



FCC ID:
VBNAHFB-01

Test Report No:
TYPEAPPR-1508717799-
611

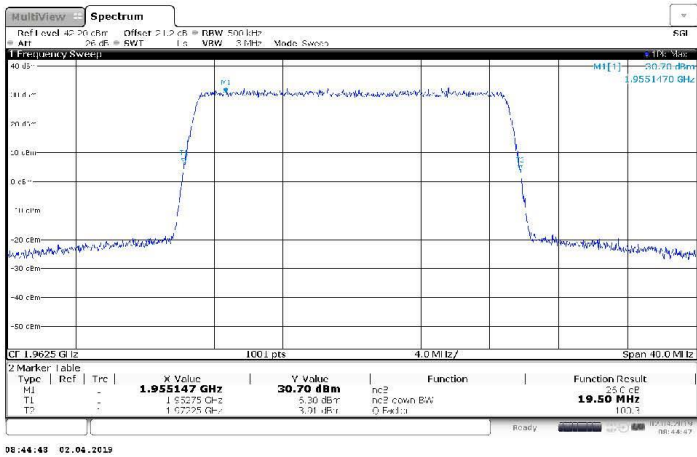


Figure 25 Occupied Bandwidth – 64QAM (1962.5 MHz) (20MHz Channel BW)

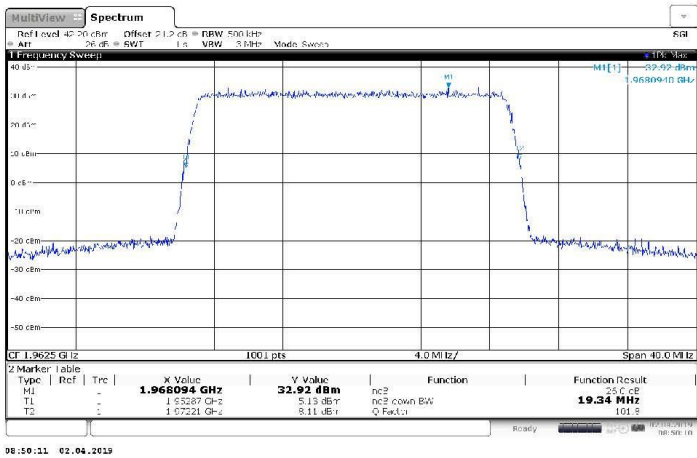


Figure 26 Occupied Bandwidth – 256QAM (1962.5 MHz) (20MHz Channel BW)



FCC ID:
VBNAHFB-01

Test Report No:
TYPEAPPR-1508717799-
611

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

Screenshots of highest power and emission antenna in this unit it was antenna port 1. The external attenuation (connection loss of the set up) is already added in the results. Limit line is set fixed to level -19.02dB.

Config A ANT1:

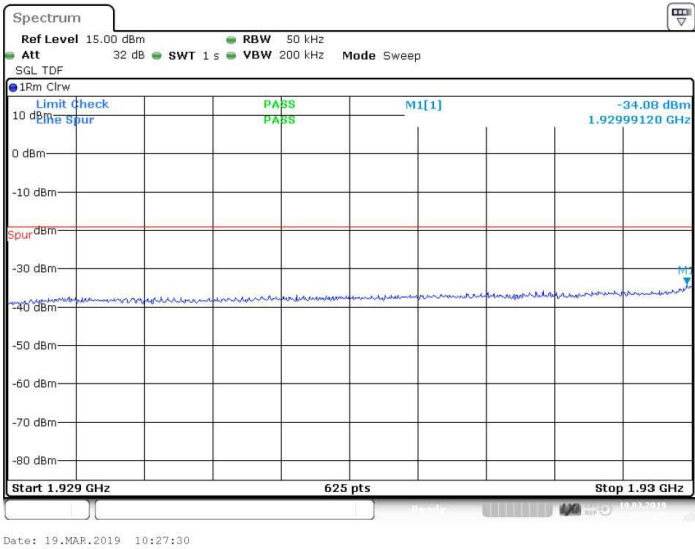


Figure 27 Spurious Emissions (Lower Band Edge) – QPSK (1932.5 MHz) (5MHz Channel BW)



FCC ID:
VBNAHFB-01

Test Report No:
TYPEAPPR-1508717799-
611

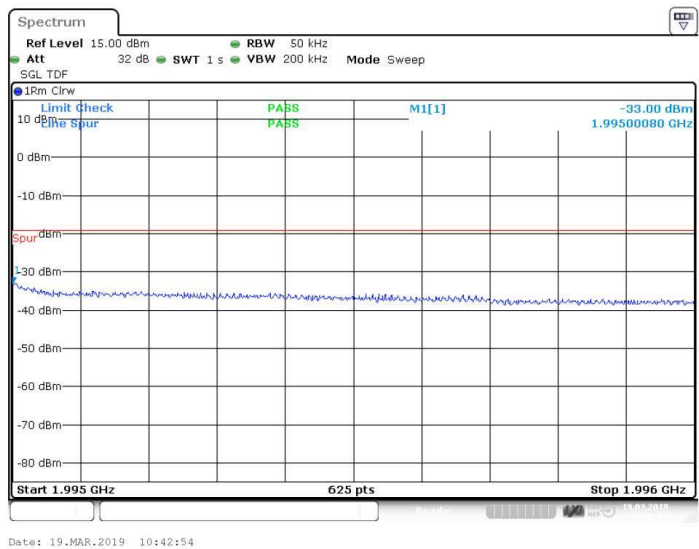


Figure 28 Spurious Emissions (Upper Band Edge) – QPSK (1992.5 MHz)
(5MHz Channel BW)

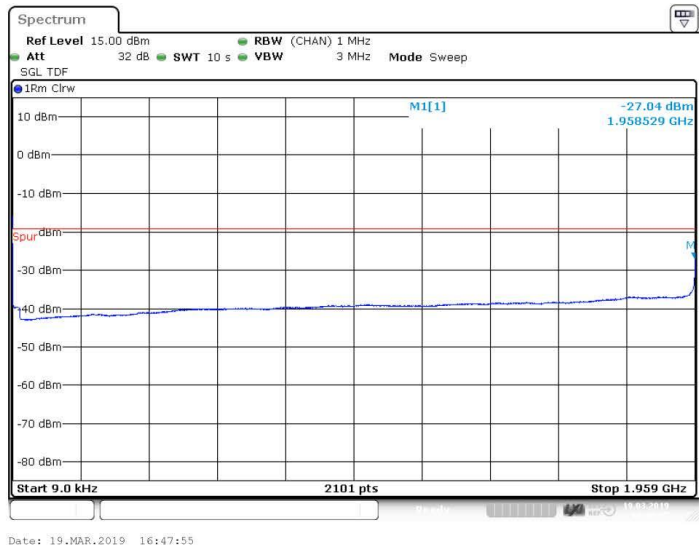


Figure 29 Spurious Emissions (9kHz – 1959Hz) - QPSK (1962.5MHz) (5MHz
Channel BW)



