

Annex 1: Measurement diagrams 21-1-0171401T01a-C02-A1

| | | | |
|---|--|------------------------|-------------|
| Number of pages: | 64 | Date of Report: | 2023-May-02 |
| Testing company: | CETECOM GmbH Im Teelbruch 116 45219 Essen Germany Tel. + 49 (0) 20 54 / 95 19-0 Fax: + 49 (0) 20 54 / 95 19-150 | Applicant: | Siemens AG |
| Product: | Vibration and temperature sensor | | |
| Model: | SITRANS MS200 | | |
| FCC ID: | LYH-MS200 | IC: | 267AA-MS200 |
| Testing has been carried out in accordance with: | Title 47 CFR, Chapter I FCC Regulations, Subchapter A Subpart C: §15.247 (DTS) RSS-247, Issue 2 (DTS) RSS-Gen, Issue 5 Deviations, modifications or clarifications (if any) to above mentioned documents are written in each section under "Test method and limit". | | |

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1 Measurement diagrams

1.1 Radiated measurements

2.01a_BLE_LE_low_laying

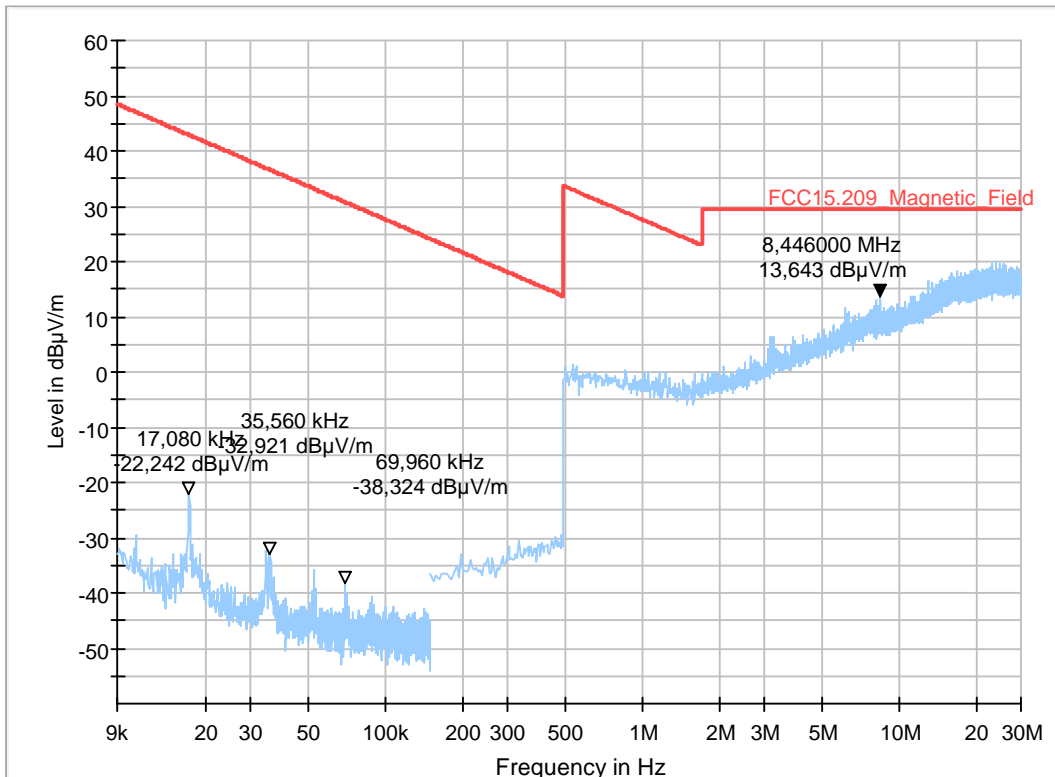
Common Information

| | |
|--------------------------|---|
| Test Description: | Magnetic Field Strength Measurement related to 30/300 m distance |
| Test Site Location: | Ref.-Nr. 441 Semi Anechoic Chamber (SAC1) with 3 m measurement distance |
| Version of Testsoftware: | EMC32 V10.50.0 |
| Distance correction: | used accord. table, pls. see test report |
| Technical Data: | Please see page 2 for detailed data of measurement setup |
| Rec. antenna (pre-scan): | height 1.00 m, parallel and 90° to EUT polarisation |
| Used Filter: | bypass |
| Test Standard: | FCC 15.205 § 15.209; RSS-Gen: Issue 5 |

| | |
|----------------------------|---------------------------------------|
| Operator: | HEI |
| Operating Mode: | BLE CH:00 |
| Power during tests: | 12 VDC over AE AC/DC |
| Comment 1: | Channel low |
| Comment 2: | - |
| Environmental Conditions:: | Humidity : 40% rH; Temperature: 19 °C |
| EUT Setup: | 1 |
| Verdict: | Passed |

EUT Information

PMT number: 21-1-01714S16_C01
Full Spectrum



2.01b_BLE_LE_low_standing

Common Information

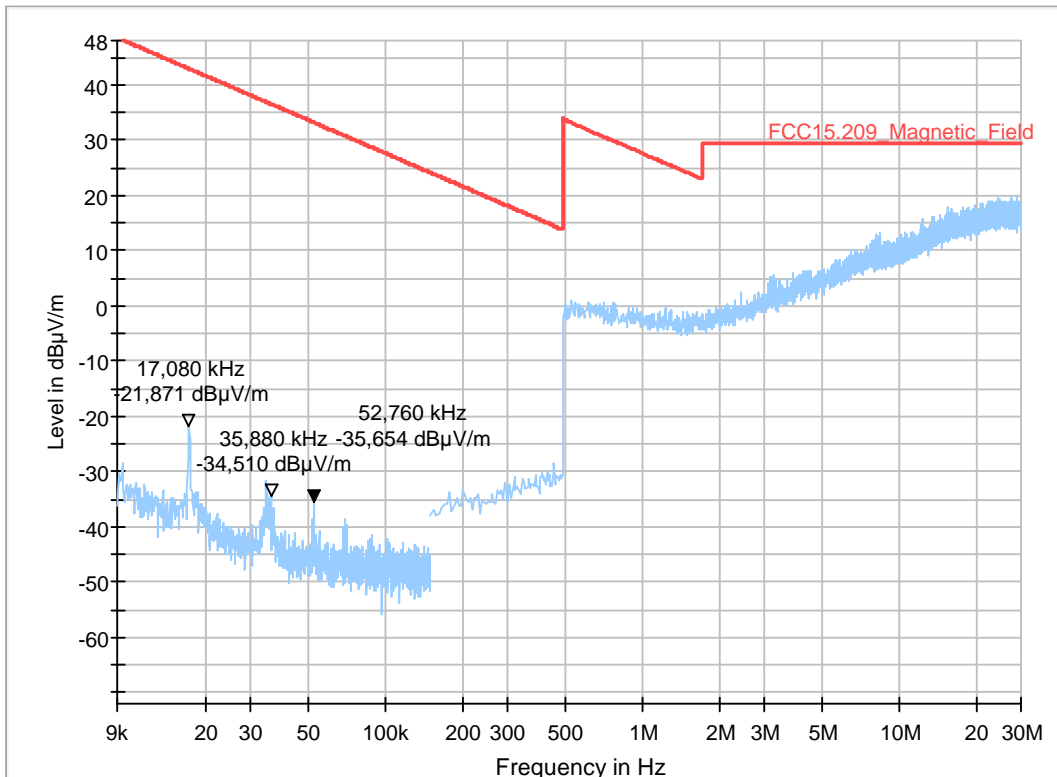
| | |
|--------------------------|---|
| Test Description: | Magnetic Field Strength Measurement related to 30/300 m distance |
| Test Site Location: | Ref.-Nr. 441 Semi Anechoic Chamber (SAC1) with 3 m measurement distance |
| Version of Testsoftware: | EMC32 V10.50.0 |
| Distance correction: | used accord. table, pls. see test report |
| Technical Data: | Please see page 2 for detailed data of measurement setup |
| Rec. antenna (pre-scan): | height 1.00 m, parallel and 90° to EUT polarisation |
| Used Filter: | bypass |
| Test Standard: | FCC 15.205 § 15.209; RSS-Gen: Issue 5 |

| | |
|---------------------------|---------------------------------------|
| Operator: | HEI |
| Operating Mode: | BLE CH:00 |
| Power during tests: | 12 VDC over AE AC/DC |
| Comment 1: | Channel low |
| Comment 2: | - |
| Environmental Conditions: | Humidity : 40% rH; Temperature: 19 °C |
| EUT Setup: | 1 |
| Verdict: | Passed |
| Comment: | - |

EUT Information

PMT number: 21-1-01714S16_C01

Full Spectrum



2.02a_BLE_LE_mid_laying

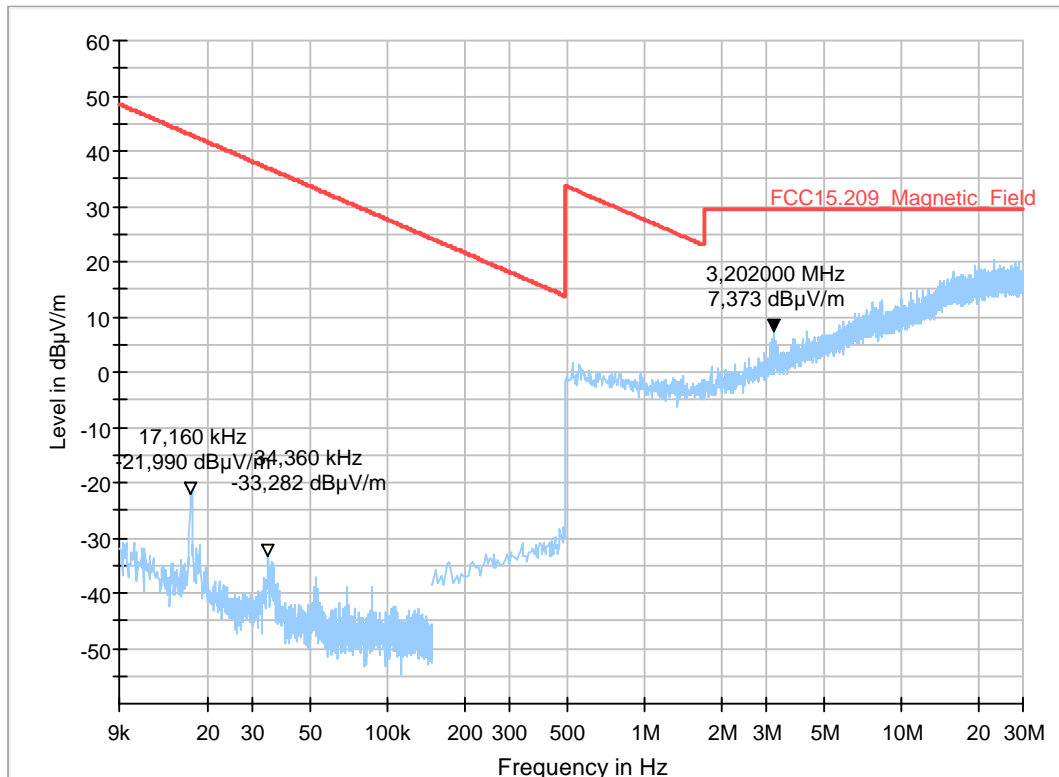
Common Information

| | |
|---------------------------|---|
| Test Description: | Magnetic Field Strength Measurement related to 30/300 m distance |
| Test Site Location: | Ref.-Nr. 441 Semi Anechoic Chamber (SAC1) with 3 m measurement distance |
| Version of Testsoftware: | EMC32 V10.50.0 |
| Distance correction: | used accord. table, pls. see test report |
| Technical Data: | Please see page 2 for detailed data of measurement setup |
| Rec. antenna (pre-scan): | height 1.00 m, parallel and 90° to EUT polarisation |
| Used Filter: | bypass |
| Test Standard: | FCC 15.205 § 15.209; RSS-Gen: Issue 5 |
| | |
| Operator: | HEI |
| Operating Mode: | BLE CH:19 |
| Power during tests: | 12 VDC over AE AC/DC |
| Comment 1: | Channel middle |
| Comment 2: | - |
| Environmental Conditions: | Humidity : 40% rH; Temperature: 19 °C |
| EUT Setup: | 1 |
| Verdict: | Passed |
| Comment: | - |

EUT Information

PMT number: 21-1-01714S16_C01

Full Spectrum



2.02b_BLE_LE_high_standing

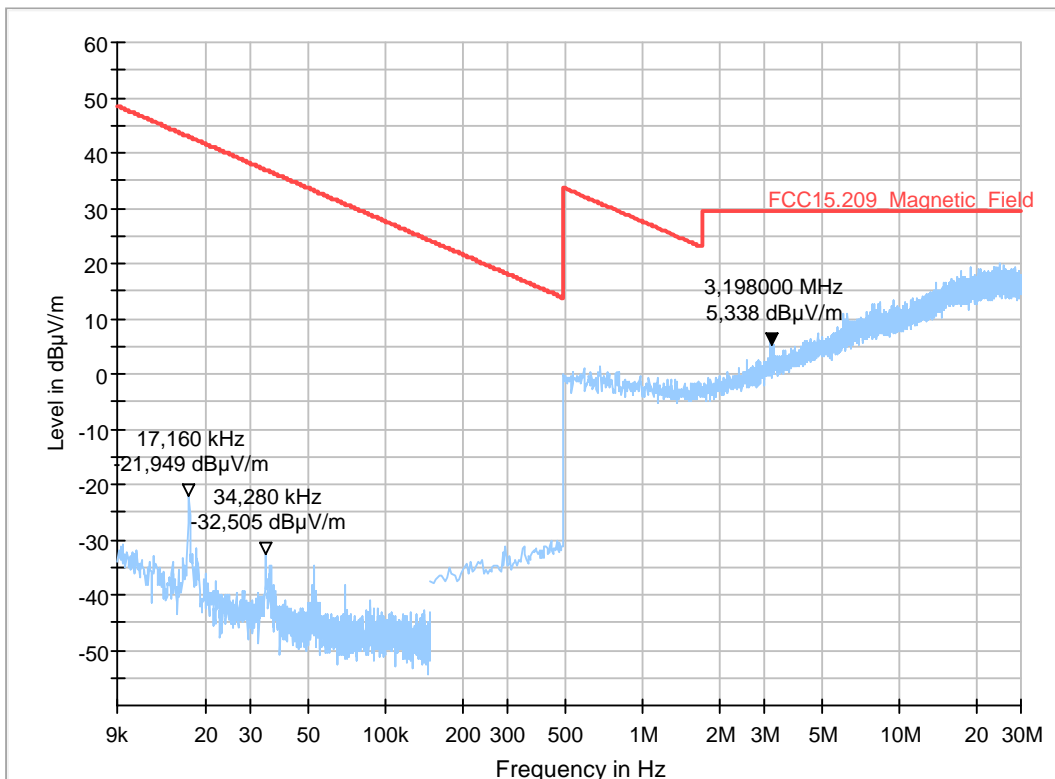
Common Information

| | |
|---------------------------|---|
| Test Description: | Magnetic Field Strength Measurement related to 30/300 m distance |
| Test Site Location: | Ref.-Nr. 441 Semi Anechoic Chamber (SAC1) with 3 m measurement distance |
| Version of Testsoftware: | EMC32 V10.50.0 |
| Distance correction: | used accord. table, pls. see test report |
| Technical Data: | Please see page 2 for detailed data of measurement setup |
| Rec. antenna (pre-scan): | height 1.00 m, parallel and 90° to EUT polarisation |
| Used Filter: | bypass |
| Test Standard: | FCC 15.205 § 15.209; RSS-Gen: Issue 5 |
| | |
| Operator: | HEI |
| Operating Mode: | BLE CH:19 |
| Power during tests: | 12 VDC over AE AC/DC |
| Comment 1: | Channel middle |
| Comment 2: | - |
| Environmental Conditions: | Humidity : 40% rH; Temperature: 19 °C |
| EUT Setup: | 1 |
| Verdict: | Passed |
| Comment: | - |

EUT Information

PMT number: 21-1-01714S16_C01

Full Spectrum



2.03a_BLE_LE_high_laying

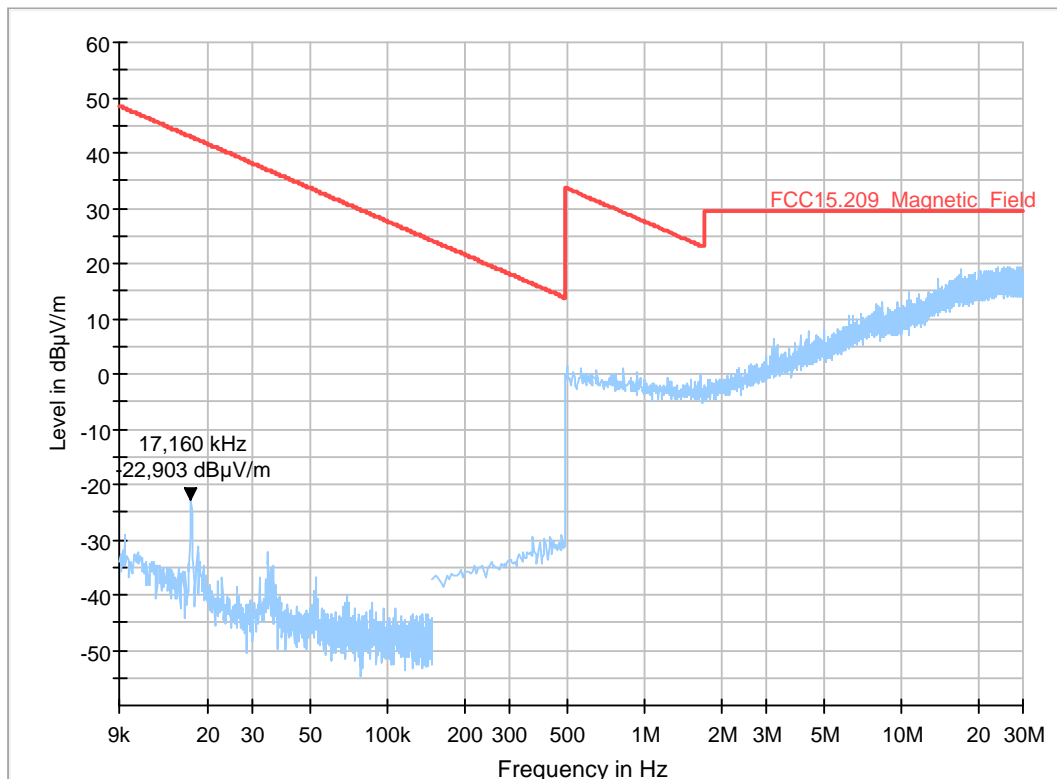
Common Information

| | |
|----------------------------|---|
| Test Description: | Magnetic Field Strength Measurement related to 30/300 m distance |
| Test Site Location: | Ref.-Nr. 441 Semi Anechoic Chamber (SAC1) with 3 m measurement distance |
| Version of Testsoftware: | EMC32 V10.50.0 |
| Distance correction: | used accord. table, pls. see test report |
| Technical Data: | Please see page 2 for detailed data of measurement setup |
| Rec. antenna (pre-scan): | height 1.00 m, parallel and 90° to EUT polarisation |
| Used Filter: | bypass |
| Test Standard: | FCC 15.205 § 15.209; RSS-Gen: Issue 5 |
| | |
| Operator: | HEI |
| Operating Mode: | BLE CH:39 |
| Power during tests: | 12 VDC over AE AC/DC |
| Comment 1: | Channel high |
| Comment 2: | - |
| Environmental Conditions:: | Humidity : 40% rH; Temperature: 19 °C |
| EUT Setup: | 1 |
| Verdict: | Passed |
| Comment: | - |

EUT Information

PMT number: 21-1-01714S16_C01

Full Spectrum



2.03b_BLE_LE_high_standing

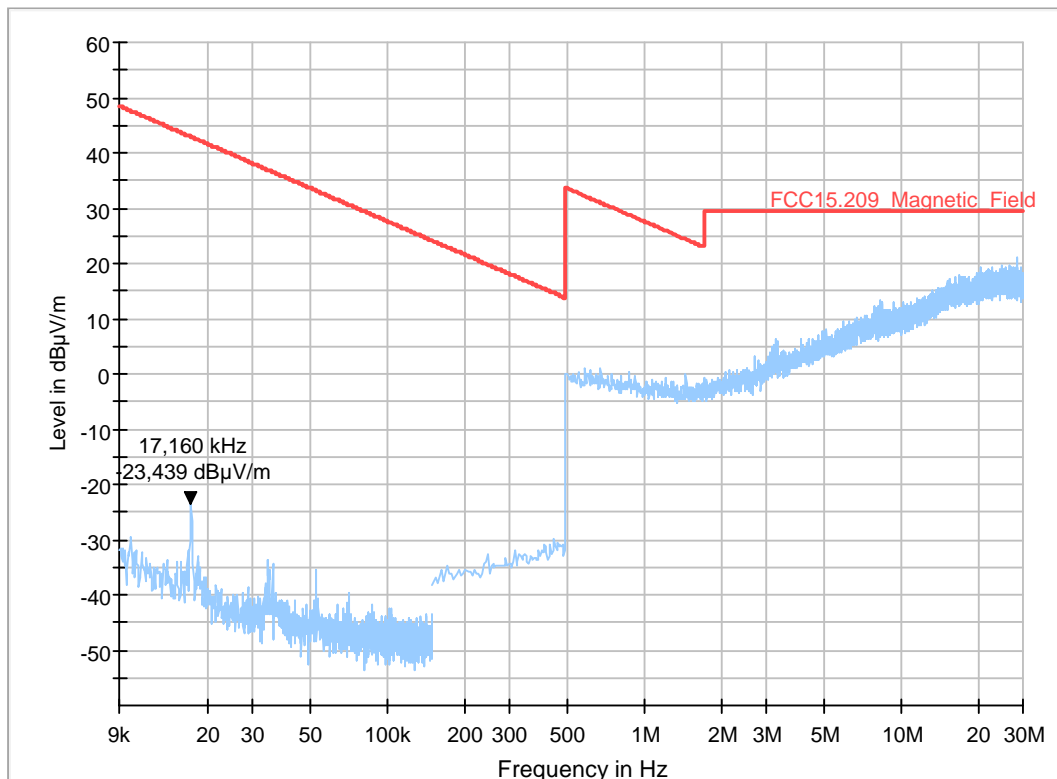
Common Information

| | |
|---------------------------|---|
| Test Description: | Magnetic Field Strength Measurement related to 30/300 m distance |
| Test Site Location: | Ref.-Nr. 441 Semi Anechoic Chamber (SAC1) with 3 m measurement distance |
| Version of Testsoftware: | EMC32 V10.50.0 |
| Distance correction: | used accord. table, pls. see test report |
| Technical Data: | Please see page 2 for detailed data of measurement setup |
| Rec. antenna (pre-scan): | height 1.00 m, parallel and 90° to EUT polarisation |
| Used Filter: | bypass |
| Test Standard: | FCC 15.205 § 15.209; RSS-Gen: Issue 5 |
| Operator: | HEI |
| Operating Mode: | 1 |
| Power during tests: | 12 V DC |
| Comment 1: | Channel high |
| Comment 2: | - |
| Environmental Conditions: | Humidity : 40% rH; Temperature: 19 °C |
| EUT Setup: | 1 |
| Verdict: | Passed |
| Comment: | - |

EUT Information

PMT number: 21-1-01714S16_C01

Full Spectrum



3.01a_BLE_LE_low_laying

Common Information

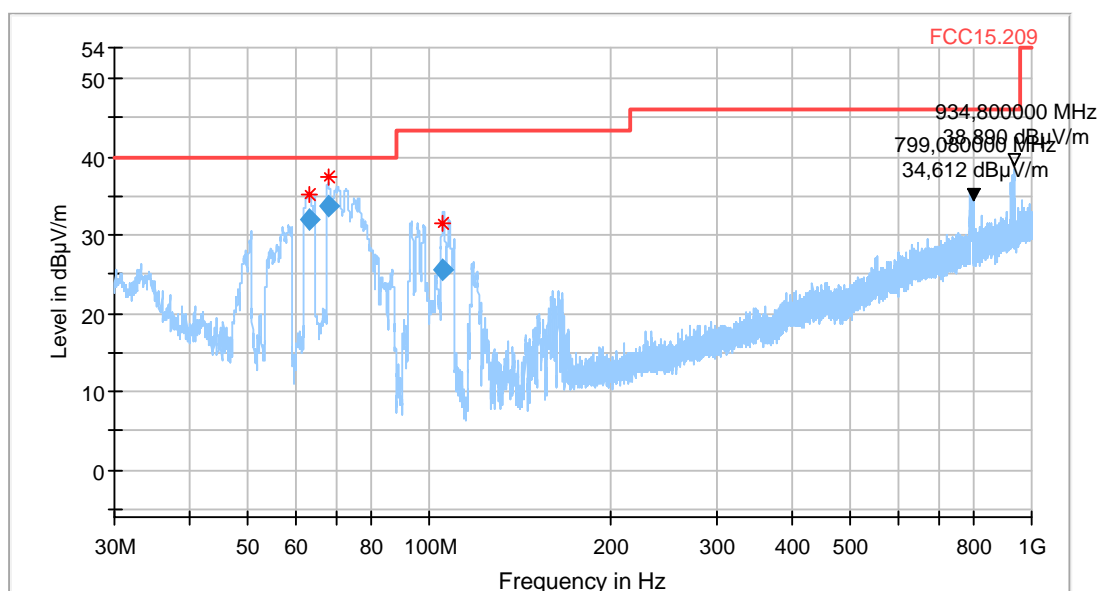
Test Description: Radiated field strength emission in 3m distance
 Test Site: CETECOM GmbH Essen
 Test Standard: FCC 15.205&15.209 & RSS Gen. Issue 5
 Antenna polarisation: horizontal/vertical

Environmental Conditions: Humidity : 40% rH; Temperature: 19 °C
 Operator Name: HEI
 EUT Setup: 1
 Operating Mode: 1
 Power supply: 12 V DC
 Comment: Channel no. low
 Verdict: Passed

EUT Information

PMT number: 21-1-01714S16_C01

Full Spectrum



Remark: Peaks @ 799 and 934 MHz are caused by external interferers.

