

## Measurement Results

1-0843/20-01-04\_log1\_conducted

[Test logging](#)

---

This addendum is electronically signed and valid without handwritten signature.  
For verification of the electronic signatures, the public keys can be requested at the testing laboratory.

Document authorized:

---

---

Michael Dorongovski  
Lab Manager  
Radio Communications

## Table of Content

|                                                                           |    |
|---------------------------------------------------------------------------|----|
| EUT Summary                                                               | 3  |
| 1. FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ BT LE 1 MspS | 4  |
| 2. FCC Part 15.247 Bandwidth 6dB DTS ~ BT LE 1 MspS                       | 11 |
| 3. FCC Part 15.247 Peak Power Spectral Density DTS ~ BT LE 1 MspS         | 15 |
| 4. FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 MspS                    | 19 |
| 5. FCC Part 15.247 TX Spurious Conducted ~ BT LE 1 MspS                   | 26 |
| 6. Common2G4 Peak OP 3MHz/3MHz ~ BT LE 1 MspS                             | 30 |

## EUT Summary

| IUT DEFINITION & Common settings                 |                                               |
|--------------------------------------------------|-----------------------------------------------|
| Manufacturer                                     | Oticon Medical AB                             |
| Type                                             | Ponto 4-45                                    |
| Serial No.   Setup No.                           | 63942343   1.0                                |
| SW Version   HW Version                          | NI   NI                                       |
| Comment 1   2                                    |                                               |
| Tlow   Tmid   Thigh [°C]                         | 0   20   40                                   |
| Vlow   Vmid   Vhigh [V] @Imax [A]                | 1.4   1.4   1.4 @1                            |
| Auto Control enabled Power Supply   Climatic Box | No   No                                       |
| Additional Path Loss [dB]                        | 0.8                                           |
| IUT Common Settings BT Low Energy                |                                               |
| Intermodulation Value N                          | 3                                             |
| Image Freq. Low   Mid   High [MHz]               | 0   0   0                                     |
| Power Class                                      | 2                                             |
| 1 Mbps supported                                 | True   TXpayload 37   RXpayload 37            |
| 2 Mbps supported                                 | False   TXpayload 255   RXpayload 255         |
| Longrange S8 supported                           | False   TXpayload 255   RXpayload 255         |
| Longrange S2 supported                           | False   TXpayload 255   RXpayload 255         |
| Signaling Settings                               | None   HCI   1   2400   None   S1   None   On |
| Signaling RF Settings                            | RF1com   0   0   On                           |
| User Interaction                                 | Yes                                           |
| Switch Matrix & Pathcompensation enabled         | Yes                                           |

## 1. FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ BT LE 1 Msps

| Test References                   |                                                                           |
|-----------------------------------|---------------------------------------------------------------------------|
| TC Start                          | 16.11.2020 14:39:22                                                       |
| Ambit Temp [°C]   Humidity [rel%] | 23.2   40                                                                 |
| System Version                    | 1.0.1.2                                                                   |
| Test Specification                | FCC Part 15.247                                                           |
| Test Method                       | DTS: KDB 558074 D01 V05 - Chapter 8.3.1.1 RBW ≥ DTS Bandwidth             |
| Class / TC Version                | TC_VM_FCC15247_Maximum_Peak_Conducted_Output_Power_DTS_V01 Version: 0.0.1 |
| My Description                    | FCC 15.247 Maximum Peak Output Power Conducted DTS - BT LE 1 Msps         |
| Add. Information                  |                                                                           |

| Test Parameter         |                                                                                                          |
|------------------------|----------------------------------------------------------------------------------------------------------|
| Technology to test     | BT LE 1 Msps                                                                                             |
| Antenna Port used      | 1                                                                                                        |
| Temperature            | mid                                                                                                      |
| Voltage                | mid                                                                                                      |
| Frequency low to test  | True   Freq [MHz] 2402                                                                                   |
| Frequency mid to test  | True   Freq [MHz] 2440                                                                                   |
| Frequency high to test | True   Freq [MHz] 2480                                                                                   |
| Switched Path          | IUT - SignalingUnit - SpectrumAnalyzer                                                                   |
| Devices in use         | SigBT: Rohde&Schwarz,CMW,1201.0002k75/100683,3.7.170   SA: Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.60 |

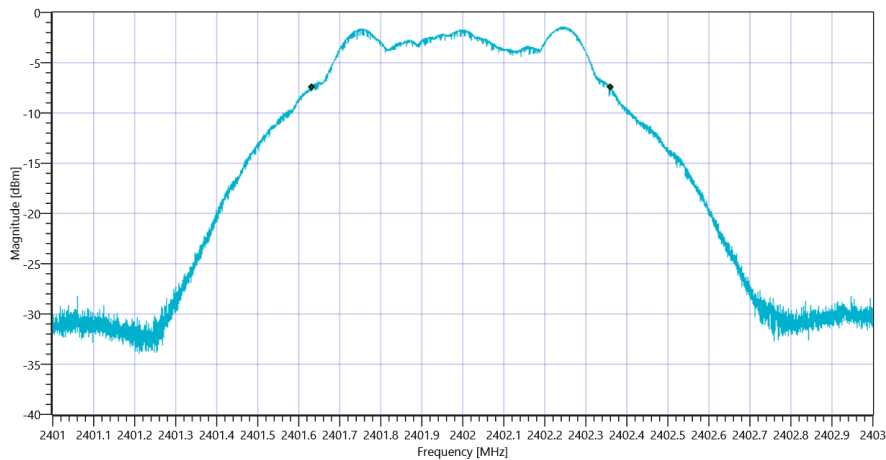
## Test at TX 2402 MHz

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 4.26   10.89   10      |
| Start [MHz]   Stop [MHz]                             | 2401.000   2403.000    |
| RBW [MHz]   VBW [MHz]                                | 0.100000   0.300000    |
| Detector   TraceMode                                 | POS   MAXH             |
| Sweep: Time [ms]   Count   Points per Section   Type | 50   200   10001   SWE |

### DTS Bandwidth

| Test Description    | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|---------------------|-------------|-------------|----------|------|---------|
| DTS Bandwidth (6dB) | ---         | ---         | 730      | kHz  | INFO    |



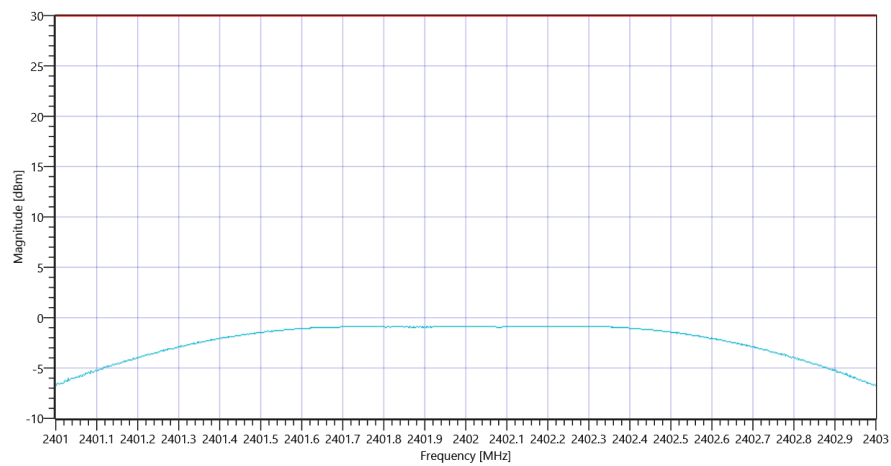
Plot\_FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ BT LE 1 Msps DTS BW\_16112020\_143950.png

### READ SA SETTINGS:

|                                                      |                       |
|------------------------------------------------------|-----------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 9.26   10.89   15     |
| Start [MHz]   Stop [MHz]                             | 2401.000   2403.000   |
| RBW [MHz]   VBW [MHz]                                | 1.000000   5.000000   |
| Detector   TraceMode                                 | POS   MAXH            |
| Sweep: Time [ms]   Count   Points per Section   Type | 50   200   1001   SWE |

### RESULT

| Test Description  | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------|-------------|-------------|----------|------|---------|
| Peak Power        | ---         | 30.00       | -0.85    | dBm  | PASS    |
| Peak Power        | ---         | 1000        | 0.822243 | mW   | PASS    |
| Frequency at Peak | ---         | ---         | 2402.254 | MHz  | INFO    |



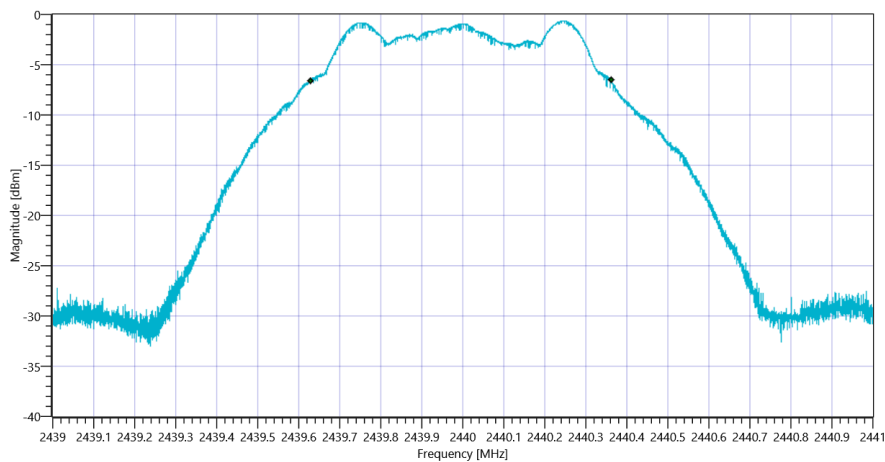
Plot\_FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ BT LE 1 Msps\_16112020\_144005.png

