

# Conducted test results b-mode PS 18

No.1-6998/23-01-11\_TR1-A201-R2

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January 04, 2024

|                  |                               |
|------------------|-------------------------------|
| Test Standard(s) | FCC 15.247 - NI               |
|                  | FCC 15.247, ISSED RSS247 - NI |

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## EUT Information

### EUT DEFINITION

|                      |                     |
|----------------------|---------------------|
| Manufacturer         | Leica Geosystems AG |
| Type                 | LG1001              |
| Serial Number        | 3800113             |
| Setup Number         | 1.0                 |
| Version SW           | 0.1                 |
| Version FW           | BSP v4.0.20         |
| Version HW           | C                   |
| Comment 1            |                     |
| Comment 2            |                     |
| Temperature [°C] Min | -30                 |
| Temperature [°C] Nom | 20                  |
| Temperature [°C] Max | 60                  |
| Voltage [V] Min      | 2.5                 |
| Voltage [V] Nom      | 3.7                 |
| Voltage [V] Max      | 4.1                 |

## FCC 15.247 # Bandwidth 6dB DTS ~ WLAN2G4 b mode

### References

|                                   |                                               |
|-----------------------------------|-----------------------------------------------|
| TC start                          | 04.01.2024 10:55:46                           |
| Ambit temp [°C]   humidity [rel%] | 22.4   41                                     |
| System version                    | 4.7.1.4                                       |
| Standard   Version                | FCC 15.247   NI                               |
| Method                            |                                               |
| Description                       | FCC 15.247 Bandwidth 6dB DTS - WLAN2G4 b mode |
| Information                       |                                               |

### EUT Common Settings WLAN2G4

|                         |    |
|-------------------------|----|
| Number of Antenna Ports | 1  |
| User Interaction        | No |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | WLAN2G4 b mode                         |
| Antenna port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | True   Freq [MHz] 2412                 |
| Frequency mid to test                            | False   Freq [MHz] 2437                |
| Frequency high to test                           | False   Freq [MHz] 2462                |
| Auto control enabled power supply   Climatic Box | No   No                                |
| Additional path loss [dB]                        | 0.7                                    |
| Full path name   type                            | EUT - SignalingUnit - SpectrumAnalyzer |

### Equipment

|                                                               |
|---------------------------------------------------------------|
| Signal analyzer,Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.70 |
| Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI            |

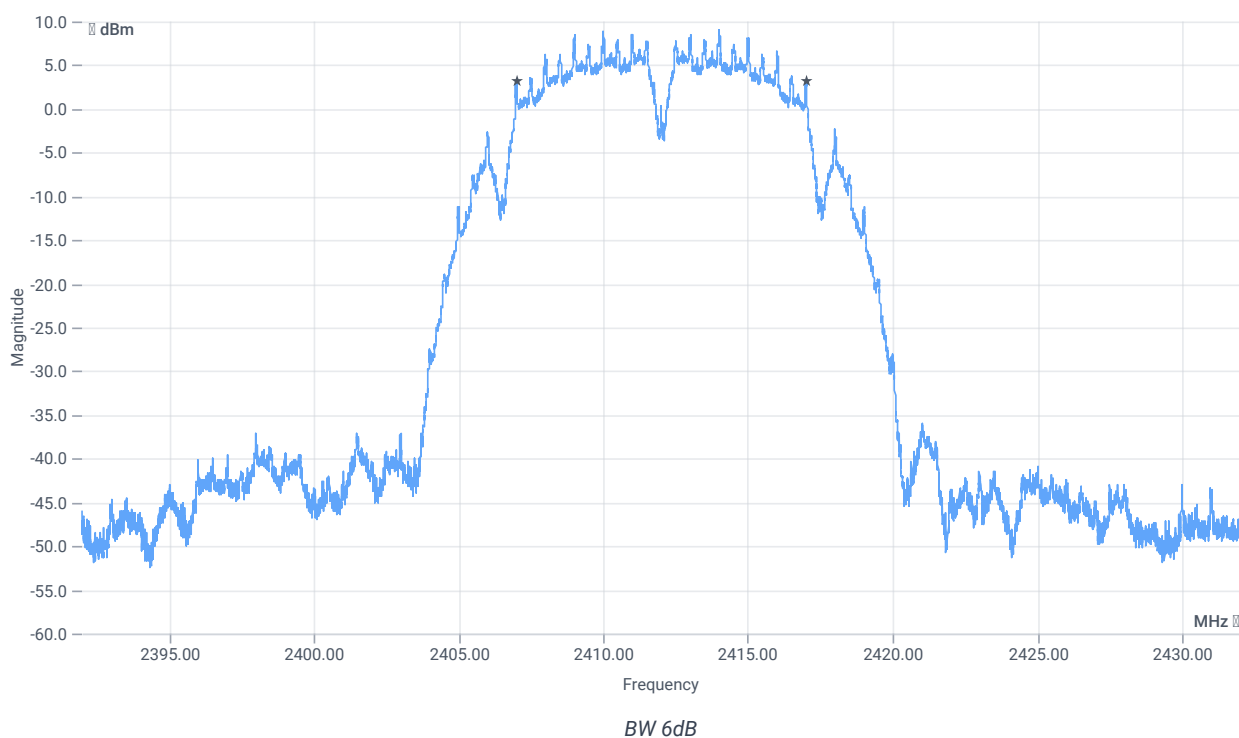
## Test at TX 2412 MHz

RESULT: Reference Power cond.

| DESCRIPTION                   | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | 13.00    | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2410.500 | MHz  | INFO    |

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 18.00   13.85   20     |
| Start [MHz]   Stop [MHz]                             | 2392.000   2432.000    |
| 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

| DESCRIPTION         | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|---------------------|-------------|-------------|----------|------|---------|
| DTS Bandwidth (6dB) | 500         | ---         | 10016    | kHz  | PASS    |

#### Verdict

PASS

## FCC 15.247 # Peak psd DTS ~ WLAN2G4 b mode

### References

|                                   |                                                                                                            |
|-----------------------------------|------------------------------------------------------------------------------------------------------------|
| TC start                          | 04.01.2024 10:56:24                                                                                        |
| Ambit temp [°C]   humidity [rel%] | 22.4   41                                                                                                  |
| System version                    | 4.7.1.4                                                                                                    |
| Standard   Version                | FCC 15.247   NI                                                                                            |
| Method                            | DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission |
| Description                       | FCC 15.247 Peak psd DTS - WLAN2G4 b mode                                                                   |
| Information                       |                                                                                                            |

### EUT Common Settings WLAN2G4

|                         |    |
|-------------------------|----|
| Number of Antenna Ports | 1  |
| User Interaction        | No |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | WLAN2G4 b mode                         |
| Antenna port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | True   Freq [MHz] 2412                 |
| Frequency mid to test                            | False   Freq [MHz] 2437                |
| Frequency high to test                           | False   Freq [MHz] 2462                |
| Auto control enabled power supply   Climatic Box | No   No                                |
| Additional path loss [dB]                        | 0.7                                    |
| Full path name   type                            | EUT - SignalingUnit - SpectrumAnalyzer |

### Equipment

|                                                               |
|---------------------------------------------------------------|
| Signal analyzer,Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.70 |
| Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI            |

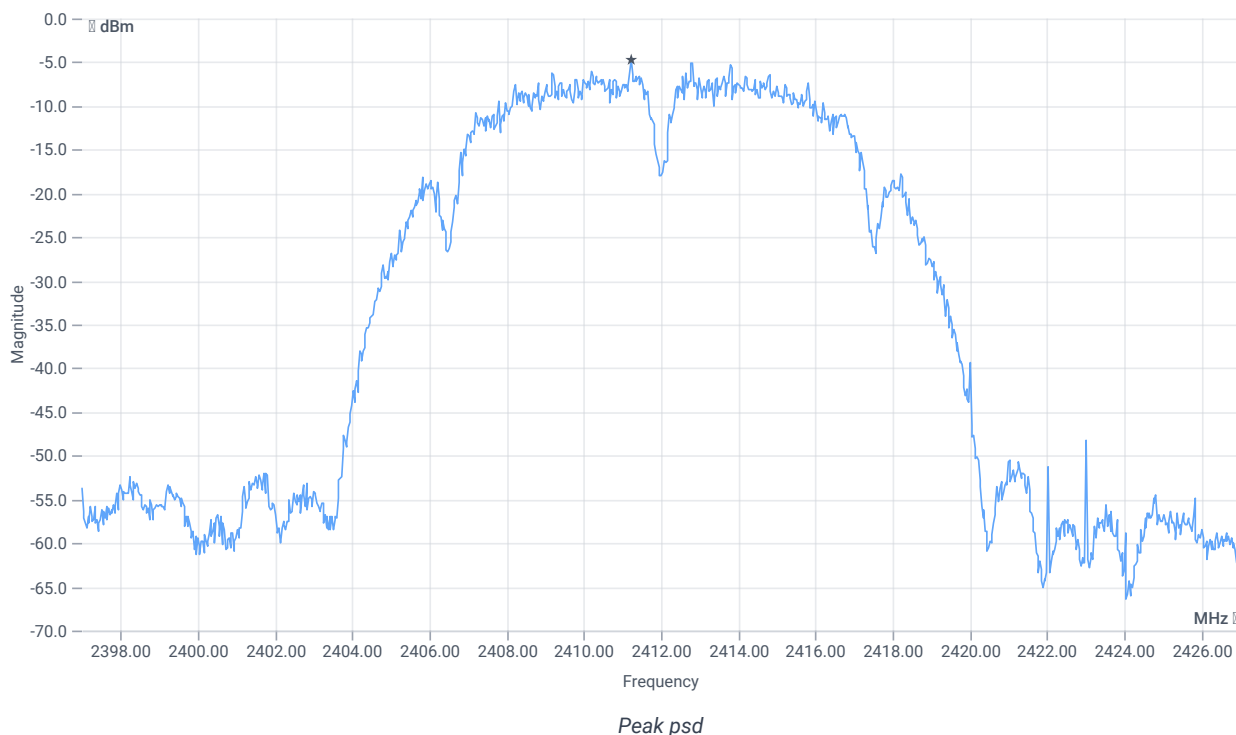
## Test at TX 2412 MHz

RESULT: Reference Power cond.

| DESCRIPTION                   | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | 13.13    | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2413.500 | MHz  | INFO    |

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 18.13   13.85   20     |
| Start [MHz]   Stop [MHz]                             | 2397.000   2427.000    |
| 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

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT     | VERDICT |
|-------------|-------------|-------------|----------|----------|---------|
| Peak psd    | ---         | 8           | -4.8     | dBm/3KHz | PASS    |

#### Verdict

PASS

# FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 b mode

## References

|                                   |                                                      |
|-----------------------------------|------------------------------------------------------|
| TC start                          | 04.01.2024 10:57:09                                  |
| Ambit temp [°C]   humidity [rel%] | 22.4   41                                            |
| System version                    | 4.7.1.4                                              |
| Standard   Version                | FCC 15.247, ISED RSS247   NI                         |
| Method                            |                                                      |
| Description                       | FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN2G4 b mode |
| Information                       |                                                      |

## EUT Common Settings WLAN2G4

|                         |    |
|-------------------------|----|
| Number of Antenna Ports | 1  |
| User Interaction        | No |

## Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | WLAN2G4 b mode                         |
| Antenna port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | True   Freq [MHz] 2412                 |
| Frequency mid to test                            | False   Freq [MHz] 2437                |
| Frequency high to test                           | False   Freq [MHz] 2462                |
| Auto control enabled power supply   Climatic Box | No   No                                |
| Additional path loss [dB]                        | 0.7                                    |
| Full path name   type                            | EUT - SignalingUnit - SpectrumAnalyzer |

## Equipment

|                                                               |
|---------------------------------------------------------------|
| Signal analyzer,Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.70 |
| Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI            |



