

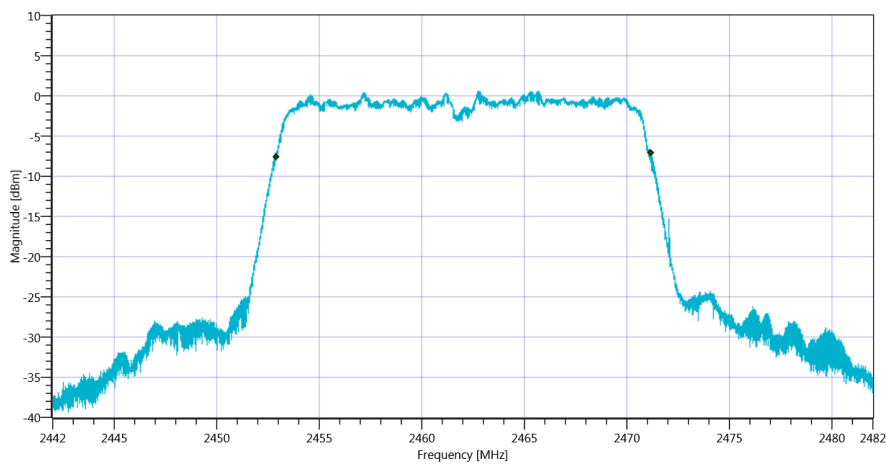
## Test at TX 2462 MHz

### READ SA SETTINGS:

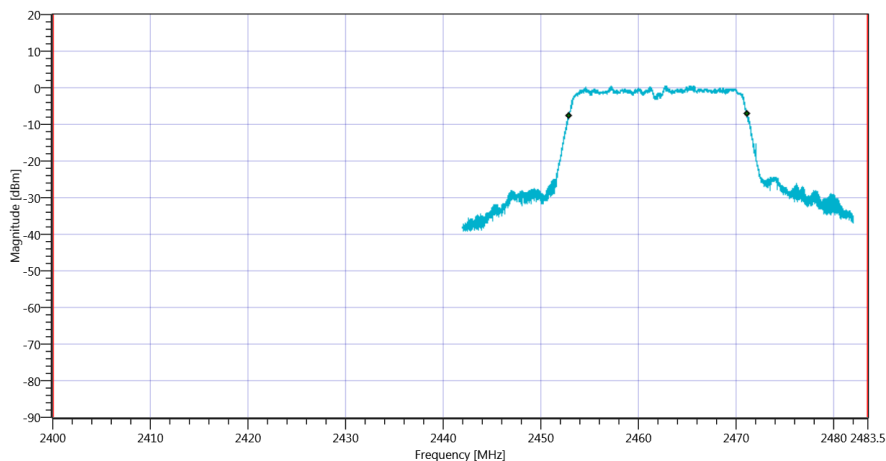
|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 9.13   9.94   15       |
| Start [MHz]   Stop [MHz]                             | 2442.000   2482.000    |
| RBW [MHz]   VBW [MHz]                                | 0.500000   1.000000    |
| Detector   TraceMode                                 | POS   MAXH             |
| Sweep: Time [ms]   Count   Points per Section   Type | 50   200   10001   SWE |

### RESULT: TC\_VM\_FCC15247\_Bandwidth\_99PCT\_20dB\_DTS\_FHSS\_V01

| Test Description | Lower Limit | Upper Limit | Measured  | Unit | Verdict     |
|------------------|-------------|-------------|-----------|------|-------------|
| Bandwidth 99%    | ---         | ---         | 18274     | kHz  | Information |
| T1 99%           | 2400.000000 | ---         | 2452.8969 | MHz  | PASS        |
| T2 99%           | ---         | 2483.500000 | 2471.1711 | MHz  | PASS        |



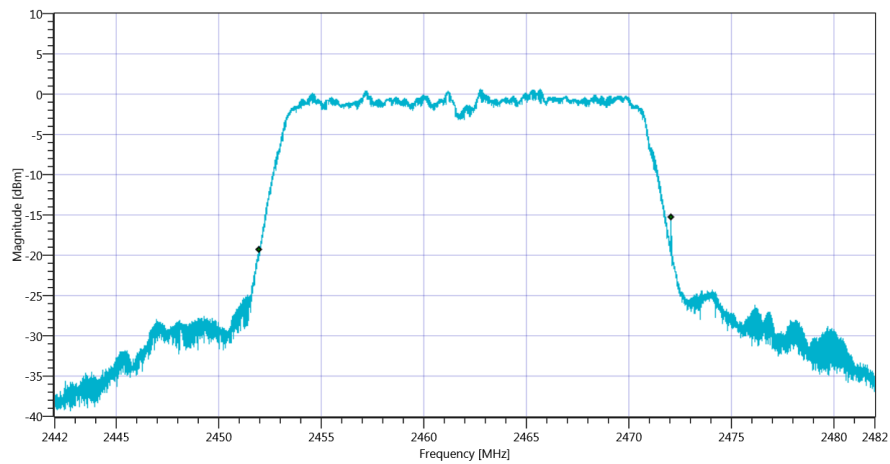
Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode 99PCT\_02092019\_152459.png



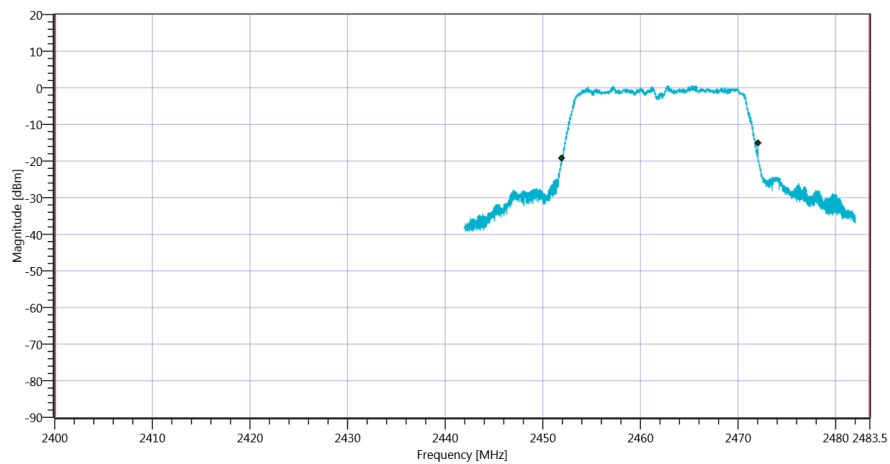
Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode\_02092019\_152502.png

### RESULT: TC\_VM\_FCC15247\_Bandwidth\_99PCT\_20dB\_DTS\_FHSS\_V01

| Test Description | Lower Limit | Upper Limit | Measured  | Unit | Verdict     |
|------------------|-------------|-------------|-----------|------|-------------|
| Bandwidth 20dB   | ---         | ---         | 20100     | kHz  | Information |
| T1 20dB          | 2400.000000 | ---         | 2451.9720 | MHz  | PASS        |
| T2 20dB          | ---         | 2483.500000 | 2472.0720 | MHz  | PASS        |



Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode 20dB\_02092019\_152506.png



Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT20-mode\_02092019\_152509.png

TEST FINISHED

General Verdict

02.09.2019 15:25:09 / RT: 34 s

PASS

## 54. FCC Part 15.247 TX Spurious Conducted ~ WLAN2G4 nHT20-mode

| Test References            |                                                                                                                |
|----------------------------|----------------------------------------------------------------------------------------------------------------|
| TC Start                   | 02.09.2019 15:25:13                                                                                            |
| System Version             | 1.0.0.20                                                                                                       |
| Test Specification         | FCC Part 15.247                                                                                                |
| Test Method                | IF DTS then 8.5 DTS emissions in non-restricted frequency bands: Subclause 11.11 of ANSI C63.10 is applicable. |
| Class / TC Version / TC ID | TC_VM_FCC15247_TX_Emissions_Conducted_V01 Version: 0.0.1   TCID_FCC15247_8                                     |
| My Description             | FCC 15.247 TX Emissions Conducted DTS - WLAN 2G4 nHT20_mode                                                    |
| Add. Information           |                                                                                                                |

| Test Parameter         |                                                                                                               |
|------------------------|---------------------------------------------------------------------------------------------------------------|
| Technology to test     | WLAN2G4 nHT20-mode                                                                                            |
| Antenna Port used      | 1                                                                                                             |
| Temperature            | mid                                                                                                           |
| Voltage                | mid                                                                                                           |
| Frequency low to test  | False   Freq [MHz] 2412                                                                                       |
| Frequency mid to test  | False   Freq [MHz] 2437                                                                                       |
| Frequency high to test | True   Freq [MHz] 2462                                                                                        |
| Switched Path          | IUT - SignalingUnit - SpectrumAnalyzer                                                                        |
| Devices in use         | SigBT: Rohde&Schwarz,CBT-1153.9000.35,100185,CBT 6X02.P02   SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.40 |

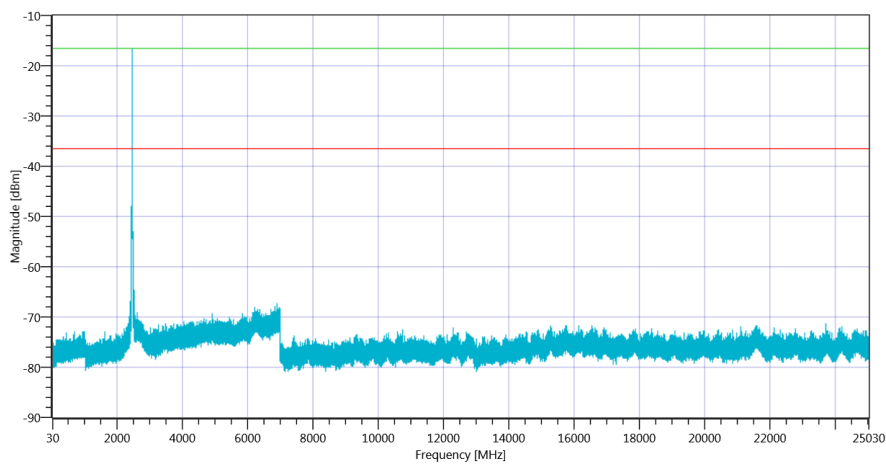
## Test at TX 2462 MHz

### READ SA SETTINGS:

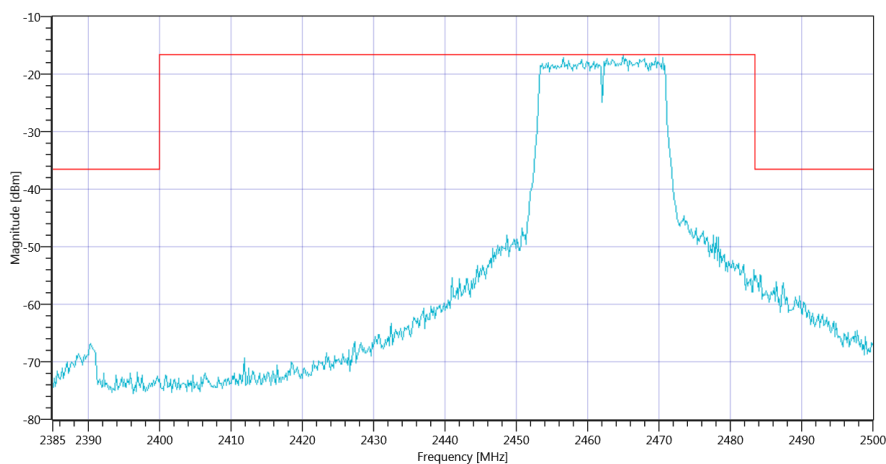
|                                                      |                       |
|------------------------------------------------------|-----------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | -0.82   0   15        |
| Start [MHz]   Stop [MHz]                             | 24530.000   25030.000 |
| RBW [MHz]   VBW [MHz]                                | 0.100000   0.300000   |
| Detector   TraceMode                                 | POS   MAXH            |
| Sweep: Time [ms]   Count   Points per Section   Type | 500   8   3001   SWE  |

### RESULT: TC\_VM\_FCC15247\_TX\_Emissions\_Conducted\_V01

| Test Description        | Lower Limit | Upper Limit | Measured | Unit | Verdict     |
|-------------------------|-------------|-------------|----------|------|-------------|
| Reference @ 2465.00 MHz | ---         | ---         | -16.53   | dBm  | Information |
| No peaks detected       | ---         | ---         |          |      | PASS        |



Plot\_FCC Part 15.247 TX Spurious Conducted ~ WLAN2G4 nHT20-mode 2462\_02092019\_152958.png



Plot\_FCC Part 15.247 TX Spurious Conducted ~ WLAN2G4 nHT20-mode 2462\_02092019\_153000.png

### TEST FINISHED

|                 |                                 |      |
|-----------------|---------------------------------|------|
| General Verdict | 02.09.2019 15:30:01 / RT: 288 s | PASS |
|-----------------|---------------------------------|------|

