

## LTE Band 5\_3M Spectrum Plot

1RB#0

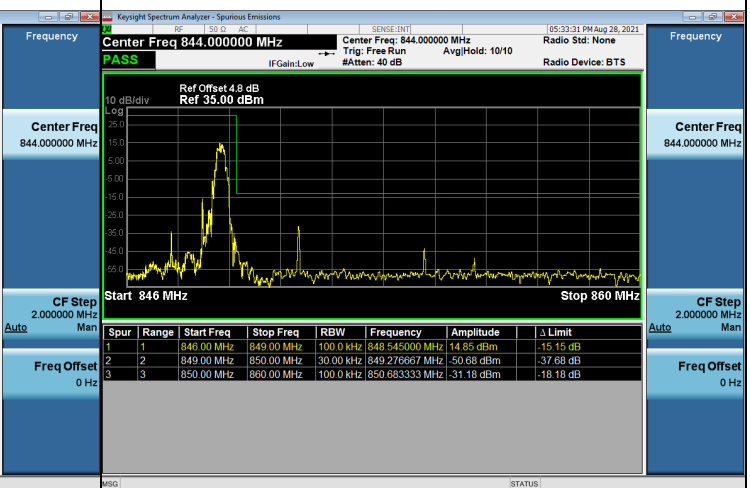
1RB#5

Channel

20415

Channel

20635



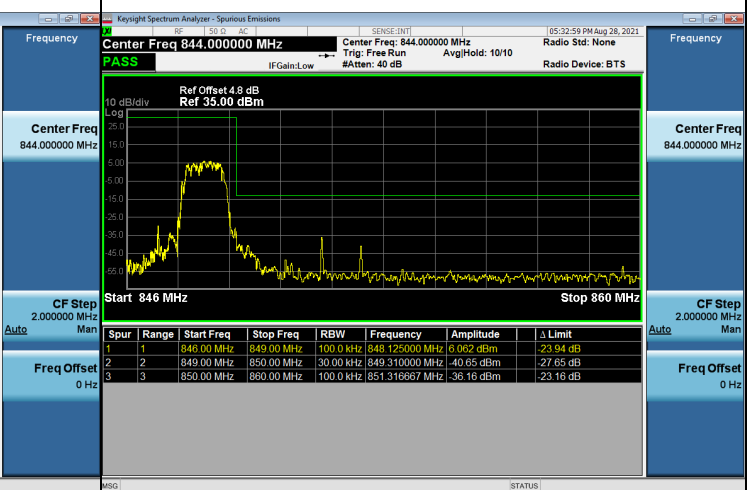
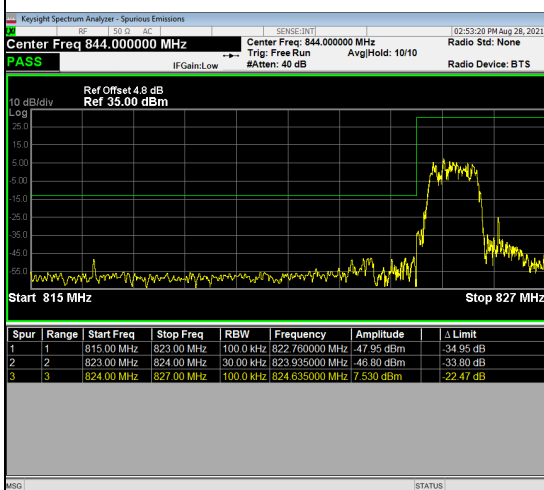
6RB#0

Channel

20415

Channel

20635



## LTE Band 5\_5M Spectrum Plot

1RB#0

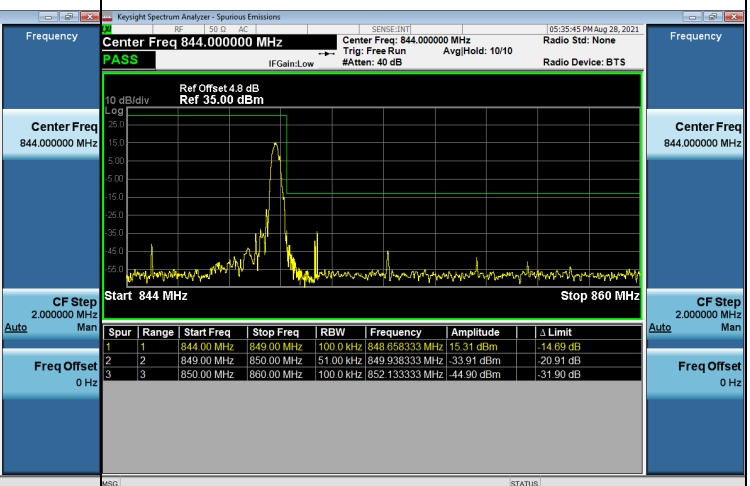
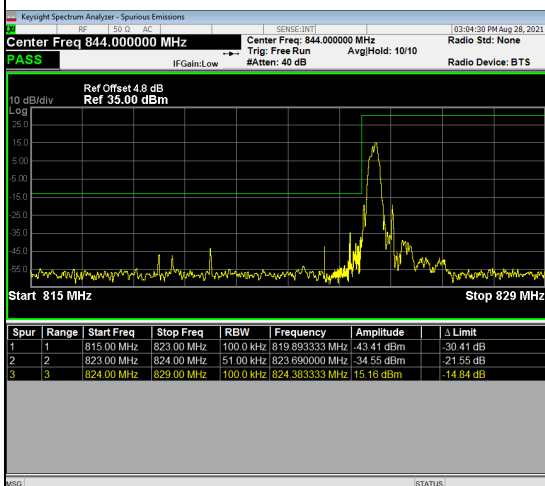
1RB#5

Channel

20425

Channel

20625



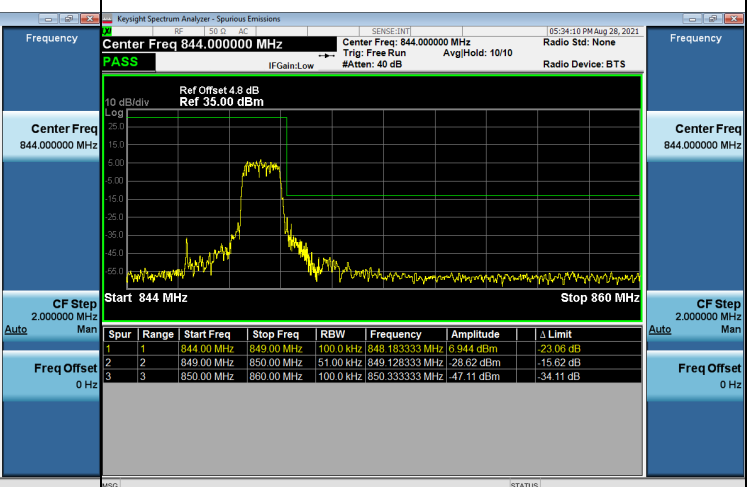
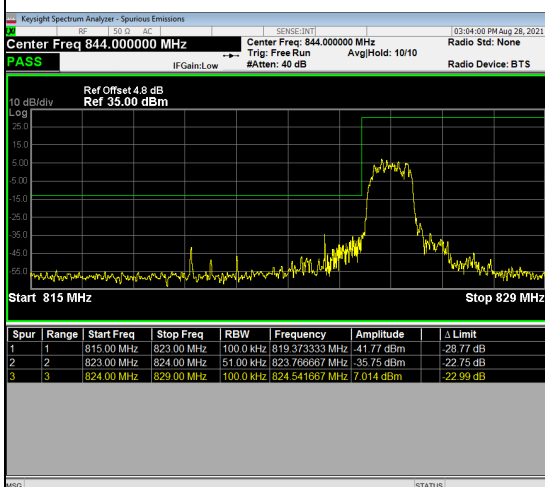
6RB#0

Channel

20425

Channel

20625



## LTE Band 5\_10M Spectrum Plot

1RB#0

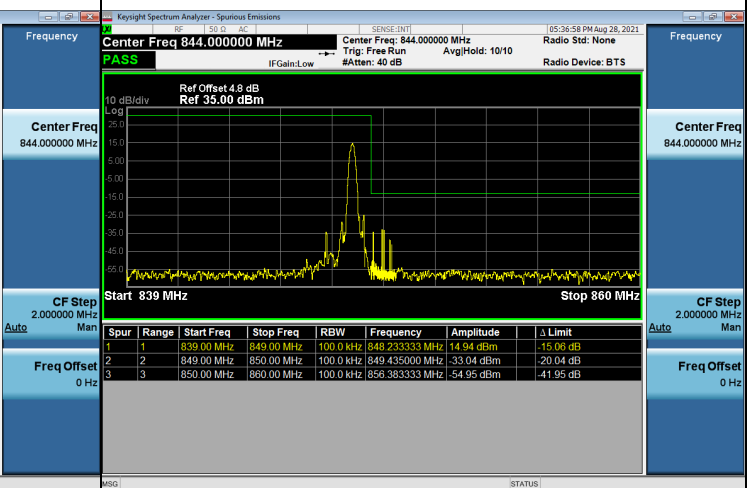
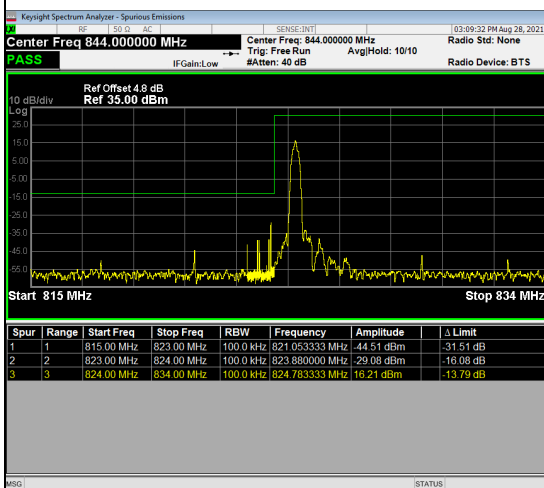
1RB#5

Channel

20450

Channel

20600



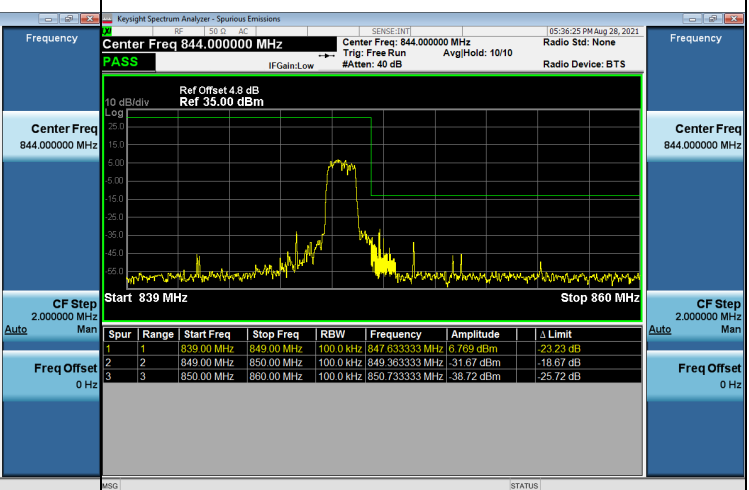
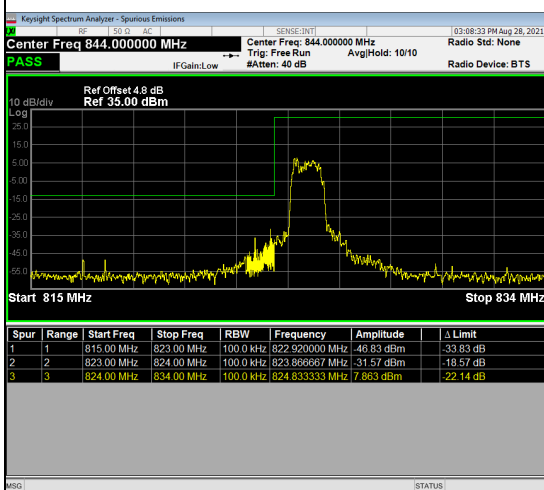
6RB#0