## Test at TX 2440 MHz

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 5.13   10.9   10       |
| Start [MHz]   Stop [MHz]                             | 2439.000   2441.000    |
| RBW [MHz]   VBW [MHz]                                | 0.100000   0.300000    |
| Detector   TraceMode                                 | POS   MAXH             |
| Sweep: Time [ms]   Count   Points per Section   Type | 50   200   10001   SWE |

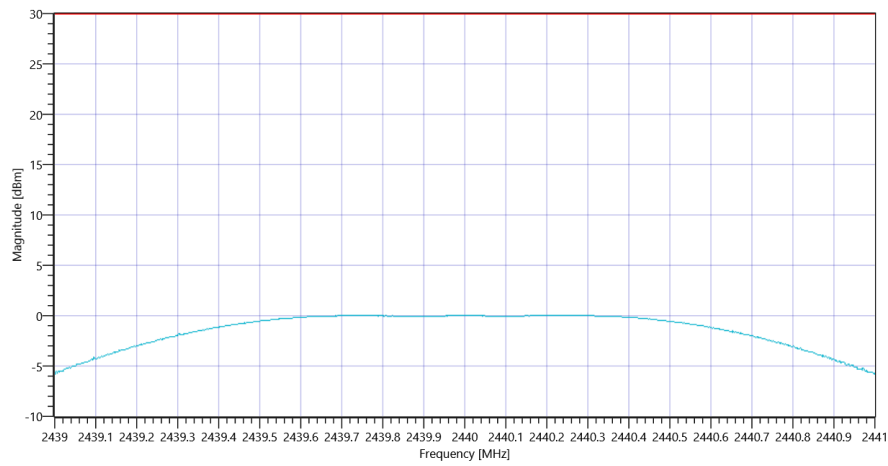
| DTS Bandwidth       |             |             |          |      |         |
|---------------------|-------------|-------------|----------|------|---------|
| Test Description    | Lower Limit | Upper Limit | Measured | Unit | Verdict |
| DTS Bandwidth (6dB) | ---         | ---         | 733      | kHz  | INFO    |



### READ SA SETTINGS:

|                                                      |                       |
|------------------------------------------------------|-----------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 10.13   10.9   15     |
| Start [MHz]   Stop [MHz]                             | 2439.000   2441.000   |
| RBW [MHz]   VBW [MHz]                                | 1.000000   5.000000   |
| Detector   TraceMode                                 | POS   MAXH            |
| Sweep: Time [ms]   Count   Points per Section   Type | 50   200   1001   SWE |

| RESULT            |             |             |          |      |         |
|-------------------|-------------|-------------|----------|------|---------|
| Test Description  | Lower Limit | Upper Limit | Measured | Unit | Verdict |
| Peak Power        | ---         | 30.00       | 0.01     | dBm  | PASS    |
| Peak Power        | ---         | 1000        | 1.002305 | mW   | PASS    |
| Frequency at Peak | ---         | ---         | 2440.236 | MHz  | INFO    |



Plot\_FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ BT LE 1 Msps\_16112020\_144101.png



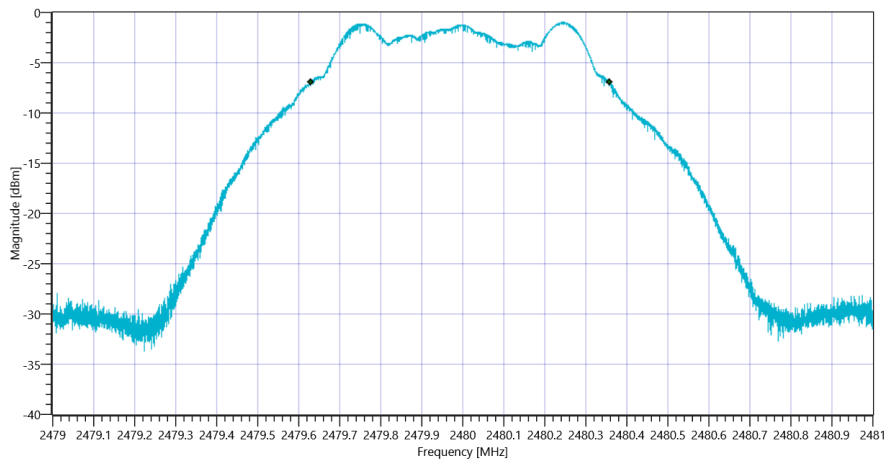
## Test at TX 2480 MHz

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 4.81   10.95   10      |
| Start [MHz]   Stop [MHz]                             | 2479.000   2481.000    |
| RBW [MHz]   VBW [MHz]                                | 0.100000   0.300000    |
| Detector   TraceMode                                 | POS   MAXH             |
| Sweep: Time [ms]   Count   Points per Section   Type | 50   200   10001   SWE |

### DTS Bandwidth

| Test Description    | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|---------------------|-------------|-------------|----------|------|---------|
| DTS Bandwidth (6dB) | ---         | ---         | 729      | kHz  | INFO    |



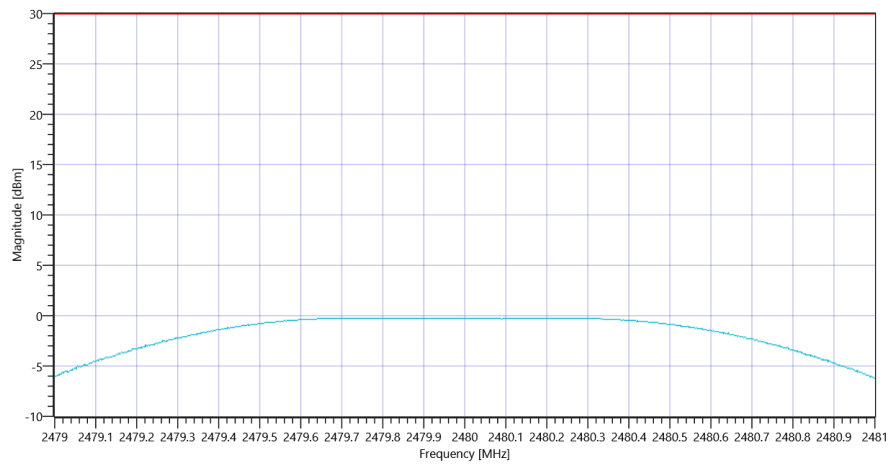
Plot\_FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ BT LE 1 Msps DTS BW\_16112020\_144140.png

### READ SA SETTINGS:

|                                                      |                       |
|------------------------------------------------------|-----------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 9.81   10.95   15     |
| Start [MHz]   Stop [MHz]                             | 2479.000   2481.000   |
| RBW [MHz]   VBW [MHz]                                | 1.000000   5.000000   |
| Detector   TraceMode                                 | POS   MAXH            |
| Sweep: Time [ms]   Count   Points per Section   Type | 50   200   1001   SWE |

### RESULT

| Test Description  | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------|-------------|-------------|----------|------|---------|
| Peak Power        | ---         | 30.00       | -0.24    | dBm  | PASS    |
| Peak Power        | ---         | 1000        | 0.946237 | mW   | PASS    |
| Frequency at Peak | ---         | ---         | 2479.756 | MHz  | INFO    |



Plot\_FCC Part 15.247 Maximum Peak Conducted Output Power DTS ~ BT LE 1 Msps\_16112020\_144156.png

TEST FINISHED

General Verdict

16.11.2020 14:41:56 / RT: 154 s

PASS

## 2. FCC Part 15.247 Bandwidth 6dB DTS ~ BT LE 1 Msps

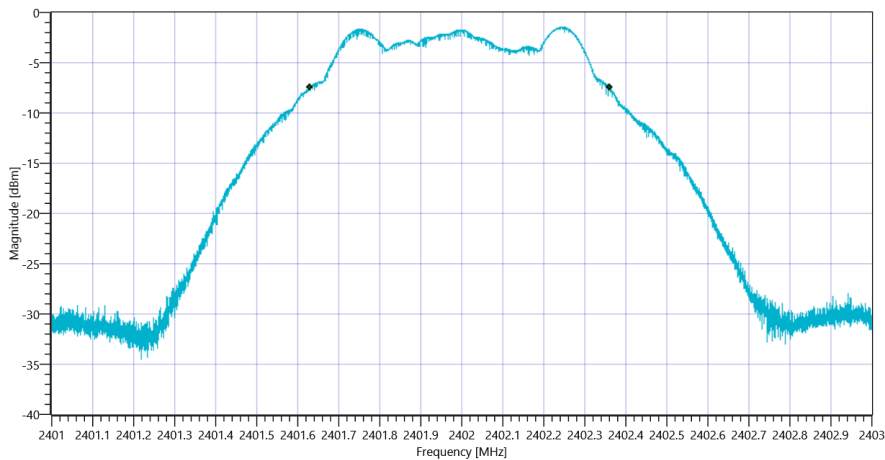
| Test References                   |                                                     |
|-----------------------------------|-----------------------------------------------------|
| TC Start                          | 16.11.2020 14:42:00                                 |
| Ambit Temp [°C]   Humidity [rel%] | 23.2   40                                           |
| System Version                    | 1.0.1.2                                             |
| Test Specification                | FCC Part 15.247                                     |
| Test Method                       | 99                                                  |
| Class / TC Version                | TC_VM_FCC15247_Bandwidth_6dB_DTS_V01 Version: 0.0.1 |
| My Description                    | FCC 15.247 Bandwidth 6DB DTS - BT LE 1 Msps         |
| Add. Information                  |                                                     |

| Test Parameter         |                                                                                                             |
|------------------------|-------------------------------------------------------------------------------------------------------------|
| Technology to test     | BT LE 1 Msps                                                                                                |
| Antenna Port used      | 1                                                                                                           |
| Temperature            | mid                                                                                                         |
| Voltage                | mid                                                                                                         |
| Frequency low to test  | True   Freq [MHz] 2402                                                                                      |
| Frequency mid to test  | True   Freq [MHz] 2440                                                                                      |
| Frequency high to test | True   Freq [MHz] 2480                                                                                      |
| Switched Path          | IUT - SignalingUnit - SpectrumAnalyzer                                                                      |
| Devices in use         | SigBT: Rohde&Schwarz,CMW,1201.0002k75/100683,3.7.170   SA:<br>Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.60 |

