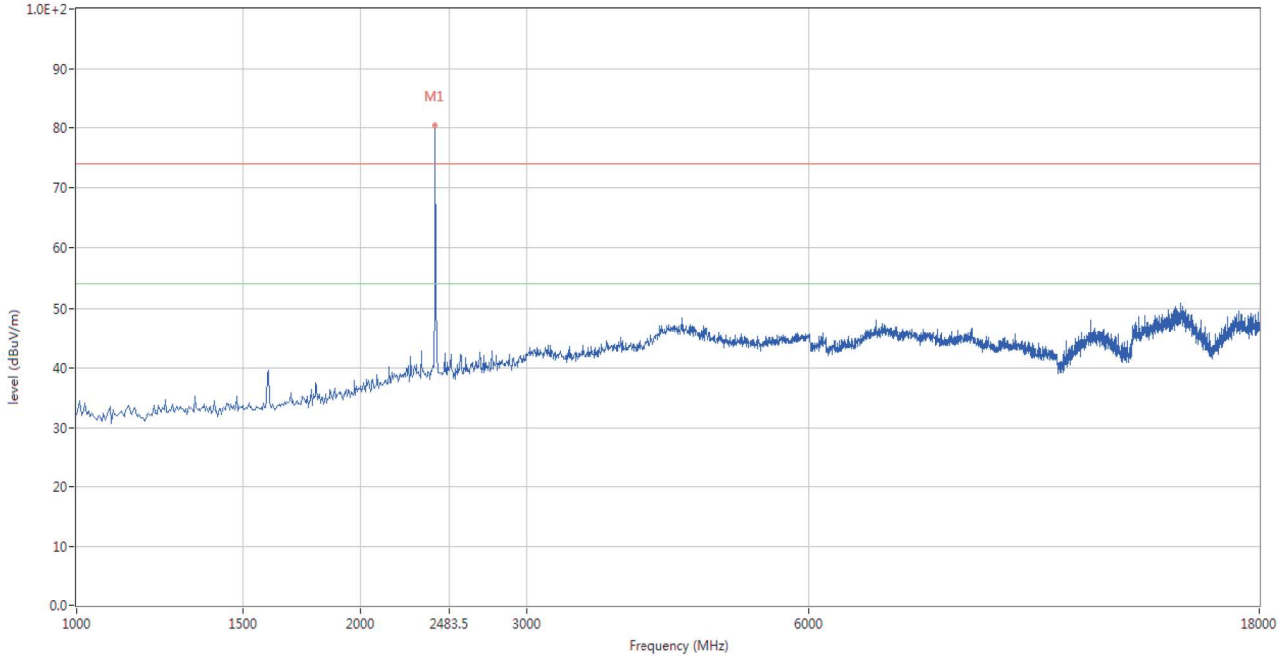




**Vertical**

FCC Part 15C Class B 1GHz-18GHz -2



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	2402.149	80.44	-3.57	114.0	-33.56	Peak	28.00	100	Vertical	Pass

The report refers only to the sample tested and does not apply to the bulk.

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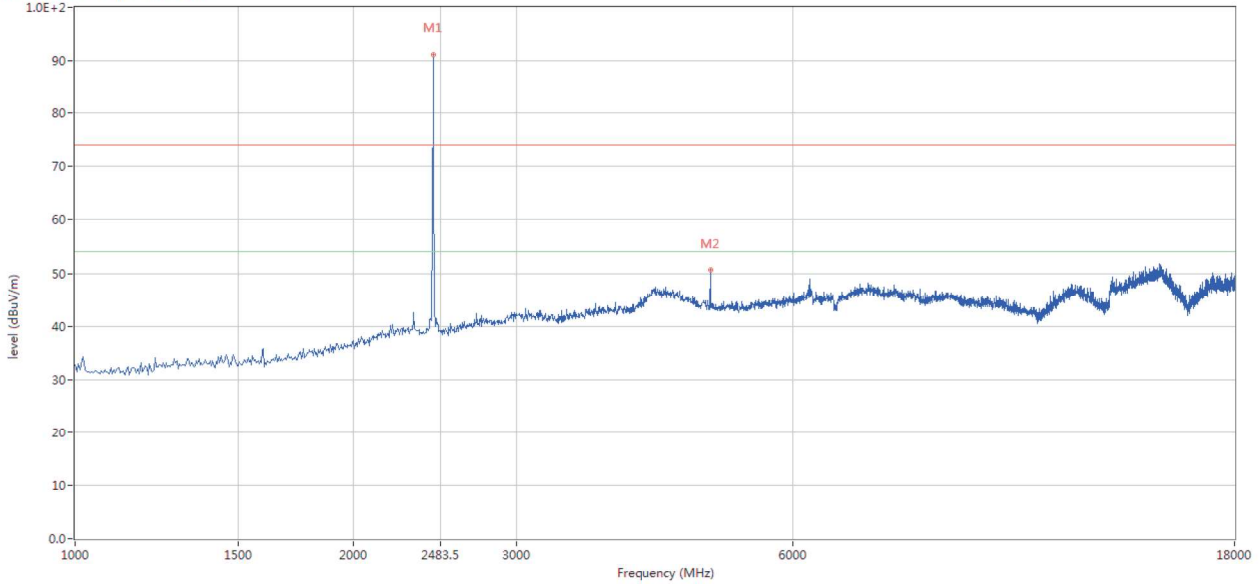
In the event of the improper use of the report. The SHENZHEN TIMEWAY TESTING LABORATORIES, reserves the rights to withdraw it and to adopt any other remedies which may be appropriate.



