

# Measurements Results

No.1-4221/22-01-09\_Annex\_MR

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## Test logging

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

### Test References

|                                   |                                             |
|-----------------------------------|---------------------------------------------|
| TC Start                          | 24.04.2023 14:22:10                         |
| Ambit Temp [°C]   Humidity [rel%] | 27.4   29                                   |
| System Version                    | 4.0.0.5                                     |
| Test Specification                | FCC 15.247 -                                |
| Test Method                       |                                             |
| TC Version                        | 0.0.1                                       |
| My Description                    | FCC 15.247 Bandwidth 6dB DTS - BT LE 1 Msps |
| Add. Information                  |                                             |

### EUT 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 255   RXpayload 255             |
| 2 Mbps supported                         | True   TXpayload 255   RXpayload 255             |
| Longrange S8 supported                   | True   TXpayload 255   RXpayload 255             |
| Longrange S2 supported                   | True   TXpayload 255   RXpayload 255             |
| Signaling Settings                       | None   HCI   39   115200   None   S1   None   On |
| Signaling RF Settings                    | RF1com   0   0   On                              |
| User Interaction                         | No                                               |
| Switch Matrix & Pathcompensation enabled | Yes                                              |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | BT LE 1 Msps                           |
| Antenna Port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | True   Freq [MHz] 2402                 |
| Frequency mid to test                            | False   Freq [MHz] 2440                |
| Frequency high to test                           | False   Freq [MHz] 2480                |
| Auto Control enabled Power Supply   Climatic Box | No   No                                |
| Additional Path Loss [dB]                        | 0.7                                    |
| Switched Path                                    | EUT - SignalingUnit - SpectrumAnalyzer |

### Test Equipment

|                                                               |
|---------------------------------------------------------------|
| Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60 |
|---------------------------------------------------------------|

## Test Equipment

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Switch matrix, CTCadvanced, RSM-1 NI DAQ, 31534892, NI

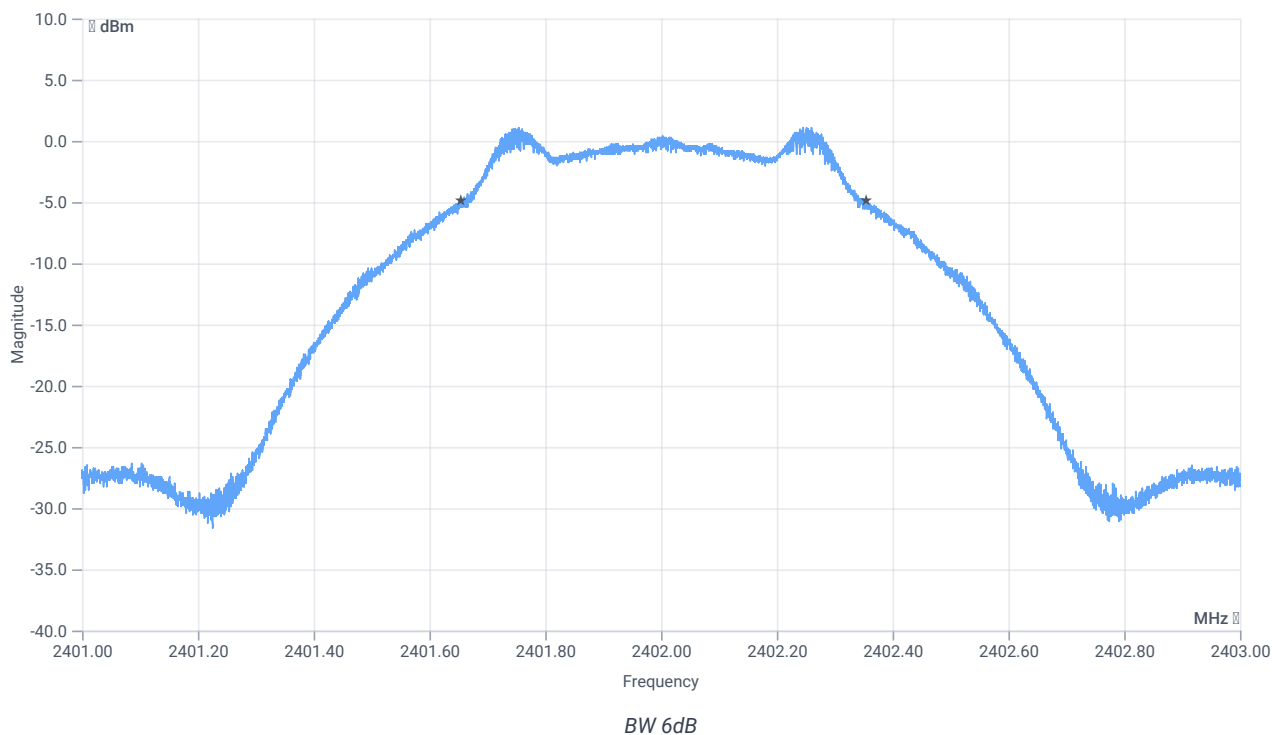
## Test at TX 2402 MHz

RESULT: Reference Power cond.

| Test Description              | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | 1.23     | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2402.300 | MHz  | INFO    |

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 6.23   11.29   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         | ---         | 700      | kHz  | PASS    |

Verdict

PASS

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

### Test References

|                                   |                                             |
|-----------------------------------|---------------------------------------------|
| TC Start                          | 24.04.2023 14:32:35                         |
| Ambit Temp [°C]   Humidity [rel%] | 27.5   30                                   |
| System Version                    | 4.0.0.5                                     |
| Test Specification                | FCC 15.247 -                                |
| Test Method                       |                                             |
| TC Version                        | 0.0.1                                       |
| My Description                    | FCC 15.247 Bandwidth 6dB DTS - BT LE 1 Msps |
| Add. Information                  |                                             |

### EUT 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 255   RXpayload 255             |
| 2 Mbps supported                         | True   TXpayload 255   RXpayload 255             |
| Longrange S8 supported                   | True   TXpayload 255   RXpayload 255             |
| Longrange S2 supported                   | True   TXpayload 255   RXpayload 255             |
| Signaling Settings                       | None   HCI   39   115200   None   S1   None   On |
| Signaling RF Settings                    | RF1com   0   0   On                              |
| User Interaction                         | No                                               |
| Switch Matrix & Pathcompensation enabled | Yes                                              |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | BT LE 1 Msps                           |
| Antenna Port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | False   Freq [MHz] 2402                |
| Frequency mid to test                            | True   Freq [MHz] 2440                 |
| Frequency high to test                           | False   Freq [MHz] 2480                |
| Auto Control enabled Power Supply   Climatic Box | No   No                                |
| Additional Path Loss [dB]                        | 0.7                                    |
| Switched Path                                    | EUT - SignalingUnit - SpectrumAnalyzer |

### Test Equipment

|                                                               |
|---------------------------------------------------------------|
| Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60 |
|---------------------------------------------------------------|

## Test Equipment

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Switch matrix, CTCadvanced, RSM-1 NI DAQ, 31534892, NI

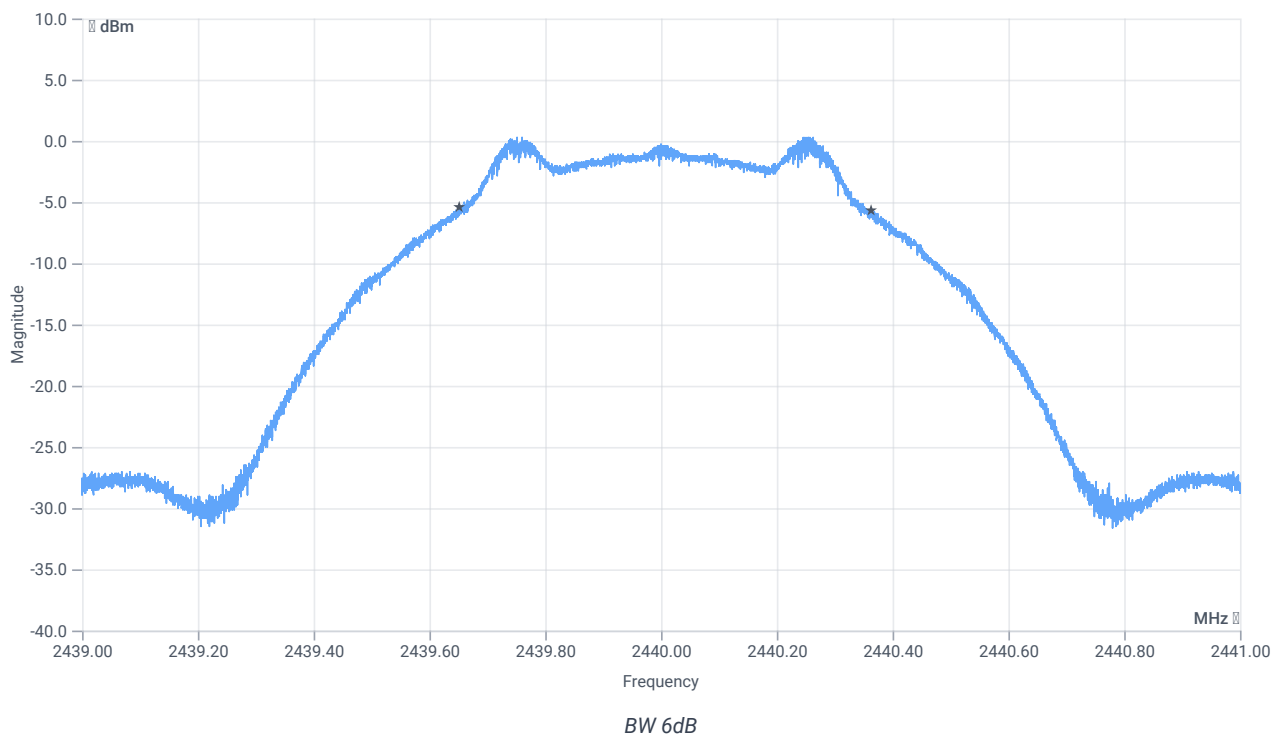
## Test at TX 2440 MHz

RESULT: Reference Power cond.

| Test Description              | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | 0.51     | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2440.200 | MHz  | INFO    |

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 5.51   11.36   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         | ---         | 710      | kHz  | PASS    |

### Verdict

PASS

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

### Test References

|                                   |                                             |
|-----------------------------------|---------------------------------------------|
| TC Start                          | 24.04.2023 14:44:43                         |
| Ambit Temp [°C]   Humidity [rel%] | 27.4   29                                   |
| System Version                    | 4.0.0.5                                     |
| Test Specification                | FCC 15.247 -                                |
| Test Method                       |                                             |
| TC Version                        | 0.0.1                                       |
| My Description                    | FCC 15.247 Bandwidth 6dB DTS - BT LE 1 Msps |
| Add. Information                  |                                             |

### EUT 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 255   RXpayload 255             |
| 2 Mbps supported                         | True   TXpayload 255   RXpayload 255             |
| Longrange S8 supported                   | True   TXpayload 255   RXpayload 255             |
| Longrange S2 supported                   | True   TXpayload 255   RXpayload 255             |
| Signaling Settings                       | None   HCI   39   115200   None   S1   None   On |
| Signaling RF Settings                    | RF1com   0   0   On                              |
| User Interaction                         | No                                               |
| Switch Matrix & Pathcompensation enabled | Yes                                              |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | BT LE 1 Msps                           |
| Antenna Port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | False   Freq [MHz] 2402                |
| Frequency mid to test                            | False   Freq [MHz] 2440                |
| Frequency high to test                           | True   Freq [MHz] 2480                 |
| Auto Control enabled Power Supply   Climatic Box | No   No                                |
| Additional Path Loss [dB]                        | 0.7                                    |
| Switched Path                                    | EUT - SignalingUnit - SpectrumAnalyzer |

### Test Equipment

|                                                               |
|---------------------------------------------------------------|
| Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60 |
|---------------------------------------------------------------|

## Test Equipment

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Switch matrix, CTCadvanced, RSM-1 NI DAQ, 31534892, NI

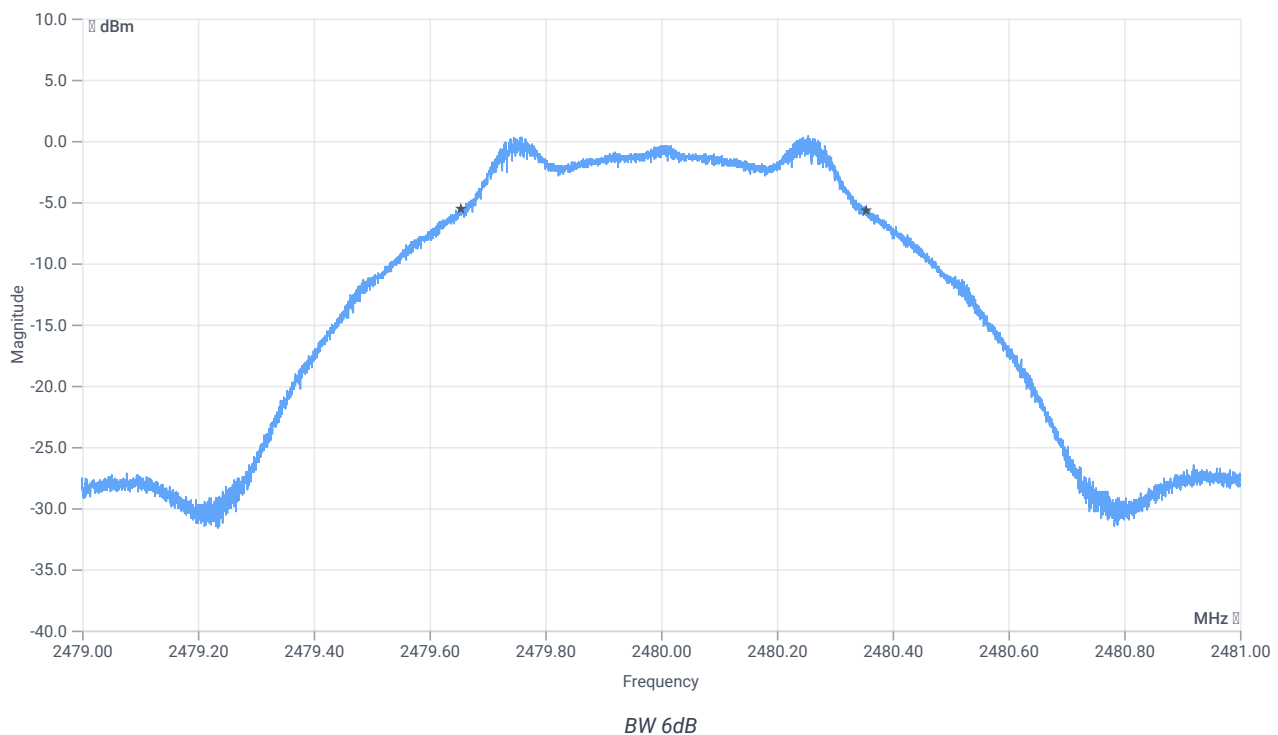
## Test at TX 2480 MHz

RESULT: Reference Power cond.

| Test Description              | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | 0.51     | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2480.300 | MHz  | INFO    |

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 5.51   11.41   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         | ---         | 701      | kHz  | PASS    |

### Verdict

PASS

# FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ BT LE 1 Msps

## Test References

|                                   |                                                    |
|-----------------------------------|----------------------------------------------------|
| TC Start                          | 24.04.2023 14:23:20                                |
| Ambit Temp [°C]   Humidity [rel%] | 27.4   29                                          |
| System Version                    | 4.0.0.5                                            |
| Test Specification                | FCC 15.247, ISED RSS247 -                          |
| Test Method                       |                                                    |
| TC Version                        | 0.0.2                                              |
| My Description                    | FCC 15.247 Bandwidth 99PCT-20dB DTS - BT LE 1 Msps |
| Add. Information                  |                                                    |

## EUT 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 255   RXpayload 255             |
| 2 Mbps supported                         | True   TXpayload 255   RXpayload 255             |
| Longrange S8 supported                   | True   TXpayload 255   RXpayload 255             |
| Longrange S2 supported                   | True   TXpayload 255   RXpayload 255             |
| Signaling Settings                       | None   HCI   39   115200   None   S1   None   On |
| Signaling RF Settings                    | RF1com   0   0   On                              |
| User Interaction                         | No                                               |
| Switch Matrix & Pathcompensation enabled | Yes                                              |

## Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | BT LE 1 Msps                           |
| Antenna Port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | True   Freq [MHz] 2402                 |
| Frequency mid to test                            | False   Freq [MHz] 2440                |
| Frequency high to test                           | False   Freq [MHz] 2480                |
| Auto Control enabled Power Supply   Climatic Box | No   No                                |
| Additional Path Loss [dB]                        | 0.7                                    |
| Switched Path                                    | EUT - SignalingUnit - SpectrumAnalyzer |

## Test Equipment

## Test Equipment

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Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

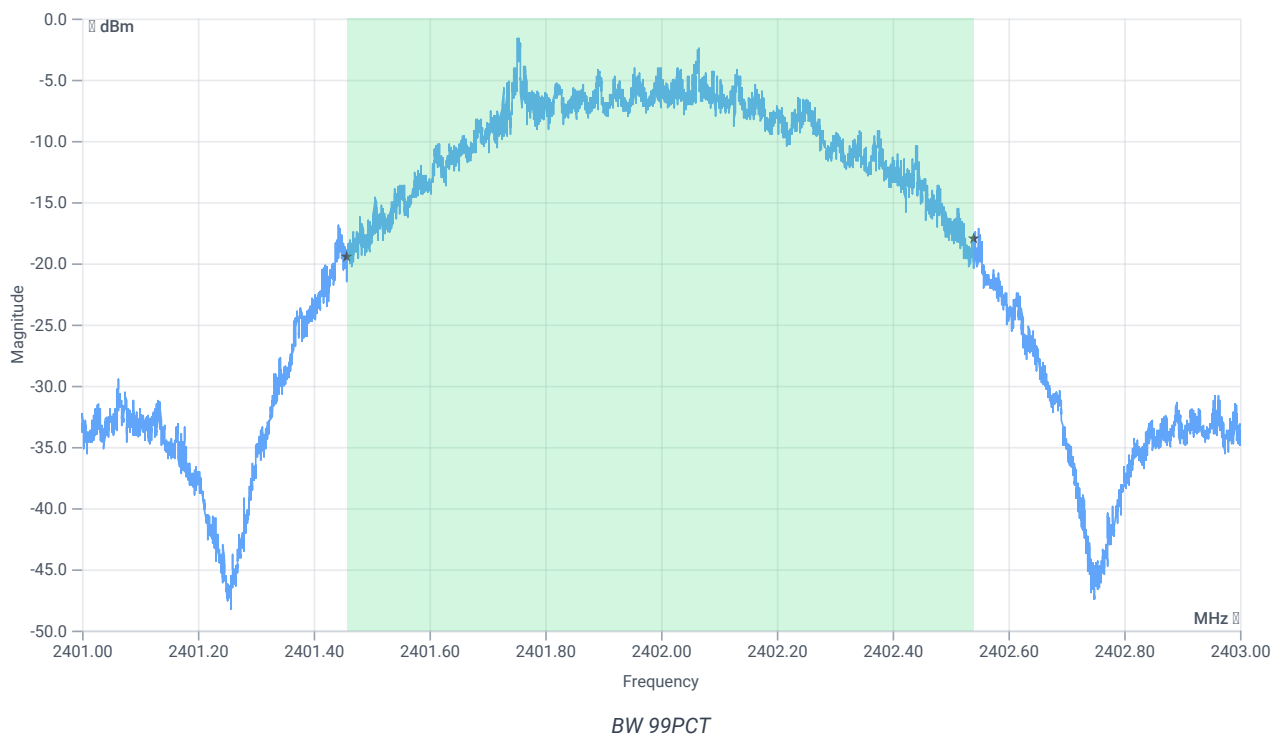
## Test at TX 2402 MHz

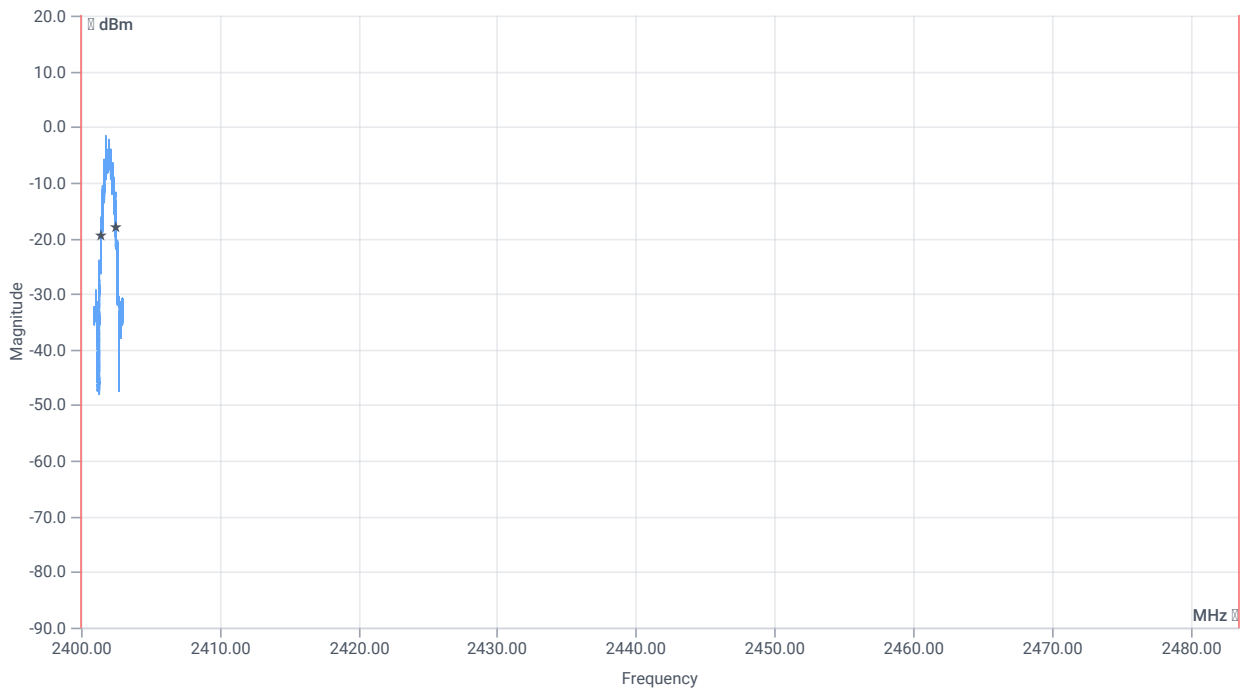
RESULT: Reference Power cond.

| Test Description              | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | 1.23     | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2402.300 | MHz  | INFO    |

## READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 6.23   11.29   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 |

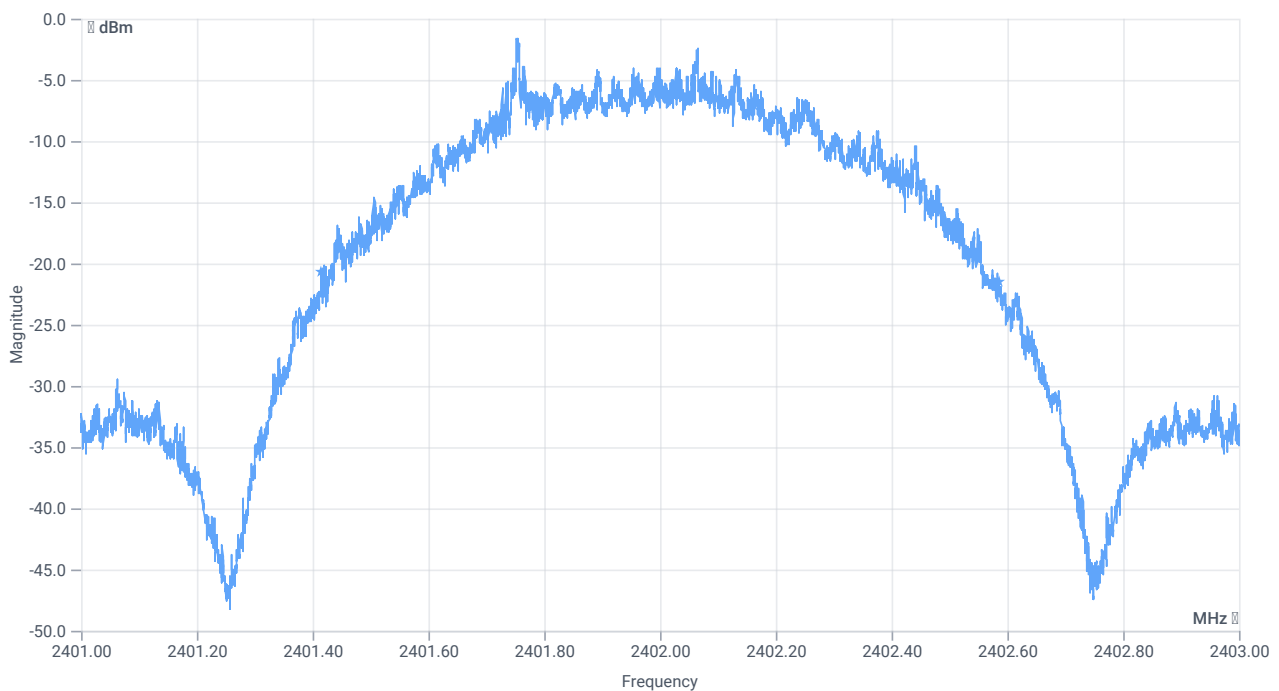




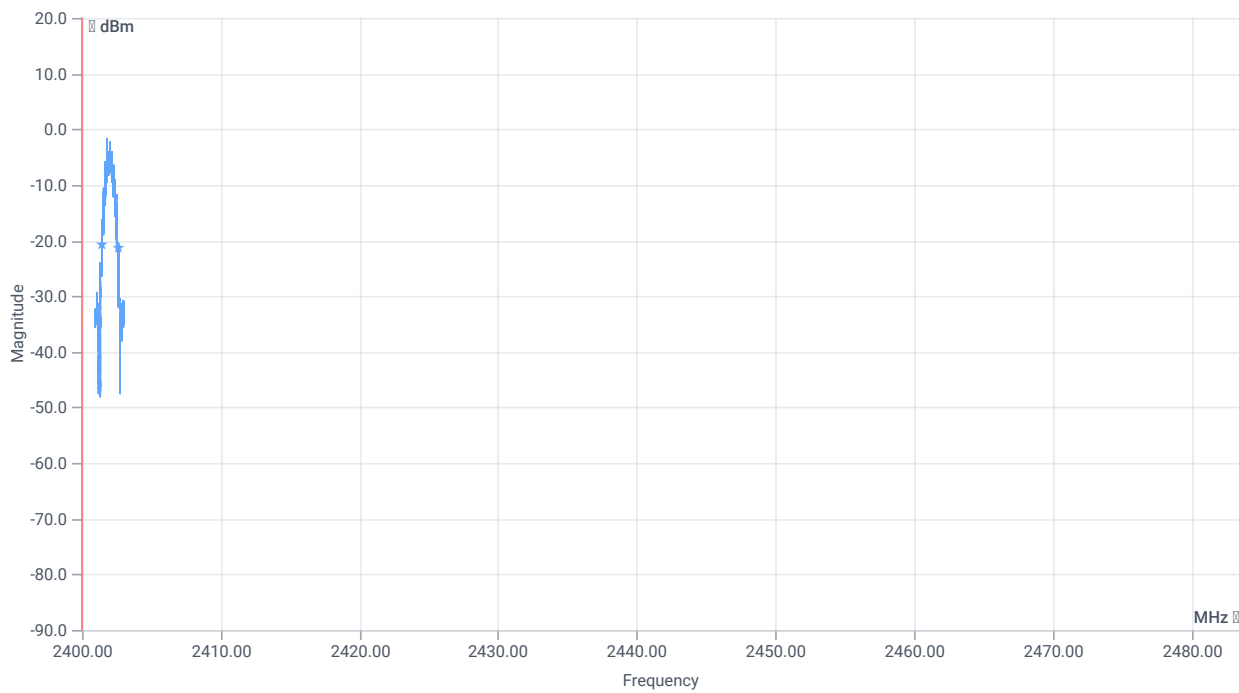
*BW within Band 99PCT*

## RESULT

| Test Description | Lower Limit | Upper Limit | Measured  | Unit | Verdict |
|------------------|-------------|-------------|-----------|------|---------|
| Bandwidth 99%    | ---         | ---         | 1084.000  | kHz  | INFO    |
| T1 99%           | 2400.000000 | ---         | 2401.4569 | MHz  | PASS    |
| T2 99%           | ---         | 2483.500000 | 2402.5413 | MHz  | PASS    |



BW 20dB



BW within Band 20dB

## RESULT

| Test Description | Lower Limit | Upper Limit | Measured  | Unit | Verdict |
|------------------|-------------|-------------|-----------|------|---------|
| Bandwidth 20dB   | ---         | ---         | 1173      | kHz  | INFO    |
| T1 20dB          | 2400.000000 | ---         | 2401.4134 | MHz  | PASS    |
| T2 20dB          | ---         | 2483.500000 | 2402.5864 | MHz  | PASS    |

Verdict

PASS

# FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ BT LE 1 Msps

## Test References

|                                   |                                                    |
|-----------------------------------|----------------------------------------------------|
| TC Start                          | 24.04.2023 14:33:45                                |
| Ambit Temp [°C]   Humidity [rel%] | 27.5   29                                          |
| System Version                    | 4.0.0.5                                            |
| Test Specification                | FCC 15.247, ISED RSS247 -                          |
| Test Method                       |                                                    |
| TC Version                        | 0.0.2                                              |
| My Description                    | FCC 15.247 Bandwidth 99PCT-20dB DTS - BT LE 1 Msps |
| Add. Information                  |                                                    |

## EUT 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 255   RXpayload 255             |
| 2 Mbps supported                         | True   TXpayload 255   RXpayload 255             |
| Longrange S8 supported                   | True   TXpayload 255   RXpayload 255             |
| Longrange S2 supported                   | True   TXpayload 255   RXpayload 255             |
| Signaling Settings                       | None   HCI   39   115200   None   S1   None   On |
| Signaling RF Settings                    | RF1com   0   0   On                              |
| User Interaction                         | No                                               |
| Switch Matrix & Pathcompensation enabled | Yes                                              |

## Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | BT LE 1 Msps                           |
| Antenna Port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | False   Freq [MHz] 2402                |
| Frequency mid to test                            | True   Freq [MHz] 2440                 |
| Frequency high to test                           | False   Freq [MHz] 2480                |
| Auto Control enabled Power Supply   Climatic Box | No   No                                |
| Additional Path Loss [dB]                        | 0.7                                    |
| Switched Path                                    | EUT - SignalingUnit - SpectrumAnalyzer |

## Test Equipment

## Test Equipment

---

Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

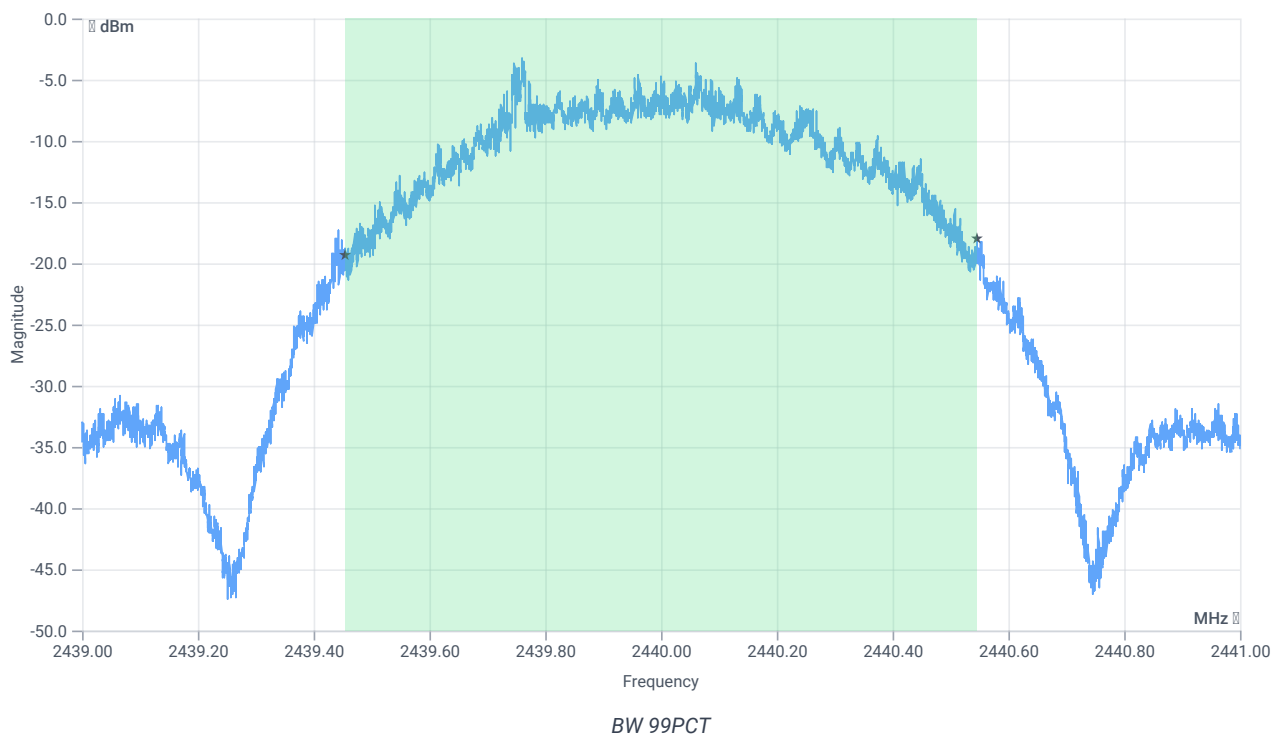
## Test at TX 2440 MHz

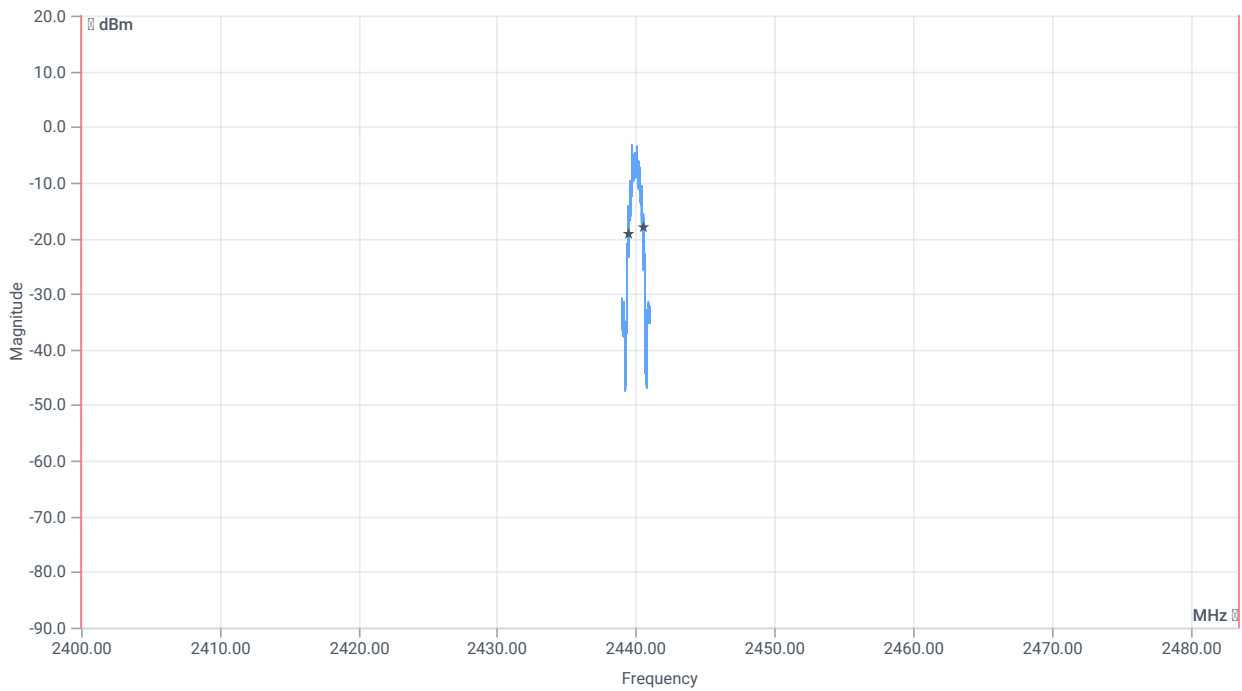
RESULT: Reference Power cond.