Test at TX 2402 MHz

| READ SA SETTINGS:                                    |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 4.34   10.89   10      |
| Start [MHz]   Stop [MHz]                             | 2401.000   2403.000    |
| RBW [MHz]   VBW [MHz]                                | 0.100000   0.300000    |
| Detector   TraceMode                                 | POS   MAXH             |
| Sweep: Time [ms]   Count   Points per Section   Type | 50   200   10001   SWE |

| RESULT              |             |             |          |      |         |
|---------------------|-------------|-------------|----------|------|---------|
| Test Description    | Lower Limit | Upper Limit | Measured | Unit | Verdict |
| DTS Bandwidth (6dB) | 500         | ---         | 730      | kHz  | PASS    |

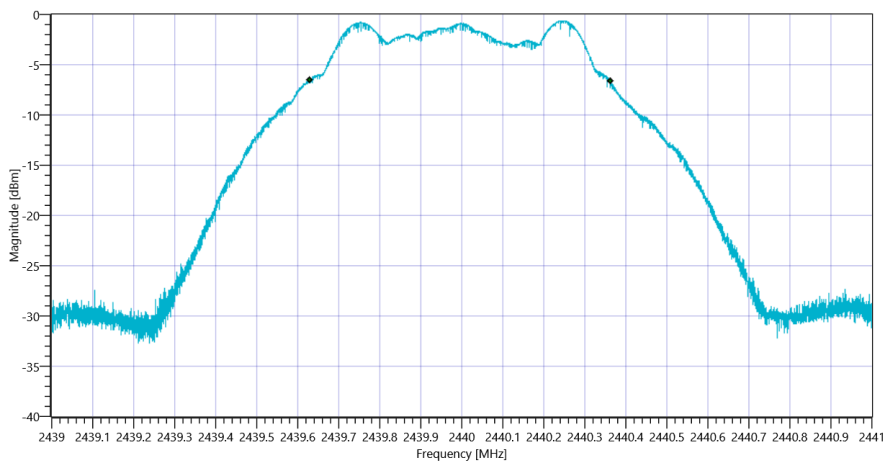


Plot\_FCC Part 15.247 Bandwidth 6dB DTS ~ BT LE 1 Msps\_16112020\_144237.png

Test at TX 2440 MHz

| READ SA SETTINGS:                                    |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 5.14   10.9   10       |
| Start [MHz]   Stop [MHz]                             | 2439.000   2441.000    |
| RBW [MHz]   VBW [MHz]                                | 0.100000   0.300000    |
| Detector   TraceMode                                 | POS   MAXH             |
| Sweep: Time [ms]   Count   Points per Section   Type | 50   200   10001   SWE |

| RESULT              |             |             |          |      |         |
|---------------------|-------------|-------------|----------|------|---------|
| Test Description    | Lower Limit | Upper Limit | Measured | Unit | Verdict |
| DTS Bandwidth (6dB) | 500         | ---         | 733      | kHz  | PASS    |



Plot\_FCC Part 15.247 Bandwidth 6dB DTS ~ BT LE 1 Msps\_16112020\_144315.png

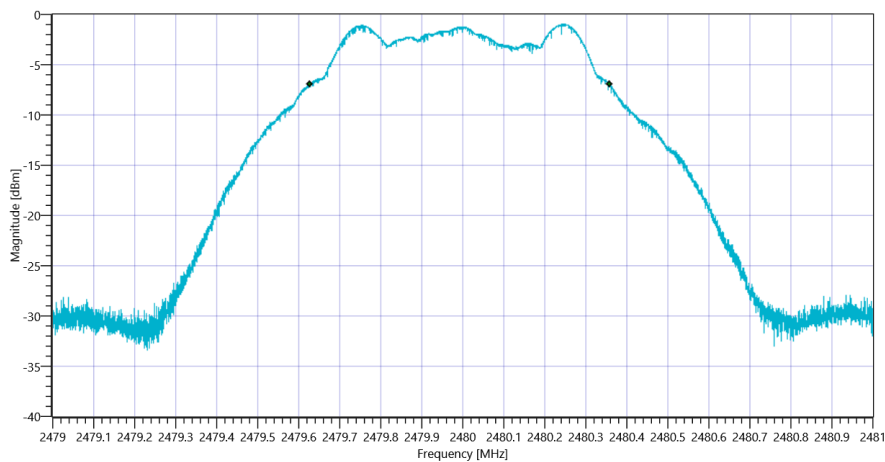
## Test at TX 2480 MHz

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 4.85   10.95   10      |
| Start [MHz]   Stop [MHz]                             | 2479.000   2481.000    |
| RBW [MHz]   VBW [MHz]                                | 0.100000   0.300000    |
| Detector   TraceMode                                 | POS   MAXH             |
| Sweep: Time [ms]   Count   Points per Section   Type | 50   200   10001   SWE |

### RESULT

| Test Description    | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|---------------------|-------------|-------------|----------|------|---------|
| DTS Bandwidth (6dB) | 500         | ---         | 732      | kHz  | PASS    |



### TEST FINISHED

|                 |                                 |      |
|-----------------|---------------------------------|------|
| General Verdict | 16.11.2020 14:43:56 / RT: 116 s | PASS |
|-----------------|---------------------------------|------|

### 3. FCC Part 15.247 Peak Power Spectral Density DTS ~ BT LE 1 Msps

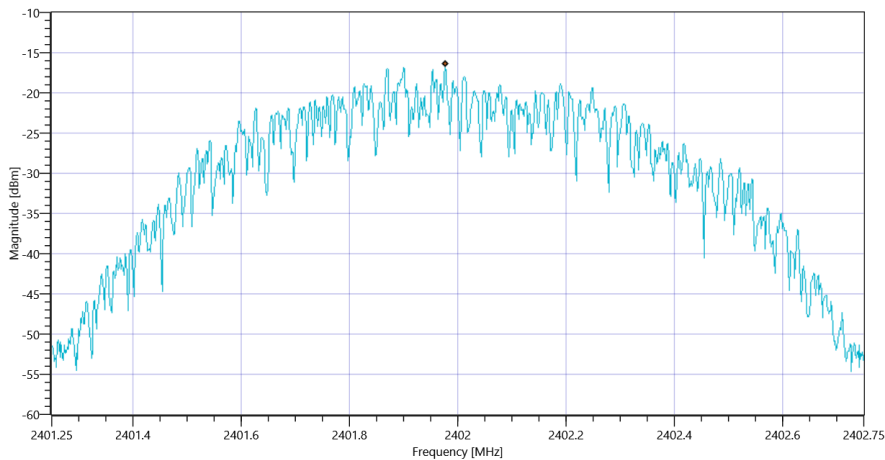
| Test References                   |                                                                                                            |
|-----------------------------------|------------------------------------------------------------------------------------------------------------|
| TC Start                          | 16.11.2020 14:44:01                                                                                        |
| Ambit Temp [°C]   Humidity [rel%] | 23.2   40                                                                                                  |
| System Version                    | 1.0.1.2                                                                                                    |
| Test Specification                | FCC Part 15.247                                                                                            |
| Test Method                       | DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission |
| Class / TC Version                | TC_VM_FCC15247_Peak_Power_Spectral_Density_DTS_V01 Version: 0.0.1                                          |
| My Description                    | FCC 15.247 Peak Power Spectral Density DTS - BT LE 1 Msps                                                  |
| Add. Information                  |                                                                                                            |

| Test Parameter         |                                                                                                          |
|------------------------|----------------------------------------------------------------------------------------------------------|
| Technology to test     | BT LE 1 Msps                                                                                             |
| Antenna Port used      | 1                                                                                                        |
| Temperature            | mid                                                                                                      |
| Voltage                | mid                                                                                                      |
| Frequency low to test  | True   Freq [MHz] 2402                                                                                   |
| Frequency mid to test  | True   Freq [MHz] 2440                                                                                   |
| Frequency high to test | True   Freq [MHz] 2480                                                                                   |
| Switched Path          | IUT - SignalingUnit - SpectrumAnalyzer                                                                   |
| Devices in use         | SigBT: Rohde&Schwarz,CMW,1201.0002k75/100683,3.7.170   SA: Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.60 |

Test at TX 2402 MHz

| READ SA SETTINGS:                                    |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 4.28   10.89   10      |
| Start [MHz]   Stop [MHz]                             | 2401.250   2402.750    |
| RBW [MHz]   VBW [MHz]                                | 0.003000   0.010000    |
| Detector   TraceMode                                 | POS   MAXH             |
| Sweep: Time [ms]   Count   Points per Section   Type | 1000   20   1001   SWE |

| RESULT                 |             |             |          |          |         |
|------------------------|-------------|-------------|----------|----------|---------|
| Test Description       | Lower Limit | Upper Limit | Measured | Unit     | Verdict |
| Max Peak power Density | ---         | 8           | -16.37   | dBm/3KHz | PASS    |



