5.2 Spectral Plots

5.2.1. Test No. 2: Modulation Characteristics

No additional measurements are required for the modulation characteristics. Please refer to test no. 3, occupied bandwidth on page 18.

Screenshots below shows information about the modulations I/Q constellation form and modulation information table, displaying error to ideal modulation symbols.

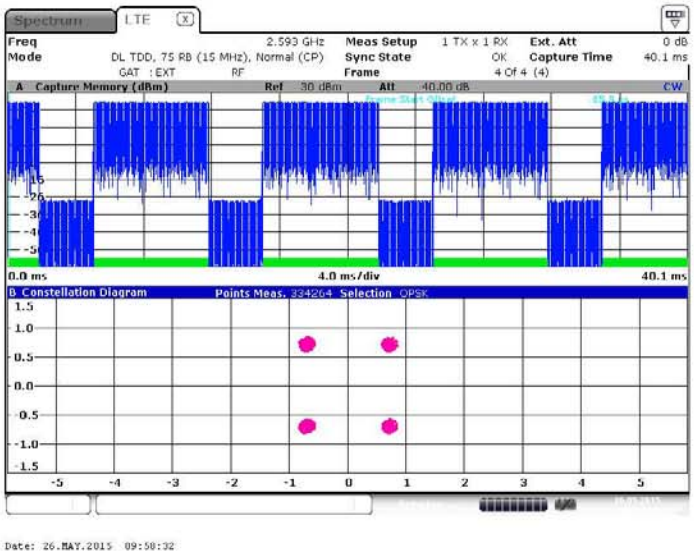
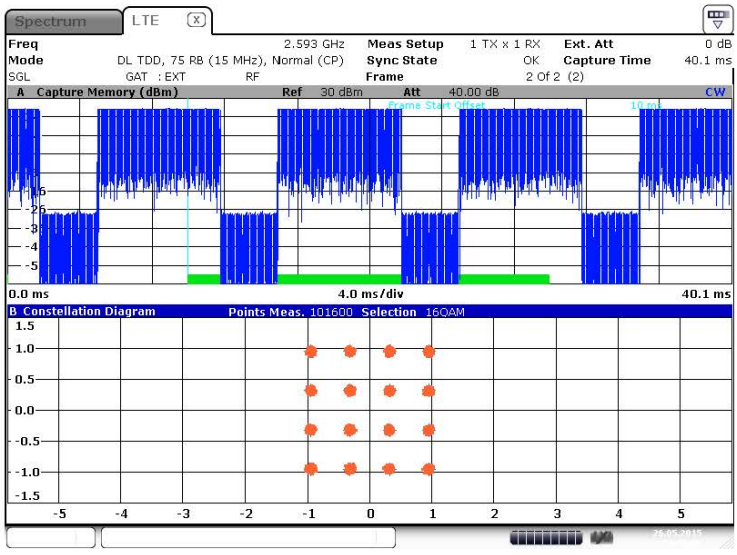


Figure 3 I/Q constellation diagram with capture buffer – QPSK (2593.0 MHz) (15MHz Channel BW)

Date: 26.MAY.2015 09:59:17

Figure 4 I/Q constellation table with I/Q error – QPSK (2593.0 MHz) (15MHz Channel BW)



Date: 26.MAY.2015 10:41:26

Figure 5 I/Q constellation diagram with capture buffer – 16QAM (2593.0 MHz) (15MHz Channel BW)

Figure 6 I/Q constellation table with I/Q error – 16QAM (2593.0 MHz) (15MHz Channel BW)

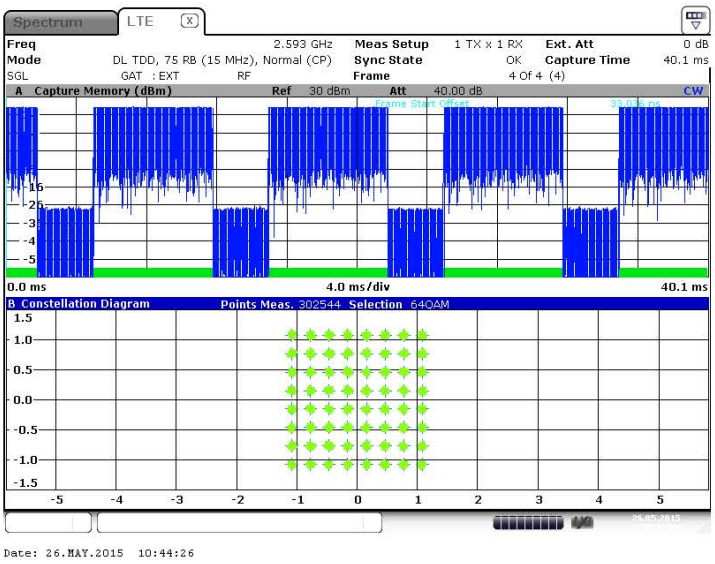
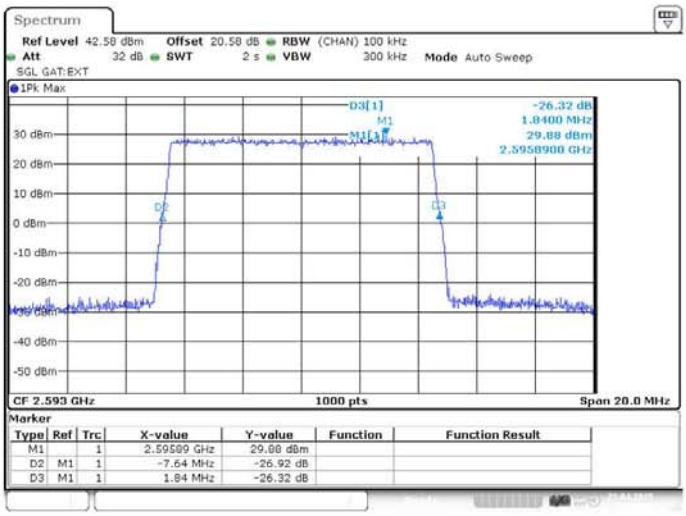


Figure 7 I/Q constellation diagram with capture buffer – 64QAM (2593.0 MHz) (15MHz Channel BW)

Figure 8 I/Q constellation table with I/Q error – 64QAM (2593.0 MHz) (15MHz Channel BW)

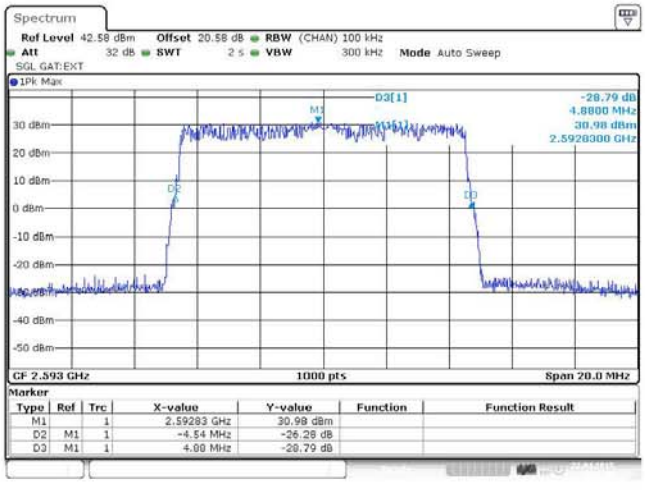
5.2.2. Test No. 3: Occupied Bandwidth

Config A ANT1:



Date: 22.APR.2015 09:44:08

Figure 9 Occupied Bandwidth – QPSK (2593.0 MHz) (10MHz Channel BW)



Date: 22.APR.2015 13:42:43

Figure 10 Occupied Bandwidth – 16QAM (2593.0 MHz) (10MHz Channel BW)

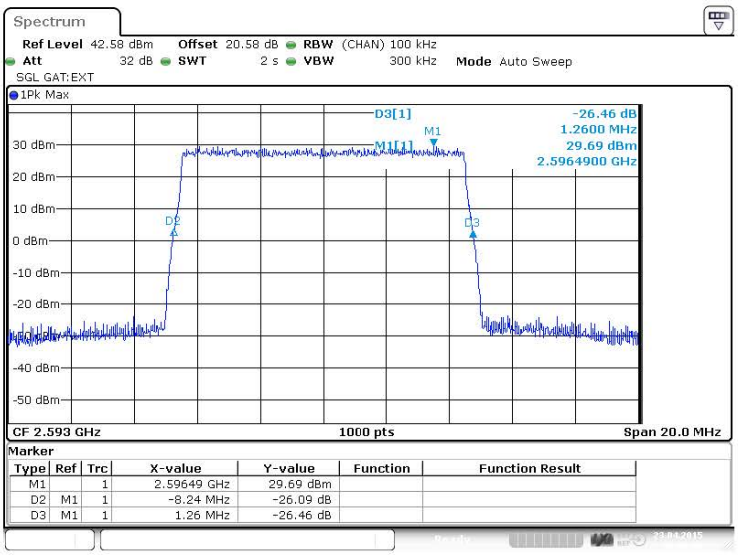


Figure 11 Occupied Bandwidth – 64QAM (2593.0 MHz) (10MHz Channel BW)

Config A ANT2:

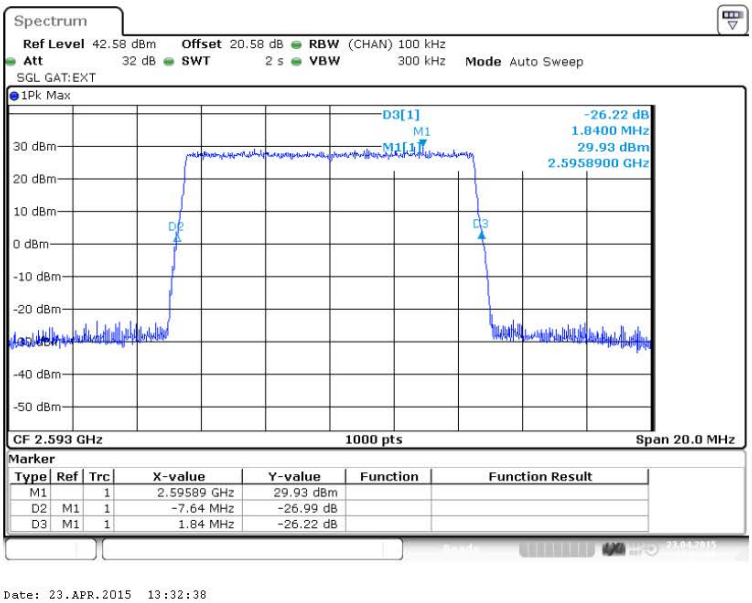


Figure 12 Occupied Bandwidth – QPSK (2593.0 MHz) (10MHz Channel BW)

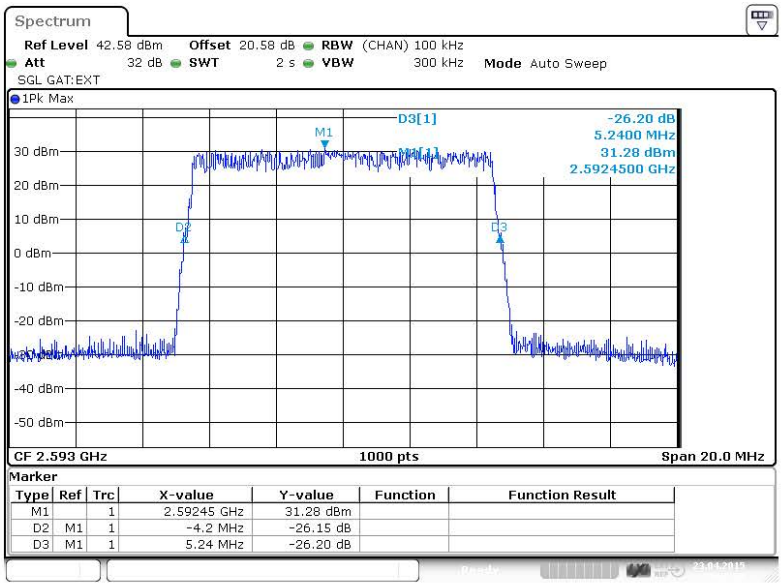


Figure 13 Occupied Bandwidth – 16QAM (2593.0 MHz) (10MHz Channel BW)