| Test Description              | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | 0.55     | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2440.300 | MHz  | INFO    |

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 5.55   11.36   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 |

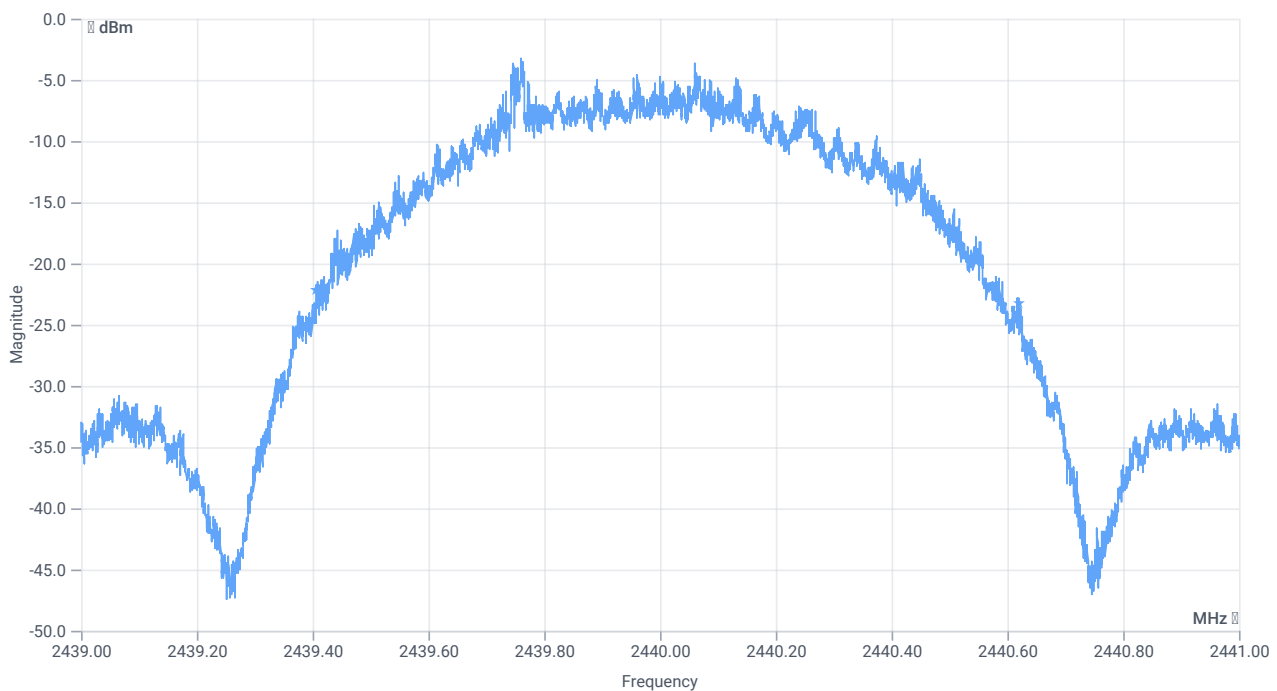




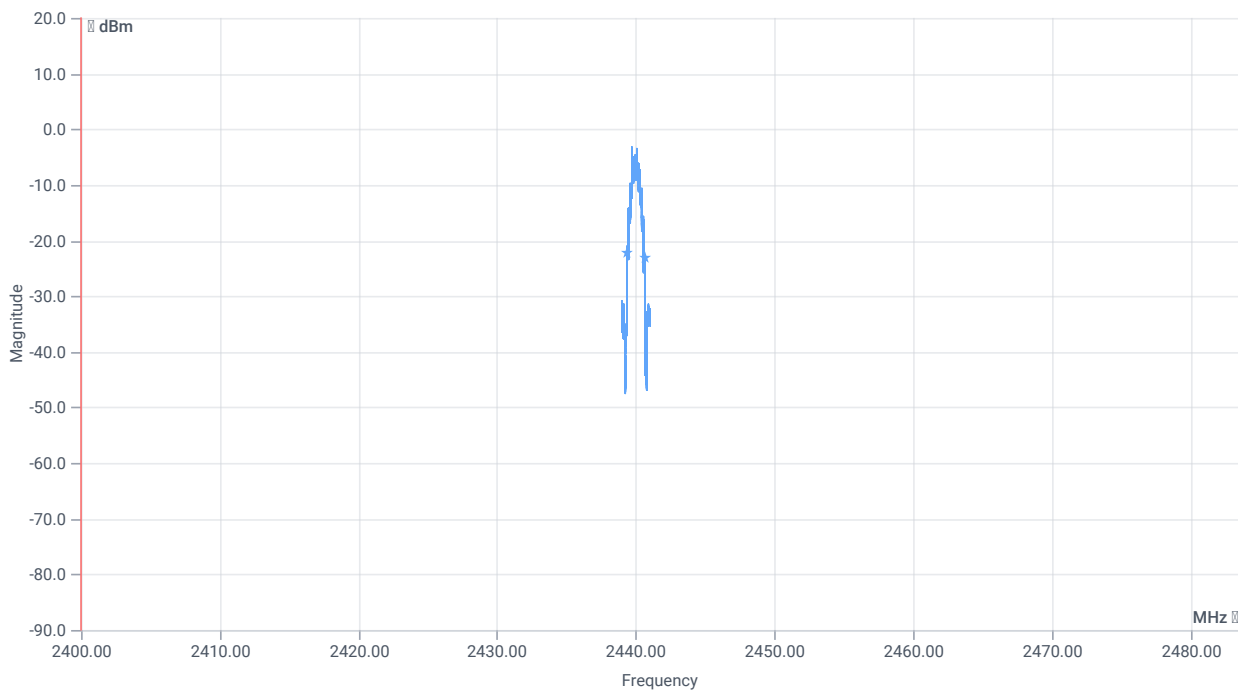
BW within Band 99PCT

## RESULT

| Test Description | Lower Limit | Upper Limit | Measured  | Unit | Verdict |
|------------------|-------------|-------------|-----------|------|---------|
| Bandwidth 99%    | ---         | ---         | 1092.000  | kHz  | INFO    |
| T1 99%           | 2400.000000 | ---         | 2439.4531 | MHz  | PASS    |
| T2 99%           | ---         | 2483.500000 | 2440.5455 | MHz  | PASS    |



BW 20dB



BW within Band 20dB

## RESULT

| Test Description | Lower Limit | Upper Limit | Measured  | Unit | Verdict |
|------------------|-------------|-------------|-----------|------|---------|
| Bandwidth 20dB   | ---         | ---         | 1212      | kHz  | INFO    |
| T1 20dB          | 2400.000000 | ---         | 2439.4068 | MHz  | PASS    |
| T2 20dB          | ---         | 2483.500000 | 2440.6188 | MHz  | PASS    |

Verdict

PASS

# FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ BT LE 1 Msps

## Test References

|                                   |                                                    |
|-----------------------------------|----------------------------------------------------|
| TC Start                          | 24.04.2023 14:45:53                                |
| Ambit Temp [°C]   Humidity [rel%] | 27.4   29                                          |
| System Version                    | 4.0.0.5                                            |
| Test Specification                | FCC 15.247, ISED RSS247 -                          |
| Test Method                       |                                                    |
| TC Version                        | 0.0.2                                              |
| My Description                    | FCC 15.247 Bandwidth 99PCT-20dB DTS - BT LE 1 Msps |
| Add. Information                  |                                                    |

## EUT 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 255   RXpayload 255             |
| 2 Mbps supported                         | True   TXpayload 255   RXpayload 255             |
| Longrange S8 supported                   | True   TXpayload 255   RXpayload 255             |
| Longrange S2 supported                   | True   TXpayload 255   RXpayload 255             |
| Signaling Settings                       | None   HCI   39   115200   None   S1   None   On |
| Signaling RF Settings                    | RF1com   0   0   On                              |
| User Interaction                         | No                                               |
| Switch Matrix & Pathcompensation enabled | Yes                                              |

## Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | BT LE 1 Msps                           |
| Antenna Port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | False   Freq [MHz] 2402                |
| Frequency mid to test                            | False   Freq [MHz] 2440                |
| Frequency high to test                           | True   Freq [MHz] 2480                 |
| Auto Control enabled Power Supply   Climatic Box | No   No                                |
| Additional Path Loss [dB]                        | 0.7                                    |
| Switched Path                                    | EUT - SignalingUnit - SpectrumAnalyzer |

## Test Equipment

## Test Equipment

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Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

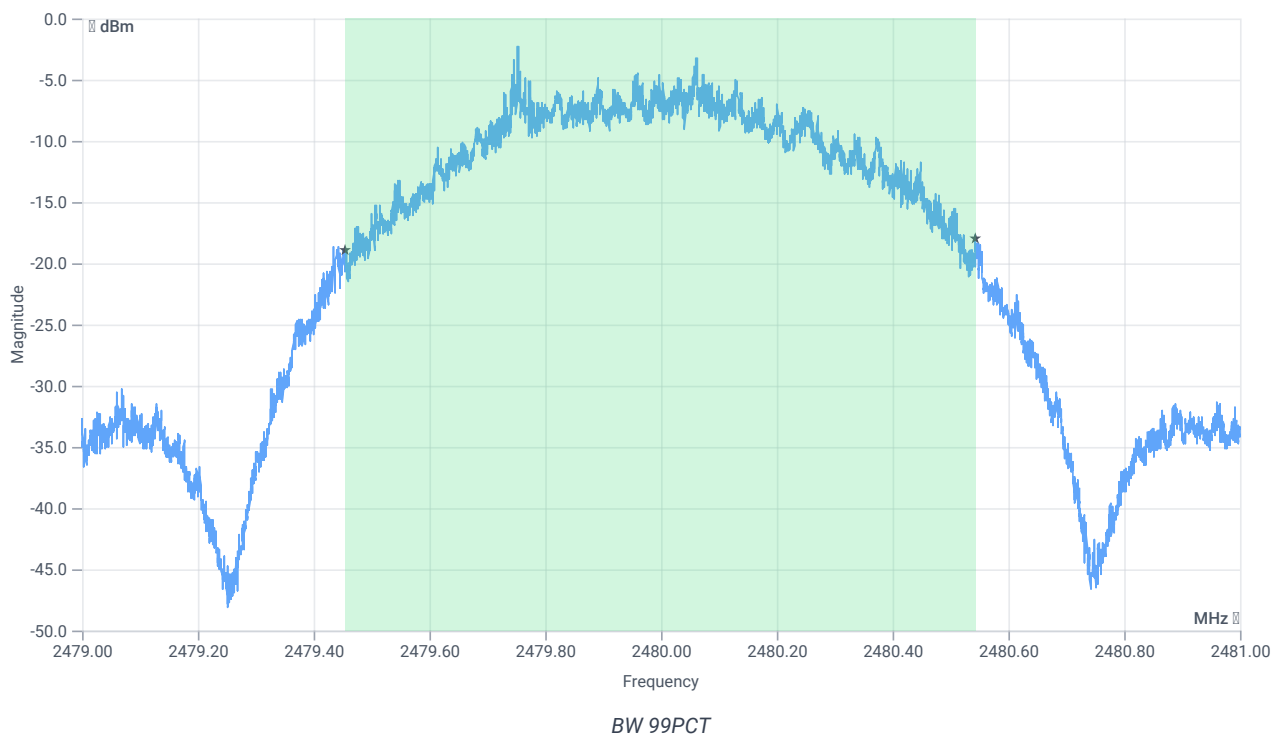
## Test at TX 2480 MHz

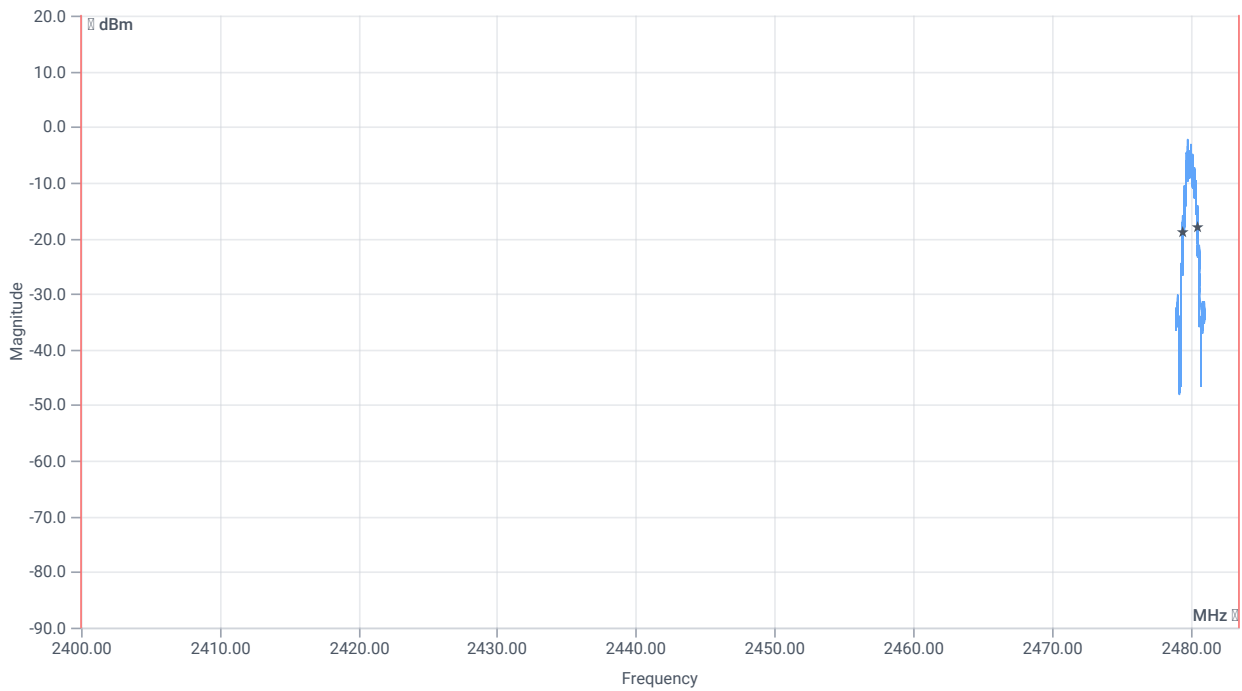
RESULT: Reference Power cond.

| Test Description              | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | 0.53     | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2480.300 | MHz  | INFO    |

## READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 5.53   11.41   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 |

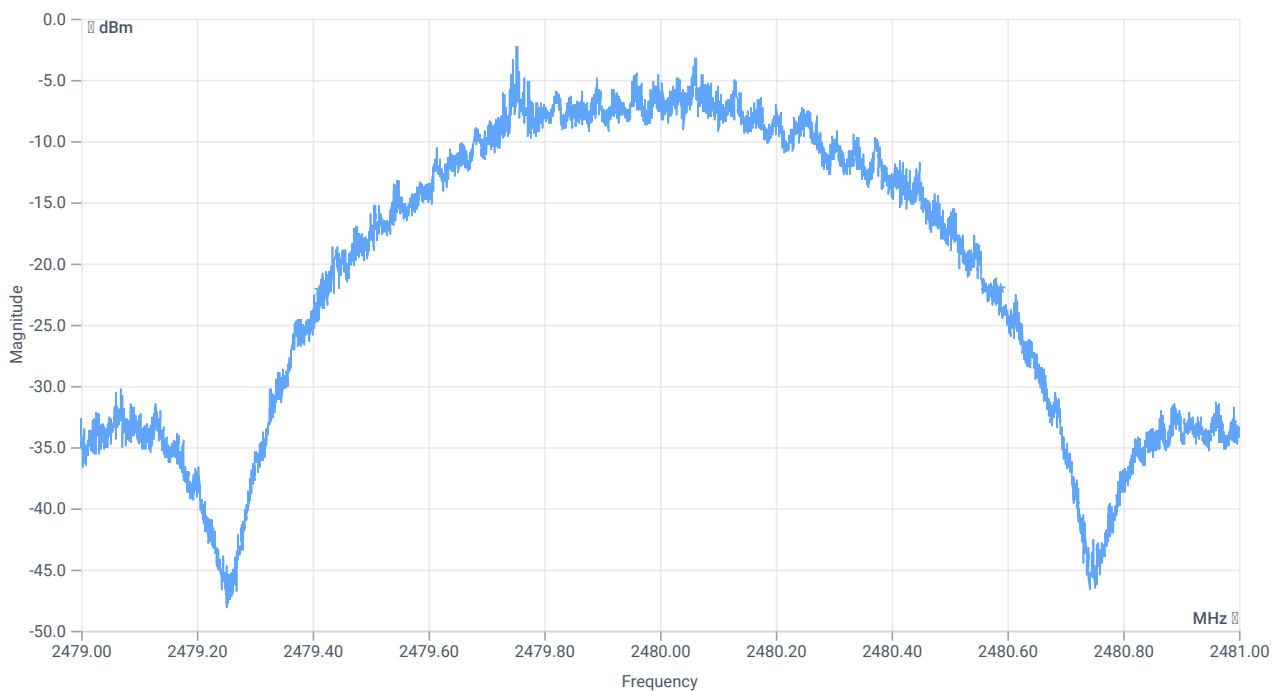




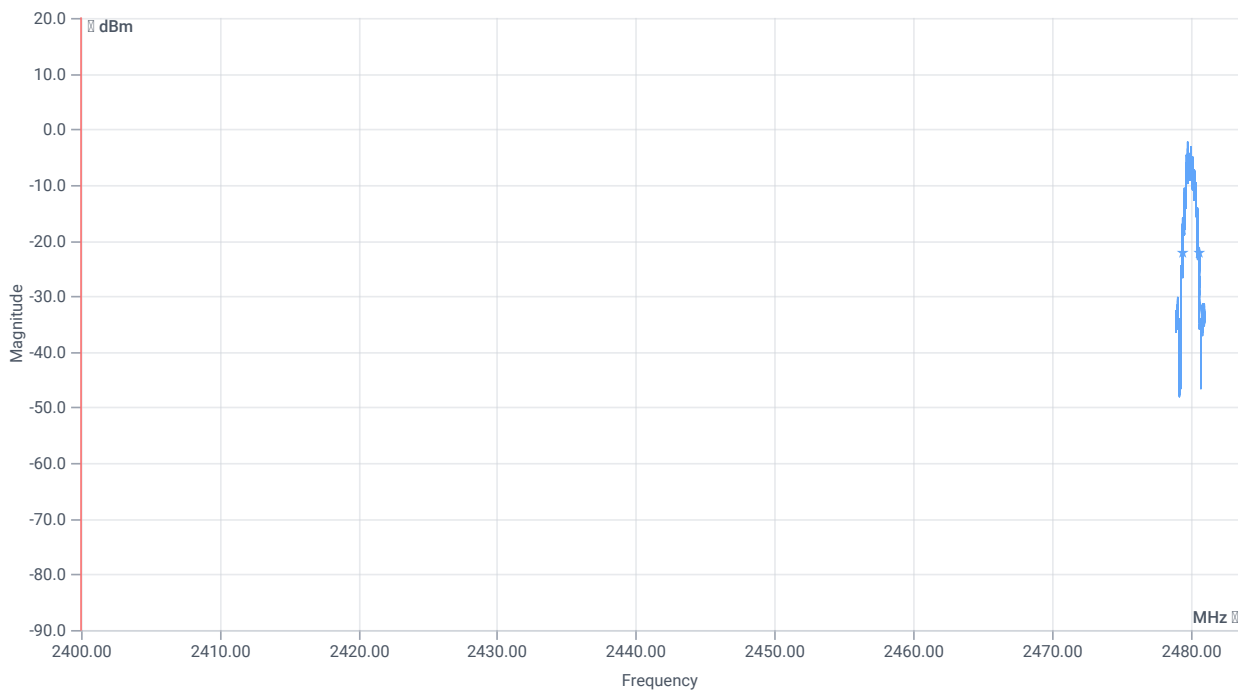
*BW within Band 99PCT*

## RESULT

| Test Description | Lower Limit | Upper Limit | Measured  | Unit | Verdict |
|------------------|-------------|-------------|-----------|------|---------|
| Bandwidth 99%    | ---         | ---         | 1088.000  | kHz  | INFO    |
| T1 99%           | 2400.000000 | ---         | 2479.4555 | MHz  | PASS    |
| T2 99%           | ---         | 2483.500000 | 2480.5433 | MHz  | PASS    |



BW 20dB



BW within Band 20dB

## RESULT

| Test Description | Lower Limit | Upper Limit | Measured  | Unit | Verdict |
|------------------|-------------|-------------|-----------|------|---------|
| Bandwidth 20dB   | ---         | ---         | 1178      | kHz  | INFO    |
| T1 20dB          | 2400.000000 | ---         | 2479.4112 | MHz  | PASS    |
| T2 20dB          | ---         | 2483.500000 | 2480.5894 | MHz  | PASS    |

Verdict

PASS

## FCC 15.247 # Maximum peak conducted output power DTS ~ BT LE 1 Msps

### Test References

|                                   |                                                                   |
|-----------------------------------|-------------------------------------------------------------------|
| TC Start                          | 24.04.2023 14:21:27                                               |
| Ambit Temp [°C]   Humidity [rel%] | 27.4   29                                                         |
| System Version                    | 4.0.0.5                                                           |
| Test Specification                | FCC 15.247 -                                                      |
| Test Method                       | DTS: KDB 558074 D01 V05 - Chapter 8.3.1.1 RBW ≥ DTS Bandwidth     |
| TC Version                        | 0.0.1                                                             |
| My Description                    | FCC 15.247 Maximum Peak Output Power Conducted DTS - BT LE 1 Msps |
| Add. Information                  |                                                                   |

### EUT 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 255   RXpayload 255             |
| 2 Mbps supported                         | True   TXpayload 255   RXpayload 255             |
| Longrange S8 supported                   | True   TXpayload 255   RXpayload 255             |
| Longrange S2 supported                   | True   TXpayload 255   RXpayload 255             |
| Signaling Settings                       | None   HCI   39   115200   None   S1   None   On |
| Signaling RF Settings                    | RF1com   0   0   On                              |
| User Interaction                         | No                                               |
| Switch Matrix & Pathcompensation enabled | Yes                                              |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | BT LE 1 Msps                           |
| Antenna Port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | True   Freq [MHz] 2402                 |
| Frequency mid to test                            | False   Freq [MHz] 2440                |
| Frequency high to test                           | False   Freq [MHz] 2480                |
| Auto Control enabled Power Supply   Climatic Box | No   No                                |
| Additional Path Loss [dB]                        | 0.7                                    |
| Switched Path                                    | EUT - SignalingUnit - SpectrumAnalyzer |

## Test Equipment

---

Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

## Test at TX 2402 MHz

RESULT: Reference Power cond.

| Test Description              | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | 1.21     | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2402.300 | MHz  | INFO    |

### READ SA SETTINGS:

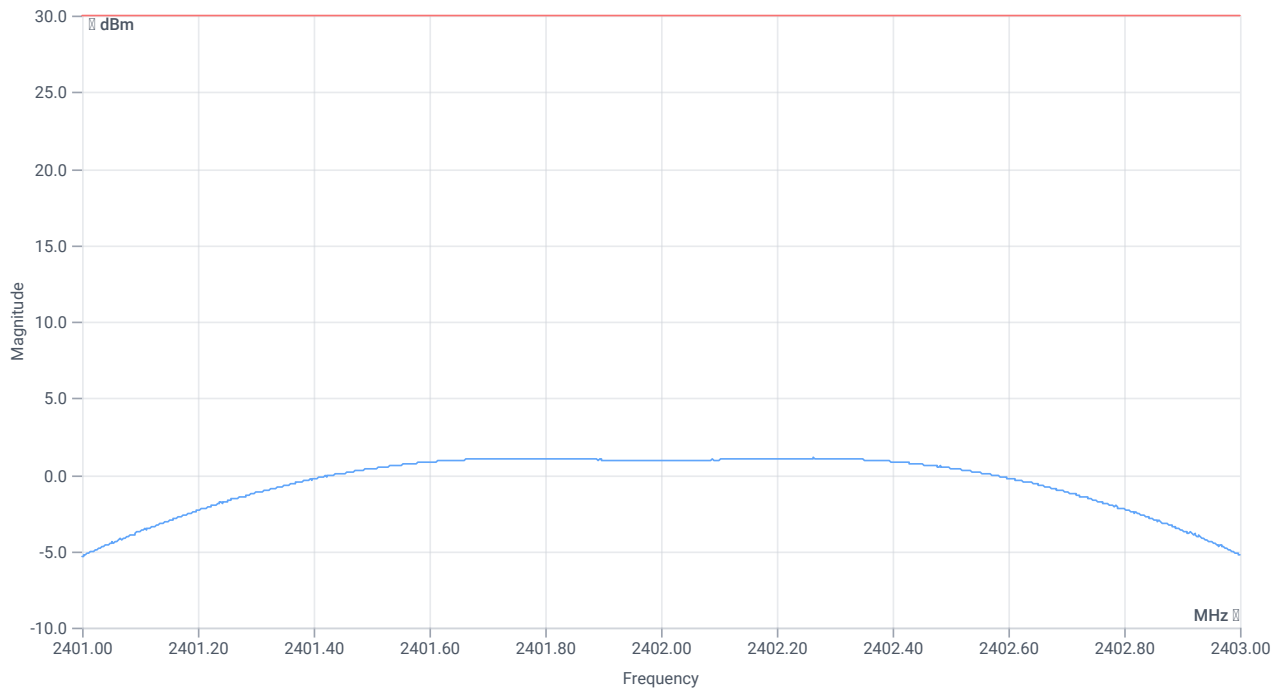
|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 6.21   11.29   10      |
| Start [MHz]   Stop [MHz]                             | 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) | ---         | ---         | 700      | kHz  | INFO    |

### READ SA SETTINGS:

|                                                      |                       |
|------------------------------------------------------|-----------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 11.21   11.29   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 |



Peak output power

## RESULT

| Test Description  | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------|-------------|-------------|----------|------|---------|
| Peak Power        | ---         | 30.00       | 1.08     | dBm  | PASS    |
| Peak Power        | ---         | 1000        | 1.282331 | mW   | PASS    |
| Frequency at Peak | ---         | ---         | 2402.264 | MHz  | INFO    |

## Verdict

PASS

## FCC 15.247 # Maximum peak conducted output power DTS ~ BT LE 1 Msps

### Test References

|                                   |                                                                   |
|-----------------------------------|-------------------------------------------------------------------|
| TC Start                          | 24.04.2023 14:31:51                                               |
| Ambit Temp [°C]   Humidity [rel%] | 27.5   29                                                         |
| System Version                    | 4.0.0.5                                                           |
| Test Specification                | FCC 15.247 -                                                      |
| Test Method                       | DTS: KDB 558074 D01 V05 - Chapter 8.3.1.1 RBW ≥ DTS Bandwidth     |
| TC Version                        | 0.0.1                                                             |
| My Description                    | FCC 15.247 Maximum Peak Output Power Conducted DTS - BT LE 1 Msps |
| Add. Information                  |                                                                   |

### EUT 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 255   RXpayload 255             |
| 2 Mbps supported                         | True   TXpayload 255   RXpayload 255             |
| Longrange S8 supported                   | True   TXpayload 255   RXpayload 255             |
| Longrange S2 supported                   | True   TXpayload 255   RXpayload 255             |
| Signaling Settings                       | None   HCI   39   115200   None   S1   None   On |
| Signaling RF Settings                    | RF1com   0   0   On                              |
| User Interaction                         | No                                               |
| Switch Matrix & Pathcompensation enabled | Yes                                              |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | BT LE 1 Msps                           |
| Antenna Port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | False   Freq [MHz] 2402                |
| Frequency mid to test                            | True   Freq [MHz] 2440                 |
| Frequency high to test                           | False   Freq [MHz] 2480                |
| Auto Control enabled Power Supply   Climatic Box | No   No                                |
| Additional Path Loss [dB]                        | 0.7                                    |
| Switched Path                                    | EUT - SignalingUnit - SpectrumAnalyzer |

## Test Equipment

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Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

## Test at TX 2440 MHz

RESULT: Reference Power cond.

| Test Description              | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | 0.55     | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2440.300 | MHz  | INFO    |

### READ SA SETTINGS:

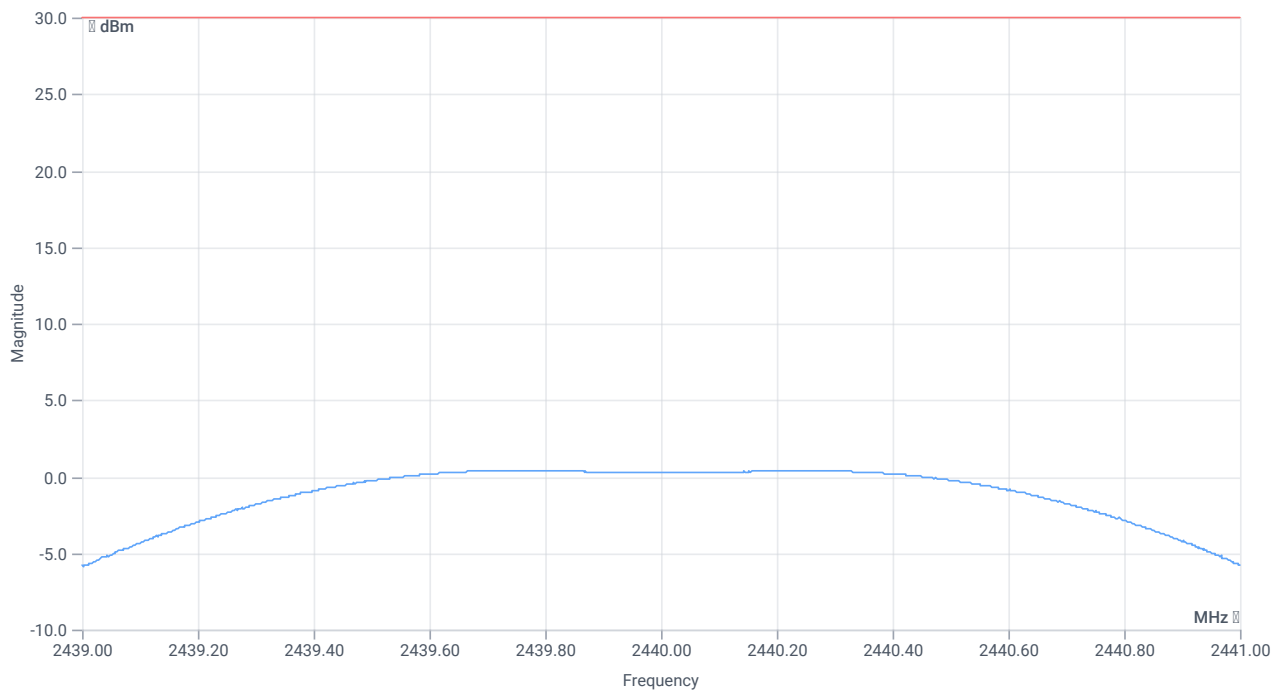
|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 5.55   11.36   10      |
| Start [MHz]   Stop [MHz]                             | 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) | ---         | ---         | 718      | kHz  | INFO    |

### READ SA SETTINGS:

|                                                      |                       |
|------------------------------------------------------|-----------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 10.55   11.36   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 |



Peak output power

## RESULT

| Test Description  | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------|-------------|-------------|----------|------|---------|
| Peak Power        | ---         | 30.00       | 0.4      | dBm  | PASS    |
| Peak Power        | ---         | 1000        | 1.096478 | mW   | PASS    |
| Frequency at Peak | ---         | ---         | 2439.768 | MHz  | INFO    |

## Verdict

PASS

## FCC 15.247 # Maximum peak conducted output power DTS ~ BT LE 1 Msps

### Test References

|                                   |                                                                   |
|-----------------------------------|-------------------------------------------------------------------|
| TC Start                          | 24.04.2023 14:44:00                                               |
| Ambit Temp [°C]   Humidity [rel%] | 27.4   29                                                         |
| System Version                    | 4.0.0.5                                                           |
| Test Specification                | FCC 15.247 -                                                      |
| Test Method                       | DTS: KDB 558074 D01 V05 - Chapter 8.3.1.1 RBW ≥ DTS Bandwidth     |
| TC Version                        | 0.0.1                                                             |
| My Description                    | FCC 15.247 Maximum Peak Output Power Conducted DTS - BT LE 1 Msps |
| Add. Information                  |                                                                   |

### EUT 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 255   RXpayload 255             |
| 2 Mbps supported                         | True   TXpayload 255   RXpayload 255             |
| Longrange S8 supported                   | True   TXpayload 255   RXpayload 255             |
| Longrange S2 supported                   | True   TXpayload 255   RXpayload 255             |
| Signaling Settings                       | None   HCI   39   115200   None   S1   None   On |
| Signaling RF Settings                    | RF1com   0   0   On                              |
| User Interaction                         | No                                               |
| Switch Matrix & Pathcompensation enabled | Yes                                              |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | BT LE 1 Msps                           |
| Antenna Port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | False   Freq [MHz] 2402                |
| Frequency mid to test                            | False   Freq [MHz] 2440                |
| Frequency high to test                           | True   Freq [MHz] 2480                 |
| Auto Control enabled Power Supply   Climatic Box | No   No                                |
| Additional Path Loss [dB]                        | 0.7                                    |
| Switched Path                                    | EUT - SignalingUnit - SpectrumAnalyzer |

## Test Equipment

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Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

## Test at TX 2480 MHz

RESULT: Reference Power cond.

| Test Description              | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | 0.53     | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2480.300 | MHz  | INFO    |

### READ SA SETTINGS:

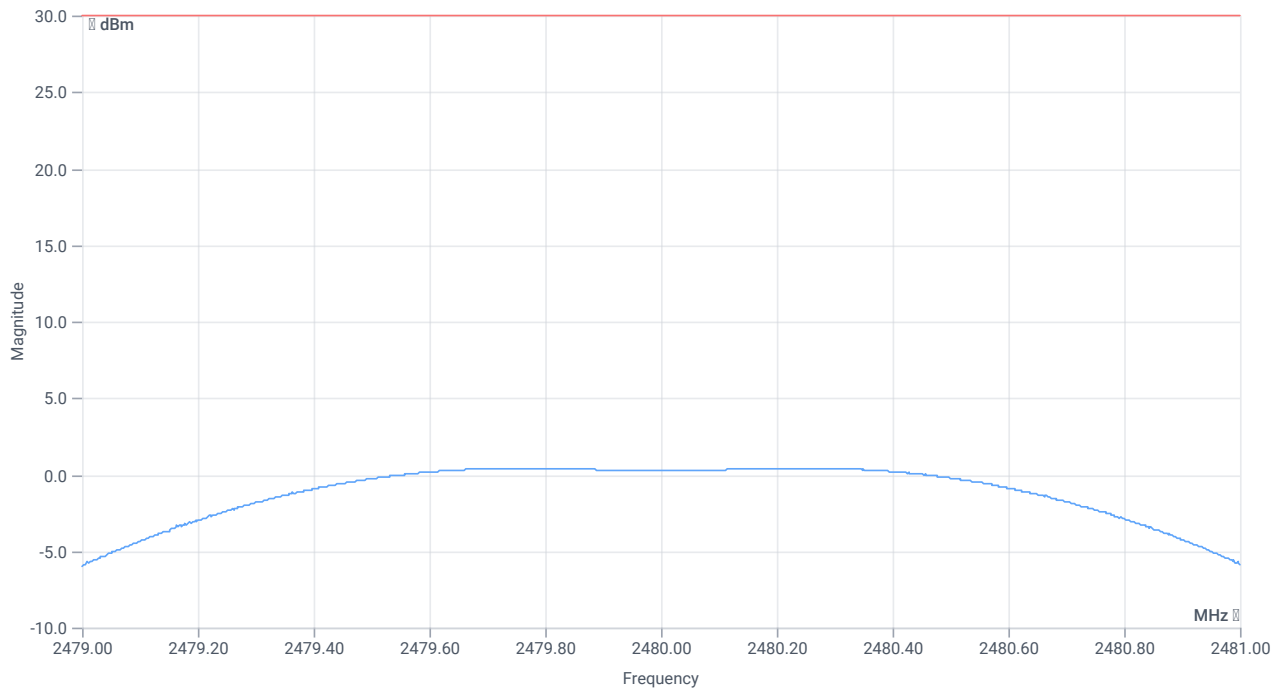
|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 5.53   11.41   10      |
| Start [MHz]   Stop [MHz]                             | 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) | ---         | ---         | 696      | kHz  | INFO    |