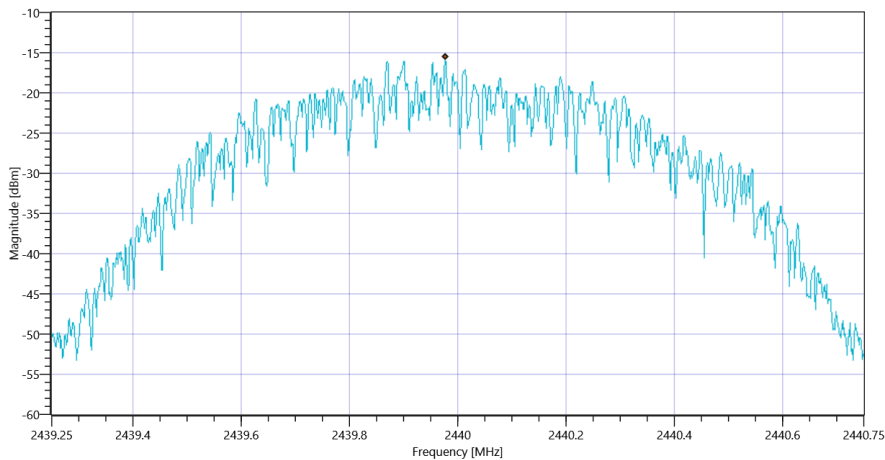
Plot\_FCC Part 15.247 Peak Power Spectral Density DTS ~ BT LE 1 Msps\_16112020\_144449.png



Test at TX 2440 MHz

|                                                      |  |  |                        |  |  |
|------------------------------------------------------|--|--|------------------------|--|--|
| READ SA SETTINGS:                                    |  |  |                        |  |  |
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   |  |  | 5.22   10.9   10       |  |  |
| Start [MHz]   Stop [MHz]                             |  |  | 2439.250   2440.750    |  |  |
| RBW [MHz]   VBW [MHz]                                |  |  | 0.003000   0.010000    |  |  |
| Detector   TraceMode                                 |  |  | POS   MAXH             |  |  |
| Sweep: Time [ms]   Count   Points per Section   Type |  |  | 1000   20   1001   SWE |  |  |

| RESULT                 |             |             |          |          |         |
|------------------------|-------------|-------------|----------|----------|---------|
| Test Description       | Lower Limit | Upper Limit | Measured | Unit     | Verdict |
| Max Peak power Density | ---         | 8           | -15.49   | dBm/3KHz | PASS    |



Plot\_FCC Part 15.247 Peak Power Spectral Density DTS ~ BT LE 1 Msps\_16112020\_144539.png

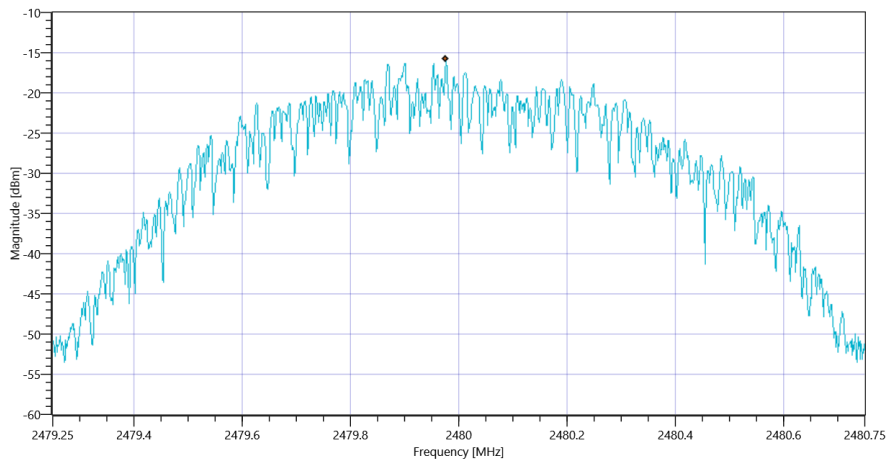
## Test at TX 2480 MHz

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 4.88   10.95   10      |
| Start [MHz]   Stop [MHz]                             | 2479.250   2480.750    |
| RBW [MHz]   VBW [MHz]                                | 0.003000   0.010000    |
| Detector   TraceMode                                 | POS   MAXH             |
| Sweep: Time [ms]   Count   Points per Section   Type | 1000   20   1001   SWE |

### RESULT

| Test Description       | Lower Limit | Upper Limit | Measured | Unit     | Verdict |
|------------------------|-------------|-------------|----------|----------|---------|
| Max Peak power Density | ---         | 8           | -15.83   | dBm/3KHz | PASS    |



### TEST FINISHED

|                 |                                 |      |
|-----------------|---------------------------------|------|
| General Verdict | 16.11.2020 14:46:26 / RT: 145 s | PASS |
|-----------------|---------------------------------|------|

## 4. FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps

| Test References                   |                                                                 |
|-----------------------------------|-----------------------------------------------------------------|
| TC Start                          | 16.11.2020 14:46:30                                             |
| Ambit Temp [°C]   Humidity [rel%] | 23.2   40                                                       |
| System Version                    | 1.0.1.2                                                         |
| Test Specification                | FCC Part 15.247                                                 |
| Test Method                       |                                                                 |
| Class / TC Version                | TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01 Version: 0.0.2 |
| My Description                    | FCC 15.247 Bandwidth 99PCT-20DB DTS - BT LE 1 Msps              |
| Add. Information                  |                                                                 |

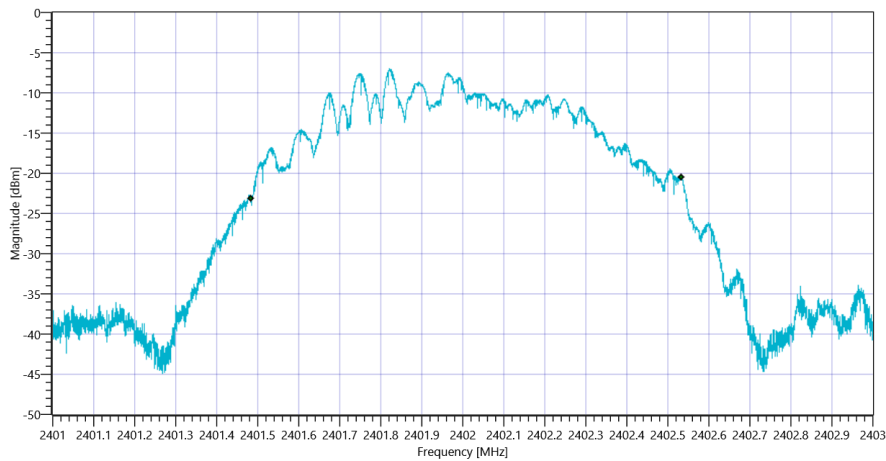
| Test Parameter         |                                                                                                          |
|------------------------|----------------------------------------------------------------------------------------------------------|
| Technology to test     | BT LE 1 Msps                                                                                             |
| Antenna Port used      | 1                                                                                                        |
| Temperature            | mid                                                                                                      |
| Voltage                | mid                                                                                                      |
| Frequency low to test  | True   Freq [MHz] 2402                                                                                   |
| Frequency mid to test  | True   Freq [MHz] 2440                                                                                   |
| Frequency high to test | True   Freq [MHz] 2480                                                                                   |
| Switched Path          | IUT - SignalingUnit - SpectrumAnalyzer                                                                   |
| Devices in use         | SigBT: Rohde&Schwarz,CMW,1201.0002k75/100683,3.7.170   SA: Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.60 |

## Test at TX 2402 MHz

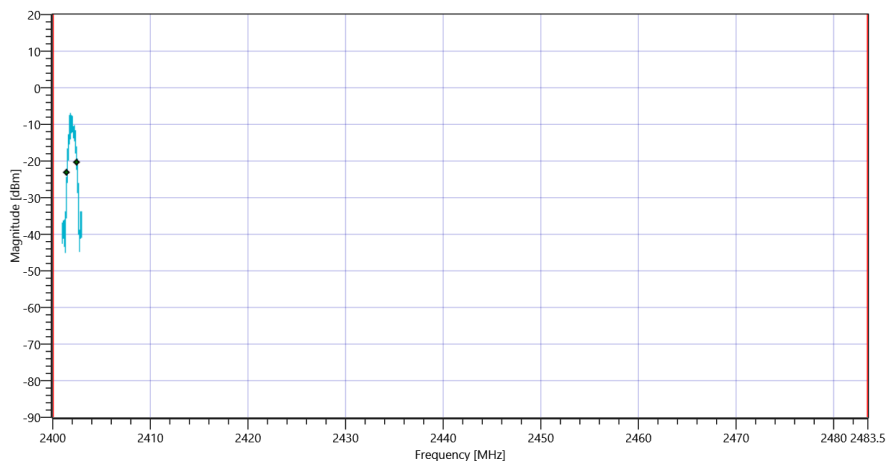
### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 4.33   10.89   10      |
| Start [MHz]   Stop [MHz]                             | 2401.000   2403.000    |
| RBW [MHz]   VBW [MHz]                                | 0.020000   0.100000    |
| Detector   TraceMode                                 | POS   MAXH             |
| Sweep: Time [ms]   Count   Points per Section   Type | 50   200   10001   SWE |

| RESULT           |             |             |           |      |         |
|------------------|-------------|-------------|-----------|------|---------|
| Test Description | Lower Limit | Upper Limit | Measured  | Unit | Verdict |
| Bandwidth 99%    | ---         | ---         | 1049      | kHz  | INFO    |
| T1 99%           | 2400.000000 | ---         | 2401.4843 | MHz  | PASS    |
| T2 99%           | ---         | 2483.500000 | 2402.5333 | MHz  | PASS    |

