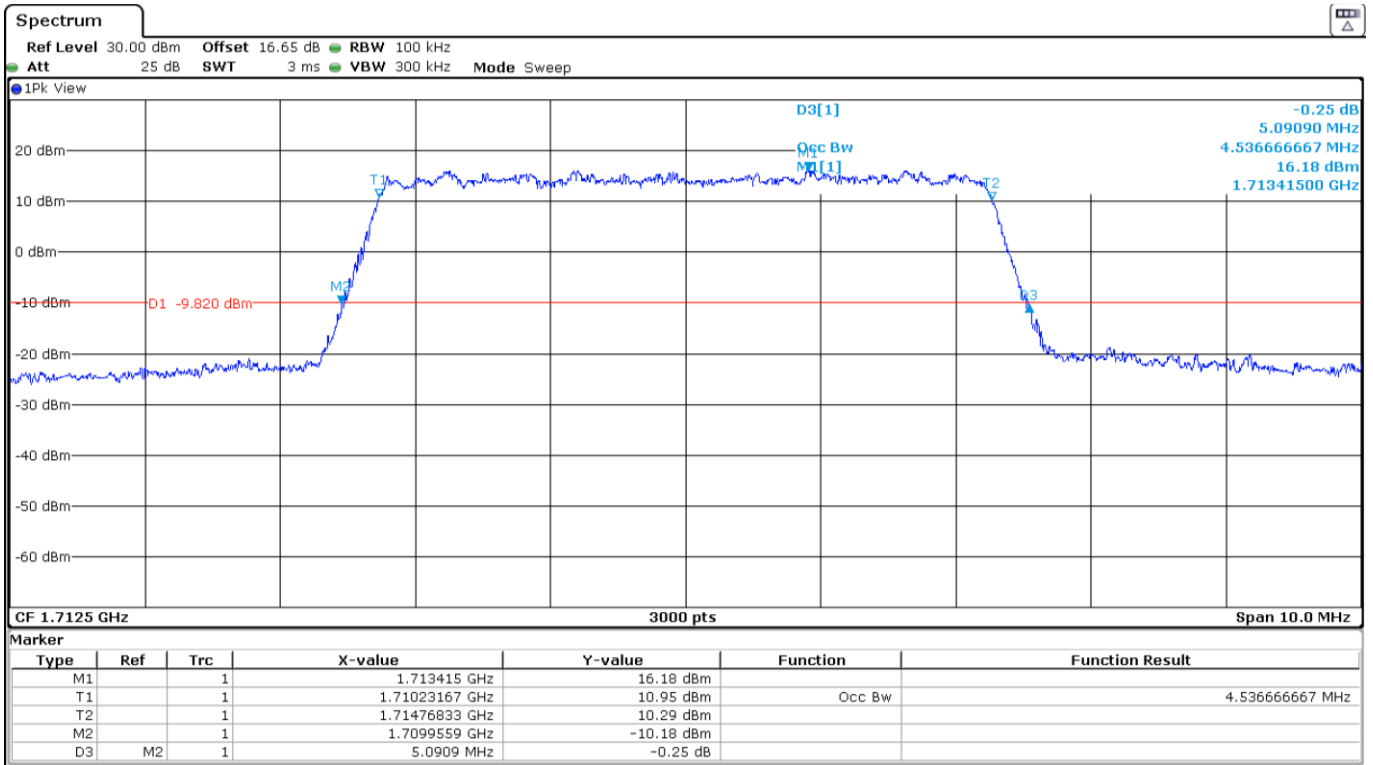
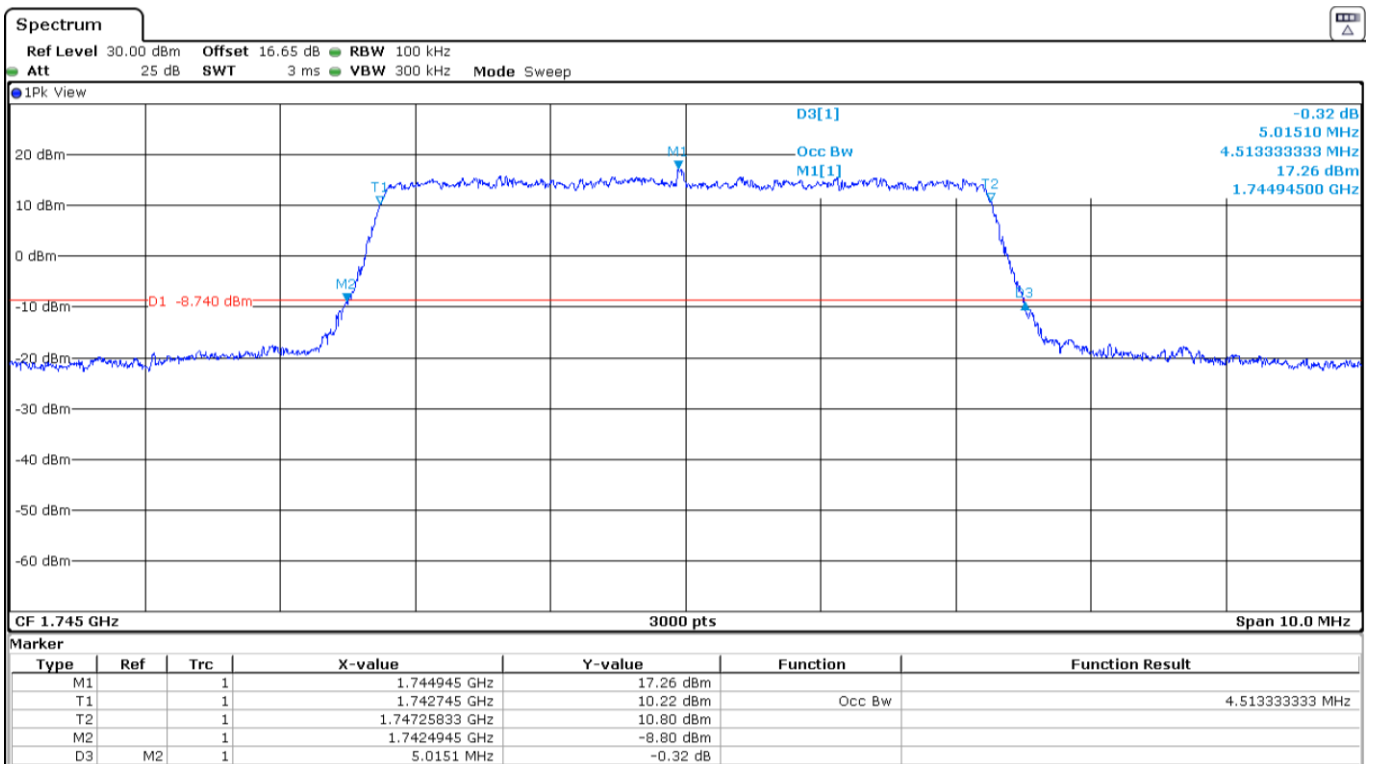


LTE Band 66. QPSK MODULATION. BW = 5 MHz.

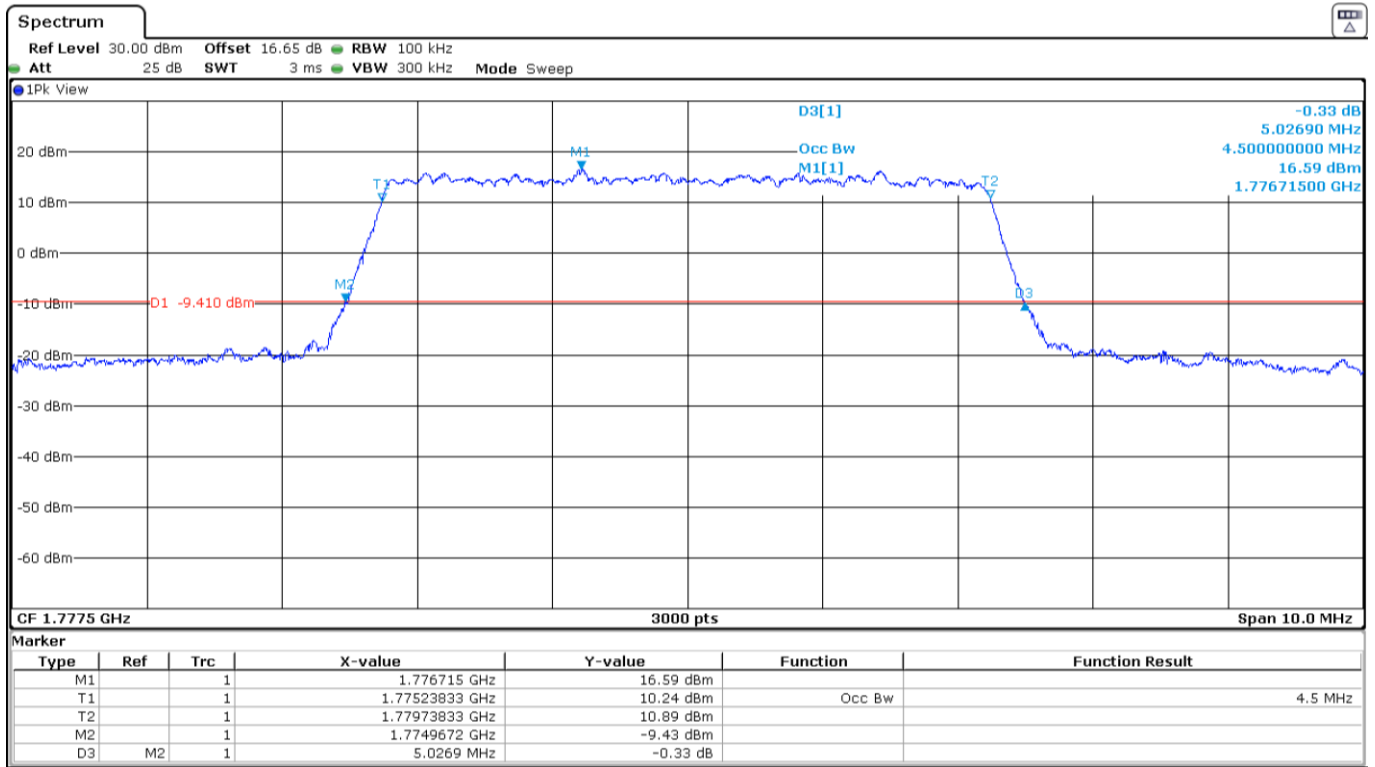
Low Channel:



Middle Channel:

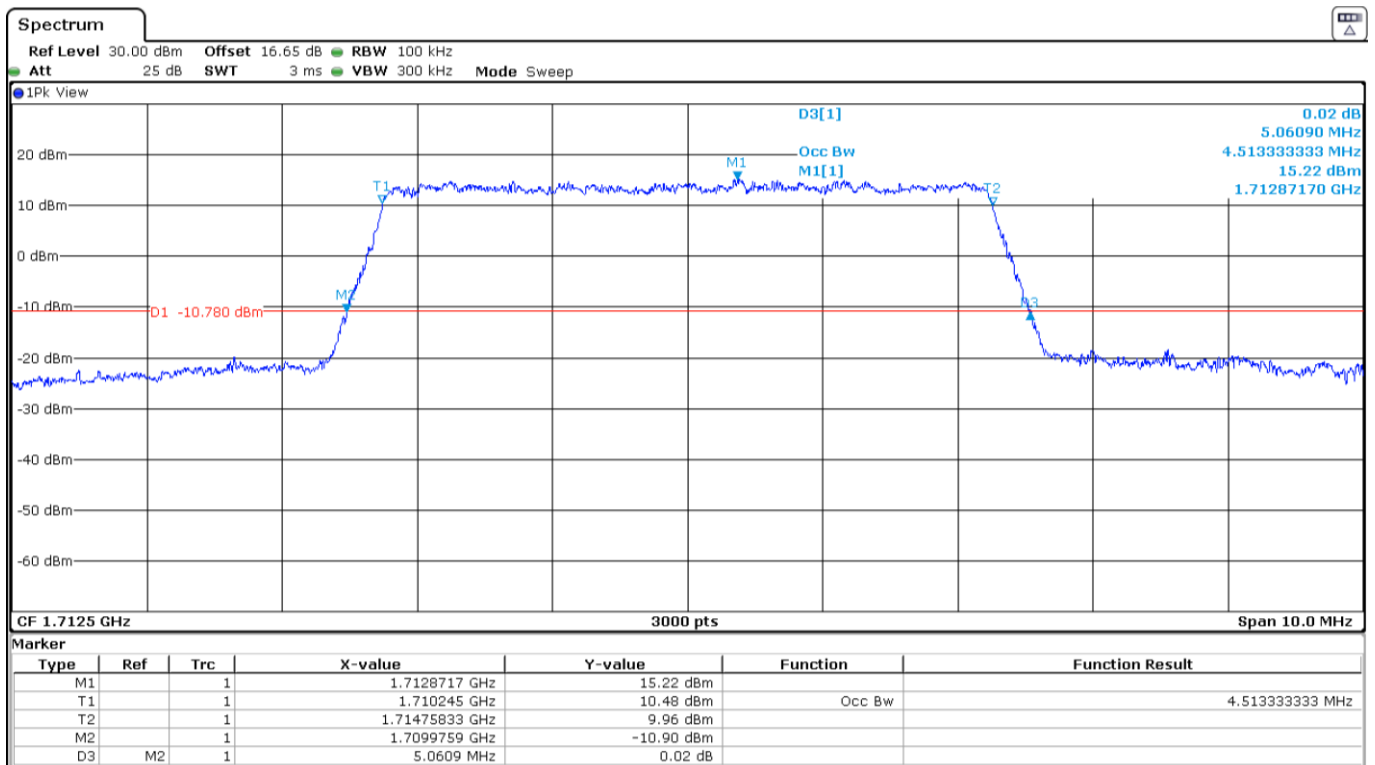


High Channel:

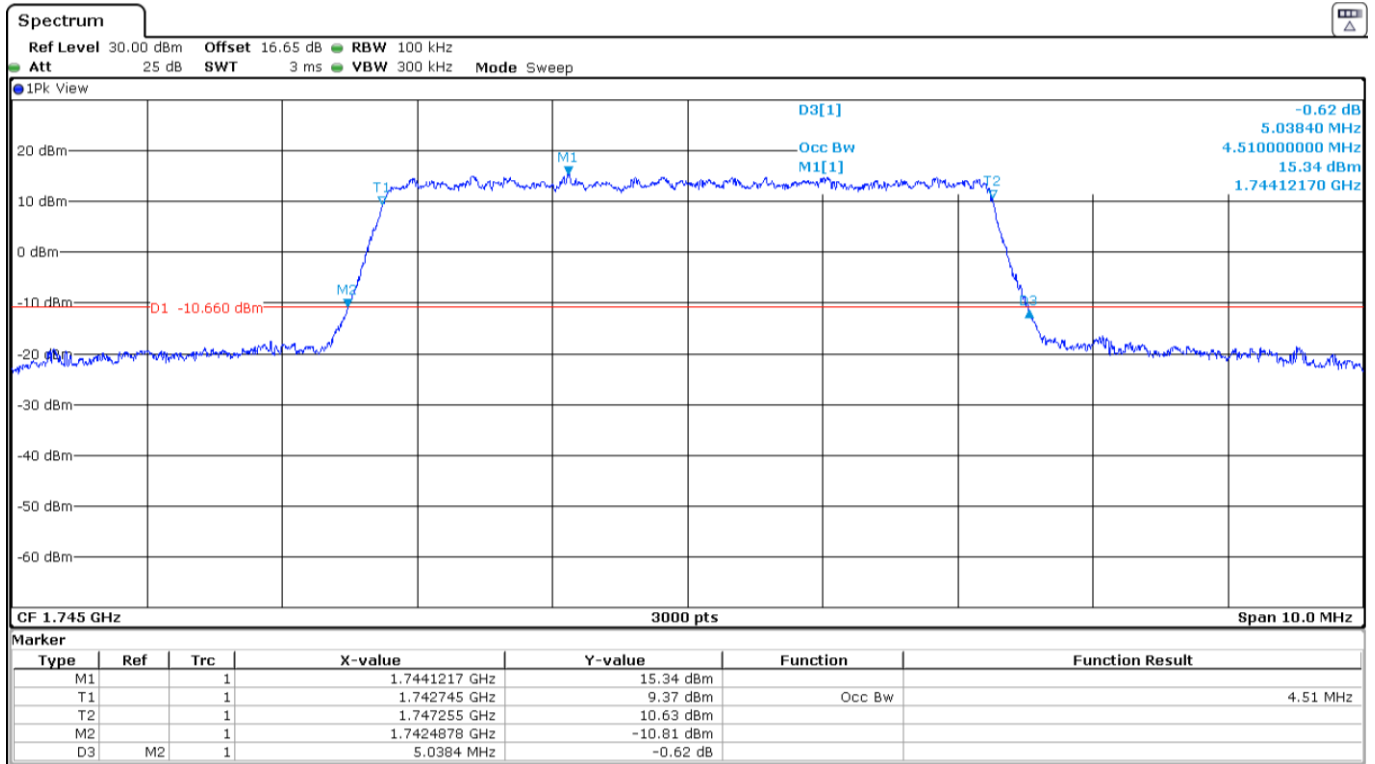


LTE Band 66. 16QAM MODULATION. BW = 5 MHz.

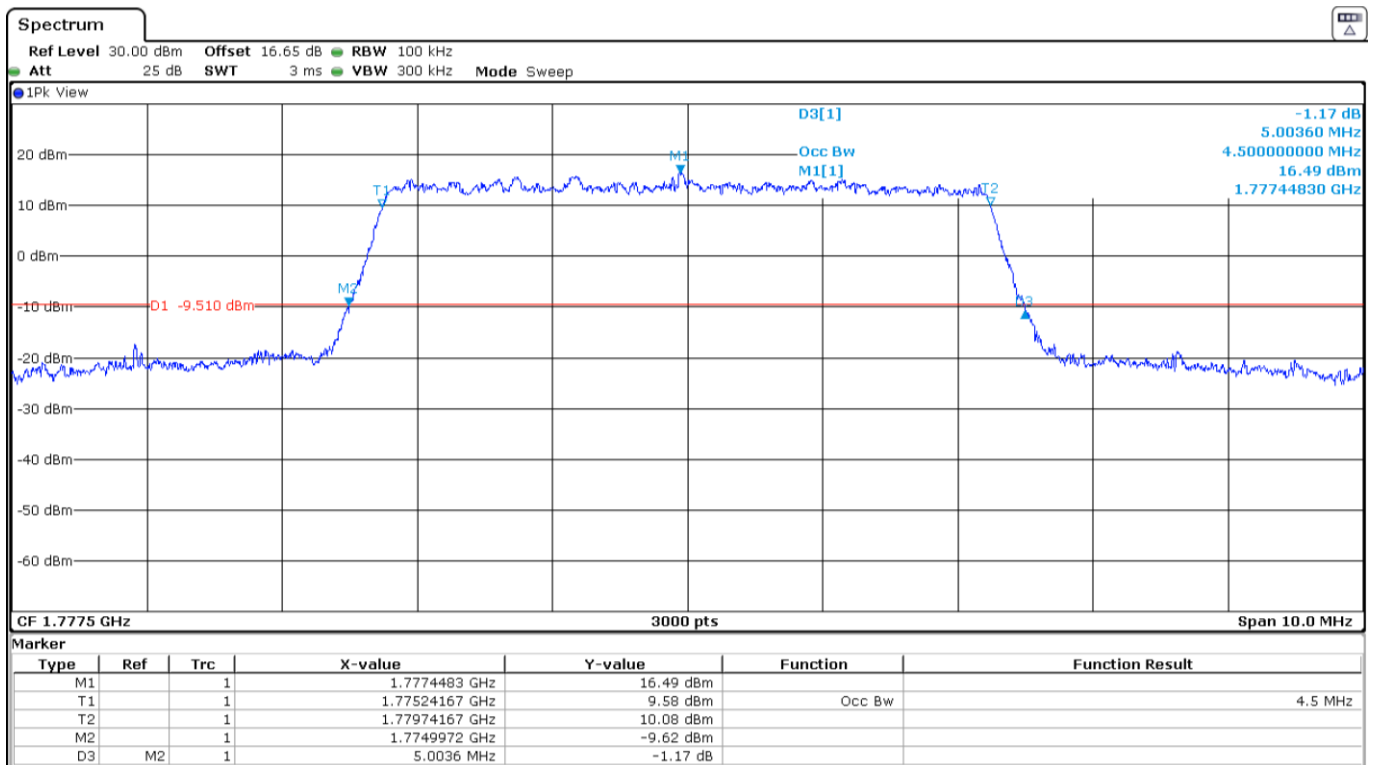
Low Channel:



Middle Channel:

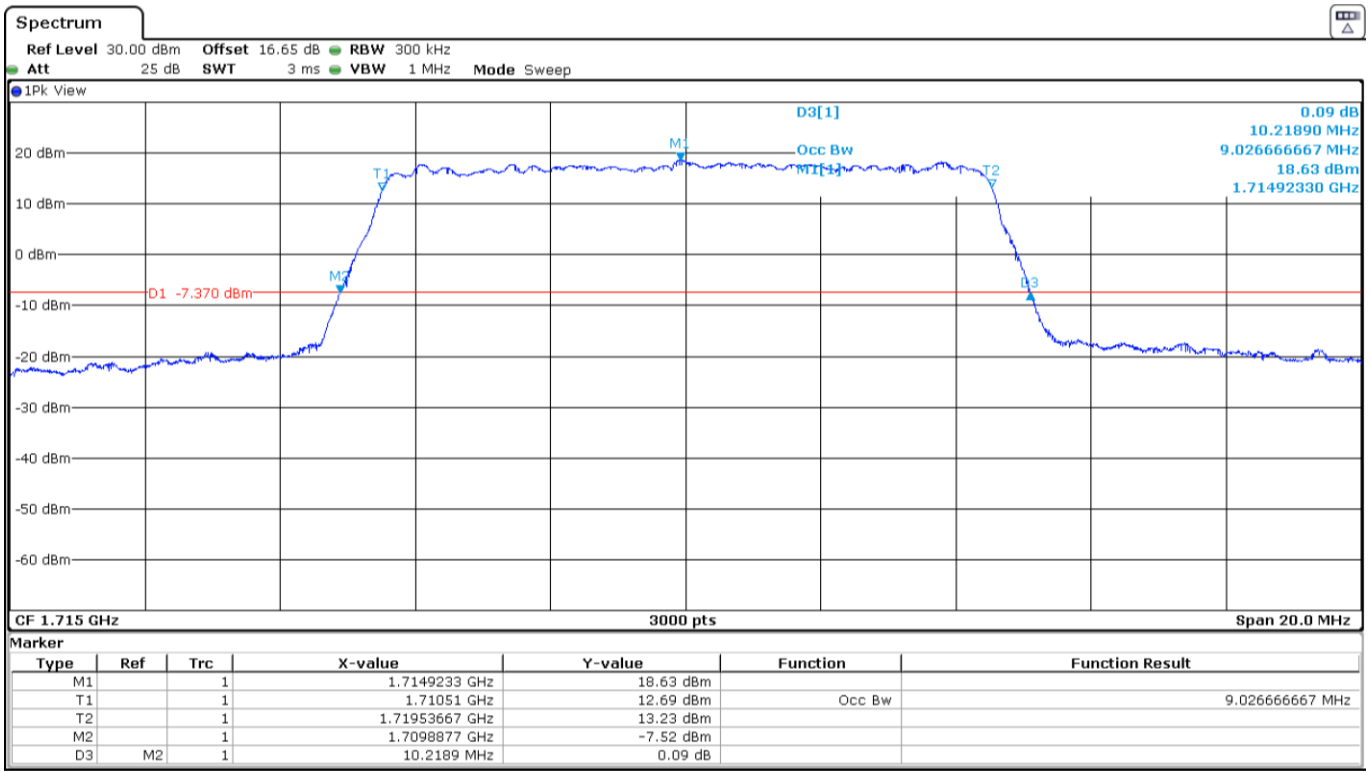


High Channel:

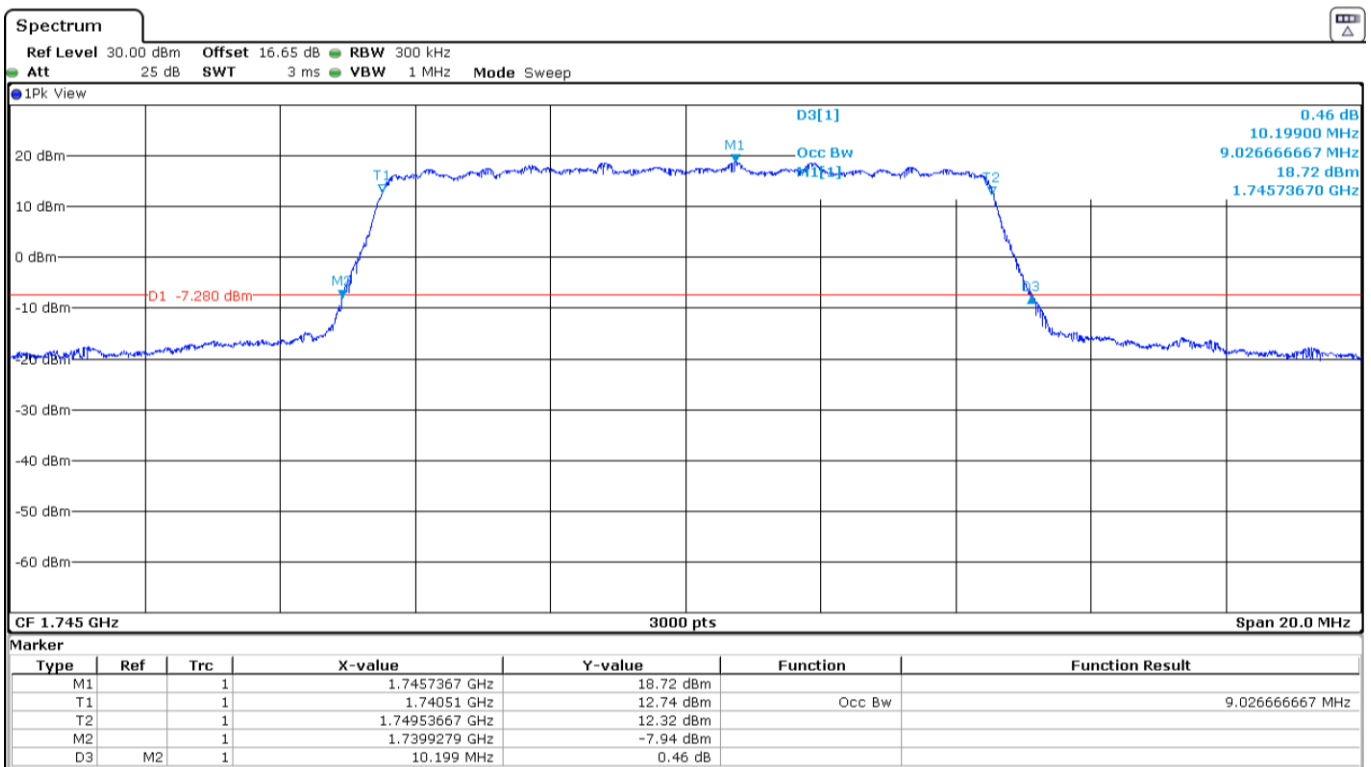


LTE Band 66. QPSK MODULATION. BW = 10 MHz.

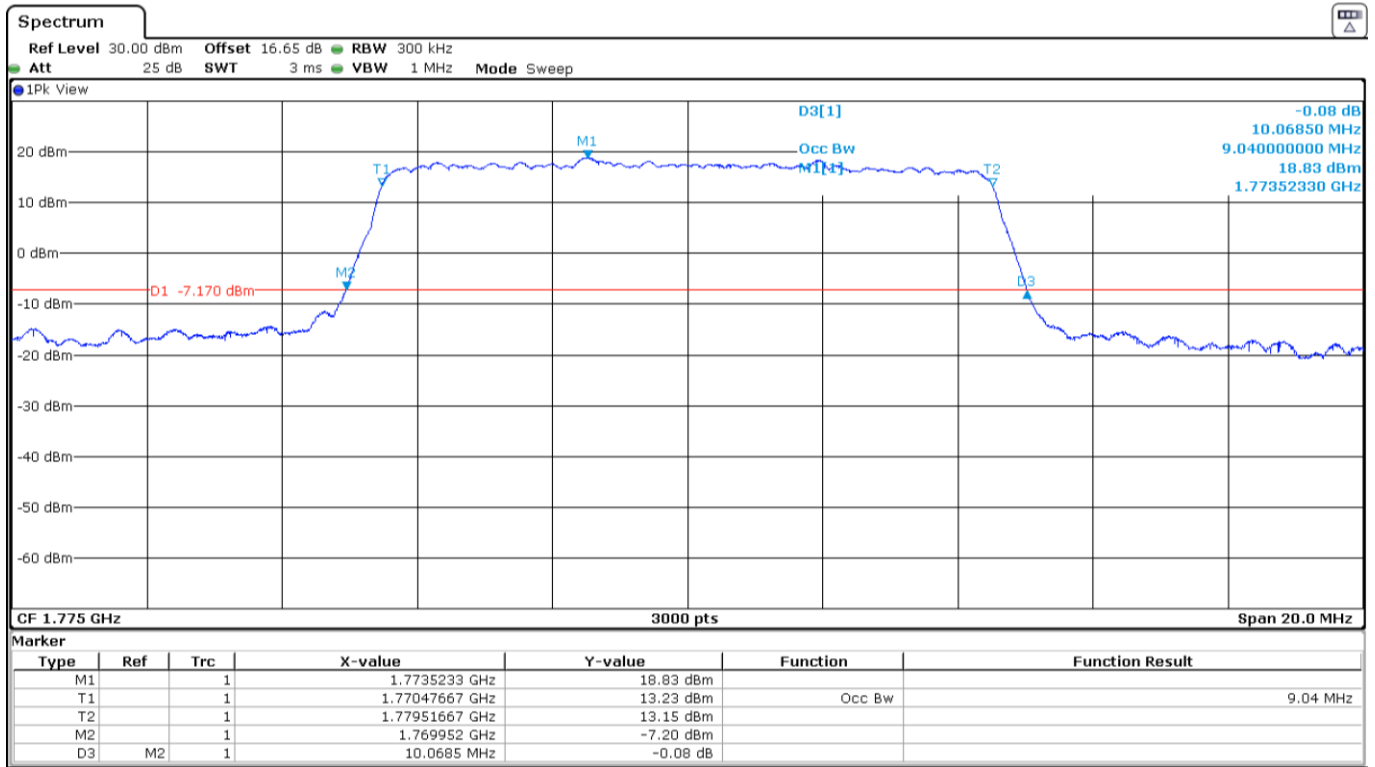
Low Channel:



Middle Channel:

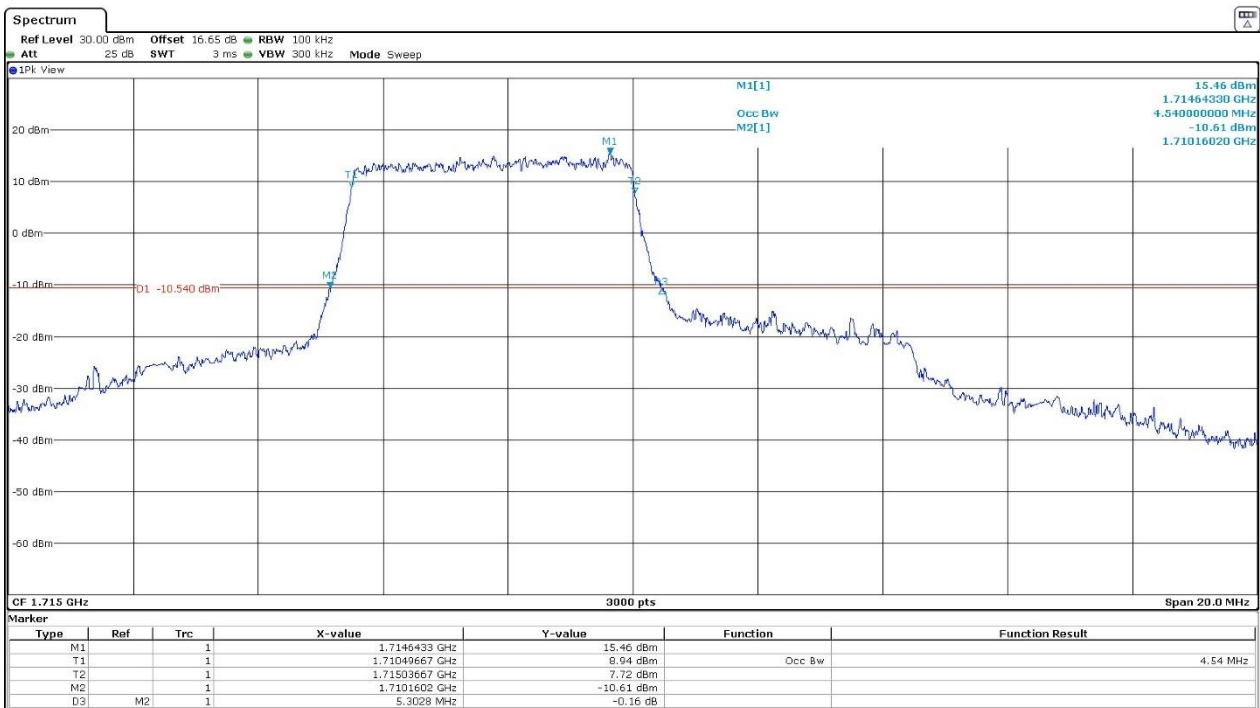


High Channel:

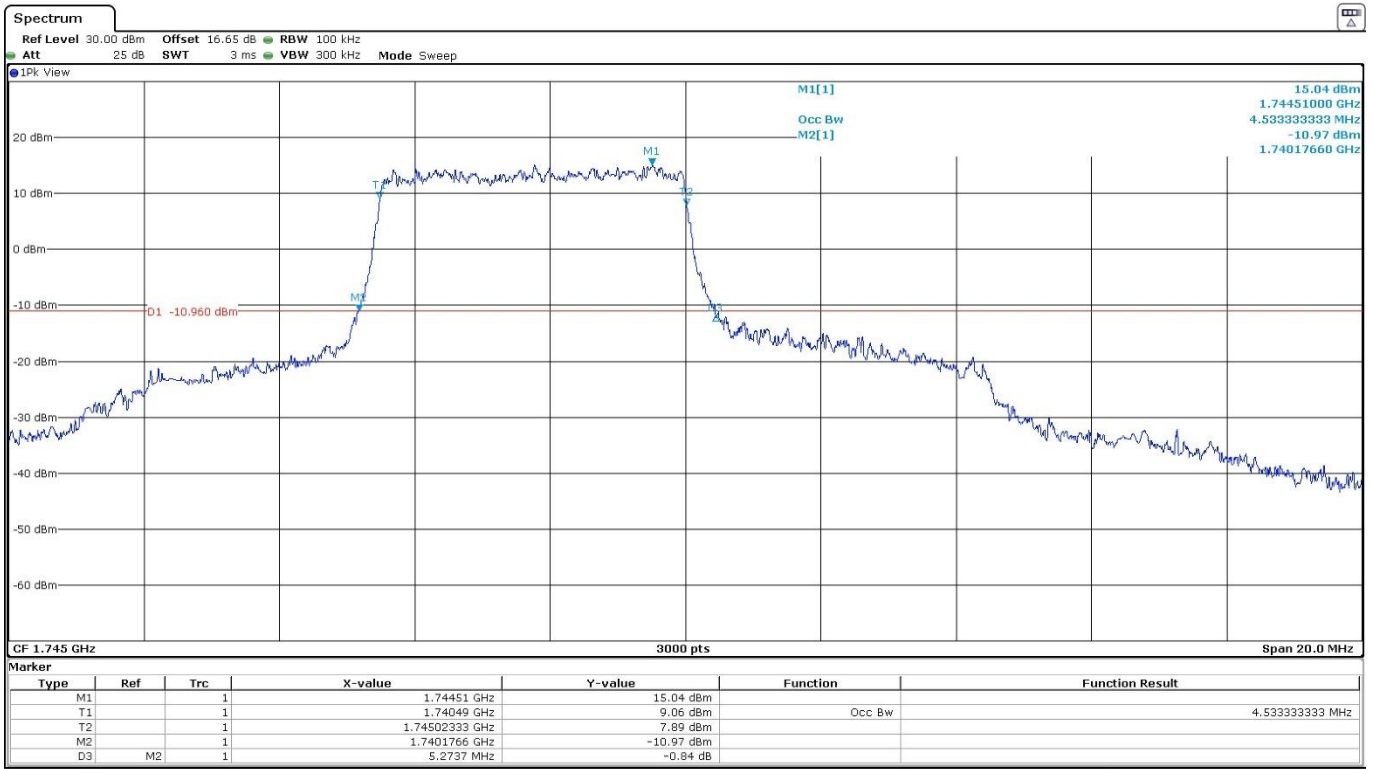


LTE Band 66. 16QAM MODULATION. BW = 10 MHz.

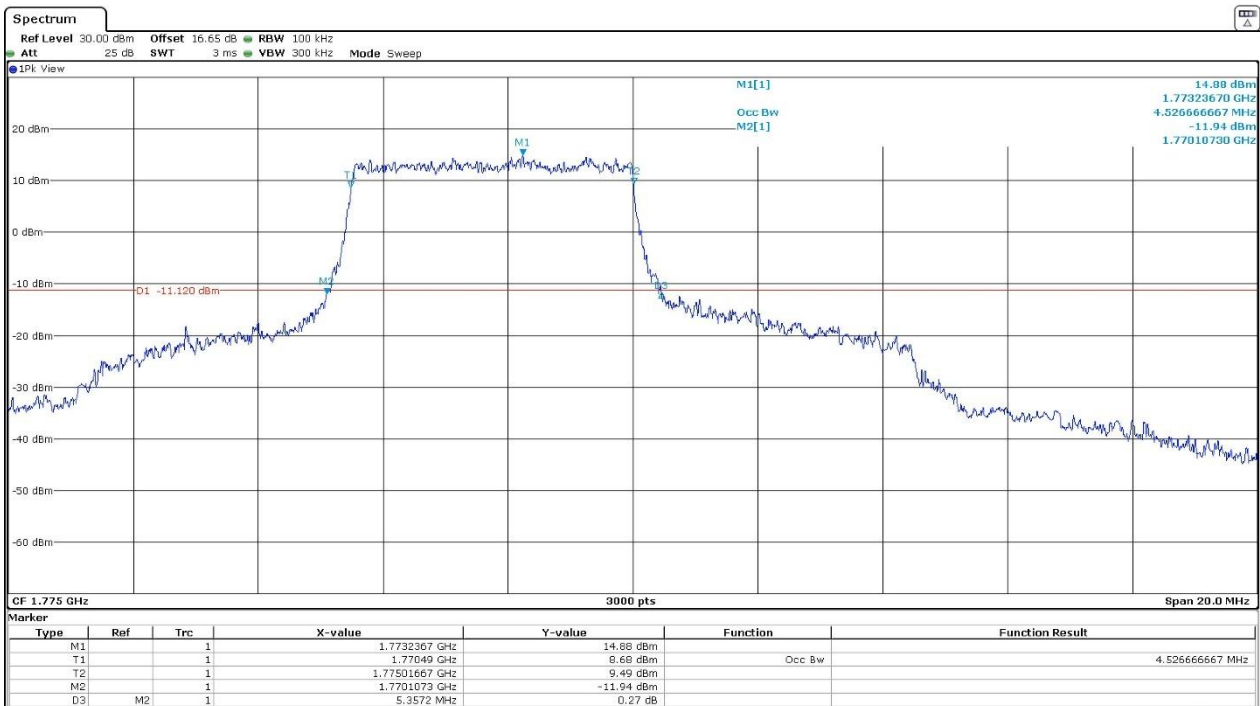
Low Channel:



Middle Channel:

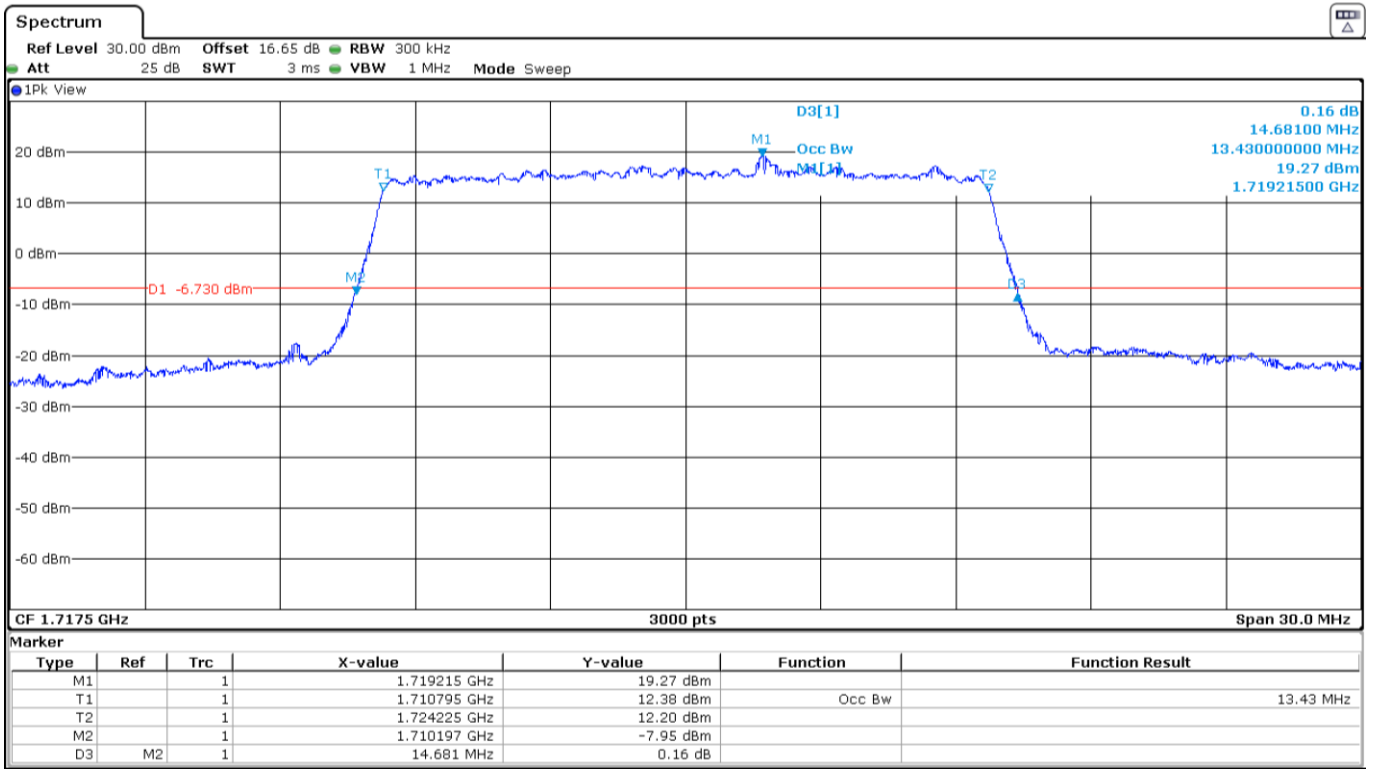


High Channel:

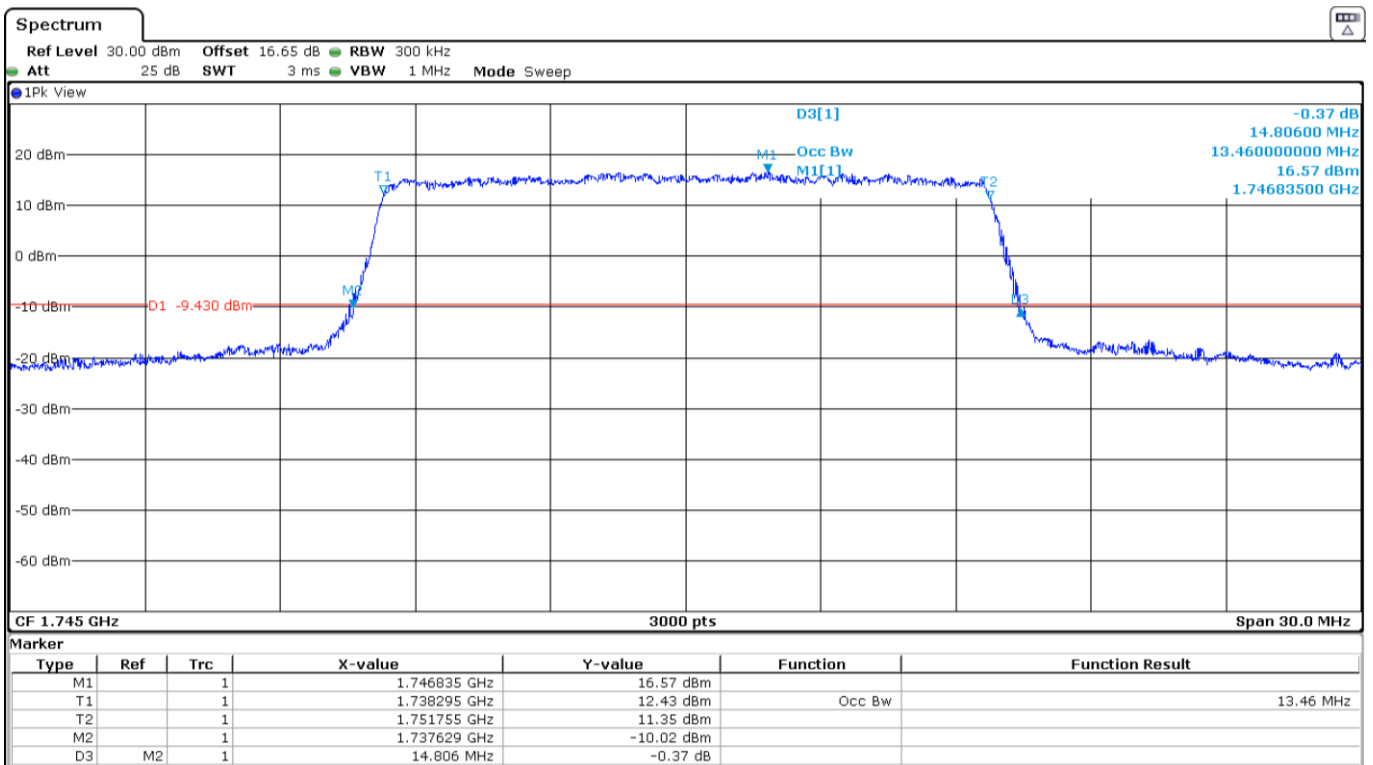


LTE Band 66. QPSK MODULATION. BW = 15 MHz.