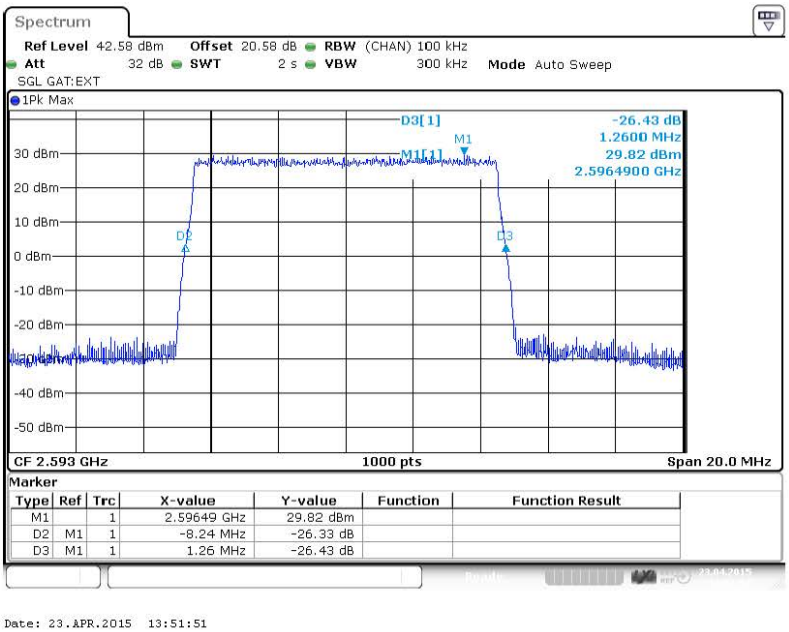


Figure 14 Occupied Bandwidth – 64QAM (2593.0 MHz) (10MHz Channel BW)

Config A ANT3:

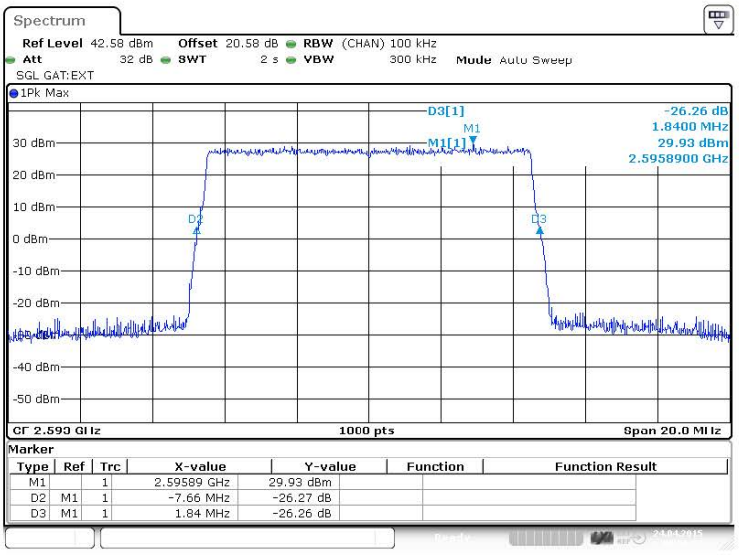


Figure 15 Occupied Bandwidth – QPSK (2593.0 MHz) (10MHz Channel BW)

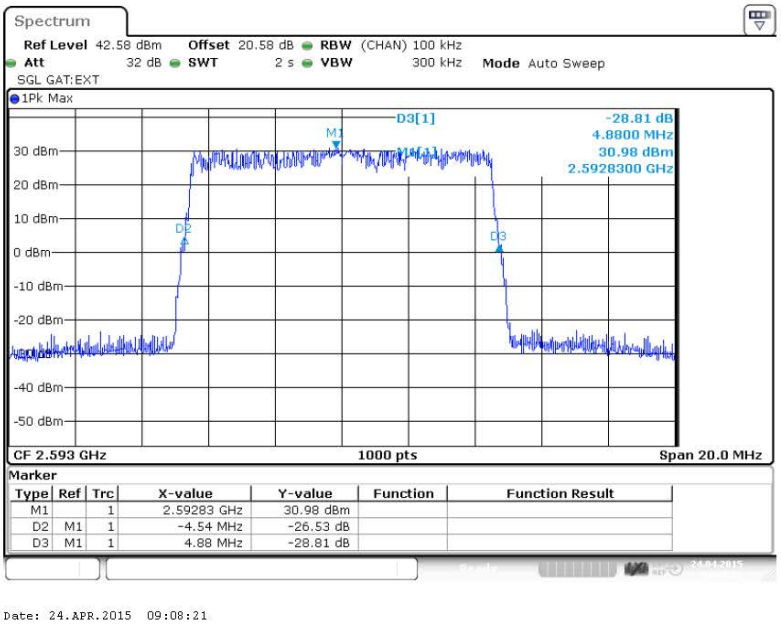


Figure 16 Occupied Bandwidth – 16QAM (2593.0 MHz) (10MHz Channel BW)

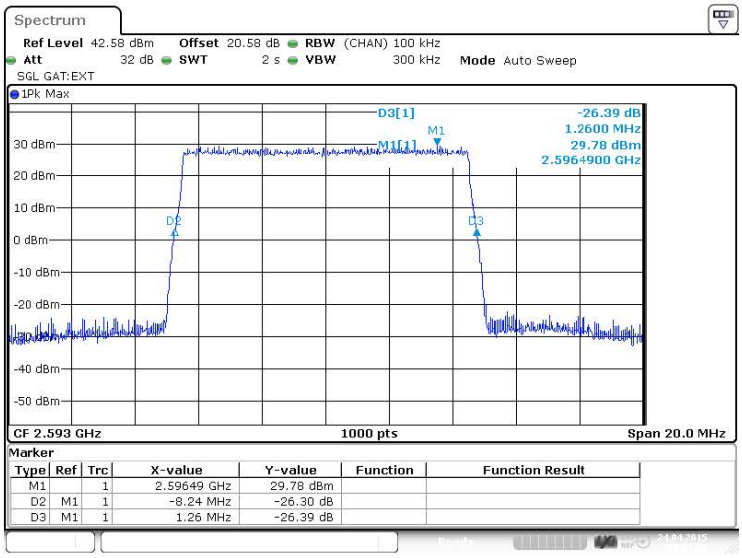


Figure 17 Occupied Bandwidth – 64QAM (2593.0 MHz) (10MHz Channel BW)

Config A ANT4:

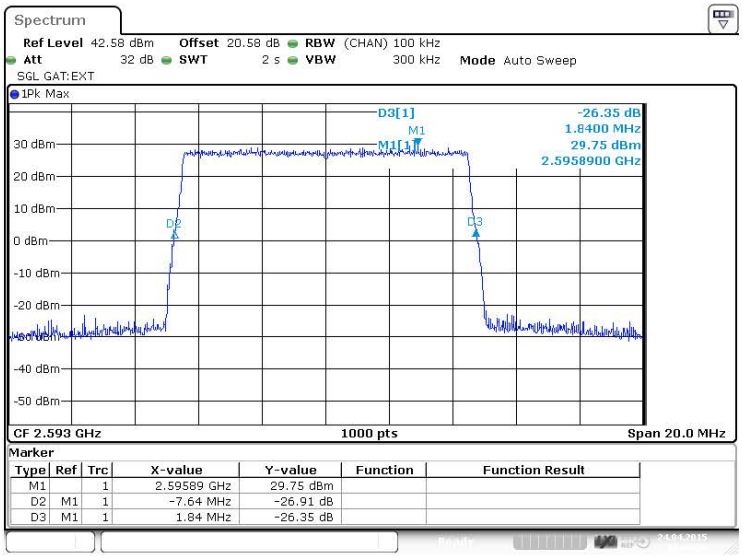
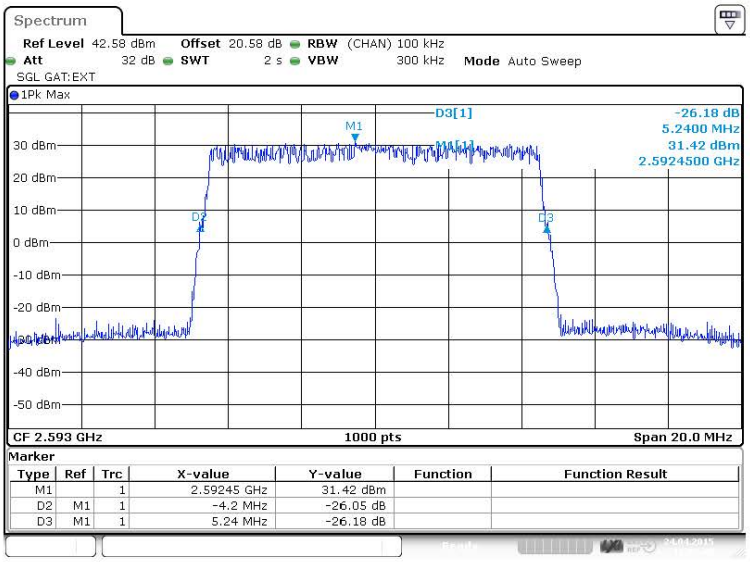
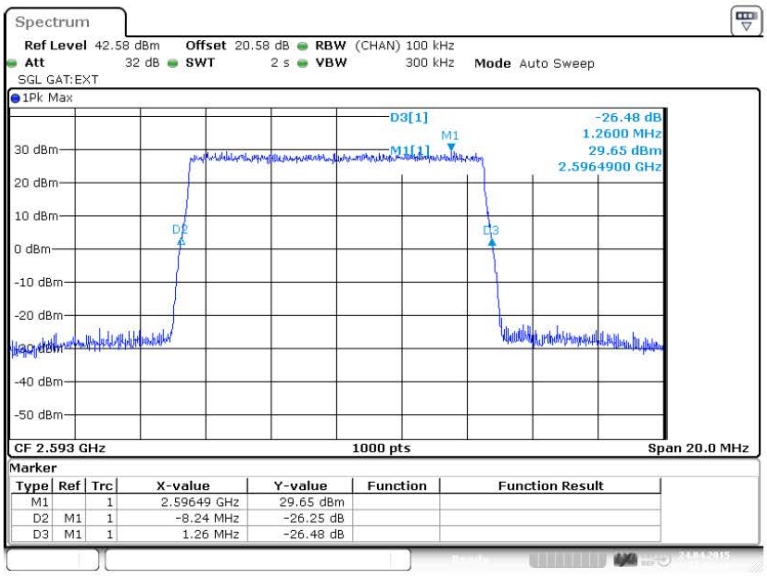


Figure 18 Occupied Bandwidth – QPSK (2593.0 MHz) (10MHz Channel BW)



Date: 24.APR.2015 11:52:45

Figure 19 Occupied Bandwidth – 16QAM (2593.0 MHz) (10MHz Channel BW)



