



# Appendix B

## E-UTRA BAND 30



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# 1 Effective (Isotropic) Radiated Power Output Data

## 1.1. Test Result

| BAND    | Bandwidth | Modulation | Channel | RB Configuration | Result (dBm) | EIRP (dBm) | Limit (dBm) | Verdict |
|---------|-----------|------------|---------|------------------|--------------|------------|-------------|---------|
| BAND 30 | 5MHz      | QPSK       | 27685   | 1RB#0            | 22.95        | 22.95      | 24.00       | PASS    |
| BAND 30 | 5MHz      | QPSK       | 27685   | 1RB#12           | 22.80        | 22.80      | 24.00       | PASS    |
| BAND 30 | 5MHz      | QPSK       | 27685   | 1RB#24           | 22.73        | 22.73      | 24.00       | PASS    |
| BAND 30 | 5MHz      | QPSK       | 27685   | 12RB#0           | 21.88        | 21.88      | 24.00       | PASS    |
| BAND 30 | 5MHz      | QPSK       | 27685   | 12RB#6           | 21.86        | 21.86      | 24.00       | PASS    |
| BAND 30 | 5MHz      | QPSK       | 27685   | 12RB#13          | 21.66        | 21.66      | 24.00       | PASS    |
| BAND 30 | 5MHz      | QPSK       | 27685   | 25RB#0           | 21.88        | 21.88      | 24.00       | PASS    |
| BAND 30 | 5MHz      | QPSK       | 27710   | 1RB#0            | 22.83        | 22.83      | 24.00       | PASS    |
| BAND 30 | 5MHz      | QPSK       | 27710   | 1RB#12           | 22.73        | 22.73      | 24.00       | PASS    |
| BAND 30 | 5MHz      | QPSK       | 27710   | 1RB#24           | 22.66        | 22.66      | 24.00       | PASS    |
| BAND 30 | 5MHz      | QPSK       | 27710   | 12RB#0           | 21.76        | 21.76      | 24.00       | PASS    |
| BAND 30 | 5MHz      | QPSK       | 27710   | 12RB#6           | 21.78        | 21.78      | 24.00       | PASS    |
| BAND 30 | 5MHz      | QPSK       | 27710   | 12RB#13          | 21.70        | 21.70      | 24.00       | PASS    |
| BAND 30 | 5MHz      | QPSK       | 27710   | 25RB#0           | 21.72        | 21.72      | 24.00       | PASS    |
| BAND 30 | 5MHz      | QPSK       | 27735   | 1RB#0            | 22.81        | 22.81      | 24.00       | PASS    |
| BAND 30 | 5MHz      | QPSK       | 27735   | 1RB#12           | 22.62        | 22.62      | 24.00       | PASS    |
| BAND 30 | 5MHz      | QPSK       | 27735   | 1RB#24           | 22.58        | 22.58      | 24.00       | PASS    |
| BAND 30 | 5MHz      | QPSK       | 27735   | 12RB#0           | 21.80        | 21.80      | 24.00       | PASS    |
| BAND 30 | 5MHz      | QPSK       | 27735   | 12RB#6           | 21.68        | 21.68      | 24.00       | PASS    |
| BAND 30 | 5MHz      | QPSK       | 27735   | 12RB#13          | 21.64        | 21.64      | 24.00       | PASS    |
| BAND 30 | 5MHz      | QPSK       | 27735   | 25RB#0           | 21.65        | 21.65      | 24.00       | PASS    |
| BAND 30 | 5MHz      | 64QAM      | 27685   | 1RB#0            | 21.97        | 21.97      | 24.00       | PASS    |
| BAND 30 | 5MHz      | 64QAM      | 27685   | 1RB#12           | 21.77        | 21.77      | 24.00       | PASS    |
| BAND 30 | 5MHz      | 64QAM      | 27685   | 1RB#24           | 21.54        | 21.54      | 24.00       | PASS    |
| BAND 30 | 5MHz      | 64QAM      | 27685   | 12RB#0           | 20.81        | 20.81      | 24.00       | PASS    |
| BAND 30 | 5MHz      | 64QAM      | 27685   | 12RB#6           | 20.80        | 20.80      | 24.00       | PASS    |
| BAND 30 | 5MHz      | 64QAM      | 27685   | 12RB#13          | 20.63        | 20.63      | 24.00       | PASS    |
| BAND 30 | 5MHz      | 64QAM      | 27685   | 25RB#0           | 20.74        | 20.74      | 24.00       | PASS    |
| BAND 30 | 5MHz      | 64QAM      | 27710   | 1RB#0            | 21.86        | 21.86      | 24.00       | PASS    |
| BAND 30 | 5MHz      | 64QAM      | 27710   | 1RB#12           | 21.76        | 21.76      | 24.00       | PASS    |
| BAND 30 | 5MHz      | 64QAM      | 27710   | 1RB#24           | 21.74        | 21.74      | 24.00       | PASS    |
| BAND 30 | 5MHz      | 64QAM      | 27710   | 12RB#0           | 20.69        | 20.69      | 24.00       | PASS    |
| BAND 30 | 5MHz      | 64QAM      | 27710   | 12RB#6           | 20.65        | 20.65      | 24.00       | PASS    |
| BAND 30 | 5MHz      | 64QAM      | 27710   | 12RB#13          | 20.64        | 20.64      | 24.00       | PASS    |
| BAND 30 | 5MHz      | 64QAM      | 27710   | 25RB#0           | 20.66        | 20.66      | 24.00       | PASS    |
| BAND 30 | 5MHz      | 64QAM      | 27735   | 1RB#0            | 21.80        | 21.80      | 24.00       | PASS    |
| BAND 30 | 5MHz      | 64QAM      | 27735   | 1RB#12           | 21.56        | 21.56      | 24.00       | PASS    |
| BAND 30 | 5MHz      | 64QAM      | 27735   | 1RB#24           | 21.47        | 21.47      | 24.00       | PASS    |
| BAND 30 | 5MHz      | 64QAM      | 27735   | 12RB#0           | 20.75        | 20.75      | 24.00       | PASS    |
| BAND 30 | 5MHz      | 64QAM      | 27735   | 12RB#6           | 20.63        | 20.63      | 24.00       | PASS    |
| BAND 30 | 5MHz      | 64QAM      | 27735   | 12RB#13          | 20.57        | 20.57      | 24.00       | PASS    |
| BAND 30 | 5MHz      | 64QAM      | 27735   | 25RB#0           | 20.58        | 20.58      | 24.00       | PASS    |
| BAND 30 | 5MHz      | 16QAM      | 27685   | 1RB#0            | 22.34        | 22.34      | 24.00       | PASS    |
| BAND 30 | 5MHz      | 16QAM      | 27685   | 1RB#12           | 22.21        | 22.21      | 24.00       | PASS    |
| BAND 30 | 5MHz      | 16QAM      | 27685   | 1RB#24           | 21.92        | 21.92      | 24.00       | PASS    |
| BAND 30 | 5MHz      | 16QAM      | 27685   | 12RB#0           | 20.89        | 20.89      | 24.00       | PASS    |
| BAND 30 | 5MHz      | 16QAM      | 27685   | 12RB#6           | 20.91        | 20.91      | 24.00       | PASS    |

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|         |       |       |       |         |       |       |       |      |
|---------|-------|-------|-------|---------|-------|-------|-------|------|
| BAND 30 | 5MHz  | 16QAM | 27685 | 12RB#13 | 20.71 | 20.71 | 24.00 | PASS |
| BAND 30 | 5MHz  | 16QAM | 27685 | 25RB#0  | 20.80 | 20.80 | 24.00 | PASS |
| BAND 30 | 5MHz  | 16QAM | 27710 | 1RB#0   | 22.16 | 22.16 | 24.00 | PASS |
| BAND 30 | 5MHz  | 16QAM | 27710 | 1RB#12  | 21.93 | 21.93 | 24.00 | PASS |
| BAND 30 | 5MHz  | 16QAM | 27710 | 1RB#24  | 21.85 | 21.85 | 24.00 | PASS |
| BAND 30 | 5MHz  | 16QAM | 27710 | 12RB#0  | 20.79 | 20.79 | 24.00 | PASS |
| BAND 30 | 5MHz  | 16QAM | 27710 | 12RB#6  | 20.84 | 20.84 | 24.00 | PASS |
| BAND 30 | 5MHz  | 16QAM | 27710 | 12RB#13 | 20.78 | 20.78 | 24.00 | PASS |
| BAND 30 | 5MHz  | 16QAM | 27710 | 25RB#0  | 20.74 | 20.74 | 24.00 | PASS |
| BAND 30 | 5MHz  | 16QAM | 27735 | 1RB#0   | 22.16 | 22.16 | 24.00 | PASS |
| BAND 30 | 5MHz  | 16QAM | 27735 | 1RB#12  | 22.03 | 22.03 | 24.00 | PASS |
| BAND 30 | 5MHz  | 16QAM | 27735 | 1RB#24  | 21.74 | 21.74 | 24.00 | PASS |
| BAND 30 | 5MHz  | 16QAM | 27735 | 12RB#0  | 20.79 | 20.79 | 24.00 | PASS |
| BAND 30 | 5MHz  | 16QAM | 27735 | 12RB#6  | 20.65 | 20.65 | 24.00 | PASS |
| BAND 30 | 5MHz  | 16QAM | 27735 | 12RB#13 | 20.67 | 20.67 | 24.00 | PASS |
| BAND 30 | 5MHz  | 16QAM | 27735 | 25RB#0  | 20.65 | 20.65 | 24.00 | PASS |
| BAND 30 | 10MHz | QPSK  | 27710 | 1RB#0   | 22.82 | 22.82 | 24.00 | PASS |
| BAND 30 | 10MHz | QPSK  | 27710 | 1RB#24  | 22.71 | 22.71 | 24.00 | PASS |
| BAND 30 | 10MHz | QPSK  | 27710 | 1RB#49  | 22.61 | 22.61 | 24.00 | PASS |
| BAND 30 | 10MHz | QPSK  | 27710 | 25RB#0  | 21.87 | 21.87 | 24.00 | PASS |
| BAND 30 | 10MHz | QPSK  | 27710 | 25RB#12 | 21.78 | 21.78 | 24.00 | PASS |
| BAND 30 | 10MHz | QPSK  | 27710 | 25RB#25 | 21.66 | 21.66 | 24.00 | PASS |
| BAND 30 | 10MHz | QPSK  | 27710 | 50RB#0  | 21.84 | 21.84 | 24.00 | PASS |
| BAND 30 | 10MHz | 64QAM | 27710 | 1RB#0   | 21.97 | 21.97 | 24.00 | PASS |
| BAND 30 | 10MHz | 64QAM | 27710 | 1RB#24  | 21.63 | 21.63 | 24.00 | PASS |
| BAND 30 | 10MHz | 64QAM | 27710 | 1RB#49  | 21.65 | 21.65 | 24.00 | PASS |
| BAND 30 | 10MHz | 64QAM | 27710 | 25RB#0  | 20.77 | 20.77 | 24.00 | PASS |
| BAND 30 | 10MHz | 64QAM | 27710 | 25RB#12 | 20.68 | 20.68 | 24.00 | PASS |
| BAND 30 | 10MHz | 64QAM | 27710 | 25RB#25 | 20.57 | 20.57 | 24.00 | PASS |
| BAND 30 | 10MHz | 64QAM | 27710 | 50RB#0  | 20.78 | 20.78 | 24.00 | PASS |
| BAND 30 | 10MHz | 16QAM | 27710 | 1RB#0   | 22.17 | 22.17 | 24.00 | PASS |
| BAND 30 | 10MHz | 16QAM | 27710 | 1RB#24  | 21.86 | 21.86 | 24.00 | PASS |
| BAND 30 | 10MHz | 16QAM | 27710 | 1RB#49  | 21.86 | 21.86 | 24.00 | PASS |
| BAND 30 | 10MHz | 16QAM | 27710 | 25RB#0  | 20.83 | 20.83 | 24.00 | PASS |
| BAND 30 | 10MHz | 16QAM | 27710 | 25RB#12 | 20.71 | 20.71 | 24.00 | PASS |
| BAND 30 | 10MHz | 16QAM | 27710 | 25RB#25 | 20.59 | 20.59 | 24.00 | PASS |
| BAND 30 | 10MHz | 16QAM | 27710 | 50RB#0  | 20.76 | 20.76 | 24.00 | PASS |

Note:

a: For getting the EIRP (Efficient Isotropic Radiated Power) in substitution method, the following formula should be taken to calculate it,

$$\text{ERP [dBm]} = \text{SGP [dBm]} - \text{Cable Loss [dB]} + \text{Gain [dBd]}$$

$$\text{EIRP [dBm]} = \text{SGP [dBm]} - \text{Cable Loss [dB]} + \text{Gain [dBi]}$$

b: SGP=Signal Generator Level

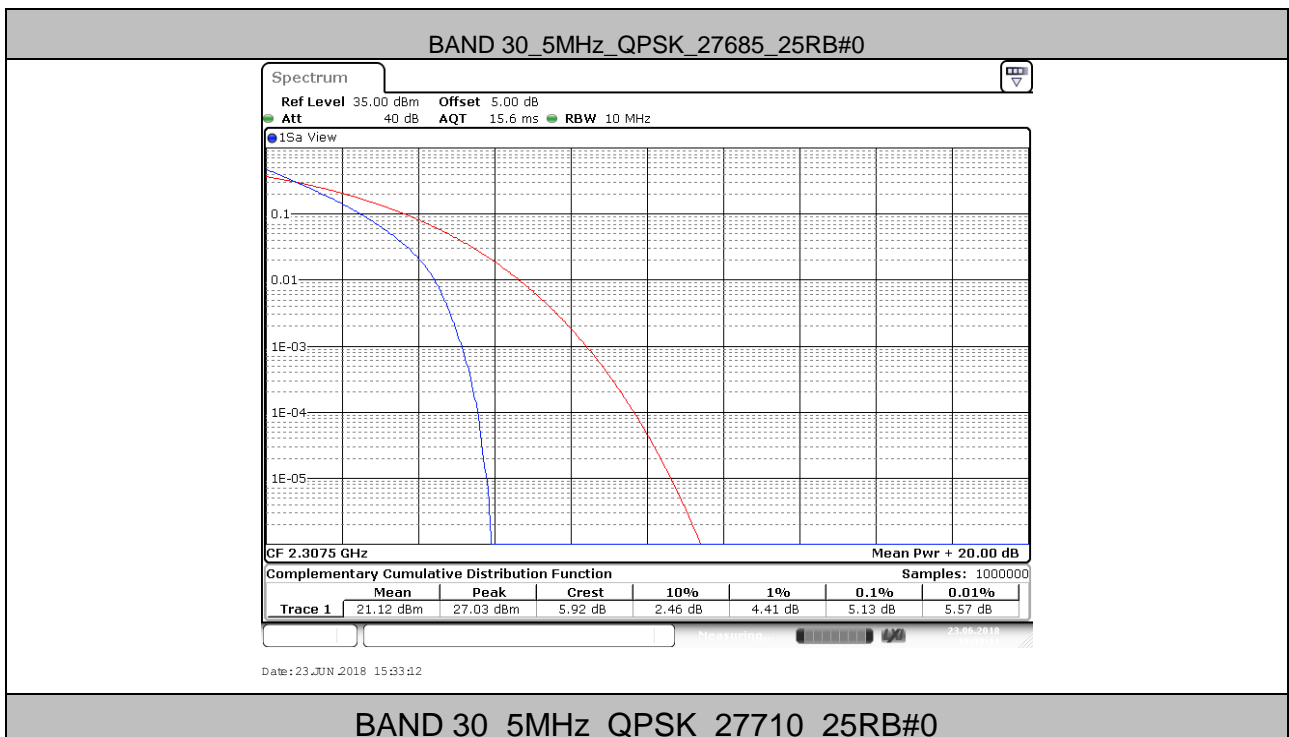


## 2 Peak-to-Average Ratio

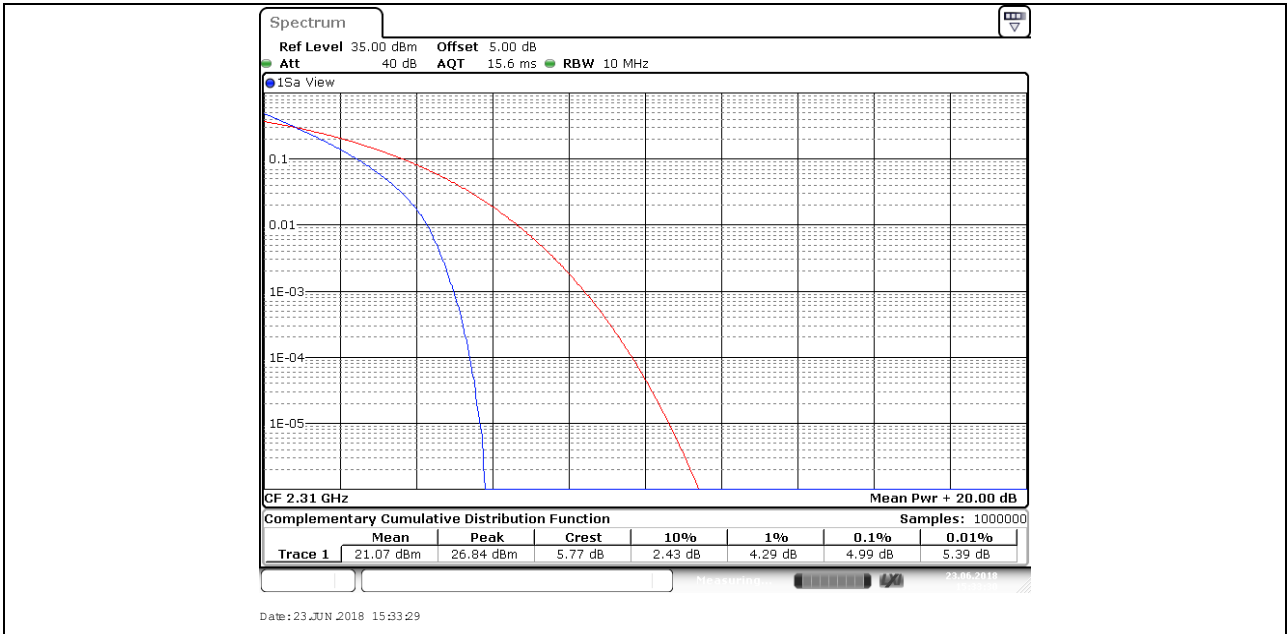
### 2.1. Test Result

| BAND    | Bandwidth | Modulation | Channel | RB Configuration | Result(dB) | Limit(dB) | Verdict |
|---------|-----------|------------|---------|------------------|------------|-----------|---------|
| BAND 30 | 5MHz      | QPSK       | 27685   | 25RB#0           | 5.13       | 13        | PASS    |
| BAND 30 | 5MHz      | QPSK       | 27710   | 25RB#0           | 4.99       | 13        | PASS    |
| BAND 30 | 5MHz      | QPSK       | 27735   | 25RB#0           | 4.87       | 13        | PASS    |
| BAND 30 | 5MHz      | 16QAM      | 27685   | 25RB#0           | 6.06       | 13        | PASS    |
| BAND 30 | 5MHz      | 16QAM      | 27710   | 25RB#0           | 5.88       | 13        | PASS    |
| BAND 30 | 5MHz      | 16QAM      | 27735   | 25RB#0           | 5.74       | 13        | PASS    |
| BAND 30 | 10MHz     | QPSK       | 27710   | 50RB#0           | 4.75       | 13        | PASS    |
| BAND 30 | 10MHz     | 64QAM      | 27710   | 50RB#0           | 5.71       | 13        | PASS    |
| BAND 30 | 10MHz     | 16QAM      | 27710   | 50RB#0           | 5.71       | 13        | PASS    |

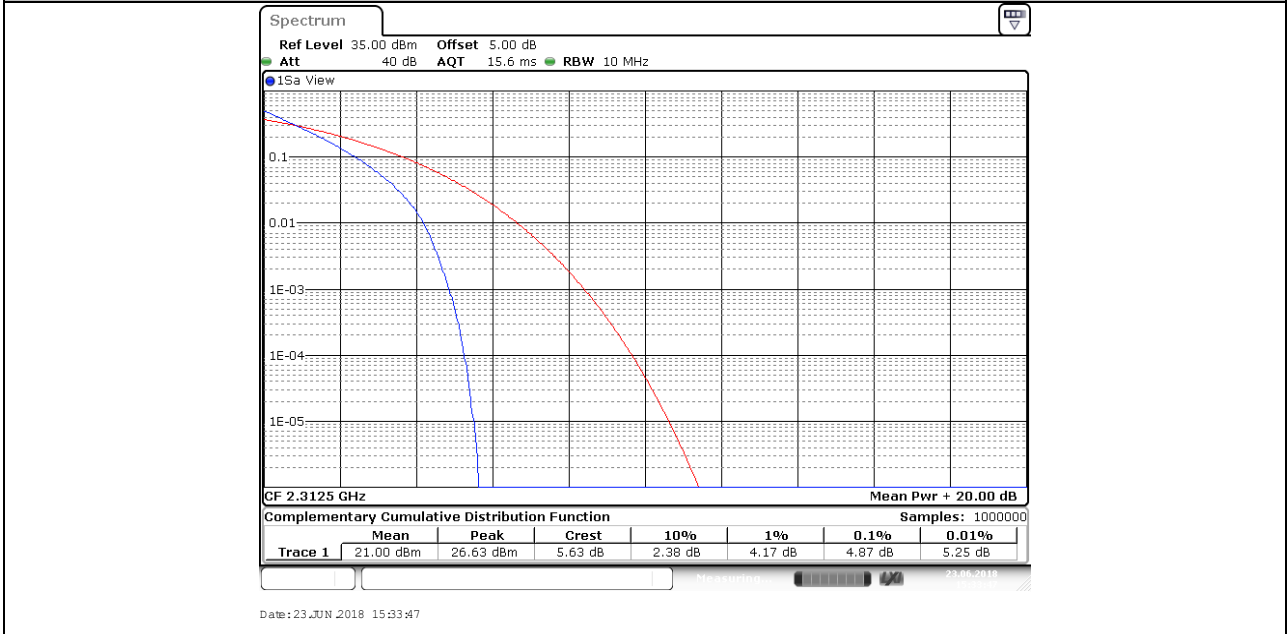
### 2.2. Test Plots



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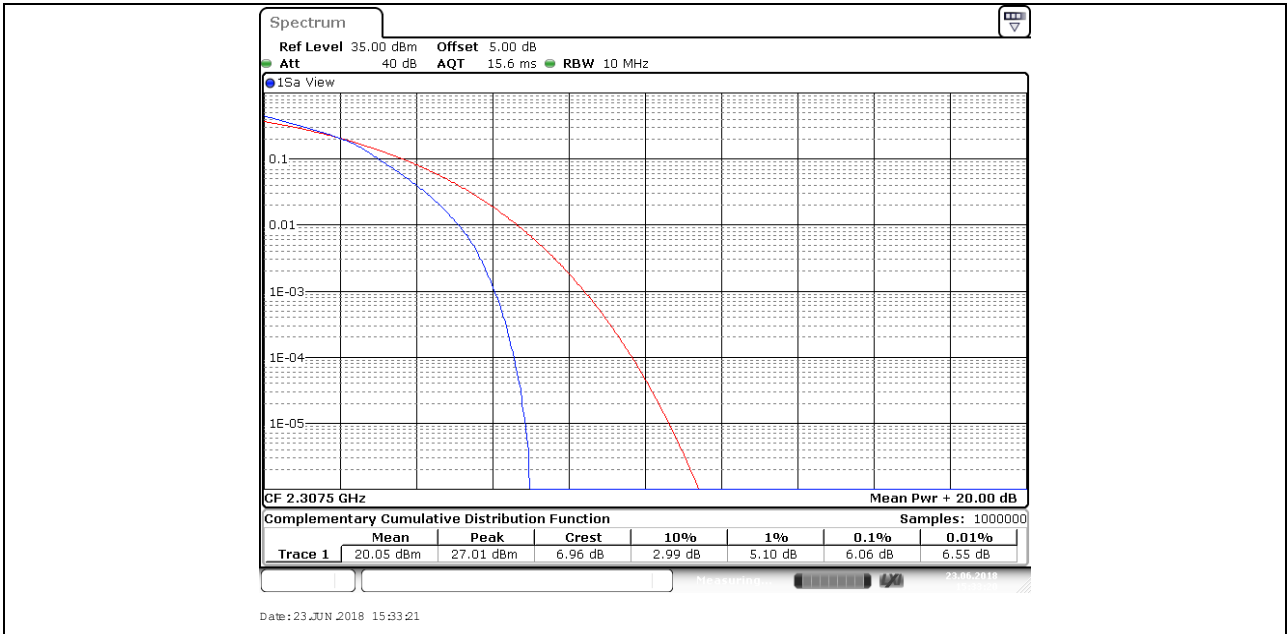


