

## Appendix Test Data for BLE (Conducted Measurement)

Product Name: S11 Speaker Unit

Trade Mark: AIAIAI

Test Model: TMA-2 S11

FCC ID: 2AKSOTMA2-S1101

### Environmental Conditions

|                    |           |
|--------------------|-----------|
| Temperature:       | 25°C      |
| Relative Humidity: | 45%       |
| ATM Pressure:      | 100.0 kPa |
| Test Engineer:     | Allen Lai |
| Supervised by:     | Hugo Chen |
| NOTE               | N/A       |

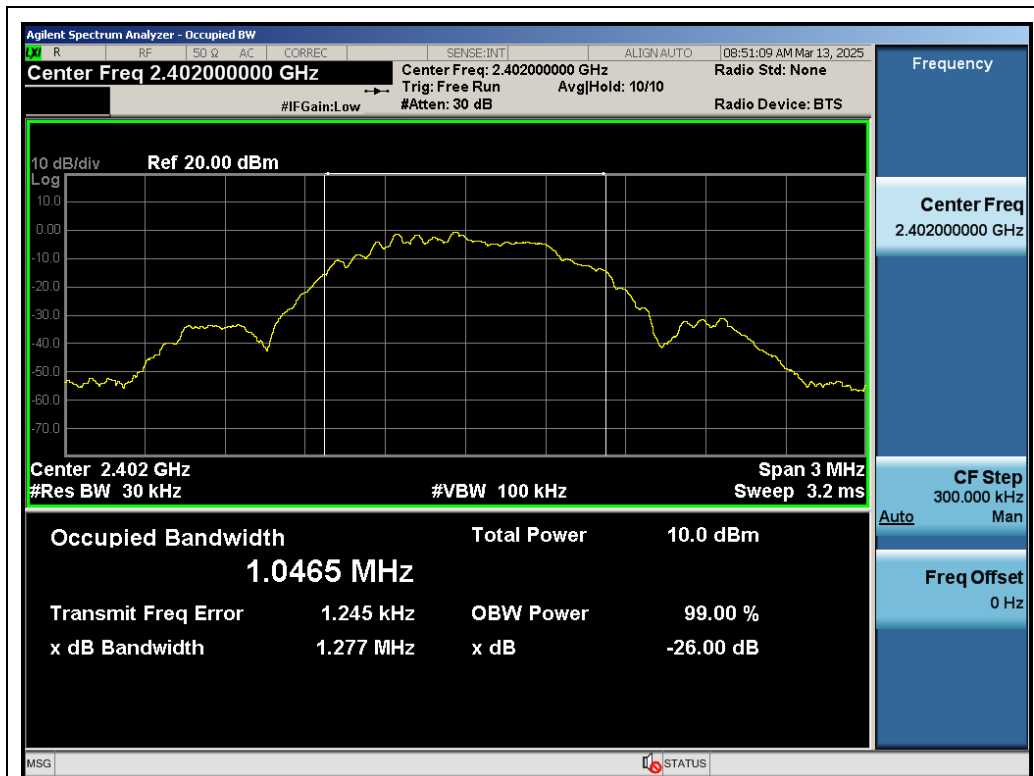
## Appendix A: DTS Bandwidth & Occupied Channel Bandwidth

### Test Result

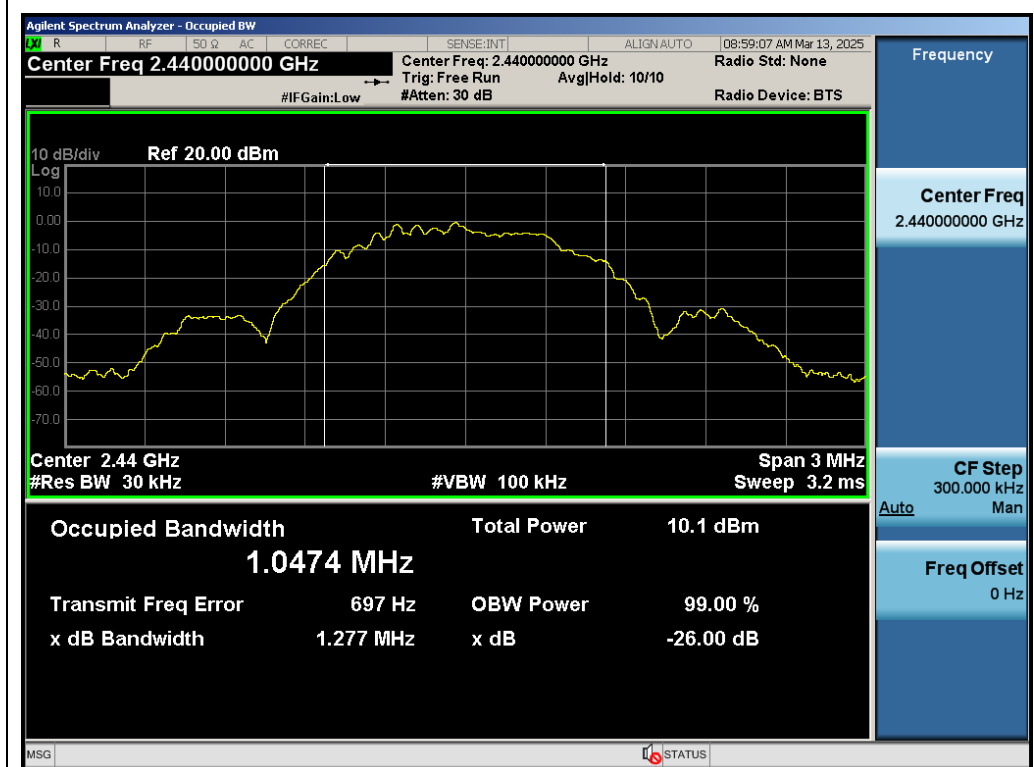
| Test Mode  | Test Frequency | Occupied Bandwidth (MHz) | DTS BW (MHz) | DTS BW Limits | Pass or Fail |
|------------|----------------|--------------------------|--------------|---------------|--------------|
| GFSK_1Mbps | 2402           | 1.047                    | 0.721        | $\geq 0.5$    | Pass         |
|            | 2440           | 1.047                    | 0.724        | $\geq 0.5$    | Pass         |
|            | 2480           | 1.048                    | 0.719        | $\geq 0.5$    | Pass         |

Remark: The factor had been edited in the "Input Correction" of the Spectrum Analyzer. Input compensation coefficient (dB) = Cable Loss (dB) + Attenuator attenuation value (dB)