Final_Result

| Frequency (MHz) | QuasiPeak (dB μ V/m) | Limit (dB μ V/m) | Margin (dB) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) | Sig Path (dB) | Preamp (dB) | Trd Corr. (dB/m) |
|-----------------|--------------------------|----------------------|-------------|-----------------|-------------|-----|---------------|--------------|---------------|-------------|------------------|
| 63.063000 | 32.05 | 40.00 | 7.95 | 120.000 | 148.0 | V | 120.0 | 7.8 | 0.0 | 0.8 | 7.0 |
| 67.983000 | 33.67 | 40.00 | 6.33 | 120.000 | 191.0 | V | 82.0 | 6.8 | 0.0 | 0.8 | 6.0 |
| 105.599000 | 25.59 | 43.50 | 17.91 | 120.000 | 111.0 | V | 0.0 | 8.1 | 0.0 | 1.0 | 7.1 |

(continuation of the "Final_Result" table from column 19 ...)

| Frequency (MHz) | Raw Rec (dB μ V) |
|-----------------|----------------------|
| 63.063000 | 24.2 |
| 67.983000 | 26.9 |
| 105.599000 | 17.5 |

3.01b_BLE_LE_low_standing

Common Information

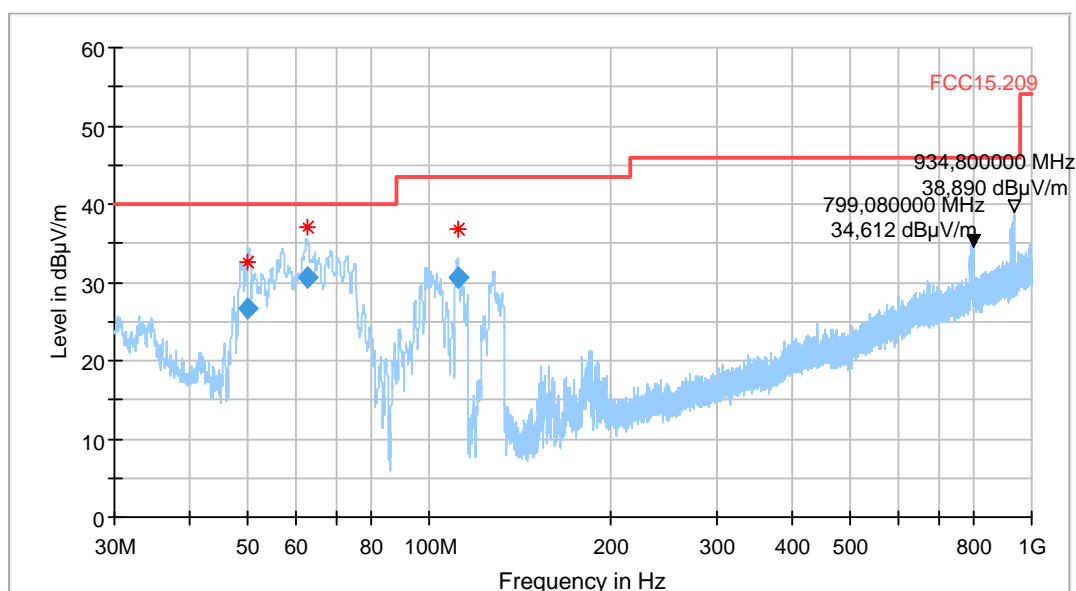
Test Description: Radiated field strength emission in 3m distance
 Test Site: CETECOM GmbH Essen
 Test Standard: FCC 15.205&15.209 & RSS Gen. Issue 5
 Antenna polarisation: horizontal/vertical

Environmental Conditions: Humidity : 40% rH; Temperature: 19 °C
 Operator Name: HEI
 EUT Setup: 1
 Operating Mode: 1
 Power supply: 12 V DC
 Comment: Channel no. low
 Verdict: Passed

EUT Information

PMT number: 21-1-01714S16_C01

Full Spectrum



Remark: Peaks @ 799 and 934 MHz are caused by external interferers.

Final_Result

| Frequency (MHz) | QuasiPeak (dB μ V/m) | Limit (dB μ V/m) | Margin (dB) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) | Sig Path (dB) | Preamp (dB) | Trd Corr. (dB/m) |
|-----------------|--------------------------|----------------------|-------------|-----------------|-------------|-----|---------------|--------------|---------------|-------------|------------------|
| 50.043000 | 26.71 | 40.00 | 13.29 | 120.000 | 105.0 | V | 174.0 | 12.9 | 0.0 | 0.7 | 12.2 |
| 62.665000 | 30.72 | 40.00 | 9.28 | 120.000 | 176.0 | V | 307.0 | 8.0 | 0.0 | 0.8 | 7.2 |
| 111.475000 | 30.73 | 43.50 | 12.77 | 120.000 | 105.0 | V | 357.0 | 8.1 | 0.0 | 1.2 | 7.0 |

(continuation of the "Final_Result" table from column 19 ...)

| Frequency (MHz) | Raw Rec (dB μ V) |
|-----------------|----------------------|
| 50.043000 | 13.8 |
| 62.665000 | 22.8 |
| 111.475000 | 22.6 |

3.02a_BLE_LE_mid_laying

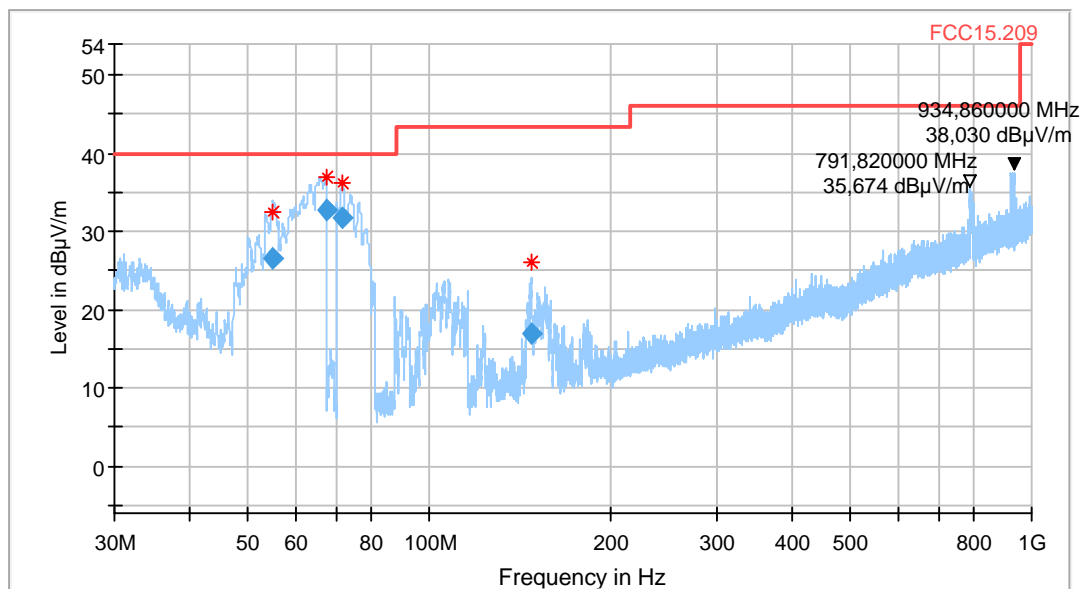
Common Information

| | |
|----------------------------|---|
| Test Description: | Radiated field strength emission in 3m distance |
| Test Site: | CETECOM GmbH Essen |
| Test Standard: | FCC 15.205&15.209 & RSS Gen. Issue 5 |
| Antenna polarisation: | horizontal/vertical |
| Environmental Conditions:: | Humidity : 40% rH; Temperature: 19 °C |
| Operator Name: | HEI |
| EUT Setup: | 1 |
| Operating Mode: | 1 |
| Power supply: | 12 V DC |
| Comment: | Channel no. mid |
| Verdict: | Passed |

EUT Information

PMT number: 21-1-01714S16_C01

Full Spectrum



Remark: Peaks @ 791 and 934 MHz are caused by external interferers.

Final_Result

| Frequency (MHz) | QuasiPeak (dB μ V/m) | Limit (dB μ V/m) | Margin (dB) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) | Sig Path (dB) | Preamp (dB) | Trd Corr. (dB/m) |
|-----------------|--------------------------|----------------------|-------------|-----------------|-------------|-----|---------------|--------------|---------------|-------------|------------------|
| 55.055000 | 26.71 | 40.00 | 13.29 | 120.000 | 112.0 | V | 43.0 | 11.1 | 0.0 | 0.7 | 10.4 |
| 67.565000 | 32.66 | 40.00 | 7.34 | 120.000 | 109.0 | V | 330.0 | 6.8 | 0.0 | 0.8 | 6.0 |
| 71.735000 | 31.67 | 40.00 | 8.33 | 120.000 | 143.0 | V | 306.0 | 6.6 | 0.0 | 0.8 | 5.8 |
| 147.395000 | 16.88 | 43.50 | 26.62 | 120.000 | 112.0 | V | 98.0 | 8.6 | 0.0 | 1.1 | 7.5 |

(continuation of the "Final_Result" table from column 19 ...)

| Frequency (MHz) | Raw Rec (dB μ V) |
|-----------------|----------------------|
| 55.055000 | 15.6 |
| 67.565000 | 25.8 |
| 71.735000 | 25.1 |
| 147.395000 | 8.3 |

3.02b_BLE_LE_mid_standing

Common Information

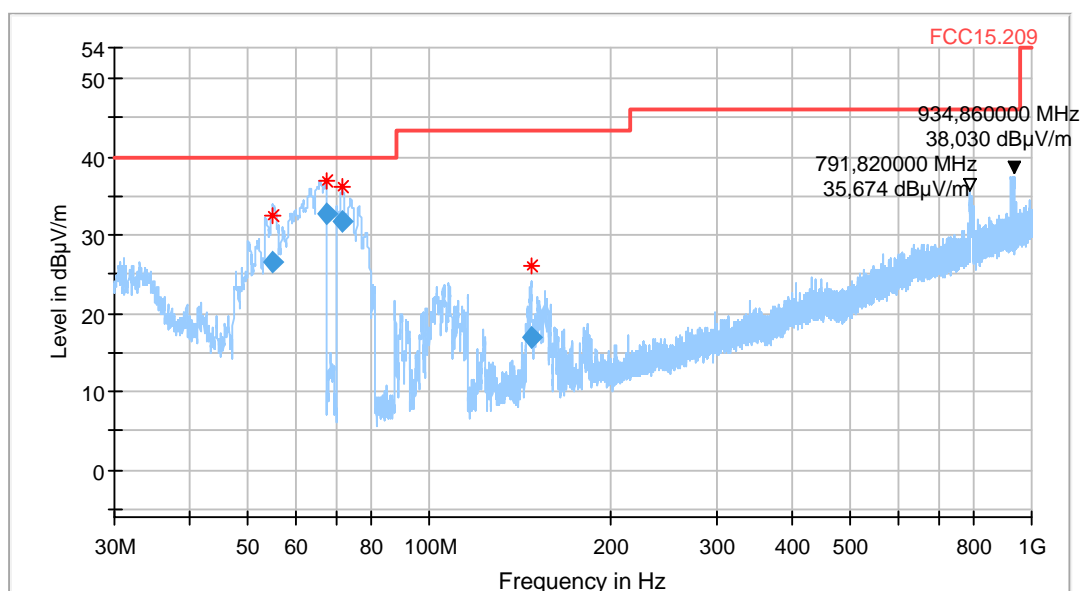
Test Description: Radiated field strength emission in 3m distance
 Test Site: CETECOM GmbH Essen
 Test Standard: FCC 15.205&15.209 & RSS Gen. Issue 5
 Antenna polarisation: horizontal/vertical

Environmental Conditions: Humidity : 40% rH; Temperature: 19 °C
 Operator Name: HEI
 EUT Setup: 1
 Operating Mode: 1
 Power supply: 12 V DC
 Comment: Channel no. mid
 Verdict: Passed

EUT Information

PMT number: 21-1-01714S16_C01

Full Spectrum



Remark: Peaks @ 791 and 934 MHz are caused by external interferers.

Final_Result

| Frequency (MHz) | QuasiPeak (dB μ V/m) | Limit (dB μ V/m) | Margin (dB) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) | Sig Path (dB) | Preamp (dB) | Trd Corr. (dB/m) |
|-----------------|--------------------------|----------------------|-------------|-----------------|-------------|-----|---------------|--------------|---------------|-------------|------------------|
| 55.055000 | 26.71 | 40.00 | 13.29 | 120.000 | 112.0 | V | 43.0 | 11.1 | 0.0 | 0.7 | 10.4 |
| 67.565000 | 32.66 | 40.00 | 7.34 | 120.000 | 109.0 | V | 330.0 | 6.8 | 0.0 | 0.8 | 6.0 |
| 71.735000 | 31.67 | 40.00 | 8.33 | 120.000 | 143.0 | V | 306.0 | 6.6 | 0.0 | 0.8 | 5.8 |
| 147.395000 | 16.88 | 43.50 | 26.62 | 120.000 | 112.0 | V | 98.0 | 8.6 | 0.0 | 1.1 | 7.5 |

(continuation of the "Final_Result" table from column 19 ...)

| Frequency (MHz) | Raw Rec (dB μ V) |
|-----------------|----------------------|
| 55.055000 | 15.6 |
| 67.565000 | 25.8 |
| 71.735000 | 25.1 |
| 147.395000 | 8.3 |

3.03a_BLE_LE_high_laying

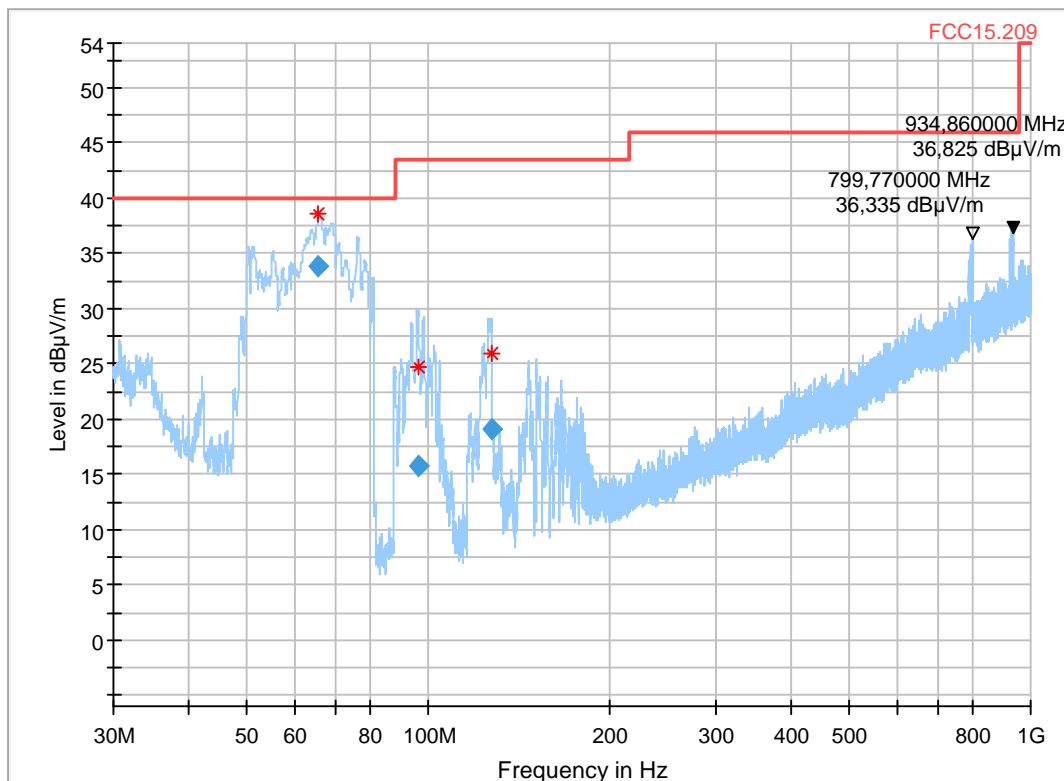
Common Information

| | |
|---------------------------|---|
| Test Description: | Radiated field strength emission in 3m distance |
| Test Site: | CETECOM GmbH Essen |
| Test Standard: | FCC 15.205&15.209 & RSS Gen. Issue 5 |
| Antenna polarisation: | horizontal/vertical |
| Environmental Conditions: | Humidity : 40% rH; Temperature: 19 °C |
| Operator Name: | HEI |
| EUT Setup: | 1 |
| Operating Mode: | 1 |
| Power supply: | 12 V DC |
| Comment: | Channel no. high |
| Verdict: | Passed |

EUT Information

PMT number: 21-1-01714S16_C01

Full Spectrum



Remark: Peaks @ 799 and 934 MHz are caused by external interferers.

Final_Result

| Frequency (MHz) | QuasiPeak (dB μ V/m) | Limit (dB μ V/m) | Margin (dB) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) | Sig Path (dB) | Preamp (dB) | Trd Corr. (dB/m) |
|-----------------|--------------------------|----------------------|-------------|-----------------|-------------|-----|---------------|--------------|---------------|-------------|------------------|
| 65.575000 | 33.79 | 40.00 | 6.21 | 120.000 | 117.0 | V | 0.0 | 7.1 | 0.0 | 0.7 | 6.4 |
| 96.239000 | 15.81 | 43.50 | 27.69 | 120.000 | 152.0 | V | 35.0 | 8.2 | 0.0 | 0.9 | 7.3 |
| 127.593000 | 19.01 | 43.50 | 24.49 | 120.000 | 112.0 | V | 319.0 | 8.6 | 0.0 | 1.0 | 7.6 |

(continuation of the "Final_Result" table from column 19 ...)

| Frequency (MHz) | Raw Rec (dB μ V) |
|-----------------|----------------------|
| 65.575000 | 26.7 |
| 96.239000 | 7.6 |
| 127.593000 | 10.4 |

3.03b_BLE_LE_high_standing

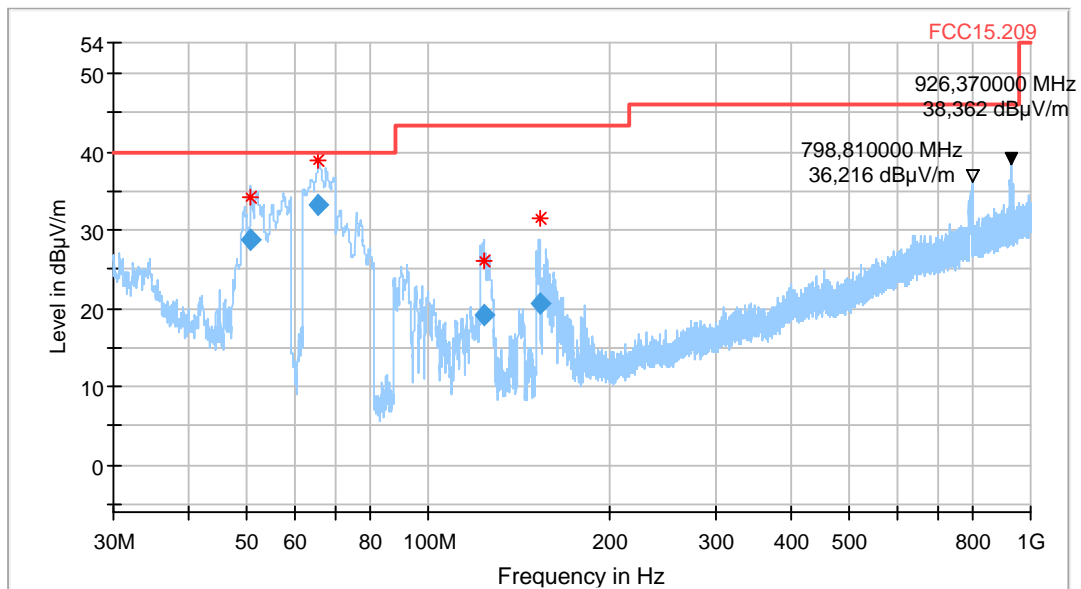
Common Information

| | |
|---------------------------|---|
| Test Description: | Radiated field strength emission in 3m distance |
| Test Site: | CETECOM GmbH Essen |
| Test Standard: | FCC 15.205&15.209 & RSS Gen. Issue 5 |
| Antenna polarisation: | horizontal/vertical |
| Environmental Conditions: | Humidity : 40% rH; Temperature: 19 °C |
| Operator Name: | HEI |
| EUT Setup: | 1 |
| Operating Mode: | 1 |
| Power supply: | 12 V DC |
| Comment: | Channel no. high |
| Verdict: | Passed |

EUT Information

PMT number: 21-1-01714S16_C01

Full Spectrum



Remark: Peaks @ 798 and 926 MHz are caused by external interferers.

