

Appendix A

RF Test Data for BT(BDR/EDR) (Conducted Measurement)

Product Name: Bluetooth Speaker

Trade Mark: AUKEY

Test Model: SK-A2

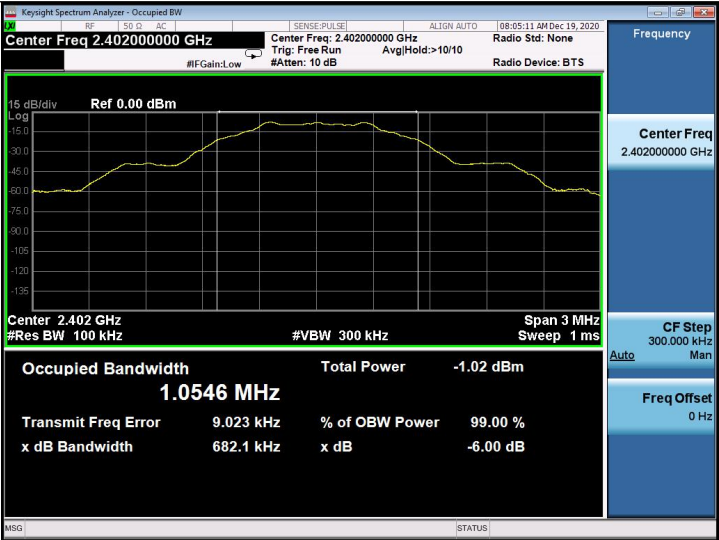
FCC ID: 2ATIH-SK-A2

Environmental Conditions

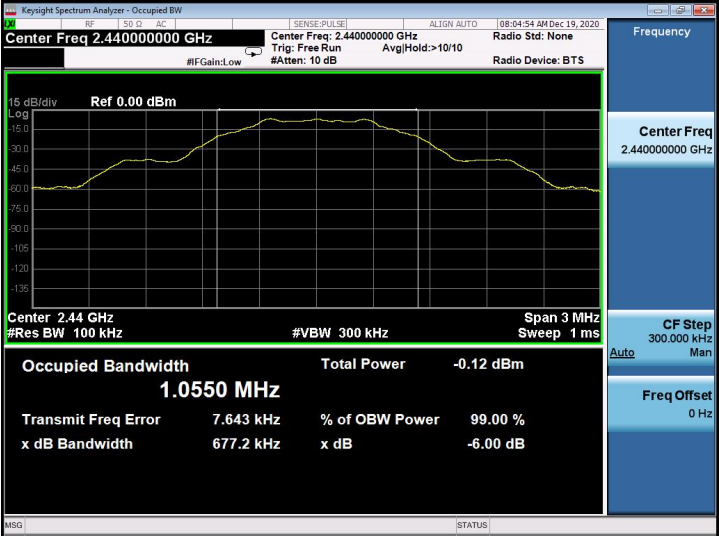
Temperature:	23.8° C
Relative Humidity:	56%
ATM Pressure:	100.0 kPa
Test Engineer:	Nancy Li
Supervised by:	Hugo Chen

A.1. 6dB Bandwidth

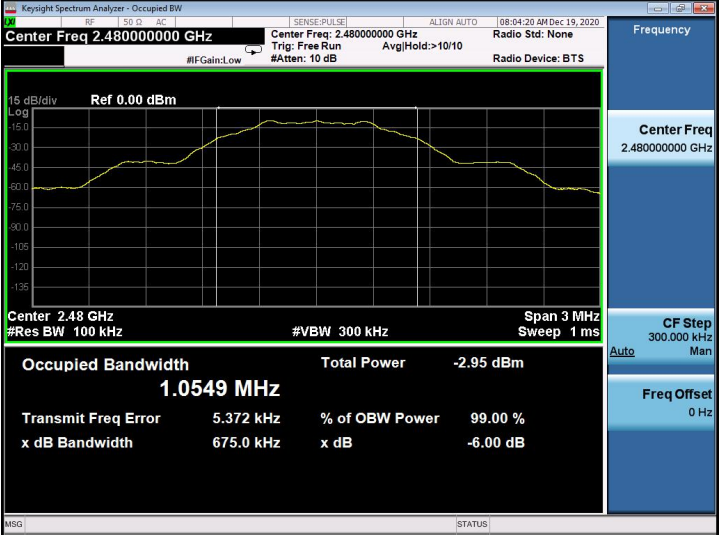
Test Mode	Test Channel	Ant	EBW[MHz]	Limit	Verdict
BLE(1Mbps)	2402	Ant1	0.682	0.5	PASS
BLE(1Mbps)	2440	Ant1	0.677	0.5	PASS
BLE(1Mbps)	2480	Ant1	0.675	0.5	PASS



