

## 5.5.1 TLF20 4160 3.6 RWLB 277-400V WC3 QB SP

## Performed measurements

The following configuration(s) and parameter(s) was/were used for testing:

|                 |                          |  |  |
|-----------------|--------------------------|--|--|
| Port under test | Enclosure (with cabling) |  |  |
| Test method     | X                        | Semi Anechoic Chamber  |  |
|                 |                          | Open Area Test Site (OATS)   |  |
|                 |                          | In-Situ (at user/manufacture premises)                             |  |
|                 |                          | GTEM cell  |  |
|                 |                          | Other:   | ---  |
| Test set-up     | X                        | Equipment on a table of 80 cm height                               |  |
|                 |                          | Equipment on the floor (insulated from the reference ground plane) |  |
|                 |                          | Other:   | The EUT is installed on a support of 1.5 m above the ground plane. |

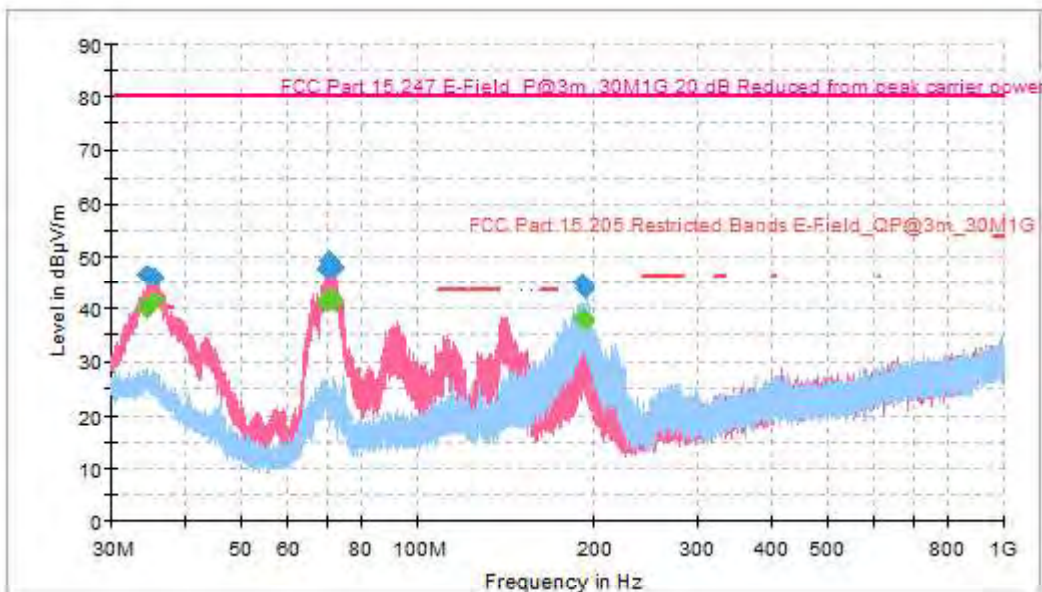
| Technology | Sample | Mode / Modulation | Channel / Freq. | Frequency range | Antenna Polar. / axis | P/F | Sup. Info / Remark |
|------------|--------|-------------------|-----------------|-----------------|-----------------------|-----|--------------------|
| ZigBee     | 01     | OM#2              | 11 / 2405 MHz   | 30 - 1000 MHz   | H/V                   | P   | (1)                |
| ZigBee     | 01     | OM#2              | 18 / 2440 MHz   | 30 - 1000 MHz   | H/V                   | P   | (1)                |
| ZigBee     | 01     | OM#2              | 26 / 2480 MHz   | 30 - 1000 MHz   | H/V                   | P   | (1)                |

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## Supplementary information / Remark:

- 1) The spurious frequencies do not depend on the operating channel.

