

# RF Test Data for Bluetooth LE (Conducted Measurements)

General Description of EUT	
<b>Product Name:</b>	RM75 RGBWW Video Light
<b>Test Model:</b>	RM75
<b>Sample ID:</b>	20210816-17-02
Environmental Conditions	
<b>Temperature:</b>	23.8°C
<b>Relative Humidity:</b>	48%
<b>Test Voltage:</b>	DC 5V
<b>Test Engineer:</b>	Huang jian ping
Note: For a more detailed features description, please refer to the report TB-FCC183755	

## Contents

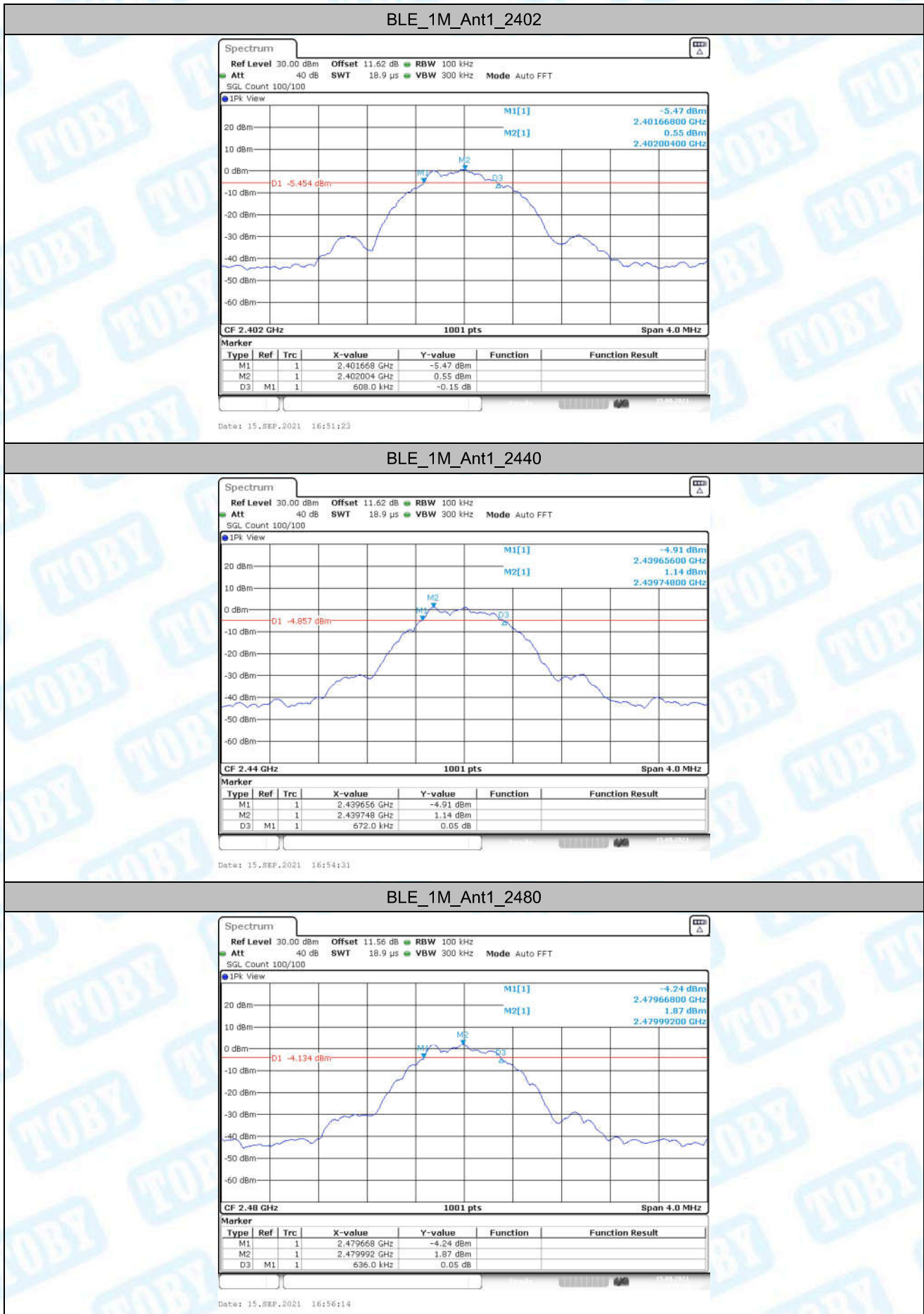
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# 1. DTS Bandwidth

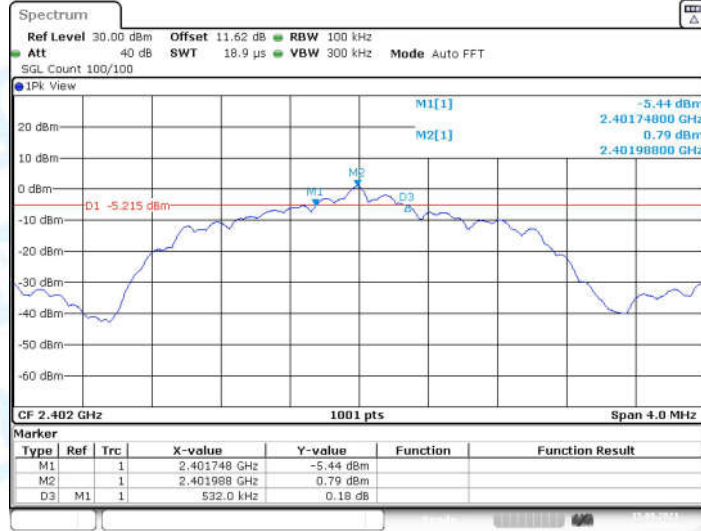
## 1.1. Test Result

Test Mode	Antenna	Channel	DTS BW [MHz]	FL[MHz]	FH[MHz]	Limit[MHz]	Verdict
BLE_1M	Ant1	2402	0.608	2401.668	2402.276	0.5	PASS
		2440	0.672	2439.656	2440.328	0.5	PASS
		2480	0.636	2479.668	2480.304	0.5	PASS
BLE_2M	Ant1	2402	0.532	2401.748	2402.280	0.5	PASS
		2440	0.940	2439.592	2440.532	0.5	PASS
		2480	0.876	2479.440	2480.316	0.5	PASS