### READ SA SETTINGS:

|                                                      |                       |
|------------------------------------------------------|-----------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 10.53   11.41   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 |



Peak output power

## RESULT

| Test Description  | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------|-------------|-------------|----------|------|---------|
| Peak Power        | ---         | 30.00       | 0.42     | dBm  | PASS    |
| Peak Power        | ---         | 1000        | 1.101539 | mW   | PASS    |
| Frequency at Peak | ---         | ---         | 2480.248 | MHz  | INFO    |

## Verdict

PASS

## FCC 15.247 # Peak psd DTS ~ BT LE 1 Msps

### Test References

|                                   |                                                                                                            |
|-----------------------------------|------------------------------------------------------------------------------------------------------------|
| TC Start                          | 24.04.2023 14:22:41                                                                                        |
| Ambit Temp [°C]   Humidity [rel%] | 27.4   29                                                                                                  |
| System Version                    | 4.0.0.5                                                                                                    |
| Test Specification                | FCC 15.247 -                                                                                               |
| Test Method                       | DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission |
| TC Version                        | 0.0.1                                                                                                      |
| My Description                    | FCC 15.247 Peak psd DTS - BT LE 1 Msps                                                                     |
| Add. Information                  |                                                                                                            |

### EUT 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 255   RXpayload 255             |
| 2 Mbps supported                         | True   TXpayload 255   RXpayload 255             |
| Longrange S8 supported                   | True   TXpayload 255   RXpayload 255             |
| Longrange S2 supported                   | True   TXpayload 255   RXpayload 255             |
| Signaling Settings                       | None   HCI   39   115200   None   S1   None   On |
| Signaling RF Settings                    | RF1com   0   0   On                              |
| User Interaction                         | No                                               |
| Switch Matrix & Pathcompensation enabled | Yes                                              |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | BT LE 1 Msps                           |
| Antenna Port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | True   Freq [MHz] 2402                 |
| Frequency mid to test                            | False   Freq [MHz] 2440                |
| Frequency high to test                           | False   Freq [MHz] 2480                |
| Auto Control enabled Power Supply   Climatic Box | No   No                                |
| Additional Path Loss [dB]                        | 0.7                                    |
| Switched Path                                    | EUT - SignalingUnit - SpectrumAnalyzer |

### Test Equipment

## Test Equipment

---

Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

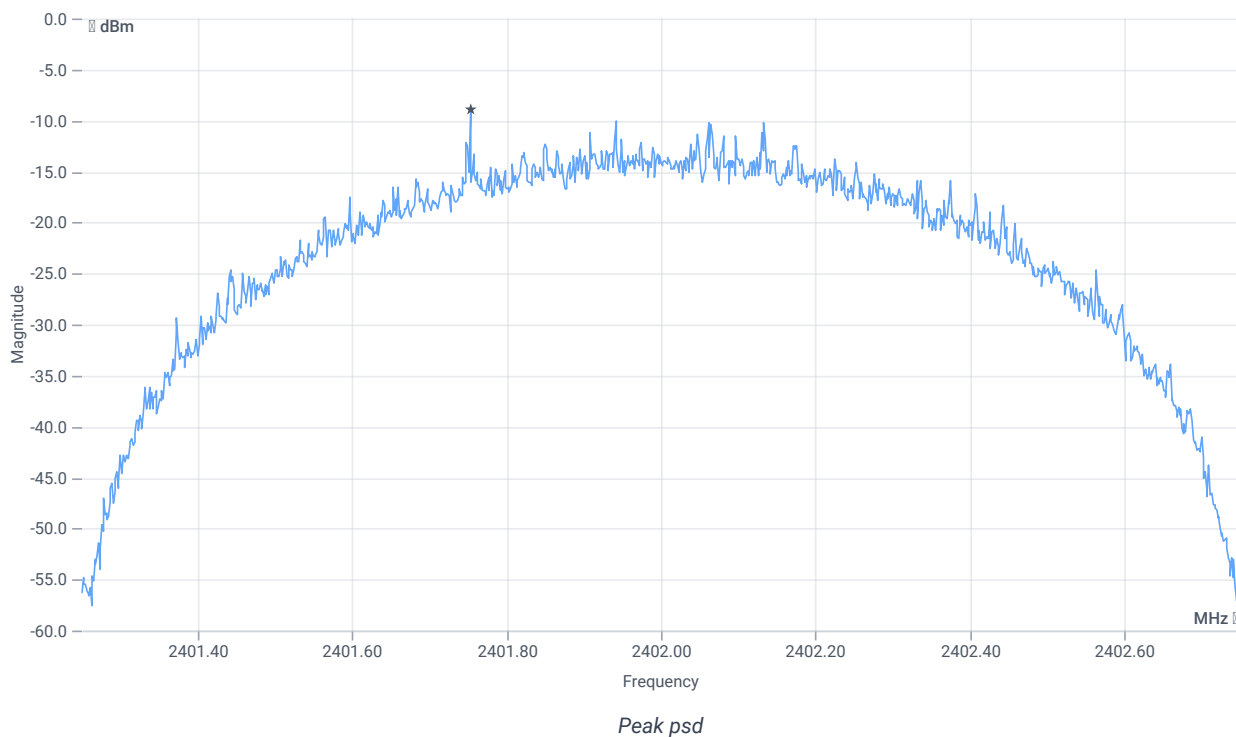
## Test at TX 2402 MHz

RESULT: Reference Power cond.

| Test Description              | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | 1.22     | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2402.300 | MHz  | INFO    |

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 6.22   11.29   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 |
|------------------|-------------|-------------|----------|----------|---------|
| Peak psd         | ---         | 8           | -8.94    | dBm/3KHz | PASS    |

### Verdict

PASS

## FCC 15.247 # Peak psd DTS ~ BT LE 1 Msps

### Test References

|                                   |                                                                                                            |
|-----------------------------------|------------------------------------------------------------------------------------------------------------|
| TC Start                          | 24.04.2023 14:33:05                                                                                        |
| Ambit Temp [°C]   Humidity [rel%] | 27.5   30                                                                                                  |
| System Version                    | 4.0.0.5                                                                                                    |
| Test Specification                | FCC 15.247 -                                                                                               |
| Test Method                       | DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission |
| TC Version                        | 0.0.1                                                                                                      |
| My Description                    | FCC 15.247 Peak psd DTS - BT LE 1 Msps                                                                     |
| Add. Information                  |                                                                                                            |

### EUT 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 255   RXpayload 255             |
| 2 Mbps supported                         | True   TXpayload 255   RXpayload 255             |
| Longrange S8 supported                   | True   TXpayload 255   RXpayload 255             |
| Longrange S2 supported                   | True   TXpayload 255   RXpayload 255             |
| Signaling Settings                       | None   HCI   39   115200   None   S1   None   On |
| Signaling RF Settings                    | RF1com   0   0   On                              |
| User Interaction                         | No                                               |
| Switch Matrix & Pathcompensation enabled | Yes                                              |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | BT LE 1 Msps                           |
| Antenna Port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | False   Freq [MHz] 2402                |
| Frequency mid to test                            | True   Freq [MHz] 2440                 |
| Frequency high to test                           | False   Freq [MHz] 2480                |
| Auto Control enabled Power Supply   Climatic Box | No   No                                |
| Additional Path Loss [dB]                        | 0.7                                    |
| Switched Path                                    | EUT - SignalingUnit - SpectrumAnalyzer |

### Test Equipment

## Test Equipment

---

Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

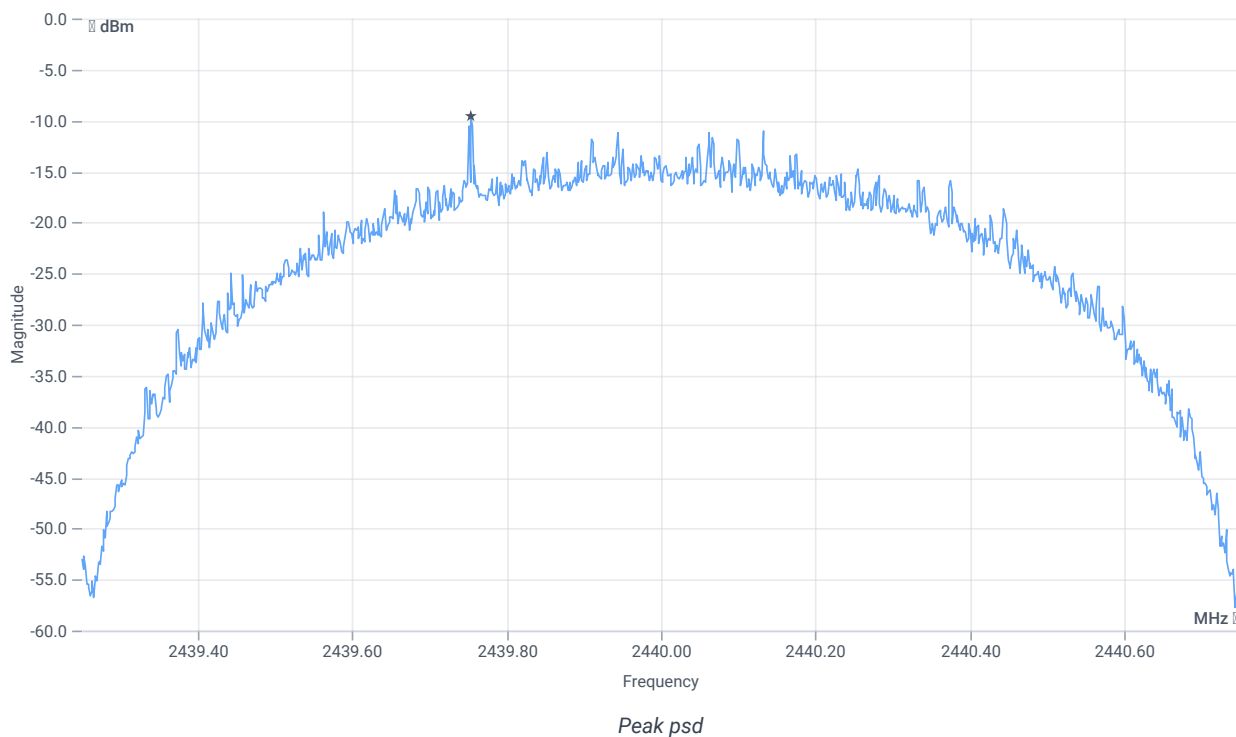
## Test at TX 2440 MHz

RESULT: Reference Power cond.

| Test Description              | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | 0.57     | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2440.300 | MHz  | INFO    |

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 5.57   11.36   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 |
|------------------|-------------|-------------|----------|----------|---------|
| Peak psd         | ---         | 8           | -9.59    | dBm/3KHz | PASS    |

### Verdict

PASS

## FCC 15.247 # Peak psd DTS ~ BT LE 1 Msps

### Test References

|                                   |                                                                                                            |
|-----------------------------------|------------------------------------------------------------------------------------------------------------|
| TC Start                          | 24.04.2023 14:45:13                                                                                        |
| Ambit Temp [°C]   Humidity [rel%] | 27.4   29                                                                                                  |
| System Version                    | 4.0.0.5                                                                                                    |
| Test Specification                | FCC 15.247 -                                                                                               |
| Test Method                       | DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission |
| TC Version                        | 0.0.1                                                                                                      |
| My Description                    | FCC 15.247 Peak psd DTS - BT LE 1 Msps                                                                     |
| Add. Information                  |                                                                                                            |

### EUT 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 255   RXpayload 255             |
| 2 Mbps supported                         | True   TXpayload 255   RXpayload 255             |
| Longrange S8 supported                   | True   TXpayload 255   RXpayload 255             |
| Longrange S2 supported                   | True   TXpayload 255   RXpayload 255             |
| Signaling Settings                       | None   HCI   39   115200   None   S1   None   On |
| Signaling RF Settings                    | RF1com   0   0   On                              |
| User Interaction                         | No                                               |
| Switch Matrix & Pathcompensation enabled | Yes                                              |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | BT LE 1 Msps                           |
| Antenna Port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | False   Freq [MHz] 2402                |
| Frequency mid to test                            | False   Freq [MHz] 2440                |
| Frequency high to test                           | True   Freq [MHz] 2480                 |
| Auto Control enabled Power Supply   Climatic Box | No   No                                |
| Additional Path Loss [dB]                        | 0.7                                    |
| Switched Path                                    | EUT - SignalingUnit - SpectrumAnalyzer |

### Test Equipment

## Test Equipment

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Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

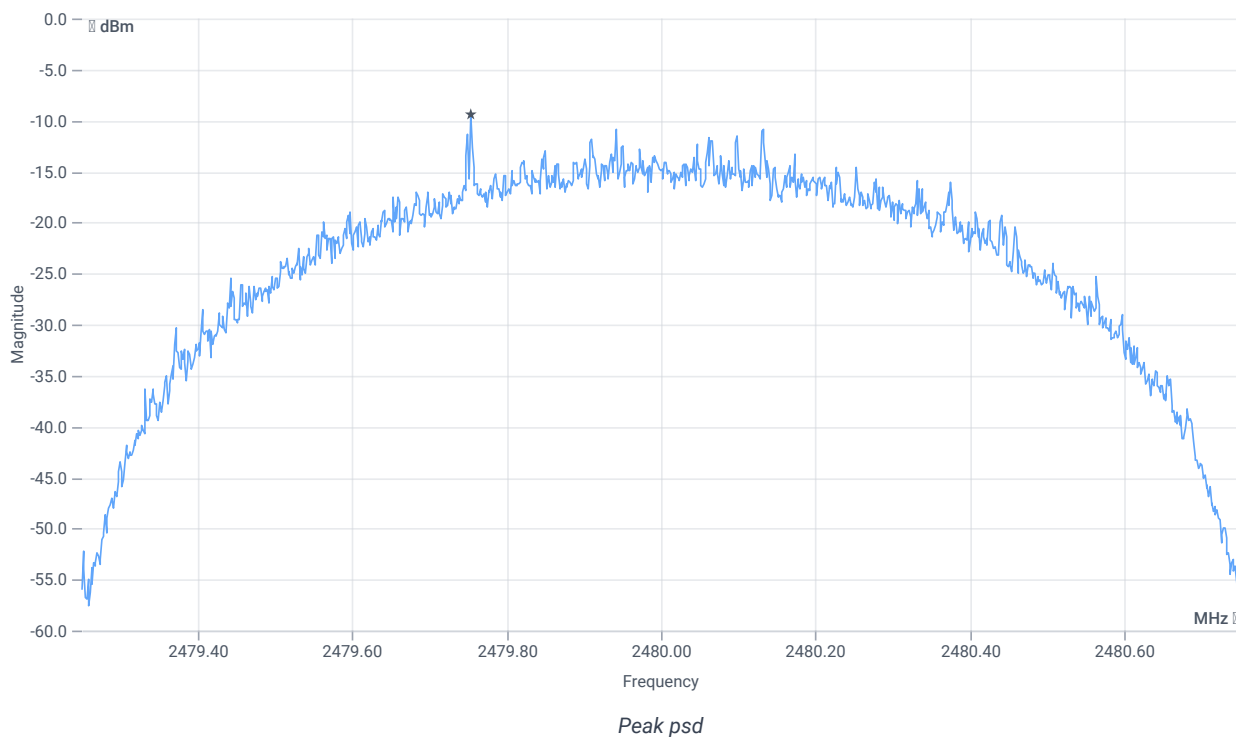
## Test at TX 2480 MHz

RESULT: Reference Power cond.

| Test Description              | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | 0.58     | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2480.300 | MHz  | INFO    |

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 5.58   11.41   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 |
|------------------|-------------|-------------|----------|----------|---------|
| Peak psd         | ---         | 8           | -9.45    | dBm/3KHz | PASS    |

Verdict

PASS

## FCC 15.247 # TX spurious conducted 20dBc ~ BT LE 1 Msps

### Test References

|                                   |                                                                                                                  |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------|
| TC Start                          | 24.04.2023 14:23:58                                                                                              |
| Ambit Temp [°C]   Humidity [rel%] | 27.5   29                                                                                                        |
| System Version                    | 4.0.0.5                                                                                                          |
| Test Specification                | FCC 15.247 -                                                                                                     |
| Test Method                       | IF DTS then 8.5 DTS emissions in non-restricted frequency bands:<br>Subclause 11.11 of ANSI C63.10 is applicable |
| TC Version                        | 0.0.1                                                                                                            |
| My Description                    | FCC 15.247 TX Emissions Conducted DTS - BT LE 1 Msps                                                             |
| Add. Information                  |                                                                                                                  |

### EUT 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 255   RXpayload 255             |
| 2 Mbps supported                         | True   TXpayload 255   RXpayload 255             |
| Longrange S8 supported                   | True   TXpayload 255   RXpayload 255             |
| Longrange S2 supported                   | True   TXpayload 255   RXpayload 255             |
| Signaling Settings                       | None   HCI   39   115200   None   S1   None   On |
| Signaling RF Settings                    | RF1com   0   0   On                              |
| User Interaction                         | No                                               |
| Switch Matrix & Pathcompensation enabled | Yes                                              |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | BT LE 1 Msps                           |
| Antenna Port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | True   Freq [MHz] 2402                 |
| Frequency mid to test                            | False   Freq [MHz] 2440                |
| Frequency high to test                           | False   Freq [MHz] 2480                |
| Auto Control enabled Power Supply   Climatic Box | No   No                                |
| Additional Path Loss [dB]                        | 0.7                                    |
| Switched Path                                    | EUT - SignalingUnit - SpectrumAnalyzer |

### Test Equipment

## Test Equipment

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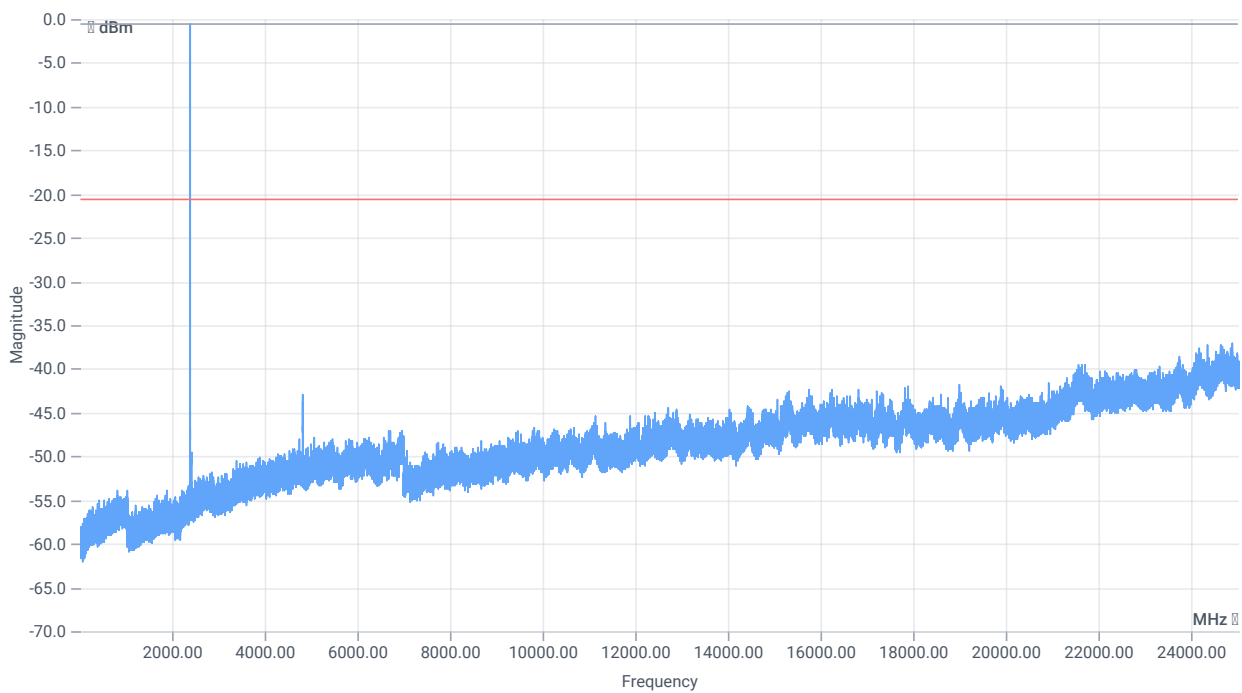
Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

## Test at TX 2402 MHz

RESULT: Reference Power cond.

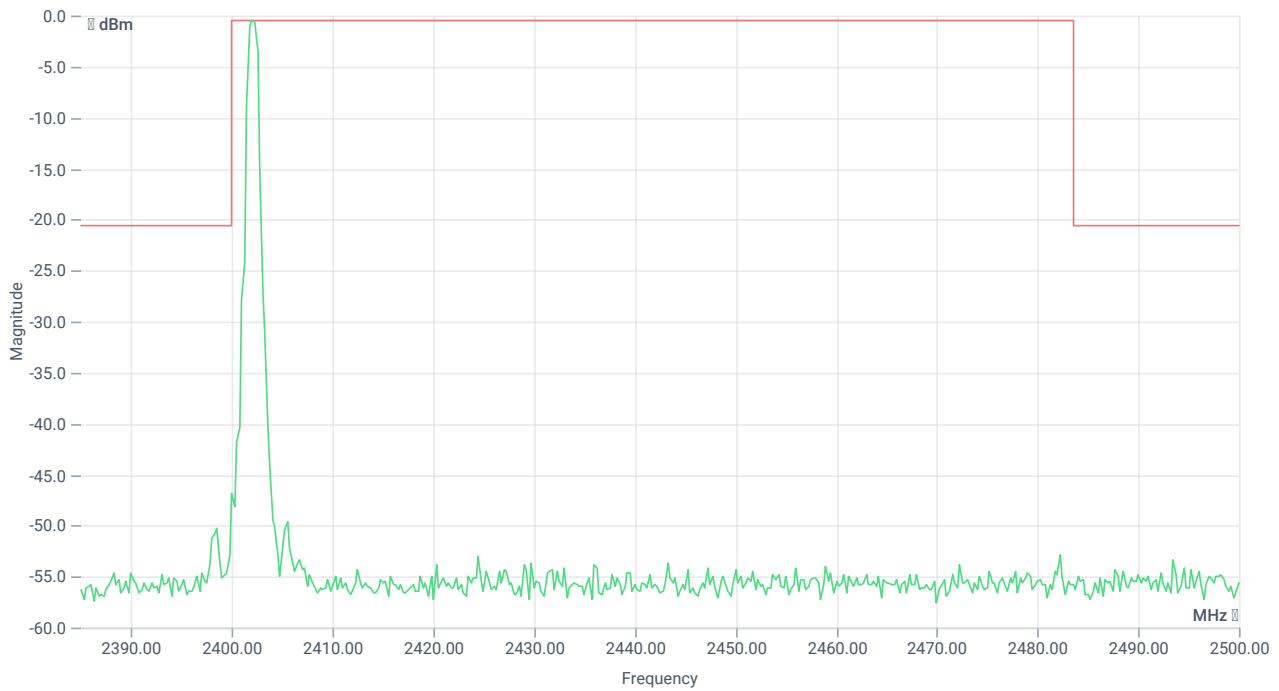
| Test Description              | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | 1.26     | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2402.300 | MHz  | INFO    |



TX emissions

### READ SA SETTINGS:

|                                                      |                       |
|------------------------------------------------------|-----------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 1.26   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 | 200   25   2001   SWE |



## RESULT

| Test Description                    | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------------|-------------|-------------|----------|------|---------|
| Reference @ 2402.00 MHz             | ---         | ---         | -0.54    | dBm  | INFO    |
| No peaks detected                   | ---         | ---         |          |      | PASS    |
| Lowest margin to limit 24894.75 MHz | 0           | ---         | 16.54    | dB   | INFO    |

Verdict

PASS

## FCC 15.247 # TX spurious conducted 20dBc ~ BT LE 1 Msps

### Test References

|                                   |                                                                                                                  |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------|
| TC Start                          | 24.04.2023 14:34:22                                                                                              |
| Ambit Temp [°C]   Humidity [rel%] | 27.5   29                                                                                                        |
| System Version                    | 4.0.0.5                                                                                                          |
| Test Specification                | FCC 15.247 -                                                                                                     |
| Test Method                       | IF DTS then 8.5 DTS emissions in non-restricted frequency bands:<br>Subclause 11.11 of ANSI C63.10 is applicable |
| TC Version                        | 0.0.1                                                                                                            |
| My Description                    | FCC 15.247 TX Emissions Conducted DTS - BT LE 1 Msps                                                             |
| Add. Information                  |                                                                                                                  |

### EUT 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 255   RXpayload 255             |
| 2 Mbps supported                         | True   TXpayload 255   RXpayload 255             |
| Longrange S8 supported                   | True   TXpayload 255   RXpayload 255             |
| Longrange S2 supported                   | True   TXpayload 255   RXpayload 255             |
| Signaling Settings                       | None   HCI   39   115200   None   S1   None   On |
| Signaling RF Settings                    | RF1com   0   0   On                              |
| User Interaction                         | No                                               |
| Switch Matrix & Pathcompensation enabled | Yes                                              |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | BT LE 1 Msps                           |
| Antenna Port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | False   Freq [MHz] 2402                |
| Frequency mid to test                            | True   Freq [MHz] 2440                 |
| Frequency high to test                           | False   Freq [MHz] 2480                |
| Auto Control enabled Power Supply   Climatic Box | No   No                                |
| Additional Path Loss [dB]                        | 0.7                                    |
| Switched Path                                    | EUT - SignalingUnit - SpectrumAnalyzer |

### Test Equipment

## Test Equipment

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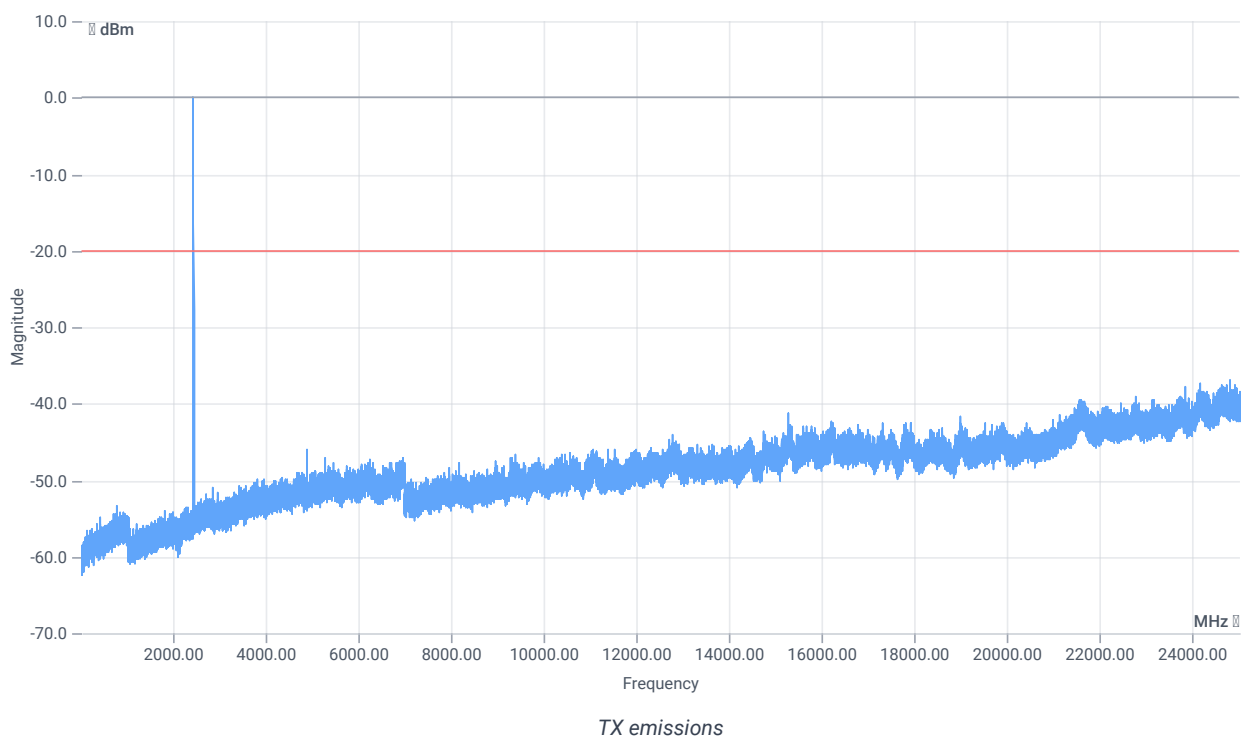
Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

## Test at TX 2440 MHz

RESULT: Reference Power cond.

| Test Description              | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | 0.52     | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2440.300 | MHz  | INFO    |



## READ SA SETTINGS:

|                                                      |                       |
|------------------------------------------------------|-----------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 0.52   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 | 200   25   2001   SWE |



## RESULT

| Test Description                    | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------------|-------------|-------------|----------|------|---------|
| Reference @ 2440.25 MHz             | ---         | ---         | 0.05     | dBm  | INFO    |
| No peaks detected                   | ---         | ---         |          |      | PASS    |
| Lowest margin to limit 24797.75 MHz | 0           | ---         | 17       | dB   | INFO    |

Verdict

PASS

## FCC 15.247 # TX spurious conducted 20dBc ~ BT LE 1 Msps

### Test References

|                                   |                                                                                                                  |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------|
| TC Start                          | 24.04.2023 14:46:30                                                                                              |
| Ambit Temp [°C]   Humidity [rel%] | 27.4   29                                                                                                        |
| System Version                    | 4.0.0.5                                                                                                          |
| Test Specification                | FCC 15.247 -                                                                                                     |
| Test Method                       | IF DTS then 8.5 DTS emissions in non-restricted frequency bands:<br>Subclause 11.11 of ANSI C63.10 is applicable |
| TC Version                        | 0.0.1                                                                                                            |
| My Description                    | FCC 15.247 TX Emissions Conducted DTS - BT LE 1 Msps                                                             |
| Add. Information                  |                                                                                                                  |

### EUT 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 255   RXpayload 255             |
| 2 Mbps supported                         | True   TXpayload 255   RXpayload 255             |
| Longrange S8 supported                   | True   TXpayload 255   RXpayload 255             |
| Longrange S2 supported                   | True   TXpayload 255   RXpayload 255             |
| Signaling Settings                       | None   HCI   39   115200   None   S1   None   On |
| Signaling RF Settings                    | RF1com   0   0   On                              |
| User Interaction                         | No                                               |
| Switch Matrix & Pathcompensation enabled | Yes                                              |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | BT LE 1 Msps                           |
| Antenna Port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | False   Freq [MHz] 2402                |
| Frequency mid to test                            | False   Freq [MHz] 2440                |
| Frequency high to test                           | True   Freq [MHz] 2480                 |
| Auto Control enabled Power Supply   Climatic Box | No   No                                |
| Additional Path Loss [dB]                        | 0.7                                    |
| Switched Path                                    | EUT - SignalingUnit - SpectrumAnalyzer |

### Test Equipment

## Test Equipment

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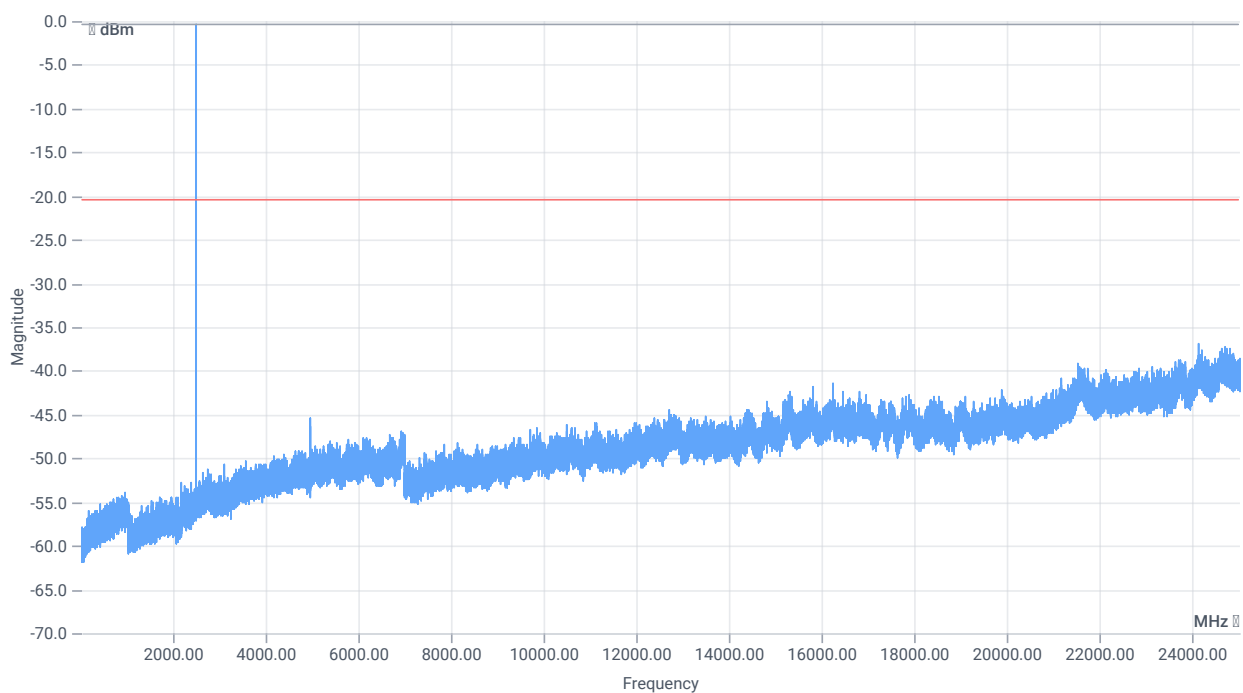
Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

## Test at TX 2480 MHz

RESULT: Reference Power cond.

