



## Appendix B

### RF Test Data for BT LE V5.0(DTS) (Conducted Measurement)

Product Name: RK3399 R Pro Player

Trade Mark: SCALA

Test Model: SMPRP

#### Environmental Conditions

|                    |           |
|--------------------|-----------|
| Temperature:       | 21.5℃     |
| Relative Humidity: | 52.7%     |
| ATM Pressure:      | 100.0 kPa |
| Test Engineer:     | Jay Li    |
| Supervised by:     | Li Huan   |



## Appendix B.1: DTS Bandwidth

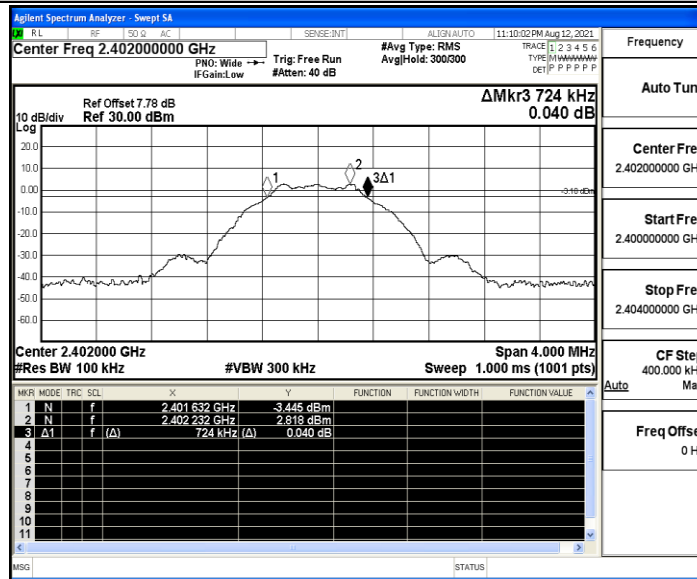
### Test Result

| TestMode | Antenna | Channel | DTS BW [MHz] | FL[MHz]  | FH[MHz]  | Limit[MHz] | Verdict |
|----------|---------|---------|--------------|----------|----------|------------|---------|
| BLE_1M   | Ant1    | 2402    | 0.724        | 2401.632 | 2402.356 | ≥0.5       | PASS    |
|          |         | 2440    | 0.724        | 2439.628 | 2440.352 | ≥0.5       | PASS    |
|          |         | 2480    | 0.720        | 2479.632 | 2480.352 | ≥0.5       | PASS    |

