

# RF Test Data for Bluetooth LE (Conducted Measurements)

General Description of EUT	
<b>Product Name:</b>	HAKO mini Remote Control
<b>Test Model:</b>	B016P
<b>Sample ID:</b>	20211206-18-2#
Environmental Conditions	
<b>Temperature:</b>	23.8°C
<b>Relative Humidity:</b>	48%
<b>Test Voltage:</b>	DC 3.0V
<b>Test Engineer:</b>	Huang jian ping
Note: For a more detailed features description, please refer to the report TB-RF185418	

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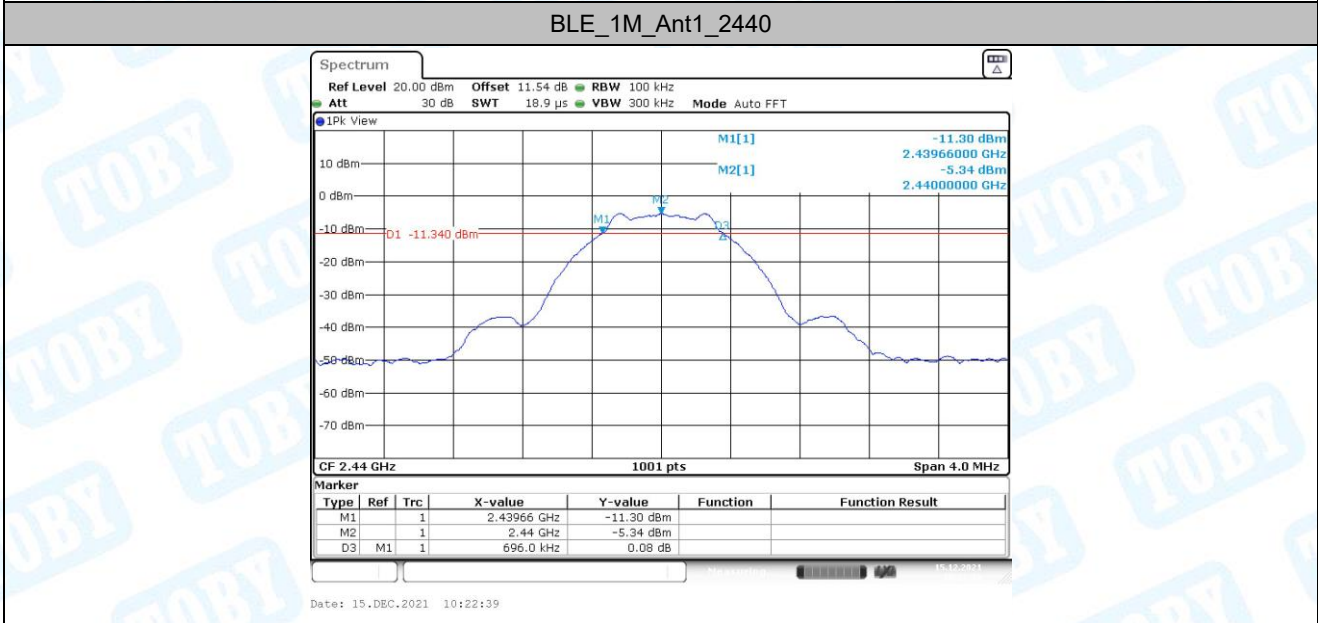
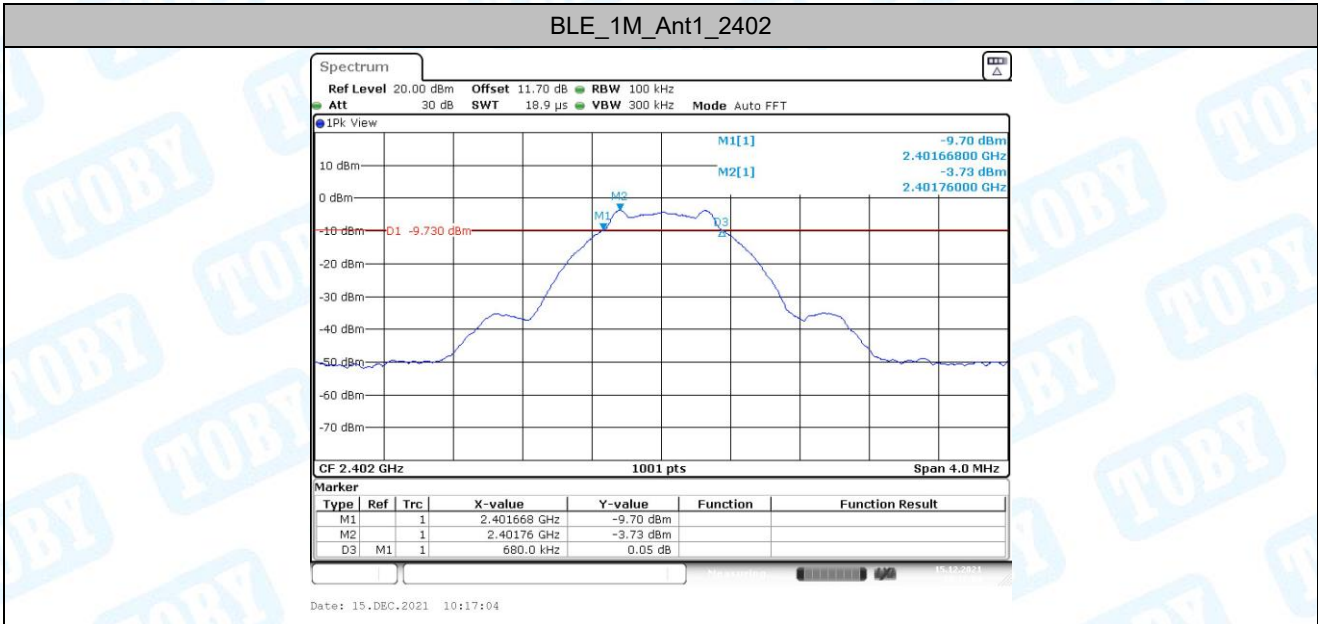


## 1. DTS Bandwidth

### 1.1. Test Result

Test Mode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.68	2401.67	2402.35	0.5	PASS
		2440	0.70	2439.66	2440.36	0.5	PASS
		2480	0.66	2479.67	2480.34	0.5	PASS