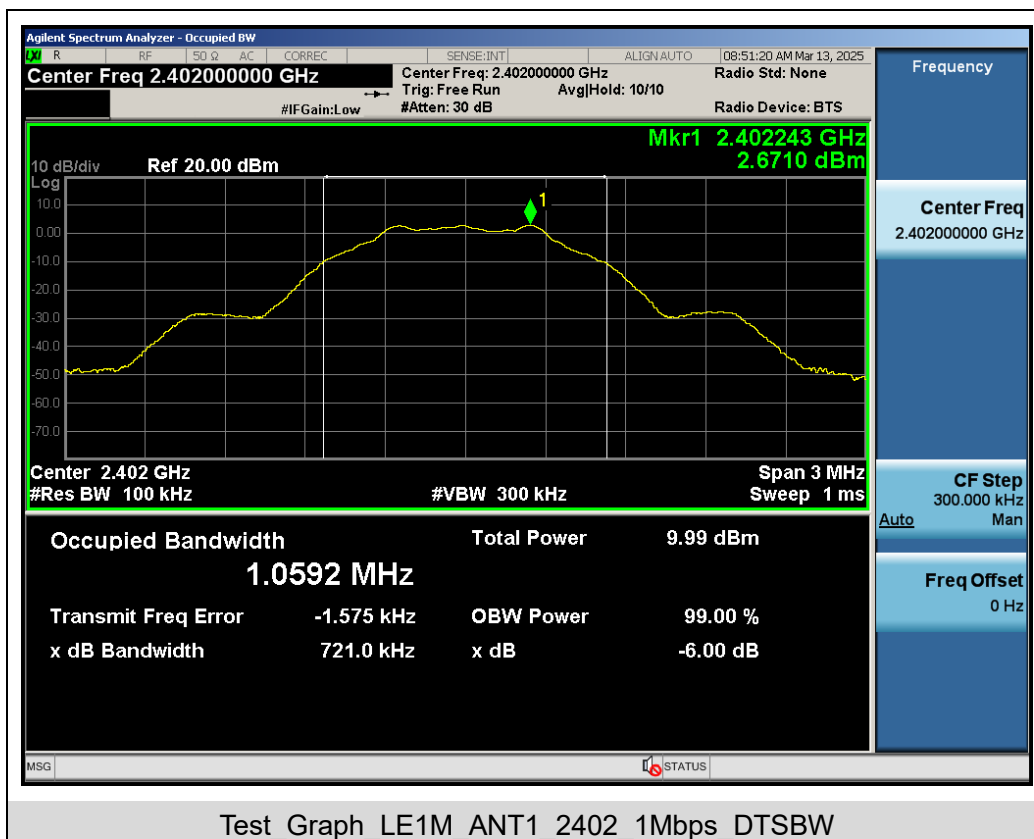
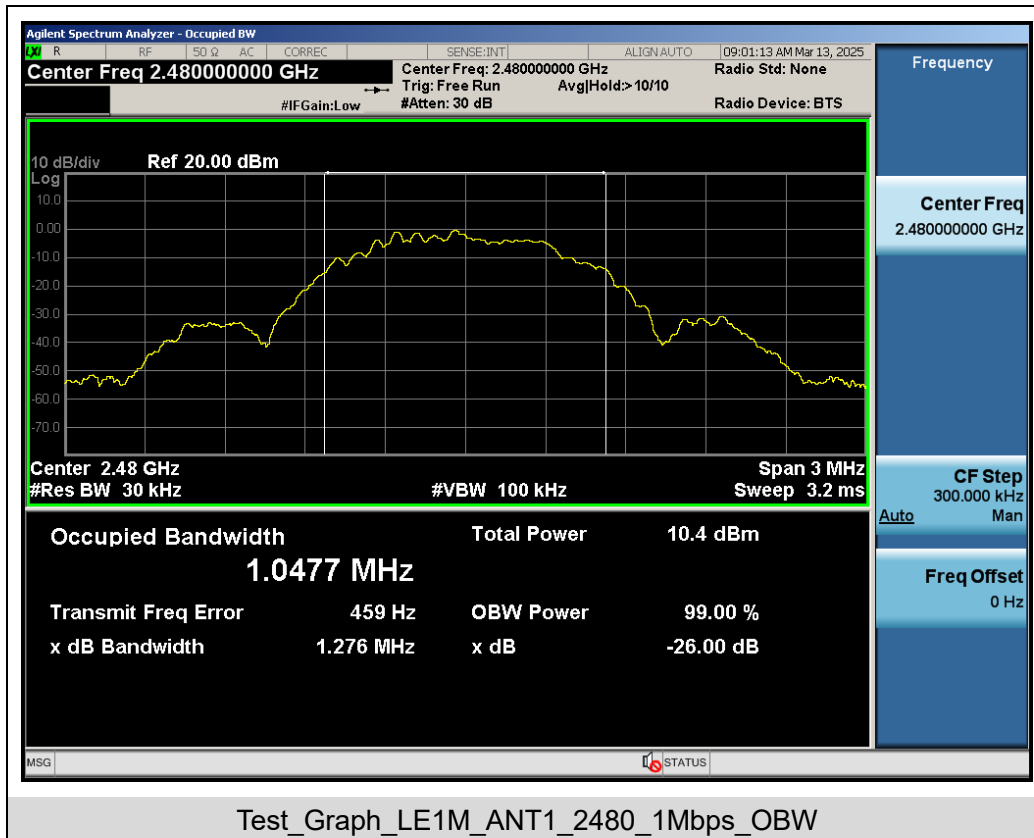
## Test Graphs