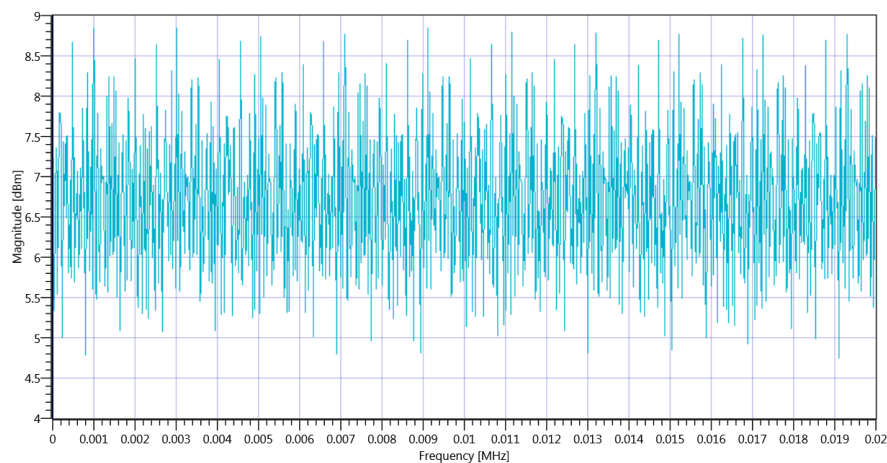
## 55. FCC Part 15.247 Restricted Band Edge Conducted Avg DC corrected DTS ~ WLAN2G4 nHT20-mode

| Test References            |                                                                                                                                                                                    |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TC Start                   | 02.09.2019 15:30:05                                                                                                                                                                |
| System Version             | 1.0.0.20                                                                                                                                                                           |
| Test Specification         | FCC Part 15.247                                                                                                                                                                    |
| Test Method                | DTS: KDB 558074 D01 V05 - 8.7.3 Integration Method; ANSI C63.10-2013 11.13.3.4 Trace averaging across on- and off-times of the EUT transmissions followed by duty cycle correction |
| Class / TC Version / TC ID | TC_VM_FCC15247_Restricted_Band_Edge_Conducted_Avg_DC_corrected_V01 Version: 0.0.1   TCID_FCC15247_7                                                                                |
| My Description             | FCC 15.247 Restricted Band Edge Cond. Avg DC corrected DTS - WLAN 2G4 nHT20_mode                                                                                                   |
| Add. Information           |                                                                                                                                                                                    |

| Test Parameter         |                                                                                                               |
|------------------------|---------------------------------------------------------------------------------------------------------------|
| Technology to test     | WLAN2G4 nHT20-mode                                                                                            |
| Antenna Port used      | 1                                                                                                             |
| Temperature            | mid                                                                                                           |
| Voltage                | mid                                                                                                           |
| Frequency low to test  | False   Freq [MHz] 2412                                                                                       |
| Frequency mid to test  | False   Freq [MHz] 2437                                                                                       |
| Frequency high to test | True   Freq [MHz] 2462                                                                                        |
| Switched Path          | IUT - SignalingUnit - SpectrumAnalyzer                                                                        |
| Devices in use         | SigBT: Rohde&Schwarz,CBT-1153.9000.35,100185,CBT 6X02.P02   SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.40 |

## Test at TX 2462 MHz

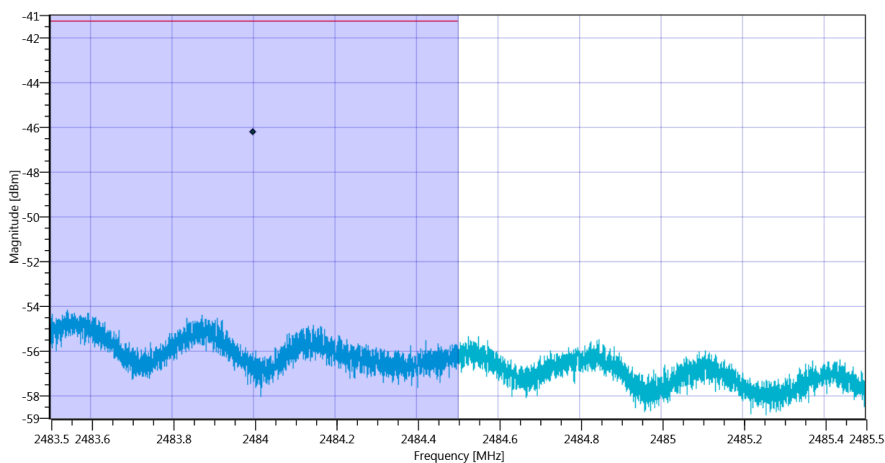
| RESULT: Duty Cycle evaluation                              |             |             |          |      |             |
|------------------------------------------------------------|-------------|-------------|----------|------|-------------|
| Test Description                                           | Lower Limit | Upper Limit | Measured | Unit | Verdict     |
| No enough Bursts detected, Duty Cycle Burst Ratio set to 1 |             |             |          |      |             |
| Duty Cycle (Burst Ratio) max                               | ---         | ---         | 1        | ---  | Information |
| Duty Cycle max                                             | ---         | ---         | 0        | dB   | Information |
| Duty Cycle (Burst Ratio) min                               | ---         | ---         | 1        | ---  | Information |
| Duty Cycle min                                             | ---         | ---         | 0        | dB   | Information |



Plot\_FCC Part 15.247 Restricted Band Edge Conducted Avg DC corrected DTS ~ WLAN2G4 nHT20-mode 2462 MHz - Duty Cycle\_02092019\_153018.png

| READ SA SETTINGS:                                    |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 14.08   9.94   20      |
| Start [MHz]   Stop [MHz]                             | 2483.500   2485.500    |
| RBW [MHz]   VBW [MHz]                                | 0.100000   0.500000    |
| Detector   TraceMode                                 | RMS   AVER             |
| Sweep: Time [ms]   Count   Points per Section   Type | 32   300   32000   SWE |
| Marker Method                                        | Band Power             |

| RESULT: TC_VM_FCC15247_Restricted_Band_Edge_Conducted_Avg_DC_corrected_V01 |             |             |          |      |             |
|----------------------------------------------------------------------------|-------------|-------------|----------|------|-------------|
| Test Description                                                           | Lower Limit | Upper Limit | Measured | Unit | Verdict     |
| Duty Cycle worst case                                                      | ---         | ---         | 0        | dB   | Information |
| Band Power without Antenna Gain Avg                                        | ---         | ---         | -46.22   | dBm  | Information |
| Band Power without Antenna Gain Avg DC corrected                           | ---         | ---         | -46.22   | dBm  | Information |
| Band Power incl. Antenna Gain Avg DC corrected                             | ---         | -41.23      | -46.22   | dBm  | PASS        |



Plot\_FCC Part 15.247 Restricted Band Edge Conducted Avg DC corrected DTS ~ WLAN2G4 nHT20-mode\_02092019\_153040.png

|                 |                                |      |
|-----------------|--------------------------------|------|
| TEST FINISHED   |                                |      |
| General Verdict | 02.09.2019 15:30:40 / RT: 34 s | PASS |

## 56. FCC Part 15.247 Maximum Peak Conducted Output Power Powermeter DTS ~ WLAN2G4 nHT20-mode

| Test References            |                                                                                                           |
|----------------------------|-----------------------------------------------------------------------------------------------------------|
| TC Start                   | 02.09.2019 15:30:44                                                                                       |
| System Version             | 1.0.0.20                                                                                                  |
| Test Specification         | FCC Part 15.247                                                                                           |
| Test Method                | DTS: KDB 558074 D01 V05 - Chapter 8.3.1.3 PKPM1 Peak-reading Power Meter Method                           |
| Class / TC Version / TC ID | TC_VM_FCC15247_Maximum_Peak_Conducted_Output_Power_Powermeter_DTS_V01<br>Version: 0.0.1   TCID_FCC15247_3 |
| My Description             | FCC 15.247 Maximum Peak Output Power Powermeter Conducted DTS - WLAN 2G4 nHT20-mode                       |
| Add. Information           |                                                                                                           |

| Test Parameter         |                                                                            |
|------------------------|----------------------------------------------------------------------------|
| Technology to test     | WLAN2G4 nHT20-mode                                                         |
| Antenna Port used      | 1                                                                          |
| Temperature            | mid                                                                        |
| Voltage                | mid                                                                        |
| Frequency low to test  | False   Freq [MHz] 2412                                                    |
| Frequency mid to test  | False   Freq [MHz] 2437                                                    |
| Frequency high to test | True   Freq [MHz] 2462                                                     |
| Switched Path          | IUT - SignalingUnit - PowerMeter                                           |
| Devices in use         | SigBT: Rohde&Schwarz,CBT-1153.9000.35,100185,CBT 6X02.P02   NRP-Z81,102585 |

## Test at TX 2462 MHz

RESULT: TC\_VM\_FCC15247\_Maximum\_Peak\_Conducted\_Output\_Power\_Powermeter\_DTS\_V01

| Test Description | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|------------------|-------------|-------------|----------|------|---------|
| Found Peak cond. | ---         | ---         | 17.19    | dBm  | PASS    |

### TEST FINISHED

General Verdict 02.09.2019 15:30:48 / RT: 4 s

PASS

## 57. FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 nHT40-mode

| Test References            |                                                                       |
|----------------------------|-----------------------------------------------------------------------|
| TC Start                   | 02.09.2019 15:32:40                                                   |
| System Version             | 1.0.0.20                                                              |
| Test Specification         | FCC Part 15.247                                                       |
| Test Method                | 99                                                                    |
| Class / TC Version / TC ID | TC_VM_FCC15247_Bandwidth_6dB_DTS_V01 Version: 0.0.1   TCID_FCC15247_1 |
| My Description             | FCC 15.247 Bandwidth 6dB DTS - WLAN 2G4 nHT40_mode                    |
| Add. Information           |                                                                       |

| Test Parameter         |                                                                                                                  |
|------------------------|------------------------------------------------------------------------------------------------------------------|
| Technology to test     | WLAN2G4 nHT40-mode                                                                                               |
| Antenna Port used      | 1                                                                                                                |
| Temperature            | mid                                                                                                              |
| Voltage                | mid                                                                                                              |
| Frequency low to test  | True   Freq [MHz] 2422                                                                                           |
| Frequency mid to test  | False   Freq [MHz] 2437                                                                                          |
| Frequency high to test | False   Freq [MHz] 2452                                                                                          |
| Switched Path          | IUT - SignalingUnit - SpectrumAnalyzer                                                                           |
| Devices in use         | SigBT: Rohde&Schwarz,CBT-1153.9000.35,100185,CBT 6X02.P02   SA:<br>Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.40 |

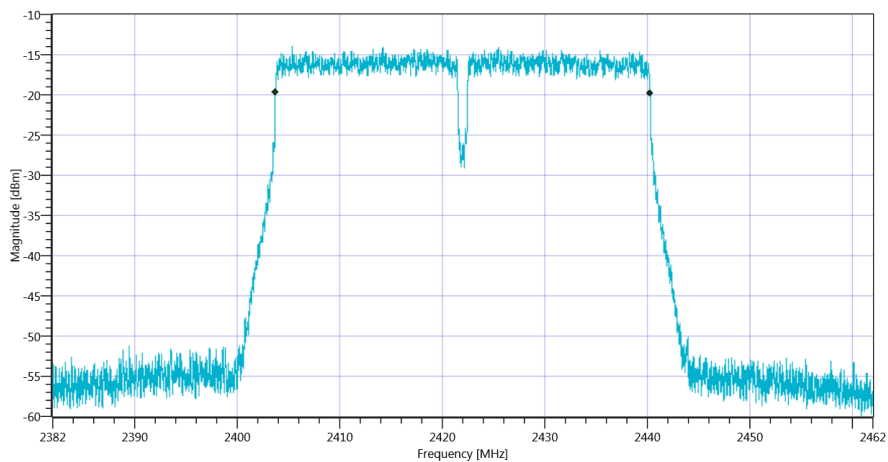
## Test at TX 2422 MHz

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 1.70   9.85   10       |
| Start [MHz]   Stop [MHz]                             | 2382.000   2462.000    |
| 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: TC\_VM\_FCC15247\_Bandwidth\_6dB\_DTS\_V01

| Test Description    | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|---------------------|-------------|-------------|----------|------|---------|
| DTS Bandwidth (6dB) | 500         | ---         | 36552    | kHz  | PASS    |



### TEST FINISHED

General Verdict

02.09.2019 15:33:04 / RT: 24 s

PASS

## 58. FCC Part 15.247 Peak Power Spectral Density DTS ~ WLAN2G4 nHT40-mode

| Test References            |                                                                                                            |
|----------------------------|------------------------------------------------------------------------------------------------------------|
| TC Start                   | 02.09.2019 15:33:07                                                                                        |
| System Version             | 1.0.0.20                                                                                                   |
| Test Specification         | FCC Part 15.247                                                                                            |
| Test Method                | DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission |
| Class / TC Version / TC ID | TC_VM_FCC15247_Peak_Power_Spectral_Density_DTS_V01 Version: 0.0.1   TCID_FCC15247_6                        |
| My Description             | FCC 15.247 Peak Power Spectral Density DTS - WLAN 2G4 nHT40_mode                                           |
| Add. Information           |                                                                                                            |

| Test Parameter         |                                                                                                               |
|------------------------|---------------------------------------------------------------------------------------------------------------|
| Technology to test     | WLAN2G4 nHT40-mode                                                                                            |
| Antenna Port used      | 1                                                                                                             |
| Temperature            | mid                                                                                                           |
| Voltage                | mid                                                                                                           |
| Frequency low to test  | True   Freq [MHz] 2422                                                                                        |
| Frequency mid to test  | False   Freq [MHz] 2437                                                                                       |
| Frequency high to test | False   Freq [MHz] 2452                                                                                       |
| Switched Path          | IUT - SignalingUnit - SpectrumAnalyzer                                                                        |
| Devices in use         | SigBT: Rohde&Schwarz,CBT-1153.9000.35,100185,CBT 6X02.P02   SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.40 |

