

## 1. Effective (Isotropic) Radiated Power Output Data

### 1.1 GSM850\_ERP

#### 1.1.1 Test Result

| Band: GSM850 |         |            |                 |                       |            |           |         |         |
|--------------|---------|------------|-----------------|-----------------------|------------|-----------|---------|---------|
| ENV          | Mode    |            | Frequency (MHz) | Conducted Power (dBm) | Gain (dbi) | ERP (dBm) |         | Verdict |
|              | Network | Subset     |                 |                       |            | Result    | Limit   |         |
| NTNV         | GPRS    | 1 TX Slot  | 824.2           | 33.08                 | 0.50       | 31.43     | <=38.45 | Pass    |
|              |         | 2 TX Slots | 824.2           | 32.38                 | 0.50       | 30.73     | <=38.45 | Pass    |
|              |         | 3 TX Slots | 824.2           | 29.36                 | 0.50       | 27.71     | <=38.45 | Pass    |
|              |         | 4 TX Slots | 824.2           | 29.07                 | 0.50       | 27.42     | <=38.45 | Pass    |
|              |         | 1 TX Slot  | 836.6           | 33.10                 | 0.50       | 31.45     | <=38.45 | Pass    |
|              |         | 2 TX Slots | 836.6           | 31.68                 | 0.50       | 30.03     | <=38.45 | Pass    |
|              |         | 3 TX Slots | 836.6           | 29.51                 | 0.50       | 27.86     | <=38.45 | Pass    |
|              |         | 4 TX Slots | 836.6           | 29.24                 | 0.50       | 27.59     | <=38.45 | Pass    |
|              |         | 1 TX Slot  | 848.8           | 33.26                 | 0.50       | 31.61     | <=38.45 | Pass    |
|              |         | 2 TX Slots | 848.8           | 31.85                 | 0.50       | 30.20     | <=38.45 | Pass    |
|              |         | 3 TX Slots | 848.8           | 29.69                 | 0.50       | 28.04     | <=38.45 | Pass    |
|              |         | 4 TX Slots | 848.8           | 29.45                 | 0.50       | 27.80     | <=38.45 | Pass    |
|              | EGPRS   | 1 TX Slot  | 824.2           | 27.29                 | 0.50       | 25.64     | <=38.45 | Pass    |
|              |         | 2 TX Slots | 824.2           | 25.89                 | 0.50       | 24.24     | <=38.45 | Pass    |
|              |         | 3 TX Slots | 824.2           | 24.62                 | 0.50       | 22.97     | <=38.45 | Pass    |
|              |         | 4 TX Slots | 824.2           | 22.60                 | 0.50       | 20.95     | <=38.45 | Pass    |
|              |         | 1 TX Slot  | 836.6           | 27.22                 | 0.50       | 25.57     | <=38.45 | Pass    |
|              |         | 2 TX Slots | 836.6           | 25.67                 | 0.50       | 24.02     | <=38.45 | Pass    |
|              |         | 3 TX Slots | 836.6           | 23.12                 | 0.50       | 21.47     | <=38.45 | Pass    |
|              |         | 4 TX Slots | 836.6           | 22.51                 | 0.50       | 20.86     | <=38.45 | Pass    |
|              |         | 1 TX Slot  | 848.8           | 27.22                 | 0.50       | 25.57     | <=38.45 | Pass    |
|              |         | 2 TX Slots | 848.8           | 25.79                 | 0.50       | 24.14     | <=38.45 | Pass    |
|              |         | 3 TX Slots | 848.8           | 23.17                 | 0.50       | 21.52     | <=38.45 | Pass    |
|              |         | 4 TX Slots | 848.8           | 22.54                 | 0.50       | 20.89     | <=38.45 | Pass    |

Note1: ERP=Conducted Power+Antenna Gain-2.15

## 2. Frequency Stability

### 2.1 GSM850

#### 2.1.1 Test Result

| Band: GSM850 |                 |            |               |                  |                       |             |         |
|--------------|-----------------|------------|---------------|------------------|-----------------------|-------------|---------|
| Network      | Frequency (MHz) | Temp. (°C) | Voltage (VDC) | Freq. Error (Hz) | Freq. vs. Rated (ppm) |             | Verdict |
|              |                 |            |               |                  | Result                | Limit       |         |
| GPRS         | 824.2           | 20         | 5.4           | 12.40            | 0.01                  | -2.5 to 2.5 | Pass    |
|              |                 |            | 6.0           | 11.85            | 0.01                  | -2.5 to 2.5 | Pass    |
|              |                 |            | 6.6           | 10.46            | 0.01                  | -2.5 to 2.5 | Pass    |
|              |                 | -30        | 6.0           | 15.85            | 0.02                  | -2.5 to 2.5 | Pass    |
|              |                 | -20        | 6.0           | 13.82            | 0.02                  | -2.5 to 2.5 | Pass    |
|              |                 | -10        | 6.0           | 20.50            | 0.02                  | -2.5 to 2.5 | Pass    |
|              |                 | 0          | 6.0           | 21.47            | 0.03                  | -2.5 to 2.5 | Pass    |
|              |                 | 10         | 6.0           | 24.31            | 0.03                  | -2.5 to 2.5 | Pass    |
|              |                 | 30         | 6.0           | 19.31            | 0.02                  | -2.5 to 2.5 | Pass    |

|       |       |     |     |       |      |             |      |
|-------|-------|-----|-----|-------|------|-------------|------|
|       |       | 40  | 6.0 | 19.37 | 0.02 | -2.5 to 2.5 | Pass |
|       |       | 50  | 6.0 | 21.86 | 0.03 | -2.5 to 2.5 | Pass |
|       | 836.6 | 20  | 5.4 | 12.98 | 0.02 | -2.5 to 2.5 | Pass |
|       |       |     | 6.0 | 15.79 | 0.02 | -2.5 to 2.5 | Pass |
|       |       |     | 6.6 | 16.18 | 0.02 | -2.5 to 2.5 | Pass |
|       |       | -30 | 6.0 | 18.31 | 0.02 | -2.5 to 2.5 | Pass |
|       |       | -20 | 6.0 | 18.82 | 0.02 | -2.5 to 2.5 | Pass |
|       |       | -10 | 6.0 | 23.05 | 0.03 | -2.5 to 2.5 | Pass |
|       |       | 0   | 6.0 | 25.57 | 0.03 | -2.5 to 2.5 | Pass |
|       |       | 10  | 6.0 | 23.76 | 0.03 | -2.5 to 2.5 | Pass |
|       |       | 30  | 6.0 | 22.50 | 0.03 | -2.5 to 2.5 | Pass |
|       |       | 40  | 6.0 | 21.66 | 0.03 | -2.5 to 2.5 | Pass |
|       |       | 50  | 6.0 | 22.41 | 0.03 | -2.5 to 2.5 | Pass |
|       | 848.8 | 20  | 5.4 | 19.31 | 0.02 | -2.5 to 2.5 | Pass |
|       |       |     | 6.0 | 25.15 | 0.03 | -2.5 to 2.5 | Pass |
|       |       |     | 6.6 | 17.76 | 0.02 | -2.5 to 2.5 | Pass |
|       |       | -30 | 6.0 | 20.47 | 0.02 | -2.5 to 2.5 | Pass |
|       |       | -20 | 6.0 | 18.98 | 0.02 | -2.5 to 2.5 | Pass |
|       |       | -10 | 6.0 | 23.34 | 0.03 | -2.5 to 2.5 | Pass |
|       |       | 0   | 6.0 | 20.31 | 0.02 | -2.5 to 2.5 | Pass |
|       |       | 10  | 6.0 | 21.73 | 0.03 | -2.5 to 2.5 | Pass |
|       |       | 30  | 6.0 | 22.28 | 0.03 | -2.5 to 2.5 | Pass |
|       |       | 40  | 6.0 | 23.83 | 0.03 | -2.5 to 2.5 | Pass |
|       |       | 50  | 6.0 | 18.53 | 0.02 | -2.5 to 2.5 | Pass |
| EGPRS | 824.2 | 20  | 5.4 | 7.43  | 0.01 | -2.5 to 2.5 | Pass |
|       |       |     | 6.0 | 16.11 | 0.02 | -2.5 to 2.5 | Pass |
|       |       |     | 6.6 | 18.31 | 0.02 | -2.5 to 2.5 | Pass |
|       |       | -30 | 6.0 | 15.08 | 0.02 | -2.5 to 2.5 | Pass |
|       |       | -20 | 6.0 | 15.40 | 0.02 | -2.5 to 2.5 | Pass |
|       |       | -10 | 6.0 | 17.14 | 0.02 | -2.5 to 2.5 | Pass |
|       |       | 0   | 6.0 | 14.01 | 0.02 | -2.5 to 2.5 | Pass |
|       |       | 10  | 6.0 | 17.76 | 0.02 | -2.5 to 2.5 | Pass |
|       |       | 30  | 6.0 | 12.62 | 0.02 | -2.5 to 2.5 | Pass |
|       |       | 40  | 6.0 | 21.63 | 0.03 | -2.5 to 2.5 | Pass |
|       |       | 50  | 6.0 | 21.76 | 0.03 | -2.5 to 2.5 | Pass |
|       | 836.6 | 20  | 5.4 | 18.21 | 0.02 | -2.5 to 2.5 | Pass |
|       |       |     | 6.0 | 19.50 | 0.02 | -2.5 to 2.5 | Pass |
|       |       |     | 6.6 | 21.34 | 0.03 | -2.5 to 2.5 | Pass |
|       |       | -30 | 6.0 | 20.34 | 0.02 | -2.5 to 2.5 | Pass |
|       |       | -20 | 6.0 | 18.98 | 0.02 | -2.5 to 2.5 | Pass |
|       |       | -10 | 6.0 | 20.99 | 0.03 | -2.5 to 2.5 | Pass |
|       |       | 0   | 6.0 | 21.70 | 0.03 | -2.5 to 2.5 | Pass |
|       |       | 10  | 6.0 | 21.50 | 0.03 | -2.5 to 2.5 | Pass |
|       |       | 30  | 6.0 | 21.15 | 0.03 | -2.5 to 2.5 | Pass |
|       |       | 40  | 6.0 | 22.21 | 0.03 | -2.5 to 2.5 | Pass |
|       |       | 50  | 6.0 | 22.79 | 0.03 | -2.5 to 2.5 | Pass |
|       | 848.8 | 20  | 5.4 | 23.44 | 0.03 | -2.5 to 2.5 | Pass |
|       |       |     | 6.0 | 18.76 | 0.02 | -2.5 to 2.5 | Pass |
|       |       |     | 6.6 | 21.02 | 0.02 | -2.5 to 2.5 | Pass |
|       |       | -30 | 6.0 | 23.25 | 0.03 | -2.5 to 2.5 | Pass |
|       |       | -20 | 6.0 | 16.69 | 0.02 | -2.5 to 2.5 | Pass |
|       |       | -10 | 6.0 | 18.14 | 0.02 | -2.5 to 2.5 | Pass |
|       |       | 0   | 6.0 | 22.37 | 0.03 | -2.5 to 2.5 | Pass |
|       |       | 10  | 6.0 | 16.98 | 0.02 | -2.5 to 2.5 | Pass |
|       |       | 30  | 6.0 | 16.69 | 0.02 | -2.5 to 2.5 | Pass |
|       |       | 40  | 6.0 | 19.76 | 0.02 | -2.5 to 2.5 | Pass |
|       |       | 50  | 6.0 | 21.76 | 0.03 | -2.5 to 2.5 | Pass |

