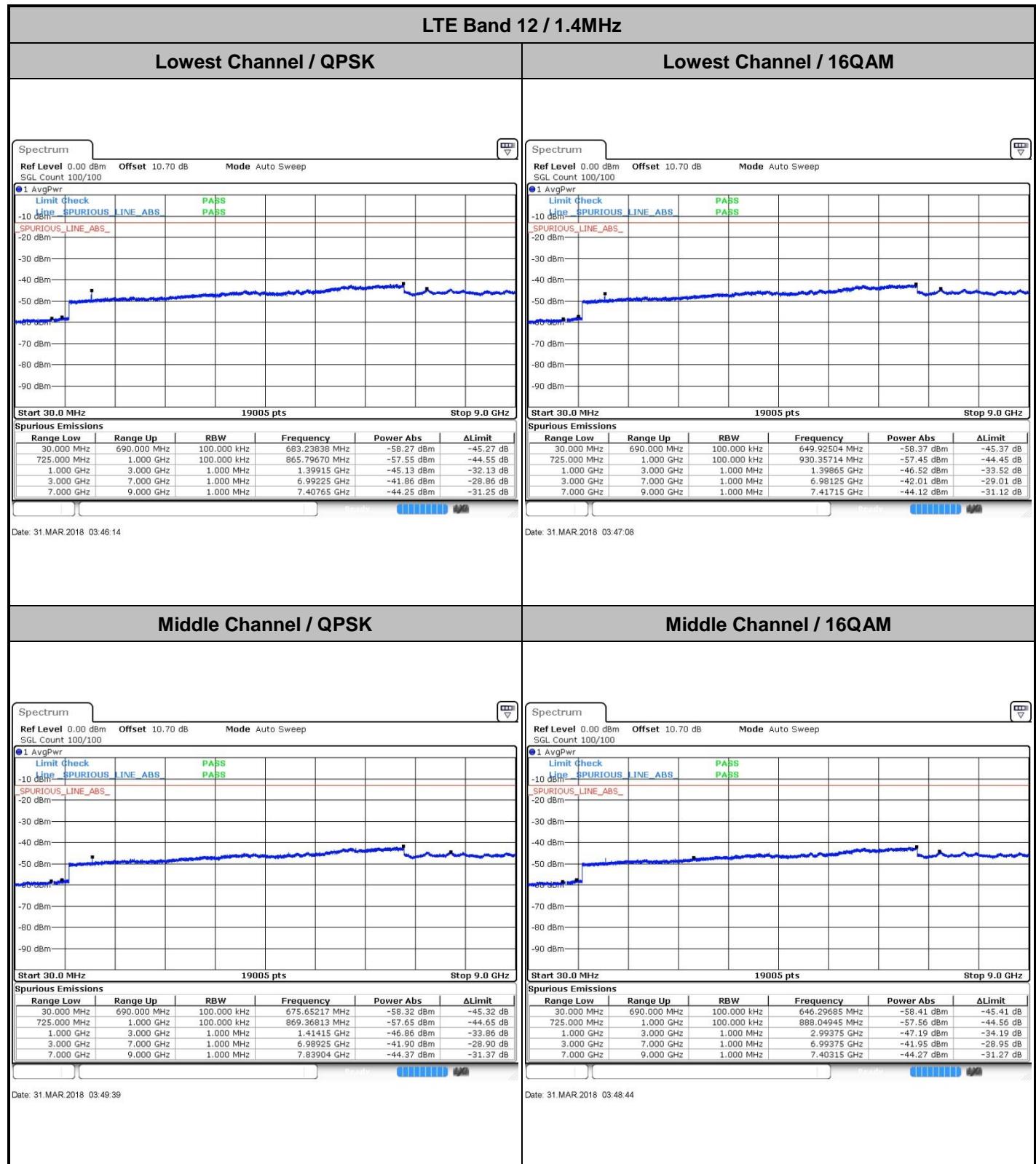
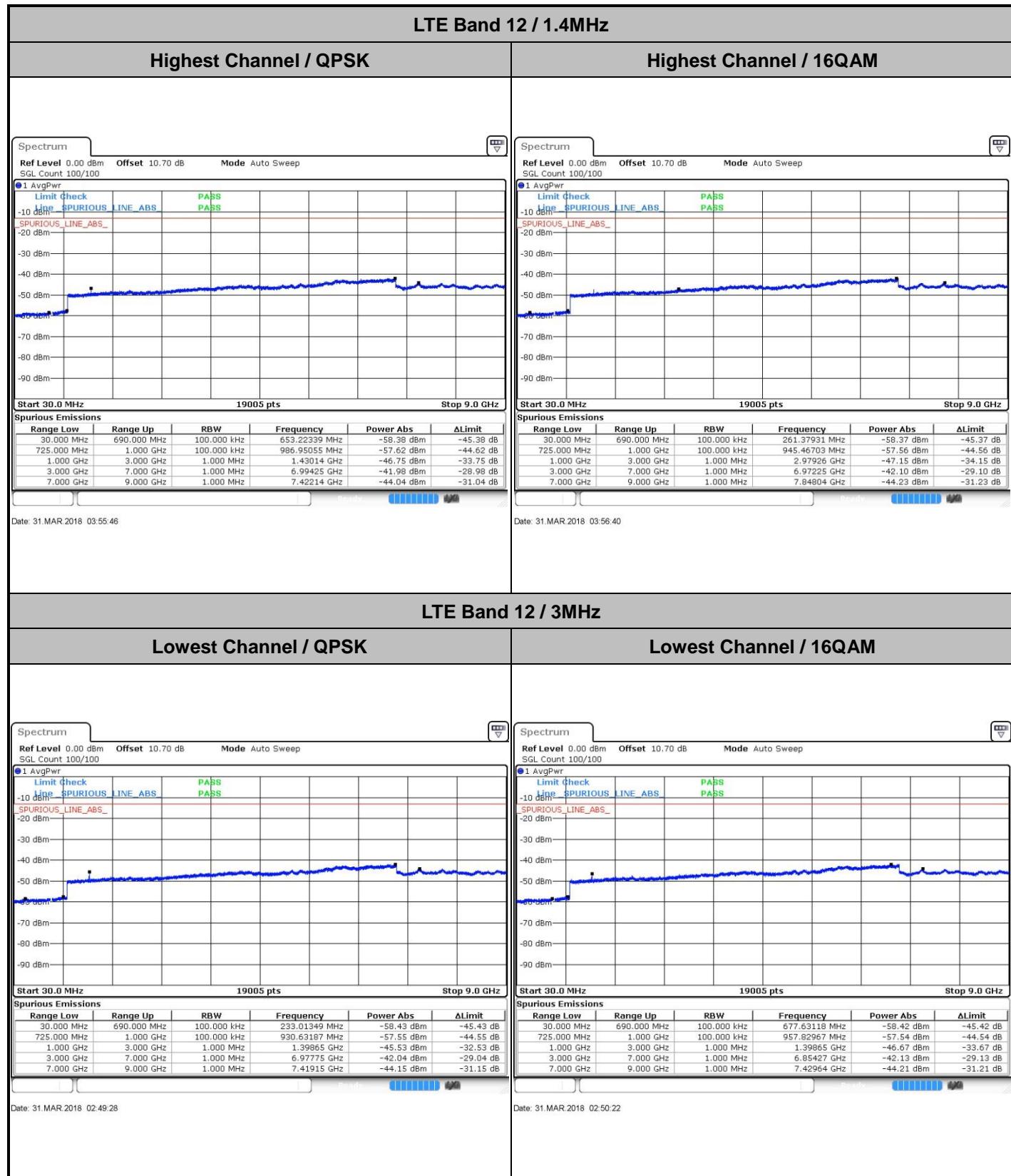
