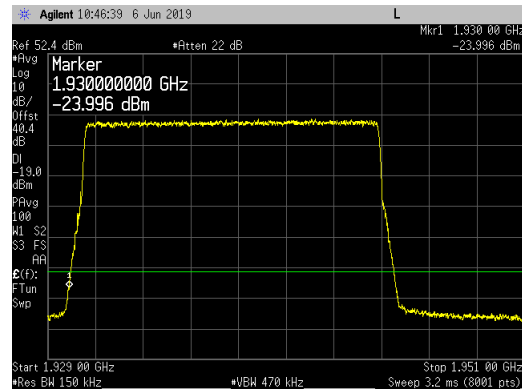
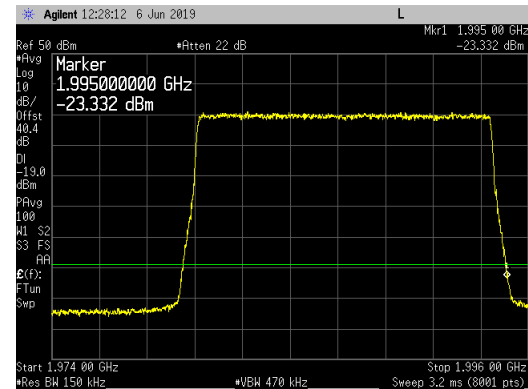


Single Carrier LTE15 Band Edge Plots for Antenna Port 3 and 64QAM Modulation:

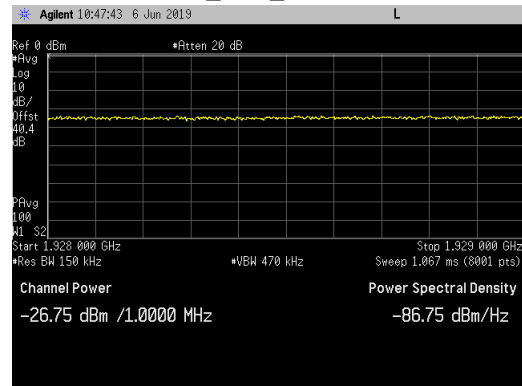
Bottom Channel_ LBE_ 1929 to 1951MHz



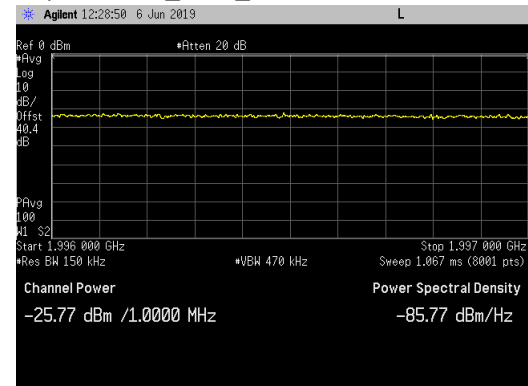
Top Channel_ UBE_ 1974 to 1996MHz



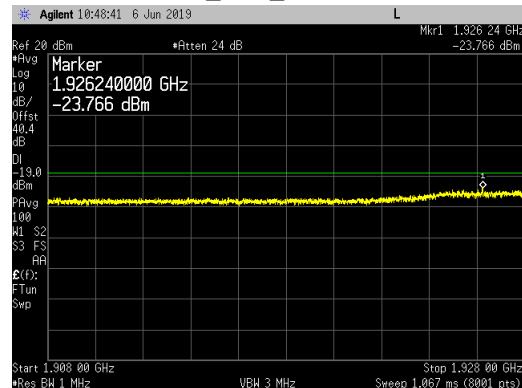
Bottom Channel_ LBE_ 1928 to 1929MHz



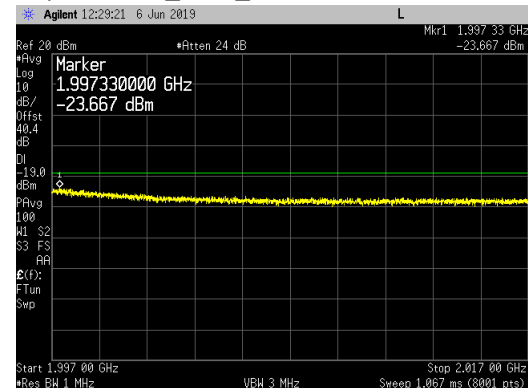
Top Channel_ UBE_ 1996 to 1997MHz



Bottom Channel_ LBE_ 1908 to 1928MHz

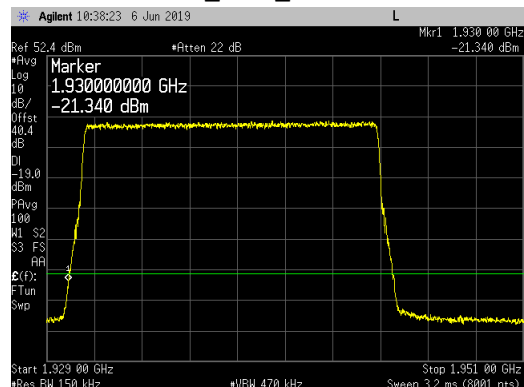


Top Channel_ UBE_ 1997 to 2017MHz

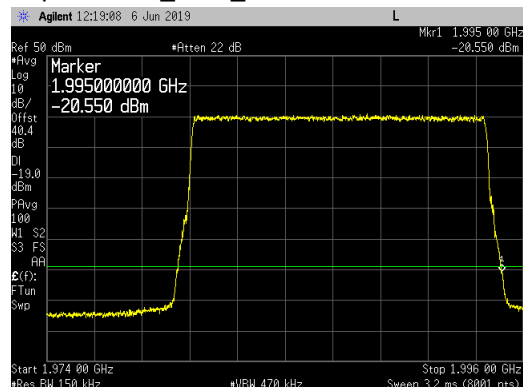


Single Carrier LTE15 Band Edge Plots for Antenna Port 3 and 256QAM Modulation:

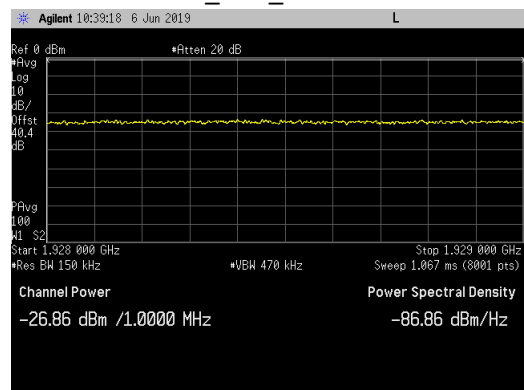
Bottom Channel_ LBE_ 1929 to 1951MHz



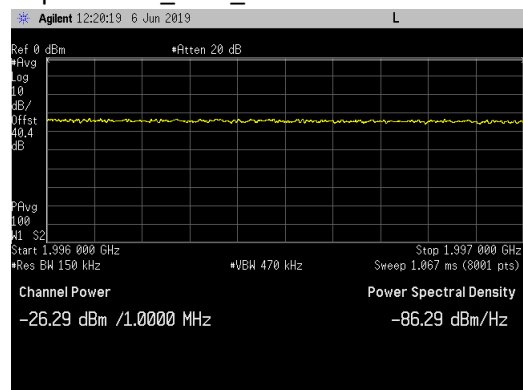
Top Channel_ UBE_ 1974 to 1996MHz



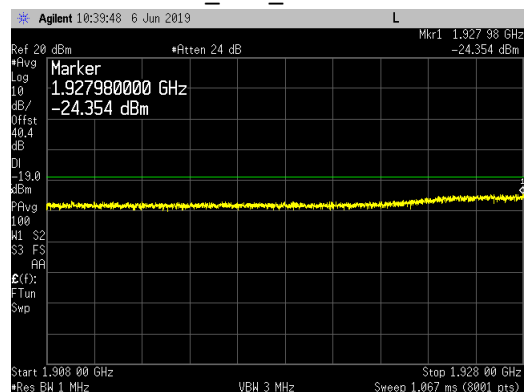
Bottom Channel_ LBE_ 1928 to 1929MHz



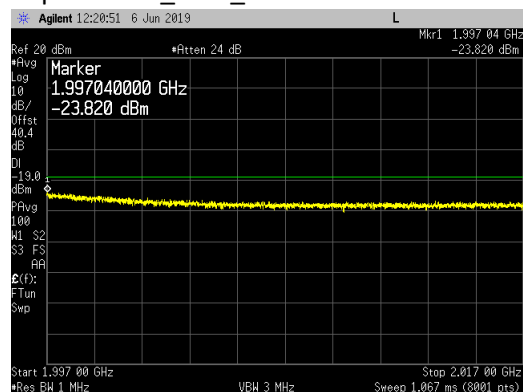
Top Channel_ UBE_ 1996 to 1997MHz



Bottom Channel_ LBE_ 1908 to 1928MHz

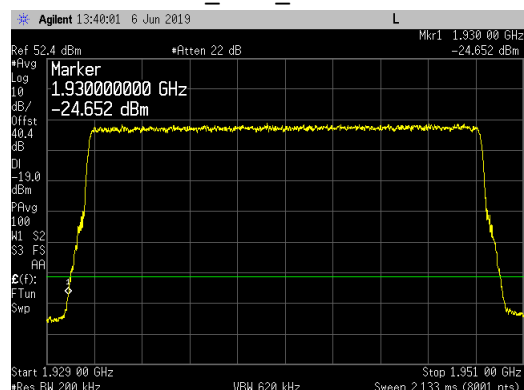


Top Channel_ UBE_ 1997 to 2017MHz

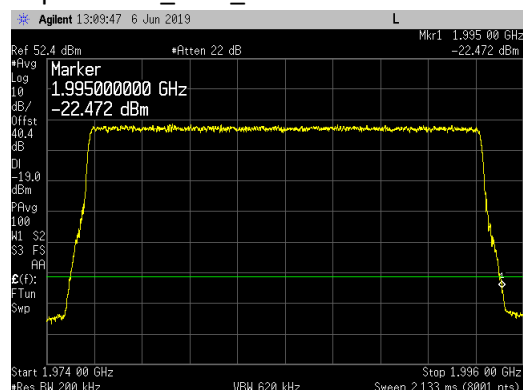


Single Carrier LTE20 Band Edge Plots for Antenna Port 3 and QPSK Modulation:

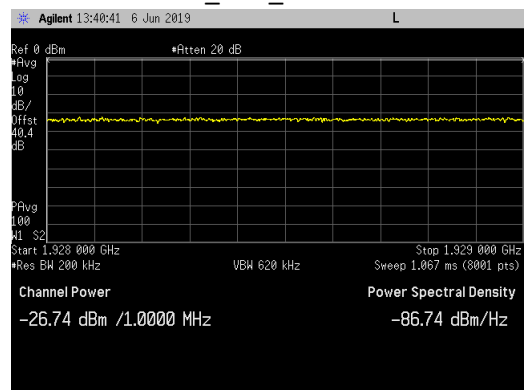
Bottom Channel_ LBE_ 1929 to 1951MHz



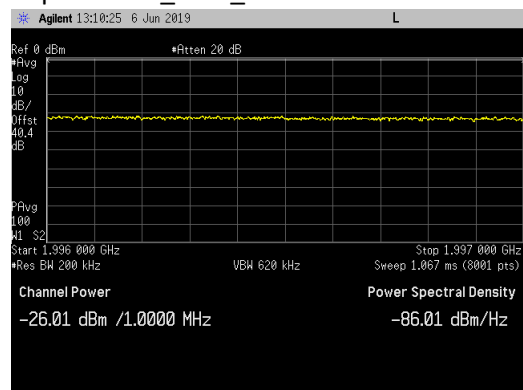
Top Channel_ UBE_ 1974 to 1996MHz



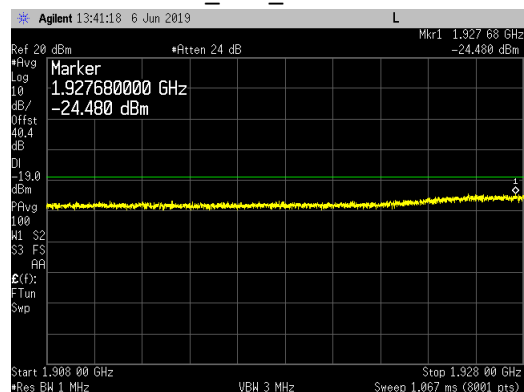
Bottom Channel_ LBE_ 1928 to 1929MHz



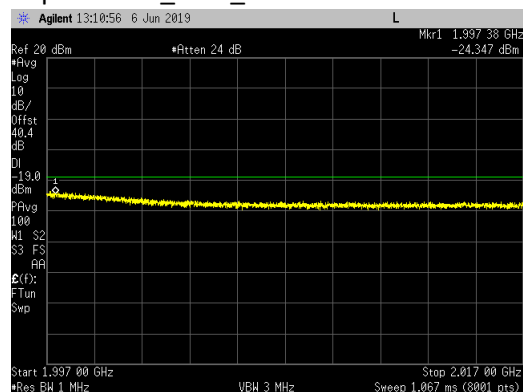
Top Channel_ UBE_ 1996 to 1997MHz



Bottom Channel_ LBE_ 1908 to 1928MHz

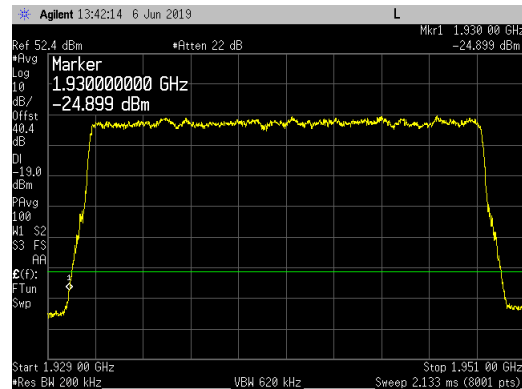


Top Channel_ UBE_ 1997 to 2017MHz

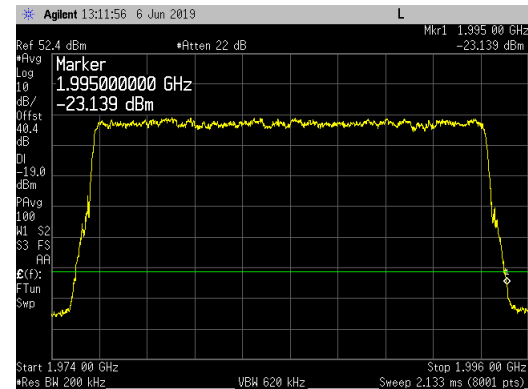


Single Carrier LTE20 Band Edge Plots for Antenna Port 3 and 16QAM Modulation:

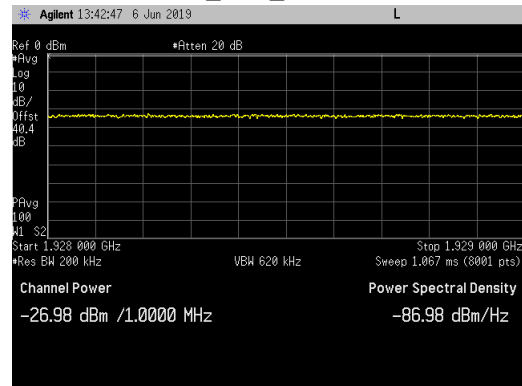
Bottom Channel_ LBE_ 1929 to 1951MHz



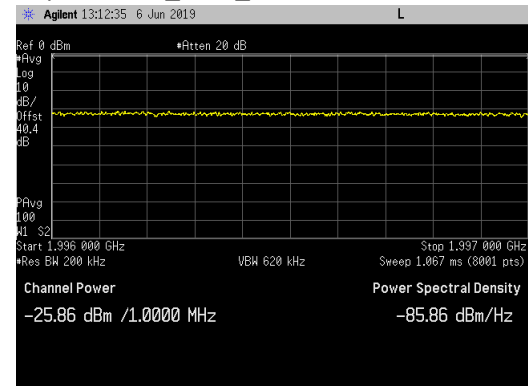
Top Channel_ UBE_ 1974 to 1996MHz



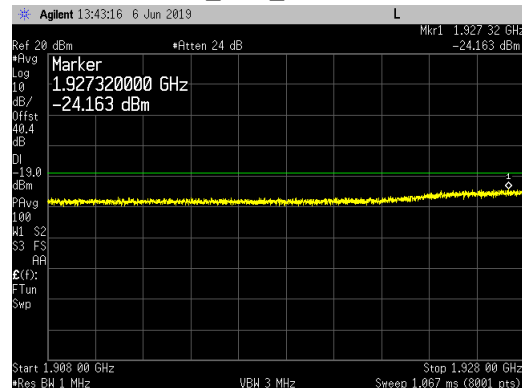
Bottom Channel_ LBE_ 1928 to 1929MHz



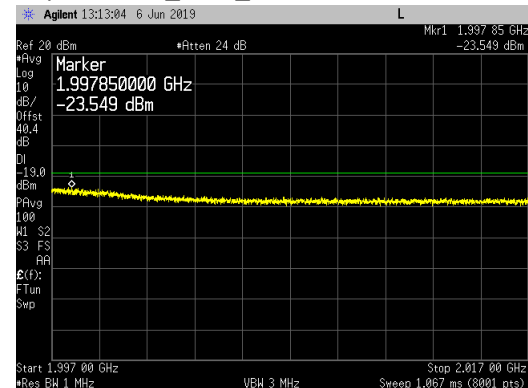
Top Channel_ UBE_ 1996 to 1997MHz



Bottom Channel_ LBE_ 1908 to 1928MHz

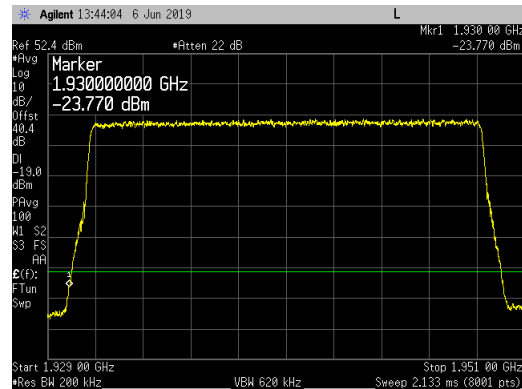


Top Channel_ UBE_ 1997 to 2017MHz

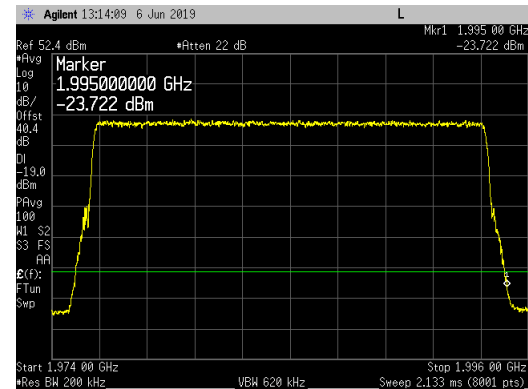


Single Carrier LTE20 Band Edge Plots for Antenna Port 3 and 64QAM Modulation:

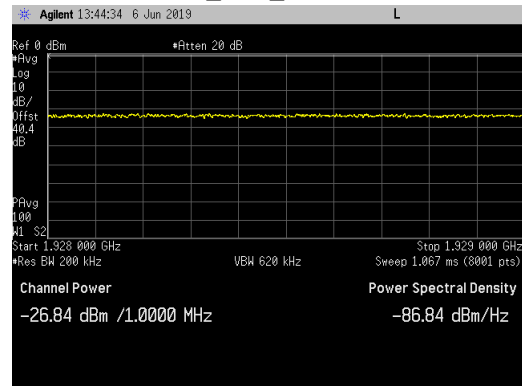
Bottom Channel_ LBE_ 1929 to 1951MHz



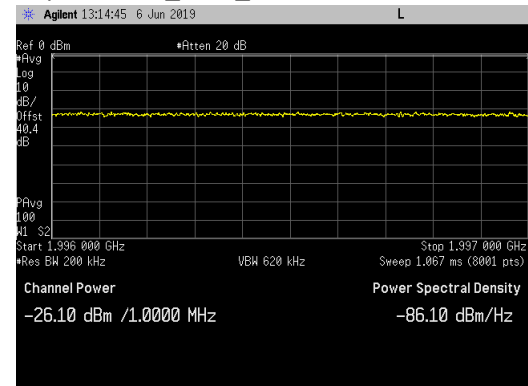
Top Channel_ UBE_ 1974 to 1996MHz



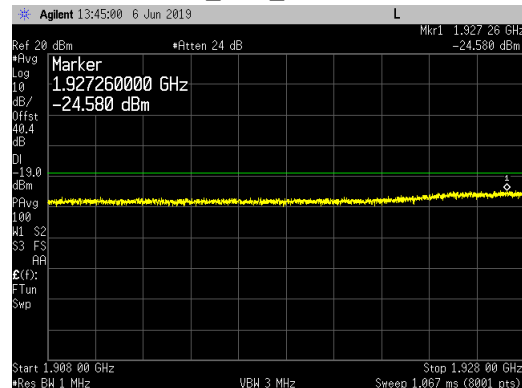
Bottom Channel_ LBE_ 1928 to 1929MHz



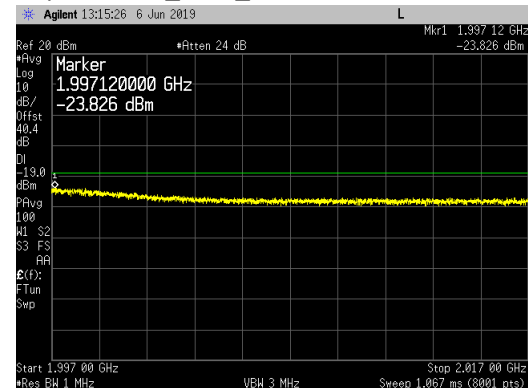
Top Channel_ UBE_ 1996 to 1997MHz



Bottom Channel_ LBE_ 1908 to 1928MHz

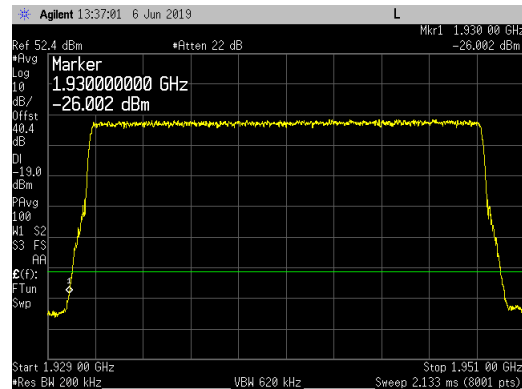


Top Channel_ UBE_ 1997 to 2017MHz

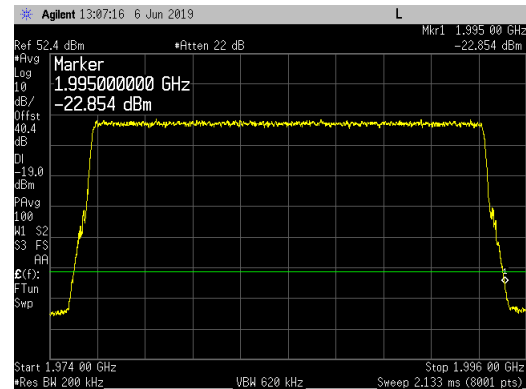


Single Carrier LTE20 Band Edge Plots for Antenna Port 3 and 256QAM Modulation:

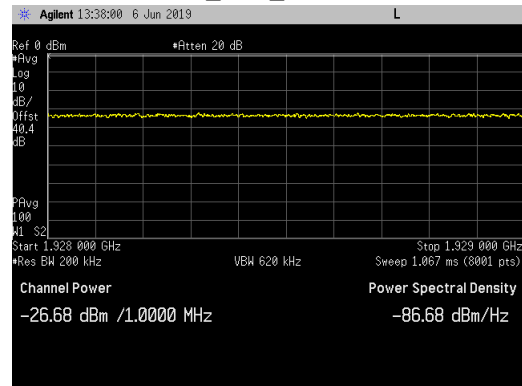
Bottom Channel_ LBE_ 1929 to 1951MHz



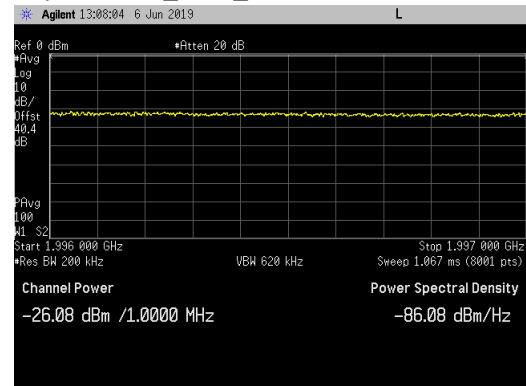
Top Channel_ UBE_ 1974 to 1996MHz



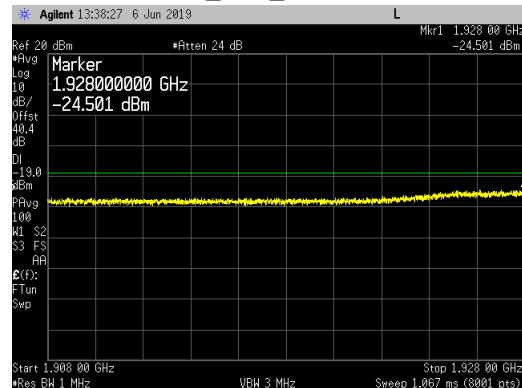
Bottom Channel_ LBE_ 1928 to 1929MHz



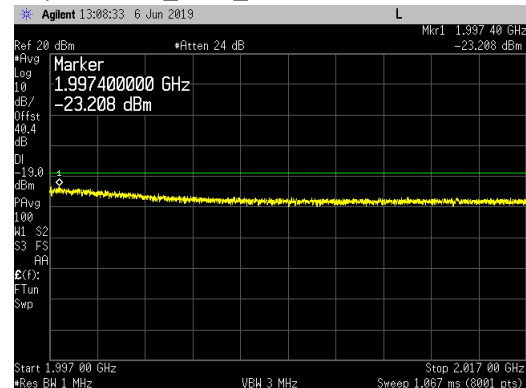
Top Channel_ UBE_ 1996 to 1997MHz



Bottom Channel_ LBE_ 1908 to 1928MHz

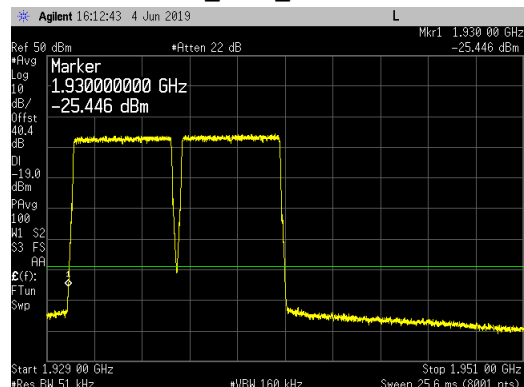


Top Channel_ UBE_ 1997 to 2017MHz

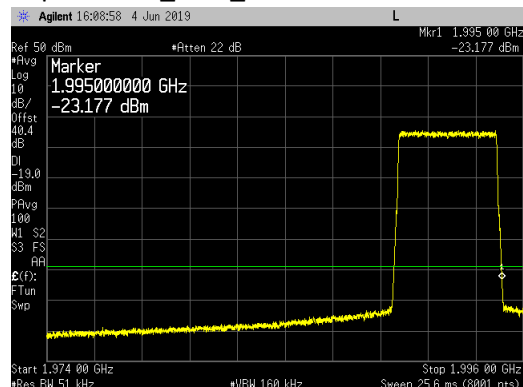


PCS Band Multicarrier LTE5 Band Edge Plots for Antenna Port 3 and QPSK Modulation:

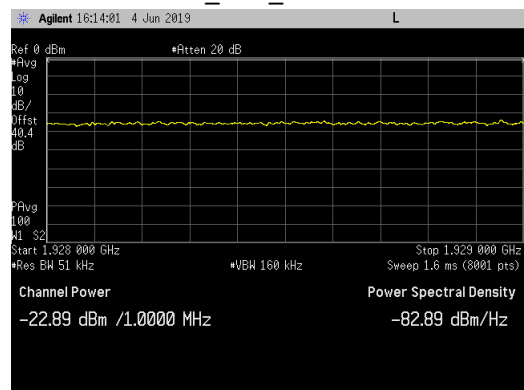
Bottom Channel_ LBE_ 1929 to 1951MHz



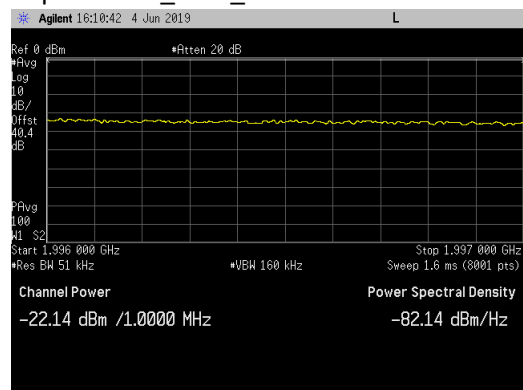
Top Channel_ UBE_ 1974 to 1996MHz



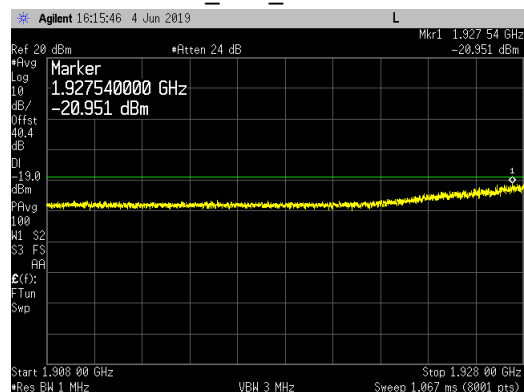
Bottom Channel_ LBE_ 1928 to 1929MHz



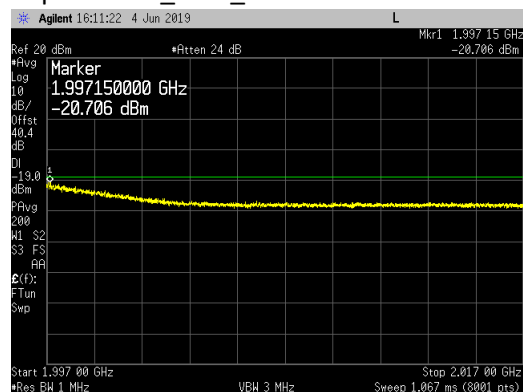
Top Channel_ UBE_ 1996 to 1997MHz



Bottom Channel_ LBE_ 1908 to 1928MHz

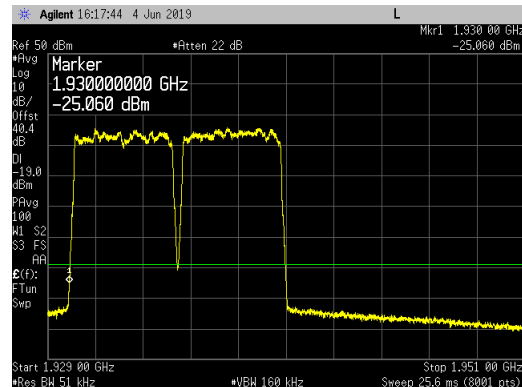


Top Channel_ UBE_ 1997 to 2017MHz

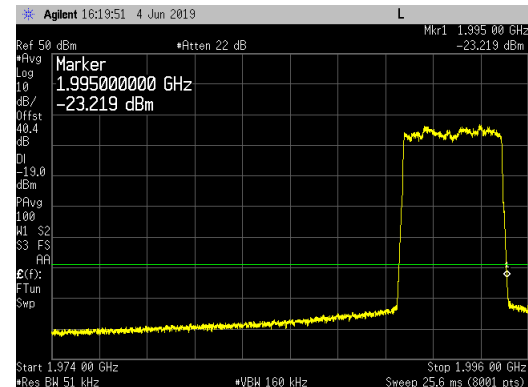


PCS Band Multicarrier LTE5 Band Edge Plots for Antenna Port 3 and 16QAM Modulation:

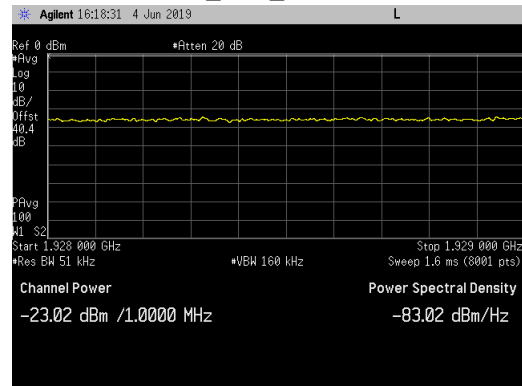
Bottom Channel_ LBE_ 1929 to 1951MHz



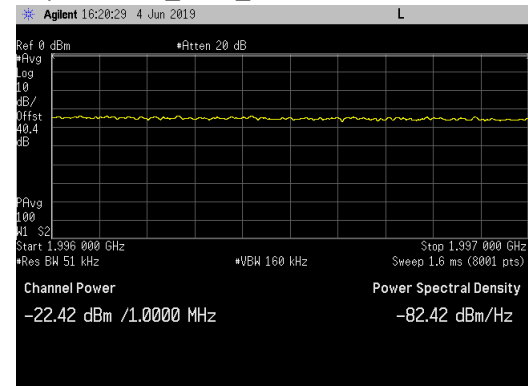
Top Channel_ UBE_ 1974 to 1996MHz



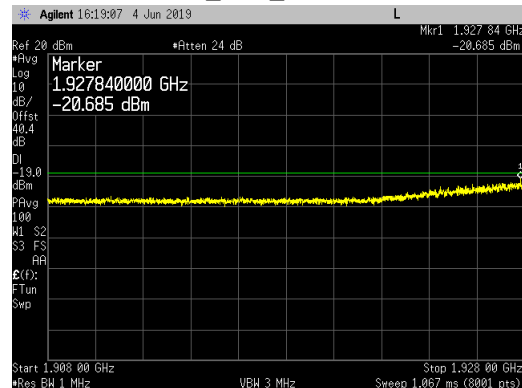
Bottom Channel_ LBE_ 1928 to 1929MHz



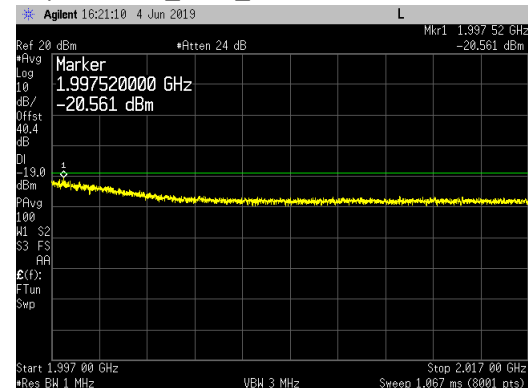
Top Channel_ UBE_ 1996 to 1997MHz



Bottom Channel_ LBE_ 1908 to 1928MHz

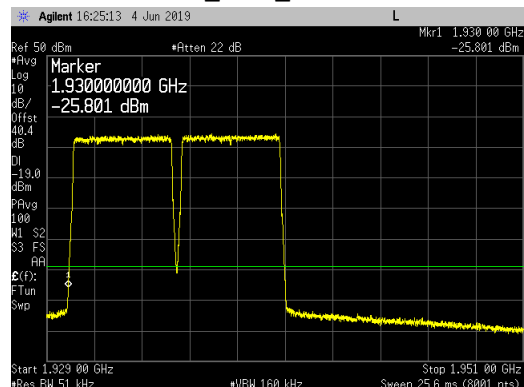


Top Channel_ UBE_ 1997 to 2017MHz

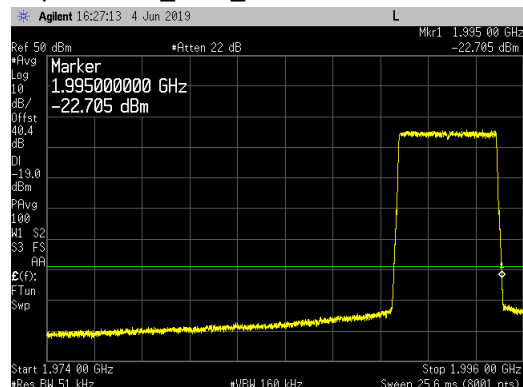


PCS Band Multicarrier LTE5 Band Edge Plots for Antenna Port 3 and 64QAM Modulation:

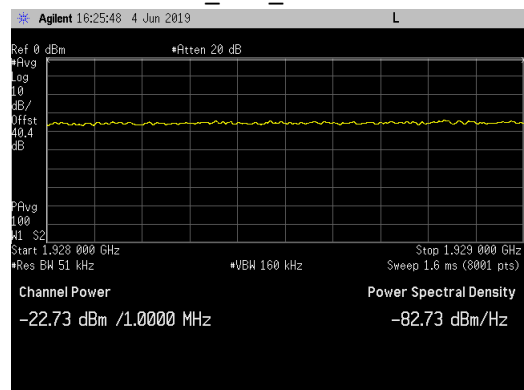
Bottom Channel_ LBE_ 1929 to 1951MHz



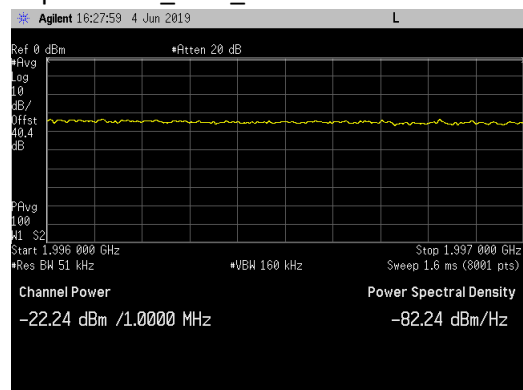
Top Channel_ UBE_ 1974 to 1996MHz



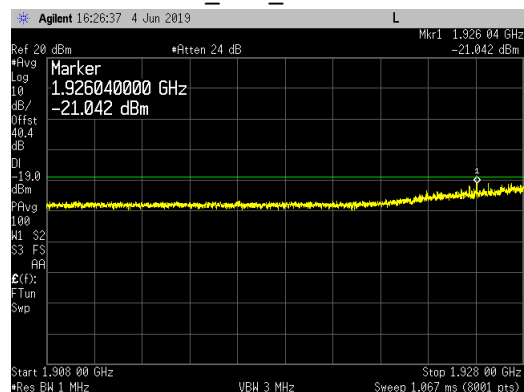
Bottom Channel_ LBE_ 1928 to 1929MHz



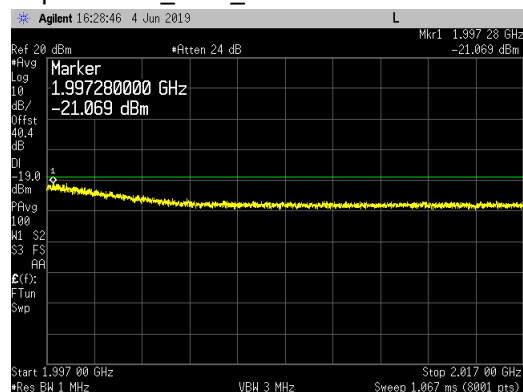
Top Channel_ UBE_ 1996 to 1997MHz



Bottom Channel_ LBE_ 1908 to 1928MHz

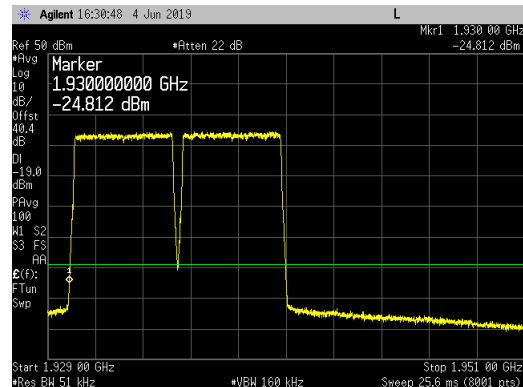


Top Channel_ UBE_ 1997 to 2017MHz

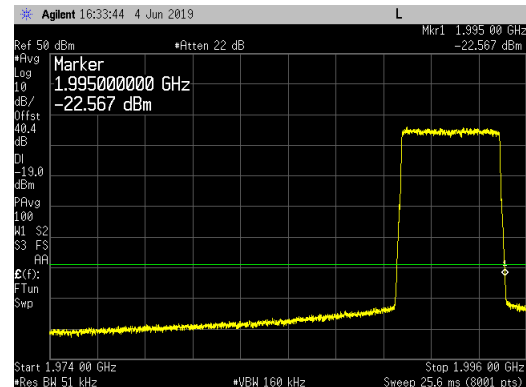


PCS Band Multicarrier LTE5 Band Edge Plots for Antenna Port 3 and 256QAM Modulation:

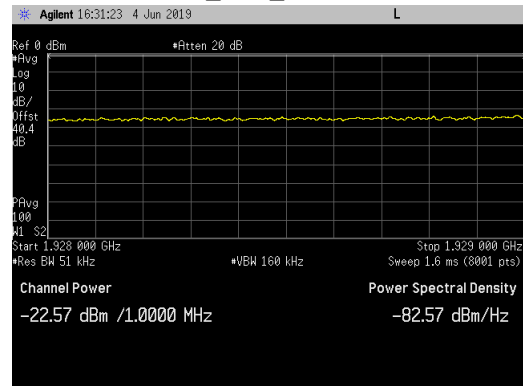
Bottom Channel_ LBE_ 1929 to 1951MHz



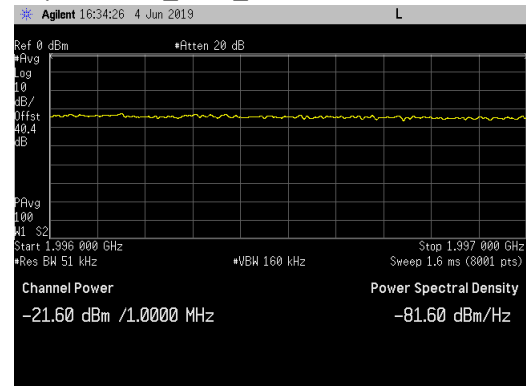
Top Channel_ UBE_ 1974 to 1996MHz



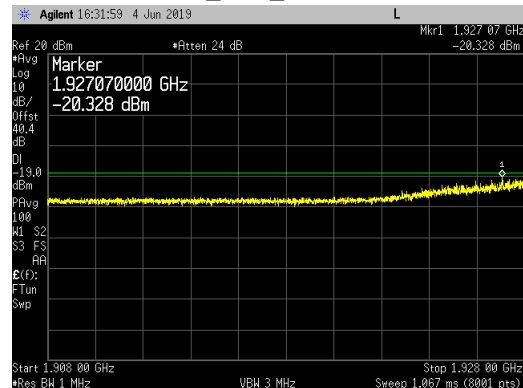
Bottom Channel_ LBE_ 1928 to 1929MHz



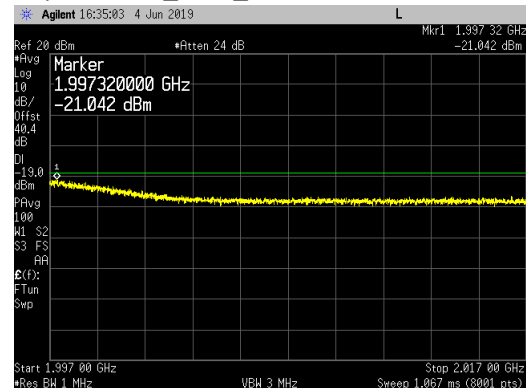
Top Channel_ UBE_ 1996 to 1997MHz



Bottom Channel_ LBE_ 1908 to 1928MHz

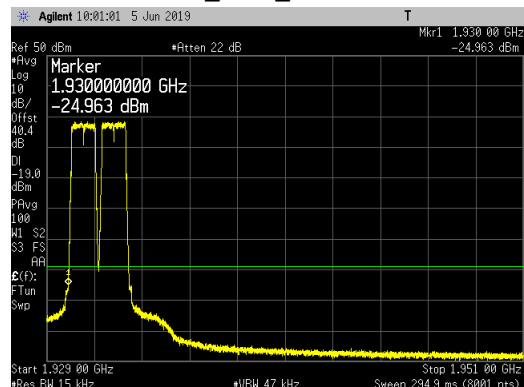


Top Channel_ UBE_ 1997 to 2017MHz

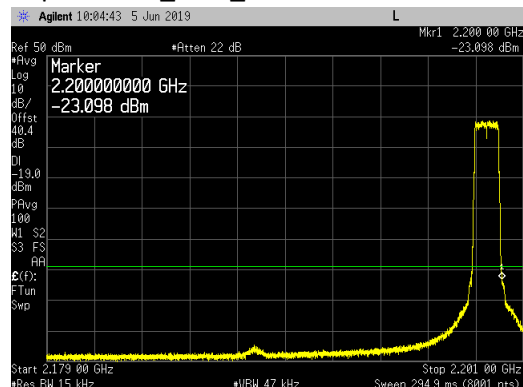


Multiband Multicarrier LTE1.4 Band Edge Plots for Antenna Port 3 and QPSK Modulation:

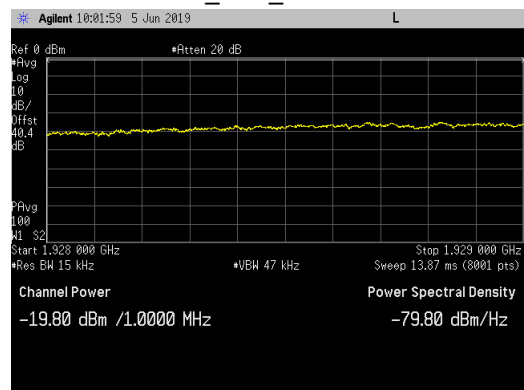
Bottom Channel_ LBE_ 1929 to 1951MHz



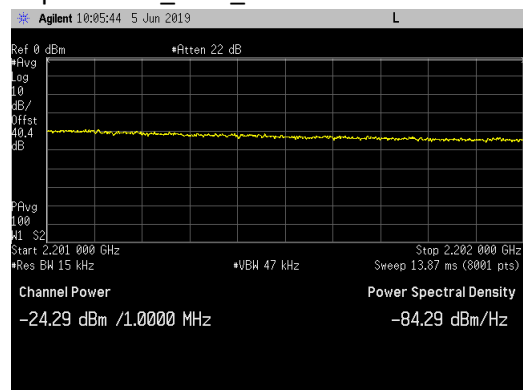
Top Channel_ UBE_ 2179 to 2201MHz



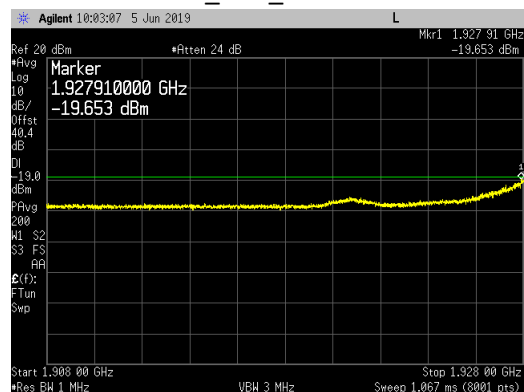
Bottom Channel_ LBE_ 1928 to 1929MHz



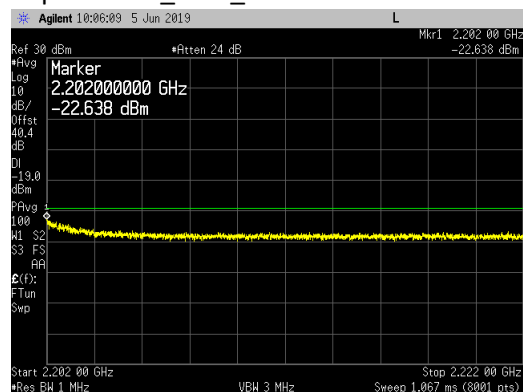
Top Channel_ UBE_ 2201 to 2202MHz



Bottom Channel_ LBE_ 1908 to 1928MHz

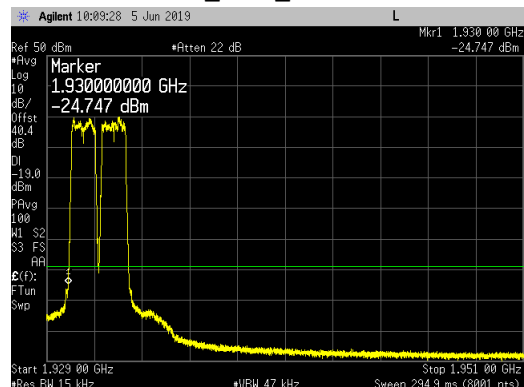


Top Channel_ UBE_ 2202 to 2222MHz

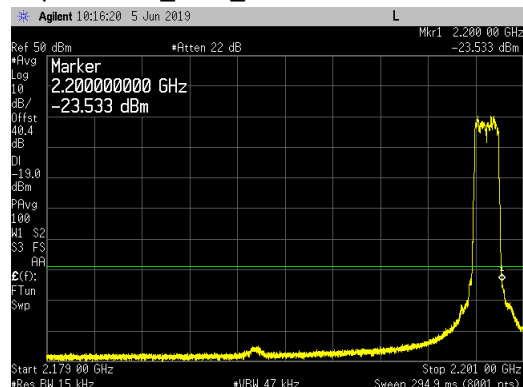


Multiband Multicarrier LTE1.4 Band Edge Plots for Antenna Port 3 and 16QAM Modulation:

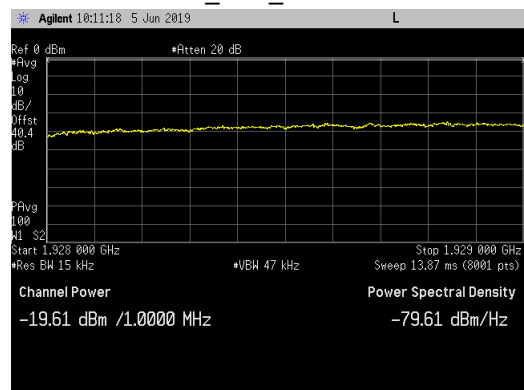
Bottom Channel_ LBE_ 1929 to 1951MHz



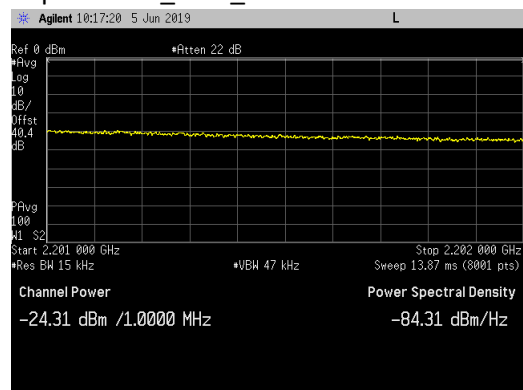
Top Channel_ UBE_ 2179 to 2201MHz



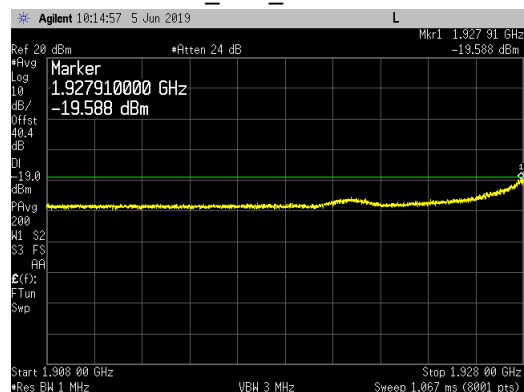
Bottom Channel_ LBE_ 1928 to 1929MHz



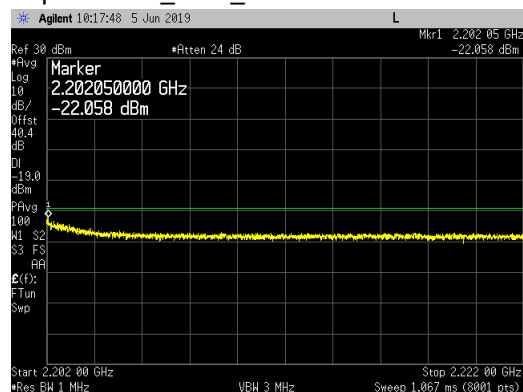
Top Channel_ UBE_ 2201 to 2202MHz



Bottom Channel_ LBE_ 1908 to 1928MHz

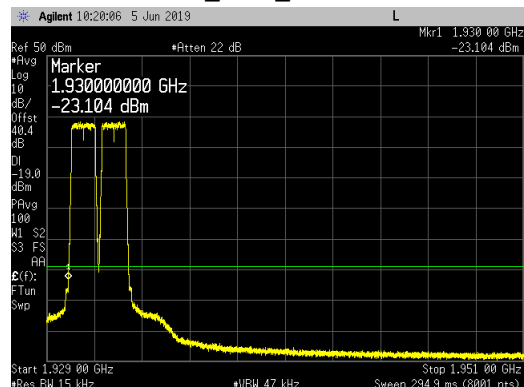


Top Channel_ UBE_ 2202 to 2222MHz

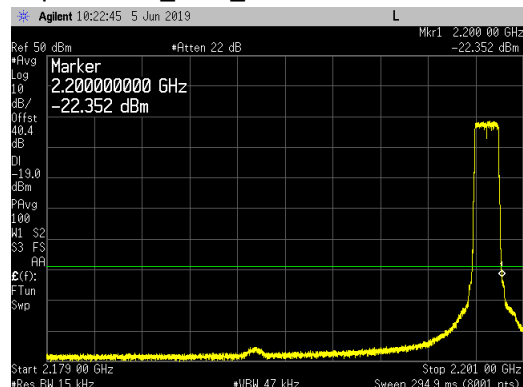


Multiband Multicarrier LTE1.4 Band Edge Plots for Antenna Port 3 and 64QAM Modulation:

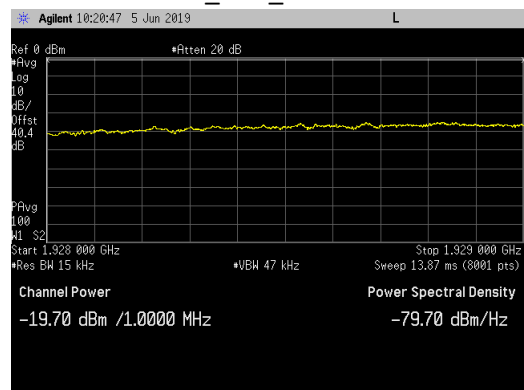
Bottom Channel_ LBE_ 1929 to 1951MHz



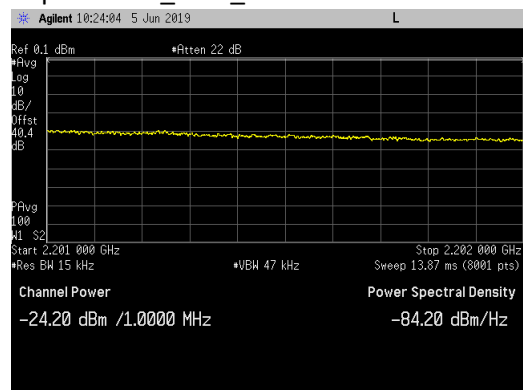
Top Channel_ UBE_ 2179 to 2201MHz



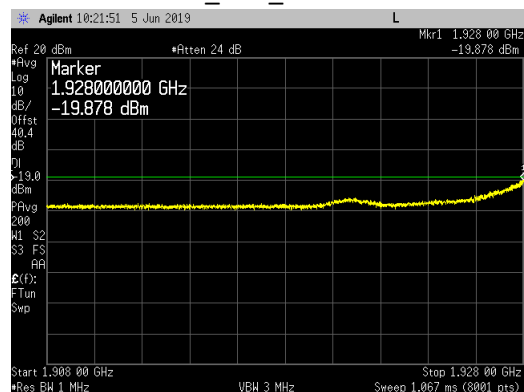
Bottom Channel_ LBE_ 1928 to 1929MHz



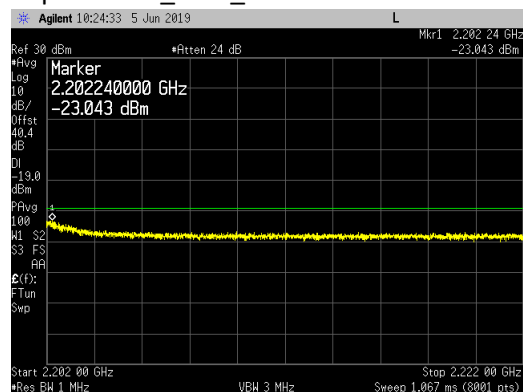
Top Channel_ UBE_ 2201 to 2202MHz



Bottom Channel_ LBE_ 1908 to 1928MHz

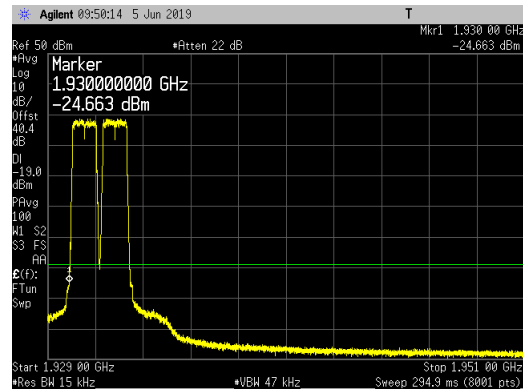


Top Channel_ UBE_ 2202 to 2222MHz

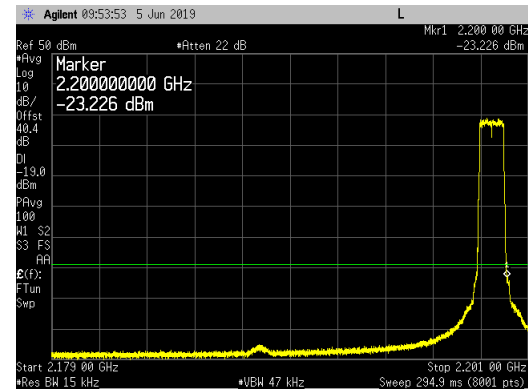


Multiband Multicarrier LTE1.4 Band Edge Plots for Antenna Port 3 and 256QAM Modulation:

Bottom Channel_ LBE_ 1929 to 1951MHz



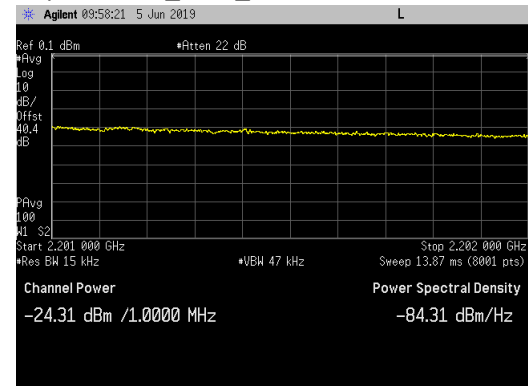
Top Channel_ UBE_ 2179 to 2201MHz



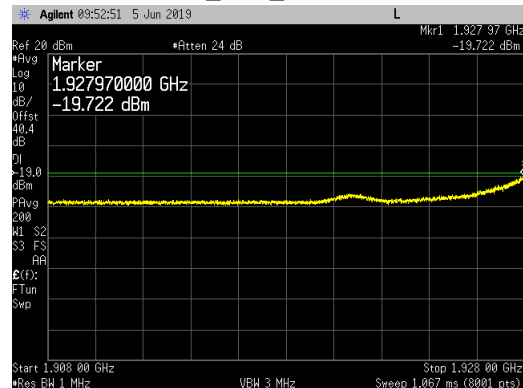
Bottom Channel_ LBE_ 1928 to 1929MHz



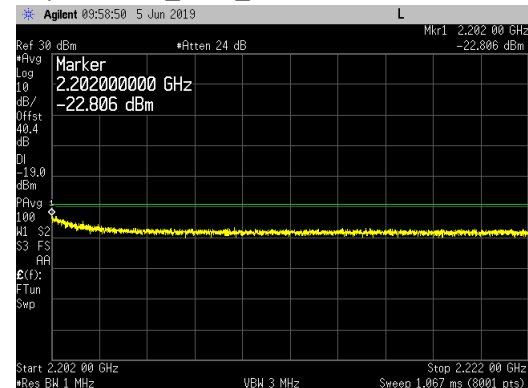
Top Channel_ UBE_ 2201 to 2202MHz



Bottom Channel_ LBE_ 1908 to 1928MHz



Top Channel_ UBE_ 2202 to 2222MHz



Transmitter Antenna Port Conducted Emissions

Transmitter conducted emission measurements were made at RRH antenna port 3. Measurements were performed over the 9kHz to 22GHz frequency range.

Single Carrier Test Cases

The single carrier test case was performed with the RRH operating on the PCS middle channel (1962.5MHz) and AWS middle channel (2155.0MHz) simultaneously with all LTE modulation types (QPSK, 16QAM, 64QAM and 256QAM) for all LTE bandwidths (1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz and 20MHz). The same modulation type was used for both PCS and AWS carriers.

Multicarrier Test Cases

PCS Multicarrier Multiband Test Case

In the PCS band _Three LTE5 carriers (based upon KDB 971168 D03v01) using two carriers (with minimum spacing between carrier frequencies) at the lower band edge (EARFCN 8065: 1932.5 & EARFCN 8115: 1937.5MHz) and a third carrier with maximum spacing between the other two carrier frequencies (EARFCN 8665: 1992.5MHz) at the upper band edge. In the AWS band _ Single LTE1.4 carrier at the middle channel (EARFCN 66866: 2155MHz). The smallest channel bandwidth was selected to maximize carrier power spectral density. The LTE5 PCS carrier bandwidth was chosen because it was the smallest LTE bandwidth that covers the entire PCS frequency range. The carriers were operated at maximum power (~26W/PCS carrier and 40W/AWS carrier) with at total port power of 120 watts (80W for PCS band carriers + 40W for AWS band carrier). The same modulation type was used for both PCS and AWS carriers.

AWS Multicarrier Multiband Test Case

In the AWS band: Three LTE1.4 carriers (based upon KDB 971168 D03v01) using two carriers (with minimum spacing between carrier frequencies) at the lower band edge (EARFCN 66443: 2110.7 & EARFCN 66457: 2112.1MHz) and a third carrier with maximum spacing between the other two carrier frequencies (EARFCN 67329: 2199.3MHz) at the upper band edge. In the PCS band: Single LTE1.4 carrier at the middle channel (EARFCN 8365: 1962.5MHz). The smallest channel bandwidth was selected to maximize carrier power spectral density. The carriers were operated at maximum power (80W/PCS carrier and ~13W/AWS carrier) with at total port power of 120 watts (80W for PCS band carrier + 40W for AWS band carriers). The same modulation type was used for both PCS and AWS carriers.

Multicarrier Multiband Test Case

Three LTE1.4 carriers (based upon KDB 971168 D03v01) using two carriers (with minimum spacing between carrier frequencies) at the PCS band lower band edge (EARFCN 8047: 1930.7 & EARFCN 8061: 1932.1MHz) and a third carrier with maximum spacing between the other two carrier frequencies (EARFCN 67329: 2199.3MHz) at the AWS band upper band edge. The smallest channel bandwidth was selected to maximize carrier power spectral density. The carriers were operated at maximum power (40W/PCS carrier and 40W/AWS carrier) with at total port power of 120 watts (80W for PCS band carriers + 40W for AWS band carrier). The same modulation type was used for both PCS and AWS carriers.

The test configuration parameters are provided below:

PCS Band Transmission Parameters			AWS Band Transmission Parameters		
Carrier Frequency	Channel Bandwidth	Carrier Power	Carrier Frequency	Channel Bandwidth	Carrier Power
1962.5MHz (Mid Ch)	LTE1.4 – LTE20	80 Watts	2154.0MHz (Mid Ch)	LTE1.4 – LTE20	40 Watts
1932.5, 1937.5 & 1992.5MHz (BC, BC+1, and TC)	LTE5	26+26+26 Watts	2154.0MHz (Mid Ch)	LTE1.4	40 Watts
1932.5 & 1937.5MHz (BC and BC+1)	LTE1.4	40 + 40 Watts	2199.3MHz (Top Ch)	LTE1.4	40 Watts
1962.5MHz (Mid Ch)	LTE1.4	80 Watts	2110.7, 2112.1 & 2199.3MHz (BC, BC+1, and TC)	LTE1.4	13+13+13 Watts

The power of any emission outside of the authorized operating frequency range cannot exceed -13 dBm as specified in section 24.238(a), 27.53(h)(1), RSS 133 6.5(i) and RSS 139 6.6. The limit of -19dBm was used in the certification testing. The limit is adjusted to -19dBm [-13dBm -10 log (4)] per FCC KDB 662911D01 v02r01 because the BTS may operate as a 4 port MIMO transmitter. The required measurement parameters include a 1MHz bandwidth with power measured in average value (since transmitter power was measured in average value).

Measurements were performed with a spectrum analyzer using a peak detector with max hold over 50 sweeps (except for the 20MHz to 3GHz frequency range). Measurements for the 20MHz to 3GHz frequency range were performed with the spectrum analyzer in the RMS average mode over 100 traces.

The limit for the 9kHz to 150kHz frequency range was adjusted to -49dBm to correct for a spectrum analyzer RBW of 1kHz versus required RBW of 1MHz [i.e.: -49dBm = -19dBm -10log(1MHz/1kHz)]. The limit for the 150kHz to 20MHz frequency range was adjusted to -39dBm to correct for a spectrum analyzer RBW of 10kHz versus required RBW of 1MHz [i.e.: -39dBm = -19dBm -10log(1MHz/10kHz)]. The required limit of -19dBm with a RBW of ≥ 1 MHz was used for all other frequency ranges.

The spectrum analyzer settings that were used for this test are summarized in the following table.

Frequency Range	RBW	VBW	Number of Data Points	Detector	Sweep Time	Max Hold over	Offset Note (1)
9kHz to 150kHz	1kHz	3kHz	8001	Peak	Auto	50 Sweeps	8.7dB
150kHz to 20MHz	10kHz	30kHz	8001	Peak	Auto	50 Sweeps	8.7dB
20MHz to 3GHz	1MHz	3MHz	8001	Average	Auto	Note (2)	40.4dB
3GHz to 6GHz	1MHz	3MHz	8001	Peak	Auto	50 Sweeps	40.2dB
6GHz to 18GHz	2MHz	6MHz	8192	Peak	Auto	50 Sweeps	33.1dB
18GHz to 22GHz	1MHz	3MHz	8001	Peak	Auto	50 Sweeps	41.3dB
1900 to 2200MHz	1MHz	3MHz	8001	Average	Auto	Note (2)	40.4dB

Note 1: The total measurement RF path loss of the test setup (attenuators, test cables and filters) is accounted for by the spectrum analyzer reference level offset.

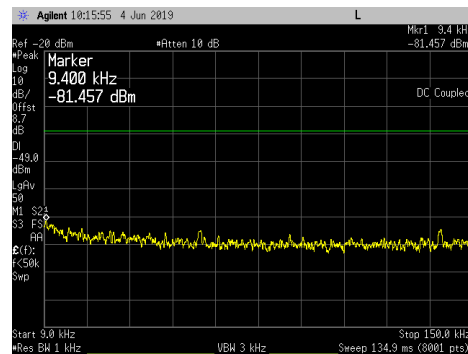
Note 2: Max Hold not used and instead measurements were performed with the spectrum analyzer in the RMS average mode over 100 traces.

A low pass filter was used to reduce measurement instrumentation noise floor for the frequency ranges less than 20MHz. A high pass filter was used to reduce measurement instrumentation noise floor for the frequency ranges above 6GHz. The total measurement RF path loss of the test setup (attenuators, low pass filter, high pass filter and test cables) as shown in the table is accounted for by the spectrum analyzer reference level offset. The display line on the plots reflects the required limit. The conducted spurious emission plots/measurements are provided in the following pages.

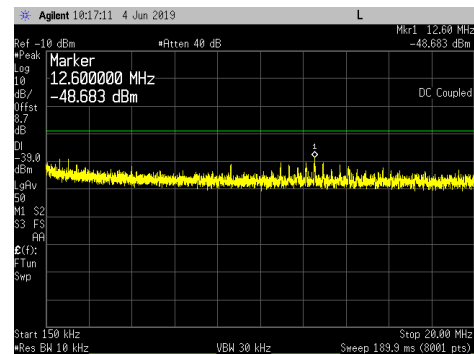


LTE1.4 Channel Bandwidth _ QPSK _ Middle Channels (1962.5MHz and 2155MHz) Simultaneously:

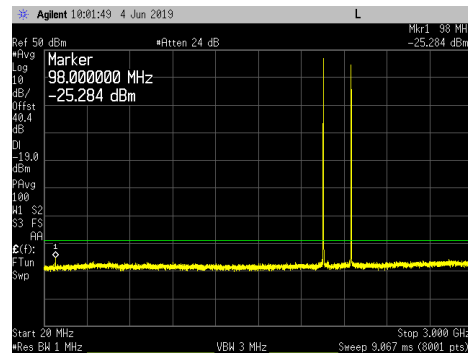
9kHz to 150kHz



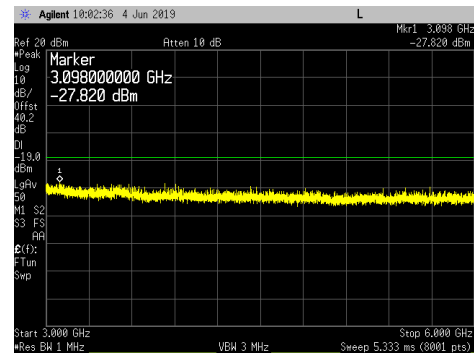
150kHz to 20MHz



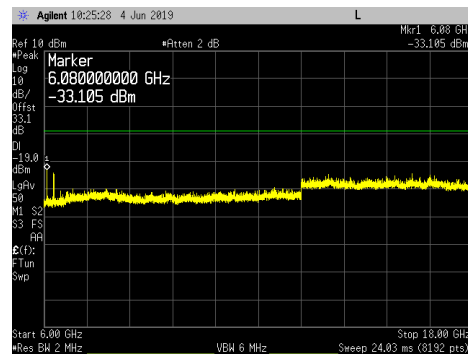
20MHz to 3GHz



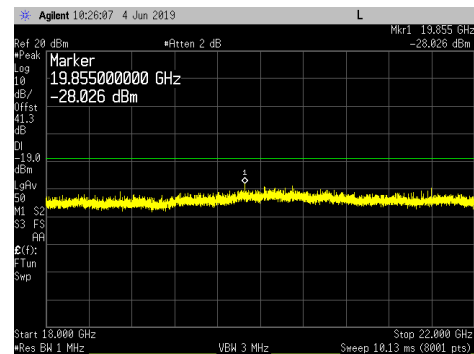
3GHz to 6GHz



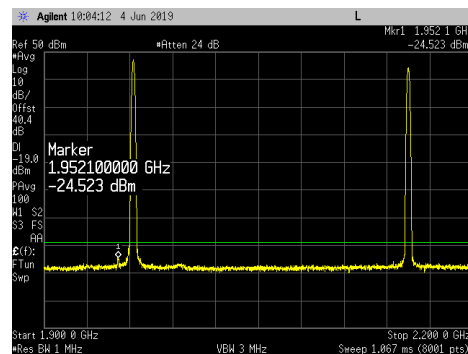
6GHz to 18GHz



18GHz to 22GHz



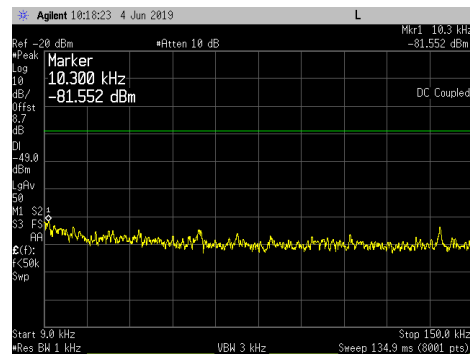
1900MHz to 2200MHz



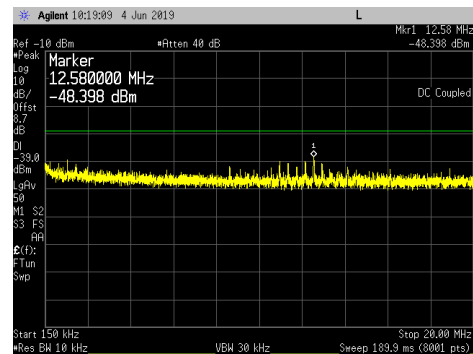


LTE1.4 Channel Bandwidth _ 16QAM _ Middle Channels (1962.5MHz and 2155MHz) Simultaneously:

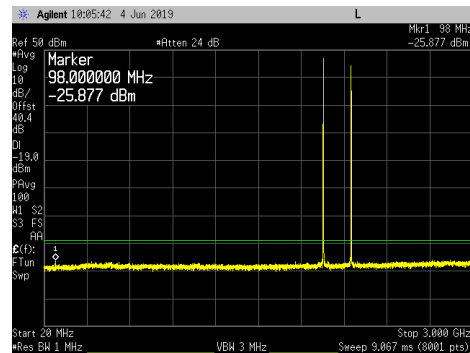
9kHz to 150kHz



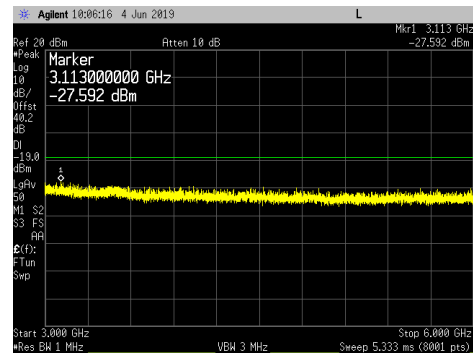
150kHz to 20MHz



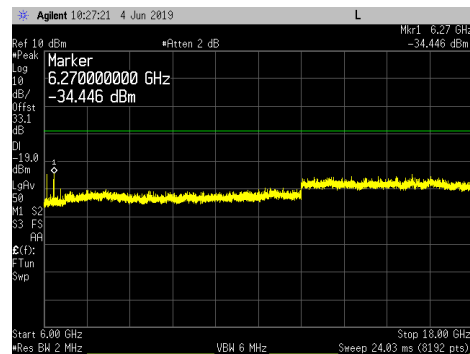
20MHz to 3GHz



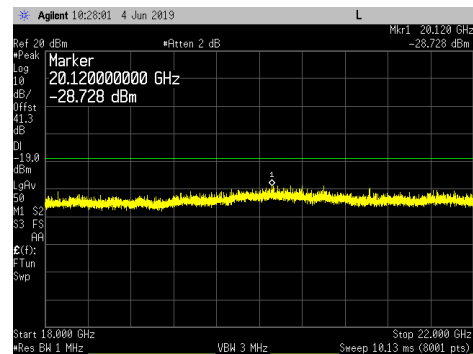
3GHz to 6GHz



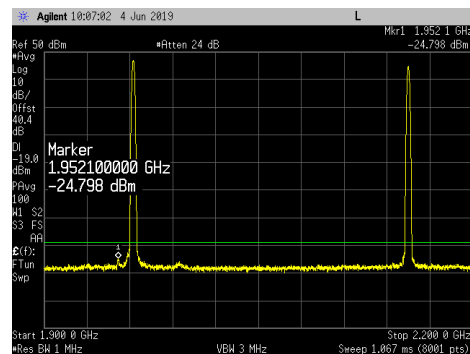
6GHz to 18GHz



18GHz to 22GHz



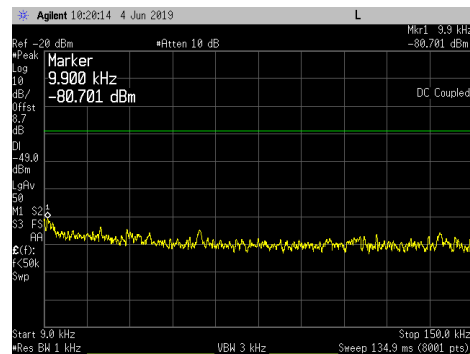
1900MHz to 2200MHz



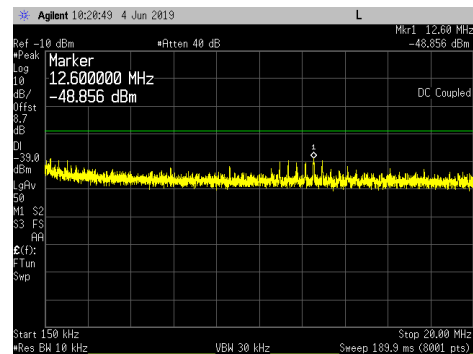


LTE1.4 Channel Bandwidth _ 64QAM _ Middle Channels (1962.5MHz and 2155MHz) Simultaneously:

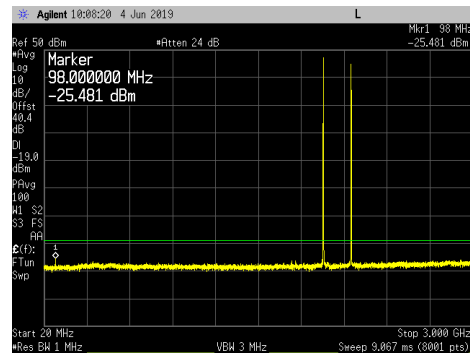
9kHz to 150kHz



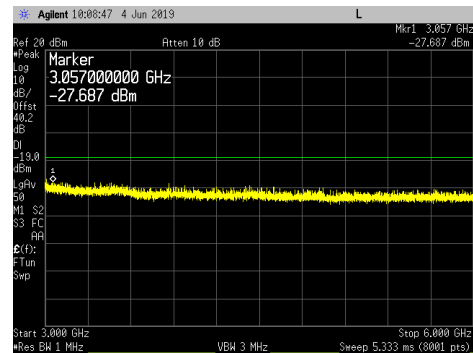
150kHz to 20MHz



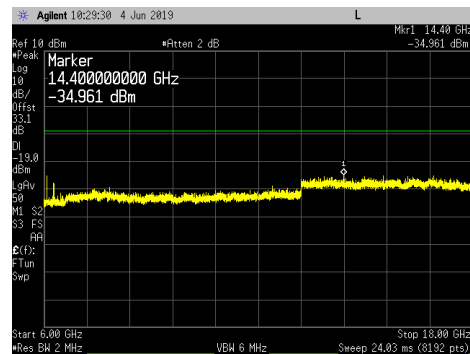
20MHz to 3GHz



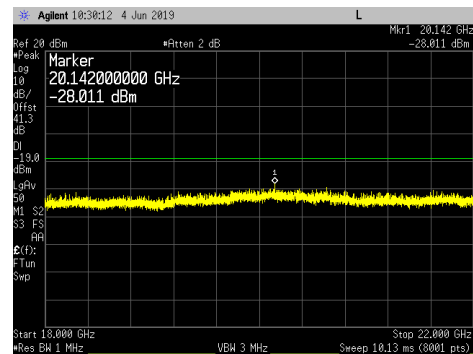
3GHz to 6GHz



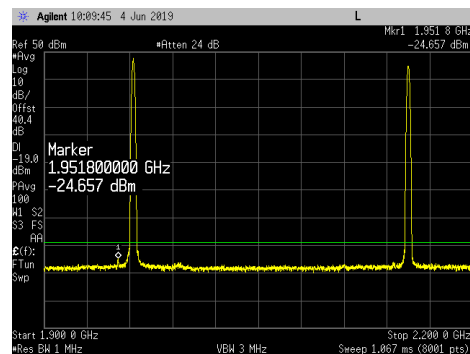
6GHz to 18GHz



18GHz to 22GHz



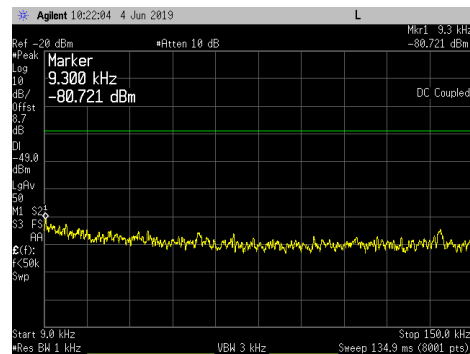
1900MHz to 2200MHz



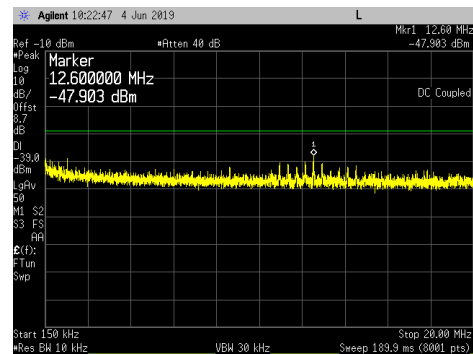


LTE1.4 Channel Bandwidth _ 256QAM _ Middle Channels (1962.5MHz and 2155MHz) Simultaneously:

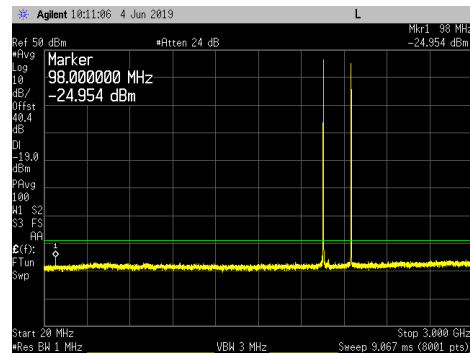
9kHz to 150kHz



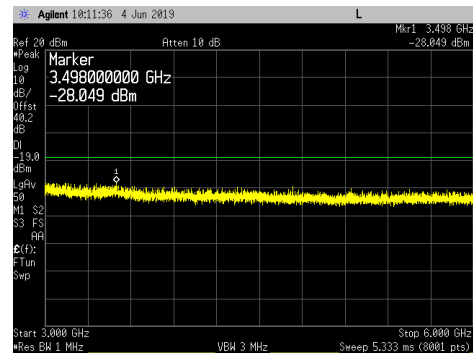
150kHz to 20MHz



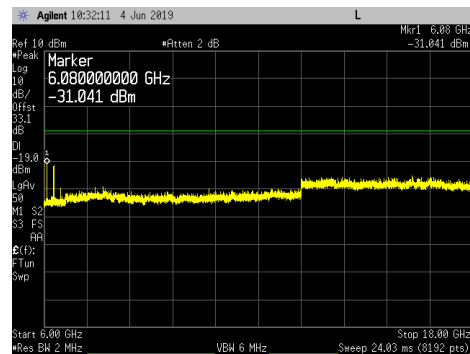
20MHz to 3GHz



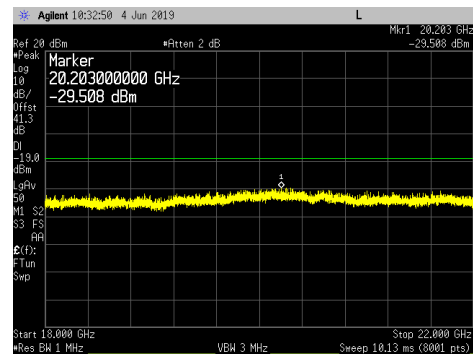
3GHz to 6GHz



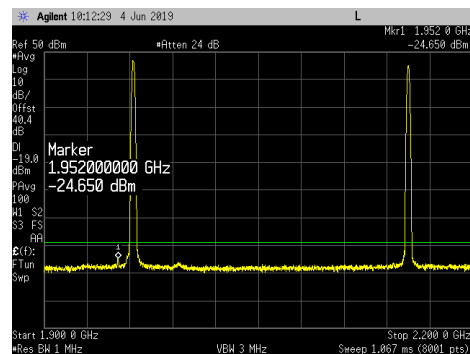
6GHz to 18GHz



18GHz to 22GHz



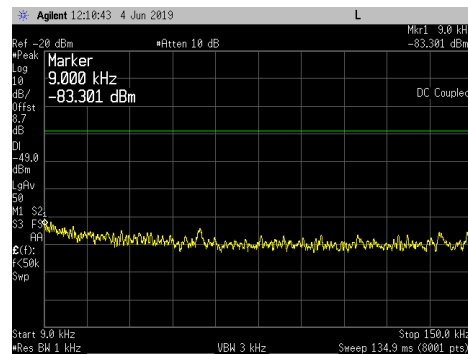
1900MHz to 2200MHz



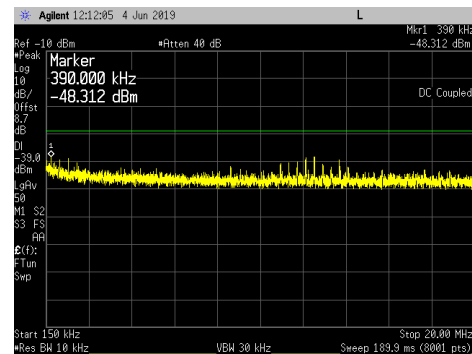


LTE3 Channel Bandwidth _ QPSK _ Middle Channels (1962.5MHz and 2155MHz) Simultaneously:

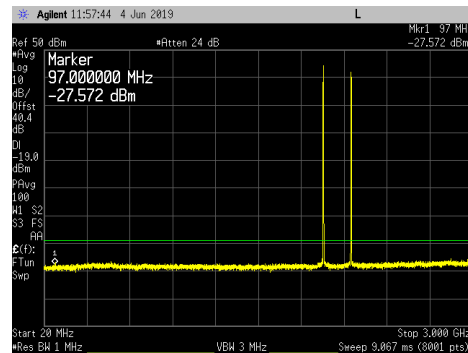
9kHz to 150kHz



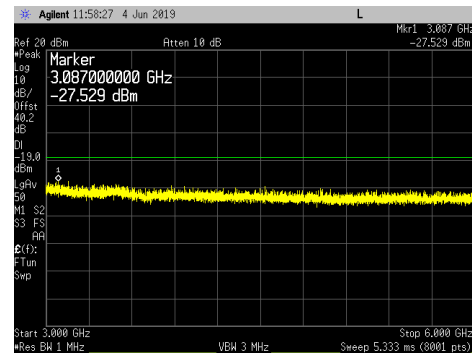
150kHz to 20MHz



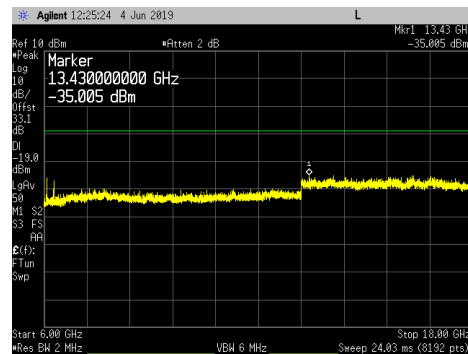
20MHz to 3GHz



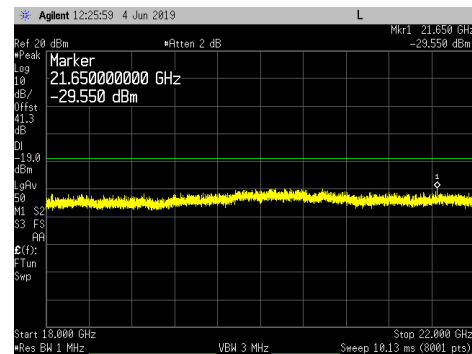
3GHz to 6GHz



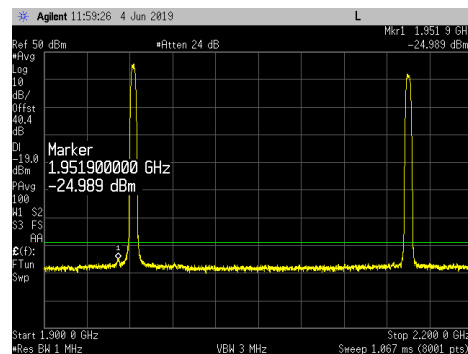
6GHz to 18GHz



18GHz to 22GHz



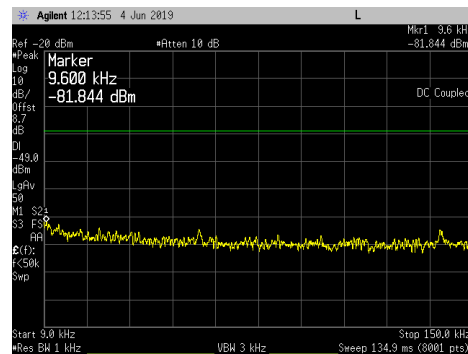
1900MHz to 2200MHz



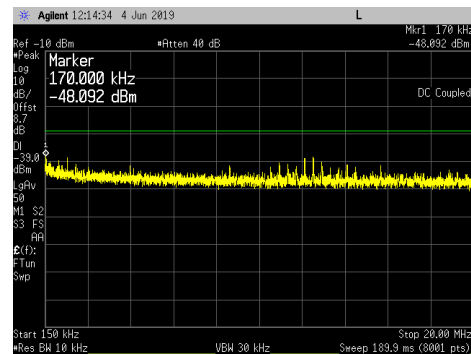


LTE3 Channel Bandwidth _ 16QAM _ Middle Channels (1962.5MHz and 2155MHz) Simultaneously:

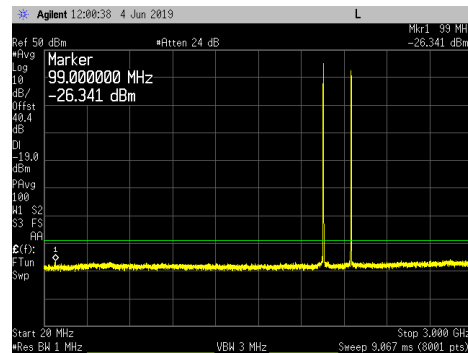
9kHz to 150kHz



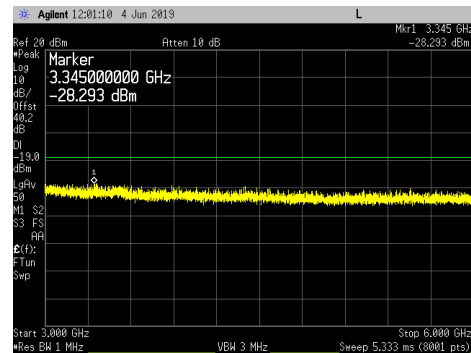
150kHz to 20MHz



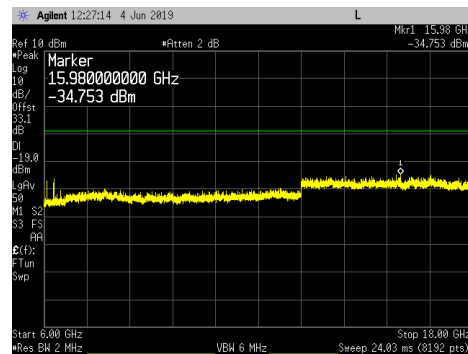
20MHz to 3GHz



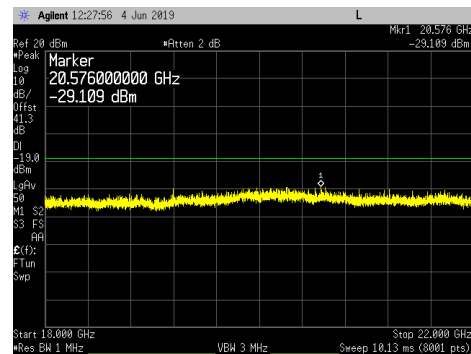
3GHz to 6GHz



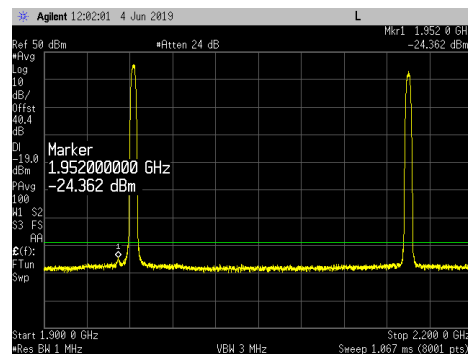
6GHz to 18GHz



18GHz to 22GHz



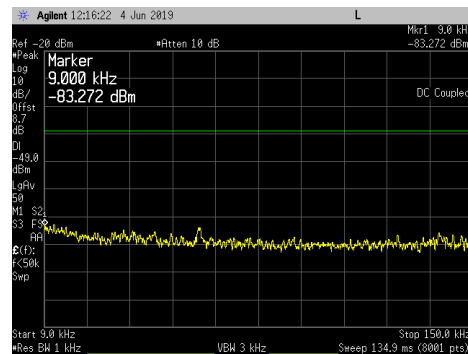
1900MHz to 2200MHz



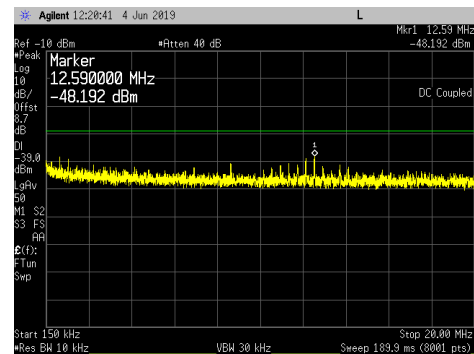


LTE3 Channel Bandwidth _ 64QAM _ Middle Channels (1962.5MHz and 2155MHz) Simultaneously:

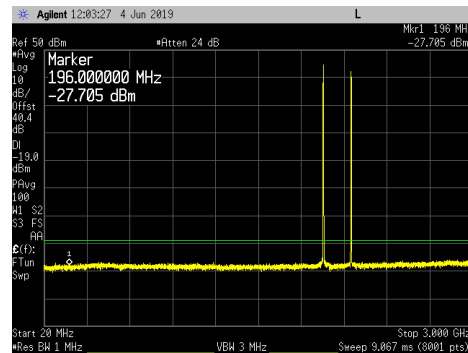
9kHz to 150kHz



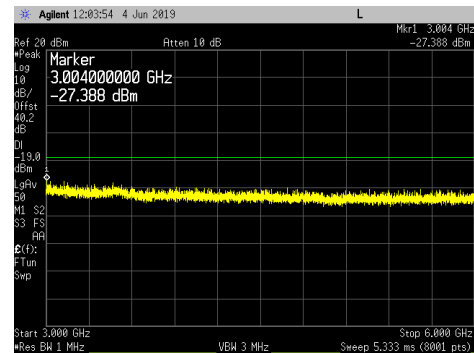
150kHz to 20MHz



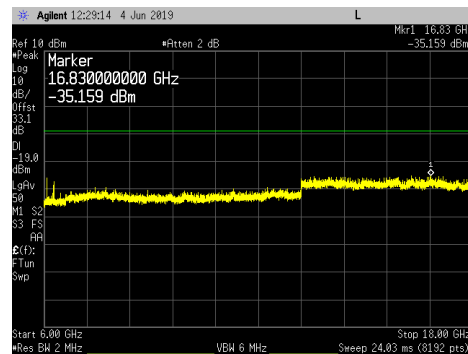
20MHz to 3GHz



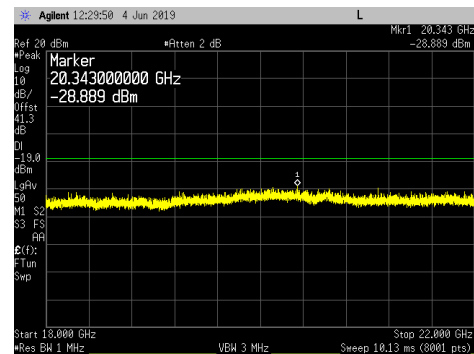
3GHz to 6GHz



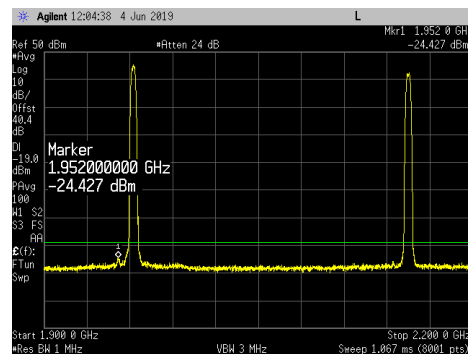
6GHz to 18GHz

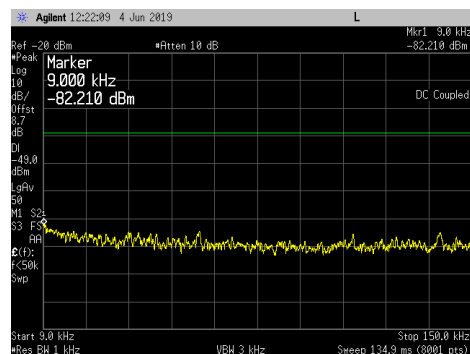
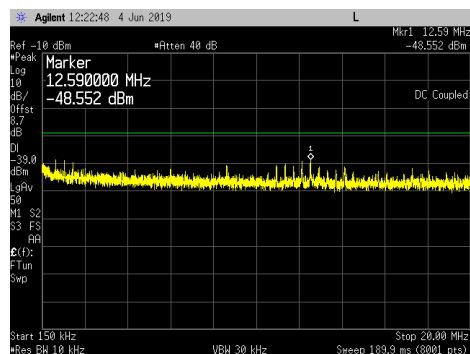
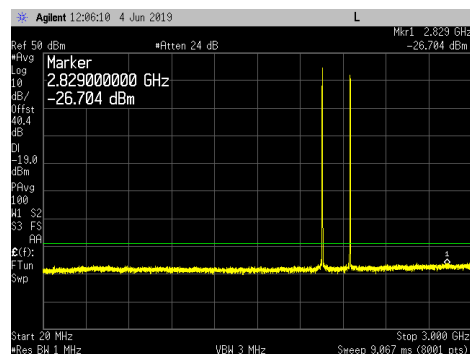
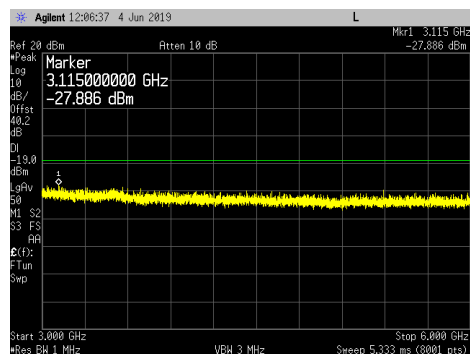
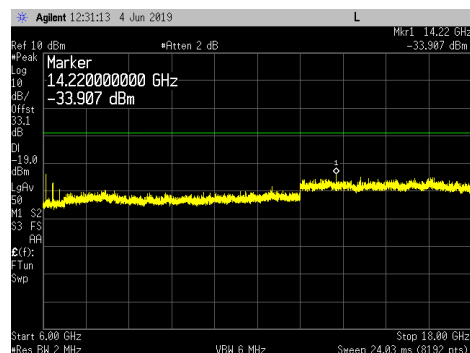
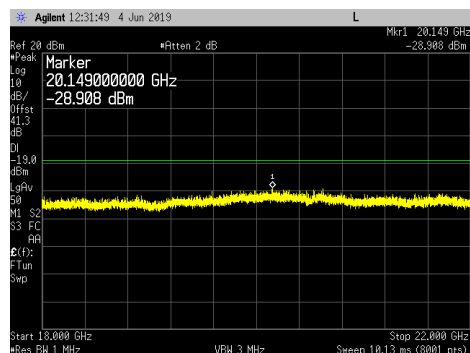
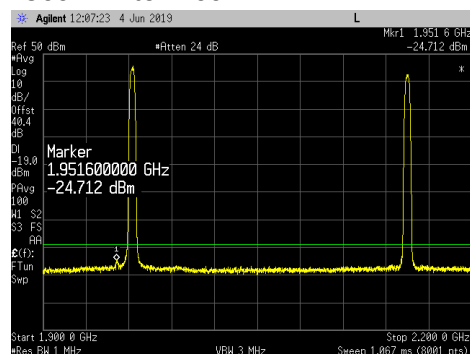


18GHz to 22GHz



1900MHz to 2200MHz

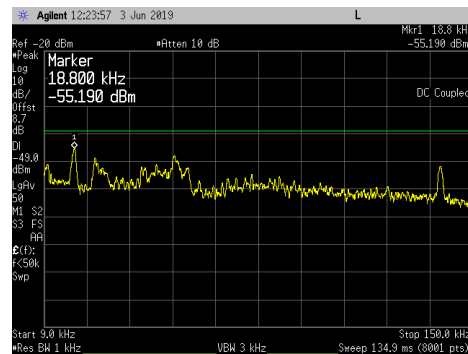


**LTE3 Channel Bandwidth _ 256QAM _ Middle Channels (1962.5MHz and 2155MHz) Simultaneously:****9kHz to 150kHz****150kHz to 20MHz****20MHz to 3GHz****3GHz to 6GHz****6GHz to 18GHz****18GHz to 22GHz****1900MHz to 2200MHz**