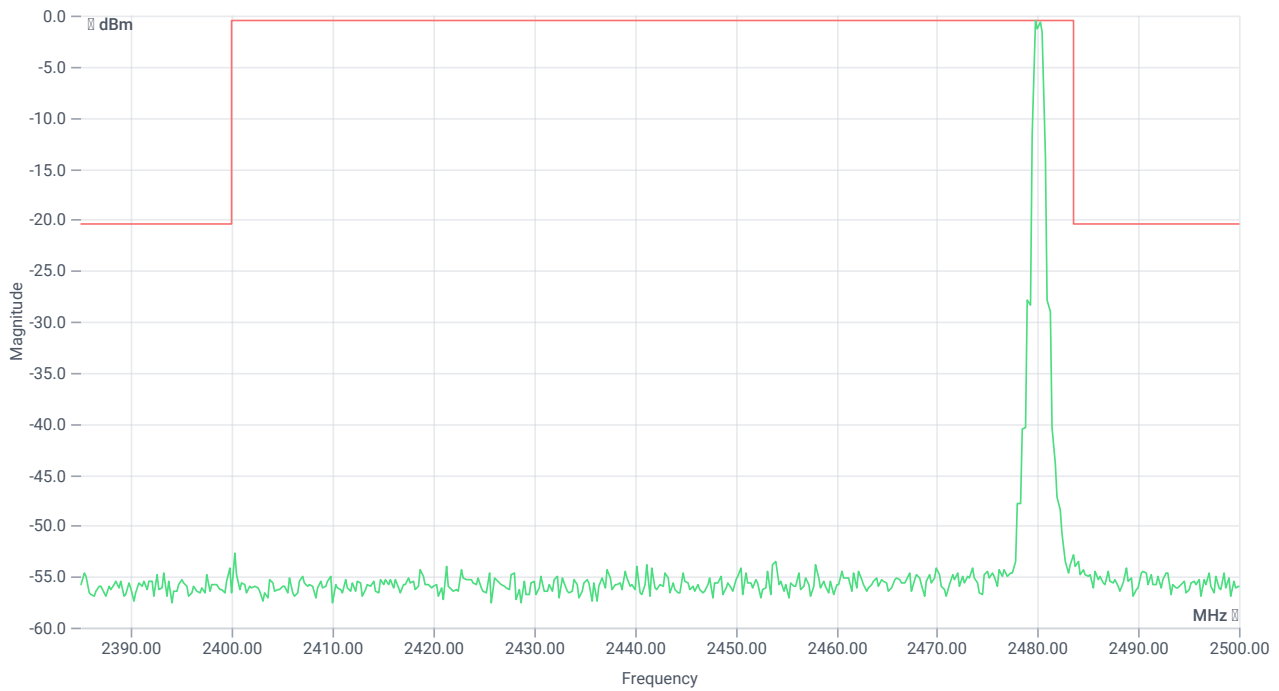
| Test Description              | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | 0.50     | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2480.300 | MHz  | INFO    |



TX emissions

### READ SA SETTINGS:

|                                                      |                       |
|------------------------------------------------------|-----------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 0.50   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 | 200   25   2001   SWE |



## RESULT

| Test Description                   | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|------------------------------------|-------------|-------------|----------|------|---------|
| Reference @ 2479.75 MHz            | ---         | ---         | -0.45    | dBm  | INFO    |
| No peaks detected                  | ---         | ---         |          |      | PASS    |
| Lowest margin to limit 24129.5 MHz | 0           | ---         | 16.48    | dB   | INFO    |

Verdict

PASS

## FCC 15.247 # Maximum peak conducted output power DTS ~ BT LE 2 Msps

### Test References

|                                   |                                                                   |
|-----------------------------------|-------------------------------------------------------------------|
| TC Start                          | 26.04.2023 10:37:55                                               |
| Ambit Temp [°C]   Humidity [rel%] | 26.0   28                                                         |
| System Version                    | 4.0.0.8                                                           |
| Test Specification                | FCC 15.247 -                                                      |
| Test Method                       | DTS: KDB 558074 D01 V05 - Chapter 8.3.1.1 RBW ≥ DTS Bandwidth     |
| TC Version                        | 0.0.1                                                             |
| My Description                    | FCC 15.247 Maximum Peak Output Power Conducted DTS - BT LE 2 Msps |
| Add. Information                  |                                                                   |

### EUT 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 255   RXpayload 255             |
| 2 Mbps supported                         | True   TXpayload 255   RXpayload 255             |
| Longrange S8 supported                   | True   TXpayload 255   RXpayload 255             |
| Longrange S2 supported                   | True   TXpayload 255   RXpayload 255             |
| Signaling Settings                       | None   HCI   39   115200   None   S1   None   On |
| Signaling RF Settings                    | RF1com   0   0   On                              |
| User Interaction                         | No                                               |
| Switch Matrix & Pathcompensation enabled | Yes                                              |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | BT LE 2 Msps                           |
| Antenna Port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | True   Freq [MHz] 2404                 |
| Frequency mid to test                            | False   Freq [MHz] 2440                |
| Frequency high to test                           | False   Freq [MHz] 2478                |
| Auto Control enabled Power Supply   Climatic Box | No   No                                |
| Additional Path Loss [dB]                        | 0.7                                    |
| Switched Path                                    | EUT - SignalingUnit - SpectrumAnalyzer |

## Test Equipment

---

Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

## Test at TX 2404 MHz

RESULT: Reference Power cond.

| Test Description              | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | 0.32     | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2404.500 | MHz  | INFO    |

### READ SA SETTINGS:

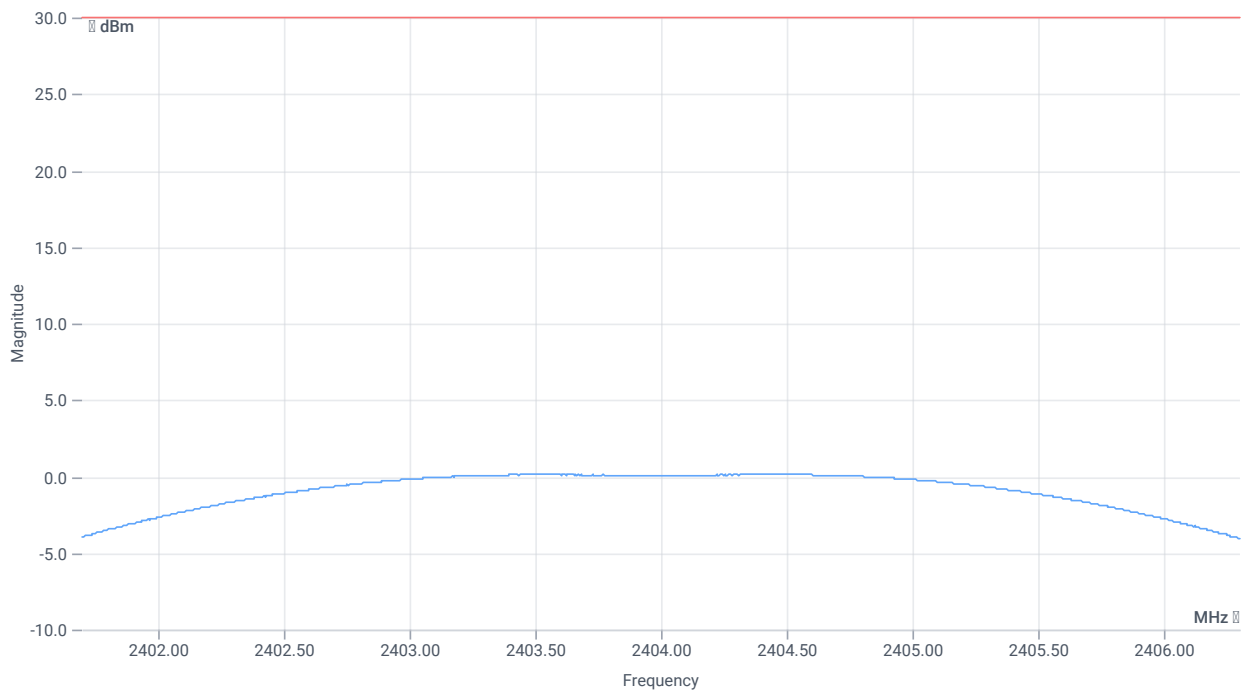
|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 5.32   11.3   10       |
| Start [MHz]   Stop [MHz]                             | 2401.700   2406.300    |
| 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) | ---         | ---         | 1395     | kHz  | INFO    |

### READ SA SETTINGS:

|                                                      |                       |
|------------------------------------------------------|-----------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 10.32   11.3   15     |
| Start [MHz]   Stop [MHz]                             | 2401.700   2406.300   |
| RBW [MHz]   VBW [MHz]                                | 3.000000   10.000000  |
| Detector   TraceMode                                 | POS   MAXH            |
| Sweep: Time [ms]   Count   Points per Section   Type | 50   200   1001   SWE |



Peak output power

## RESULT

| Test Description  | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------|-------------|-------------|----------|------|---------|
| Peak Power        | ---         | 30.00       | 0.13     | dBm  | PASS    |
| Peak Power        | ---         | 1000        | 1.030386 | mW   | PASS    |
| Frequency at Peak | ---         | ---         | 2404.51  | MHz  | INFO    |

## Verdict

PASS

## FCC 15.247 # Maximum peak conducted output power DTS ~ BT LE 2 Msps

### Test References

|                                   |                                                                   |
|-----------------------------------|-------------------------------------------------------------------|
| TC Start                          | 26.04.2023 10:47:40                                               |
| Ambit Temp [°C]   Humidity [rel%] | 26.0   27                                                         |
| System Version                    | 4.0.0.8                                                           |
| Test Specification                | FCC 15.247 -                                                      |
| Test Method                       | DTS: KDB 558074 D01 V05 - Chapter 8.3.1.1 RBW ≥ DTS Bandwidth     |
| TC Version                        | 0.0.1                                                             |
| My Description                    | FCC 15.247 Maximum Peak Output Power Conducted DTS - BT LE 2 Msps |
| Add. Information                  |                                                                   |

### EUT 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 255   RXpayload 255             |
| 2 Mbps supported                         | True   TXpayload 255   RXpayload 255             |
| Longrange S8 supported                   | True   TXpayload 255   RXpayload 255             |
| Longrange S2 supported                   | True   TXpayload 255   RXpayload 255             |
| Signaling Settings                       | None   HCI   39   115200   None   S1   None   On |
| Signaling RF Settings                    | RF1com   0   0   On                              |
| User Interaction                         | No                                               |
| Switch Matrix & Pathcompensation enabled | Yes                                              |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | BT LE 2 Msps                           |
| Antenna Port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | False   Freq [MHz] 2404                |
| Frequency mid to test                            | True   Freq [MHz] 2440                 |
| Frequency high to test                           | False   Freq [MHz] 2478                |
| Auto Control enabled Power Supply   Climatic Box | No   No                                |
| Additional Path Loss [dB]                        | 0.7                                    |
| Switched Path                                    | EUT - SignalingUnit - SpectrumAnalyzer |

## Test Equipment

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Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

## Test at TX 2440 MHz

RESULT: Reference Power cond.

| Test Description              | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | -0.36    | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2440.500 | MHz  | INFO    |

### READ SA SETTINGS:

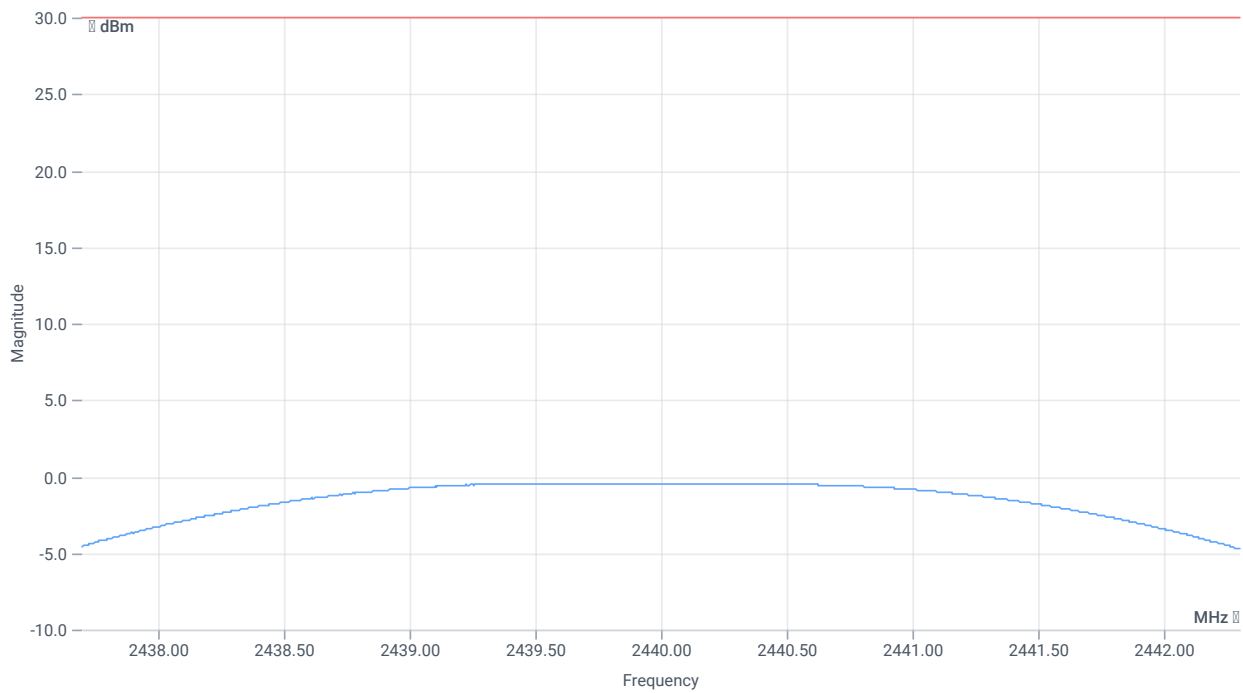
|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 4.64   11.36   10      |
| Start [MHz]   Stop [MHz]                             | 2437.700   2442.300    |
| 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) | ---         | ---         | 1383     | kHz  | INFO    |

### READ SA SETTINGS:

|                                                      |                       |
|------------------------------------------------------|-----------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 9.64   11.36   15     |
| Start [MHz]   Stop [MHz]                             | 2437.700   2442.300   |
| RBW [MHz]   VBW [MHz]                                | 3.000000   10.000000  |
| Detector   TraceMode                                 | POS   MAXH            |
| Sweep: Time [ms]   Count   Points per Section   Type | 50   200   1001   SWE |



Peak output power

## RESULT

| Test Description  | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------|-------------|-------------|----------|------|---------|
| Peak Power        | ---         | 30.00       | -0.47    | dBm  | PASS    |
| Peak Power        | ---         | 1000        | 0.897429 | mW   | PASS    |
| Frequency at Peak | ---         | ---         | 2439.49  | MHz  | INFO    |

Verdict

PASS

## FCC 15.247 # Maximum peak conducted output power DTS ~ BT LE 2 Msps

### Test References

|                                   |                                                                   |
|-----------------------------------|-------------------------------------------------------------------|
| TC Start                          | 26.04.2023 11:01:56                                               |
| Ambit Temp [°C]   Humidity [rel%] | 26.1   28                                                         |
| System Version                    | 4.0.0.8                                                           |
| Test Specification                | FCC 15.247 -                                                      |
| Test Method                       | DTS: KDB 558074 D01 V05 - Chapter 8.3.1.1 RBW ≥ DTS Bandwidth     |
| TC Version                        | 0.0.1                                                             |
| My Description                    | FCC 15.247 Maximum Peak Output Power Conducted DTS - BT LE 2 Msps |
| Add. Information                  |                                                                   |

### EUT 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 255   RXpayload 255             |
| 2 Mbps supported                         | True   TXpayload 255   RXpayload 255             |
| Longrange S8 supported                   | True   TXpayload 255   RXpayload 255             |
| Longrange S2 supported                   | True   TXpayload 255   RXpayload 255             |
| Signaling Settings                       | None   HCI   39   115200   None   S1   None   On |
| Signaling RF Settings                    | RF1com   0   0   On                              |
| User Interaction                         | No                                               |
| Switch Matrix & Pathcompensation enabled | Yes                                              |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | BT LE 2 Msps                           |
| Antenna Port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | False   Freq [MHz] 2404                |
| Frequency mid to test                            | False   Freq [MHz] 2440                |
| Frequency high to test                           | True   Freq [MHz] 2478                 |
| Auto Control enabled Power Supply   Climatic Box | No   No                                |
| Additional Path Loss [dB]                        | 0.7                                    |
| Switched Path                                    | EUT - SignalingUnit - SpectrumAnalyzer |

## Test Equipment

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Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

## Test at TX 2478 MHz

RESULT: Reference Power cond.

| Test Description              | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | -0.28    | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2478.500 | MHz  | INFO    |

### READ SA SETTINGS:

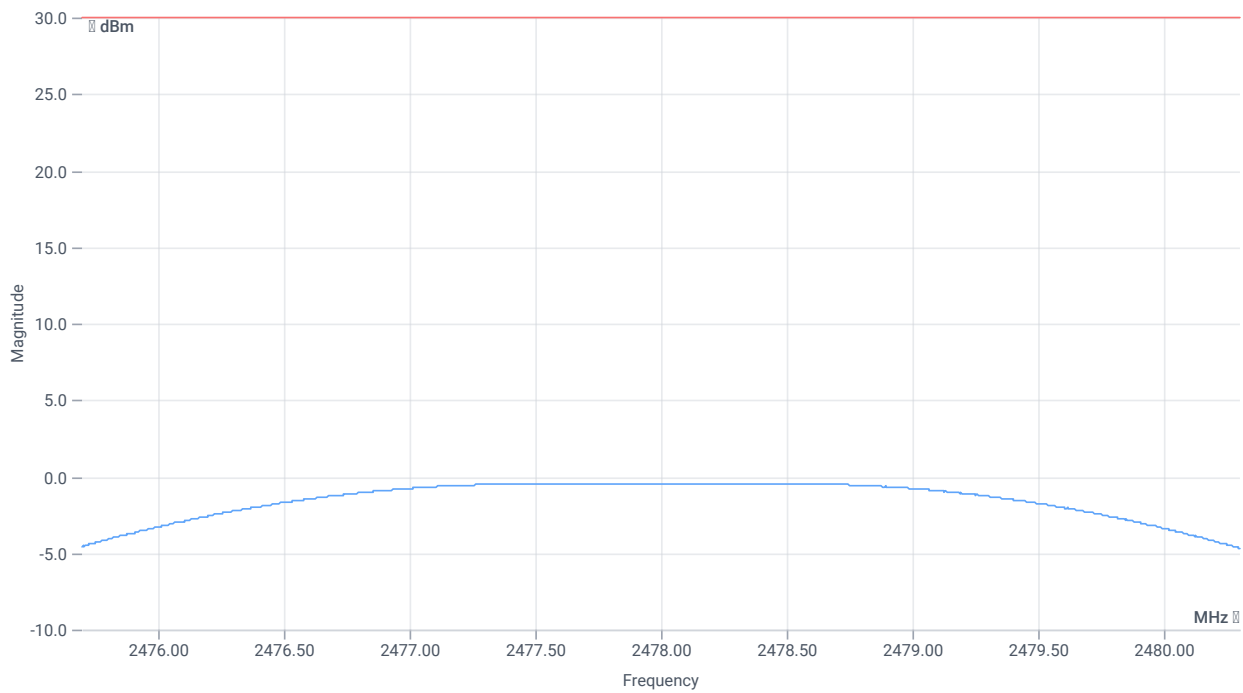
|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 4.72   11.4   10       |
| Start [MHz]   Stop [MHz]                             | 2475.700   2480.300    |
| 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) | ---         | ---         | 1363     | kHz  | INFO    |

### READ SA SETTINGS:

|                                                      |                       |
|------------------------------------------------------|-----------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 9.72   11.4   15      |
| Start [MHz]   Stop [MHz]                             | 2475.700   2480.300   |
| RBW [MHz]   VBW [MHz]                                | 3.000000   10.000000  |
| Detector   TraceMode                                 | POS   MAXH            |
| Sweep: Time [ms]   Count   Points per Section   Type | 50   200   1001   SWE |



Peak output power

## RESULT

| Test Description  | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------|-------------|-------------|----------|------|---------|
| Peak Power        | ---         | 30.00       | -0.45    | dBm  | PASS    |
| Peak Power        | ---         | 1000        | 0.901571 | mW   | PASS    |
| Frequency at Peak | ---         | ---         | 2478.455 | MHz  | INFO    |

Verdict

PASS

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

### Test References

|                                   |                                             |
|-----------------------------------|---------------------------------------------|
| TC Start                          | 26.04.2023 10:38:38                         |
| Ambit Temp [°C]   Humidity [rel%] | 26.0   28                                   |
| System Version                    | 4.0.0.8                                     |
| Test Specification                | FCC 15.247 -                                |
| Test Method                       |                                             |
| TC Version                        | 0.0.1                                       |
| My Description                    | FCC 15.247 Bandwidth 6dB DTS - BT LE 2 Msps |
| Add. Information                  |                                             |

### EUT 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 255   RXpayload 255             |
| 2 Mbps supported                         | True   TXpayload 255   RXpayload 255             |
| Longrange S8 supported                   | True   TXpayload 255   RXpayload 255             |
| Longrange S2 supported                   | True   TXpayload 255   RXpayload 255             |
| Signaling Settings                       | None   HCI   39   115200   None   S1   None   On |
| Signaling RF Settings                    | RF1com   0   0   On                              |
| User Interaction                         | No                                               |
| Switch Matrix & Pathcompensation enabled | Yes                                              |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | BT LE 2 Msps                           |
| Antenna Port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | True   Freq [MHz] 2404                 |
| Frequency mid to test                            | False   Freq [MHz] 2440                |
| Frequency high to test                           | False   Freq [MHz] 2478                |
| Auto Control enabled Power Supply   Climatic Box | No   No                                |
| Additional Path Loss [dB]                        | 0.7                                    |
| Switched Path                                    | EUT - SignalingUnit - SpectrumAnalyzer |

### Test Equipment

|                                                               |
|---------------------------------------------------------------|
| Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60 |
|---------------------------------------------------------------|

## Test Equipment

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Switch matrix, CTCadvanced, RSM-1 NI DAQ, 31534892, NI

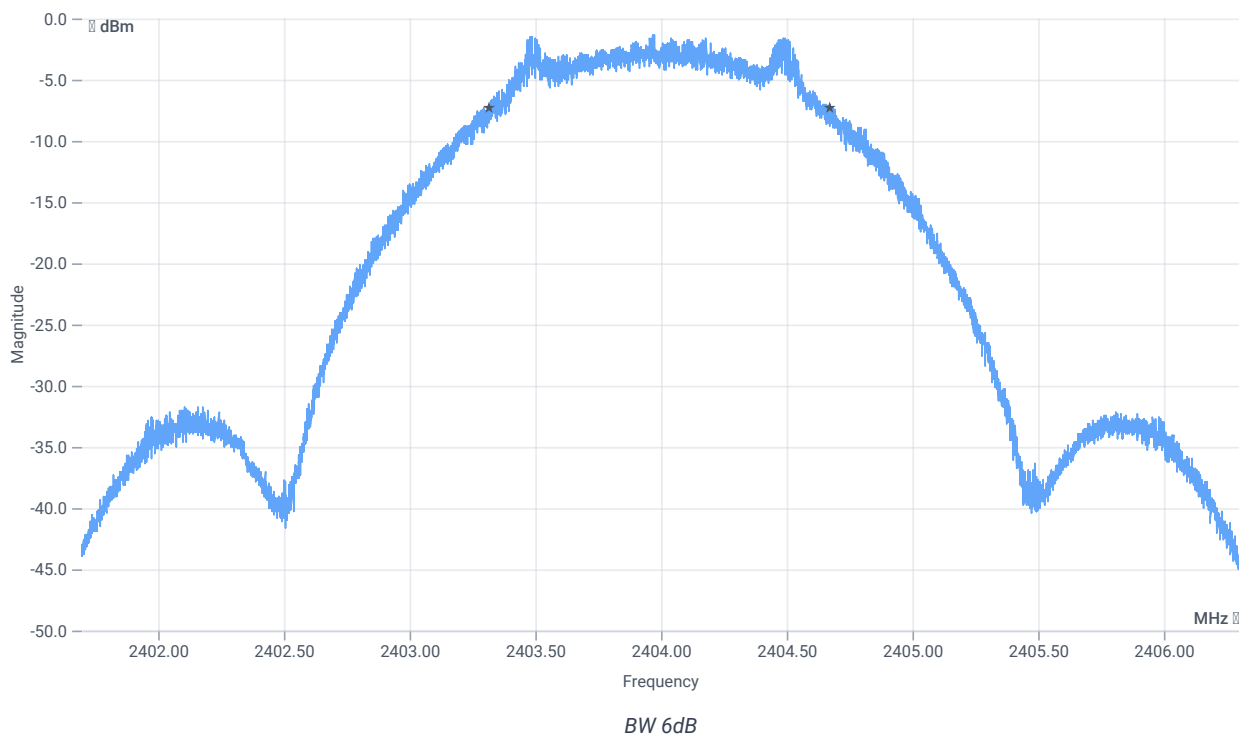
## Test at TX 2404 MHz

RESULT: Reference Power cond.

| Test Description              | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | 0.28     | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2404.500 | MHz  | INFO    |

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 5.28   11.3   10       |
| Start [MHz]   Stop [MHz]                             | 2401.700   2406.300    |
| 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         | ---         | 1357     | kHz  | PASS    |

Verdict

PASS

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

### Test References

|                                   |                                             |
|-----------------------------------|---------------------------------------------|
| TC Start                          | 26.04.2023 10:48:23                         |
| Ambit Temp [°C]   Humidity [rel%] | 26.0   27                                   |
| System Version                    | 4.0.0.8                                     |
| Test Specification                | FCC 15.247 -                                |
| Test Method                       |                                             |
| TC Version                        | 0.0.1                                       |
| My Description                    | FCC 15.247 Bandwidth 6dB DTS - BT LE 2 Msps |
| Add. Information                  |                                             |

### EUT 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 255   RXpayload 255             |
| 2 Mbps supported                         | True   TXpayload 255   RXpayload 255             |
| Longrange S8 supported                   | True   TXpayload 255   RXpayload 255             |
| Longrange S2 supported                   | True   TXpayload 255   RXpayload 255             |
| Signaling Settings                       | None   HCI   39   115200   None   S1   None   On |
| Signaling RF Settings                    | RF1com   0   0   On                              |
| User Interaction                         | No                                               |
| Switch Matrix & Pathcompensation enabled | Yes                                              |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | BT LE 2 Msps                           |
| Antenna Port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | False   Freq [MHz] 2404                |
| Frequency mid to test                            | True   Freq [MHz] 2440                 |
| Frequency high to test                           | False   Freq [MHz] 2478                |
| Auto Control enabled Power Supply   Climatic Box | No   No                                |
| Additional Path Loss [dB]                        | 0.7                                    |
| Switched Path                                    | EUT - SignalingUnit - SpectrumAnalyzer |

### Test Equipment

|                                                               |
|---------------------------------------------------------------|
| Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60 |
|---------------------------------------------------------------|

## Test Equipment

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Switch matrix, CTCadvanced, RSM-1 NI DAQ, 31534892, NI

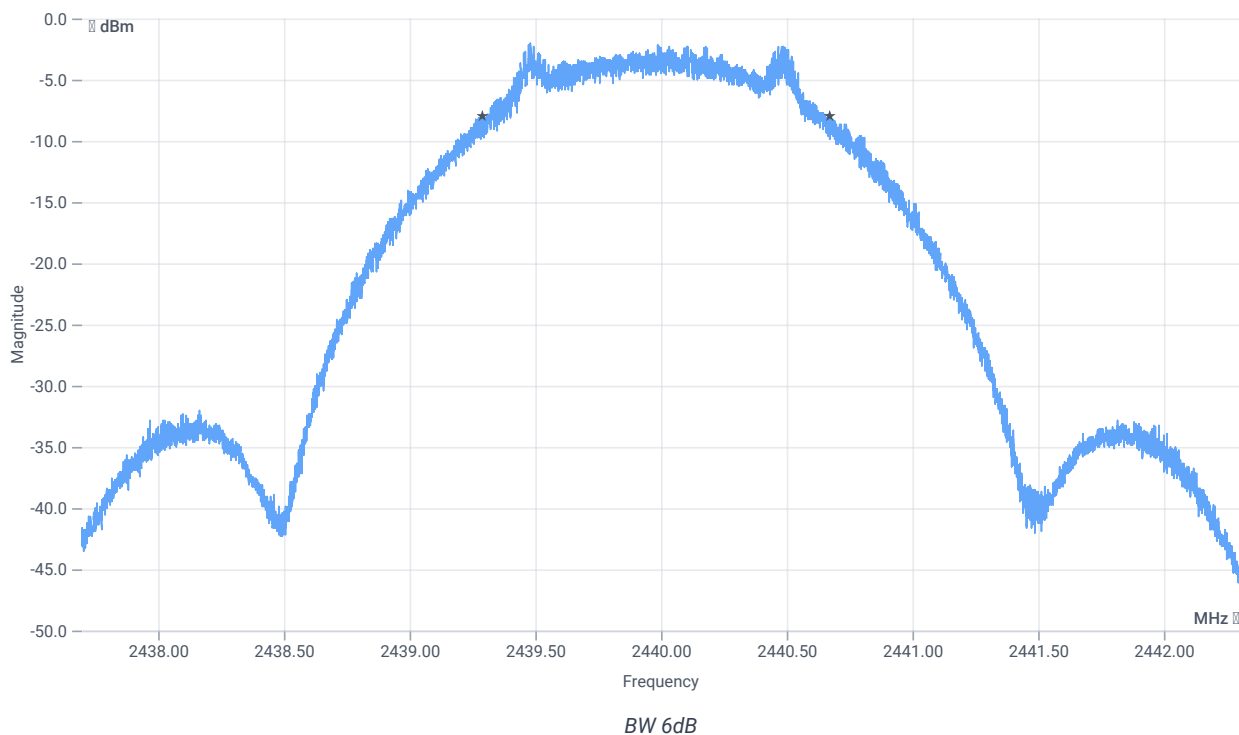
## Test at TX 2440 MHz

RESULT: Reference Power cond.

| Test Description              | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | -0.26    | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2440.500 | MHz  | INFO    |

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 4.74   11.36   10      |
| Start [MHz]   Stop [MHz]                             | 2437.700   2442.300    |
| 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         | ---         | 1382     | kHz  | PASS    |

### Verdict

PASS

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

### Test References

|                                   |                                             |
|-----------------------------------|---------------------------------------------|
| TC Start                          | 26.04.2023 11:02:39                         |
| Ambit Temp [°C]   Humidity [rel%] | 26.1   28                                   |
| System Version                    | 4.0.0.8                                     |
| Test Specification                | FCC 15.247 -                                |
| Test Method                       |                                             |
| TC Version                        | 0.0.1                                       |
| My Description                    | FCC 15.247 Bandwidth 6dB DTS - BT LE 2 Msps |
| Add. Information                  |                                             |

### EUT 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 255   RXpayload 255             |
| 2 Mbps supported                         | True   TXpayload 255   RXpayload 255             |
| Longrange S8 supported                   | True   TXpayload 255   RXpayload 255             |
| Longrange S2 supported                   | True   TXpayload 255   RXpayload 255             |
| Signaling Settings                       | None   HCI   39   115200   None   S1   None   On |
| Signaling RF Settings                    | RF1com   0   0   On                              |
| User Interaction                         | No                                               |
| Switch Matrix & Pathcompensation enabled | Yes                                              |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | BT LE 2 Msps                           |
| Antenna Port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | False   Freq [MHz] 2404                |
| Frequency mid to test                            | False   Freq [MHz] 2440                |
| Frequency high to test                           | True   Freq [MHz] 2478                 |
| Auto Control enabled Power Supply   Climatic Box | No   No                                |
| Additional Path Loss [dB]                        | 0.7                                    |
| Switched Path                                    | EUT - SignalingUnit - SpectrumAnalyzer |

### Test Equipment

|                                                               |
|---------------------------------------------------------------|
| Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60 |
|---------------------------------------------------------------|

## Test Equipment

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Switch matrix, CTCadvanced, RSM-1 NI DAQ, 31534892, NI

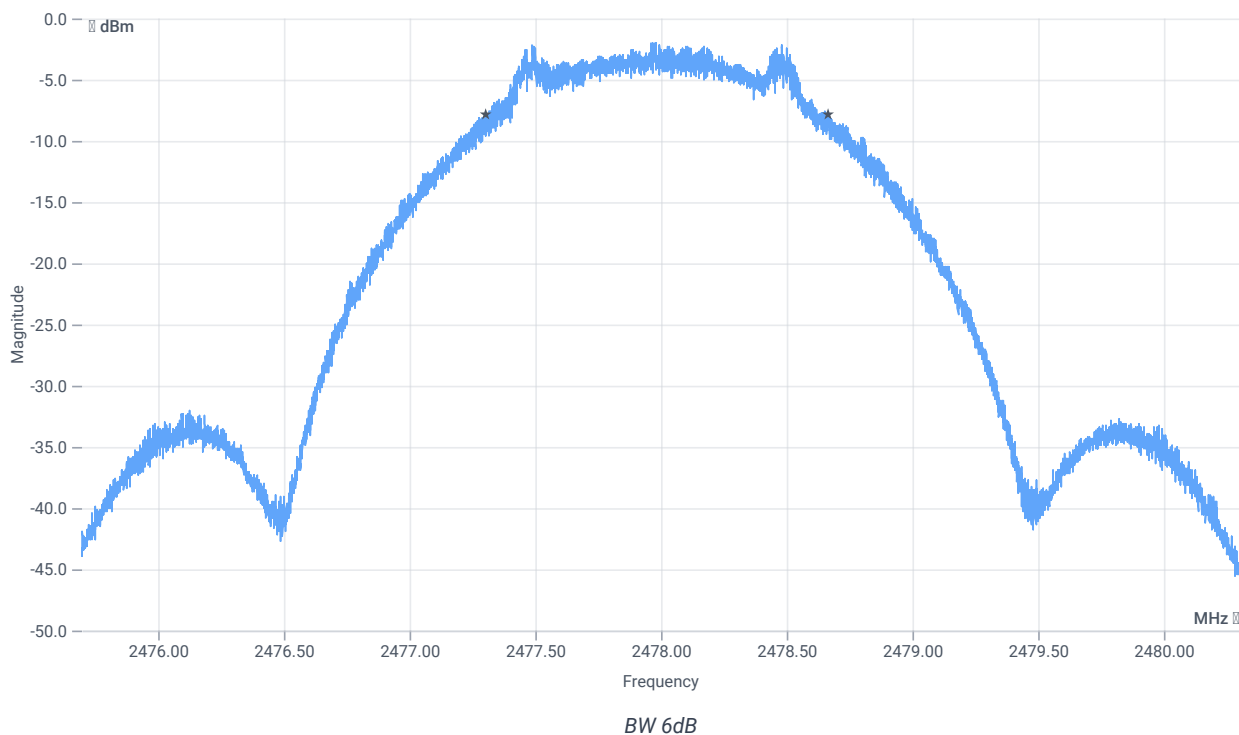
## Test at TX 2478 MHz

RESULT: Reference Power cond.

| Test Description              | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | -0.30    | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2478.500 | MHz  | INFO    |

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 4.70   11.4   10       |
| Start [MHz]   Stop [MHz]                             | 2475.700   2480.300    |
| 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         | ---         | 1361     | kHz  | PASS    |

### Verdict

PASS

## FCC 15.247 # Peak psd DTS ~ BT LE 2 Msps

### Test References

|                                   |                                                                                                            |
|-----------------------------------|------------------------------------------------------------------------------------------------------------|
| TC Start                          | 26.04.2023 10:39:09                                                                                        |
| Ambit Temp [°C]   Humidity [rel%] | 26.0   28                                                                                                  |
| System Version                    | 4.0.0.8                                                                                                    |
| Test Specification                | FCC 15.247 -                                                                                               |
| Test Method                       | DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission |
| TC Version                        | 0.0.1                                                                                                      |
| My Description                    | FCC 15.247 Peak psd DTS - BT LE 2 Msps                                                                     |
| Add. Information                  |                                                                                                            |

### EUT 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 255   RXpayload 255             |
| 2 Mbps supported                         | True   TXpayload 255   RXpayload 255             |
| Longrange S8 supported                   | True   TXpayload 255   RXpayload 255             |
| Longrange S2 supported                   | True   TXpayload 255   RXpayload 255             |
| Signaling Settings                       | None   HCI   39   115200   None   S1   None   On |
| Signaling RF Settings                    | RF1com   0   0   On                              |
| User Interaction                         | No                                               |
| Switch Matrix & Pathcompensation enabled | Yes                                              |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | BT LE 2 Msps                           |
| Antenna Port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | True   Freq [MHz] 2404                 |
| Frequency mid to test                            | False   Freq [MHz] 2440                |
| Frequency high to test                           | False   Freq [MHz] 2478                |
| Auto Control enabled Power Supply   Climatic Box | No   No                                |
| Additional Path Loss [dB]                        | 0.7                                    |
| Switched Path                                    | EUT - SignalingUnit - SpectrumAnalyzer |

