

## Annex 1: Measurement diagrams 20-1-0060701T56a-C1\_A1

|                                                         |                                                                                                                                                                                                                                                                                                                                                                                                      |                        |                                  |
|---------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------|----------------------------------|
| <b>Number of pages:</b>                                 | 22                                                                                                                                                                                                                                                                                                                                                                                                   | <b>Date of Report:</b> | 2021-Jul-28                      |
| <b>Testing company:</b>                                 | CETECOM GmbH<br>Im Teelbruch 116<br>45219 Essen Germany<br>Tel. + 49 (0) 20 54 / 95 19-0<br>Fax: + 49 (0) 20 54 / 95 19-150                                                                                                                                                                                                                                                                          | <b>Applicant:</b>      | VALEO Telematik und Akustik GmbH |
| <b>Product:</b><br><b>Model:</b>                        | Telematic Device<br>ATM-02-US-R1                                                                                                                                                                                                                                                                                                                                                                     |                        |                                  |
| <b>FCC ID:</b>                                          | QWY-ATM2-R-11                                                                                                                                                                                                                                                                                                                                                                                        | <b>IC:</b>             | 6588A-ATM2R11                    |
| <b>Testing has been carried out in accordance with:</b> | Title 47 CFR, Chapter I<br>FCC Regulations, Subchapter B<br>Part 22 Subpart H, Part 24 Subpart E, Part 27 Subpart C, Part 90 Subpart S,<br>Part 15, Subpart C, §15.209<br>RSS-132, Issue 3; RSS-133, Issue 6; RSS-130, Issue 2, RSS-139, Issue 3<br><br>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

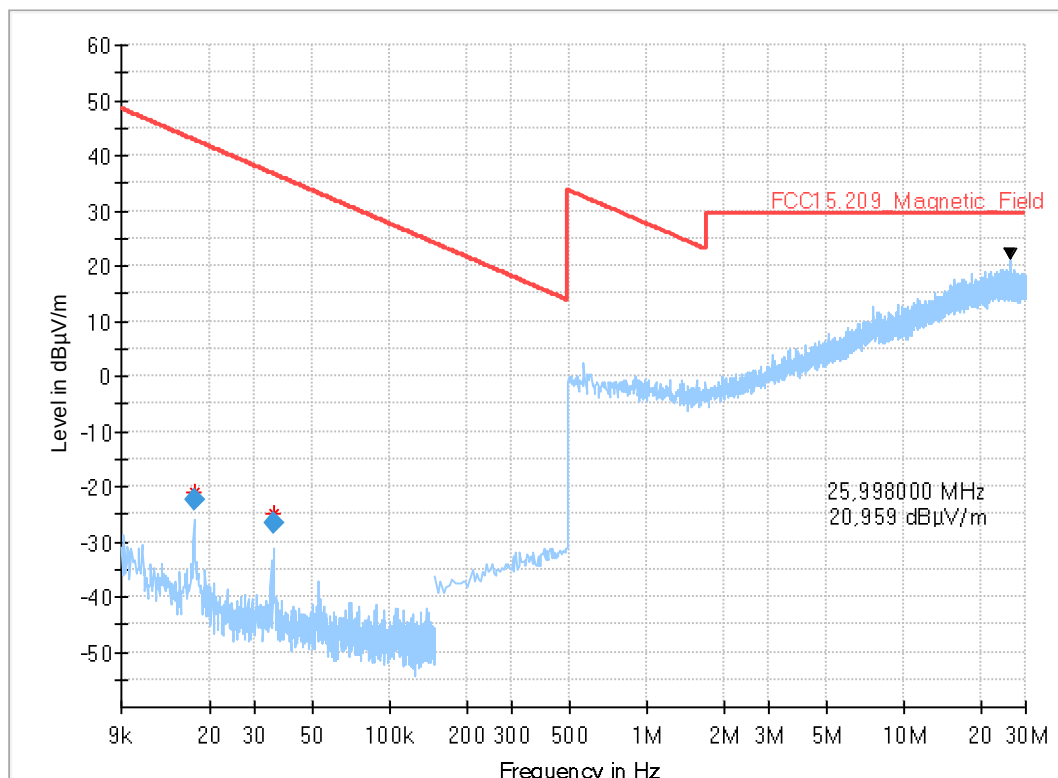
### 2.01\_Magnetic\_Emission\_EUT\_UMTS\_Band2\_laying

#### 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 4                                   |
| Operator:                 | HEI                                                                     |
| Operating Mode:           | UMTS Band2                                                              |
| Power during tests:       | 12 V DC, 110 V/60 Hz, full loaded batteries                             |
| Comment 1:                | Channel low/middle/high                                                 |
| Environmental Conditions: | Humidity : 46% rH; Temperature: 18 °C                                   |
| EUT Setup:                | 1                                                                       |
| Verdict:                  | Passed                                                                  |

#### EUT Information

PMT number: 20-1-00607S215\_C01  
Full Spectrum



#### Final Result

| Frequency (MHz) | MaxPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Pol | Azimuth (deg) | Corr. (dB/m) | Comment               |
|-----------------|------------------|----------------|-------------|-----------------|-----------------|-----|---------------|--------------|-----------------------|
| 0.017240        | -22.58           | 42.87          | 65.45       | 1000.0          | 0.200           | V   | 141.0         | -59.5        | 17:40:30 - 12.01.2021 |
| 0.035320        | -26.52           | 36.64          | 63.16       | 1000.0          | 0.200           | V   | 258.0         | -60.3        | 17:43:54 - 12.01.2021 |

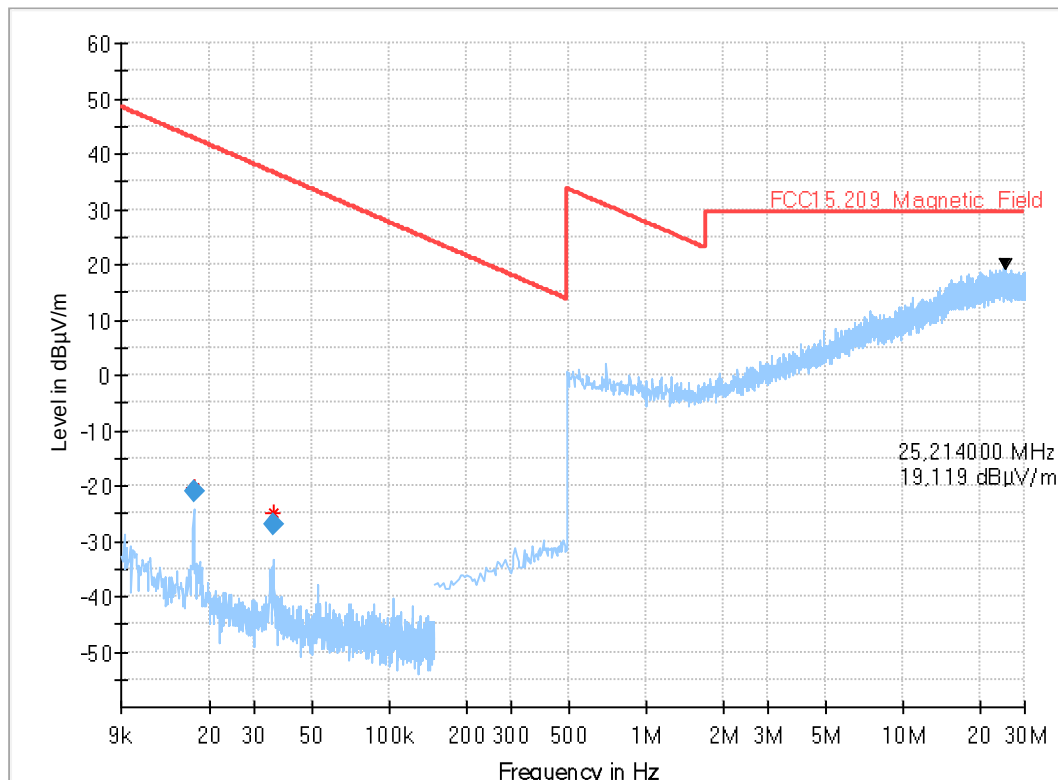
## 2.02\_Magnetic\_Emission\_EUT\_UMTS\_Band2\_standing

### 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 4                                   |
| Operator:                  | HEI                                                                     |
| Operating Mode:            | UMTS Band2                                                              |
| Power during tests:        | 12V DC, 110V/60Hz, full loaded batteries                                |
| Comment 1:                 | Channel low/middle/high                                                 |
| Environmental Conditions:: | Humidity : 46%rH; Temperature: 18°C                                     |
| EUT Setup:                 | 1                                                                       |
| Verdict:                   | Passed                                                                  |

### EUT Information

|             |                    |
|-------------|--------------------|
| PMT number: | 20-1-00607S215_C01 |
|             | Full Spectrum      |



### Final\_Result

| Frequency (MHz) | MaxPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Pol | Azimuth (deg) | Corr. (dB/m) | Comment               |
|-----------------|------------------|----------------|-------------|-----------------|-----------------|-----|---------------|--------------|-----------------------|
| 0.017240        | -21.17           | 42.87          | 64.03       | 1000.0          | 0.200           | V   | 63.0          | -59.5        | 18:40:54 - 12.01.2021 |
| 0.035320        | -26.91           | 36.64          | 63.55       | 1000.0          | 0.200           | V   | 84.0          | -60.3        | 18:43:50 - 12.01.2021 |