BLE_BT4.0_Ant1_2402



BLE_BT4.0_Ant1_2440



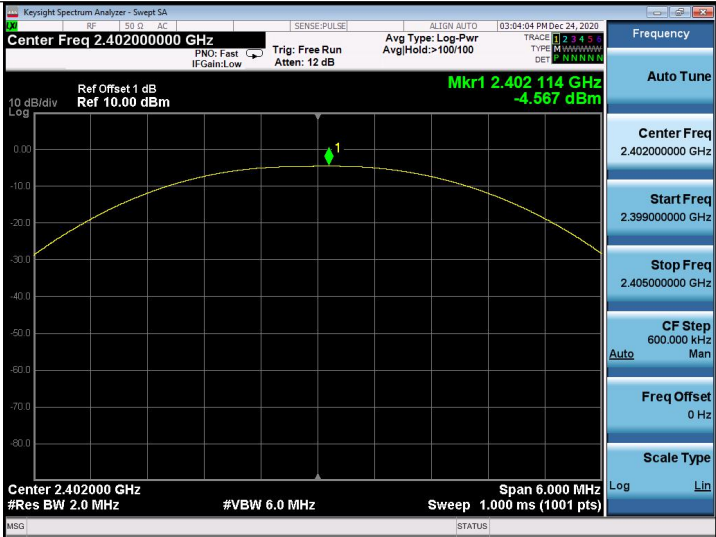
BLE_BT4.0_Ant1_2480

A.2. Occupied Bandwidth

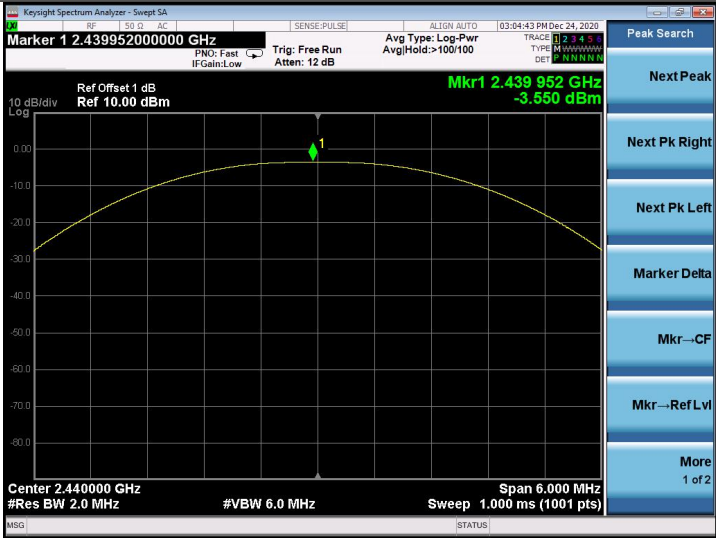
Test Mode	Test Channel	Ant	OBW[MHz]	Limit[MHz]	Verdict
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A.3. Maximum peak conducted output power

