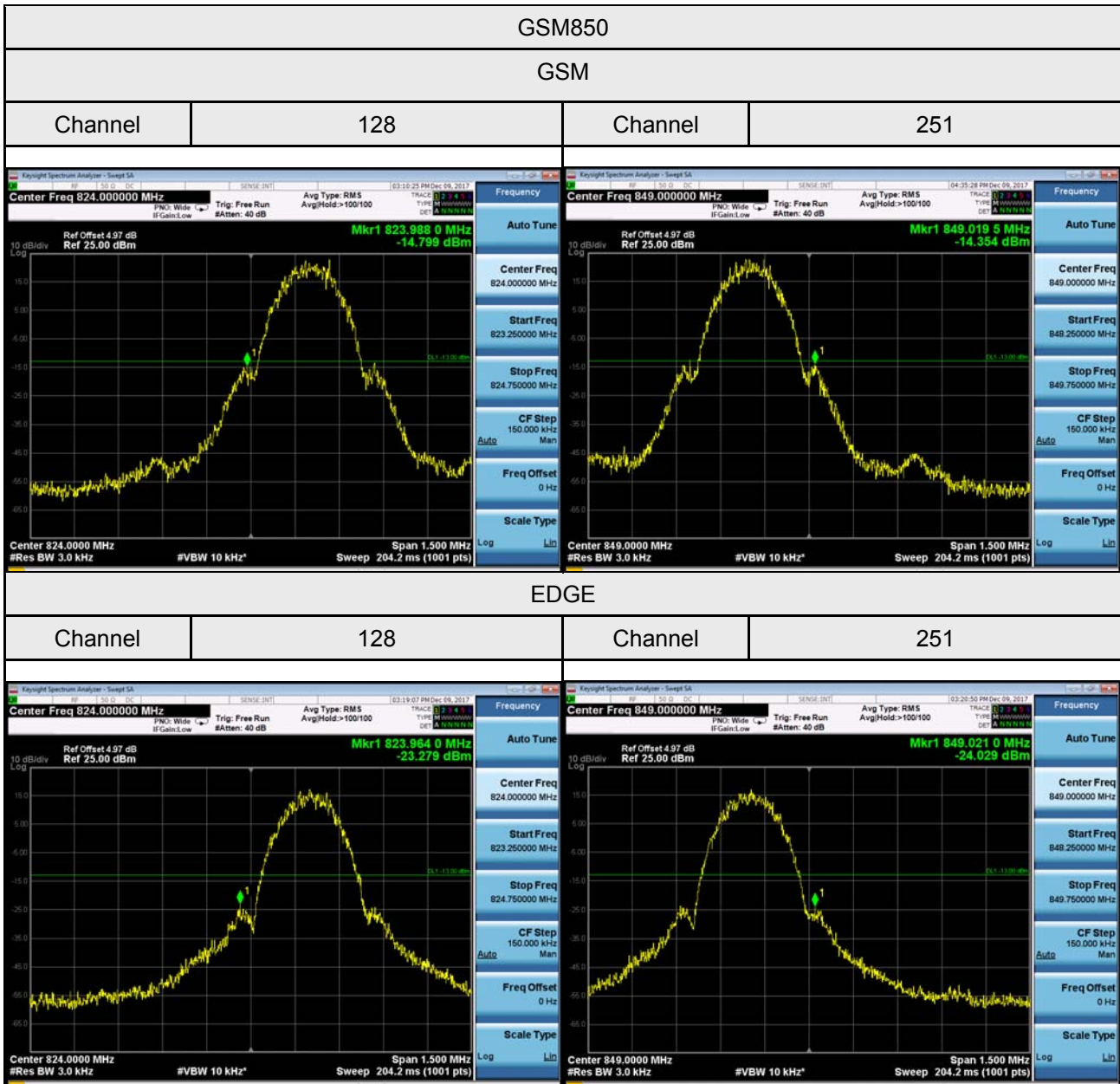
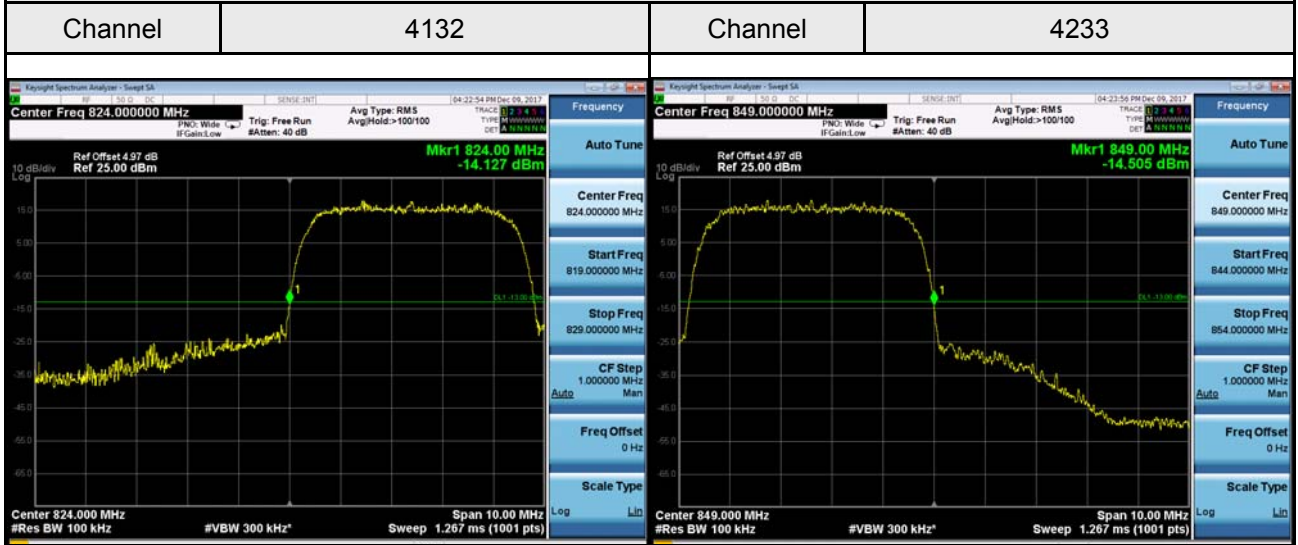


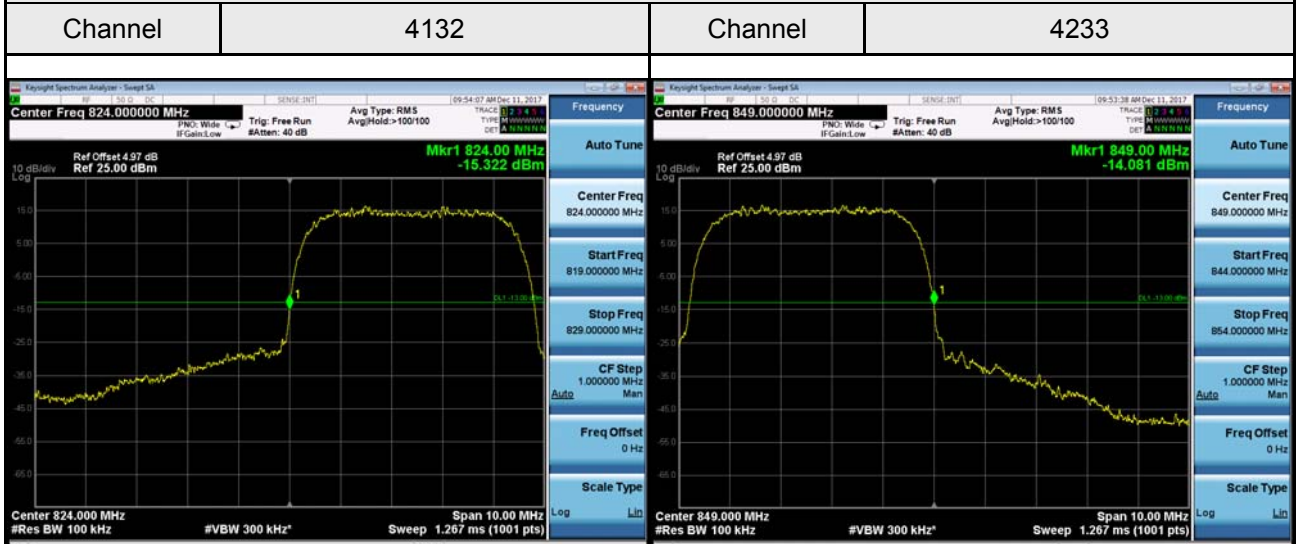
APPENDIX E - BAND EDGE



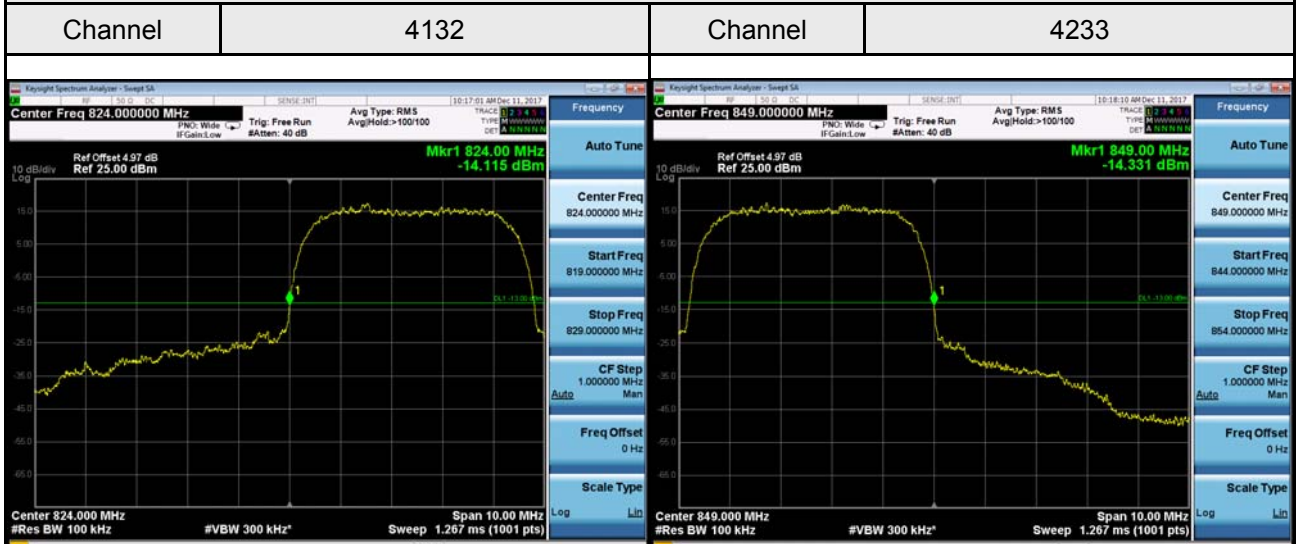
WCDMA Band V



WCDMA_HSDPA Band V



WCDMA_HSUPA Band V



LTE Band 5_1.4M

1RB0

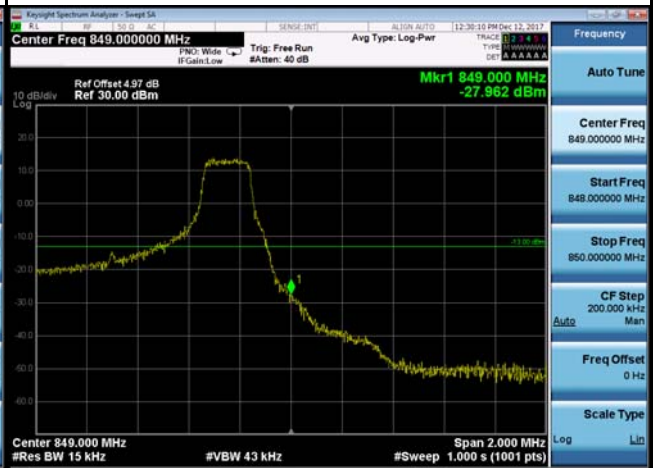
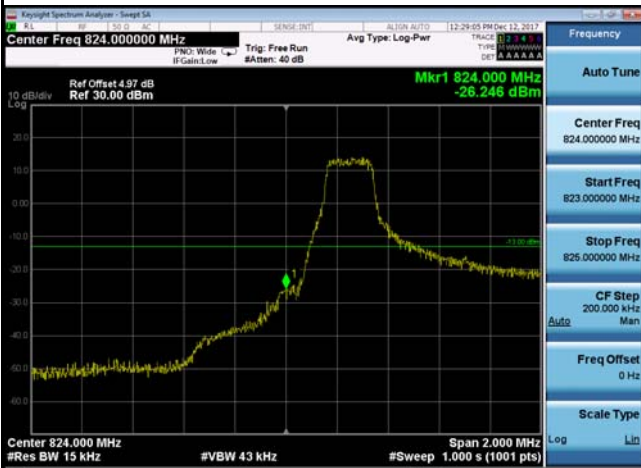
1RB5