**BAND 30\_5MHz\_QPSK\_27735\_25RB#0**

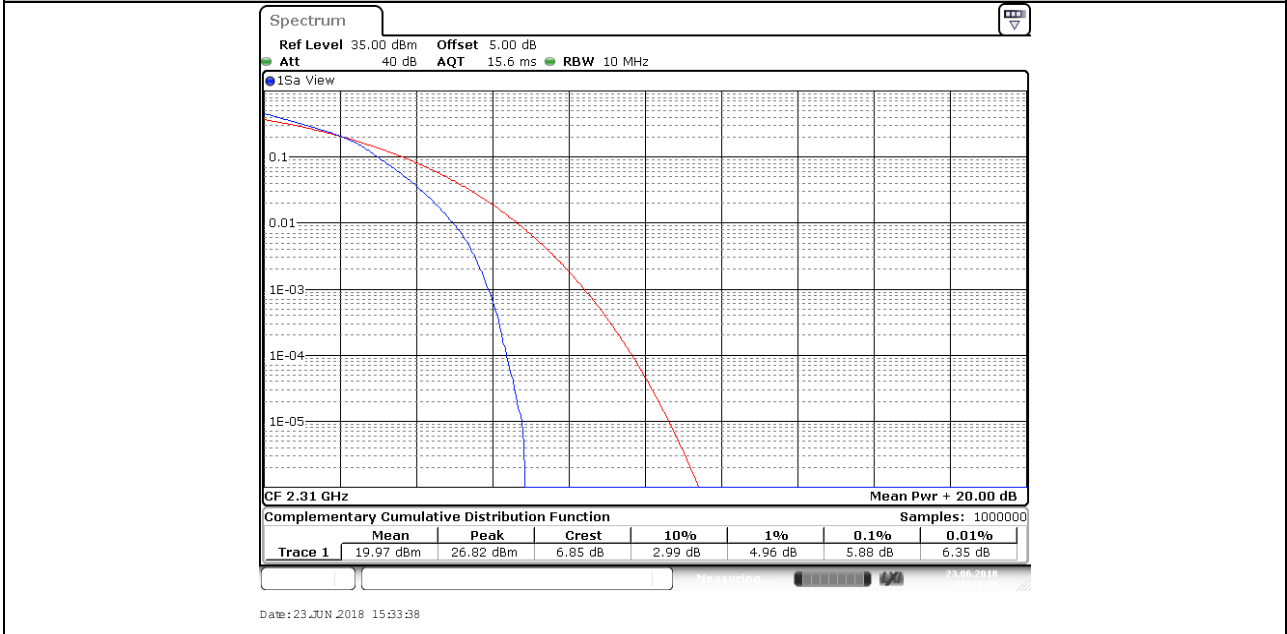


**BAND 30\_5MHz\_16QAM\_27685\_25RB#0**

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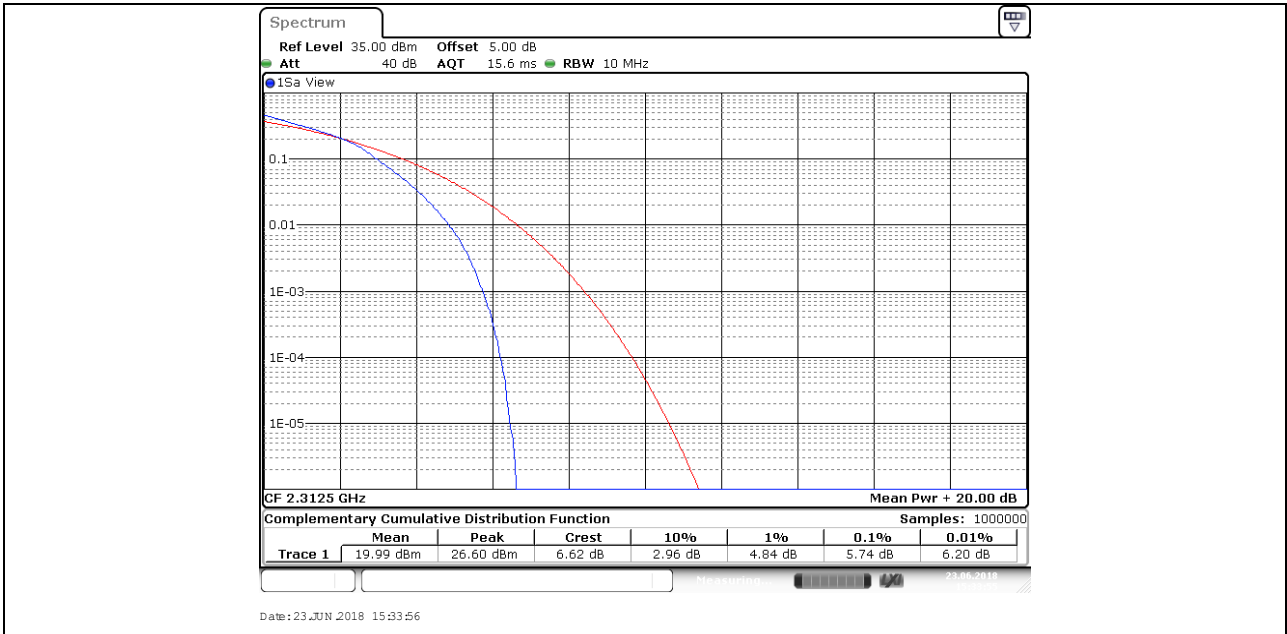
**BAND 30\_5MHz\_16QAM\_27710\_25RB#0**



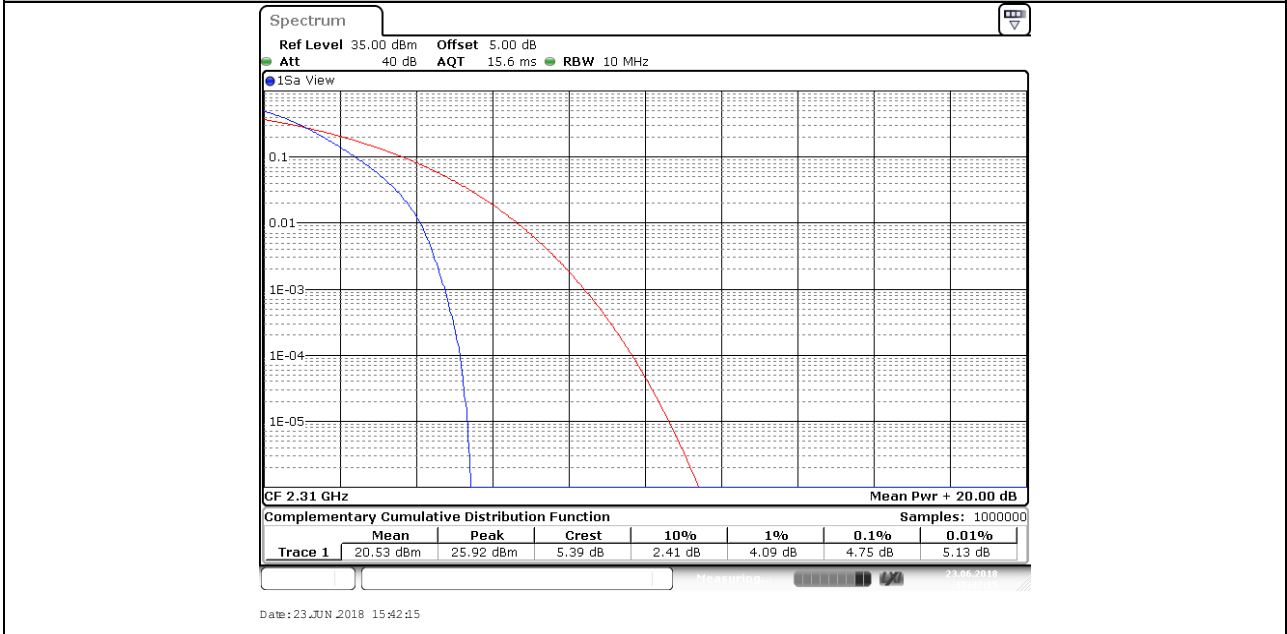
**BAND 30\_5MHz\_16QAM\_27735\_25RB#0**

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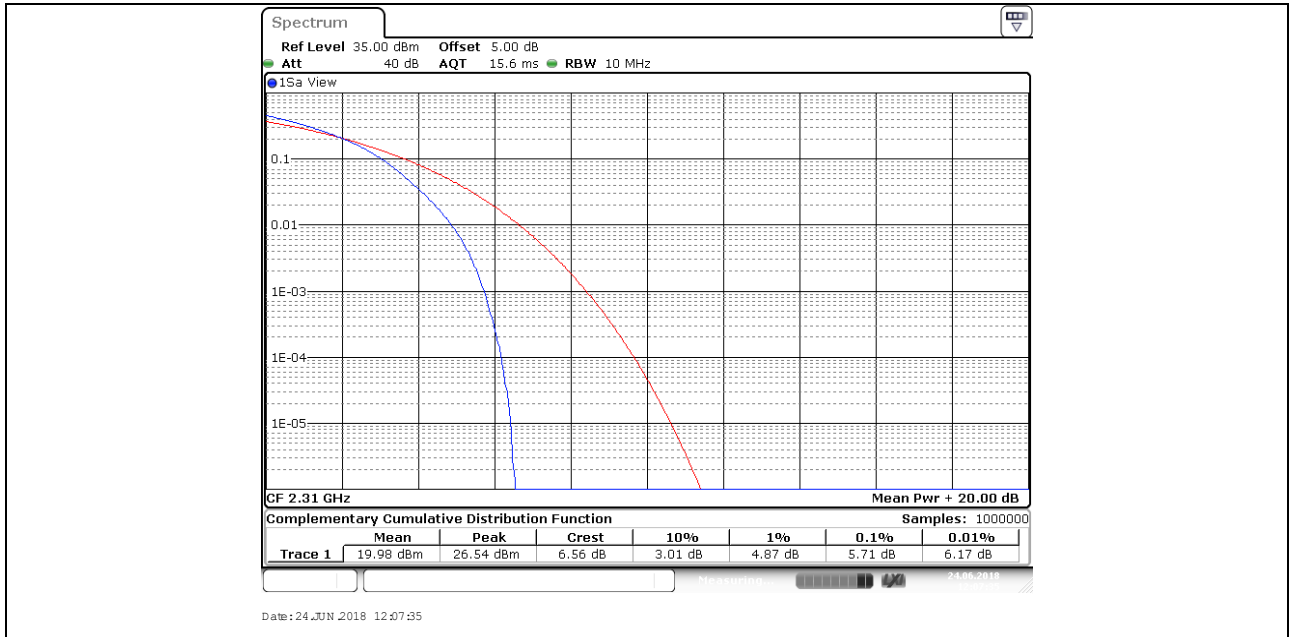
**BAND 30\_10MHz\_QPSK\_27710\_50RB#0**



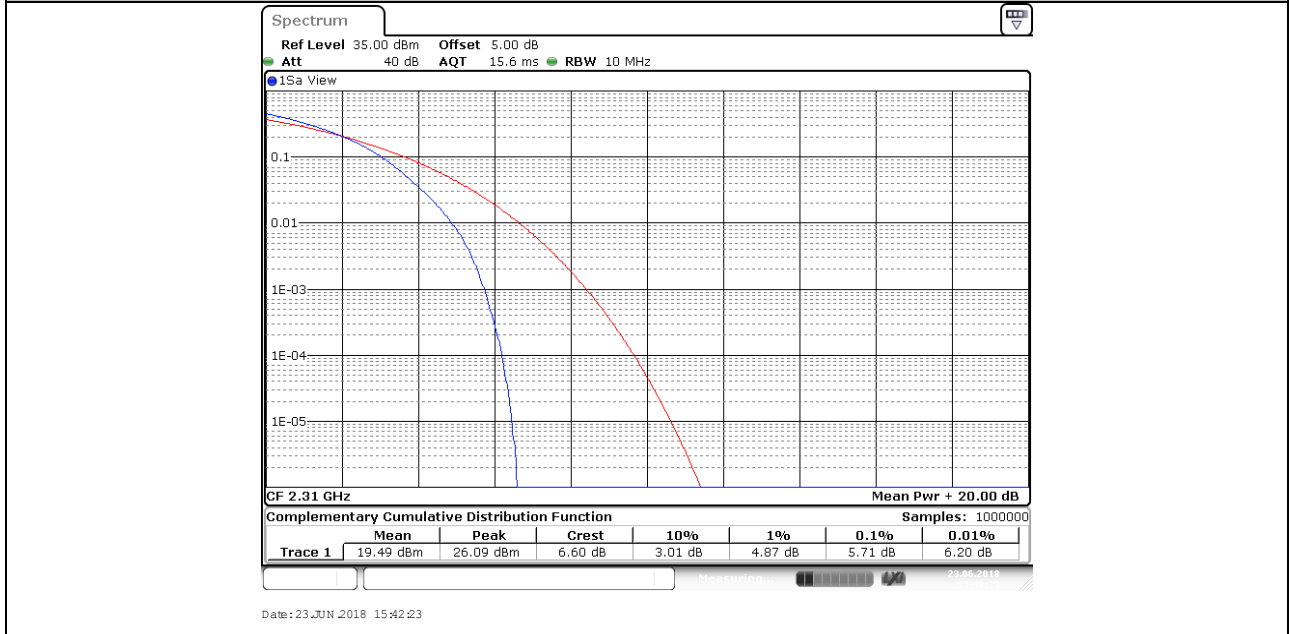
**BAND 30\_10MHz\_64QAM\_27710\_50RB#0**

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**BAND 30\_10MHz\_16QAM\_27710\_50RB#0**



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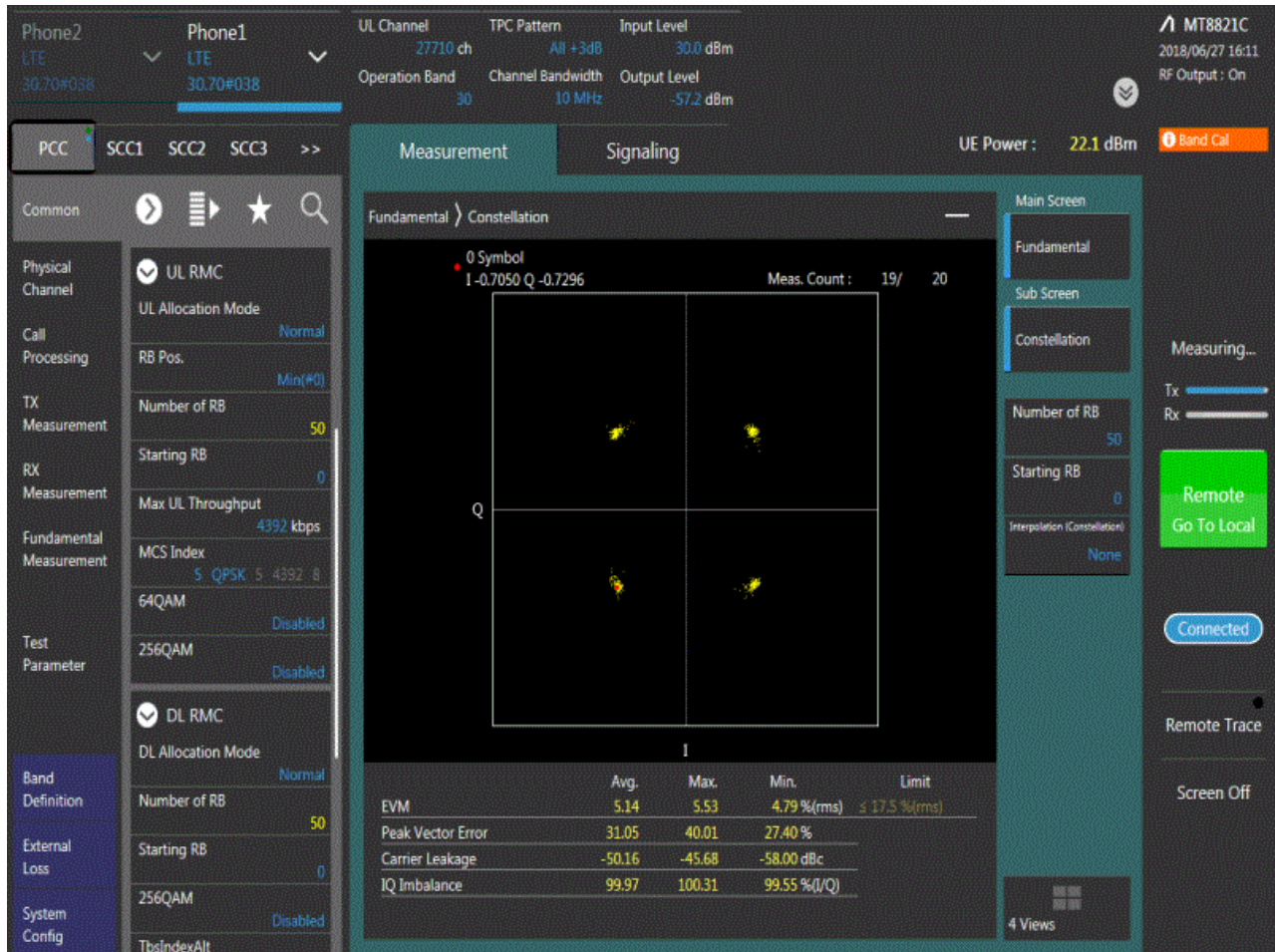
### 3 Modulation Characteristics

#### 3.1 For LTE

##### 3.1.1 Test BAND = LTE BAND 30

##### 3.1.1.1 Test Mode = LTE /TM1 10MHz

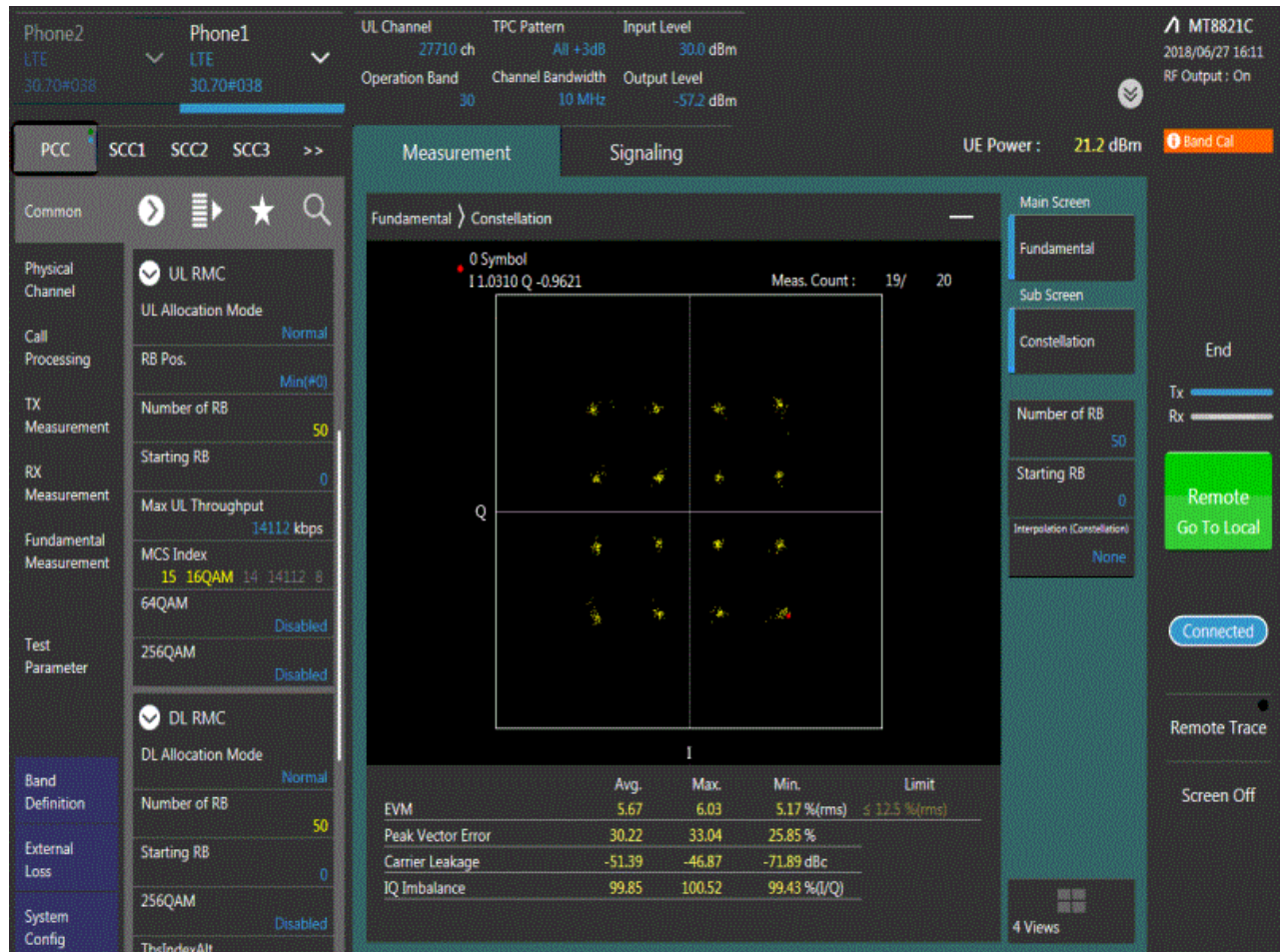
##### 3.1.1.1.1 Test Channel = MCH



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**3.1.1.2 Test Mode = LTE /TM2 10MHz**

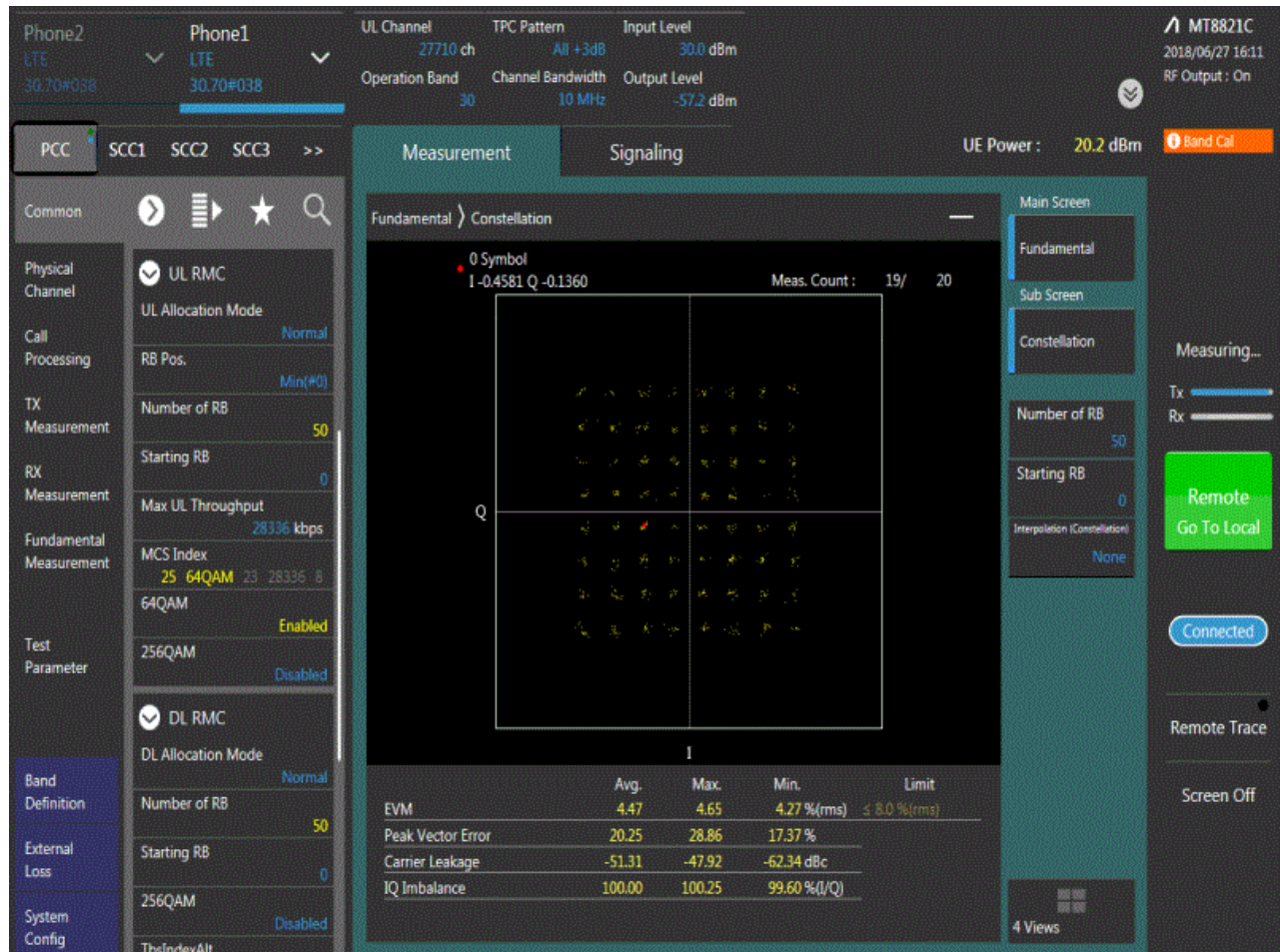
**3.1.1.2.1 Test Channel = MCH**



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**3.1.1.3 Test Mode = LTE /TM3 10MHz**

**3.1.1.3.1 Test Channel = MCH**



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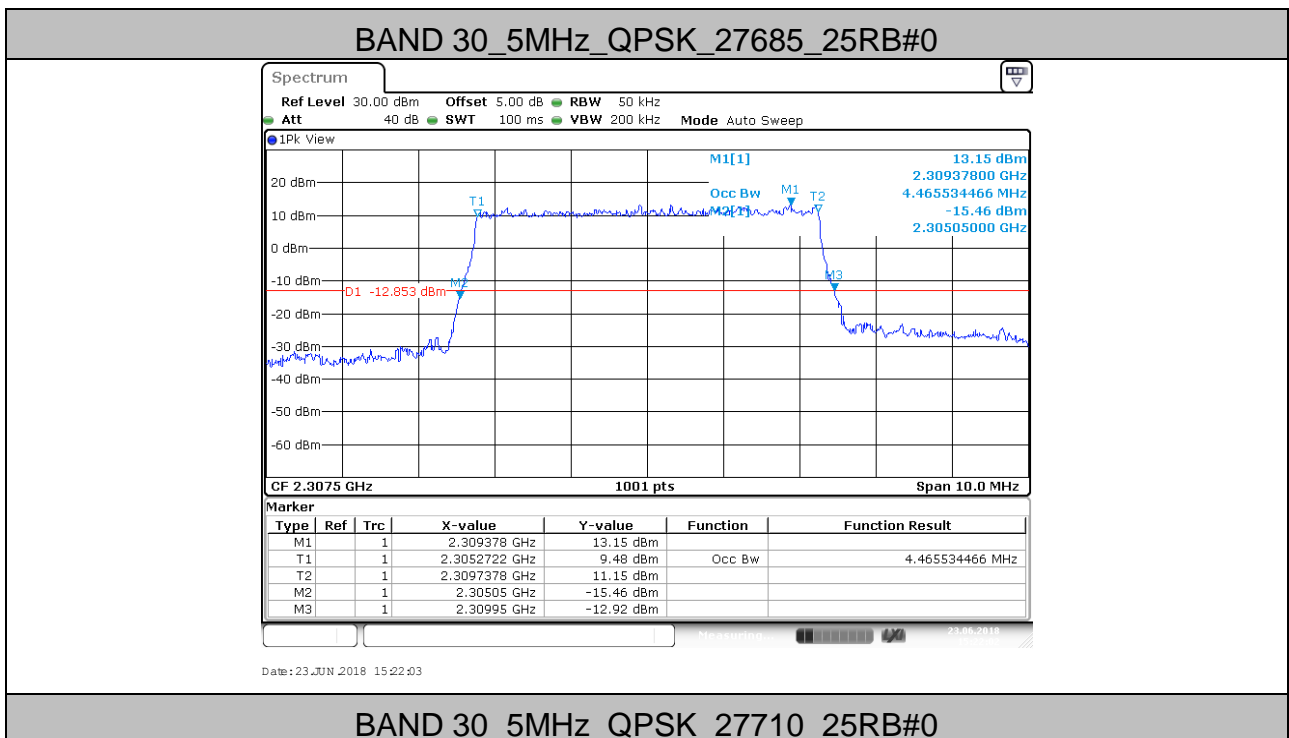


