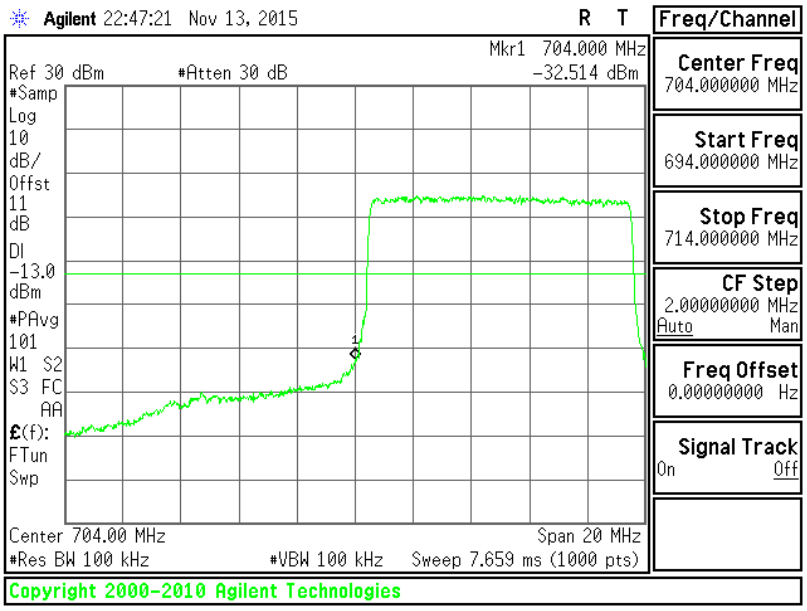
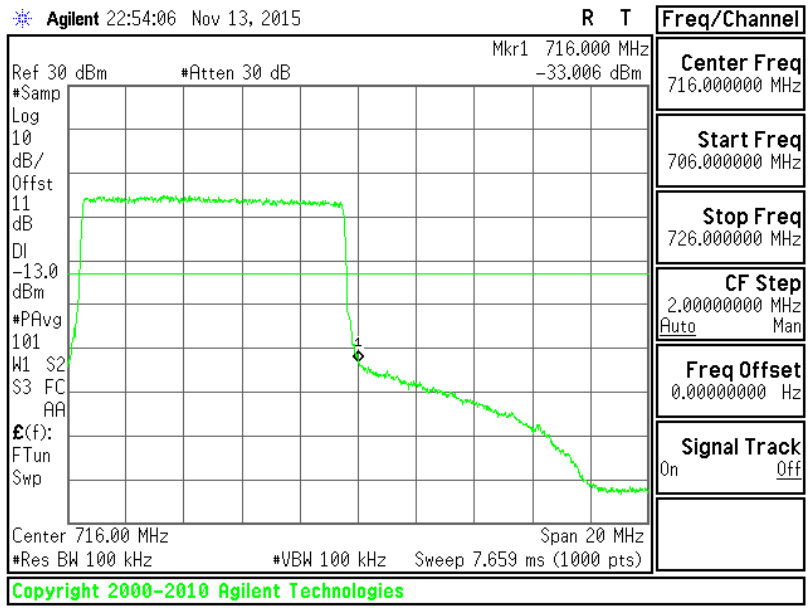
LOW CH, RB50-0



HIGH CH, RB50-0

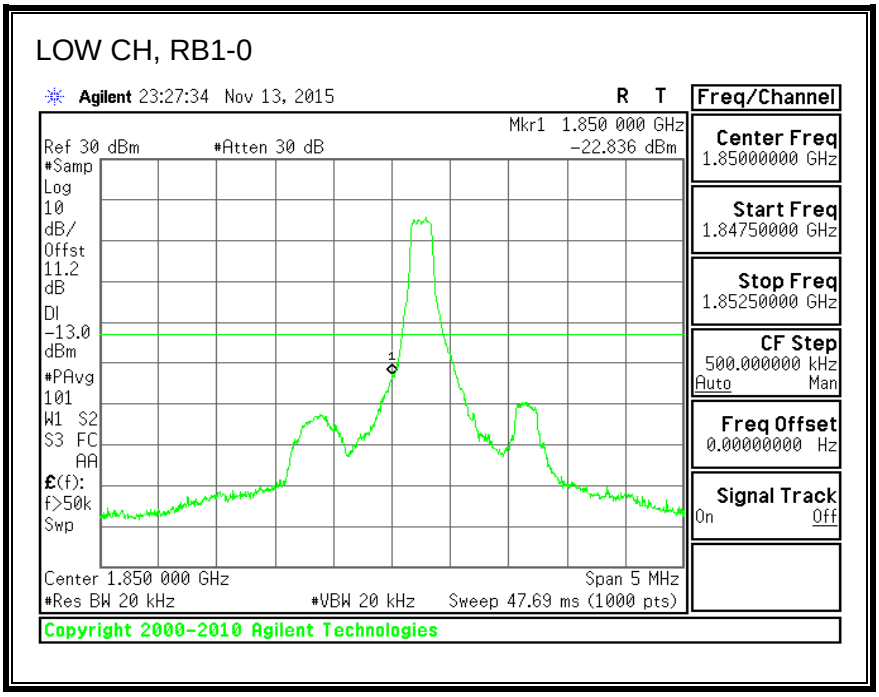


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

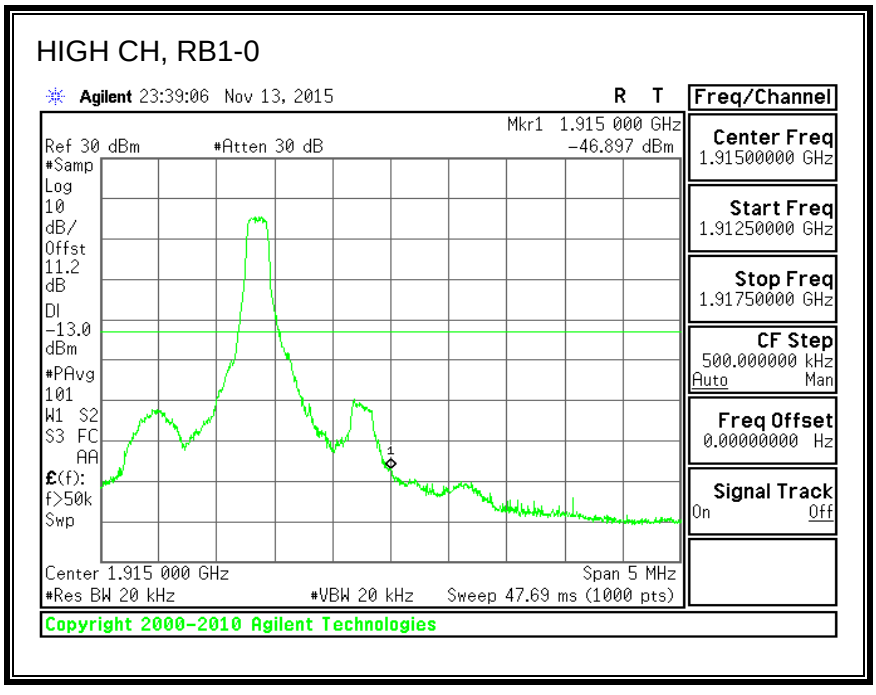
8.2.8. LTE BAND 25 BANDEDGE

QPSK, (1.4 MHz BAND WIDTH)

LOW CH, RB1-0

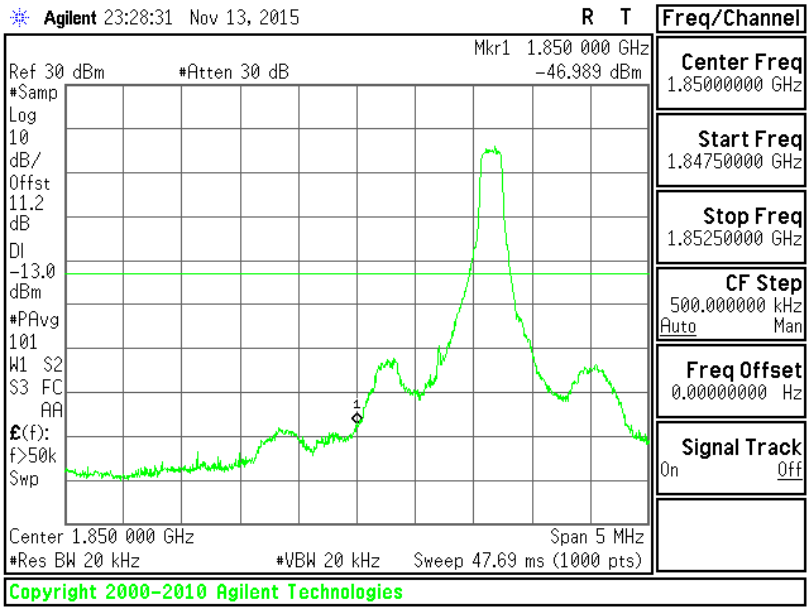


HIGH CH, RB1-0

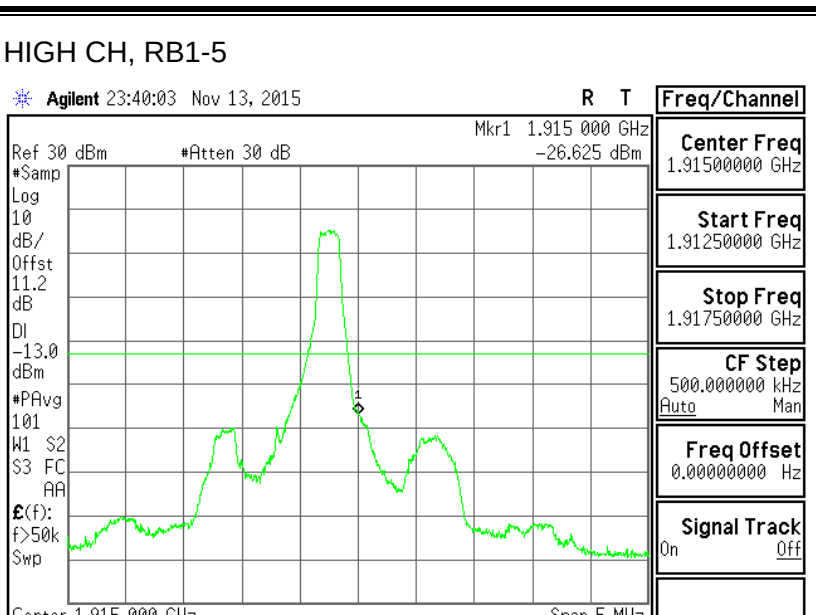


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB1-5

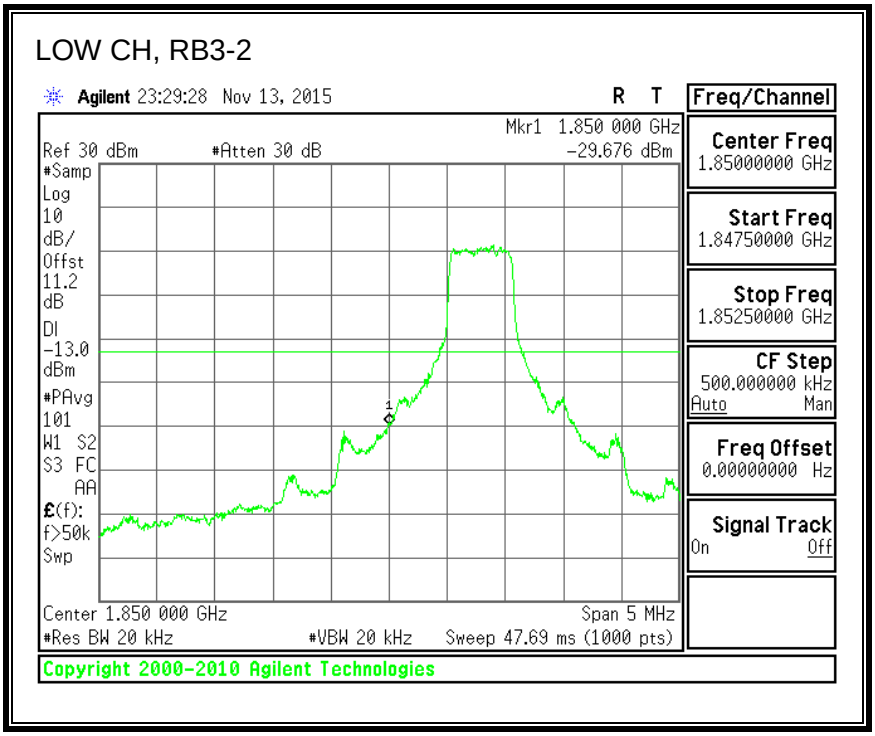


HIGH CH, RB1-5

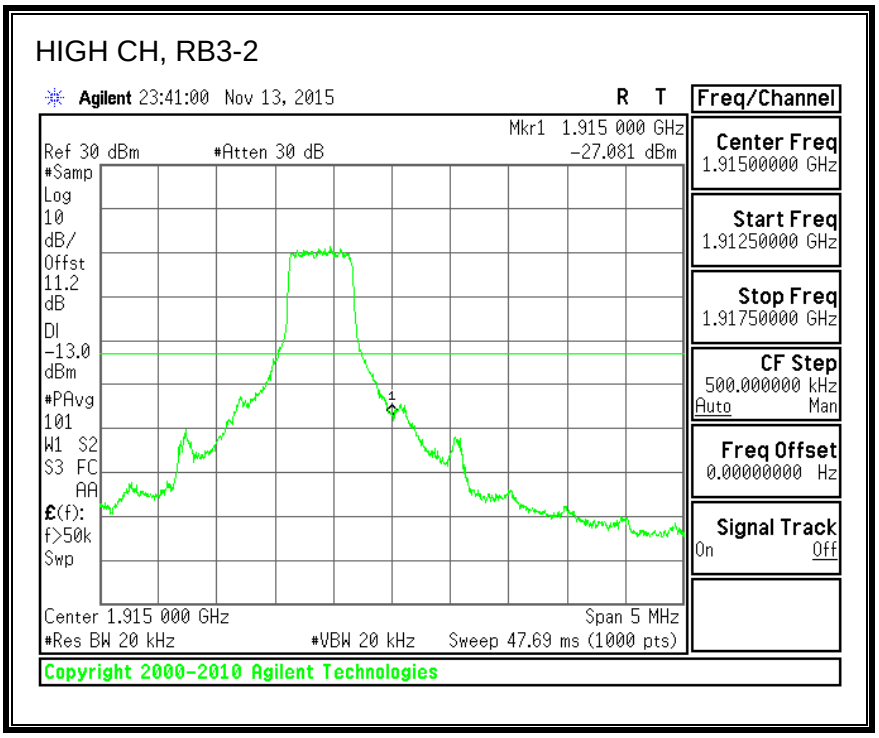


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB3-2

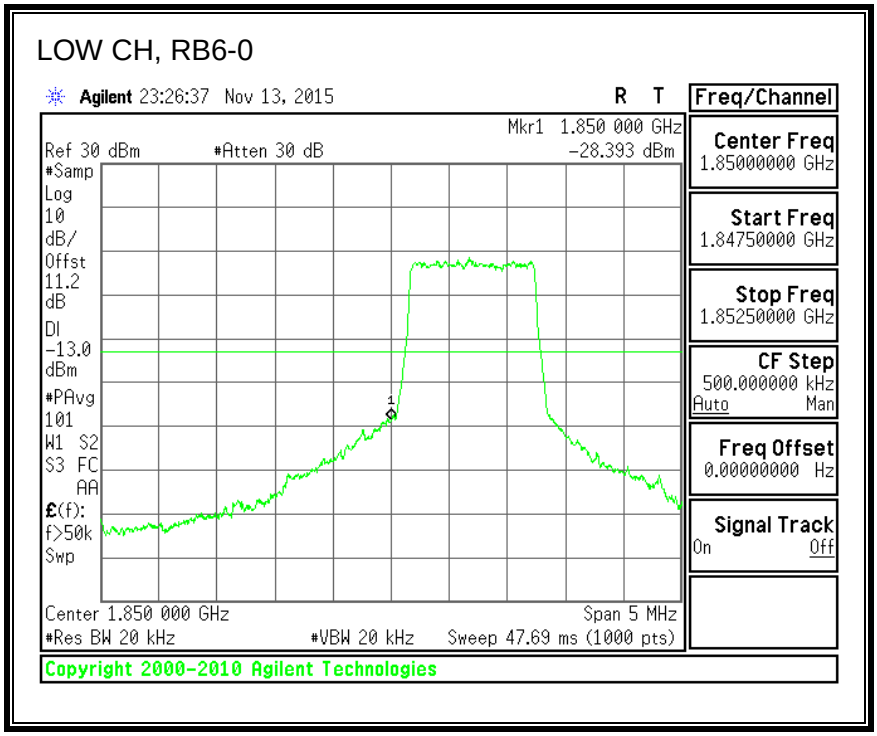


HIGH CH, RB3-2

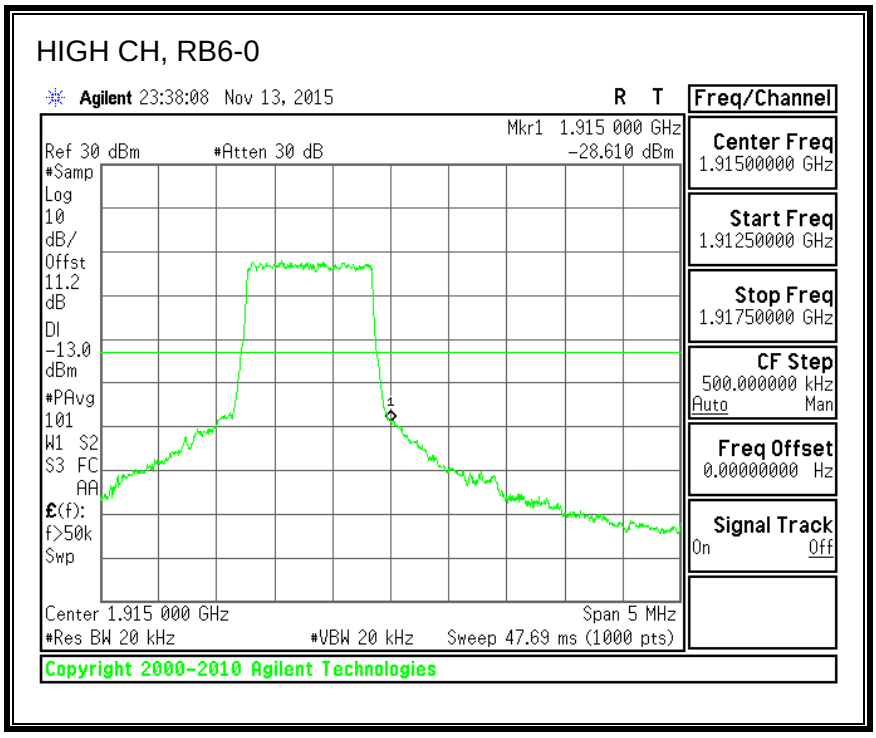


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB6-0



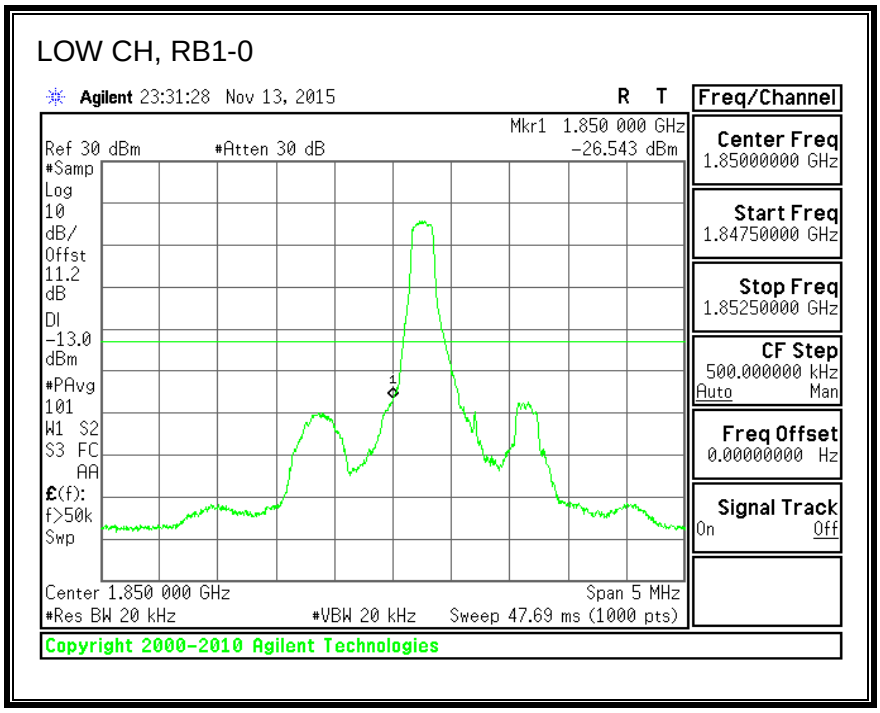
HIGH CH, RB6-0



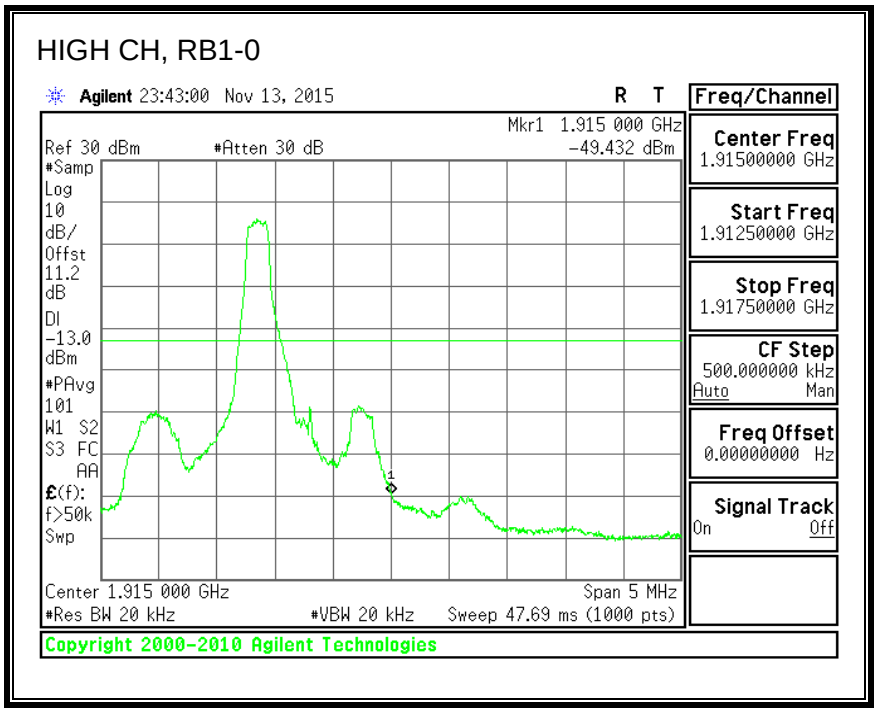
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

16QAM, (1.4 MHz BAND WIDTH)

LOW CH, RB1-0

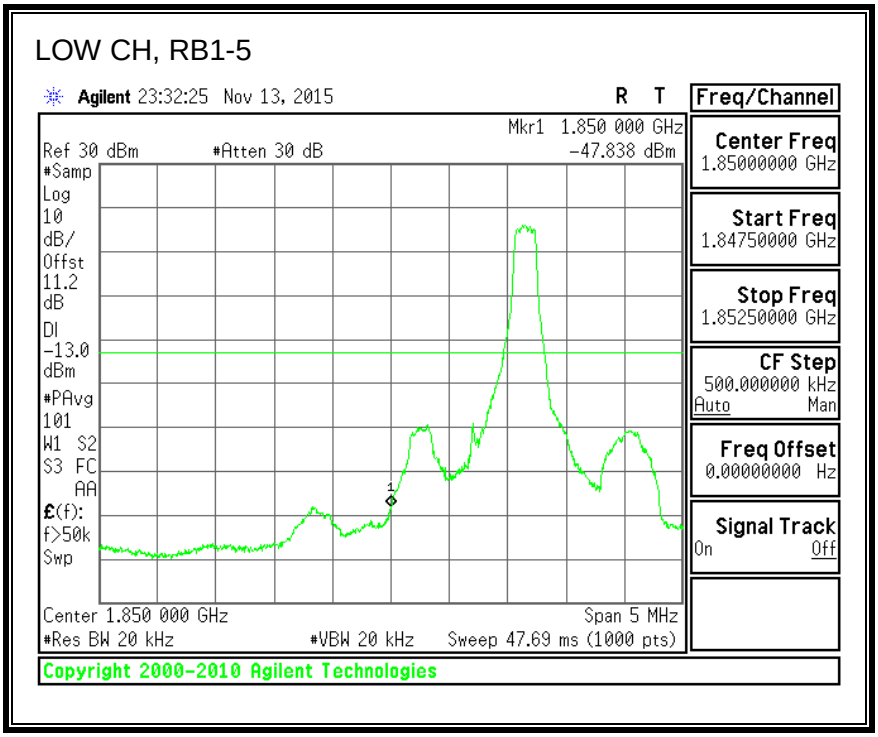


HIGH CH, RB1-0

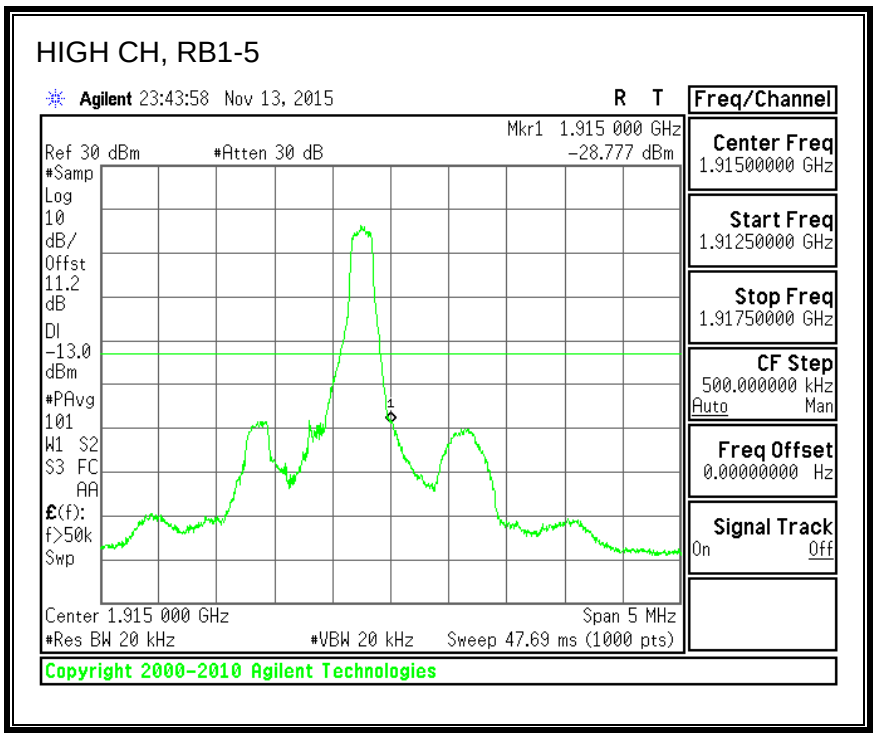


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB1-5

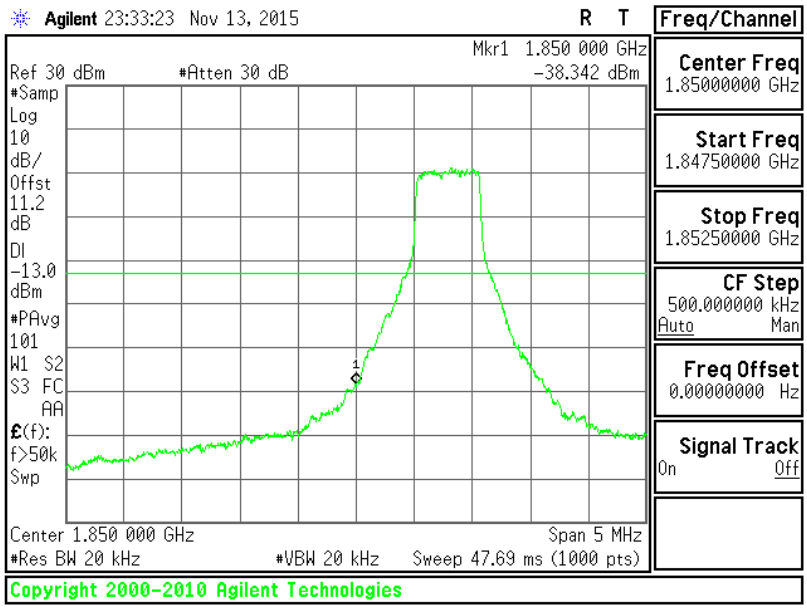


HIGH CH, RB1-5

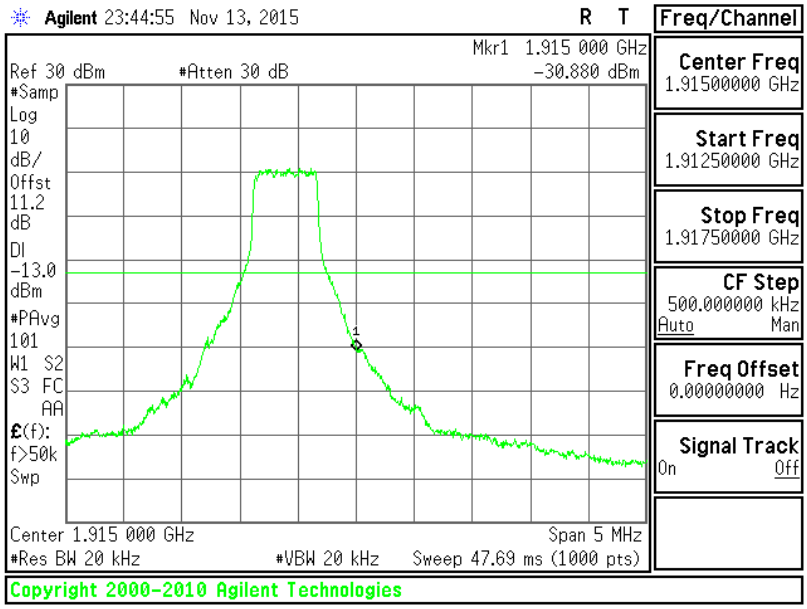


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB3-2

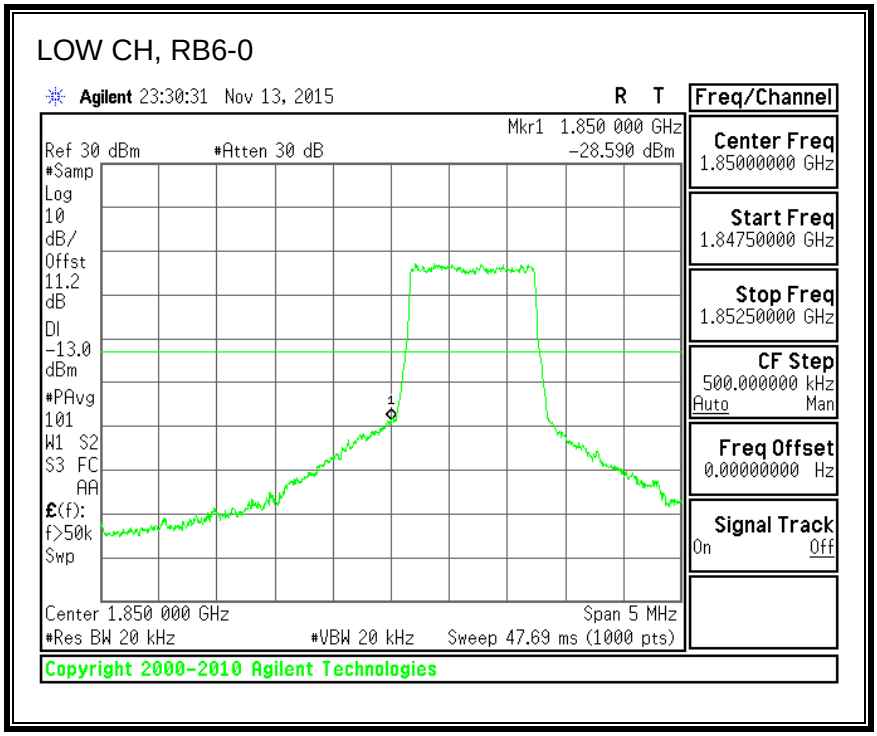


HIGH CH, RB3-2

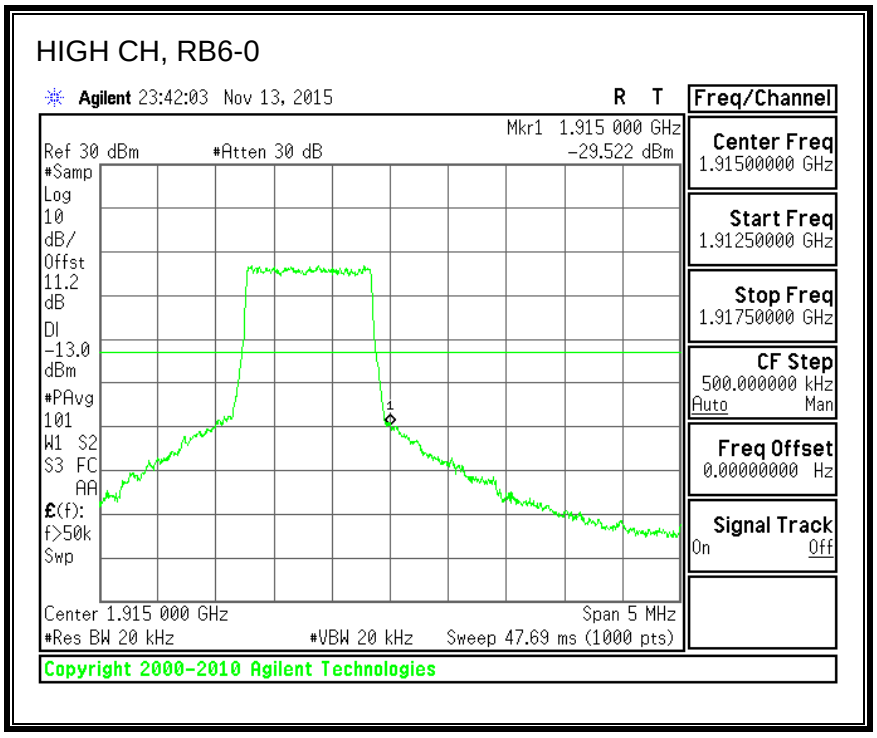


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB6-0



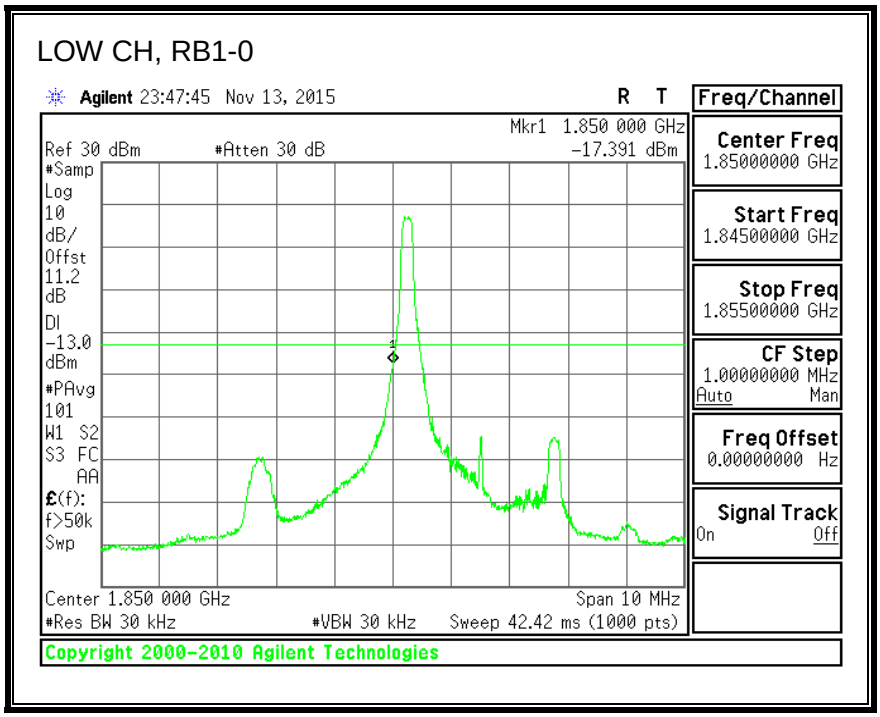
HIGH CH, RB6-0



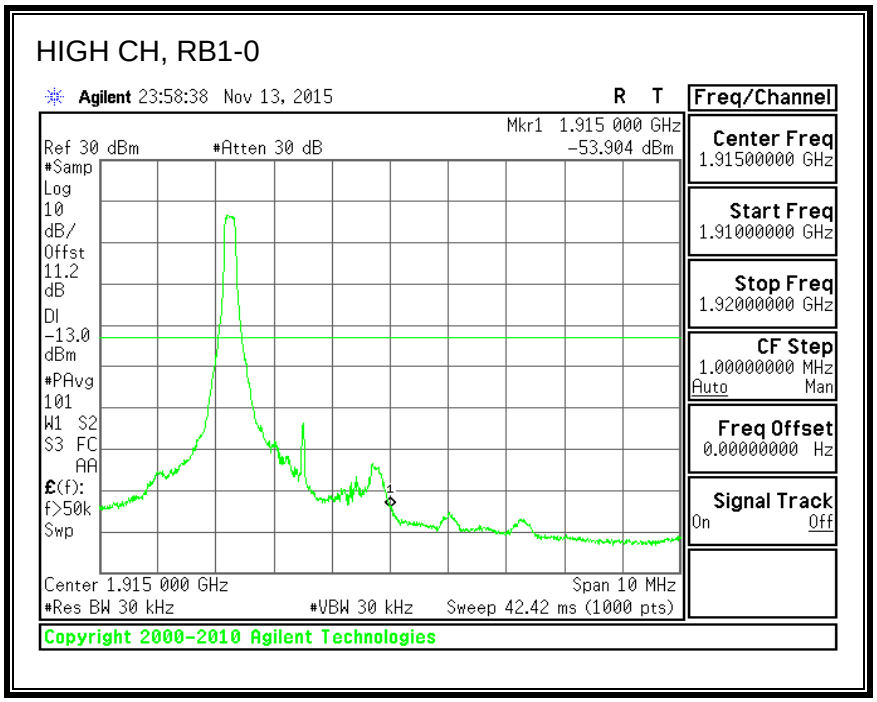
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

QPSK, (3.0 MHz BAND WIDTH)

LOW CH, RB1-0

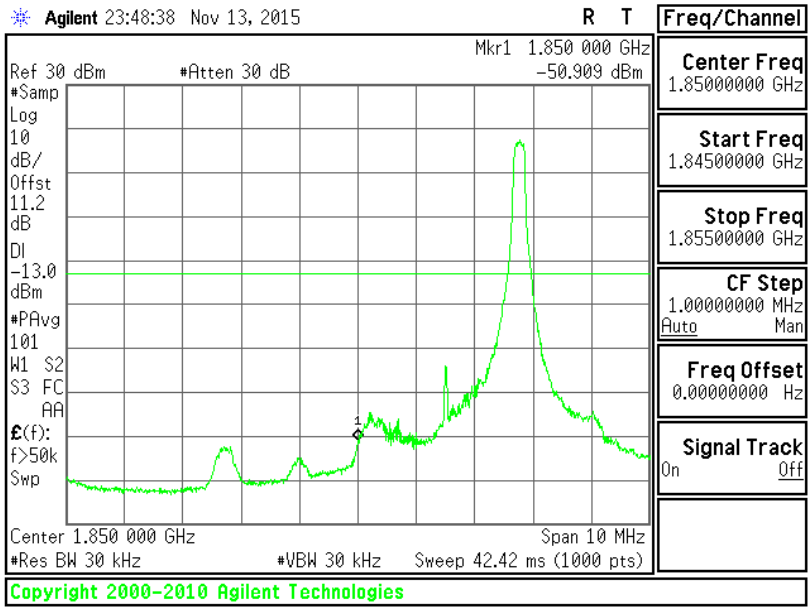


HIGH CH, RB1-0

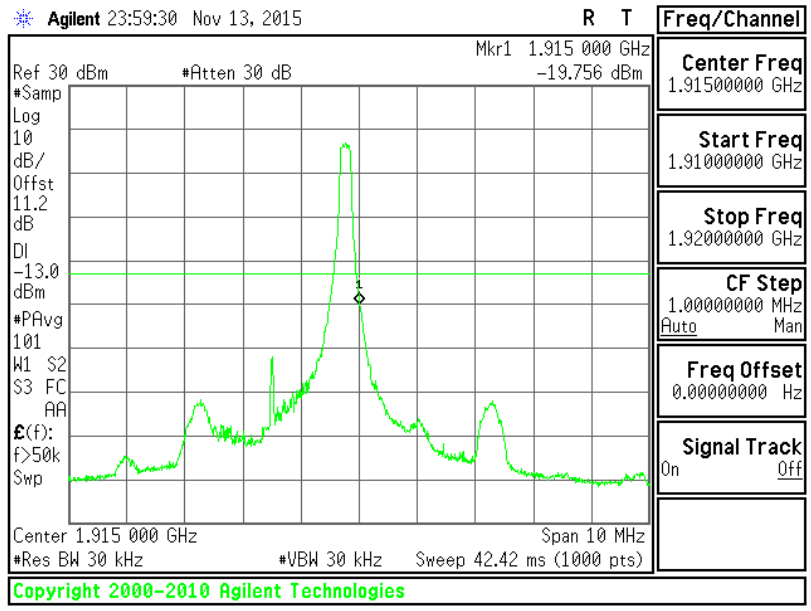


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB1-14

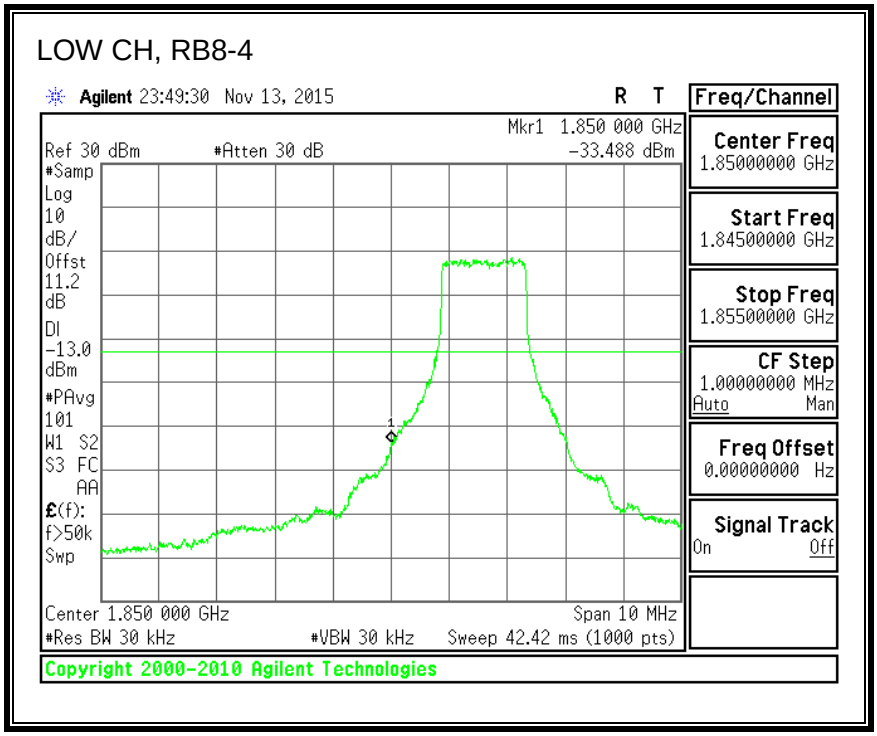


HIGH CH, RB1-14

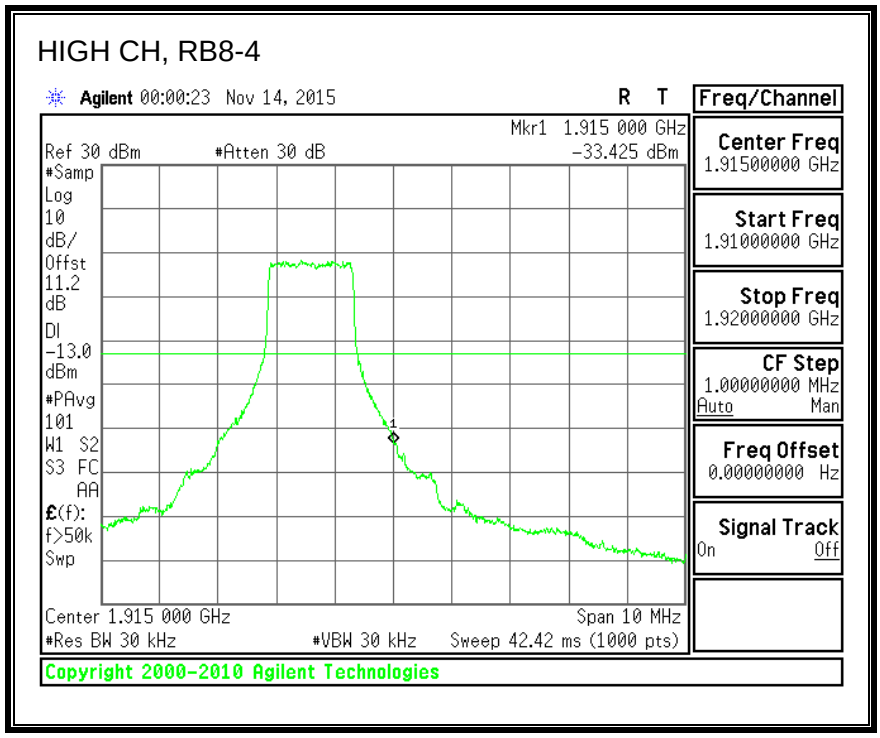


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB8-4

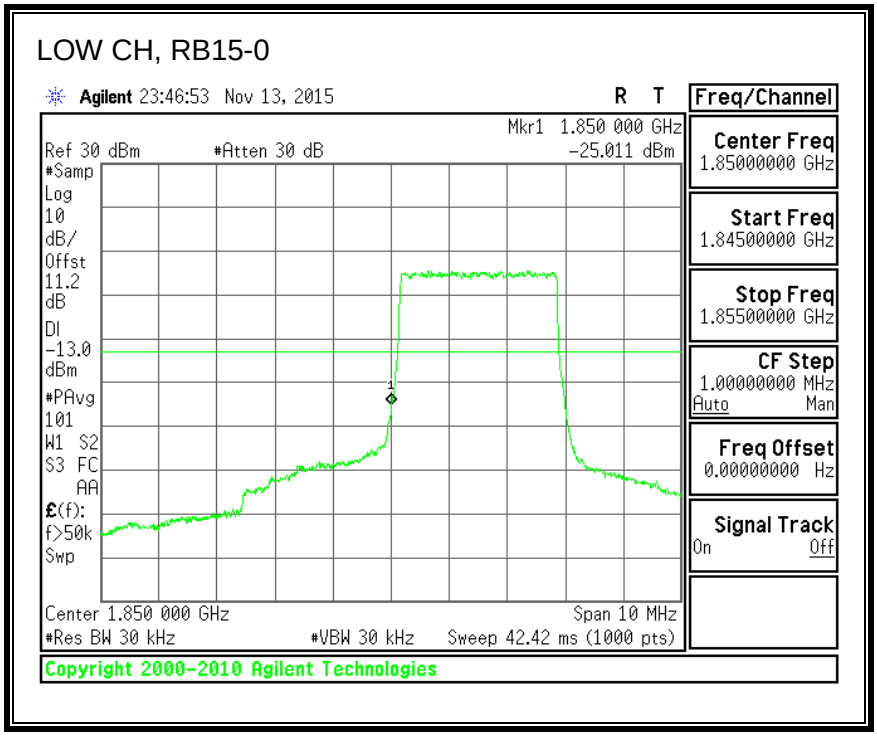


HIGH CH, RB8-4

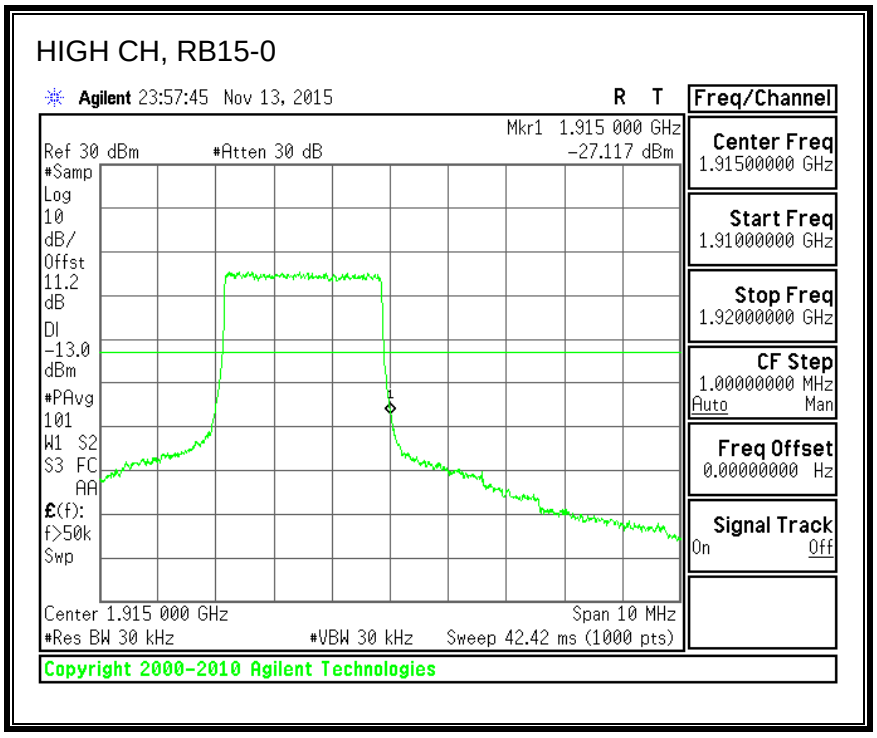


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB15-0



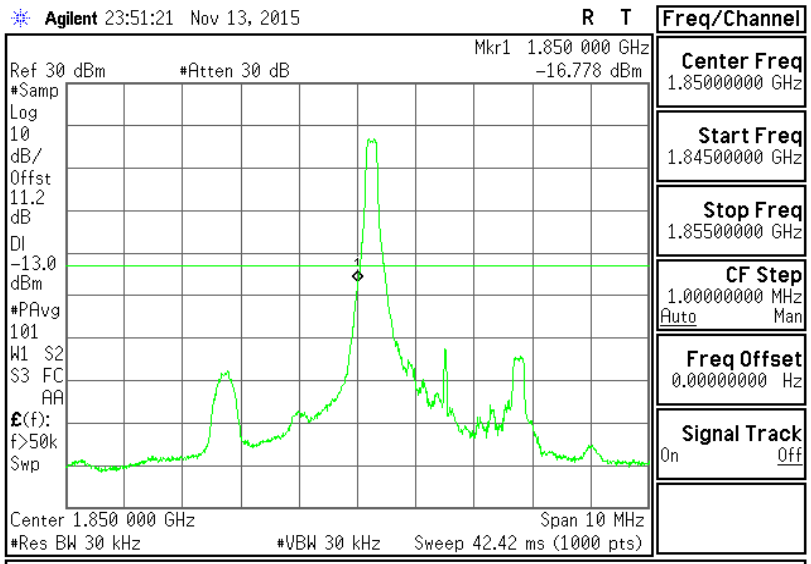
HIGH CH, RB15-0



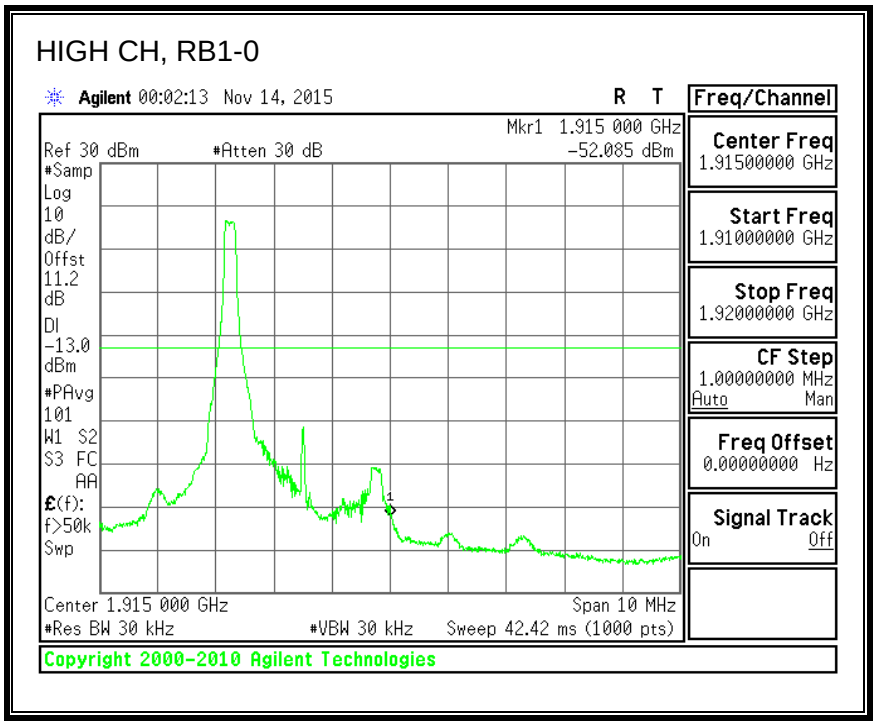
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

16QAM, (3.0 MHz BAND WIDTH)

LOW CH, RB1-0

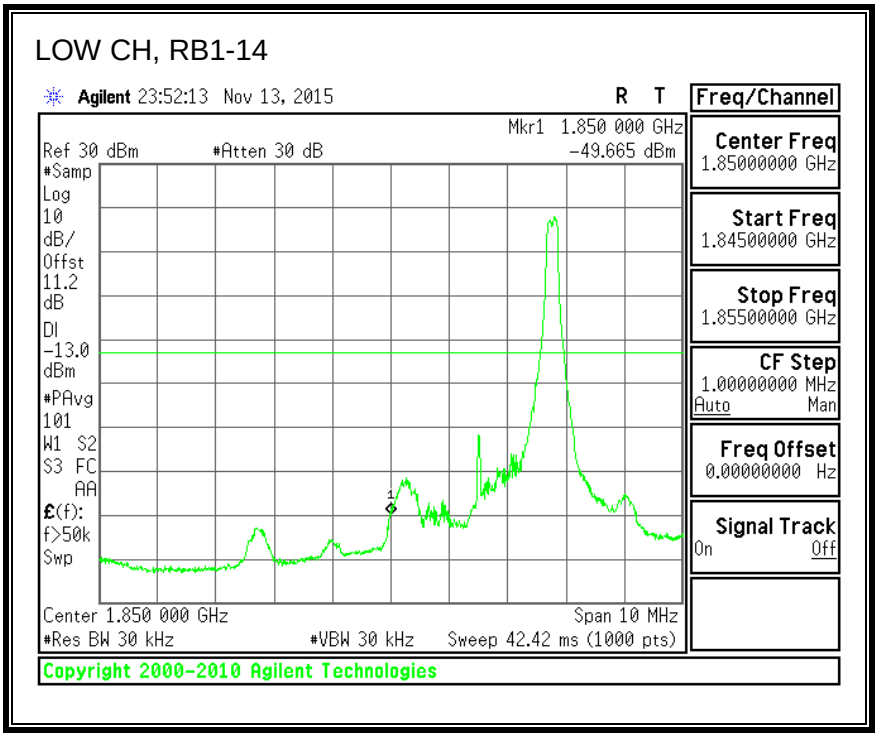


HIGH CH, RB1-0

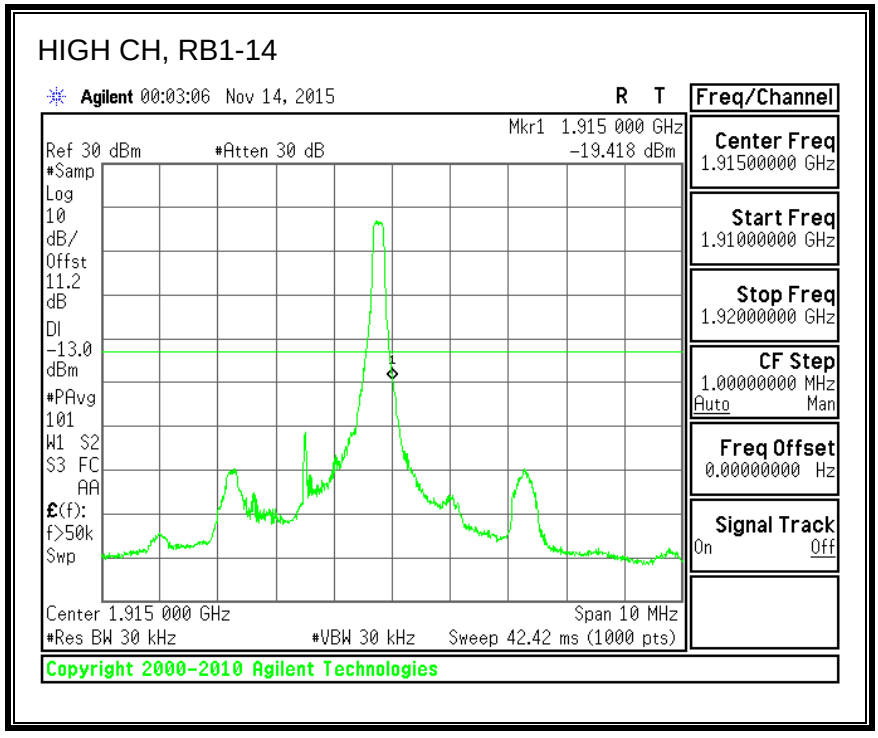


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB1-14

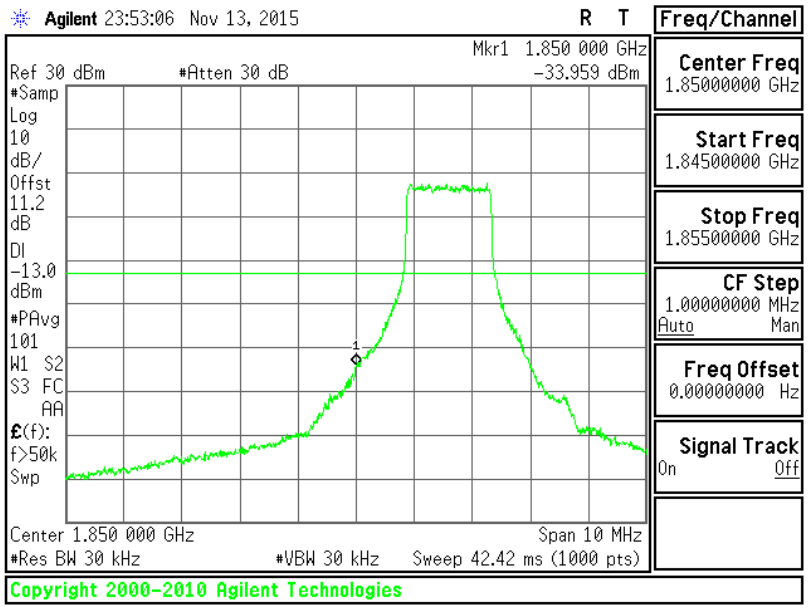


HIGH CH, RB1-14

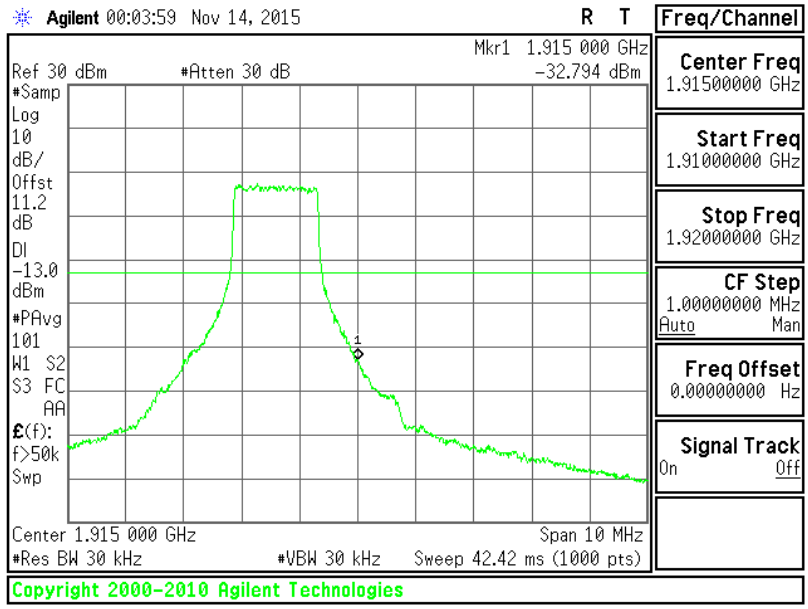


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB8-4

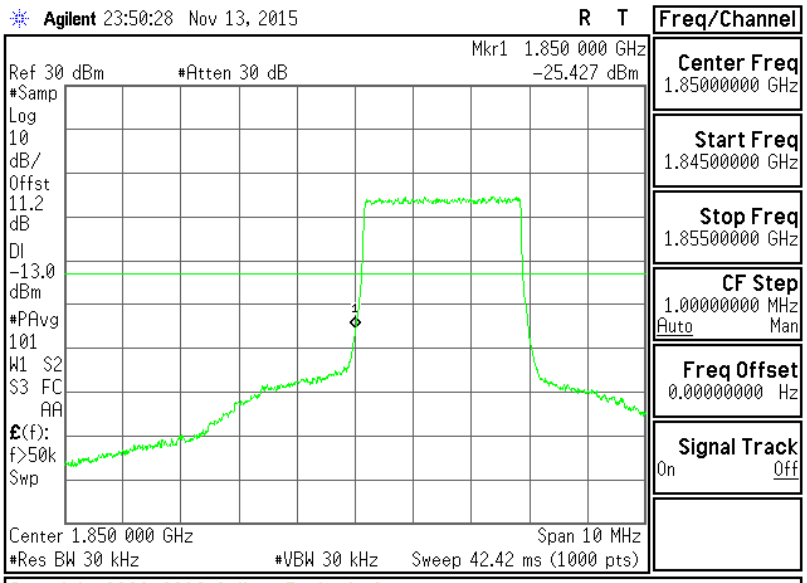


HIGH CH, RB8-4

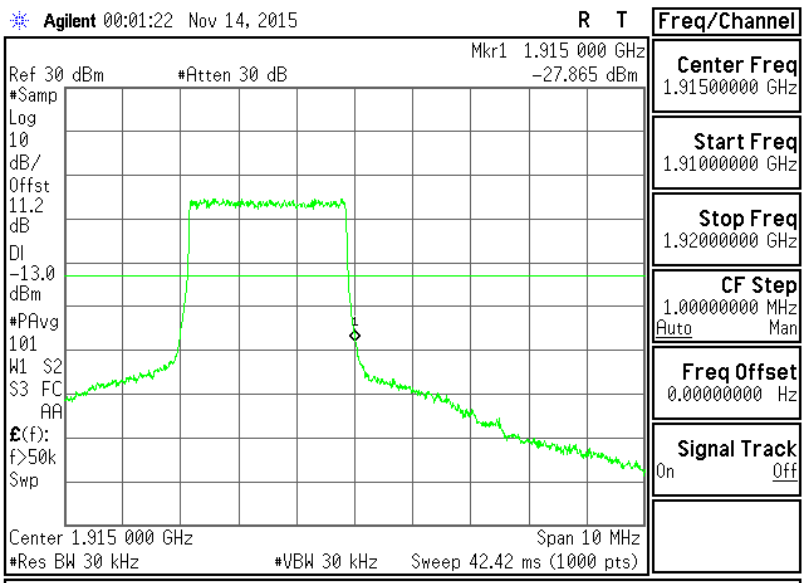


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB15-0



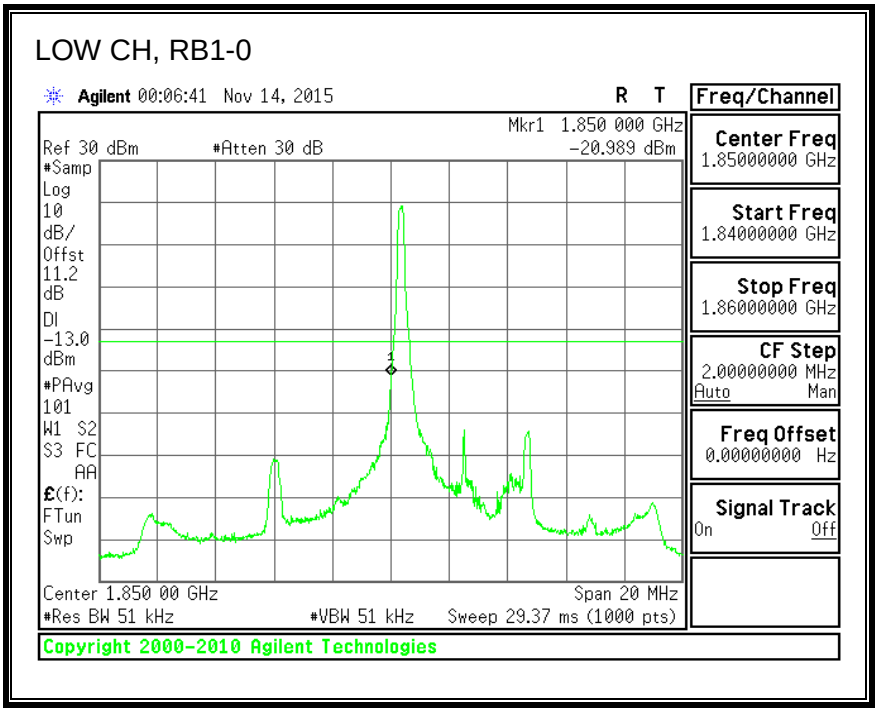
HIGH CH, RB15-0



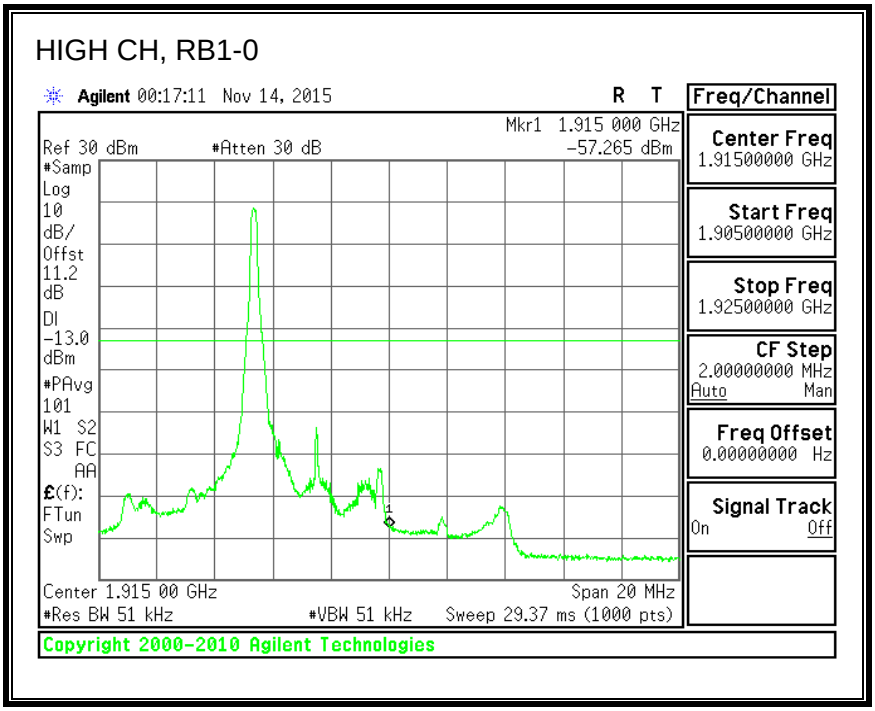
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

