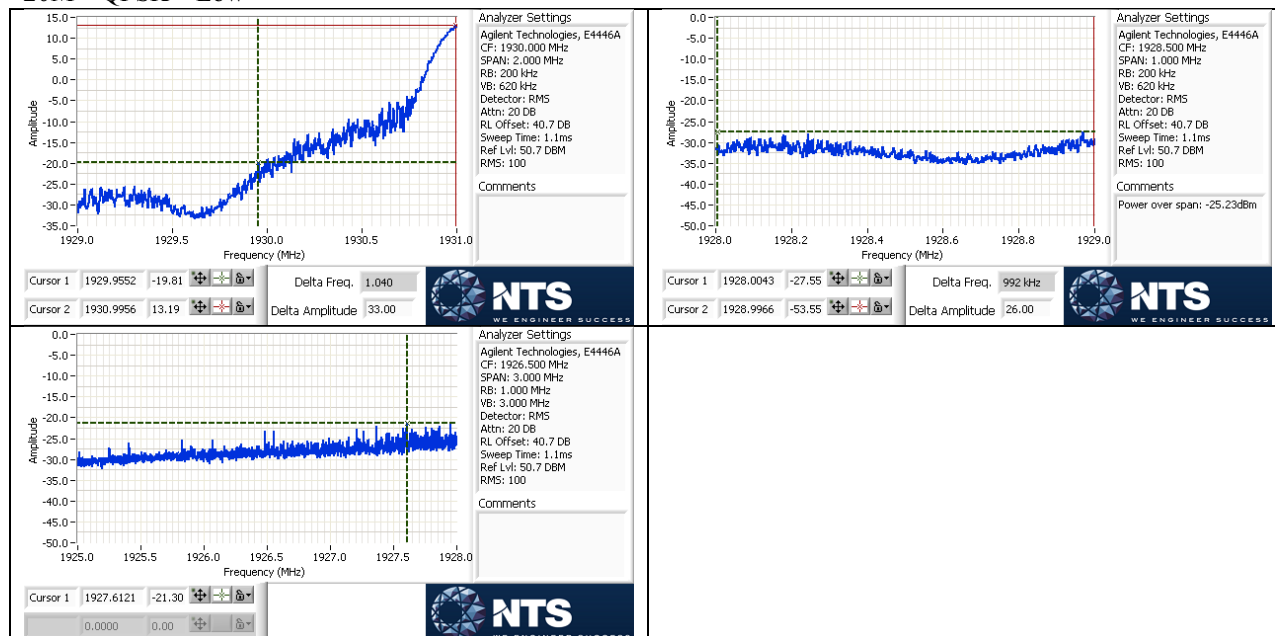
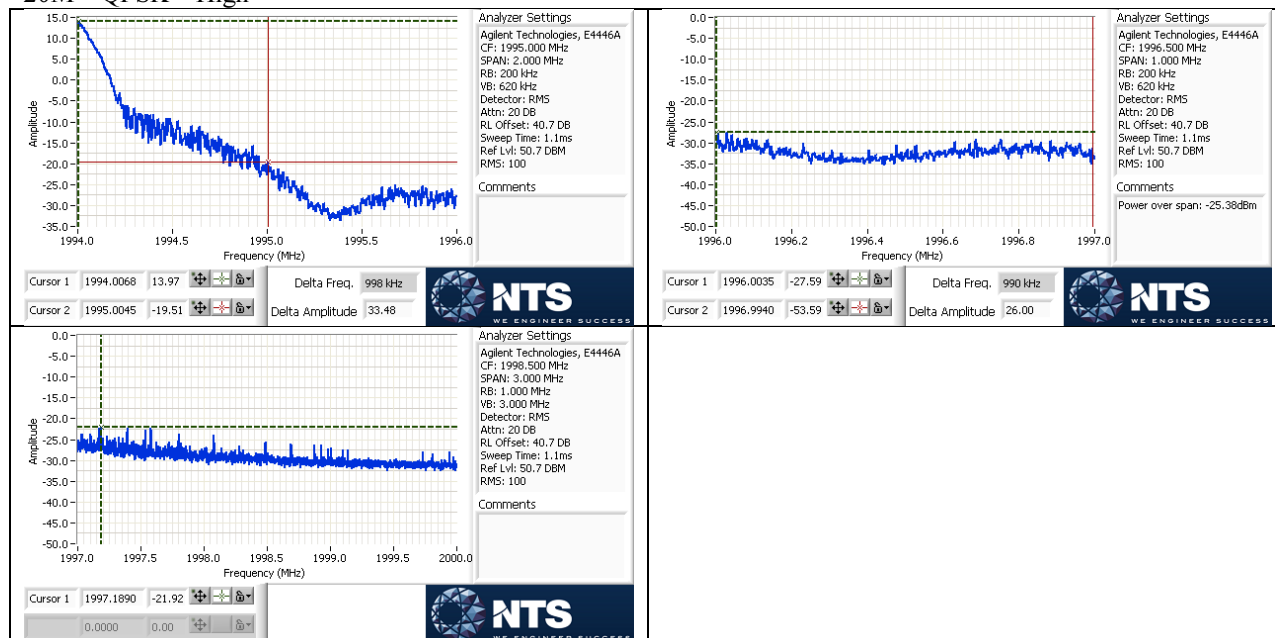


