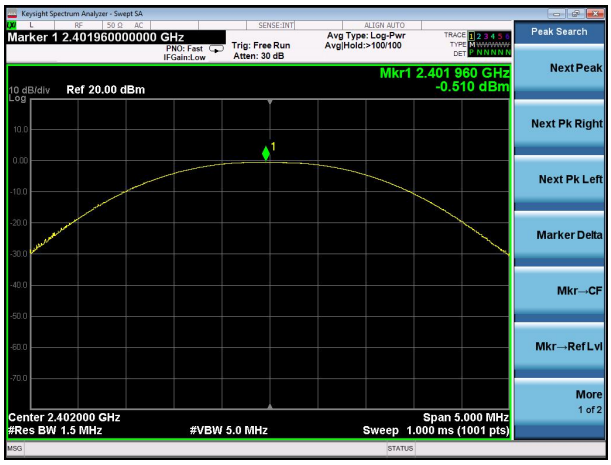
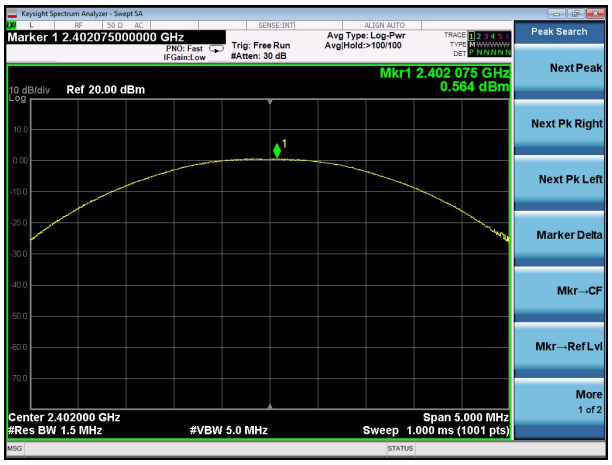
Test Plot

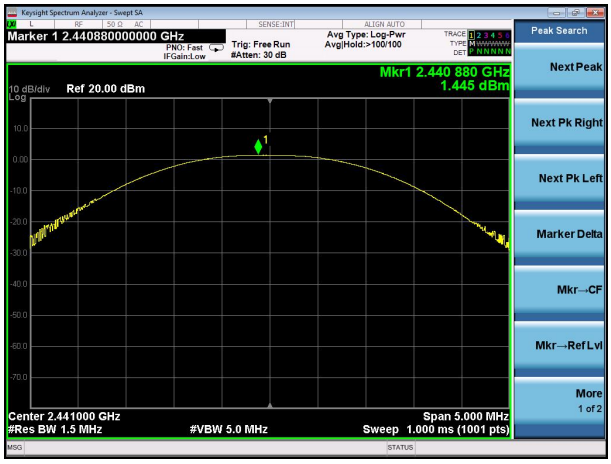
Peak output Power plot on channel 00 (1Mbps)



Peak output Power plot on channel 00 (2Mbps)

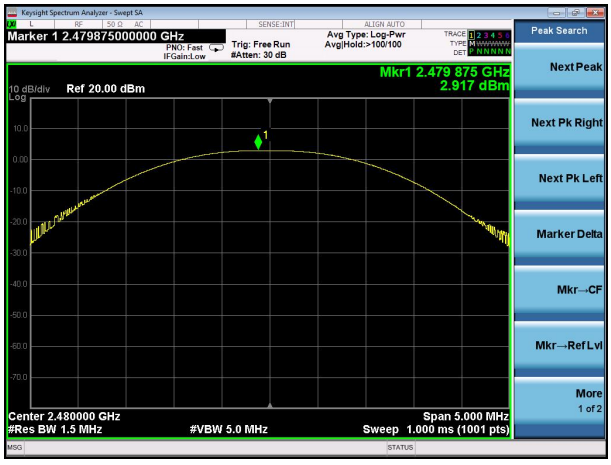


Peak output Power plot on channel 39 (1Mbps)



Peak output Power plot on channel 39 (2Mbps)

Peak output Power plot on channel 78 (1Mbps)



Peak output Power plot on channel 78 (2Mbps)

7.8.CONDUCTED BAND EDGE MEASUREMENT

7.8.1.Applicable Standard

According to FCC Part 15.247(d) and ANSI C63.10-2013

7.8.2.Conformance Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

7.8.3.Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.8.4.Test Setup

Please refer to Section 6.1 of this test report.

