



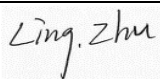
Appendix A

RF Test Data for Zigbeeee (Conducted Measurement)

Product Name: Smart Base

Test Model: MCS100

Environmental Conditions

Temperature:	23.5° C
Relative Humidity:	52.2%
ATM Pressure:	100.0 kPa
Test Engineer:	 Ling Zhu
Supervised by:	 Li Huan



A.1 DTS Bandwidth

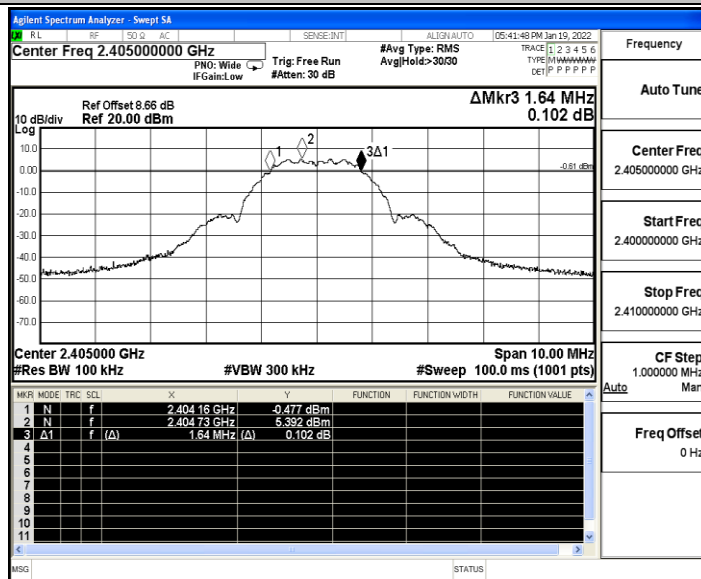
Test Result

TestMode	Antenna	Frequency[MHz]	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
Zigbee	Ant	2405	1.640	2404.160	2405.800	0.5	PASS
		2440	1.640	2439.160	2440.800	0.5	PASS
		2480	1.640	2479.160	2480.800	0.5	PASS