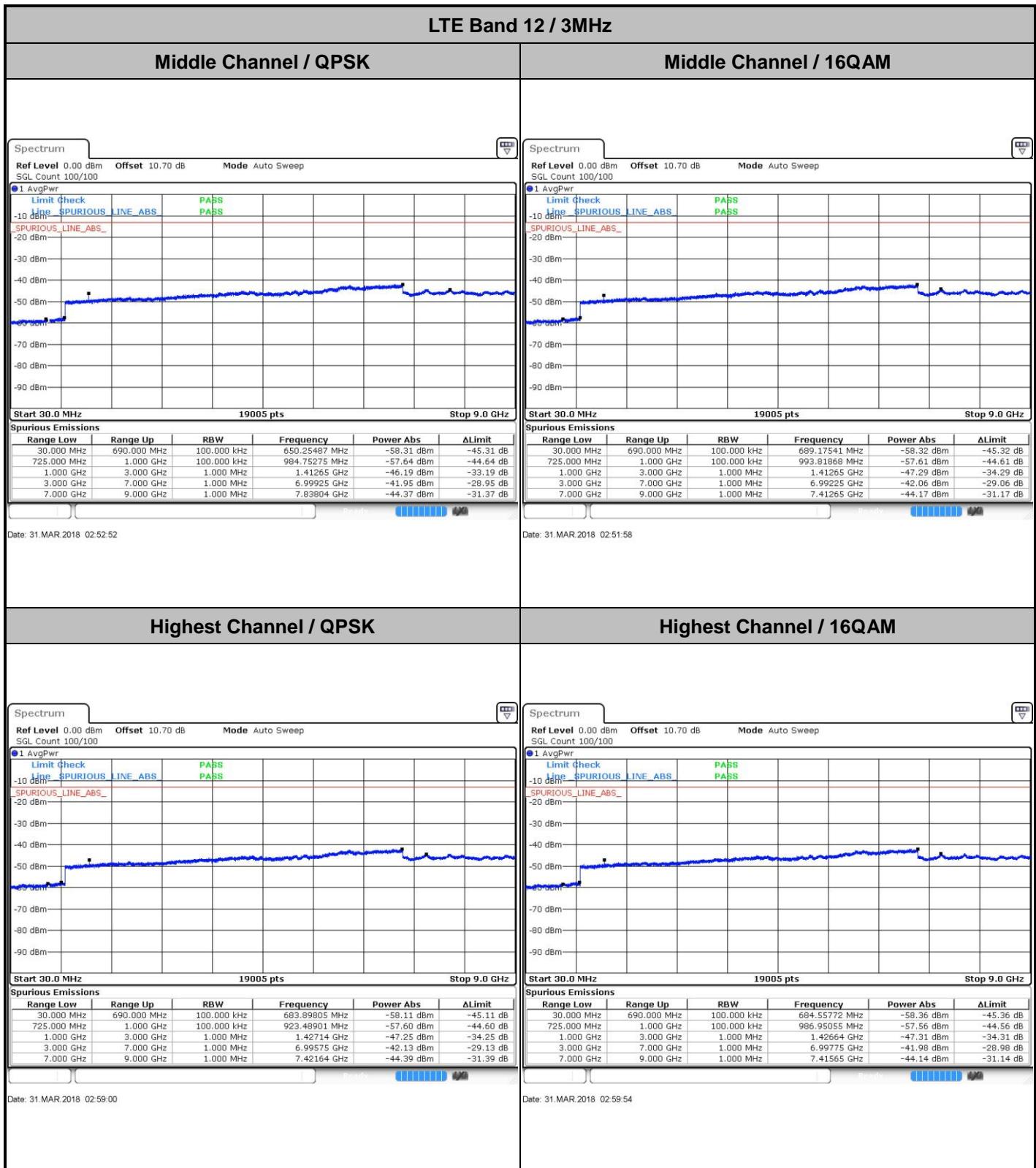


