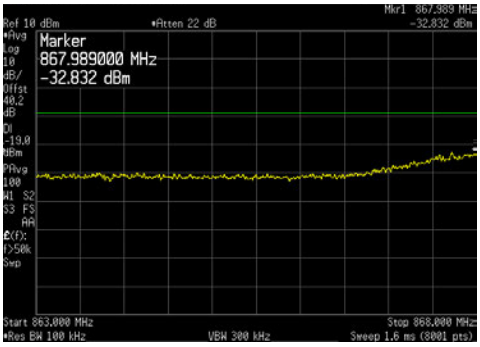
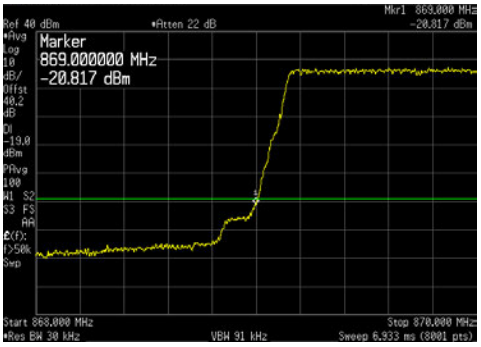
LTE3 Lower Band Edge Plots for Antenna Port 4:

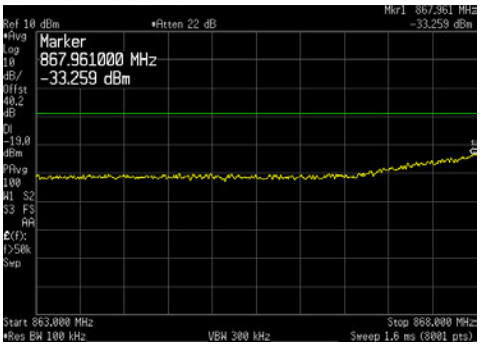
LTE3_QPSK_Bottom Channel_863 to 868MHz



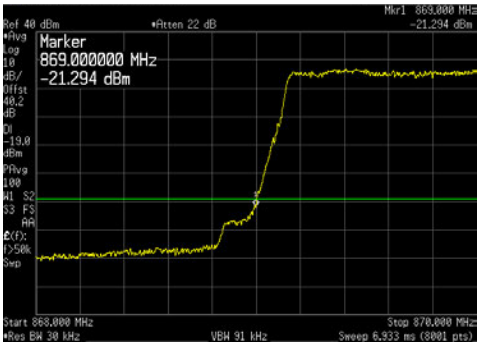
LTE3_QPSK_Bottom Channel_868 to 870MHz



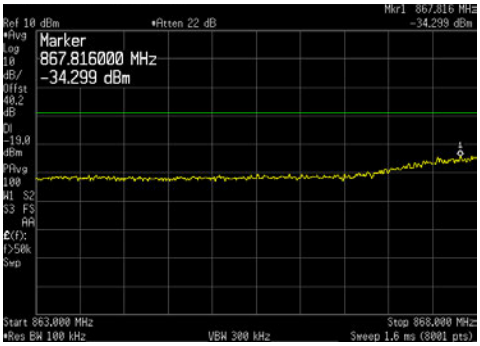
LTE3_16QAM_Bottom Channel_863 to 868MHz



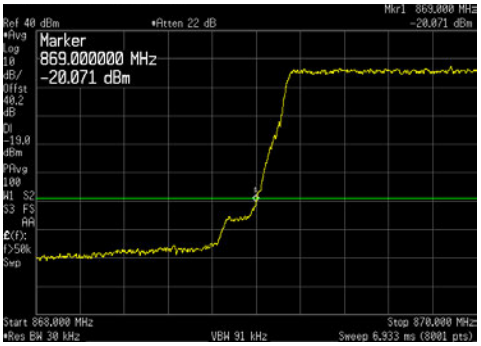
LTE3_16QAM_Bottom Channel_868 to 870MHz



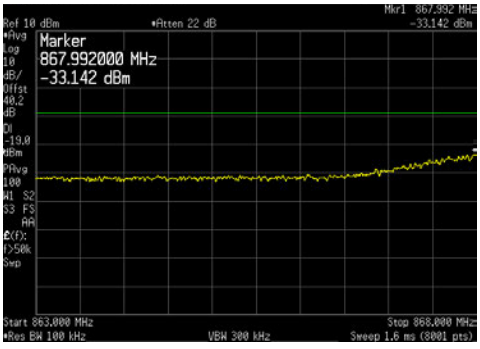
LTE3_64QAM_Bottom Channel_863 to 868MHz



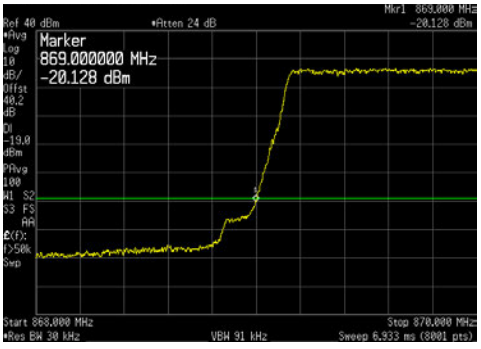
LTE3_64QAM_Bottom Channel_868 to 870MHz



LTE3_256QAM_Bottom Channel_863 to 868MHz

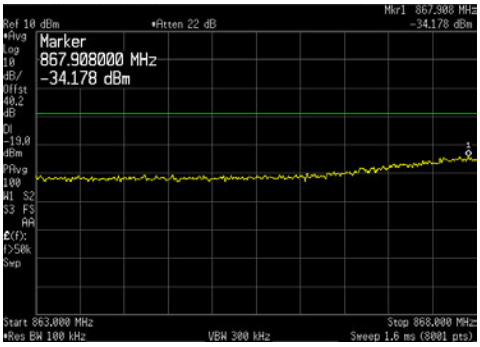


LTE3_256QAM_Bottom Channel_868 to 870MHz

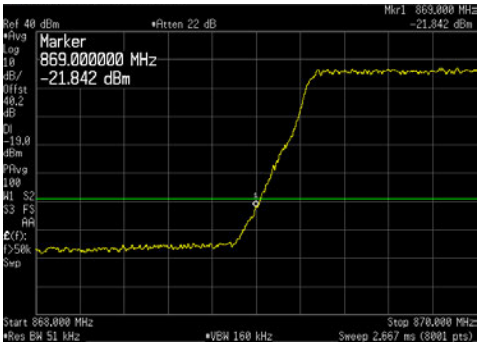


LTE5 Lower Band Edge Plots for Antenna Port 4:

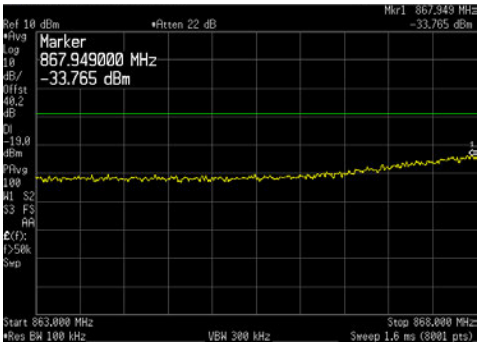
LTE5_QPSK_Bottom Channel_863 to 868MHz



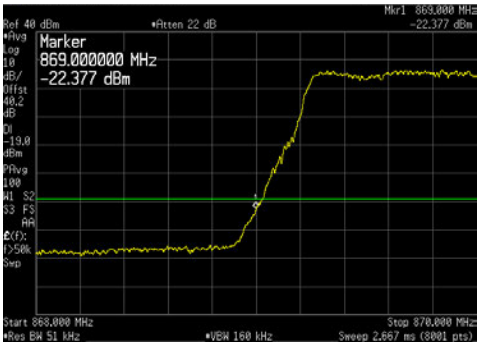
LTE5_QPSK_Bottom Channel_868 to 870MHz



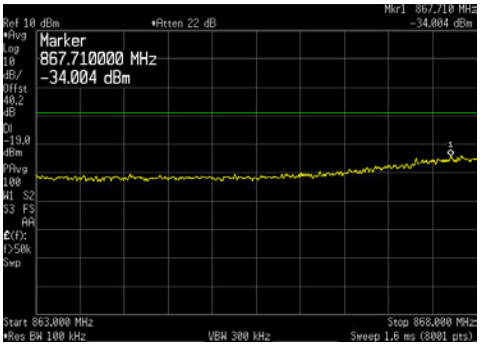
LTE5_16QAM_Bottom Channel_863 to 868MHz



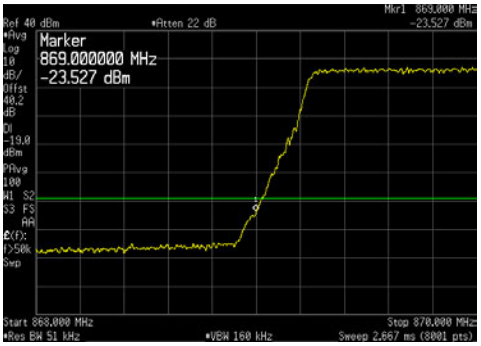
LTE5_16QAM_Bottom Channel_868 to 870MHz



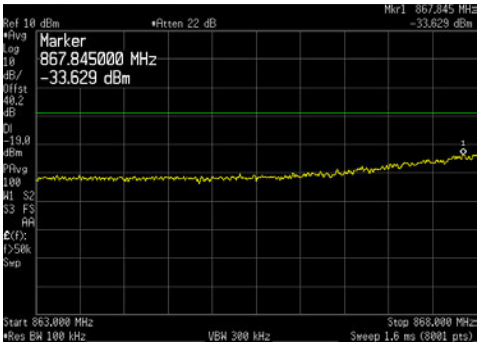
LTE5_64QAM_Bottom Channel_863 to 868MHz



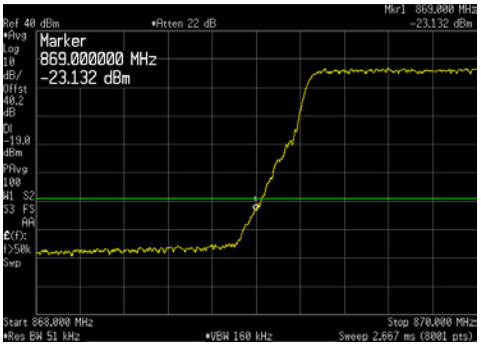
LTE5_64QAM_Bottom Channel_868 to 870MHz



LTE5_256QAM_Bottom Channel_863 to 868MHz

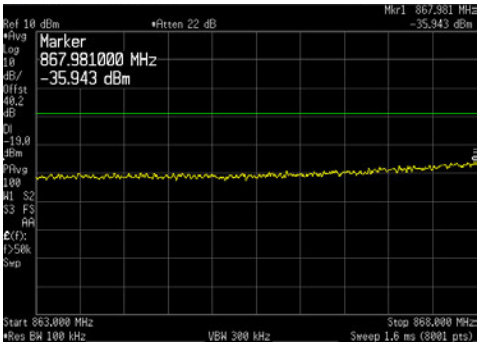


LTE5_256QAM_Bottom Channel_868 to 870MHz

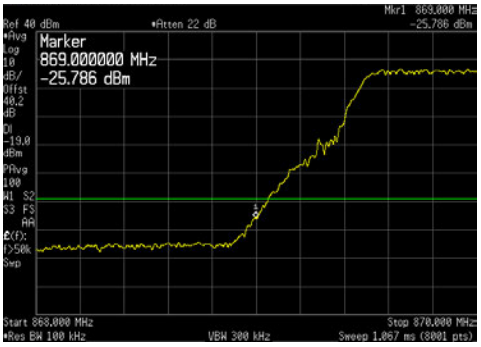


LTE10 Lower Band Edge Plots for Antenna Port 4:

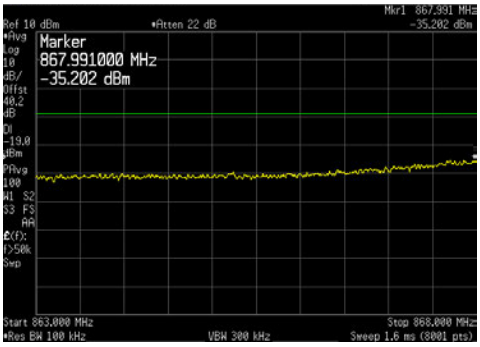
LTE10_QPSK_Bottom Channel_863 to 868MHz



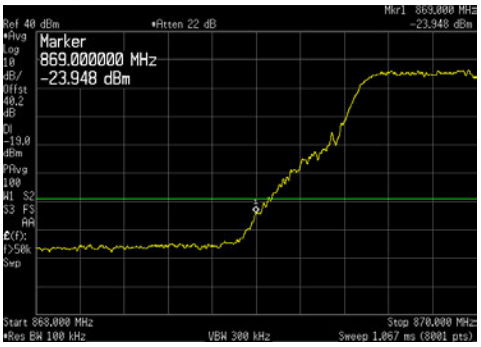
LTE10_QPSK_Bottom Channel_868 to 870MHz



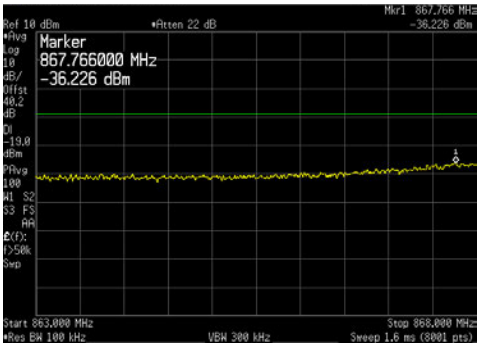
LTE10_16QAM_Bottom Channel_863 to 868MHz



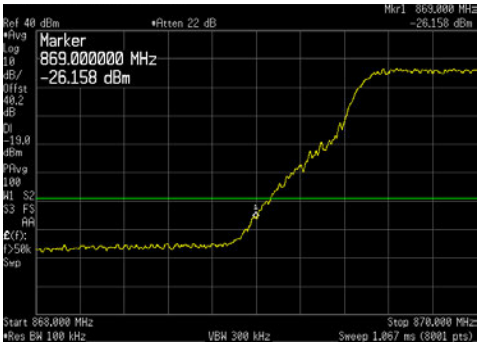
LTE10_16QAM_Bottom Channel_868 to 870MHz



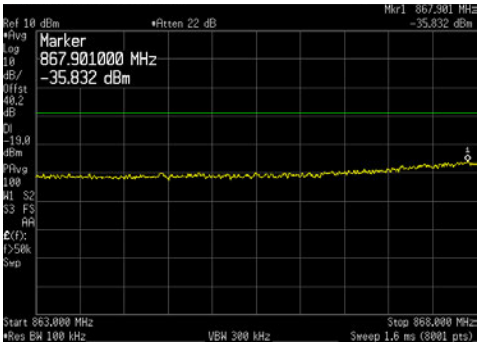
LTE10_64QAM_Bottom Channel_863 to 868MHz



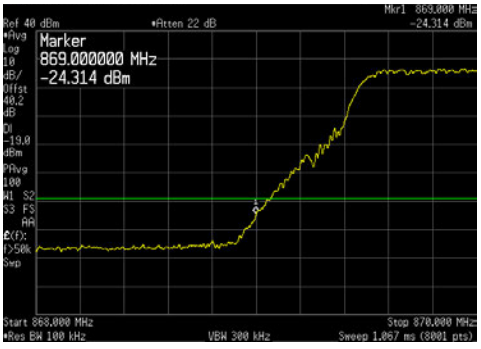
LTE10_64QAM_Bottom Channel_868 to 870MHz



LTE10_256QAM_Bottom Channel_863 to 868MHz

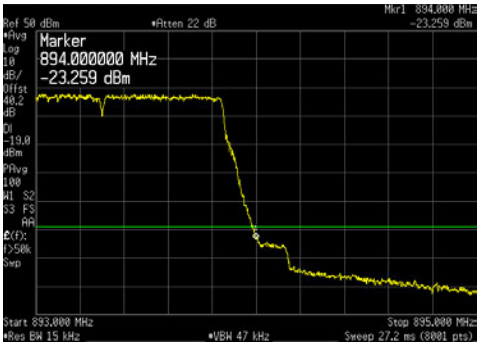


LTE10_256QAM_Bottom Channel_868 to 870MHz

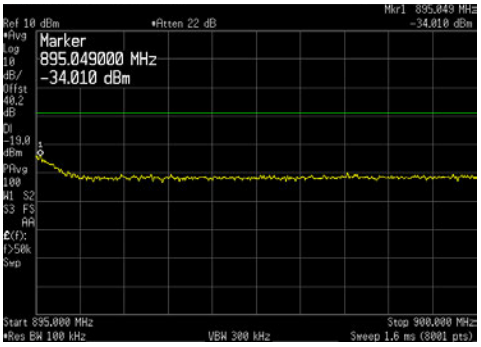


LTE1.4 Upper Band Edge Plots for Antenna Port 4:

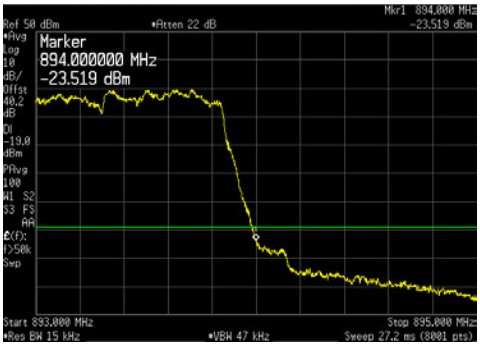
LTE1.4_QPSK_Top Channel_893 to 895MHz



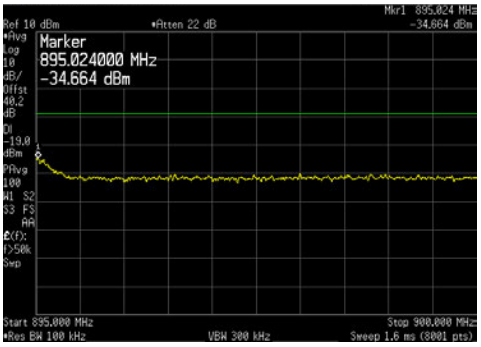
LTE1.4_QPSK_Top Channel_895 to 900MHz



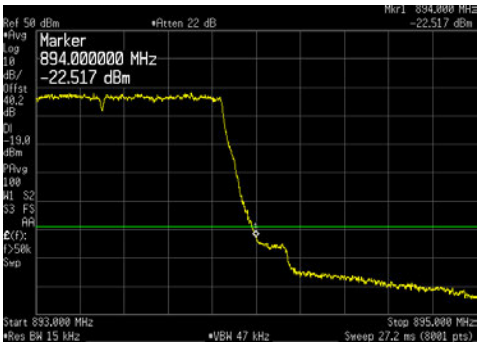
LTE1.4_16QAM_Top Channel_893 to 895MHz



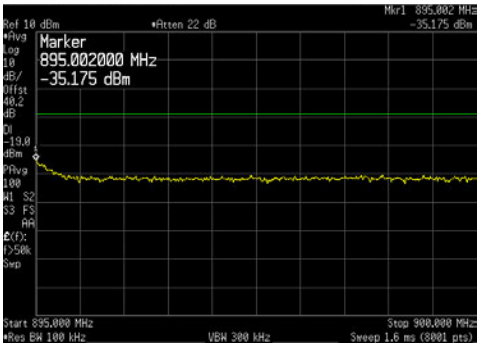
LTE1.4_16QAM_Top Channel_895 to 900MHz



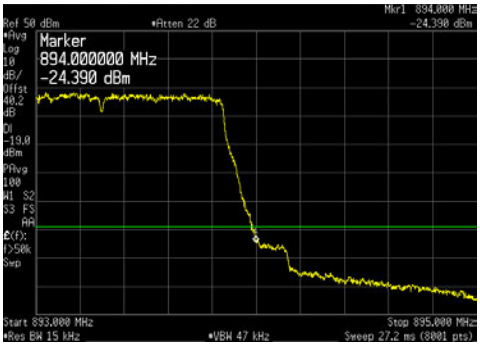
LTE1.4_64QAM_Top Channel_893 to 895MHz



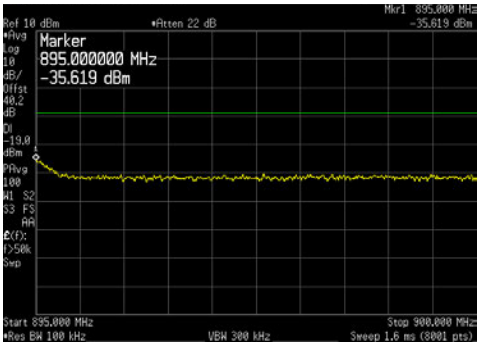
LTE1.4_64QAM_Top Channel_895 to 900MHz



LTE1.4_256QAM_Top Channel_893 to 895MHz

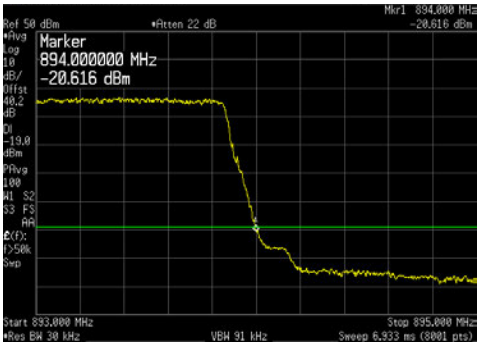


LTE1.4_256QAM_Top Channel_895 to 900MHz

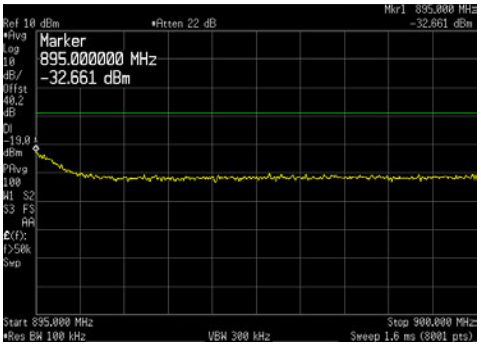


LTE3 Upper Band Edge Plots for Antenna Port 4:

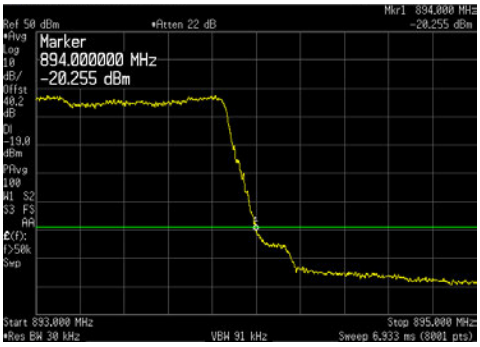
LTE3_QPSK_Top Channel_893 to 895MHz



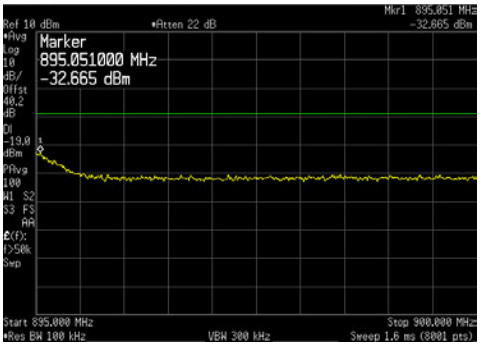
LTE3_QPSK_Top Channel_895 to 900MHz



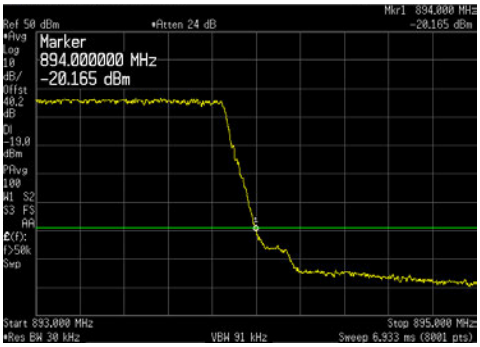
LTE3_16QAM_Top Channel_893 to 895MHz



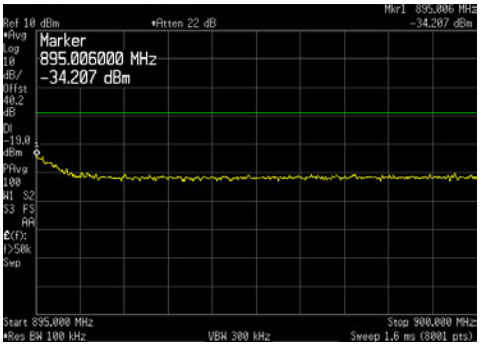
LTE3_16QAM_Top Channel_895 to 900MHz



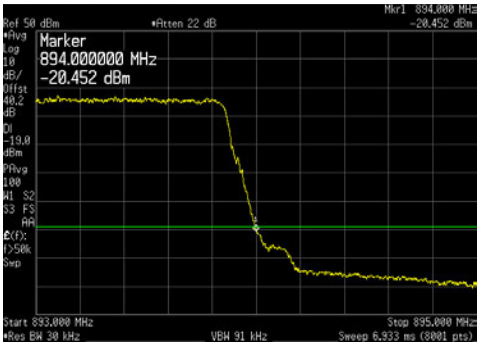
LTE3_64QAM_Top Channel_893 to 895MHz



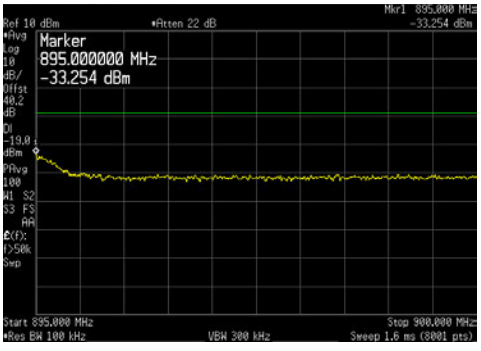
LTE3_64QAM_Top Channel_895 to 900MHz



LTE3_256QAM_Top Channel_893 to 895MHz

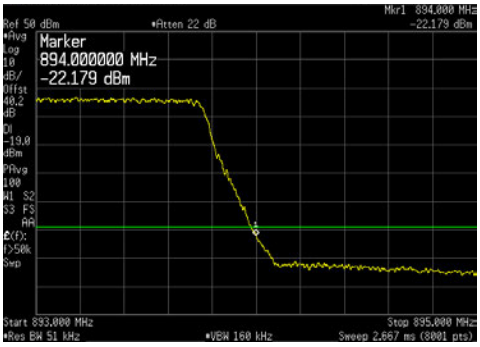


LTE3_256QAM_Top Channel_895 to 900MHz

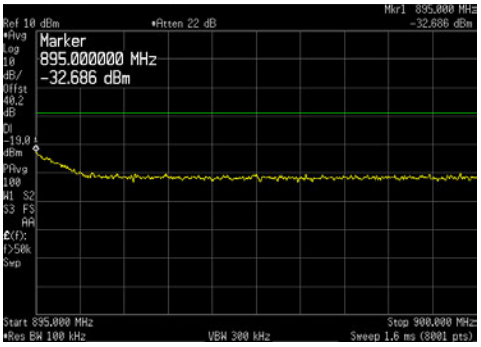


LTE5 Upper Band Edge Plots for Antenna Port 4:

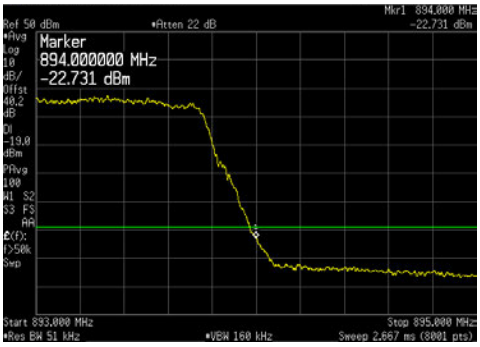
LTE5_QPSK_Top Channel_893 to 895MHz



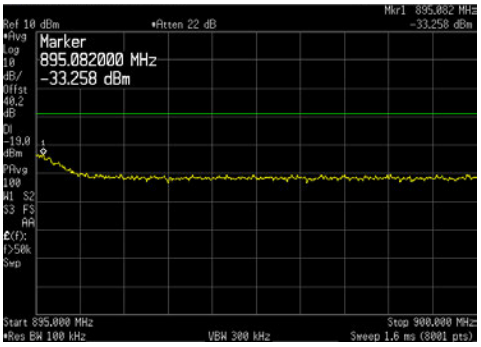
LTE5_QPSK_Top Channel_895 to 900MHz



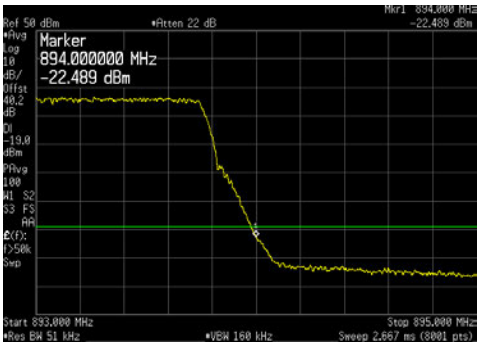
LTE5_16QAM_Top Channel_893 to 895MHz



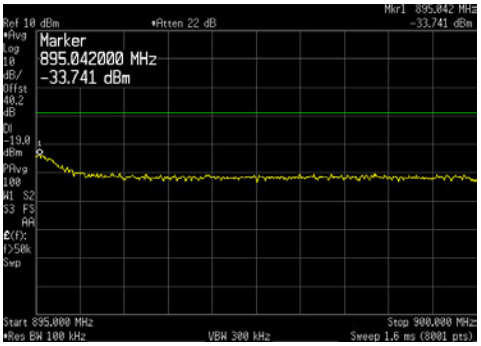
LTE5_16QAM_Top Channel_895 to 900MHz



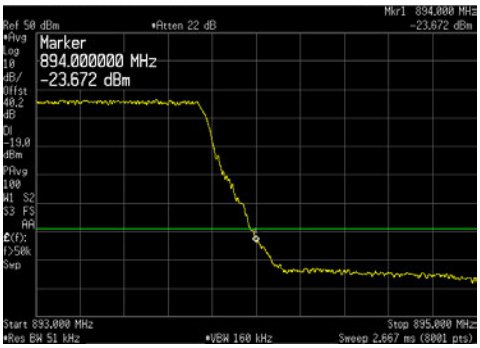
LTE5_64QAM_Top Channel_893 to 895MHz



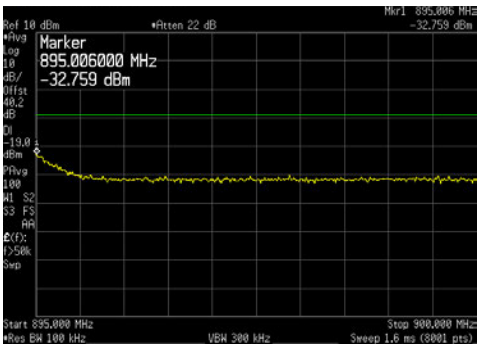
LTE5_64QAM_Top Channel_895 to 900MHz



LTE5_256QAM_Top Channel_893 to 895MHz

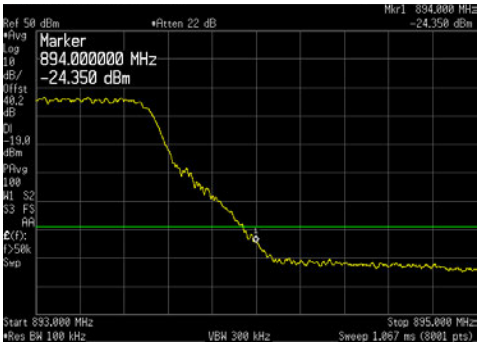


LTE5_256QAM_Top Channel_895 to 900MHz

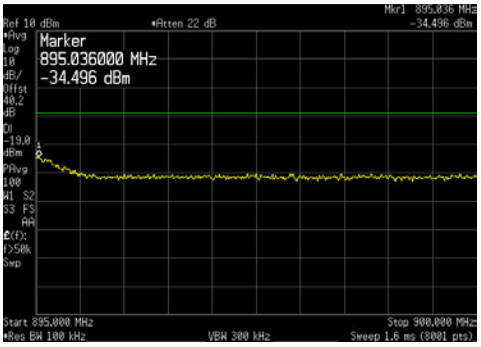


LTE10 Upper Band Edge Plots for Antenna Port 4:

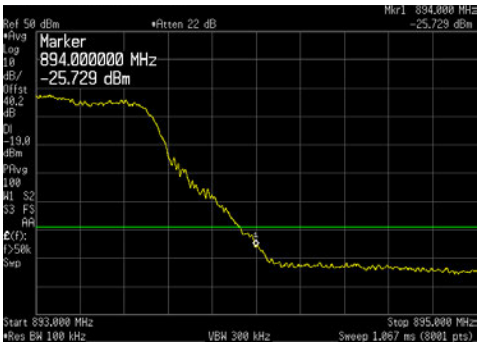
LTE10_QPSK_Top Channel_893 to 895MHz



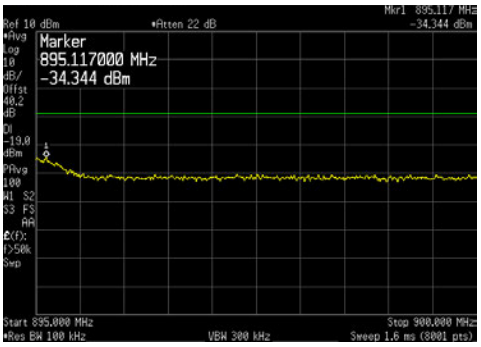
LTE10_QPSK_Top Channel_895 to 900MHz



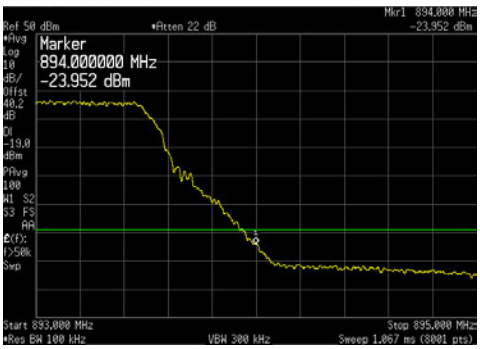
LTE10_16QAM_Top Channel_893 to 895MHz



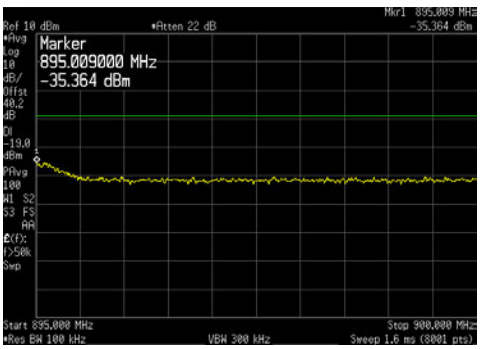
LTE10_16QAM_Top Channel_895 to 900MHz



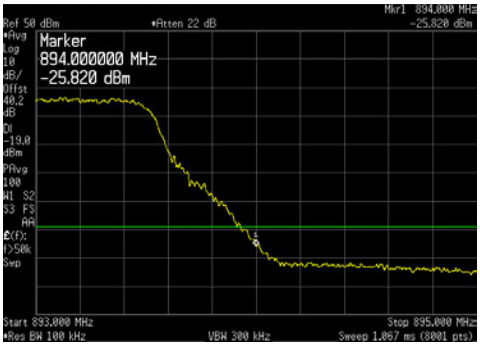
LTE10_64QAM_Top Channel_893 to 895MHz



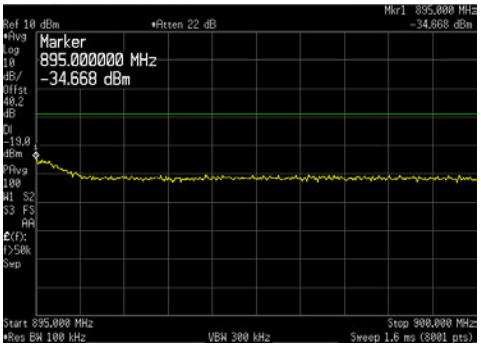
LTE10_64QAM_Top Channel_895 to 900MHz



LTE10_256QAM_Top Channel_893 to 895MHz

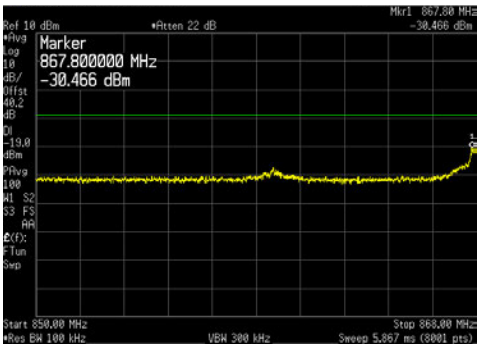


LTE10_256QAM_Top Channel_895 to 900MHz

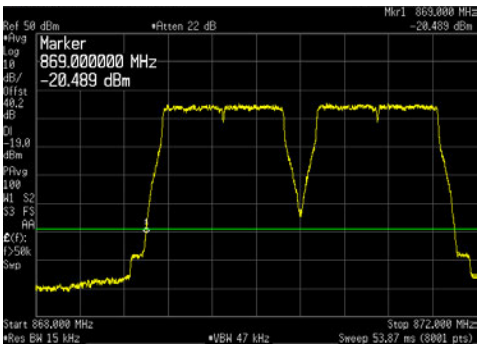


Dual LTE1.4 Lower Band Edge Plots for Antenna Port 4:

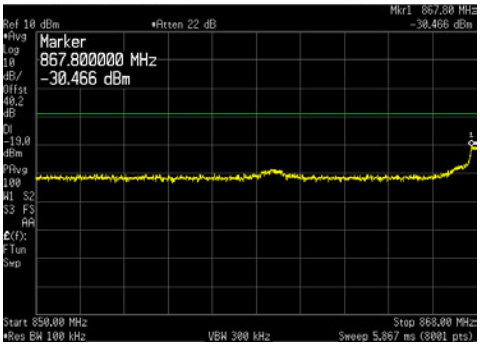
Dual LTE1.4_QPSK_Bot Channel_850 to 868MHz



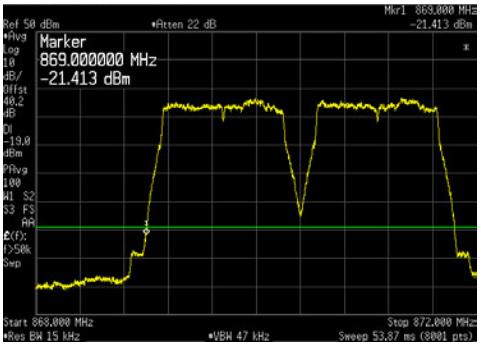
Dual LTE1.4_QPSK_Bot Channel_868 to 872MHz



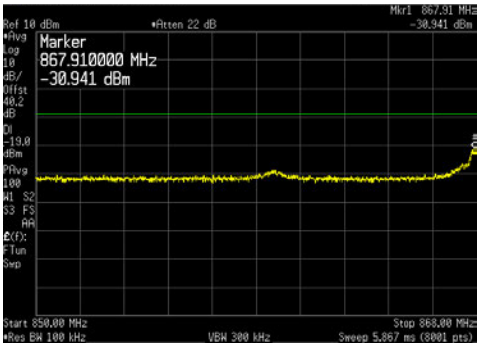
Dual LTE1.4_16QAM_Bot Channel_850 to 868MHz



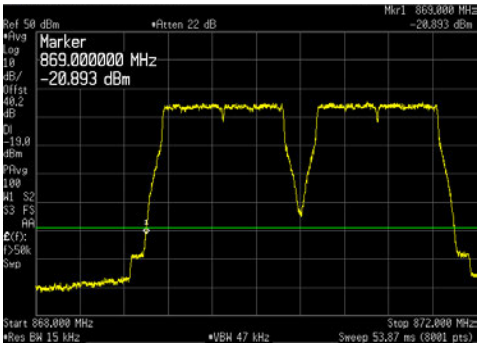
Dual LTE1.4_16QAM_Bot Channel_868 to 872MHz



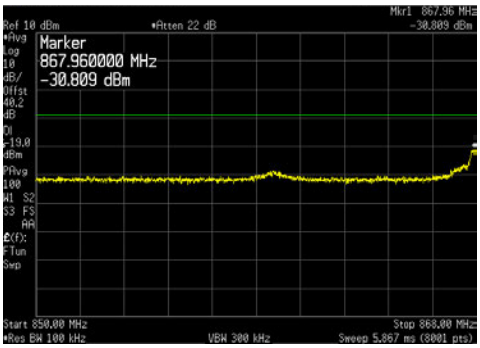
Dual LTE1.4_64QAM_Bot Channel_850 to 868MHz



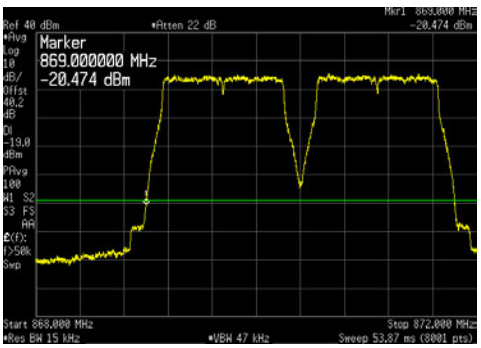
Dual LTE1.4_64QAM_Bot Channel_868 to 872MHz