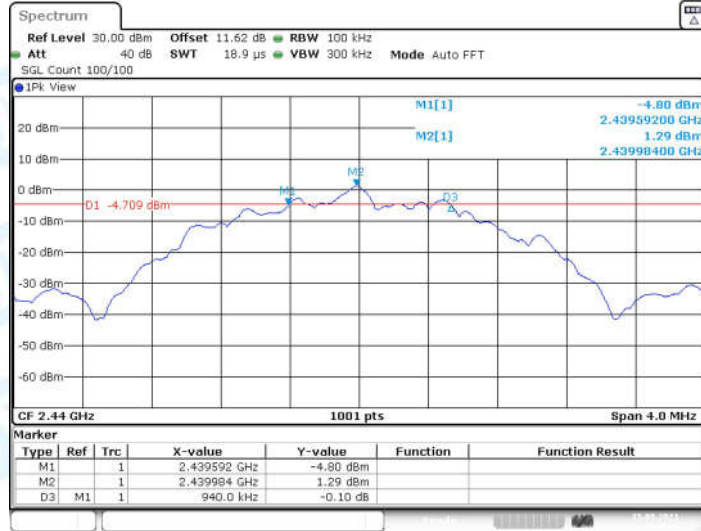
## 1.2. Test Graphs



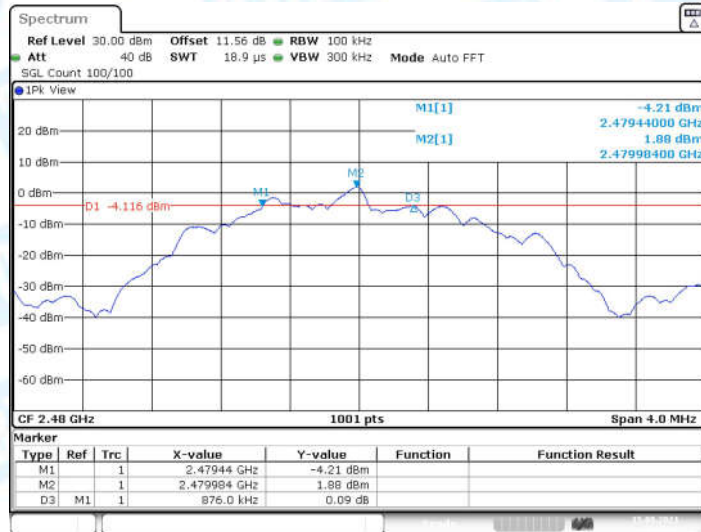
### BLE\_2M\_Ant1\_2402



### BLE\_2M\_Ant1\_2440



### BLE\_2M\_Ant1\_2480

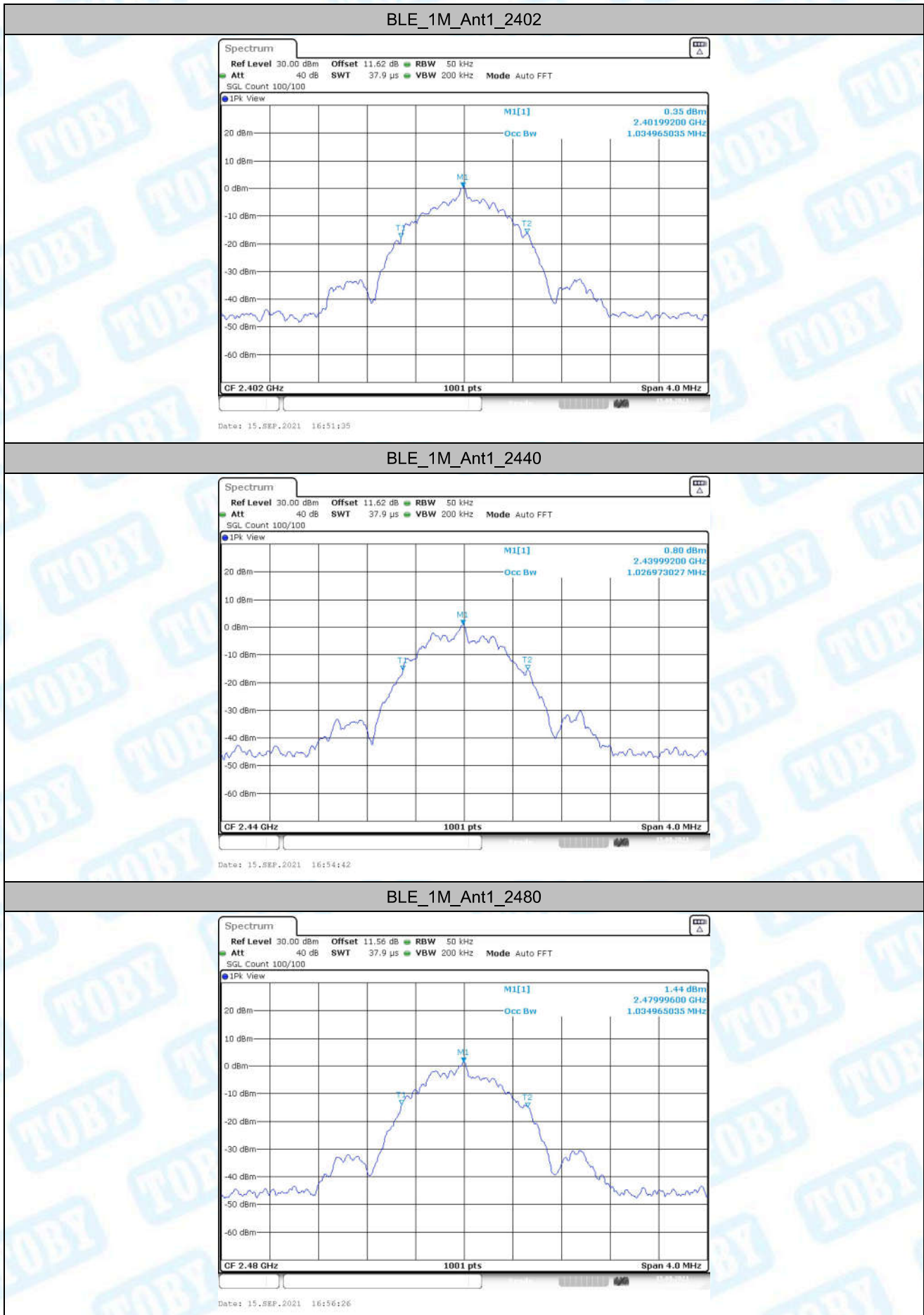


## 2. Occupied Channel Bandwidth

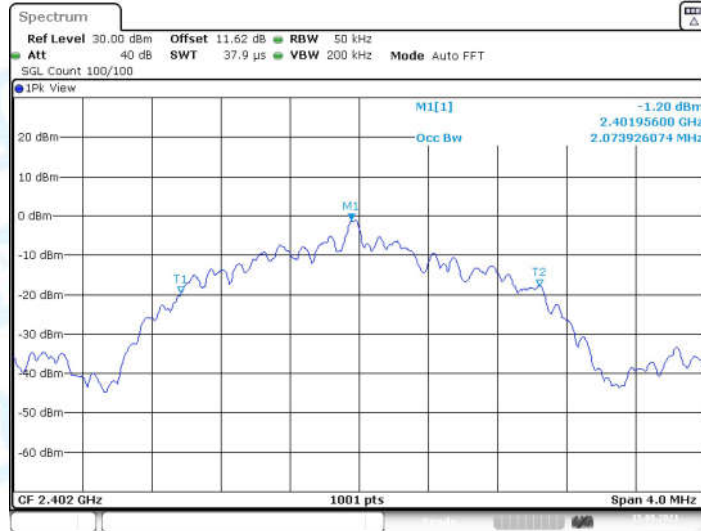
### 2.1. Test Result

Test Mode	Antenna	Channel	OCB [MHz]	FL [MHz]	FH [MHz]	Limit [MHz]	Verdict
BLE_1M	Ant1	2402	1.035	2401.481	2402.515	---	PASS
		2440	1.027	2439.493	2440.519	---	PASS
		2480	1.035	2479.485	2480.519	---	PASS
BLE_2M	Ant1	2402	2.074	2400.969	2403.043	---	PASS
		2440	2.05	2438.989	2441.039	---	PASS
		2480	2.058	2478.977	2481.035	---	PASS

## 2.2. Test Graphs

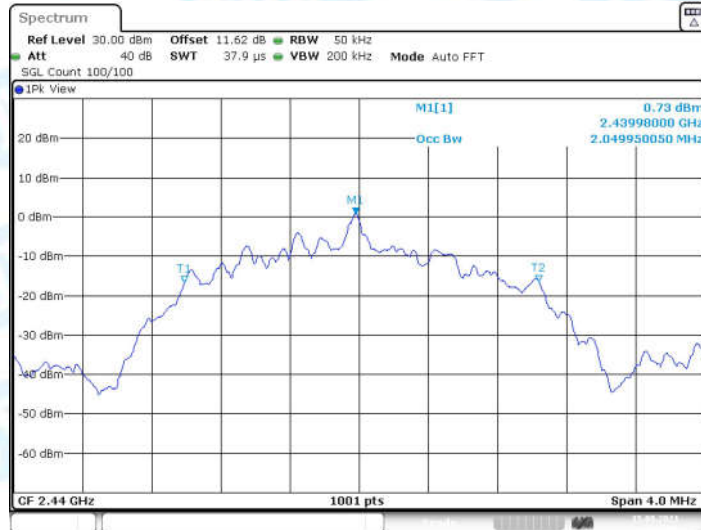


### BLE\_2M\_Ant1\_2402



Date: 15.SEP.2021 17:01:40

### BLE\_2M\_Ant1\_2440



Date: 15.SEP.2021 17:04:46

### BLE\_2M\_Ant1\_2480



Date: 15.SEP.2021 17:06:42

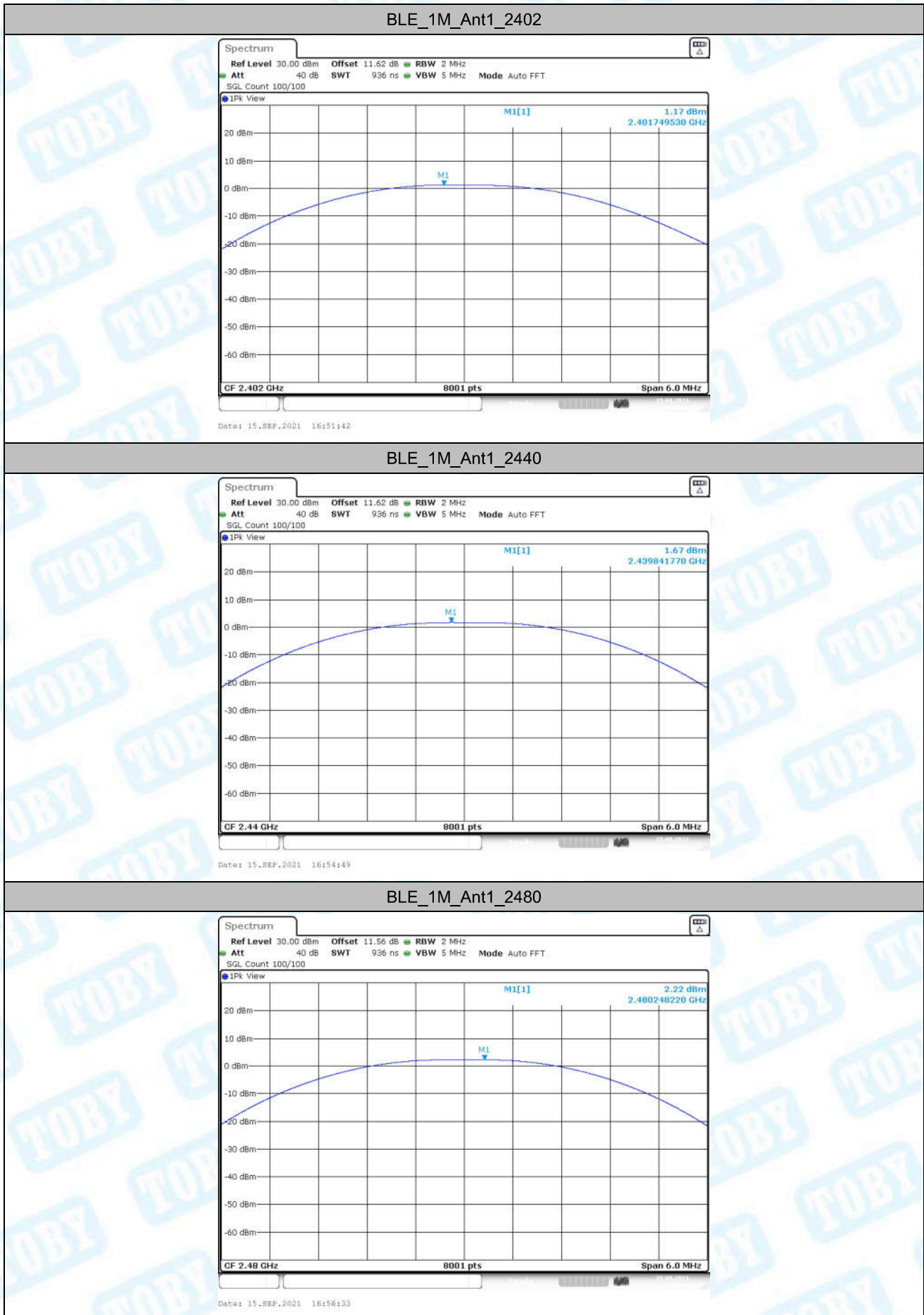


### 3. Maximum conducted output power

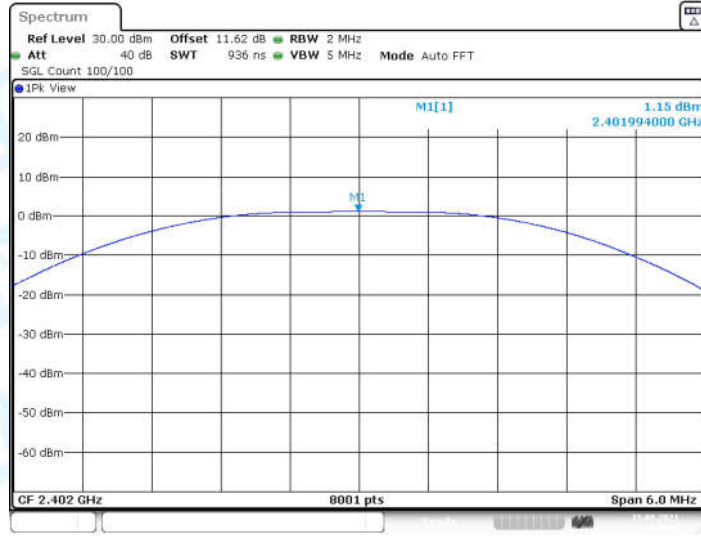
#### 3.1. Test Result

Test Mode	Antenna	Channel	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	1.17	≤30	PASS
		2440	1.67	≤30	PASS
		2480	2.22	≤30	PASS
BLE_2M	Ant1	2402	1.15	≤30	PASS
		2440	1.67	≤30	PASS
		2480	2.31	≤30	PASS