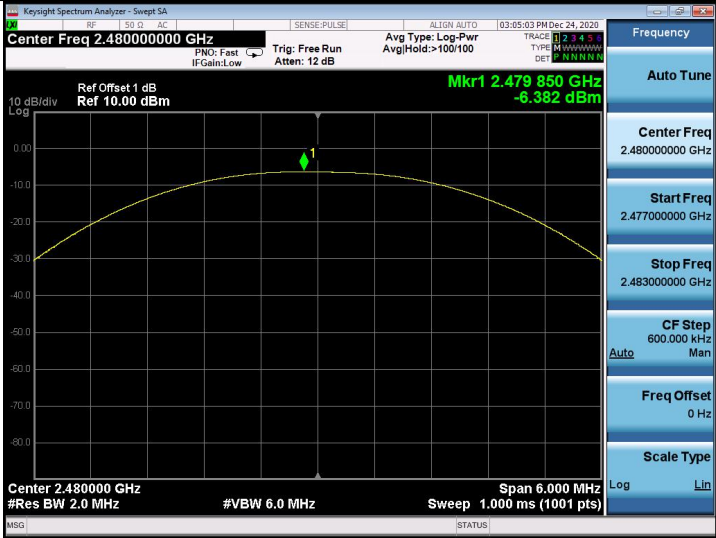
Test Mode	Test	Ant	Power[dBm]	Limit[dBm]	Verdict
BLE(1Mbps)	2402	Ant1	-4.56	30	PASS
BLE(1Mbps)	2440	Ant1	-3.55	30	PASS
BLE(1Mbps)	2480	Ant1	-6.38	30	PASS



BLE_BT4.0_Ant1_2402



BLE_BT4.0_Ant1_2440



BLE_BT4.0_Ant1_2480

A.4. Maximum Peak power spectral density

Test Mode	Test	Ant	PSD[dBm/10KHz]	Converter Factor [dB]	PSD[dBm/3KHz]	Limit[dBm/3KHz]	Verdict
BLE(1Mbps)	2402	Ant1	-11.02	5.23	-10.79	8.00	PASS
BLE(1Mbps)	2440	Ant1	-10.42	5.23	-9.83	8.00	PASS
BLE(1Mbps)	2480	Ant1	-11.55	5.23	-12.61	8.00	PASS

Note:

1, Converter factor = $10 * \lg(\text{RBW}/3 \text{ kHz}) = 5.23 \text{ (dB)}$

2, $\text{PSD[dBm/3KHz]} = \text{PSD[dBm/10KHz]} - \text{Converter Factor}$



BLE_BT4.0_Ant1_2402



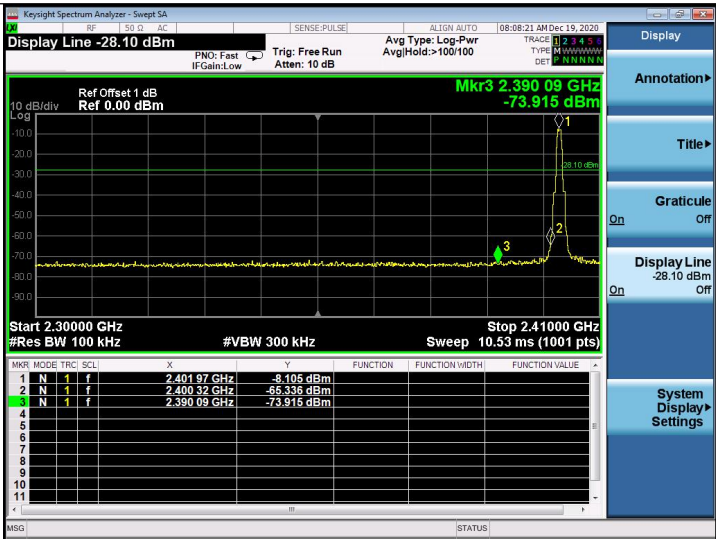
BLE_BT4.0_Ant1_2440



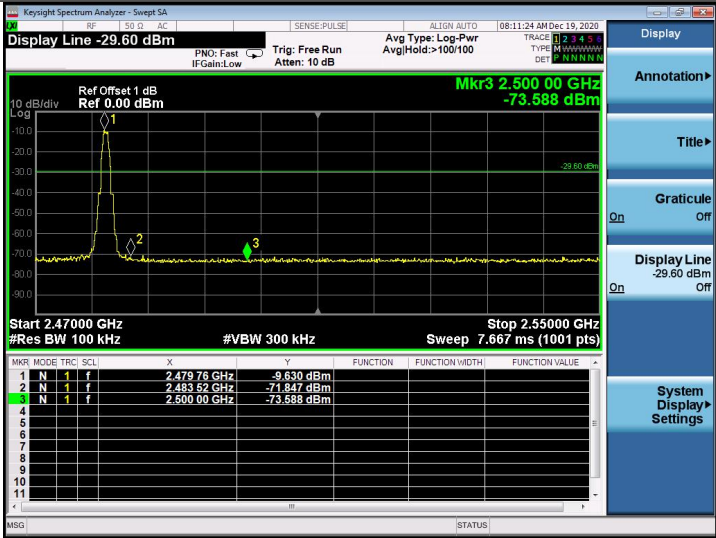
BLE_BT4.0_Ant1_2480

A.5. Band-edge for RF Conducted Emissions

TestMode	Antenna	ChName	Channel	RefLevel[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_BT4.0	Ant1	Low	2402	-2.07	-65.33	<=-28.10	PASS
		High	2480	-2.56	-71.84	<=-29.60	PASS