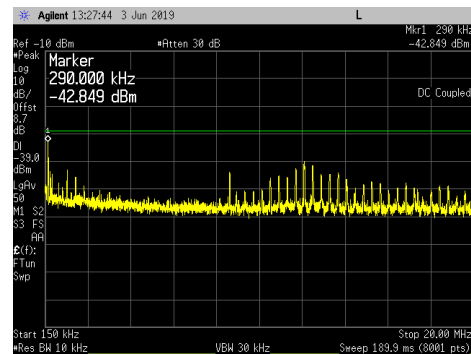


LTE5 Channel Bandwidth _ QPSK _ Middle Channels (1962.5MHz and 2155MHz) Simultaneously:

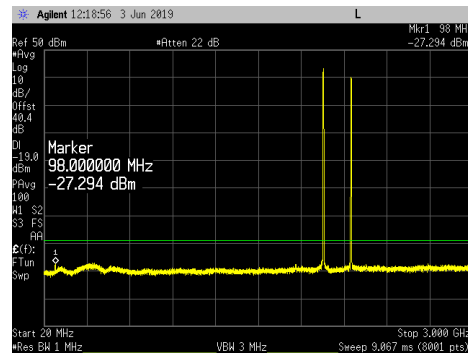
9kHz to 150kHz



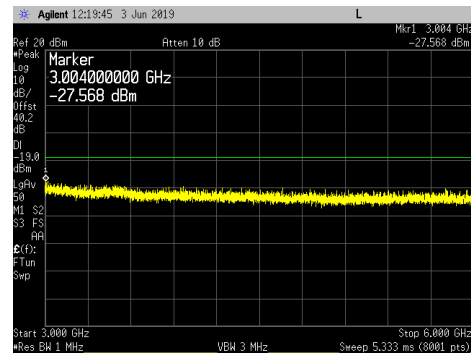
150kHz to 20MHz



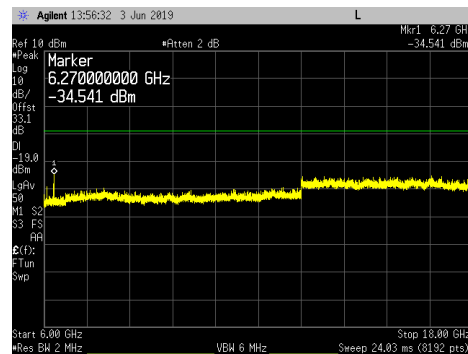
20MHz to 3GHz



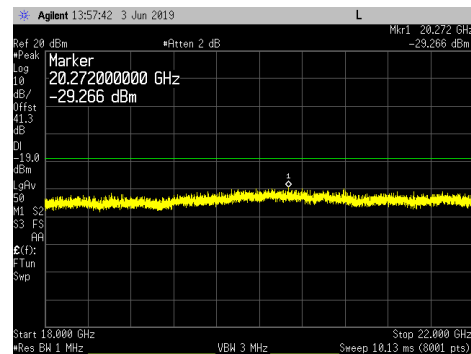
3GHz to 6GHz



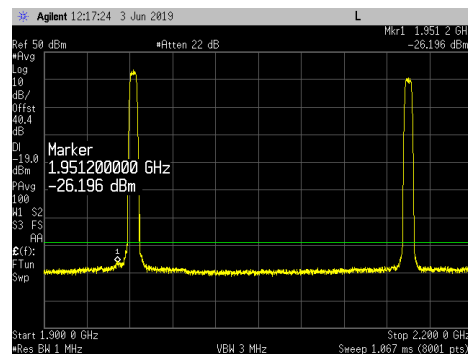
6GHz to 18GHz



18GHz to 22GHz



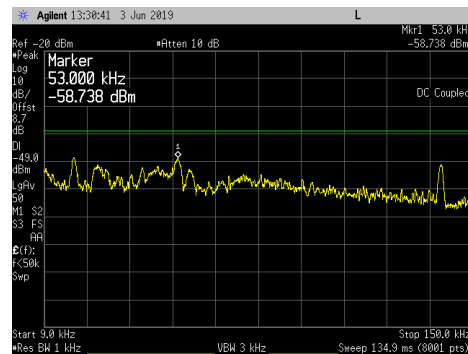
1900MHz to 2200MHz



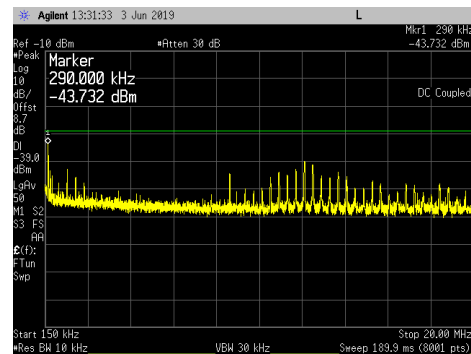


LTE5 Channel Bandwidth _ 16QAM _ Middle Channels (1962.5MHz and 2155MHz) Simultaneously:

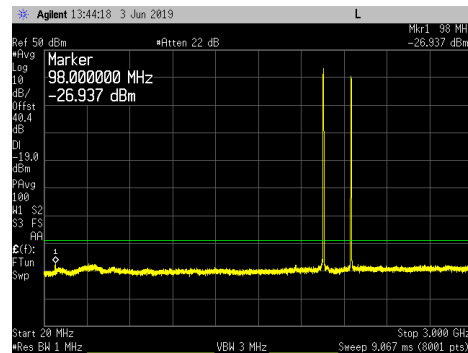
9kHz to 150kHz



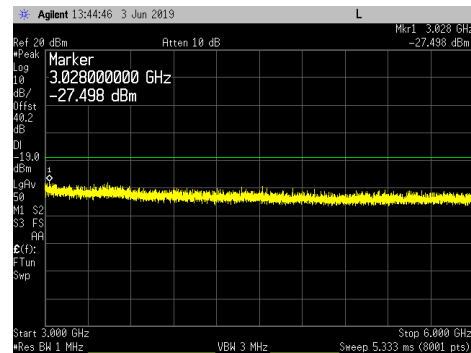
150kHz to 20MHz



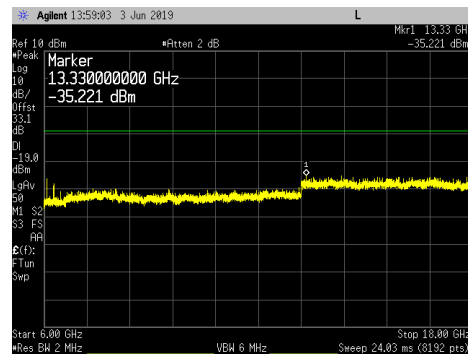
20MHz to 3GHz



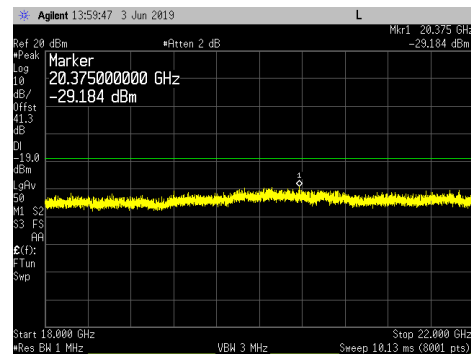
3GHz to 6GHz



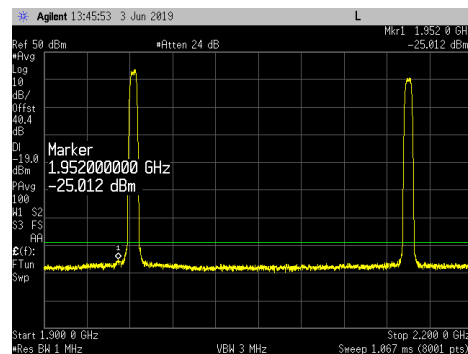
6GHz to 18GHz



18GHz to 22GHz



1900MHz to 2200MHz



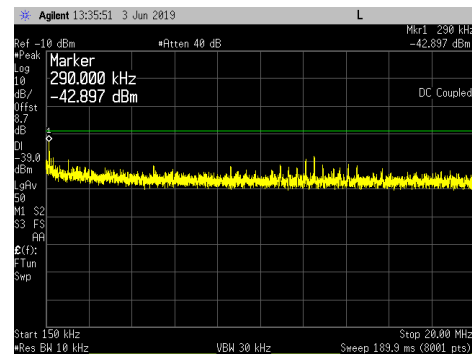


LTE5 Channel Bandwidth _ 64QAM _ Middle Channels (1962.5MHz and 2155MHz) Simultaneously:

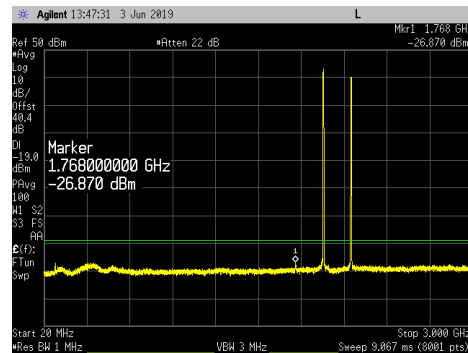
9kHz to 150kHz



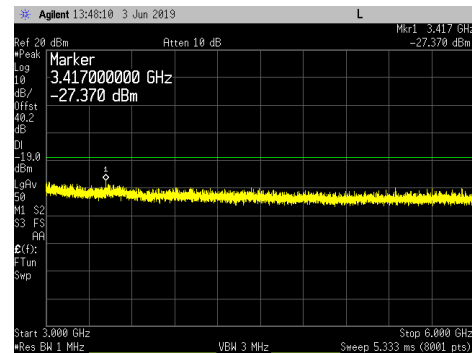
150kHz to 20MHz



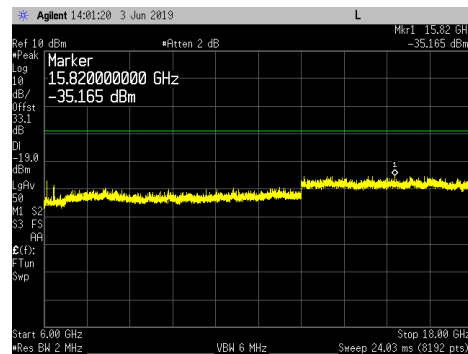
20MHz to 3GHz



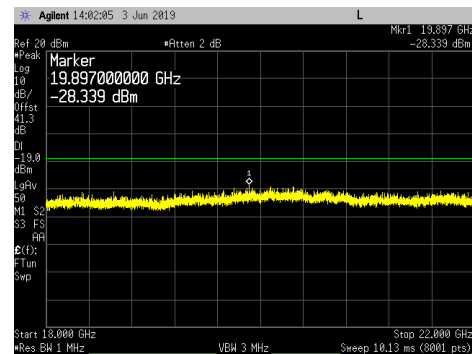
3GHz to 6GHz



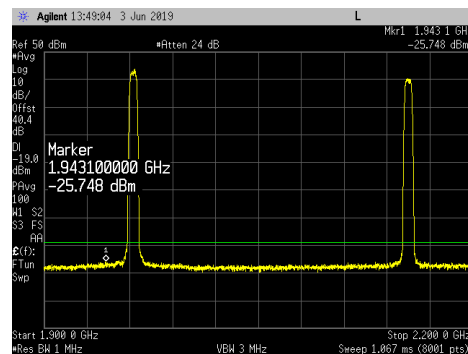
6GHz to 18GHz



18GHz to 22GHz



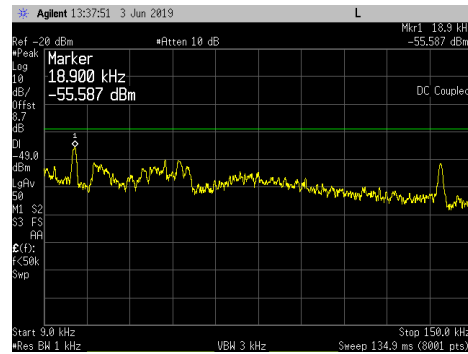
1900MHz to 2200MHz



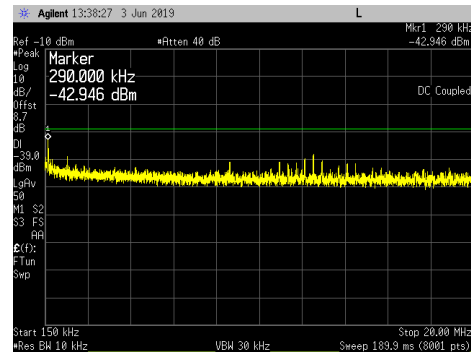


LTE5 Channel Bandwidth _ 256QAM _ Middle Channels (1962.5MHz and 2155MHz) Simultaneously:

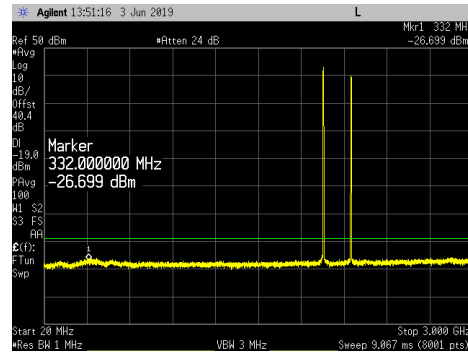
9kHz to 150kHz



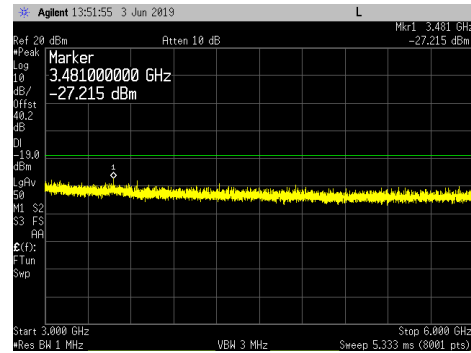
150kHz to 20MHz



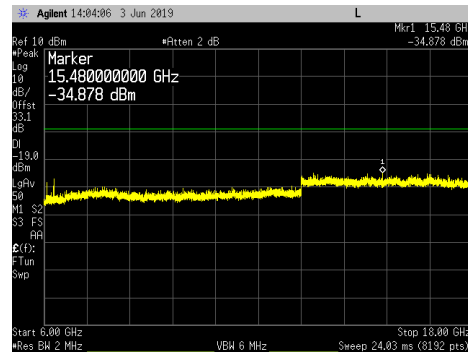
20MHz to 3GHz



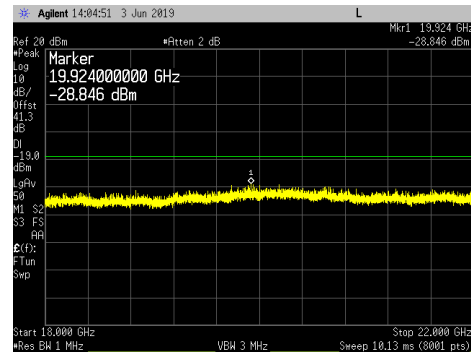
3GHz to 6GHz



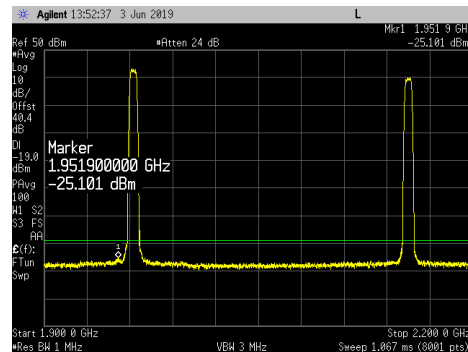
6GHz to 18GHz



18GHz to 22GHz

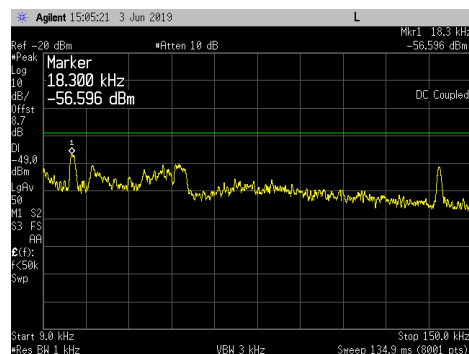


1900MHz to 2200MHz

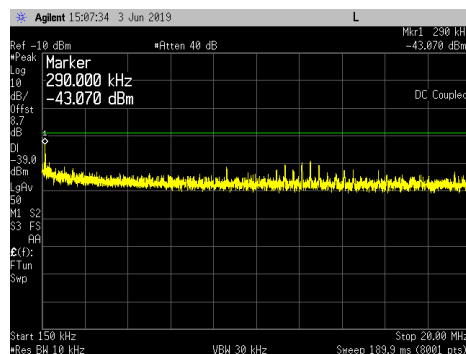


LTE10 Channel Bandwidth _ QPSK _ Middle Channels (1962.5MHz and 2155MHz) Simultaneously:

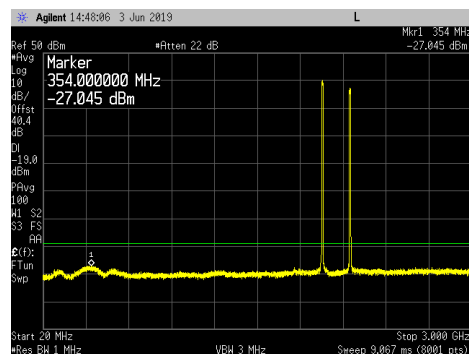
9kHz to 150kHz



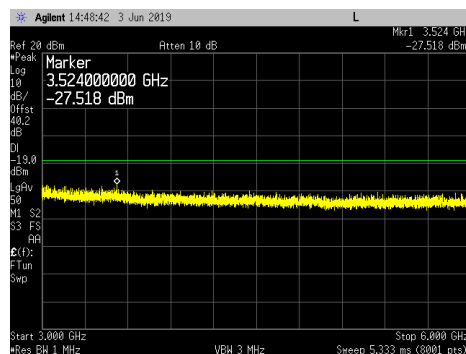
150kHz to 20MHz



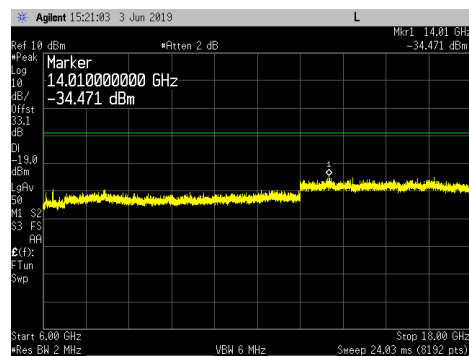
20MHz to 3GHz



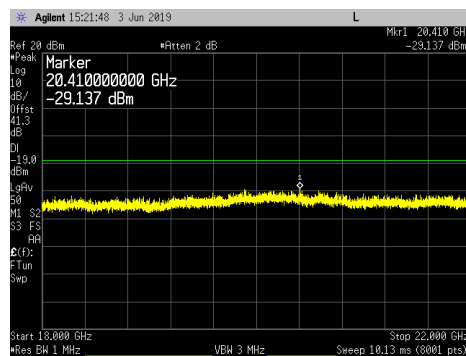
3GHz to 6GHz



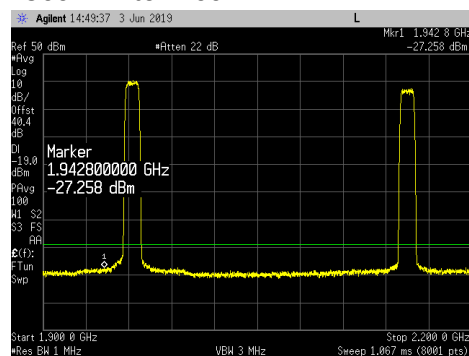
6GHz to 18GHz



18GHz to 22GHz

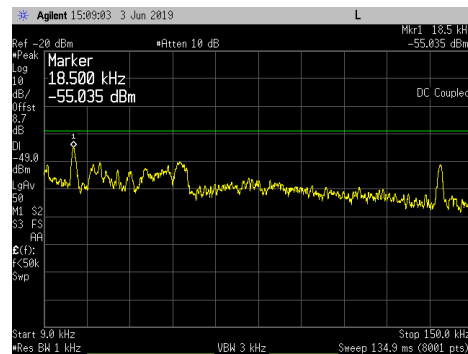


1900MHz to 2200MHz

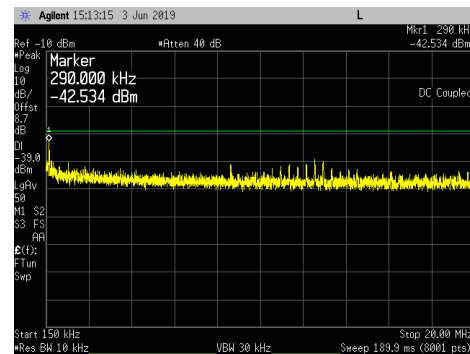


LTE10 Channel Bandwidth _ 16QAM _ Middle Channels (1962.5MHz and 2155MHz) Simultaneously:

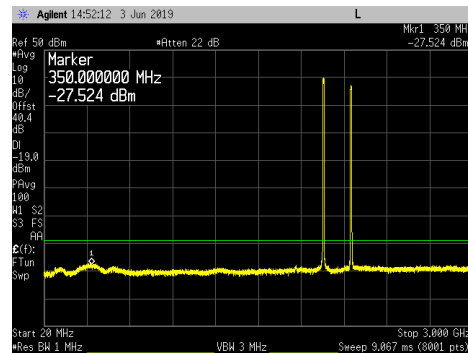
9kHz to 150kHz



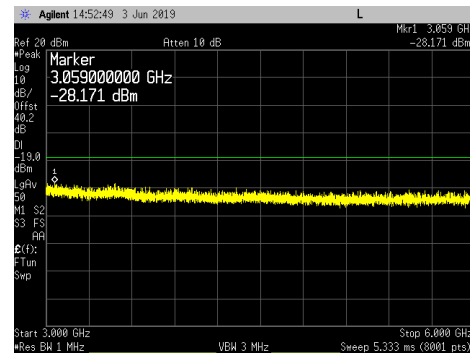
150kHz to 20MHz



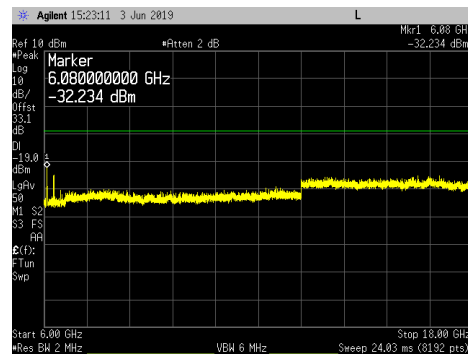
20MHz to 3GHz



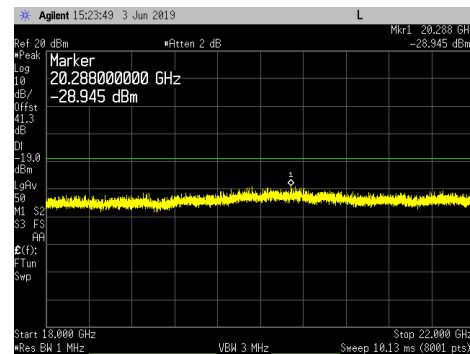
3GHz to 6GHz



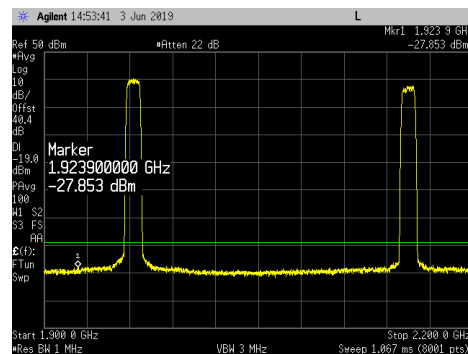
6GHz to 18GHz



18GHz to 22GHz



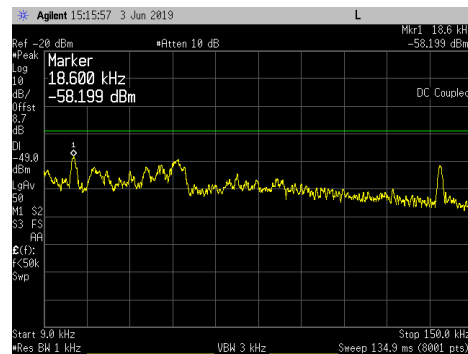
1900MHz to 2200MHz



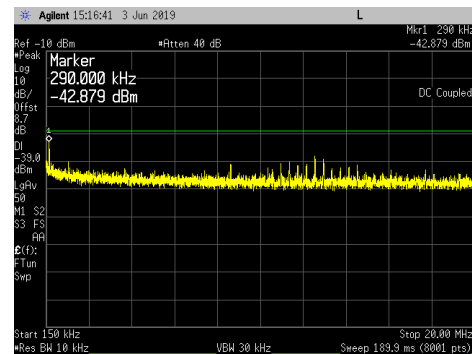


LTE10 Channel Bandwidth _ 64QAM _ Middle Channels (1962.5MHz and 2155MHz) Simultaneously:

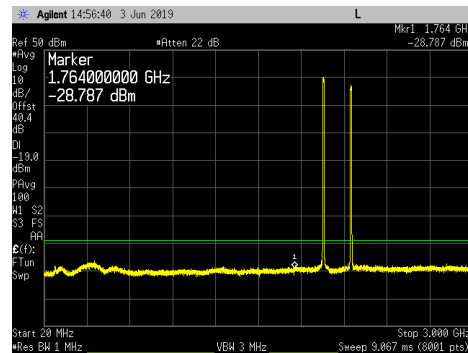
9kHz to 150kHz



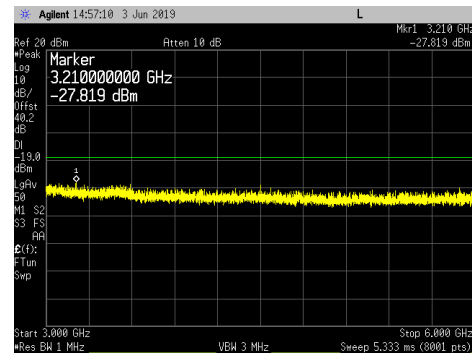
150kHz to 20MHz



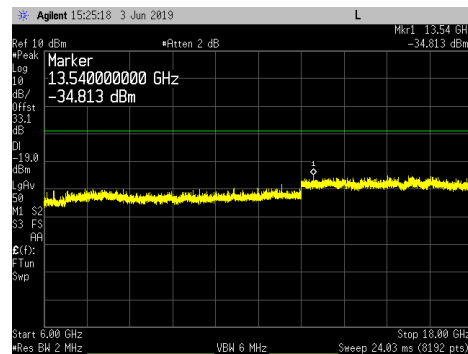
20MHz to 3GHz



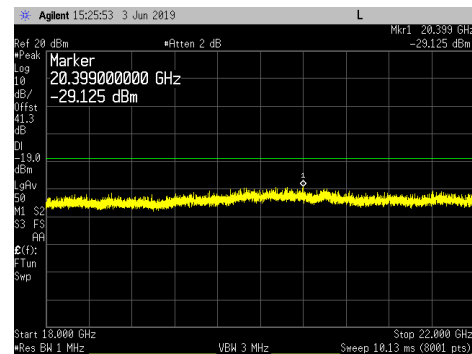
3GHz to 6GHz



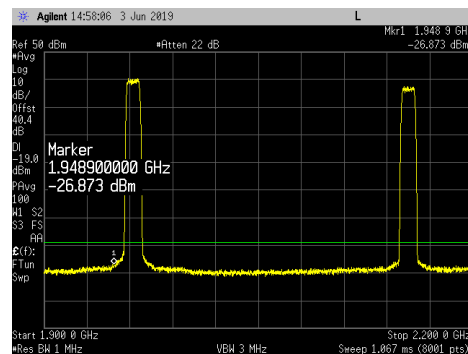
6GHz to 18GHz



18GHz to 22GHz



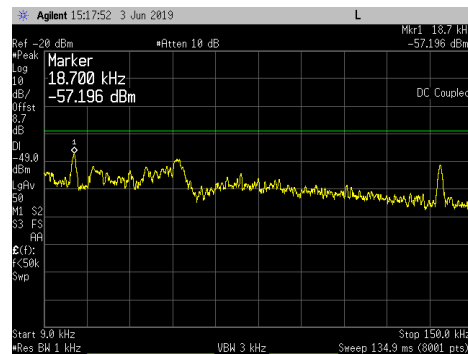
1900MHz to 2200MHz



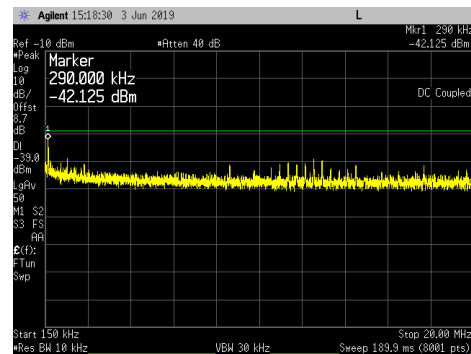


LTE10 Channel Bandwidth _ 256QAM _ Middle Channels (1962.5MHz and 2155MHz) Simultaneously:

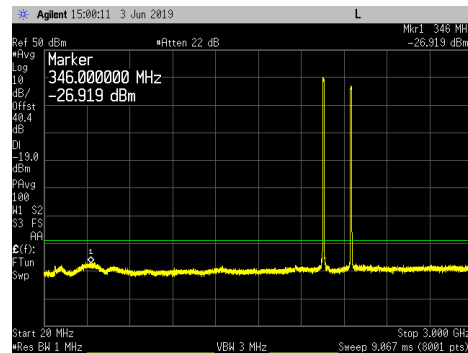
9kHz to 150kHz



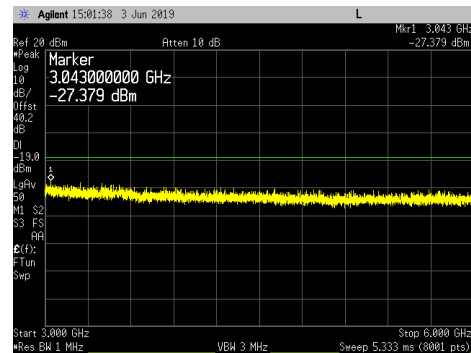
150kHz to 20MHz



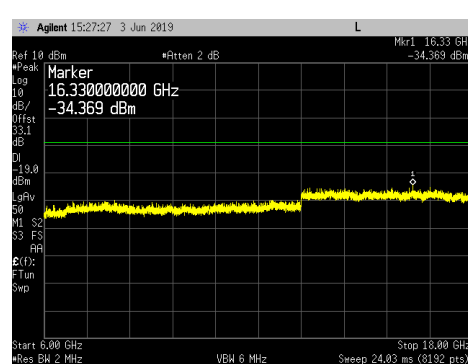
20MHz to 3GHz



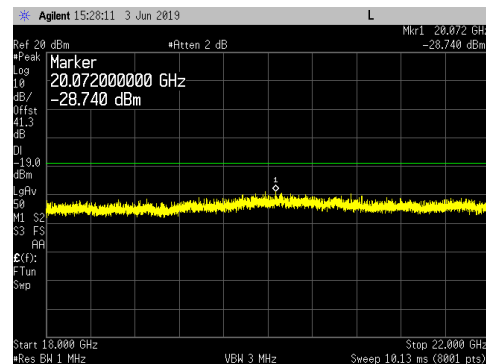
3GHz to 6GHz



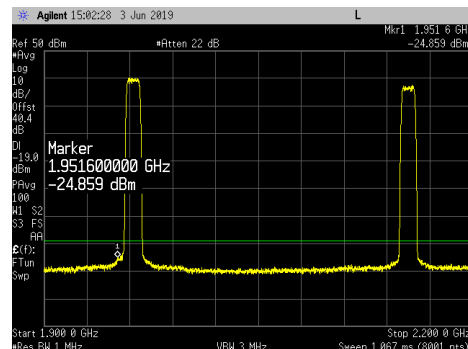
6GHz to 18GHz

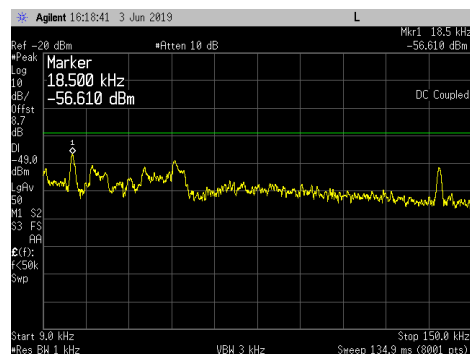
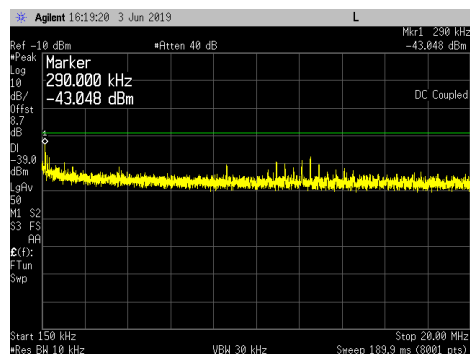
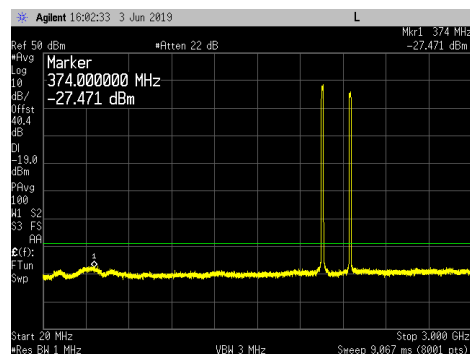
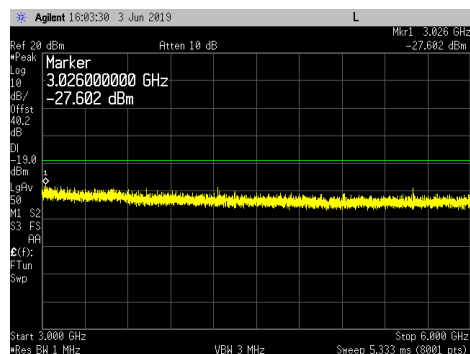
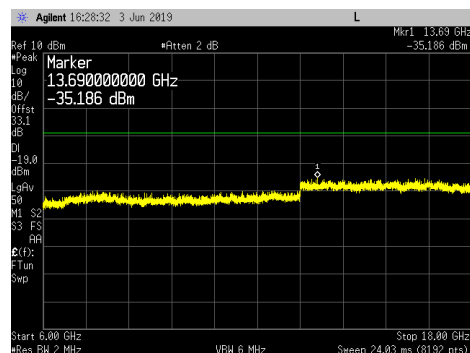
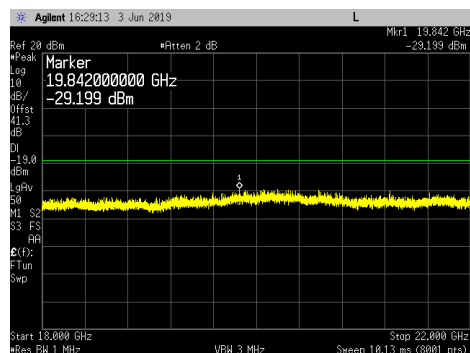
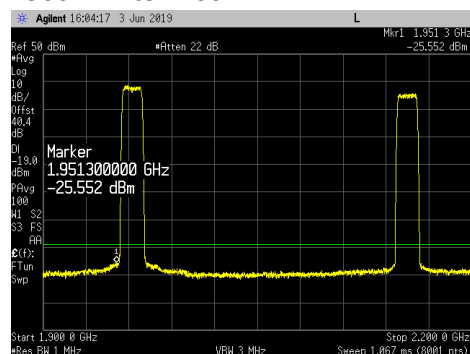


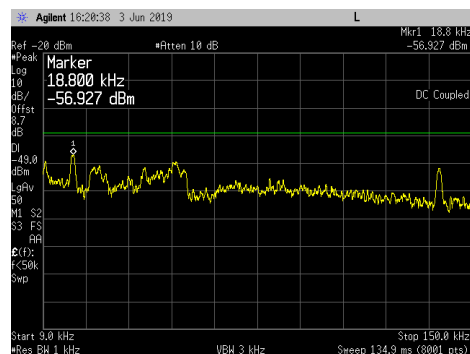
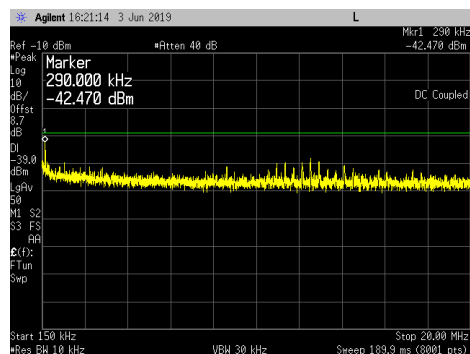
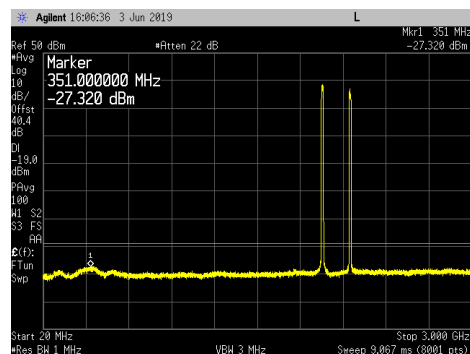
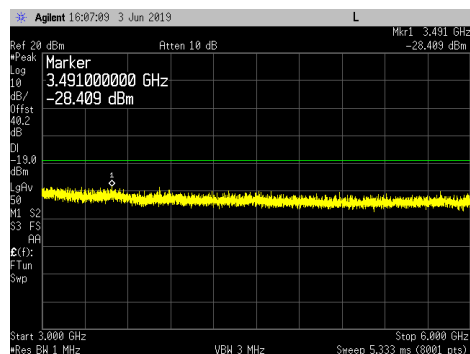
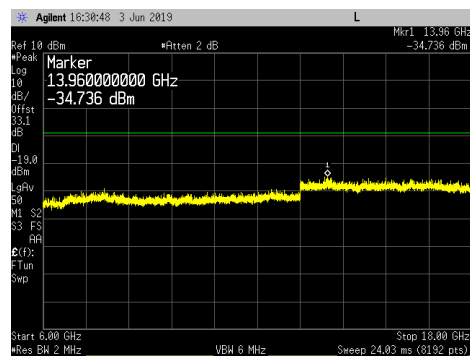
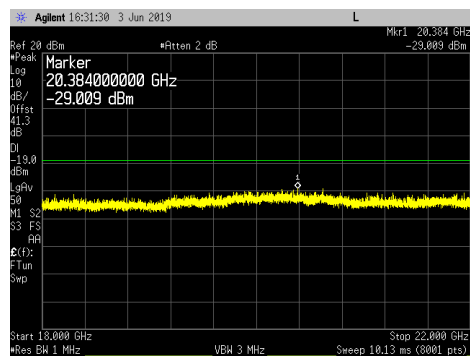
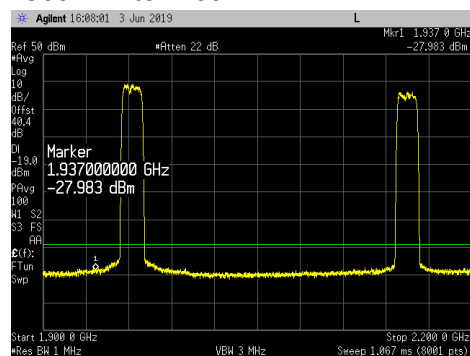
18GHz to 22GHz



1900MHz to 2200MHz



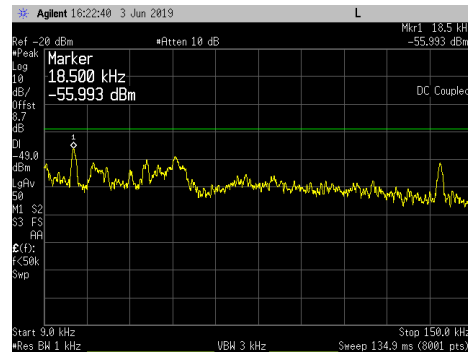
**LTE15 Channel Bandwidth _ QPSK _ Middle Channels (1962.5MHz and 2155MHz) Simultaneously:****9kHz to 150kHz****150kHz to 20MHz****20MHz to 3GHz****3GHz to 6GHz****6GHz to 18GHz****18GHz to 22GHz****1900MHz to 2200MHz**

**LTE15 Channel Bandwidth _ 16QAM _ Middle Channels (1962.5MHz and 2155MHz) Simultaneously:****9kHz to 150kHz****150kHz to 20MHz****20MHz to 3GHz****3GHz to 6GHz****6GHz to 18GHz****18GHz to 22GHz****1900MHz to 2200MHz**

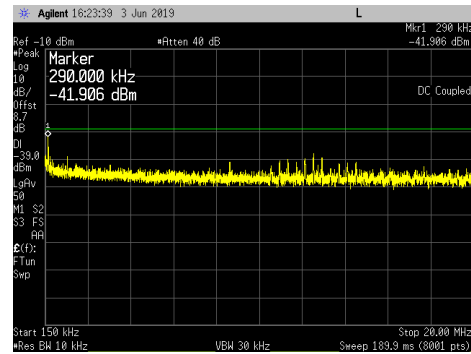


LTE15 Channel Bandwidth _ 64QAM _ Middle Channels (1962.5MHz and 2155MHz) Simultaneously:

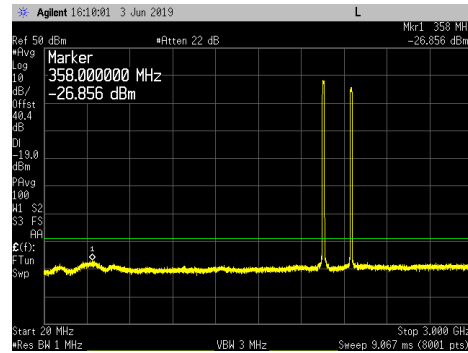
9kHz to 150kHz



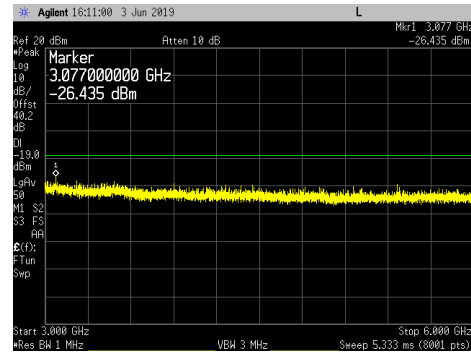
150kHz to 20MHz



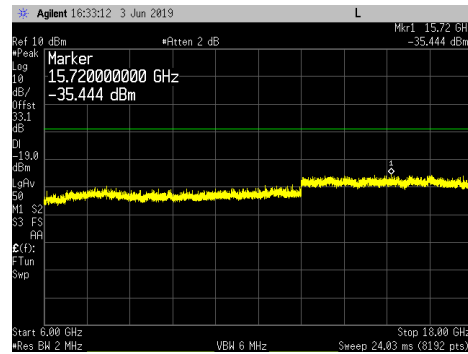
20MHz to 3GHz



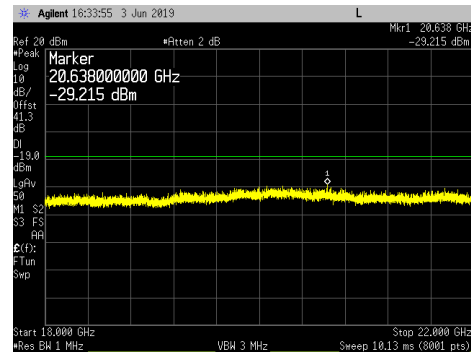
3GHz to 6GHz



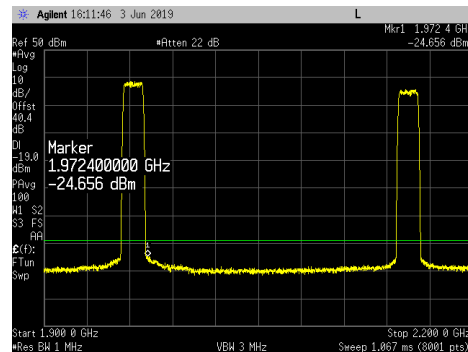
6GHz to 18GHz

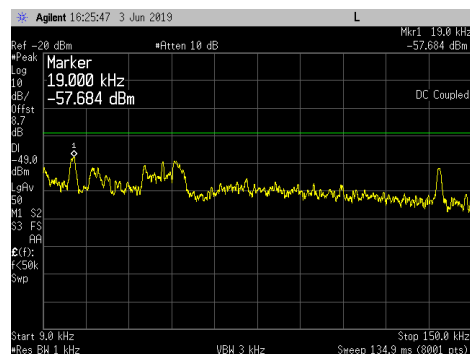
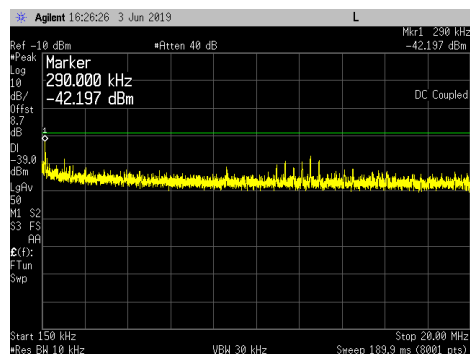
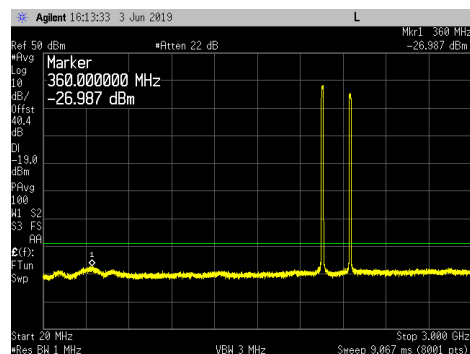
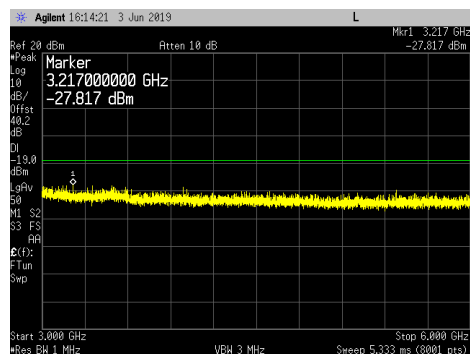
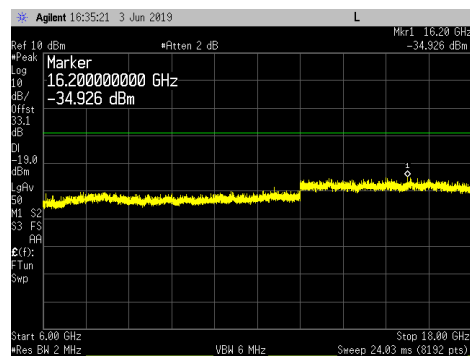
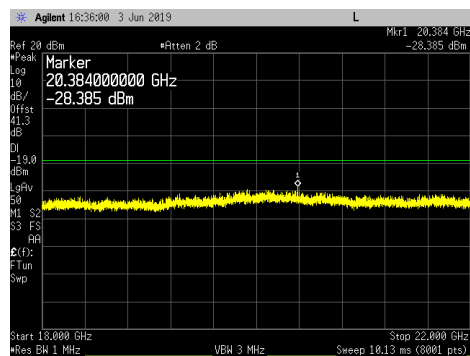
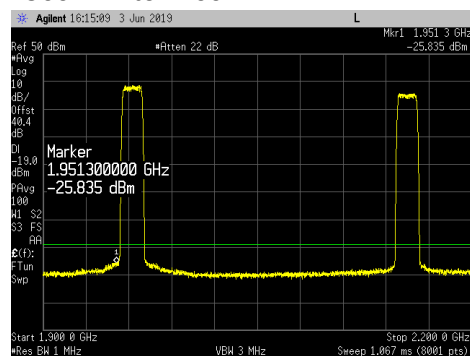


18GHz to 22GHz



1900MHz to 2200MHz

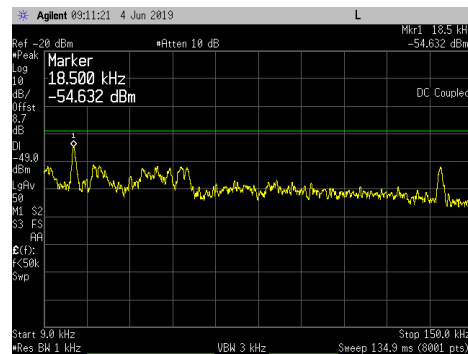


**LTE15 Channel Bandwidth _ 256QAM _ Middle Channels (1962.5MHz and 2155MHz) Simultaneously:****9kHz to 150kHz****150kHz to 20MHz****20MHz to 3GHz****3GHz to 6GHz****6GHz to 18GHz****18GHz to 22GHz****1900MHz to 2200MHz**

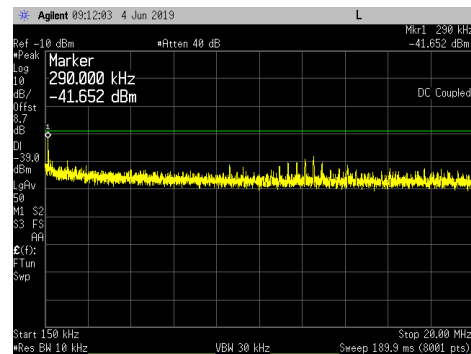


LTE20 Channel Bandwidth _ QPSK _ Middle Channels (1962.5MHz and 2155MHz) Simultaneously:

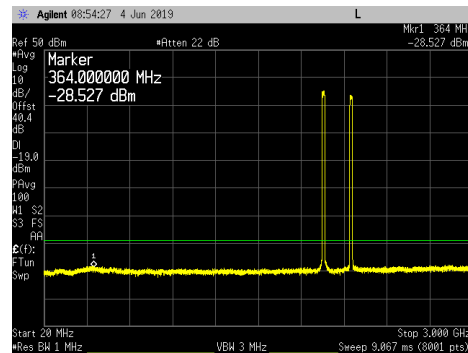
9kHz to 150kHz



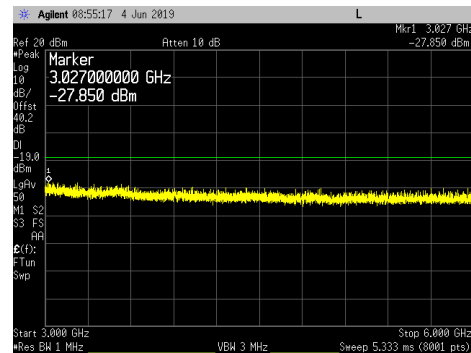
150kHz to 20MHz



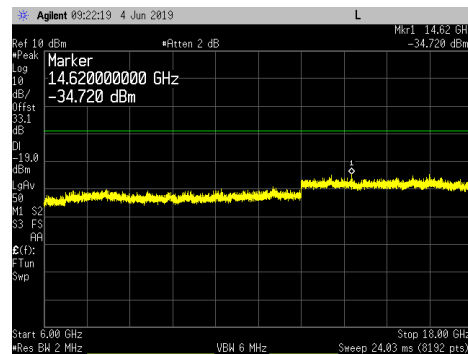
20MHz to 3GHz



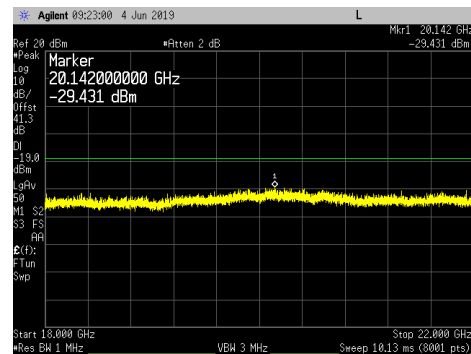
3GHz to 6GHz



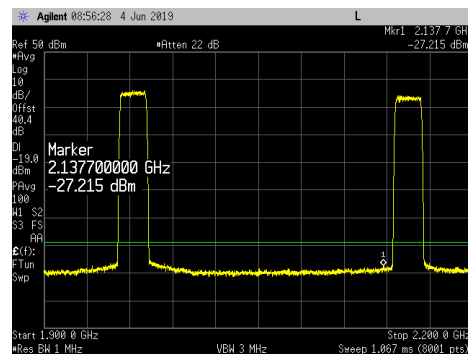
6GHz to 18GHz



18GHz to 22GHz



1900MHz to 2200MHz



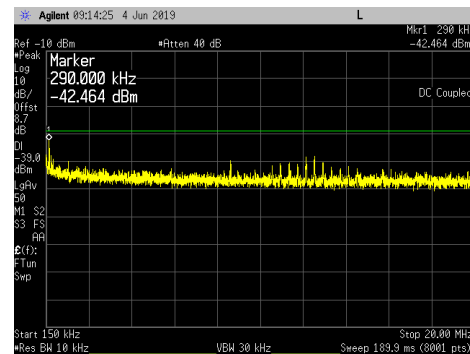


LTE20 Channel Bandwidth _ 16QAM _ Middle Channels (1962.5MHz and 2155MHz) Simultaneously:

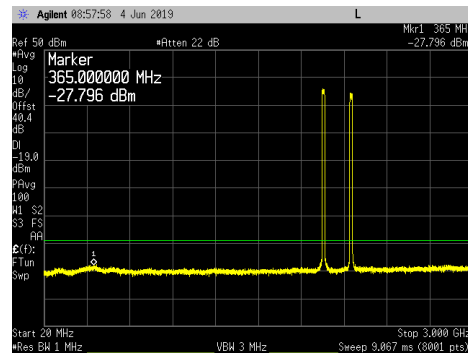
9kHz to 150kHz



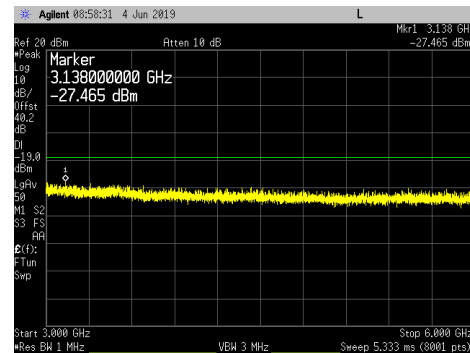
150kHz to 20MHz



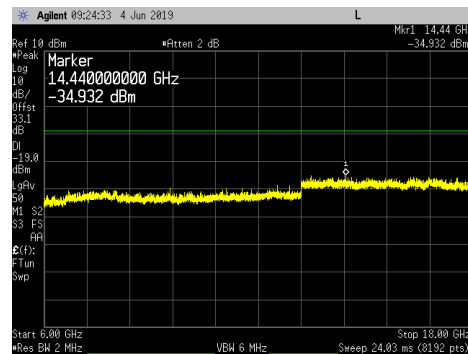
20MHz to 3GHz



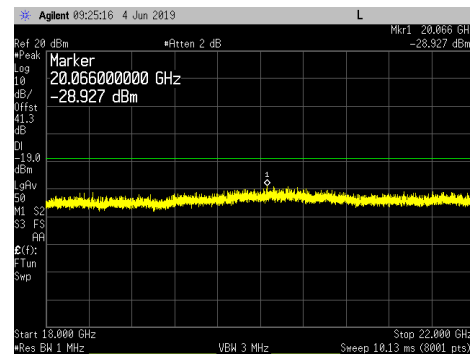
3GHz to 6GHz



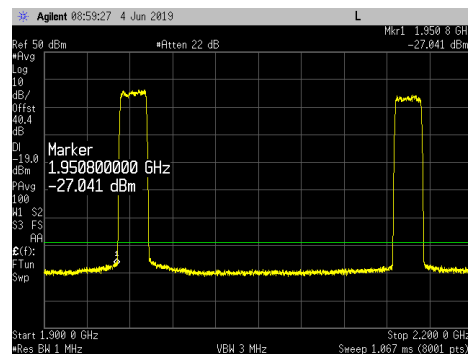
6GHz to 18GHz



18GHz to 22GHz

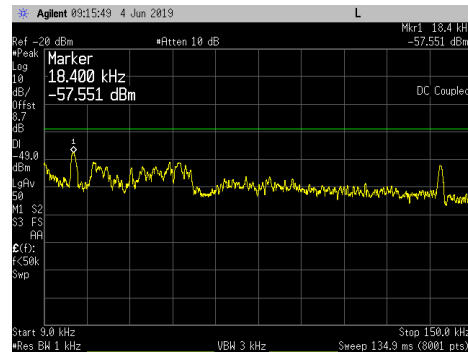


1900MHz to 2200MHz

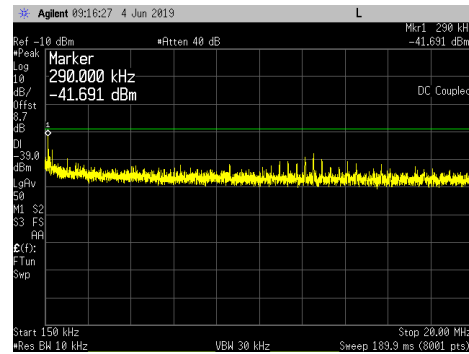


LTE20 Channel Bandwidth _ 64QAM _ Middle Channels (1962.5MHz and 2155MHz) Simultaneously:

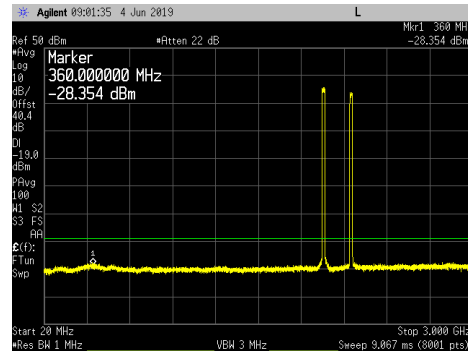
9kHz to 150kHz



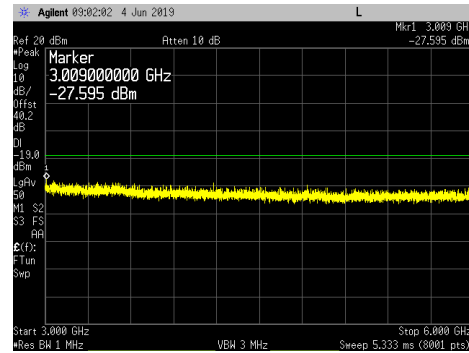
150kHz to 20MHz



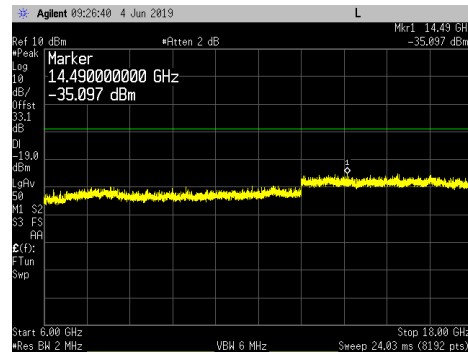
20MHz to 3GHz



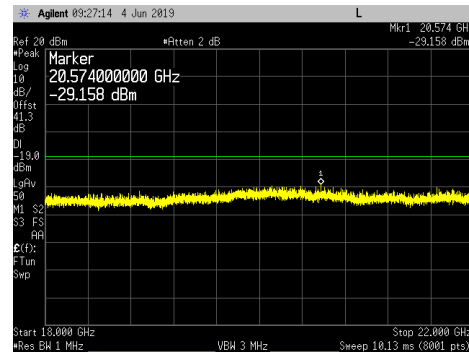
3GHz to 6GHz



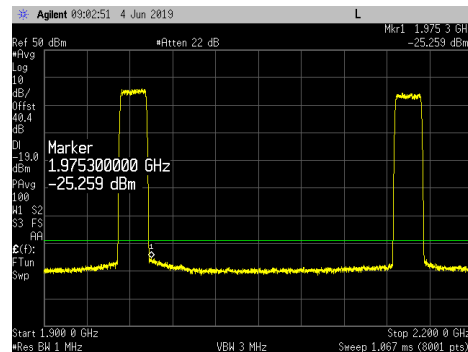
6GHz to 18GHz



18GHz to 22GHz



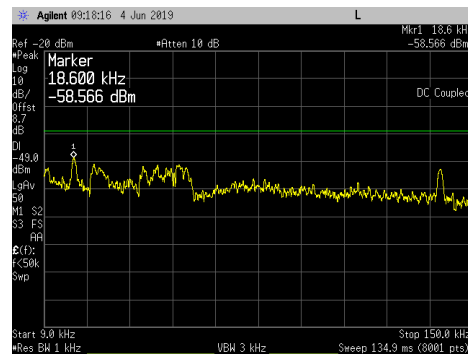
1900MHz to 2200MHz



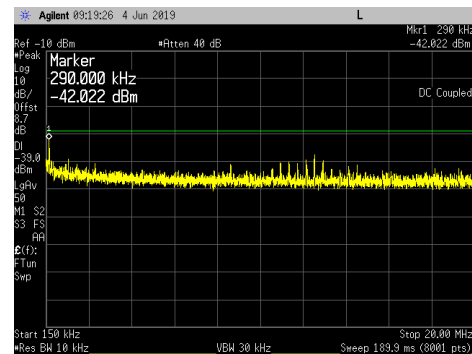


LTE20 Channel Bandwidth _ 256QAM _ Middle Channels (1962.5MHz and 2155MHz) Simultaneously:

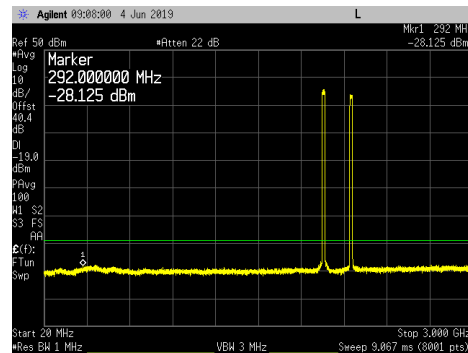
9kHz to 150kHz



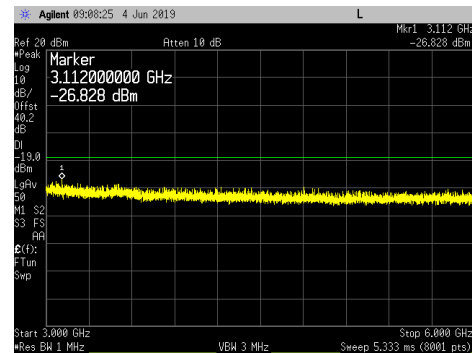
150kHz to 20MHz



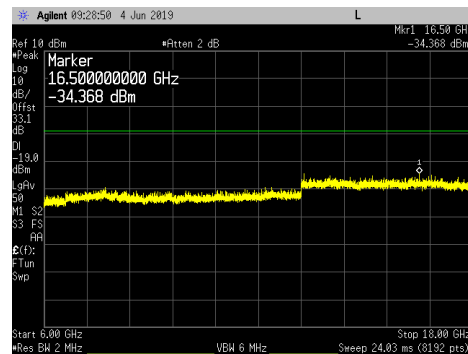
20MHz to 3GHz



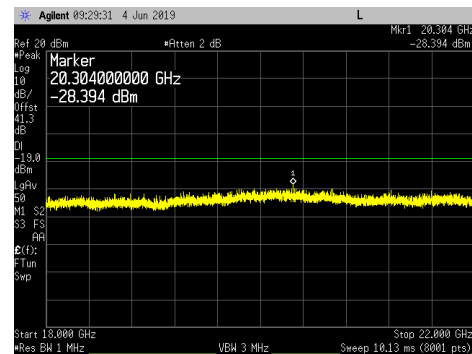
3GHz to 6GHz



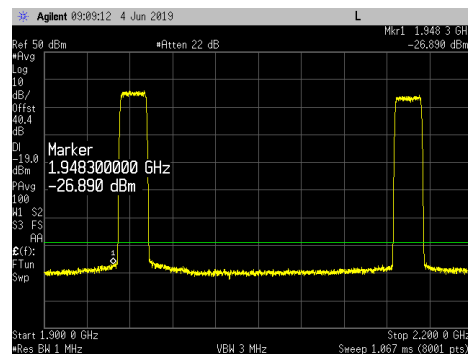
6GHz to 18GHz



18GHz to 22GHz



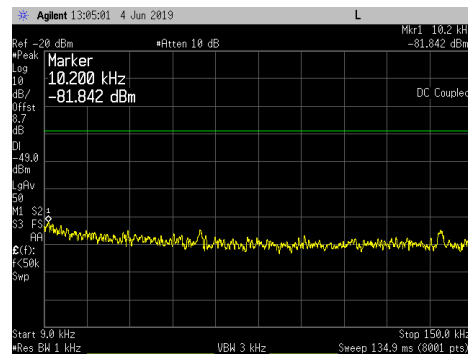
1900MHz to 2200MHz



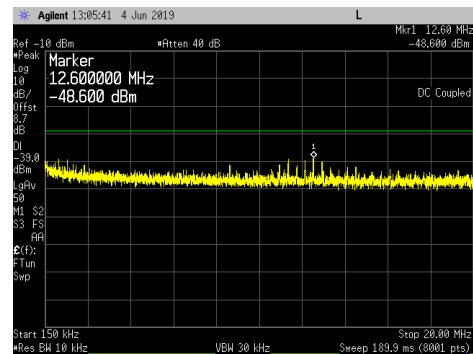


Multicarrier PCS LTE5 & Single Carrier AWS LTE1.4 _ QPSK_ (1932.5, 1937.5, 1992.5 & 2155MHz):

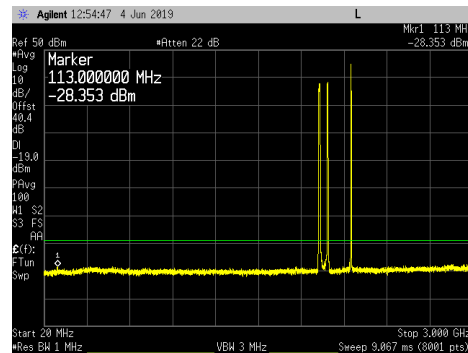
9kHz to 150kHz



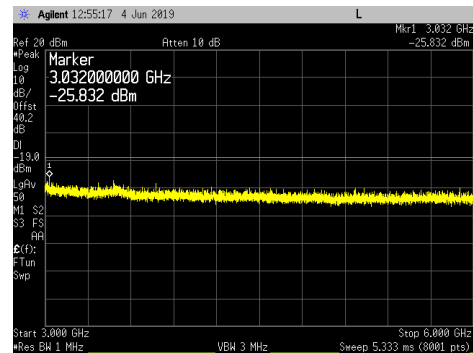
150kHz to 20MHz



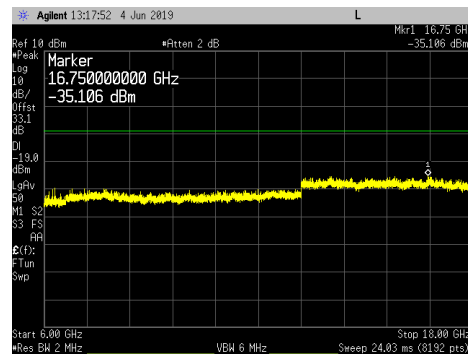
20MHz to 3GHz



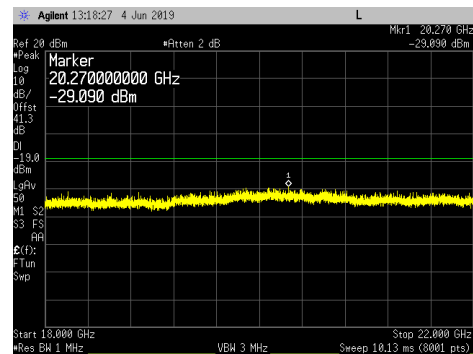
3GHz to 6GHz



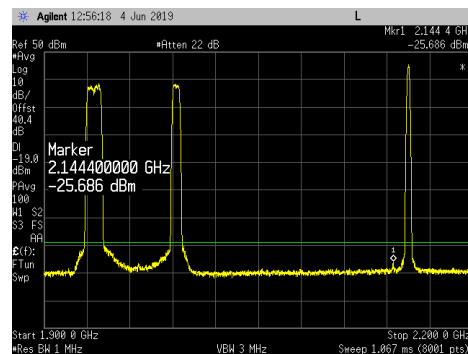
6GHz to 18GHz



18GHz to 22GHz



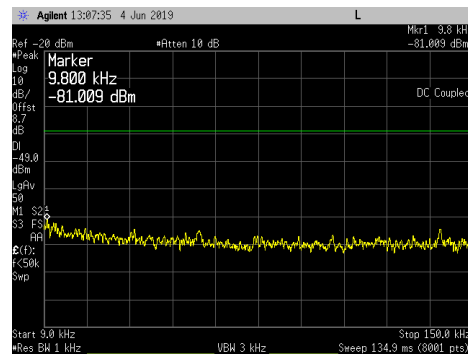
1900MHz to 2200MHz



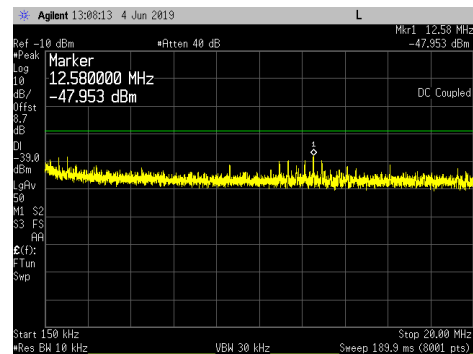


Multicarrier PCS LTE5 & Single Carrier AWS LTE1.4 _ 16QAM_ (1932.5, 1937.5, 1992.5 & 2155MHz):

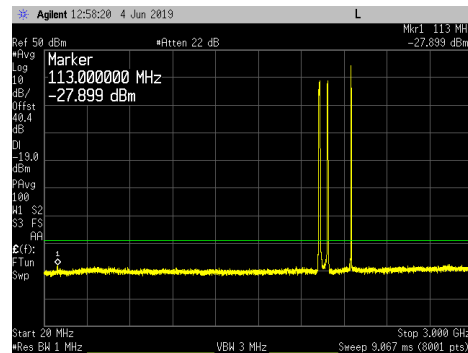
9kHz to 150kHz



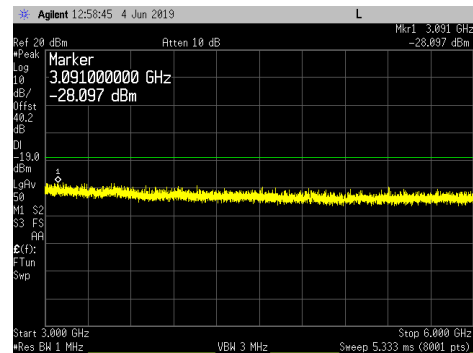
150kHz to 20MHz



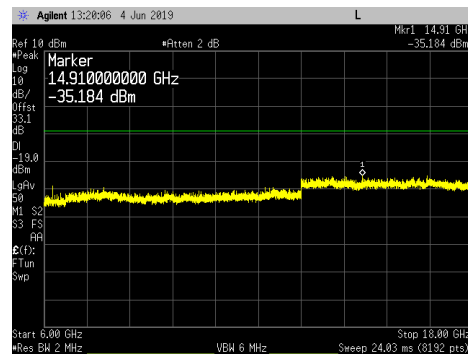
20MHz to 3GHz



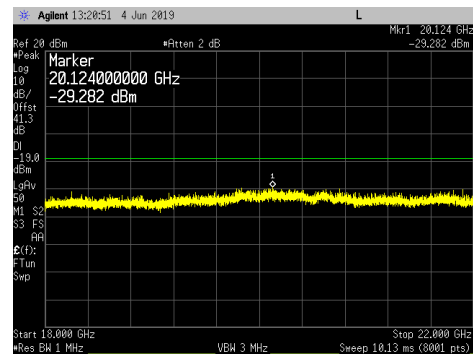
3GHz to 6GHz



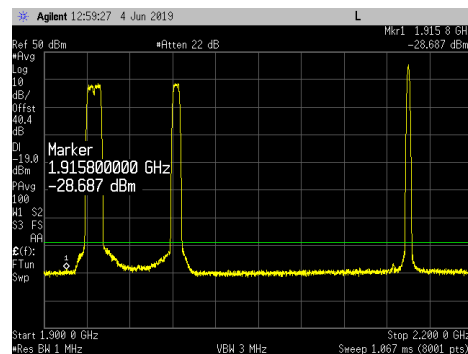
6GHz to 18GHz



18GHz to 22GHz



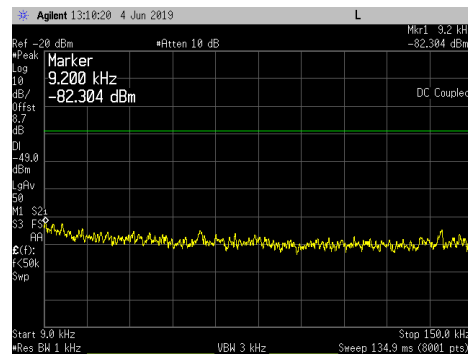
1900MHz to 2200MHz



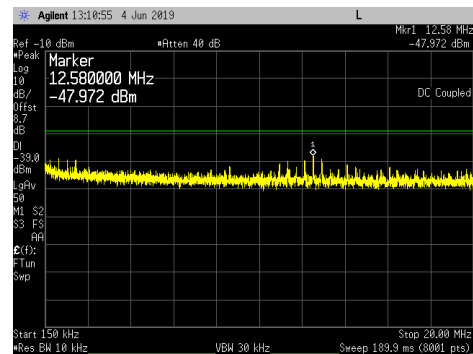


Multicarrier PCS LTE5 & Single Carrier AWS LTE1.4 _ 64QAM_ (1932.5, 1937.5, 1992.5 & 2155MHz):

