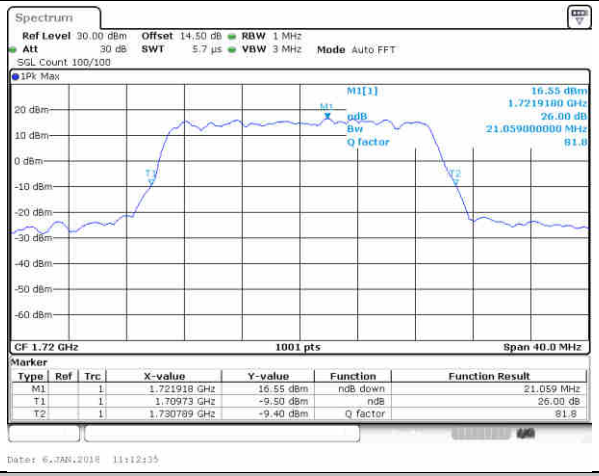
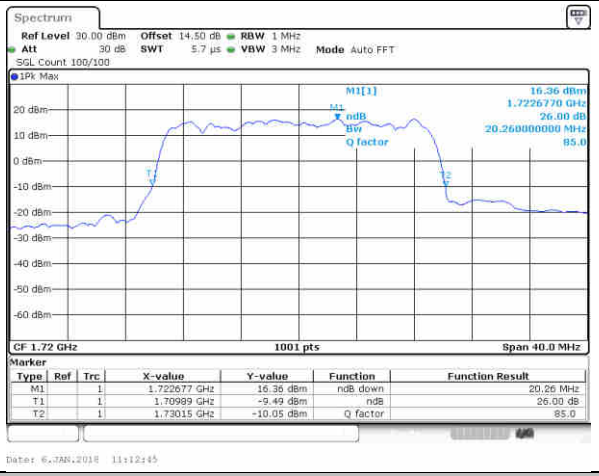
## LTE Band 4

