

Annex 1: Measurement diagrams  
to  
**TEST REPORT**  
No.: 6-0147-12-9-3b

According to:  
**FCC Regulations**  
CFR47: Part 22  
Part 24  
**IC Regulations**  
RSS Gen, Issue 3  
RSS-132, Issue 2  
RSS-133, Issue 5

for  
**Cinterion Wireless Modules GmbH**

**EHS5-US Module**

FCC-ID: QIPEHS5-US  
IC: 7830A-EHS5US

| Laboratory Accreditation and Listings                                                                                                                                                                                                                                                                                                                                  |                                                                                                                                                |                                                                                                                                                                        |                                                                                                                                                                                                   |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| <br>Deutsche<br>Akkreditierungsstelle<br>D-PL-12047-01-01                                                                                                                                                                                                                           | <br>Reg. No.: 736496<br>MRA US-EU 0003                      | <br>Industry Canada<br>Reg. No.: 3462D-1<br>Reg. No.: 3462D-2<br>Reg. No.: 3462D-3 | <br>Voluntary Controls for<br>Electromagnetic Emissions<br>Reg. No.: R-2665, R-2666<br>C-2914, T-1967, G-301 |
| <br>AUTHORIZED<br>RF LABORATORY                                                                                                                                                                                                                                                     | <br><b>CTIA Authorized Test Lab</b><br>LAB CODE 20011130-00 |                                                                                                                                                                        |                                                                                                                                                                                                   |
| accredited according to DIN EN ISO/IEC 17025                                                                                                                                                                                                                                                                                                                           |                                                                                                                                                |                                                                                                                                                                        |                                                                                                                                                                                                   |
| <p style="text-align: center;"><b>CETECOM GmbH</b><br/>Laboratory Radio Communications &amp; Electromagnetic Compatibility<br/>Im Teelbruch 116 • 45219 Essen • Germany<br/>Registered in Essen, Germany, Reg. No.: HRB Essen 8984<br/>Tel.: + 49 (0) 20 54 / 95 19-954 • Fax: + 49 (0) 20 54 / 95 19-964<br/>E-mail: info@cetecom.com • Internet: www.cetecom.com</p> |                                                                                                                                                |                                                                                                                                                                        |                                                                                                                                                                                                   |

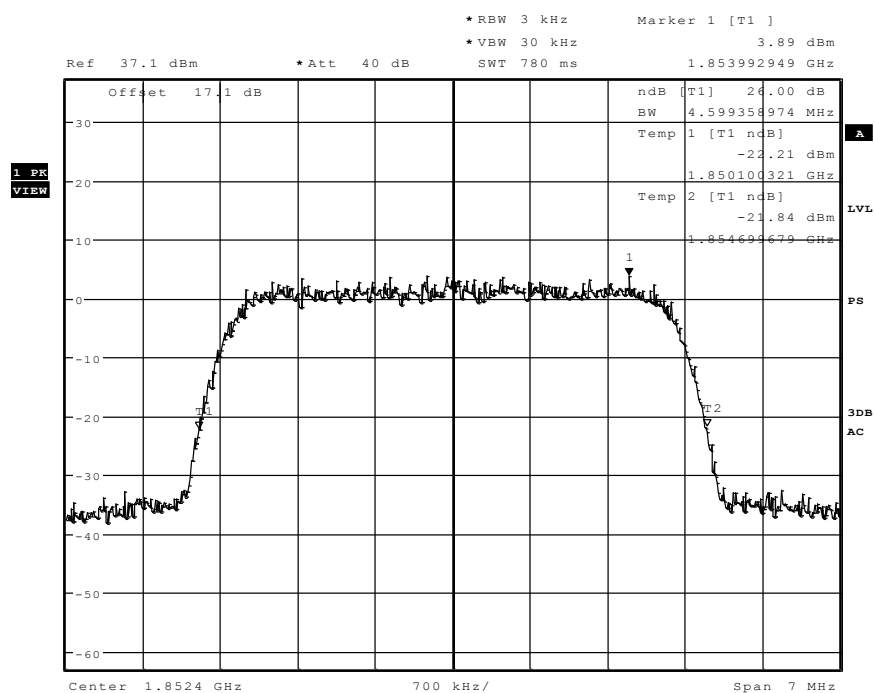
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## 1. Measurement diagrams

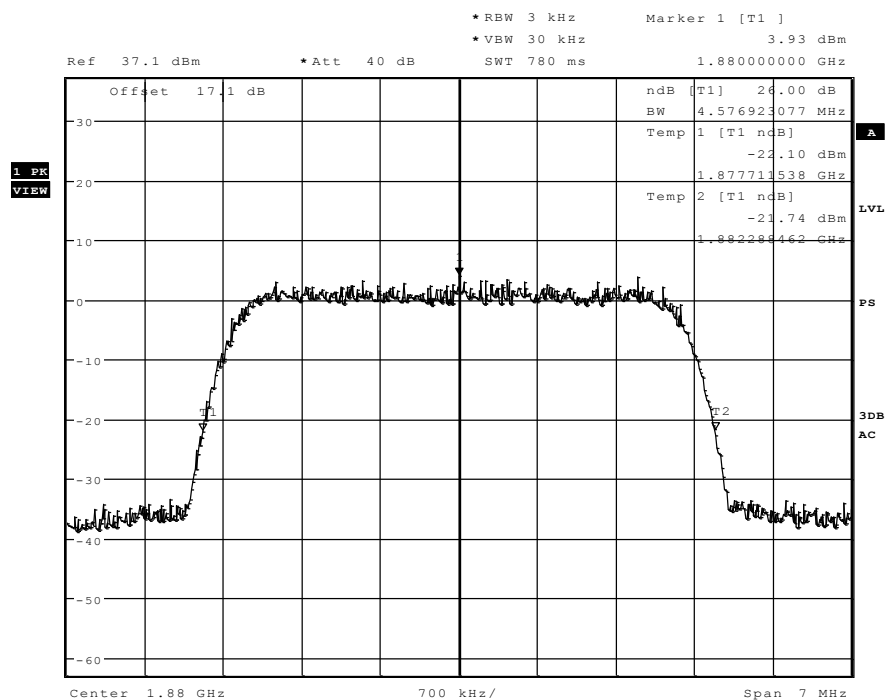
### 1.1. Emission bandwidth (26dBc Bandwidth)

#### 1.1.1. FDD II (RMC99 mode)



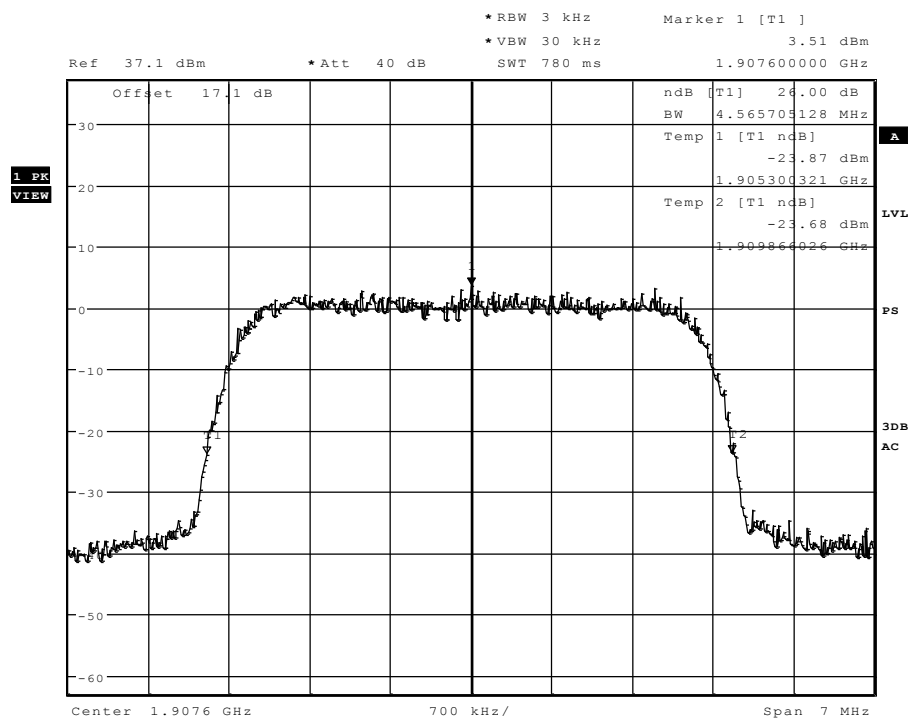
Date: 21.SEP.2012 11:59:48

Channel 9262



Date: 21.SEP.2012 12:05:34

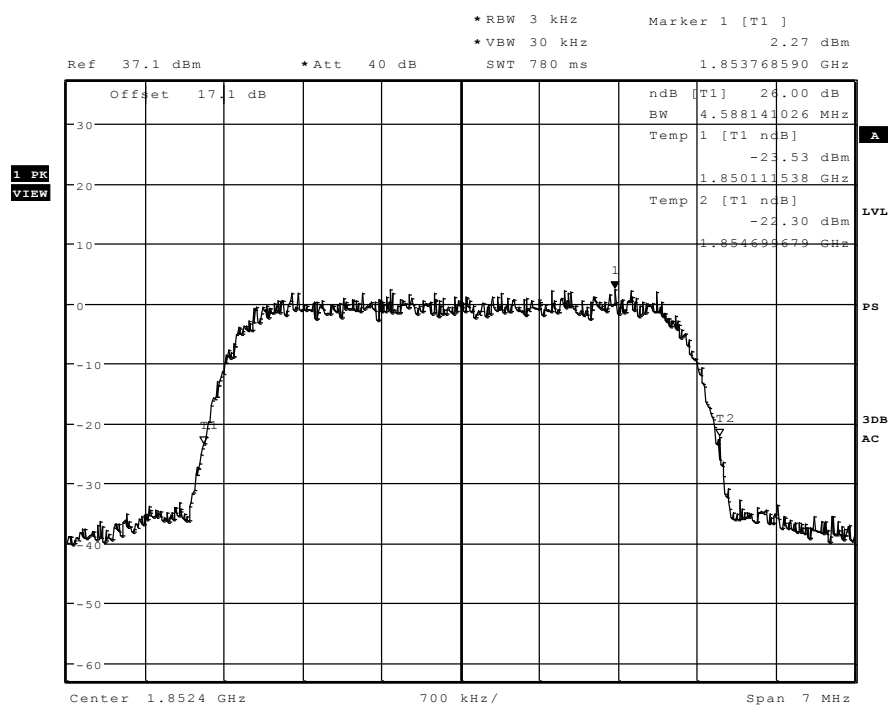
Channel 9400



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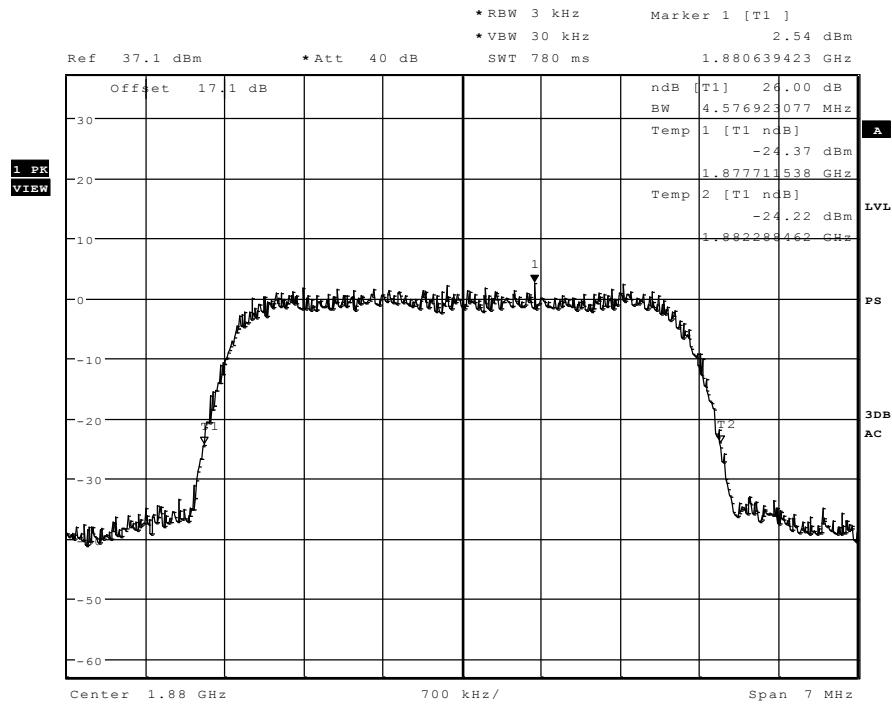
Channel 9538

## 1.1.2. FDD II (HSPA mode)



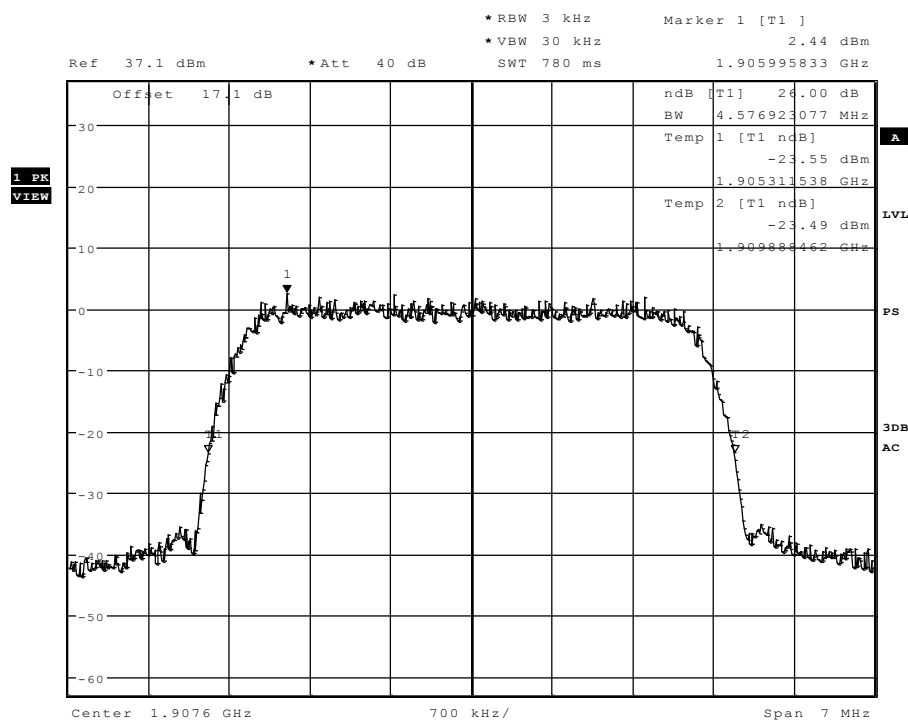
Date: 21.SEP.2012 12:16:45

Channel 9262



Date: 21.SEP.2012 12:17:59

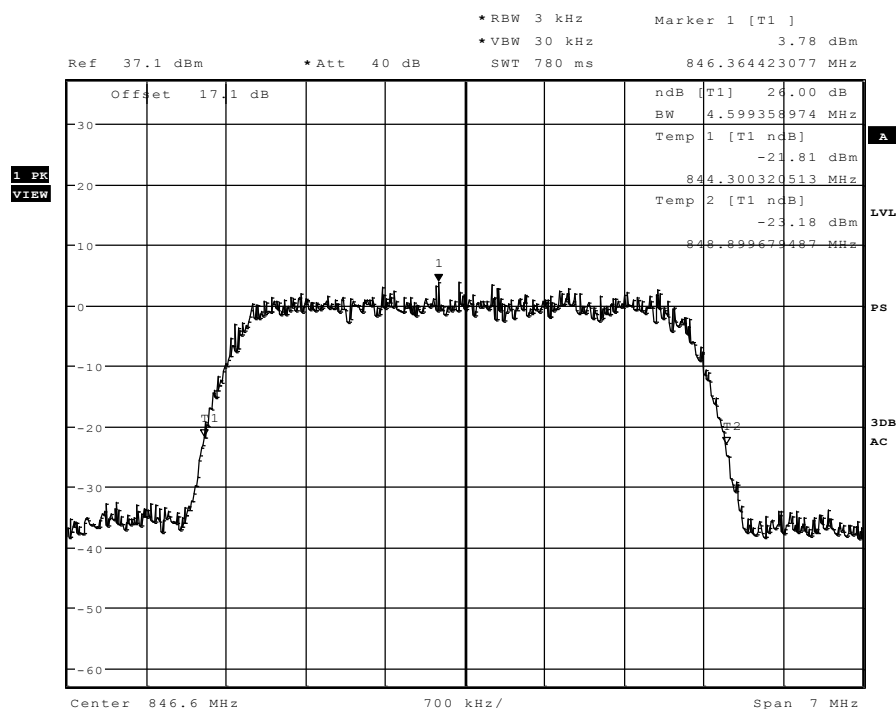
## Channel 9400



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## Channel 9538

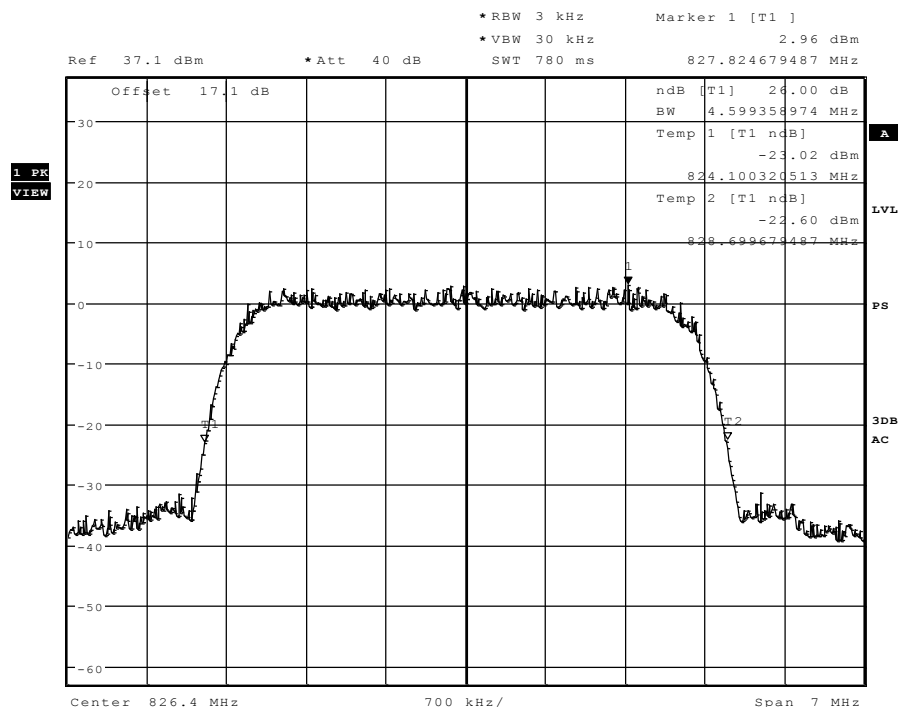




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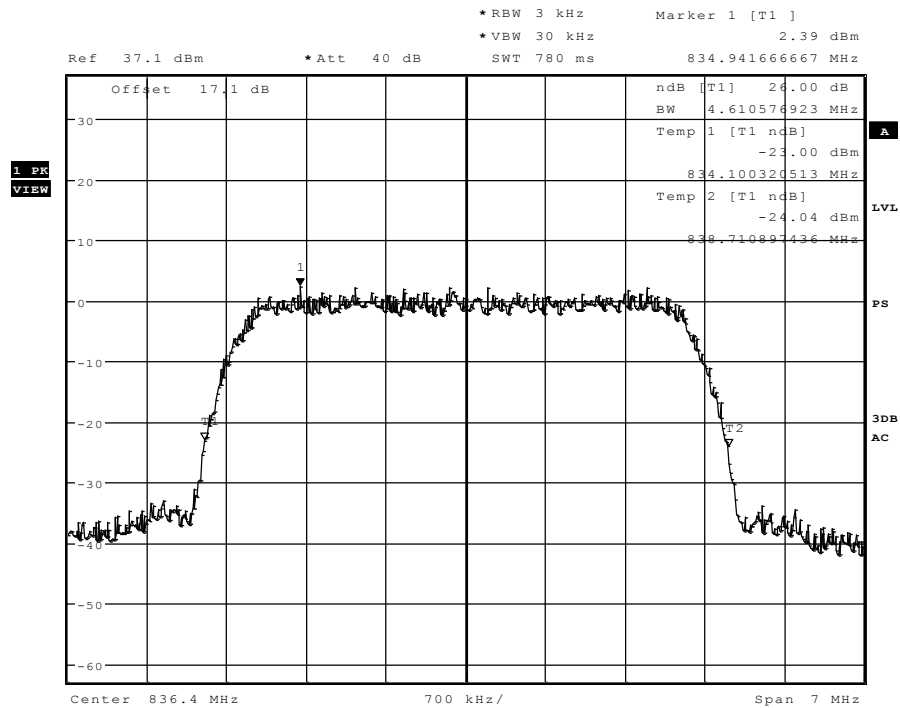
Channel 4233

