

Annex for FCC Bluetooth BR&EDR  
Test Report No. :CTL2210275011-WF

**Appendix A: 20dB Emission Bandwidth**

**Test Result**

| TestMode | Antenna | Channel | 20db EBW[MHz] | FL[MHz]  | FH[MHz]  | Limit[MHz] | Verdict |
|----------|---------|---------|---------------|----------|----------|------------|---------|
| DH5      | Ant1    | 2402    | 0.960         | 2401.535 | 2402.495 | ---        | PASS    |
|          |         | 2441    | 0.990         | 2440.499 | 2441.489 | ---        | PASS    |
|          |         | 2480    | 1.002         | 2479.487 | 2480.489 | ---        | PASS    |
| 2DH5     | Ant1    | 2402    | 1.284         | 2401.367 | 2402.651 | ---        | PASS    |
|          |         | 2441    | 1.290         | 2440.364 | 2441.654 | ---        | PASS    |
|          |         | 2480    | 1.284         | 2479.367 | 2480.651 | ---        | PASS    |
| 3DH5     | Ant1    | 2402    | 1.266         | 2401.358 | 2402.624 | ---        | PASS    |
|          |         | 2441    | 1.263         | 2440.358 | 2441.621 | ---        | PASS    |
|          |         | 2480    | 1.260         | 2479.361 | 2480.621 | ---        | PASS    |

## Test Graphs



DH5\_Ant1\_2402



DH5\_Ant1\_2441



## DH5\_Ant1\_2480



## 2DH5\_Ant1\_2402



## 2DH5\_Ant1\_2441



## 2DH5\_Ant1\_2480



3DH5\_Ant1\_2402



3DH5\_Ant1\_2441



3DH5\_Ant1\_2480

## Appendix B: Occupied Channel Bandwidth

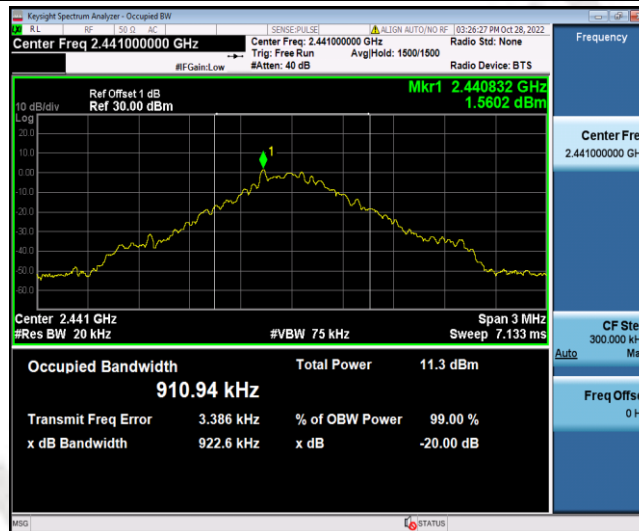
### Test Result

| TestMode | Antenna | Channel | OCB [MHz] | FL[MHz]  | FH[MHz]  | Limit[MHz] | Verdict |
|----------|---------|---------|-----------|----------|----------|------------|---------|
| DH5      | Ant1    | 2402    | 0.89757   | 2401.555 | 2402.453 | ---        | PASS    |
|          |         | 2441    | 0.91094   | 2440.548 | 2441.459 | ---        | PASS    |
|          |         | 2480    | 0.91154   | 2479.544 | 2480.456 | ---        | PASS    |
| 2DH5     | Ant1    | 2402    | 1.1782    | 2401.411 | 2402.589 | ---        | PASS    |
|          |         | 2441    | 1.1838    | 2440.409 | 2441.593 | ---        | PASS    |
|          |         | 2480    | 1.1834    | 2479.408 | 2480.591 | ---        | PASS    |
| 3DH5     | Ant1    | 2402    | 1.1686    | 2401.416 | 2402.584 | ---        | PASS    |
|          |         | 2441    | 1.1667    | 2440.416 | 2441.583 | ---        | PASS    |
|          |         | 2480    | 1.1628    | 2479.416 | 2480.579 | ---        | PASS    |