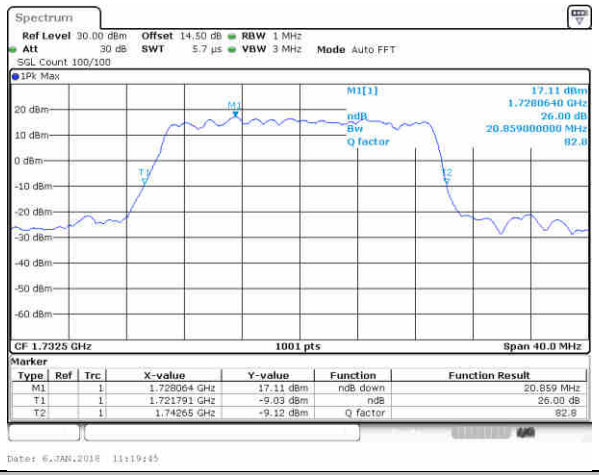
### Lowest Channel / 20MHz / QPSK



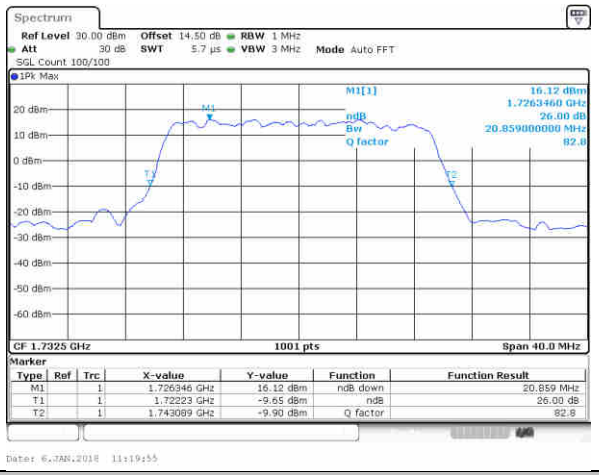

### Lowest Channel / 20MHz / 16QAM



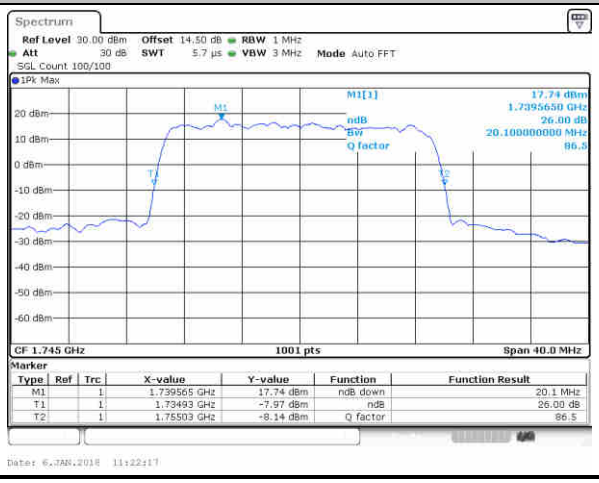

### Middle Channel / 20MHz / QPSK



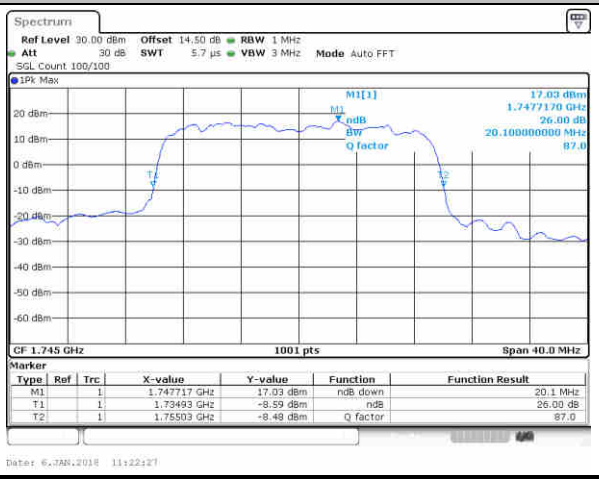

### Middle Channel / 20MHz / 16QAM




### Highest Channel / 20MHz / QPSK

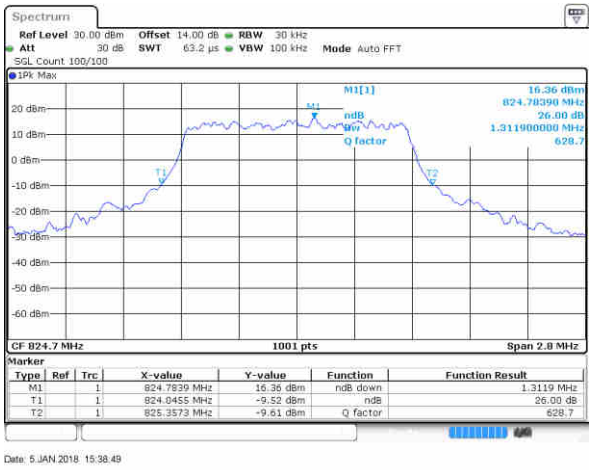



### Highest Channel / 20MHz / 16QAM

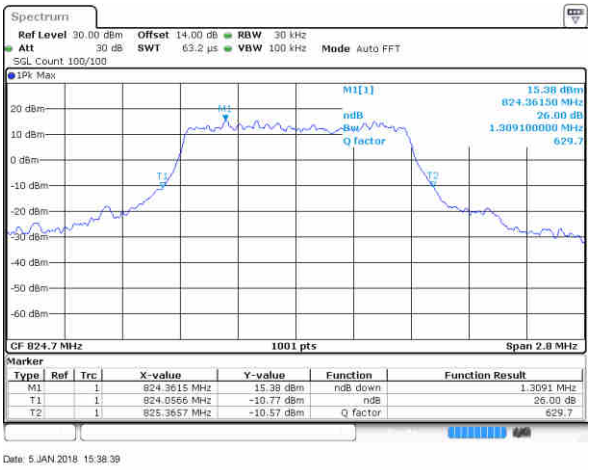


## LTE Band 5

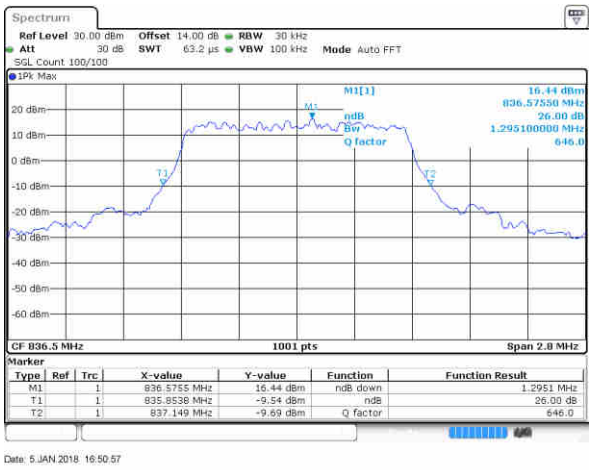
### Lowest Channel / 1.4MHz / QPSK



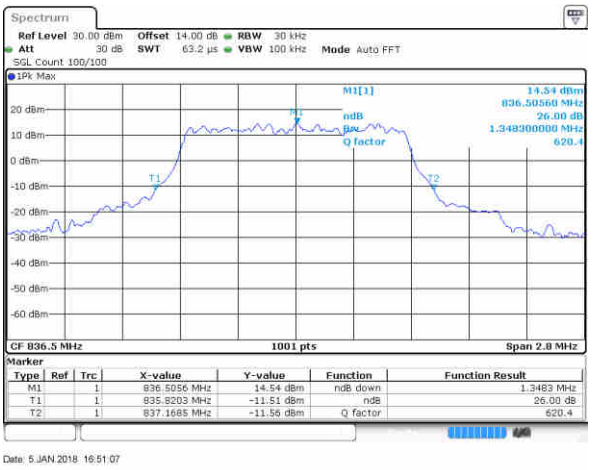

### Lowest Channel / 1.4MHz / 16QAM



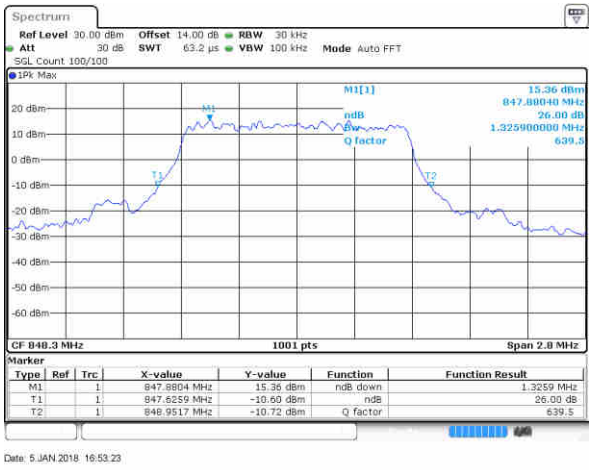

### Middle Channel / 1.4MHz / QPSK



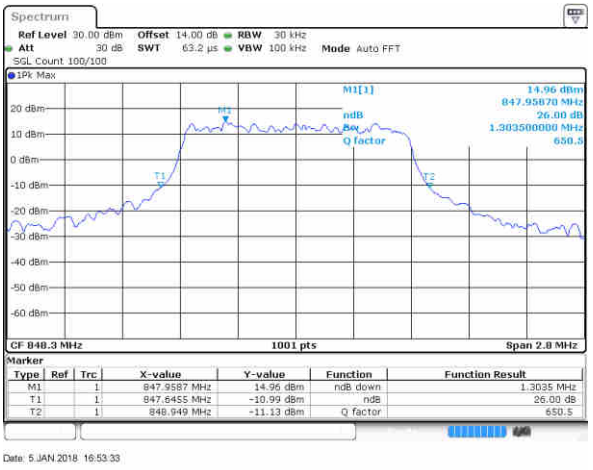

### Middle Channel / 1.4MHz / 16QAM




### Highest Channel / 1.4MHz / QPSK

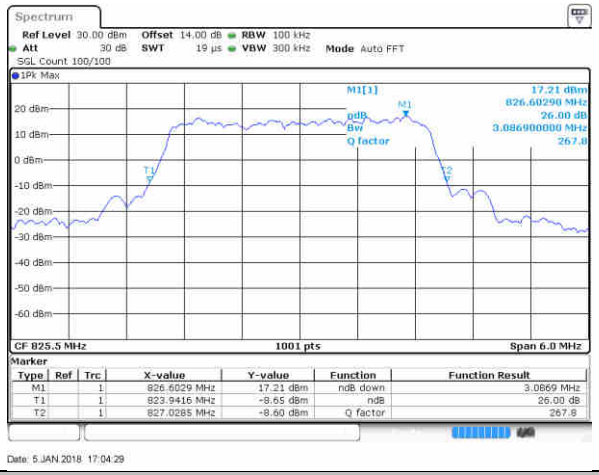



### Highest Channel / 1.4MHz / 16QAM

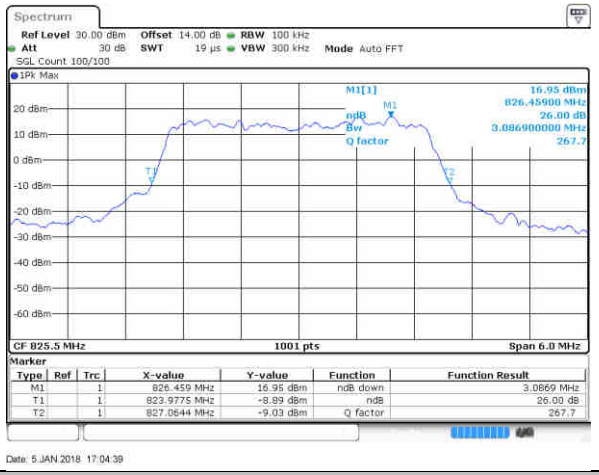


## LTE Band 5

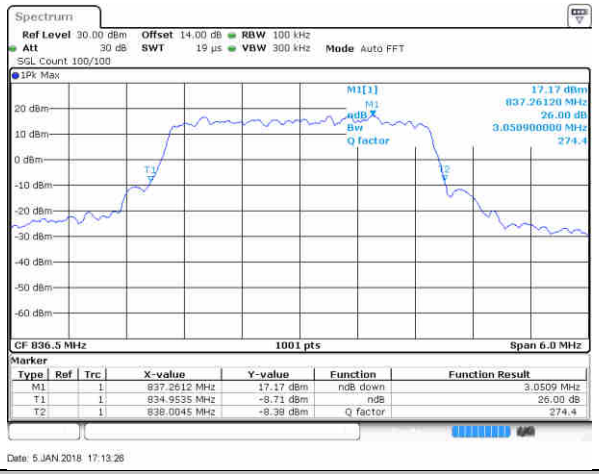
### Lowest Channel / 3MHz / QPSK



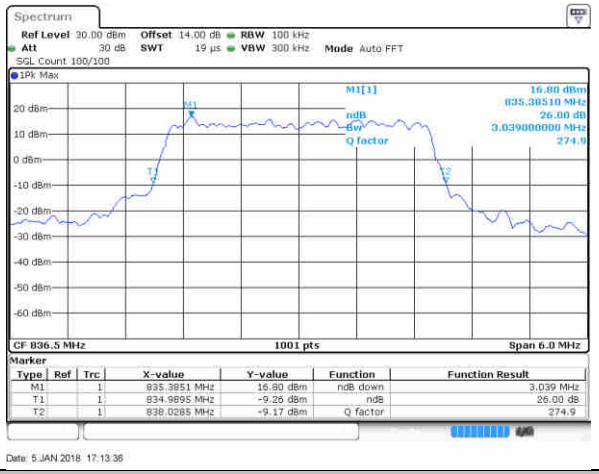

### Lowest Channel / 3MHz / 16QAM



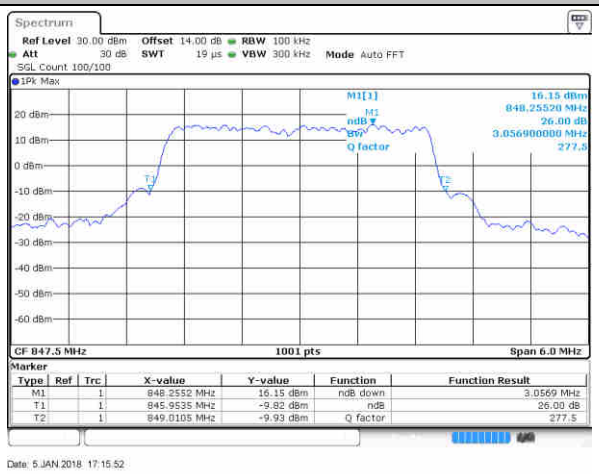

### Middle Channel / 3MHz / QPSK



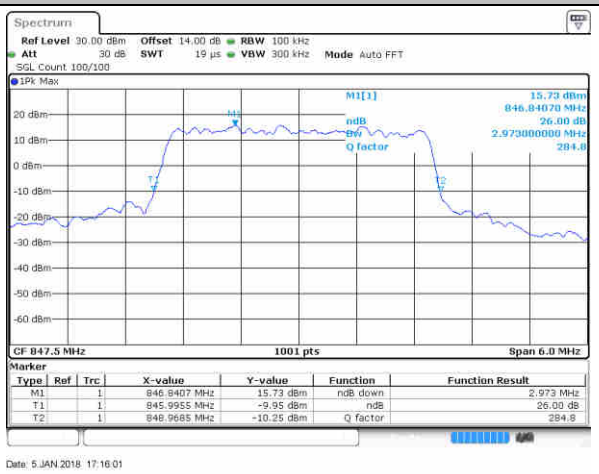

### Middle Channel /3MHz / 16QAM




### Highest Channel /3MHz / QPSK

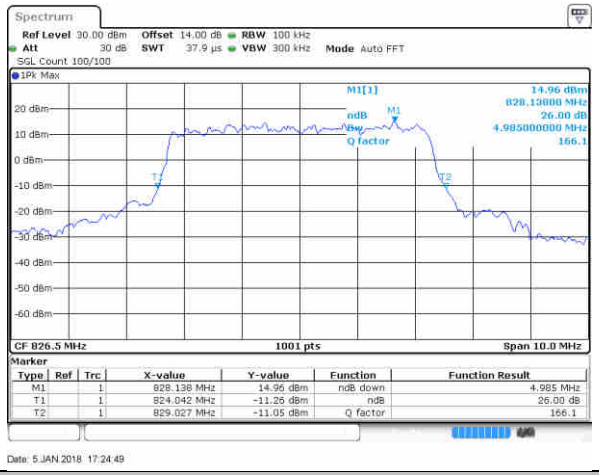



### Highest Channel /3MHz / 16QAM

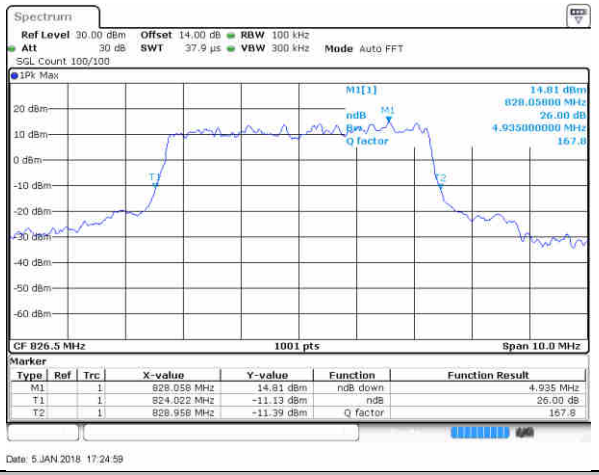


## LTE Band 5

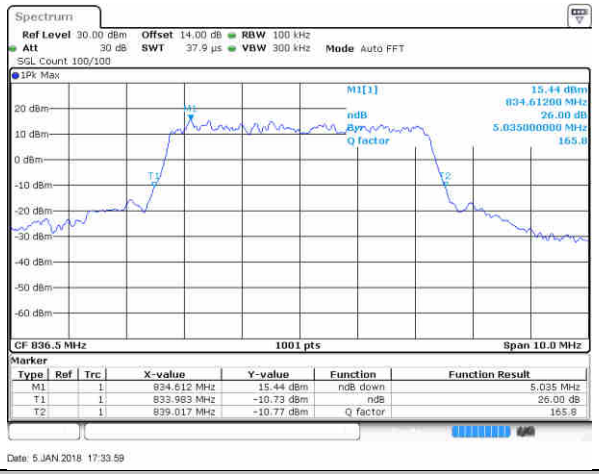
### Lowest Channel / 5MHz / QPSK



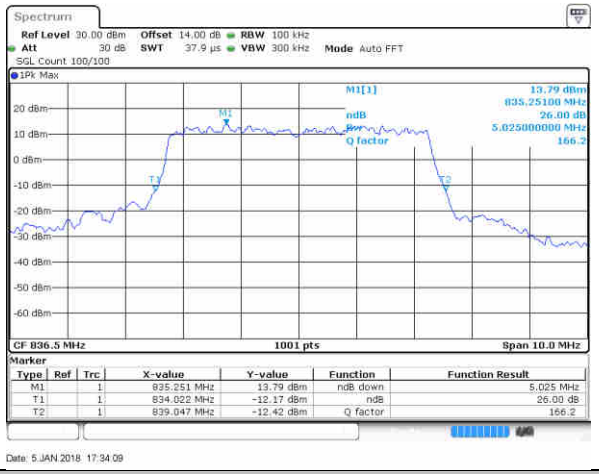

### Lowest Channel / 5MHz / 16QAM



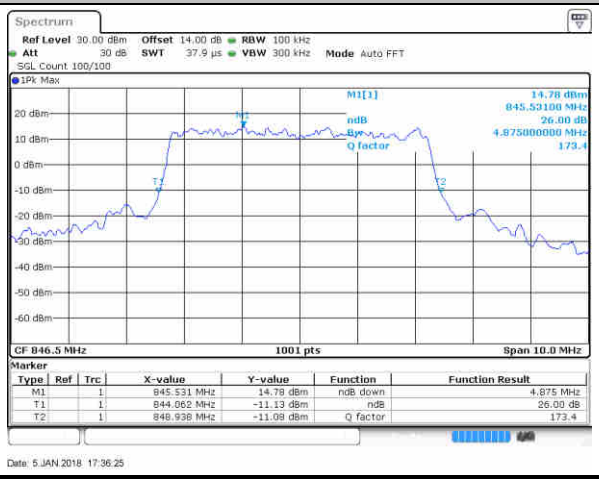

### Middle Channel / 5MHz / QPSK



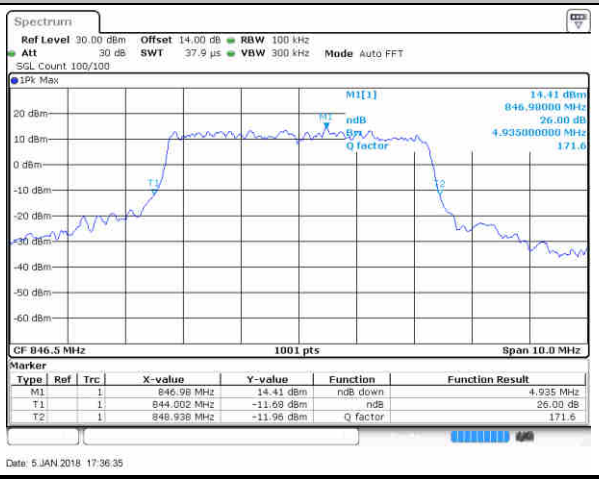

### Middle Channel / 5MHz / 16QAM




### Highest Channel / 5MHz / QPSK

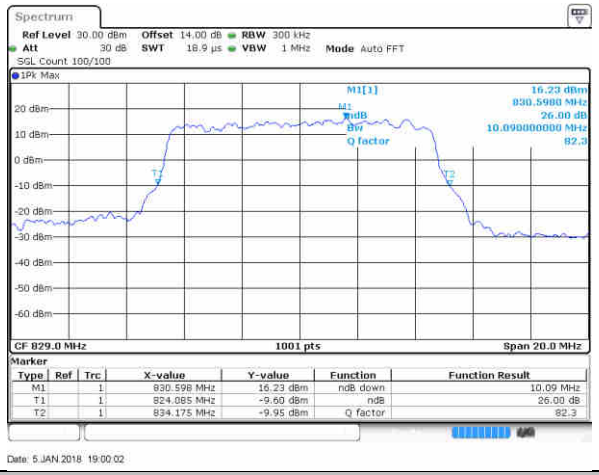



### Highest Channel / 5MHz / 16QAM

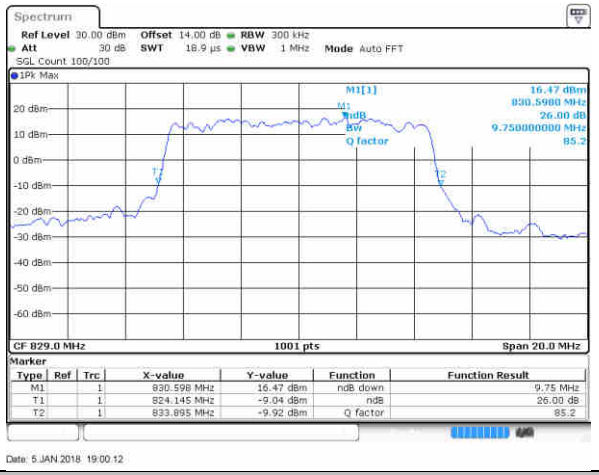


## LTE Band 5

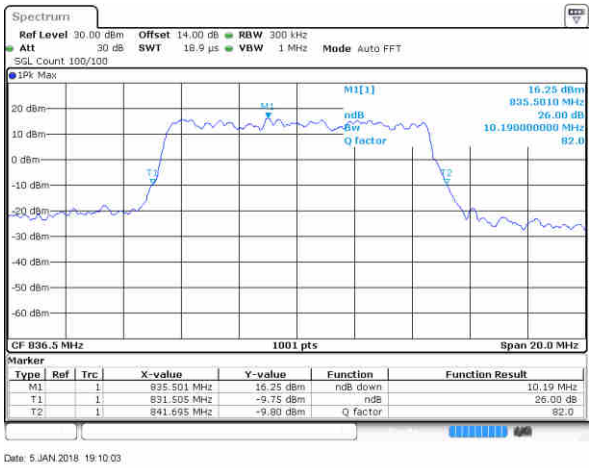
### Lowest Channel / 10MHz / QPSK



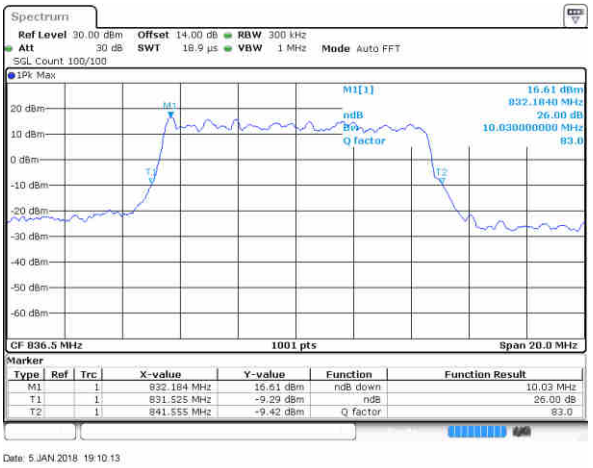

### Lowest Channel / 10MHz / 16QAM



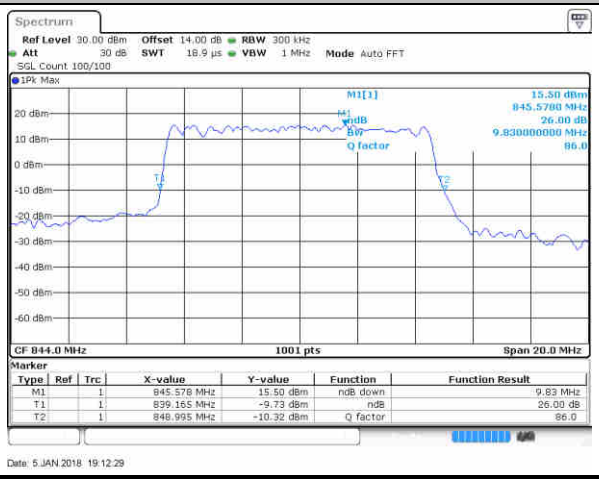

### Middle Channel / 10MHz / QPSK



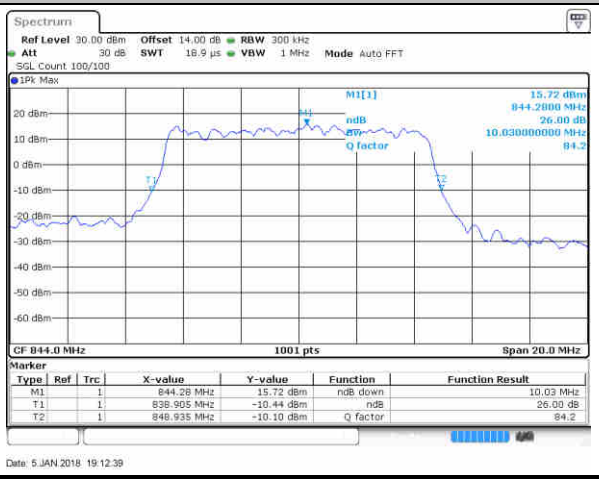

### Middle Channel / 10MHz / 16QAM




### Highest Channel / 10MHz / QPSK

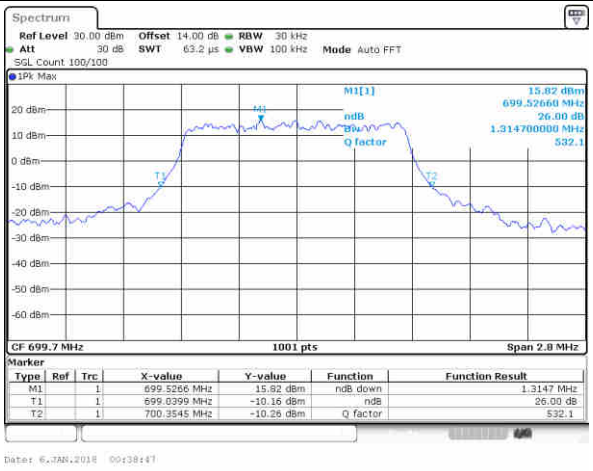



### Highest Channel / 10MHz / 16QAM

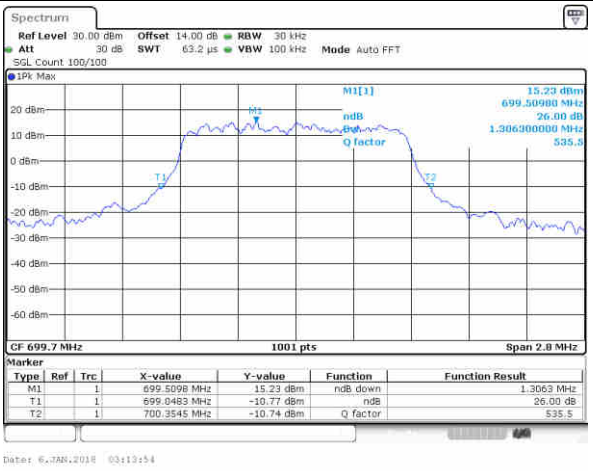


## LTE Band 12

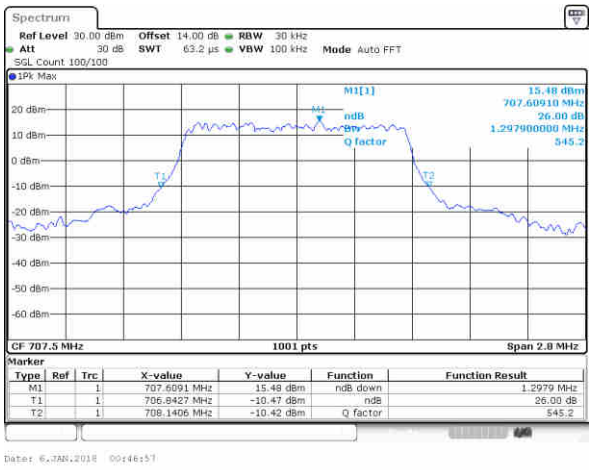