### 1.1.4. FDD V (HSPA mode)



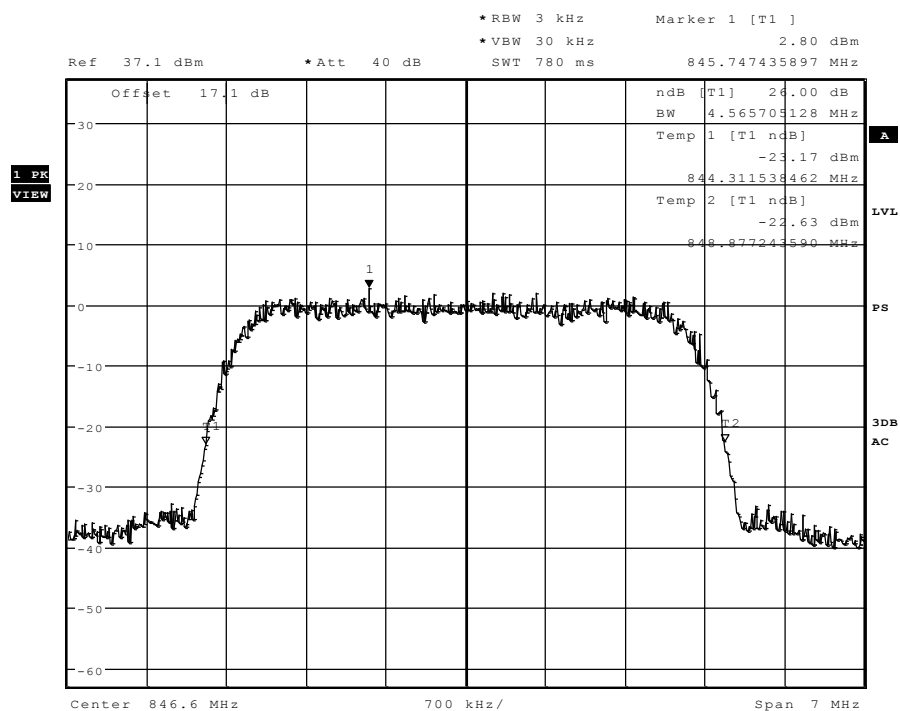
Date: 20.SEP.2012 12:46:47

Channel 4132



Date: 20.SEP.2012 12:41:17

## Channel 4183

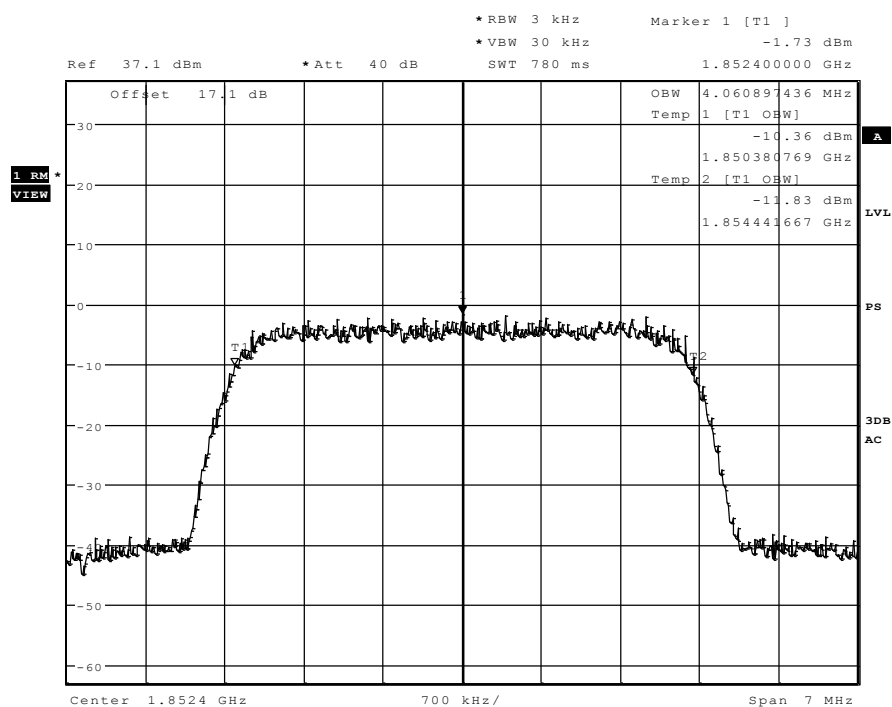


Date: 20.SEP.2012 12:39:36

## Channel 4233

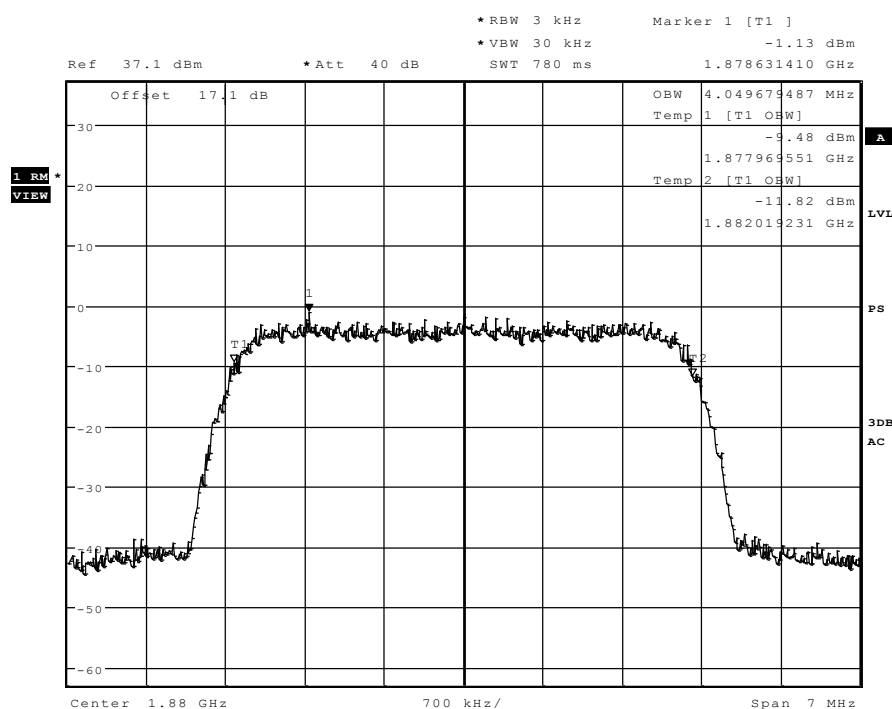
## 1.2. 99% Occupied bandwidth

### 1.2.1. FDD II (RMC99 mode)



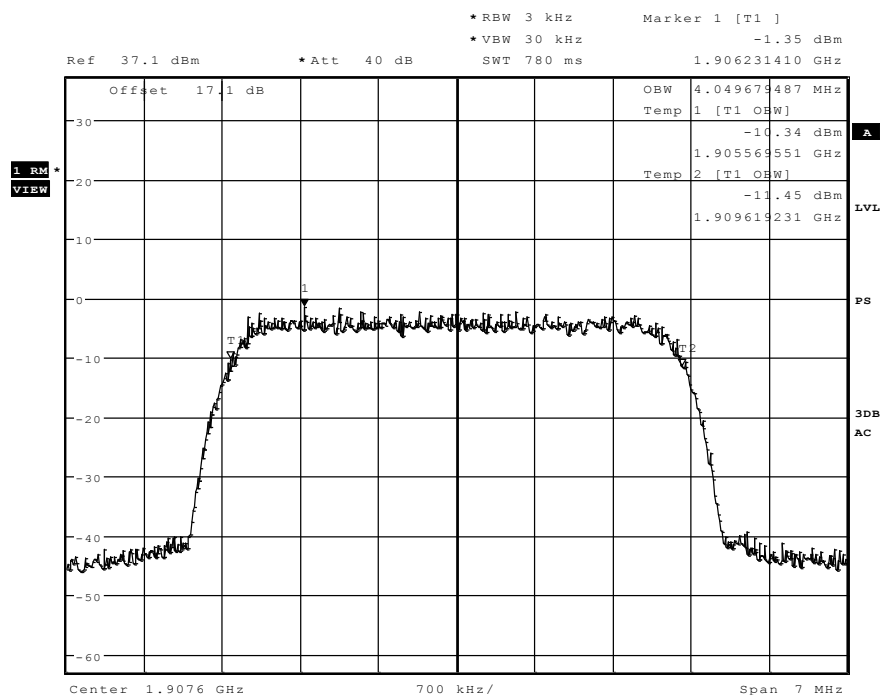
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Channel 9262



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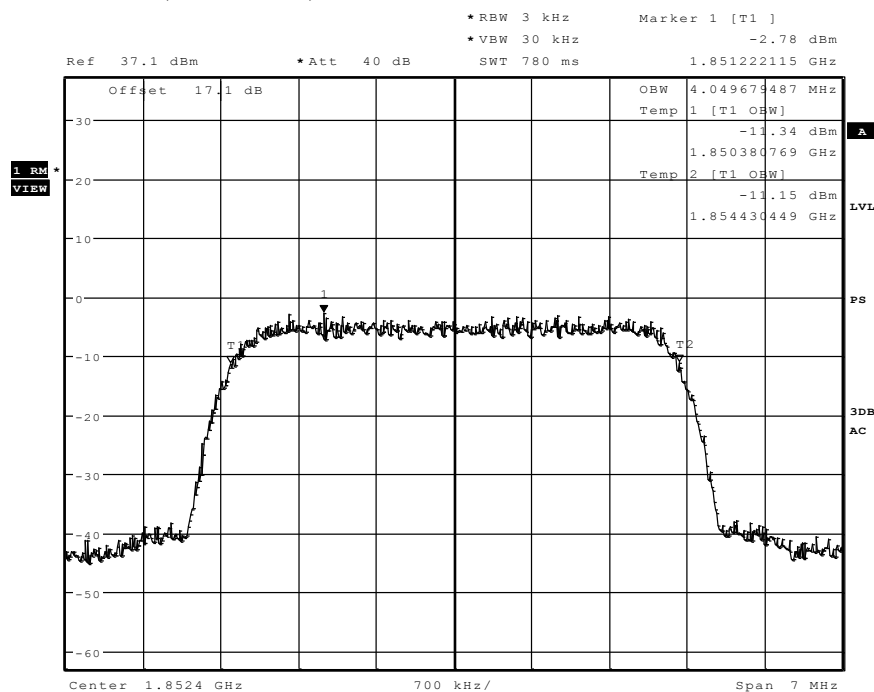
Channel 9400



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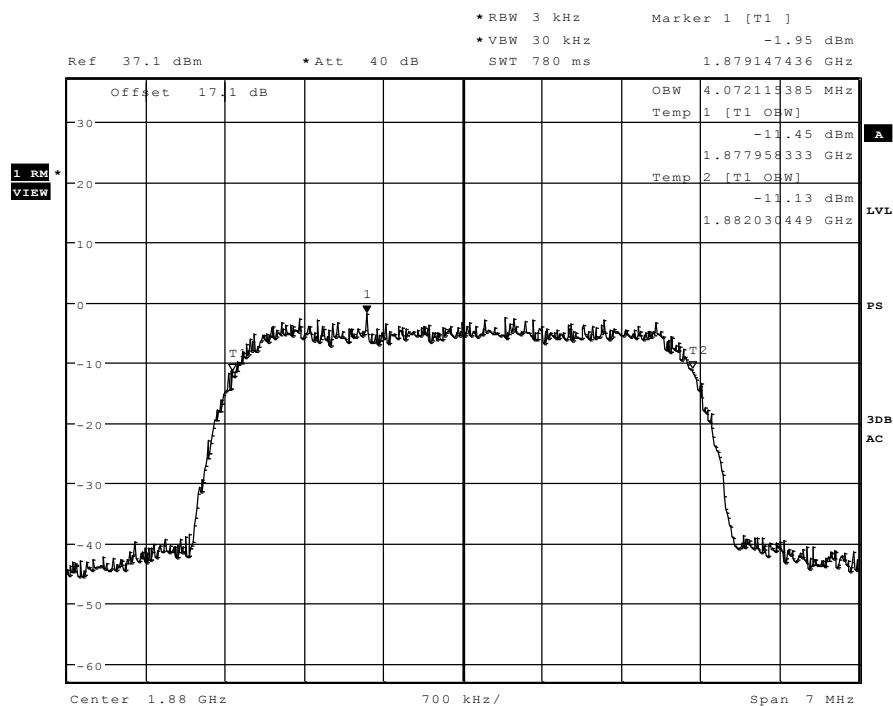
Channel 9538

### 1.2.2. FDD II (HSPA mode)

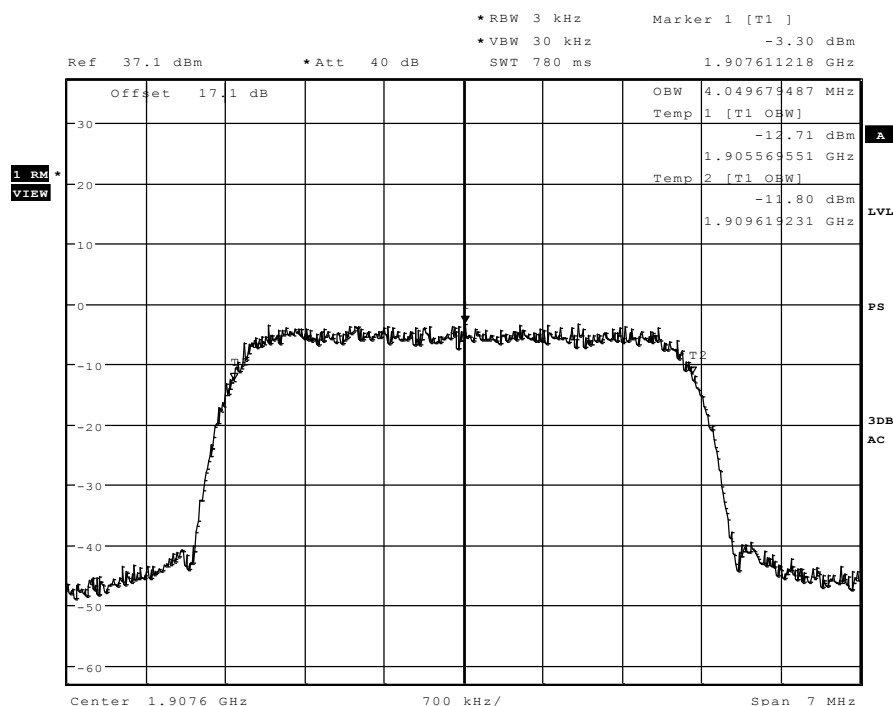


Date: 21.SEP.2012 12:14:55

Channel 9262



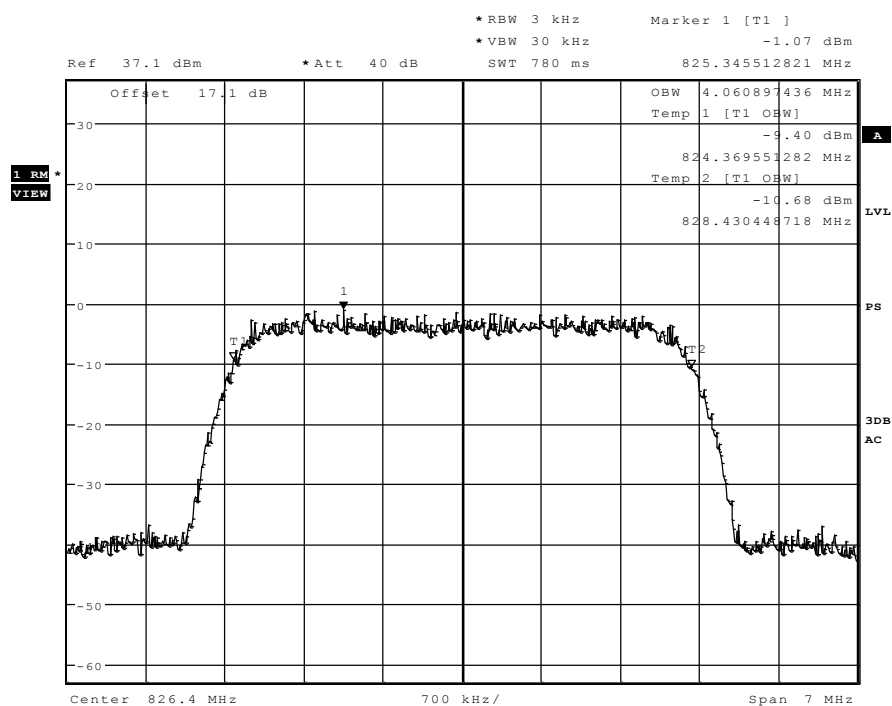
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**Channel 9400**

Date: 21.SEP.2012 12:20:33

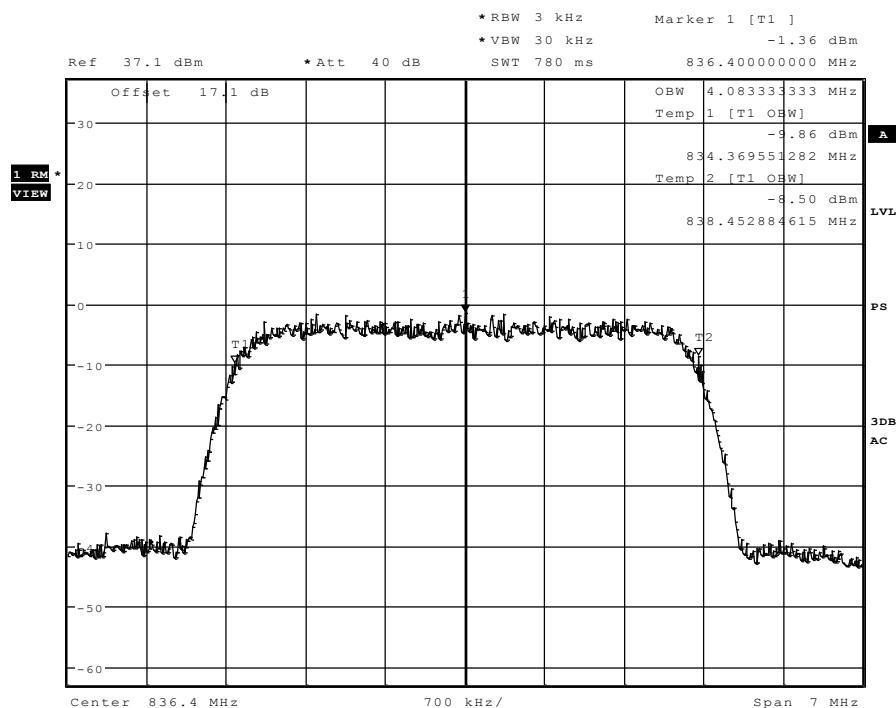
**Channel 9538**

### 1.2.3. FDD V (RMC99 mode)



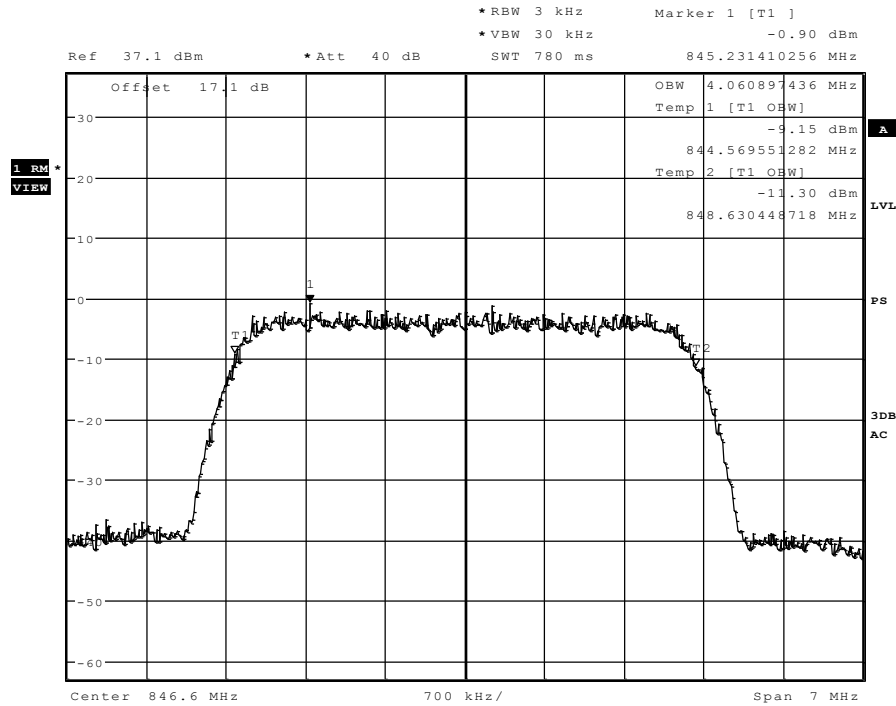
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#### Channel 4132