7.8.5.Test Procedure

The testing follows ANSI C63.10-2013 clause 7.8.6.
The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator.
The path loss was compensated to the results for each measurement.
Set to the maximum power setting and enable the EUT transmit continuously.
The EUT must have its hopping function enabled.
Use the following spectrum analyzer settings:
Span = approximately 5 times the 20 dB bandwidth, centered on a hopping channel
RBW = 100KHz
VBW = 300KHz
Band edge emissions must be at least 20 dB down from the highest emission level within the authorized band as measured with a 100kHz RBW. The attenuation shall be 30 dB instead of 20 dB when RMS conducted output power procedure is used.
Measure the highest amplitude appearing on spectral display and set it as a reference level. Plot the graph with marking the highest point and edge frequency.
Repeat above procedures until all measured frequencies were complete.

7.8.6.SPURIOUS RF CONDUCTED EMISSION

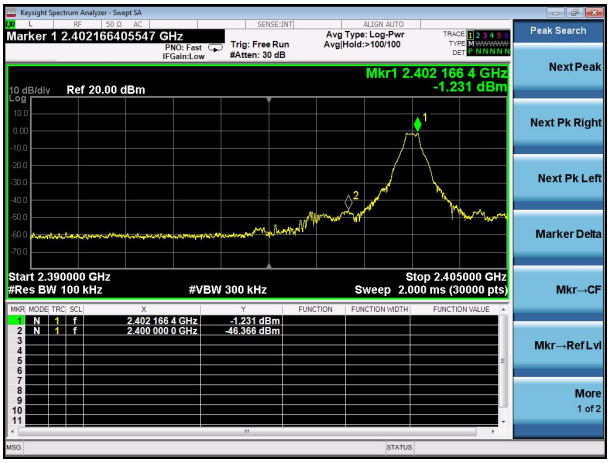
7.8.7.Test Results

EUT:	Portable Battery Speaker	Model Name ：	RM-028
Temperature:	20 ℃	Relative Humidity:	48%
Test Mode:	Mode2 /Mode4/ Mode 5	Test By:	Eder

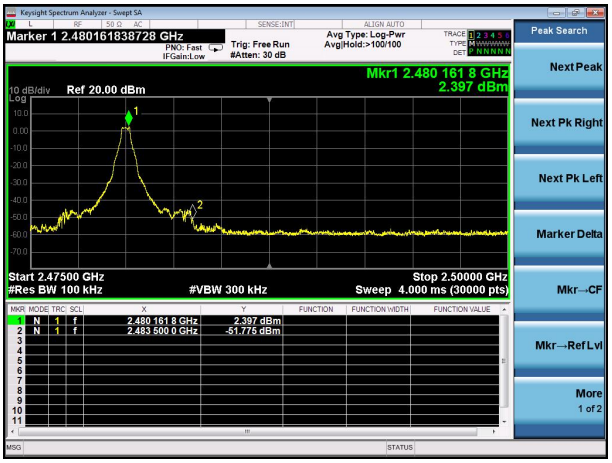
Note: Hopping enabled and disabled have evaluated,and the wortest data was reported

Test Plot

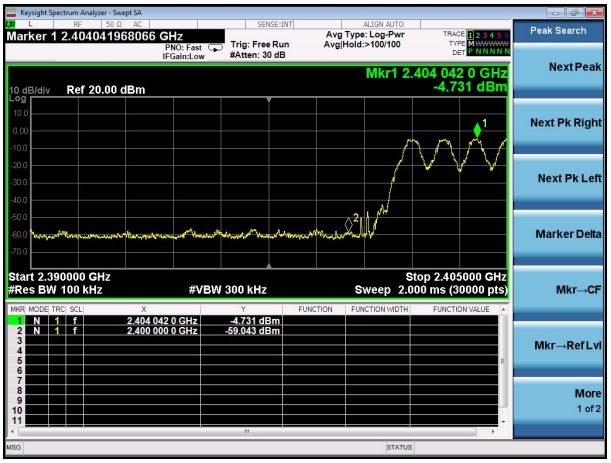
GFSK: Band Edge-Low Channel



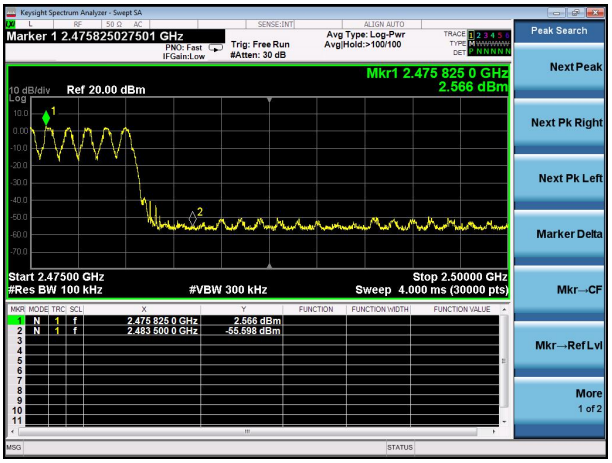
GFSK: Band Edge-High Channel



GFSK: Band Edge-Low Channel (Hopping Mode)