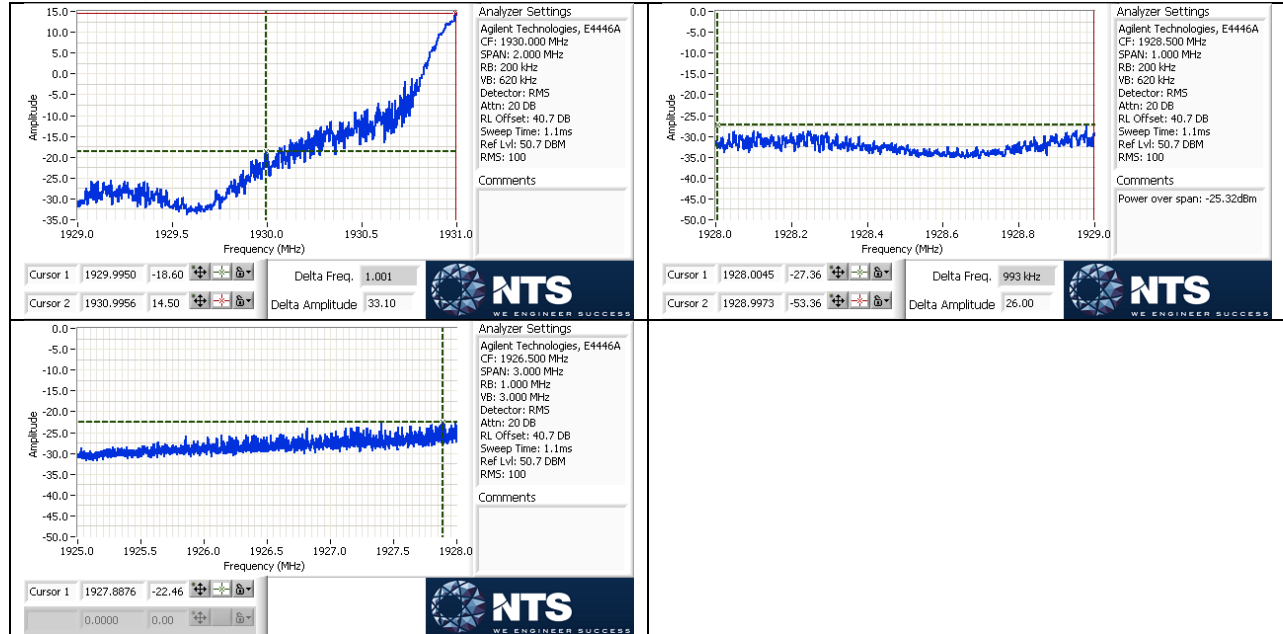
20M – QPSK – Low



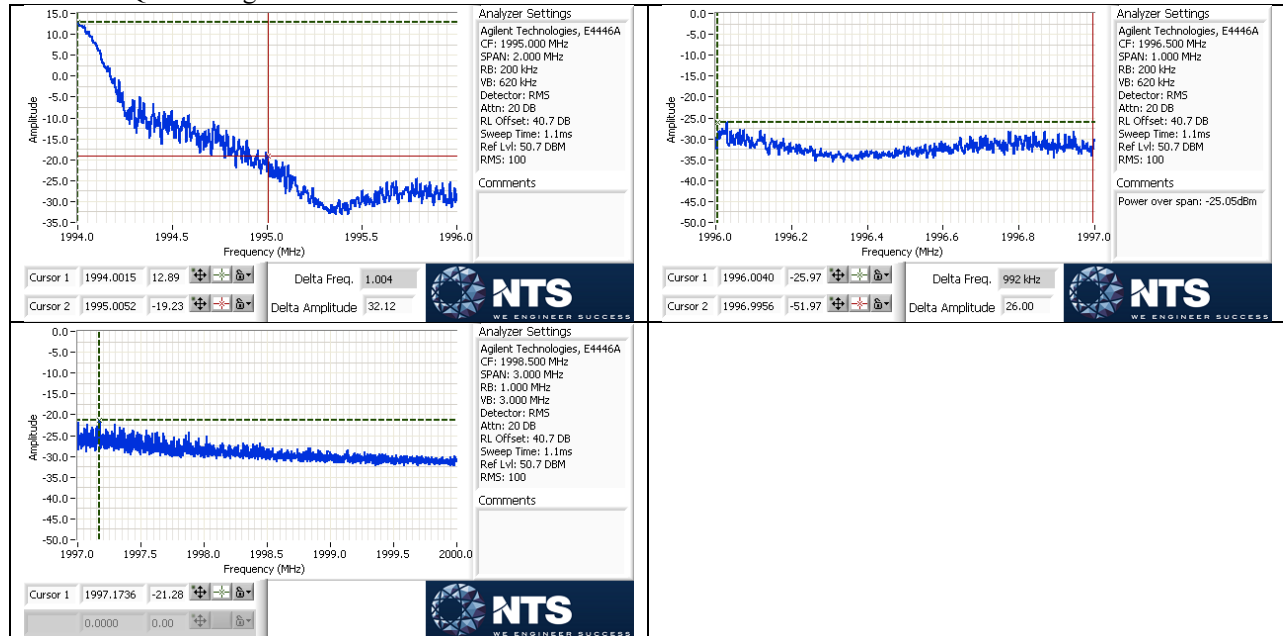
20M – QPSK – High



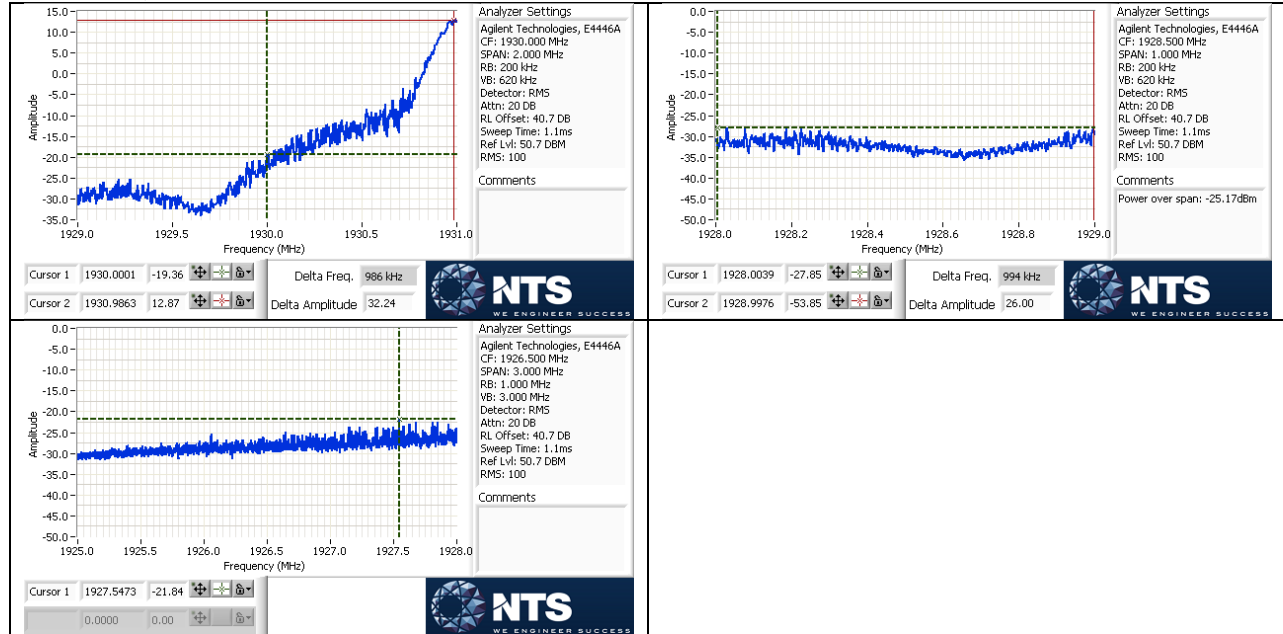
20M – 16QAM – Low



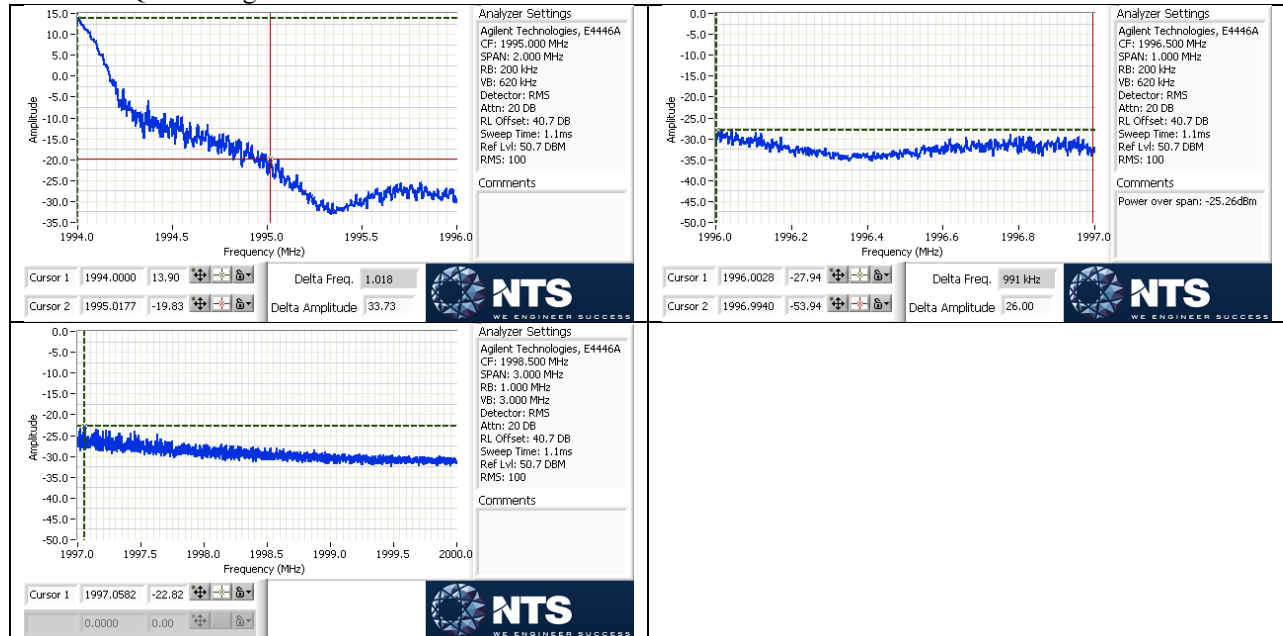
20M – 16QAM – High



20M – 64QAM – Low



20M – 64QAM – High



Transmitter Antenna Port Conducted Spurious Emissions

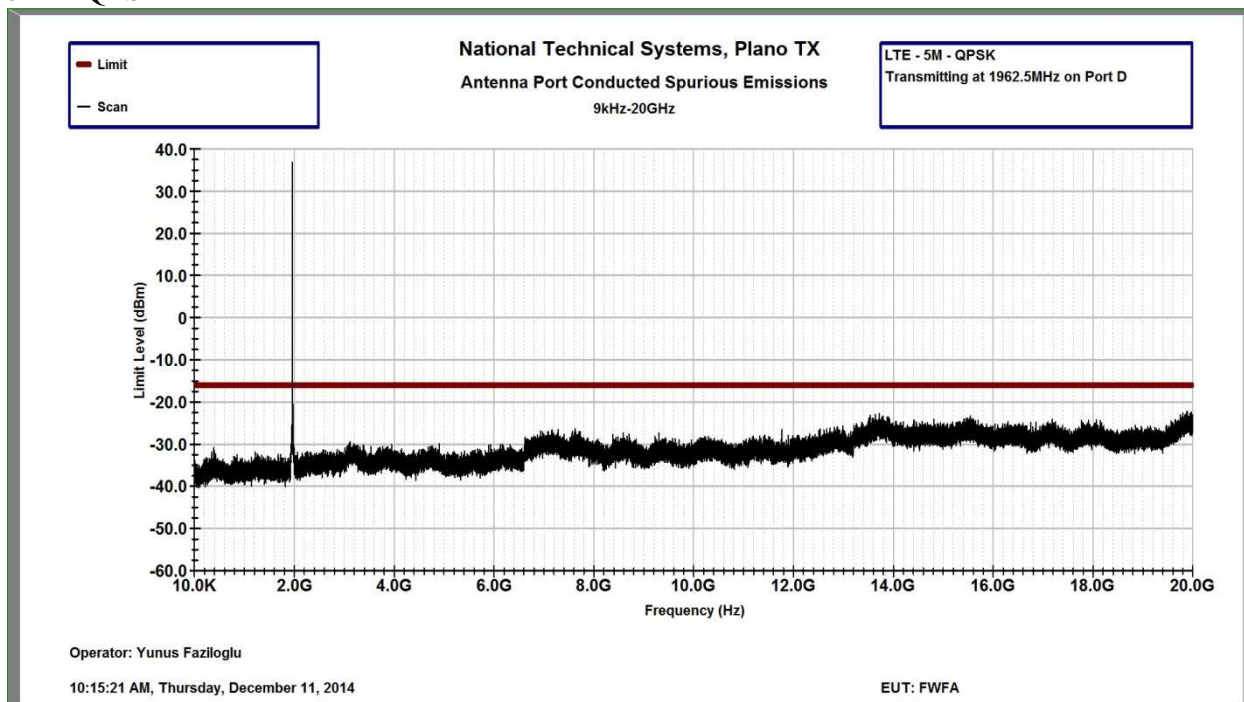
Tests performed at Port D on center channel for all modulations and bandwidth modes. Due to 2x2 MIMO operation, limit is -16.02dBm (-13dBm – $10 \cdot \log(2)$) per FCC KDB 662911D01 v02r01. TILE6 measurement software was used during testing. Except for the fundamental, all the readings were at noise floor.

Measurements taken with the following settings:

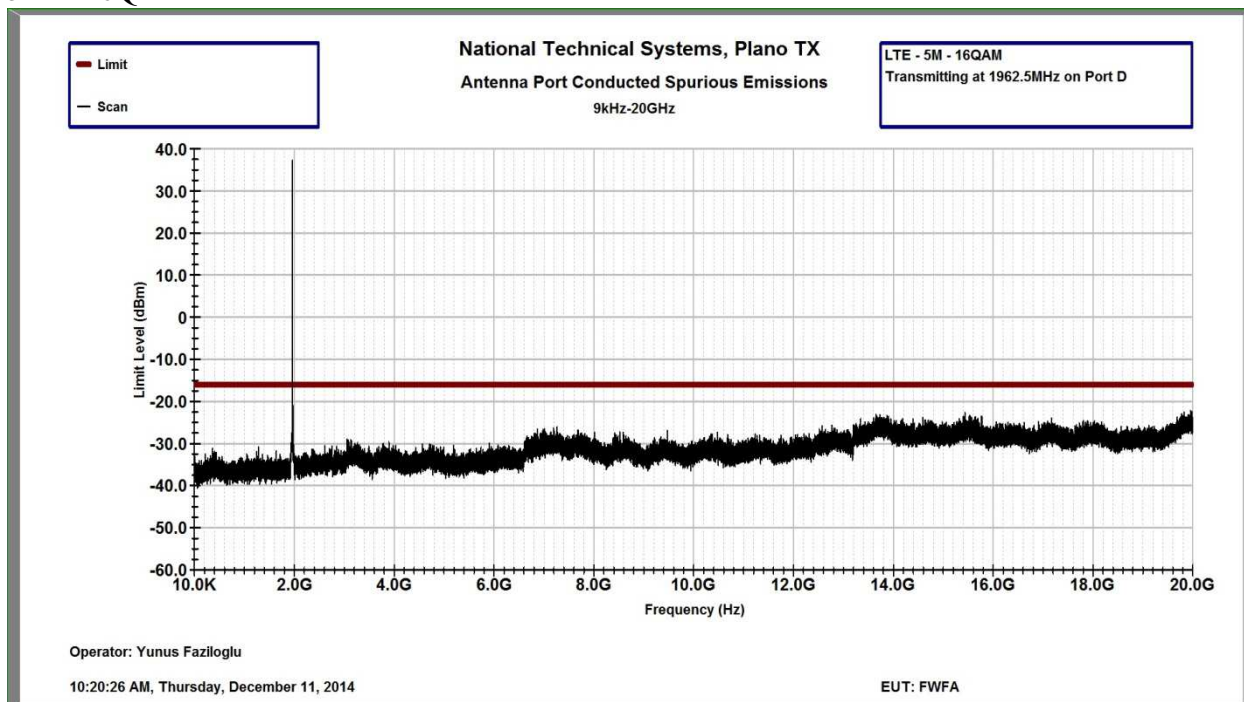
Frequency Range	RBW	VBW	Number of data points	Divided into	Detector	Sweep Time	Max hold over
9kHz-150kHz	1kHz	3kHz	8000	1 segment	Peak	Auto	50 sweeps
150kHz-1.5MHz	100kHz	300kHz	8000	1 segment	Peak	Auto	50 sweeps
1.5MHz-20GHz	1MHz	3MHz	8000	10 segments	Peak	Auto	50 sweeps

Corresponding plots are included on the following pages.