FCC ID:
VBNAHFB-01

Test Report No:
TYPEAPPR-1508717799-
611

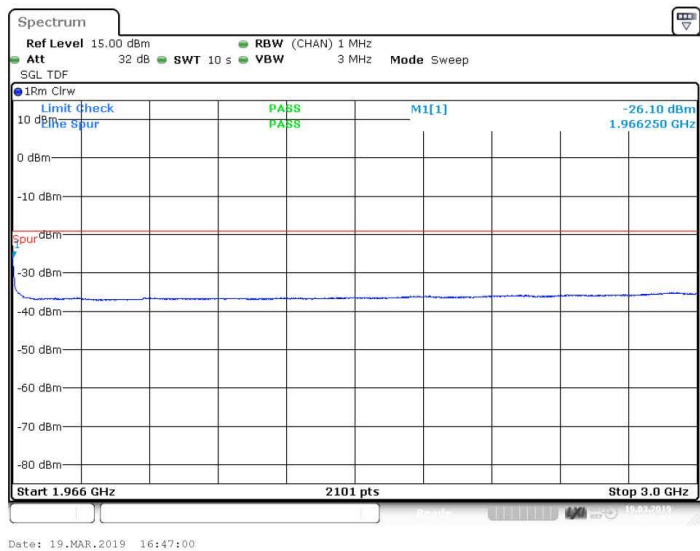


Figure 30 Spurious Emissions (1966MHz – 3GHz) - QPSK (1962.5MHz) (5MHz Channel BW)

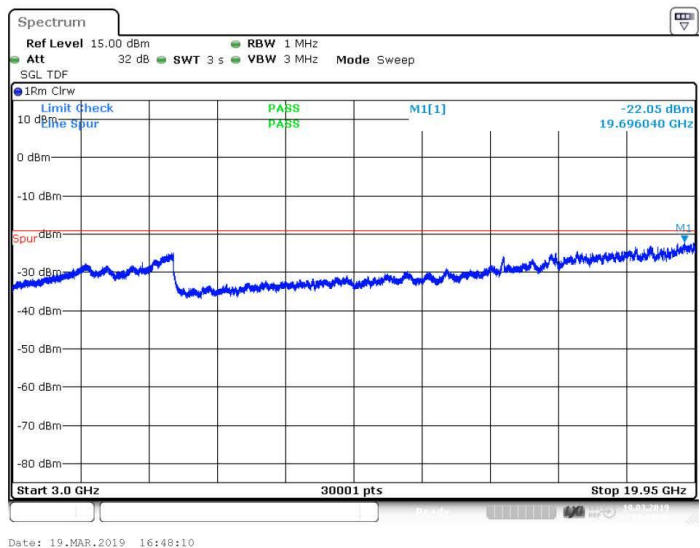


Figure 31 Spurious Emissions (3GHz – 19.950GHz) – QPSK (1962.5 MHz) (5MHz Channel BW)



FCC ID:
VBNAHFB-01

Test Report No:
TYPEAPPR-1508717799-
611

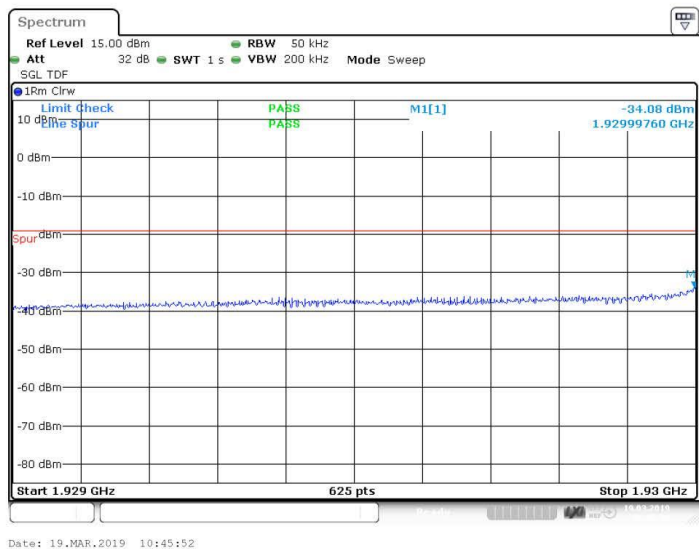


Figure 32 Spurious Emissions (Lower Band Edge) – 16QAM (1932.5 MHz)
(5MHz Channel BW)

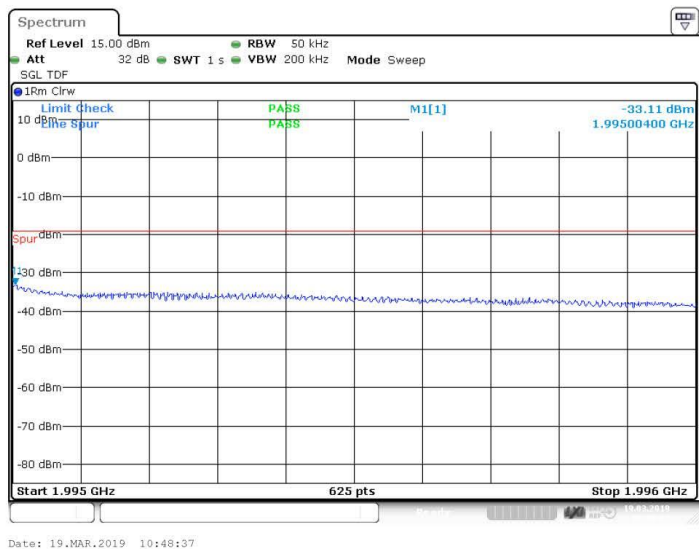


Figure 33 Spurious Emissions (Upper Band Edge) – 16QAM (1992.5 MHz)
(5MHz Channel BW)



FCC ID:
VBNAHFB-01

Test Report No:
TYPEAPPR-1508717799-
611

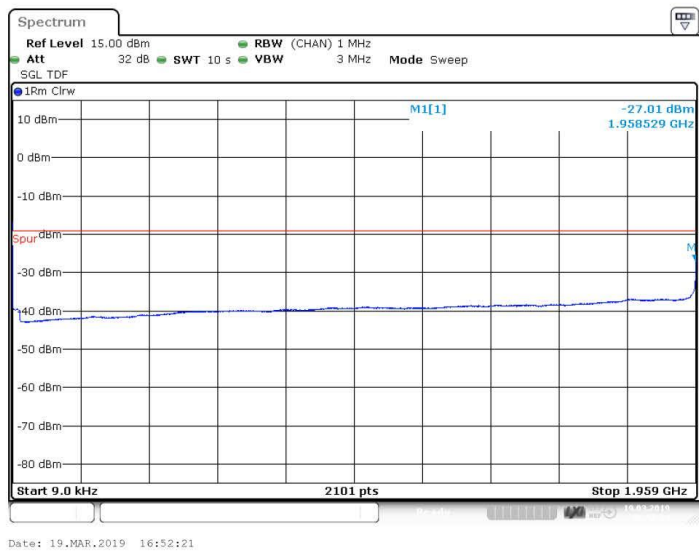


Figure 34 Spurious Emissions (9kHz – 1959MHz) – 16QAM (1962.5 MHz)
(5MHz Channel BW)