QPSK, (5.0 MHz BAND WIDTH)

LOW CH, RB1-0

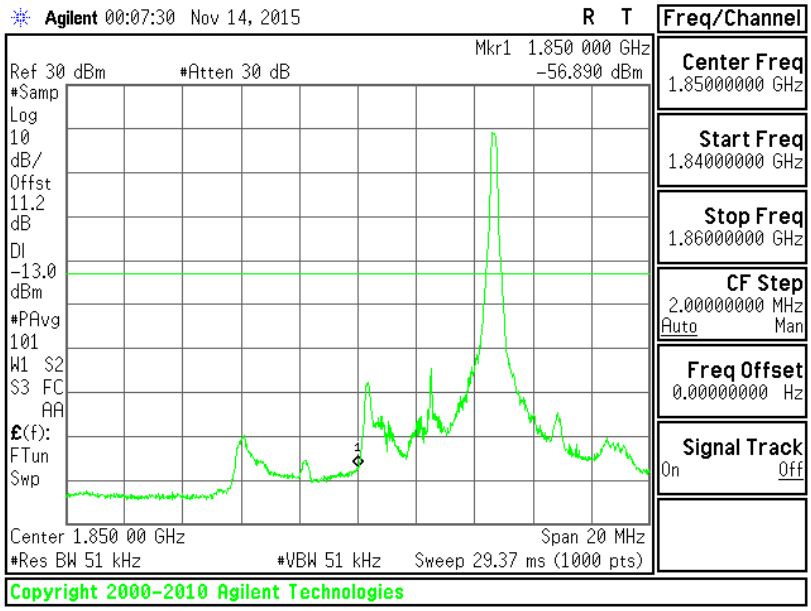


HIGH CH, RB1-0

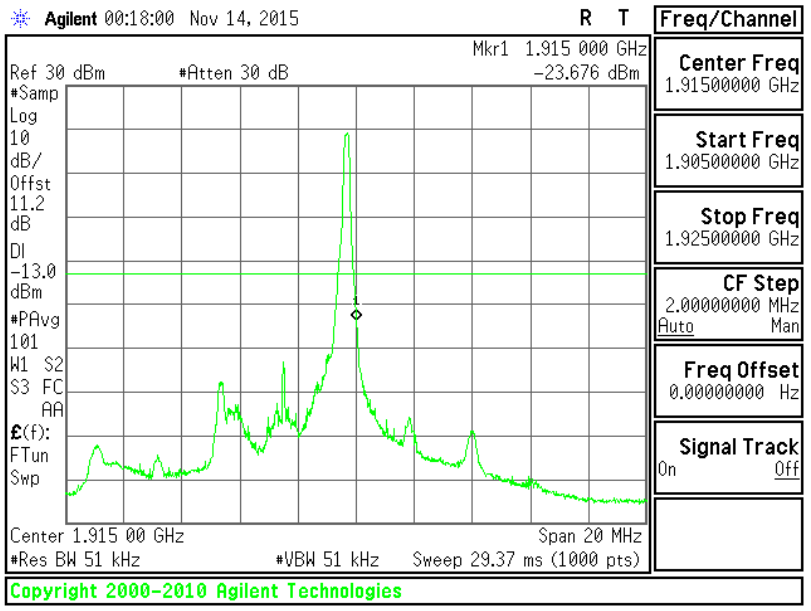


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB1-24

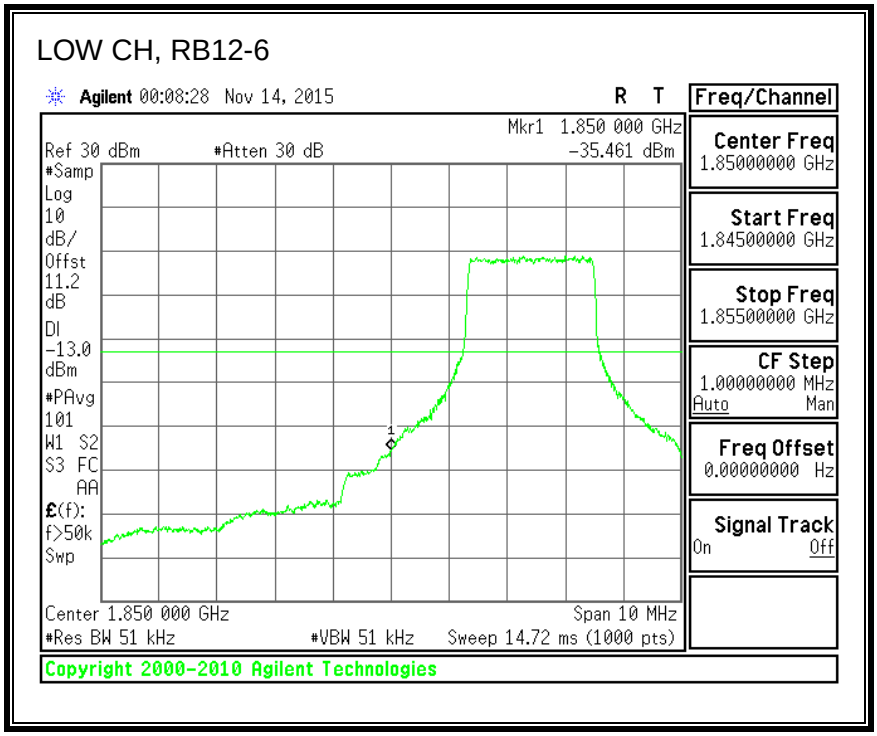


HIGH CH, RB1-24

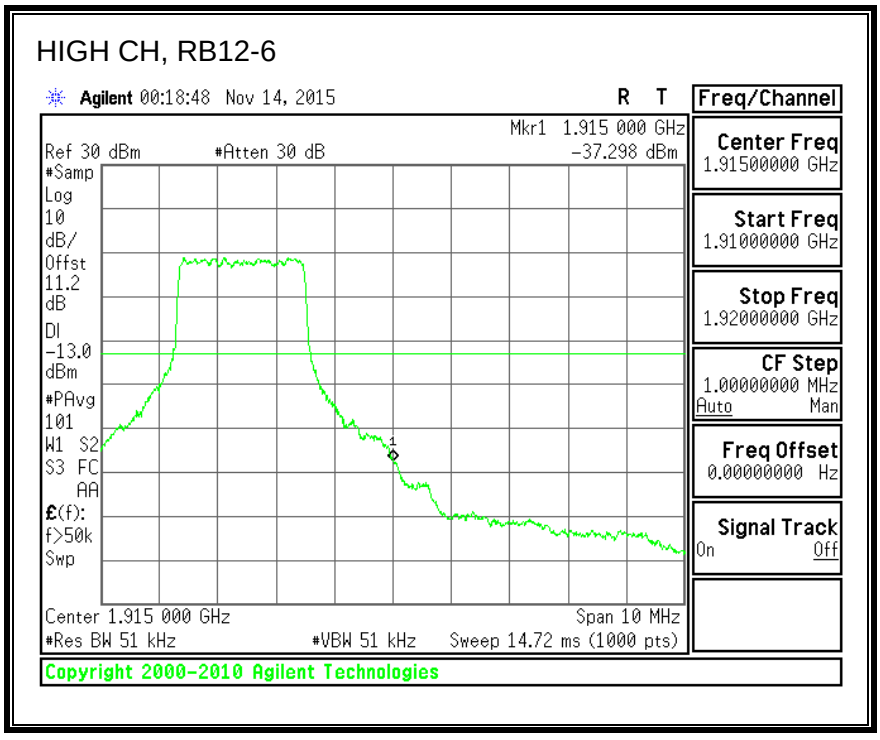


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB12-6

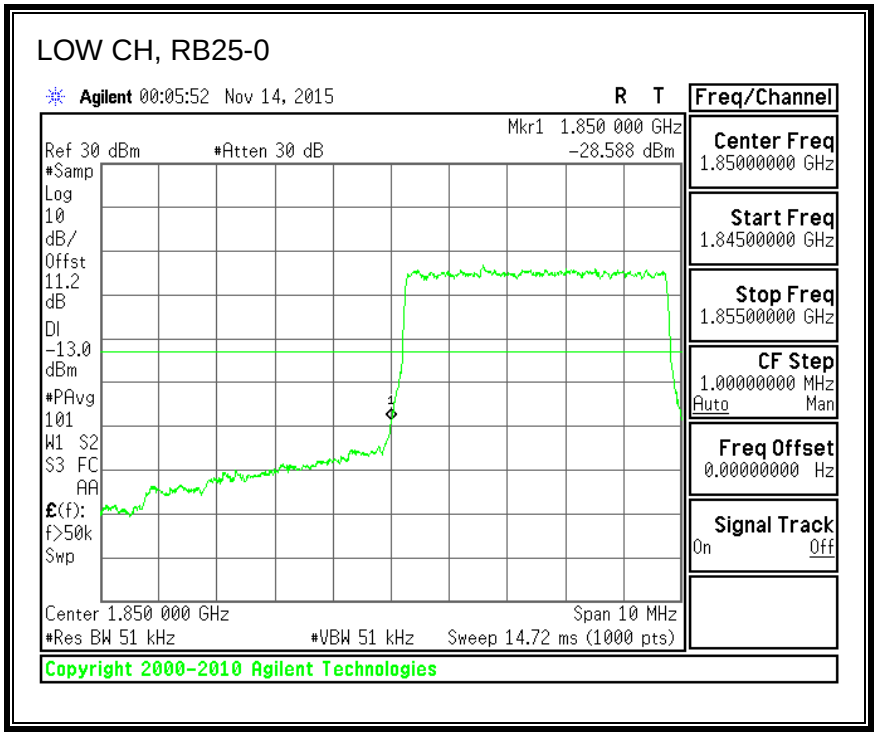


HIGH CH, RB12-6

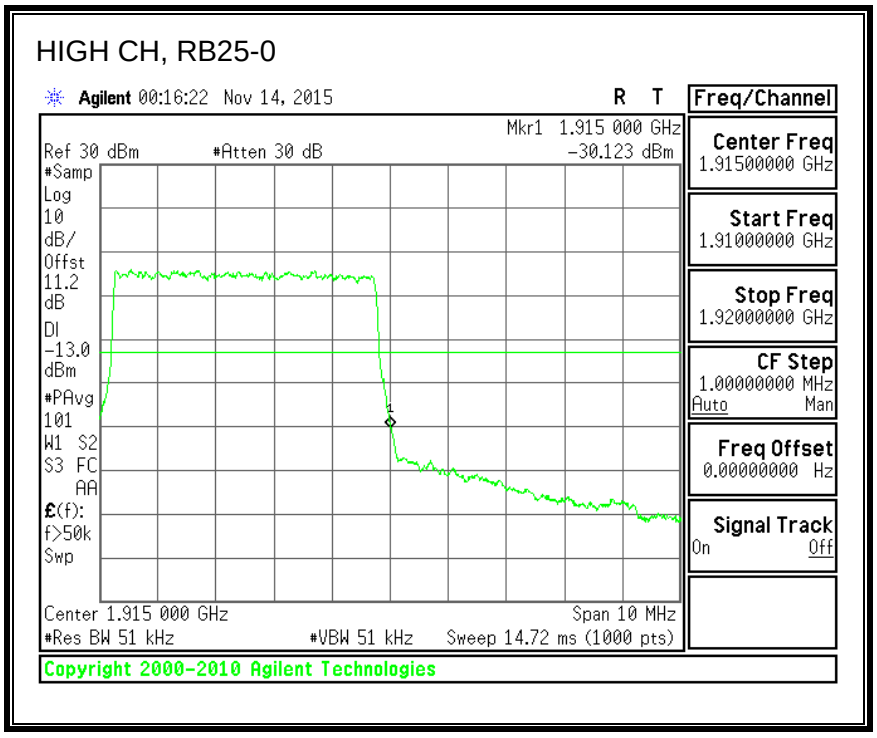


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB25-0



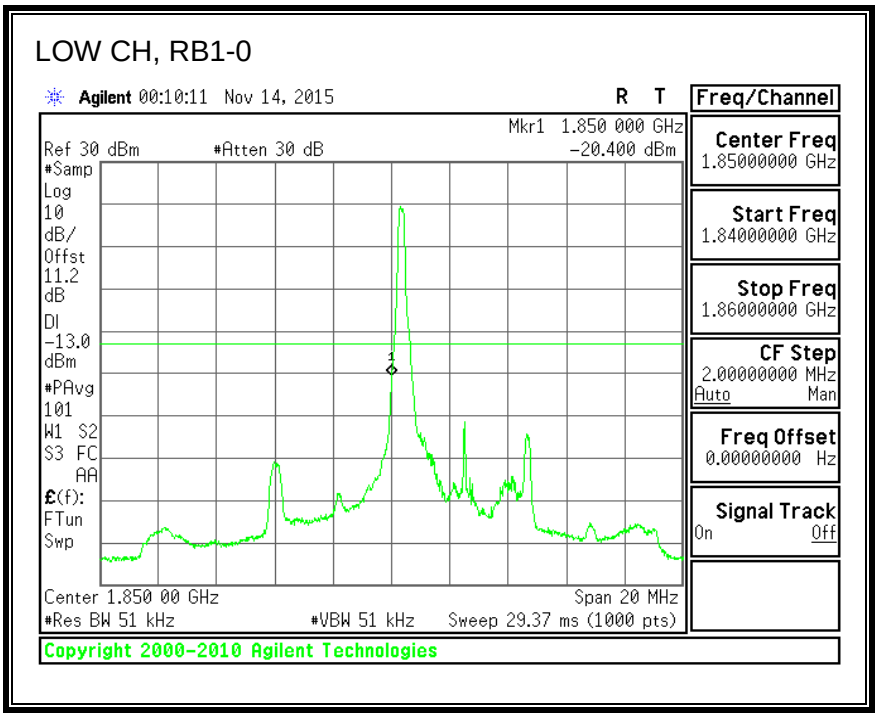
HIGH CH, RB25-0



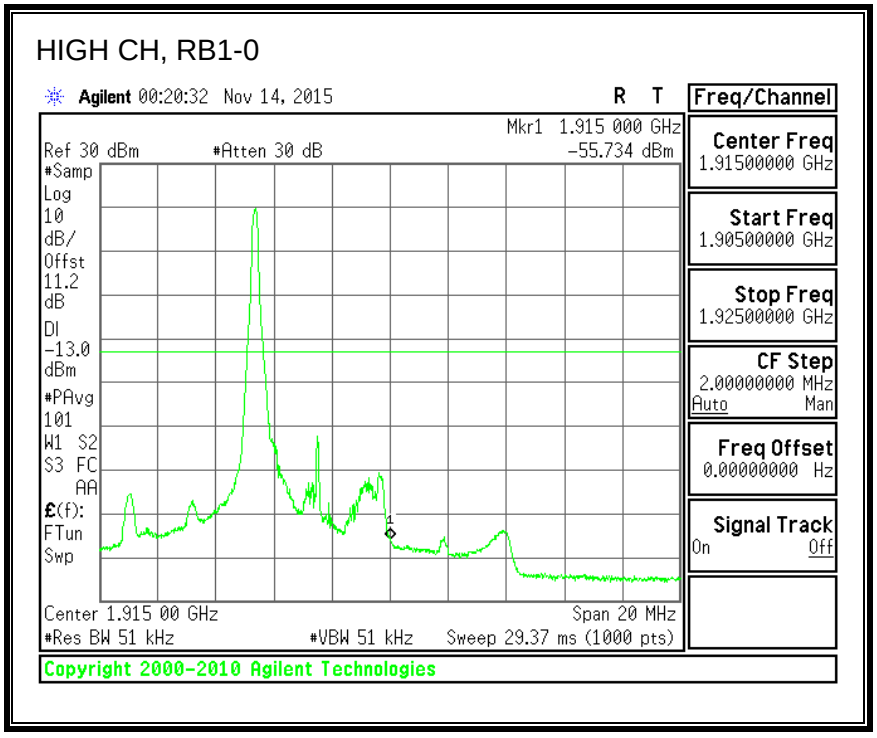
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

16QAM, (5.0 MHz BAND WIDTH)

LOW CH, RB1-0

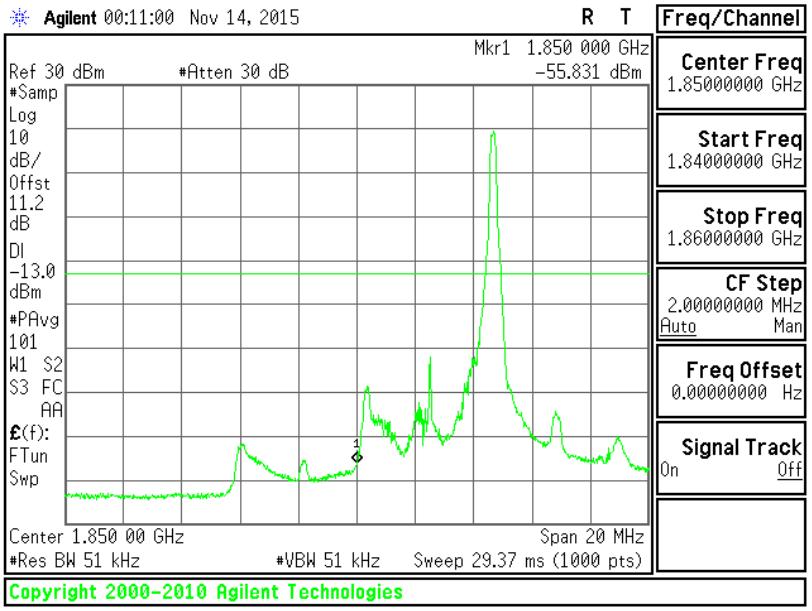


HIGH CH, RB1-0

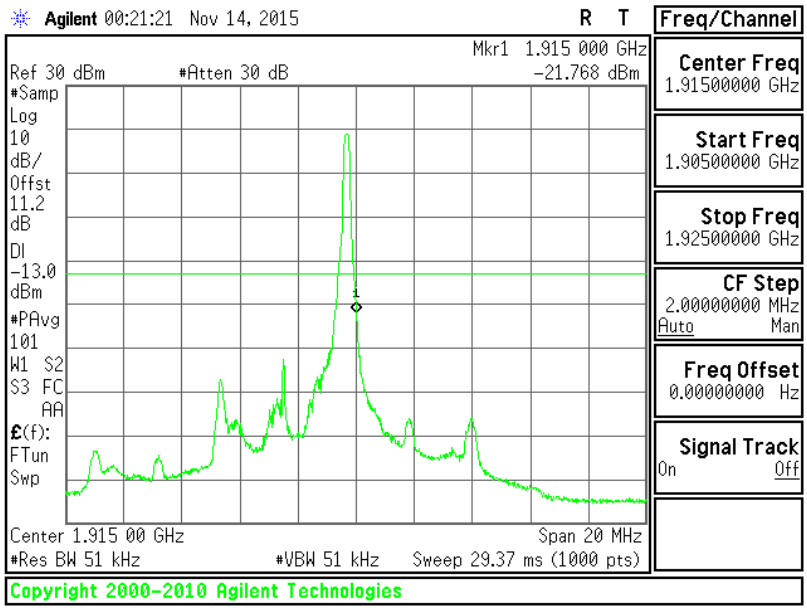


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB1-24

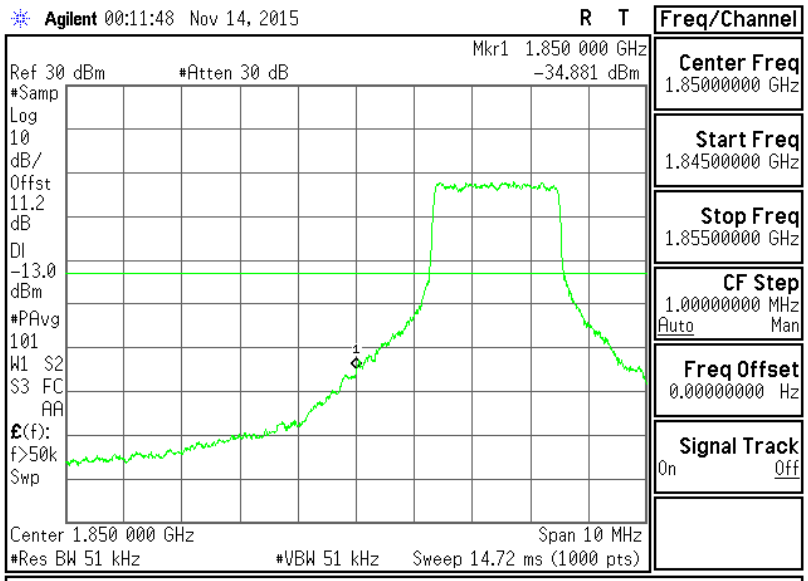


HIGH CH, RB1-24

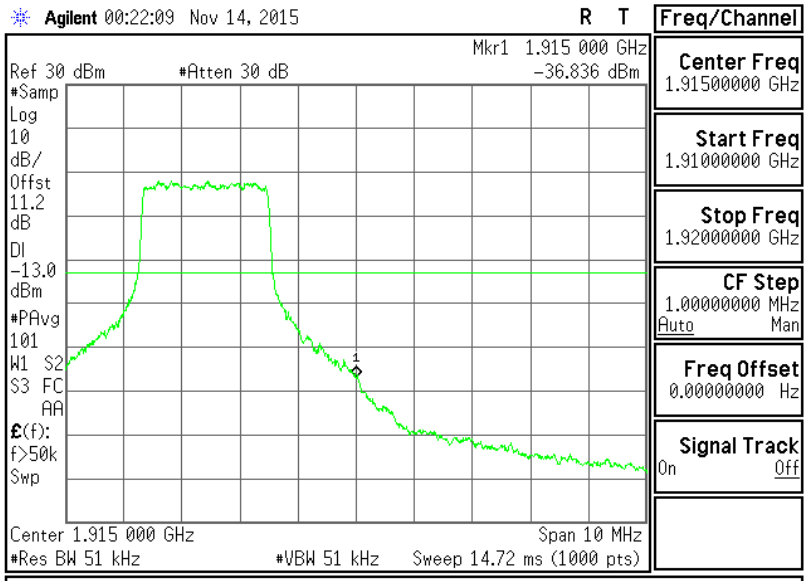


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB12-6

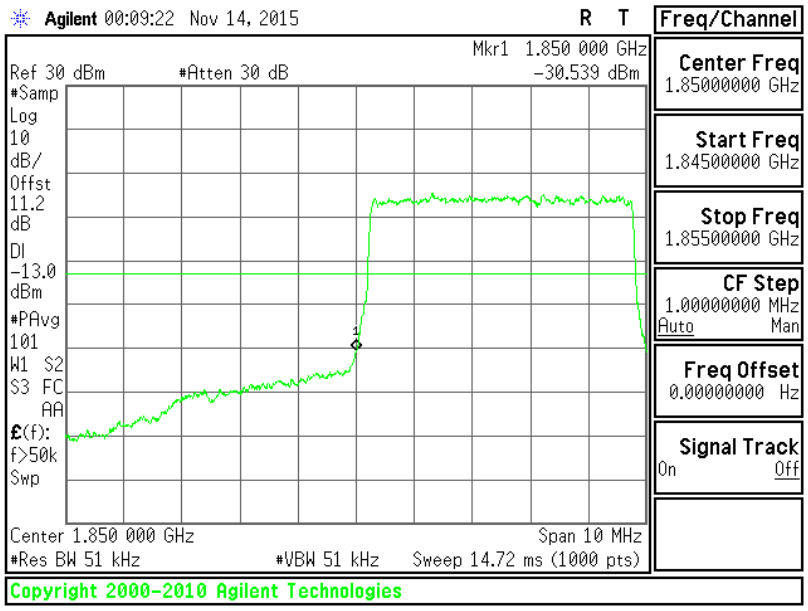


HIGH CH, RB12-6

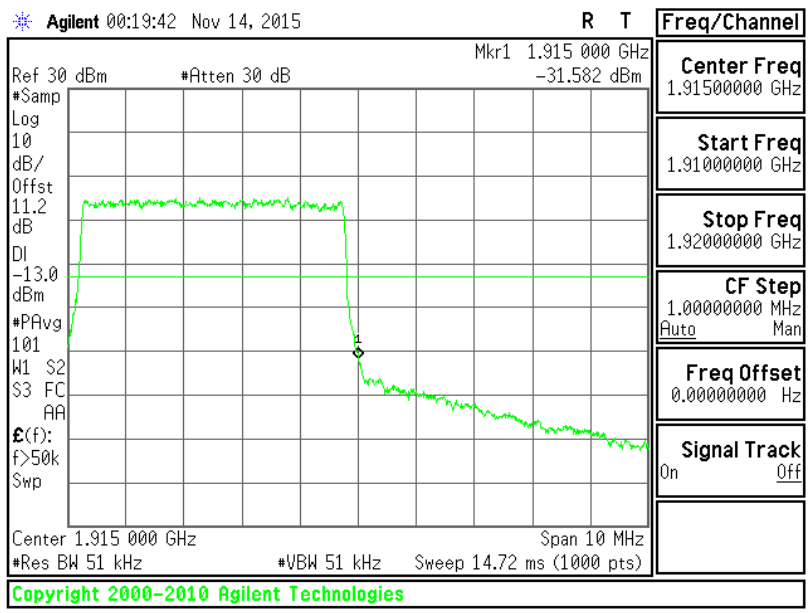


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB25-0



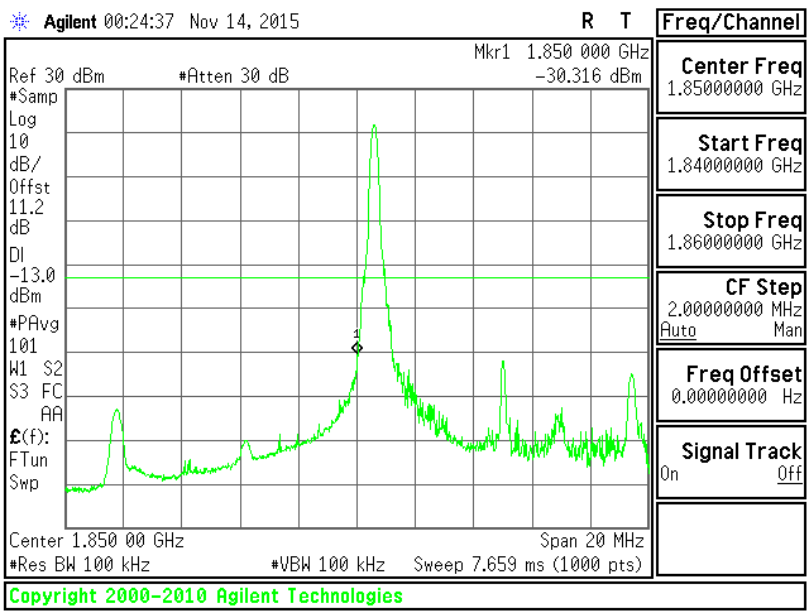
HIGH CH, RB25-0



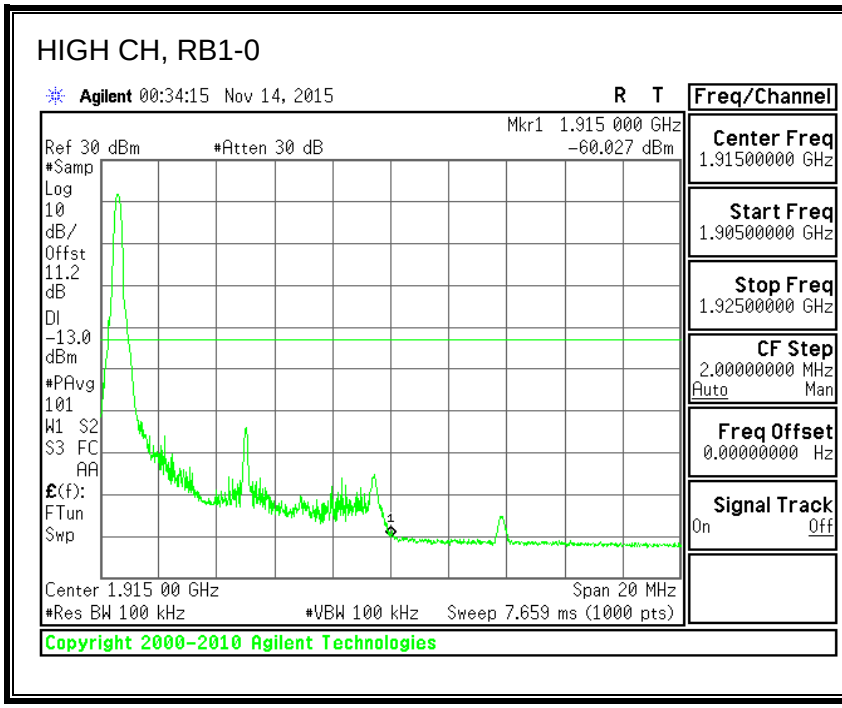
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

QPSK, (10.0 MHz BAND WIDTH)

LOW CH, RB1-0

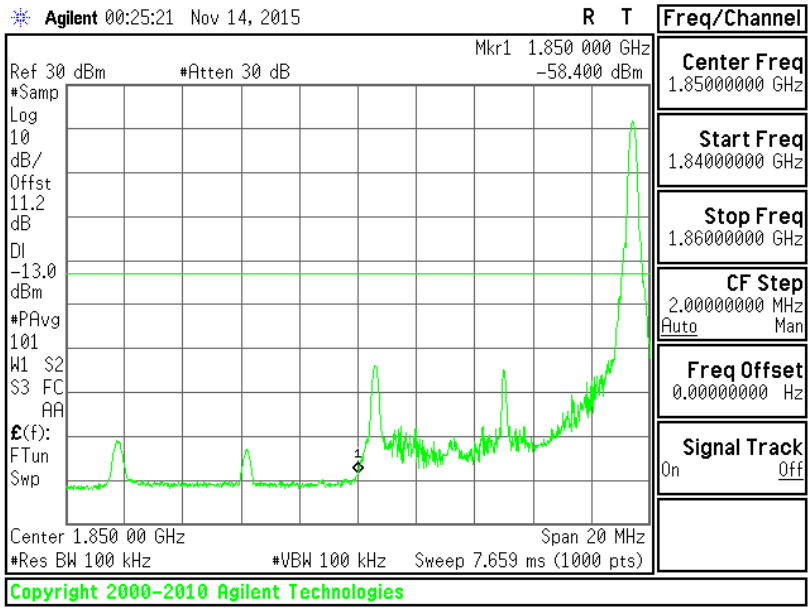


HIGH CH, RB1-0

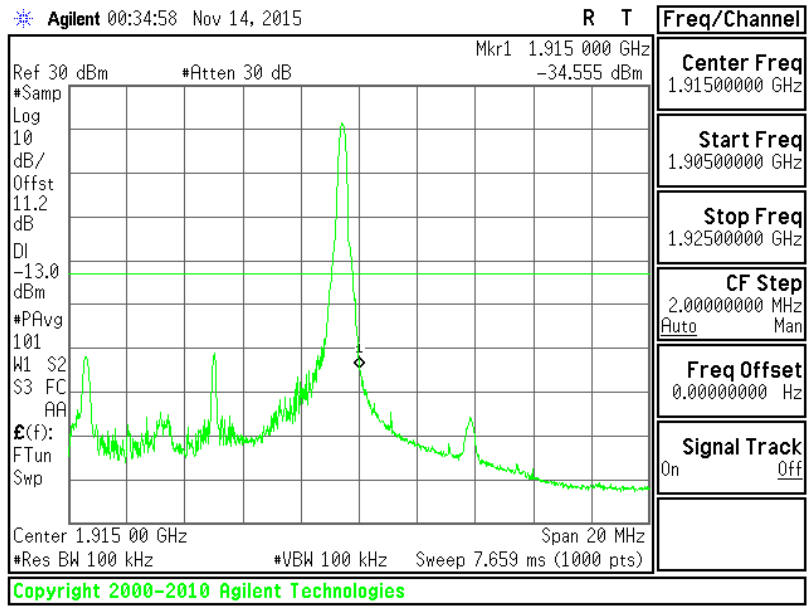


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB1-49

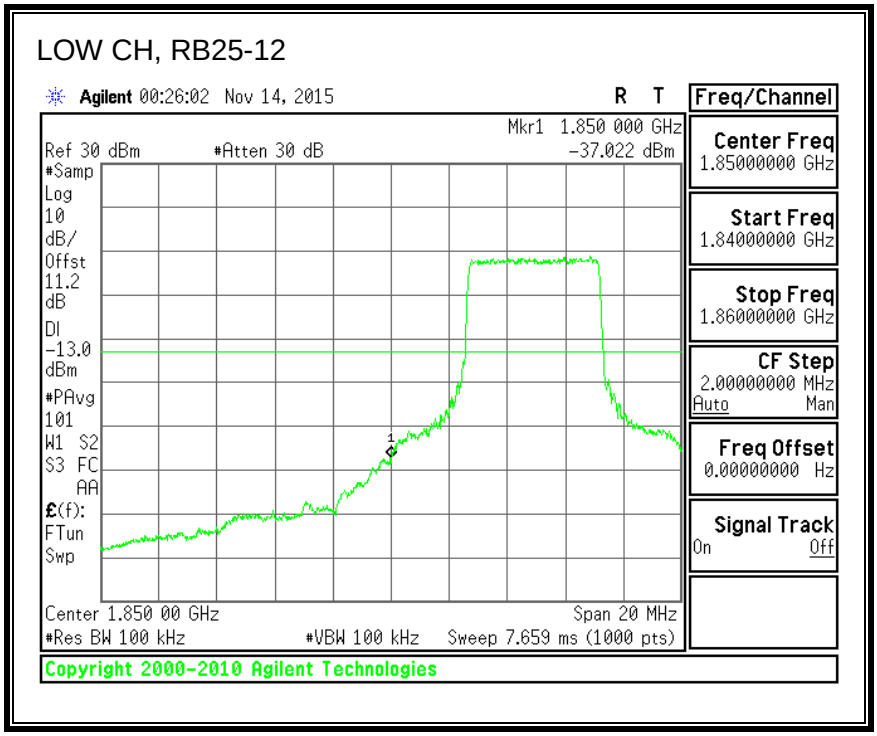


HIGH CH, RB1-49

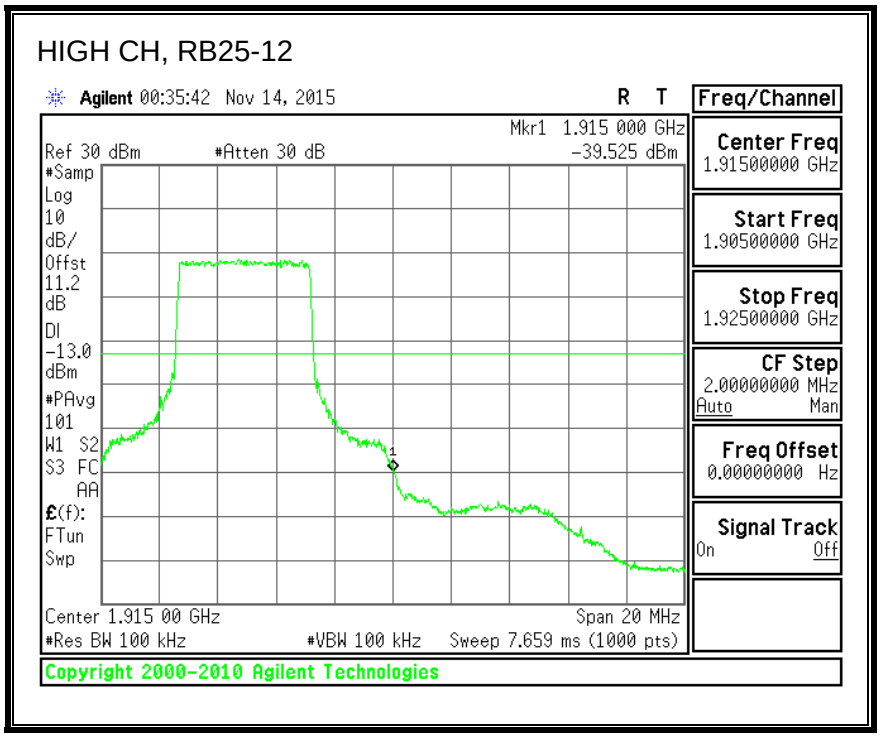


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB25-12

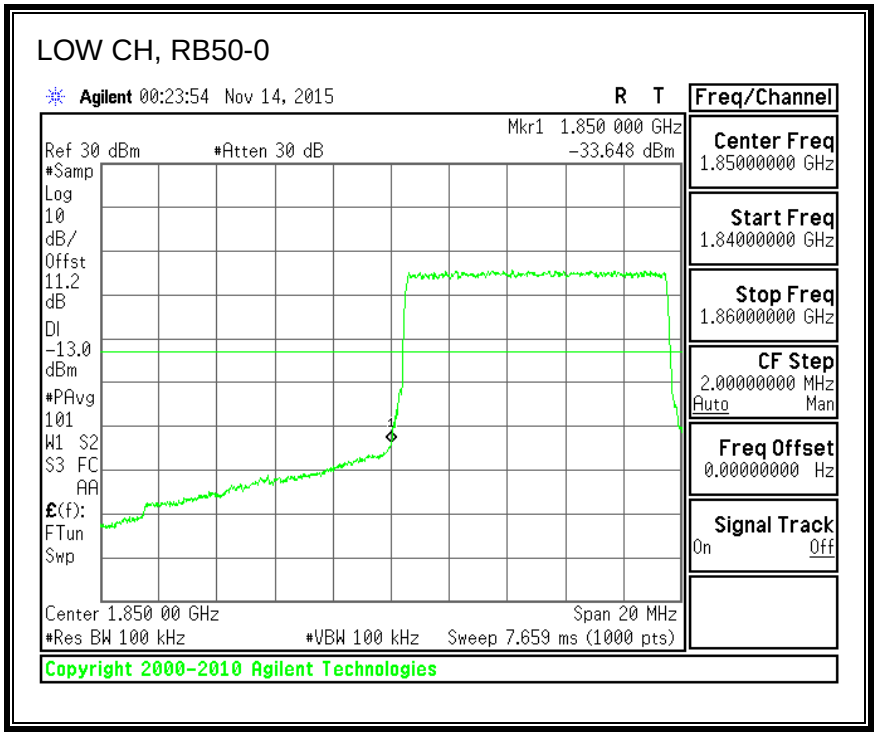


HIGH CH, RB25-12

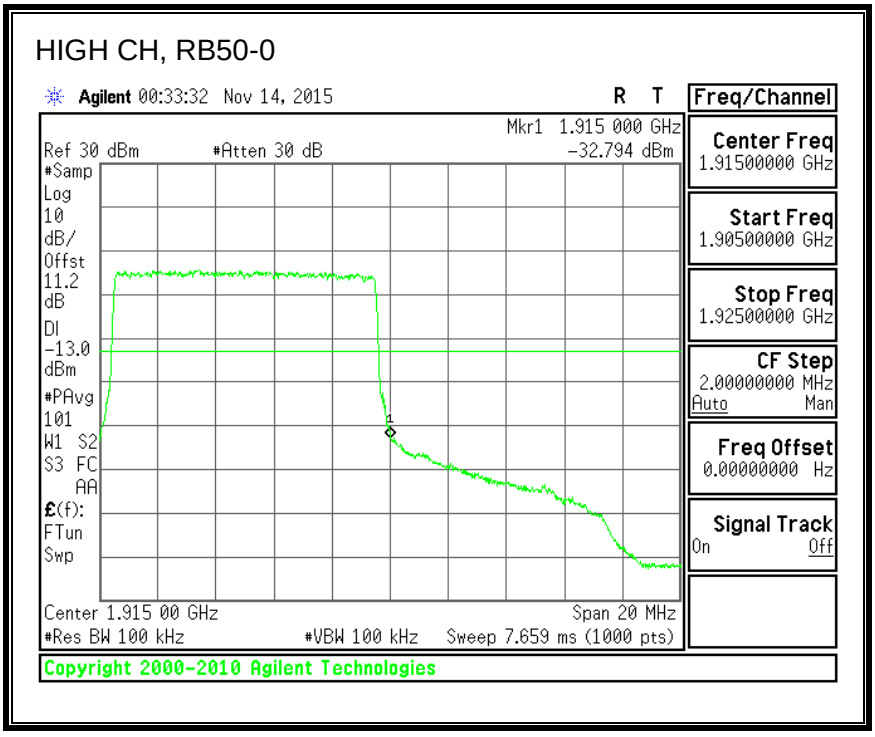


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB50-0



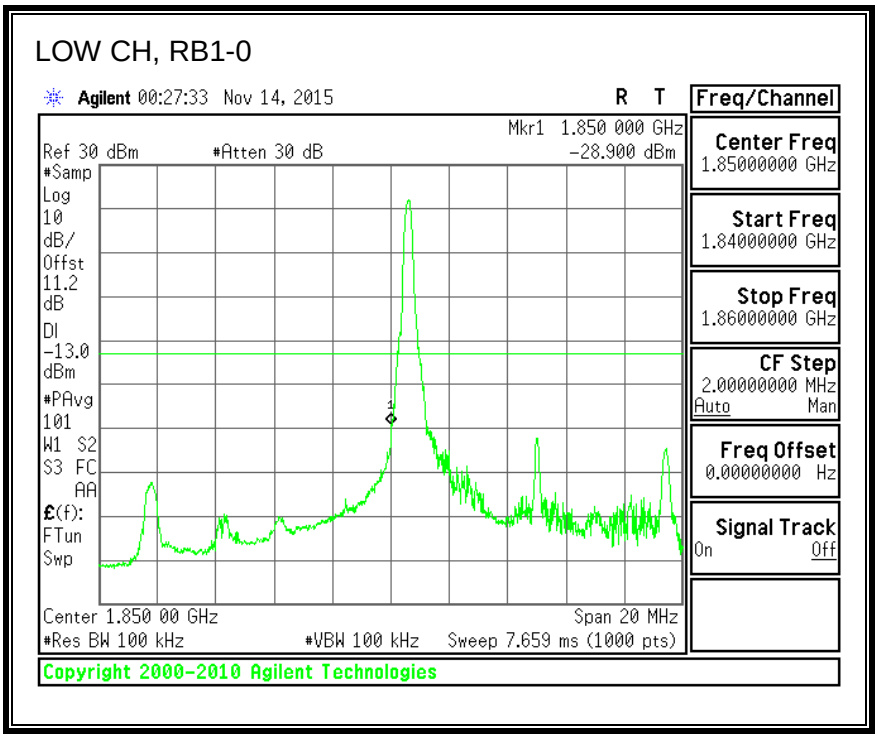
HIGH CH, RB50-0



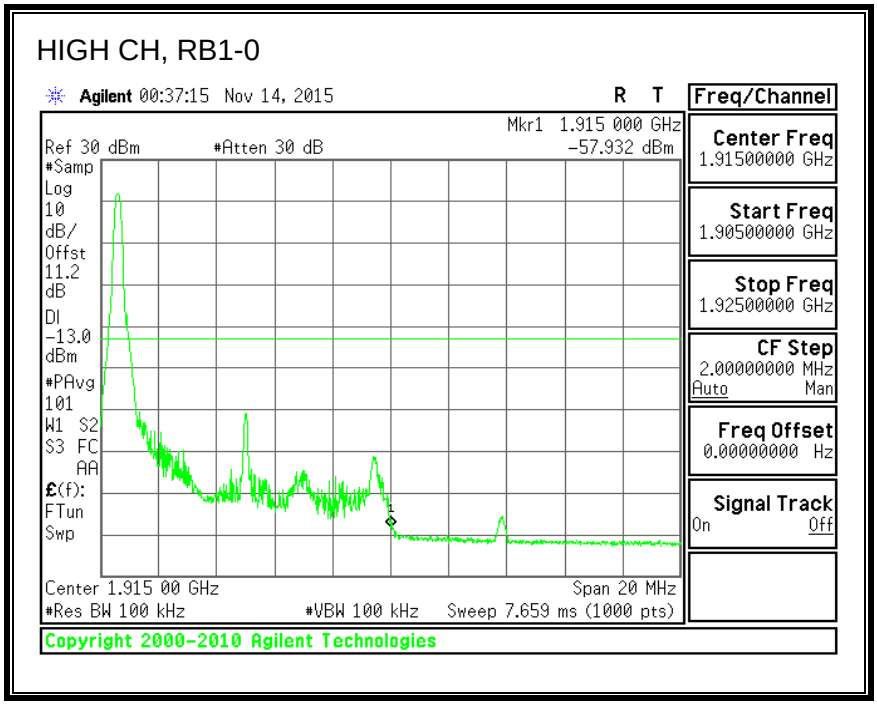
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

16QAM, (10.0 MHz BAND WIDTH)

LOW CH, RB1-0

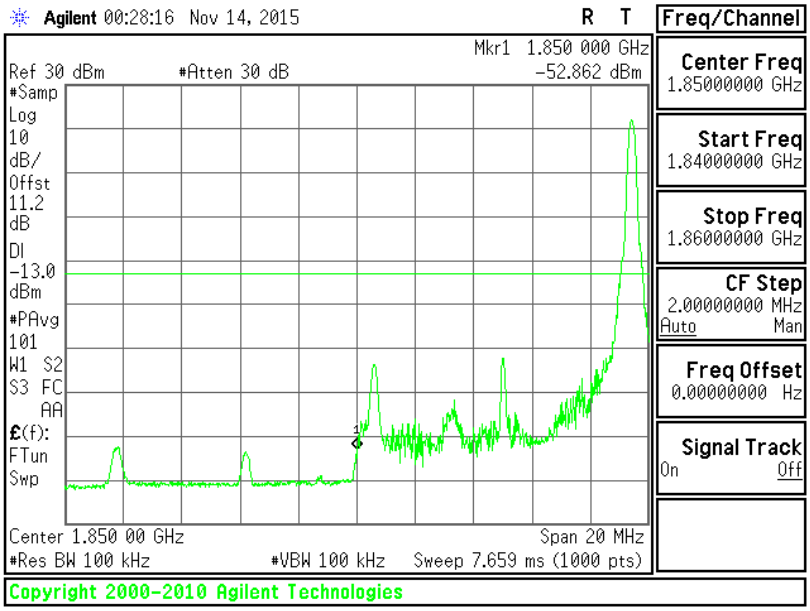


HIGH CH, RB1-0

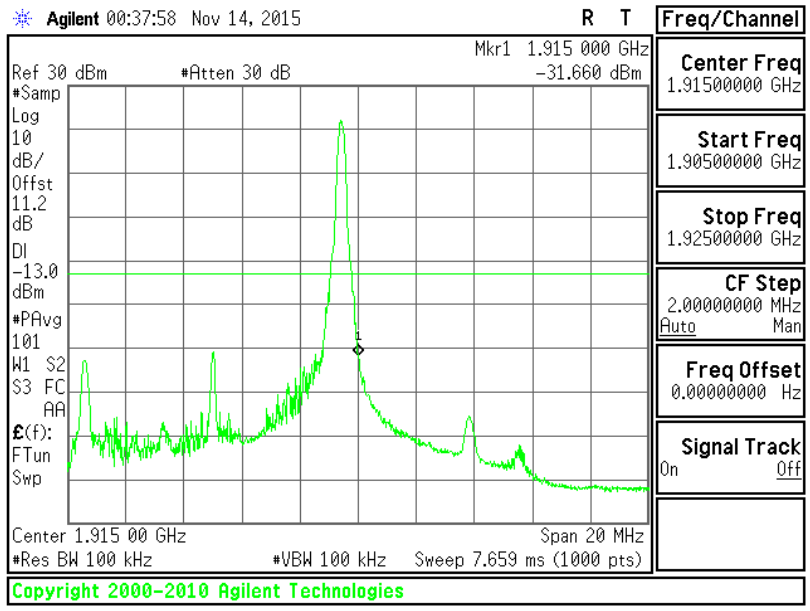


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB1-49

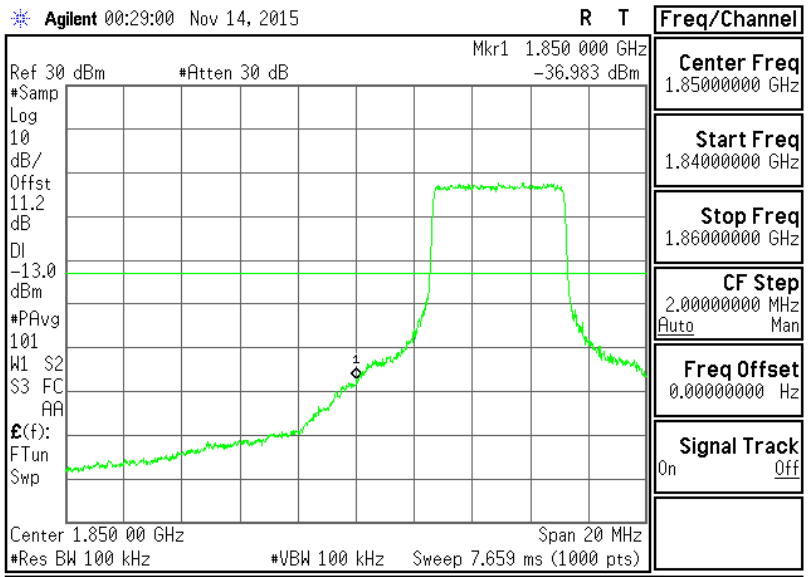


HIGH CH, RB1-49

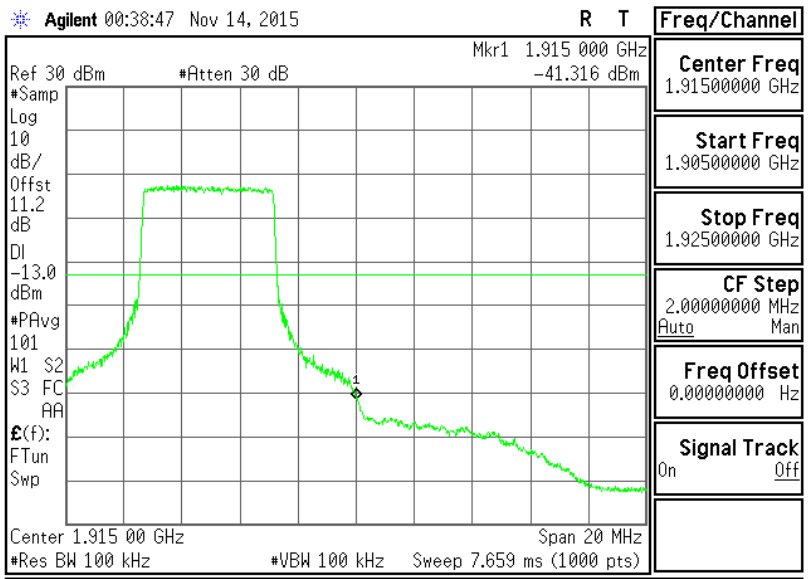


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB25-12

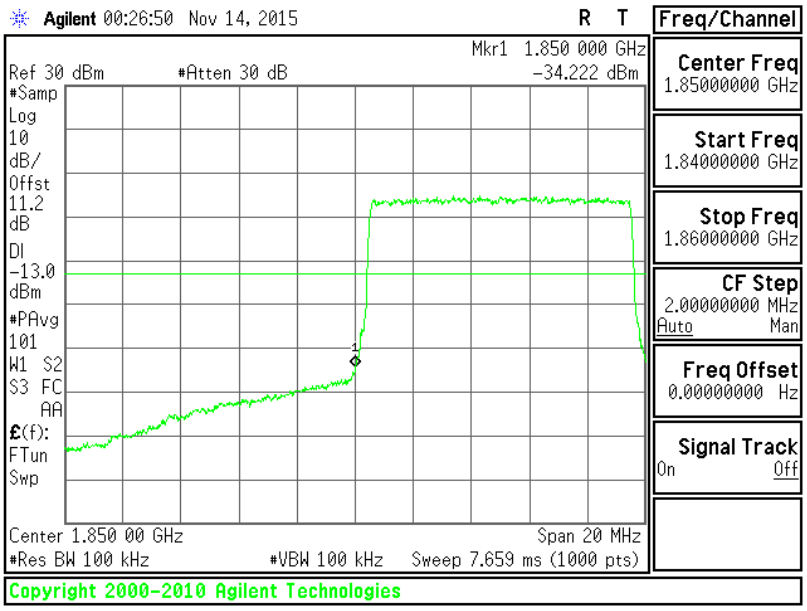


HIGH CH, RB25-12

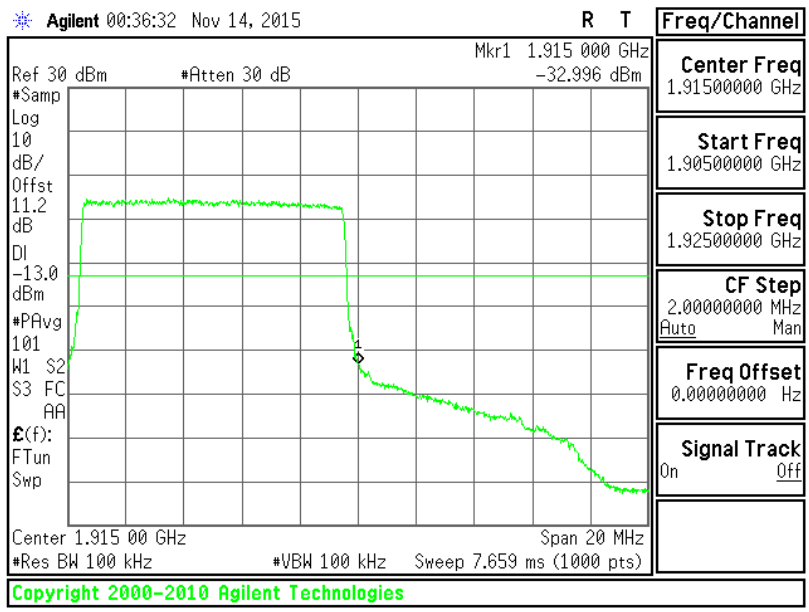


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB50-0



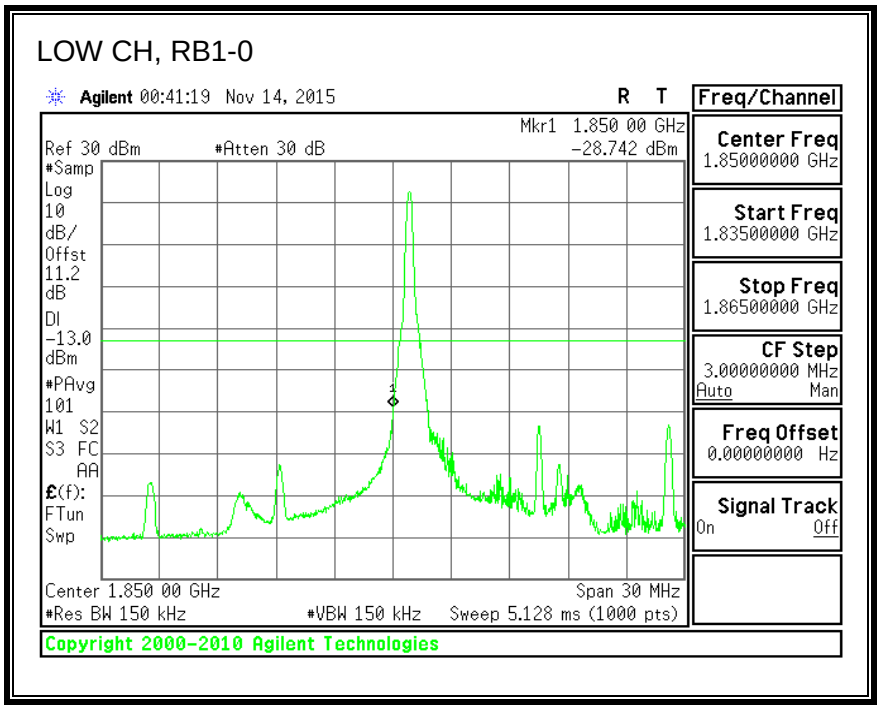
HIGH CH, RB50-0



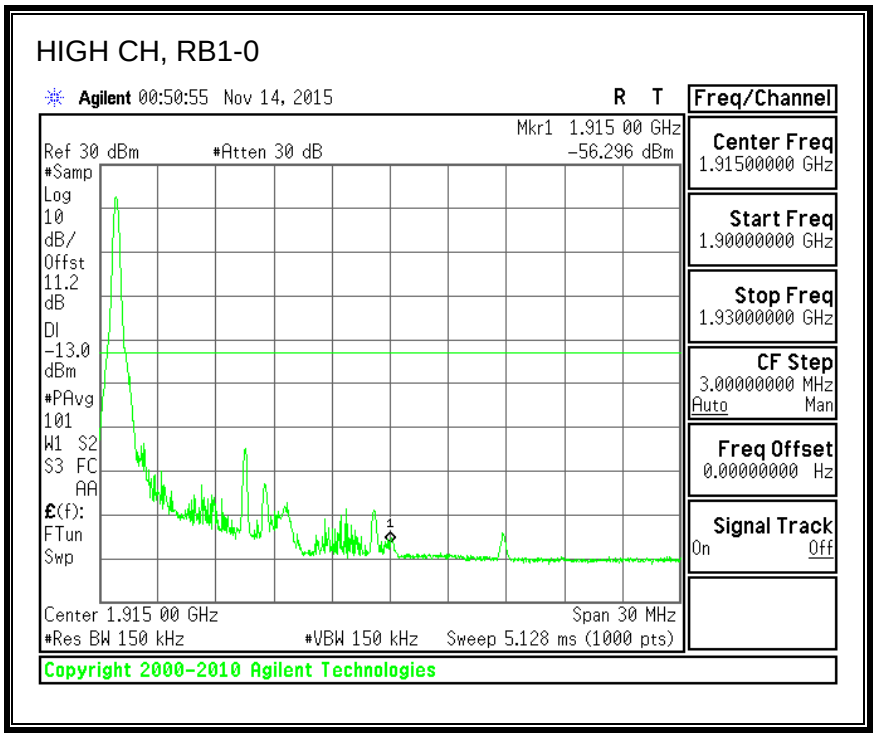
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

QPSK, (15.0 MHz BAND WIDTH)