Channel

20407

Channel

20643



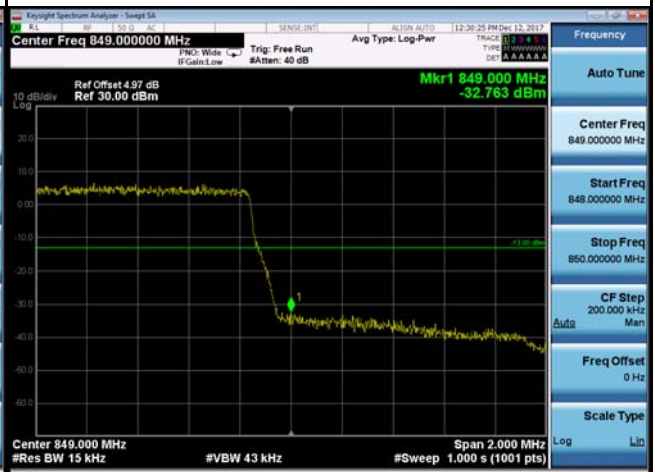
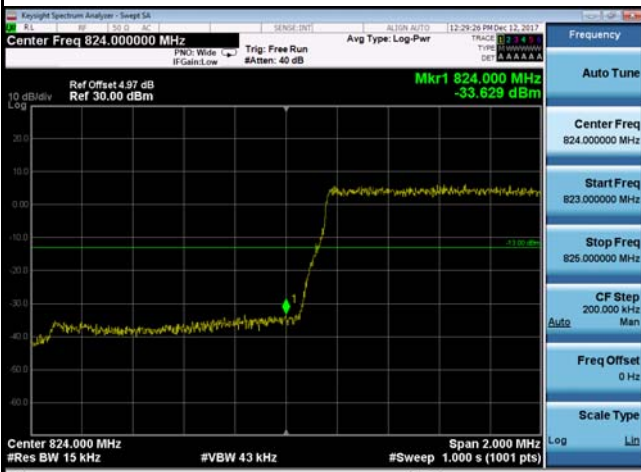
6RB0

Channel

20407

Channel

20643



LTE Band 5_3M

1RB0

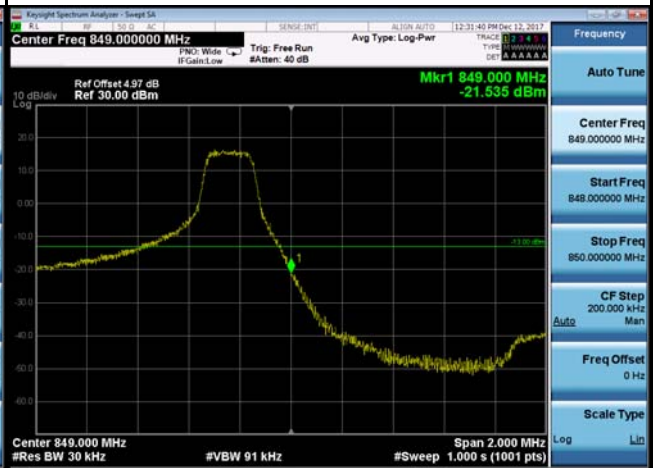
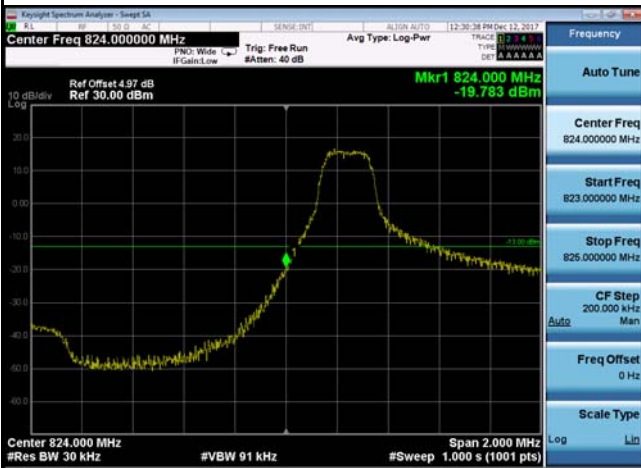
1RB14

Channel

20415

Channel

20635



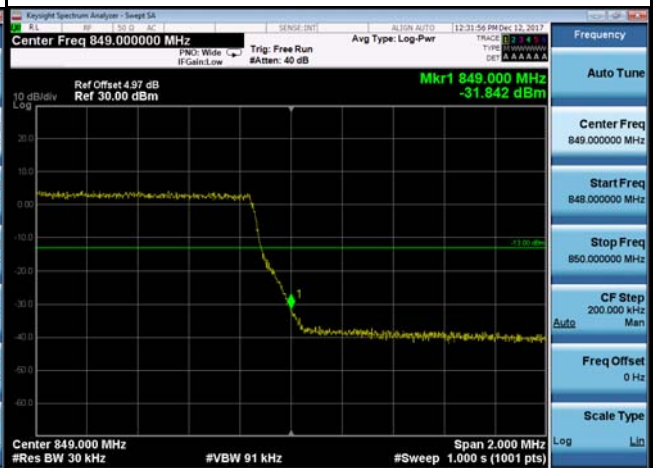
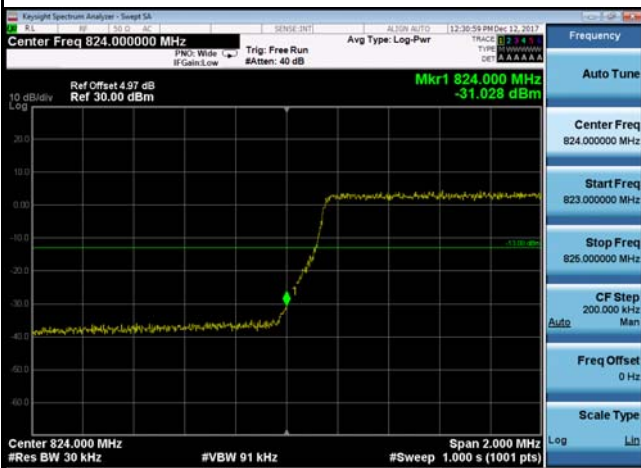
15RB0

Channel

20415

Channel

20635



LTE Band 5_5M

1RB0

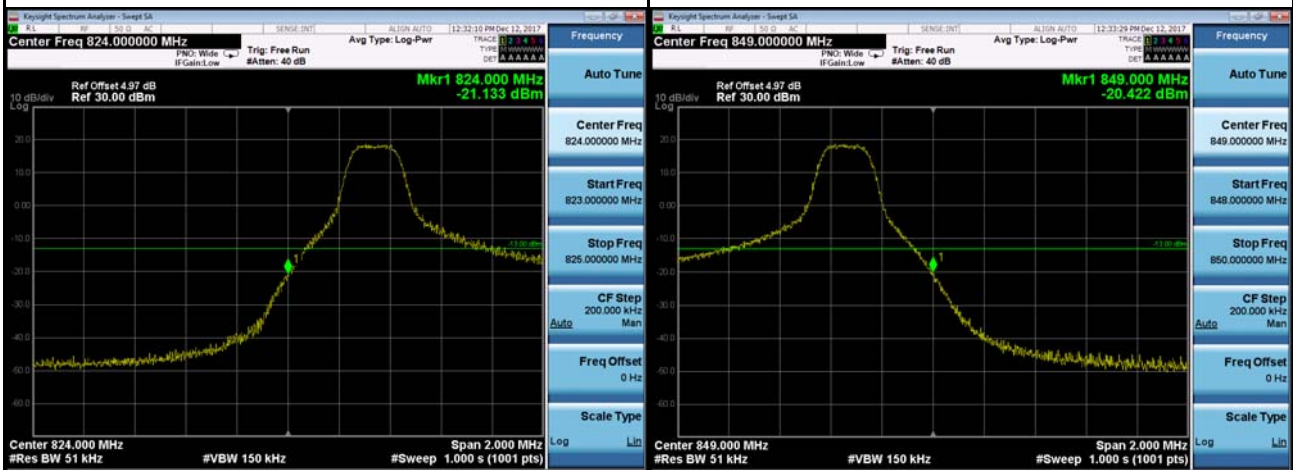
1RB24

Channel

20425

Channel

20625



25RB0

Channel

20425

Channel

20625



LTE Band 5_10M

1RB0

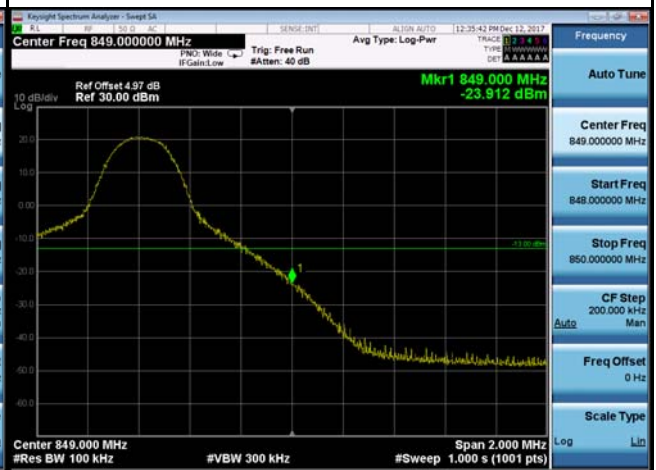
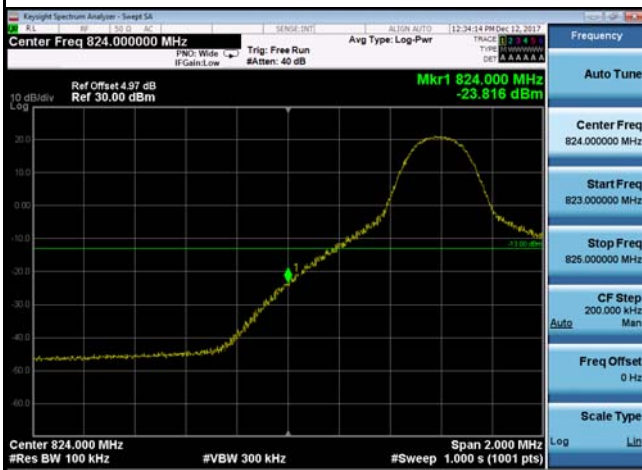
1RB49