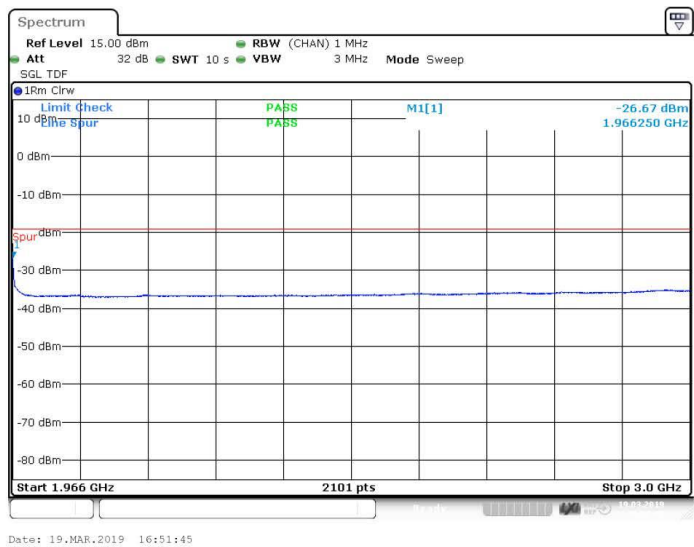
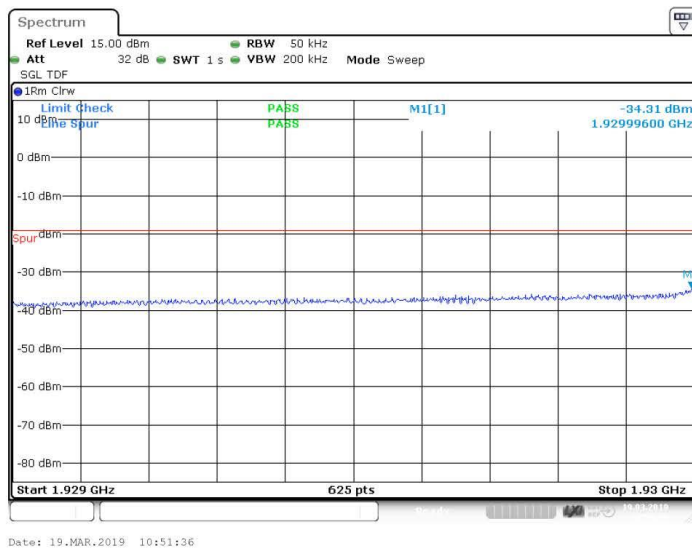
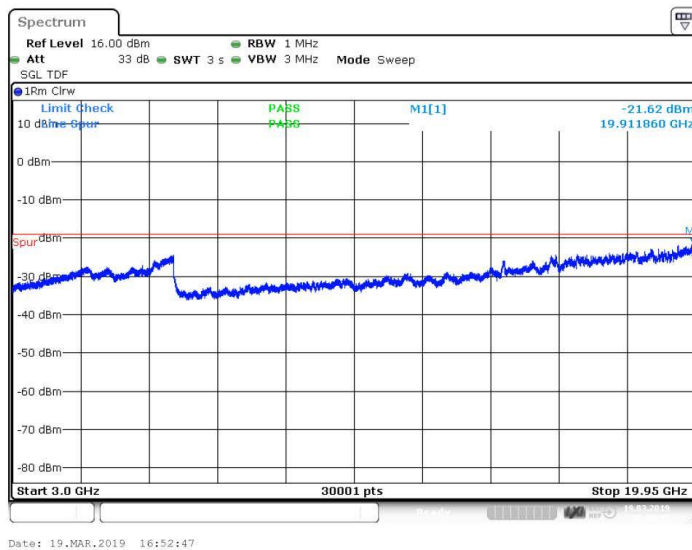


Figure 35 Spurious Emissions (1966MHz – 3GHz) – 16QAM (1962.5 MHz)
(5MHz Channel BW)

Test Report No:
TYPEAPPR-1508717799-
611





FCC ID:
VBNAHFB-01

Test Report No:
TYPEAPPR-1508717799-
611

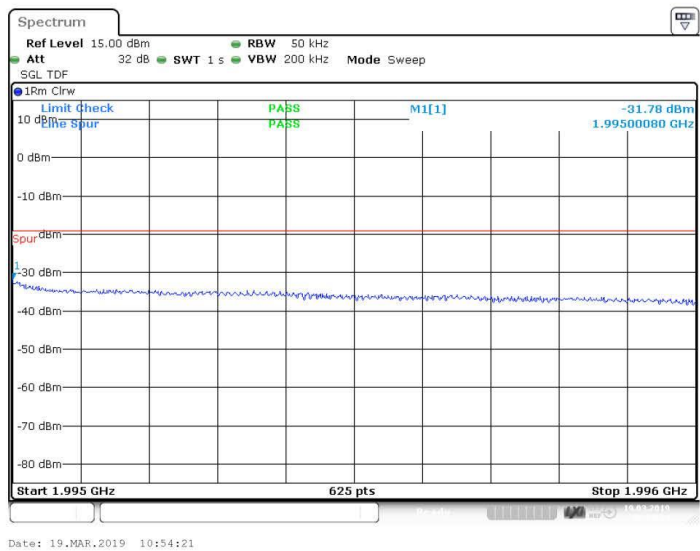


Figure 38 Spurious Emissions (Upper Band Edge) – 64QAM (1992.5 MHz)
(5MHz Channel BW)

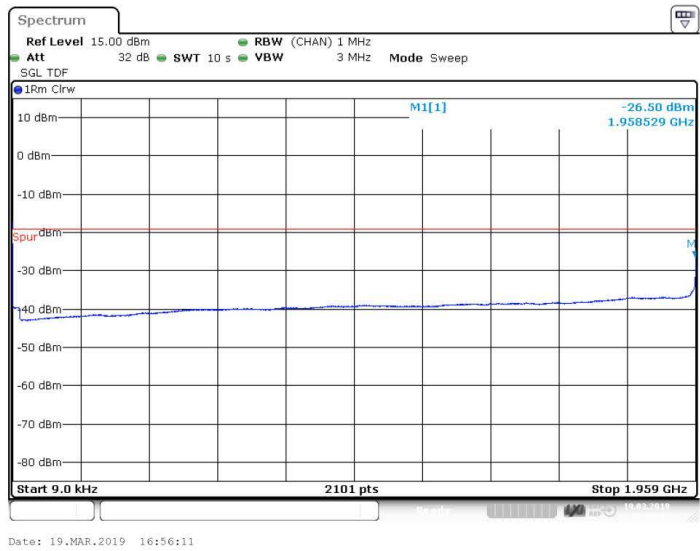


Figure 39 Spurious Emissions (9kHz – 1959MHz) – 64QAM (1962.5 MHz)
(5MHz Channel BW)