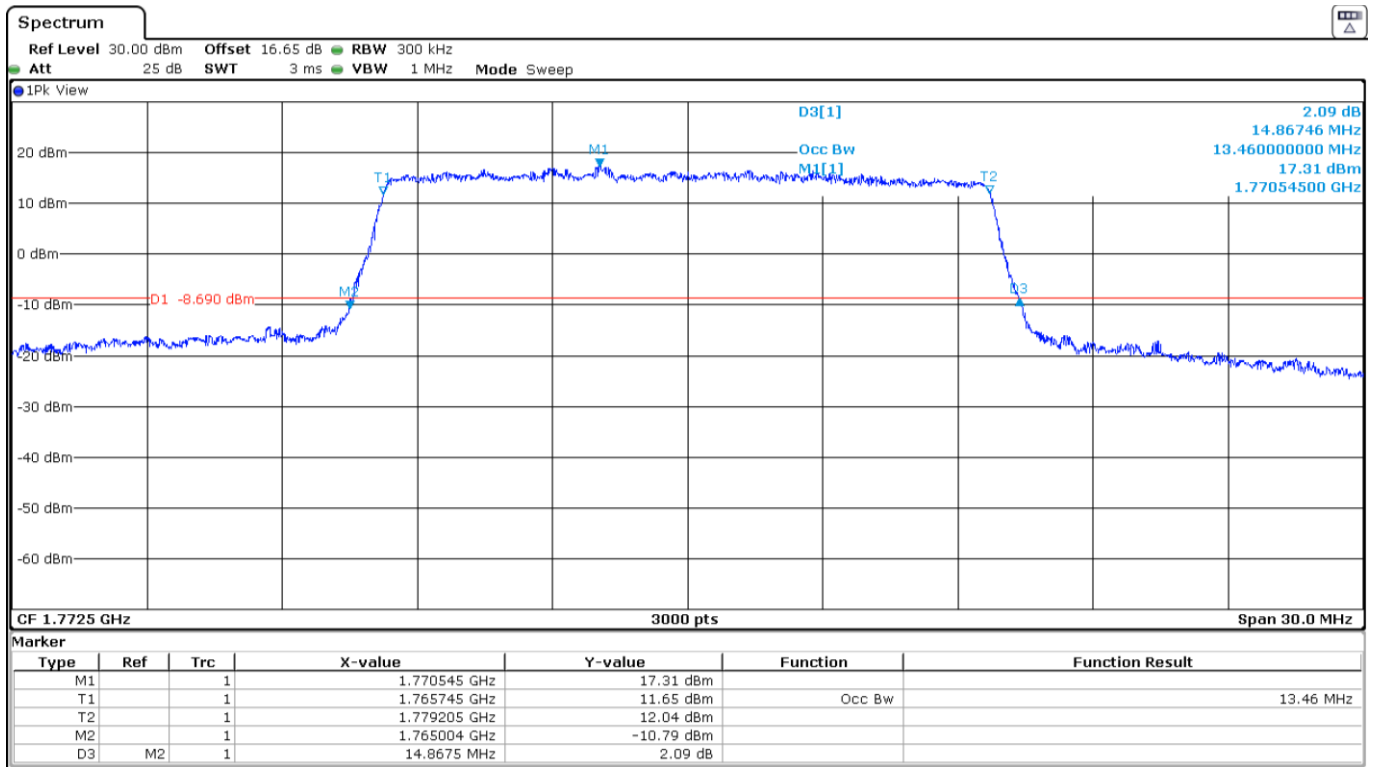
Low Channel:



Middle Channel:

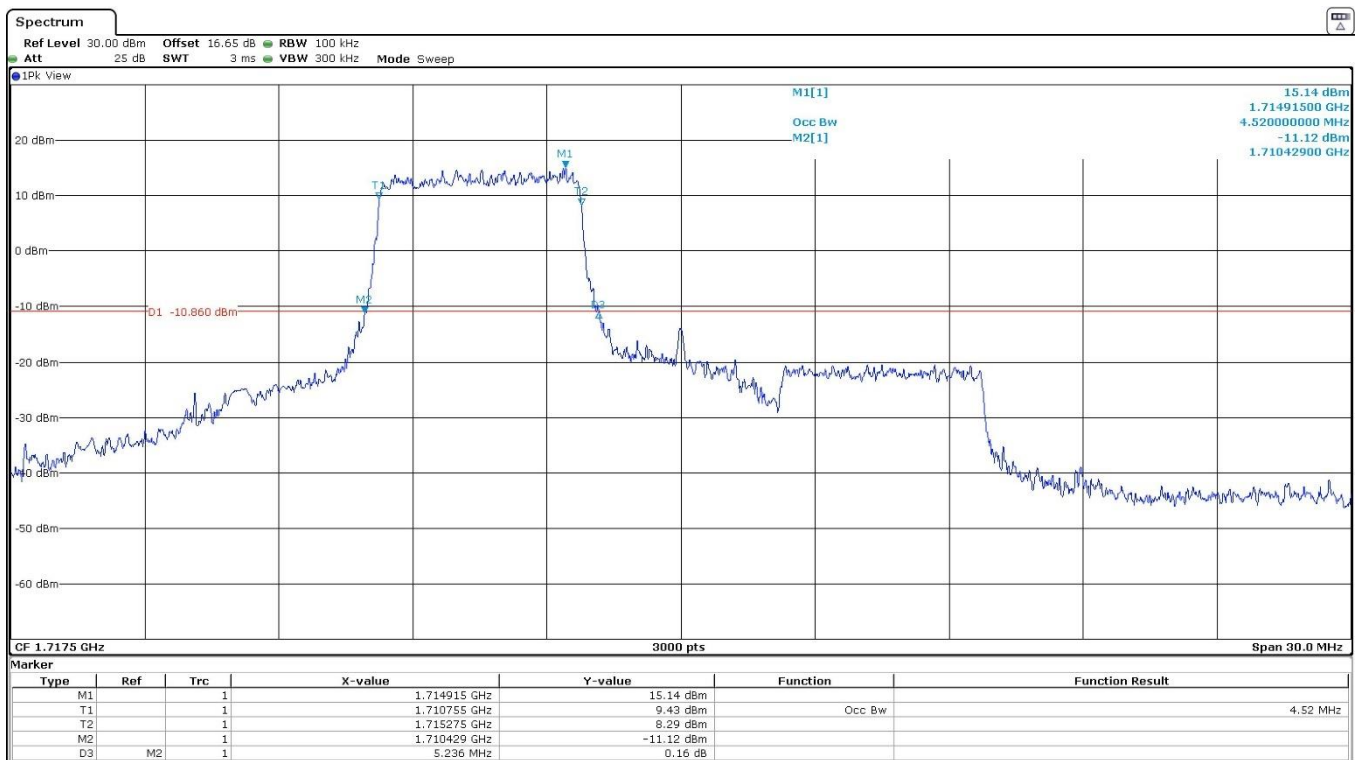


High Channel:

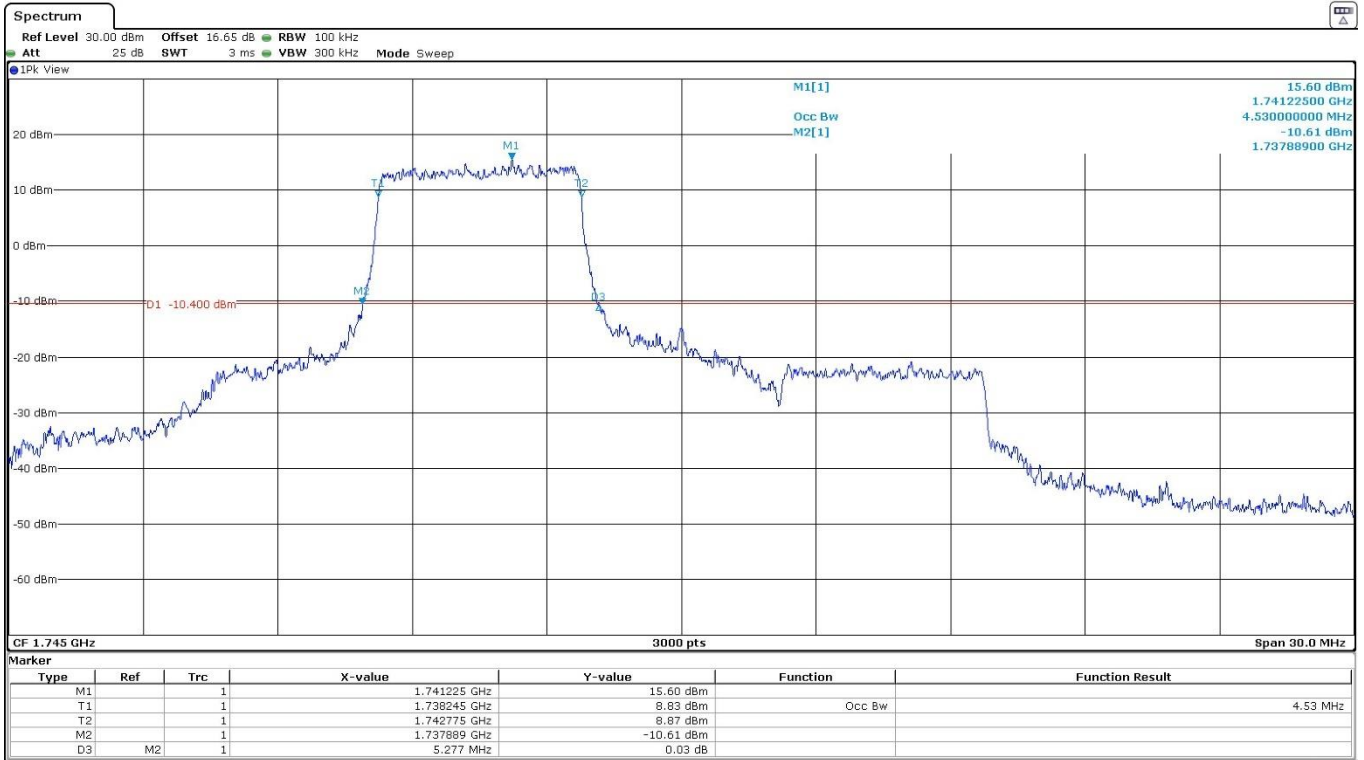


LTE Band 66. 16QAM MODULATION. BW = 15 MHz.

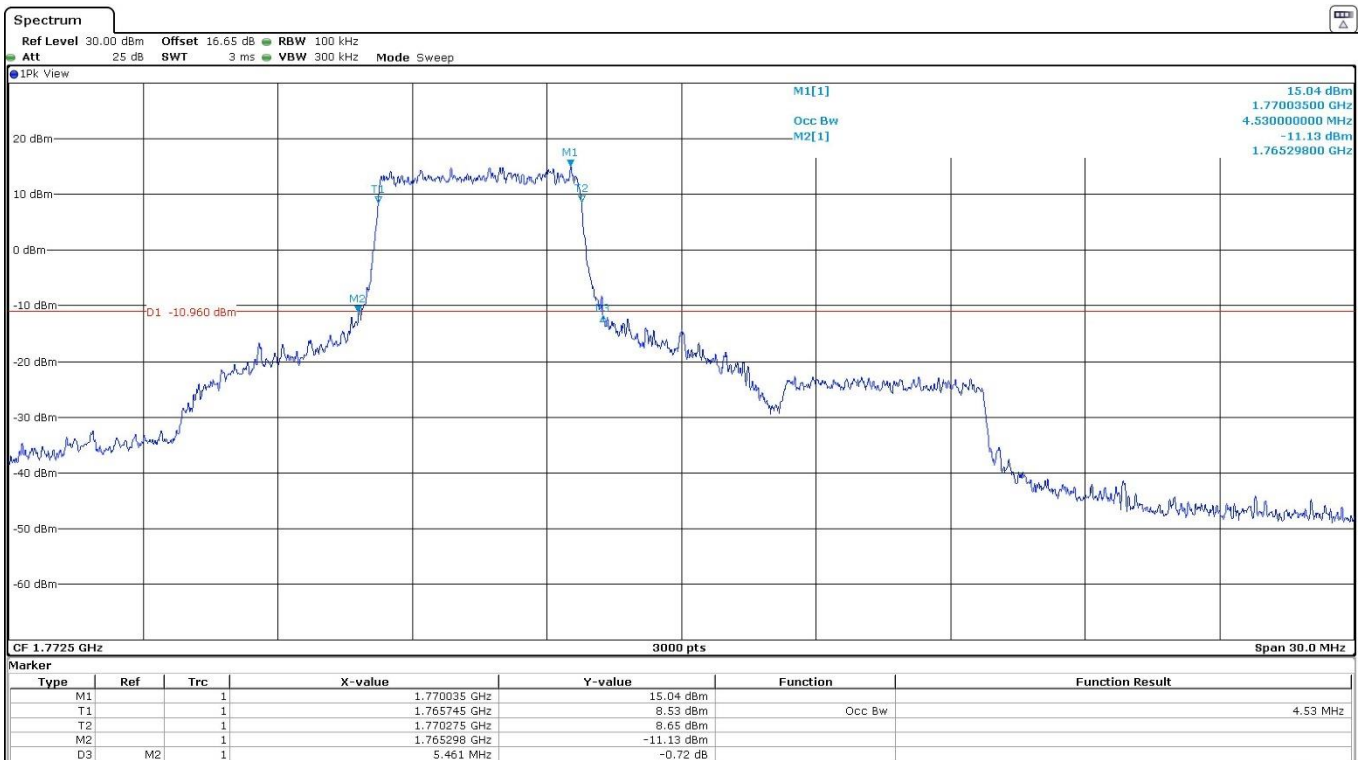
Low Channel:



Middle Channel:

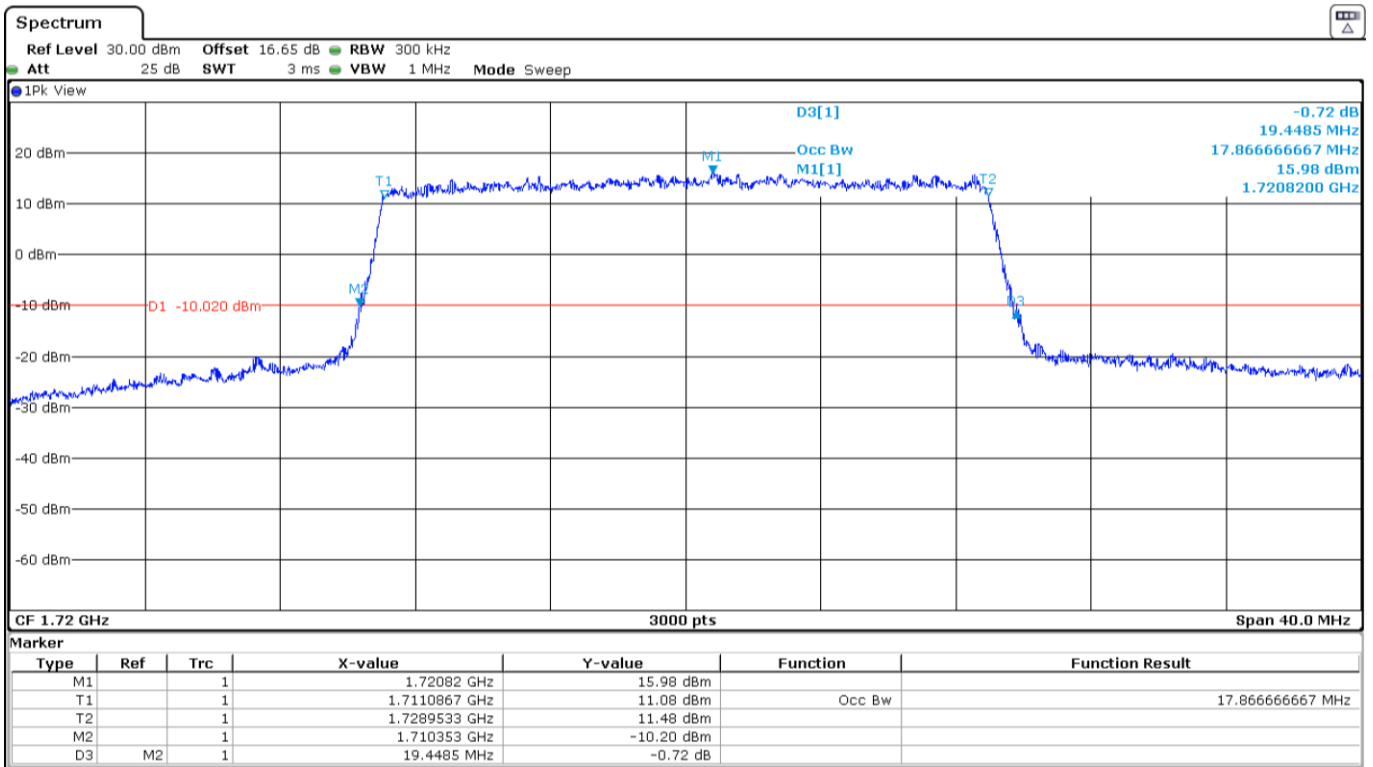


High Channel:

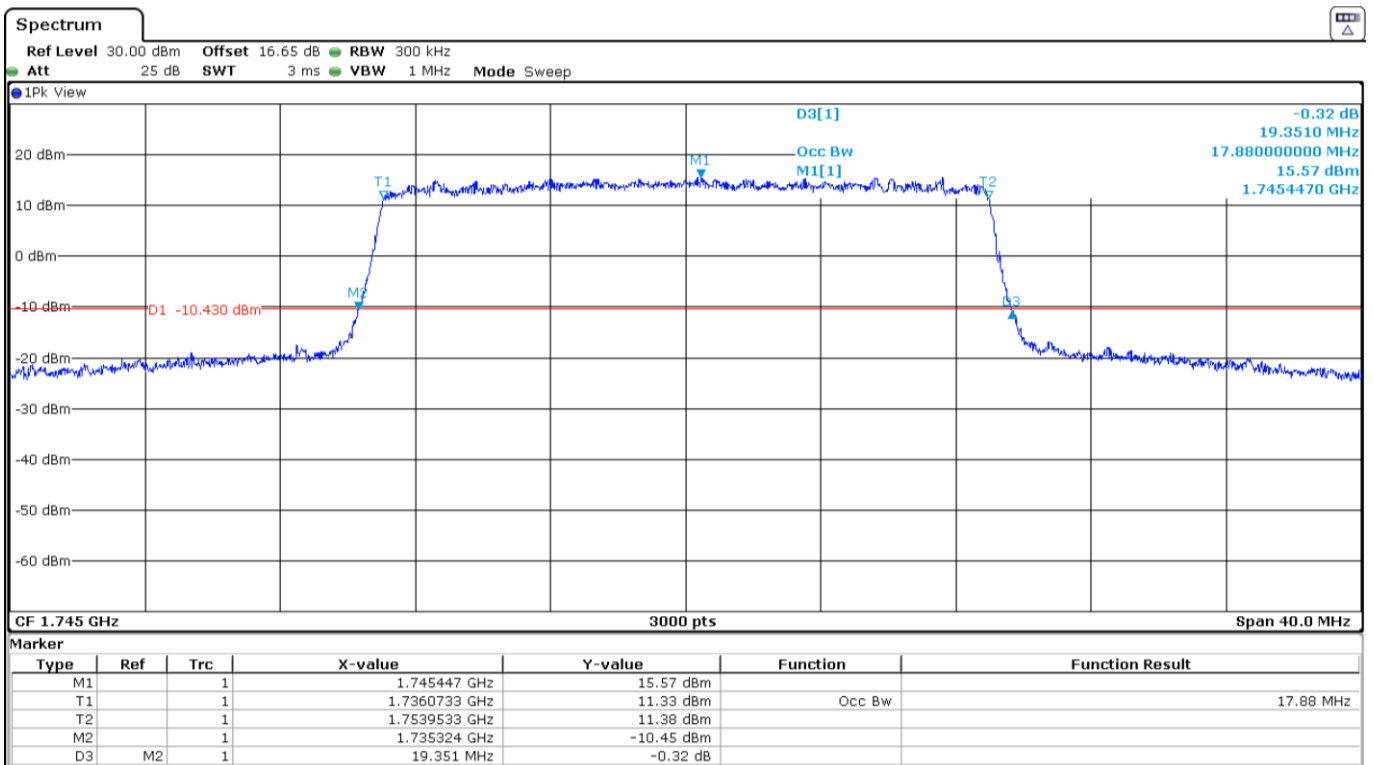


LTE Band 66. QPSK MODULATION. BW = 20 MHz.