Channel

20450

Channel

20600



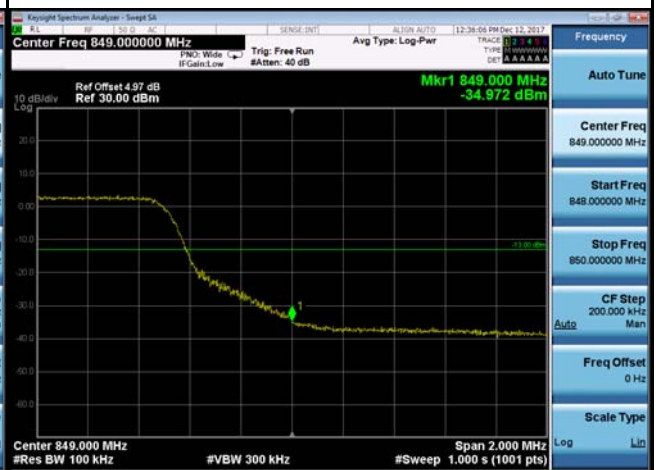
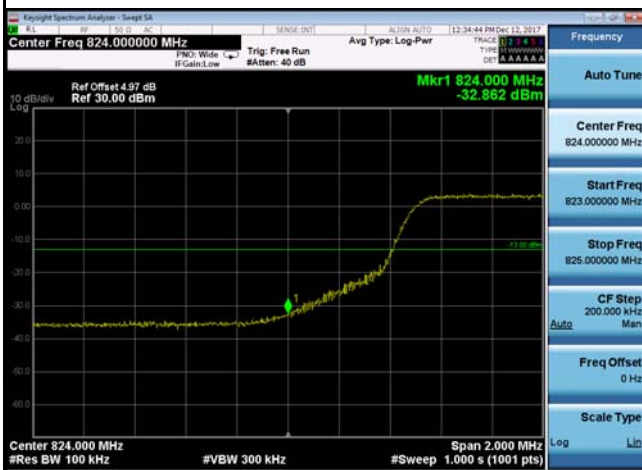
50RB0

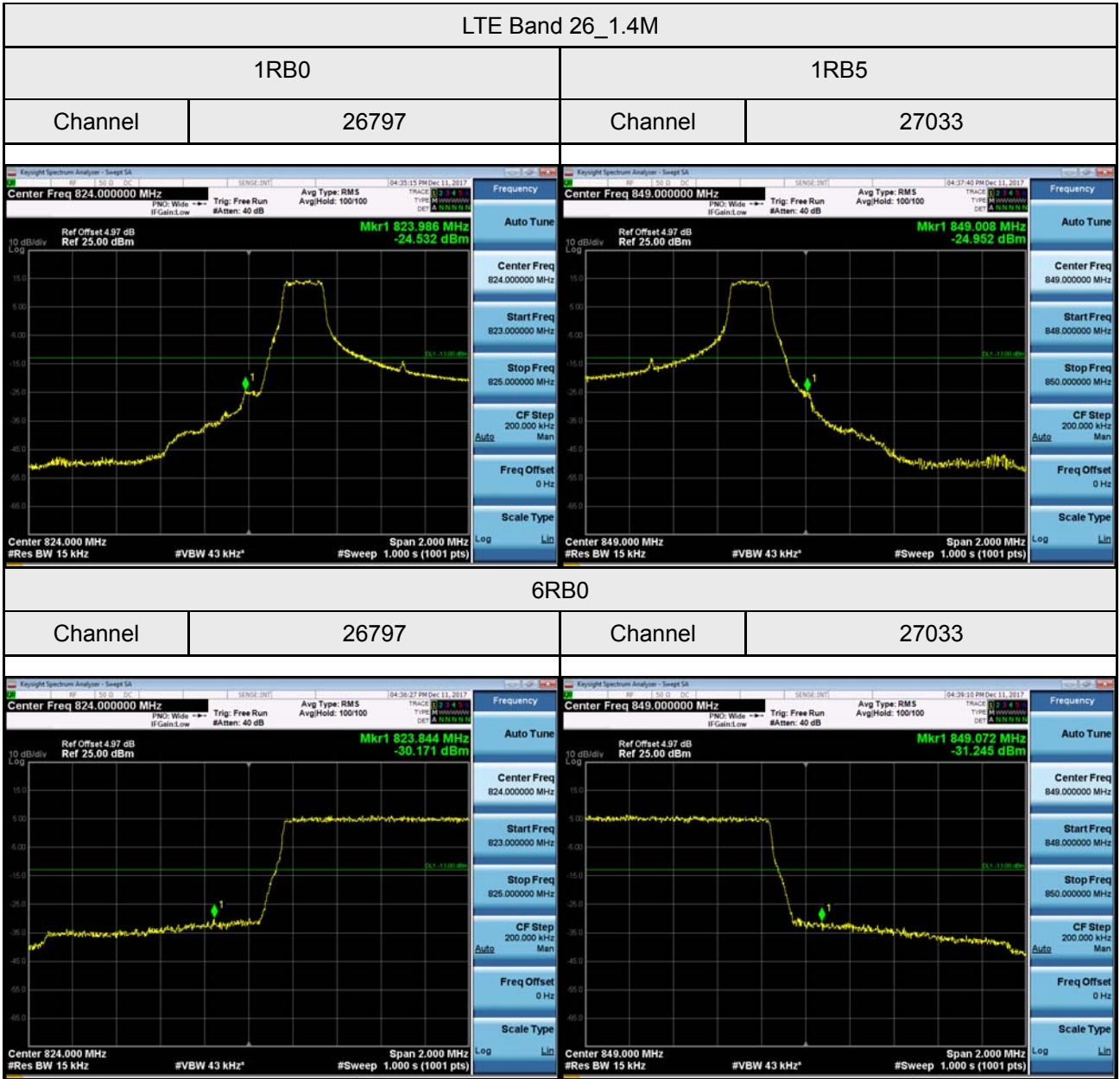
Channel

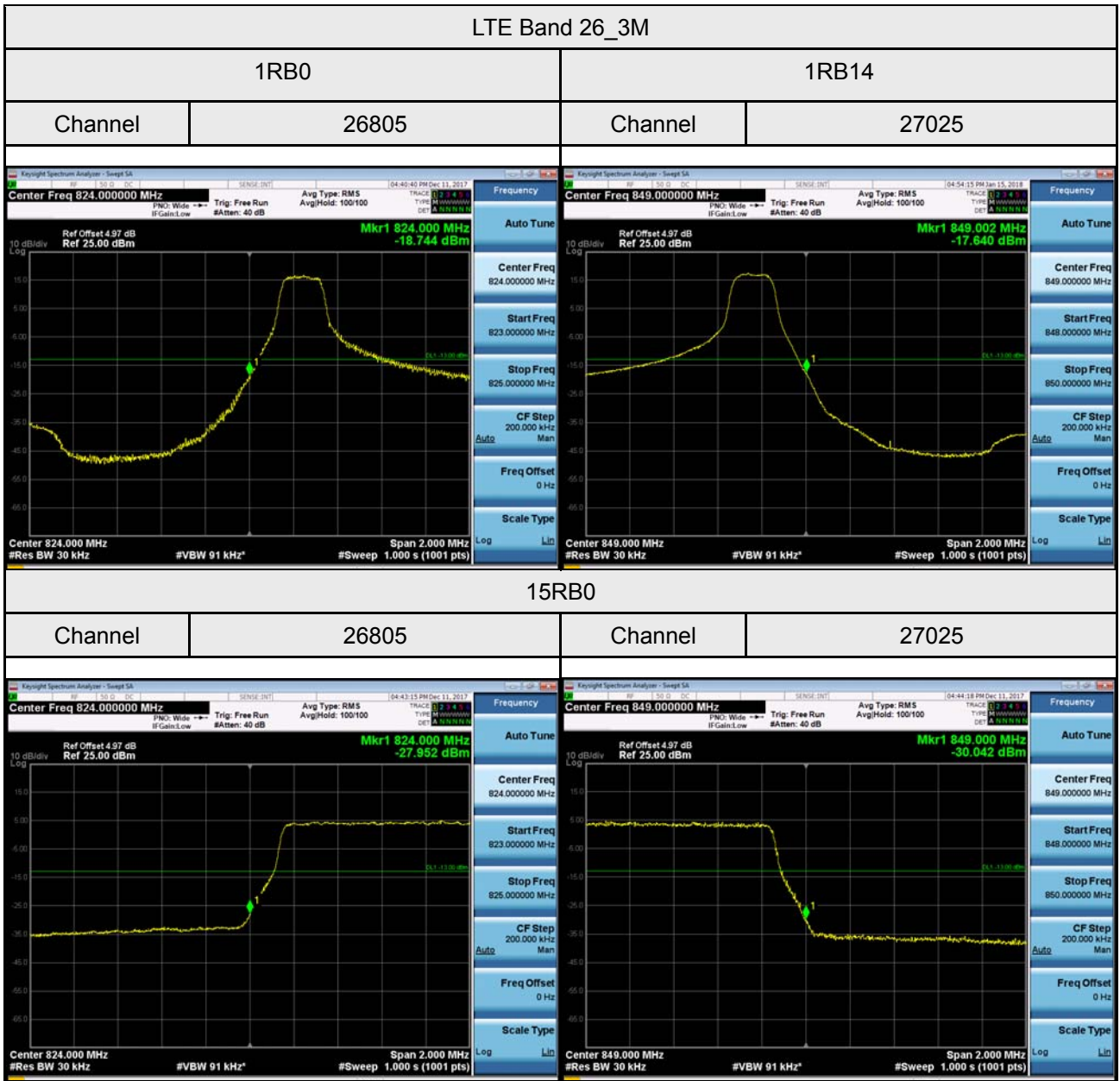
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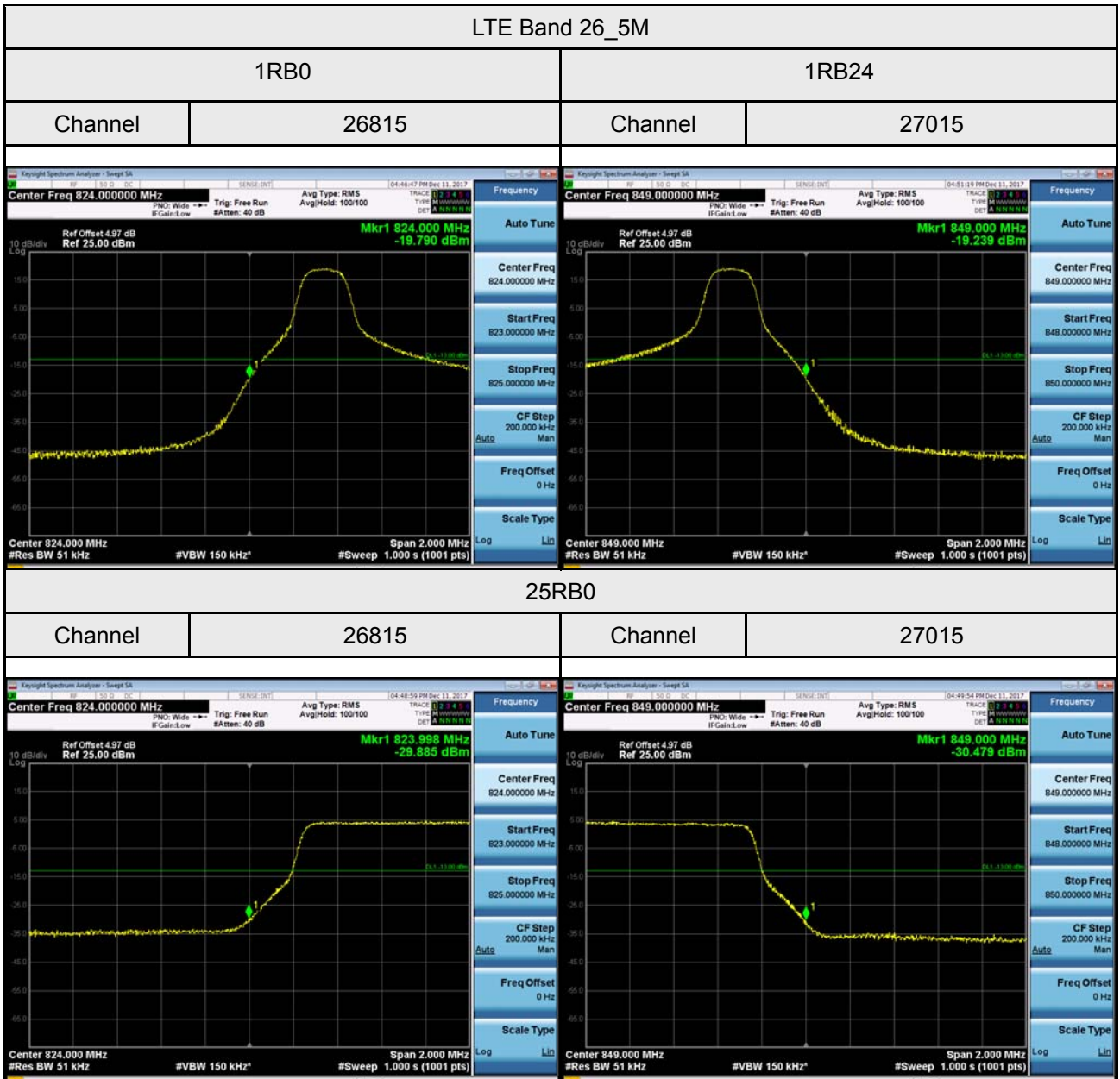
Channel