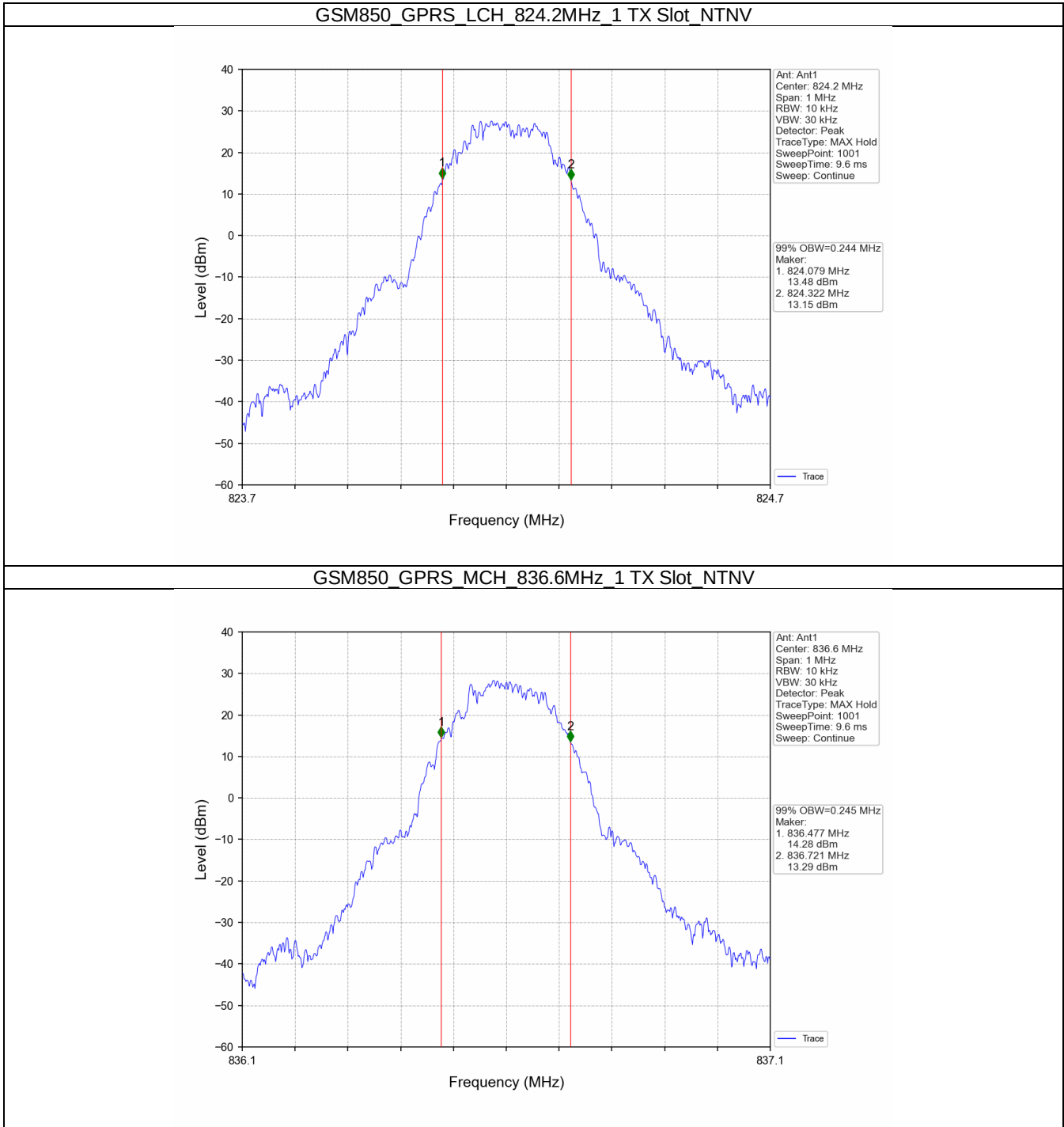
### 3. 99% & 26dB Bandwidth

#### 3.1 GSM850\_OBW

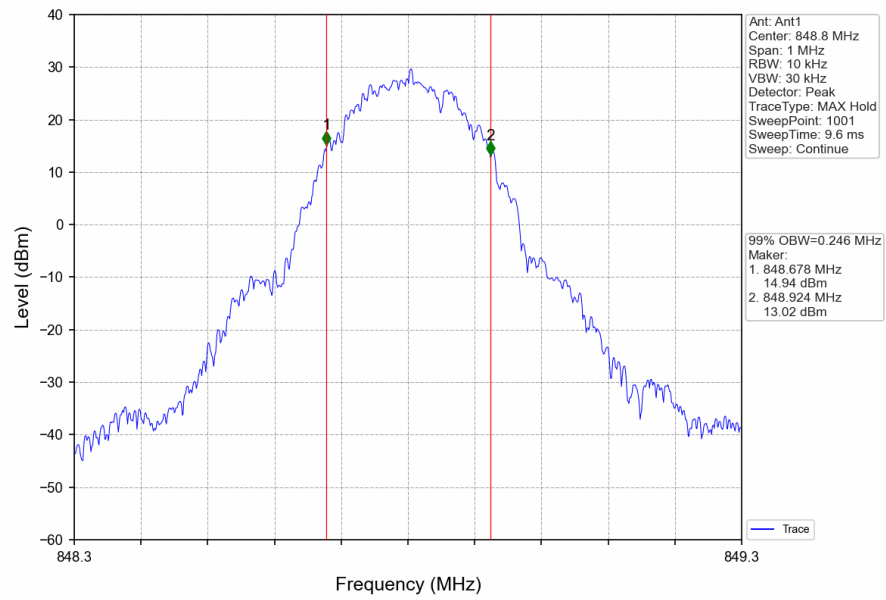
##### 3.1.1 Test Result

| Band: GSM850 |         |           |                    |                              |         |
|--------------|---------|-----------|--------------------|------------------------------|---------|
| ENV          | Mode    |           | Frequency<br>(MHz) | 99% Occupied Bandwidth (MHz) | Verdict |
|              | Network | Subset    |                    | Result                       |         |
| NTNV         | GPRS    | 1 TX Slot | 824.2              | 0.244                        | Pass    |
|              |         |           | 836.6              | 0.245                        | Pass    |
|              |         |           | 848.8              | 0.246                        | Pass    |
|              | EGPRS   | 1 TX Slot | 824.2              | 0.242                        | Pass    |
|              |         |           | 836.6              | 0.242                        | Pass    |
|              |         |           | 848.8              | 0.246                        | Pass    |