Final_Result

| Frequency (MHz) | QuasiPeak (dB μ V/m) | Limit (dB μ V/m) | Margin (dB) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Corr. (dB/m) | Sig Path (dB) | Preamp (dB) | Trd Corr. (dB/m) |
|-----------------|--------------------------|----------------------|-------------|-----------------|-------------|-----|---------------|--------------|---------------|-------------|------------------|
| 50.705000 | 28.82 | 40.00 | 11.18 | 120.000 | 105.0 | V | 234.0 | 12.7 | 0.0 | 0.7 | 12.0 |
| 65.615000 | 33.33 | 40.00 | 6.67 | 120.000 | 143.0 | V | 339.0 | 7.1 | 0.0 | 0.7 | 6.4 |
| 123.663000 | 19.18 | 43.50 | 24.32 | 120.000 | 109.0 | V | 169.0 | 8.1 | 0.0 | 1.1 | 7.0 |
| 152.849000 | 20.75 | 43.50 | 22.75 | 120.000 | 124.0 | V | 82.0 | 8.8 | 0.0 | 1.2 | 7.6 |

(continuation of the "Final_Result" table from column 19 ...)

| Frequency (MHz) | Raw Rec (dB μ V) |
|-----------------|----------------------|
| 50.705000 | 16.1 |
| 65.615000 | 26.3 |
| 123.663000 | 11.1 |
| 152.849000 | 12.0 |

4.01a_BLE_LE_low_1-15G

Common Information

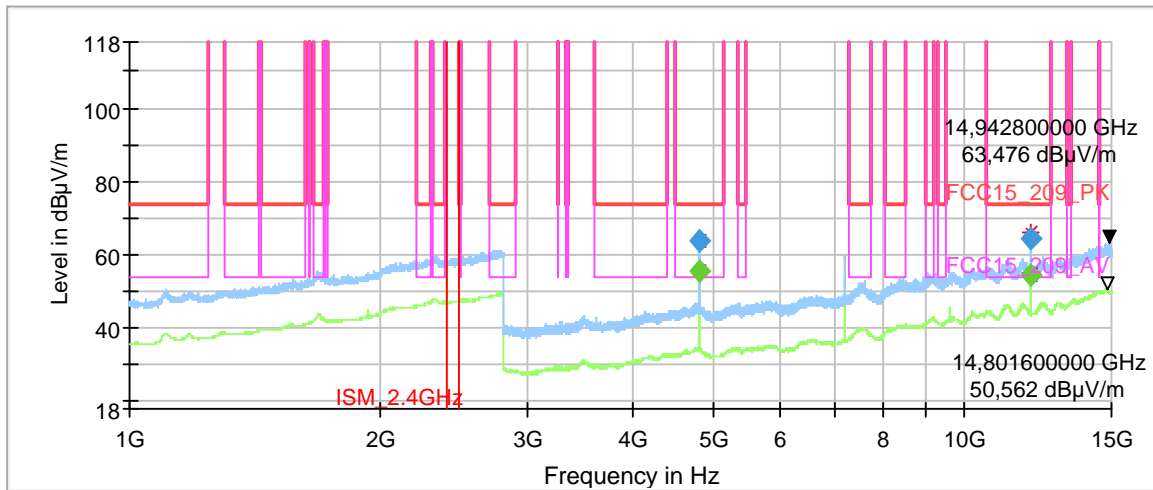
Test Description: Radiated field strength emission in 3m distance
 Test Site: Fully Anechoic Chamber (FAC1) - EMC32 V10.60.20
 Test Standard: FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 5
 Antenna polarisation: horizontal/vertical

 Operating Mode: 1
 Set-up no.: 1
 Operator: npe
 Comment: -
 Comment2: -
 Environmental Conditions: Humidity : 41% rH; Temperature: 21 °C
 Verdict: Passed *)

EUT Information

PMT number: 21-1-01714S16_C01

Full Spectrum



Final Result

| Frequency (MHz) | MaxPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin | Meas. Time (ms) | Bandwidth | Height | Pol | Azimuth | Elevation |
|-----------------|------------------|------------------|----------------|--------|-----------------|-----------|--------|-----|---------|-----------|
| 4804.000000 | 63.69 | --- | 74.00 | 10.31 | 100.0 | 1000.000 | 155.0 | H | 268.0 | 0.0 |
| 4804.400000 | --- | 45.97 *) | 54.00 | 8.03 | 100.0 | 1000.000 | 155.0 | H | 268.0 | 0.0 |
| 12011.200000 | 64.42 | --- | 74.00 | 9.58 | 100.0 | 1000.000 | 155.0 | H | 319.0 | 0.0 |
| 12011.600000 | --- | 46.70 *) | 54.00 | 7.30 | 100.0 | 1000.000 | 155.0 | H | 318.0 | 0.0 |

*) Duty Cycle correction factor applied (17.72 dB) on Peak Value to determine Average value.

4.02a_BLE_LE_mid_1-15G

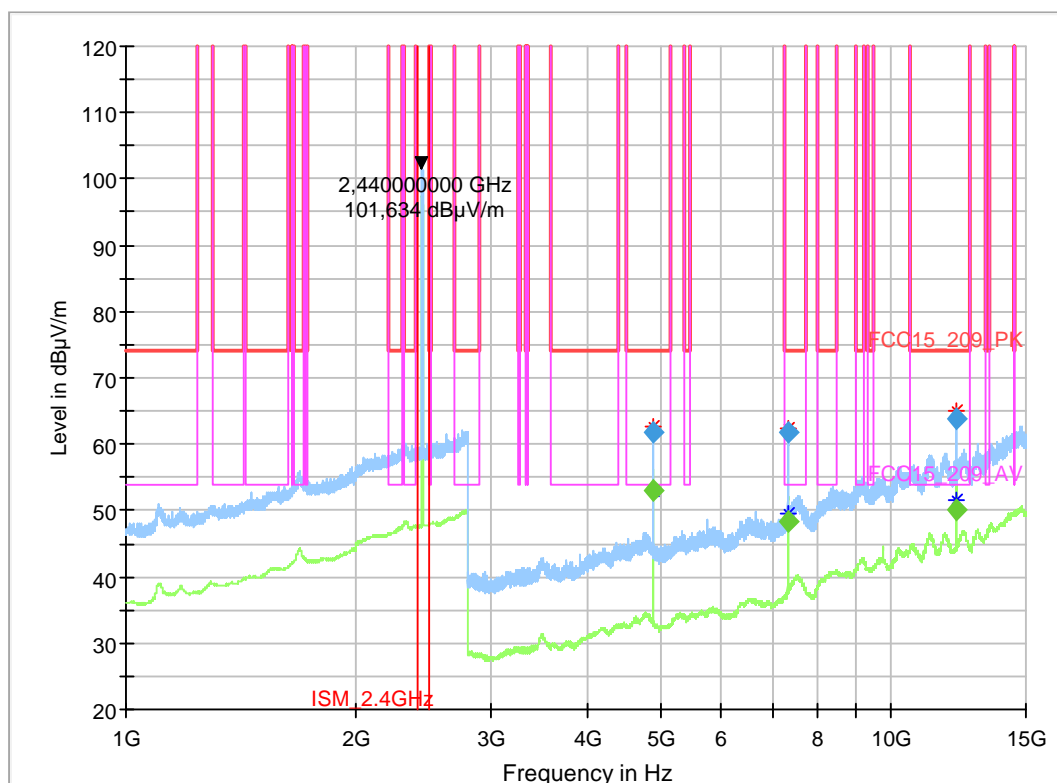
Common Information

Test Description: Radiated field strength emission in 3m distance
 Test Site: Fully Anechoic Chamber (FAC1) - EMC32 V10.60.20
 Test Standard: FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 5
 Antenna polarisation: horizontal/vertical

Operating Mode: 1
 Set-up no. 1
 Operator: Lor
 Comment: -
 Comment2: -
 Environmental Conditions: Humidity : 20% rH; Temperature: 38 °C
 Verdict: Passed *)

EUT Information

PMT number: 21-1-01714S16_C01
 Full Spectrum



Final_Result

| Frequency (MHz) | MaxPeak (dB μ V/m) | Average (dB μ V/m) | Limit (dB μ V/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Elevation (deg) |
|-----------------|------------------------|------------------------|----------------------|-------------|-----------------|-----------------|-------------|-----|---------------|-----------------|
| 4879.600000 | 61.94 | --- | 74.00 | 12.06 | 100.0 | 1000.000 | 155.0 | H | 90.0 | 90.0 |
| 4880.000000 | --- | 52.98 | 54.00 | 1.02 | 100.0 | 1000.000 | 155.0 | V | 94.0 | 0.0 |
| 7320.800000 | --- | 48.48 | 54.00 | 5.52 | 100.0 | 1000.000 | 155.0 | V | -7.0 | 90.0 |
| 7320.800000 | 61.76 | --- | 74.00 | 12.24 | 100.0 | 1000.000 | 155.0 | V | -13.0 | 90.0 |
| 12200.400000 | 63.75 | --- | 74.00 | 10.25 | 100.0 | 1000.000 | 155.0 | H | 45.0 | 90.0 |
| 12201.200000 | --- | 50.26 | 54.00 | 3.74 | 100.0 | 1000.000 | 155.0 | H | 60.0 | 90.0 |

(continuation of the "Final_Result" table from column 16 ...)

| Frequency (MHz) | Corr. (dB/m) | Sig Path (dB) | Preamp (dB) | Trd Corr. (dB/m) | Raw Rec (dB μ V) | Comment |
|-----------------|--------------|---------------|-------------|------------------|----------------------|-----------------------|
| 4879.600000 | 7 | -29 | 0 | 36 | --- | 12:06:45 - 03.05.2022 |
| 4880.000000 | 7 | -29 | 0 | 36 | --- | 12:09:58 - 03.05.2022 |
| 7320.800000 | 14 | -25 | 0 | 39 | --- | 12:13:25 - 03.05.2022 |
| 7320.800000 | 14 | -25 | 0 | 39 | --- | 12:08:30 - 03.05.2022 |
| 12200.400000 | 21 | -22 | 0 | 43 | --- | 12:05:32 - 03.05.2022 |
| 12201.200000 | 21 | -22 | 0 | 43 | --- | 12:11:44 - 03.05.2022 |

4.03a_BLE_LE_high_1-15G

Common Information

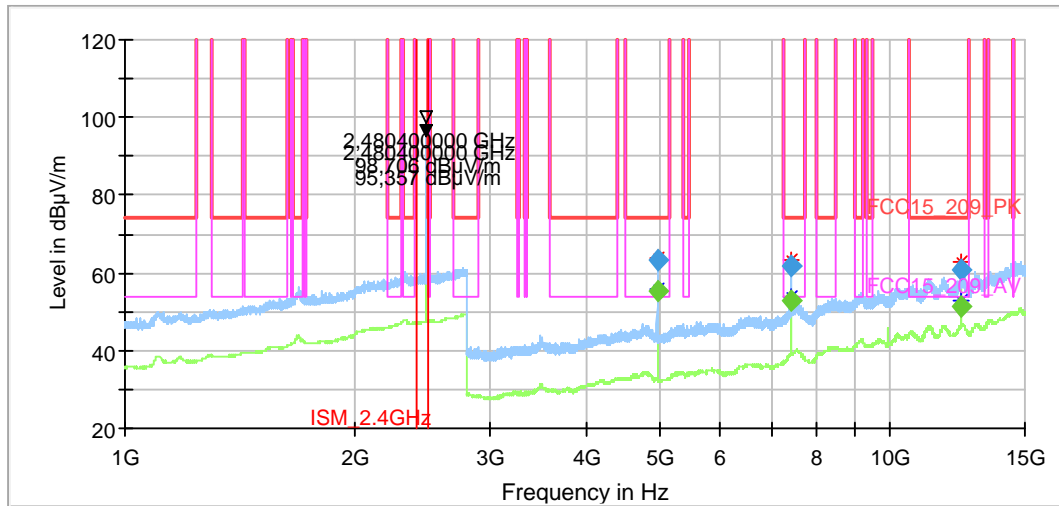
Test Description: Radiated field strength emission in 3m distance
 Test Site: Fully Anechoic Chamber (FAC1) - EMC32 V10.60.20
 Test Standard: FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 5
 Antenna polarisation: horizontal/vertical

 Operating Mode: 1
 Set-up no. 1
 Operator: npe
 Comment: -
 Comment2: -
 Environmental Conditions: Humidity : 41% rH; Temperature: 21 °C
 Verdict: Passed

EUT Information

PMT number: 21-1-01714S16_C01

Full Spectrum



Final Result

| Frequency (MHz) | MaxPeak (dBµV/m) | Average (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Elevation (deg) |
|--------------------|------------------|------------------|----------------|-------------|-----------------|-----------------|--------------|----------|---------------|-----------------|
| 4959.600000 | 63.47 | --- | 74.00 | 10.53 | 100.0 | 1000.000 | 155.0 | H | 268.0 | 90.0 |
| 4960.400000 | --- | 45.75 * | 54.00 | 8.25 | 100.0 | 1000.000 | 155.0 | H | 268.0 | 90.0 |
| 7440.800000 | --- | 52.76 | 54.00 | 1.24 | 100.0 | 1000.000 | 155.0 | V | 216.0 | 90.0 |
| 7440.800000 | 61.69 | --- | 74.00 | 12.31 | 100.0 | 1000.000 | 155.0 | V | 222.0 | 90.0 |
| 12401.200000 | 61.03 | --- | 74.00 | 12.97 | 100.0 | 1000.000 | 155.0 | H | 315.0 | 90.0 |
| 12401.200000 | --- | 51.22 | 54.00 | 2.78 | 100.0 | 1000.000 | 155.0 | H | 324.0 | 90.0 |

*) Duty Cycle correction factor applied (17.72 dB) on Peak Value to determine Average value.

4.01b_BLE_LE_low_15-18G_AntH

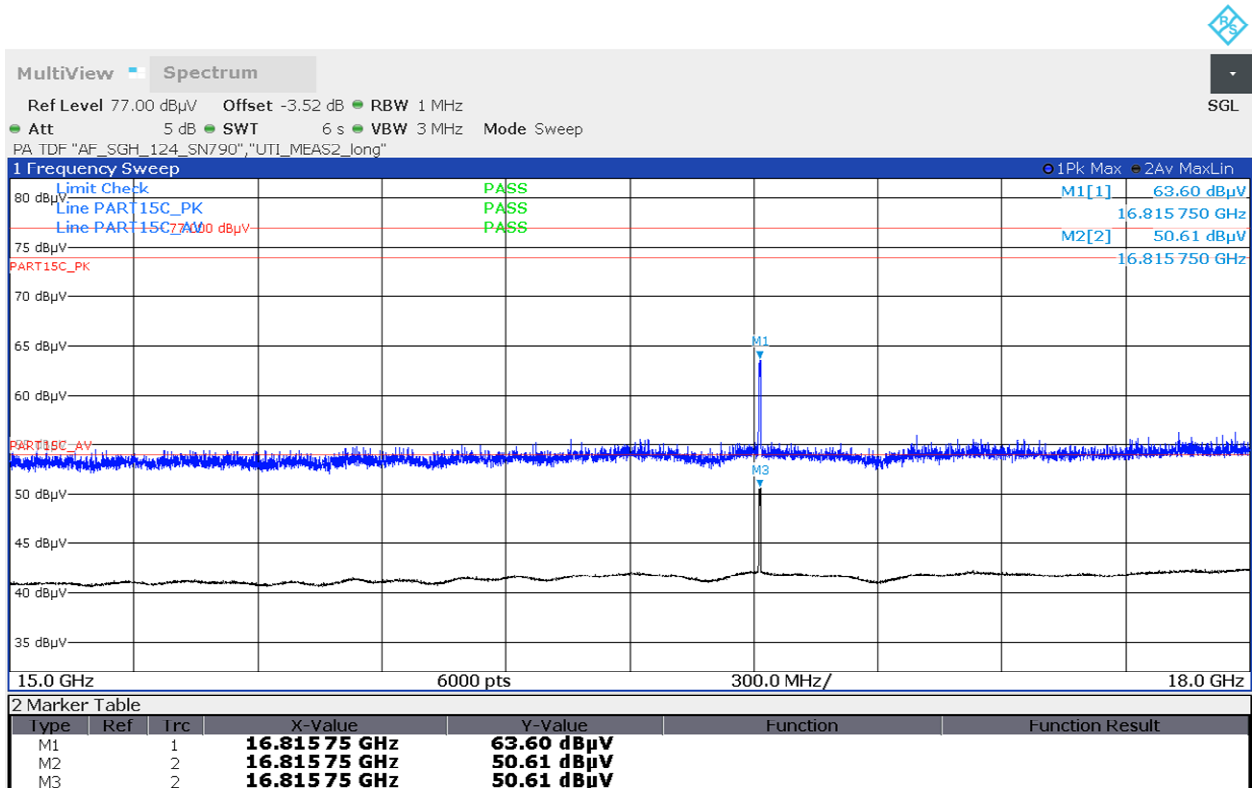
Common Information

Test Description: Radiated field strength emission in 3m distance
 Test Site: Fully Anechoic Chamber (FAC1) - EMC32 V10.60.20
 Test Standard: FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 5
 Antenna polarisation: horizontal/vertical

 Operating Mode: 1
 Set-up no.: 1
 Operator: Lor
 Comment: -
 Comment2: -
 Environmental Conditions: Humidity : 41% rH; Temperature: 21 °C
 Verdict: Passed

EUT Information

PMT number: 21-1-01714S16_C01



4.01c_BLE_LE_low_15-18G_AntV

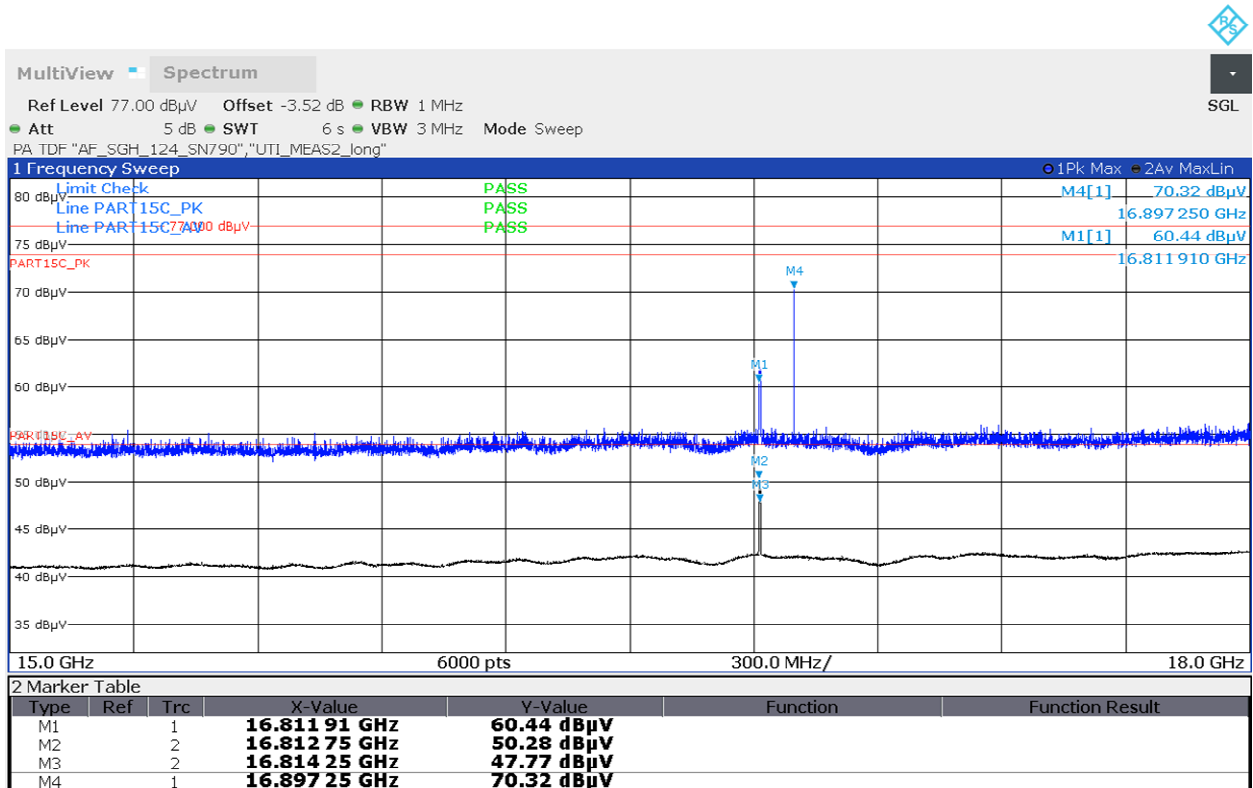
Common Information

Test Description: Radiated field strength emission in 3m distance
 Test Site: Fully Anechoic Chamber (FAC1) - EMC32 V10.60.20
 Test Standard: FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 5
 Antenna polarisation: horizontal/vertical

 Operating Mode: 1
 Set-up no.: 1
 Operator: Lor
 Comment: -
 Comment2: -
 Environmental Conditions: Humidity : 41% rH; Temperature: 21 °C
 Verdict: Passed

EUT Information

PMT number: 21-1-01714S16_C01



4.02b_BLE_LE_low_15-18G_AntH

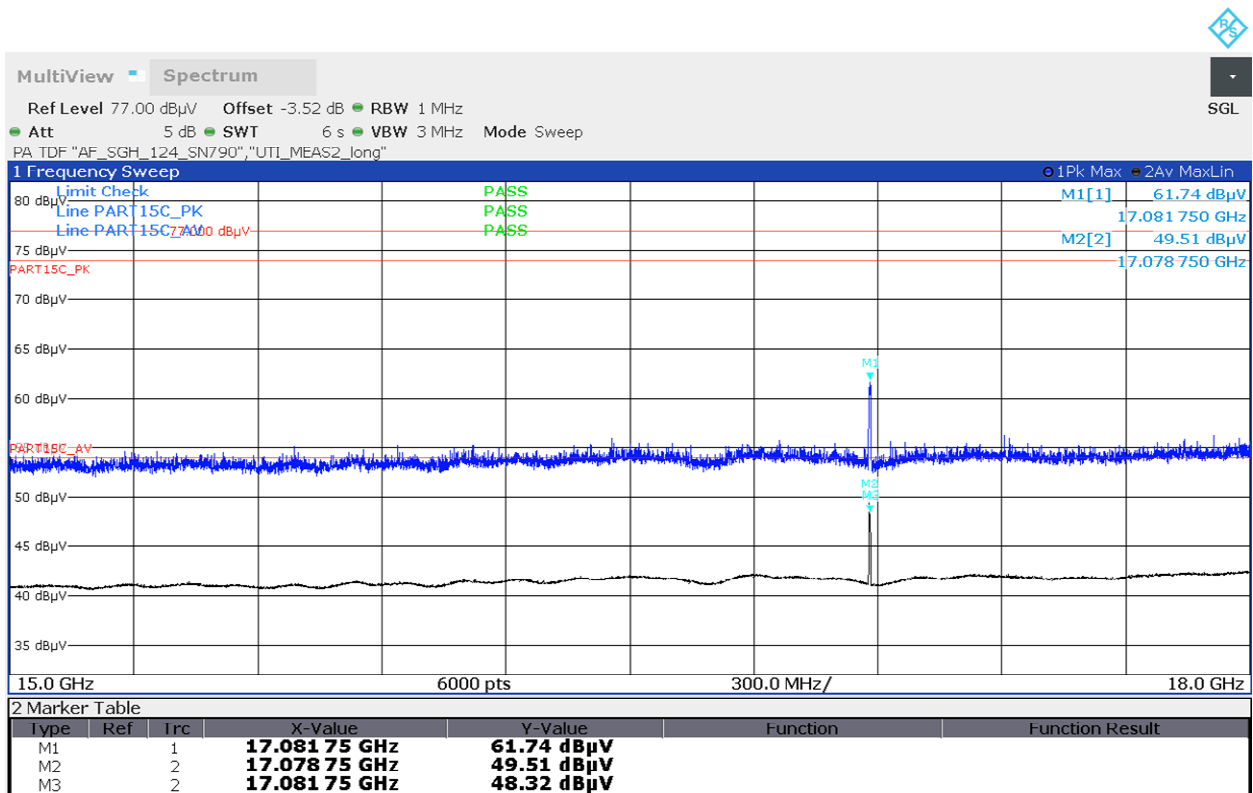
Common Information

Test Description: Radiated field strength emission in 3m distance
 Test Site: Fully Anechoic Chamber (FAC1) - EMC32 V10.60.20
 Test Standard: FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 5
 Antenna polarisation: horizontal/vertical

 Operating Mode: 1
 Set-up no.: 1
 Operator: Lor
 Comment: -
 Comment2: -
 Environmental Conditions: Humidity : 41% rH; Temperature: 21 °C
 Verdict: Passed