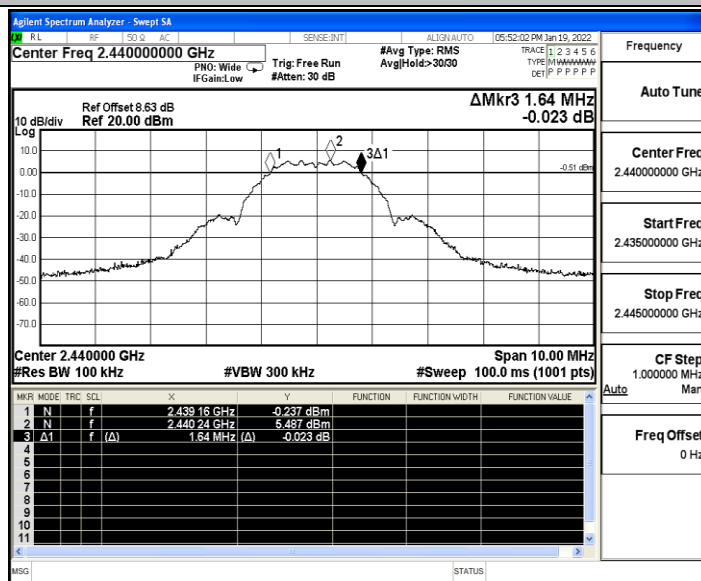


Test Graphs

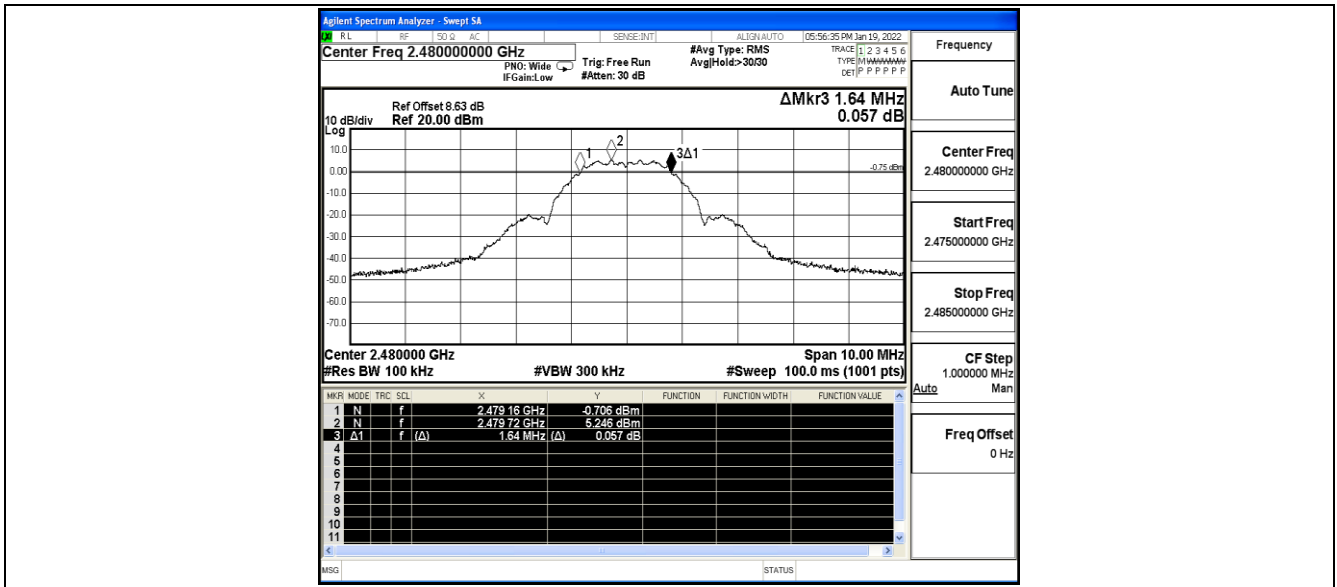
Zigbee_Ant_2405



Zigbee_Ant_2440



Zigbee_Ant_2480





A.2 Maximum peak conducted output power

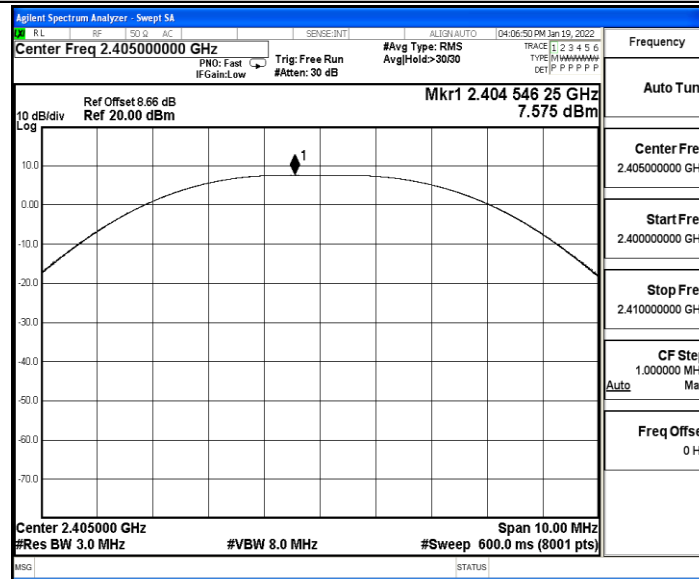
Test Result

TestMode	Antenna	Frequency[MHz]	Result[dBm]	Limit[dBm]	Verdict
Zigbee	Ant	2405	7.58	≤ 30	PASS
		2440	7.54	≤ 30	PASS
		2480	7.16	≤ 30	PASS

