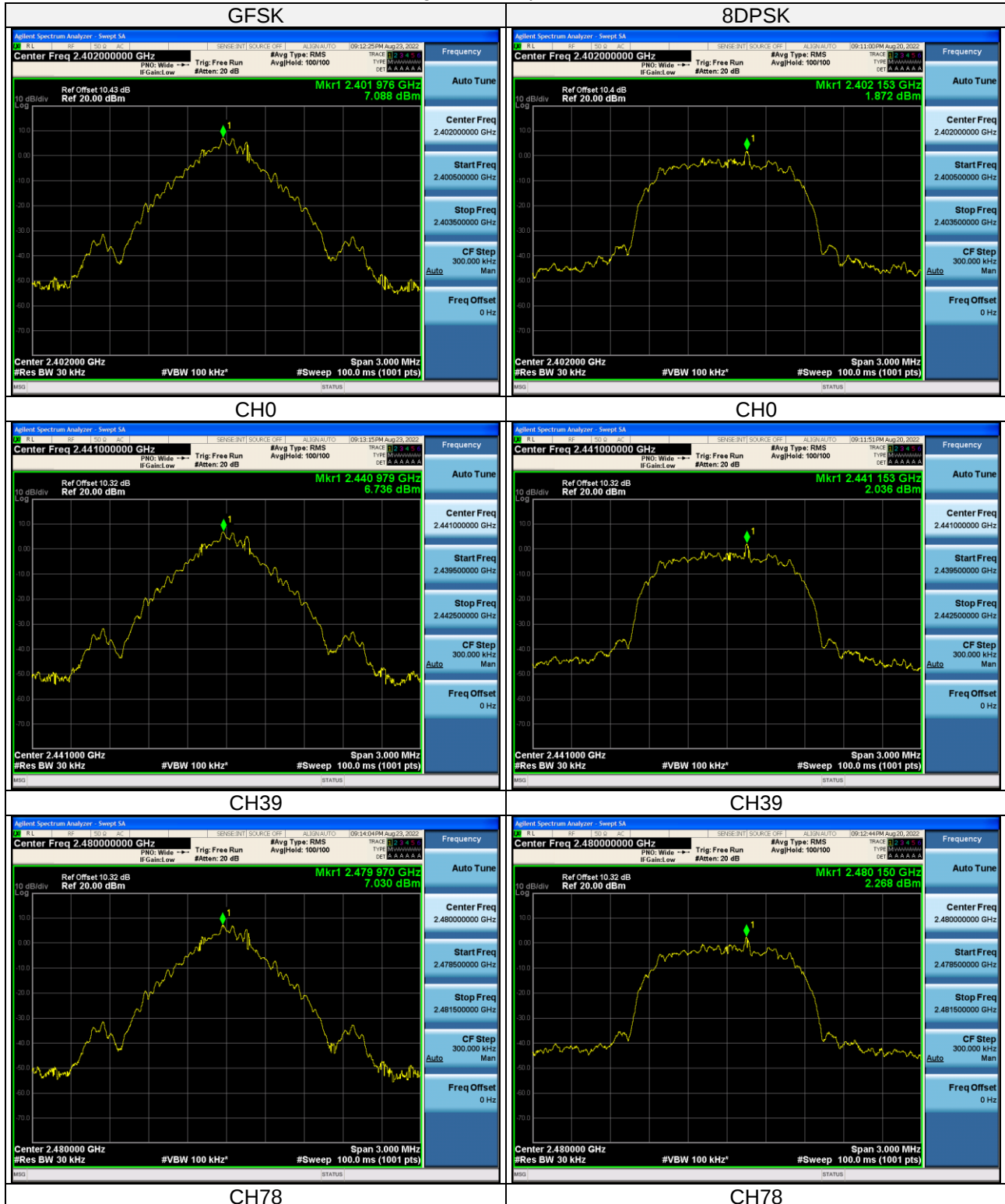




Average Power Spectrum Plot





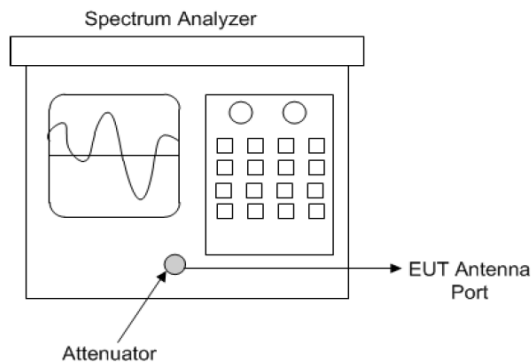
3.7 Conducted Out of Band Emission Measurement

3.7.1 Limits of Conducted Out of Band Emission Measurement

- a. **If the maximum peak conducted output power procedure was used to determine compliance as described in 11.9.1**, then the peak output power measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz (i.e., 20 dBc).
- b. **If maximum conducted (average) output power was used to determine compliance as described in 11.9.2**, then the peak power in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 30 dB relative to the maximum in-band peak PSD level in 100 kHz (i.e., 30 dBc)

3.7.2 Tets Setup

- DTS emissions in non-restricted frequency bands Subclause 11.11 of ANSI C63.10 is applicable.
- DTS emissions in restricted frequency bands Subclause 11.12 of ANSI C63.10 is applicable



Spectrum analyzer test configuration

3.7.3 Test Instruments

Refer to section 5 to get information of above instrument.



3.7.4 Test Procedure

a. Establish a reference level by using the following procedure:

- 1) Set instrument center frequency to DTS channel center frequency.
- 2) Set the span to 21.5 times the DTS bandwidth)
- 3) Set the RBW= 100 kHz)
- 4) Set the VBW $\geq 3 \times$ RBW
- 5) Detector = peak
- 6) Sweep time = auto coupling
- 7) Trace mode =max hold
- 8) Allow trace to fully stabilize
- 9) Use the peak marker function to determine the maximum PSD level.

Note that the channel found to contain the maximum PSD level can be used to establish the reference level.

b. Establish an emission level by using the following procedure:

- 1) Set the center frequency and span to encompass frequency range to be measured.
- 2) Set the RBW = 100 kHz
- 3) Set the VBW ≥ 300 kHz.
- 4) Detector = peak.
- 5) Sweep time = auto couple.
- 6) Trace mode = max hold.
- 7) Allow trace to fully stabilize.
- 8) Use the peak marker function to determine the maximum power level in any 100 kHz band segment within the fundamental EBW.

3.7.5 Deviation from Test Standard

No deviation.

3.7.6 EUT Operating Condition

The software provided by client enabled the EUT to transmit and receive data at lowest, middle and highest channel frequencies individually.