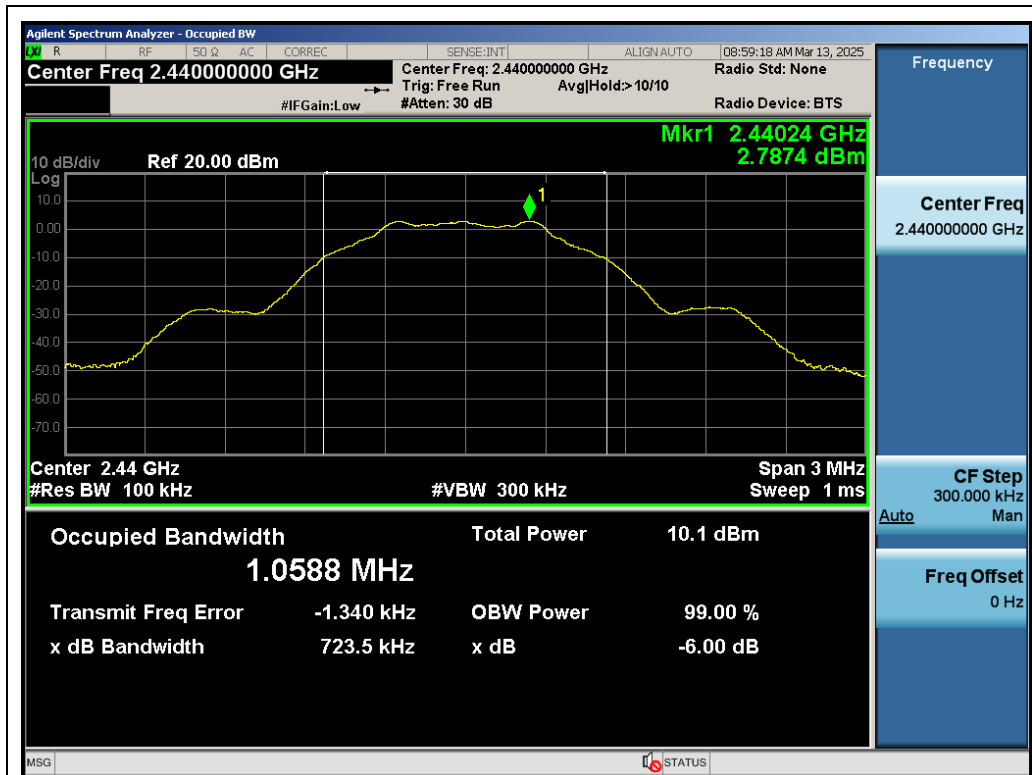


Test\_Graph\_LE1M\_ANT1\_2402\_1Mbps\_OBW

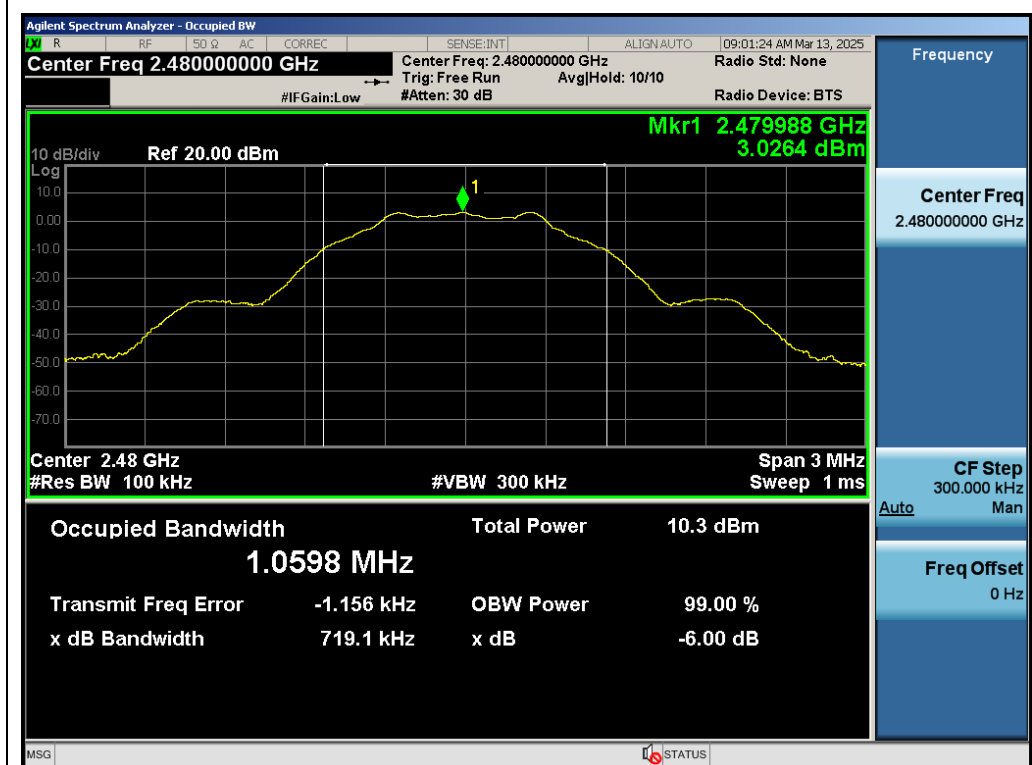


Test\_Graph\_LE1M\_ANT1\_2440\_1Mbps\_OBW





Test\_Graph\_LE1M\_ANT1\_2440\_1Mbps\_DTSBW



Test\_Graph\_LE1M\_ANT1\_2480\_1Mbps\_DTSBW

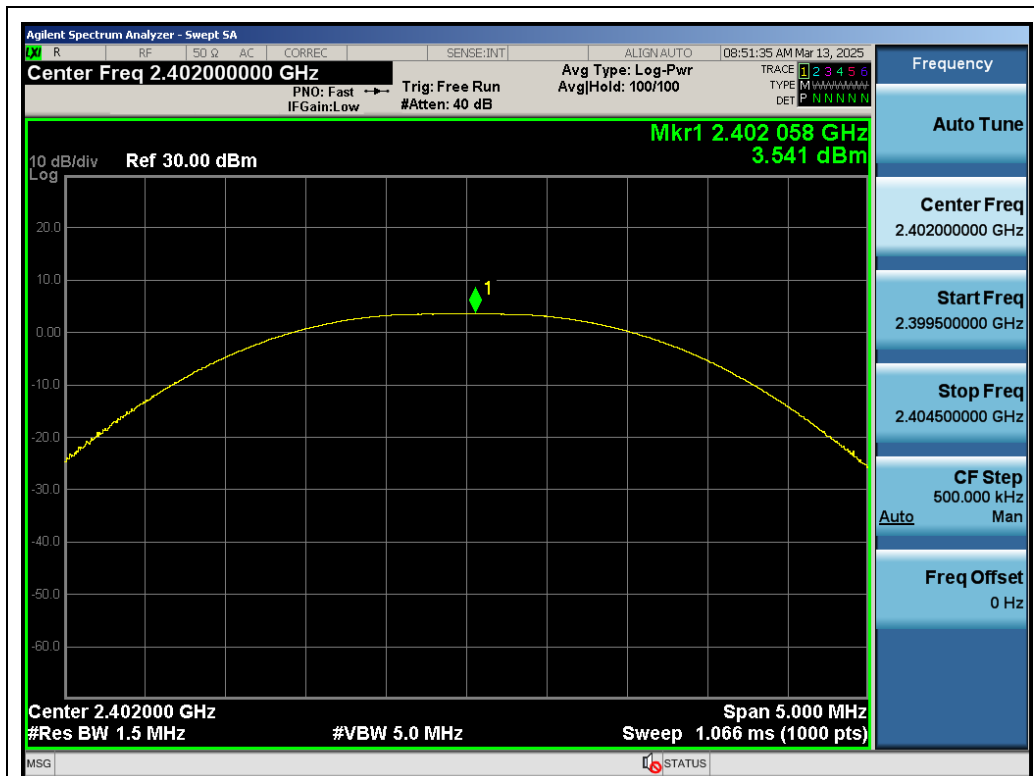
## Appendix B: Maximum peak conducted output power

### Test Result Peak

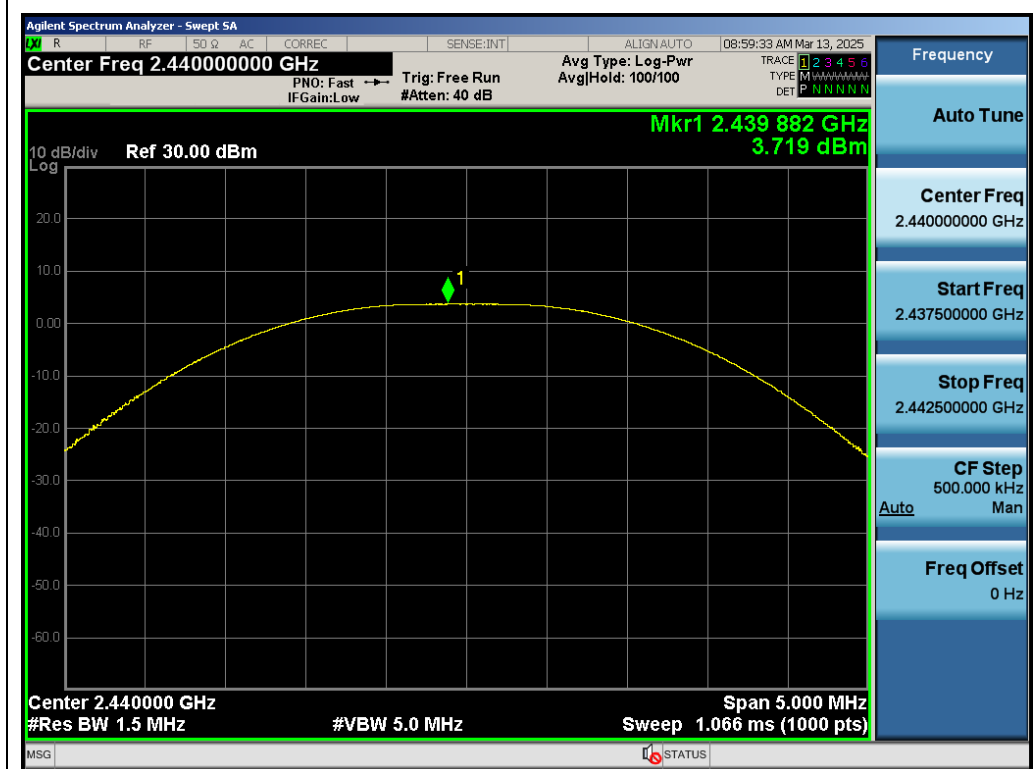
| Test Mode  | Test Frequency (MHz) | Peak Power (dBm) | Limits (dBm) | Pass or Fail |
|------------|----------------------|------------------|--------------|--------------|
| GFSK_1Mbps | 2402                 | 3.541            | $\leq 30$    | Pass         |
|            | 2440                 | 3.719            | $\leq 30$    | Pass         |
|            | 2480                 | 3.866            | $\leq 30$    | Pass         |

Remark: The factor had been edited in the "Input Correction" of the Spectrum Analyzer. Input compensation coefficient (dB) = Cable Loss (dB) + Attenuator attenuation value (dB)