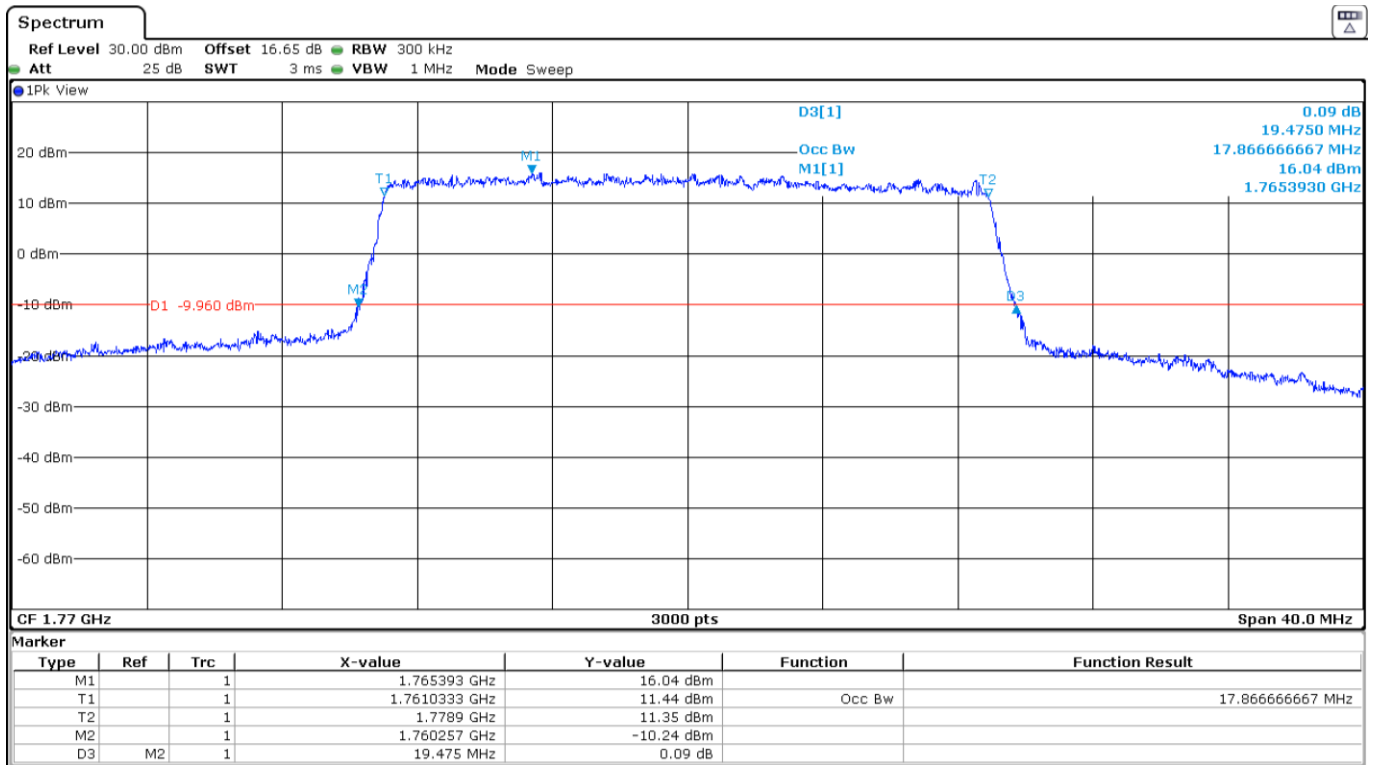
Low Channel:



Middle Channel:

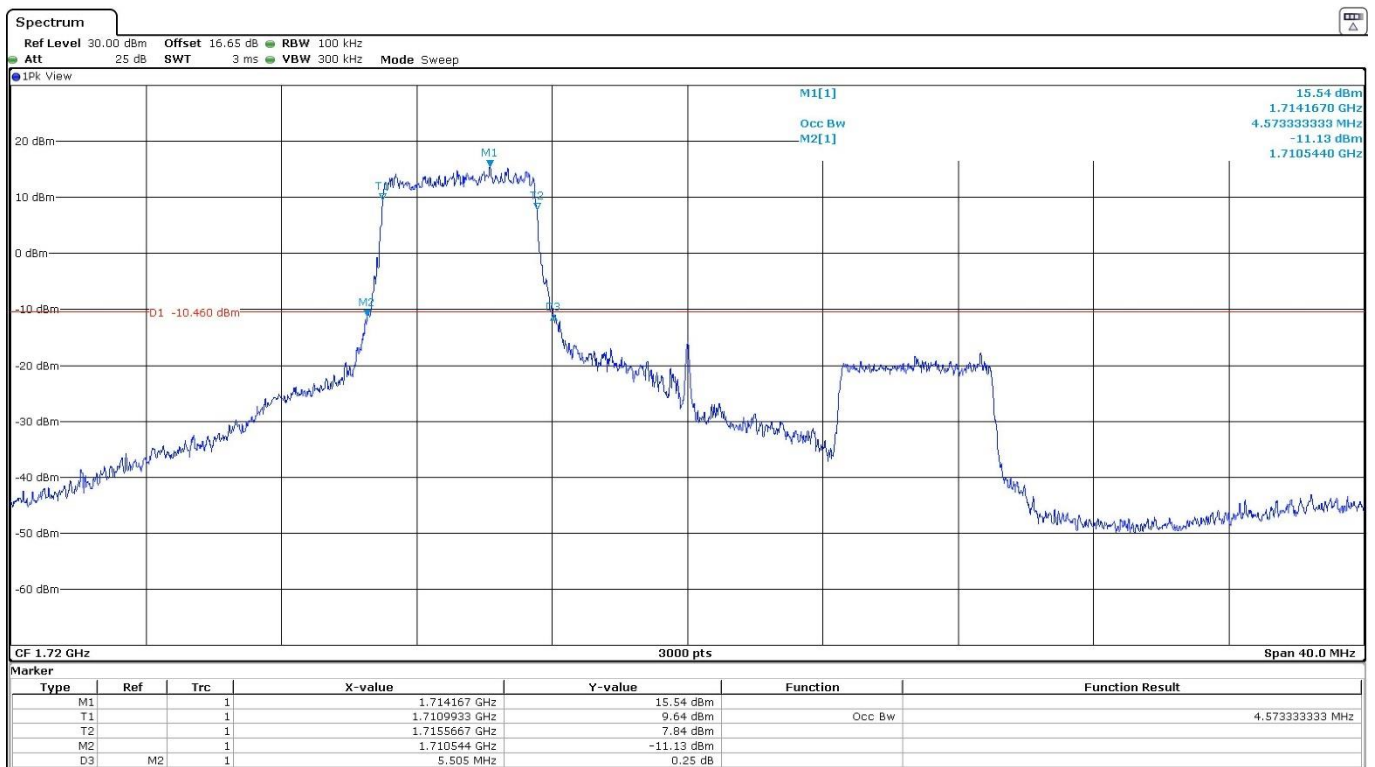


High Channel:

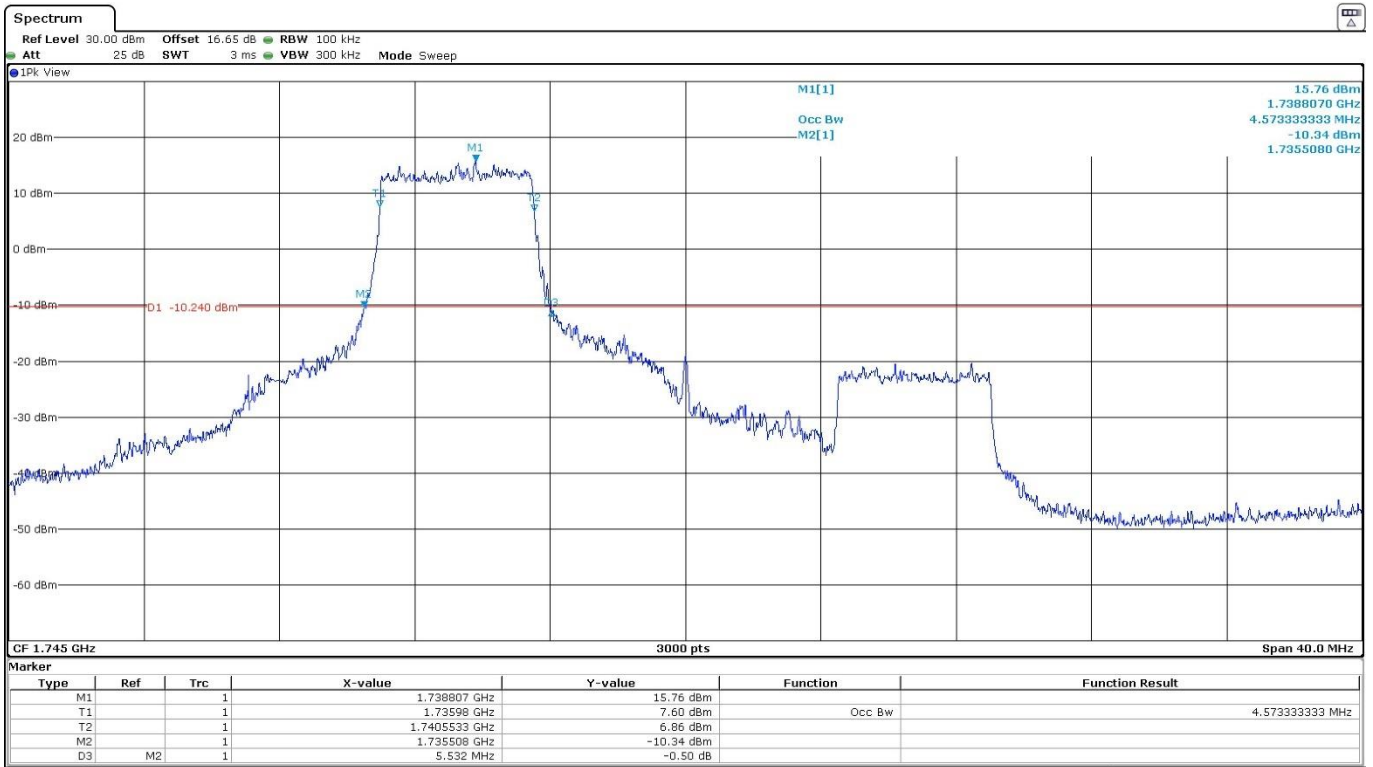


LTE Band 66. 16QAM MODULATION. BW = 20 MHz.

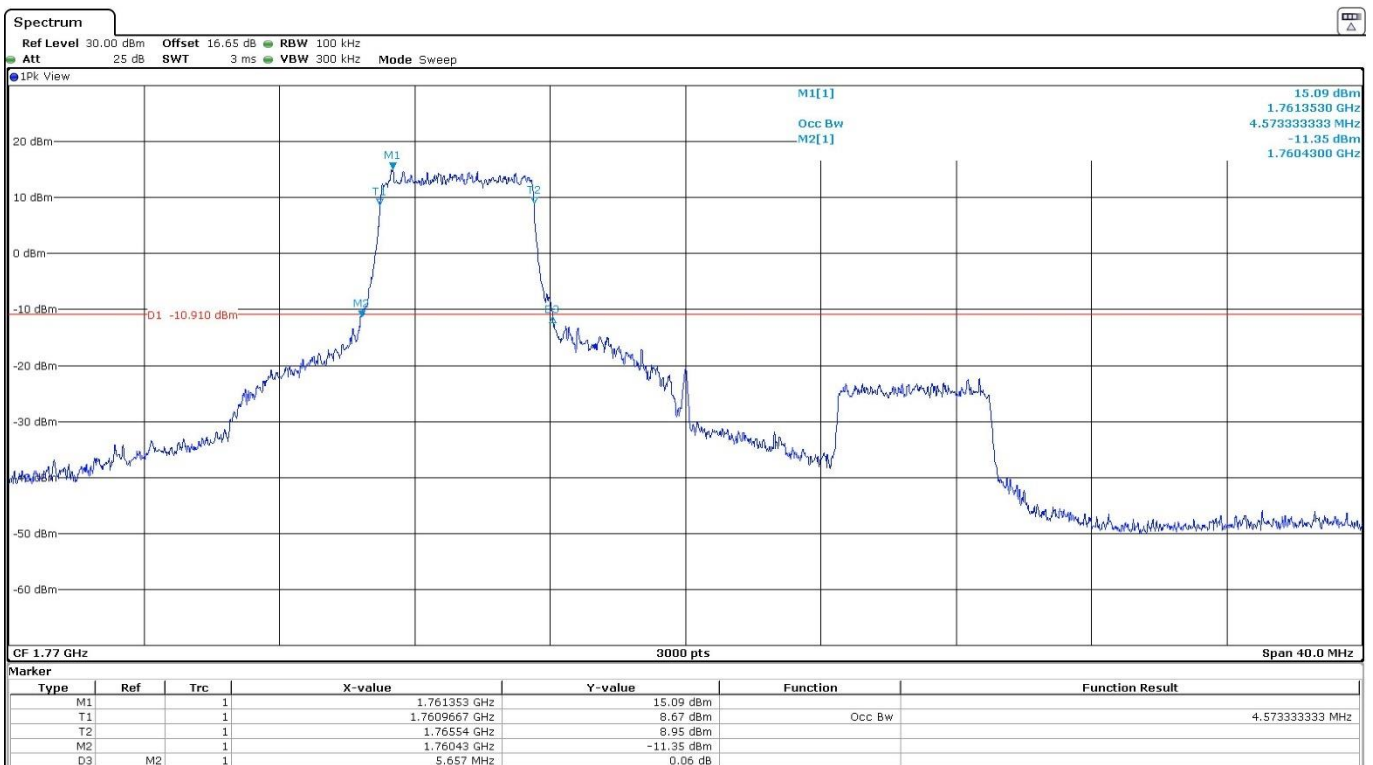
Low Channel:



Middle Channel:



High Channel:



Spurious emissions at antenna terminals

SPECIFICATION:

FCC §27.53 (g):

For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log (P)$ dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

FCC §27.53 (h):

According to specification, the power of emissions shall be attenuated below the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB. P in watts.

RSS-130 Clause 4.7.1:

The unwanted emissions in any 100 kHz bandwidth on any frequency outside the low frequency edge and the high frequency edge of each frequency block range(s), shall be attenuated below the transmitter power, P (dBW), by at least $43 + 10 \log_{10} p$ (watts), dB. However, in the 100 kHz band immediately outside of the equipment's frequency block range, a resolution bandwidth of 30 kHz may be employed.

RSS-139 Clause 6.6.

According to specification, the power of emissions shall be attenuated below the transmitter power (P) by a factor of at least $43 + 10 \log (P)$ dB. P in watts.

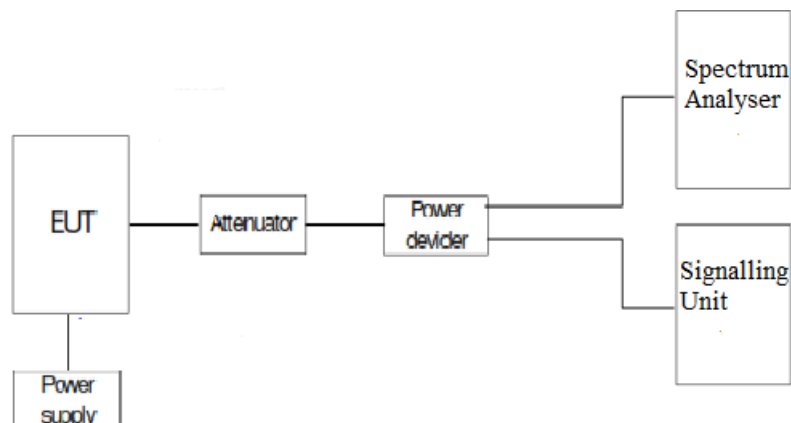
METHOD:

The EUT RF output connector was connected to a spectrum analyser and to the Universal Radio Communication tester R&S CMW500 (selecting maximum transmission power of the EUT and different modes of modulation) using a 50 Ohm attenuator and a power divider.

The spectrum was investigated from 9 kHz to 8 GHz for LTE Band 12 and from 9 kHz to 18 GHz for LTE Band 66. The reading of the spectrum analyser is corrected with the attenuation loss of connection between output terminal of EUT and input of the spectrum analyser.

The configuration of Resource Blocks and modulation which is the worst case for conducted power was used.

TEST SETUP:



RESULTS:

LTE BAND: Test performed on the worst-case modulation and worst RB and worst Offset for all the nominal BW of each LTE band.

LTE Band 12. QPSK MODULATION. BW = 1.4 MHz.

- Low Channel:
No spurious frequencies at less than 20 dB below the limit in all the range.
- Middle Channel:
No spurious frequencies at less than 20 dB below the limit in all the range.
- High Channel:
No spurious frequencies at less than 20 dB below the limit in all the range.

LTE Band 12. QPSK MODULATION. BW = 3 MHz.

- Low Channel:
No spurious frequencies at less than 20 dB below the limit in all the range.
- Middle Channel:
No spurious frequencies at less than 20 dB below the limit in all the range.
- High Channel:
No spurious frequencies at less than 20 dB below the limit in all the range.

LTE Band 12. QPSK MODULATION. BW = 5 MHz.

- Low Channel:
No spurious frequencies at less than 20 dB below the limit in all the range.
- Middle Channel:
No spurious frequencies at less than 20 dB below the limit in all the range.
- High Channel:
No spurious frequencies at less than 20 dB below the limit in all the range.

LTE Band 12. QPSK MODULATION. BW = 10 MHz.

- Low Channel:
No spurious frequencies at less than 20 dB below the limit in all the range.
- Middle Channel:
No spurious frequencies at less than 20 dB below the limit in all the range.
- High Channel:
No spurious frequencies at less than 20 dB below the limit in all the range.

Measurement uncertainty (dB)	<±2.77
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Verdict: PASS

LTE Band 66. QPSK MODULATION. BW = 1.4 MHz.

- Low Channel:
No spurious frequencies at less than 20 dB below the limit in all the range.
- Middle Channel:
No spurious frequencies at less than 20 dB below the limit in all the range.
- High Channel:
No spurious frequencies at less than 20 dB below the limit in all the range.

LTE Band 66. QPSK MODULATION. BW = 3 MHz.

- Low Channel:
No spurious frequencies at less than 20 dB below the limit in all the range.
- Middle Channel:
No spurious frequencies at less than 20 dB below the limit in all the range.
- High Channel:
No spurious frequencies at less than 20 dB below the limit in all the range.

LTE Band 66. QPSK MODULATION. BW = 5 MHz.

- Low Channel:
No spurious frequencies at less than 20 dB below the limit in all the range.
- Middle Channel:
No spurious frequencies at less than 20 dB below the limit in all the range.
- High Channel:
No spurious frequencies at less than 20 dB below the limit in all the range.

LTE Band 66. QPSK MODULATION. BW = 10 MHz.

- Low Channel:
No spurious frequencies at less than 20 dB below the limit in all the range.
- Middle Channel:
No spurious frequencies at less than 20 dB below the limit in all the range.
- High Channel:
No spurious frequencies at less than 20 dB below the limit in all the range.

LTE Band 66. QPSK MODULATION. BW = 15 MHz.

- Low Channel:
No spurious frequencies at less than 20 dB below the limit in all the range.
- Middle Channel:
No spurious frequencies at less than 20 dB below the limit in all the range.
- High Channel:
No spurious frequencies at less than 20 dB below the limit in all the range.

LTE Band 66. 16QAM MODULATION. BW = 20 MHz.

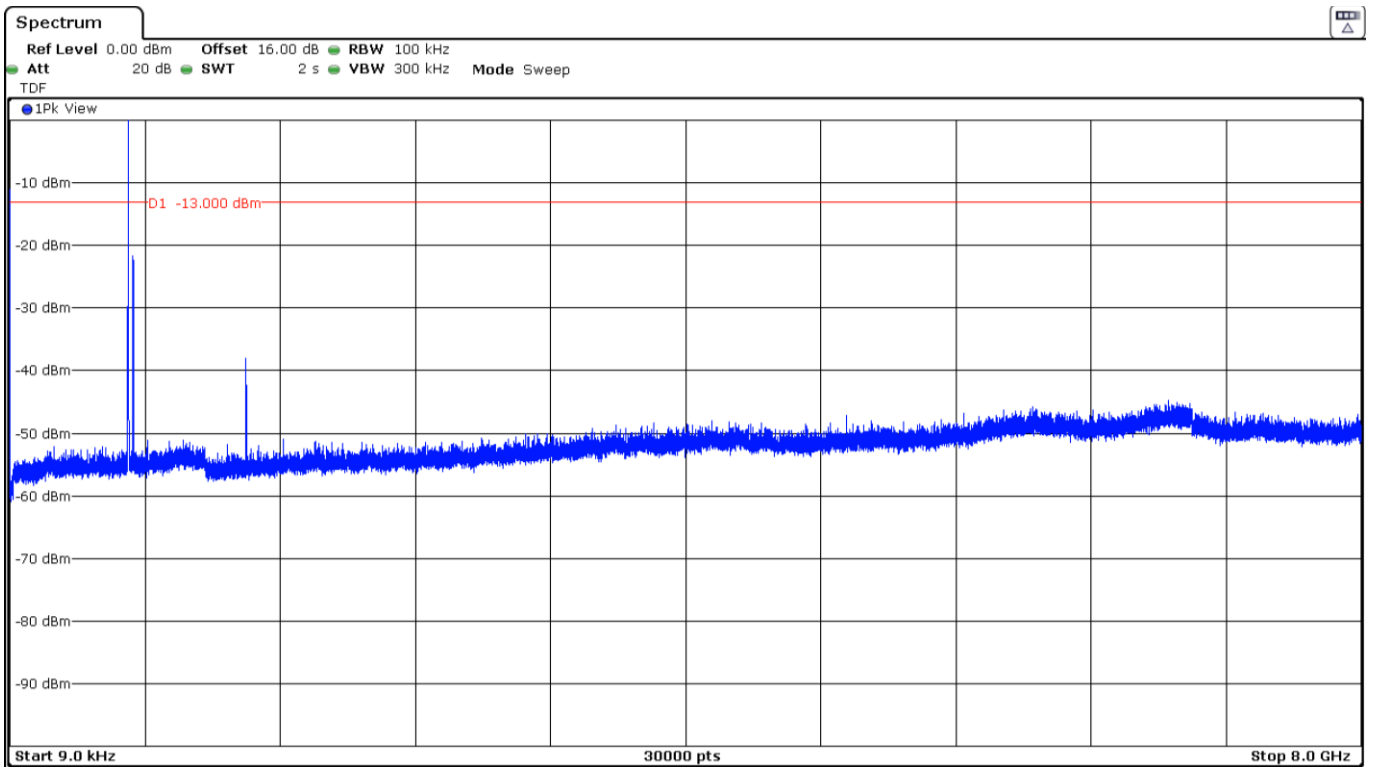
- Low Channel:
No spurious frequencies at less than 20 dB below the limit in all the range.
- Middle Channel:
No spurious frequencies at less than 20 dB below the limit in all the range.
- High Channel:
No spurious frequencies at less than 20 dB below the limit in all the range.

Measurement uncertainty (dB)	<±2.77
------------------------------	--------

Verdict: PASS

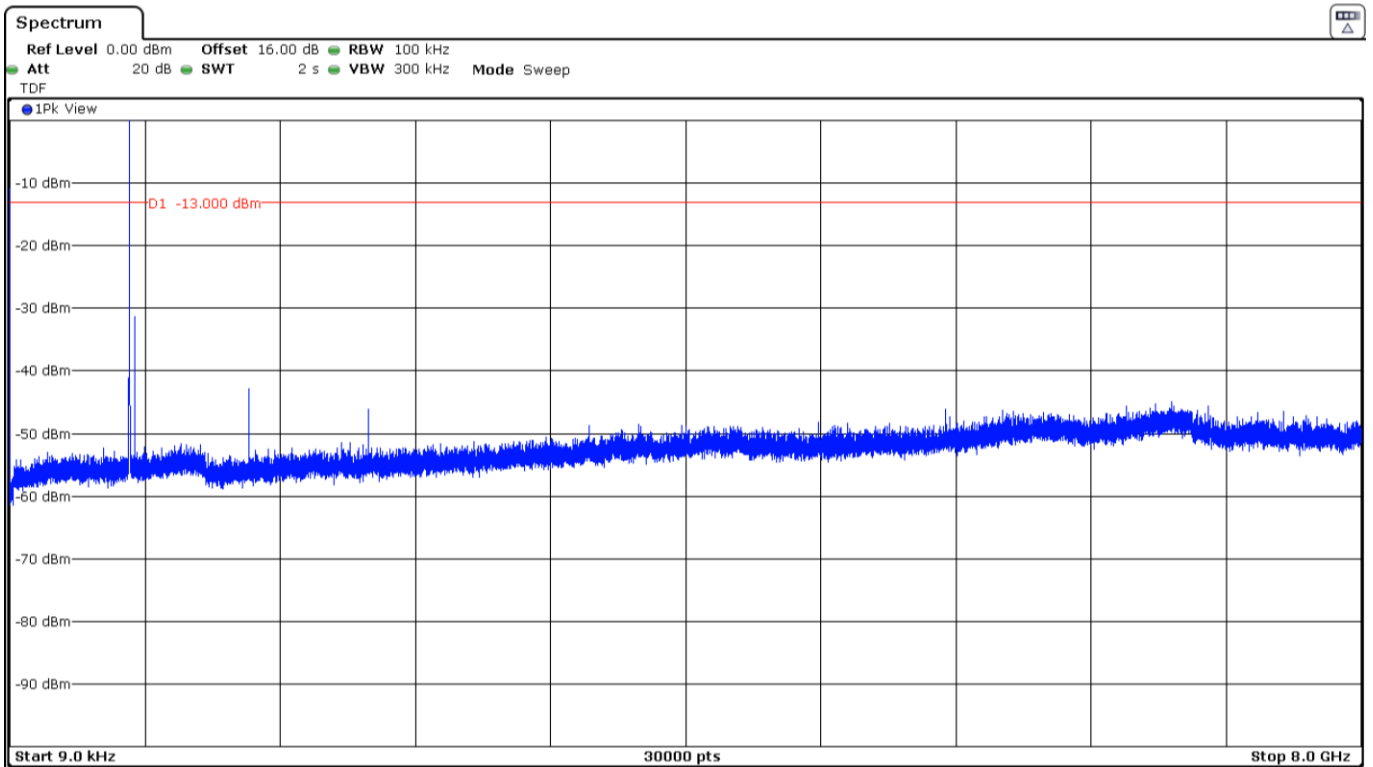
LTE Band 12. QPSK MODULATION. BW = 1.4 MHz.