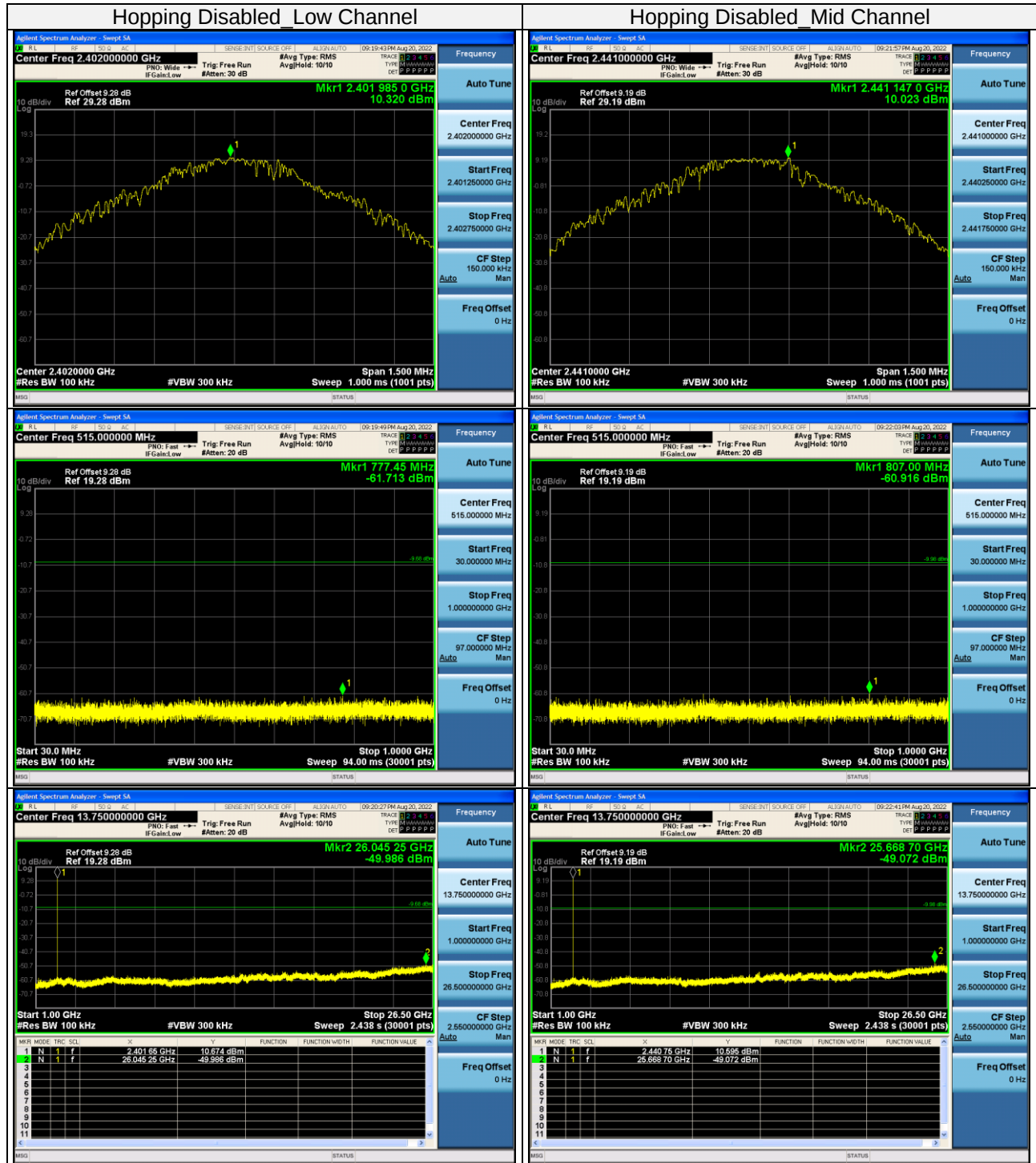


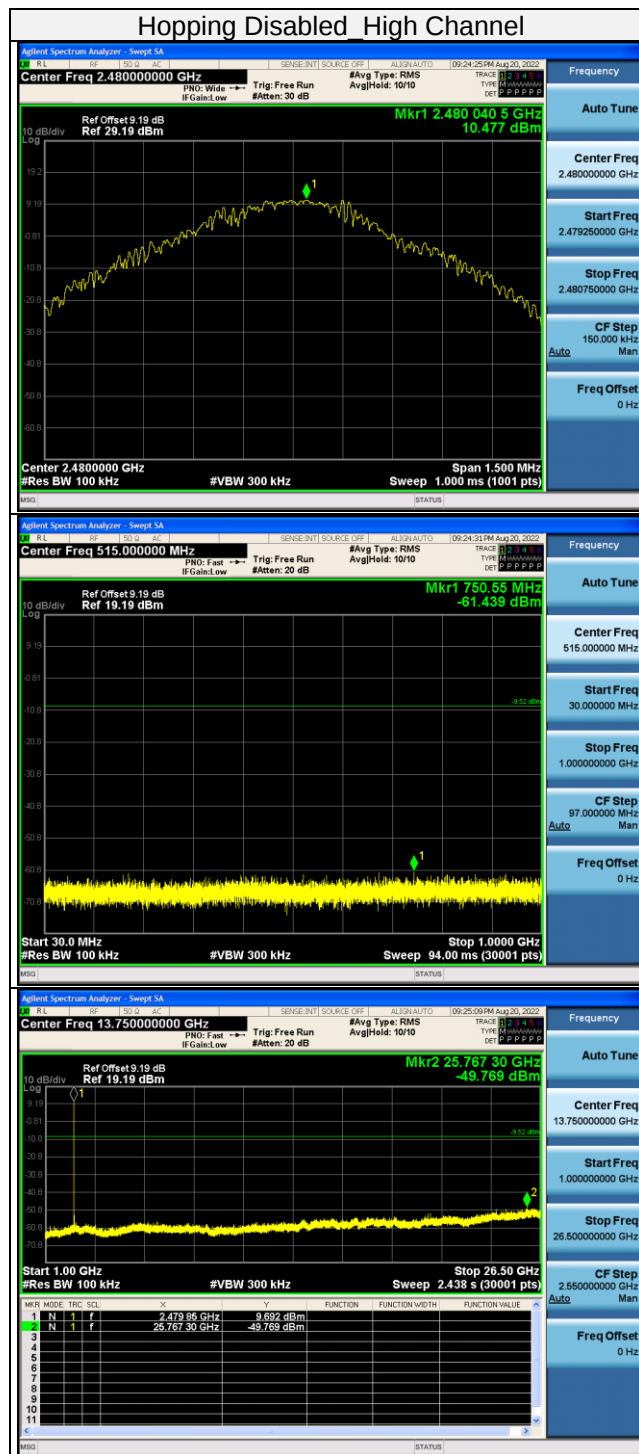
3.7.7 Test Results

The spectrum plots are attached on the following images. D1 line indicates the highest level, D2 line indicates the 20dB offset below D1. It shows compliance with the requirement.

