7.9 SPURIOUS RF CONDUCTED EMISSION

7.9.1 Applicable Standard

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

7.9.2 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)).

7.9.3 Measuring Instruments

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

7.9.4 Test Setup

Please refer to Section 6.1 of this test report.

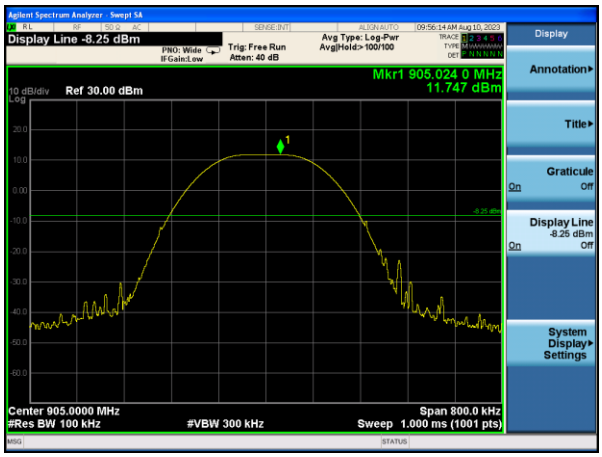
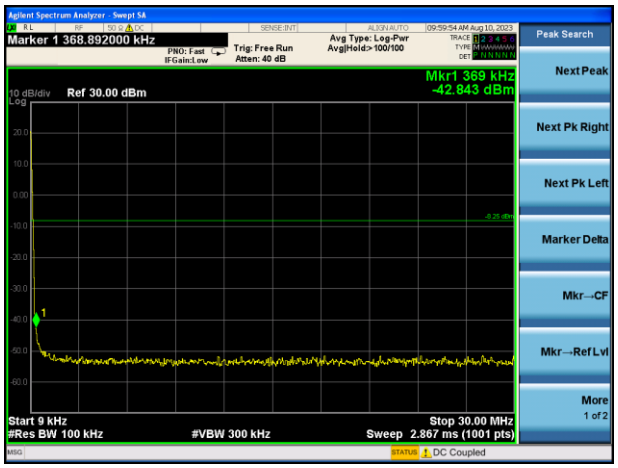
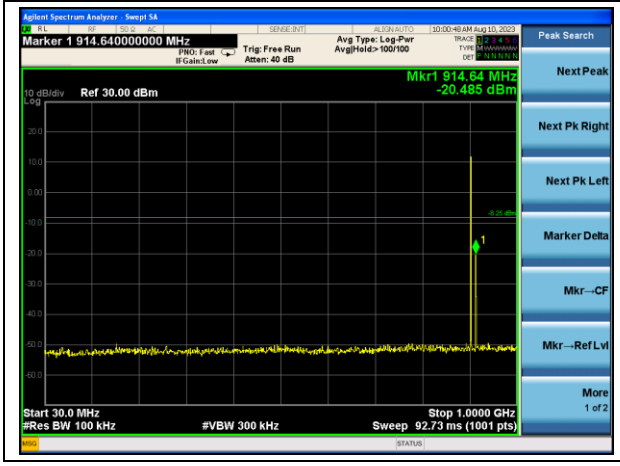
7.9.5 Test Procedure

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.

7.9.6 Test Results

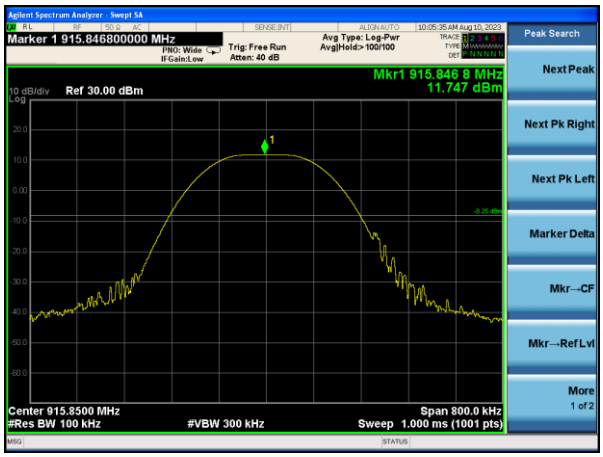
Remark: The measurement frequency range is from 9KHz to the 10th harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the spurious emissions and bandege measurement data.