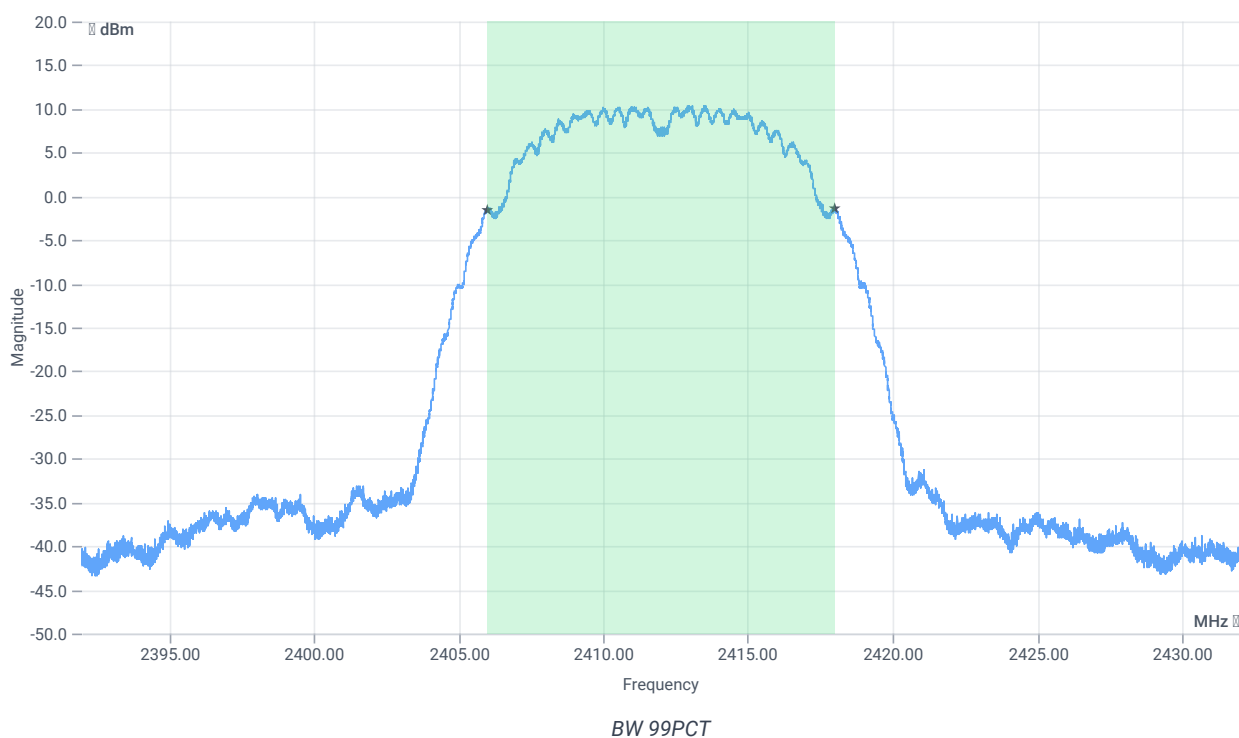
## Test at TX 2412 MHz

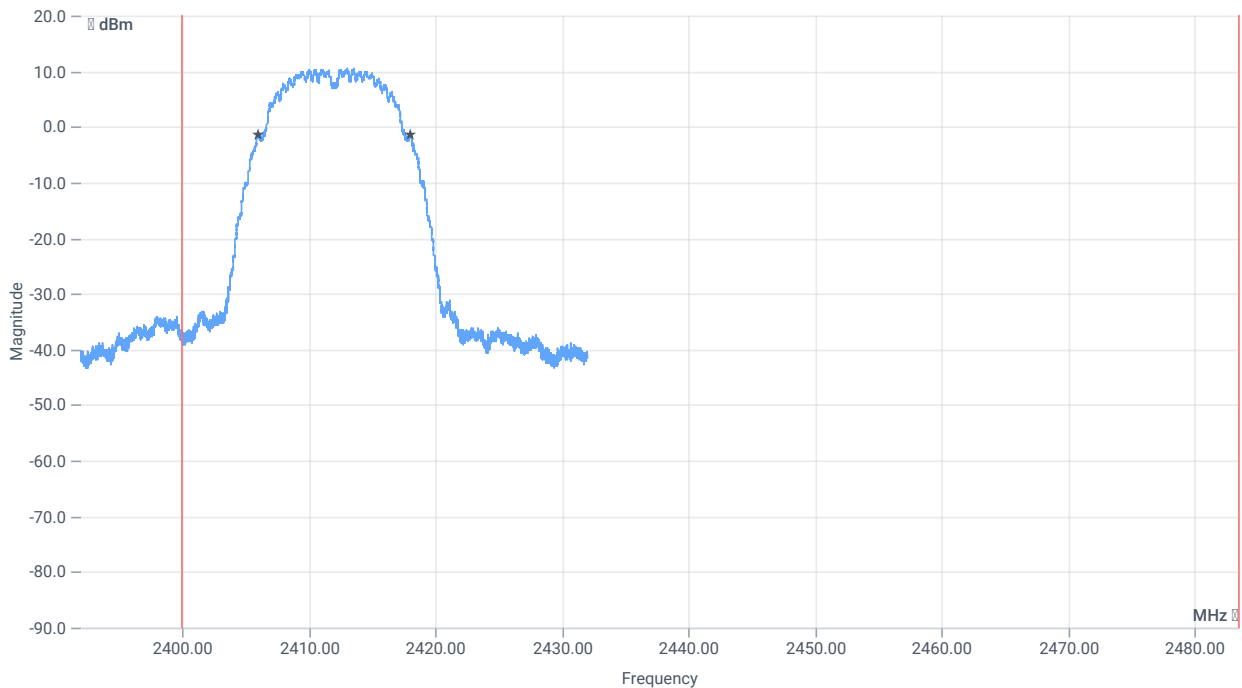
RESULT: Reference Power cond.

| DESCRIPTION                   | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | 13.00    | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2410.300 | MHz  | INFO    |

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 18.00   13.85   20     |
| Start [MHz]   Stop [MHz]                             | 2392.000   2432.000    |
| RBW [MHz]   VBW [MHz]                                | 0.500000   2.000000    |
| Detector   TraceMode                                 | POS   MAXH             |
| Sweep: time [ms]   count   points per Section   type | 50   200   10001   SWE |

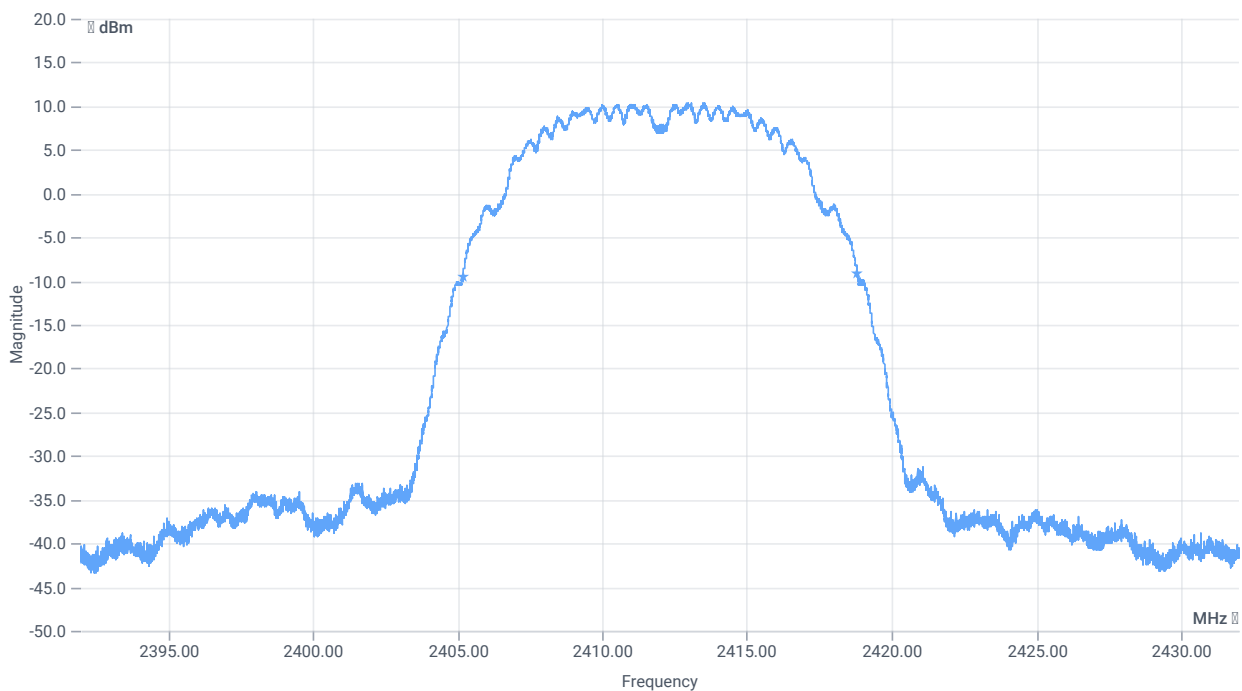




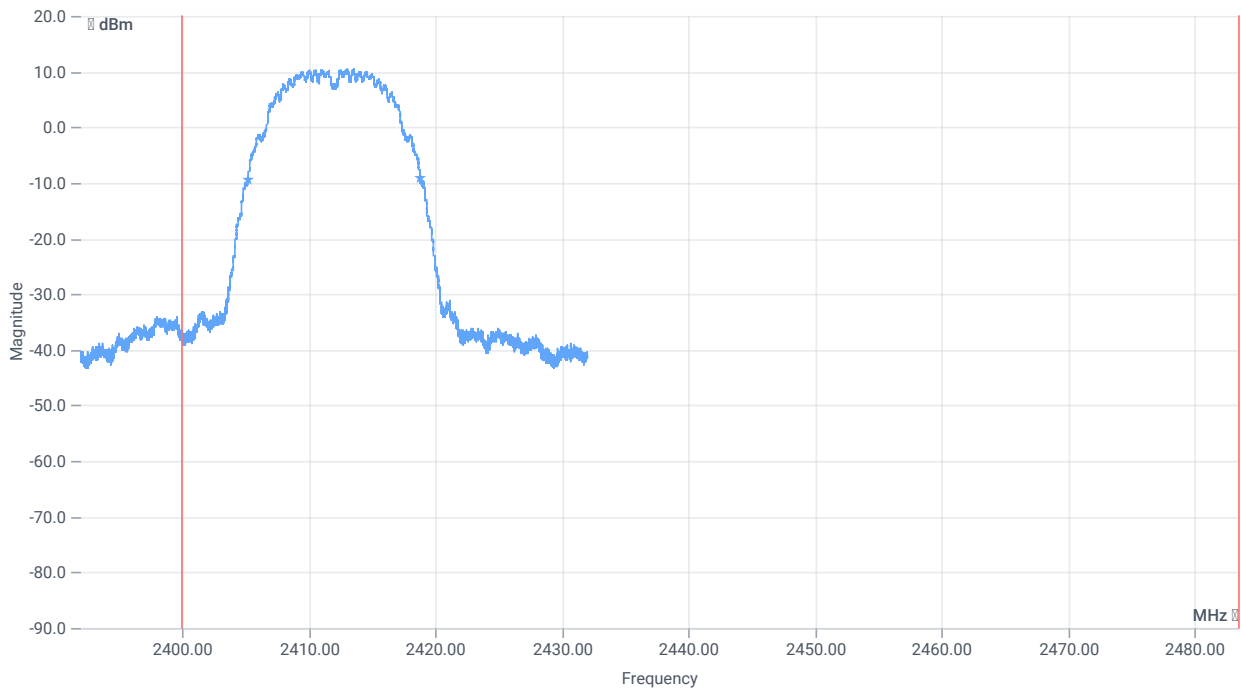
*BW within Band 99PCT*

## RESULT

| DESCRIPTION   | LOWER LIMIT | UPPER LIMIT | MEASURED  | UNIT | VERDICT |
|---------------|-------------|-------------|-----------|------|---------|
| Bandwidth 99% | ---         | ---         | 11995.000 | kHz  | INFO    |
| T1 99%        | 2400.000000 | ---         | 2406.0086 | MHz  | PASS    |
| T2 99%        | ---         | 2483.500000 | 2418.0034 | MHz  | PASS    |



BW 20dB



BW within Band 20dB

## RESULT

| DESCRIPTION    | LOWER LIMIT | UPPER LIMIT | MEASURED  | UNIT | VERDICT |
|----------------|-------------|-------------|-----------|------|---------|
| Bandwidth 20dB | ---         | ---         | 13636     | kHz  | INFO    |
| T1 20dB        | 2400.000000 | ---         | 2405.1920 | MHz  | PASS    |
| T2 20dB        | ---         | 2483.500000 | 2418.8280 | MHz  | PASS    |