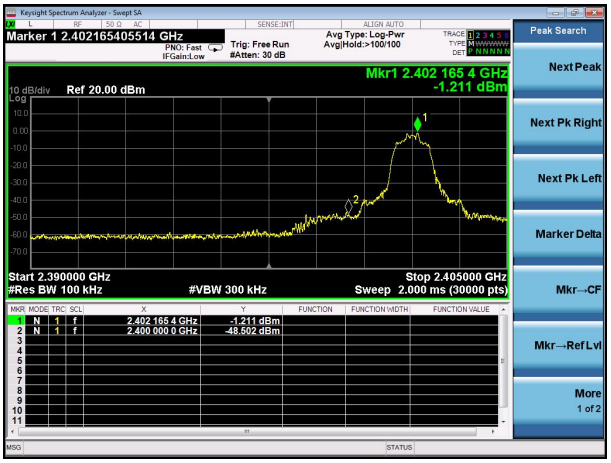


GFSK: Band Edge-High Channel (Hopping Mode)

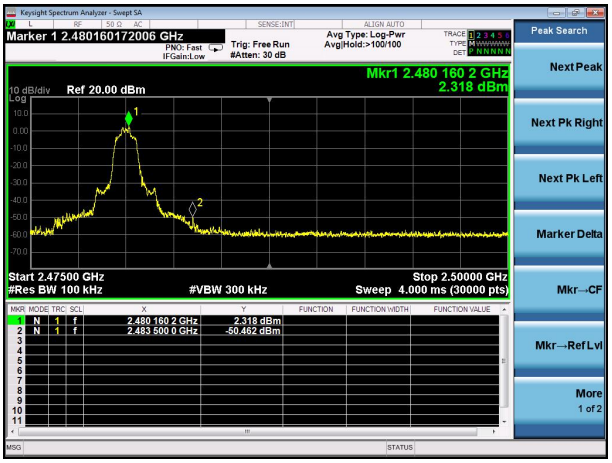


Test Plot

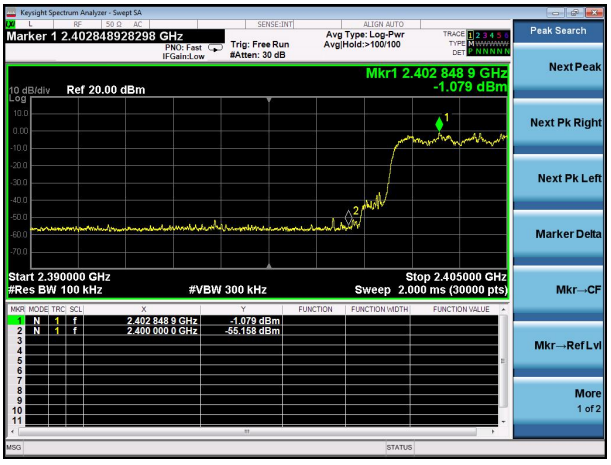
π /4-DQPSK: Band Edge-Low Channel



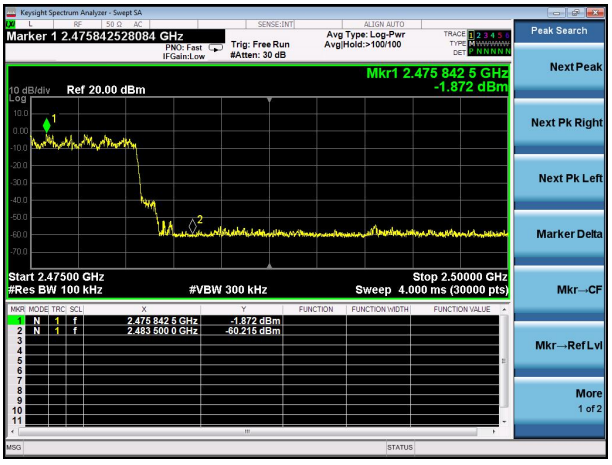
π /4-DQPSK: Band Edge-High Channel



π /4-DQPSK: Band Edge-Low Channel (Hopping Mode)



π /4-DQPSK: Band Edge-High Channel (Hopping Mode)



7.8.8.Applicable Standard

According to FCC Part 15.247(d) and ANSI C63.10-2013.