Please refer to the following test plots for details: Middle Channel-2441MHz

**Horizontal**

FCC Part 15C Class B 1GHz-18GHz -2



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	2440.390	91.23	-3.57	114.0	-22.77	Peak	298.00	100	Horizontal	Pass
2	4883.529	50.60	3.20	74.0	-23.40	Peak	284.00	100	Horizontal	Pass

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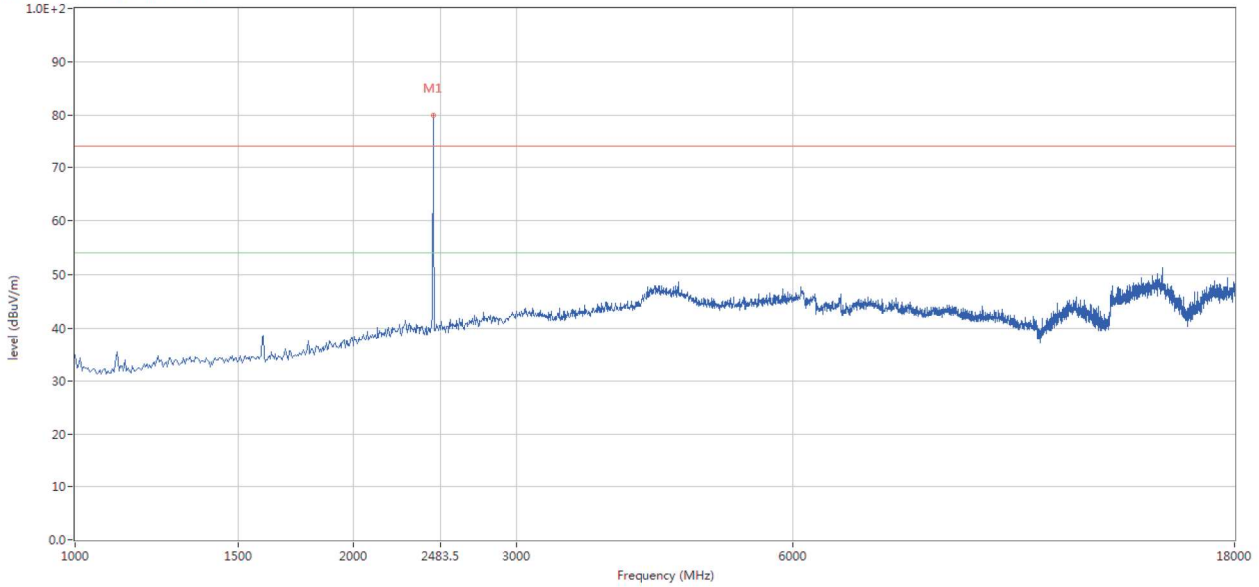
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**Vertical**

FCC Part 15C Class B 1GHz-18GHz -2



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	2440.390	80.10	-3.57	114.0	-33.90	Peak	321.00	100	Vertical	Pass

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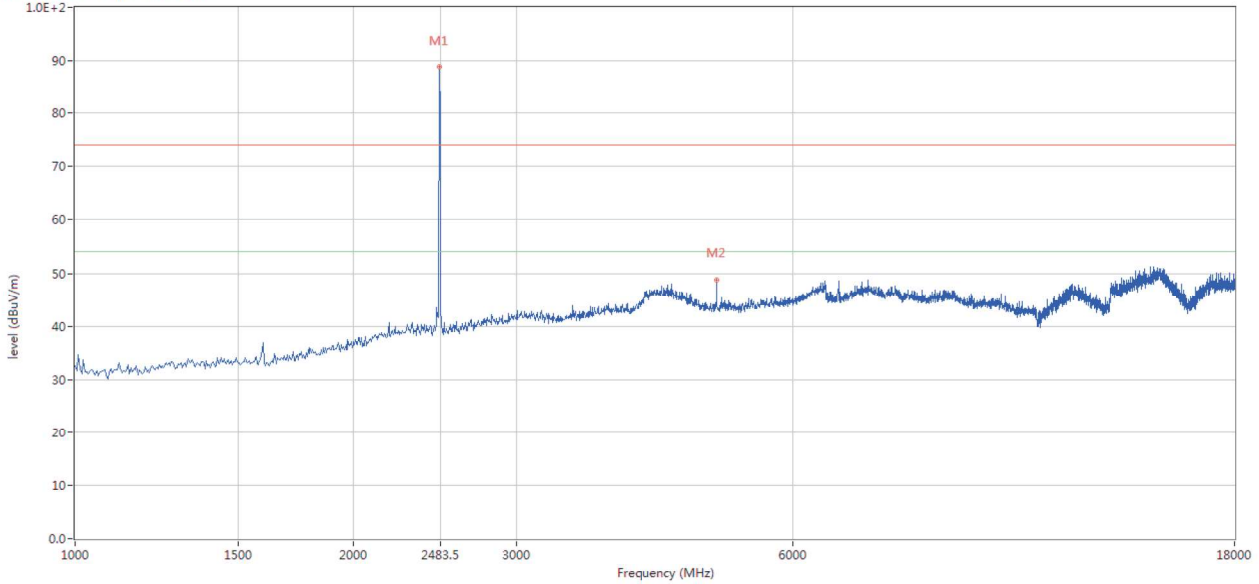
In the event of the improper use of the report, the SHENZHEN TIMEWAY TESTING LABORATORIES reserves the rights to withdraw it and to adopt any other remedies which may be appropriate.