### 3.2. Test Graphs

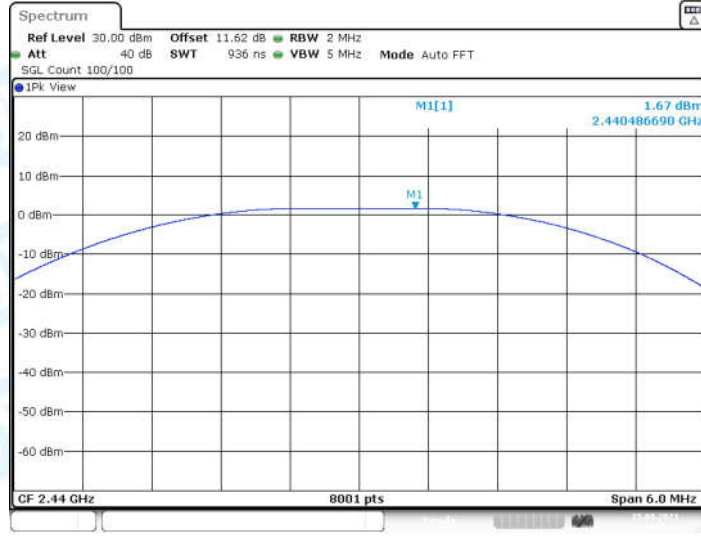


### BLE\_2M\_Ant1\_2402



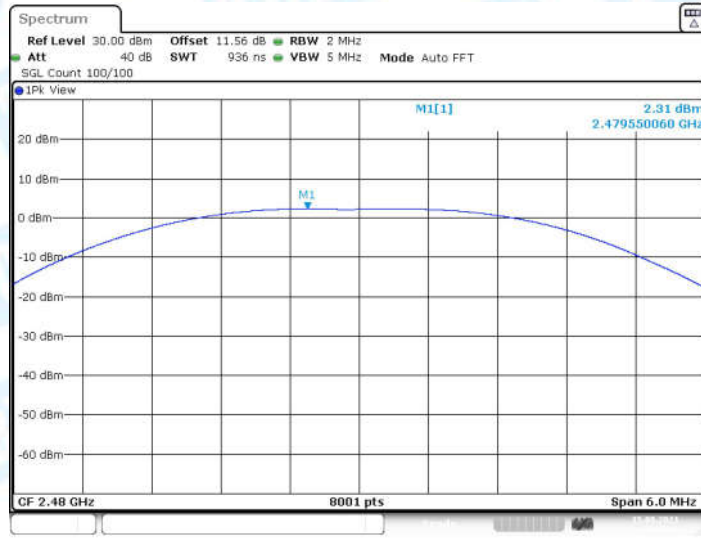
Date: 15.SEP.2021 17:01:47

### BLE\_2M\_Ant1\_2440



Date: 15.SEP.2021 17:04:53

### BLE\_2M\_Ant1\_2480



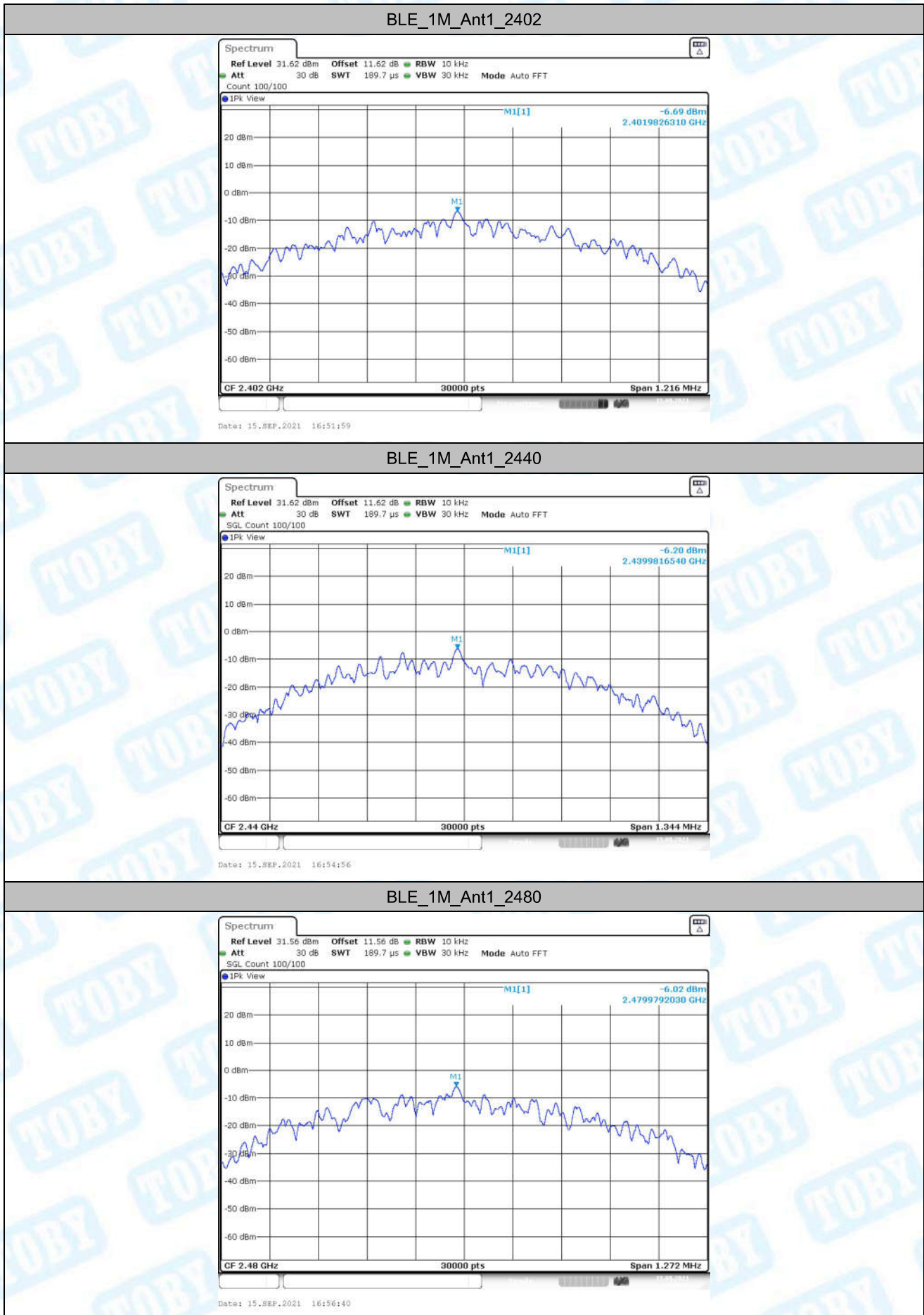
Date: 15.SEP.2021 17:06:49

## 4. Maximum power spectral density

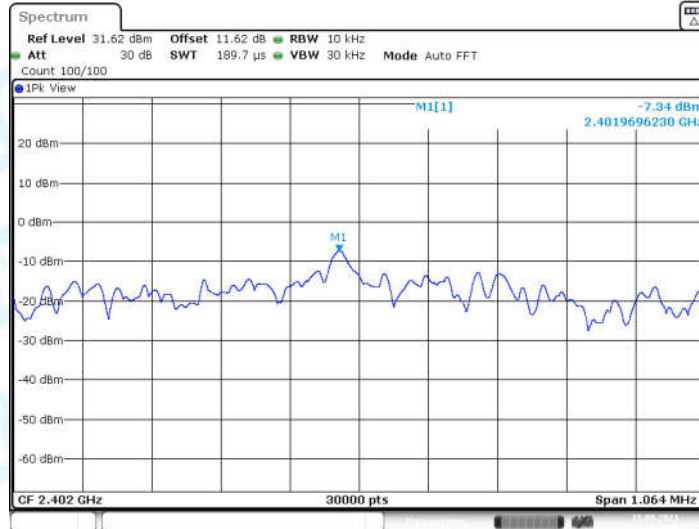
### 4.1. Test Result

Test Mode	Antenna	Channel	Result[dBm/3kHz]	Limit[dBm/3kHz]	Verdict
BLE_1M	Ant1	2402	-6.69	≤8	PASS
		2440	-6.2	≤8	PASS
		2480	-6.02	≤8	PASS
BLE_2M	Ant1	2402	-7.34	≤8	PASS
		2440	-6.68	≤8	PASS
		2480	-5.79	≤8	PASS

## 4.2. Test Graphs

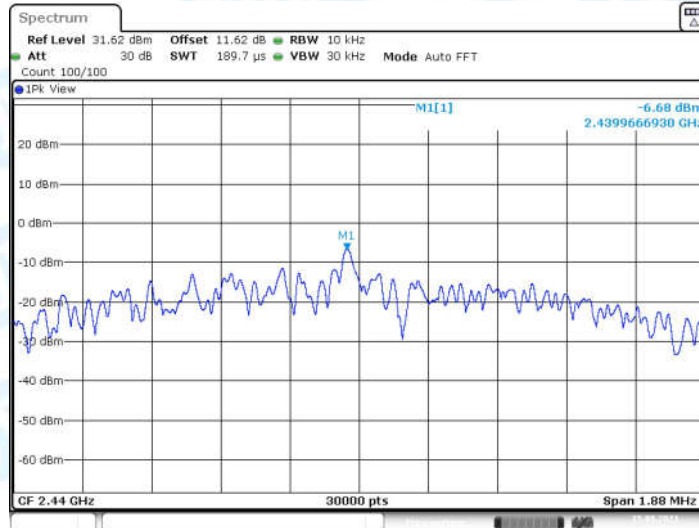


### BLE\_2M\_Ant1\_2402



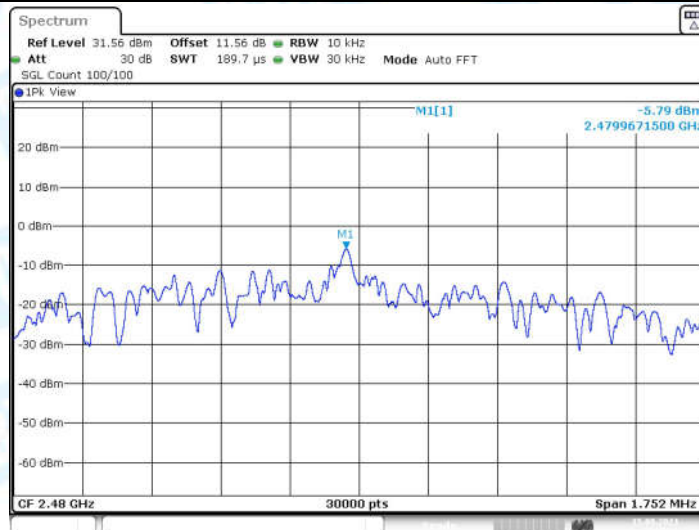
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### BLE\_2M\_Ant1\_2440



