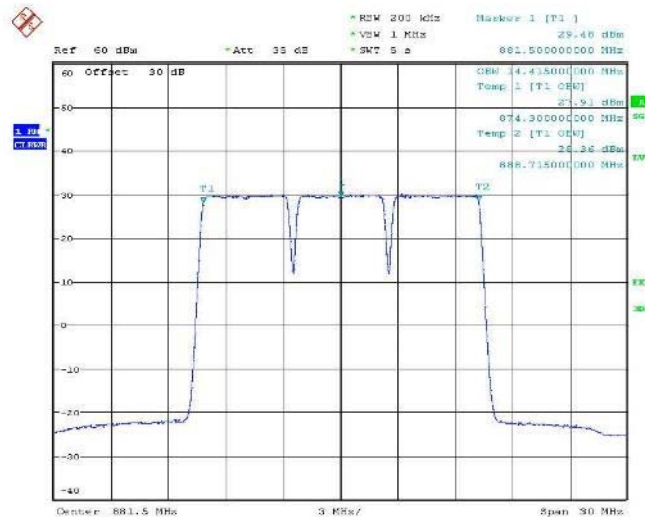




Product Service

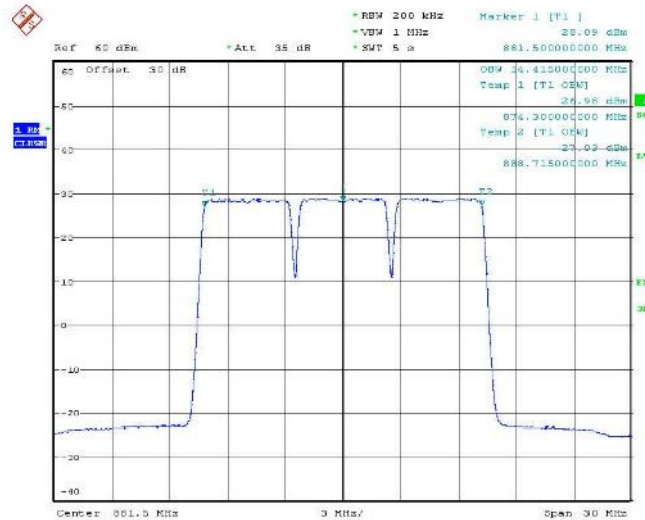
FCC ID:
VBNAHCA-01

Test Report No:
D555647736



Date: 26.APR.2017 14:45:41

**Figure 111 Occupied Bandwidth – 64QAM (876.5/881.5/886.5 MHz)
(5+5+5MHz Channel BW)**



Date: 27.APR.2017 06:42:19

**Figure 112 Occupied Bandwidth – 256QAM (876.5/881.5/886.5 MHz)
(5+5+5MHz Channel BW)**

FCC 47 CFR part 22
(2016)

23. May 2017

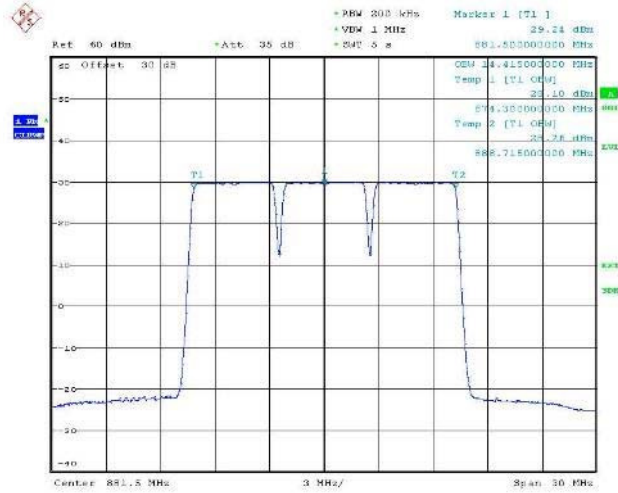
Page 145 of 427



FCC ID:
VBNAHCA-01

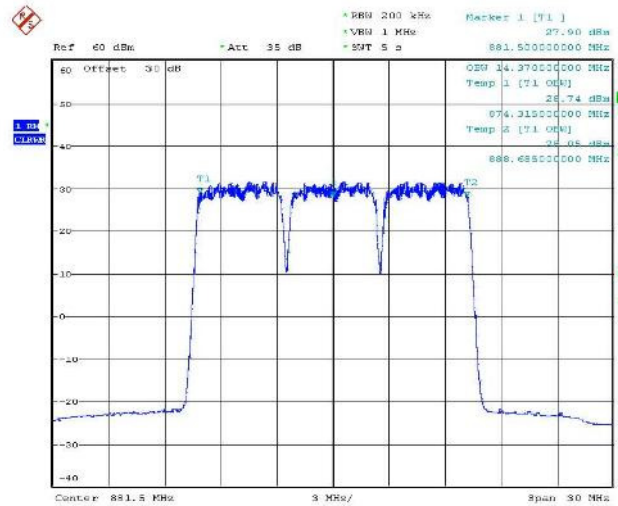
Test Report No:
D555647736

Config H ANT3:



Date: 26.APR.2017 14:56:17

Figure 113 Occupied Bandwidth – QPSK (876.5/881.5/886.5 MHz) (5+5+5MHz Channel BW)



Date: 26.APR.2017 15:00:35

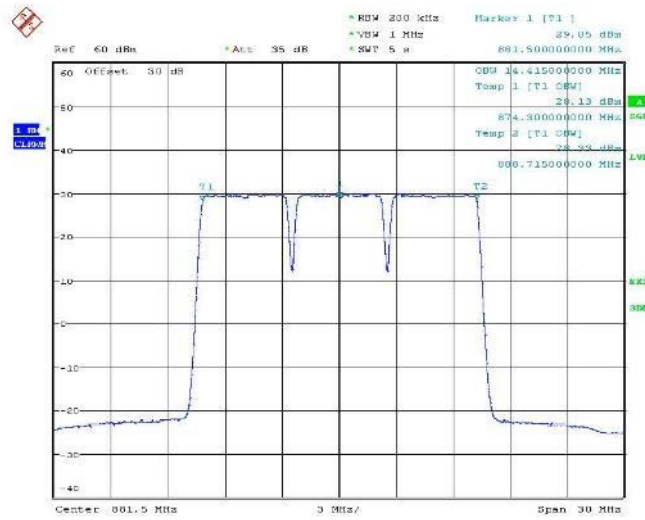
Figure 114 Occupied Bandwidth – 16QAM (876.5/881.5/886.5 MHz) (5+5+5MHz Channel BW)



Product Service

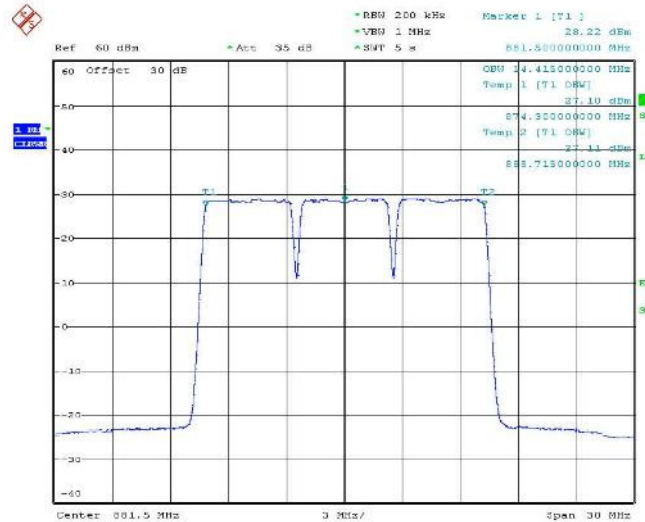
FCC ID:
VBNAHCA-01

Test Report No:
D555647736



Date: 26.APR.2017 15:04:48

**Figure 115 Occupied Bandwidth – 64QAM (876.5/881.5/886.5 MHz)
(5+5+5MHz Channel BW)**



Date: 27.APR.2017 06:32:56

**Figure 116 Occupied Bandwidth – 256QAM (876.5/881.5/886.5 MHz)
(5+5+5MHz Channel BW)**

FCC 47 CFR part 22
(2016)

23. May 2017

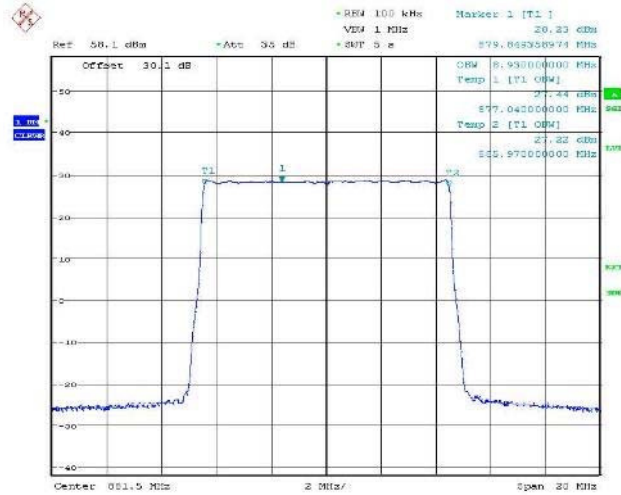
Page 147 of 427



FCC ID:
VBNAHCA-01

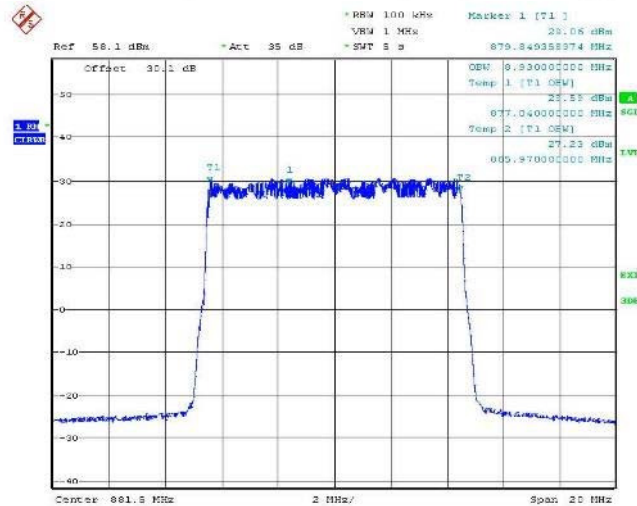
Test Report No:
D555647736

Config I ANT1:



Date: 20.APR.2017 09:02:10

Figure 117 Occupied Bandwidth – QPSK (881.5 MHz) (10MHz Channel BW)



