29	≤-21.20	PASS
				Peak	2483.913	-36.36	≤-21.20	PASS
				Peak	2500.000	-51.69	≤-21.20	PASS

Note:

1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

8.2 Test Graphs





-----END OF THE REPORT-----