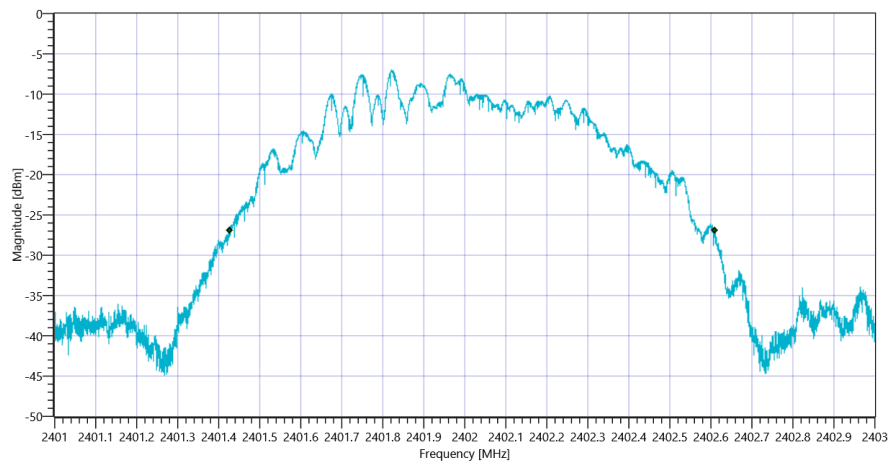


Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps 99PCT\_16112020\_144711.png

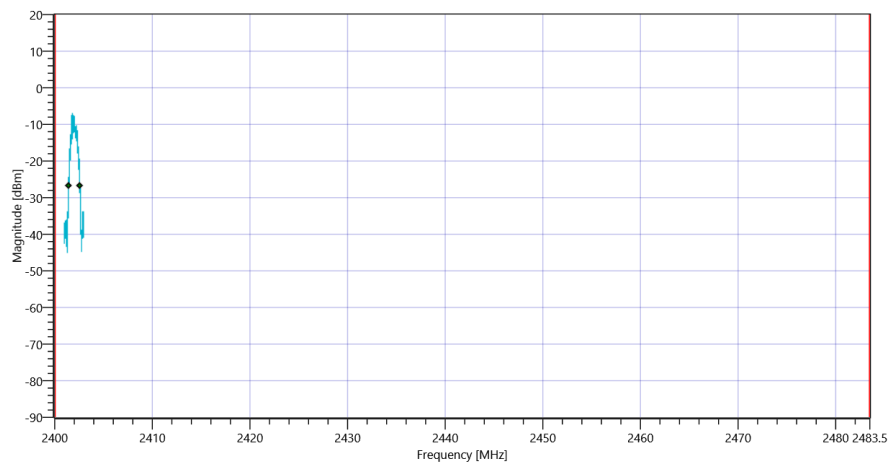


Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps\_16112020\_144714.png

| RESULT           |             |             |           |      |         |
|------------------|-------------|-------------|-----------|------|---------|
| Test Description | Lower Limit | Upper Limit | Measured  | Unit | Verdict |
| Bandwidth 20dB   | ---         | ---         | 1183      | kHz  | INFO    |
| T1 20dB          | 2400.000000 | ---         | 2401.4262 | MHz  | PASS    |
| T2 20dB          | ---         | 2483.500000 | 2402.6094 | MHz  | PASS    |



Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps 20dB\_16112020\_144719.png



Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps\_16112020\_144722.png

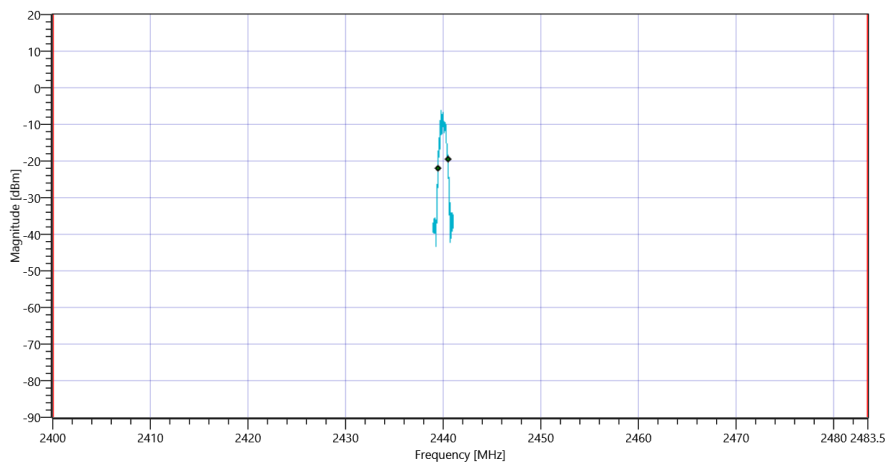
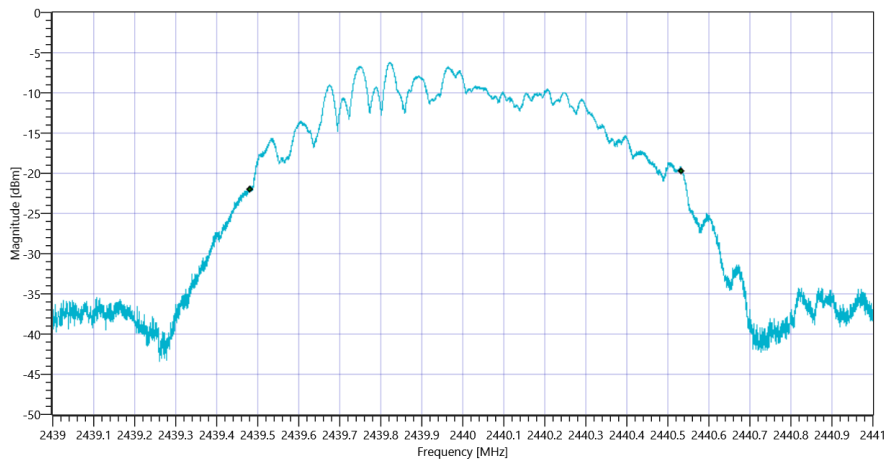
## Test at TX 2440 MHz

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 5.21   10.9   10       |
| Start [MHz]   Stop [MHz]                             | 2439.000   2441.000    |
| RBW [MHz]   VBW [MHz]                                | 0.020000   0.100000    |
| Detector   TraceMode                                 | POS   MAXH             |
| Sweep: Time [ms]   Count   Points per Section   Type | 50   200   10001   SWE |

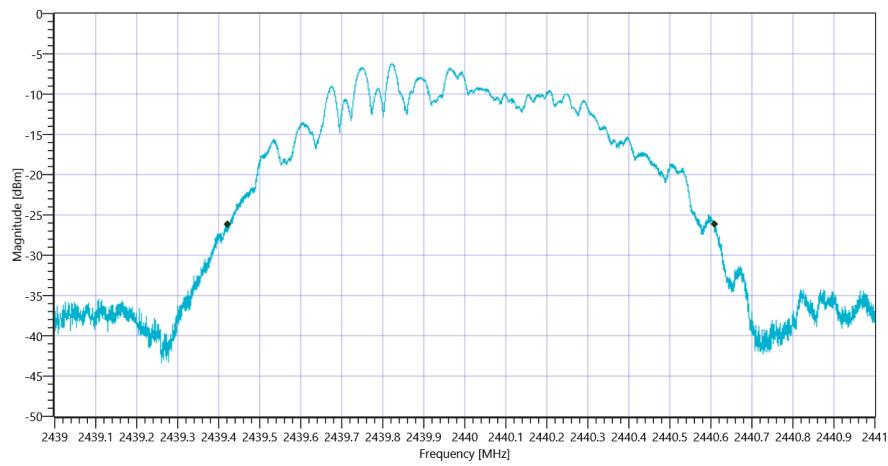
### RESULT

| Test Description | Lower Limit | Upper Limit | Measured  | Unit | Verdict |
|------------------|-------------|-------------|-----------|------|---------|
| Bandwidth 99%    | ---         | ---         | 1054      | kHz  | INFO    |
| T1 99%           | 2400.000000 | ---         | 2439.4805 | MHz  | PASS    |
| T2 99%           | ---         | 2483.500000 | 2440.5345 | MHz  | PASS    |

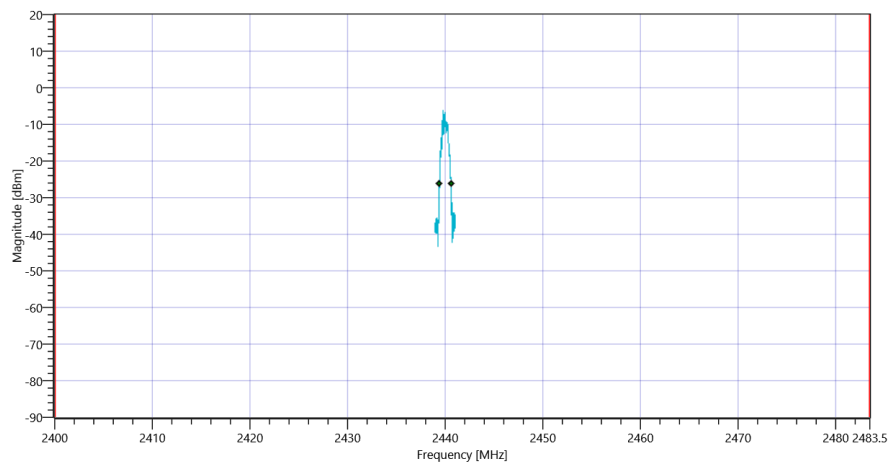


### RESULT

| Test Description | Lower Limit | Upper Limit | Measured  | Unit | Verdict |
|------------------|-------------|-------------|-----------|------|---------|
| Bandwidth 20dB   | ---         | ---         | 1187      | kHz  | INFO    |
| T1 20dB          | 2400.000000 | ---         | 2439.4220 | MHz  | PASS    |
| T2 20dB          | ---         | 2483.500000 | 2440.6092 | MHz  | PASS    |



Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps 20dB\_16112020\_144812.png



Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps\_16112020\_144815.png

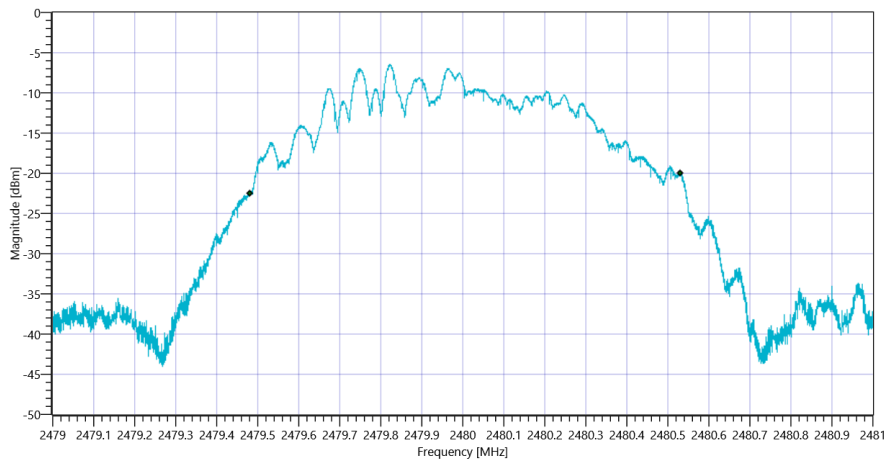
## Test at TX 2480 MHz

### READ SA SETTINGS:

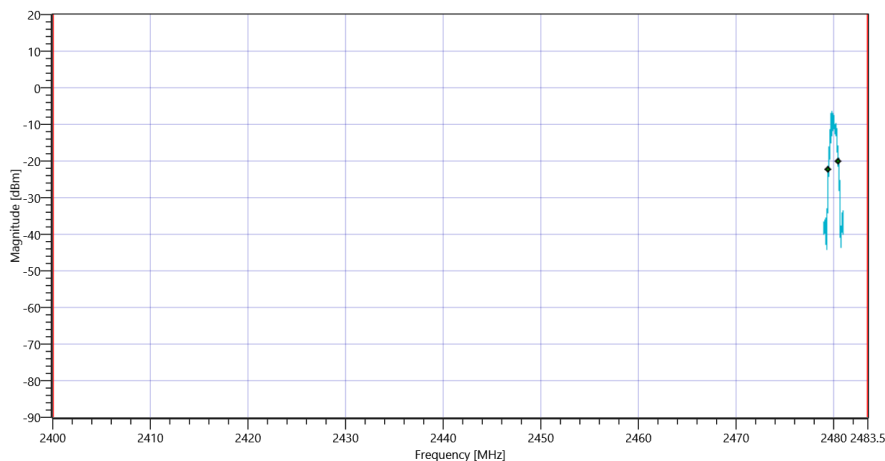
|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 4.83   10.95   10      |
| Start [MHz]   Stop [MHz]                             | 2479.000   2481.000    |
| RBW [MHz]   VBW [MHz]                                | 0.020000   0.100000    |
| Detector   TraceMode                                 | POS   MAXH             |
| Sweep: Time [ms]   Count   Points per Section   Type | 50   200   10001   SWE |

### RESULT

| Test Description | Lower Limit | Upper Limit | Measured  | Unit | Verdict |
|------------------|-------------|-------------|-----------|------|---------|
| Bandwidth 99%    | ---         | ---         | 1049      | kHz  | INFO    |
| T1 99%           | 2400.000000 | ---         | 2479.4827 | MHz  | PASS    |
| T2 99%           | ---         | 2483.500000 | 2480.5317 | MHz  | PASS    |



Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps 99PCT\_16112020\_144856.png

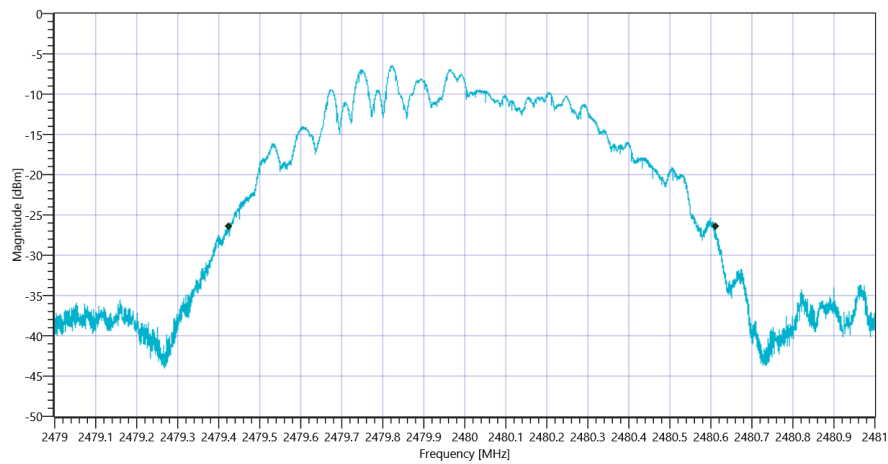


Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps\_16112020\_144900.png

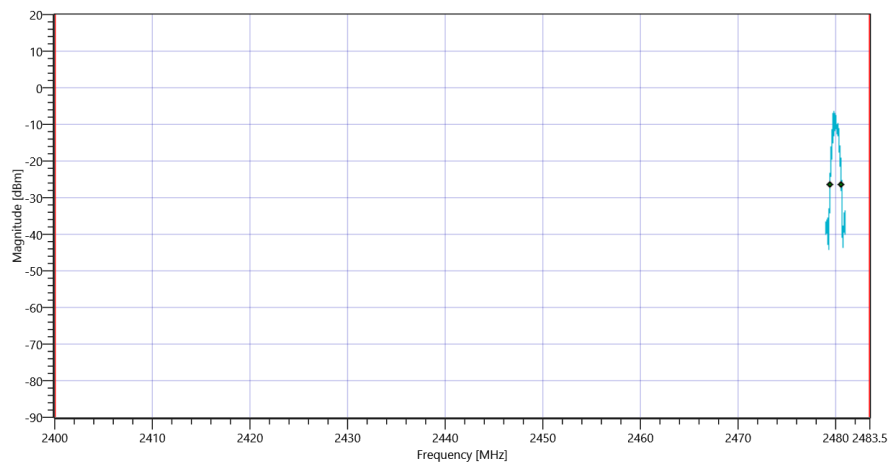
### RESULT

| Test Description | Lower Limit | Upper Limit | Measured  | Unit | Verdict |
|------------------|-------------|-------------|-----------|------|---------|
| Bandwidth 20dB   | ---         | ---         | 1187      | kHz  | INFO    |
| T1 20dB          | 2400.000000 | ---         | 2479.4252 | MHz  | PASS    |
| T2 20dB          | ---         | 2483.500000 | 2480.6118 | MHz  | PASS    |





Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps 20dB\_16112020\_144905.png



Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ BT LE 1 Msps\_16112020\_144908.png

TEST FINISHED

General Verdict

16.11.2020 14:49:09 / RT: 158 s

PASS

## 5. FCC Part 15.247 TX Spurious Conducted ~ BT LE 1 Msp

| Test References                   |                                                                                                                |
|-----------------------------------|----------------------------------------------------------------------------------------------------------------|
| TC Start                          | 16.11.2020 16:08:54                                                                                            |
| Ambit Temp [°C]   Humidity [rel%] | 23.5   39                                                                                                      |
| System Version                    | 1.0.1.2                                                                                                        |
| Test Specification                | FCC Part 15.247                                                                                                |
| Test Method                       | IF DTS then 8.5 DTS emissions in non-restricted frequency bands: Subclause 11.11 of ANSI C63.10 is applicable. |
| Class / TC Version                | TC_VM_FCC15247_TX_Emissions_Conducted_V01 Version: 0.0.1                                                       |
| My Description                    | FCC 15.247 TX Emissions Conducted DTS - BT LE 1 Msp                                                            |
| Add. Information                  |                                                                                                                |

| Test Parameter         |                                                                                                          |
|------------------------|----------------------------------------------------------------------------------------------------------|
| Technology to test     | BT LE 1 Msp                                                                                              |
| Antenna Port used      | 1                                                                                                        |
| Temperature            | mid                                                                                                      |
| Voltage                | mid                                                                                                      |
| Frequency low to test  | True   Freq [MHz] 2402                                                                                   |
| Frequency mid to test  | True   Freq [MHz] 2440                                                                                   |
| Frequency high to test | True   Freq [MHz] 2480                                                                                   |
| Switched Path          | IUT - SignalingUnit - SpectrumAnalyzer                                                                   |
| Devices in use         | SigBT: Rohde&Schwarz,CMW,1201.0002k75/100683,3.7.170   SA: Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.60 |