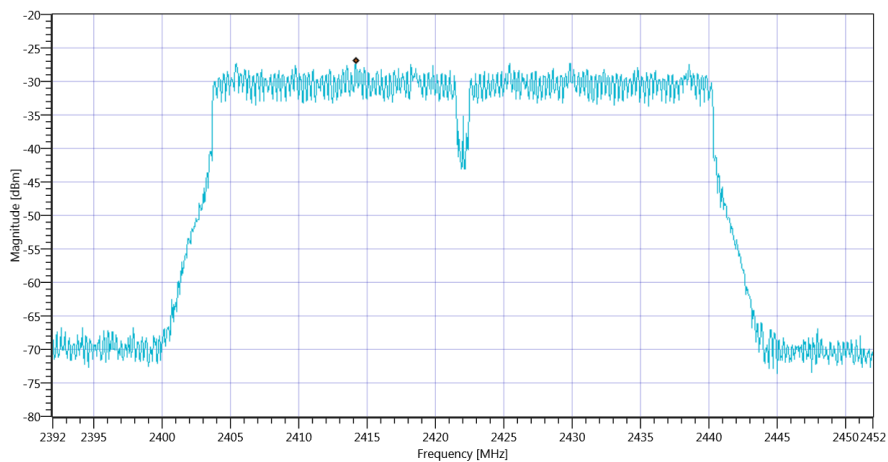
## Test at TX 2422 MHz

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 1.76   9.85   10       |
| Start [MHz]   Stop [MHz]                             | 2392.000   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: TC\_VM\_FCC15247\_Peak\_Power\_Spectral\_Density\_DTS\_V01

| Test Description       | Lower Limit | Upper Limit | Measured | Unit     | Verdict |
|------------------------|-------------|-------------|----------|----------|---------|
| Max Peak power Density | ---         | 8           | -26.89   | dBm/3KHz | PASS    |



Plot\_FCC Part 15.247 Peak Power Spectral Density DTS ~ WLAN2G4 nHT40-mode\_02092019\_153344.png

### TEST FINISHED

|                 |                                |      |
|-----------------|--------------------------------|------|
| General Verdict | 02.09.2019 15:33:44 / RT: 36 s | PASS |
|-----------------|--------------------------------|------|

## 59. FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT40-mode

| Test References            |                                                                                   |
|----------------------------|-----------------------------------------------------------------------------------|
| TC Start                   | 02.09.2019 15:33:47                                                               |
| System Version             | 1.0.0.20                                                                          |
| Test Specification         | FCC Part 15.247                                                                   |
| Test Method                |                                                                                   |
| Class / TC Version / TC ID | TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01 Version: 0.0.2   TCID_FCC15247_2 |
| My Description             | FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN 2G4 nHT40_mode                         |
| Add. Information           |                                                                                   |

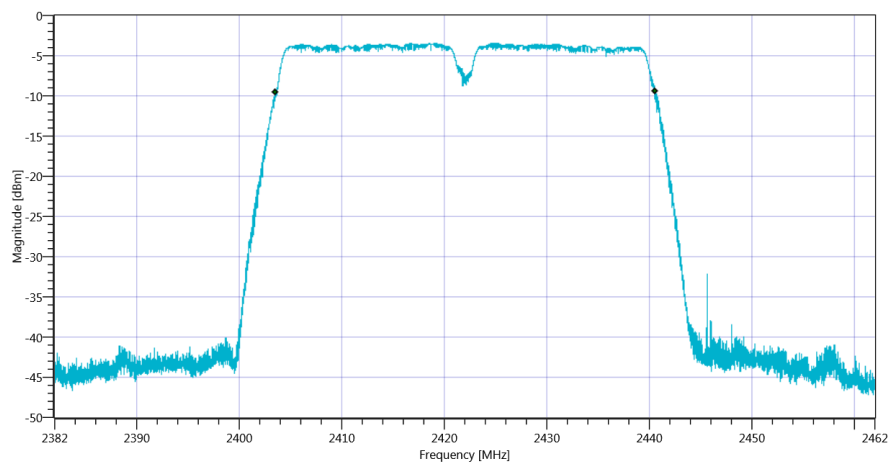
| Test Parameter         |                                                                                                               |
|------------------------|---------------------------------------------------------------------------------------------------------------|
| Technology to test     | WLAN2G4 nHT40-mode                                                                                            |
| Antenna Port used      | 1                                                                                                             |
| Temperature            | mid                                                                                                           |
| Voltage                | mid                                                                                                           |
| Frequency low to test  | True   Freq [MHz] 2422                                                                                        |
| Frequency mid to test  | False   Freq [MHz] 2437                                                                                       |
| Frequency high to test | False   Freq [MHz] 2452                                                                                       |
| Switched Path          | IUT - SignalingUnit - SpectrumAnalyzer                                                                        |
| Devices in use         | SigBT: Rohde&Schwarz,CBT-1153.9000.35,100185,CBT 6X02.P02   SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.40 |

## Test at TX 2422 MHz

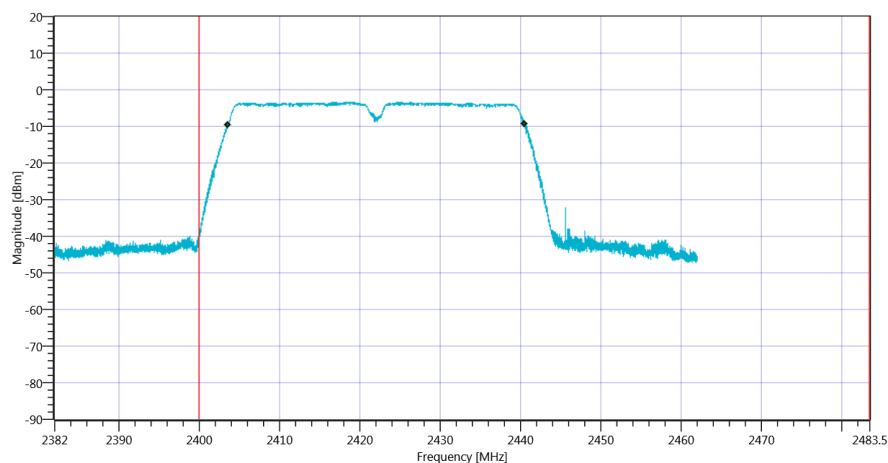
### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 1.80   9.85   10       |
| Start [MHz]   Stop [MHz]                             | 2382.000   2462.000    |
| RBW [MHz]   VBW [MHz]                                | 1.000000   2.000000    |
| Detector   TraceMode                                 | POS   MAXH             |
| Sweep: Time [ms]   Count   Points per Section   Type | 50   200   10001   SWE |

| RESULT: TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01 |             |             |           |      |             |
|----------------------------------------------------------|-------------|-------------|-----------|------|-------------|
| Test Description                                         | Lower Limit | Upper Limit | Measured  | Unit | Verdict     |
| Bandwidth 99%                                            | ---         | ---         | 36980     | kHz  | Information |
| T1 99%                                                   | 2400.000000 | ---         | 2403.5618 | MHz  | PASS        |
| T2 99%                                                   | ---         | 2483.500000 | 2440.5421 | MHz  | PASS        |

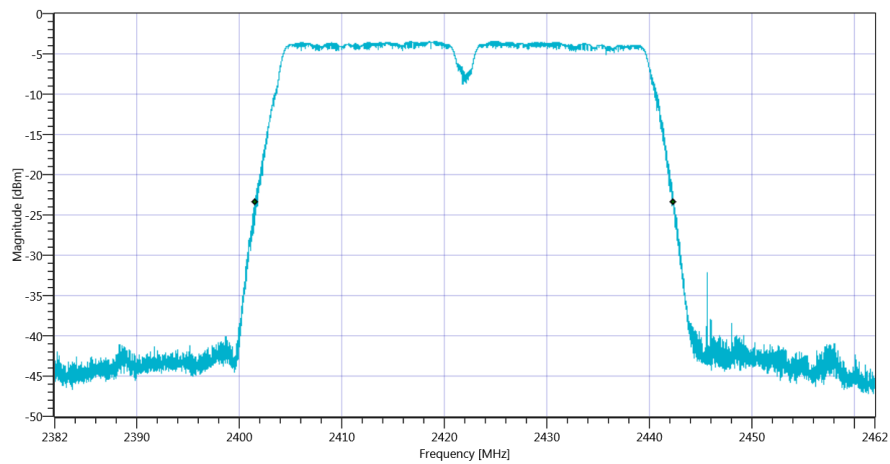


Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT40-mode 99PCT\_02092019\_153411.png

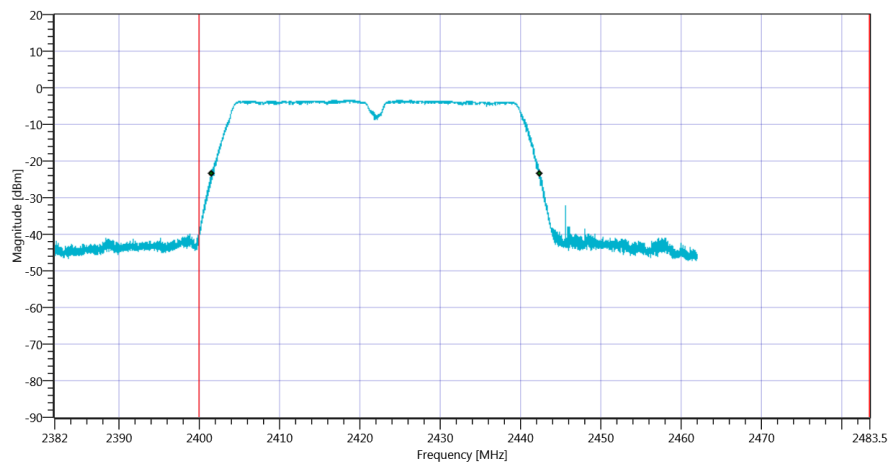


Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT40-mode\_02092019\_153414.png

| RESULT: TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01 |             |             |           |      |             |
|----------------------------------------------------------|-------------|-------------|-----------|------|-------------|
| Test Description                                         | Lower Limit | Upper Limit | Measured  | Unit | Verdict     |
| Bandwidth 20dB                                           | ---         | ---         | 40856     | kHz  | Information |
| T1 20dB                                                  | 2400.000000 | ---         | 2401.5280 | MHz  | PASS        |
| T2 20dB                                                  | ---         | 2483.500000 | 2442.3840 | MHz  | PASS        |



Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT40-mode 20dB\_02092019\_153418.png



Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT40-mode\_02092019\_153421.png

TEST FINISHED

General Verdict

02.09.2019 15:34:22 / RT: 34 s

PASS

## 60. FCC Part 15.247 TX Spurious Conducted ~ WLAN2G4 nHT40-mode

| Test References            |                                                                                                                |
|----------------------------|----------------------------------------------------------------------------------------------------------------|
| TC Start                   | 02.09.2019 15:34:25                                                                                            |
| System Version             | 1.0.0.20                                                                                                       |
| Test Specification         | FCC Part 15.247                                                                                                |
| Test Method                | IF DTS then 8.5 DTS emissions in non-restricted frequency bands: Subclause 11.11 of ANSI C63.10 is applicable. |
| Class / TC Version / TC ID | TC_VM_FCC15247_TX_Emissions_Conducted_V01 Version: 0.0.1   TCID_FCC15247_8                                     |
| My Description             | FCC 15.247 TX Emissions Conducted DTS - WLAN 2G4 nHT40_mode                                                    |
| Add. Information           |                                                                                                                |

| Test Parameter         |                                                                                                               |
|------------------------|---------------------------------------------------------------------------------------------------------------|
| Technology to test     | WLAN2G4 nHT40-mode                                                                                            |
| Antenna Port used      | 1                                                                                                             |
| Temperature            | mid                                                                                                           |
| Voltage                | mid                                                                                                           |
| Frequency low to test  | True   Freq [MHz] 2422                                                                                        |
| Frequency mid to test  | False   Freq [MHz] 2437                                                                                       |
| Frequency high to test | False   Freq [MHz] 2452                                                                                       |
| Switched Path          | IUT - SignalingUnit - SpectrumAnalyzer                                                                        |
| Devices in use         | SigBT: Rohde&Schwarz,CBT-1153.9000.35,100185,CBT 6X02.P02   SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.40 |