## 4 26dB Bandwidth and Occupied Bandwidth

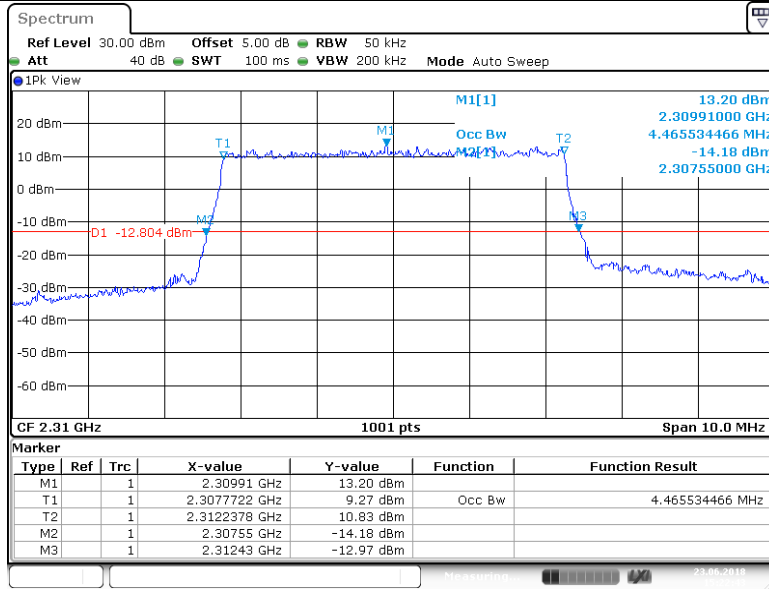
### 4.1. Test Result

| BAND    | Bandwidth | Modulation | Channel | RB Configuration | Occupied Bandwidth (MHz) | 26dB Bandwidth (MHz) | Verdict |
|---------|-----------|------------|---------|------------------|--------------------------|----------------------|---------|
| BAND 30 | 5MHz      | QPSK       | 27685   | 25RB#0           | 4.466                    | 4.900                | PASS    |
| BAND 30 | 5MHz      | QPSK       | 27710   | 25RB#0           | 4.466                    | 4.880                | PASS    |
| BAND 30 | 5MHz      | QPSK       | 27735   | 25RB#0           | 4.466                    | 4.880                | PASS    |
| BAND 30 | 5MHz      | 64QAM      | 27685   | 25RB#0           | 4.476                    | 4.900                | PASS    |
| BAND 30 | 5MHz      | 64QAM      | 27710   | 25RB#0           | 4.466                    | 4.890                | PASS    |
| BAND 30 | 5MHz      | 64QAM      | 27735   | 25RB#0           | 4.466                    | 4.910                | PASS    |
| BAND 30 | 5MHz      | 16QAM      | 27685   | 25RB#0           | 4.486                    | 4.880                | PASS    |
| BAND 30 | 5MHz      | 16QAM      | 27710   | 25RB#0           | 4.486                    | 4.910                | PASS    |
| BAND 30 | 5MHz      | 16QAM      | 27735   | 25RB#0           | 4.486                    | 4.910                | PASS    |
| BAND 30 | 10MHz     | QPSK       | 27710   | 50RB#0           | 8.911                    | 9.620                | PASS    |
| BAND 30 | 10MHz     | 64QAM      | 27710   | 50RB#0           | 8.911                    | 9.680                | PASS    |
| BAND 30 | 10MHz     | 16QAM      | 27710   | 50RB#0           | 8.911                    | 9.680                | PASS    |

### 4.2. Test Plots

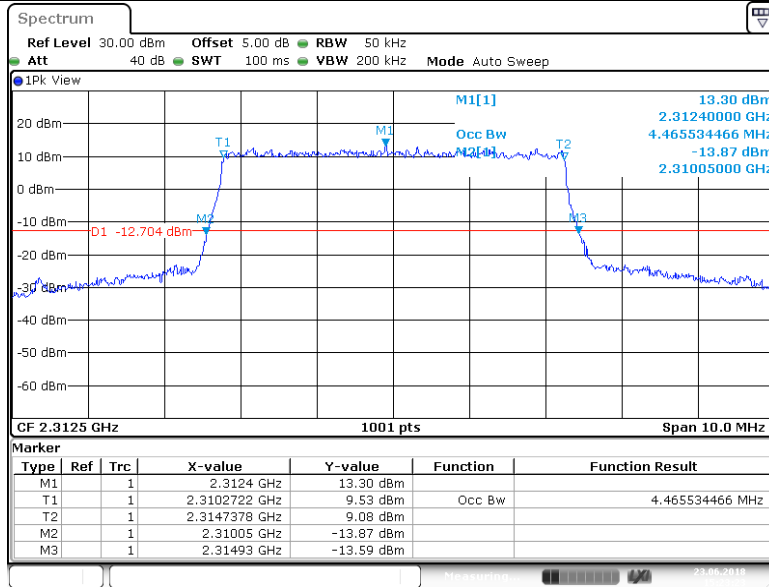


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Date: 23 JUN 2018 15:22:43

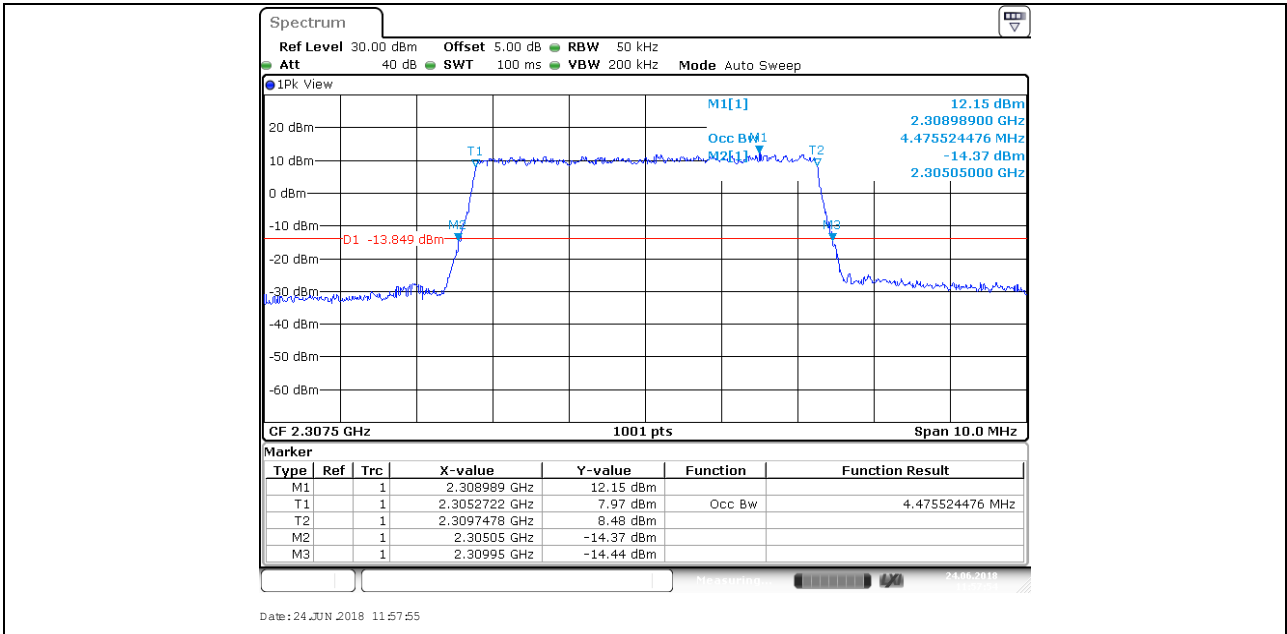
**BAND 30\_5MHz\_QPSK\_27735\_25RB#0**



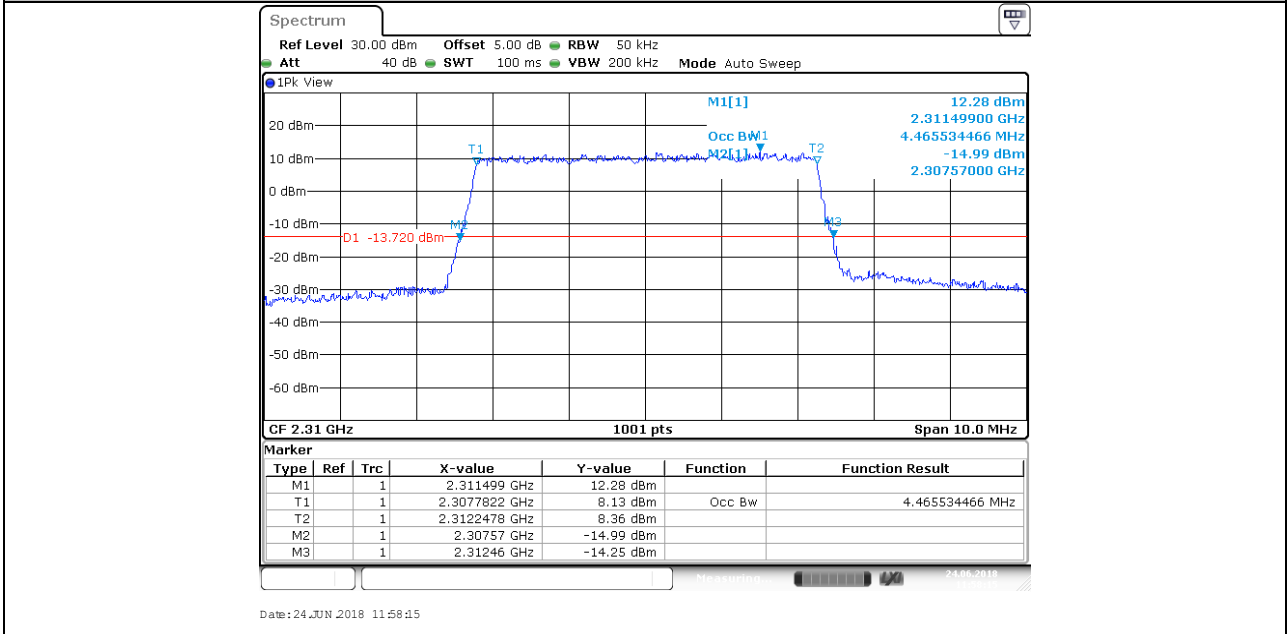
Date: 23 JUN 2018 15:23:23

**BAND 30\_5MHz\_64QAM\_27685\_25RB#0**

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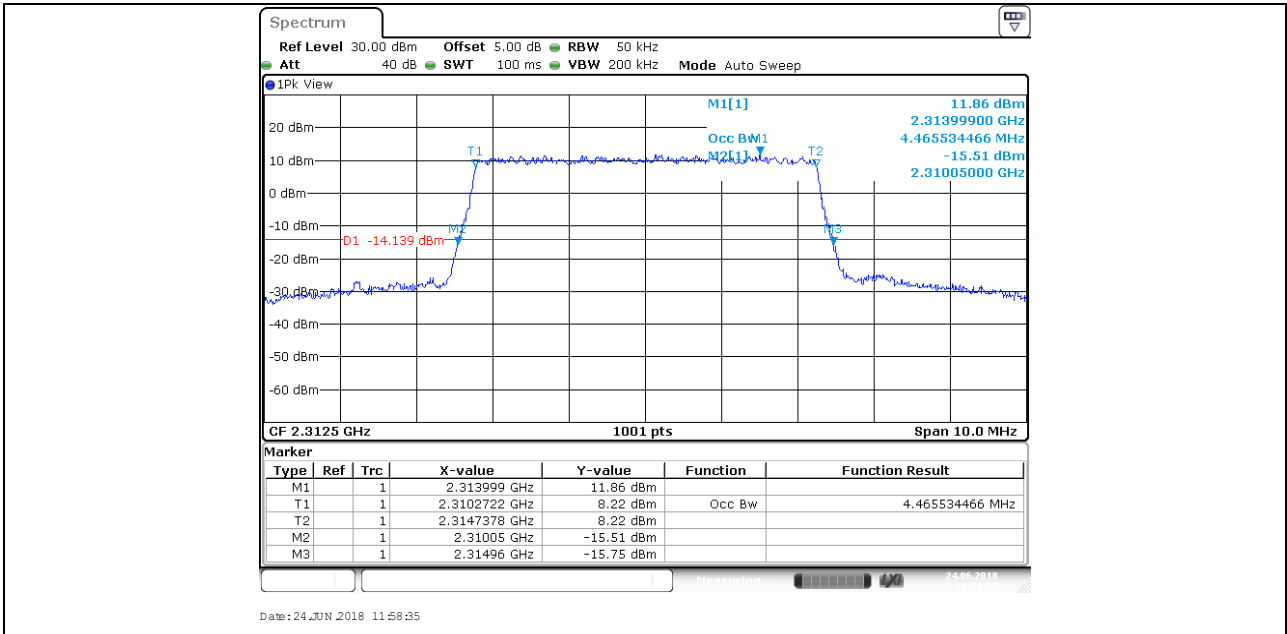
**BAND 30\_5MHz\_64QAM\_27710\_25RB#0**



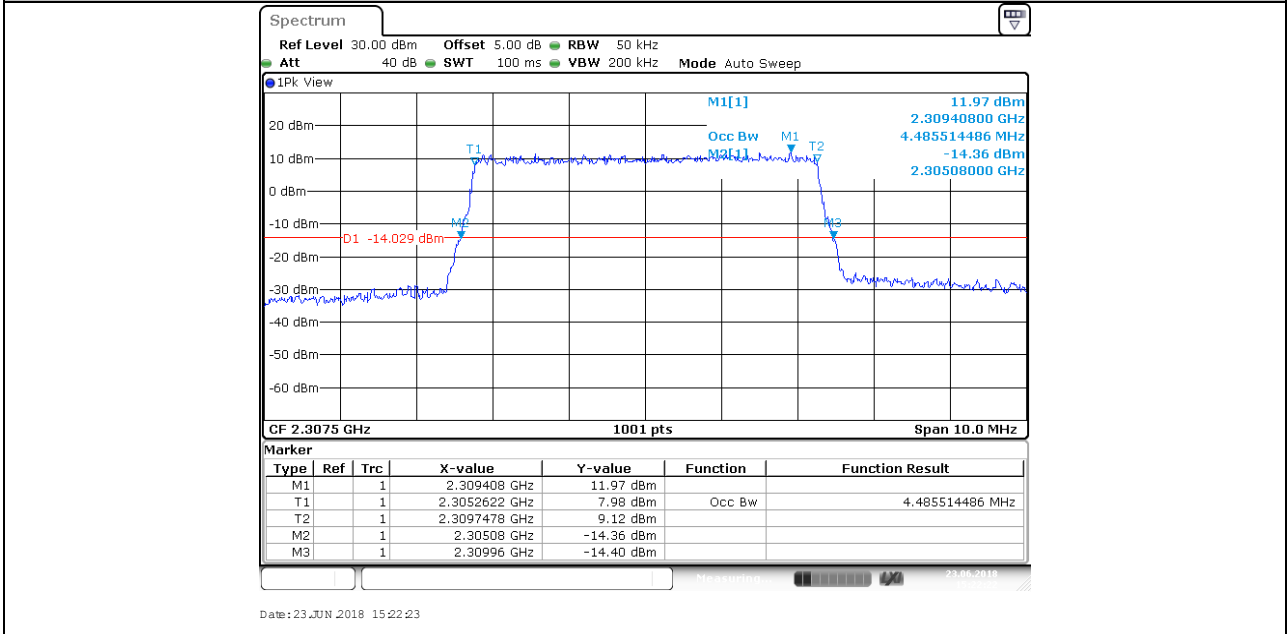
**BAND 30\_5MHz\_64QAM\_27735\_25RB#0**

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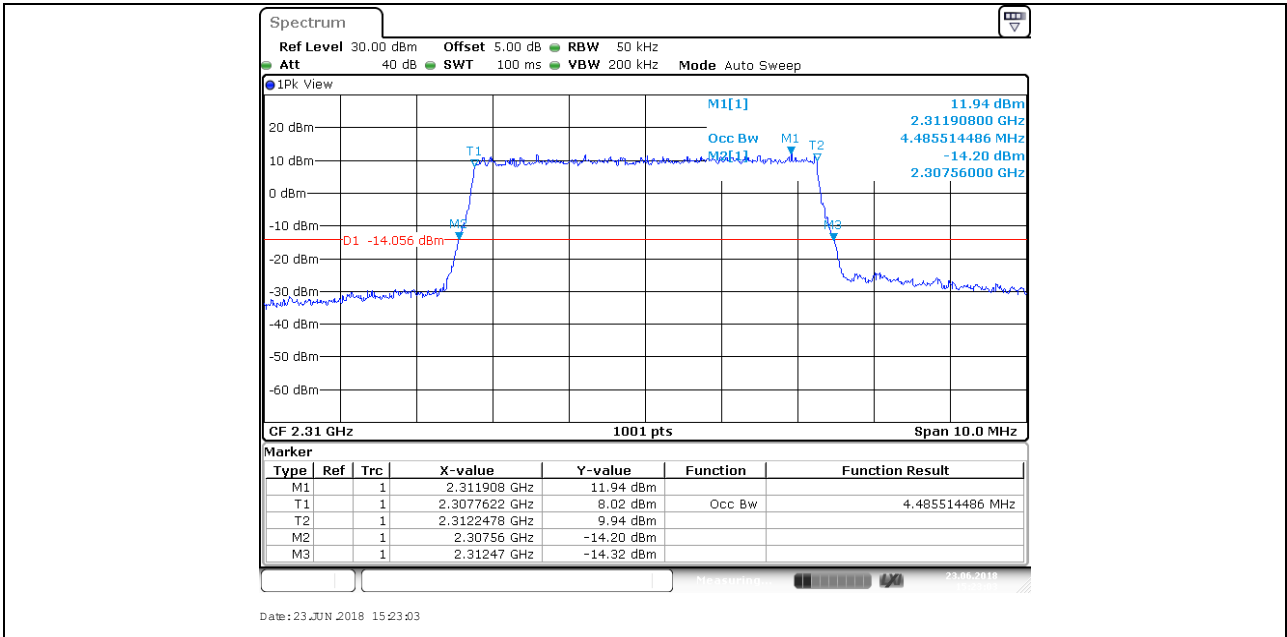


**BAND 30\_5MHz\_16QAM\_27685\_25RB#0**

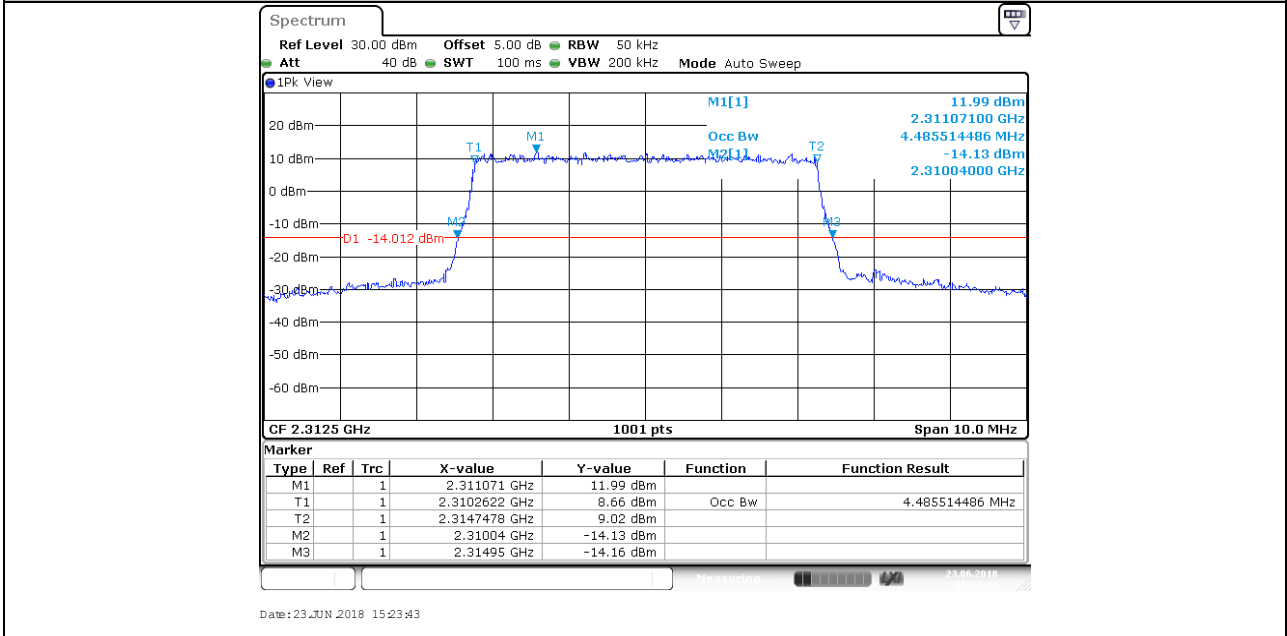


**BAND 30\_5MHz\_16QAM\_27710\_25RB#0**

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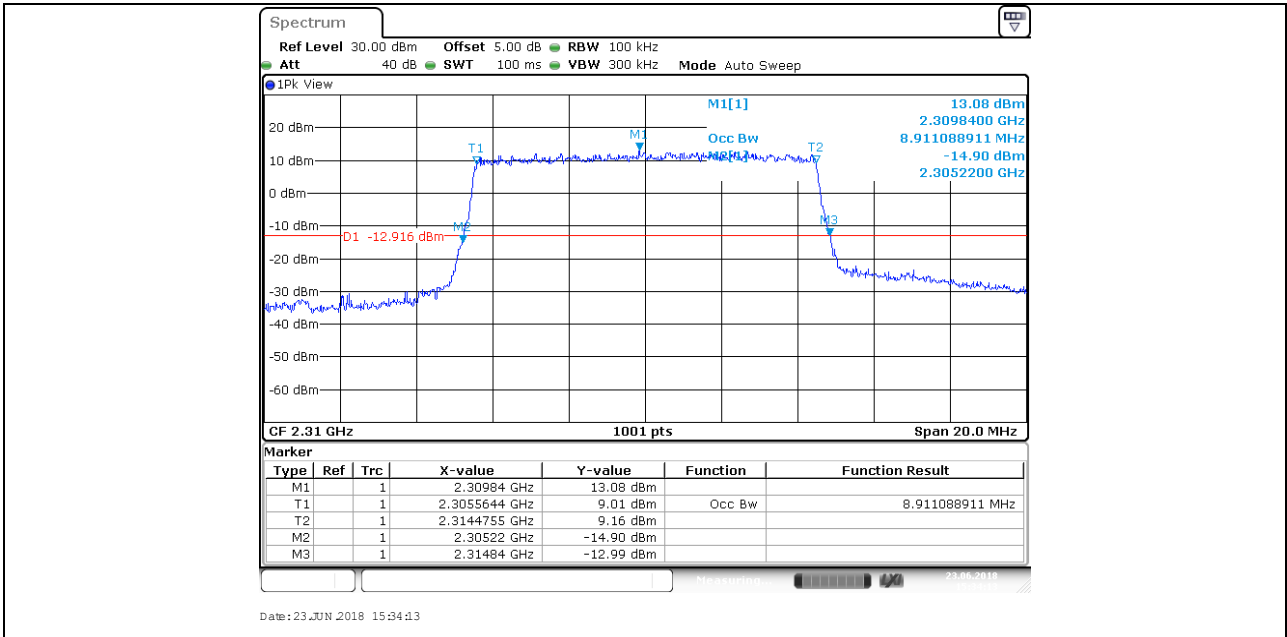


BAND 30\_5MHz\_16QAM\_27735\_25RB#0

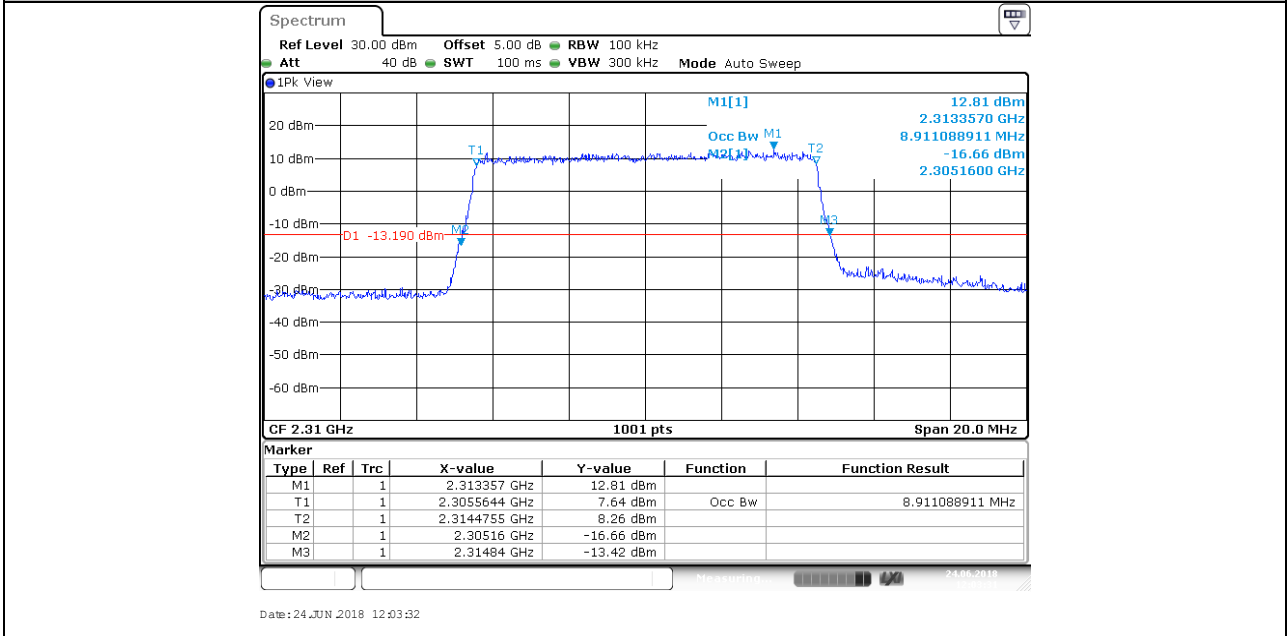


BAND 30\_10MHz\_QPSK\_27710\_50RB#0

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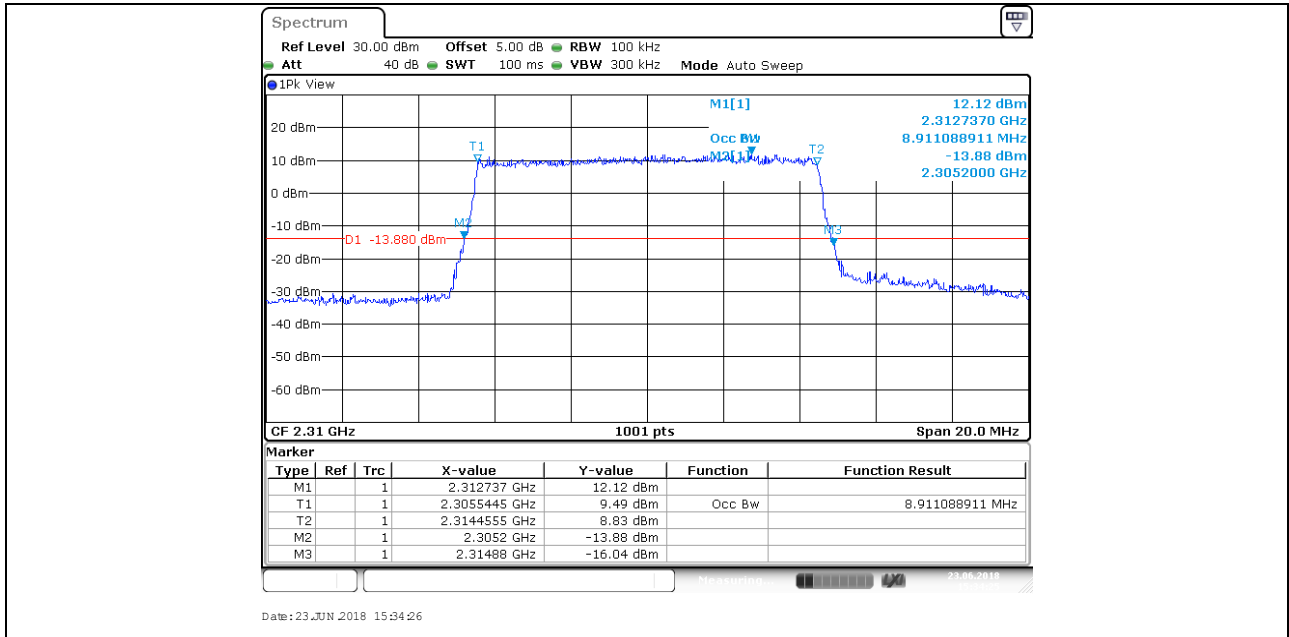