(Module1)OCW=120k-Antenna1

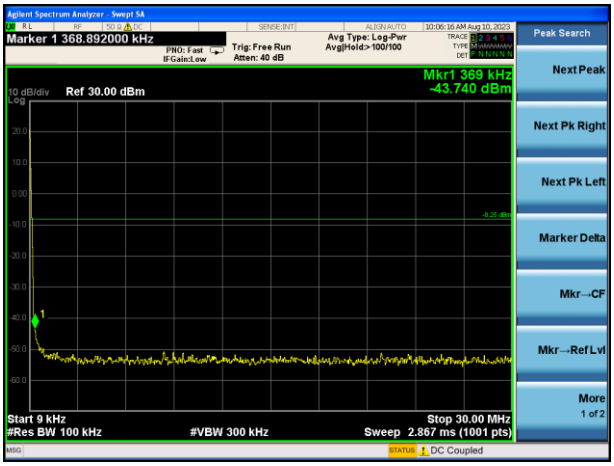
Test Plot	
GFSK on channel 01	GFSK on channel 01
	
GFSK on channel 01	GFSK on channel 01
	

Test Plot

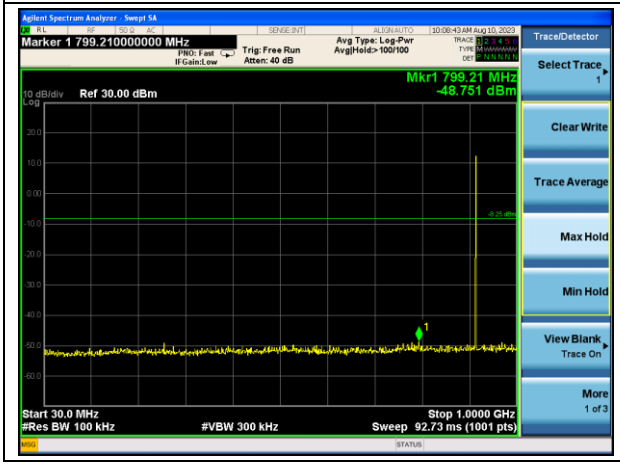
GFSK on channel 52



GFSK on channel 52

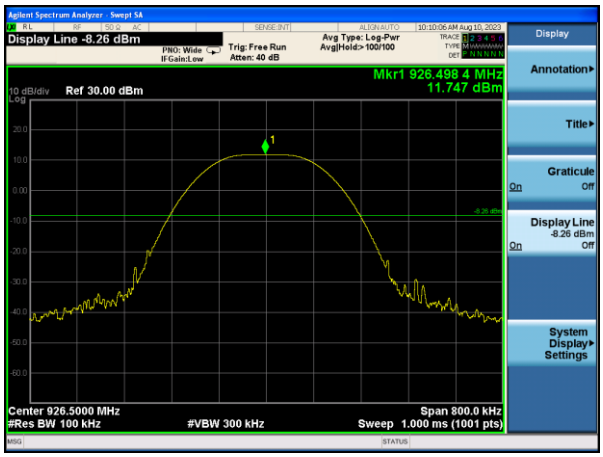
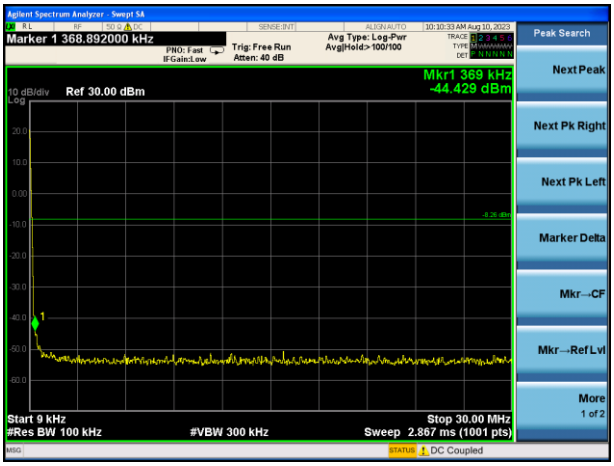
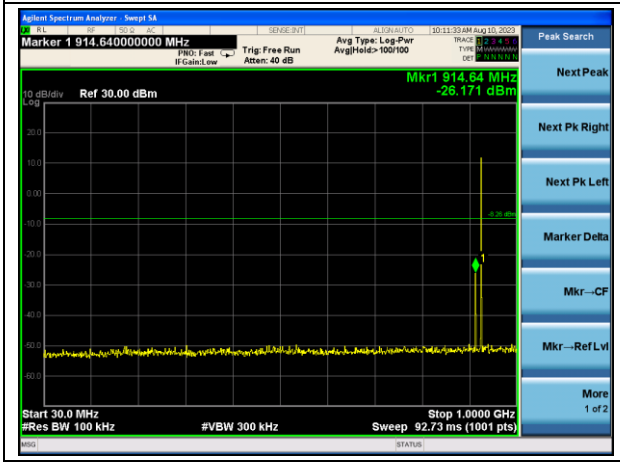