FCC ID:
VBNAHFB-01

Test Report No:
TYPEAPPR-1508717799-
611

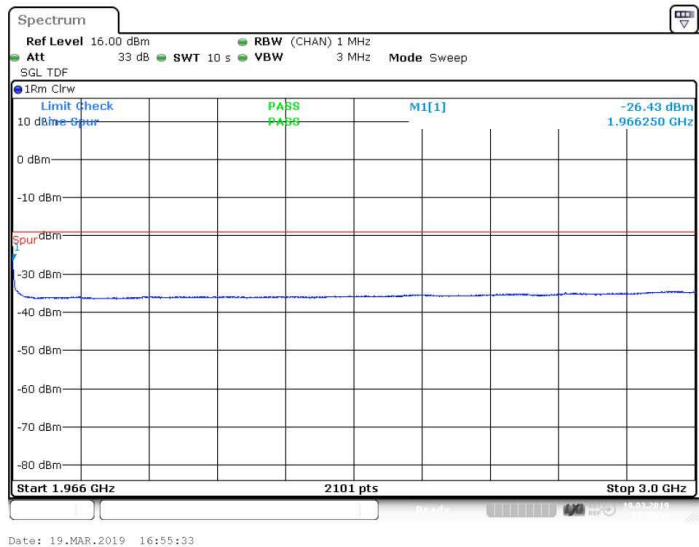


Figure 40 Spurious Emissions (1966MHz – 3GHz) – 64QAM (1962.5 MHz) (5MHz Channel BW)

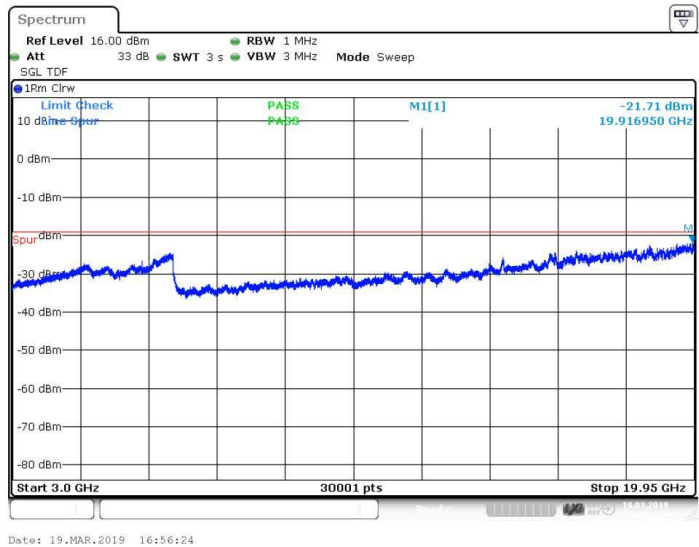
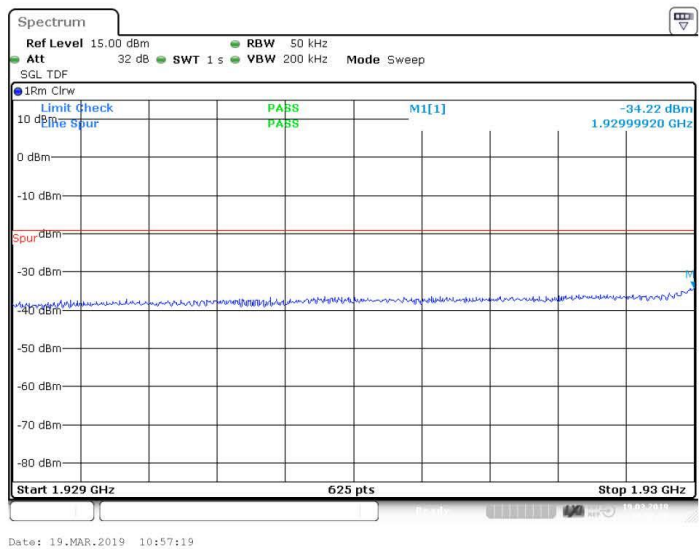


Figure 41 Spurious Emissions (3GHz – 19.950GHz) – 64QAM (1962.5 MHz) (5MHz Channel BW)

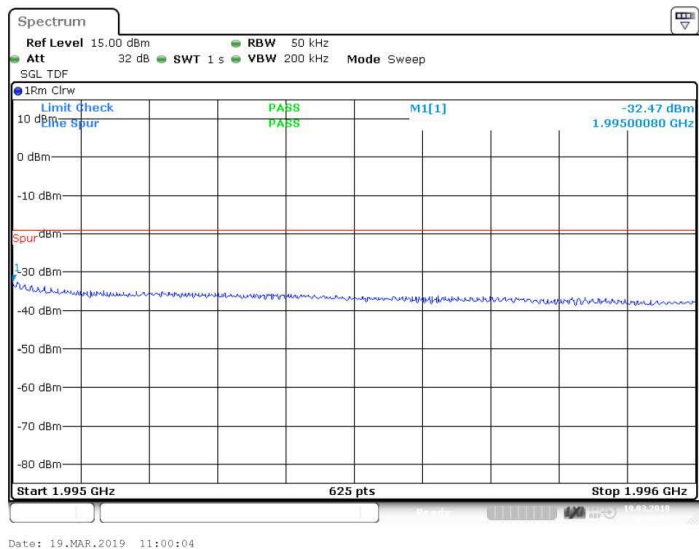


FCC ID:
VBNAHFB-01

Test Report No:
TYPEAPPR-1508717799-
611



**Figure 42 Spurious Emissions (Lower Band Edge) – 256QAM (1932.5 MHz)
(5MHz Channel BW)**



**Figure 43 Spurious Emissions (Upper Band Edge) – 256QAM (1992.5 MHz)
(5MHz Channel BW)**



FCC ID:
VBNAHFB-01

Test Report No:
TYPEAPPR-1508717799-
611

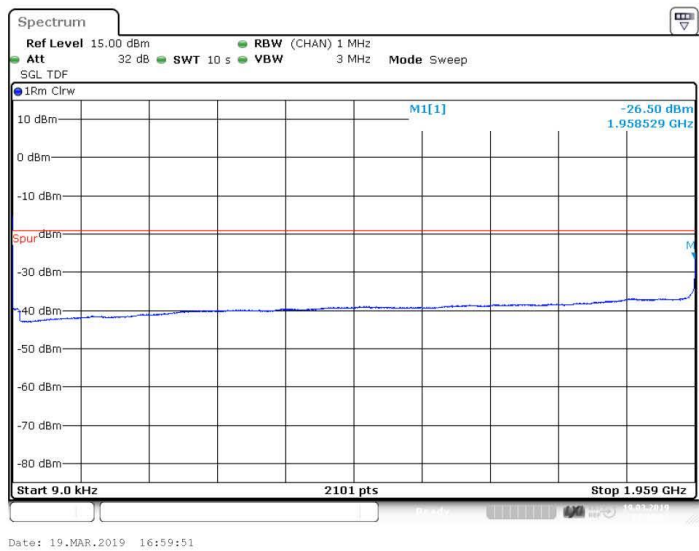


Figure 44 Spurious Emissions (9kHz – 1959MHz) – 256QAM (1962.5 MHz)
(5MHz Channel BW)