**BAND 30\_10MHz\_64QAM\_27710\_50RB#0**



**BAND 30\_10MHz\_16QAM\_27710\_50RB#0**

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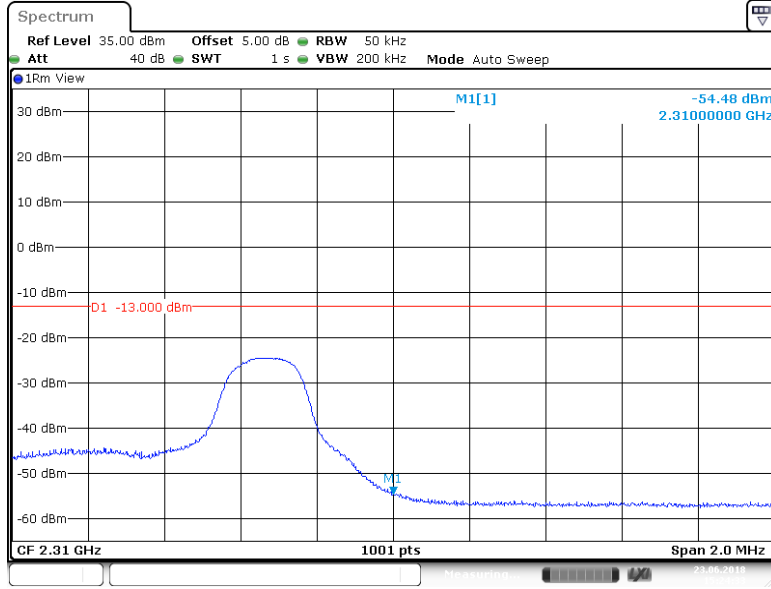
## 5 Band Edges Compliance

### 5.1. Test Result

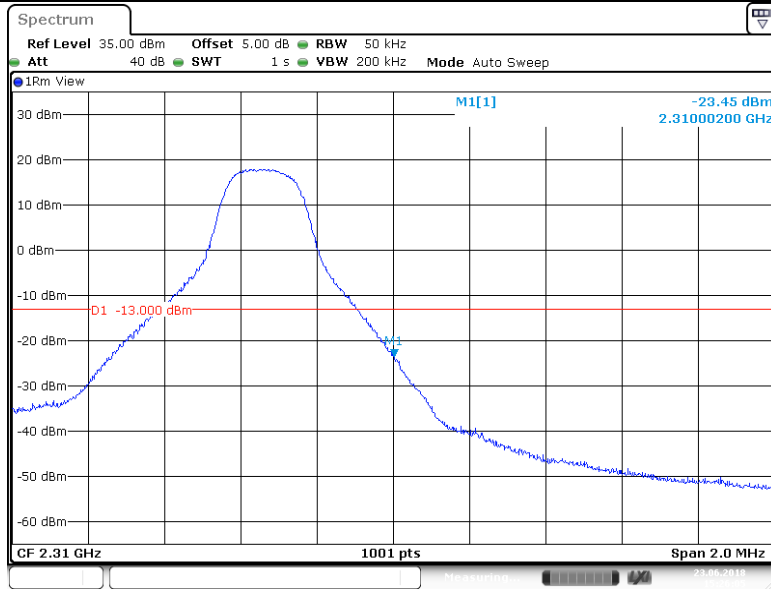
| BAND    | Bandwidth | Modulation | Channel | RB Configuration | Result(dBm) | Verdict |
|---------|-----------|------------|---------|------------------|-------------|---------|
| BAND 30 | 5MHz      | QPSK       | 27685   | 1RB#0            | -54.48      | PASS    |
| BAND 30 | 5MHz      | QPSK       | 27685   | 1RB#24           | -23.45      | PASS    |
| BAND 30 | 5MHz      | QPSK       | 27685   | 25RB#0           | -30.29      | PASS    |
| BAND 30 | 5MHz      | QPSK       | 27735   | 1RB#0            | -55.79      | PASS    |
| BAND 30 | 5MHz      | QPSK       | 27735   | 1RB#24           | -23.37      | PASS    |
| BAND 30 | 5MHz      | QPSK       | 27735   | 25RB#0           | -31.05      | PASS    |
| BAND 30 | 5MHz      | 64QAM      | 27685   | 1RB#0            | -55.33      | PASS    |
| BAND 30 | 5MHz      | 64QAM      | 27685   | 1RB#24           | -23.97      | PASS    |
| BAND 30 | 5MHz      | 64QAM      | 27685   | 25RB#0           | -31.06      | PASS    |
| BAND 30 | 5MHz      | 64QAM      | 27735   | 1RB#0            | -55.99      | PASS    |
| BAND 30 | 5MHz      | 64QAM      | 27735   | 1RB#24           | -23.82      | PASS    |
| BAND 30 | 5MHz      | 64QAM      | 27735   | 25RB#0           | -31.15      | PASS    |
| BAND 30 | 5MHz      | 16QAM      | 27685   | 1RB#0            | -54.57      | PASS    |
| BAND 30 | 5MHz      | 16QAM      | 27685   | 1RB#24           | -23.19      | PASS    |
| BAND 30 | 5MHz      | 16QAM      | 27685   | 25RB#0           | -30.86      | PASS    |
| BAND 30 | 5MHz      | 16QAM      | 27735   | 1RB#0            | -56.08      | PASS    |
| BAND 30 | 5MHz      | 16QAM      | 27735   | 1RB#24           | -23.71      | PASS    |
| BAND 30 | 5MHz      | 16QAM      | 27735   | 25RB#0           | -31.82      | PASS    |
| BAND 30 | 10MHz     | QPSK       | 27710   | 1RB#0            | -53.66      | PASS    |
| BAND 30 | 10MHz     | QPSK       | 27710   | 1RB#49           | -33.32      | PASS    |
| BAND 30 | 10MHz     | QPSK       | 27710   | 50RB#0           | -32.57      | PASS    |
| BAND 30 | 10MHz     | 64QAM      | 27710   | 1RB#0            | -52.81      | PASS    |
| BAND 30 | 10MHz     | 64QAM      | 27710   | 1RB#49           | -33.94      | PASS    |
| BAND 30 | 10MHz     | 64QAM      | 27710   | 50RB#0           | -33.47      | PASS    |
| BAND 30 | 10MHz     | 16QAM      | 27710   | 1RB#0            | -53.29      | PASS    |
| BAND 30 | 10MHz     | 16QAM      | 27710   | 1RB#49           | -34.86      | PASS    |
| BAND 30 | 10MHz     | 16QAM      | 27710   | 50RB#0           | -34.78      | PASS    |

**5.2. Test Plots**

**BAND 30\_5MHz\_QPSK\_27685\_1RB#0**

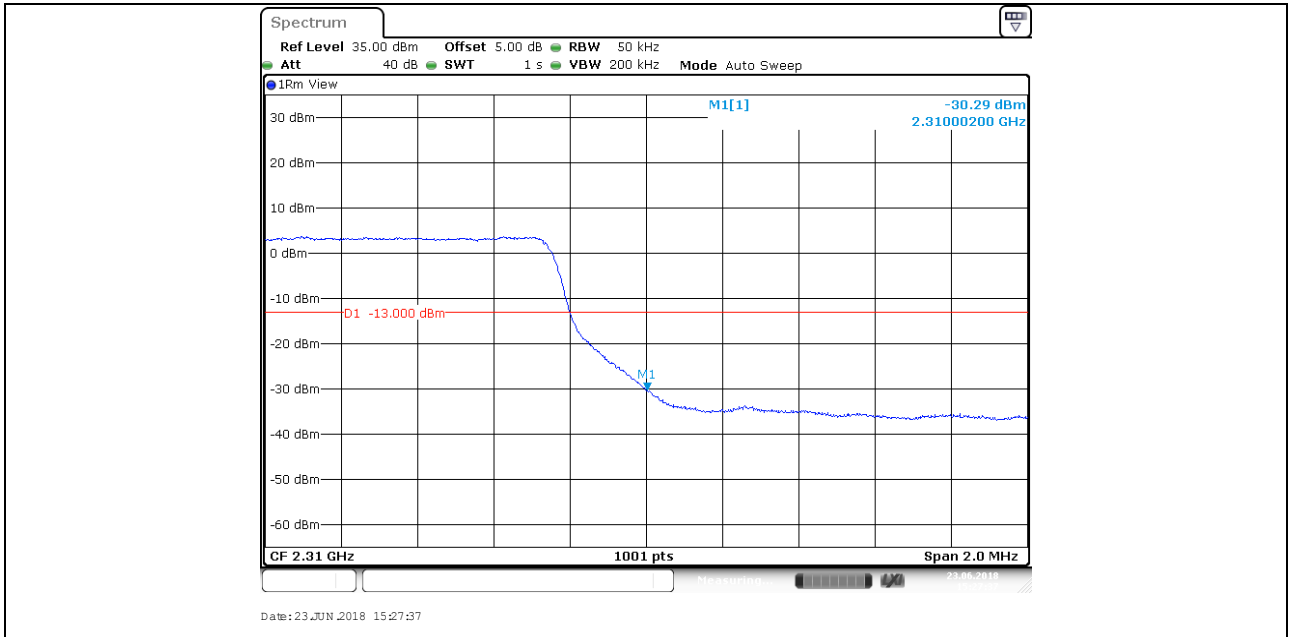


**BAND 30\_5MHz\_QPSK\_27685\_1RB#24**

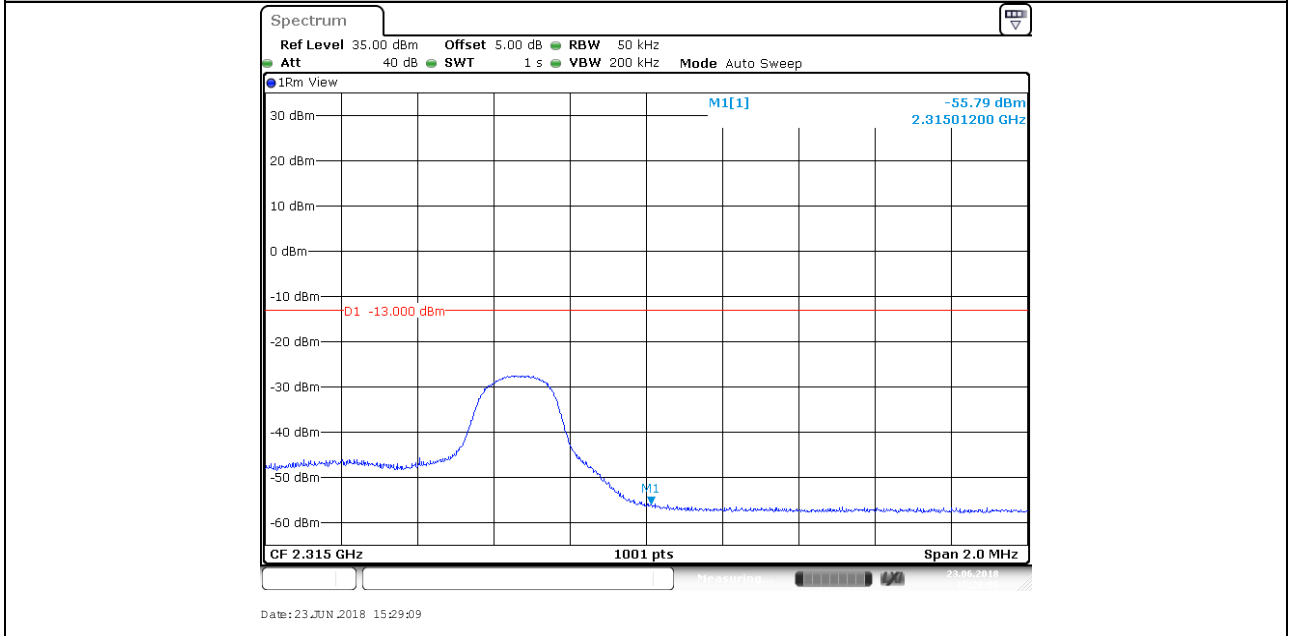


**BAND 30\_5MHz\_QPSK\_27685\_25RB#0**

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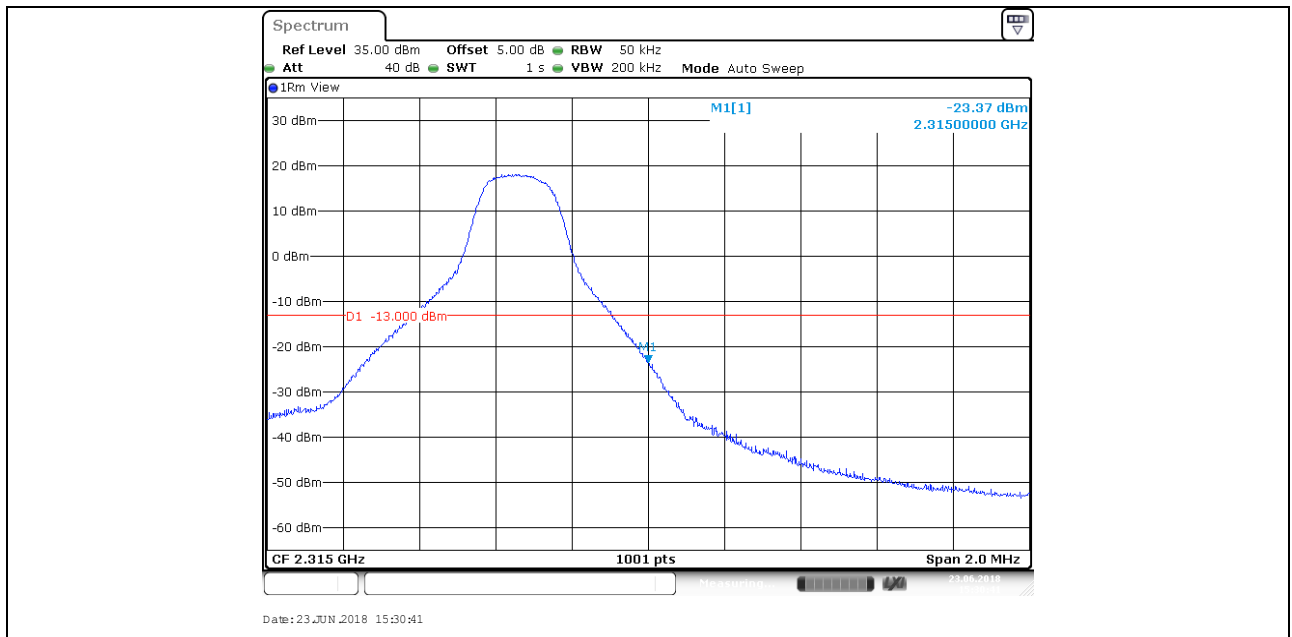


BAND 30\_5MHz\_QPSK\_27735\_1RB#0

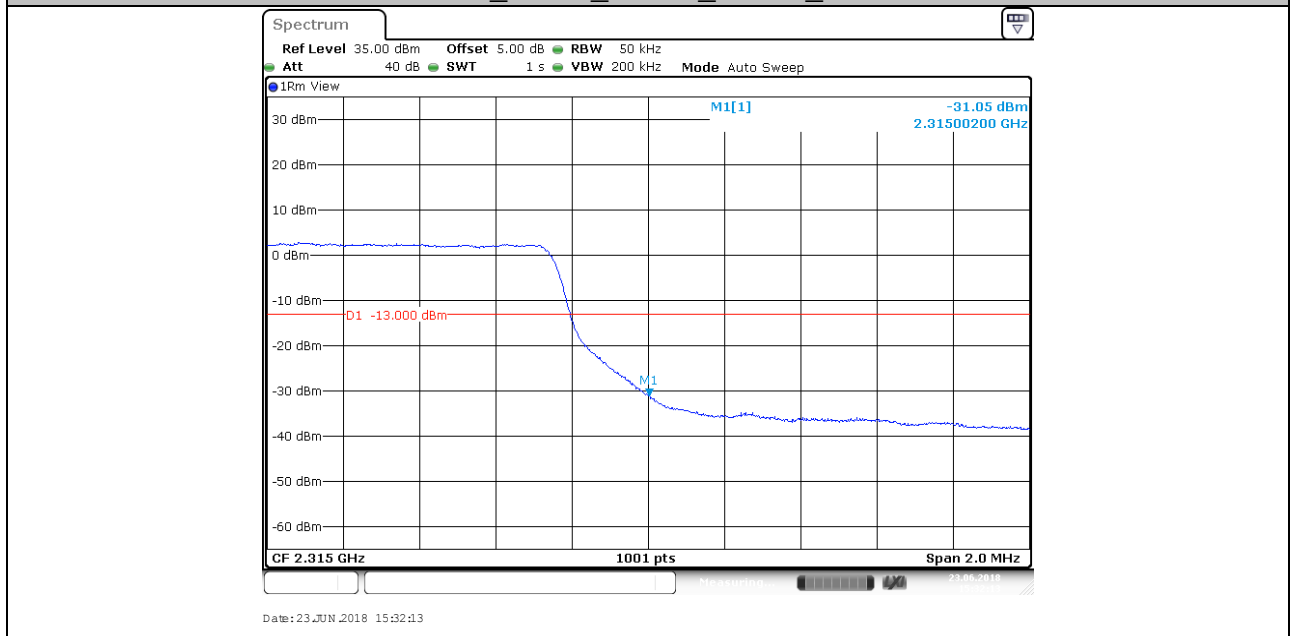


BAND 30\_5MHz\_QPSK\_27735\_1RB#24



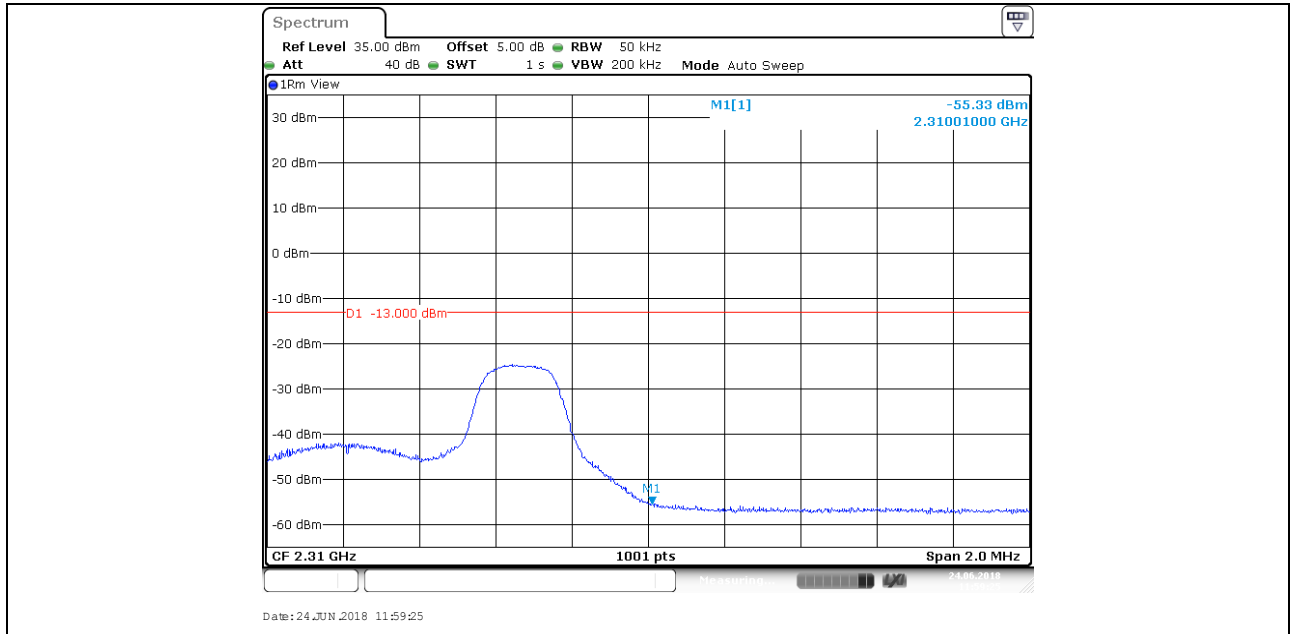


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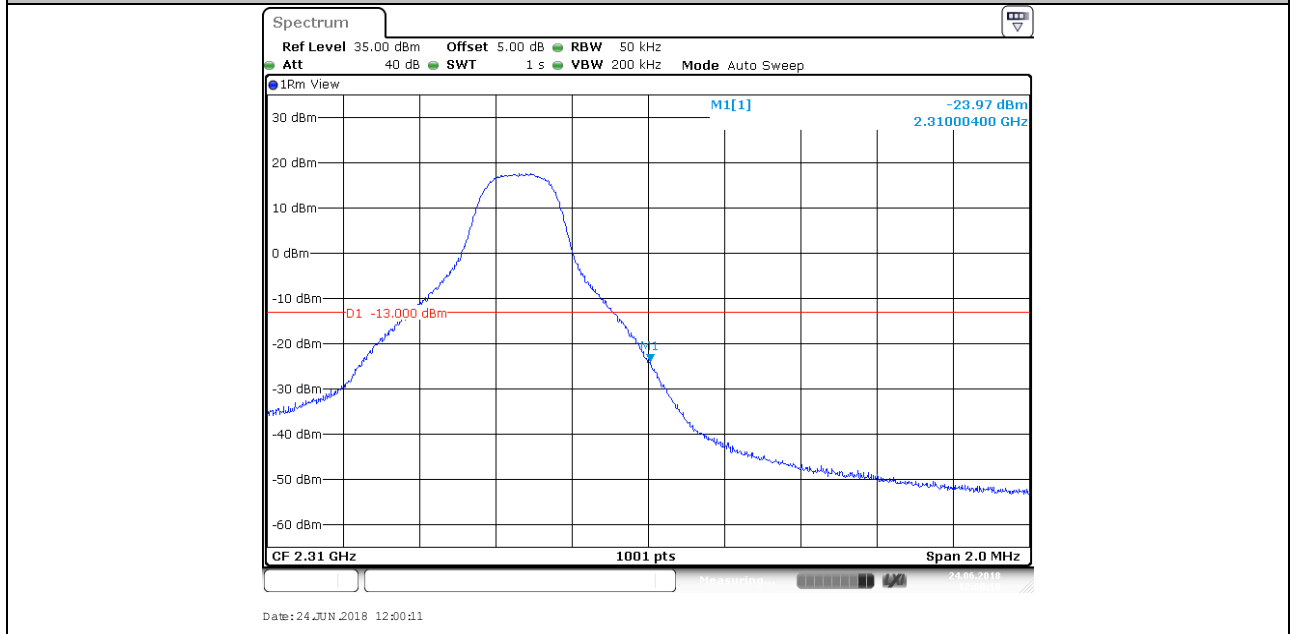