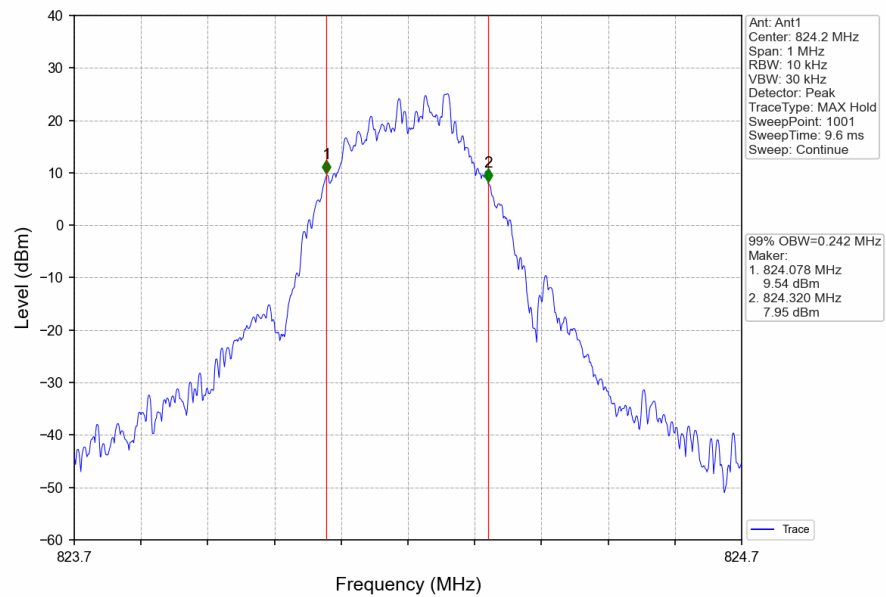
3.1.2 Test Graph



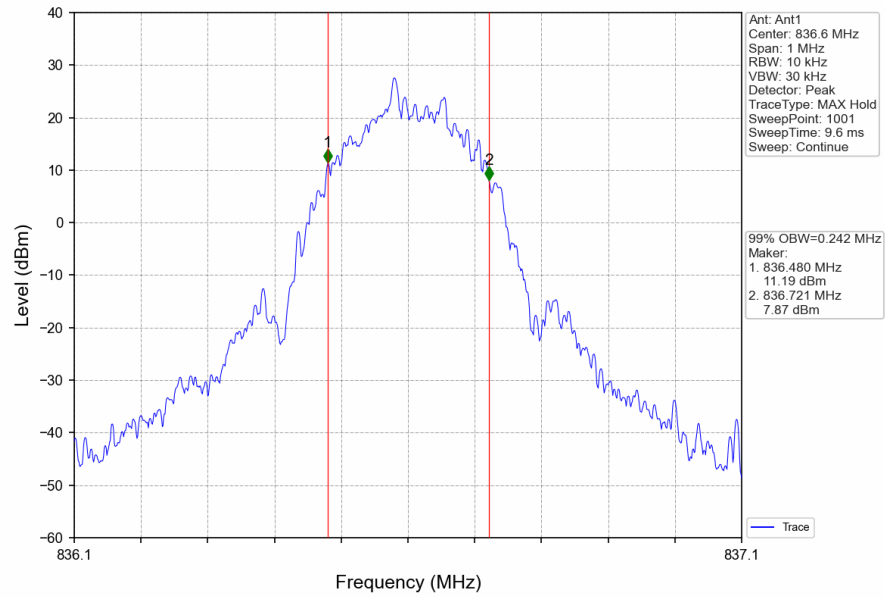
### GSM850\_GPRS\_HCH\_848.8MHz\_1 TX Slot\_NTNV



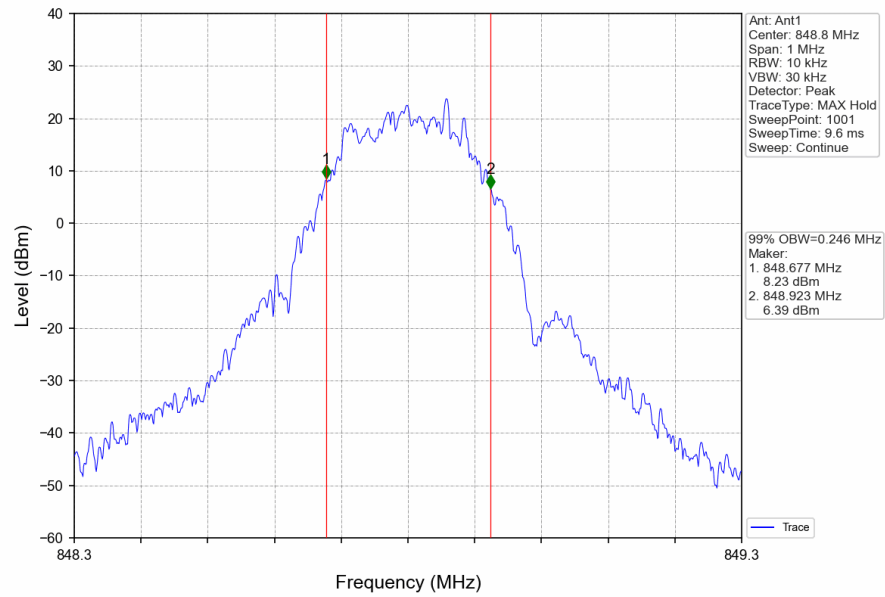
### GSM850\_EGPRS\_LCH\_824.2MHz\_1 TX Slot\_NTNV