EUT Information

PMT number: 21-1-01714S16_C01



4.02c_BLE_LE_low_15-18G_AntV

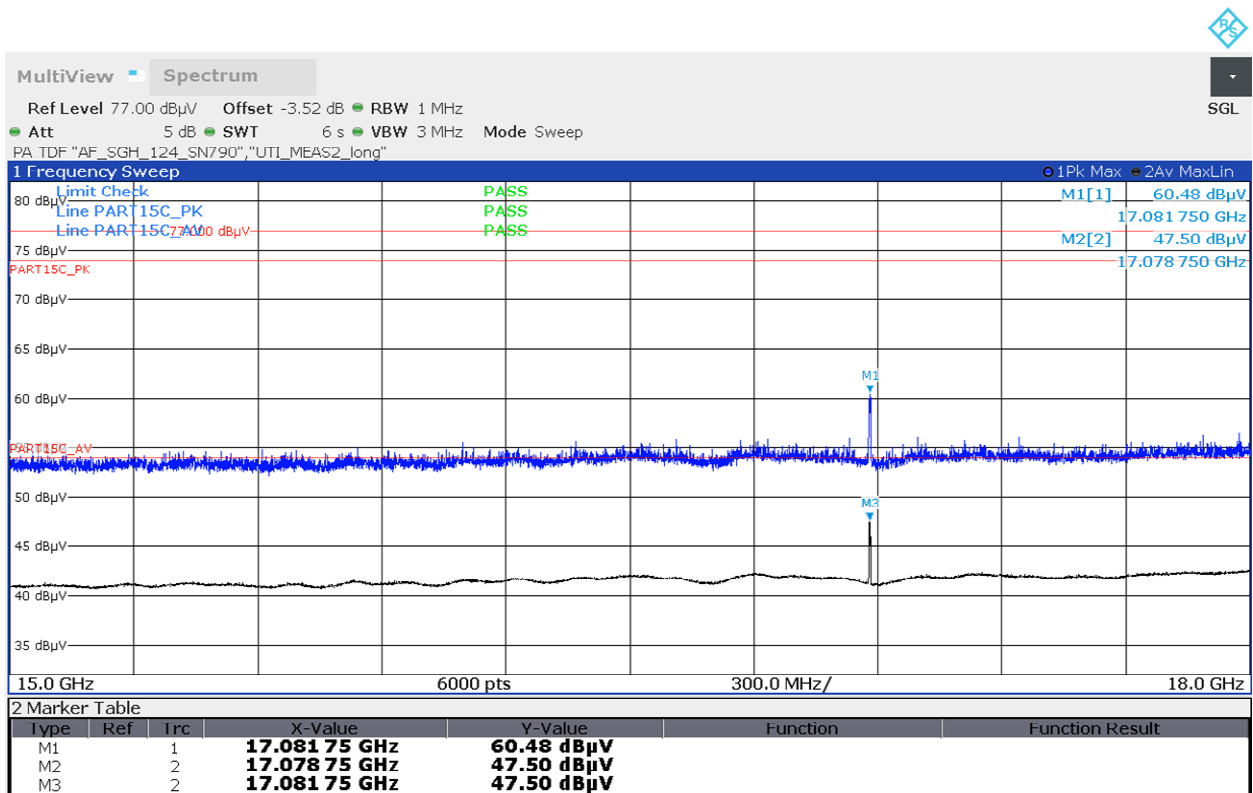
Common Information

Test Description: Radiated field strength emission in 3m distance
 Test Site: Fully Anechoic Chamber (FAC1) - EMC32 V10.60.20
 Test Standard: FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 5
 Antenna polarisation: horizontal/vertical

 Operating Mode: 1
 Set-up no.: 1
 Operator: Lor
 Comment: -
 Comment2: -
 Environmental Conditions: Humidity : 41% rH; Temperature: 21 °C
 Verdict: Passed

EUT Information

PMT number: 21-1-01714S16_C01



4.03b_BLE_LE_high_15-18G_AntH

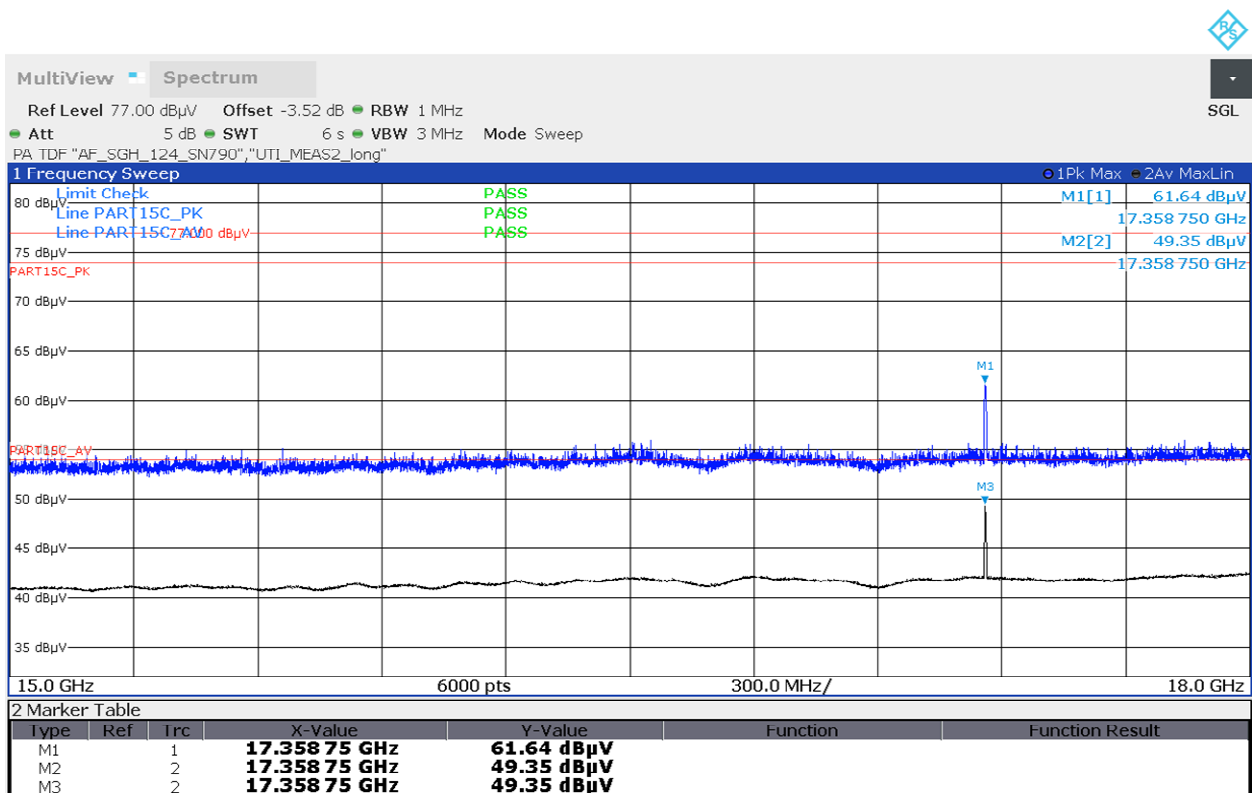
Common Information

Test Description: Radiated field strength emission in 3m distance
 Test Site: Fully Anechoic Chamber (FAC1) - EMC32 V10.60.20
 Test Standard: FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 5
 Antenna polarisation: horizontal/vertical

 Operating Mode: 1
 Set-up no.: 1
 Operator: Lor
 Comment: -
 Comment2: -
 Environmental Conditions: Humidity : 41% rH; Temperature: 21 °C
 Verdict: Passed

EUT Information

PMT number: 21-1-01714S16_C01



4.03c_BLE_LE_high_15-18G_AntV

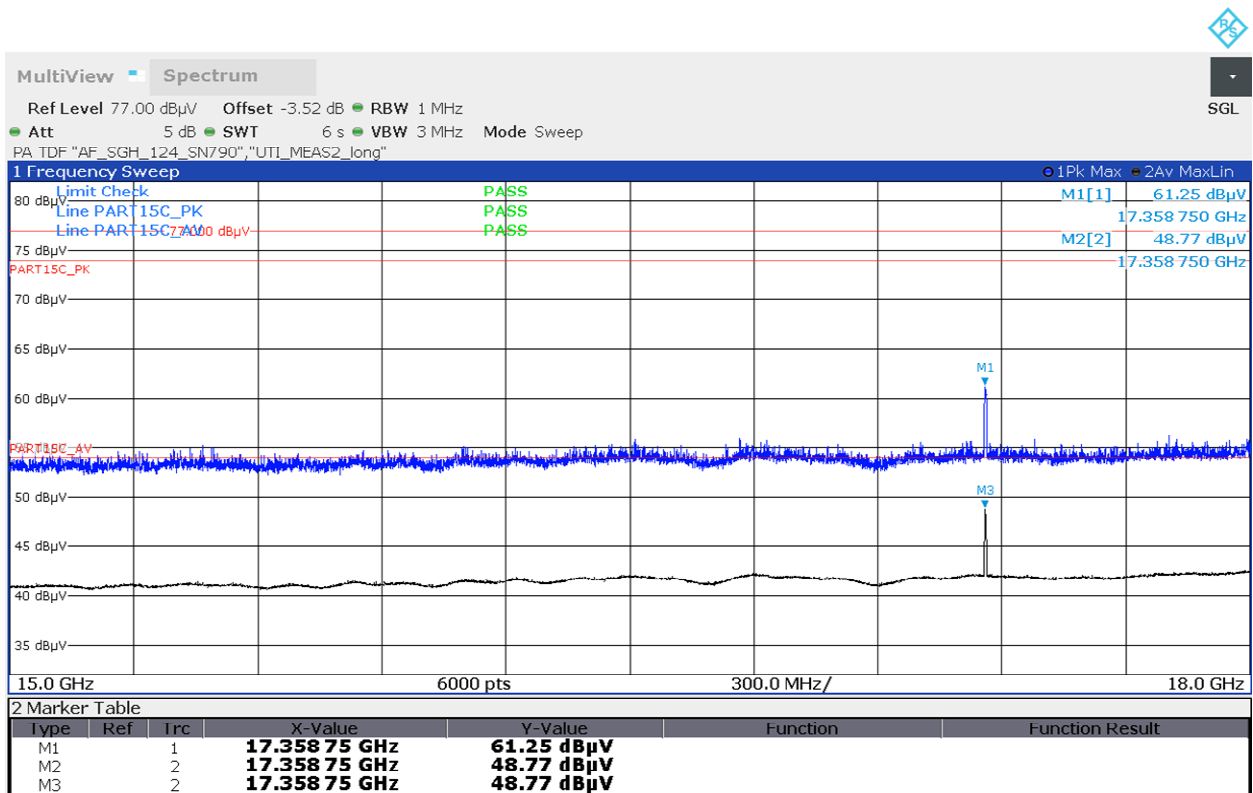
Common Information

Test Description: Radiated field strength emission in 3m distance
 Test Site: Fully Anechoic Chamber (FAC1) - EMC32 V10.60.20
 Test Standard: FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 5
 Antenna polarisation: horizontal/vertical

 Operating Mode: 1
 Set-up no.: 1
 Operator: Lor
 Comment: -
 Comment2: -
 Environmental Conditions: Humidity : 41% rH; Temperature: 21 °C
 Verdict: Passed

EUT Information

PMT number: 21-1-01714S16_C01



4.01d_BLE_LE_low_18-26.5G_AntH

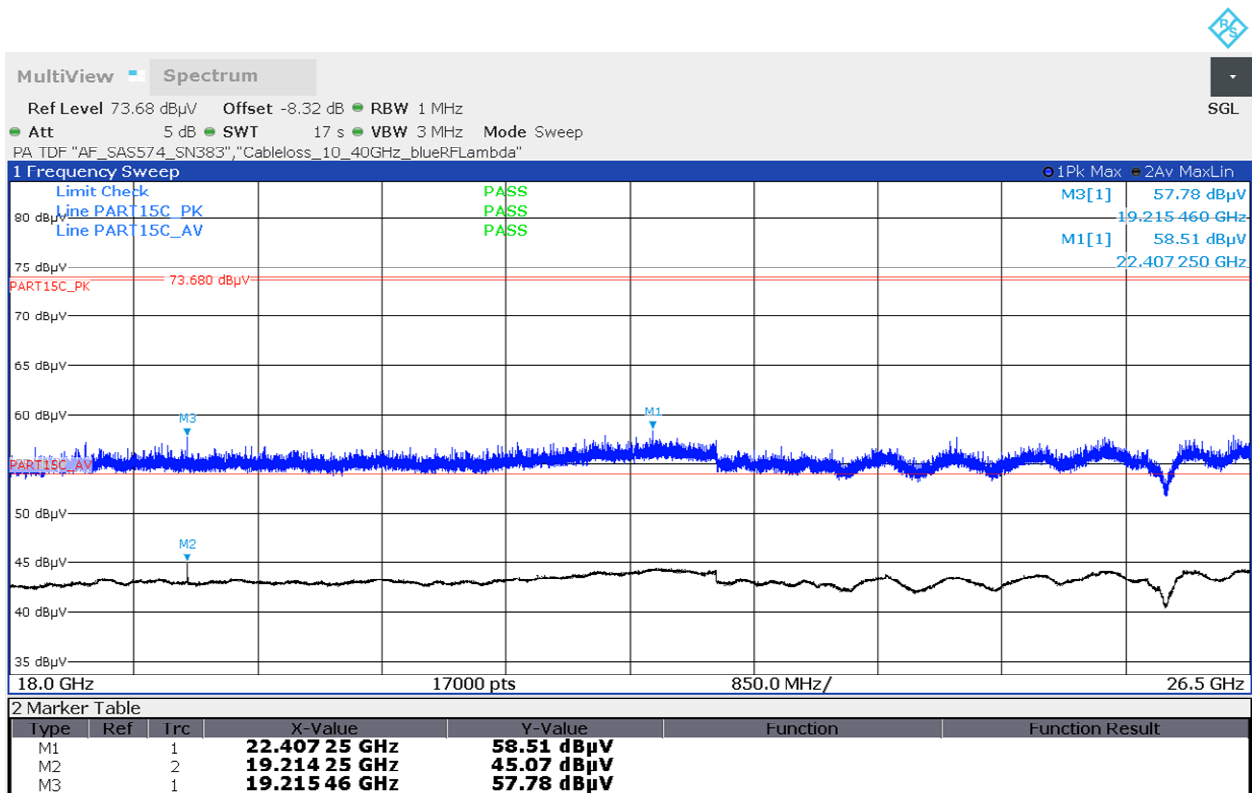
Common Information

Test Description: Radiated field strength emission in 3m distance
 Test Site: Fully Anechoic Chamber (FAC1) - EMC32 V10.60.20
 Test Standard: FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 5
 Antenna polarisation: horizontal/vertical

 Operating Mode: 1
 Set-up no.: 1
 Operator: Lor
 Comment: -
 Comment2: -
 Environmental Conditions: Humidity : 41% rH; Temperature: 21 °C
 Verdict: Passed

EUT Information

PMT number: 21-1-01714S16_C01



4.01e_BLE_LE_low_18-26.5G_AntV

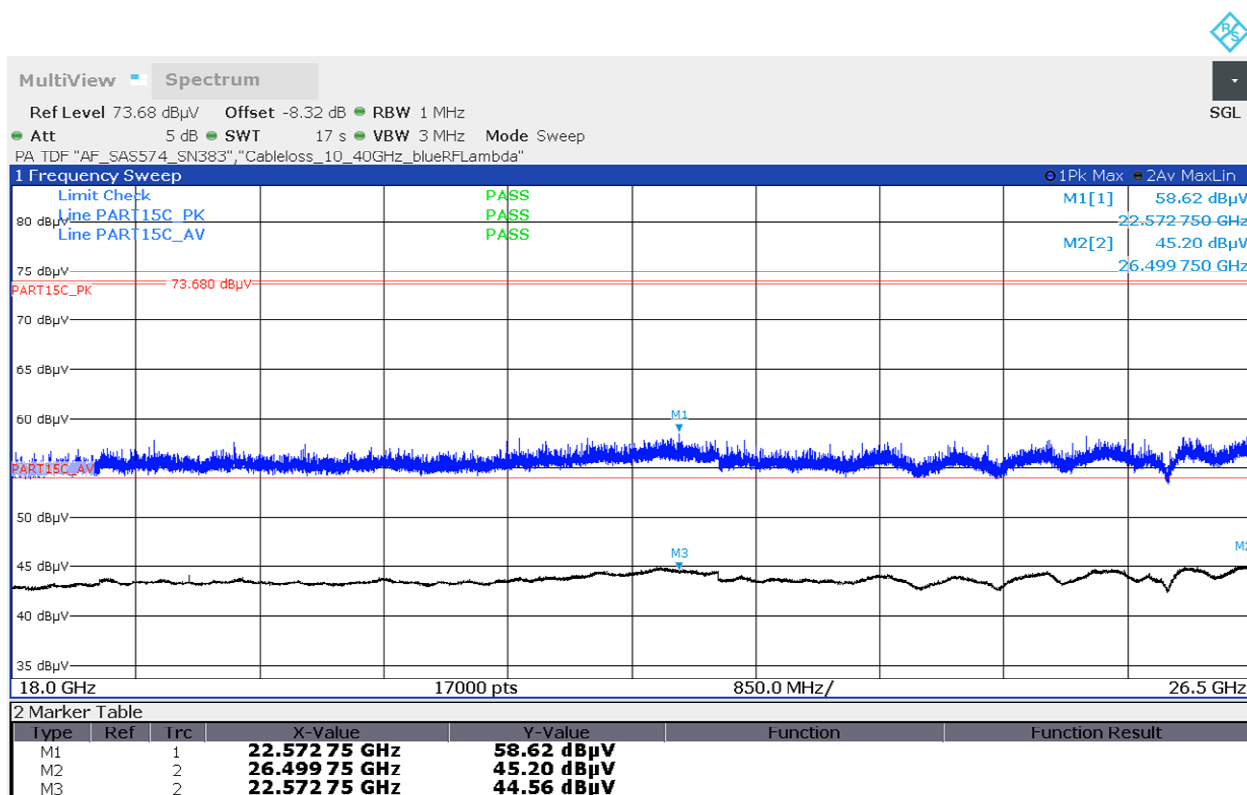
Common Information

Test Description: Radiated field strength emission in 3m distance
 Test Site: Fully Anechoic Chamber (FAC1) - EMC32 V10.60.20
 Test Standard: FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 5
 Antenna polarisation: horizontal/vertical

 Operating Mode: 1
 Set-up no.: 1
 Operator: Lor
 Comment: -
 Comment2: -
 Environmental Conditions: Humidity : 41% rH; Temperature: 21 °C
 Verdict: Passed

EUT Information

PMT number: 21-1-01714S16_C01



4.02d_BLE_LE_low_18-26.5G_AntH

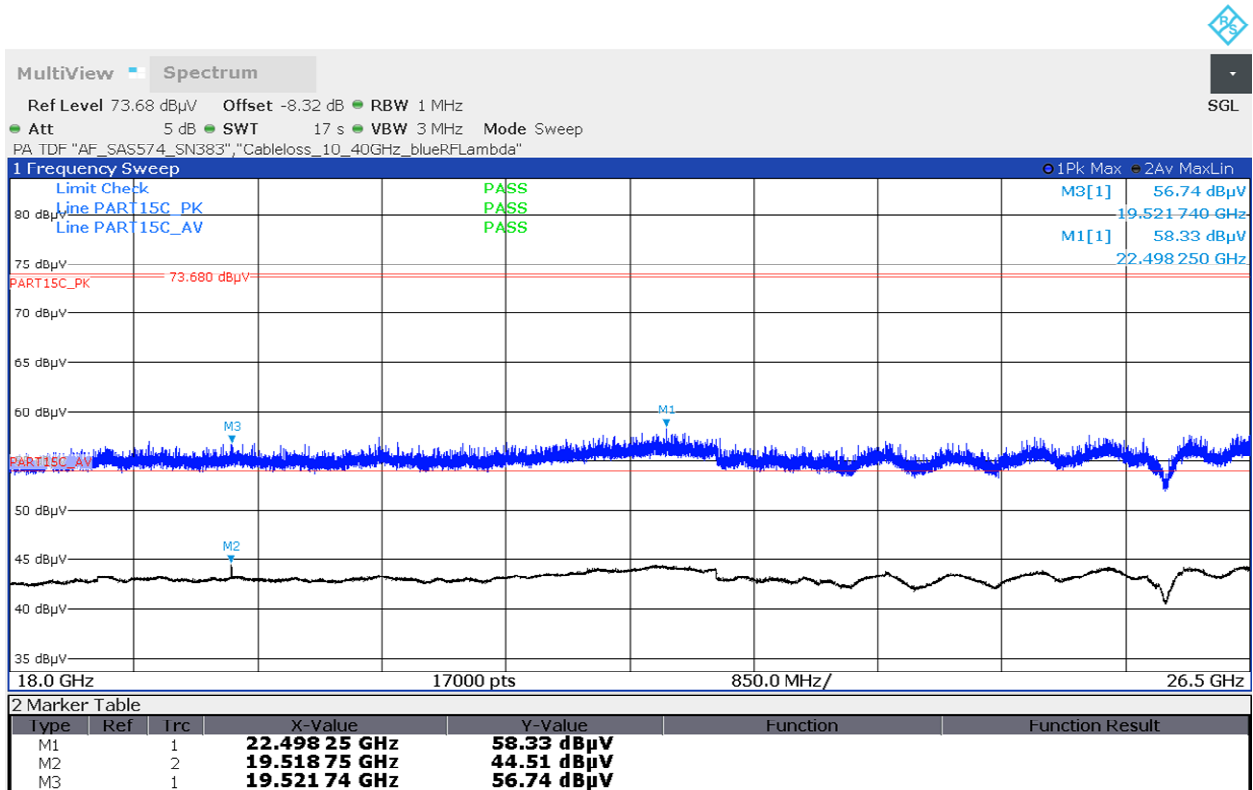
Common Information

Test Description: Radiated field strength emission in 3m distance
 Test Site: Fully Anechoic Chamber (FAC1) - EMC32 V10.60.20
 Test Standard: FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 5
 Antenna polarisation: horizontal/vertical

 Operating Mode: 1
 Set-up no.: 1
 Operator: Lor
 Comment: -
 Comment2: -
 Environmental Conditions: Humidity : 41% rH; Temperature: 21 °C
 Verdict: Passed

EUT Information

PMT number: 21-1-01714S16_C01



4.02e_BLE_LE_low_18-26.5G_AntV

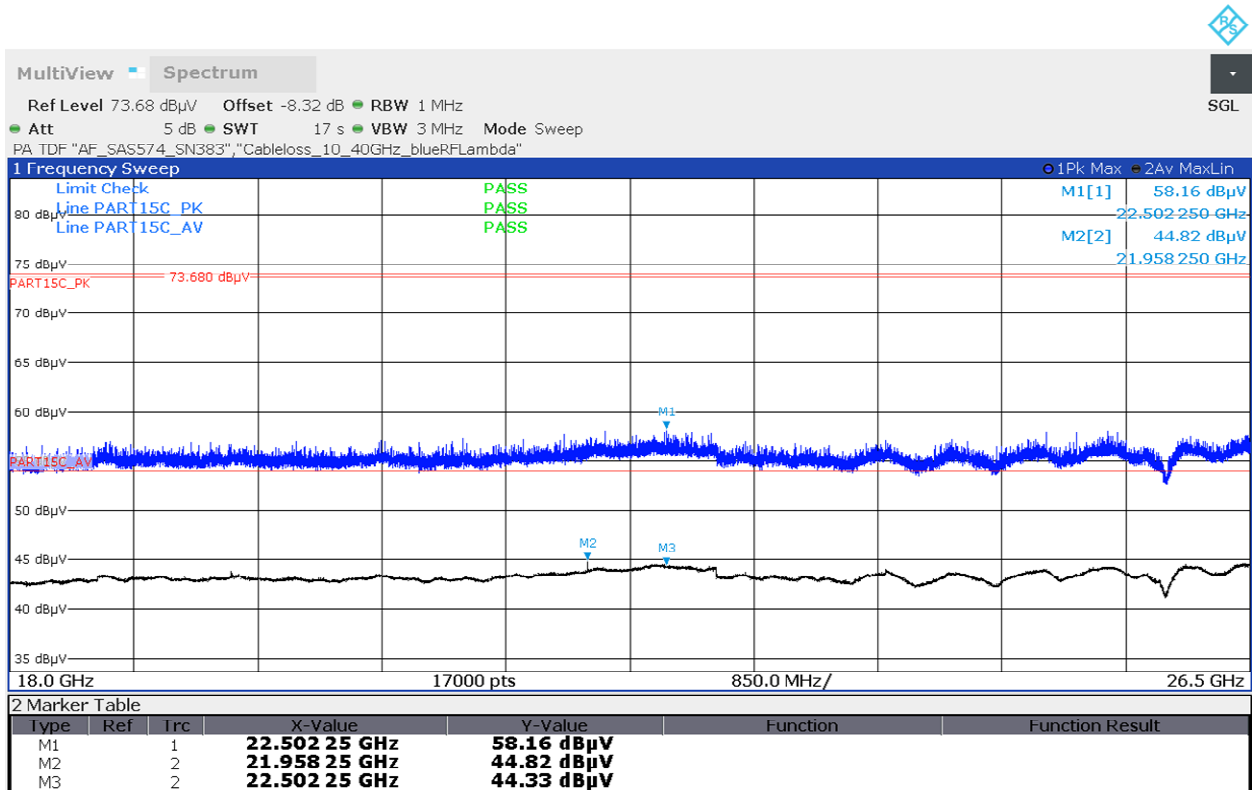
Common Information

Test Description: Radiated field strength emission in 3m distance
 Test Site: Fully Anechoic Chamber (FAC1) - EMC32 V10.60.20
 Test Standard: FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 5
 Antenna polarisation: horizontal/vertical

 Operating Mode: 1
 Set-up no.: 1
 Operator: Lor
 Comment: -
 Comment2: -
 Environmental Conditions: Humidity : 41% rH; Temperature: 21 °C
 Verdict: Passed