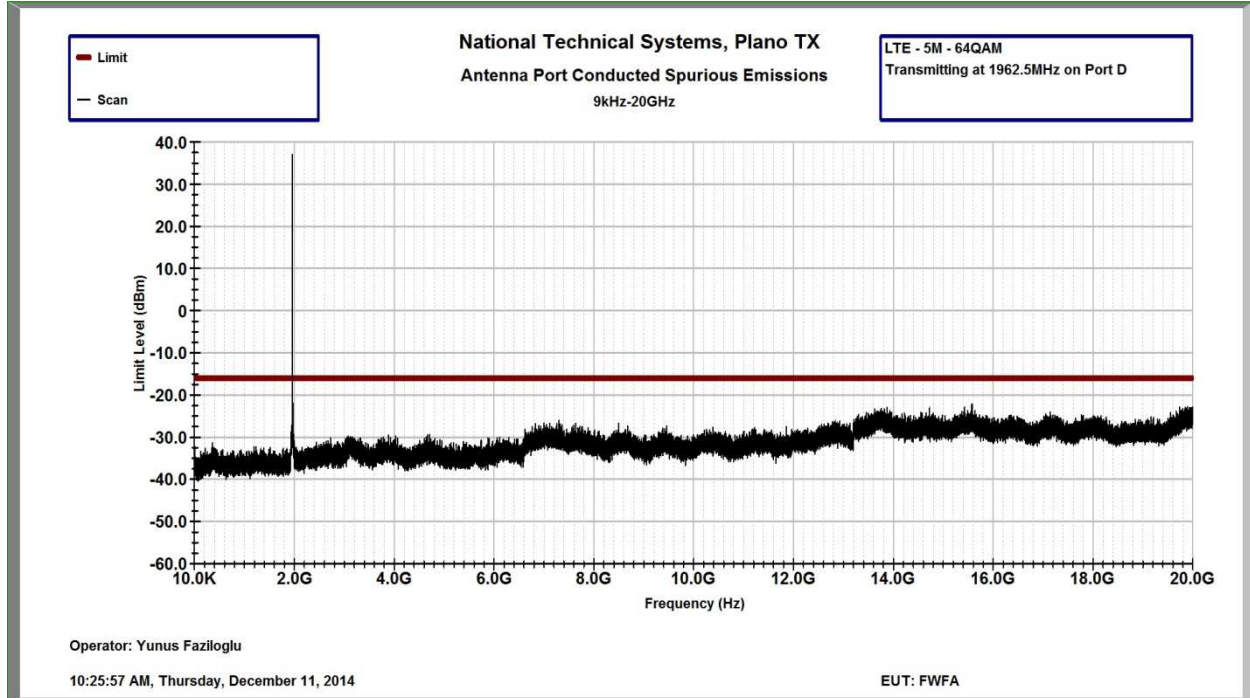
5M – QPSK



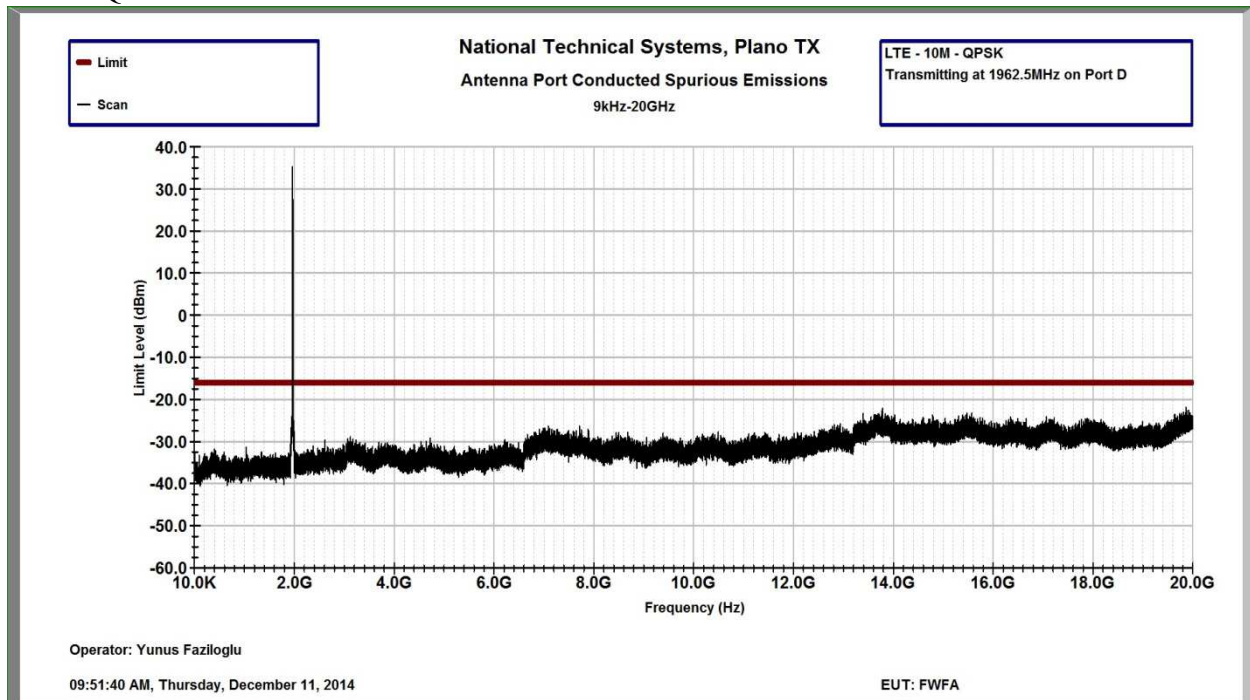
5M – 16QAM



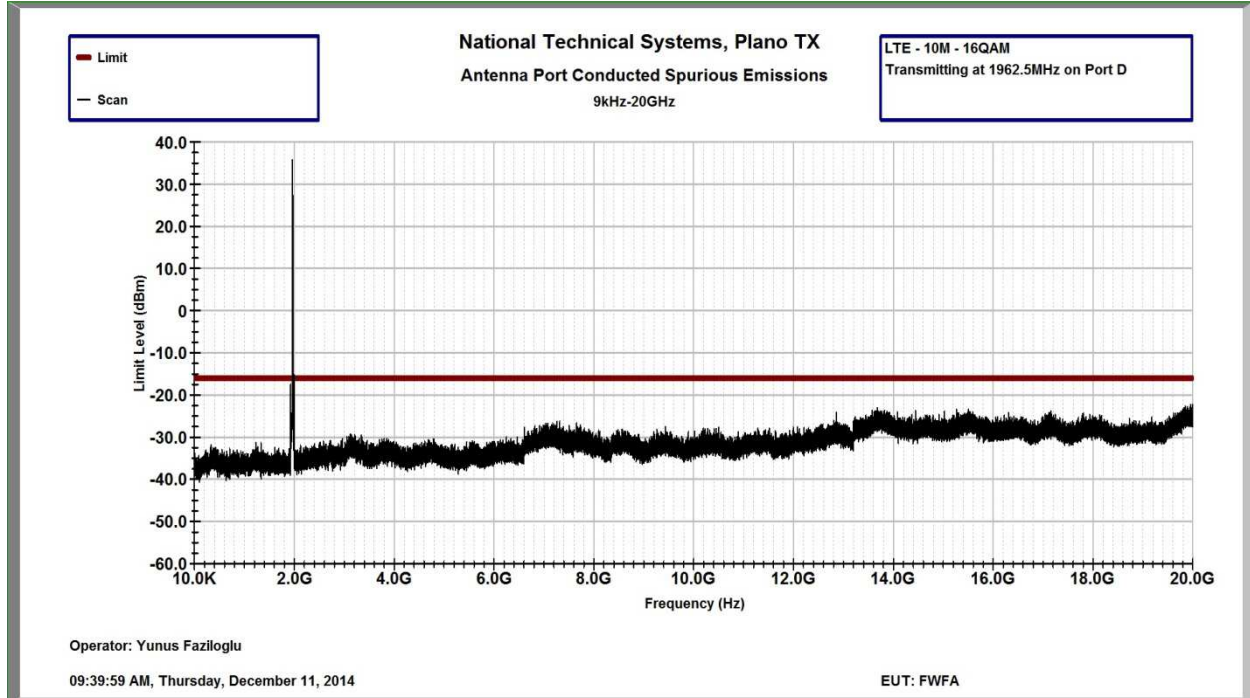
5M – 64QAM



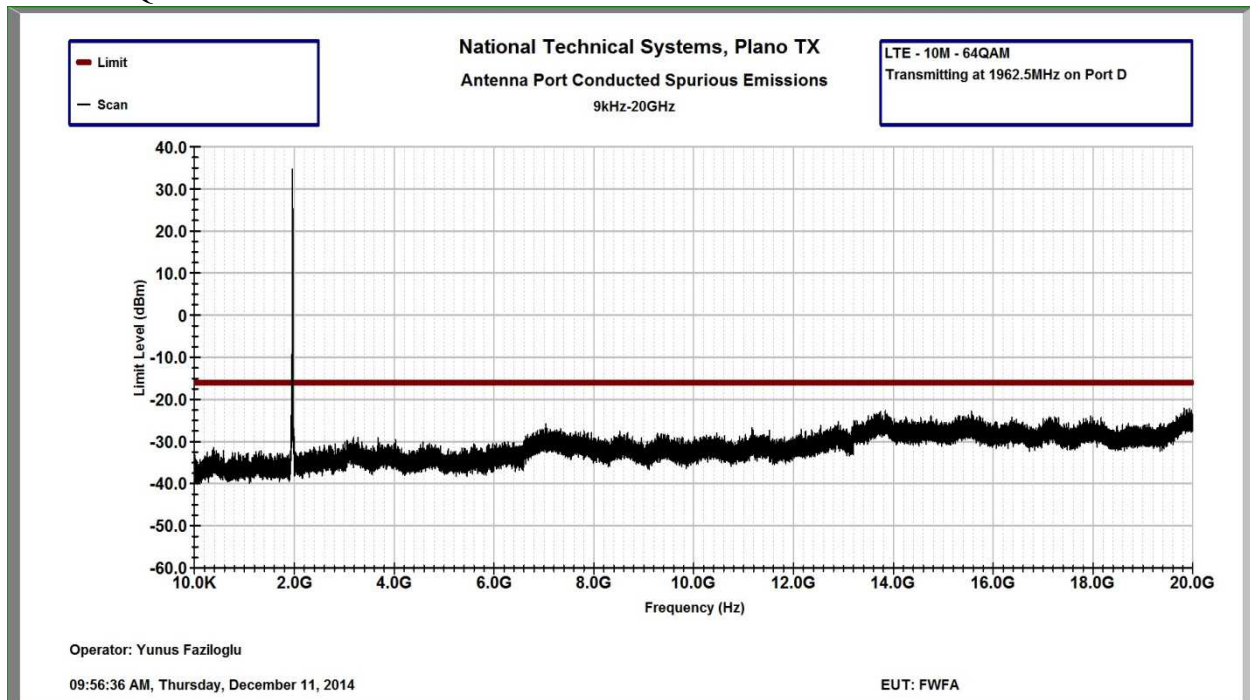
10M – QPSK



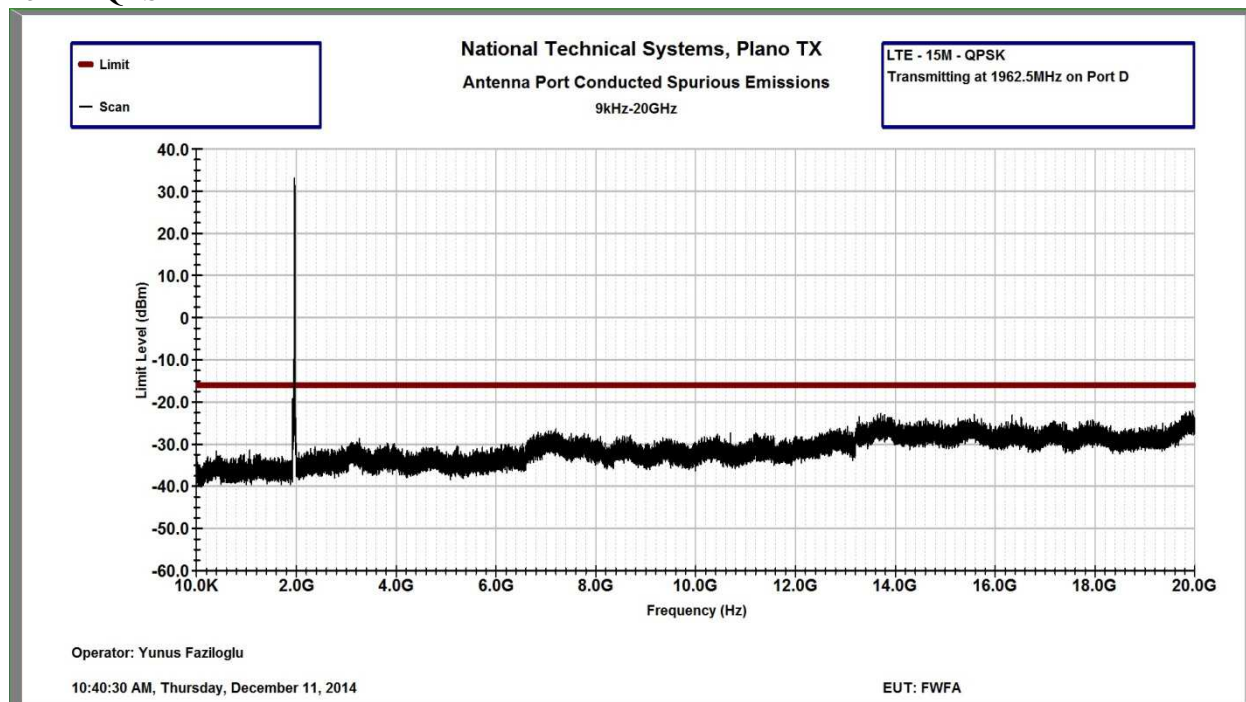
10M – 16QAM



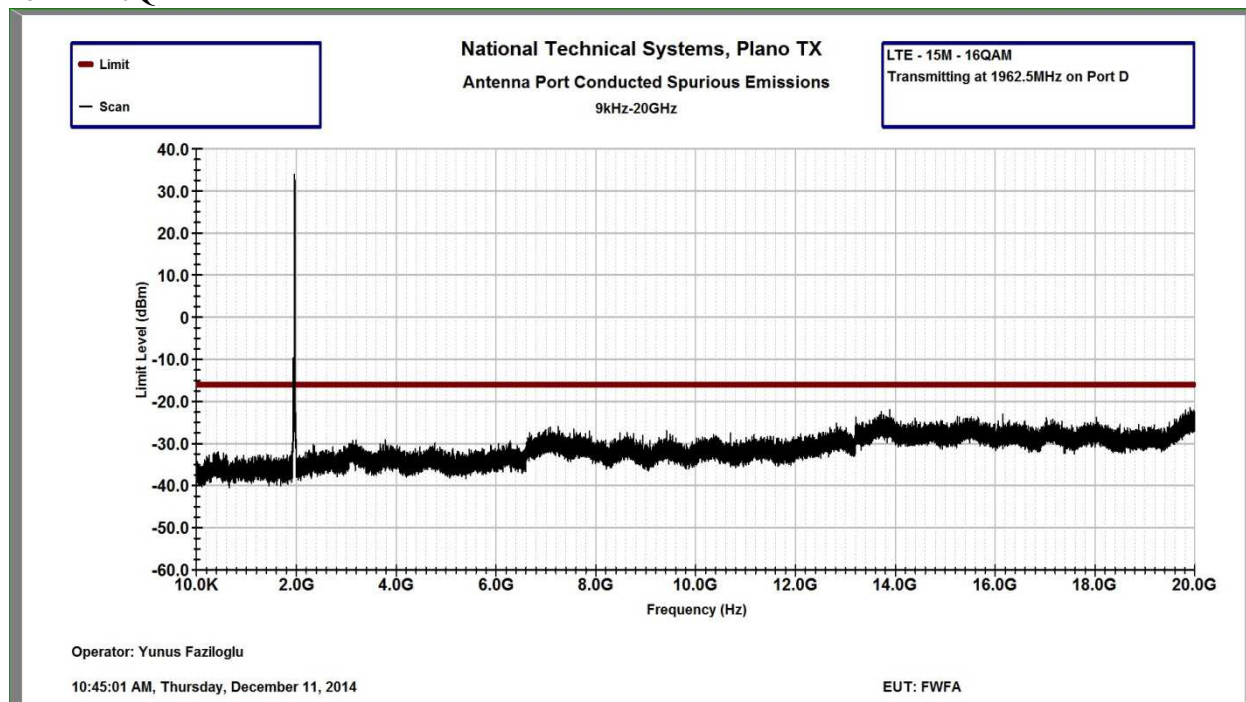
10M – 64QAM



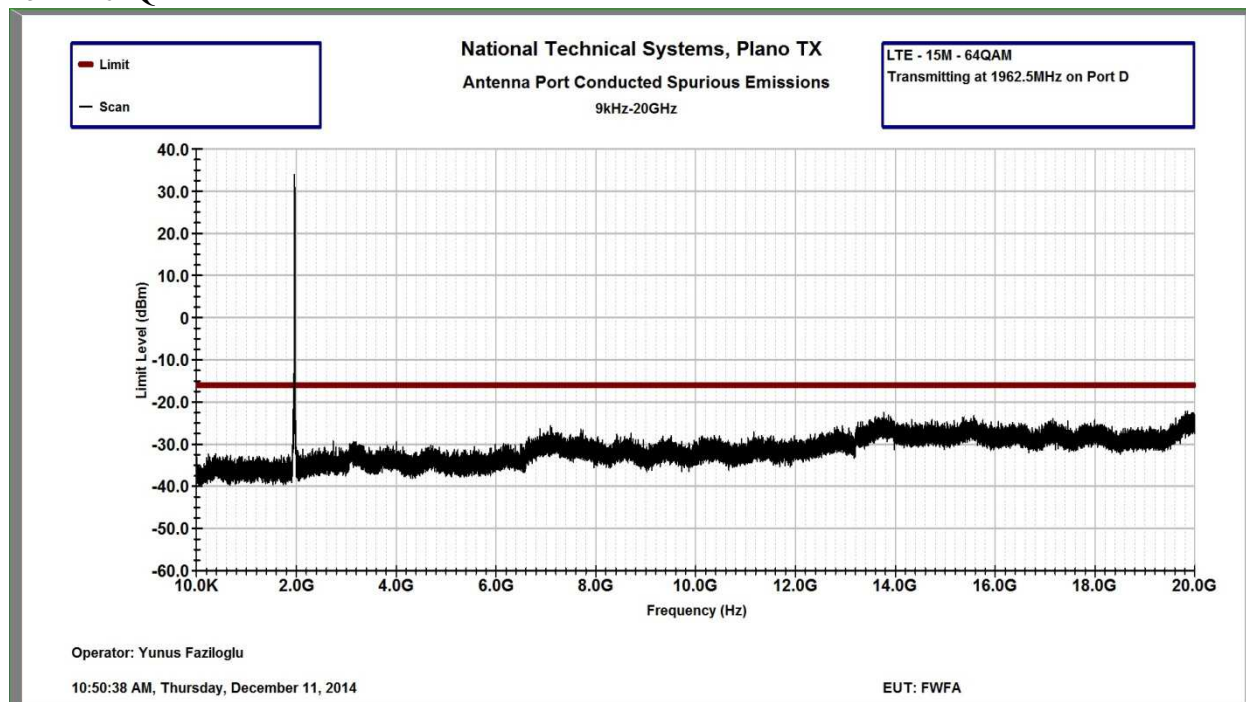
15M – QPSK



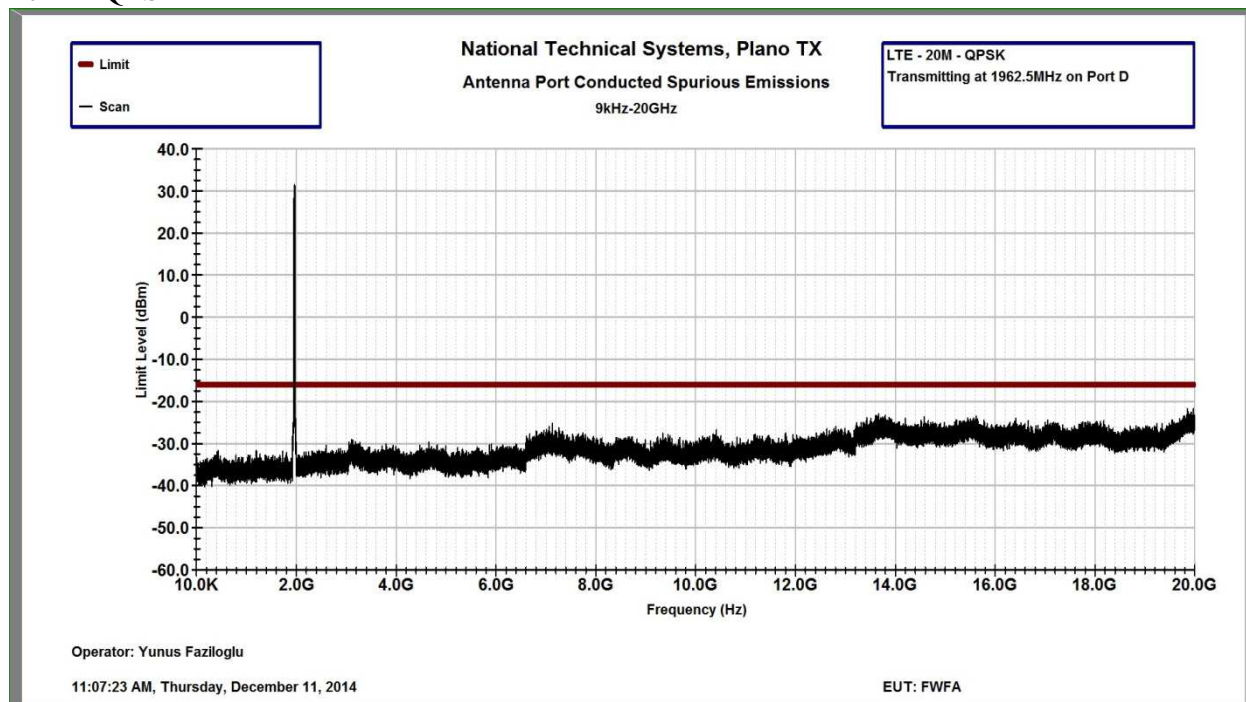
15M – 16QAM



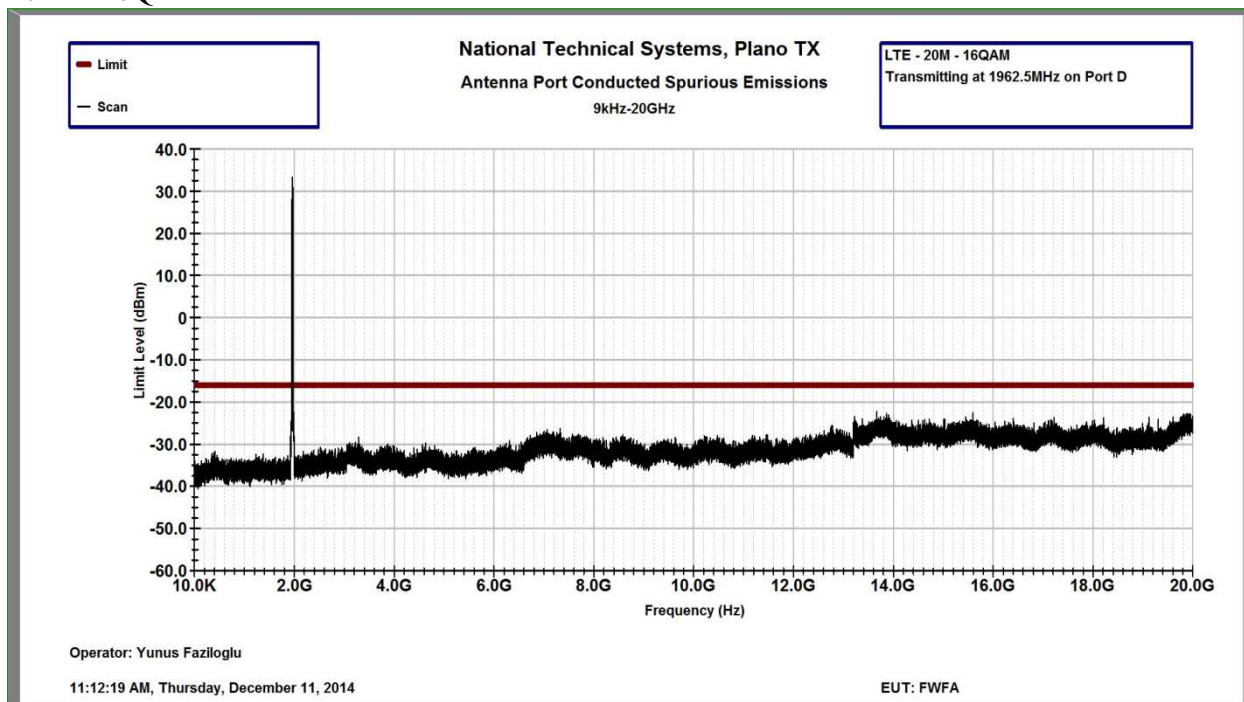
15M – 64QAM



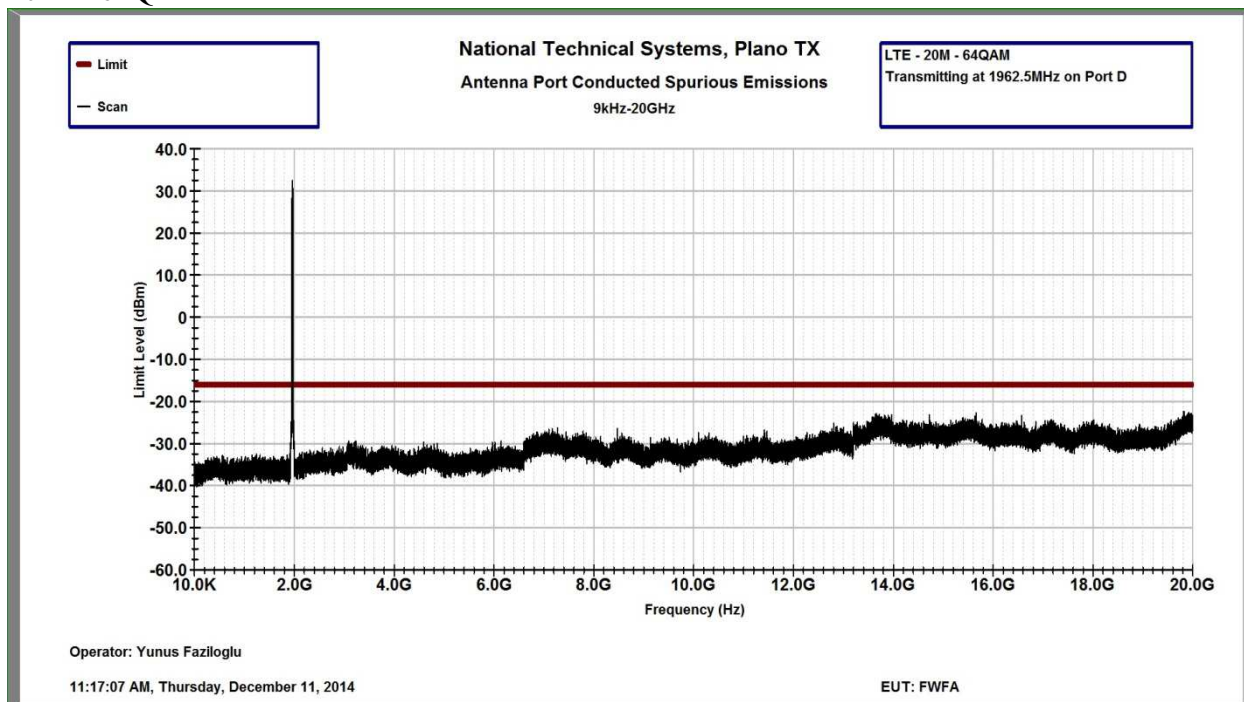
20M – QPSK



20M – 16QAM



20M – 64QAM



Transmitter Radiated Spurious Emissions