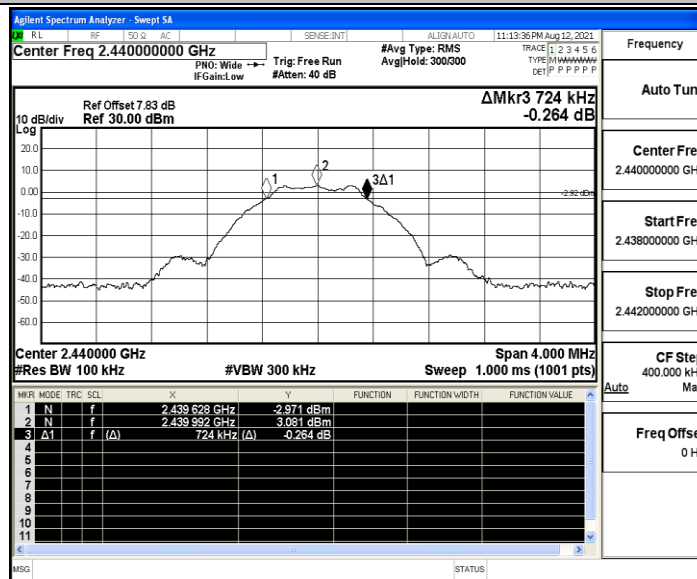


## Test Graphs

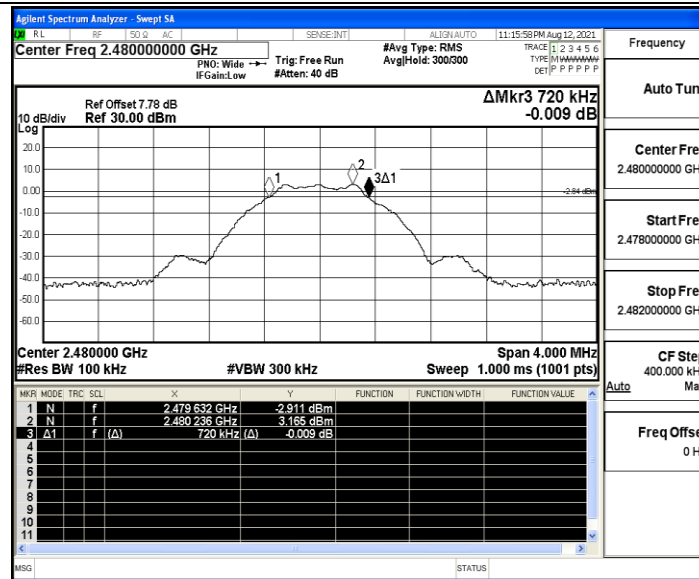
BLE\_1M\_Ant1\_2402



BLE\_1M\_Ant1\_2440



BLE\_1M\_Ant1\_2480





## Appendix B.2: Maximum peak conducted output power

### Test Result

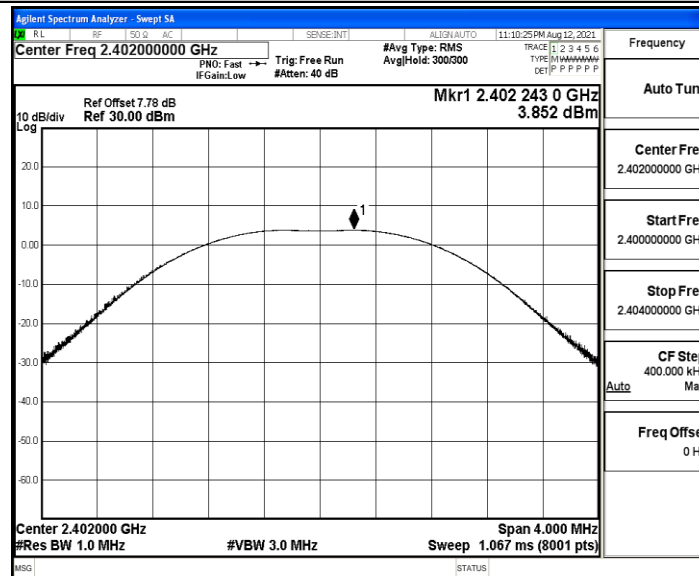
| TestMode | Antenna | Channel | Result[dBm] | Limit[dBm] | Verdict |
|----------|---------|---------|-------------|------------|---------|
| BLE_1M   | Ant1    | 2402    | 3.85        | ≤30        | PASS    |
|          |         | 2440    | 4.09        | ≤30        | PASS    |
|          |         | 2480    | 4.1         | ≤30        | PASS    |

Note: The Duty Cycle Factor is compensated in the graph.