Date: 24.APR.2015 12:02:19

Figure 20 Occupied Bandwidth – 64QAM (2593.0 MHz) (10MHz Channel BW)

Config A ANT5:

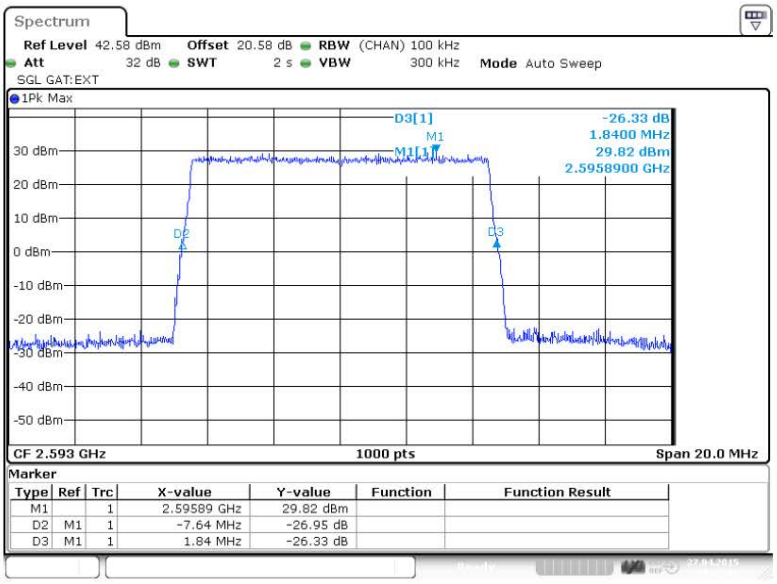


Figure 21 Occupied Bandwidth – QPSK (2593.0 MHz) (10MHz Channel BW)

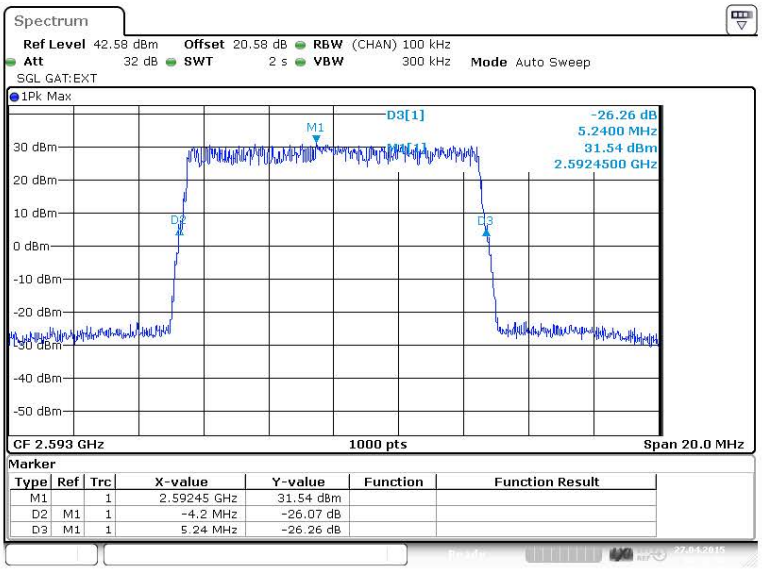
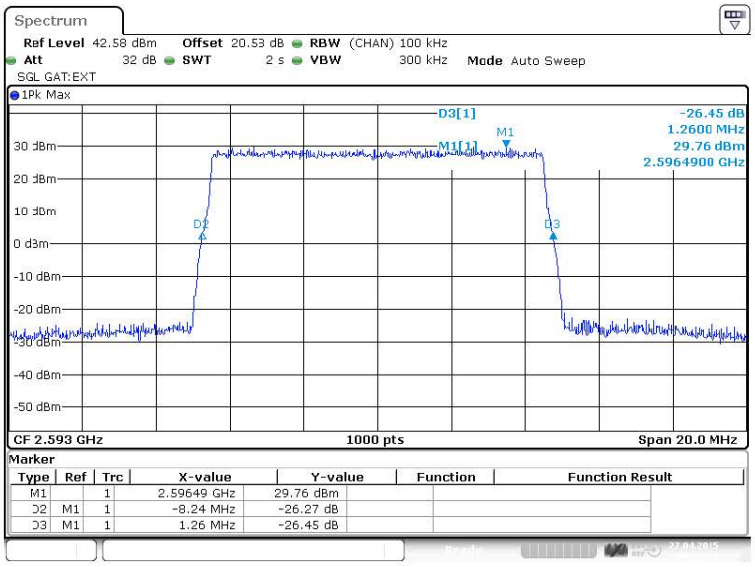


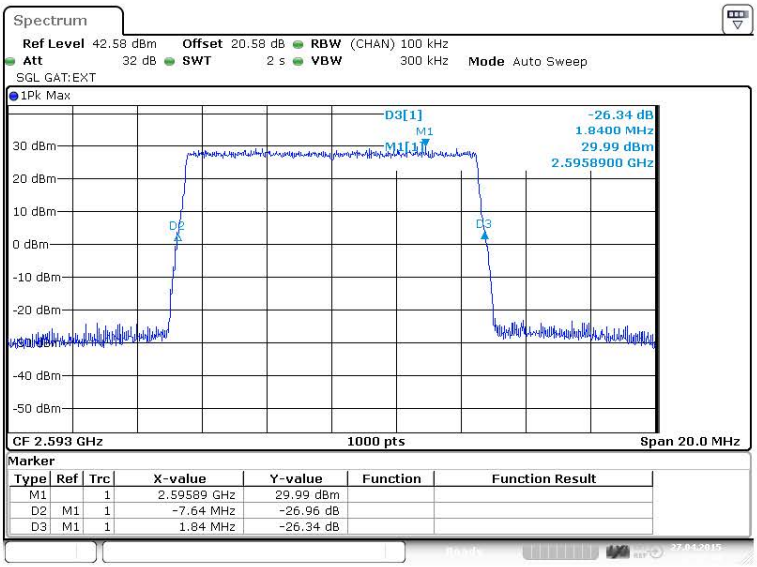
Figure 22 Occupied Bandwidth – 16QAM (2593.0 MHz) (10MHz Channel BW)



Date: 27.APR.2015 09:23:16

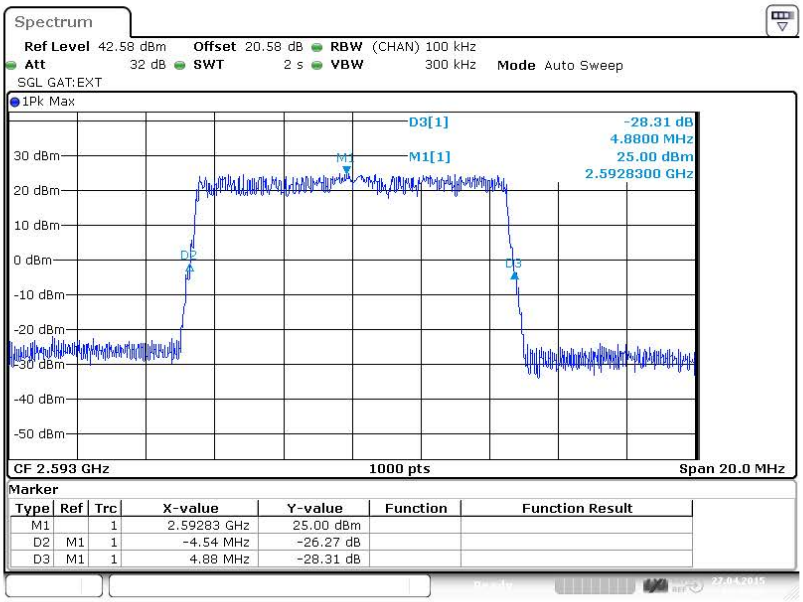
Figure 23 Occupied Bandwidth – 64QAM (2593.0 MHz) (10MHz Channel BW)

Config A ANT6:



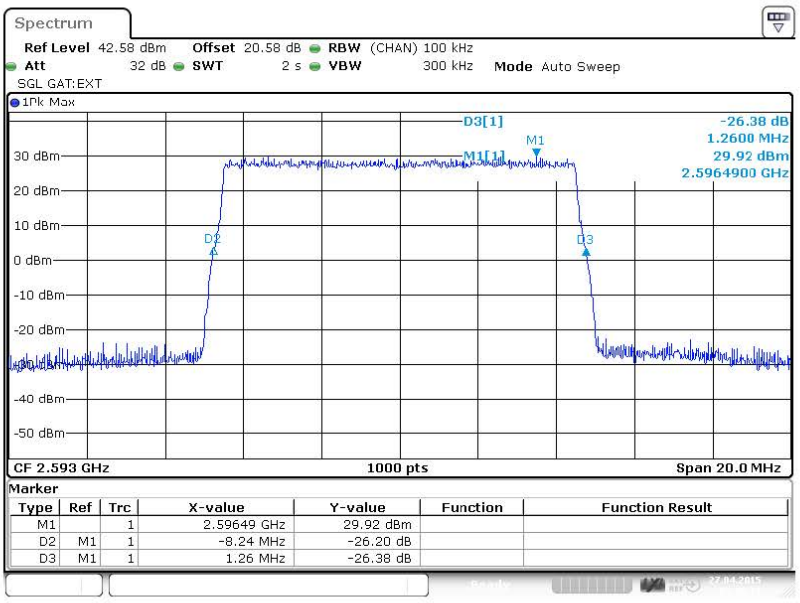
Date: 27.APR.2015 12:37:44

Figure 24 Occupied Bandwidth – QPSK (2593.0 MHz) (10MHz Channel BW)



Date: 27.APR.2015 13:44:10

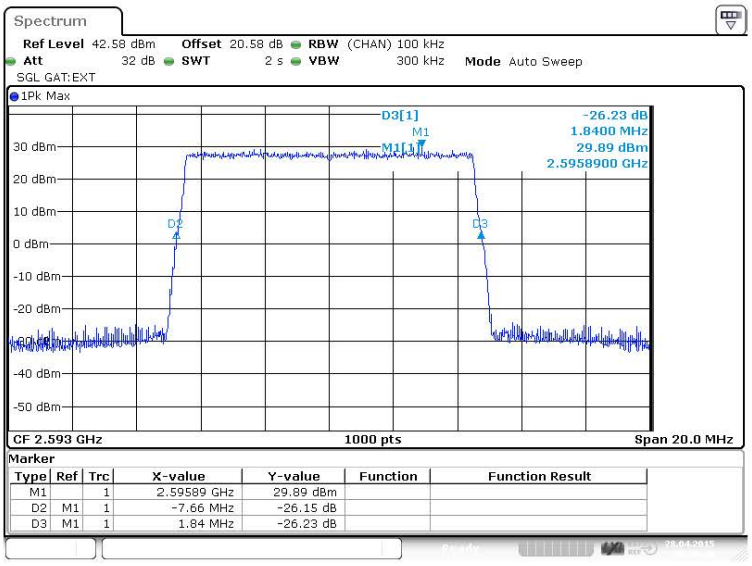
Figure 25 Occupied Bandwidth – 16QAM (2593.0 MHz) (10MHz Channel BW)