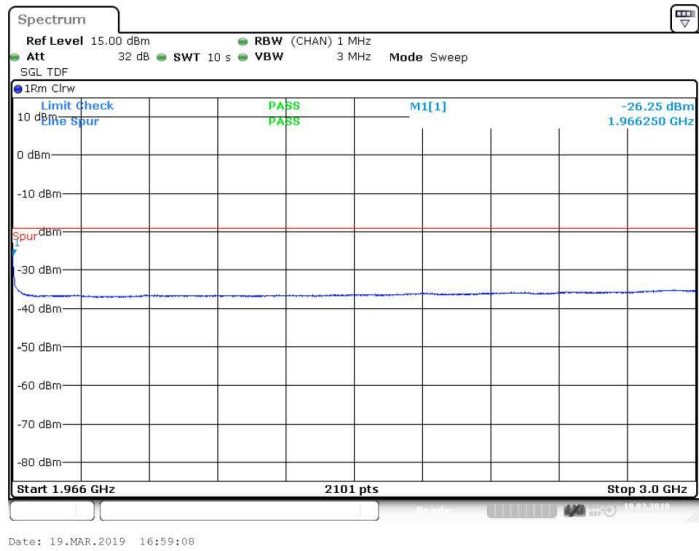


Figure 45 Spurious Emissions (1966MHz – 3GHz) – 256QAM (1962.5 MHz)
(5MHz Channel BW)

Test Report No:
TYPEAPPR-1508717799-
611

**Figure 46 Spurious Emissions (3GHz – 19.950GHz) – 256QAM (1962.5 MHz)
(5MHz Channel BW)**



FCC ID:
VBNAHFB-01

Test Report No:
TYPEAPPR-1508717799-
611

Config B ANT1:

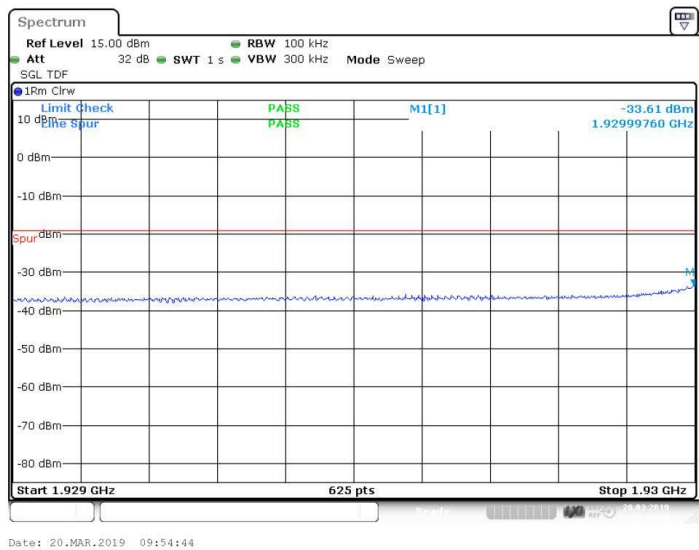


Figure 47 Spurious Emissions (Lower Band Edge) – QPSK (1935.0 MHz)
(10MHz Channel BW)

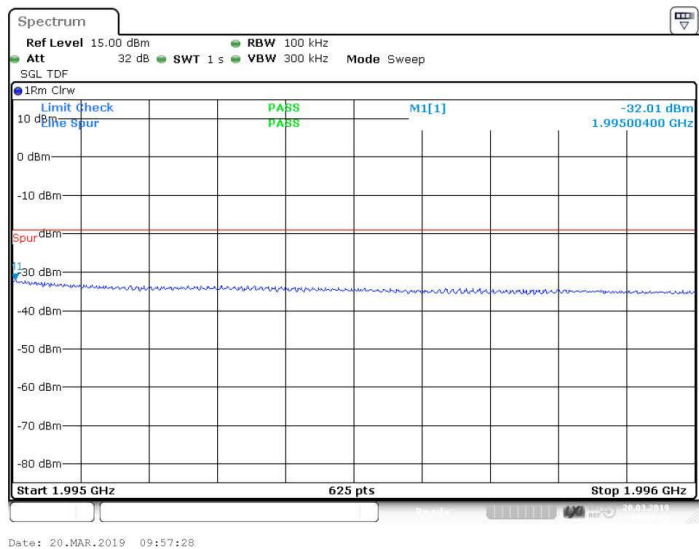
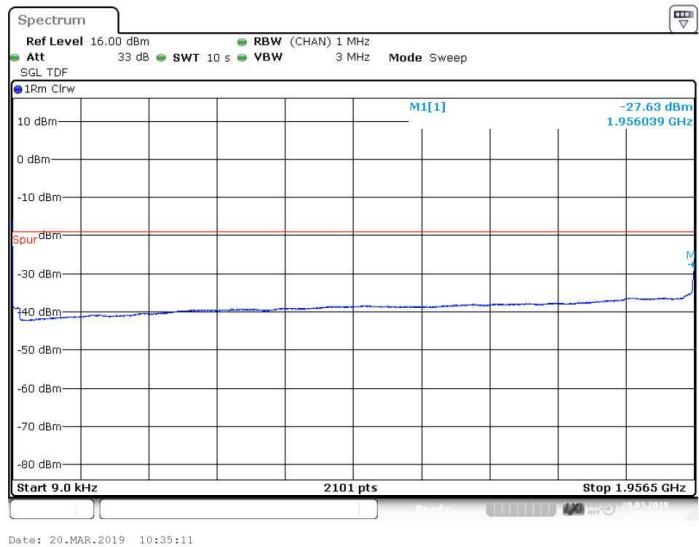


Figure 48 Spurious Emissions (Upper Band Edge) – QPSK (1990.0 MHz)
(10MHz Channel BW)