Date: 23.APR.2017 08:06:28

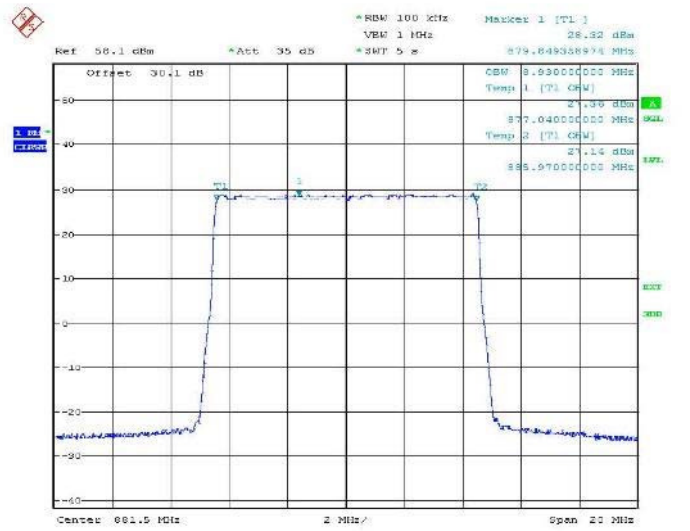
Figure 118 Occupied Bandwidth – 16QAM (881.5 MHz) (10MHz Channel BW)



Product Service

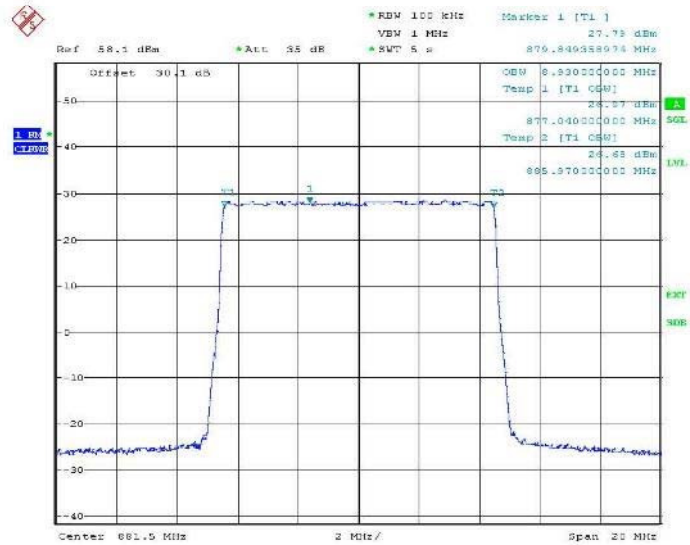
FCC ID:
VBNAHCA-01

Test Report No:
D555647736



Date: 26.APR.2017 08:11:23

Figure 119 Occupied Bandwidth – 64QAM (881.5 MHz) (10MHz Channel BW)



Date: 27.APR.2017 13:14:13



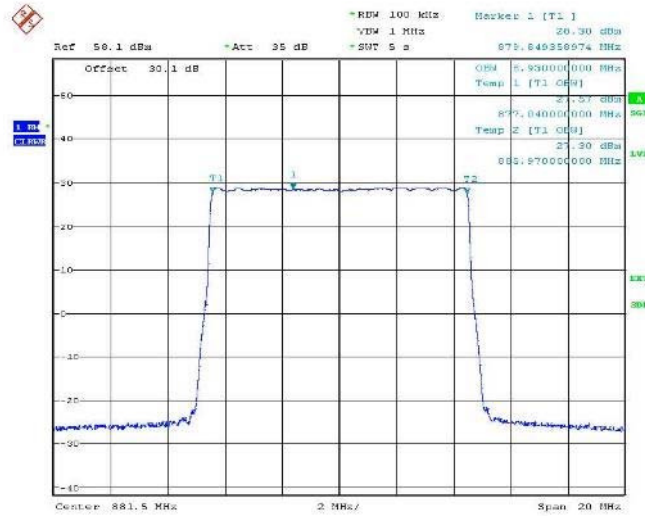
Product Service

FCC ID:
VBNAHCA-01

Test Report No:
D555647736

Figure 120 Occupied Bandwidth – 256QAM (881.5 MHz) (10MHz Channel BW)

Config I ANT3:



Date: 28. APR. 2017 05:52:36

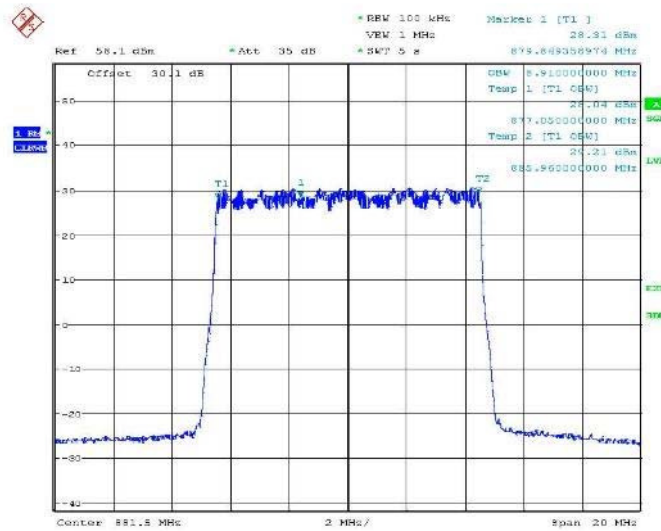
Figure 121 Occupied Bandwidth – QPSK (881.5 MHz) (10MHz Channel BW)



Product Service

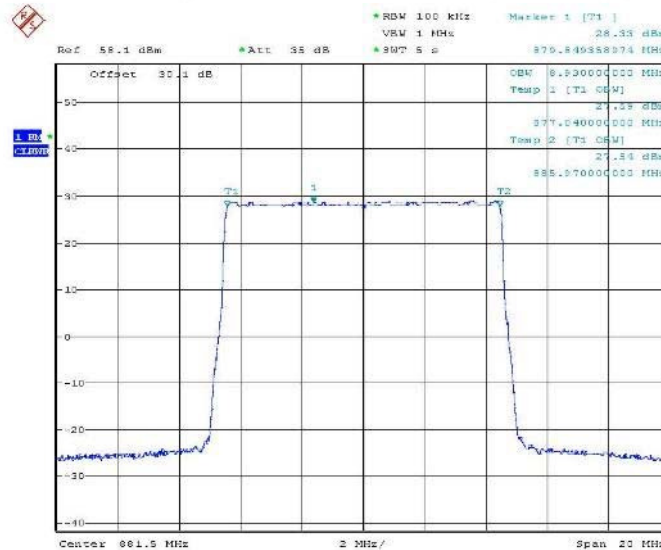
FCC ID:
VBNAHCA-01

Test Report No:
D555647736



Date: 28.APR.2017 07:00:52

Figure 122 Occupied Bandwidth – 16QAM (881.5 MHz) (10MHz Channel BW)



Date: 28.APR.2017 07:04:49

Figure 123 Occupied Bandwidth – 64QAM (881.5 MHz) (10MHz Channel BW)

FCC 47 CFR part 22
(2016)

23. May 2017

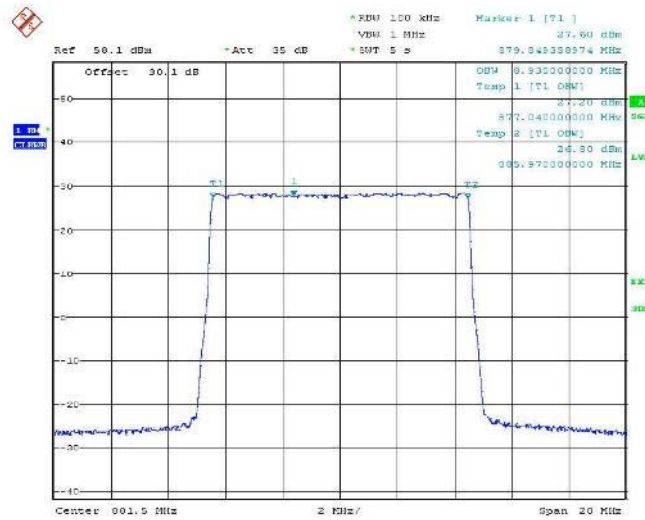
Page 151 of 427



Product Service

FCC ID:
VBNAHCA-01

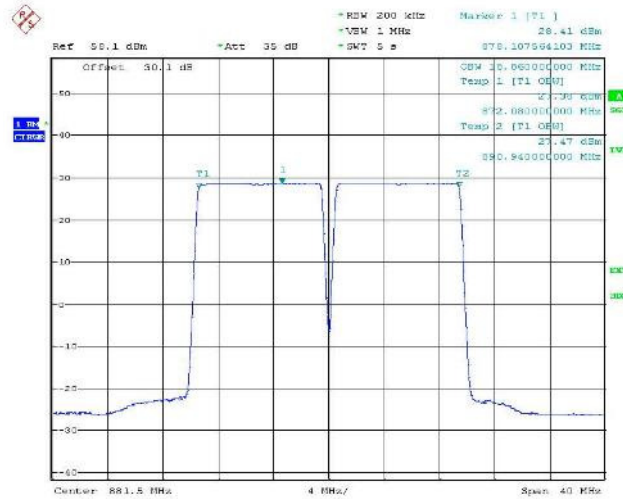
Test Report No:
D555647736



Date: 27.APR.2017 13:36:29

Figure 124 Occupied Bandwidth – 256QAM (881.5 MHz) (10MHz Channel BW)

Config J ANT1:



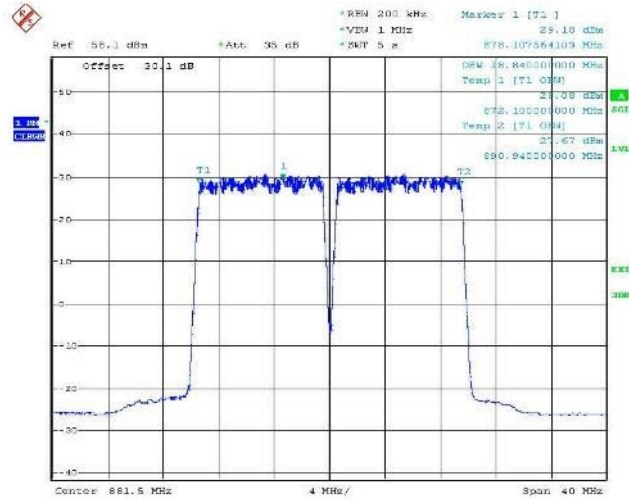
Date: 2.MAY.2017 07:11:10



FCC ID:
VBNAHCA-01

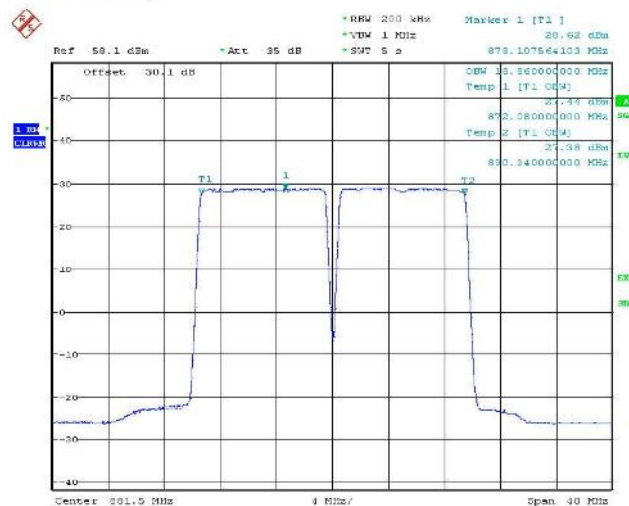
Test Report No:
D555647736

Figure 125 Occupied Bandwidth – QPSK (876.5/886.5 MHz) (10MHz Channel BW)