### Lowest Channel / 1.4MHz / QPSK



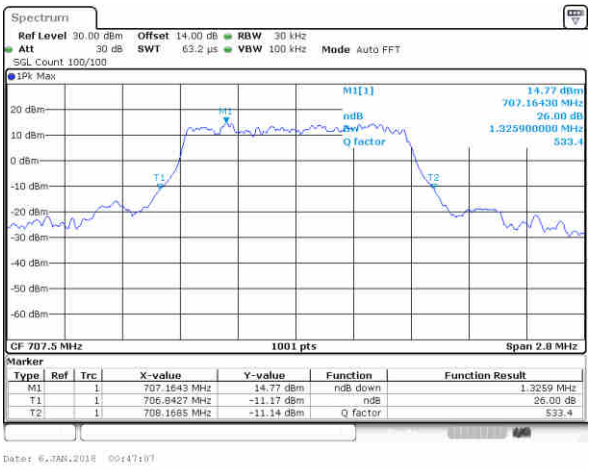

### Lowest Channel / 1.4MHz / 16QAM



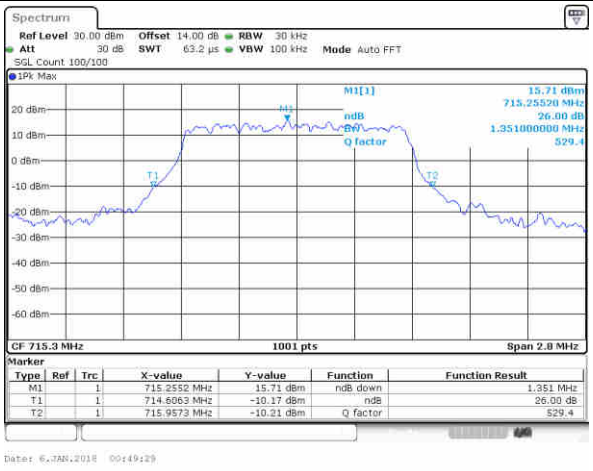

### Middle Channel / 1.4MHz / QPSK



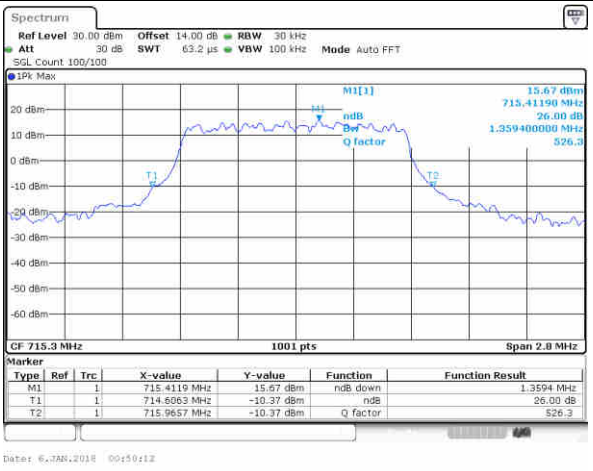

### Middle Channel / 1.4MHz / 16QAM




### Highest Channel / 1.4MHz / QPSK

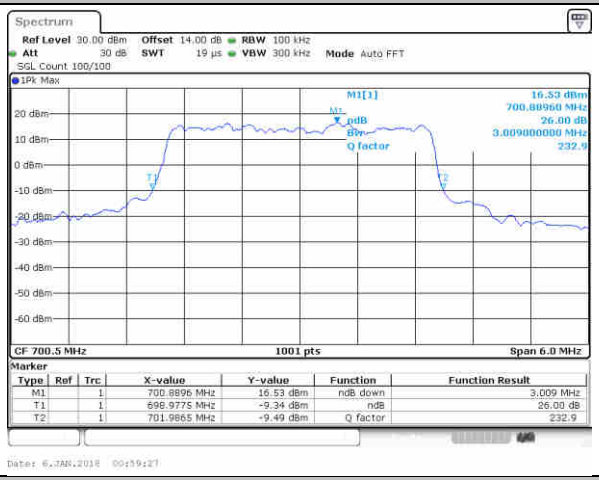



### Highest Channel / 1.4MHz / 16QAM

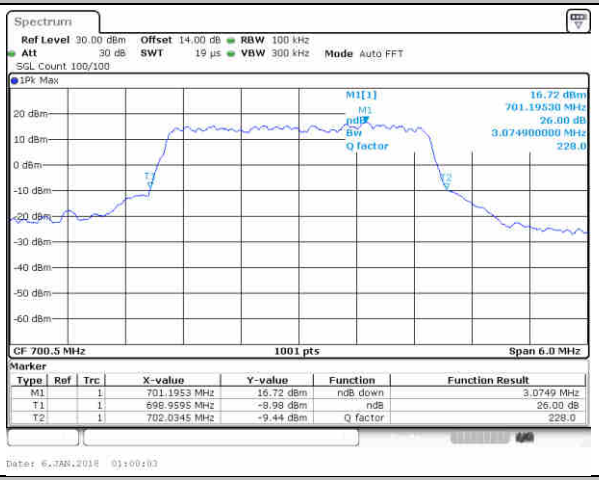


## LTE Band 12

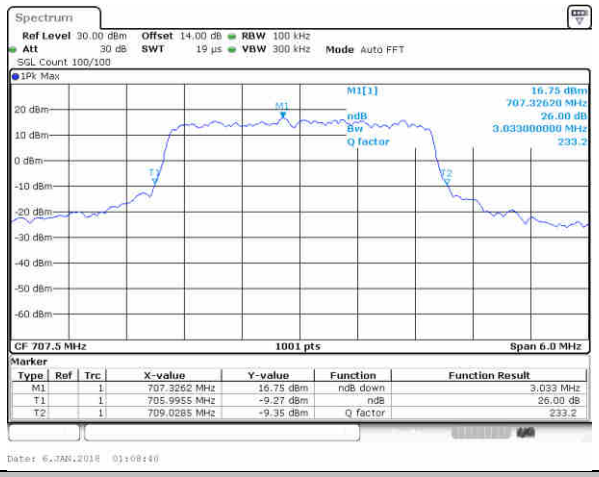
### Lowest Channel / 3MHz / QPSK



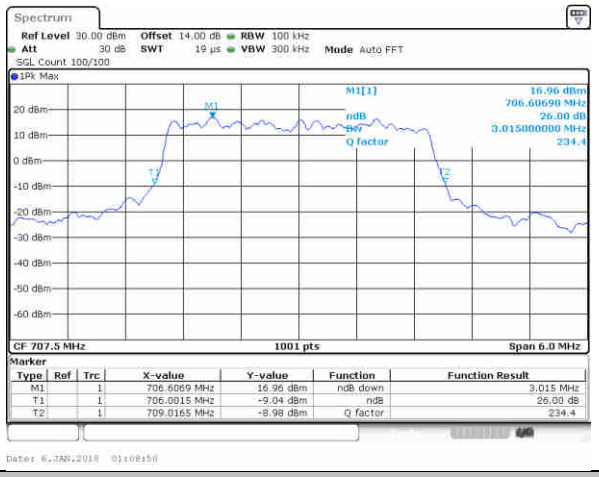

### Lowest Channel / 3MHz / 16QAM



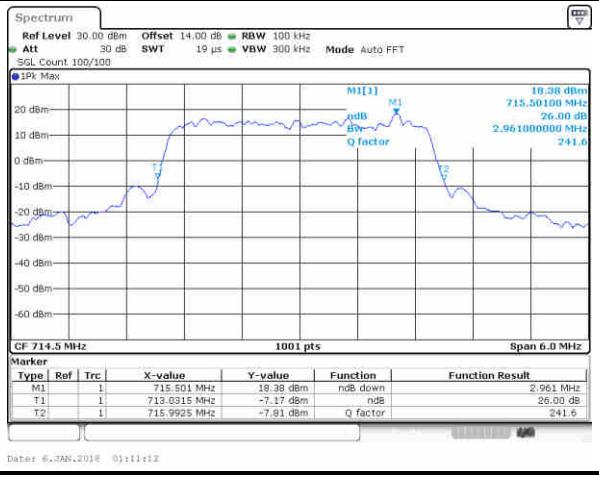

### Middle Channel / 3MHz / QPSK



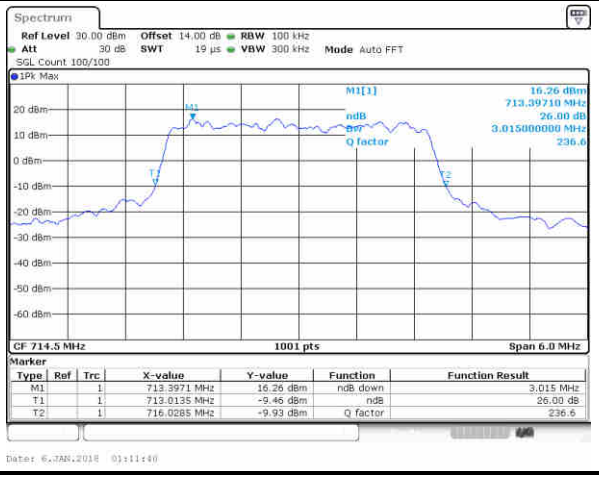

### Middle Channel /3MHz / 16QAM




### Highest Channel /3MHz / QPSK

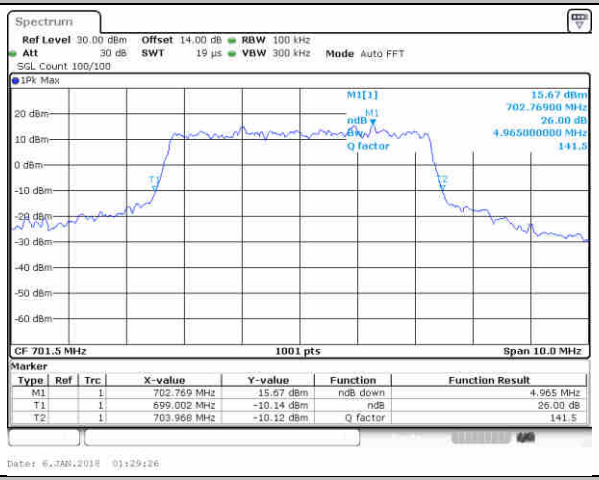



### Highest Channel /3MHz / 16QAM

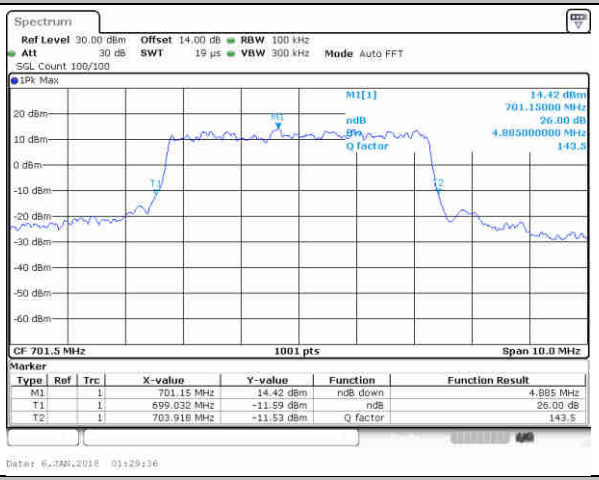


## LTE Band 12

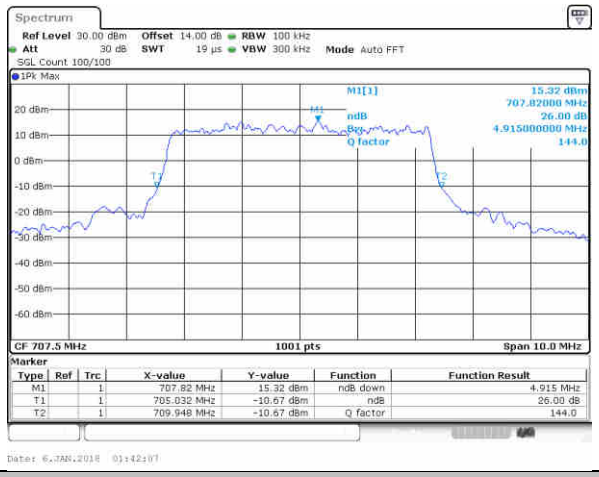
### Lowest Channel / 5MHz / QPSK



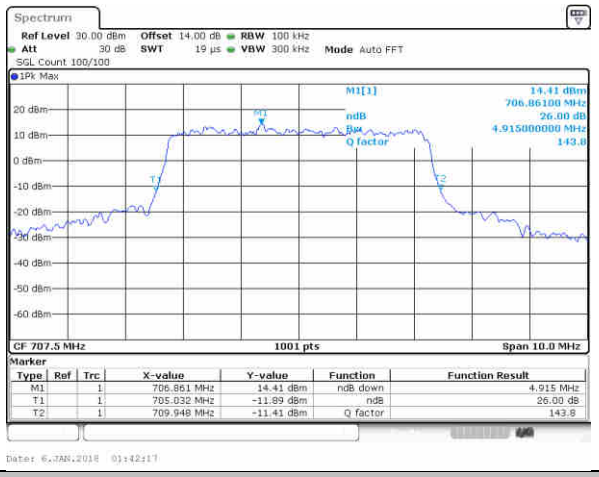

### Lowest Channel / 5MHz / 16QAM



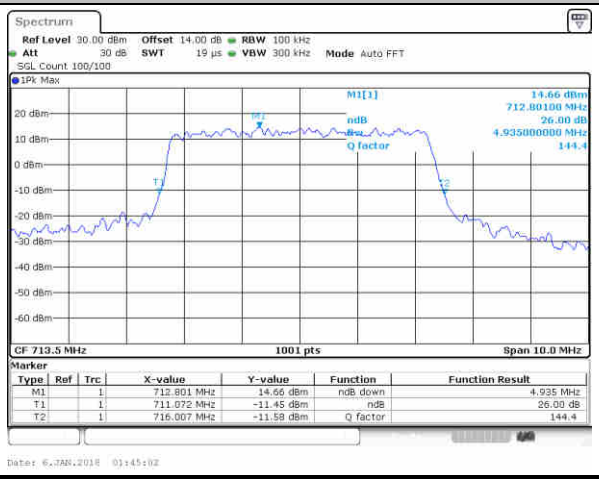

### Middle Channel / 5MHz / QPSK



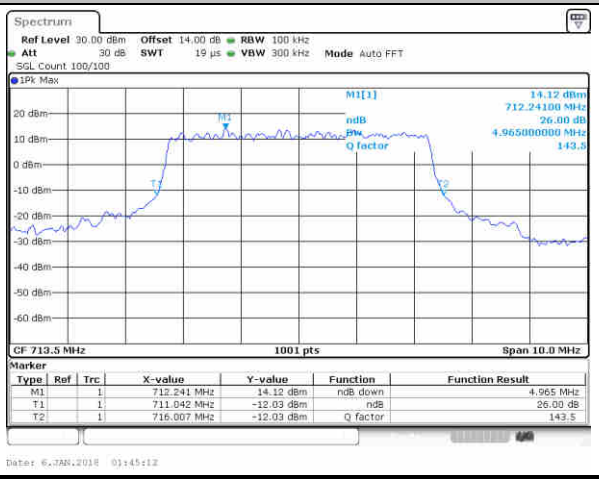

### Middle Channel / 5MHz / 16QAM




### Highest Channel / 5MHz / QPSK

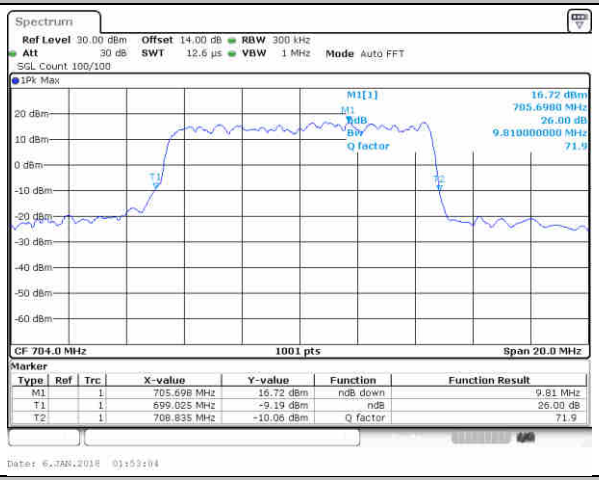



### Highest Channel / 5MHz / 16QAM

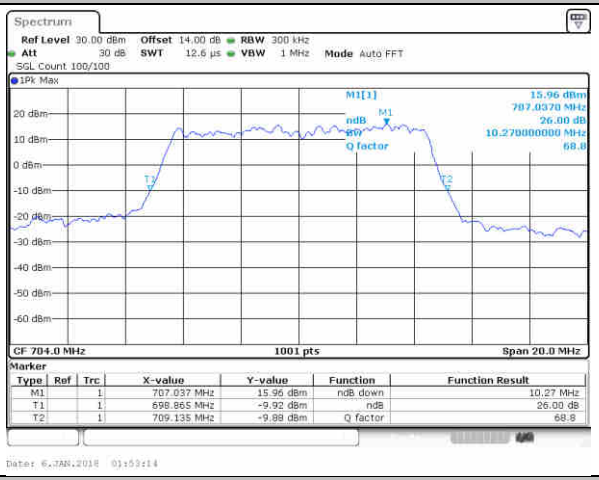


## LTE Band 12

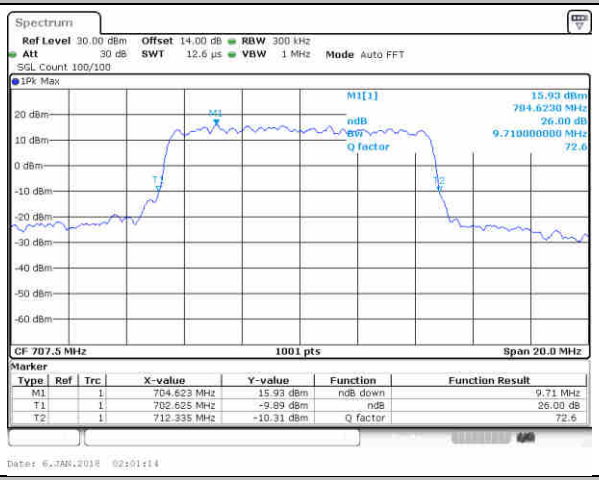
### Lowest Channel / 10MHz / QPSK



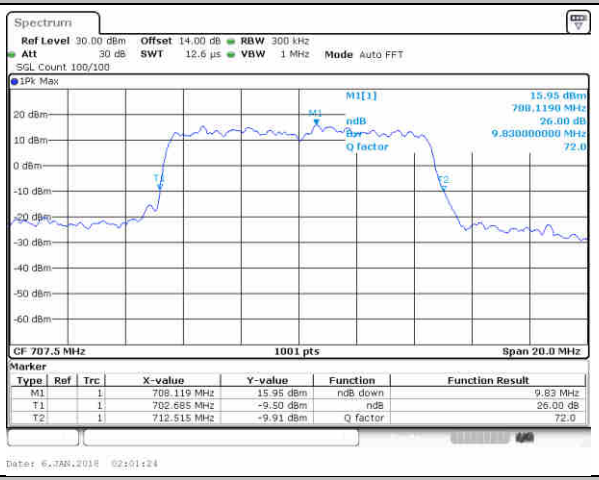

### Lowest Channel / 10MHz / 16QAM



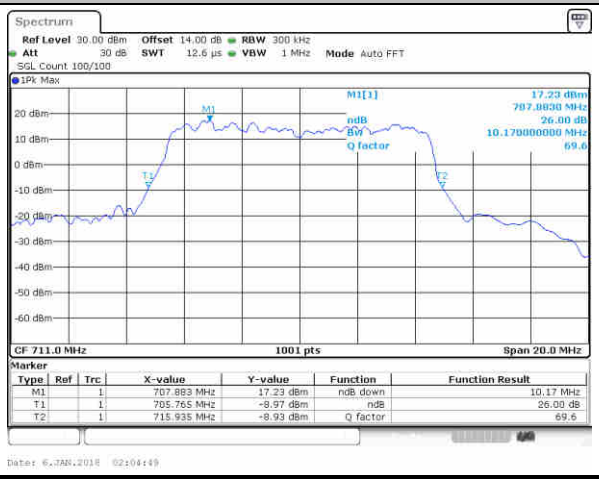

### Middle Channel / 10MHz / QPSK



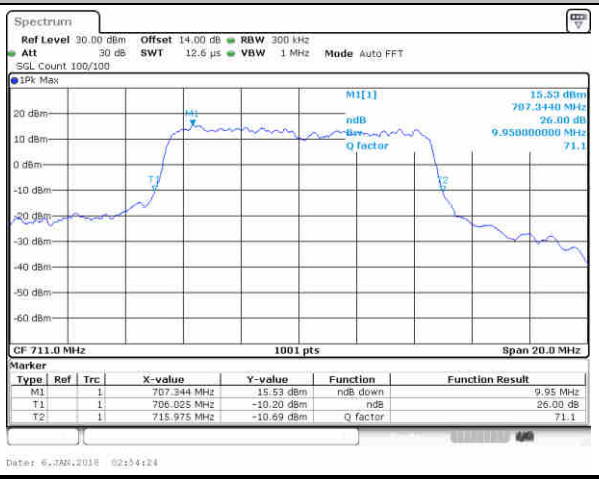

### Middle Channel / 10MHz / 16QAM




### Highest Channel / 10MHz / QPSK

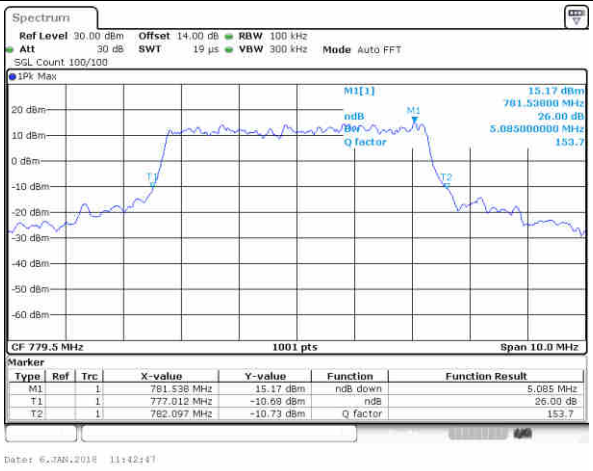



### Highest Channel / 10MHz / 16QAM

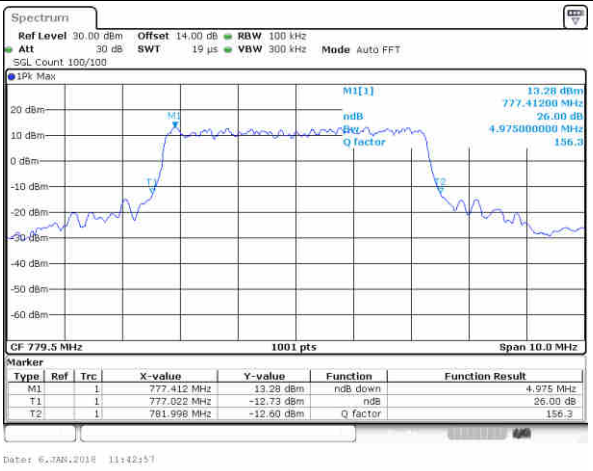


## LTE Band 13

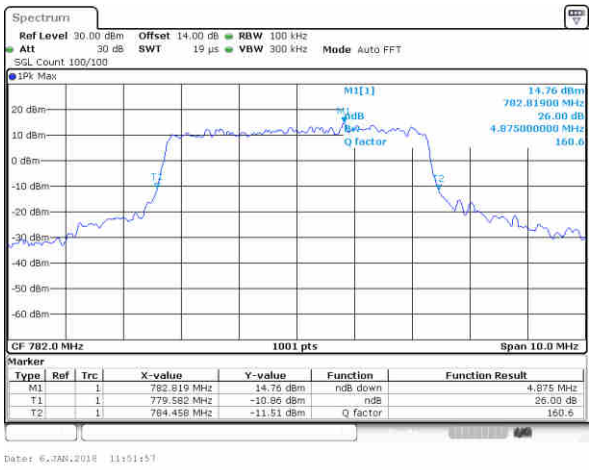
### Lowest Channel / 5MHz / QPSK



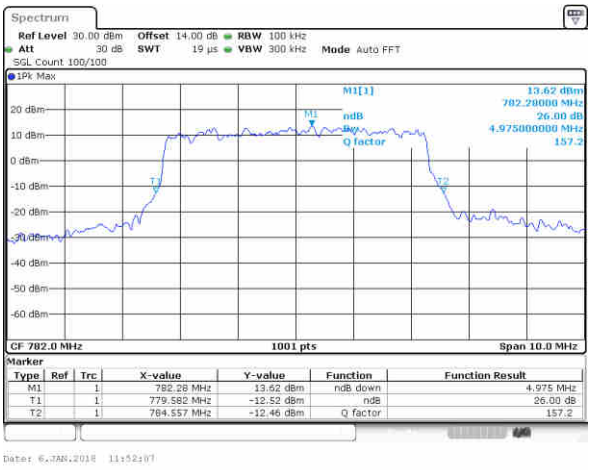

### Lowest Channel / 5MHz / 16QAM



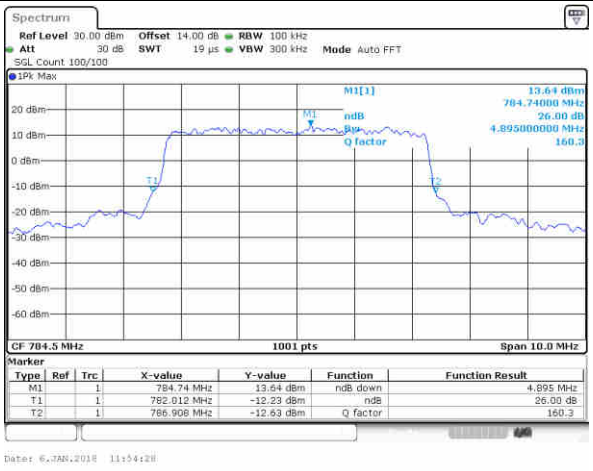

### Middle Channel / 5MHz / QPSK



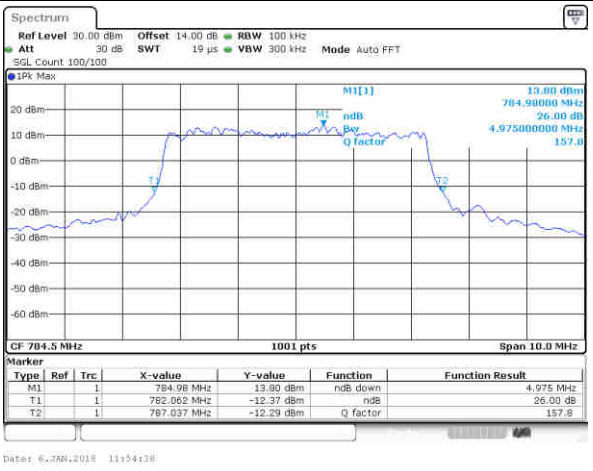

### Middle Channel / 5MHz / 16QAM

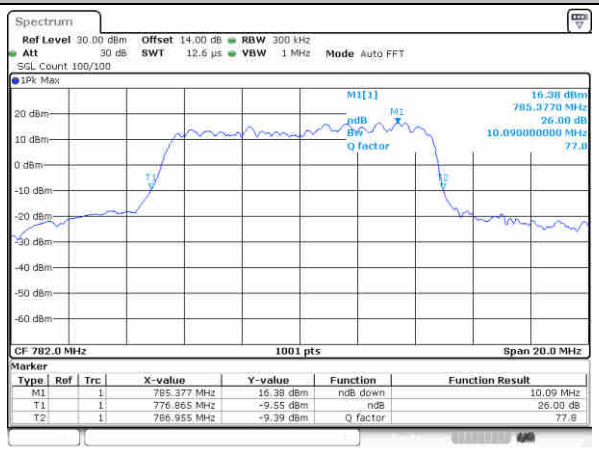
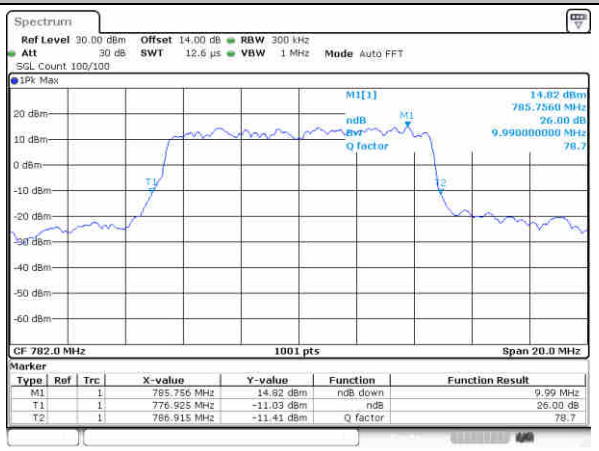



### Highest Channel / 5MHz / QPSK




### Highest Channel / 5MHz / 16QAM



| LTE Band 13 | |
|---|---|
| **Middle Channel / 10MHz / QPSK** | **Middle Channel / 10MHz / 16QAM** |
|  |  |