## 1.2. Test Graphs



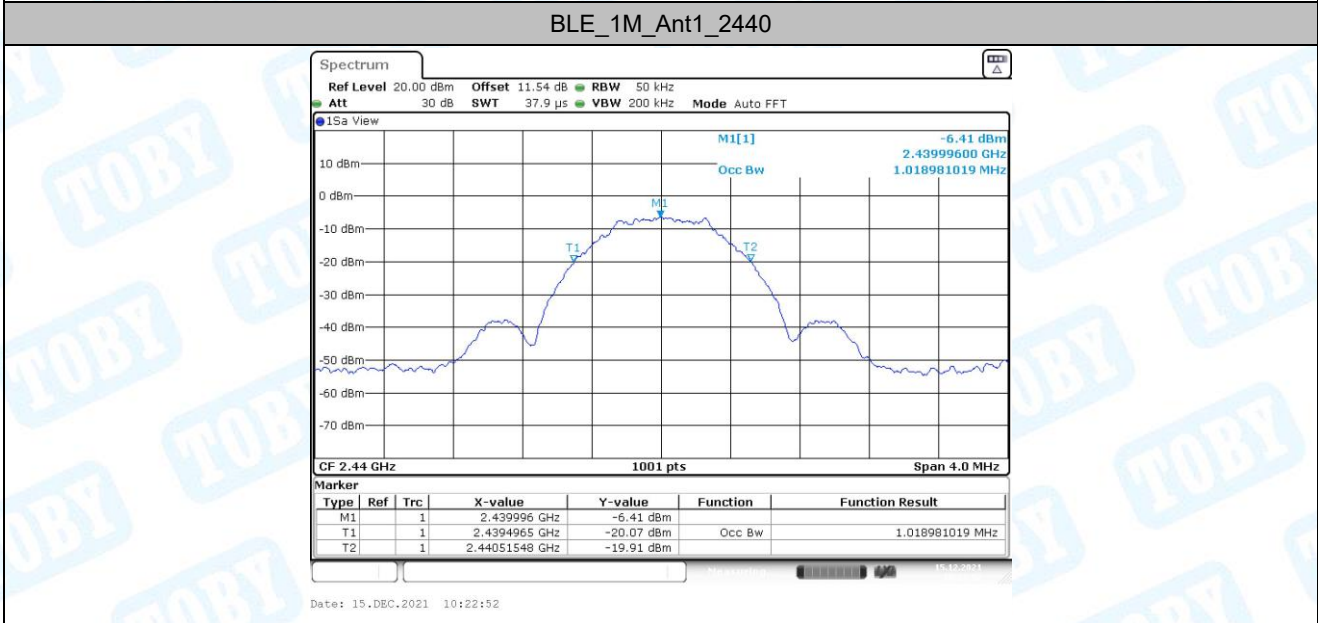
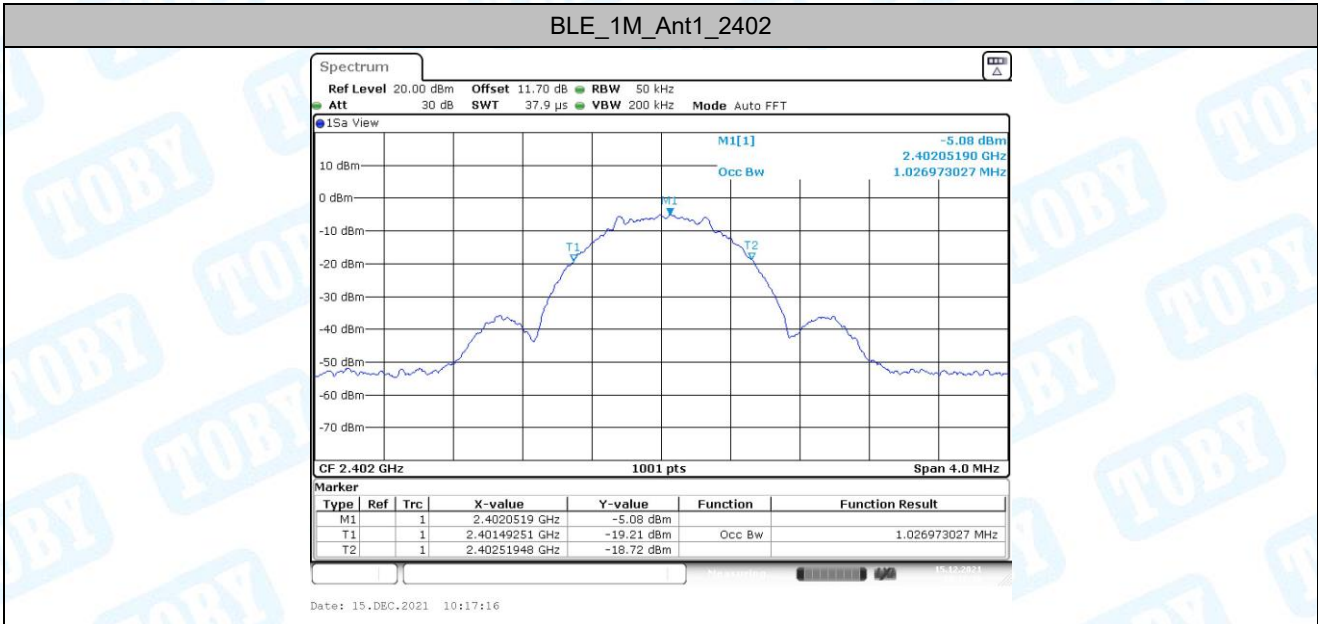


## 2. Occupied Channel Bandwidth

### 2.1. Test Result

Test Mode	Antenna	Channel	OCB [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	1.027	2401.493	2402.519	---	PASS
		2440	1.019	2439.497	2440.515	---	PASS
		2480	1.023	2479.493	2480.515	---	PASS

## 2.2. Test Graphs



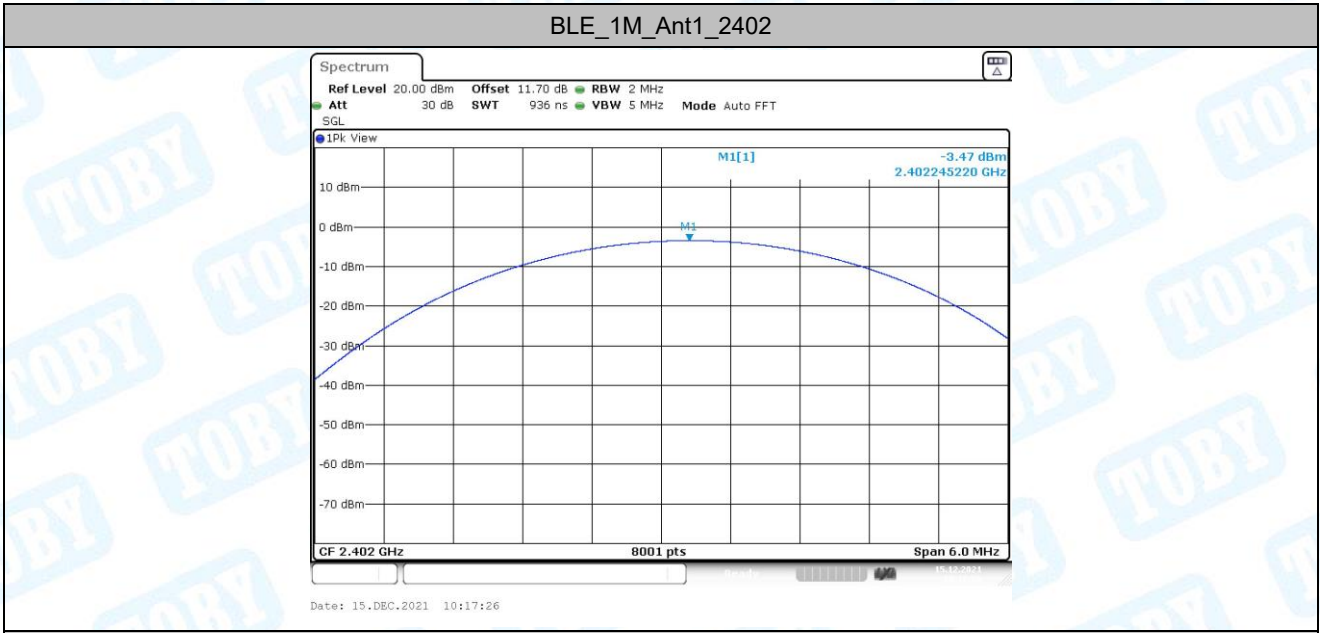


### 3. Maximum conducted output power

#### 3.1. Test Result

Test Mode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	-3.47	≤30	PASS
		2440	-4.68	≤30	PASS
		2480	-6	≤30	PASS