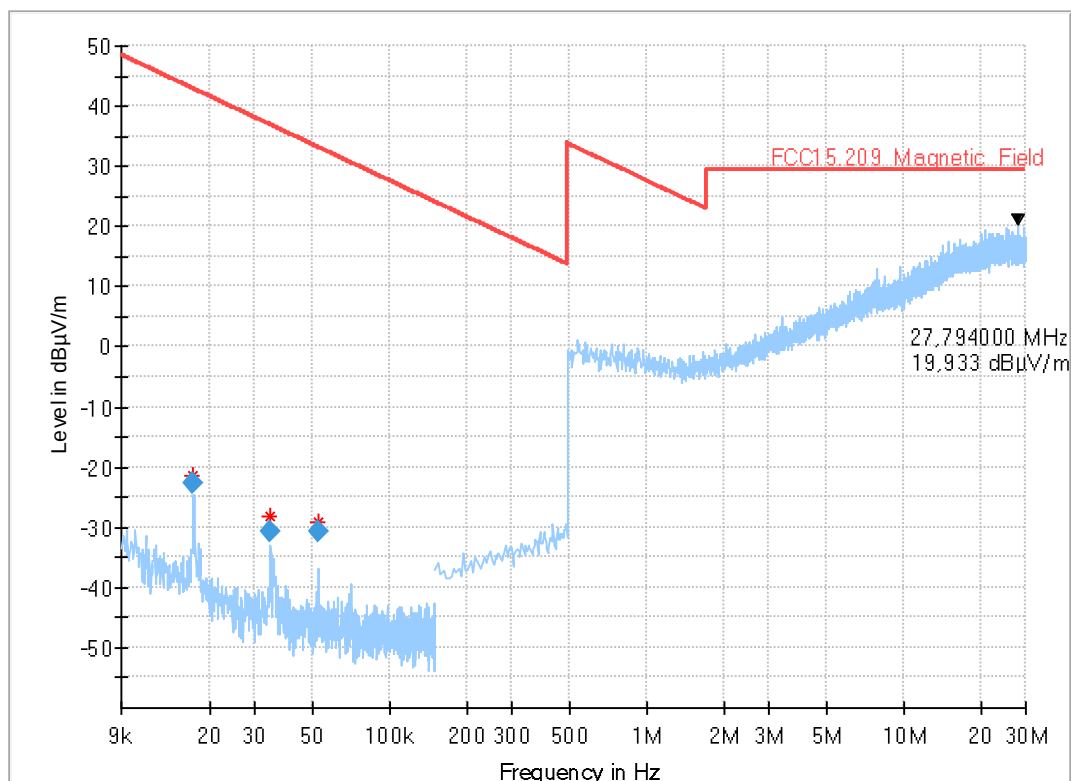
## 2.03\_Magnetic\_Emission\_EUT\_UMTS\_Band4\_laying

### 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 4                                   |
| Operator:                 | HEI                                                                     |
| Operating Mode:           | UMTS Band 4                                                             |
| Power during tests:       | 12 V DC, 110 V/60 Hz, full loaded batteries                             |
| Comment 1:                | Channel low/middle/high                                                 |
| Environmental Conditions: | Humidity : 46% rH; Temperature: 18 °C                                   |
| EUT Setup:                | 1                                                                       |
| Verdict:                  | Passed                                                                  |

### EUT Information

PMT number: 20-1-00607S215\_C01  
Full Spectrum



### Final Result

| Frequency (MHz) | MaxPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Pol | Azimuth (deg) | Corr. (dB/m) | Comment               |
|-----------------|------------------|----------------|-------------|-----------------|-----------------|-----|---------------|--------------|-----------------------|
| 0.017160        | -22.79           | 42.91          | 65.70       | 1000.0          | 0.200           | V   | 70.0          | -59.4        | 19:50:13 - 12.01.2021 |
| 0.034280        | -30.84           | 36.90          | 67.74       | 1000.0          | 0.200           | V   | 160.0         | -60.3        | 19:54:42 - 12.01.2021 |
| 0.052680        | -30.89           | 33.17          | 64.05       | 1000.0          | 0.200           | V   | 145.0         | -60.5        | 19:59:31 - 12.01.2021 |

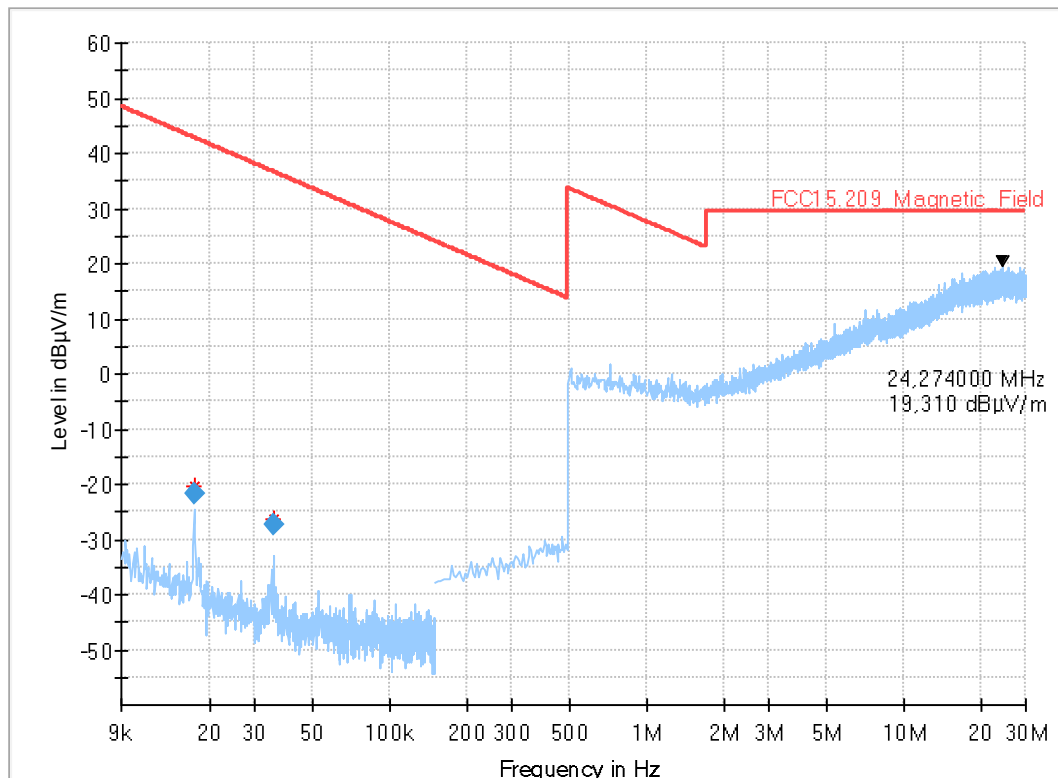
## 2.04\_Magnetic\_Emission\_EUT\_UMTS\_Band4\_standing

### 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 4                                   |
| Operator:                 | HEI                                                                     |
| Operating Mode:           | UMTS Band 4                                                             |
| Power during tests:       | 12 V DC, 110 V/60 Hz, full loaded batteries                             |
| Comment 1:                | Channel low/middle/high                                                 |
| Environmental Conditions: | Humidity : 46% rH; Temperature: 18 °C                                   |
| EUT Setup:                | 1                                                                       |
| Verdict:                  | Passed                                                                  |

### EUT Information

|             |                    |
|-------------|--------------------|
| PMT number: | 20-1-00607S215_C01 |
|             | Full Spectrum      |



### Final Result

| Frequency (MHz) | MaxPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Pol | Azimuth (deg) | Corr. (dB/m) | Comment               |
|-----------------|------------------|----------------|-------------|-----------------|-----------------|-----|---------------|--------------|-----------------------|
| 0.017240        | -21.89           | 42.87          | 64.76       | 1000.0          | 0.200           | V   | 0.0           | -59.5        | 19:18:01 - 12.01.2021 |
| 0.035400        | -27.31           | 36.62          | 63.93       | 1000.0          | 0.200           | V   | 164.0         | -60.3        | 19:20:27 - 12.01.2021 |

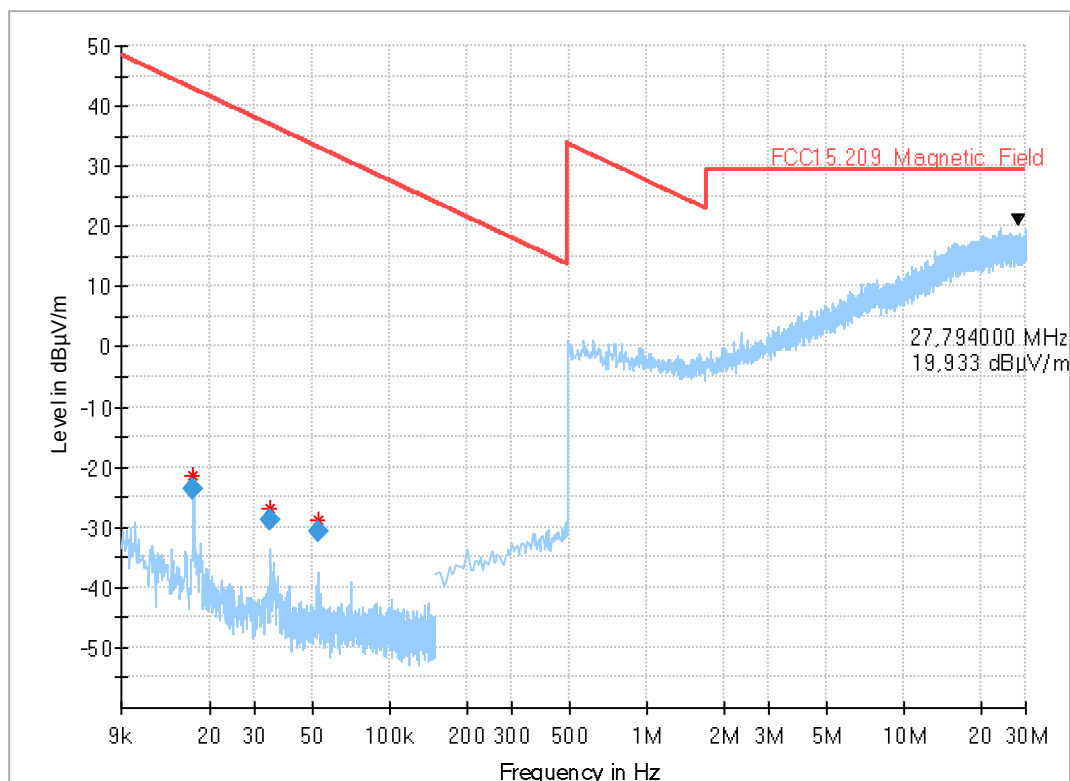
## 2.05\_Magnetic\_Emission\_EUT\_UMTS\_Band5\_laying