# GSM850\_EGPRS\_MCH\_836.6MHz\_1 TX Slot\_NTNV



# GSM850\_EGPRS\_HCH\_848.8MHz\_1 TX Slot\_NTNV

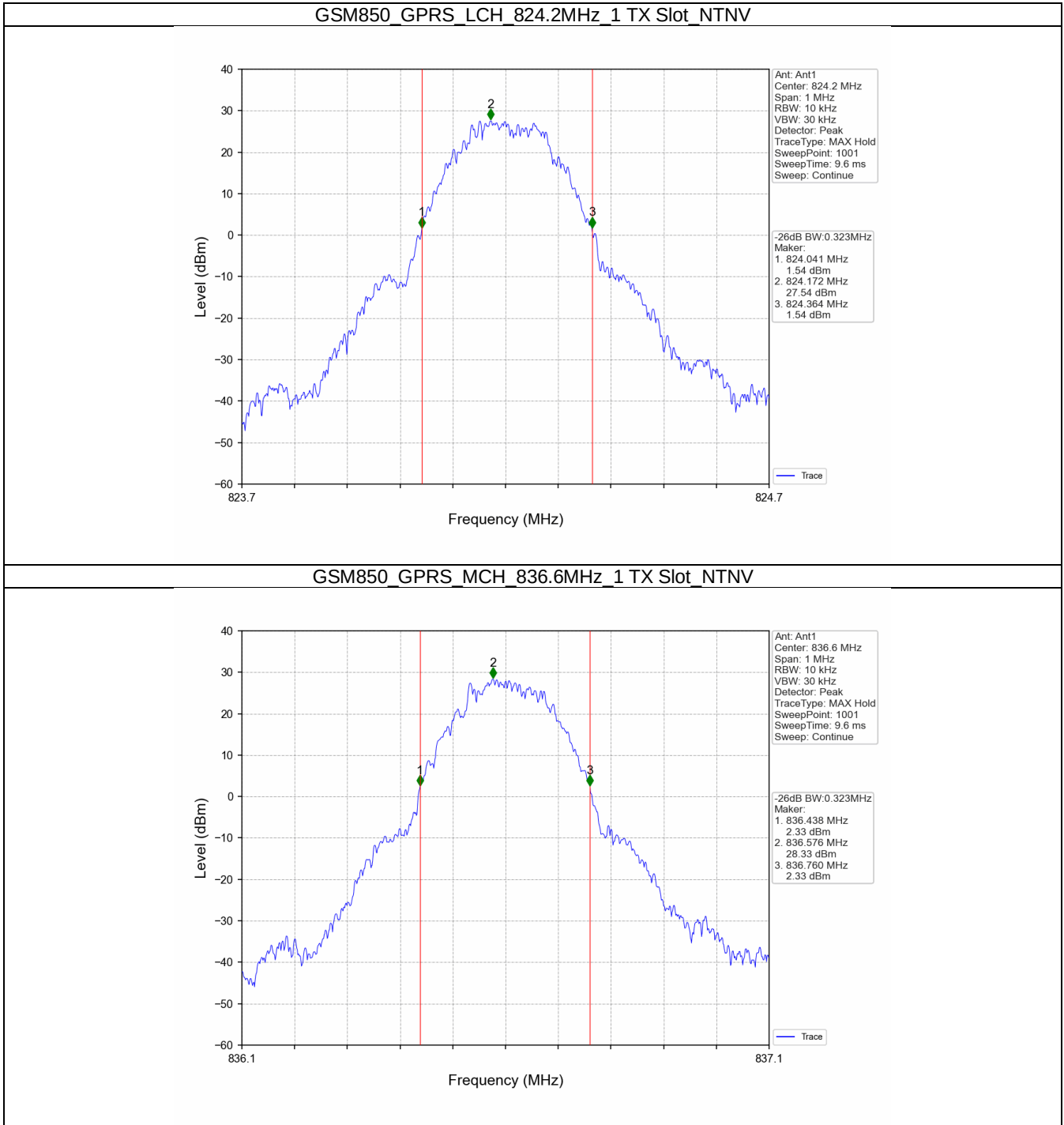


## 3.2 GSM850\_XDB

### 3.2.1 Test Result

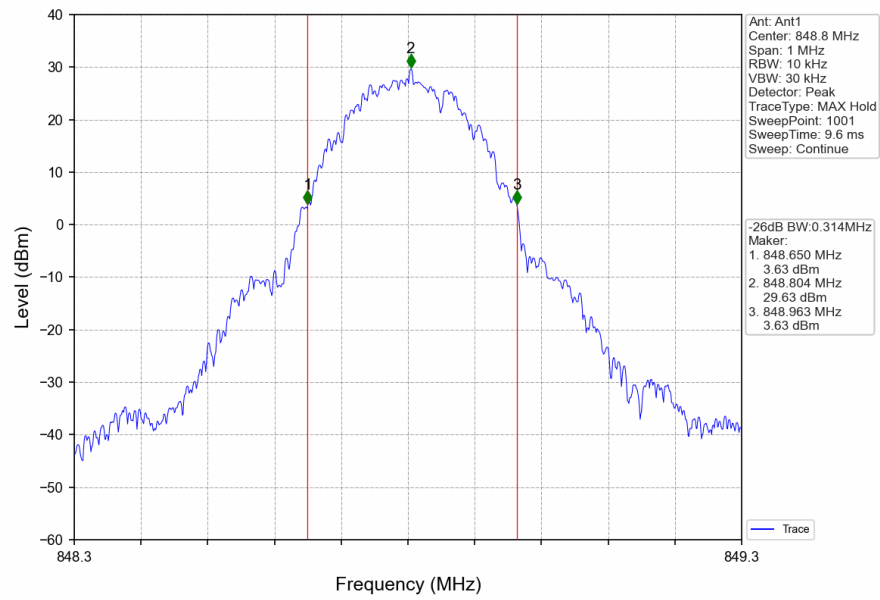
| Band: GSM850 |         |           |                 |                      |         |
|--------------|---------|-----------|-----------------|----------------------|---------|
| ENV          | Mode    |           | Frequency (MHz) | 26dB Bandwidth (MHz) | Verdict |
|              | Network | Subset    |                 | Result               |         |
| NTNV         | GPRS    | 1 TX Slot | 824.2           | 0.323                | Pass    |
|              |         |           | 836.6           | 0.323                | Pass    |
|              |         |           | 848.8           | 0.314                | Pass    |
|              | EGPRS   | 1 TX Slot | 824.2           | 0.306                | Pass    |
|              |         |           | 836.6           | 0.292                | Pass    |
|              |         |           | 848.8           | 0.314                | Pass    |

3.2.2 Test Graph

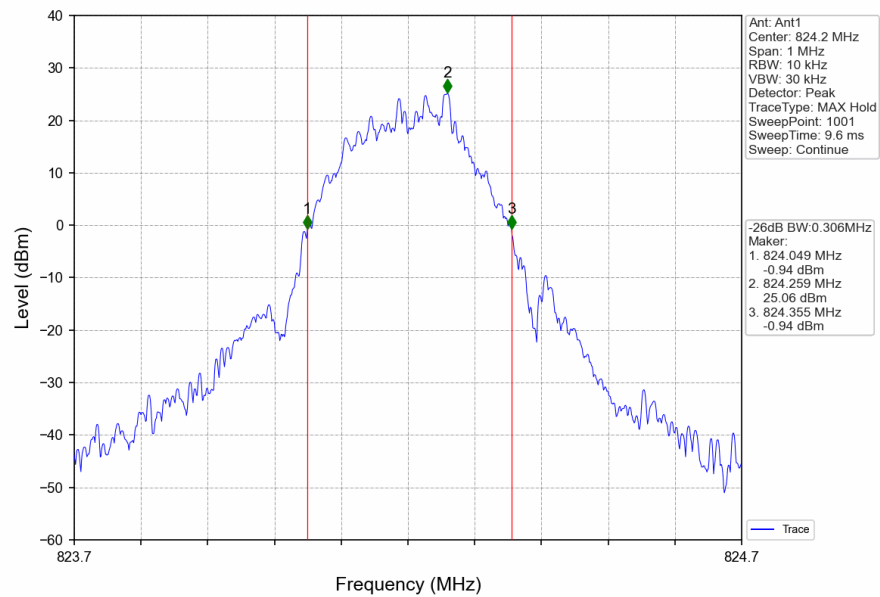




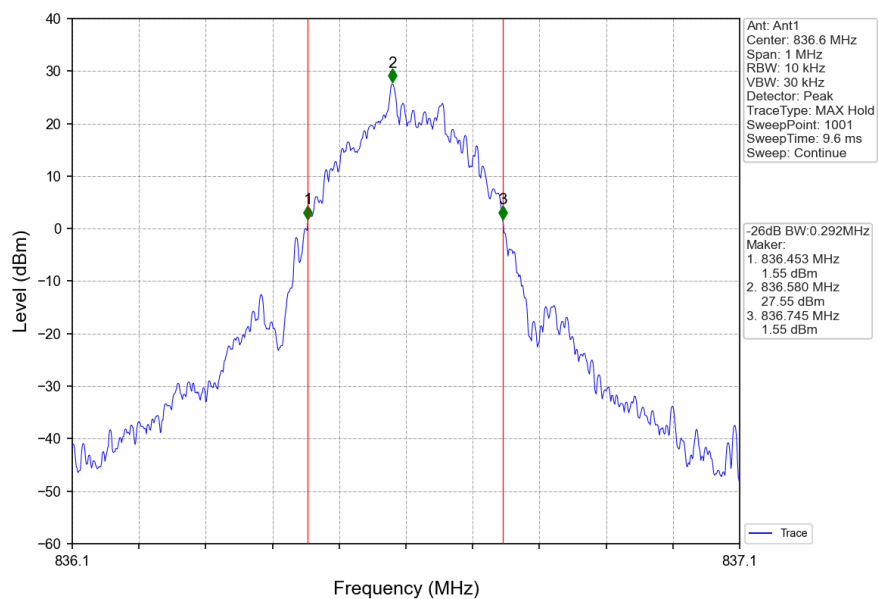
### GSM850\_GPRS\_HCH\_848.8MHz\_1 TX Slot\_NTNV