Channel

20450

Channel

20600



## LTE Band 26\_1.4M Spectrum Plot

1RB#0

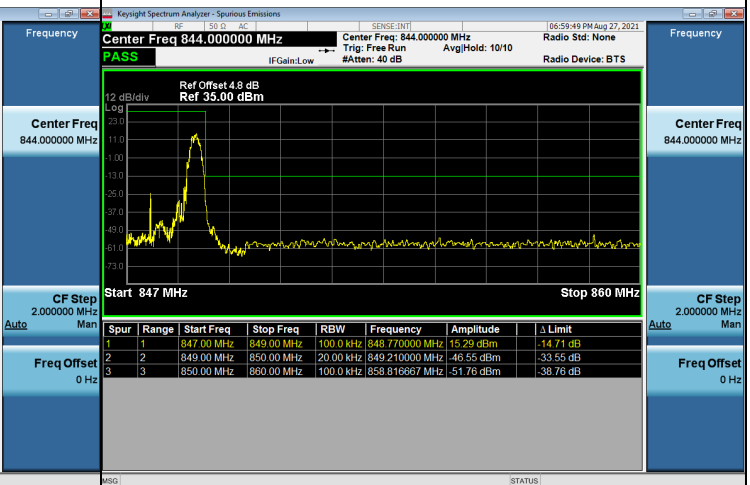
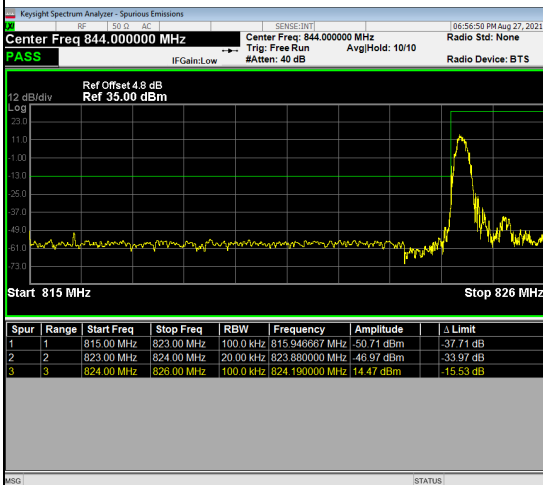
1RB#5

Channel

26797

Channel

27033



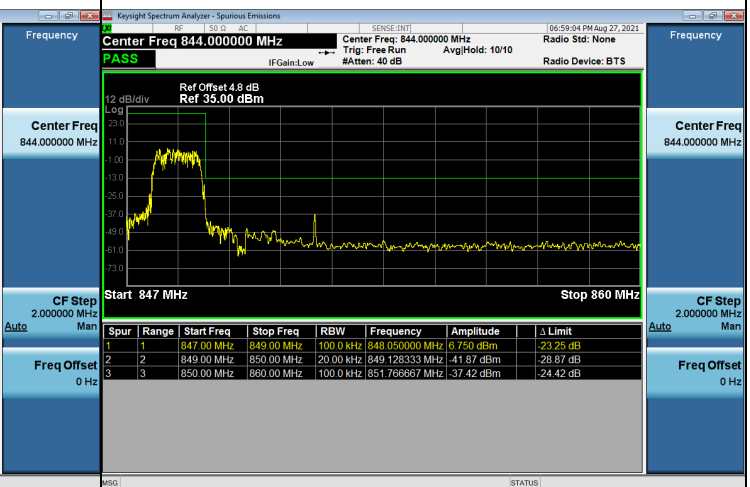
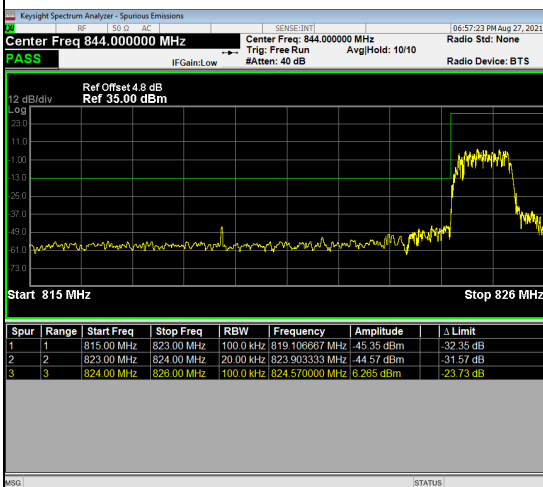
6RB#0

Channel

26797

Channel

27033



## LTE Band 26\_3M Spectrum Plot

1RB#0

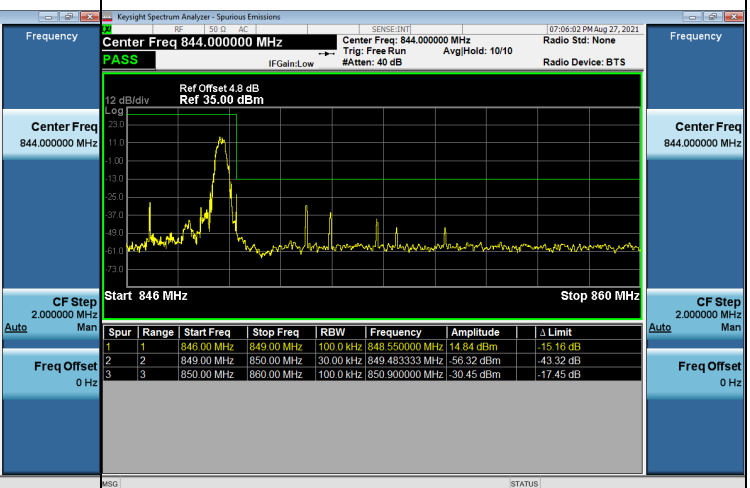
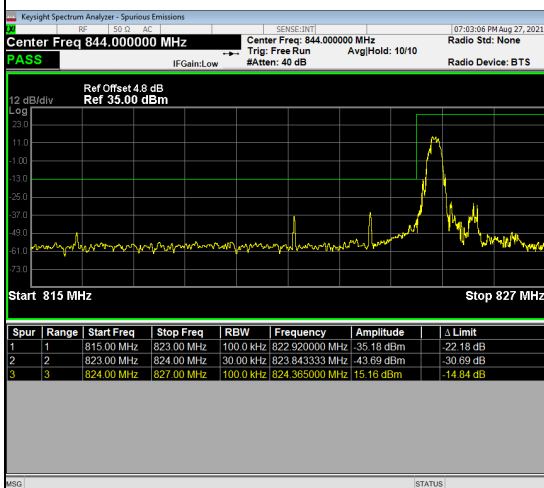
1RB#5

Channel

26805

Channel

27025



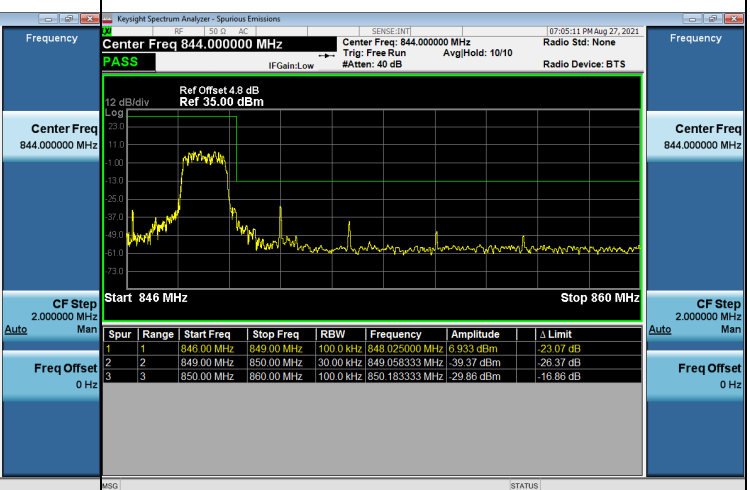
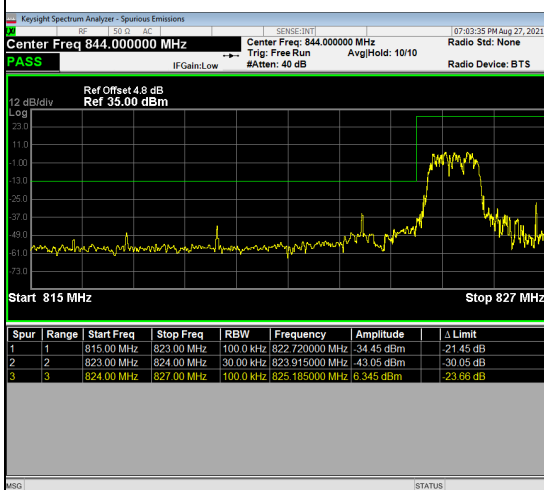
6RB#0

Channel

26805

Channel

27025



## LTE Band 26\_5M Spectrum Plot

1RB#0

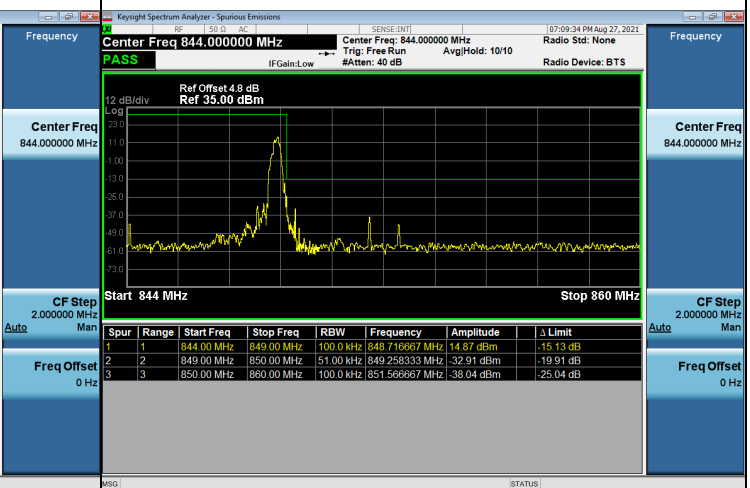
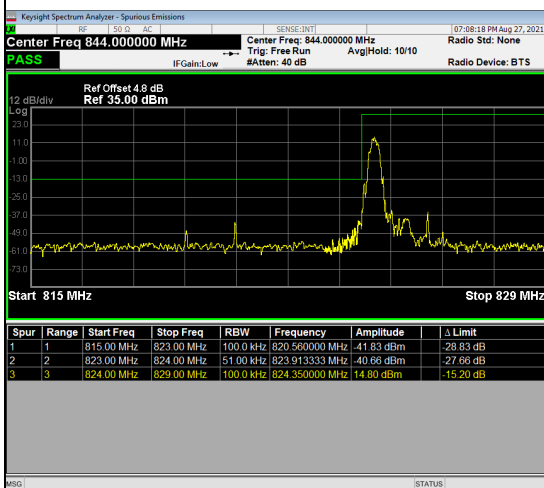
1RB#5

Channel

26815

Channel

27015



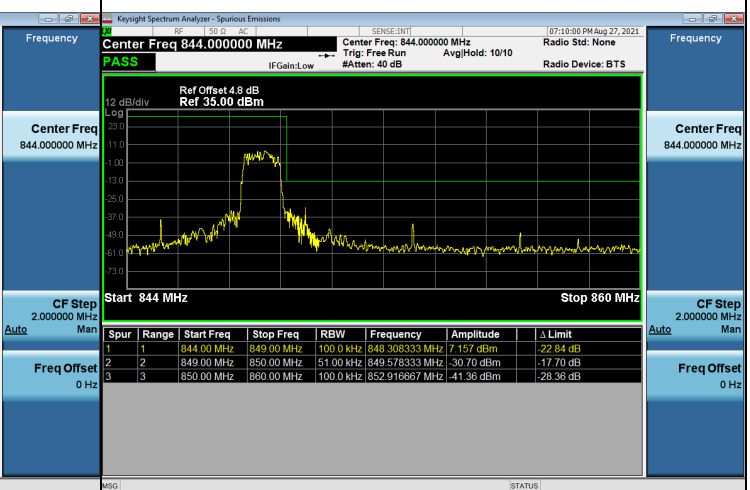
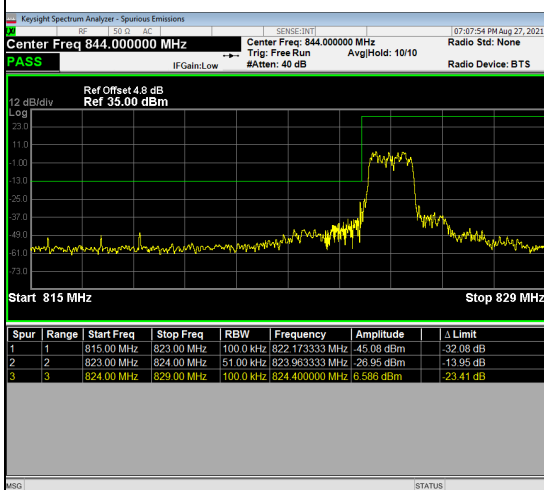
6RB#0