Verdict

PASS

## FCC 15.247 # TX spurious conducted 20dBc ~ WLAN2G4 b mode

### References

|                                   |                                                                                                                  |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------|
| TC start                          | 04.01.2024 10:57:48                                                                                              |
| Ambit temp [°C]   humidity [rel%] | 22.4   41                                                                                                        |
| System version                    | 4.7.1.4                                                                                                          |
| Standard   Version                | FCC 15.247   NI                                                                                                  |
| Method                            | IF DTS then 8.5 DTS emissions in non-restricted frequency bands:<br>Subclause 11.11 of ANSI C63.10 is applicable |
| Description                       | FCC 15.247 TX Emissions Conducted DTS - WLAN2G4 b mode                                                           |
| Information                       |                                                                                                                  |

### EUT Common Settings WLAN2G4

|                         |    |
|-------------------------|----|
| Number of Antenna Ports | 1  |
| User Interaction        | No |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | WLAN2G4 b mode                         |
| Antenna port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | True   Freq [MHz] 2412                 |
| Frequency mid to test                            | False   Freq [MHz] 2437                |
| Frequency high to test                           | False   Freq [MHz] 2462                |
| Auto control enabled power supply   Climatic Box | No   No                                |
| Additional path loss [dB]                        | 0.7                                    |
| Full path name   type                            | EUT - SignalingUnit - SpectrumAnalyzer |

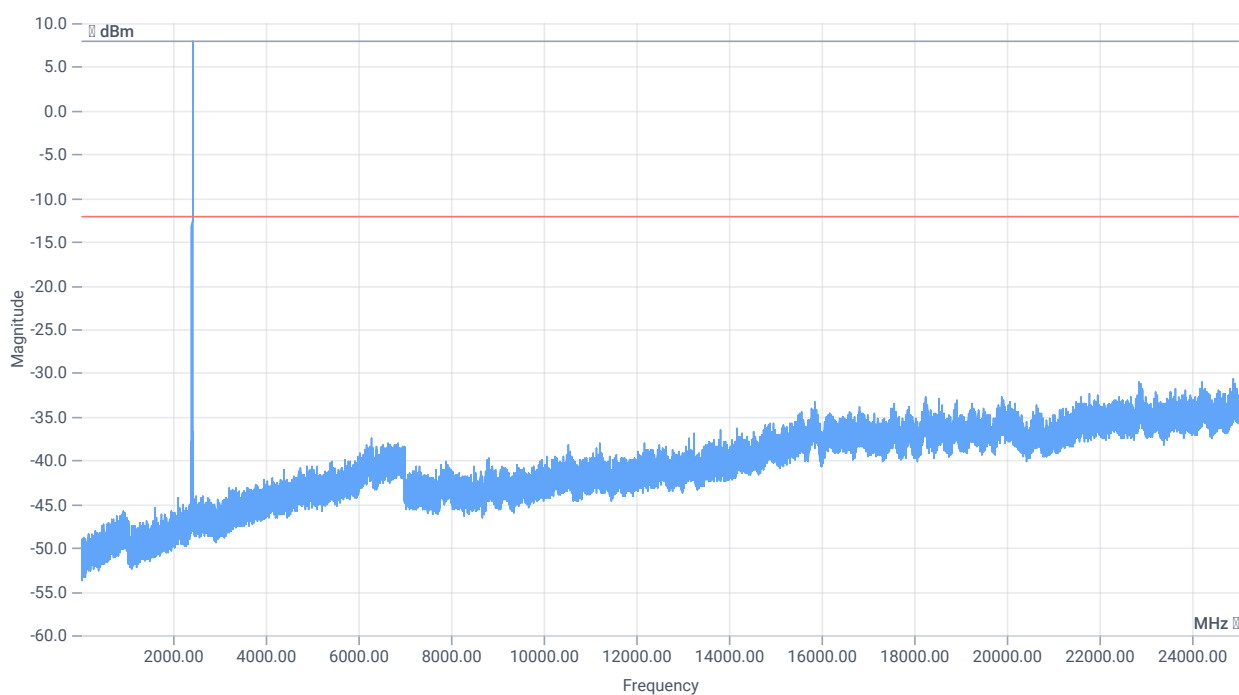
### Equipment

|                                                               |
|---------------------------------------------------------------|
| Signal analyzer,Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.70 |
| Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI            |

## Test at TX 2412 MHz

RESULT: Reference Power cond.

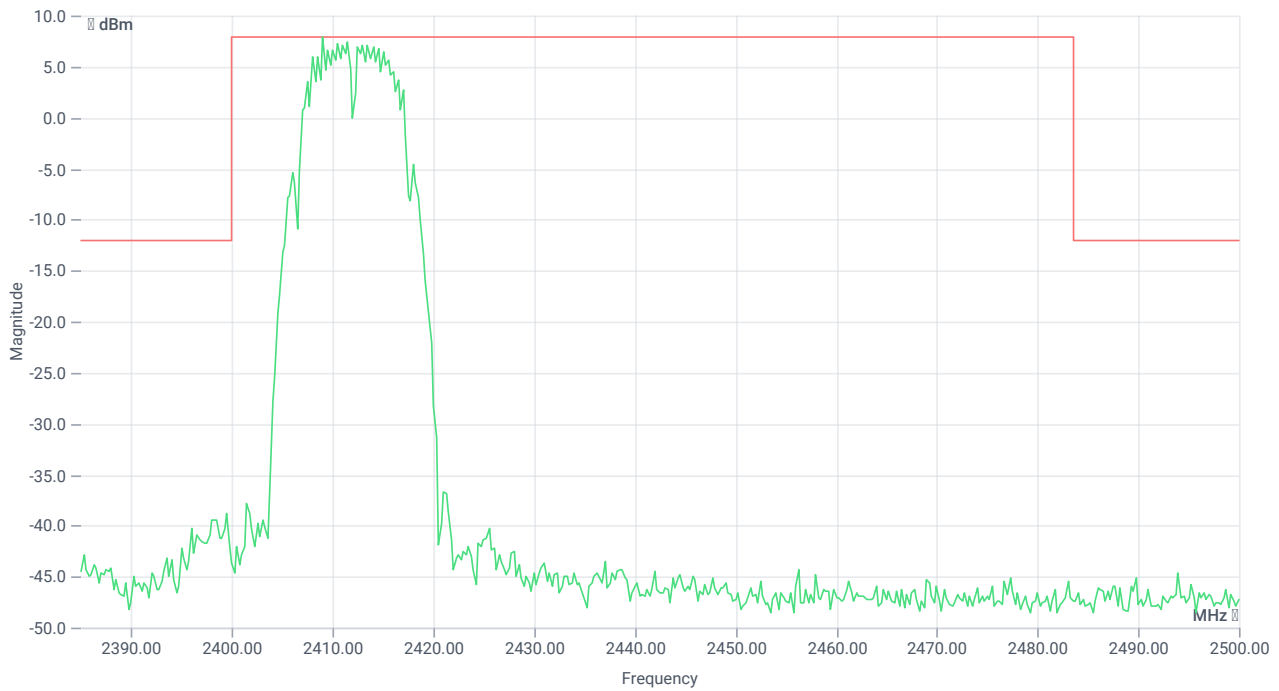
| DESCRIPTION                   | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | 13.13    | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2413.400 | MHz  | INFO    |



TX emissions

### READ SA SETTINGS:

|                                                      |                       |
|------------------------------------------------------|-----------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 13.13   0   30        |
| 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

| DESCRIPTION                         | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------------|-------------|-------------|----------|------|---------|
| Reference @ 2409.00 MHz             | ---         | ---         | 7.94     | dBm  | INFO    |
| No peaks detected                   | ---         | ---         |          |      | PASS    |
| Lowest margin to limit 24892.25 MHz | 0           | ---         | 18.66    | dB   | INFO    |

Verdict

PASS

## FCC 15.247 # Peak output power PM DTS ~ WLAN2G4 b mode

### References

|                                   |                                                                                 |
|-----------------------------------|---------------------------------------------------------------------------------|
| TC start                          | 04.01.2024 11:05:15                                                             |
| Ambit temp [°C]   humidity [rel%] | 22.4   41                                                                       |
| System version                    | 4.7.1.4                                                                         |
| Standard   Version                | FCC 15.247   NI                                                                 |
| Method                            | DTS: KDB 558074 D01 V05 - Chapter 8.3.1.3 PKPM1 Peak-reading Power Meter Method |
| Description                       | FCC 15.247 Peak output power PM DTS - WLAN2G4 b mode                            |
| Information                       |                                                                                 |

### EUT Common Settings WLAN2G4

|                         |    |
|-------------------------|----|
| Number of Antenna Ports | 1  |
| User Interaction        | No |

### Test Parameter

|                                                  |                                  |
|--------------------------------------------------|----------------------------------|
| Technology to test                               | WLAN2G4 b mode                   |
| Antenna port used                                | 1                                |
| Temperature                                      | nom                              |
| Voltage                                          | nom                              |
| Frequency low to test                            | True   Freq [MHz] 2412           |
| Frequency mid to test                            | False   Freq [MHz] 2437          |
| Frequency high to test                           | False   Freq [MHz] 2462          |
| Auto control enabled power supply   Climatic Box | No   No                          |
| Additional path loss [dB]                        | 0.7                              |
| Full path name   type                            | EUT - SignalingUnit - PowerMeter |

### Equipment

|                                                               |
|---------------------------------------------------------------|
| Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI            |
| Power sensor,Keysight Technologies,U2021XA,MY59190010,A.04.06 |

## Test at TX 2412 MHz

### RESULT

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------|-------------|-------------|----------|------|---------|
| Peak power  | ---         | 30          | 22.9     | dBm  | PASS    |

### Verdict

PASS



## FCC 15.247 # Bandwidth 6dB DTS ~ WLAN2G4 b mode

### References

|                                   |                                               |
|-----------------------------------|-----------------------------------------------|
| TC start                          | 04.01.2024 11:07:32                           |
| Ambit temp [°C]   humidity [rel%] | 22.4   40                                     |
| System version                    | 4.7.1.4                                       |
| Standard   Version                | FCC 15.247   NI                               |
| Method                            |                                               |
| Description                       | FCC 15.247 Bandwidth 6dB DTS - WLAN2G4 b mode |
| Information                       |                                               |

### EUT Common Settings WLAN2G4

|                         |    |
|-------------------------|----|
| Number of Antenna Ports | 1  |
| User Interaction        | No |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | WLAN2G4 b mode                         |
| Antenna port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | False   Freq [MHz] 2412                |
| Frequency mid to test                            | True   Freq [MHz] 2437                 |
| Frequency high to test                           | False   Freq [MHz] 2462                |
| Auto control enabled power supply   Climatic Box | No   No                                |
| Additional path loss [dB]                        | 0.7                                    |
| Full path name   type                            | EUT - SignalingUnit - SpectrumAnalyzer |

### Equipment

|                                                               |
|---------------------------------------------------------------|
| Signal analyzer,Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.70 |
| Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI            |

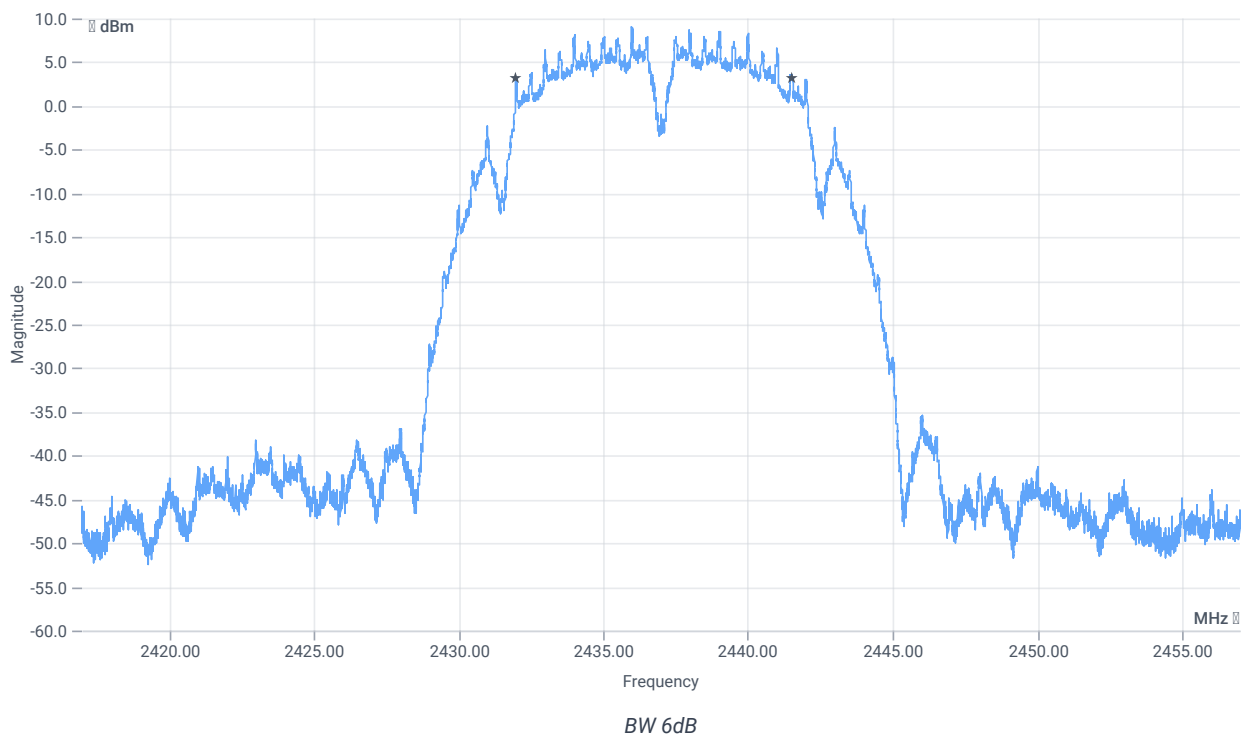
## Test at TX 2437 MHz

RESULT: Reference Power cond.