GFSK on channel 52

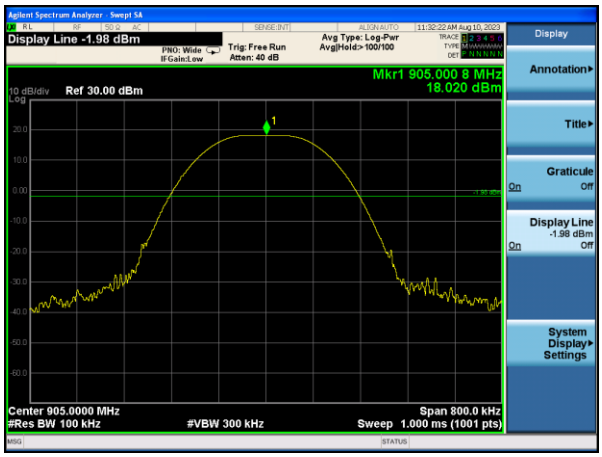
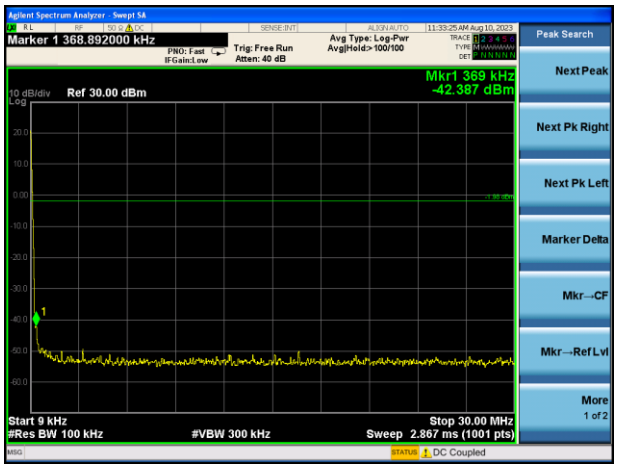
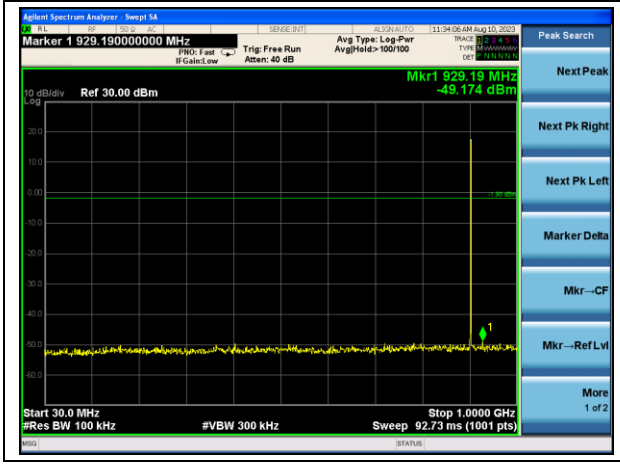


GFSK on channel 52

Test Plot

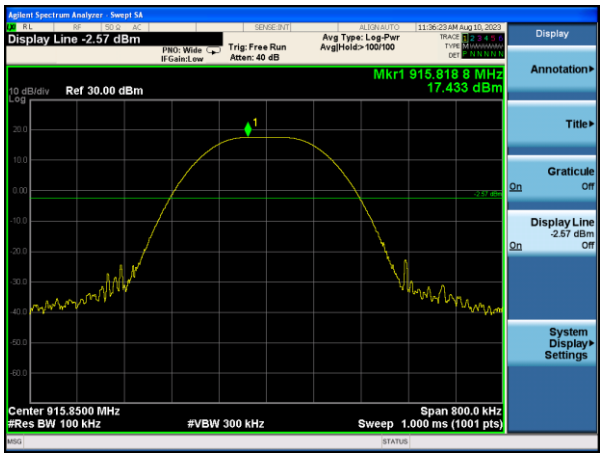
GFSK on channel 103	GFSK on channel 103
	
GFSK on channel 103	GFSK on channel 103
	

(Module1)OCW=120k-Antenna2

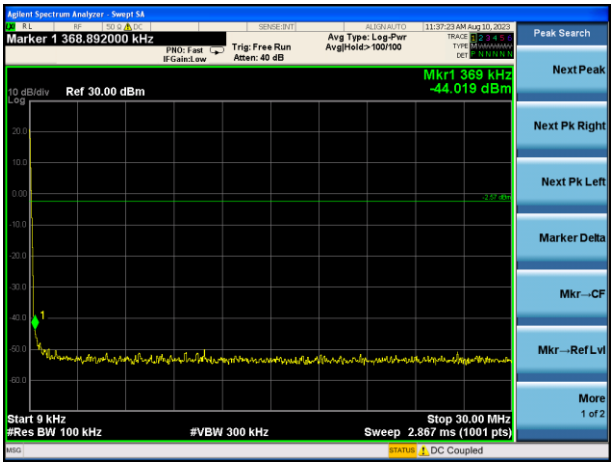
Test Plot	
GFSK on channel 01	GFSK on channel 01
	