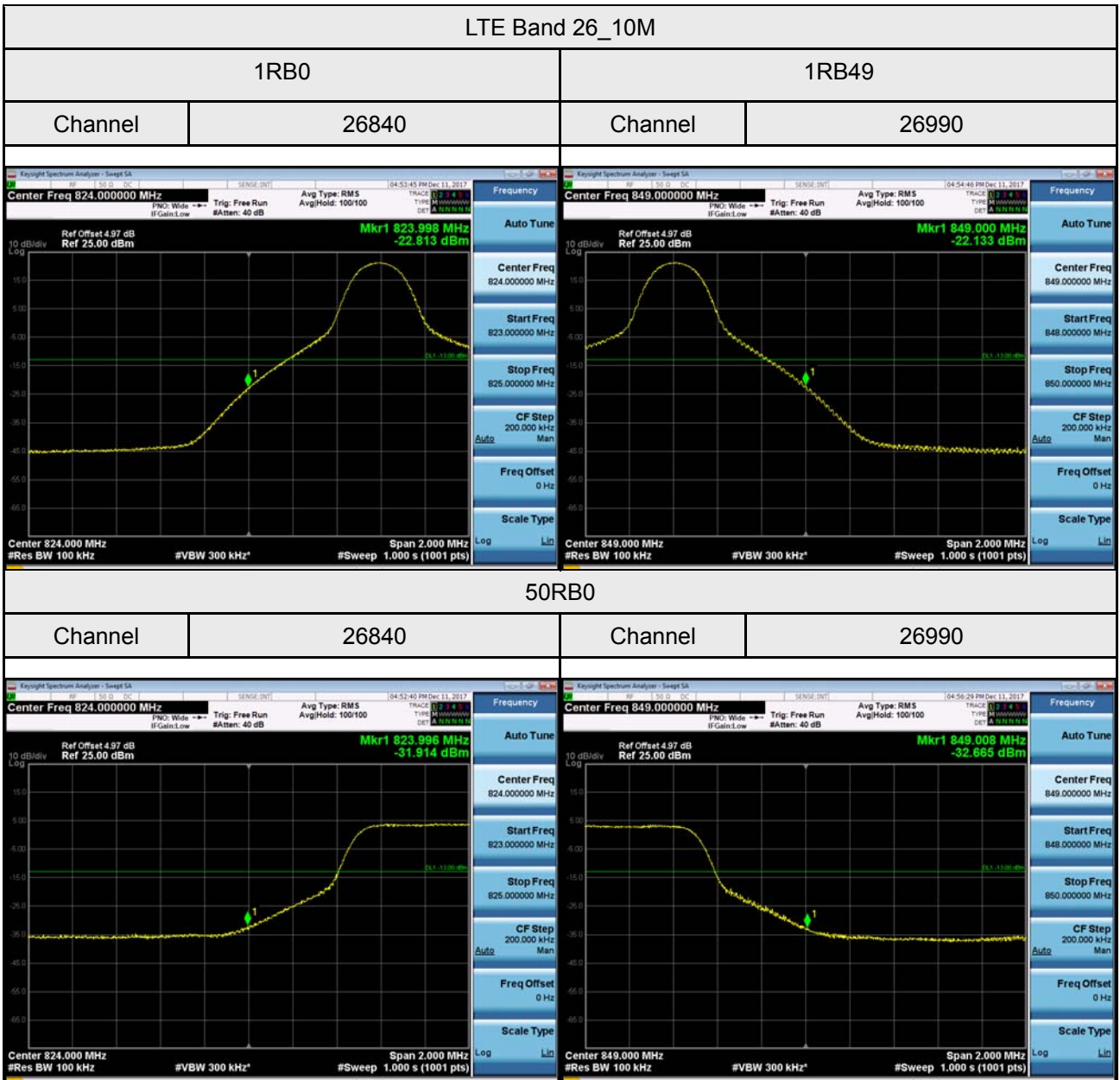
20600











LTE Band 26_15M

1RB0

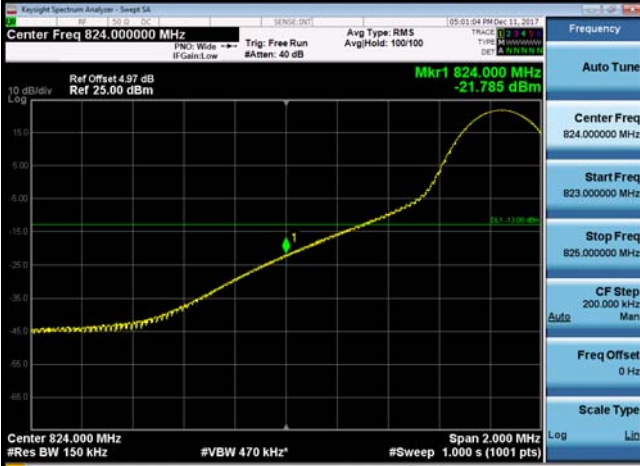
1RB74

Channel

26865

Channel

26965



75RB0

Channel

26865

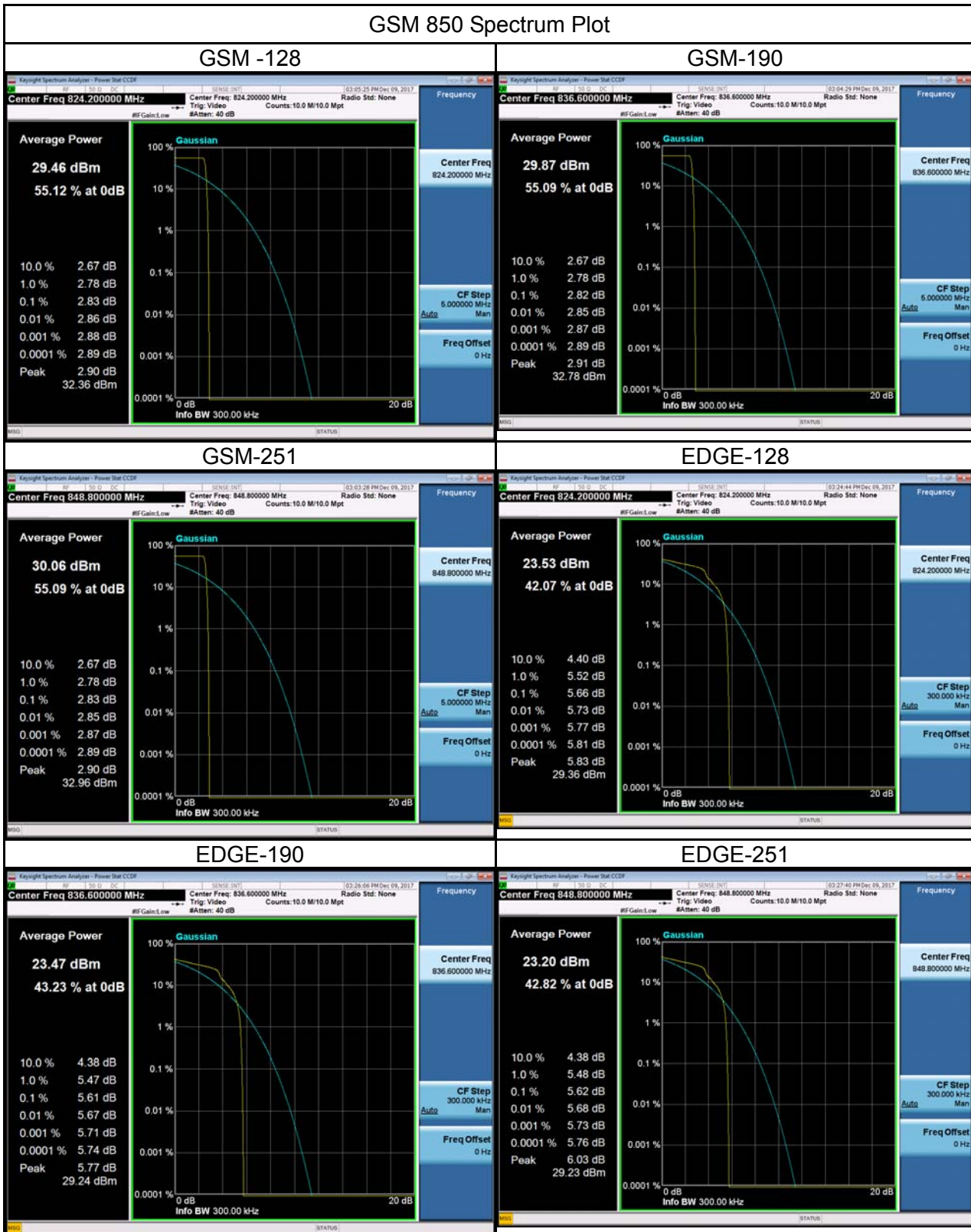
Channel

26965



APPENDIX F - PEAK TO AVERAGE RATIO

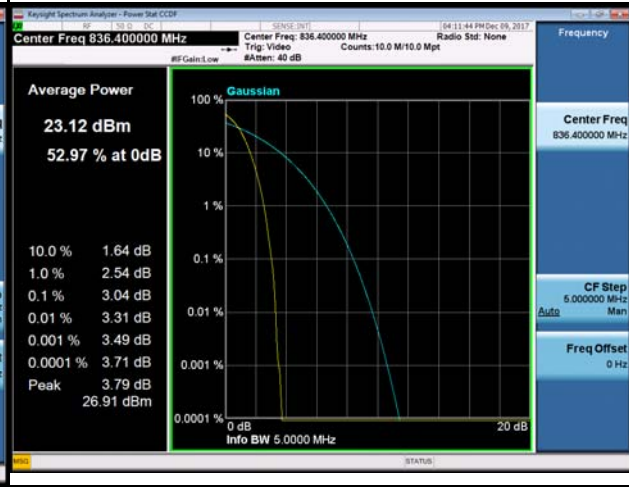
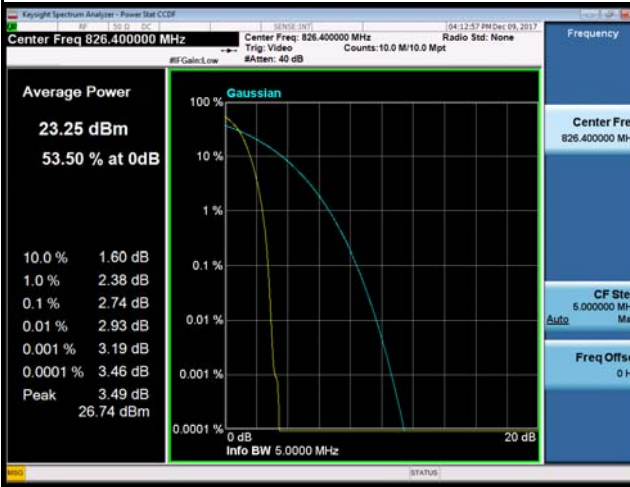
GSM 850 Spectrum Plot