### Test Equipment

## Test Equipment

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Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

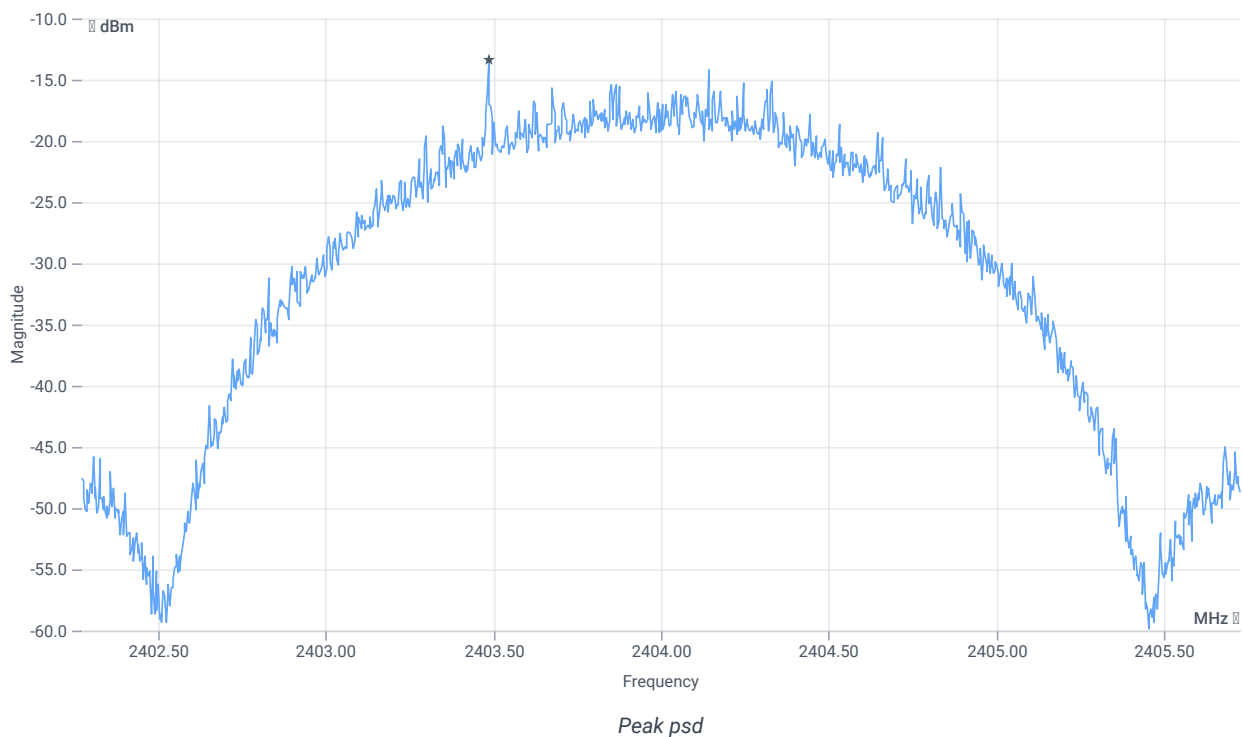
## Test at TX 2404 MHz

RESULT: Reference Power cond.

| Test Description              | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | 0.25     | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2404.500 | MHz  | INFO    |

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 5.25   11.3   10       |
| Start [MHz]   Stop [MHz]                             | 2402.275   2405.725    |
| 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 |
|------------------|-------------|-------------|----------|----------|---------|
| Peak psd         | ---         | 8           | -13.36   | dBm/3KHz | PASS    |

### Verdict

PASS

## FCC 15.247 # Peak psd DTS ~ BT LE 2 Msps

### Test References

|                                   |                                                                                                            |
|-----------------------------------|------------------------------------------------------------------------------------------------------------|
| TC Start                          | 26.04.2023 10:48:53                                                                                        |
| Ambit Temp [°C]   Humidity [rel%] | 26.0   27                                                                                                  |
| System Version                    | 4.0.0.8                                                                                                    |
| Test Specification                | FCC 15.247 -                                                                                               |
| Test Method                       | DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission |
| TC Version                        | 0.0.1                                                                                                      |
| My Description                    | FCC 15.247 Peak psd DTS - BT LE 2 Msps                                                                     |
| Add. Information                  |                                                                                                            |

### EUT 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 255   RXpayload 255             |
| 2 Mbps supported                         | True   TXpayload 255   RXpayload 255             |
| Longrange S8 supported                   | True   TXpayload 255   RXpayload 255             |
| Longrange S2 supported                   | True   TXpayload 255   RXpayload 255             |
| Signaling Settings                       | None   HCI   39   115200   None   S1   None   On |
| Signaling RF Settings                    | RF1com   0   0   On                              |
| User Interaction                         | No                                               |
| Switch Matrix & Pathcompensation enabled | Yes                                              |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | BT LE 2 Msps                           |
| Antenna Port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | False   Freq [MHz] 2404                |
| Frequency mid to test                            | True   Freq [MHz] 2440                 |
| Frequency high to test                           | False   Freq [MHz] 2478                |
| Auto Control enabled Power Supply   Climatic Box | No   No                                |
| Additional Path Loss [dB]                        | 0.7                                    |
| Switched Path                                    | EUT - SignalingUnit - SpectrumAnalyzer |

### Test Equipment

## Test Equipment

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Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

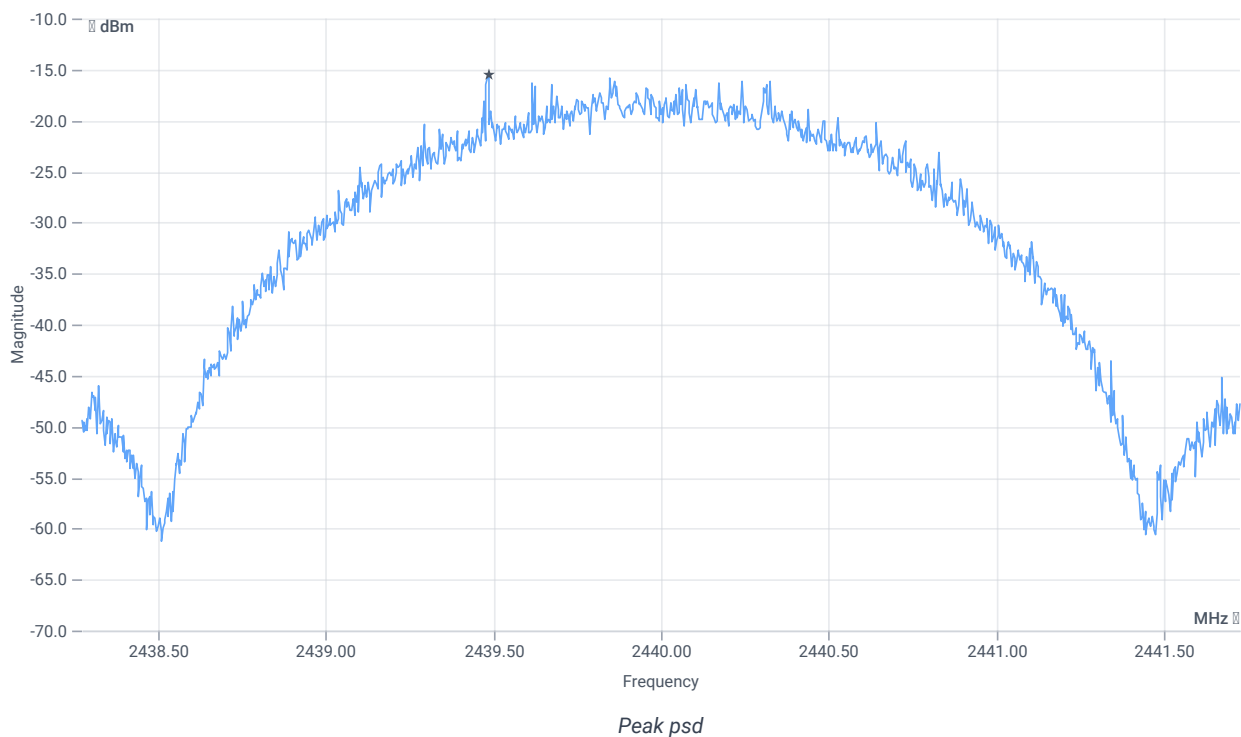
## Test at TX 2440 MHz

RESULT: Reference Power cond.

| Test Description              | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | -0.34    | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2440.500 | MHz  | INFO    |

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 4.66   11.36   10      |
| Start [MHz]   Stop [MHz]                             | 2438.275   2441.725    |
| 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 |
|------------------|-------------|-------------|----------|----------|---------|
| Peak psd         | ---         | 8           | -15.59   | dBm/3KHz | PASS    |

Verdict

PASS

## FCC 15.247 # Peak psd DTS ~ BT LE 2 Msps

### Test References

|                                   |                                                                                                            |
|-----------------------------------|------------------------------------------------------------------------------------------------------------|
| TC Start                          | 26.04.2023 11:03:10                                                                                        |
| Ambit Temp [°C]   Humidity [rel%] | 26.1   28                                                                                                  |
| System Version                    | 4.0.0.8                                                                                                    |
| Test Specification                | FCC 15.247 -                                                                                               |
| Test Method                       | DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission |
| TC Version                        | 0.0.1                                                                                                      |
| My Description                    | FCC 15.247 Peak psd DTS - BT LE 2 Msps                                                                     |
| Add. Information                  |                                                                                                            |

### EUT 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 255   RXpayload 255             |
| 2 Mbps supported                         | True   TXpayload 255   RXpayload 255             |
| Longrange S8 supported                   | True   TXpayload 255   RXpayload 255             |
| Longrange S2 supported                   | True   TXpayload 255   RXpayload 255             |
| Signaling Settings                       | None   HCI   39   115200   None   S1   None   On |
| Signaling RF Settings                    | RF1com   0   0   On                              |
| User Interaction                         | No                                               |
| Switch Matrix & Pathcompensation enabled | Yes                                              |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | BT LE 2 Msps                           |
| Antenna Port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | False   Freq [MHz] 2404                |
| Frequency mid to test                            | False   Freq [MHz] 2440                |
| Frequency high to test                           | True   Freq [MHz] 2478                 |
| Auto Control enabled Power Supply   Climatic Box | No   No                                |
| Additional Path Loss [dB]                        | 0.7                                    |
| Switched Path                                    | EUT - SignalingUnit - SpectrumAnalyzer |

### Test Equipment

## Test Equipment

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Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

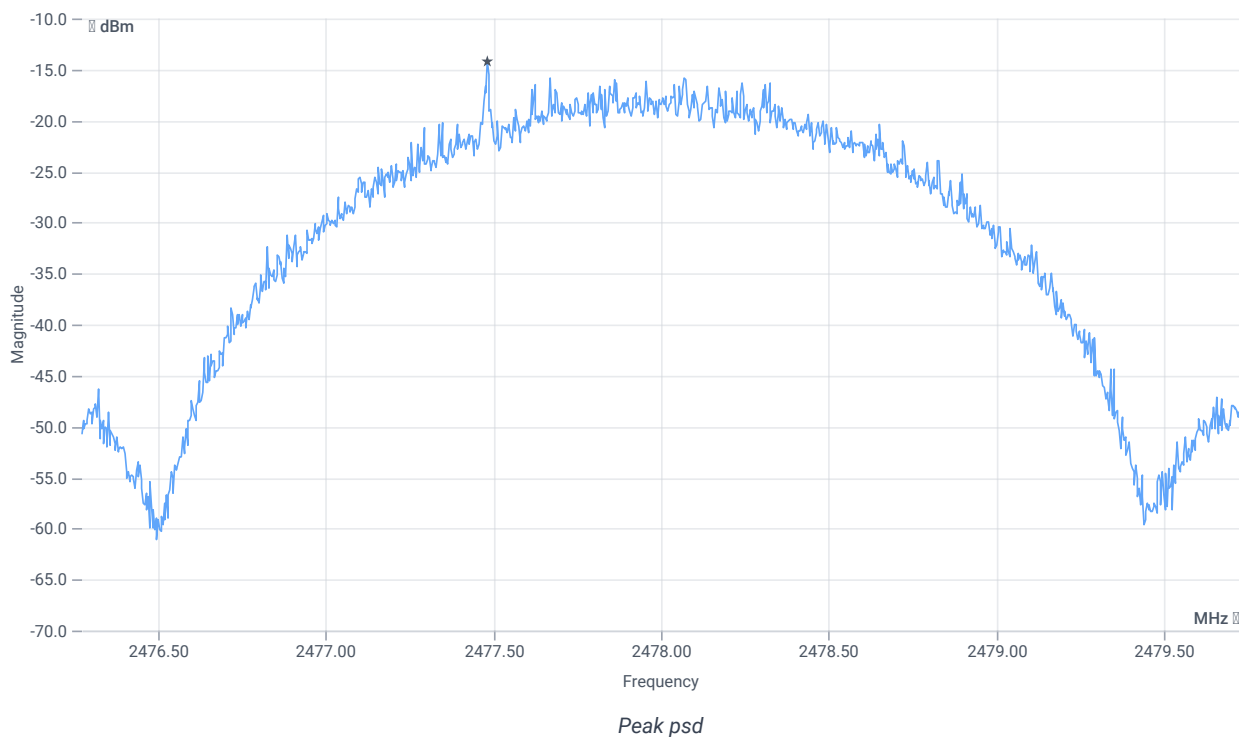
## Test at TX 2478 MHz

RESULT: Reference Power cond.

| Test Description              | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | -0.39    | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2478.500 | MHz  | INFO    |

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 4.61   11.4   10       |
| Start [MHz]   Stop [MHz]                             | 2476.275   2479.725    |
| 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 |
|------------------|-------------|-------------|----------|----------|---------|
| Peak psd         | ---         | 8           | -14.2    | dBm/3KHz | PASS    |

### Verdict

PASS

# FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ BT LE 2 Msps

## Test References

|                                   |                                                    |
|-----------------------------------|----------------------------------------------------|
| TC Start                          | 26.04.2023 10:39:49                                |
| Ambit Temp [°C]   Humidity [rel%] | 26.0   28                                          |
| System Version                    | 4.0.0.8                                            |
| Test Specification                | FCC 15.247, ISED RSS247 -                          |
| Test Method                       |                                                    |
| TC Version                        | 0.0.2                                              |
| My Description                    | FCC 15.247 Bandwidth 99PCT-20dB DTS - BT LE 2 Msps |
| Add. Information                  |                                                    |

## EUT 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 255   RXpayload 255             |
| 2 Mbps supported                         | True   TXpayload 255   RXpayload 255             |
| Longrange S8 supported                   | True   TXpayload 255   RXpayload 255             |
| Longrange S2 supported                   | True   TXpayload 255   RXpayload 255             |
| Signaling Settings                       | None   HCI   39   115200   None   S1   None   On |
| Signaling RF Settings                    | RF1com   0   0   On                              |
| User Interaction                         | No                                               |
| Switch Matrix & Pathcompensation enabled | Yes                                              |

## Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | BT LE 2 Msps                           |
| Antenna Port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | True   Freq [MHz] 2404                 |
| Frequency mid to test                            | False   Freq [MHz] 2440                |
| Frequency high to test                           | False   Freq [MHz] 2478                |
| Auto Control enabled Power Supply   Climatic Box | No   No                                |
| Additional Path Loss [dB]                        | 0.7                                    |
| Switched Path                                    | EUT - SignalingUnit - SpectrumAnalyzer |

## Test Equipment

## Test Equipment

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Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

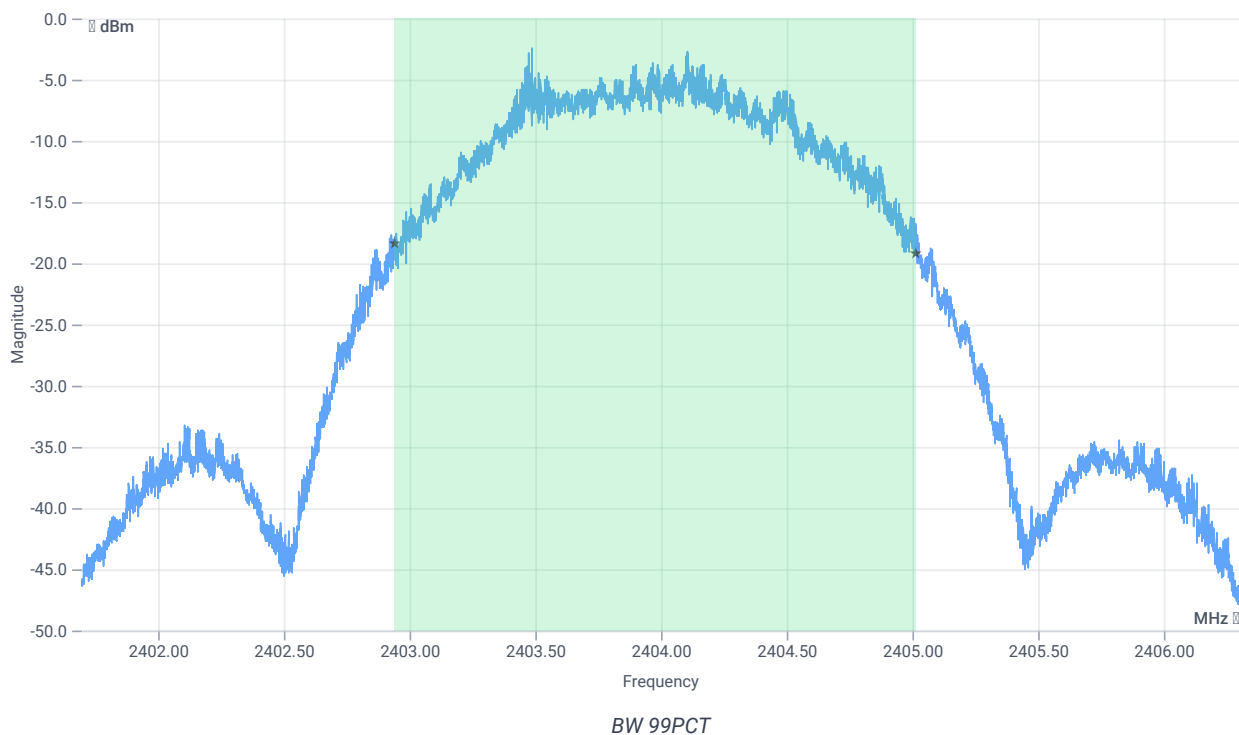
## Test at TX 2404 MHz

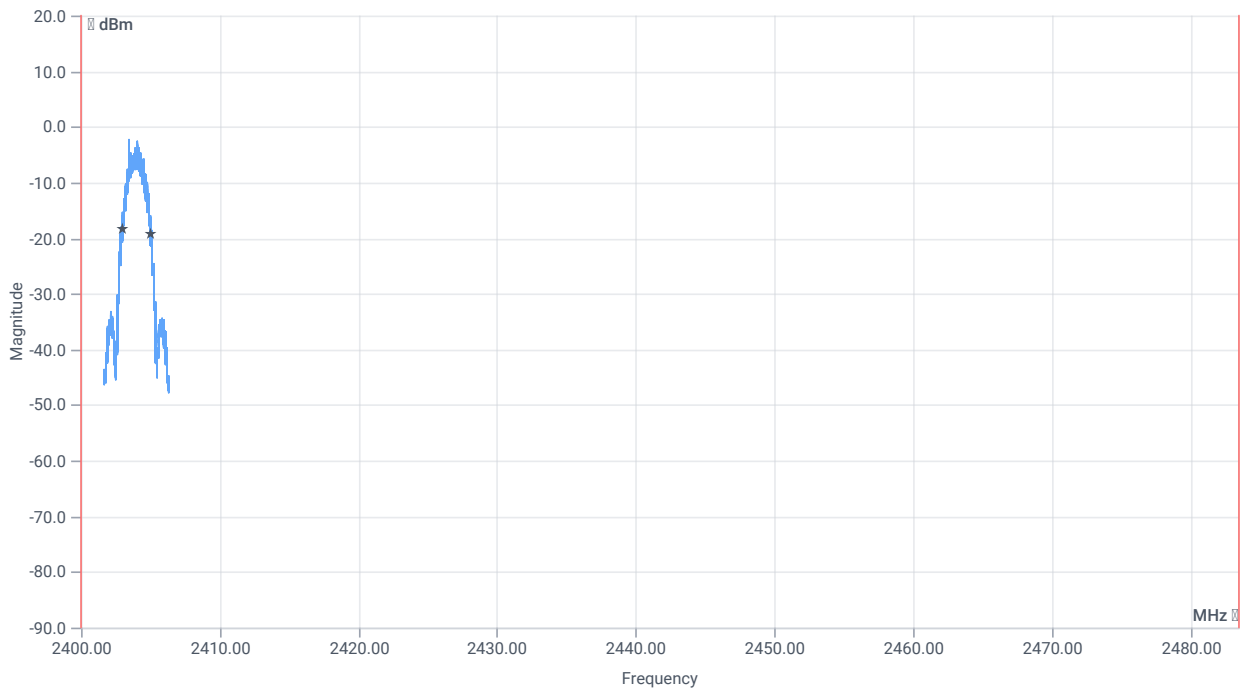
RESULT: Reference Power cond.

| Test Description              | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | 0.22     | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2404.500 | MHz  | INFO    |

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 5.22   11.3   10       |
| Start [MHz]   Stop [MHz]                             | 2401.700   2406.300    |
| RBW [MHz]   VBW [MHz]                                | 0.050000   0.200000    |
| Detector   TraceMode                                 | POS   MAXH             |
| Sweep: Time [ms]   Count   Points per Section   Type | 50   200   10001   SWE |

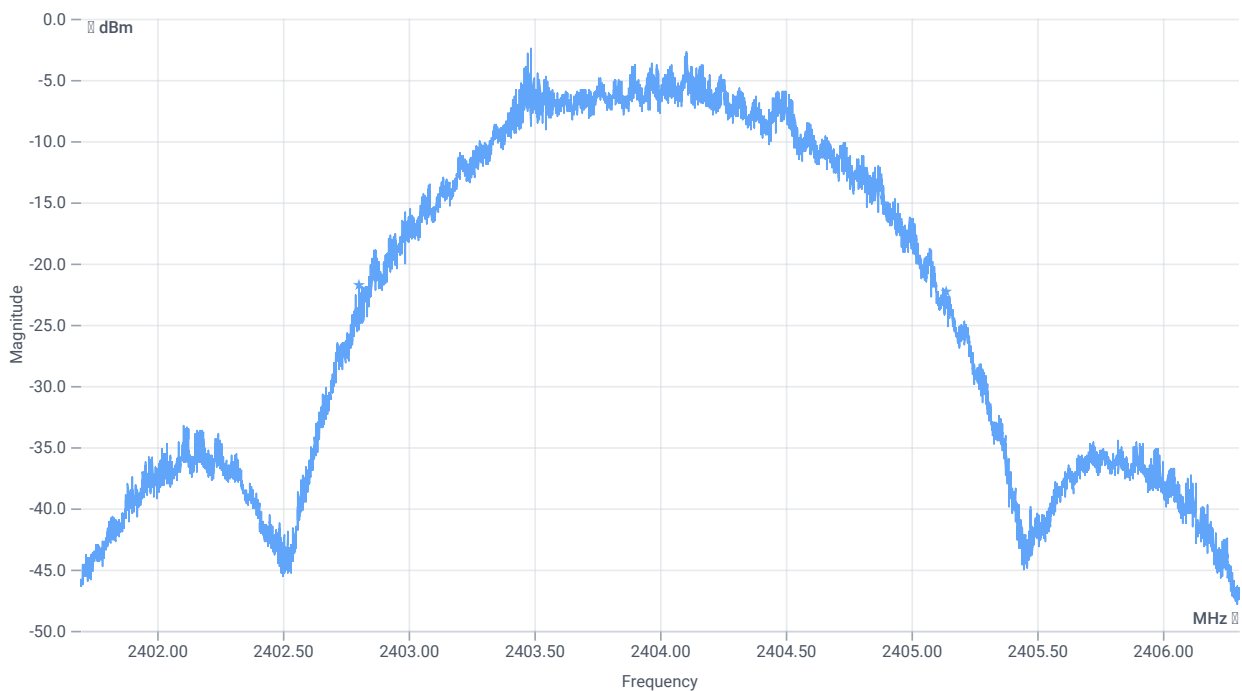




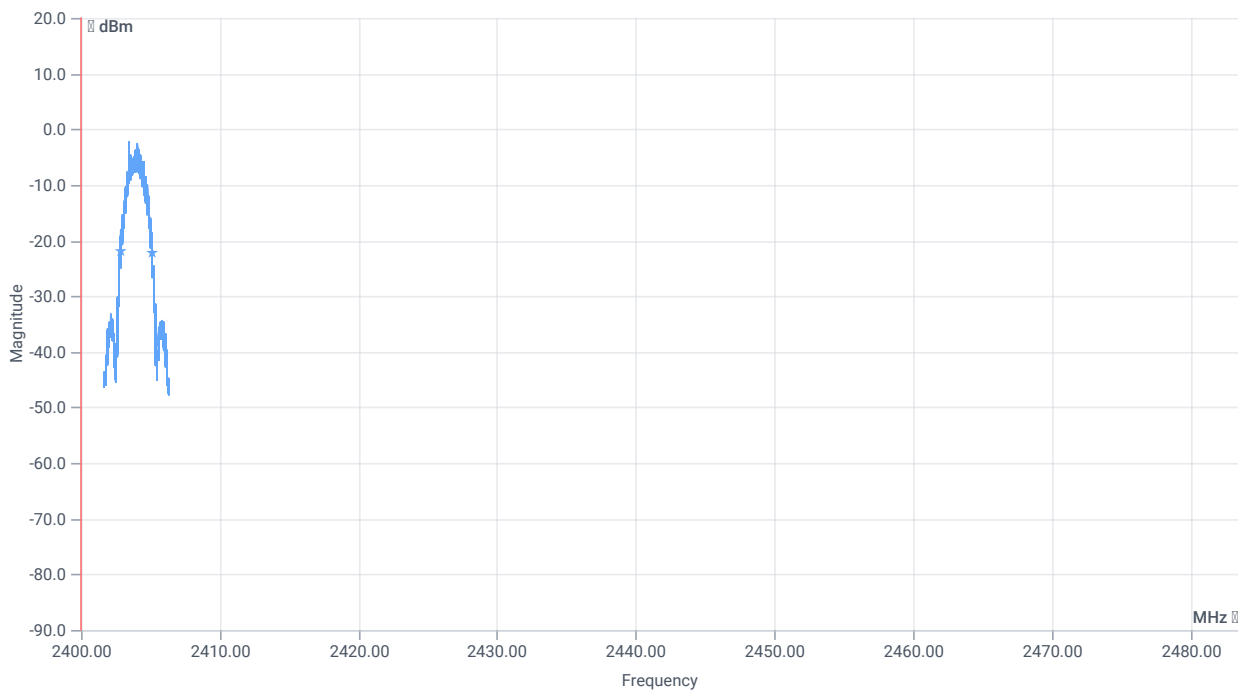
*BW within Band 99PCT*

## RESULT

| Test Description | Lower Limit | Upper Limit | Measured  | Unit | Verdict |
|------------------|-------------|-------------|-----------|------|---------|
| Bandwidth 99%    | ---         | ---         | 2072.000  | kHz  | INFO    |
| T1 99%           | 2400.000000 | ---         | 2402.9430 | MHz  | PASS    |
| T2 99%           | ---         | 2483.500000 | 2405.0147 | MHz  | PASS    |



BW 20dB



BW within Band 20dB

## RESULT

| Test Description | Lower Limit | Upper Limit | Measured  | Unit | Verdict |
|------------------|-------------|-------------|-----------|------|---------|
| Bandwidth 20dB   | ---         | ---         | 2328      | kHz  | INFO    |
| T1 20dB          | 2400.000000 | ---         | 2402.8063 | MHz  | PASS    |
| T2 20dB          | ---         | 2483.500000 | 2405.1344 | MHz  | PASS    |

Verdict

PASS

# FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ BT LE 2 Msps

## Test References

|                                   |                                                    |
|-----------------------------------|----------------------------------------------------|
| TC Start                          | 26.04.2023 10:49:34                                |
| Ambit Temp [°C]   Humidity [rel%] | 26.0   27                                          |
| System Version                    | 4.0.0.8                                            |
| Test Specification                | FCC 15.247, ISED RSS247 -                          |
| Test Method                       |                                                    |
| TC Version                        | 0.0.2                                              |
| My Description                    | FCC 15.247 Bandwidth 99PCT-20dB DTS - BT LE 2 Msps |
| Add. Information                  |                                                    |

## EUT 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 255   RXpayload 255             |
| 2 Mbps supported                         | True   TXpayload 255   RXpayload 255             |
| Longrange S8 supported                   | True   TXpayload 255   RXpayload 255             |
| Longrange S2 supported                   | True   TXpayload 255   RXpayload 255             |
| Signaling Settings                       | None   HCI   39   115200   None   S1   None   On |
| Signaling RF Settings                    | RF1com   0   0   On                              |
| User Interaction                         | No                                               |
| Switch Matrix & Pathcompensation enabled | Yes                                              |

## Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | BT LE 2 Msps                           |
| Antenna Port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | False   Freq [MHz] 2404                |
| Frequency mid to test                            | True   Freq [MHz] 2440                 |
| Frequency high to test                           | False   Freq [MHz] 2478                |
| Auto Control enabled Power Supply   Climatic Box | No   No                                |
| Additional Path Loss [dB]                        | 0.7                                    |
| Switched Path                                    | EUT - SignalingUnit - SpectrumAnalyzer |

## Test Equipment

## Test Equipment

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Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

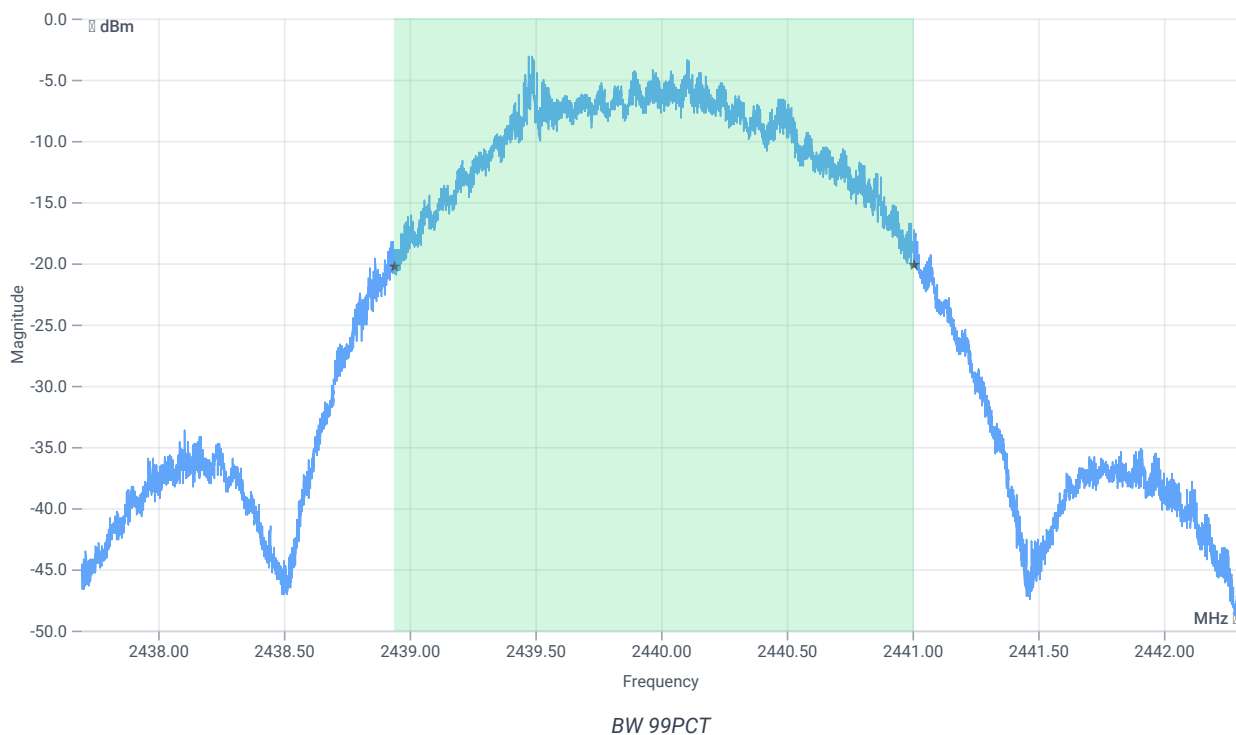
## Test at TX 2440 MHz

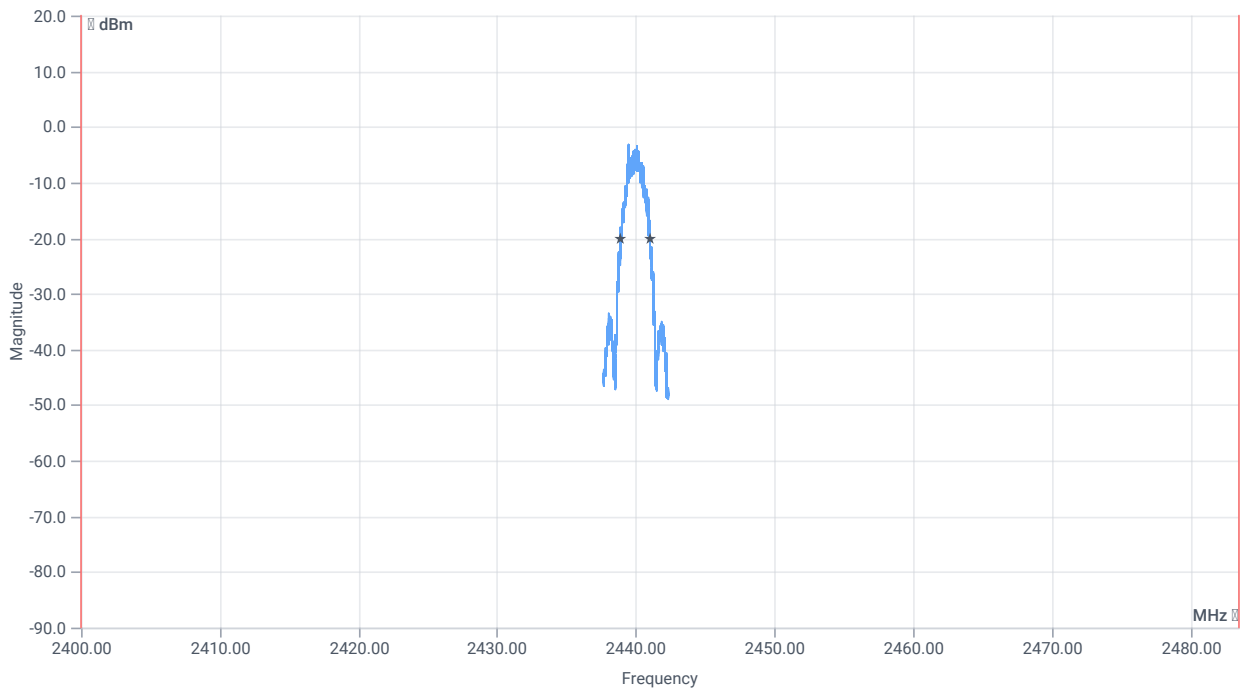
RESULT: Reference Power cond.

| Test Description              | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | -0.41    | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2440.500 | MHz  | INFO    |