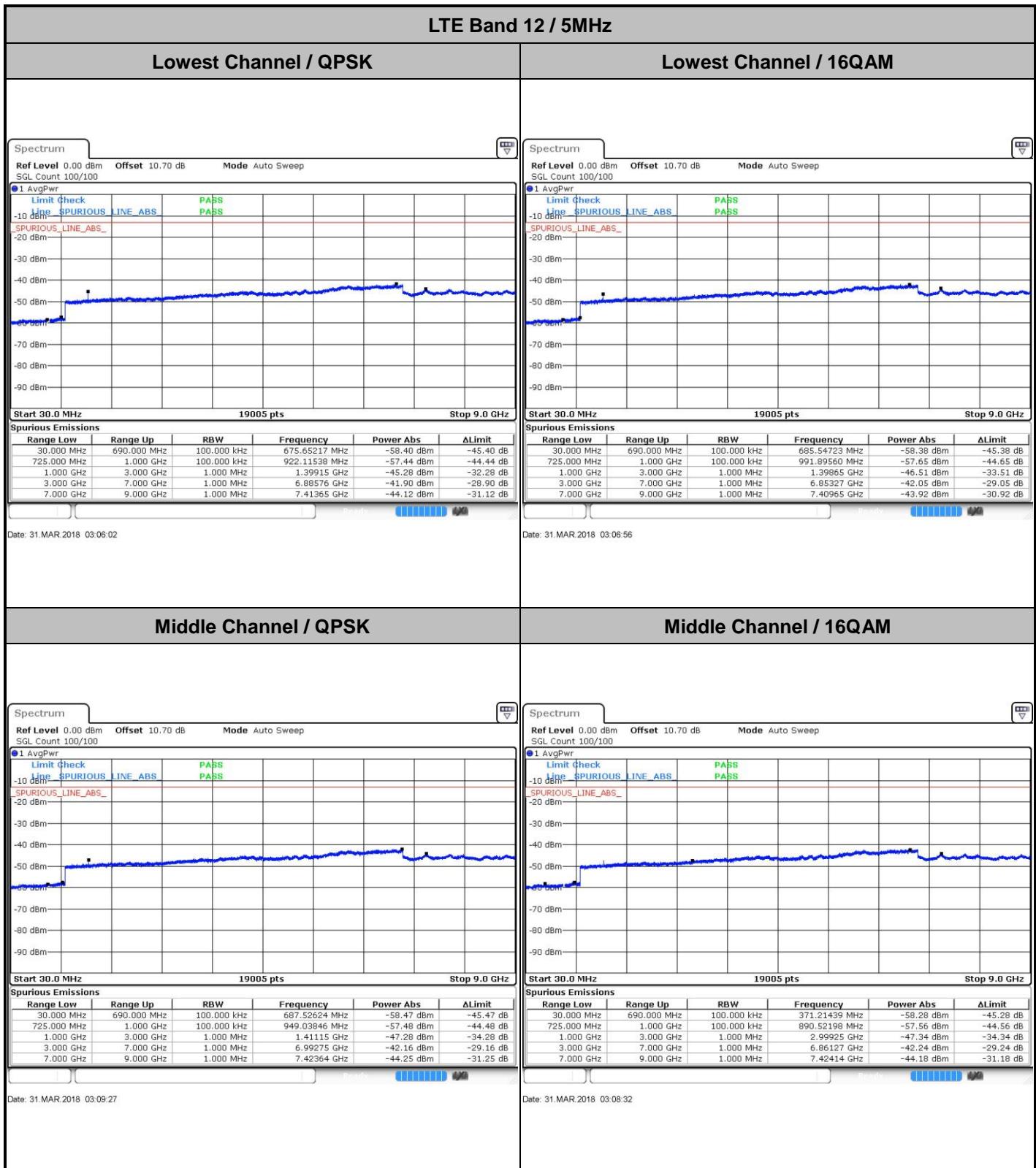


Conducted Spurious Emission







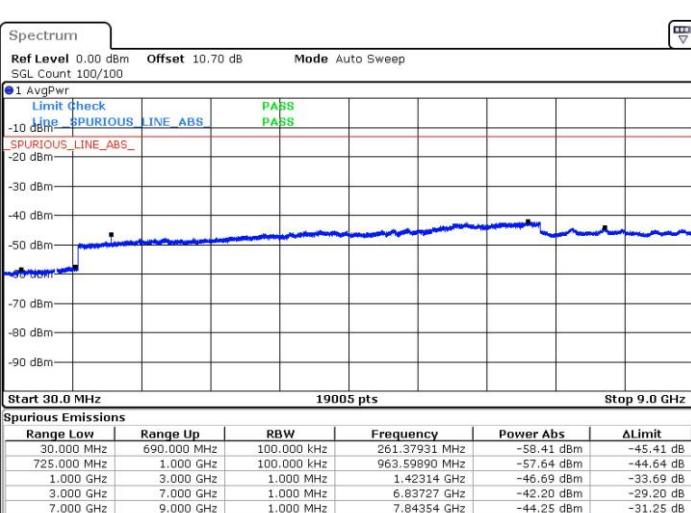




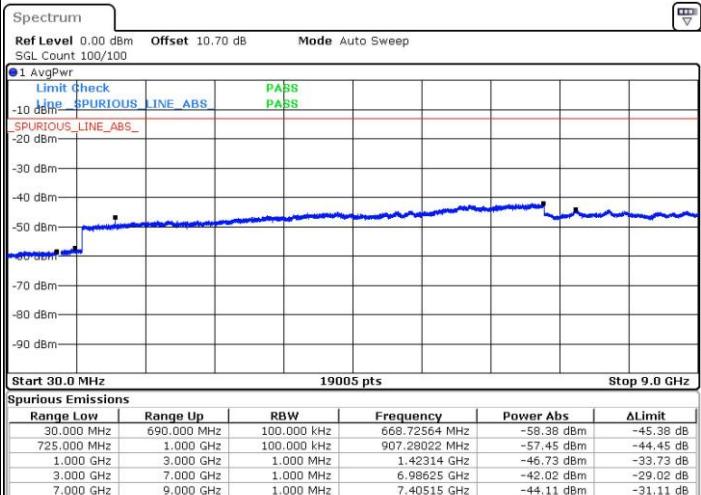
LTE Band 12 / 5MHz

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 31.MAR.2018 03:16:30

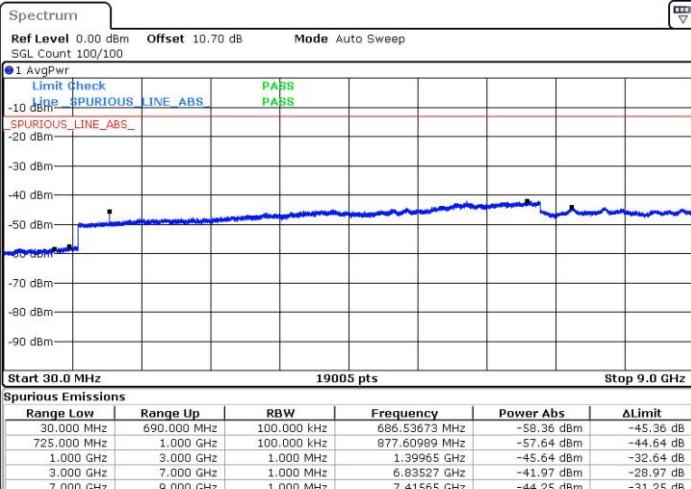


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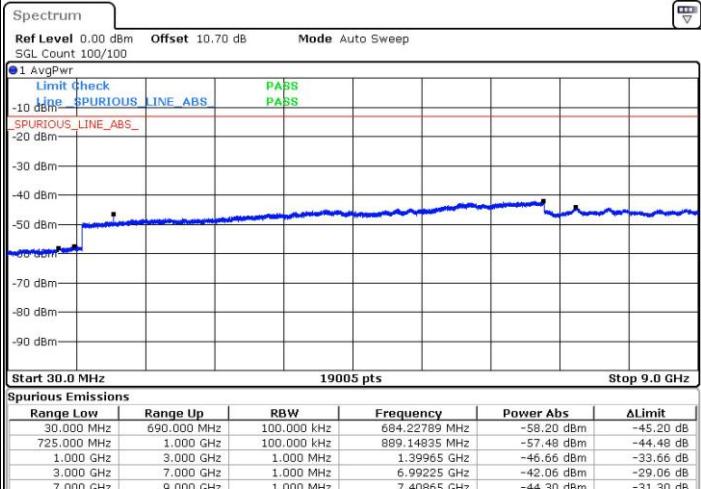
LTE Band 12 / 10MHz