LOW CH, RB1-0

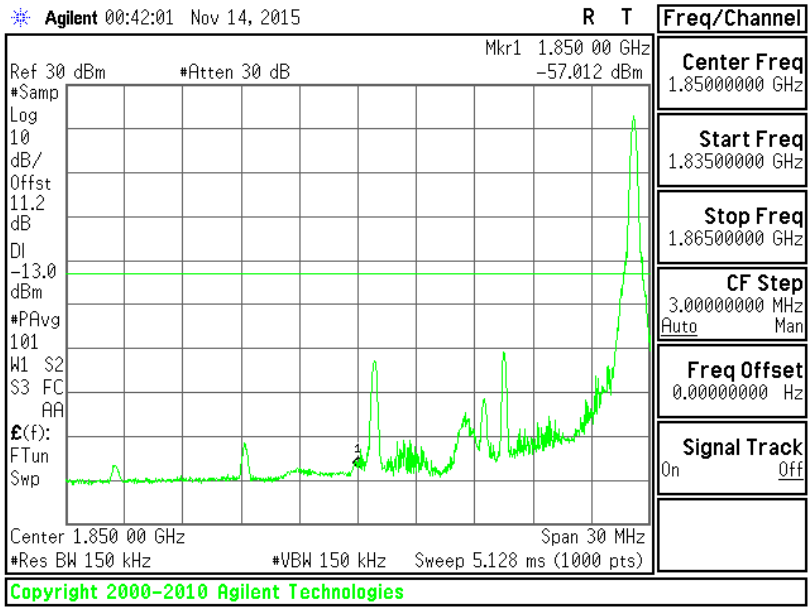


HIGH CH, RB1-0

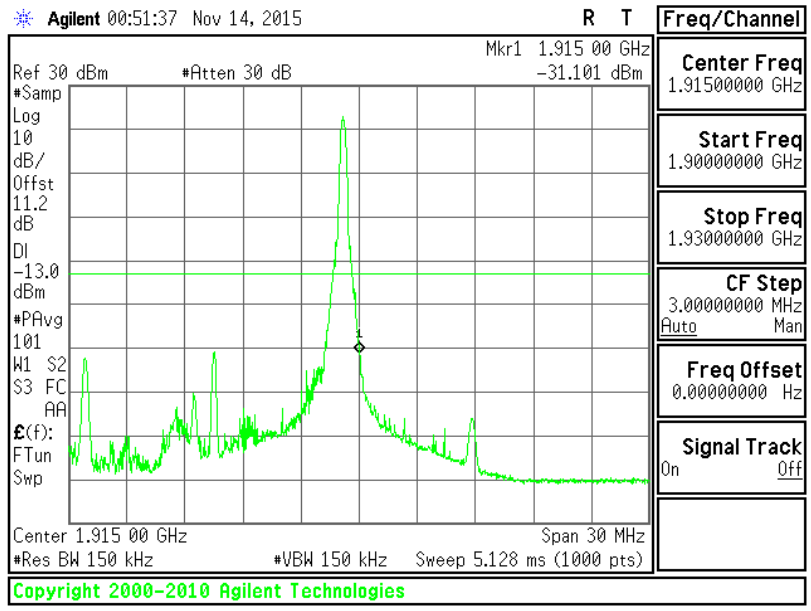


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB1-74

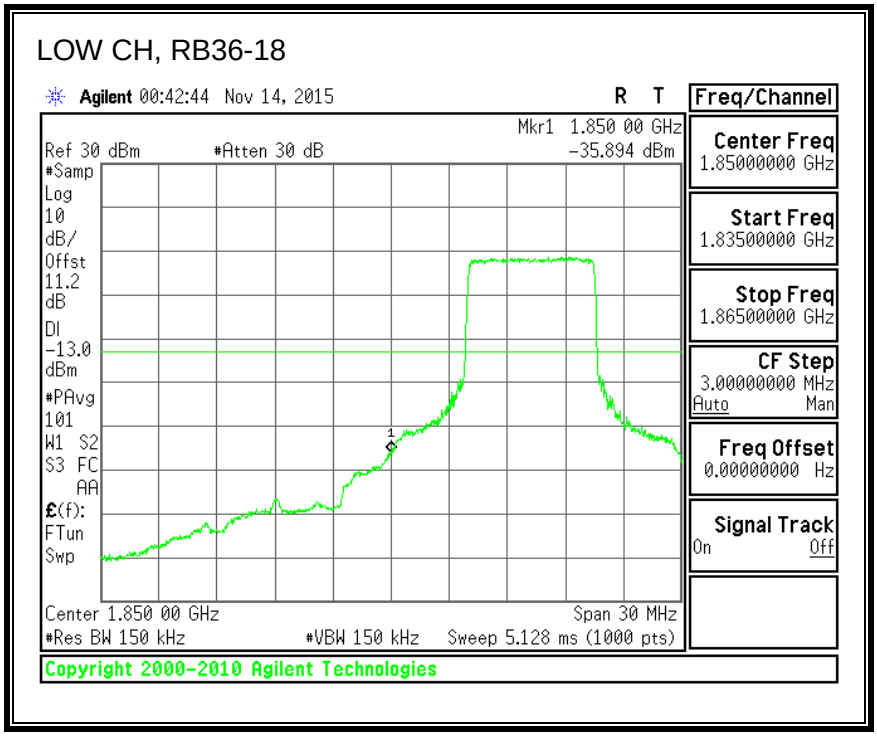


HIGH CH, RB1-74

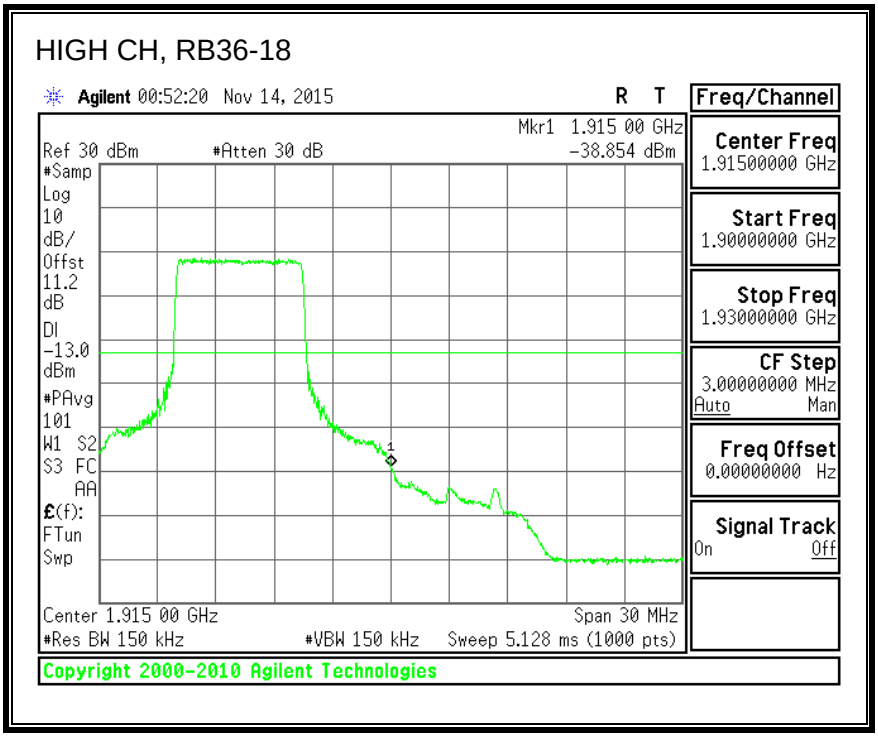


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB36-18

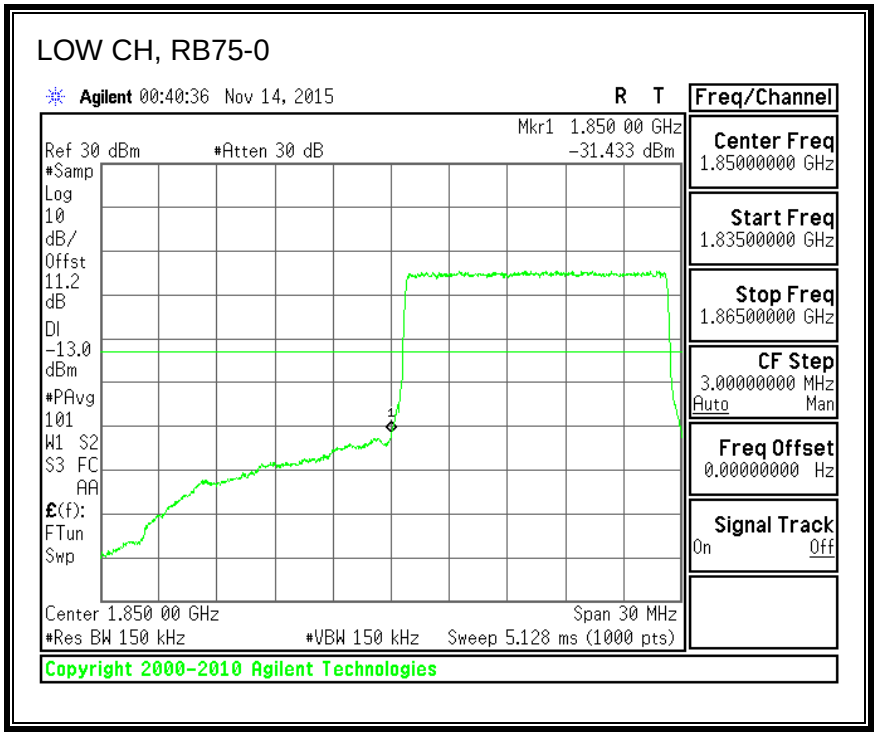


HIGH CH, RB36-18

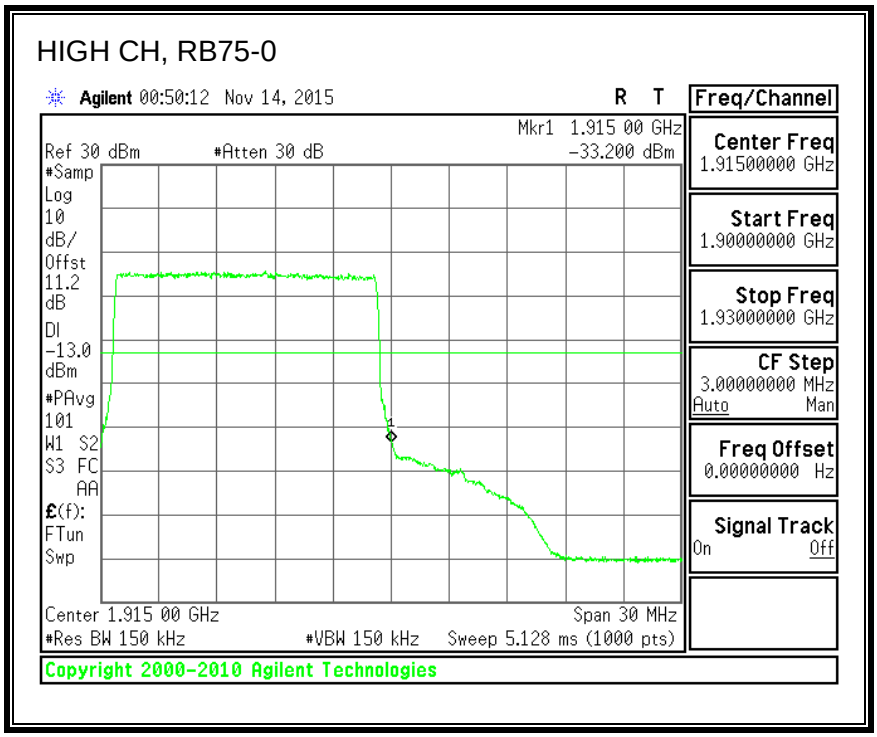


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB75-0



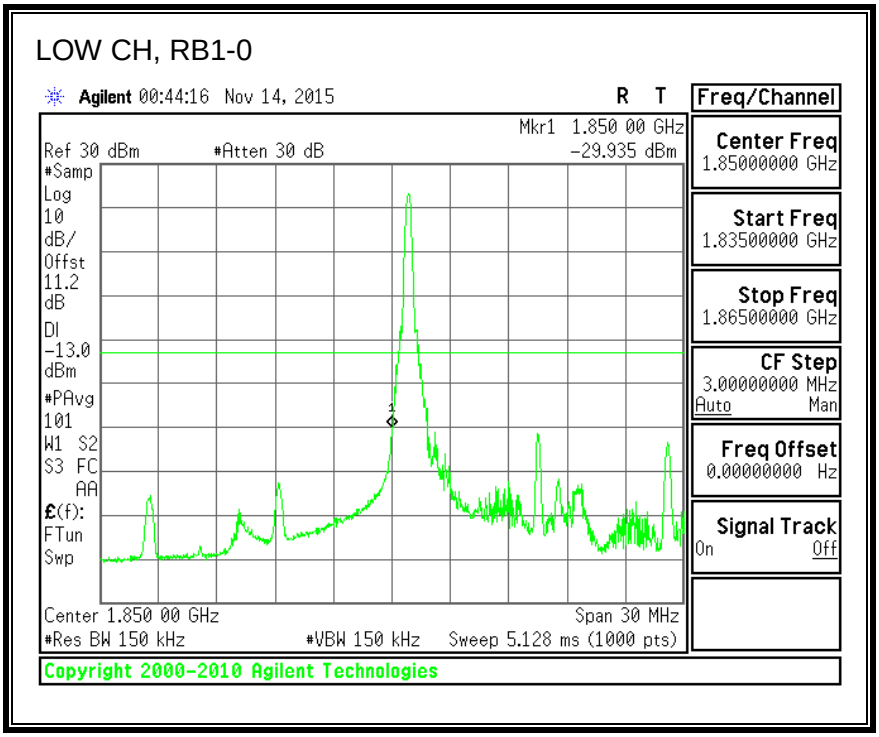
HIGH CH, RB75-0



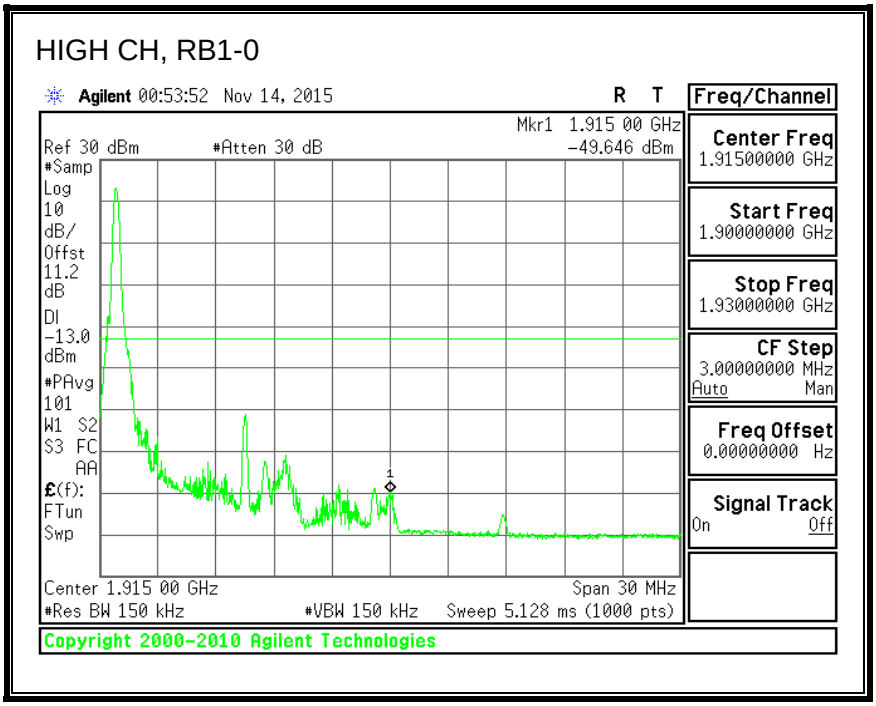
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

16QAM, (15.0 MHz BAND WIDTH)

LOW CH, RB1-0

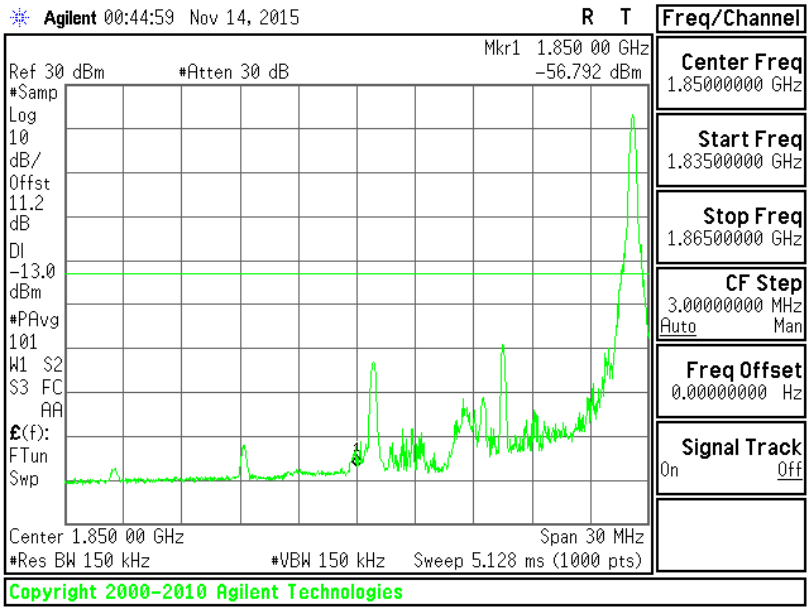


HIGH CH, RB1-0

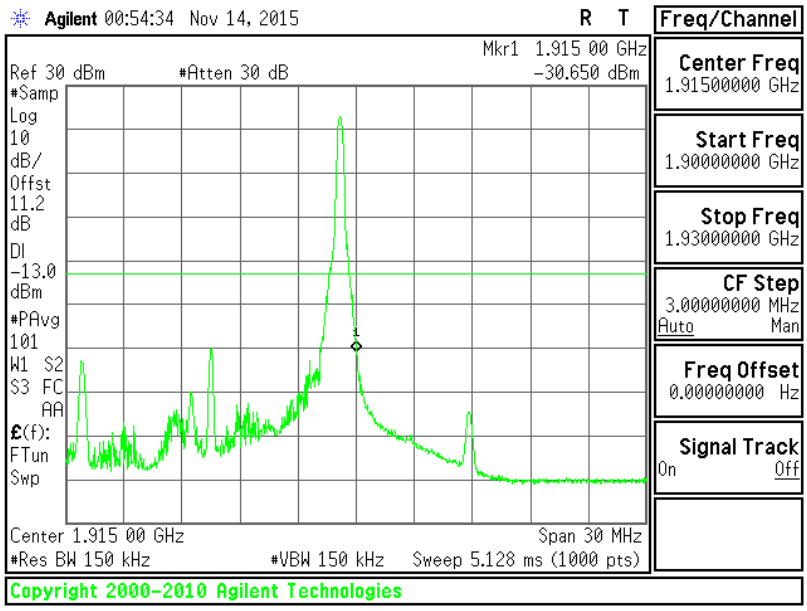


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB1-74

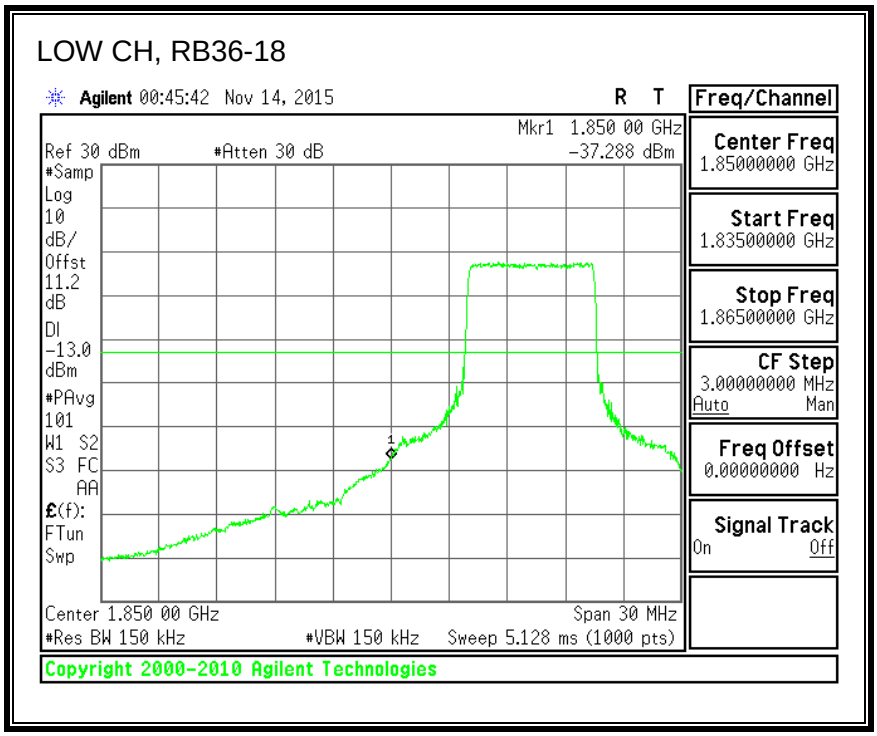


HIGH CH, RB1-74

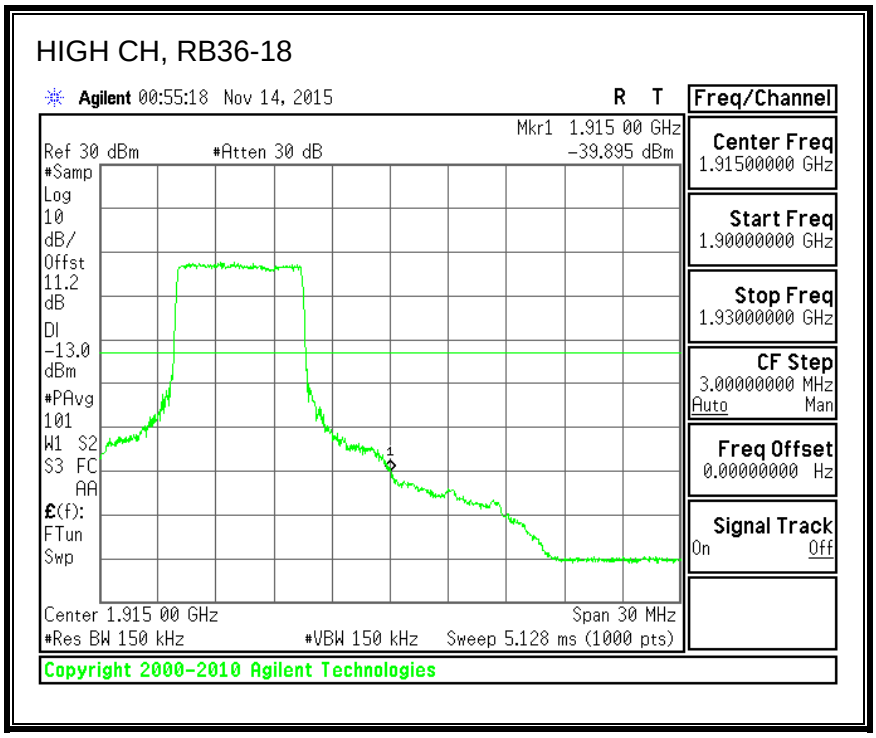


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB36-18

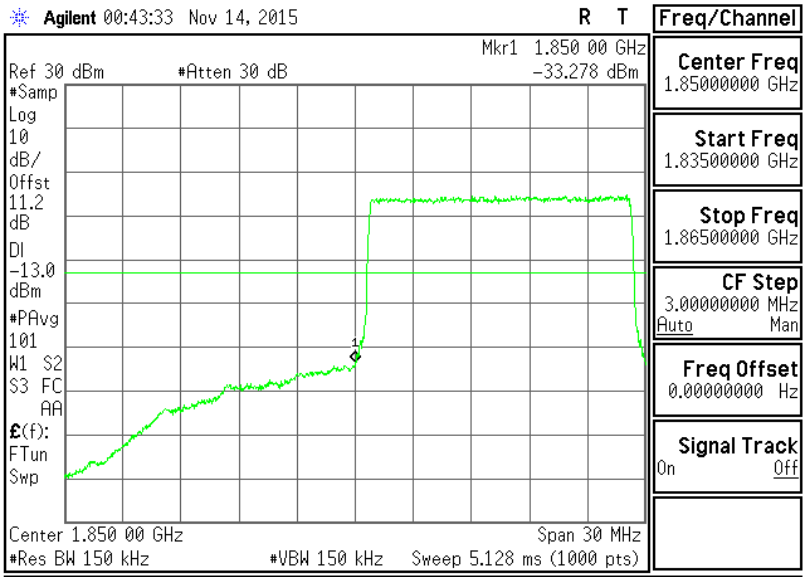


HIGH CH, RB36-18

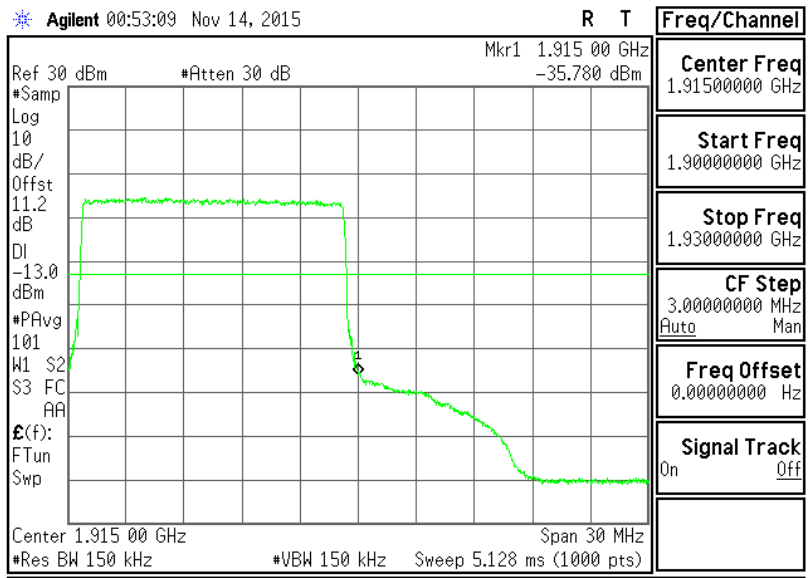


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB75-0



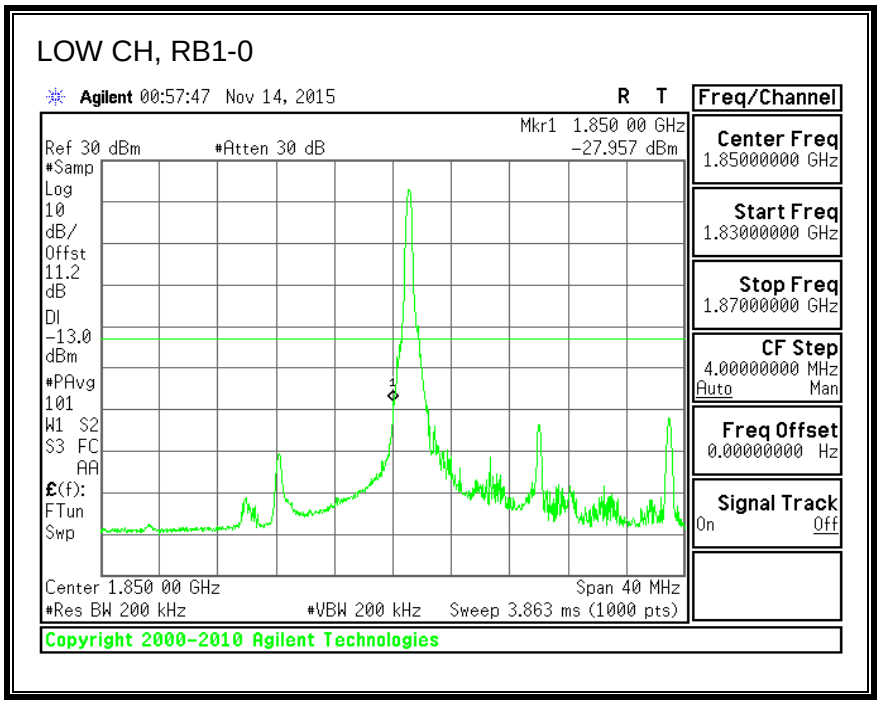
HIGH CH, RB75-0



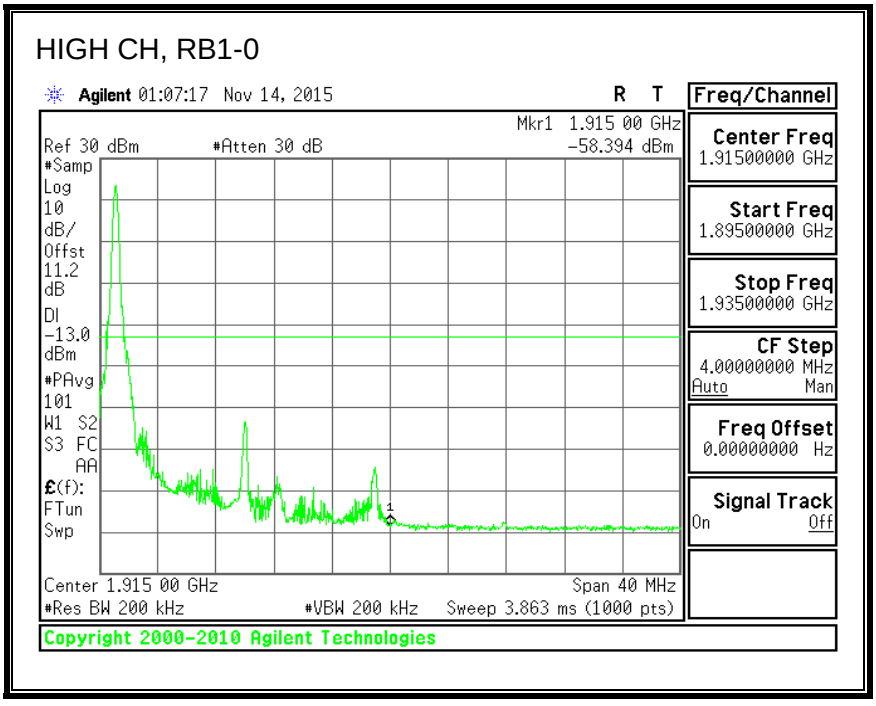
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

QPSK, (20.0 MHz BAND WIDTH)

LOW CH, RB1-0

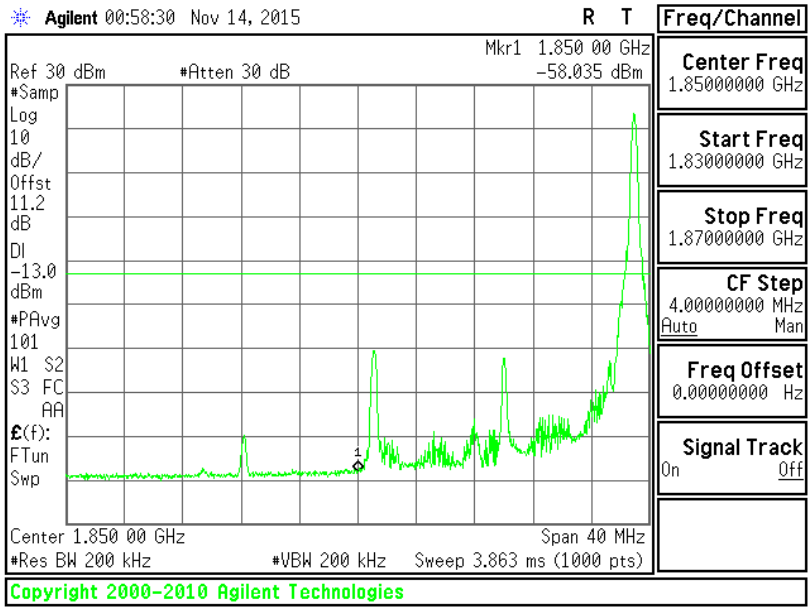


HIGH CH, RB1-0

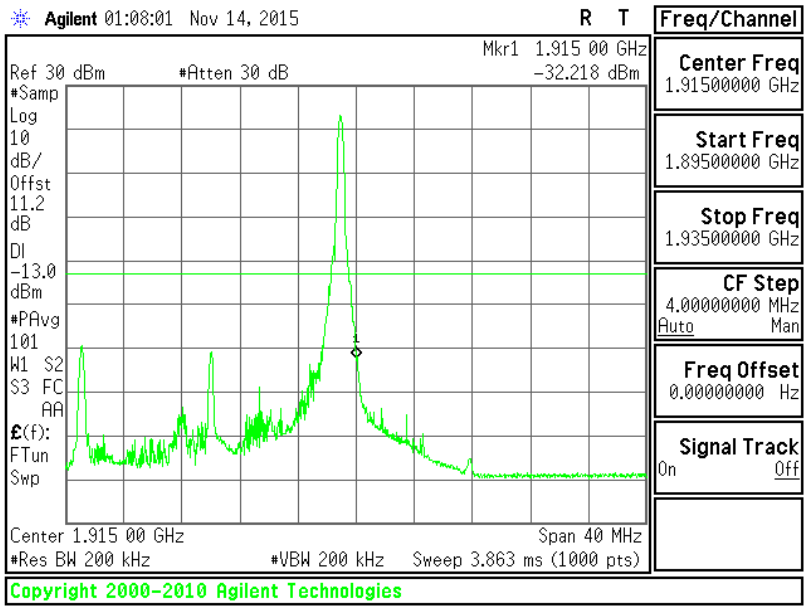


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB1-99

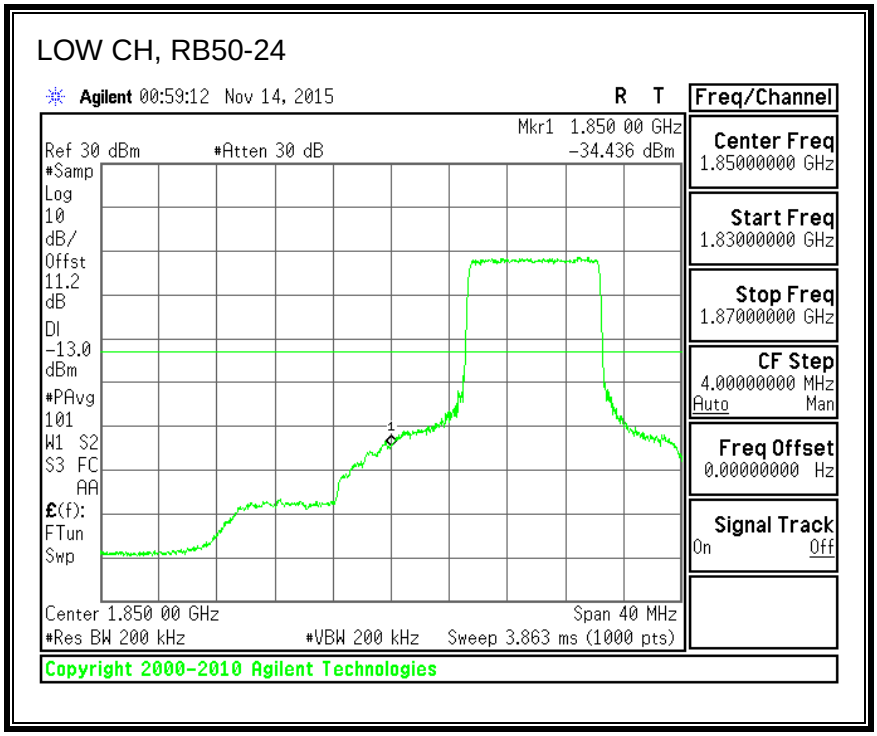


HIGH CH, RB1-99

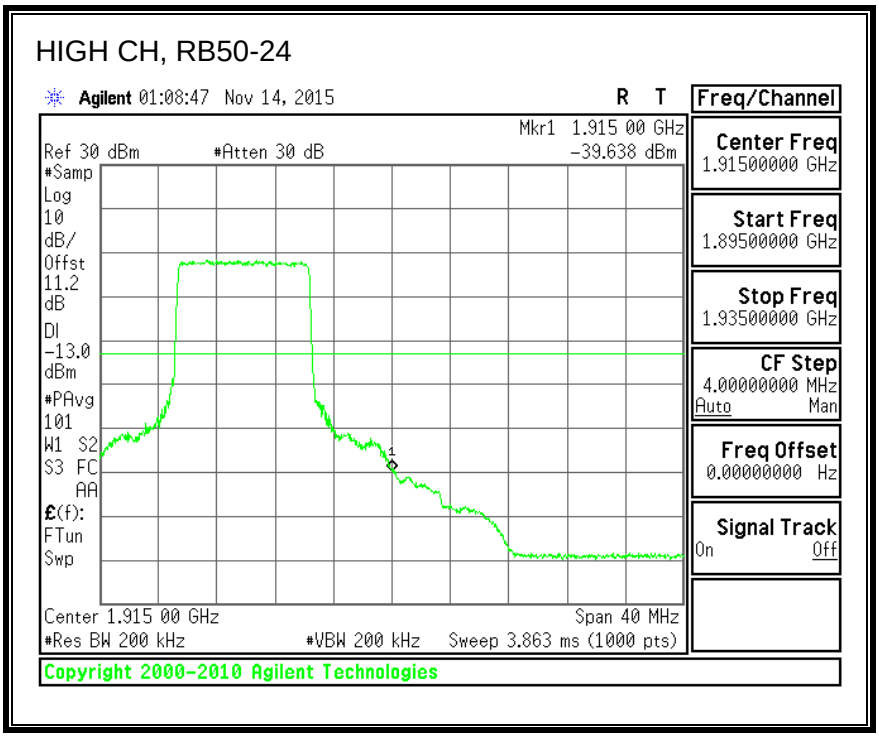


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB50-24

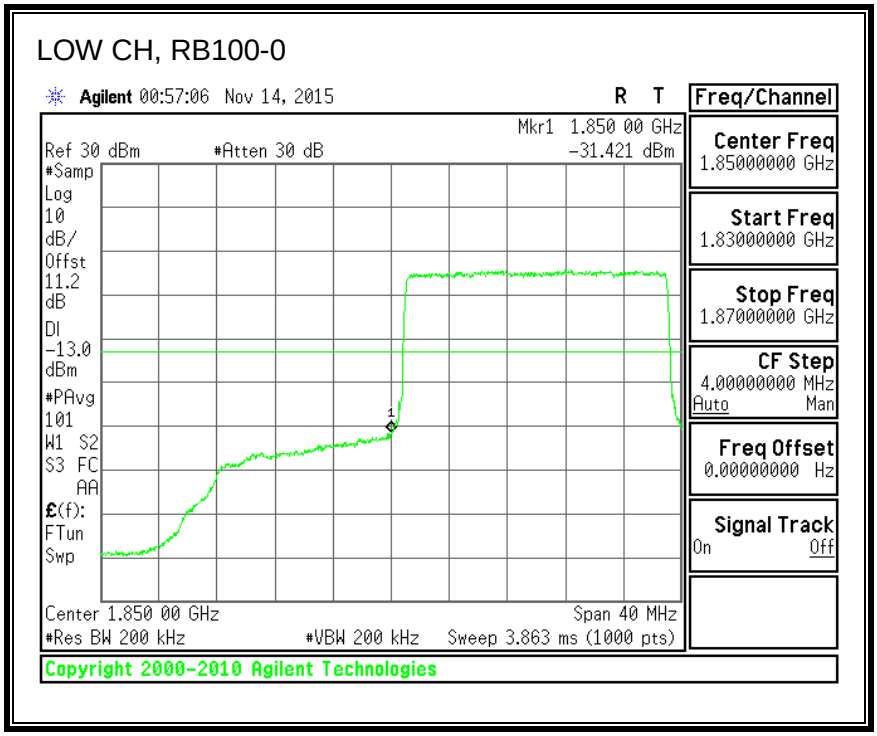


HIGH CH, RB50-24

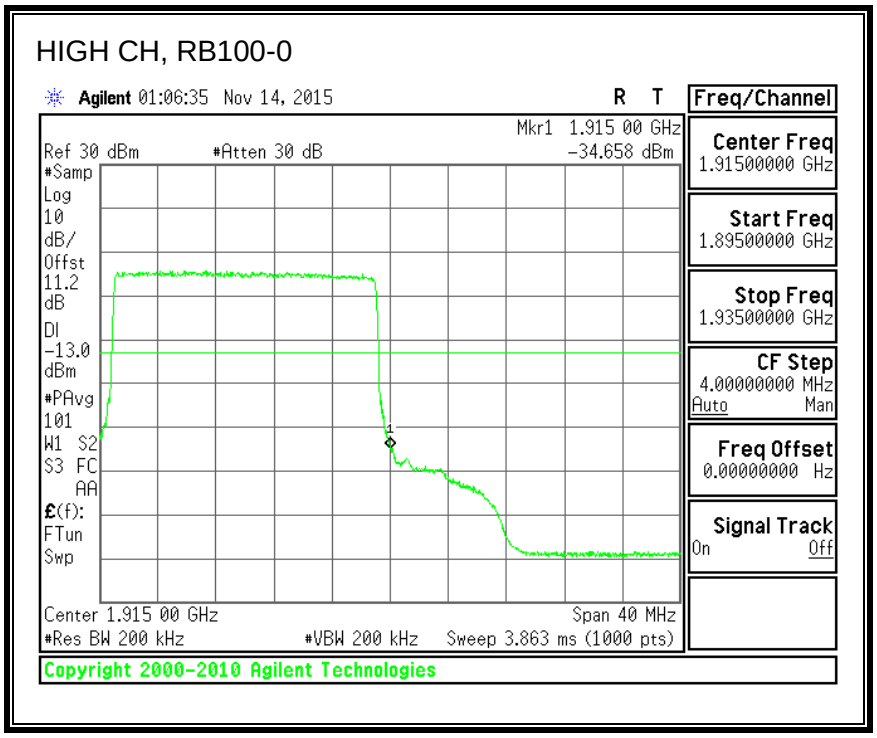


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB100-0



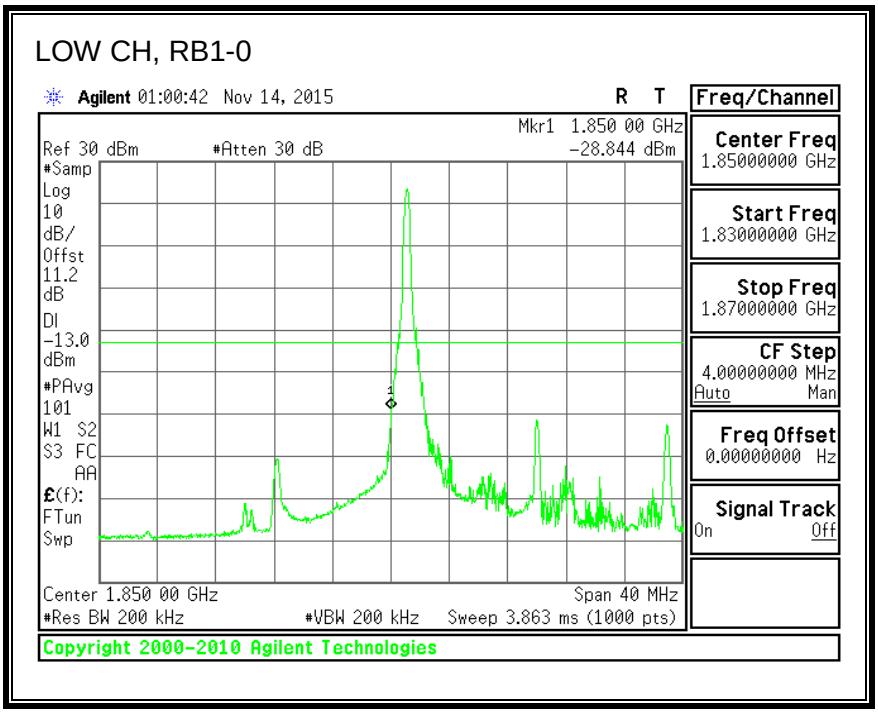
HIGH CH, RB100-0



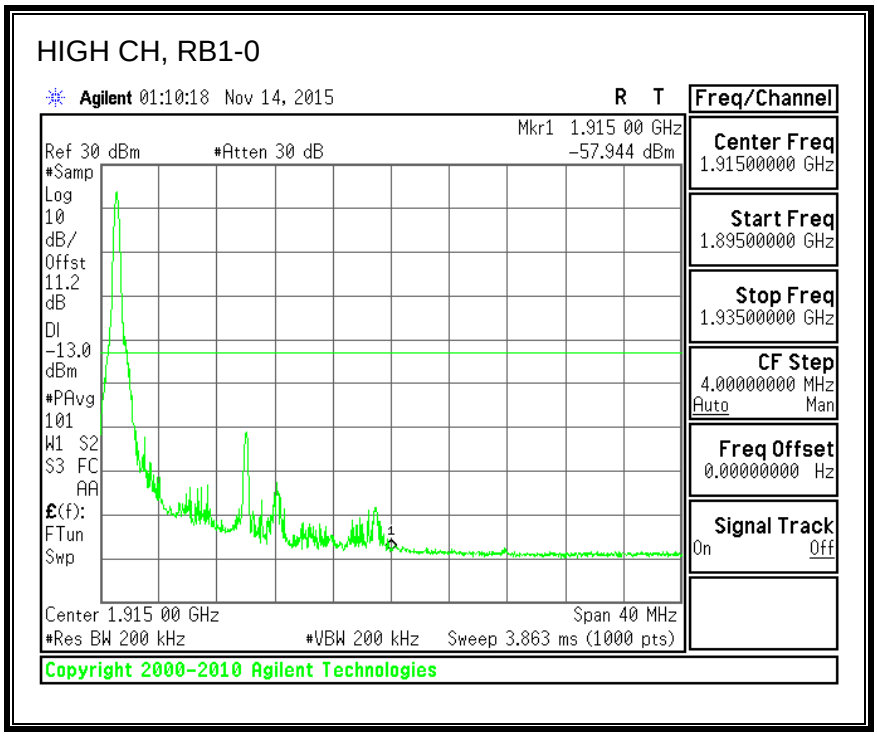
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

16QAM, (20.0 MHz BAND WIDTH)

LOW CH, RB1-0

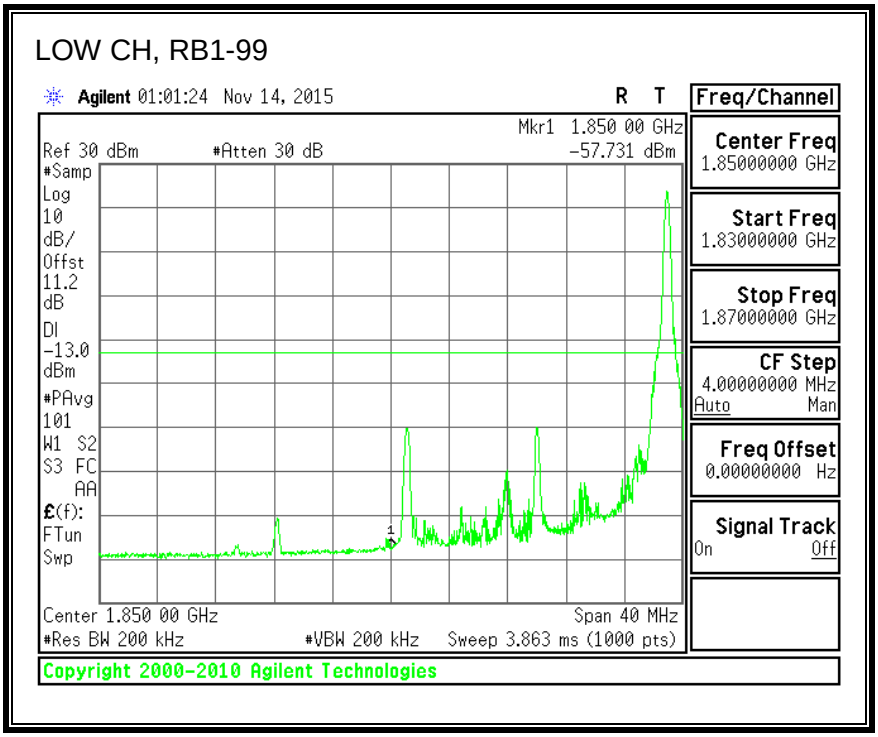


HIGH CH, RB1-0

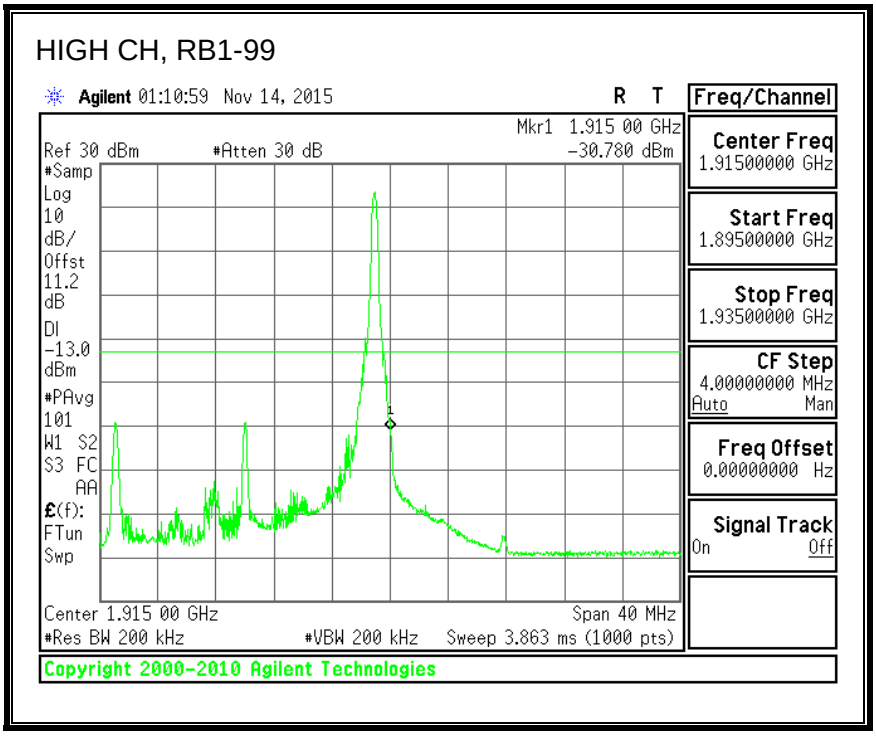


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB1-99

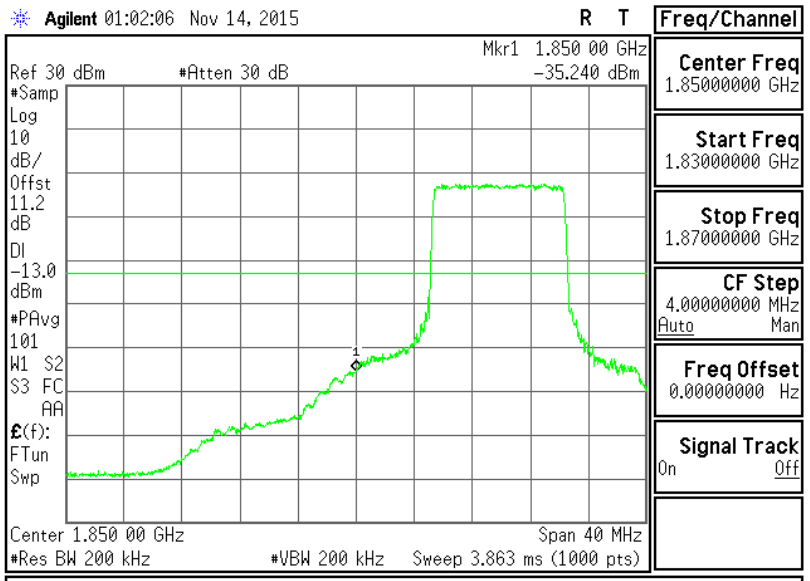


HIGH CH, RB1-99

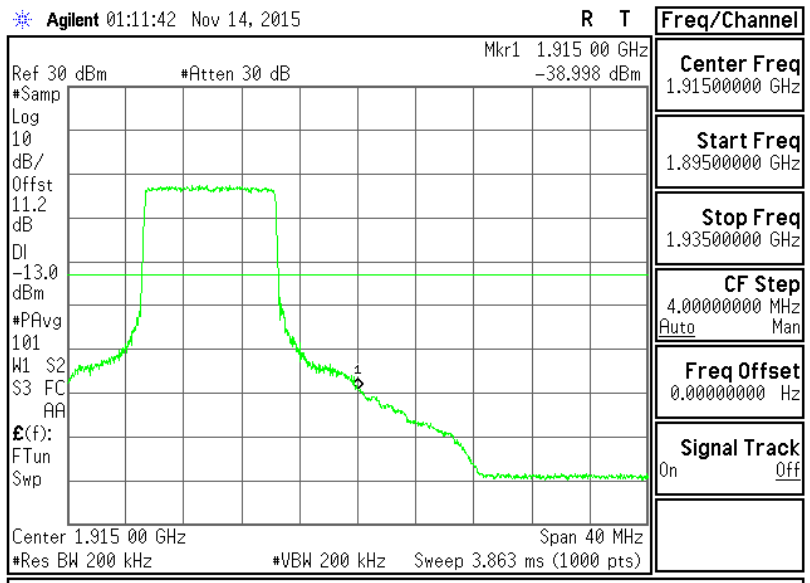


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB50-24

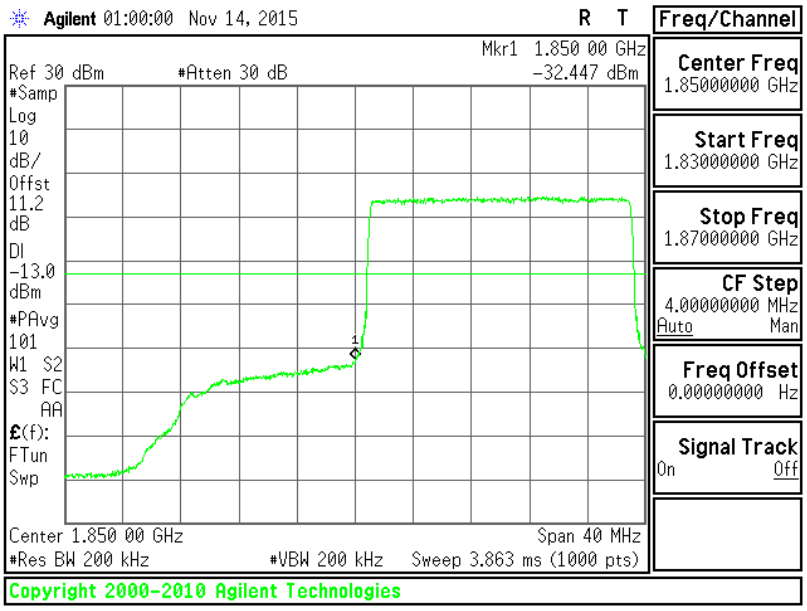


HIGH CH, RB50-24

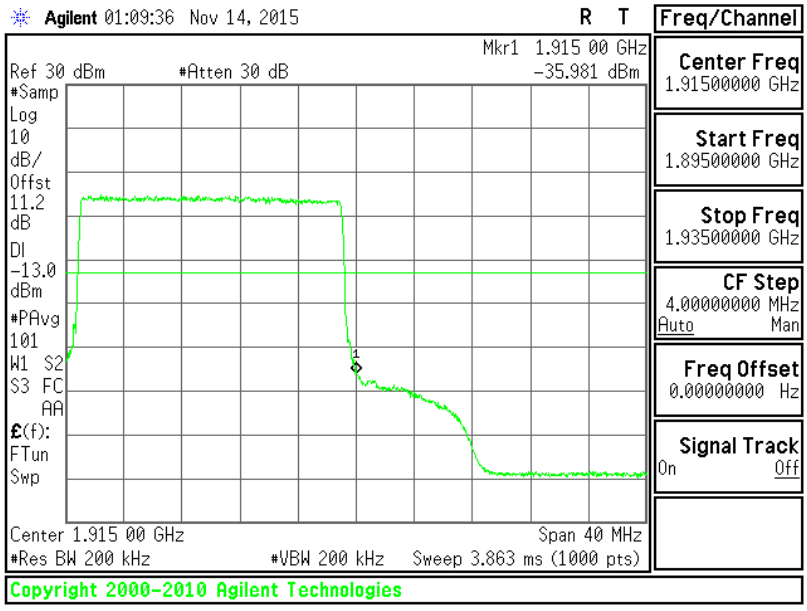


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB100-0



HIGH CH, RB100-0

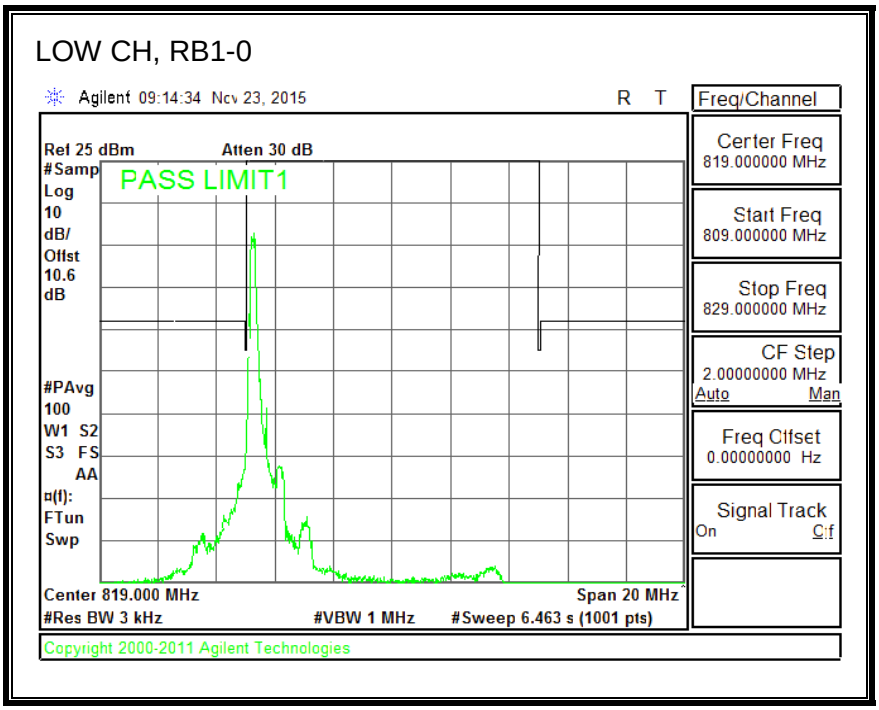


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

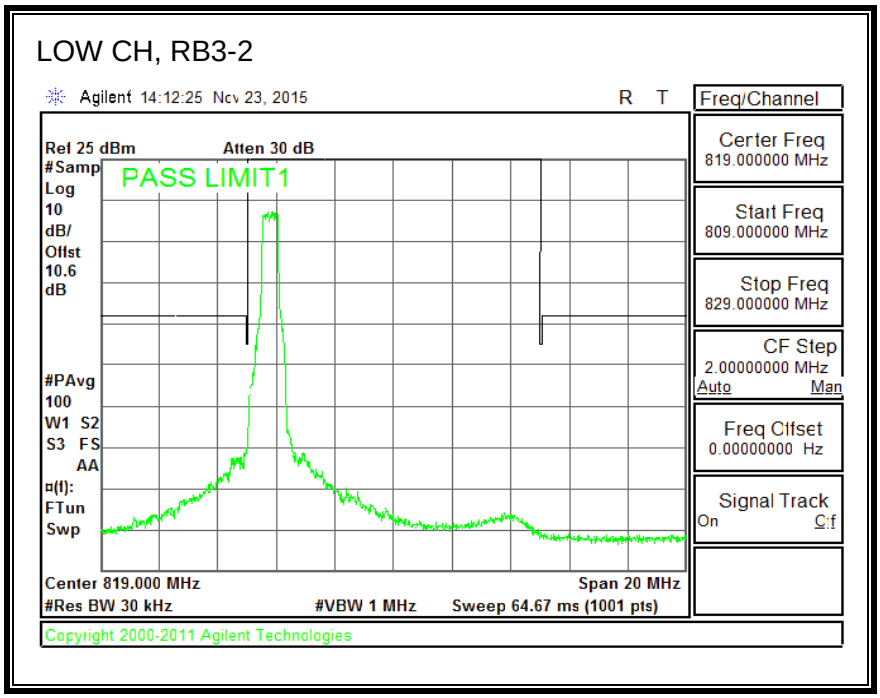
8.2.9. LTE BAND 26 EMISSION MASK

QPSK, (1.4 MHz BAND WIDTH)

LOW CH, RB1-0

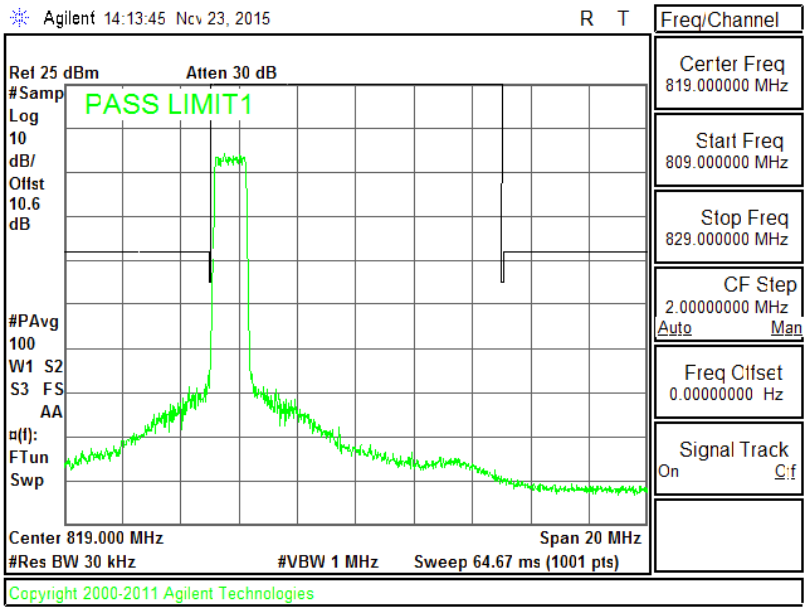


LOW CH, RB3-2

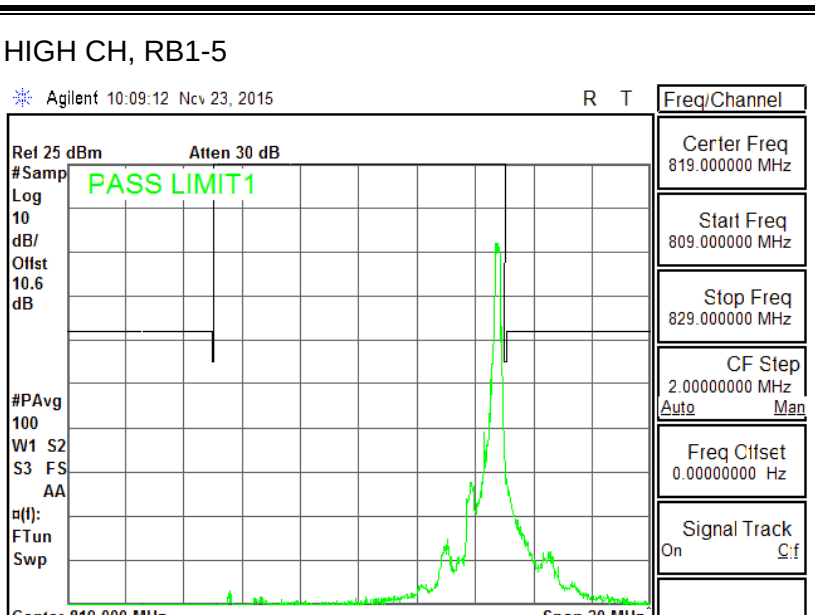


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB6-0

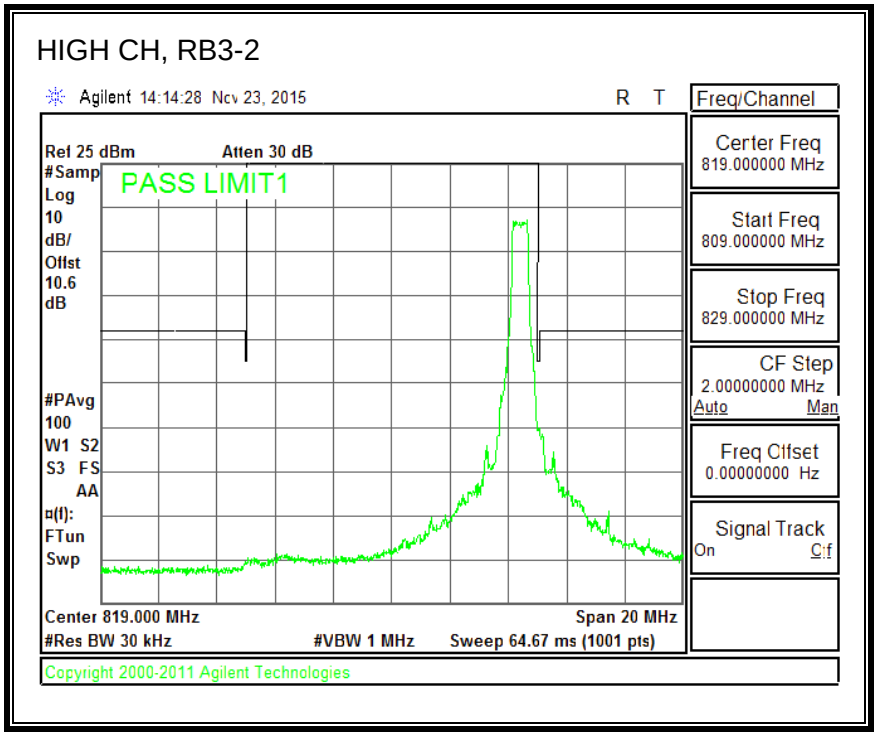


HIGH CH, RB1-5

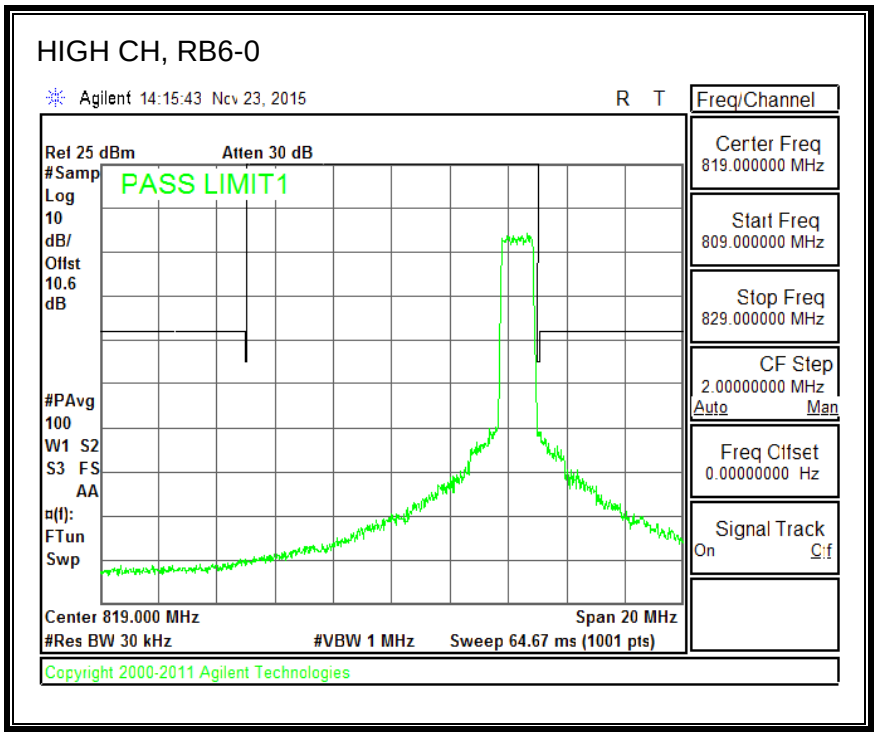


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

HIGH CH, RB3-2



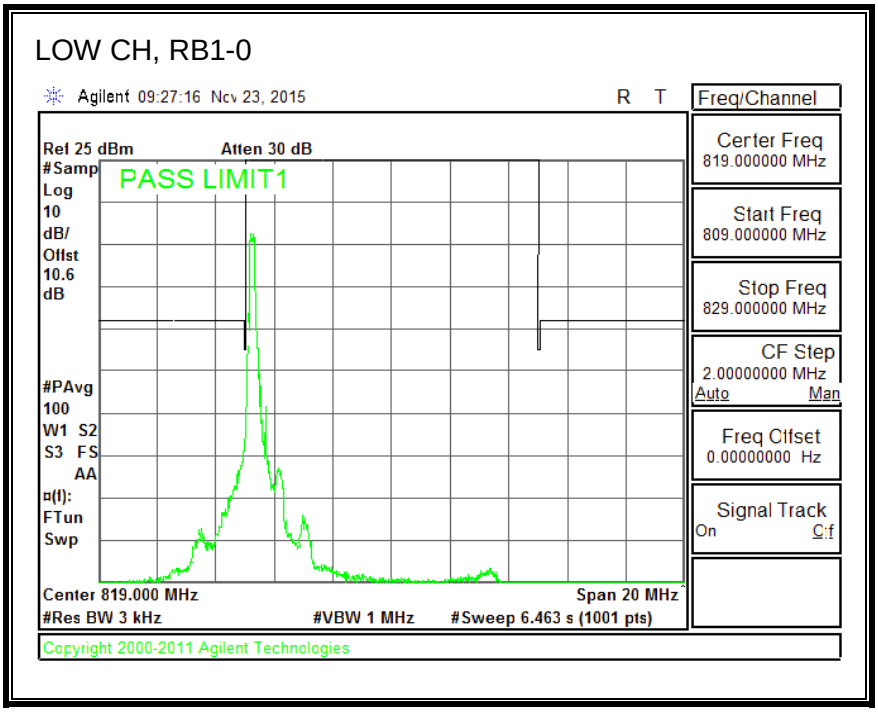
HIGH CH, RB6-0



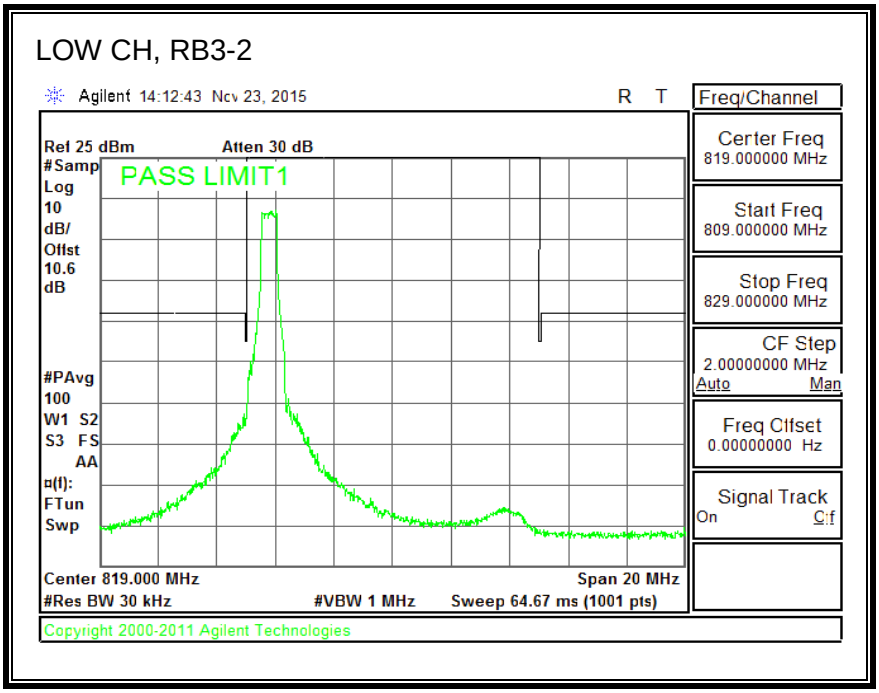
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