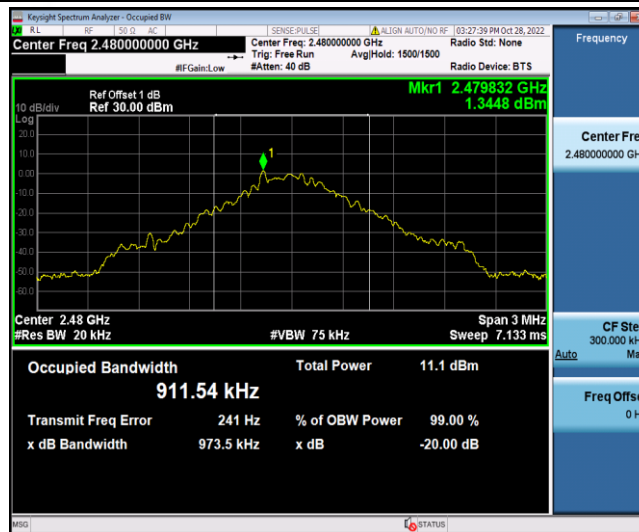
## Test Graphs



DH5\_Ant1\_2402



DH5\_Ant1\_2441



DH5\_Ant1\_2480



2DH5\_Ant1\_2402



2DH5\_Ant1\_2441



2DH5\_Ant1\_2480



3DH5\_Ant1\_2402



3DH5\_Ant1\_2441

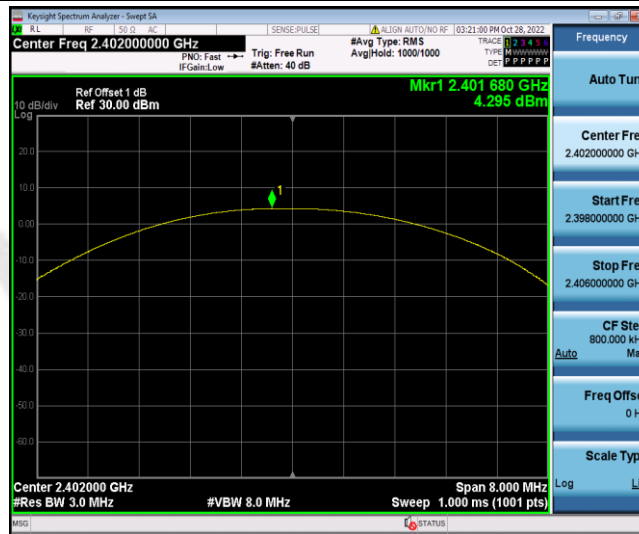


3DH5\_Ant1\_2480

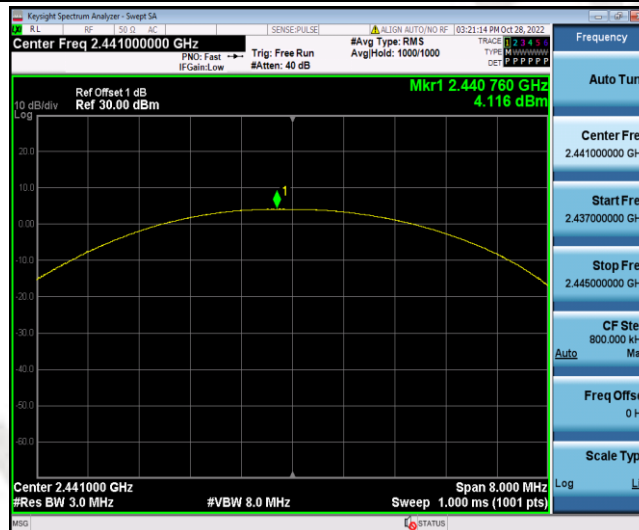
**Appendix C: Maximum conducted output power****Test Result**

| TestMode | Antenna | Channel | Result[dBm] | Limit[dBm] | Verdict |
|----------|---------|---------|-------------|------------|---------|
| DH5      | Ant1    | 2402    | 4.3         | <=30       | PASS    |
|          |         | 2441    | 4.12        | <=30       | PASS    |
|          |         | 2480    | 3.92        | <=30       | PASS    |
| 2DH5     | Ant1    | 2402    | 4.91        | <=20.97    | PASS    |
|          |         | 2441    | 4.7         | <=20.97    | PASS    |
|          |         | 2480    | 4.5         | <=20.97    | PASS    |
| 3DH5     | Ant1    | 2402    | 5.23        | <=20.97    | PASS    |
|          |         | 2441    | 5.03        | <=20.97    | PASS    |
|          |         | 2480    | 4.82        | <=20.97    | PASS    |