Dual LTE1.4_256QAM_Bot Channel_850 to 868MHz

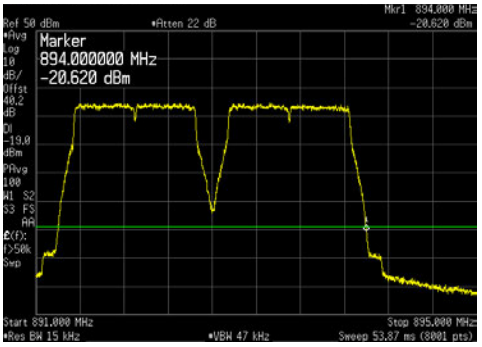


Dual LTE1.4_256QAM_Bot Channel_868 to 872MHz

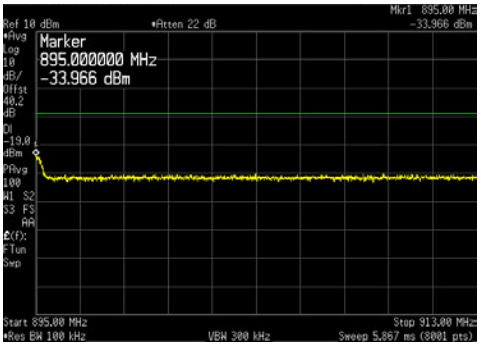


Dual LTE1.4 Upper Band Edge Plots for Antenna Port 4:

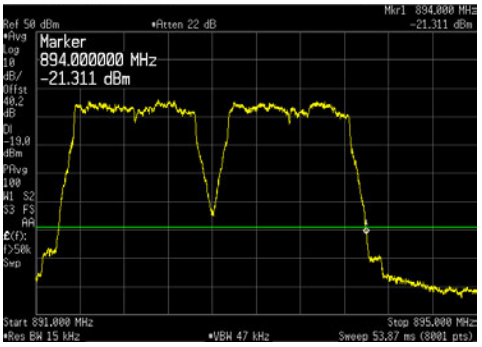
Dual LTE1.4_QPSK_Top Channel_891 to 895MHz



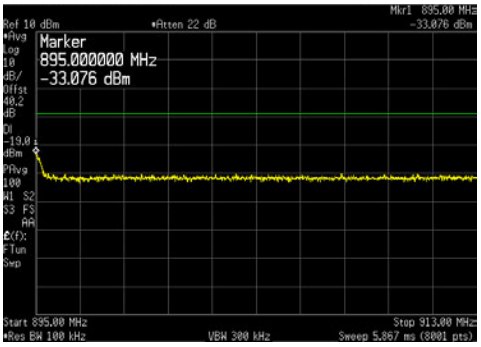
Dual LTE1.4_QPSK_Top Channel_895 to 913MHz



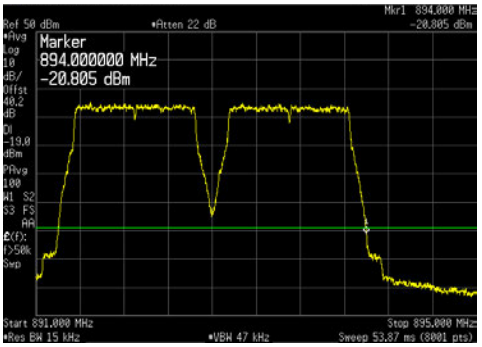
Dual LTE1.4_16QAM_Top Channel_891 to 895MHz



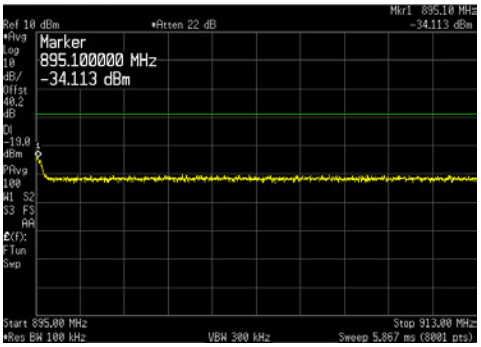
Dual LTE1.4_16QAM_Top Channel_895 to 913MHz



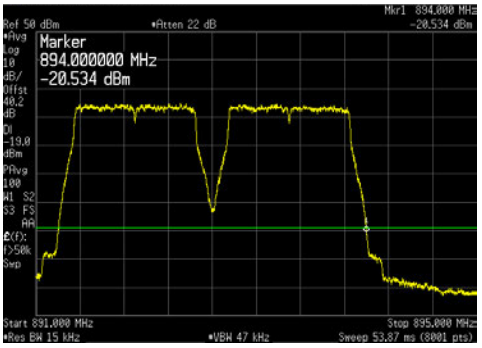
Dual LTE1.4_64QAM_Top Channel_891 to 895MHz



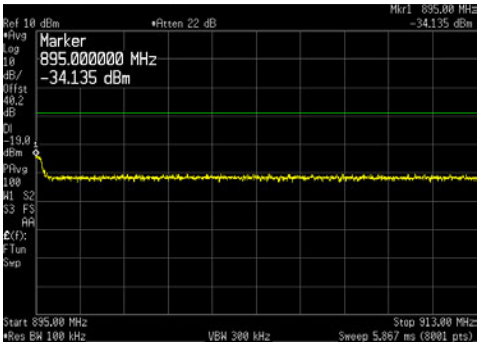
Dual LTE1.4_64QAM_Top Channel_895 to 913MHz



Dual LTE1.4_256QAM_Top Channel_891 to 895MHz



Dual LTE1.4_256QAM_Top Channel_895 to 913MHz



Transmitter Antenna Port Conducted Emissions

Transmitter conducted emission measurements were made at RRH antenna port 4. Measurements were performed over the 9kHz to 9GHz frequency range. The RRH was operated on the Band 5 middle channel (881.5MHz) and Band 13 middle channel (751.0MHz) simultaneously with all LTE modulation types (QPSK, 16QAM, 64QAM and 256QAM) for all available LTE bandwidths (Band 5: 1.4MHz, 3MHz, 5MHz and 10MHz; Band 13: 5MHz and 10MHz). The same LTE bandwidth was used for both frequency bands when available. If the same LTE bandwidth for both bands was not available then the smallest LTE bandwidth was used.

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 100kHz 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.

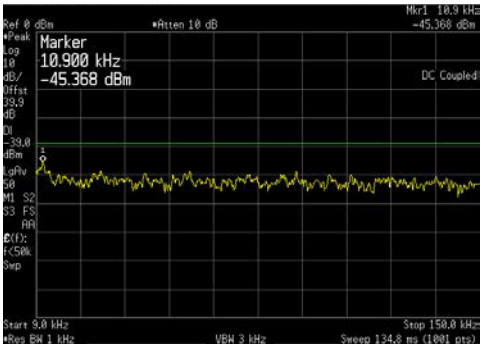
The limit for the 9kHz to 150kHz frequency range was adjusted to –39dBm to correct for a spectrum analyzer RBW of 1kHz versus required RBW of 100kHz [i.e.: -39dBm = -19dBm -10log(100kHz/1kHz)]. The required limit of -19dBm with a RBW of ≥100kHz was used for all other frequency ranges. The spectrum analyzer 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	1001	Peak	Auto	50 Sweeps	39.9dB
150kHz to 20MHz	100kHz	300kHz	8001	Peak	Auto	50 Sweeps	39.9dB
20MHz to 350MHz	100kHz	300kHz	8001	Peak	Auto	50 Sweeps	40.2dB
350MHz to 700MHz	100kHz	300kHz	8001	Peak	Auto	50 Sweeps	40.2dB
700MHz to 1.1GHz	100kHz	300kHz	8001	Peak	Auto	50 Sweeps	40.2dB
1.1GHz to 5GHz	1MHz	3MHz	8001	Peak	Auto	50 Sweeps	23.1dB
5GHz to 9GHz	1MHz	3MHz	8001	Peak	Auto	50 Sweeps	24.1dB
Note 1: The total measurement RF path loss of the test setup (attenuators, filters and test cables) is accounted for by the spectrum analyzer reference level offset.							