Low Channel:



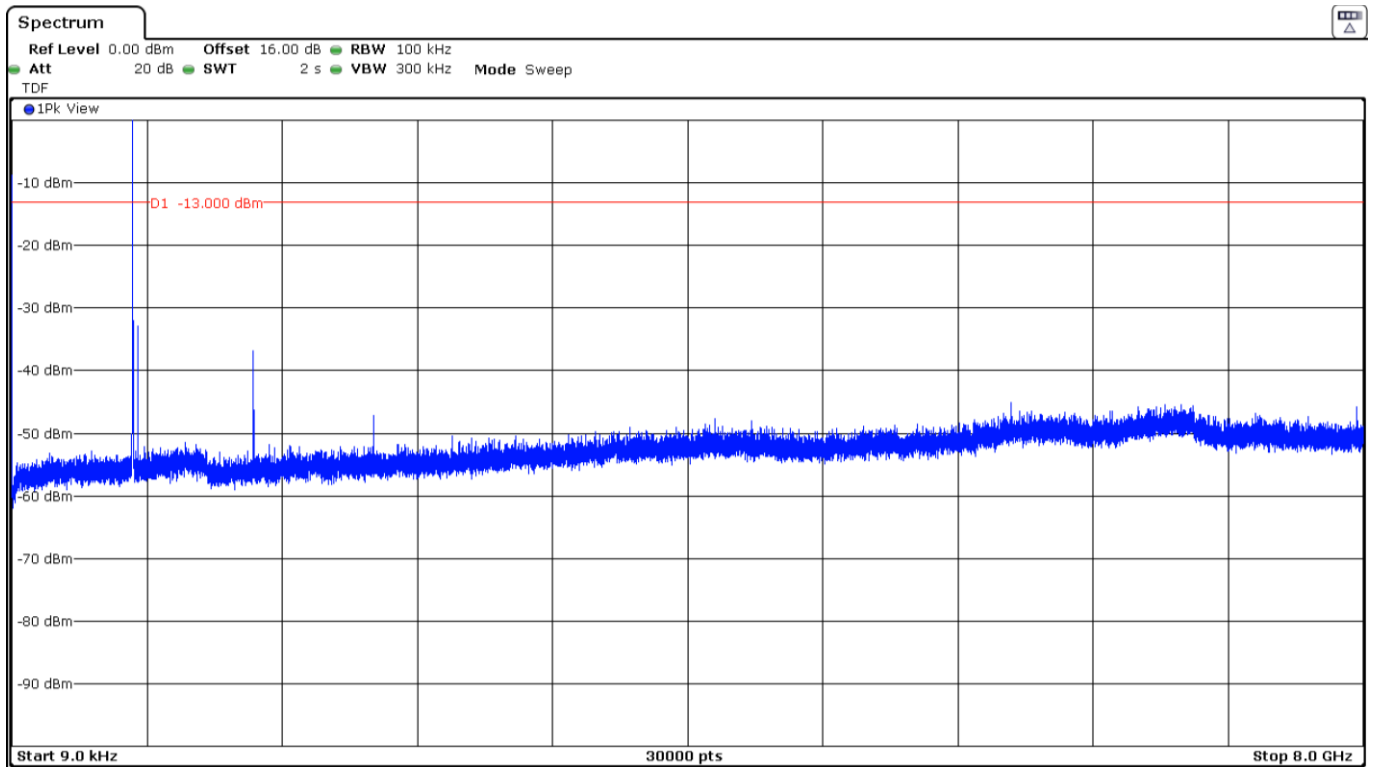
The peak above the limit is the carrier frequency.

Middle Channel:



The peak above the limit is the carrier frequency.

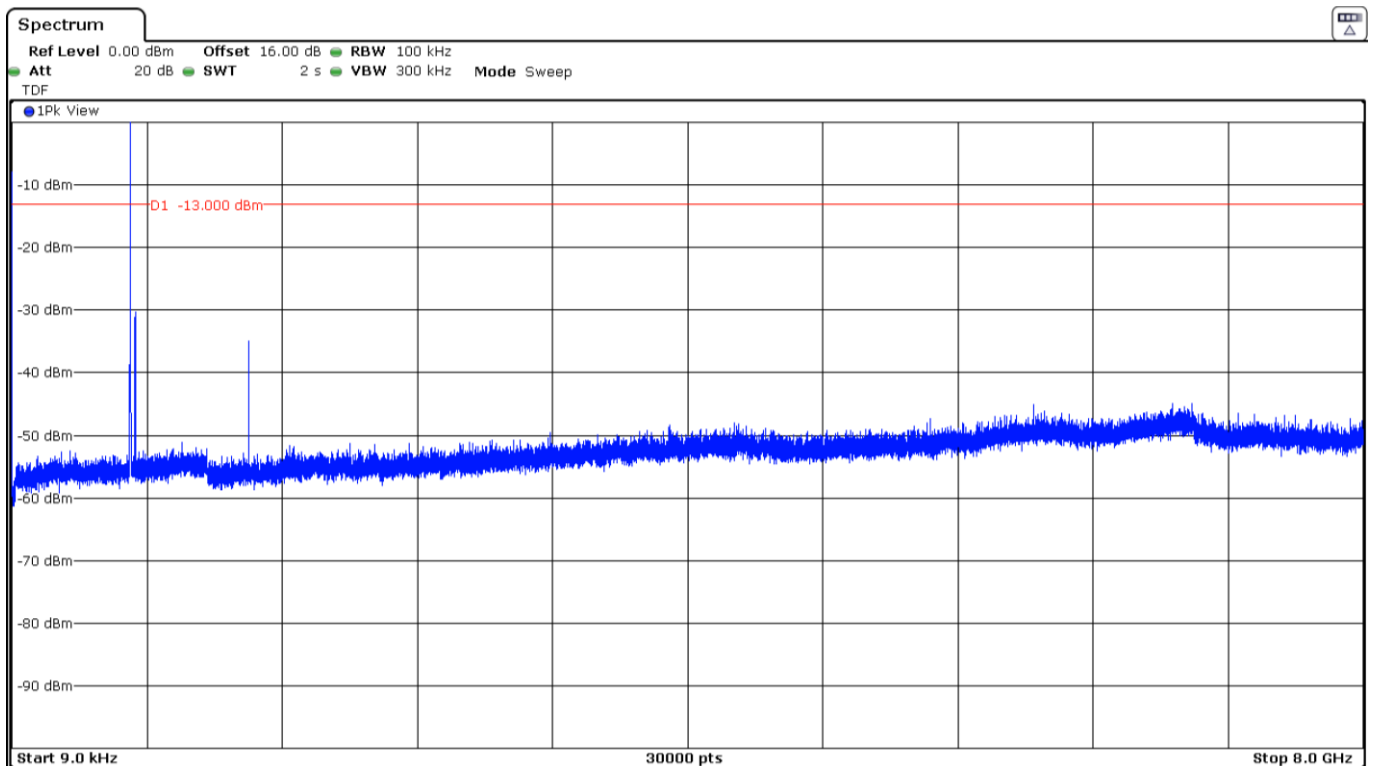
High Channel:



The peak above the limit is the carrier frequency.

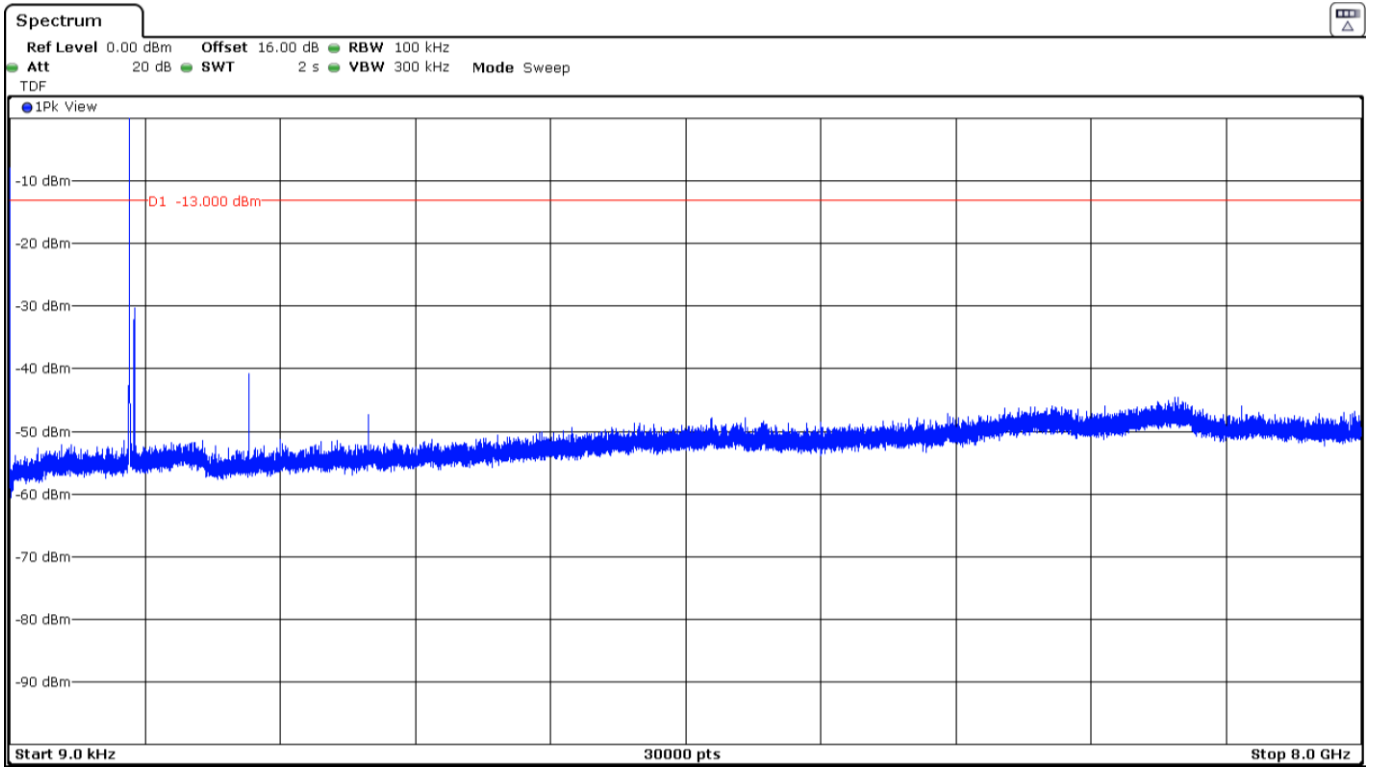
LTE Band 12. QPSK MODULATION. BW = 3 MHz.

Low Channel:



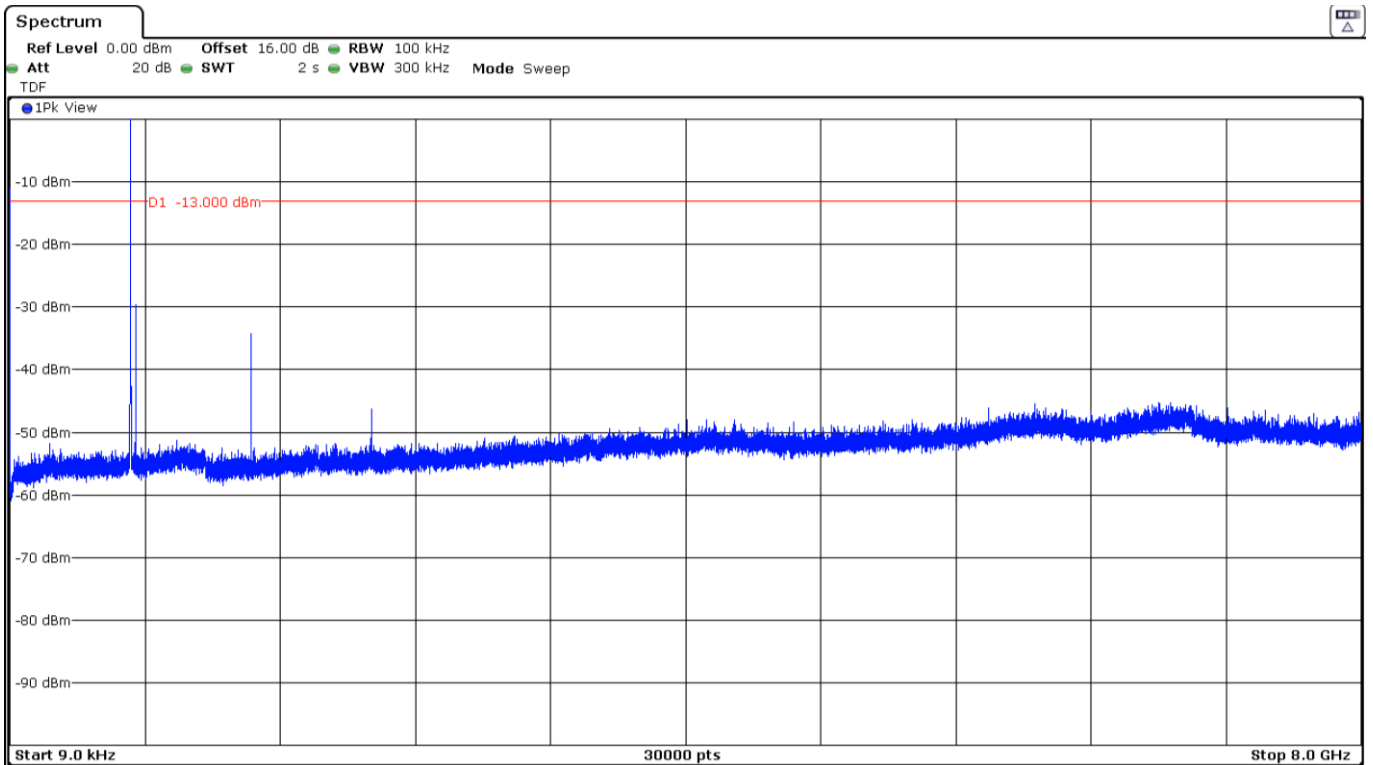
The peak above the limit is the carrier frequency.

Middle Channel:



The peak above the limit is the carrier frequency.

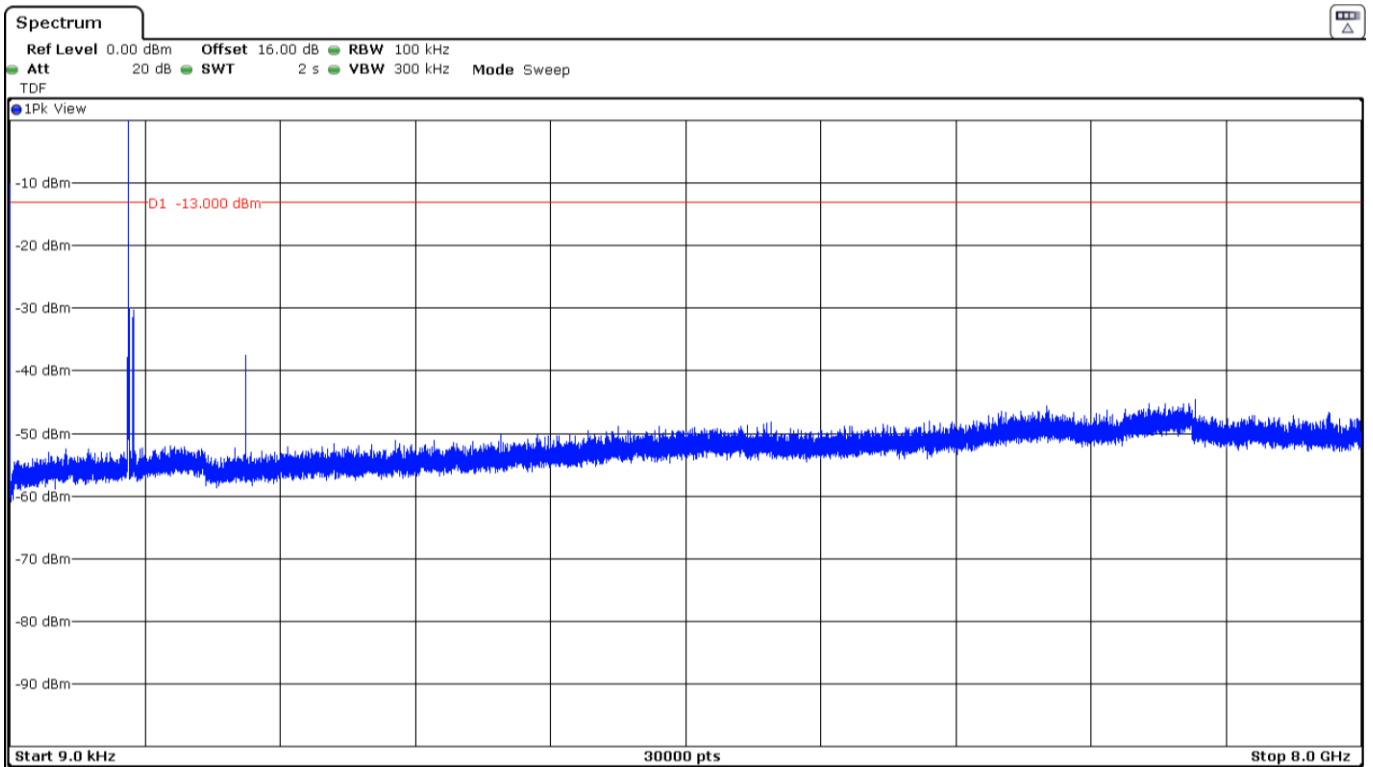
High Channel:



The peak above the limit is the carrier frequency.

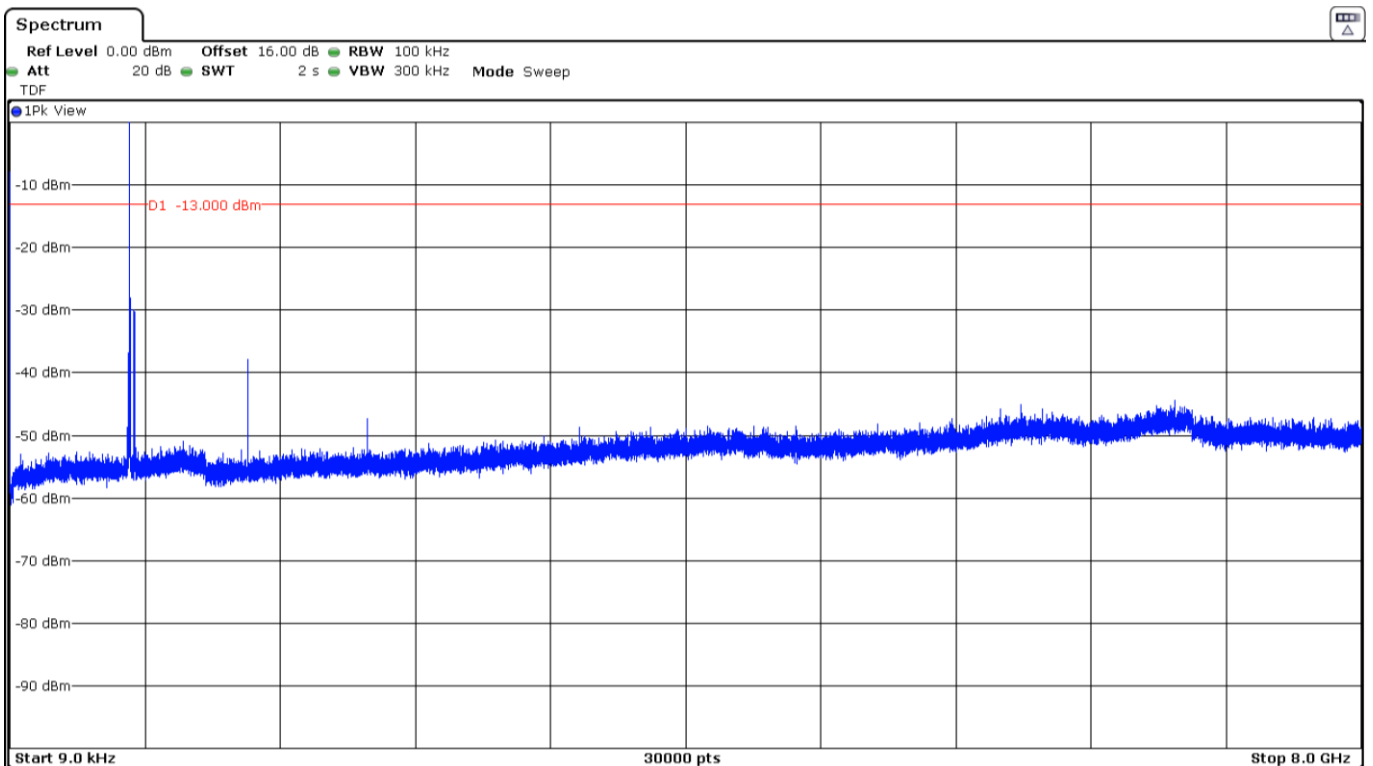
LTE Band 12. QPSK MODULATION. BW = 5 MHz.

Low Channel:



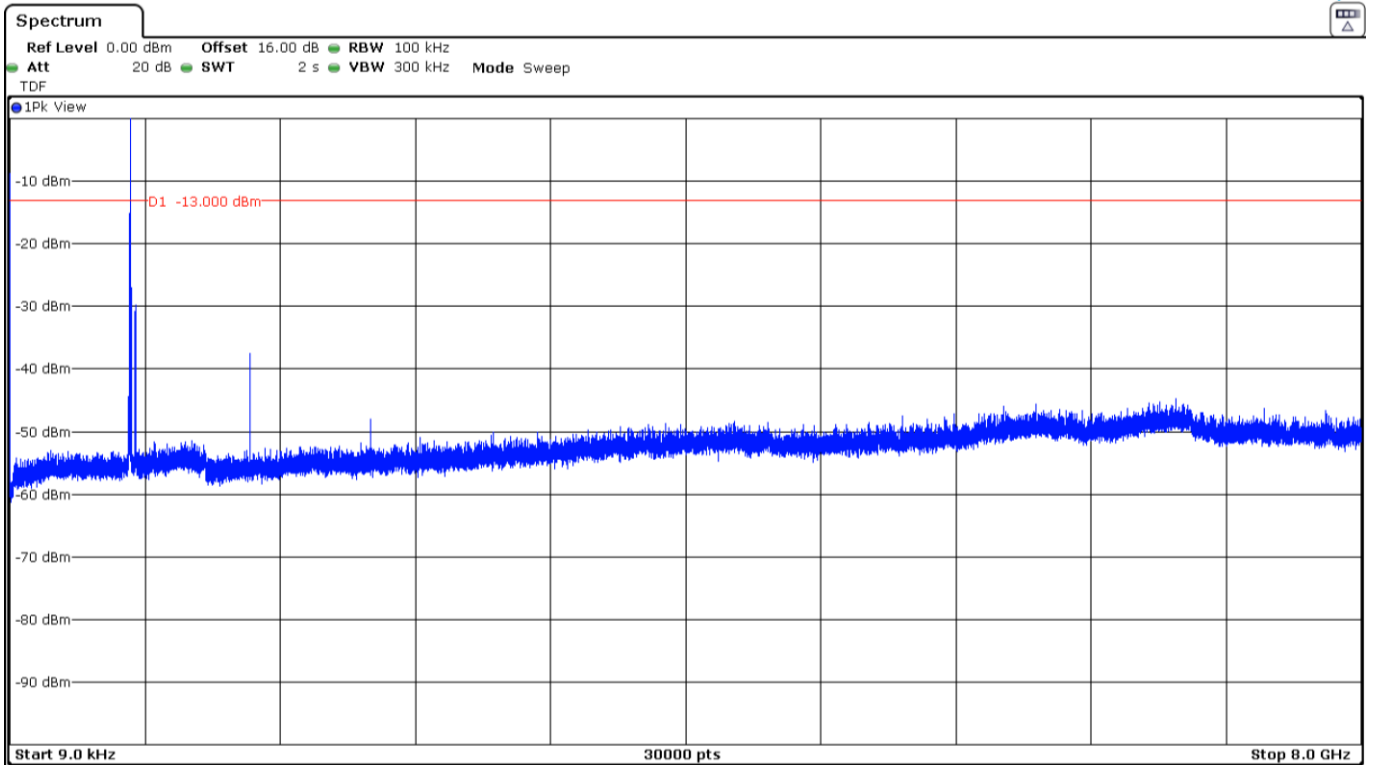
The peak above the limit is the carrier frequency.