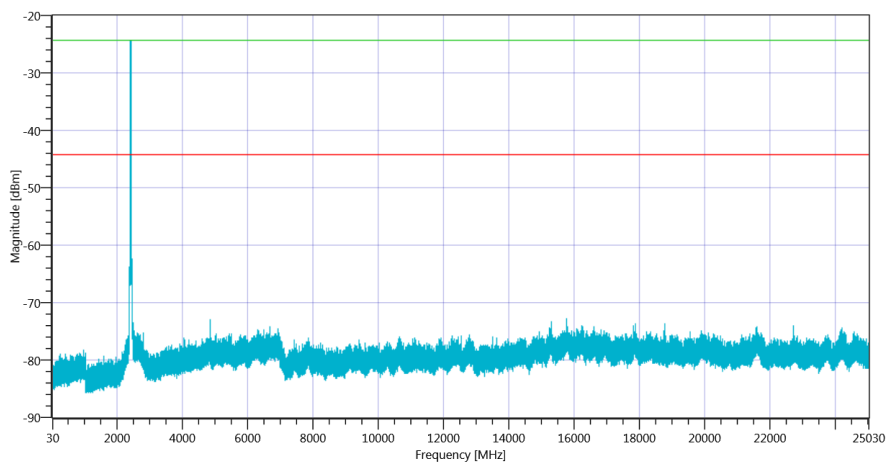
## Test at TX 2422 MHz

### READ SA SETTINGS:

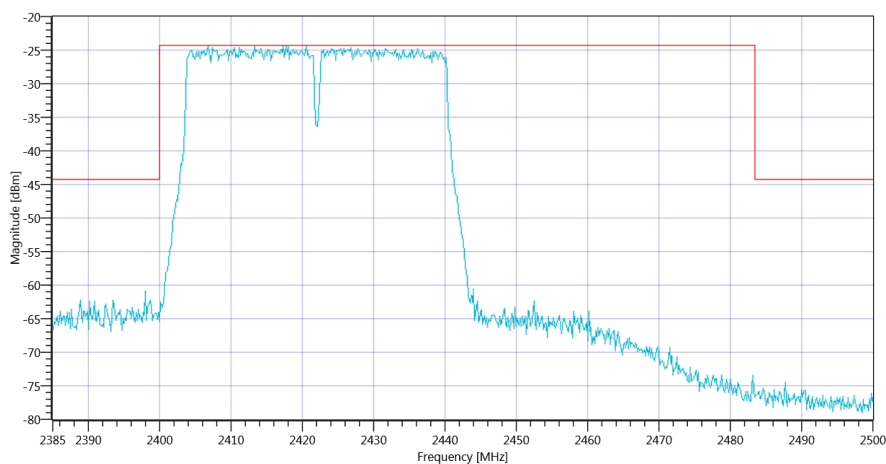
|                                                      |                       |
|------------------------------------------------------|-----------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | -8.14   0   10        |
| Start [MHz]   Stop [MHz]                             | 24530.000   25030.000 |
| RBW [MHz]   VBW [MHz]                                | 0.100000   0.300000   |
| Detector   TraceMode                                 | POS   MAXH            |
| Sweep: Time [ms]   Count   Points per Section   Type | 500   8   3001   SWE  |

### RESULT: TC\_VM\_FCC15247\_TX\_Emissions\_Conducted\_V01

| Test Description        | Lower Limit | Upper Limit | Measured | Unit | Verdict     |
|-------------------------|-------------|-------------|----------|------|-------------|
| Reference @ 2413.33 MHz | ---         | ---         | -24.31   | dBm  | Information |
| No peaks detected       | ---         | ---         |          |      | PASS        |



Plot\_FCC Part 15.247 TX Spurious Conducted ~ WLAN2G4 nHT40-mode 2422\_02092019\_153910.png



Plot\_FCC Part 15.247 TX Spurious Conducted ~ WLAN2G4 nHT40-mode 2422\_02092019\_153912.png

### TEST FINISHED

General Verdict

02.09.2019 15:39:14 / RT: 288 s

PASS

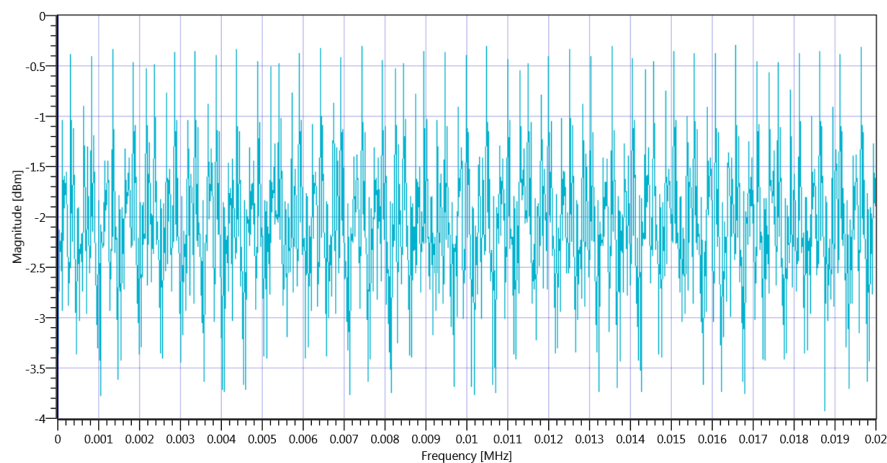
## 61. FCC Part 15.247 Restricted Band Edge Conducted Avg DC corrected DTS ~ WLAN2G4 nHT40-mode

| Test References            |                                                                                                                                                                                    |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TC Start                   | 02.09.2019 15:39:17                                                                                                                                                                |
| System Version             | 1.0.0.20                                                                                                                                                                           |
| Test Specification         | FCC Part 15.247                                                                                                                                                                    |
| Test Method                | DTS: KDB 558074 D01 V05 - 8.7.3 Integration Method; ANSI C63.10-2013 11.13.3.4 Trace averaging across on- and off-times of the EUT transmissions followed by duty cycle correction |
| Class / TC Version / TC ID | TC_VM_FCC15247_Restricted_Band_Edge_Conducted_Avg_DC_corrected_V01 Version: 0.0.1   TCID_FCC15247_7                                                                                |
| My Description             | FCC 15.247 Restricted Band Edge Cond. Avg DC corrected DTS - WLAN 2G4 nHT40_mode                                                                                                   |
| Add. Information           |                                                                                                                                                                                    |

| Test Parameter         |                                                                                                               |
|------------------------|---------------------------------------------------------------------------------------------------------------|
| Technology to test     | WLAN2G4 nHT40-mode                                                                                            |
| Antenna Port used      | 1                                                                                                             |
| Temperature            | mid                                                                                                           |
| Voltage                | mid                                                                                                           |
| Frequency low to test  | True   Freq [MHz] 2422                                                                                        |
| Frequency mid to test  | False   Freq [MHz] 2437                                                                                       |
| Frequency high to test | False   Freq [MHz] 2452                                                                                       |
| Switched Path          | IUT - SignalingUnit - SpectrumAnalyzer                                                                        |
| Devices in use         | SigBT: Rohde&Schwarz,CBT-1153.9000.35,100185,CBT 6X02.P02   SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.40 |

## Test at TX 2422 MHz

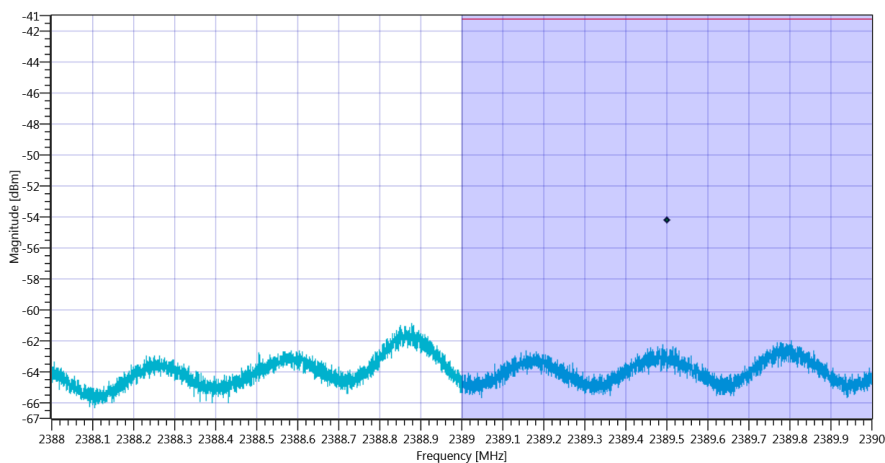
| RESULT: Duty Cycle evaluation                              |             |             |          |      |             |
|------------------------------------------------------------|-------------|-------------|----------|------|-------------|
| Test Description                                           | Lower Limit | Upper Limit | Measured | Unit | Verdict     |
| No enough Bursts detected, Duty Cycle Burst Ratio set to 1 |             |             |          |      |             |
| Duty Cycle (Burst Ratio) max                               | ---         | ---         | 1        | ---  | Information |
| Duty Cycle max                                             | ---         | ---         | 0        | dB   | Information |
| Duty Cycle (Burst Ratio) min                               | ---         | ---         | 1        | ---  | Information |
| Duty Cycle min                                             | ---         | ---         | 0        | dB   | Information |



Plot\_FCC Part 15.247 Restricted Band Edge Conducted Avg DC corrected DTS ~ WLAN2G4 nHT40-mode 2422 MHz - Duty Cycle\_02092019\_153930.png

| READ SA SETTINGS:                                    |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 6.59   9.85   15       |
| Start [MHz]   Stop [MHz]                             | 2388.000   2390.000    |
| RBW [MHz]   VBW [MHz]                                | 0.100000   0.500000    |
| Detector   TraceMode                                 | RMS   AVER             |
| Sweep: Time [ms]   Count   Points per Section   Type | 32   300   32000   SWE |
| Marker Method                                        | Band Power             |

| RESULT: TC_VM_FCC15247_Restricted_Band_Edge_Conducted_Avg_DC_corrected_V01 |             |             |          |      |             |
|----------------------------------------------------------------------------|-------------|-------------|----------|------|-------------|
| Test Description                                                           | Lower Limit | Upper Limit | Measured | Unit | Verdict     |
| Duty Cycle worst case                                                      | ---         | ---         | 0        | dB   | Information |
| Band Power without Antenna Gain Avg                                        | ---         | ---         | -54.21   | dBm  | Information |
| Band Power without Antenna Gain Avg DC corrected                           | ---         | ---         | -54.21   | dBm  | Information |
| Band Power incl. Antenna Gain Avg DC corrected                             | ---         | -41.23      | -54.21   | dBm  | PASS        |



Plot\_FCC Part 15.247 Restricted Band Edge Conducted Avg DC corrected DTS ~ WLAN2G4 nHT40-mode\_02092019\_153952.png

|                 |                                |      |
|-----------------|--------------------------------|------|
| TEST FINISHED   |                                |      |
| General Verdict | 02.09.2019 15:39:52 / RT: 34 s | PASS |

## 62. FCC Part 15.247 Maximum Peak Conducted Output Power Powermeter DTS ~ WLAN2G4 nHT40-mode

| Test References            |                                                                                                           |
|----------------------------|-----------------------------------------------------------------------------------------------------------|
| TC Start                   | 02.09.2019 15:39:56                                                                                       |
| System Version             | 1.0.0.20                                                                                                  |
| Test Specification         | FCC Part 15.247                                                                                           |
| Test Method                | DTS: KDB 558074 D01 V05 - Chapter 8.3.1.3 PKPM1 Peak-reading Power Meter Method                           |
| Class / TC Version / TC ID | TC_VM_FCC15247_Maximum_Peak_Conducted_Output_Power_Powermeter_DTS_V01<br>Version: 0.0.1   TCID_FCC15247_3 |
| My Description             | FCC 15.247 Maximum Peak Output Power Powermeter Conducted DTS - WLAN 2G4 nHT40-mode                       |
| Add. Information           |                                                                                                           |

| Test Parameter         |                                                                            |
|------------------------|----------------------------------------------------------------------------|
| Technology to test     | WLAN2G4 nHT40-mode                                                         |
| Antenna Port used      | 1                                                                          |
| Temperature            | mid                                                                        |
| Voltage                | mid                                                                        |
| Frequency low to test  | True   Freq [MHz] 2422                                                     |
| Frequency mid to test  | False   Freq [MHz] 2437                                                    |
| Frequency high to test | False   Freq [MHz] 2452                                                    |
| Switched Path          | IUT - SignalingUnit - PowerMeter                                           |
| Devices in use         | SigBT: Rohde&Schwarz,CBT-1153.9000.35,100185,CBT 6X02.P02   NRP-Z81,102585 |

## Test at TX 2422 MHz

RESULT: TC\_VM\_FCC15247\_Maximum\_Peak\_Conducted\_Output\_Power\_Powermeter\_DTS\_V01

| Test Description | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|------------------|-------------|-------------|----------|------|---------|
| Found Peak cond. | ---         | ---         | 14.02    | dBm  | PASS    |

### TEST FINISHED

General Verdict 02.09.2019 15:40:00 / RT: 3 s

PASS

## 63. FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 nHT40-mode

| Test References            |                                                                       |
|----------------------------|-----------------------------------------------------------------------|
| TC Start                   | 02.09.2019 15:40:52                                                   |
| System Version             | 1.0.0.20                                                              |
| Test Specification         | FCC Part 15.247                                                       |
| Test Method                | 99                                                                    |
| Class / TC Version / TC ID | TC_VM_FCC15247_Bandwidth_6dB_DTS_V01 Version: 0.0.1   TCID_FCC15247_1 |
| My Description             | FCC 15.247 Bandwidth 6dB DTS - WLAN 2G4 nHT40_mode                    |
| Add. Information           |                                                                       |

| Test Parameter         |                                                                                                                  |
|------------------------|------------------------------------------------------------------------------------------------------------------|
| Technology to test     | WLAN2G4 nHT40-mode                                                                                               |
| Antenna Port used      | 1                                                                                                                |
| Temperature            | mid                                                                                                              |
| Voltage                | mid                                                                                                              |
| Frequency low to test  | False   Freq [MHz] 2422                                                                                          |
| Frequency mid to test  | True   Freq [MHz] 2437                                                                                           |
| Frequency high to test | False   Freq [MHz] 2452                                                                                          |
| Switched Path          | IUT - SignalingUnit - SpectrumAnalyzer                                                                           |
| Devices in use         | SigBT: Rohde&Schwarz,CBT-1153.9000.35,100185,CBT 6X02.P02   SA:<br>Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.40 |