7.8.9.Conformance Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required. In addition, radiated emissions which fall in the restricted bands, as defined in §15.205(a), must also comply with the radiated emission limits specified in §15.209(a) (see §15.205(c)).

7.8.10.Measuring Instruments

The Measuring equipment is listed in the section 6.3 of this test report.

7.8.11.Test Setup

Please refer to Section 6.1 of this test report.

7.8.12.Test Procedure

Establish an emission level by using the following procedure:
a) Set the center frequency and span to encompass frequency range to be measured.
b) Set the RBW = 100 kHz.
c) Set the VBW ≥ [3 × RBW].
d) Detector = peak.
e) Sweep time = auto couple.
f) Trace mode = max hold.
g) Allow trace to fully stabilize.
h) Use the peak marker function to determine the maximum amplitude level.
Then the limit shall be attenuated by at least 20 dB relative to the maximum amplitude level in 100 kHz.

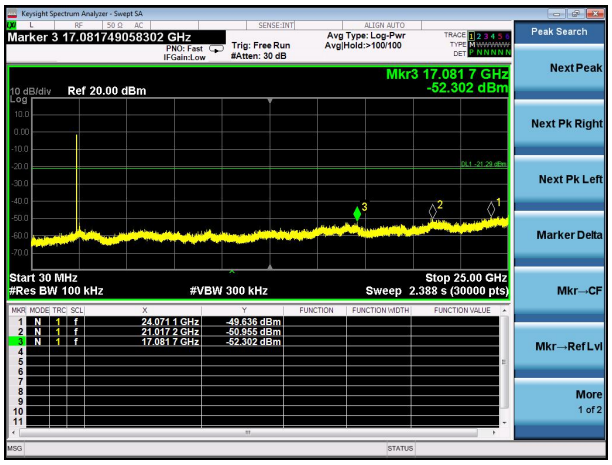
7.8.13.Test Results

Remark: The measurement frequency range is from 9KHz to the 10th harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the spurious emissions and bandege measurement data.
The worst mode is π/4-DQPSK mode

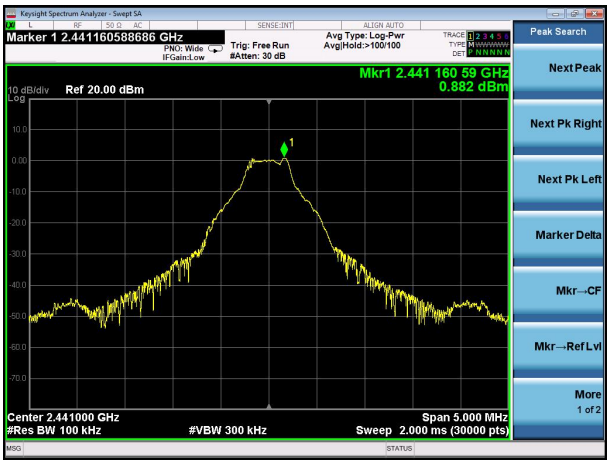
Test Plot(GFSK)