Middle Channel:



The peak above the limit is the carrier frequency.

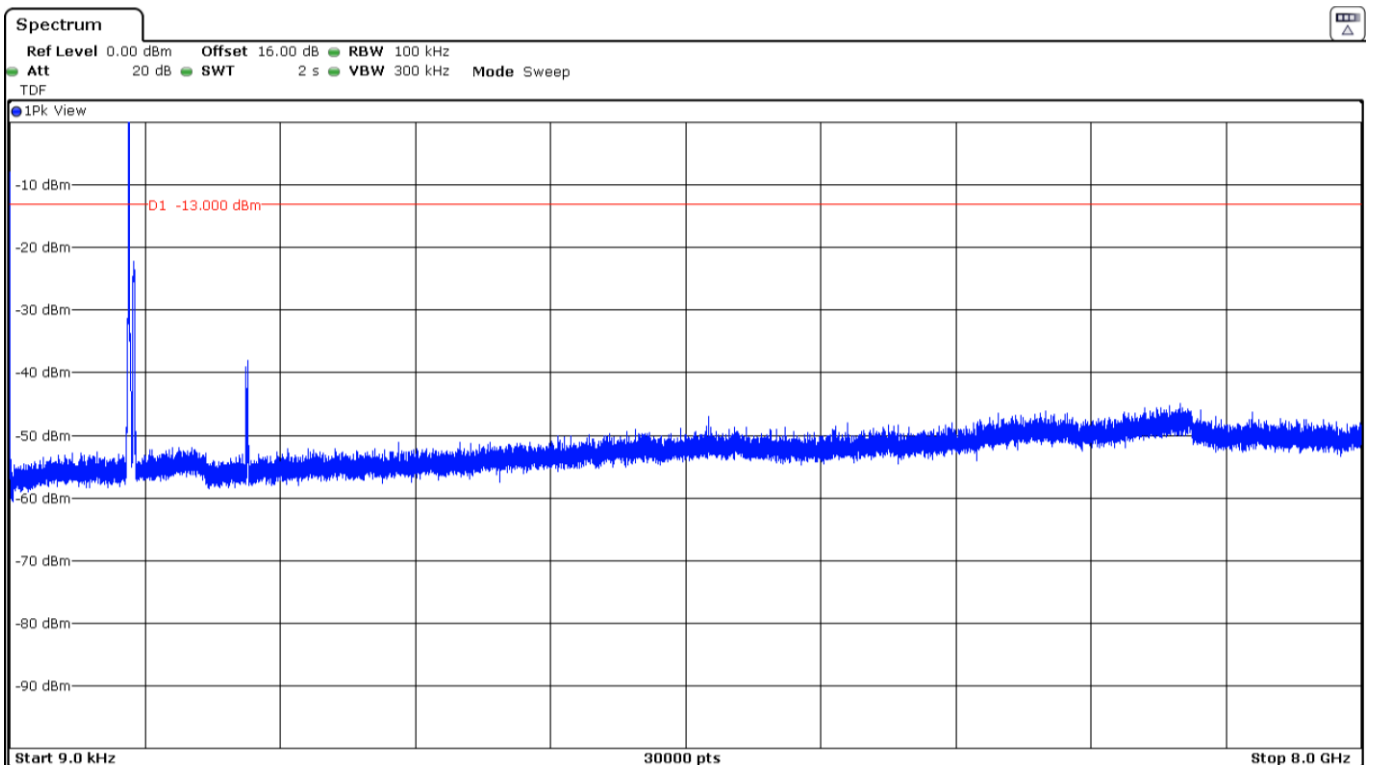
High Channel:



The peak above the limit is the carrier frequency.

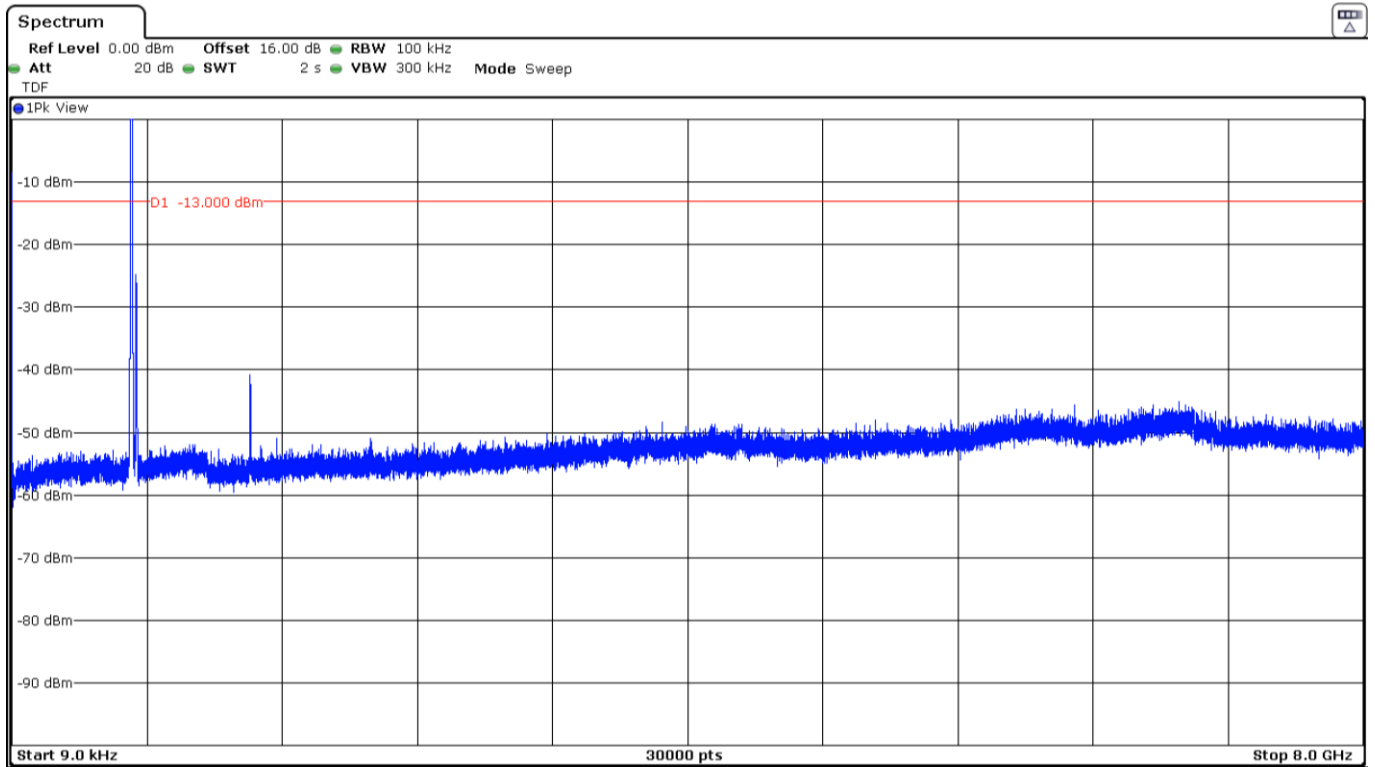
LTE Band 12. QPSK MODULATION. BW = 10 MHz.

Low Channel:



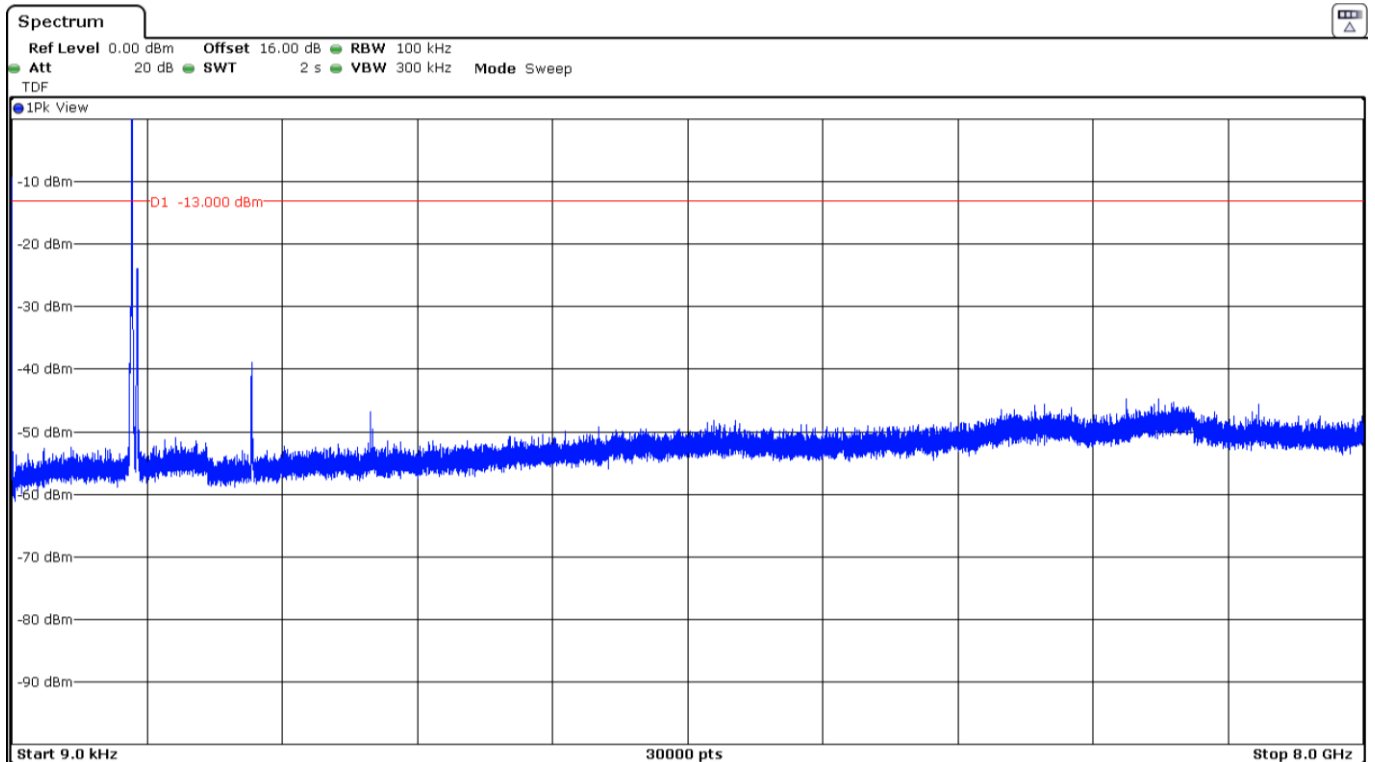
The peak above the limit is the carrier frequency.

Middle Channel:



The peak above the limit is the carrier frequency.

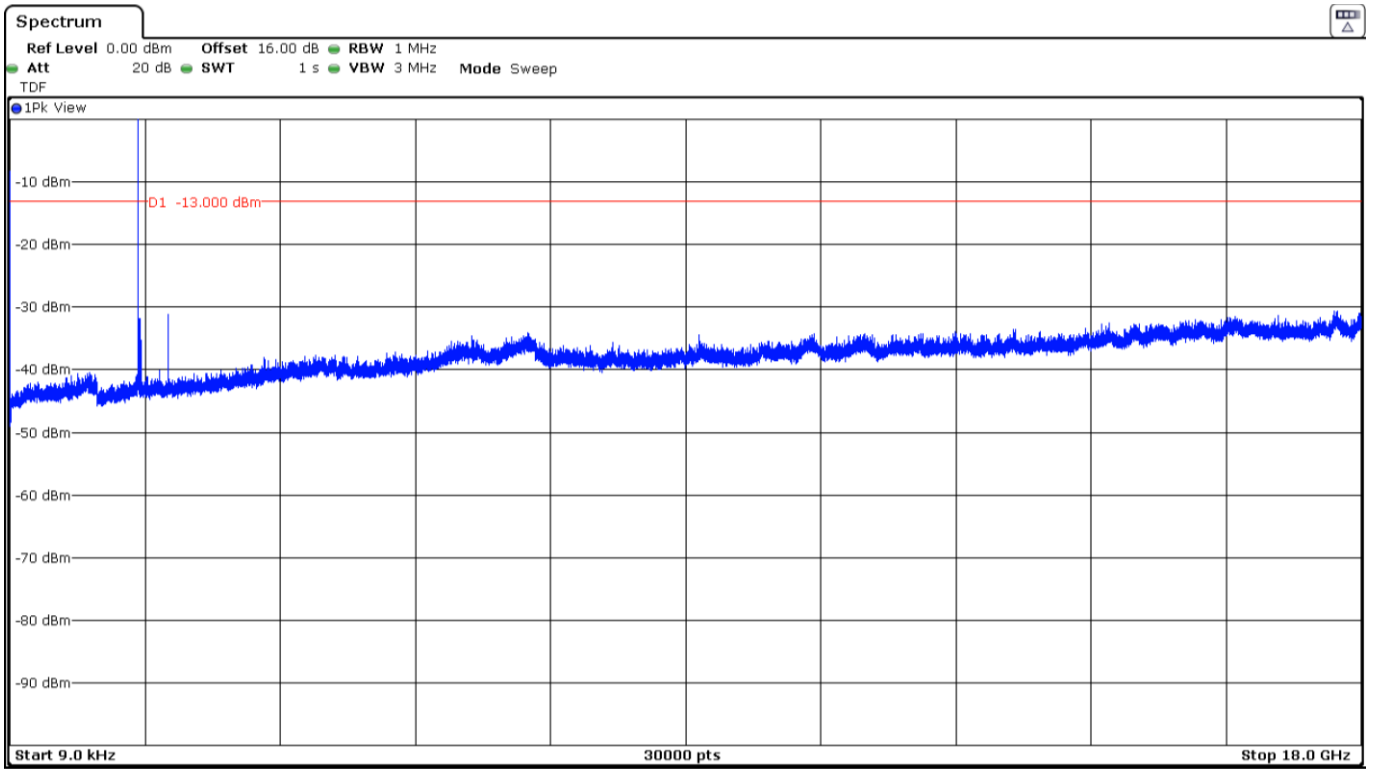
High Channel:



The peak above the limit is the carrier frequency.

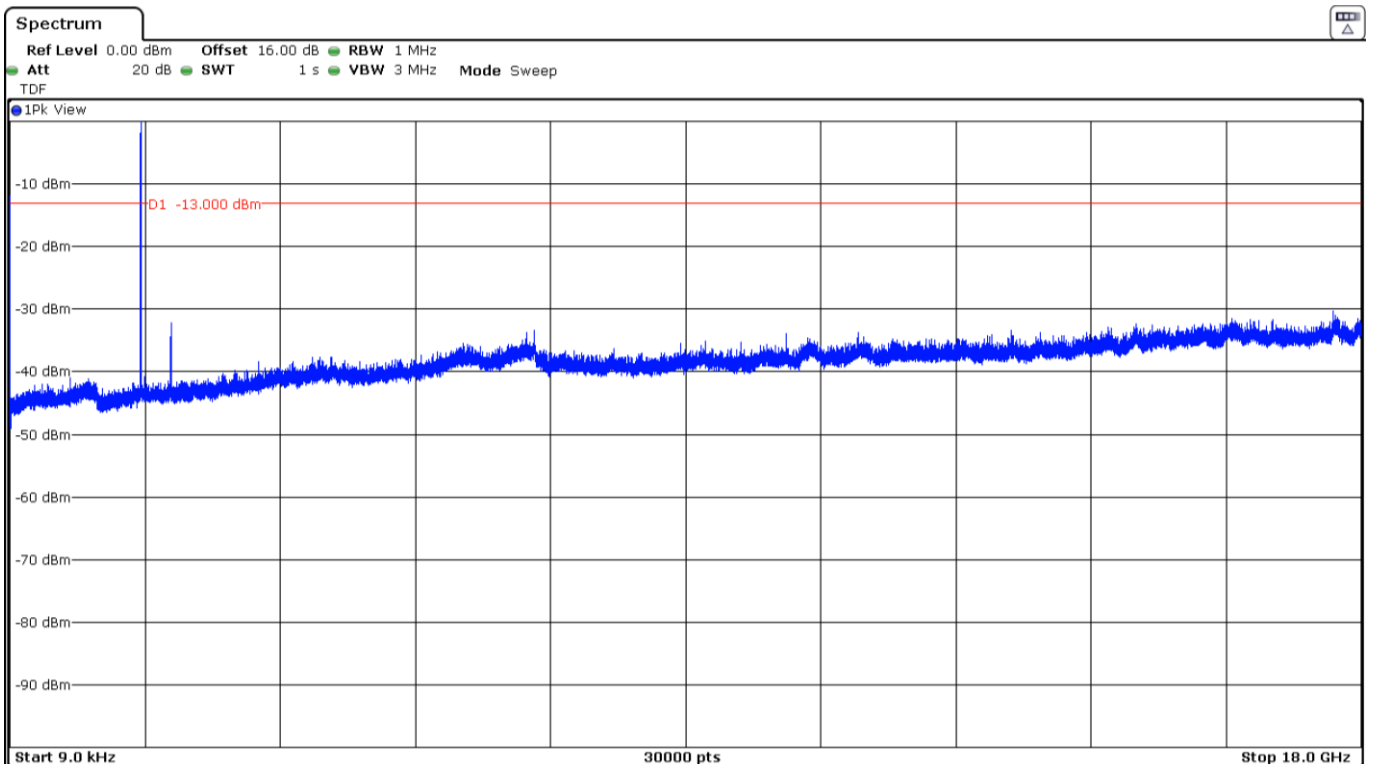
LTE Band 66. QPSK MODULATION. BW = 1.4 MHz.

Low Channel:



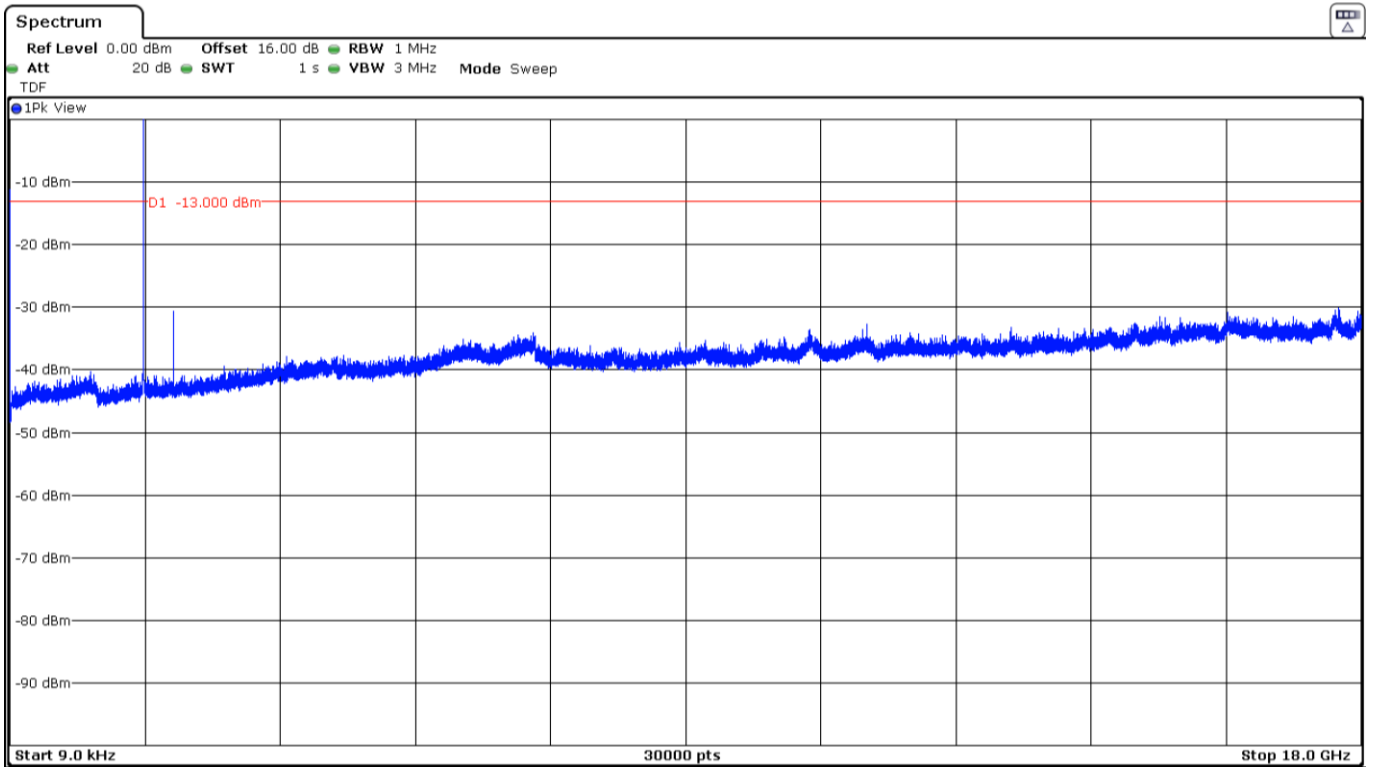
The peak above the limit is the carrier frequency.

Middle Channel:



The peak above the limit is the carrier frequency.

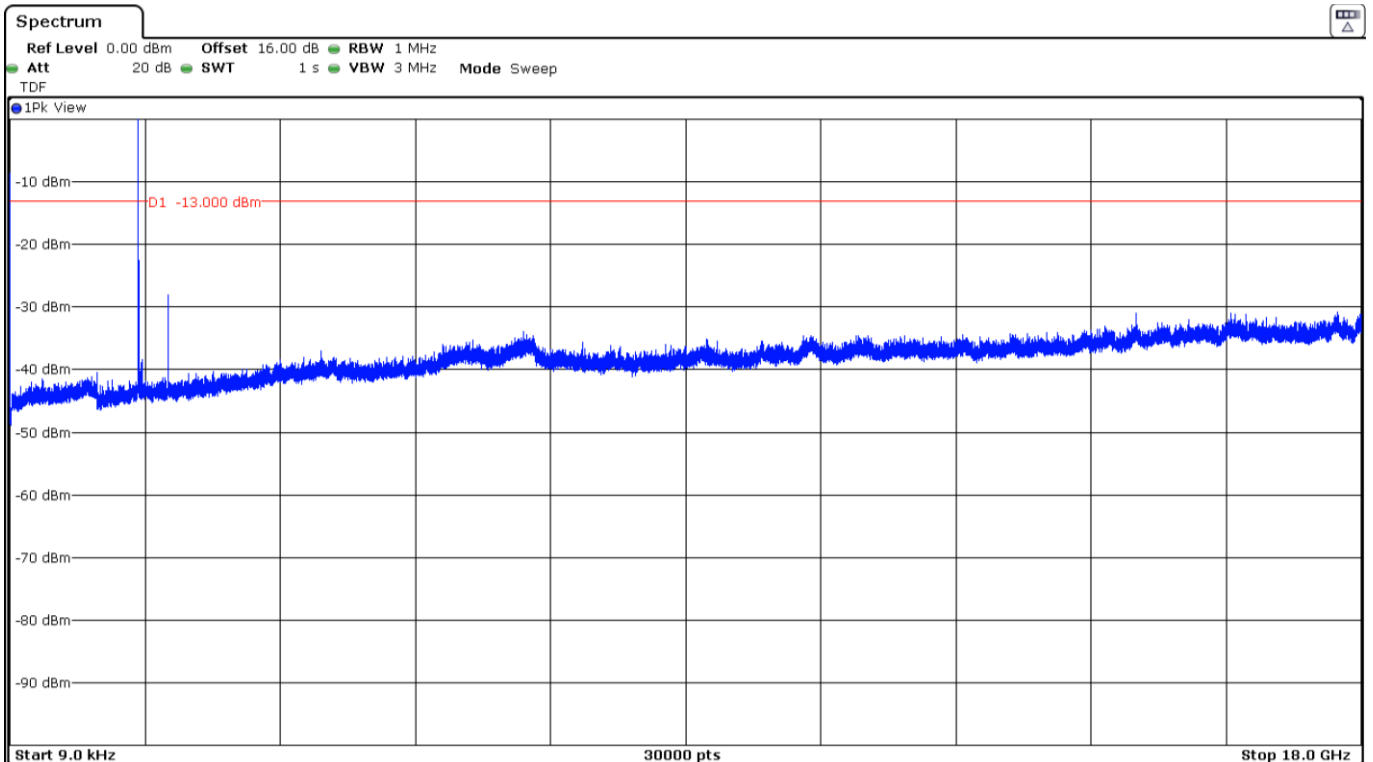
High Channel:



The peak above the limit is the carrier frequency.