Please refer to the following test plots for details: High Channel-2480MHz

**Horizontal**

FCC Part 15C Class B 1GHz-18GHz -2



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	2479.630	88.83	-3.57	114.0	-25.17	Peak	296.00	100	Horizontal	Pass
2	4960.010	48.77	3.36	74.0	-25.23	Peak	68.00	100	Horizontal	Pass

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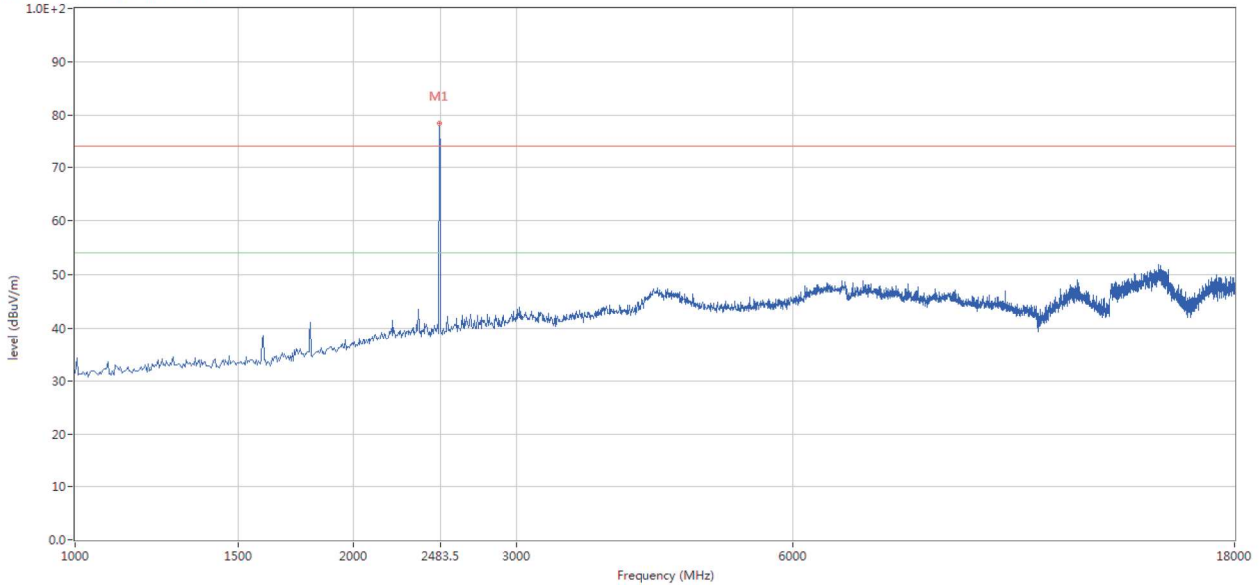
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**Vertical**

FCC Part 15C Class B 1GHz-18GHz -2



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	2479.630	78.55	-3.57	114.0	-35.45	Peak	17.00	100	Vertical	Pass

- Note:
- (2) Emission Level = Reading Level + Antenna Factor + Cable Loss-Amplifier
  - (3) Margin=Emission-Limits
  - (4) According to section 15.35(b), the peak limit is 20dB higher than the average limit
  - (5) For test purpose, keep EUT continuous transmitting
  - (5) For emission above 18GHz and Below 30MHz, It is only the floor noise. No necessary to take down.
  - (6) the measured PK value less than the AV limit.

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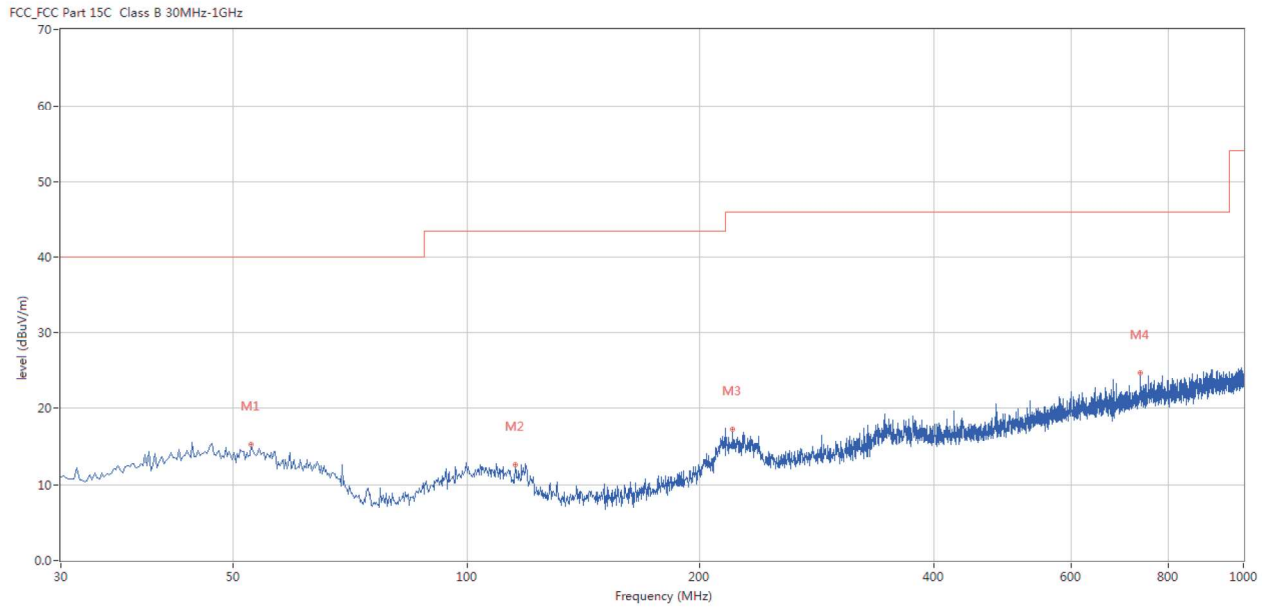