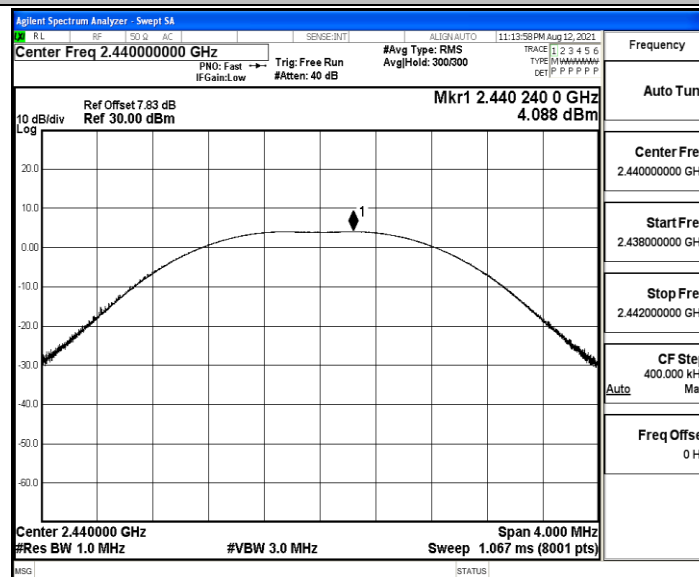


## Test Graphs

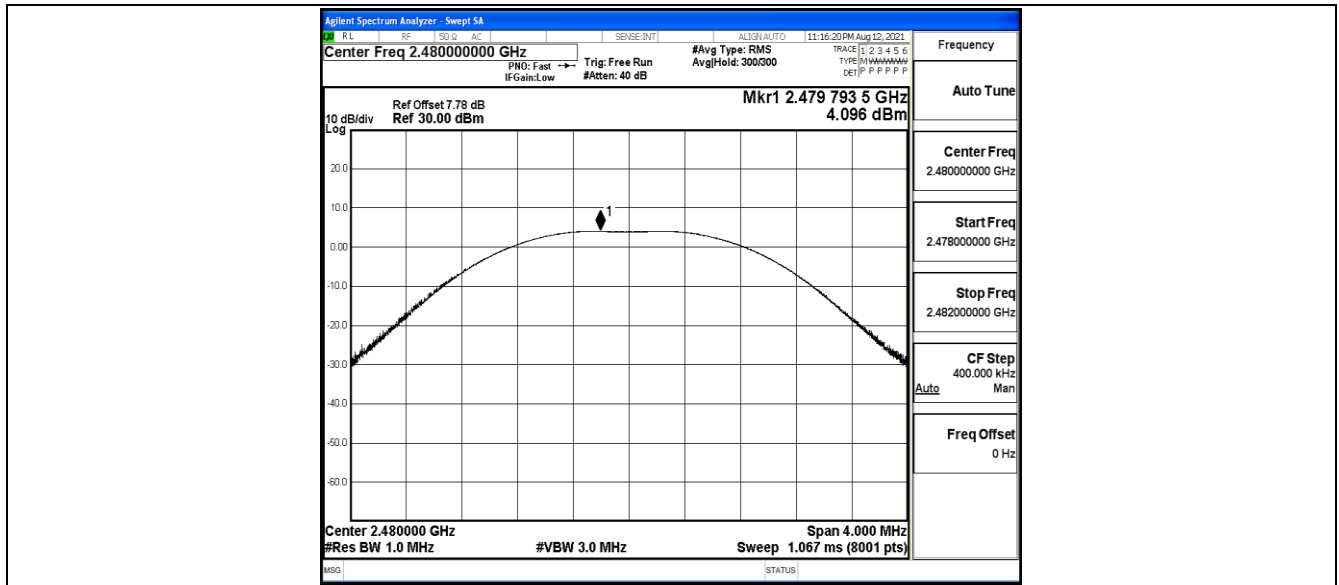
BLE\_1M\_Ant1\_2402



BLE\_1M\_Ant1\_2440



BLE\_1M\_Ant1\_2480





## Appendix B.3: Maximum power spectral density

### Test Result

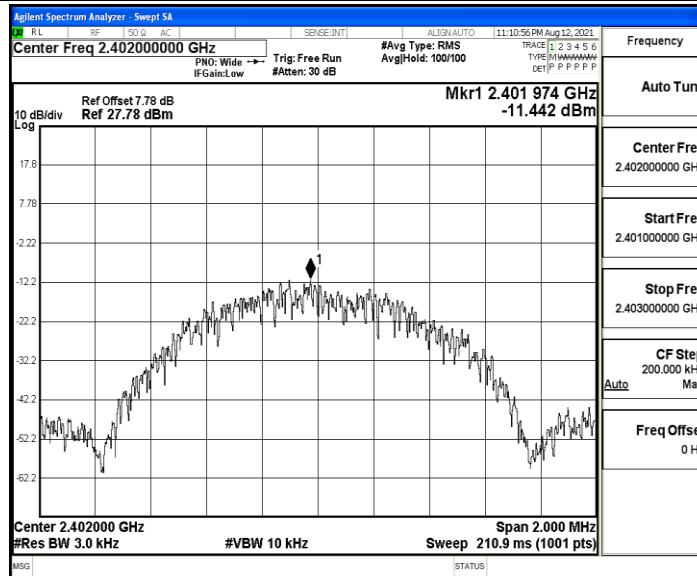
| TestMode | Antenna | Channel | Result[dBm/3-100kHz] | Limit[dBm/3kHz] | Verdict |
|----------|---------|---------|----------------------|-----------------|---------|
| BLE_1M   | Ant1    | 2402    | -11.44               | ≤8              | PASS    |
|          |         | 2440    | -11.03               | ≤8              | PASS    |
|          |         | 2480    | -10.98               | ≤8              | PASS    |

Note: The Duty Cycle Factor is compensated in the graph.