Lowest Channel / QPSK

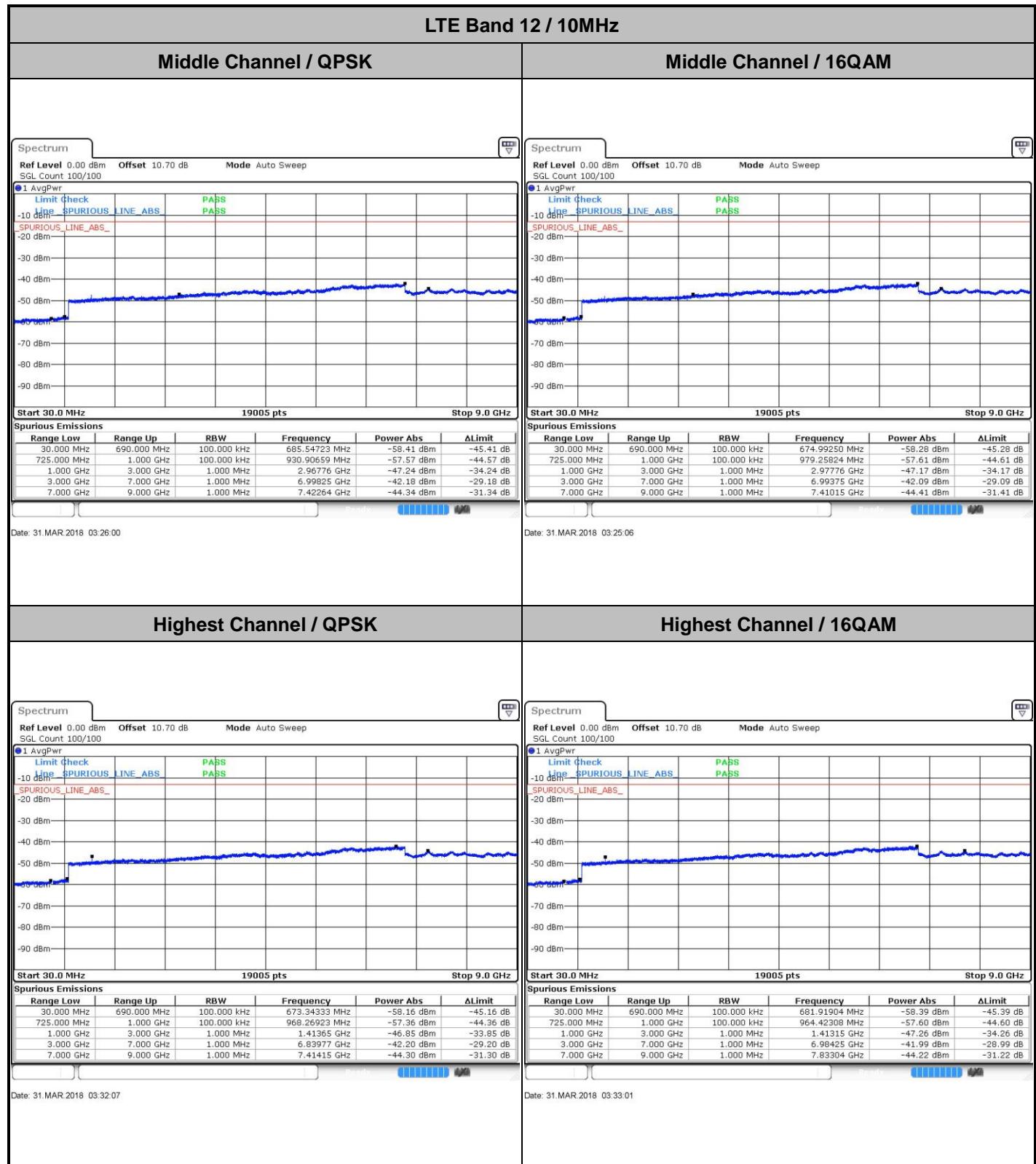
Lowest Channel / 16QAM

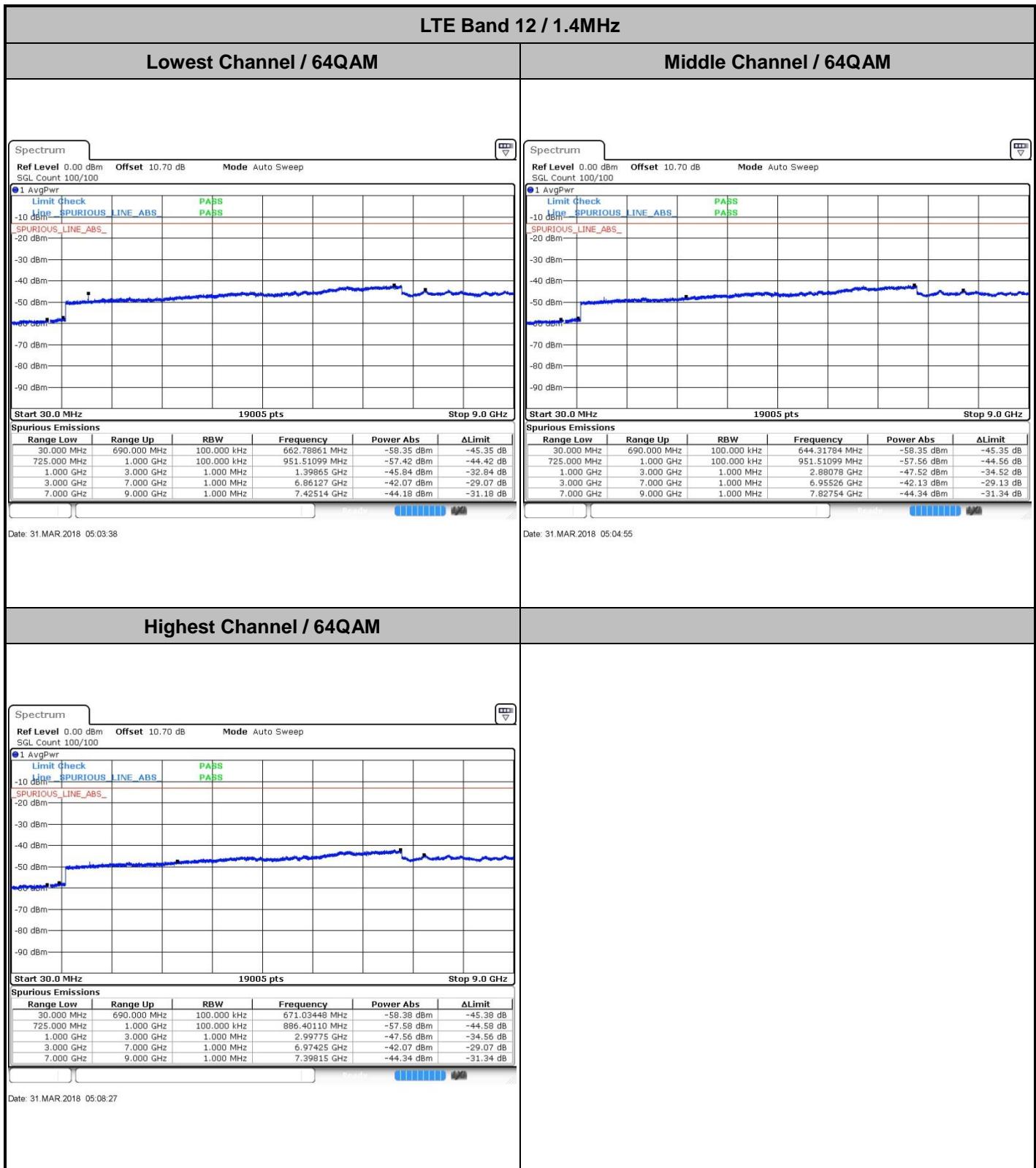


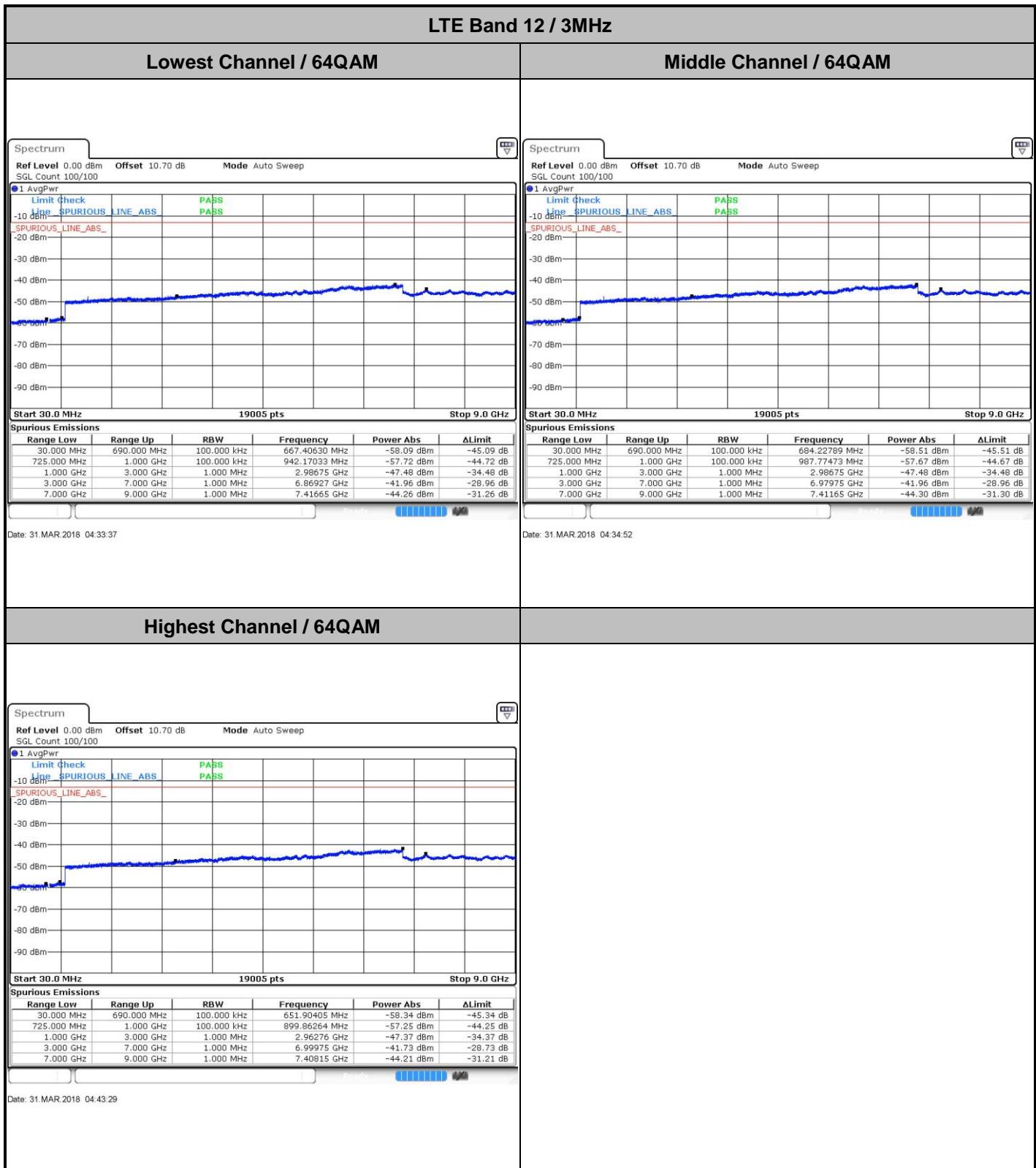
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Date: 31.MAR.2018 03:23:31