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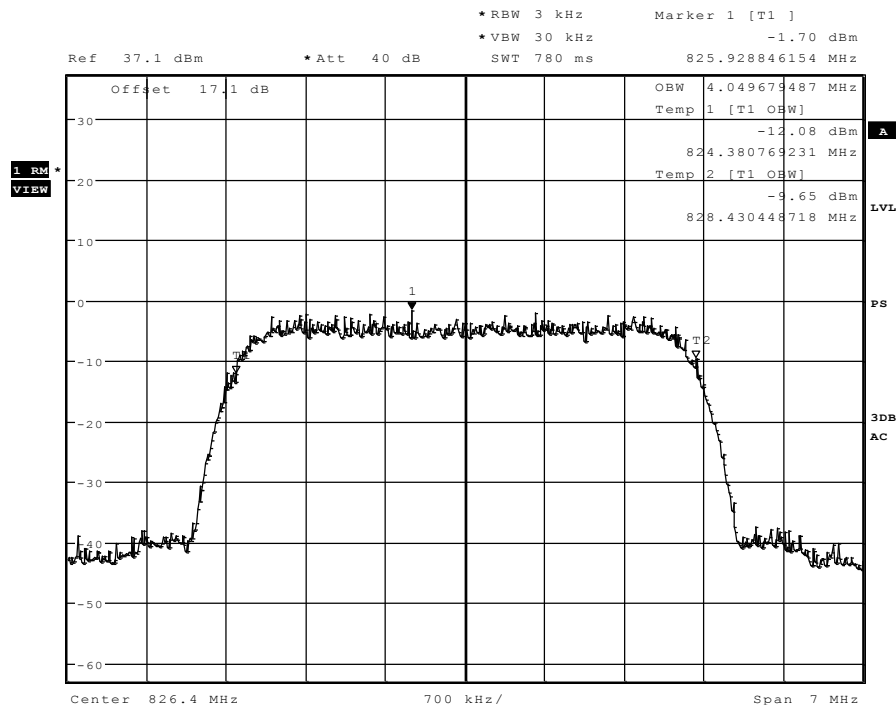
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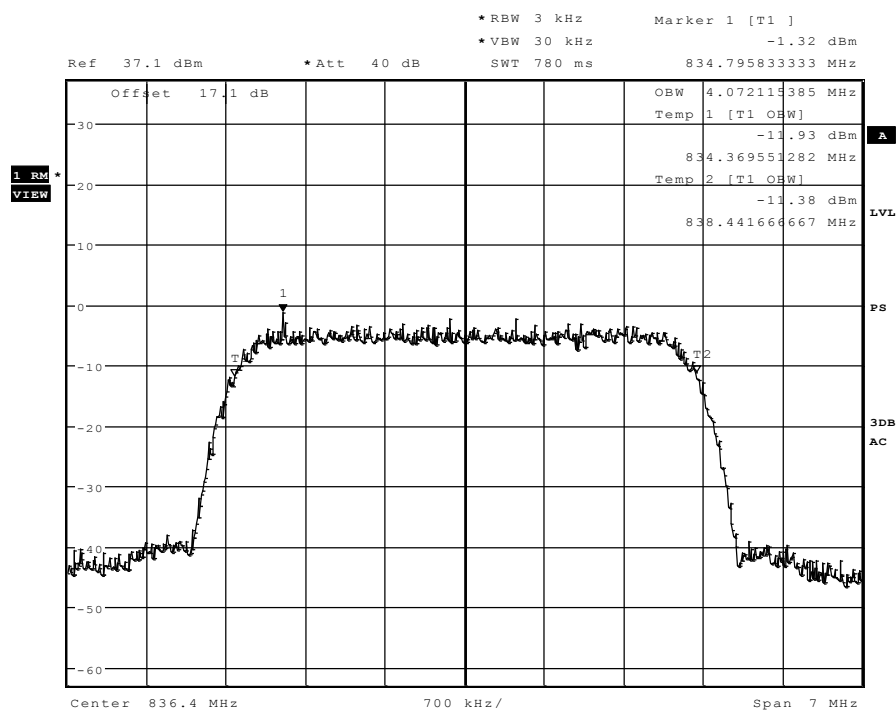
Channel 4233

### 1.2.4. FDD V (HSPA mode)



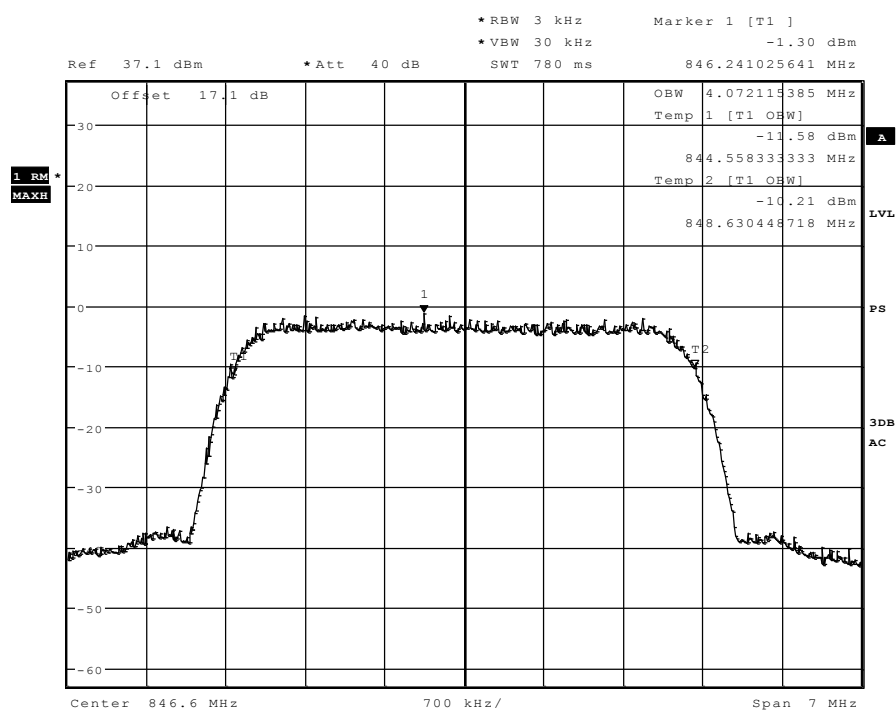
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Channel 4132



Date: 20.SEP.2012 12:43:27

## Channel 4183



Date: 20.SEP.2012 12:37:15

## Channel 4233

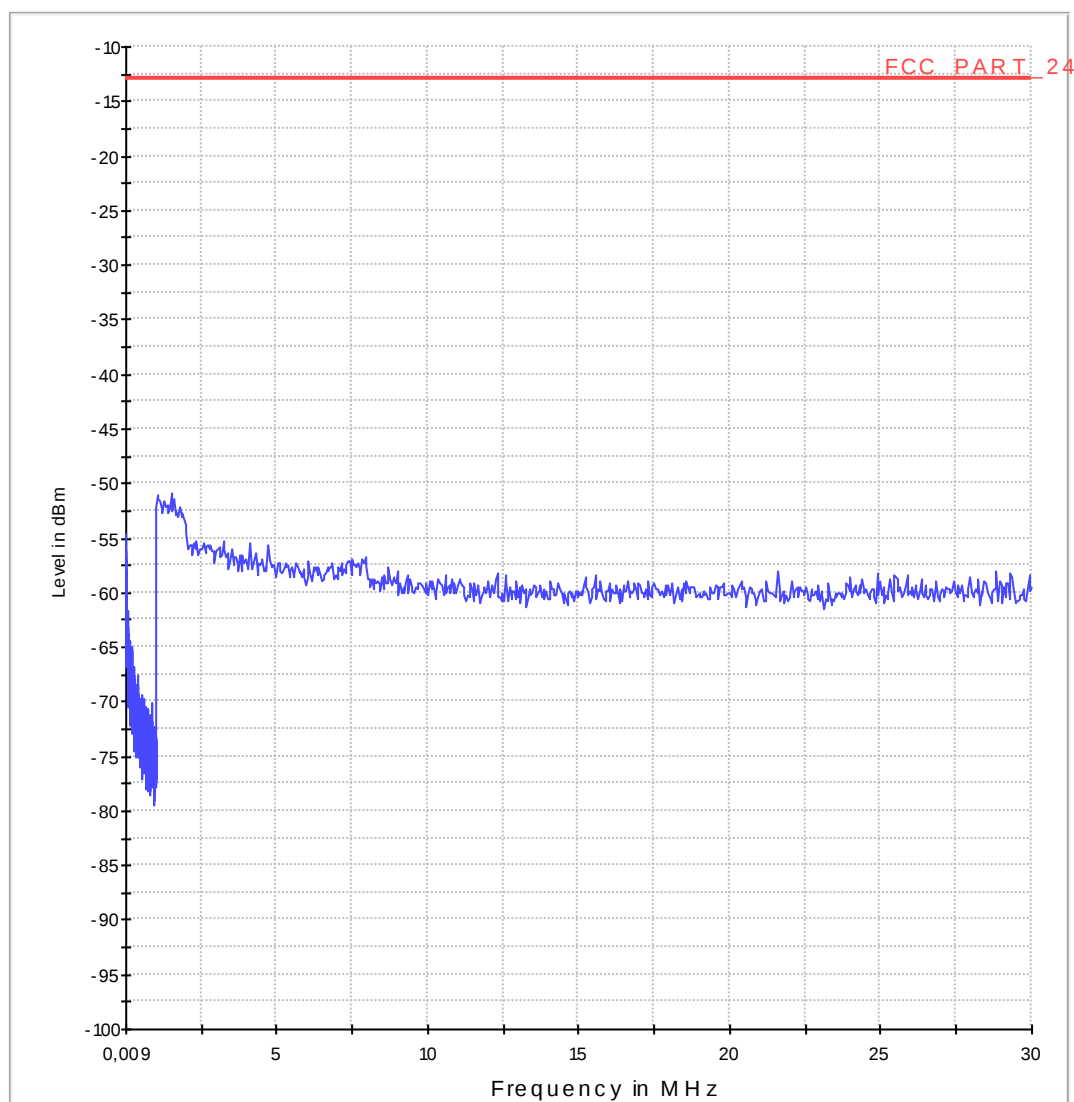
**1.3. Spurious emissions conducted****1.3.1. Out-of-Band emissions – FDD II (RMC99)****Diagram No.: 12.10****Common Information**

|                   |                                |
|-------------------|--------------------------------|
| Test Description: | TX Spurious Emission conducted |
| Test Site:        | Radio laboratory 1             |
| Test Standard:    | FCC Part 24.238 RSS-133        |
| Operation mode:   | FDDII RMC (channel:9262)       |
| Operator Name:    | TAS/Ach                        |
| Comment:          | 6-0147-12-9 -3b                |

**EUT Information**

|                |                                                          |
|----------------|----------------------------------------------------------|
| EUT Name:      | EHS5-US                                                  |
| Manufacturer:  | Cinterion                                                |
| Serial Number: | 00440108075600                                           |
| Hardware Rev:  | B2 rev.3                                                 |
| Software Rev:  | 00.260                                                   |
| Comment:       | Interface R232                                           |
| Accessories:   | Power supply (12V DC), Data/Voice transmission via RS232 |

Sweep\_1



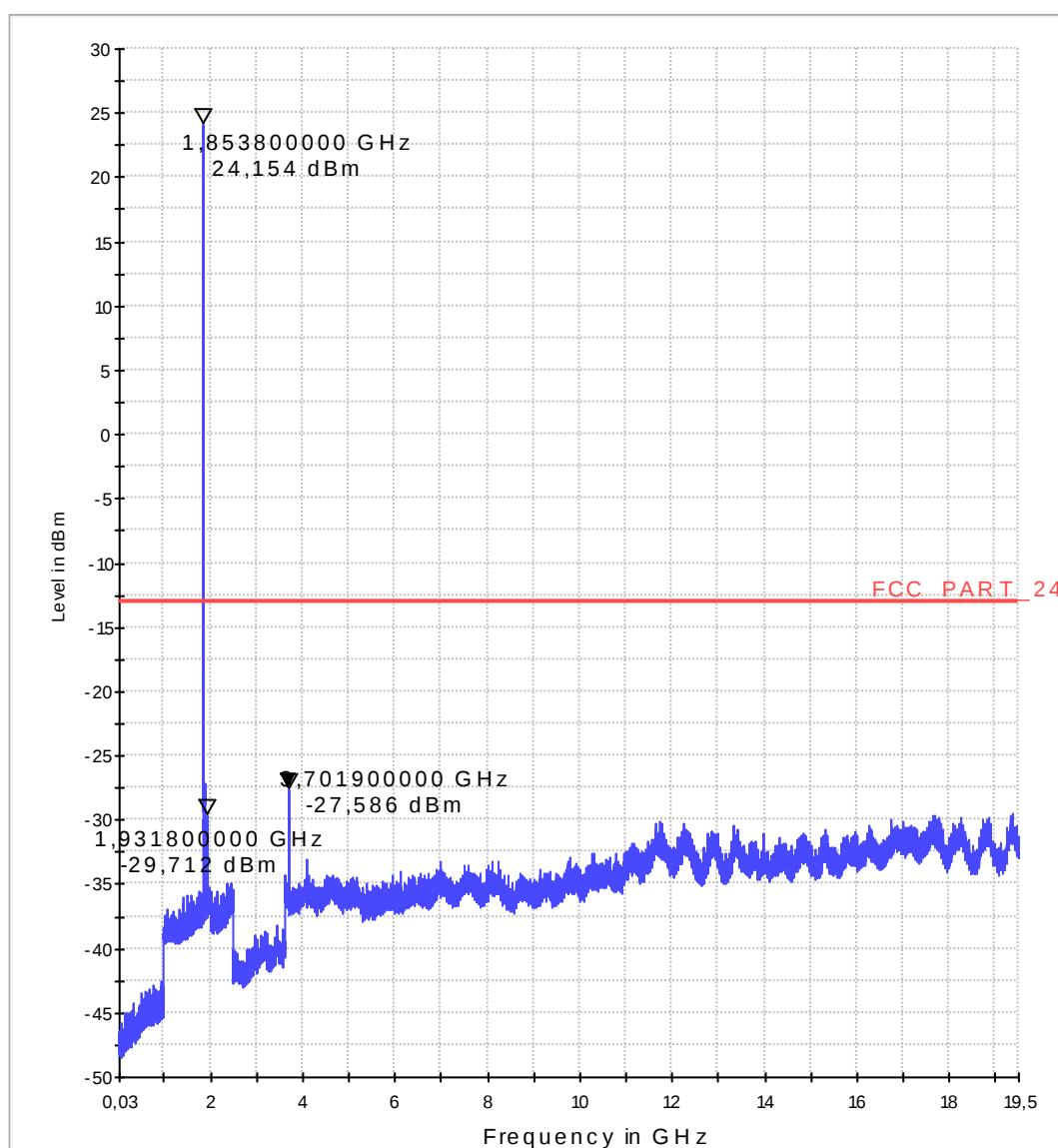
**Diagram No.: 12.10****Common Information**

|                   |                                               |
|-------------------|-----------------------------------------------|
| Test Description: | TX Spurious Emission conducted                |
| Test standard:    | FCC Part 24.238 RSS-133                       |
| Test Site:        | Radio laboratory 1                            |
| Operator Name:    | TAS/Ach                                       |
| Operating mode:   | FDD II TX, RMC99, low channel on U-ARFCN 9262 |

**EUT Information**

|                |                                                          |
|----------------|----------------------------------------------------------|
| EUT Name:      | EHS5-US                                                  |
| Manufacturer:  | Cinterion                                                |
| Serial Number: | 00440108075600                                           |
| Hardware Rev:  | B2 rev.3                                                 |
| Software Rev:  | 00.260                                                   |
| Comment:       | Interface R232                                           |
| Accessories:   | Power supply (12V DC), Data/Voice transmission via RS232 |

Sweep\_2



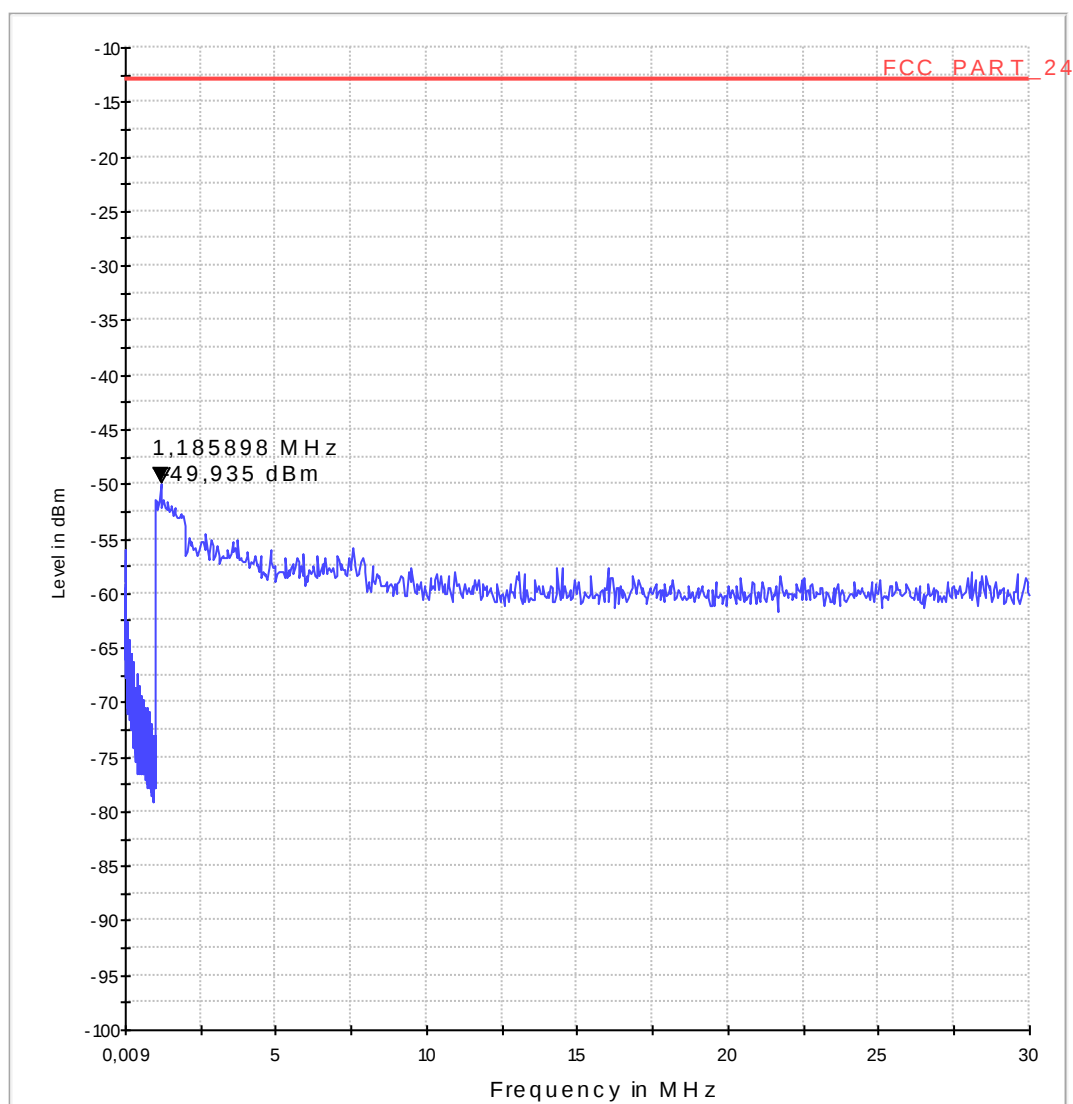
**Diagram No.: 12.11****Common Information**

|                   |                                |
|-------------------|--------------------------------|
| Test Description: | TX Spurious Emission conducted |
| Test Site:        | Radio laboratory 1             |
| Test Standard:    | FCC Part 24.238 RSS-133        |
| Operation mode:   | FDDII RMC (channel:9400)       |
| Operator Name:    | TAS/Ach                        |
| Comment:          | 6-0147-12-9 -3b                |

**EUT Information**

|                |                                                          |
|----------------|----------------------------------------------------------|
| EUT Name:      | EHS5-US                                                  |
| Manufacturer:  | Cinterion                                                |
| Serial Number: | 004401080756000                                          |
| Hardware Rev:  | B2 rev.3                                                 |
| Software Rev:  | 00.260                                                   |
| Comment:       | Interface R232                                           |
| Accessories:   | Power supply (12V DC), Data/Voice transmission via RS232 |