Date: 2.MAY.2017 07:15:45

Figure 126 Occupied Bandwidth – 16QAM (876.5/886.5 MHz) (10MHz Channel BW)



Date: 2.MAY.2017 07:29:07

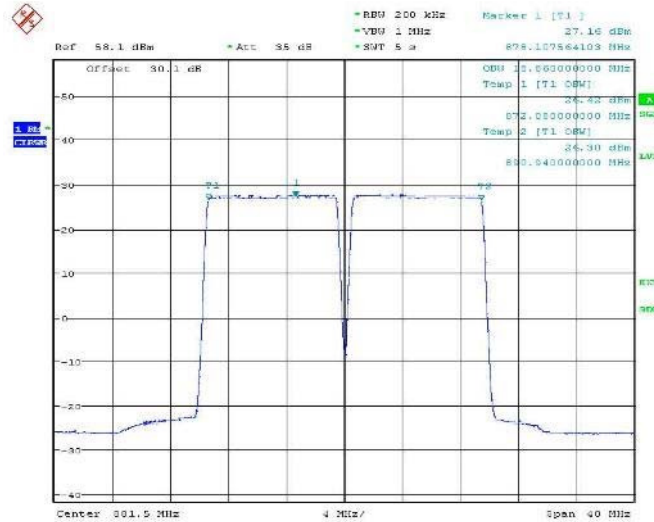


Product Service

FCC ID:
VBNAHCA-01

Test Report No:
D555647736

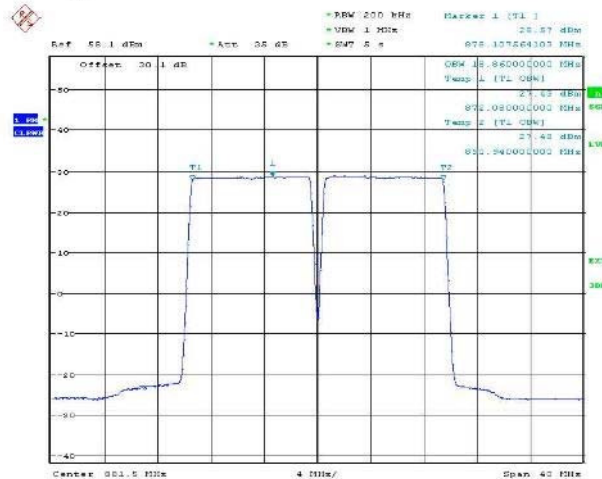
Figure 127 Occupied Bandwidth – 64QAM (876.5/886.5 MHz) (10MHz Channel BW)



Date: 28.APR.2017 13:25:04

Figure 128 Occupied Bandwidth – 256QAM (876.5/886.5 MHz) (10MHz Channel BW)

Config J ANT3:



Date: 2.MAY.2017 07:55:55

FCC 47 CFR part 22
(2016)

23. May 2017

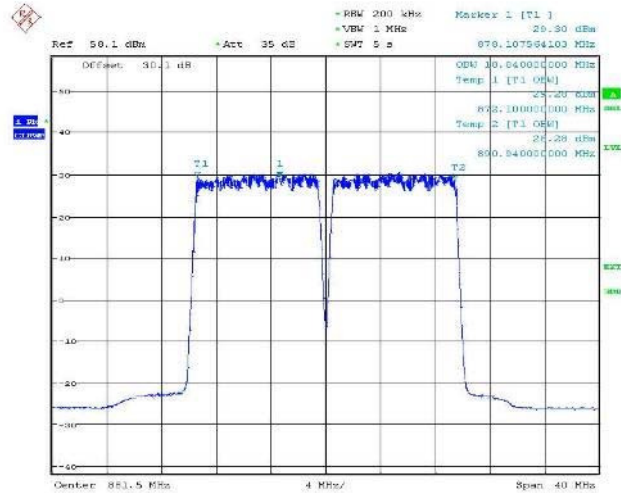
Page 154 of 427



FCC ID:
VBNAHCA-01

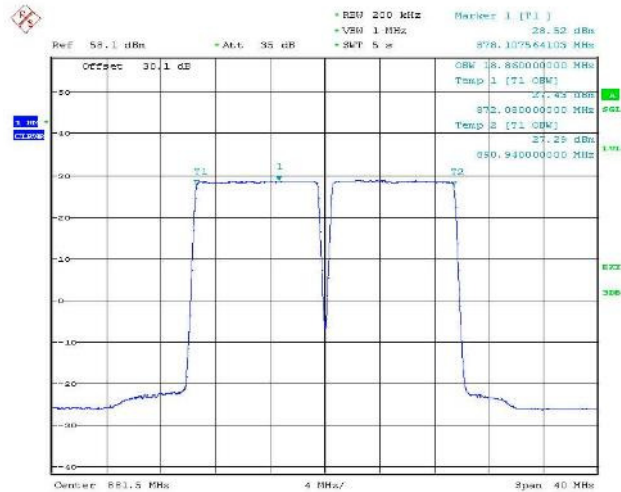
Test Report No:
D555647736

Figure 129 Occupied Bandwidth – QPSK (876.5/886.5 MHz) (10MHz Channel BW)



Date: 3.MAY.2017 08:01:00

Figure 130 Occupied Bandwidth – 16QAM (876.5/886.5 MHz) (10MHz Channel BW)



Date: 3.MAY.2017 08:06:24

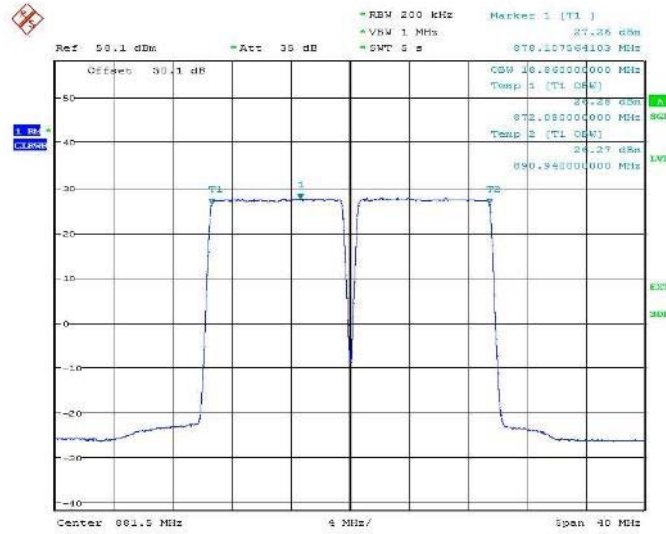


Product Service

FCC ID:
VBNAHCA-01

Test Report No:
D555647736

Figure 131 Occupied Bandwidth – 64QAM (876.5/886.5 MHz) (10MHz Channel BW)



Date: 20.APR.2017 10:30:07

Figure 132 Occupied Bandwidth – 256QAM (876.5/886.5 MHz) (10MHz Channel BW)



FCC ID:
VBNAHCA-01

Test Report No:
D555647736

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:

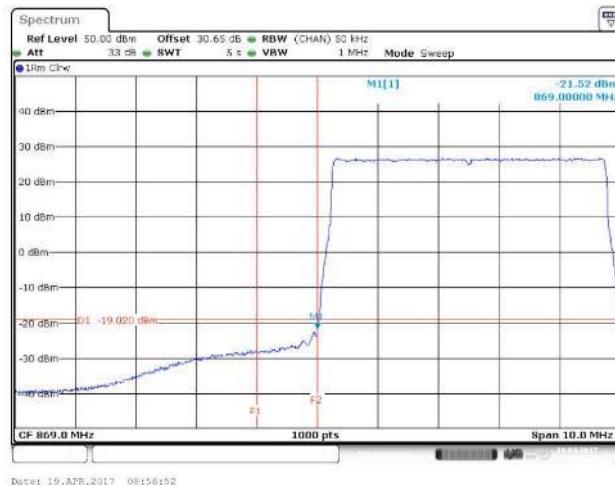
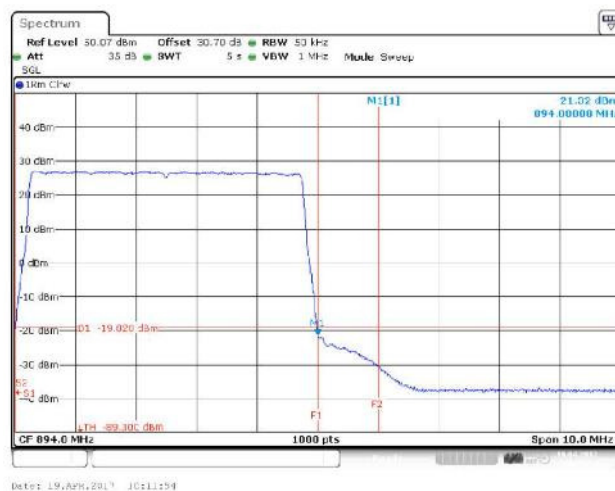


Figure 133 Spurious Emissions (Lower Band Edge) – QPSK (871.5 MHz, 5 MHz Channel BW)



FCC 47 CFR part 22
(2016)

23. May 2017

Page 157 of 427



FCC ID:
VBNAHCA-01

Test Report No:
D555647736

Figure 134 Spurious Emissions (Upper Band Edge) – QPSK (891.5 MHz, 5 MHz Channel BW)

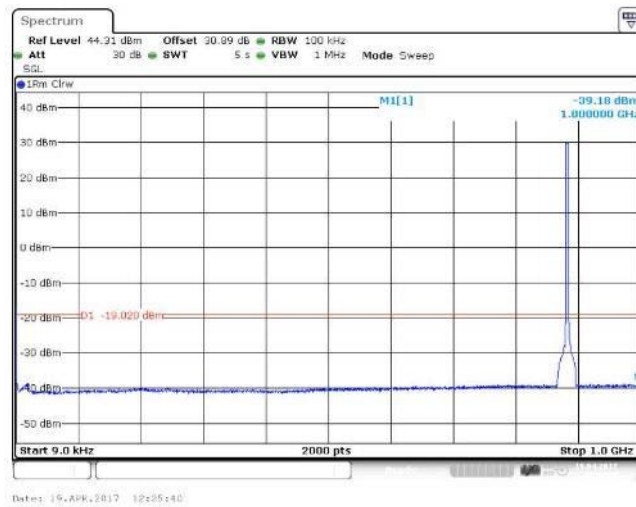


Figure 135 Spurious Emissions (9kHz – 1GHz) - QPSK (881.5 MHz, 5 MHz Channel BW)