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 4.59   11.36   10      |
| Start [MHz]   Stop [MHz]                             | 2437.700   2442.300    |
| RBW [MHz]   VBW [MHz]                                | 0.050000   0.200000    |
| Detector   TraceMode                                 | POS   MAXH             |
| Sweep: Time [ms]   Count   Points per Section   Type | 50   200   10001   SWE |

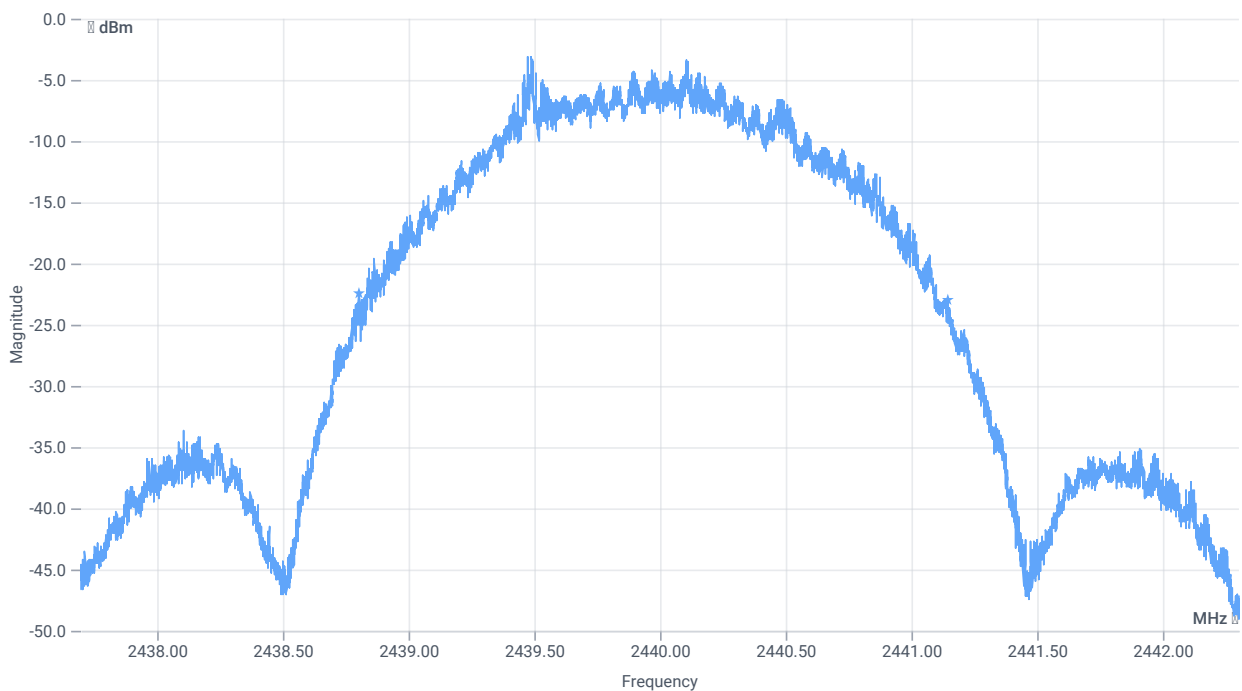




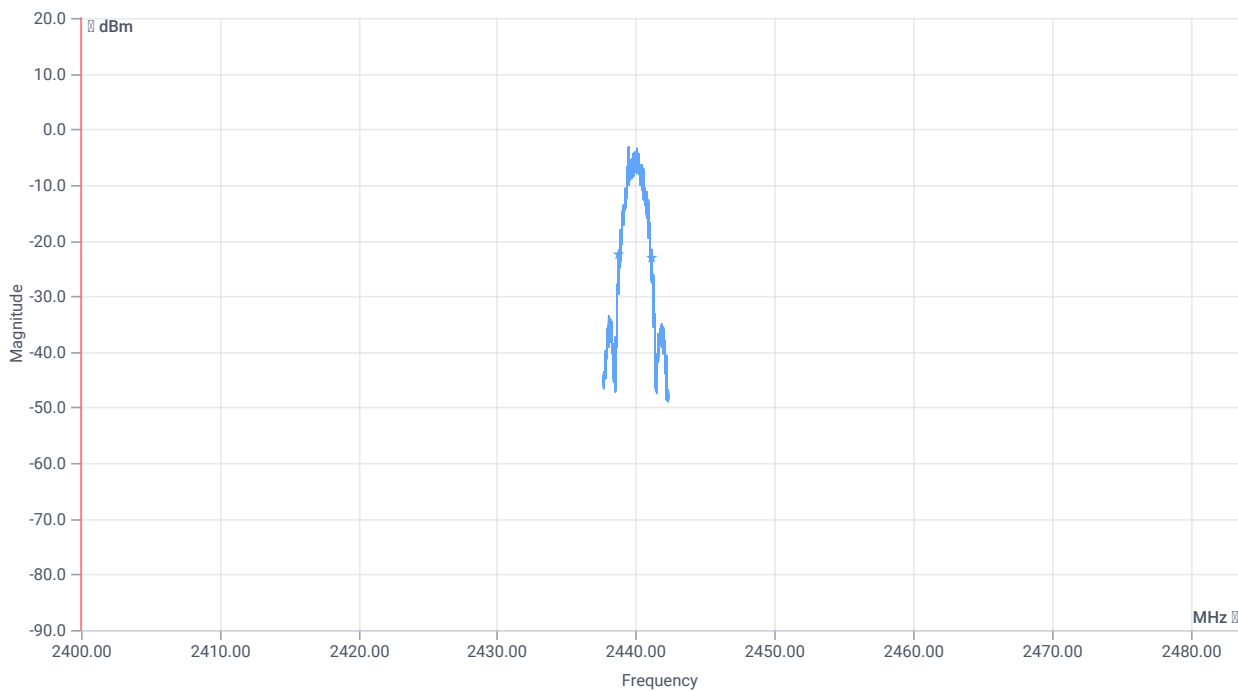
BW within Band 99PCT

## RESULT

| Test Description | Lower Limit | Upper Limit | Measured  | Unit | Verdict |
|------------------|-------------|-------------|-----------|------|---------|
| Bandwidth 99%    | ---         | ---         | 2065.000  | kHz  | INFO    |
| T1 99%           | 2400.000000 | ---         | 2438.9426 | MHz  | PASS    |
| T2 99%           | ---         | 2483.500000 | 2441.0078 | MHz  | PASS    |



BW 20dB



BW within Band 20dB

## RESULT

| Test Description | Lower Limit | Upper Limit | Measured  | Unit | Verdict |
|------------------|-------------|-------------|-----------|------|---------|
| Bandwidth 20dB   | ---         | ---         | 2343      | kHz  | INFO    |
| T1 20dB          | 2400.000000 | ---         | 2438.8008 | MHz  | PASS    |
| T2 20dB          | ---         | 2483.500000 | 2441.1436 | MHz  | PASS    |

Verdict

PASS

# FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ BT LE 2 Msps

## Test References

|                                   |                                                    |
|-----------------------------------|----------------------------------------------------|
| TC Start                          | 26.04.2023 11:03:50                                |
| Ambit Temp [°C]   Humidity [rel%] | 26.1   28                                          |
| System Version                    | 4.0.0.8                                            |
| Test Specification                | FCC 15.247, ISED RSS247 -                          |
| Test Method                       |                                                    |
| TC Version                        | 0.0.2                                              |
| My Description                    | FCC 15.247 Bandwidth 99PCT-20dB DTS - BT LE 2 Msps |
| Add. Information                  |                                                    |

## EUT 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 255   RXpayload 255             |
| 2 Mbps supported                         | True   TXpayload 255   RXpayload 255             |
| Longrange S8 supported                   | True   TXpayload 255   RXpayload 255             |
| Longrange S2 supported                   | True   TXpayload 255   RXpayload 255             |
| Signaling Settings                       | None   HCI   39   115200   None   S1   None   On |
| Signaling RF Settings                    | RF1com   0   0   On                              |
| User Interaction                         | No                                               |
| Switch Matrix & Pathcompensation enabled | Yes                                              |

## Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | BT LE 2 Msps                           |
| Antenna Port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | False   Freq [MHz] 2404                |
| Frequency mid to test                            | False   Freq [MHz] 2440                |
| Frequency high to test                           | True   Freq [MHz] 2478                 |
| Auto Control enabled Power Supply   Climatic Box | No   No                                |
| Additional Path Loss [dB]                        | 0.7                                    |
| Switched Path                                    | EUT - SignalingUnit - SpectrumAnalyzer |

## Test Equipment

## Test Equipment

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Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

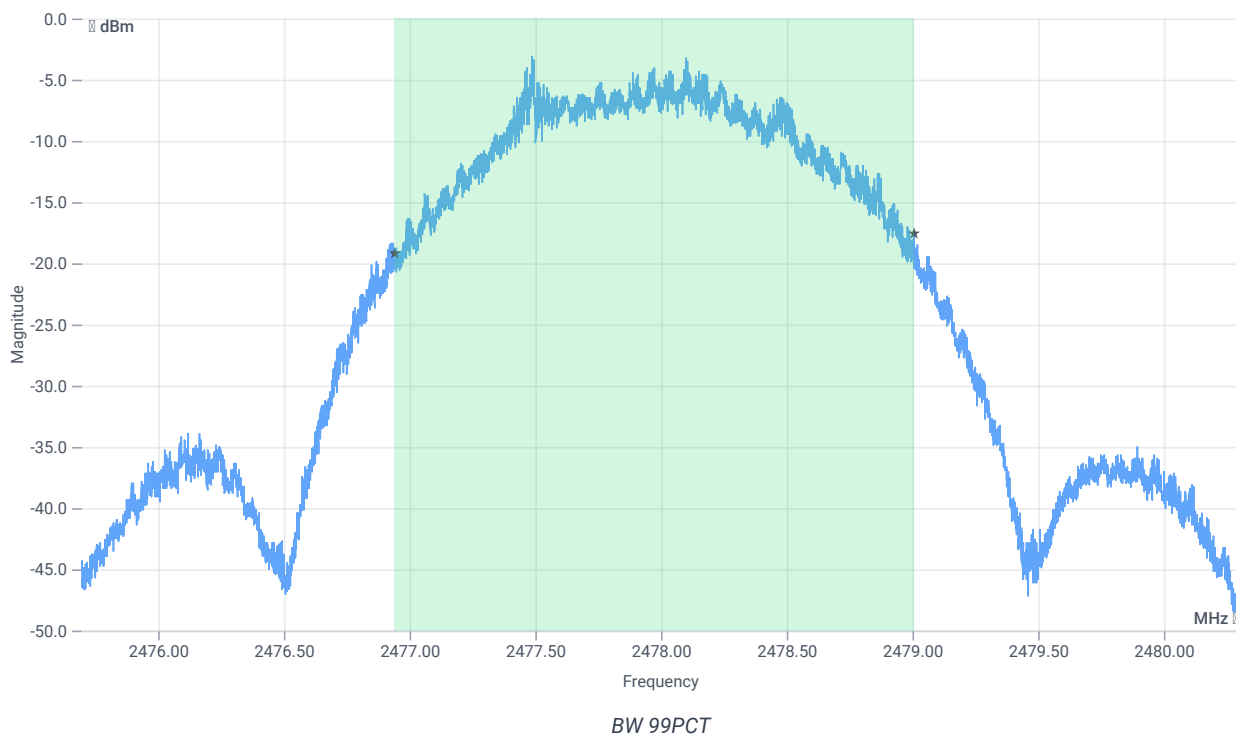
## Test at TX 2478 MHz

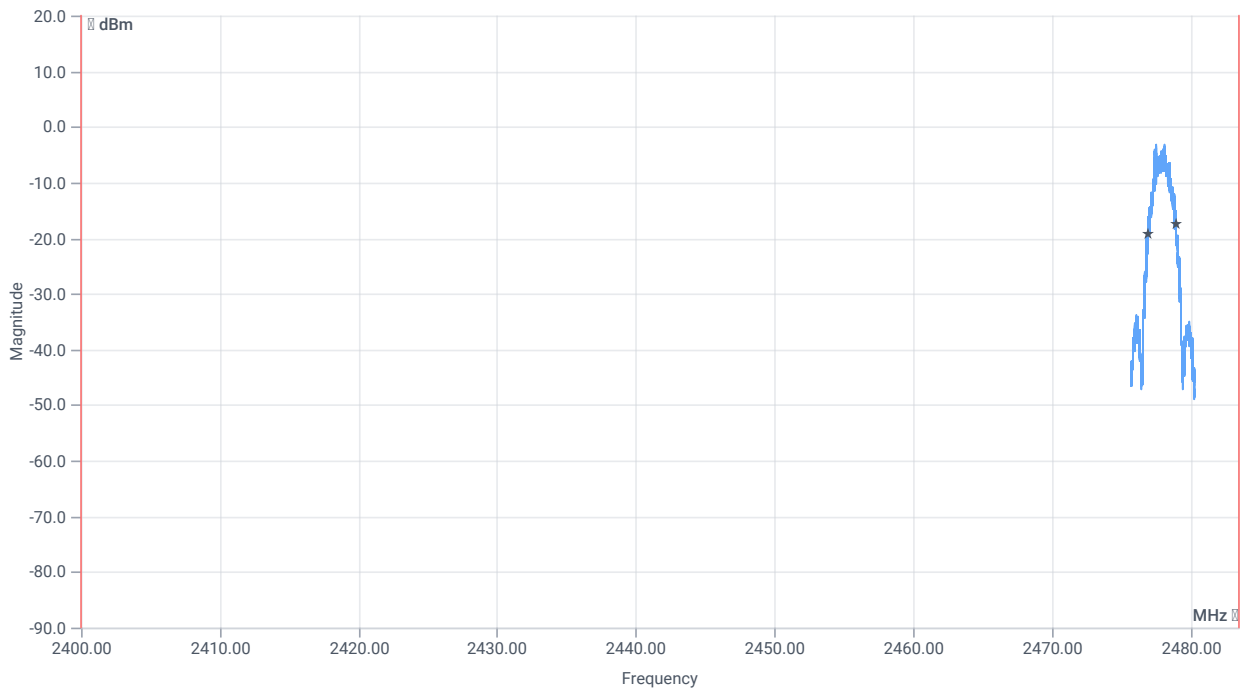
RESULT: Reference Power cond.

| Test Description              | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | -0.37    | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2478.500 | MHz  | INFO    |

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 4.63   11.4   10       |
| Start [MHz]   Stop [MHz]                             | 2475.700   2480.300    |
| RBW [MHz]   VBW [MHz]                                | 0.050000   0.200000    |
| Detector   TraceMode                                 | POS   MAXH             |
| Sweep: Time [ms]   Count   Points per Section   Type | 50   200   10001   SWE |

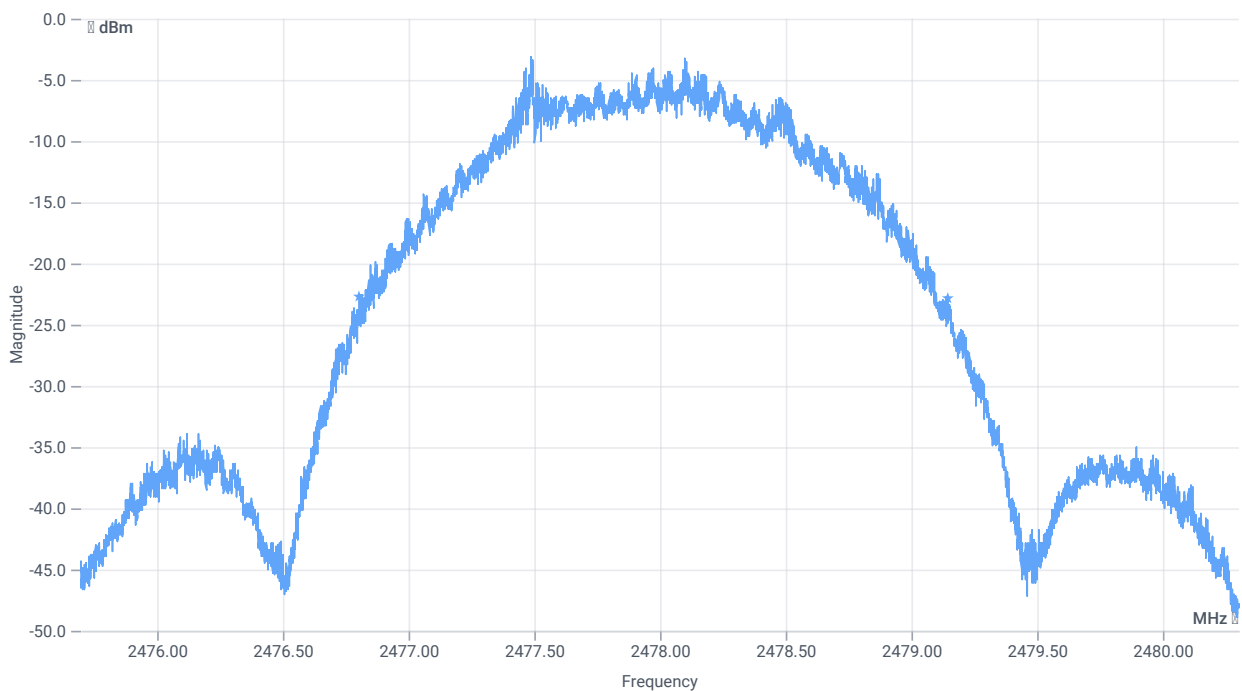




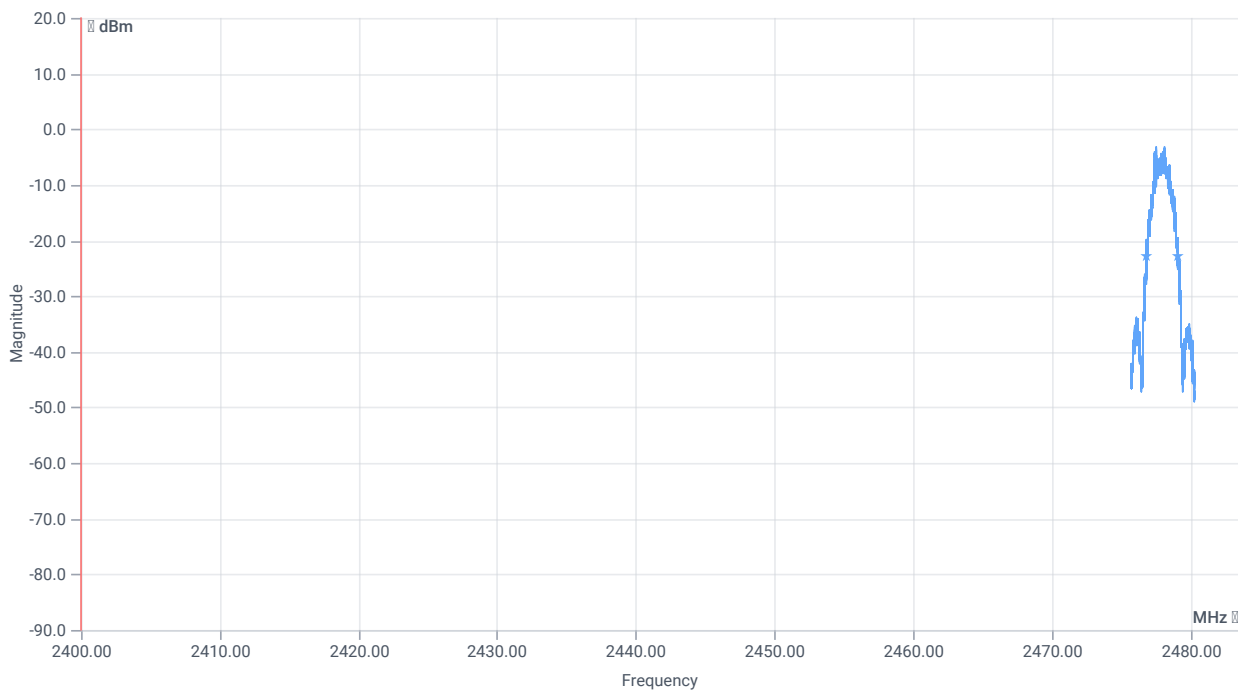
BW within Band 99PCT

## RESULT

| Test Description | Lower Limit | Upper Limit | Measured  | Unit | Verdict |
|------------------|-------------|-------------|-----------|------|---------|
| Bandwidth 99%    | ---         | ---         | 2064.000  | kHz  | INFO    |
| T1 99%           | 2400.000000 | ---         | 2476.9426 | MHz  | PASS    |
| T2 99%           | ---         | 2483.500000 | 2479.0064 | MHz  | PASS    |



BW 20dB



BW within Band 20dB

## RESULT

| Test Description | Lower Limit | Upper Limit | Measured  | Unit | Verdict |
|------------------|-------------|-------------|-----------|------|---------|
| Bandwidth 20dB   | ---         | ---         | 2334      | kHz  | INFO    |
| T1 20dB          | 2400.000000 | ---         | 2476.8072 | MHz  | PASS    |
| T2 20dB          | ---         | 2483.500000 | 2479.1417 | MHz  | PASS    |

Verdict

PASS

## FCC 15.247 # TX spurious conducted 20dBc ~ BT LE 2 Msps

### Test References

|                                   |                                                                                                                  |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------|
| TC Start                          | 26.04.2023 10:40:26                                                                                              |
| Ambit Temp [°C]   Humidity [rel%] | 26.0   28                                                                                                        |
| System Version                    | 4.0.0.8                                                                                                          |
| Test Specification                | FCC 15.247 -                                                                                                     |
| Test Method                       | IF DTS then 8.5 DTS emissions in non-restricted frequency bands:<br>Subclause 11.11 of ANSI C63.10 is applicable |
| TC Version                        | 0.0.1                                                                                                            |
| My Description                    | FCC 15.247 TX Emissions Conducted DTS - BT LE 2 Msps                                                             |
| Add. Information                  |                                                                                                                  |

### EUT 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 255   RXpayload 255             |
| 2 Mbps supported                         | True   TXpayload 255   RXpayload 255             |
| Longrange S8 supported                   | True   TXpayload 255   RXpayload 255             |
| Longrange S2 supported                   | True   TXpayload 255   RXpayload 255             |
| Signaling Settings                       | None   HCI   39   115200   None   S1   None   On |
| Signaling RF Settings                    | RF1com   0   0   On                              |
| User Interaction                         | No                                               |
| Switch Matrix & Pathcompensation enabled | Yes                                              |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | BT LE 2 Msps                           |
| Antenna Port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | True   Freq [MHz] 2404                 |
| Frequency mid to test                            | False   Freq [MHz] 2440                |
| Frequency high to test                           | False   Freq [MHz] 2478                |
| Auto Control enabled Power Supply   Climatic Box | No   No                                |
| Additional Path Loss [dB]                        | 0.7                                    |
| Switched Path                                    | EUT - SignalingUnit - SpectrumAnalyzer |

### Test Equipment

## Test Equipment

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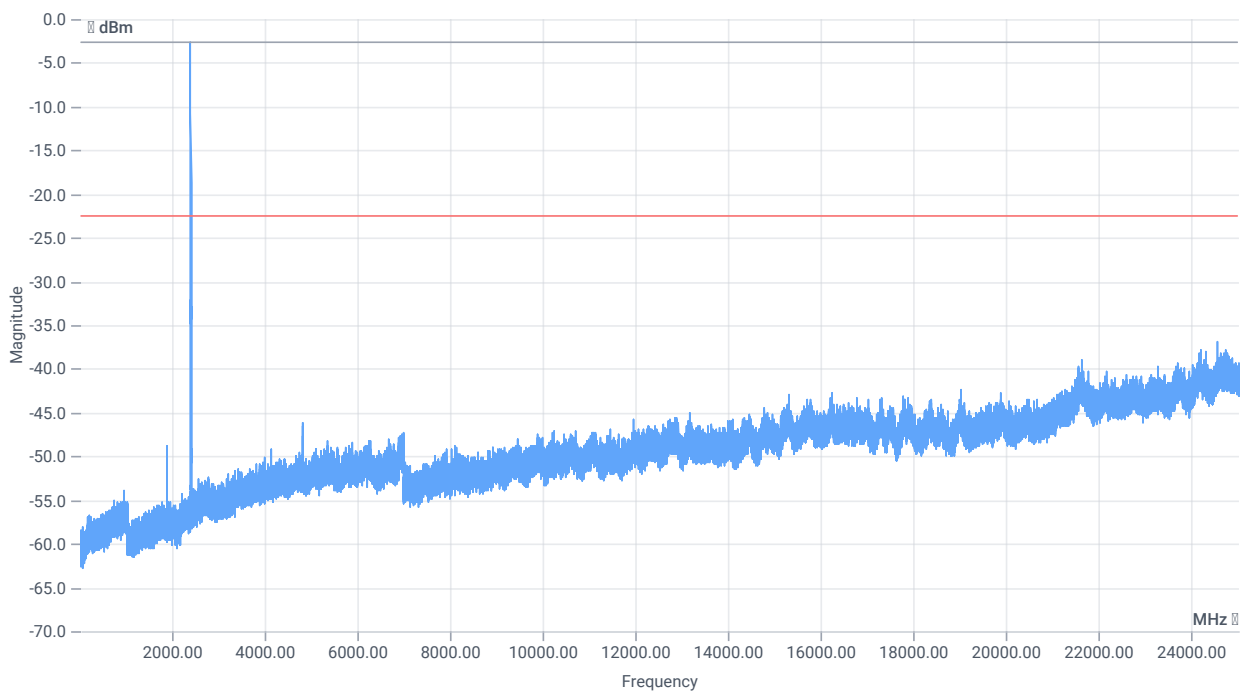
Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

## Test at TX 2404 MHz

RESULT: Reference Power cond.

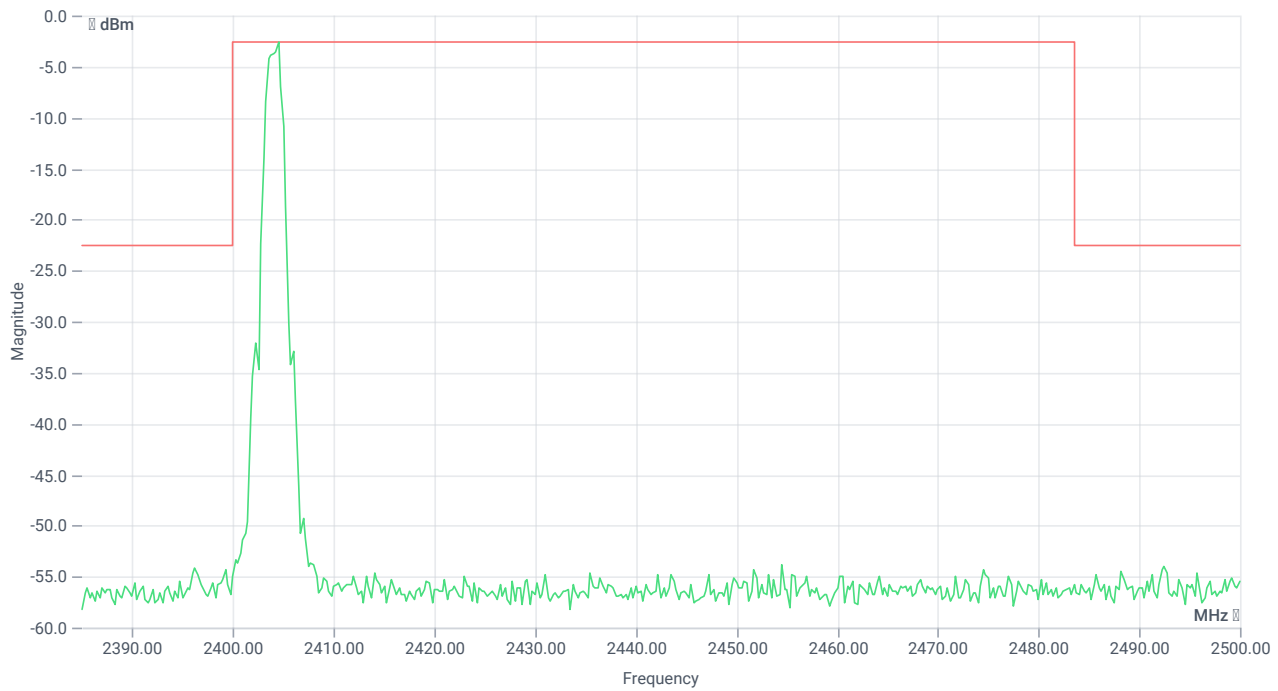
| Test Description              | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | 0.24     | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2404.500 | MHz  | INFO    |



TX emissions

## READ SA SETTINGS:

|                                                      |                       |
|------------------------------------------------------|-----------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 0.24   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 | 200   25   2001   SWE |



TX emissions band zoomed

## RESULT

| Test Description                 | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|----------------------------------|-------------|-------------|----------|------|---------|
| Reference @ 2404.50 MHz          | ---         | ---         | -2.60    | dBm  | INFO    |
| No peaks detected                | ---         | ---         |          |      | PASS    |
| Lowest margin to limit 24554 MHz | 0           | ---         | 14.26    | dB   | INFO    |

Verdict

PASS

## FCC 15.247 # TX spurious conducted 20dBc ~ BT LE 2 Msps

### Test References

|                                   |                                                                                                                  |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------|
| TC Start                          | 26.04.2023 10:50:11                                                                                              |
| Ambit Temp [°C]   Humidity [rel%] | 26.0   27                                                                                                        |
| System Version                    | 4.0.0.8                                                                                                          |
| Test Specification                | FCC 15.247 -                                                                                                     |
| Test Method                       | IF DTS then 8.5 DTS emissions in non-restricted frequency bands:<br>Subclause 11.11 of ANSI C63.10 is applicable |
| TC Version                        | 0.0.1                                                                                                            |
| My Description                    | FCC 15.247 TX Emissions Conducted DTS - BT LE 2 Msps                                                             |
| Add. Information                  |                                                                                                                  |

### EUT 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 255   RXpayload 255             |
| 2 Mbps supported                         | True   TXpayload 255   RXpayload 255             |
| Longrange S8 supported                   | True   TXpayload 255   RXpayload 255             |
| Longrange S2 supported                   | True   TXpayload 255   RXpayload 255             |
| Signaling Settings                       | None   HCI   39   115200   None   S1   None   On |
| Signaling RF Settings                    | RF1com   0   0   On                              |
| User Interaction                         | No                                               |
| Switch Matrix & Pathcompensation enabled | Yes                                              |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | BT LE 2 Msps                           |
| Antenna Port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | False   Freq [MHz] 2404                |
| Frequency mid to test                            | True   Freq [MHz] 2440                 |
| Frequency high to test                           | False   Freq [MHz] 2478                |
| Auto Control enabled Power Supply   Climatic Box | No   No                                |
| Additional Path Loss [dB]                        | 0.7                                    |
| Switched Path                                    | EUT - SignalingUnit - SpectrumAnalyzer |

### Test Equipment

## Test Equipment

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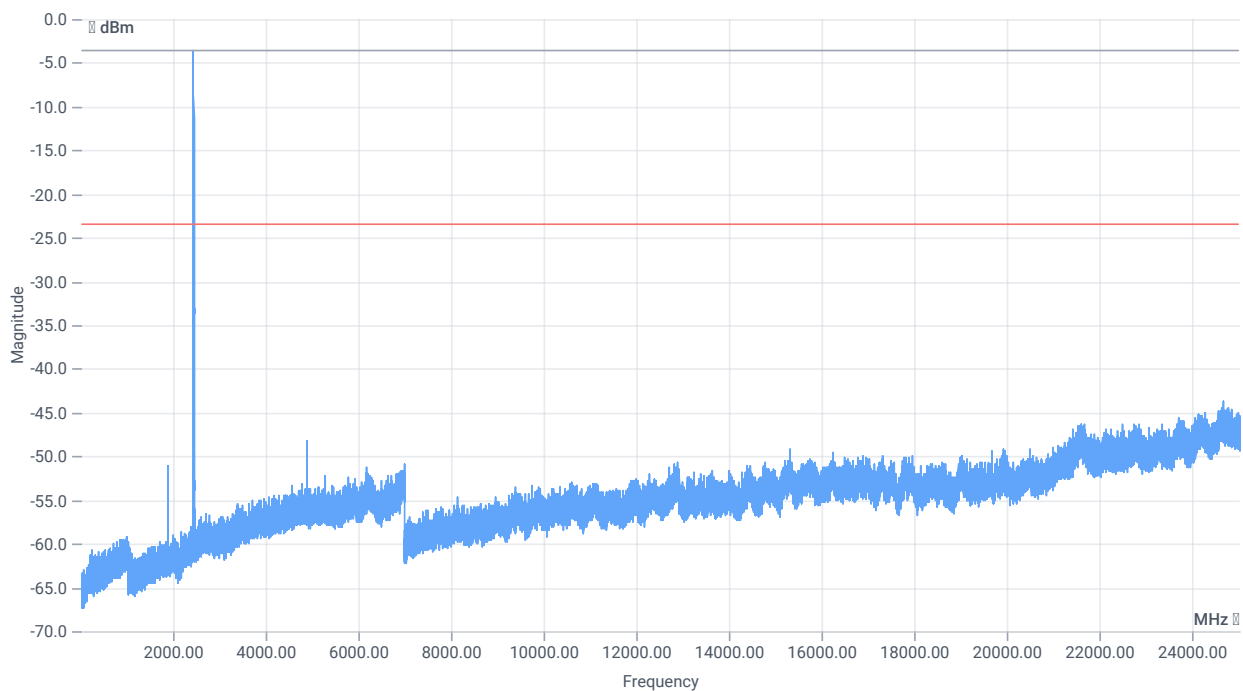
Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

## Test at TX 2440 MHz

RESULT: Reference Power cond.