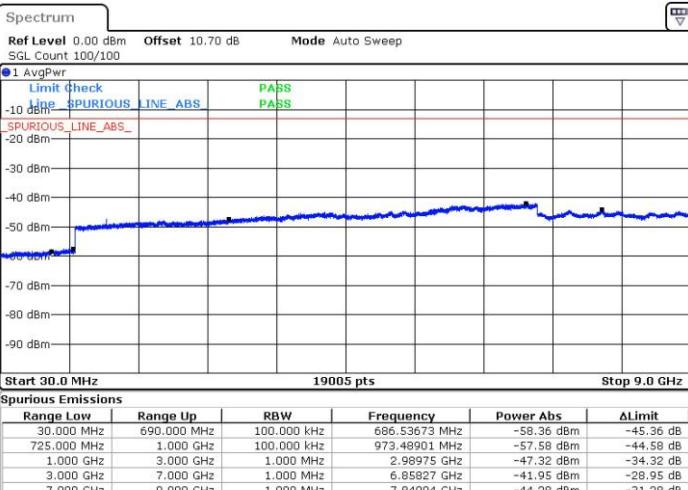






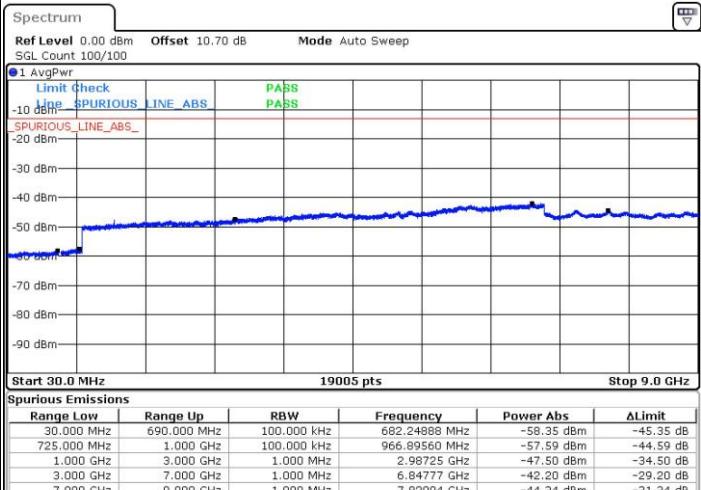
LTE Band 12 / 5MHz

Lowest Channel / 64QAM



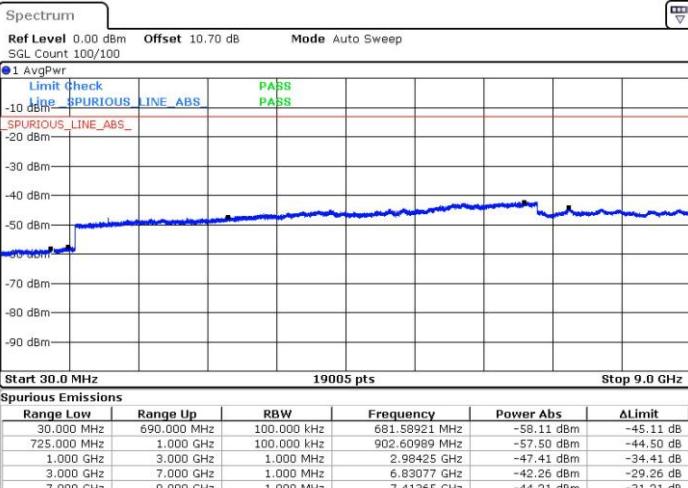
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Middle Channel / 64QAM