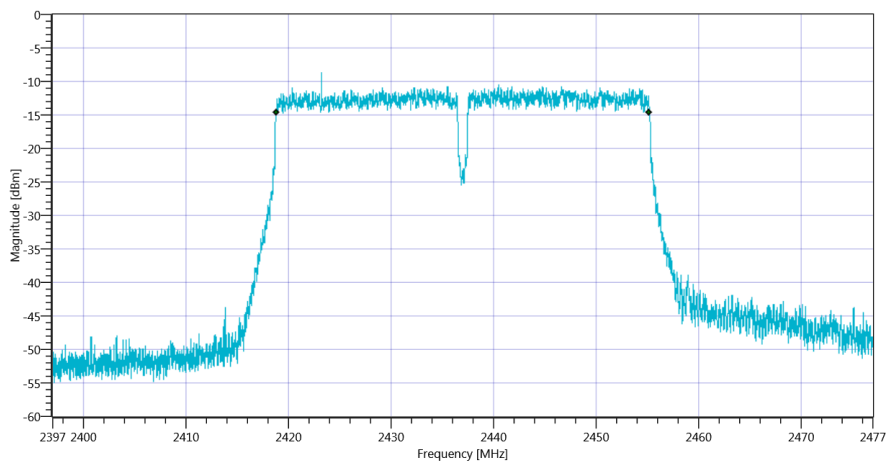
## Test at TX 2437 MHz

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 5.20   9.89   15       |
| Start [MHz]   Stop [MHz]                             | 2397.000   2477.000    |
| 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: TC\_VM\_FCC15247\_Bandwidth\_6dB\_DTS\_V01

| Test Description    | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|---------------------|-------------|-------------|----------|------|---------|
| DTS Bandwidth (6dB) | 500         | ---         | 36360    | kHz  | PASS    |



Plot\_FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 nHT40-mode\_02092019\_154116.png

### TEST FINISHED

|                 |                                |      |
|-----------------|--------------------------------|------|
| General Verdict | 02.09.2019 15:41:17 / RT: 24 s | PASS |
|-----------------|--------------------------------|------|

## 64. FCC Part 15.247 Peak Power Spectral Density DTS ~ WLAN2G4 nHT40-mode

| Test References            |                                                                                                            |
|----------------------------|------------------------------------------------------------------------------------------------------------|
| TC Start                   | 02.09.2019 15:41:20                                                                                        |
| System Version             | 1.0.0.20                                                                                                   |
| Test Specification         | FCC Part 15.247                                                                                            |
| Test Method                | DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission |
| Class / TC Version / TC ID | TC_VM_FCC15247_Peak_Power_Spectral_Density_DTS_V01 Version: 0.0.1   TCID_FCC15247_6                        |
| My Description             | FCC 15.247 Peak Power Spectral Density DTS - WLAN 2G4 nHT40_mode                                           |
| Add. Information           |                                                                                                            |

| Test Parameter         |                                                                                                               |
|------------------------|---------------------------------------------------------------------------------------------------------------|
| Technology to test     | WLAN2G4 nHT40-mode                                                                                            |
| Antenna Port used      | 1                                                                                                             |
| Temperature            | mid                                                                                                           |
| Voltage                | mid                                                                                                           |
| Frequency low to test  | False   Freq [MHz] 2422                                                                                       |
| Frequency mid to test  | True   Freq [MHz] 2437                                                                                        |
| Frequency high to test | False   Freq [MHz] 2452                                                                                       |
| Switched Path          | IUT - SignalingUnit - SpectrumAnalyzer                                                                        |
| Devices in use         | SigBT: Rohde&Schwarz,CBT-1153.9000.35,100185,CBT 6X02.P02   SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.40 |

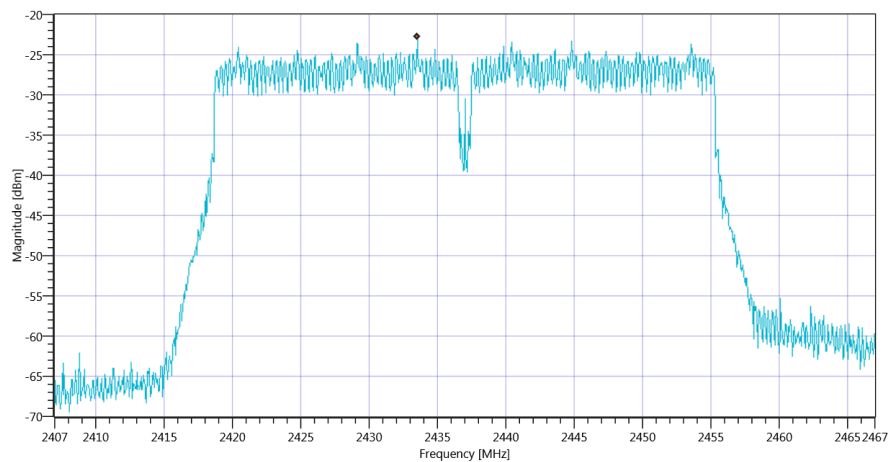
## Test at TX 2437 MHz

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 5.18   9.89   15       |
| Start [MHz]   Stop [MHz]                             | 2407.000   2467.000    |
| 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: TC\_VM\_FCC15247\_Peak\_Power\_Spectral\_Density\_DTS\_V01

| Test Description       | Lower Limit | Upper Limit | Measured | Unit     | Verdict |
|------------------------|-------------|-------------|----------|----------|---------|
| Max Peak power Density | ---         | 8           | -22.77   | dBm/3KHz | PASS    |



Plot\_FCC Part 15.247 Peak Power Spectral Density DTS ~ WLAN2G4 nHT40-mode\_02092019\_154156.png

### TEST FINISHED

|                 |                                |      |
|-----------------|--------------------------------|------|
| General Verdict | 02.09.2019 15:41:56 / RT: 35 s | PASS |
|-----------------|--------------------------------|------|

## 65. FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT40-mode

| Test References            |                                                                                   |
|----------------------------|-----------------------------------------------------------------------------------|
| TC Start                   | 02.09.2019 15:42:00                                                               |
| System Version             | 1.0.0.20                                                                          |
| Test Specification         | FCC Part 15.247                                                                   |
| Test Method                |                                                                                   |
| Class / TC Version / TC ID | TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01 Version: 0.0.2   TCID_FCC15247_2 |
| My Description             | FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN 2G4 nHT40_mode                         |
| Add. Information           |                                                                                   |

| Test Parameter         |                                                                                                               |
|------------------------|---------------------------------------------------------------------------------------------------------------|
| Technology to test     | WLAN2G4 nHT40-mode                                                                                            |
| Antenna Port used      | 1                                                                                                             |
| Temperature            | mid                                                                                                           |
| Voltage                | mid                                                                                                           |
| Frequency low to test  | False   Freq [MHz] 2422                                                                                       |
| Frequency mid to test  | True   Freq [MHz] 2437                                                                                        |
| Frequency high to test | False   Freq [MHz] 2452                                                                                       |
| Switched Path          | IUT - SignalingUnit - SpectrumAnalyzer                                                                        |
| Devices in use         | SigBT: Rohde&Schwarz,CBT-1153.9000.35,100185,CBT 6X02.P02   SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.40 |

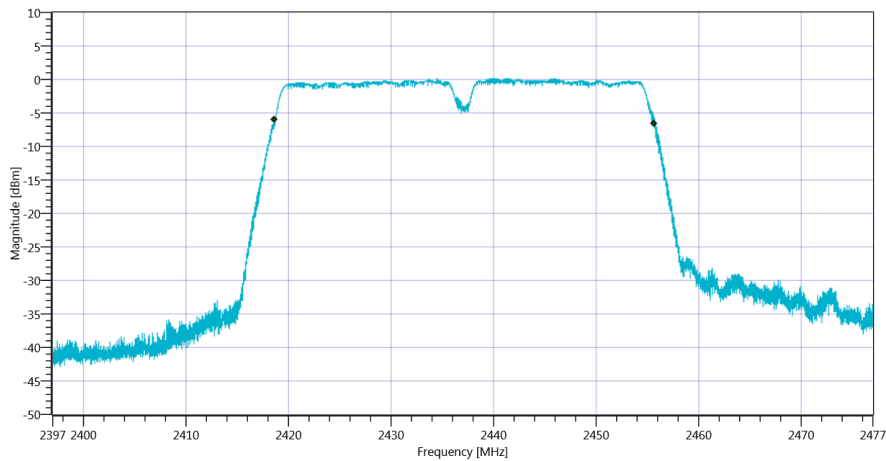
## Test at TX 2437 MHz

### READ SA SETTINGS:

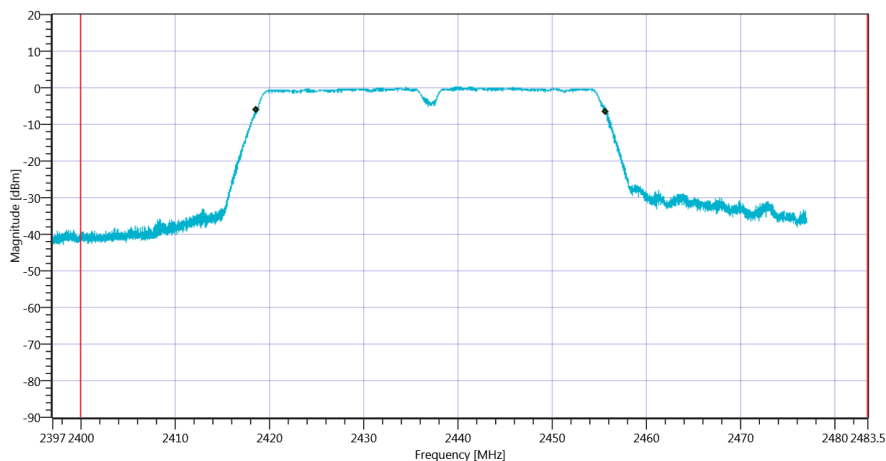
|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 5.13   9.89   15       |
| Start [MHz]   Stop [MHz]                             | 2397.000   2477.000    |
| RBW [MHz]   VBW [MHz]                                | 1.000000   2.000000    |
| Detector   TraceMode                                 | POS   MAXH             |
| Sweep: Time [ms]   Count   Points per Section   Type | 50   200   10001   SWE |

### RESULT: TC\_VM\_FCC15247\_Bandwidth\_99PCT\_20dB\_DTS\_FHSS\_V01

| Test Description | Lower Limit | Upper Limit | Measured  | Unit | Verdict     |
|------------------|-------------|-------------|-----------|------|-------------|
| Bandwidth 99%    | ---         | ---         | 37012     | kHz  | Information |
| T1 99%           | 2400.000000 | ---         | 2418.6258 | MHz  | PASS        |
| T2 99%           | ---         | 2483.500000 | 2455.6381 | MHz  | PASS        |



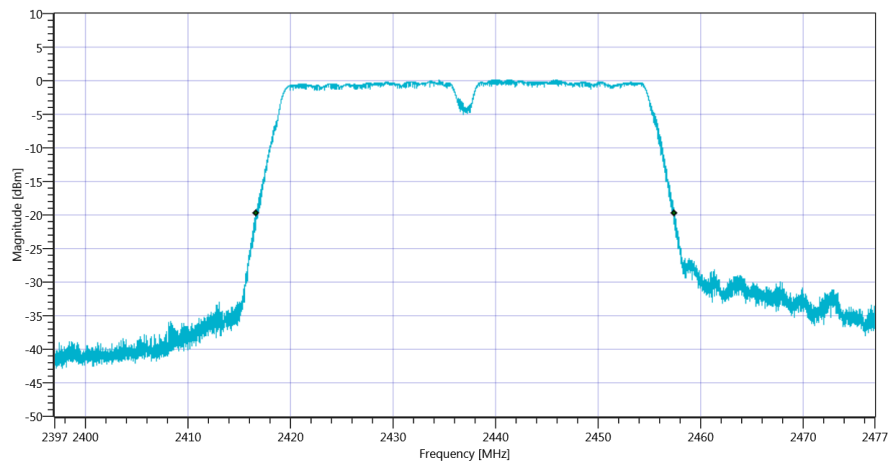
Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT40-mode 99PCT\_02092019\_154224.png