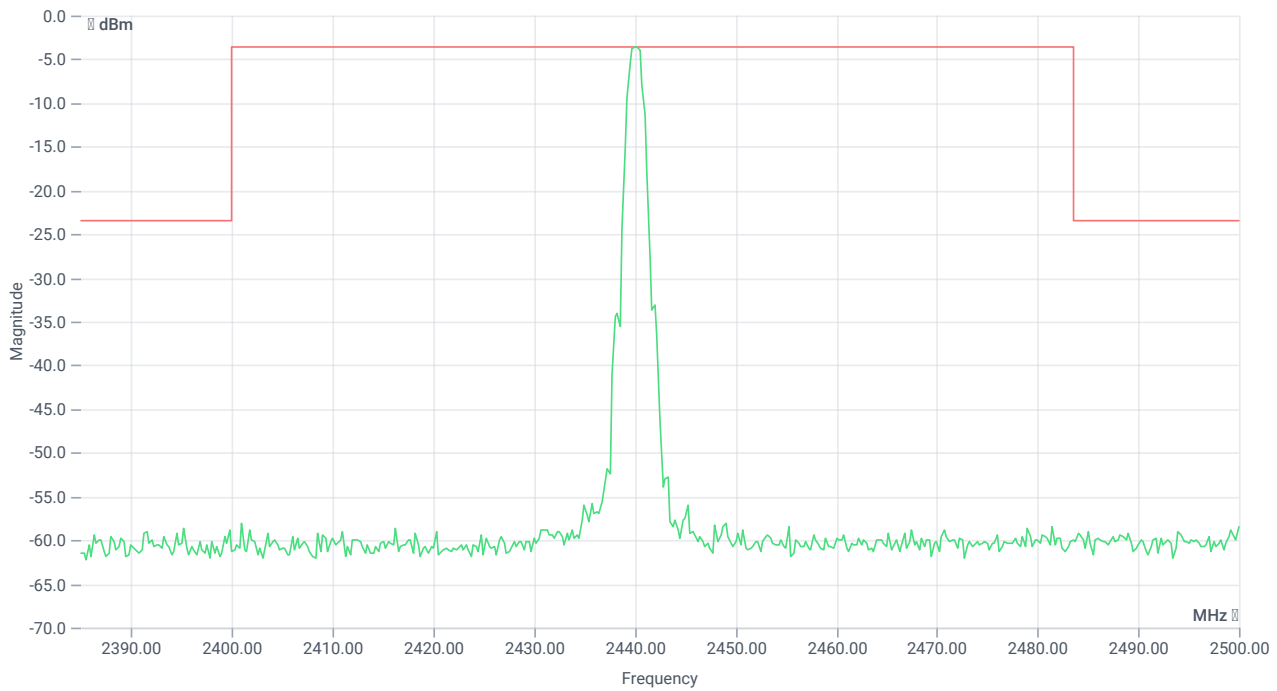
| Test Description              | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | -0.38    | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2440.500 | MHz  | INFO    |



TX emissions

### READ SA SETTINGS:

|                                                      |                       |
|------------------------------------------------------|-----------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | -0.38   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 | 200   25   2001   SWE |



## RESULT

| Test Description                 | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|----------------------------------|-------------|-------------|----------|------|---------|
| Reference @ 2440.00 MHz          | ---         | ---         | -3.51    | dBm  | INFO    |
| No peaks detected                | ---         | ---         |          |      | PASS    |
| Lowest margin to limit 24674 MHz | 0           | ---         | 20.11    | dB   | INFO    |

## Verdict

PASS

## FCC 15.247 # TX spurious conducted 20dBc ~ BT LE 2 Msps

### Test References

|                                   |                                                                                                                  |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------|
| TC Start                          | 26.04.2023 11:04:27                                                                                              |
| Ambit Temp [°C]   Humidity [rel%] | 26.1   28                                                                                                        |
| System Version                    | 4.0.0.8                                                                                                          |
| Test Specification                | FCC 15.247 -                                                                                                     |
| Test Method                       | IF DTS then 8.5 DTS emissions in non-restricted frequency bands:<br>Subclause 11.11 of ANSI C63.10 is applicable |
| TC Version                        | 0.0.1                                                                                                            |
| My Description                    | FCC 15.247 TX Emissions Conducted DTS - BT LE 2 Msps                                                             |
| Add. Information                  |                                                                                                                  |

### EUT 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 255   RXpayload 255             |
| 2 Mbps supported                         | True   TXpayload 255   RXpayload 255             |
| Longrange S8 supported                   | True   TXpayload 255   RXpayload 255             |
| Longrange S2 supported                   | True   TXpayload 255   RXpayload 255             |
| Signaling Settings                       | None   HCI   39   115200   None   S1   None   On |
| Signaling RF Settings                    | RF1com   0   0   On                              |
| User Interaction                         | No                                               |
| Switch Matrix & Pathcompensation enabled | Yes                                              |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | BT LE 2 Msps                           |
| Antenna Port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | False   Freq [MHz] 2404                |
| Frequency mid to test                            | False   Freq [MHz] 2440                |
| Frequency high to test                           | True   Freq [MHz] 2478                 |
| Auto Control enabled Power Supply   Climatic Box | No   No                                |
| Additional Path Loss [dB]                        | 0.7                                    |
| Switched Path                                    | EUT - SignalingUnit - SpectrumAnalyzer |

### Test Equipment

## Test Equipment

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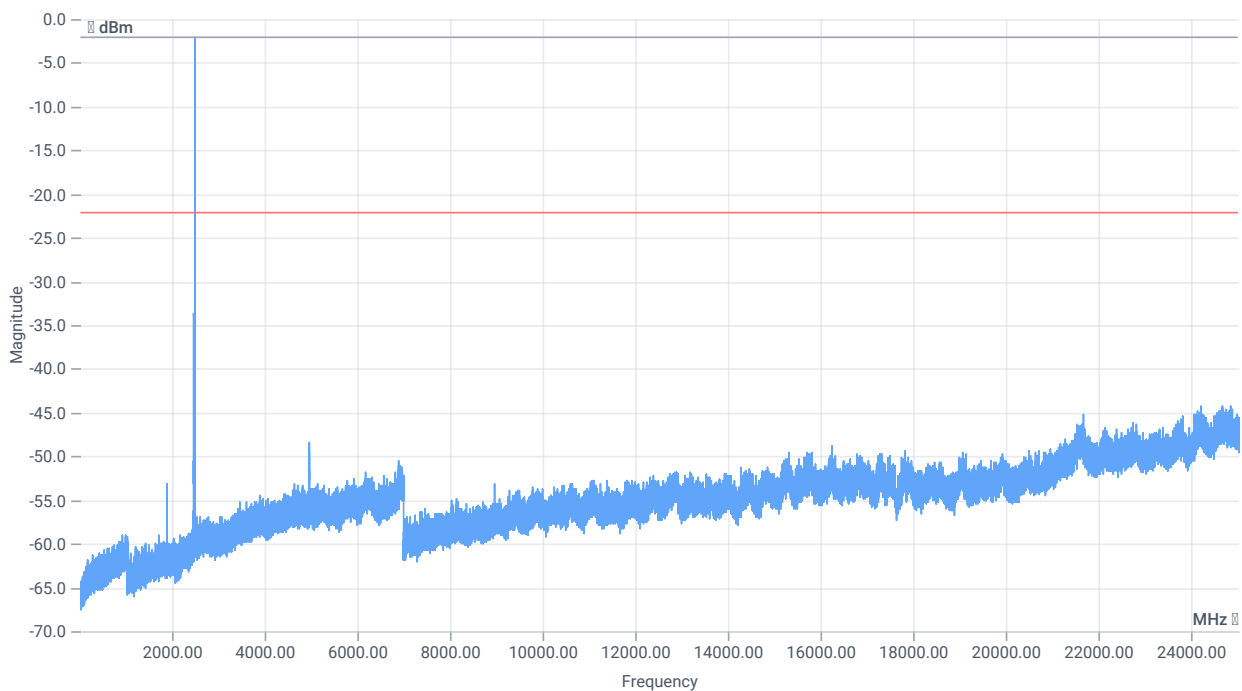
Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

## Test at TX 2478 MHz

RESULT: Reference Power cond.

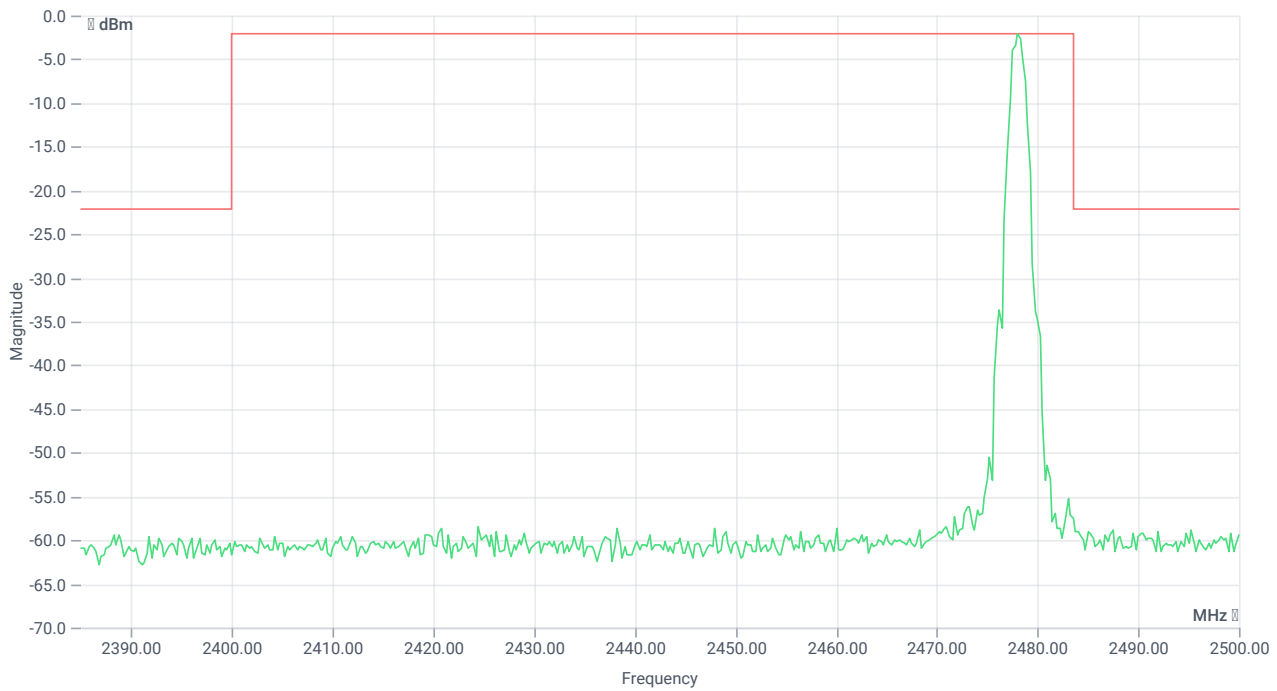
| Test Description              | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | -0.36    | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2478.500 | MHz  | INFO    |



TX emissions

### READ SA SETTINGS:

|                                                      |                       |
|------------------------------------------------------|-----------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | -0.36   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 | 200   25   2001   SWE |



## RESULT

| Test Description                    | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------------|-------------|-------------|----------|------|---------|
| Reference @ 2478.00 MHz             | ---         | ---         | -2.15    | dBm  | INFO    |
| No peaks detected                   | ---         | ---         |          |      | PASS    |
| Lowest margin to limit 24192.75 MHz | 0           | ---         | 22.06    | dB   | INFO    |

## Verdict

PASS

## FCC 15.247 # Maximum peak conducted output power DTS ~ BT LE coded S2

### Test References

|                                   |                                                                     |
|-----------------------------------|---------------------------------------------------------------------|
| TC Start                          | 24.04.2023 16:12:01                                                 |
| Ambit Temp [°C]   Humidity [rel%] | 27.6   29                                                           |
| System Version                    | 4.0.0.5                                                             |
| Test Specification                | FCC 15.247 -                                                        |
| Test Method                       | DTS: KDB 558074 D01 V05 - Chapter 8.3.1.1 RBW ≥ DTS Bandwidth       |
| TC Version                        | 0.0.1                                                               |
| My Description                    | FCC 15.247 Maximum Peak Output Power Conducted DTS - BT LE coded S2 |
| Add. Information                  |                                                                     |

### EUT 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 255   RXpayload 255             |
| 2 Mbps supported                         | True   TXpayload 255   RXpayload 255             |
| Longrange S8 supported                   | True   TXpayload 255   RXpayload 255             |
| Longrange S2 supported                   | True   TXpayload 255   RXpayload 255             |
| Signaling Settings                       | None   HCI   39   115200   None   S1   None   On |
| Signaling RF Settings                    | RF1com   0   0   On                              |
| User Interaction                         | No                                               |
| Switch Matrix & Pathcompensation enabled | Yes                                              |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | BT LE coded S2                         |
| Antenna Port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | True   Freq [MHz] 2402                 |
| Frequency mid to test                            | False   Freq [MHz] 2440                |
| Frequency high to test                           | False   Freq [MHz] 2480                |
| Auto Control enabled Power Supply   Climatic Box | No   No                                |
| Additional Path Loss [dB]                        | 0.7                                    |
| Switched Path                                    | EUT - SignalingUnit - SpectrumAnalyzer |

## Test Equipment

---

Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

## Test at TX 2402 MHz

RESULT: Reference Power cond.

| Test Description              | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | 1.23     | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2402.300 | MHz  | INFO    |

### READ SA SETTINGS:

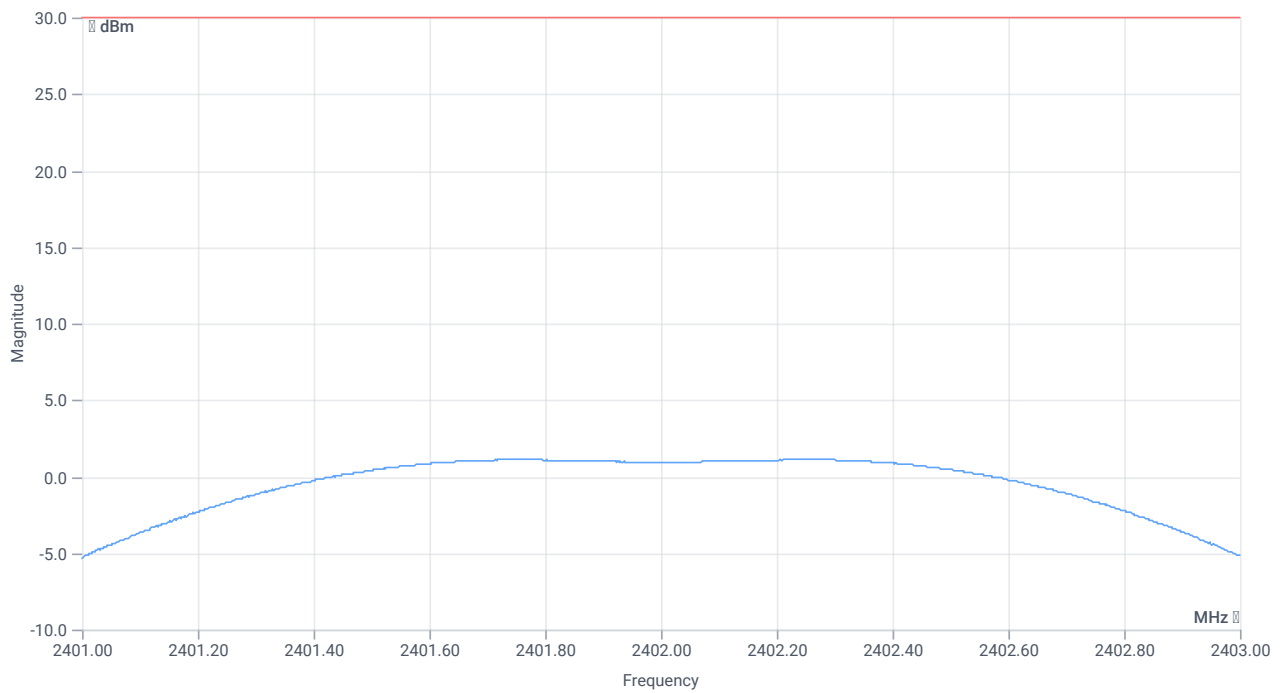
|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 6.23   11.29   10      |
| Start [MHz]   Stop [MHz]                             | 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) | ---         | ---         | 689      | kHz  | INFO    |

### READ SA SETTINGS:

|                                                      |                       |
|------------------------------------------------------|-----------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 11.23   11.29   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 |



Peak output power

## RESULT

| Test Description  | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------|-------------|-------------|----------|------|---------|
| Peak Power        | ---         | 30.00       | 1.11     | dBm  | PASS    |
| Peak Power        | ---         | 1000        | 1.291219 | mW   | PASS    |
| Frequency at Peak | ---         | ---         | 2402.238 | MHz  | INFO    |

## Verdict

PASS

## FCC 15.247 # Maximum peak conducted output power DTS ~ BT LE coded S2

### Test References

|                                   |                                                                     |
|-----------------------------------|---------------------------------------------------------------------|
| TC Start                          | 24.04.2023 16:21:48                                                 |
| Ambit Temp [°C]   Humidity [rel%] | 27.6   29                                                           |
| System Version                    | 4.0.0.5                                                             |
| Test Specification                | FCC 15.247 -                                                        |
| Test Method                       | DTS: KDB 558074 D01 V05 - Chapter 8.3.1.1 RBW ≥ DTS Bandwidth       |
| TC Version                        | 0.0.1                                                               |
| My Description                    | FCC 15.247 Maximum Peak Output Power Conducted DTS - BT LE coded S2 |
| Add. Information                  |                                                                     |

### EUT 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 255   RXpayload 255             |
| 2 Mbps supported                         | True   TXpayload 255   RXpayload 255             |
| Longrange S8 supported                   | True   TXpayload 255   RXpayload 255             |
| Longrange S2 supported                   | True   TXpayload 255   RXpayload 255             |
| Signaling Settings                       | None   HCI   39   115200   None   S1   None   On |
| Signaling RF Settings                    | RF1com   0   0   On                              |
| User Interaction                         | No                                               |
| Switch Matrix & Pathcompensation enabled | Yes                                              |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | BT LE coded S2                         |
| Antenna Port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | False   Freq [MHz] 2402                |
| Frequency mid to test                            | True   Freq [MHz] 2440                 |
| Frequency high to test                           | False   Freq [MHz] 2480                |
| Auto Control enabled Power Supply   Climatic Box | No   No                                |
| Additional Path Loss [dB]                        | 0.7                                    |
| Switched Path                                    | EUT - SignalingUnit - SpectrumAnalyzer |

## Test Equipment

---

Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

## Test at TX 2440 MHz

RESULT: Reference Power cond.

| Test Description              | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | 0.63     | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2440.300 | MHz  | INFO    |

### READ SA SETTINGS:

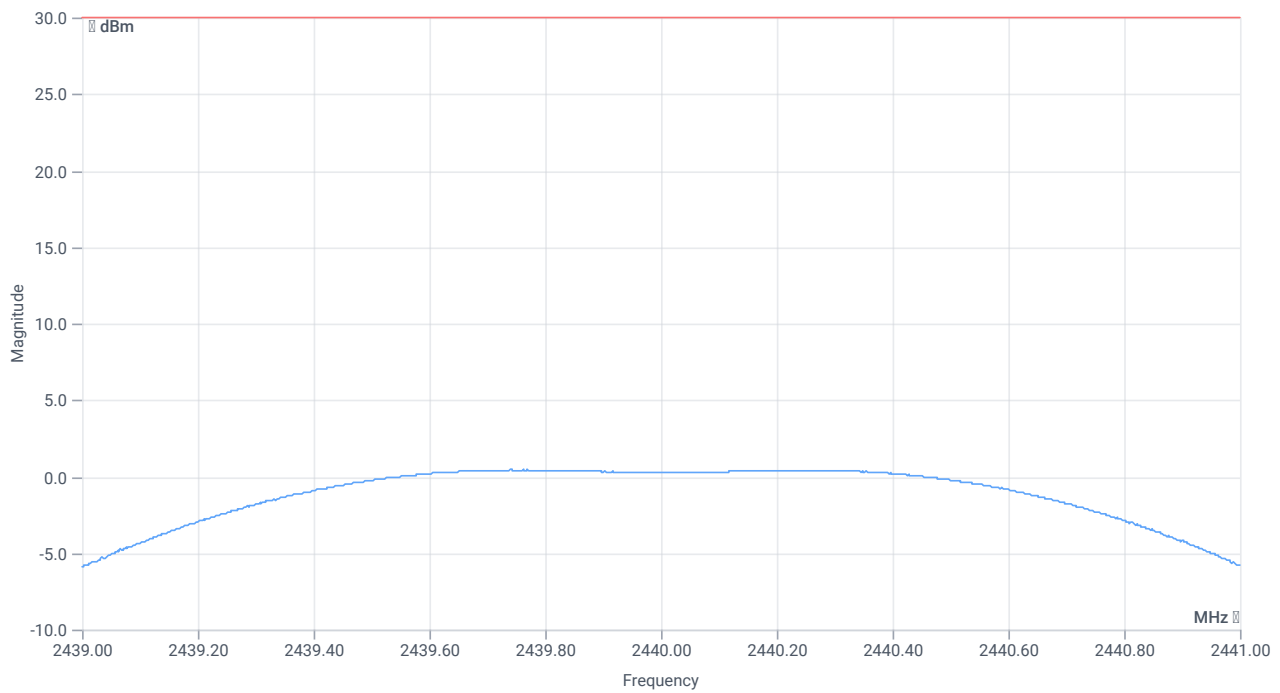
|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 5.63   11.36   10      |
| Start [MHz]   Stop [MHz]                             | 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) | ---         | ---         | 692      | kHz  | INFO    |

### READ SA SETTINGS:

|                                                      |                       |
|------------------------------------------------------|-----------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 10.63   11.36   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 |



Peak output power

## RESULT

| Test Description  | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------|-------------|-------------|----------|------|---------|
| Peak Power        | ---         | 30.00       | 0.44     | dBm  | PASS    |
| Peak Power        | ---         | 1000        | 1.106624 | mW   | PASS    |
| Frequency at Peak | ---         | ---         | 2439.74  | MHz  | INFO    |

## Verdict

PASS

## FCC 15.247 # Maximum peak conducted output power DTS ~ BT LE coded S2

### Test References

|                                   |                                                                     |
|-----------------------------------|---------------------------------------------------------------------|
| TC Start                          | 24.04.2023 16:31:57                                                 |
| Ambit Temp [°C]   Humidity [rel%] | 27.6   29                                                           |
| System Version                    | 4.0.0.5                                                             |
| Test Specification                | FCC 15.247 -                                                        |
| Test Method                       | DTS: KDB 558074 D01 V05 - Chapter 8.3.1.1 RBW ≥ DTS Bandwidth       |
| TC Version                        | 0.0.1                                                               |
| My Description                    | FCC 15.247 Maximum Peak Output Power Conducted DTS - BT LE coded S2 |
| Add. Information                  |                                                                     |

### EUT 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 255   RXpayload 255             |
| 2 Mbps supported                         | True   TXpayload 255   RXpayload 255             |
| Longrange S8 supported                   | True   TXpayload 255   RXpayload 255             |
| Longrange S2 supported                   | True   TXpayload 255   RXpayload 255             |
| Signaling Settings                       | None   HCI   39   115200   None   S1   None   On |
| Signaling RF Settings                    | RF1com   0   0   On                              |
| User Interaction                         | No                                               |
| Switch Matrix & Pathcompensation enabled | Yes                                              |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | BT LE coded S2                         |
| Antenna Port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | False   Freq [MHz] 2402                |
| Frequency mid to test                            | False   Freq [MHz] 2440                |
| Frequency high to test                           | True   Freq [MHz] 2480                 |
| Auto Control enabled Power Supply   Climatic Box | No   No                                |
| Additional Path Loss [dB]                        | 0.7                                    |
| Switched Path                                    | EUT - SignalingUnit - SpectrumAnalyzer |

## Test Equipment

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Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

## Test at TX 2480 MHz

RESULT: Reference Power cond.

| Test Description              | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | 0.62     | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2480.300 | MHz  | INFO    |

### READ SA SETTINGS:

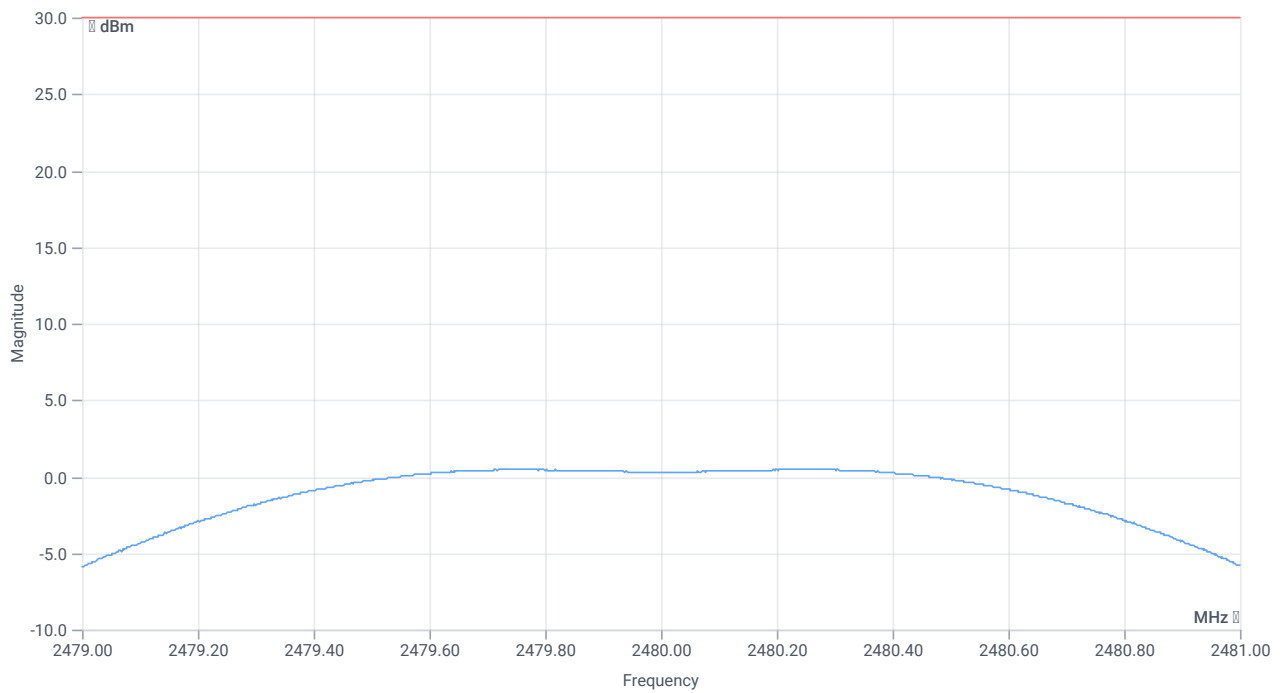
|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 5.62   11.41   10      |
| Start [MHz]   Stop [MHz]                             | 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) | ---         | ---         | 682      | kHz  | INFO    |

### READ SA SETTINGS:

|                                                      |                       |
|------------------------------------------------------|-----------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 10.62   11.41   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 |



Peak output power

## RESULT

| Test Description  | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------|-------------|-------------|----------|------|---------|
| Peak Power        | ---         | 30.00       | 0.47     | dBm  | PASS    |
| Peak Power        | ---         | 1000        | 1.114295 | mW   | PASS    |
| Frequency at Peak | ---         | ---         | 2480.266 | MHz  | INFO    |

## Verdict

PASS

## FCC 15.247 # Peak psd DTS ~ BT LE coded S2

### Test References

|                                   |                                                                                                            |
|-----------------------------------|------------------------------------------------------------------------------------------------------------|
| TC Start                          | 24.04.2023 16:13:15                                                                                        |
| Ambit Temp [°C]   Humidity [rel%] | 27.6   29                                                                                                  |
| System Version                    | 4.0.0.5                                                                                                    |
| Test Specification                | FCC 15.247 -                                                                                               |
| Test Method                       | DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission |
| TC Version                        | 0.0.1                                                                                                      |
| My Description                    | FCC 15.247 Peak psd DTS - BT LE coded S2                                                                   |
| Add. Information                  |                                                                                                            |

### EUT 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 255   RXpayload 255             |
| 2 Mbps supported                         | True   TXpayload 255   RXpayload 255             |
| Longrange S8 supported                   | True   TXpayload 255   RXpayload 255             |
| Longrange S2 supported                   | True   TXpayload 255   RXpayload 255             |
| Signaling Settings                       | None   HCI   39   115200   None   S1   None   On |
| Signaling RF Settings                    | RF1com   0   0   On                              |
| User Interaction                         | No                                               |
| Switch Matrix & Pathcompensation enabled | Yes                                              |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | BT LE coded S2                         |
| Antenna Port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | True   Freq [MHz] 2402                 |
| Frequency mid to test                            | False   Freq [MHz] 2440                |
| Frequency high to test                           | False   Freq [MHz] 2480                |
| Auto Control enabled Power Supply   Climatic Box | No   No                                |
| Additional Path Loss [dB]                        | 0.7                                    |
| Switched Path                                    | EUT - SignalingUnit - SpectrumAnalyzer |

### Test Equipment

## Test Equipment

---

Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

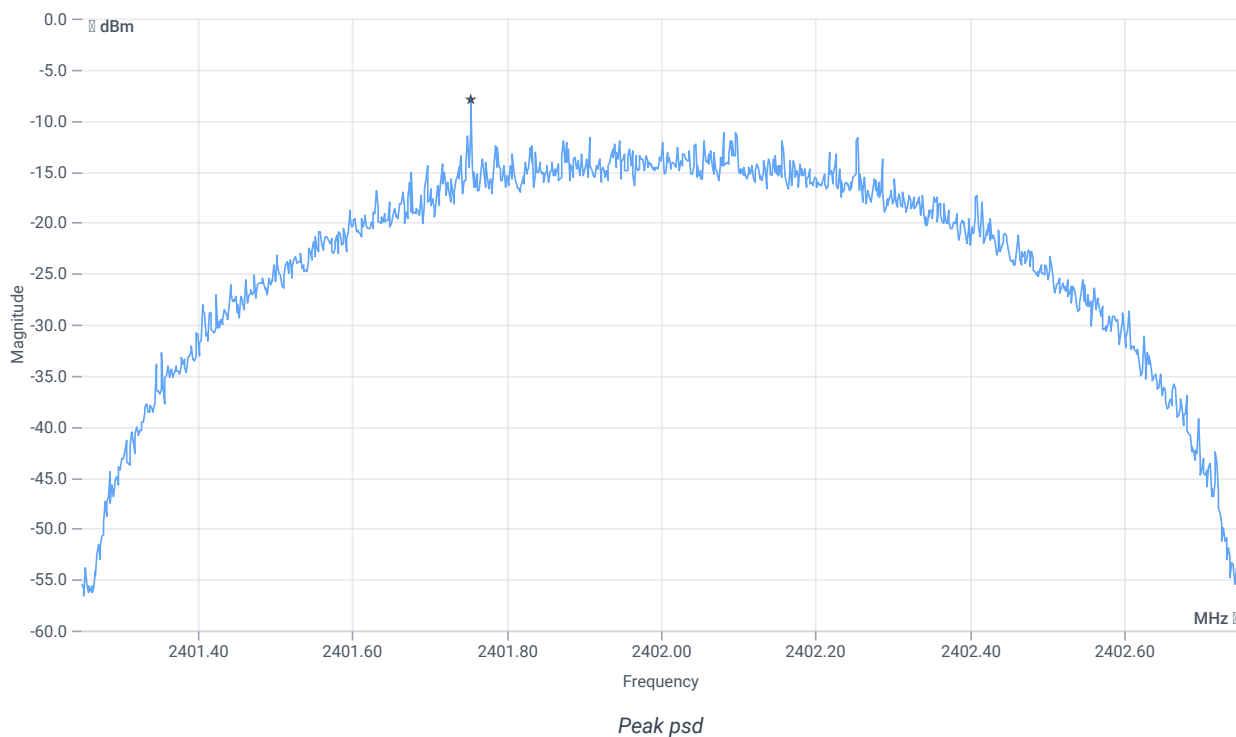
## Test at TX 2402 MHz

RESULT: Reference Power cond.

| Test Description              | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | 1.26     | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2402.300 | MHz  | INFO    |

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 6.26   11.29   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 |
|------------------|-------------|-------------|----------|----------|---------|
| Peak psd         | ---         | 8           | -7.99    | dBm/3KHz | PASS    |

Verdict

PASS

## FCC 15.247 # Peak psd DTS ~ BT LE coded S2

### Test References

|                                   |                                                                                                            |
|-----------------------------------|------------------------------------------------------------------------------------------------------------|
| TC Start                          | 24.04.2023 16:23:02                                                                                        |
| Ambit Temp [°C]   Humidity [rel%] | 27.6   29                                                                                                  |
| System Version                    | 4.0.0.5                                                                                                    |
| Test Specification                | FCC 15.247 -                                                                                               |
| Test Method                       | DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission |
| TC Version                        | 0.0.1                                                                                                      |
| My Description                    | FCC 15.247 Peak psd DTS - BT LE coded S2                                                                   |
| Add. Information                  |                                                                                                            |

### EUT 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 255   RXpayload 255             |
| 2 Mbps supported                         | True   TXpayload 255   RXpayload 255             |
| Longrange S8 supported                   | True   TXpayload 255   RXpayload 255             |
| Longrange S2 supported                   | True   TXpayload 255   RXpayload 255             |
| Signaling Settings                       | None   HCI   39   115200   None   S1   None   On |
| Signaling RF Settings                    | RF1com   0   0   On                              |
| User Interaction                         | No                                               |
| Switch Matrix & Pathcompensation enabled | Yes                                              |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | BT LE coded S2                         |
| Antenna Port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | False   Freq [MHz] 2402                |
| Frequency mid to test                            | True   Freq [MHz] 2440                 |
| Frequency high to test                           | False   Freq [MHz] 2480                |
| Auto Control enabled Power Supply   Climatic Box | No   No                                |
| Additional Path Loss [dB]                        | 0.7                                    |
| Switched Path                                    | EUT - SignalingUnit - SpectrumAnalyzer |

### Test Equipment

## Test Equipment

---

Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

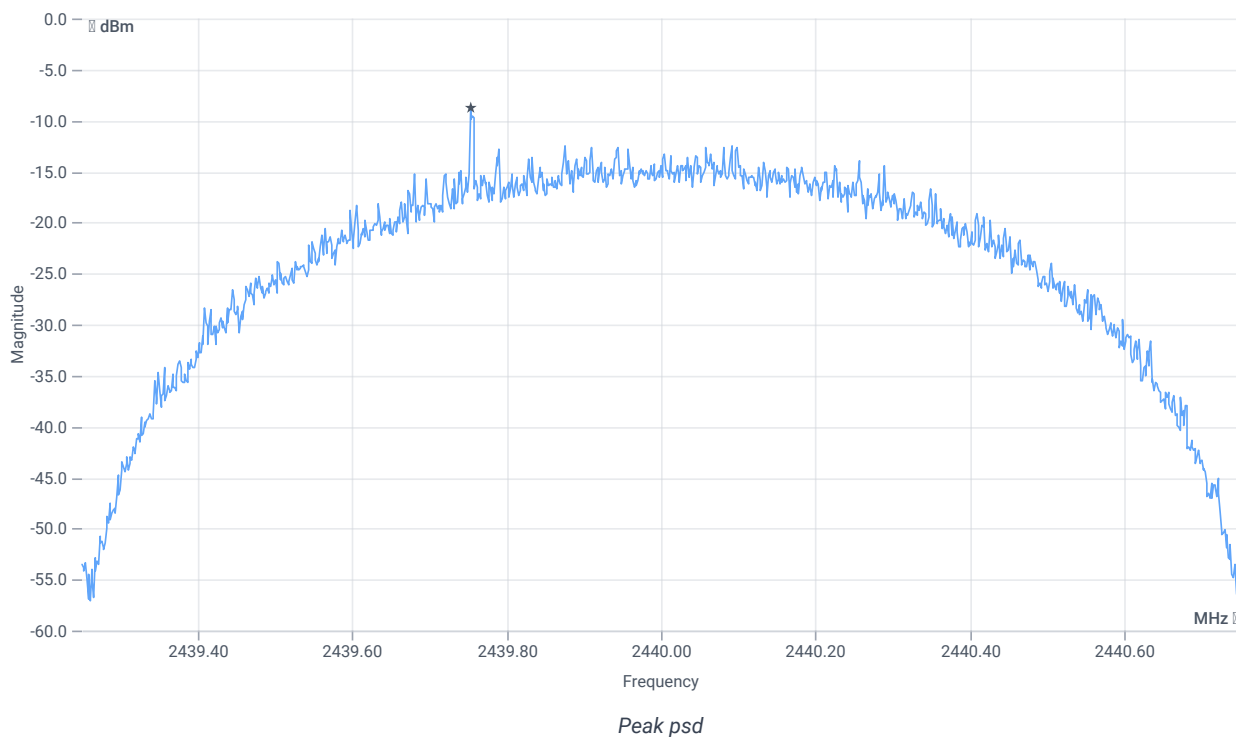
## Test at TX 2440 MHz

RESULT: Reference Power cond.

| Test Description              | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | 0.55     | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2440.300 | MHz  | INFO    |

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 5.55   11.36   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 |
|------------------|-------------|-------------|----------|----------|---------|
| Peak psd         | ---         | 8           | -8.71    | dBm/3KHz | PASS    |

Verdict

PASS

## FCC 15.247 # Peak psd DTS ~ BT LE coded S2

### Test References

|                                   |                                                                                                            |
|-----------------------------------|------------------------------------------------------------------------------------------------------------|
| TC Start                          | 24.04.2023 16:33:11                                                                                        |
| Ambit Temp [°C]   Humidity [rel%] | 27.6   29                                                                                                  |
| System Version                    | 4.0.0.5                                                                                                    |
| Test Specification                | FCC 15.247 -                                                                                               |
| Test Method                       | DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission |
| TC Version                        | 0.0.1                                                                                                      |
| My Description                    | FCC 15.247 Peak psd DTS - BT LE coded S2                                                                   |
| Add. Information                  |                                                                                                            |