### 3.2. Test Graphs



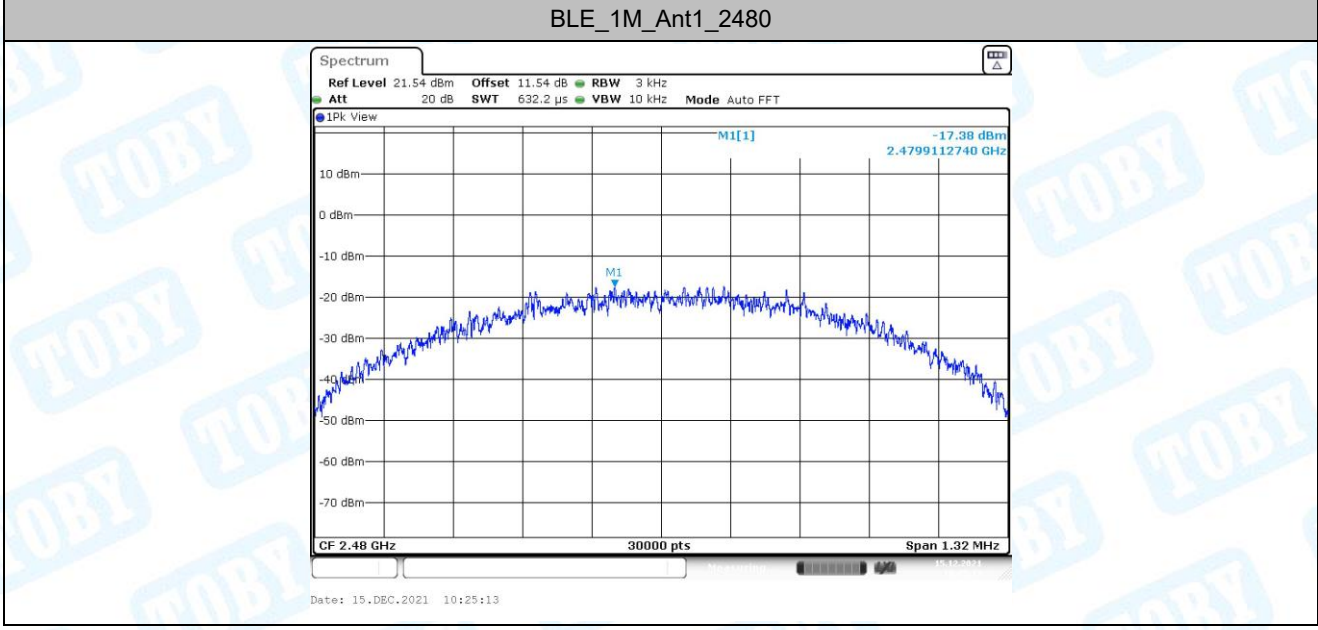
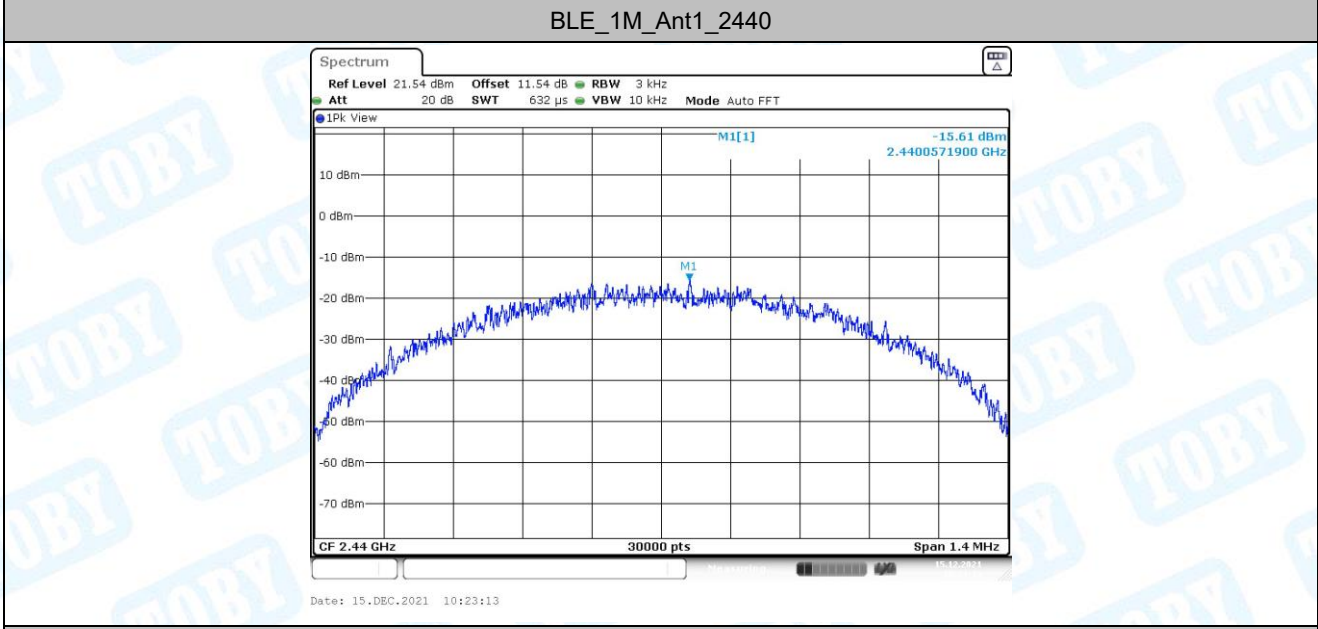
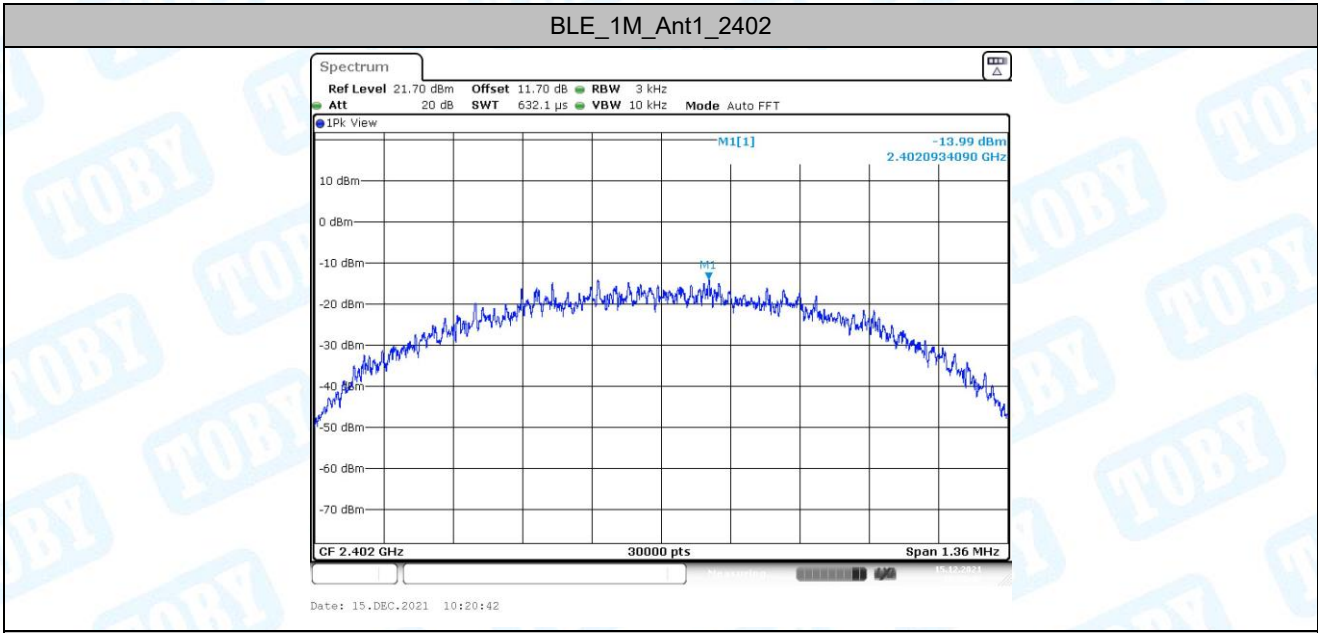


## 4. Maximum power spectral density

### 4.1. Test Result

Test Mode	Antenna	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-13.99	≤8	PASS
		2440	-15.61	≤8	PASS
		2480	-17.38	≤8	PASS