### 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 4                                   |
| Operator:                 | HEI                                                                     |
| Operating Mode:           | UMTS Band 5                                                             |
| Power during tests:       | 12 V DC, 110 V/60 Hz, full loaded batteries                             |
| Comment 1:                | Channel low/middle/high                                                 |
| Environmental Conditions: | Humidity : 46% rH; Temperature: 18 °C                                   |
| EUT Setup:                | 1                                                                       |
| Verdict:                  | Passed                                                                  |

### EUT Information

|             |                    |
|-------------|--------------------|
| PMT number: | 20-1-00607S215_C01 |
|             | Full Spectrum      |



### Final Result

| Frequency (MHz) | MaxPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Pol | Azimuth (deg) | Corr. (dB/m) | Comment               |
|-----------------|------------------|----------------|-------------|-----------------|-----------------|-----|---------------|--------------|-----------------------|
| 0.017160        | -23.62           | 42.91          | 66.53       | 1000.0          | 0.200           | V   | 125.0         | -59.4        | 21:05:00 - 12.01.2021 |
| 0.034360        | -28.93           | 36.88          | 65.81       | 1000.0          | 0.200           | V   | 12.0          | -60.3        | 21:00:54 - 12.01.2021 |
| 0.052680        | -30.86           | 33.17          | 64.03       | 1000.0          | 0.200           | V   | 325.0         | -60.5        | 21:08:04 - 12.01.2021 |

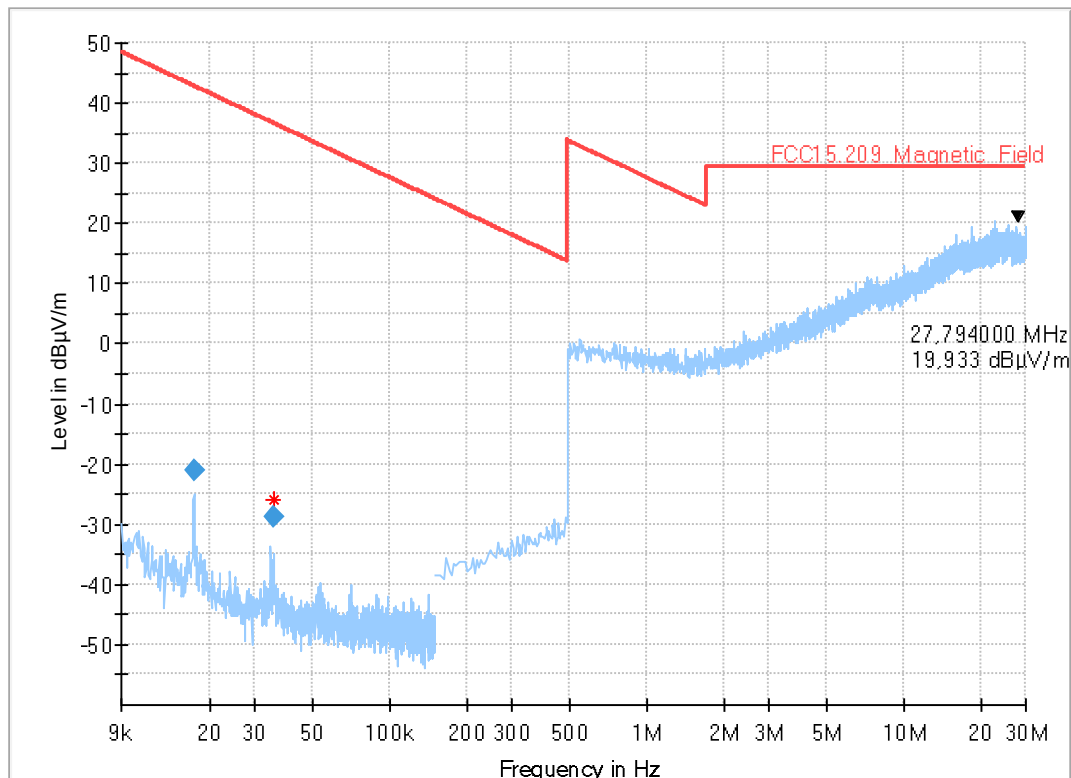
## 2.06\_Magnetic\_Emission\_EUT\_UMTS\_Band5\_standing

### 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 4                                   |
| Operator:                 | HEI                                                                     |
| Operating Mode:           | UMTS Band 5                                                             |
| Power during tests:       | 12 V DC, 110 V/60 Hz, full loaded batteries                             |
| Comment 1:                | Channel low/middle/high                                                 |
| Environmental Conditions: | Humidity : 46% rH; Temperature: 18 °C                                   |
| EUT Setup:                | 1                                                                       |
| Verdict:                  | Passed                                                                  |

### EUT Information

|             |                    |
|-------------|--------------------|
| PMT number: | 20-1-00607S215_C01 |
|             | Full Spectrum      |



### Final Result

| Frequency (MHz) | MaxPeak (dBµV/m) | Limit (dBµV/m) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Pol | Azimuth (deg) | Corr. (dB/m) | Comment               |
|-----------------|------------------|----------------|-------------|-----------------|-----------------|-----|---------------|--------------|-----------------------|
| 0.017240        | -21.05           | 42.87          | 63.91       | 1000.0          | 0.200           | V   | 212.0         | -59.5        | 21:41:04 - 12.01.2021 |
| 0.035400        | -28.90           | 36.62          | 65.52       | 1000.0          | 0.200           | V   | 207.0         | -60.3        | 21:45:52 - 12.01.2021 |



## 8.01\_Traffic\_mode\_UMTS\_Band\_2\_Channel\_9400\_Standing

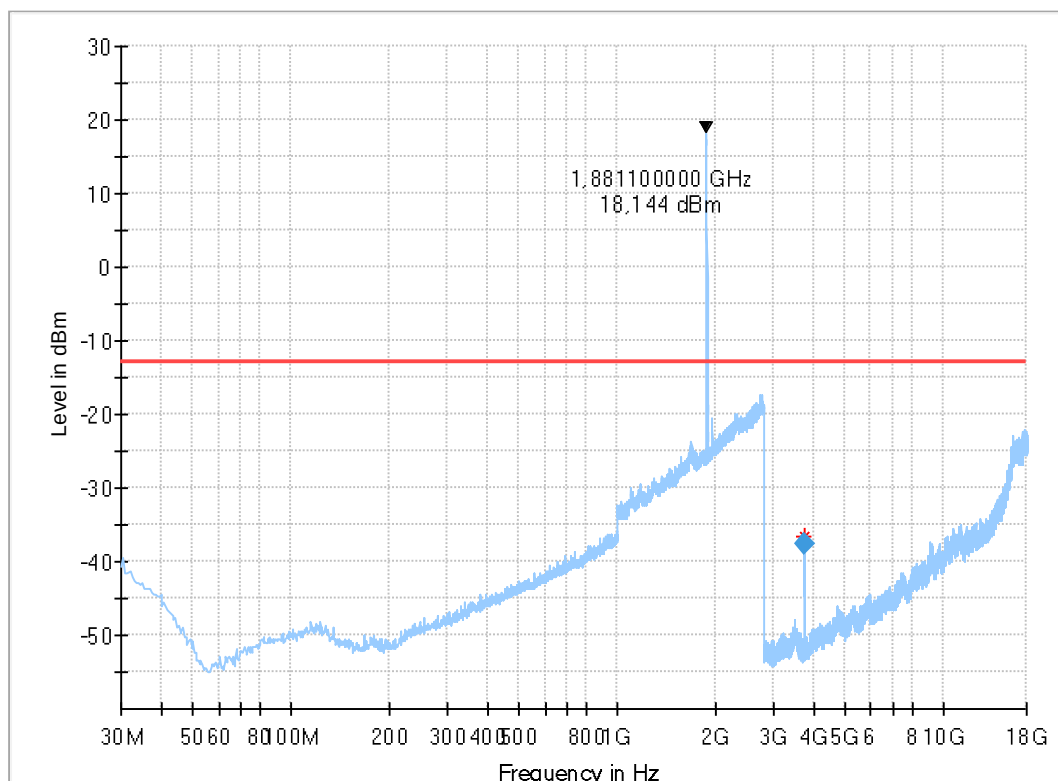
### Common Information

|                              |                                                              |
|------------------------------|--------------------------------------------------------------|
| Test Description:            | Radiated emission                                            |
| Test Site:                   | Fully-Anechoic Chamber                                       |
| Test Standard:               | FCC FCC Part 27.53(h) AWS emission limits / RSS-139, Issue 3 |
| Antenna polarisation:        | vertical / horizontal                                        |
| Measurement software version | EMC32 V10.60.20                                              |
| Operating Mode:              | UMTS_Band_2                                                  |
| Operator:                    | HEI                                                          |
| Environmental Conditions:    | Humidity : 60% rH; Temperature: 60 °C                        |
| EUT Setup:                   | 2                                                            |
| Verdict:                     | Passed                                                       |

### EUT Information

|            |                      |
|------------|----------------------|
| PMT number | 20-1-0060701S219_C01 |
| Comment:   | 12 V DC              |

Full Spectrum



Remark: Emission at 1.8811 GHz is uplink frequency of UMTS FDD 2 and not related to results.