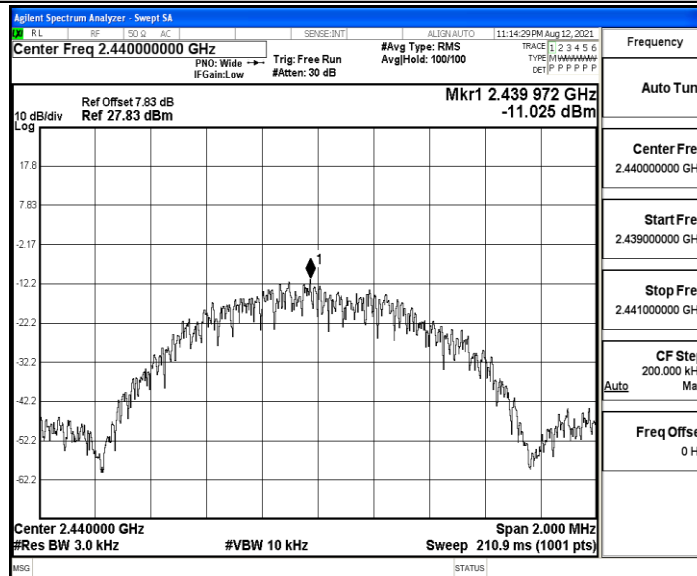


## Test Graphs

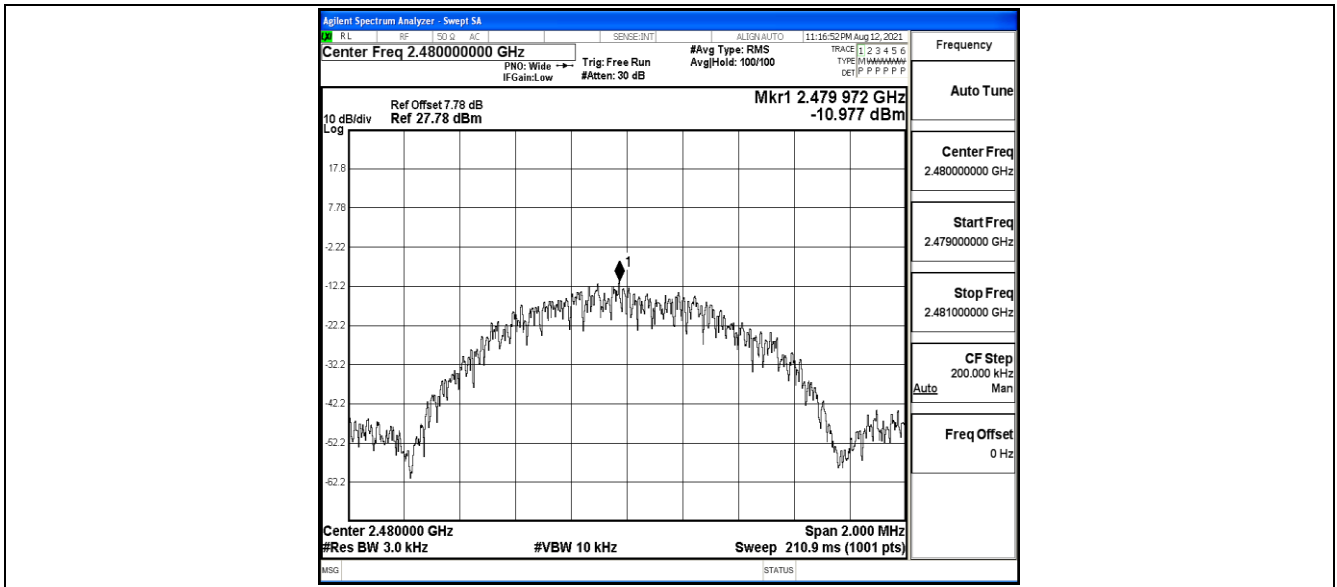
BLE\_1M\_Ant1\_2402



BLE\_1M\_Ant1\_2440



BLE\_1M\_Ant1\_2480





## Appendix B.4: Band edge measurements

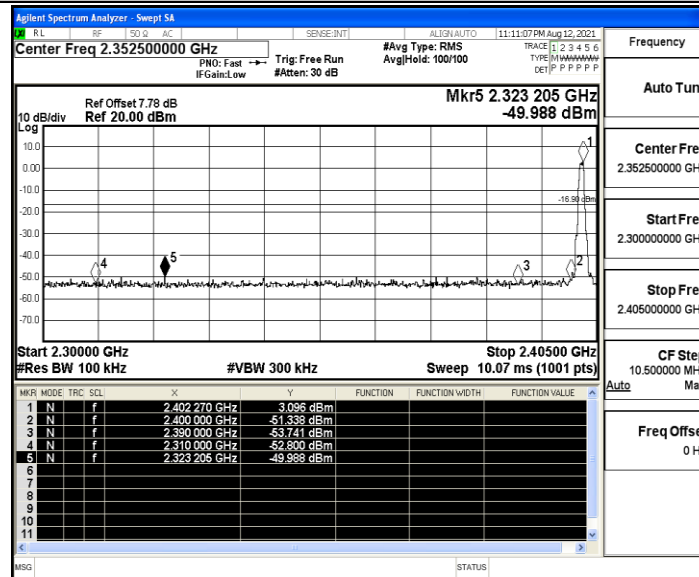
### Test Result

| TestMode | Antenna | ChName | Channel | RefLevel[dBm] | Result[dBm] | Limit[dBm]    | Verdict |
|----------|---------|--------|---------|---------------|-------------|---------------|---------|
| BLE_1M   | Ant1    | Low    | 2402    | 3.10          | -49.99      | $\leq -16.9$  | PASS    |
|          |         | High   | 2480    | 3.33          | -49.28      | $\leq -16.67$ | PASS    |

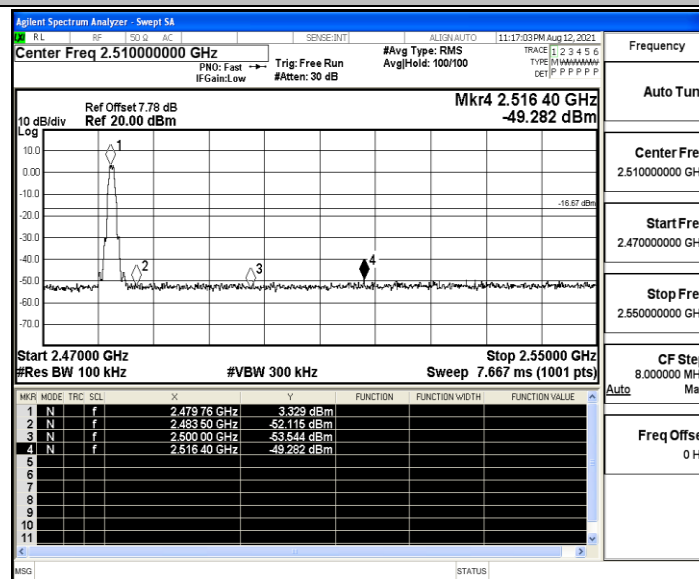


## Test Graphs

BLE\_1M\_Ant1\_Low\_2402



BLE\_1M\_Ant1\_High\_2480





## Appendix B.5: Conducted Spurious Emission

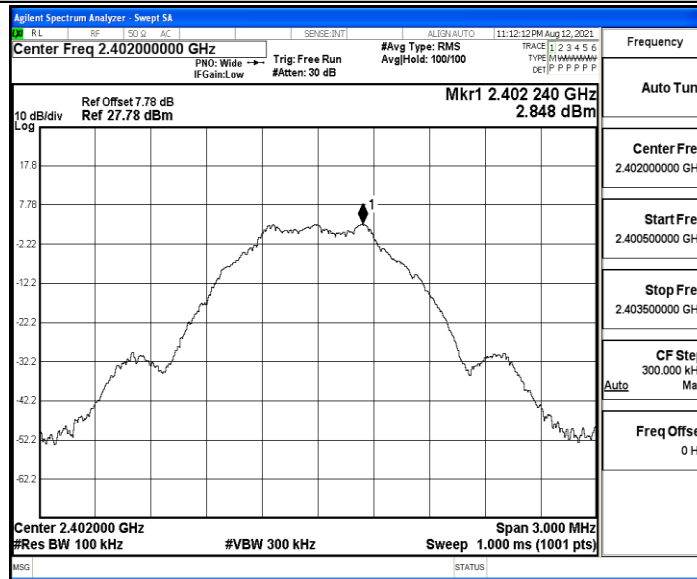
### Test Result

| TestMode | Antenna | Channel | FreqRange<br>[MHz] | RefLevel<br>[dBm] | Result[dBm] | Limit[dBm]    | Verdict |
|----------|---------|---------|--------------------|-------------------|-------------|---------------|---------|
| BLE_1M   | Ant1    | 2402    | Reference          | 2.85              | 2.85        | ---           | PASS    |
|          |         |         | 30~1000            | 2.85              | -60.75      | $\leq -17.15$ | PASS    |
|          |         |         | 1000~26500         | 2.85              | -47.9       | $\leq -17.15$ | PASS    |
|          |         | 2440    | Reference          | 2.89              | 2.89        | ---           | PASS    |
|          |         |         | 30~1000            | 2.89              | -60.55      | $\leq -17.11$ | PASS    |
|          |         |         | 1000~26500         | 2.89              | -47.78      | $\leq -17.11$ | PASS    |
|          |         | 2480    | Reference          | 3.12              | 3.12        | ---           | PASS    |
|          |         |         | 30~1000            | 3.12              | -60.76      | $\leq -16.88$ | PASS    |
|          |         |         | 1000~26500         | 3.12              | -47.32      | $\leq -16.88$ | PASS    |