# Occupied Bandwidth

| Mode | LTE Band 2 : 99%OBW(MHz) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BW | 1.4MHz | | 3MHz | | 5MHz | | 10MHz | | 15MHz | | 20MHz | |
| Mod. | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM |
| Lowest CH | 1.09 | 1.1 | 2.72 | 2.71 | 4.49 | 4.47 | 9.07 | 9.07 | 13.43 | 13.49 | 18.42 | 18.46 |
| Middle CH | 1.1 | 1.09 | 2.75 | 2.72 | 4.49 | 4.5 | 9.01 | 9.05 | 13.46 | 13.43 | 18.38 | 18.42 |
| Highest CH | 1.1 | 1.11 | 2.7 | 2.72 | 4.51 | 4.5 | 9.11 | 8.99 | 13.43 | 13.46 | 18.34 | 18.34 |

| Mode | LTE Band 4 : 99%OBW(MHz) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BW | 1.4MHz | | 3MHz | | 5MHz | | 10MHz | | 15MHz | | 20MHz | |
| Mod. | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM |
| Lowest CH | 1.1 | 1.09 | 2.72 | 2.72 | 4.48 | 4.5 | 9.03 | 9.01 | 13.58 | 13.49 | 18.34 | 18.26 |
| Middle CH | 1.1 | 1.1 | 2.71 | 2.72 | 4.5 | 4.5 | 9.01 | 9.01 | 13.46 | 13.46 | 18.34 | 18.34 |
| Highest CH | 1.1 | 1.1 | 2.72 | 2.73 | 4.47 | 4.5 | 9.05 | 9.01 | 13.4 | 13.52 | 18.18 | 18.34 |

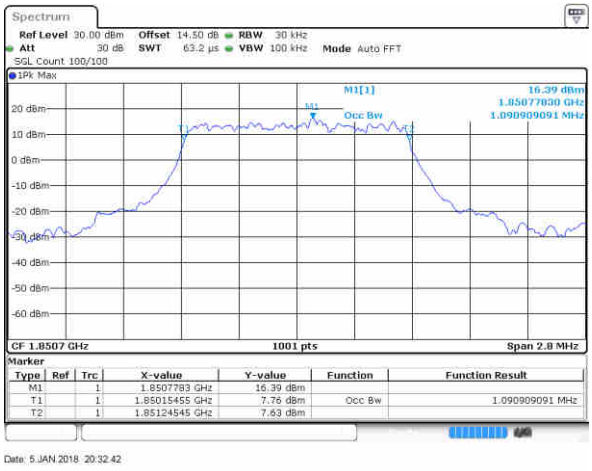
| Mode | LTE Band 5 : 99%OBW(MHz) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BW | 1.4MHz | | 3MHz | | 5MHz | | 10MHz | | 15MHz | | 20MHz | |
| Mod. | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM |
| Lowest CH | 1.09 | 1.09 | 2.72 | 2.72 | 4.5 | 4.49 | 9.01 | 9.05 | - | - | - | - |
| Middle CH | 1.11 | 1.09 | 2.75 | 2.73 | 4.48 | 4.51 | 9.09 | 9.05 | - | - | - | - |
| Highest CH | 1.1 | 1.09 | 2.74 | 2.72 | 4.47 | 4.47 | 9.03 | 9.03 | - | - | - | - |

| Mode | LTE Band 12 : 99%OBW(MHz) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BW | 1.4MHz | | 3MHz | | 5MHz | | 10MHz | | 15MHz | | 20MHz | |
| Mod. | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM |
| Lowest CH | 1.1 | 1.09 | 2.72 | 2.72 | 4.49 | 4.51 | 9.03 | 8.95 | - | - | - | - |
| Middle CH | 1.1 | 1.1 | 2.74 | 2.7 | 4.48 | 4.49 | 9.03 | 9.01 | - | - | - | - |
| Highest CH | 1.1 | 1.12 | 2.73 | 2.7 | 4.49 | 4.5 | 9.07 | 9.03 | - | - | - | - |

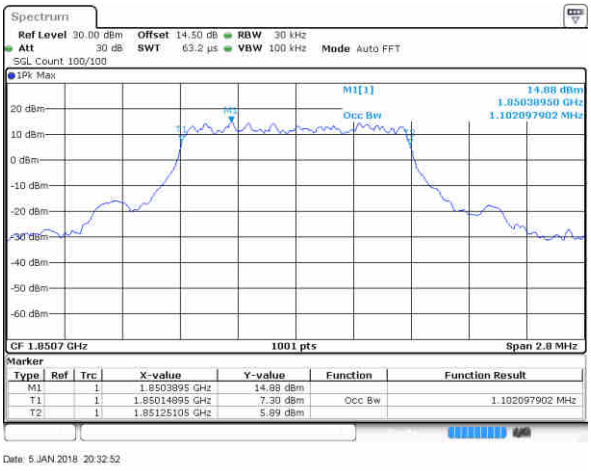
| Mode | LTE Band 13 : 99%OBW(MHz) | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| BW | 1.4MHz | | 3MHz | | 5MHz | | 10MHz | | 15MHz | | 20MHz | |
| Mod. | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM |
| Lowest CH | - | - | - | - | 4.48 | 4.5 | - | - | - | - | - | - |
| Middle CH | - | - | - | - | 4.48 | 4.47 | 9.01 | 8.99 | - | - | - | - |
| Highest CH | - | - | - | - | 4.48 | 4.5 | - | - | - | - | - | - |