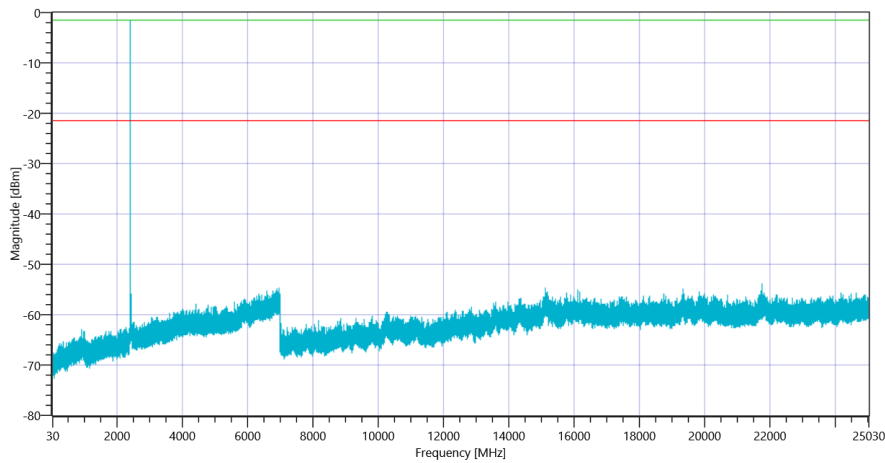
## Test at TX 2402 MHz

### READ SA SETTINGS:

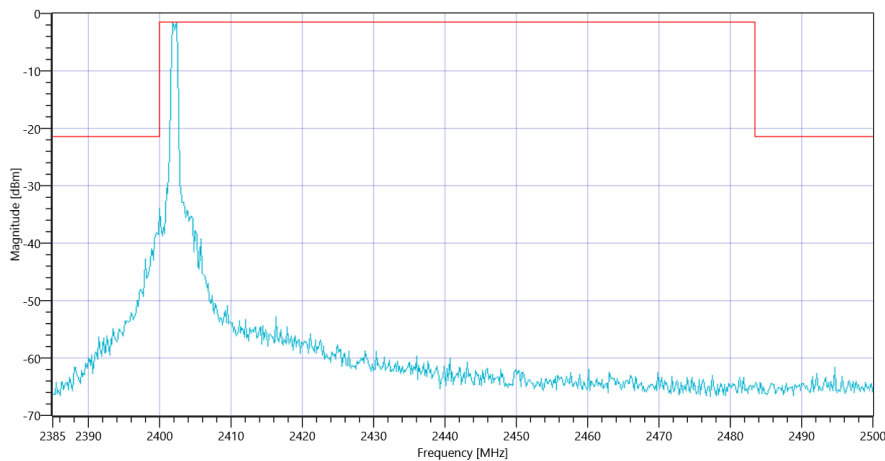
|                                                      |                       |
|------------------------------------------------------|-----------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | -0.49   0   15        |
| Start [MHz]   Stop [MHz]                             | 24530.000   25030.000 |
| RBW [MHz]   VBW [MHz]                                | 0.100000   0.300000   |
| Detector   TraceMode                                 | POS   MAXH            |
| Sweep: Time [ms]   Count   Points per Section   Type | 500   8   3001   SWE  |

### RESULT

| Test Description                  | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-----------------------------------|-------------|-------------|----------|------|---------|
| Reference @ 2402.33 MHz           | ---         | ---         | -1.48    | dBm  | INFO    |
| No peaks detected                 | ---         | ---         |          |      | PASS    |
| Lowest margin to limit 2399.5 MHz | 0           | ---         | 16.63    | dB   | INFO    |



Plot\_FCC Part 15.247 TX Spurious Conducted ~ BT LE 1 Msps 2402\_16112020\_161342.png



Plot\_FCC Part 15.247 TX Spurious Conducted ~ BT LE 1 Msps 2402\_16112020\_161345.png

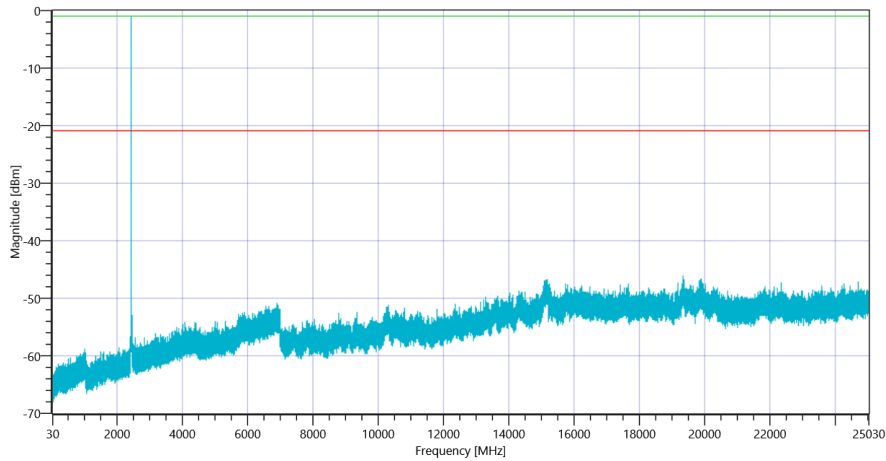
## Test at TX 2440 MHz

### READ SA SETTINGS:

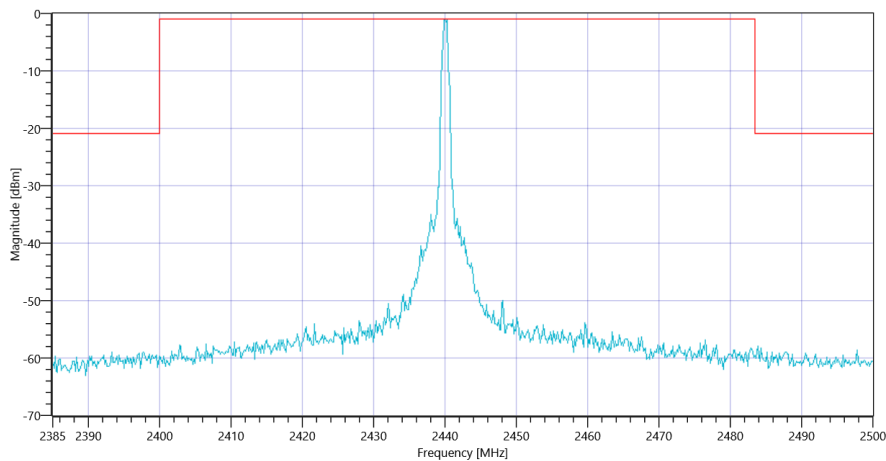
|                                                      |                       |
|------------------------------------------------------|-----------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 0.35   0   20         |
| Start [MHz]   Stop [MHz]                             | 24530.000   25030.000 |
| RBW [MHz]   VBW [MHz]                                | 0.100000   0.300000   |
| Detector   TraceMode                                 | POS   MAXH            |
| Sweep: Time [ms]   Count   Points per Section   Type | 500   8   3001   SWE  |

### RESULT

| Test Description                 | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|----------------------------------|-------------|-------------|----------|------|---------|
| Reference @ 2440.00 MHz          | ---         | ---         | -0.98    | dBm  | INFO    |
| No peaks detected                | ---         | ---         |          |      | PASS    |
| Lowest margin to limit 19340 MHz | 0           | ---         | 25.17    | dB   | INFO    |



Plot\_FCC Part 15.247 TX Spurious Conducted ~ BT LE 1 Msps 2440\_16112020\_161903.png



Plot\_FCC Part 15.247 TX Spurious Conducted ~ BT LE 1 Msps 2440\_16112020\_161906.png

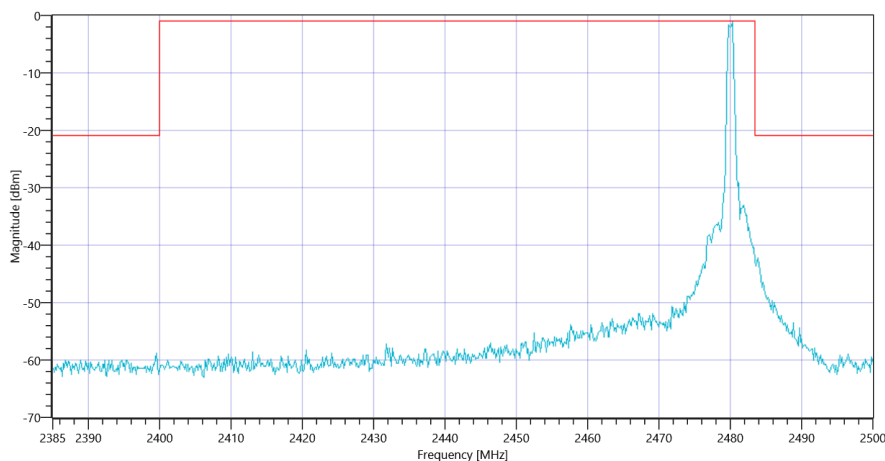
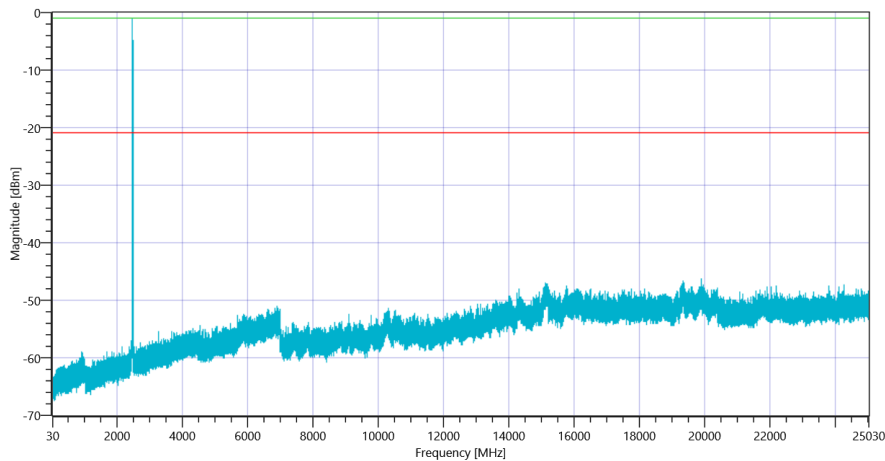
## Test at TX 2480 MHz