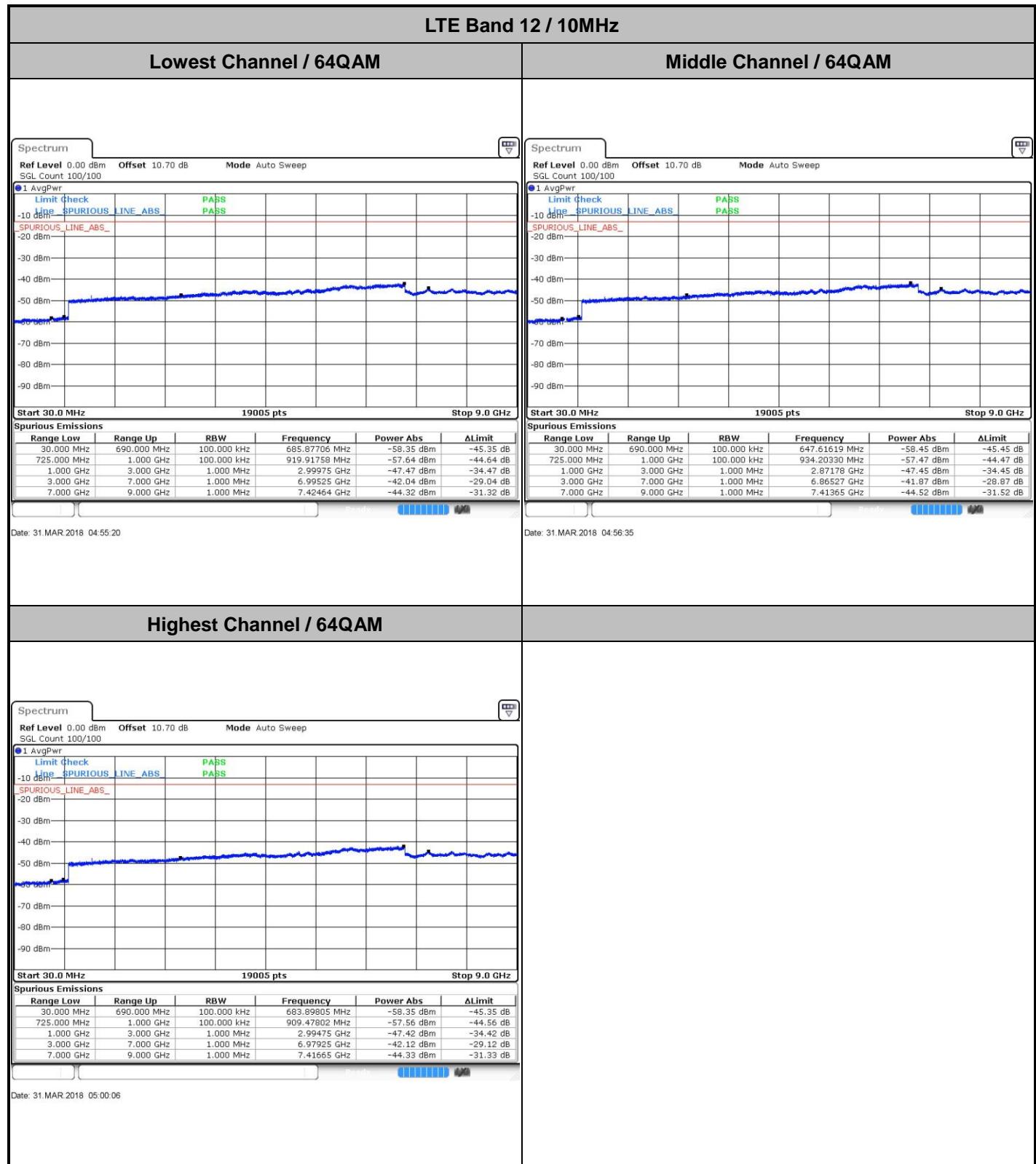


Date: 31.MAR.2018 04:48:18

Highest Channel / 64QAM



Date: 31.MAR.2018 04:51:48





Frequency Stability

| Test Conditions | | LTE Band 12 (QPSK) / Middle Channel | Limit |
|---------------------|-------------------|-------------------------------------|---------|
| Temperature (°C) | Voltage (Volt) | BW 10MHz | Note 2. |
| | | Deviation (ppm) | Result |
| 50 | Normal Voltage | 0.0006 | PASS |
| 40 | Normal Voltage | 0.0018 | |
| 30 | Normal Voltage | 0.0003 | |
| 20(Ref.) | Normal Voltage | 0.0000 | |
| 10 | Normal Voltage | 0.0003 | |
| 0 | Normal Voltage | 0.0006 | |
| -10 | Normal Voltage | 0.0037 | |
| -20 | Normal Voltage | 0.0010 | |
| -30 | Normal Voltage | 0.0021 | |
| 20 | Maximum Voltage | 0.0028 | |
| 20 | Normal Voltage | 0.0163 | |
| 20 | Battery End Point | 0.0153 | |

Note:

1. Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.4 V. ; Maximum Voltage =4.4 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



| Test Conditions | | LTE Band 12 (QPSK) / Middle Channel | Limit |
|---------------------|-------------------|---|-------------|
| Temperature (°C) | Voltage (Volt) | BW 5MHz | Within Band |
| | | Frequency Offset (Δf) (Hz) | Result |
| 50 | Normal Voltage | 0.4 | PASS |
| 40 | Normal Voltage | 1.3 | |
| 30 | Normal Voltage | -0.2 | |
| 20(Ref.) | Normal Voltage | 0 | |
| 10 | Normal Voltage | 0.2 | |
| 0 | Normal Voltage | -0.4 | |
| -10 | Normal Voltage | -2.6 | |
| -20 | Normal Voltage | -0.7 | |
| -30 | Normal Voltage | -1.5 | |
| 20 | Maximum Voltage | -2 | |
| 20 | Normal Voltage | 11.5 | |
| 20 | Battery End Point | 10.8 | |

 $|MAX(\Delta f)| = 11.5\text{Hz}$

| Frequency Stability | Frequency (MHz) | Limit Line | Result |
|-------------------------|-----------------|------------------------|--------|
| $f_L - MAX(\Delta f) $ | 699.025689 | $\geq 699 \text{ MHz}$ | PASS |
| $f_H + MAX(\Delta f) $ | 715.969612 | $\leq 716 \text{ MHz}$ | |



LTE Band 13

Peak-to-Average Ratio

| Mode | LTE Band 13 / 10MHz | | | | |
|------------|---------------------|---------|-------|---------|-------------|
| Mod. | QPSK | | 16QAM | | Limit: 13dB |
| RB Size | 1RB | Full RB | 1RB | Full RB | Result |
| Lowest CH | - | - | - | - | PASS |
| Middle CH | 3.57 | 4.67 | 4.78 | 5.91 | |
| Highest CH | - | - | - | - | |
| Mode | LTE Band 13 / 10MHz | | | | |
| Mod. | 64QAM | | | | Limit: 13dB |
| RB Size | 1RB | Full RB | | | Result |
| Lowest CH | | | - | - | PASS |
| Middle CH | 6.03 | 6.64 | - | - | |
| Highest CH | | | - | - | |