BAND 30\_5MHz\_64QAM\_27685\_1RB#0

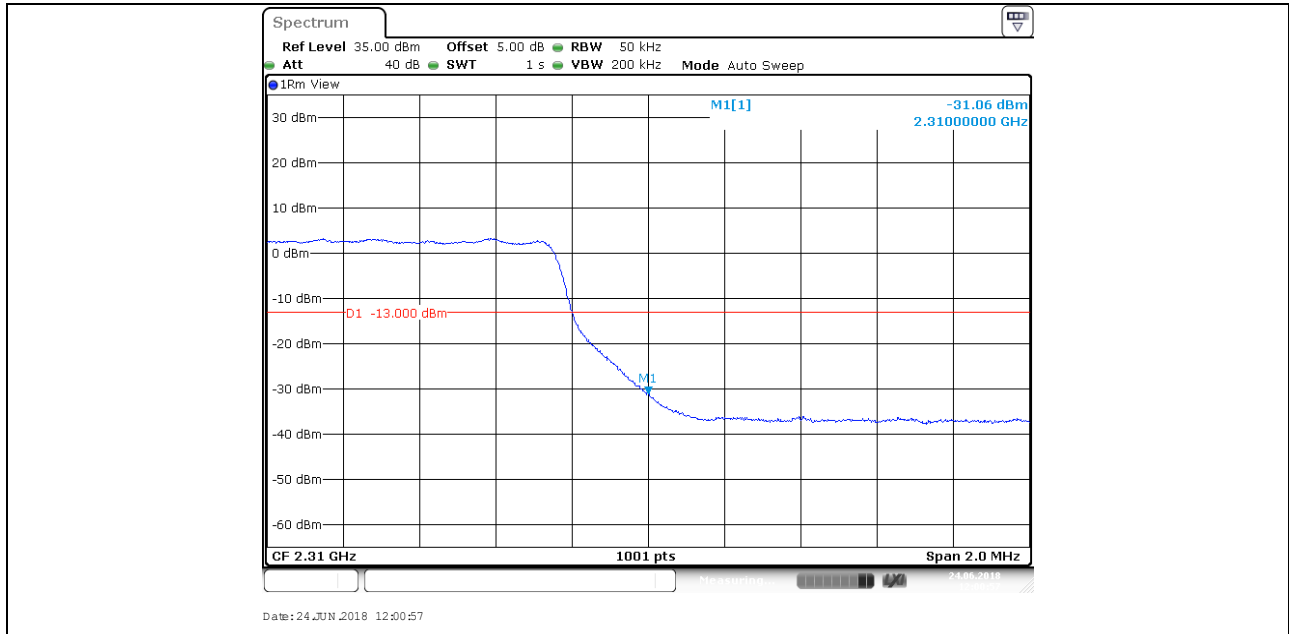
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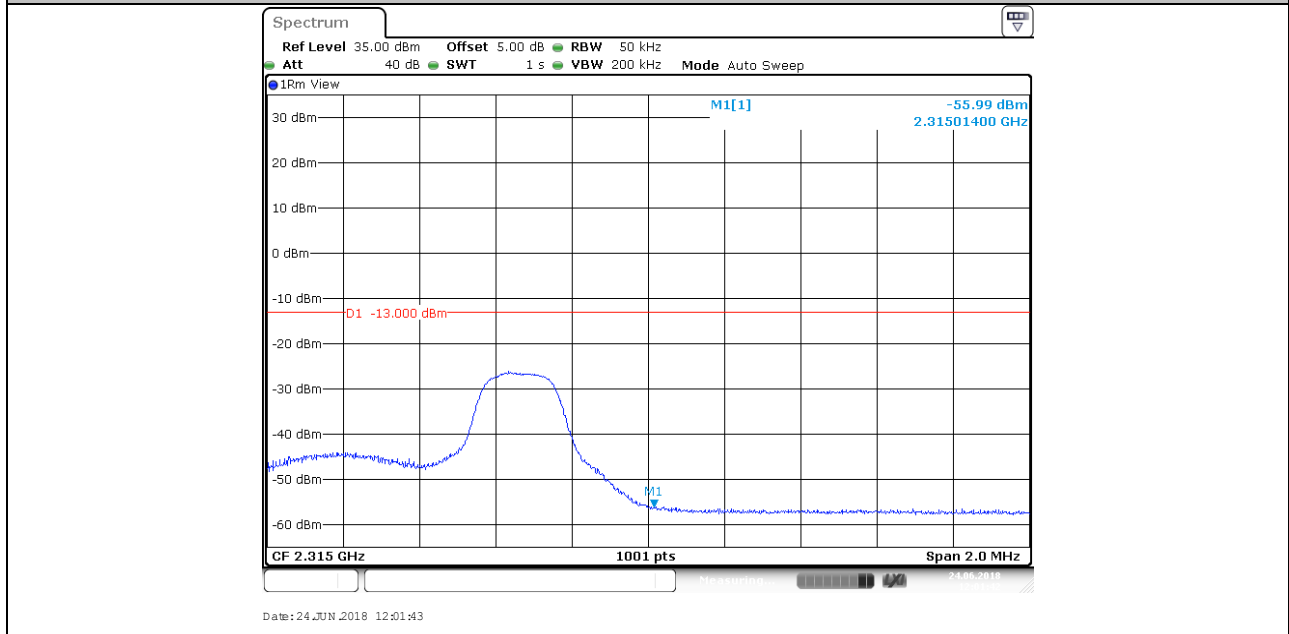
BAND 30\_5MHz\_64QAM\_27685\_1RB#24



BAND 30\_5MHz\_64QAM\_27685\_25RB#0

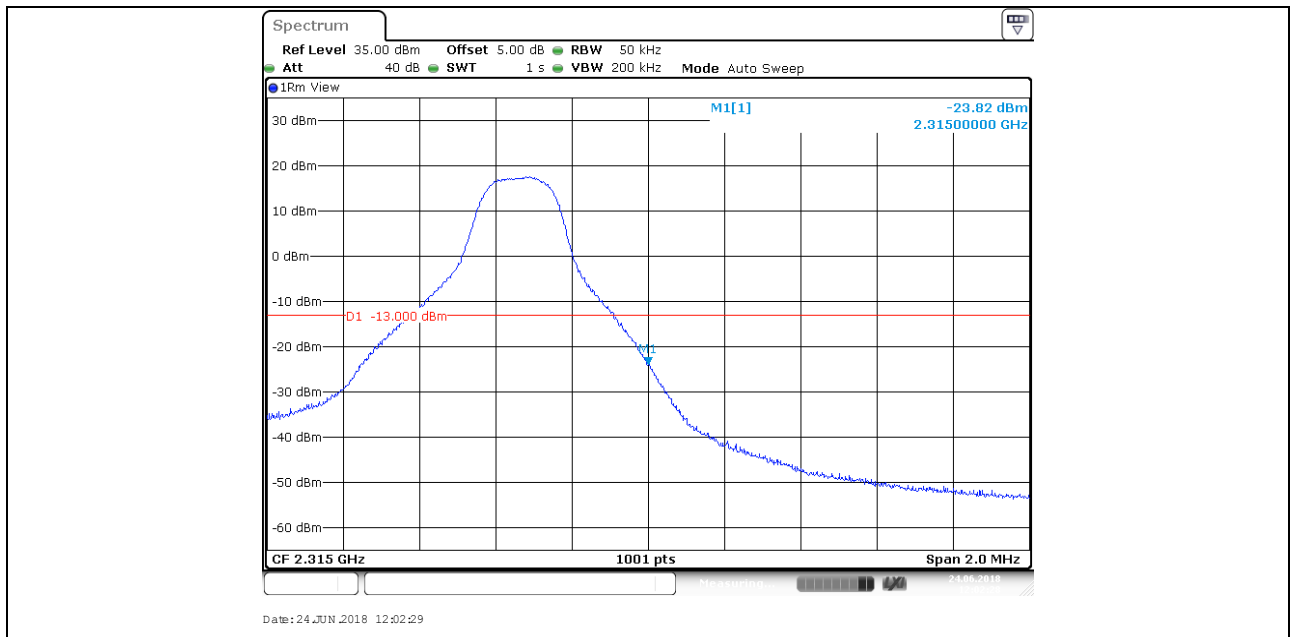


**BAND 30\_5MHz\_64QAM\_27735\_1RB#0**

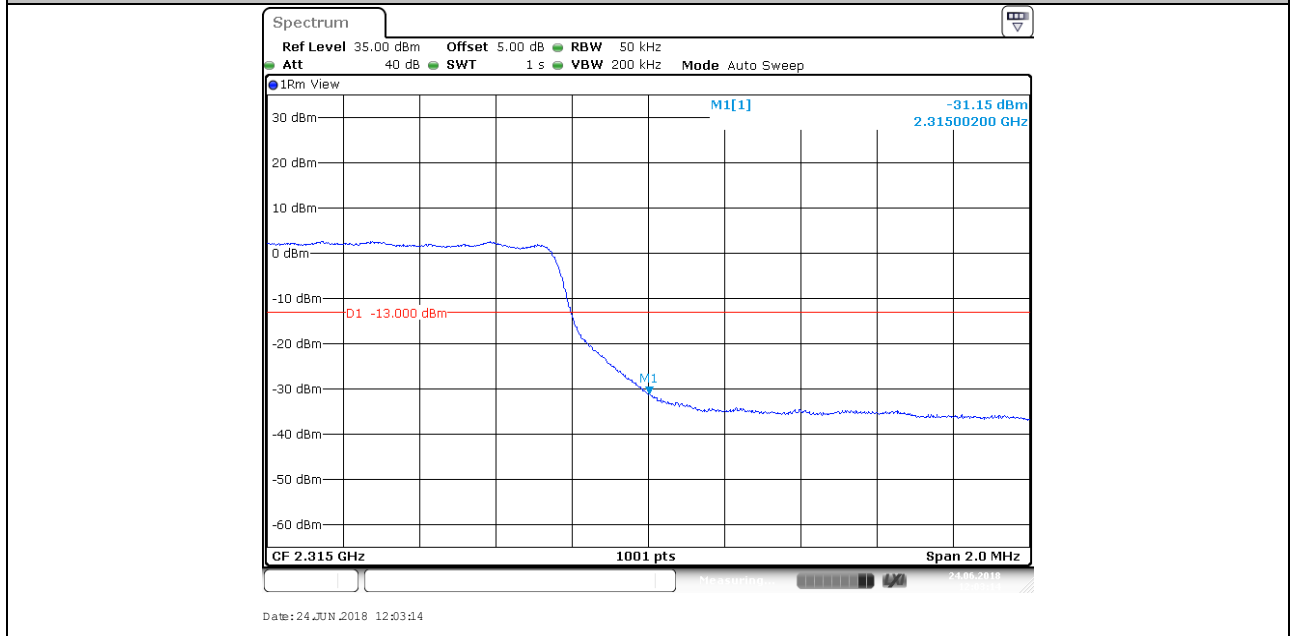


**BAND 30\_5MHz\_64QAM\_27735\_1RB#24**

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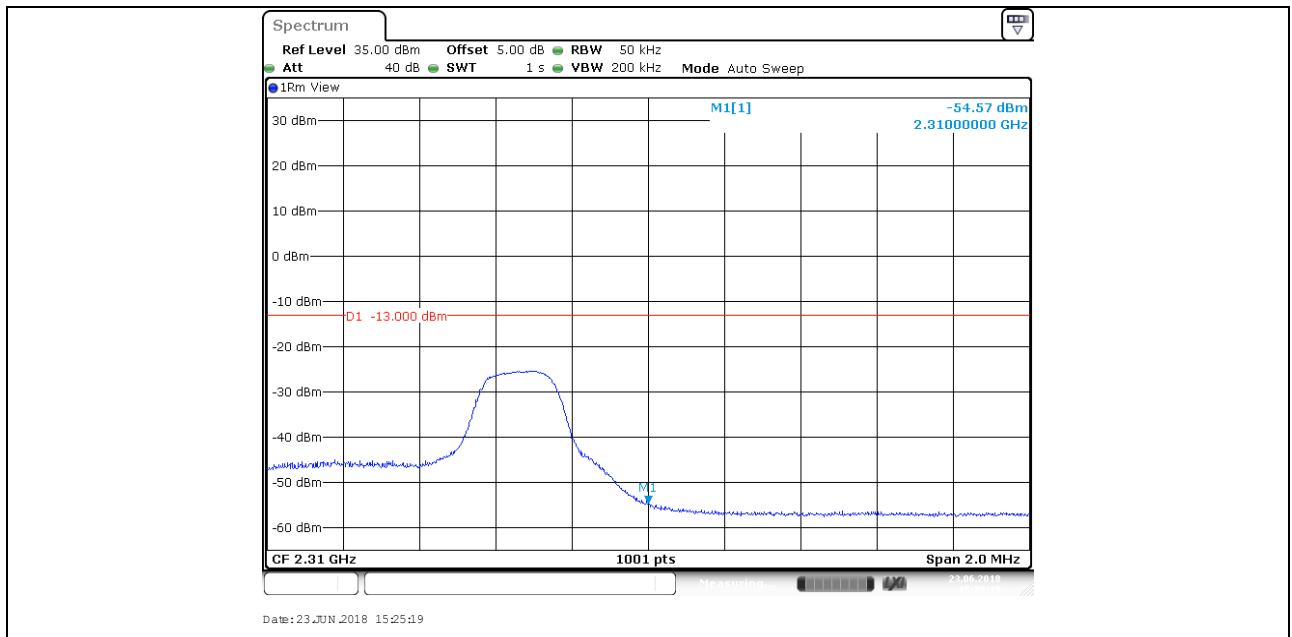


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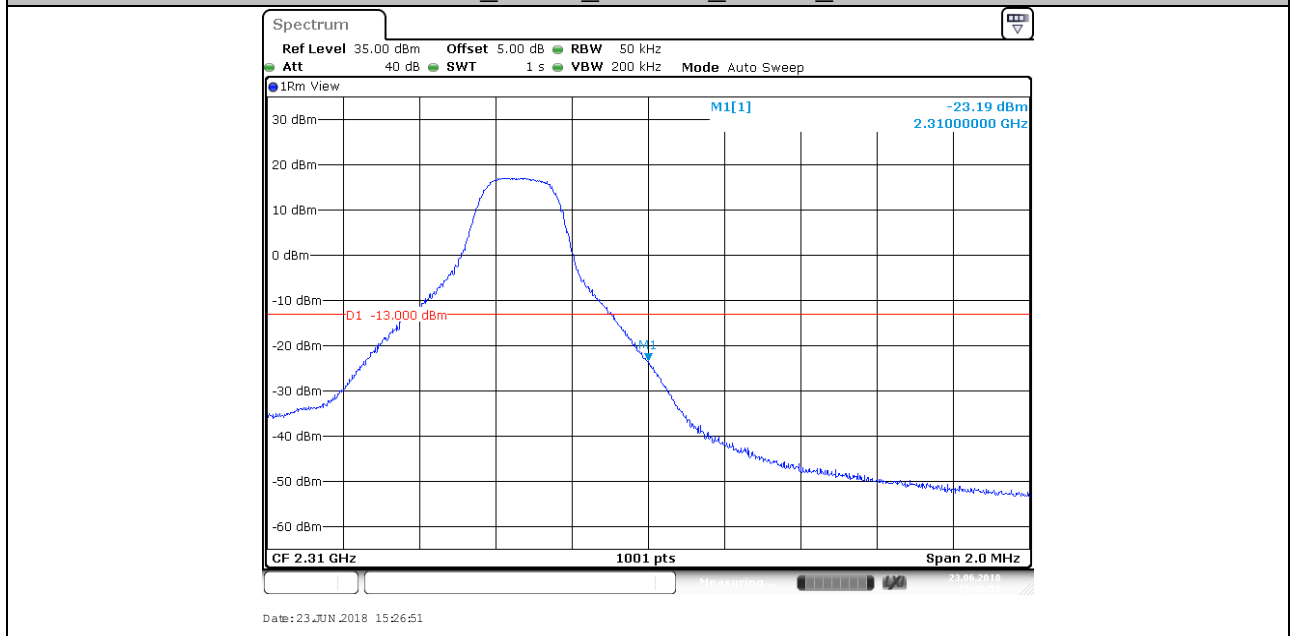


BAND 30\_5MHz\_16QAM\_27685\_1RB#0

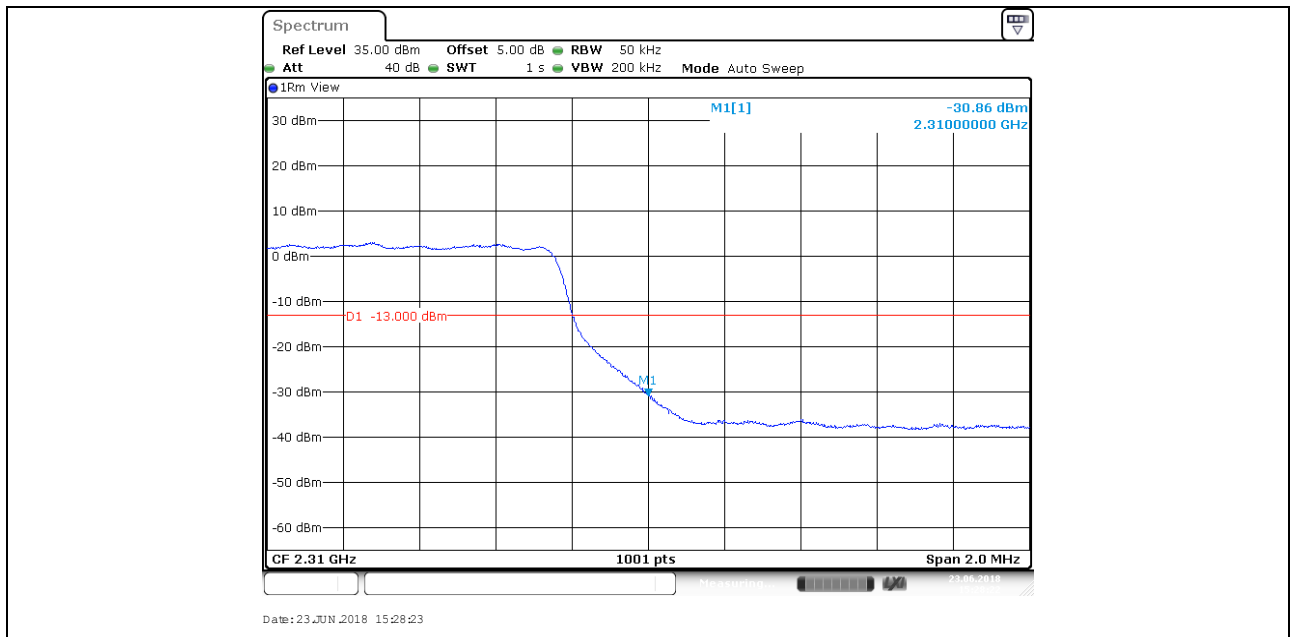
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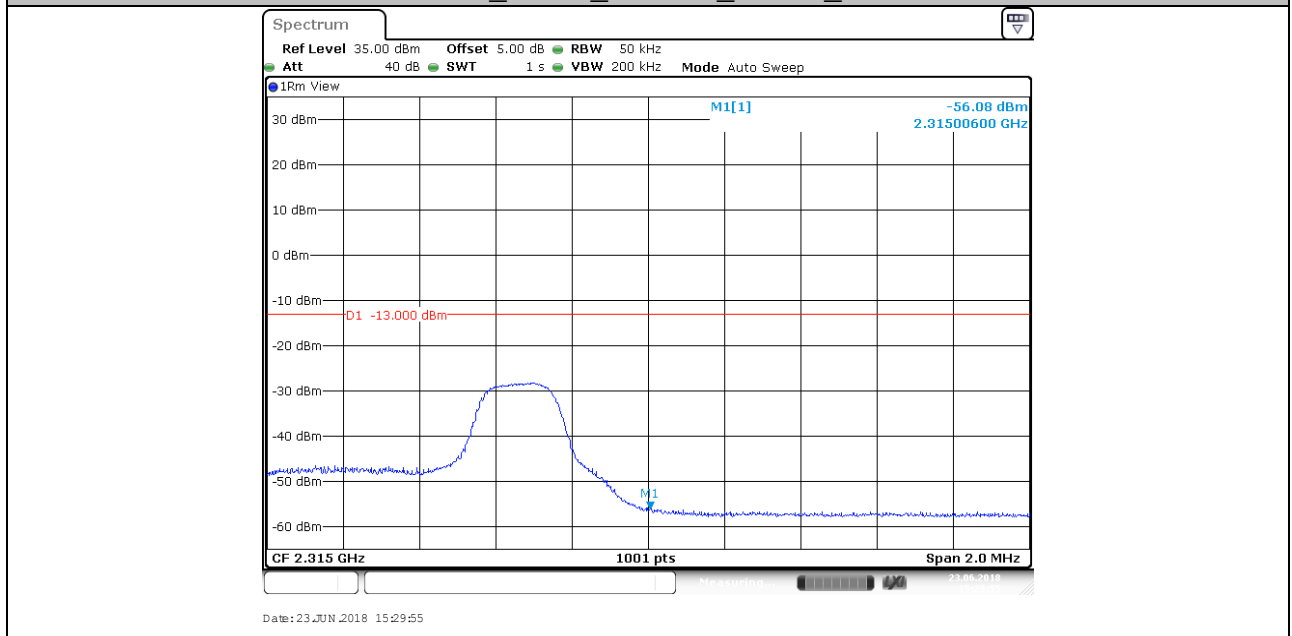
BAND 30\_5MHz\_16QAM\_27685\_1RB#24