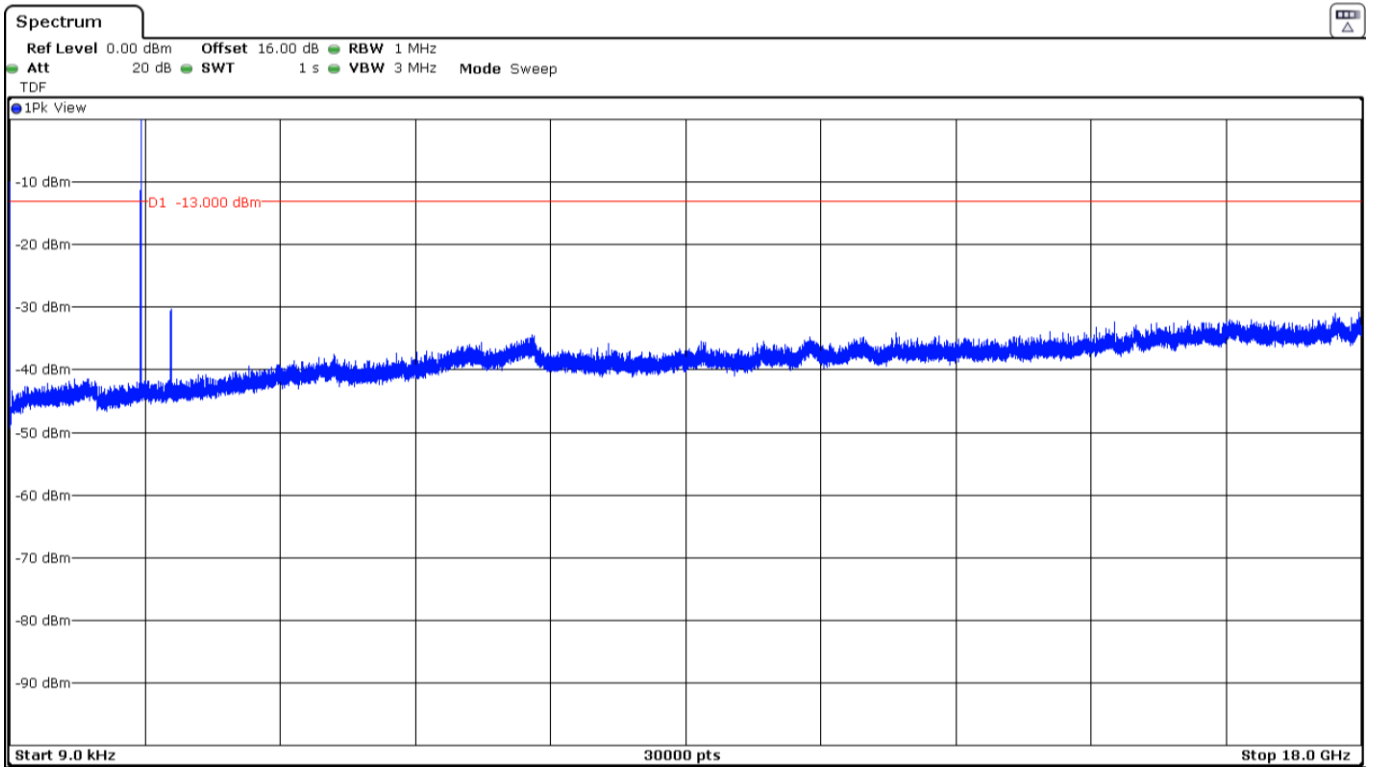
LTE Band 66. QPSK MODULATION. BW = 3 MHz.

Low Channel:



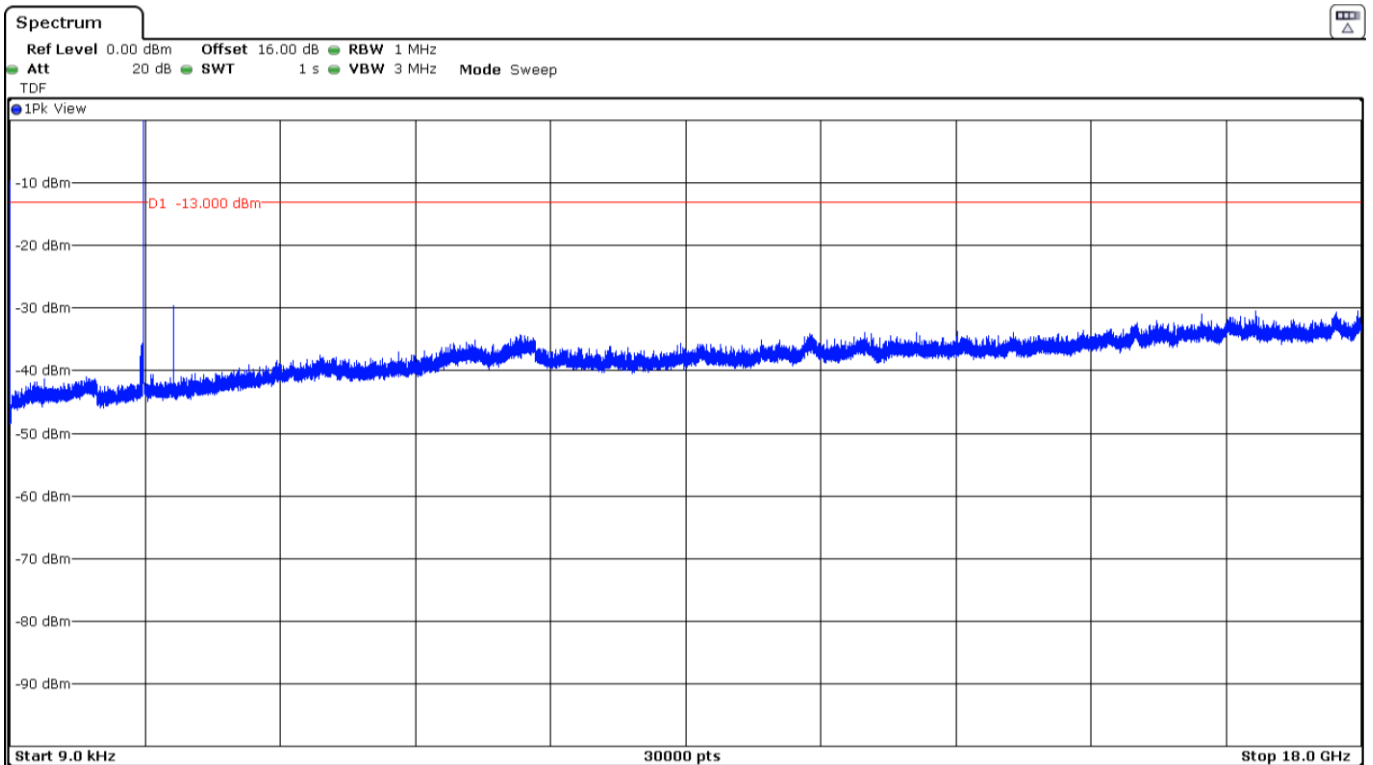
The peak above the limit is the carrier frequency.

Middle Channel:



The peak above the limit is the carrier frequency.

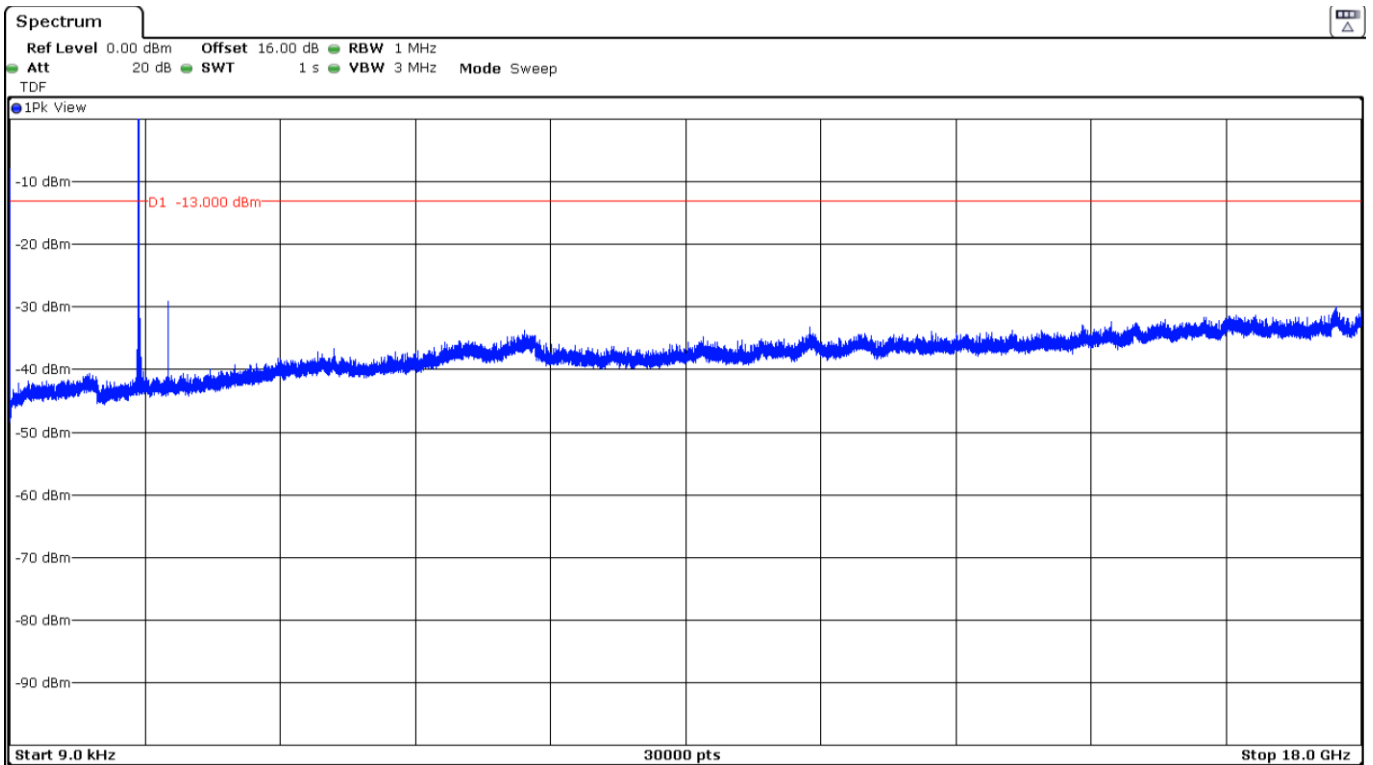
High Channel:



The peak above the limit is the carrier frequency.

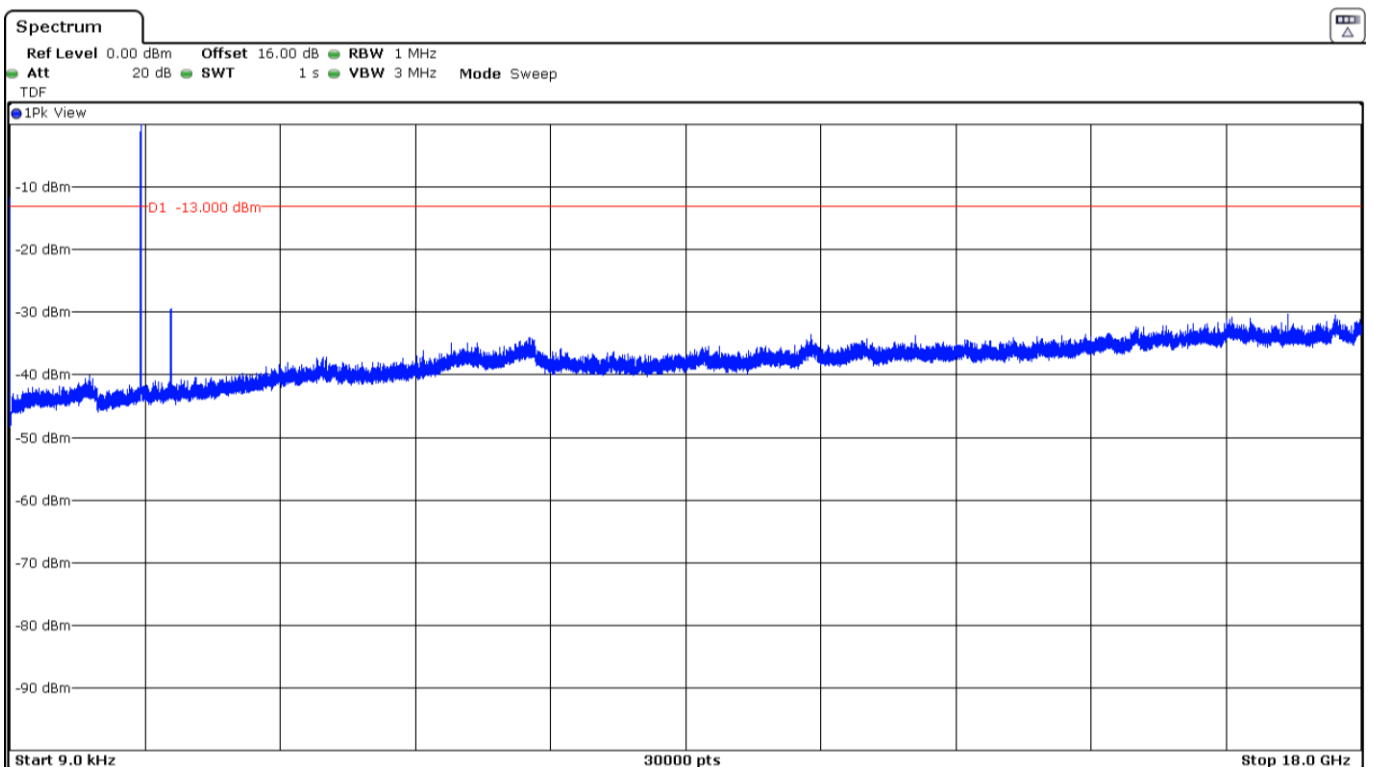
LTE Band 66. QPSK MODULATION. BW = 5 MHz.

Low Channel:



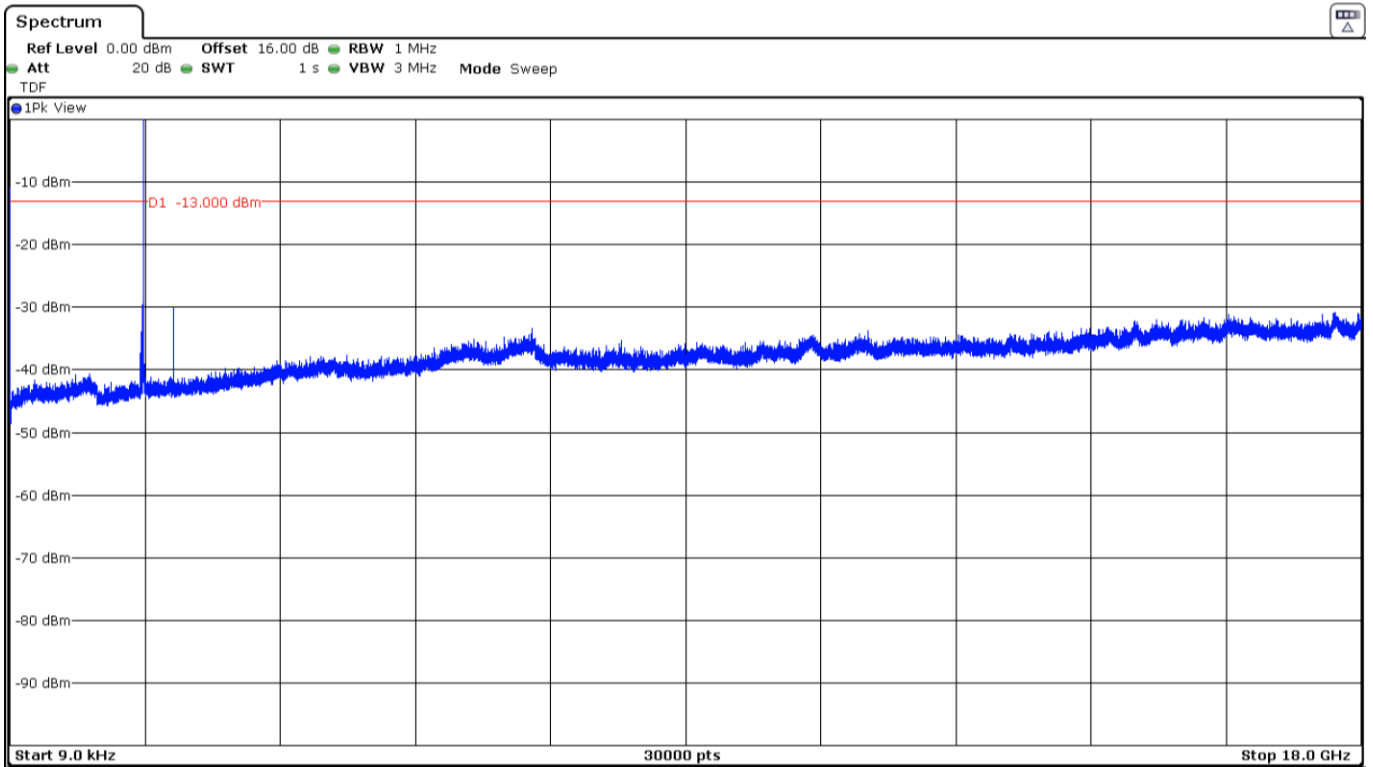
The peak above the limit is the carrier frequency.

Middle:



The peak above the limit is the carrier frequency.

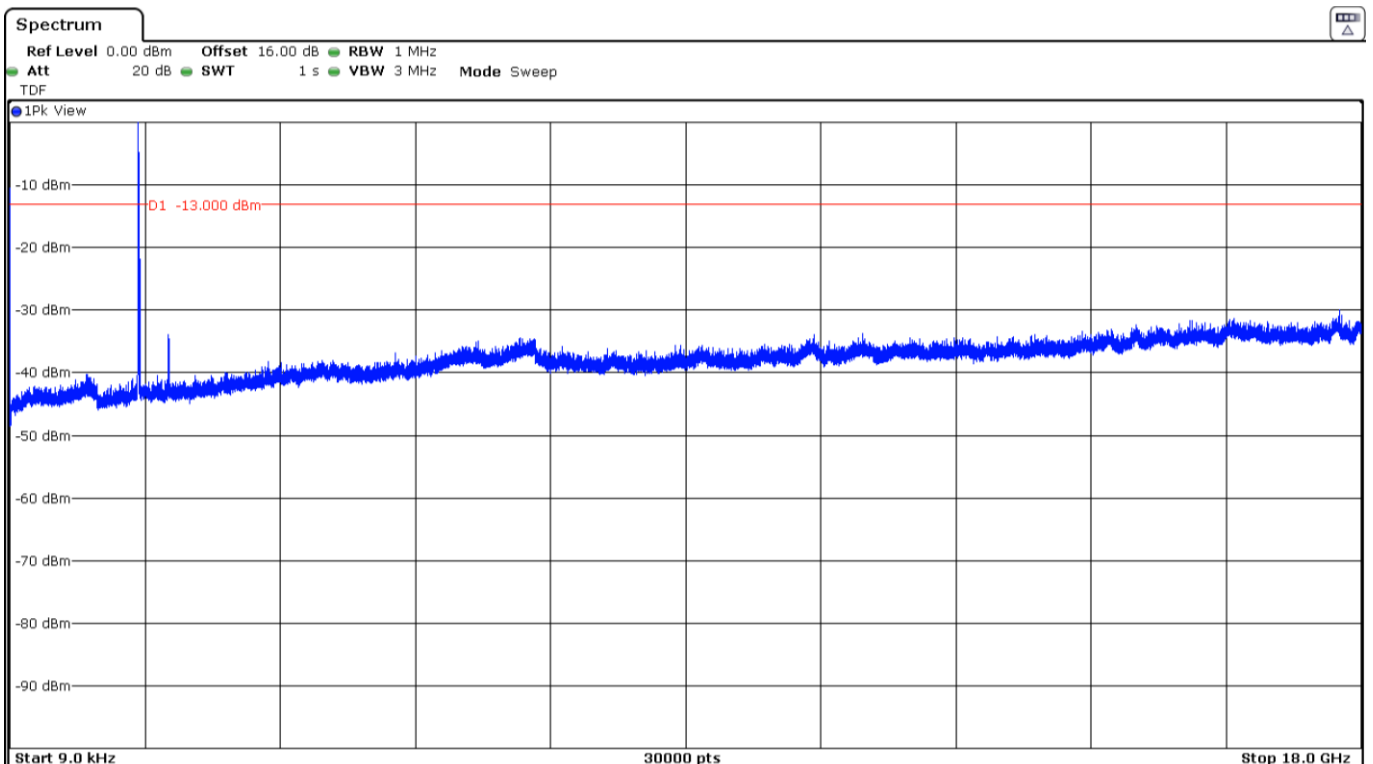
High Channel:



The peak above the limit is the carrier frequency.