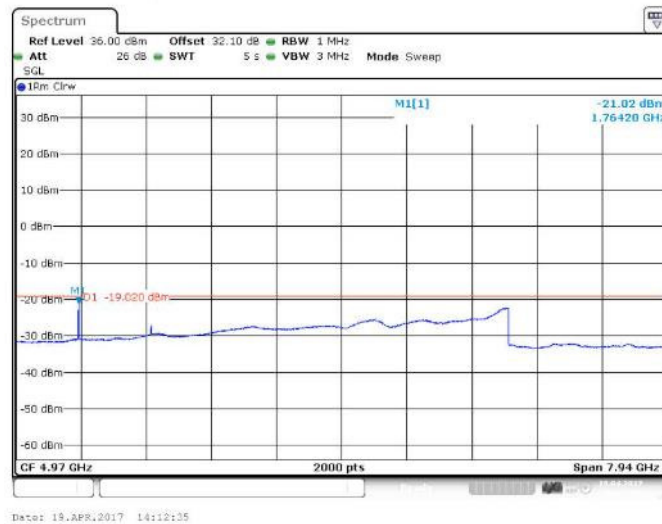
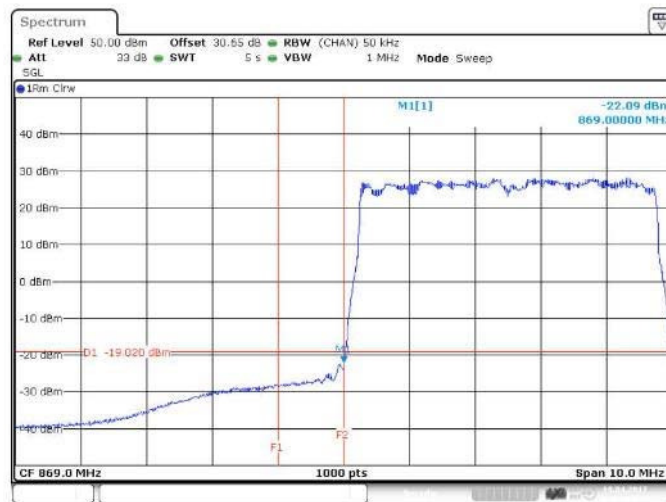


Figure 136 Spurious Emissions (1GHz – 8.94 GHz) – QPSK (881.5 MHz, 5 MHz Channel BW)



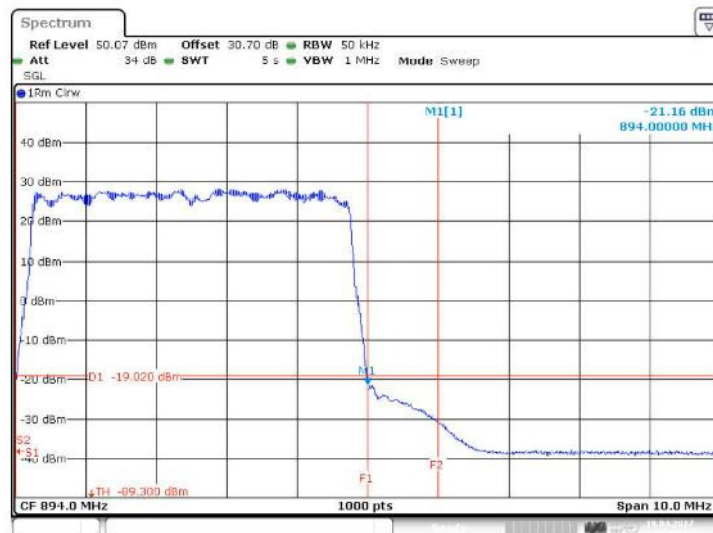
FCC ID:
VBNAHCA-01

Test Report No:
D555647736



Date: 19.APR.2017 09:04:49

Figure 137 Spurious Emissions (Lower Band Edge) – 16QAM (871.5 MHz, 5 MHz Channel BW)



Date: 19.APR.2017 10:19:12

Figure 138 Spurious Emissions (Upper Band Edge) – 16QAM (891.5 MHz, 5 MHz Channel BW)



Product Service

FCC ID:
VBNAHCA-01

Test Report No:
D555647736

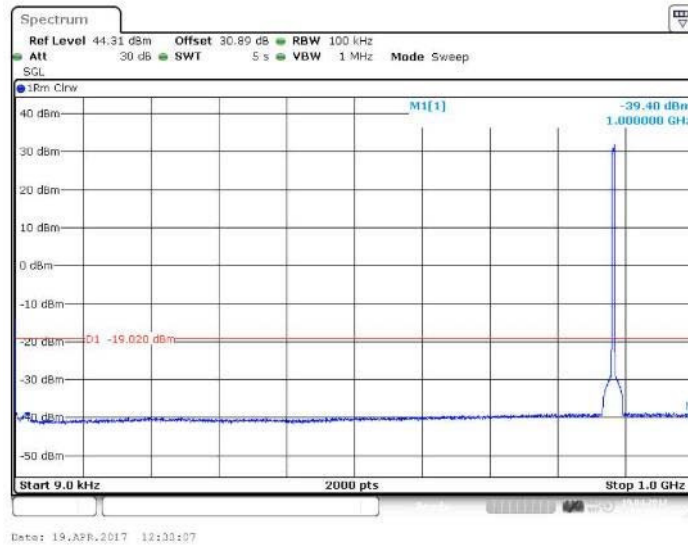


Figure 139 Spurious Emissions (9kHz – 3GHz) – 16QAM (881.5 MHz, 5 MHz Channel BW)

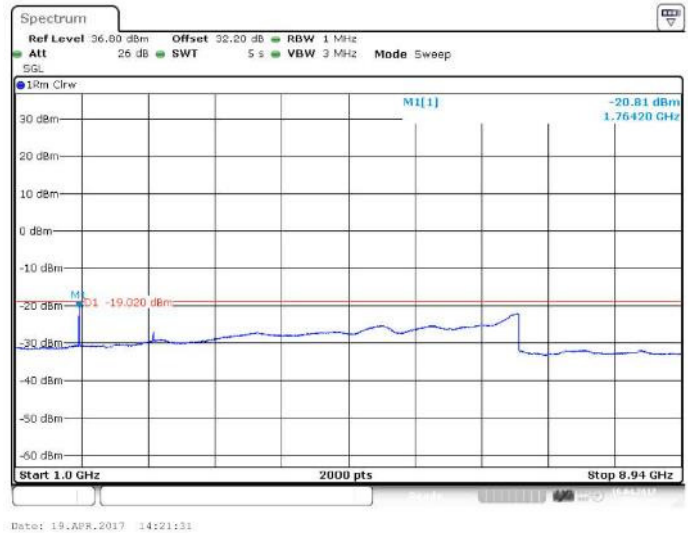


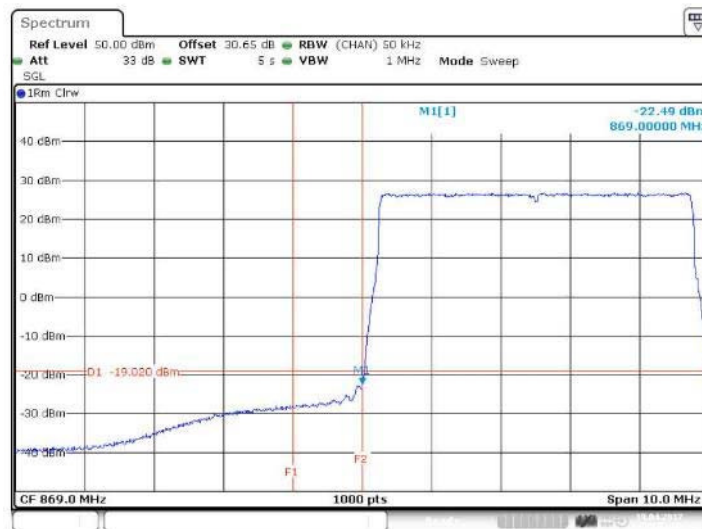
Figure 140 Spurious Emissions (1 GHz – 8.94GHz) – 16QAM (881.5 MHz, 5 MHz Channel BW)



Product Service

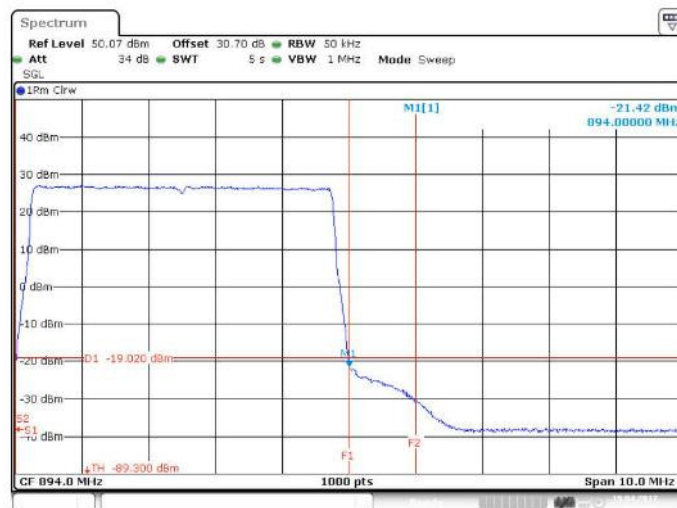
FCC ID:
VBNAHCA-01

Test Report No:
D555647736



Date: 19.APR.2017 09:01:26

Figure 141 Spurious Emissions (Lower Band Edge) – 64QAM (871.5 MHz, 5 MHz Channel BW)



Date: 19.APR.2017 10:16:04

Figure 142 Spurious Emissions (Upper Band Edge) – 64QAM (891.5 MHz, 5 MHz Channel BW)



Product Service

FCC ID:
VBNAHCA-01

Test Report No:
D555647736

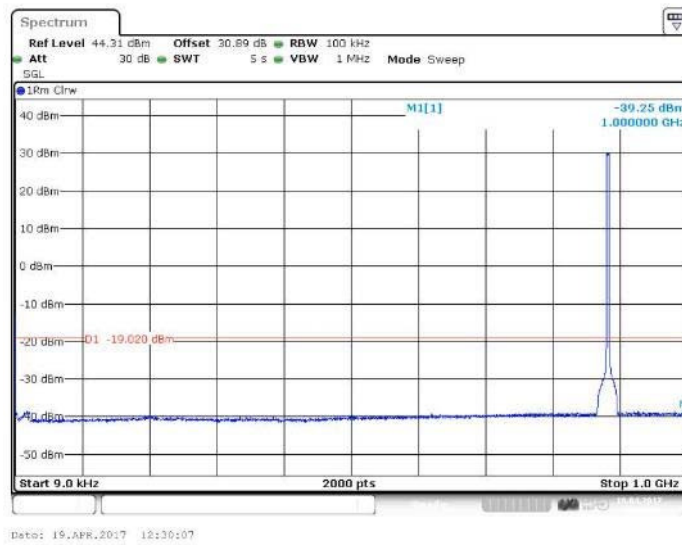


Figure 143 Spurious Emissions (9kHz – 1 GHz) – 64QAM (881.5 MHz, 5 MHz Channel BW)