16QAM, (1.4 MHz BAND WIDTH)

LOW CH, RB1-0

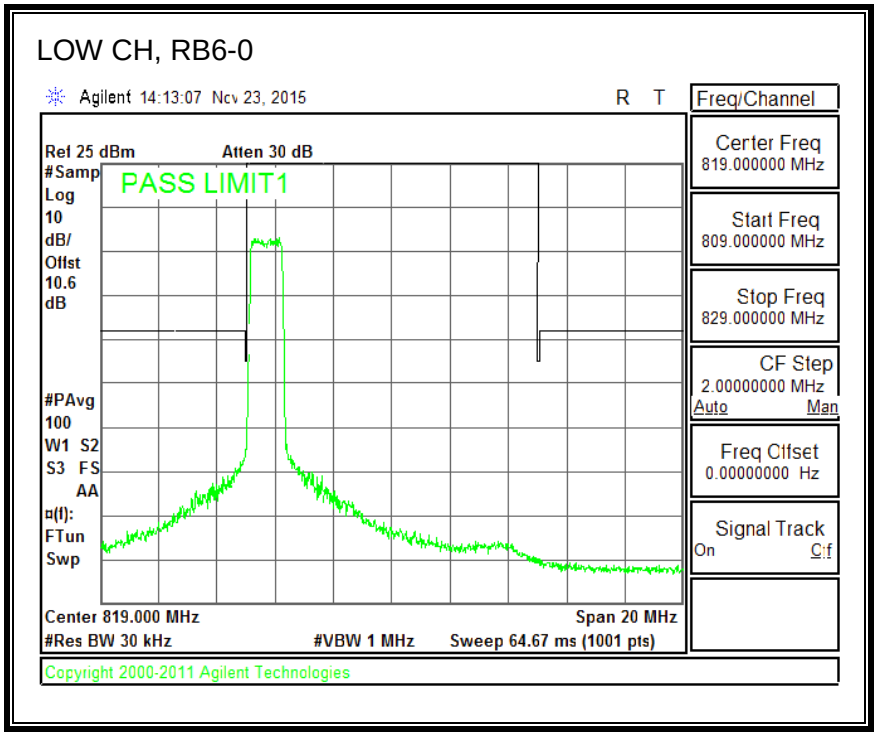


LOW CH, RB3-2

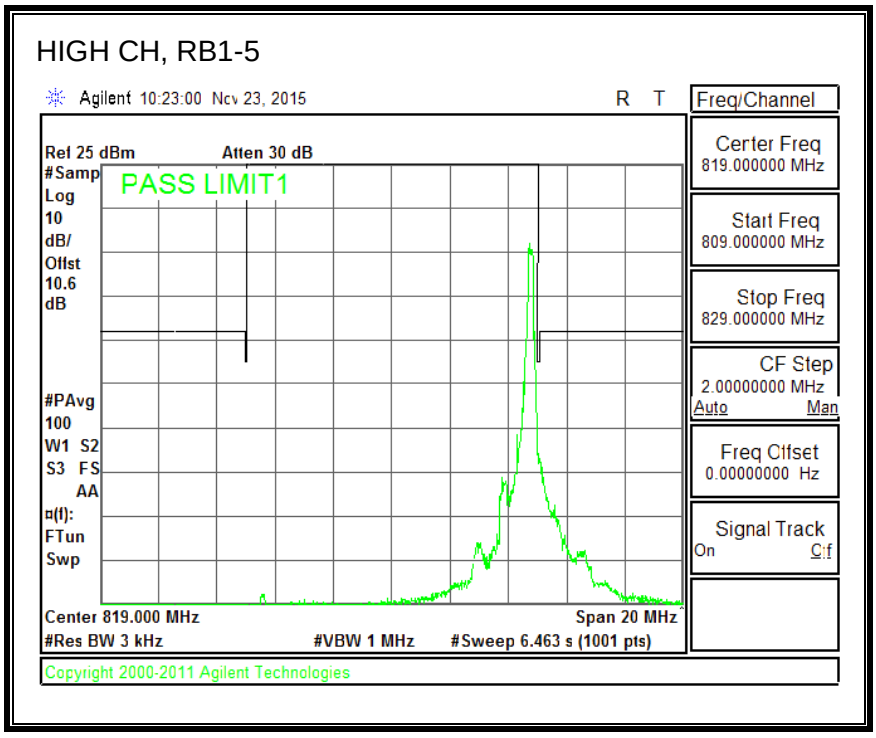


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB6-0

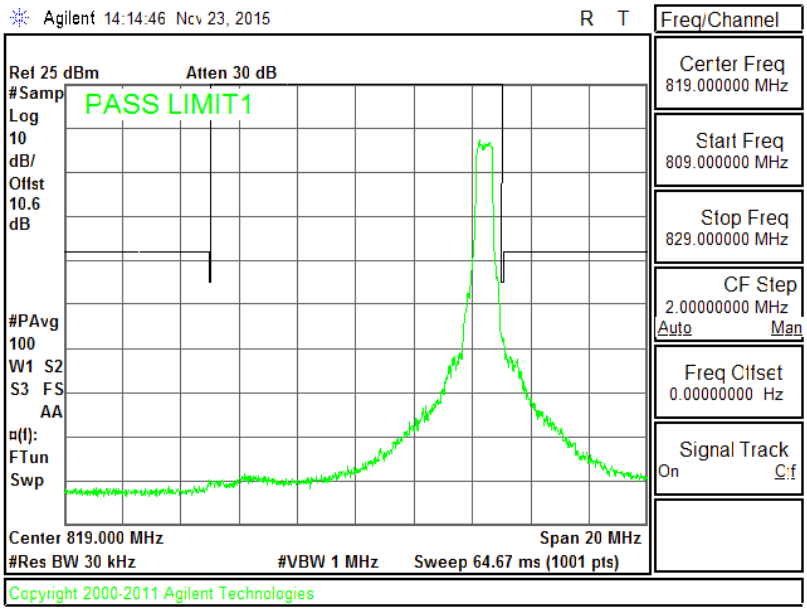


HIGH CH, RB1-5

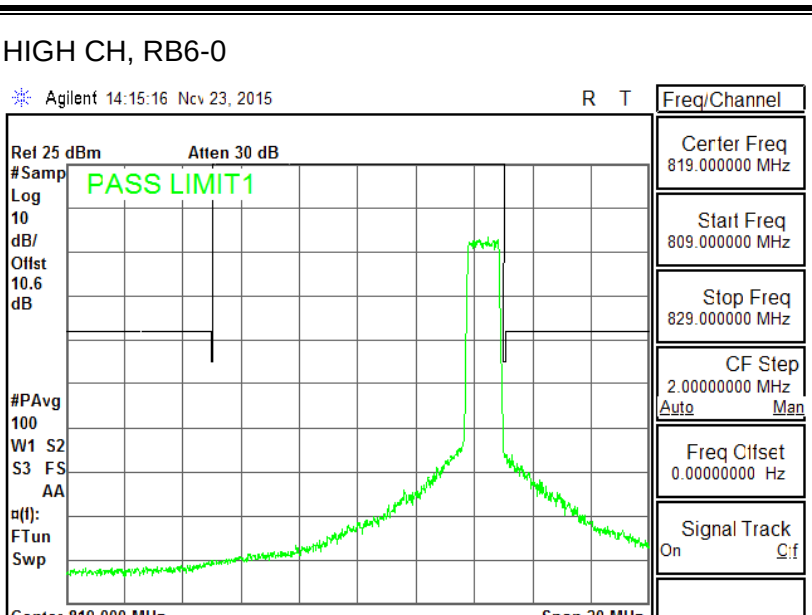


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

HIGH CH, RB3-2



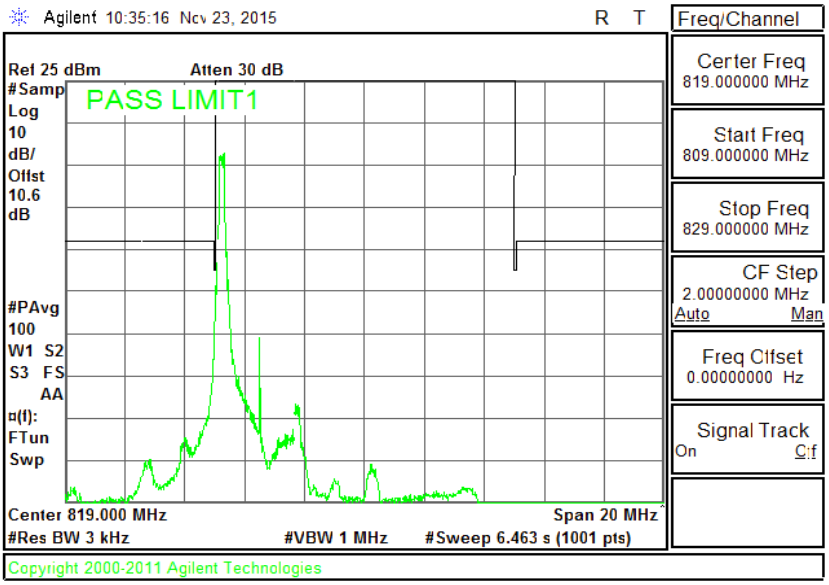
HIGH CH, RB6-0



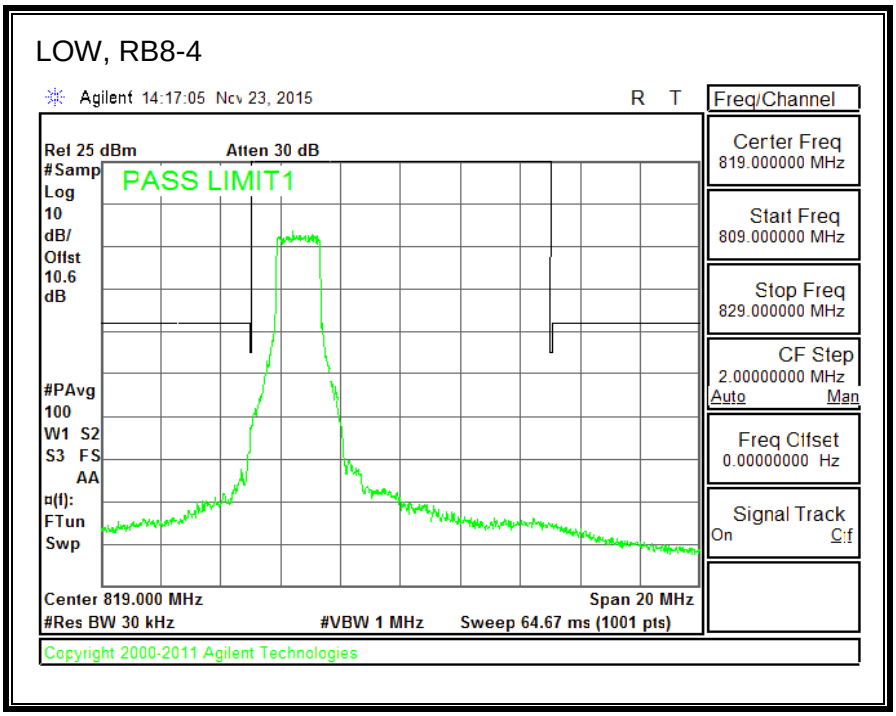
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

QPSK, (3.0 MHz BAND WIDTH)

LOW, RB1-0

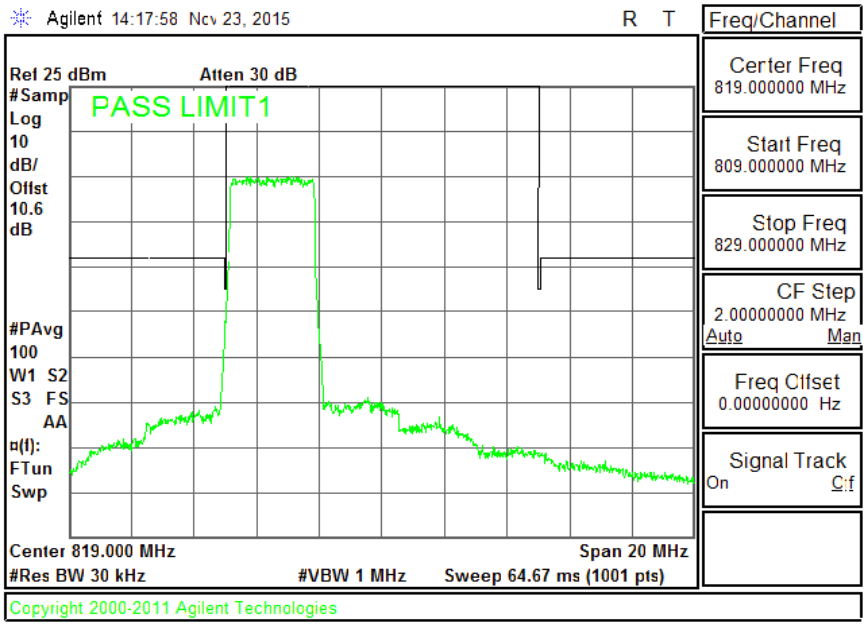


LOW, RB8-4

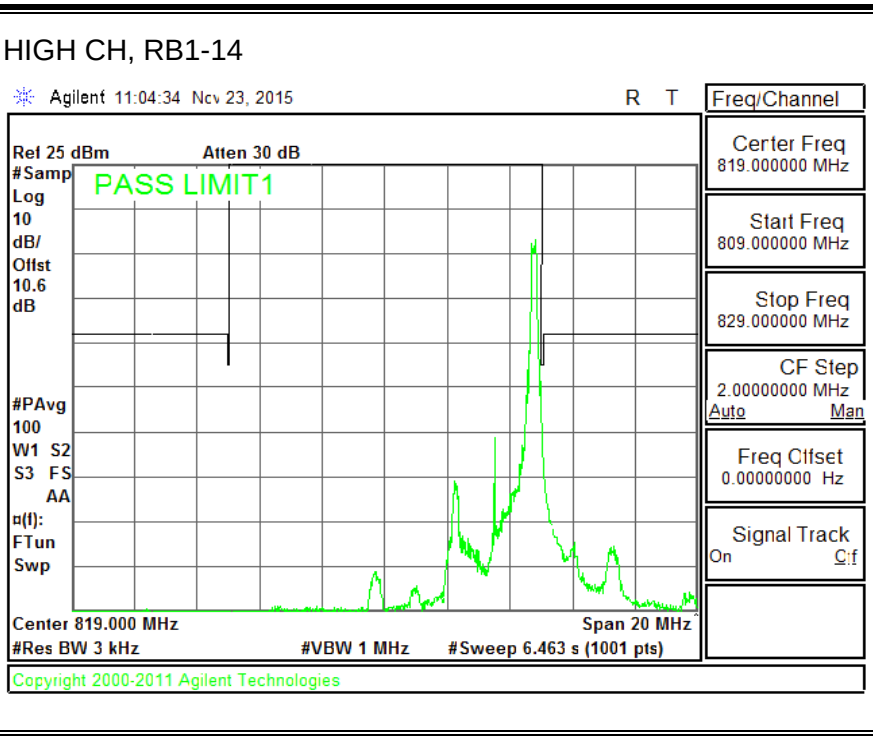


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB15-0

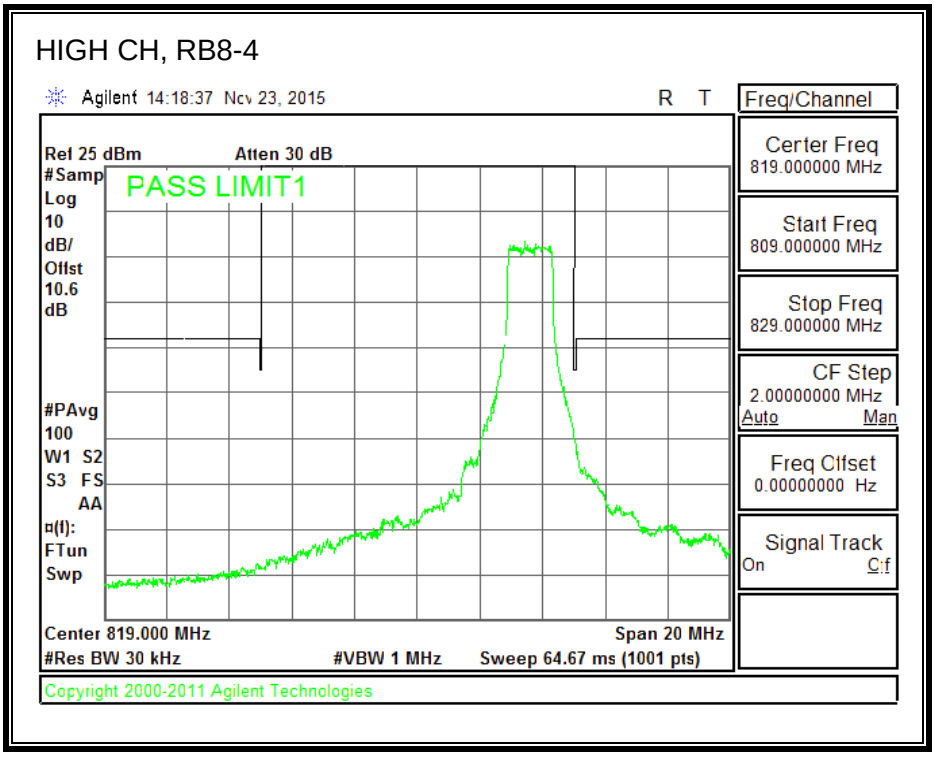


HIGH CH, RB1-14

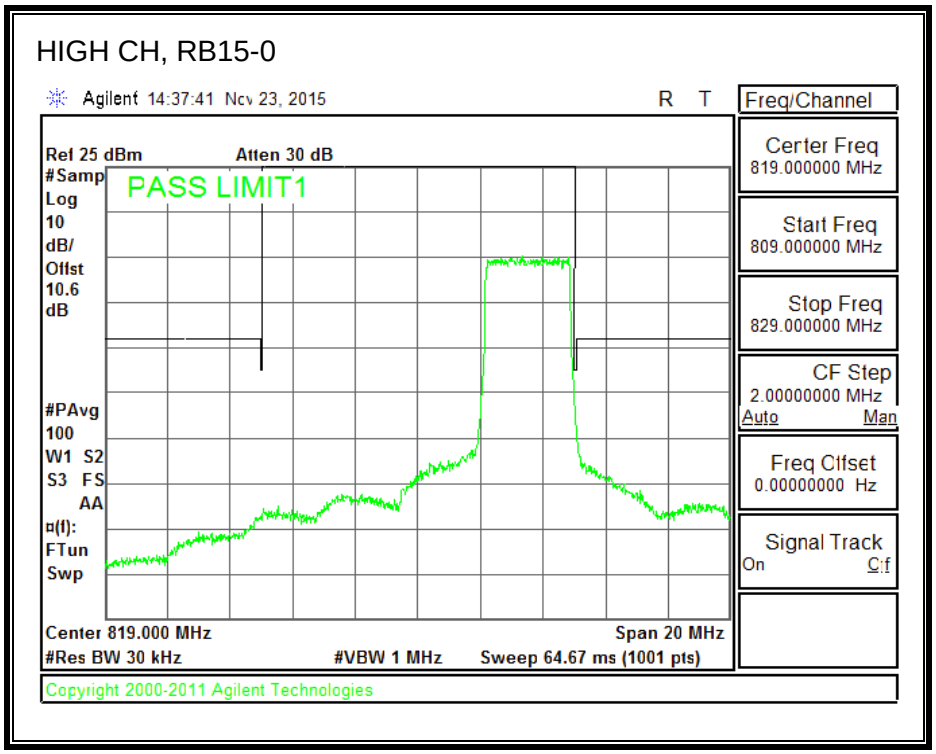


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

HIGH CH, RB8-4



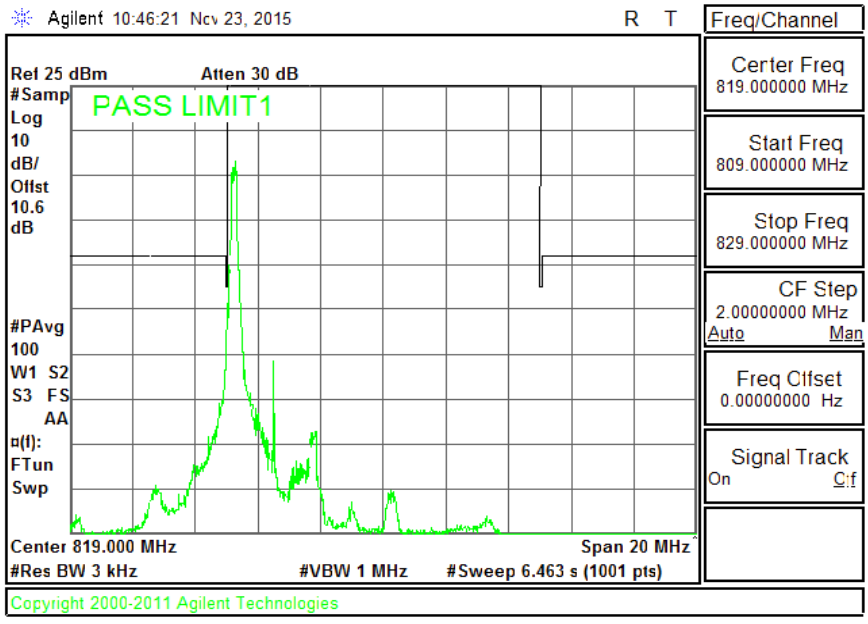
HIGH CH, RB15-0



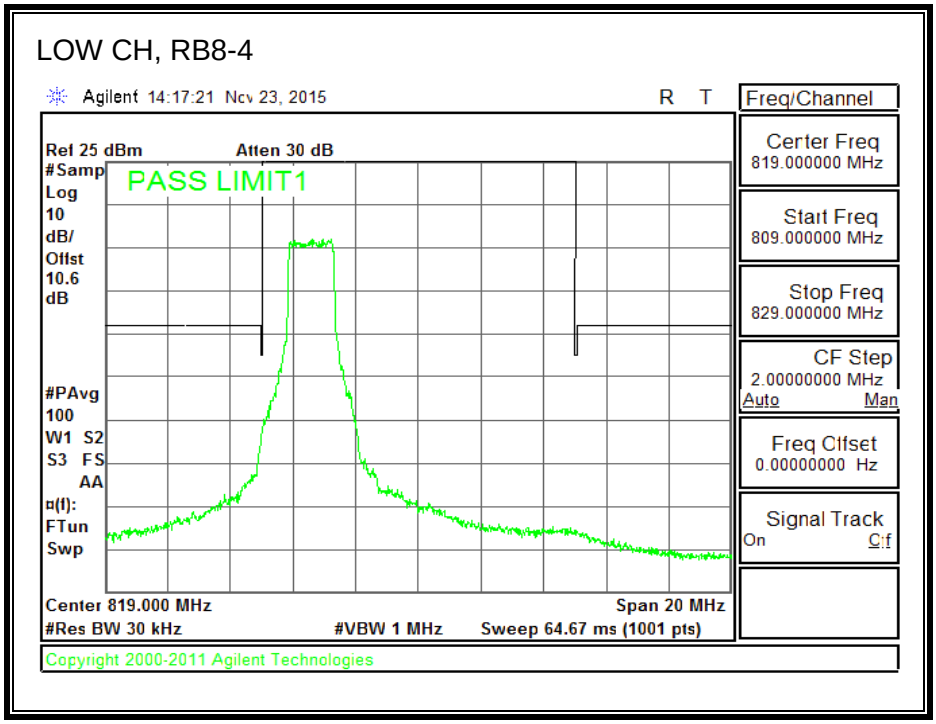
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

16QAM, (3.0 MHz BAND WIDTH)

LOW CH, RB1-0

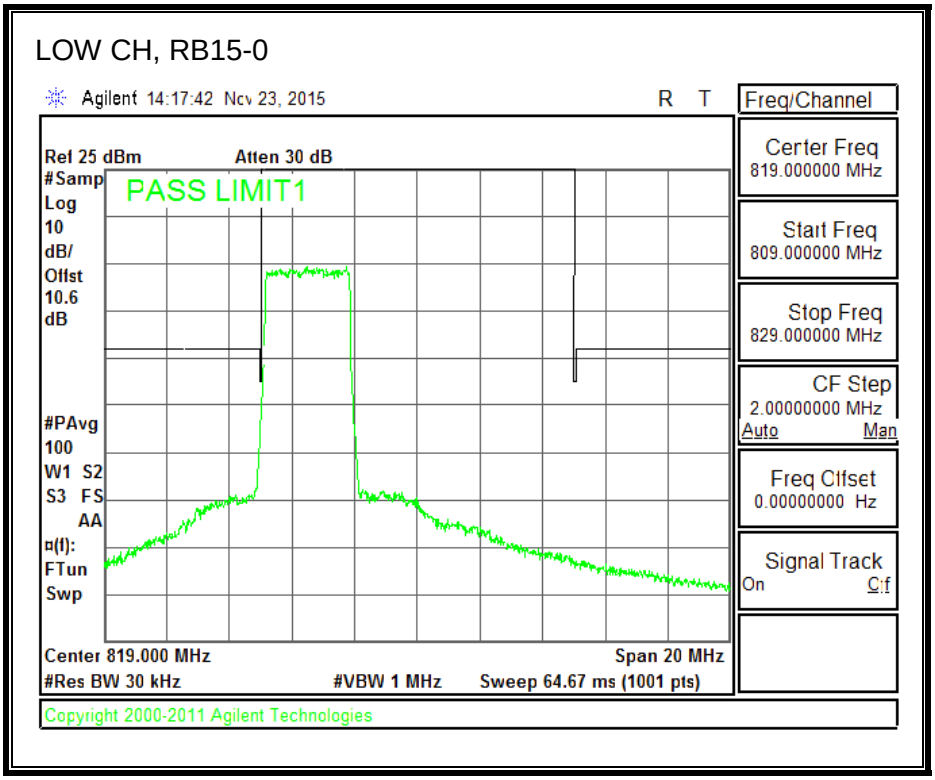


LOW CH, RB8-4

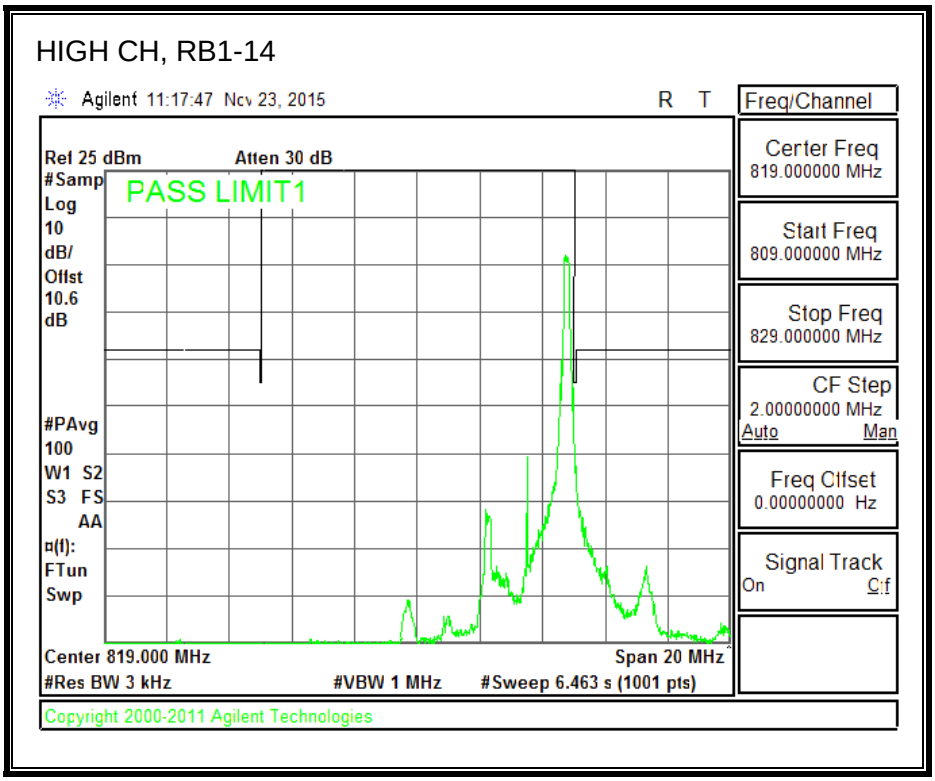


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB15-0

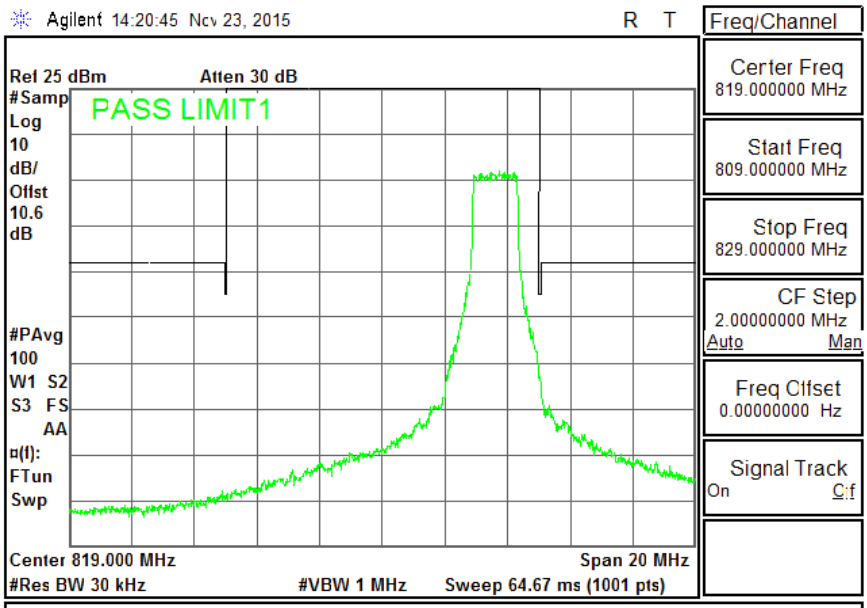


HIGH CH, RB1-14

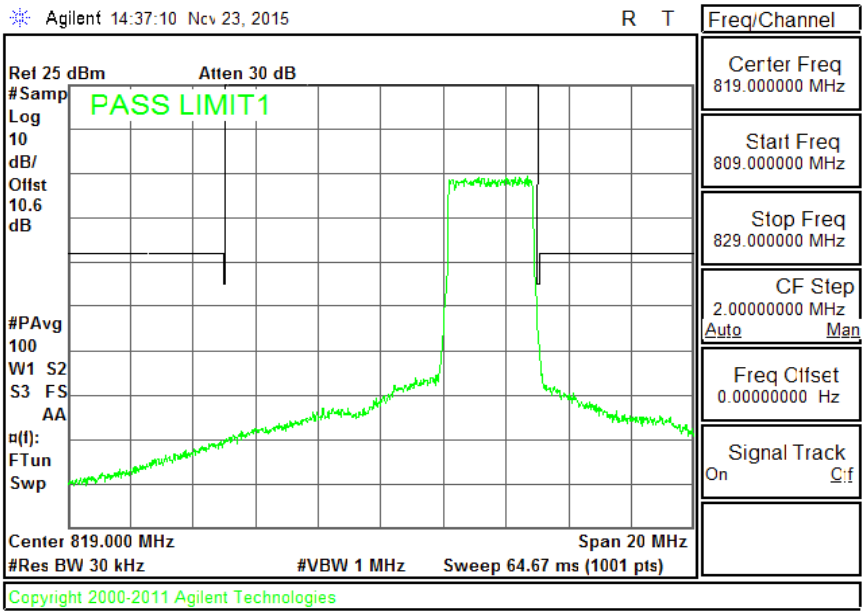


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

HIGH CH, RB8-4



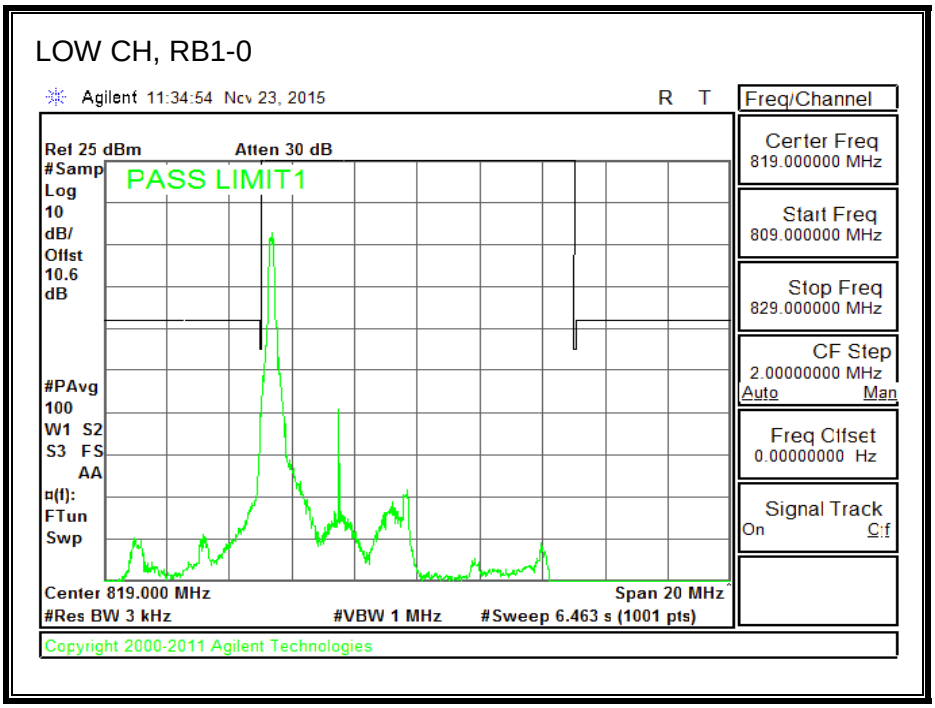
HIGH CH, RB15-0



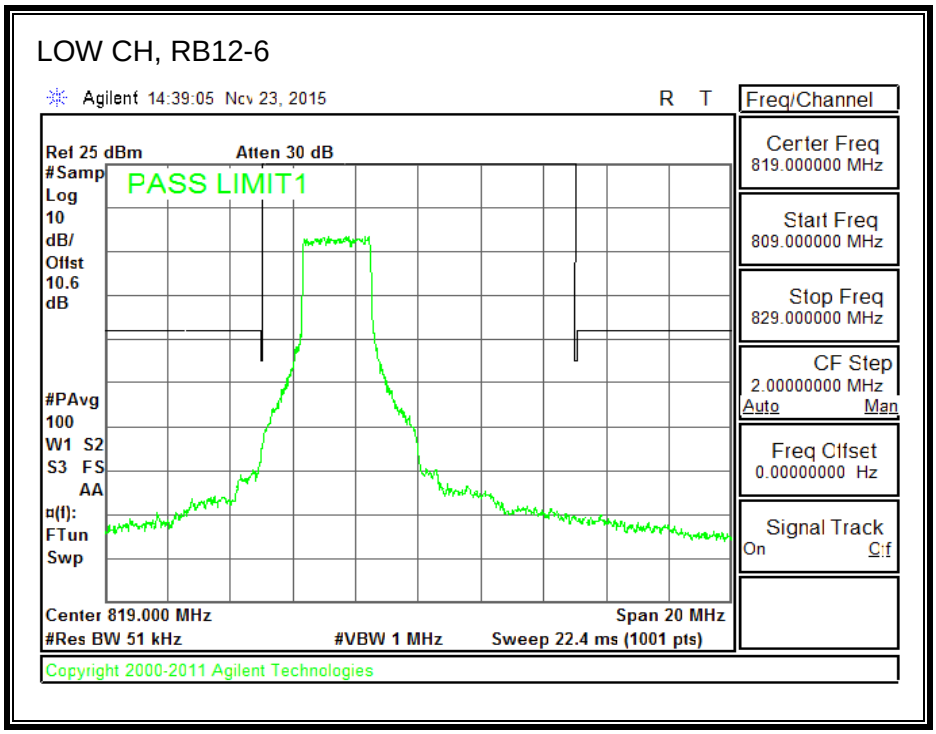
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

QPSK, (5.0 MHz BAND WIDTH)

LOW CH, RB1-0

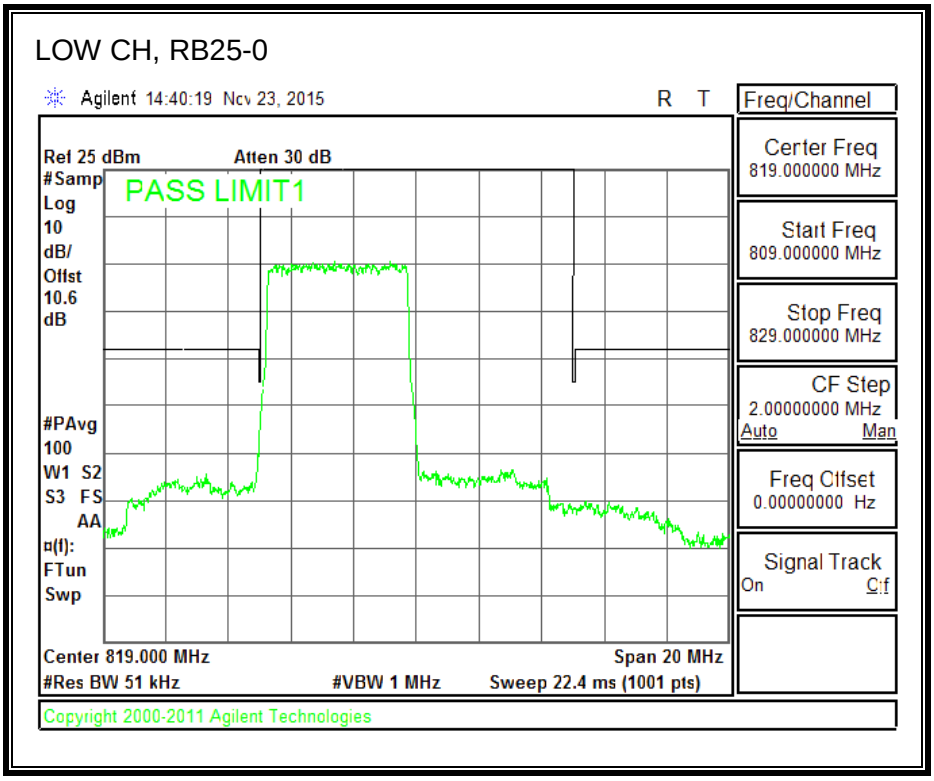


LOW CH, RB12-6

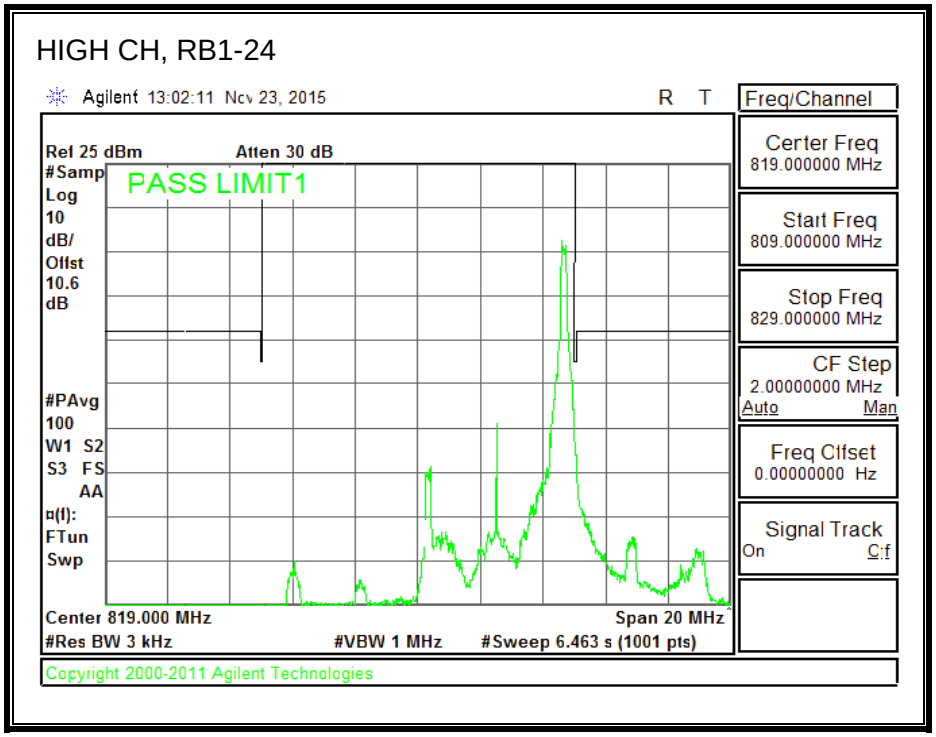


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB25-0

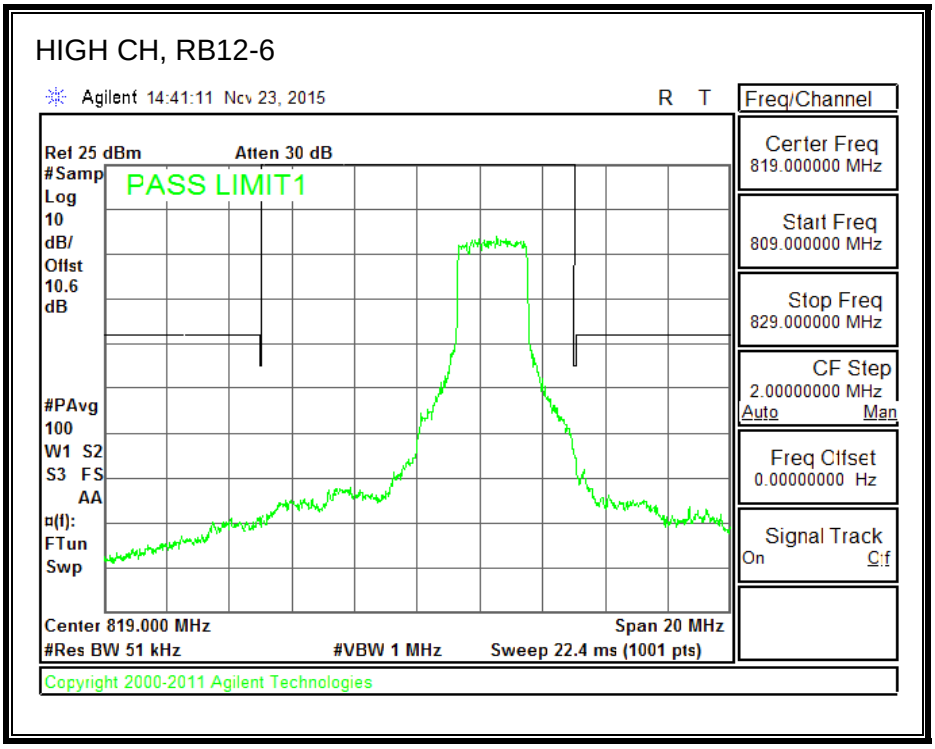


HIGH CH, RB1-24

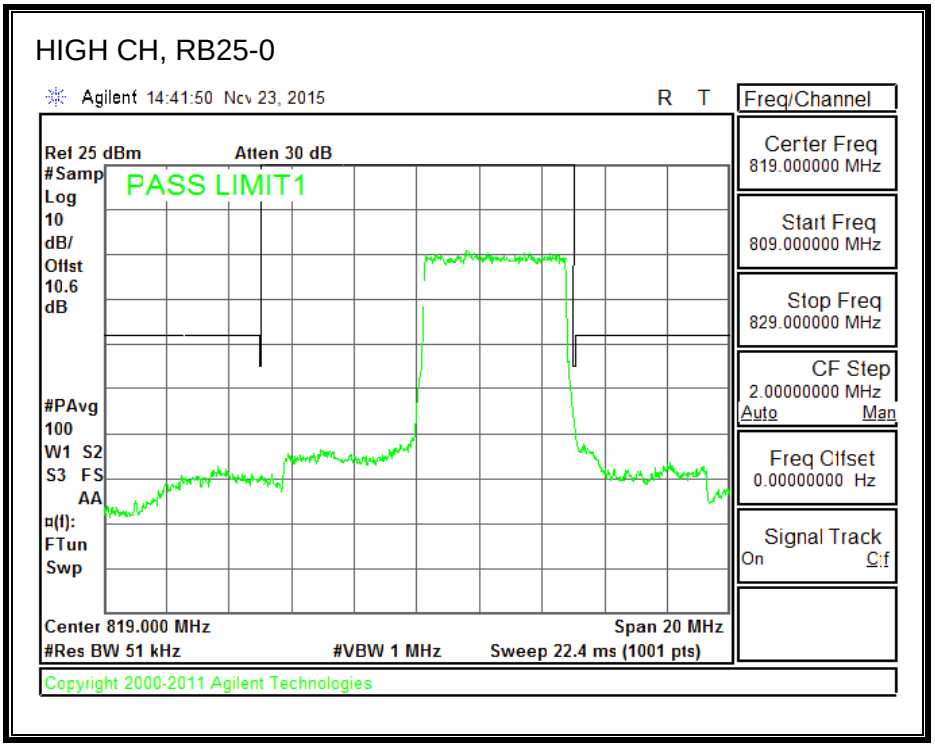


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

HIGH CH, RB12-6



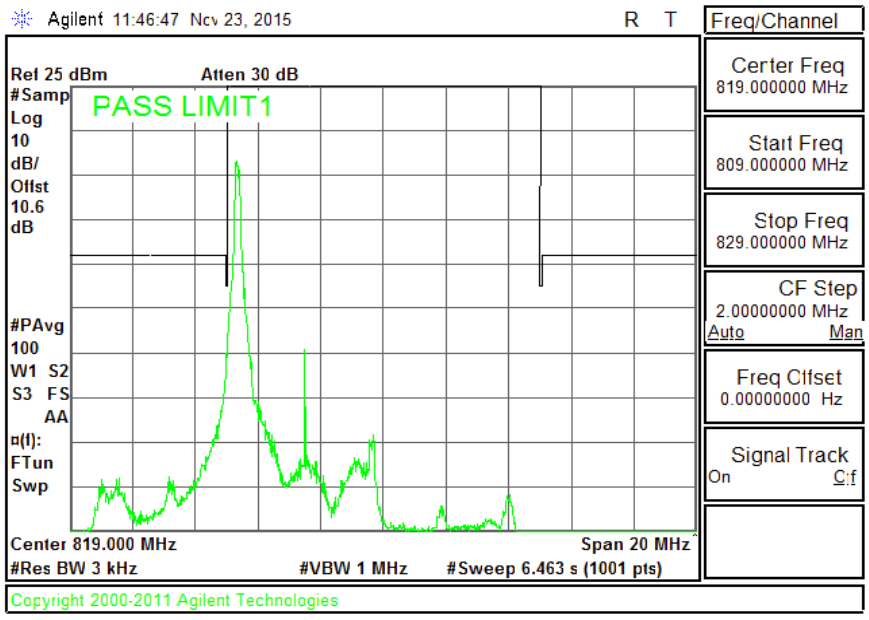
HIGH CH, RB25-0



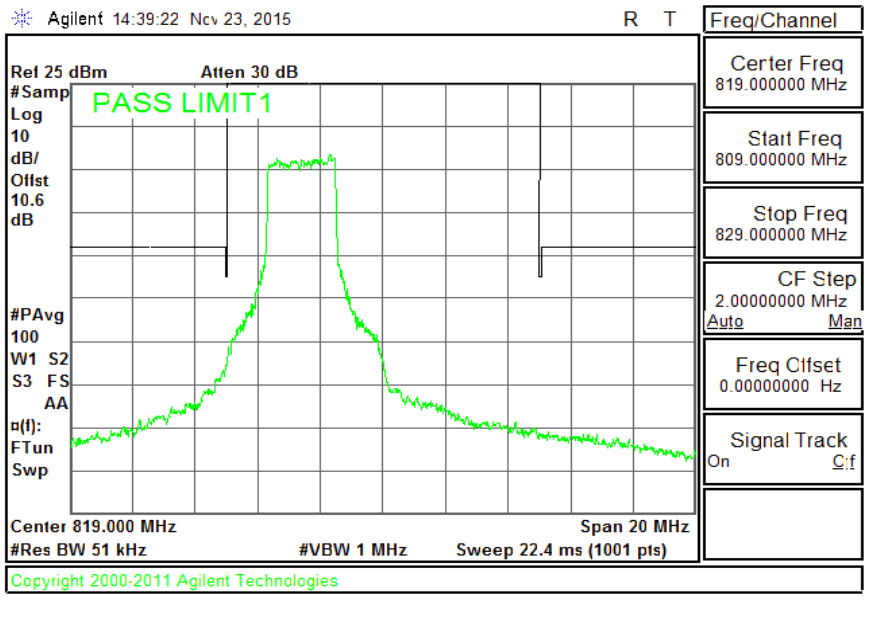
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

16QAM, (5.0 MHz BAND WIDTH)

LOW CH, RB1-0

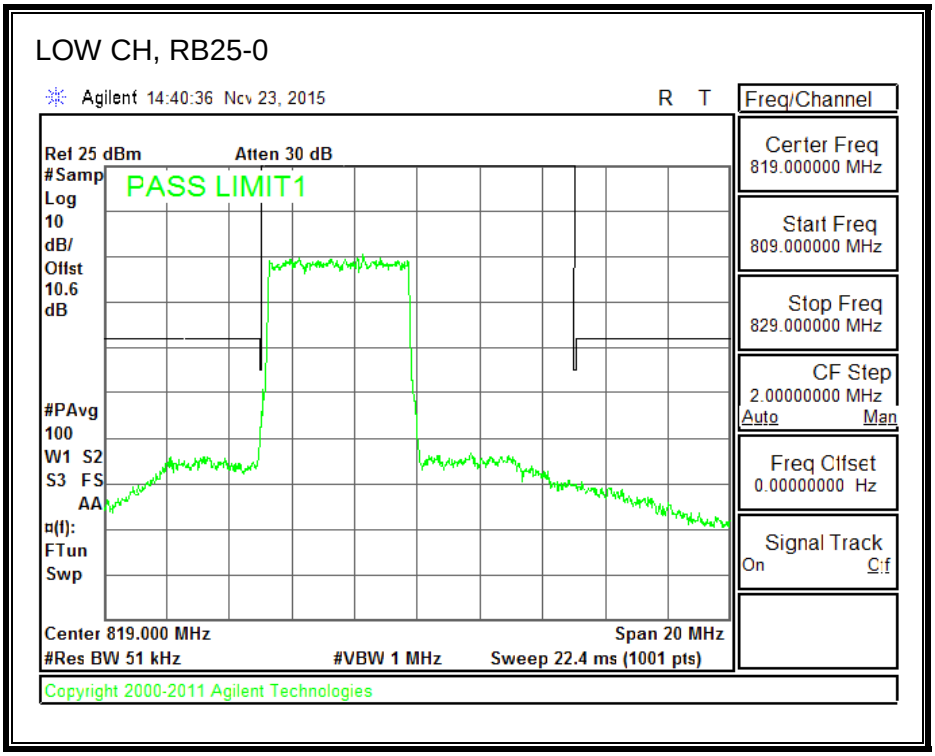


LOW CH, RB12-6

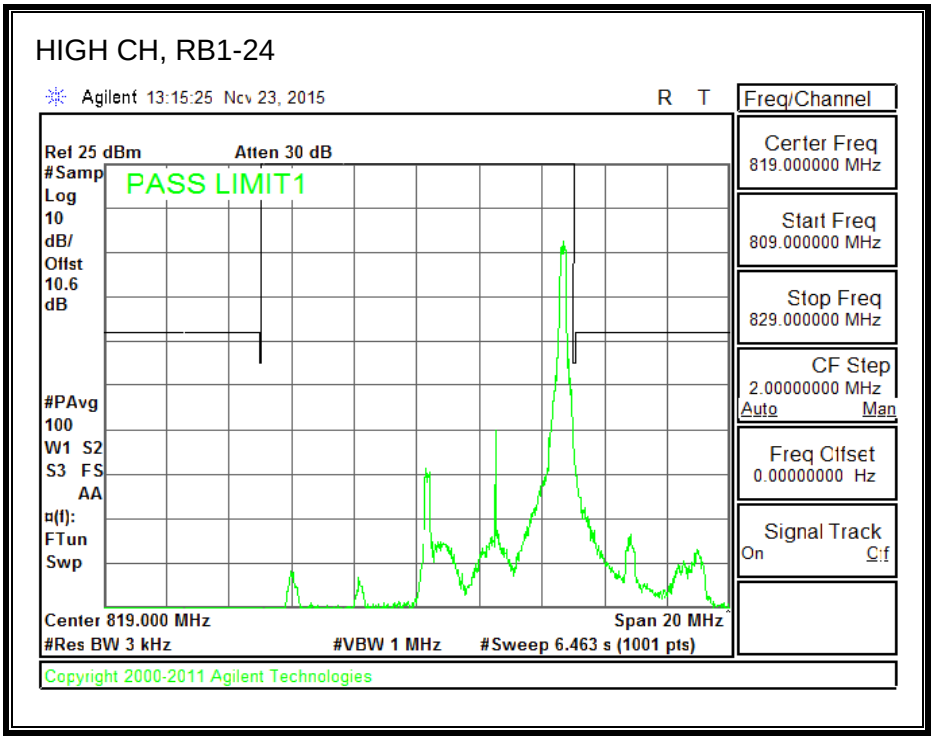


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB25-0

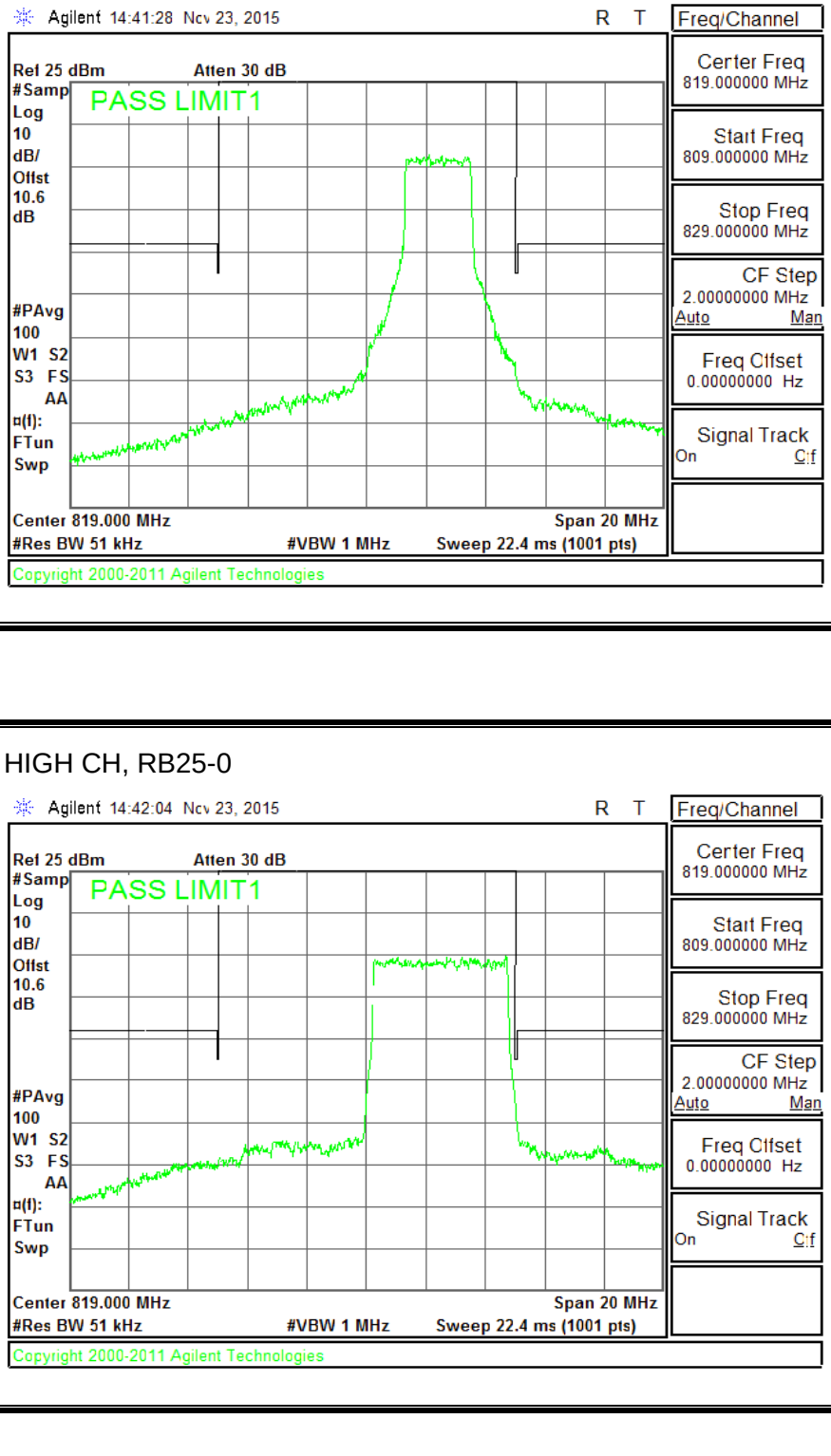


HIGH CH, RB1-24



This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

HIGH CH, RB12-6

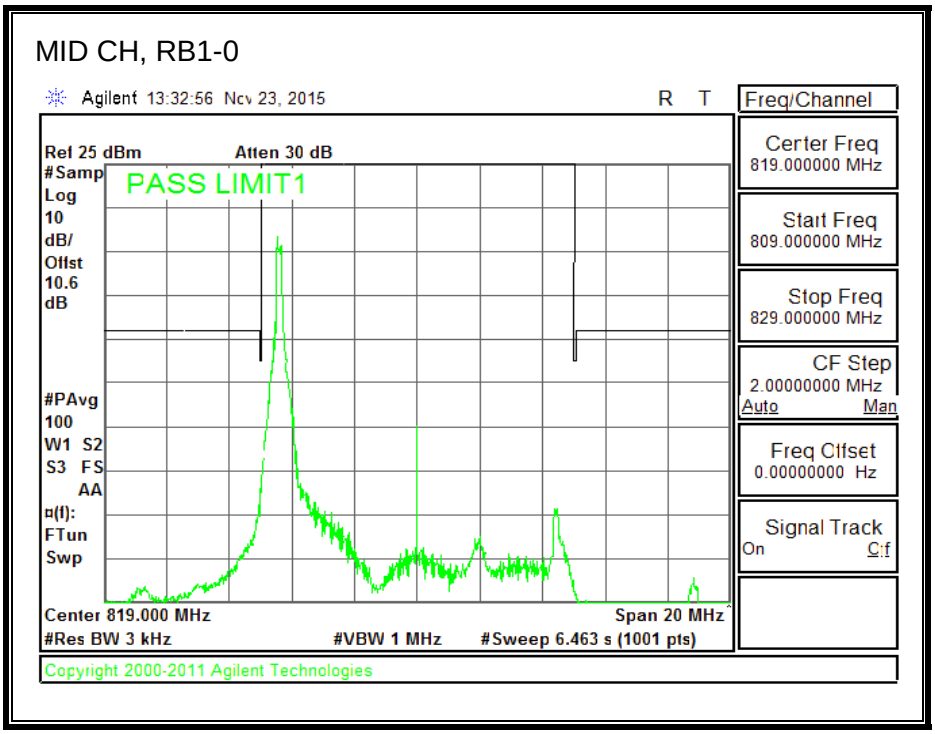


HIGH CH, RB25-0

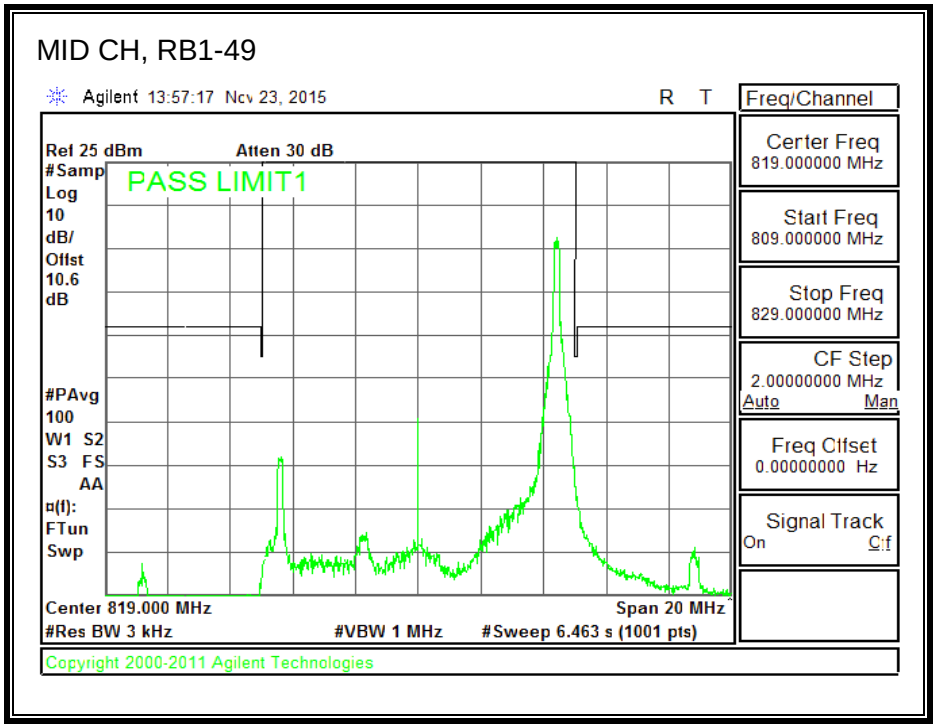
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