EUT Information

PMT number: 21-1-01714S16_C01



4.03d_BLE_LE_high_18-26.5G_AntH

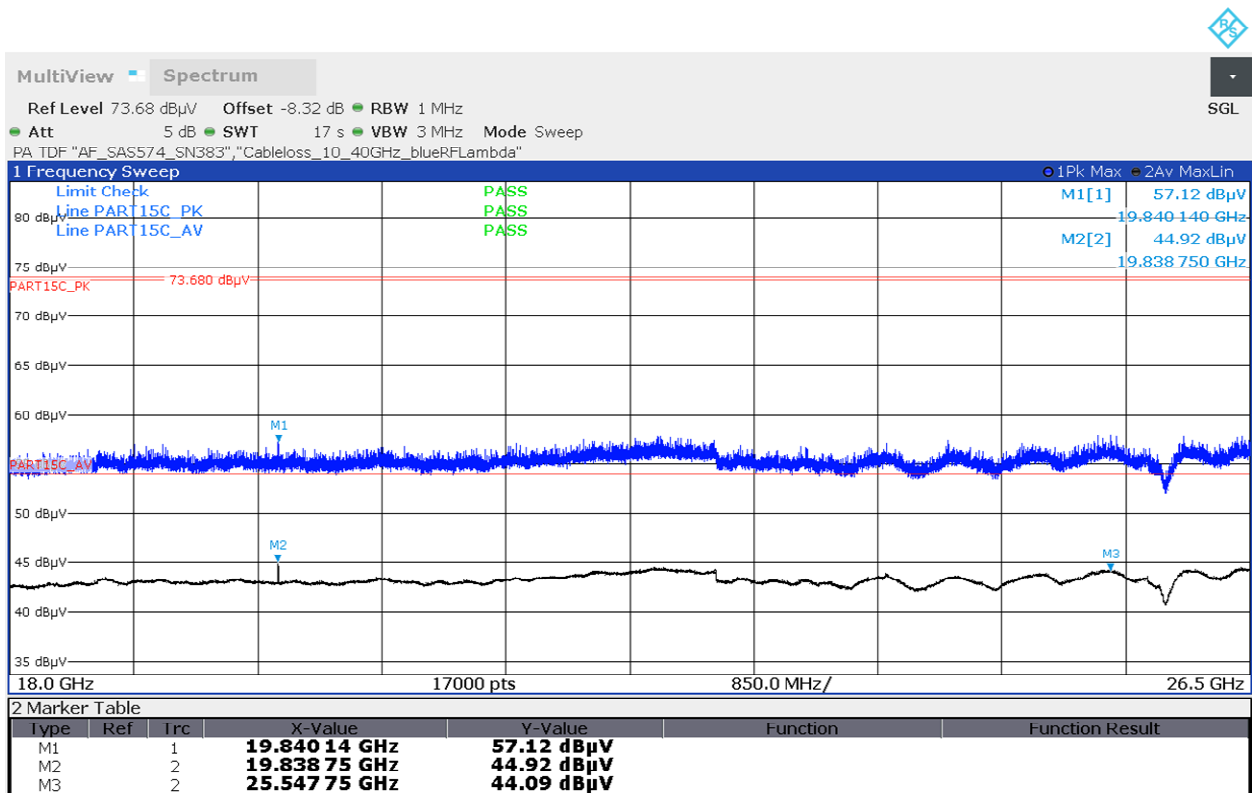
Common Information

Test Description: Radiated field strength emission in 3m distance
 Test Site: Fully Anechoic Chamber (FAC1) - EMC32 V10.60.20
 Test Standard: FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 5
 Antenna polarisation: horizontal/vertical

 Operating Mode: 1
 Set-up no.: 1
 Operator: Lor
 Comment: -
 Comment2: -
 Environmental Conditions: Humidity : 41% rH; Temperature: 21 °C
 Verdict: Passed

EUT Information

PMT number: 21-1-01714S16_C01



4.03e_BLE_LE_high_18-26.5G_AntV

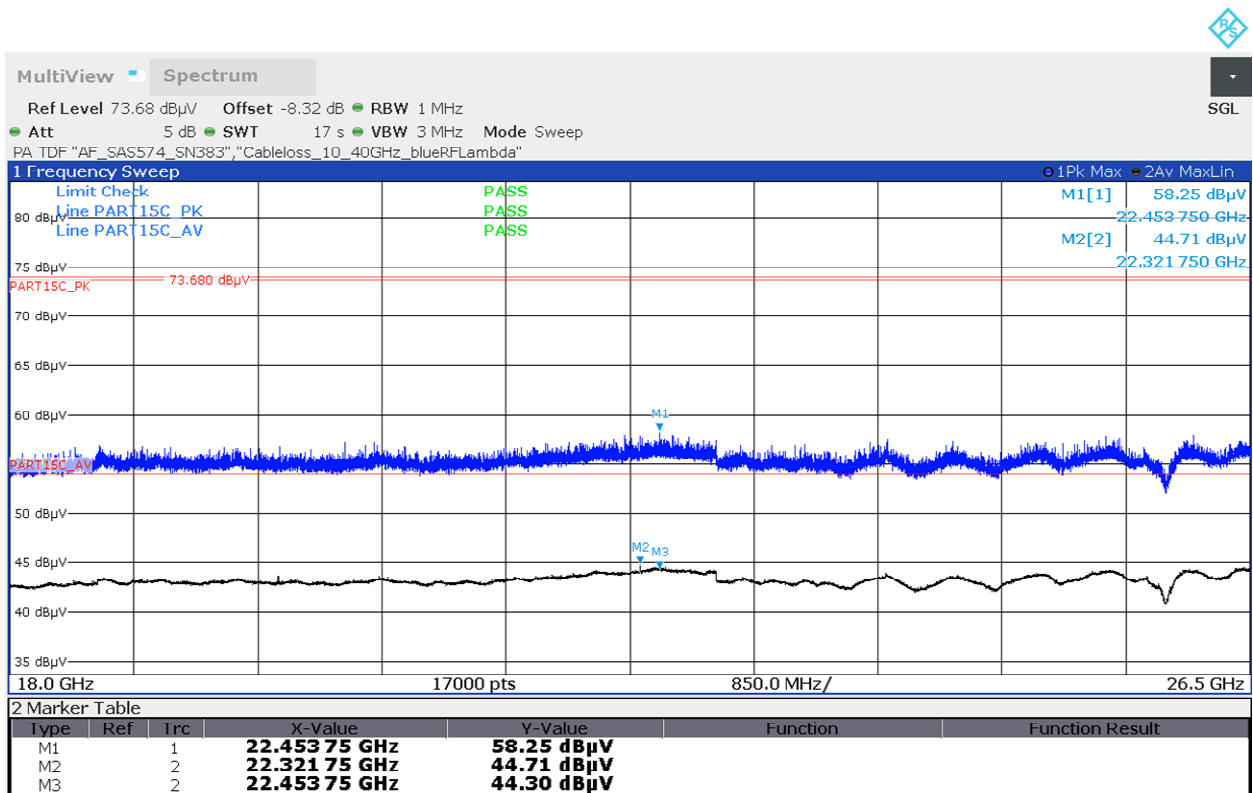
Common Information

Test Description: Radiated field strength emission in 3m distance
 Test Site: Fully Anechoic Chamber (FAC1) - EMC32 V10.60.20
 Test Standard: FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 5
 Antenna polarisation: horizontal/vertical

 Operating Mode: 1
 Set-up no.: 1
 Operator: Lor
 Comment: -
 Comment2: -
 Environmental Conditions: Humidity : 41% rH; Temperature: 21 °C
 Verdict: Passed

EUT Information

PMT number: 21-1-01714S16_C01



9.01_BE_BLE_LE_low

Common Information

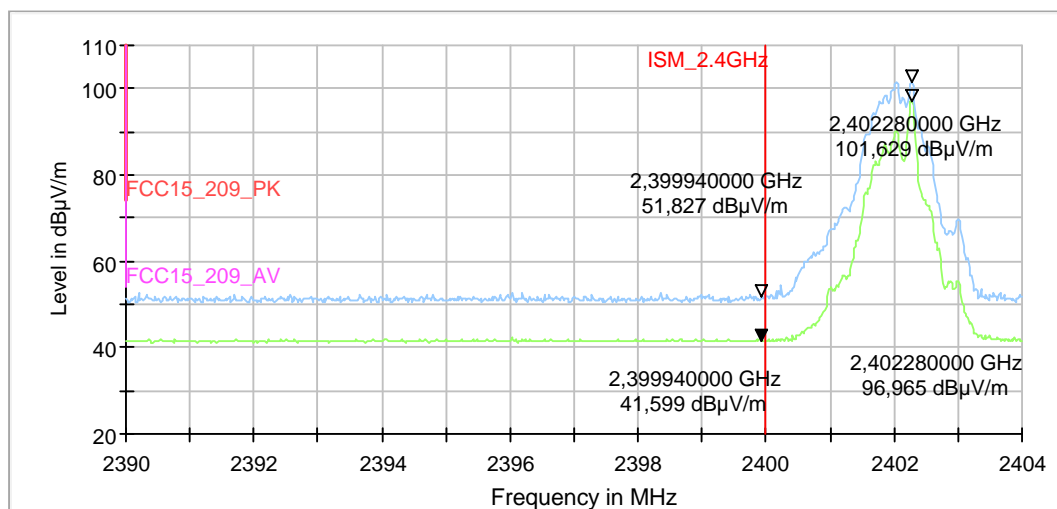
Test Description: Band-Edge: Radiated Field Strength Emissions Emissions in 3m distance
 Test Site: Fully Anechoic Chamber (FAC1) - EMC32 V10.60.20
 Test Standard: FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 5
 Antenna polarisation: horizontal/vertical

Operating Mode: 1
 Operator: 1
 Comment: -
 Comment2: -
 EUT Setup: 1
 Verdict: Passed

EUT Information

PMT number: 21-1-01714S16_C01

Full Spectrum



9.02_BE_BLE_LE_high

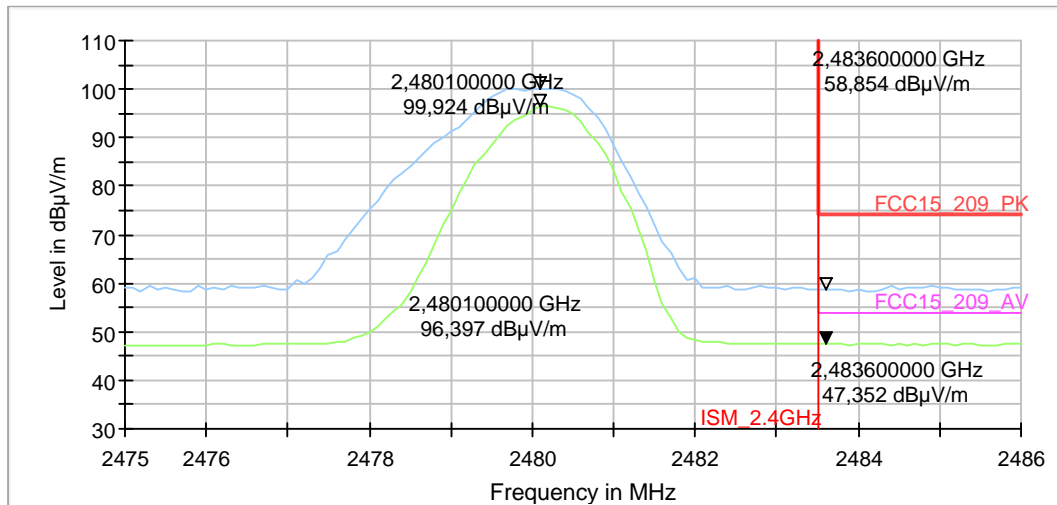
Common Information

| | |
|-----------------------|---|
| Test Description: | Band-Edge: Radiated Field Strength Emissions Emissions in 3m distance |
| Test Site: | Fully Anechoic Chamber (FAC1) - EMC32 V10.60.20 |
| Test Standard: | FCC 15.247&15.209 Intentional Radiator / RSS-Gen, Issue 5 |
| Antenna polarisation: | horizontal/vertical |
| Operating Mode: | 1 |
| Operator: | 1 |
| Comment: | - |
| Comment2: | - |
| EUT Setup: | 1 |
| Verdict: | Passed |

EUT Information

PMT number: 21-1-01714S16_C01

Full Spectrum



1.2 Conucted measurements

Peak output power (Sweep)

| Mode | DUT Frequency (MHz) | Peak Power (dBm) | Limit Max (dBm) | Result |
|---------------------|---------------------|------------------|-----------------|--------|
| BLE [GFSK]; 2402MHz | 2402.000000 | 3.3 | 30.0 | PASS |
| BLE [GFSK]; 2440MHz | 2440.000000 | 3.2 | 30.0 | PASS |
| BLE [GFSK]; 2480MHz | 2480.000000 | 3.4 | 30.0 | PASS |

Minimum Emission Bandwidth 6 dB

| Mode | DUT Frequency (MHz) | Bandwidth (MHz) | Limit Min (MHz) | Limit Max (MHz) | Band Edge Left (MHz) | Band Edge Right (MHz) |
|---------------------|---------------------|-----------------|-----------------|-----------------|----------------------|-----------------------|
| BLE [GFSK]; 2402MHz | 2402.0000 | 0.673268 | 0.500000 | --- | 2401.6831 | 2402.3564 |
| BLE [GFSK]; 2440MHz | 2440.0000 | 0.673268 | 0.500000 | --- | 2439.6831 | 2440.3564 |
| BLE [GFSK]; 2480MHz | 2480.0000 | 0.673268 | 0.500000 | --- | 2479.6831 | 2480.3564 |

Emission Bandwidth 20 dB

| Mode | DUT Frequency (MHz) | Bandwidth (MHz) | Limit Min (MHz) | Limit Max (MHz) | Band Edge Left (MHz) | Band Edge Right (MHz) |
|---------------------|---------------------|-----------------|-----------------|-----------------|----------------------|-----------------------|
| BLE [GFSK]; 2402MHz | 2402.0000 | 0.680000 | --- | --- | 2401.6475 | 2402.3275 |
| BLE [GFSK]; 2440MHz | 2440.0000 | 0.680000 | --- | --- | 2439.6475 | 2440.3275 |
| BLE [GFSK]; 2480MHz | 2480.0000 | 0.680000 | --- | --- | 2479.6475 | 2480.3275 |

Peak Power Spectral Density

| Mode | DUT Frequency (MHz) | Frequency (MHz) | PSD (dBm) | Limit Max (dBm) | Result |
|---------------------|---------------------|-----------------|-----------|-----------------|--------|
| BLE [GFSK]; 2402MHz | 2402.000000 | 2402.262500 | 3.199 | 8.0 | PASS |
| BLE [GFSK]; 2440MHz | 2440.000000 | 2440.262500 | 3.027 | 8.0 | PASS |
| BLE [GFSK]; 2480MHz | 2480.000000 | 2480.262500 | 3.242 | 8.0 | PASS |

Occupied Channel Bandwidth 99%

| Mode | DUT Frequency (MHz) | Bandwidth (MHz) | Limit Min (MHz) | Limit Max (MHz) | Band Edge Left (MHz) | Band Edge Right (MHz) |
|---------------------|---------------------|-----------------|-----------------|-----------------|----------------------|-----------------------|
| BLE [GFSK]; 2402MHz | 2402.0000 | 0.935000 | --- | --- | 2401.5475 | 2402.4825 |
| BLE [GFSK]; 2440MHz | 2440.0000 | 0.935000 | --- | --- | 2439.5425 | 2440.4775 |
| BLE [GFSK]; 2480MHz | 2480.0000 | 0.920000 | --- | --- | 2479.5475 | 2480.4675 |

Tx Spurious Emission

| Mode | DUT Frequency (MHz) | Result |
|---------------------|---------------------|--------|
| BLE [GFSK]; 2402MHz | 2402.000000 | PASS |
| BLE [GFSK]; 2440MHz | 2440.000000 | PASS |
| BLE [GFSK]; 2480MHz | 2480.000000 | PASS |

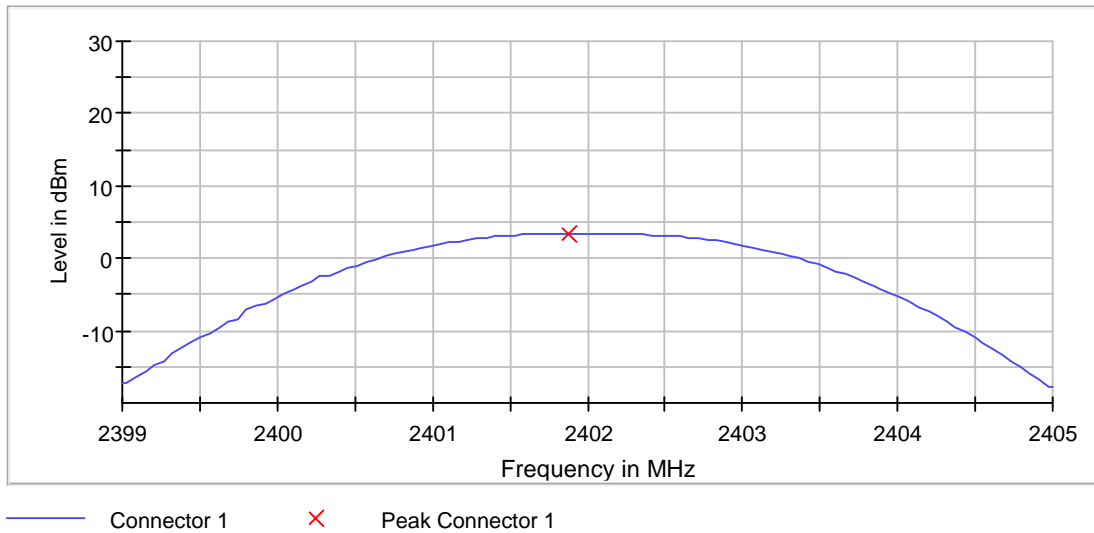
Peak output power (Sweep) (2402 MHz; BLE [GFSK] 1Mbps (10 dBm); 1 MHz)

Test according to FCC title 47 part 15 §15.247(b), KDB 558074 D01 DTS Meas Guidance v05r02 and ANSI C63.10-2013

Result

| DUT Frequency (MHz) | Peak Power (dBm) | Limit Max (dBm) | Result |
|---------------------|------------------|-----------------|--------|
| 2402.000000 | 3.3 | 30.0 | PASS |

Peak Power



Measurement

| Setting | Instrument Value | Target Value |
|-----------------------|------------------|--------------|
| Start Frequency | 2.39900 GHz | 2.39900 GHz |
| Stop Frequency | 2.40500 GHz | 2.40500 GHz |
| Span | 6.000 MHz | 6.000 MHz |
| RBW | 2.000 MHz | >= 1.000 MHz |
| VBW | 10.000 MHz | >= 6.000 MHz |
| SweepPoints | 101 | ~ 101 |
| Sweeptime | 1.000 ms | AUTO |
| Reference Level | 10.000 dBm | 10.000 dBm |
| Attenuation | 20.000 dB | AUTO |
| Detector | MaxPeak | MaxPeak |
| SweepCount | 100 | 100 |
| Filter | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold |
| SweepType | Sweep | AUTO |
| Preamp | off | off |
| Stablemode | Trace | Trace |
| Stablevalue | 0.50 dB | 0.50 dB |
| Run | 4 / max. 150 | max. 150 |
| Stable | 3 / 3 | 3 |
| Max Stable Difference | 0.05 dB | 0.50 dB |

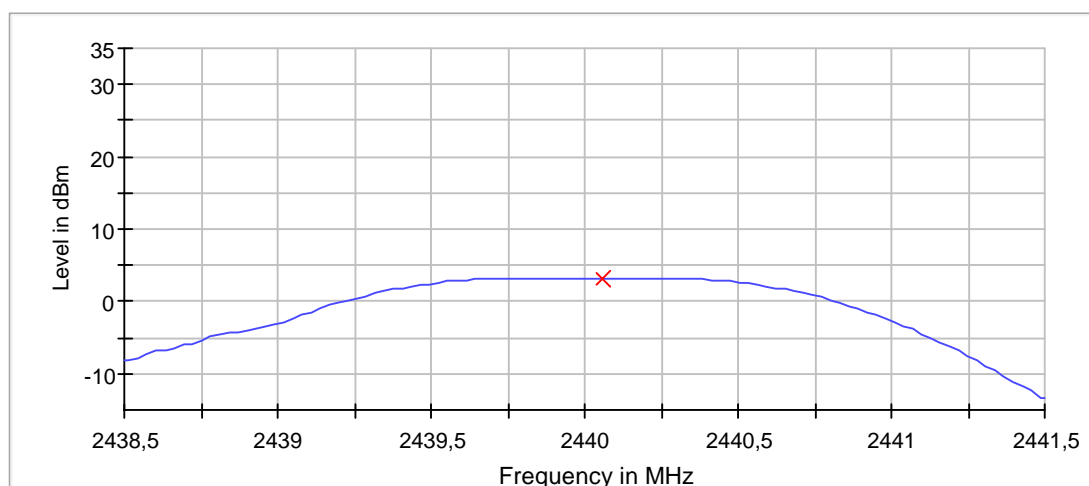
Peak output power (Sweep) (2440 MHz; BLE [GFSK] 1Mbps (10 dBm); 1 MHz)

Test according to FCC title 47 part 15 §15.247(b), KDB 558074 D01 DTS Meas Guidance v05r02 and ANSI C63.10-2013

Result

| DUT Frequency (MHz) | Peak Power (dBm) | Limit Max (dBm) | Result |
|---------------------|------------------|-----------------|--------|
| 2440.000000 | 3.2 | 30.0 | PASS |

Peak Power



— Connector 1 × Peak Connector 1

Measurement

| Setting | Instrument Value | Target Value |
|-----------------------|------------------|----------------|
| Start Frequency | 2.43850 GHz | 2.43850 GHz |
| Stop Frequency | 2.44150 GHz | 2.44150 GHz |
| Span | 3.000 MHz | 3.000 MHz |
| RBW | 1.000 MHz | >= 673.269 kHz |
| VBW | 3.000 MHz | >= 3.000 MHz |
| SweepPoints | 101 | ~ 101 |
| SweepTime | 1.000 ms | AUTO |
| Reference Level | 10.000 dBm | 10.000 dBm |
| Attenuation | 20.000 dB | AUTO |
| Detector | MaxPeak | MaxPeak |
| SweepCount | 100 | 100 |
| Filter | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold |
| SweepType | Sweep | AUTO |
| Preamp | off | off |
| Stablemode | Trace | Trace |
| Stablevalue | 0.50 dB | 0.50 dB |
| Run | 4 / max. 150 | max. 150 |
| Stable | 3 / 3 | 3 |
| Max Stable Difference | 0.08 dB | 0.50 dB |

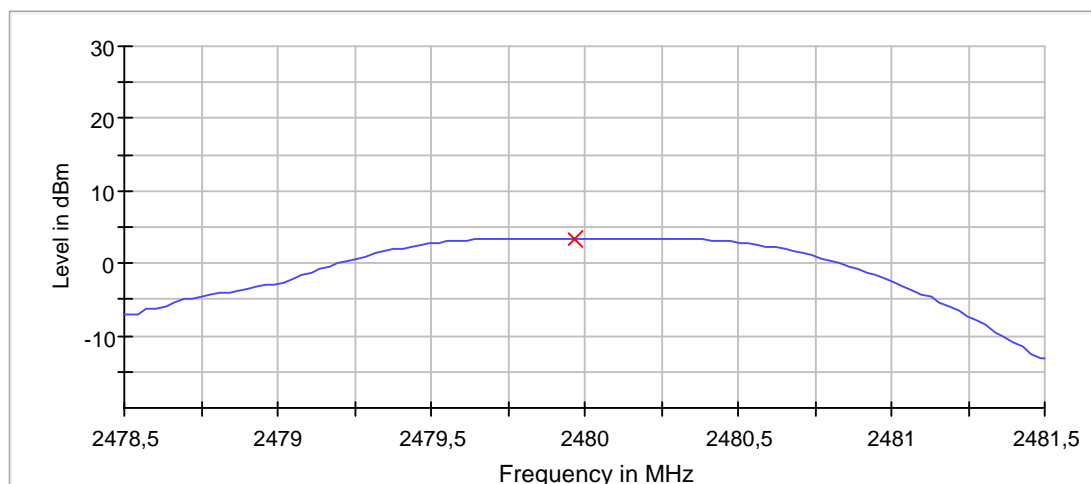
Peak output power (Sweep) (2480 MHz; BLE [GFSK] 1Mbps (10 dBm); 1 MHz)