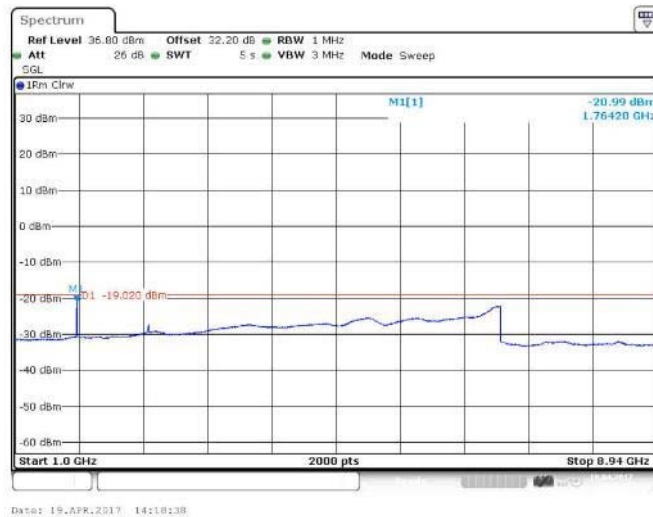


Figure 144 Spurious Emissions (1 GHz – 8.94 GHz) – 64QAM (881.5 MHz, 5MHz Channel BW)



FCC ID:
VBNAHCA-01

Test Report No:
D555647736

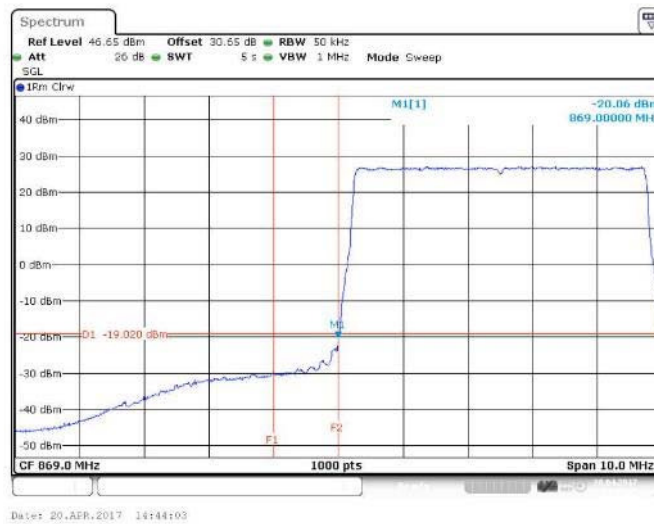


Figure 145 Spurious Emissions (Lower Band Edge) – 256QAM (871.5 MHz, 5 MHz Channel BW)

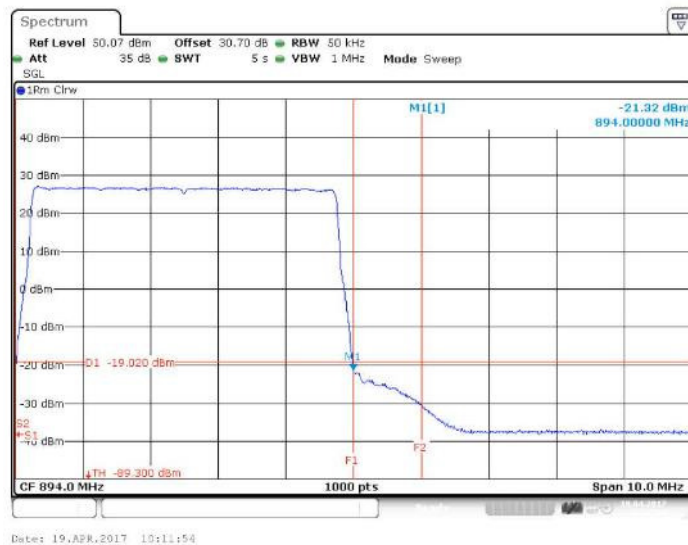


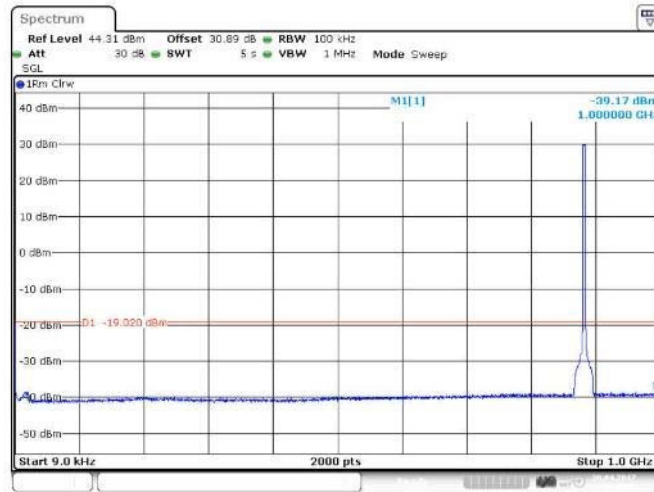
Figure 146 Spurious Emissions (Upper Band Edge) – 256QAM (891.5 MHz, 5 MHz Channel BW)



Product Service

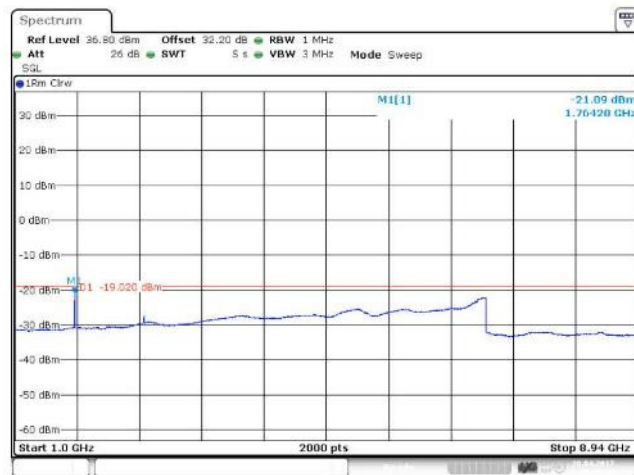
FCC ID:
VBNAHCA-01

Test Report No:
D555647736



Date: 20.APR.2017 15:30:24

Figure 147 Spurious Emissions (9 kHz – 1 GHz) – 256QAM (881.5 MHz, 5MHz Channel BW)



Date: 20.APR.2017 15:47:13

Figure 148 Spurious Emissions (1 GHz – 8.94 GHz) – 256QAM (881.5 MHz, 5 MHz Channel BW)



FCC ID:
VBNAHCA-01

Test Report No:
D555647736

Config A ANT2:

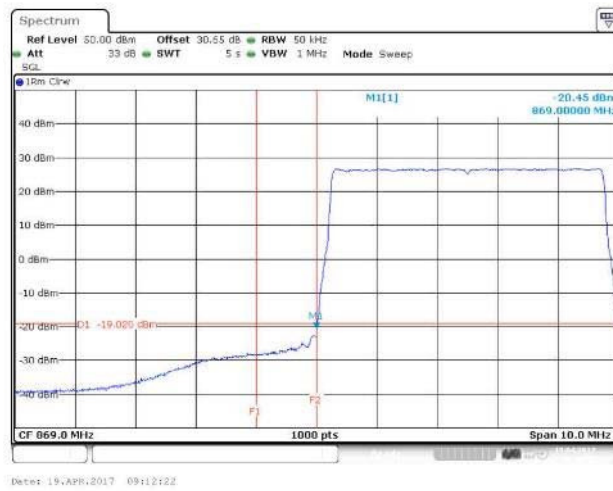


Figure 149 Spurious Emissions (Lower Band Edge) – QPSK (871.5 MHz, 5 MHz Channel BW)

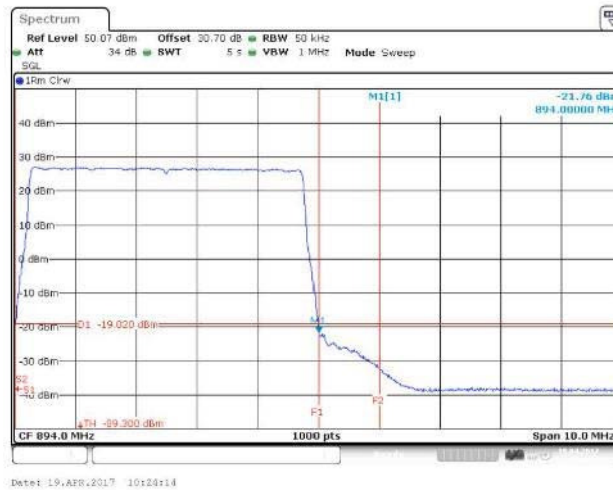
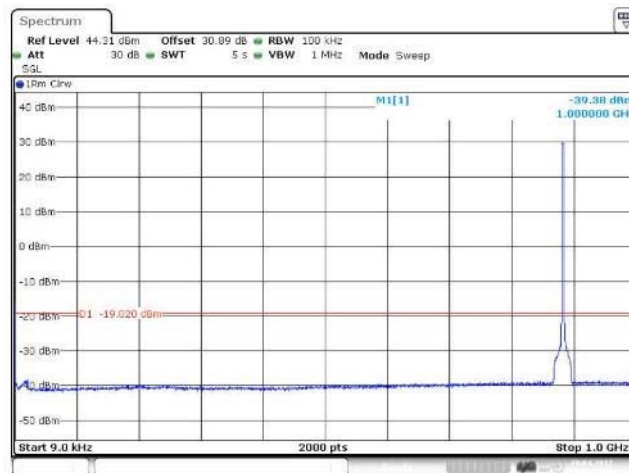


Figure 150 Spurious Emissions (Upper Band Edge) – QPSK (891.5 MHz, 5 MHz Channel BW)



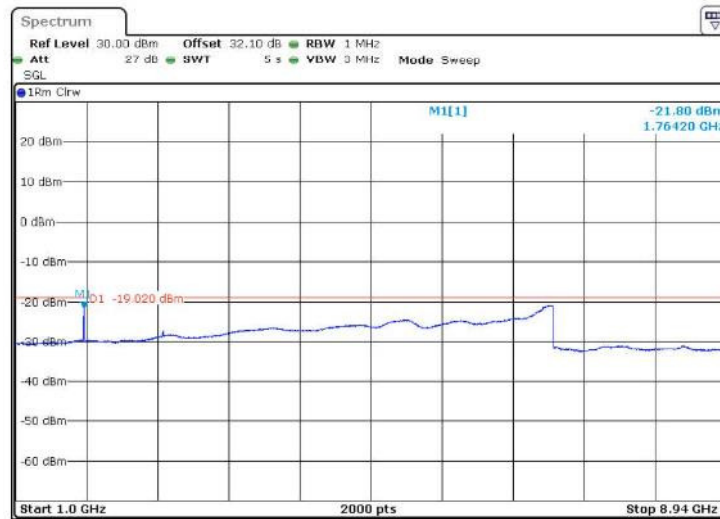
FCC ID:
VBNAHCA-01

Test Report No:
D555647736



Date: 19.APR.2017 12:37:59

Figure 151 Spurious Emissions (9kHz – 1GHz) - QPSK (881.5 MHz, 5 MHz Channel BW)