## 4.2. Test Graphs



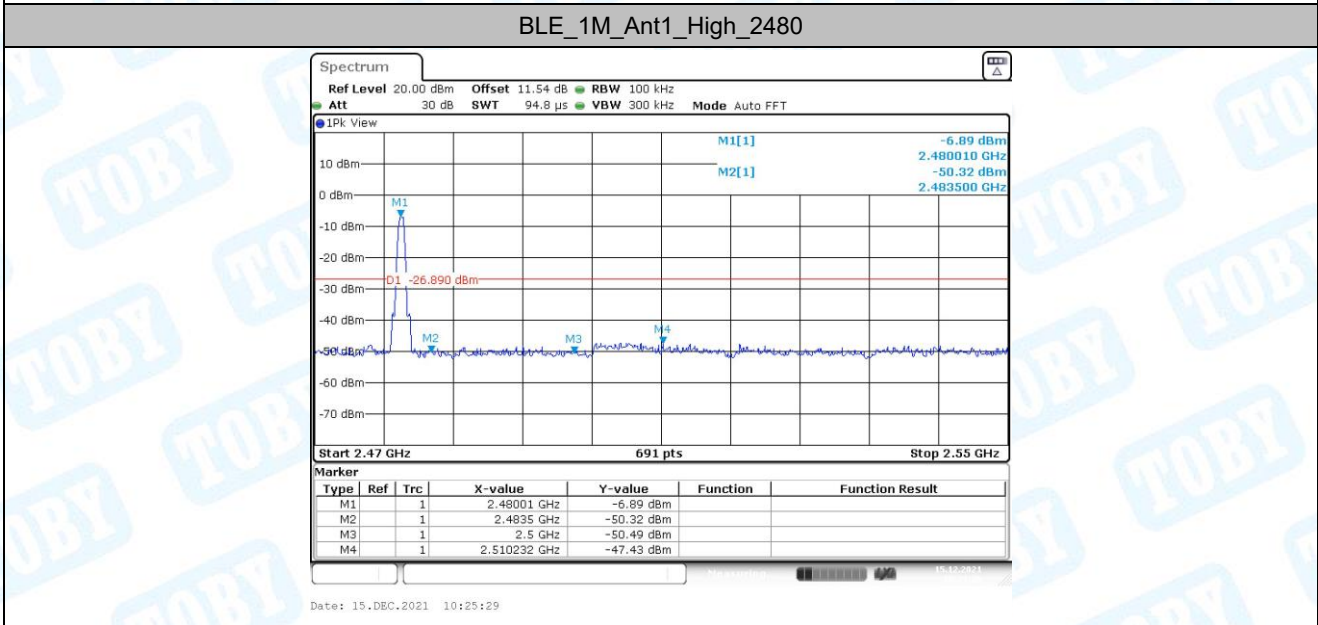
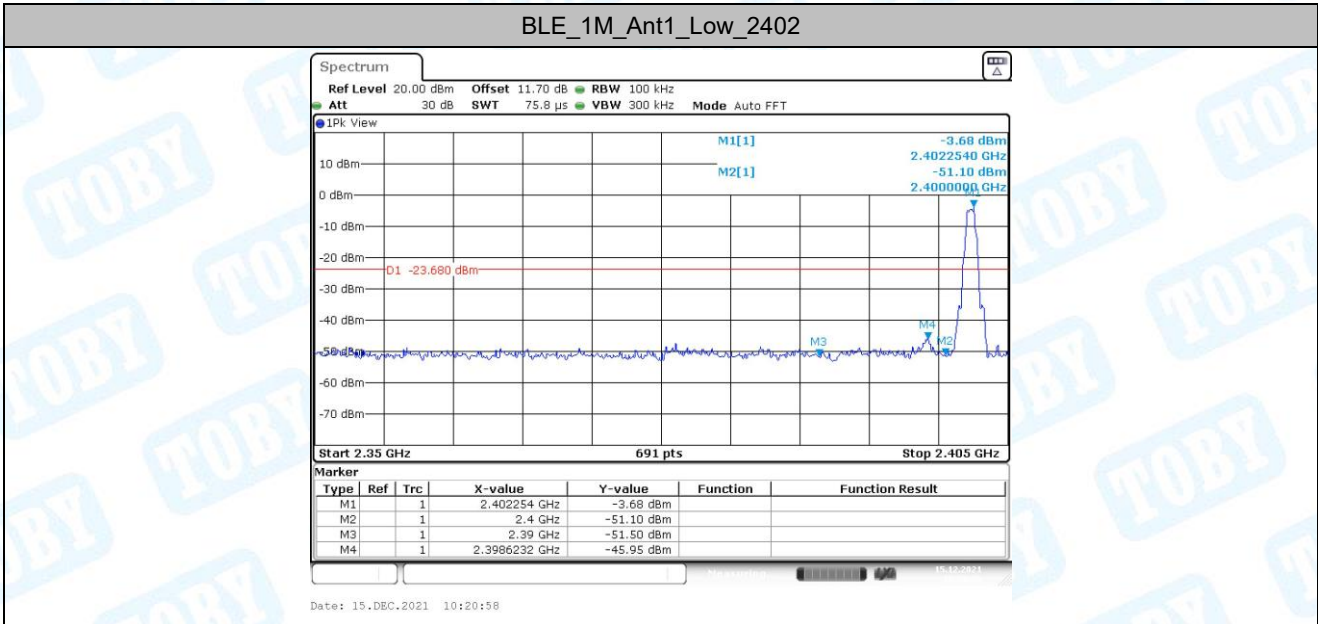


## 5. Band edge measurements

### 5.1. Test Result

Test Mode	Antenna	ChName	Channel	Ref.Level[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	-3.68	-45.95	≤-23.68	PASS
		High	2480	-6.89	-47.43	≤-26.89	PASS