Sweep\_1



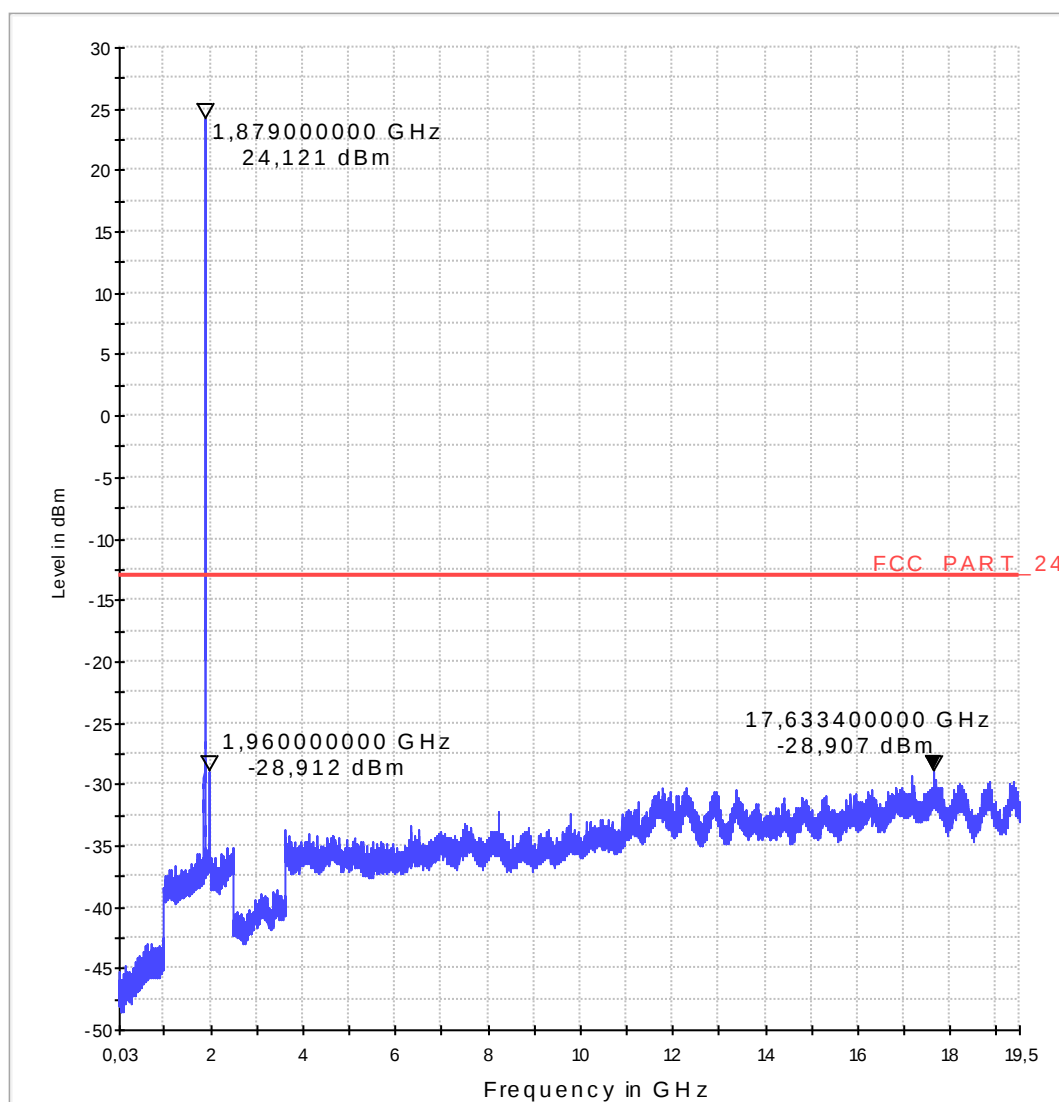
**Diagram No.: 12.11****Common Information**

|                       |                                |
|-----------------------|--------------------------------|
| Test Description:     | TX Spurious Emission conducted |
| Operating Conditions: | Radio laboratory 1             |
| Test spec:            | FCC Part 24.238 RSS-133        |
| Op-mode               | TX FDDII RMC (channel:9400)    |
| Operator              | TAS/Ach                        |
|                       | 6-0147-12-9 -3b                |

**EUT Information**

|                |                                                          |
|----------------|----------------------------------------------------------|
| EUT Name:      | EHS5-US                                                  |
| Manufacturer:  | Cinterion                                                |
| Serial Number: | 00440108075600                                           |
| Hardware Rev:  | B2 rev.3                                                 |
| Software Rev:  | 00.260                                                   |
| Comment:       | Interface R232                                           |
| Accessories:   | Power supply (12V DC), Data/Voice transmission via RS232 |

Sweep\_2



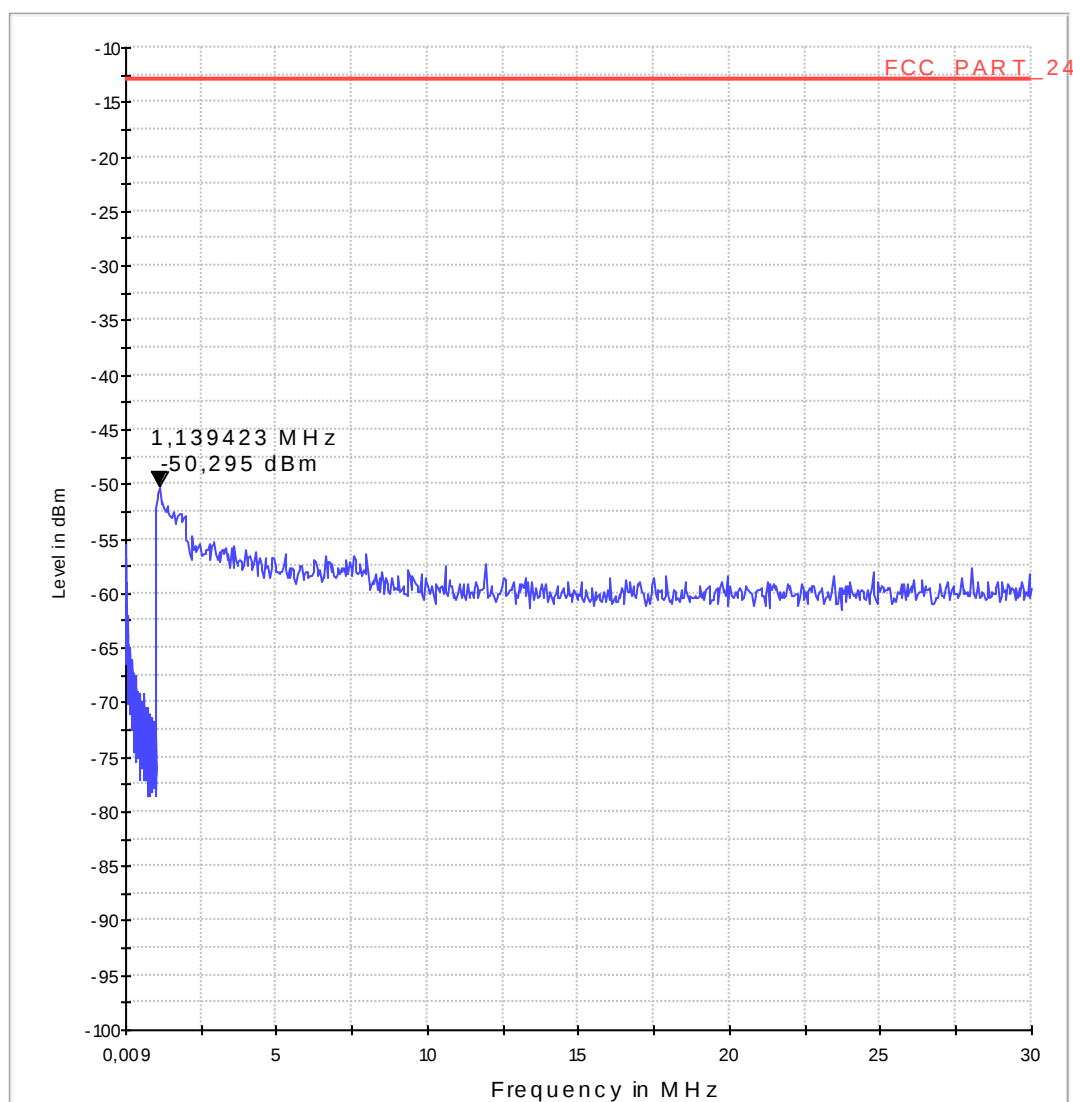
**Diagram No.: 12.12****Common Information**

|                   |                                |
|-------------------|--------------------------------|
| Test Description: | TX Spurious Emission conducted |
| Test Site:        | Radio laboratory 1             |
| Test Standard:    | FCC Part 24.238 RSS-133        |
| Operation mode:   | FDDII TX RMC (channel:9538)    |
| Operator Name:    | TAS/Ach                        |
| Comment:          | 6-0147-12-9-3b                 |

**EUT Information**

|                |                                                          |
|----------------|----------------------------------------------------------|
| EUT Name:      | EHS5-US                                                  |
| Manufacturer:  | Cinterion                                                |
| Serial Number: | 00440108075600                                           |
| Hardware Rev:  | B2 rev.3                                                 |
| Software Rev:  | 00.260                                                   |
| Comment:       | Interface R232                                           |
| Accessories:   | Power supply (12V DC), Data/Voice transmission via RS232 |

Sweep\_1



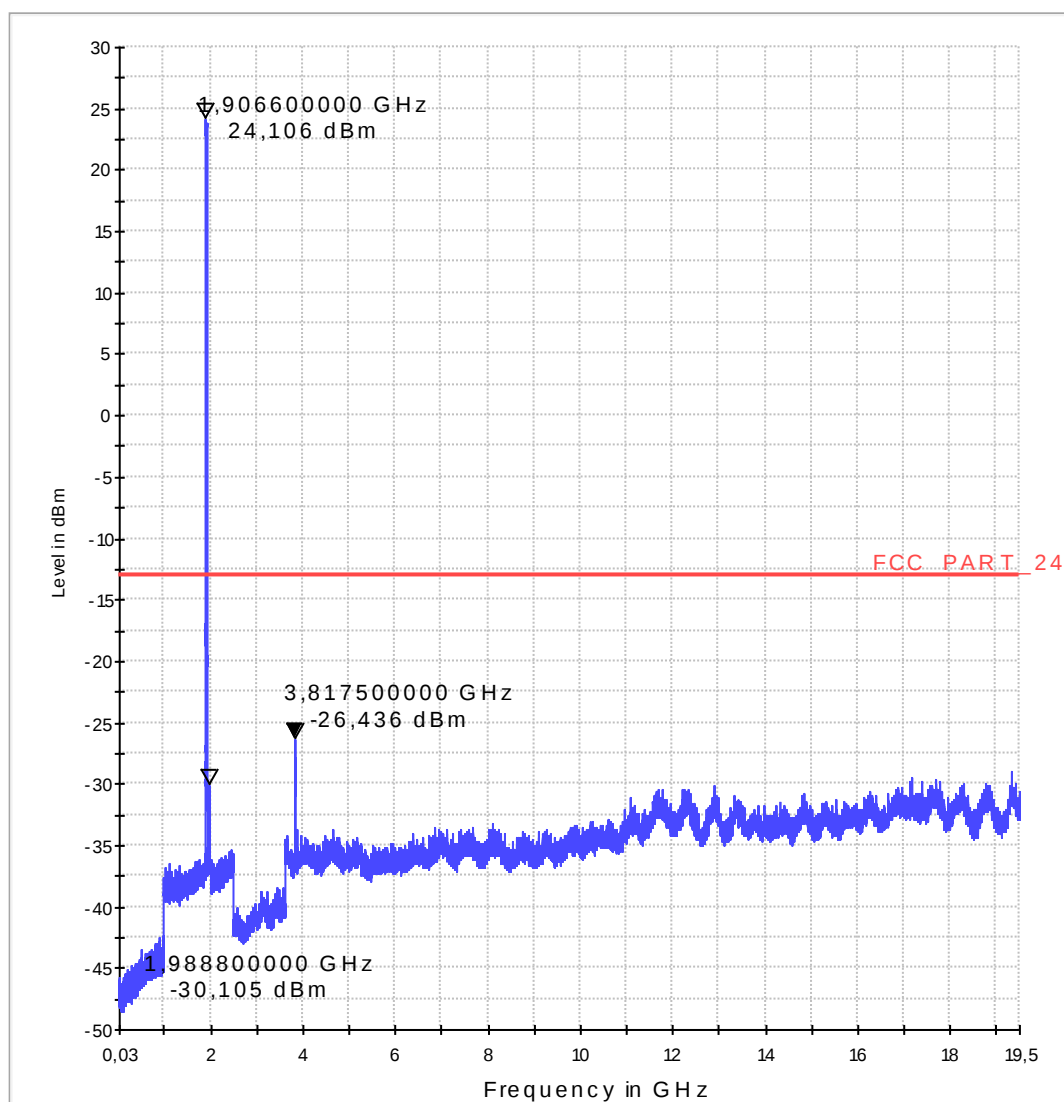
**Diagram no.: 12.12****Common Information**

|                       |                                |
|-----------------------|--------------------------------|
| Test Description:     | TX Spurious Emission conducted |
| Operating Conditions: | Radio laboratory 1             |
| Operator Name:        | FCC Part 24.238 RSS-133        |
| Op. mode:             | TX FDDII RMC (channel:9538)    |
|                       | TAS/Ach                        |
|                       | 6-0147-12-9 -3b                |

**EUT Information**

|                |                                                          |
|----------------|----------------------------------------------------------|
| EUT Name:      | EHS5-US                                                  |
| Manufacturer:  | Cinterion                                                |
| Serial Number: | 00440108075600                                           |
| Hardware Rev:  | B2 rev.3                                                 |
| Software Rev:  | 00.260                                                   |
| Comment:       | Interface R232                                           |
| Accessories:   | Power supply (12V DC), Data/Voice transmission via RS232 |

Sweep\_2



## 1.3.2. Band-Edge compliance FDD II (RMC99)

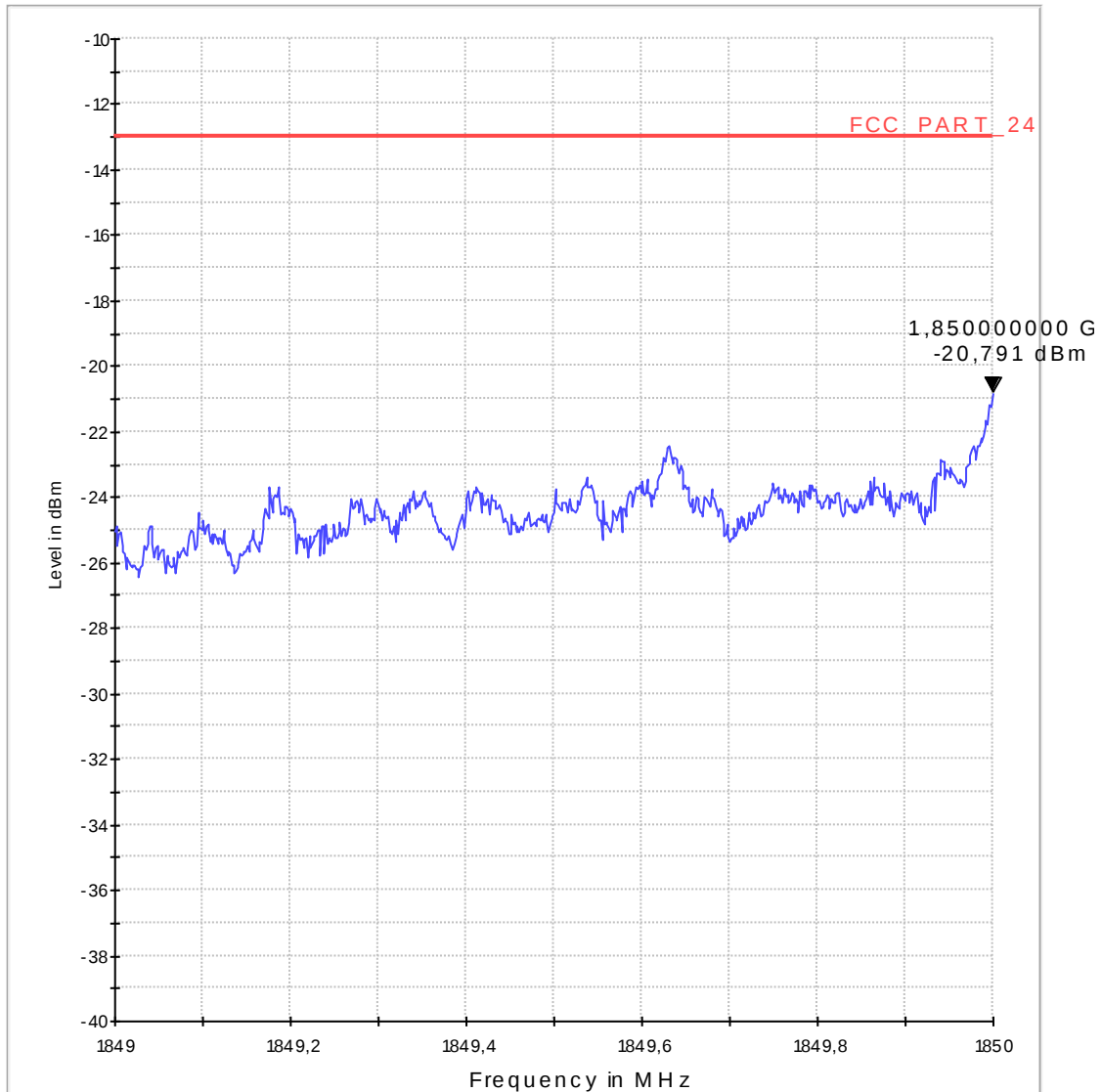
**Diagram No.: 14.15****Common Information**

|                       |                         |
|-----------------------|-------------------------|
| Test Description:     | Band Edge               |
| Operating Conditions: | Radio laboratory 1      |
| Test spec.:           | FCC Part 24.238 RSS-133 |
| Operator              | TAS/Ach                 |
|                       | 6-0147-12-9 -3b         |

**EUT Information**

|                |                                                          |
|----------------|----------------------------------------------------------|
| EUT Name:      | EHS5-US                                                  |
| Manufacturer:  | Cinterion                                                |
| Serial Number: | 00440108075600                                           |
| Hardware Rev:  | B2 rev.3                                                 |
| Software Rev:  | 00.260                                                   |
| Comment:       | Interface R232                                           |
| Accessories:   | Power supply (12V DC), Data/Voice transmission via RS232 |

Sweep\_3a\_Band\_Edge\_Channel\_9262\_PK



## Diagram No. 14.16

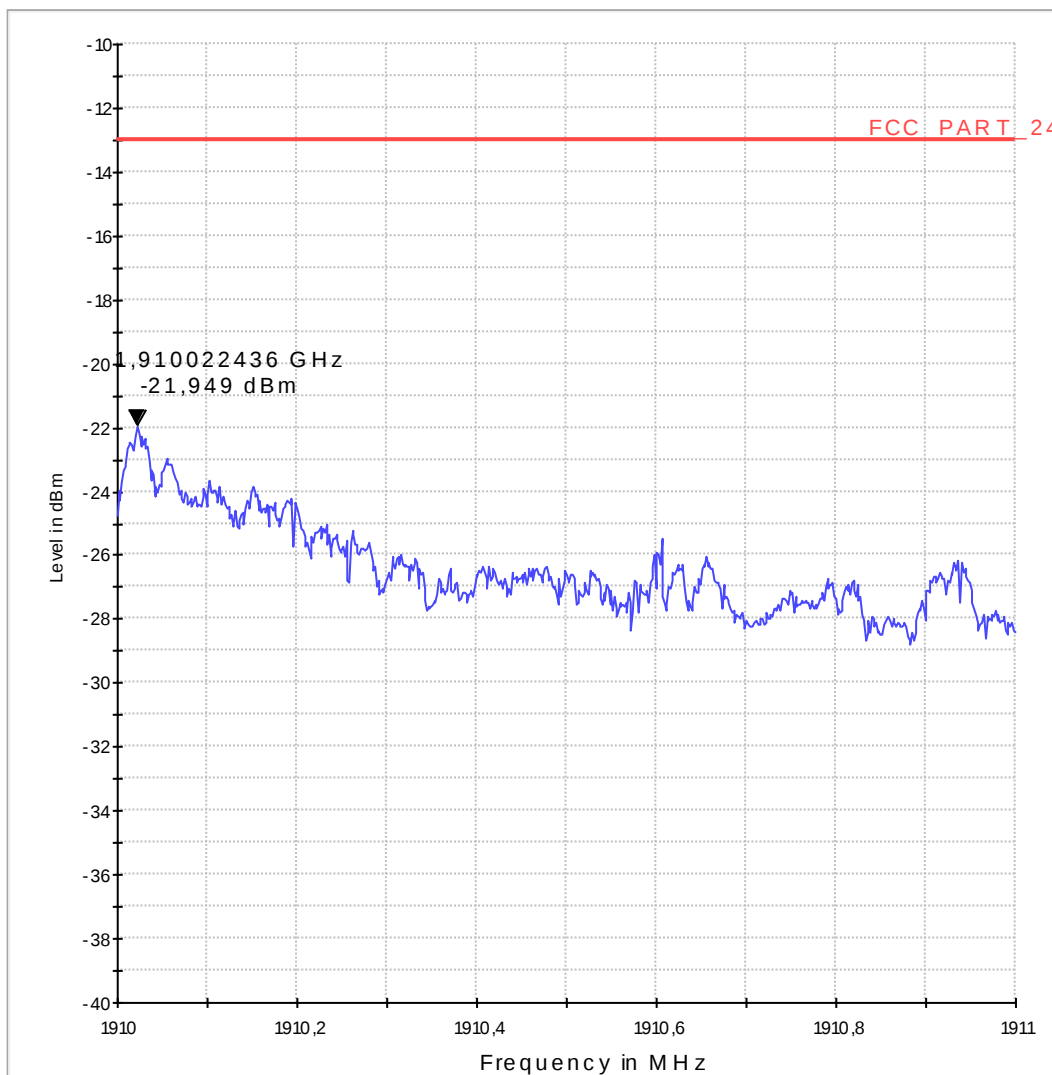
### Common Information

|                         |                                                              |
|-------------------------|--------------------------------------------------------------|
| Test Description:       | Transmitter unwanted emissions (Band-Edge)/ FCC requirements |
| Test Site:              | Radio laboratory 1                                           |
| Test Standard:          | FCC Part 24.238 RSS-133                                      |
| Environment Conditions: | 22.5°C 39%                                                   |
| Operator Name:          | TAS                                                          |
| Operating mode:         | TX on channel U-ARFCN 9538                                   |
|                         | 6-0147-12-9-3b                                               |