Date: 15.SEP.2021 17:05:12

### BLE\_2M\_Ant1\_2480



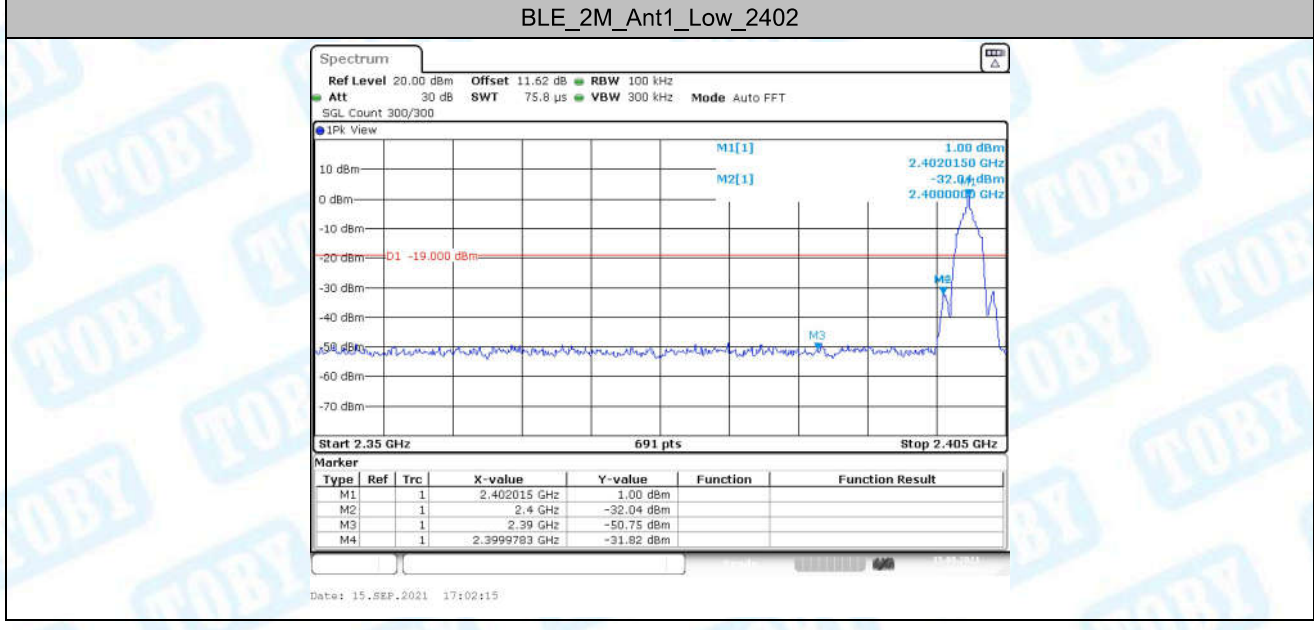
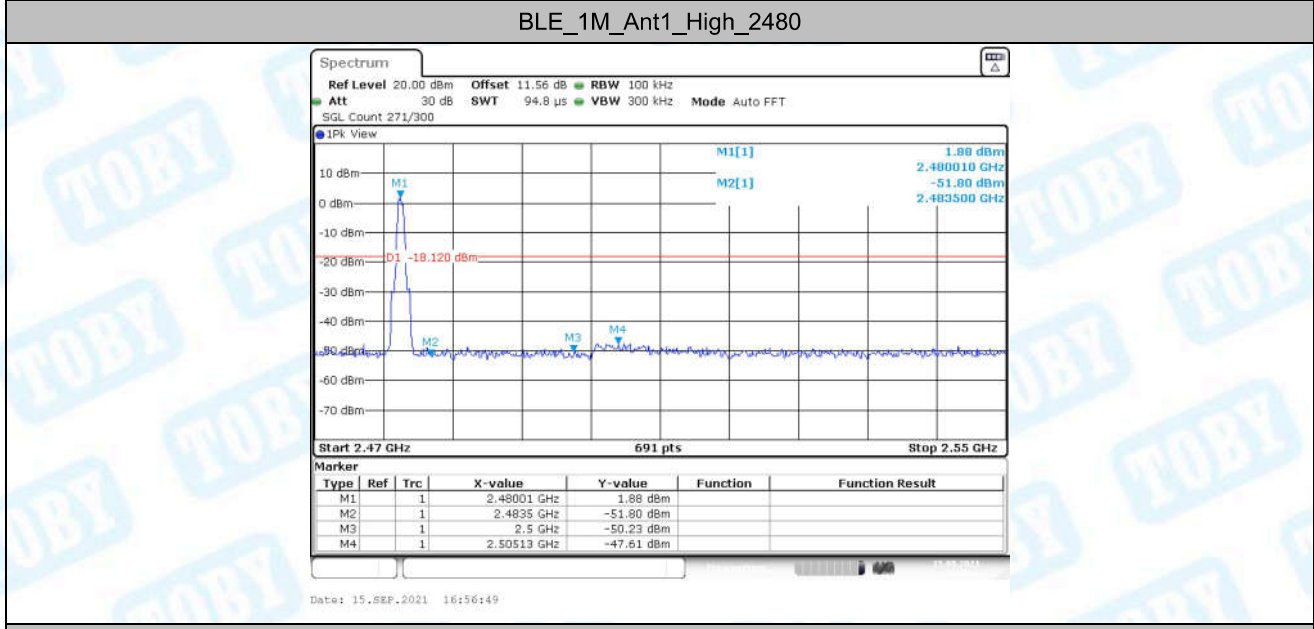
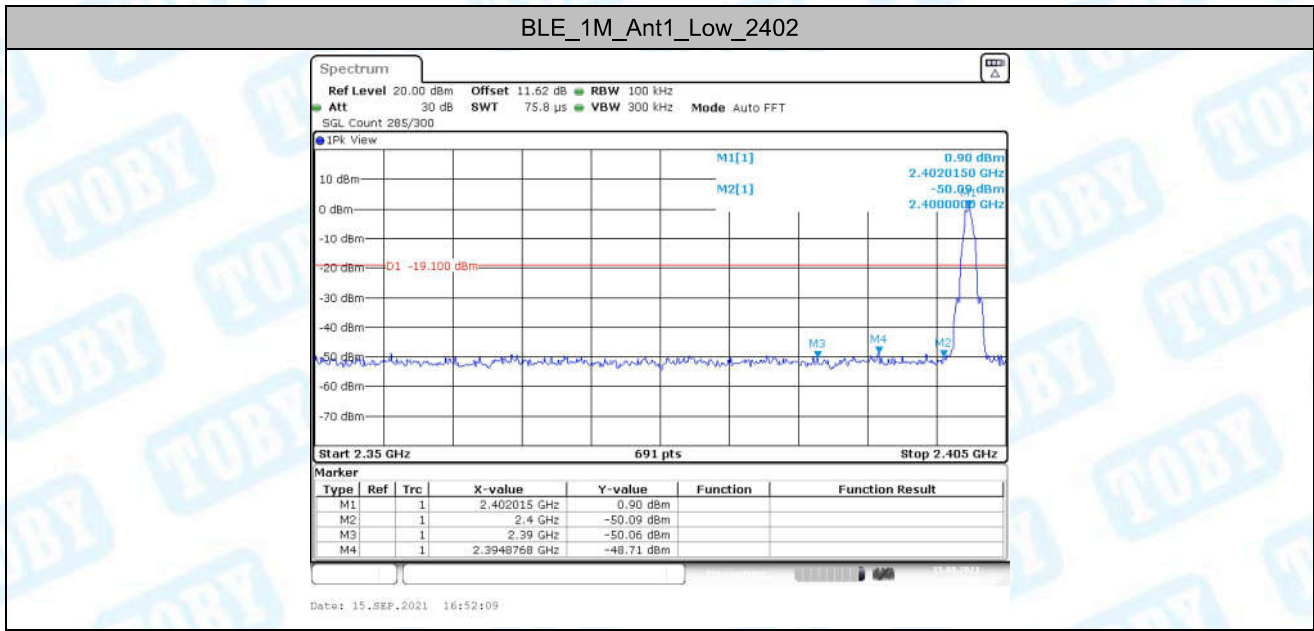
Date: 15.SEP.2021 17:06:56

## 5. Band edge measurements

### 5.1. Test Result

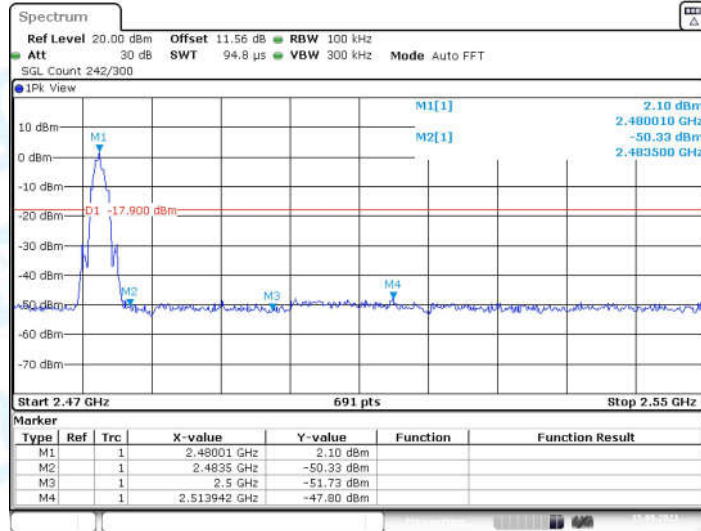
Test Mode	Antenna	ChName	Channel	Ref.Level[dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	Low	2402	0.90	-48.71	≤-19.1	PASS
		High	2480	1.88	-47.61	≤-18.12	PASS
BLE_2M	Ant1	Low	2402	1.00	-31.82	≤-19	PASS
		High	2480	2.10	-47.8	≤-17.9	PASS