| DESCRIPTION                   | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | 13.20    | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2435.700 | MHz  | INFO    |

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 18.20   14.01   20     |
| Start [MHz]   Stop [MHz]                             | 2417.000   2457.000    |
| 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

| DESCRIPTION         | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|---------------------|-------------|-------------|----------|------|---------|
| DTS Bandwidth (6dB) | 500         | ---         | 9548     | kHz  | PASS    |

#### Verdict

PASS

## FCC 15.247 # Peak psd DTS ~ WLAN2G4 b mode

### References

|                                   |                                                                                                            |
|-----------------------------------|------------------------------------------------------------------------------------------------------------|
| TC start                          | 04.01.2024 11:08:06                                                                                        |
| Ambit temp [°C]   humidity [rel%] | 22.4   40                                                                                                  |
| System version                    | 4.7.1.4                                                                                                    |
| Standard   Version                | FCC 15.247   NI                                                                                            |
| Method                            | DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission |
| Description                       | FCC 15.247 Peak psd DTS - WLAN2G4 b mode                                                                   |
| Information                       |                                                                                                            |

### EUT Common Settings WLAN2G4

|                         |    |
|-------------------------|----|
| Number of Antenna Ports | 1  |
| User Interaction        | No |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | WLAN2G4 b mode                         |
| Antenna port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | False   Freq [MHz] 2412                |
| Frequency mid to test                            | True   Freq [MHz] 2437                 |
| Frequency high to test                           | False   Freq [MHz] 2462                |
| Auto control enabled power supply   Climatic Box | No   No                                |
| Additional path loss [dB]                        | 0.7                                    |
| Full path name   type                            | EUT - SignalingUnit - SpectrumAnalyzer |

### Equipment

|                                                               |
|---------------------------------------------------------------|
| Signal analyzer,Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.70 |
| Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI            |

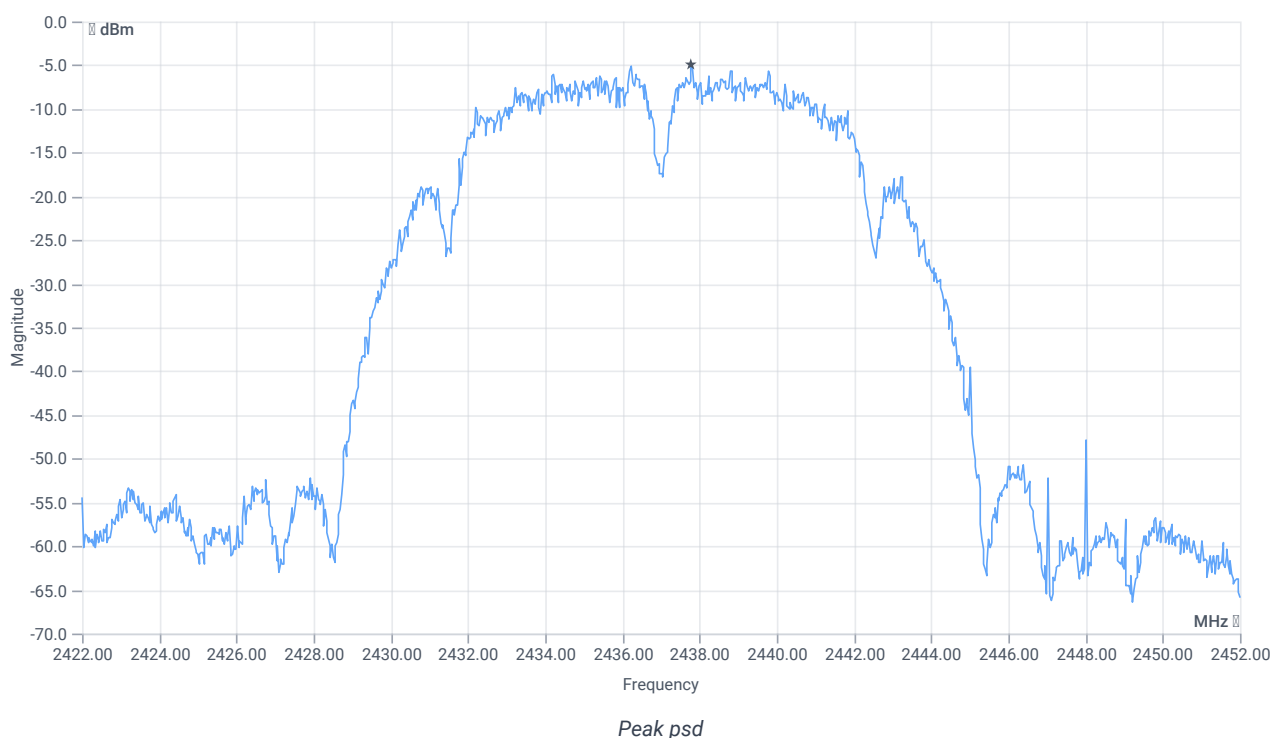
## Test at TX 2437 MHz

RESULT: Reference Power cond.

| DESCRIPTION                   | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | 13.53    | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2438.300 | MHz  | INFO    |

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 18.53   14.01   20     |
| Start [MHz]   Stop [MHz]                             | 2422.000   2452.000    |
| 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

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT     | VERDICT |
|-------------|-------------|-------------|----------|----------|---------|
| Peak psd    | ---         | 8           | -4.93    | dBm/3KHz | PASS    |

Verdict

PASS

# FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 b mode

## References

|                                   |                                                      |
|-----------------------------------|------------------------------------------------------|
| TC start                          | 04.01.2024 11:08:50                                  |
| Ambit temp [°C]   humidity [rel%] | 22.3   40                                            |
| System version                    | 4.7.1.4                                              |
| Standard   Version                | FCC 15.247, ISED RSS247   NI                         |
| Method                            |                                                      |
| Description                       | FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN2G4 b mode |
| Information                       |                                                      |

## EUT Common Settings WLAN2G4

|                         |    |
|-------------------------|----|
| Number of Antenna Ports | 1  |
| User Interaction        | No |

## Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | WLAN2G4 b mode                         |
| Antenna port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | False   Freq [MHz] 2412                |
| Frequency mid to test                            | True   Freq [MHz] 2437                 |
| Frequency high to test                           | False   Freq [MHz] 2462                |
| Auto control enabled power supply   Climatic Box | No   No                                |
| Additional path loss [dB]                        | 0.7                                    |
| Full path name   type                            | EUT - SignalingUnit - SpectrumAnalyzer |

## Equipment

|                                                               |
|---------------------------------------------------------------|
| Signal analyzer,Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.70 |
| Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI            |

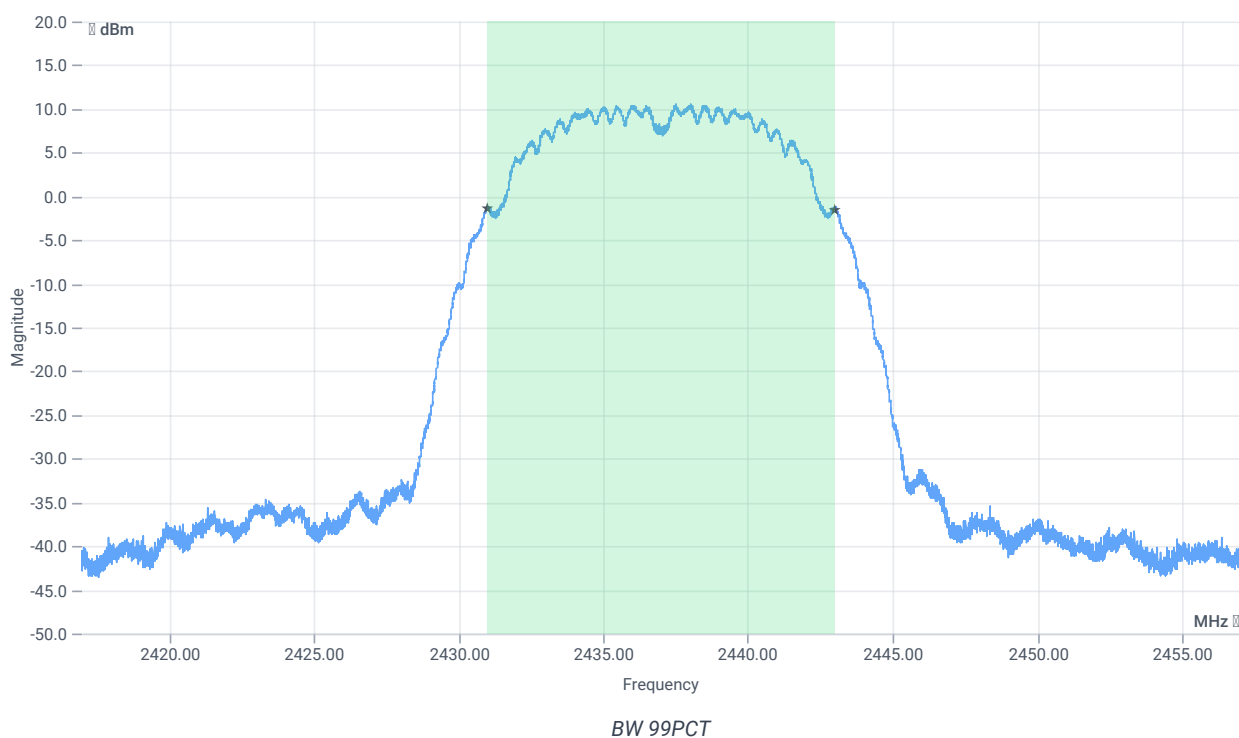
## Test at TX 2437 MHz

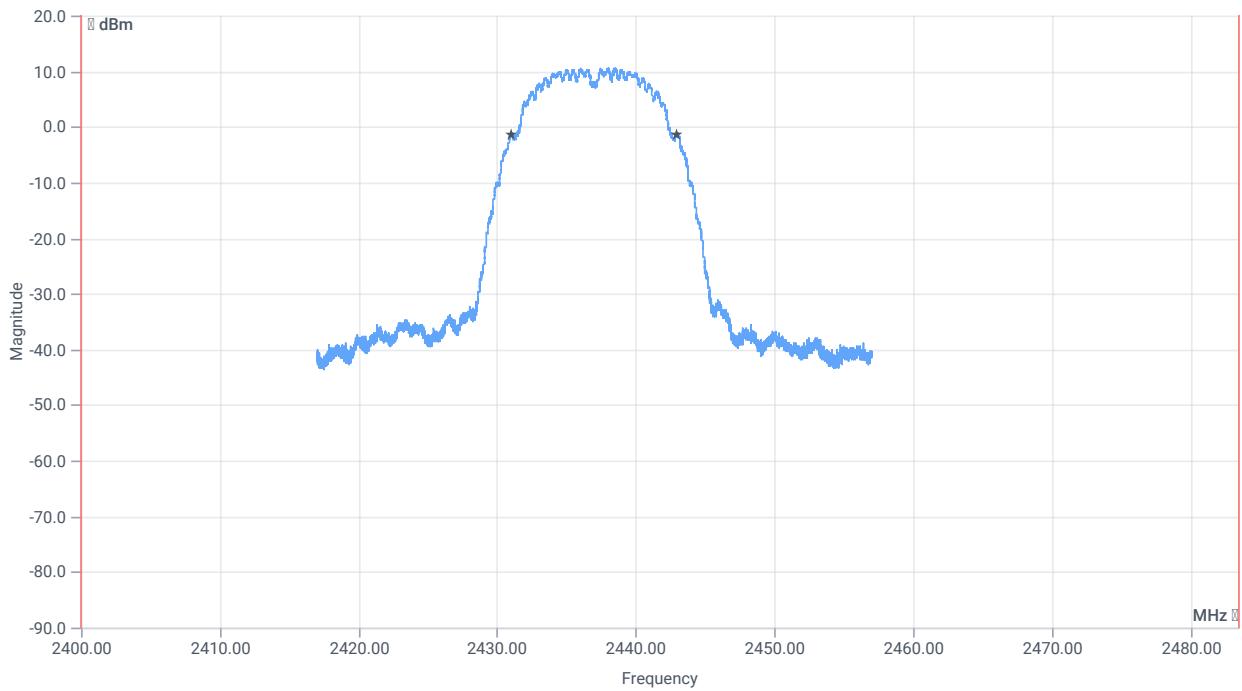
RESULT: Reference Power cond.