GFSK on channel 01	GFSK on channel 01
	

Test Plot

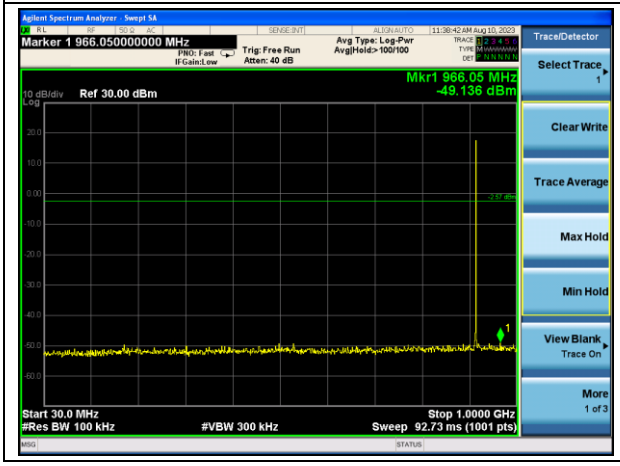
GFSK on channel 52



GFSK on channel 52

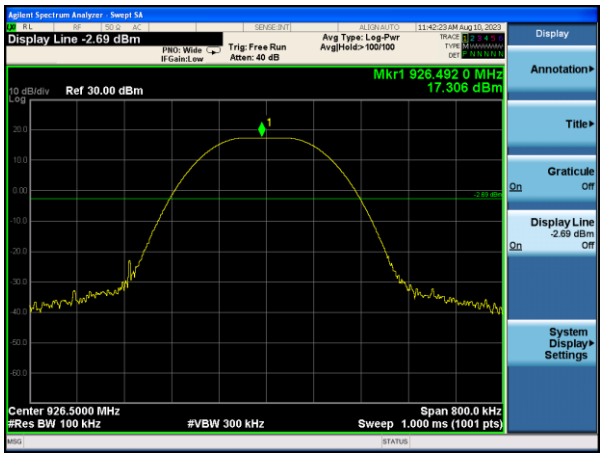
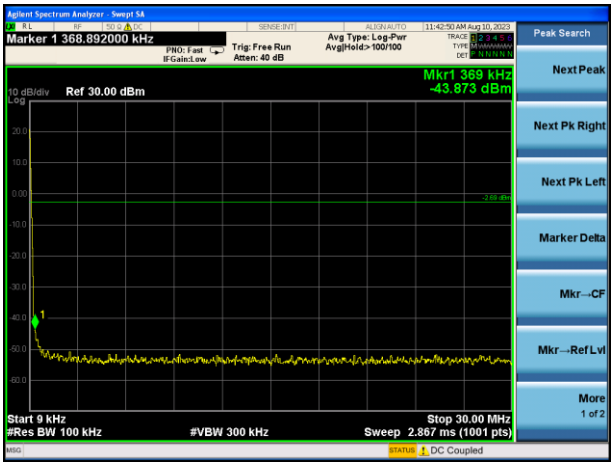
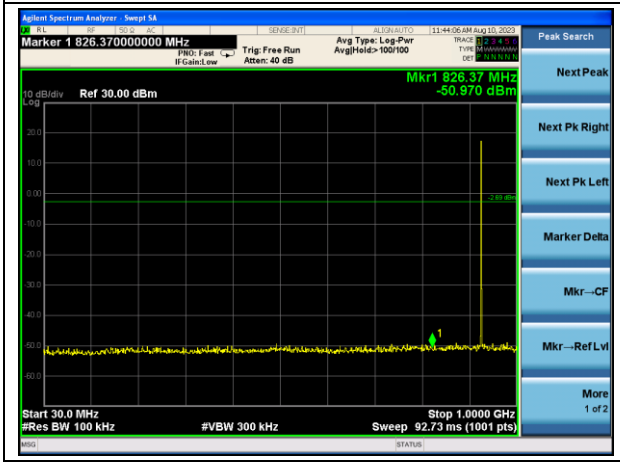