## 5.2. Test Graphs





BLE\_2M\_Ant1\_High\_2480



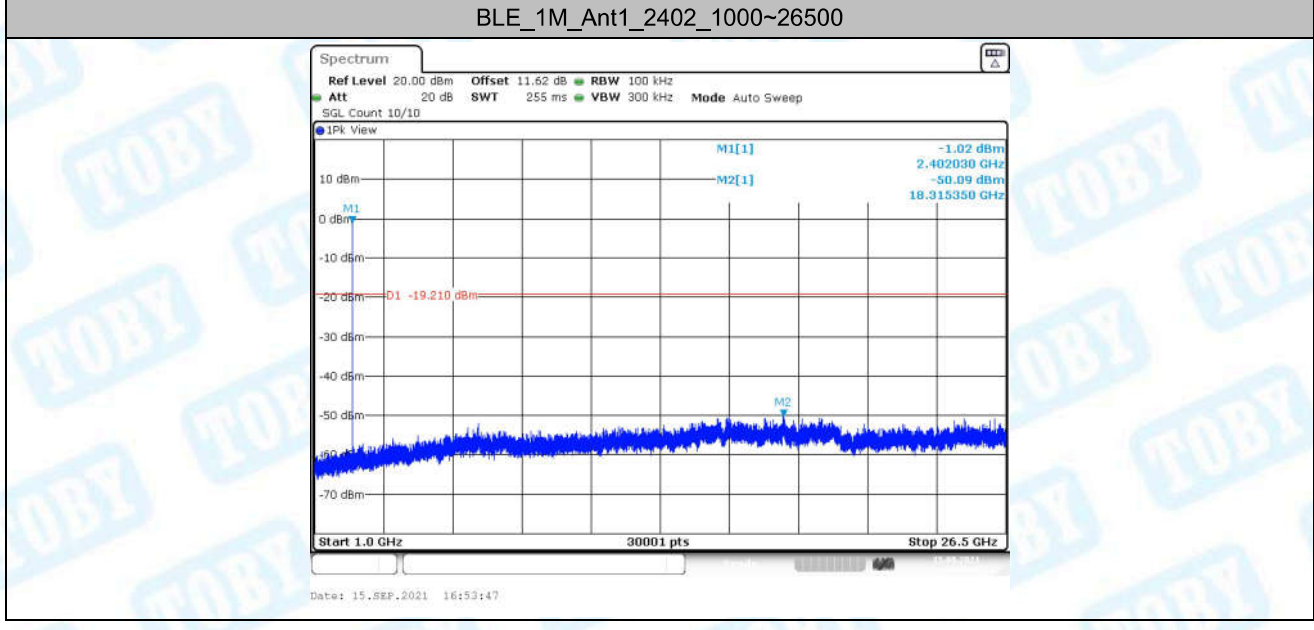
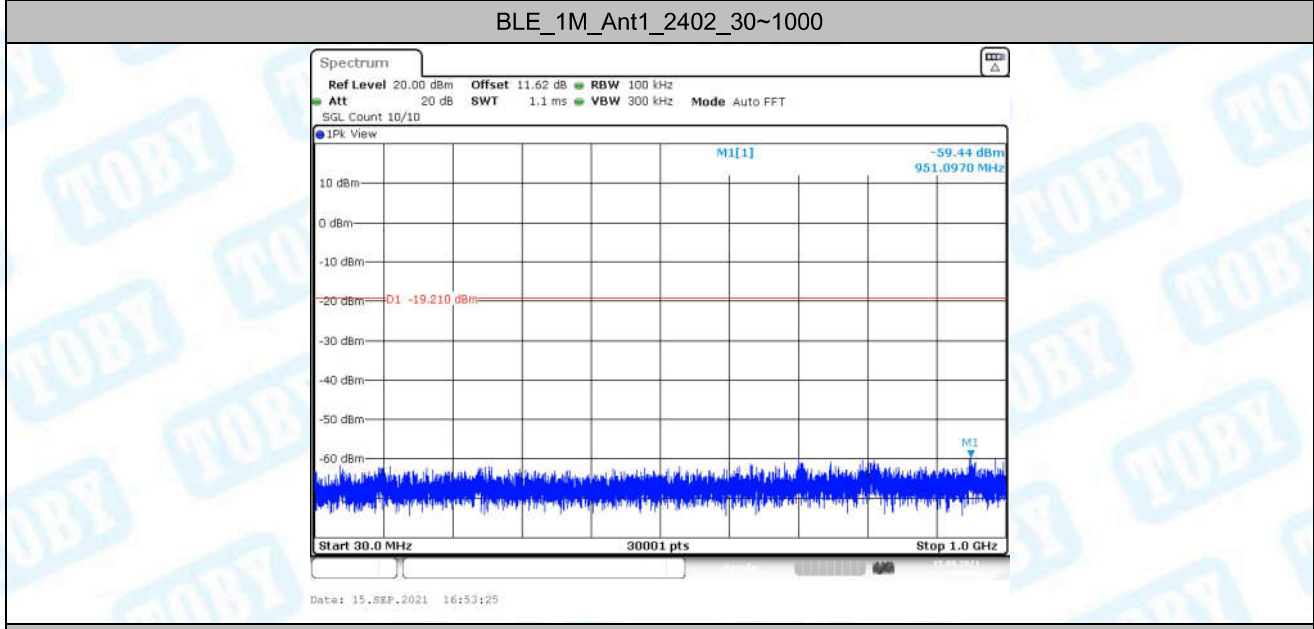
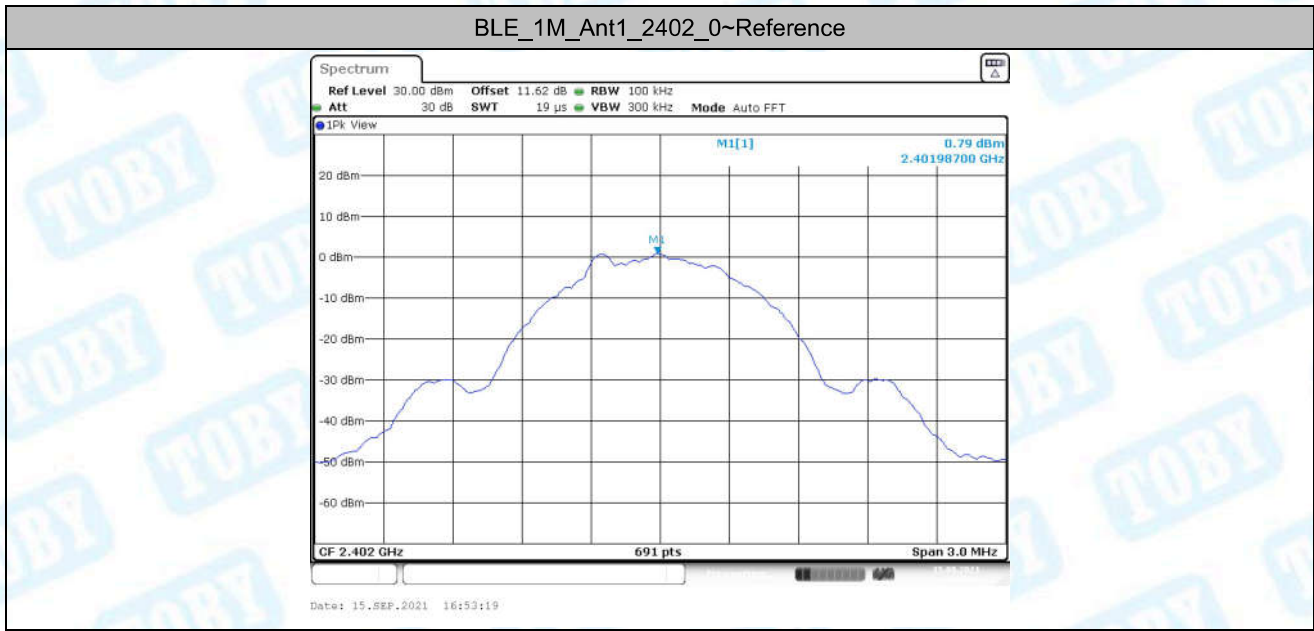
Date: 15.SEP.2021 17:07:05

## 6. Conducted Spurious Emission

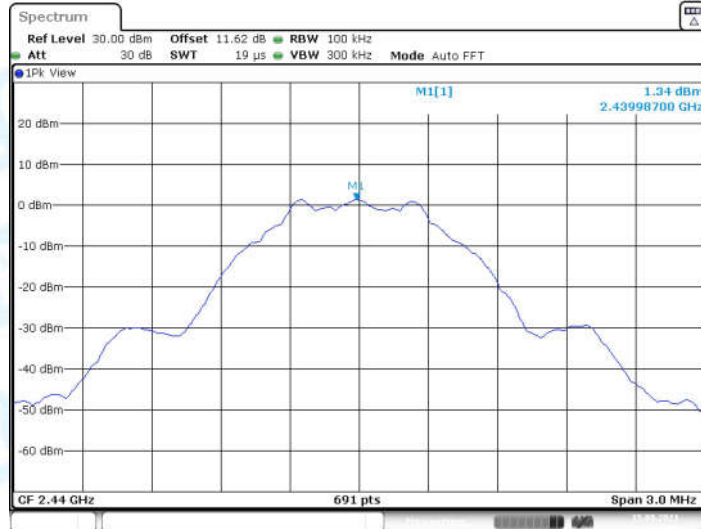
### 6.1. Test Result

Test Mode	Antenna	Channel	Freq. Range [MHz]	Ref. Level [dBm]	Result[dBm]	Limit[dBm]	Verdict
BLE_1M	Ant1	2402	Reference	0.79	0.79	---	PASS
			30~1000	0.79	-59.44	≤-19.21	PASS
			1000~26500	0.79	-50.09	≤-19.21	PASS
		2440	Reference	1.34	1.34	---	PASS
			30~1000	1.34	-59.75	≤-18.66	PASS
			1000~26500	1.34	-49.73	≤-18.66	PASS
		2480	Reference	1.94	1.94	---	PASS
			30~1000	1.94	-59.27	≤-18.06	PASS
			1000~26500	1.94	-50.12	≤-18.06	PASS
BLE_2M	Ant1	2402	Reference	0.90	0.90	---	PASS
			30~1000	0.90	-59.49	≤-19.1	PASS
			1000~26500	0.90	-50.41	≤-19.1	PASS
		2440	Reference	1.46	1.46	---	PASS
			30~1000	1.46	-59.83	≤-18.54	PASS
			1000~26500	1.46	-50.52	≤-18.54	PASS
		2480	Reference	2.05	2.05	---	PASS
			30~1000	2.05	-57.44	≤-17.95	PASS
			1000~26500	2.05	-50.47	≤-17.95	PASS