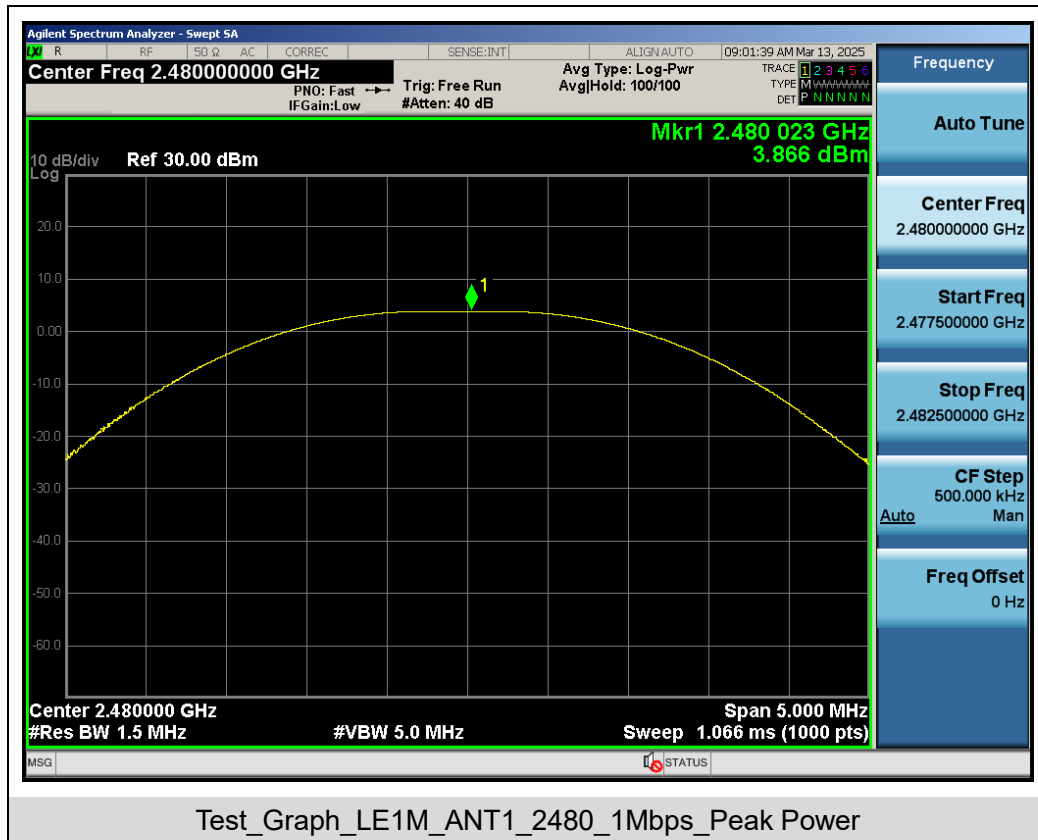
## Test Graphs Peak



Test\_Graph\_LE1M\_ANT1\_2402\_1Mbps\_Peak Power



Test\_Graph\_LE1M\_ANT1\_2440\_1Mbps\_Peak Power



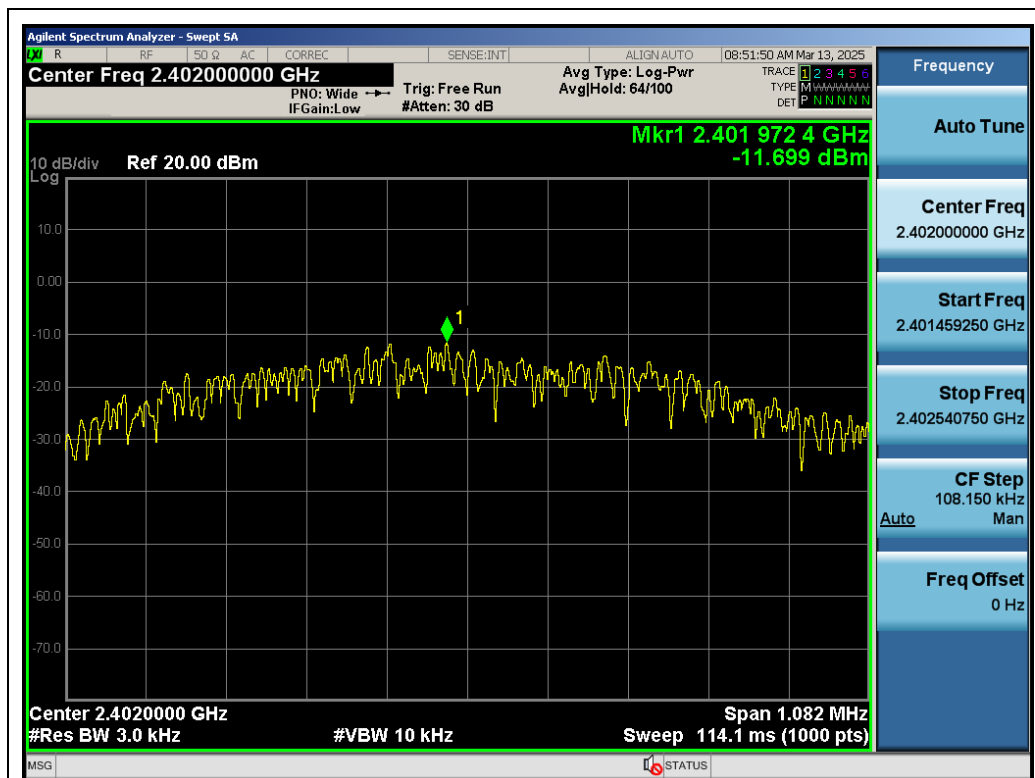
## Appendix C: Maximum peak power spectral density

### Test Result

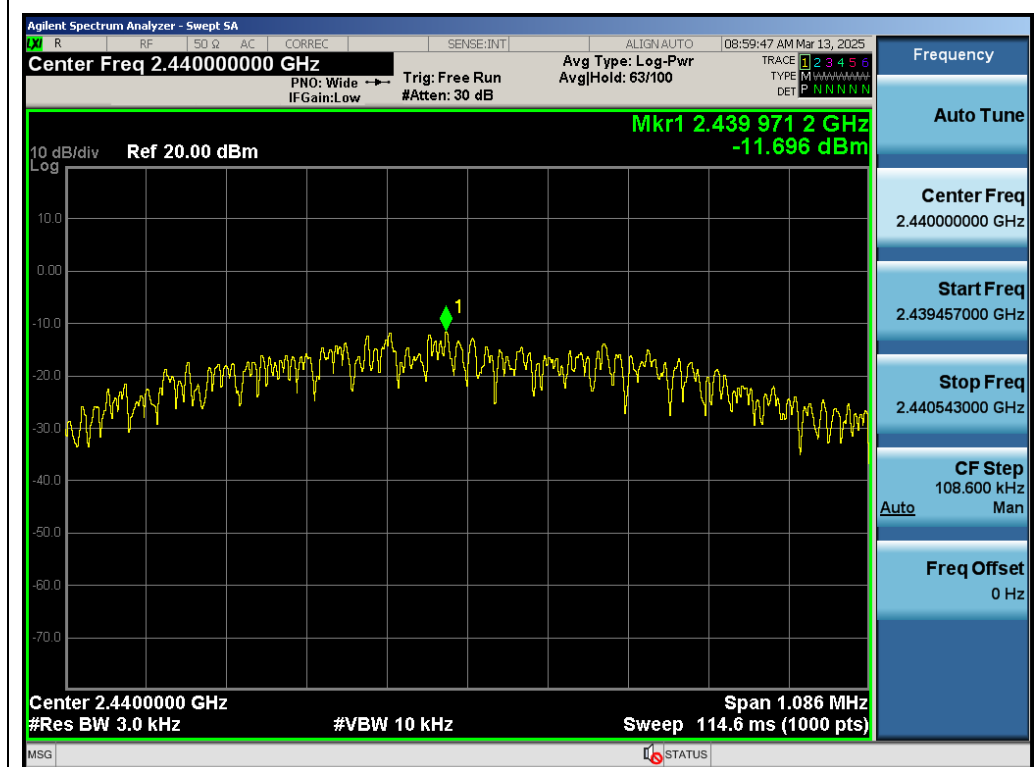
| Test Mode  | Test Frequency (MHz) | Power density (dBm/3kHz) | Limit (dBm/3kHz) | Pass or Fail |
|------------|----------------------|--------------------------|------------------|--------------|
| GFSK_1Mbps | 2402                 | -11.699                  | $\leq 8$         | Pass         |
|            | 2440                 | -11.696                  | $\leq 8$         | Pass         |
|            | 2480                 | -11.389                  | $\leq 8$         | Pass         |

Remark: The factor had been edited in the "Input Correction" of the Spectrum Analyzer. Input compensation coefficient (dB) = Cable Loss (dB) + Attenuator attenuation value (dB)