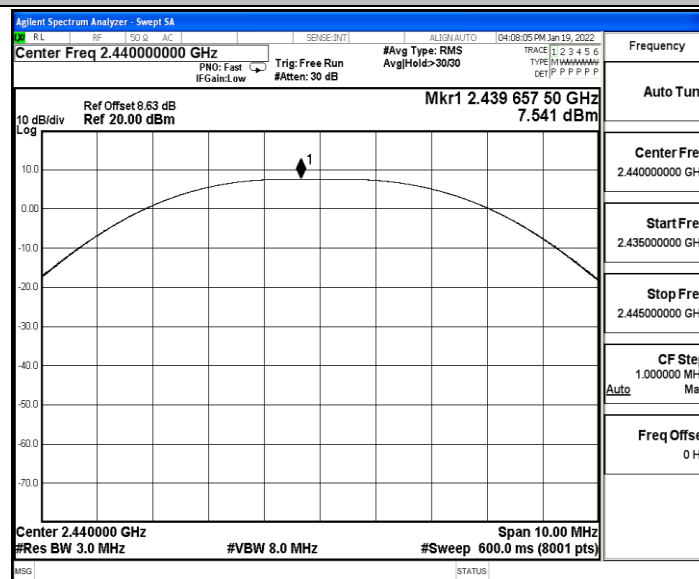


Test Graphs

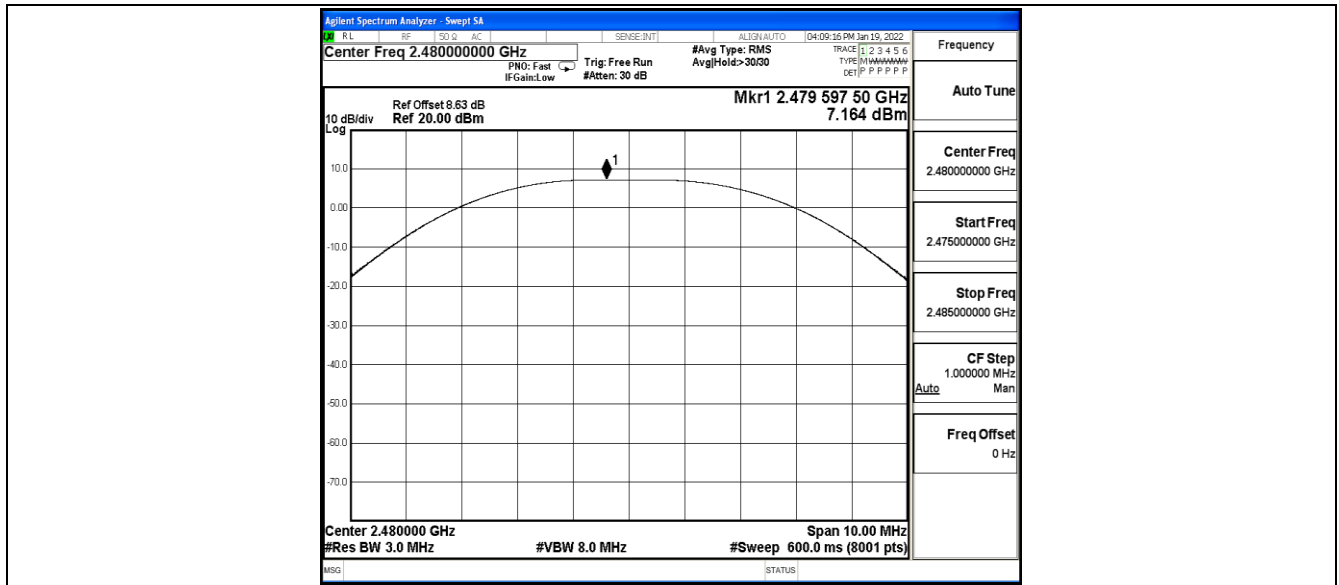
Zigbee_Ant_2405



Zigbee_Ant_2440



Zigbee_Ant_2480





A.3 Maximum power spectral density

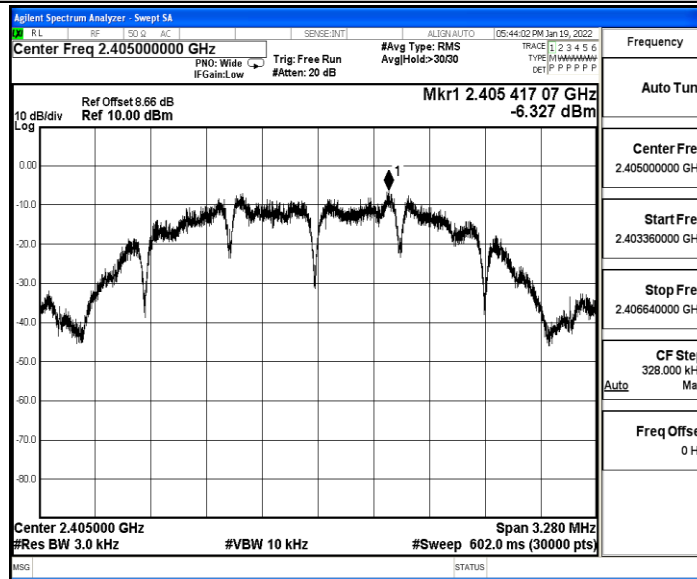
Test Result

TestMode	Antenna	Frequency[MHz]	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
Zigbee	Ant	2405	-6.33	≤ 8.00	PASS
		2440	-6.10	≤ 8.00	PASS
		2480	-6.29	≤ 8.00	PASS