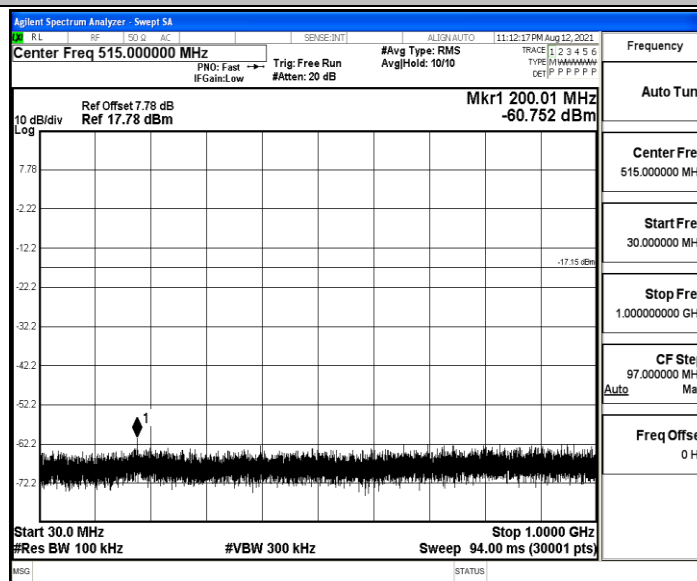


## Test Graphs

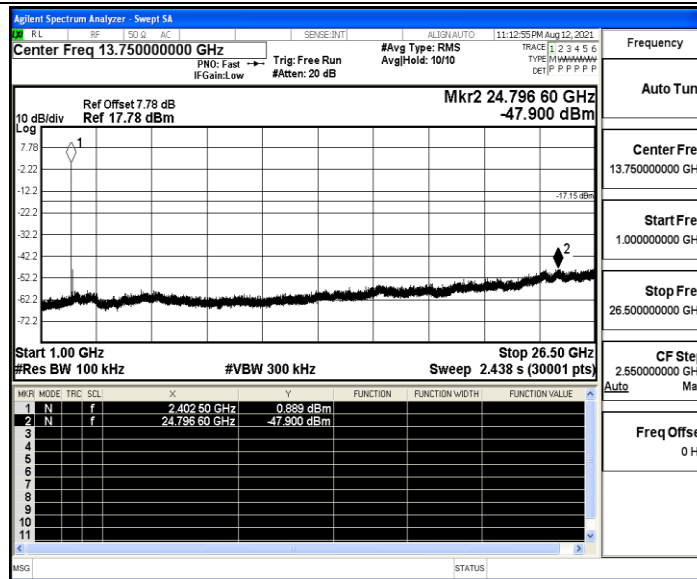
BLE\_1M\_Ant1\_2402\_0~Reference



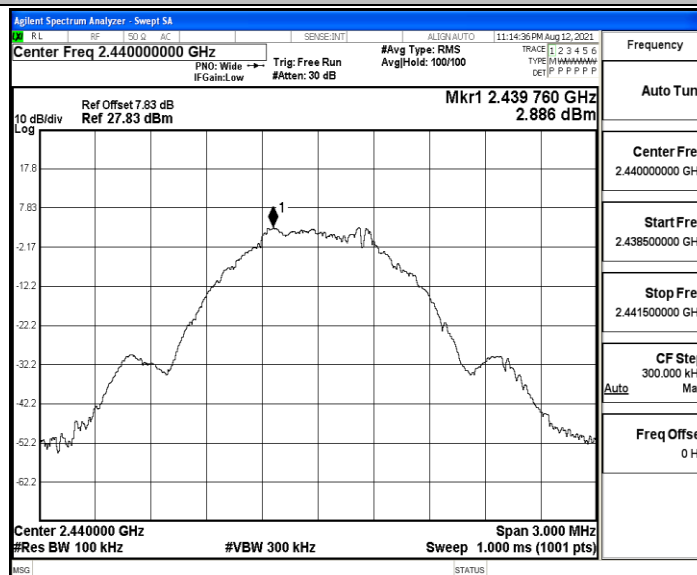
BLE\_1M\_Ant1\_2402\_30~1000



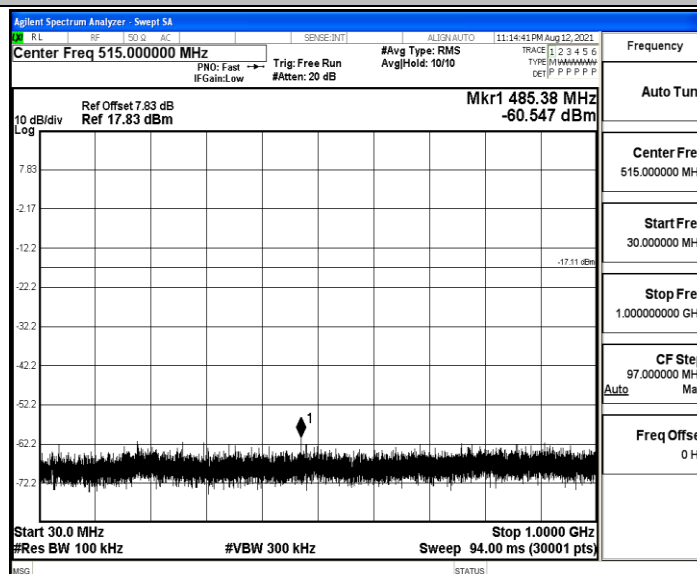
BLE\_1M\_Ant1\_2402\_1000~26500



BLE\_1M\_Ant1\_2440\_0~Reference

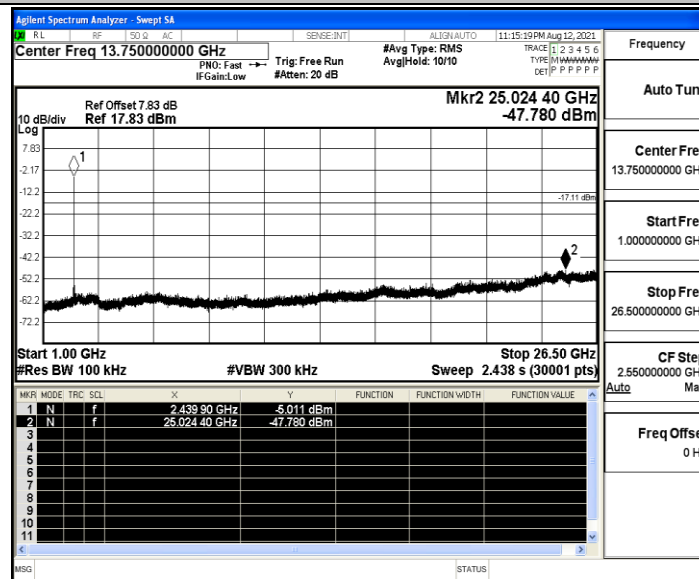


BLE\_1M\_Ant1\_2440\_30~1000

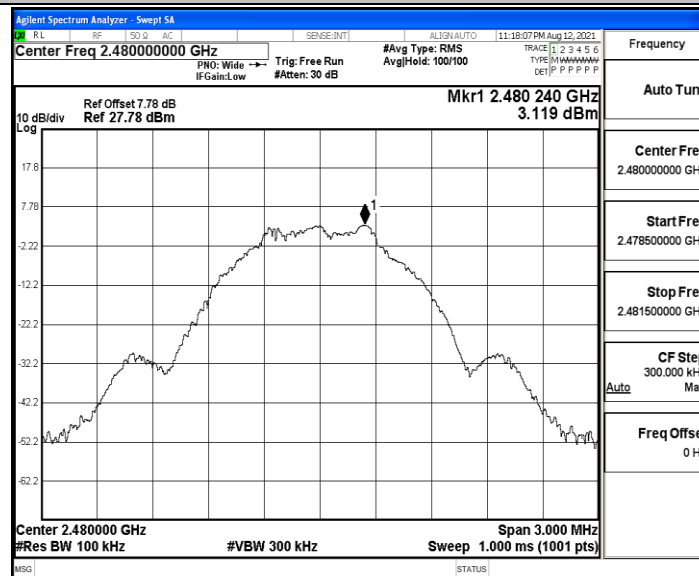




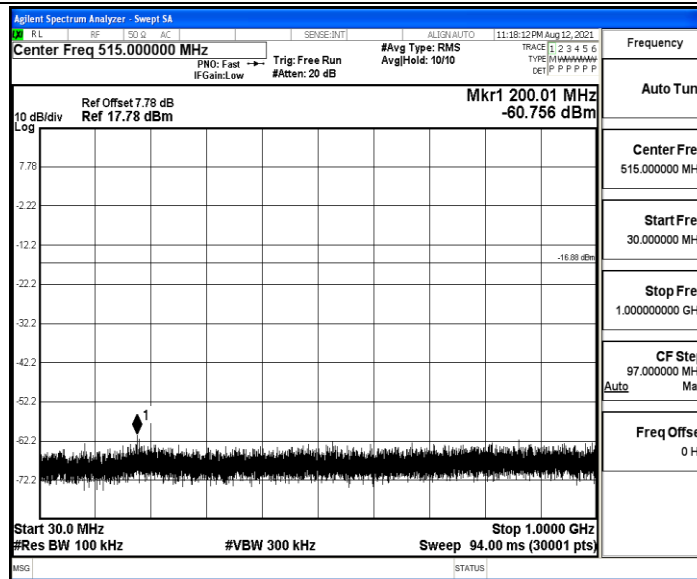
## BLE\_1M\_Ant1\_2440\_1000-26500



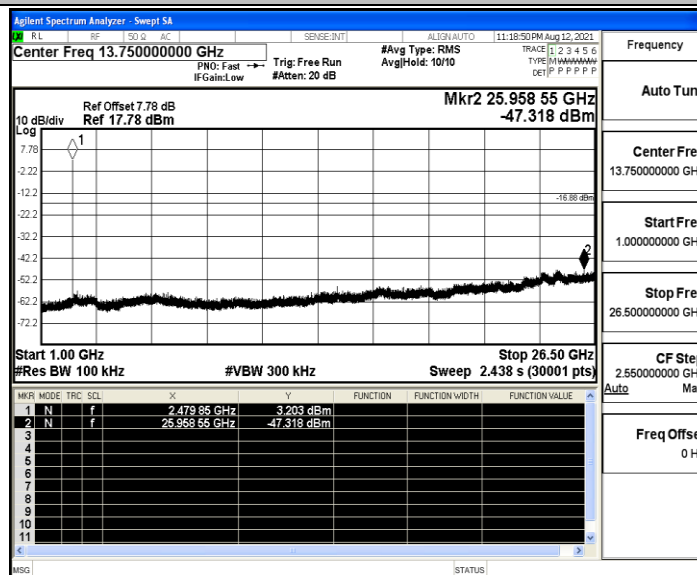
## BLE\_1M\_Ant1\_2480\_0~Reference



## BLE\_1M\_Ant1\_2480\_30~1000



## BLE\_1M\_Ant1\_2480\_1000~26500





## Appendix B.6: Duty Cycle

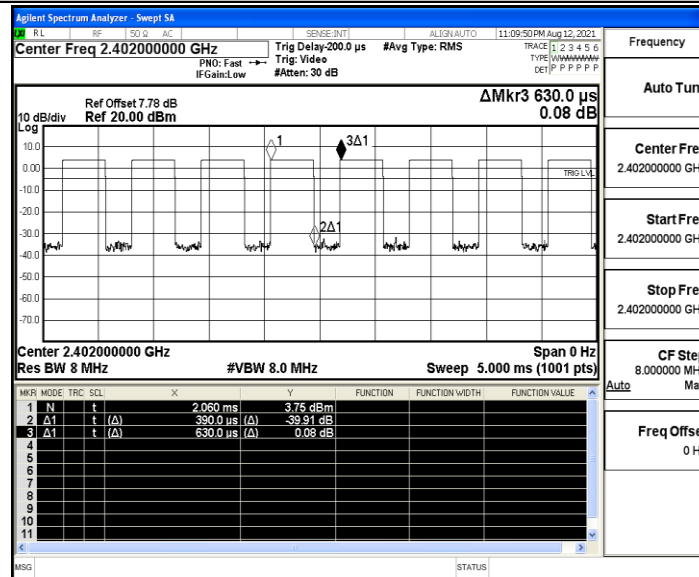
### Test Result

| TestMode | Antenna | Channel | ON Time<br>[ms] | Period<br>[ms] | X      | DC [%] | xFactor | Limit | Verdict |
|----------|---------|---------|-----------------|----------------|--------|--------|---------|-------|---------|
| BLE_1M   | Ant1    | 2402    | 0.39            | 0.63           | 0.6190 | 61.90  | 2.08    | ---   | PASS    |
|          |         | 2440    | 0.38            | 0.62           | 0.6129 | 61.29  | 2.13    | ---   | PASS    |
|          |         | 2480    | 0.39            | 0.63           | 0.6190 | 61.90  | 2.08    | ---   | PASS    |