QPSK, (10.0 MHz BAND WIDTH)

MID CH, RB1-0

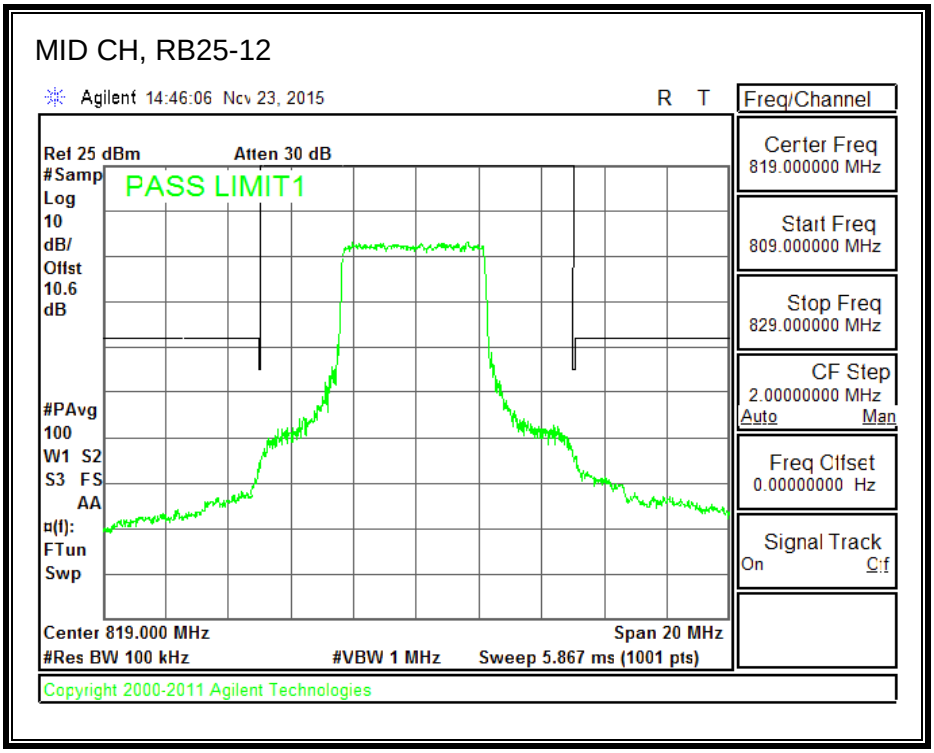


MID CH, RB1-49

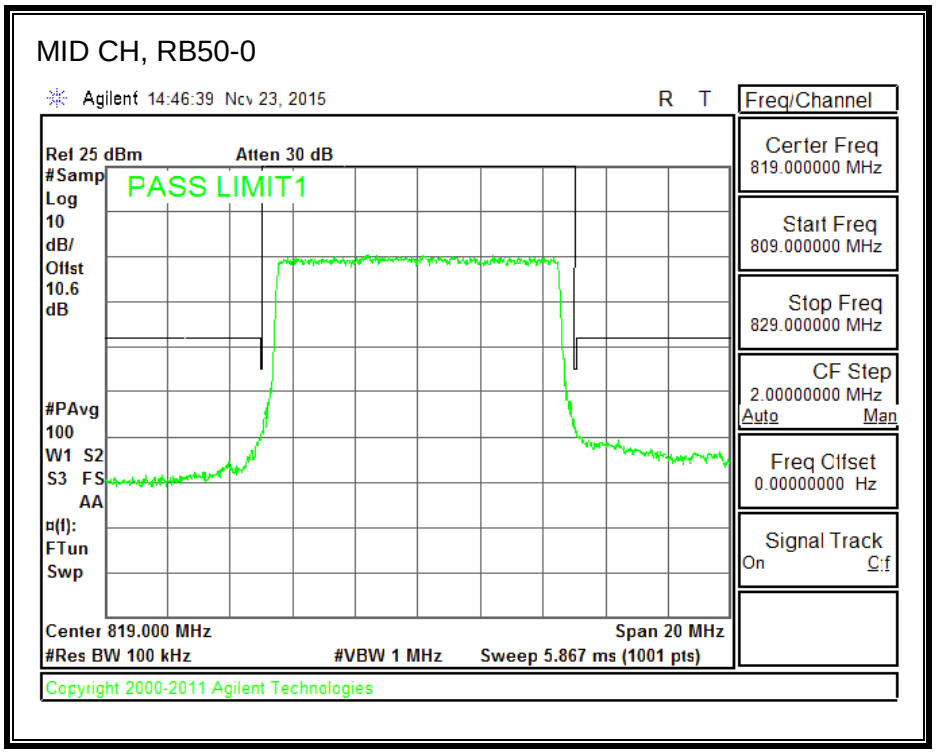


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

MID CH, RB25-12



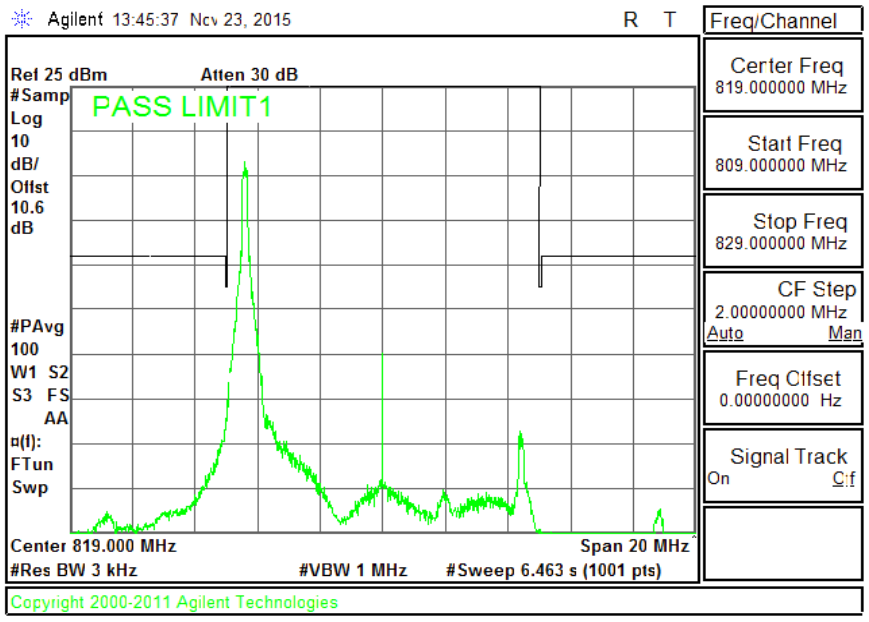
MID CH, RB50-0



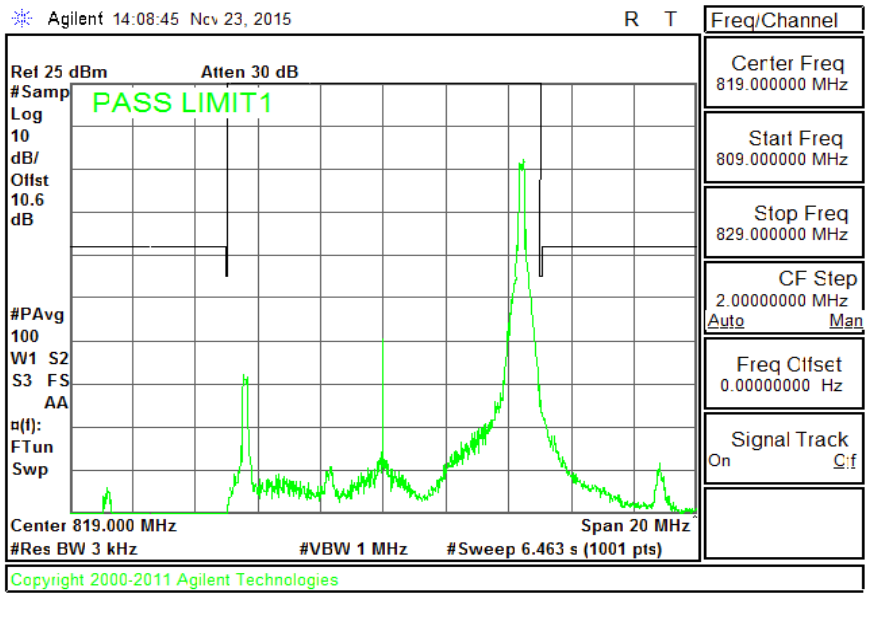
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

16QAM, (10.0 MHz BAND WIDTH)

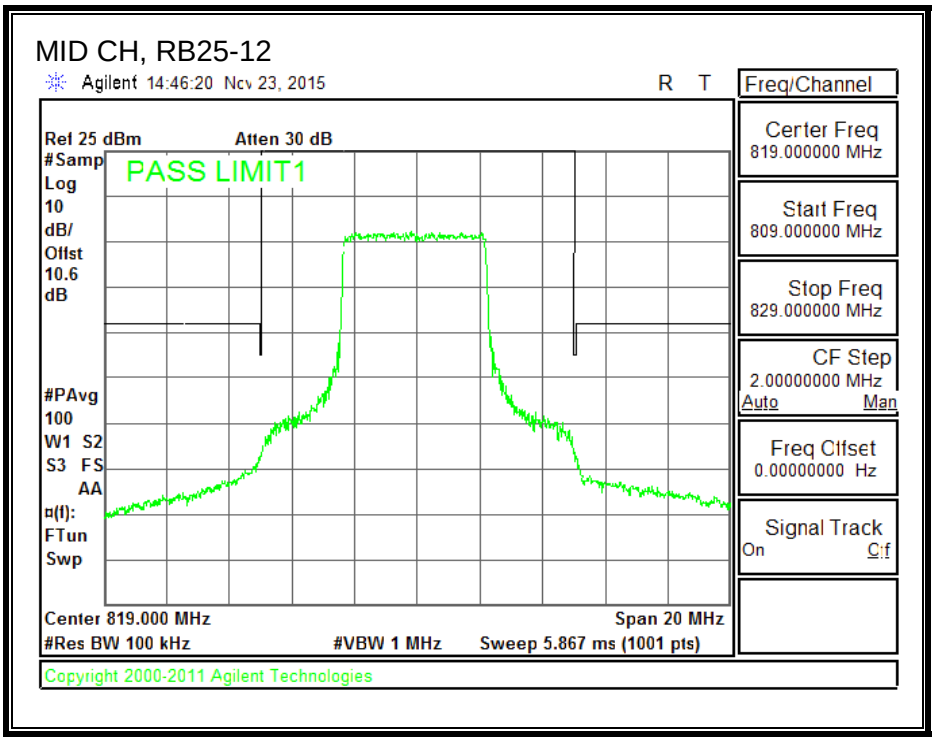
MID CH, RB1-0

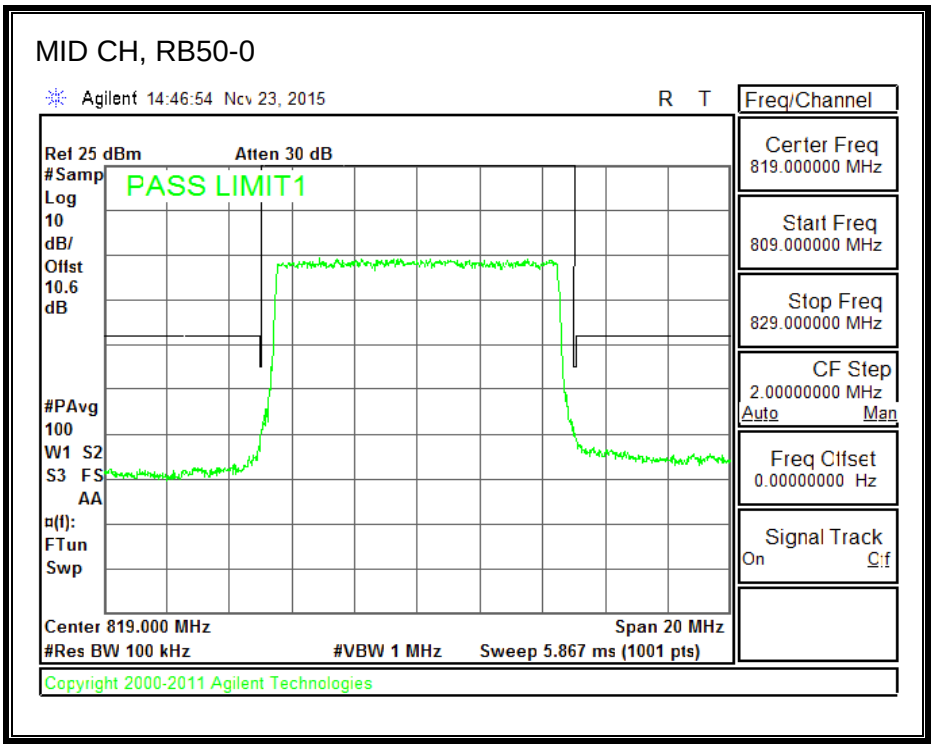


MID CH, RB1-49



This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.



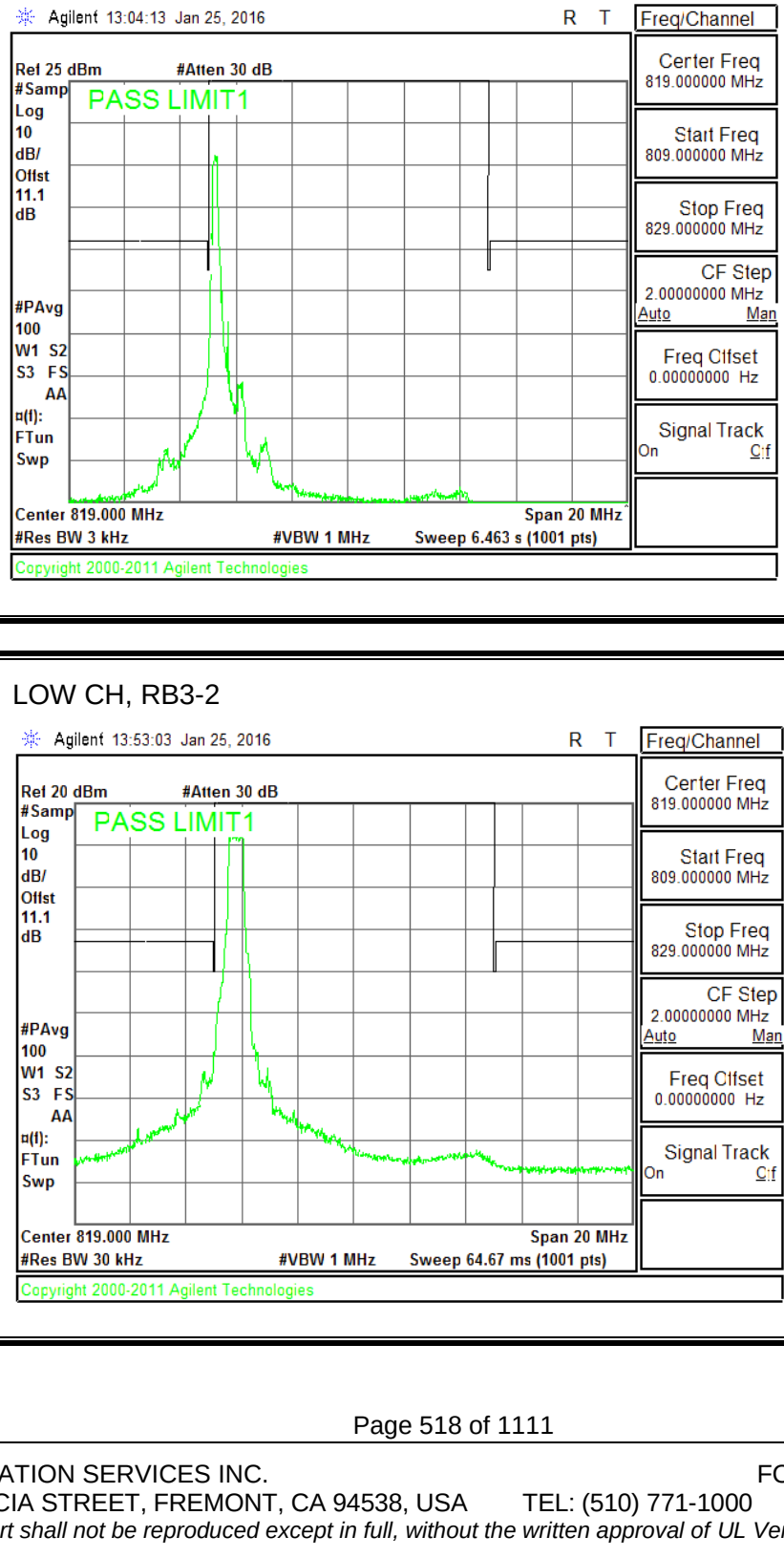


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

8.2.10. LTE BAND 27 EMISSION MASK

QPSK, (1.4 MHz BAND WIDTH)

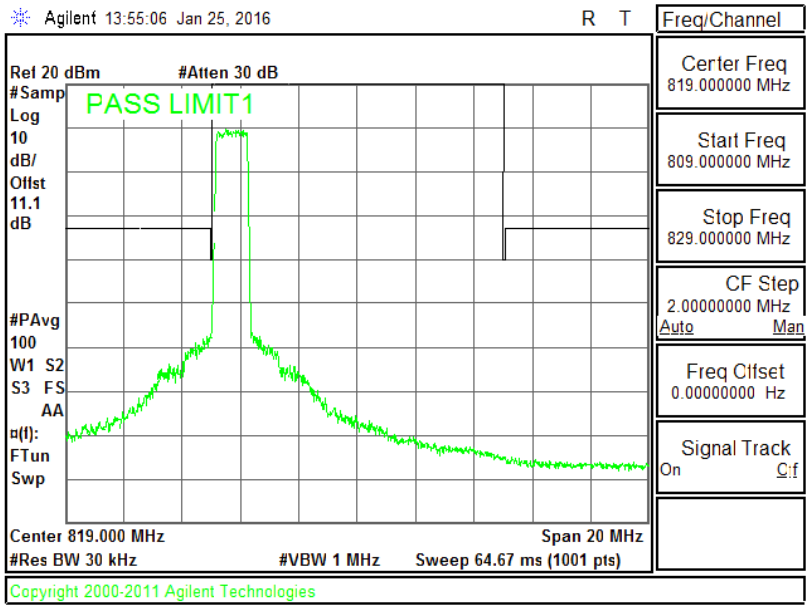
LOW CH, RB1-0



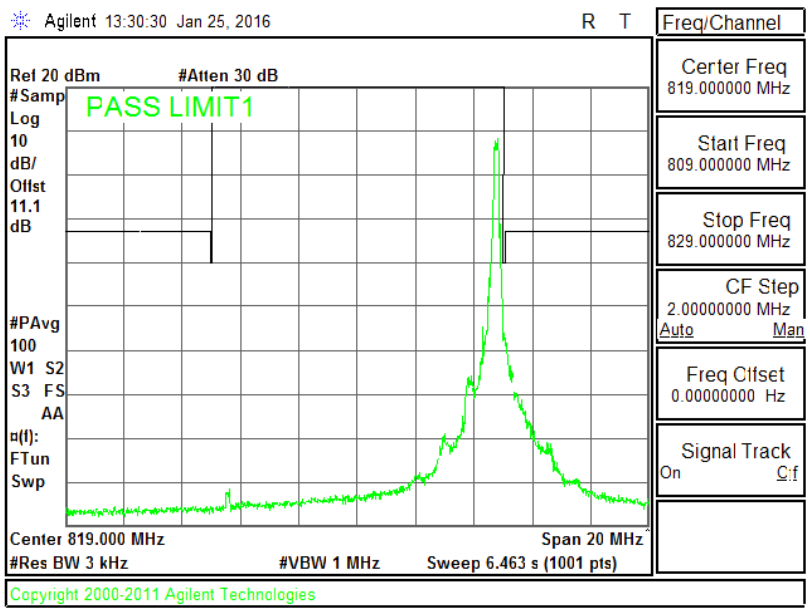
LOW CH, RB3-2

This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB6-0

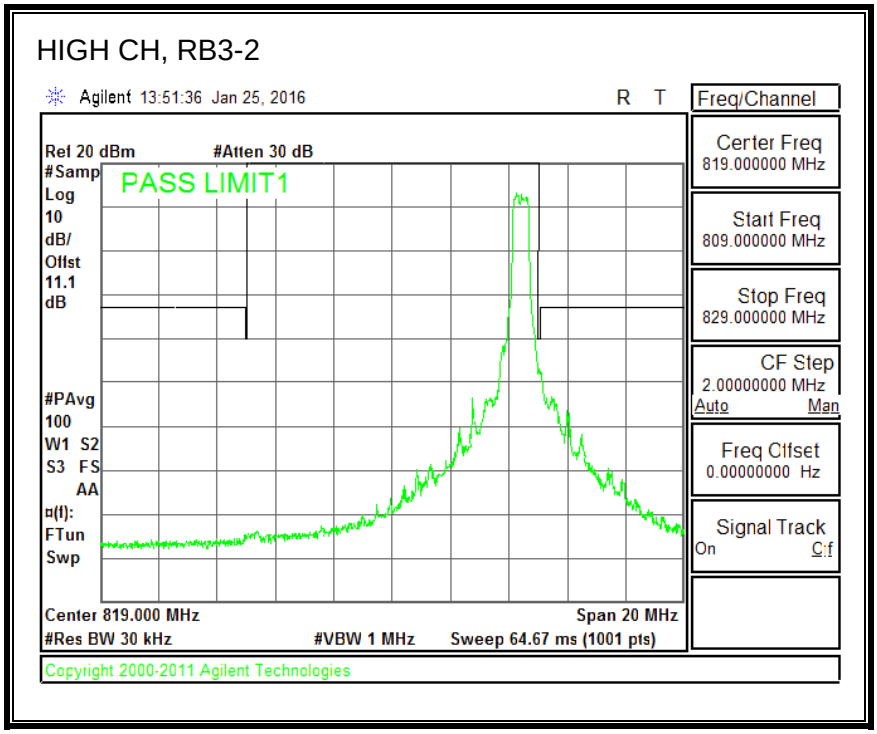


HIGH CH, RB1-5

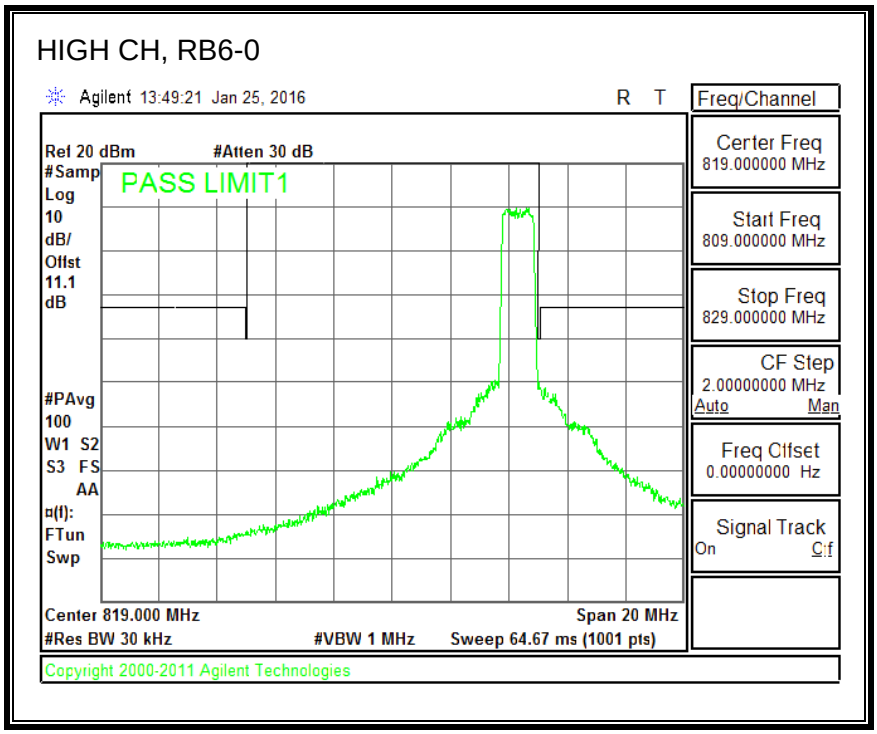


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

HIGH CH, RB3-2

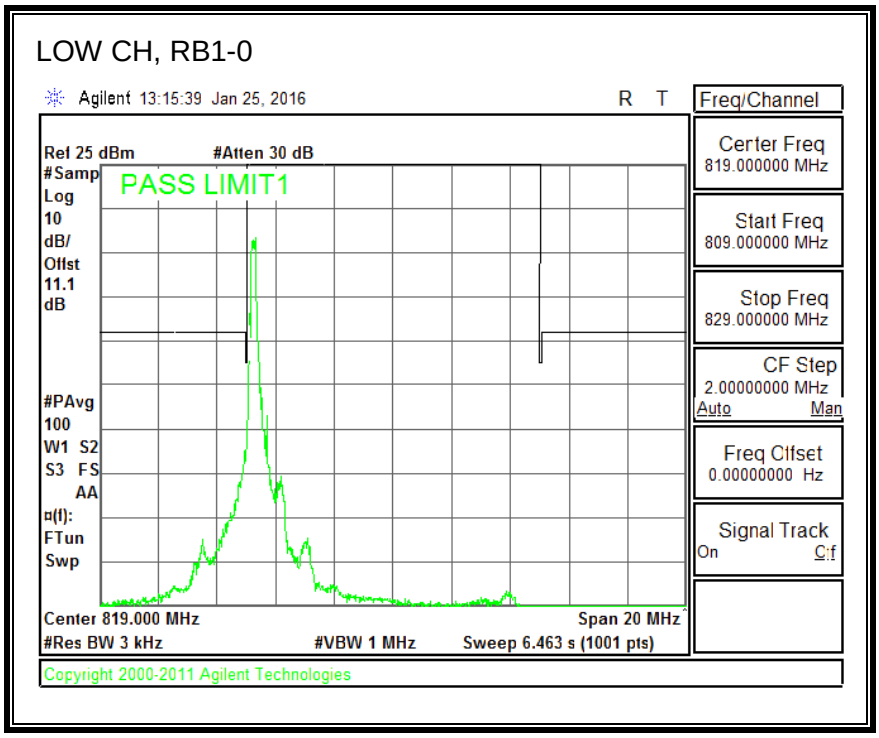


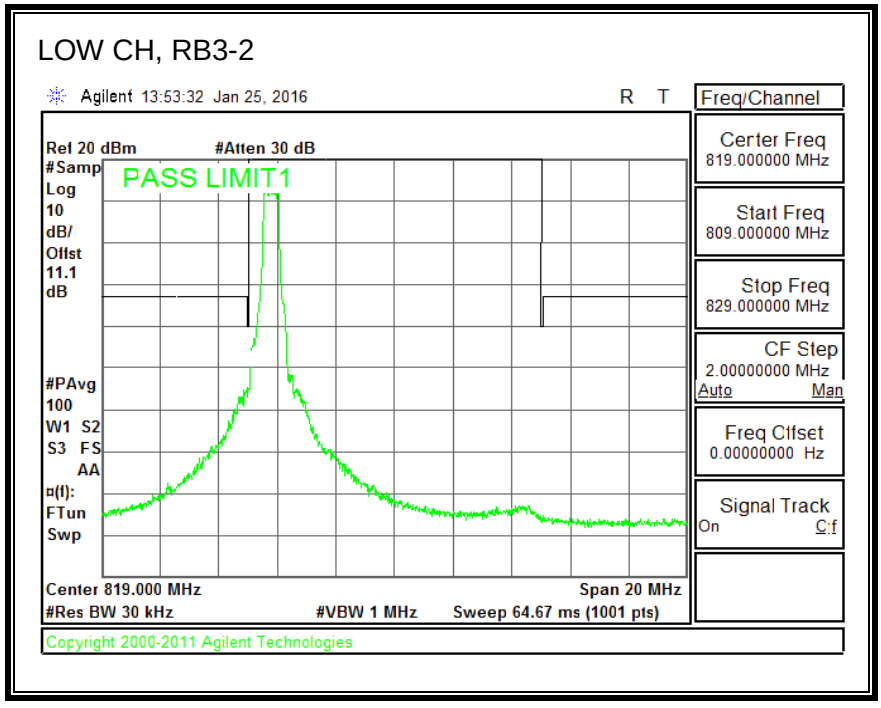
HIGH CH, RB6-0



This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

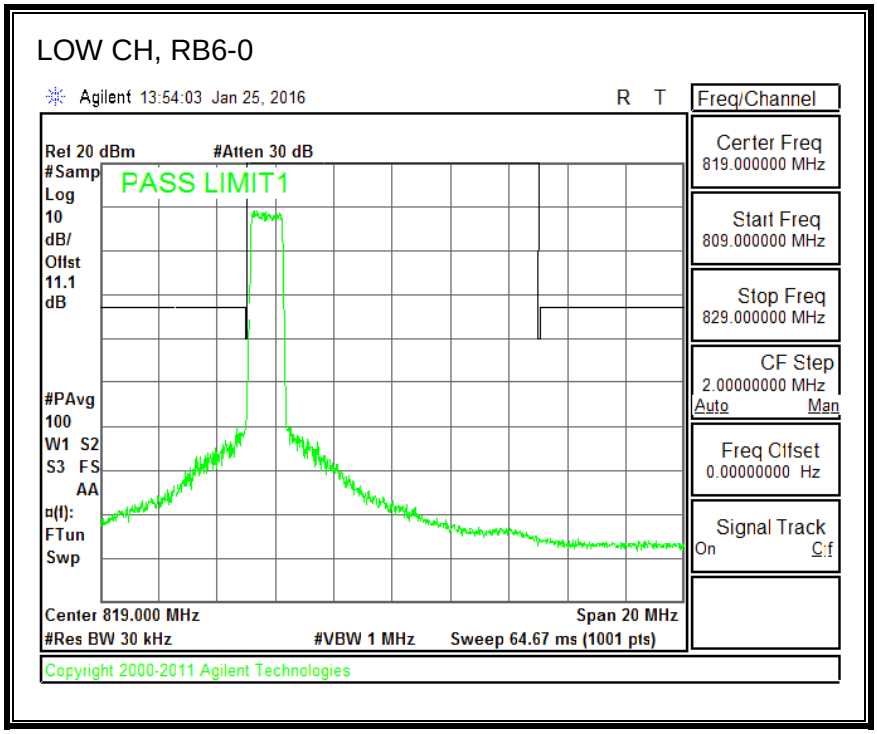
16QAM, (1.4 MHz BAND WIDTH)



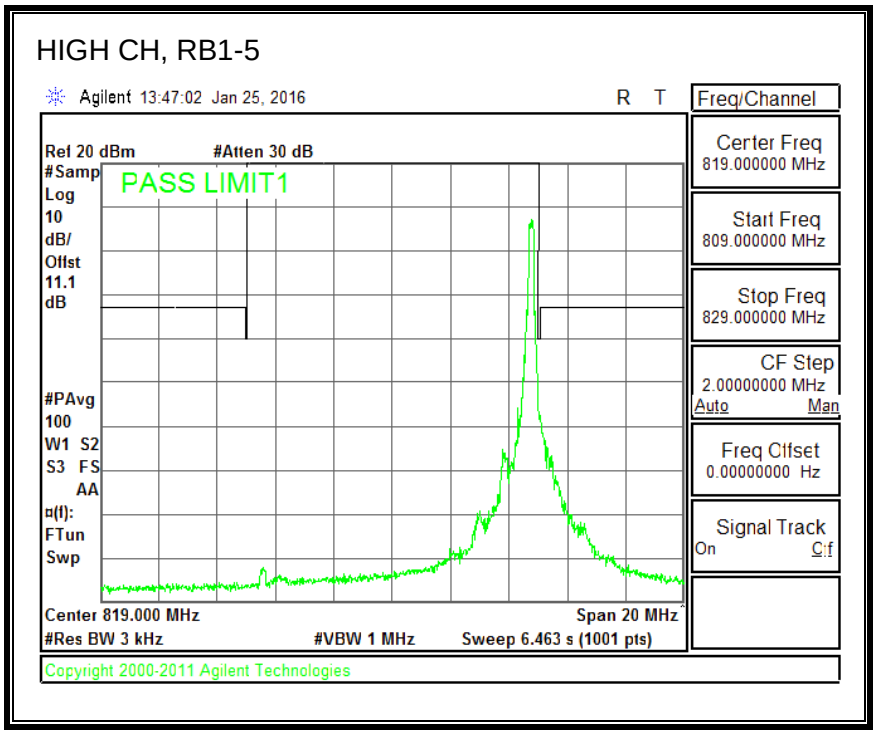


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB6-0

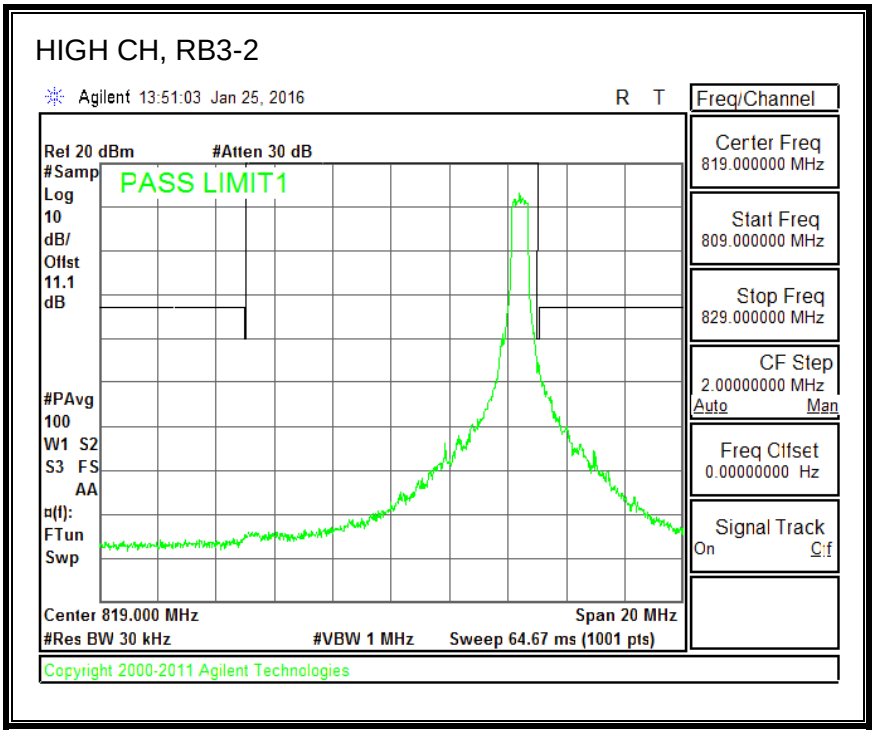


HIGH CH, RB1-5

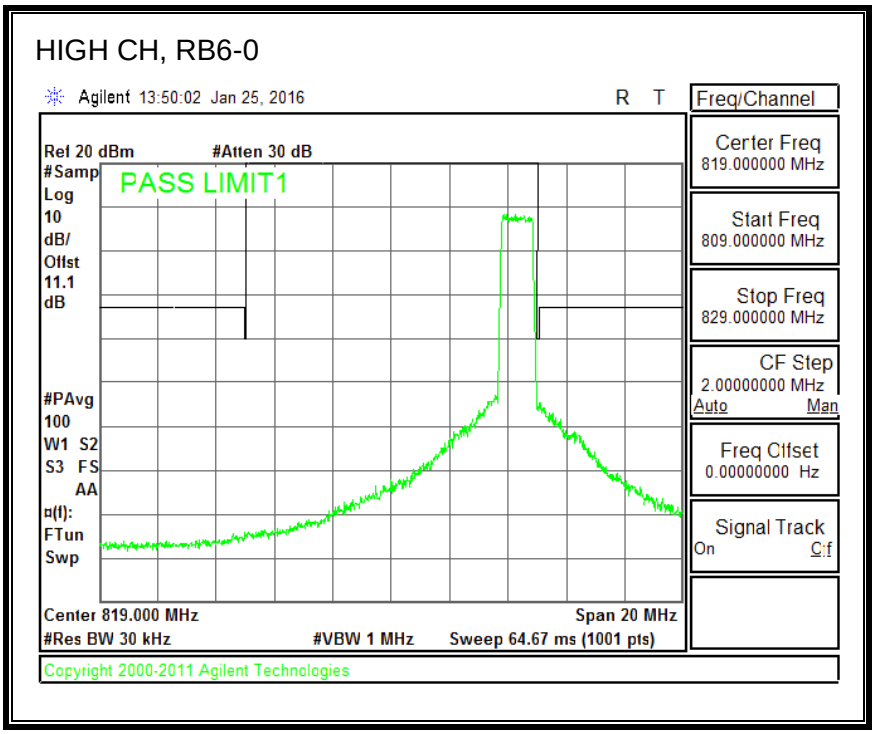


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

HIGH CH, RB3-2



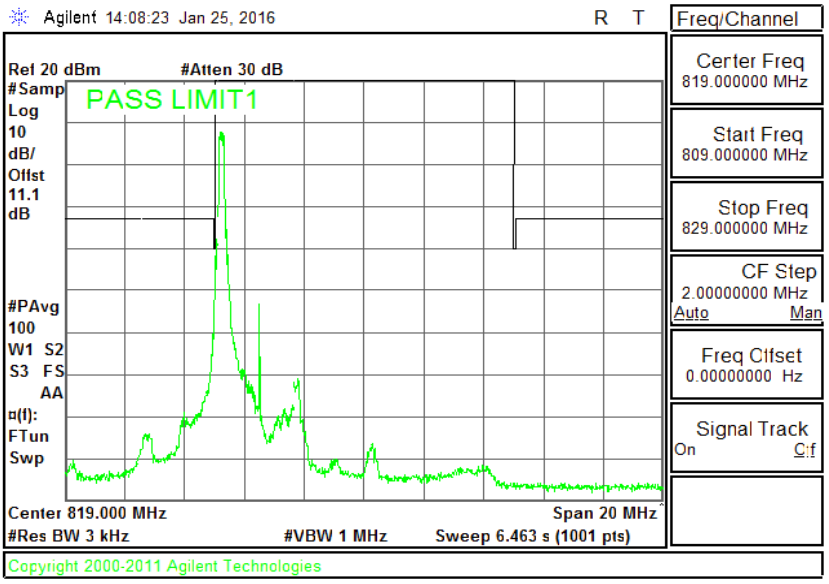
HIGH CH, RB6-0



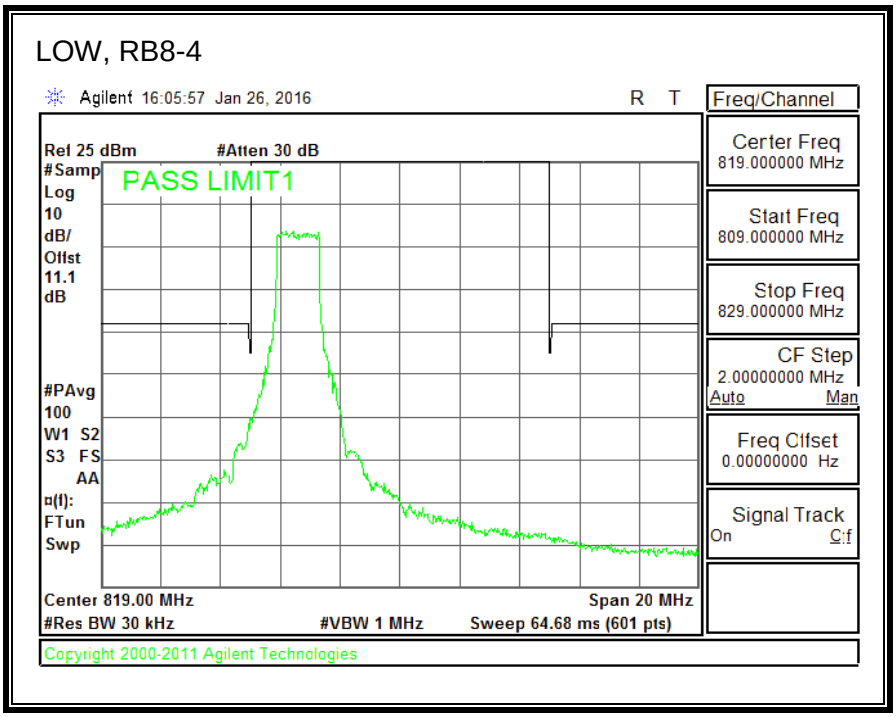
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

QPSK, (3.0 MHz BAND WIDTH)

LOW, RB1-0

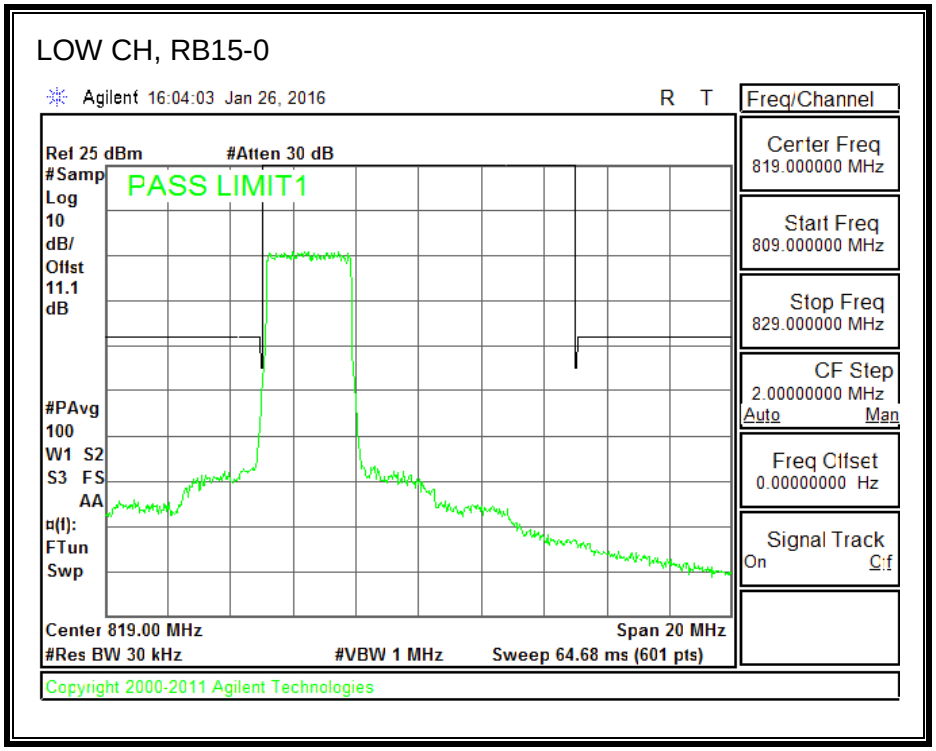


LOW, RB8-4

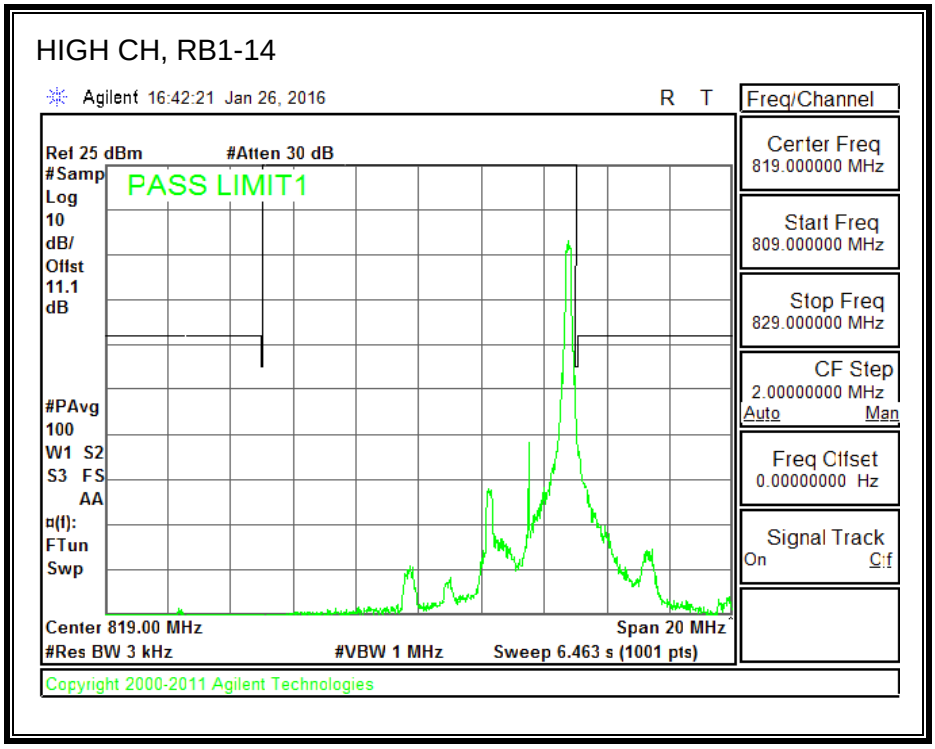


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB15-0

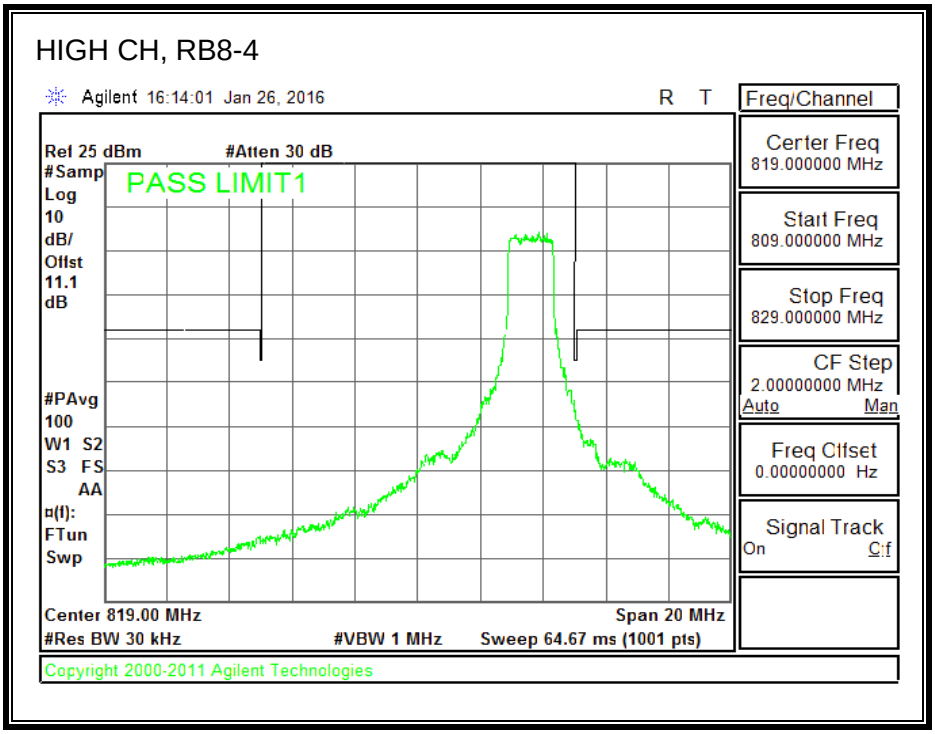


HIGH CH, RB1-14

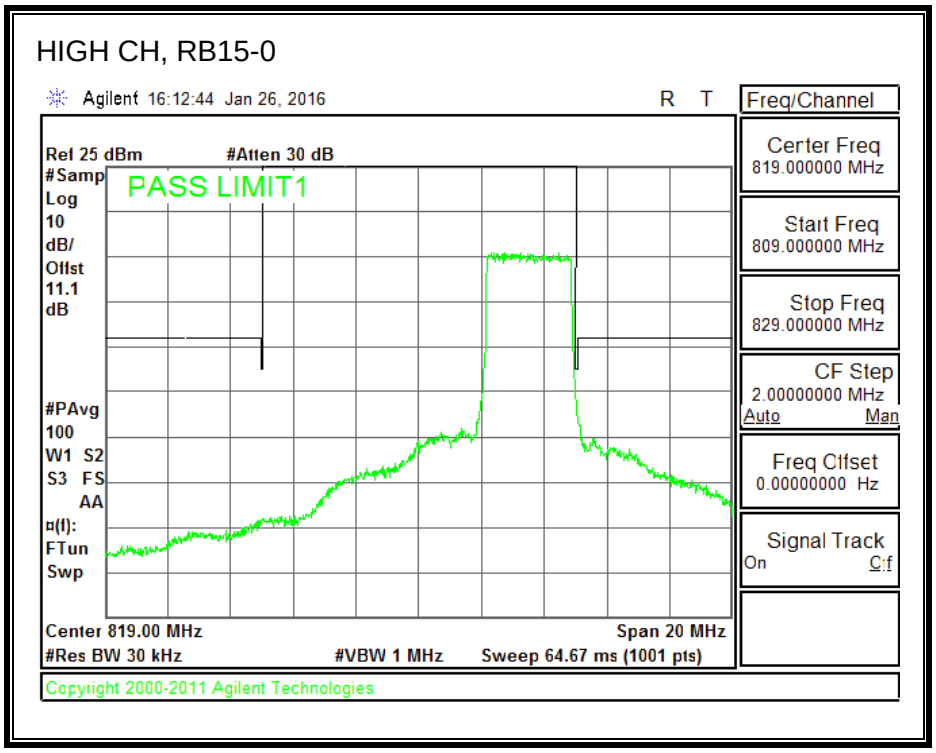


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

HIGH CH, RB8-4



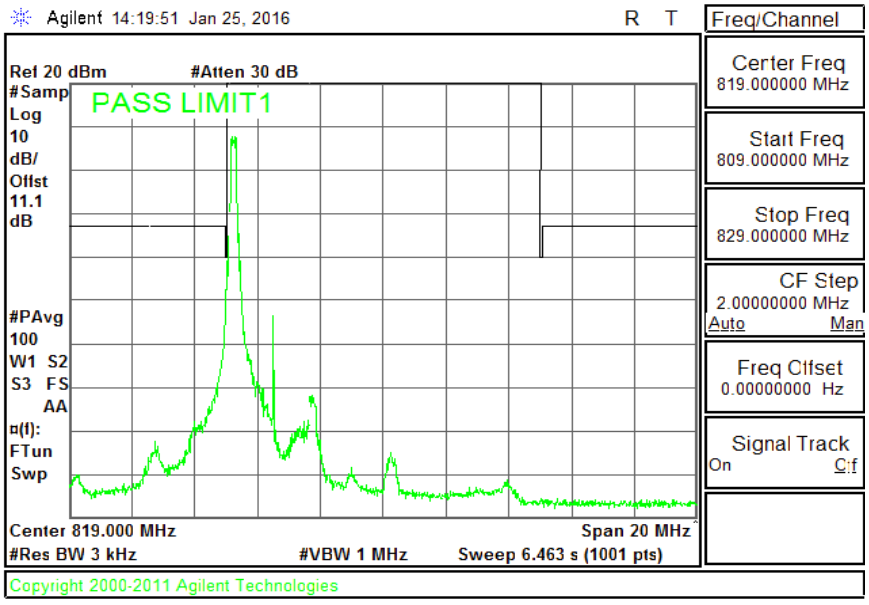
HIGH CH, RB15-0



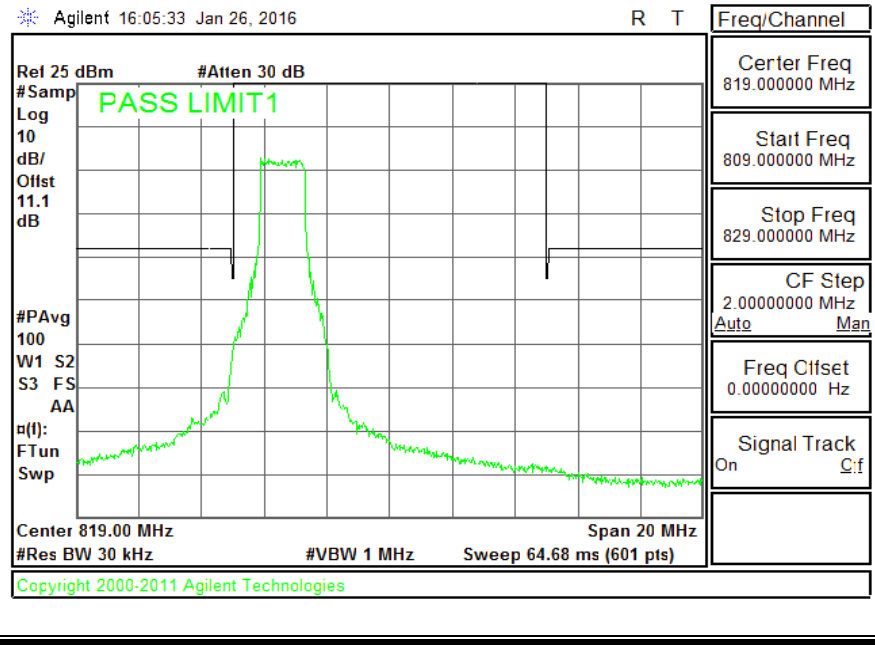
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

16QAM, (3.0 MHz BAND WIDTH)

LOW CH, RB1-0

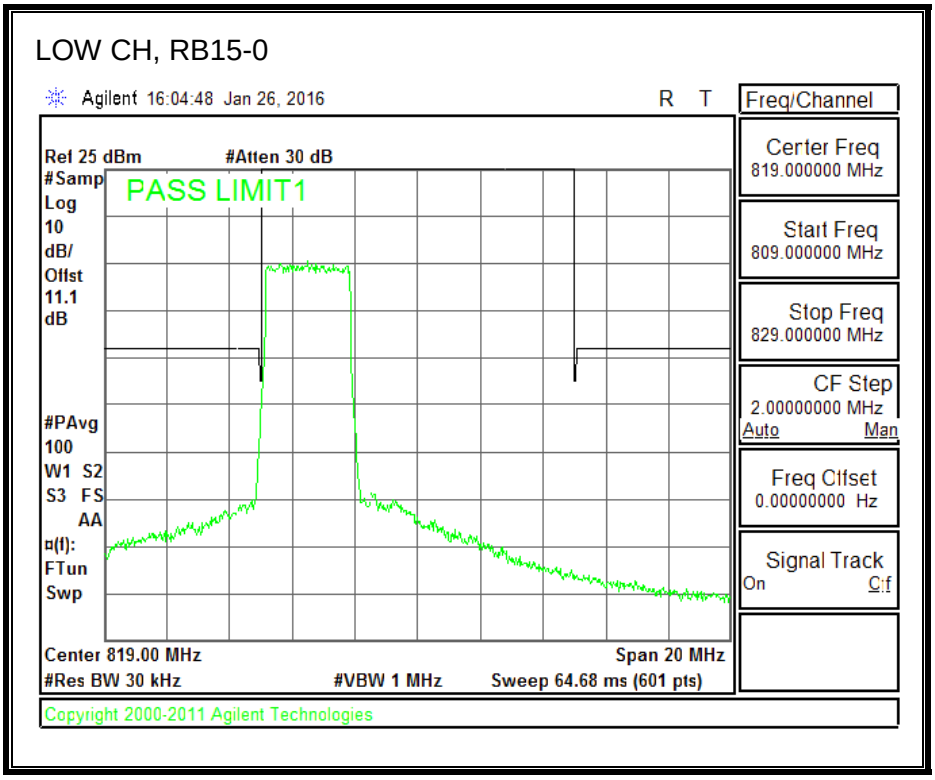


LOW CH, RB8-4

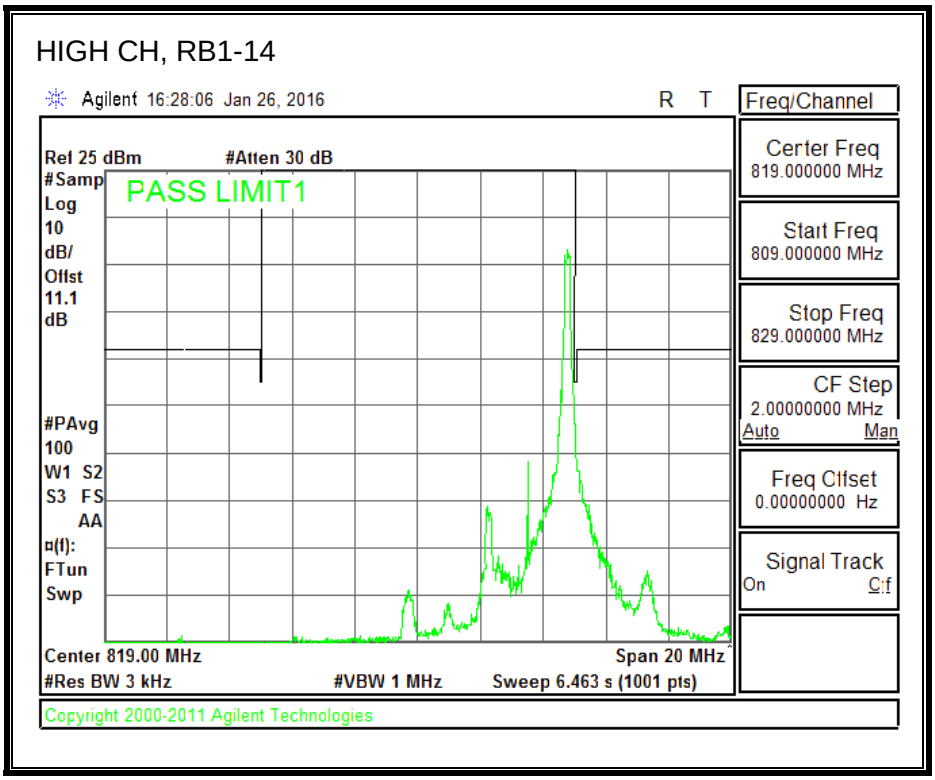


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB15-0

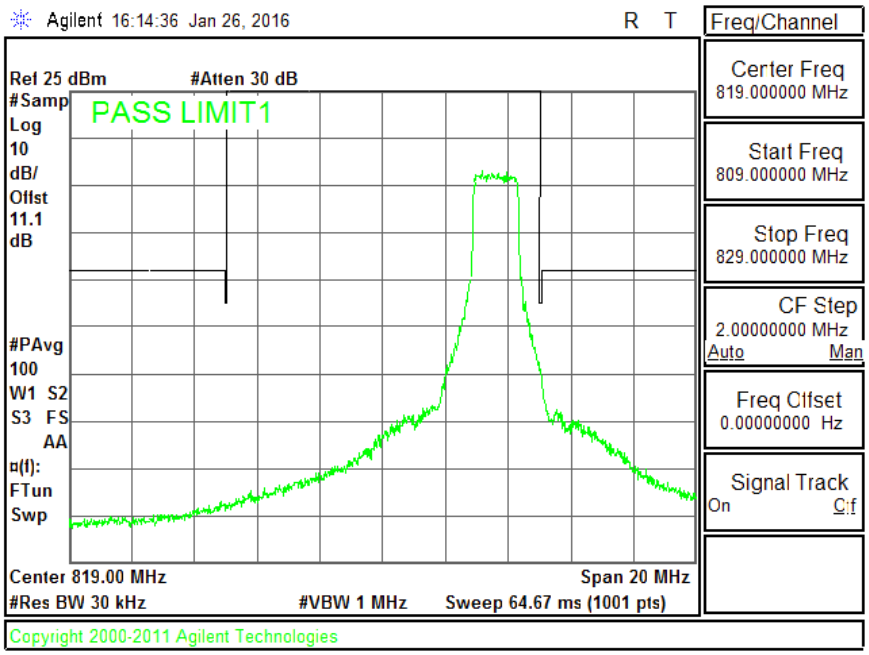


HIGH CH, RB1-14

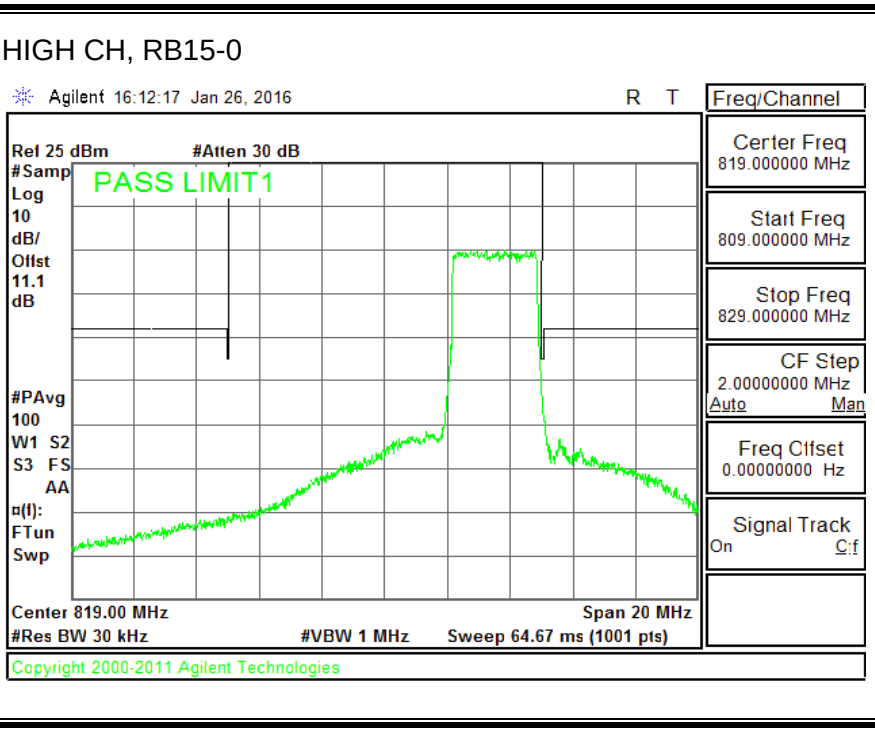


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

HIGH CH, RB8-4



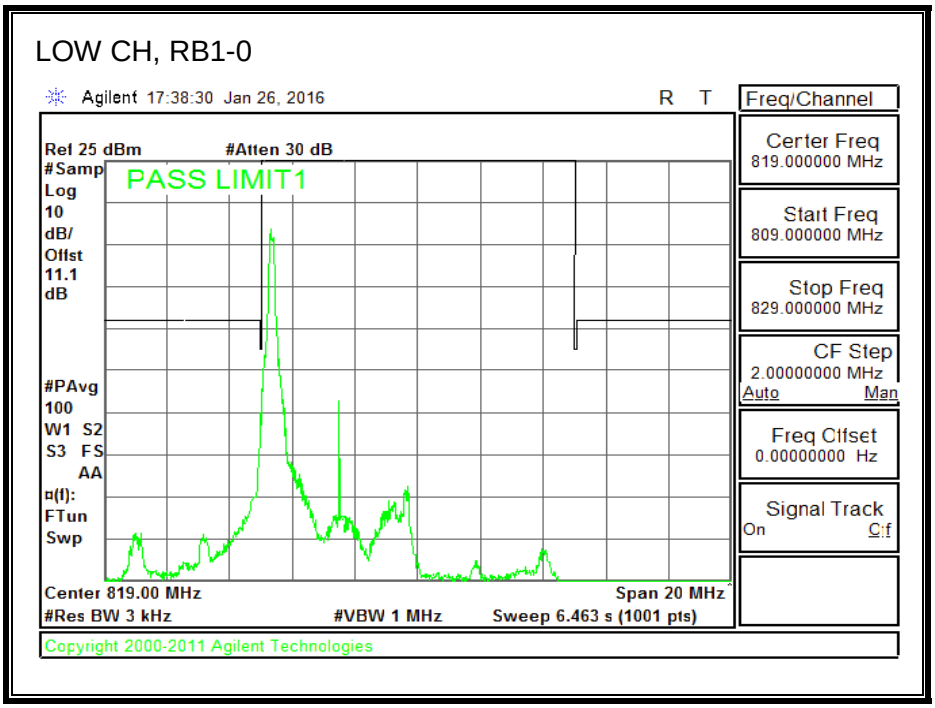
HIGH CH, RB15-0



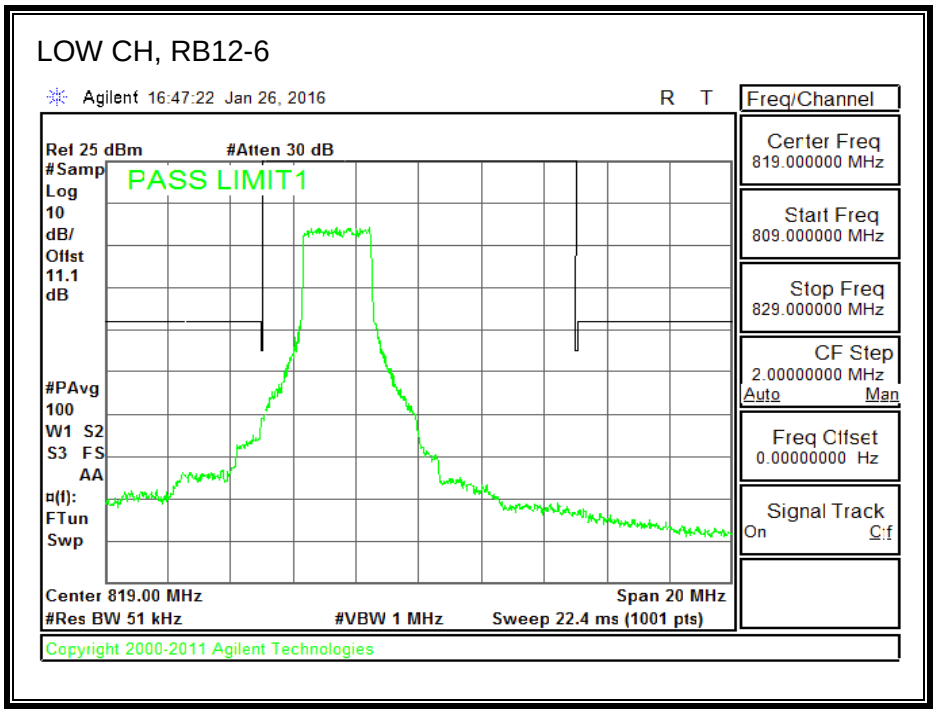
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