Prescans have been performed in the 30MHz – 20GHz frequency range when the unit was in 15MHz QPSK mode while transmitting on its center channel at 1962.5MHz. Antenna port conducted spurious emissions results for all modulations and channel bandwidth modes produced similar results around instrumentation noise floor. 15MHz QPSK mode produced the highest spikes in bandedge tests and therefore was selected for radiated spurious emissions test. Final maximized peak radiated emissions were measured at the center channel in this mode.

During testing both antenna ports of the base station were terminated with 50ohm termination blocks. Unit was operating in its 2x2 MIMO configuration at full power.

Frequency (MHz)	Polarity (H/V)	Raw Reading at 3m (dBuV)	Amplifier Gain (dB)	Antenna Factor (dB/m)	Cable Loss (dB)	Corrected Field Strength at 3m (dBuV/m)	Limit at 3m (dBuV/m)	Margin (dB)
59.5	H	82.3	-38.95	7.56	0.43	51.34	82.2	-30.86
59.5	V	85.5	-38.95	7.56	0.43	54.54	82.2	-27.66
425.5	H	58.6	-38.33	17.1	1.29	38.66	82.2	-43.54
425.5	V	56.3	-38.33	17.1	1.29	36.36	82.2	-45.84
3925.0	H	64.2	-47.02	32.73	2.86	52.77	82.2	-29.43
3925.0	V	63.3	-47.02	32.73	2.86	51.87	82.2	-30.33
Corrected Field Strength = Raw Reading + Amplifier Gain + Antenna Factor + Cable Loss								
Negative margin indicates a passing result.								
Detector: Peak, RBW=1MHz, VBW=3MHz, Max-hold								