### 6.2. Test Graphs

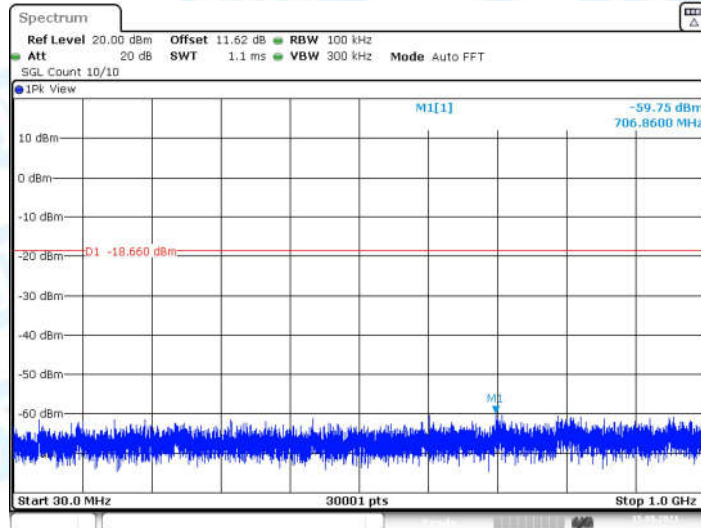


### BLE\_1M\_Ant1\_2440\_0~Reference



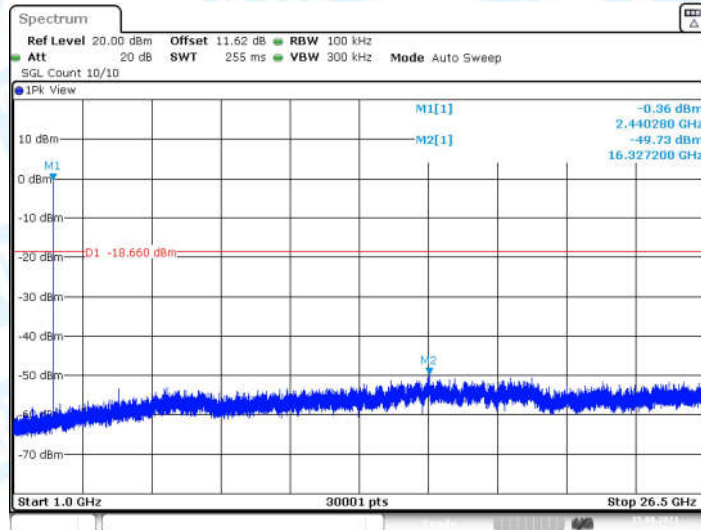
Date: 15.SEP.2021 16:55:06

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



Date: 15.SEP.2021 16:55:11

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

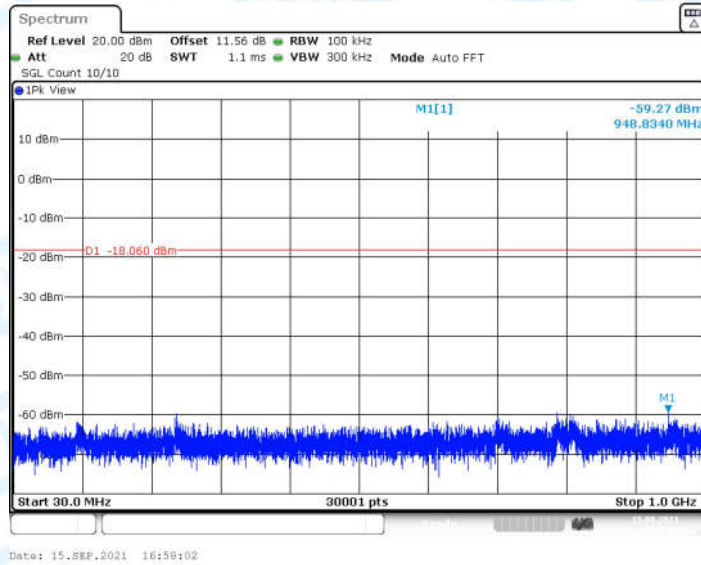


Date: 15.SEP.2021 16:55:34

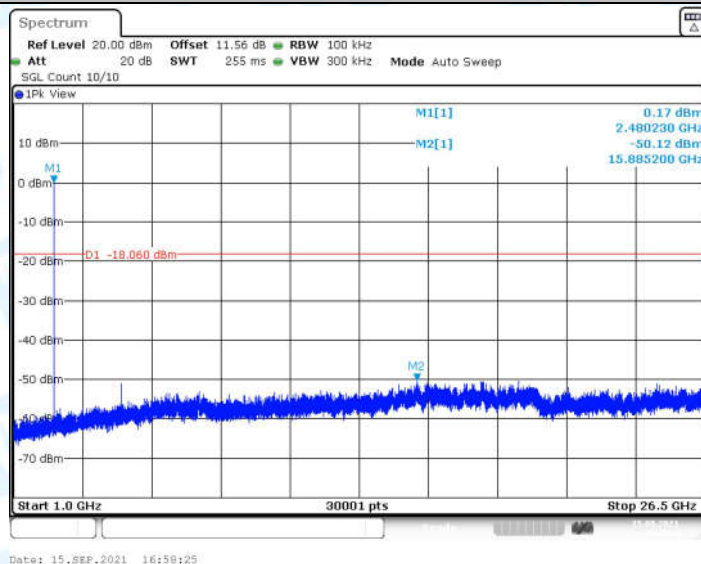
BLE\_1M\_Ant1\_2480\_0~Reference



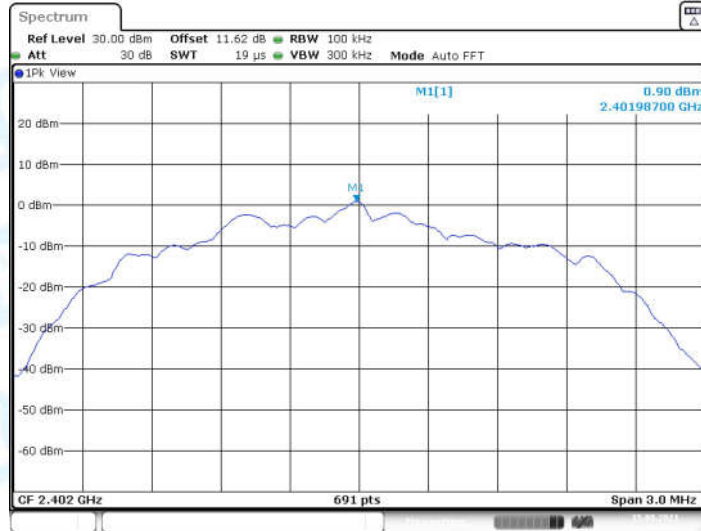
BLE\_1M\_Ant1\_2480\_30~1000



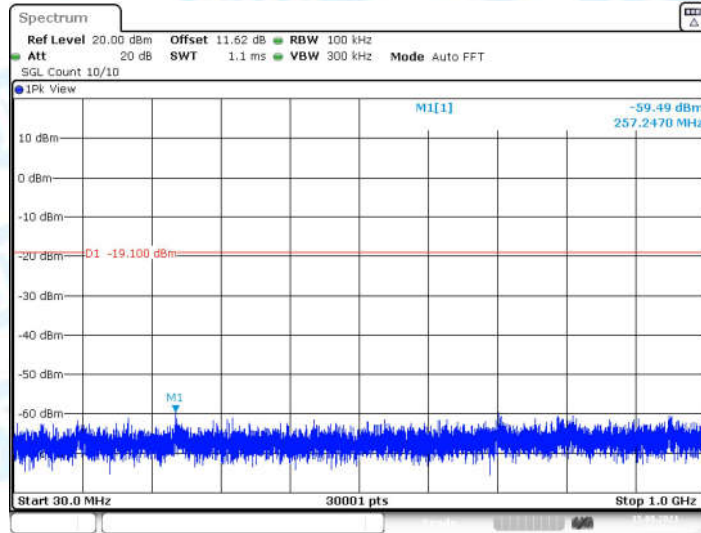
BLE\_1M\_Ant1\_2480\_1000~26500



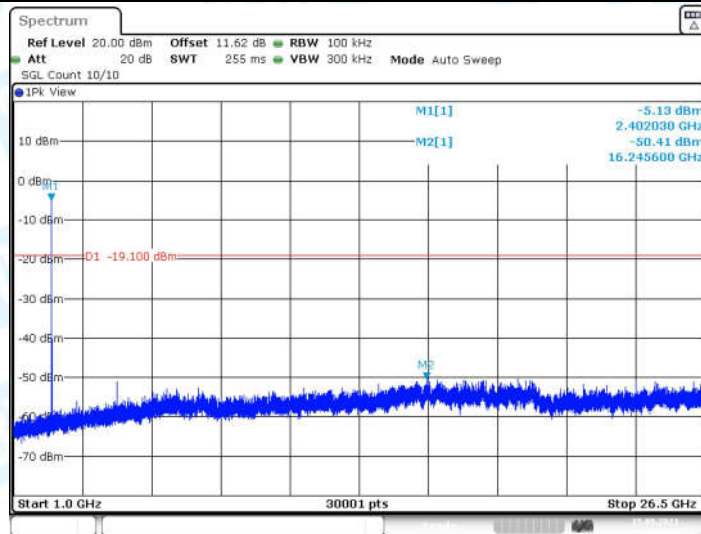
### BLE\_2M\_Ant1\_2402\_0~Reference



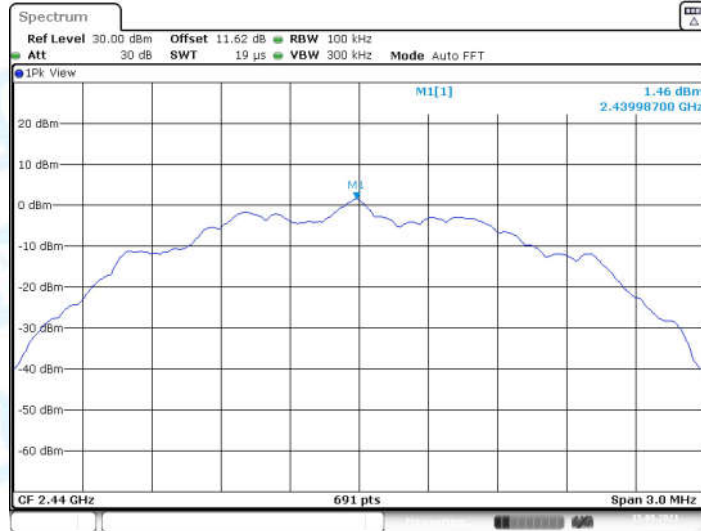
### BLE\_2M\_Ant1\_2402\_30~1000



### BLE\_2M\_Ant1\_2402\_1000~26500

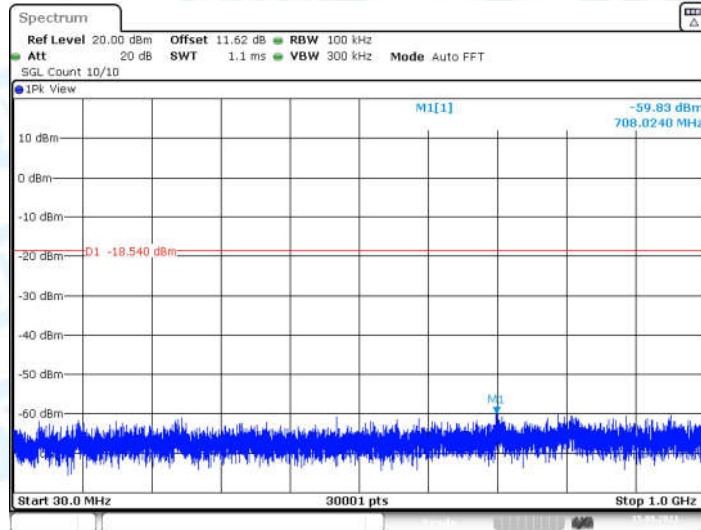


BLE\_2M\_Ant1\_2440\_0~Reference



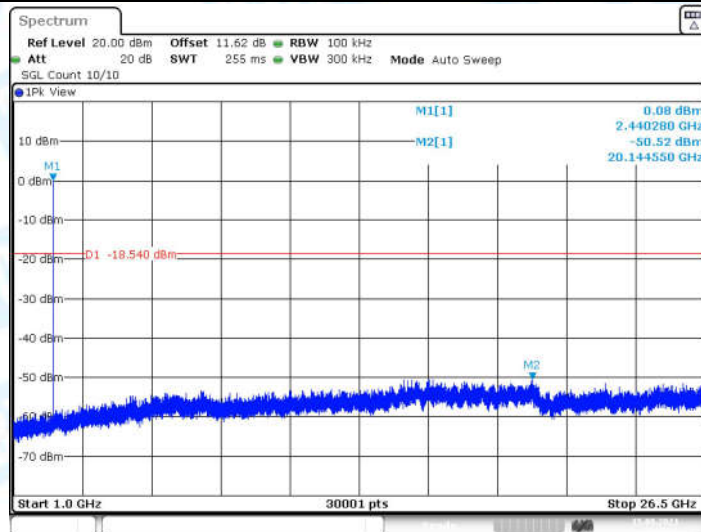
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BLE\_2M\_Ant1\_2440\_30~1000



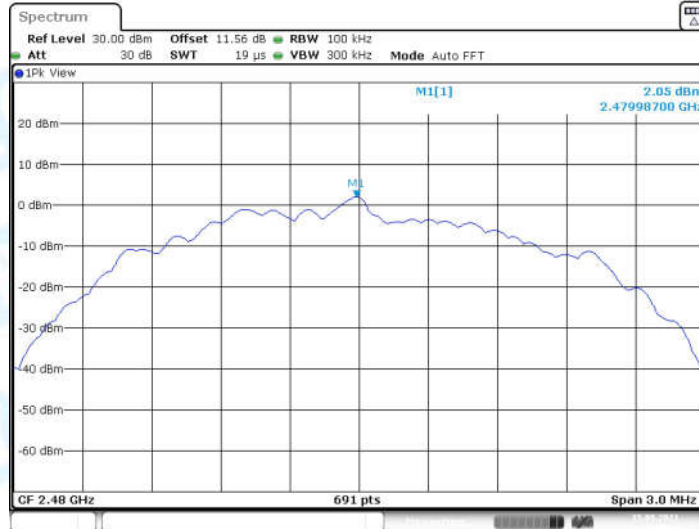
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BLE\_2M\_Ant1\_2440\_1000~26500



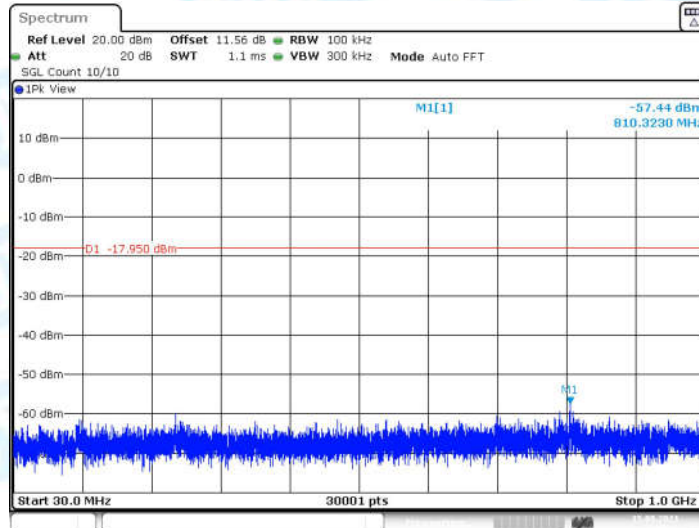
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### BLE\_2M\_Ant1\_2480\_0~Reference