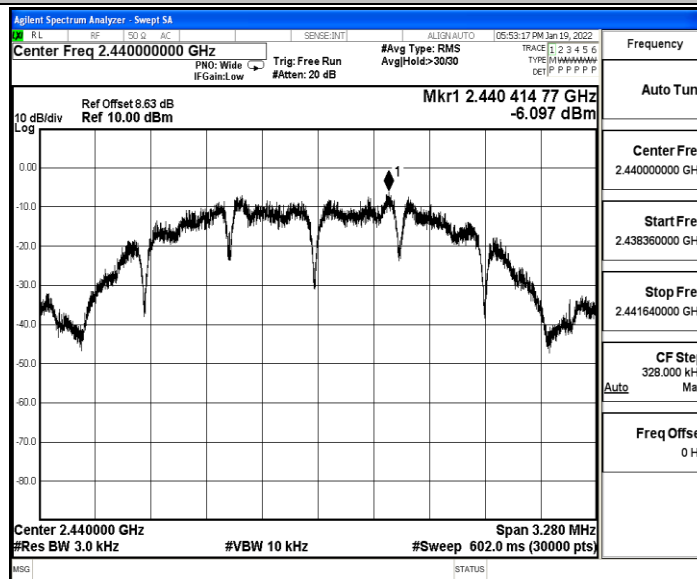


Test Graphs

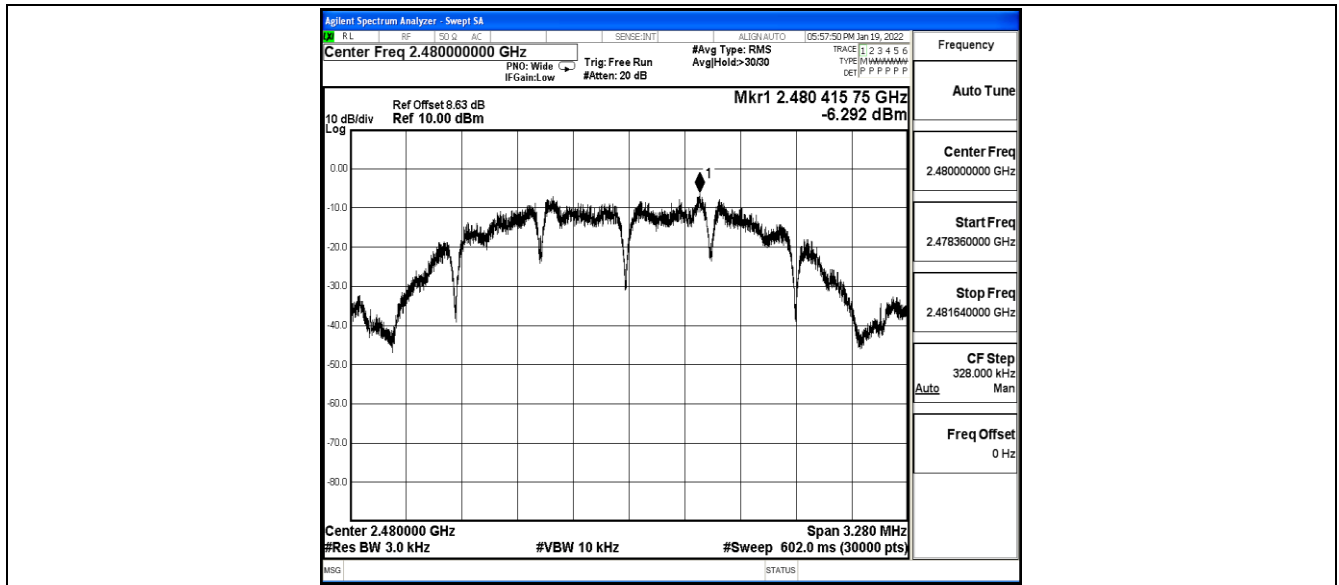
Zigbee_Ant_2405



Zigbee_Ant_2440



Zigbee_Ant_2480





A.4 Band edge measurements

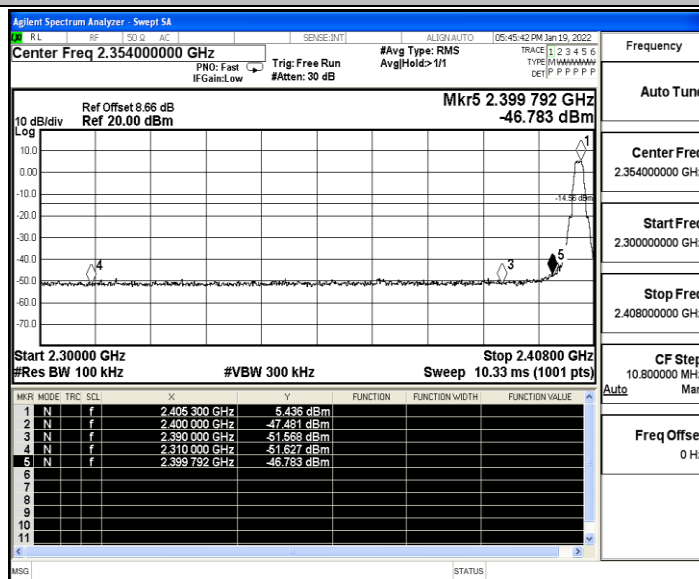
Test Result

TestMode	Antenna	ChName	Frequency[MHz]	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
Zigbee	Ant	Low	2405	5.44	-46.78	≤ -14.56	PASS
		High	2480	5.69	-43.73	≤ -14.31	PASS

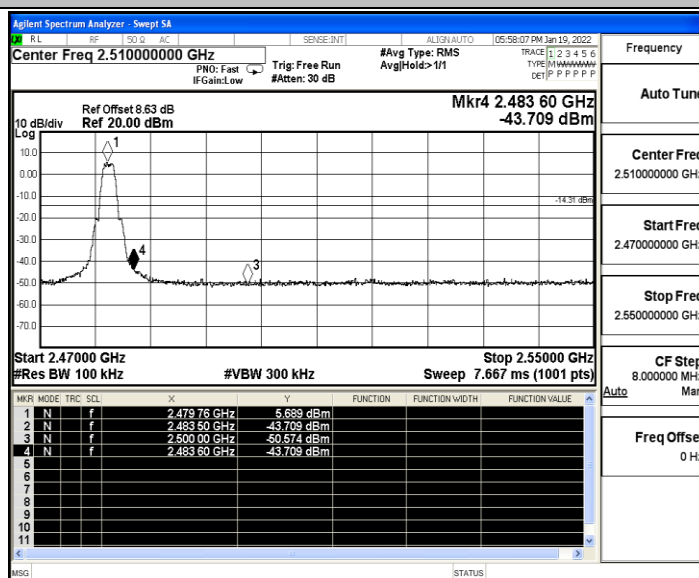


Test Graphs

Zigbee_Ant_Low_2405



Zigbee_Ant_High_2480





A.5 Conducted Spurious Emission

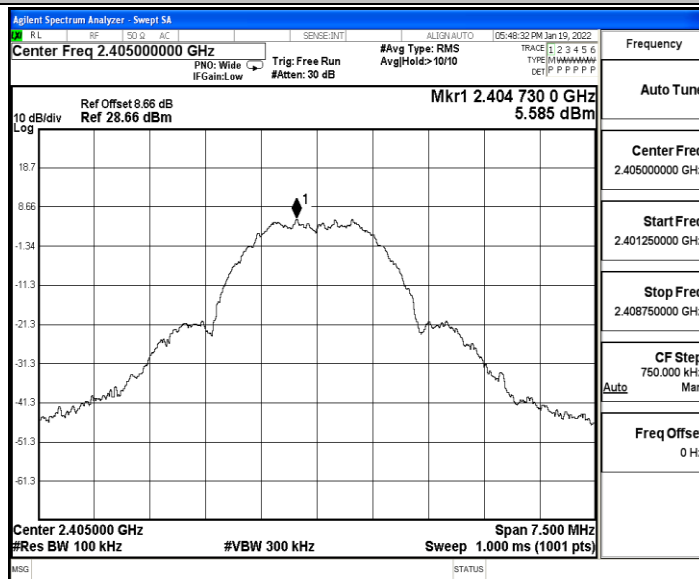
Test Result

TestMode	Antenna	Frequency[MHz]	FreqRange [MHz]	RefLevel [dBm]	Result[dBm]	Limit[dBm]	Verdict
Zigbee	Ant	2405	Reference	5.59	5.59	---	PASS
			30~1000	5.59	-60.4	≤ -14.41	PASS
			1000~26500	5.59	-33.79	≤ -14.41	PASS
		2440	Reference	5.69	5.69	---	PASS
			30~1000	5.69	-34.18	≤ -14.31	PASS
			1000~26500	5.69	-45.14	≤ -14.31	PASS
		2480	Reference	5.42	5.42	---	PASS
			30~1000	5.42	-60.86	≤ -14.58	PASS
			1000~26500	5.42	-46.96	≤ -14.58	PASS