Date: 27.APR.2015 13:39:16

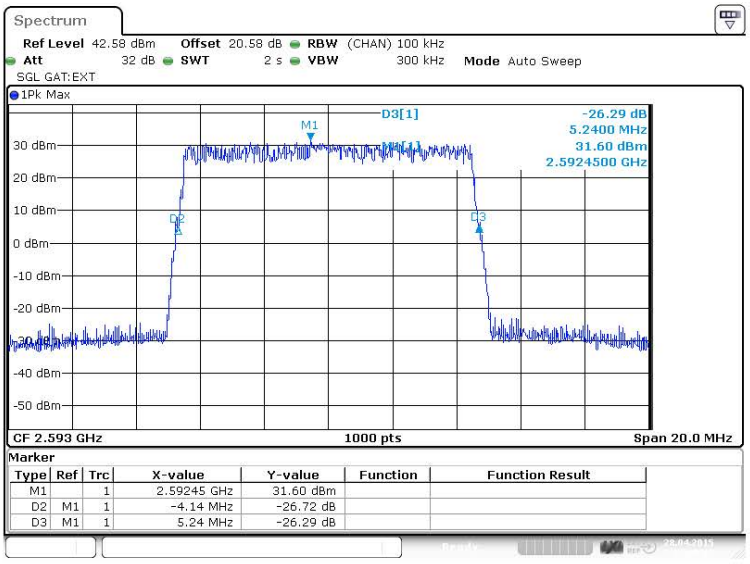
Figure 26 Occupied Bandwidth – 64QAM (2593.0 MHz) (10MHz Channel BW)

Config A ANT7:



Date: 28.APR.2015 07:18:47

Figure 27 Occupied Bandwidth – QPSK (2593.0 MHz) (10MHz Channel BW)



Date: 28.APR.2015 07:28:13

Figure 28 Occupied Bandwidth – 16QAM (2593.0 MHz) (10MHz Channel BW)

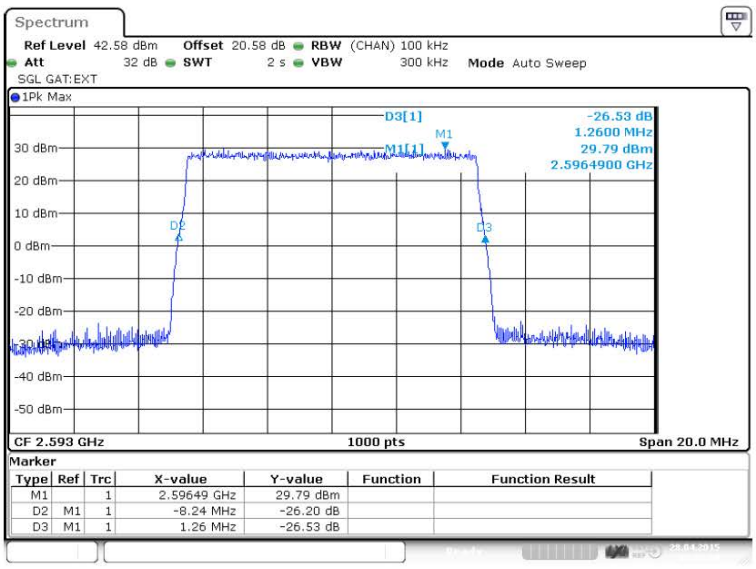


Figure 29 Occupied Bandwidth – 64QAM (2593.0 MHz) (10MHz Channel BW)

Config A ANT8:

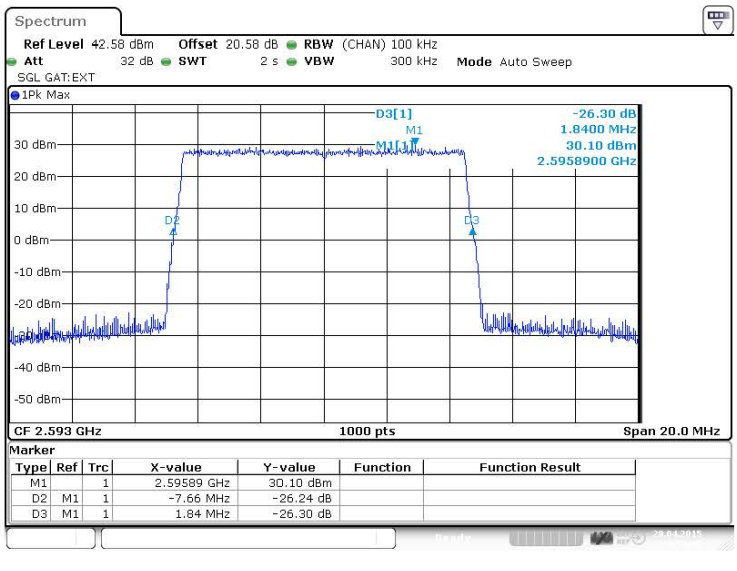


Figure 30 Occupied Bandwidth – QPSK (2593.0 MHz) (10MHz Channel BW)

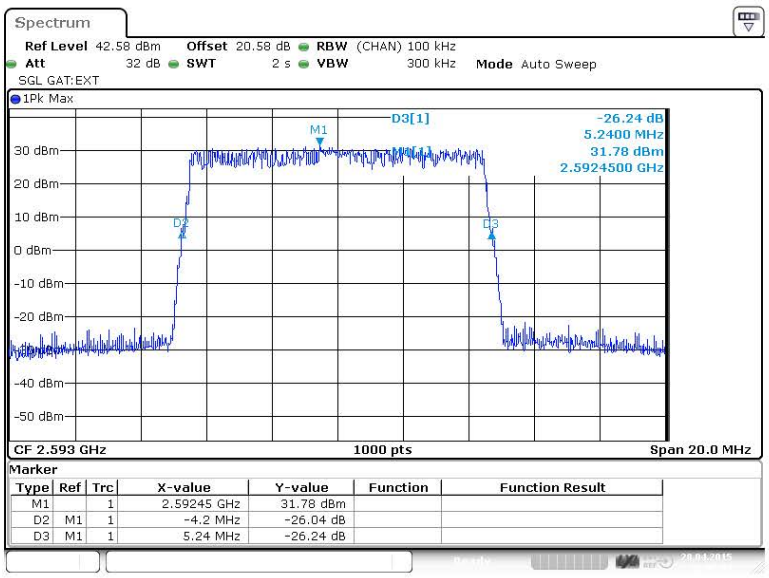


Figure 31 Occupied Bandwidth – 16QAM (2593.0 MHz) (10MHz Channel BW)

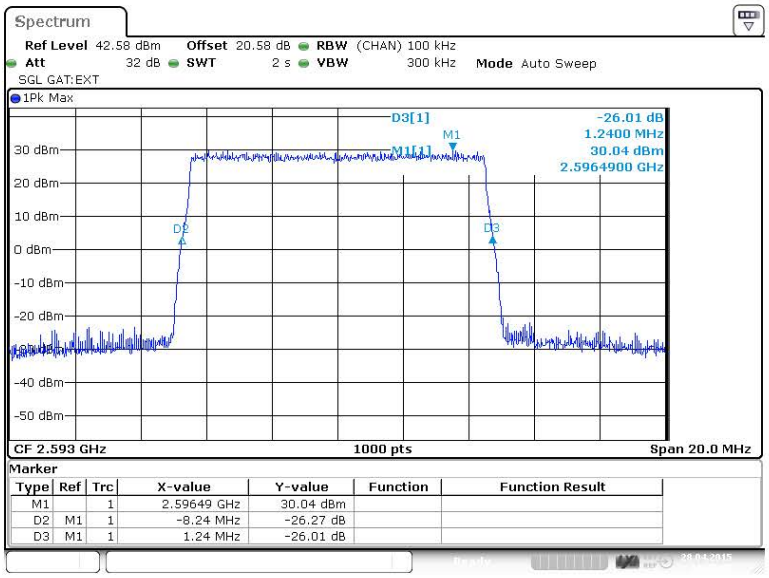
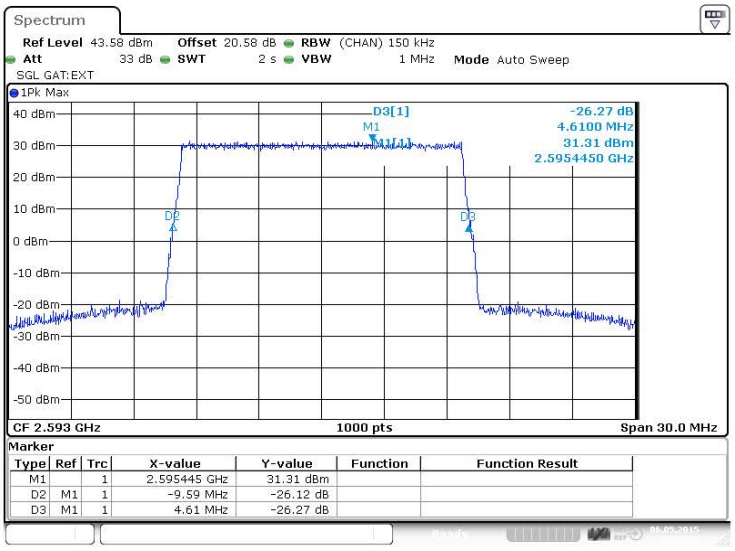


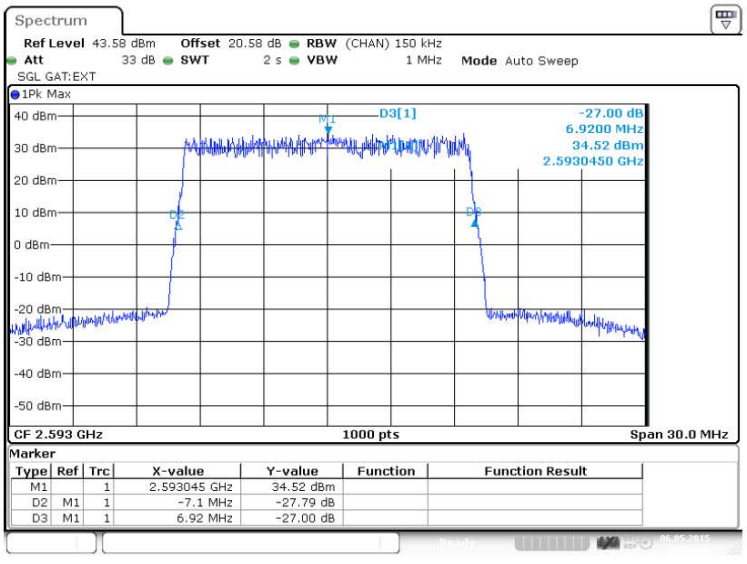
Figure 32 Occupied Bandwidth – 64QAM (2593.0 MHz) (10MHz Channel BW)

Config B ANT1:



Date: 6.MAY.2015 13:38:35

Figure 35 Occupied Bandwidth – QPSK (2593.0 MHz) (15MHz Channel BW)



Date: 6.MAY.2015 14:01:22

Figure 36 Occupied Bandwidth – 16QAM (2593.0 MHz) (15MHz Channel BW)