## LTE Band 2

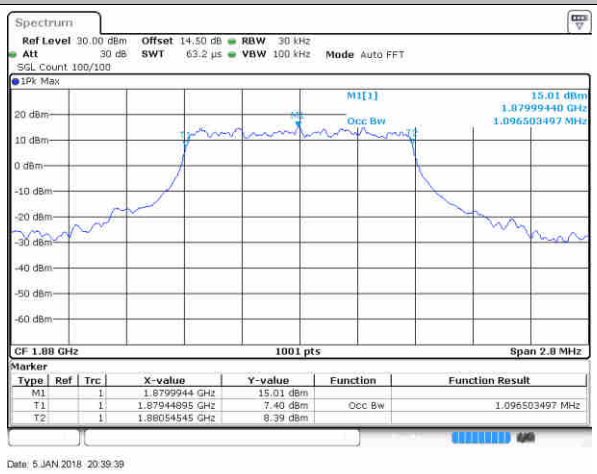
### Lowest Channel / 1.4MHz / QPSK



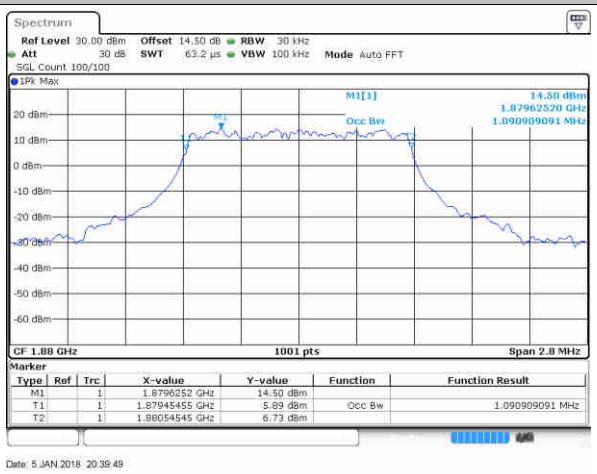

### Lowest Channel / 1.4MHz / 16QAM



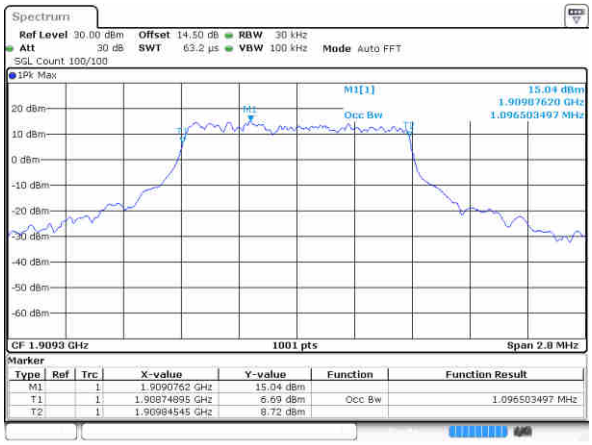

### Middle Channel / 1.4MHz / QPSK



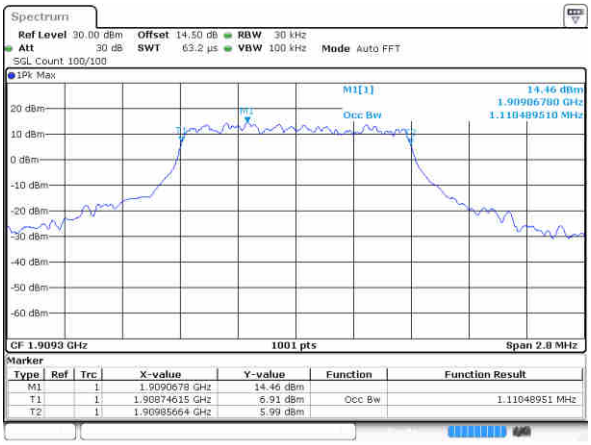

### Middle Channel / 1.4MHz / 16QAM




### Highest Channel / 1.4MHz / QPSK

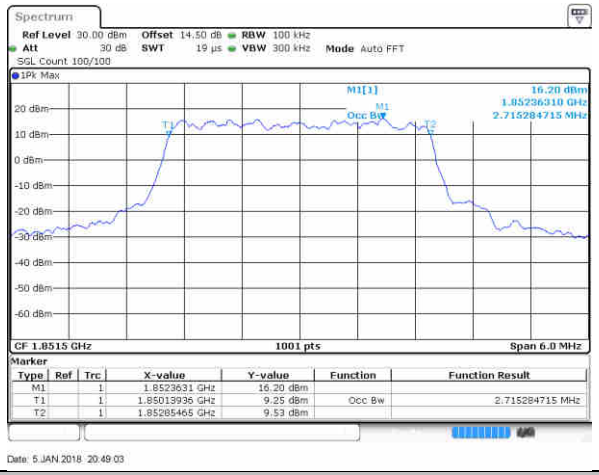



### Highest Channel / 1.4MHz / 16QAM

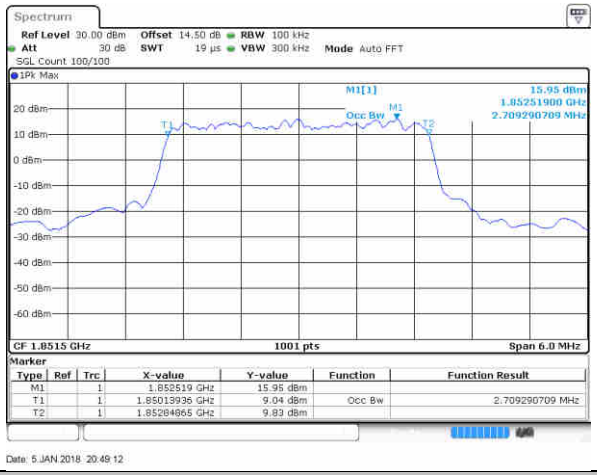


## LTE Band 2

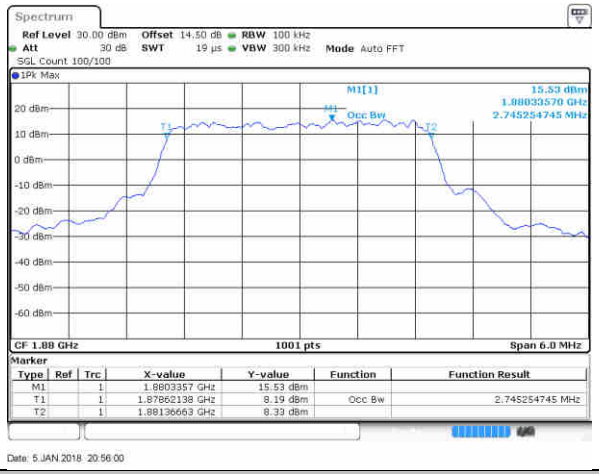
### Lowest Channel / 3MHz / QPSK



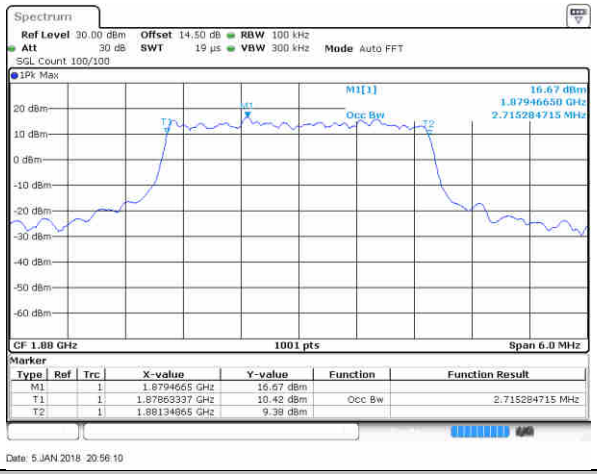

### Lowest Channel / 3MHz / 16QAM



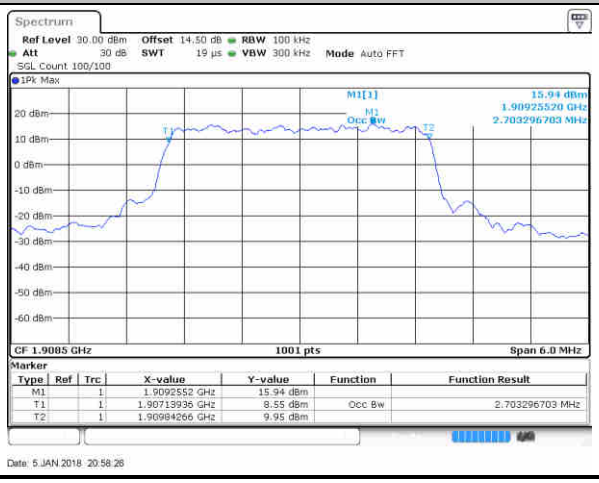

### Middle Channel / 3MHz / QPSK



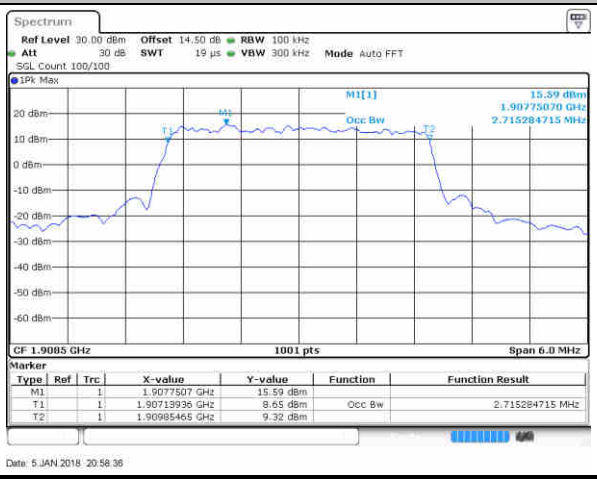

### Middle Channel / 3MHz / 16QAM




### Highest Channel / 3MHz / QPSK

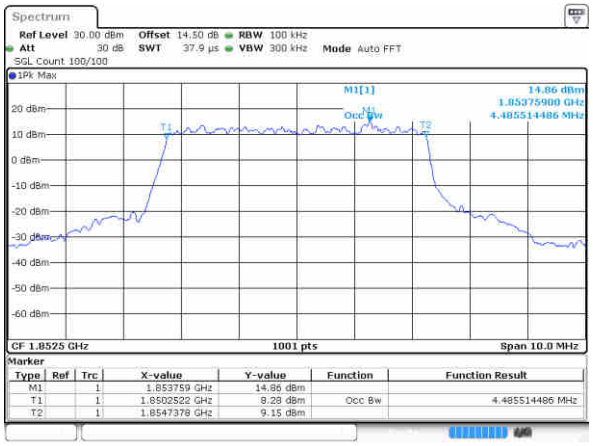



### Highest Channel / 3MHz / 16QAM



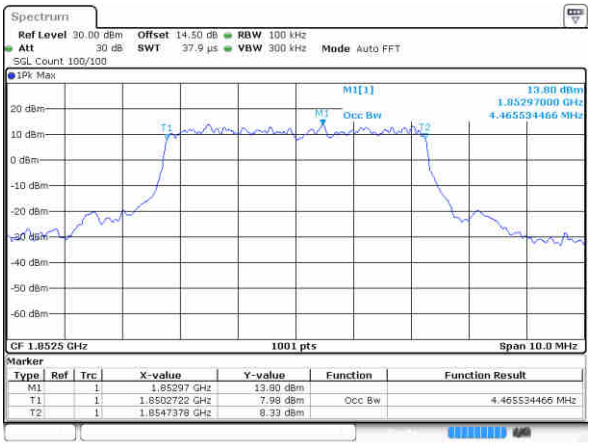
## LTE Band 2

### Lowest Channel / 5MHz / QPSK



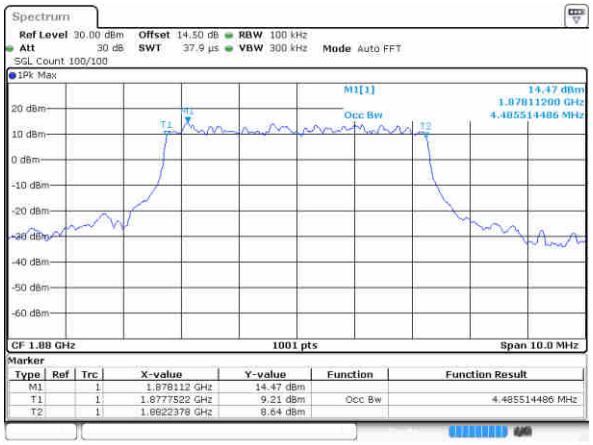

Date: 5.JAN.2018 21:05:23

### Lowest Channel / 5MHz / 16QAM



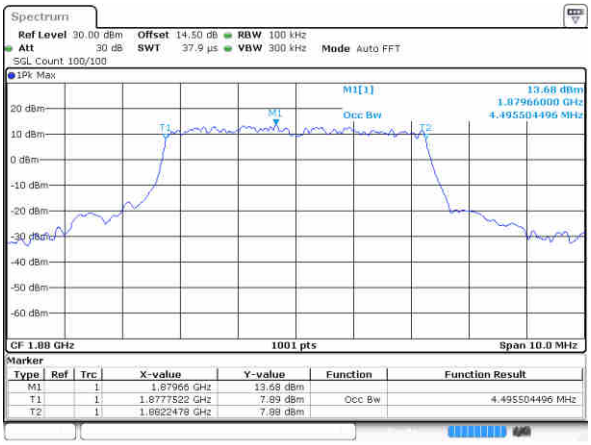

Date: 5.JAN.2018 21:05:33

### Middle Channel / 5MHz / QPSK



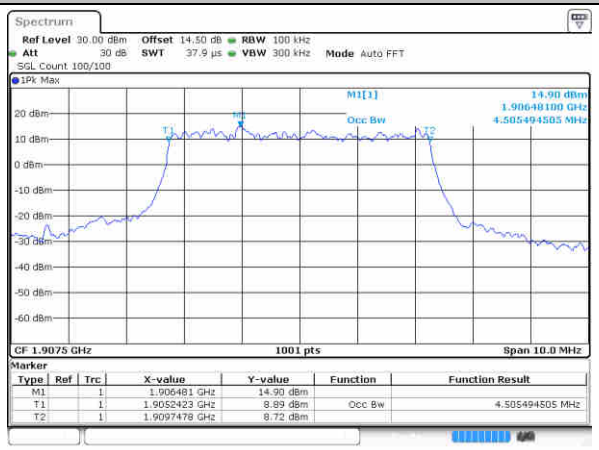

Date: 5.JAN.2018 21:12:21

### Middle Channel / 5MHz / 16QAM



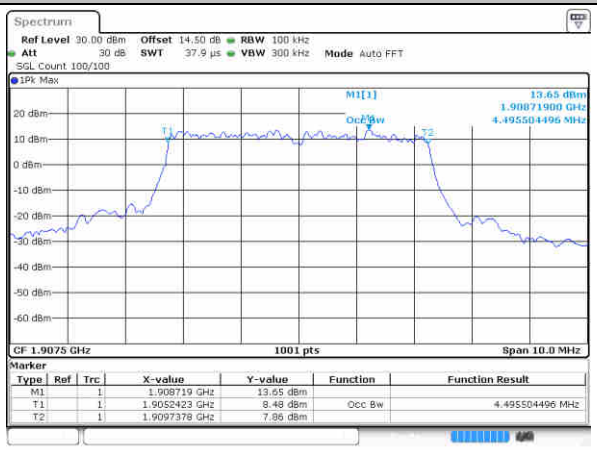

Date: 5.JAN.2018 21:12:31

### Highest Channel / 5MHz / QPSK




Date: 5.JAN.2018 21:14:47

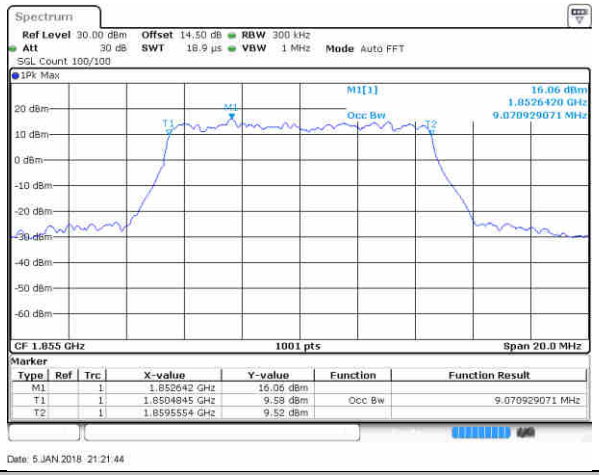
### Highest Channel / 5MHz / 16QAM



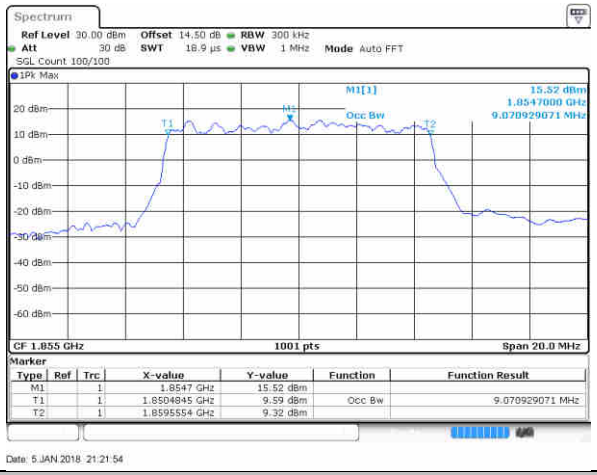

Date: 5.JAN.2018 21:14:56

## LTE Band 2

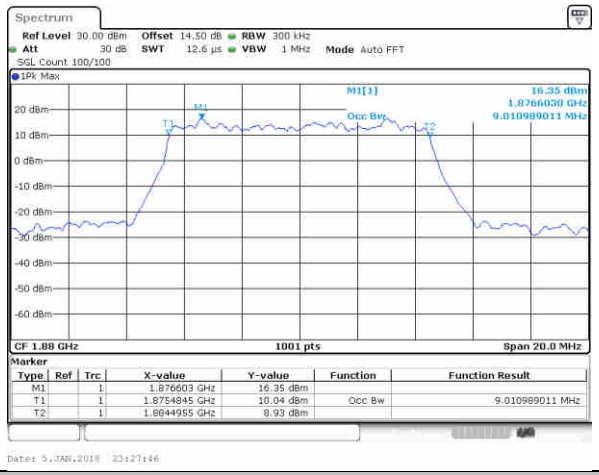
### Lowest Channel / 10MHz / QPSK



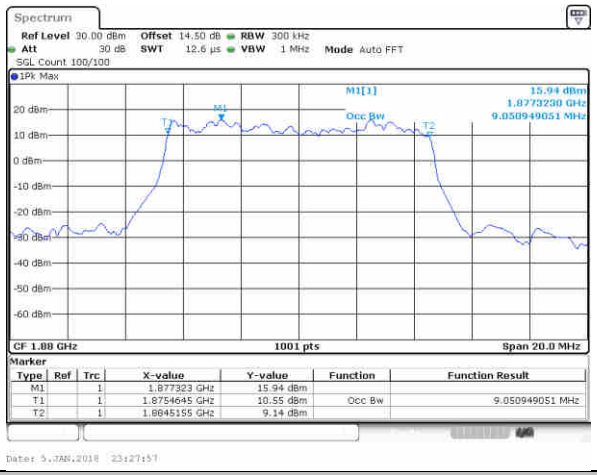