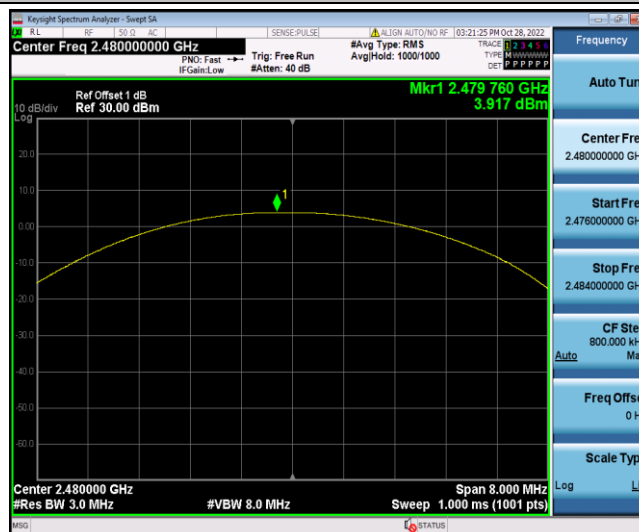
## Test Graphs



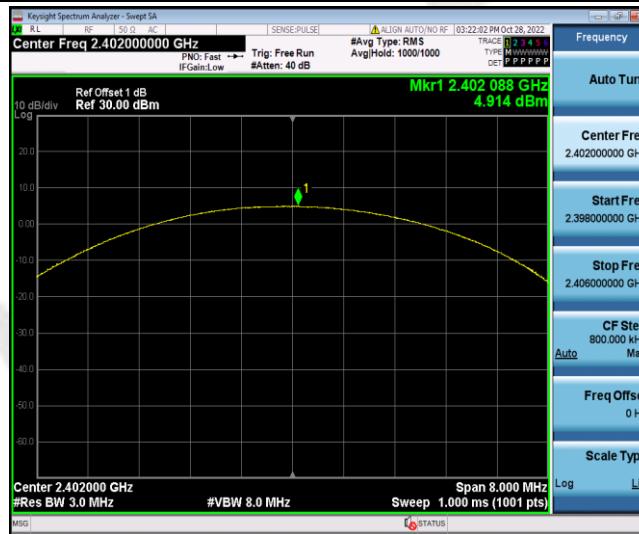
DH5\_Ant1\_2402



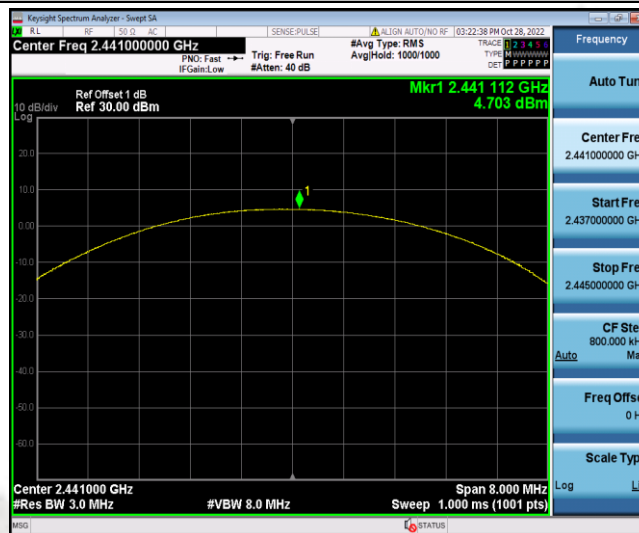
DH5\_Ant1\_2441



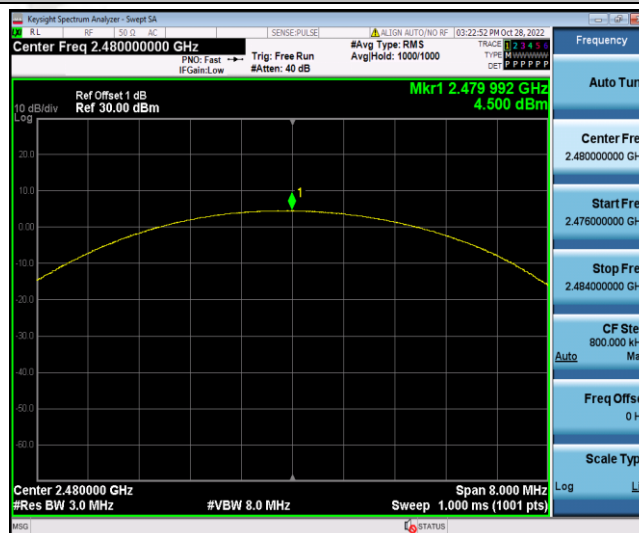
DH5\_Ant1\_2480



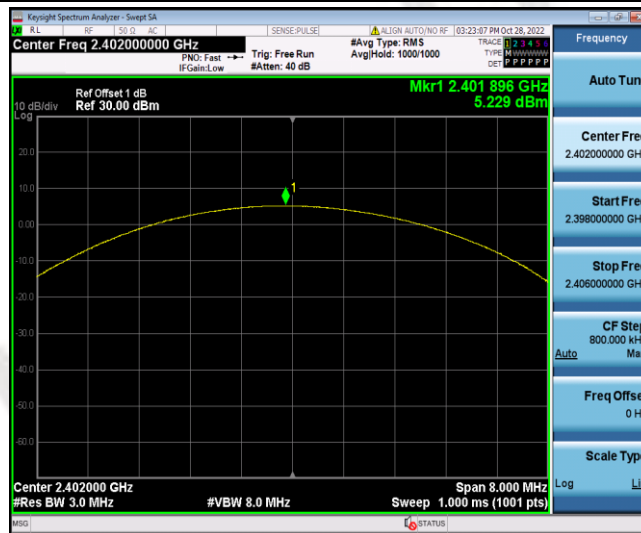
2DH5\_Ant1\_2402



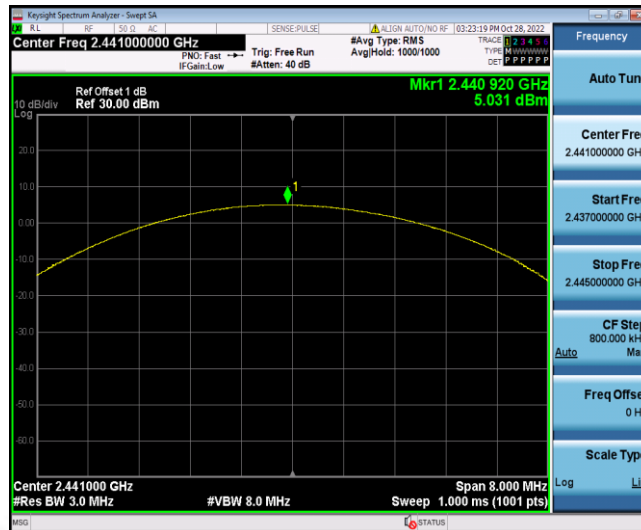
2DH5\_Ant1\_2441



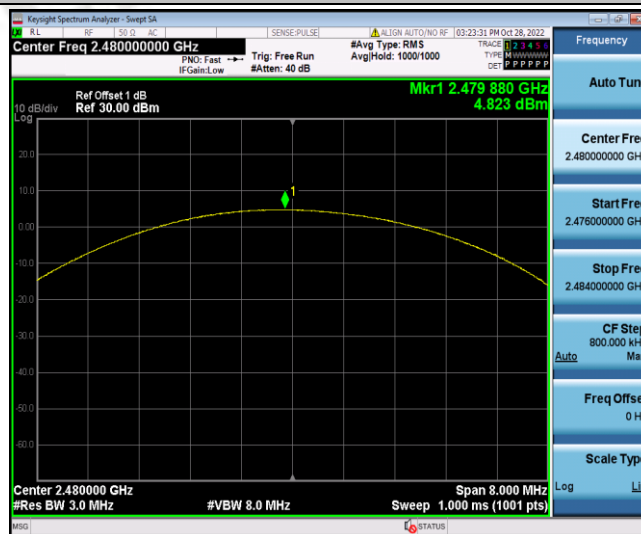
2DH5\_Ant1\_2480



3DH5\_Ant1\_2402



3DH5\_Ant1\_2441



3DH5\_Ant1\_2480

## Appendix D: Carrier frequency separation

### Test Result

| TestMode | Antenna | Channel | Result[MHz] | Limit[MHz]   | Verdict |
|----------|---------|---------|-------------|--------------|---------|
| DH5      | Ant1    | Hop     | 1.004       | $\geq 1.002$ | PASS    |
| 2DH5     | Ant1    | Hop     | 1           | $\geq 0.860$ | PASS    |
| 3DH5     | Ant1    | Hop     | 1           | $\geq 0.844$ | PASS    |