### Final Result

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Elevation (deg) | Corr. (dB) |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|-----------------|------------|
| 3761.430000     | -37.54    | -13.00      | 24.54       | 100.0           | 1000.000        | 155.0       | V   | 33.0          | 0.0             | -92.9      |

## 8.01a\_Traffic\_mode\_UMTS\_Band\_2\_Channel\_9400\_Standin g

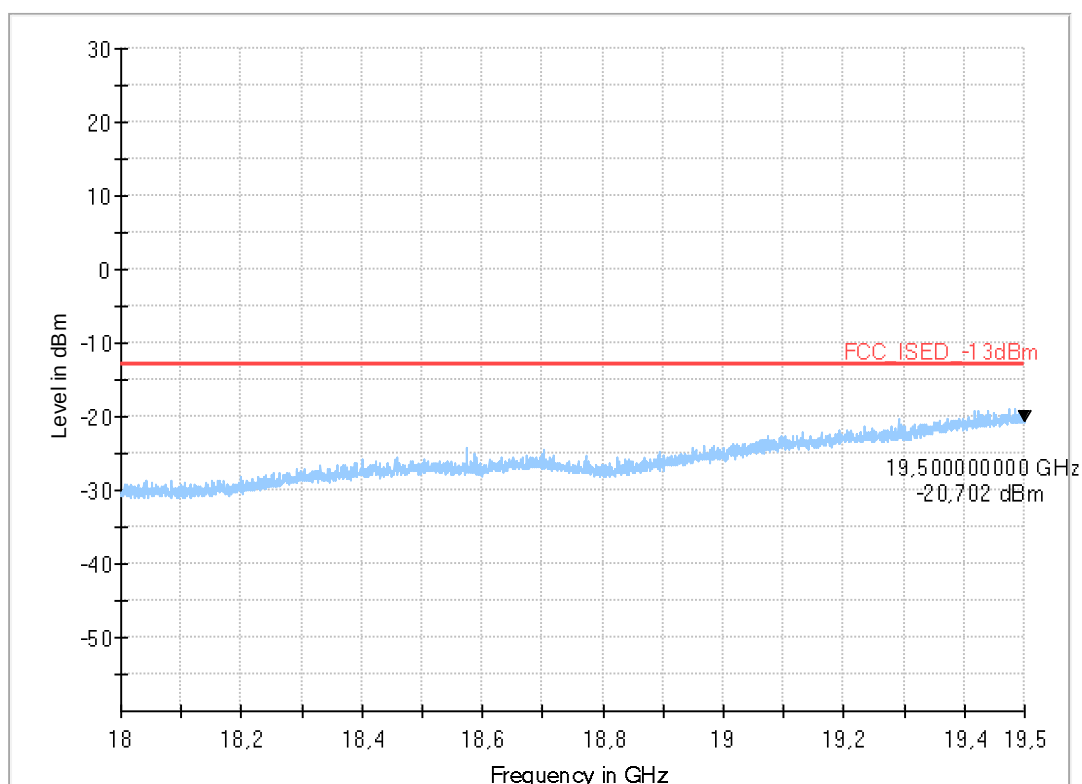
### Common Information

|                              |                                       |
|------------------------------|---------------------------------------|
| Test Description:            | Radiated emission                     |
| Test Site:                   | Fully-Anechoic Chamber                |
| Test Standard:               | FCC FCC Part 24.238 Broadband PCS     |
| Antenna polarisation:        | vertical / horizontal                 |
| Measurement software version | EMC32 V10.60.20                       |
| Operating Mode:              | UMTS_Band_2   UL_Ch_9400              |
| Operator:                    | SOz                                   |
| Environmental Conditions:    | Humidity : 60% rH; Temperature: 60 °C |
| EUT Setup:                   | 2                                     |
| Verdict:                     | Passed                                |

### EUT Information

|               |                    |
|---------------|--------------------|
| PMT number:   | 20-1-00607S219_C01 |
| Power Supply: | 12 V DC            |

Full Spectrum



## 8.02\_Traffic\_mode\_UMTS\_Band\_2\_Channel\_9400\_Laying

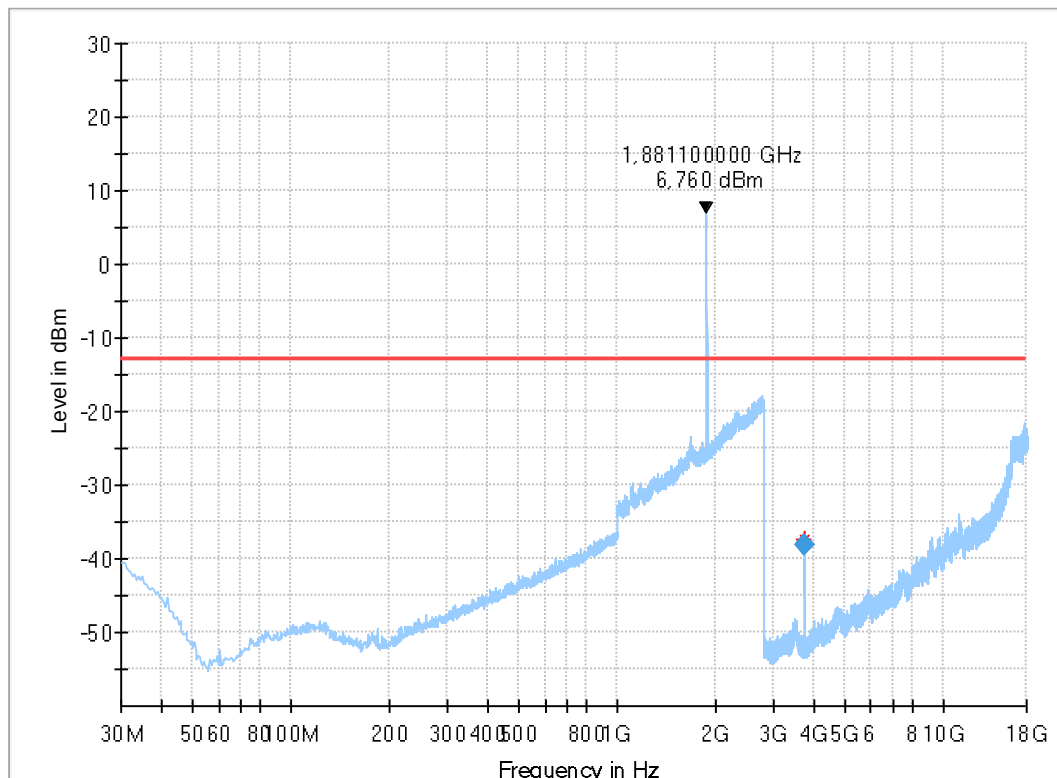
### Common Information

|                              |                                                              |
|------------------------------|--------------------------------------------------------------|
| Test Description:            | Radiated emission                                            |
| Test Site:                   | Fully-Anechoic Chamber                                       |
| Test Standard:               | FCC FCC Part 27.53(h) AWS emission limits / RSS-139, Issue 3 |
| Antenna polarisation:        | vertical / horizontal                                        |
| Measurement software version | EMC32 V10.60.20                                              |
| Operating Mode:              | UMTS_FDD_Band_V_CH_4233                                      |
| Operator:                    | HEI                                                          |
| Environmental Conditions:    | Humidity : 60% rH; Temperature: 60 °C                        |
| EUT Setup:                   | 2                                                            |
| Verdict:                     | Passed                                                       |

### EUT Information

|            |                      |
|------------|----------------------|
| PMT number | 20-1-0060701S219_C01 |
| Comment:   | 12 V DC              |

Full Spectrum



Remark: Emission at 1.8811 GHz is uplink frequency of UMTS FDD 2 and not related to results.

### Final Result

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Elevation (deg) | Corr. (dB) |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|-----------------|------------|
| 3761.431667     | -38.13    | -13.00      | 25.13       | 100.0           | 1000.000        | 155.0       | V   | 4.0           | 0.0             | -92.9      |

## 8.02a\_Traffic\_mode\_UMTS\_Band\_2\_Channel\_9400\_Laying

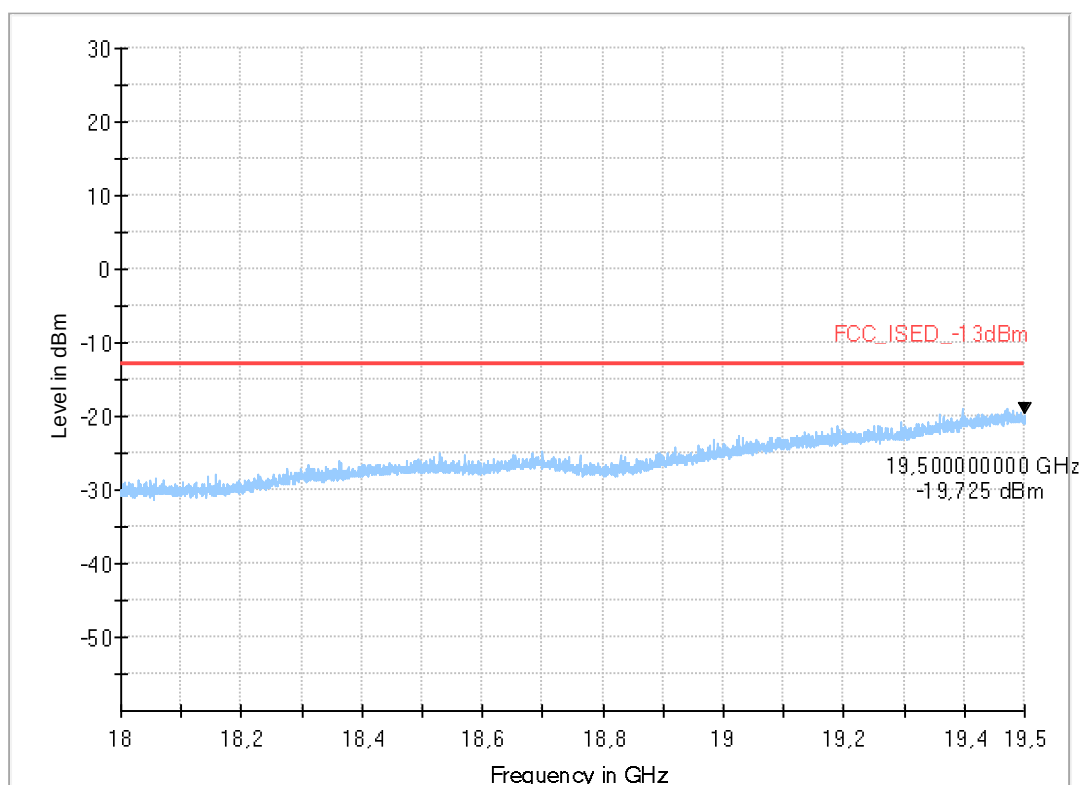
### Common Information

|                              |                                       |
|------------------------------|---------------------------------------|
| Test Description:            | Radiated emission                     |
| Test Site:                   | Fully-Anechoic Chamber                |
| Test Standard:               | FCC FCC Part 24.238 Broadband PCS     |
| Antenna polarisation:        | vertical / horizontal                 |
| Measurement software version | EMC32 V10.60.20                       |
| Operating Mode:              | UMTS_Band_2   UL_Ch_9400              |
| Operator:                    | SOz                                   |
| Environmental Conditions:    | Humidity : 60% rH; Temperature: 60 °C |
| EUT Setup:                   | 2                                     |
| Verdict:                     | Passed                                |