**5.2. Test Graphs**



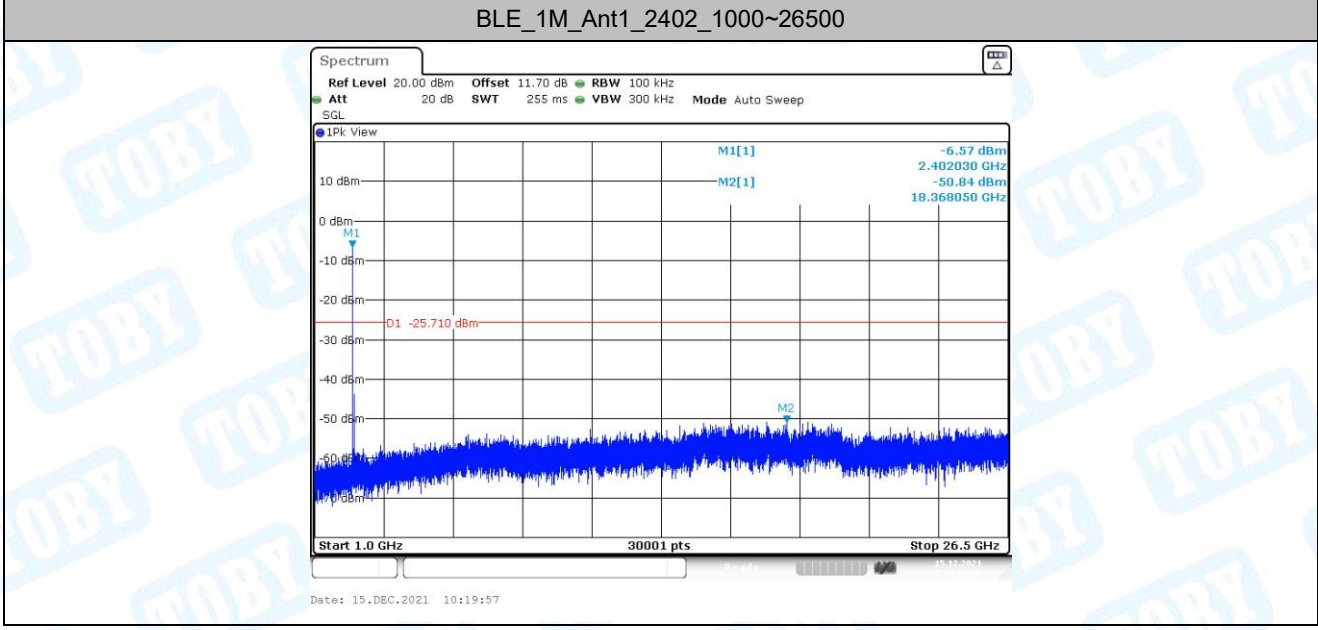
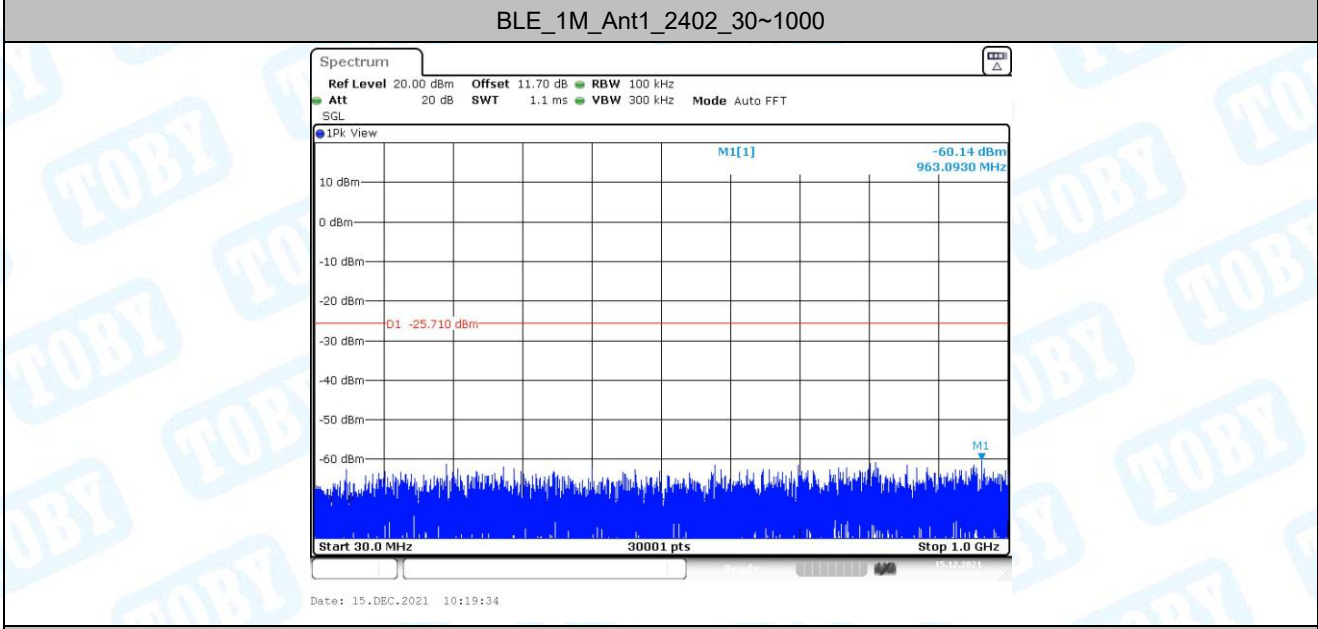
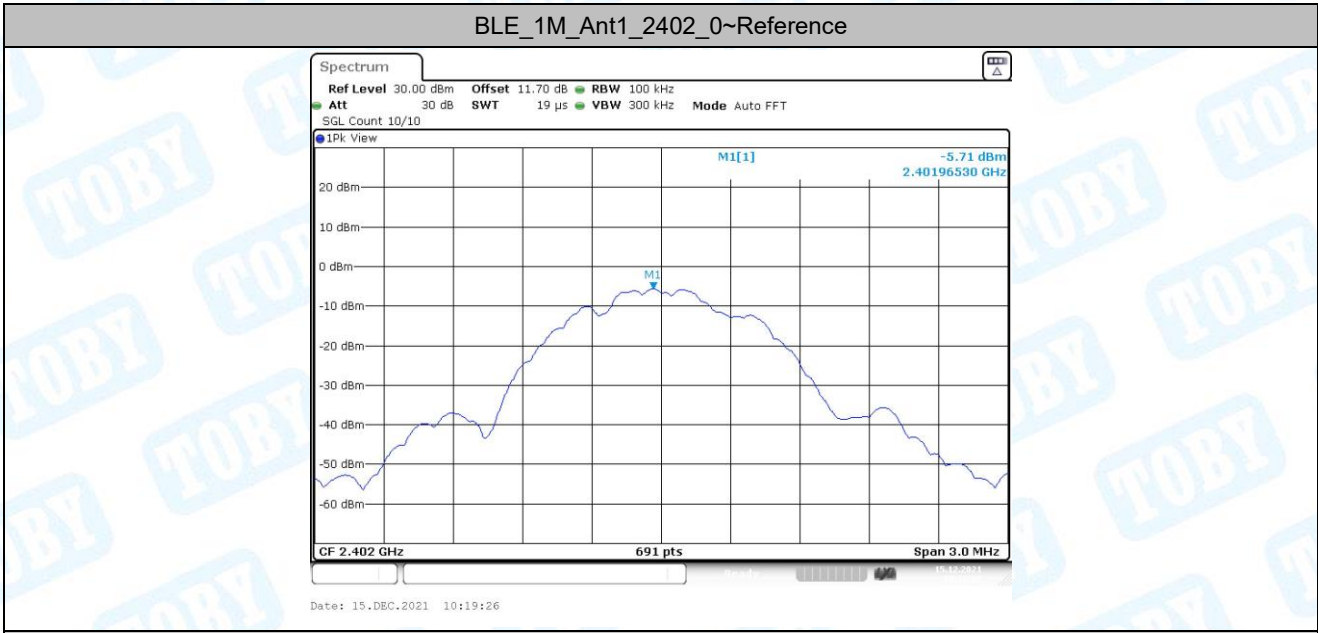


## 6. Conducted Spurious Emission

### 6.1. Test Result

Test Mode	Antenna	Channel	Freq. Range [MHz]	Ref. Level [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	-5.71	-5.71	---	PASS
			30~1000	-5.71	-60.14	≤-25.71	PASS
			1000~26500	-5.71	-50.84	≤-25.71	PASS
		2440	Reference	-6.72	-6.72	---	PASS
			30~1000	-6.72	-60.17	≤-26.72	PASS
			1000~26500	-6.72	-50.86	≤-26.72	PASS
		2480	Reference	-7.50	-7.50	---	PASS
			30~1000	-7.50	-61.01	≤-27.5	PASS
			1000~26500	-7.50	-50.42	≤-27.5	PASS