### Lowest Channel / 10MHz / 16QAM



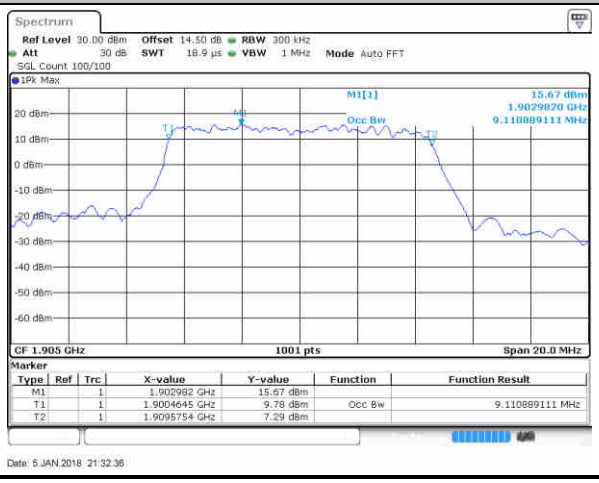

### Middle Channel / 10MHz / QPSK



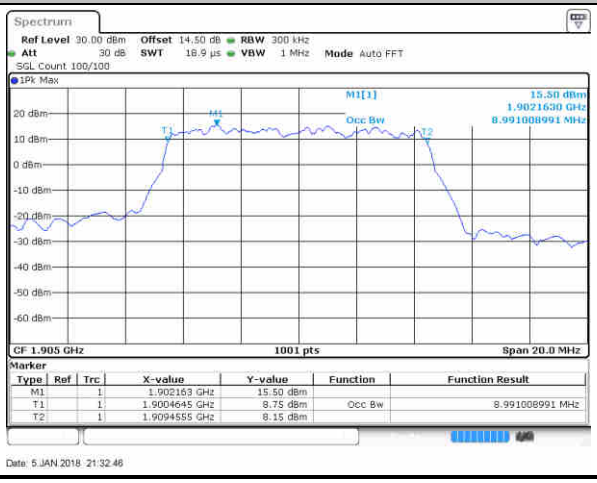

### Middle Channel / 10MHz / 16QAM




### Highest Channel / 10MHz / QPSK

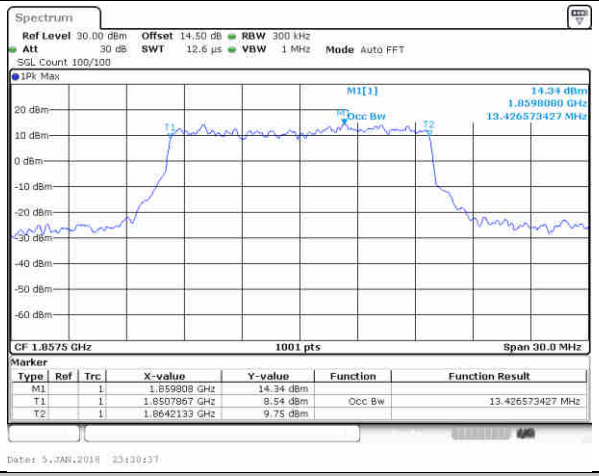



### Highest Channel / 10MHz / 16QAM

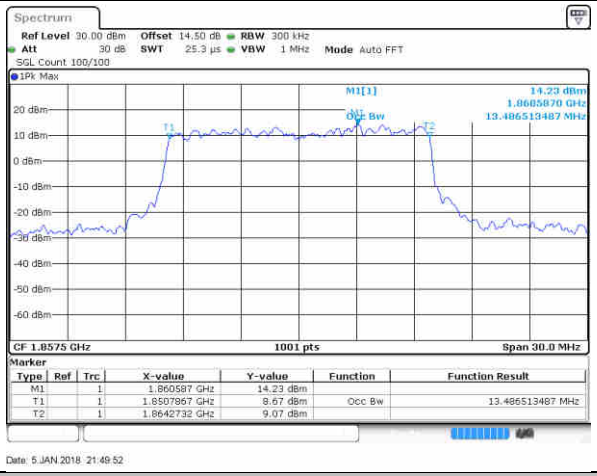


## LTE Band 2

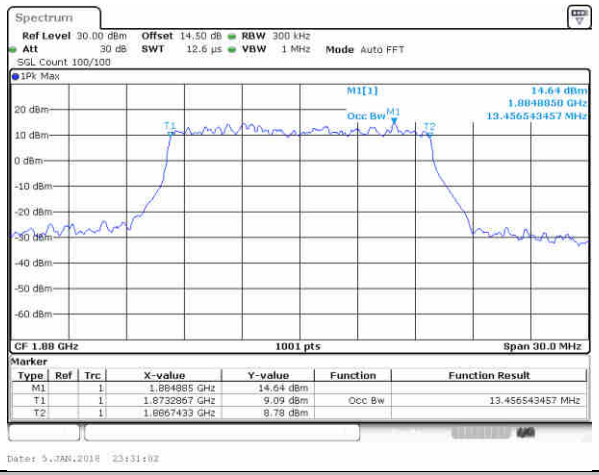
### Lowest Channel / 15MHz / QPSK



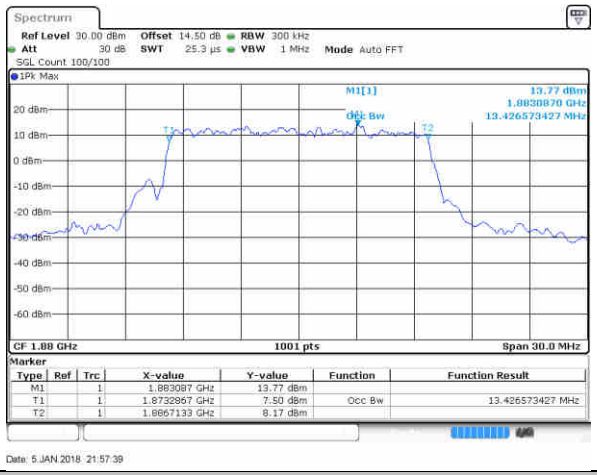

### Lowest Channel / 15MHz / 16QAM



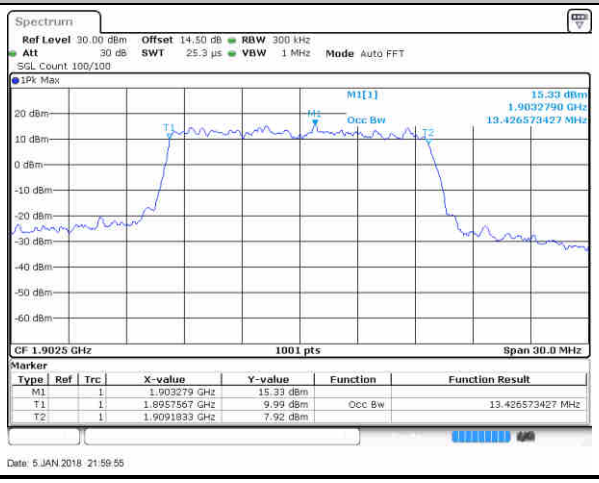

### Middle Channel / 15MHz / QPSK



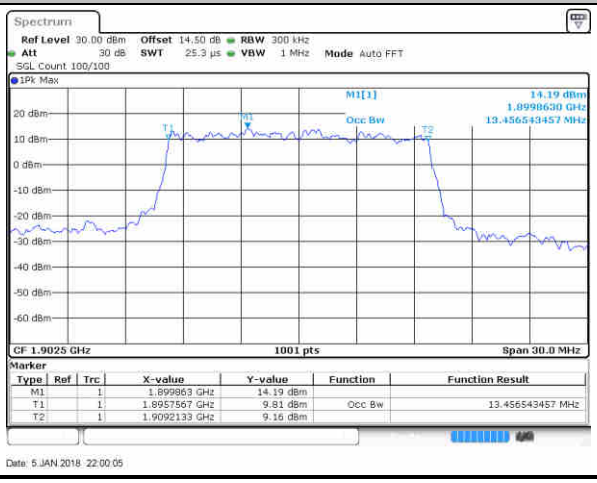

### Middle Channel / 15MHz / 16QAM




### Highest Channel / 15MHz / QPSK

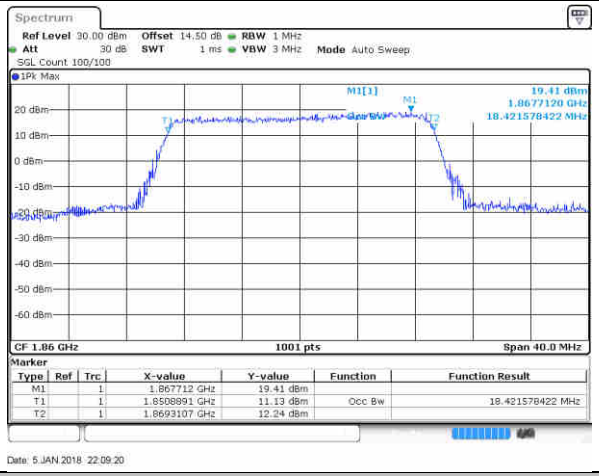



### Highest Channel / 15MHz / 16QAM

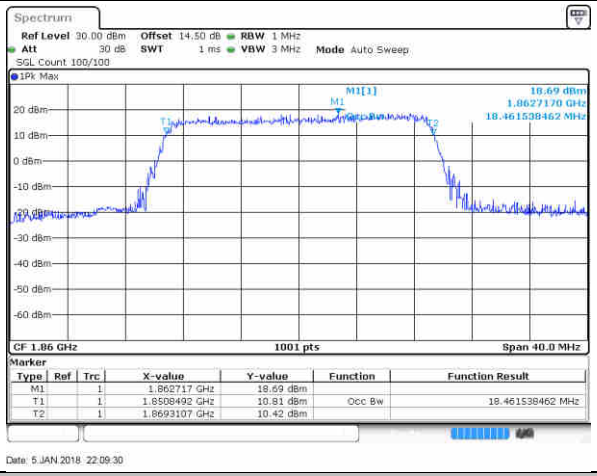


## LTE Band 2

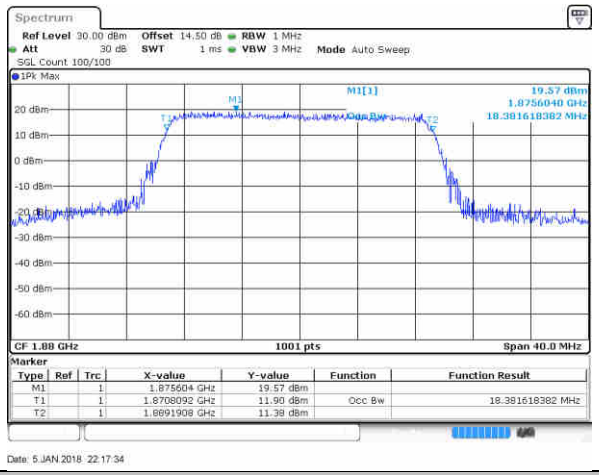
### Lowest Channel / 20MHz / QPSK



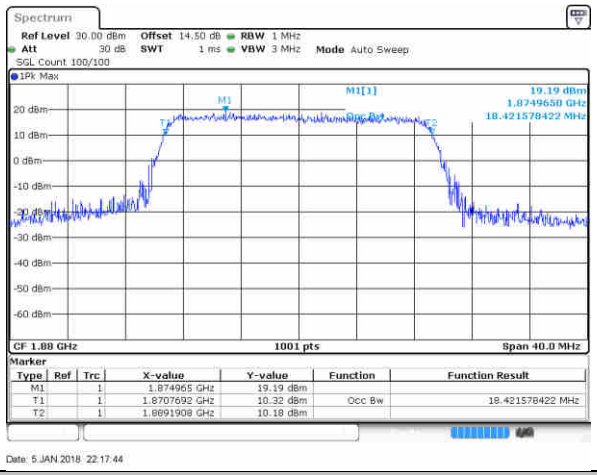

### Lowest Channel / 20MHz / 16QAM



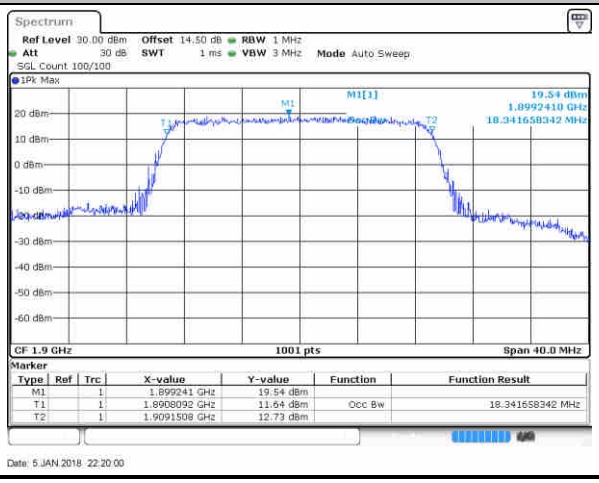

### Middle Channel / 20MHz / QPSK



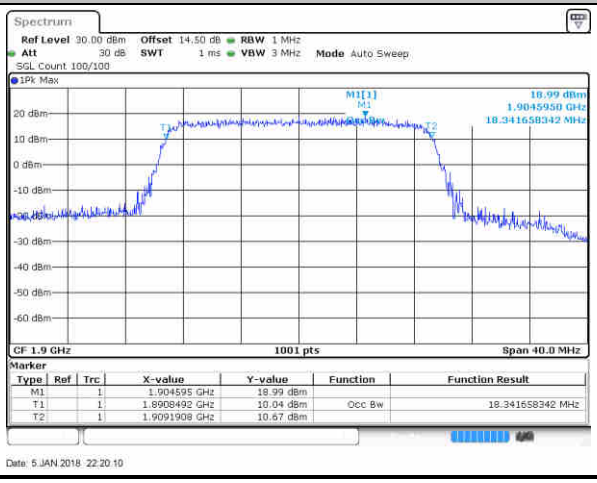

### Middle Channel / 20MHz / 16QAM




### Highest Channel / 20MHz / QPSK

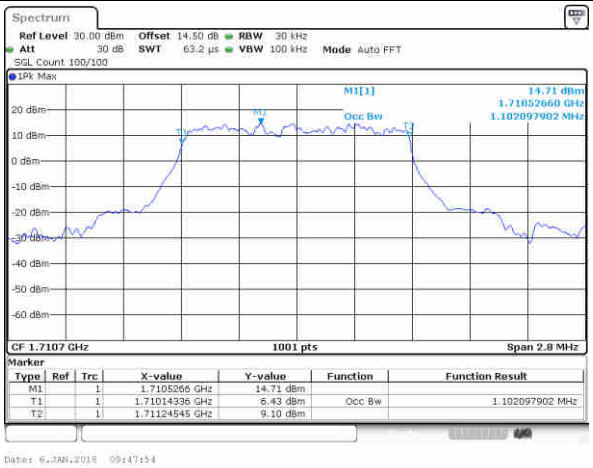



### Highest Channel / 20MHz / 16QAM

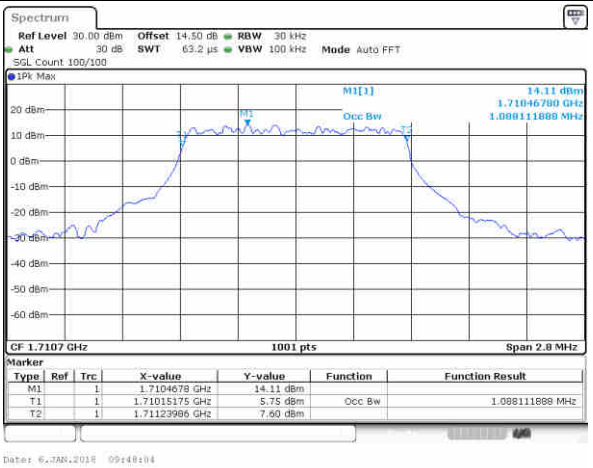


## LTE Band 4

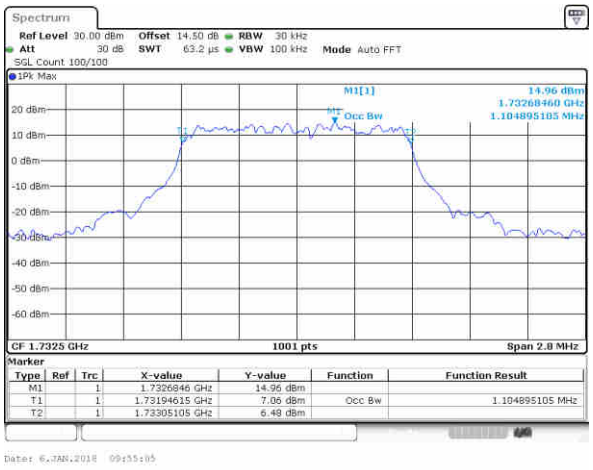
### Lowest Channel / 1.4MHz / QPSK



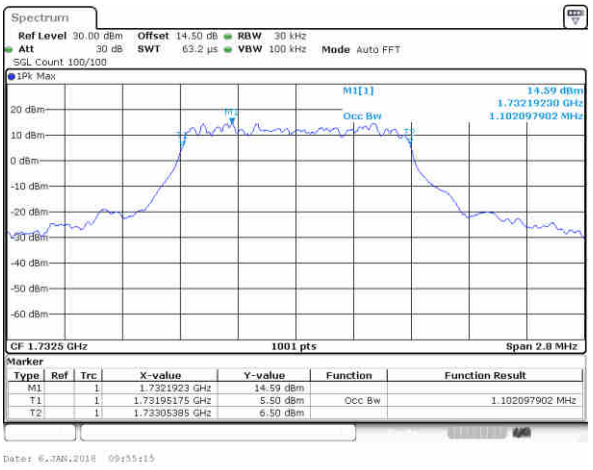

### Lowest Channel / 1.4MHz / 16QAM



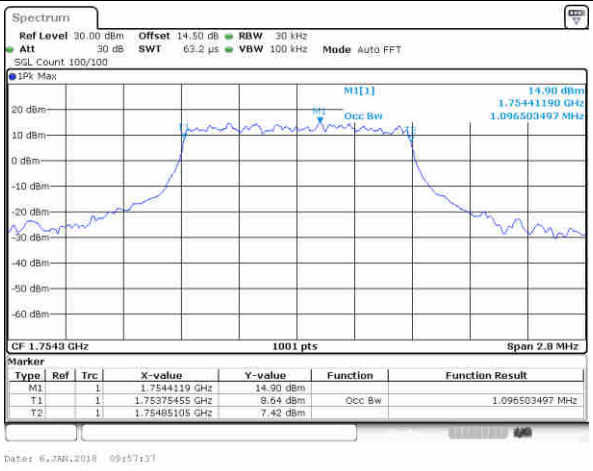

### Middle Channel / 1.4MHz / QPSK



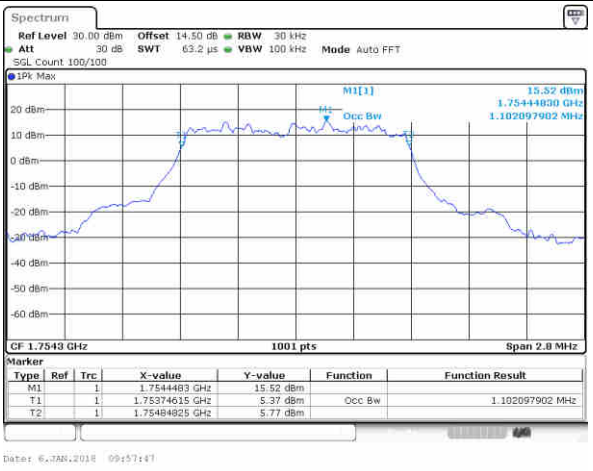

### Middle Channel / 1.4MHz / 16QAM




### Highest Channel / 1.4MHz / QPSK

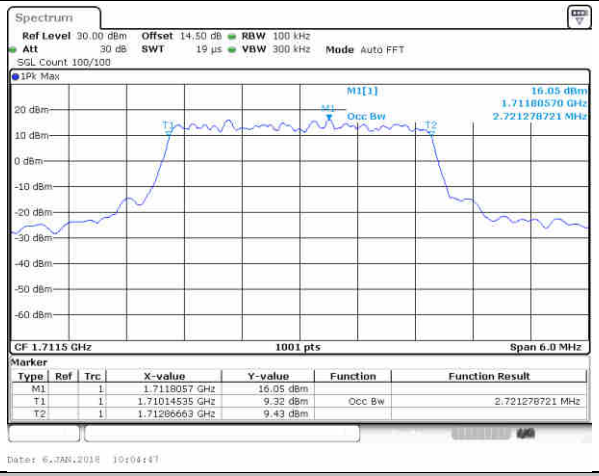