### EUT Information

|               |                    |
|---------------|--------------------|
| PMT number:   | 20-1-00607S219_C01 |
| Power Supply: | 12 V DC            |

Full Spectrum



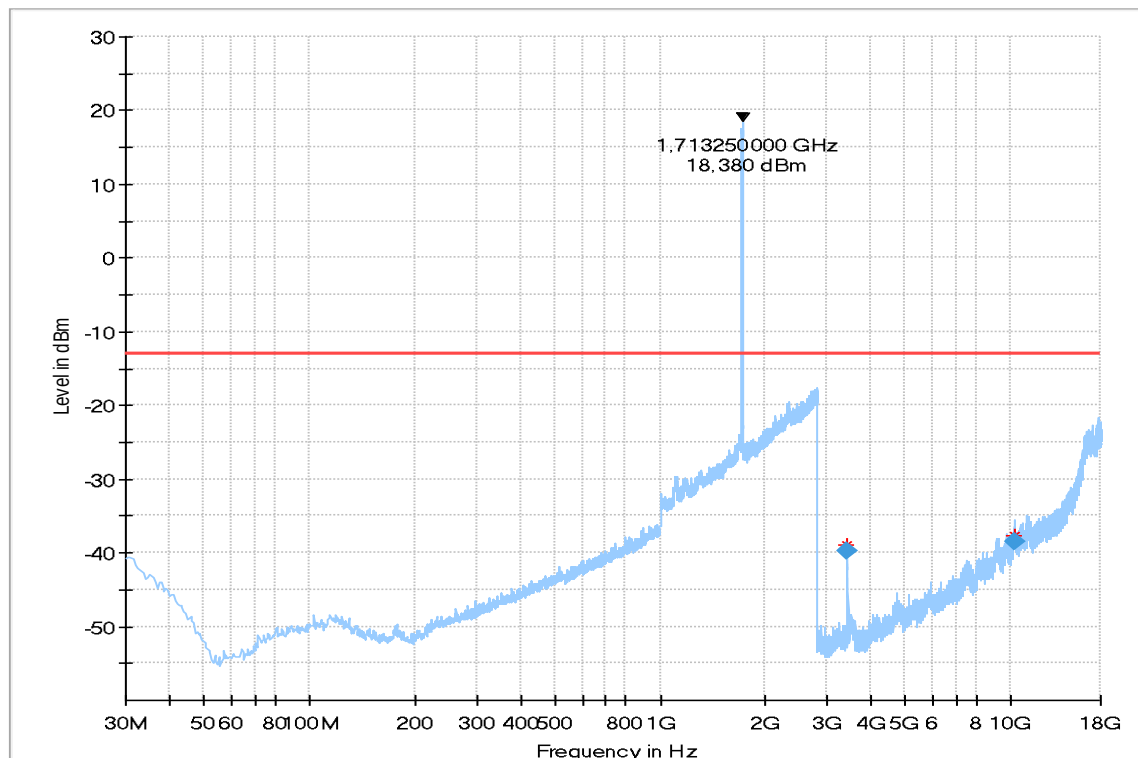
## 8.03\_Traffic\_mode\_UMTS\_Band\_4\_Channel\_1312\_Standing

### Common Information

|                              |                                                              |
|------------------------------|--------------------------------------------------------------|
| Test Description:            | Radiated emission                                            |
| Test Site:                   | Fully-Anechoic Chamber                                       |
| Test Standard:               | FCC FCC Part 27.53(h) AWS emission limits / RSS-139, Issue 3 |
| Antenna polarisation:        | vertical / horizontal                                        |
| Measurement software version | EMC32 V10.60.20                                              |
| Operating Mode:              | UMTS_FDD_Band_IV_CH_1312                                     |
| Operator:                    | HEI                                                          |
| Environmental Conditions:    | Humidity : 60% rH; Temperature: 60 °C                        |
| EUT Setup:                   | 2                                                            |
| Verdict:                     | Passed                                                       |

### EUT Information

|               |                    |
|---------------|--------------------|
| PMT number:   | 20-1-00607S219_C01 |
| Power Supply: | 12 V DC            |



Remark: Emission at 1.71325 GHz is uplink frequency of UMTS FDD 4 and not related to results.

### Final Result

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Elevation (deg) | Corr. (dB) |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|-----------------|------------|
| 3426.236667     | -39.81    | -13.00      | 26.81       | 100.0           | 1000.000        | 155.0       | H   | 70.0          | 0.0             | -92.7      |
| 10231.753333    | -38.57    | -13.00      | 25.57       | 100.0           | 1000.000        | 155.0       | H   | 333.0         | 0.0             | -74.6      |

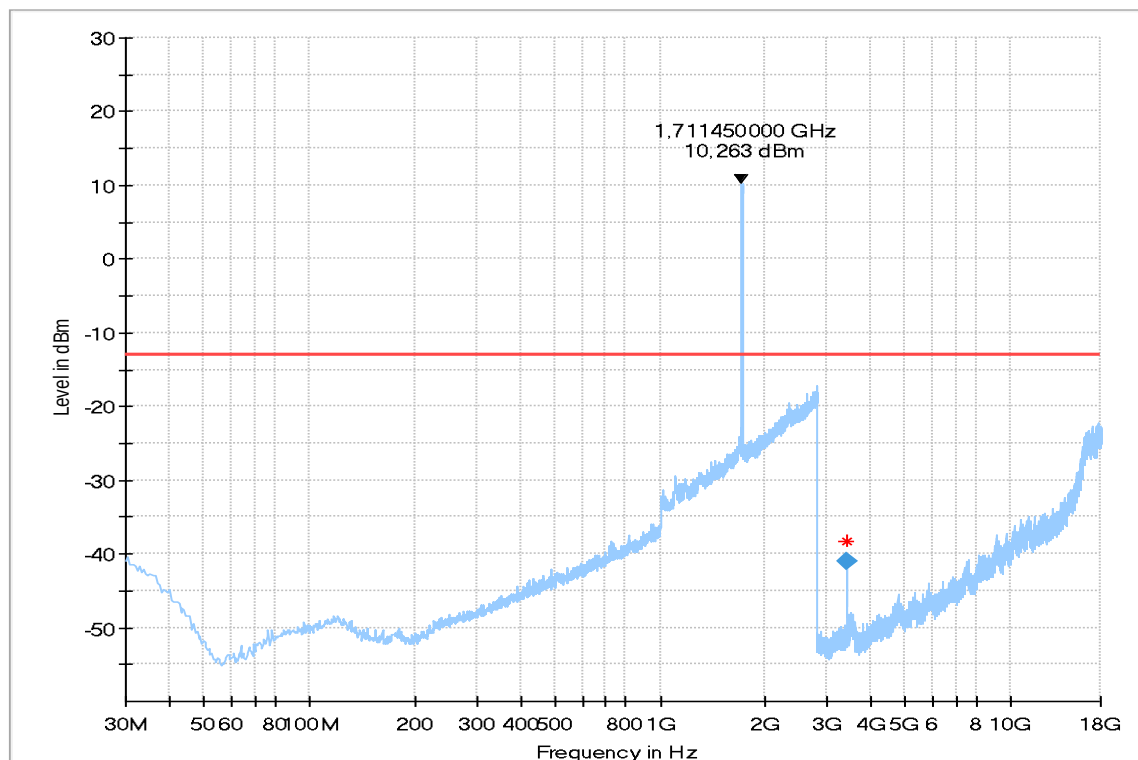
## 8.04\_Traffic\_mode\_UMTS\_Band\_4\_Channel\_1312\_Laying

### Common Information

|                              |                                                              |
|------------------------------|--------------------------------------------------------------|
| Test Description:            | Radiated emission                                            |
| Test Site:                   | Fully-Anechoic Chamber                                       |
| Test Standard:               | FCC FCC Part 27.53(h) AWS emission limits / RSS-139, Issue 3 |
| Antenna polarisation:        | vertical / horizontal                                        |
| Measurement software version | EMC32 V10.60.20                                              |
| Operating Mode:              | UMTS_Band_4   UL_Ch_1312                                     |
| Operator:                    | HEI                                                          |
| Environmental Conditions:    | Humidity : 60% rH; Temperature: 60 °C                        |
| EUT Setup:                   | 2                                                            |
| Verdict:                     | Passed                                                       |

### EUT Information

|               |                    |
|---------------|--------------------|
| PMT number:   | 20-1-00607S219_C01 |
| Power Supply: | 12 V DC            |



Remark: Emission at 1.71145 GHz is uplink frequency of UMTS FDD 4 and not related to results.