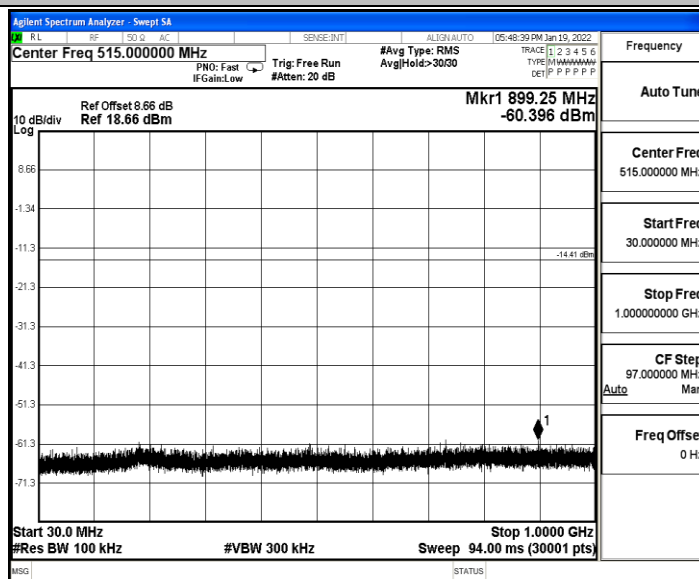


Test Graphs

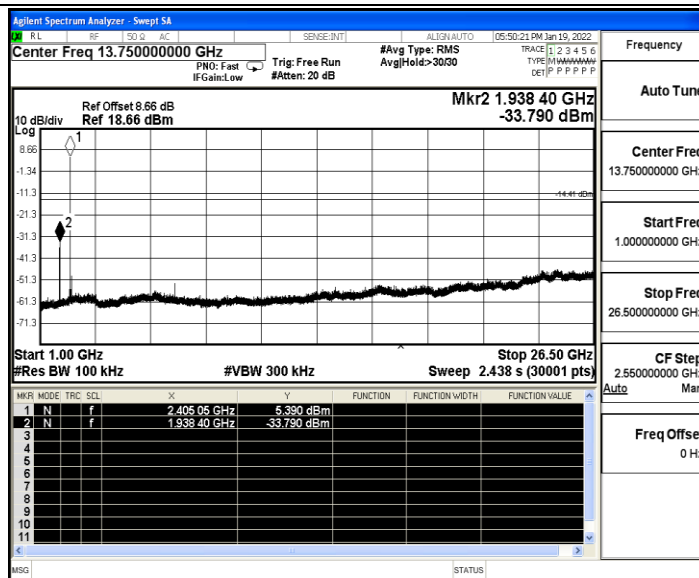
Zigbee_Ant_2405_0~Reference



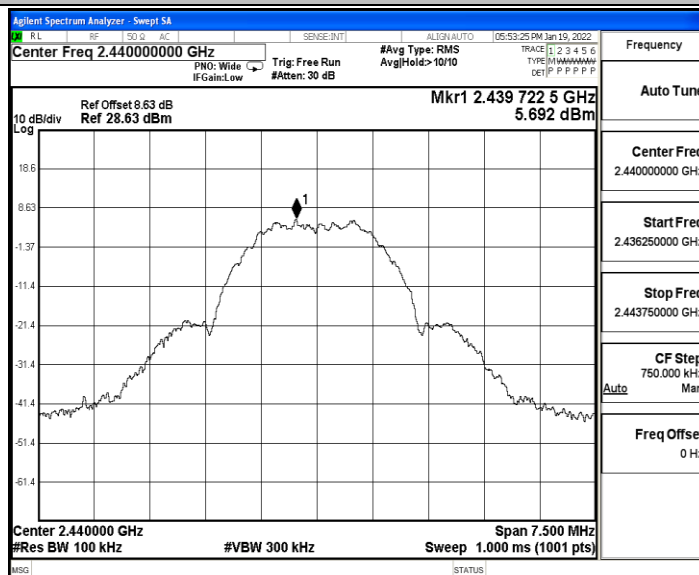
Zigbee_Ant_2405_30~1000



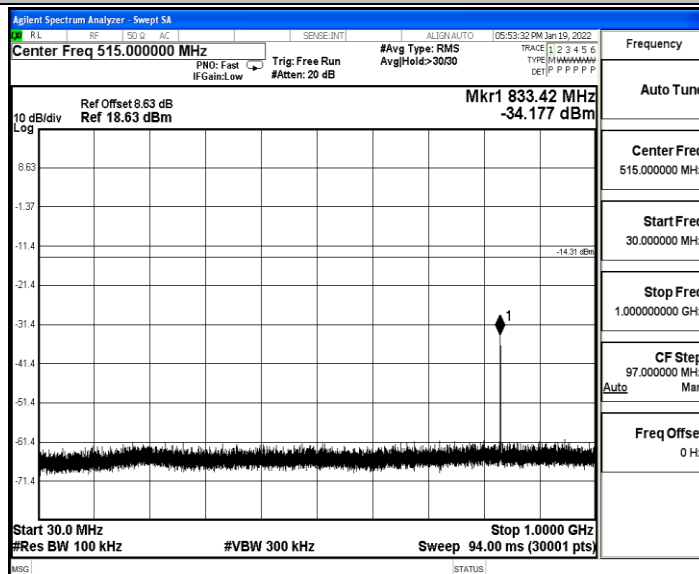
Zigbee_Ant_2405_1000~26500



Zigbee_Ant_2440_0~Reference

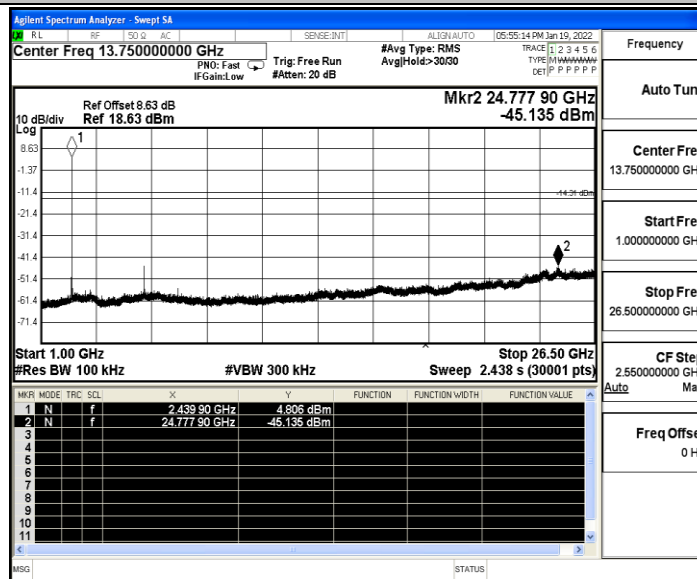


Zigbee_Ant_2440_30~1000

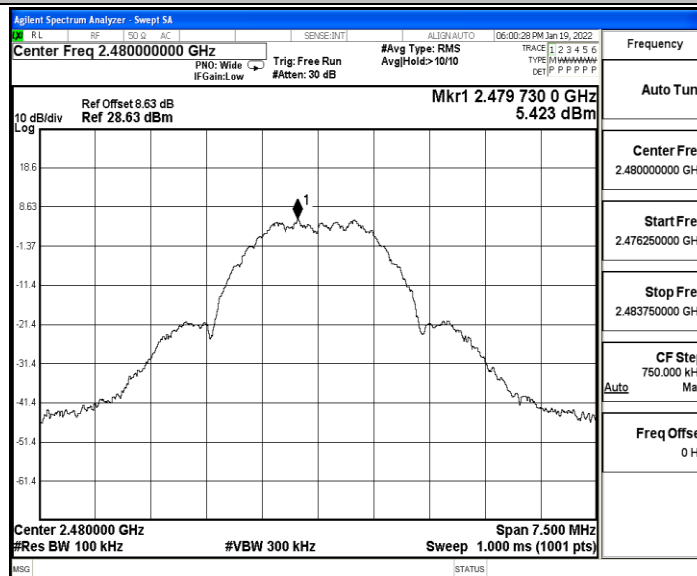




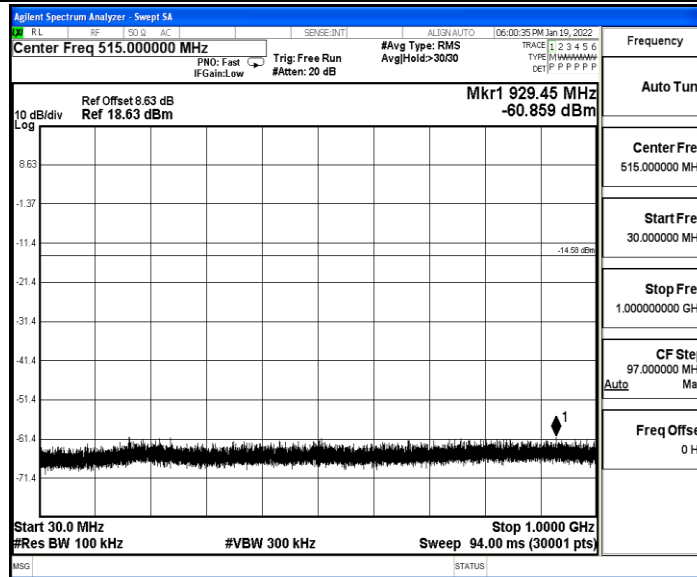