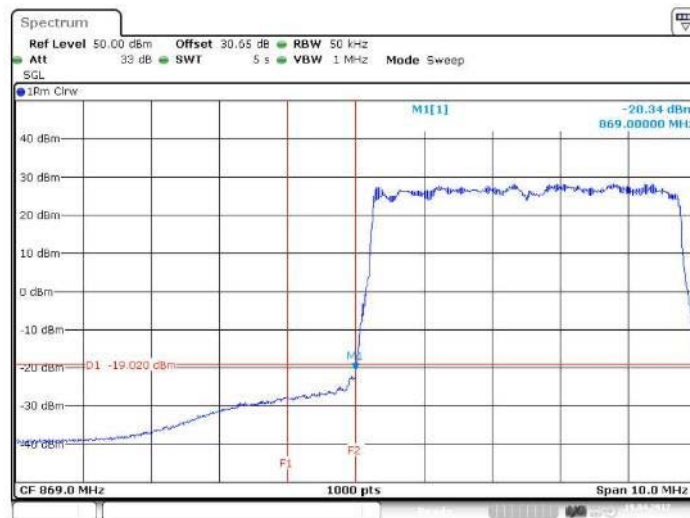
Date: 19.APR.2017 13:48:06

Figure 152 Spurious Emissions (1GHz – 8.94Hz) – QPSK (881.5 MHz, 5 MHz Channel BW)



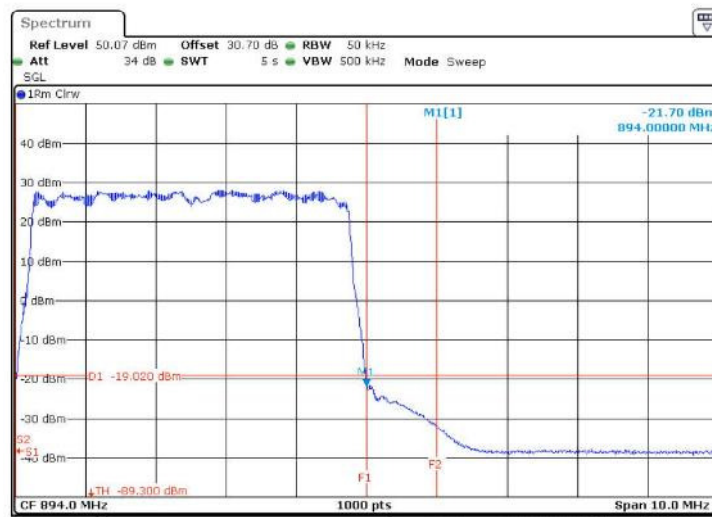
FCC ID:
VBNAHCA-01

Test Report No:
D555647736



Date: 19.APR.2017 09:18:33

Figure 153 Spurious Emissions (Lower Band Edge) – 16QAM (871.5 MHz, 5 MHz Channel BW)



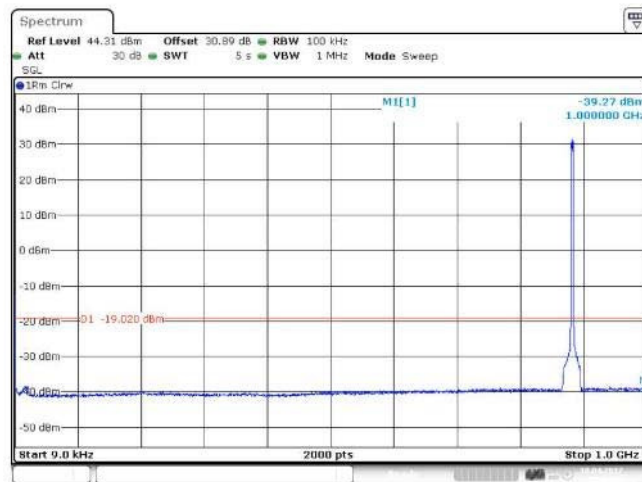
Date: 19.APR.2017 10:41:11

Figure 154 Spurious Emissions (Upper Band Edge) – 16QAM (891.5 MHz, 5 MHz Channel BW)



FCC ID:
VBNAHCA-01

Test Report No:
D555647736



Date: 19.APR.2017 12:45:16

Figure 155 Spurious Emissions (9kHz – 1GHz) – 16QAM (881.5 MHz, 5 MHz Channel BW)



Date: 19.APR.2017 14:29:36

Figure 156 Spurious Emissions (1 GHz – 8.94 GHz) – 16QAM (881.5 MHz, 5 MHz Channel BW)



FCC ID:
VBNAHCA-01

Test Report No:
D555647736

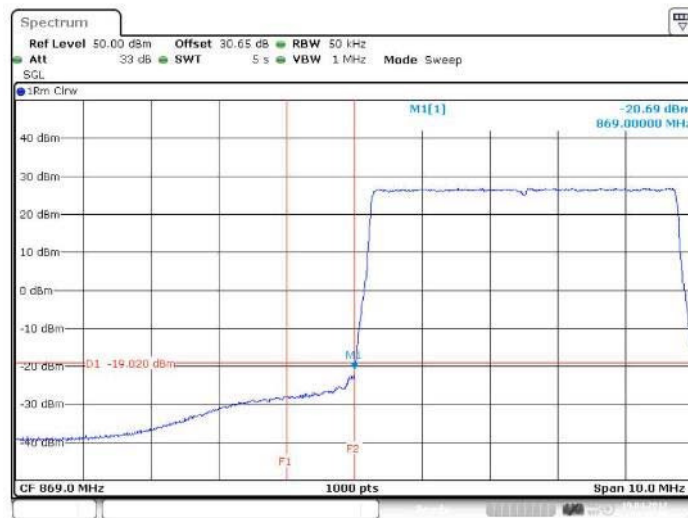


Figure 157 Spurious Emissions (Lower Band Edge) – 64QAM (871.5 MHz, 5 MHz Channel BW)

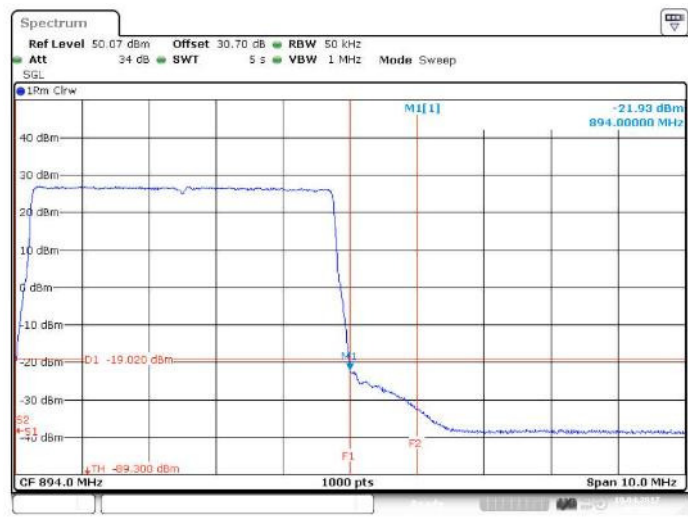
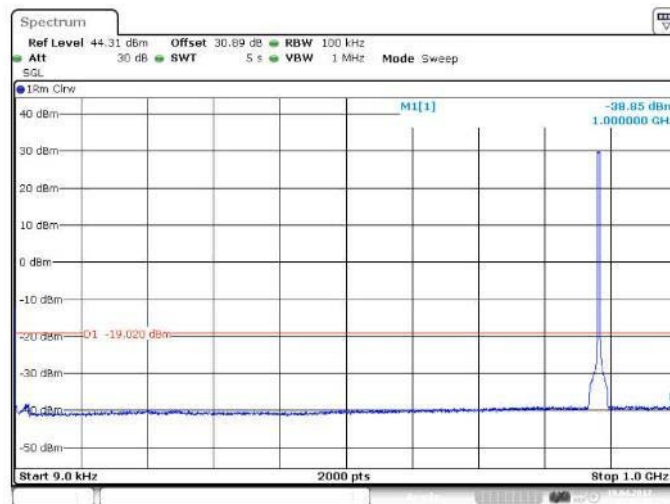


Figure 158 Spurious Emissions (Upper Band Edge) – 64QAM (891.5 MHz, 5 MHz Channel BW)



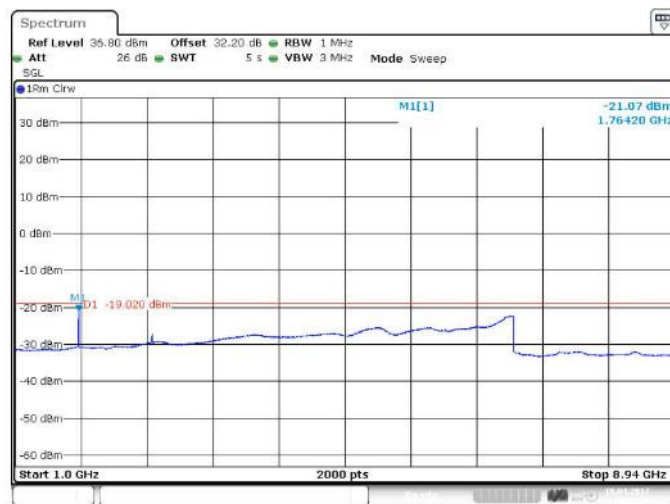
FCC ID:
VBNAHCA-01

Test Report No:
D555647736



Date: 19.APR.2017 12:40:59

Figure 159 Spurious Emissions (9kHz – 1GHz) – 64QAM (881.5.0 MHz, 5 MHz Channel BW)



Date: 19.APR.2017 14:26:44

Figure 160 Spurious Emissions (1 GHz – 8.94 GHz) – 64QAM (881.5 MHz, 5 MHz Channel BW)



FCC ID:
VBNAHCA-01

Test Report No:
D555647736

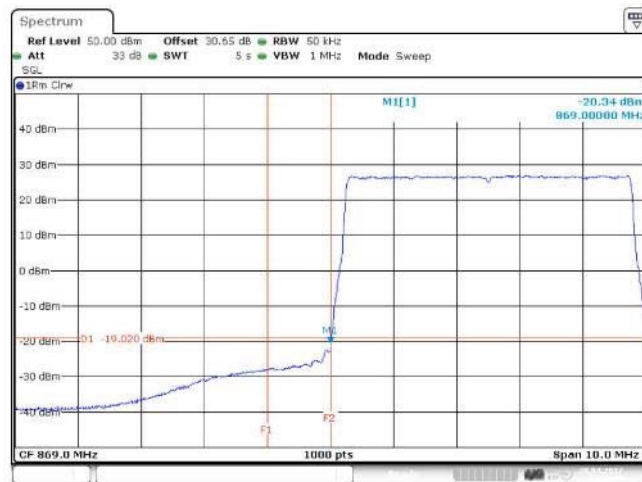


Figure 161 Spurious Emissions (Lower Band Edge) – 256QAM (871.5 MHz, 5 MHz Channel BW)