### Highest Channel / 1.4MHz / 16QAM

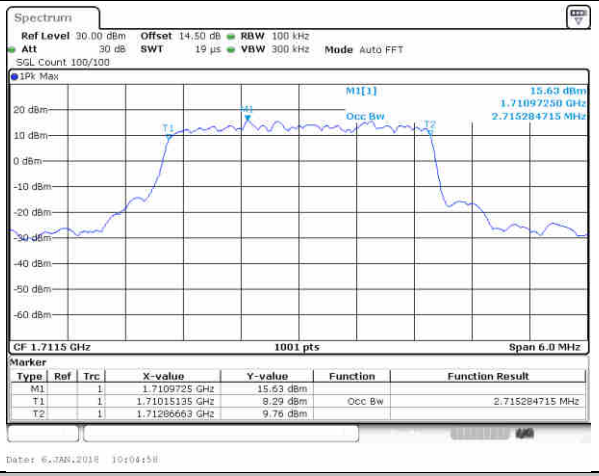


## LTE Band 4

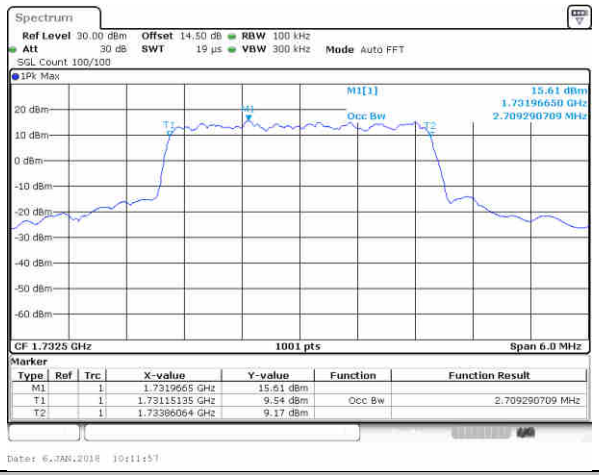
### Lowest Channel / 3MHz / QPSK



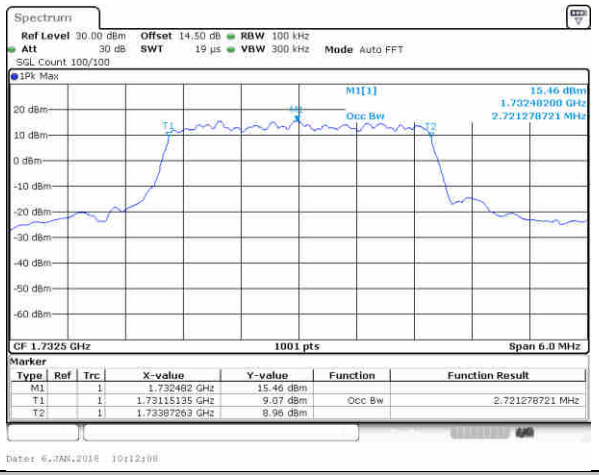

### Lowest Channel / 3MHz / 16QAM



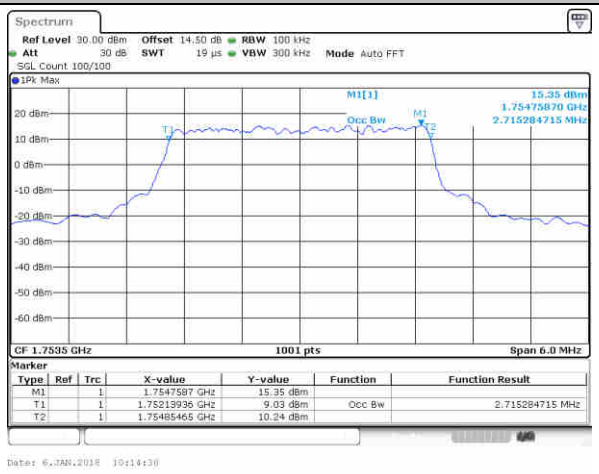

### Middle Channel / 3MHz / QPSK



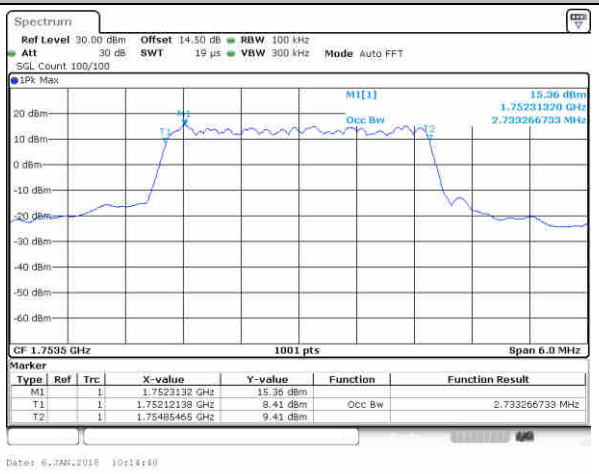

### Middle Channel / 3MHz / 16QAM




### Highest Channel / 3MHz / QPSK

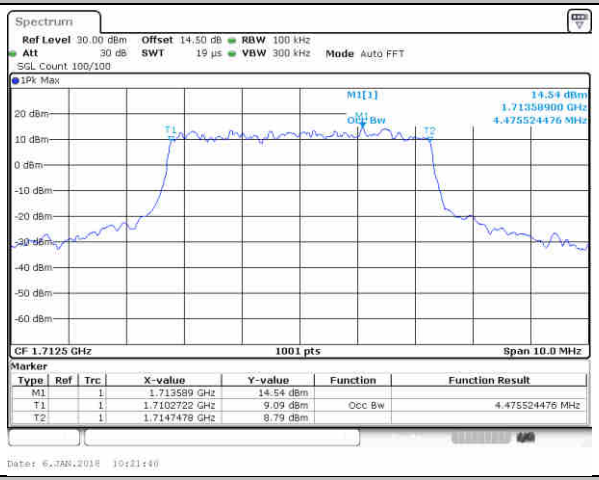



### Highest Channel / 3MHz / 16QAM

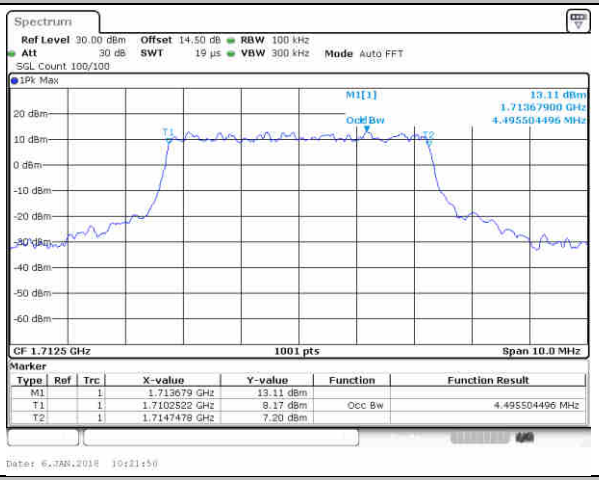


## LTE Band 4

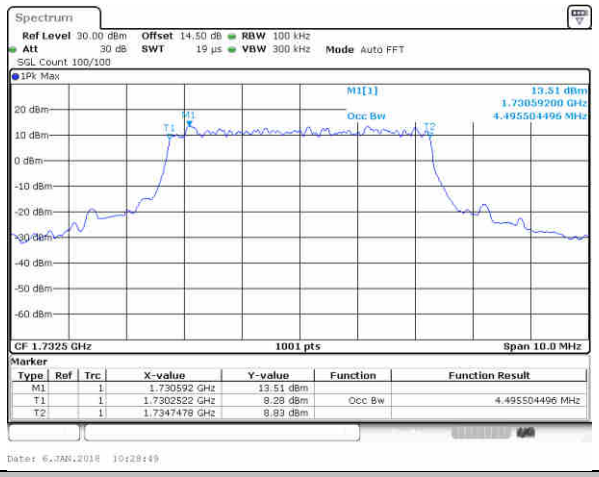
### Lowest Channel / 5MHz / QPSK



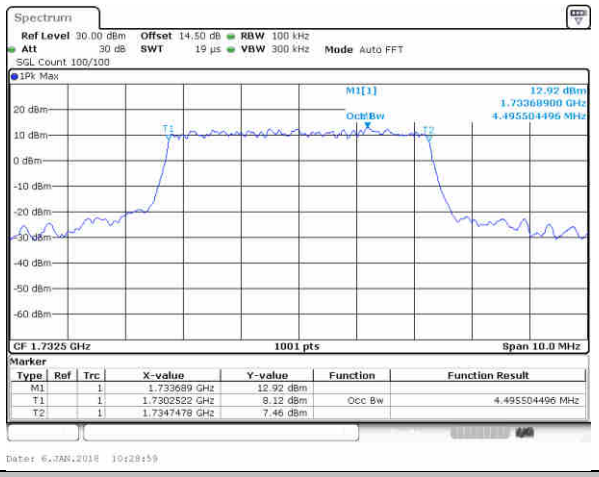

### Lowest Channel / 5MHz / 16QAM



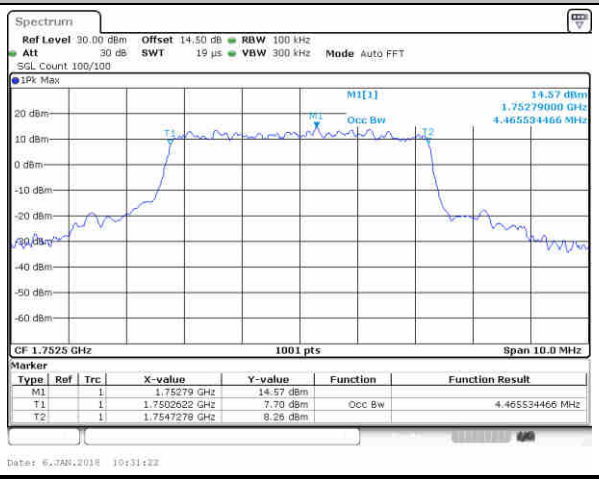

### Middle Channel / 5MHz / QPSK



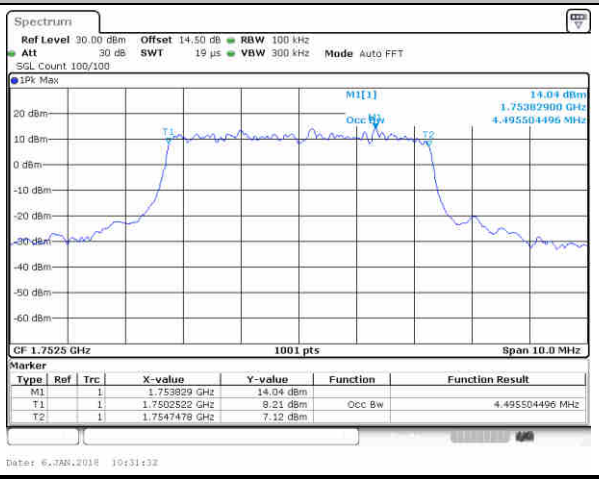

### Middle Channel / 5MHz / 16QAM




### Highest Channel / 5MHz / QPSK

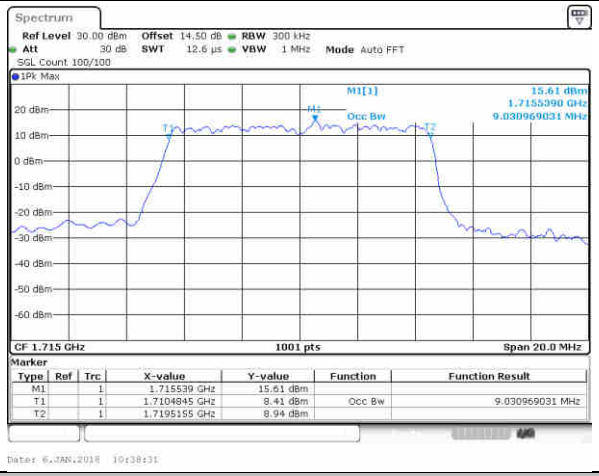



### Highest Channel / 5MHz / 16QAM

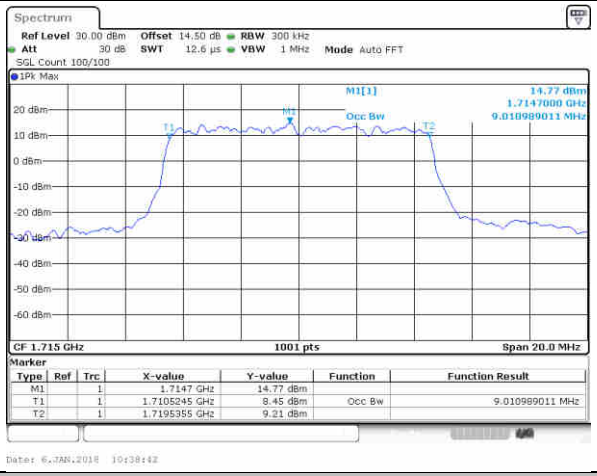


## LTE Band 4

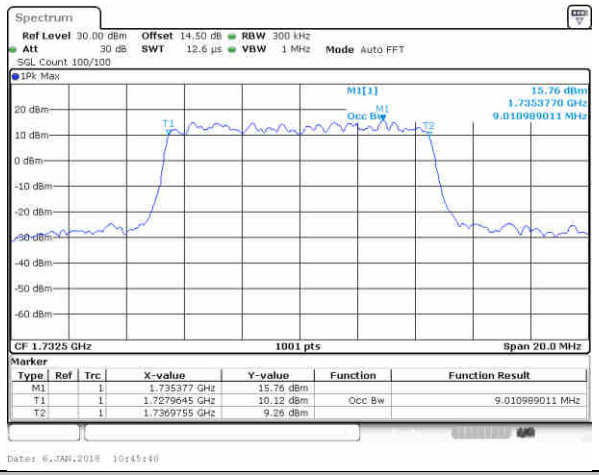
### Lowest Channel / 10MHz / QPSK



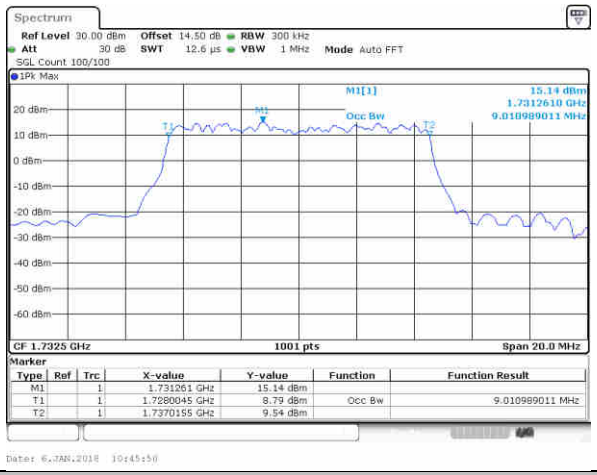

### Lowest Channel / 10MHz / 16QAM



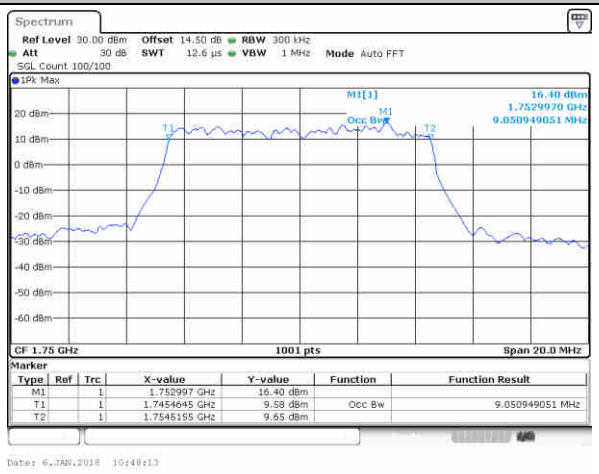

### Middle Channel / 10MHz / QPSK



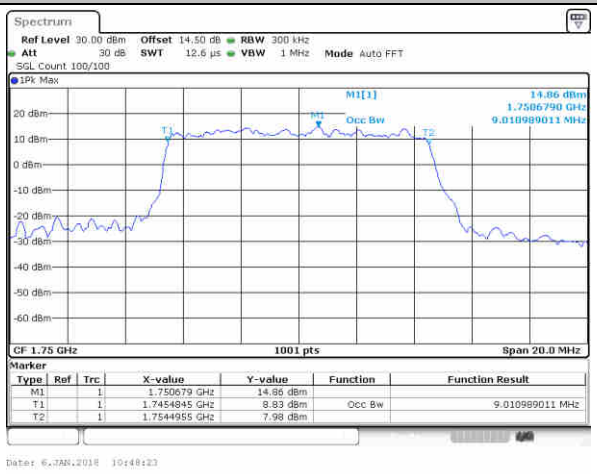

### Middle Channel / 10MHz / 16QAM




### Highest Channel / 10MHz / QPSK

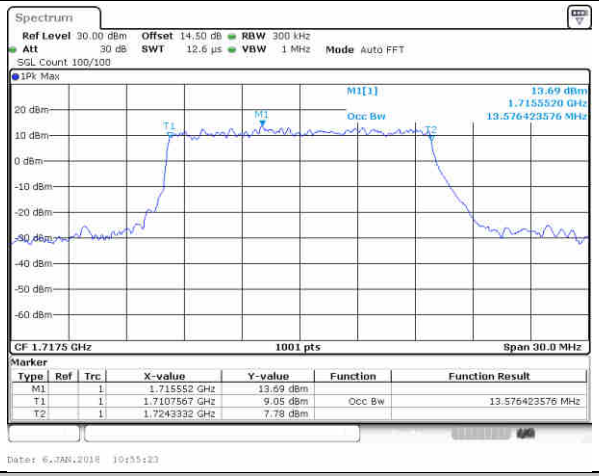



### Highest Channel / 10MHz / 16QAM

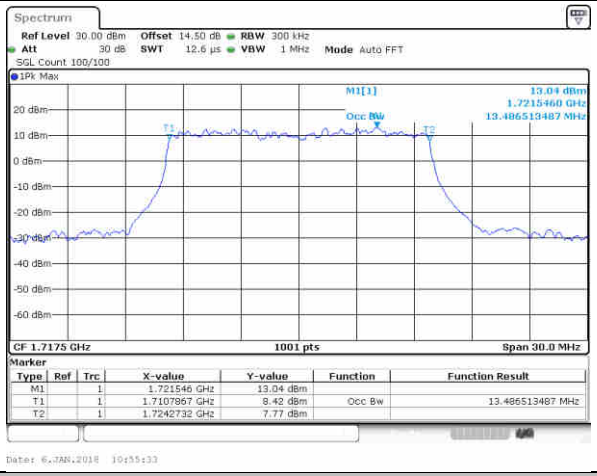


## LTE Band 4

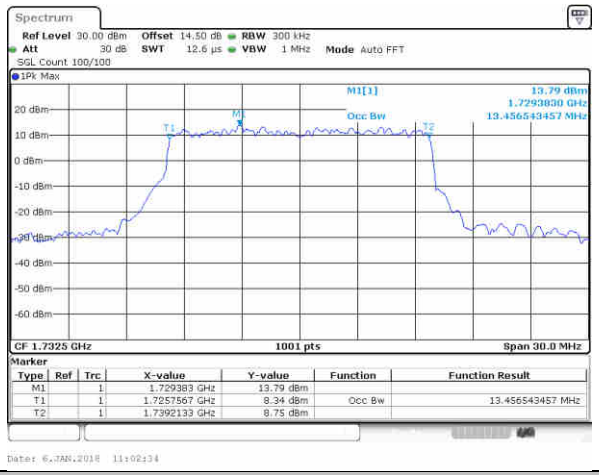
### Lowest Channel / 15MHz / QPSK



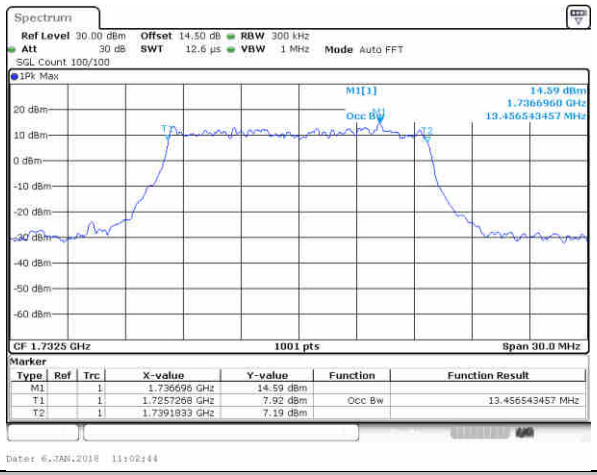