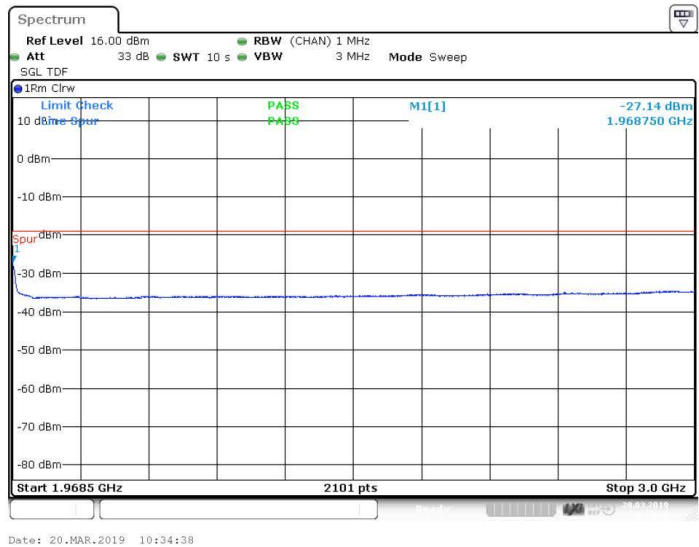


FCC ID:
VBNAHFB-01

Test Report No:
TYPEAPPR-1508717799-
611



**Figure 49 Spurious Emissions (9kHz – 1956.5MHz) - QPSK (1962.5 MHz)
(10MHz Channel BW)**



**Figure 50 Spurious Emissions (1968.5MHz – 3GHz) – QPSK (1962.5 MHz)
(10MHz Channel BW)**



FCC ID:
VBNAHFB-01

Test Report No:
TYPEAPPR-1508717799-
611

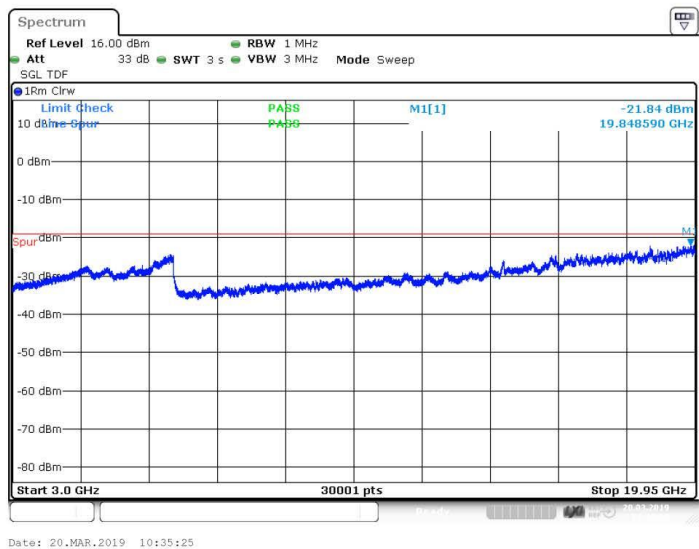


Figure 51 Spurious Emissions (3GHz – 19.950GHz) – QPSK (1962.5 MHz)
(10MHz Channel BW)

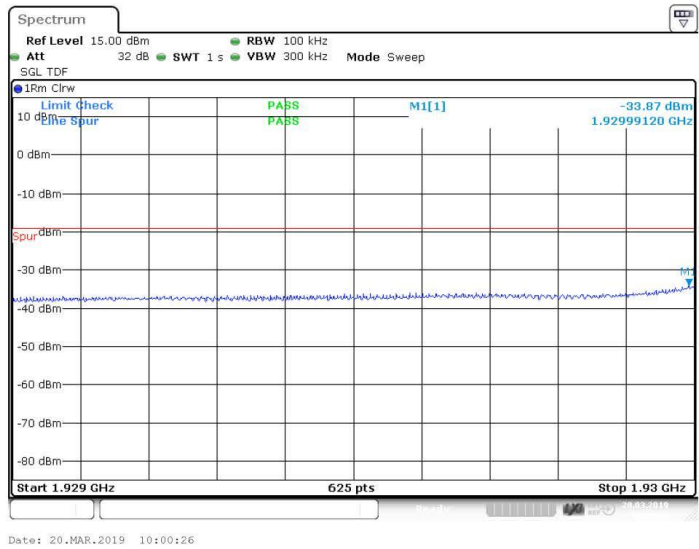


Figure 52 Spurious Emissions (Lower Band Edge) – 16QAM (1935.0 MHz)
(10MHz Channel BW)



FCC ID:
VBNAHFB-01

Test Report No:
TYPEAPPR-1508717799-
611

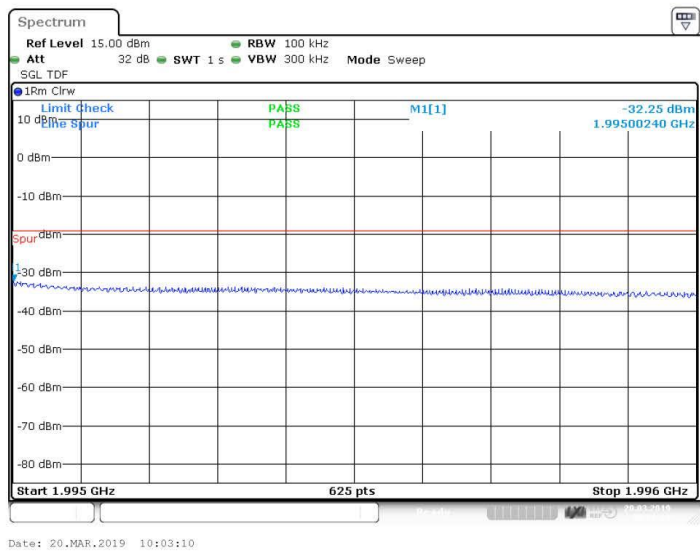


Figure 53 Spurious Emissions (Upper Band Edge) – 16QAM (1990.0 MHz)
(10MHz Channel BW)

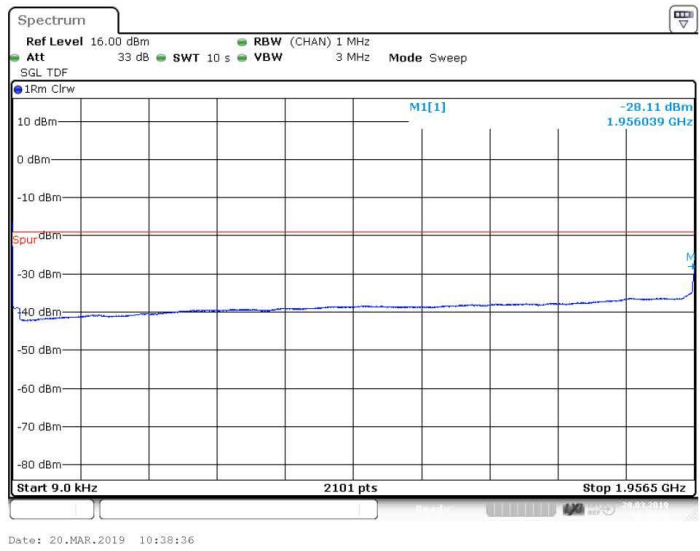
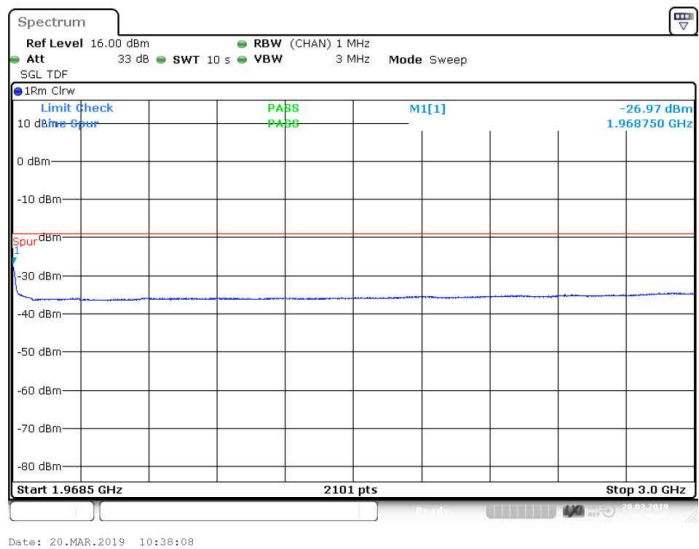