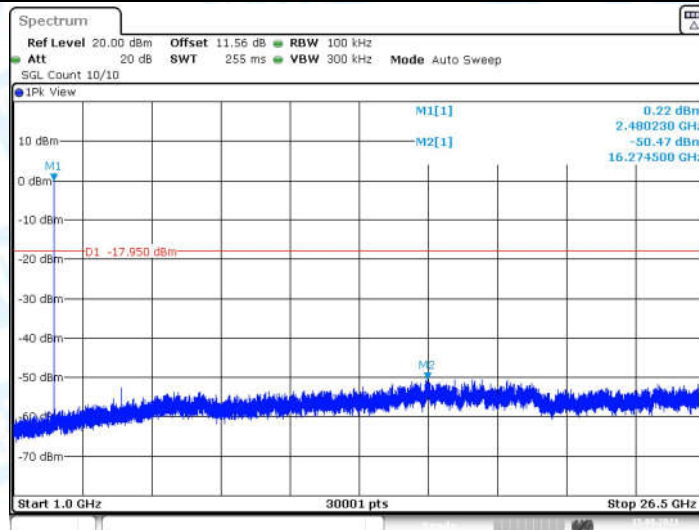
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### BLE\_2M\_Ant1\_2480\_30~1000



Date: 15.SEP.2021 17:06:19

### BLE\_2M\_Ant1\_2480\_1000~26500



Date: 15.SEP.2021 17:06:42

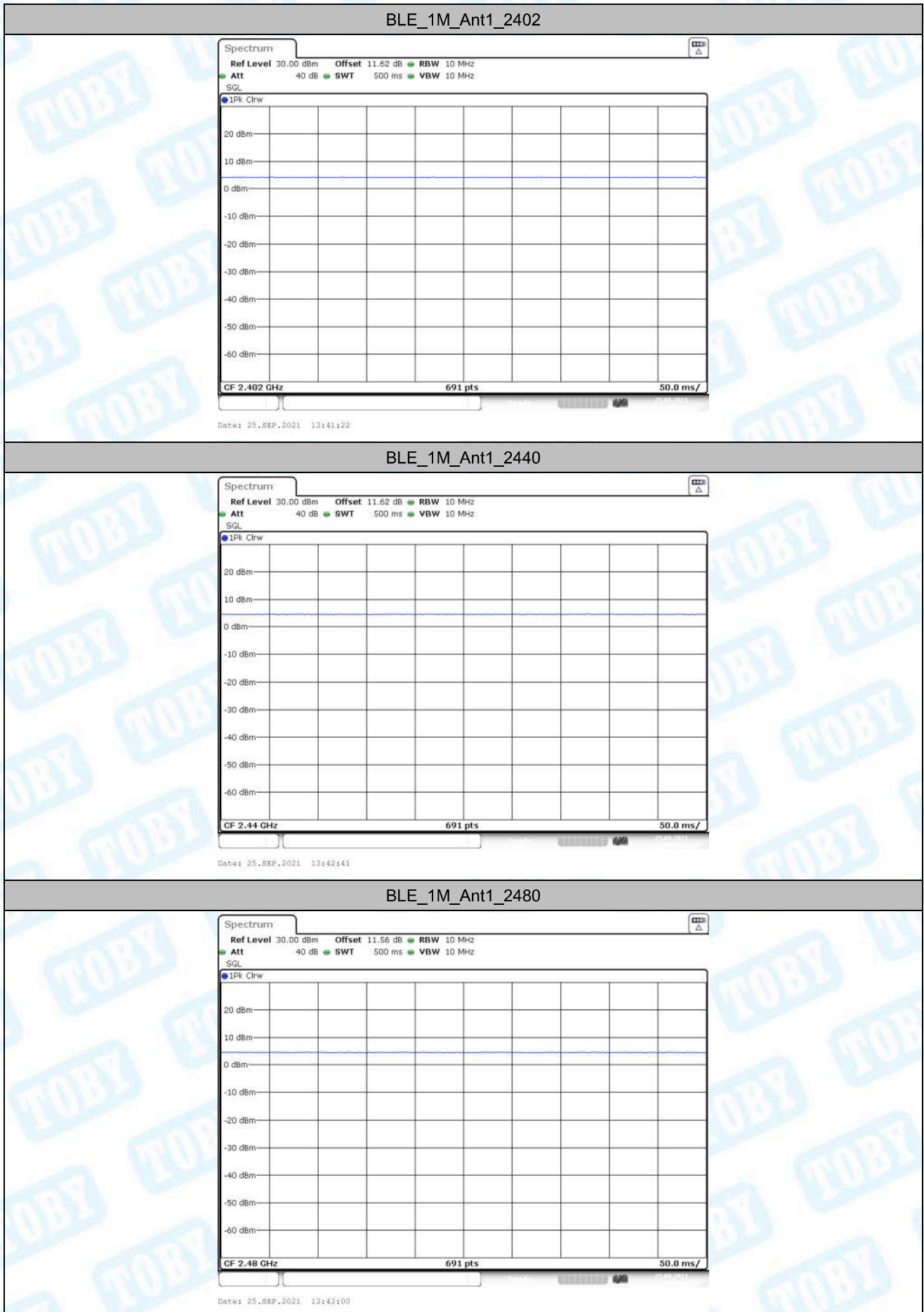


## 7. Duty Cycle

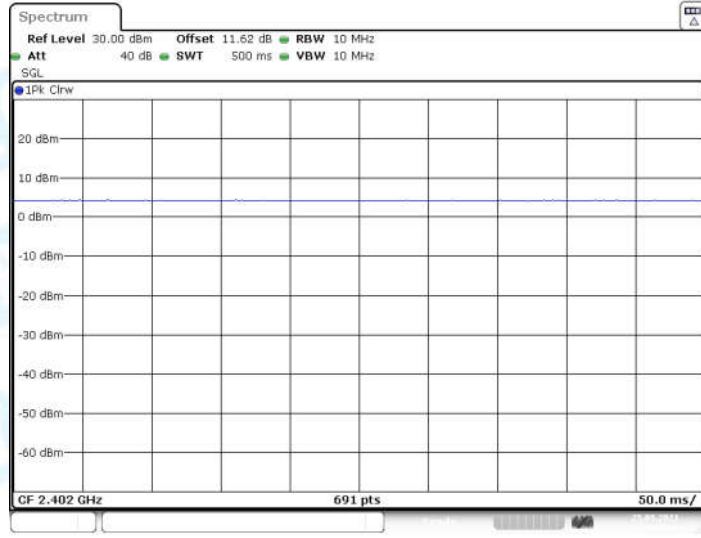
### 7.1. Test Result

Test Mode	Antenna	Channel	Transmission Duration [ms]	Transmission Period [ms]	Duty Cycle [%]	Limit	Verdict
BLE_1M	Ant1	2402	0.00	0.00	100	---	PASS
		2440	0.00	0.00	100	---	PASS
		2480	0.00	0.00	100	---	PASS
BLE_2M	Ant1	2402	0.00	0.00	100	---	PASS
		2440	0.00	0.00	100	---	PASS
		2480	0.00	0.00	100	---	PASS