### Final Result

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Height (cm) | Pol | Azimuth (deg) | Elevation (deg) | Corr. (dB) |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-------------|-----|---------------|-----------------|------------|
| 3423.385000     | -41.08    | -13.00      | 28.08       | 100.0           | 1000.000        | 155.0       | V   | 27.0          | 0.0             | -92.7      |

## 8.05\_Traffic\_mode\_UMTS\_Band\_5\_Channel\_4233\_Standing

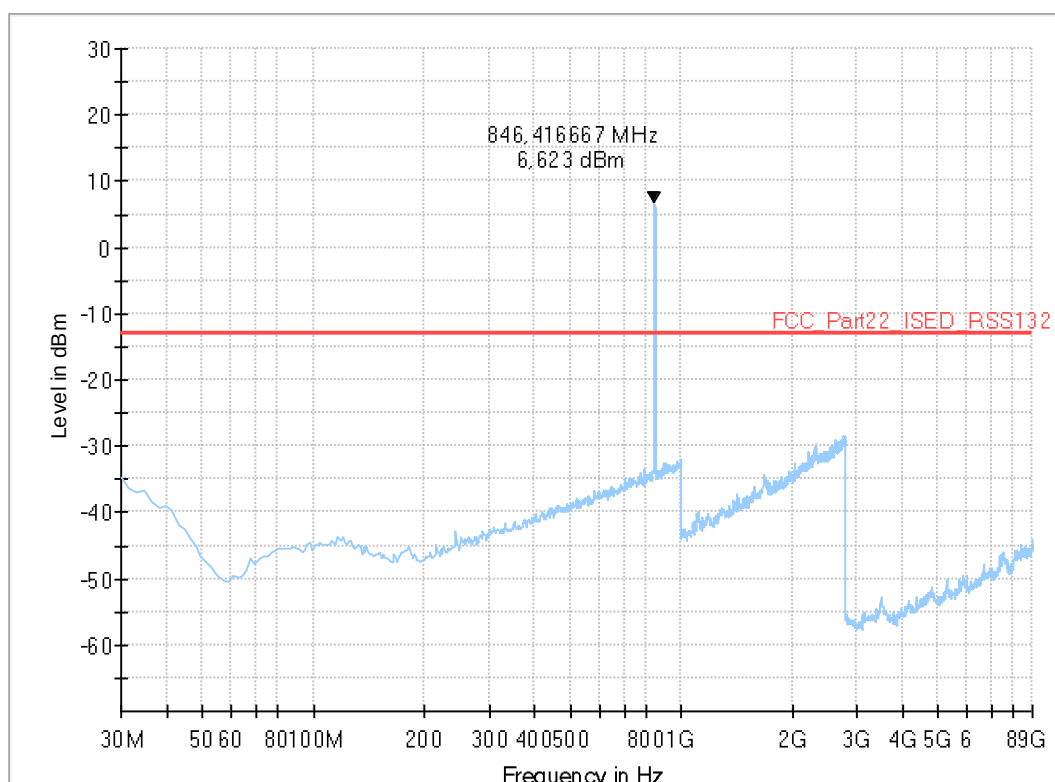
### Common Information

|                           |                                                |
|---------------------------|------------------------------------------------|
| Test Description:         | Radiated emission related to 1m                |
| Test Site:                | Fully Anechoic Chamber (FAC1) - EMC32 V10.50.0 |
| Test Standard:            | FCC FCC Part 24.238 Broadband PCS              |
| Antenna polarisation:     | vertical / horizontal                          |
| Operating Mode:           | UMTS_FDD_Band_V_CH_4233                        |
| Operator:                 | HEI                                            |
| Environmental Conditions: | Humidity : 70% rH; Temperature: 18 °C          |
| EUT Setup:                | 2                                              |
| Verdict:                  | Passed                                         |

### EUT Information

|               |                    |
|---------------|--------------------|
| PMT number:   | 20-1-00607S219_C01 |
| Power Supply: | 12 V DC            |

Full Spectrum



Remark: Emission at 846.416667 MHz is uplink frequency of UMTS FDD 5 and not related to results.

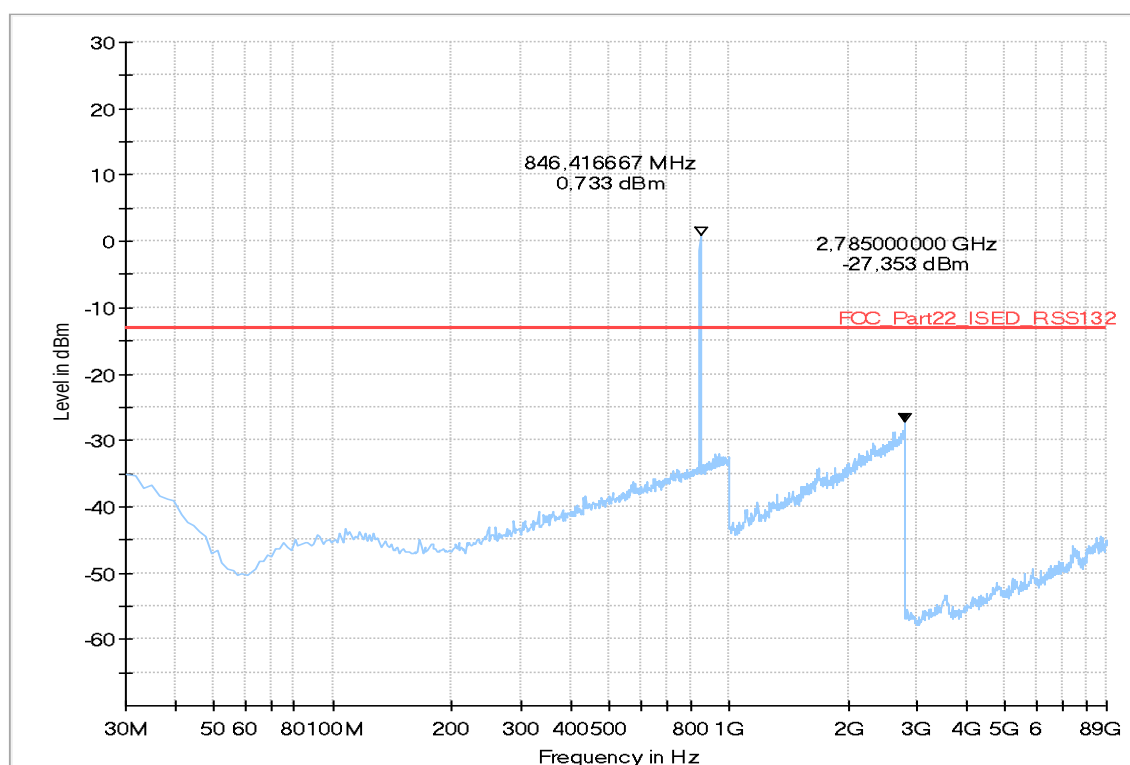
## 8.06\_Traffic\_mode\_UMTS\_Band\_5\_Channel\_4233\_Laying

### Common Information

|                           |                                                |
|---------------------------|------------------------------------------------|
| Test Description:         | Radiated emission related to 1m                |
| Test Site:                | Fully Anechoic Chamber (FAC1) - EMC32 V10.50.0 |
| Test Standard:            | FCC FCC Part 24.238 Broadband PCS              |
| Antenna polarisation:     | vertical / horizontal                          |
| Operating Mode:           | UMTS_FDD_Band_V_CH_4233                        |
| Operator:                 | HEI                                            |
| Environmental Conditions: | Humidity : 70%rH; Temperature: 19°C            |
| EUT Setup:                | 2                                              |
| Verdict:                  | Passed                                         |

### EUT Information

|               |                    |
|---------------|--------------------|
| PMT number:   | 20-1-00607S219_C01 |
| Power Supply: | 12 V DC            |



Remark: Emission at 846.416667 MHz is uplink frequency of UMTS FDD 5 and not related to results.



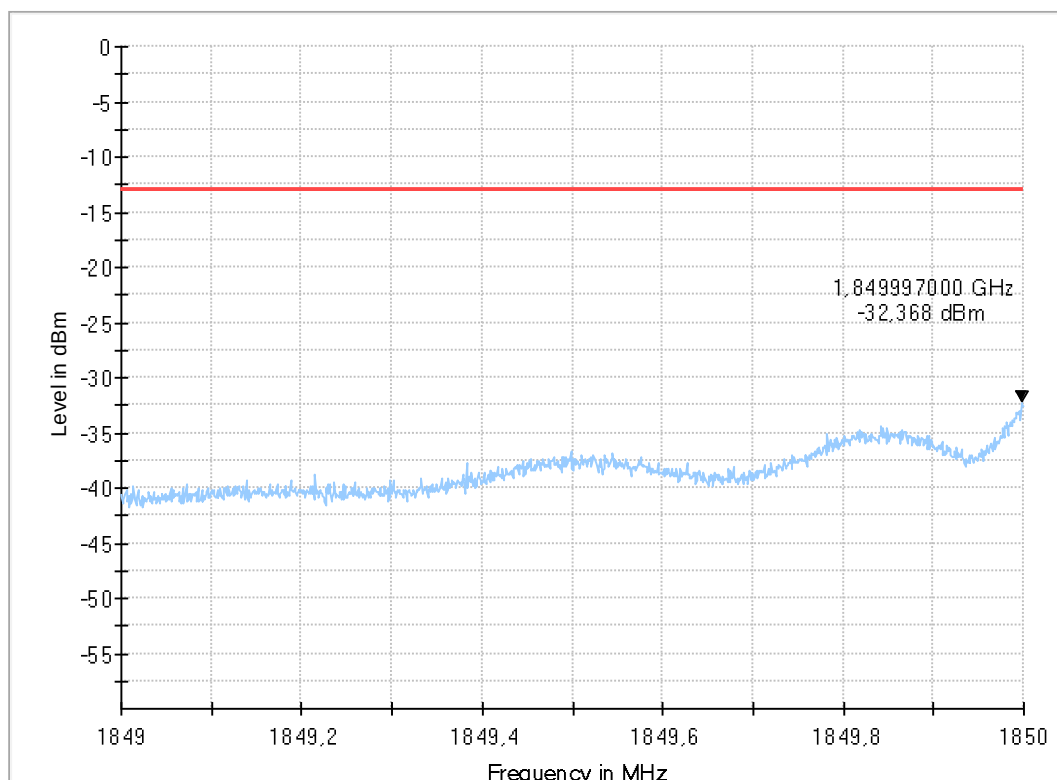
## 9.201\_Band-Edge\_low\_Channel\_9262\_UL\_1852.4MHz