### EUT 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 255   RXpayload 255             |
| 2 Mbps supported                         | True   TXpayload 255   RXpayload 255             |
| Longrange S8 supported                   | True   TXpayload 255   RXpayload 255             |
| Longrange S2 supported                   | True   TXpayload 255   RXpayload 255             |
| Signaling Settings                       | None   HCI   39   115200   None   S1   None   On |
| Signaling RF Settings                    | RF1com   0   0   On                              |
| User Interaction                         | No                                               |
| Switch Matrix & Pathcompensation enabled | Yes                                              |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | BT LE coded S2                         |
| Antenna Port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | False   Freq [MHz] 2402                |
| Frequency mid to test                            | False   Freq [MHz] 2440                |
| Frequency high to test                           | True   Freq [MHz] 2480                 |
| Auto Control enabled Power Supply   Climatic Box | No   No                                |
| Additional Path Loss [dB]                        | 0.7                                    |
| Switched Path                                    | EUT - SignalingUnit - SpectrumAnalyzer |

### Test Equipment

## Test Equipment

---

Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

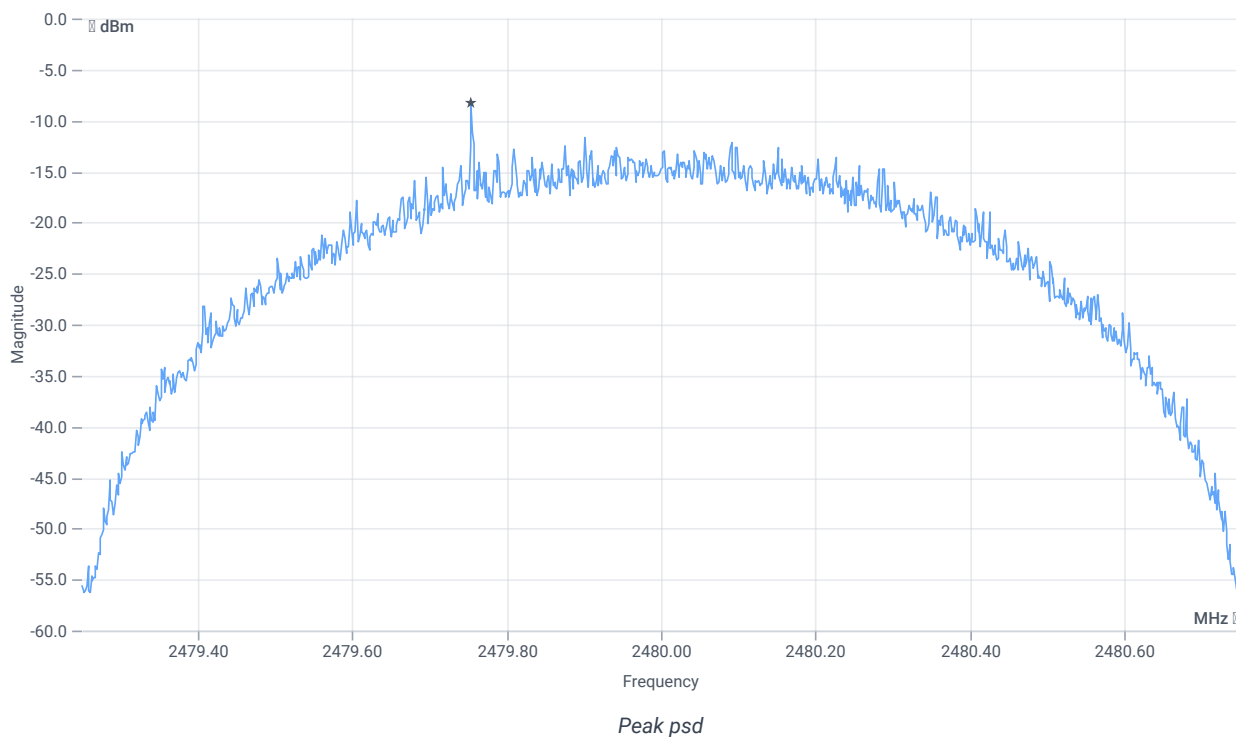
## Test at TX 2480 MHz

RESULT: Reference Power cond.

| Test Description              | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | 0.58     | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2480.200 | MHz  | INFO    |

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 5.58   11.41   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 |
|------------------|-------------|-------------|----------|----------|---------|
| Peak psd         | ---         | 8           | -8.32    | dBm/3KHz | PASS    |

### Verdict

PASS

## FCC 15.247 # Maximum peak conducted output power DTS ~ BT LE coded S8

### Test References

|                                   |                                                                     |
|-----------------------------------|---------------------------------------------------------------------|
| TC Start                          | 24.04.2023 15:34:53                                                 |
| Ambit Temp [°C]   Humidity [rel%] | 27.5   29                                                           |
| System Version                    | 4.0.0.5                                                             |
| Test Specification                | FCC 15.247 -                                                        |
| Test Method                       | DTS: KDB 558074 D01 V05 - Chapter 8.3.1.1 RBW ≥ DTS Bandwidth       |
| TC Version                        | 0.0.1                                                               |
| My Description                    | FCC 15.247 Maximum Peak Output Power Conducted DTS - BT LE coded S8 |
| Add. Information                  |                                                                     |

### EUT 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 255   RXpayload 255             |
| 2 Mbps supported                         | True   TXpayload 255   RXpayload 255             |
| Longrange S8 supported                   | True   TXpayload 255   RXpayload 255             |
| Longrange S2 supported                   | True   TXpayload 255   RXpayload 255             |
| Signaling Settings                       | None   HCI   39   115200   None   S1   None   On |
| Signaling RF Settings                    | RF1com   0   0   On                              |
| User Interaction                         | No                                               |
| Switch Matrix & Pathcompensation enabled | Yes                                              |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | BT LE coded S8                         |
| Antenna Port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | True   Freq [MHz] 2402                 |
| Frequency mid to test                            | False   Freq [MHz] 2440                |
| Frequency high to test                           | False   Freq [MHz] 2480                |
| Auto Control enabled Power Supply   Climatic Box | No   No                                |
| Additional Path Loss [dB]                        | 0.7                                    |
| Switched Path                                    | EUT - SignalingUnit - SpectrumAnalyzer |

## Test Equipment

---

Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

## Test at TX 2402 MHz

RESULT: Reference Power cond.

| Test Description              | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | 1.22     | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2402.300 | MHz  | INFO    |

### READ SA SETTINGS:

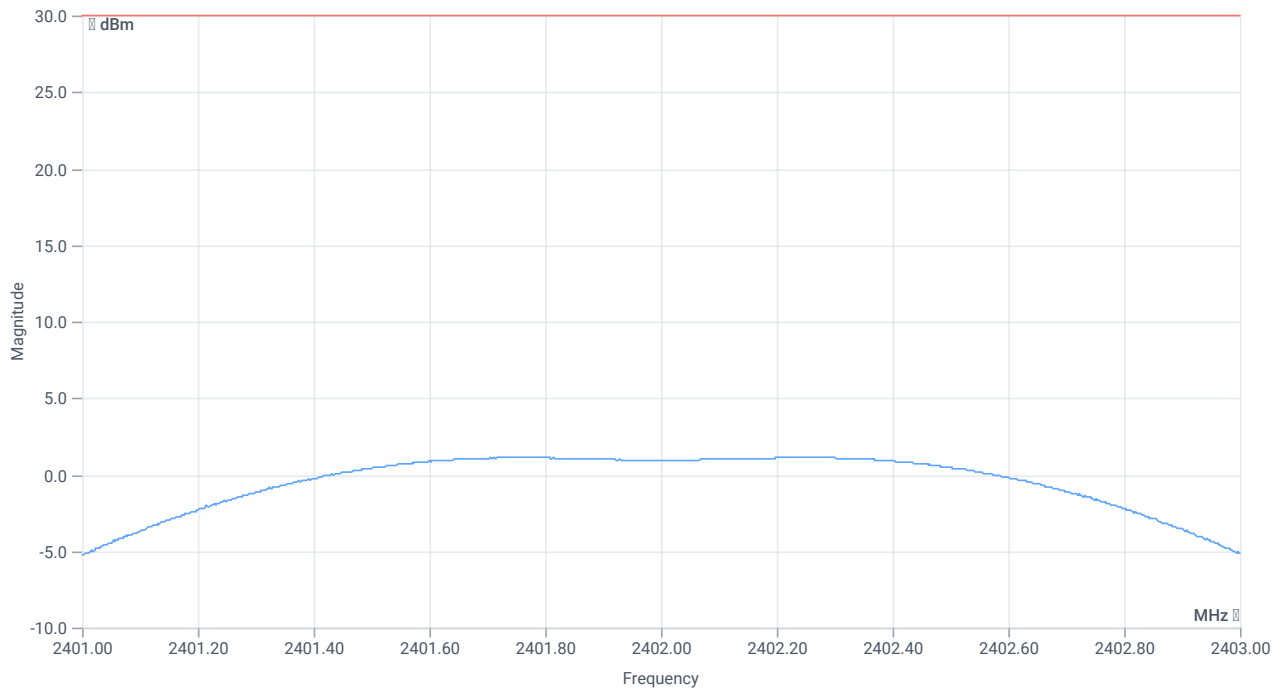
|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 6.22   11.29   10      |
| Start [MHz]   Stop [MHz]                             | 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) | ---         | ---         | 710      | kHz  | INFO    |

### READ SA SETTINGS:

|                                                      |                       |
|------------------------------------------------------|-----------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 11.22   11.29   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 |



Peak output power

## RESULT

| Test Description  | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------|-------------|-------------|----------|------|---------|
| Peak Power        | ---         | 30.00       | 1.12     | dBm  | PASS    |
| Peak Power        | ---         | 1000        | 1.294196 | mW   | PASS    |
| Frequency at Peak | ---         | ---         | 2402.258 | MHz  | INFO    |

## Verdict

PASS

## FCC 15.247 # Maximum peak conducted output power DTS ~ BT LE coded S8

### Test References

|                                   |                                                                     |
|-----------------------------------|---------------------------------------------------------------------|
| TC Start                          | 24.04.2023 15:47:22                                                 |
| Ambit Temp [°C]   Humidity [rel%] | 27.5   29                                                           |
| System Version                    | 4.0.0.5                                                             |
| Test Specification                | FCC 15.247 -                                                        |
| Test Method                       | DTS: KDB 558074 D01 V05 - Chapter 8.3.1.1 RBW ≥ DTS Bandwidth       |
| TC Version                        | 0.0.1                                                               |
| My Description                    | FCC 15.247 Maximum Peak Output Power Conducted DTS - BT LE coded S8 |
| Add. Information                  |                                                                     |

### EUT 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 255   RXpayload 255             |
| 2 Mbps supported                         | True   TXpayload 255   RXpayload 255             |
| Longrange S8 supported                   | True   TXpayload 255   RXpayload 255             |
| Longrange S2 supported                   | True   TXpayload 255   RXpayload 255             |
| Signaling Settings                       | None   HCI   39   115200   None   S1   None   On |
| Signaling RF Settings                    | RF1com   0   0   On                              |
| User Interaction                         | No                                               |
| Switch Matrix & Pathcompensation enabled | Yes                                              |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | BT LE coded S8                         |
| Antenna Port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | False   Freq [MHz] 2402                |
| Frequency mid to test                            | True   Freq [MHz] 2440                 |
| Frequency high to test                           | False   Freq [MHz] 2480                |
| Auto Control enabled Power Supply   Climatic Box | No   No                                |
| Additional Path Loss [dB]                        | 0.7                                    |
| Switched Path                                    | EUT - SignalingUnit - SpectrumAnalyzer |

## Test Equipment

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Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

## Test at TX 2440 MHz

RESULT: Reference Power cond.

| Test Description              | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | 0.56     | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2440.300 | MHz  | INFO    |

### READ SA SETTINGS:

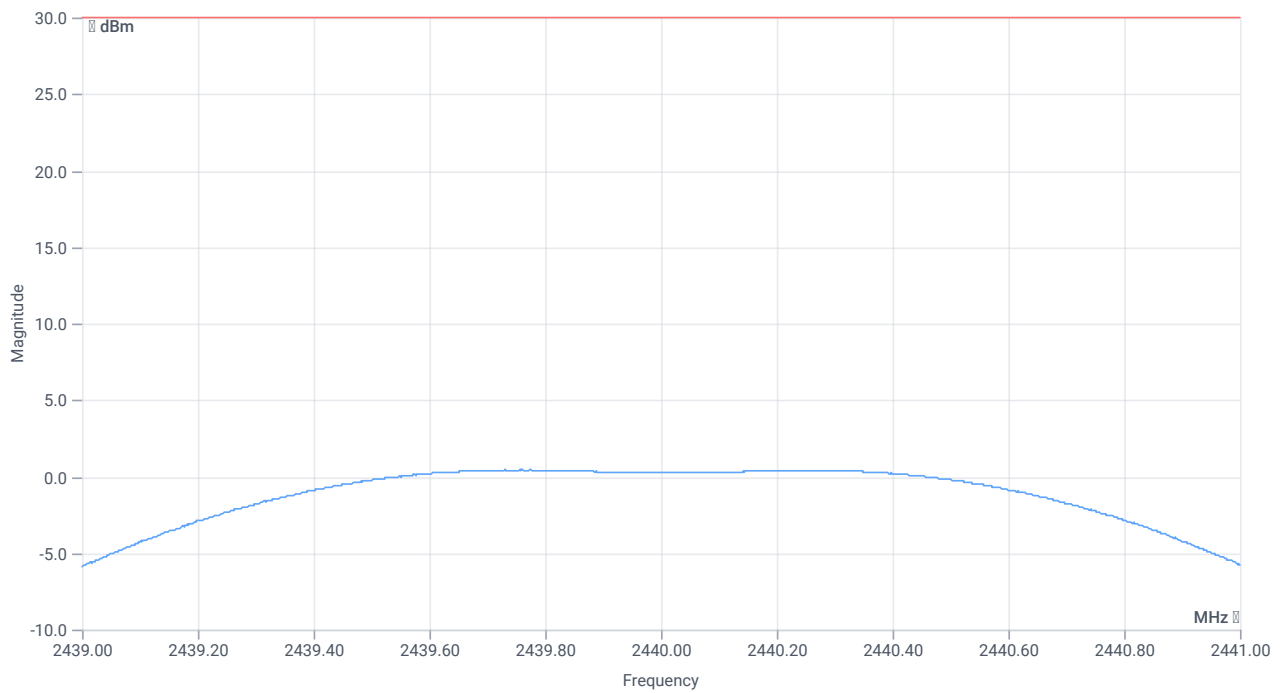
|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 5.56   11.36   10      |
| Start [MHz]   Stop [MHz]                             | 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) | ---         | ---         | 737      | kHz  | INFO    |

### READ SA SETTINGS:

|                                                      |                       |
|------------------------------------------------------|-----------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 10.56   11.36   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 |



Peak output power

## RESULT

| Test Description  | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------|-------------|-------------|----------|------|---------|
| Peak Power        | ---         | 30.00       | 0.44     | dBm  | PASS    |
| Peak Power        | ---         | 1000        | 1.106624 | mW   | PASS    |
| Frequency at Peak | ---         | ---         | 2439.756 | MHz  | INFO    |

## Verdict

PASS

## FCC 15.247 # Maximum peak conducted output power DTS ~ BT LE coded S8

### Test References

|                                   |                                                                     |
|-----------------------------------|---------------------------------------------------------------------|
| TC Start                          | 24.04.2023 15:57:25                                                 |
| Ambit Temp [°C]   Humidity [rel%] | 27.6   29                                                           |
| System Version                    | 4.0.0.5                                                             |
| Test Specification                | FCC 15.247 -                                                        |
| Test Method                       | DTS: KDB 558074 D01 V05 - Chapter 8.3.1.1 RBW ≥ DTS Bandwidth       |
| TC Version                        | 0.0.1                                                               |
| My Description                    | FCC 15.247 Maximum Peak Output Power Conducted DTS - BT LE coded S8 |
| Add. Information                  |                                                                     |

### EUT 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 255   RXpayload 255             |
| 2 Mbps supported                         | True   TXpayload 255   RXpayload 255             |
| Longrange S8 supported                   | True   TXpayload 255   RXpayload 255             |
| Longrange S2 supported                   | True   TXpayload 255   RXpayload 255             |
| Signaling Settings                       | None   HCI   39   115200   None   S1   None   On |
| Signaling RF Settings                    | RF1com   0   0   On                              |
| User Interaction                         | No                                               |
| Switch Matrix & Pathcompensation enabled | Yes                                              |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | BT LE coded S8                         |
| Antenna Port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | False   Freq [MHz] 2402                |
| Frequency mid to test                            | False   Freq [MHz] 2440                |
| Frequency high to test                           | True   Freq [MHz] 2480                 |
| Auto Control enabled Power Supply   Climatic Box | No   No                                |
| Additional Path Loss [dB]                        | 0.7                                    |
| Switched Path                                    | EUT - SignalingUnit - SpectrumAnalyzer |

## Test Equipment

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Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

## Test at TX 2480 MHz

RESULT: Reference Power cond.

| Test Description              | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | 0.61     | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2480.300 | MHz  | INFO    |

### READ SA SETTINGS:

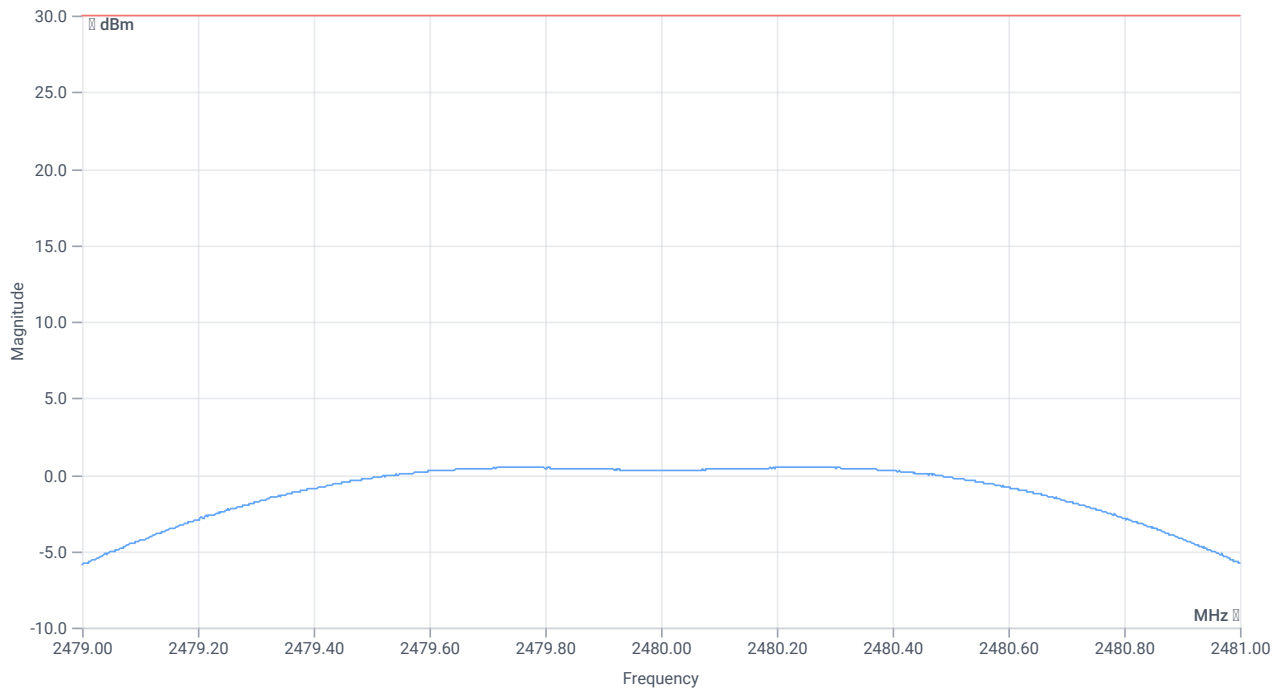
|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 5.61   11.41   10      |
| Start [MHz]   Stop [MHz]                             | 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) | ---         | ---         | 718      | kHz  | INFO    |

### READ SA SETTINGS:

|                                                      |                       |
|------------------------------------------------------|-----------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 10.61   11.41   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 |



Peak output power

## RESULT

| Test Description  | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------|-------------|-------------|----------|------|---------|
| Peak Power        | ---         | 30.00       | 0.47     | dBm  | PASS    |
| Peak Power        | ---         | 1000        | 1.114295 | mW   | PASS    |
| Frequency at Peak | ---         | ---         | 2480.264 | MHz  | INFO    |

## Verdict

PASS

## FCC 15.247 # Peak psd DTS ~ BT LE coded S8

### Test References

|                                   |                                                                                                            |
|-----------------------------------|------------------------------------------------------------------------------------------------------------|
| TC Start                          | 24.04.2023 15:36:07                                                                                        |
| Ambit Temp [°C]   Humidity [rel%] | 27.6   29                                                                                                  |
| System Version                    | 4.0.0.5                                                                                                    |
| Test Specification                | FCC 15.247 -                                                                                               |
| Test Method                       | DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission |
| TC Version                        | 0.0.1                                                                                                      |
| My Description                    | FCC 15.247 Peak psd DTS - BT LE coded S8                                                                   |
| Add. Information                  |                                                                                                            |

### EUT 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 255   RXpayload 255             |
| 2 Mbps supported                         | True   TXpayload 255   RXpayload 255             |
| Longrange S8 supported                   | True   TXpayload 255   RXpayload 255             |
| Longrange S2 supported                   | True   TXpayload 255   RXpayload 255             |
| Signaling Settings                       | None   HCI   39   115200   None   S1   None   On |
| Signaling RF Settings                    | RF1com   0   0   On                              |
| User Interaction                         | No                                               |
| Switch Matrix & Pathcompensation enabled | Yes                                              |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | BT LE coded S8                         |
| Antenna Port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | True   Freq [MHz] 2402                 |
| Frequency mid to test                            | False   Freq [MHz] 2440                |
| Frequency high to test                           | False   Freq [MHz] 2480                |
| Auto Control enabled Power Supply   Climatic Box | No   No                                |
| Additional Path Loss [dB]                        | 0.7                                    |
| Switched Path                                    | EUT - SignalingUnit - SpectrumAnalyzer |

### Test Equipment

## Test Equipment

---

Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

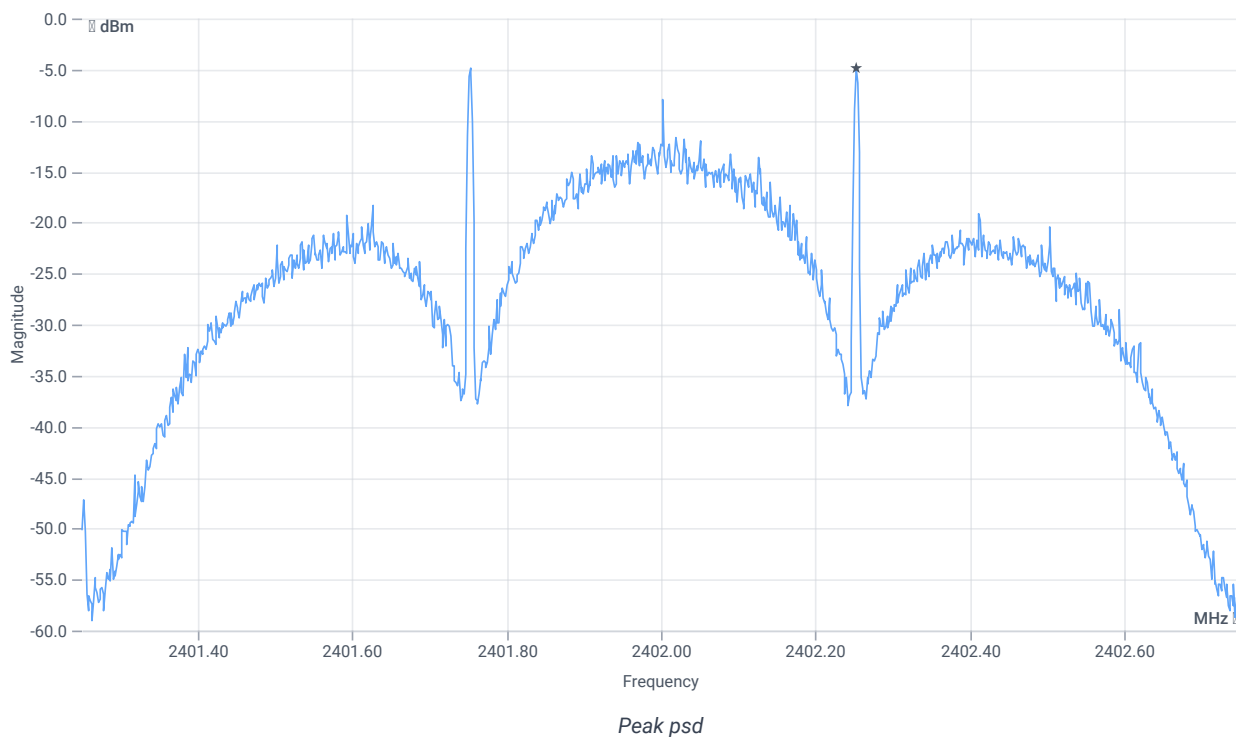
## Test at TX 2402 MHz

RESULT: Reference Power cond.

| Test Description              | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | 1.25     | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2402.300 | MHz  | INFO    |

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 6.25   11.29   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 |
|------------------|-------------|-------------|----------|----------|---------|
| Peak psd         | ---         | 8           | -4.93    | dBm/3KHz | PASS    |

### Verdict

PASS

## FCC 15.247 # Peak psd DTS ~ BT LE coded S8

### Test References

|                                   |                                                                                                            |
|-----------------------------------|------------------------------------------------------------------------------------------------------------|
| TC Start                          | 24.04.2023 15:48:36                                                                                        |
| Ambit Temp [°C]   Humidity [rel%] | 27.5   29                                                                                                  |
| System Version                    | 4.0.0.5                                                                                                    |
| Test Specification                | FCC 15.247 -                                                                                               |
| Test Method                       | DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission |
| TC Version                        | 0.0.1                                                                                                      |
| My Description                    | FCC 15.247 Peak psd DTS - BT LE coded S8                                                                   |
| Add. Information                  |                                                                                                            |

### EUT 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 255   RXpayload 255             |
| 2 Mbps supported                         | True   TXpayload 255   RXpayload 255             |
| Longrange S8 supported                   | True   TXpayload 255   RXpayload 255             |
| Longrange S2 supported                   | True   TXpayload 255   RXpayload 255             |
| Signaling Settings                       | None   HCI   39   115200   None   S1   None   On |
| Signaling RF Settings                    | RF1com   0   0   On                              |
| User Interaction                         | No                                               |
| Switch Matrix & Pathcompensation enabled | Yes                                              |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | BT LE coded S8                         |
| Antenna Port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | False   Freq [MHz] 2402                |
| Frequency mid to test                            | True   Freq [MHz] 2440                 |
| Frequency high to test                           | False   Freq [MHz] 2480                |
| Auto Control enabled Power Supply   Climatic Box | No   No                                |
| Additional Path Loss [dB]                        | 0.7                                    |
| Switched Path                                    | EUT - SignalingUnit - SpectrumAnalyzer |

### Test Equipment

## Test Equipment

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Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

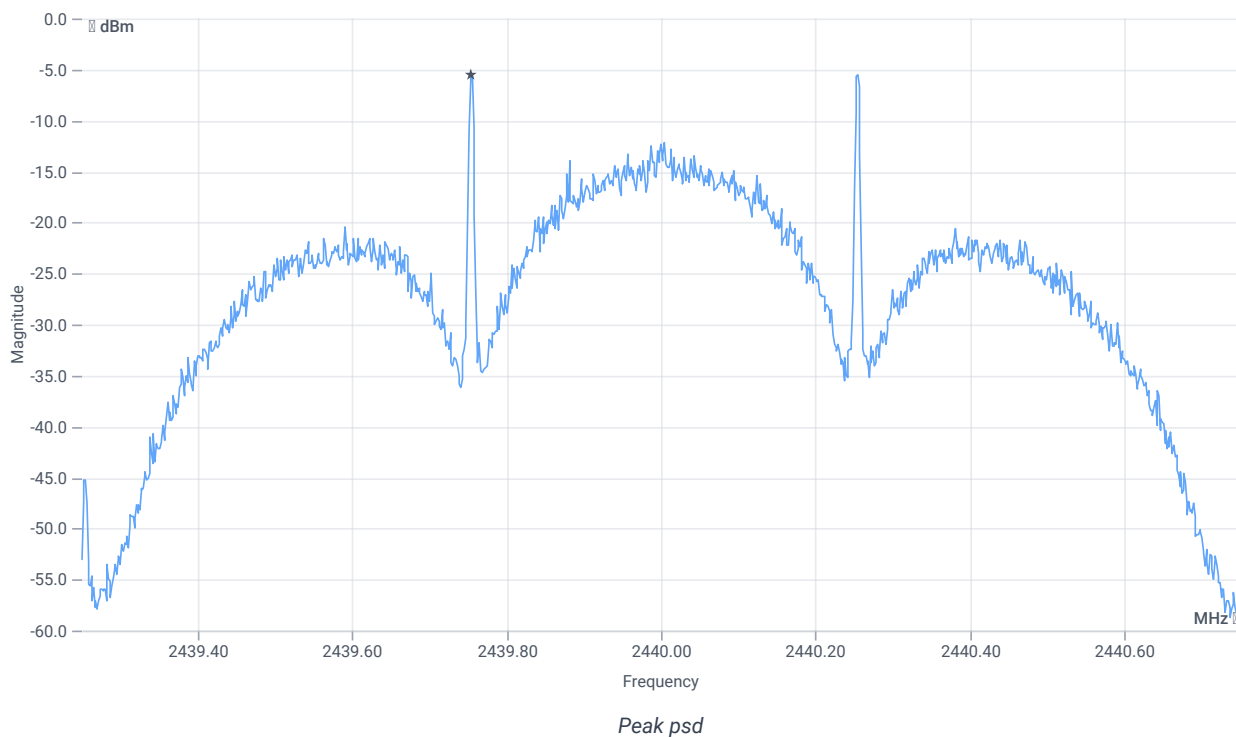
## Test at TX 2440 MHz

RESULT: Reference Power cond.

| Test Description              | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | 0.56     | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2440.300 | MHz  | INFO    |

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 5.56   11.36   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 |
|------------------|-------------|-------------|----------|----------|---------|
| Peak psd         | ---         | 8           | -5.56    | dBm/3KHz | PASS    |

### Verdict

PASS

## FCC 15.247 # Peak psd DTS ~ BT LE coded S8

### Test References

|                                   |                                                                                                            |
|-----------------------------------|------------------------------------------------------------------------------------------------------------|
| TC Start                          | 24.04.2023 15:58:39                                                                                        |
| Ambit Temp [°C]   Humidity [rel%] | 27.5   29                                                                                                  |
| System Version                    | 4.0.0.5                                                                                                    |
| Test Specification                | FCC 15.247 -                                                                                               |
| Test Method                       | DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission |
| TC Version                        | 0.0.1                                                                                                      |
| My Description                    | FCC 15.247 Peak psd DTS - BT LE coded S8                                                                   |
| Add. Information                  |                                                                                                            |

### EUT 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 255   RXpayload 255             |
| 2 Mbps supported                         | True   TXpayload 255   RXpayload 255             |
| Longrange S8 supported                   | True   TXpayload 255   RXpayload 255             |
| Longrange S2 supported                   | True   TXpayload 255   RXpayload 255             |
| Signaling Settings                       | None   HCI   39   115200   None   S1   None   On |
| Signaling RF Settings                    | RF1com   0   0   On                              |
| User Interaction                         | No                                               |
| Switch Matrix & Pathcompensation enabled | Yes                                              |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | BT LE coded S8                         |
| Antenna Port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | False   Freq [MHz] 2402                |
| Frequency mid to test                            | False   Freq [MHz] 2440                |
| Frequency high to test                           | True   Freq [MHz] 2480                 |
| Auto Control enabled Power Supply   Climatic Box | No   No                                |
| Additional Path Loss [dB]                        | 0.7                                    |
| Switched Path                                    | EUT - SignalingUnit - SpectrumAnalyzer |

### Test Equipment

## Test Equipment

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Signal analyzer,Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.60

Switch matrix,CTCadvanced,RSM-1 NI DAQ,31534892,NI

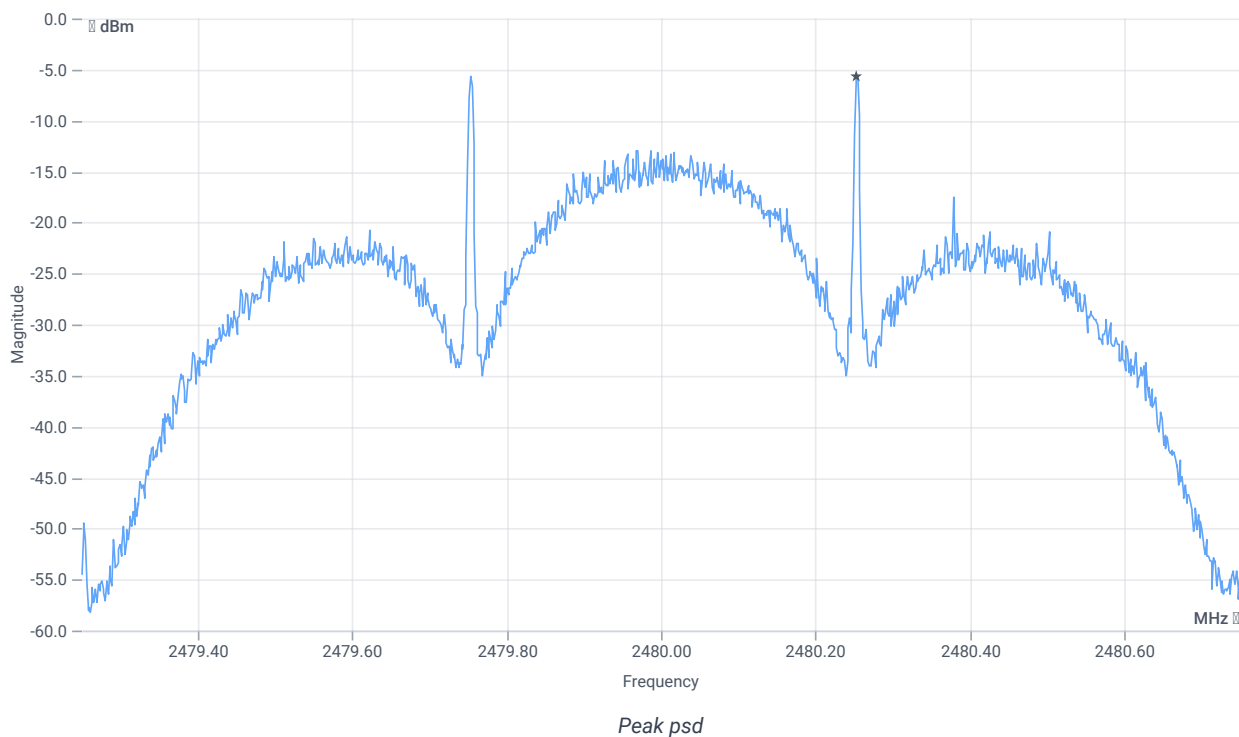
## Test at TX 2480 MHz

RESULT: Reference Power cond.

| Test Description              | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | 0.57     | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2480.300 | MHz  | INFO    |

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 5.57   11.41   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 |
|------------------|-------------|-------------|----------|----------|---------|
| Peak psd         | ---         | 8           | -5.62    | dBm/3KHz | PASS    |

### Verdict

PASS

- END OF DOCUMENT -