**FREQUENCY RANGE 30 MHz – 1 GHz:**

| Measurement data  |                  | <input checked="" type="checkbox"/>      | Horizontal               | <input checked="" type="checkbox"/> | Vertical |
|---|------------------|--|--------------------------|-------------------------------------|----------|
| Operating mode / Info   |                  |  | Mode 2 / TX All Channels |                                     |          |
| Common Information  |                  |  |                          |                                     |          |
| EUT/Sample # / OM#  |                  | : TLF20 4160 3.6 RWLB 277-400V WC3 QB SP |                          |                                     |          |
| Voltage/Frequency   |                  | : 277-400 Vac                            |                          |                                     |          |
| Port/Terminal under test  |                  | : Enclosure                              |                          |                                     |          |
| Remark/Comment  |                  | : EUT ON. ZigBee All Channels            |                          |                                     |          |
| <div></div> <div><div>— Preview Result 2V-AVG</div><div>— Preview Result 1V-PK+</div><div>— Preview Result 2H-AVG</div><div>— Preview Result 1H-PK+</div><div>— FCC Part 15.205 Restricted Bands E-Field_QP@3m_30M1G</div><div>— FCC Part 15.247 E-Field_P@3m_30M1G 20 dB Reduced from peak carrier power</div><div><div>◆ Final_Result PK+</div><div>◆ Final_Result QPK</div></div></div> |                  |  |                          |                                     |          |
| Final Results   |                  |  |                          |                                     |          |
| Frequency (MHz)   | MaxPeak (dBµV/m) | Height (cm)                              | Pol                      |                                     |          |
| 34.415833   | 46.50            | 105.0                                    | V                        |                                     |          |
| 34.504500   | 46.31            | 100.0                                    | V                        |                                     |          |
| 35.491000   | 46.17            | 100.0                                    | V                        |                                     |          |
| 70.264500   | 47.77            | 105.0                                    | V                        |                                     |          |
| 70.715500   | 49.32            | 118.0                                    | V                        |                                     |          |
| 72.369167   | 47.82            | 136.0                                    | V                        |                                     |          |
| 191.997500  | 45.17            | 128.0                                    | H                        |                                     |          |
| 193.448500  | 44.10            | 136.0                                    | H                        |                                     |          |
| NOTE: As the spurious frequencies are outside the restricted bands as defined in § 15.205 (a), the maximum peak radiated carrier power was measured at 3 m to be 79.74 dBµV/m, and a new limit line of 20 dB below that value was applied, as stated in § 15.247 (d).   |                  |  |                          |                                     |          |
| Supplementary information:  |                  |  |                          |                                     |          |
| - The "Azimuth/Pol/Height" indicates the turn-table azimuth, the antenna polarization and the antenna height where the maximum emissions level was measured.  |                  |  |                          |                                     |          |
| - The "Margin" is with reference to the emissions limit. A positive number indicates that the emission measurement is below the limit. A negative number indicates that the emission measurement exceeds the limit.   |                  |  |                          |                                     |          |

## Performed measurements

The following configuration(s) and parameter(s) was/were used for testing:

|                 |                          |  |  |
|-----------------|--------------------------|--|--|
| Port under test | Enclosure (with cabling) |  |  |
| Test method     | X                        | Semi Anechoic Chamber  |  |
|                 |                          | Open Area Test Site (OATS)   |  |
|                 |                          | In-Situ (at user/manufacturer premises)                            |  |
|                 |                          | GTEM cell  |  |
|                 |                          | Other:   | ---  |
| Test set-up     |                          | Equipment on a table of 80 cm height                               |  |
|                 |                          | Equipment on the floor (insulated from the reference ground plane) |  |
|                 | X                        | Other:   | The EUT is installed on a support of 1.5 m above the ground plane. |

| Technology | Sample | Mode / Modulation | Channel / Freq. | Frequency range | Antenna Polar. / axis | P/F | Sup. Info / Remark |
|------------|--------|-------------------|-----------------|-----------------|-----------------------|-----|--------------------|
| ZigBee     | 01     | OM#02             | 11 / 2405 MHz   | 1 – 3 GHz       | H/V                   | P   | ---                |
| ZigBee     | 01     | OM#02             | 18 / 2440 MHz   | 1 – 3 GHz       | H/V                   | P   | ---                |
| ZigBee     | 01     | OM#02             | 26 / 2480 MHz   | 1 – 3 GHz       | H/V                   | P   | ---                |
| ZigBee     | 01     | OM#02             | 11 / 2405 MHz   | 3 – 18 GHz      | H/V                   | P   | ---                |
| ZigBee     | 01     | OM#02             | 18 / 2440 MHz   | 3 – 18 GHz      | H/V                   | P   | ---                |
| ZigBee     | 01     | OM#02             | 26 / 2480 MHz   | 3 – 18 GHz      | H/V                   | P   | ---                |
| ZigBee     | 01     | OM#02             | 11 / 2405 MHz   | 18 – 26 GHz     | H/V                   | P   | (1)                |
| ZigBee     | 01     | OM#02             | 18 / 2440 MHz   | 18 – 26 GHz     | H/V                   | P   | (1)                |
| ZigBee     | 01     | OM#02             | 26 / 2480 MHz   | 18 – 26 GHz     | H/V                   | P   | (1)                |