WCDMA Band V Spectrum Plot

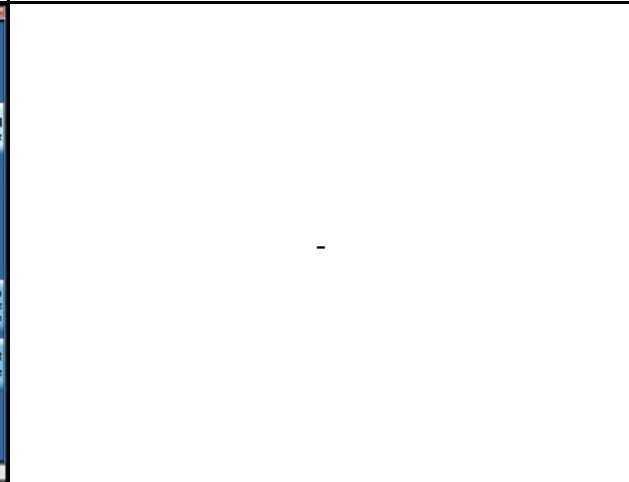
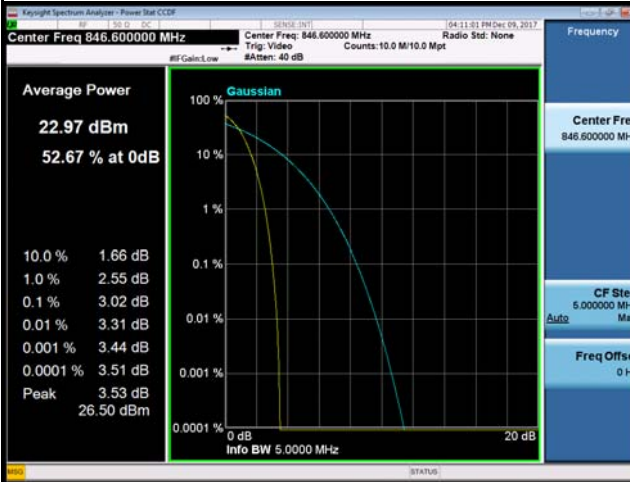
4132

4182



4233

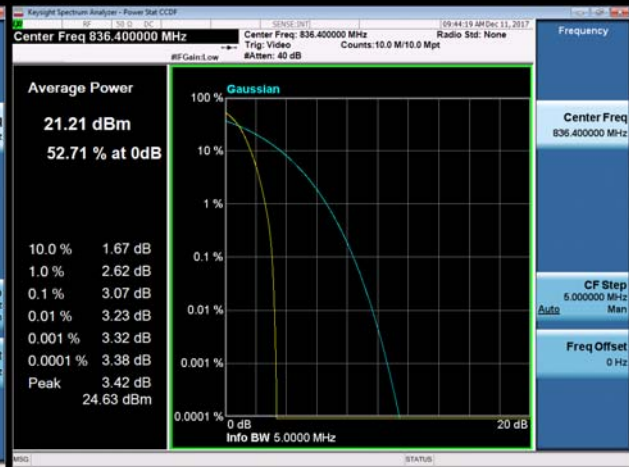
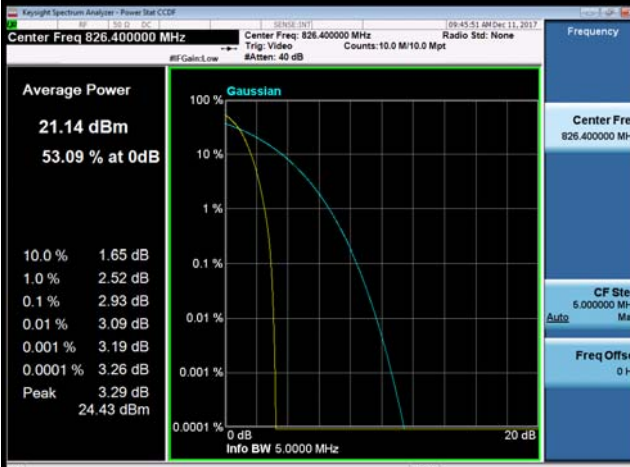
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WCDMA_HSDPA Band V Spectrum Plot

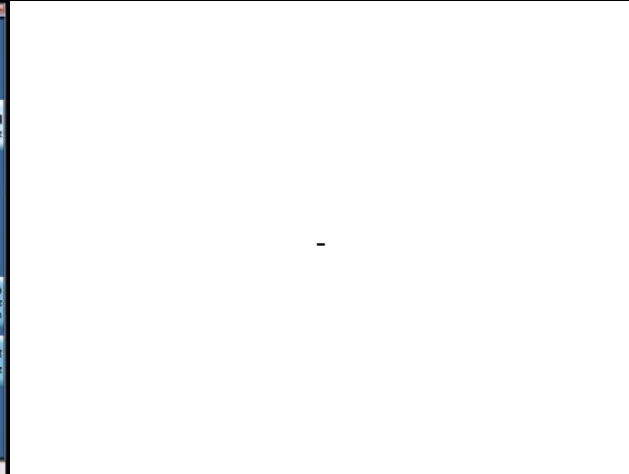
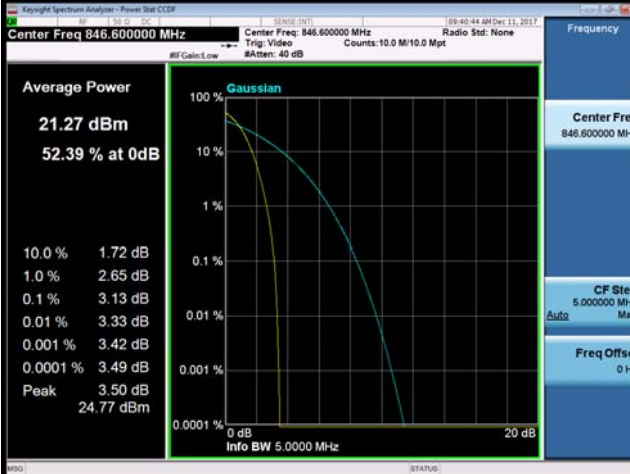
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4182



4233

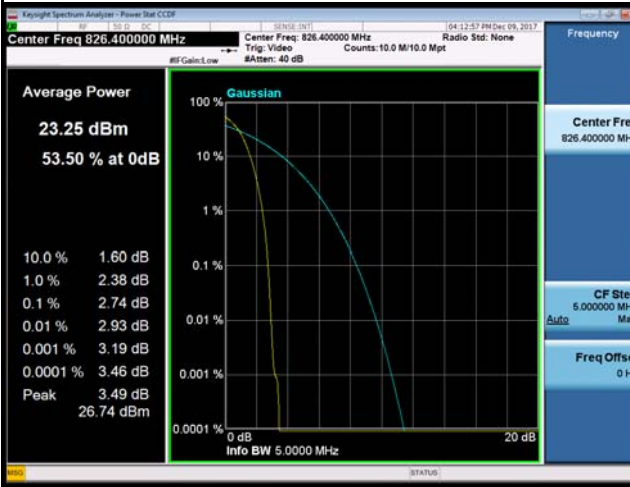
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WCDMA_HSUPA Band V Spectrum Plot

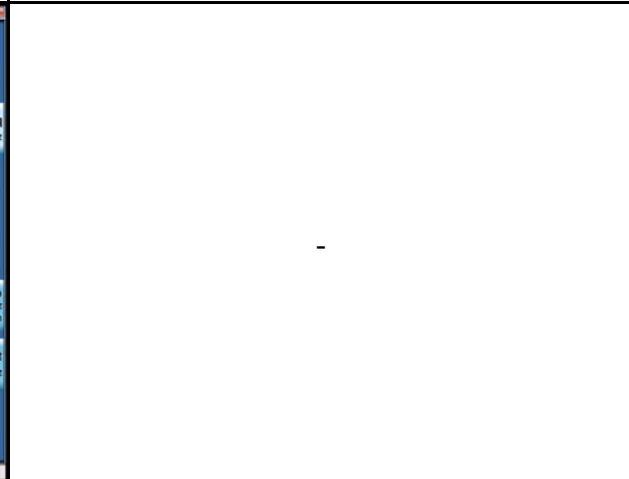
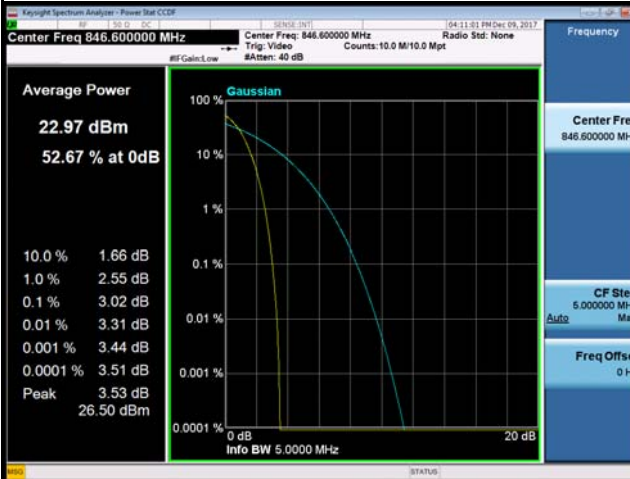
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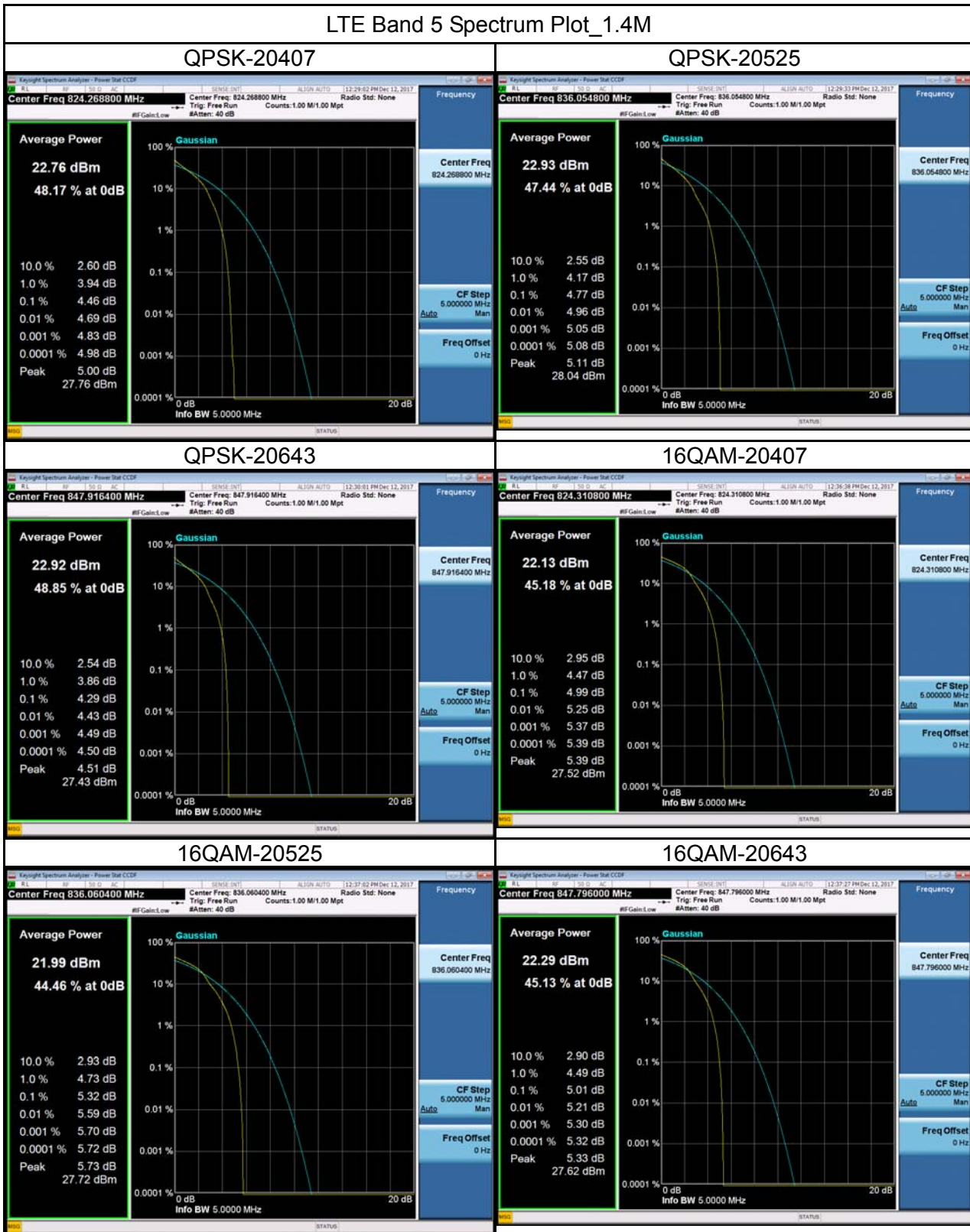