## 6.2. Test Graphs



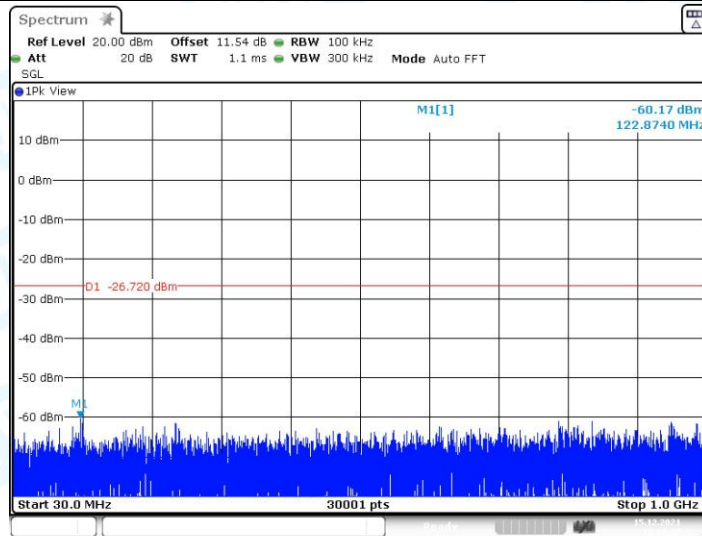


### BLE\_1M\_Ant1\_2440\_0~Reference



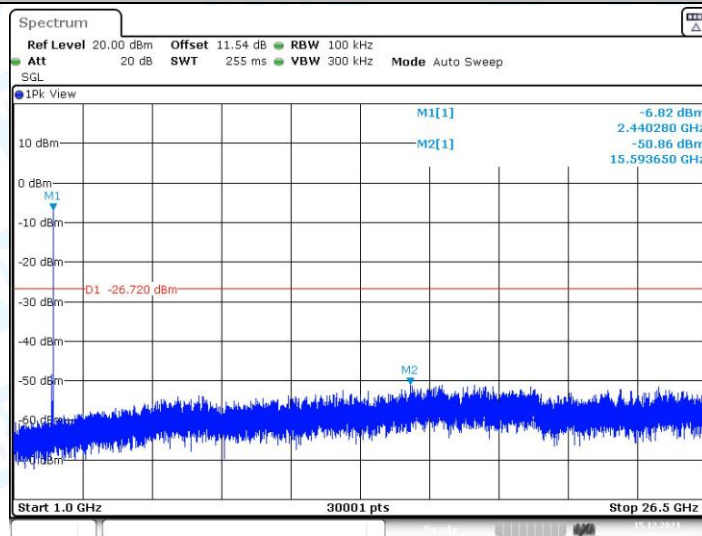
Date: 15.DEC.2021 10:23:19

### BLE\_1M\_Ant1\_2440\_30~1000



Date: 15.DEC.2021 10:23:27

### BLE\_1M\_Ant1\_2440\_1000~26500



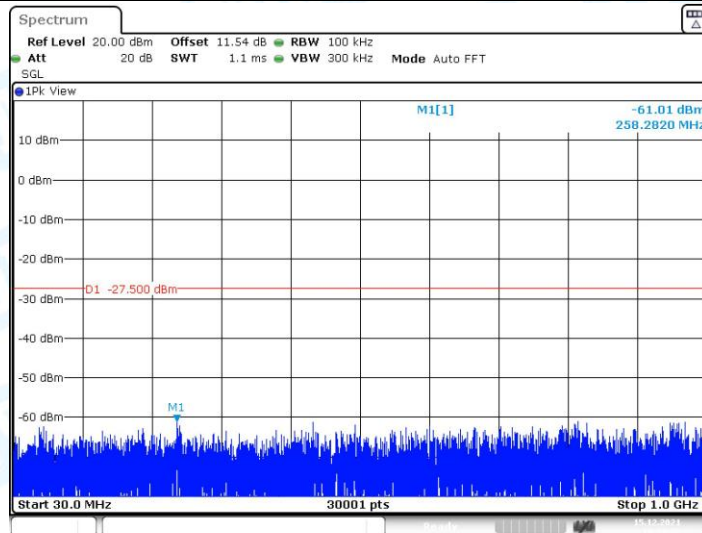
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### BLE\_1M\_Ant1\_2480\_0~Reference