GFSK on channel 52



GFSK on channel 52

Test Plot

GFSK on channel 103	GFSK on channel 103
	
GFSK on channel 103	GFSK on channel 103
	

(Module2)OCW=140k-Antenna3

Test Plot	
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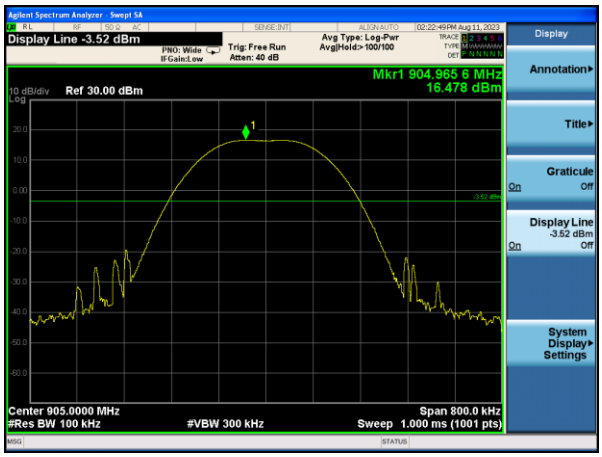
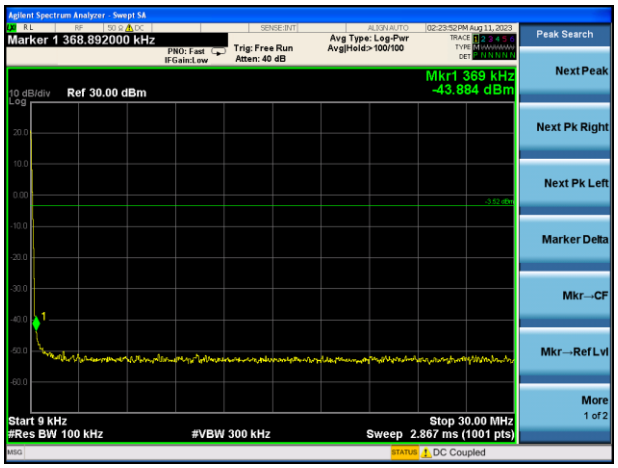