Test according to FCC title 47 part 15 §15.247(b), KDB 558074 D01 DTS Meas Guidance v05r02 and ANSI C63.10-2013

Result

| DUT Frequency (MHz) | Peak Power (dBm) | Limit Max (dBm) | Result |
|---------------------|------------------|-----------------|--------|
| 2480.000000 | 3.4 | 30.0 | PASS |

Peak Power



— Connector 1 × Peak Connector 1

Measurement

| Setting | Instrument Value | Target Value |
|-----------------------|------------------|----------------|
| Start Frequency | 2.47850 GHz | 2.47850 GHz |
| Stop Frequency | 2.48150 GHz | 2.48150 GHz |
| Span | 3.000 MHz | 3.000 MHz |
| RBW | 1.000 MHz | >= 673.269 kHz |
| VBW | 3.000 MHz | >= 3.000 MHz |
| SweepPoints | 101 | ~ 101 |
| Sweeptime | 1.000 ms | AUTO |
| Reference Level | 10.000 dBm | 10.000 dBm |
| Attenuation | 20.000 dB | AUTO |
| Detector | MaxPeak | MaxPeak |
| SweepCount | 100 | 100 |
| Filter | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold |
| SweepType | Sweep | AUTO |
| Preamp | off | off |
| Stablemode | Trace | Trace |
| Stablevalue | 0.50 dB | 0.50 dB |
| Run | 4 / max. 150 | max. 150 |
| Stable | 3 / 3 | 3 |
| Max Stable Difference | 0.17 dB | 0.50 dB |

Minimum Emission Bandwidth 6 dB (2402 MHz; BLE [GFSK] 1Mbps (10 dBm); 1 MHz)

Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v05r02 and ANSI C63.10-2013

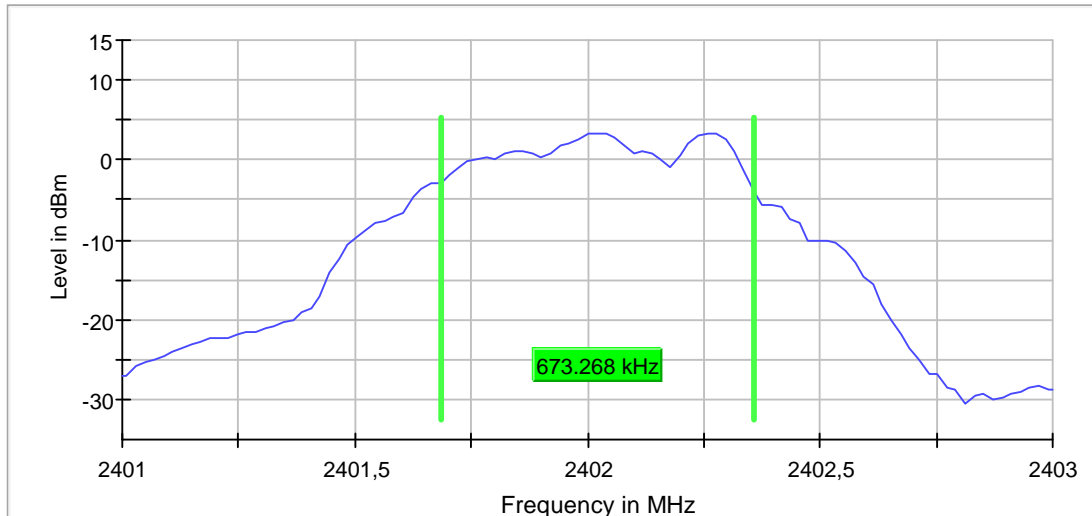
6 dB Bandwidth

| DUT Frequency (MHz) | Bandwidth (MHz) | Limit Min (MHz) | Limit Max (MHz) | Band Edge Left (MHz) | Band Edge Right (MHz) |
|---------------------|-----------------|-----------------|-----------------|----------------------|-----------------------|
| 2402.000000 | 0.673268 | 0.500000 | --- | 2401.683168 | 2402.356436 |

(continuation of the "6 dB Bandwidth" table from column 6 ...)

| DUT Frequency (MHz) | Max Level (dBm) | Result |
|---------------------|-----------------|--------|
| 2402.000000 | 3.2 | PASS |

6 dB Bandwidth



Measurement

| Setting | Instrument Value | Target Value |
|-----------------------|------------------|---------------|
| Start Frequency | 2.40100 GHz | 2.40100 GHz |
| Stop Frequency | 2.40300 GHz | 2.40300 GHz |
| Span | 2.000 MHz | 2.000 MHz |
| RBW | 100.000 kHz | ~ 100.000 kHz |
| VBW | 300.000 kHz | ~ 300.000 kHz |
| SweepPoints | 101 | ~ 40 |
| SweepTime | 1.000 ms | AUTO |
| Reference Level | 0.000 dBm | 0.000 dBm |
| Attenuation | 10.000 dB | AUTO |
| Detector | MaxPeak | MaxPeak |
| SweepCount | 100 | 100 |
| Filter | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold |
| SweepType | Sweep | AUTO |
| Preamp | off | off |
| Stablemode | Trace | Trace |
| Stablevalue | 0.50 dB | 0.50 dB |
| Run | 12 / max. 150 | max. 150 |
| Stable | 5 / 5 | 5 |
| Max Stable Difference | 0.07 dB | 0.50 dB |

Minimum Emission Bandwidth 6 dB (2440 MHz; BLE [GFSK] 1Mbps (10 dBm); 1 MHz)

Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v05r02 and ANSI C63.10-2013

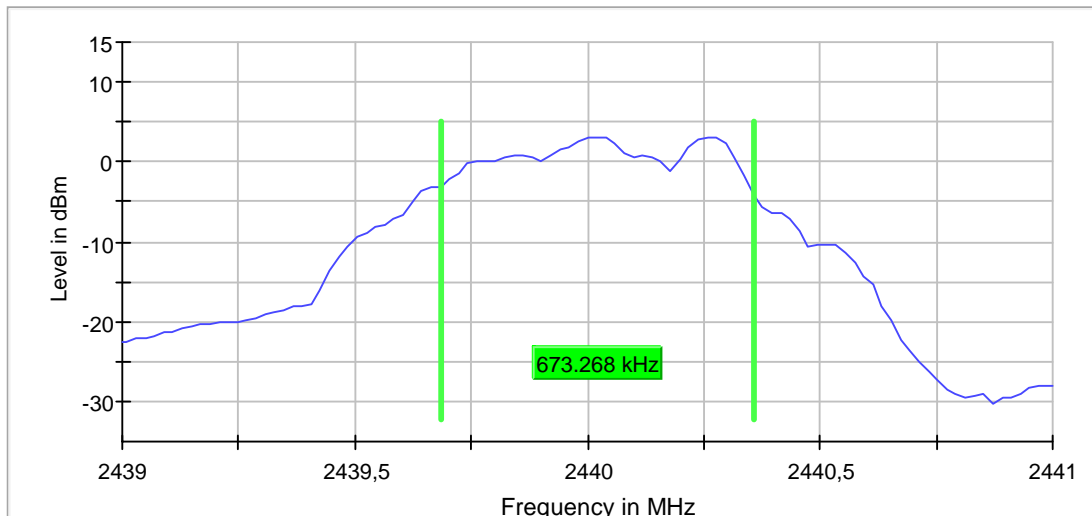
6 dB Bandwidth

| DUT Frequency (MHz) | Bandwidth (MHz) | Limit Min (MHz) | Limit Max (MHz) | Band Edge Left (MHz) | Band Edge Right (MHz) |
|---------------------|-----------------|-----------------|-----------------|----------------------|-----------------------|
| 2440.000000 | 0.673268 | 0.500000 | --- | 2439.683168 | 2440.356436 |

(continuation of the "6 dB Bandwidth" table from column 6 ...)

| DUT Frequency (MHz) | Max Level (dBm) | Result |
|---------------------|-----------------|--------|
| 2440.000000 | 3.1 | PASS |

6 dB Bandwidth



Measurement

| Setting | Instrument Value | Target Value |
|-----------------------|------------------|---------------|
| Start Frequency | 2.43900 GHz | 2.43900 GHz |
| Stop Frequency | 2.44100 GHz | 2.44100 GHz |
| Span | 2.000 MHz | 2.000 MHz |
| RBW | 100.000 kHz | ~ 100.000 kHz |
| VBW | 300.000 kHz | ~ 300.000 kHz |
| SweepPoints | 101 | ~ 40 |
| SweepTime | 1.000 ms | AUTO |
| Reference Level | 0.000 dBm | 0.000 dBm |
| Attenuation | 10.000 dB | AUTO |
| Detector | MaxPeak | MaxPeak |
| SweepCount | 100 | 100 |
| Filter | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold |
| SweepType | Sweep | AUTO |
| Preamp | off | off |
| Stablemode | Trace | Trace |
| Stablevalue | 0.50 dB | 0.50 dB |
| Run | 9 / max. 150 | max. 150 |
| Stable | 5 / 5 | 5 |
| Max Stable Difference | 0.01 dB | 0.50 dB |

Minimum Emission Bandwidth 6 dB (2480 MHz; BLE [GFSK] 1Mbps (10 dBm); 1 MHz)

Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v05r02 and ANSI C63.10-2013

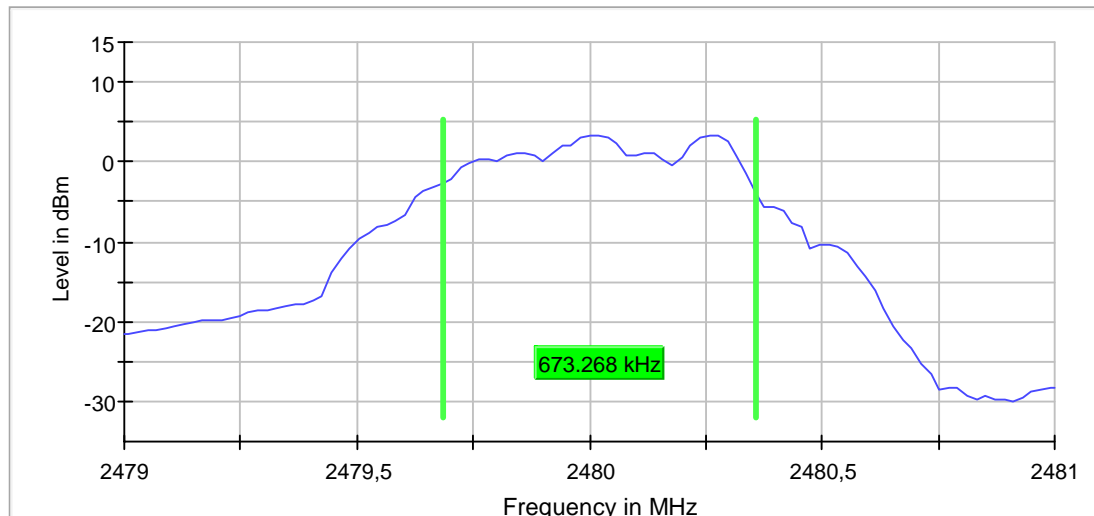
6 dB Bandwidth

| DUT Frequency (MHz) | Bandwidth (MHz) | Limit Min (MHz) | Limit Max (MHz) | Band Edge Left (MHz) | Band Edge Right (MHz) |
|---------------------|-----------------|-----------------|-----------------|----------------------|-----------------------|
| 2480.000000 | 0.673268 | 0.500000 | --- | 2479.683168 | 2480.356436 |

(continuation of the "6 dB Bandwidth" table from column 6 ...)

| DUT Frequency (MHz) | Max Level (dBm) | Result |
|---------------------|-----------------|--------|
| 2480.000000 | 3.3 | PASS |

6 dB Bandwidth



Measurement

| Setting | Instrument Value | Target Value |
|-----------------------|------------------|---------------|
| Start Frequency | 2.47900 GHz | 2.47900 GHz |
| Stop Frequency | 2.48100 GHz | 2.48100 GHz |
| Span | 2.000 MHz | 2.000 MHz |
| RBW | 100.000 kHz | ~ 100.000 kHz |
| VBW | 300.000 kHz | ~ 300.000 kHz |
| SweepPoints | 101 | ~ 40 |
| Sweeptime | 1.000 ms | AUTO |
| Reference Level | 0.000 dBm | 0.000 dBm |
| Attenuation | 10.000 dB | AUTO |
| Detector | MaxPeak | MaxPeak |
| SweepCount | 100 | 100 |
| Filter | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold |
| SweepType | Sweep | AUTO |
| Preamp | off | off |
| Stablemode | Trace | Trace |
| Stablevalue | 0.50 dB | 0.50 dB |
| Run | 7 / max. 150 | max. 150 |
| Stable | 5 / 5 | 5 |
| Max Stable Difference | 0.11 dB | 0.50 dB |

Emission Bandwidth 20 dB (2402 MHz; BLE [GFSK] 1Mbps (10 dBm); 1 MHz)

Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v05r02 and ANSI C63.10-2013

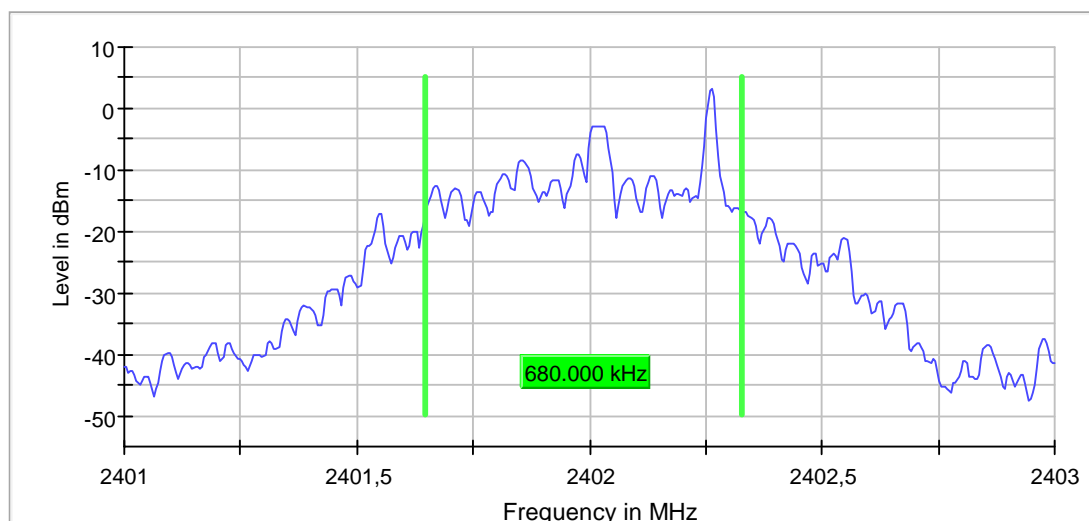
20 dB Bandwidth

| DUT Frequency (MHz) | Bandwidth (MHz) | Limit Min (MHz) | Limit Max (MHz) | Band Edge Left (MHz) | Band Edge Right (MHz) |
|---------------------|-----------------|-----------------|-----------------|----------------------|-----------------------|
| 2402.000000 | 0.680000 | --- | --- | 2401.647500 | 2402.327500 |

(continuation of the "20 dB Bandwidth" table from column 6 ...)

| DUT Frequency (MHz) | Max Level (dBm) | Result |
|---------------------|-----------------|--------|
| 2402.000000 | 3.2 | PASS |

20 dB Bandwidth



Measurement

| Setting | Instrument Value | Target Value |
|-----------------------|------------------|---------------|
| Start Frequency | 2.40100 GHz | 2.40100 GHz |
| Stop Frequency | 2.40300 GHz | 2.40300 GHz |
| Span | 2.000 MHz | 2.000 MHz |
| RBW | 10.000 kHz | >= 10.000 kHz |
| VBW | 30.000 kHz | >= 30.000 kHz |
| SweepPoints | 400 | ~ 400 |
| SweepTime | 2.000 ms | AUTO |
| Reference Level | 0.000 dBm | 0.000 dBm |
| Attenuation | 10.000 dB | AUTO |
| Detector | MaxPeak | MaxPeak |
| SweepCount | 100 | 100 |
| Filter | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold |
| SweepType | Sweep | AUTO |
| Preamp | off | off |
| Stablemode | Trace | Trace |
| Stablevalue | 0.50 dB | 0.50 dB |
| Run | 9 / max. 150 | max. 150 |
| Stable | 5 / 5 | 5 |
| Max Stable Difference | 0.01 dB | 0.50 dB |

Emission Bandwidth 20 dB (2440 MHz; BLE [GFSK] 1Mbps (10 dBm); 1 MHz)

Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v05r02 and ANSI C63.10-2013

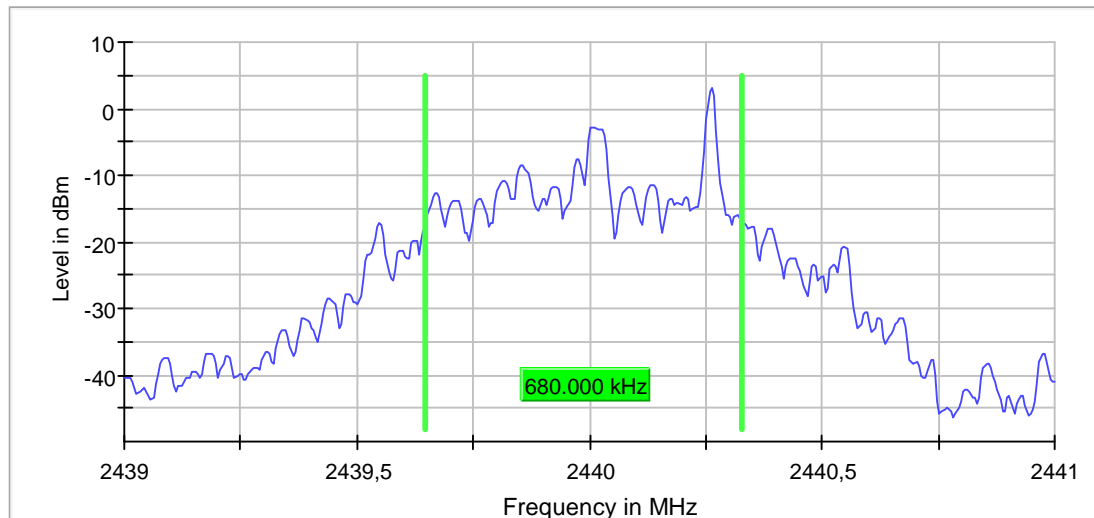
20 dB Bandwidth

| DUT Frequency (MHz) | Bandwidth (MHz) | Limit Min (MHz) | Limit Max (MHz) | Band Edge Left (MHz) | Band Edge Right (MHz) |
|---------------------|-----------------|-----------------|-----------------|----------------------|-----------------------|
| 2440.000000 | 0.680000 | --- | --- | 2439.647500 | 2440.327500 |

(continuation of the "20 dB Bandwidth" table from column 6 ...)

| DUT Frequency (MHz) | Max Level (dBm) | Result |
|---------------------|-----------------|--------|
| 2440.000000 | 3.0 | PASS |

20 dB Bandwidth



Measurement

| Setting | Instrument Value | Target Value |
|-----------------------|------------------|---------------|
| Start Frequency | 2.43900 GHz | 2.43900 GHz |
| Stop Frequency | 2.44100 GHz | 2.44100 GHz |
| Span | 2.000 MHz | 2.000 MHz |
| RBW | 10.000 kHz | >= 10.000 kHz |
| VBW | 30.000 kHz | >= 30.000 kHz |
| SweepPoints | 400 | ~ 400 |
| SweepTime | 2.000 ms | AUTO |
| Reference Level | 0.000 dBm | 0.000 dBm |
| Attenuation | 10.000 dB | AUTO |
| Detector | MaxPeak | MaxPeak |
| SweepCount | 100 | 100 |
| Filter | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold |
| SweepType | Sweep | AUTO |
| Preamp | off | off |
| Stablemode | Trace | Trace |
| Stablevalue | 0.50 dB | 0.50 dB |
| Run | 6 / max. 150 | max. 150 |
| Stable | 5 / 5 | 5 |
| Max Stable Difference | 0.18 dB | 0.50 dB |

Emission Bandwidth 20 dB (2480 MHz; BLE [GFSK] 1Mbps (10 dBm); 1 MHz)

Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v05r02 and ANSI C63.10-2013

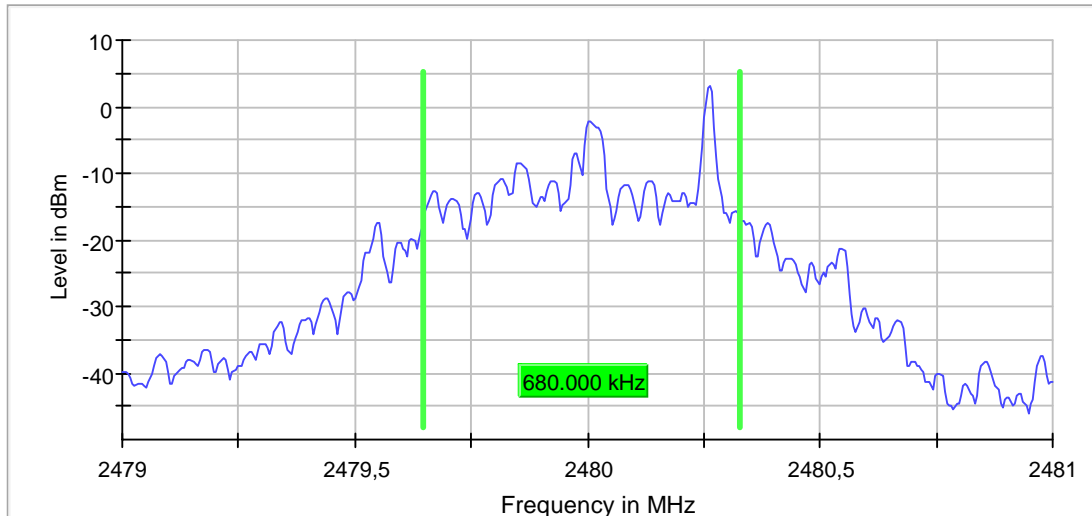
20 dB Bandwidth

| DUT Frequency (MHz) | Bandwidth (MHz) | Limit Min (MHz) | Limit Max (MHz) | Band Edge Left (MHz) | Band Edge Right (MHz) |
|---------------------|-----------------|-----------------|-----------------|----------------------|-----------------------|
| 2480.000000 | 0.680000 | --- | --- | 2479.647500 | 2480.327500 |

(continuation of the "20 dB Bandwidth" table from column 6 ...)

| DUT Frequency (MHz) | Max Level (dBm) | Result |
|---------------------|-----------------|--------|
| 2480.000000 | 3.2 | PASS |

20 dB Bandwidth



Measurement

| Setting | Instrument Value | Target Value |
|-----------------------|------------------|---------------|
| Start Frequency | 2.47900 GHz | 2.47900 GHz |
| Stop Frequency | 2.48100 GHz | 2.48100 GHz |
| Span | 2.000 MHz | 2.000 MHz |
| RBW | 10.000 kHz | >= 10.000 kHz |
| VBW | 30.000 kHz | >= 30.000 kHz |
| SweepPoints | 400 | ~ 400 |
| SweepTime | 2.000 ms | AUTO |
| Reference Level | 0.000 dBm | 0.000 dBm |
| Attenuation | 10.000 dB | AUTO |
| Detector | MaxPeak | MaxPeak |
| SweepCount | 100 | 100 |
| Filter | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold |
| SweepType | Sweep | AUTO |
| Preamp | off | off |
| Stablemode | Trace | Trace |
| Stablevalue | 0.50 dB | 0.50 dB |
| Run | 13 / max. 150 | max. 150 |
| Stable | 5 / 5 | 5 |
| Max Stable Difference | 0.00 dB | 0.50 dB |