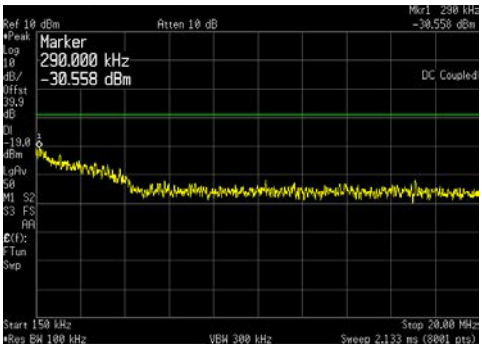
A high pass filter was used to reduce measurement instrumentation noise floor for the frequency ranges above 1100MHz. The total measurement RF path loss of the test setup (attenuators, high pass filter and test cables) as shown in the table is accounted for by the spectrum analyzer reference level offset. The display line on the plots reflects the required limit.
Conducted spurious emission plots/measurements are provided in the following pages.

LTE1.4 & LTE5 Ch BWs _ QPSK _ Middle Channels (751MHz and 881.5MHz) at 40 watts/carrier:

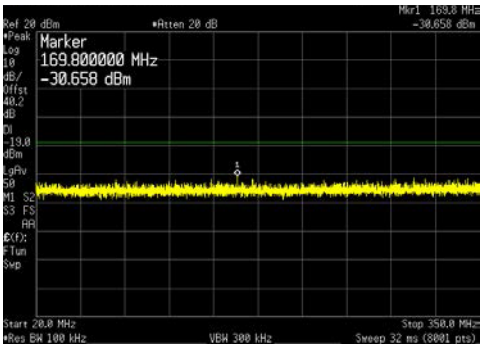
9kHz to 150kHz



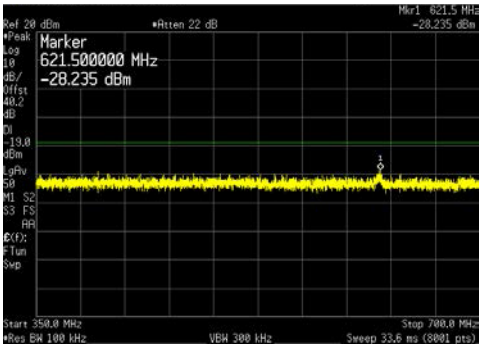
150kHz to 20MHz



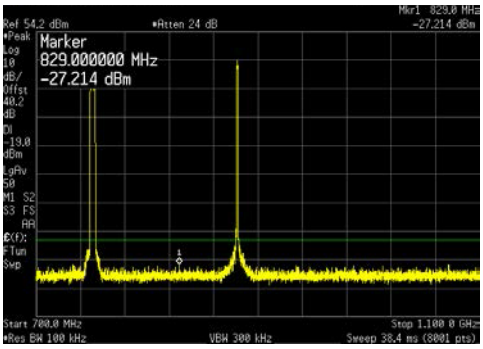
20MHz to 350MHz



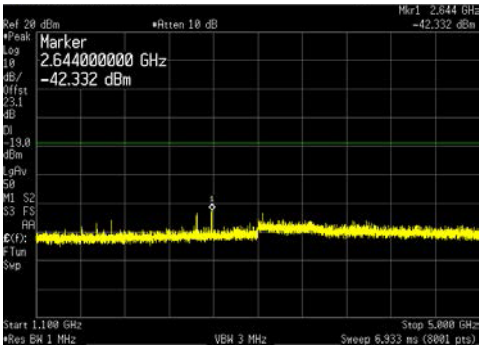
350MHz to 700MHz



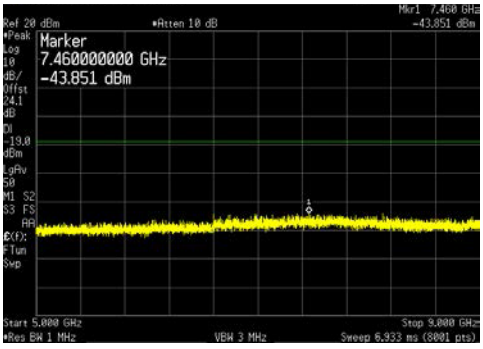
700MHz to 1.1GHz



1.1GHz to 5GHz

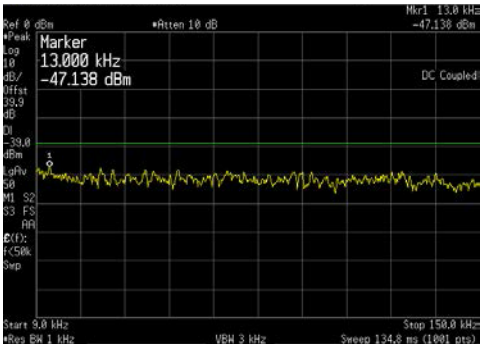


5GHz to 9GHz

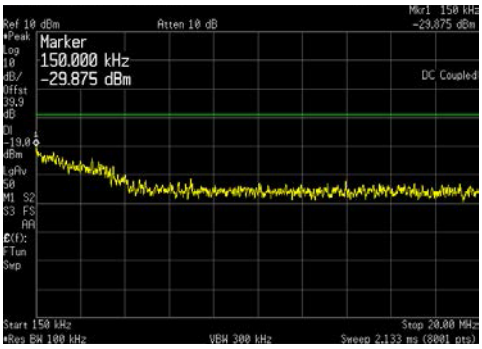


LTE1.4 & LTE5 Ch BWs _ 16QAM _ Middle Channels (751MHz and 881.5MHz) at 40 watts/carrier:

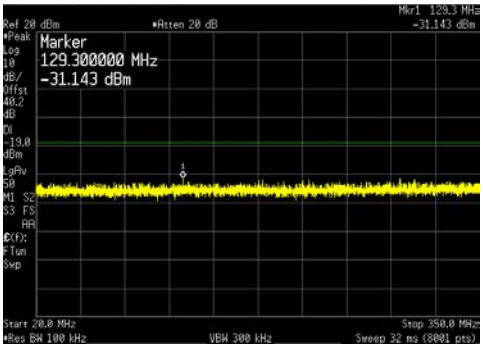
9kHz to 150kHz



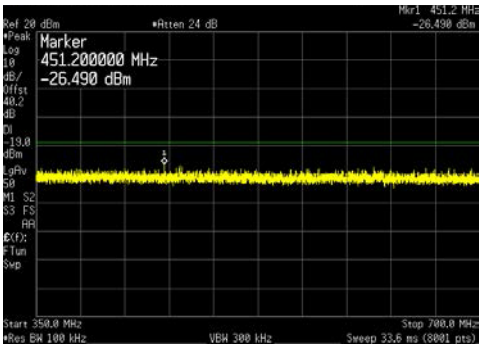
150kHz to 20MHz



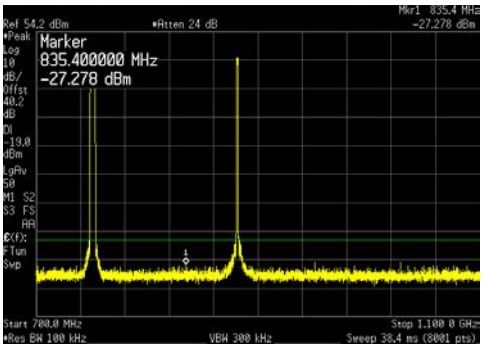
20MHz to 350MHz



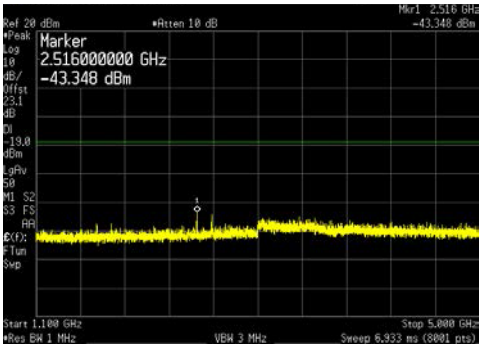
350MHz to 700MHz



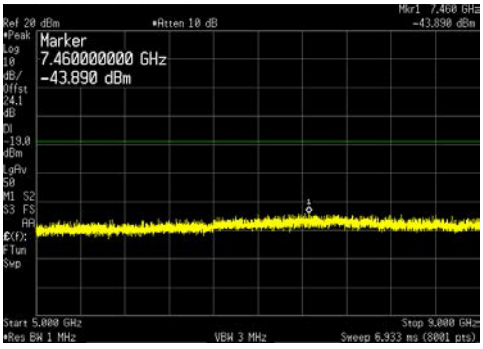
700MHz to 1.1GHz



1.1GHz to 5GHz

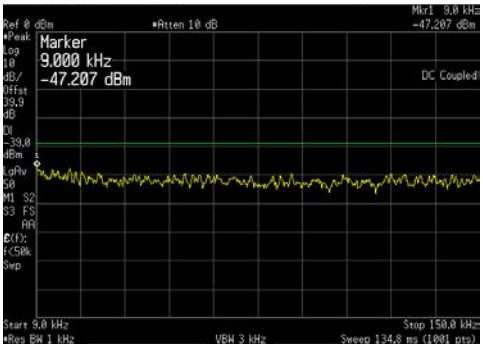


5GHz to 9GHz

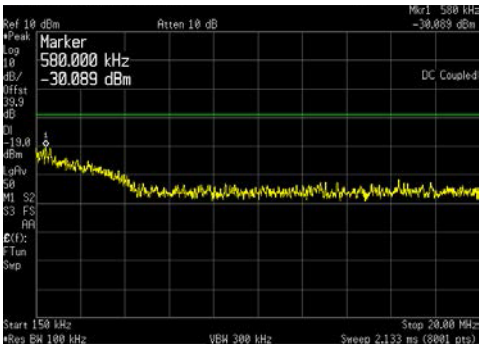


LTE1.4 & LTE5 Ch BWs _ 64QAM _ Middle Channels (751MHz and 881.5MHz) at 40 watts/carrier:

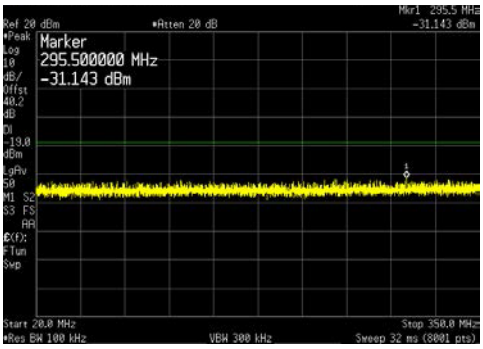
9kHz to 150kHz



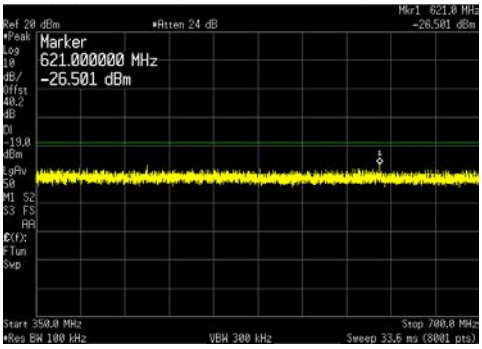
150kHz to 20MHz



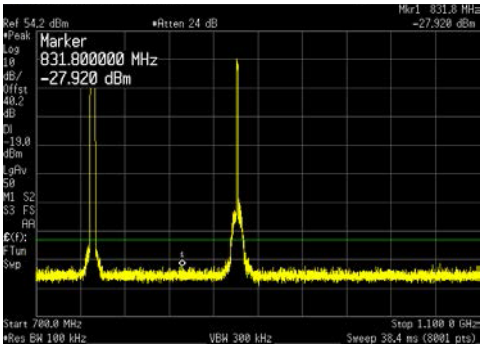
20MHz to 350MHz



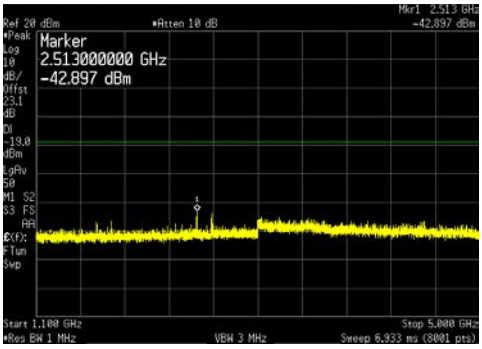
350MHz to 700MHz



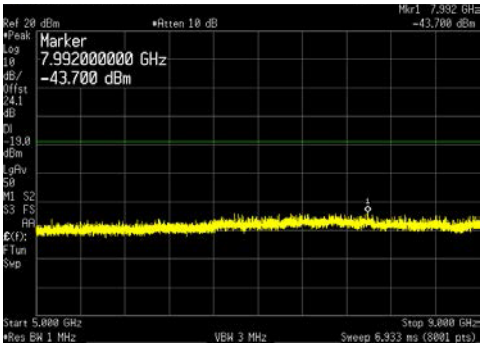
700MHz to 1.1GHz



1.1GHz to 5GHz

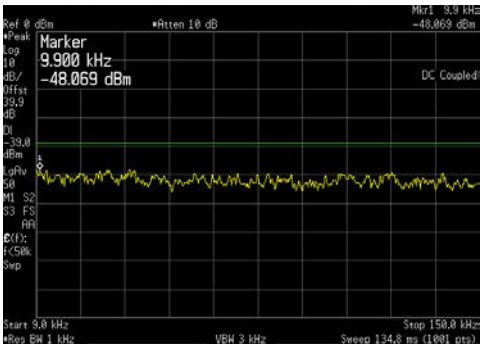


5GHz to 9GHz

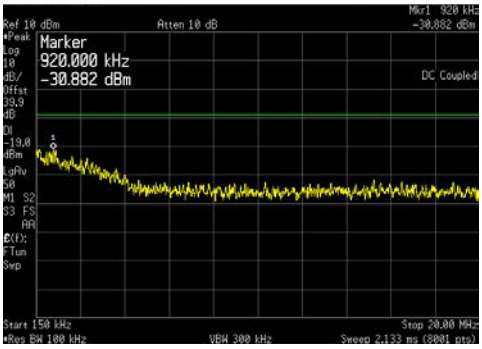


LTE1.4 & LTE5 Ch BWs _ 256QAM _ Middle Channels (751MHz and 881.5MHz) at 40 watts/carrier:

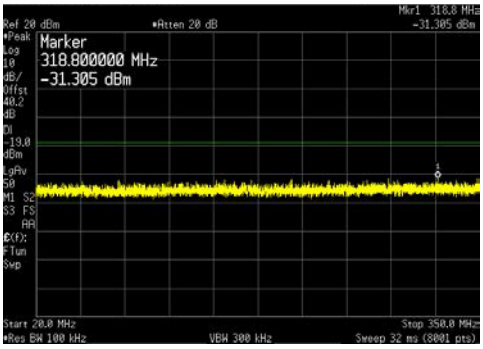
9kHz to 150kHz



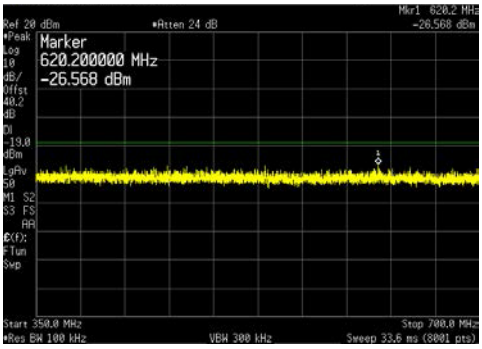
150kHz to 20MHz



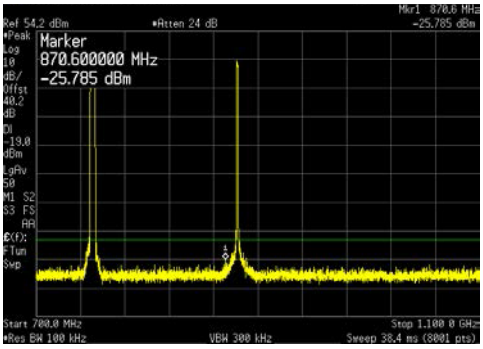
20MHz to 350MHz



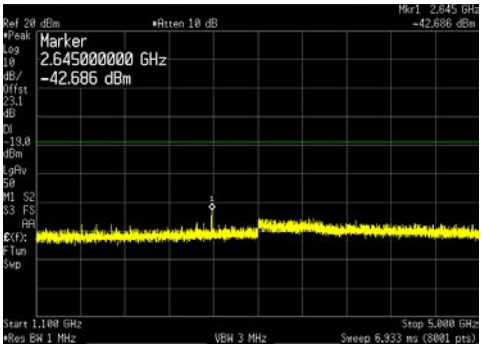
350MHz to 700MHz



700MHz to 1.1GHz



1.1GHz to 5GHz



5GHz to 9GHz