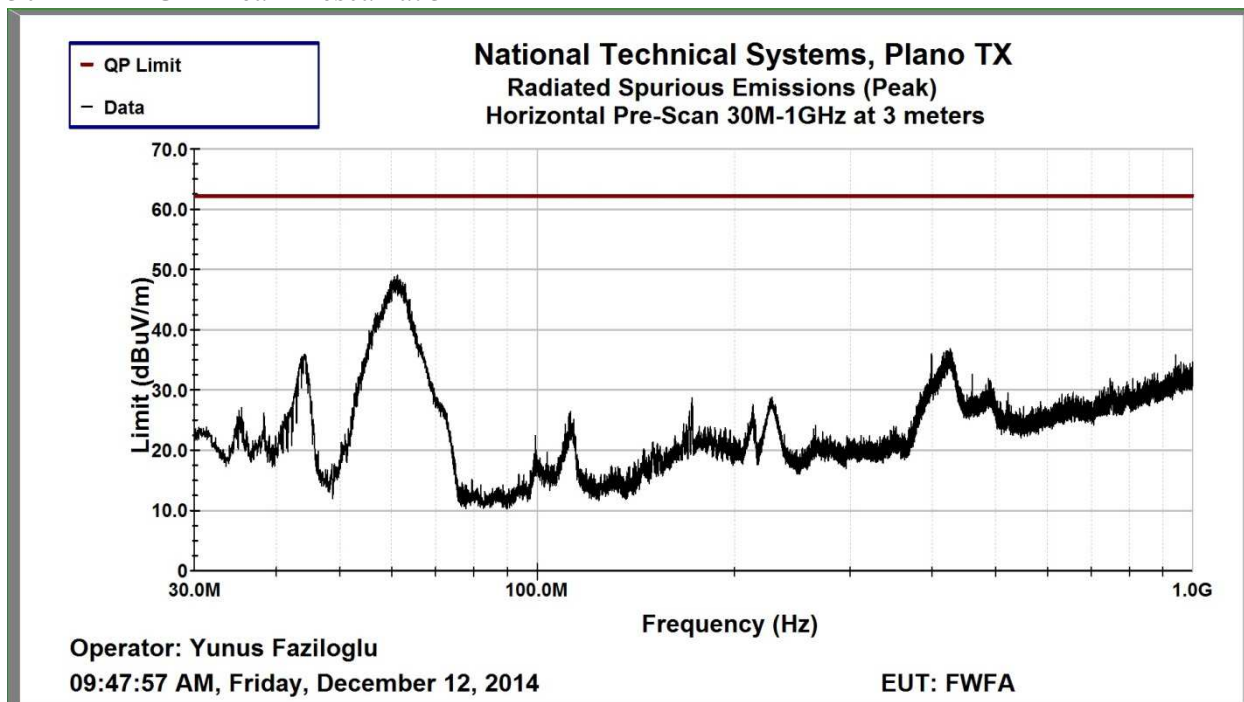
In the 30M-1GHz range emissions recorded were from the unintentional circuitry of the EUT. Harmonics of the fundamental, except for the 2nd harmonic, were below the instrumentation noise floor. All other spurious emissions were below the instrumentation noise floor as well.

Highest noise floor of the measurement instrumentation was more than 20dB below the 82.2dBuV/m at 3m limit (equivalent to -13dBm EIRP).

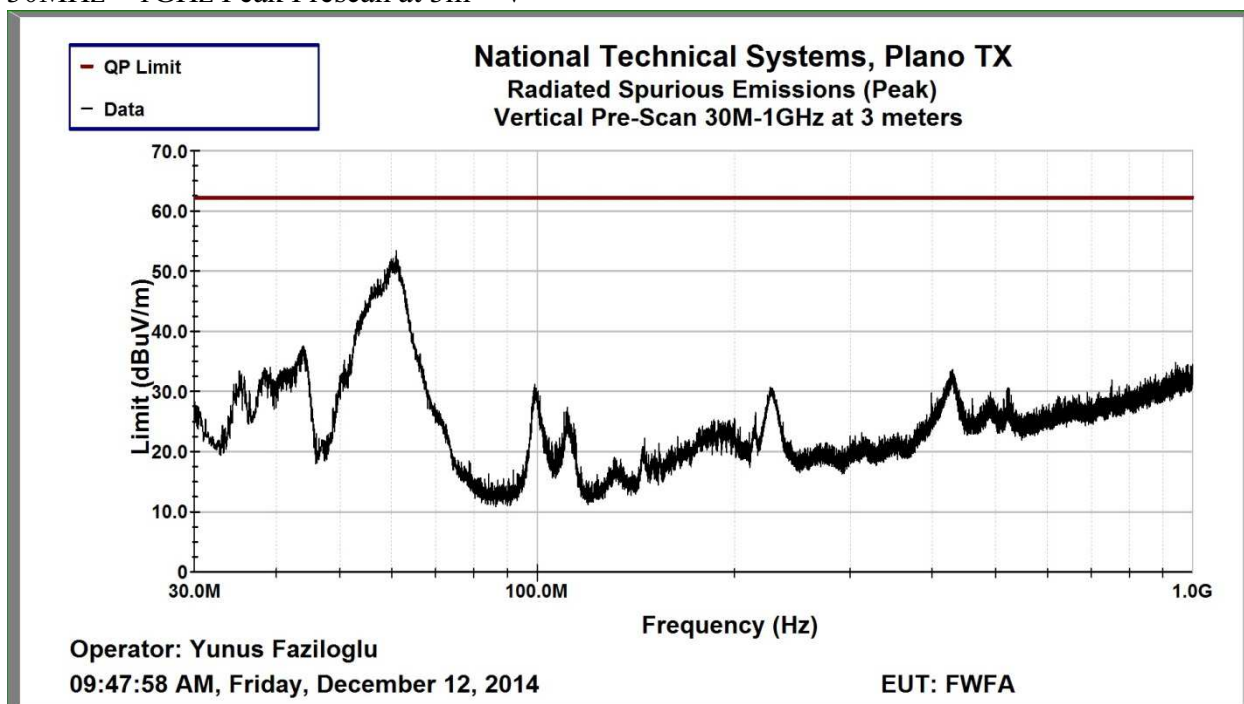
Since all maximized readings were more than 20dB below the 82.2dBuV/m at 3m limit (equivalent to -13dBm EIRP), substitution measurements were not performed.

TILE software was used for all prescans and plots included on the following pages.