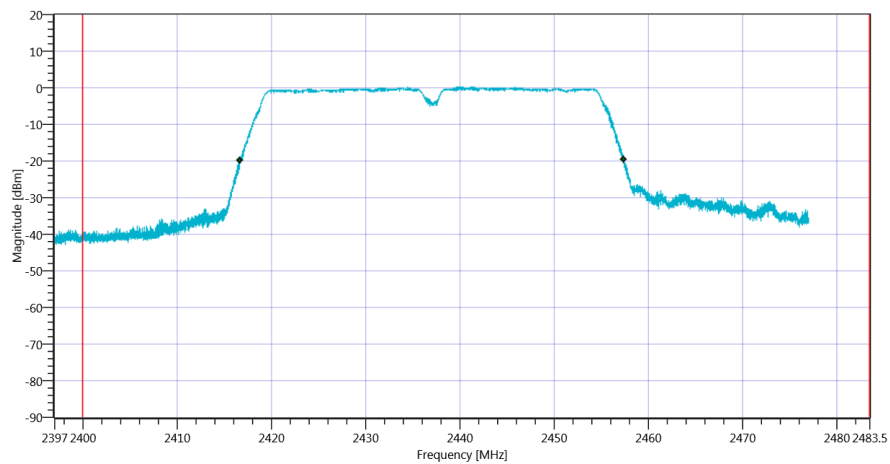
Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT40-mode\_02092019\_154227.png

### RESULT: TC\_VM\_FCC15247\_Bandwidth\_99PCT\_20dB\_DTS\_FHSS\_V01

| Test Description | Lower Limit | Upper Limit | Measured  | Unit | Verdict     |
|------------------|-------------|-------------|-----------|------|-------------|
| Bandwidth 20dB   | ---         | ---         | 40736     | kHz  | Information |
| T1 20dB          | 2400.000000 | ---         | 2416.6800 | MHz  | PASS        |
| T2 20dB          | ---         | 2483.500000 | 2457.4160 | MHz  | PASS        |



Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT40-mode 20dB\_02092019\_154231.png



Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT40-mode\_02092019\_154234.png

TEST FINISHED

General Verdict

02.09.2019 15:42:34 / RT: 34 s

PASS

## 66. FCC Part 15.247 TX Spurious Conducted ~ WLAN2G4 nHT40-mode

| Test References            |                                                                                                                |
|----------------------------|----------------------------------------------------------------------------------------------------------------|
| TC Start                   | 02.09.2019 15:42:38                                                                                            |
| System Version             | 1.0.0.20                                                                                                       |
| Test Specification         | FCC Part 15.247                                                                                                |
| Test Method                | IF DTS then 8.5 DTS emissions in non-restricted frequency bands: Subclause 11.11 of ANSI C63.10 is applicable. |
| Class / TC Version / TC ID | TC_VM_FCC15247_TX_Emissions_Conducted_V01 Version: 0.0.1   TCID_FCC15247_8                                     |
| My Description             | FCC 15.247 TX Emissions Conducted DTS - WLAN 2G4 nHT40_mode                                                    |
| Add. Information           |                                                                                                                |

| Test Parameter         |                                                                                                               |
|------------------------|---------------------------------------------------------------------------------------------------------------|
| Technology to test     | WLAN2G4 nHT40-mode                                                                                            |
| Antenna Port used      | 1                                                                                                             |
| Temperature            | mid                                                                                                           |
| Voltage                | mid                                                                                                           |
| Frequency low to test  | False   Freq [MHz] 2422                                                                                       |
| Frequency mid to test  | True   Freq [MHz] 2437                                                                                        |
| Frequency high to test | False   Freq [MHz] 2452                                                                                       |
| Switched Path          | IUT - SignalingUnit - SpectrumAnalyzer                                                                        |
| Devices in use         | SigBT: Rohde&Schwarz,CBT-1153.9000.35,100185,CBT 6X02.P02   SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.40 |

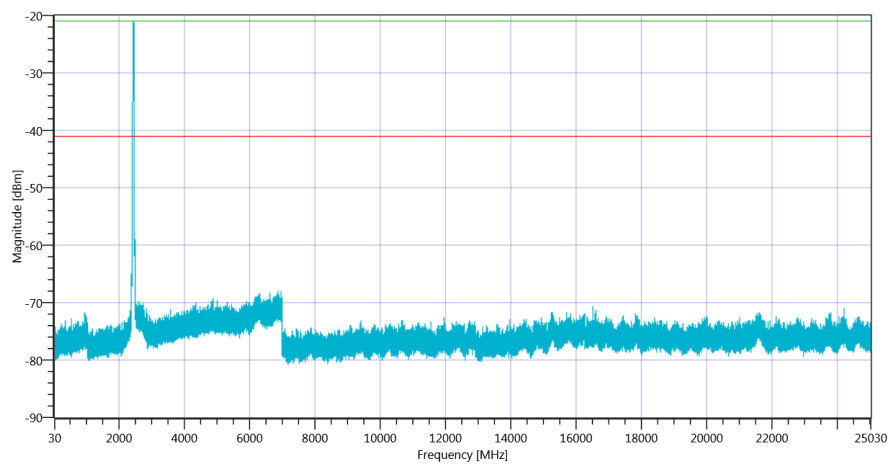
## Test at TX 2437 MHz

### READ SA SETTINGS:

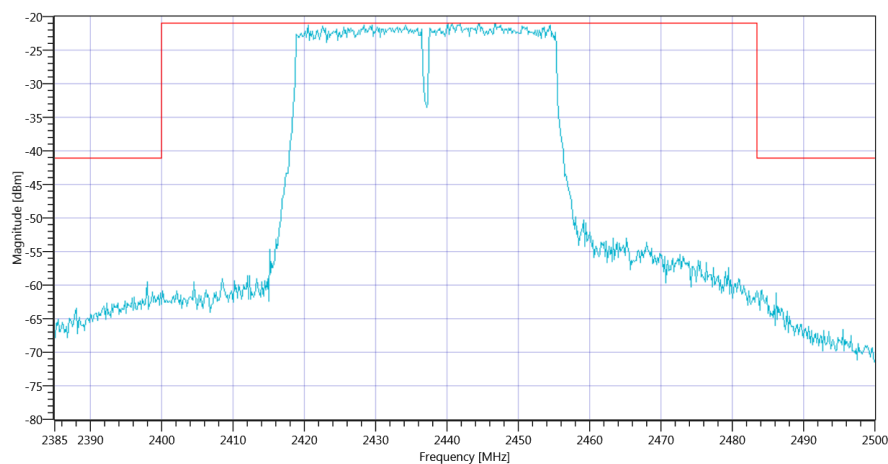
|                                                      |                       |
|------------------------------------------------------|-----------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | -4.86   0   15        |
| Start [MHz]   Stop [MHz]                             | 24530.000   25030.000 |
| RBW [MHz]   VBW [MHz]                                | 0.100000   0.300000   |
| Detector   TraceMode                                 | POS   MAXH            |
| Sweep: Time [ms]   Count   Points per Section   Type | 500   8   3001   SWE  |

### RESULT: TC\_VM\_FCC15247\_TX\_Emissions\_Conducted\_V01

| Test Description        | Lower Limit | Upper Limit | Measured | Unit | Verdict     |
|-------------------------|-------------|-------------|----------|------|-------------|
| Reference @ 2446.67 MHz | ---         | ---         | -21.02   | dBm  | Information |
| No peaks detected       | ---         | ---         |          |      | PASS        |



Plot\_FCC Part 15.247 TX Spurious Conducted ~ WLAN2G4 nHT40-mode 2437\_02092019\_154724.png



Plot\_FCC Part 15.247 TX Spurious Conducted ~ WLAN2G4 nHT40-mode 2437\_02092019\_154726.png

### TEST FINISHED

General Verdict 02.09.2019 15:47:27 / RT: 288 s

PASS

## 67. FCC Part 15.247 Maximum Peak Conducted Output Power Powermeter DTS ~ WLAN2G4 nHT40-mode

| Test References            |                                                                                                           |
|----------------------------|-----------------------------------------------------------------------------------------------------------|
| TC Start                   | 02.09.2019 15:48:09                                                                                       |
| System Version             | 1.0.0.20                                                                                                  |
| Test Specification         | FCC Part 15.247                                                                                           |
| Test Method                | DTS: KDB 558074 D01 V05 - Chapter 8.3.1.3 PKPM1 Peak-reading Power Meter Method                           |
| Class / TC Version / TC ID | TC_VM_FCC15247_Maximum_Peak_Conducted_Output_Power_Powermeter_DTS_V01<br>Version: 0.0.1   TCID_FCC15247_3 |
| My Description             | FCC 15.247 Maximum Peak Output Power Powermeter Conducted DTS - WLAN 2G4 nHT40-mode                       |
| Add. Information           |                                                                                                           |

| Test Parameter         |                                                                            |
|------------------------|----------------------------------------------------------------------------|
| Technology to test     | WLAN2G4 nHT40-mode                                                         |
| Antenna Port used      | 1                                                                          |
| Temperature            | mid                                                                        |
| Voltage                | mid                                                                        |
| Frequency low to test  | False   Freq [MHz] 2422                                                    |
| Frequency mid to test  | True   Freq [MHz] 2437                                                     |
| Frequency high to test | False   Freq [MHz] 2452                                                    |
| Switched Path          | IUT - SignalingUnit - PowerMeter                                           |
| Devices in use         | SigBT: Rohde&Schwarz,CBT-1153.9000.35,100185,CBT 6X02.P02   NRP-Z81,102585 |

## Test at TX 2437 MHz

RESULT: TC\_VM\_FCC15247\_Maximum\_Peak\_Conducted\_Output\_Power\_Powermeter\_DTS\_V01

| Test Description | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|------------------|-------------|-------------|----------|------|---------|
| Found Peak cond. | ---         | ---         | 17.24    | dBm  | PASS    |

### TEST FINISHED

General Verdict 02.09.2019 15:48:13 / RT: 3 s

PASS

## 68. FCC Part 15.247 Bandwidth 6dB DTS ~ WLAN2G4 nHT40-mode

| Test References            |                                                                       |
|----------------------------|-----------------------------------------------------------------------|
| TC Start                   | 02.09.2019 15:49:13                                                   |
| System Version             | 1.0.0.20                                                              |
| Test Specification         | FCC Part 15.247                                                       |
| Test Method                | 99                                                                    |
| Class / TC Version / TC ID | TC_VM_FCC15247_Bandwidth_6dB_DTS_V01 Version: 0.0.1   TCID_FCC15247_1 |
| My Description             | FCC 15.247 Bandwidth 6dB DTS - WLAN 2G4 nHT40_mode                    |
| Add. Information           |                                                                       |

| Test Parameter         |                                                                                                               |
|------------------------|---------------------------------------------------------------------------------------------------------------|
| Technology to test     | WLAN2G4 nHT40-mode                                                                                            |
| Antenna Port used      | 1                                                                                                             |
| Temperature            | mid                                                                                                           |
| Voltage                | mid                                                                                                           |
| Frequency low to test  | False   Freq [MHz] 2422                                                                                       |
| Frequency mid to test  | False   Freq [MHz] 2437                                                                                       |
| Frequency high to test | True   Freq [MHz] 2452                                                                                        |
| Switched Path          | IUT - SignalingUnit - SpectrumAnalyzer                                                                        |
| Devices in use         | SigBT: Rohde&Schwarz,CBT-1153.9000.35,100185,CBT 6X02.P02   SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.40 |

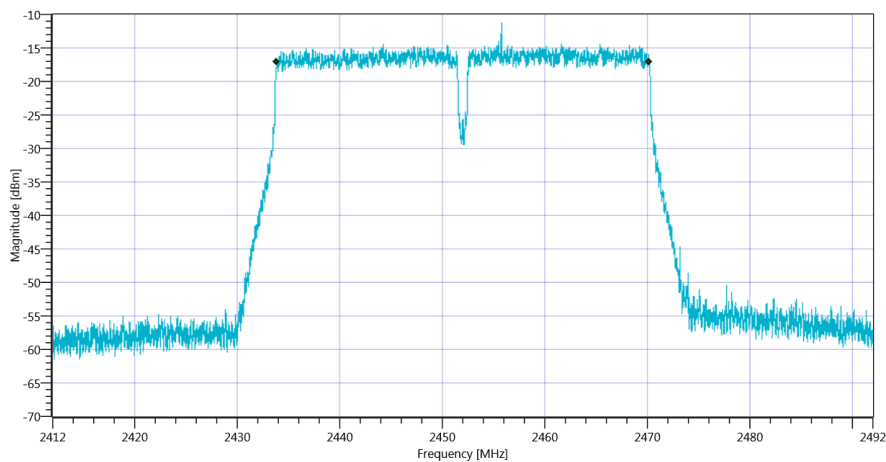
## Test at TX 2452 MHz

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 1.27   9.93   10       |
| Start [MHz]   Stop [MHz]                             | 2412.000   2492.000    |
| 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: TC\_VM\_FCC15247\_Bandwidth\_6dB\_DTS\_V01

| Test Description    | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|---------------------|-------------|-------------|----------|------|---------|
| DTS Bandwidth (6dB) | 500         | ---         | 36376    | kHz  | PASS    |



### TEST FINISHED

|                 |                                |      |
|-----------------|--------------------------------|------|
| General Verdict | 02.09.2019 15:49:38 / RT: 24 s | PASS |
|-----------------|--------------------------------|------|