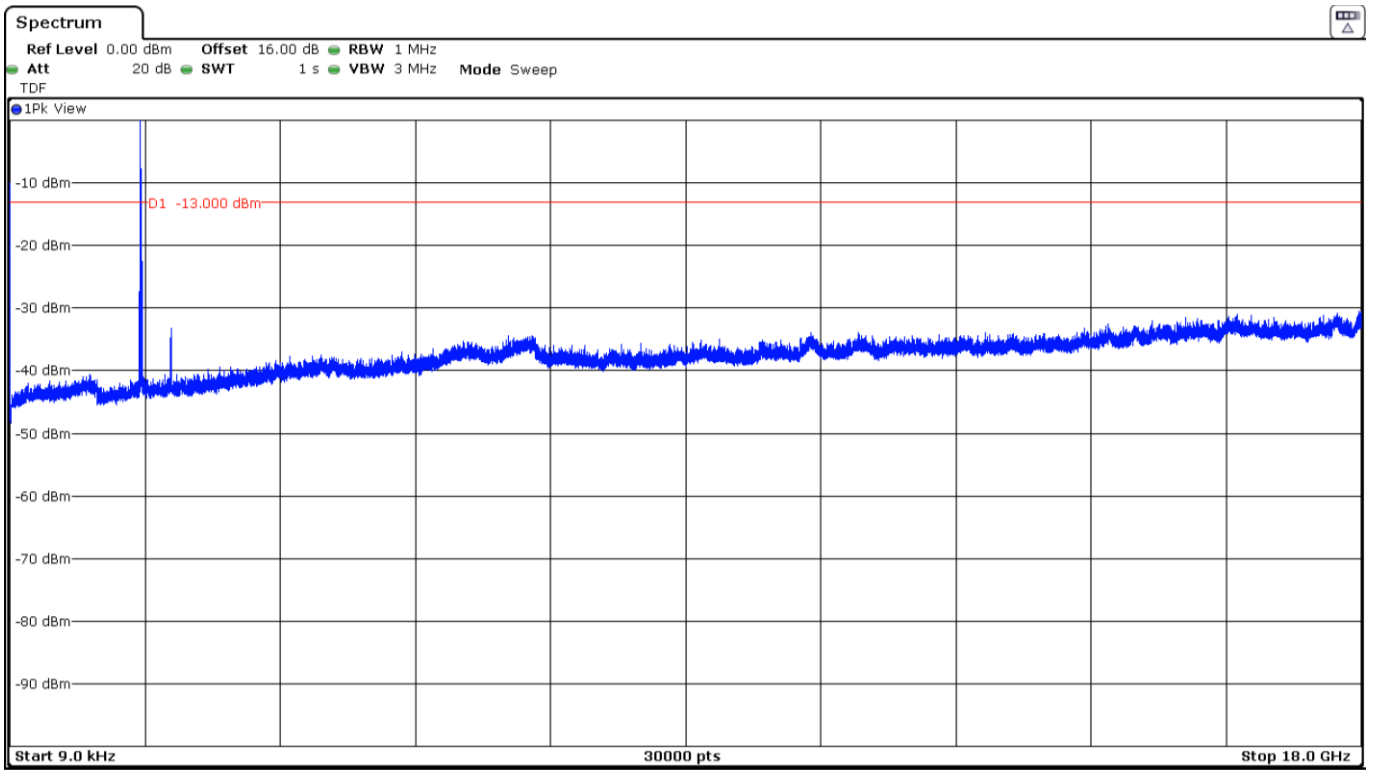
LTE Band 66. QPSK MODULATION. BW = 10 MHz.

Low Channel:



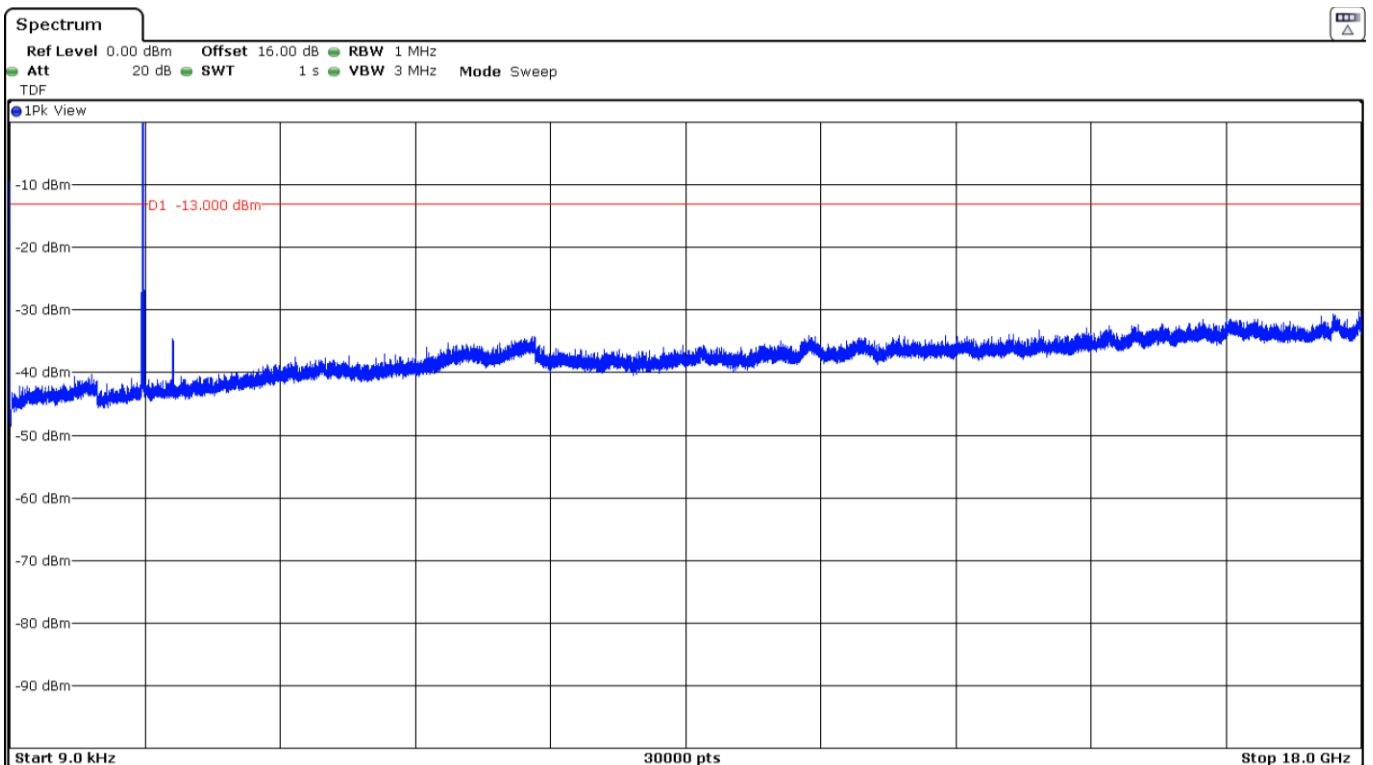
The peak above the limit is the carrier frequency.

Middle Channel:



The peak above the limit is the carrier frequency.

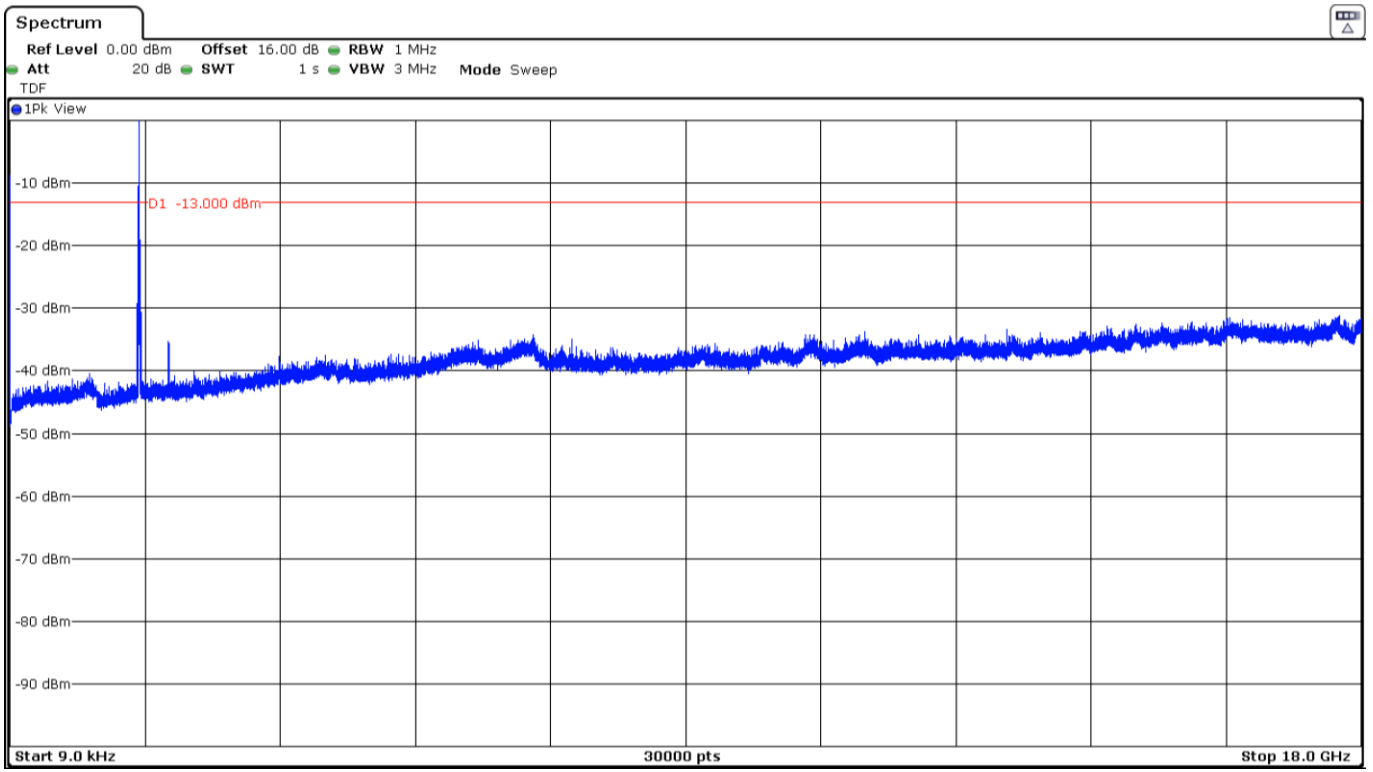
High Channel:



The peak above the limit is the carrier frequency.

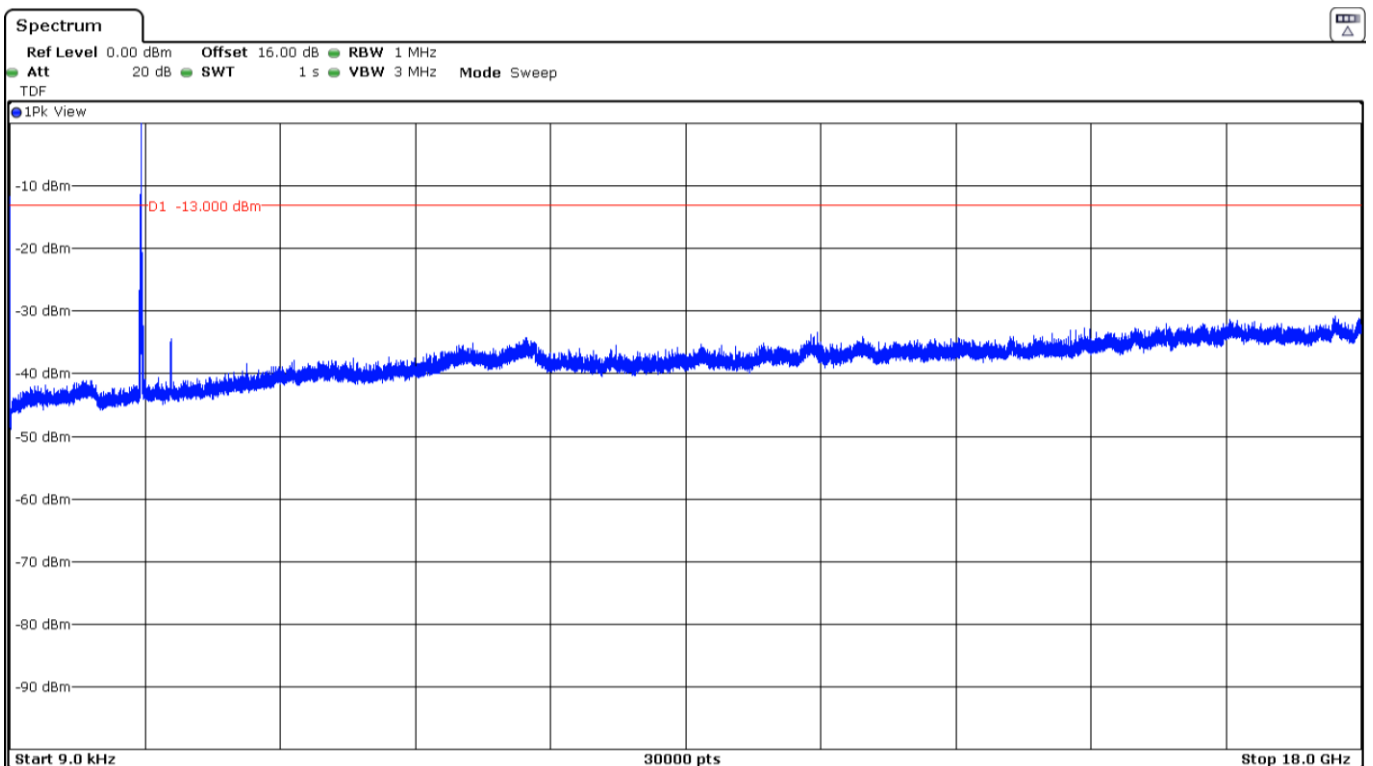
LTE Band 66. QPSK MODULATION. BW = 15 MHz.

Low Channel:



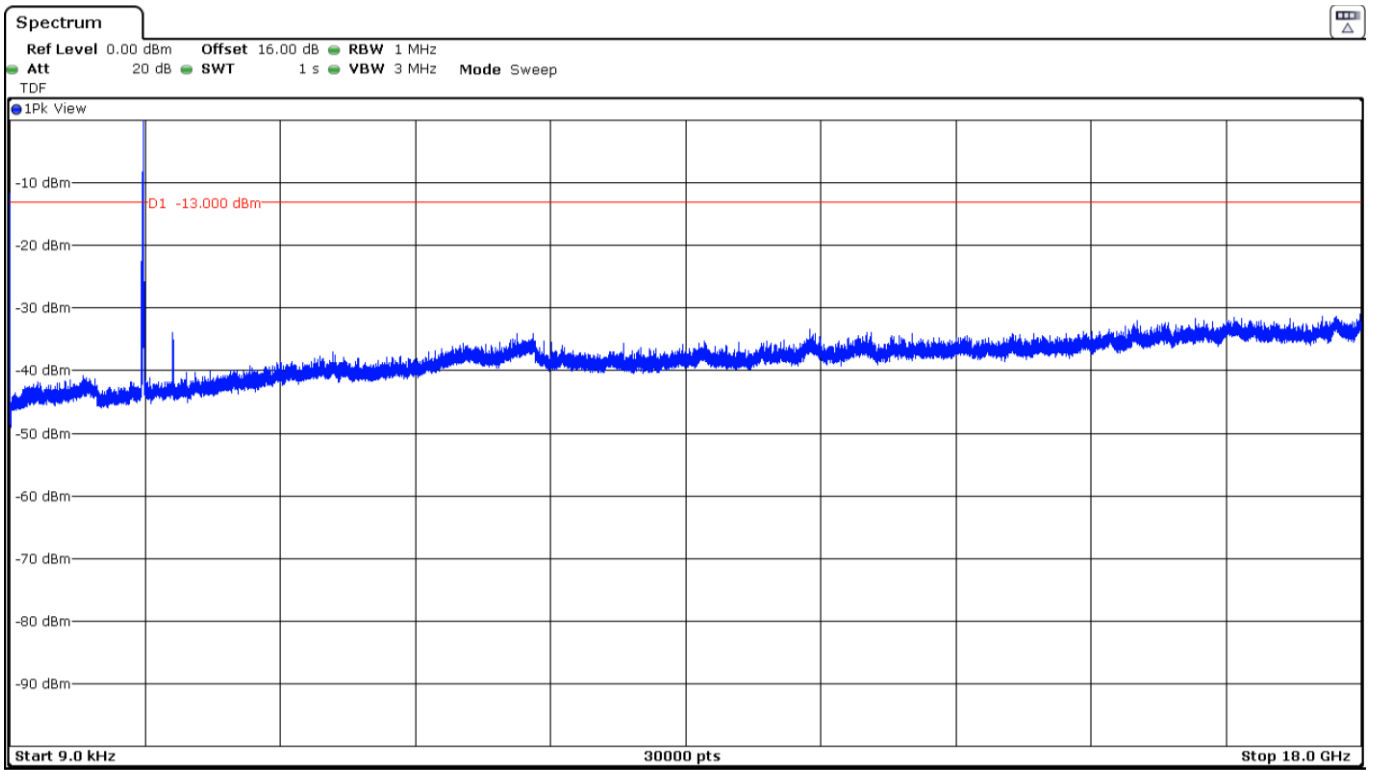
The peak above the limit is the carrier frequency.

Middle Channel:



The peak above the limit is the carrier frequency.

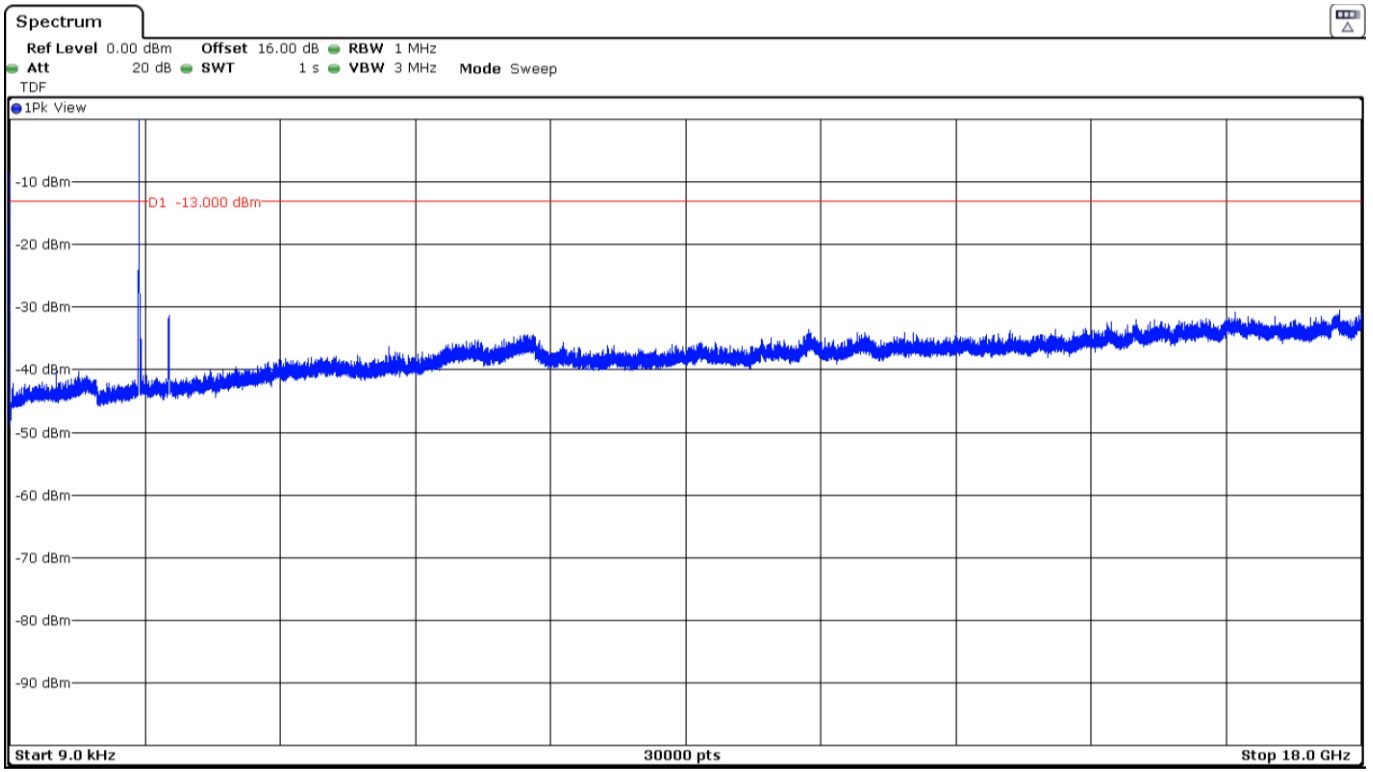
High Channel:



The peak above the limit is the carrier frequency.

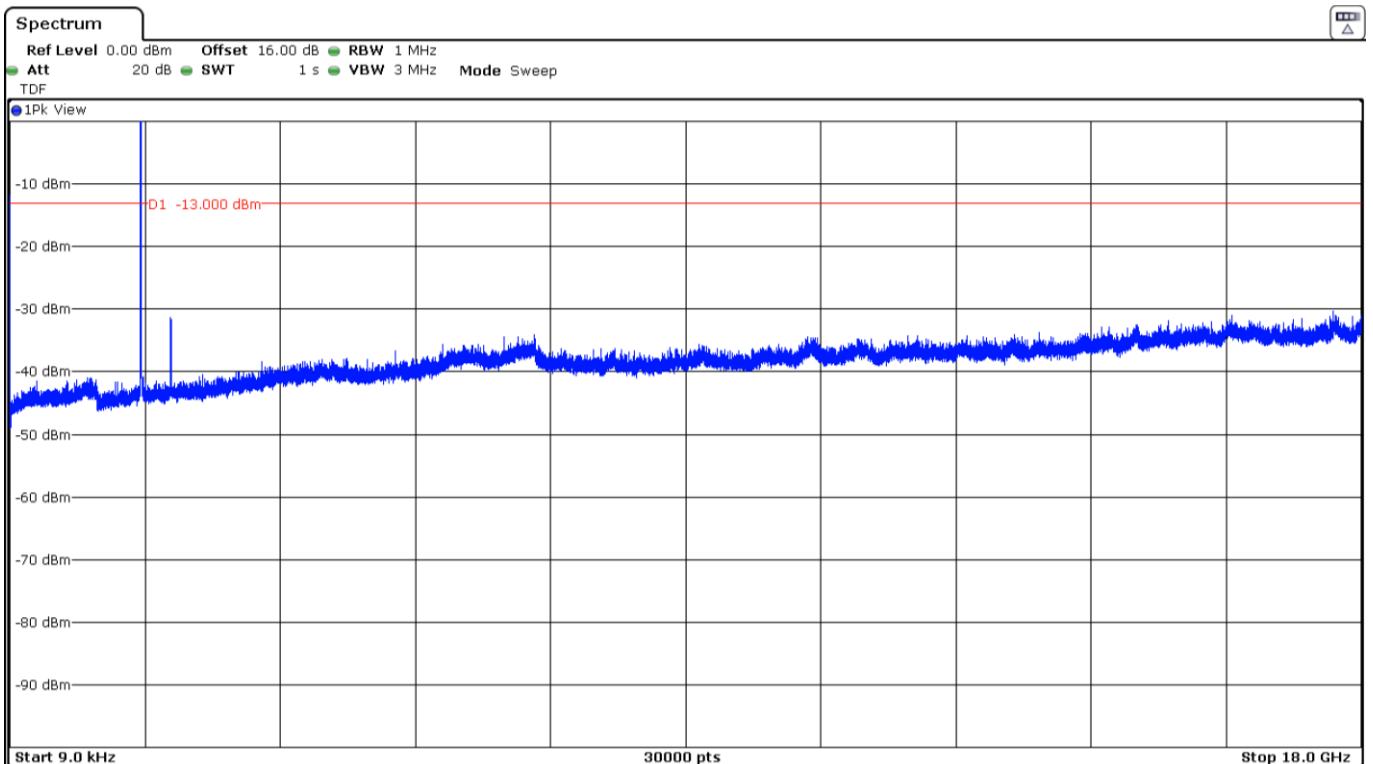
LTE Band 66. QPSK MODULATION. BW = 20 MHz.

Low Channel:



The peak above the limit is the carrier frequency.

Middle Channel:



The peak above the limit is the carrier frequency.