Left

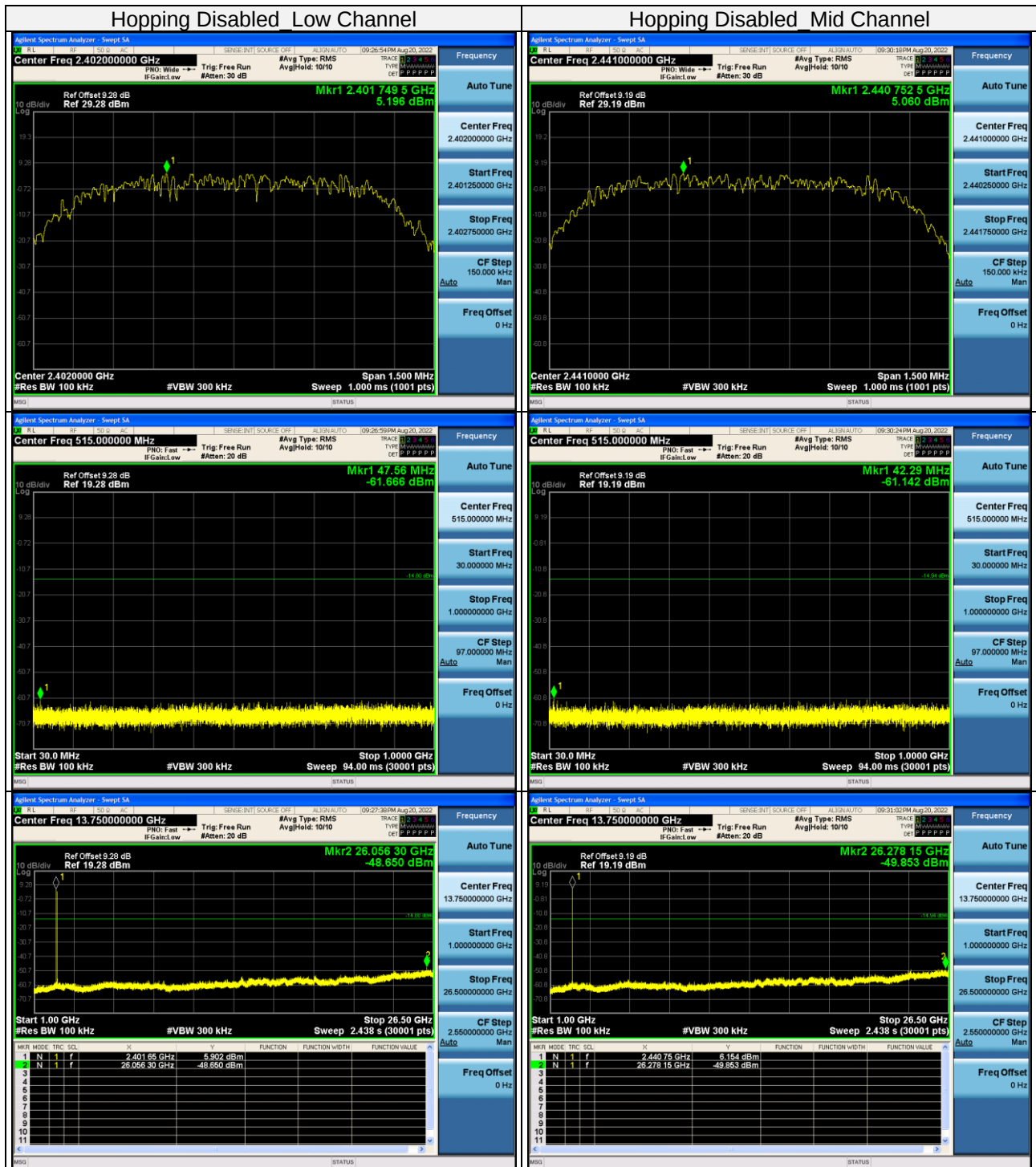
GFSK

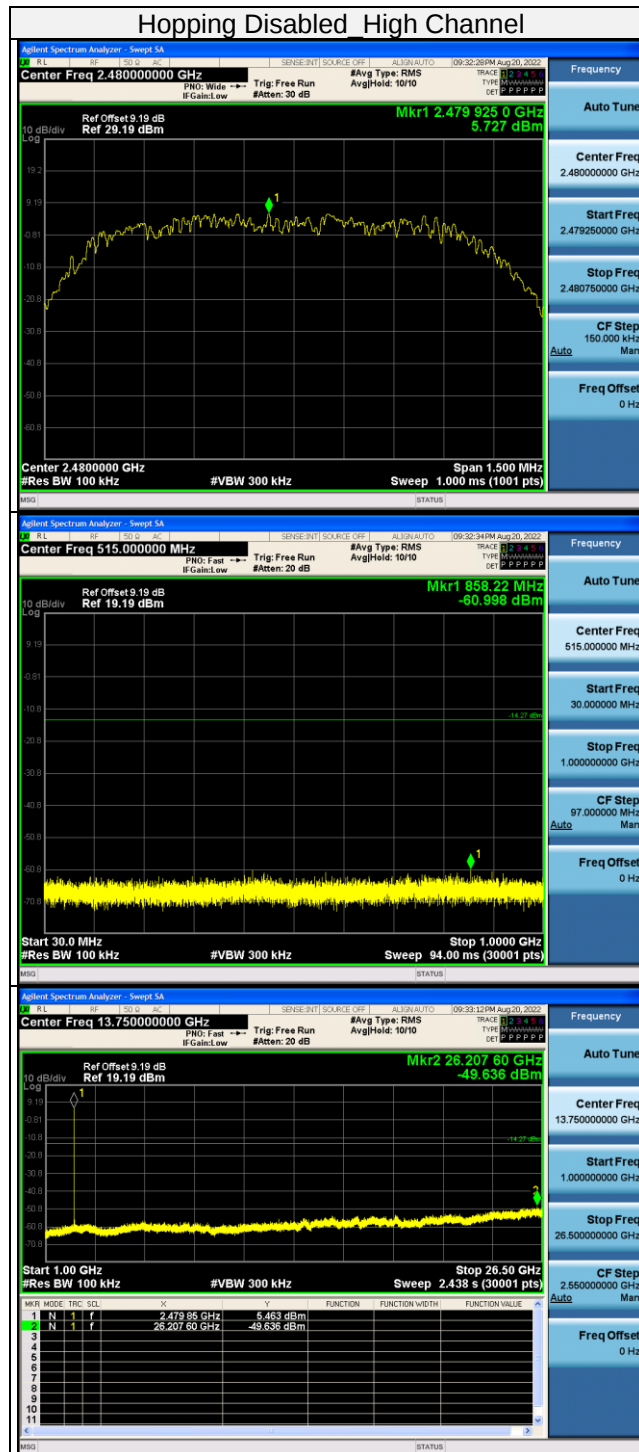