LTE Band 13 / 10MHz / QPSK

Middle Channel / 1RB



Middle Channel / Full RB

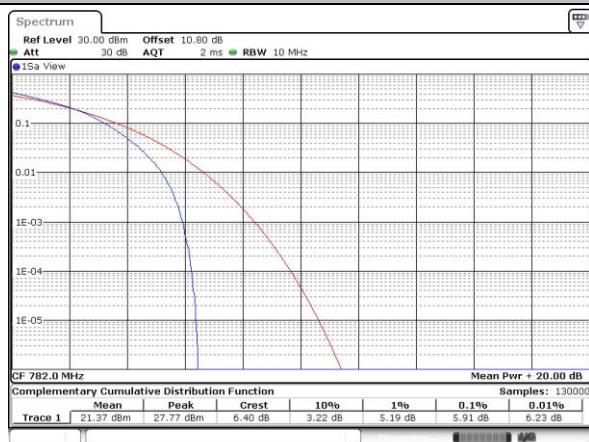


LTE Band 13 / 10MHz / 16QAM

Middle Channel / 1RB

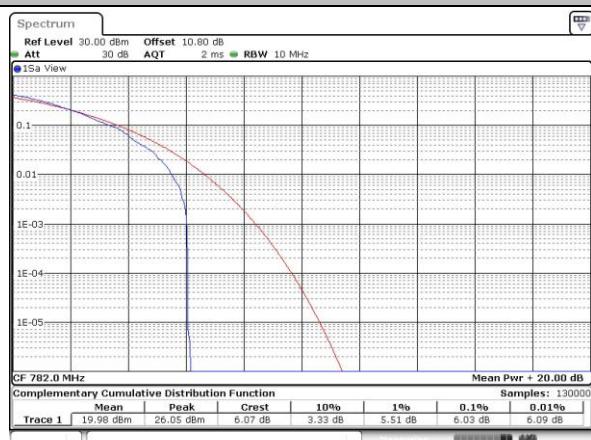


Middle Channel / Full RB

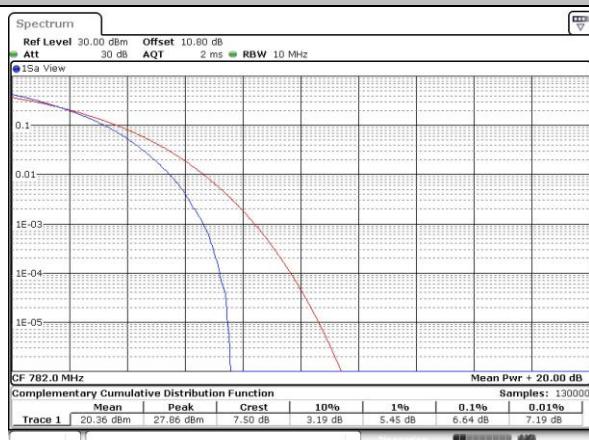


LTE Band 13 / 10MHz / 64QAM

Middle Channel / 1RB

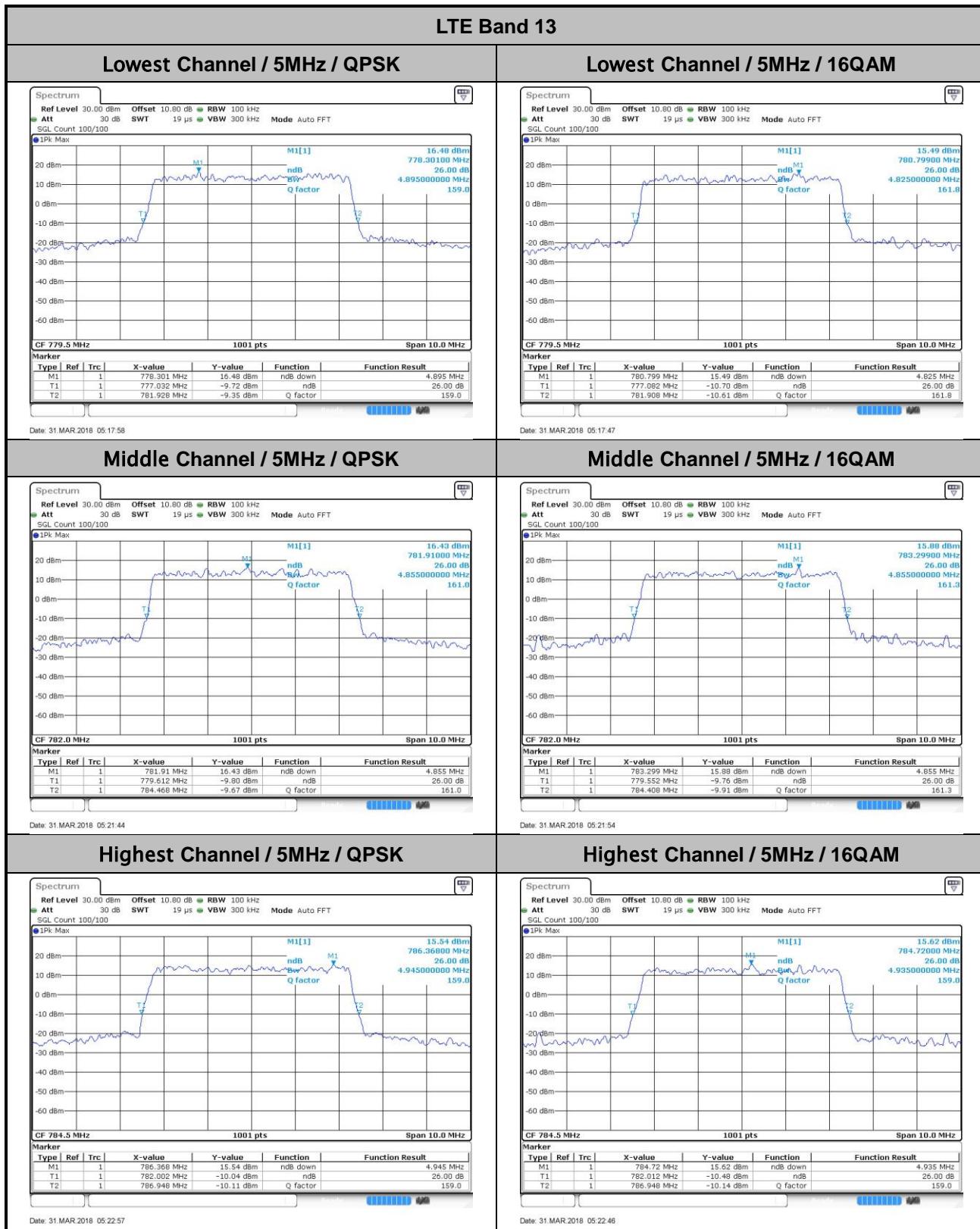


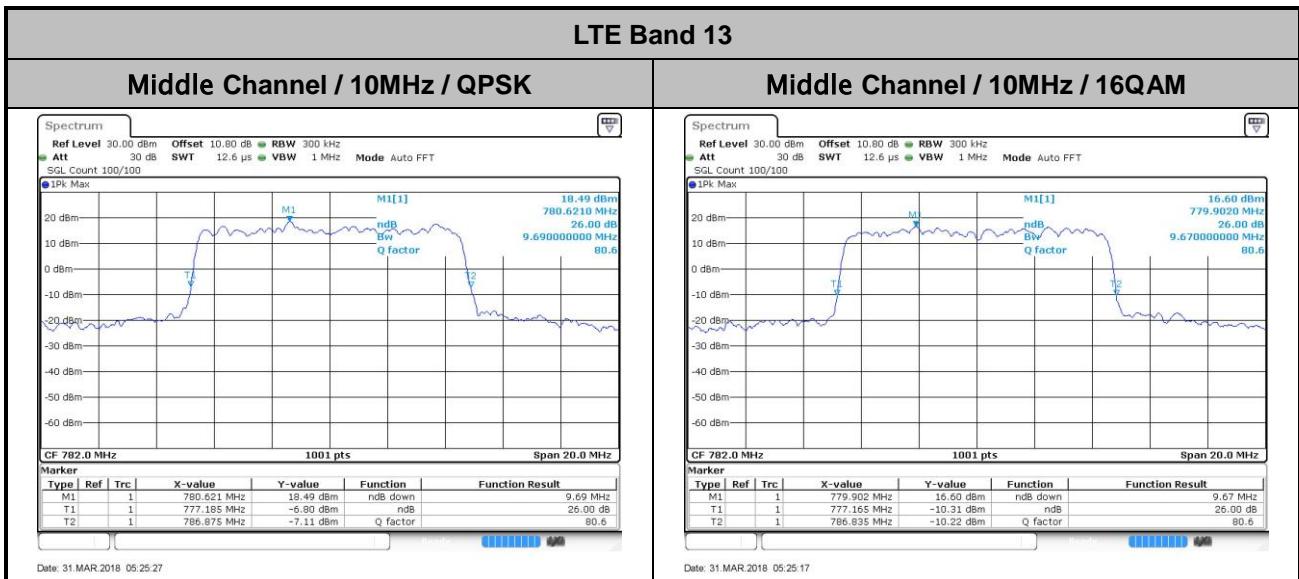
Middle Channel / Full RB

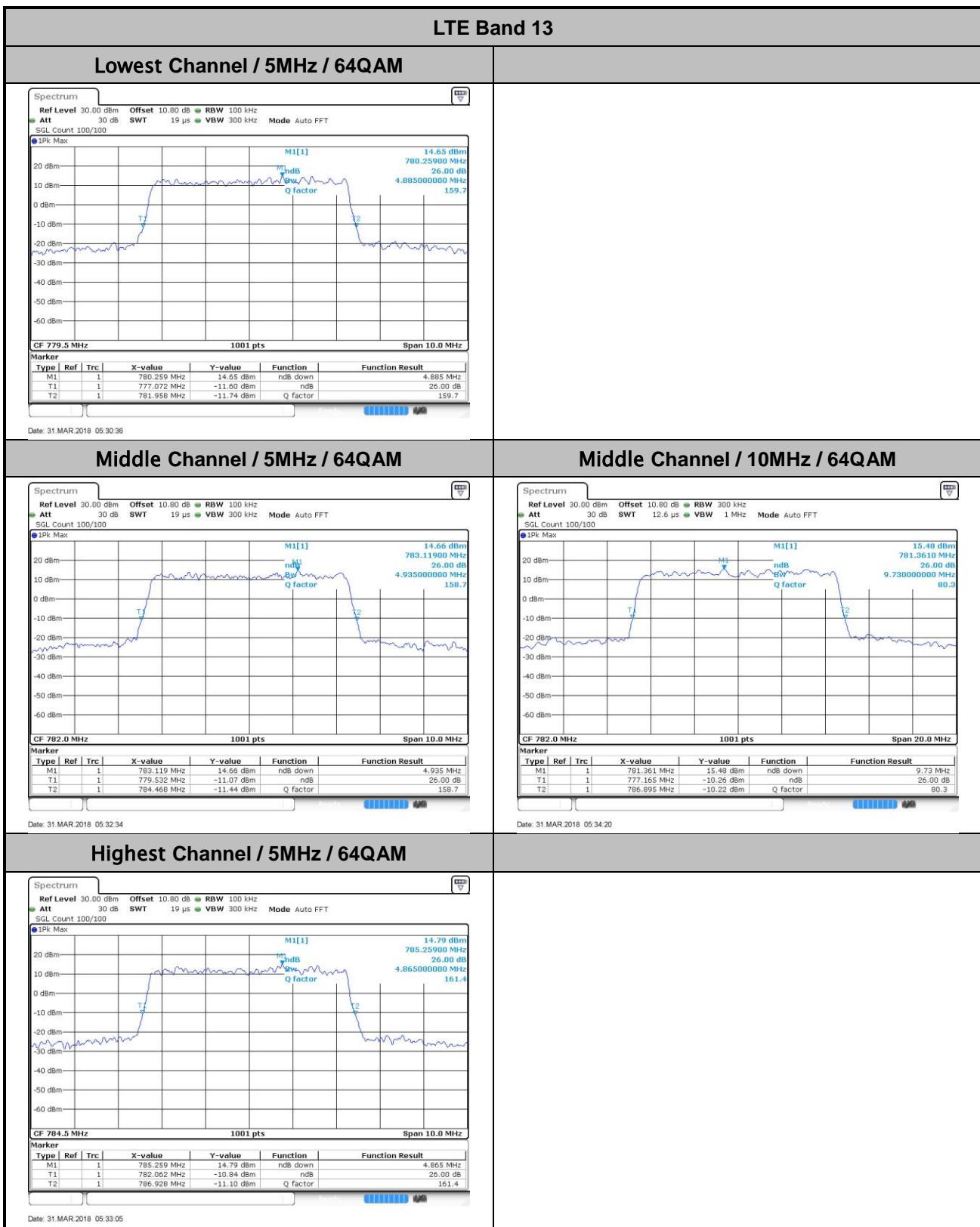


**26dB Bandwidth**

| Mode | LTE Band 13 : 26dB BW(MHz) | | | | | | | | | | | |
|------------|----------------------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| | 1.4MHz | | 3MHz | | 5MHz | | 10MHz | | 15MHz | | 20MHz | |
| Mod. | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM | QPSK | 16QAM |
| Lowest CH | - | - | - | - | 4.90 | 4.83 | - | - | - | - | - | - |
| Middle CH | - | - | - | - | 4.86 | 4.86 | 9.69 | 9.67 | - | - | - | - |
| Highest CH | - | - | - | - | 4.95 | 4.94 | - | - | - | - | - | - |