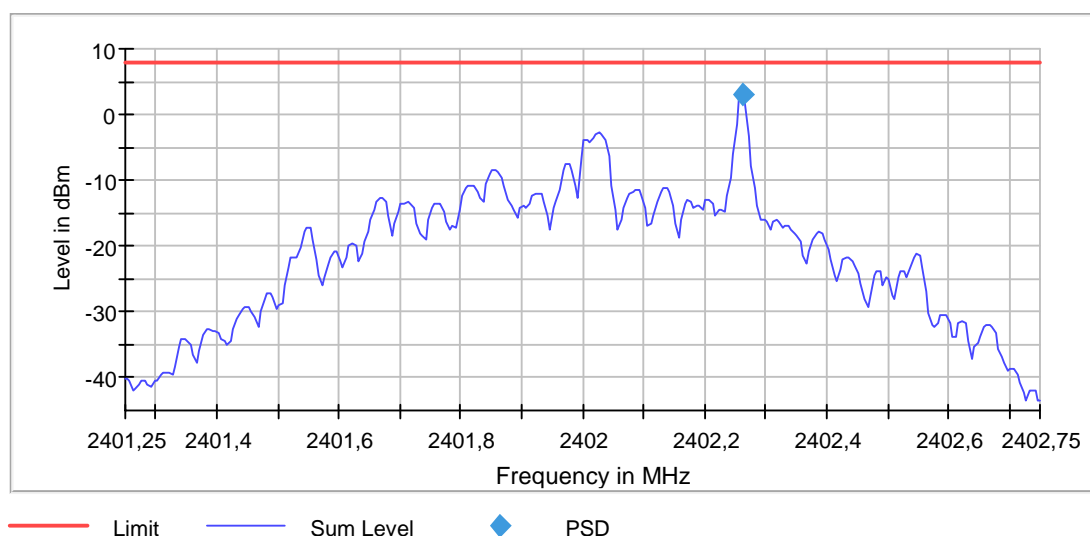
Peak Power Spectral Density (2402 MHz; BLE [GFSK] 1Mbps (10 dBm); 1 MHz)

Test according to FCC title 47 part 15 §15.247(a),(e), KDB 558074 D01 DTS Meas Guidance v05r02 and ANSI C63.10-2013

Result

| DUT Frequency (MHz) | Frequency (MHz) | PSD (dBm) | Limit Max (dBm) | Result |
|---------------------|-----------------|-----------|-----------------|--------|
| 2402.000000 | 2402.262500 | 3.199 | 8.0 | PASS |

Peak Power Spectral Density



— Limit — Sum Level ◆ PSD

Measurement

| Setting | Instrument Value | Target Value |
|-----------------------|------------------|---------------|
| Start Frequency | 2.40125 GHz | 2.40125 GHz |
| Stop Frequency | 2.40275 GHz | 2.40275 GHz |
| Span | 1.500 MHz | 1.500 MHz |
| RBW | 10.000 kHz | <= 10.000 kHz |
| VBW | 30.000 kHz | >= 30.000 kHz |
| SweepPoints | 300 | ~ 300 |
| SweepTime | 1.500 ms | AUTO |
| Reference Level | 0.000 dBm | 0.000 dBm |
| Attenuation | 10.000 dB | AUTO |
| Detector | MaxPeak | MaxPeak |
| SweepCount | 100 | 100 |
| Filter | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold |
| SweepType | Sweep | Sweep |
| Preamp | off | off |
| Stablemode | Trace | Trace |
| Stablevalue | 0.50 dB | 0.50 dB |
| Run | 3 / max. 150 | max. 150 |
| Stable | 2 / 2 | 2 |
| Max Stable Difference | 0.10 dB | 0.50 dB |

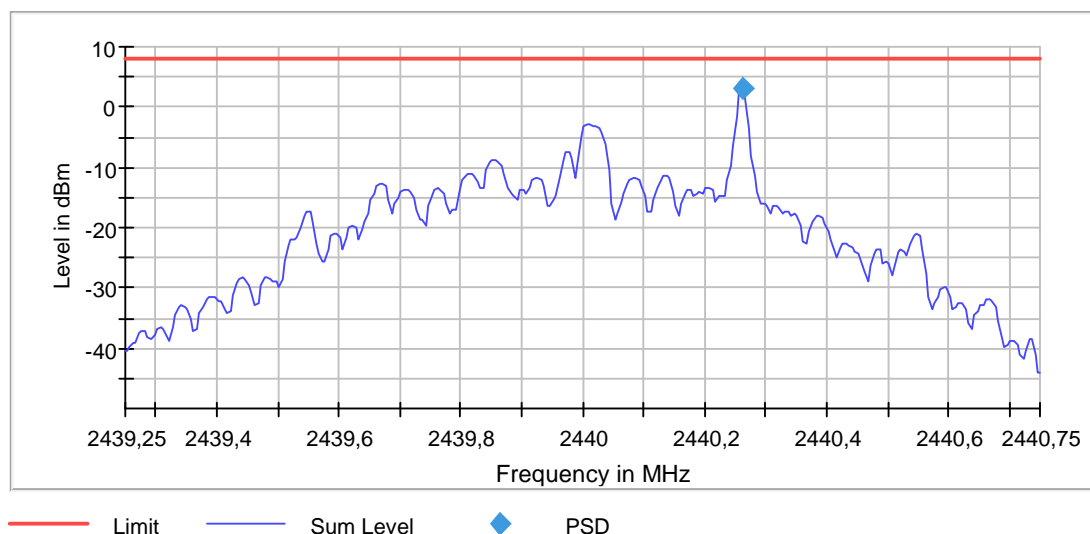
Peak Power Spectral Density (2440 MHz; BLE [GFSK] 1Mbps (10 dBm); 1 MHz)

Test according to FCC title 47 part 15 §15.247(a),(e), KDB 558074 D01 DTS Meas Guidance v05r02 and ANSI C63.10-2013

Result

| DUT Frequency (MHz) | Frequency (MHz) | PSD (dBm) | Limit Max (dBm) | Result |
|---------------------|-----------------|-----------|-----------------|--------|
| 2440.000000 | 2440.262500 | 3.027 | 8.0 | PASS |

Peak Power Spectral Density



— Limit — Sum Level ◆ PSD

Measurement

| Setting | Instrument Value | Target Value |
|-----------------------|------------------|-------------------|
| Start Frequency | 2.43925 GHz | 2.43925 GHz |
| Stop Frequency | 2.44075 GHz | 2.44075 GHz |
| Span | 1.500 MHz | 1.500 MHz |
| RBW | 10.000 kHz | ≤ 10.000 kHz |
| VBW | 30.000 kHz | ≥ 30.000 kHz |
| SweepPoints | 300 | ~ 300 |
| SweepTime | 1.500 ms | AUTO |
| Reference Level | 0.000 dBm | 0.000 dBm |
| Attenuation | 10.000 dB | AUTO |
| Detector | MaxPeak | MaxPeak |
| SweepCount | 100 | 100 |
| Filter | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold |
| SweepType | Sweep | Sweep |
| Preamp | off | off |
| Stablemode | Trace | Trace |
| Stablevalue | 0.50 dB | 0.50 dB |
| Run | 4 / max. 150 | max. 150 |
| Stable | 2 / 2 | 2 |
| Max Stable Difference | 0.04 dB | 0.50 dB |

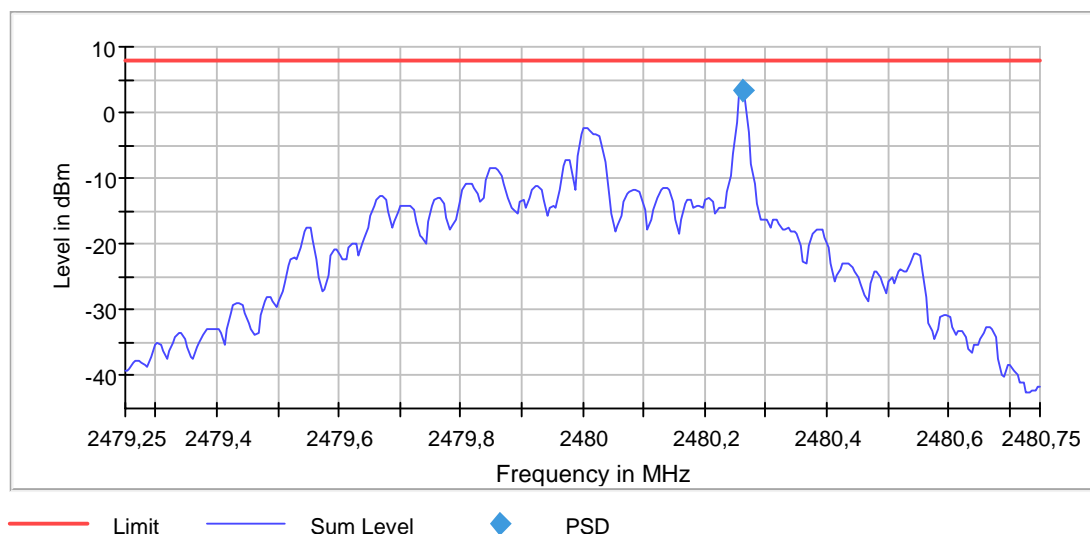
Peak Power Spectral Density (2480 MHz; BLE [GFSK] 1Mbps (10 dBm); 1 MHz)

Test according to FCC title 47 part 15 §15.247(a),(e), KDB 558074 D01 DTS Meas Guidance v05r02 and ANSI C63.10-2013

Result

| DUT Frequency (MHz) | Frequency (MHz) | PSD (dBm) | Limit Max (dBm) | Result |
|---------------------|-----------------|-----------|-----------------|--------|
| 2480.000000 | 2480.262500 | 3.242 | 8.0 | PASS |

Peak Power Spectral Density



— Limit — Sum Level ◆ PSD

Measurement

| Setting | Instrument Value | Target Value |
|-----------------------|------------------|---------------|
| Start Frequency | 2.47925 GHz | 2.47925 GHz |
| Stop Frequency | 2.48075 GHz | 2.48075 GHz |
| Span | 1.500 MHz | 1.500 MHz |
| RBW | 10.000 kHz | <= 10.000 kHz |
| VBW | 30.000 kHz | >= 30.000 kHz |
| SweepPoints | 300 | ~ 300 |
| SweepTime | 1.500 ms | AUTO |
| Reference Level | 0.000 dBm | 0.000 dBm |
| Attenuation | 10.000 dB | AUTO |
| Detector | MaxPeak | MaxPeak |
| SweepCount | 100 | 100 |
| Filter | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold |
| SweepType | Sweep | Sweep |
| Preamp | off | off |
| Stablemode | Trace | Trace |
| Stablevalue | 0.50 dB | 0.50 dB |
| Run | 3 / max. 150 | max. 150 |
| Stable | 2 / 2 | 2 |
| Max Stable Difference | 0.11 dB | 0.50 dB |

Occupied Channel Bandwidth 99% (2402 MHz; BLE [GFSK] 1Mbps (10 dBm); 1 MHz)

Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v05r02 and ANSI C63.10-2013

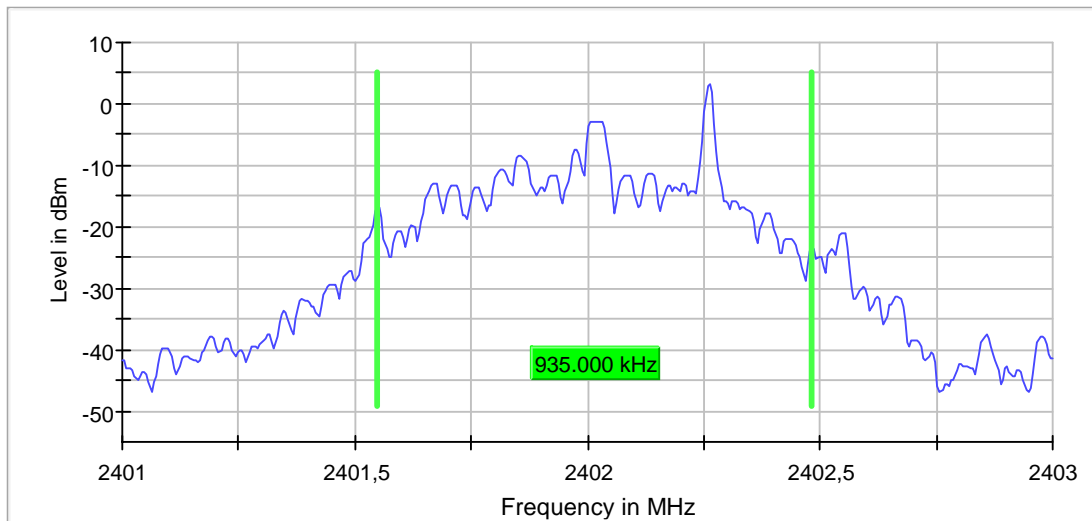
99 % Bandwidth

| DUT Frequency (MHz) | Bandwidth (MHz) | Limit Min (MHz) | Limit Max (MHz) | Band Edge Left (MHz) | Band Edge Right (MHz) |
|---------------------|-----------------|-----------------|-----------------|----------------------|-----------------------|
| 2402.000000 | 0.935000 | --- | --- | 2401.547500 | 2402.482500 |

(continuation of the "99 % Bandwidth" table from column 6 ...)

| DUT Frequency (MHz) | Result |
|---------------------|--------|
| 2402.000000 | PASS |

99 % Bandwidth



Measurement

| Setting | Instrument Value | Target Value |
|-----------------------|------------------|---------------|
| Start Frequency | 2.40100 GHz | 2.40100 GHz |
| Stop Frequency | 2.40300 GHz | 2.40300 GHz |
| Span | 2.000 MHz | 2.000 MHz |
| RBW | 10.000 kHz | >= 10.000 kHz |
| VBW | 30.000 kHz | >= 30.000 kHz |
| SweepPoints | 400 | ~ 400 |
| SweepTime | 2.000 ms | AUTO |
| Reference Level | 0.000 dBm | 0.000 dBm |
| Attenuation | 10.000 dB | AUTO |
| Detector | MaxPeak | MaxPeak |
| SweepCount | 100 | 100 |
| Filter | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold |
| Sweeptype | Sweep | AUTO |
| Preamp | off | off |
| Stablemode | Trace | Trace |
| Stablevalue | 0.30 dB | 0.30 dB |
| Run | 13 / max. 150 | max. 150 |
| Stable | 3 / 3 | 3 |
| Max Stable Difference | 0.00 dB | 0.30 dB |

Occupied Channel Bandwidth 99% (2440 MHz; BLE [GFSK] 1Mbps (10 dBm); 1 MHz)

Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v05r02 and ANSI C63.10-2013

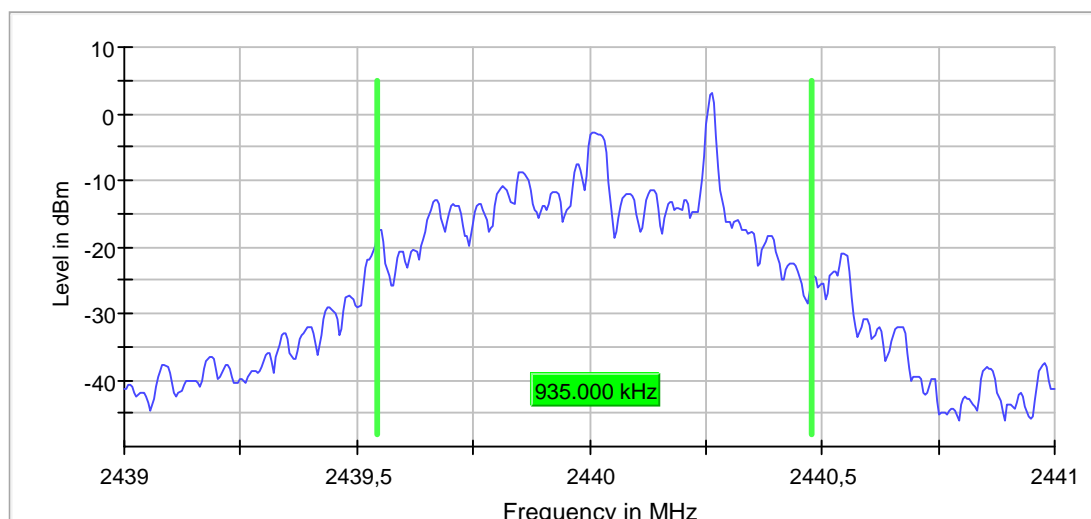
99 % Bandwidth

| DUT Frequency (MHz) | Bandwidth (MHz) | Limit Min (MHz) | Limit Max (MHz) | Band Edge Left (MHz) | Band Edge Right (MHz) |
|---------------------|-----------------|-----------------|-----------------|----------------------|-----------------------|
| 2440.000000 | 0.935000 | --- | --- | 2439.542500 | 2440.477500 |

(continuation of the "99 % Bandwidth" table from column 6 ...)

| DUT Frequency (MHz) | Result |
|---------------------|--------|
| 2440.000000 | PASS |

99 % Bandwidth



Measurement

| Setting | Instrument Value | Target Value |
|-----------------------|------------------|---------------|
| Start Frequency | 2.43900 GHz | 2.43900 GHz |
| Stop Frequency | 2.44100 GHz | 2.44100 GHz |
| Span | 2.000 MHz | 2.000 MHz |
| RBW | 10.000 kHz | >= 10.000 kHz |
| VBW | 30.000 kHz | >= 30.000 kHz |
| SweepPoints | 400 | ~ 400 |
| Sweeptime | 2.000 ms | AUTO |
| Reference Level | 0.000 dBm | 0.000 dBm |
| Attenuation | 10.000 dB | AUTO |
| Detector | MaxPeak | MaxPeak |
| SweepCount | 100 | 100 |
| Filter | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold |
| Sweeptype | Sweep | AUTO |
| Preamp | off | off |
| Stablemode | Trace | Trace |
| Stablevalue | 0.30 dB | 0.30 dB |
| Run | 4 / max. 150 | max. 150 |
| Stable | 3 / 3 | 3 |
| Max Stable Difference | 0.10 dB | 0.30 dB |

Occupied Channel Bandwidth 99% (2480 MHz; BLE [GFSK] 1Mbps (10 dBm); 1 MHz)

Test according to FCC title 47 part 15 §15.247(a), KDB 558074 D01 DTS Meas Guidance v05r02 and ANSI C63.10-2013

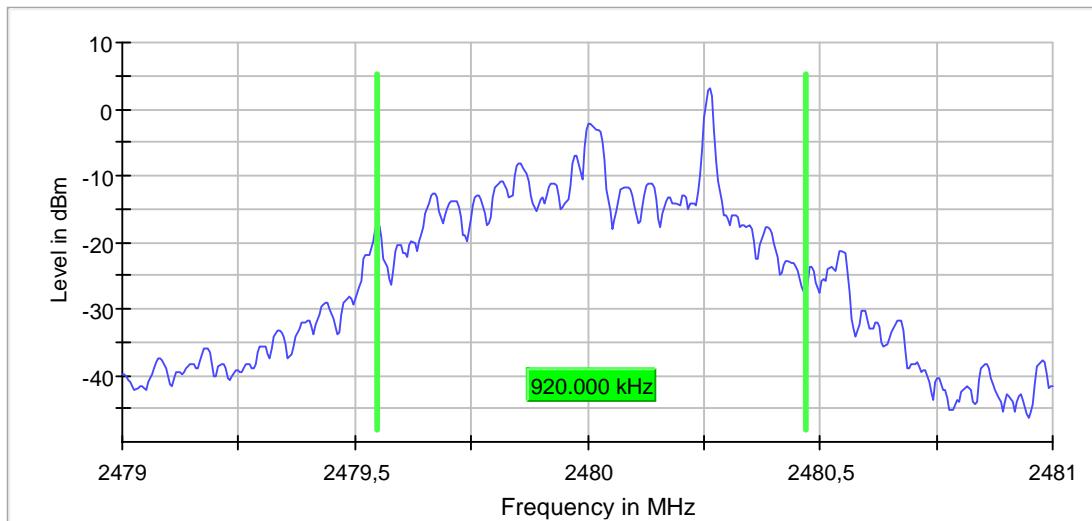
99 % Bandwidth

| DUT Frequency (MHz) | Bandwidth (MHz) | Limit Min (MHz) | Limit Max (MHz) | Band Edge Left (MHz) | Band Edge Right (MHz) |
|---------------------|-----------------|-----------------|-----------------|----------------------|-----------------------|
| 2480.000000 | 0.920000 | --- | --- | 2479.547500 | 2480.467500 |

(continuation of the "99 % Bandwidth" table from column 6 ...)

| DUT Frequency (MHz) | Result |
|---------------------|--------|
| 2480.000000 | PASS |

99 % Bandwidth



Measurement

| Setting | Instrument Value | Target Value |
|-----------------------|------------------|---------------|
| Start Frequency | 2.47900 GHz | 2.47900 GHz |
| Stop Frequency | 2.48100 GHz | 2.48100 GHz |
| Span | 2.000 MHz | 2.000 MHz |
| RBW | 10.000 kHz | >= 10.000 kHz |
| VBW | 30.000 kHz | >= 30.000 kHz |
| SweepPoints | 400 | ~ 400 |
| Sweeptime | 2.000 ms | AUTO |
| Reference Level | 0.000 dBm | 0.000 dBm |
| Attenuation | 10.000 dB | AUTO |
| Detector | MaxPeak | MaxPeak |
| SweepCount | 100 | 100 |
| Filter | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold |
| Sweeptype | Sweep | AUTO |
| Preamp | off | off |
| Stablemode | Trace | Trace |
| Stablevalue | 0.30 dB | 0.30 dB |
| Run | 9 / max. 150 | max. 150 |
| Stable | 3 / 3 | 3 |
| Max Stable Difference | 0.00 dB | 0.30 dB |

Tx Spurious Emission (2402 MHz; BLE [GFSK] 1Mbps (10 dBm); 1 MHz)

Test according to FCC title 47 part 15 §15.247(d), KDB 558074 D01 DTS Meas Guidance v05r02 and ANSI C63.10-2013

Result

| DUT Frequency (MHz) | Result |
|---------------------|--------|
| 2402.000000 | PASS |

Final measurements

| Frequency (MHz) | Level Pre Measurement (dBm) | level (dBm) | Limit (dBm) | Margin (dB) | Result |
|-----------------|-----------------------------|-------------|-------------|-------------|--------|
| 2399.958664 | 0.5 | -66.5 | -26.9 | 39.6 | PASS |

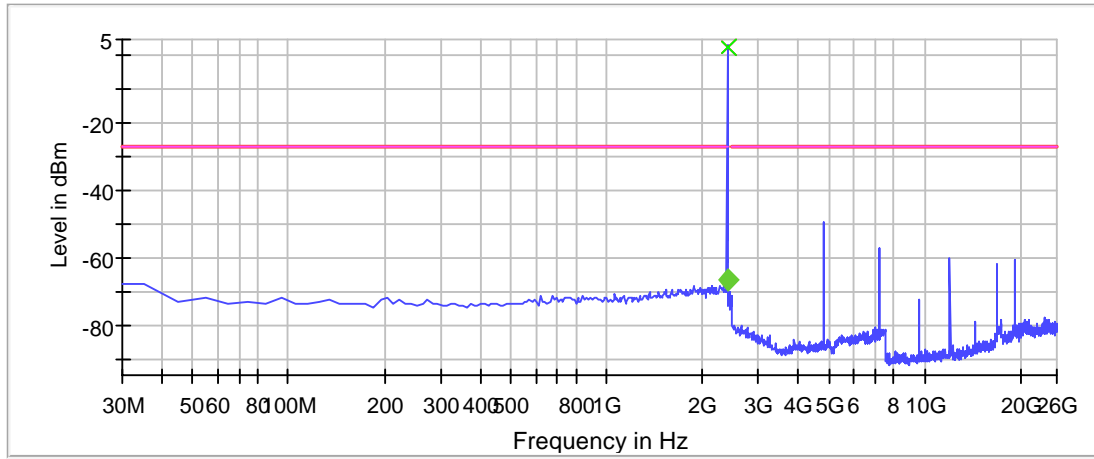
Pre Measurements

| Frequency (MHz) | Level (dBm) | Margin (dB) | Limit (dBm) |
|-----------------|-------------|-------------|-------------|
| 2395.021008 | 2.5 | -29.4 | -26.9 |
| 4807.166065 | -49.6 | 22.7 | -26.9 |
| 7205.789099 | -57.4 | 30.5 | -26.9 |
| 12013.029431 | -60.1 | 33.2 | -26.9 |
| 19218.892796 | -60.9 | 34.0 | -26.9 |
| 16820.269762 | -62.1 | 35.2 | -26.9 |
| 16810.275499 | -64.2 | 37.3 | -26.9 |
| 2345.231092 | -67.7 | 40.8 | -26.9 |
| 2385.063025 | -67.7 | 40.8 | -26.9 |
| 2375.105042 | -67.8 | 40.9 | -26.9 |
| 30.000000 | -68.0 | 41.1 | -26.9 |
| 34.978992 | -68.0 | 41.1 | -26.9 |
| 1877.205882 | -68.2 | 41.3 | -26.9 |
| 2255.609244 | -68.4 | 41.5 | -26.9 |
| 2146.071429 | -68.6 | 41.6 | -26.9 |