## 7.2. Test Graphs

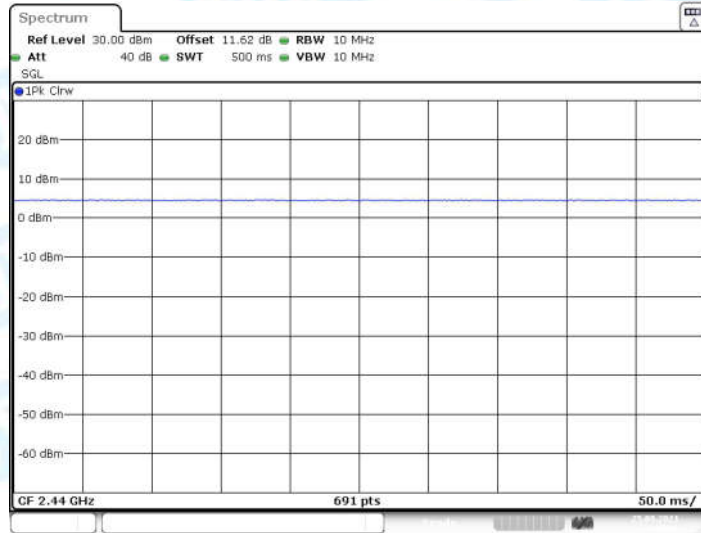


### BLE\_2M\_Ant1\_2402



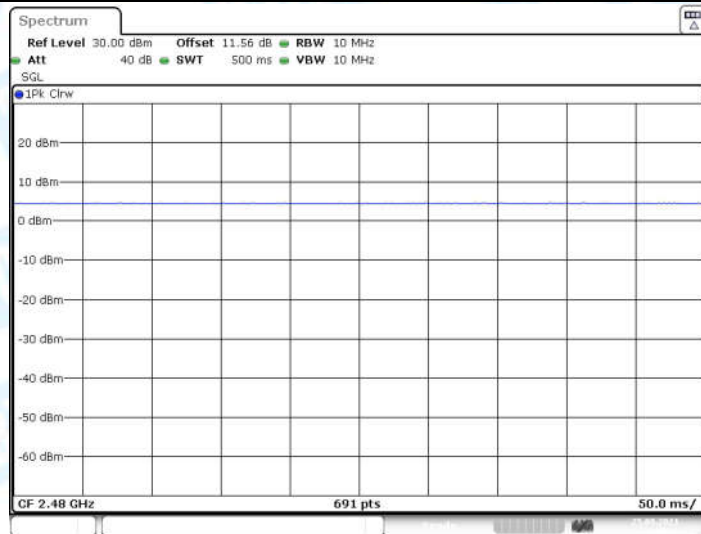
Date: 25.SEP.2021 13:43:49

### BLE\_2M\_Ant1\_2440



Date: 25.SEP.2021 13:44:08

### BLE\_2M\_Ant1\_2480



Date: 25.SEP.2021 13:44:29

## 8. Emissions in Restricted Bands

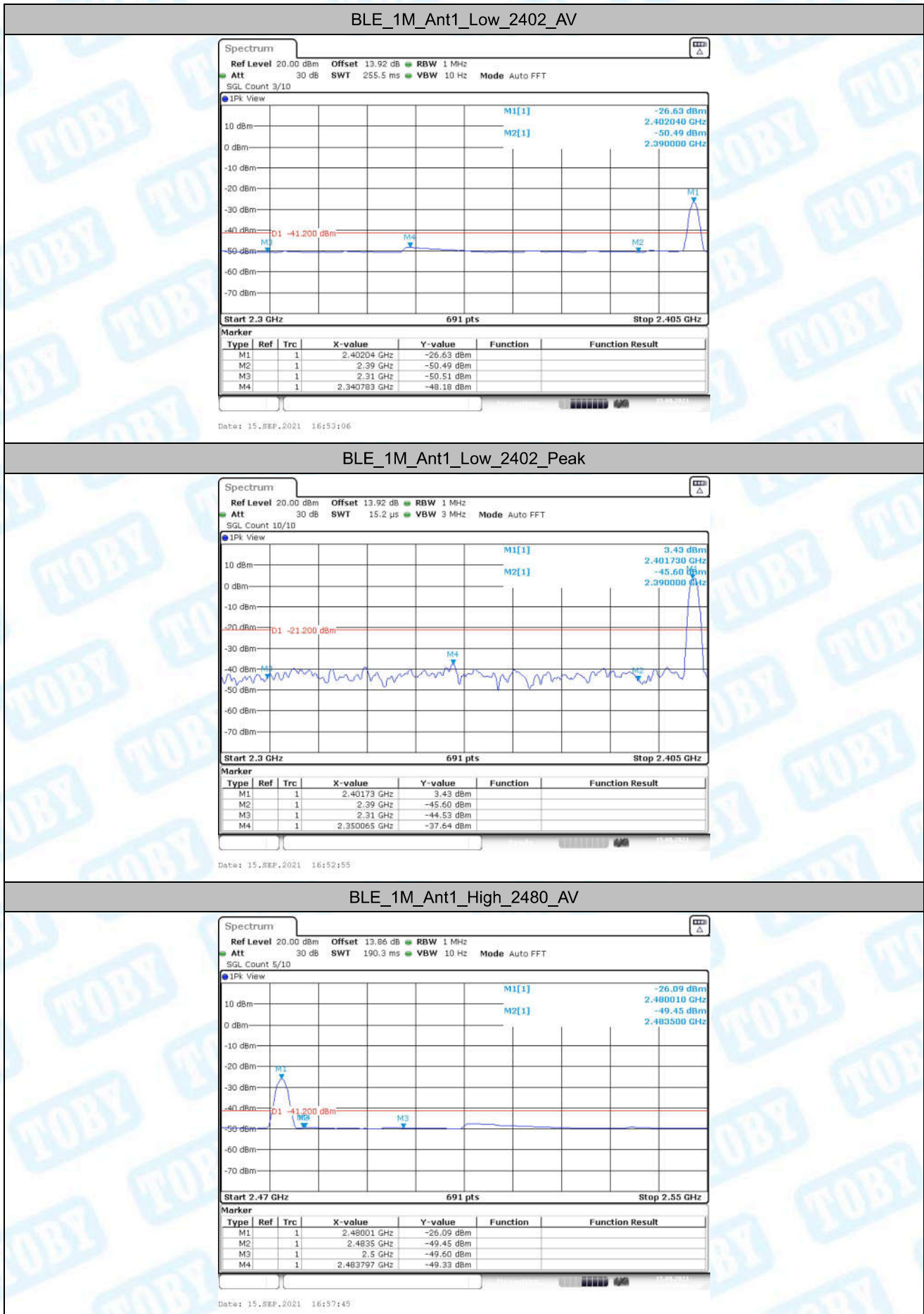
### 8.1. Test Result

Test Mode	Antenna	ChName	Channel	Detector	Freq. [MHz]	Result [dBm]	Limit [dBm]	Verdict
BLE_1M	Ant1	Low	2402	AV	2310.000	-50.51	≤-41.20	PASS
				AV	2340.783	-48.18	≤-41.20	PASS
				AV	2390.000	-50.49	≤-41.20	PASS
				Peak	2310.000	-44.53	≤-21.20	PASS
				Peak	2350.065	-37.64	≤-21.20	PASS
				Peak	2390.000	-45.6	≤-21.20	PASS
		High	2480	AV	2483.500	-49.45	≤-41.20	PASS
				AV	2483.797	-49.33	≤-41.20	PASS
				AV	2500.000	-49.6	≤-41.20	PASS
				Peak	2483.500	-43.57	≤-21.20	PASS
				Peak	2494.000	-40.73	≤-21.20	PASS
				Peak	2500.000	-41.15	≤-21.20	PASS
BLE_2M	Ant1	Low	2402	AV	2310.000	-50.52	≤-41.20	PASS
				AV	2340.935	-48.23	≤-41.20	PASS
				AV	2390.000	-50.44	≤-41.20	PASS
				Peak	2310.000	-41.43	≤-21.20	PASS
				Peak	2340.783	-36.83	≤-21.20	PASS
				Peak	2390.000	-43.9	≤-21.20	PASS
		High	2480	AV	2483.500	-49.36	≤-41.20	PASS
				AV	2484.029	-49.29	≤-41.20	PASS
				AV	2500.000	-49.61	≤-41.20	PASS
				Peak	2483.500	-44.11	≤-21.20	PASS
				Peak	2491.565	-40.28	≤-21.20	PASS
				Peak	2500.000	-42.55	≤-21.20	PASS

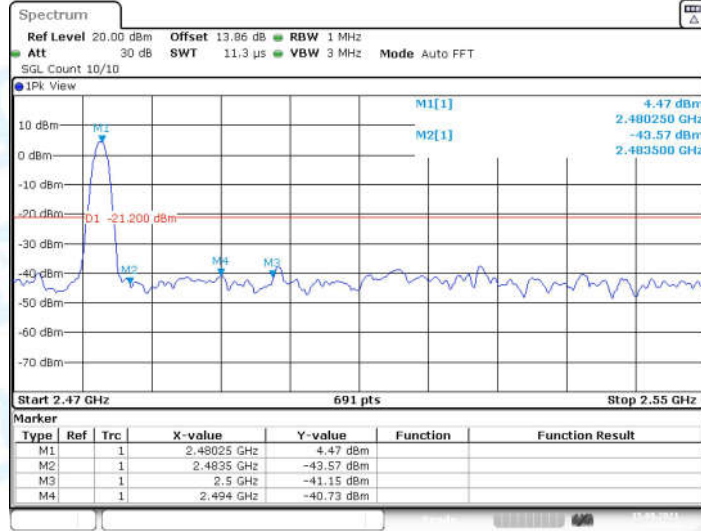
Note:

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.

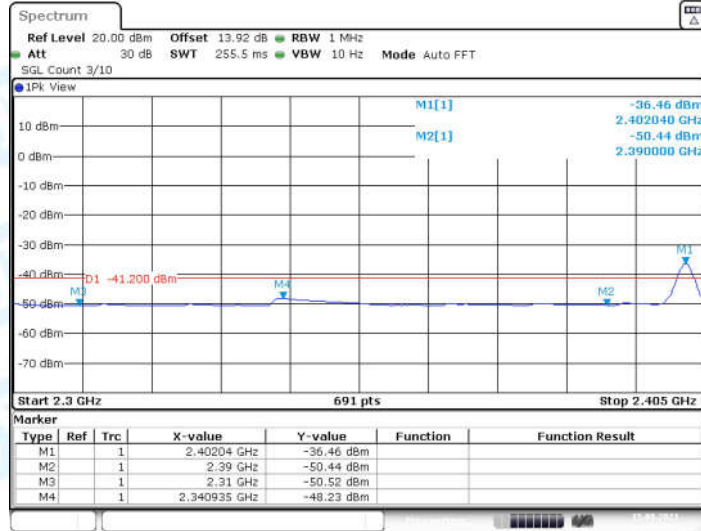
## 8.2. Test Graphs



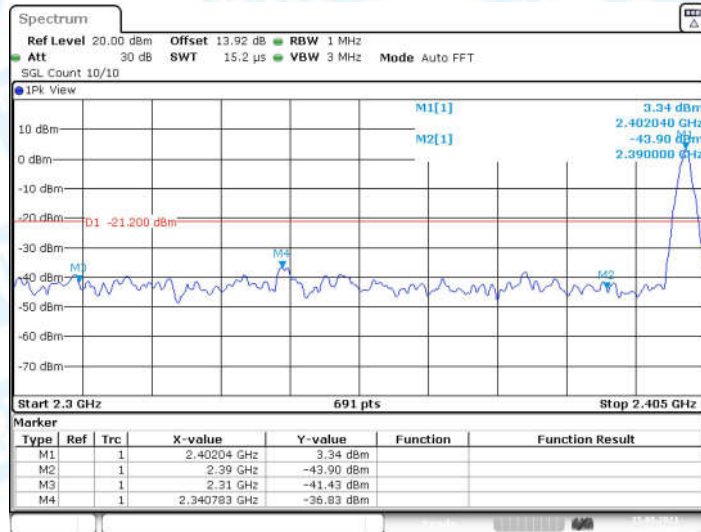
### BLE\_1M\_Ant1\_High\_2480\_Peak



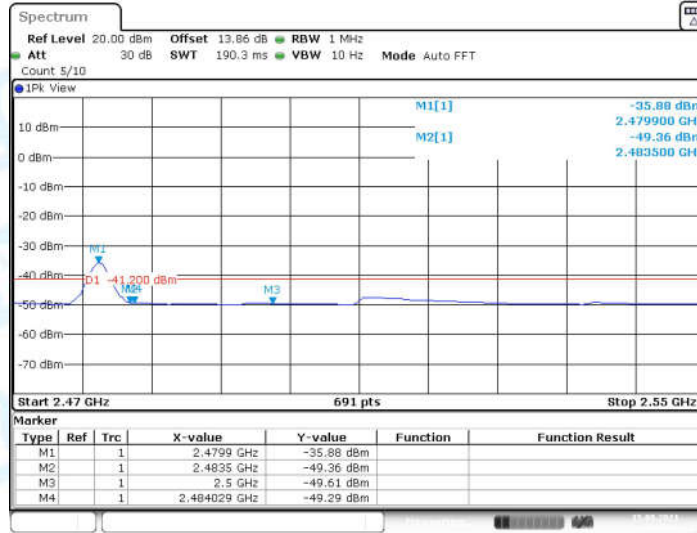
### BLE\_2M\_Ant1\_Low\_2402\_AV



### BLE\_2M\_Ant1\_Low\_2402\_Peak

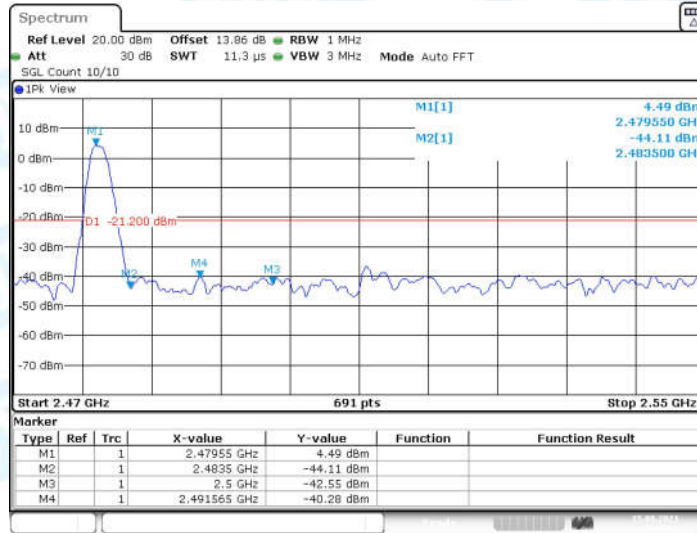


BLE\_2M\_Ant1\_High\_2480\_AV



Date: 15.SEP.2021 17:09:53

BLE\_2M\_Ant1\_High\_2480\_Peak



Date: 15.SEP.2021 17:09:36

-----End of the report-----