Channel

26815

Channel

27015



## LTE Band 26\_10M Spectrum Plot

1RB#0

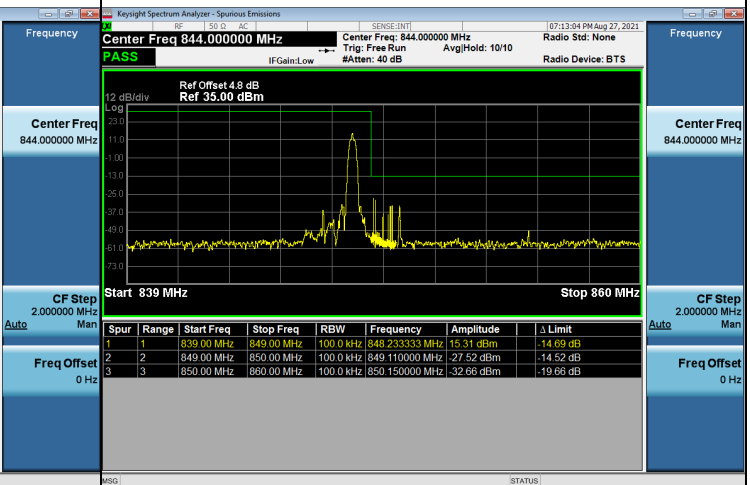
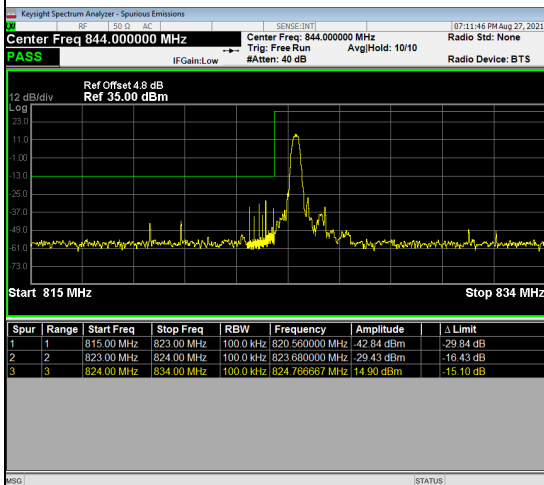
1RB#5

Channel

26840

Channel

26690



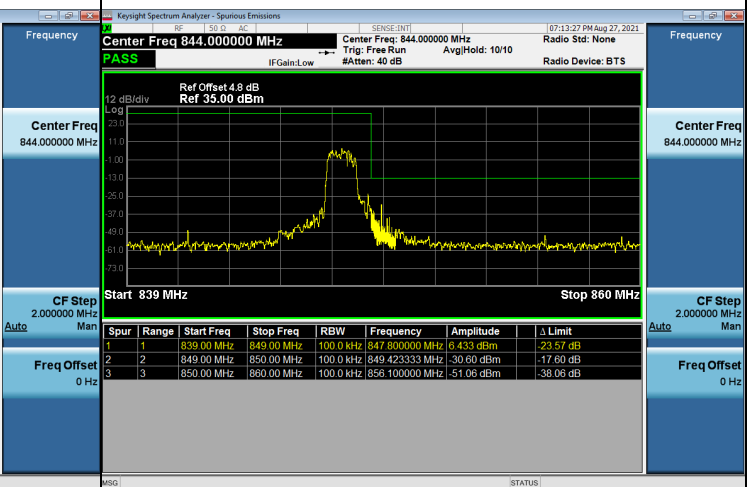
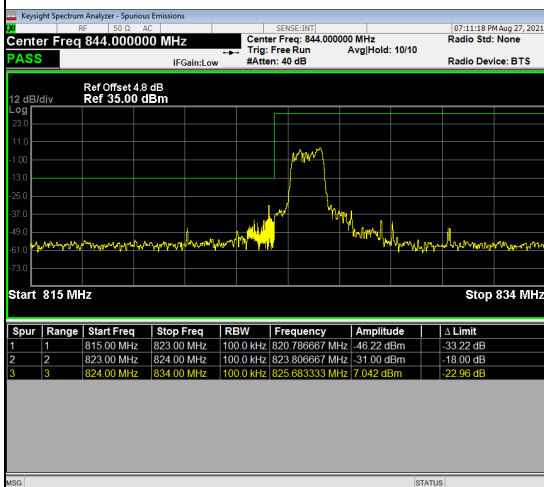
6RB#0

Channel

26840

Channel

26690



## LTE Band 26\_15M Spectrum Plot

1RB#0

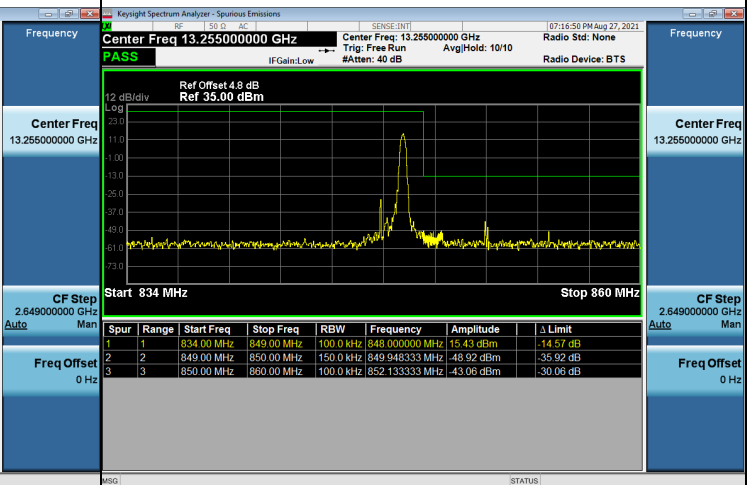
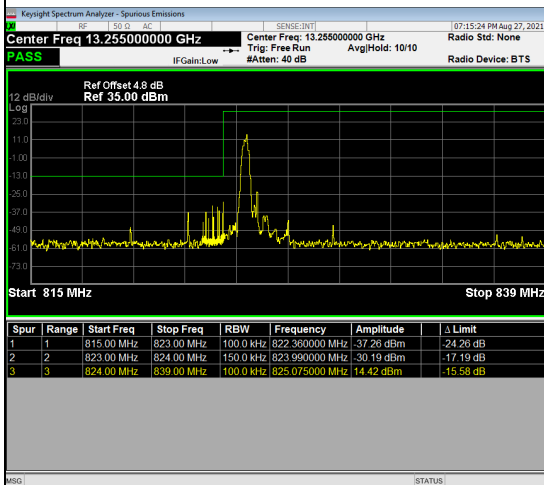
1RB#5

Channel

26865

Channel

26965



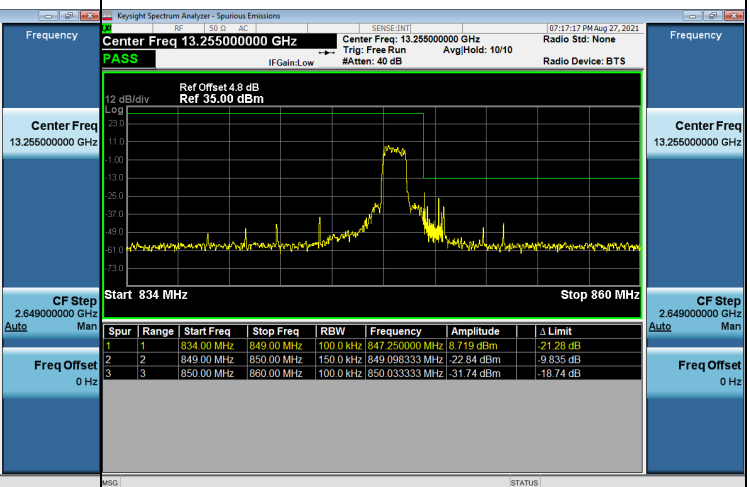
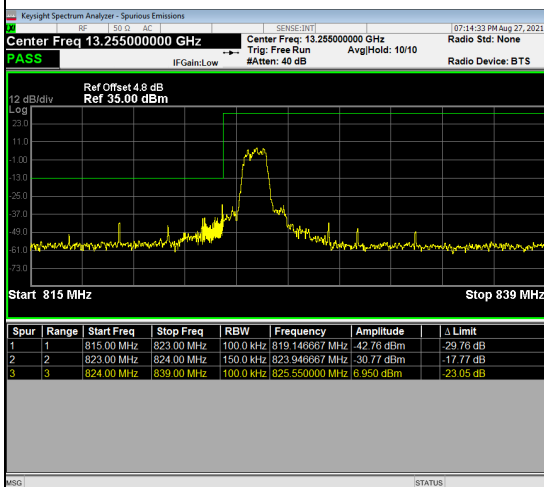
6RB#0

Channel

26865

Channel

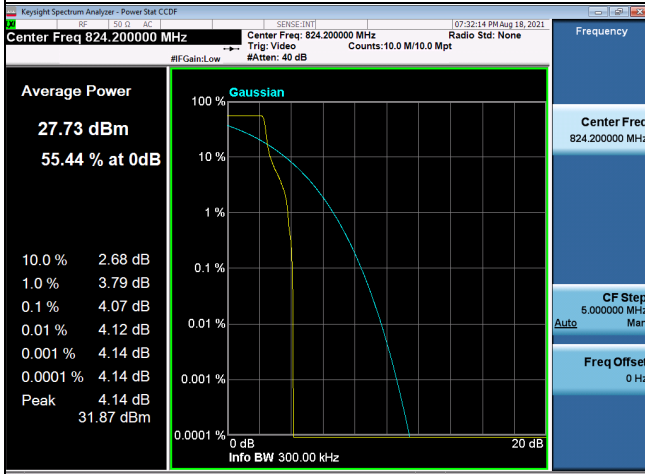
26965



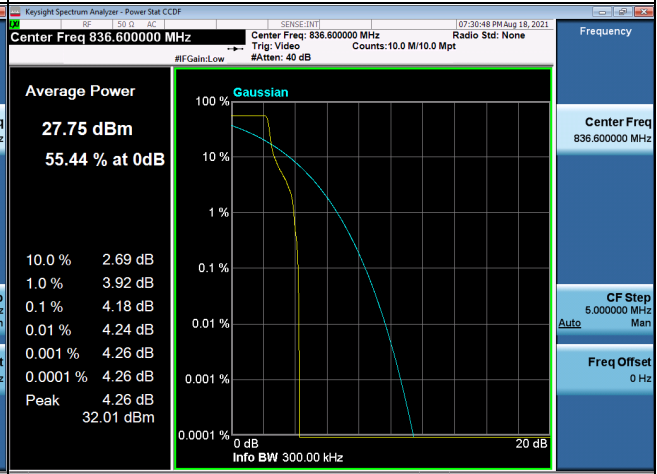
## **APPENDIX H - PEAK TO AVERAGE RATIO**