| DESCRIPTION                   | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | 13.07    | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2435.200 | MHz  | INFO    |

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 18.07   14.01   20     |
| Start [MHz]   Stop [MHz]                             | 2417.000   2457.000    |
| RBW [MHz]   VBW [MHz]                                | 0.500000   2.000000    |
| Detector   TraceMode                                 | POS   MAXH             |
| Sweep: time [ms]   count   points per Section   type | 50   200   10001   SWE |

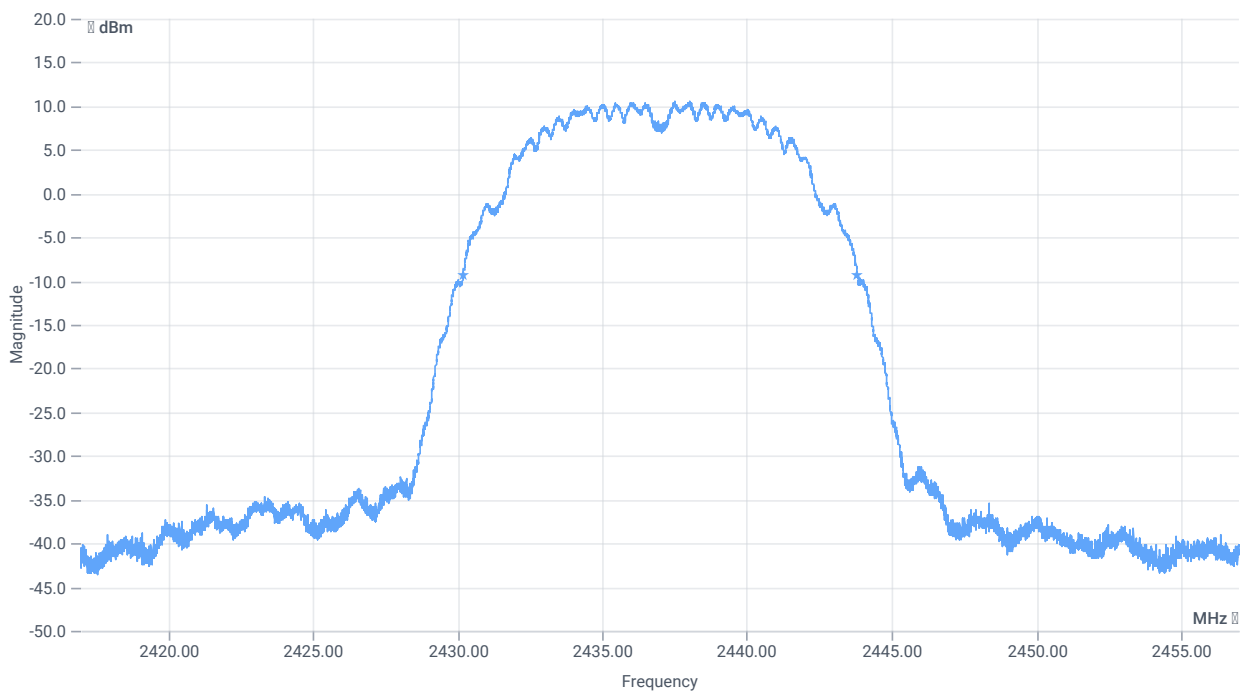




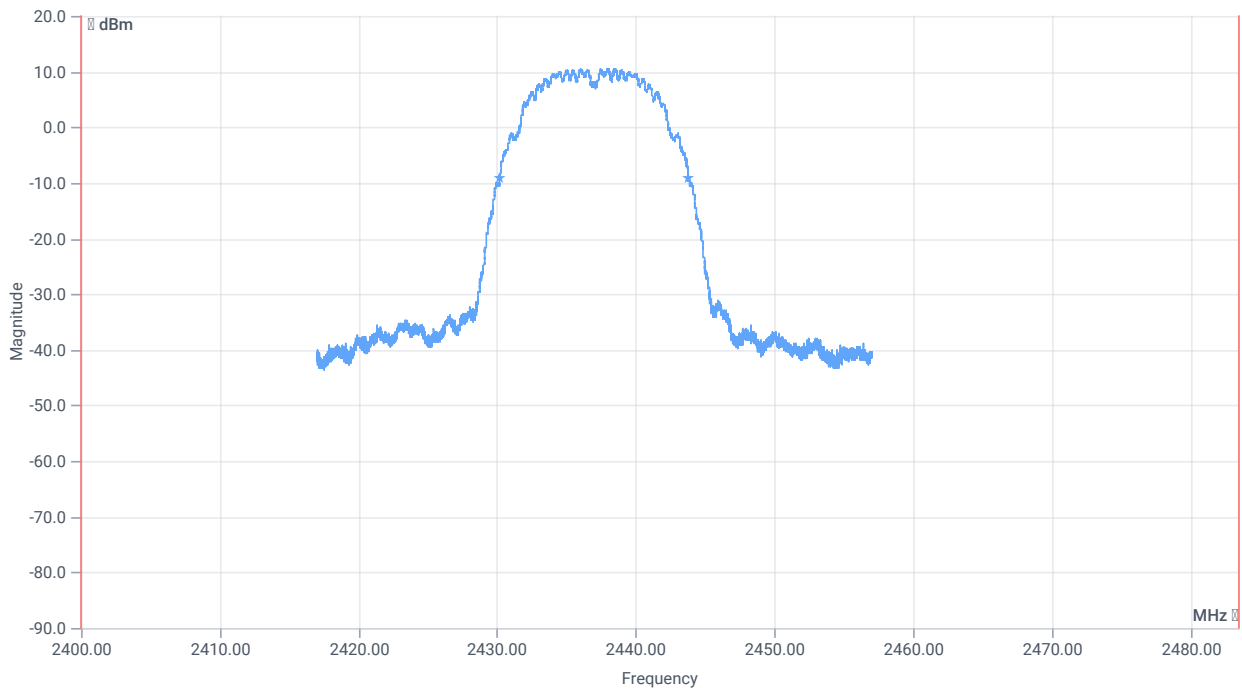
*BW within Band 99PCT*

## RESULT

| DESCRIPTION   | LOWER LIMIT | UPPER LIMIT | MEASURED  | UNIT | VERDICT |
|---------------|-------------|-------------|-----------|------|---------|
| Bandwidth 99% | ---         | ---         | 11979.000 | kHz  | INFO    |
| T1 99%        | 2400.000000 | ---         | 2431.0166 | MHz  | PASS    |
| T2 99%        | ---         | 2483.500000 | 2442.9954 | MHz  | PASS    |



BW 20dB



BW within Band 20dB

## RESULT

| DESCRIPTION    | LOWER LIMIT | UPPER LIMIT | MEASURED  | UNIT | VERDICT |
|----------------|-------------|-------------|-----------|------|---------|
| Bandwidth 20dB | ---         | ---         | 13624     | kHz  | INFO    |
| T1 20dB        | 2400.000000 | ---         | 2430.1960 | MHz  | PASS    |
| T2 20dB        | ---         | 2483.500000 | 2443.8200 | MHz  | PASS    |

Verdict

PASS



## FCC 15.247 # TX spurious conducted 20dBc ~ WLAN2G4 b mode

### References

|                                   |                                                                                                                  |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------|
| TC start                          | 04.01.2024 11:09:30                                                                                              |
| Ambit temp [°C]   humidity [rel%] | 22.3   40                                                                                                        |
| System version                    | 4.7.1.4                                                                                                          |
| Standard   Version                | FCC 15.247   NI                                                                                                  |
| Method                            | IF DTS then 8.5 DTS emissions in non-restricted frequency bands:<br>Subclause 11.11 of ANSI C63.10 is applicable |
| Description                       | FCC 15.247 TX Emissions Conducted DTS - WLAN2G4 b mode                                                           |
| Information                       |                                                                                                                  |

### EUT Common Settings WLAN2G4

|                         |    |
|-------------------------|----|
| Number of Antenna Ports | 1  |
| User Interaction        | No |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | WLAN2G4 b mode                         |
| Antenna port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | False   Freq [MHz] 2412                |
| Frequency mid to test                            | True   Freq [MHz] 2437                 |
| Frequency high to test                           | False   Freq [MHz] 2462                |
| Auto control enabled power supply   Climatic Box | No   No                                |
| Additional path loss [dB]                        | 0.7                                    |
| Full path name   type                            | EUT - SignalingUnit - SpectrumAnalyzer |

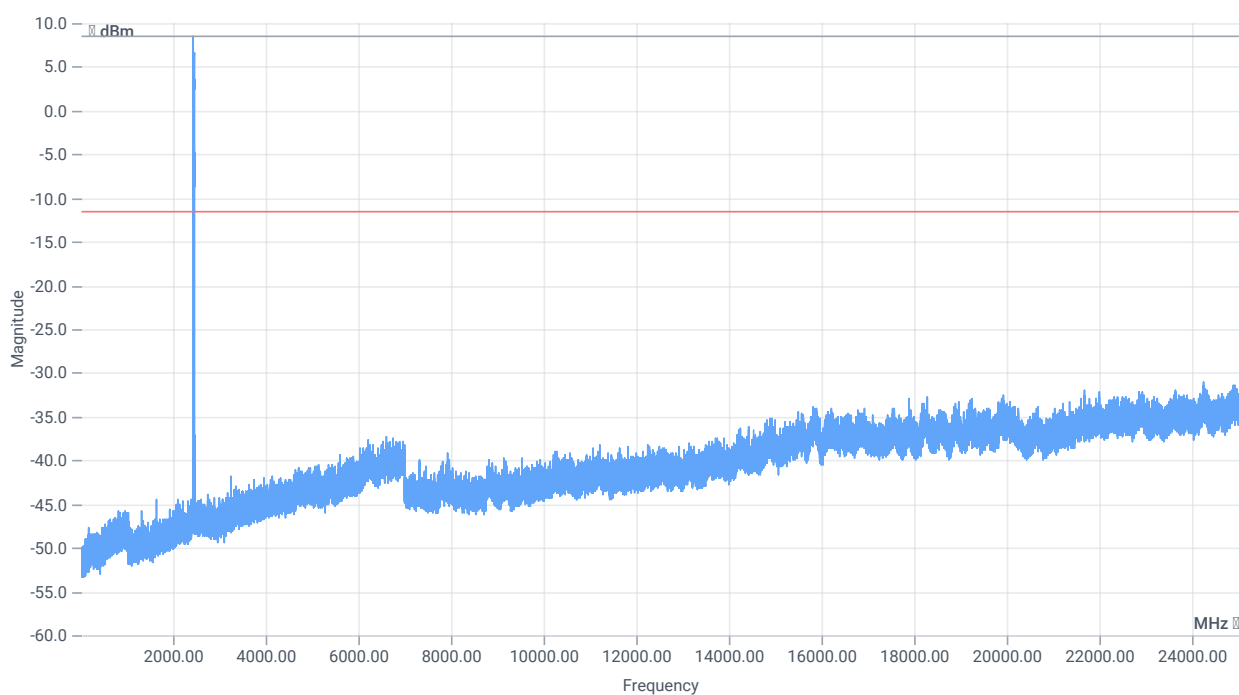
### Equipment

|                                                               |
|---------------------------------------------------------------|
| Signal analyzer,Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.70 |
| Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI            |