## 69. FCC Part 15.247 Peak Power Spectral Density DTS ~ WLAN2G4 nHT40-mode

| Test References            |                                                                                                            |
|----------------------------|------------------------------------------------------------------------------------------------------------|
| TC Start                   | 02.09.2019 15:49:41                                                                                        |
| System Version             | 1.0.0.20                                                                                                   |
| Test Specification         | FCC Part 15.247                                                                                            |
| Test Method                | DTS: KDB 558074 D01 V05 - Chapter 8.4 DTS maximum power spectral density level in the fundamental emission |
| Class / TC Version / TC ID | TC_VM_FCC15247_Peak_Power_Spectral_Density_DTS_V01 Version: 0.0.1   TCID_FCC15247_6                        |
| My Description             | FCC 15.247 Peak Power Spectral Density DTS - WLAN 2G4 nHT40_mode                                           |
| Add. Information           |                                                                                                            |

| Test Parameter         |                                                                                                               |
|------------------------|---------------------------------------------------------------------------------------------------------------|
| Technology to test     | WLAN2G4 nHT40-mode                                                                                            |
| Antenna Port used      | 1                                                                                                             |
| Temperature            | mid                                                                                                           |
| Voltage                | mid                                                                                                           |
| Frequency low to test  | False   Freq [MHz] 2422                                                                                       |
| Frequency mid to test  | False   Freq [MHz] 2437                                                                                       |
| Frequency high to test | True   Freq [MHz] 2452                                                                                        |
| Switched Path          | IUT - SignalingUnit - SpectrumAnalyzer                                                                        |
| Devices in use         | SigBT: Rohde&Schwarz,CBT-1153.9000.35,100185,CBT 6X02.P02   SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.40 |

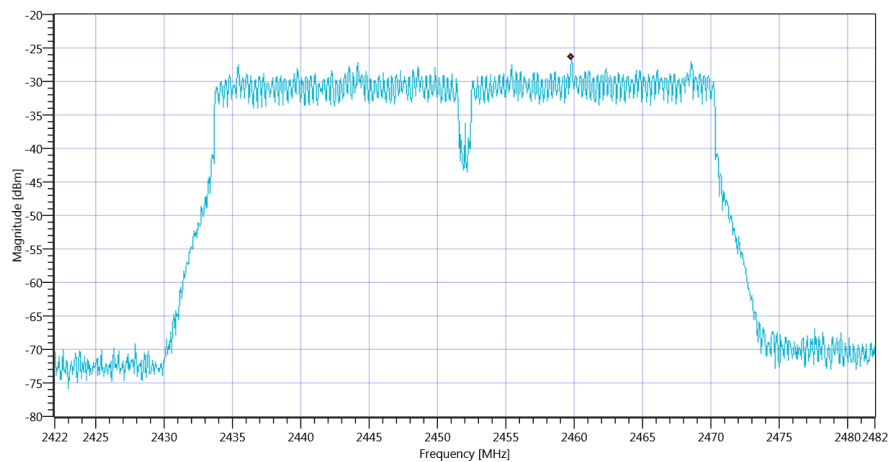
## Test at TX 2452 MHz

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 1.42   9.93   10       |
| Start [MHz]   Stop [MHz]                             | 2422.000   2482.000    |
| 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: TC\_VM\_FCC15247\_Peak\_Power\_Spectral\_Density\_DTS\_V01

| Test Description       | Lower Limit | Upper Limit | Measured | Unit     | Verdict |
|------------------------|-------------|-------------|----------|----------|---------|
| Max Peak power Density | ---         | 8           | -26.31   | dBm/3KHz | PASS    |



Plot\_FCC Part 15.247 Peak Power Spectral Density DTS ~ WLAN2G4 nHT40-mode\_02092019\_155017.png

### TEST FINISHED

|                 |                                |      |
|-----------------|--------------------------------|------|
| General Verdict | 02.09.2019 15:50:17 / RT: 35 s | PASS |
|-----------------|--------------------------------|------|

## 70. FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT40-mode

| Test References            |                                                                                   |
|----------------------------|-----------------------------------------------------------------------------------|
| TC Start                   | 02.09.2019 15:50:21                                                               |
| System Version             | 1.0.0.20                                                                          |
| Test Specification         | FCC Part 15.247                                                                   |
| Test Method                |                                                                                   |
| Class / TC Version / TC ID | TC_VM_FCC15247_Bandwidth_99PCT_20dB_DTS_FHSS_V01 Version: 0.0.2   TCID_FCC15247_2 |
| My Description             | FCC 15.247 Bandwidth 99PCT-20dB DTS - WLAN 2G4 nHT40_mode                         |
| Add. Information           |                                                                                   |

| Test Parameter         |                                                                                                               |
|------------------------|---------------------------------------------------------------------------------------------------------------|
| Technology to test     | WLAN2G4 nHT40-mode                                                                                            |
| Antenna Port used      | 1                                                                                                             |
| Temperature            | mid                                                                                                           |
| Voltage                | mid                                                                                                           |
| Frequency low to test  | False   Freq [MHz] 2422                                                                                       |
| Frequency mid to test  | False   Freq [MHz] 2437                                                                                       |
| Frequency high to test | True   Freq [MHz] 2452                                                                                        |
| Switched Path          | IUT - SignalingUnit - SpectrumAnalyzer                                                                        |
| Devices in use         | SigBT: Rohde&Schwarz,CBT-1153.9000.35,100185,CBT 6X02.P02   SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.40 |

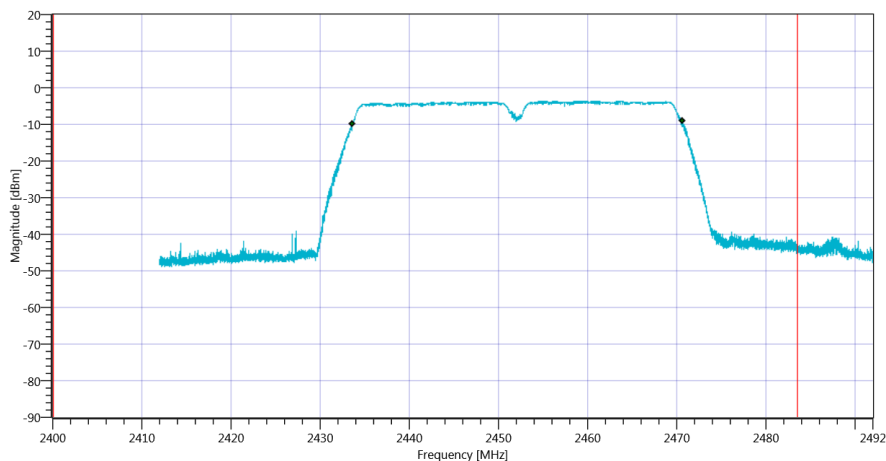
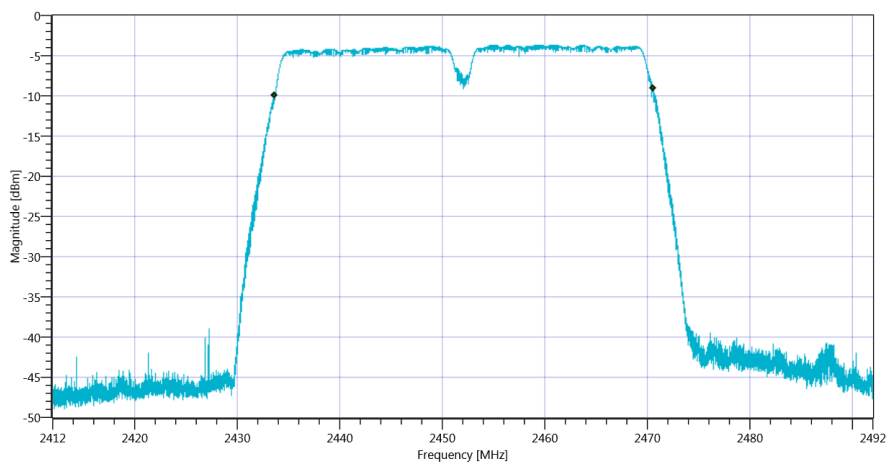
## Test at TX 2452 MHz

### READ SA SETTINGS:

|                                                      |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 1.33   9.93   10       |
| Start [MHz]   Stop [MHz]                             | 2412.000   2492.000    |
| RBW [MHz]   VBW [MHz]                                | 1.000000   2.000000    |
| Detector   TraceMode                                 | POS   MAXH             |
| Sweep: Time [ms]   Count   Points per Section   Type | 50   200   10001   SWE |

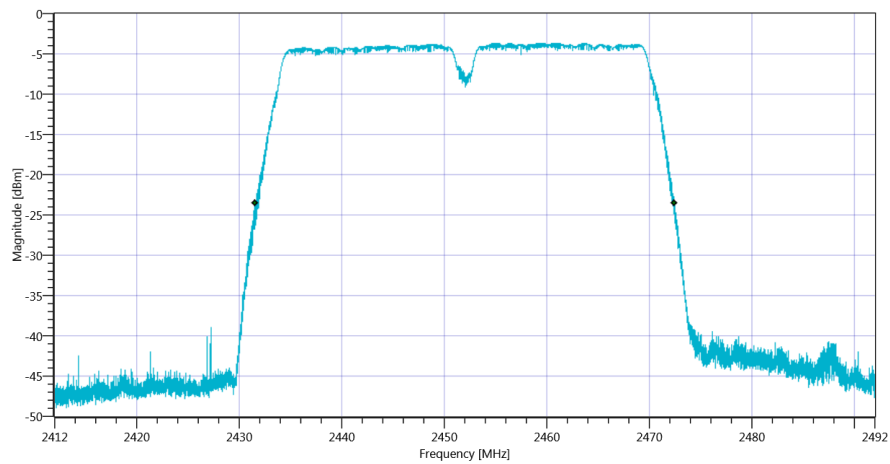
### RESULT: TC\_VM\_FCC15247\_Bandwidth\_99PCT\_20dB\_DTS\_FHSS\_V01

| Test Description | Lower Limit | Upper Limit | Measured  | Unit | Verdict     |
|------------------|-------------|-------------|-----------|------|-------------|
| Bandwidth 99%    | ---         | ---         | 36972     | kHz  | Information |
| T1 99%           | 2400.000000 | ---         | 2433.6338 | MHz  | PASS        |
| T2 99%           | ---         | 2483.500000 | 2470.6061 | MHz  | PASS        |

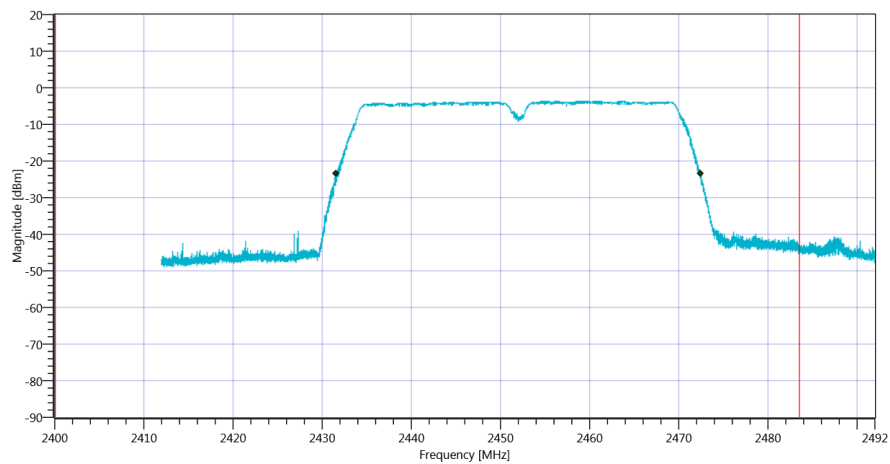


### RESULT: TC\_VM\_FCC15247\_Bandwidth\_99PCT\_20dB\_DTS\_FHSS\_V01

| Test Description | Lower Limit | Upper Limit | Measured  | Unit | Verdict     |
|------------------|-------------|-------------|-----------|------|-------------|
| Bandwidth 20dB   | ---         | ---         | 40904     | kHz  | Information |
| T1 20dB          | 2400.000000 | ---         | 2431.5440 | MHz  | PASS        |
| T2 20dB          | ---         | 2483.500000 | 2472.4480 | MHz  | PASS        |



Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT40-mode 20dB\_02092019\_155052.png



Plot\_FCC Part 15.247 Bandwidth 99PCT-20dB ~ WLAN2G4 nHT40-mode\_02092019\_155055.png

TEST FINISHED

General Verdict

02.09.2019 15:50:56 / RT: 34 s

PASS

## 71. FCC Part 15.247 TX Spurious Conducted ~ WLAN2G4 nHT40-mode

| Test References            |                                                                                                                |
|----------------------------|----------------------------------------------------------------------------------------------------------------|
| TC Start                   | 02.09.2019 15:50:59                                                                                            |
| System Version             | 1.0.0.20                                                                                                       |
| Test Specification         | FCC Part 15.247                                                                                                |
| Test Method                | IF DTS then 8.5 DTS emissions in non-restricted frequency bands: Subclause 11.11 of ANSI C63.10 is applicable. |
| Class / TC Version / TC ID | TC_VM_FCC15247_TX_Emissions_Conducted_V01 Version: 0.0.1   TCID_FCC15247_8                                     |
| My Description             | FCC 15.247 TX Emissions Conducted DTS - WLAN 2G4 nHT40_mode                                                    |
| Add. Information           |                                                                                                                |

| Test Parameter         |                                                                                                               |
|------------------------|---------------------------------------------------------------------------------------------------------------|
| Technology to test     | WLAN2G4 nHT40-mode                                                                                            |
| Antenna Port used      | 1                                                                                                             |
| Temperature            | mid                                                                                                           |
| Voltage                | mid                                                                                                           |
| Frequency low to test  | False   Freq [MHz] 2422                                                                                       |
| Frequency mid to test  | False   Freq [MHz] 2437                                                                                       |
| Frequency high to test | True   Freq [MHz] 2452                                                                                        |
| Switched Path          | IUT - SignalingUnit - SpectrumAnalyzer                                                                        |
| Devices in use         | SigBT: Rohde&Schwarz,CBT-1153.9000.35,100185,CBT 6X02.P02   SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.40 |