## Test Graphs



DH5\_Ant1\_Hop



2DH5\_Ant1\_Hop



3DH5\_Ant1\_Hop

## Appendix E: Time of occupancy

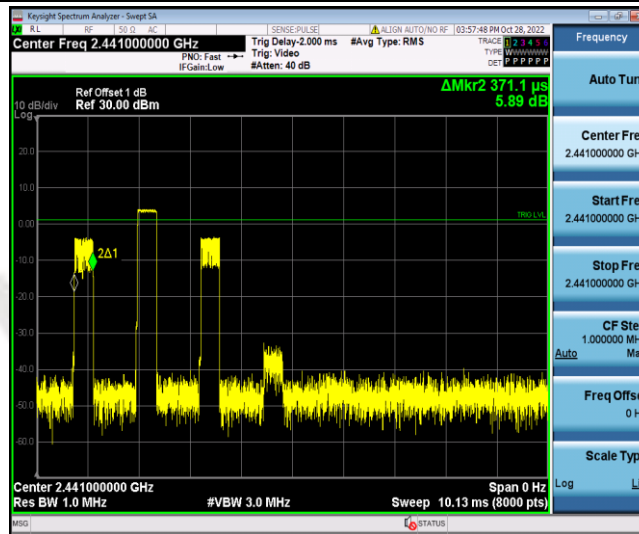
### Test Result

| TestMode | Antenna | Channel | BurstWidth<br>[ms] | TotalHops<br>[Num] | Result[s] | Limit[s] | Verdict |
|----------|---------|---------|--------------------|--------------------|-----------|----------|---------|
| DH1      | Ant1    | Hop     | 0.37               | 330                | 0.122     | ≤0.4     | PASS    |
| DH3      | Ant1    | Hop     | 1.62               | 170                | 0.275     | ≤0.4     | PASS    |
| DH5      | Ant1    | Hop     | 2.87               | 110                | 0.315     | ≤0.4     | PASS    |
| 2DH1     | Ant1    | Hop     | 0.38               | 330                | 0.125     | ≤0.4     | PASS    |
| 2DH3     | Ant1    | Hop     | 1.63               | 170                | 0.277     | ≤0.4     | PASS    |
| 2DH5     | Ant1    | Hop     | 2.88               | 110                | 0.317     | ≤0.4     | PASS    |
| 3DH1     | Ant1    | Hop     | 0.38               | 330                | 0.125     | ≤0.4     | PASS    |
| 3DH3     | Ant1    | Hop     | 1.63               | 170                | 0.277     | ≤0.4     | PASS    |
| 3DH5     | Ant1    | Hop     | 2.88               | 110                | 0.317     | ≤0.4     | PASS    |

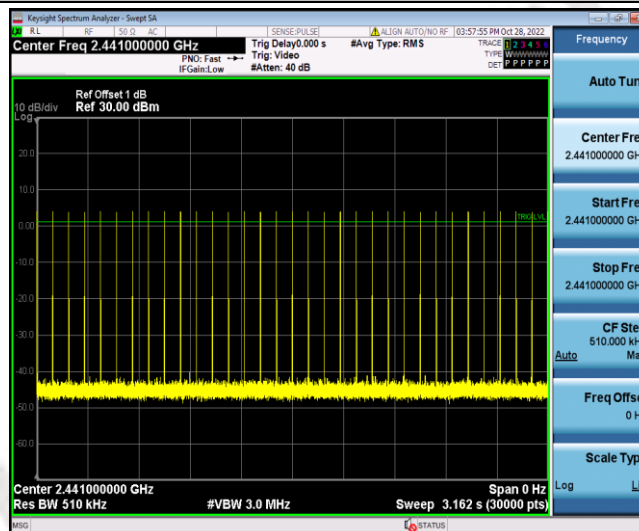
Note: (1) Dwell time=Pulse time (ms) × Total Pulse number s