| Mode | LTE Band 13 : 26dB BW(MHz) | | | | | | | | | | | |
| BW | 1.4MHz | | 3MHz | | 5MHz | | 10MHz | | 15MHz | | 20MHz | |
| Mod. | 64QAM | | 64QAM | | 64QAM | | 64QAM | | 64QAM | | 64QAM | |
| Lowest CH | - | - | - | - | 4.89 | - | | - | - | - | - | - |
| Middle CH | - | - | - | - | 4.94 | - | 9.73 | - | - | - | - | - |
| Highest CH | - | - | - | - | 4.87 | - | | - | - | - | - | - |







**Occupied Bandwidth**

| 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 | - | - | - | - | 4.51 | 4.51 | - | - | - | - | - | - |
| Middle CH | - | - | - | - | 4.49 | 4.51 | 9.03 | 8.99 | - | - | - | - |
| Highest CH | - | - | - | - | 4.5 | 4.49 | - | - | - | - | - | - |
| Mode | LTE Band 13 : 99%OBW(MHz) | | | | | | | | | | | |
| BW | 1.4MHz | | 3MHz | | 5MHz | | 10MHz | | 15MHz | | 20MHz | |
| Mod. | 64QAM | | 64QAM | | 64QAM | | 64QAM | | 64QAM | | 64QAM | |
| Lowest CH | - | - | - | - | 4.50 | - | - | - | - | - | - | - |
| Middle CH | - | - | - | - | 4.50 | - | 8.99 | - | - | - | - | - |
| Highest CH | - | - | - | - | 4.51 | - | - | - | - | - | - | - |