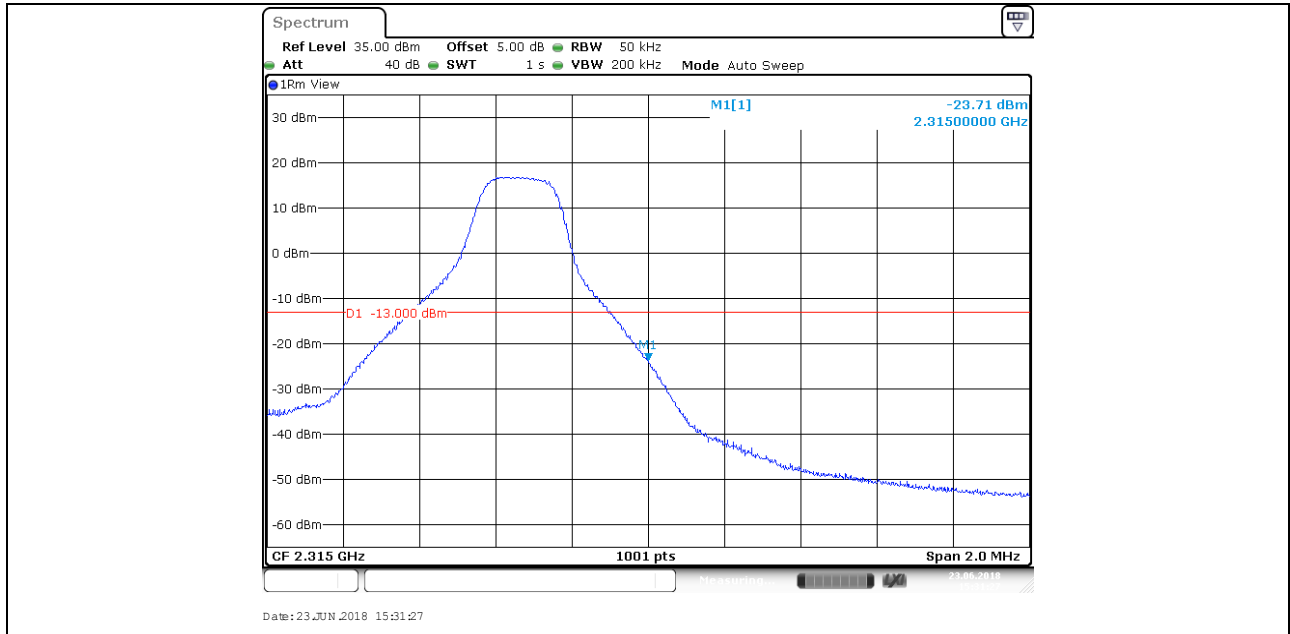
BAND 30\_5MHz\_16QAM\_27685\_25RB#0



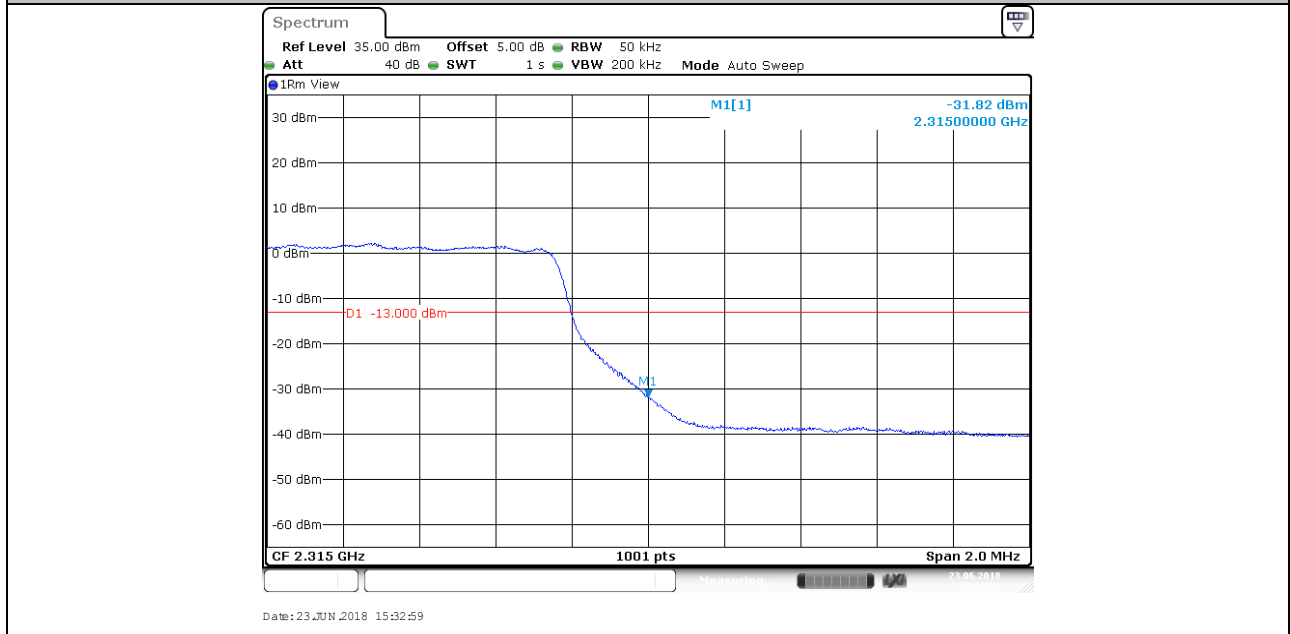
BAND 30\_5MHz\_16QAM\_27735\_1RB#0



BAND 30\_5MHz\_16QAM\_27735\_1RB#24

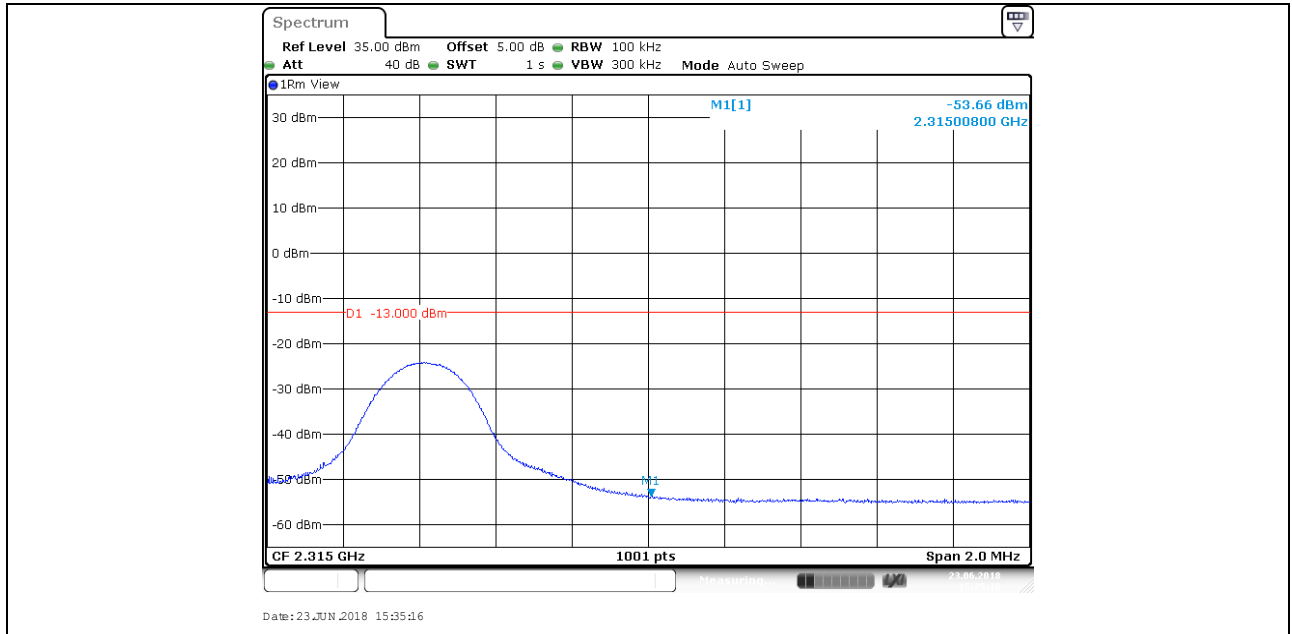


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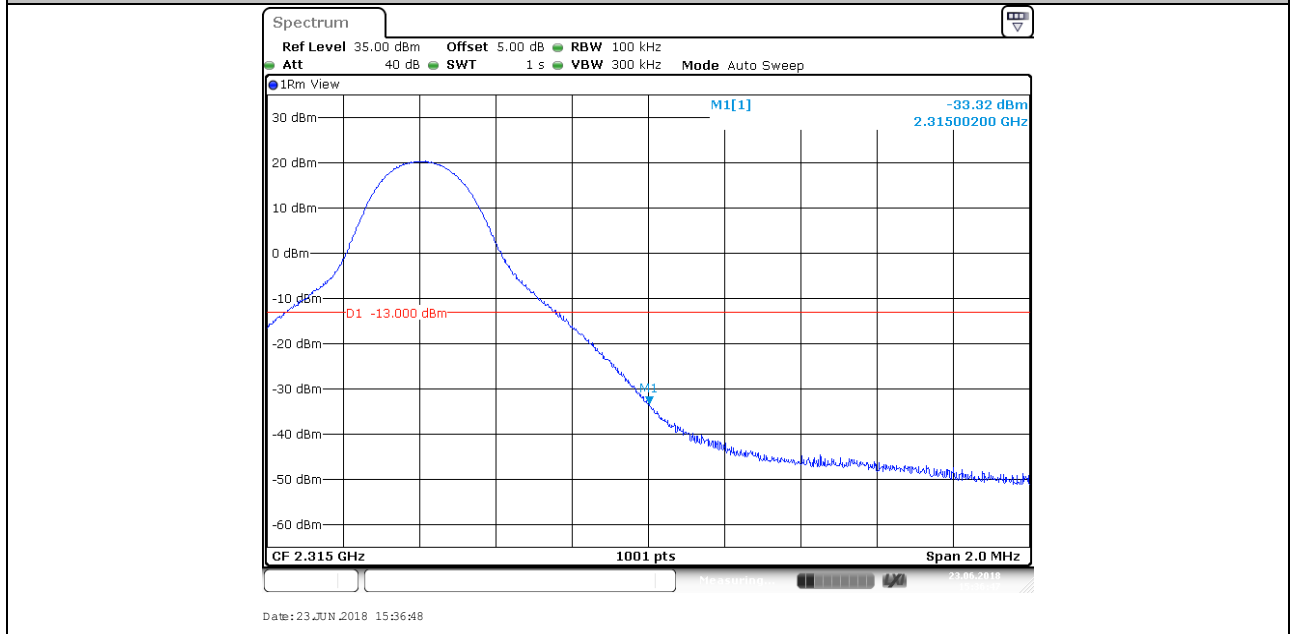


BAND 30\_10MHz\_QPSK\_27710\_1RB#0

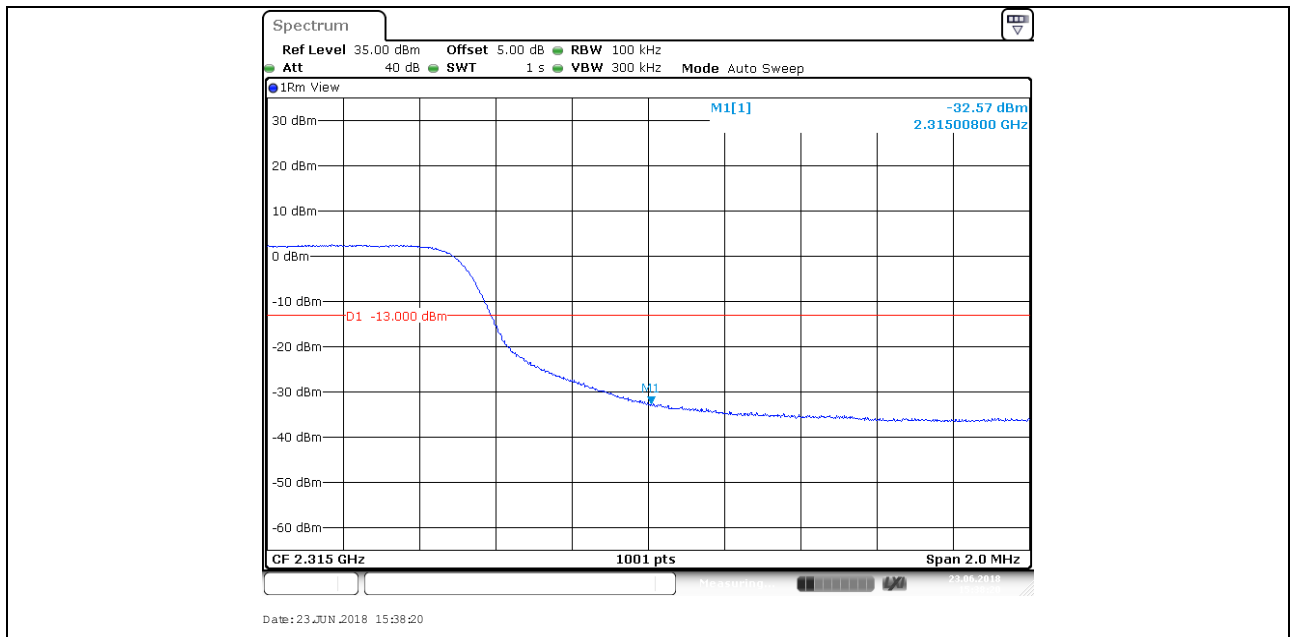




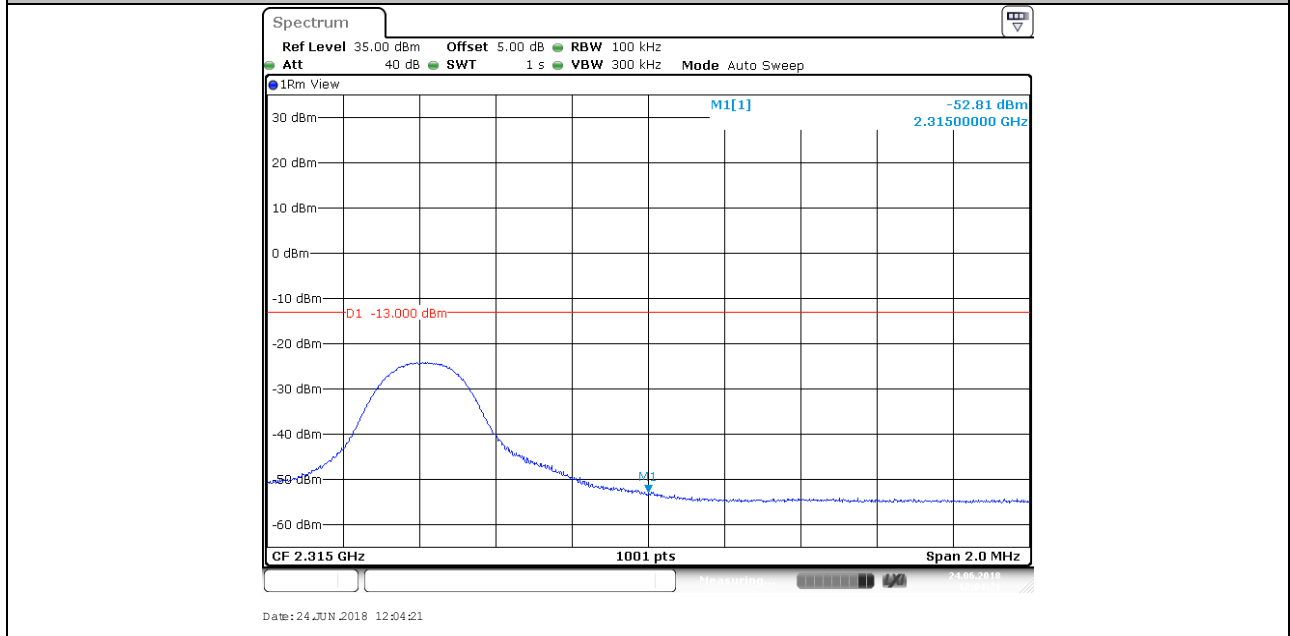
BAND 30\_10MHz\_QPSK\_27710\_1RB#49



BAND 30\_10MHz\_QPSK\_27710\_50RB#0

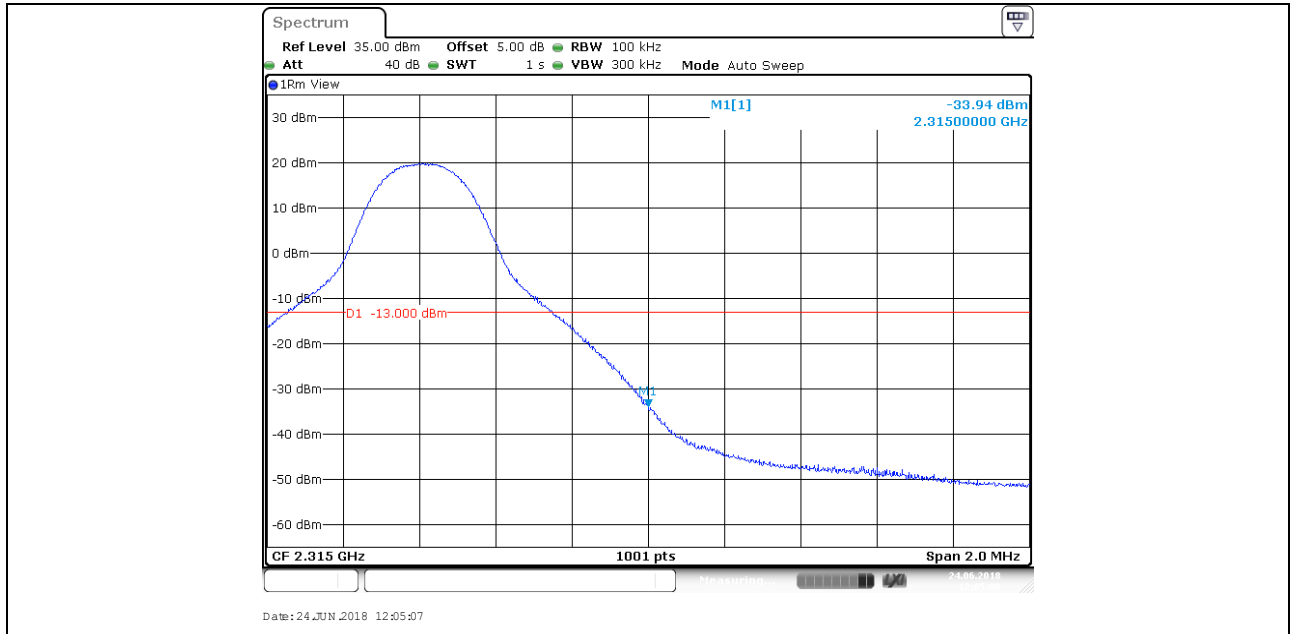


BAND 30\_10MHz\_64QAM\_27710\_1RB#0

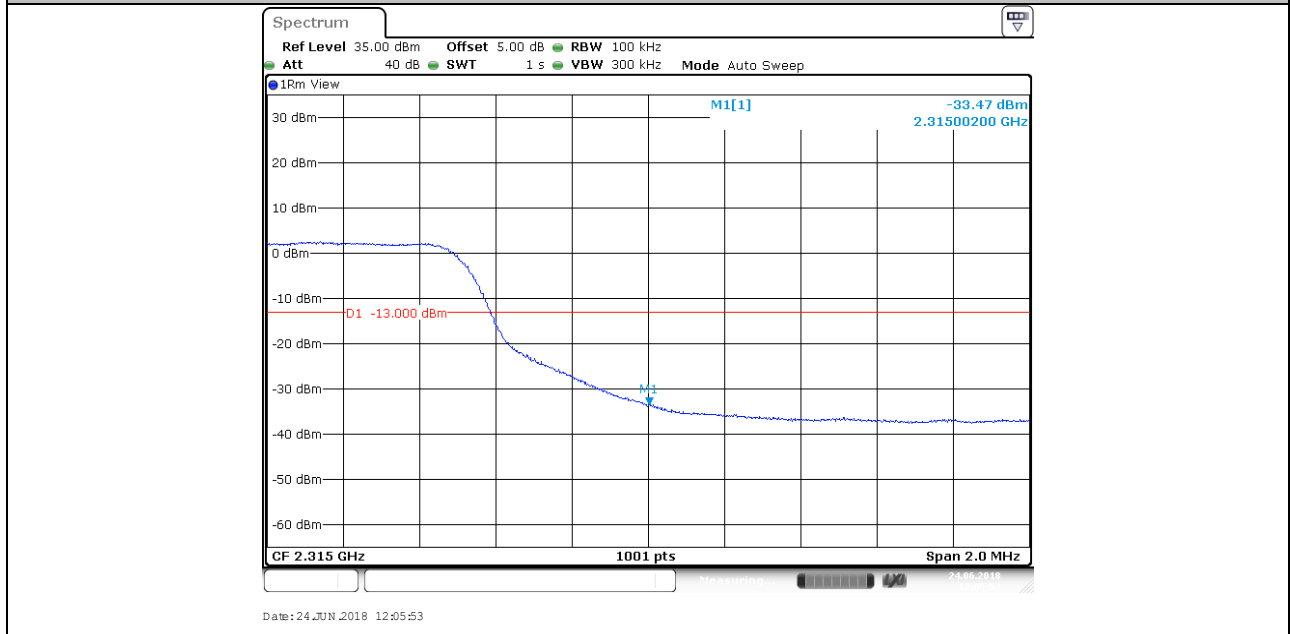


BAND 30\_10MHz\_64QAM\_27710\_1RB#49

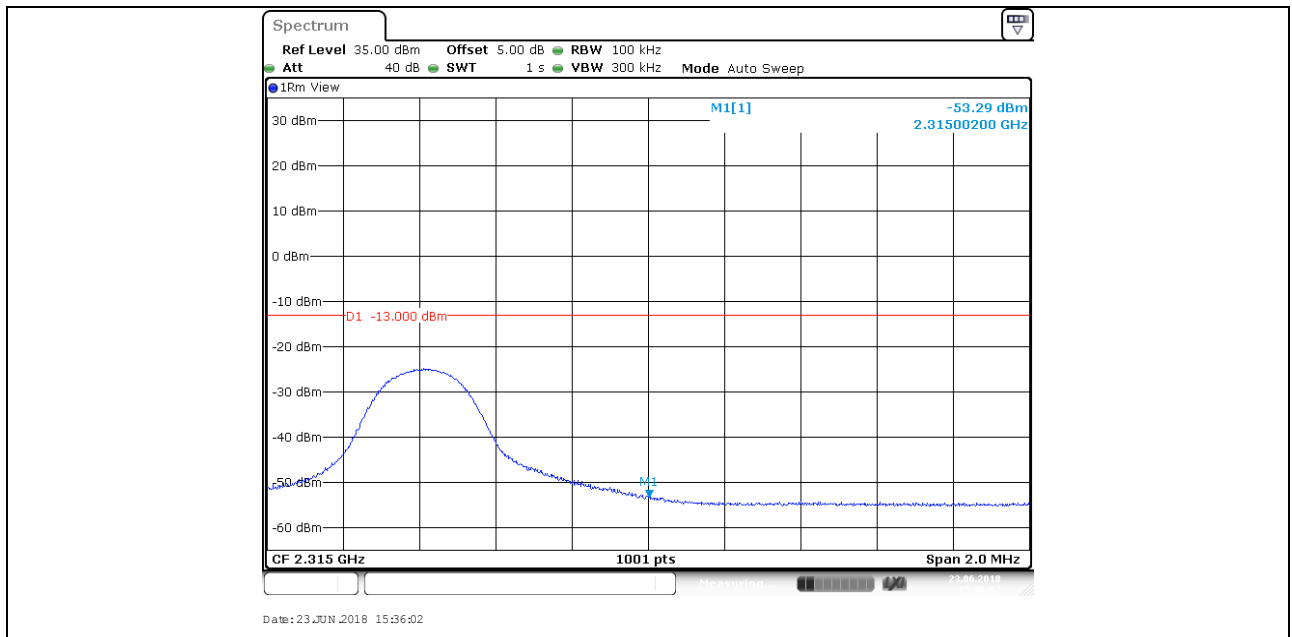
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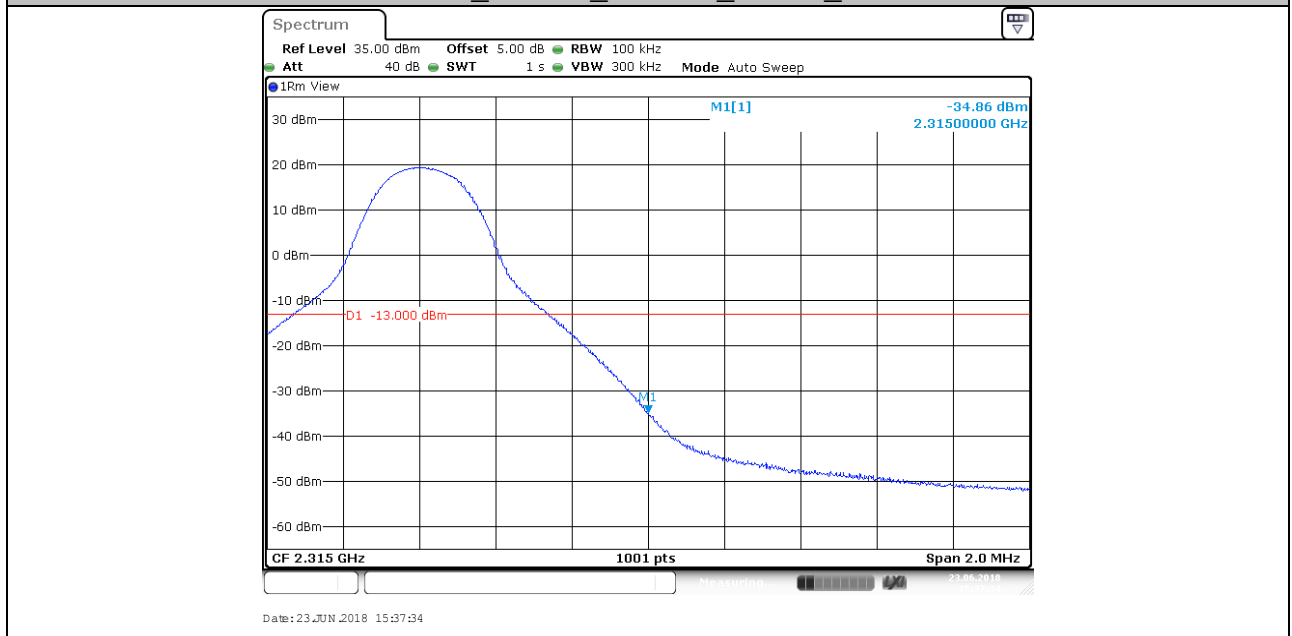
BAND 30\_10MHz\_64QAM\_27710\_50RB#0



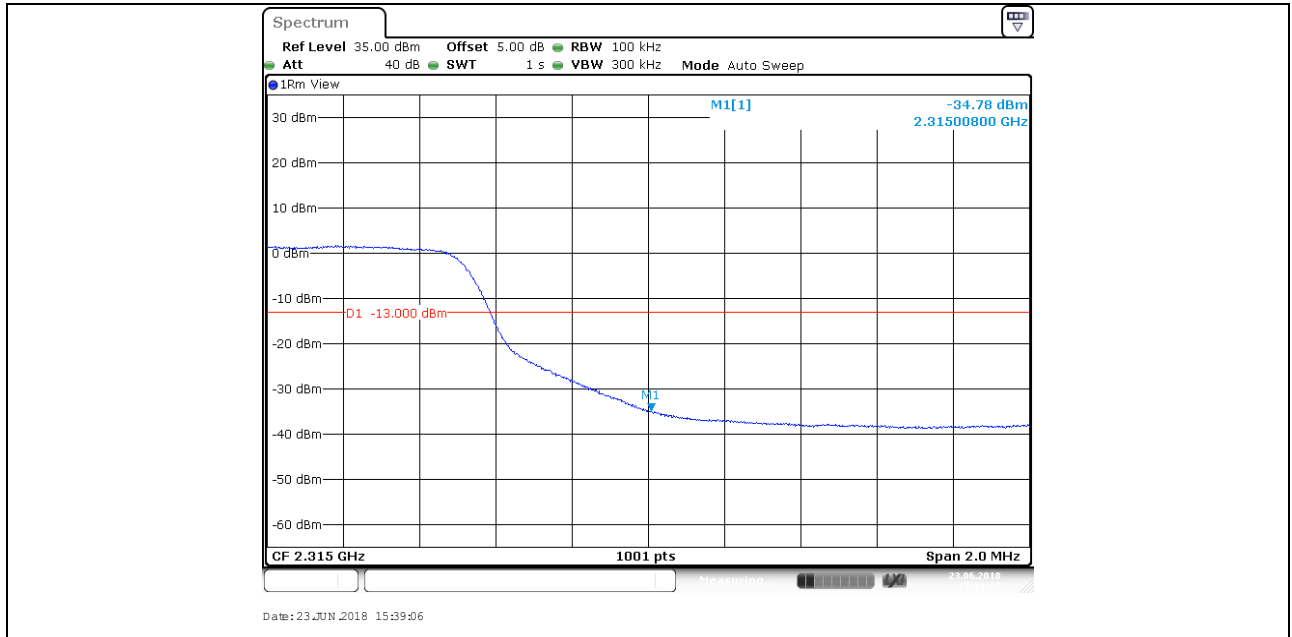
BAND 30\_10MHz\_16QAM\_27710\_1RB#0



BAND 30\_10MHz\_16QAM\_27710\_1RB#49



BAND 30\_10MHz\_16QAM\_27710\_50RB#0





## 6 Spurious Emission at Antenna Terminal

NOTE: For the averaged unwanted emissions measurements, the measurement points in each sweep is greater than twice the Span/RBW in order to ensure bin-to-bin spacing of  $< RBW/2$  so that narrowBAND signals are not lost between frequency bins. As to the present test item, the "Measurement Points =  $k * (Span / RBW)$ " with k between 4 and 5, which results in an acceptable level error of less than 0.5 dB.