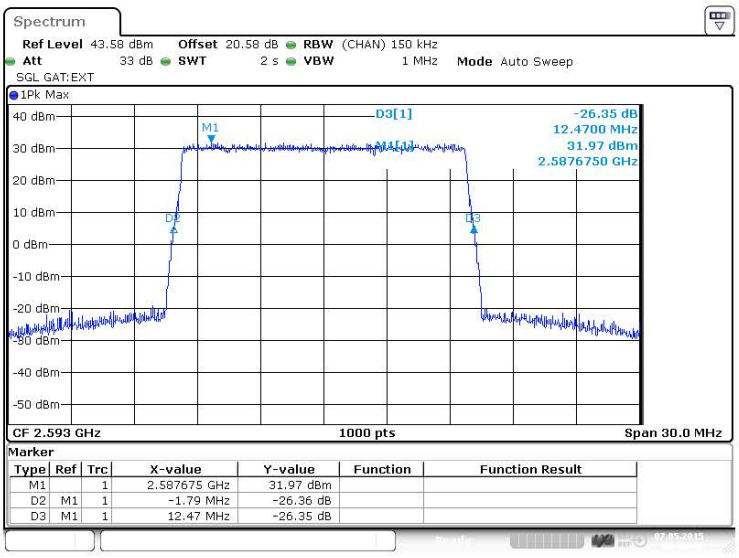


Figure 37 Occupied Bandwidth – 64QAM (2593.0 MHz) (15MHz Channel BW)

Config A ANT2:

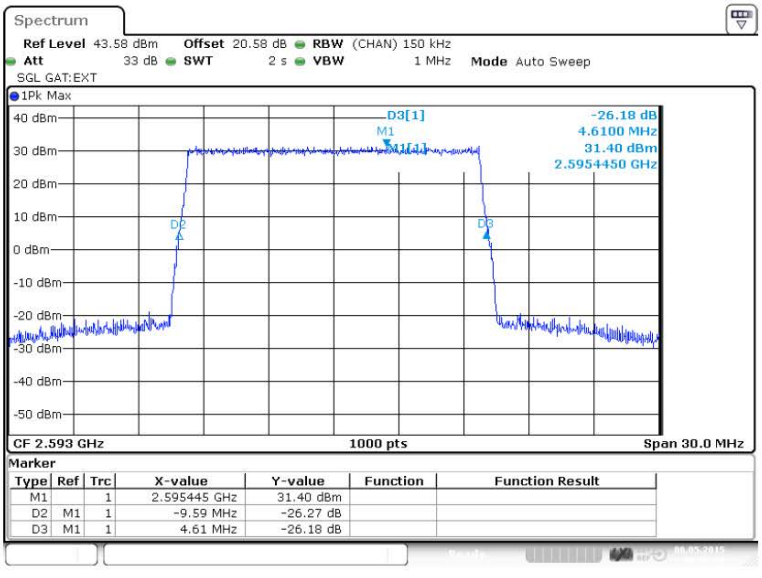
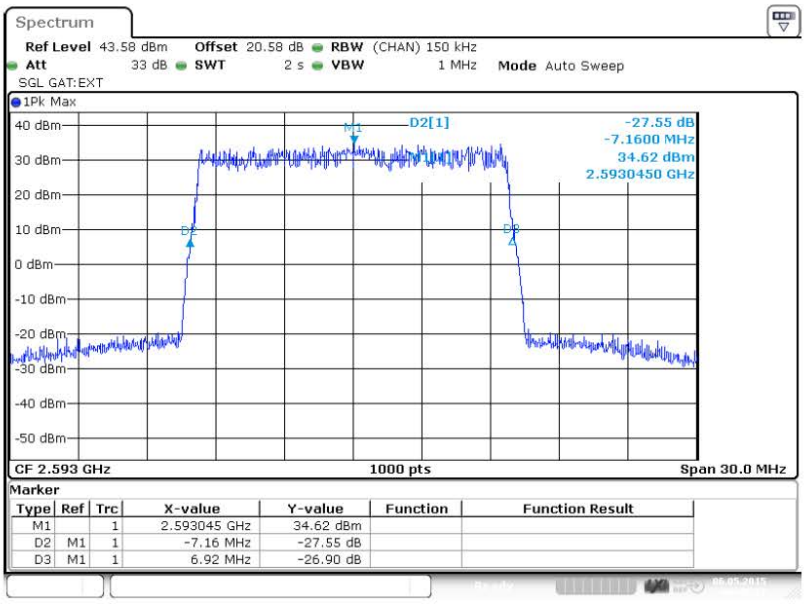
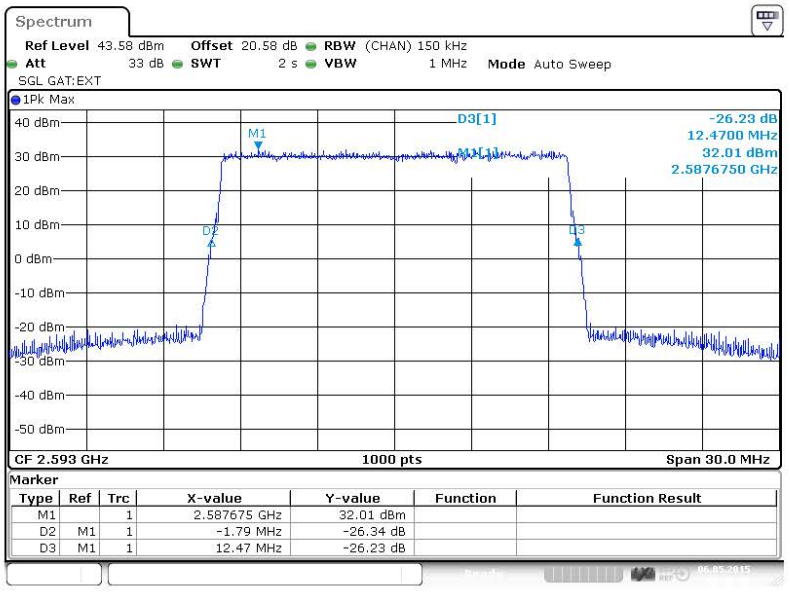


Figure 38 Occupied Bandwidth – QPSK (2593.0 MHz) (15MHz Channel BW)



Date: 6.MAY.2015 08:45:17

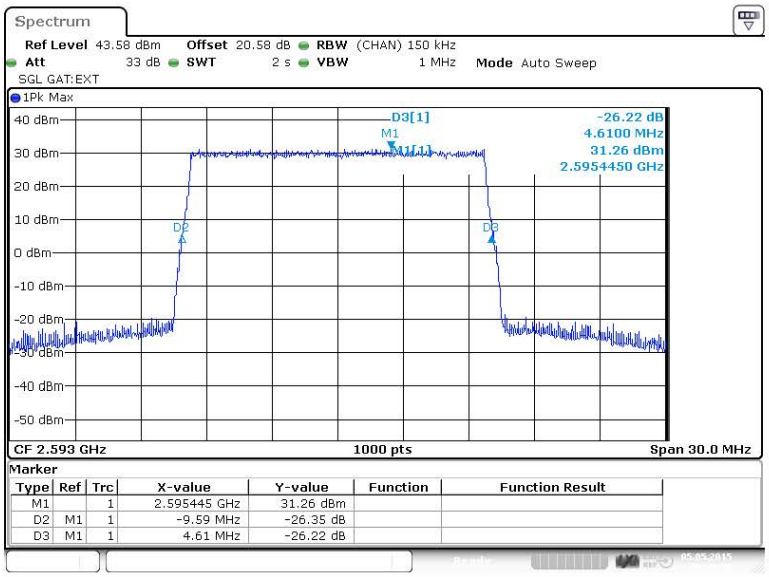
Figure 39 Occupied Bandwidth – 16QAM (2593.0 MHz) (15MHz Channel BW)



Date: 6.MAY.2015 08:56:07

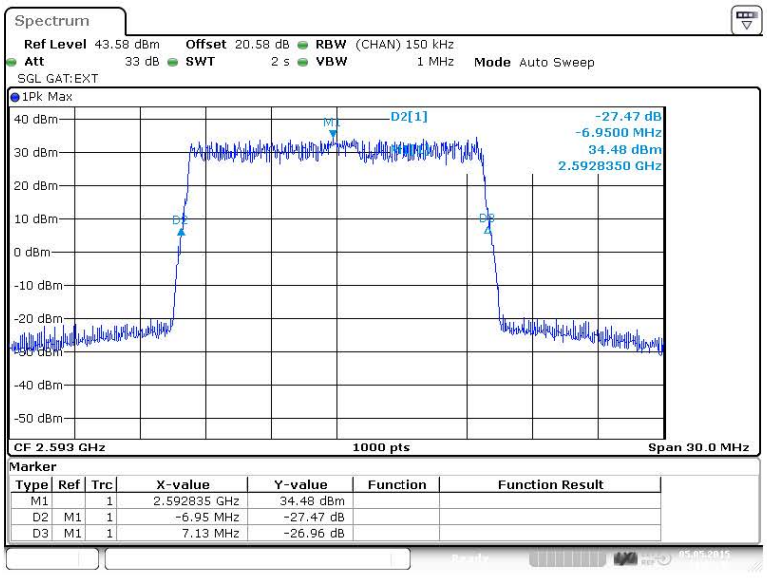
Figure 40 Occupied Bandwidth – 64QAM (2593.0 MHz) (15MHz Channel BW)

Config A ANT3:



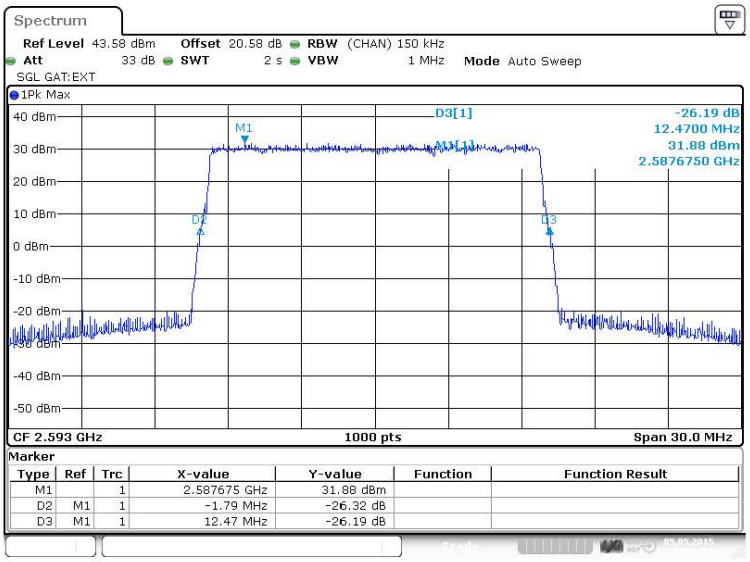
Date: 5.MAY.2015 09:49:42

Figure 41 Occupied Bandwidth – QPSK (2593.0 MHz) (15MHz Channel BW)



Date: 5.MAY.2015 10:37:46

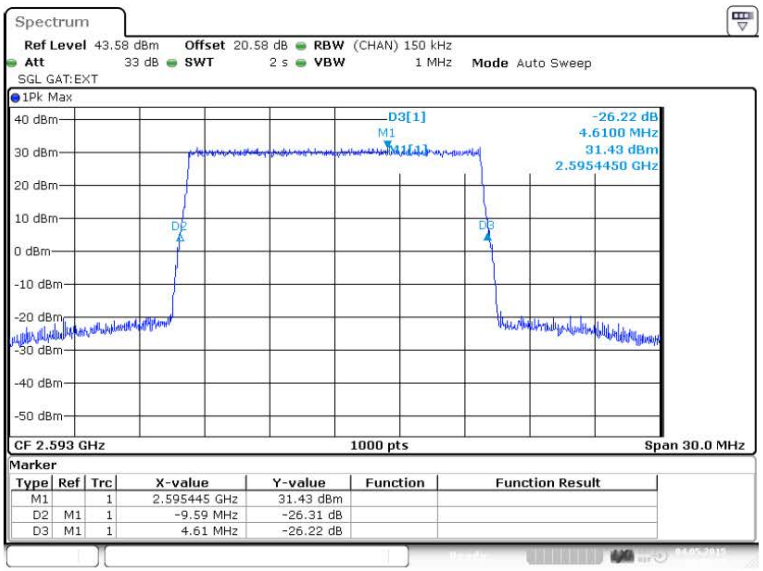
Figure 42 Occupied Bandwidth – 16QAM (2593.0 MHz) (15MHz Channel BW)