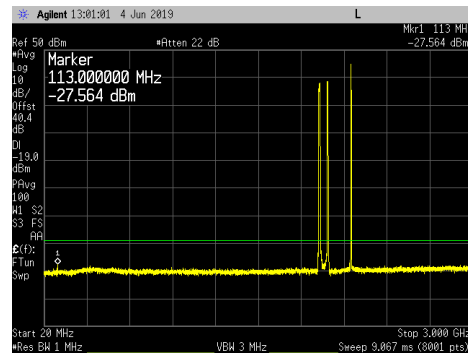
9kHz to 150kHz



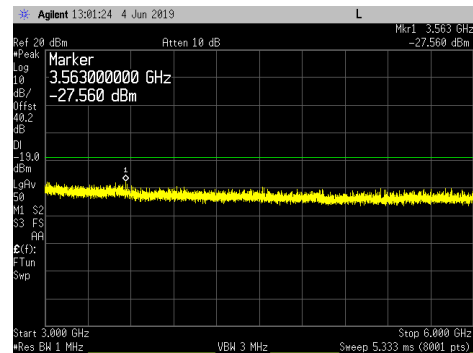
150kHz to 20MHz



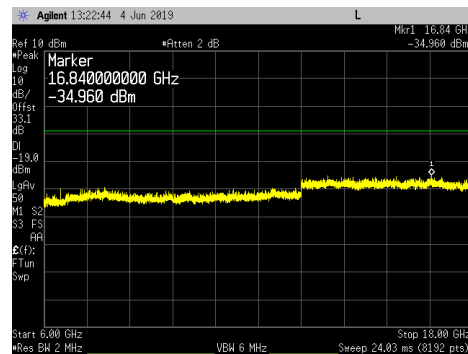
20MHz to 3GHz



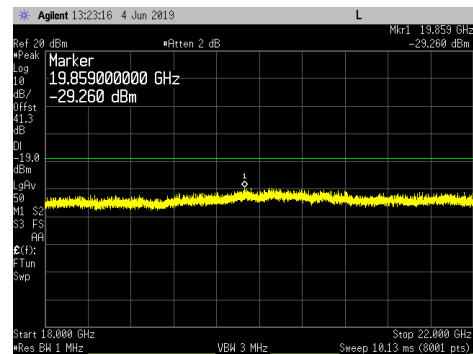
3GHz to 6GHz



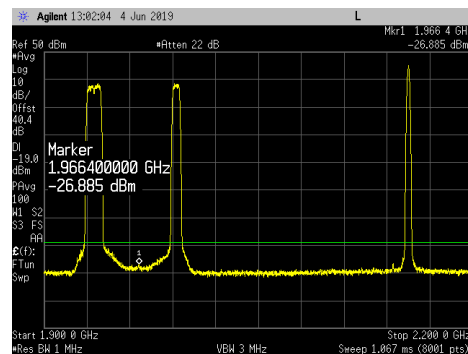
6GHz to 18GHz



18GHz to 22GHz



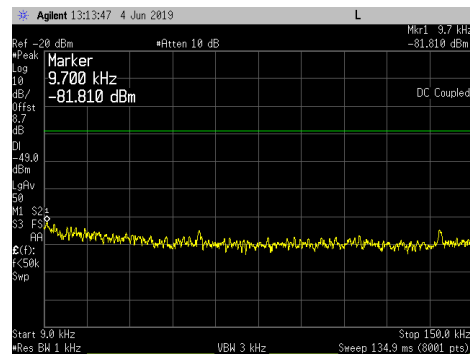
1900MHz to 2200MHz



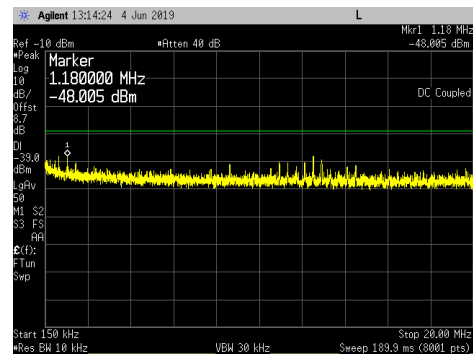


Multicarrier PCS LTE5 & Single Carrier AWS LTE1.4 _ 256QAM_ (1932.5, 1937.5, 1992.5 & 2155MHz):

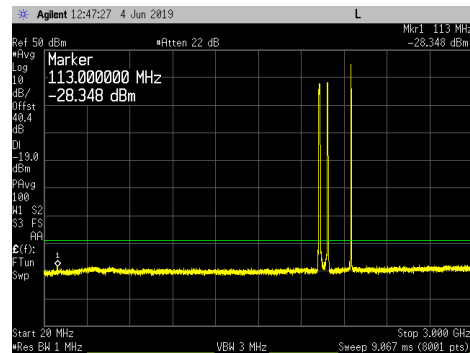
9kHz to 150kHz



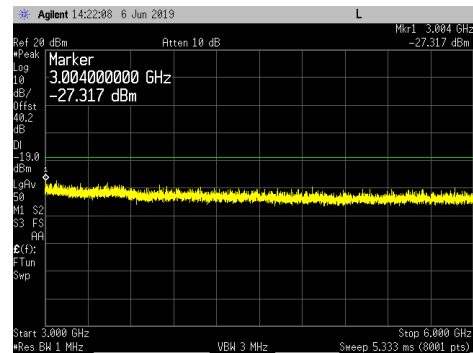
150kHz to 20MHz



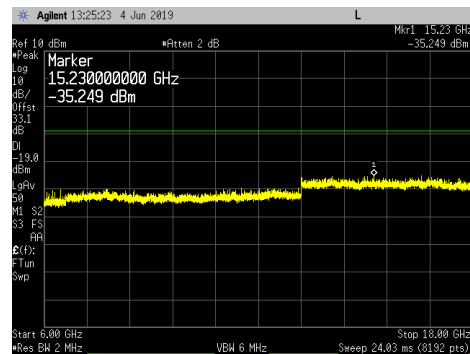
20MHz to 3GHz



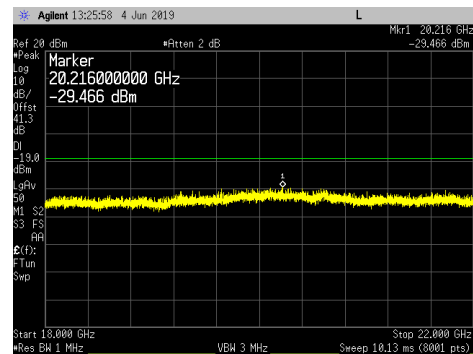
3GHz to 6GHz



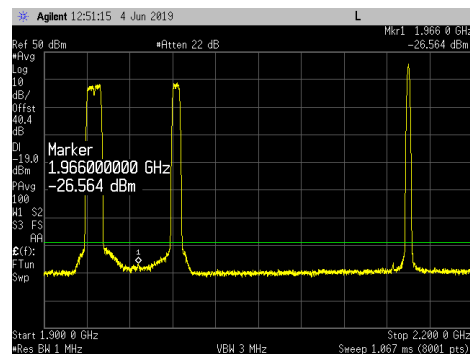
6GHz to 18GHz



18GHz to 22GHz



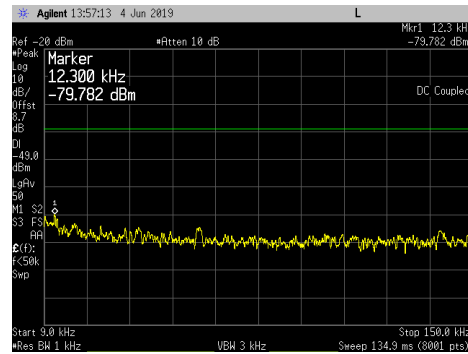
1900MHz to 2200MHz



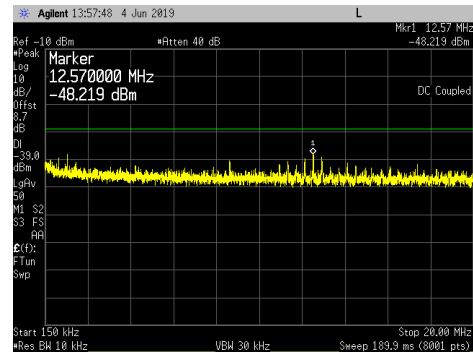


Multicarrier AWS LTE1.4 & Single Carrier PCS LTE1.4 _ QPSK_ (1962.5, 2110.7, 2112.1 & 2199.3MHz):

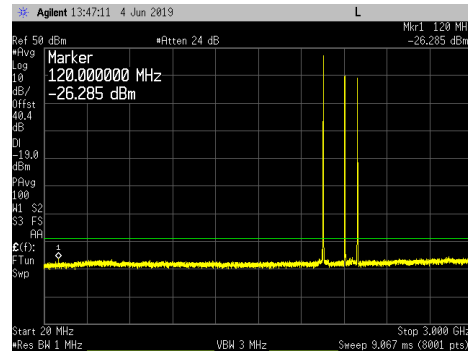
9kHz to 150kHz



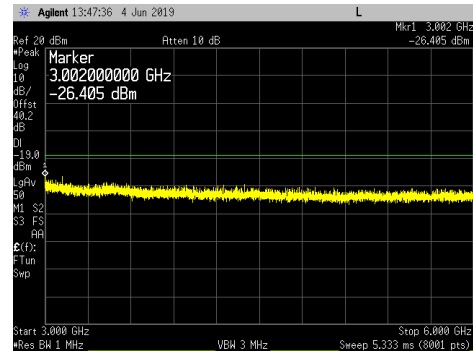
150kHz to 20MHz



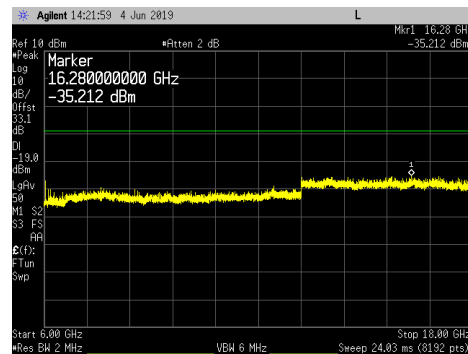
20MHz to 3GHz



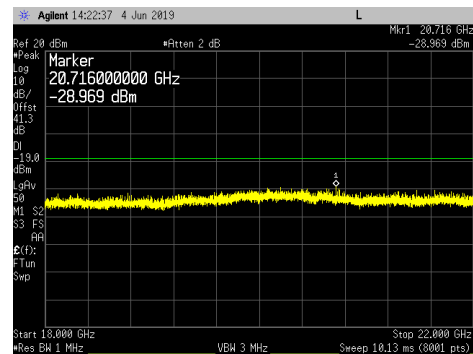
3GHz to 6GHz



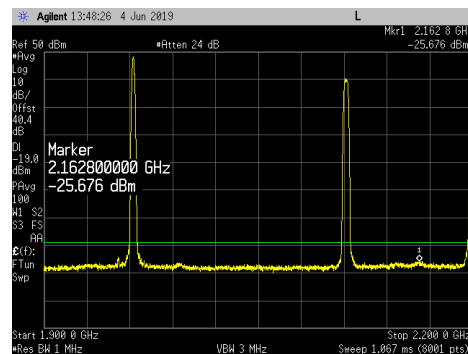
6GHz to 18GHz



18GHz to 22GHz



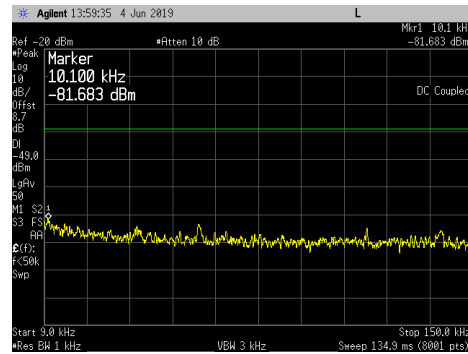
1900MHz to 2200MHz



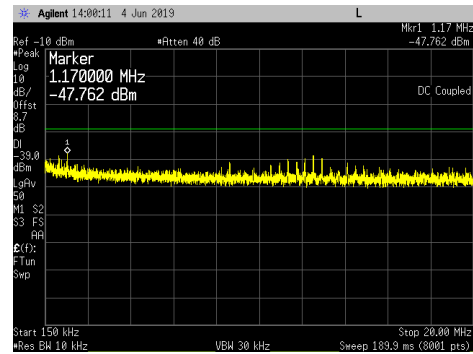


Multicarrier AWS LTE1.4 & Single carrier PCS LTE1.4 _ 16QAM_ (1962.5, 2110.7, 2112.1 & 2199.3MHz):

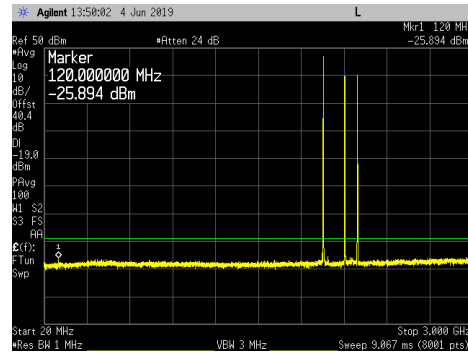
9kHz to 150kHz



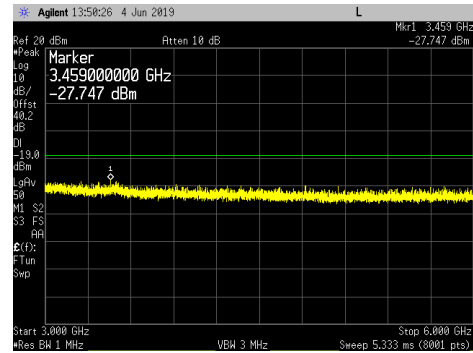
150kHz to 20MHz



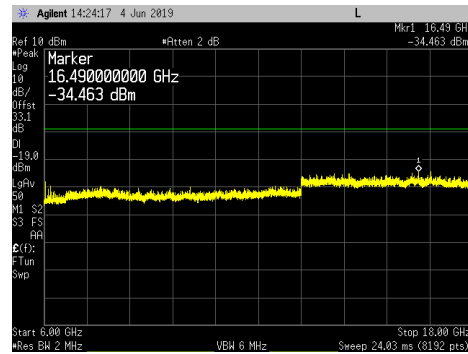
20MHz to 3GHz



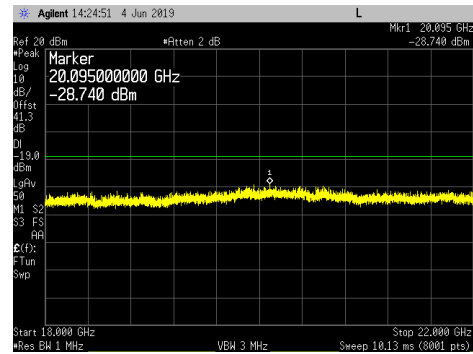
3GHz to 6GHz



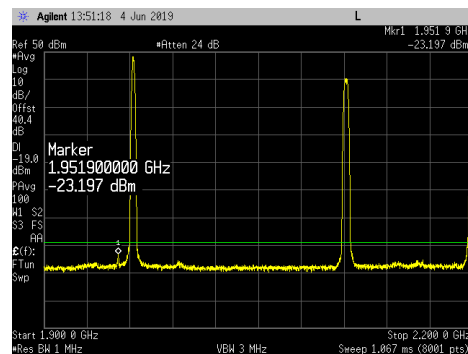
6GHz to 18GHz



18GHz to 22GHz



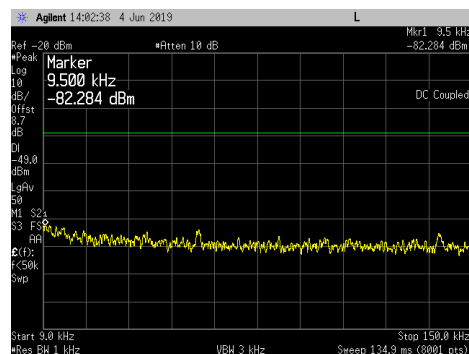
1900MHz to 2200MHz



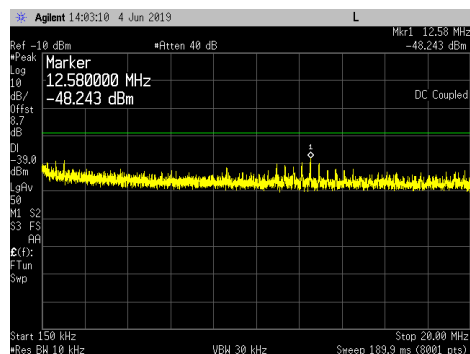


Multicarrier AWS LTE1.4 & Single carrier PCS LTE1.4 _ 64QAM_ (1962.5, 2110.7, 2112.1 & 2199.3MHz):

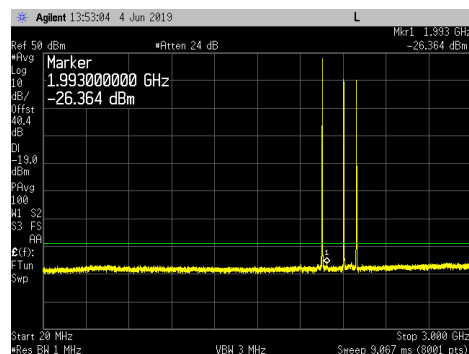
9kHz to 150kHz



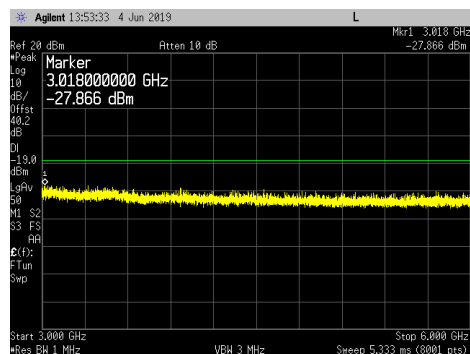
150kHz to 20MHz



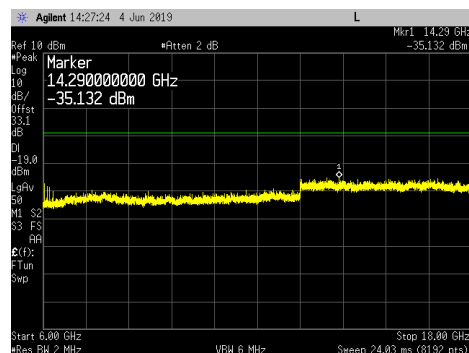
20MHz to 3GHz



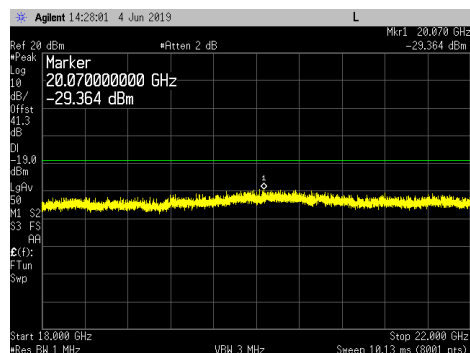
3GHz to 6GHz



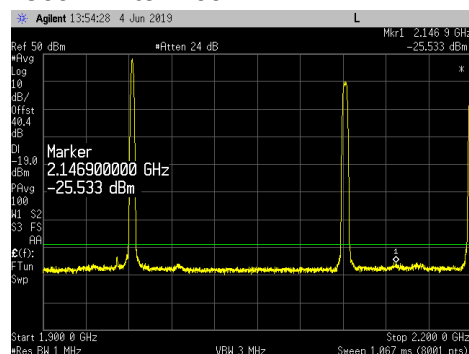
6GHz to 18GHz



18GHz to 22GHz



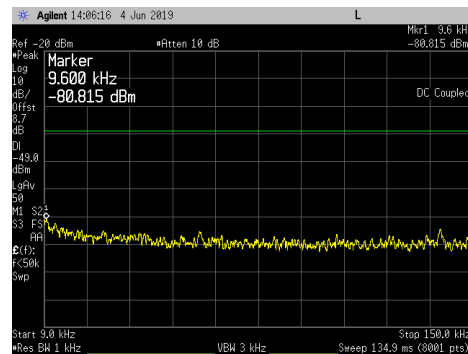
1900MHz to 2200MHz



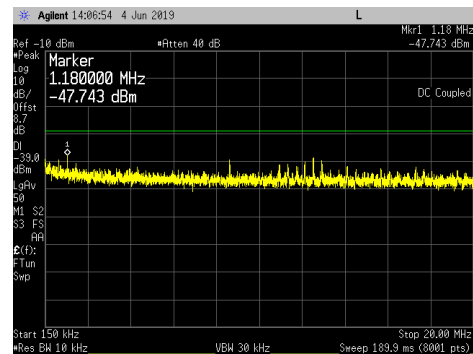


Multicarrier AWS LTE1.4 & Single carrier PCS LTE1.4_ 256QAM_(1962.5, 2110.7, 2112.1 & 2199.3MHz):

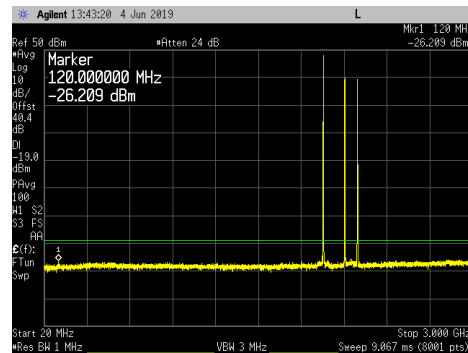
9kHz to 150kHz



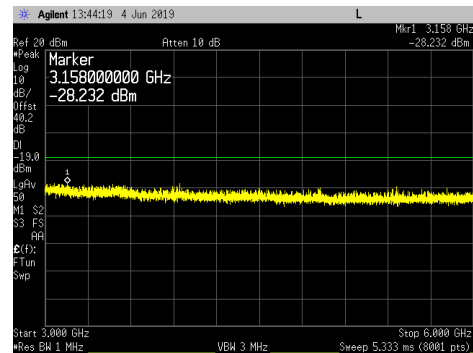
150kHz to 20MHz



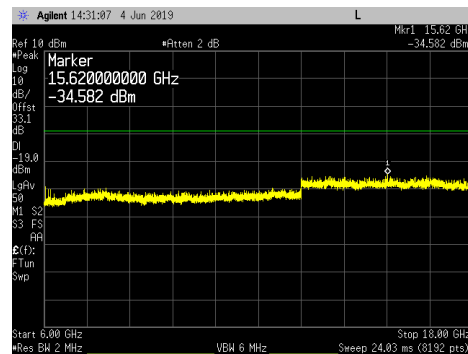
20MHz to 3GHz



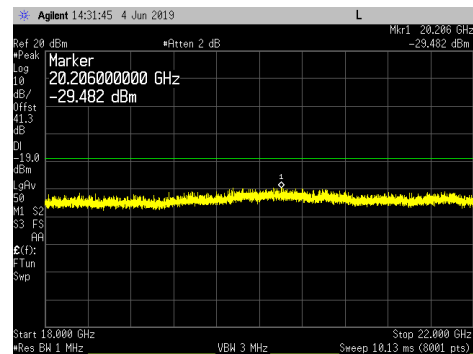
3GHz to 6GHz



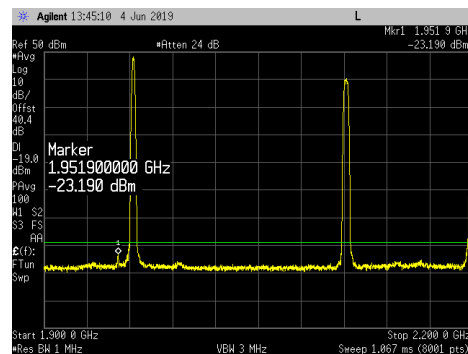
6GHz to 18GHz



18GHz to 22GHz

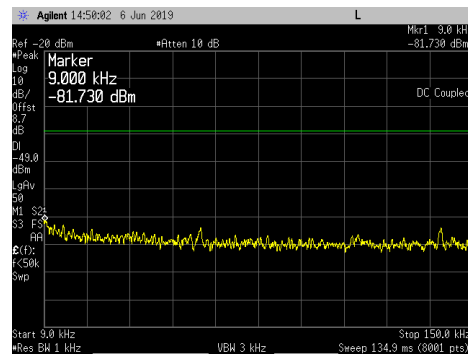


1900MHz to 2200MHz

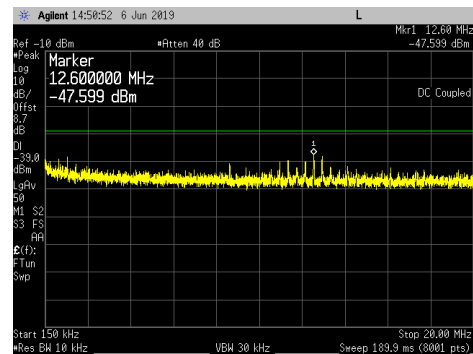


Multicarrier Multiband LTE1.4 _ QPSK_ (1930.7, 1932.1 & 2199.3MHz):

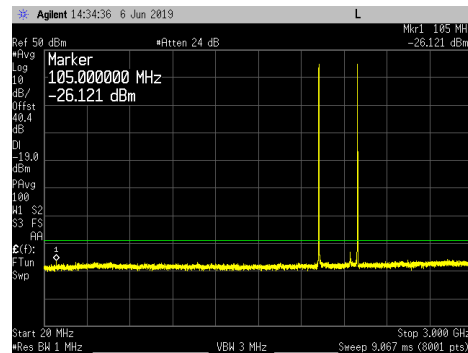
9kHz to 150kHz



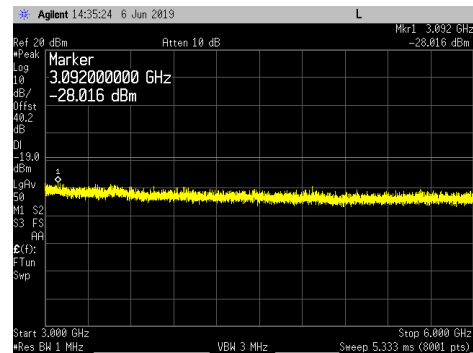
150kHz to 20MHz



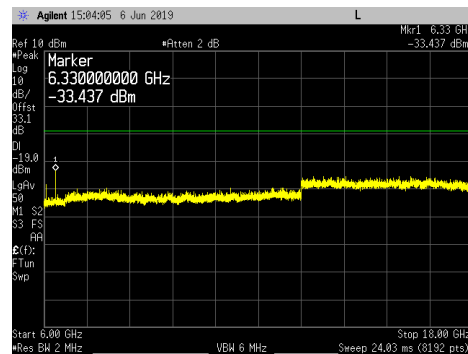
20MHz to 3GHz



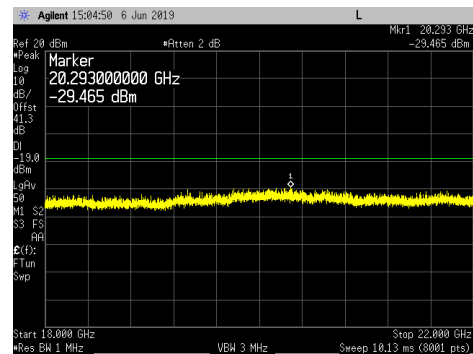
3GHz to 6GHz



6GHz to 18GHz



18GHz to 22GHz



1900MHz to 2200MHz