## Test at TX 2437 MHz

RESULT: Reference Power cond.

| DESCRIPTION                   | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | 13.26    | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2438.700 | MHz  | INFO    |



TX emissions

## READ SA SETTINGS:

|                                                      |                       |
|------------------------------------------------------|-----------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 13.26   0   30        |
| 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

| DESCRIPTION                      | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|----------------------------------|-------------|-------------|----------|------|---------|
| Reference @ 2439.00 MHz          | ---         | ---         | 8.49     | dBm  | INFO    |
| No peaks detected                | ---         | ---         |          |      | PASS    |
| Lowest margin to limit 24227 MHz | 0           | ---         | 19.61    | dB   | INFO    |

Verdict

PASS

## FCC 15.247 # Peak output power PM DTS ~ WLAN2G4 b mode

### References

|                                   |                                                                                 |
|-----------------------------------|---------------------------------------------------------------------------------|
| TC start                          | 04.01.2024 11:16:55                                                             |
| Ambit temp [°C]   humidity [rel%] | 22.3   41                                                                       |
| System version                    | 4.7.1.4                                                                         |
| Standard   Version                | FCC 15.247   NI                                                                 |
| Method                            | DTS: KDB 558074 D01 V05 - Chapter 8.3.1.3 PKPM1 Peak-reading Power Meter Method |
| Description                       | FCC 15.247 Peak output power PM DTS - WLAN2G4 b mode                            |
| Information                       |                                                                                 |

### EUT Common Settings WLAN2G4

|                         |    |
|-------------------------|----|
| Number of Antenna Ports | 1  |
| User Interaction        | No |

### Test Parameter

|                                                  |                                  |
|--------------------------------------------------|----------------------------------|
| Technology to test                               | WLAN2G4 b mode                   |
| Antenna port used                                | 1                                |
| Temperature                                      | nom                              |
| Voltage                                          | nom                              |
| Frequency low to test                            | False   Freq [MHz] 2412          |
| Frequency mid to test                            | True   Freq [MHz] 2437           |
| Frequency high to test                           | False   Freq [MHz] 2462          |
| Auto control enabled power supply   Climatic Box | No   No                          |
| Additional path loss [dB]                        | 0.7                              |
| Full path name   type                            | EUT - SignalingUnit - PowerMeter |

### Equipment

|                                                               |
|---------------------------------------------------------------|
| Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI            |
| Power sensor,Keysight Technologies,U2021XA,MY59190010,A.04.06 |

## Test at TX 2437 MHz

### RESULT

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------|-------------|-------------|----------|------|---------|
| Peak power  | ---         | 30          | 22.81    | dBm  | PASS    |

### Verdict

PASS

## FCC 15.247 # Bandwidth 6dB DTS ~ WLAN2G4 b mode

### References

|                                   |                                               |
|-----------------------------------|-----------------------------------------------|
| TC start                          | 05.01.2024 13:36:16                           |
| Ambit temp [°C]   humidity [rel%] | 20.8   44                                     |
| System version                    | 4.7.1.4                                       |
| Standard   Version                | FCC 15.247   NI                               |
| Method                            |                                               |
| Description                       | FCC 15.247 Bandwidth 6dB DTS - WLAN2G4 b mode |
| Information                       |                                               |

### EUT Common Settings WLAN2G4

|                         |    |
|-------------------------|----|
| Number of Antenna Ports | 1  |
| User Interaction        | No |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | WLAN2G4 b mode                         |
| Antenna port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | False   Freq [MHz] 2412                |
| Frequency mid to test                            | False   Freq [MHz] 2437                |
| Frequency high to test                           | True   Freq [MHz] 2462                 |
| Auto control enabled power supply   Climatic Box | No   No                                |
| Additional path loss [dB]                        | 0.7                                    |
| Full path name   type                            | EUT - SignalingUnit - SpectrumAnalyzer |

### Equipment

|                                                               |
|---------------------------------------------------------------|
| Signal analyzer,Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.70 |
| Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI            |

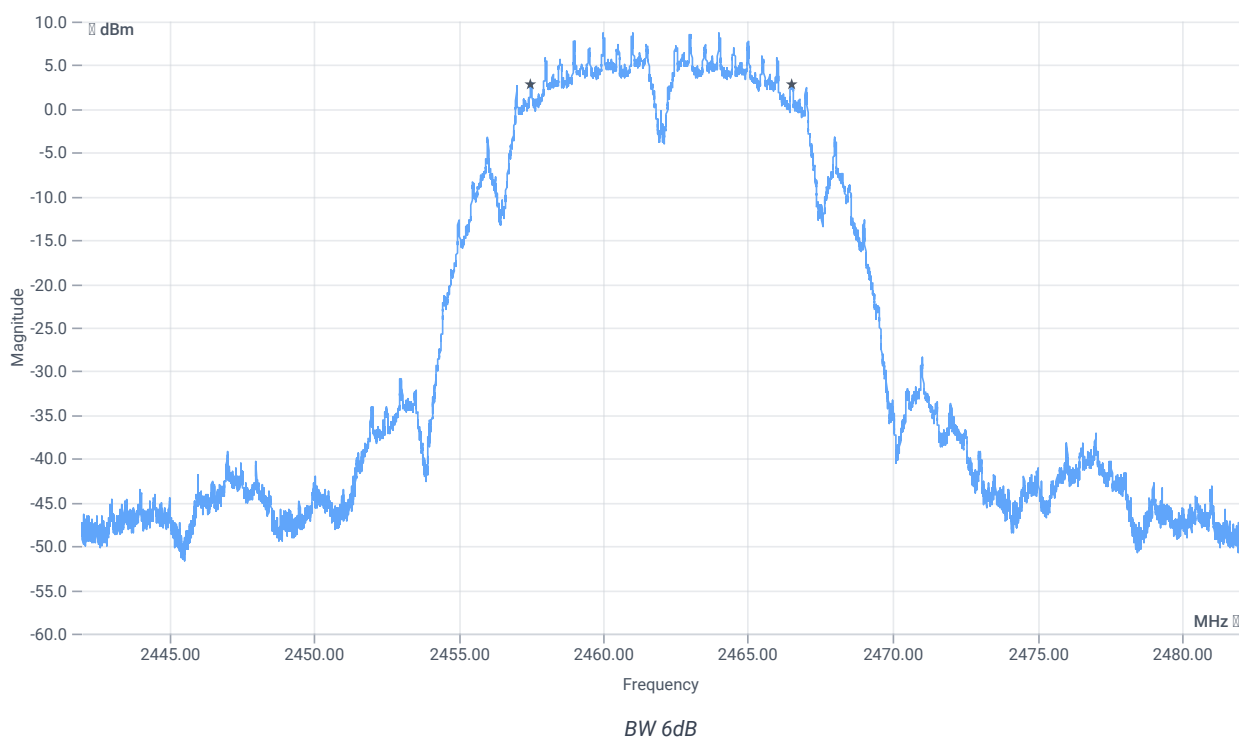
## Test at TX 2462 MHz

RESULT: Reference Power cond.

| DESCRIPTION                   | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | 12.56    | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2463.700 | MHz  | INFO    |

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 17.56   14.14   20     |
| Start [MHz]   Stop [MHz]                             | 2442.000   2482.000    |
| 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

| DESCRIPTION         | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|---------------------|-------------|-------------|----------|------|---------|
| DTS Bandwidth (6dB) | 500         | ---         | 9028     | kHz  | PASS    |

#### Verdict

PASS

## FCC 15.247 # Peak psd DTS ~ WLAN2G4 b mode

### References

|                                   |                                                                                                            |
|-----------------------------------|------------------------------------------------------------------------------------------------------------|
| TC start                          | 05.01.2024 13:36:54                                                                                        |
| Ambit temp [°C]   humidity [rel%] | 20.8   44                                                                                                  |
| System version                    | 4.7.1.4                                                                                                    |
| Standard   Version                | FCC 15.247   NI                                                                                            |
| Method                            | DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission |
| Description                       | FCC 15.247 Peak psd DTS - WLAN2G4 b mode                                                                   |
| Information                       |                                                                                                            |

### EUT Common Settings WLAN2G4

|                         |    |
|-------------------------|----|
| Number of Antenna Ports | 1  |
| User Interaction        | No |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | WLAN2G4 b mode                         |
| Antenna port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | False   Freq [MHz] 2412                |
| Frequency mid to test                            | False   Freq [MHz] 2437                |
| Frequency high to test                           | True   Freq [MHz] 2462                 |
| Auto control enabled power supply   Climatic Box | No   No                                |
| Additional path loss [dB]                        | 0.7                                    |
| Full path name   type                            | EUT - SignalingUnit - SpectrumAnalyzer |

### Equipment

|                                                               |
|---------------------------------------------------------------|
| Signal analyzer,Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.70 |
| Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI            |



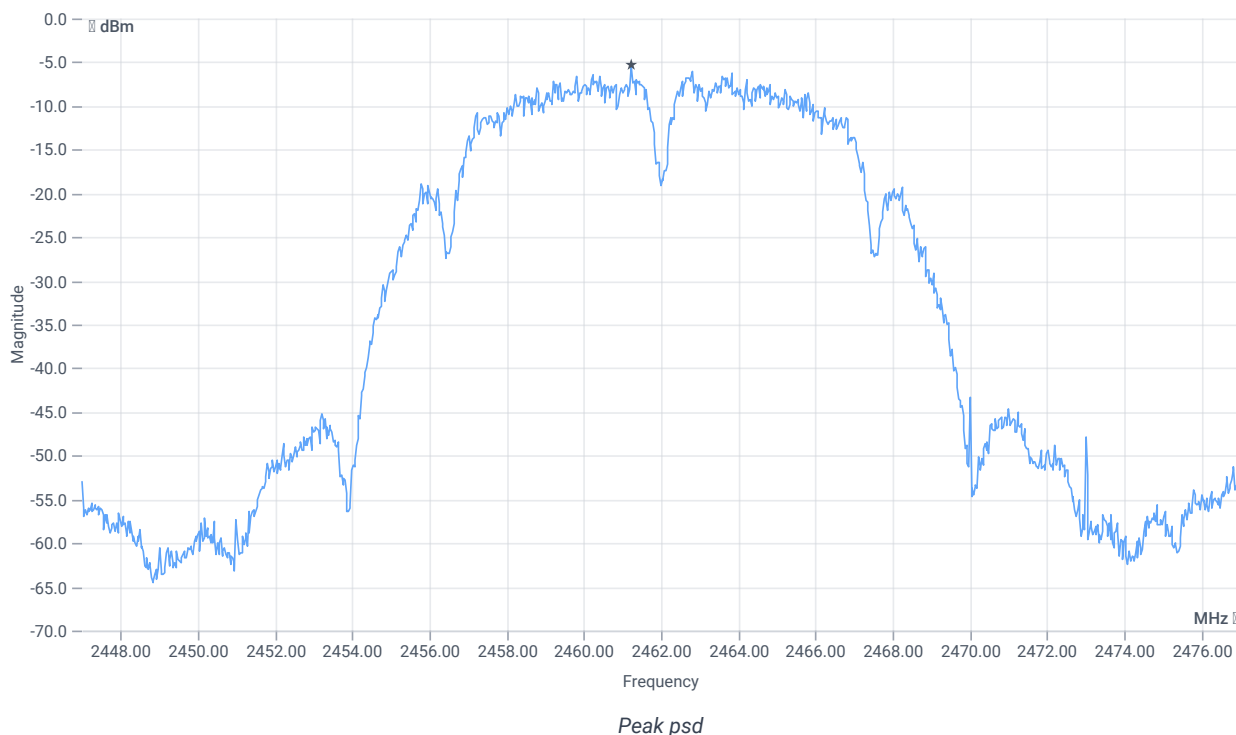
## Test at TX 2462 MHz

RESULT: Reference Power cond.

| DESCRIPTION                   | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | 12.55    | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2460.500 | MHz  | INFO    |

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 17.55   14.14   20     |
| Start [MHz]   Stop [MHz]                             | 2447.000   2477.000    |
| 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