BLE_BT4.0_Ant1_Low_2402

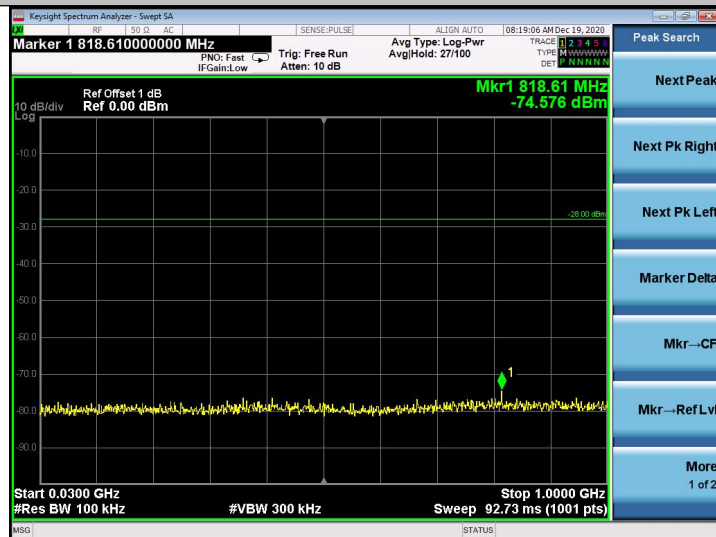


BLE_BT4.0_Ant1_High_2480

A.6. RF Conducted Spurious Emissions



BLE_BT4.0_Ant1_2402_0~Reference



BLE_BT4.0_Ant1_2402_30~1000



BLE_BT4.0_Ant1_2402_1000~8000



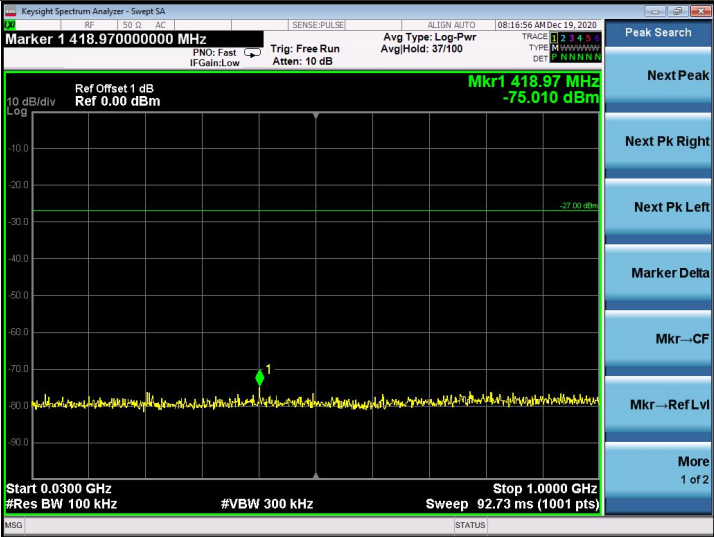
BLE_BT4.0_Ant1_2402_8000~16000



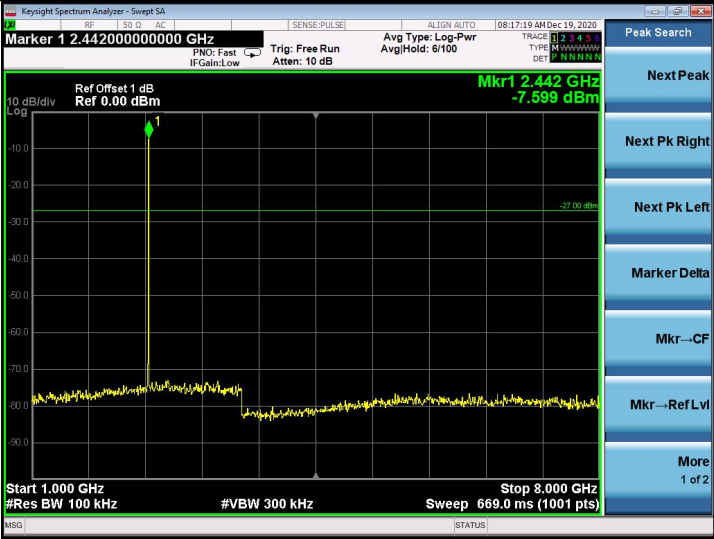
BLE_BT4.0_Ant1_2402_16000~25000



BLE_BT4.0_Ant1_2440_0~Reference



BLE_BT4.0_Ant1_2440_30~1000



BLE_BT4.0_Ant1_2440_1000~8000