4233

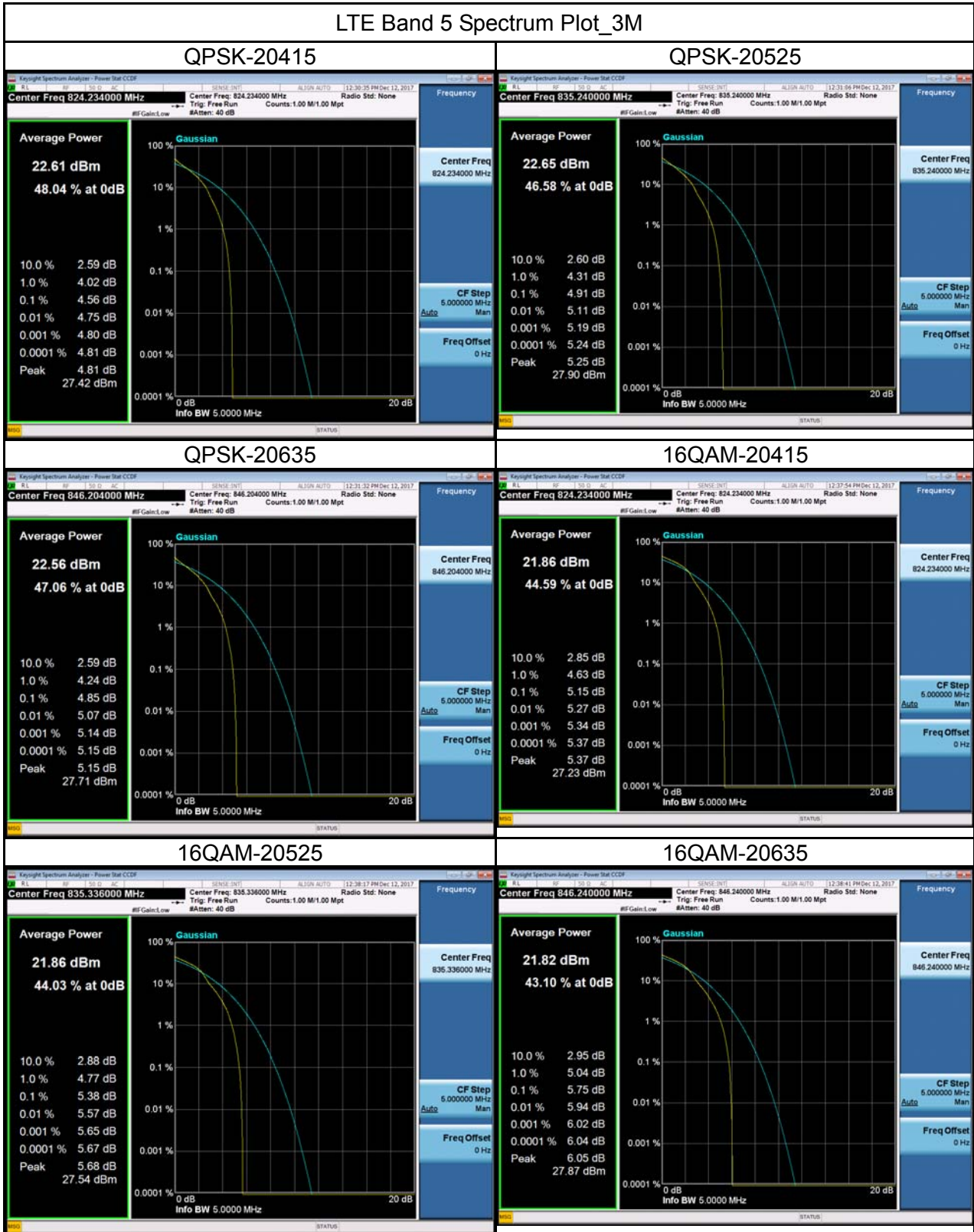
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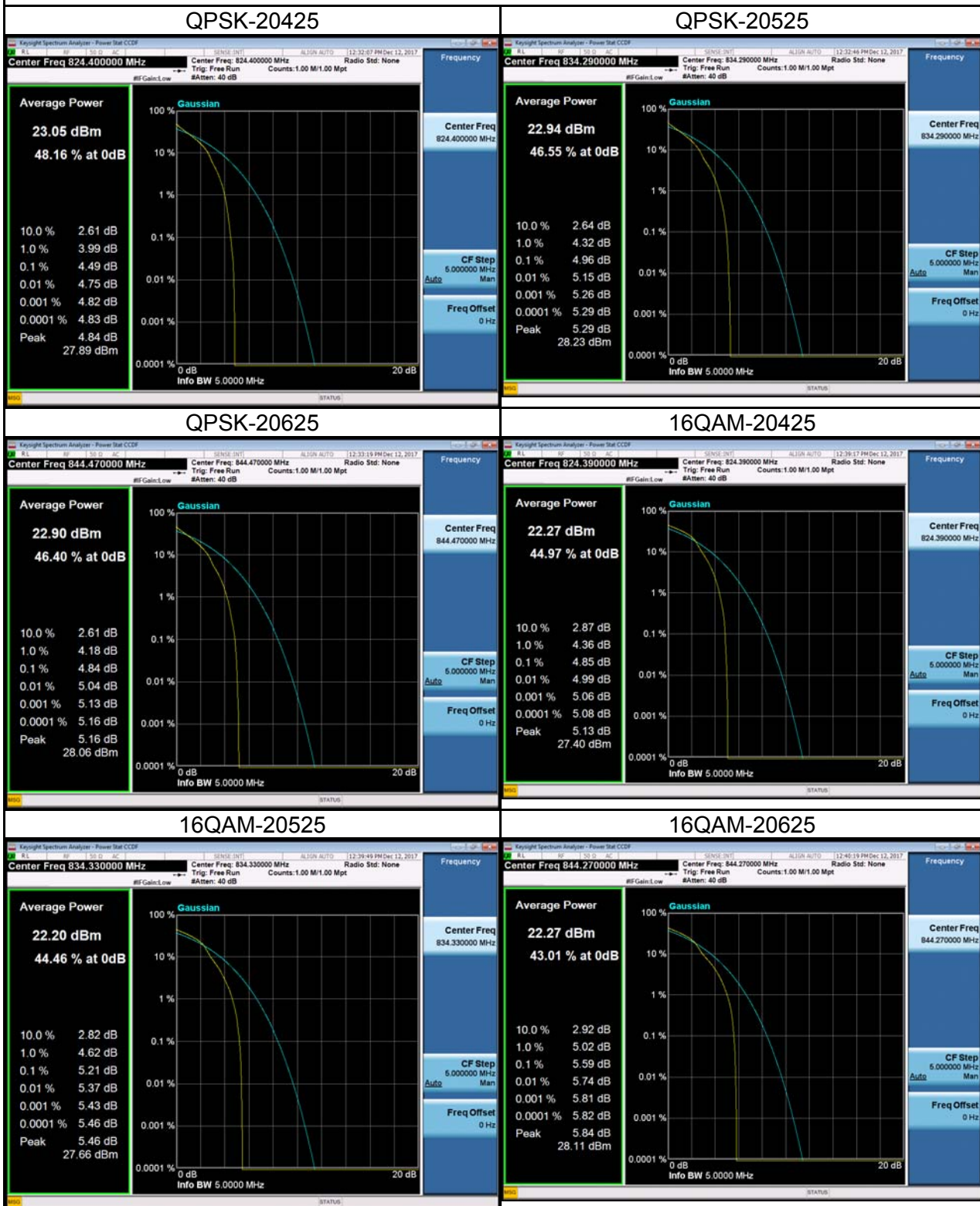
LTE Band 5 Spectrum Plot_1.4M