### EUT Information

|                |                                                          |
|----------------|----------------------------------------------------------|
| EUT Name:      | EHS5-US                                                  |
| Manufacturer:  | Cinterion                                                |
| Serial Number: | 00440108075600                                           |
| Hardware Rev:  | B2 rev.3                                                 |
| Software Rev:  | 00.260                                                   |
| Comment:       | Interface R232                                           |
| Accessories:   | Power supply (12V DC), Data/Voice transmission via RS232 |

Sweep\_3a\_Band\_Edge\_Channel\_9538\_PK



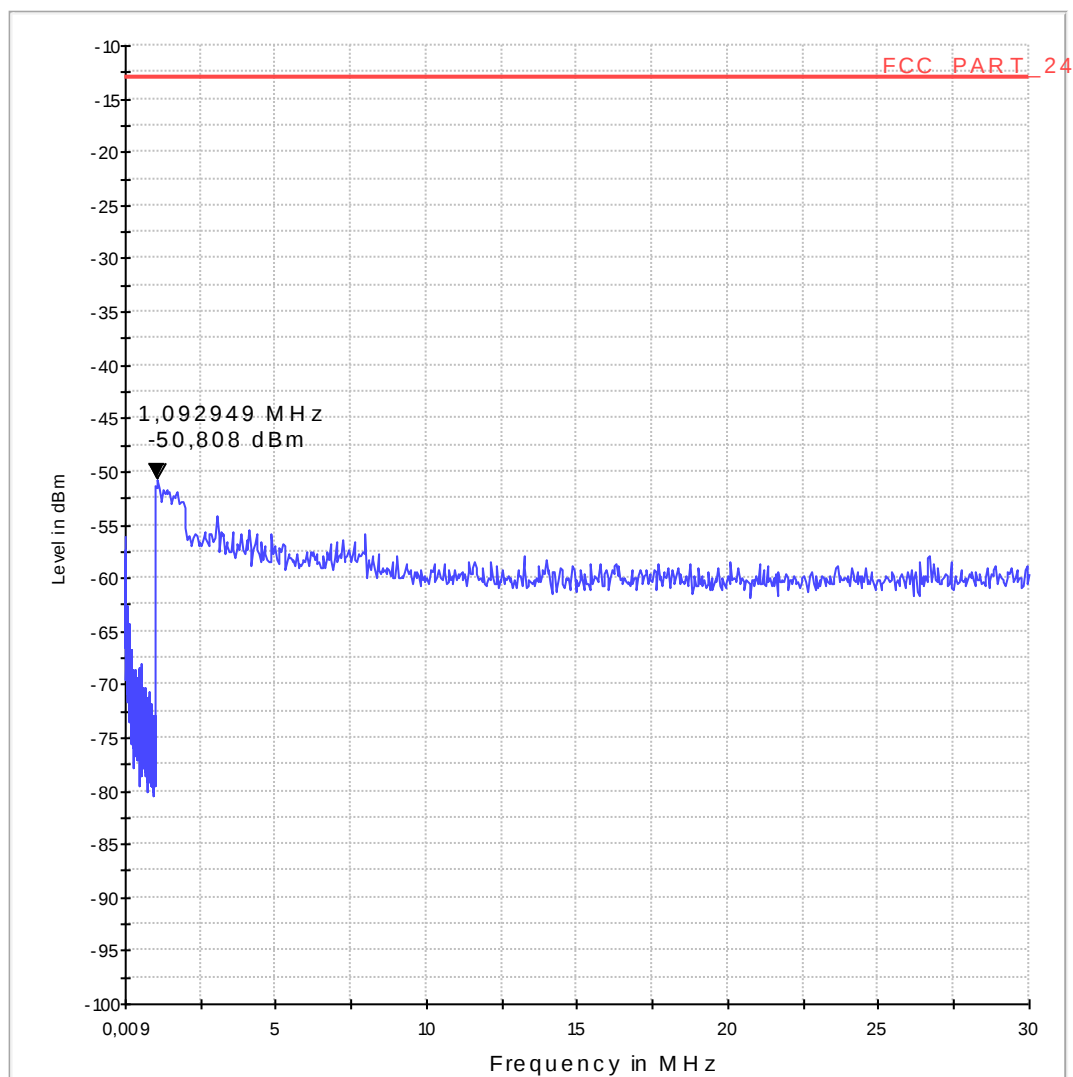
**1.3.3. Out-of-Band emissions – FDD V (RMC99)****Diagram No.: 12.13****Common Information**

|                   |                                               |
|-------------------|-----------------------------------------------|
| Test Description: | TX Spurious Emission conducted                |
| Test Site:        | Radio laboratory 1                            |
| Test Standard:    | FCC Part 22.917, RSS-132                      |
| Operation mode:   | TX - FDD V (RMC), low channel on U-ARFCN 4132 |
| Operator Name:    | Tas                                           |
| Comment:          | 6-0147-12-9-3b                                |

**EUT Information**

|                |                                                                |
|----------------|----------------------------------------------------------------|
| EUT Name:      | EHS5-US                                                        |
| Manufacturer:  | Cinterion                                                      |
| Serial Number: | 004401080756000                                                |
| Hardware Rev:  | B2 rev.3                                                       |
| Software Rev:  | 00.260                                                         |
| Comment:       | Interface R232                                                 |
| Accessories:   | Power supply (12V DC), Data/Voice transmission via RS232 cable |

Sweep\_1



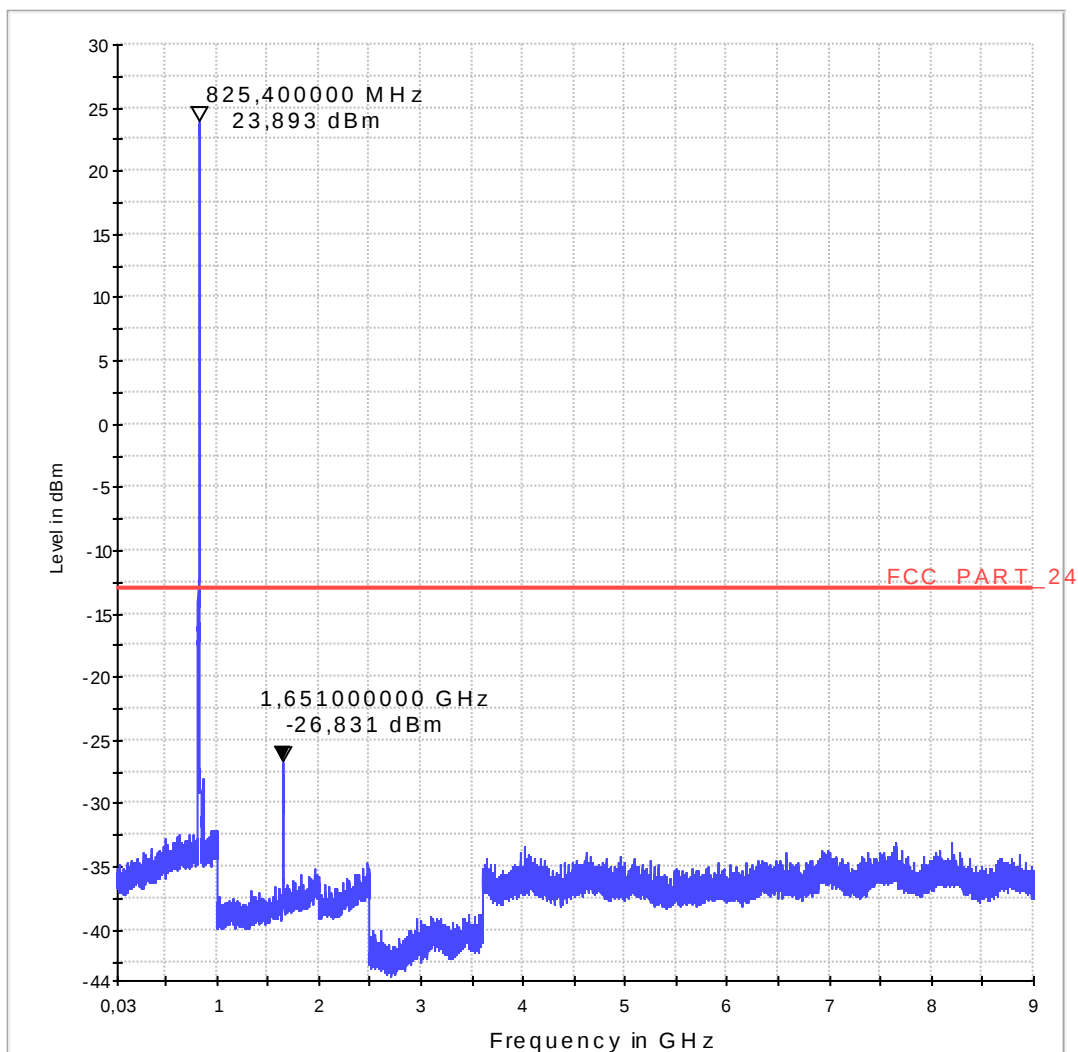
**Diagram No.: 12.13\_to 9G****Common Information**

|                   |                                                                                      |
|-------------------|--------------------------------------------------------------------------------------|
| Test Description: | TX Spurious Emission conducted                                                       |
| Test Site:        | Radio laboratory 1                                                                   |
| Test Standard:    | FCC Part 22, RSS-132                                                                 |
| Operation mode:   | TX - FDD V (RMC), low channel on U-ARFCN 4132                                        |
| Operator Name:    | Tas                                                                                  |
| Comment:          | TX carrier visible and for spurious emission test shall be ignored<br>6-0147-12-9-3b |

**EUT Information**

|                |                                                                |
|----------------|----------------------------------------------------------------|
| EUT Name:      | EHS5-US                                                        |
| Manufacturer:  | Cinterion                                                      |
| Serial Number: | 004401080756000                                                |
| Hardware Rev:  | B2 rev.3                                                       |
| Software Rev:  | 00.260                                                         |
| Comment:       | Interface R232                                                 |
| Accessories:   | Power supply (12V DC), Data/Voice transmission via RS232 cable |

Sweep\_2



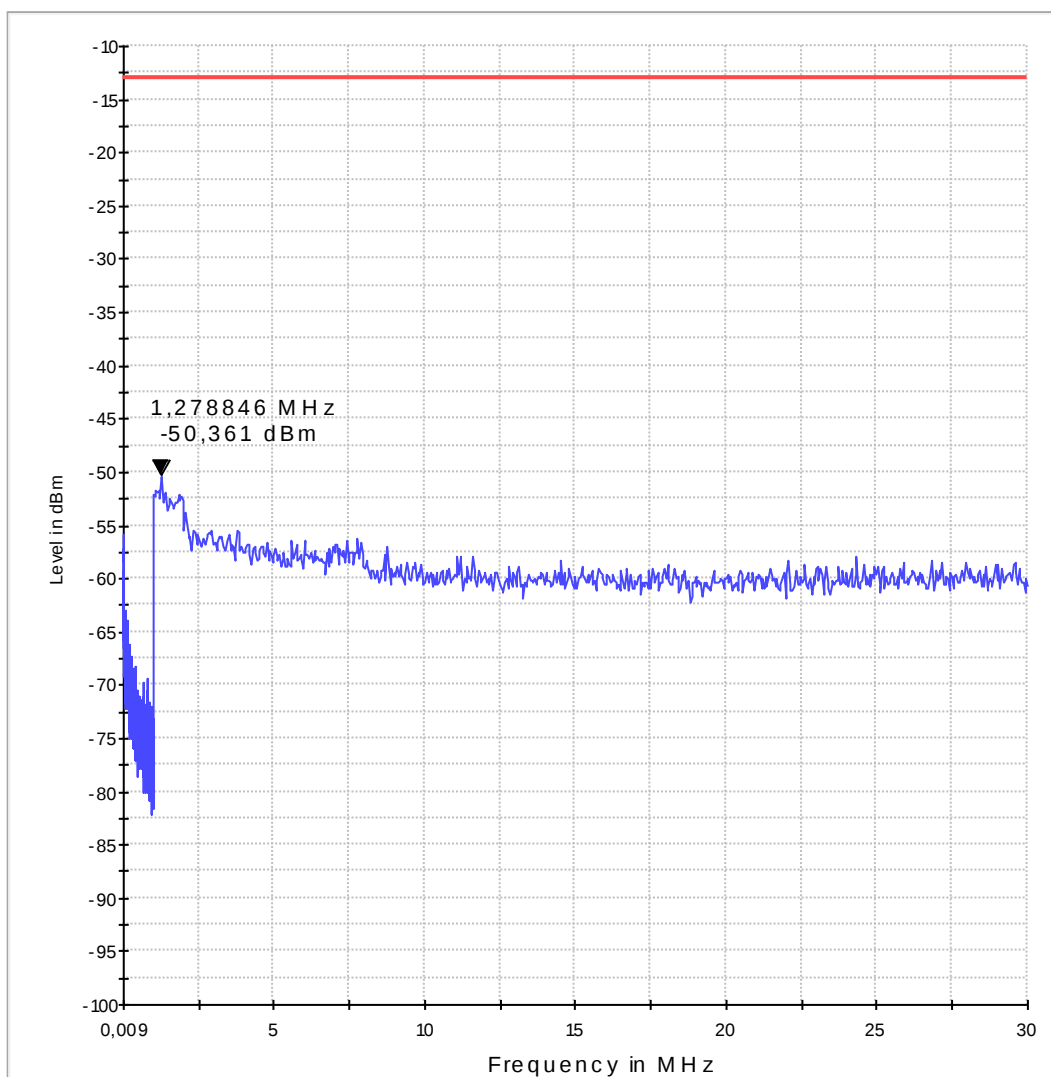
**Diagram No.: 12.14\_to 30M****Common Information**

|                   |                                                  |
|-------------------|--------------------------------------------------|
| Test Description: | TX Spurious Emission conducted                   |
| Test Site:        | Radio laboratory 1                               |
| Test Standard:    | FCC Part 22, RSS-132                             |
| Operation mode:   | TX - FDD V (RMC), middle channel on U-ARFCN 4182 |
| Operator Name:    | Tas                                              |
| Comment:          | 6-0147-12-9-3b                                   |

**EUT Information**

|                |                                                                |
|----------------|----------------------------------------------------------------|
| EUT Name:      | EHS5-US                                                        |
| Manufacturer:  | Cinterion                                                      |
| Serial Number: | 00440108075600                                                 |
| Hardware Rev:  | B2 rev.3                                                       |
| Software Rev:  | 00.260                                                         |
| Comment:       | Interface R232                                                 |
| Accessories:   | Power supply (12V DC), Data/Voice transmission via RS232 cable |

Sweep\_1



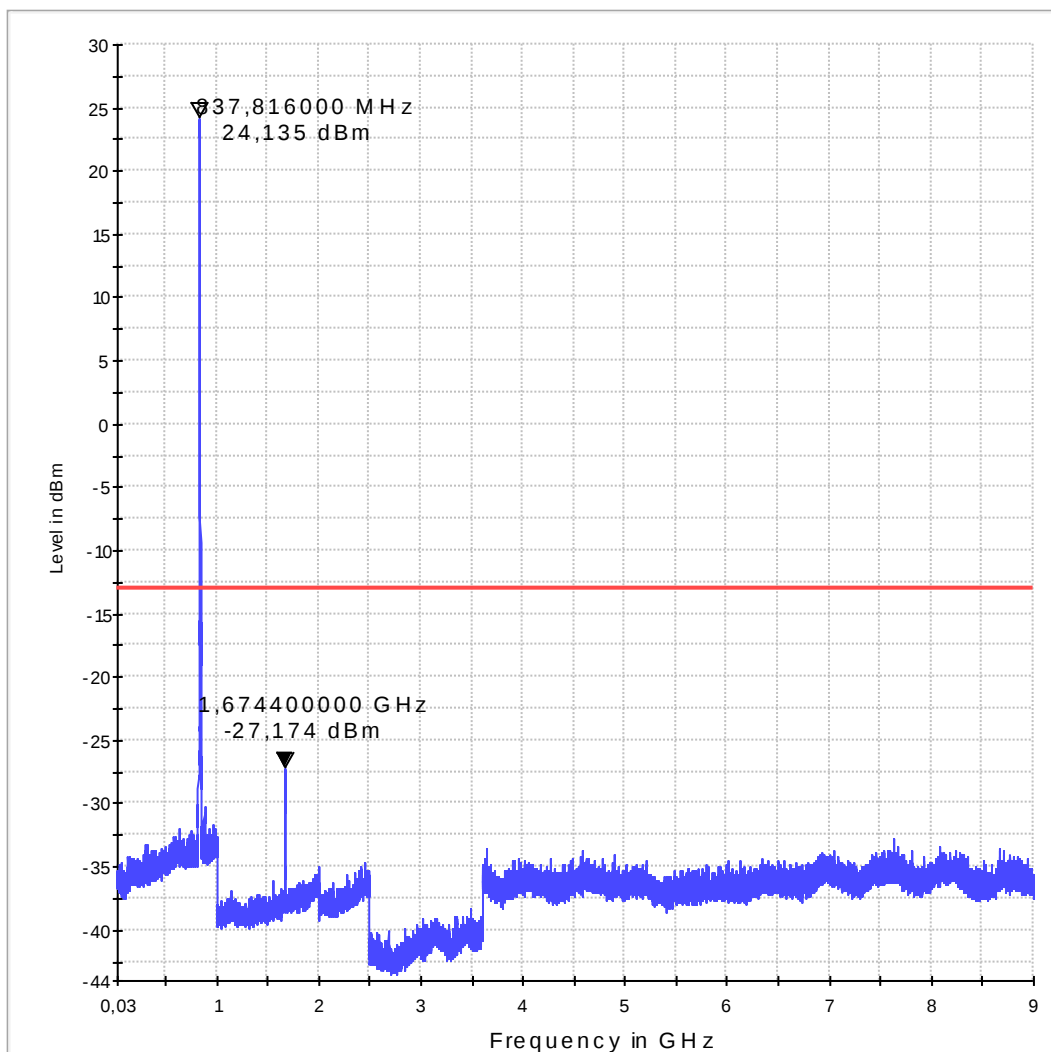
**Diagram No.: 12.14\_to 9G****Common Information**

|                   |                                                                                      |
|-------------------|--------------------------------------------------------------------------------------|
| Test Description: | TX Spurious Emission conducted                                                       |
| Test Site:        | Radio laboratory 1                                                                   |
| Test Standard:    | FCC Part 22, RSS-132                                                                 |
| Operation mode:   | TX - FDD V (RMC), middle channel on U-ARFCN 4182                                     |
| Operator Name:    | Tas                                                                                  |
| Comment:          | TX carrier visible and for spurious emission test shall be ignored<br>6-0147-12-9-3b |

**EUT Information**

|                |                                                                |
|----------------|----------------------------------------------------------------|
| EUT Name:      | EHS5-US                                                        |
| Manufacturer:  | Cinterion                                                      |
| Serial Number: | 00440108075600                                                 |
| Hardware Rev:  | B2 rev.3                                                       |
| Software Rev:  | 00.260                                                         |
| Comment:       | Interface R232                                                 |
| Accessories:   | Power supply (12V DC), Data/Voice transmission via RS232 cable |