**B. General Radiated Emission Data**  
**Radiated Emission In Horizontal (30MHz----1000MHz)**

EUT set Condition: Keep Tx transmitting

**Results: Pass**

Please refer to following diagram for individual



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	52.789	15.24	-11.48	40.0	-24.76	Peak	153.00	100	Horizontal	Pass
2	115.339	12.63	-14.48	43.5	-30.87	Peak	200.00	100	Horizontal	Pass
3	220.557	17.33	-13.30	46.0	-28.67	Peak	210.00	100	Horizontal	Pass
4	736.468	24.84	-3.62	46.0	-21.16	Peak	61.00	100	Horizontal	Pass

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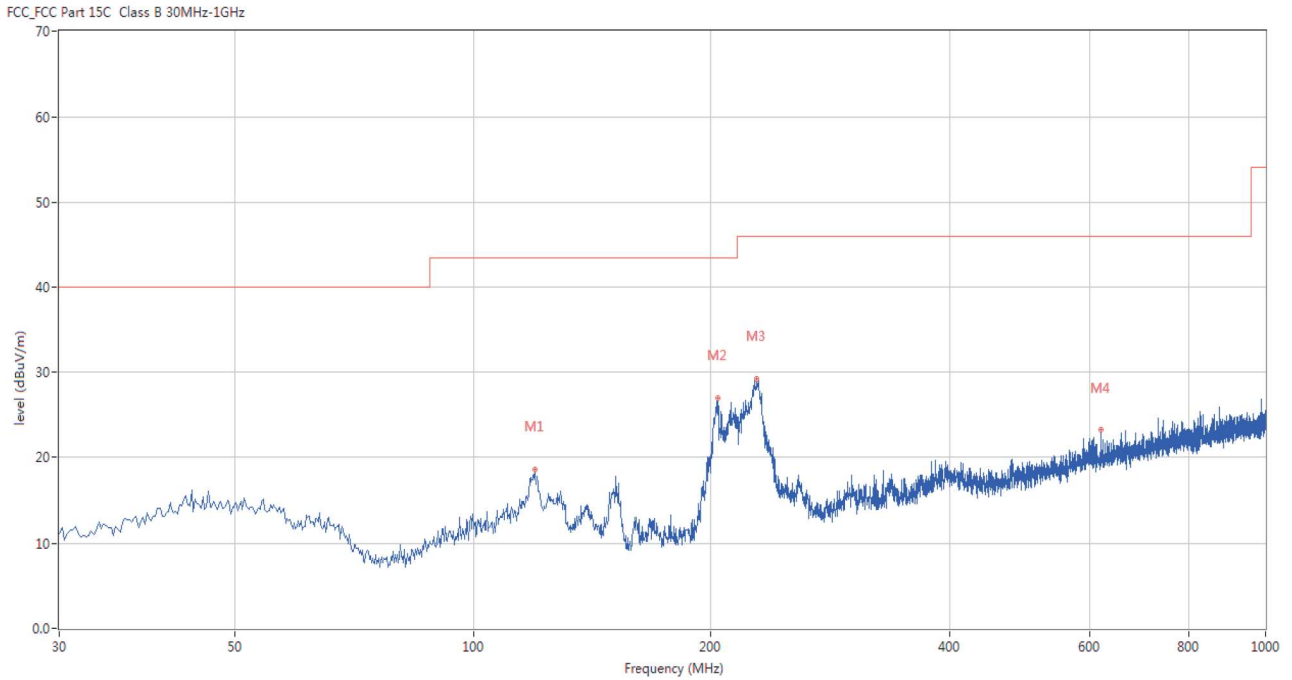


**Radiated Emission In Vertical (30MHz----1000MHz)**

EUT set Condition: Keep Tx transmitting

**Results: Pass**

Please refer to following diagram for individual



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	119.460	18.62	-15.19	43.5	-24.88	Peak	239.00	100	Vertical	Pass
2	204.071	27.06	-13.51	43.5	-16.44	Peak	232.00	100	Vertical	Pass
3	228.558	29.32	-12.74	46.0	-16.68	Peak	249.00	100	Vertical	Pass
4	620.340	23.19	-4.88	46.0	-22.81	Peak	226.00	100	Vertical	Pass

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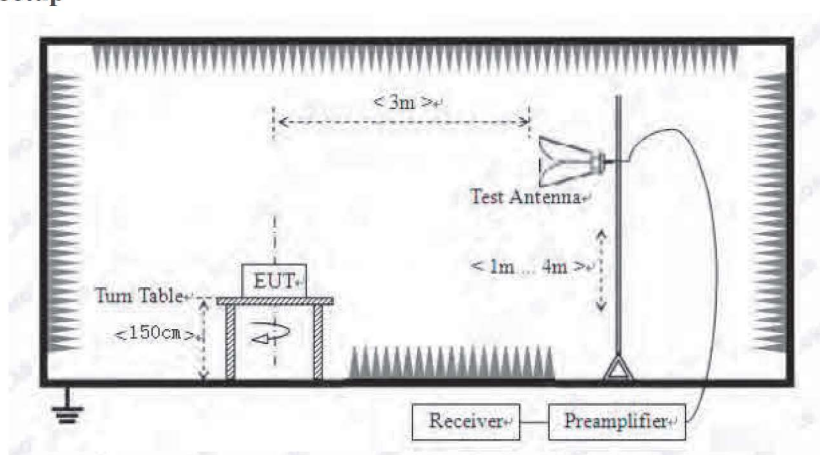