Zigbee_Ant_2440_1000~26500



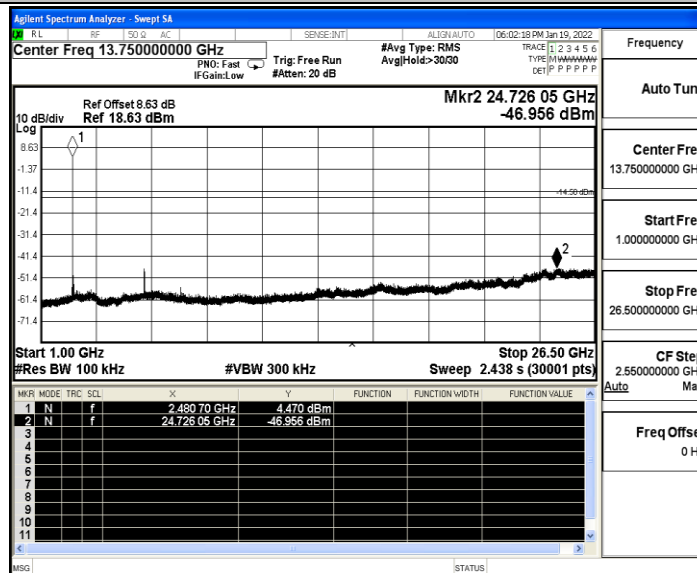
Zigbee_Ant_2480_0~Reference



Zigbee_Ant_2480_30~1000



Zigbee_Ant_2480_1000~26500





A.6 Duty Cycle

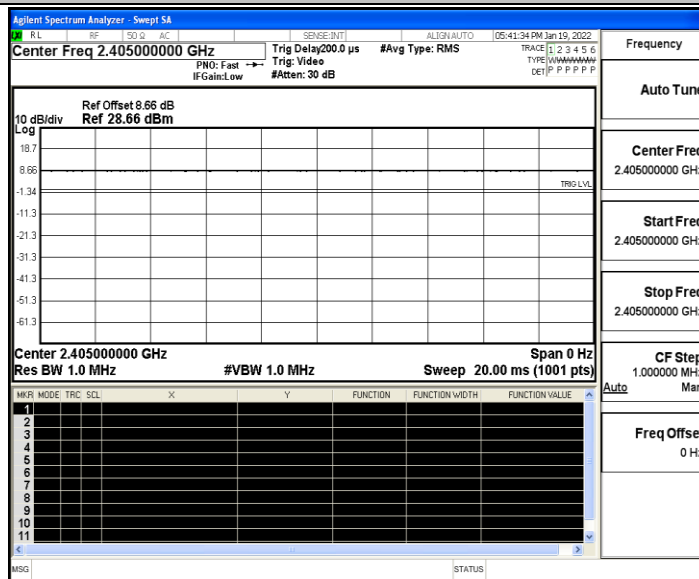
Test Result

TestMode	Antenna	Frequency[MHz]	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Limit	Verdict
Zigbee	Ant	2405	20.00	20.00	100.00	---	---
		2440	20.00	20.00	100.00	---	---
		2480	20.00	20.00	100.00	---	---