Measurement Settings

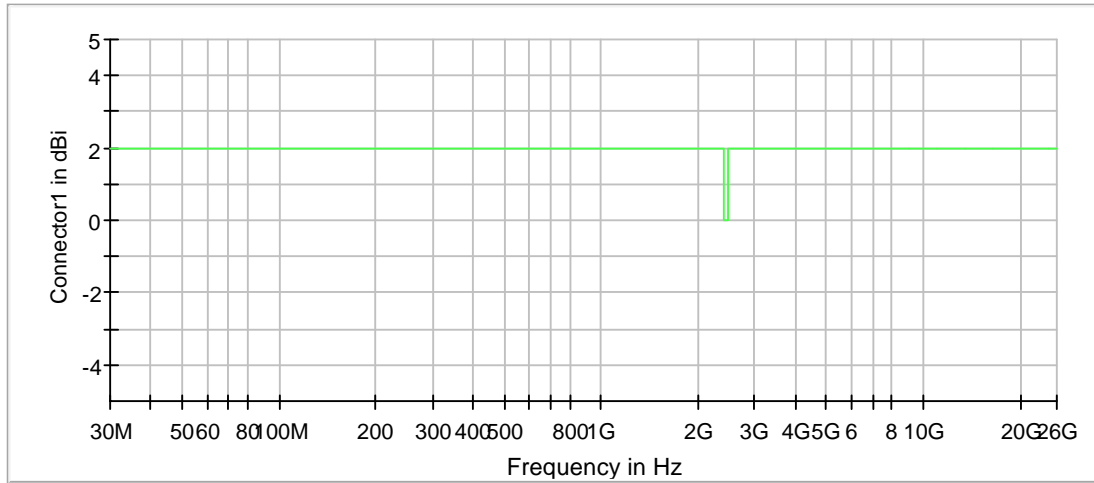
| Start Frequency (MHz) | Stop Frequency (MHz) | Pre Measurement | Final Measurement |
|-----------------------|----------------------|-----------------|-------------------|
| 30.000000 | 2400.000000 | 1 | 1 |
| 2400.000000 | 2483.500000 | 1 | 1 |
| 2483.500000 | 26000.000000 | 1 | 1 |

Spurious



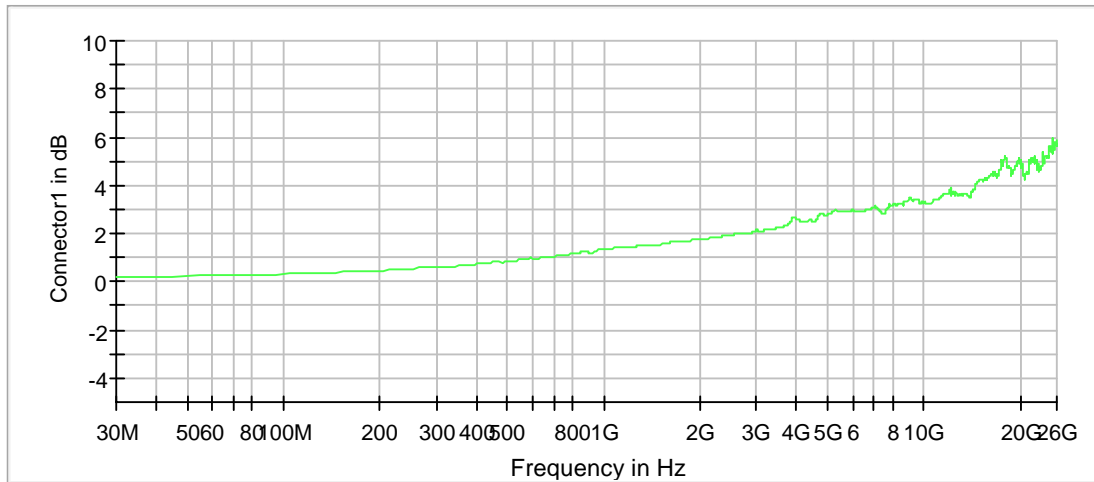
- Limit
- Sum Level
- Threshold
- × Critical
- × Final Critical
- ◆ Fail
- ◆ Pass

Gain



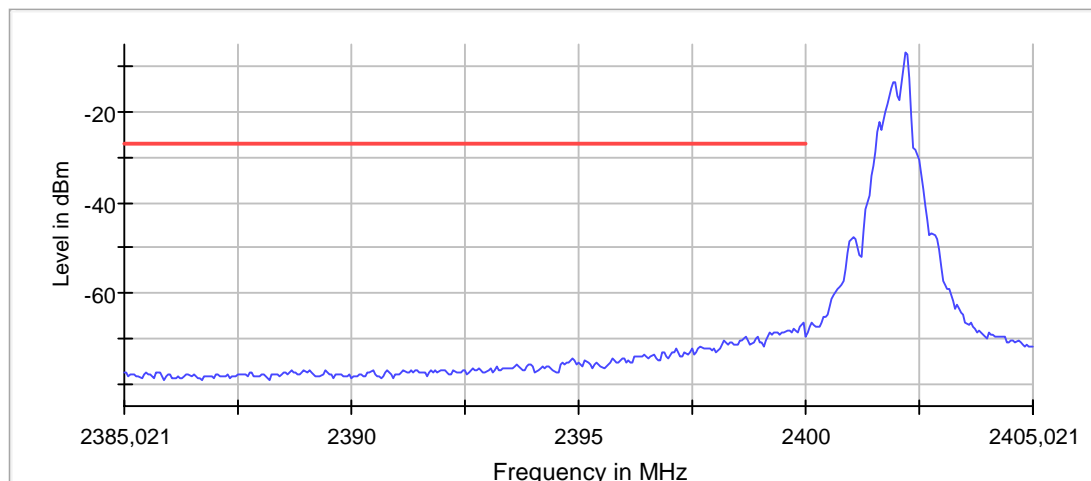
Connector1

Attenuation



Connector1

FinalMeas_2395021008Hz



— Sum Level — Limit

Pre Measurement 1

| Setting | Instrument Value | Target Value |
|-----------------------|------------------|----------------|
| RBW | 100.000 kHz | <= 100.000 kHz |
| VBW | 300.000 kHz | >= 300.000 kHz |
| SweepPoints | 238 | ~ 238 |
| SweepTime | 23.700 ms | AUTO |
| Reference Level | -10.000 dBm | -30.000 dBm |
| Attenuation | 20.000 dB | AUTO |
| Detector | MaxPeak | MaxPeak |
| SweepCount | 3 | 3 |
| Filter | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold |
| SweepType | Sweep | AUTO |
| Preamp | off | off |
| Stablemode | Trace | Trace |
| Stablevalue | 0.50 dB | 0.50 dB |
| Run | 5 / max. 40 | max. 40 |
| Stable | 3 / 3 | 3 |
| Max Stable Difference | 0.00 dB | 0.50 dB |

Final Measurement 1

| Setting | Instrument Value | Target Value |
|-----------------|------------------|----------------|
| RBW | 100.000 kHz | <= 100.000 kHz |
| VBW | 300.000 kHz | >= 300.000 kHz |
| SweepPoints | 401 | ~ 401 |
| SweepTime | 1.000 ms | AUTO |
| Reference Level | 10.000 dBm | 10.000 dBm |
| Attenuation | 20.000 dB | AUTO |
| Detector | Sample | Sample |
| SweepCount | 100 | 100 |
| Filter | 3 dB | 3 dB |
| Trace Mode | Average Linear | Average Linear |
| SweepType | Sweep | AUTO |
| Preamp | off | off |

Tx Spurious Emission (2440 MHz; BLE [GFSK] 1Mbps (10 dBm); 1 MHz)

Test according to FCC title 47 part 15 §15.247(d), KDB 558074 D01 DTS Meas Guidance v05r02 and ANSI C63.10-2013

Result

| DUT Frequency (MHz) | Result |
|---------------------|--------|
| 2440.000000 | PASS |

Final measurements

| Frequency (MHz) | Level Pre Measurement (dBm) | level (dBm) | Limit (dBm) | Margin (dB) | Result |
|-----------------|-----------------------------|-------------|-------------|-------------|--------|
| --- | --- | --- | --- | --- | --- |

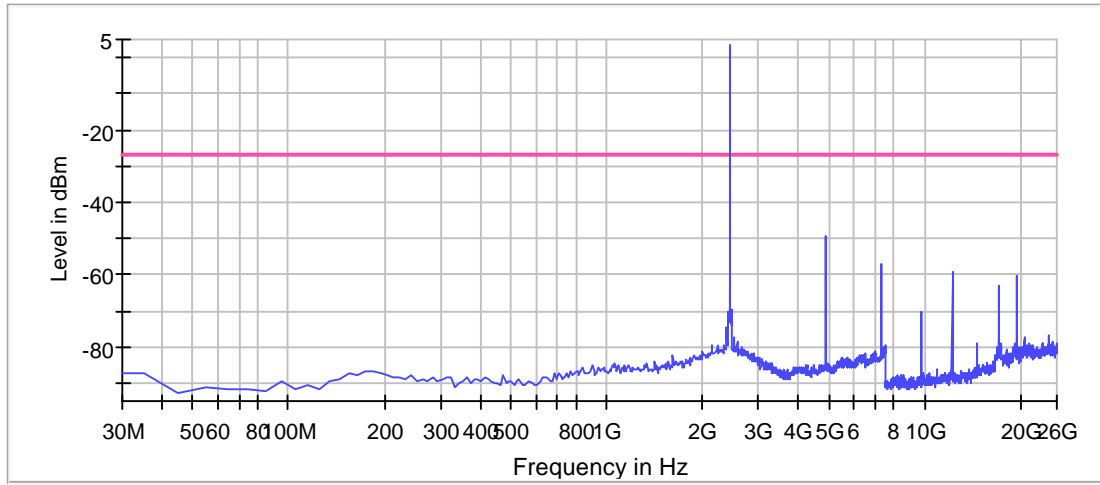
Pre Measurements

| Frequency (MHz) | Level (dBm) | Margin (dB) | Limit (dBm) |
|-----------------|-------------|-------------|-------------|
| 4877.125903 | -49.5 | 22.7 | -26.8 |
| 7325.720251 | -57.3 | 30.6 | -26.8 |
| 7315.725988 | -57.8 | 31.0 | -26.8 |
| 12202.920421 | -59.5 | 32.8 | -26.8 |
| 19518.720676 | -60.6 | 33.8 | -26.8 |
| 17080.120591 | -63.3 | 36.5 | -26.8 |
| 9764.320336 | -70.2 | 43.4 | -26.8 |
| 2375.105042 | -74.4 | 47.7 | -26.8 |
| 9754.326073 | -74.9 | 48.2 | -26.8 |
| 24405.915108 | -76.7 | 50.0 | -26.8 |
| 20628.083829 | -77.1 | 50.4 | -26.8 |
| 2385.063025 | -77.3 | 50.6 | -26.8 |
| 2508.485657 | -77.5 | 50.8 | -26.8 |
| 20508.152677 | -78.0 | 51.2 | -26.8 |
| 20538.135465 | -78.2 | 51.4 | -26.8 |

Measurement Settings

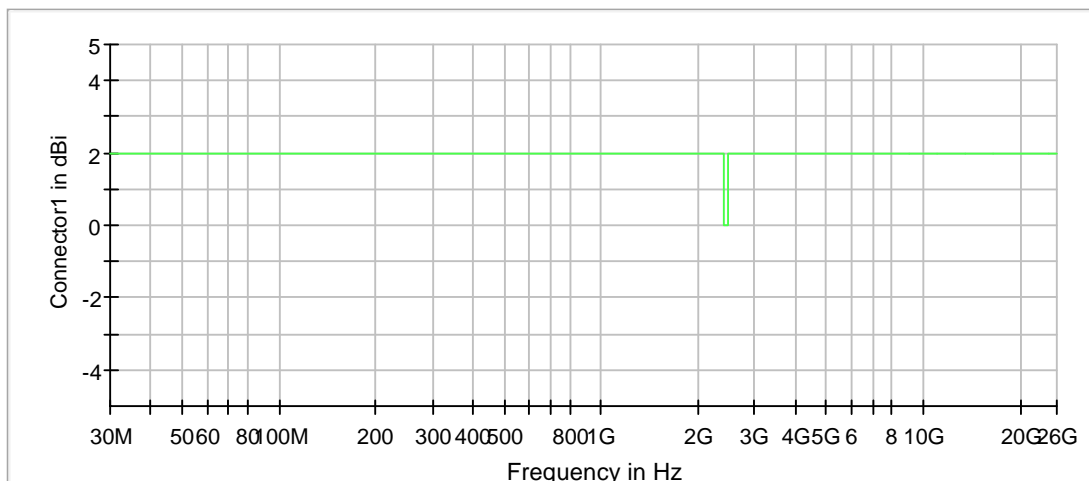
| Start Frequency (MHz) | Stop Frequency (MHz) | Pre Measurement | Final Measurement |
|-----------------------|----------------------|-----------------|-------------------|
| 30.000000 | 2400.000000 | 1 | 1 |
| 2400.000000 | 2483.500000 | 1 | 1 |
| 2483.500000 | 26000.000000 | 1 | 1 |

Spurious



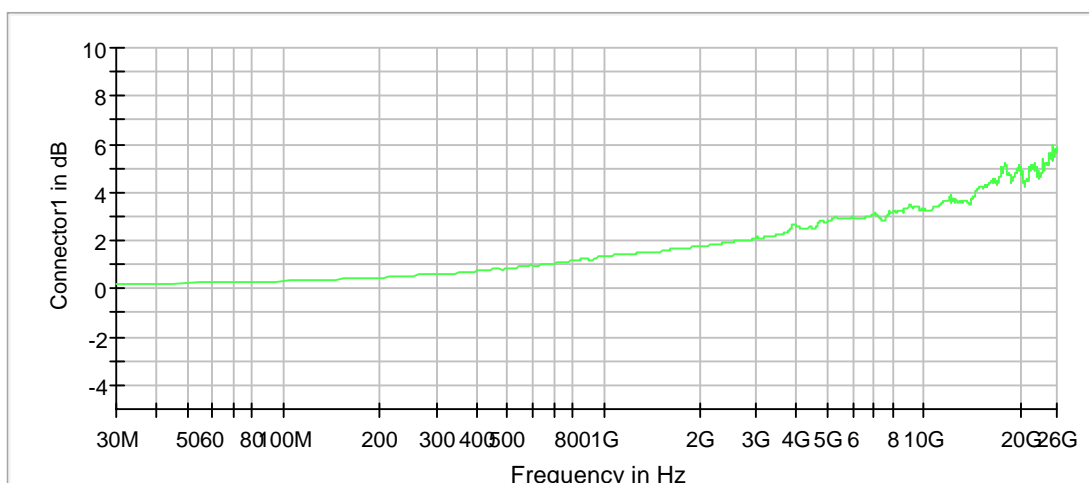
— Limit — Sum Level — Threshold × Critical × Final Critical

Gain



Connector1

Attenuation



Connector1

Pre Measurement 1

| Setting | Instrument Value | Target Value |
|-----------------------|------------------|----------------|
| RBW | 100.000 kHz | <= 100.000 kHz |
| VBW | 300.000 kHz | >= 300.000 kHz |
| SweepPoints | 238 | ~ 238 |
| Sweeptime | 23.700 ms | AUTO |
| Reference Level | -30.000 dBm | -30.000 dBm |
| Attenuation | 0.000 dB | AUTO |
| Detector | MaxPeak | MaxPeak |
| SweepCount | 3 | 3 |
| Filter | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold |
| SweepType | Sweep | AUTO |
| Preamp | off | off |
| Stablemode | Trace | Trace |
| Stablevalue | 0.50 dB | 0.50 dB |
| Run | 19 / max. 40 | max. 40 |
| Stable | 3 / 3 | 3 |
| Max Stable Difference | 0.00 dB | 0.50 dB |

Tx Spurious Emission (2480 MHz; BLE [GFSK] 1Mbps (10 dBm); 1 MHz)

Test according to FCC title 47 part 15 §15.247(d), KDB 558074 D01 DTS Meas Guidance v05r02 and ANSI C63.10-2013

Result

| DUT Frequency (MHz) | Result |
|---------------------|--------|
| 2480.000000 | PASS |

Final measurements

| Frequency (MHz) | Level Pre Measurement (dBm) | level (dBm) | Limit (dBm) | Margin (dB) | Result |
|-----------------|-----------------------------|-------------|-------------|-------------|--------|
| --- | --- | --- | --- | --- | --- |

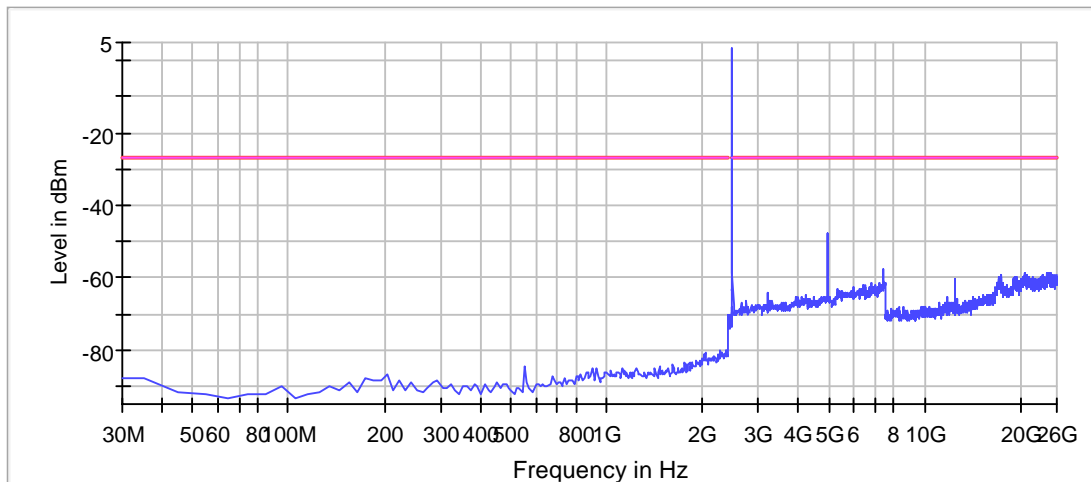
Pre Measurements

| Frequency (MHz) | Level (dBm) | Margin (dB) | Limit (dBm) |
|-----------------|-------------|-------------|-------------|
| 4957.080004 | -47.6 | 20.7 | -26.8 |
| 7445.651402 | -57.9 | 31.1 | -26.8 |
| 20598.101041 | -58.5 | 31.7 | -26.8 |
| 24795.691351 | -58.6 | 31.8 | -26.8 |
| 24605.800361 | -58.7 | 31.9 | -26.8 |
| 24315.966745 | -58.7 | 31.9 | -26.8 |
| 2488.497131 | -58.8 | 32.0 | -26.8 |
| 17339.971419 | -59.0 | 32.2 | -26.8 |
| 20638.078092 | -59.0 | 32.2 | -26.8 |
| 26000.000000 | -59.1 | 32.3 | -26.8 |
| 25995.002869 | -59.1 | 32.3 | -26.8 |
| 20568.118253 | -59.1 | 32.3 | -26.8 |
| 24066.110178 | -59.1 | 32.3 | -26.8 |
| 24615.794624 | -59.3 | 32.5 | -26.8 |
| 24675.760200 | -59.4 | 32.5 | -26.8 |

Measurement Settings

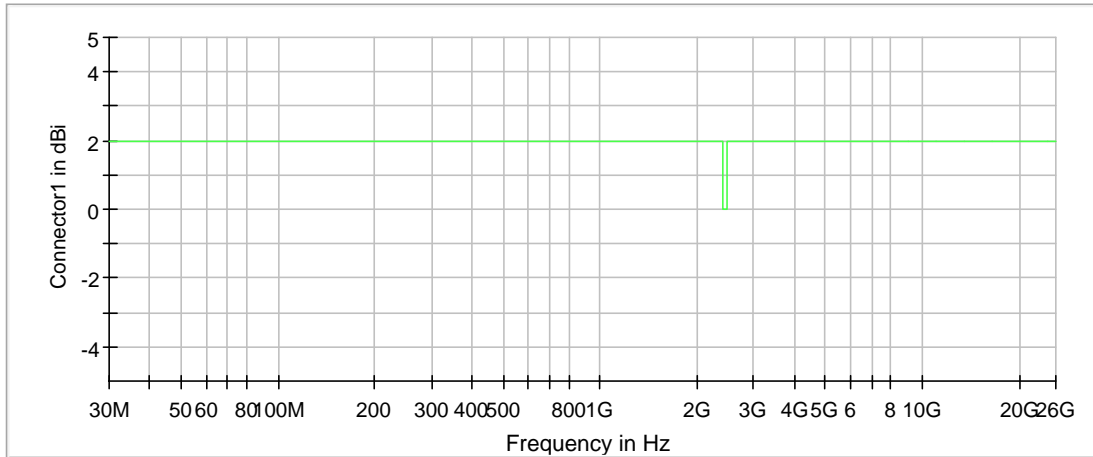
| Start Frequency (MHz) | Stop Frequency (MHz) | Pre Measurement | Final Measurement |
|-----------------------|----------------------|-----------------|-------------------|
| 30.000000 | 2400.000000 | 1 | 1 |
| 2400.000000 | 2483.500000 | 1 | 1 |
| 2483.500000 | 26000.000000 | 1 | 1 |

Spurious



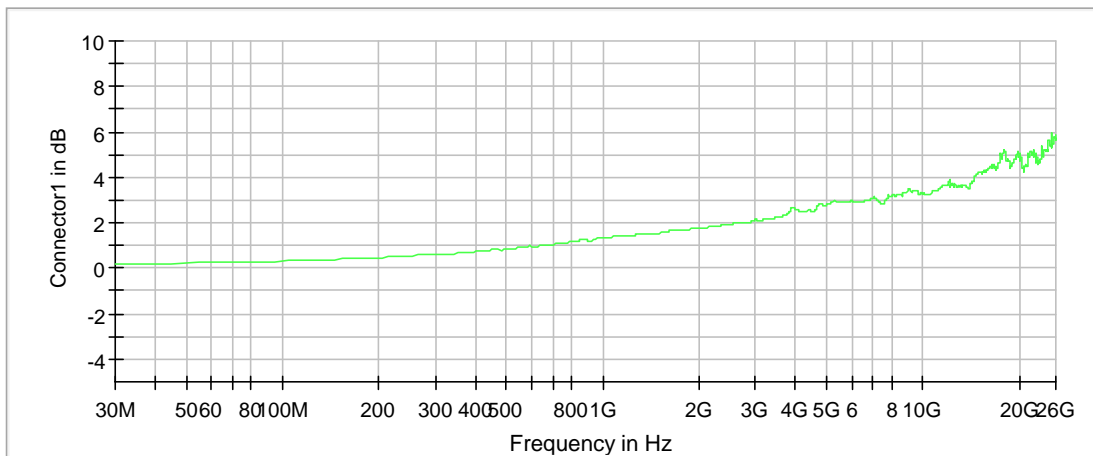
— Limit — Sum Level — Threshold × Critical × Final Critical

Gain



Connector1

Attenuation



Connector1

Pre Measurement 1

| Setting | Instrument Value | Target Value |
|-----------------------|------------------|----------------|
| RBW | 100.000 kHz | <= 100.000 kHz |
| VBW | 300.000 kHz | >= 300.000 kHz |
| SweepPoints | 238 | ~ 238 |
| Sweeptime | 23.700 ms | AUTO |
| Reference Level | -30.000 dBm | -30.000 dBm |
| Attenuation | 0.000 dB | AUTO |
| Detector | MaxPeak | MaxPeak |
| SweepCount | 3 | 3 |
| Filter | 3 dB | 3 dB |
| Trace Mode | Max Hold | Max Hold |
| SweepType | Sweep | AUTO |
| Preamp | off | off |
| Stablemode | Trace | Trace |
| Stablevalue | 0.50 dB | 0.50 dB |
| Run | 5 / max. 40 | max. 40 |
| Stable | 3 / 3 | 3 |
| Max Stable Difference | 0.00 dB | 0.50 dB |

End Of Annex 1