## 7. Band Edge

### 7.1 Test Method and test Procedure:

- (1) The EUT was tested according to ANSI C63.10–2013. The radiated test was performed at Timeway EMC Laboratory. This site is on file with the FCC laboratory division, Registration No. 744189
- (2) Set Spectrum as RBW=1MHz, VBW=3MHz and Peak detector used for PK value. RBW=1MHz, VBW=10Hz and Peak detector used for AV value.
- (3) The antenna high is varied from 1 m to 4 m high to find the maximum emission for each frequency.
- (4) The antenna polarization: Vertical polarization and Horizontal polarization.

### 7.2 Radiated Test Setup



For the actual test configuration , please refer to the related items – Photos of Testing

### 7.3 Configuration of The EUT

Same as section 5.3 of this report

### 7.4 EUT Operating Condition

Same as section 5.4 of this report.

### 7.5 Band Edge Limit

Emissions radiated outside of the specified frequency bands, except for harmonics, shall be attenuated by at least 50 dB below the level of the fundamental or to the general radiated emission limits in Section 15.209, whichever is the lesser attenuation.

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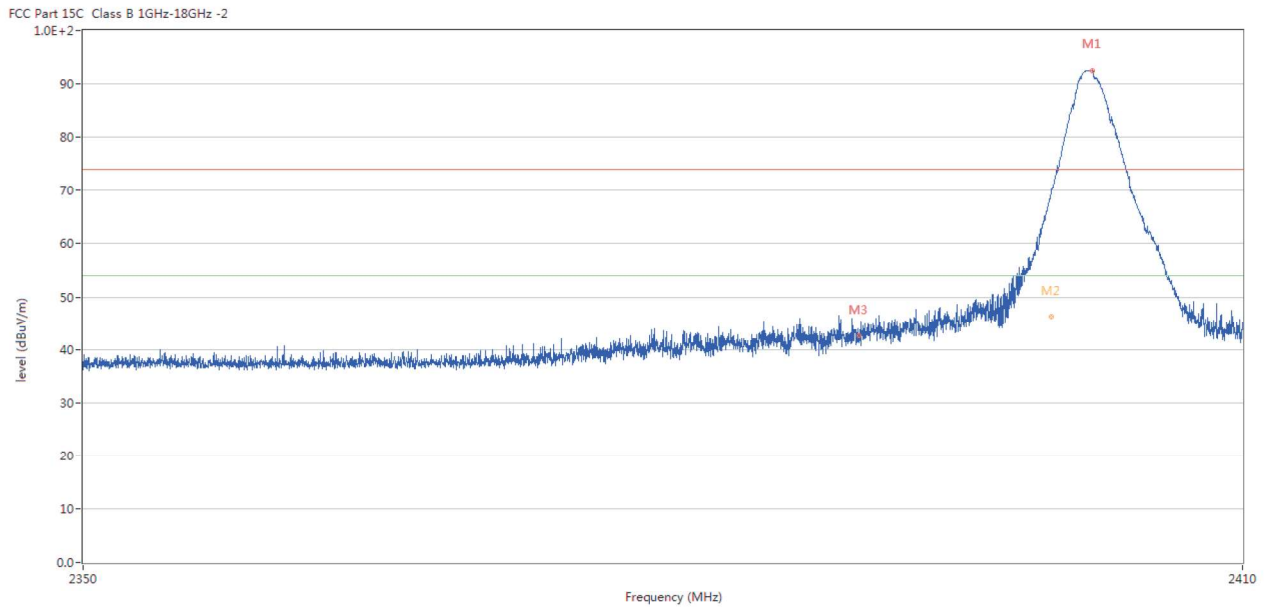
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**7.6 Test Result**

Product:	TWS speaker	Polarity	Horizontal
Mode	Keeping Transmitting	Test Voltage	DC3.7V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	--	--



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
2	2399.983	68.22	-3.57	74.0	-5.78	Peak	279.00	100	Horizontal	Pass
2**	2399.983	46.42	-3.57	54.0	-7.58	AV	279.00	100	Horizontal	Pass
3	2390.010	42.57	-3.53	74.0	-31.43	Peak	84.00	100	Horizontal	Pass