Figure 54 Spurious Emissions (9kHz – 1956.5Hz) – 16QAM (1962.5 MHz)
(10MHz Channel BW)

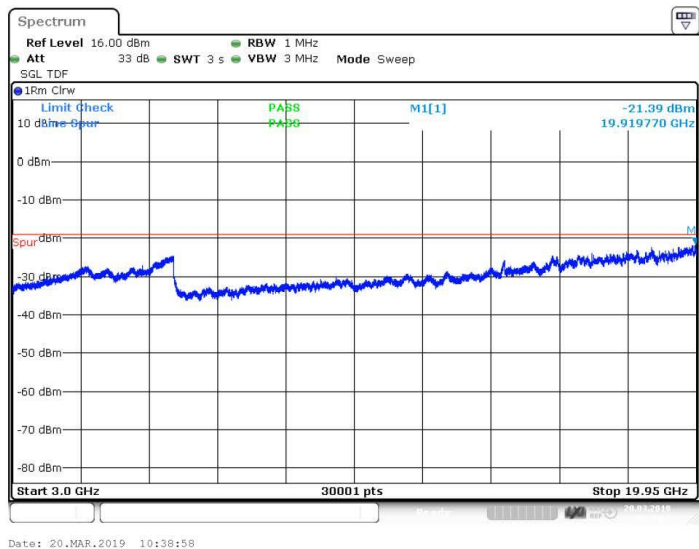


FCC ID:
VBNAHFB-01

Test Report No:
TYPEAPPR-1508717799-
611



**Figure 55 Spurious Emissions (1968.5Hz – 3GHz) – 16QAM (1962.5 MHz)
(10MHz Channel BW)**



**Figure 56 Spurious Emissions (3GHz – 19.950GHz) – 16QAM (1962.5 MHz)
(10MHz Channel BW)**



FCC ID:
VBNAHFB-01

Test Report No:
TYPEAPPR-1508717799-
611

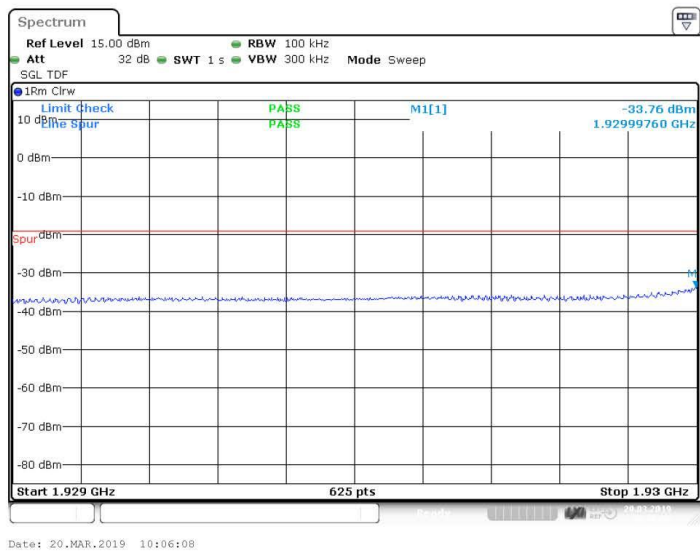


Figure 57 Spurious Emissions (Lower Band Edge) – 64QAM (1935.0 MHz)
(10MHz Channel BW)

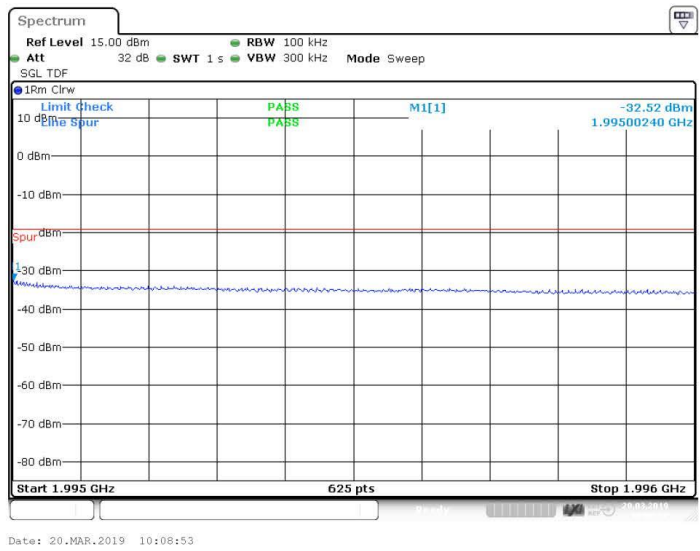
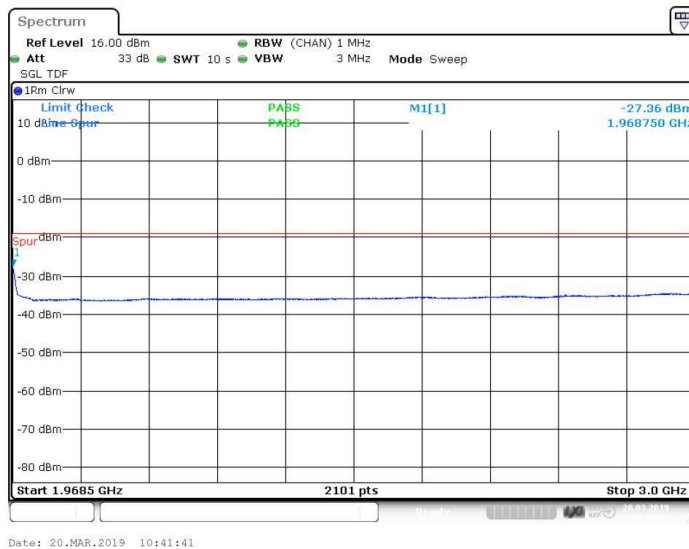
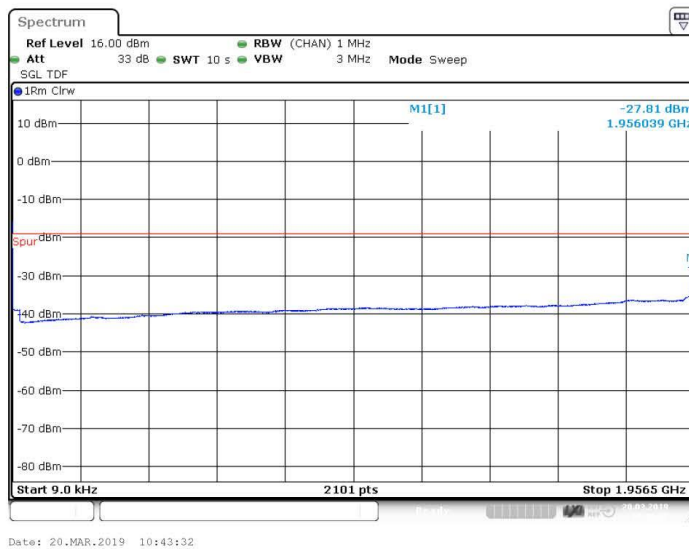