### Common Information

Test Description: -  
 Test Site Location: CETECOM GmbH Essen  
 Test Site: Fully Anechoic Chamber (FAC1) - EMC32 V10.50.0  
 Test Standard: -  
 Test Case: -  
 Operating Mode: UMTS FDDII  
 Environmental Conditions: Humidity : 60% rH; Temperature: 20 °C  
 Operator: TFra  
 EUT Setup: 1  
 Verdict: Passed

### EUT Information

PMT number: 20-1-00607S215\_C01  
 Full Spectrum



### Final\_Result

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Pol | Azimuth (deg) | Elevation (deg) | Corr. (dB) |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-----|---------------|-----------------|------------|
| ---             | ---       | ---         | ---         | ---             | ---             | --- | ---           | ---             | ---        |

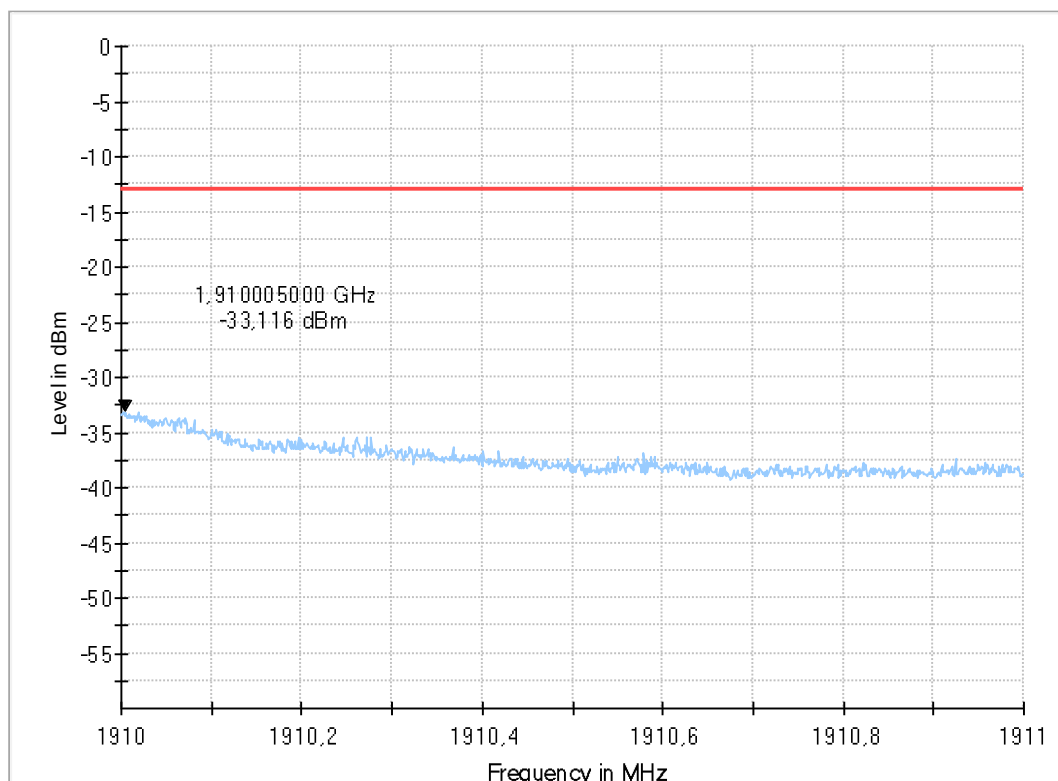
## 9.202\_Band-Edge\_high\_Channel\_9538\_UL\_1907.6MHz

### Common Information

Test Description: -  
 Test Site Location: CETECOM GmbH Essen  
 Test Site: Fully Anechoic Chamber (FAC1) - EMC32 V10.50.0  
 Test Standard: -  
 Test Case: -  
 Operating Mode: UMTS FDDII  
 Environmental Conditions: Humidity : 60% rH; Temperature: 20 °C  
 Operator: TFra  
 EUT Setup: 1  
 Verdict: Passed  
 Comment:

### EUT Information

PMT number: 20-1-00607S215\_C01  
 Full Spectrum



### Final Result

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Pol | Azimuth (deg) | Elevation (deg) | Corr. (dB) |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-----|---------------|-----------------|------------|
| ---             | ---       | ---         | ---         | ---             | ---             |     | ---           | ---             | ---        |

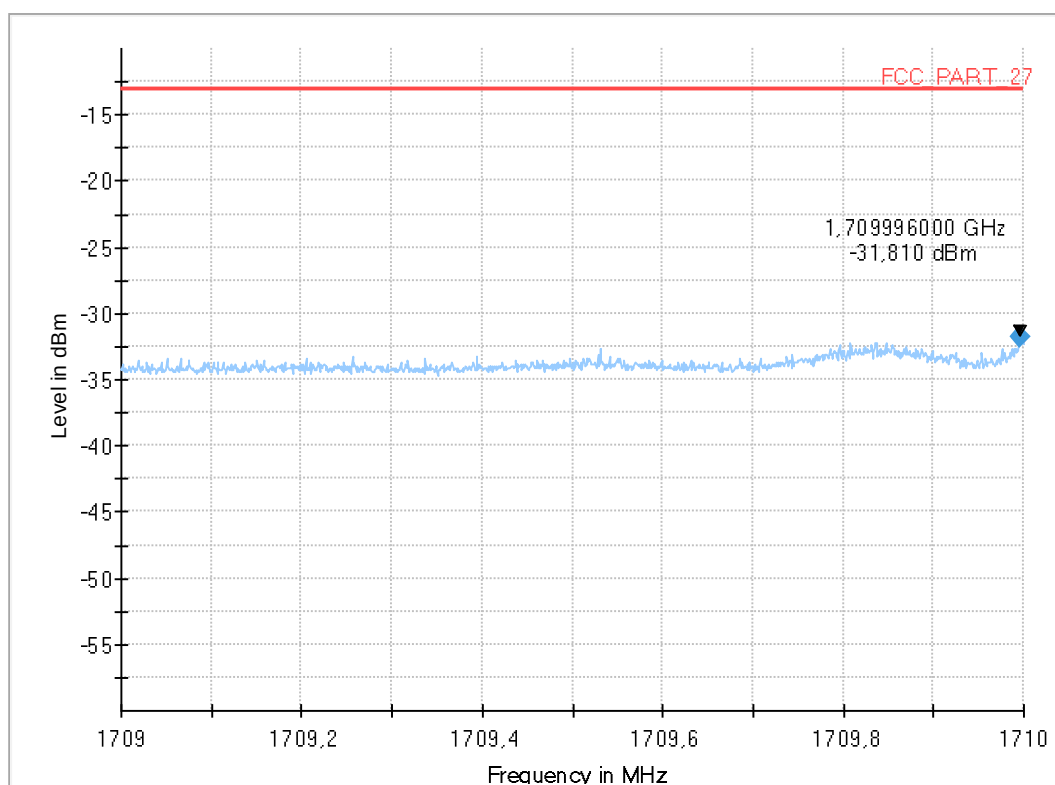
## 9.401\_Band-Edge\_low\_Channel\_1312\_UL\_1712.6MHz

### Common Information

Test Description: -  
 Test Site Location: CETECOM GmbH Essen  
 Test Site: Fully Anechoic Chamber (FAC1) - EMC32 V10.50.0  
 Test Standard: -  
 Test Case: -  
 Operating Mode: UMTS FDDIV  
 Environmental Conditions: Humidity : 60% rH; Temperature: 20 °C  
 Operator: TFra  
 EUT Setup: 1  
 Verdict: Passed

### EUT Information

PMT number: 20-1-00607S215\_C01  
 Full Spectrum



### Final Result

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Pol | Azimuth (deg) | Elevation (deg) | Corr. (dB) |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-----|---------------|-----------------|------------|
| 1709.996000     | -31.81    | -13.00      | 18.81       | 700.0           | 50.000          | V   | 219.0         | 90.0            | -63        |

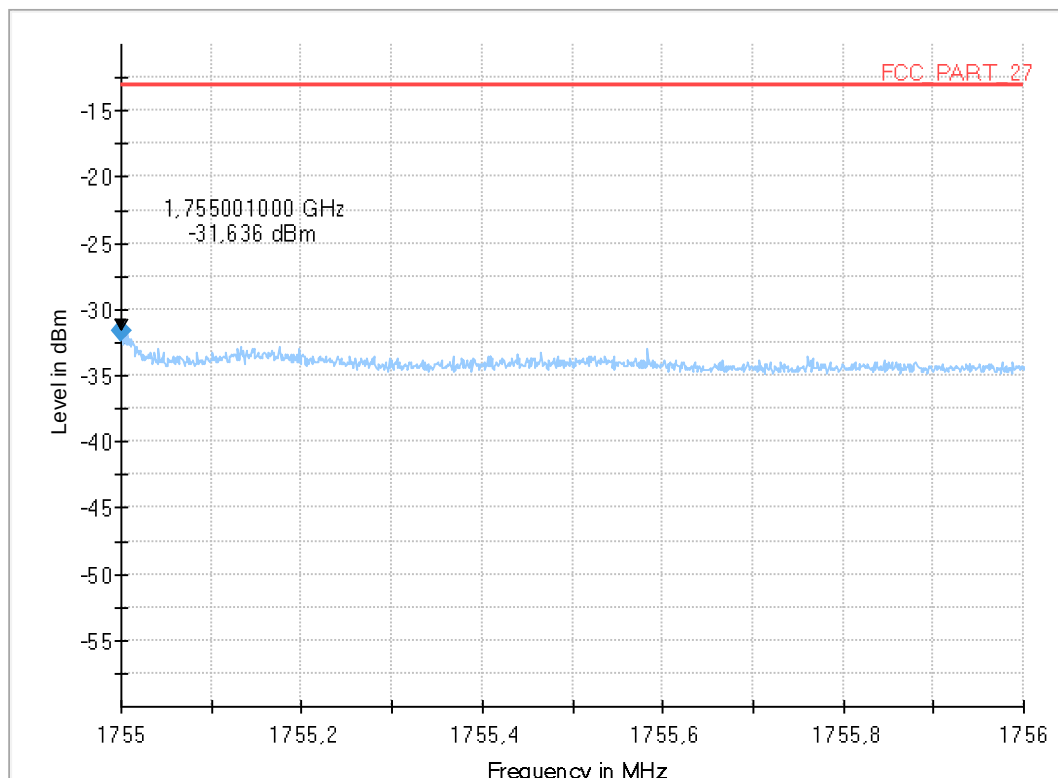
## 9.402\_Band-Edge\_high\_Channel\_1513\_UL\_1752.4MHz