8DPSK

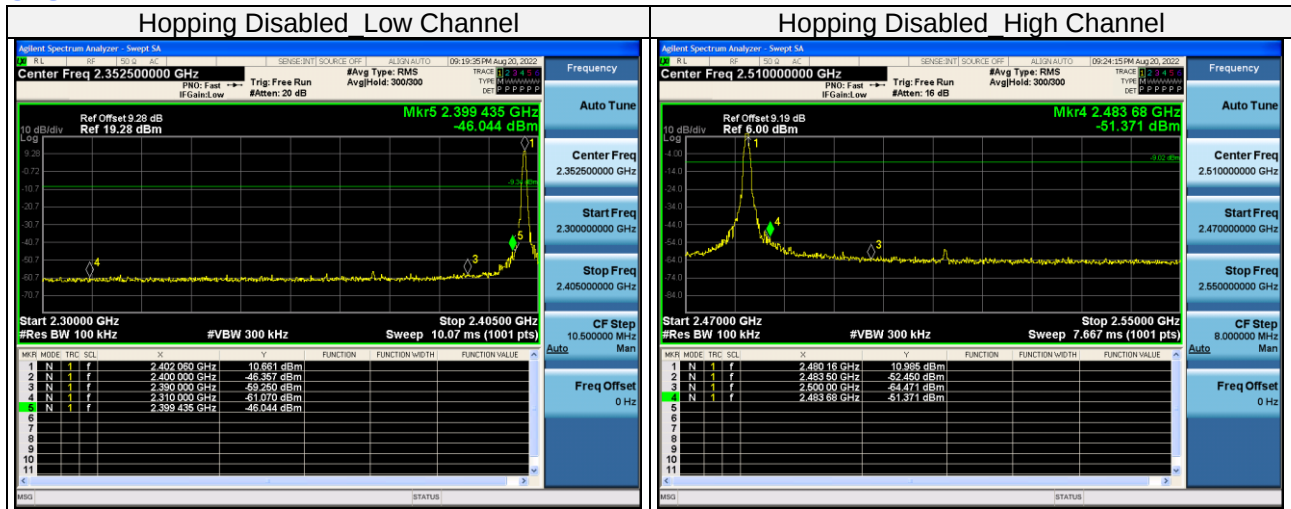




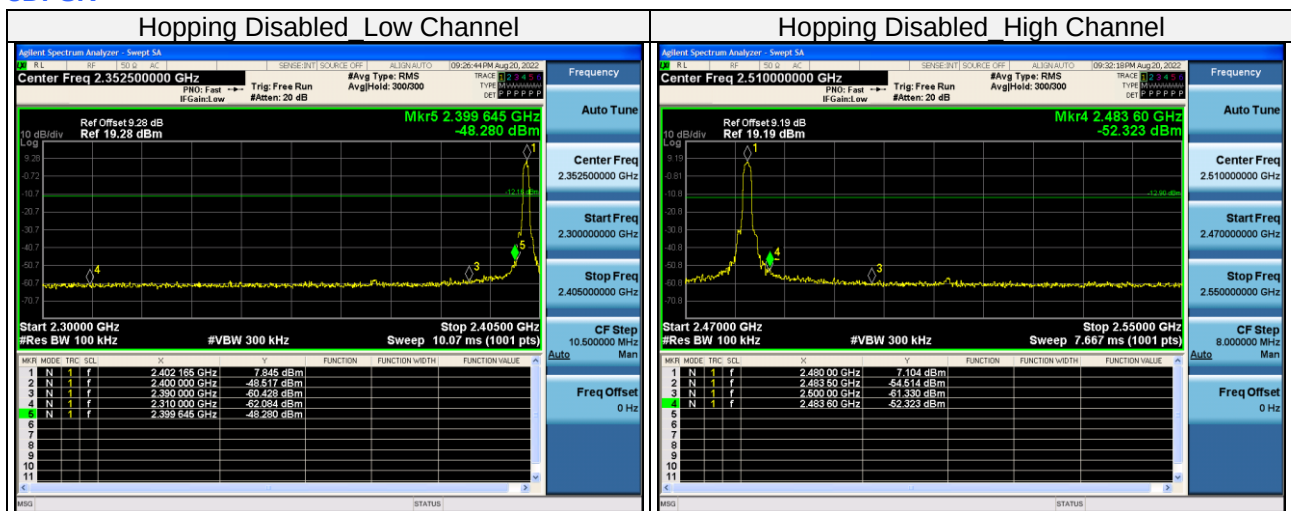


Bandedge:

GFSK

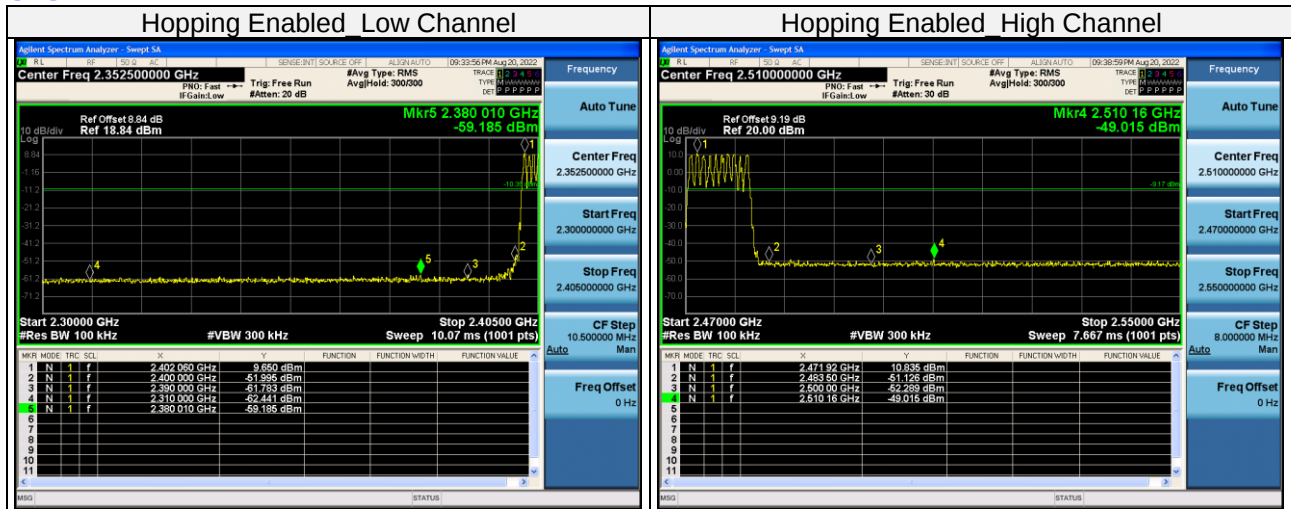


8DPSK

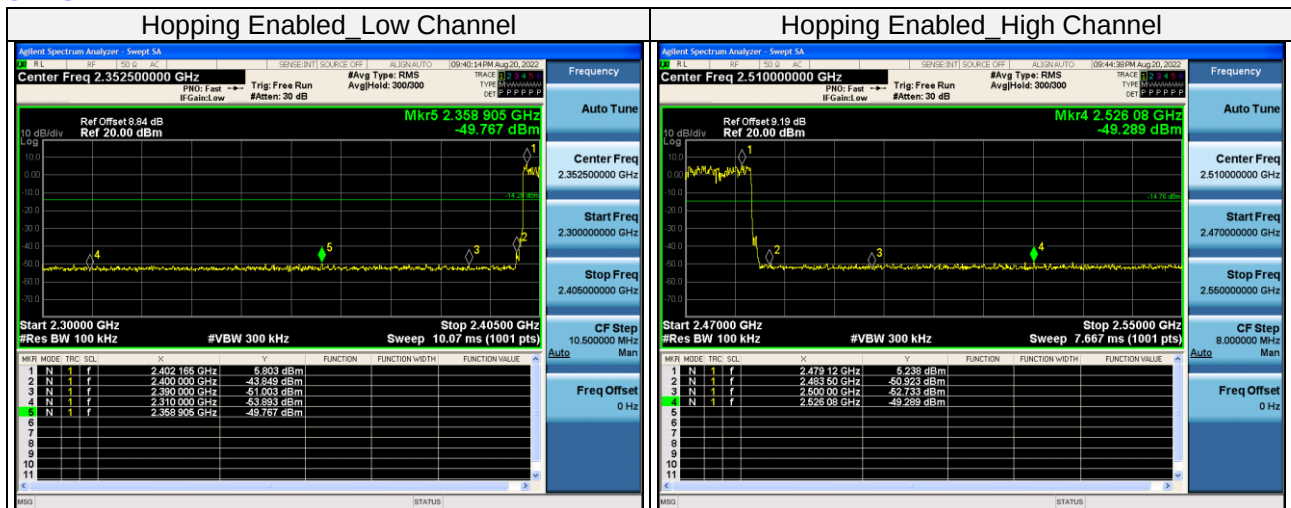




GFSK

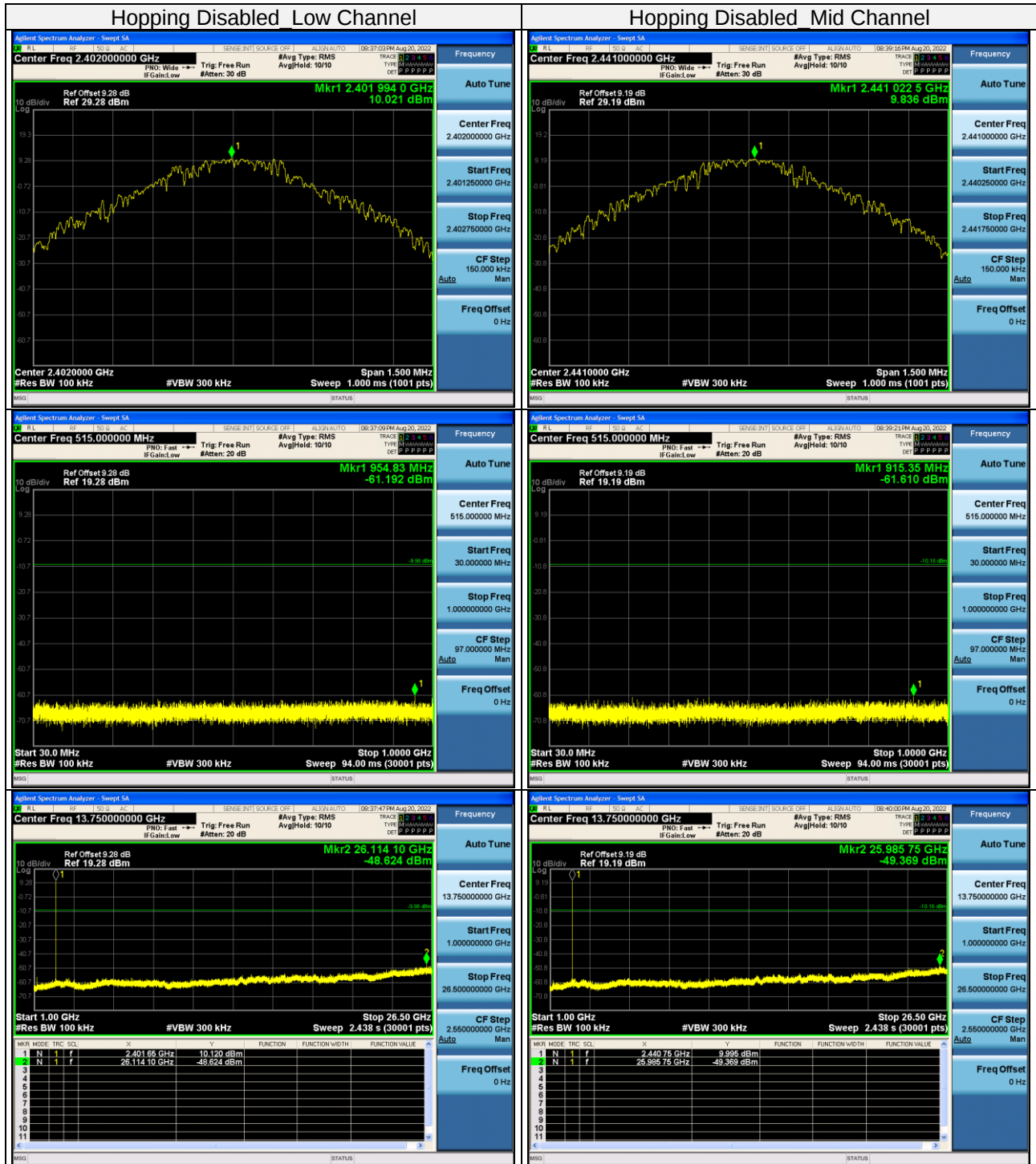


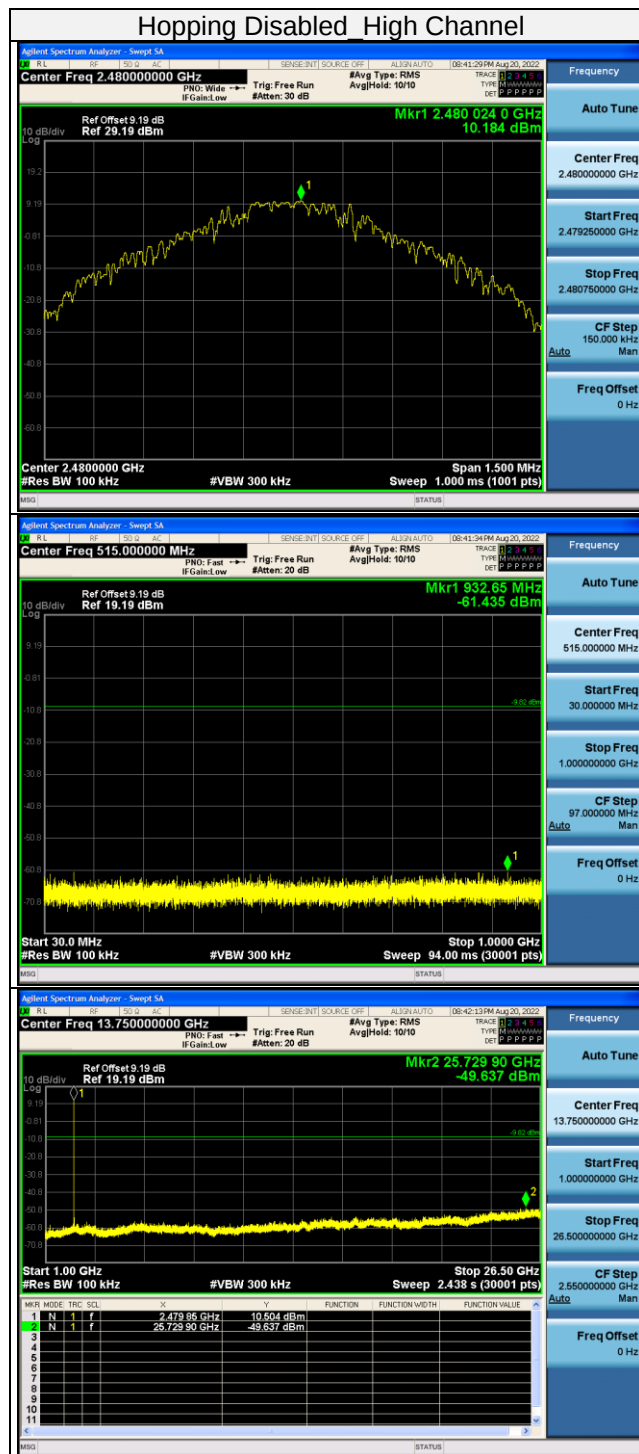
8DPSK





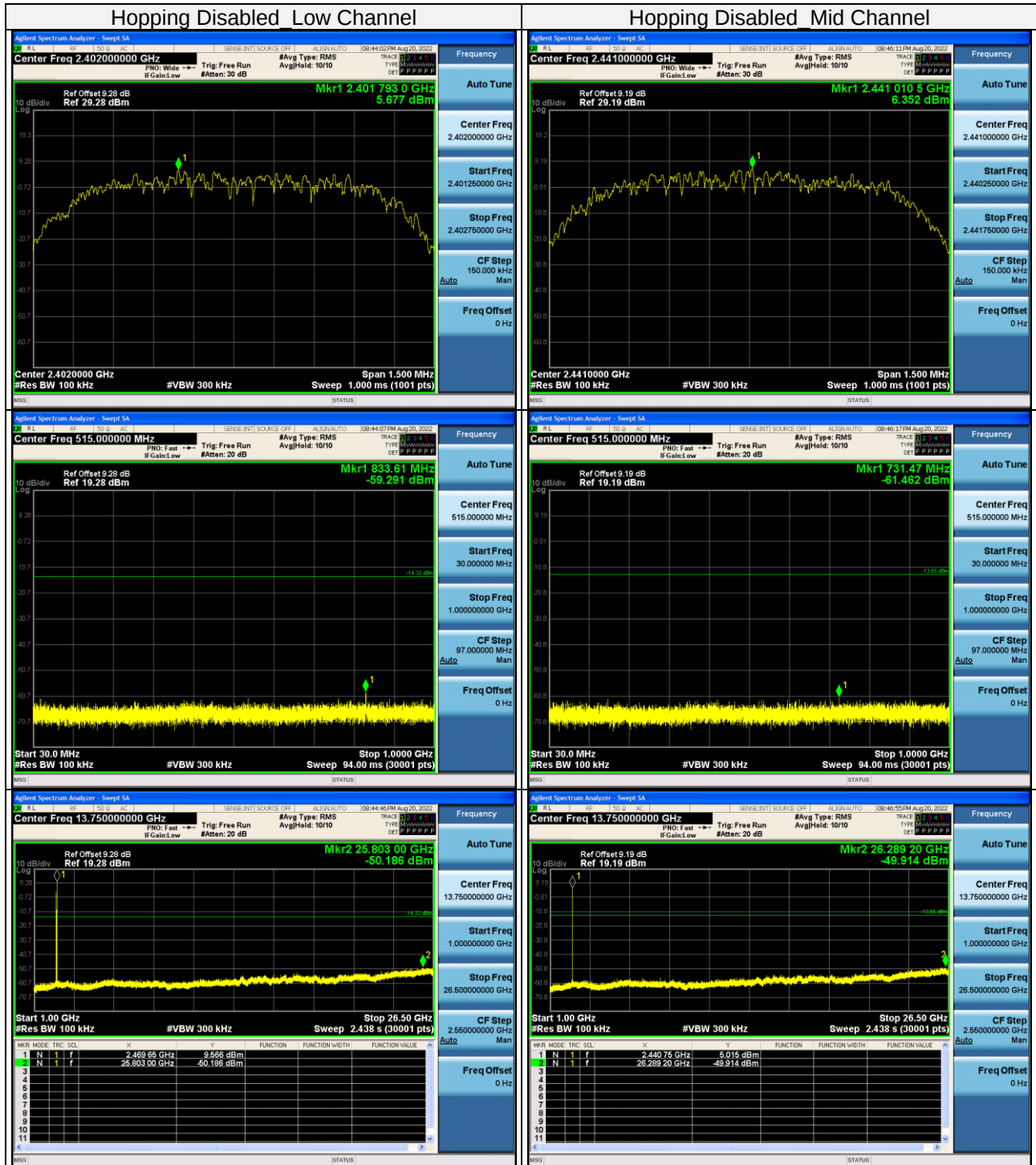
Right
GFSK

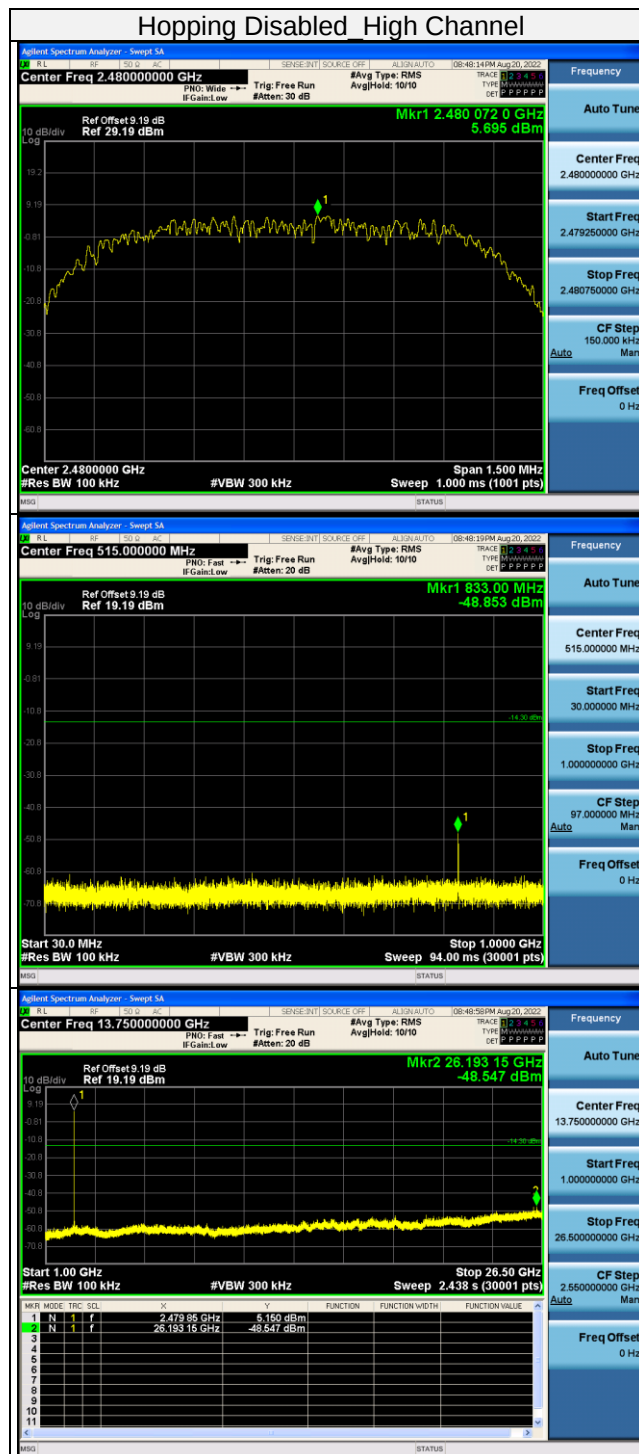






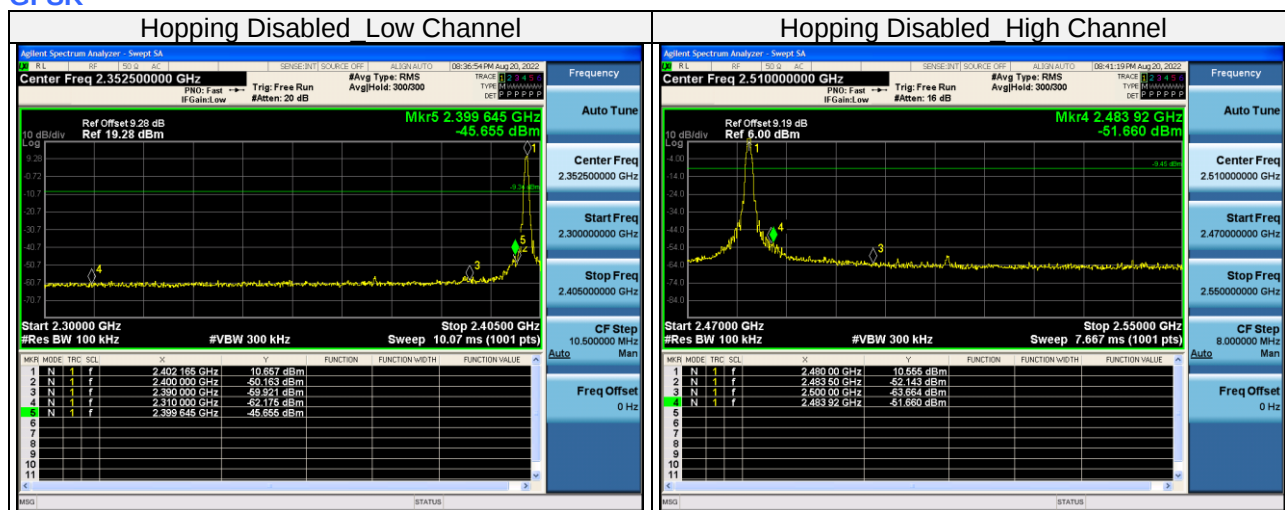
8DPSK







GFSK



Hopping Disabled Low Channel

Agilent Spectrum Analyzer - Sweep 5A

Center Freq 2.352500000 GHz

Ref Offset 9.28 dB
Ref 19.28 dBm

Mkr5 2.399 855 GHz
-46.895 dBm

Start 2.30000 GHz
#Res BW 100 kHz

Stop 2.40500 GHz
#VBW 300 kHz

Sweep 10.07 ms (1001 pts)

Frequency

Auto Tune

Center Freq 2.352500000 GHz

Start Freq 2.300000000 GHz

Stop Freq 2.405000000 GHz

CF Step 10.500000 MHz

Freq Offset 0 Hz

Hopping Disabled High Channel

Agilent Spectrum Analyzer - Sweep 5A

Center Freq 2.510000000 GHz

Ref Offset 9.19 dB
Ref 19.19 dBm

Mkr4 2.483 92 GHz
-54.344 dBm

Start 2.47000 GHz
#Res BW 100 kHz

Stop 2.55000 GHz
#VBW 300 kHz

Sweep 7.667 ms (1001 pts)