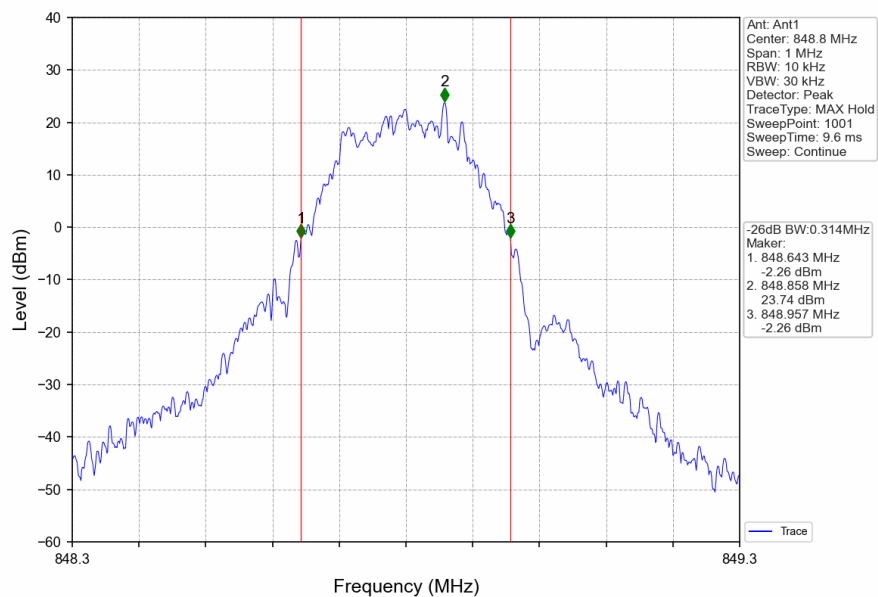
### GSM850\_EGPRS\_LCH\_824.2MHz\_1 TX Slot\_NTNV



# GSM850\_EGPRS\_MCH\_836.6MHz\_1 TX Slot\_NTNV



# GSM850\_EGPRS\_HCH\_848.8MHz\_1 TX Slot\_NTNV



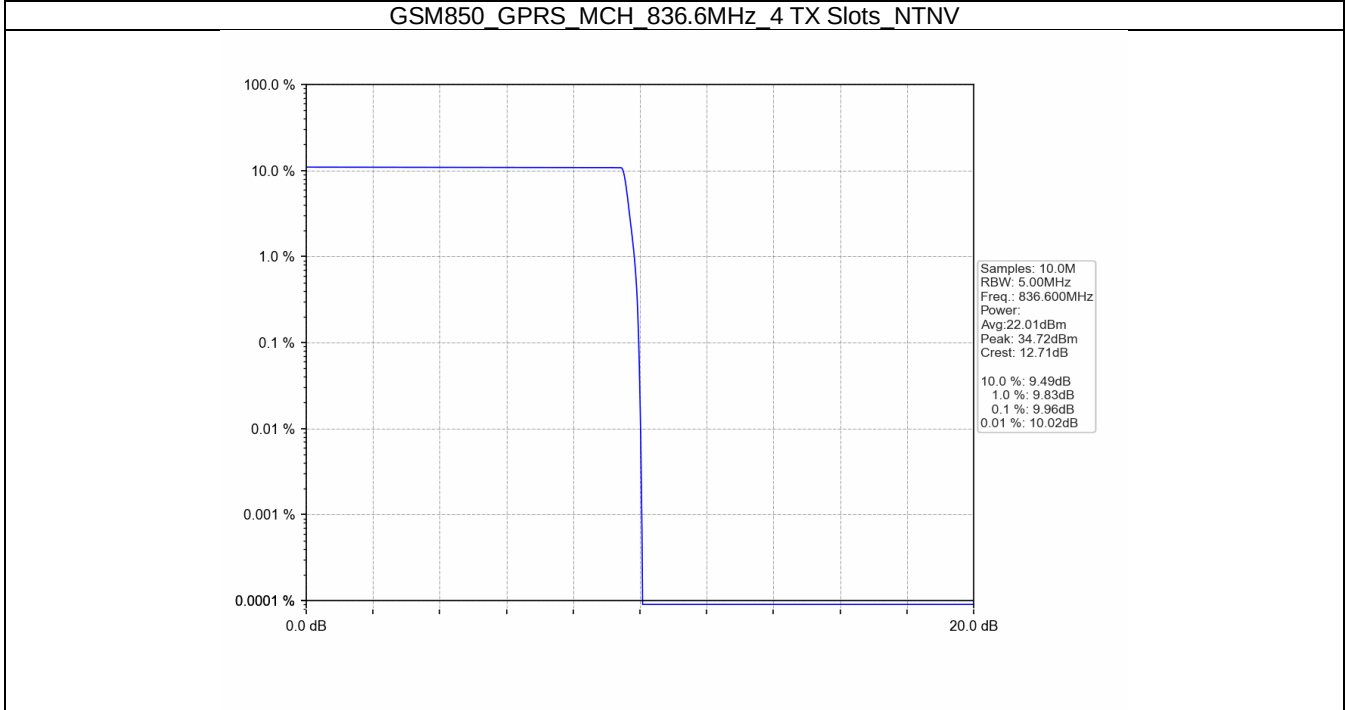
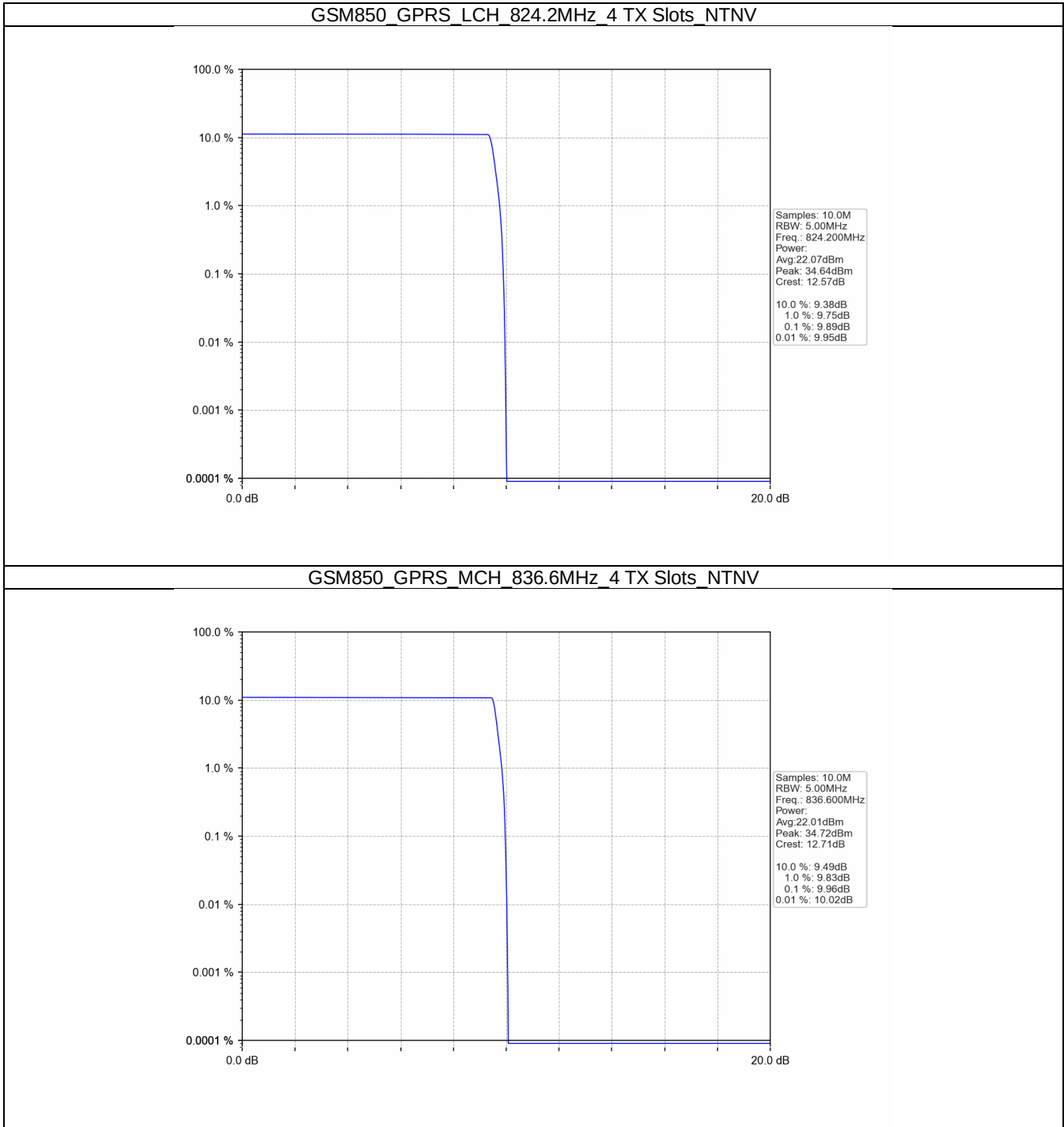
## 4. Peak-Average Ratio