# GSM 850 Spectrum Plot

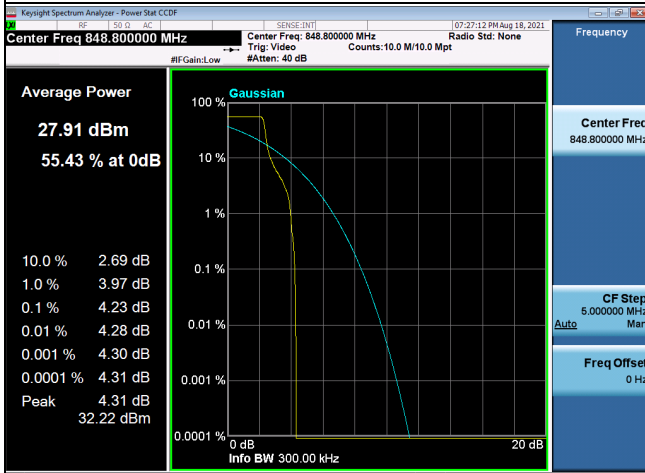
## GSM-128



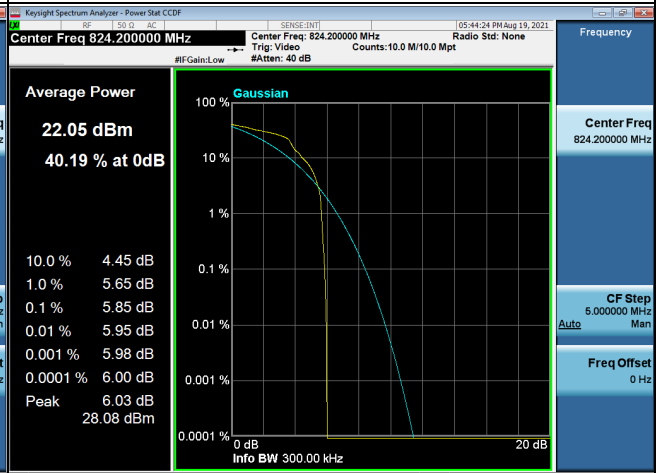
## GSM-190



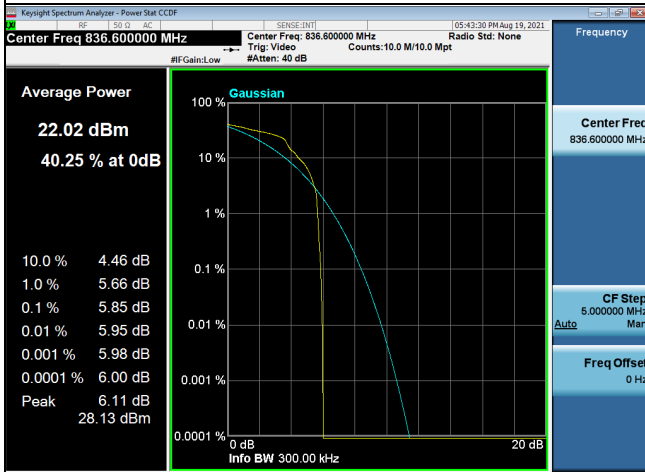
## GSM-251



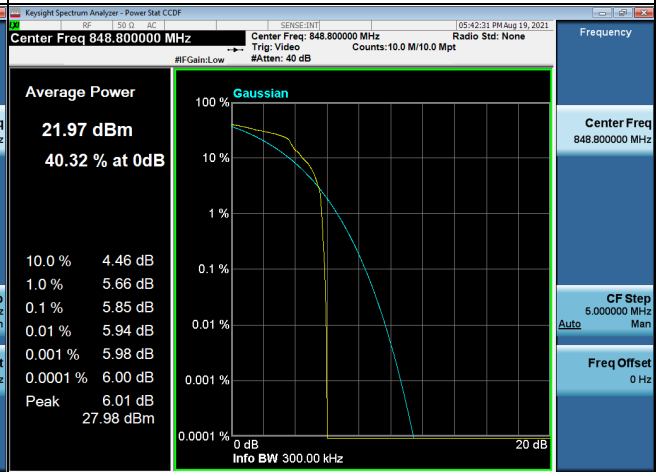
## EDGE-128



## EDGE-190

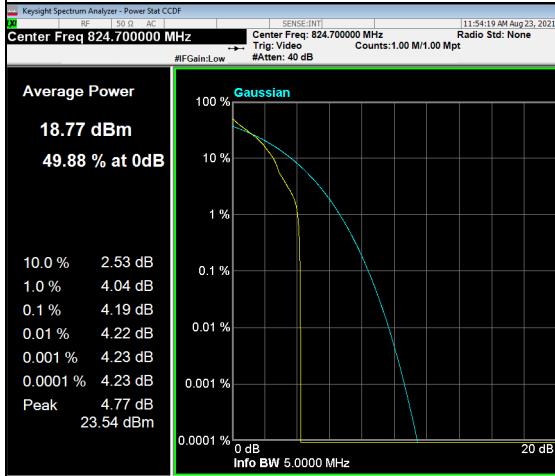


## EDGE-251

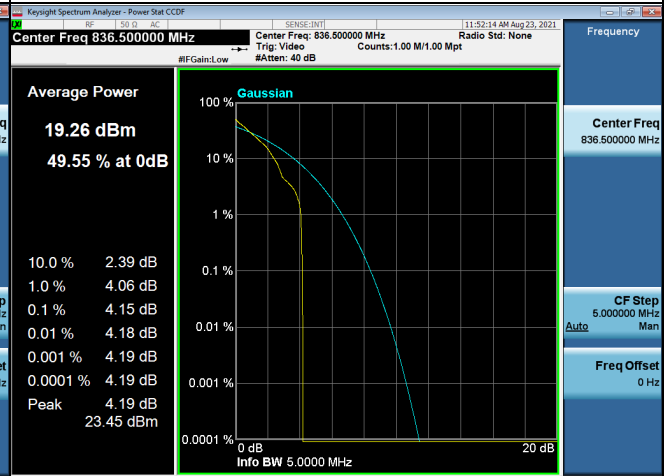


## LTE Band 5\_1.4M Spectrum Plot

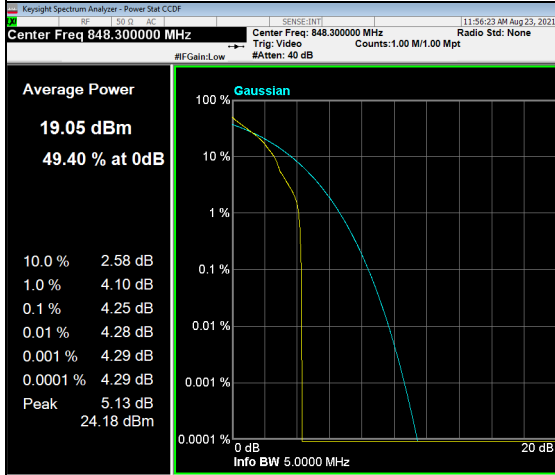
### QPSK-20407



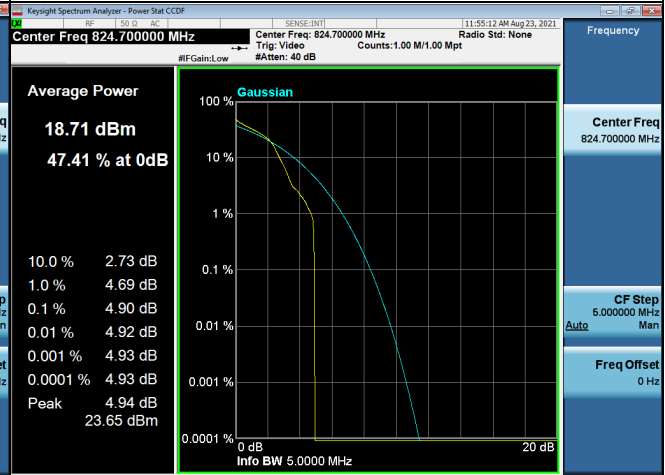
### QPSK-20525



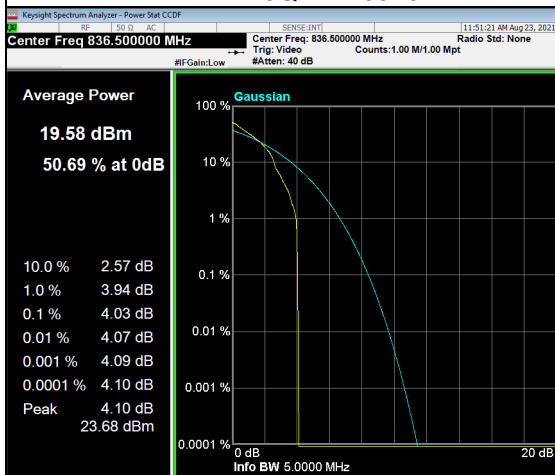
### QPSK-20643



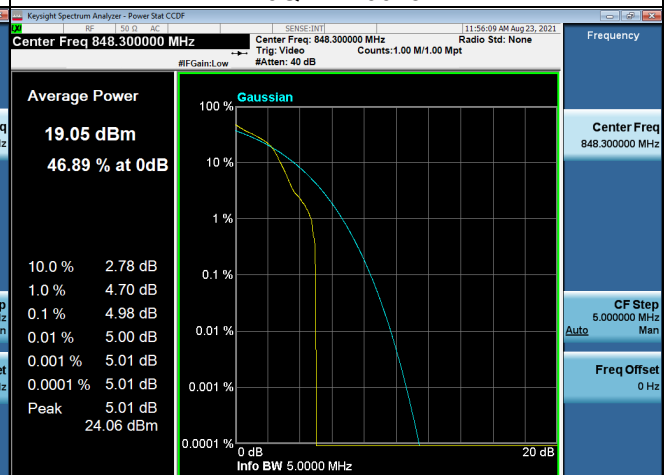
### 16QAM-20407



### 16QAM-20525

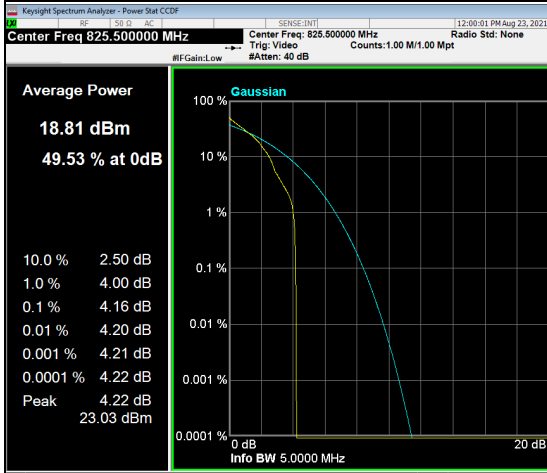


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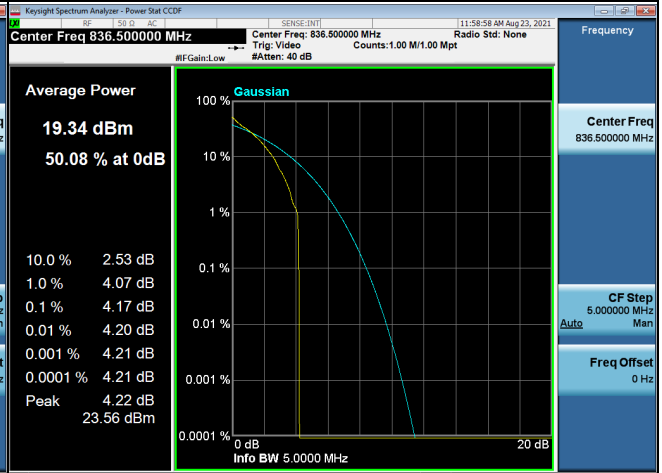