Sweep\_2



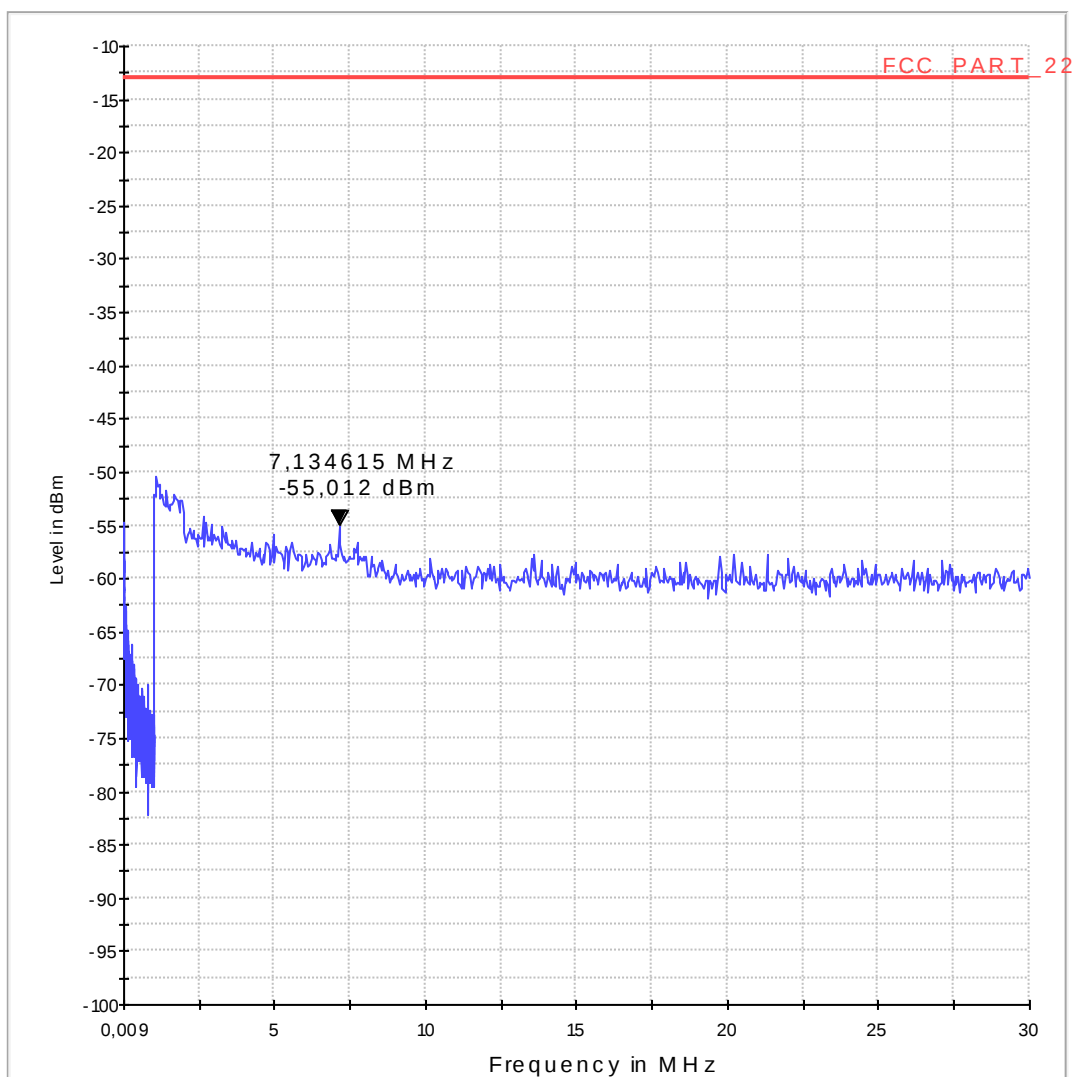
**Diagram No.: 12.15\_to 30 M****Common Information**

|                   |                                                |
|-------------------|------------------------------------------------|
| Test Description: | TX Spurious Emission conducted                 |
| Test Site:        | Radio laboratory 1                             |
| Test Standard:    | FCC Part 22, RSS-132                           |
| Operation mode:   | TX - FDD V (RMC), high channel on U-ARFCN 4233 |
| Operator Name:    | Tas                                            |
| Comment:          | 6-0147-12-9-3b                                 |

**EUT Information**

|                |                                                                |
|----------------|----------------------------------------------------------------|
| EUT Name:      | EHS5-US                                                        |
| Manufacturer:  | Cinterion                                                      |
| Serial Number: | 00440108075600                                                 |
| Hardware Rev:  | B2 rev.3                                                       |
| Software Rev:  | 00.260                                                         |
| Comment:       | Interface R232                                                 |
| Accessories:   | Power supply (12V DC), Data/Voice transmission via RS232 cable |

Sweep\_1



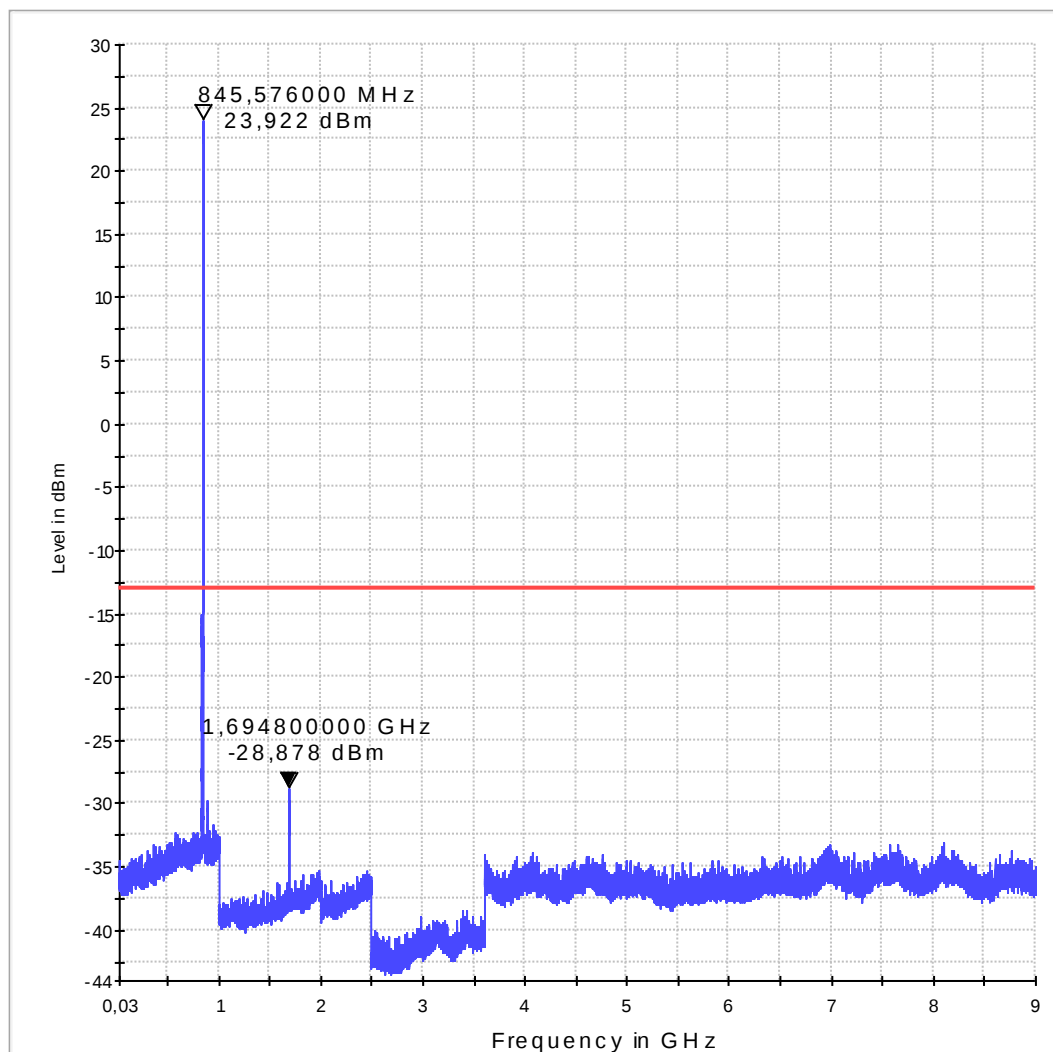
**Diagram No.: 12.15\_to 9G****Common Information**

|                   |                                                                                      |
|-------------------|--------------------------------------------------------------------------------------|
| Test Description: | TX Spurious Emission conducted                                                       |
| Test Site:        | Radio laboratory 1                                                                   |
| Test Standard:    | FCC Part 22, RSS-132                                                                 |
| Operation mode:   | TX - FDD V (RMC), high channel on U-ARFCN 4233                                       |
| Operator Name:    | Tas                                                                                  |
| Comment:          | TX carrier visible and for spurious emission test shall be ignored<br>6-0147-12-9-3b |

**EUT Information**

|                |                                                                |
|----------------|----------------------------------------------------------------|
| EUT Name:      | EHS5-US                                                        |
| Manufacturer:  | Cinterion                                                      |
| Serial Number: | 00440108075600                                                 |
| Hardware Rev:  | B2 rev.3                                                       |
| Software Rev:  | 00.260                                                         |
| Comment:       | Interface R232                                                 |
| Accessories:   | Power supply (12V DC), Data/Voice transmission via RS232 cable |

Sweep\_2



## 1.3.4. Band-Edge compliance: FDD V Mode (RMC99)

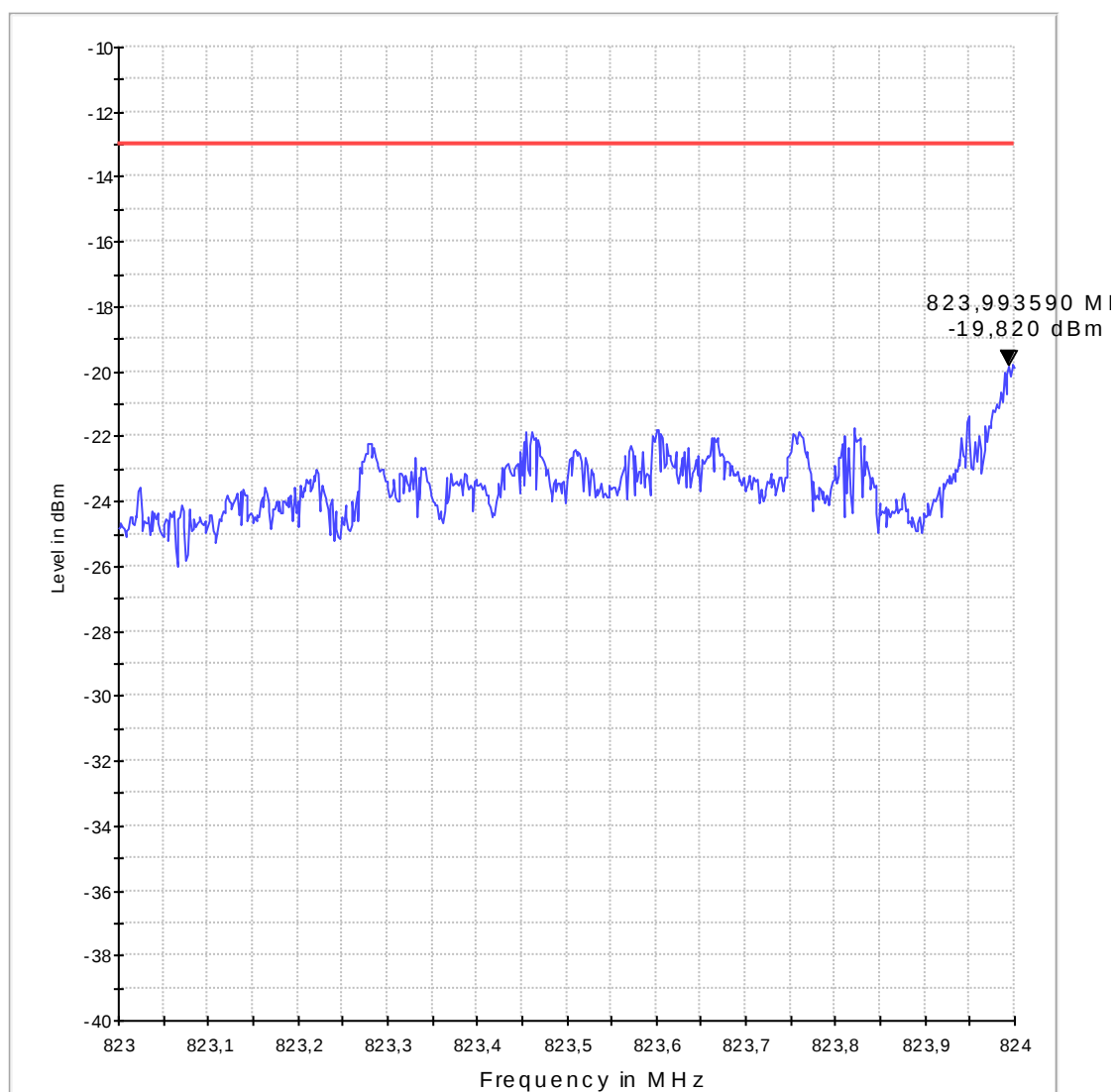
**Diagram no.: 14.19****Common Information**

|                    |                                                              |
|--------------------|--------------------------------------------------------------|
| Test Description:  | Transmitter unwanted emissions (Band-Edge)/ FCC requirements |
| Test site          | Radio laboratory 1                                           |
| Test specification | FCC Part 22, RSS-132                                         |
| Op Mode            | TX - FDD V (RMC), low channel on U-ARFCN 4132                |
| Operator           | Tas                                                          |
|                    | 6-0147-12-9-3b                                               |

**EUT Information**

|                |                                                                |
|----------------|----------------------------------------------------------------|
| EUT Name:      | EHS5-US                                                        |
| Manufacturer:  | Cinterion                                                      |
| Serial Number: | 00440108075600                                                 |
| Hardware Rev:  | B2 rev.3                                                       |
| Software Rev:  | 00.260                                                         |
| Comment:       | Interface R232                                                 |
| Accessories:   | Power supply (12V DC), Data/Voice transmission via RS232 cable |

Sweep\_3a\_Band\_Edge\_Channel\_4132\_PK



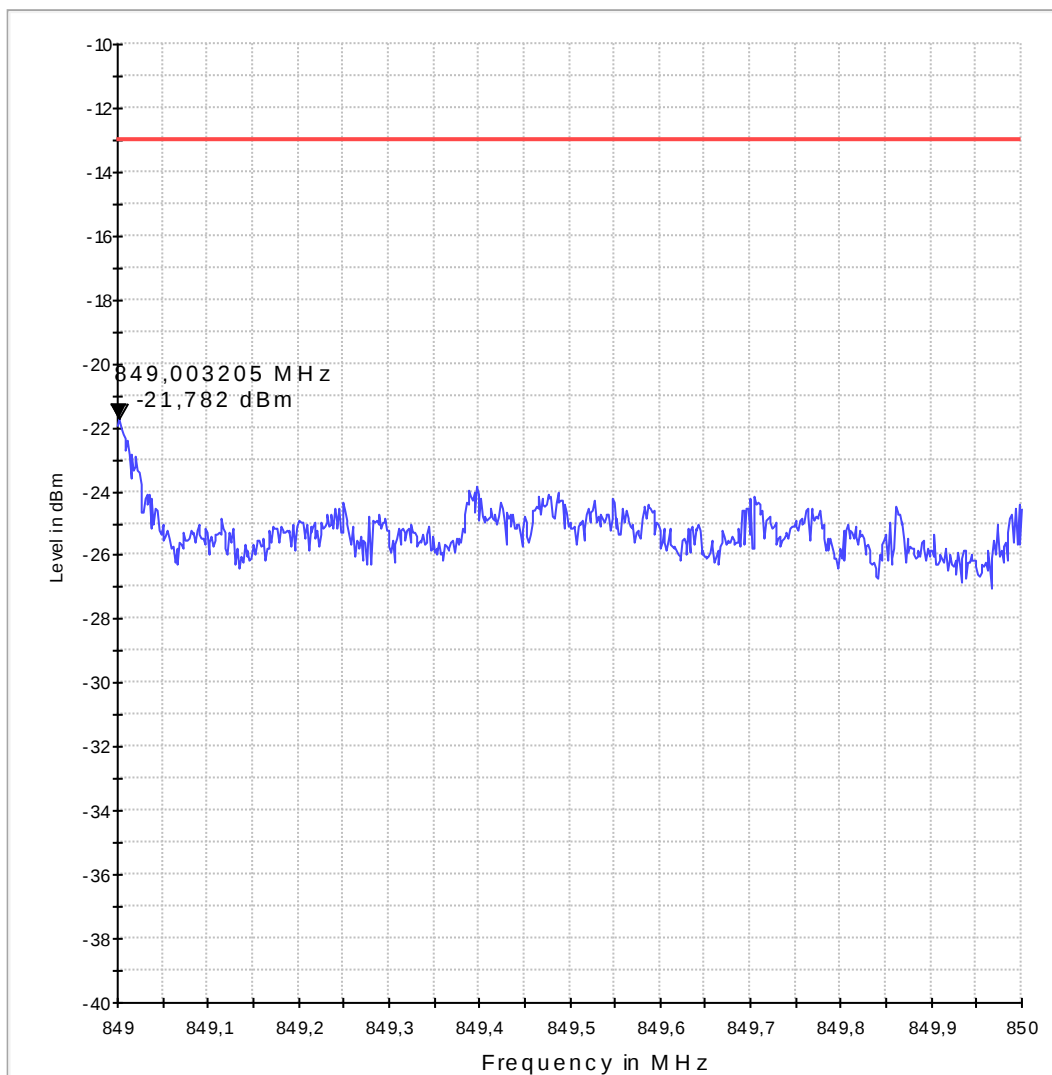
**Diagram No.: 14.20****Common Information**

|                         |                                                              |
|-------------------------|--------------------------------------------------------------|
| Test Description:       | Transmitter unwanted emissions (Band-Edge)/ FCC requirements |
| Test Site:              | Radio laboratory 1                                           |
| Test Standard:          | FCC Part 22, RSS-132                                         |
| Environment Conditions: | 23.4°C, 40%                                                  |
| Operator Name:          | Tas                                                          |
| Operating mode:         | TX_RMC, high channel on U-ARFCN 4233                         |
|                         | 6-0147-12-9-3b                                               |

**EUT Information**

|                |                                                                |
|----------------|----------------------------------------------------------------|
| EUT Name:      | EHS5-US                                                        |
| Manufacturer:  | Cinterion                                                      |
| Serial Number: | 00440108075600                                                 |
| Hardware Rev:  | B2 rev.3                                                       |
| Software Rev:  | 00.260                                                         |
| Comment:       | Interface R232                                                 |
| Accessories:   | Power supply (12V DC), Data/Voice transmission via RS232 cable |

Sweep\_3a\_Band\_Edge\_Channel\_4233\_PK



#### 1.4. Spurious emissions radiated (30 MHz < f < 20 GHz)

##### 1.4.1. FDD II mode (RMC99)

### 8.16\_RSE\_RMC

#### Common Information

Test Description: Radiated Spurious Emissions UMTS FDDII  
 Test Site Location: CETECOM GmbH Essen  
 Test Site: Fully Anechoic Room (FAR)  
 Test Standard: FCC Part 24  
 Operating Mode: UE allocated channel 9262 (fc = 1852.4 MHz)  
 Environmental Conditions: Humidity: 49%rH; Temperature: 20°C  
 Operator: HLa  
 6-0147-12-9-3b

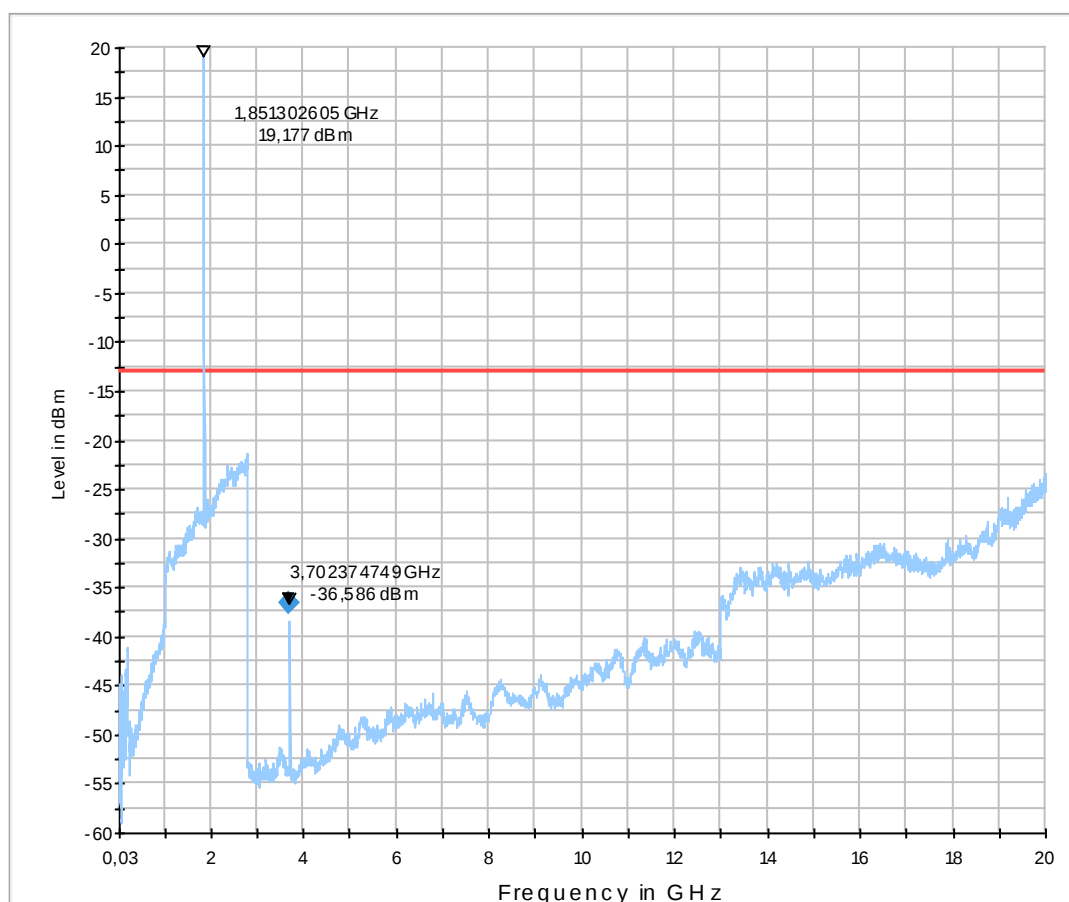
#### EUT Information

EUT Name: EHS5-US  
 Manufacturer: Cinterion  
 Serial Number: 004401080756915  
 Hardware Rev: B2 rev.3  
 Software Rev: 00.207  
 Comment: Interface R232  
 Accessories: Power supply (12V DC), Data/Voice transmission via RS232, Mounting Ant. 1140.26 SMA, Handset HH-SI30.3/v3.0/0