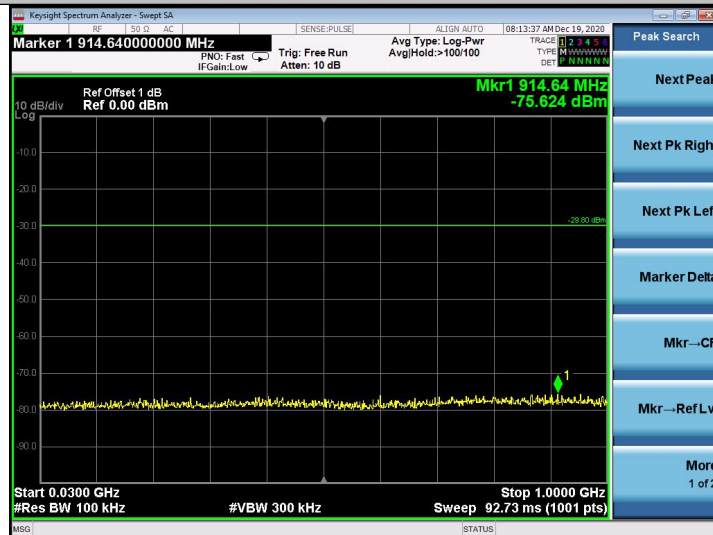
BLE_BT4.0_Ant1_2440_8000~16000



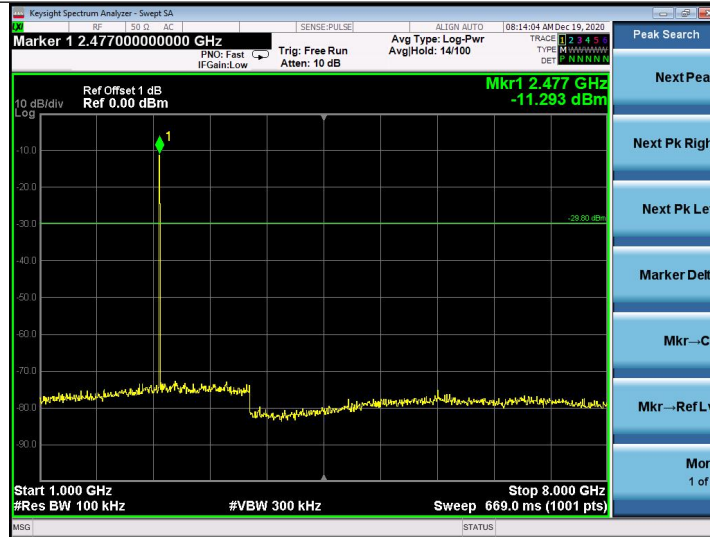
BLE_BT4.0_Ant1_2440_16000~25000



BLE_BT4.0_Ant1_2480_0~Reference



BLE_BT4.0_Ant1_2480_30~1000



BLE_BT4.0_Ant1_2480_1000~8000



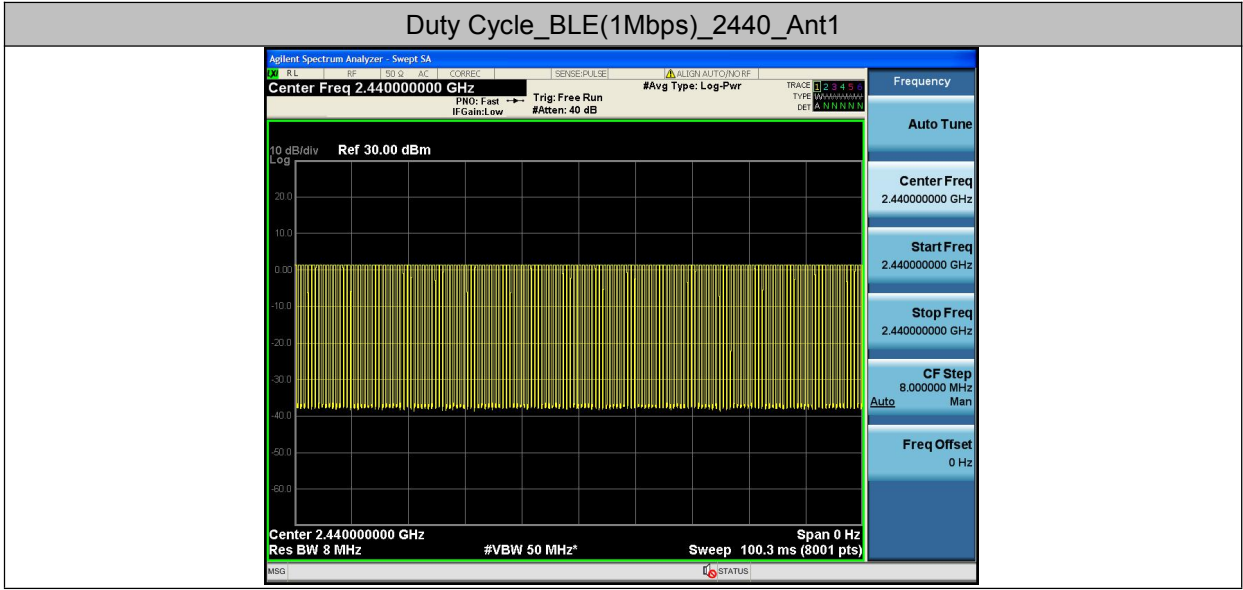
BLE_BT4.0_Ant1_2480_8000~16000



BLE_BT4.0_Ant1_2480_16000~25000

A.7. Duty Cycle

Test Mode	Test	Ant	Duty Cycle[%]	Transmission Duration [ms]	1/B[KHz]	Verdict
BLE(1Mbps)	2440	Ant1	67.61	0.625	1.6	PASS