# LTE Band 5\_3M Spectrum Plot

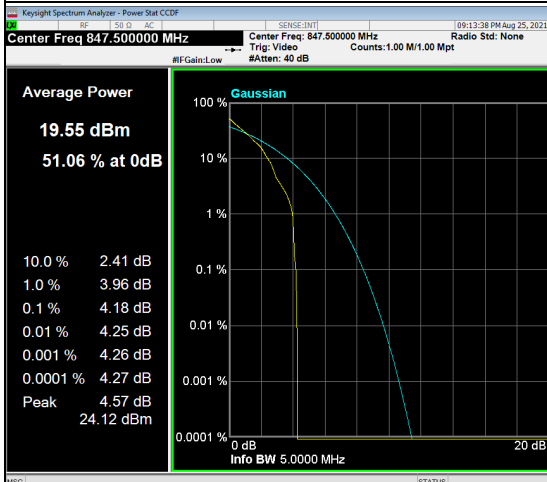
## QPSK-20415



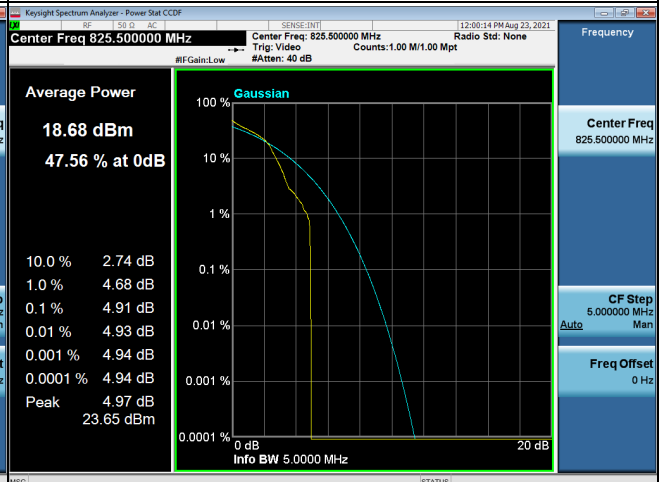
## QPSK-20525



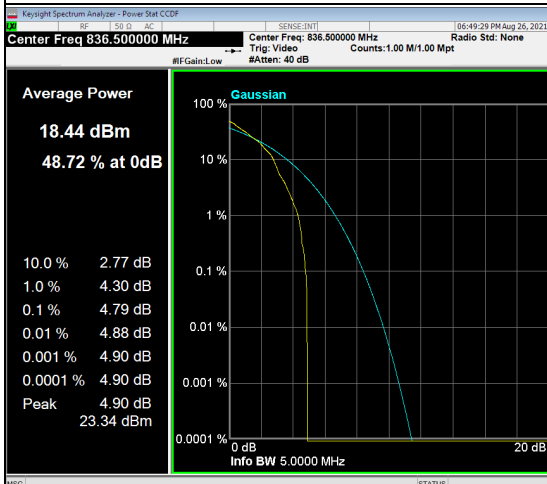
## QPSK-20635



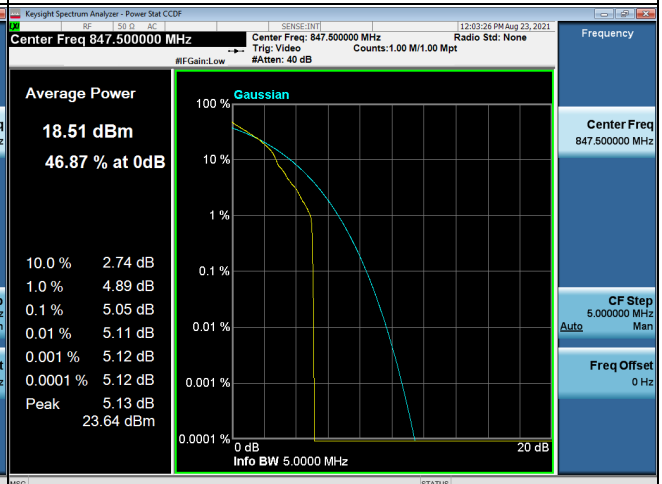
## 16QAM-20415



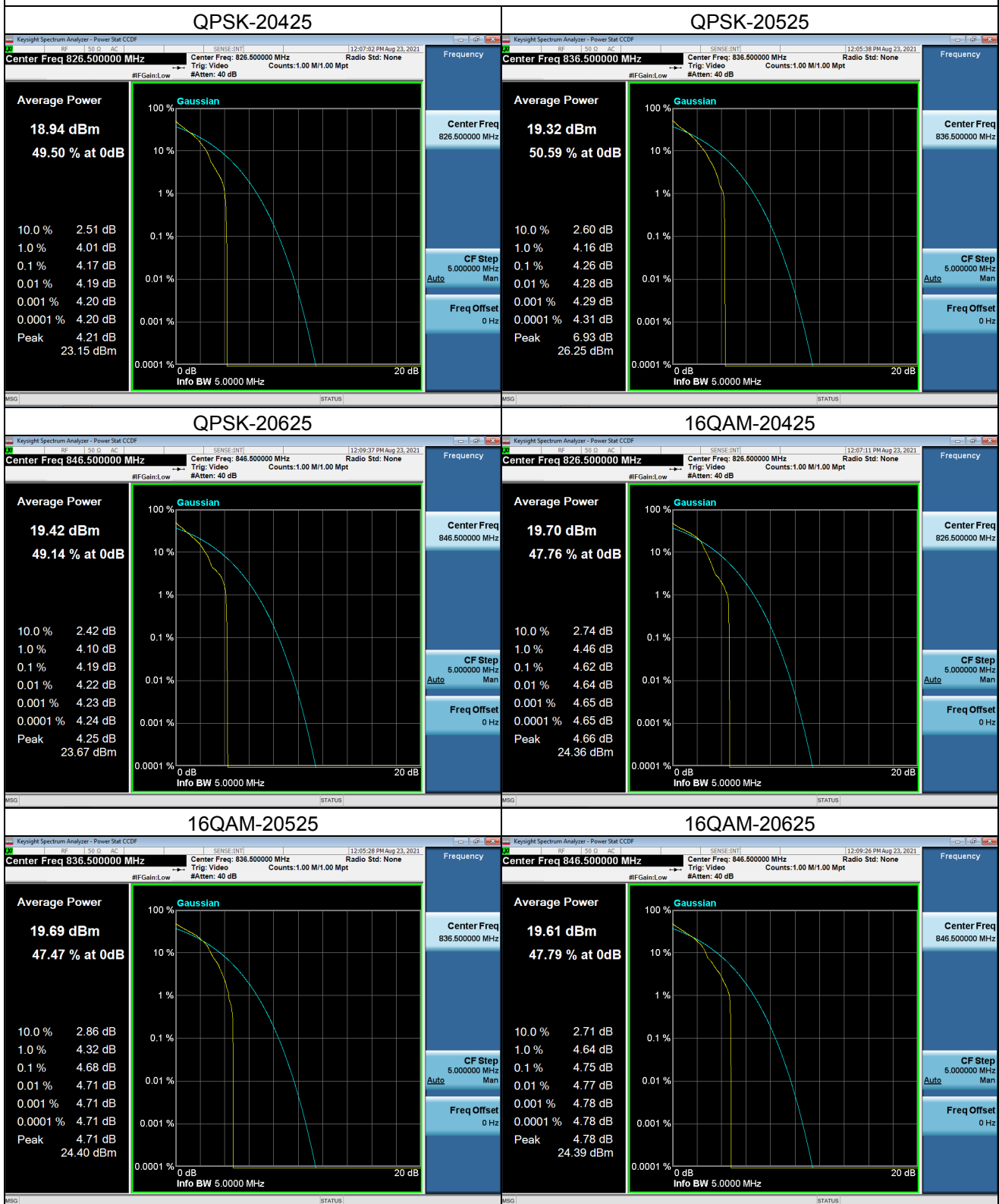
## 16QAM-20525



## 16QAM-20635

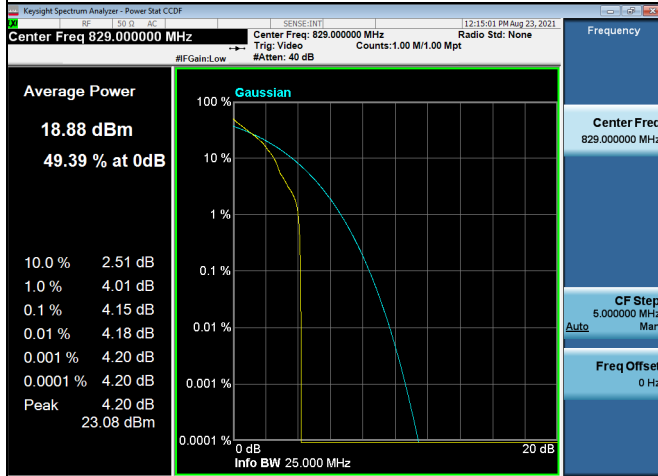


# LTE Band 5\_5M Spectrum Plot

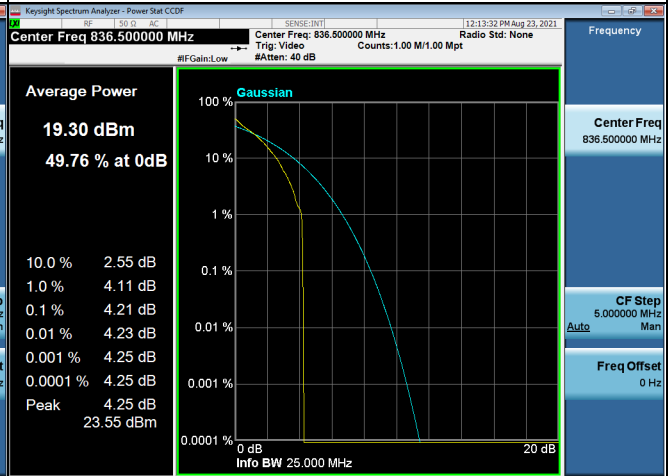


## LTE Band 5\_10M Spectrum Plot

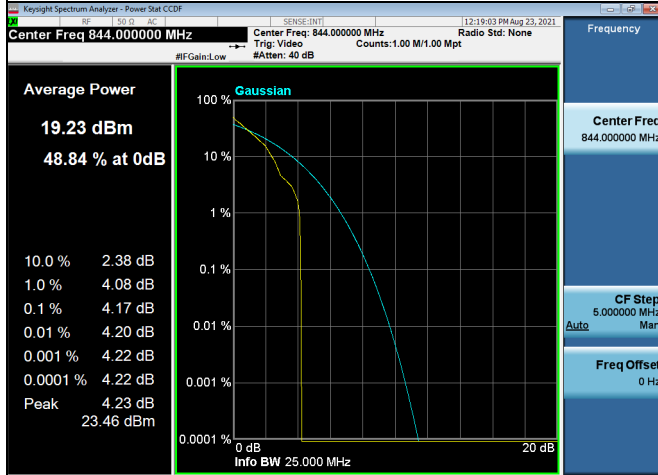
### QPSK-20450



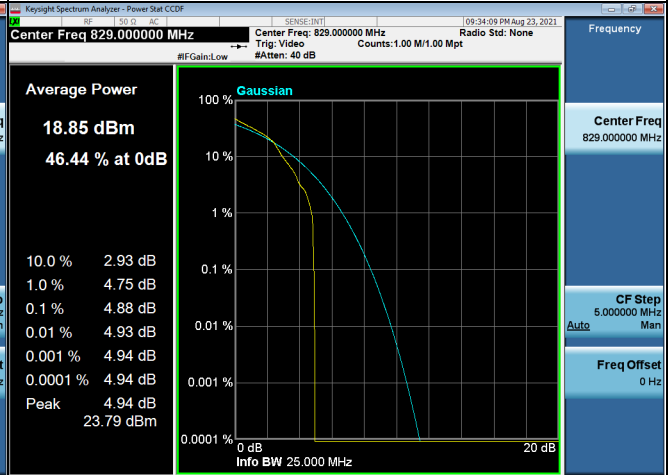
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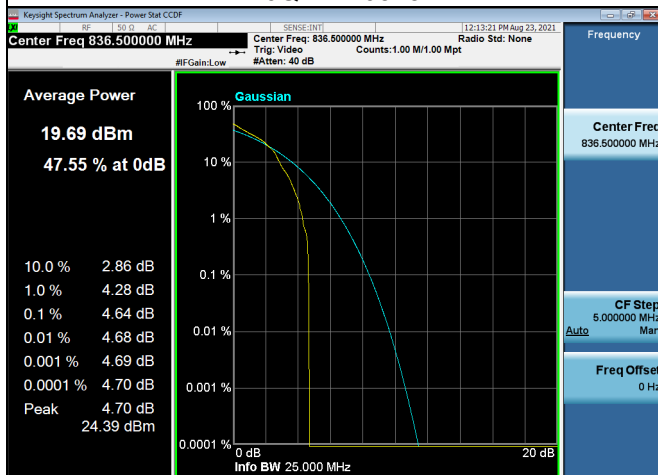
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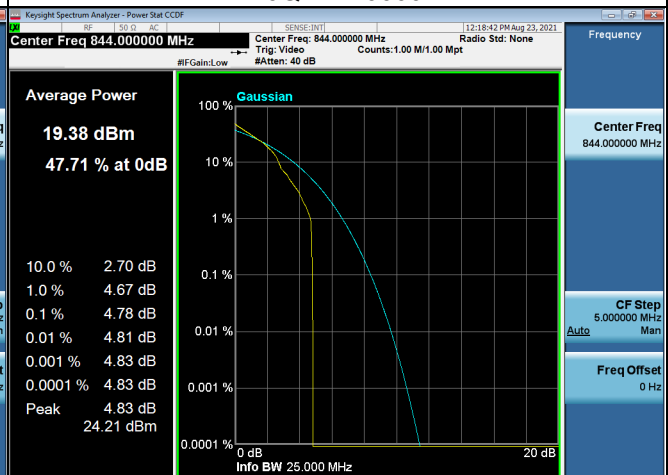
### 16QAM-20450