#### Final Result 1

| Frequency (MHz) | MaxPeak (dBm) | Meas. Time (ms) | Bandwidth (kHz) | Polarization | Azimuth (deg) | Elevation (deg) | Corr. (dB) | Margin (dB) | Limit (dBm) |
|-----------------|---------------|-----------------|-----------------|--------------|---------------|-----------------|------------|-------------|-------------|
| 3702.374749     | -36.6         | 10000.0         | 1000.000        | H            | 308.0         | 90.0            | -94.9      | 23.6        | -13.0       |

030414\_FCC\_Part24\_UMTS-FDDII\_TX\_all\_channels\_30M-25G



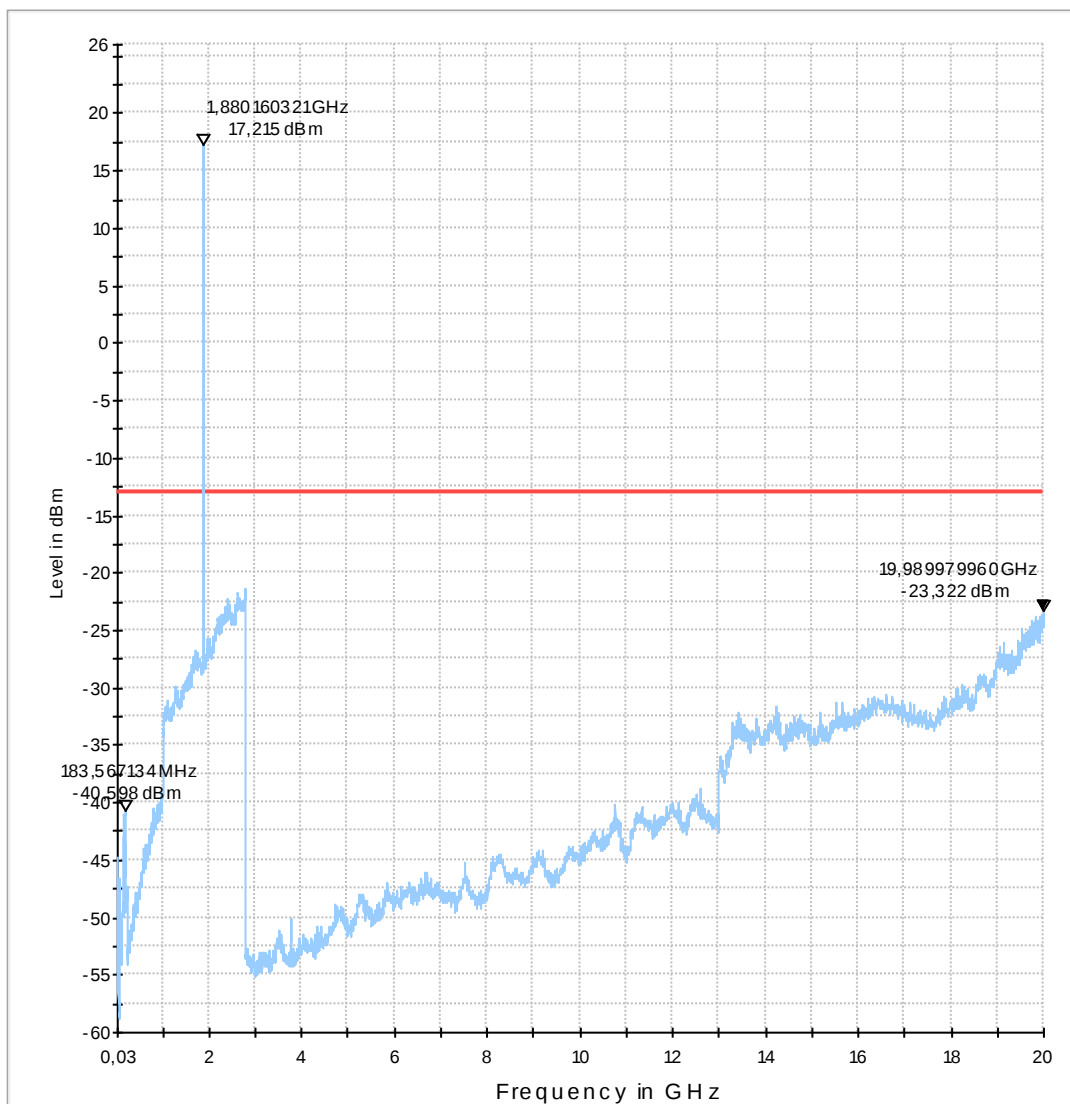
## 8.17\_RSE\_RMC

### Common Information

|                           |                                             |
|---------------------------|---------------------------------------------|
| Test Description:         | Radiated Spurious Emissions UMTS FDDII      |
| Test Site Location:       | CETECOM GmbH Essen                          |
| Test Site:                | Fully Anechoic Room (FAR)                   |
| Test Standard:            | FCC Part 24                                 |
| Operating Mode:           | UE allocated channel 9400 (fc = 1880.0 MHz) |
| Environmental Conditions: | Humidity: 49%rH; Temperature: 20°C          |
| Operator:                 | HLA                                         |
|                           | 6-0147-12-9-3b                              |

### EUT Information

|                |                                                                                                                |
|----------------|----------------------------------------------------------------------------------------------------------------|
| EUT Name:      | EHS5-US                                                                                                        |
| Manufacturer:  | Cinterion                                                                                                      |
| Serial Number: | 004401080756915                                                                                                |
| Hardware Rev:  | B2 rev.3                                                                                                       |
| Software Rev:  | 00.207                                                                                                         |
| Comment:       | Interface R232                                                                                                 |
| Accessories:   | Power supply (12V DC), Data/Voice transmission via RS232 , Mounting Ant. 1140.26 SMA, Handset HH-SI30.3/v3.0/0 |



## 8.18\_RSE\_RMC

### Common Information

Test Description: Radiated Spurious Emissions UMTS FDDII  
 Test Site Location: CETECOM GmbH Essen  
 Test Site: Fully Anechoic Room (FAR)  
 Test Standard: FCC Part 24  
 Operating Mode: UE allocated channel 9538 (fc = 1907.6 MHz)  
 Environmental Conditions: Humidity: 49%rH; Temperature: 20°C  
 Operator: HLa

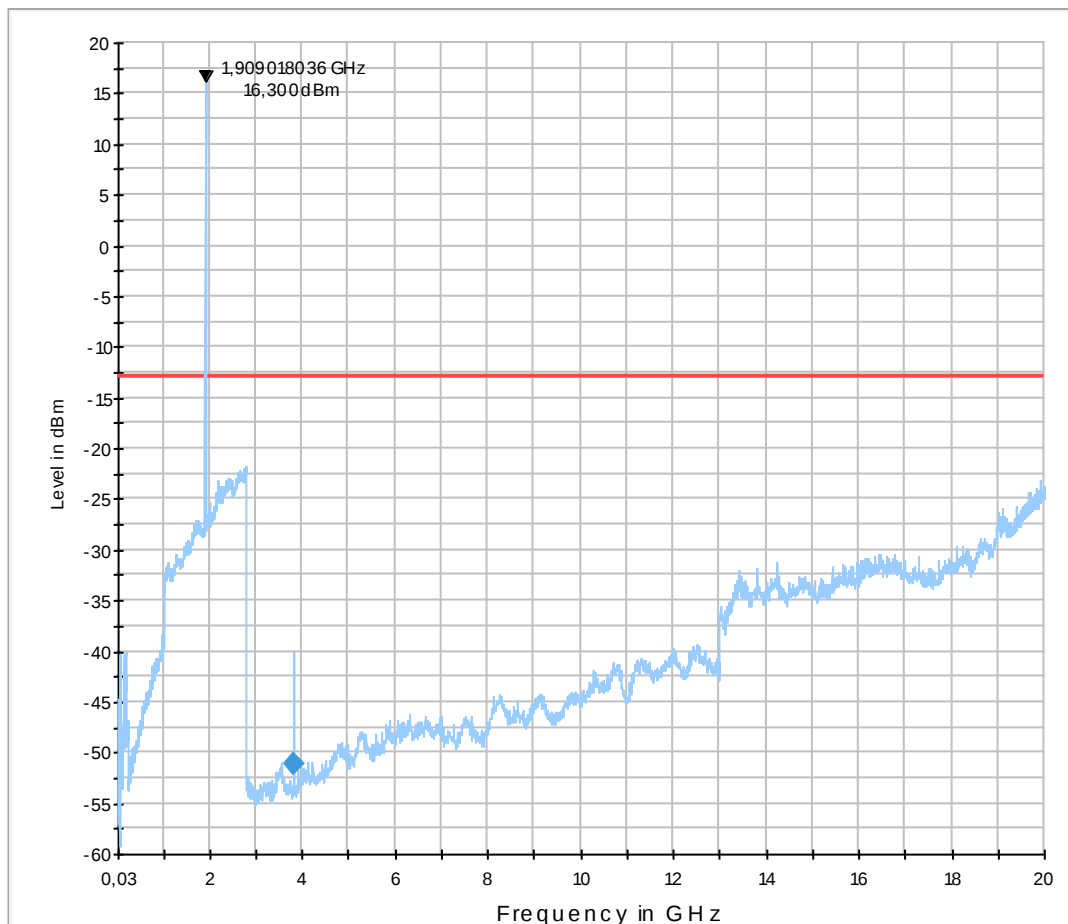
### EUT Information

EUT Name: EHS5-US  
 Manufacturer: Cinterion  
 Serial Number: 004401080756915  
 Hardware Rev: B2 rev.3  
 Software Rev: 00.207  
 Comment: Interface R232  
 Accessories: Power supply (12V DC), Data/Voice transmission via RS232 , Mounting Ant. 1140.26 SMA, Handset HH-SI30.3/v3.0/0

### Final Result 1

| Frequency (MHz) | MaxPeak (dBm) | Meas. Time (ms) | Bandwidth (kHz) | Polarization | Azimuth (deg) | Elevation (deg) | Corr. (dB) | Margin (dB) | Limit (dBm) |
|-----------------|---------------|-----------------|-----------------|--------------|---------------|-----------------|------------|-------------|-------------|
| 3817.344690     | -51.1         | 10000.0         | 1000.000        | H            | 41.0          | 90.0            | -95.1      | 38.1        | -13.0       |

030414\_FCC\_Part24\_UMTS-FDDII\_TX\_all\_channels\_30M-25G



## 1.4.2. Band-Edge FDD II mode (RMC99)

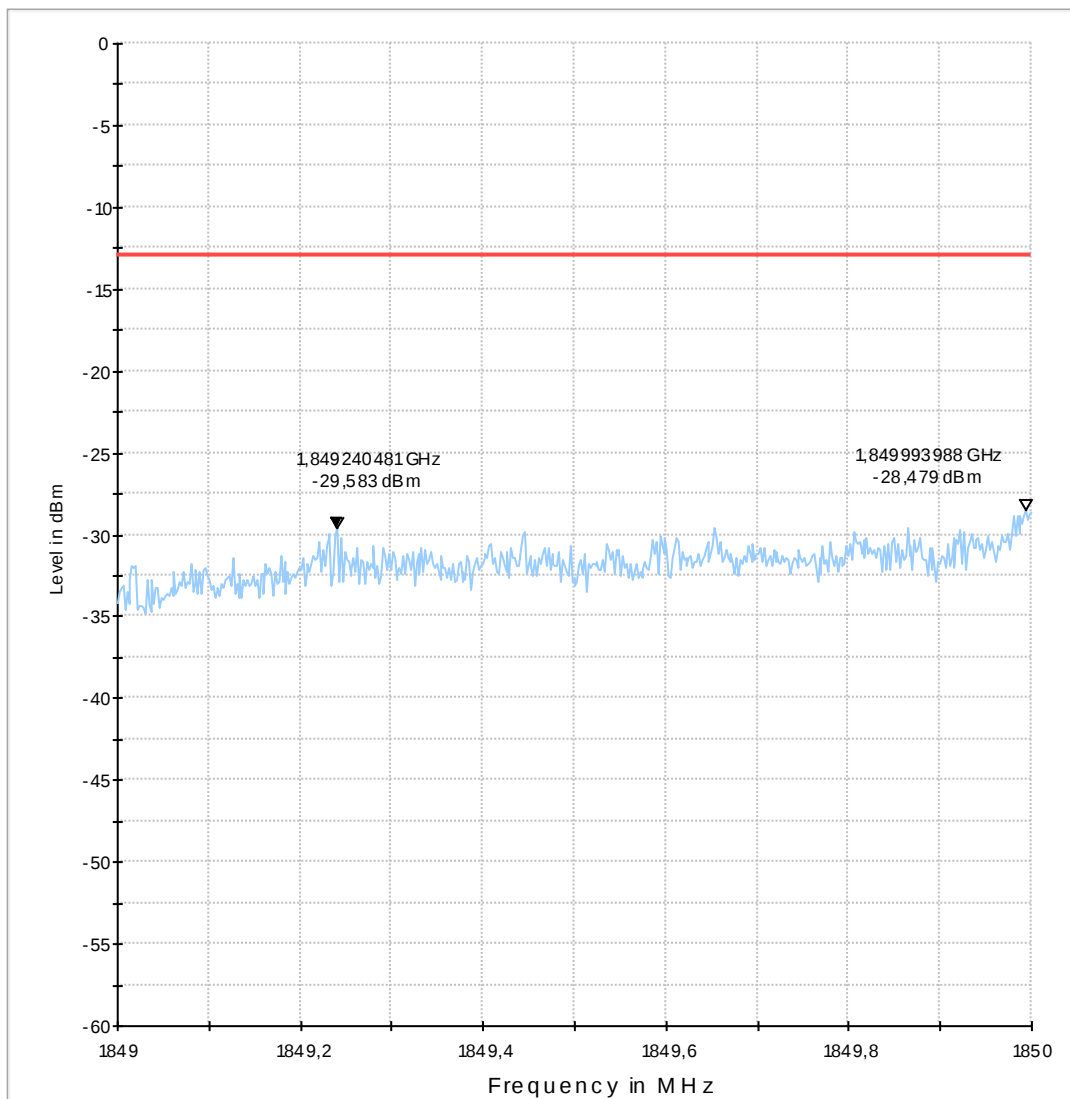
**8.16\_BE\_RMC****Common Information**

|                           |                                                  |
|---------------------------|--------------------------------------------------|
| Test Description:         | Radiated Band Edge Compliance FDDII              |
| Test Site Location:       | CETECOM GmbH Essen                               |
| Test Site:                | Fully Anechoic Room (FAR)                        |
| Test Standard:            | FCC Part 24                                      |
| Operating Mode:           | UE allocated channel 9262 (fc = 1852.4 MHz), RMC |
| Environmental Conditions: | Humidity: 49%rH; Temperature: 20°C               |
| Operator:                 | HLA                                              |

**EUT Information**

|                |                                                                                                                |
|----------------|----------------------------------------------------------------------------------------------------------------|
| EUT Name:      | EHS5-US                                                                                                        |
| Manufacturer:  | Cinterion                                                                                                      |
| Serial Number: | 004401080756915                                                                                                |
| Hardware Rev:  | B2 rev.3                                                                                                       |
| Software Rev:  | 00.207                                                                                                         |
| Comment:       | Interface R232                                                                                                 |
| Accessories:   | Power supply (12V DC), Data/Voice transmission via RS232 , Mounting Ant. 1140.26 SMA, Handset HH-SI30.3/v3.0/0 |

030415\_FCC\_Part24\_UMTS-FDD II\_TX\_low\_channel\_band\_edge



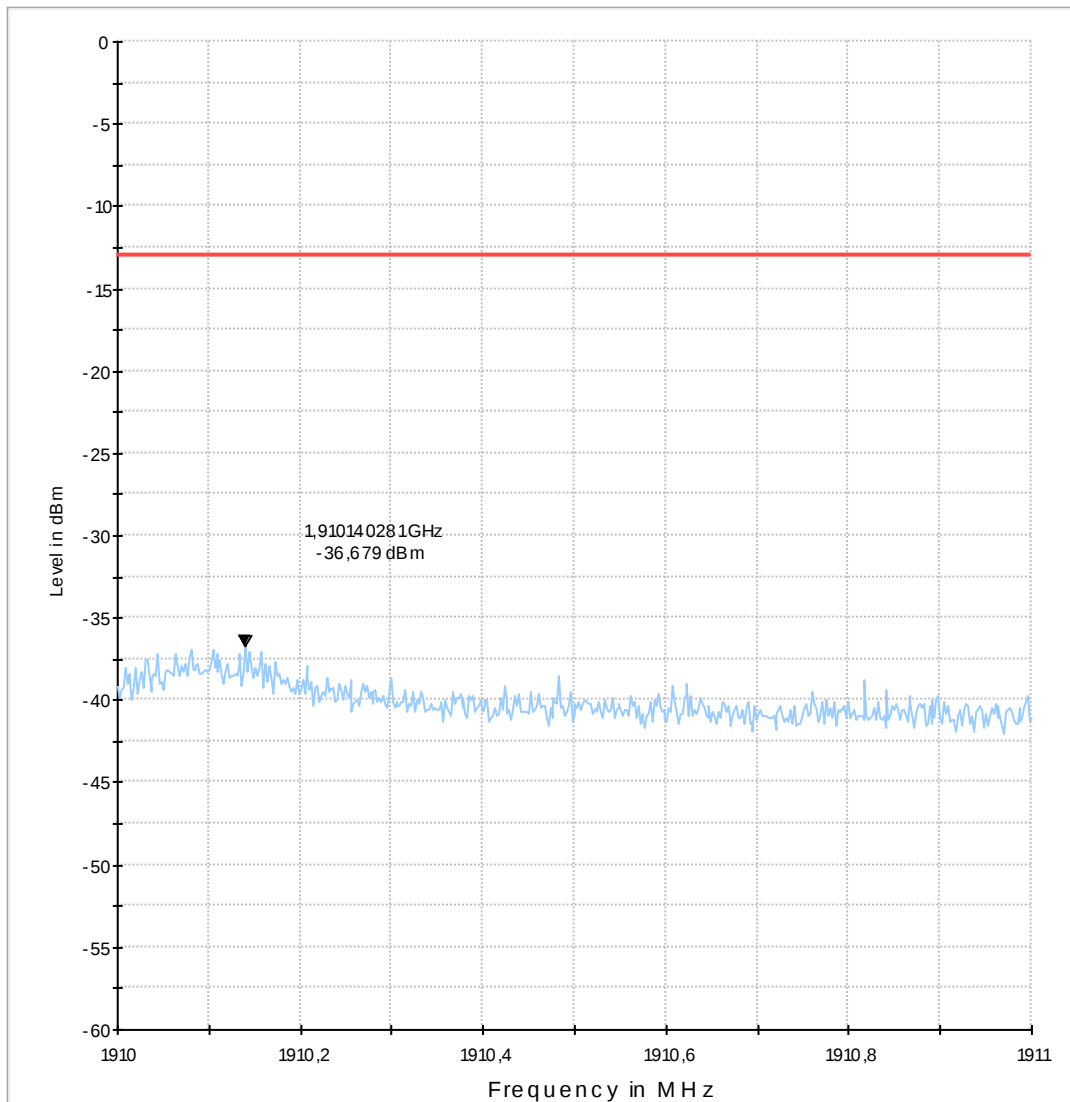
## 8.18\_FDDII\_BE\_RMC

### Common Information

|                           |                                                  |
|---------------------------|--------------------------------------------------|
| Test Description:         | Radiated Band Edge Compliance FDDII              |
| Test Site Location:       | CETECOM GmbH Essen                               |
| Test Site:                | Fully Anechoic Room (FAR)                        |
| Test Standard:            | FCC Part 24                                      |
| Operating Mode:           | UE allocated channel 9538 (fc = 1907.6 MHz), RMC |
| Environmental Conditions: | Humidity: 69%rH; Temperature: 19°C               |
| Operator:                 | YZH                                              |
|                           | 6-0147-12-9-3b                                   |

### EUT Information

|                |                                                                                                                |
|----------------|----------------------------------------------------------------------------------------------------------------|
| EUT Name:      | EHS5-US                                                                                                        |
| Manufacturer:  | Cinterion                                                                                                      |
| Serial Number: | 004401080756915                                                                                                |
| Hardware Rev:  | B2 rev.3                                                                                                       |
| Software Rev:  | 00.207                                                                                                         |
| Comment:       | Interface R232                                                                                                 |
| Accessories:   | Power supply (12V DC), Data/Voice transmission via RS232 , Mounting Ant. 1140.26 SMA, Handset HH-SI30.3/v3.0/0 |