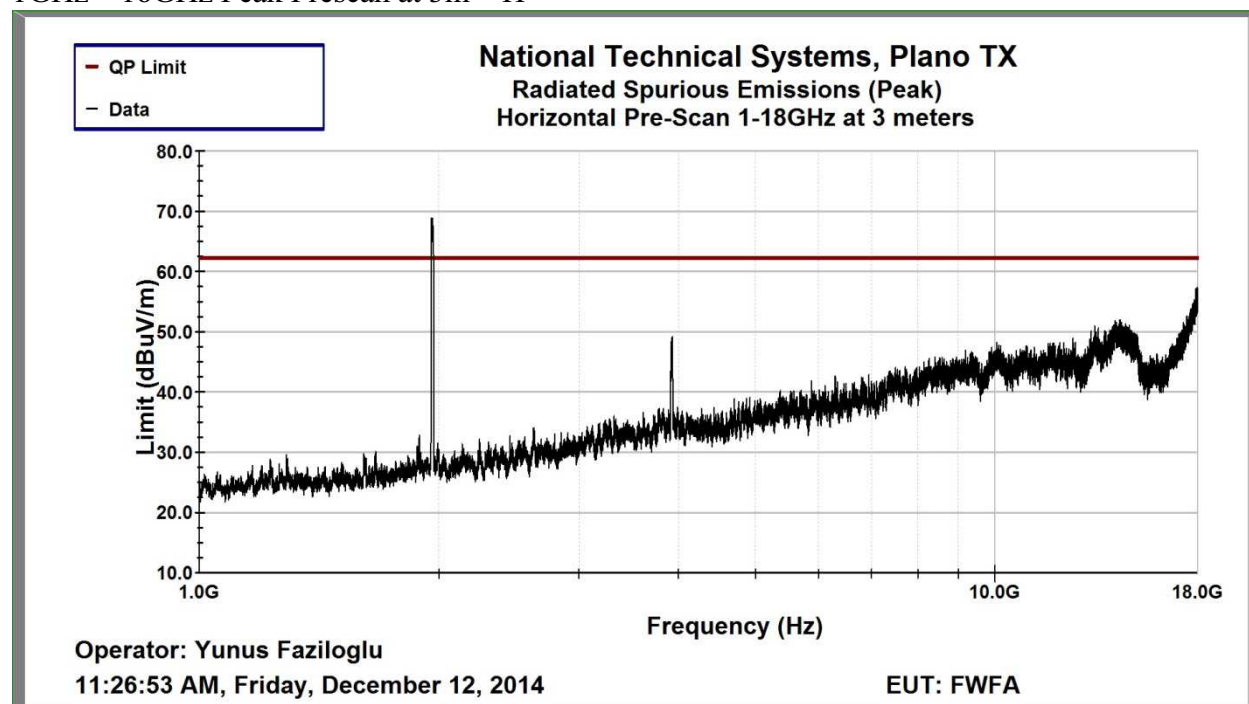
30MHz – 1GHz Peak Prescan at 3m – H



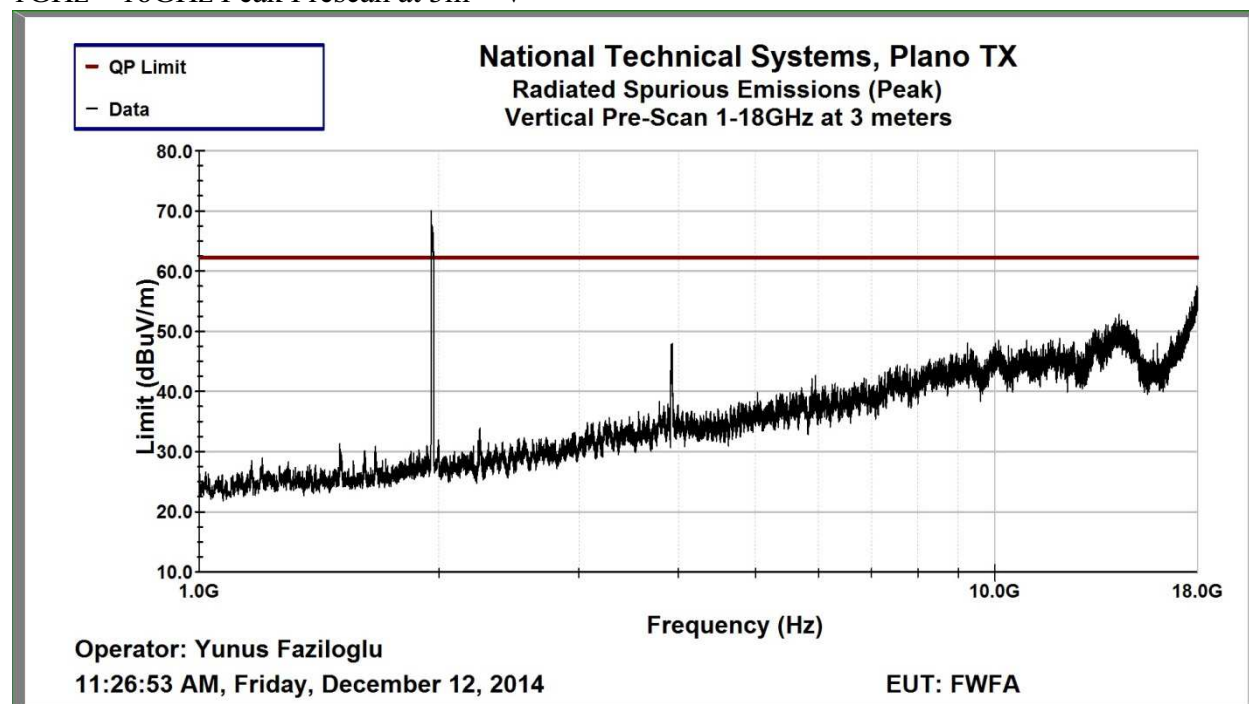
30MHz – 1GHz Peak Prescan at 3m – V



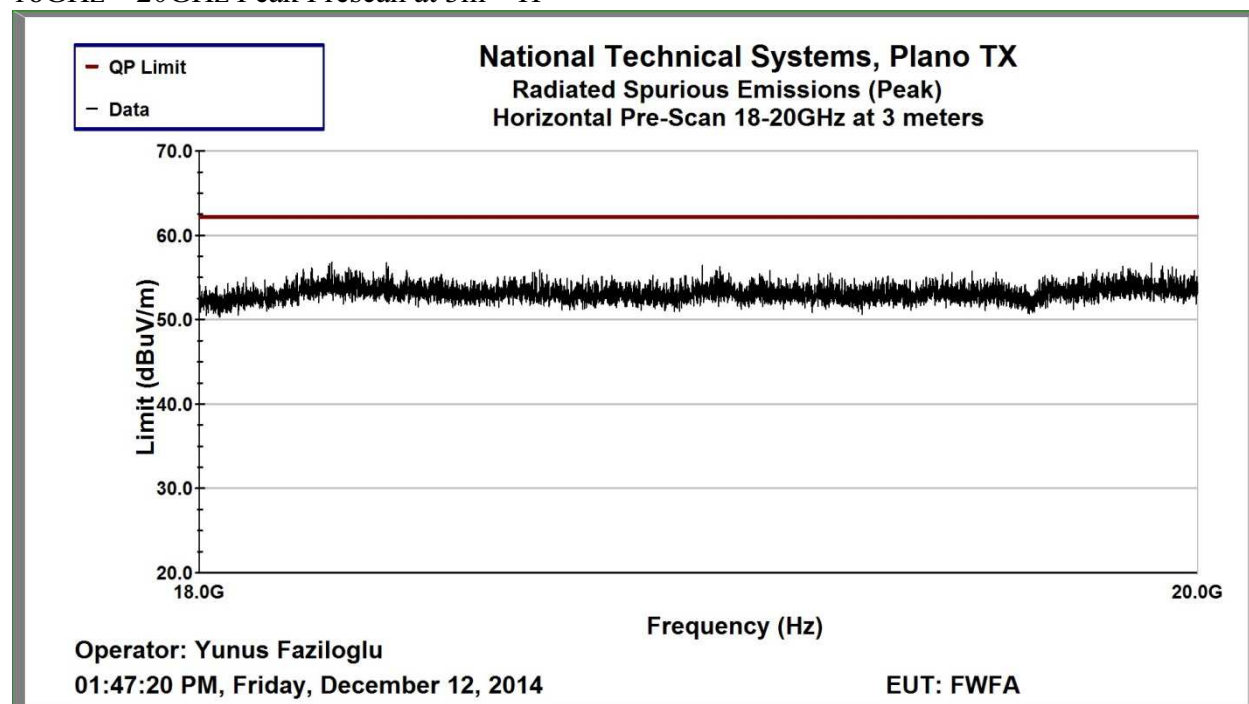
1GHz – 18GHz Peak Prescan at 3m – H



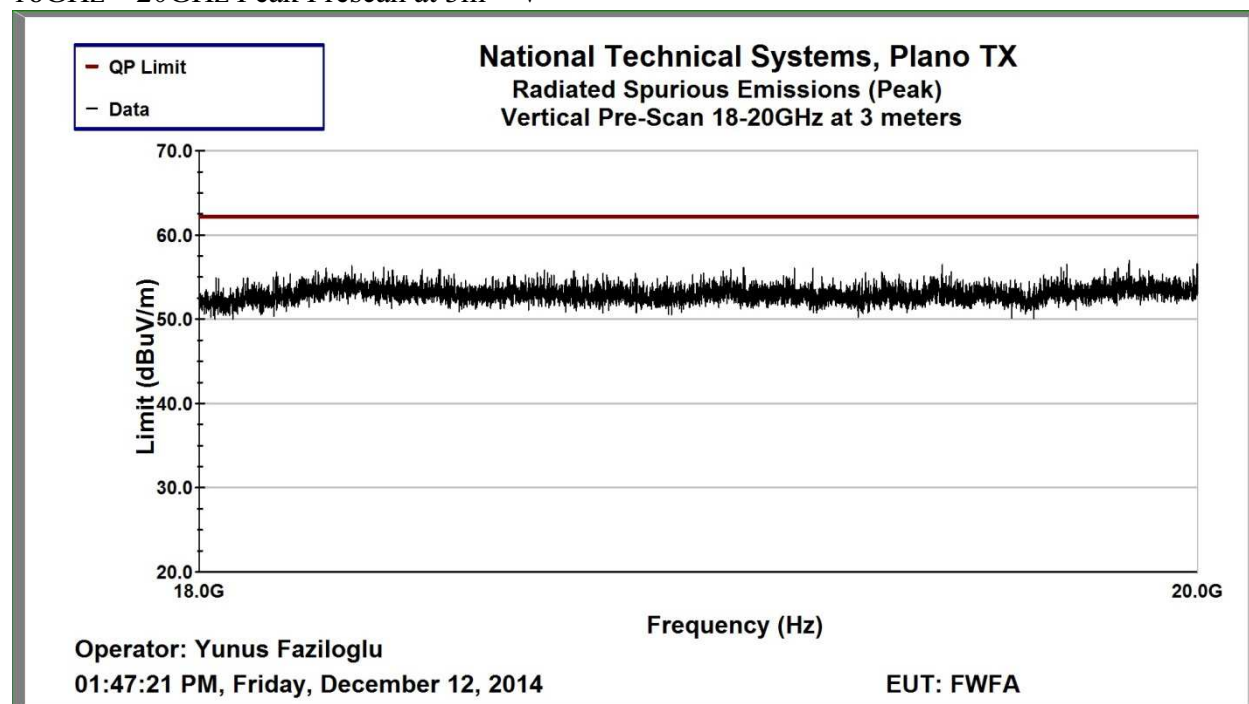
1GHz – 18GHz Peak Prescan at 3m – V



18GHz – 20GHz Peak Prescan at 3m – H



18GHz – 20GHz Peak Prescan at 3m – V



Frequency Stability

In order to demonstrate carrier frequency stability at extreme temperatures and voltages, bandedge compliance was verified at Port D on lowest and highest channels in 10MHz QPSK mode. This mode was selected since it had the highest readings at 1930MHz and 1995MHz block edges during previous bandedge tests.

Nominal operating voltage of the product is declared as 115VAC.

Bandedge reading results are listed below for extreme voltages and temperatures. The limit for compliance is same as the limit applied during previous bandedge tests, i.e. -16.02dBm.

Extreme Voltages

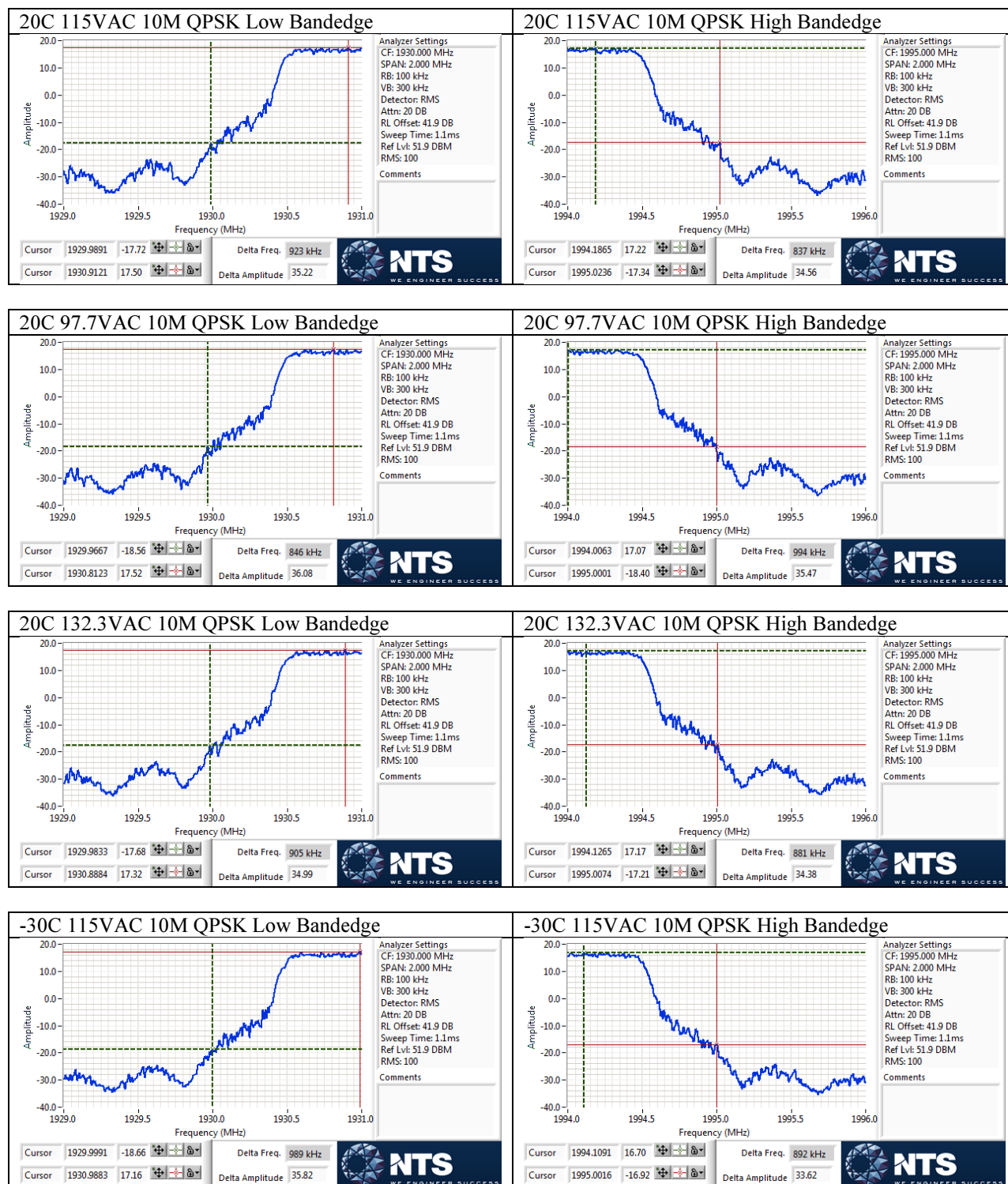
20C	Low	High
97.7VAC	-18.56	-18.4
132.3VAC	-17.68	-17.21