A.8. Restrict-band band-edge measurements

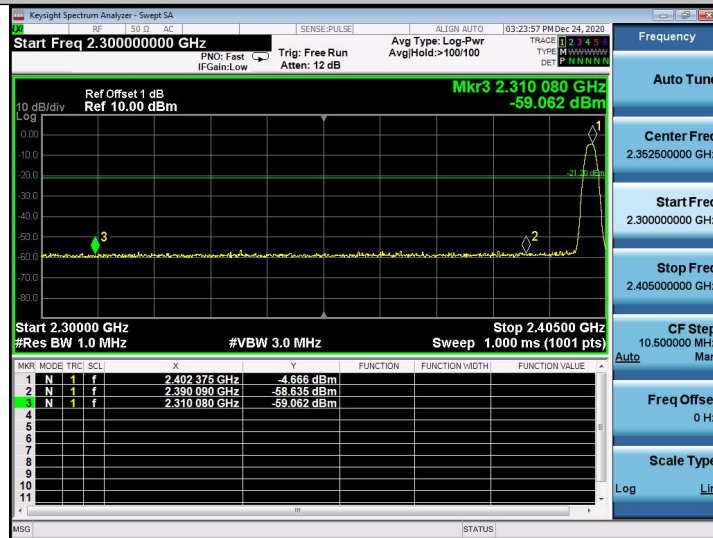
TestMode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Verdict
BLE_BT4.0	Ant1	Low	2402	AV	2310.000	-68.62	<=-41.20	PASS
				AV	2390.000	-68.26	<=-41.20	PASS
				Peak	2310.000	-59.06	<=-21.20	PASS
				Peak	2390.000	-58.63	<=-21.20	PASS
		High	2480	AV	2483.500	-67.32	<=-41.20	PASS
				AV	2500.000	-67.83	<=-41.20	PASS
				Peak	2483.500	-58.14	<=-21.20	PASS
				Peak	2500.000	-57.64	<=-21.20	PASS

Note:

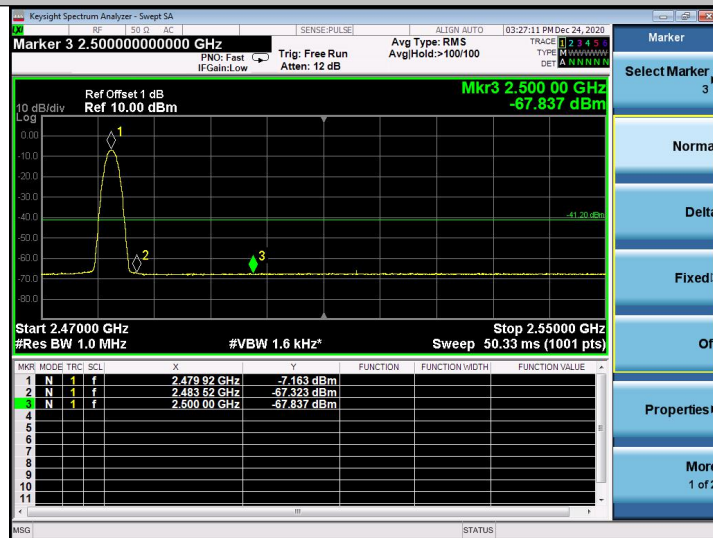
1. The Antenna Gain is compensated in the graph with 2dBi and Antenna Gain which is Higher.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.



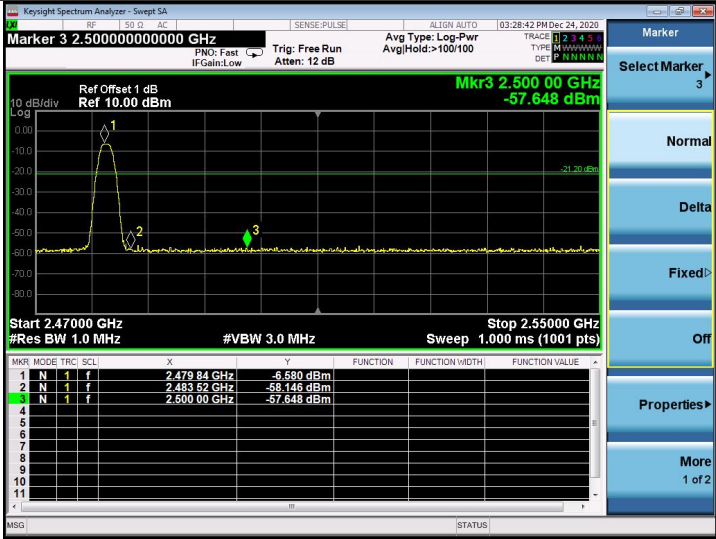
BLE_BT4.0_Ant1_Low_2402_AV



BLE_BT4.0_Ant1_Low_2402_Peak



BLE_BT4.0_Ant1_High_2480_AV



BLE_BT4.0_Ant1_High_2480_Peak