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT     | VERDICT |
|-------------|-------------|-------------|----------|----------|---------|
| Peak psd    | ---         | 8           | -5.39    | dBm/3KHz | PASS    |

#### Verdict

PASS

# FCC 15.247, ISED RSS247 # Bandwidth 99PCT and 20dB ~ WLAN2G4 b mode

## References

|                                   |                                                      |
|-----------------------------------|------------------------------------------------------|
| TC start                          | 05.01.2024 13:37:37                                  |
| Ambit temp [°C]   humidity [rel%] | 20.9   44                                            |
| System version                    | 4.7.1.4                                              |
| Standard   Version                | FCC 15.247, ISED RSS247   NI                         |
| Method                            |                                                      |
| Description                       | FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN2G4 b mode |
| Information                       |                                                      |

## EUT Common Settings WLAN2G4

|                         |    |
|-------------------------|----|
| Number of Antenna Ports | 1  |
| User Interaction        | No |

## Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | WLAN2G4 b mode                         |
| Antenna port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | False   Freq [MHz] 2412                |
| Frequency mid to test                            | False   Freq [MHz] 2437                |
| Frequency high to test                           | True   Freq [MHz] 2462                 |
| Auto control enabled power supply   Climatic Box | No   No                                |
| Additional path loss [dB]                        | 0.7                                    |
| Full path name   type                            | EUT - SignalingUnit - SpectrumAnalyzer |

## Equipment

|                                                               |
|---------------------------------------------------------------|
| Signal analyzer,Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.70 |
| Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI            |

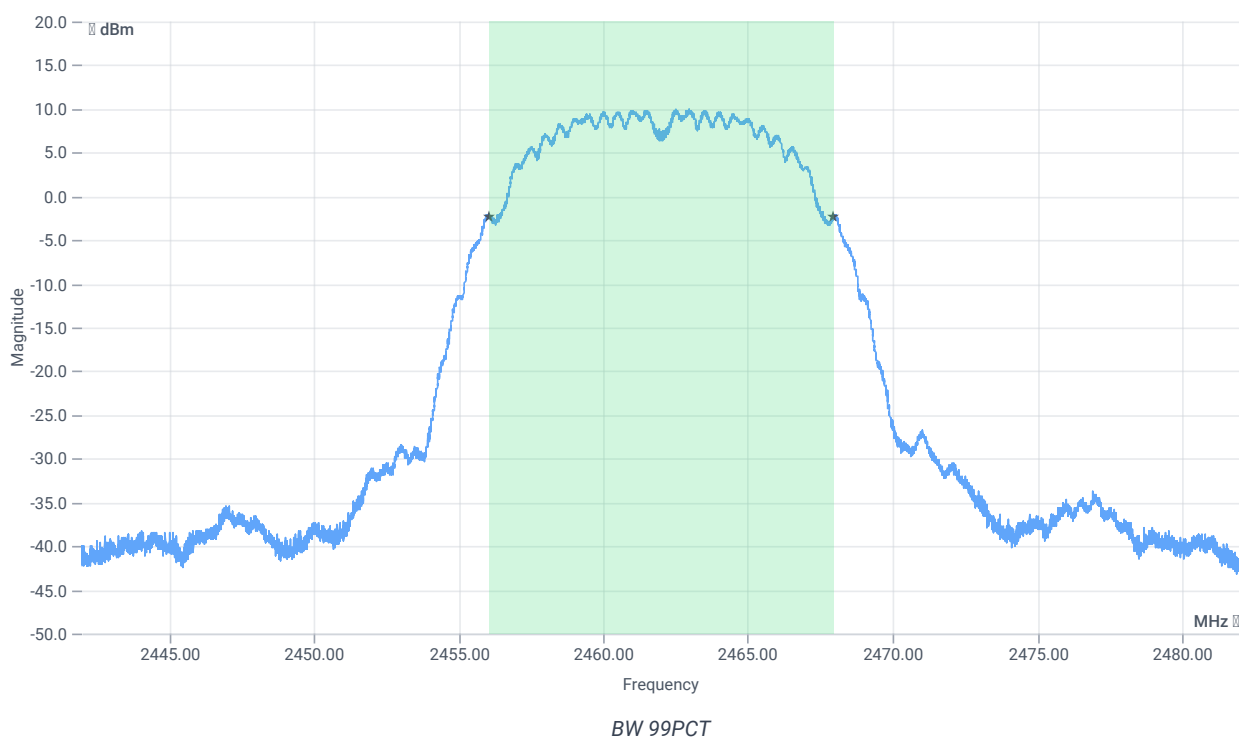
## Test at TX 2462 MHz

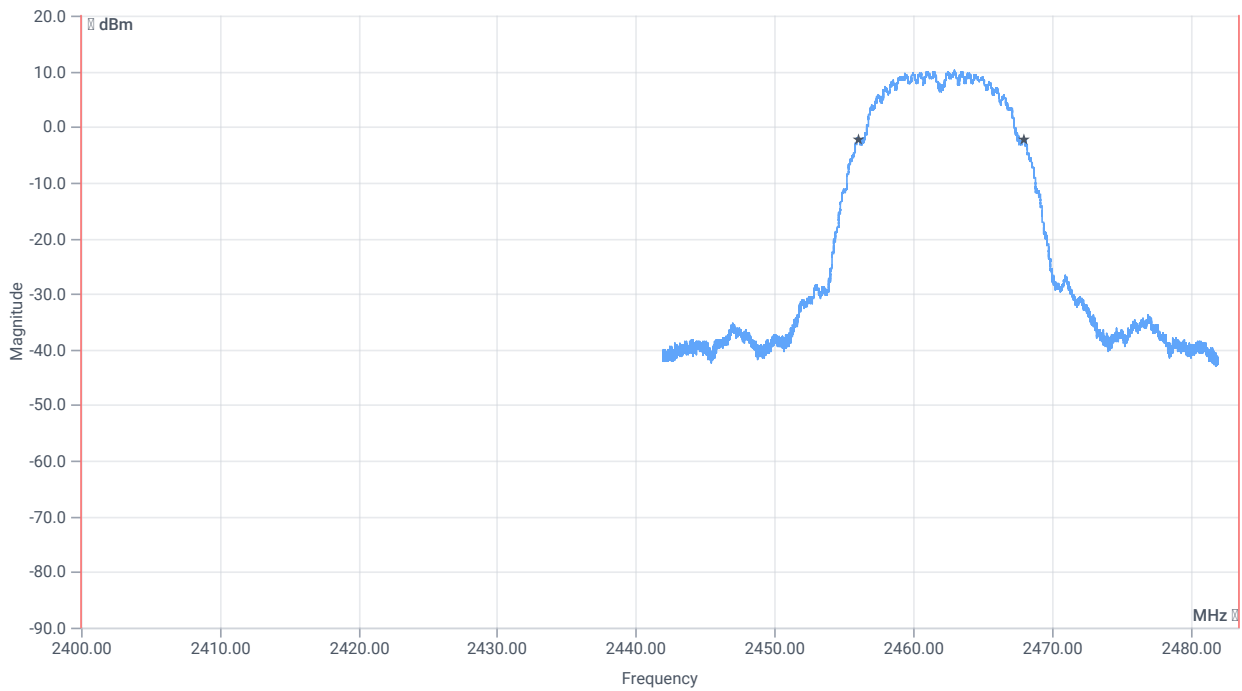
RESULT: Reference Power cond.

| DESCRIPTION                   | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | 12.51    | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2463.600 | MHz  | INFO    |

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 17.51   14.14   20     |
| Start [MHz]   Stop [MHz]                             | 2442.000   2482.000    |
| RBW [MHz]   VBW [MHz]                                | 0.500000   2.000000    |
| Detector   TraceMode                                 | POS   MAXH             |
| Sweep: time [ms]   count   points per Section   type | 50   200   10001   SWE |

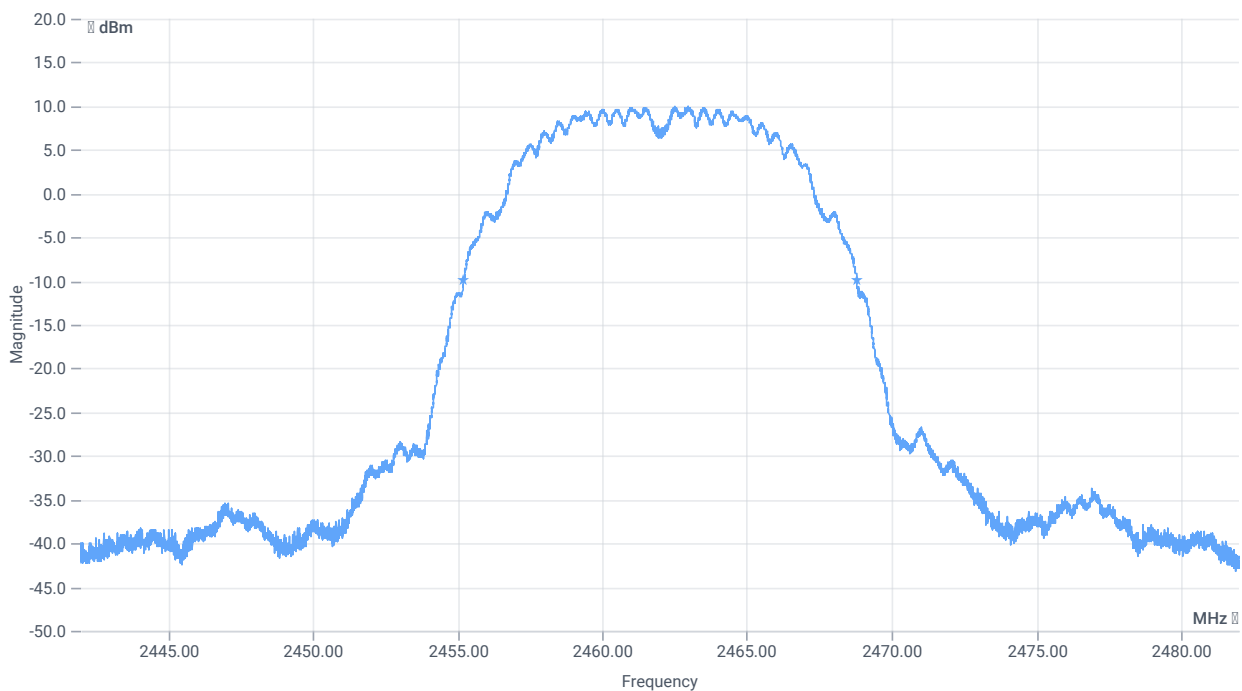




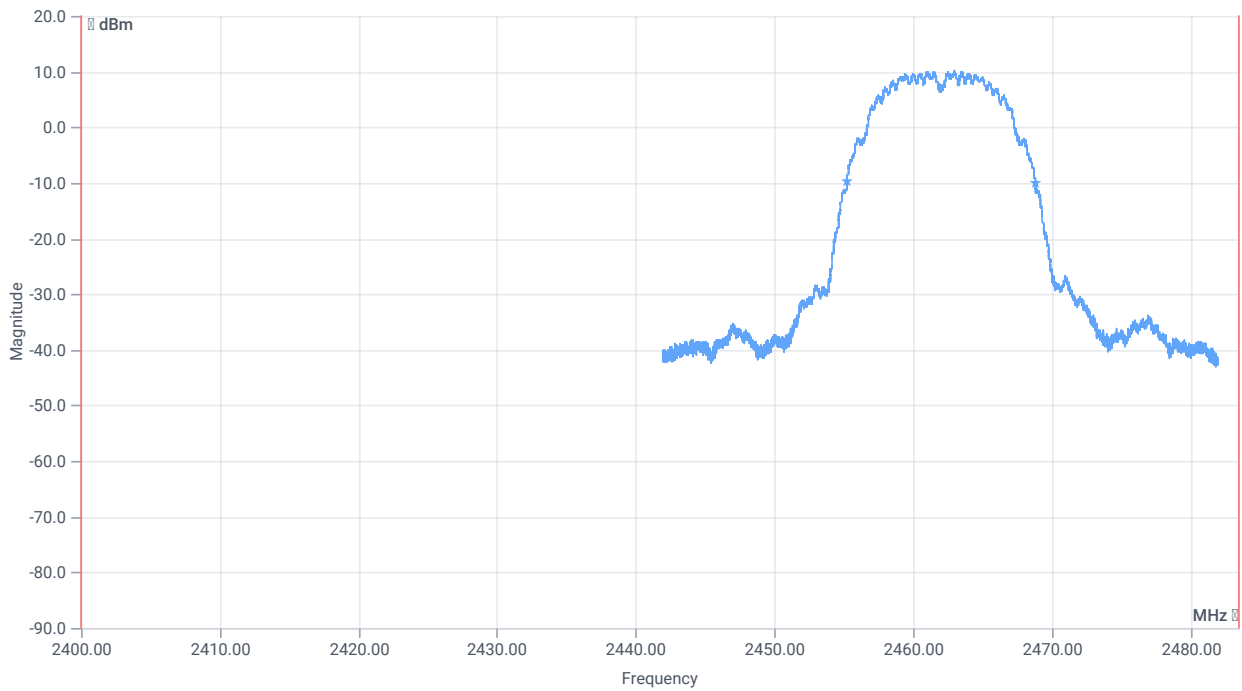
*BW within Band 99PCT*

## RESULT

| DESCRIPTION   | LOWER LIMIT | UPPER LIMIT | MEASURED  | UNIT | VERDICT |
|---------------|-------------|-------------|-----------|------|---------|
| Bandwidth 99% | ---         | ---         | 11875.000 | kHz  | INFO    |
| T1 99%        | 2400.000000 | ---         | 2456.0686 | MHz  | PASS    |
| T2 99%        | ---         | 2483.500000 | 2467.9434 | MHz  | PASS    |