(2) Total Pulse number= Pulse number in 3.16 s × 10

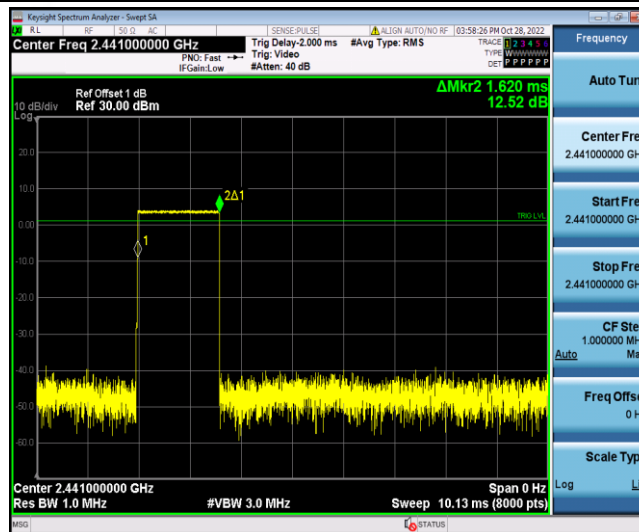
## Test Graphs



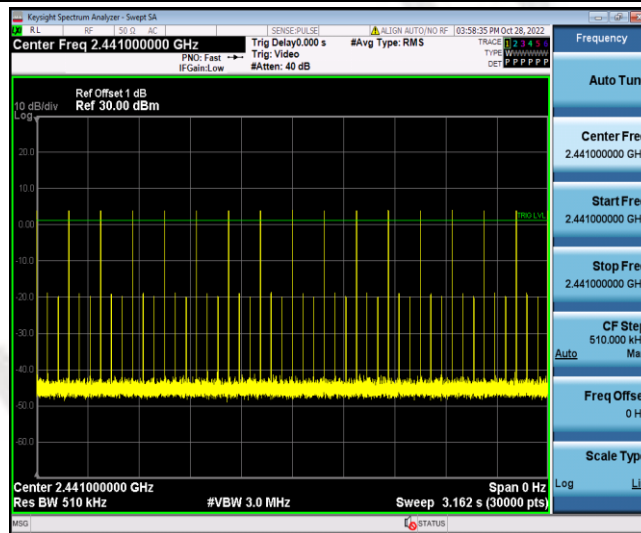
DH1\_Ant1\_Hop



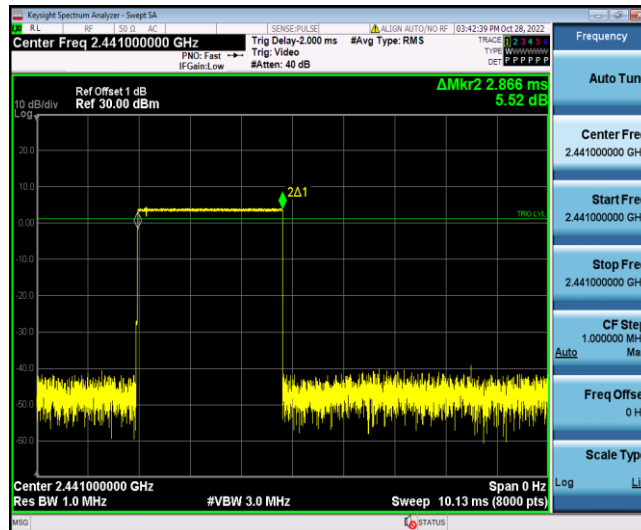
DH1\_Ant1\_Hop



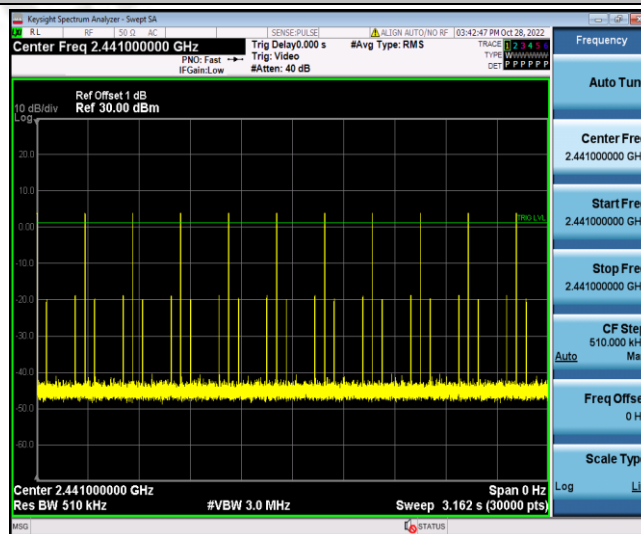
DH3\_Ant1\_Hop



DH3\_Ant1\_Hop



DH5\_Ant1\_Hop



DH5\_Ant1\_Hop

Keysight Spectrum Analyzer - Sweep 2A

SENSE: PUL SE

ALIGN: AUTO/NO RF

02:59:04 PM Oct 28, 2022

Center Freq 2.441000000 GHz

Trig Delay 0.000 s

#Avg Type: RMS

TRACE 12.345

TYP: WWWWWWW

DEF: P P P P P

Frequency

Auto Tun

Center Freq 2.441000000 GHz

Start Freq 2.441000000 GHz

Stop Freq 2.441000000 GHz

CF Step 510.000 kHz

Auto

Ma

Freq Offset 0 Hz

Scale Type

Log

Center 2.441000000 GHz

Res BW 510 kHz

#VBW 3.0 MHz

Sweep 3.162 s (30000 pts)

Span 0 Hz

MSO

STATUS

Keysight Spectrum Analyzer - Sweep SA

SENSE-PULSE

ALISON AUTO-IND RF 03:51:57 PM 04/28/2022

Center Freq 2.441000000 GHz

Trig Delay: 2.000 ms

#Avg Type: RMS

TRACE 012 3 4 5

TYPE WWWWWW

DEF PPPPPP

Ref Offset 1 dB

Ref 30.00 dBm

PMO: Fast

IF Gain: Low

#Atten: 40 dB

ΔMkr2 1.631 ms

11.41 dB

2d1

10 dB/div

Log

Center 2.441000000 GHz

Res BW 1.0 MHz

#VBW 3.0 MHz

Sweep 10.13 ms (8000 pts)