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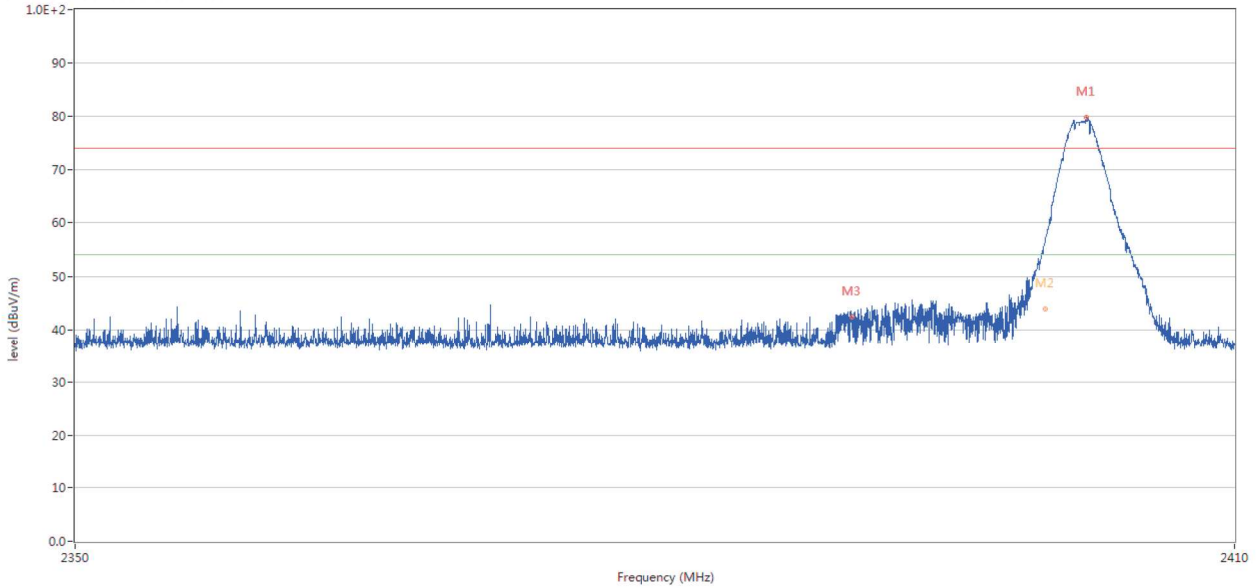
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Product:	TWS speaker	Detector	Vertical
Mode	Keeping Transmitting	Test Voltage	DC3.7V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	--	--

FCC Part 15C Class B 1GHz-1.8GHz -2



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
2	2400.087	56.34	-3.57	74.0	-17.66	Peak	37.00	100	Vertical	Pass
2**	2400.087	44.79	-3.57	54.0	-10.21	AV	37.00	100	Vertical	Pass
3	2390.040	42.45	-3.53	74.0	-31.55	Peak	37.00	100	Vertical	Pass

The report refers only to the sample tested and does not apply to the bulk.

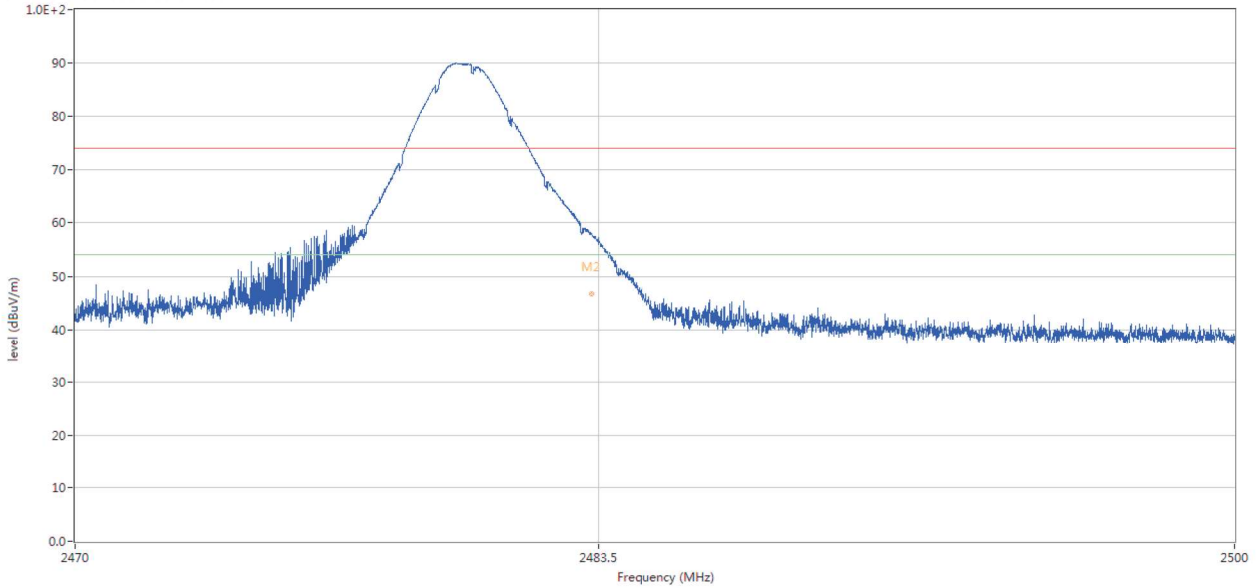
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Product:	TWS speaker	Polarity	Horizontal
Mode	Keeping Transmitting	Test Voltage	DC3.7V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	--	--

FCC Part 15C Class B 1GHz-1.8GHz -2



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
2	2483.324	57.83	-3.57	74.0	-16.17	Peak	276.00	100	Horizontal	Pass
2**	2483.324	46.77	-3.57	54.0	-7.23	AV	276.00	100	Horizontal	Pass

The report refers only to the sample tested and does not apply to the bulk.