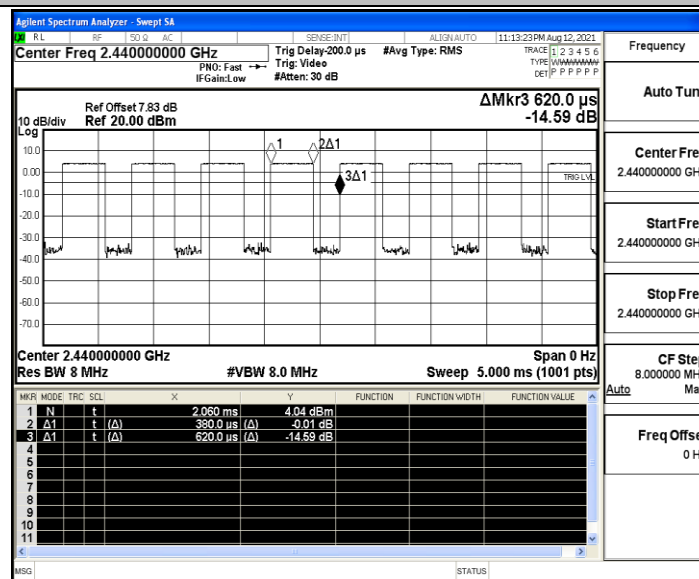


## Test Graphs

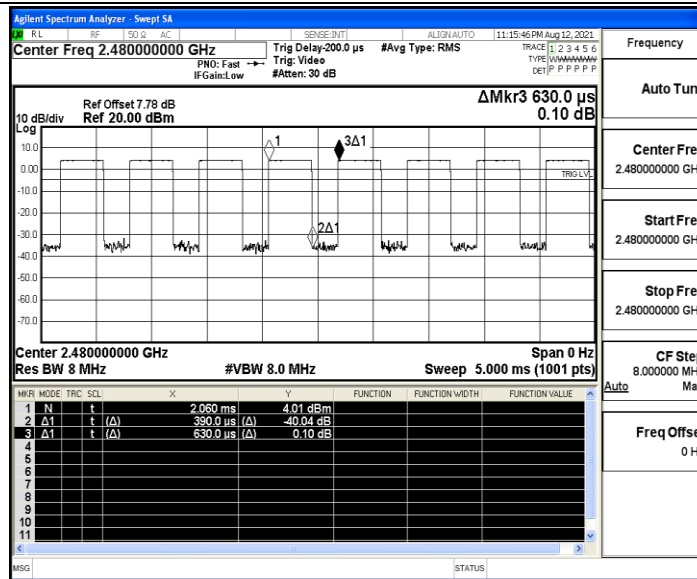
BLE\_1M\_Ant1\_2402



BLE\_1M\_Ant1\_2440



BLE\_1M\_Ant1\_2480





## Appendix B.7: Emissions in Restricted Bands

### Test Result

| TestMod<br>e | Antenn<br>a | ChNam<br>e | Channel | Detector | Freq.<br>[MHz] | Result<br>[dBm] | Limit<br>[dBm] | Result<br>[dBuV/<br>m] | Limit<br>[dBuV/<br>m] | Verdict |
|--------------|-------------|------------|---------|----------|----------------|-----------------|----------------|------------------------|-----------------------|---------|
| BLE_1M       | Ant1        | Low        | 2402    | AV       | 2310.000       | -48.42          | ≤-41.20        | 46.78                  | ≤54                   | PASS    |
|              |             |            |         | AV       | 2388.935       | -47.86          | ≤-41.20        | 47.34                  | ≤54                   | PASS    |
|              |             |            |         | AV       | 2390.000       | -47.94          | ≤-41.20        | 47.26                  | ≤54                   | PASS    |
|              |             |            |         | Peak     | 2310.000       | -43.08          | ≤-21.20        | 52.12                  | ≤74                   | PASS    |
|              |             |            |         | Peak     | 2315.330       | -39.25          | ≤-21.20        | 55.95                  | ≤74                   | PASS    |
|              |             |            |         | Peak     | 2390.000       | -42.08          | ≤-21.20        | 53.12                  | ≤74                   | PASS    |
|              |             | High       | 2480    | AV       | 2483.500       | -46.7           | ≤-41.20        | 48.50                  | ≤54                   | PASS    |
|              |             |            |         | AV       | 2483.520       | -46.7           | ≤-41.20        | 48.50                  | ≤54                   | PASS    |
|              |             |            |         | AV       | 2500.000       | -47.28          | ≤-41.20        | 47.92                  | ≤54                   | PASS    |
|              |             |            |         | Peak     | 2483.500       | -41.89          | ≤-21.20        | 53.31                  | ≤74                   | PASS    |
|              |             |            |         | Peak     | 2498.080       | -37.77          | ≤-21.20        | 57.43                  | ≤74                   | PASS    |
|              |             |            |         | Peak     | 2500.000       | -40.86          | ≤-21.20        | 54.34                  | ≤74                   | PASS    |

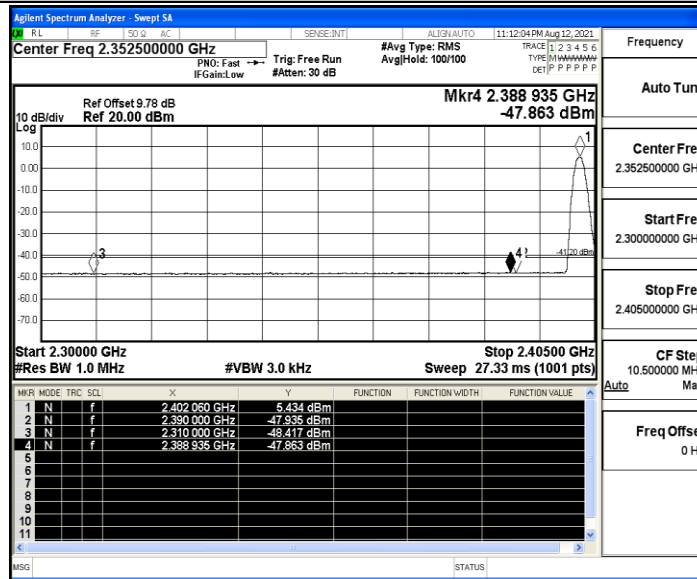
Note:

1. The Antenna Gain is compensated in the graph.
2. The limit in dBm for average detector is conversion from 54dBuV/m, according to 15.209(a). The limit in dBm for peak detector is 20dB above the limit of average detector in dBm.

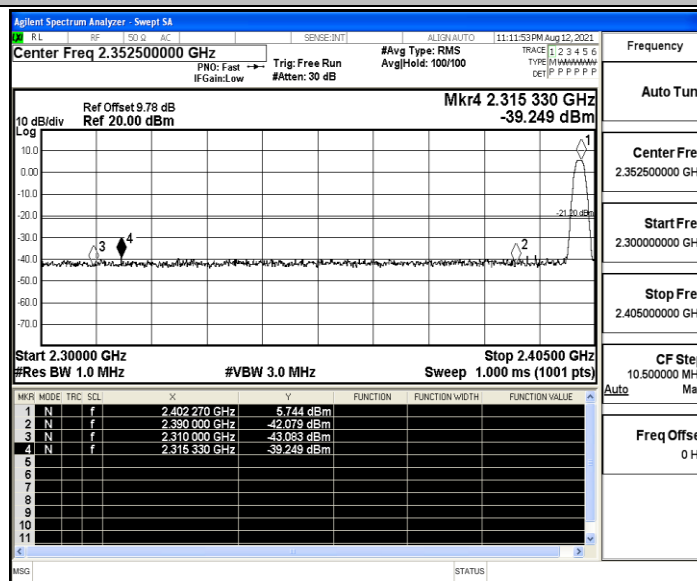


## Test Graphs

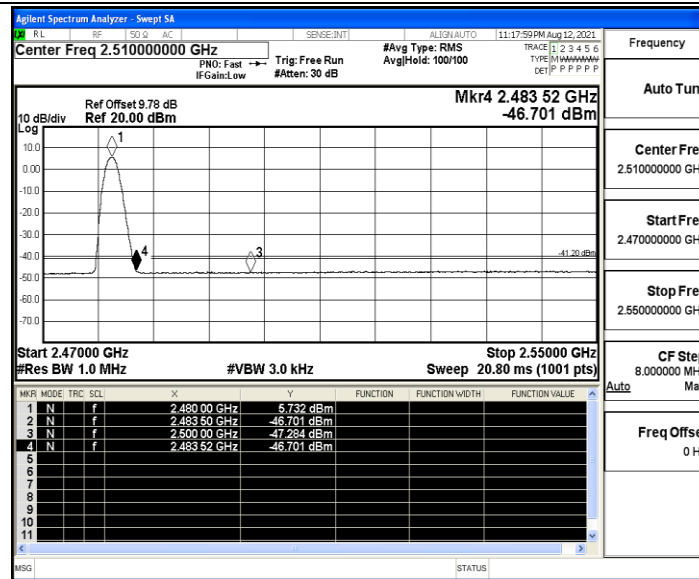
BLE\_1M\_Ant1\_Low\_2402\_AV



BLE\_1M\_Ant1\_Low\_2402\_Peak



BLE\_1M\_Ant1\_High\_2480\_AV



## BLE\_1M\_Ant1\_High\_2480\_Peak