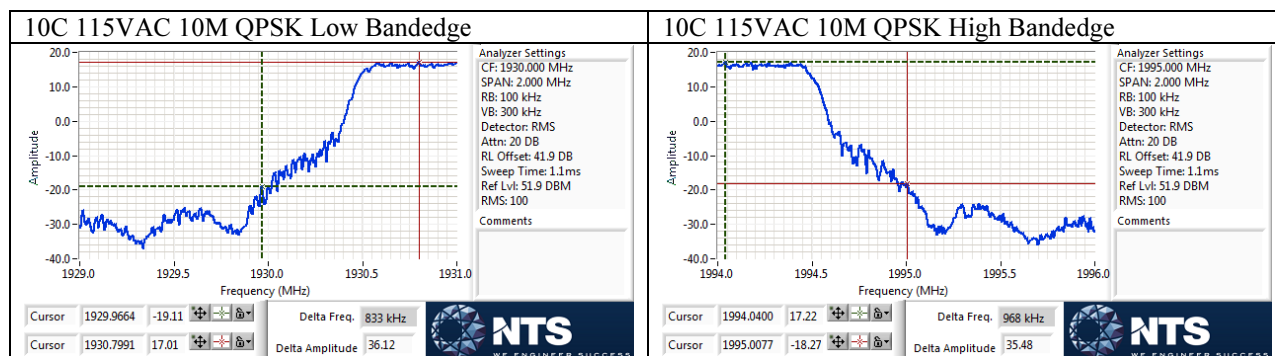
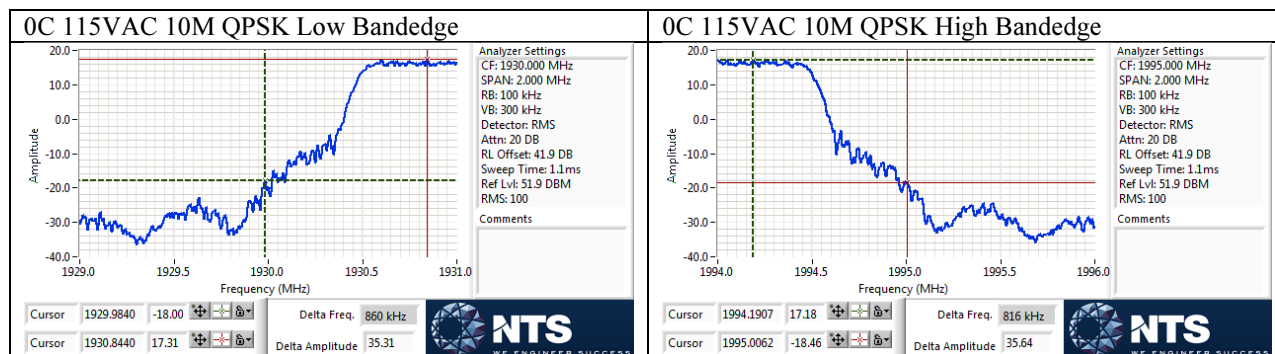
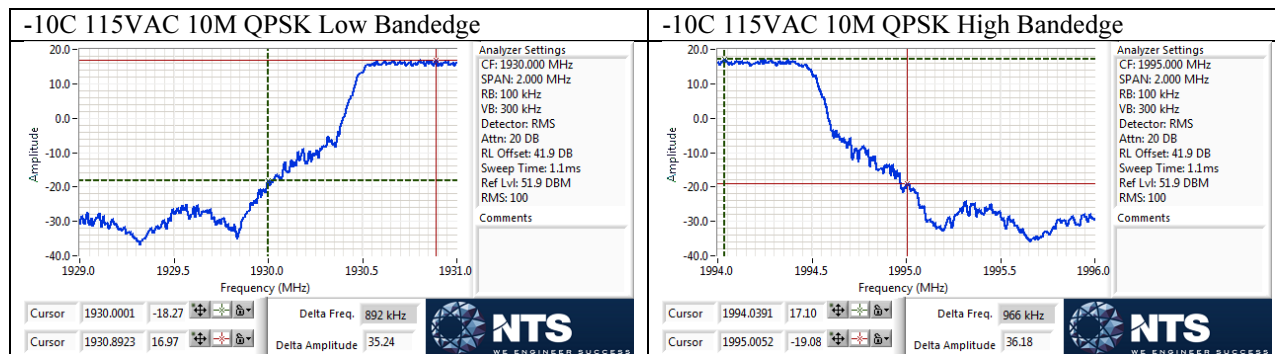
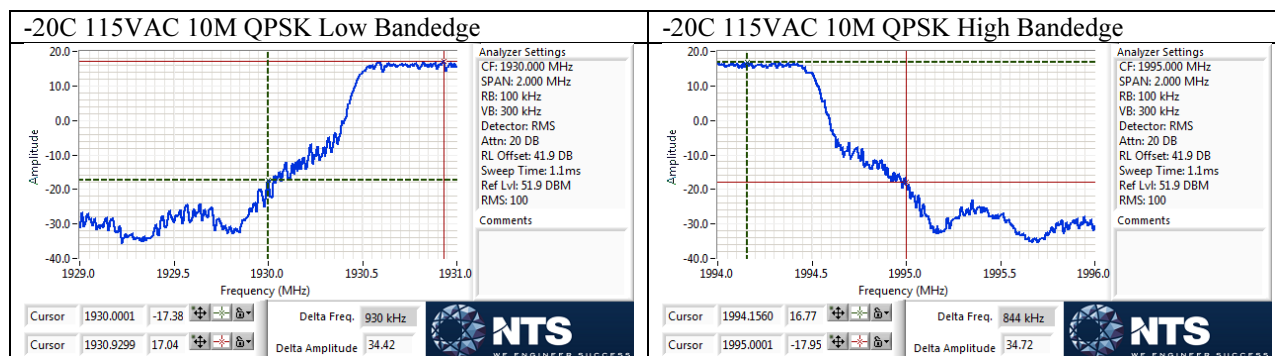
Extreme Temperatures

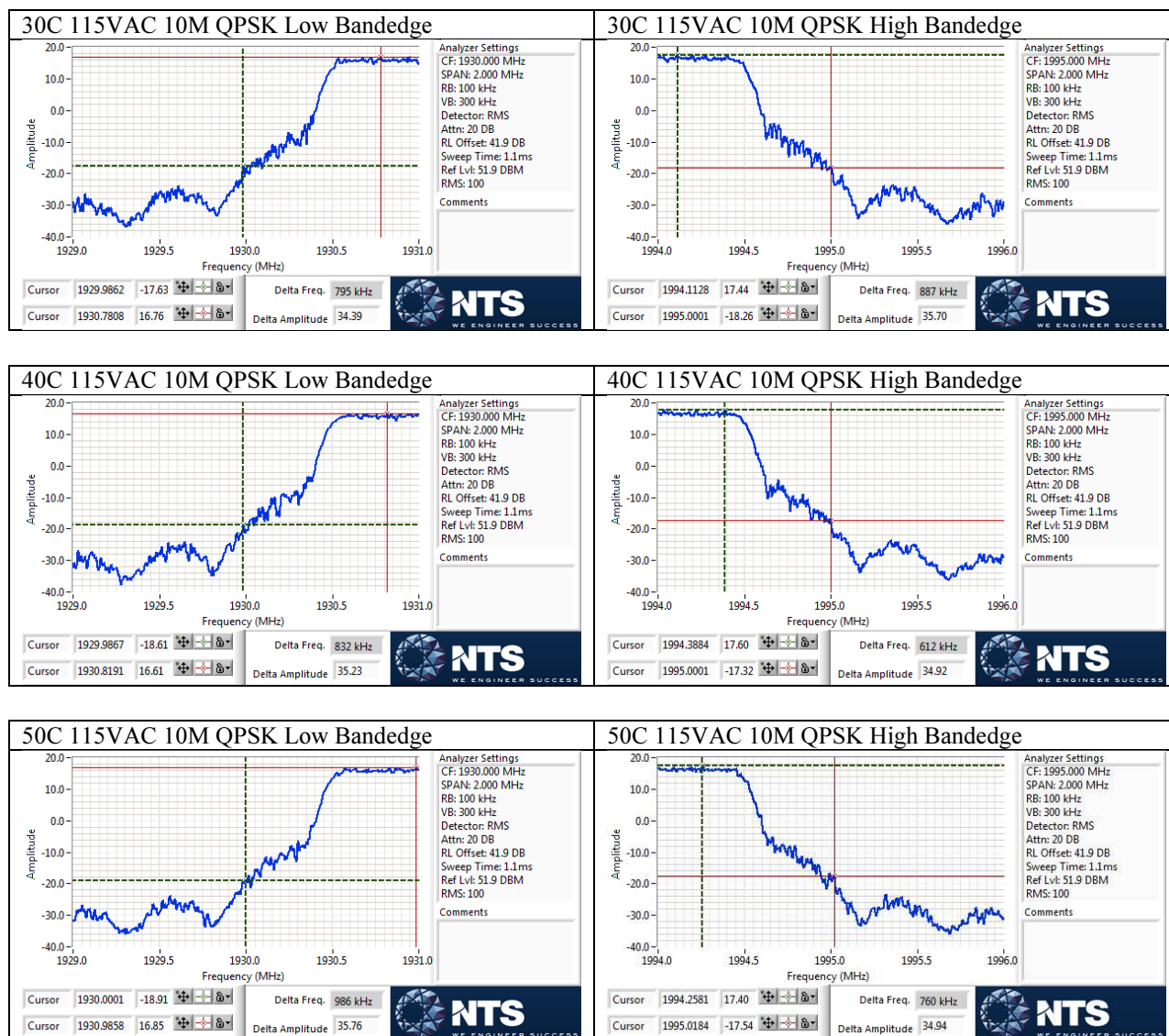
115VAC	Low	High
-30	-18.66	-16.92
-20	-17.38	-17.95
-10	-18.27	-19.08
0	-18	-18.46
10	-19.11	-18.27
20	-17.72	-17.34
30	-17.63	-18.26
40	-18.61	-17.32
50	-18.91	-17.54

Results above are deemed sufficient to demonstrate carrier frequency stability for all other channel bandwidth modes and modulations since all carriers are controlled by the same frequency stabilization circuitry that was subjected to the extreme conditions under this test.

All corresponding plots are included on the following pages.







End of Report

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