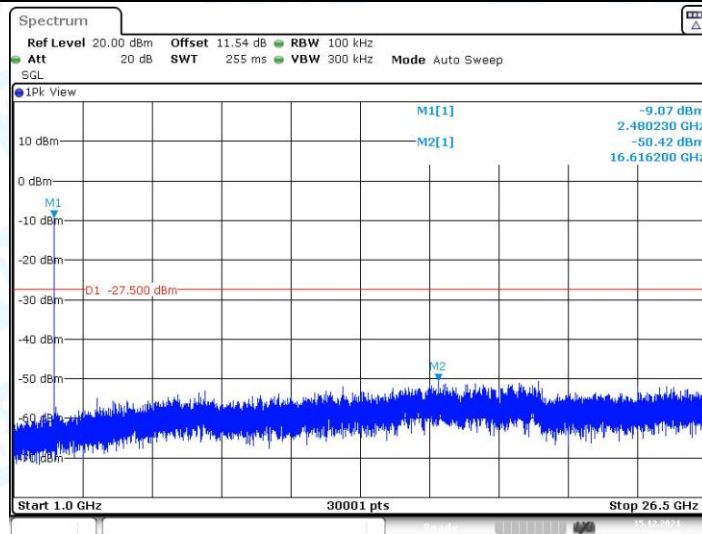
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### BLE\_1M\_Ant1\_2480\_30~1000



Date: 15.DEC.2021 10:27:22

### BLE\_1M\_Ant1\_2480\_1000~26500



Date: 15.DEC.2021 10:27:45

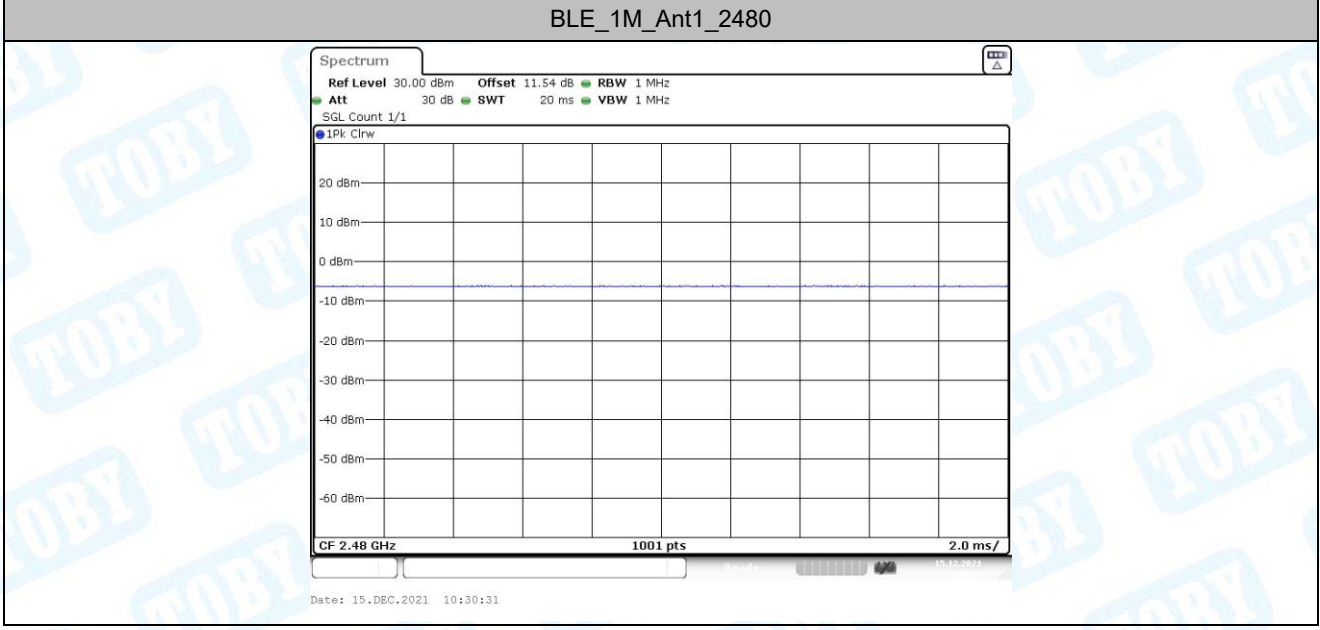
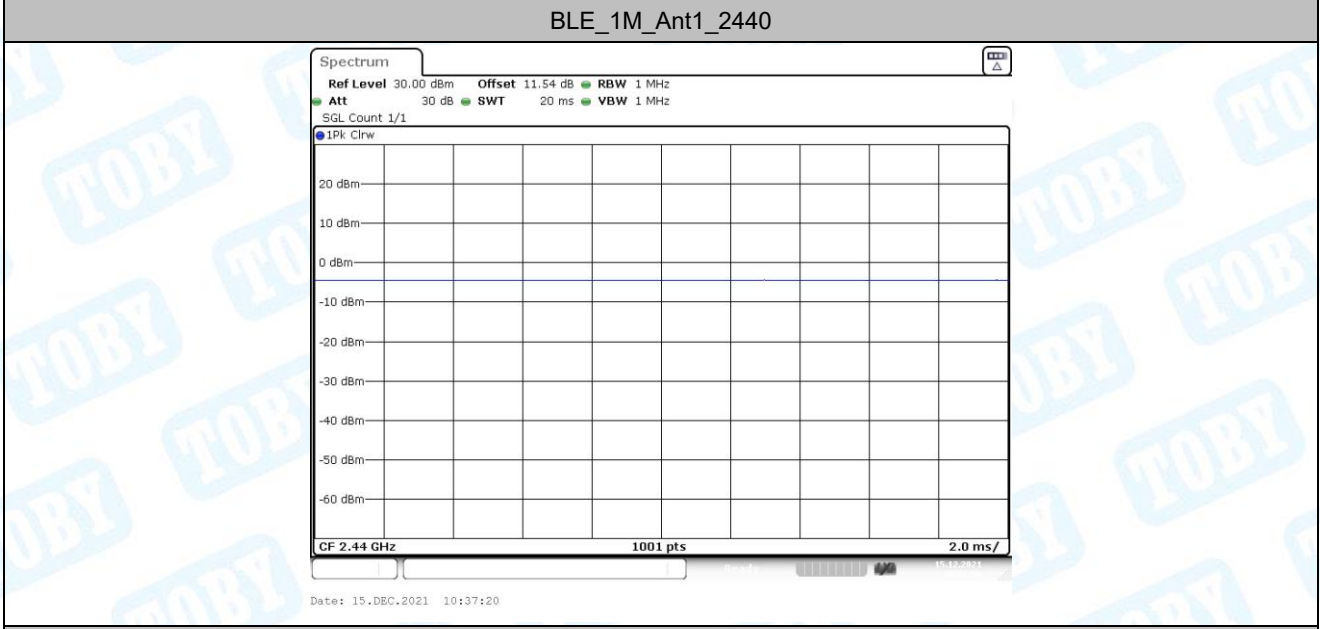
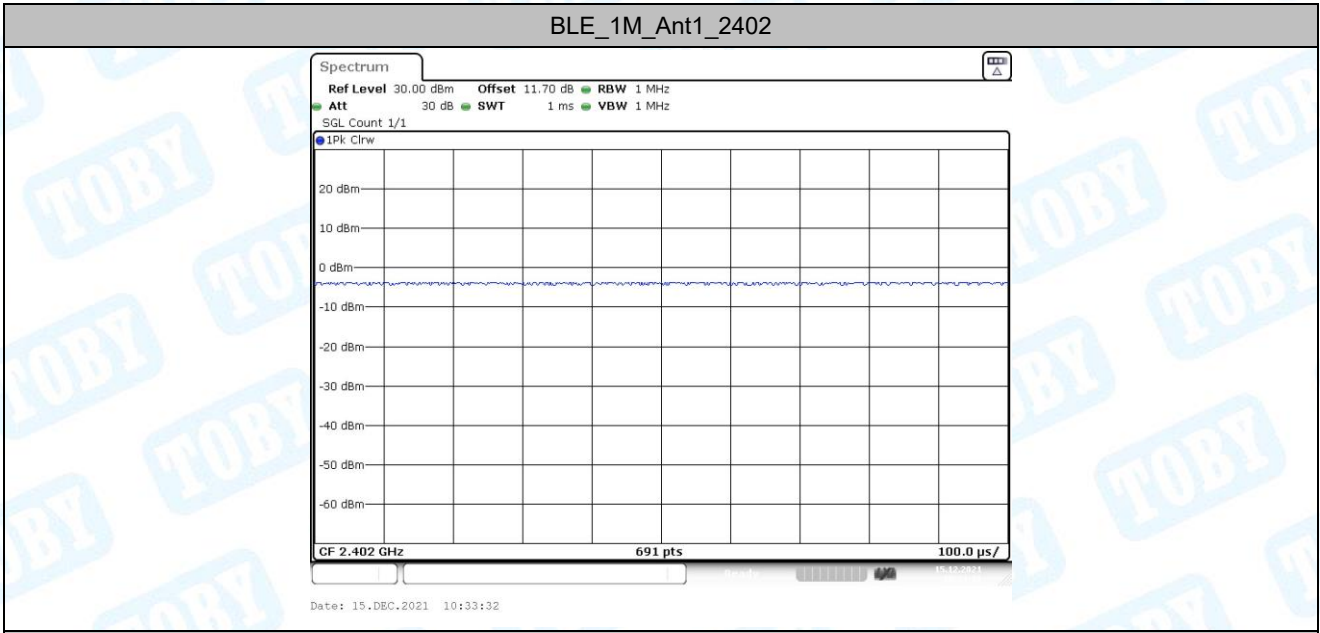