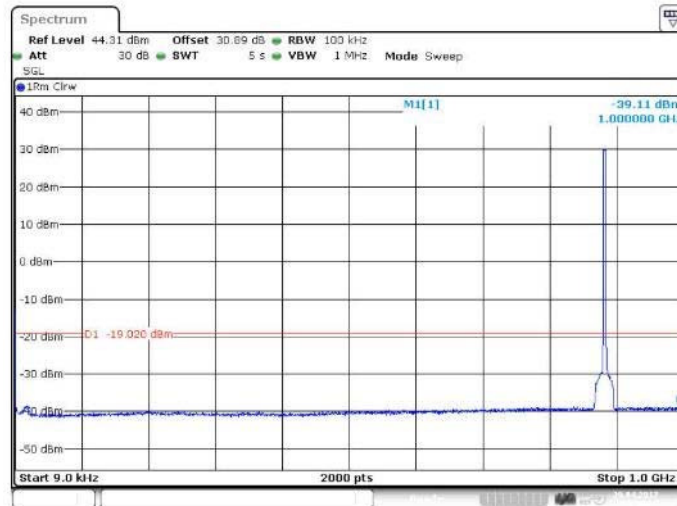
Figure 162 Spurious Emissions (Upper Band Edge) – 256QAM (891.5 MHz, 5 MHz Channel BW)



Product Service

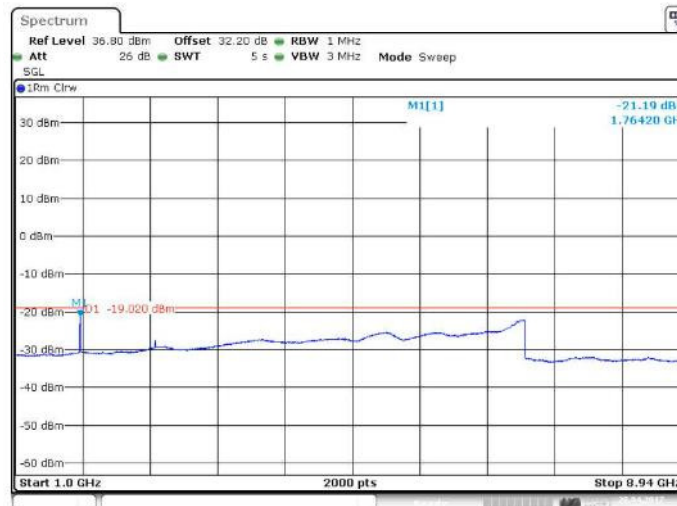
FCC ID:
VBNAHCA-01

Test Report No:
D555647736



Date: 20.APR.2017 15:34:29

Figure 163 Spurious Emissions (9kHz – 1GHz) – 256QAM (881.5 MHz, 5 MHz Channel BW)



Date: 20.APR.2017 15:51:37

Figure 164 Spurious Emissions (1 GHz – 8.94 GHz) – 256QAM (881.5 MHz, 5 MHz Channel BW)



Product Service

FCC ID:
VBNAHCA-01

Test Report No:
D555647736

Config A ANT3:

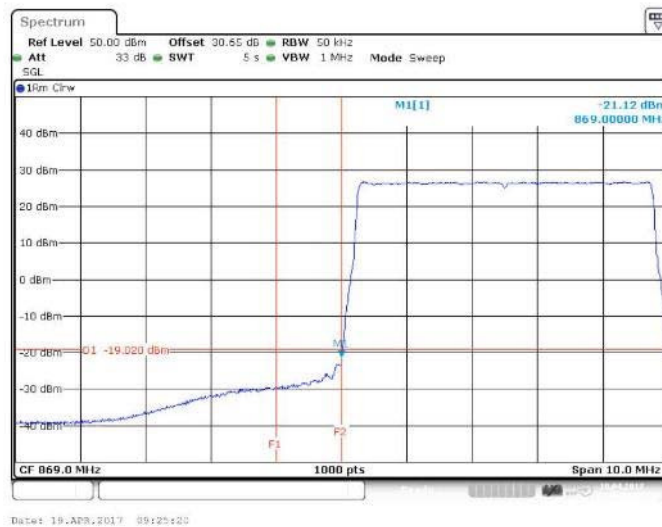


Figure 165 Spurious Emissions (Lower Band Edge) – QPSK (871.5 MHz, 5 MHz Channel BW)

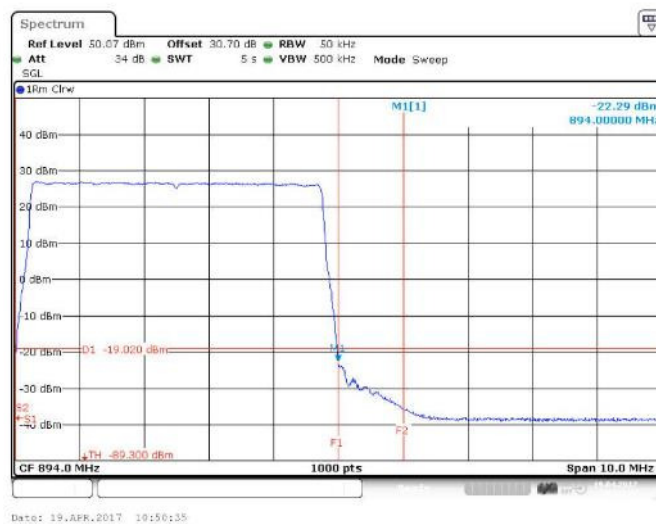


Figure 166 Spurious Emissions (Upper Band Edge) – QPSK (891.5 MHz, 5 MHz Channel BW)



FCC ID:
VBNAHCA-01

Test Report No:
D555647736

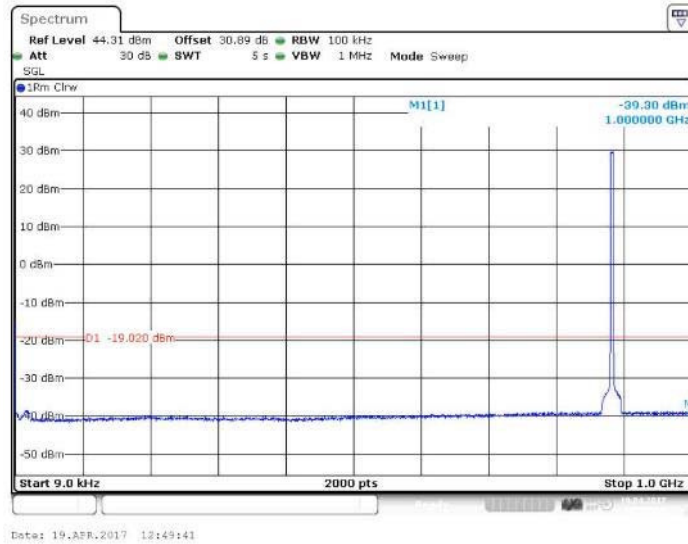


Figure 167 Spurious Emissions (9kHz – 1GHz) – QPSK (881.5 MHz, 5 MHz Channel BW)

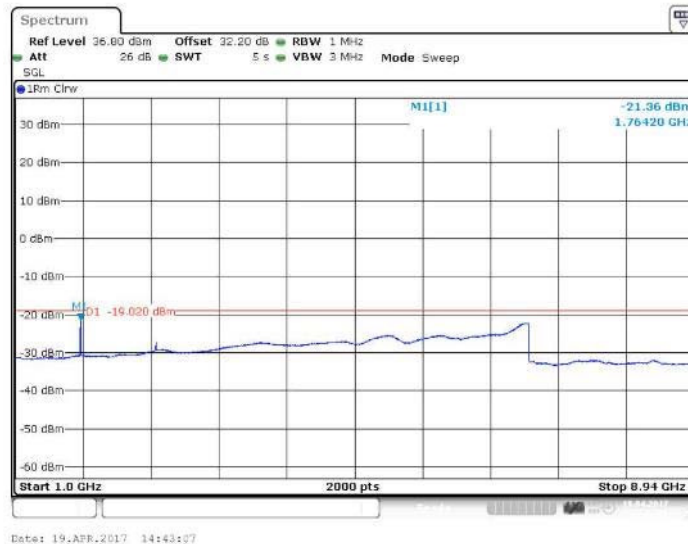


Figure 168 Spurious Emissions (1 GHz – 8.94 GHz) – QPSK (881.5 MHz, 5 MHz Channel BW)



FCC ID:
VBNAHCA-01

Test Report No:
D555647736

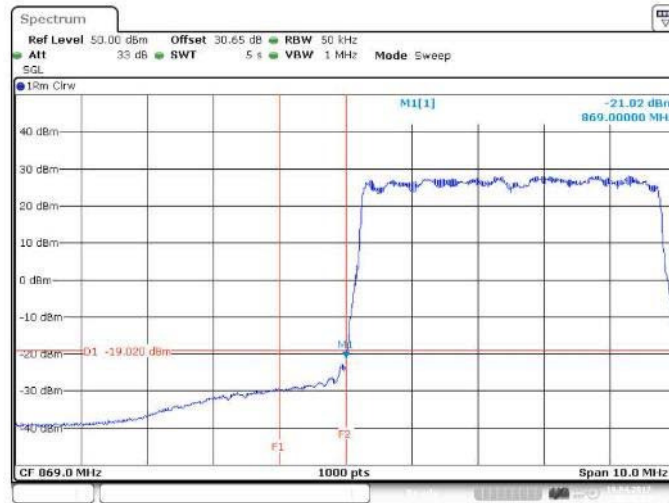


Figure 169 Spurious Emissions (Lower Band Edge) – 16QAM (871.5 MHz, 5 MHz Channel BW)

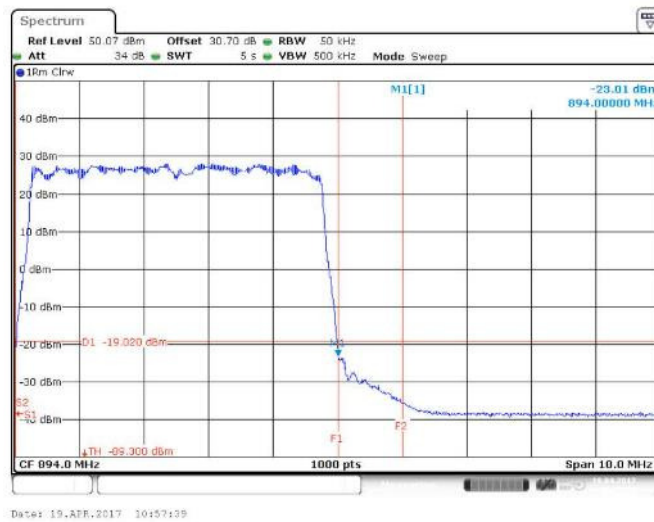


Figure 170 Spurious Emissions (Upper Band Edge) – 16QAM (891.5 MHz, 5 MHz Channel BW)