Date: 5.MAY.2015 10:52:07

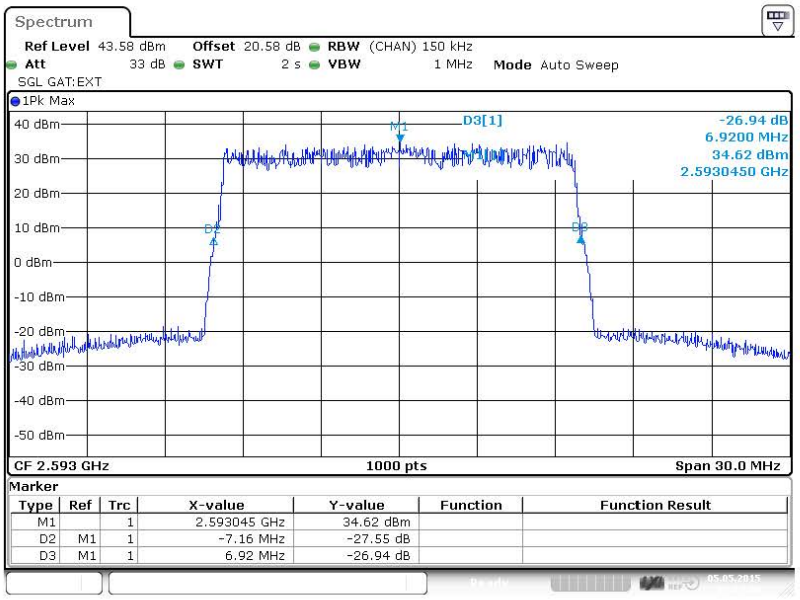
Figure 43 Occupied Bandwidth – 64QAM (2593.0 MHz) (15MHz Channel BW)

Config A ANT4:



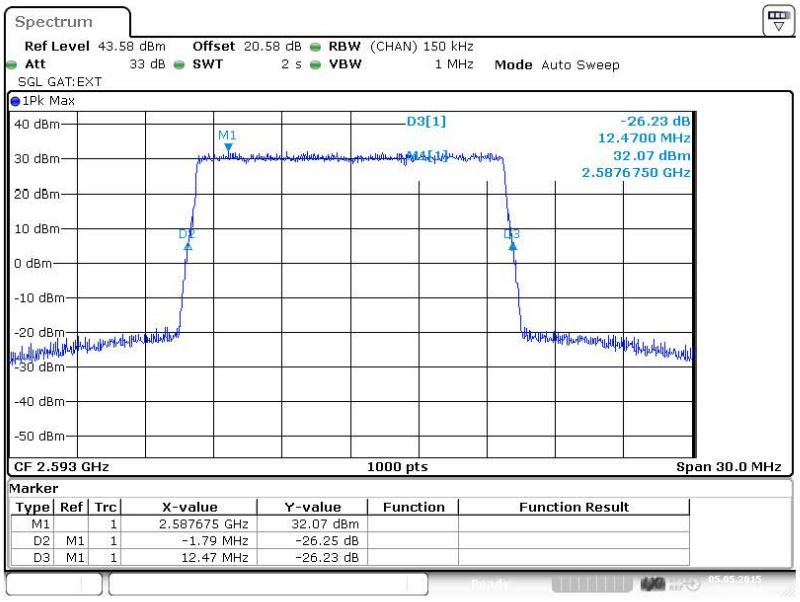
Date: 4.MAY.2015 14:41:34

Figure 44 Occupied Bandwidth – QPSK (2593.0 MHz) (15MHz Channel BW)



Date: 5.MAY.2015 07:14:30

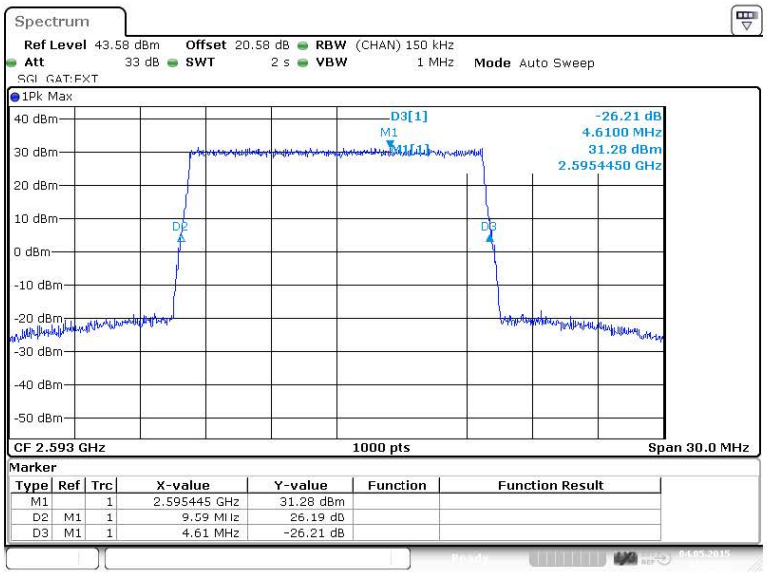
Figure 45 Occupied Bandwidth – 16QAM (2593.0 MHz) (15MHz Channel BW)



Date: 5.MAY.2015 07:22:34

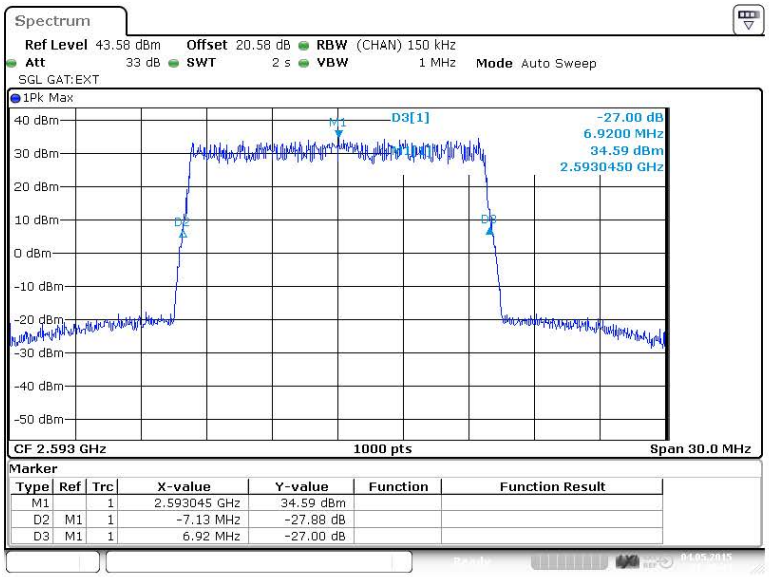
Figure 46 Occupied Bandwidth – 64QAM (2593.0 MHz) (15MHz Channel BW)

Config A ANT5:



Date: 4.MAY.2015 11:30:53

Figure 47 Occupied Bandwidth – QPSK (2593.0 MHz) (15MHz Channel BW)



Date: 4.MAY.2015 11:39:41

Figure 48 Occupied Bandwidth – 16QAM (2593.0 MHz) (15MHz Channel BW)

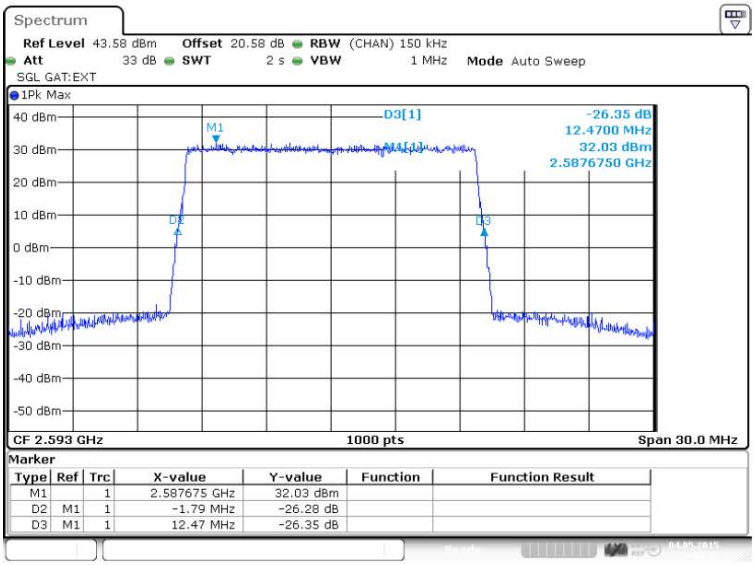


Figure 49 Occupied Bandwidth – 64QAM (2593.0 MHz) (15MHz Channel BW)

Config A ANT6:

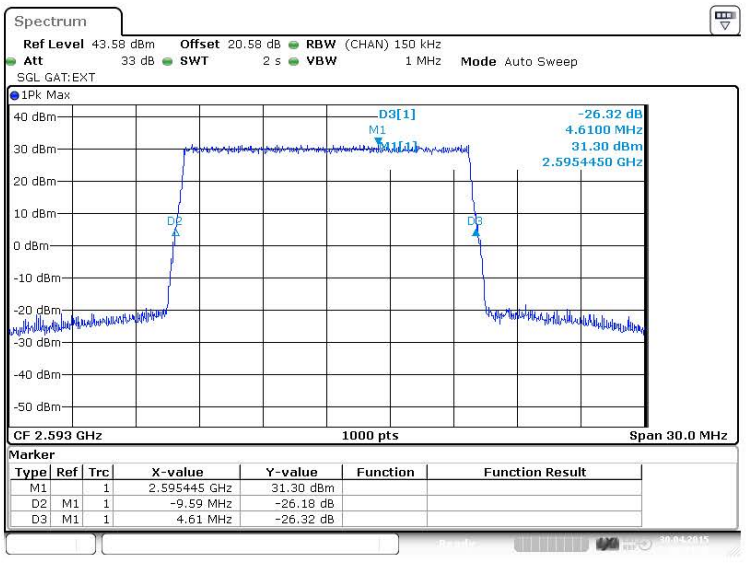


Figure 50 Occupied Bandwidth – QPSK (2593.0 MHz) (15MHz Channel BW)

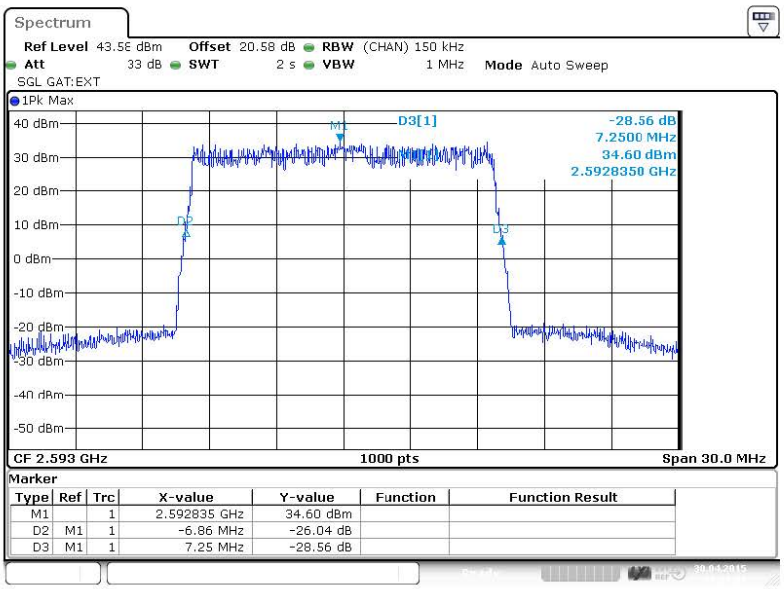


Figure 51 Occupied Bandwidth – 16QAM (2593.0 MHz) (15MHz Channel BW)