QPSK, (5.0 MHz BAND WIDTH)

LOW CH, RB1-0

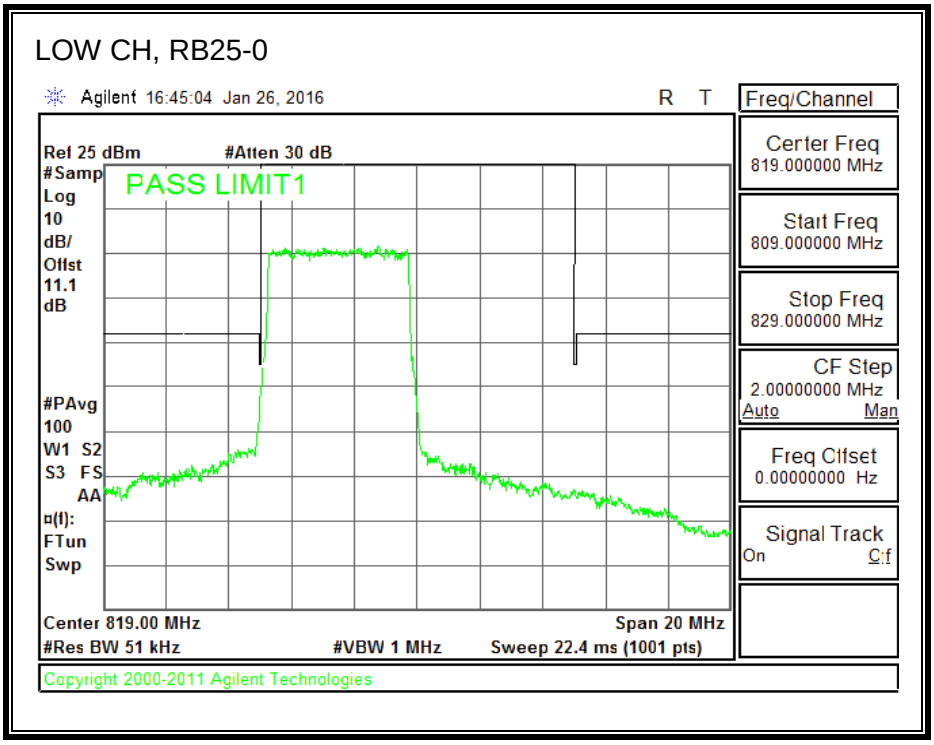


LOW CH, RB12-6

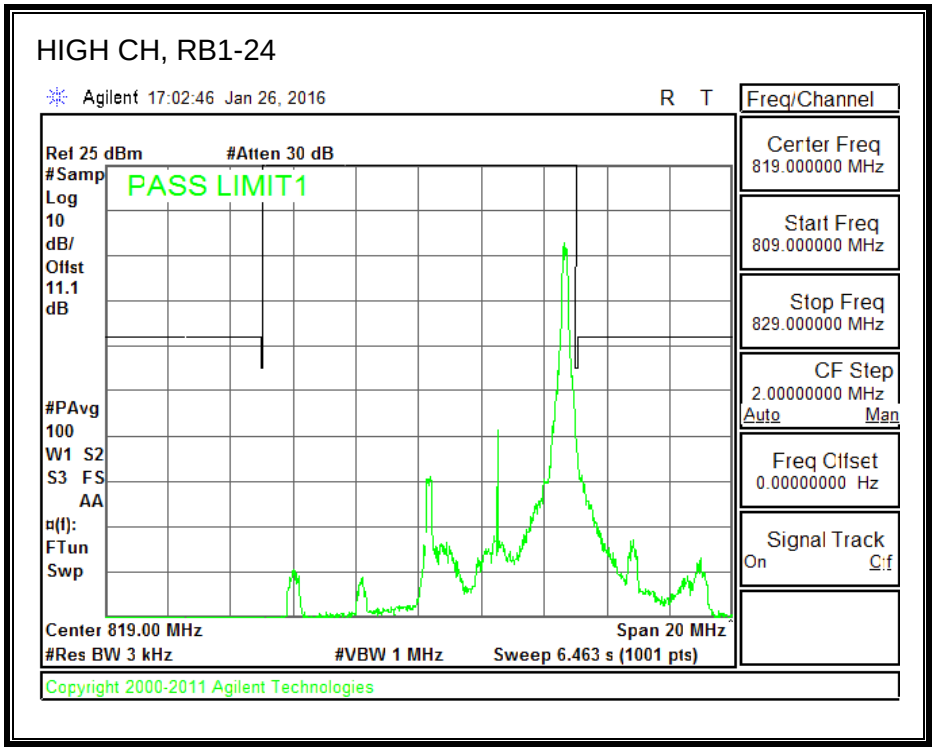


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB25-0

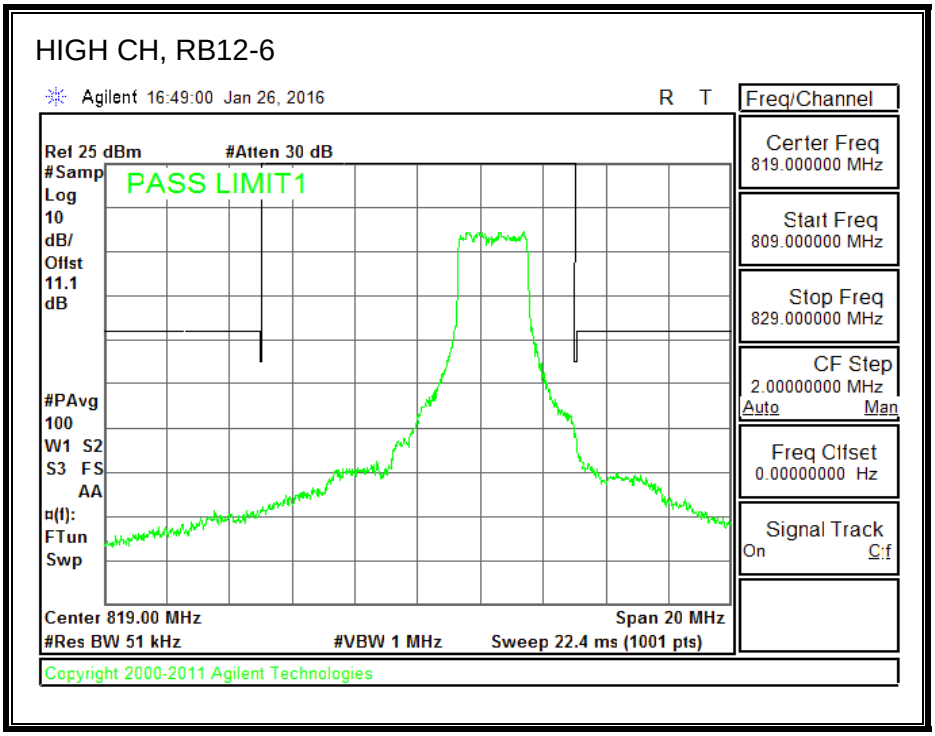


HIGH CH, RB1-24

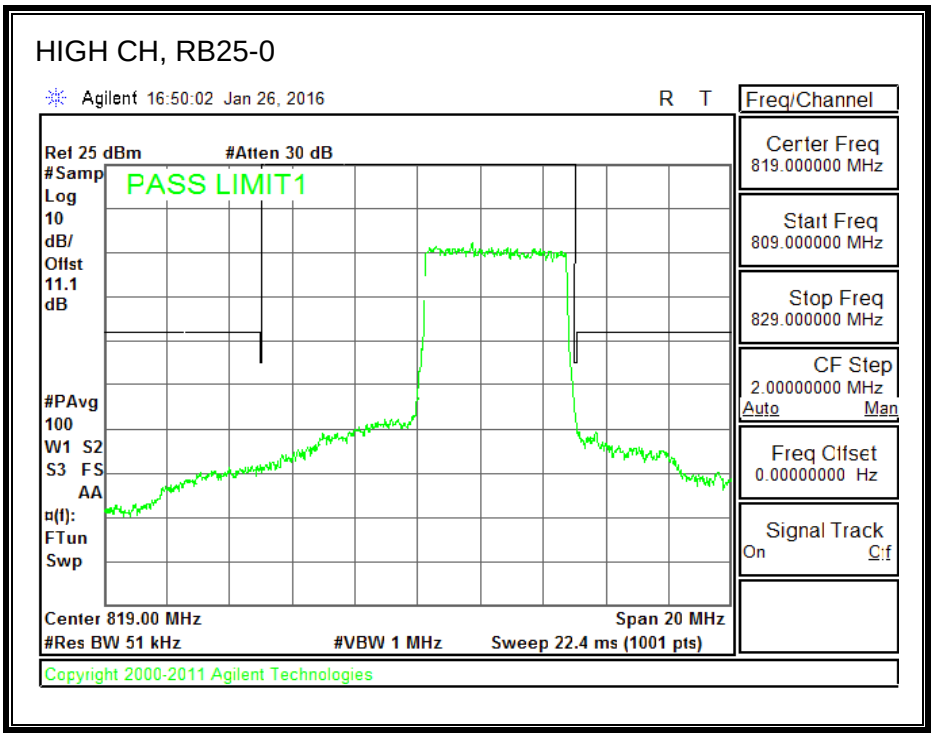


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

HIGH CH, RB12-6



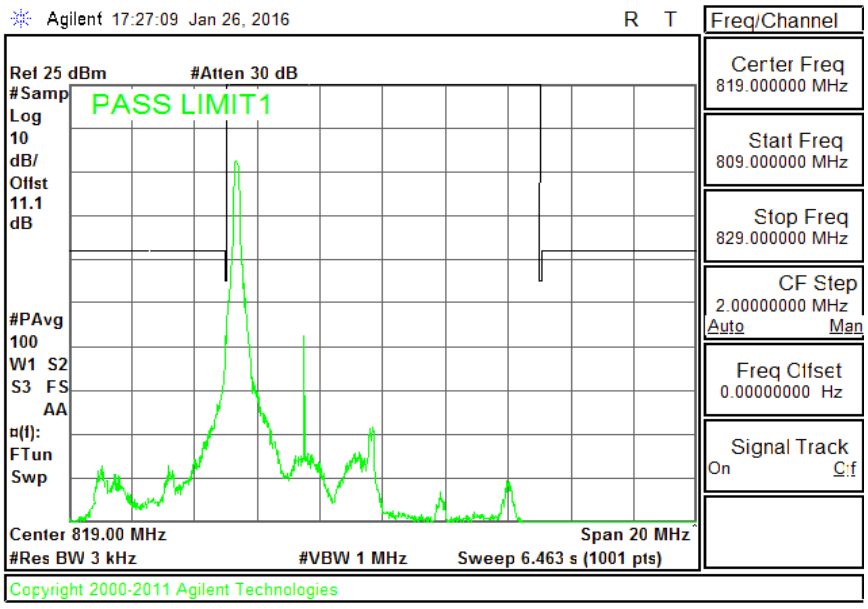
HIGH CH, RB25-0



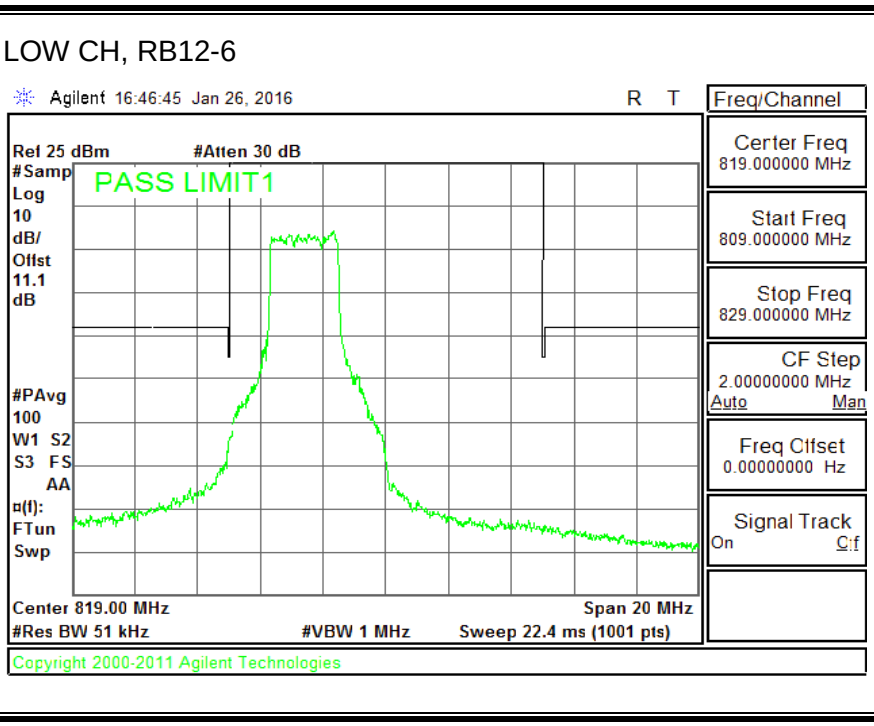
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

16QAM, (5.0 MHz BAND WIDTH)

LOW CH, RB1-0

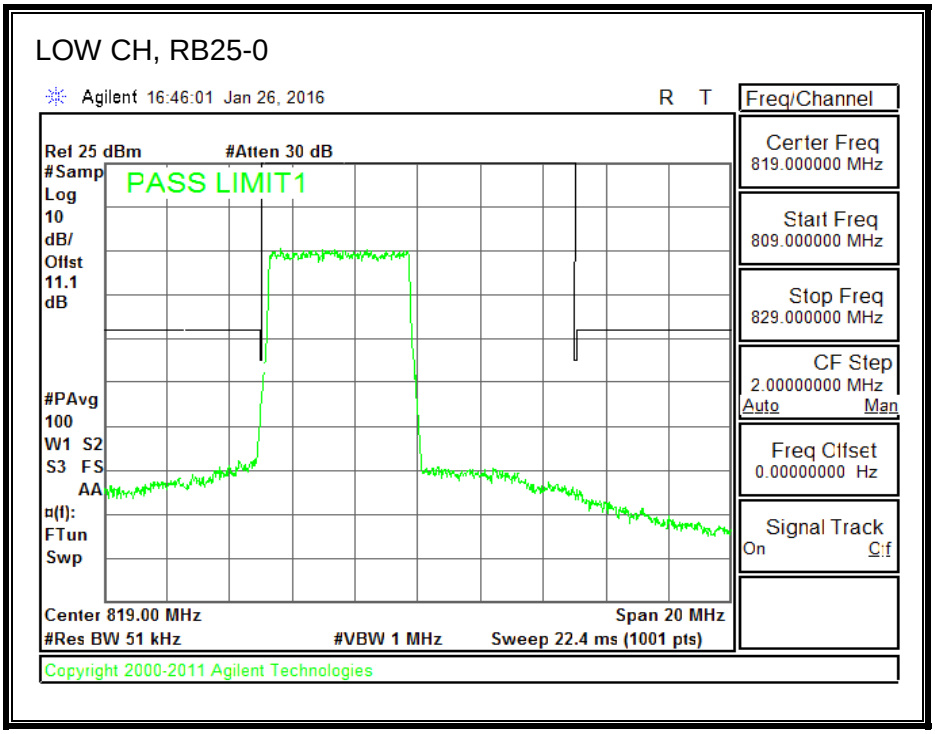


LOW CH, RB12-6

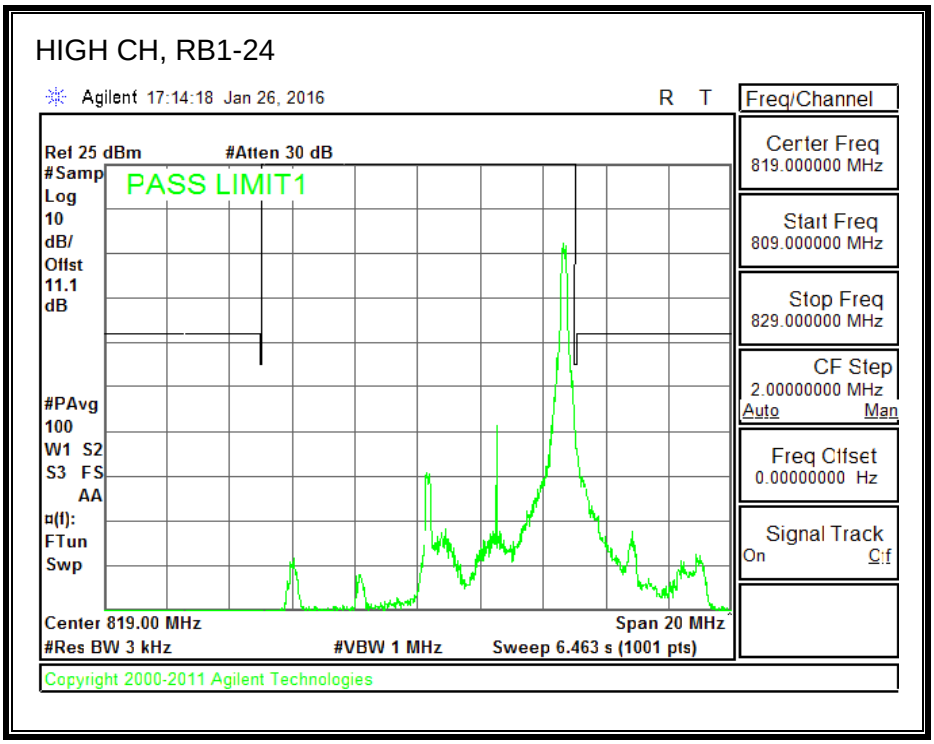


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB25-0

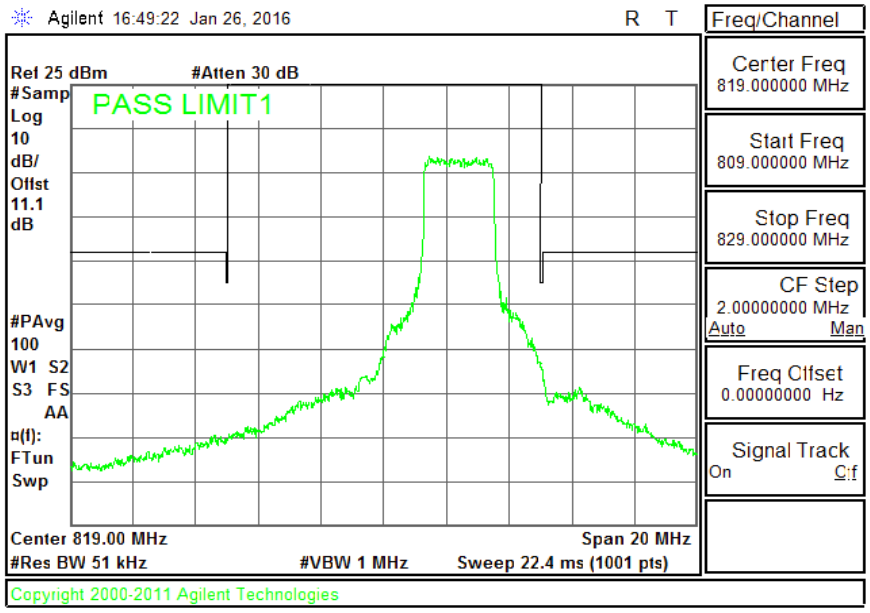


HIGH CH, RB1-24

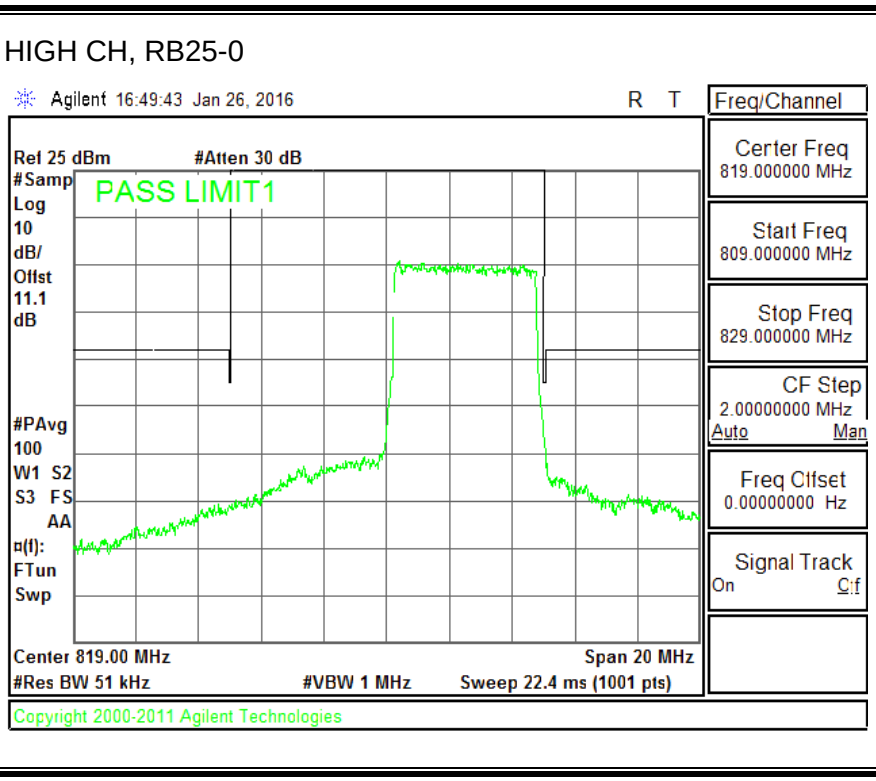


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

HIGH CH, RB12-6



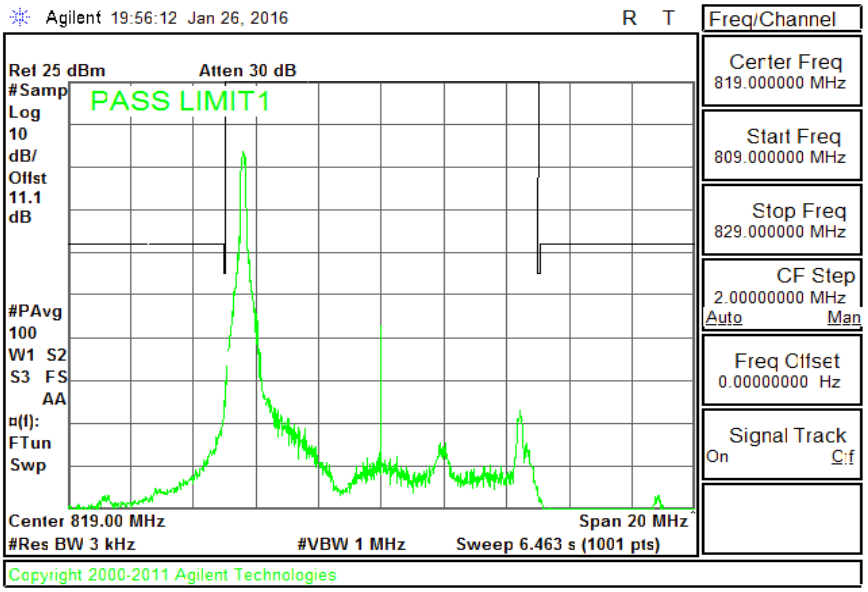
HIGH CH, RB25-0



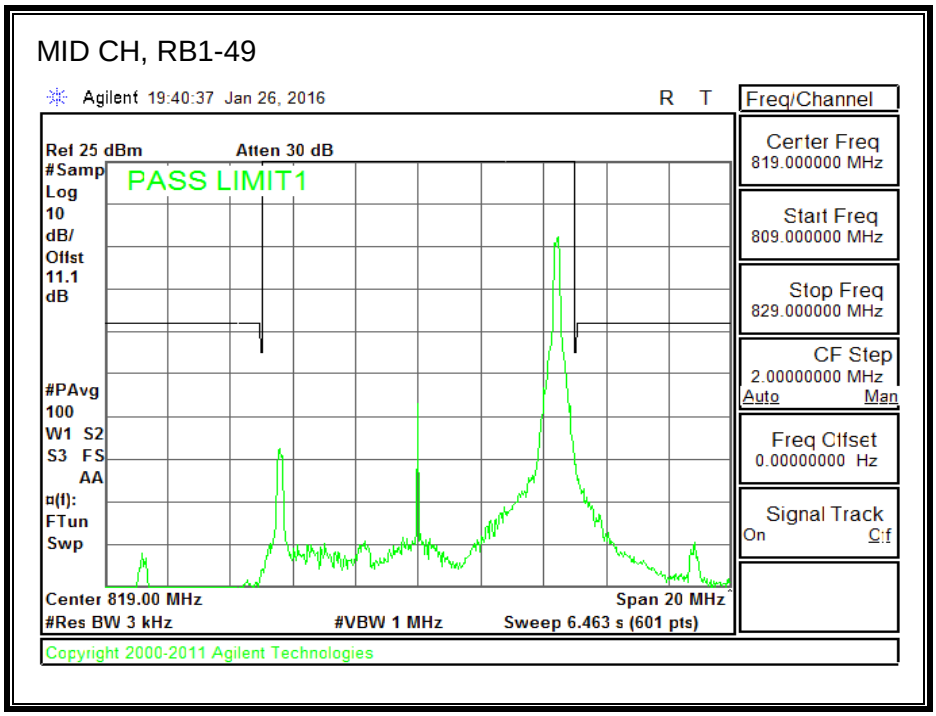
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

QPSK, (10.0 MHz BAND WIDTH)

MID CH, RB1-0

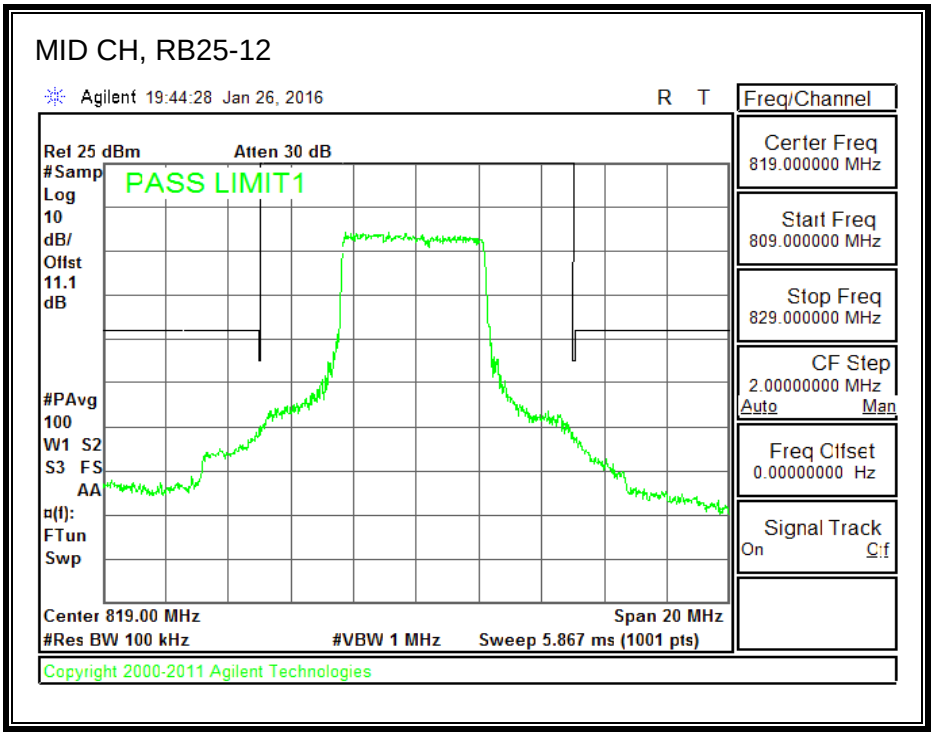


MID CH, RB1-49

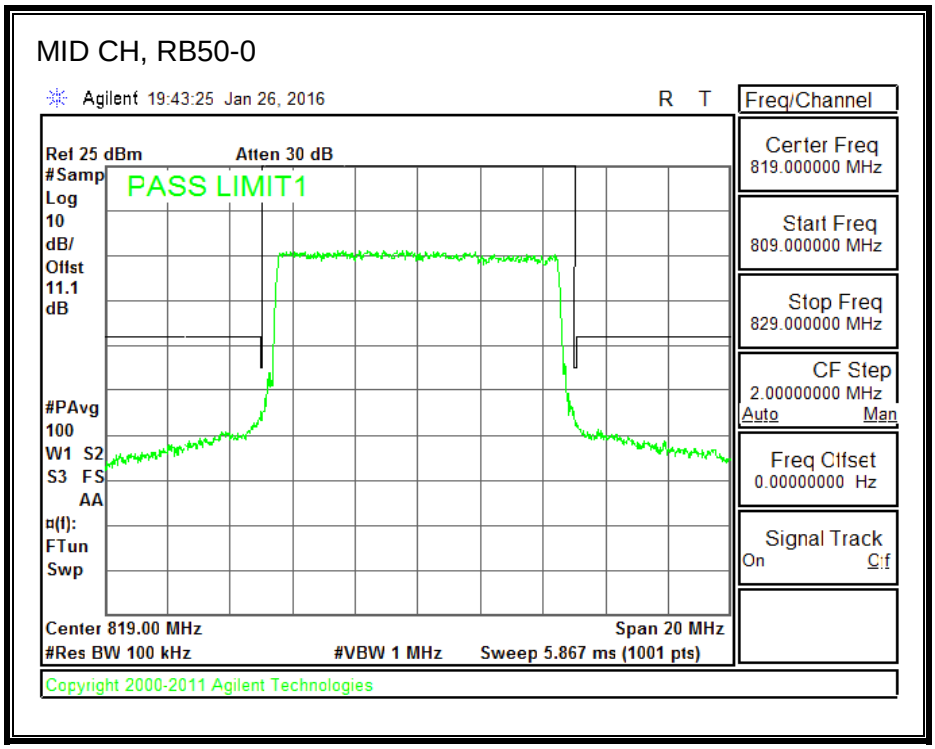


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

MID CH, RB25-12



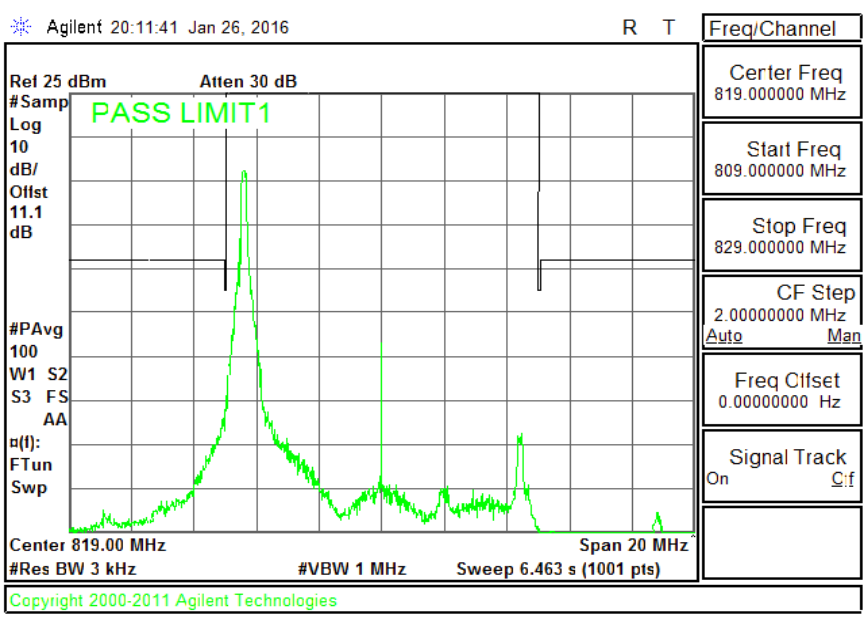
MID CH, RB50-0



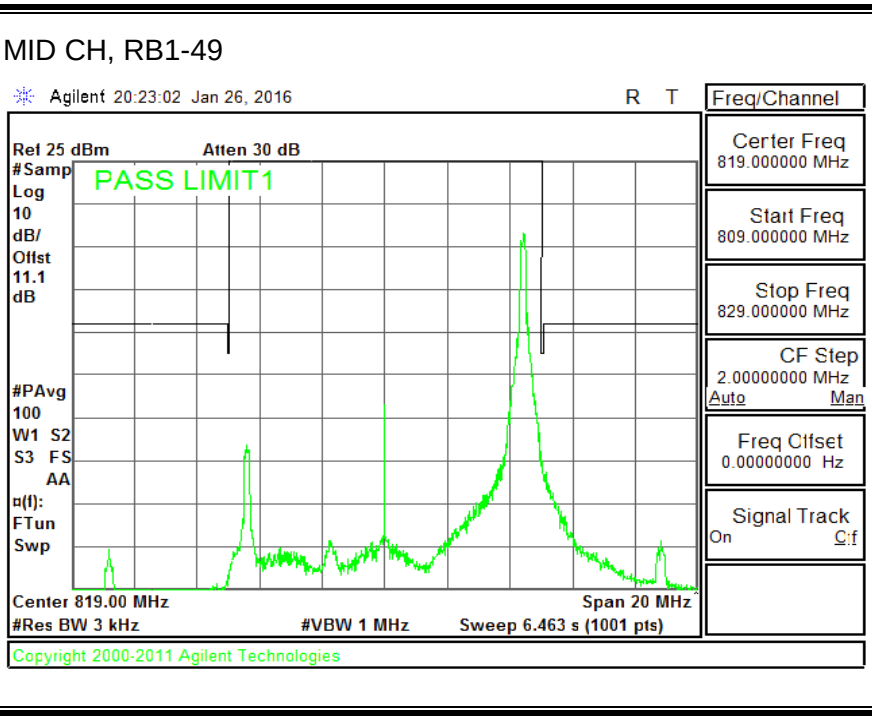
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

16QAM, (10.0 MHz BAND WIDTH)

MID CH, RB1-0

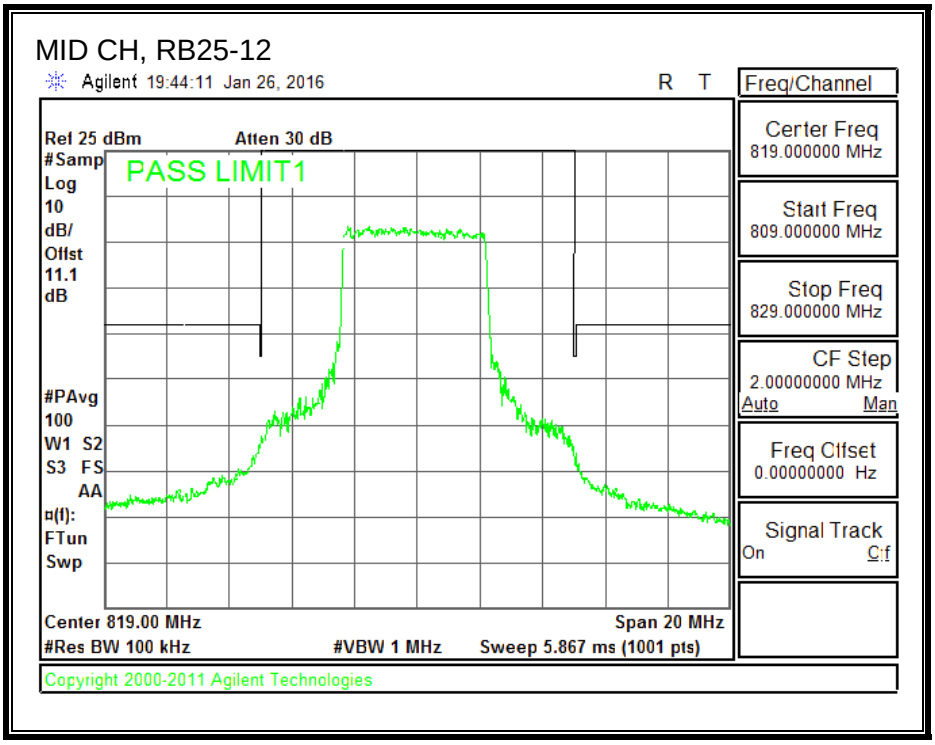


MID CH, RB1-49

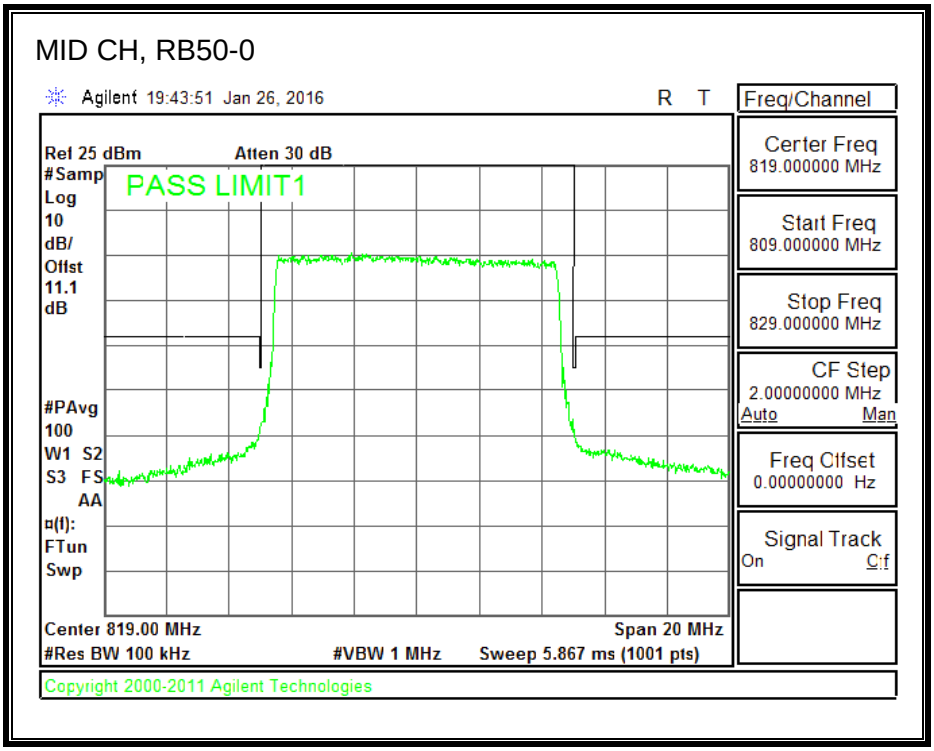


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

MID CH, RB25-12



MID CH, RB50-0

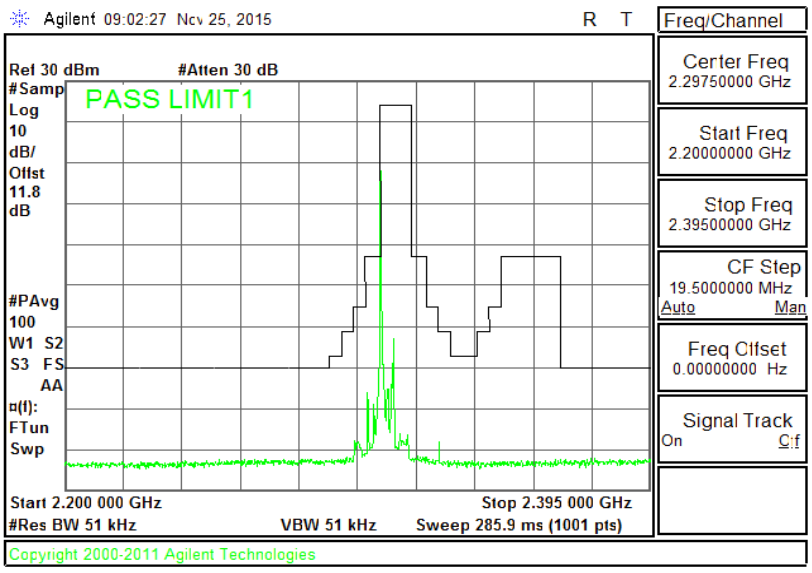


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

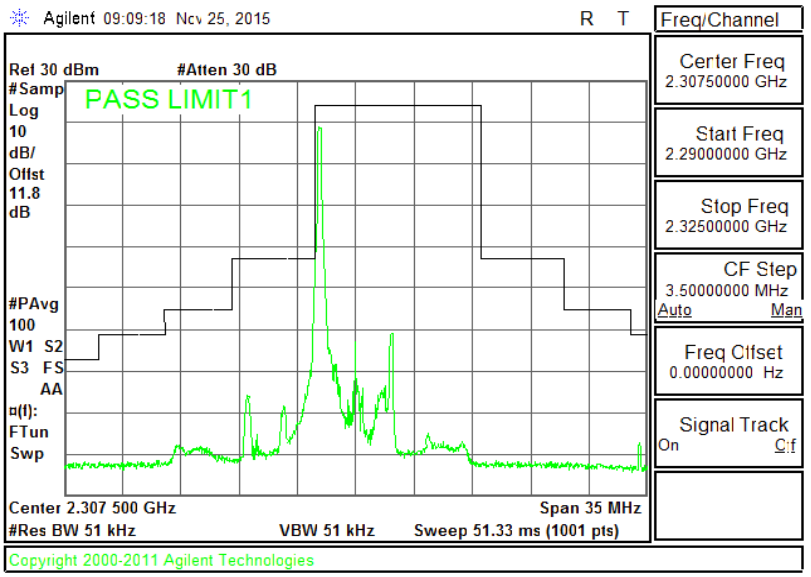
8.2.11. LTE BAND 30 EMISSION MASK

QPSK, (5.0 MHz BAND WIDTH)

LOW CH, RB1-0

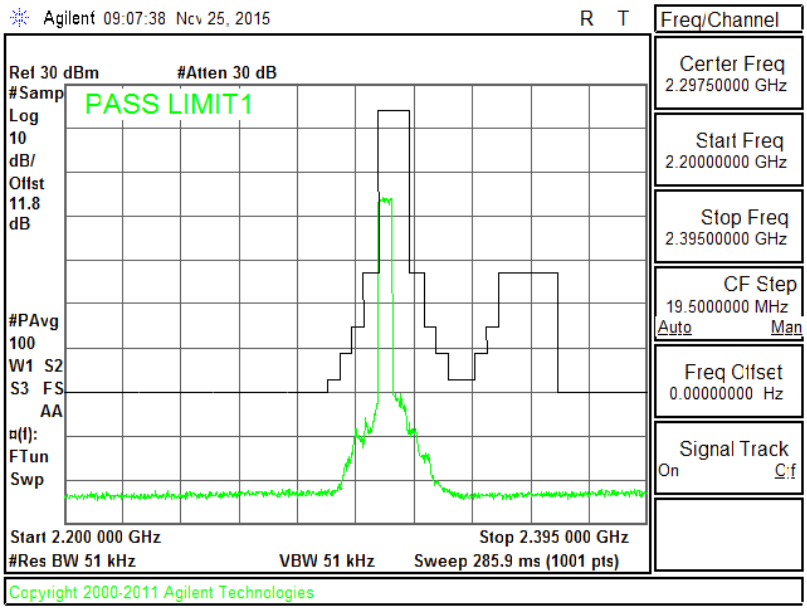


LOW CH, RB1-0 Zoom in

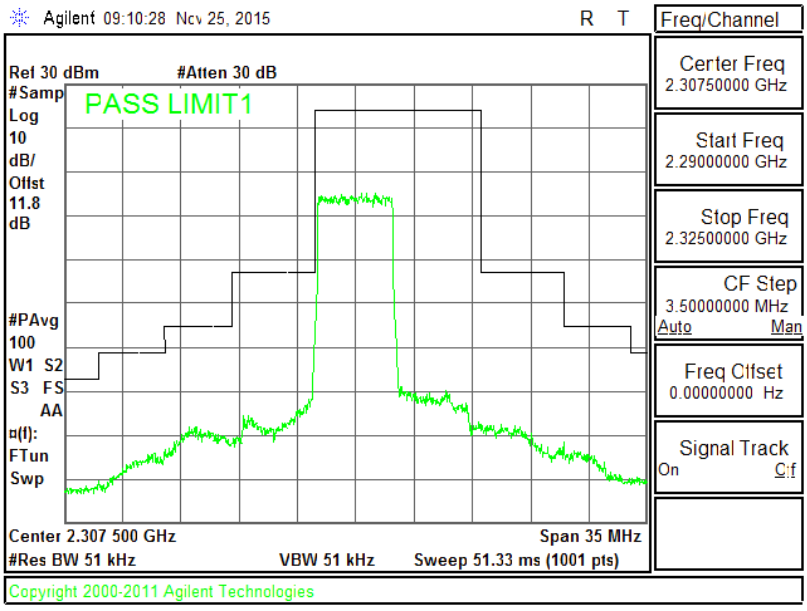


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB25-0



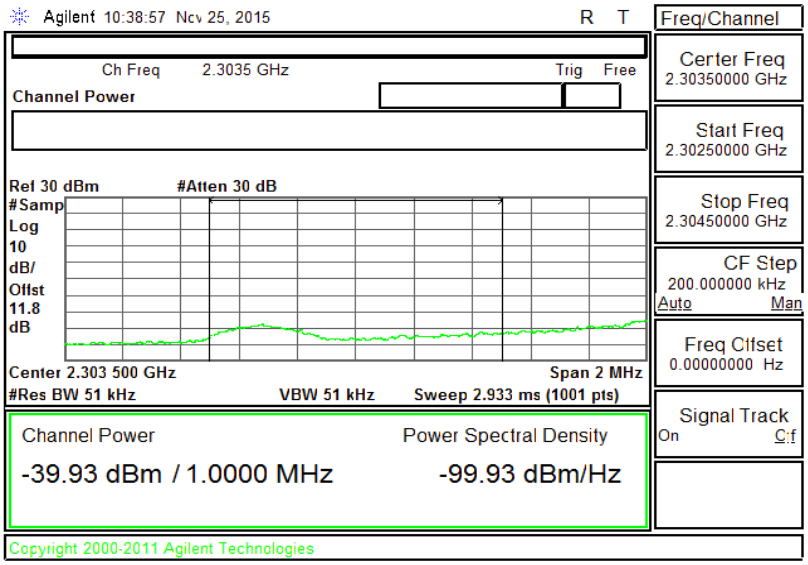
LOW CH, RB25-0 Zoom in



This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

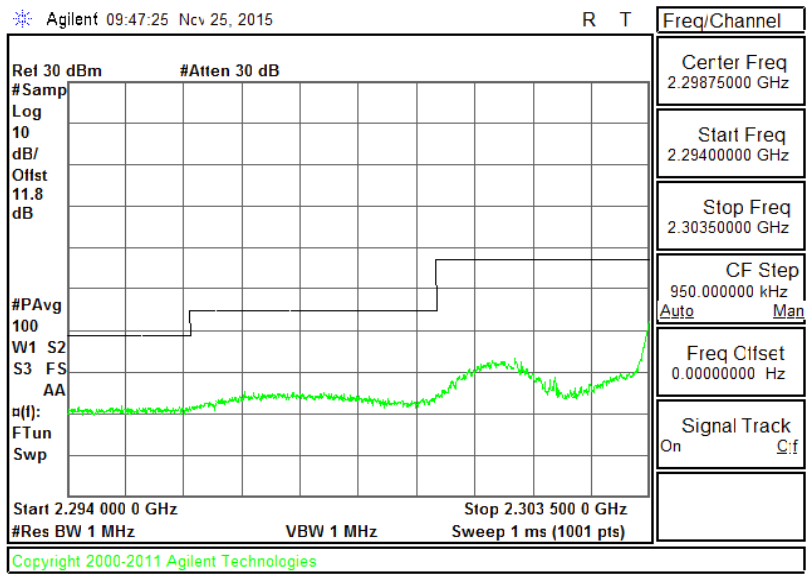
LOW CH, LOW SIDE RB1-0

(RB=VB= 1%EBW, 2303–2304MHz)



LOW CH, LOW SIDE RB1-0

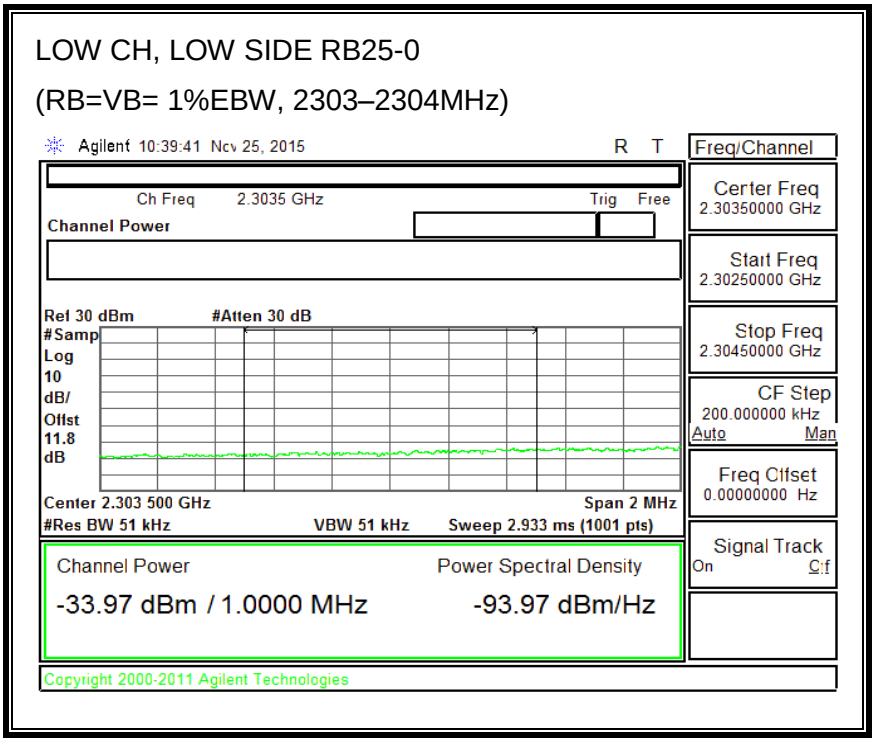
(RB=VB= 1MHz, 2294-2303.5MHz)



This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

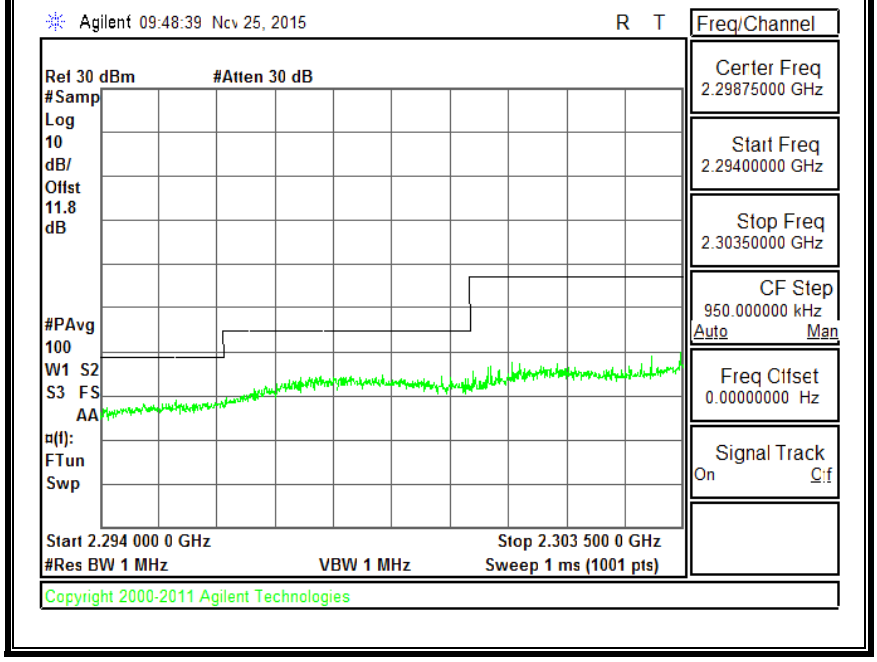
LOW CH, LOW SIDE RB25-0

(RB=VB= 1%EBW, 2303–2304MHz)



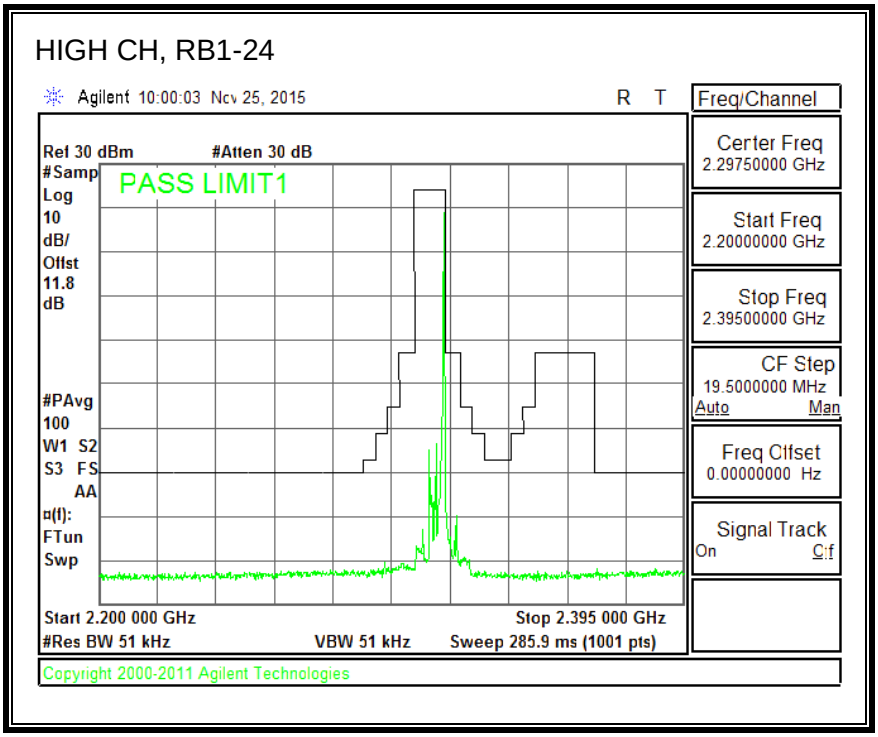
LOW CH, LOW SIDE RB25-0

(RB=VB= 1MHz, 2294–2303.5MHz)

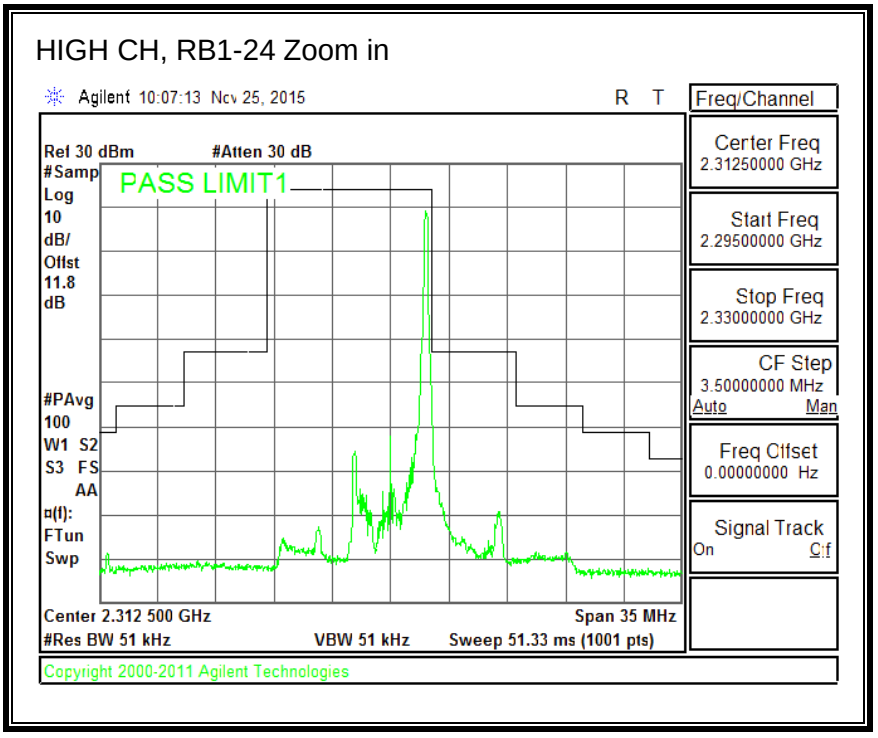


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

HIGH CH, RB1-24

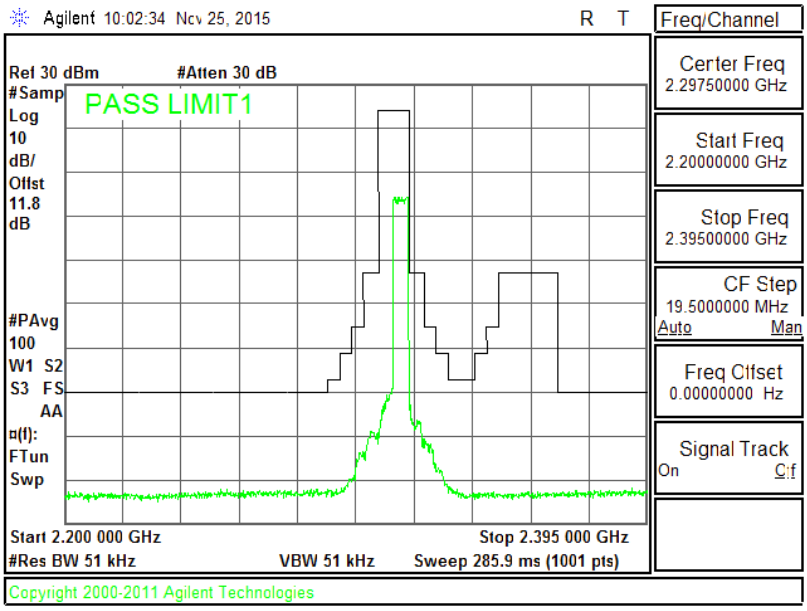


HIGH CH, RB1-24 Zoom in

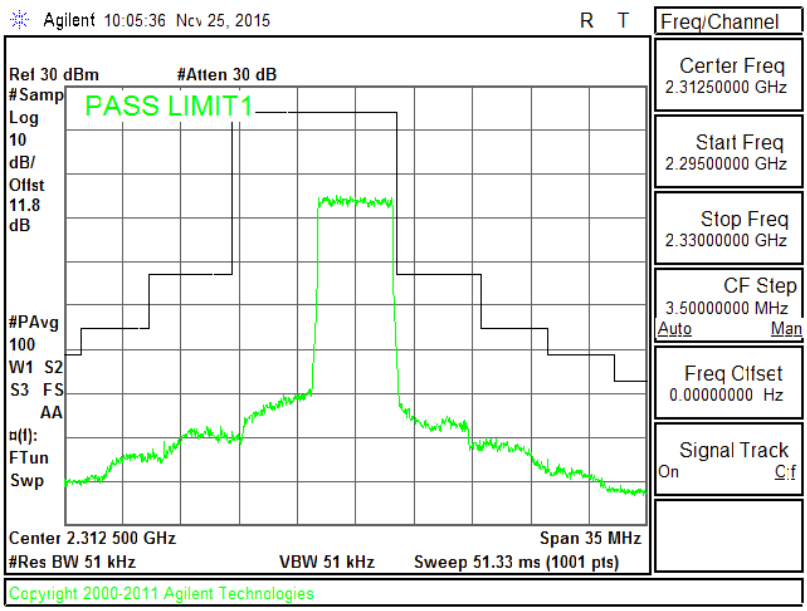


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

HIGH CH, RB25-0



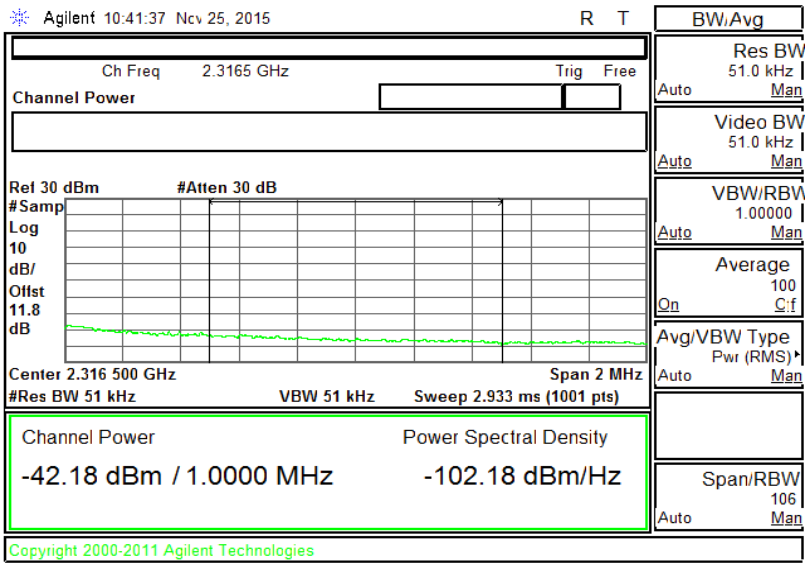
HIGH CH, RB25-0 Zoom in



This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

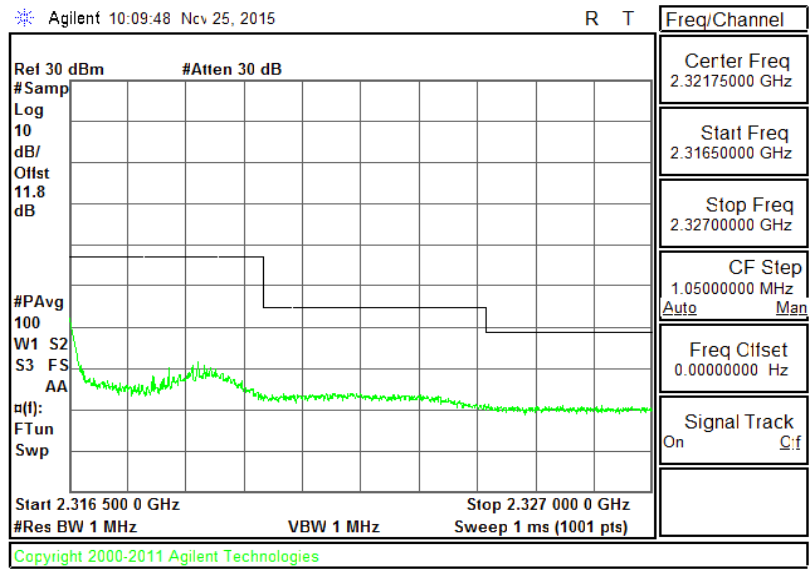
HIGH CH, HIGH SIDE RB1-24

(RB=VB= 1%EBW, 2316-2317MHz)