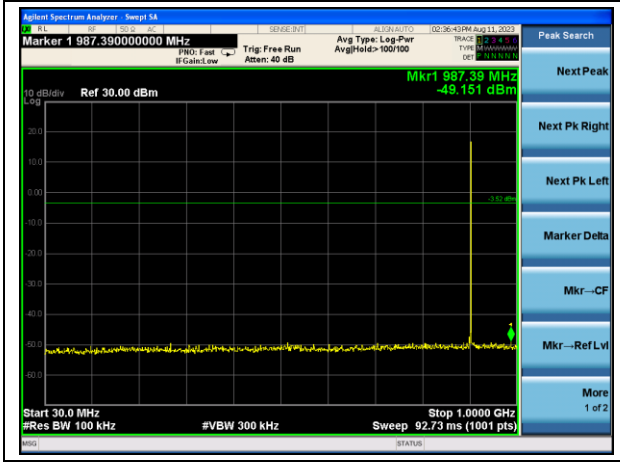
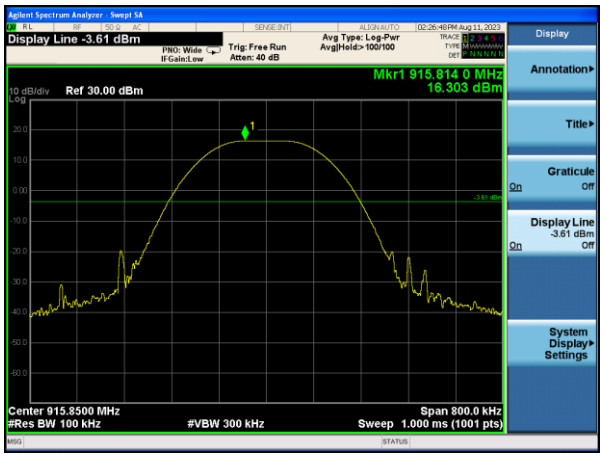
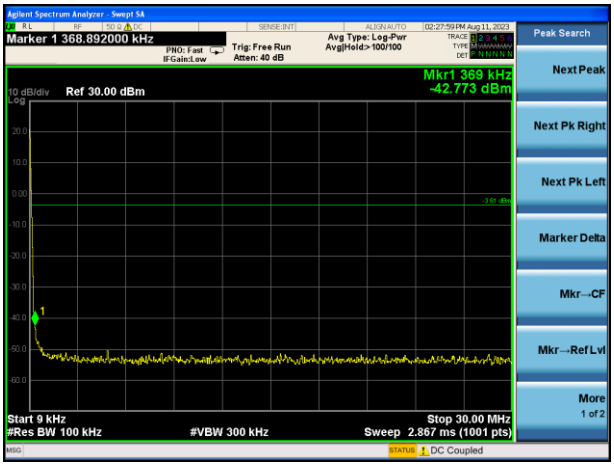
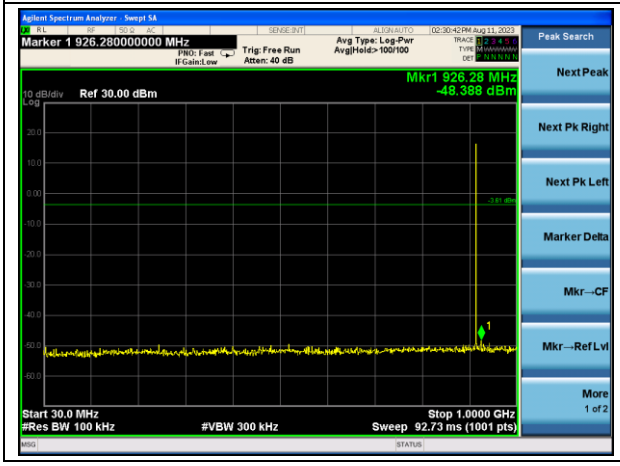
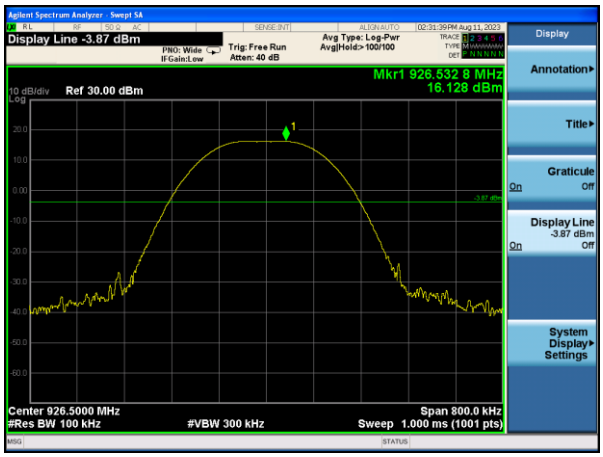
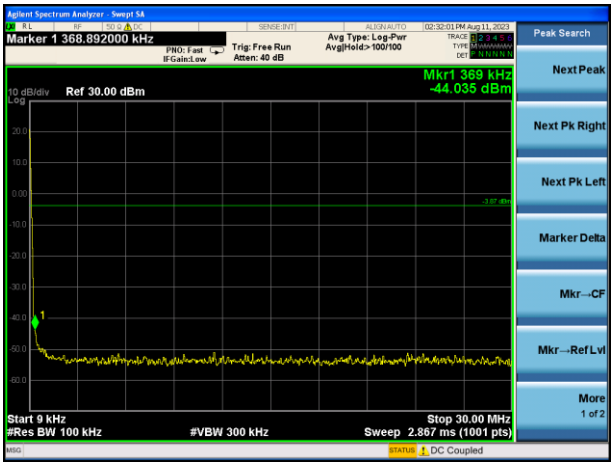
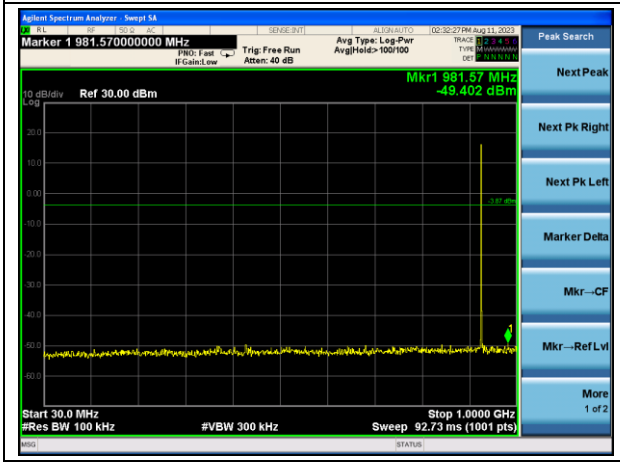
	