GFSK on channel 00

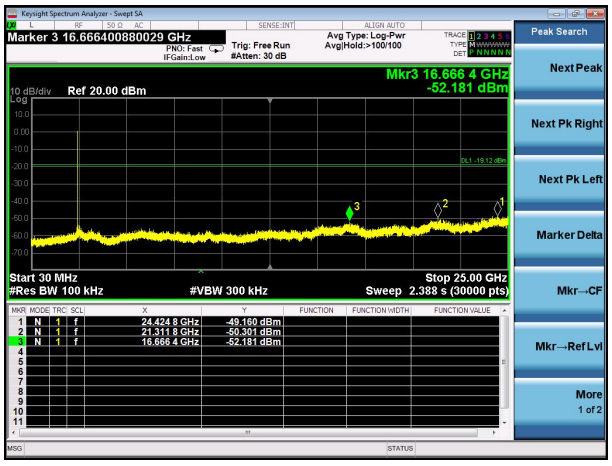
GFSK on channel 00



GFSK on channel 39

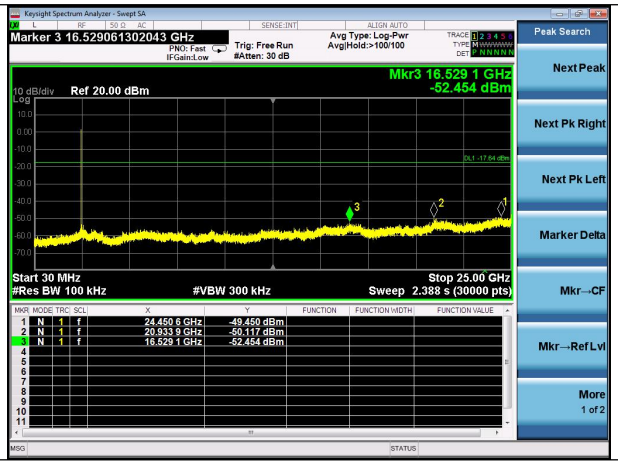


GFSK on channel 39



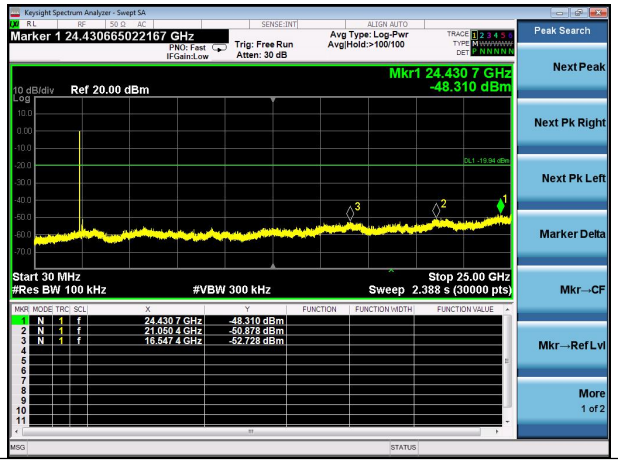
GFSK on channel 78

GFSK on channel 78



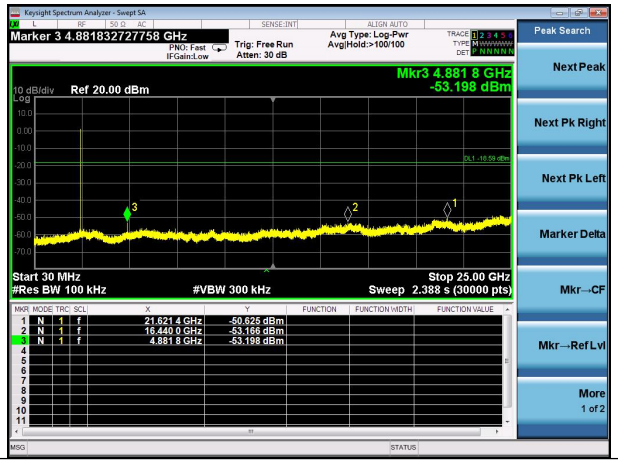
π /4-DQPSK on channel 00

π /4-DQPSK on channel 00



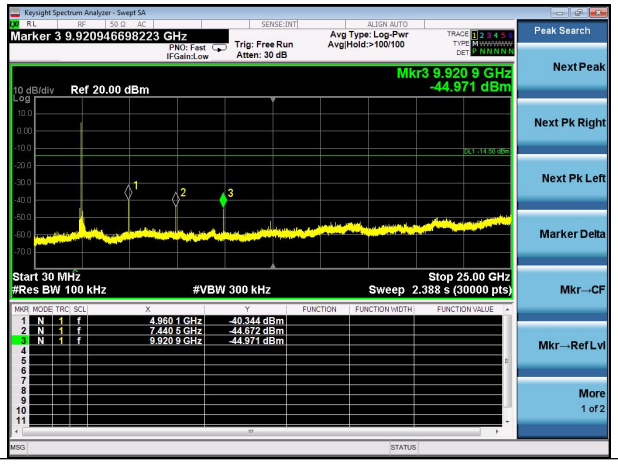
π /4-DQPSK on channel 39

π /4-DQPSK on channel 39



π /4-DQPSK on channel 78

π /4-DQPSK on channel 78



Note: The peak emissions without marker on the above plots are fundamental wave and need not to compare with the limit.

7.9.ANTENNA APPLICATION

7.9.1.Antenna Requirement

15.203 requirement: For intentional device, according to 15.203: an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible partyshall be used with the device.

7.9.2.Result

The EUT antenna is permanent attached PCB antenna(Gain:1.0dBi). It comply with the standard requirement.

END OF REPORT