HIGH CH, HIGH SIDE RB1-24

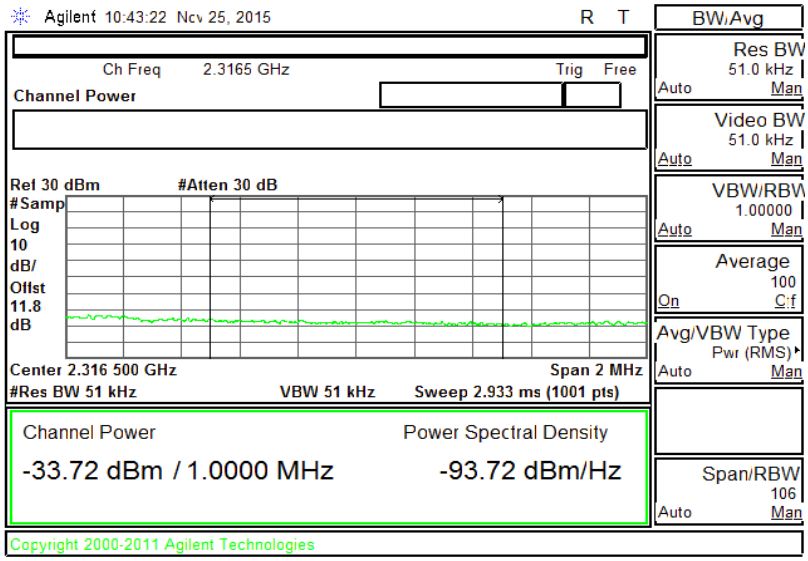
(RB=VB= 1MHz, 2316.5-2327MHz)



This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

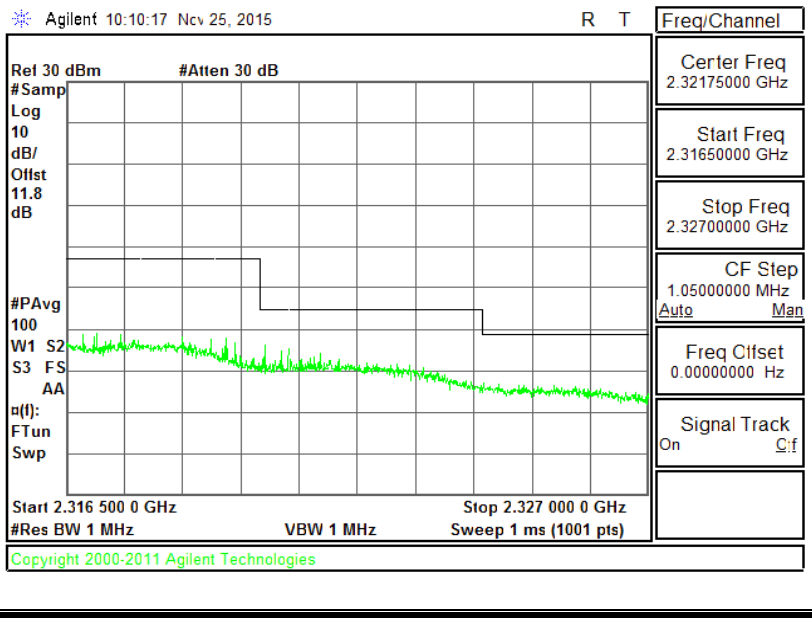
HIGH CH, HIGH SIDE RB25-0

(RB=VB= 1%EBW, 2316-2317MHz)



HIGH CH, HIGH SIDE RB25-0

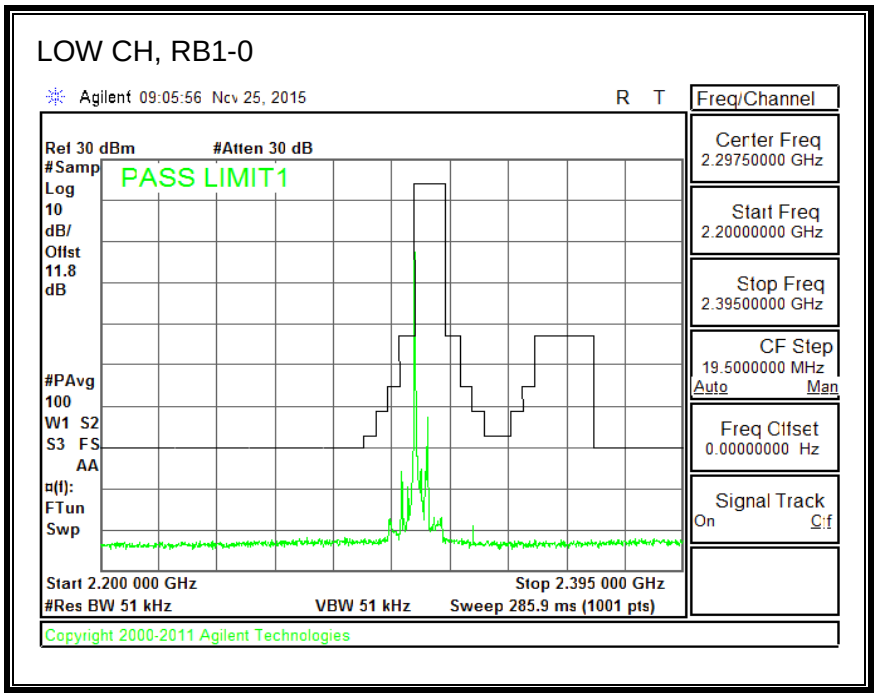
(RB=VB= 1MHz, 2316.5–2327MHz)



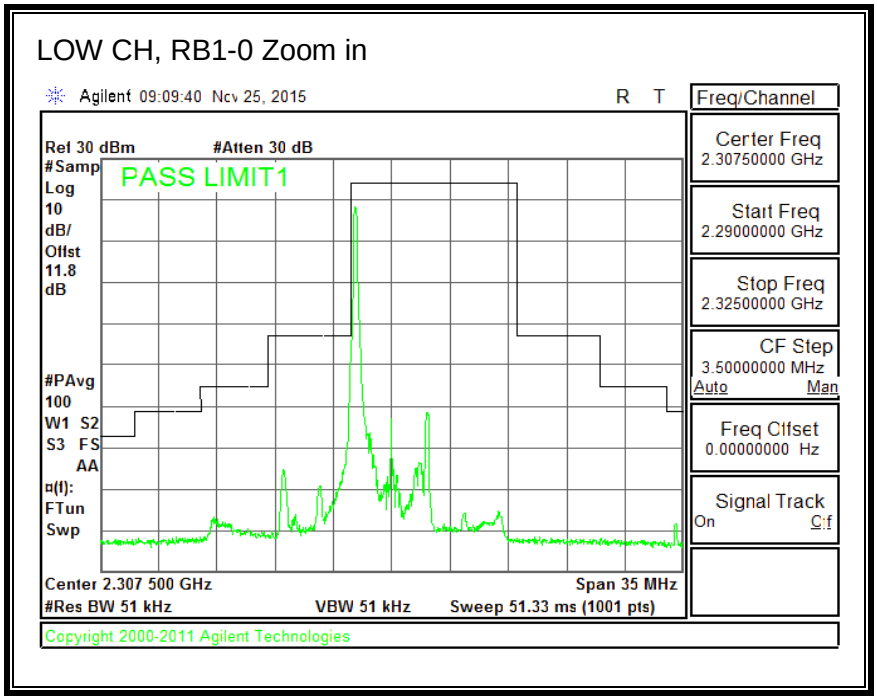
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

16QAM, (5.0 MHz BAND WIDTH)

LOW CH, RB1-0

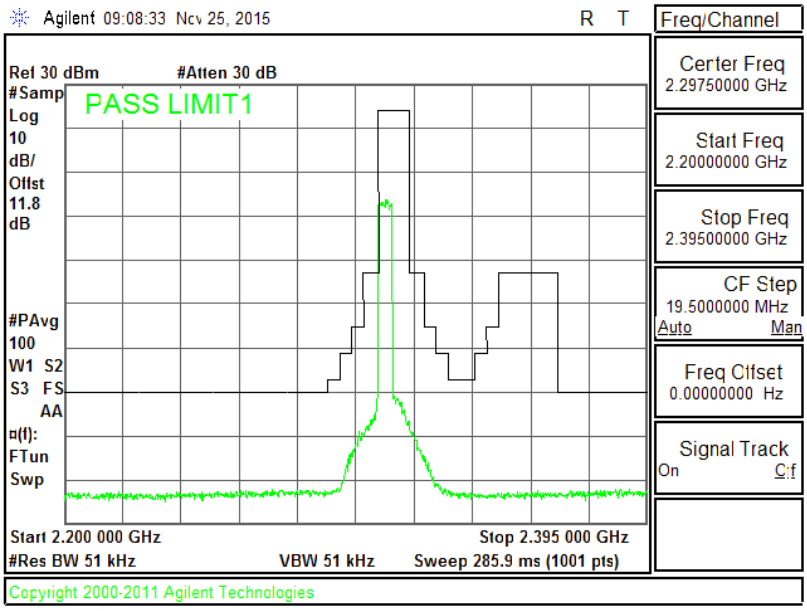


LOW CH, RB1-0 Zoom in

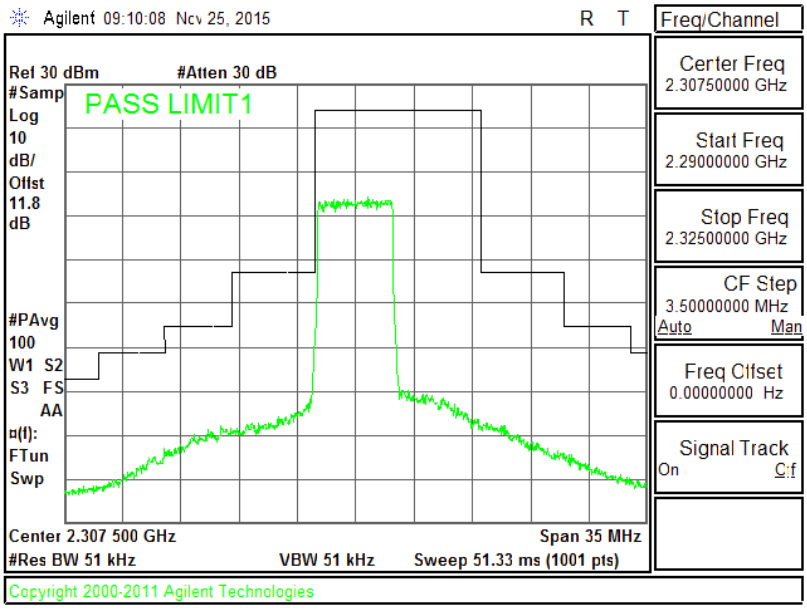


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB25-0



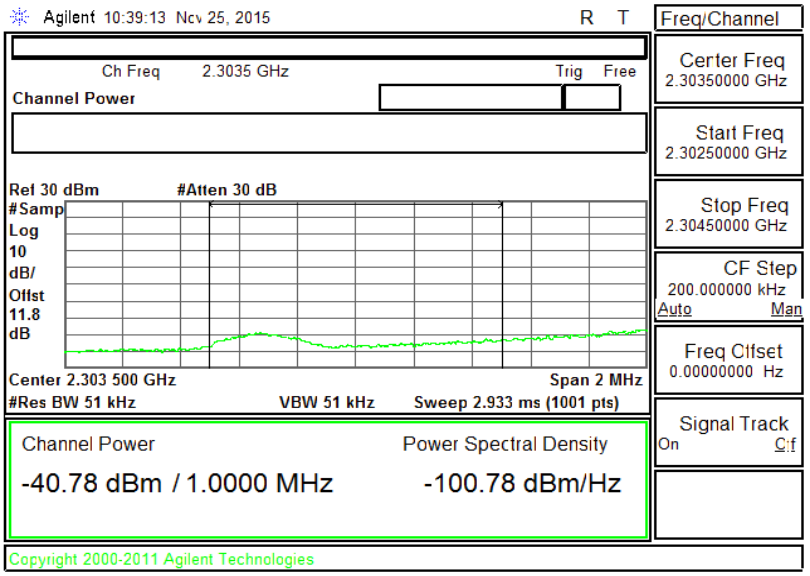
LOW CH, RB25-0 Zoom in



This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

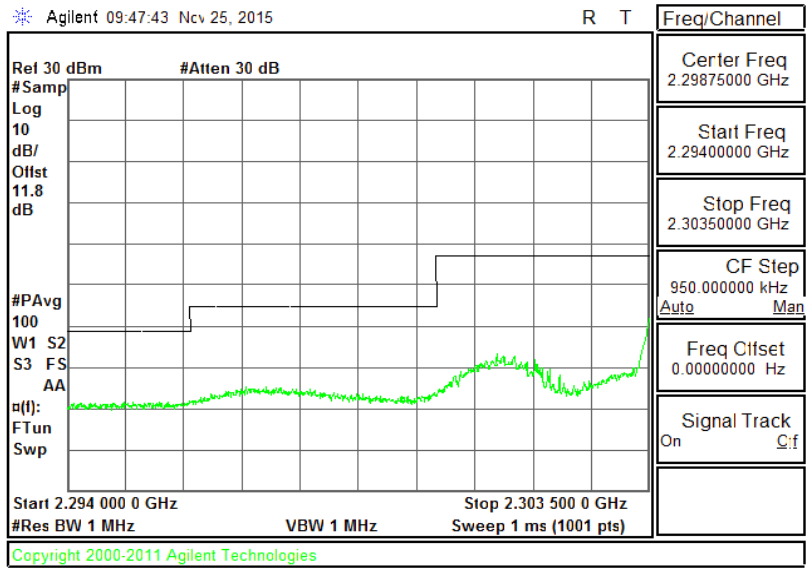
LOW CH, LOW SIDE RB1-0

(RB=VB= 1%EBW, 2303–2304MHz)



LOW CH, LOW SIDE RB1-0

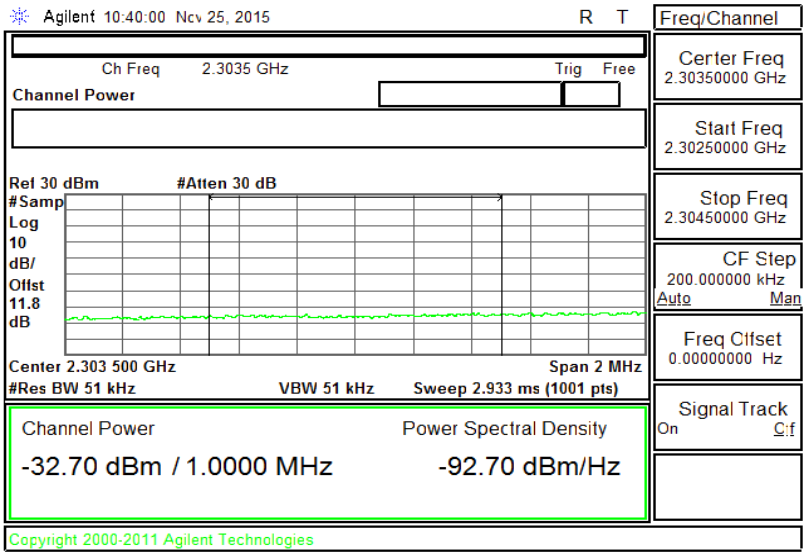
(RB=VB= 1MHz, 2294-2303.5MHz)



This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

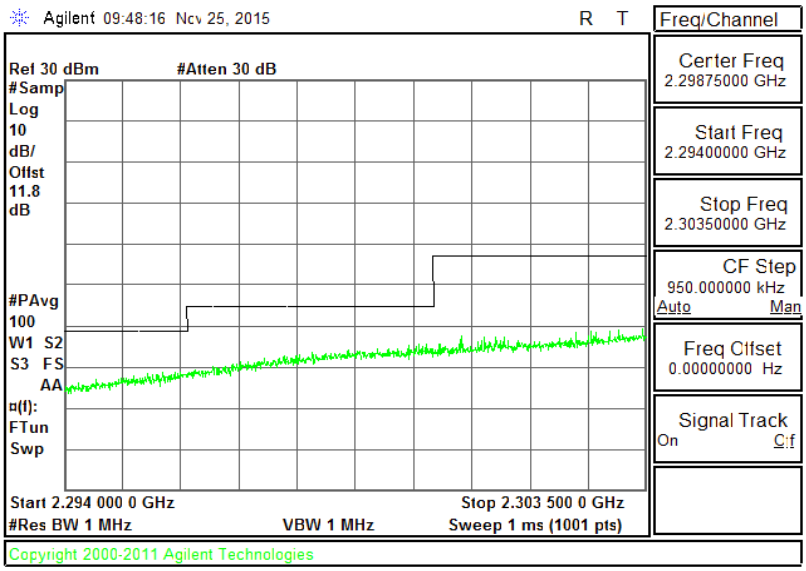
LOW CH, LOW SIDE RB25-0

(RB=VB= 1%EBW, 2303–2304MHz)



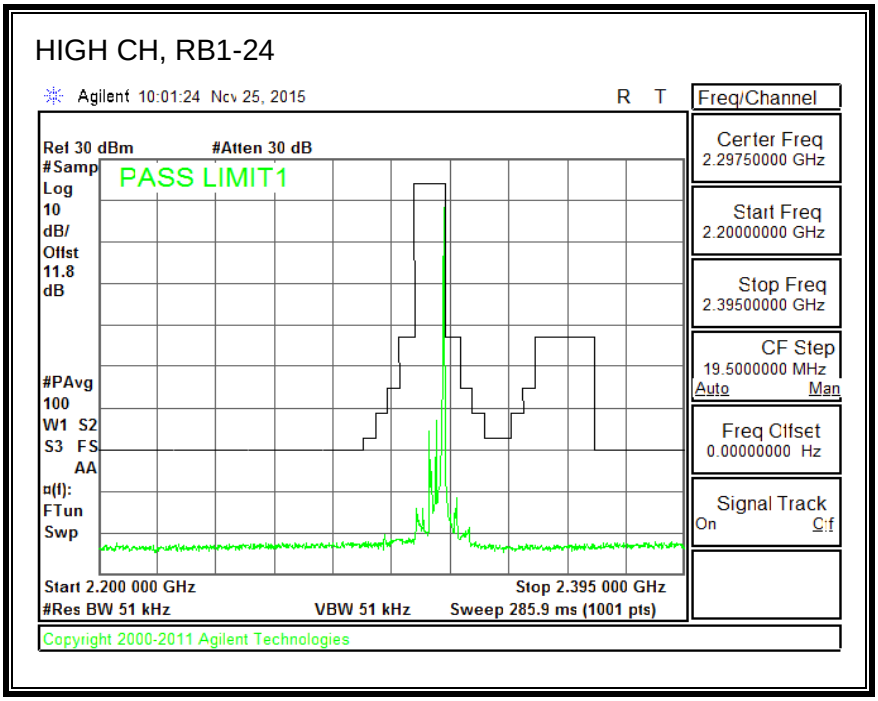
LOW CH, LOW SIDE RB25-0

(RB=VB= 1MHz, 2294–2303.5MHz)

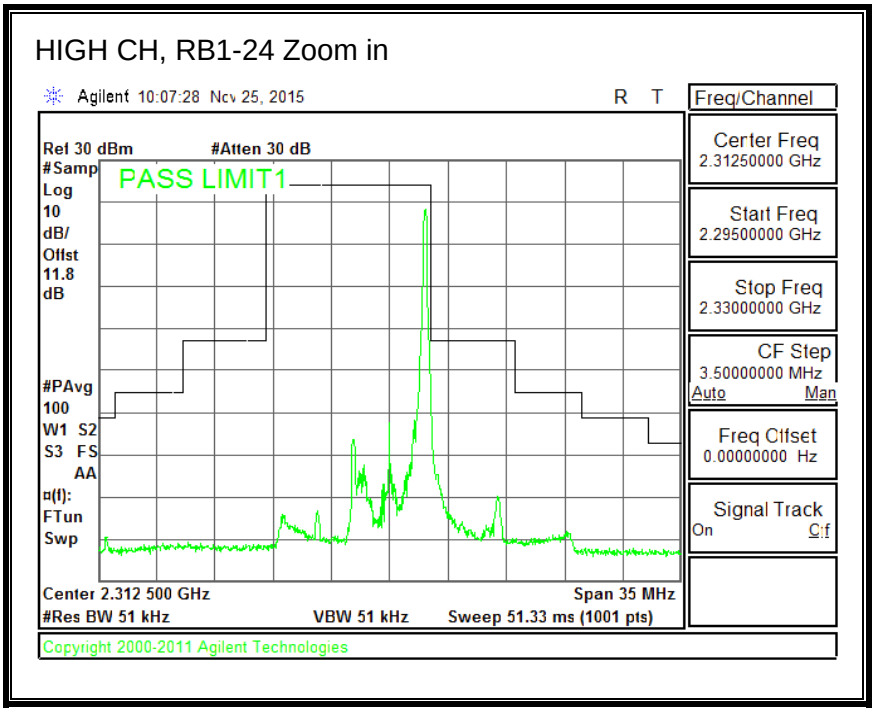


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

HIGH CH, RB1-24

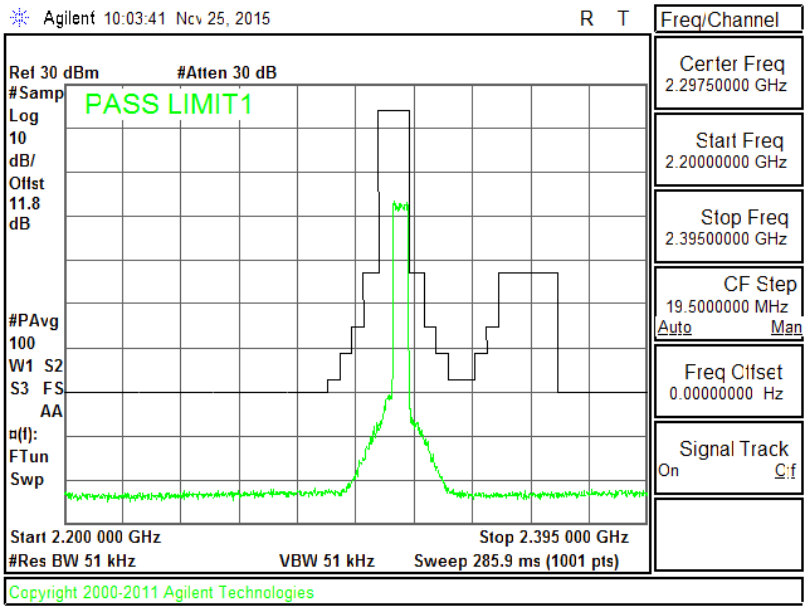


HIGH CH, RB1-24 Zoom in

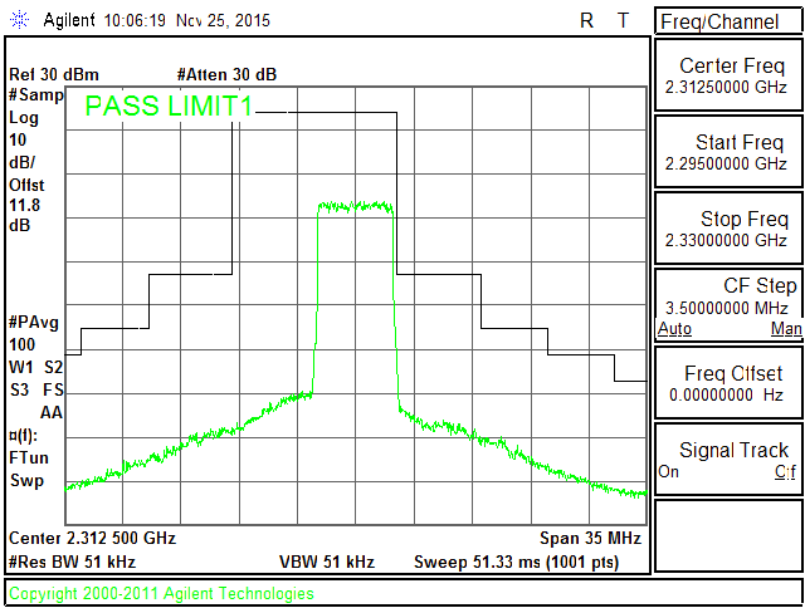


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

HIGH CH, RB25-0



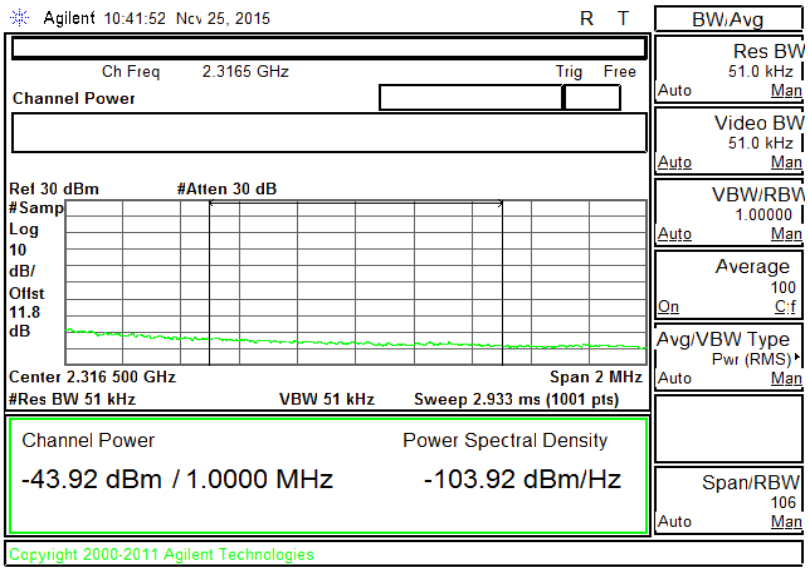
HIGH CH, RB25-0 Zoom in



This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

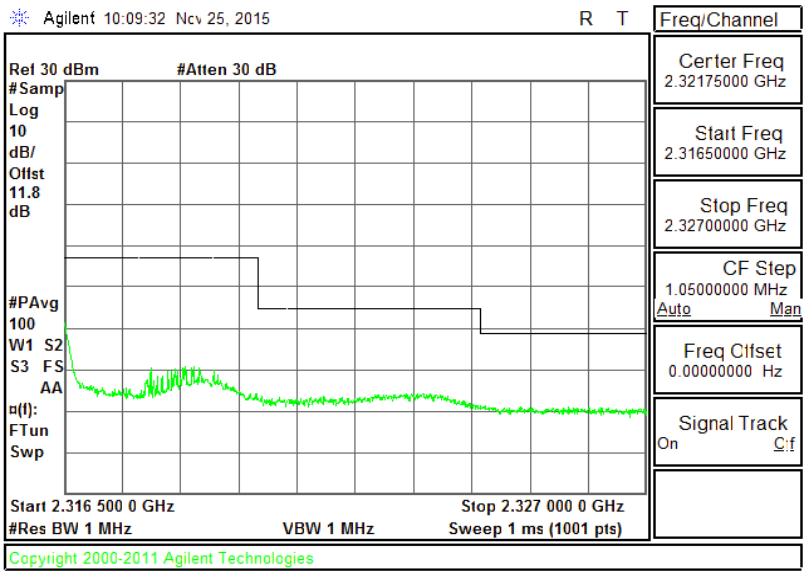
HIGH CH, HIGH SIDE RB1-24

(RB=VB= 1%EBW, 2316-2317MHz)



HIGH CH, HIGH SIDE RB1-24

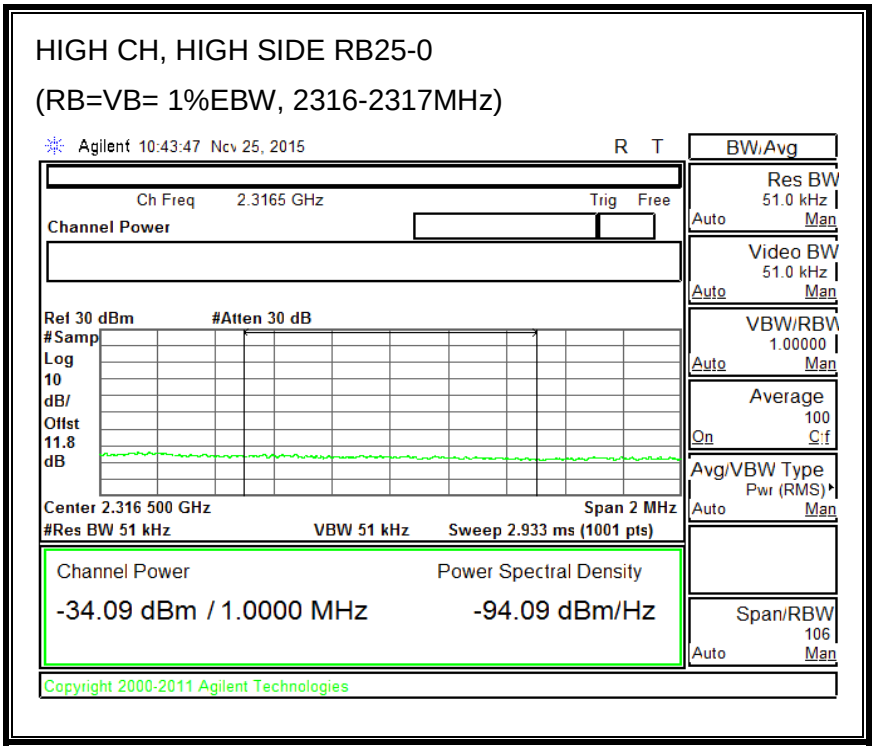
(RB=VB= 1MHz, 2316.5-2327MHz)



This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

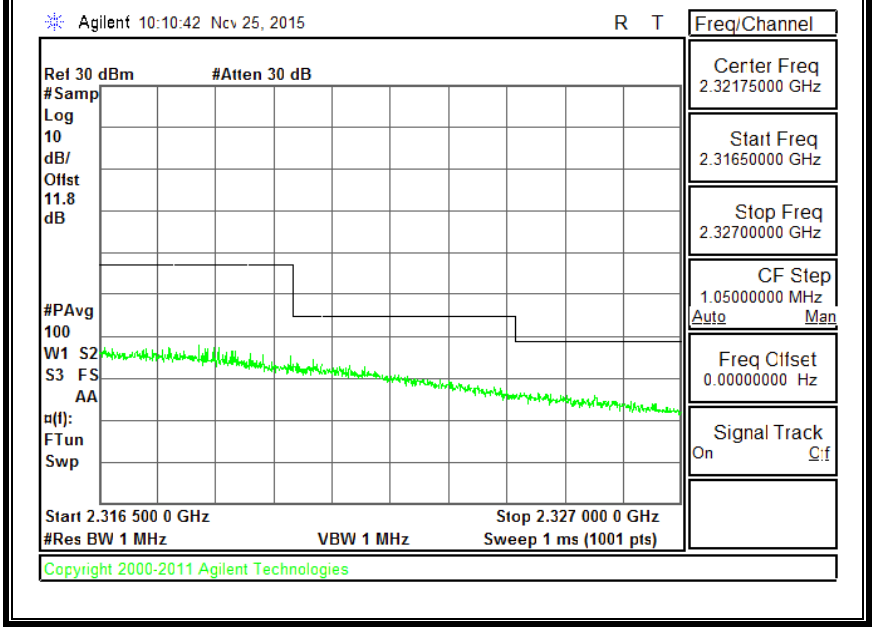
HIGH CH, HIGH SIDE RB25-0

(RB=VB= 1%EBW, 2316-2317MHz)



HIGH CH, HIGH SIDE RB25-0

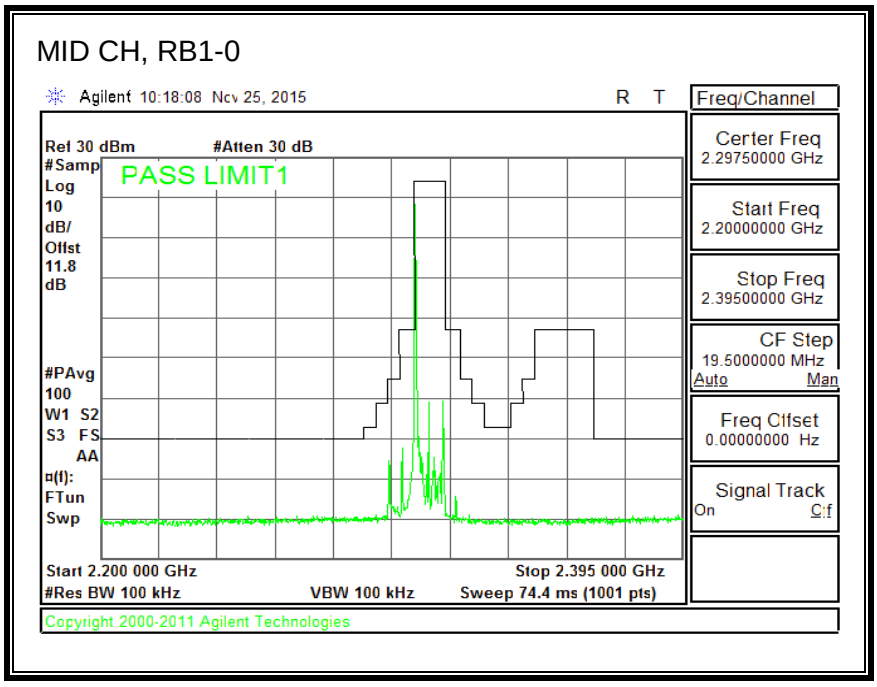
(RB=VB= 1MHz, 2316.5–2327MHz)



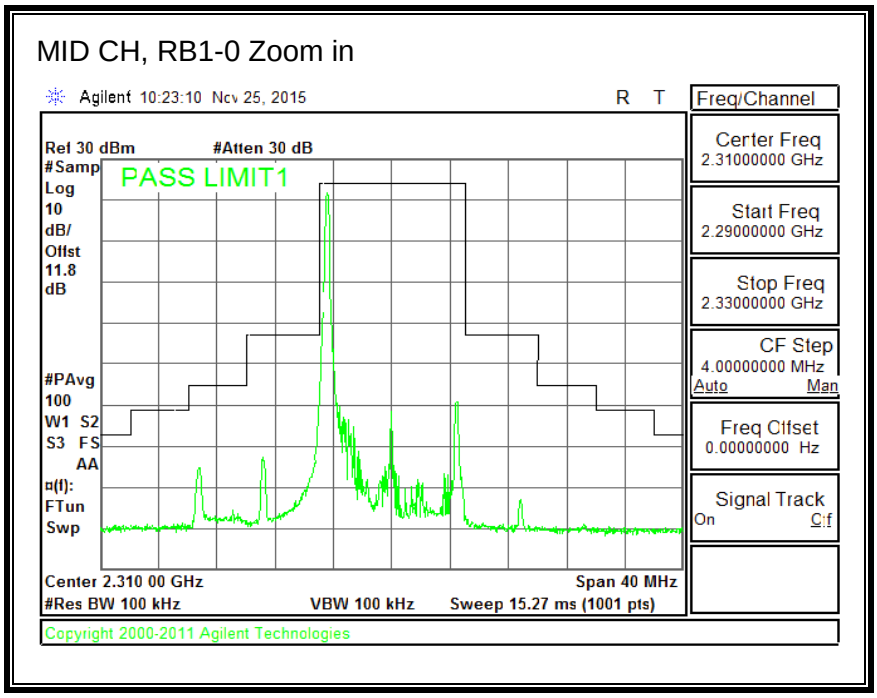
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

QPSK, (10.0 MHz BAND WIDTH)

MID CH, RB1-0

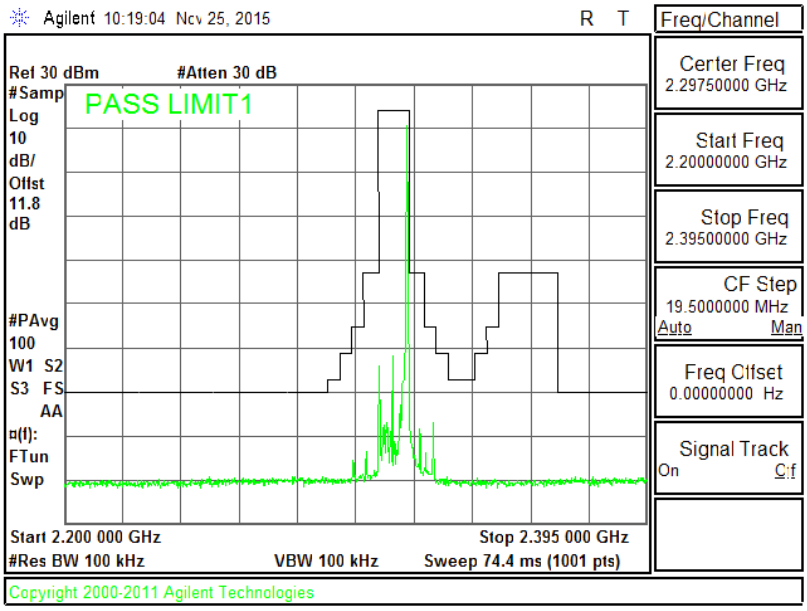


MID CH, RB1-0 Zoom in

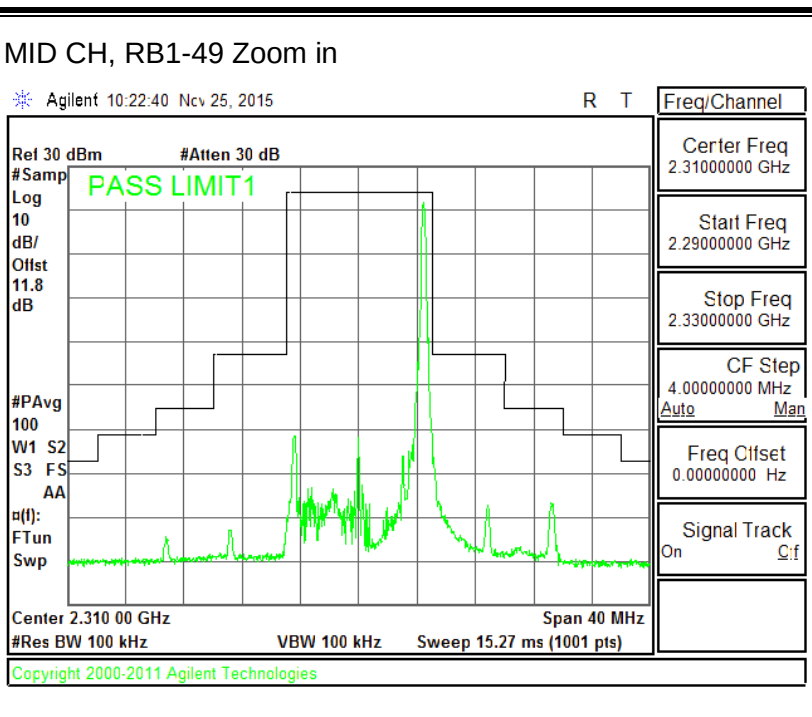


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

MID CH, RB1-49

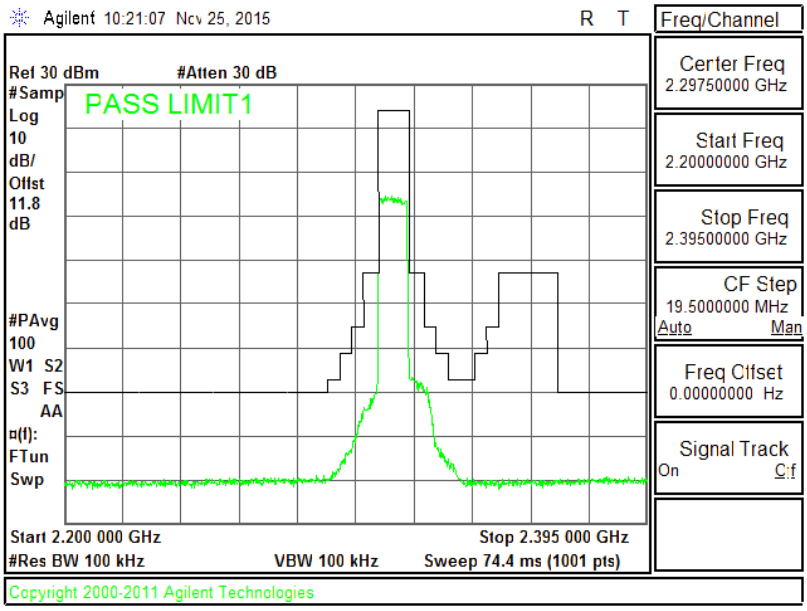


MID CH, RB1-49 Zoom in

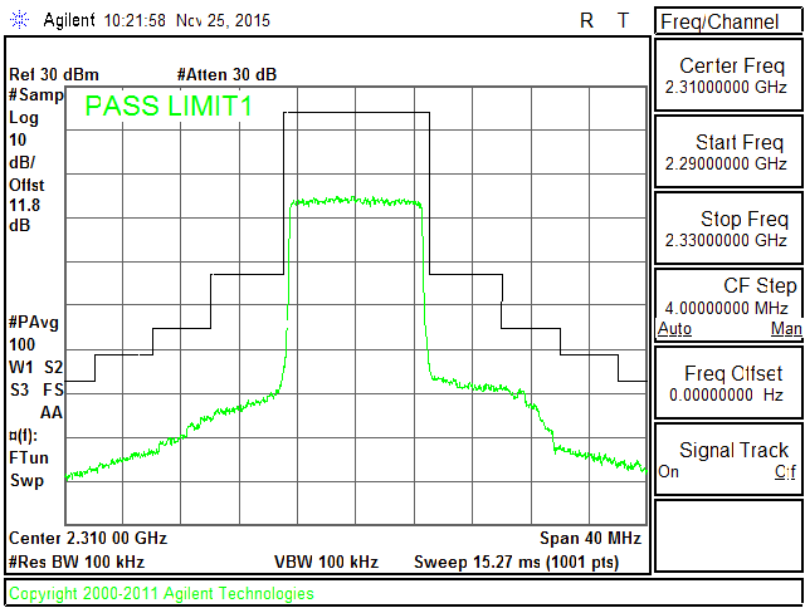


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

MID CH, RB50-0



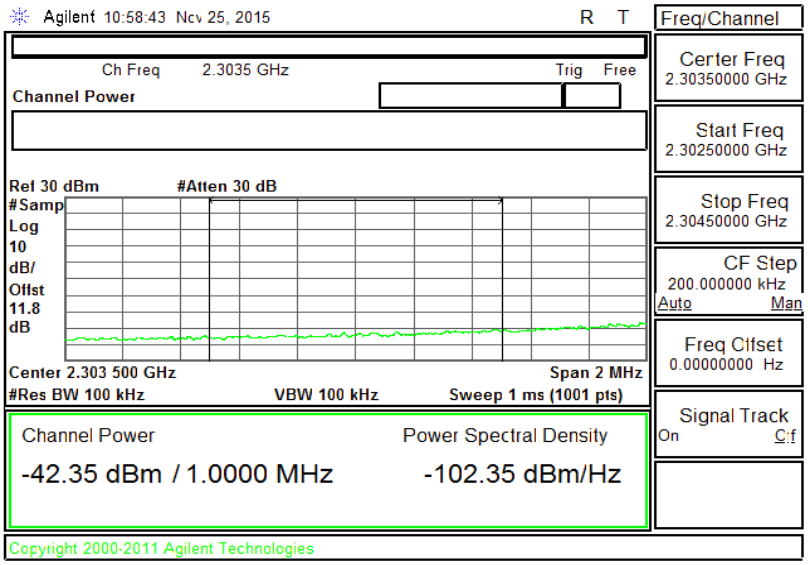
MID CH, RB50-0 Zoom in



This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

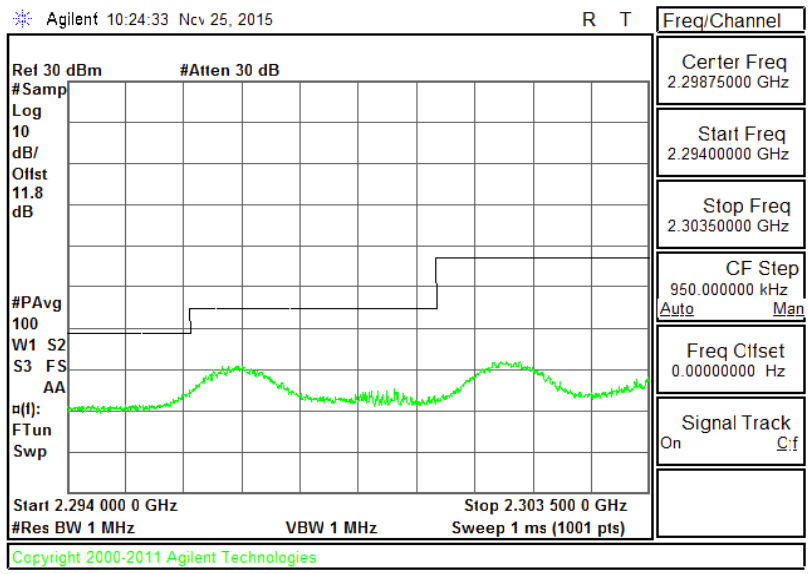
MID CH, LOW SIDE RB1-0

(RB=VB= 1%EBW, 2303–2304MHz)



MID CH, LOW SIDE RB1-0

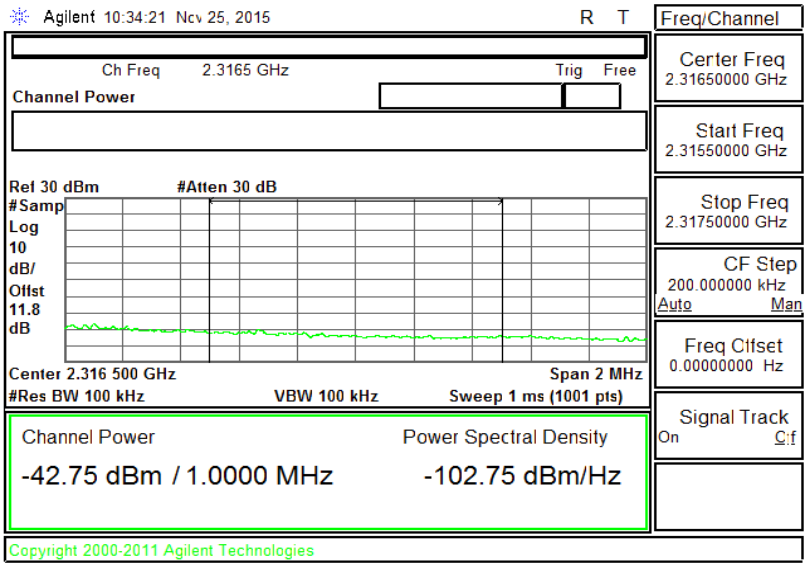
(RB=VB= 1MHz, 2294-2303.5MHz)



This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

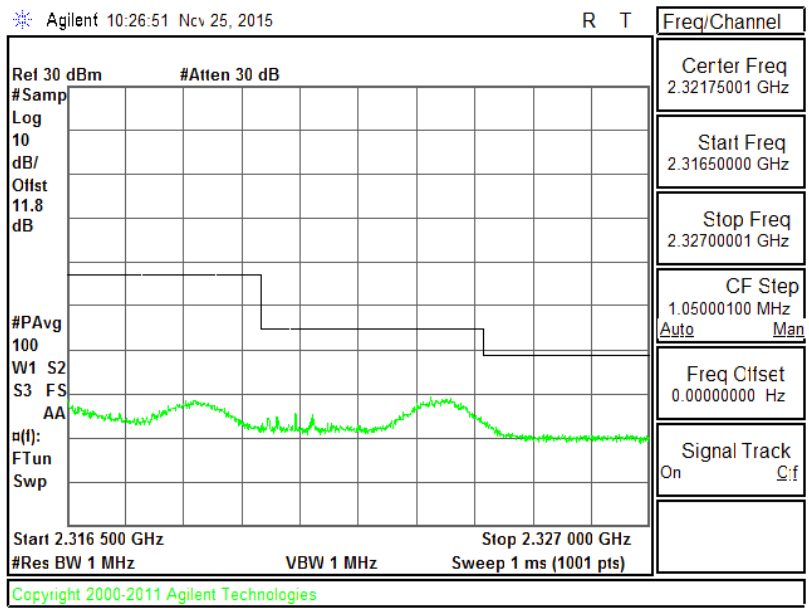
MID CH, HIGH SIDE RB1-49

(RB=VB= 1%EBW, 2316–2317MHz)



MID CH, HIGH SIDE RB1-49

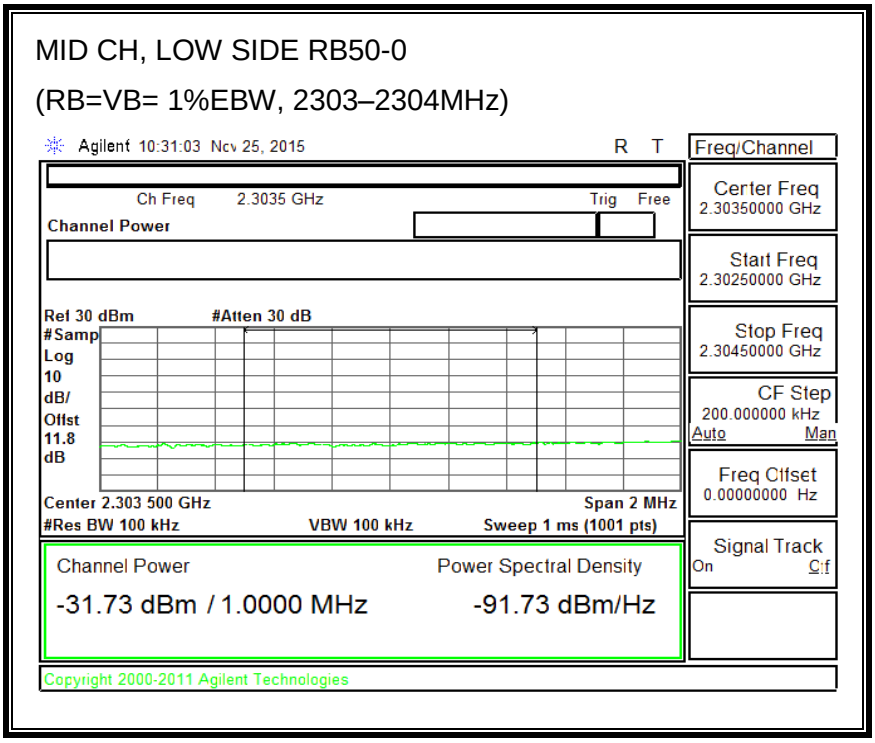
(RB=VB= 1MHz, 2316.-2327MHz)



This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

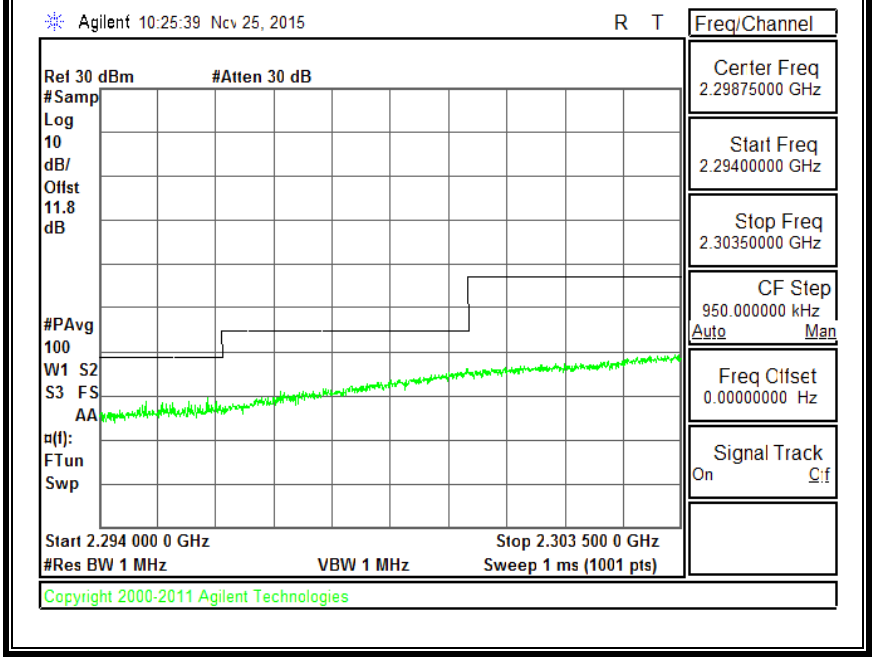
MID CH, LOW SIDE RB50-0

(RB=VB= 1%EBW, 2303–2304MHz)



MID CH, LOW SIDE RB50-0

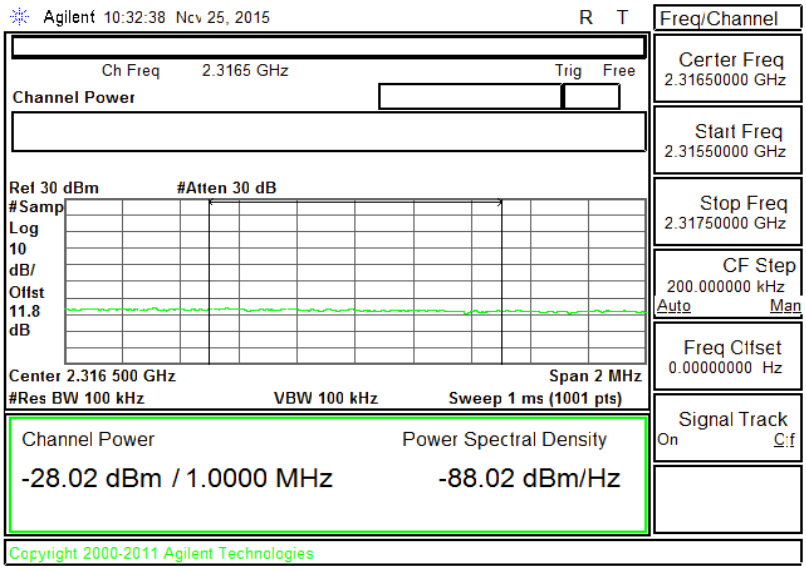
(RB=VB= 1MHz, 2294–2303.5MHz)



This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

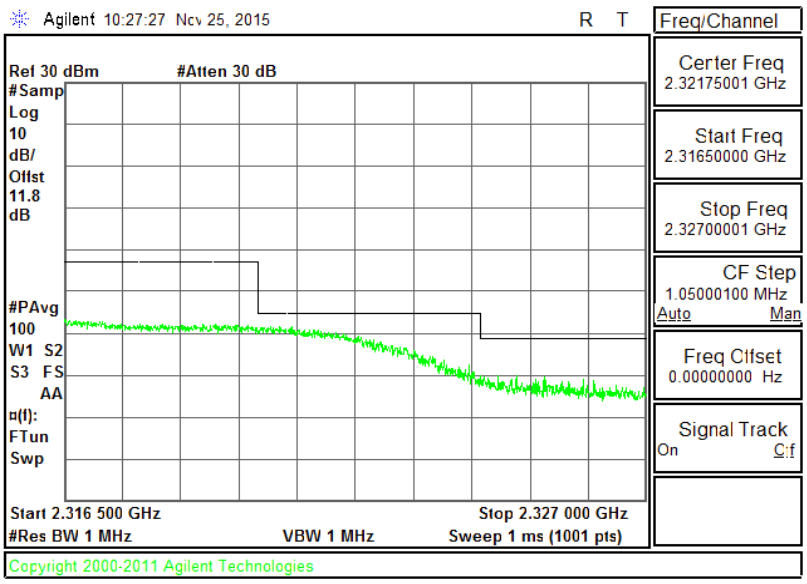
MID CH, HIGH SIDE RB50-0

(RB=VB= 1%EBW, 2316-2317MHz)



MID CH, HIGH SIDE RB50-0

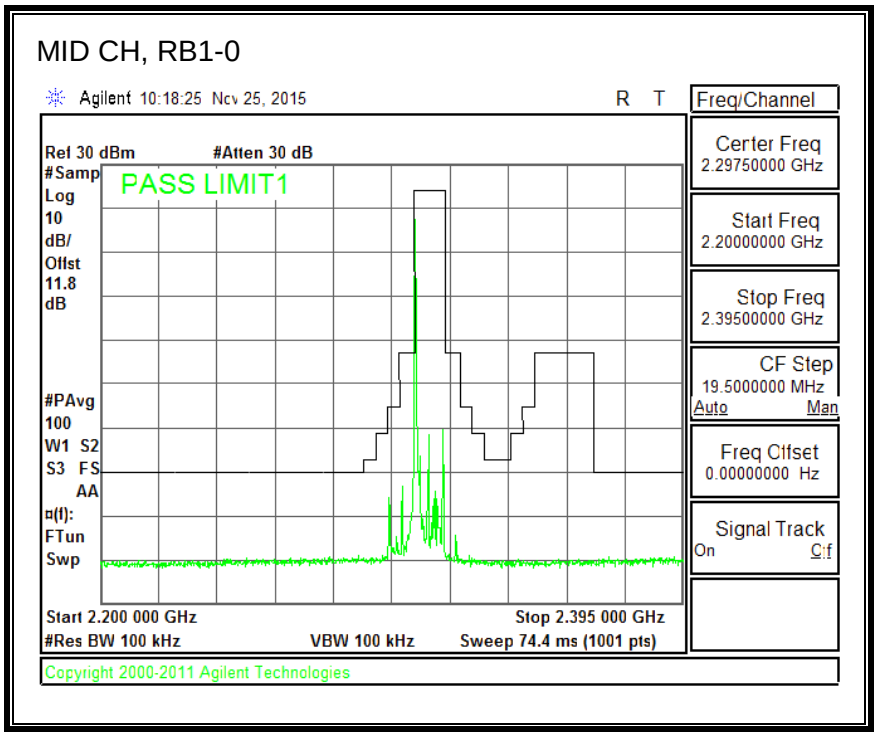
(RB=VB= 1MHz, 2316.5–2327MHz)



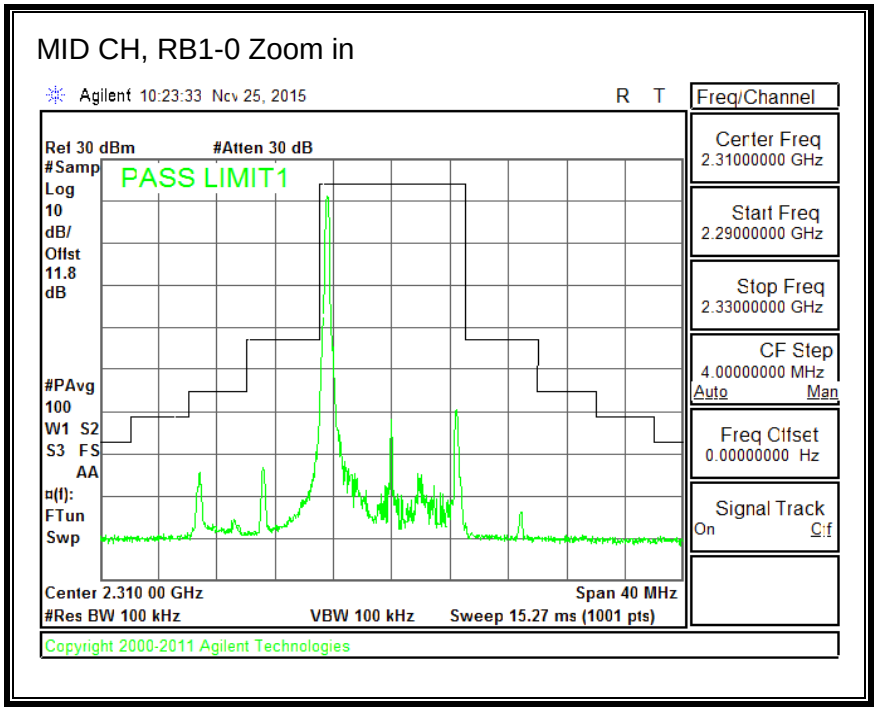
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

16QAM, (10.0 MHz BAND WIDTH)