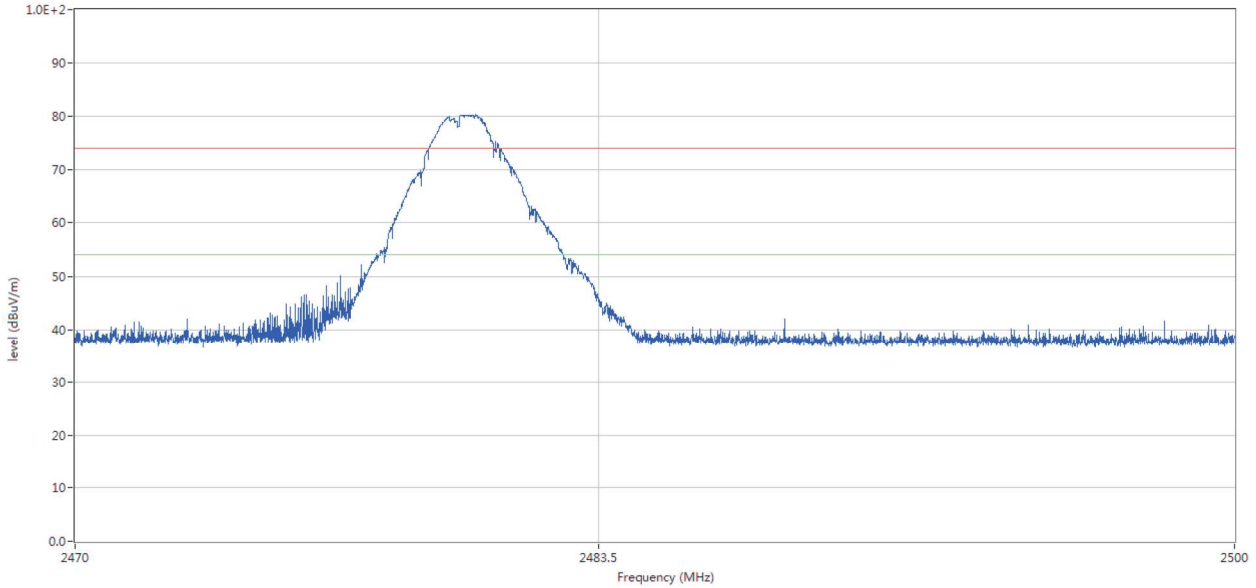
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Product:	TWS speaker	Detector	Vertical
Mode	Keeping Transmitting	Test Voltage	DC3.7V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	--	--

FCC Part 15C Class B 1GHz-1.8GHz -2



No.	Frequency (MHz)	Results (dBuV/m)	Factor (dB)	Limit (dBuV/m)	Over Limit (dB)	Detector	Table (o)	Height (cm)	ANT	Verdict
1	2480.317	80.35	-3.57	74.0	6.35	Peak	22.00	100	Vertical	N/A
2	2483.377	47.92	-3.57	74.0	-26.08	Peak	22.00	100	Vertical	Pass

- Note: 1. The PK emission level less than the AV limit. No necessary to record the AV emission level.  
 2. This is a handheld device. The radiated emissions should be tested under 3-axes position (Lying, Side, and Stand), After pre-test. It was found that the worse radiated emission was get at the lying position.  
 3. The two modulation modes of GFSK and Pi/4D-QPSK were tested. And only the worst case was recorded in the test report. GFSK was the worst case.

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## 8.0 Antenna Requirement

### Applicable Standard

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

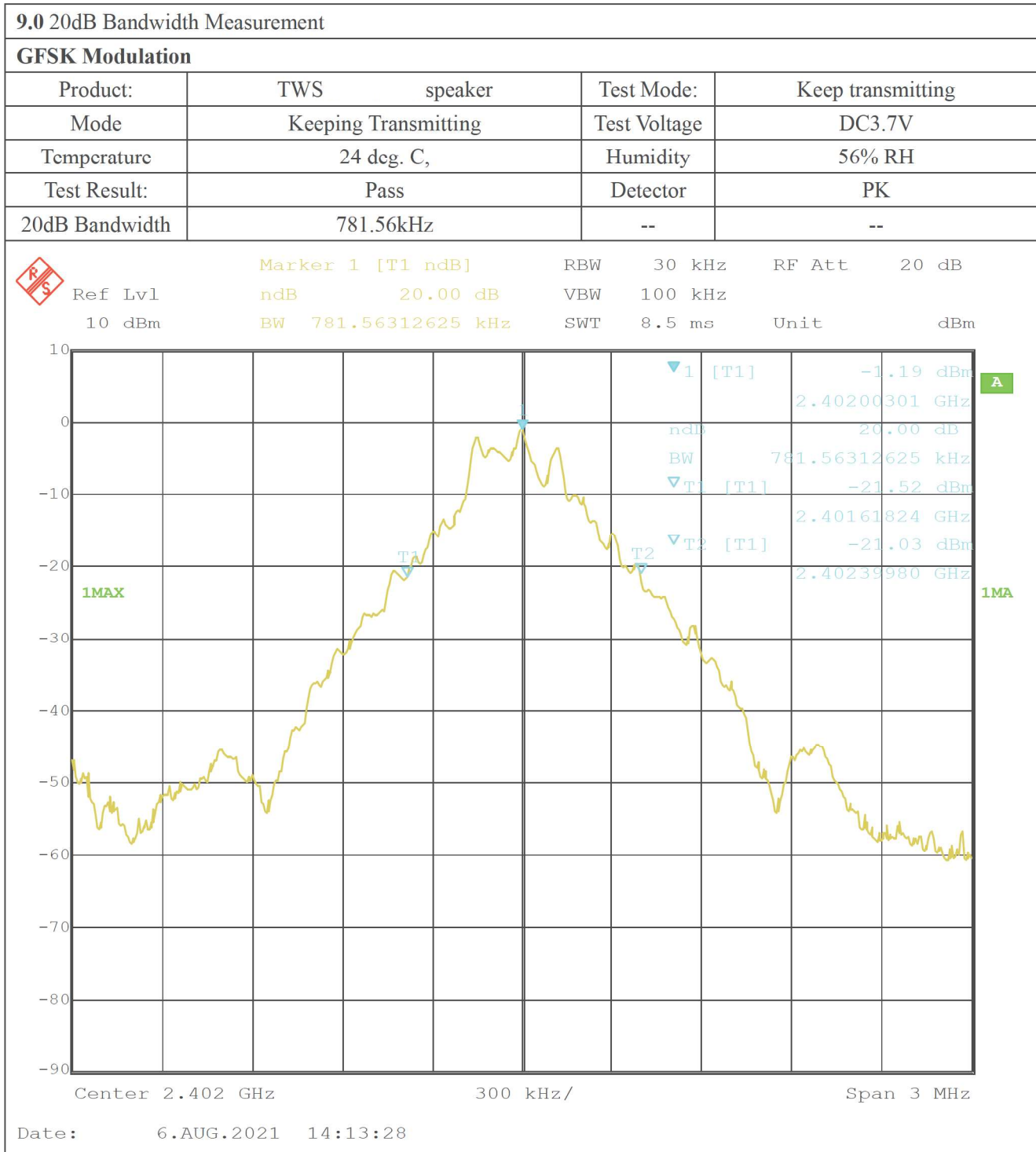
This product has a PCB antenna with gain 2.0dBi Max. It fulfills the requirement of this section.