FCC ID:
VBNAHCA-01

Test Report No:
D555647736

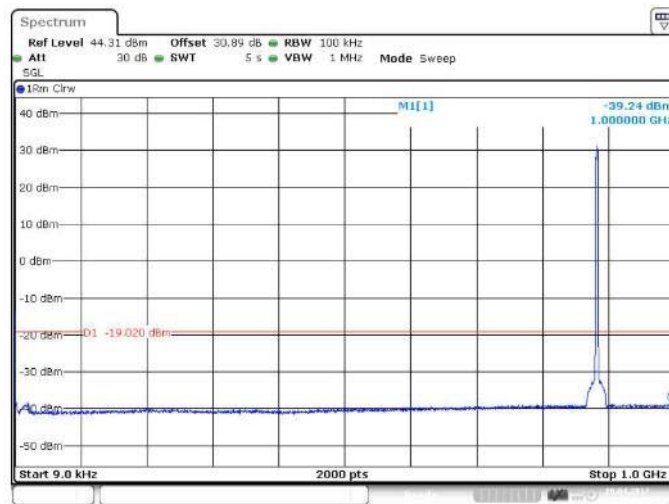


Figure 171 Spurious Emissions (9kHz – 1GHz) – 16QAM (881.5 MHz, 5 MHz Channel BW)

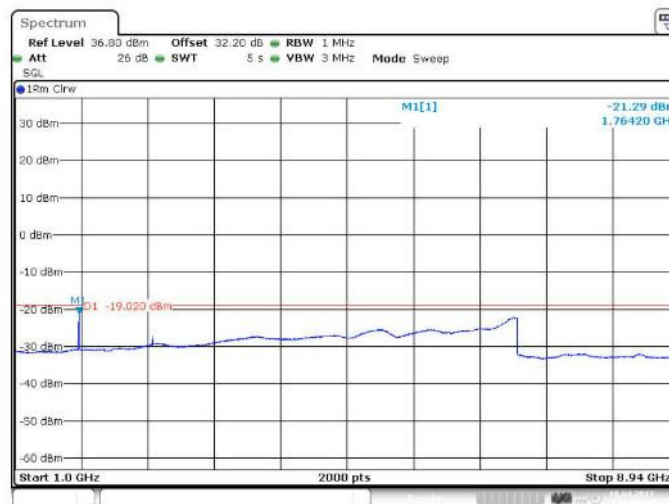


Figure 172 Spurious Emissions (1 GHz – 8.94 GHz) – 16QAM (881.5 MHz, 5 MHz Channel BW)



Product Service

FCC ID:
VBNAHCA-01

Test Report No:
D555647736

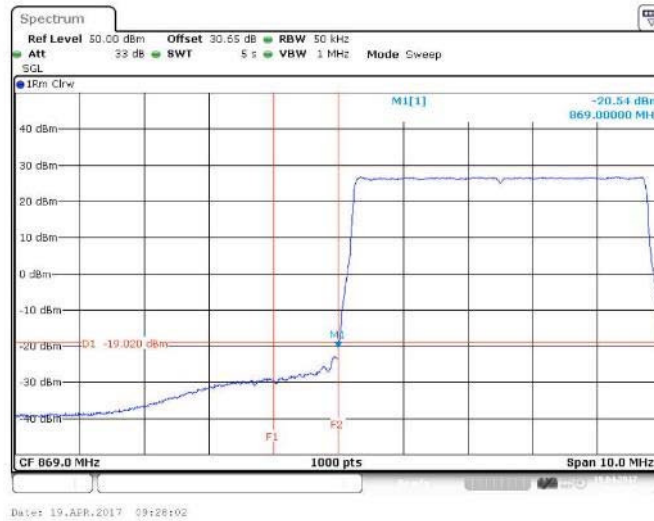


Figure 173 Spurious Emissions (Lower Band Edge) – 64QAM (871.5 MHz, 5 MHz Channel BW)

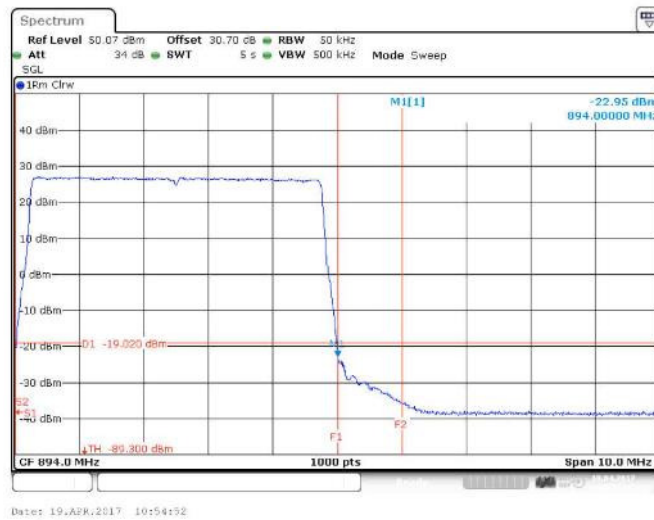


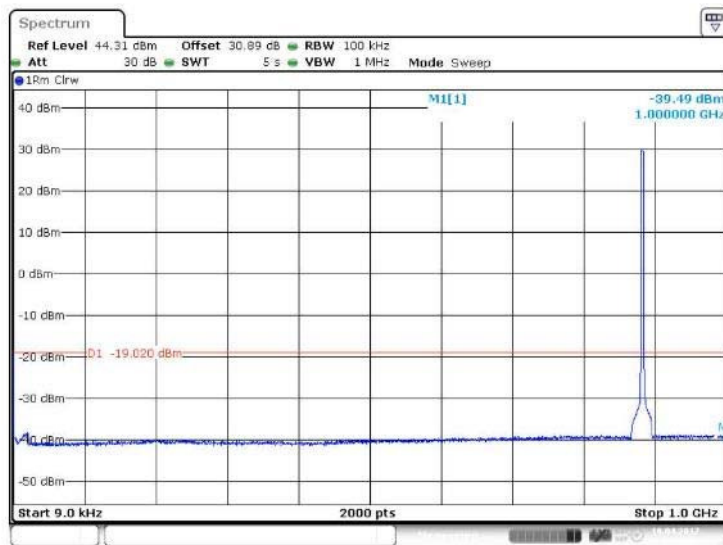
Figure 174 Spurious Emissions (Upper Band Edge) – 64QAM (891.5 MHz, 5 MHz Channel BW)



Product Service

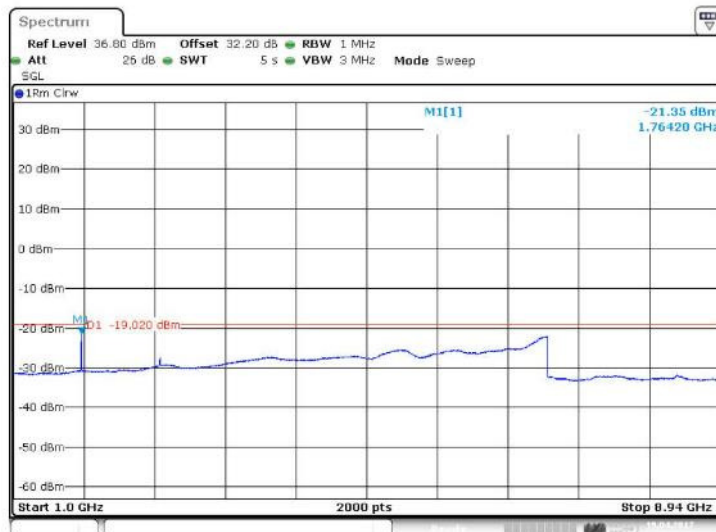
FCC ID:
VBNAHCA-01

Test Report No:
D555647736



Date: 19.APR.2017 12:52:08

Figure 175 Spurious Emissions (9kHz – 1GHz) – 64QAM (881.5 MHz, 5 MHz Channel BW)



Date: 19.APR.2017 14:46:24

Figure 176 Spurious Emissions (1 GHz – 8.94 GHz) – 64QAM (881.5 MHz, 5 MHz Channel BW)



Product Service

FCC ID:
VBNAHCA-01

Test Report No:
D555647736

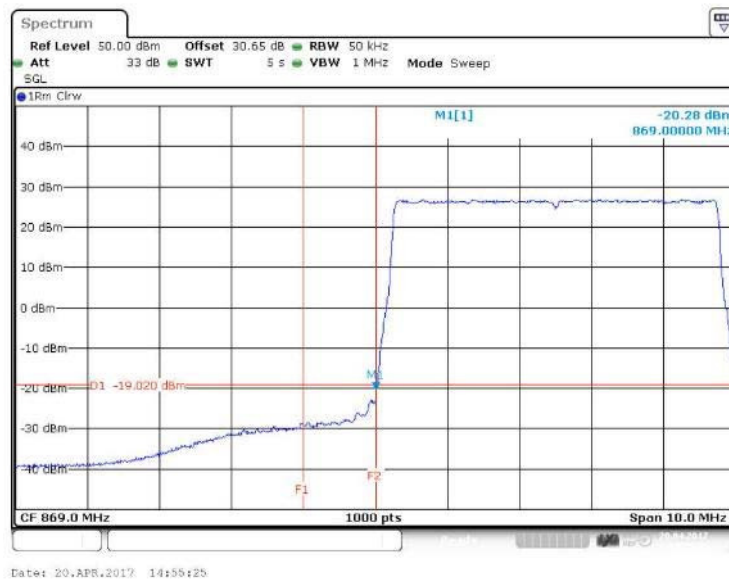


Figure 177 Spurious Emissions (Lower Band Edge) – 256QAM (871.5 MHz, 5 MHz Channel BW)

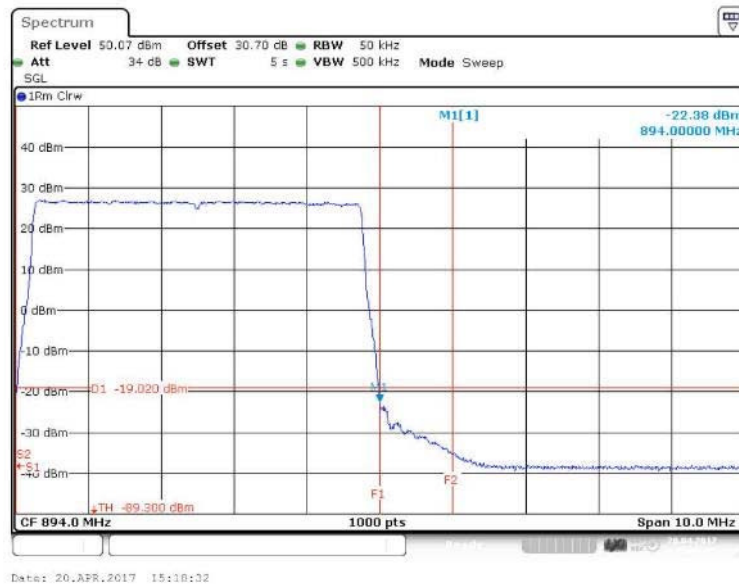


Figure 178 Spurious Emissions (Upper Band Edge) – 256QAM (891.5 MHz, 5 MHz Channel BW)

FCC 47 CFR part 22
(2016)

23. May 2017

Page 179 of 427