### Common Information

Test Description: -  
 Test Site Location: CETECOM GmbH Essen  
 Test Site: Fully Anechoic Chamber (FAC1) - EMC32 V10.50.0  
 Test Standard: -  
 Test Case: -  
 Operating Mode: UMTS FDDIV  
 Environmental Conditions: Humidity : 60% rH; Temperature: 20 °C  
 Operator: TFra  
 EUT Setup: 1  
 Verdict: Passed

### EUT Information

PMT number: 20-1-00607S215\_C01  
 Full Spectrum



### Final Result

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Pol | Azimuth (deg) | Elevation (deg) | Corr. (dB) |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-----|---------------|-----------------|------------|
| 1755.001000     | -31.64    | -13.00      | 18.64       | 700.0           | 50.000          | V   | 217.0         | 90.0            | -63        |

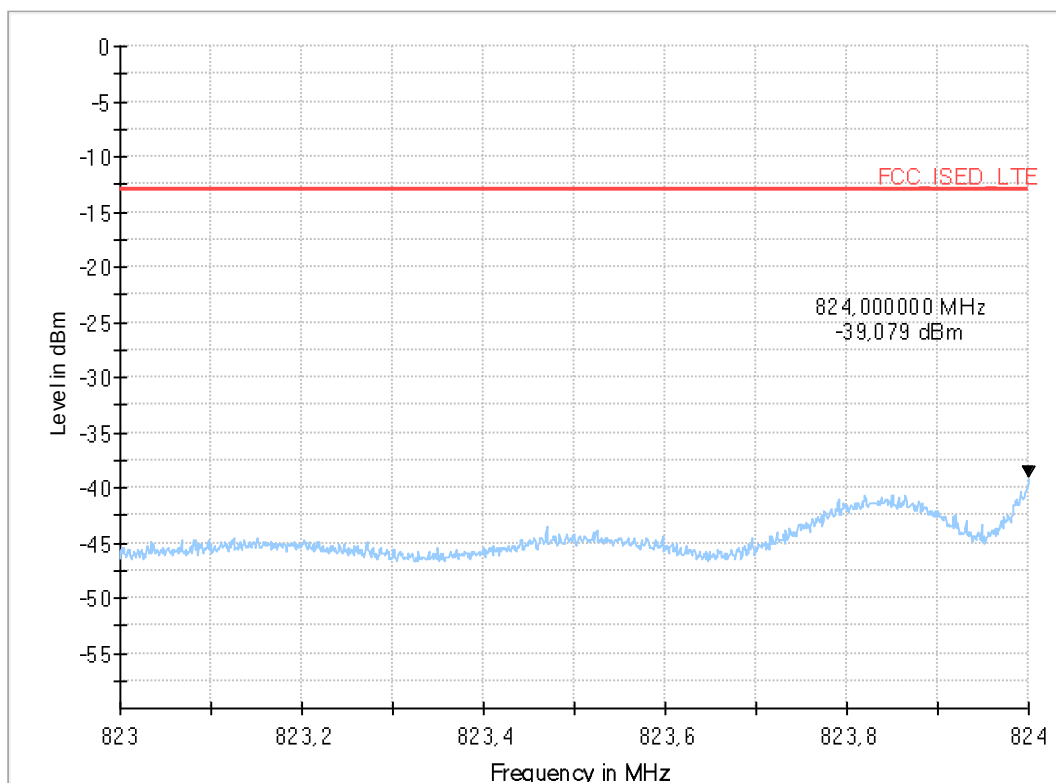
## 9.501\_Band-Edge\_low\_Channel\_4132\_UL\_826.4MHz

### Common Information

|                           |                                                        |
|---------------------------|--------------------------------------------------------|
| Test Description:         | Band-Edge low - Radiated Spurious Emissions LTE Band V |
| Test Site Location:       | CETECOM GmbH Essen                                     |
| Test Site:                | Fully Anechoic Chamber (FAC1) - EMC32 V10.50.0         |
| Test Standard:            | FCC Part 22.917(a) / RSS-132                           |
| Operating Mode:           | UMTS FDDV                                              |
| Environmental Conditions: | Humidity : 60% rH; Temperature: 20 °C                  |
| Test SW Version:          | EMC32 V10.50.0                                         |
| Operator:                 | TFra                                                   |
| Remarks:                  | EUT - laying/standing position                         |
| EUT Setup:                | 1                                                      |
| Verdict:                  | Passed                                                 |

### EUT Information

|             |                    |
|-------------|--------------------|
| PMT number: | 20-1-00607S215_C01 |
|             | Full Spectrum      |



### Final Result

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Pol | Azimuth (deg) | Elevation (deg) | Corr. (dB) |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-----|---------------|-----------------|------------|
| ---             | ---       | ---         | ---         | ---             | ---             |     | ---           | ---             | ---        |

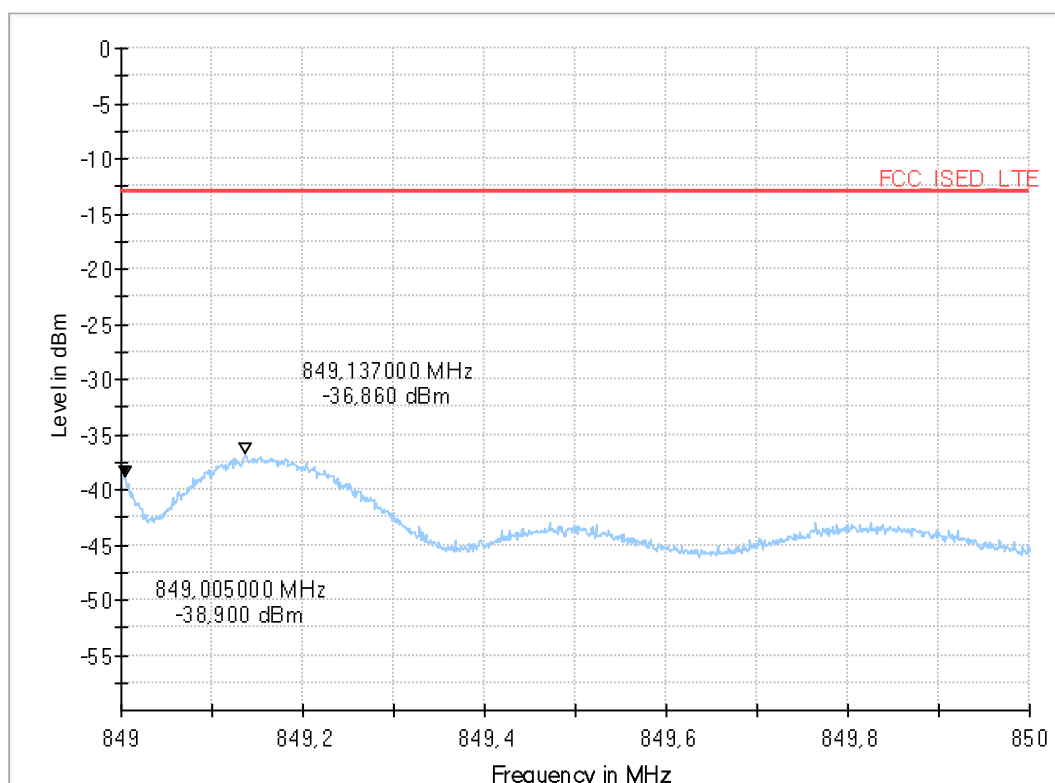
## 9.502\_Band-Edge\_high\_Channel\_4233\_UL\_846.6MHz

### Common Information

|                            |                                                        |
|----------------------------|--------------------------------------------------------|
| Test Description:          | Band-Edge low - Radiated Spurious Emissions LTE Band V |
| Test Site Location:        | CETECOM GmbH Essen                                     |
| Test Site:                 | Fully Anechoic Chamber (FAC1) - EMC32 V10.50.0         |
| Test Standard:             | FCC Part 22.917(a) / RSS-132                           |
| Operating Mode:            | UMTS FDDV                                              |
| Environmental Conditions:: | Humidity : 60% rH; Temperature: 60 °C                  |
| Test SW Version:           | EMC32 V10.50.0                                         |
| Operator:                  | TFra                                                   |
| Remarks:                   | EUT - laying/standing position                         |
| EUT Setup:                 | 1                                                      |
| Verdict:                   | Passed                                                 |

### EUT Information

|             |                    |
|-------------|--------------------|
| PMT number: | 20-1-00607S215_C01 |
|             | Full Spectrum      |



### Final\_Result

| Frequency (MHz) | RMS (dBm) | Limit (dBm) | Margin (dB) | Meas. Time (ms) | Bandwidth (kHz) | Pol | Azimuth (deg) | Elevation (deg) | Corr. (dB) |
|-----------------|-----------|-------------|-------------|-----------------|-----------------|-----|---------------|-----------------|------------|
| ---             | ---       | ---         | ---         | ---             | ---             |     | ---           | ---             | ---        |

**End Of Annex 1**