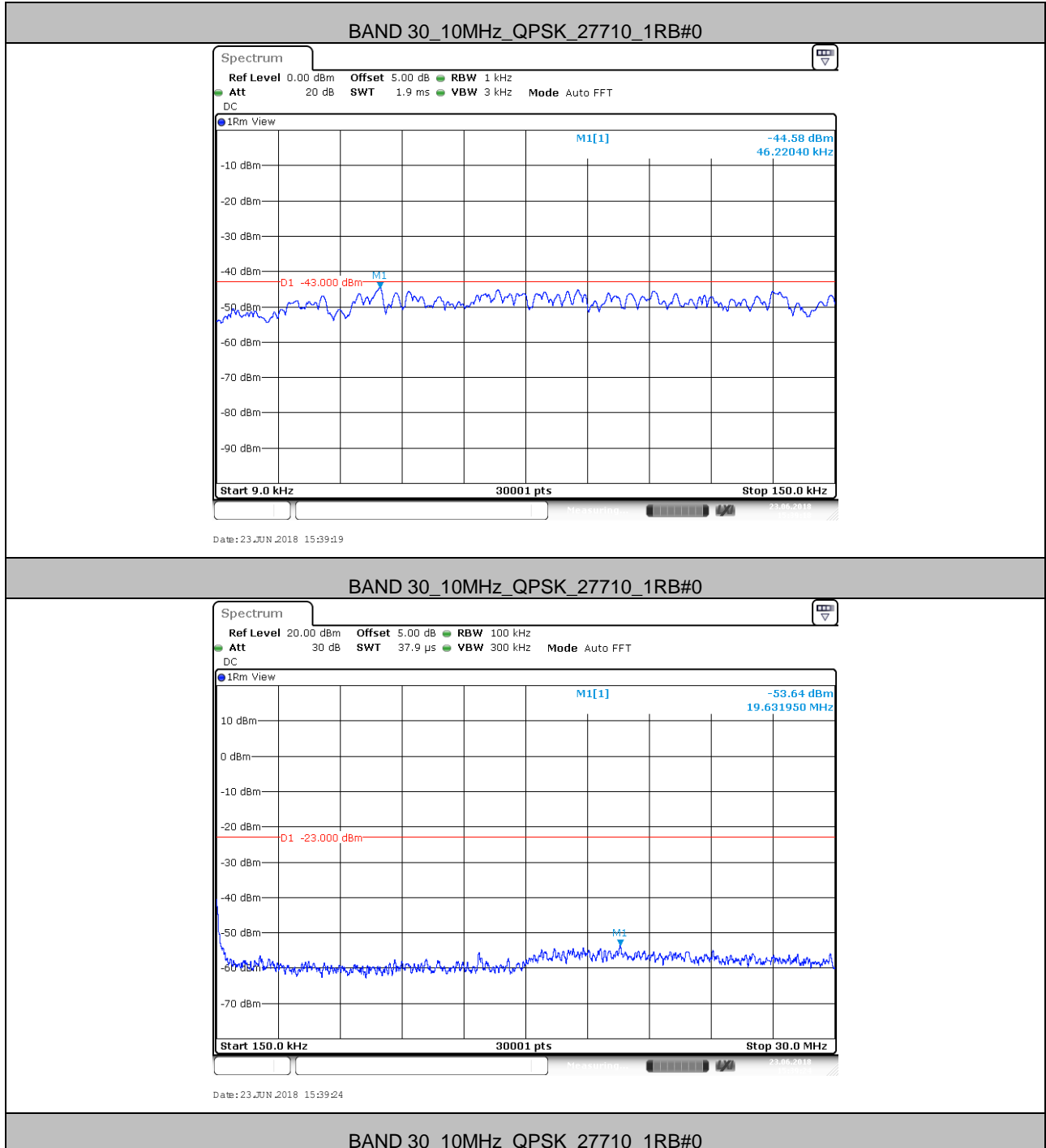
### 6.1. Test Result

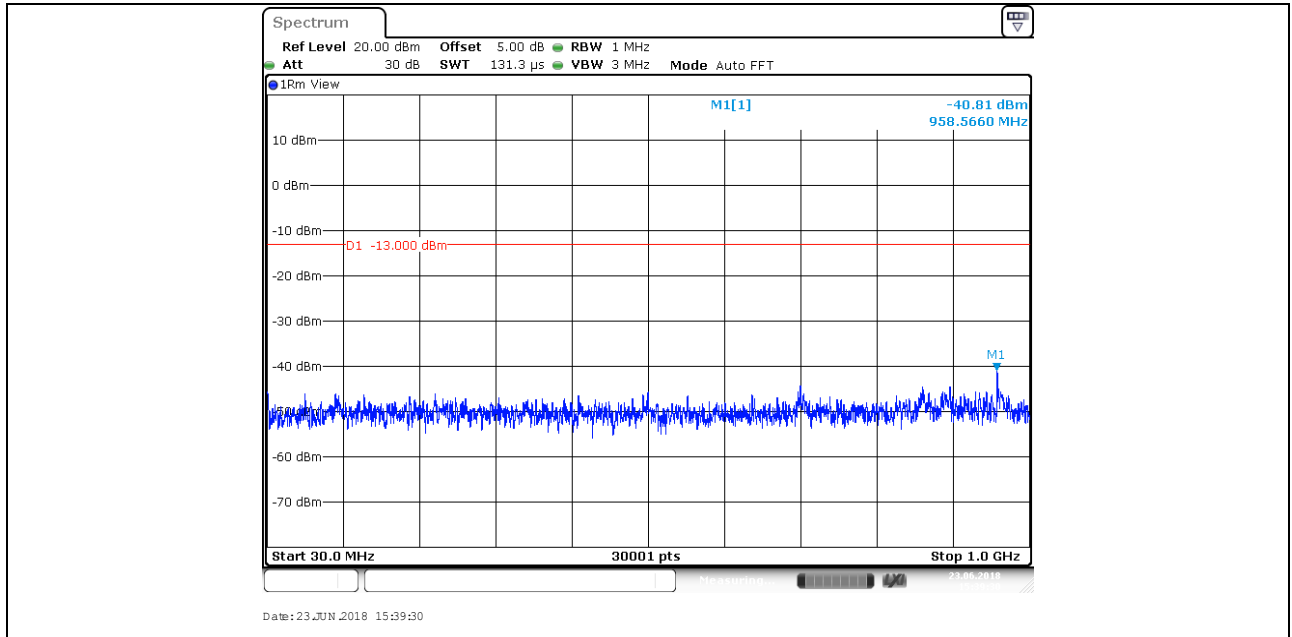
| BAND    | Bandwidth | Modulation | Channel | RB Configuration | Frequency Range       | Result (dBm) | Verdict |
|---------|-----------|------------|---------|------------------|-----------------------|--------------|---------|
| BAND 30 | 10MHz     | QPSK       | 27710   | 1RB#0            | Range1:0.009~0.15MHz  | -44.58       | PASS    |
| BAND 30 | 10MHz     | QPSK       | 27710   | 1RB#0            | Range2:0.15~30MHz     | -53.64       | PASS    |
| BAND 30 | 10MHz     | QPSK       | 27710   | 1RB#0            | Range3:30~1000MHz     | -40.81       | PASS    |
| BAND 30 | 10MHz     | QPSK       | 27710   | 1RB#0            | Range4:1000~5000MHz   | -50.42       | PASS    |
| BAND 30 | 10MHz     | QPSK       | 27710   | 1RB#0            | Range5:5000~12000MHz  | -49.52       | PASS    |
| BAND 30 | 10MHz     | QPSK       | 27710   | 1RB#0            | Range6:12000~18000MHz | -49.62       | PASS    |
| BAND 30 | 10MHz     | 64QAM      | 27710   | 1RB#0            | Range1:0.009~0.15MHz  | -44.11       | PASS    |
| BAND 30 | 10MHz     | 64QAM      | 27710   | 1RB#0            | Range2:0.15~30MHz     | -53.91       | PASS    |
| BAND 30 | 10MHz     | 64QAM      | 27710   | 1RB#0            | Range3:30~1000MHz     | -44.7        | PASS    |
| BAND 30 | 10MHz     | 64QAM      | 27710   | 1RB#0            | Range4:1000~5000MHz   | -49.76       | PASS    |
| BAND 30 | 10MHz     | 64QAM      | 27710   | 1RB#0            | Range5:5000~12000MHz  | -49.5        | PASS    |
| BAND 30 | 10MHz     | 64QAM      | 27710   | 1RB#0            | Range6:12000~18000MHz | -49.57       | PASS    |
| BAND 30 | 10MHz     | 16QAM      | 27710   | 1RB#0            | Range1:0.009~0.15MHz  | -43.8        | PASS    |
| BAND 30 | 10MHz     | 16QAM      | 27710   | 1RB#0            | Range2:0.15~30MHz     | -52.74       | PASS    |
| BAND 30 | 10MHz     | 16QAM      | 27710   | 1RB#0            | Range3:30~1000MHz     | -44.32       | PASS    |
| BAND 30 | 10MHz     | 16QAM      | 27710   | 1RB#0            | Range4:1000~5000MHz   | -50.56       | PASS    |
| BAND 30 | 10MHz     | 16QAM      | 27710   | 1RB#0            | Range5:5000~12000MHz  | -49.49       | PASS    |
| BAND 30 | 10MHz     | 16QAM      | 27710   | 1RB#0            | Range6:12000~18000MHz | -49.65       | PASS    |

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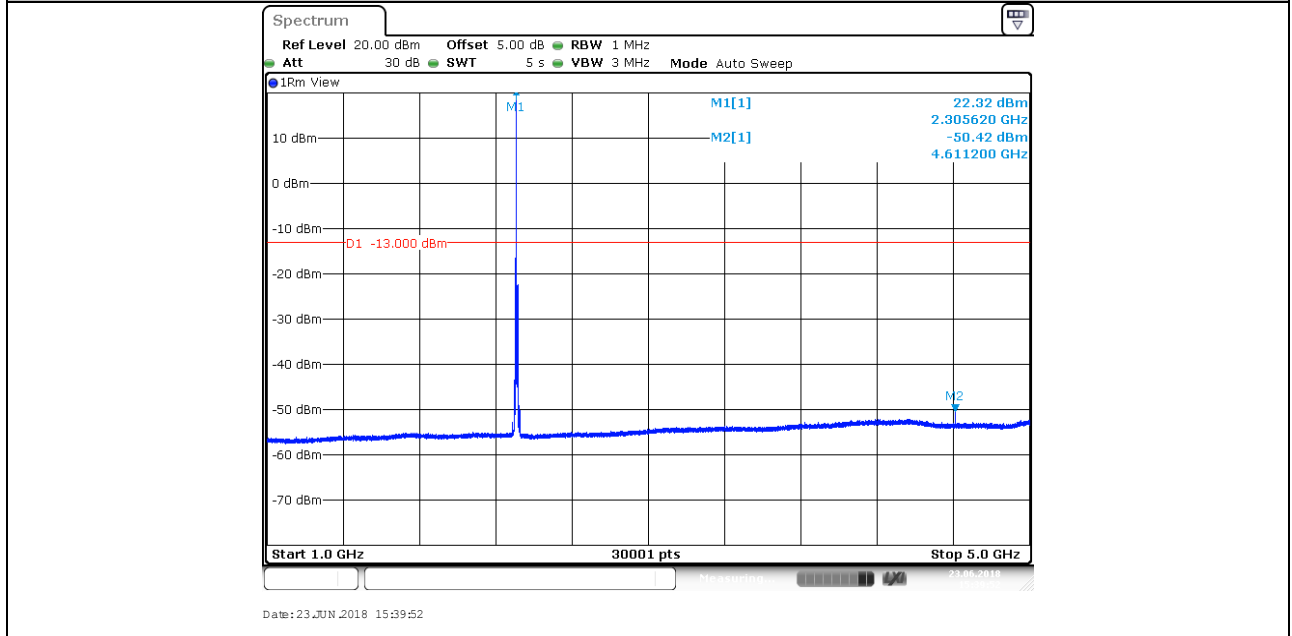


## 6.2. Test Plots





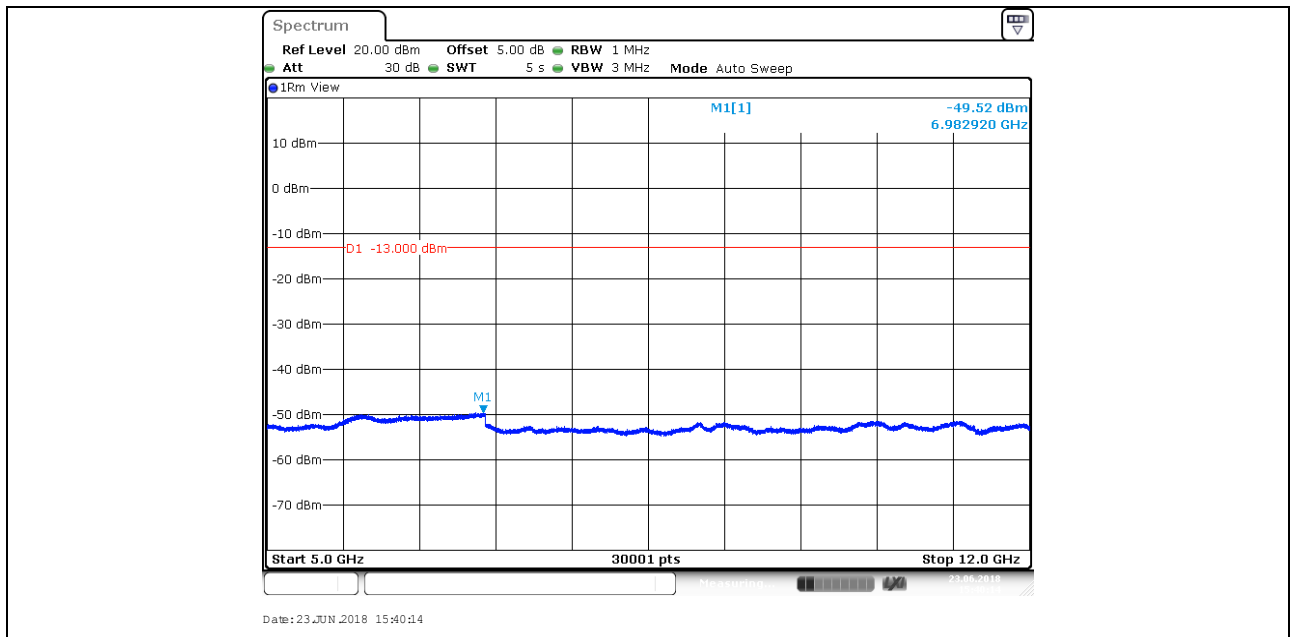
BAND 30\_10MHz\_QPSK\_27710\_1RB#0



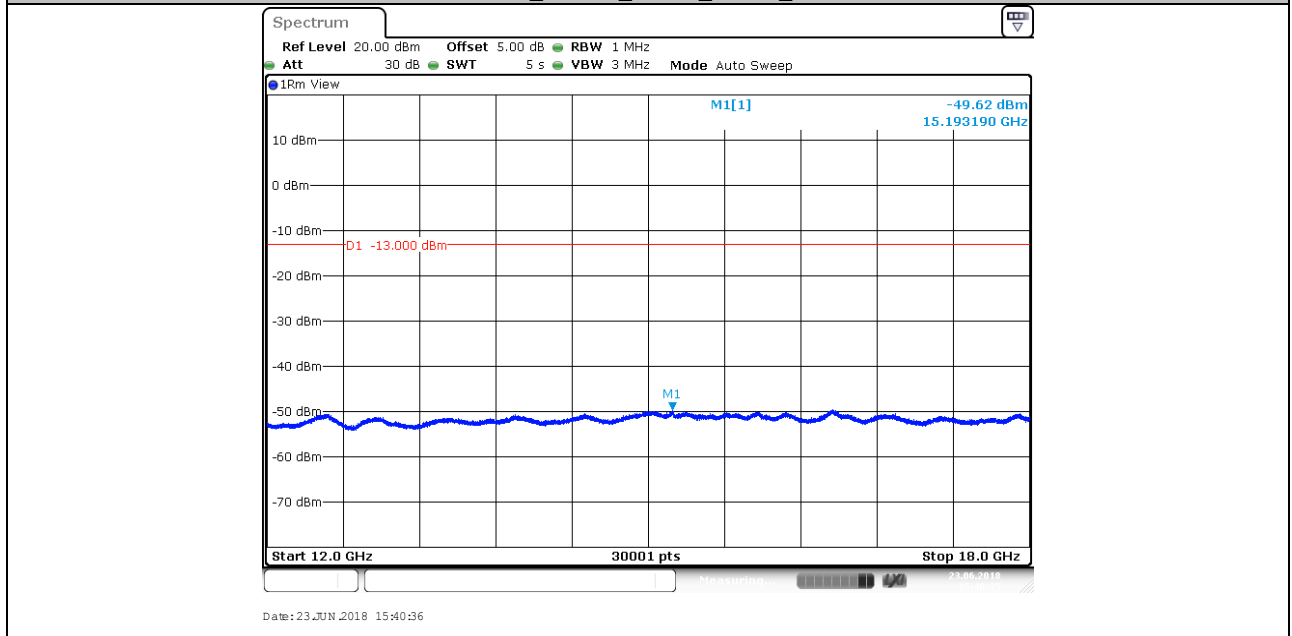
BAND 30\_10MHz\_QPSK\_27710\_1RB#0

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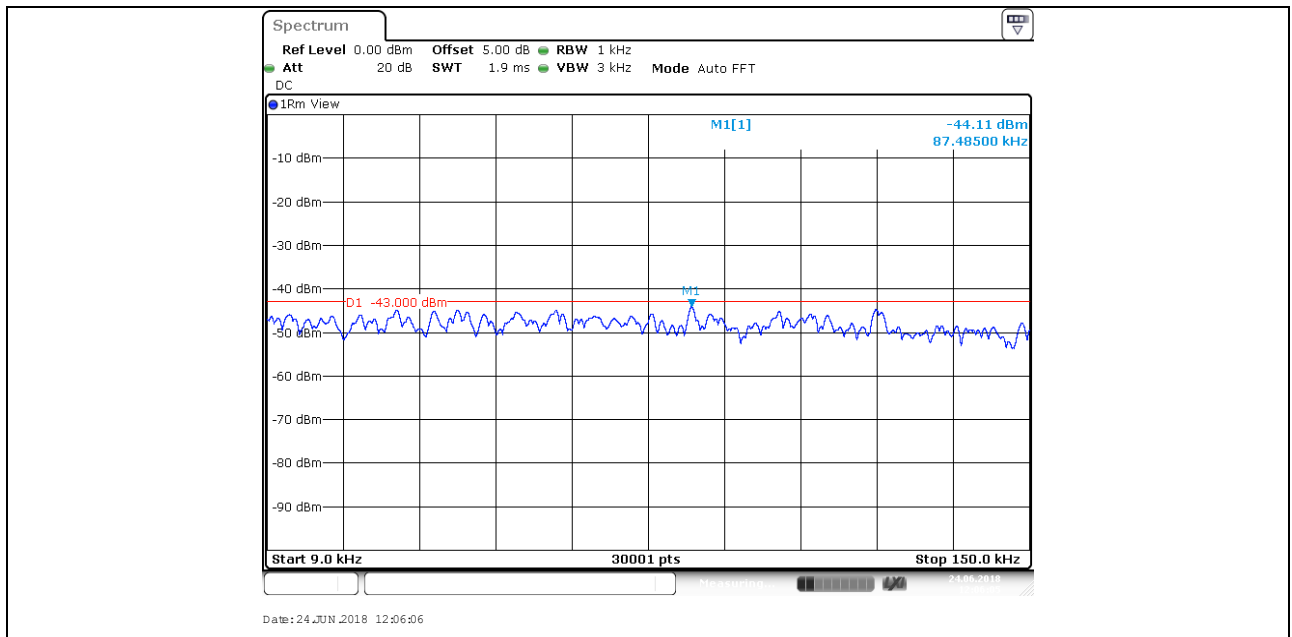




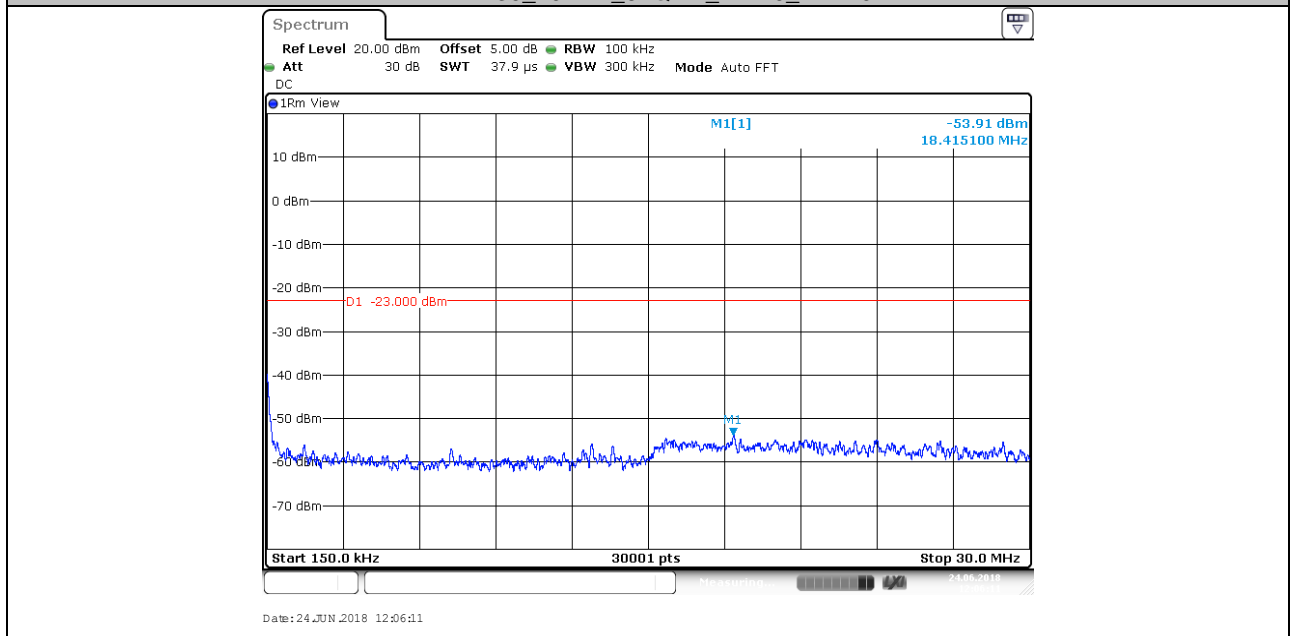
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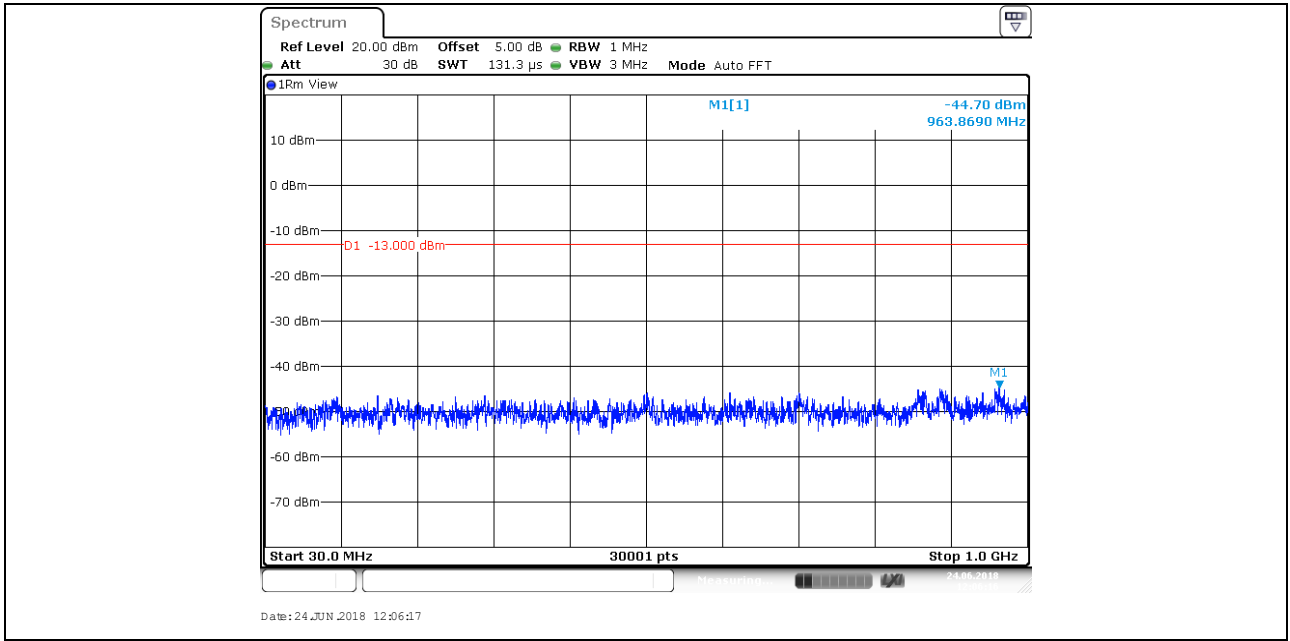
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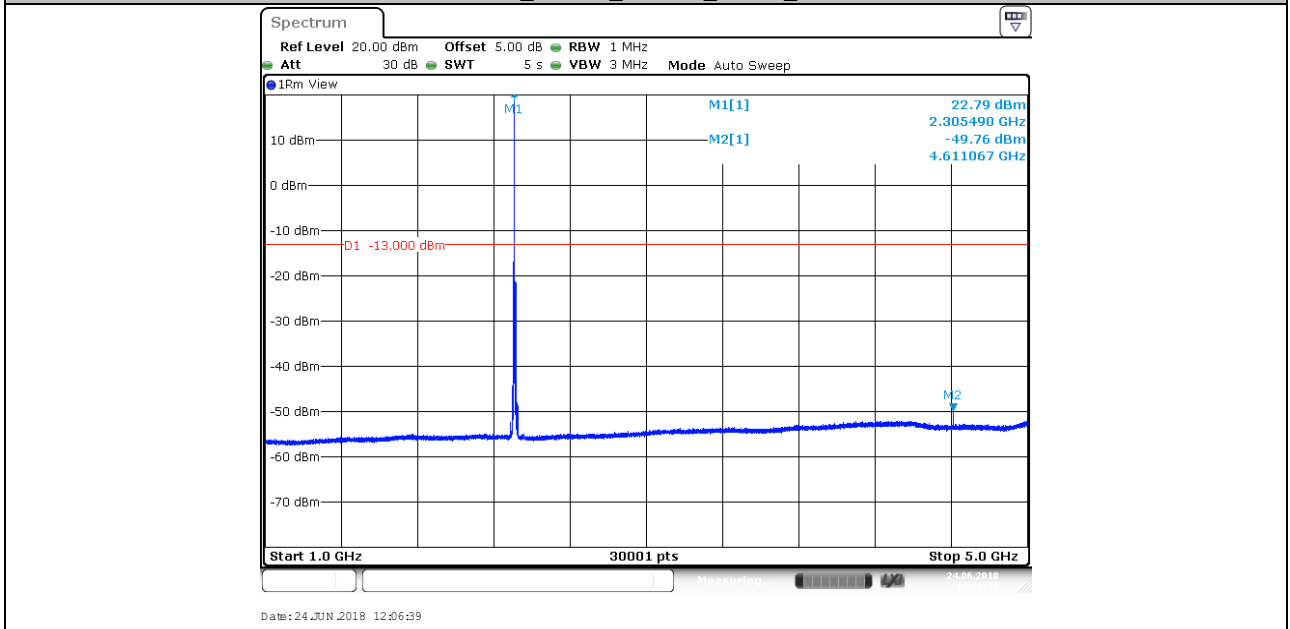
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BAND 30\_10MHz\_64QAM\_27710\_1RB#0