### 16QAM-20525

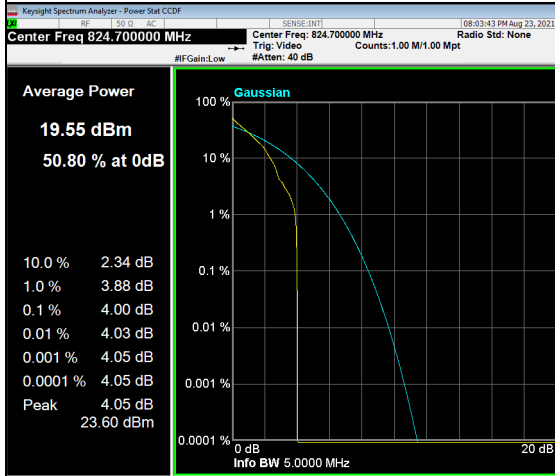


### 16QAM-20600

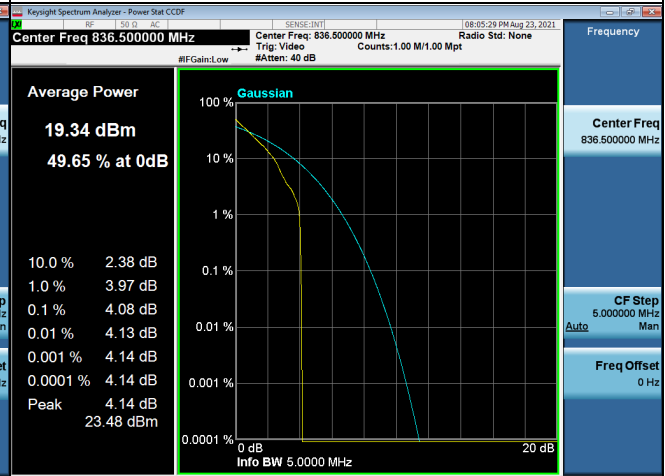


## LTE Band 26\_1.4M Spectrum Plot

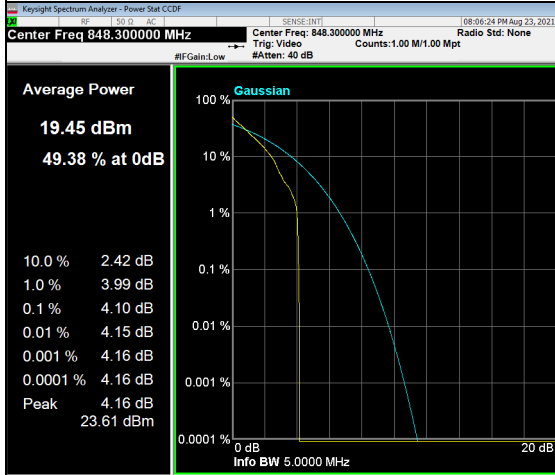
### QPSK-26797



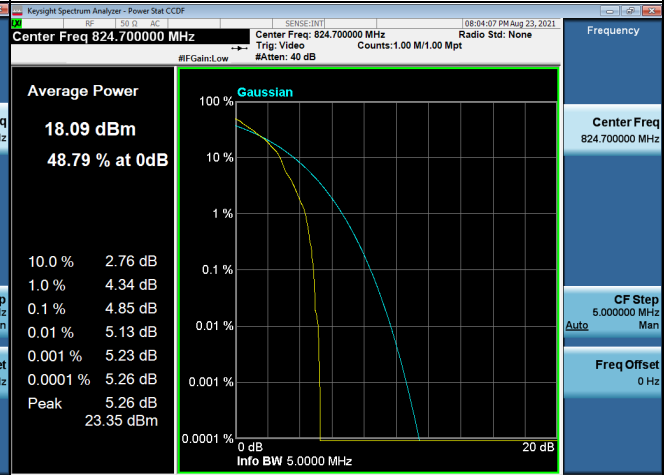
### QPSK-26915



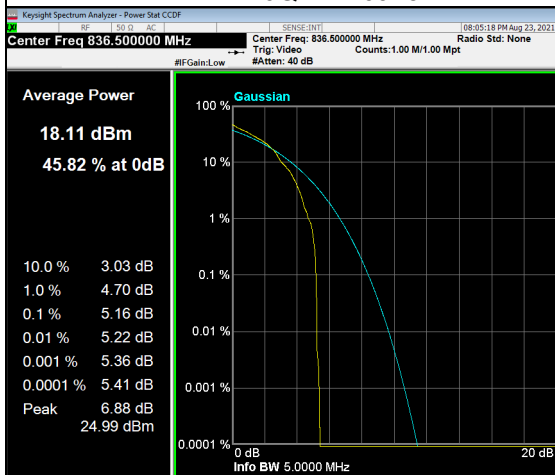
### QPSK-27033



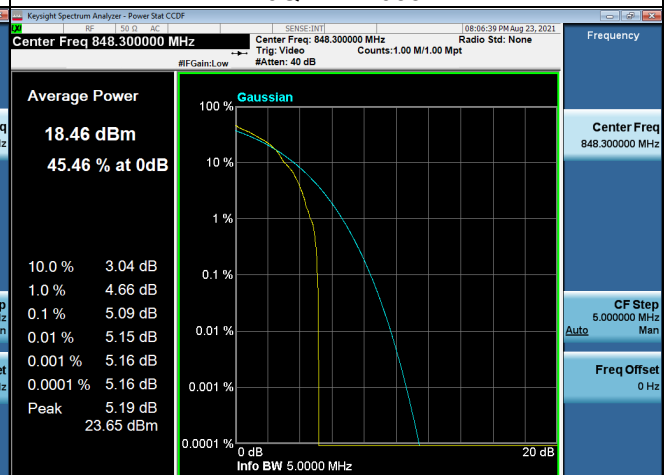
### 16QAM-26797



### 16QAM-26915

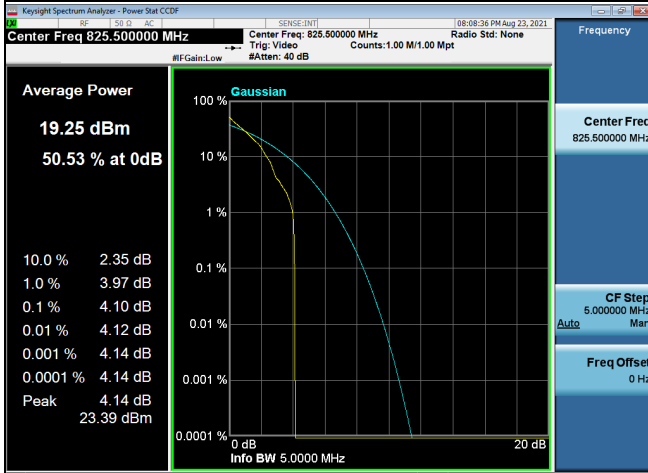


### 16QAM-27033

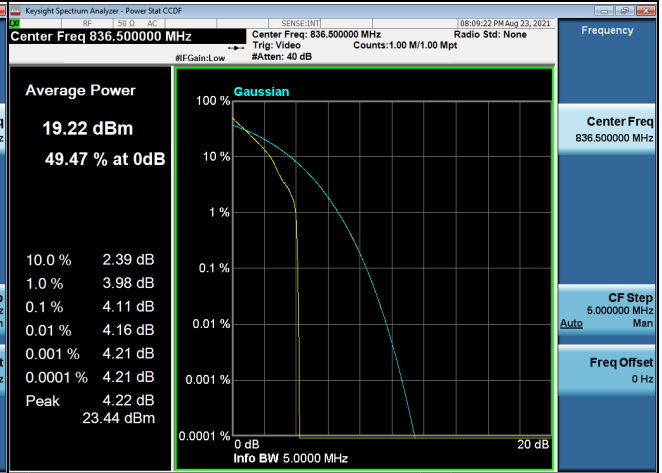


# LTE Band 26\_3M Spectrum Plot

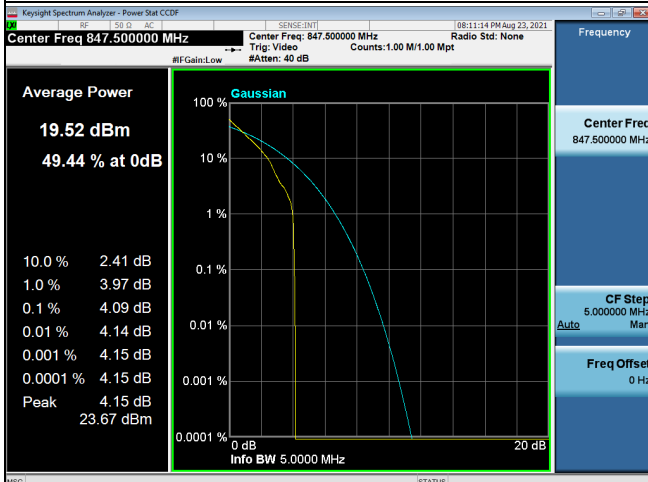
## QPSK-26805



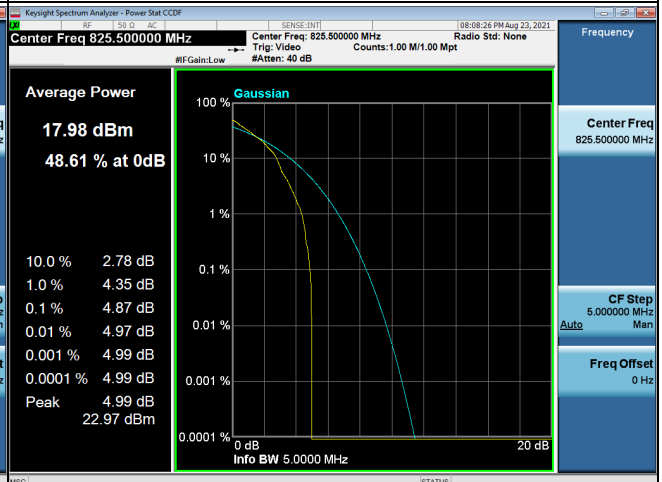
## QPSK-26915



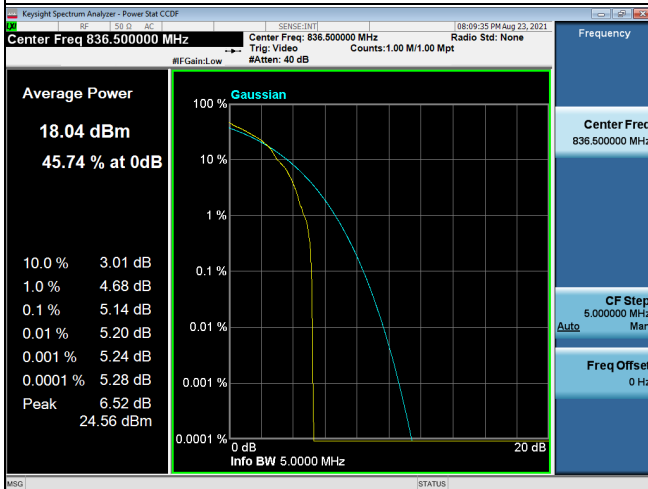
## QPSK-27025



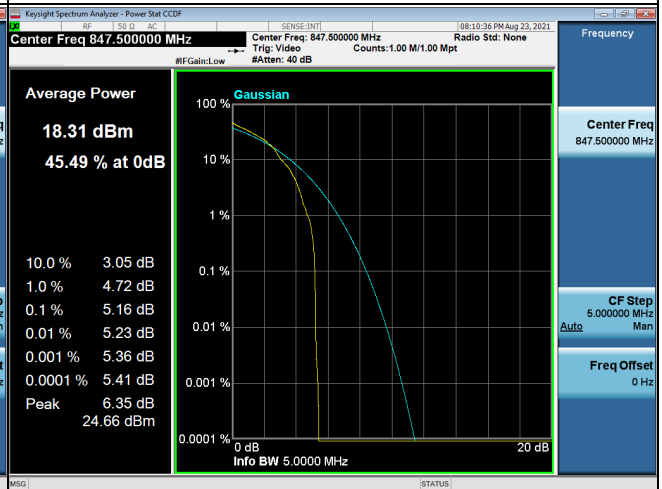
## 16QAM-26805



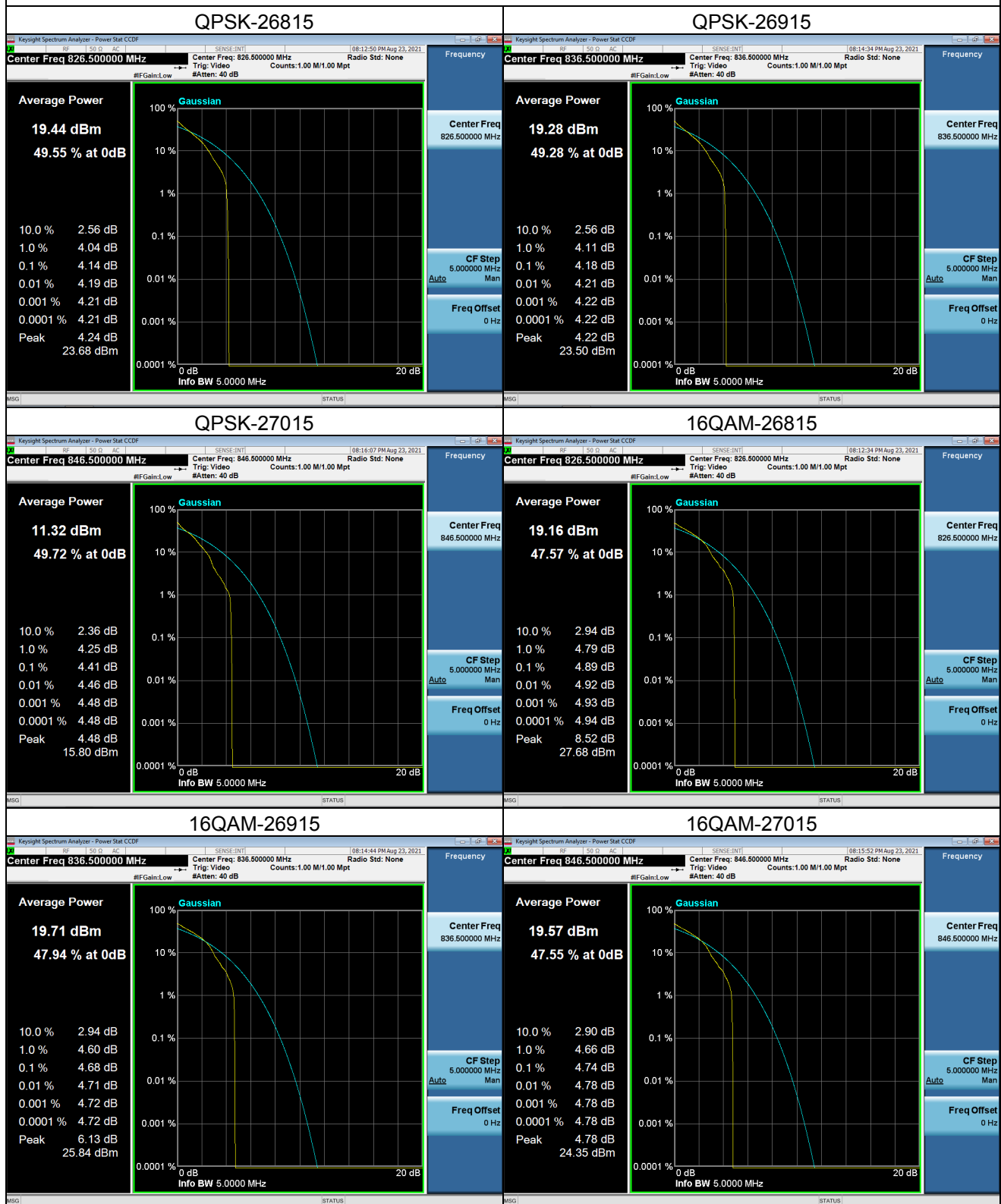
## 16QAM-26915



## 16QAM-27025

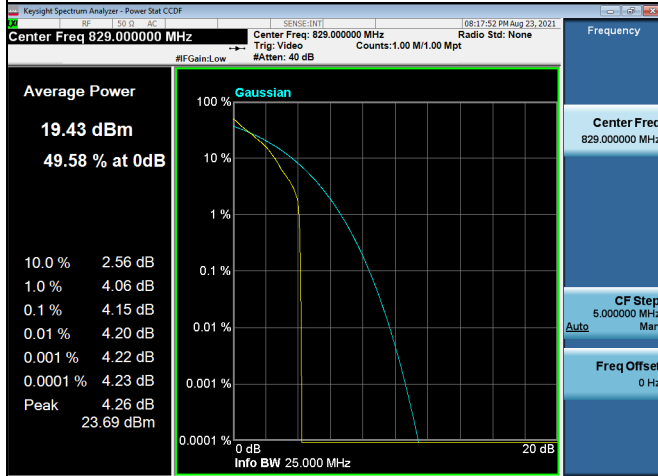