Span 0 Hz

Log

Auto Tun

Center Freq 2.441000000 GHz

Start Freq 2.441000000 GHz

Stop Freq 2.441000000 GHz

CF Step 1.000000 MHz

Auto

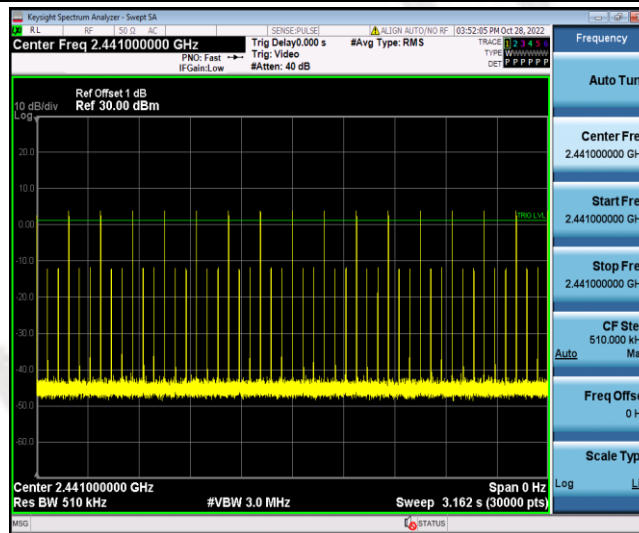
Ma

Freq Offset 0 Hz

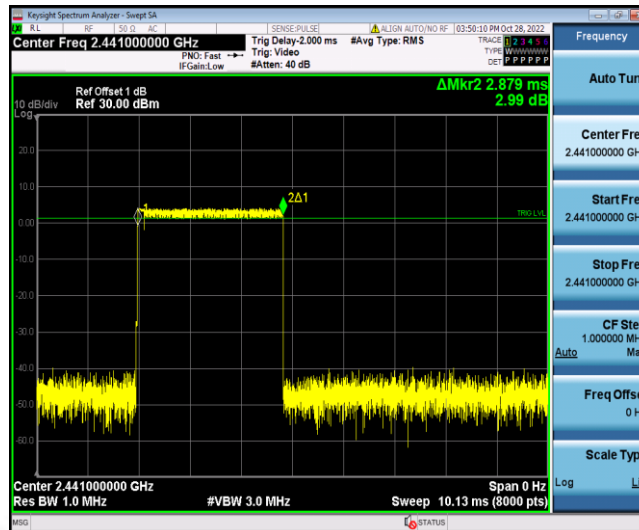
Scale Type

Log

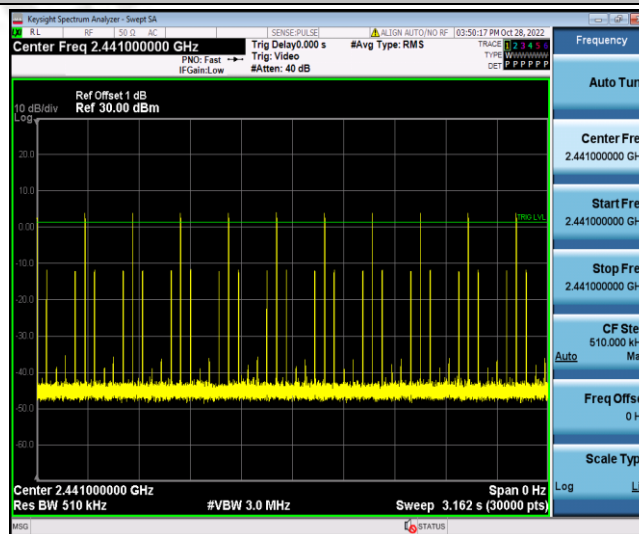
STATUS



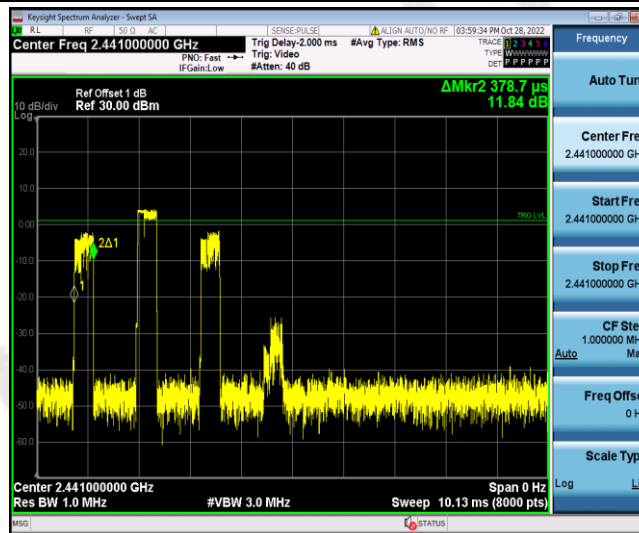
2DH3\_Ant1\_Hop