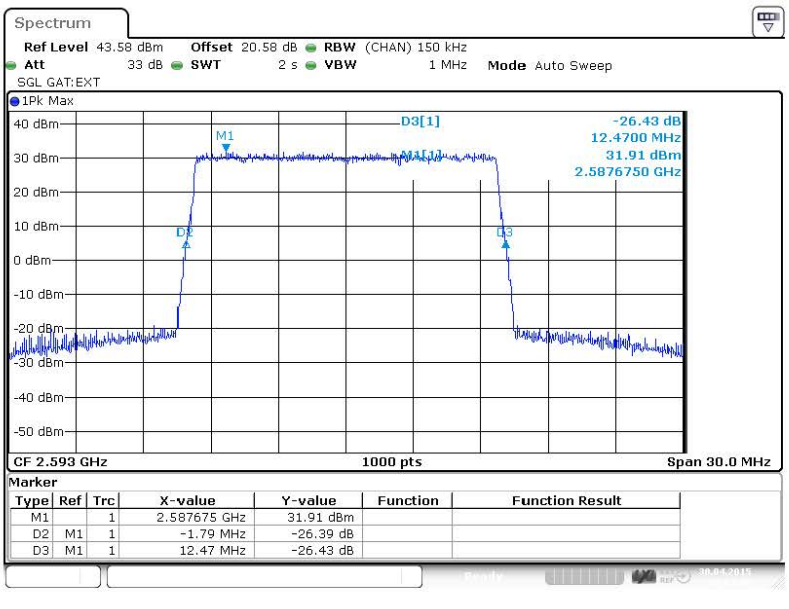
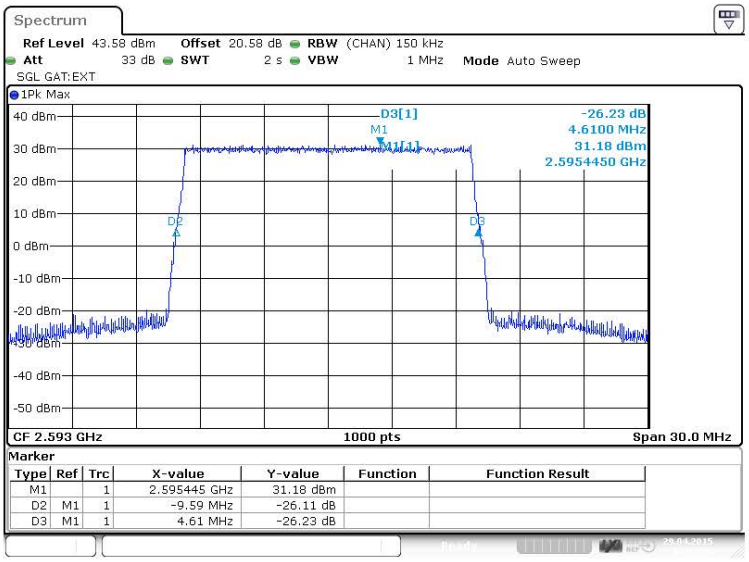


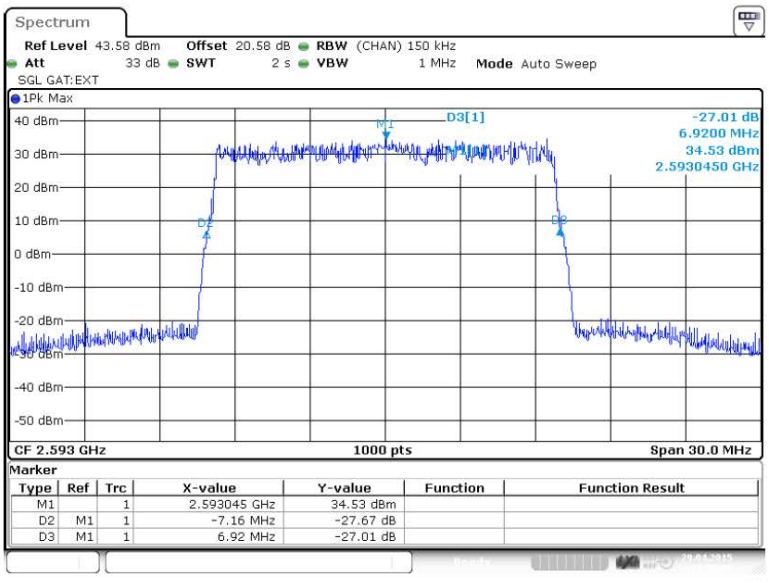
Figure 52 Occupied Bandwidth – 64QAM (2593.0 MHz) (15MHz Channel BW)

Config A ANT7:



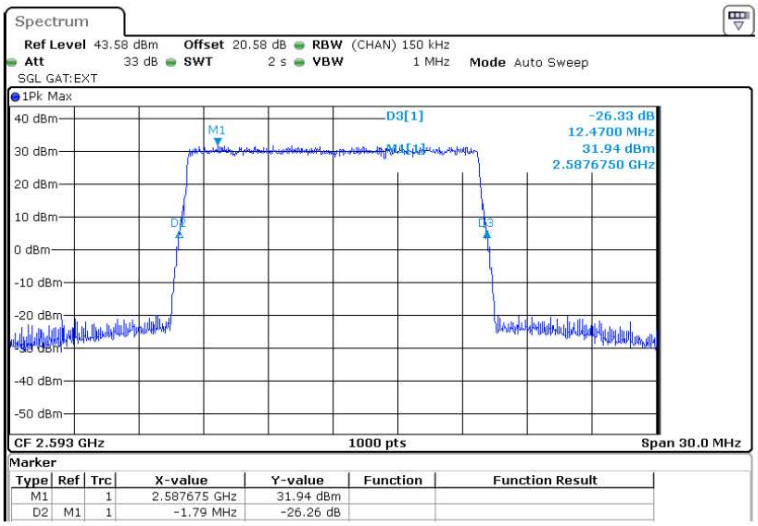
Date: 29.APR.2015 13:22:17

Figure 53 Occupied Bandwidth – QPSK (2593.0 MHz) (15MHz Channel BW)



Date: 29.APR.2015 13:33:09

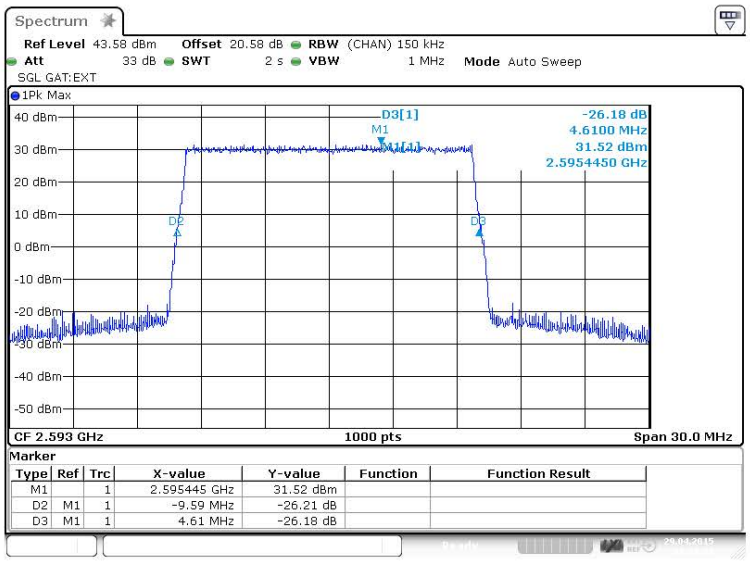
Figure 54 Occupied Bandwidth – 16QAM (2593.0 MHz) (15MHz Channel BW)



Date: 29.APR.2015 13:45:26

Figure 55 Occupied Bandwidth – 64QAM (2593.0 MHz) (15MHz Channel BW)

Config A ANT8:



Date: 29.APR.2015 07:27:59

Figure 56 Occupied Bandwidth – QPSK (2593.0 MHz) (15MHz Channel BW)

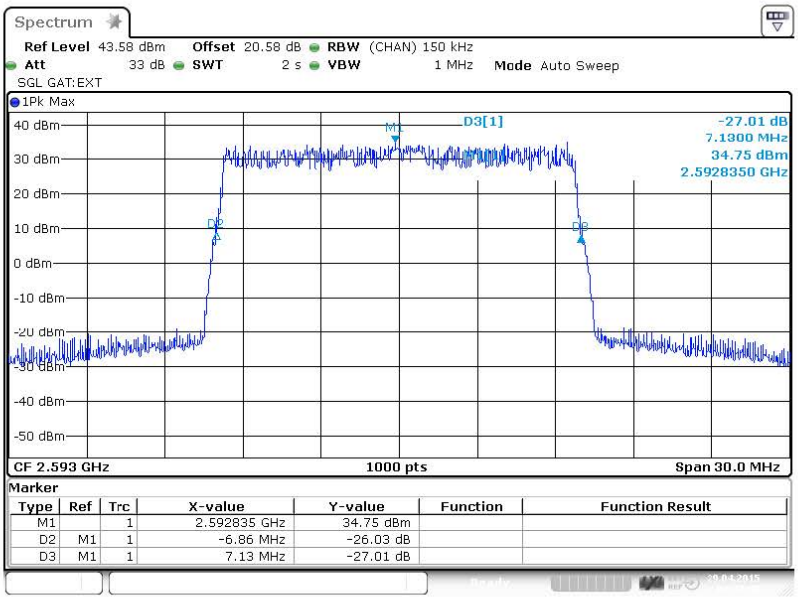


Figure 57 Occupied Bandwidth – 16QAM (2593.0 MHz) (15MHz Channel BW)

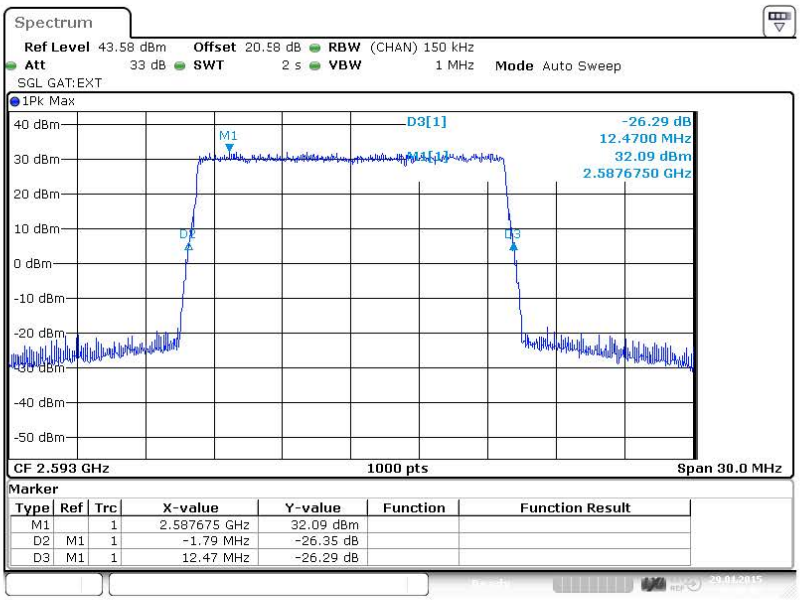


Figure 58 Occupied Bandwidth – 64QAM (2593.0 MHz) (15MHz Channel BW)

5.2.3. Test No. 4: Spurious Emissions at the Antenna Terminals

The external attenuation (cable loss of the setup) can be seen as the 'Offset' value in the screenshots. The external attenuation is frequency dependant. Thus the various 'Offset' values in the screenshots may differ.