### 4.1 GSM850

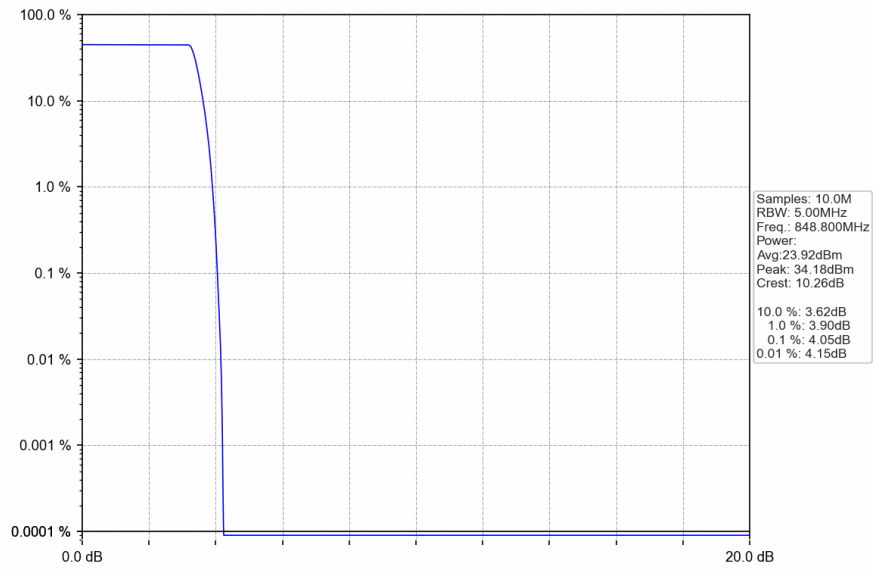
#### 4.1.1 Test Result

| Band: GSM850 |         |            |                 |                         |       |         |
|--------------|---------|------------|-----------------|-------------------------|-------|---------|
| ENV          | Mode    |            | Frequency (MHz) | Peak-Average Ratio (dB) |       | Verdict |
|              | Network | Subset     |                 | Result                  | Limit |         |
| NTNV         | GPRS    | 4 TX Slots | 824.2           | 9.89                    | <=13  | Pass    |
|              |         |            | 836.6           | 9.96                    | <=13  | Pass    |
|              |         |            | 848.8           | 4.05                    | <=13  | Pass    |
|              | EGPRS   | 4 TX Slots | 824.2           | 9.52                    | <=13  | Pass    |
|              |         |            | 836.6           | 10.58                   | <=13  | Pass    |
|              |         |            | 848.8           | 10.76                   | <=13  | Pass    |

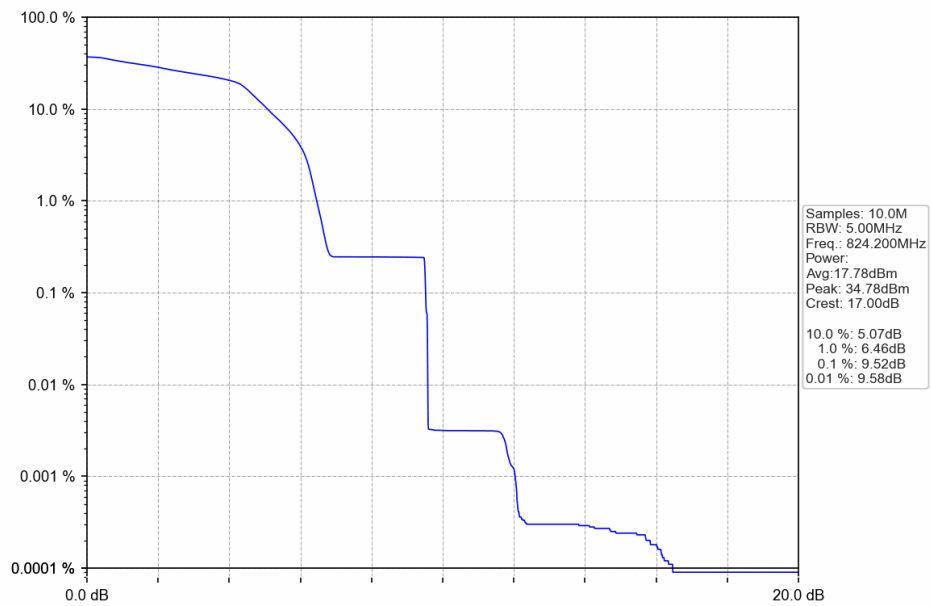
4.1.2 Test Graph



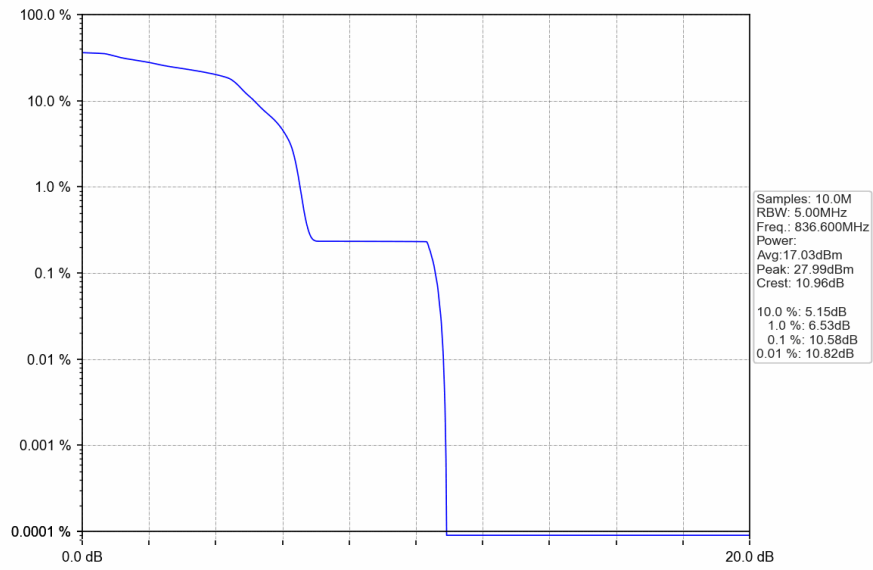
# GSM850\_GPRS\_HCH\_848.8MHz\_4 TX Slots\_NTNV



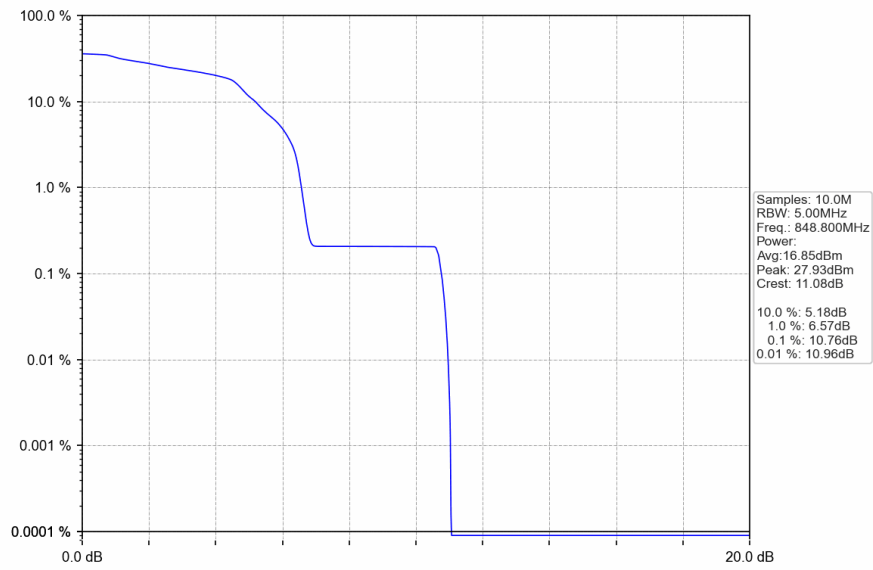
# GSM850\_EGPRS\_LCH\_824.2MHz\_4 TX Slots\_NTNV