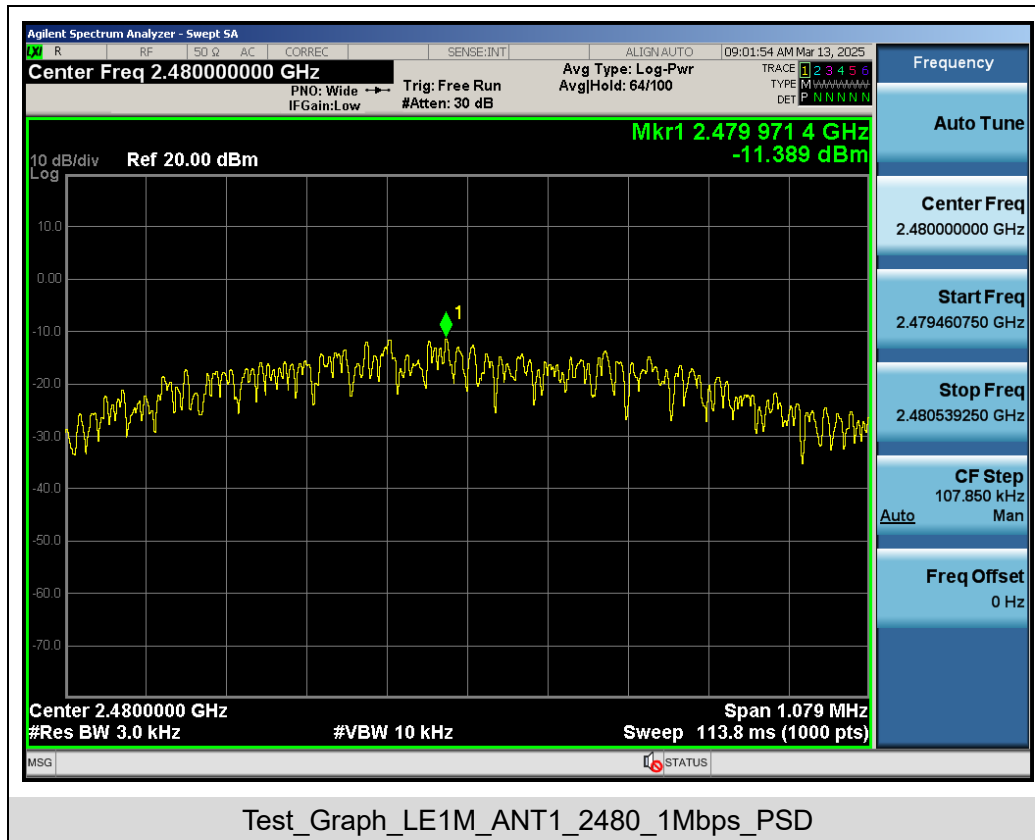
## Test Graphs



Test\_Graph\_LE1M\_ANT1\_2402\_1Mbps\_PSD



Test\_Graph\_LE1M\_ANT1\_2440\_1Mbps\_PSD



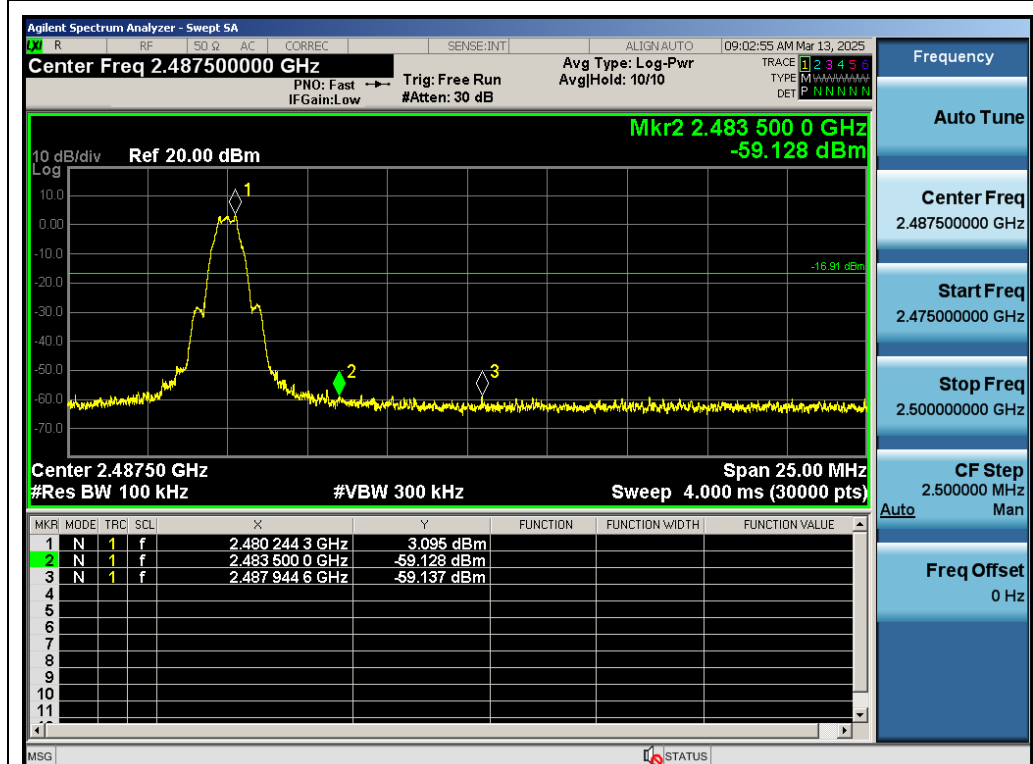
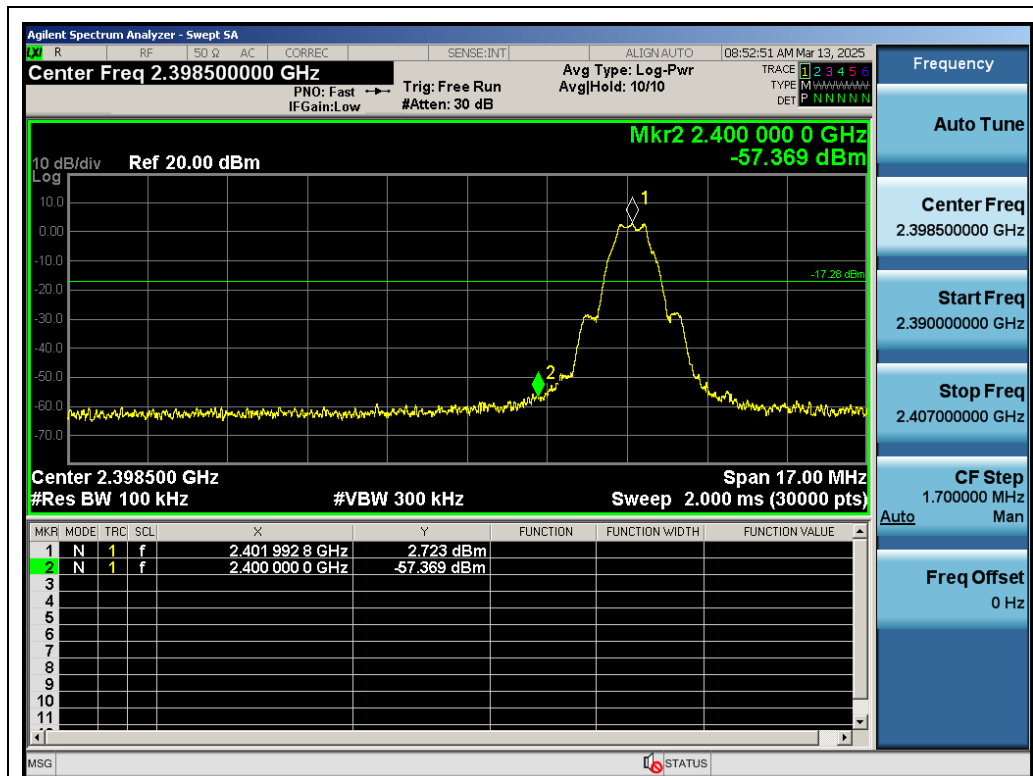
## Appendix D: Band edge measurements

### Test Result

| Test Mode  | Ch. Name | Frequency<br>[MHz] | Ref. Level<br>[dBm] | Result<br>[dBm] | Limit<br>[dBm] | Verdict |
|------------|----------|--------------------|---------------------|-----------------|----------------|---------|
| GFSK_1Mbps | Low      | 2402               | 2.723               | -57.369         | ≤-15.59        | Pass    |
| GFSK_1Mbps | High     | 2480               | 3.095               | -59.128         | ≤-17.26        | Pass    |

Remark: The factor had been edited in the "Input Correction" of the Spectrum Analyzer. Input compensation coefficient (dB) = Cable Loss (dB) + Attenuator attenuation value (dB)