### Supplementary information / Remark:

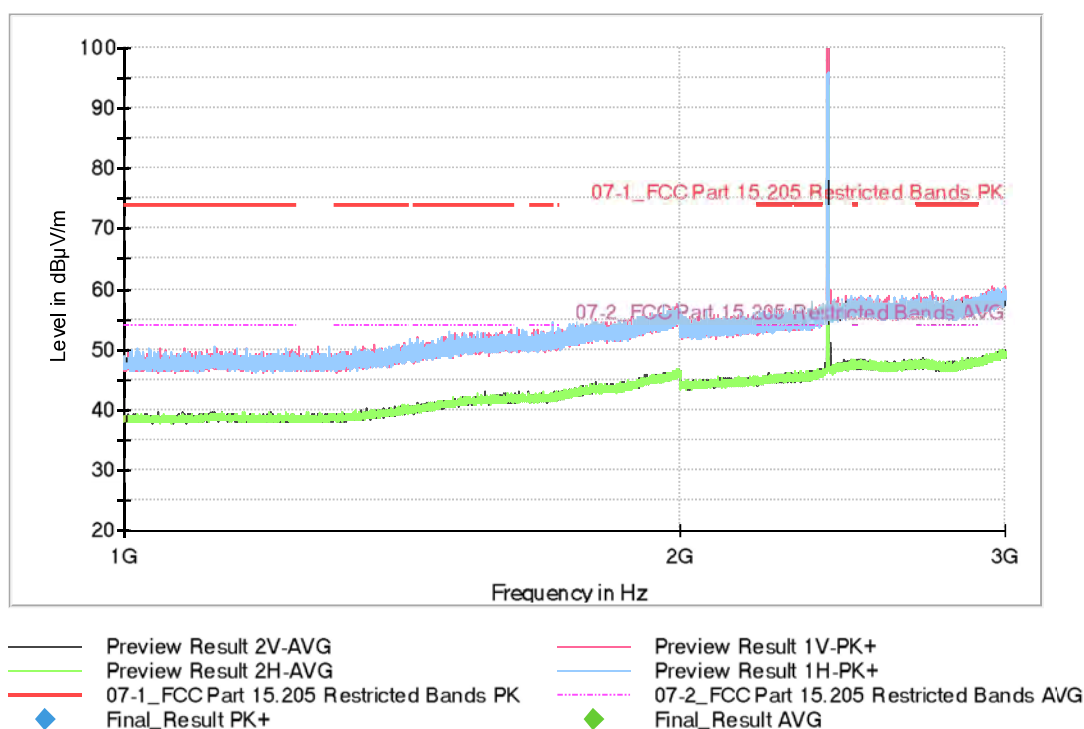
- 1) The spurious frequencies do not depend on the operating channel.

## FREQUENCY RANGE 1 – 3 GHz:

| Measurement data      | <input checked="" type="checkbox"/> | Horizontal                       | <input checked="" type="checkbox"/> | Vertical |
|-----------------------|-------------------------------------|----------------------------------|-------------------------------------|----------|
| Operating mode / Info |                                     | Mode 2 / TX Channel Low 2405 MHz |                                     |          |