## 1.5. Spurious emissions radiated ( $30 \text{ MHz} < f < 9 \text{ GHz}$ )

### 1.5.1. FDD V mode (RMC99)

## 8.10\_RSE\_RMC

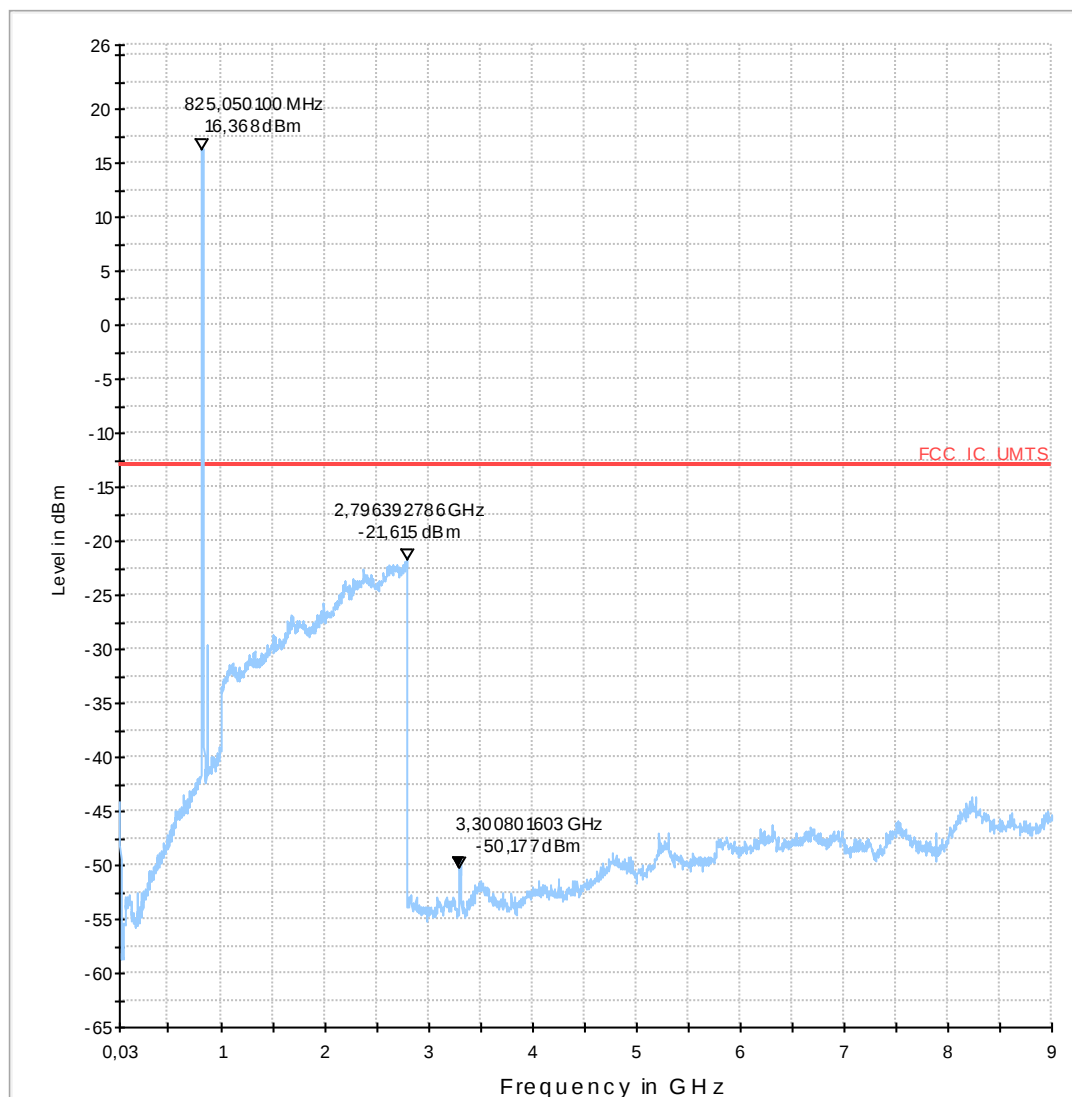
### Common Information

|                           |                                                              |
|---------------------------|--------------------------------------------------------------|
| Test Description:         | Radiated Spurious Emissions UMTS FDDV                        |
| Test Site Location:       | CETECOM GmbH Essen                                           |
| Test Site:                | Fully Anechoic Room (FAR)                                    |
| Test Standard:            | FCC Part 22.917(a)                                           |
| Operating Mode:           | UE allocated channel 4133 ( $f_c = 826.6 \text{ MHz}$ ), RSE |
| Environmental Conditions: | Humidity: 61%RH; Temperature: 19°C                           |
| Operator:                 | HLA                                                          |

### EUT Information

|                |                                                                                                               |
|----------------|---------------------------------------------------------------------------------------------------------------|
| EUT Name:      | EHS5-US                                                                                                       |
| Manufacturer:  | Cinterion                                                                                                     |
| Serial Number: | 004401080756915                                                                                               |
| Hardware Rev:  | B2 rev.3                                                                                                      |
| Software Rev:  | 00.207                                                                                                        |
| Comment:       | Interface R232                                                                                                |
| Accessories:   | Power supply (12V DC), Data/Voice transmission via RS232, Mounting Ant. 1140.26 SMA, Handset HH-SI30.3/v3.0/0 |

030411\_FCC\_Part22\_UMTS-FDDV\_TX\_all\_channels\_30M-12G



## 8.11\_RSE\_RMC

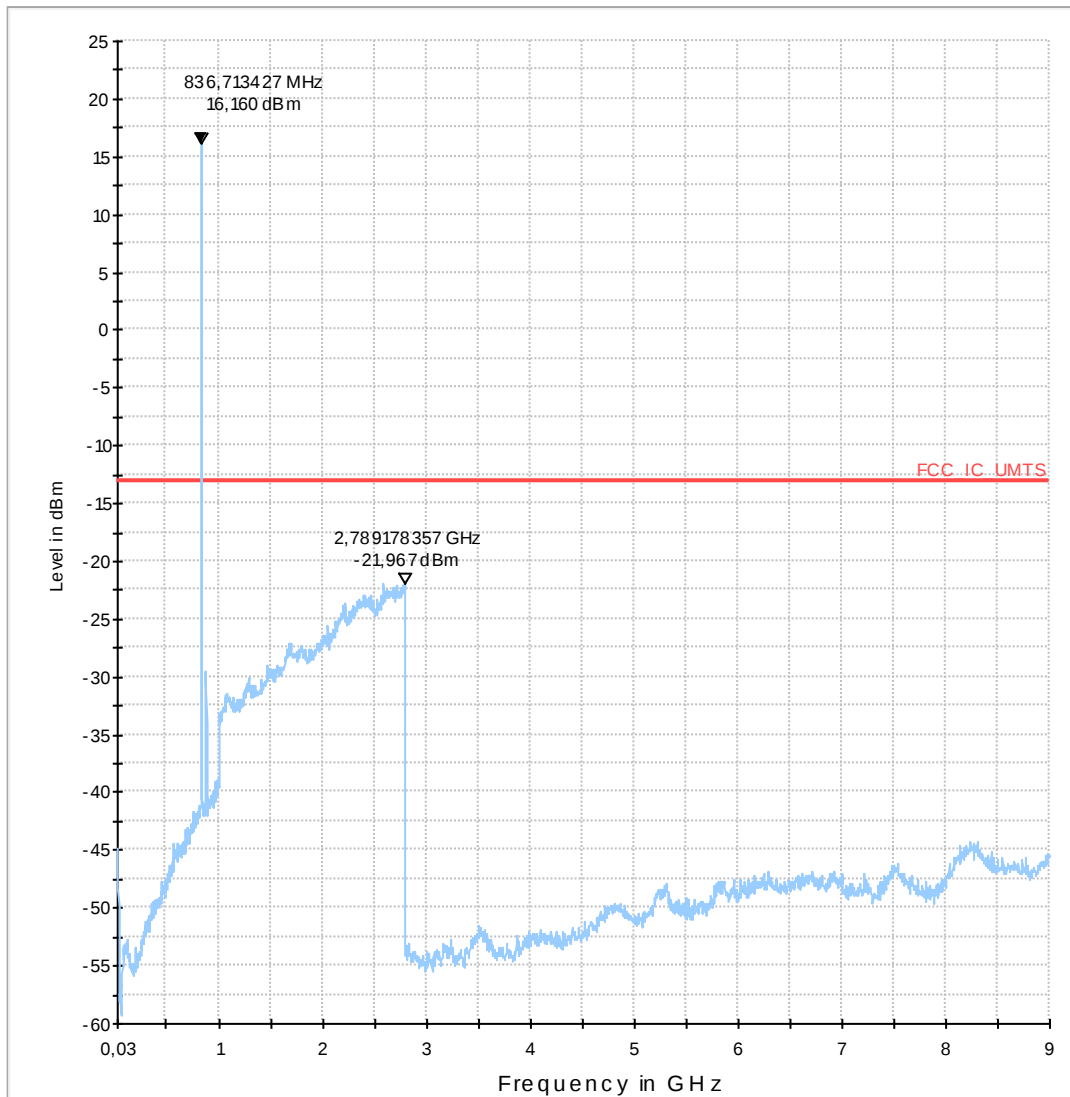
### Common Information

|                           |                                                 |
|---------------------------|-------------------------------------------------|
| Test Description:         | Radiated Spurious Emissions UMTS FDDV           |
| Test Site Location:       | CETECOM GmbH Essen                              |
| Test Site:                | Fully Anechoic Room (FAR)                       |
| Test Standard:            | FCC Part 22.917(a)                              |
| Operating Mode:           | UE allocated channel 4182 (fc = 836.4 MHz), RMC |
| Environmental Conditions: | Humidity: 61%rH; Temperature: 19°C              |
| Operator:                 | HLA                                             |

### EUT Information

|                |                                                                                                                |
|----------------|----------------------------------------------------------------------------------------------------------------|
| EUT Name:      | EHS5-US                                                                                                        |
| Manufacturer:  | Cinterion                                                                                                      |
| Serial Number: | 004401080756915                                                                                                |
| Hardware Rev:  | B2 rev.3                                                                                                       |
| Software Rev:  | 00.207                                                                                                         |
| Comment:       | Interface R232                                                                                                 |
| Accessories:   | Power supply (12V DC), Data/Voice transmission via RS232 , Mounting Ant. 1140.26 SMA, Handset HH-SI30.3/v3.0/0 |

030411\_FCC\_Part22\_UMTS-FDDV\_TX\_all\_channels\_30M-12G



## 8.12\_RSE\_RMC

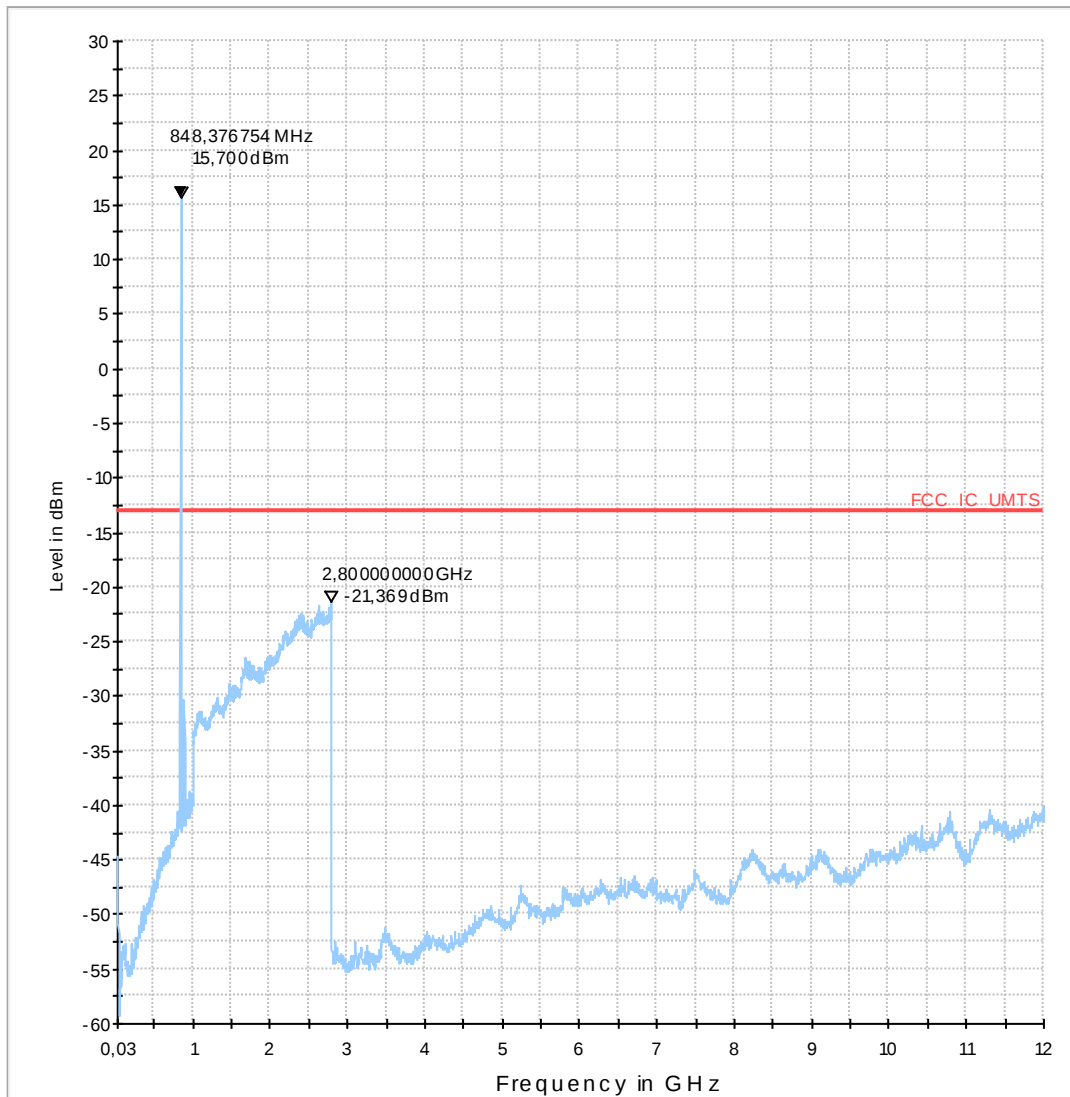
### Common Information

|                           |                                                 |
|---------------------------|-------------------------------------------------|
| Test Description:         | Radiated Spurious Emissions UMTS FDDV           |
| Test Site Location:       | CETECOM GmbH Essen                              |
| Test Site:                | Fully Anechoic Room (FAR)                       |
| Test Standard:            | FCC Part 22.917(a)                              |
| Operating Mode:           | UE allocated channel 4233 (fc = 846.6 MHz), RMC |
| Environmental Conditions: | Humidity: 61%rH; Temperature: 19°C              |
| Operator:                 | HLA                                             |

### EUT Information

|                |                                                                                                                |
|----------------|----------------------------------------------------------------------------------------------------------------|
| EUT Name:      | EHS5-US                                                                                                        |
| Manufacturer:  | Cinterion                                                                                                      |
| Serial Number: | 004401080756915                                                                                                |
| Hardware Rev:  | B2 rev.3                                                                                                       |
| Software Rev:  | 00.207                                                                                                         |
| Comment:       | Interface R232                                                                                                 |
| Accessories:   | Power supply (12V DC), Data/Voice transmission via RS232 , Mounting Ant. 1140.26 SMA, Handset HH-SI30.3/v3.0/0 |

030411\_FCC\_Part22\_UMTS-FDDV\_TX\_all\_channels\_30M-12G



## 1.5.2. Band-Edge FDD V mode (RMC99)

## 8.10\_BE\_RMC

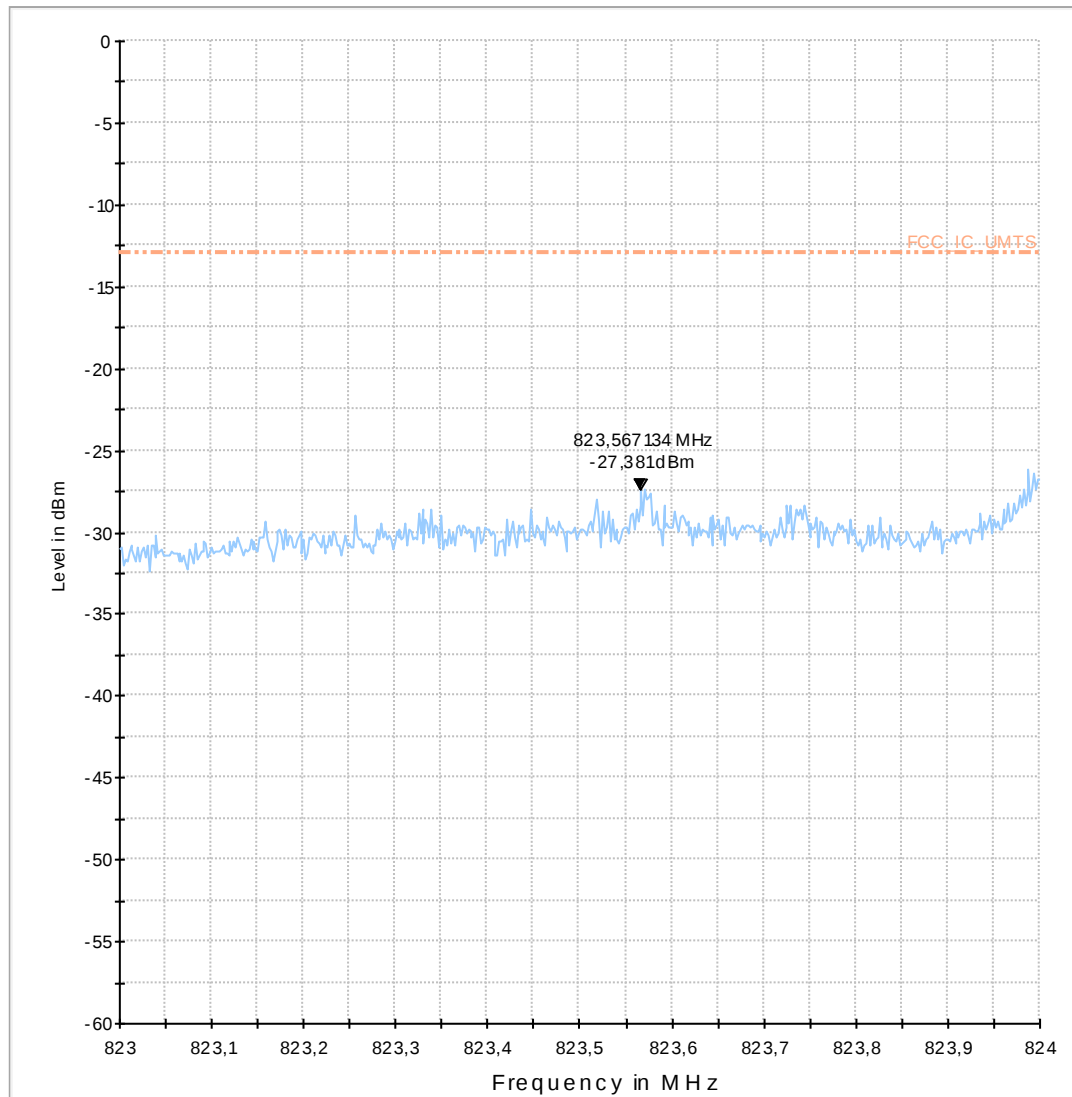
## Common Information

|                           |                                                |
|---------------------------|------------------------------------------------|
| Test Description:         | Radiated Band Edge Compliance FDDV             |
| Test Site Location:       | CETECOM GmbH Essen                             |
| Test Site:                | Fully Anechoic Room (FAR)                      |
| Test Standard:            | FCC Part 22.917(a)                             |
| Operating Mode:           | UE allocated channel 4133 (fc = 826.6 MHz),RMC |
| Environmental Conditions: | Humidity: 61%rH; Temperature: 19°C             |
| Operator:                 | HLA                                            |

## EUT Information

|                |                                                                                                                |
|----------------|----------------------------------------------------------------------------------------------------------------|
| EUT Name:      | EHS5-US                                                                                                        |
| Manufacturer:  | Cinterion                                                                                                      |
| Serial Number: | 004401080756915                                                                                                |
| Hardware Rev:  | B2 rev.3                                                                                                       |
| Software Rev:  | 00.207                                                                                                         |
| Comment:       | Interface R232                                                                                                 |
| Accessories:   | Power supply (12V DC), Data/Voice transmission via RS232 , Mounting Ant. 1140.26 SMA, Handset HH-SI30.3/v3.0/0 |

030412\_FCC\_Part22\_UMTS-FDDV\_TX\_low\_channel\_band\_edge



## 8.12\_BE\_RMC

### Common Information

|                           |                                                 |
|---------------------------|-------------------------------------------------|
| Test Description:         | Radiated Band Edge Compliance FDDV              |
| Test Site Location:       | CETECOM GmbH Essen                              |
| Test Site:                | Fully Anechoic Room (FAR)                       |
| Test Standard:            | FCC Part 22.917(a)                              |
| Operating Mode:           | UE allocated channel 4233 (fc = 846.6 MHz), RMC |
| Environmental Conditions: | Humidity: 61%rH; Temperature: 19°C              |
| Operator:                 | HLA                                             |

### EUT Information

|                |                                                                                                                |
|----------------|----------------------------------------------------------------------------------------------------------------|
| EUT Name:      | EHS5-US                                                                                                        |
| Manufacturer:  | Cinterion                                                                                                      |
| Serial Number: | 004401080756915                                                                                                |
| Hardware Rev:  | B2 rev.3                                                                                                       |
| Software Rev:  | 00.207                                                                                                         |
| Comment:       | Interface R232                                                                                                 |
| Accessories:   | Power supply (12V DC), Data/Voice transmission via RS232 , Mounting Ant. 1140.26 SMA, Handset HH-SI30.3/v3.0/0 |

030413\_FCC\_Part22\_UMTS-FDDV\_TX\_high\_channel\_band\_edge