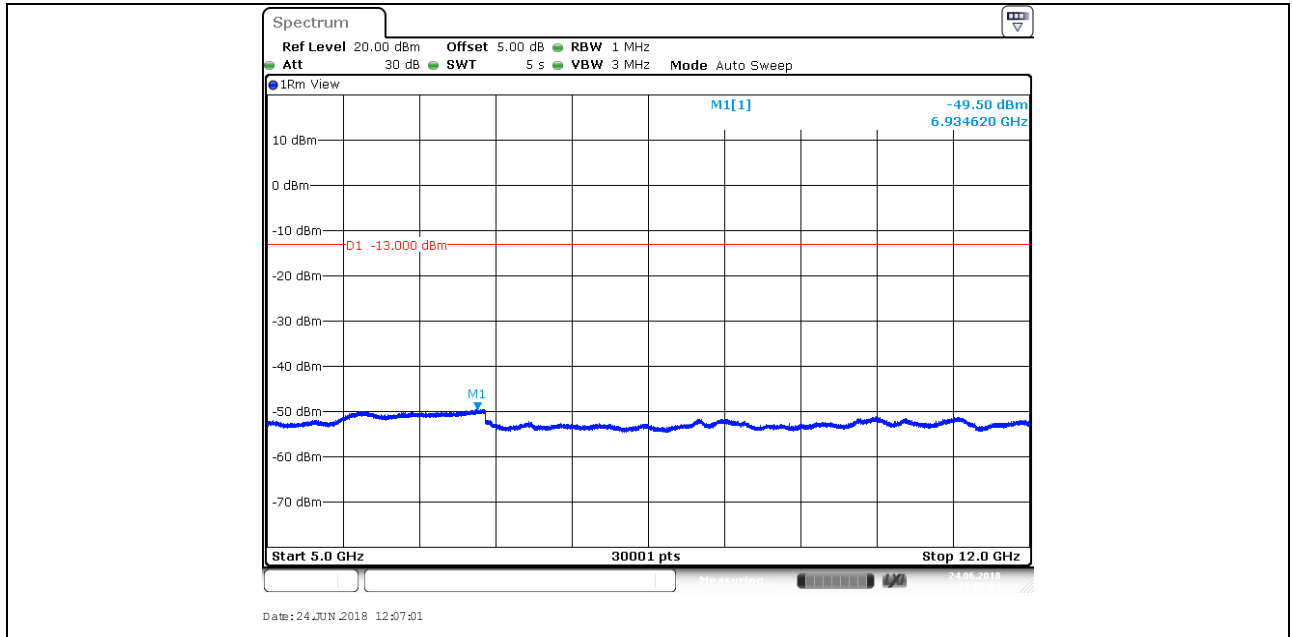


BAND 30\_10MHz\_64QAM\_27710\_1RB#0

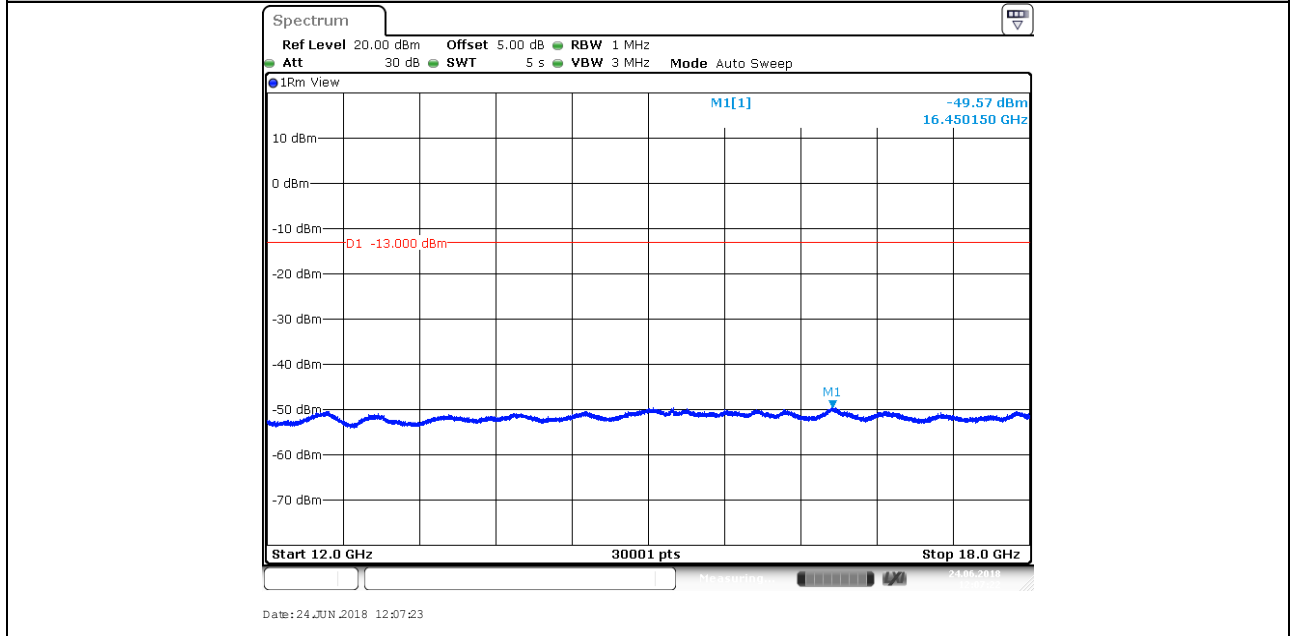


BAND 30\_10MHz\_64QAM\_27710\_1RB#0

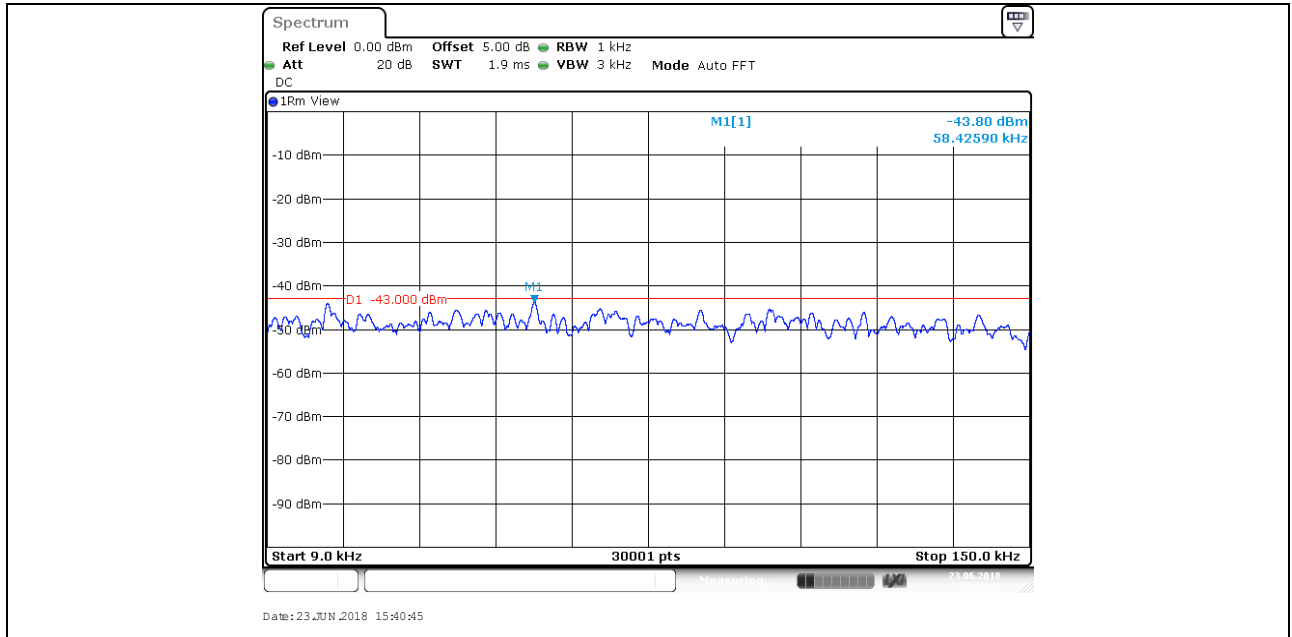
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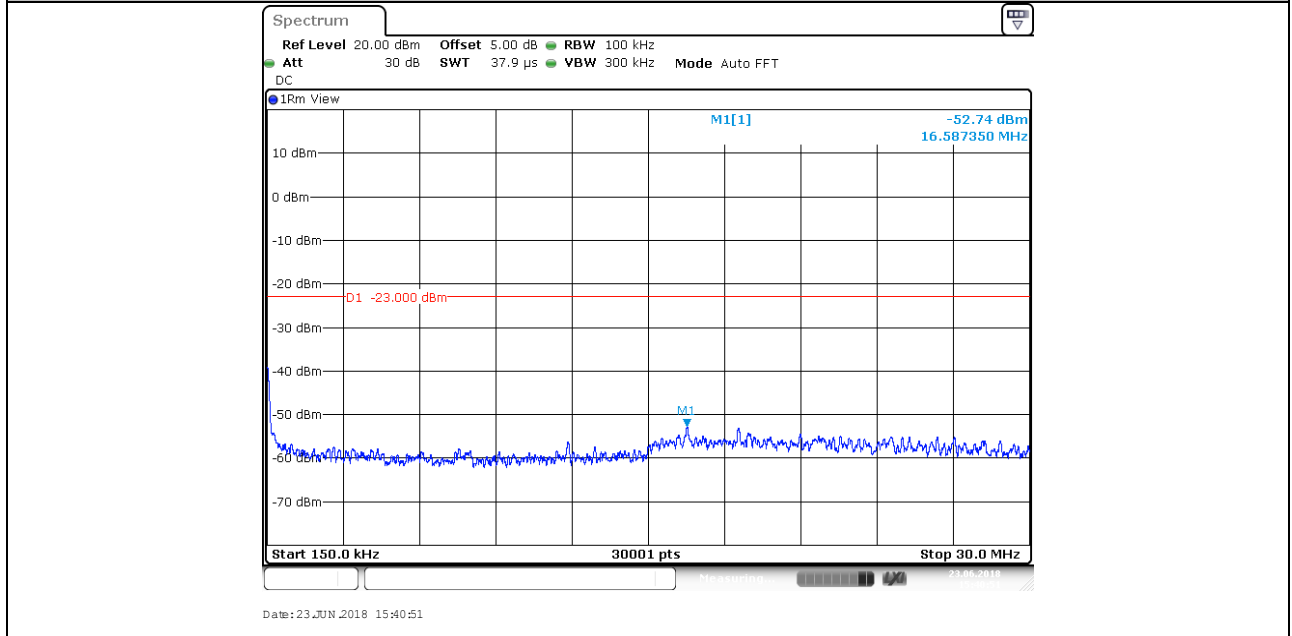
BAND 30\_10MHz\_64QAM\_27710\_1RB#0



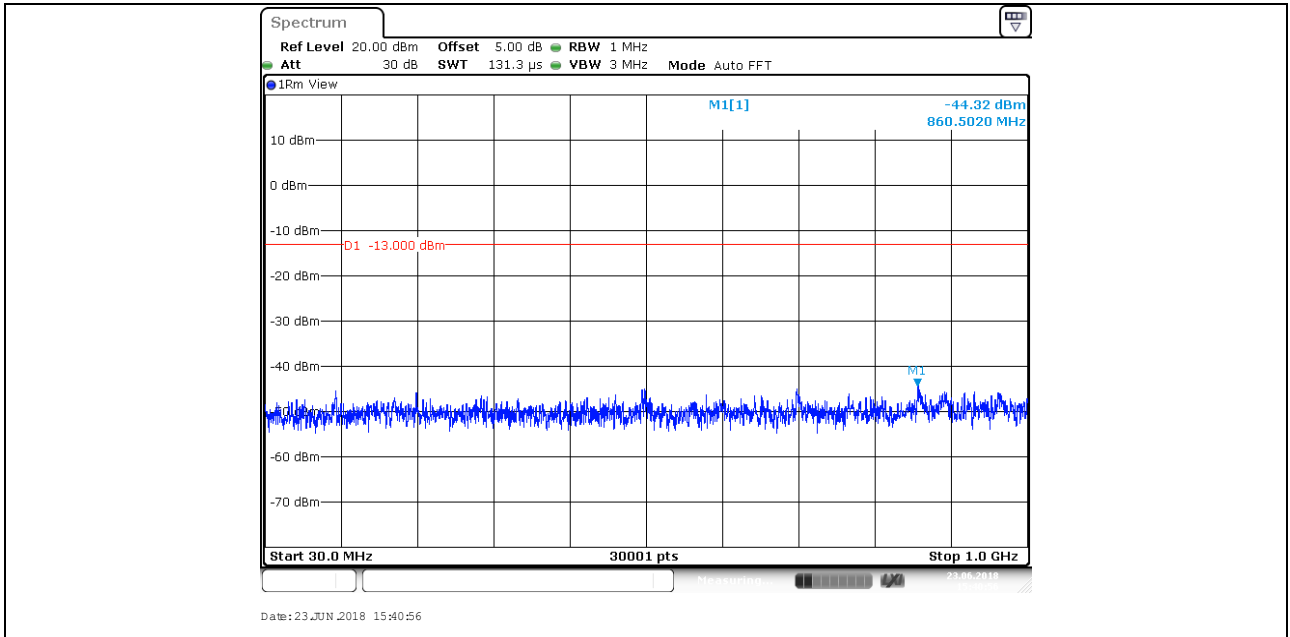
BAND 30\_10MHz\_16QAM\_27710\_1RB#0



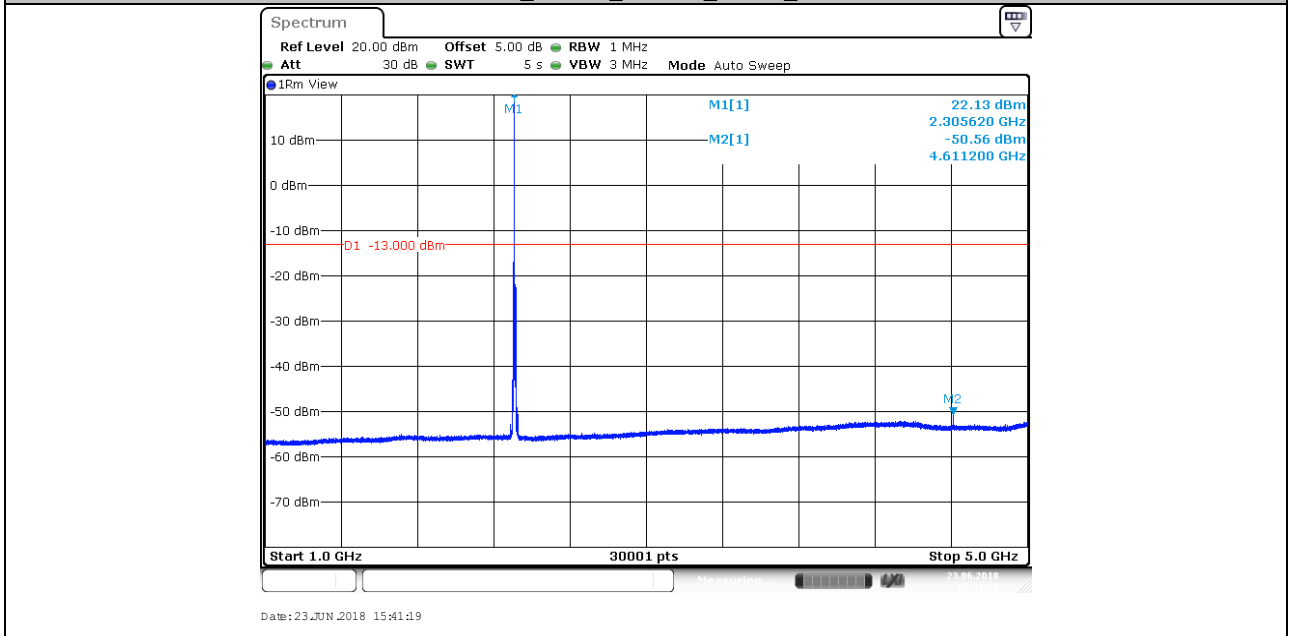
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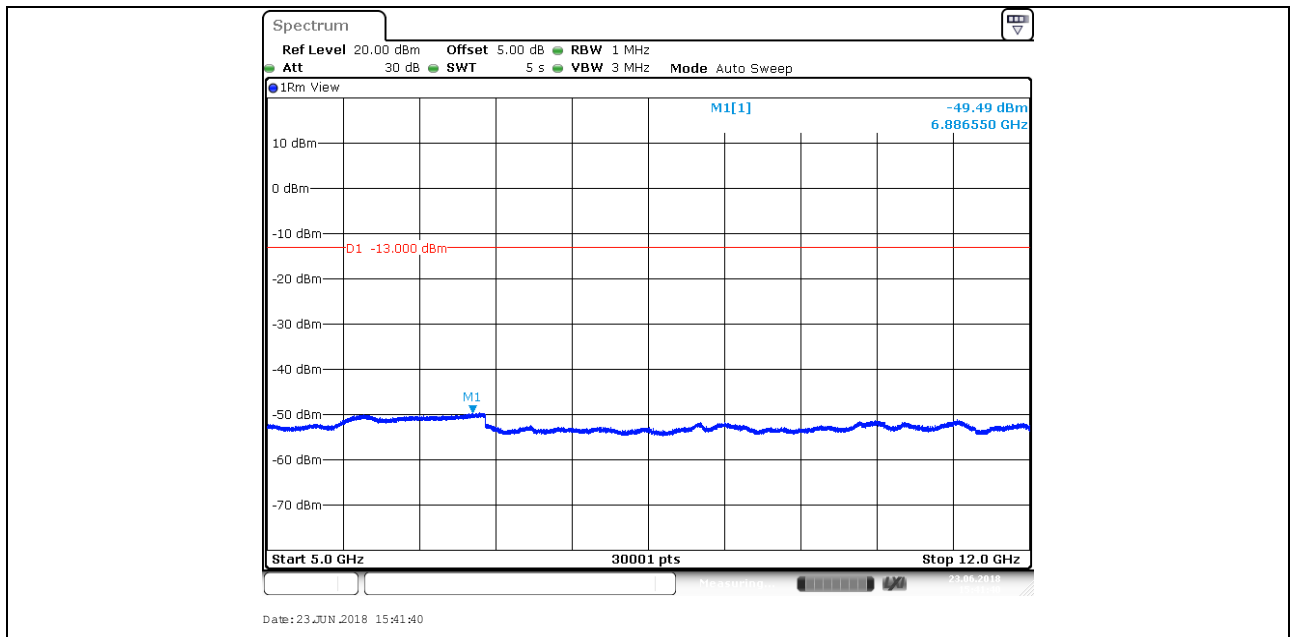


BAND 30\_10MHz\_16QAM\_27710\_1RB#0

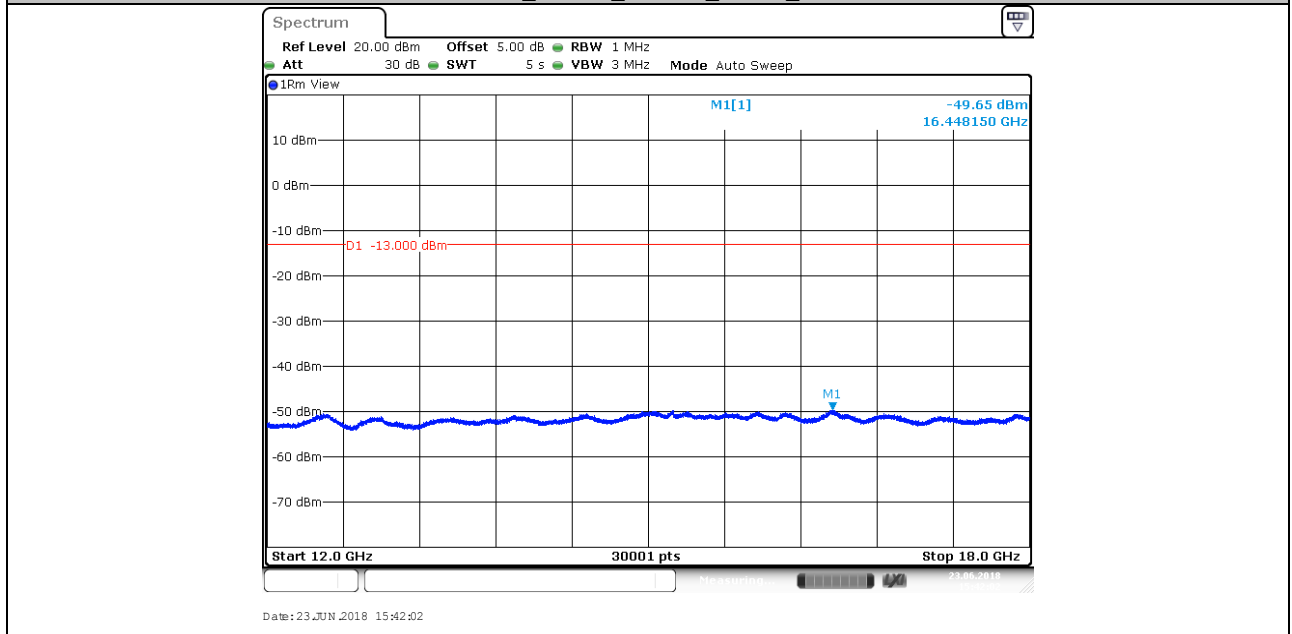


BAND 30\_10MHz\_16QAM\_27710\_1RB#0

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BAND 30\_10MHz\_16QAM\_27710\_1RB#0



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## 7 Field Strength of Spurious Radiation

### 7.1 For LTE

#### 7.1.1 Test BAND = LTE BAND 30

##### 7.1.1.1 Test Mode =LTE/TM1 20MHz RB1#0

##### 7.1.1.1.1 Test Channel = MCH

| Frequency (MHz) | Level (dBm) | Limit Line (dBm) | Over Limit (dB) | Polarization |
|-----------------|-------------|------------------|-----------------|--------------|
| 72.350000       | -75.08      | -40.00           | 35.08           | Vertical     |
| 185.450000      | -80.44      | -40.00           | 40.44           | Vertical     |
| 546.158333      | -80.68      | -40.00           | 40.68           | Vertical     |
| 4611.025000     | -60.55      | -40.00           | 20.55           | Vertical     |
| 6916.575000     | -57.60      | -40.00           | 17.60           | Vertical     |
| 9222.450000     | -59.80      | -40.00           | 19.80           | Vertical     |
| 62.700000       | -76.76      | -40.00           | 36.76           | Horizontal   |
| 161.450000      | -72.36      | -40.00           | 32.36           | Horizontal   |
| 238.000000      | -69.34      | -40.00           | 29.34           | Horizontal   |
| 4611.025000     | -66.91      | -40.00           | 26.91           | Horizontal   |
| 6149.250000     | -65.60      | -40.00           | 25.60           | Horizontal   |
| 9222.450000     | -61.39      | -40.00           | 21.39           | Horizontal   |

..NOTE:

- 1) The disturbance above 13GHz and below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the above harmonics had been displayed.
- 2) We have tested all modulation and all Bandwidth, but only the worst case data presented in this report.





## 8 Frequency Stability

### 8.1. Frequency Vs Voltage

| Voltage |           |            |         |              |               |                  |                |                 |             |         |
|---------|-----------|------------|---------|--------------|---------------|------------------|----------------|-----------------|-------------|---------|
| BAND    | Bandwidth | Modulation | Channel | RB Configure | Voltage [Vdc] | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
| BAND 30 | 10MHz     | QPSK       | 27710   | 50RB#0       | VL            | NT               | -2.90          | -0.001255       | ±2.5        | PASS    |
| BAND 30 | 10MHz     | QPSK       | 27710   | 50RB#0       | VN            | NT               | -3.00          | -0.001299       | ±2.5        | PASS    |
| BAND 30 | 10MHz     | QPSK       | 27710   | 50RB#0       | VH            | NT               | -5.70          | -0.002468       | ±2.5        | PASS    |
| BAND 30 | 10MHz     | 64QAM      | 27710   | 50RB#0       | VL            | NT               | -1.10          | -0.000476       | ±2.5        | PASS    |
| BAND 30 | 10MHz     | 64QAM      | 27710   | 50RB#0       | VN            | NT               | -5.30          | -0.002294       | ±2.5        | PASS    |
| BAND 30 | 10MHz     | 64QAM      | 27710   | 50RB#0       | VH            | NT               | 1.50           | 0.000649        | ±2.5        | PASS    |
| BAND 30 | 10MHz     | 16QAM      | 27710   | 50RB#0       | VL            | NT               | -4.20          | -0.001818       | ±2.5        | PASS    |
| BAND 30 | 10MHz     | 16QAM      | 27710   | 50RB#0       | VN            | NT               | -3.50          | -0.001515       | ±2.5        | PASS    |
| BAND 30 | 10MHz     | 16QAM      | 27710   | 50RB#0       | VH            | NT               | -3.80          | -0.001645       | ±2.5        | PASS    |

### 8.2. Frequency Vs Temperature

| Temperature |           |            |         |              |               |                  |                |                 |             |         |
|-------------|-----------|------------|---------|--------------|---------------|------------------|----------------|-----------------|-------------|---------|
| BAND        | Bandwidth | Modulation | Channel | RB Configure | Voltage [Vdc] | Temperature (°C) | Deviation (Hz) | Deviation (ppm) | Limit (ppm) | Verdict |
| BAND 30     | 10MHz     | QPSK       | 27710   | 50RB#0       | NV            | -30              | -3.90          | -0.001688       | ±2.5        | PASS    |
| BAND 30     | 10MHz     | QPSK       | 27710   | 50RB#0       | NV            | -20              | -4.10          | -0.001775       | ±2.5        | PASS    |
| BAND 30     | 10MHz     | QPSK       | 27710   | 50RB#0       | NV            | 0                | -1.70          | -0.000736       | ±2.5        | PASS    |
| BAND 30     | 10MHz     | QPSK       | 27710   | 50RB#0       | NV            | 10               | -5.30          | -0.002294       | ±2.5        | PASS    |
| BAND 30     | 10MHz     | QPSK       | 27710   | 50RB#0       | NV            | 20               | -2.80          | -0.001212       | ±2.5        | PASS    |
| BAND 30     | 10MHz     | 64QAM      | 27710   | 50RB#0       | NV            | -30              | -2.30          | -0.000996       | ±2.5        | PASS    |
| BAND 30     | 10MHz     | 64QAM      | 27710   | 50RB#0       | NV            | -20              | 0.90           | 0.000390        | ±2.5        | PASS    |
| BAND 30     | 10MHz     | 64QAM      | 27710   | 50RB#0       | NV            | 0                | -3.40          | -0.001472       | ±2.5        | PASS    |
| BAND 30     | 10MHz     | 64QAM      | 27710   | 50RB#0       | NV            | 10               | 3.70           | 0.001602        | ±2.5        | PASS    |
| BAND 30     | 10MHz     | 64QAM      | 27710   | 50RB#0       | NV            | 20               | -5.10          | -0.002208       | ±2.5        | PASS    |
| BAND 30     | 10MHz     | 16QAM      | 27710   | 50RB#0       | NV            | -30              | -4.90          | -0.002121       | ±2.5        | PASS    |
| BAND 30     | 10MHz     | 16QAM      | 27710   | 50RB#0       | NV            | -20              | -1.80          | -0.000779       | ±2.5        | PASS    |
| BAND 30     | 10MHz     | 16QAM      | 27710   | 50RB#0       | NV            | 0                | -5.10          | -0.002208       | ±2.5        | PASS    |
| BAND 30     | 10MHz     | 16QAM      | 27710   | 50RB#0       | NV            | 10               | -4.90          | -0.002121       | ±2.5        | PASS    |
| BAND 30     | 10MHz     | 16QAM      | 27710   | 50RB#0       | NV            | 20               | -5.00          | -0.002165       | ±2.5        | PASS    |

The End

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