BW 20dB



BW within Band 20dB

## RESULT

| DESCRIPTION    | LOWER LIMIT | UPPER LIMIT | MEASURED  | UNIT | VERDICT |
|----------------|-------------|-------------|-----------|------|---------|
| Bandwidth 20dB | ---         | ---         | 13568     | kHz  | INFO    |
| T1 20dB        | 2400.000000 | ---         | 2455.2280 | MHz  | PASS    |
| T2 20dB        | ---         | 2483.500000 | 2468.7960 | MHz  | PASS    |

Verdict

PASS

## FCC 15.247 # TX spurious conducted 20dBc ~ WLAN2G4 b mode

### References

|                                   |                                                                                                                  |
|-----------------------------------|------------------------------------------------------------------------------------------------------------------|
| TC start                          | 05.01.2024 13:38:15                                                                                              |
| Ambit temp [°C]   humidity [rel%] | 20.9   44                                                                                                        |
| System version                    | 4.7.1.4                                                                                                          |
| Standard   Version                | FCC 15.247   NI                                                                                                  |
| Method                            | IF DTS then 8.5 DTS emissions in non-restricted frequency bands:<br>Subclause 11.11 of ANSI C63.10 is applicable |
| Description                       | FCC 15.247 TX Emissions Conducted DTS - WLAN2G4 b mode                                                           |
| Information                       |                                                                                                                  |

### EUT Common Settings WLAN2G4

|                         |    |
|-------------------------|----|
| Number of Antenna Ports | 1  |
| User Interaction        | No |

### Test Parameter

|                                                  |                                        |
|--------------------------------------------------|----------------------------------------|
| Technology to test                               | WLAN2G4 b mode                         |
| Antenna port used                                | 1                                      |
| Temperature                                      | nom                                    |
| Voltage                                          | nom                                    |
| Frequency low to test                            | False   Freq [MHz] 2412                |
| Frequency mid to test                            | False   Freq [MHz] 2437                |
| Frequency high to test                           | True   Freq [MHz] 2462                 |
| Auto control enabled power supply   Climatic Box | No   No                                |
| Additional path loss [dB]                        | 0.7                                    |
| Full path name   type                            | EUT - SignalingUnit - SpectrumAnalyzer |

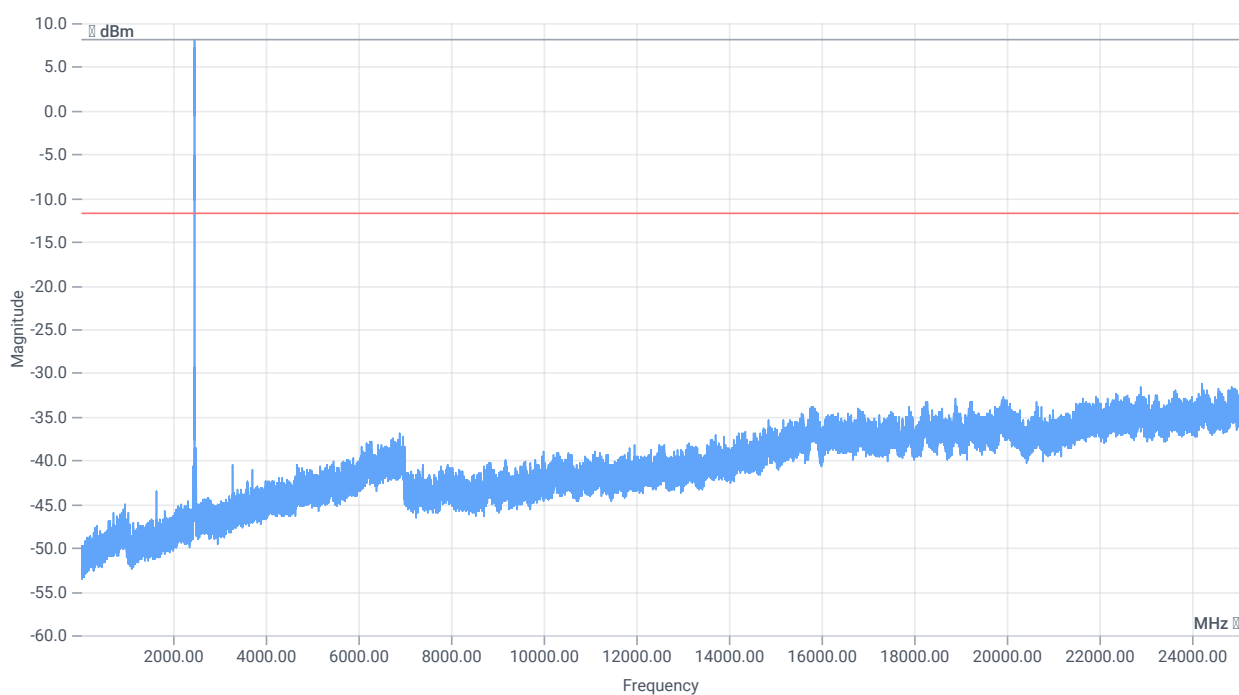
### Equipment

|                                                               |
|---------------------------------------------------------------|
| Signal analyzer,Rohde&Schwarz,FSV-40,1307.9002K40/101042,3.70 |
| Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI            |

## Test at TX 2462 MHz

RESULT: Reference Power cond.

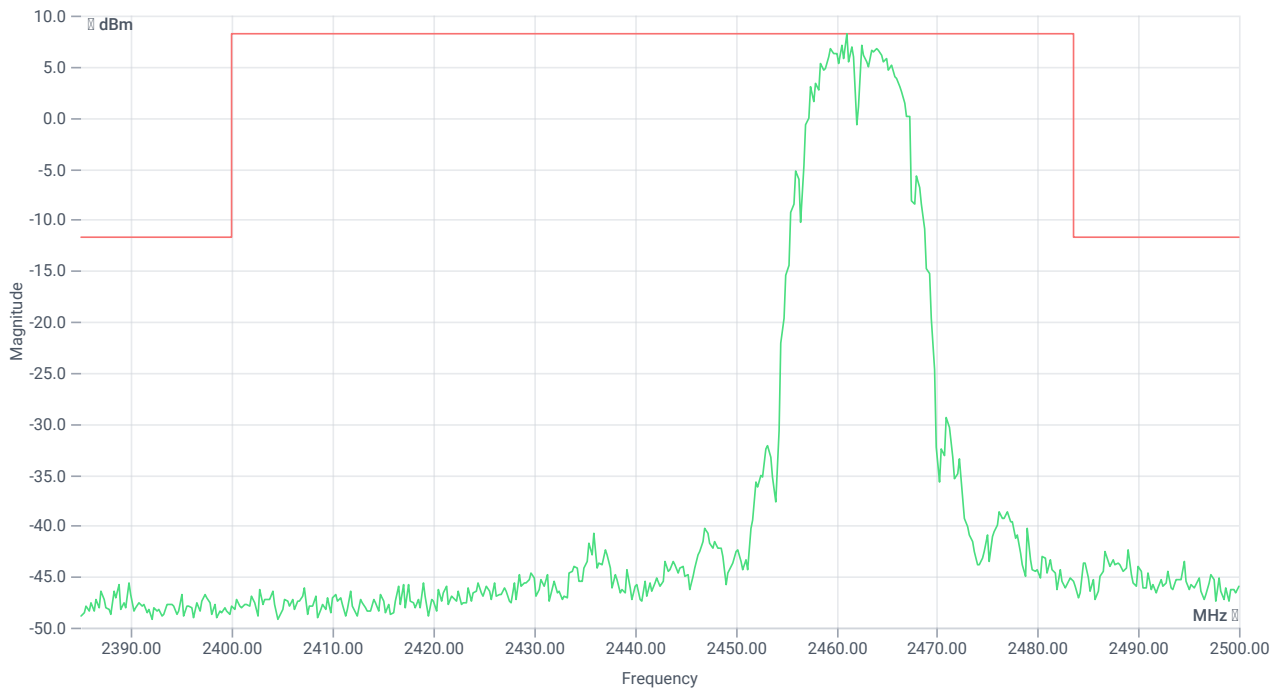
| DESCRIPTION                   | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------|-------------|-------------|----------|------|---------|
| Ref. Power<br>1MHz/1MHz cond. | ---         | ---         | 12.74    | dBm  | INFO    |
| Ref. Frequency                | ---         | ---         | 2463.300 | MHz  | INFO    |



TX emissions

## READ SA SETTINGS:

|                                                      |                       |
|------------------------------------------------------|-----------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 12.74   0   30        |
| 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

| DESCRIPTION                         | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------------------------------|-------------|-------------|----------|------|---------|
| Reference @ 2461.00 MHz             | ---         | ---         | 8.20     | dBm  | INFO    |
| No peaks detected                   | ---         | ---         |          |      | PASS    |
| Lowest margin to limit 24201.75 MHz | 0           | ---         | 19.48    | dB   | INFO    |

Verdict

PASS



## FCC 15.247 # Peak output power PM DTS ~ WLAN2G4 b mode

### References

|                                   |                                                                                 |
|-----------------------------------|---------------------------------------------------------------------------------|
| TC start                          | 05.01.2024 13:45:41                                                             |
| Ambit temp [°C]   humidity [rel%] | 21.1   43                                                                       |
| System version                    | 4.7.1.4                                                                         |
| Standard   Version                | FCC 15.247   NI                                                                 |
| Method                            | DTS: KDB 558074 D01 V05 - Chapter 8.3.1.3 PKPM1 Peak-reading Power Meter Method |
| Description                       | FCC 15.247 Peak output power PM DTS - WLAN2G4 b mode                            |
| Information                       |                                                                                 |

### EUT Common Settings WLAN2G4

|                         |    |
|-------------------------|----|
| Number of Antenna Ports | 1  |
| User Interaction        | No |

### Test Parameter

|                                                  |                                  |
|--------------------------------------------------|----------------------------------|
| Technology to test                               | WLAN2G4 b mode                   |
| Antenna port used                                | 1                                |
| Temperature                                      | nom                              |
| Voltage                                          | nom                              |
| Frequency low to test                            | False   Freq [MHz] 2412          |
| Frequency mid to test                            | False   Freq [MHz] 2437          |
| Frequency high to test                           | True   Freq [MHz] 2462           |
| Auto control enabled power supply   Climatic Box | No   No                          |
| Additional path loss [dB]                        | 0.7                              |
| Full path name   type                            | EUT - SignalingUnit - PowerMeter |

### Equipment

|                                                               |
|---------------------------------------------------------------|
| Switch matrix,CTCadvanced,SPM-4 NI DAQ,28016133,NI            |
| Power sensor,Keysight Technologies,U2021XA,MY59190010,A.04.06 |

## Test at TX 2462 MHz

### RESULT

| DESCRIPTION | LOWER LIMIT | UPPER LIMIT | MEASURED | UNIT | VERDICT |
|-------------|-------------|-------------|----------|------|---------|
| Peak power  | ---         | 30          | 22.18    | dBm  | PASS    |

#### Verdict

PASS

- END OF DOCUMENT -