## Test Graphs



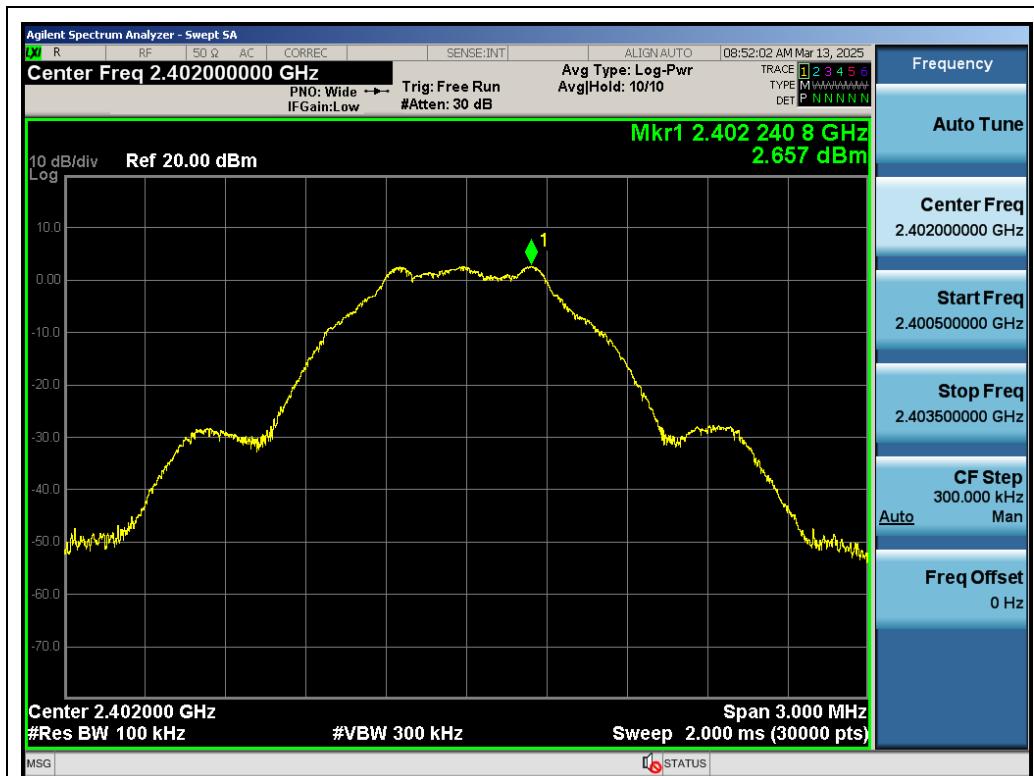
## Appendix E: Conducted Spurious Emission

### Test Result

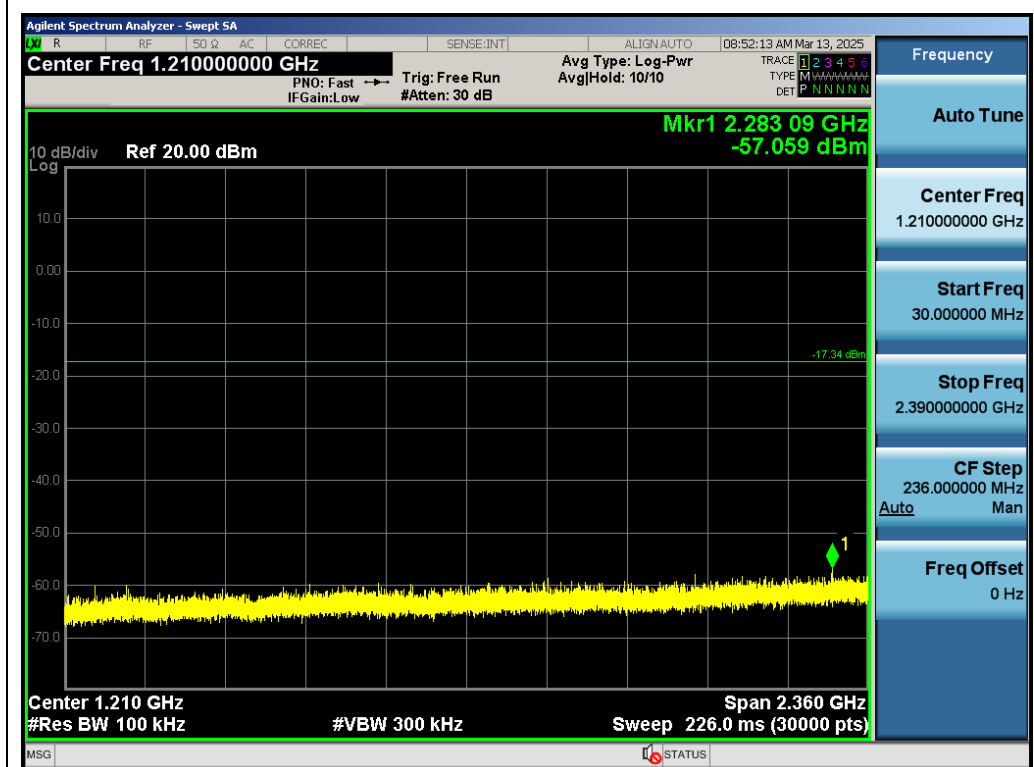
| Test Mode  | Frequency [MHz] | Freq. Range [MHz] | Ref. Level [dBm] | Result [dBm] | Limit [dBm]   | Verdict |
|------------|-----------------|-------------------|------------------|--------------|---------------|---------|
| GFSK_1Mbps | 2402            | 0~Reference       | 2.657            | 2.657        | ---           | Pass    |
| GFSK_1Mbps | 2402            | 30~2390           | 2.657            | -57.059      | $\leq -17.34$ | Pass    |
| GFSK_1Mbps | 2402            | 2483.5~25000      | 2.657            | -49.062      | $\leq -17.34$ | Pass    |
| GFSK_1Mbps | 2440            | 0~Reference       | 2.762            | 2.762        | ---           | Pass    |
| GFSK_1Mbps | 2440            | 30~2400           | 2.762            | -57.146      | $\leq -17.24$ | Pass    |
| GFSK_1Mbps | 2440            | 2483.5~25000      | 2.762            | -48.863      | $\leq -17.24$ | Pass    |
| GFSK_1Mbps | 2480            | 0~Reference       | 3.015            | 3.015        | ---           | Pass    |
| GFSK_1Mbps | 2480            | 30~2400           | 3.015            | -57.661      | $\leq -16.99$ | Pass    |
| GFSK_1Mbps | 2480            | 2500~26500        | 3.015            | -49.130      | $\leq -16.99$ | Pass    |

Remark: The factor had been edited in the "Input Correction" of the Spectrum Analyzer. Input compensation coefficient (dB) = Cable Loss (dB) + Attenuator attenuation value (dB)