### Common Information

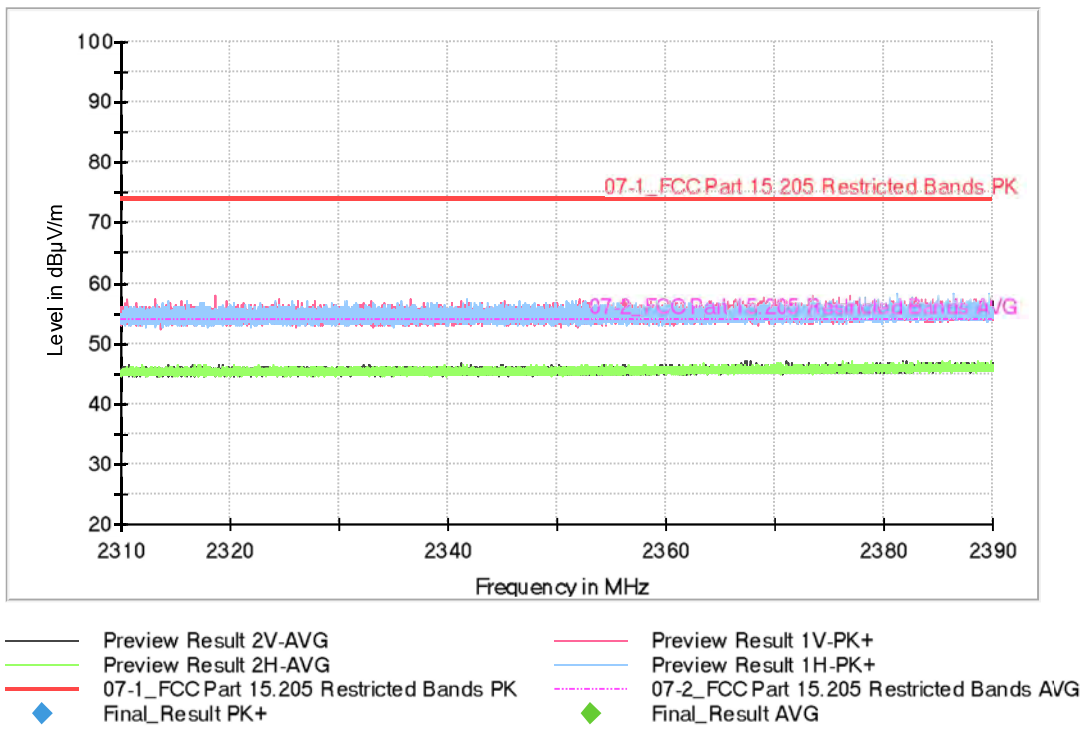
EUT/Sample # / OM# : TLF20 4160 3.6 RWLB 277-400V WC3 QB SP  
Voltage/Frequency : 277-400 Vac  
Port/Terminal under test : Enclosure  
Remark/Comment : EUT ON. ZigBee Low CH (2405 MHz)



No significant values were measured with a margin less than 6 dB to the limits.

### Supplementary information:

- The "Azimuth/Pol/Height" indicates the turn-table azimuth, the antenna polarization and the antenna height where the maximum emissions level was measured.
- The "Margin" is with reference to the emissions limit. A positive number indicates that the emission measurement is below the limit. A negative number indicates that the emission measurement exceeds the limit.

| Measurement data  | <input checked="" type="checkbox"/> | Horizontal  | <input checked="" type="checkbox"/> | Vertical |
|---|-------------------------------------|---|-------------------------------------|----------|
| Operating mode / Info   |                                     | Mode 2 / TX Channel Low 2405 MHz                                  |                                     |          |
| Restricted band 2.31-2.39 GHz   |                                     |   |                                     |          |
| Common Information  |                                     |   |                                     |          |
| EUT/Sample # / OM#  |                                     | : TLF20 4160 3.6 RWLB 277-400V WC3 QB SP                          |                                     |          |
| Voltage/Frequency   |                                     | : 277-400 Vac   |                                     |          |
| Port/Terminal under test  |                                     | : Enclosure   |                                     |          |
| Remark/Comment  |                                     | : EUT ON. Restricted band 2.31-2.39 GHz. ZigBee Low CH (2405 MHz) |                                     |          |
| <div></div>  |                                     |   |                                     |          |
| No significant values were measured.  |                                     |   |                                     |          |
| Supplementary information:  |                                     |   |                                     |          |
| - The "Azimuth/Pol/Height" indicates the turn-table azimuth, the antenna polarization and the antenna height where the maximum emissions level was measured.  |                                     |   |                                     |          |
| - The "Margin" is with reference to the emissions limit. A positive number indicates that the emission measurement is below the limit. A negative number indicates that the emission measurement exceeds the limit. |                                     |   |                                     |          |