### Lowest Channel / 15MHz / 16QAM



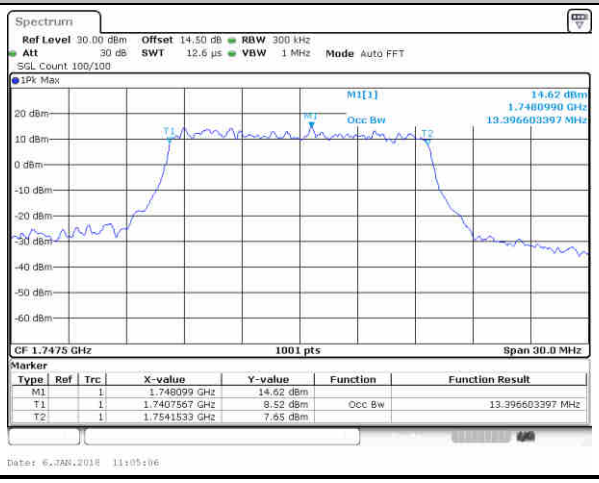

### Middle Channel / 15MHz / QPSK



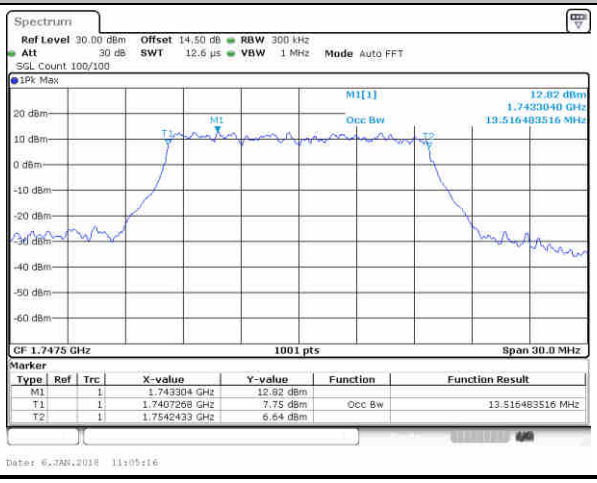

### Middle Channel / 15MHz / 16QAM




### Highest Channel / 15MHz / QPSK

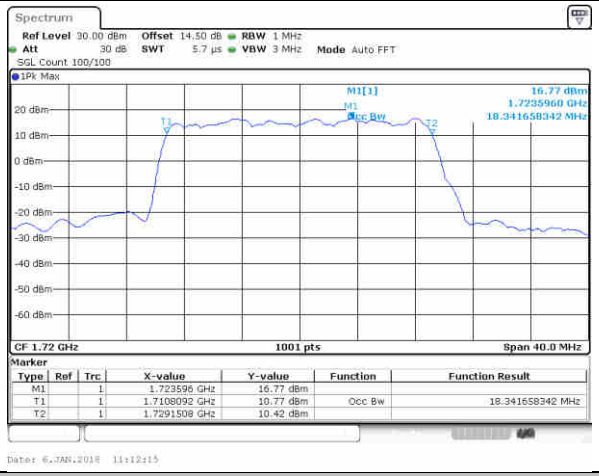



### Highest Channel / 15MHz / 16QAM

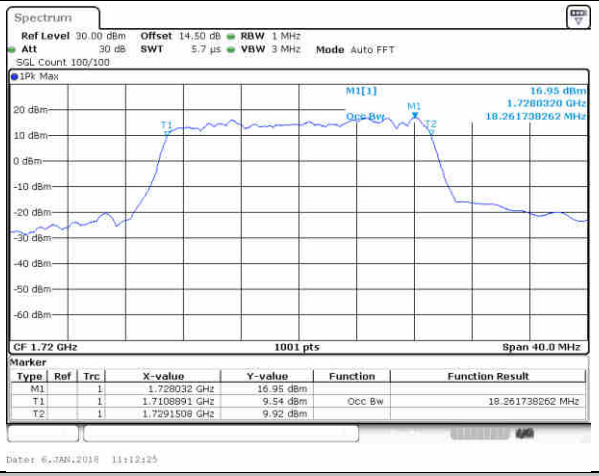


## LTE Band 4

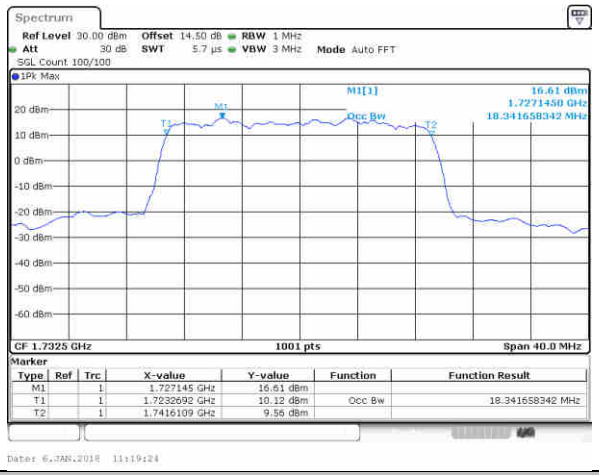
### Lowest Channel / 20MHz / QPSK



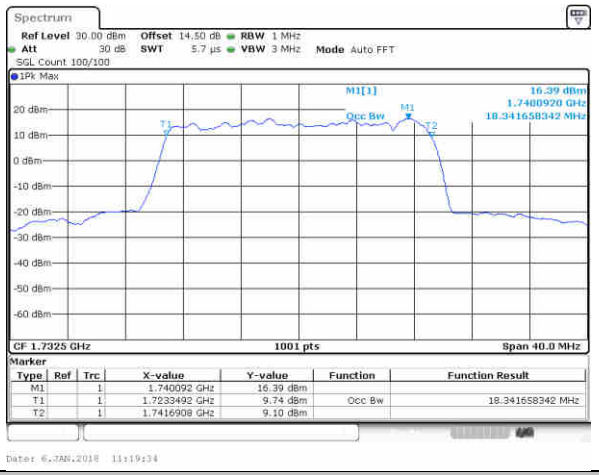

### Lowest Channel / 20MHz / 16QAM



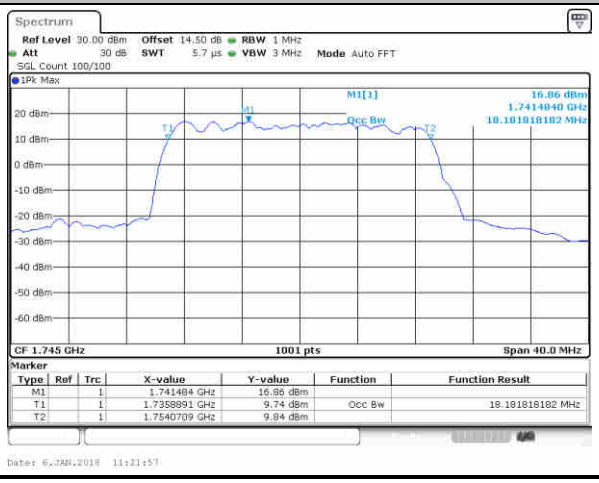

### Middle Channel / 20MHz / QPSK



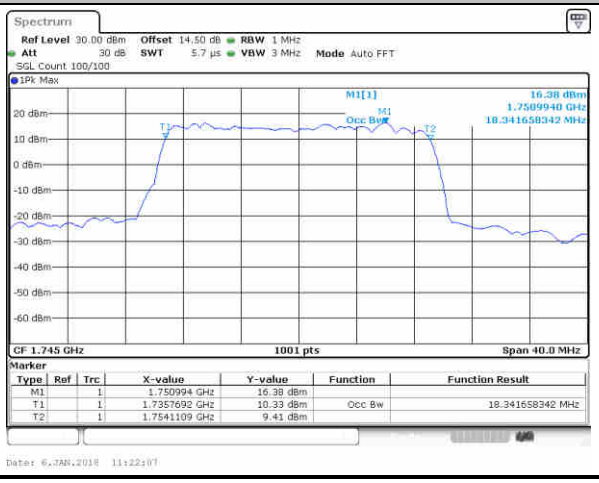

### Middle Channel / 20MHz / 16QAM




### Highest Channel / 20MHz / QPSK

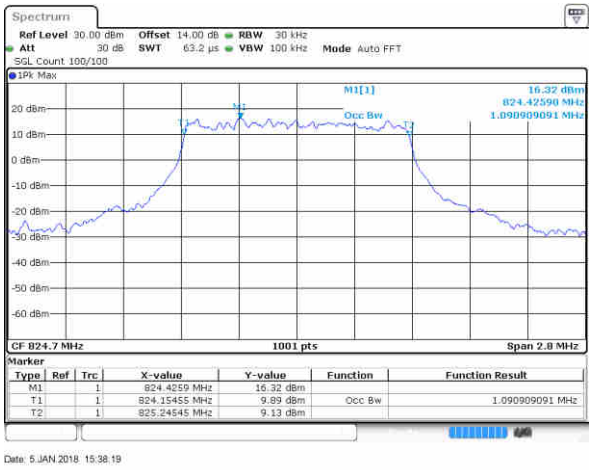



### Highest Channel / 20MHz / 16QAM

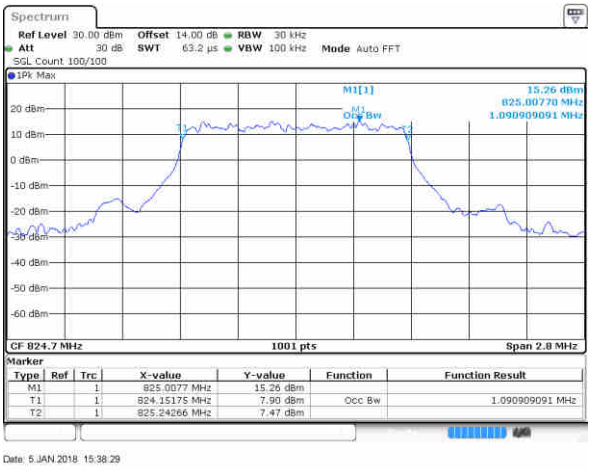


## LTE Band 5

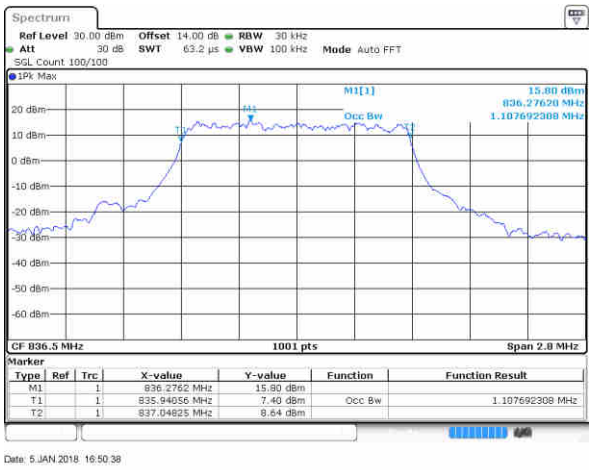
### Lowest Channel / 1.4MHz / QPSK



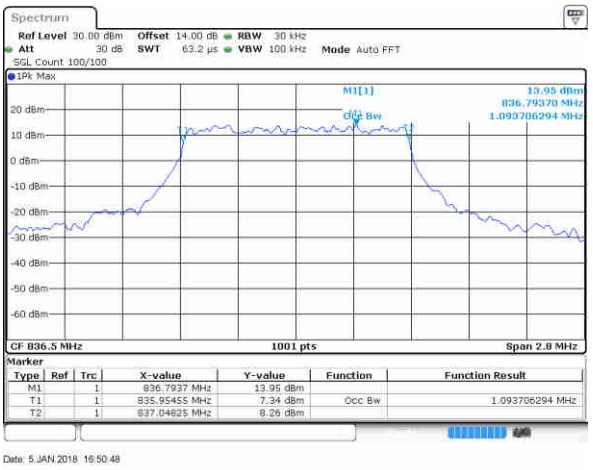

### Lowest Channel / 1.4MHz / 16QAM



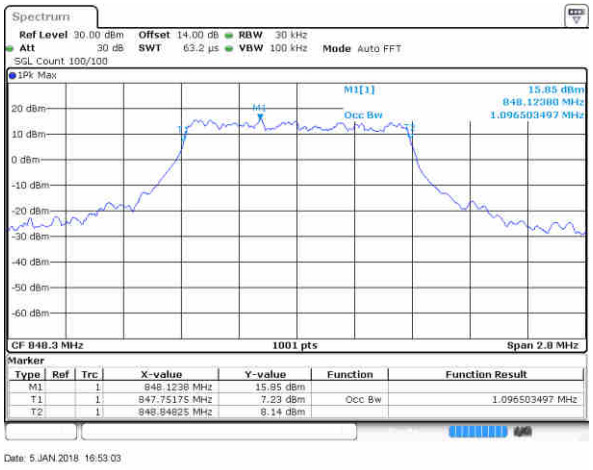

### Middle Channel / 1.4MHz / QPSK



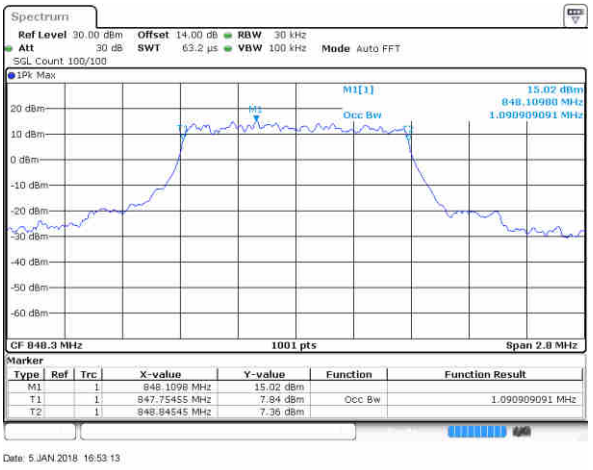

### Middle Channel / 1.4MHz / 16QAM




### Highest Channel / 1.4MHz / QPSK

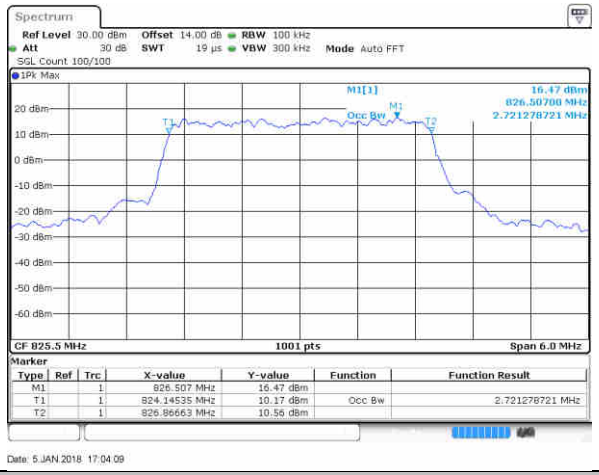



### Highest Channel / 1.4MHz / 16QAM

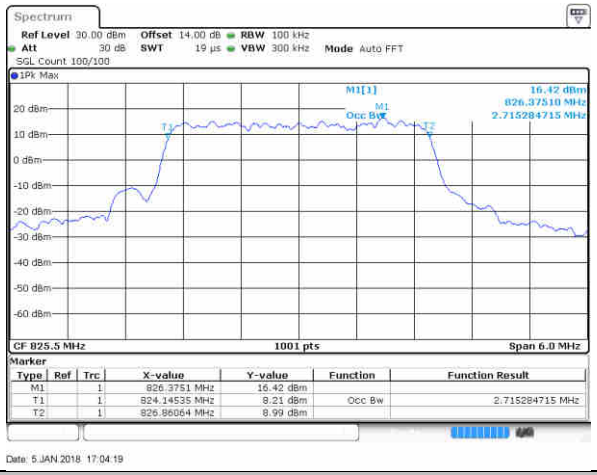


## LTE Band 5

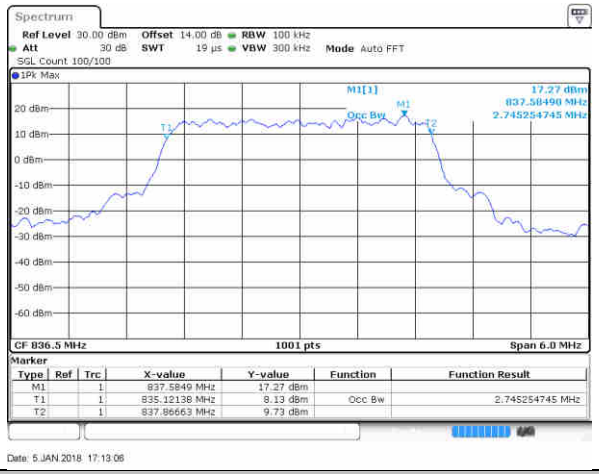
### Lowest Channel / 3MHz / QPSK



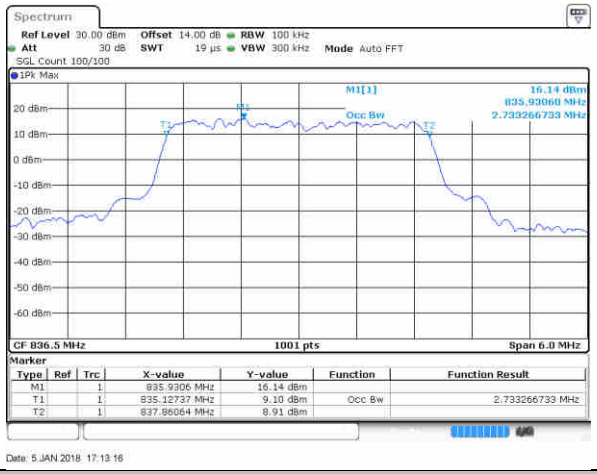

### Lowest Channel / 3MHz / 16QAM



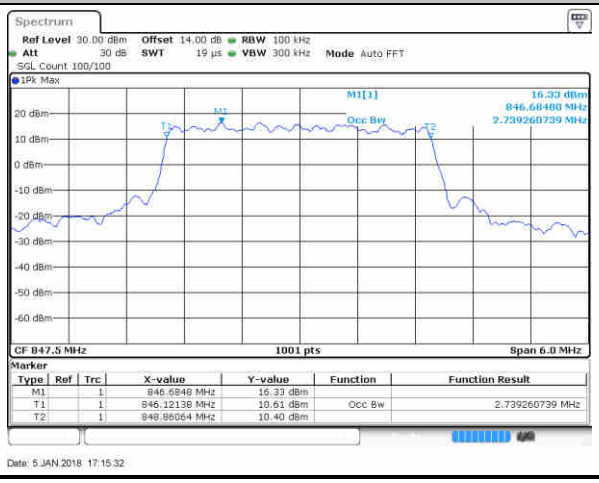

### Middle Channel / 3MHz / QPSK

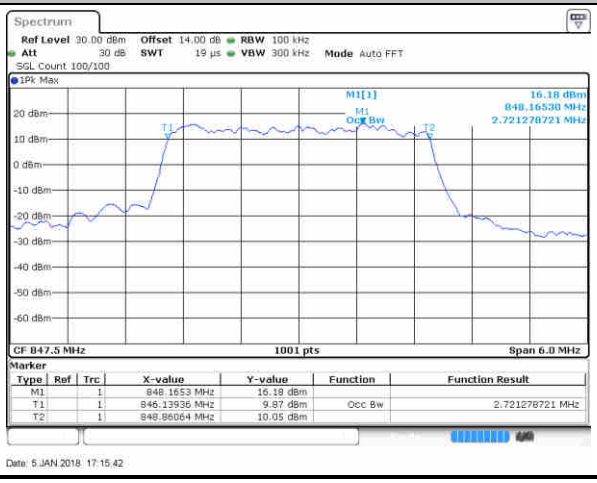



### Middle Channel / 3MHz / 16QAM




### Highest Channel / 3MHz / QPSK




### Highest Channel / 3MHz / 16QAM