## 7. Duty Cycle

### 7.1. Test Result

Test Mode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	1/T [KHz]	Limit	Verdict
BLE_1M	Ant1	2402	0.00	0.00	100	0	---	PASS
		2440	0.00	0.00	100	0	---	PASS
		2480	0.00	0.00	100	0	---	PASS

## 7.2. Test Graphs





## 8. Emissions in Restricted Bands

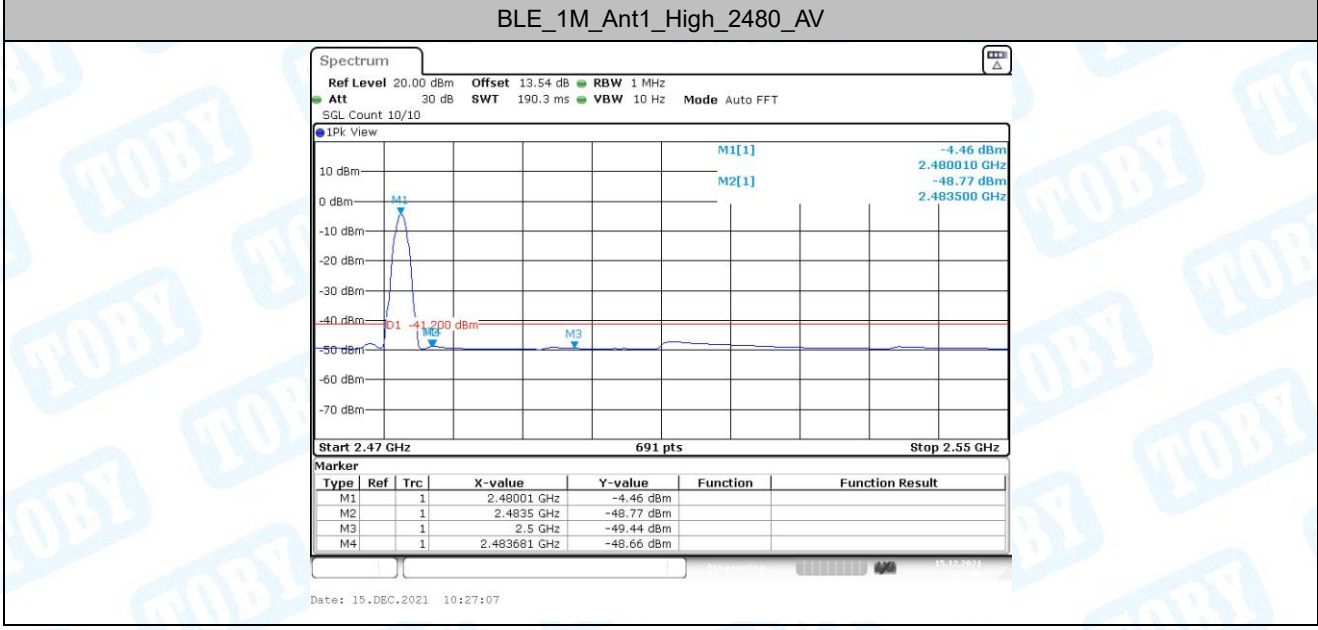
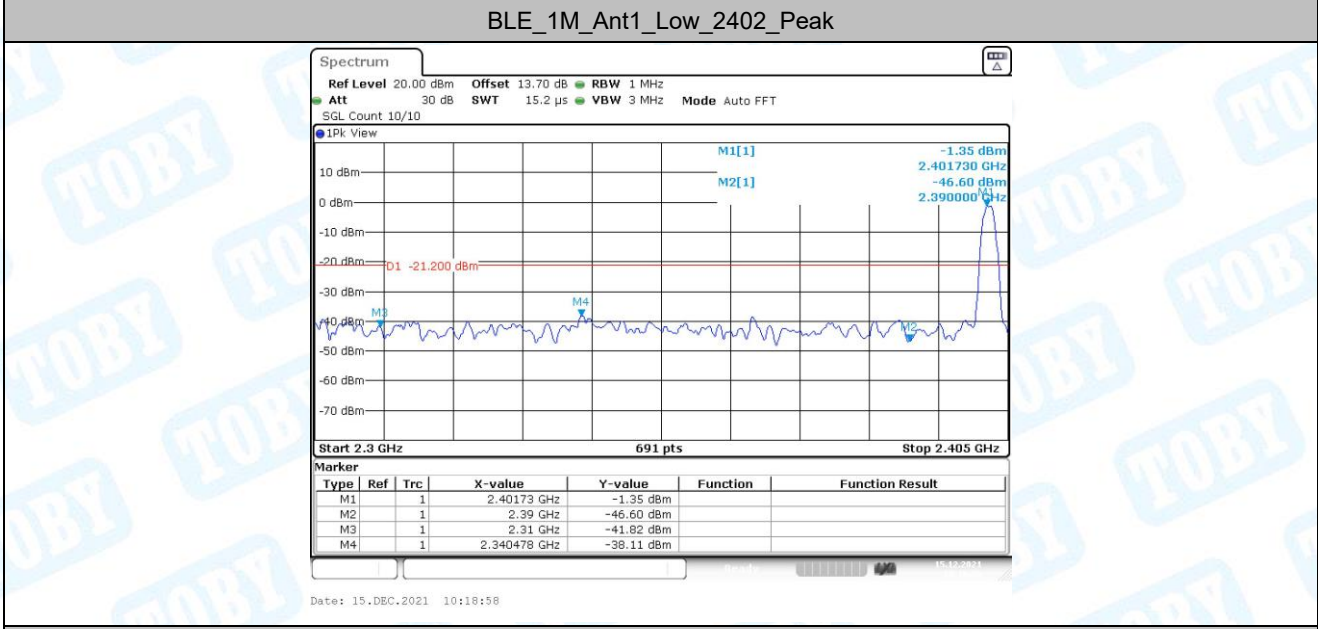
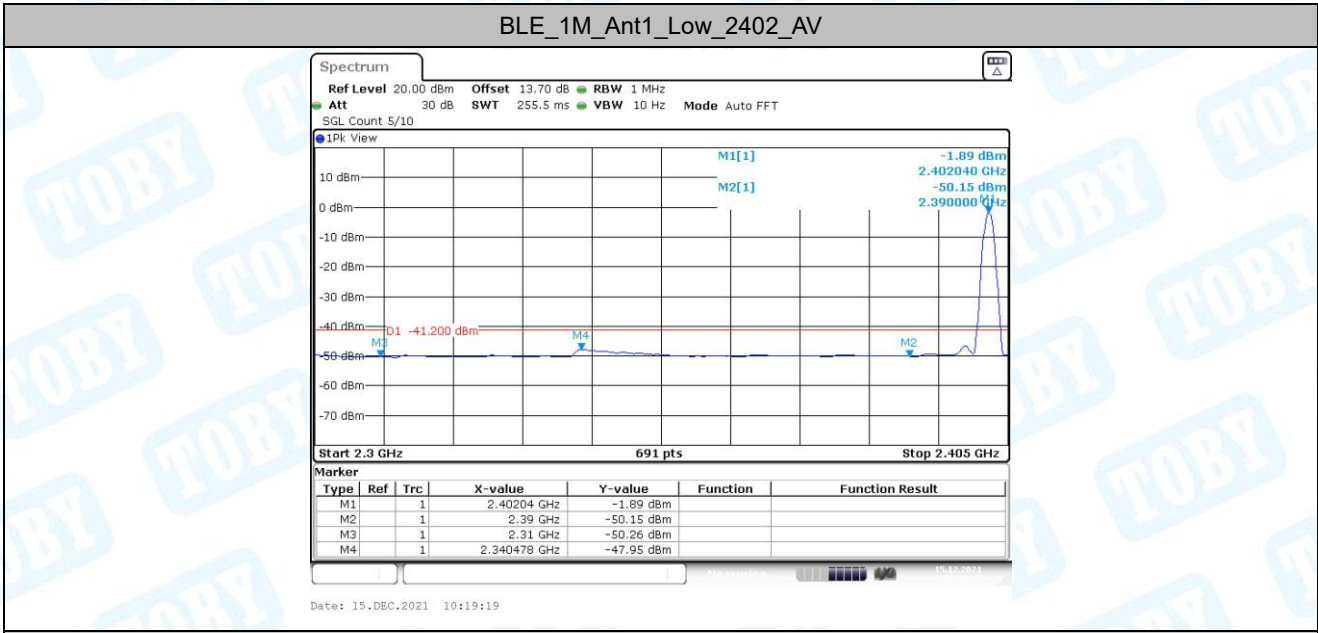
### 8.1. Test Result

Test Mode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-50.26	≤-41.20	PASS
				AV	2340.478	-47.95	≤-41.20	PASS
				AV	2390.000	-50.15	≤-41.20	PASS
				Peak	2310.000	-41.82	≤-21.20	PASS
				Peak	2340.478	-38.11	≤-21.20	PASS
				Peak	2390.000	-46.6	≤-21.20	PASS
		High	2480	AV	2483.500	-48.77	≤-41.20	PASS
				AV	2483.681	-48.66	≤-41.20	PASS
				AV	2500.000	-49.44	≤-41.20	PASS
				Peak	2483.500	-42.52	≤-21.20	PASS
				Peak	2489.942	-39.17	≤-21.20	PASS
				Peak	2500.000	-42.38	≤-21.20	PASS

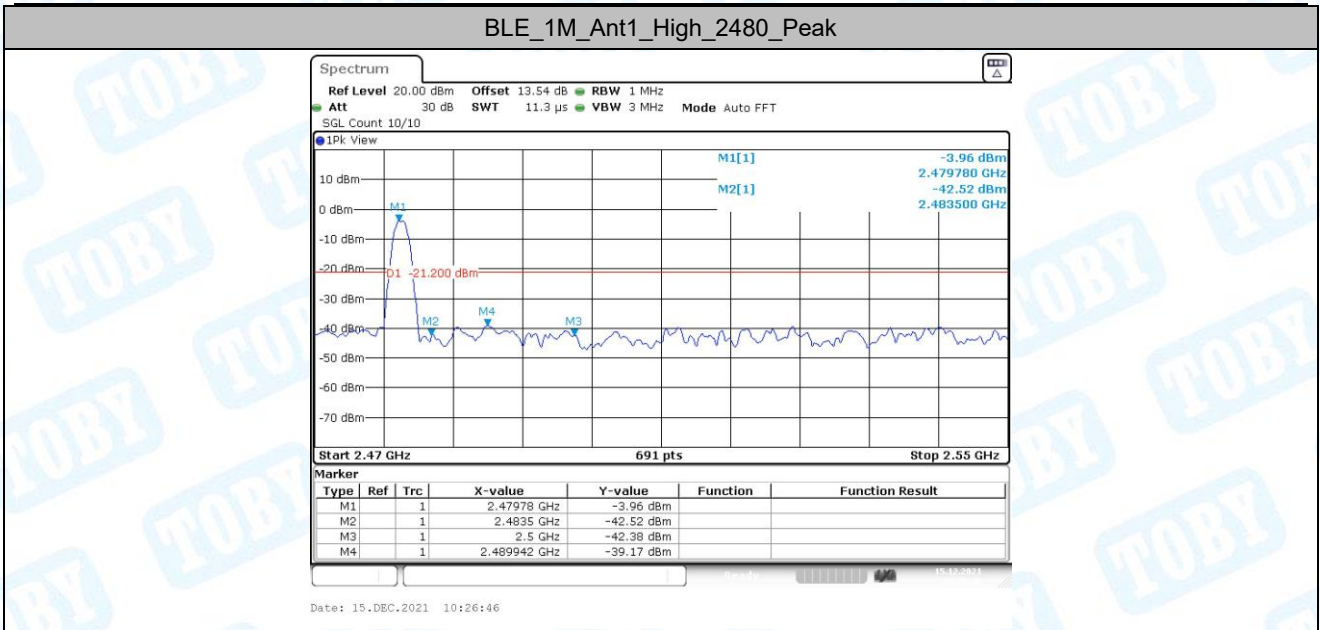
Note:

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-----