Frequency

Auto Tune

Center Freq 2.510000000 GHz

Start Freq 2.470000000 GHz

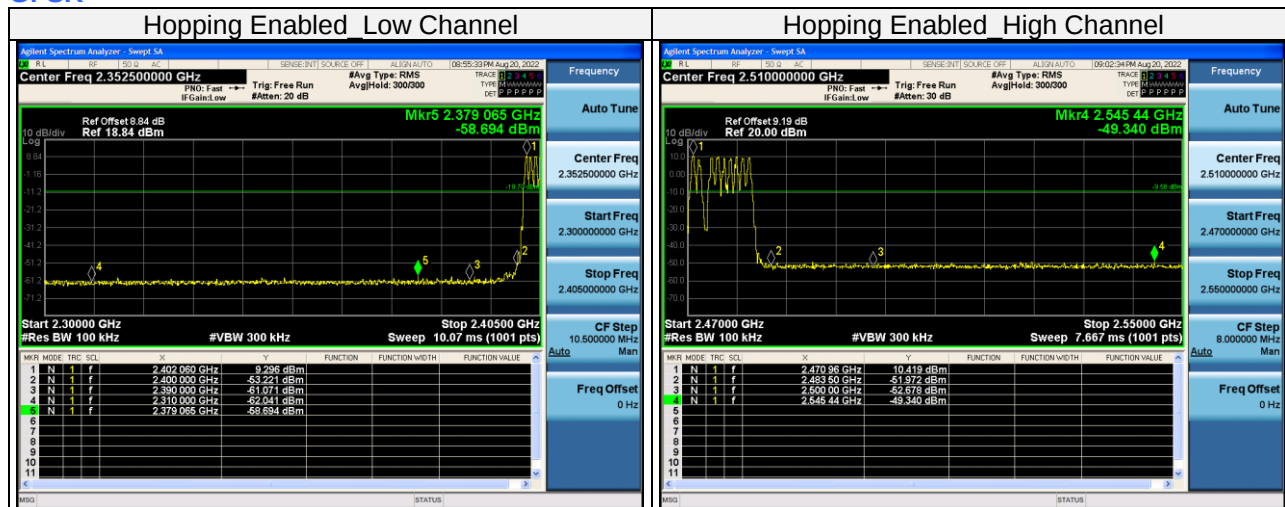
Stop Freq 2.550000000 GHz

CF Step 8.000000 MHz

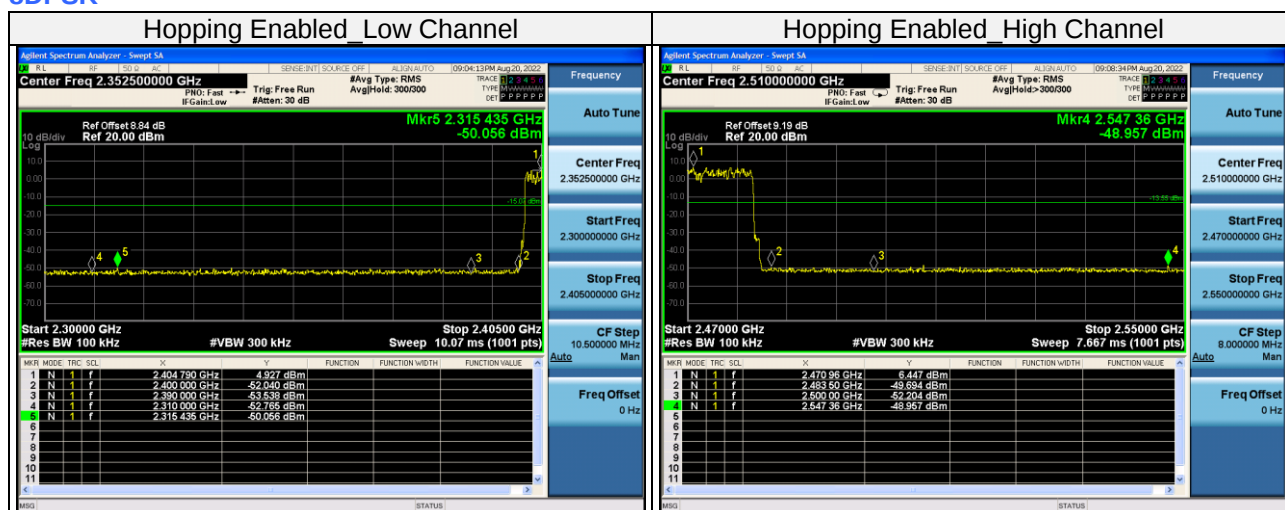
Freq Offset 0 Hz



GFSK



8DPSK





4 Pictures of Test Arrangements

Please refer to the attached file (Test Setup Photo).



5 Test Instruments

Description & Manufacturer	Model No.	Serial No.	Due Date of Calibration
Spectrum Keysight	N9020A	MY51240612	2022-09-08
Spectrum Analyzer Rohde&Schwarz	FSV-40N	101783	2023-01-13
Power Meter 10Hz~18GHz Tonscend	JS0806-2	188060126	2022-09-08
Signal generator Keysight	E4421B	GB40051020	2022-09-12
Signal generator Keysight	N5182A	MY47420944	2022-09-08
Test Software Tonscend	JS0806-2	NA	NA
Hygrothermograph Yuhuaze	HTC-1	NA	2022-09-09

Note:

1. The calibration interval of the above test instruments is 12 months.
2. The test was performed in Chamber 1.



Appendix – Information on the Testing Laboratories

We, [Hwa-Hsing \(Dongguan\) Co., Ltd.](#), A global provider of TESTING and CERTIFICATION services for consumer products, electronic products and wireless information technology products. Adhering to the core values “HONEST and TRUSTWORTHY, OBJECTIVE and IMPARTIALITY, RIGOROUS and AFFICIENT”, commitment to provide professional, perfect and efficient comprehensive ONE-STOP solution of TESTING and CERTIFICATION services for Manufacturers, Buyers, Traders, Brands, Retailers. Assist client to better manage risk, protect their brands, reduce costs and cut time to over 150 markets in global. Our laboratories are FCC recognized accredited test firms and accredited and approved according to ISO/IEC 17025.

If you have any comments, please feel free to contact us at the following:

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Contact Tel: [0769-83078199](#)

Email: Customerservice.dg@hwa-hsing.com

Web Site: www.hwa-hsing.com

The address and road map of all our labs can be found in our web site also.

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