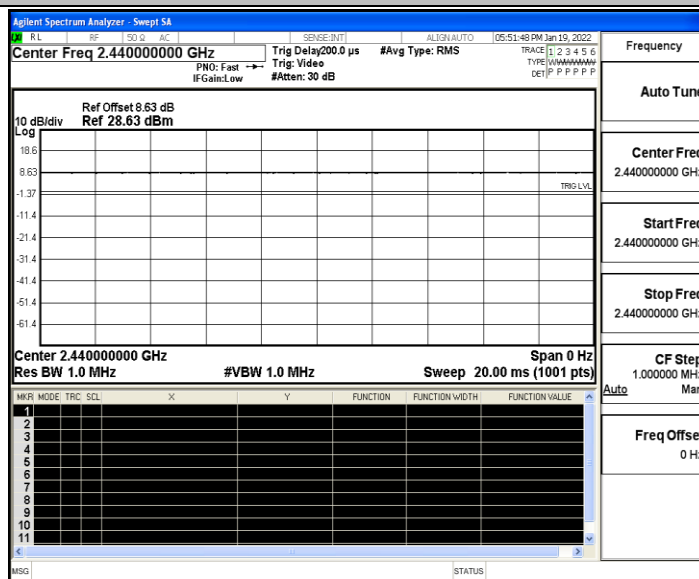


Test Graphs

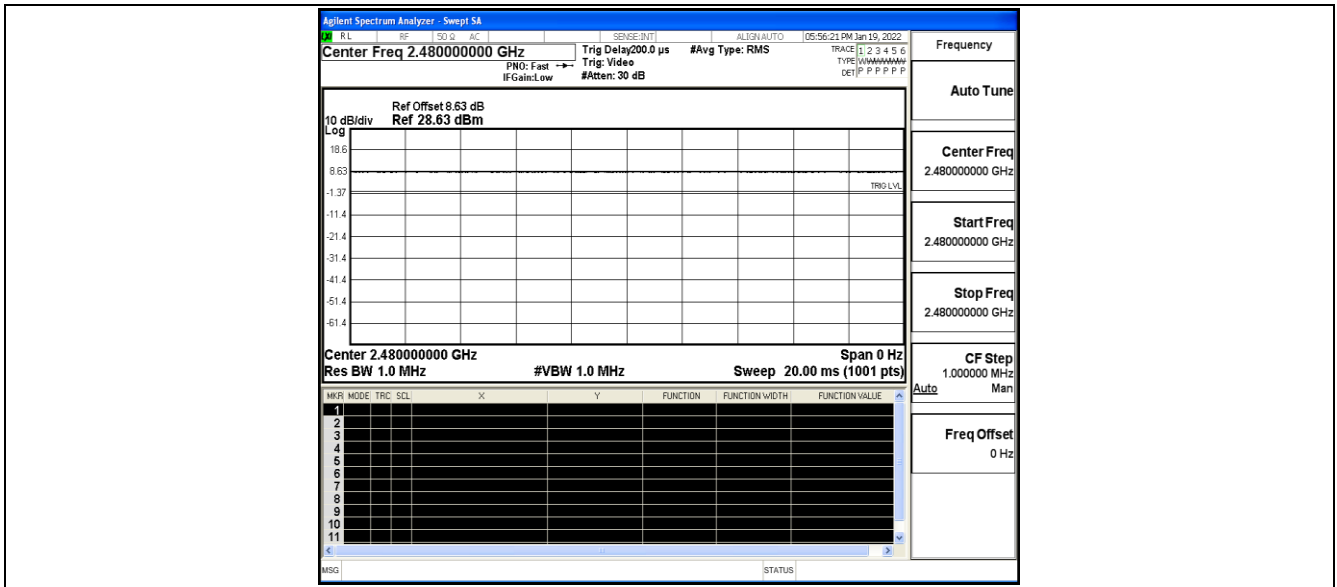
Zigbee_Ant_2405



Zigbee_Ant_2440



Zigbee_Ant_2480





A.7 Emissions in Restricted Bands

Test Result

TestMode	Antenna	ChName	Frequenc y[MHz]	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Result [dBuV/m]	Limit [dBu V/m]	Verdict
Zigbee	Ant	Low	2405	AV	2310.000	-48.67	≤ -41.20	46.53	≤ 54	PASS
				AV	2366.312	-47.17	≤ -41.20	48.03	≤ 54	PASS
				AV	2390.000	-48.19	≤ -41.20	47.01	≤ 54	PASS
				Peak	2310.000	-39.65	≤ -21.20	55.55	≤ 74	PASS
				Peak	2366.312	-36.38	≤ -21.20	58.82	≤ 74	PASS
				Peak	2390.000	-38.21	≤ -21.20	56.99	≤ 74	PASS