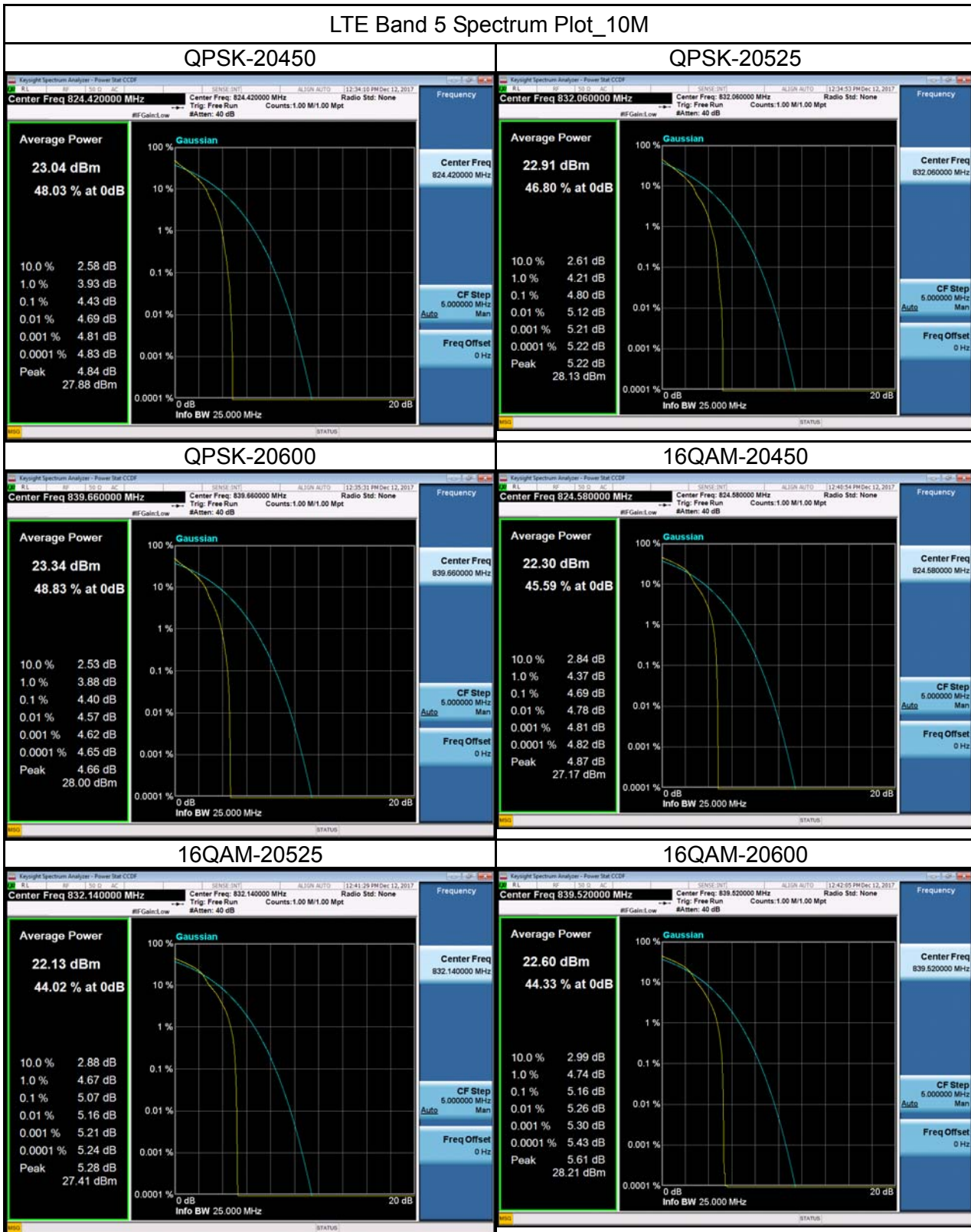
LTE Band 5 Spectrum Plot_3M



LTE Band 5 Spectrum Plot_5M



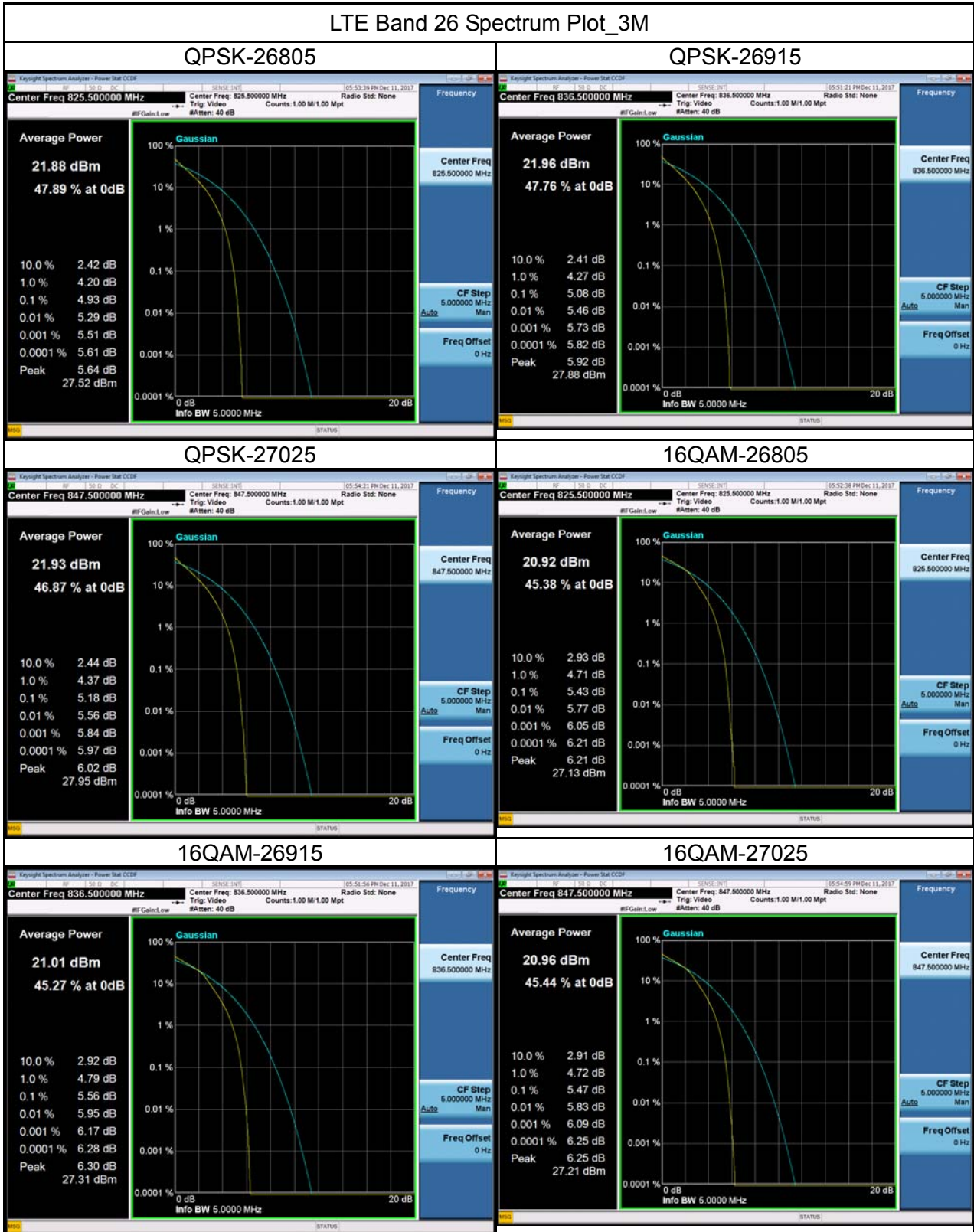
LTE Band 5 Spectrum Plot_10M



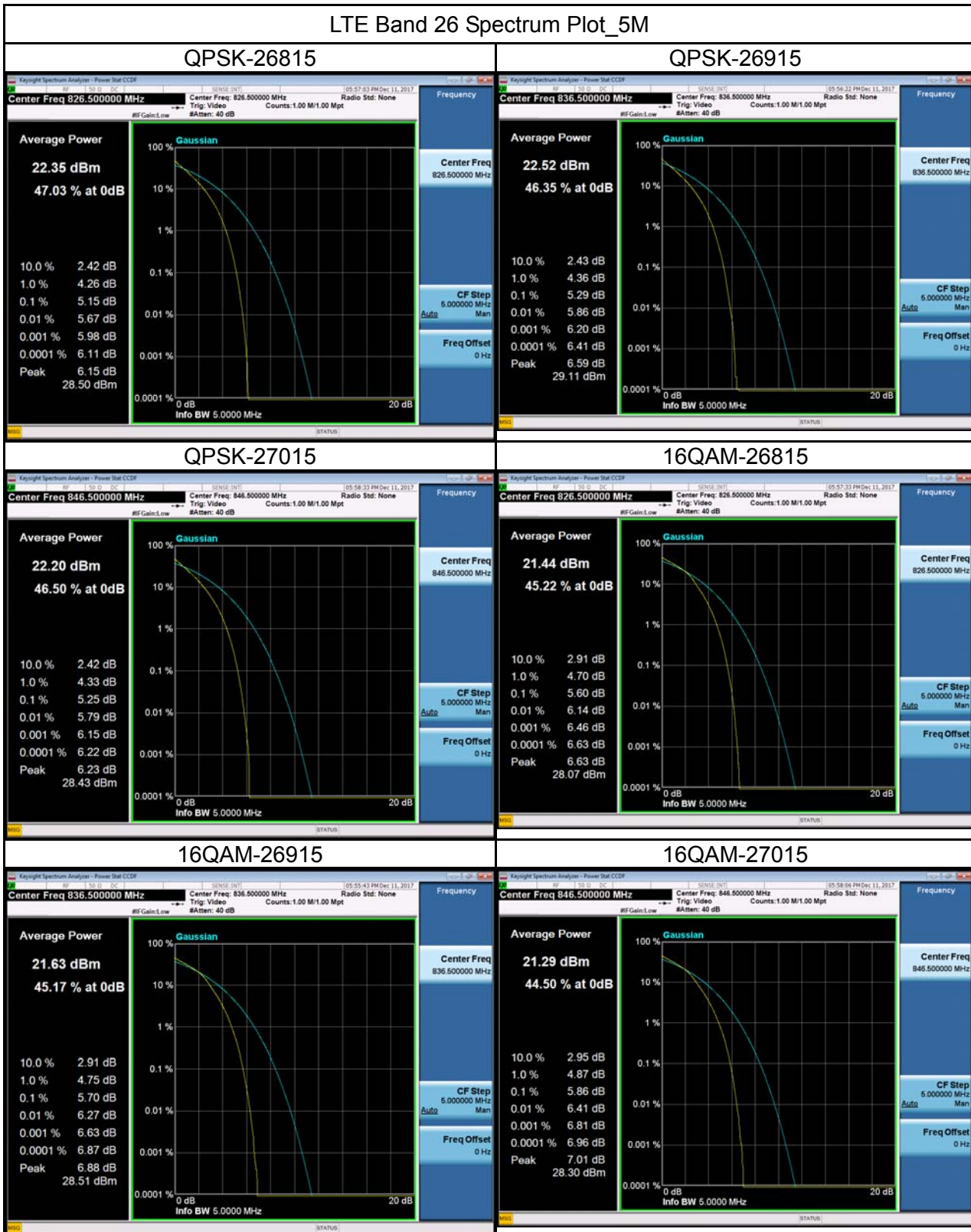
LTE Band 26 Spectrum Plot_1.4M



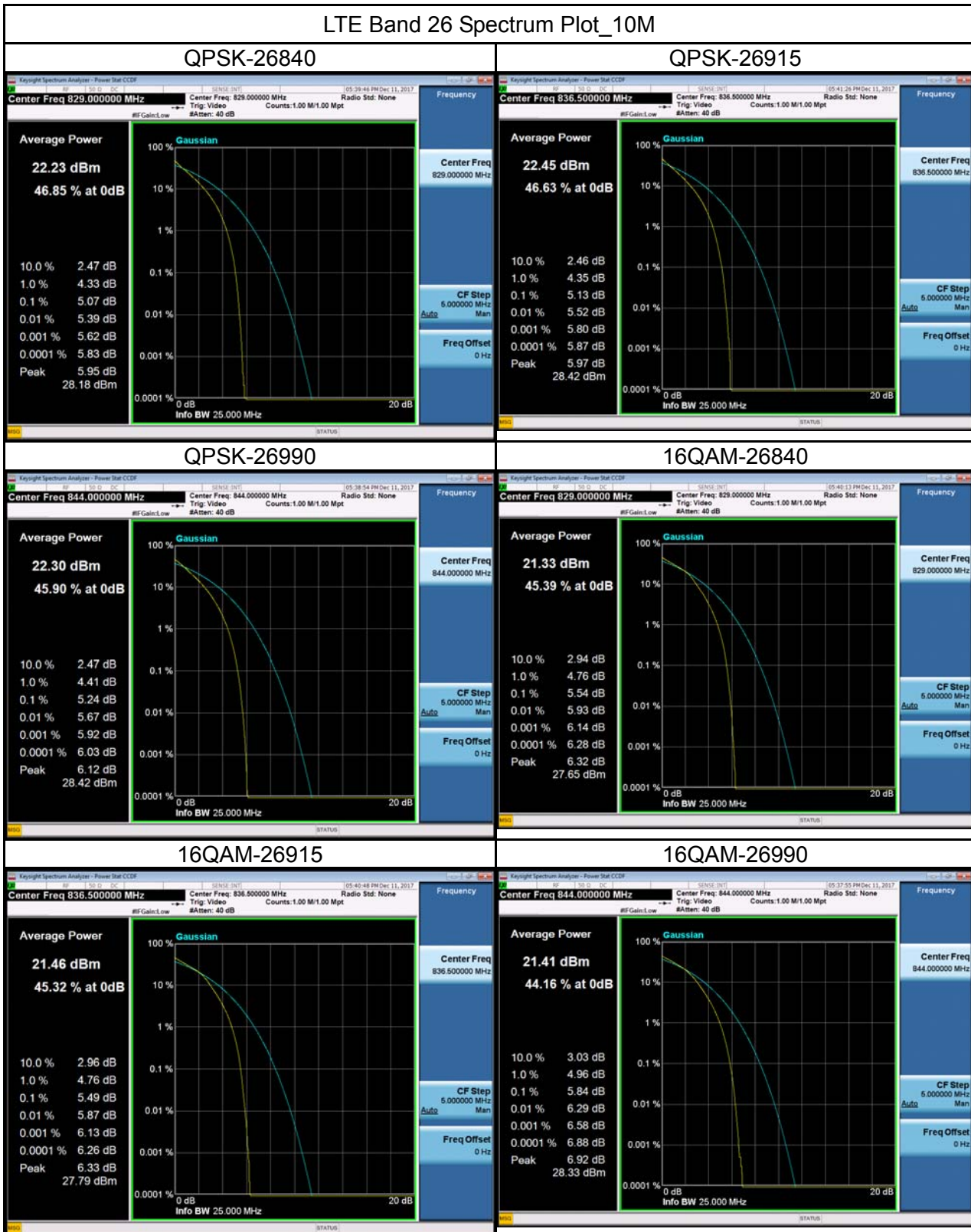
LTE Band 26 Spectrum Plot_3M



LTE Band 26 Spectrum Plot_5M



LTE Band 26 Spectrum Plot_10M



LTE Band 26 Spectrum Plot_15M



APPENDIX G - FREQUENCY STABILITY

| | |
|------------|--------------|
| Test Mode: | GSM850_CH128 |
|------------|--------------|