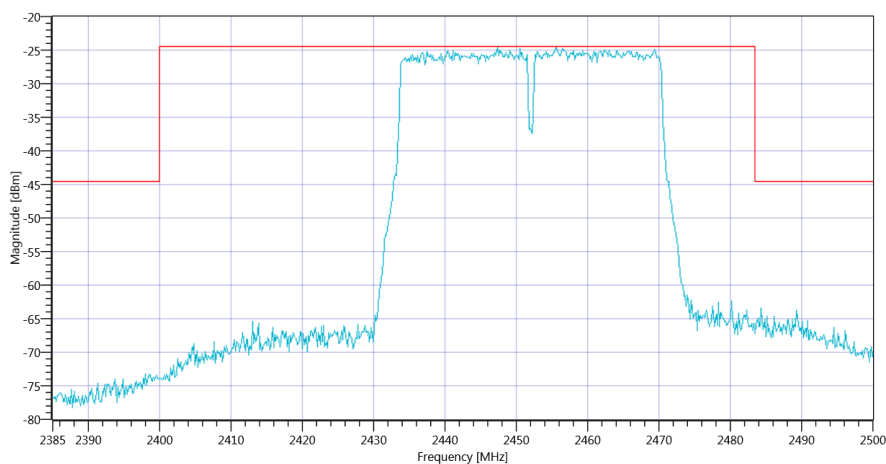
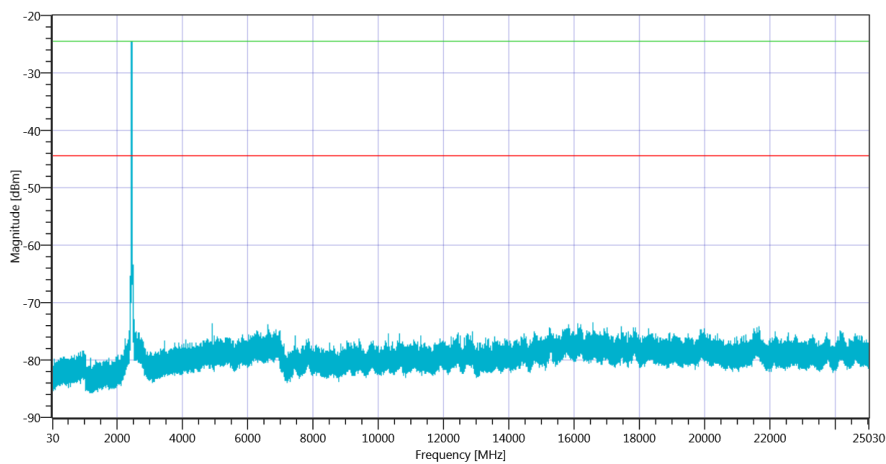
## Test at TX 2452 MHz

### READ SA SETTINGS:

|                                                      |                       |
|------------------------------------------------------|-----------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | -8.29   0   10        |
| Start [MHz]   Stop [MHz]                             | 24530.000   25030.000 |
| RBW [MHz]   VBW [MHz]                                | 0.100000   0.300000   |
| Detector   TraceMode                                 | POS   MAXH            |
| Sweep: Time [ms]   Count   Points per Section   Type | 500   8   3001   SWE  |

### RESULT: TC\_VM\_FCC15247\_TX\_Emissions\_Conducted\_V01

| Test Description        | Lower Limit | Upper Limit | Measured | Unit | Verdict     |
|-------------------------|-------------|-------------|----------|------|-------------|
| Reference @ 2447.33 MHz | ---         | ---         | -24.51   | dBm  | Information |
| No peaks detected       | ---         | ---         |          |      | PASS        |



### TEST FINISHED

General Verdict 02.09.2019 15:55:48 / RT: 288 s

PASS

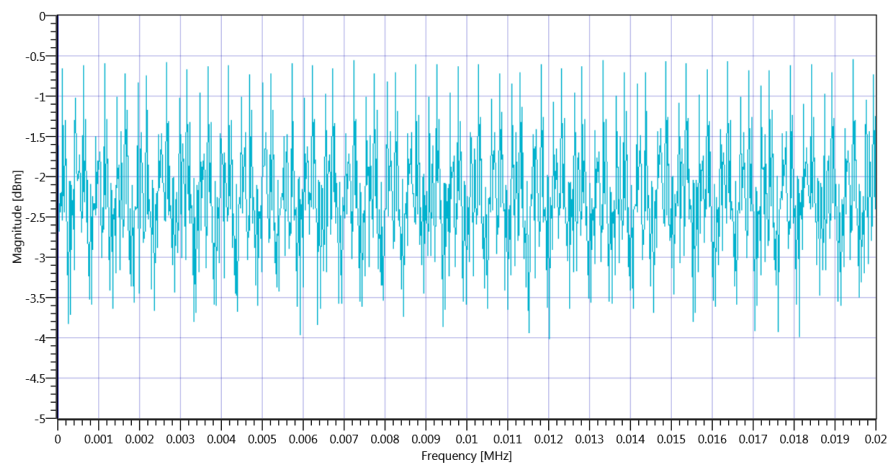
## 72. FCC Part 15.247 Restricted Band Edge Conducted Avg DC corrected DTS ~ WLAN2G4 nHT40-mode

| Test References            |                                                                                                                                                                                    |
|----------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| TC Start                   | 02.09.2019 15:55:51                                                                                                                                                                |
| System Version             | 1.0.0.20                                                                                                                                                                           |
| Test Specification         | FCC Part 15.247                                                                                                                                                                    |
| Test Method                | DTS: KDB 558074 D01 V05 - 8.7.3 Integration Method; ANSI C63.10-2013 11.13.3.4 Trace averaging across on- and off-times of the EUT transmissions followed by duty cycle correction |
| Class / TC Version / TC ID | TC_VM_FCC15247_Restricted_Band_Edge_Conducted_Avg_DC_corrected_V01 Version: 0.0.1   TCID_FCC15247_7                                                                                |
| My Description             | FCC 15.247 Restricted Band Edge Cond. Avg DC corrected DTS - WLAN 2G4 nHT40_mode                                                                                                   |
| Add. Information           |                                                                                                                                                                                    |

| Test Parameter         |                                                                                                               |
|------------------------|---------------------------------------------------------------------------------------------------------------|
| Technology to test     | WLAN2G4 nHT40-mode                                                                                            |
| Antenna Port used      | 1                                                                                                             |
| Temperature            | mid                                                                                                           |
| Voltage                | mid                                                                                                           |
| Frequency low to test  | False   Freq [MHz] 2422                                                                                       |
| Frequency mid to test  | False   Freq [MHz] 2437                                                                                       |
| Frequency high to test | True   Freq [MHz] 2452                                                                                        |
| Switched Path          | IUT - SignalingUnit - SpectrumAnalyzer                                                                        |
| Devices in use         | SigBT: Rohde&Schwarz,CBT-1153.9000.35,100185,CBT 6X02.P02   SA: Rohde&Schwarz,FSV-30,1321.3008K30/103170,3.40 |

## Test at TX 2452 MHz

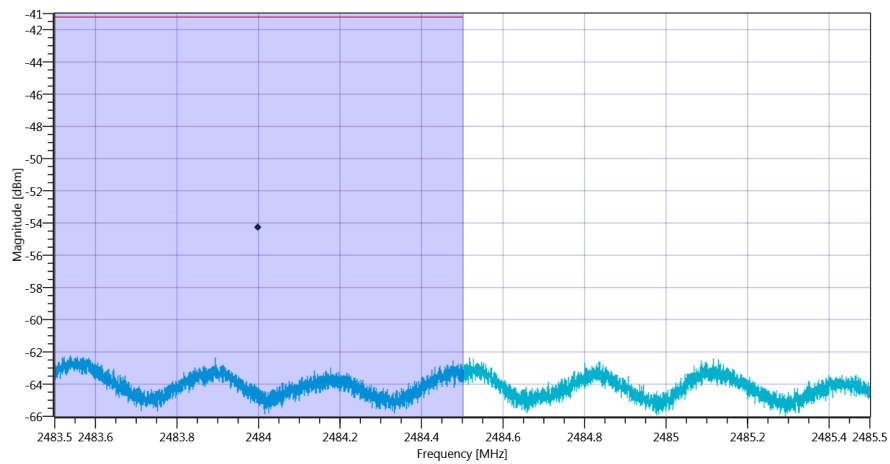
| RESULT: Duty Cycle evaluation                              |             |             |          |      |             |
|------------------------------------------------------------|-------------|-------------|----------|------|-------------|
| Test Description                                           | Lower Limit | Upper Limit | Measured | Unit | Verdict     |
| No enough Bursts detected, Duty Cycle Burst Ratio set to 1 |             |             |          |      |             |
| Duty Cycle (Burst Ratio) max                               | ---         | ---         | 1        | ---  | Information |
| Duty Cycle max                                             | ---         | ---         | 0        | dB   | Information |
| Duty Cycle (Burst Ratio) min                               | ---         | ---         | 1        | ---  | Information |
| Duty Cycle min                                             | ---         | ---         | 0        | dB   | Information |



Plot\_FCC Part 15.247 Restricted Band Edge Conducted Avg DC corrected DTS ~ WLAN2G4 nHT40-mode 2452 MHz - Duty Cycle\_02092019\_155604.png

| READ SA SETTINGS:                                    |                        |
|------------------------------------------------------|------------------------|
| RefLevel [dBm]   RefLevelOffset [dB]   InpAtt [dB]   | 6.28   9.93   15       |
| Start [MHz]   Stop [MHz]                             | 2483.500   2485.500    |
| RBW [MHz]   VBW [MHz]                                | 0.100000   0.500000    |
| Detector   TraceMode                                 | RMS   AVER             |
| Sweep: Time [ms]   Count   Points per Section   Type | 32   300   32000   SWE |
| Marker Method                                        | Band Power             |

| RESULT: TC_VM_FCC15247_Restricted_Band_Edge_Conducted_Avg_DC_corrected_V01 |             |             |          |      |             |
|----------------------------------------------------------------------------|-------------|-------------|----------|------|-------------|
| Test Description                                                           | Lower Limit | Upper Limit | Measured | Unit | Verdict     |
| Duty Cycle worst case                                                      | ---         | ---         | 0        | dB   | Information |
| Band Power without Antenna Gain Avg                                        | ---         | ---         | -54.28   | dBm  | Information |
| Band Power without Antenna Gain Avg DC corrected                           | ---         | ---         | -54.28   | dBm  | Information |
| Band Power incl. Antenna Gain Avg DC corrected                             | ---         | -41.23      | -54.28   | dBm  | PASS        |



Plot\_FCC Part 15.247 Restricted Band Edge Conducted Avg DC corrected DTS ~ WLAN2G4 nHT40-mode\_02092019\_155626.png

TEST FINISHED

General Verdict

02.09.2019 15:56:26 / RT: 34 s

PASS

## 73. FCC Part 15.247 Maximum Peak Conducted Output Power Powermeter DTS ~ WLAN2G4 nHT40-mode

| Test References            |                                                                                                           |
|----------------------------|-----------------------------------------------------------------------------------------------------------|
| TC Start                   | 02.09.2019 15:56:30                                                                                       |
| System Version             | 1.0.0.20                                                                                                  |
| Test Specification         | FCC Part 15.247                                                                                           |
| Test Method                | DTS: KDB 558074 D01 V05 - Chapter 8.3.1.3 PKPM1 Peak-reading Power Meter Method                           |
| Class / TC Version / TC ID | TC_VM_FCC15247_Maximum_Peak_Conducted_Output_Power_Powermeter_DTS_V01<br>Version: 0.0.1   TCID_FCC15247_3 |
| My Description             | FCC 15.247 Maximum Peak Output Power Powermeter Conducted DTS - WLAN 2G4 nHT40-mode                       |
| Add. Information           |                                                                                                           |

| Test Parameter         |                                                                            |
|------------------------|----------------------------------------------------------------------------|
| Technology to test     | WLAN2G4 nHT40-mode                                                         |
| Antenna Port used      | 1                                                                          |
| Temperature            | mid                                                                        |
| Voltage                | mid                                                                        |
| Frequency low to test  | False   Freq [MHz] 2422                                                    |
| Frequency mid to test  | False   Freq [MHz] 2437                                                    |
| Frequency high to test | True   Freq [MHz] 2452                                                     |
| Switched Path          | IUT - SignalingUnit - PowerMeter                                           |
| Devices in use         | SigBT: Rohde&Schwarz,CBT-1153.9000.35,100185,CBT 6X02.P02   NRP-Z81,102585 |

## Test at TX 2452 MHz

RESULT: TC\_VM\_FCC15247\_Maximum\_Peak\_Conducted\_Output\_Power\_Powermeter\_DTS\_V01

| Test Description | Lower Limit | Upper Limit | Measured | Unit | Verdict |
|------------------|-------------|-------------|----------|------|---------|
| Found Peak cond. | ---         | ---         | 13.67    | dBm  | PASS    |

### TEST FINISHED

General Verdict

02.09.2019 15:56:34 / RT: 4 s

PASS

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- END OF DOCUMENT -

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