# GSM850\_EGPRS\_MCH\_836.6MHz\_4 TX Slots\_NTNV



# GSM850\_EGPRS\_HCH\_848.8MHz\_4 TX Slots\_NTNV



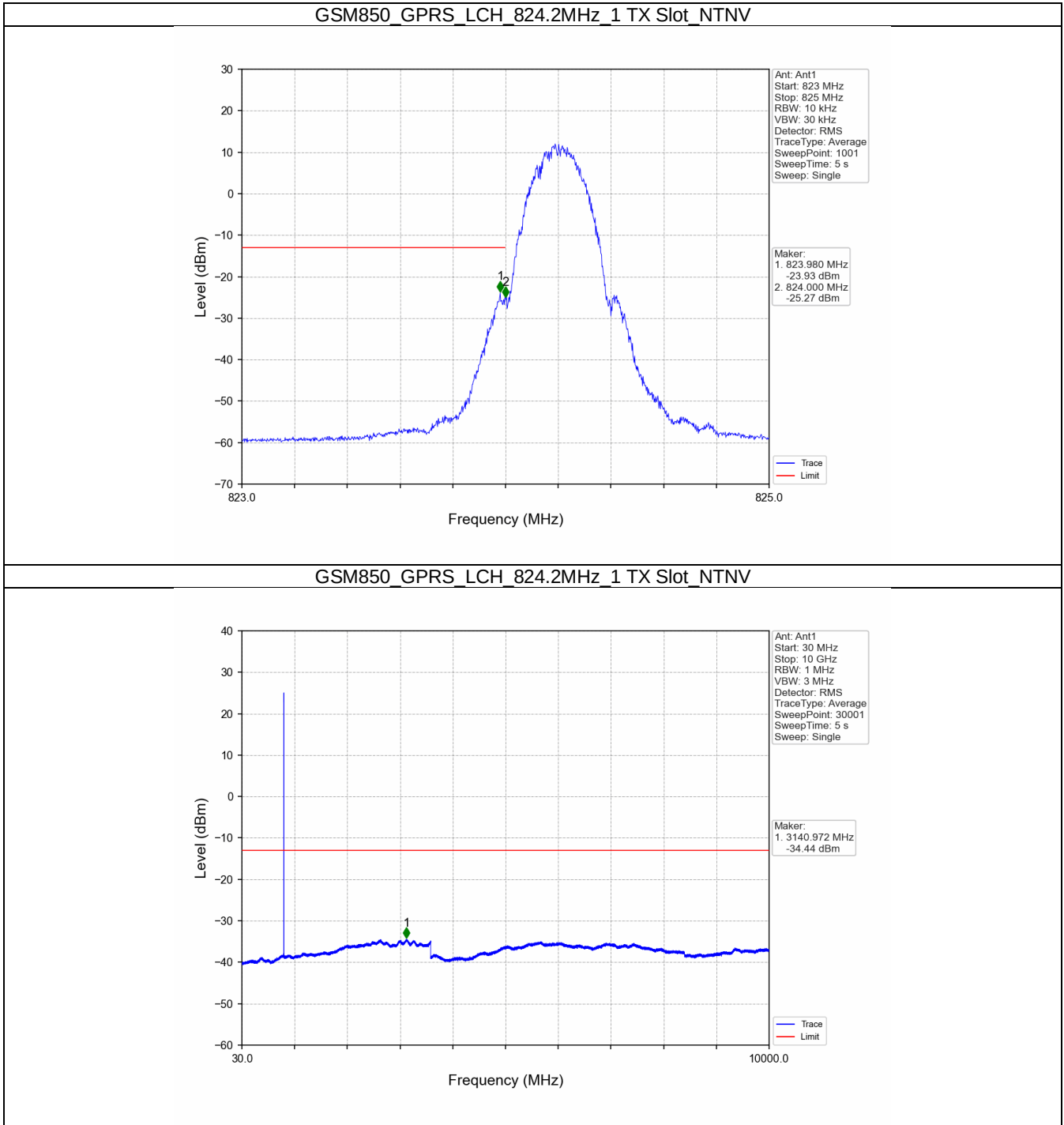
## 6. Spurious Emission

### 6.1 GSM850

#### 6.1.1 Test Result

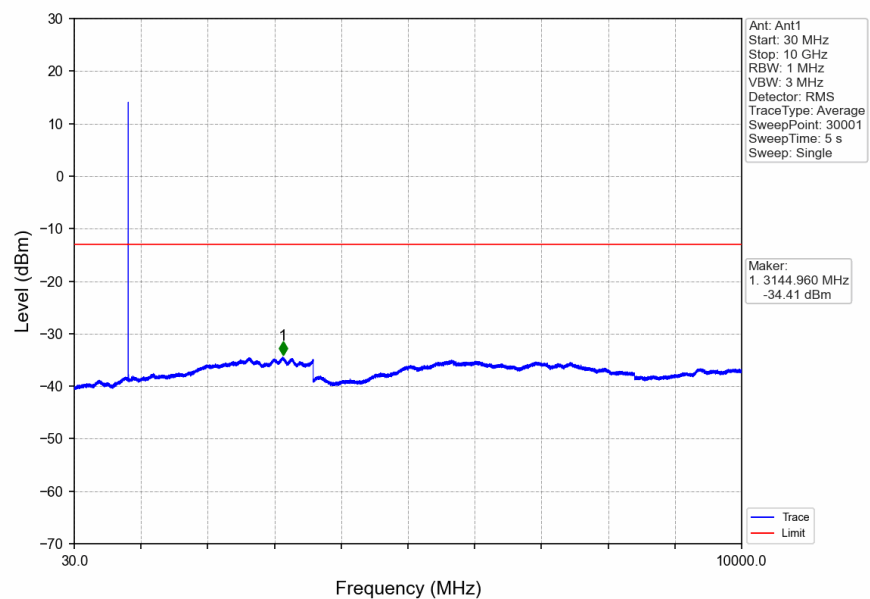
| Band: GSM850 |         |           |                    |                     |       |         |
|--------------|---------|-----------|--------------------|---------------------|-------|---------|
| ENV          | Mode    |           | Frequency<br>(MHz) | Spurious Emission   |       | Verdict |
|              | Network | Subset    |                    | Result              | Limit |         |
| NTNV         | GPRS    | 1 TX Slot | 824.2              | Refer To Test Graph |       | Pass    |
|              |         |           | 836.6              | Refer To Test Graph |       | Pass    |
|              |         |           | 848.8              | Refer To Test Graph |       | Pass    |
|              | EGPRS   | 1 TX Slot | 824.2              | Refer To Test Graph |       | Pass    |
|              |         |           | 836.6              | Refer To Test Graph |       | Pass    |
|              |         |           | 848.8              | Refer To Test Graph |       | Pass    |

6.1.2 Test Graph

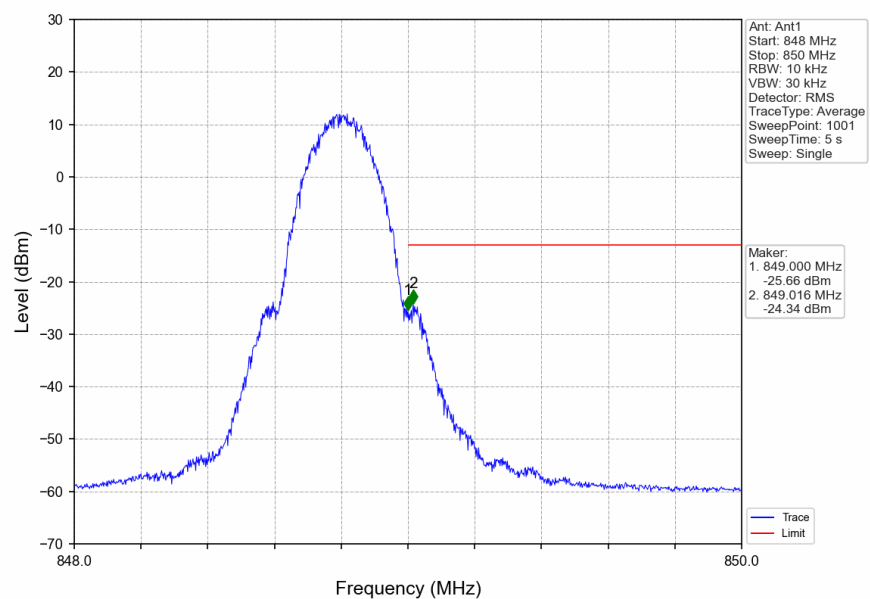




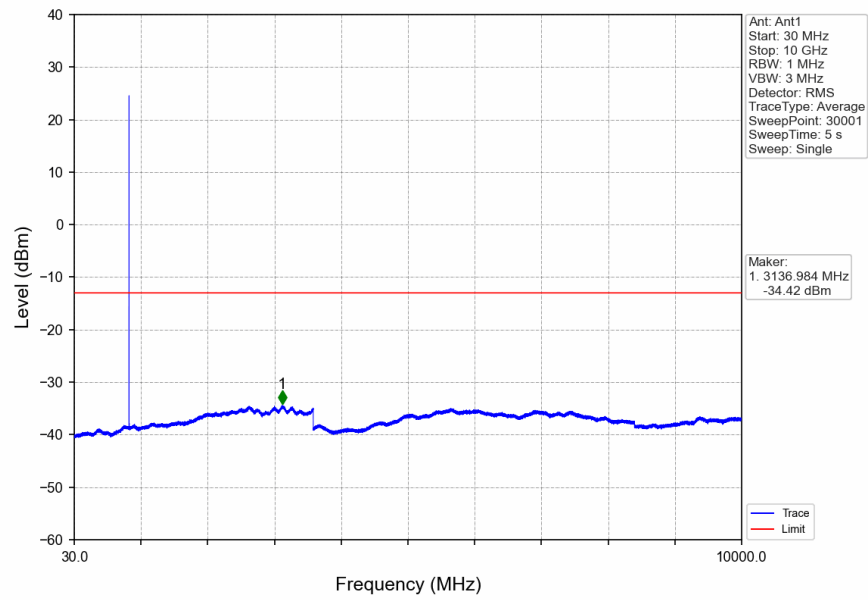
# GSM850\_GPRS\_MCH\_836.6MHz\_1 TX Slot\_NTNV