GFSK on channel 01	GFSK on channel 01
	

Test Plot

GFSK on channel 52	GFSK on channel 52
	
GFSK on channel 52	GFSK on channel 52
	

Test Plot

GFSK on channel 103	GFSK on channel 103
	
GFSK on channel 103	GFSK on channel 103
	

(Module2)OCW=140k-Antenna4

Test Plot	
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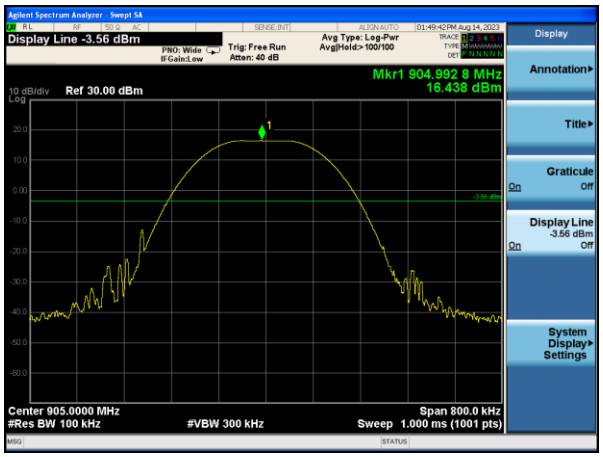
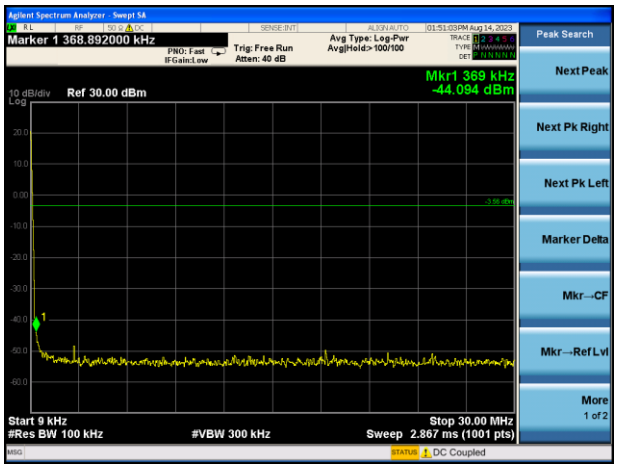
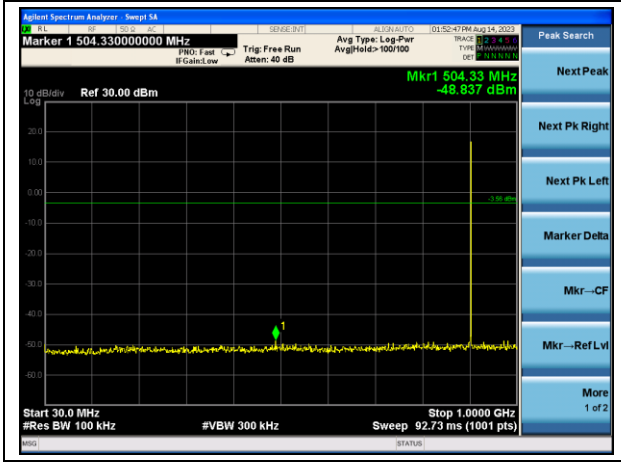
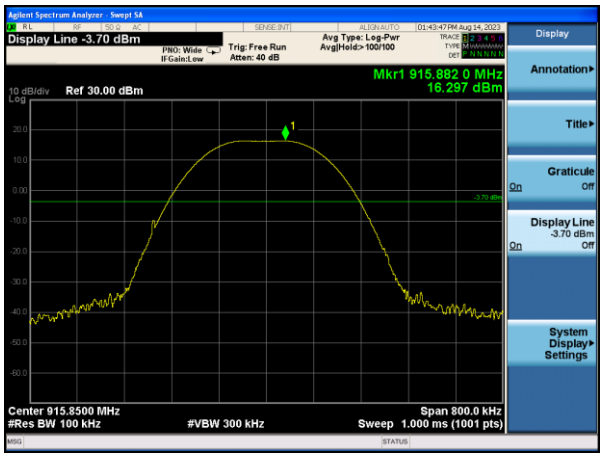
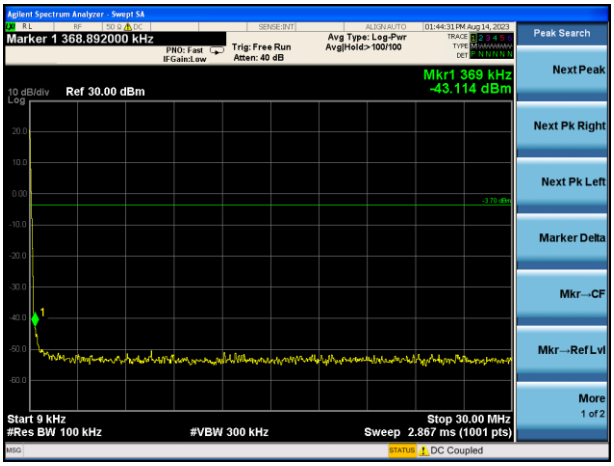
	