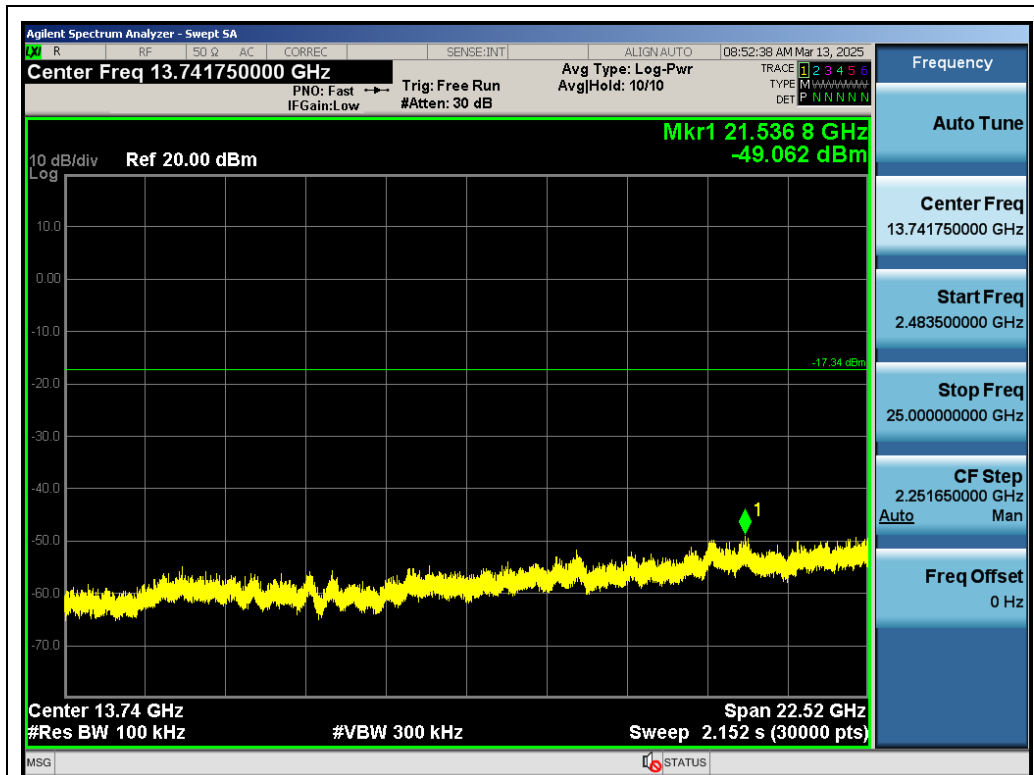
## Test Graphs



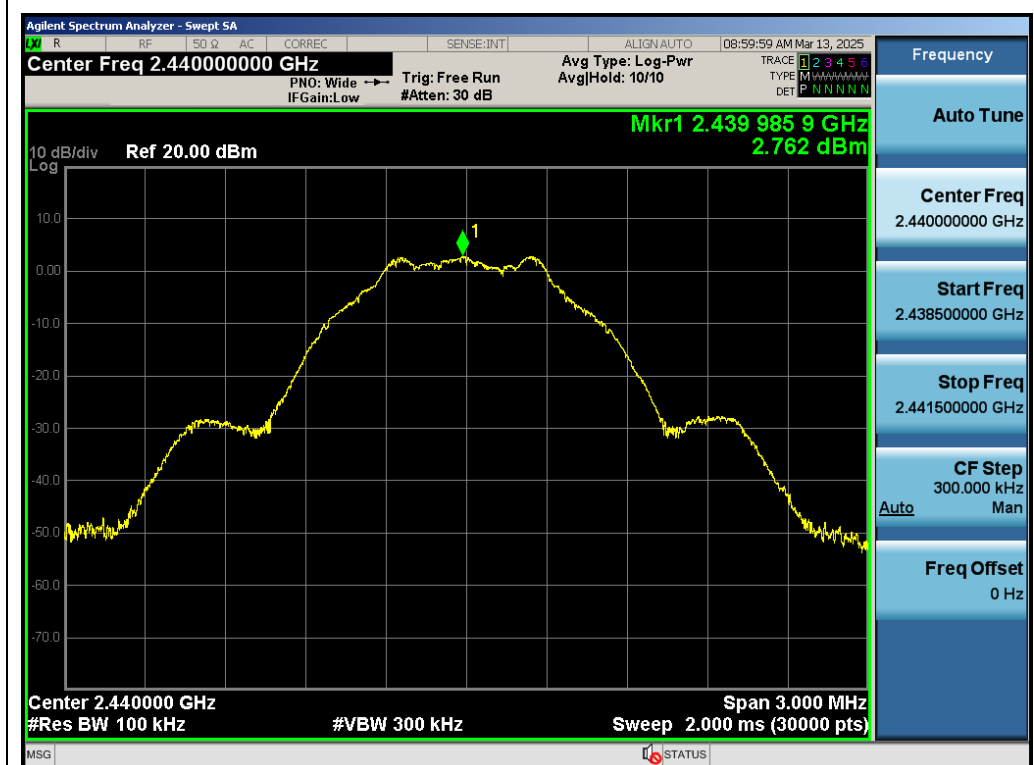
Test\_Graph\_LE1M\_ANT1\_2402\_1Mbps\_Reference Level



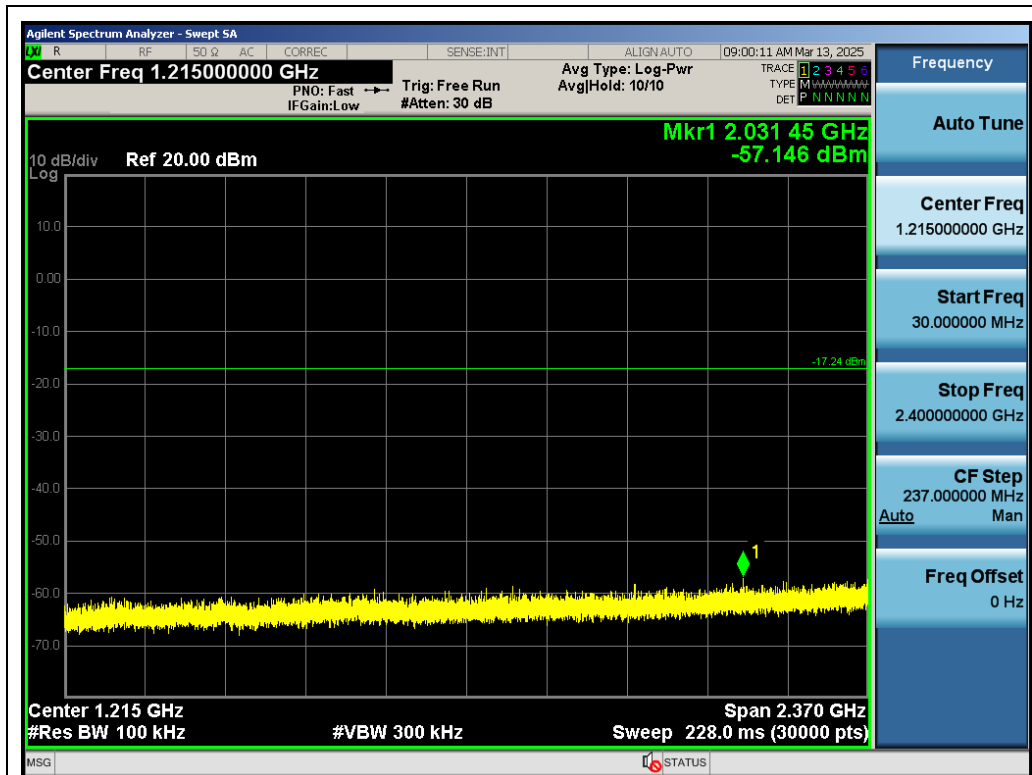
Test\_Graph\_LE1M\_ANT1\_2402\_1Mbps\_Lower Band Emissions



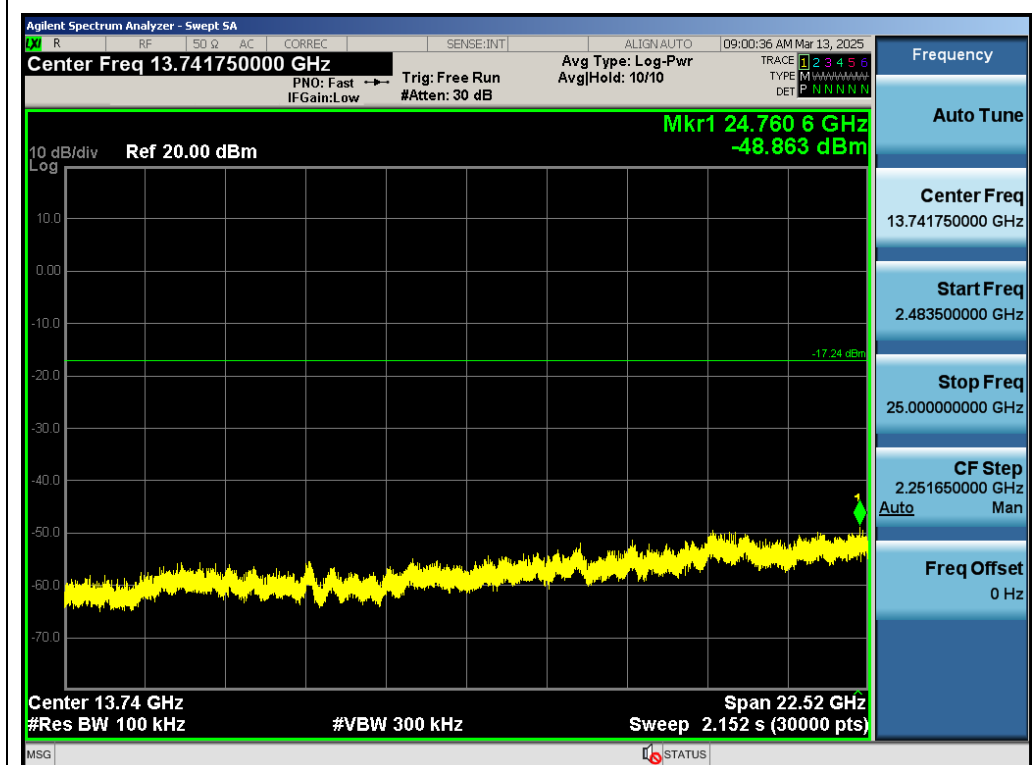
Test\_Graph\_LE1M\_ANT1\_2402\_1Mbps\_Higher Band Emissions