Test Result: Pass

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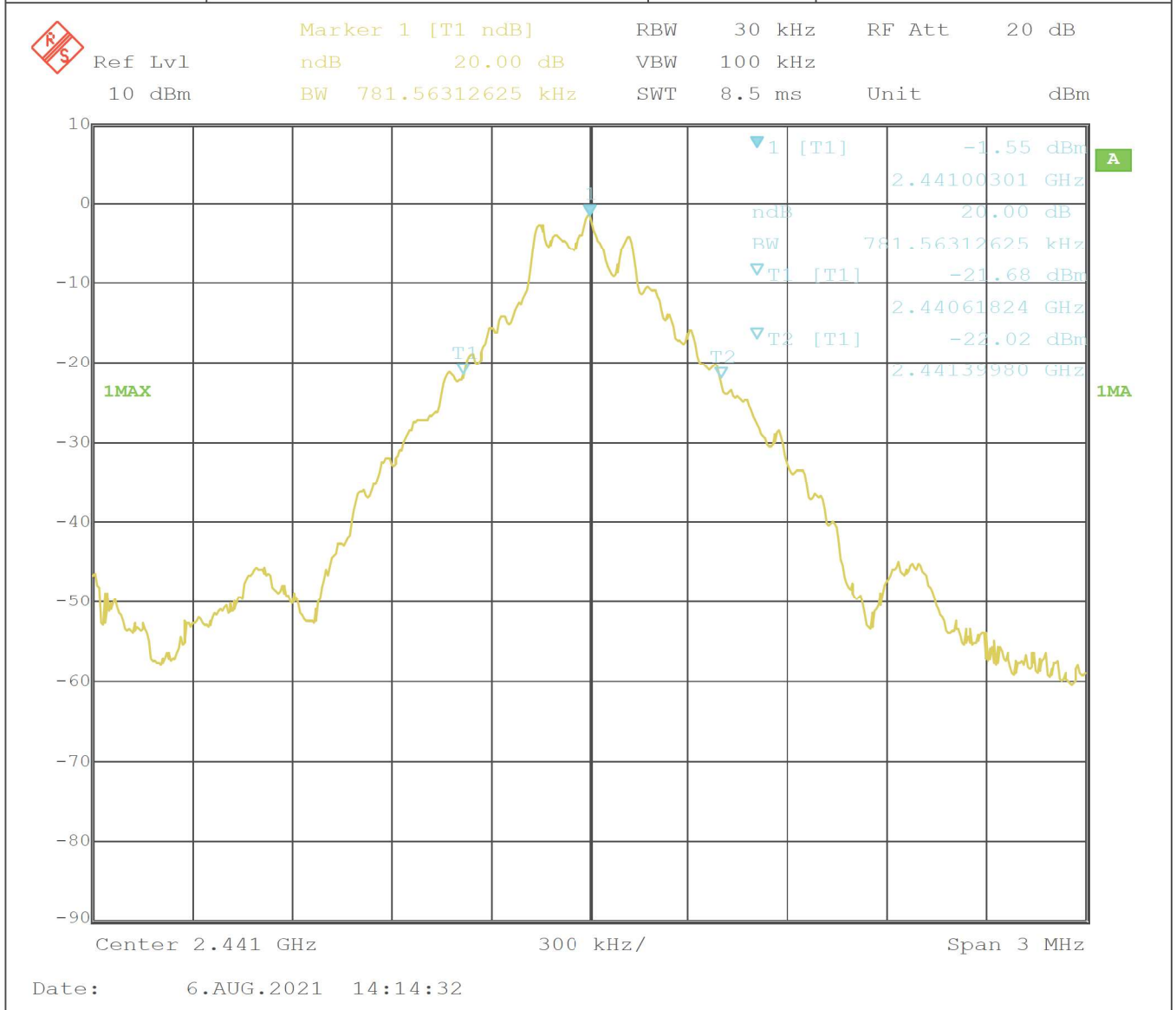
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GFSK Modulation			
Product:	TWS speaker	Test Mode:	Keep transmitting
Mode	Keeping Transmitting	Test Voltage	DC3.7V
Temperature	24 deg. C,	Humidity	56% RH
Test Result:	Pass	Detector	PK
20dB Bandwidth	781.56kHz	--	--



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