Figure 58 Spurious Emissions (Upper Band Edge) – 64QAM (1990.0 MHz)
(10MHz Channel BW)

Test Report No:
TYPEAPPR-1508717799-
611





FCC ID:
VBNAHFB-01

Test Report No:
TYPEAPPR-1508717799-
611

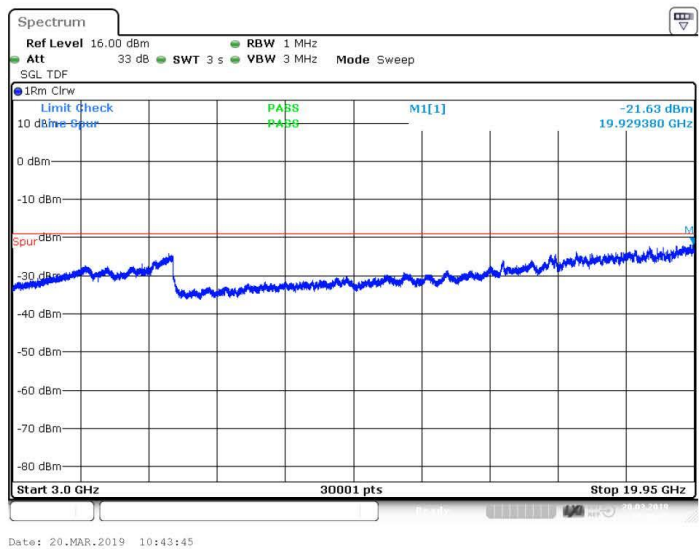


Figure 61 Spurious Emissions (3GHz – 19.950GHz) – 64QAM (1962.5 MHz)
(10MHz Channel BW)

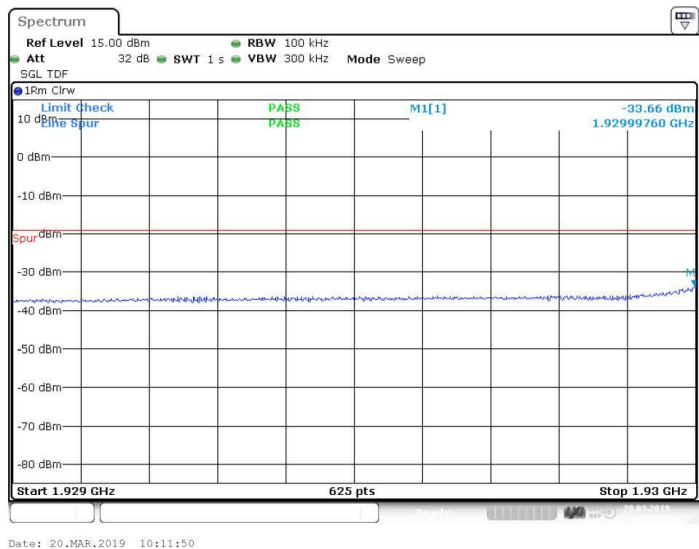


Figure 62 Spurious Emissions (Lower Band Edge) – 256QAM (1935.0 MHz)
(10MHz Channel BW)

Test Report No:
TYPEAPPR-1508717799-
611



FCC ID:
VBNAHFB-01

Test Report No:
TYPEAPPR-1508717799-
611

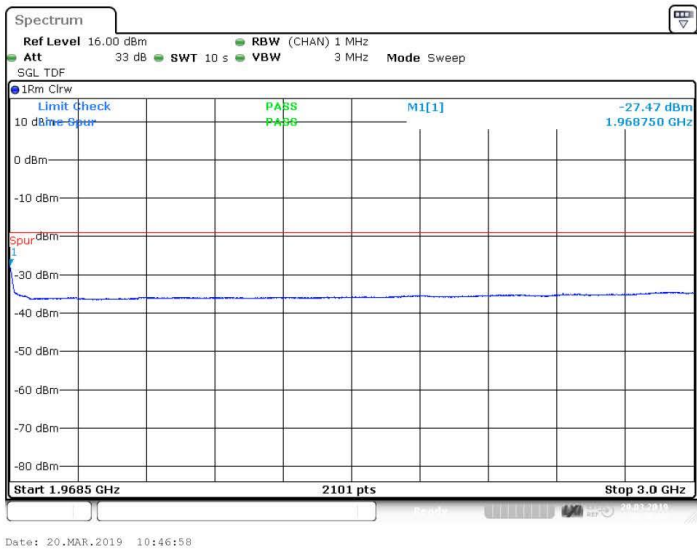


Figure 65 Spurious Emissions (1986.5Hz – 3GHz) – 256QAM (1962.5 MHz)
(10MHz Channel BW)

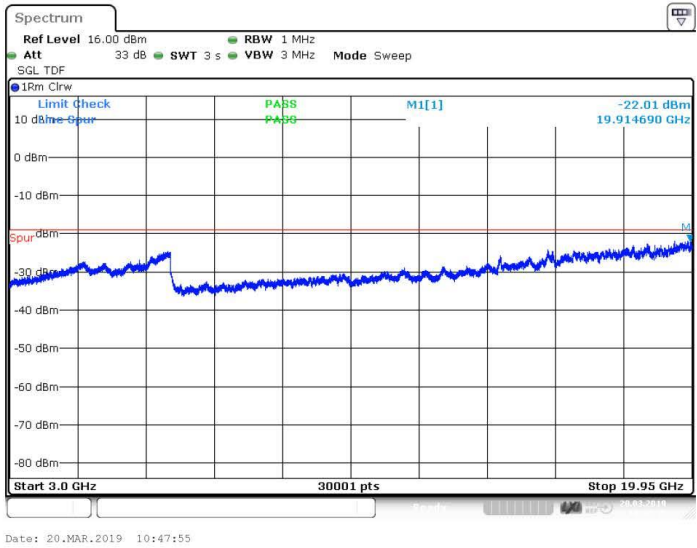


Figure 66 Spurious Emissions (3GHz – 19.950GHz) – 256QAM (1962.5 MHz)
(10MHz Channel BW)

Test Report No:
TYPEAPPR-1508717799-
611

Spectrum

Ref Level 15.00 dBm

Att 32 dB **SWT** 200 ms **RBW** 200 kHz **VBW** 500 kHz **Mode** Sweep

SLG TDF

1Rm Clrw

Limit Check **PASS** **M1[1]** -30.46 dBm 1.92999680 GHz

Spur -30 dBm

Start 1.929 GHz **155 pts** **Stop 1.93 GHz**

Date: 21.MAR.2019 14:22:55

Spectrum

Ref Level 15.00 dBm
 Att 32 dB
 SGL TDF

RBW 200 kHz
 VBW 500 kHz
 Mode Sweep

1.0m Clrw

Limit check
 Elbe Spur

PASS
 PASS

M1[1]

-29.73 dBm
 1.99500320 GHz

Spur

Start 1.995 GHz 155 pts Stop 1.996 GHz

Date: 21.MAR.2019 14:42:31

10. Apr 2019
Page 75 of 113