Temperature vs. Frequency Stability

| Temperature(°C) | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| -30 | 5.21 | 0.006321281 | 2.5 |
| -20 | 7.48 | 0.009075467 | 2.5 |
| -10 | 3.13 | 0.003797622 | 2.5 |
| 0 | 6.16 | 0.007473914 | 2.5 |
| 10 | 4.15 | 0.005035186 | 2.5 |
| 20 | 2.21 | 0.002681388 | 2.5 |
| 30 | 3.58 | 0.004343606 | 2.5 |
| 40 | 7.13 | 0.008650813 | 2.5 |
| 50 | 5.22 | 0.006333414 | 2.5 |
| Max. Deviation (ppm) | 7.48 | 0.009075467 | 2.5 |

Voltage vs. Frequency Stability

| Voltage(Volts) | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| 3.50V | 2.99 | 0.00362776 | 2.5 |
| 3.82V | 5.32 | 0.006454744 | 2.5 |
| 4.40V | 3.58 | 0.004343606 | 2.5 |
| Max. Deviation (ppm) | 5.32 | 0.006454744 | 2.5 |

| | |
|------------|---------------------|
| Test Mode: | WCDMA Band V_CH4182 |
|------------|---------------------|

Temperature vs. Frequency Stability

| Temperature(°C) | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| -30 | 6.85 | 0.008189861 | 2.5 |
| -20 | 4.12 | 0.004925873 | 2.5 |
| -10 | 8.02 | 0.009588714 | 2.5 |
| 0 | 7.56 | 0.009038737 | 2.5 |
| 10 | 2.14 | 0.002558584 | 2.5 |
| 20 | 6.85 | 0.008189861 | 2.5 |
| 30 | 5.48 | 0.006551889 | 2.5 |
| 40 | 3.69 | 0.004411765 | 2.5 |
| 50 | 2.18 | 0.002606408 | 2.5 |
| Max. Deviation (ppm) | 8.02 | 0.009588714 | 2.5 |

Voltage vs. Frequency Stability

| Voltage(Volts) | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| 3.50V | 6.65 | 0.007950741 | 2.5 |
| 3.82V | 3.48 | 0.004160689 | 2.5 |
| 4.40V | 5.18 | 0.006193209 | 2.5 |
| Max. Deviation (ppm) | 6.65 | 0.007950741 | 2.5 |

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

Temperature vs. Frequency Stability

| Temperature(°C) | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| -30 | 2.61 | 0.003120143 | 2.5 |
| -20 | -3.71 | 0.004435146 | 2.5 |
| -10 | -3.08 | 0.003682008 | 2.5 |
| 0 | 2.96 | 0.003538553 | 2.5 |
| 10 | 6.52 | 0.007794381 | 2.5 |
| 20 | -7.05 | 0.008427974 | 2.5 |
| 30 | 6.43 | 0.00768679 | 2.5 |
| 40 | 2.21 | 0.002641961 | 2.5 |
| 50 | -8.01 | 0.009575613 | 2.5 |
| Max. Deviation (ppm) | 8.01 | 0.009575613 | 2.5 |

Voltage vs. Frequency Stability

| Voltage(Volts) | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| 3.50V | 6.01 | 0.007184698 | 2.5 |
| 3.82V | 5.38 | 0.00643156 | 2.5 |
| 4.40V | -2.29 | 0.002737597 | 2.5 |
| Max. Deviation (ppm) | 6.01 | 0.007184698 | 2.5 |

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

Temperature vs. Frequency Stability

| Temperature(°C) | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| -30 | 1.98 | 0.002367005 | 2.5 |
| -20 | 6.73 | 0.008045427 | 2.5 |
| -10 | -2.56 | 0.003060371 | 2.5 |
| 0 | 6.15 | 0.007352062 | 2.5 |
| 10 | -4.78 | 0.005714286 | 2.5 |
| 20 | -3.46 | 0.004136282 | 2.5 |
| 30 | 2.29 | 0.002737597 | 2.5 |
| 40 | -4.07 | 0.004865511 | 2.5 |
| 50 | 5.63 | 0.006730424 | 2.5 |
| Max. Deviation (ppm) | 6.73 | 0.008045427 | 2.5 |

Voltage vs. Frequency Stability

| Voltage(Volts) | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| 3.50V | -3.17 | 0.0037896 | 2.5 |
| 3.82V | -6.22 | 0.007435744 | 2.5 |
| 4.40V | -4.95 | 0.005917513 | 2.5 |
| Max. Deviation (ppm) | 6.22 | 0.007435744 | 2.5 |

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

Temperature vs. Frequency Stability

| Temperature(°C) | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| -30 | 5.35 | 0.006395696 | 2.5 |
| -20 | 6.32 | 0.00755529 | 2.5 |
| -10 | -3.58 | 0.004279737 | 2.5 |
| 0 | 6.12 | 0.007316198 | 2.5 |
| 10 | -4.35 | 0.005200239 | 2.5 |
| 20 | 3.21 | 0.003837418 | 2.5 |
| 30 | 5.35 | 0.006395696 | 2.5 |
| 40 | 4.38 | 0.005236103 | 2.5 |
| 50 | -5.21 | 0.006228332 | 2.5 |
| Max. Deviation (ppm) | 6.32 | 0.00755529 | 2.5 |

Voltage vs. Frequency Stability

| Voltage(Volts) | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| 3.50V | 2.25 | 0.002689779 | 2.5 |
| 3.82V | -3.08 | 0.003682008 | 2.5 |
| 4.40V | 3.26 | 0.003897191 | 2.5 |
| Max. Deviation (ppm) | 3.26 | 0.003897191 | 2.5 |

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

Temperature vs. Frequency Stability

| Temperature(°C) | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| -30 | 2.35 | 0.002809325 | 2.5 |
| -20 | -3.68 | 0.004399283 | 2.5 |
| -10 | 5.35 | 0.006395696 | 2.5 |
| 0 | 6.35 | 0.007591154 | 2.5 |
| 10 | -5.32 | 0.006359833 | 2.5 |
| 20 | 4.68 | 0.00559474 | 2.5 |
| 30 | 6.35 | 0.007591154 | 2.5 |
| 40 | -3.58 | 0.004279737 | 2.5 |
| 50 | 5.35 | 0.006395696 | 2.5 |
| Max. Deviation (ppm) | 6.35 | 0.007591154 | 2.5 |

Voltage vs. Frequency Stability

| Voltage(Volts) | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| 3.50V | 3.81 | 0.004554692 | 2.5 |
| 3.82V | 6.30 | 0.007531381 | 2.5 |
| 4.40V | 5.19 | 0.006204423 | 2.5 |
| Max. Deviation (ppm) | 6.30 | 0.007531381 | 2.5 |

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

Temperature vs. Frequency Stability

| Temperature(°C) | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| -30 | 6.13 | 0.007328153 | 2.5 |
| -20 | -5.24 | 0.006264196 | 2.5 |
| -10 | 1.95 | 0.002331142 | 2.5 |
| 0 | -2.67 | 0.003191871 | 2.5 |
| 10 | -3.06 | 0.003658099 | 2.5 |
| 20 | 5.28 | 0.006312014 | 2.5 |
| 30 | 6.37 | 0.007615063 | 2.5 |
| 40 | 2.21 | 0.002641961 | 2.5 |
| 50 | 6.49 | 0.007758518 | 2.5 |
| Max. Deviation (ppm) | 6.49 | 0.007758518 | 2.5 |

Voltage vs. Frequency Stability

| Voltage(Volts) | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| 3.50V | 2.39 | 0.002857143 | 2.5 |
| 3.82V | -3.17 | 0.0037896 | 2.5 |
| 4.40V | -2.58 | 0.00308428 | 2.5 |
| Max. Deviation (ppm) | 3.17 | 0.0037896 | 2.5 |

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

Temperature vs. Frequency Stability

| Temperature(°C) | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| -30 | 2.31 | 0.002761506 | 2.5 |
| -20 | -1.67 | 0.001996414 | 2.5 |
| -10 | 5.29 | 0.006323969 | 2.5 |
| 0 | 6.87 | 0.008212791 | 2.5 |
| 10 | -1.28 | 0.001530185 | 2.5 |
| 20 | -5.13 | 0.006132696 | 2.5 |
| 30 | -6.34 | 0.007579199 | 2.5 |
| 40 | 4.69 | 0.005606695 | 2.5 |
| 50 | 7.61 | 0.00909743 | 2.5 |
| Max. Deviation (ppm) | 7.61 | 0.00909743 | 2.5 |

Voltage vs. Frequency Stability

| Voltage(Volts) | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| 3.50V | 2.95 | 0.003526599 | 2.5 |
| 3.82V | -3.67 | 0.004387328 | 2.5 |
| 4.40V | 3.72 | 0.004447101 | 2.5 |
| Max. Deviation (ppm) | 3.72 | 0.004447101 | 2.5 |

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

Temperature vs. Frequency Stability

| Temperature(°C) | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| -30 | 7.35 | 0.008786611 | 2.5 |
| -20 | 5.28 | 0.006312014 | 2.5 |
| -10 | -3.84 | 0.004590556 | 2.5 |
| 0 | 6.29 | 0.007519426 | 2.5 |
| 10 | 4.33 | 0.00517633 | 2.5 |
| 20 | -5.06 | 0.006049014 | 2.5 |
| 30 | 7.19 | 0.008595338 | 2.5 |
| 40 | -4.98 | 0.005953377 | 2.5 |
| 50 | 3.17 | 0.0037896 | 2.5 |
| Max. Deviation (ppm) | 7.35 | 0.008786611 | 2.5 |

Voltage vs. Frequency Stability

| Voltage(Volts) | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| 3.50V | -2.61 | 0.003120143 | 2.5 |
| 3.82V | 3.87 | 0.00462642 | 2.5 |
| 4.40V | -1.21 | 0.001446503 | 2.5 |
| Max. Deviation (ppm) | 3.87 | 0.00462642 | 2.5 |

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

Temperature vs. Frequency Stability

| Temperature(°C) | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| -30 | 3.68 | 0.004396892 | 2.5 |
| -20 | -5.31 | 0.006347878 | 2.5 |
| -10 | 6.69 | 0.007997609 | 2.5 |
| 0 | 4.17 | 0.004985057 | 2.5 |
| 10 | -5.29 | 0.006323969 | 2.5 |
| 20 | -3.35 | 0.004004782 | 2.5 |
| 30 | 5.61 | 0.006706515 | 2.5 |
| 40 | 1.88 | 0.00224746 | 2.5 |
| 50 | 2.91 | 0.003478781 | 2.5 |
| Max. Deviation (ppm) | 6.69 | 0.007997609 | 2.5 |

Voltage vs. Frequency Stability

| Voltage(Volts) | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| 3.50V | 3.08 | 0.003682008 | 2.5 |
| 3.82V | -1.34 | 0.001601913 | 2.5 |
| 4.40V | -3.69 | 0.004411237 | 2.5 |
| Max. Deviation (ppm) | 3.69 | 0.004411237 | 2.5 |

| | |
|------------|-------------------------|
| Test Mode: | LTE Band 26_CH26915_15M |
|------------|-------------------------|

Temperature vs. Frequency Stability

| Temperature(°C) | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| -30 | 3.68 | 0.004399283 | 2.5 |
| -20 | 4.21 | 0.005032875 | 2.5 |
| -10 | -2.17 | 0.002594142 | 2.5 |
| 0 | 3.86 | 0.004614465 | 2.5 |
| 10 | 7.54 | 0.009013748 | 2.5 |
| 20 | 4.31 | 0.005152421 | 2.5 |
| 30 | -4.88 | 0.005833831 | 2.5 |
| 40 | 6.37 | 0.007615063 | 2.5 |
| 50 | 2.19 | 0.002618051 | 2.5 |
| Max. Deviation (ppm) | 7.54 | 0.009013748 | 2.5 |

Voltage vs. Frequency Stability

| Voltage(Volts) | Frequency Error (Hz) | Frequency Error (ppm) | Limit(ppm) |
|----------------------|----------------------|-----------------------|------------|
| 3.50V | 1.57 | 0.001876868 | 2.5 |
| 3.82V | 3.61 | 0.004315601 | 2.5 |
| 4.40V | -2.14 | 0.002558279 | 2.5 |
| Max. Deviation (ppm) | 3.61 | 0.004315601 | 2.5 |