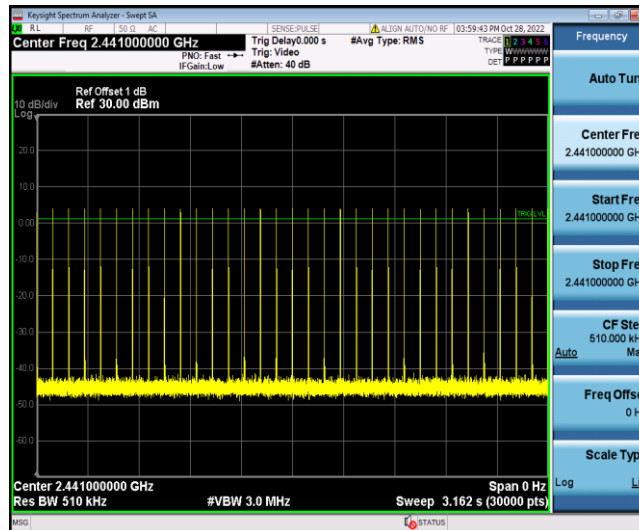
2DH5\_Ant1\_Hop



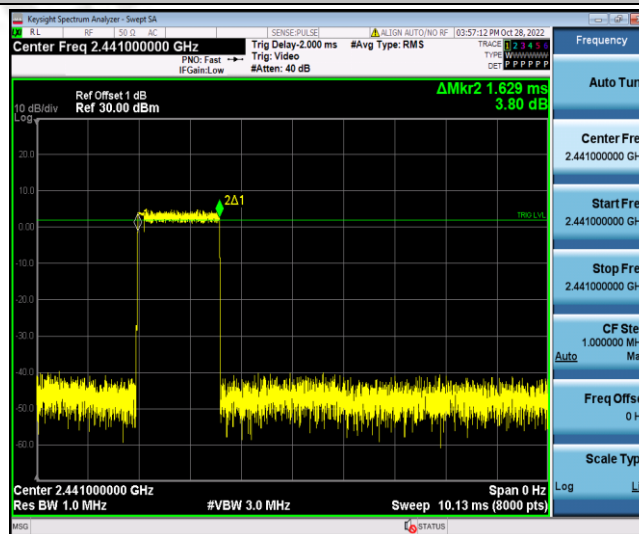
2DH5\_Ant1\_Hop



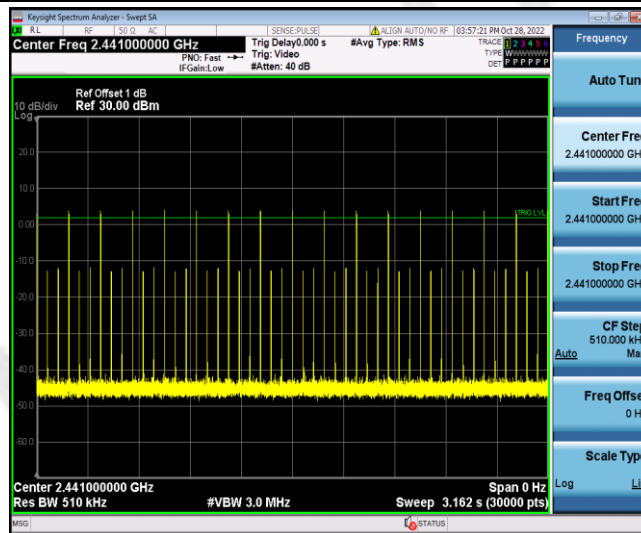
3DH1\_Ant1\_Hop



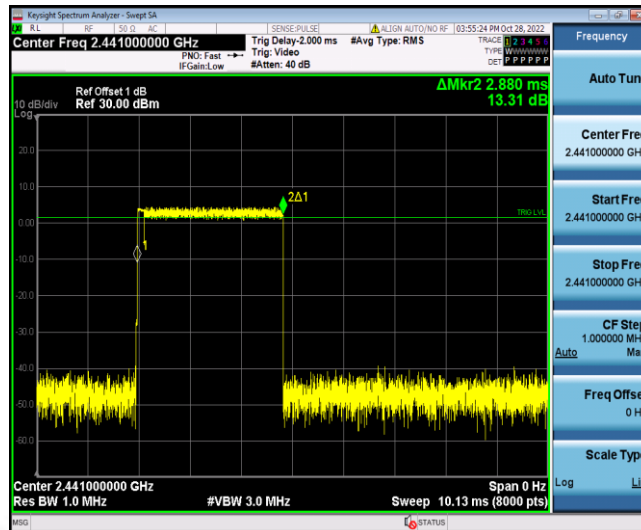
3DH1\_Ant1\_Hop



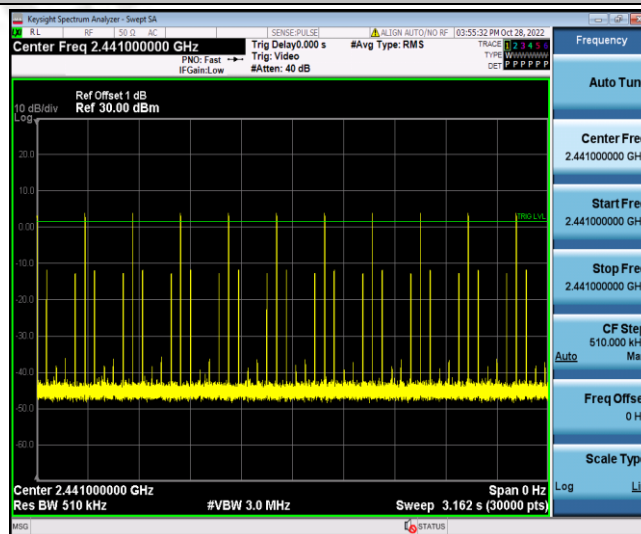
3DH3\_Ant1\_Hop



3DH3\_Ant1\_Hop



3DH5\_Ant1\_Hop



3DH5\_Ant1\_Hop