## LTE Band 26\_5M Spectrum Plot

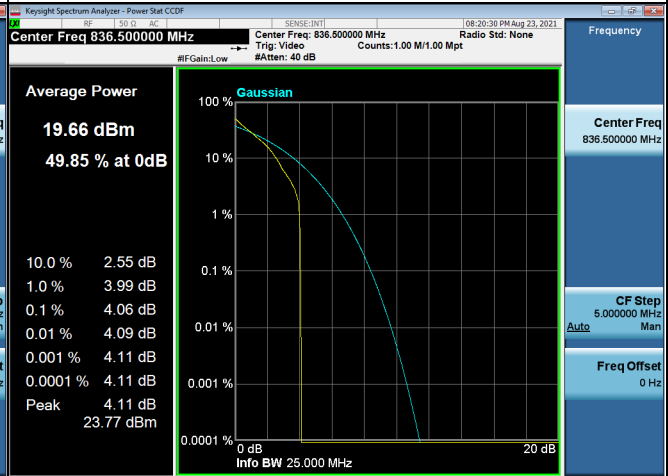


## LTE Band 26\_10M Spectrum Plot

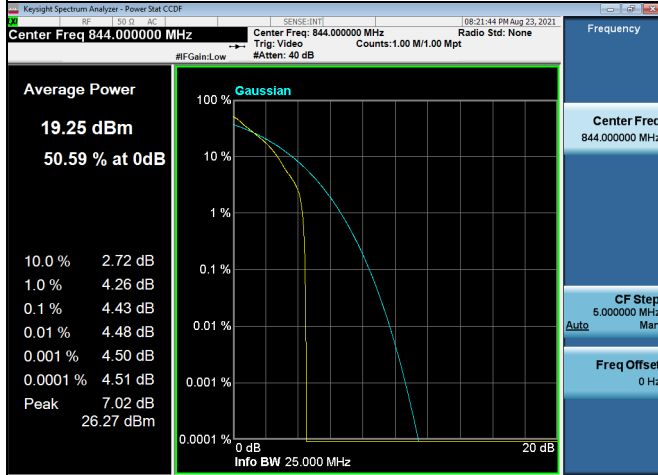
### QPSK-26840



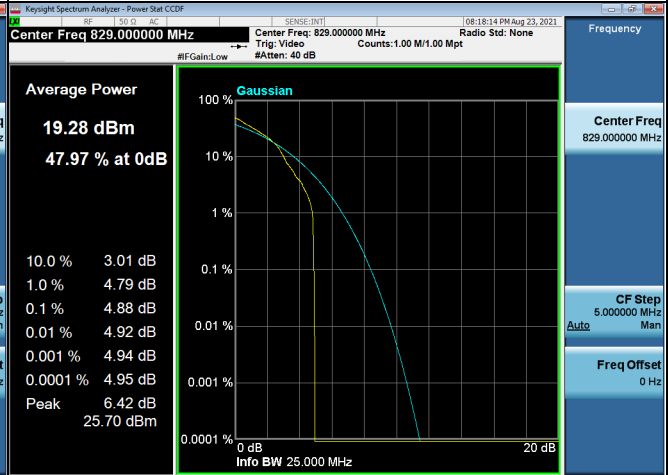
### QPSK-26915



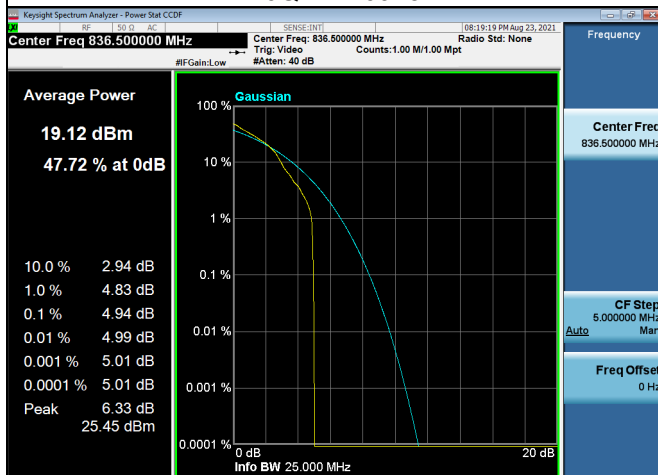
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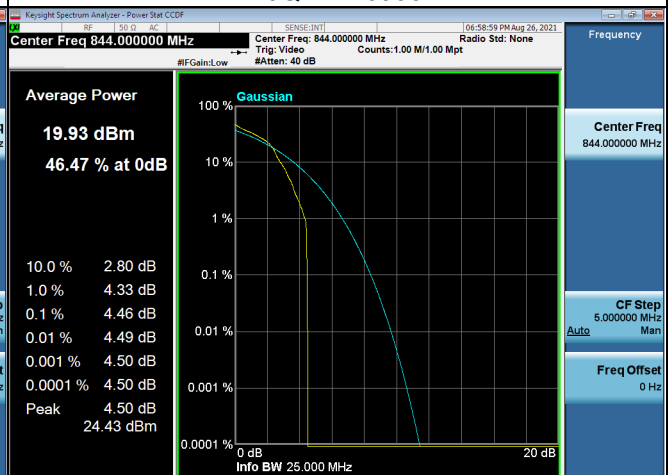
### 16QAM-26840



### 16QAM-26915

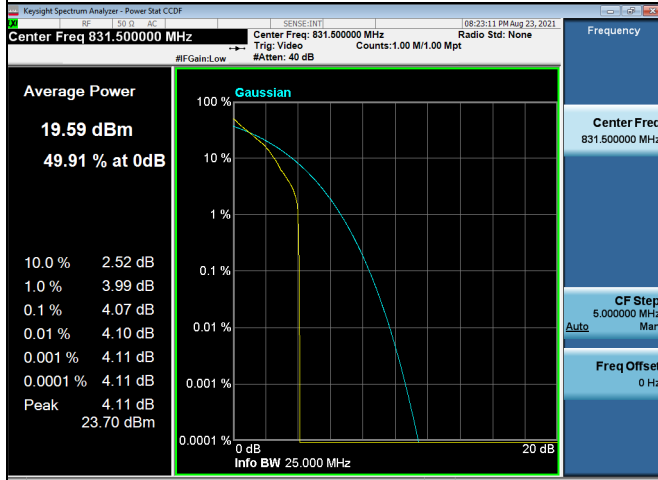


### 16QAM-26990

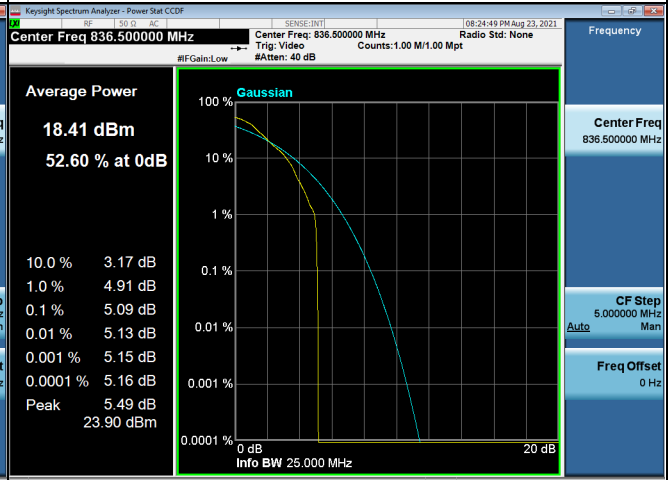


## LTE Band 26\_15M Spectrum Plot

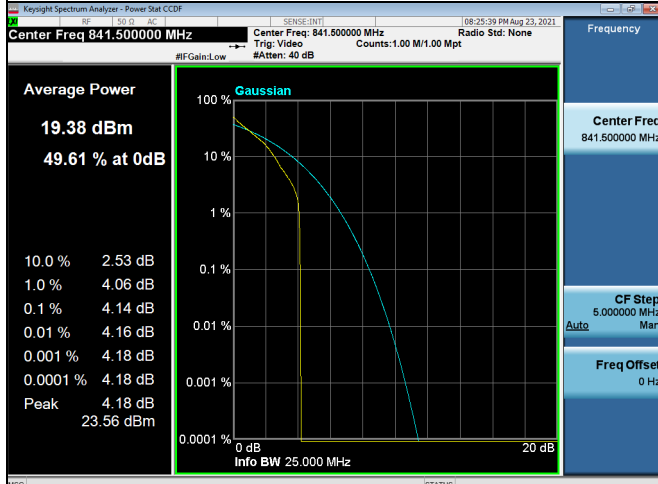
### QPSK-26865



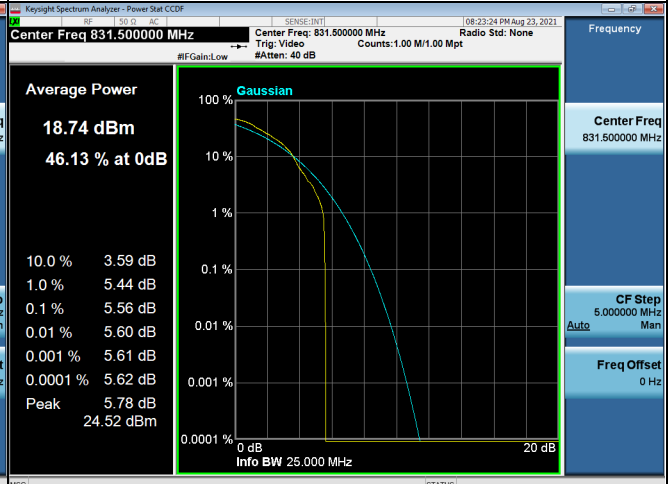
### QPSK-26915



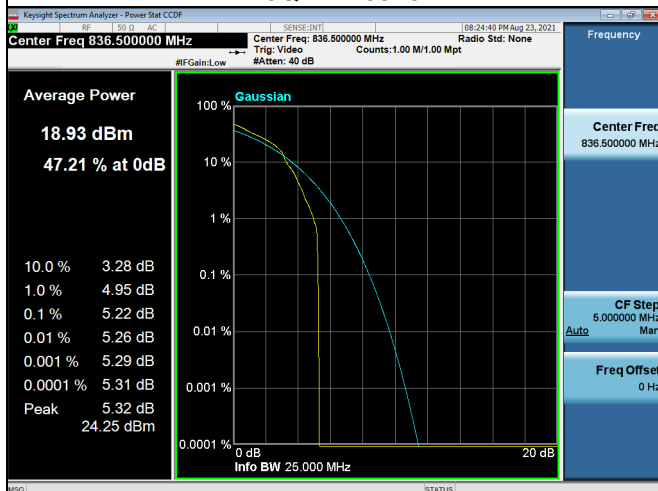
### QPSK-26965



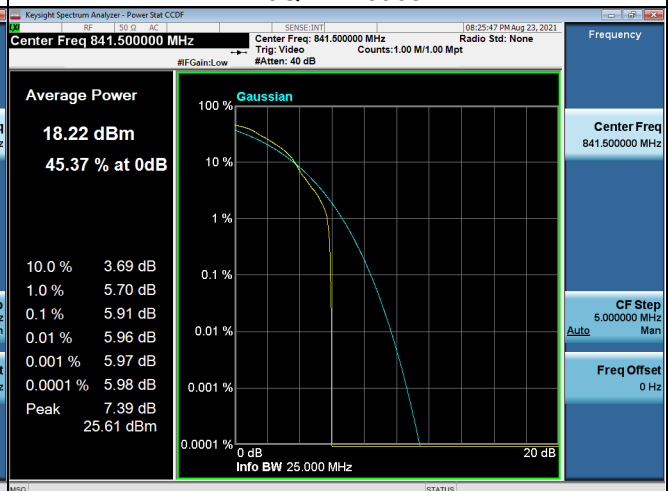
### 16QAM-26865



### 16QAM-26915



### 16QAM-26965



## **APPENDIX I - FREQUENCY STABILITY**

|           |              |
|-----------|--------------|
| Test Mode | GSM850_CH190 |
|-----------|--------------|