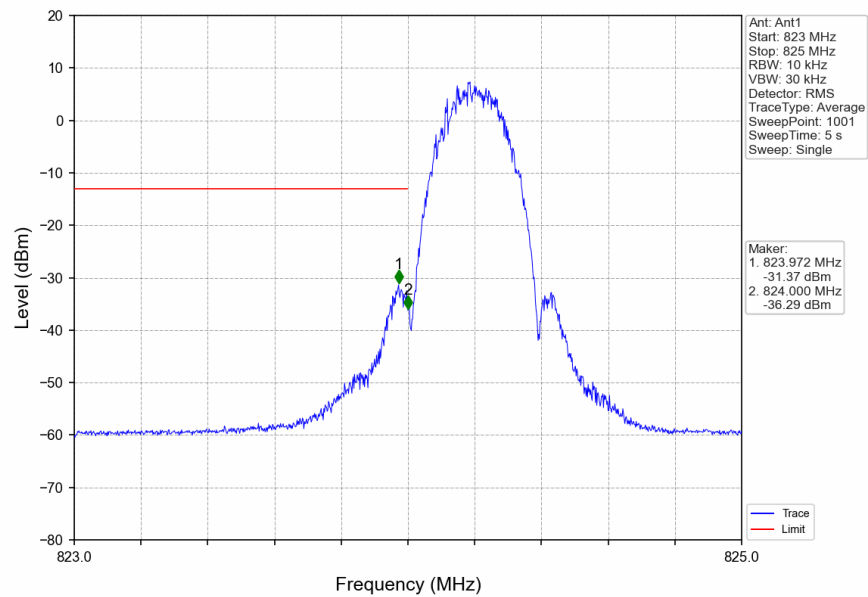
# GSM850\_GPRS\_HCH\_848.8MHz\_1 TX Slot\_NTNV



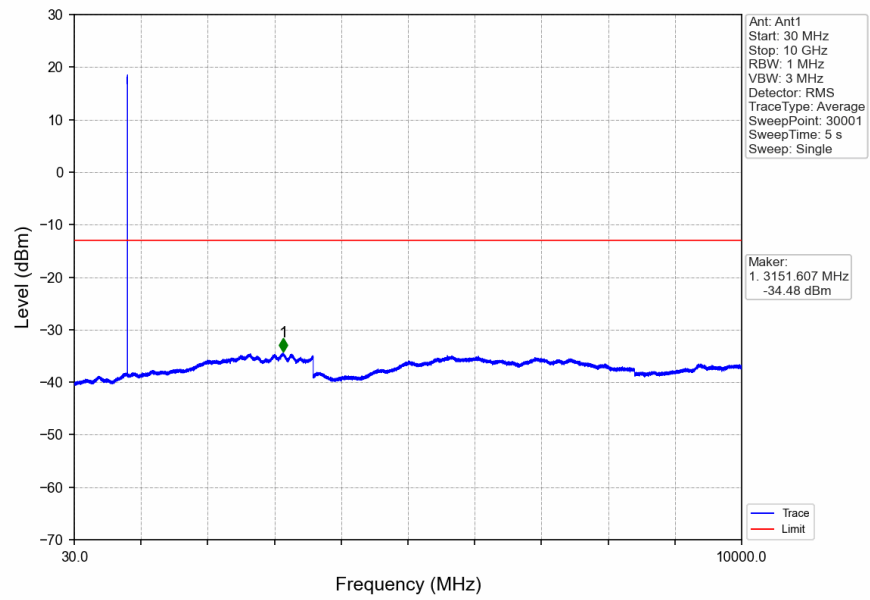
# GSM850\_GPRS\_HCH\_848.8MHz\_1 TX Slot\_NTNV



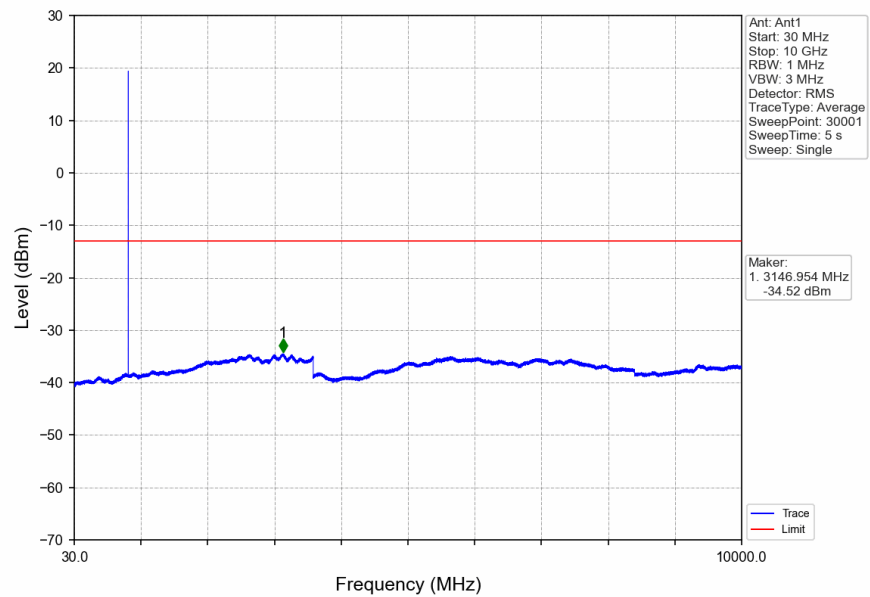
# GSM850\_EGPRS\_LCH\_824.2MHz\_1 TX Slot\_NTNV



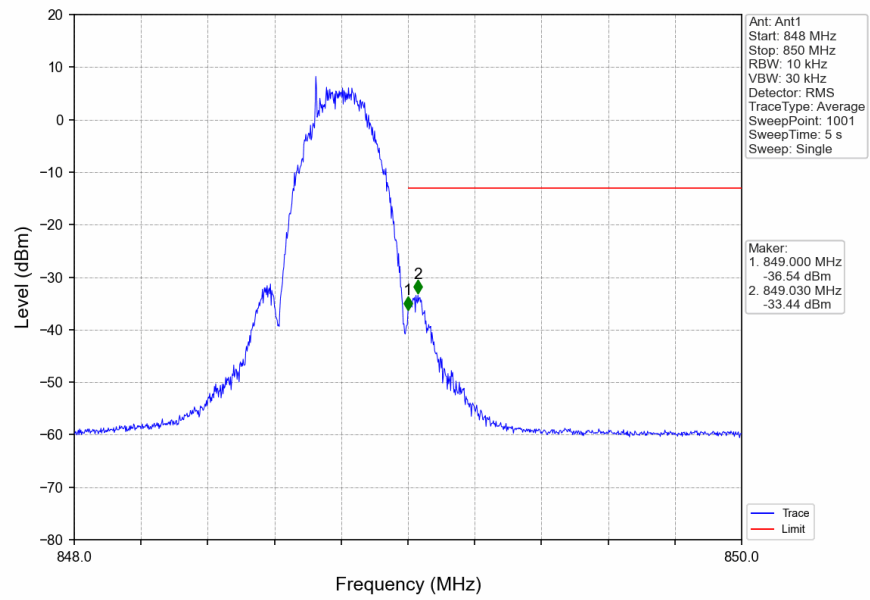
# GSM850\_EGPRS\_LCH\_824.2MHz\_1 TX Slot\_NTNV



# GSM850\_EGPRS\_MCH\_836.6MHz\_1 TX Slot\_NTNV



# GSM850\_EGPRS\_HCH\_848.8MHz\_1 TX Slot\_NTNV



# GSM850\_EGPRS\_HCH\_848.8MHz\_1 TX Slot\_NTNV