		High	2480	AV	2483.500	-47.72	≤ -41.20	47.48	≤ 54	PASS
				AV	2483.520	-47.72	≤ -41.20	47.48	≤ 54	PASS
				AV	2500.000	-47.74	≤ -41.20	47.46	≤ 54	PASS
				Peak	2483.500	-38.16	≤ -21.20	57.04	≤ 74	PASS
				Peak	2496.880	-36.73	≤ -21.20	58.47	≤ 74	PASS
				Peak	2500.000	-38.26	≤ -21.20	56.94	≤ 74	PASS

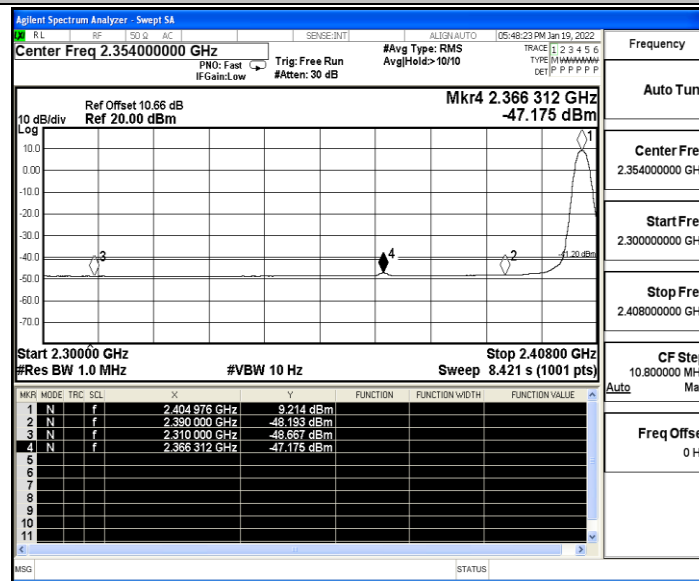
Note:

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.

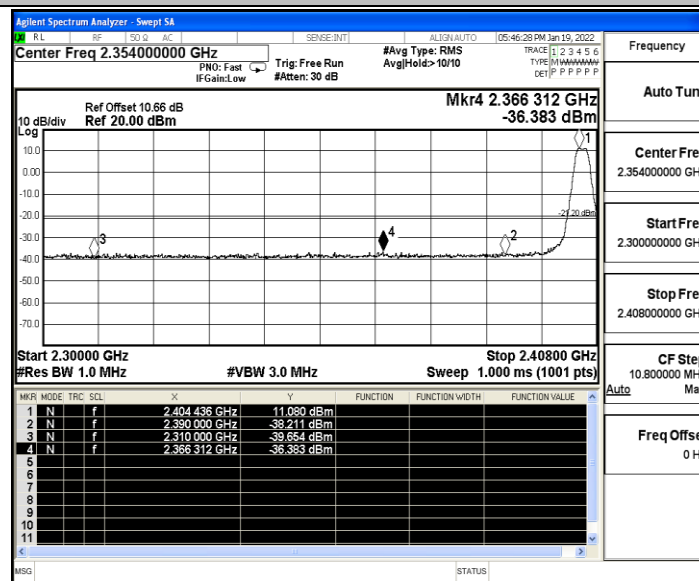


Test Graphs

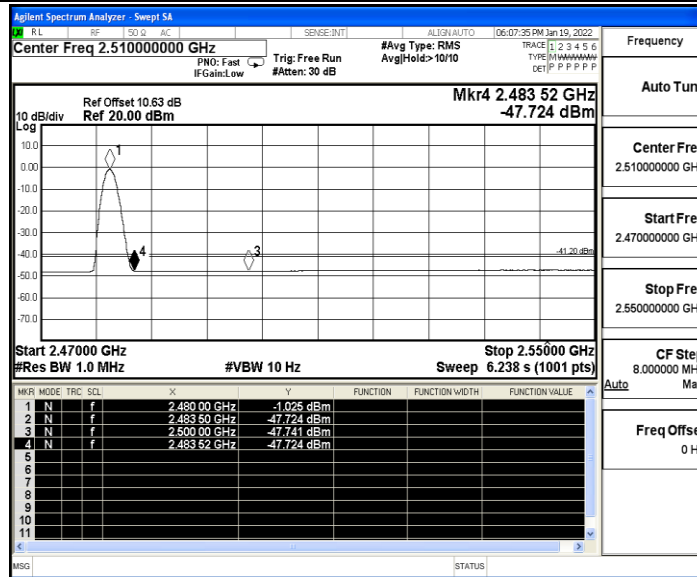
Zigbee_Ant_Low_2405_AV



Zigbee_Ant_Low_2405_Peak



Zigbee_Ant_High_2480_AV



Zigbee_Ant_High_2480_Peak