#### Temperature vs. Frequency Stability

| Temperature(°C)      | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| -30                  | 7.45                 | 0.008905092           | ±2.5       |
| -20                  | 9.42                 | 0.011259861           |            |
| -10                  | 5.18                 | 0.006191728           |            |
| 0                    | 5.75                 | 0.006873058           |            |
| 10                   | 2.54                 | 0.003036098           |            |
| 20                   | 6.07                 | 0.007255558           |            |
| 30                   | 9.39                 | 0.011224002           |            |
| 40                   | 6.59                 | 0.007877122           |            |
| 50                   | 5.22                 | 0.006239541           |            |
| Max. Deviation (ppm) | 6.22                 | 0.011259861           |            |

#### Voltage vs. Frequency Stability

| Voltage(Volts)       | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| 3.8                  | 1.86                 | 0.002223285           | ±2.5       |
| 3.6                  | 3.54                 | 0.004231413           |            |
| 2.0                  | 7                    | 0.008367201           |            |
| Max. Deviation (ppm) | 7                    | 0.008367201           |            |

|           |                         |
|-----------|-------------------------|
| Test Mode | LTE Band 5_CH20525_1.4M |
|-----------|-------------------------|

#### Temperature vs. Frequency Stability

| Temperature(°C)      | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| -30                  | -2.97                | -0.003550508          | ±2.5       |
| -20                  | 4.56                 | 0.005451285           |            |
| -10                  | -0.40                | -0.000478183          |            |
| 0                    | 6.16                 | 0.007364017           |            |
| 10                   | -2.42                | -0.002893007          |            |
| 20                   | 4.77                 | 0.005702331           |            |
| 30                   | 1.01                 | 0.001207412           |            |
| 40                   | 3.15                 | 0.00376569            |            |
| 50                   | -1.35                | -0.001613867          |            |
| Max. Deviation (ppm) | 6.16                 | 0.007364017           |            |

#### Voltage vs. Frequency Stability

| Voltage(Volts)       | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| 3.8                  | 1.12                 | 0.001338912           | ±2.5       |
| 3.6                  | 9.09                 | 0.010866707           |            |
| 2.0                  | 6.43                 | 0.00768679            |            |
| Max. Deviation (ppm) | 9.09                 | 0.010866707           |            |

|           |                       |
|-----------|-----------------------|
| Test Mode | LTE Band 5_CH20525_3M |
|-----------|-----------------------|

#### Temperature vs. Frequency Stability

| Temperature(°C)      | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| -30                  | -9.21                | -0.011010161          | ± 2.5      |
| -20                  | -8.84                | -0.010567842          |            |
| -10                  | 8.60                 | 0.010280932           |            |
| 0                    | 7.91                 | 0.009456067           |            |
| 10                   | -5.05                | -0.006037059          |            |
| 20                   | 0.60                 | 0.000717274           |            |
| 30                   | -2.98                | -0.003562463          |            |
| 40                   | -6.71                | -0.008021518          |            |
| 50                   | 3.04                 | 0.00363419            |            |
| Max. Deviation (ppm) | -8.84                | -0.010567842          |            |

#### Voltage vs. Frequency Stability

| Voltage(Volts)       | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| 3.8                  | -2.56                | -0.003060371          | ± 2.5      |
| 3.6                  | -2.20                | -0.002630006          |            |
| 2.0                  | 2.86                 | 0.003419008           |            |
| Max. Deviation (ppm) | 2.86                 | 0.003419008           |            |

|           |                       |
|-----------|-----------------------|
| Test Mode | LTE Band 5_CH20525_5M |
|-----------|-----------------------|

#### Temperature vs. Frequency Stability

| Temperature(°C)      | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| -30                  | 2.56                 | 0.003060371           | ±2.5       |
| -20                  | 7.63                 | 0.009121339           |            |
| -10                  | -0.25                | -0.000298864          |            |
| 0                    | -7.92                | -0.009468022          |            |
| 10                   | -4.94                | -0.005905559          |            |
| 20                   | 1.44                 | 0.001721458           |            |
| 30                   | -8.51                | -0.010173341          |            |
| 40                   | -7.48                | -0.00894202           |            |
| 50                   | 5.51                 | 0.00658697            |            |
| Max. Deviation (ppm) | -8.51                | -0.010173341          |            |

#### Voltage vs. Frequency Stability

| Voltage(Volts)       | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| 3.8                  | 0.88                 | 0.001052002           | ±2.5       |
| 3.6                  | 9.58                 | 0.011452481           |            |
| 2.0                  | -9.44                | -0.011285117          |            |
| Max. Deviation (ppm) | 9.58                 | 0.011452481           |            |

|           |                        |
|-----------|------------------------|
| Test Mode | LTE Band 5_CH20525_10M |
|-----------|------------------------|

#### Temperature vs. Frequency Stability

| Temperature(°C)      | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| -30                  | -9.71                | -0.01160789           | ± 2.5      |
| -20                  | -1.08                | -0.001291094          |            |
| -10                  | 8.42                 | 0.01006575            |            |
| 0                    | -4.56                | -0.005451285          |            |
| 10                   | -2.12                | -0.002534369          |            |
| 20                   | 6.29                 | 0.007519426           |            |
| 30                   | 3.37                 | 0.004028691           |            |
| 40                   | -2.23                | -0.00266587           |            |
| 50                   | -8.69                | -0.010388524          |            |
| Max. Deviation (ppm) | -8.69                | -0.010388524          |            |

#### Voltage vs. Frequency Stability

| Voltage(Volts)       | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| 3.8                  | -0.67                | -0.000800956          | ± 2.5      |
| 3.6                  | 3.67                 | 0.004387328           |            |
| 2.0                  | -2.23                | -0.00266587           |            |
| Max. Deviation (ppm) | 3.67                 | 0.004387328           |            |

|           |                          |
|-----------|--------------------------|
| Test Mode | LTE Band 26_CH26915_1.4M |
|-----------|--------------------------|

#### Temperature vs. Frequency Stability

| Temperature(°C)      | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| -30                  | -6.87                | -0.008212791          | ± 2.5      |
| -20                  | 3.20                 | 0.003825463           |            |
| -10                  | 8.36                 | 0.009994023           |            |
| 0                    | 9.75                 | 0.011655708           |            |
| 10                   | 2.81                 | 0.003359235           |            |
| 20                   | 2.48                 | 0.002964734           |            |
| 30                   | 2.73                 | 0.003263598           |            |
| 40                   | -1.02                | -0.001219366          |            |
| 50                   | -3.83                | -0.004578601          |            |
| Max. Deviation (ppm) | 9.75                 | 0.011655708           |            |

#### Voltage vs. Frequency Stability

| Voltage(Volts)       | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| 3.8                  | -2.32                | -0.002773461          | ± 2.5      |
| 3.6                  | -6.11                | -0.007304244          |            |
| 2.0                  | -0.55                | -0.000657501          |            |
| Max. Deviation (ppm) | -6.11                | -0.007304244          |            |

|           |                        |
|-----------|------------------------|
| Test Mode | LTE Band 26_CH26915_3M |
|-----------|------------------------|

#### Temperature vs. Frequency Stability

| Temperature(°C)      | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| -30                  | 0.17                 | 0.000203228           | ±2.5       |
| -20                  | -4.31                | -0.005152421          |            |
| -10                  | 9.98                 | 0.011930663           |            |
| 0                    | -7.69                | -0.009193066          |            |
| 10                   | 8.41                 | 0.010053796           |            |
| 20                   | 0.40                 | 0.000478183           |            |
| 30                   | -3.44                | -0.004112373          |            |
| 40                   | -5.09                | -0.006084877          |            |
| 50                   | -0.14                | -0.000167364          |            |
| Max. Deviation (ppm) | 9.98                 | 0.011930663           |            |

#### Voltage vs. Frequency Stability

| Voltage(Volts)       | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| 3.8                  | 0.33                 | 0.000394501           | ±2.5       |
| 3.6                  | 7.30                 | 0.008726838           |            |
| 2.0                  | 7.12                 | 0.008511656           |            |
| Max. Deviation (ppm) | 7.3                  | 0.008726838           |            |

|           |                        |
|-----------|------------------------|
| Test Mode | LTE Band 26_CH26915_5M |
|-----------|------------------------|

#### Temperature vs. Frequency Stability

| Temperature(°C)      | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| -30                  | 0.21                 | 0.000251046           | ±2.5       |
| -20                  | -5.52                | -0.006598924          |            |
| -10                  | 3.13                 | 0.003741781           |            |
| 0                    | 2.81                 | 0.003359235           |            |
| 10                   | -2.89                | -0.003454871          |            |
| 20                   | 3.06                 | 0.003658099           |            |
| 30                   | -7.97                | -0.009527794          |            |
| 40                   | -0.21                | -0.000251046          |            |
| 50                   | -2.00                | -0.002390915          |            |
| Max. Deviation (ppm) | -7.97                | -0.009527794          |            |

#### Voltage vs. Frequency Stability

| Voltage(Volts)       | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| 3.8                  | -9.41                | -0.011249253          | ±2.5       |
| 3.6                  | -2.59                | -0.003096234          |            |
| 2.0                  | -6.11                | -0.007304244          |            |
| Max. Deviation (ppm) | -9.41                | -0.011249253          |            |

|           |                         |
|-----------|-------------------------|
| Test Mode | LTE Band 26_CH26915_10M |
|-----------|-------------------------|

#### Temperature vs. Frequency Stability

| Temperature(°C)      | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| -30                  | -6.37                | -0.007615063          | ±2.5       |
| -20                  | 4.63                 | 0.005534967           |            |
| -10                  | -0.96                | -0.001147639          |            |
| 0                    | 9.56                 | 0.011428571           |            |
| 10                   | 0.20                 | 0.000239091           |            |
| 20                   | -2.30                | -0.002749552          |            |
| 30                   | 7.35                 | 0.008786611           |            |
| 40                   | -6.12                | -0.007316198          |            |
| 50                   | -2.05                | -0.002450687          |            |
| Max. Deviation (ppm) | 9.56                 | 0.011428571           |            |

#### Voltage vs. Frequency Stability

| Voltage(Volts)       | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| 3.8                  | -3.73                | -0.004459056          | ±2.5       |
| 3.6                  | -3.21                | -0.003837418          |            |
| 2.0                  | 2.22                 | 0.002653915           |            |
| Max. Deviation (ppm) | -3.73                | -0.004459056          |            |

|           |                         |
|-----------|-------------------------|
| Test Mode | LTE Band 26_CH26915_15M |
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#### Temperature vs. Frequency Stability

| Temperature(°C)      | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| -30                  | 4.90                 | 0.005857741           | ±2.5       |
| -20                  | -7.00                | -0.008368201          |            |
| -10                  | -9.77                | -0.011679617          |            |
| 0                    | -8.76                | -0.010472206          |            |
| 10                   | -3.22                | -0.003849372          |            |
| 20                   | 4.21                 | 0.005032875           |            |
| 30                   | -7.93                | -0.009479976          |            |
| 40                   | 4.87                 | 0.005821877           |            |
| 50                   | -3.59                | -0.004291692          |            |
| Max. Deviation (ppm) | -9.77                | -0.011679617          |            |

#### Voltage vs. Frequency Stability

| Voltage(Volts)       | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| 3.8                  | -3.18                | -0.003801554          | ±2.5       |
| 3.6                  | 5.10                 | 0.006096832           |            |
| 2.0                  | 1.51                 | 0.00180514            |            |
| Max. Deviation (ppm) | 5.1                  | 0.006096832           |            |

End of Test Report