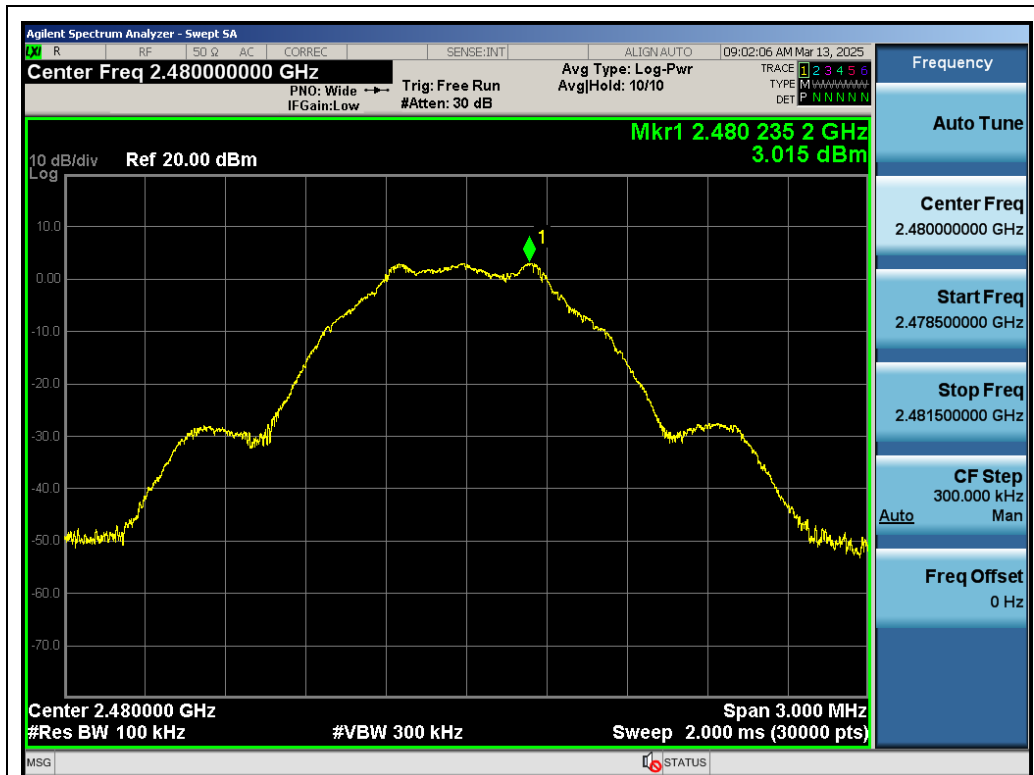
Test\_Graph\_LE1M\_ANT1\_2440\_1Mbps\_Reference Level



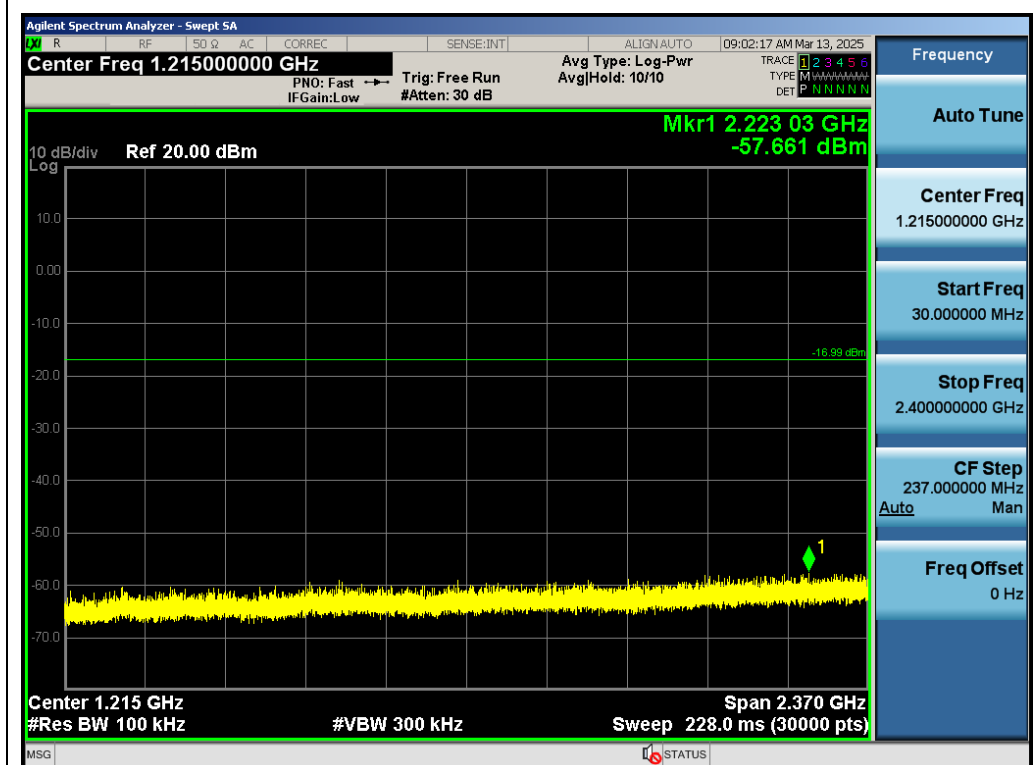
Test\_Graph\_LE1M\_ANT1\_2440\_1Mbps\_Lower Band Emissions



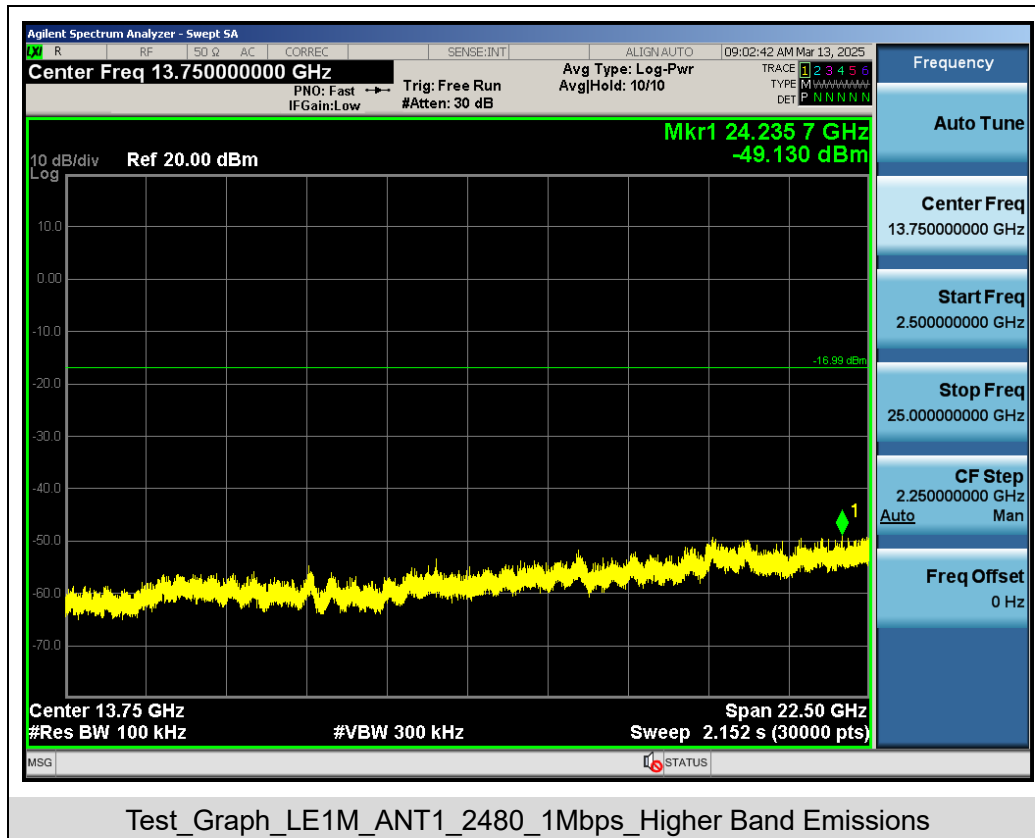
Test\_Graph\_LE1M\_ANT1\_2440\_1Mbps\_Higher Band Emissions



Test\_Graph\_LE1M\_ANT1\_2480\_1Mbps\_Reference Level



Test\_Graph\_LE1M\_ANT1\_2480\_1Mbps\_Lower Band Emissions



## Appendix F: Duty Cycle

### Test Result

| Test Mode  | Frequency<br>[MHz] | ON Time<br>[ms] | Period<br>[ms] | Duty Cycle<br>[%] | Duty Cycle<br>Factor<br>[dB] |
|------------|--------------------|-----------------|----------------|-------------------|------------------------------|
| GFSK_1Mbps | 2402               | 0.38            | 0.62           | 60.75             | 2.16                         |
| GFSK_1Mbps | 2440               | 0.38            | 0.62           | 60.75             | 2.16                         |
| GFSK_1Mbps | 2480               | 0.38            | 0.62           | 60.75             | 2.16                         |

Remark: The factor had been edited in the “Input Correction” of the Spectrum Analyzer. Input compensation coefficient (dB) = Cable Loss (dB) + Attenuator attenuation value (dB)

## Test Graphs