GFSK on channel 01	GFSK on channel 01
	

Test Plot

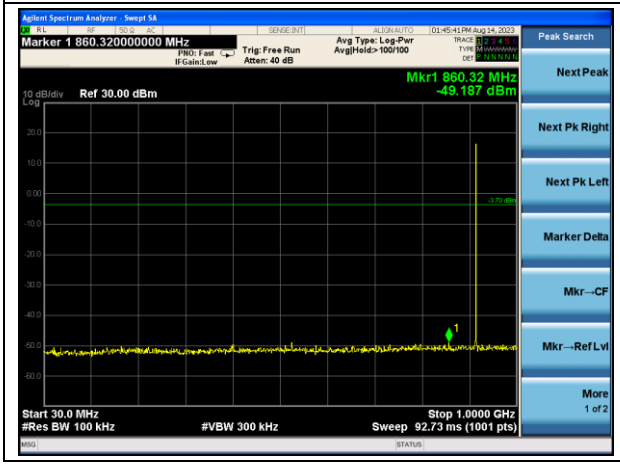
GFSK on channel 52



GFSK on channel 52

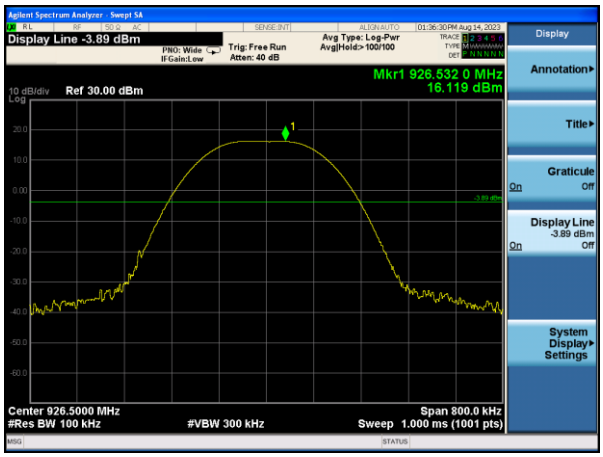
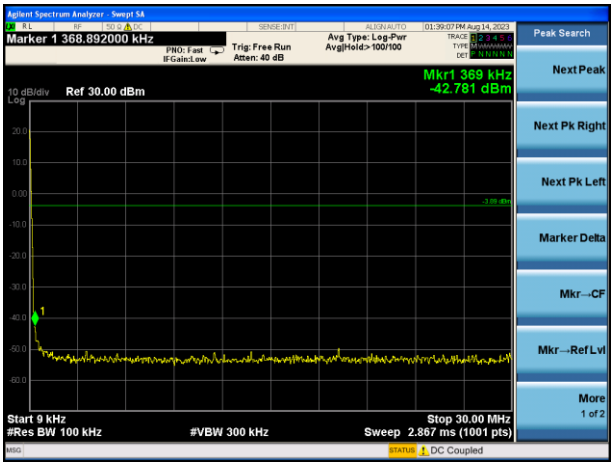
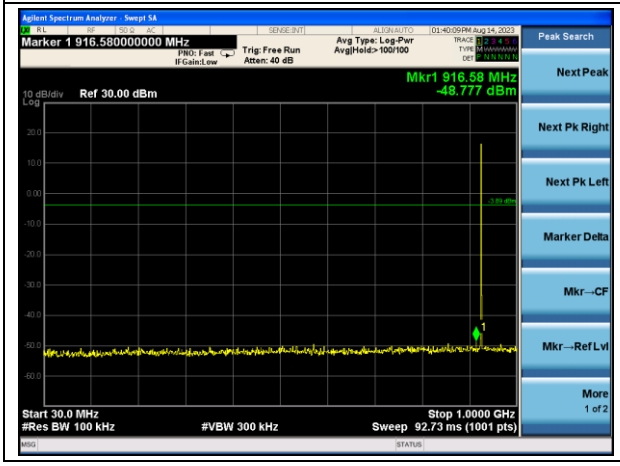


GFSK on channel 52



GFSK on channel 52

Test Plot

GFSK on channel 103	GFSK on channel 103
	
GFSK on channel 103	GFSK on channel 103
	

7.10 ANTENNA APPLICATION

7.10.1 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.

7.10.2 Result

The EUT has four antenna connector and use only the
Antenna1Type: Planar Inverted L- Antenna(Gain:-5dB).
Antenna2Type: Planar Inverted F- Antenna (Gain:-6dBi).
Antenna3Type: Planar Inverted F- Antenna (Gain: -6dBi).
Antenna4Type: Planar Inverted F- Antenna (Gain: -6dBi).
It comply with the standard of 15.203 requirement.

END OF REPORT