Config A ANT1:

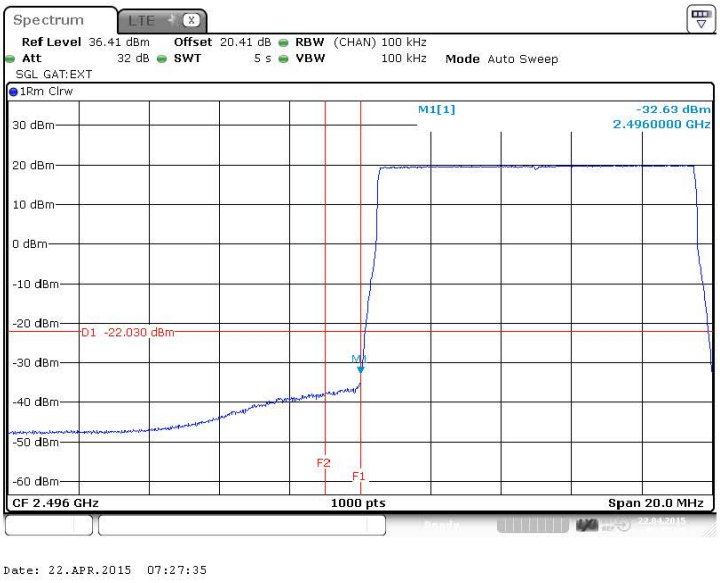


Figure 59 Spurious Emissions (Lower Band Edge) – QPSK (2501.0 MHz) (10MHz Channel BW)

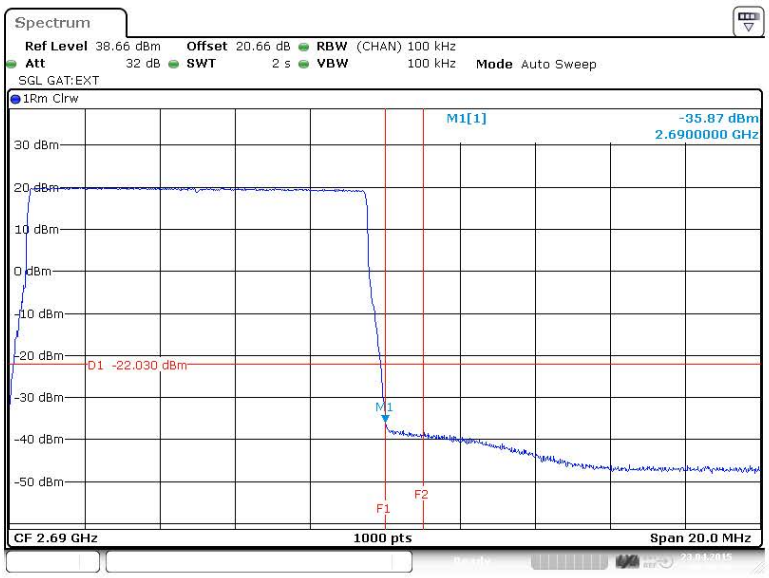


Figure 60 Spurious Emissions (Upper Band Edge) – QPSK (2685.0 MHz) (10MHz Channel BW)

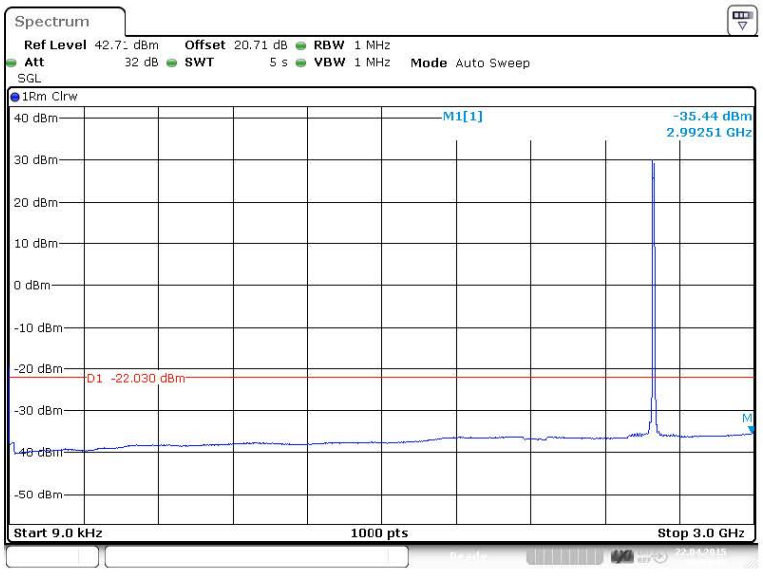


Figure 61 Spurious Emissions (9kHz – 3GHz) - QPSK (2593.0 MHz) (10MHz Channel BW)

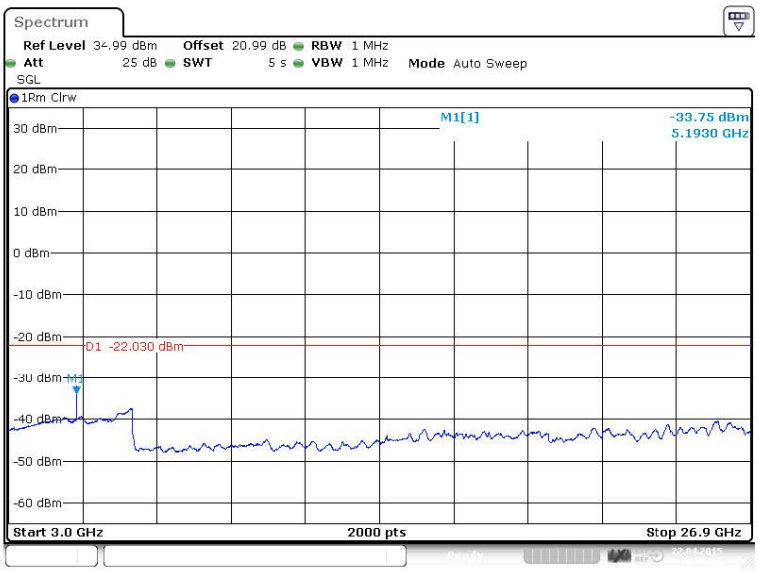


Figure 62 Spurious Emissions (3GHz – 26.900GHz) – QPSK (2593.0 MHz) (10MHz Channel BW)

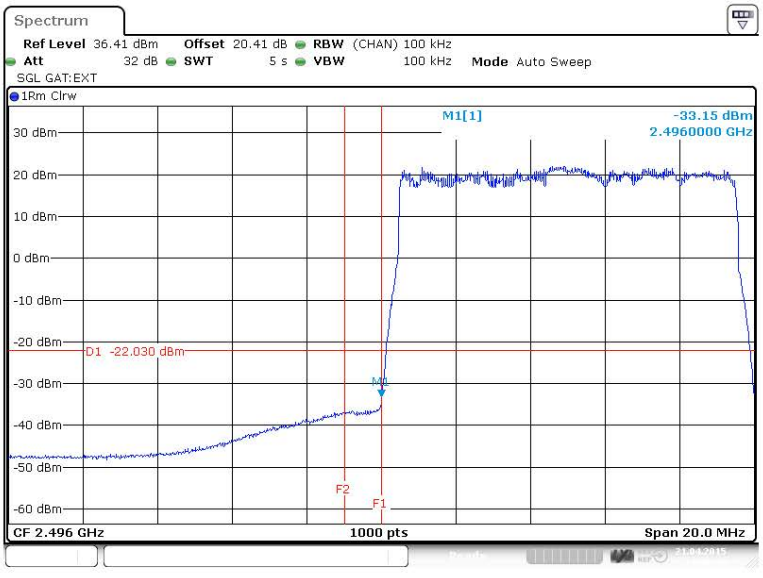


Figure 63 Spurious Emissions (Lower Band Edge) – 16QAM (2501.0 MHz) (10MHz Channel BW)

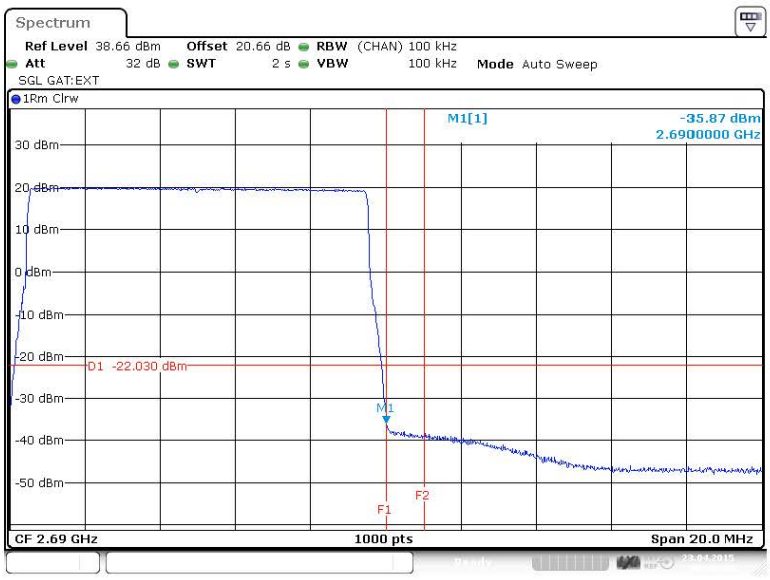


Figure 64 Spurious Emissions (Upper Band Edge) – 16QAM (2685.0 MHz) (10MHz Channel BW)

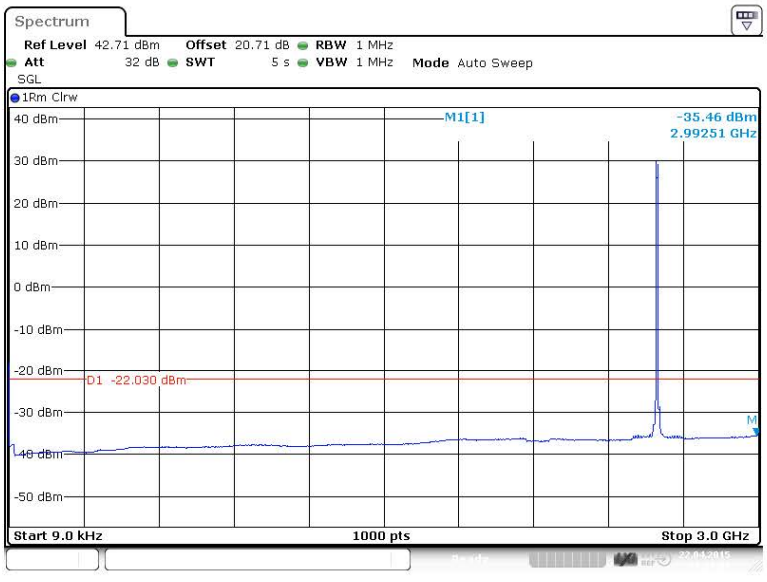


Figure 65 Spurious Emissions (9kHz – 3GHz) – 16QAM (2593.0 MHz) (10MHz Channel BW)