### READ SA SETTINGS:

|                                                      |                       |
|------------------------------------------------------|-----------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 0.01   0   20         |
| Start [MHz]   Stop [MHz]                             | 24530.000   25030.000 |
| RBW [MHz]   VBW [MHz]                                | 0.100000   0.300000   |
| Detector   TraceMode                                 | POS   MAXH            |
| Sweep: Time [ms]   Count   Points per Section   Type | 500   8   3001   SWE  |

### RESULT

| Test Description              | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------|-------------|-------------|----------|------|---------|
| Reference @ 2480.33 MHz       | ---         | ---         | -0.90    | dBm  | INFO    |
| No peaks detected             | ---         | ---         |          |      | PASS    |
| Lowest margin to limit 30 MHz | 0           | ---         | -135.4   | dB   | INFO    |



### TEST FINISHED

General Verdict 16.11.2020 16:24:10 / RT: 915 s

PASS

## 6. Common2G4 Peak OP 3MHz/3MHz ~ BT LE 1 Msps

| Test References                   |                                                                          |
|-----------------------------------|--------------------------------------------------------------------------|
| TC Start                          | 16.11.2020 16:24:14                                                      |
| Ambit Temp [°C]   Humidity [rel%] | 23.4   39                                                                |
| System Version                    | 1.0.1.2                                                                  |
| Test Specification                | None                                                                     |
| Test Method                       |                                                                          |
| Class / TC Version                | TC_VM_Common2G4_Peak_Output_Power_Conducted_3MHz_3MHz_V01 Version: 0.0.1 |
| My Description                    | Peak Output Power conducted 3MHz/3MHz - BT LE 1 Msps                     |
| Add. Information                  |                                                                          |

| Test Parameter         |                                                                                                             |
|------------------------|-------------------------------------------------------------------------------------------------------------|
| Technology to test     | BT LE 1 Msps                                                                                                |
| Antenna Port used      | 1                                                                                                           |
| Temperature            | mid                                                                                                         |
| Voltage                | mid                                                                                                         |
| Frequency low to test  | True   Freq [MHz] 2402                                                                                      |
| Frequency mid to test  | True   Freq [MHz] 2440                                                                                      |
| Frequency high to test | True   Freq [MHz] 2480                                                                                      |
| Switched Path          | IUT - SignalingUnit - SpectrumAnalyzer                                                                      |
| Devices in use         | SigBT: Rohde&Schwarz,CMW,1201.0002k75/100683,3.7.170   SA:<br>Rohde&Schwarz,FSV-30,1321.3008K30/103809,3.60 |

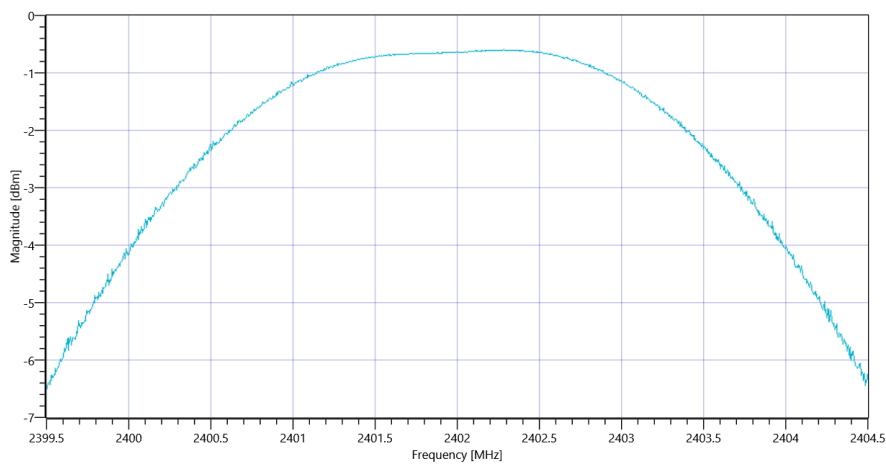
## Test at TX 2402 MHz

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 9.49   10.89   15      |
| Start [MHz]   Stop [MHz]                             | 2399.500   2404.500    |
| RBW [MHz]   VBW [MHz]                                | 3.000000   3.000000    |
| Detector   TraceMode                                 | POS   MAXH             |
| Sweep: Time [ms]   Count   Points per Section   Type | 1000   10   1001   SWE |

### RESULT

| Test Description  | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------|-------------|-------------|----------|------|---------|
| Peak Power        | ---         | ---         | -0.6     | dBm  | Info    |
| Peak Power        | ---         | ---         | 0.870964 | mW   | Info    |
| Frequency at Peak | ---         | ---         | 2402.285 | MHz  | Info    |

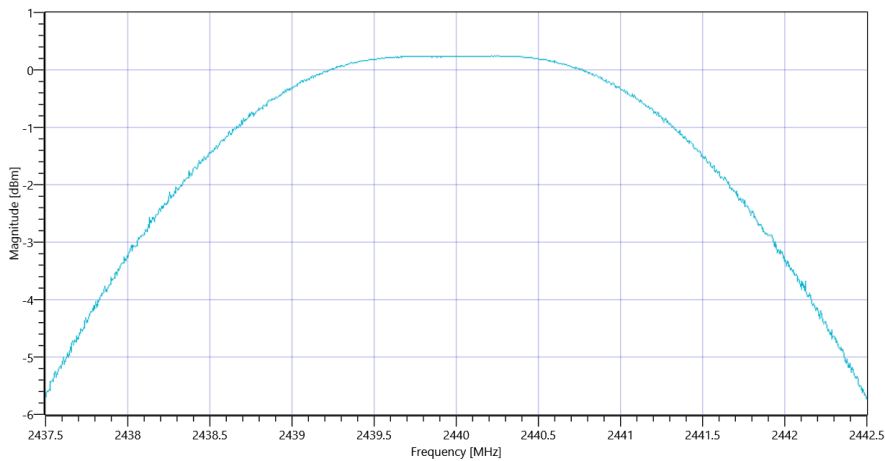


Plot\_Common2G4 Peak OP 3MHz-3MHz ~ BT LE 1 Msps\_16112020\_163232.png

Test at TX 2440 MHz

| READ SA SETTINGS:                                    |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 10.39   10.9   15      |
| Start [MHz]   Stop [MHz]                             | 2437.500   2442.500    |
| RBW [MHz]   VBW [MHz]                                | 3.000000   3.000000    |
| Detector   TraceMode                                 | POS   MAXH             |
| Sweep: Time [ms]   Count   Points per Section   Type | 1000   10   1001   SWE |

| RESULT            |             |             |          |      |         |
|-------------------|-------------|-------------|----------|------|---------|
| Test Description  | Lower Limit | Upper Limit | Measured | Unit | Verdict |
| Peak Power        | ---         | ---         | 0.24     | dBm  | Info    |
| Peak Power        | ---         | ---         | 1.056818 | mW   | Info    |
| Frequency at Peak | ---         | ---         | 2440.26  | MHz  | Info    |



Plot\_Common2G4 Peak OP 3MHz-3MHz ~ BT LE 1 Msps\_16112020\_163308.png



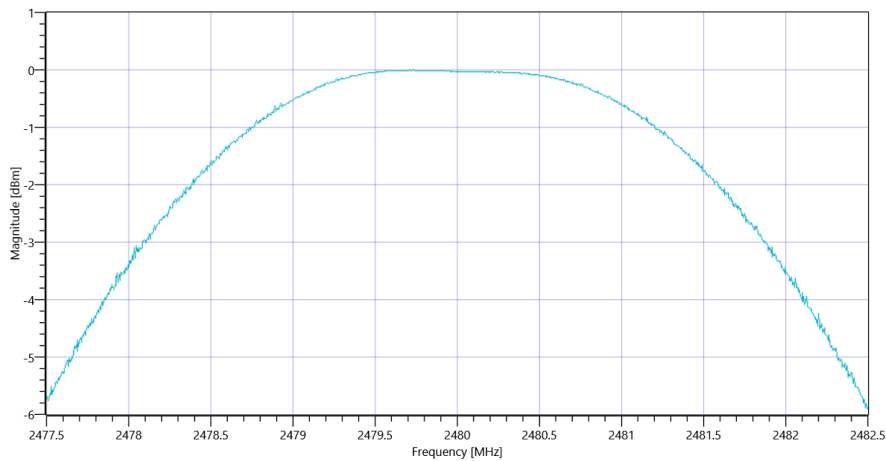
## Test at TX 2480 MHz

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 10.04   10.95   15     |
| Start [MHz]   Stop [MHz]                             | 2477.500   2482.500    |
| RBW [MHz]   VBW [MHz]                                | 3.000000   3.000000    |
| Detector   TraceMode                                 | POS   MAXH             |
| Sweep: Time [ms]   Count   Points per Section   Type | 1000   10   1001   SWE |

### RESULT

| Test Description  | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------|-------------|-------------|----------|------|---------|
| Peak Power        | ---         | ---         | 0        | dBm  | Info    |
| Peak Power        | ---         | ---         | 1        | mW   | Info    |
| Frequency at Peak | ---         | ---         | 2479.71  | MHz  | Info    |



Plot\_Common2G4 Peak OP 3MHz-3MHz ~ BT LE 1 Msps\_16112020\_163343.png

### TEST FINISHED

General Verdict 16.11.2020 16:33:43 / RT: 568 s

PASS

- END OF DOCUMENT -