MID CH, RB1-0

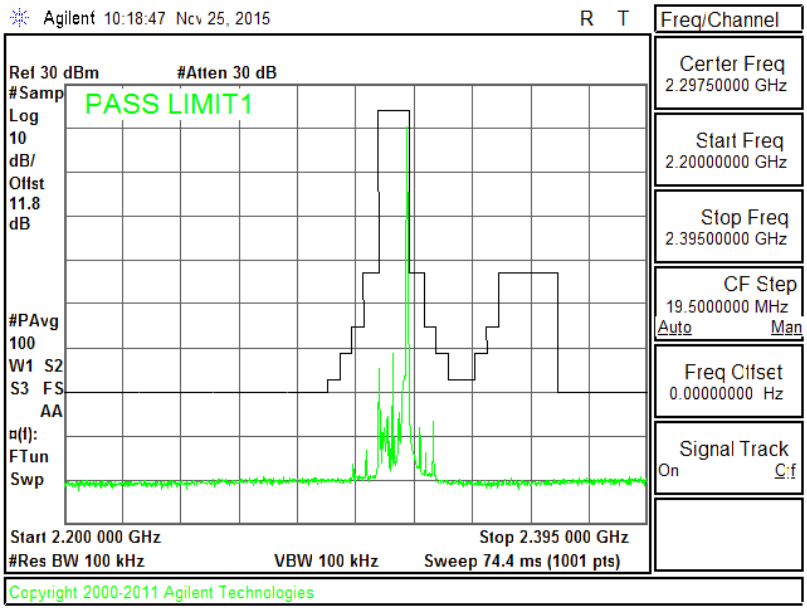


MID CH, RB1-0 Zoom in

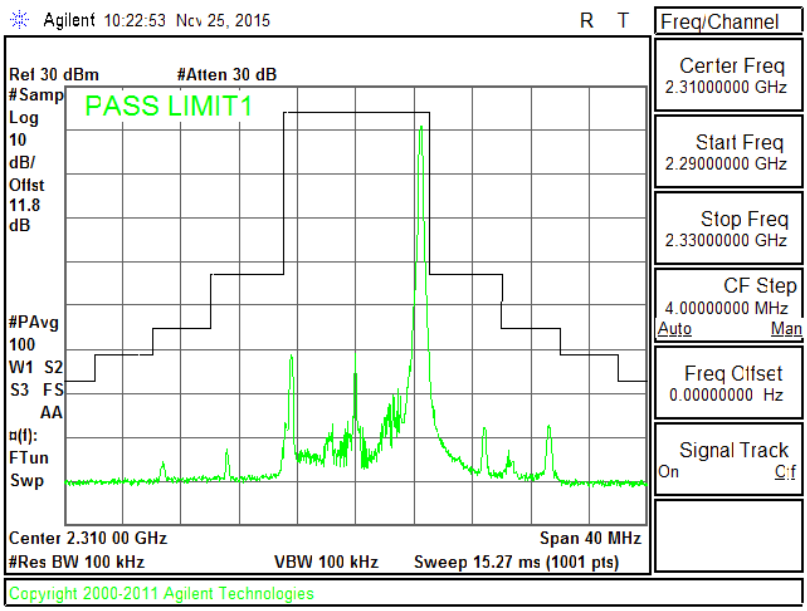


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

MID CH, RB1-49

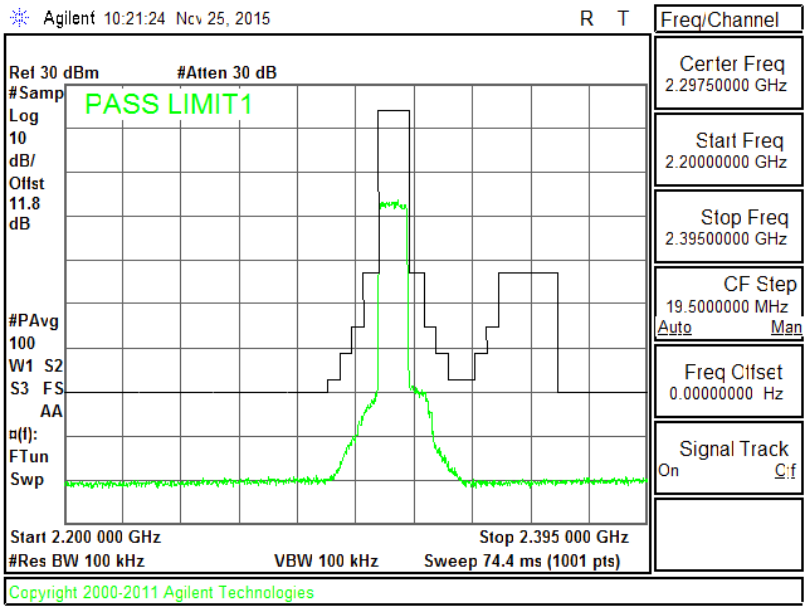


MID CH, RB1-49 Zoom in

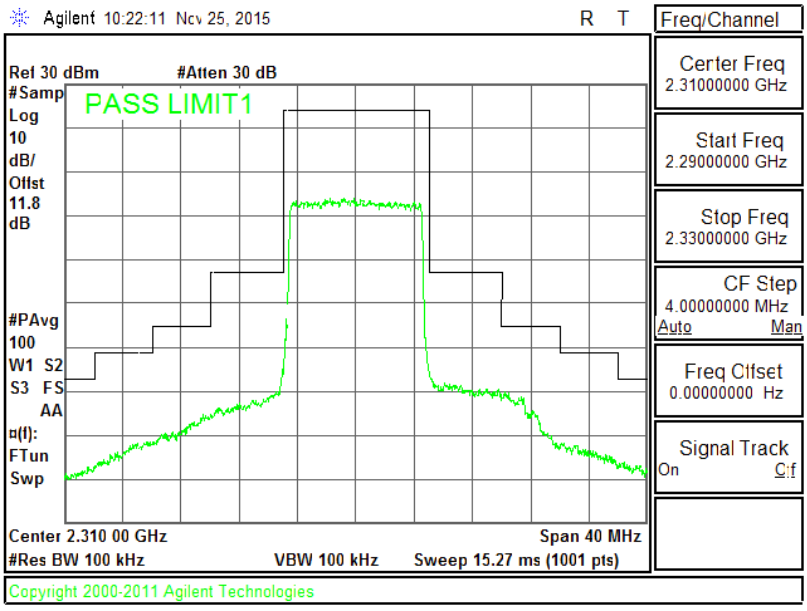


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

MID CH, RB50-0



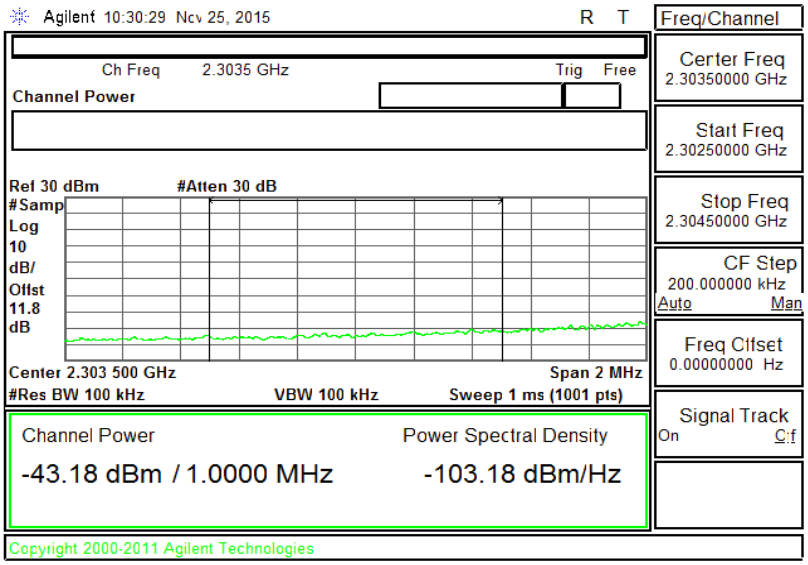
MID CH, RB50-0 Zoom in



This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

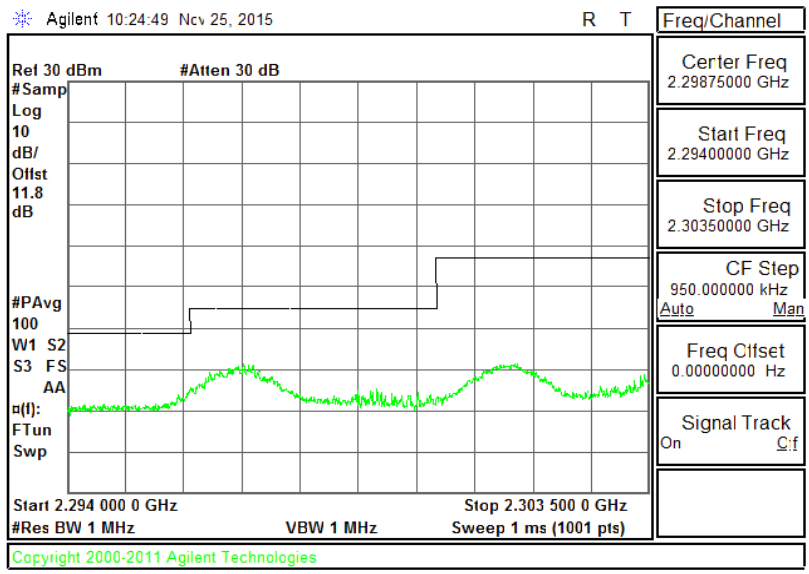
MID CH, LOW SIDE RB1-0

(RB=VB= 1%EBW, 2303–2304MHz)



MID CH, LOW SIDE RB1-0

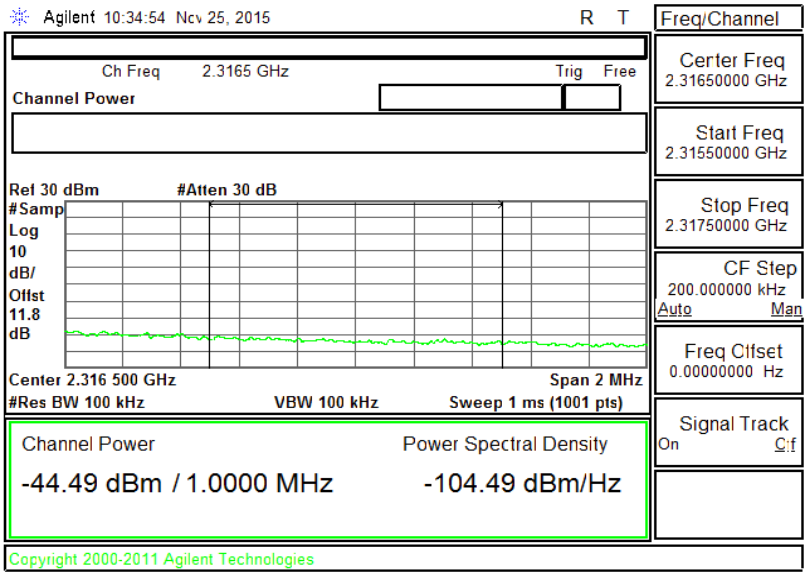
(RB=VB= 1MHz, 2294-2303.5MHz)



This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

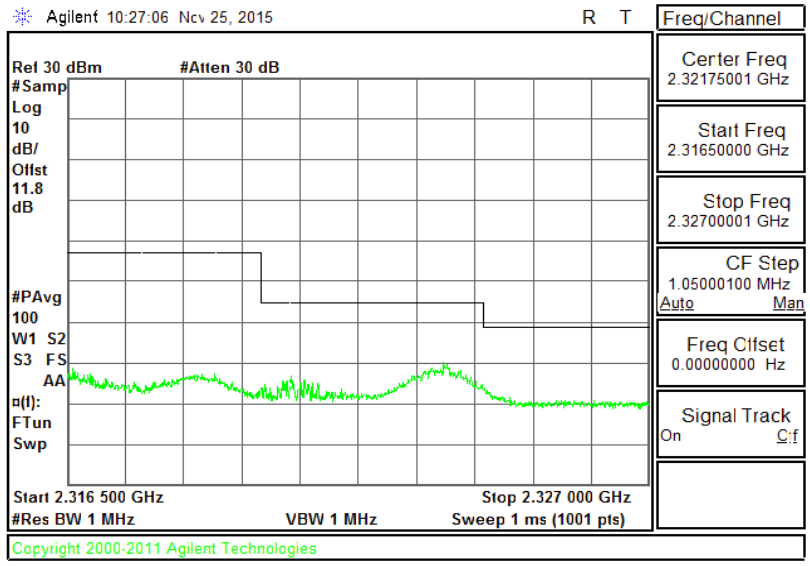
MID CH, HIGH SIDE RB1-49

(RB=VB= 1%EBW, 2316–2317MHz)



MID CH, HIGH SIDE RB1-49

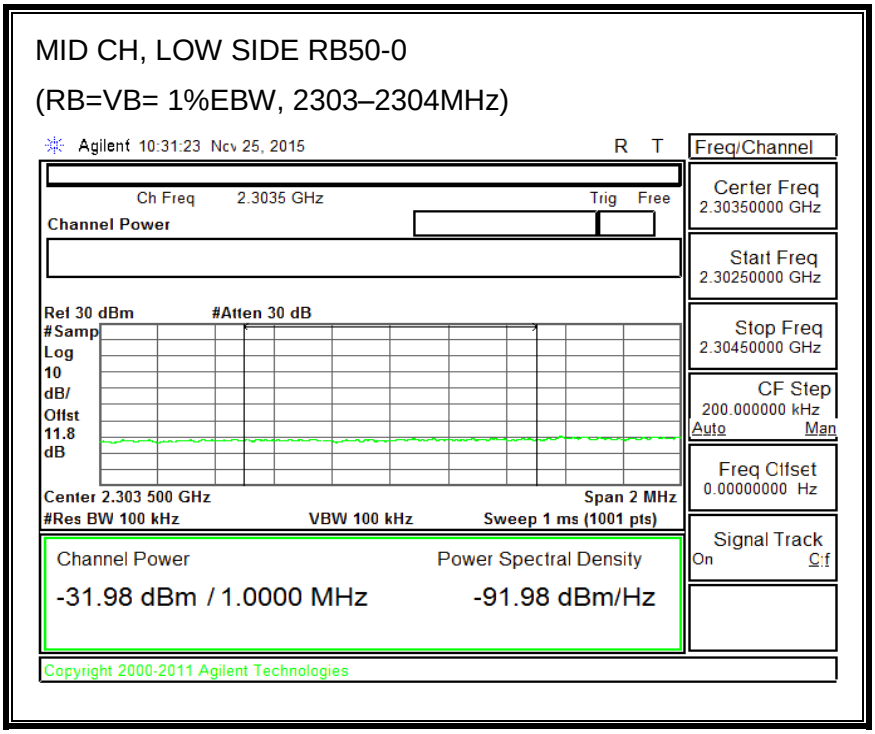
(RB=VB= 1MHz, 2316.5-2327MHz)



This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

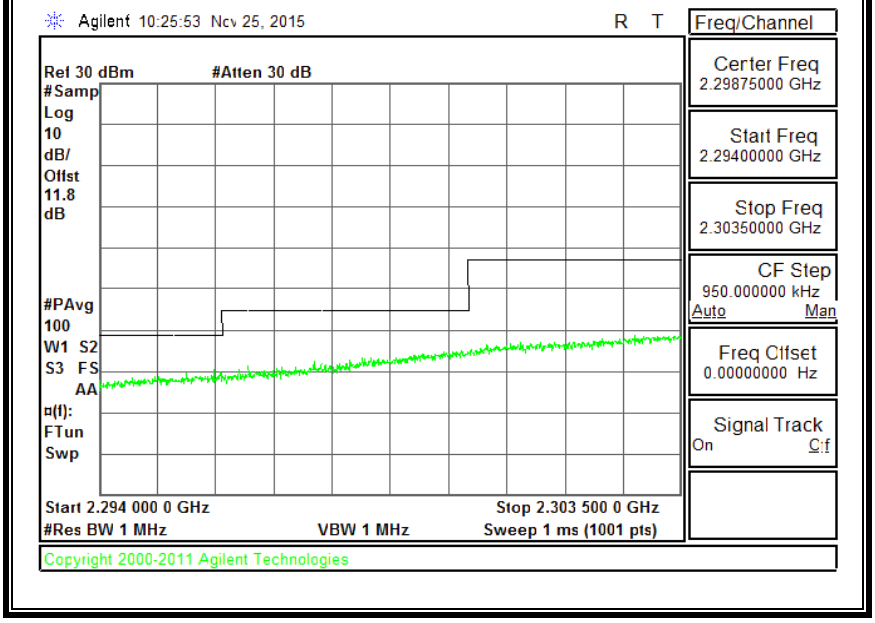
MID CH, LOW SIDE RB50-0

(RB=VB= 1%EBW, 2303–2304MHz)



MID CH, LOW SIDE RB50-0

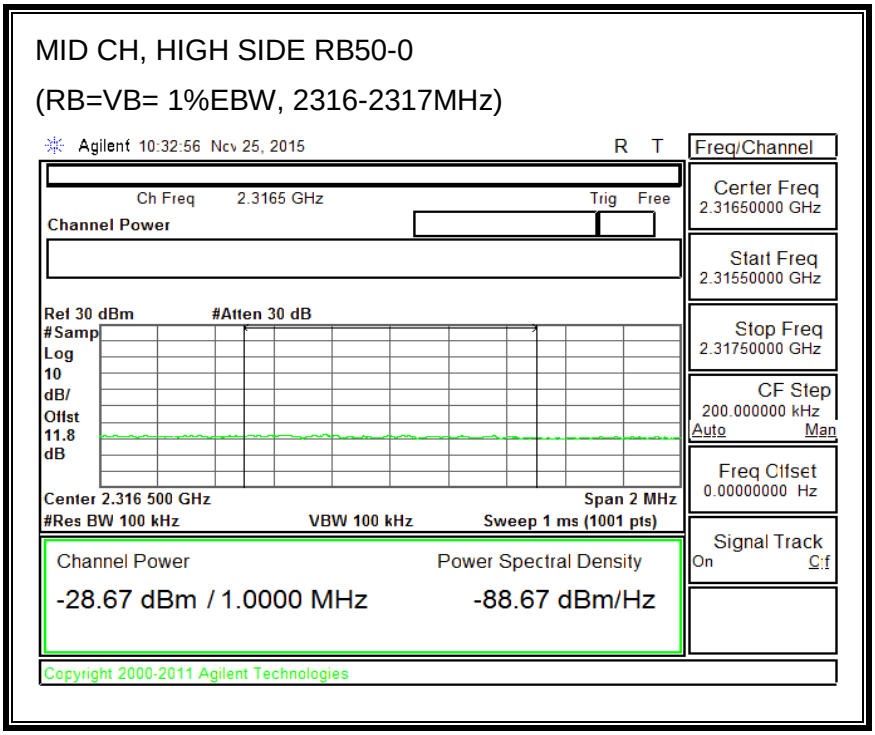
(RB=VB= 1MHz, 2294–2303.5MHz)



This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

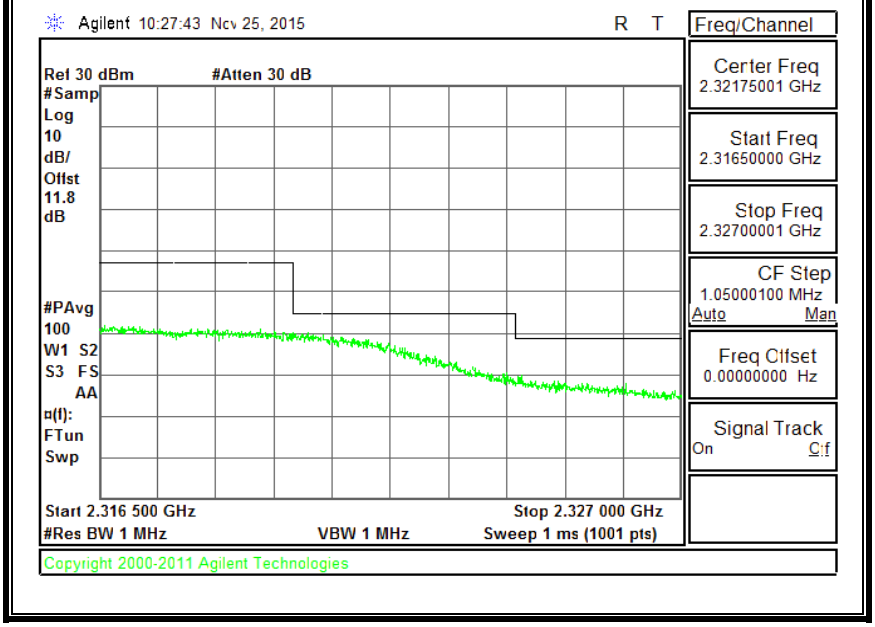
MID CH, HIGH SIDE RB50-0

(RB=VB= 1%EBW, 2316-2317MHz)



MID CH, HIGH SIDE RB50-0

(RB=VB= 1MHz, 2316.5–2327MHz)

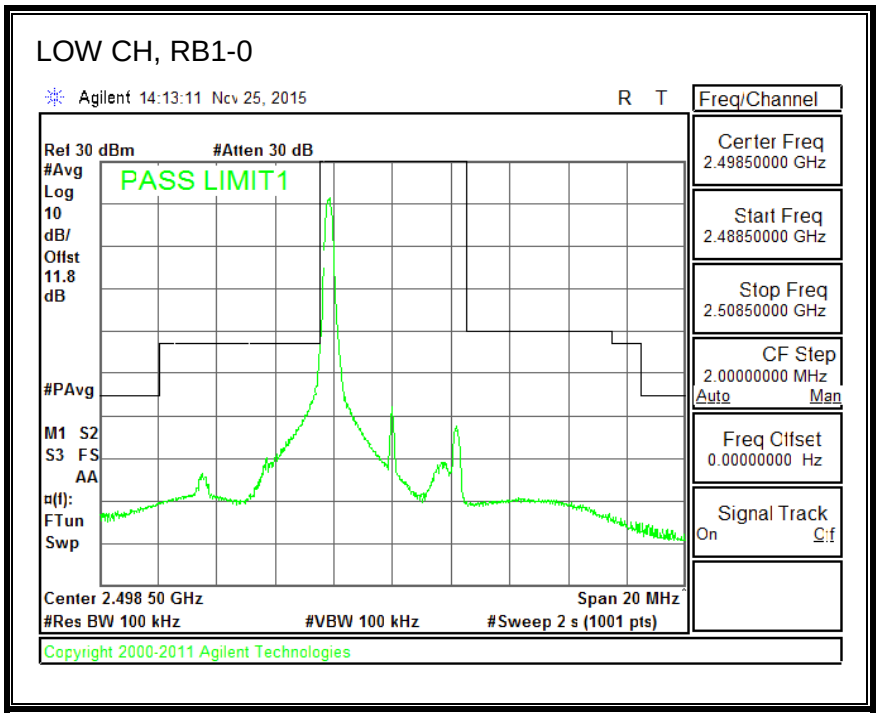


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

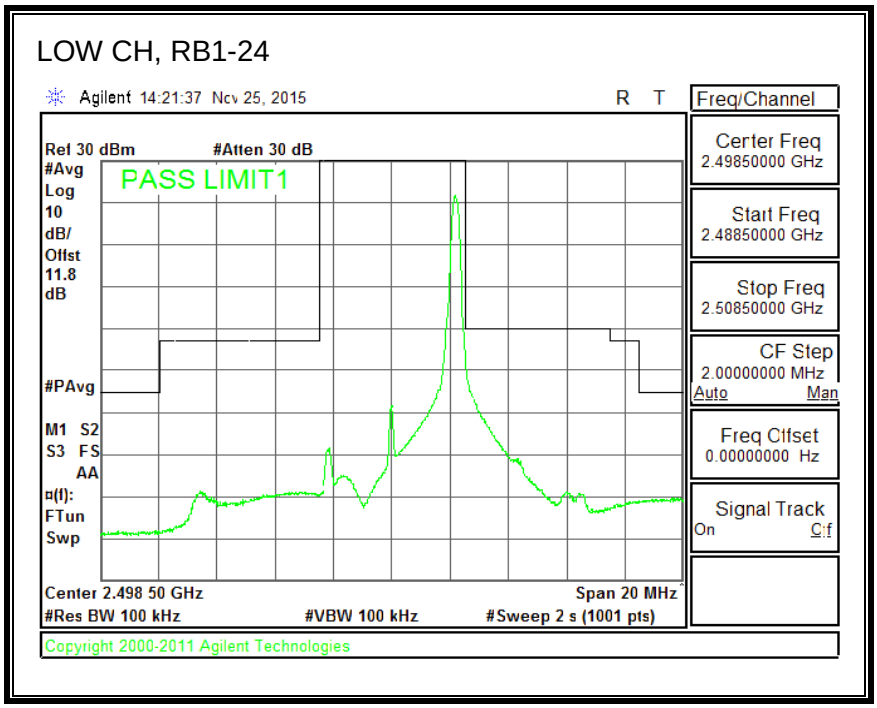
8.2.12. LTE BAND 41 EMISSION MASK

QPSK, (5.0 MHz BAND WIDTH)

LOW CH, RB1-0

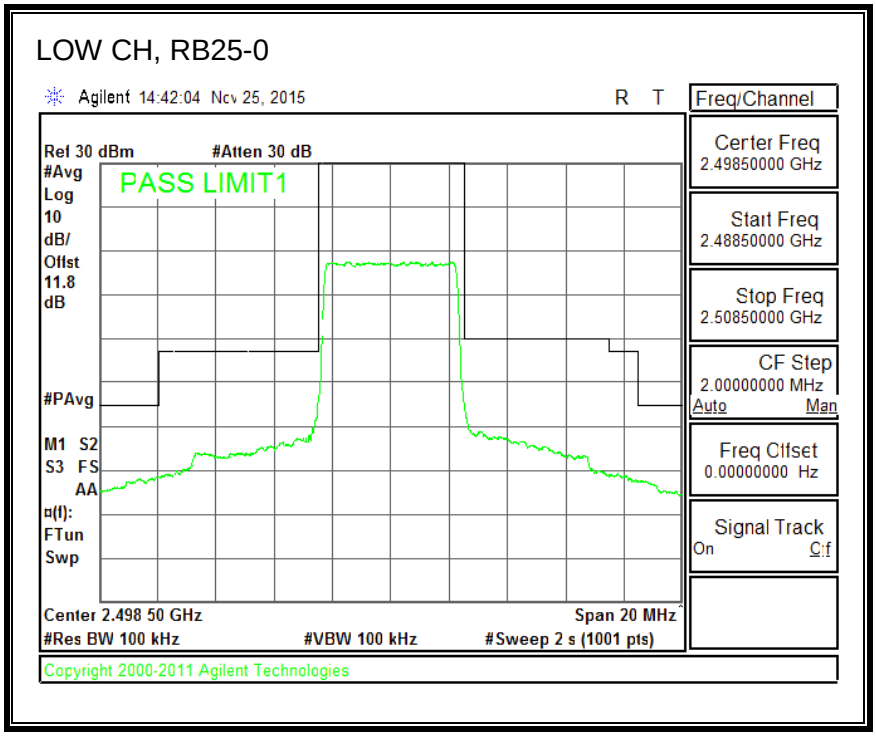


LOW CH, RB1-24

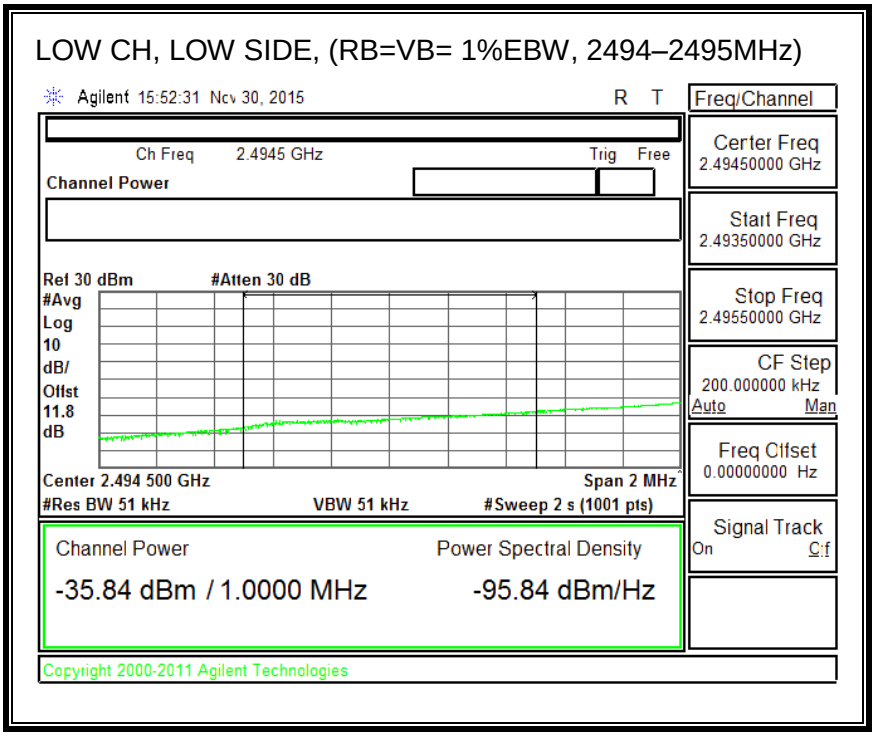


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB25-0

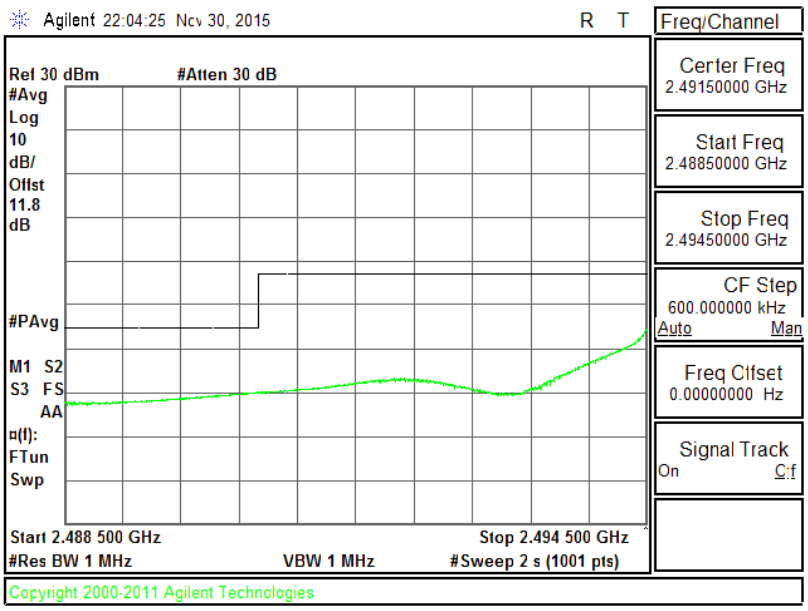


LOW CH, LOW SIDE, (RB=VB= 1%EBW, 2494–2495MHz)

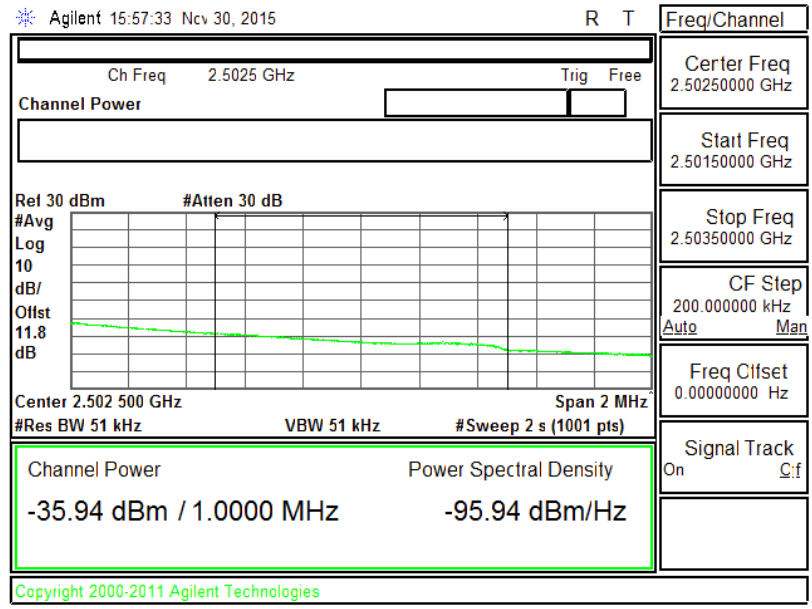


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, LOW SIDE, (RB=VB= 1MHz, 2488.5-2494.5MHz)

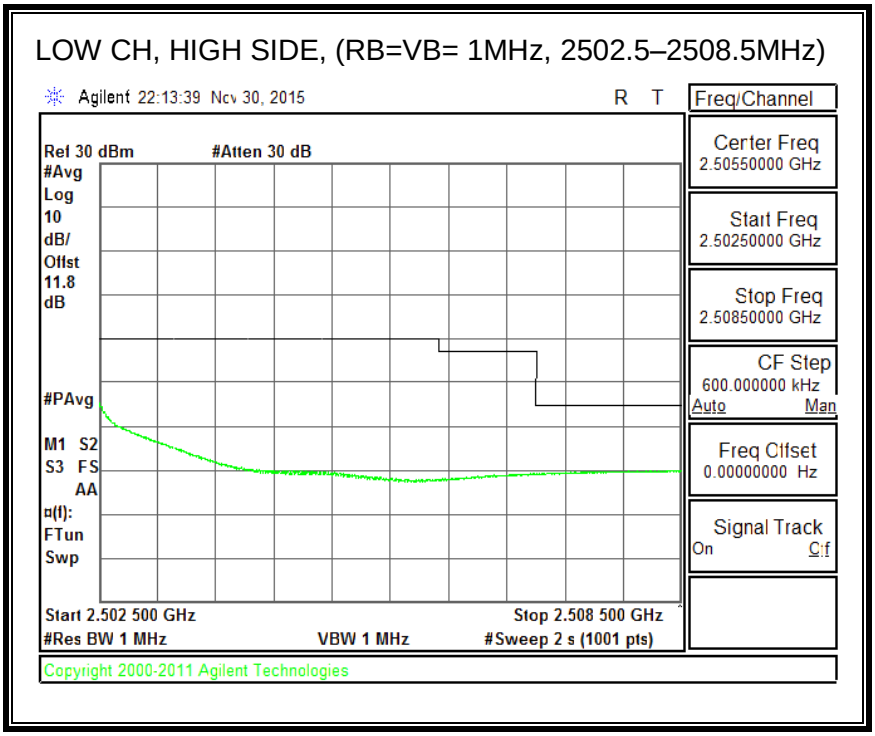


LOW CH, HIGH SIDE, (RB=VB= 1%EBW, 2502–2503MHz)



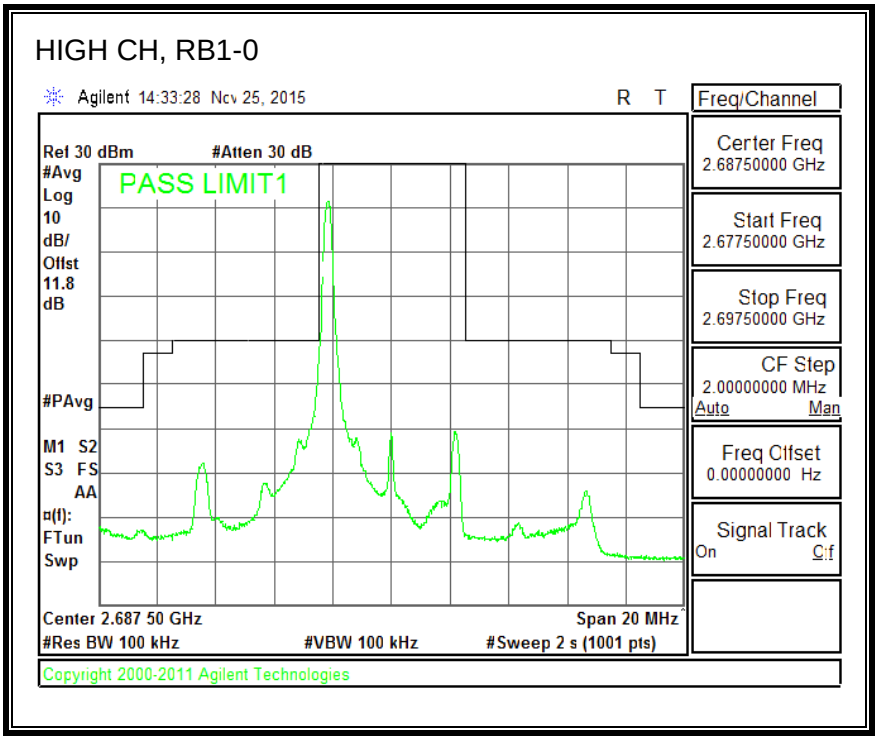
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, HIGH SIDE, (RB=VB= 1MHz, 2502.5–2508.5MHz)

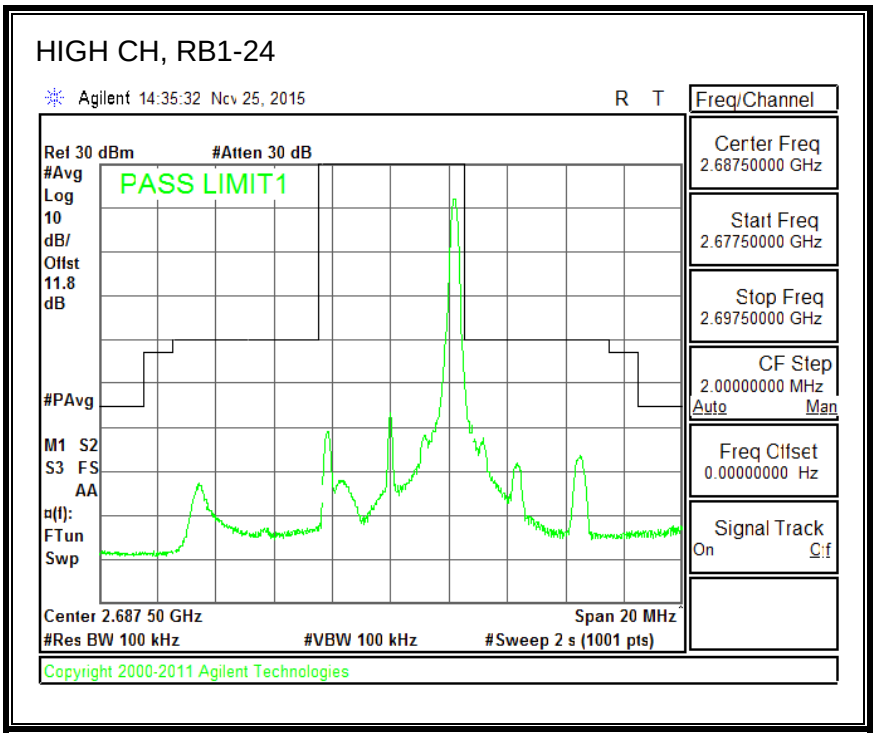


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

HIGH CH, RB1-0

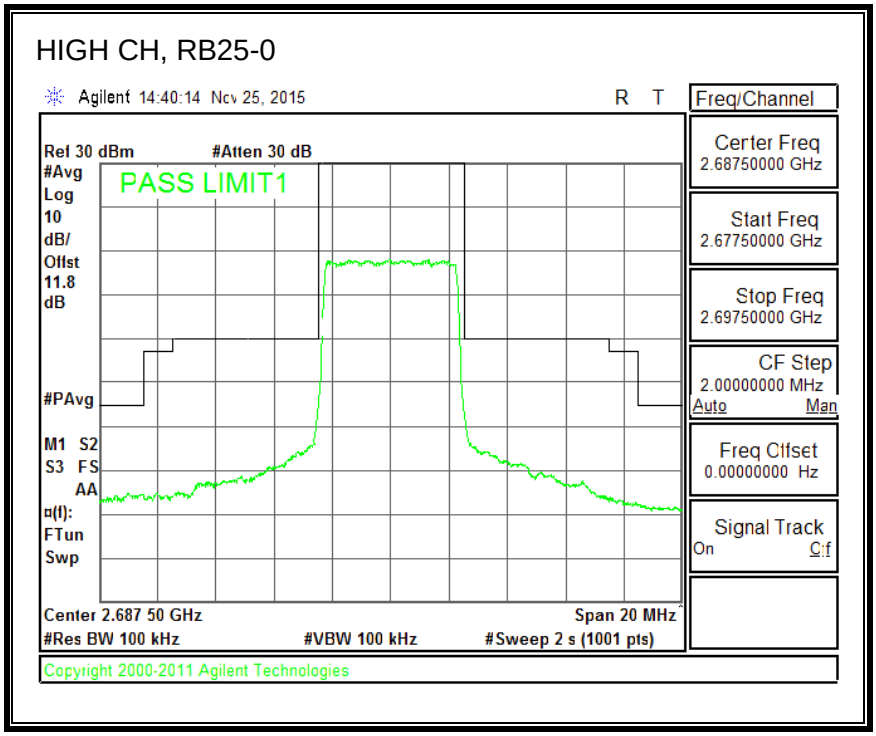


HIGH CH, RB1-24

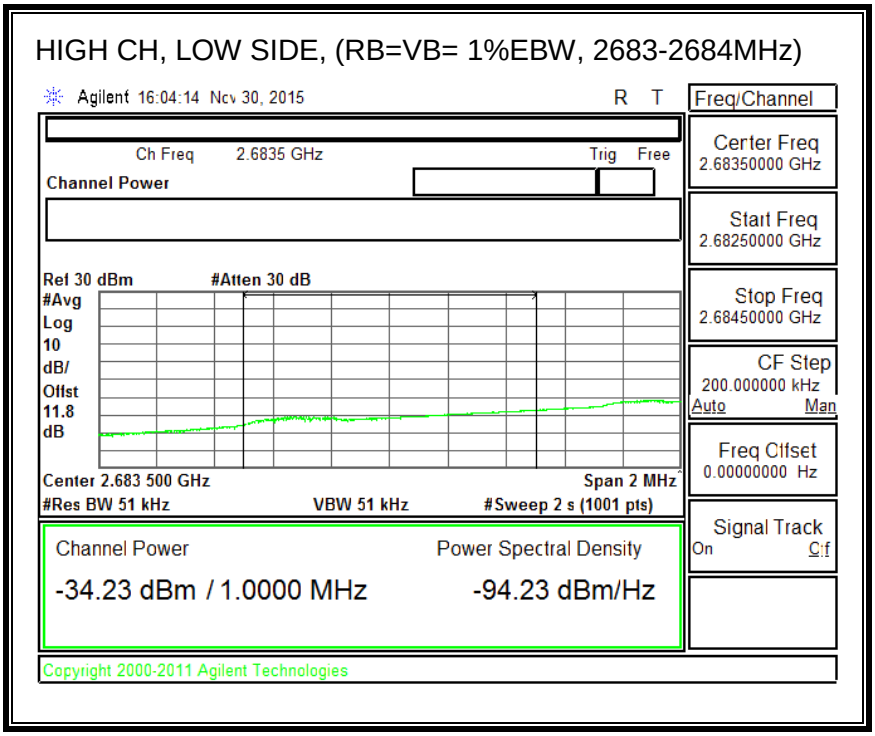


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

HIGH CH, RB25-0

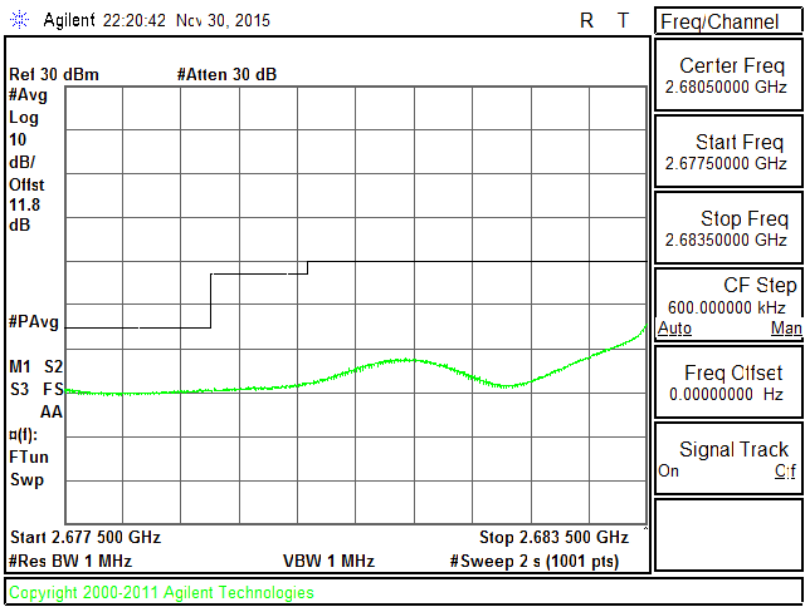


HIGH CH, LOW SIDE, (RB=VB= 1%EBW, 2683-2684MHz)

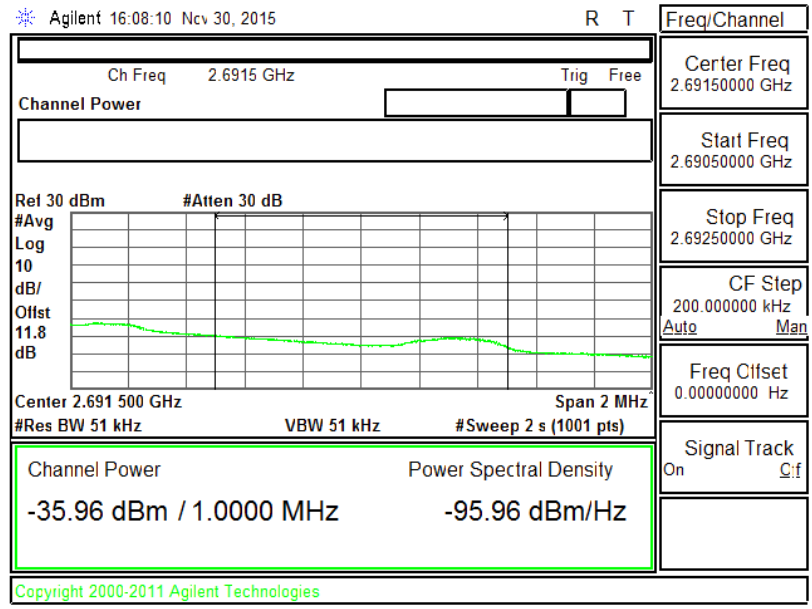


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

HIGH CH, LOW SIDE, (RB=VB= 1MHz, 2677.5-2683.5MHz)

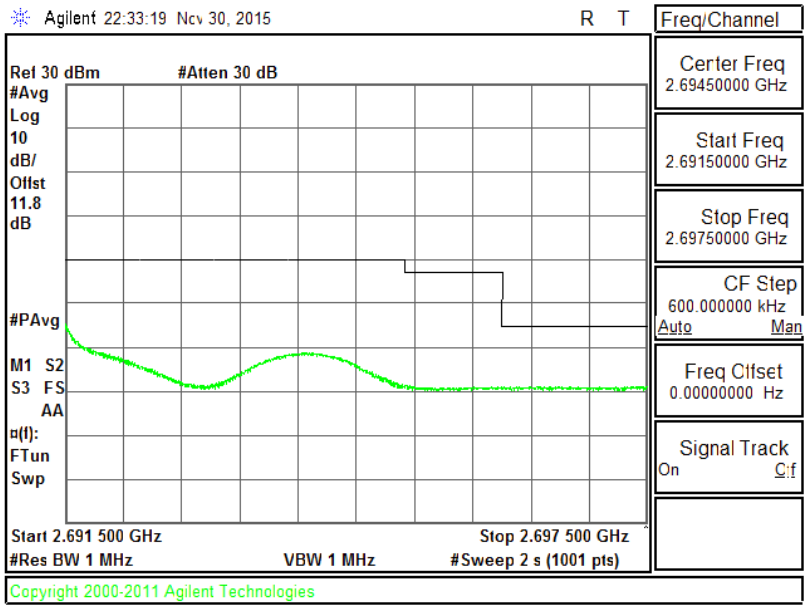


HIGH CH, HIGH SIDE, (RB=VB= 1%EBW, 2691-2692MHz)



This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

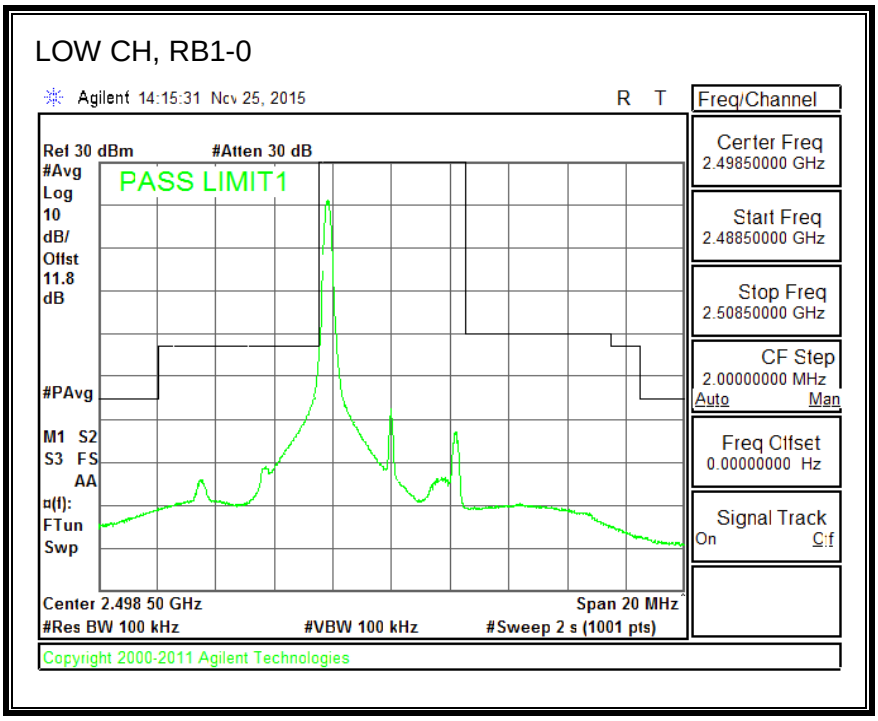
HIGH CH, HIGH SIDE, (RB=VB= 1MHz, 2691.5–2697.5MHz)



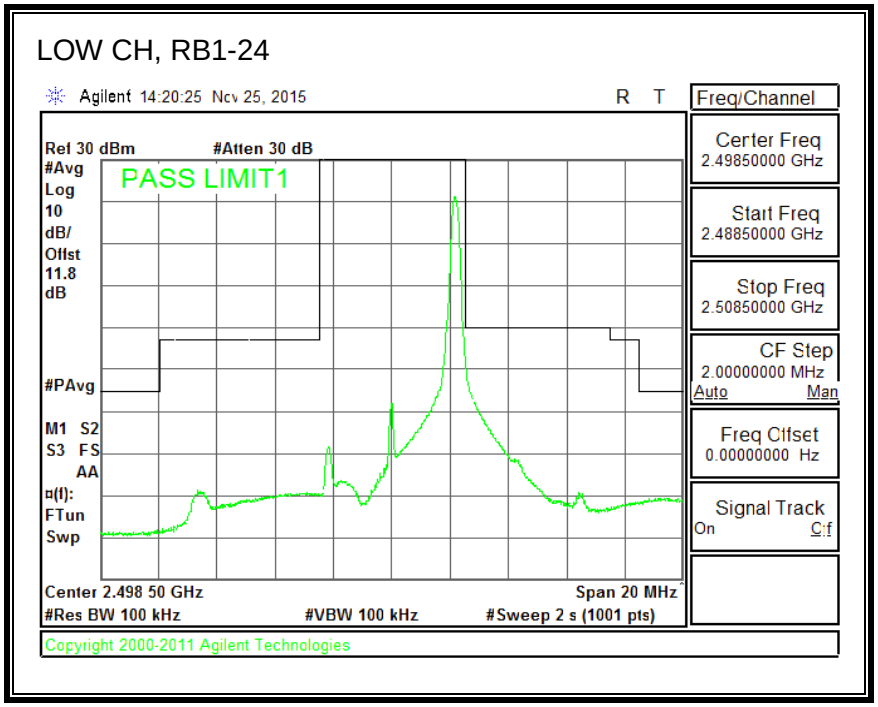
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

16QAM, (5.0 MHz BAND WIDTH)

LOW CH, RB1-0

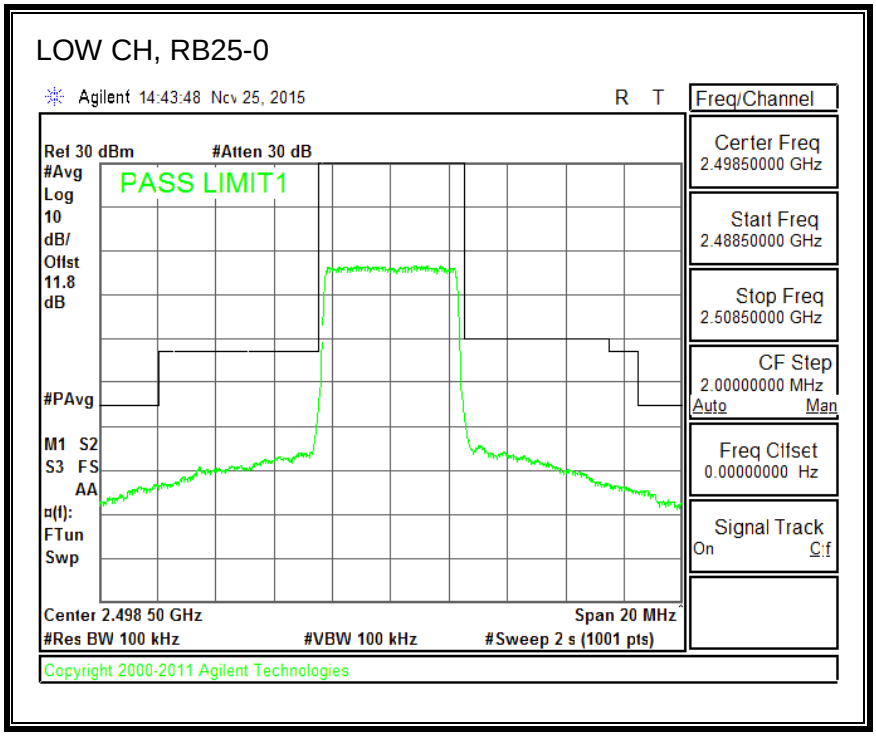


LOW CH, RB1-24

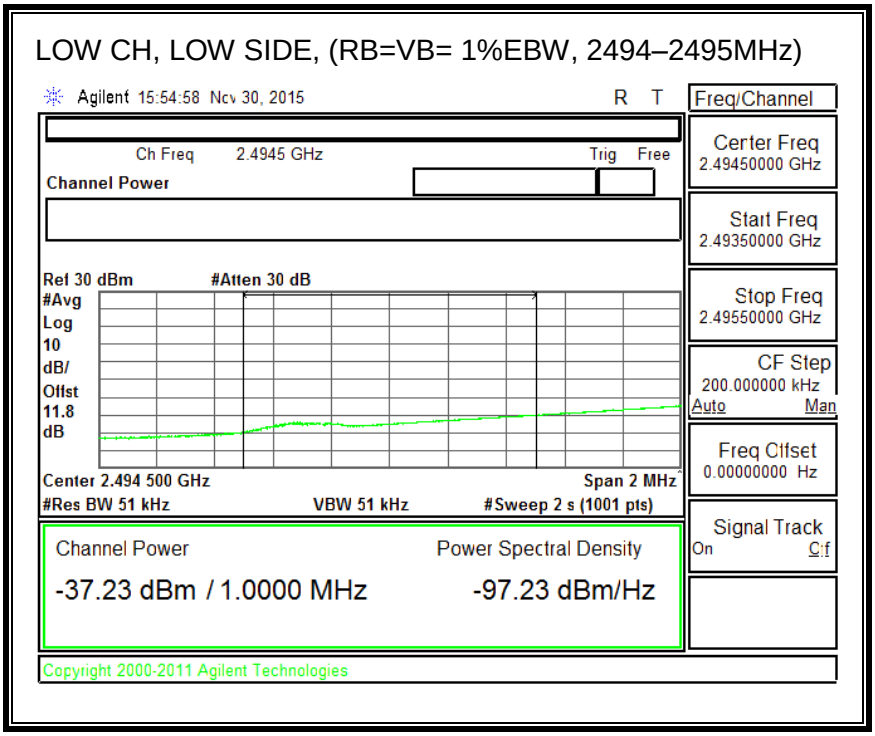


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB25-0

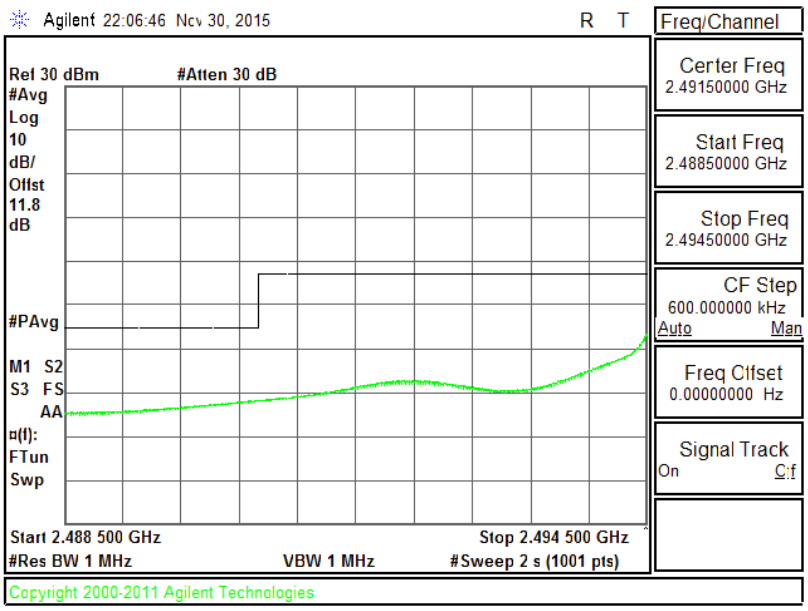


LOW CH, LOW SIDE, (RB=VB= 1%EBW, 2494–2495MHz)

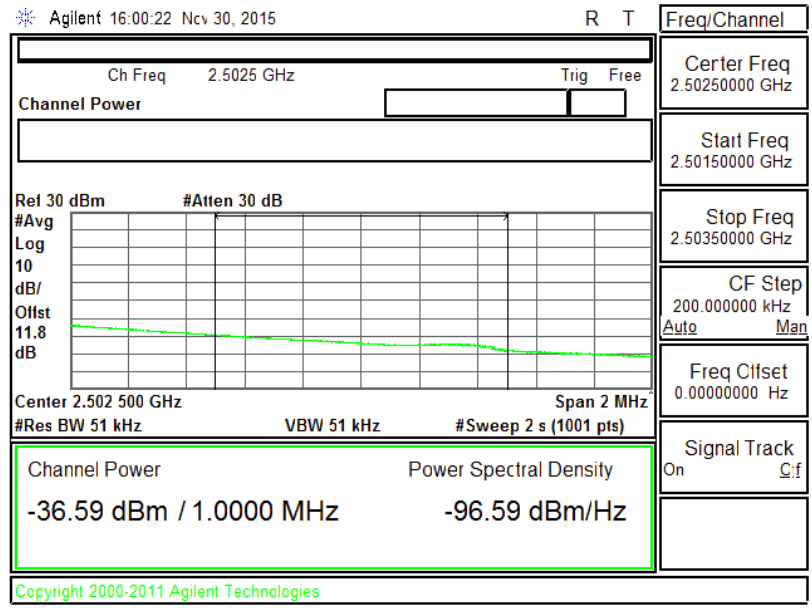


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, LOW SIDE, (RB=VB= 1MHz, 2488.5-2494.5MHz)

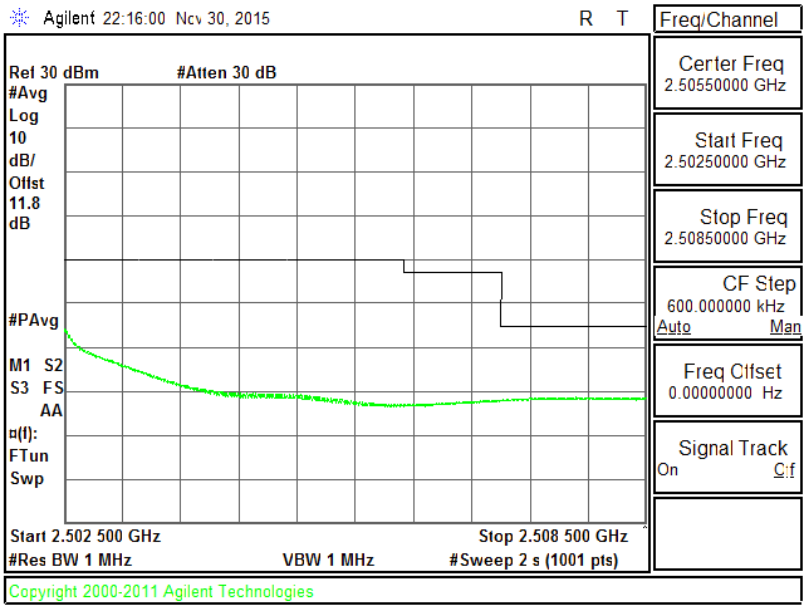


LOW CH, HIGH SIDE, (RB=VB= 1%EBW, 2502–2503MHz)



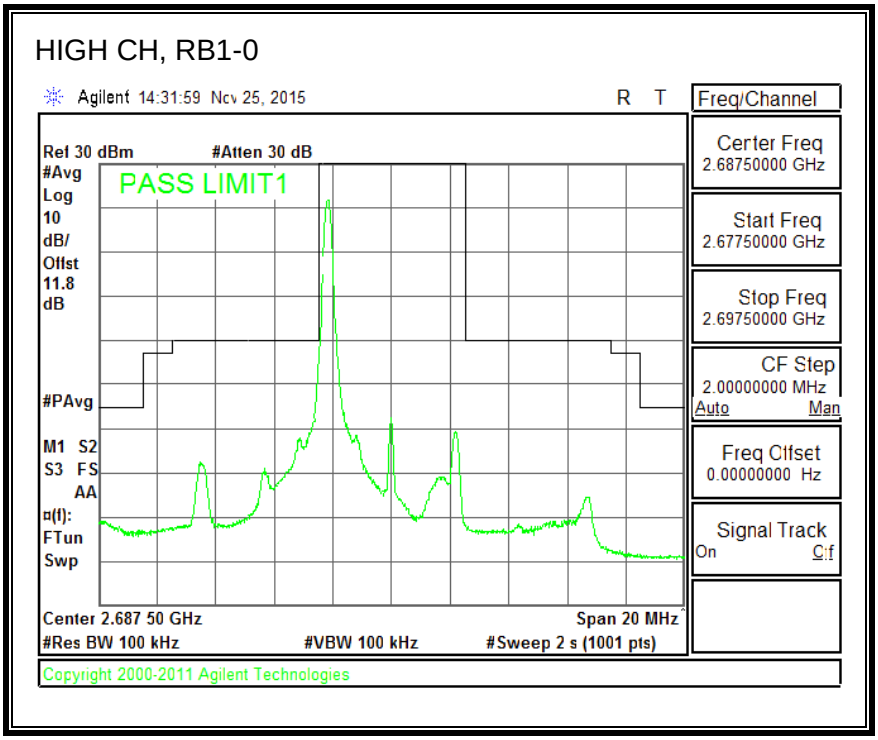
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, HIGH SIDE, (RB=VB= 1MHz, 2502.5-2508.5MHz)

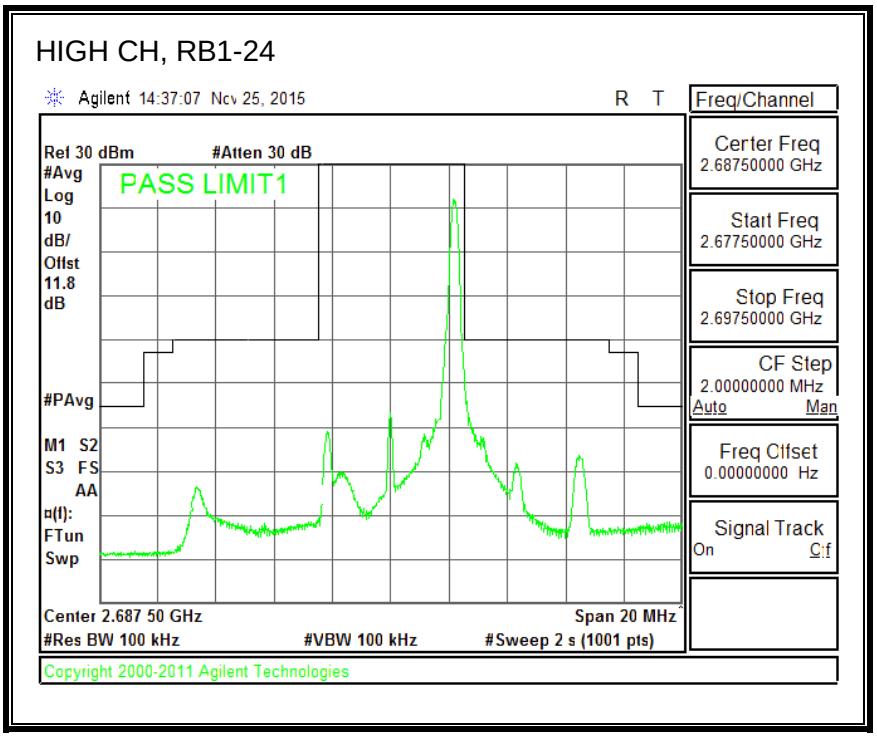


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

HIGH CH, RB1-0

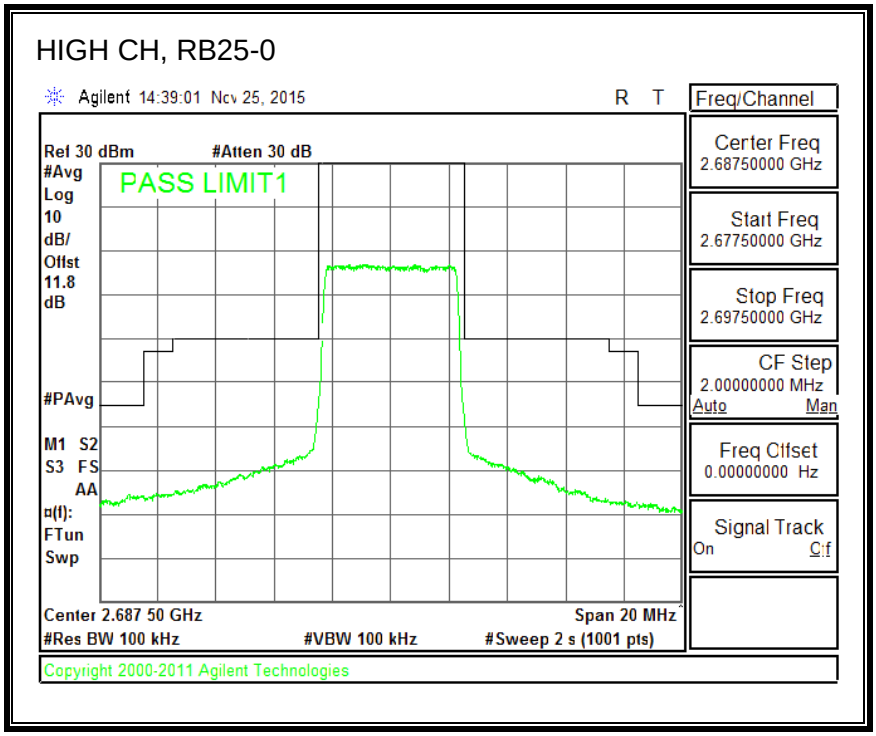


HIGH CH, RB1-24

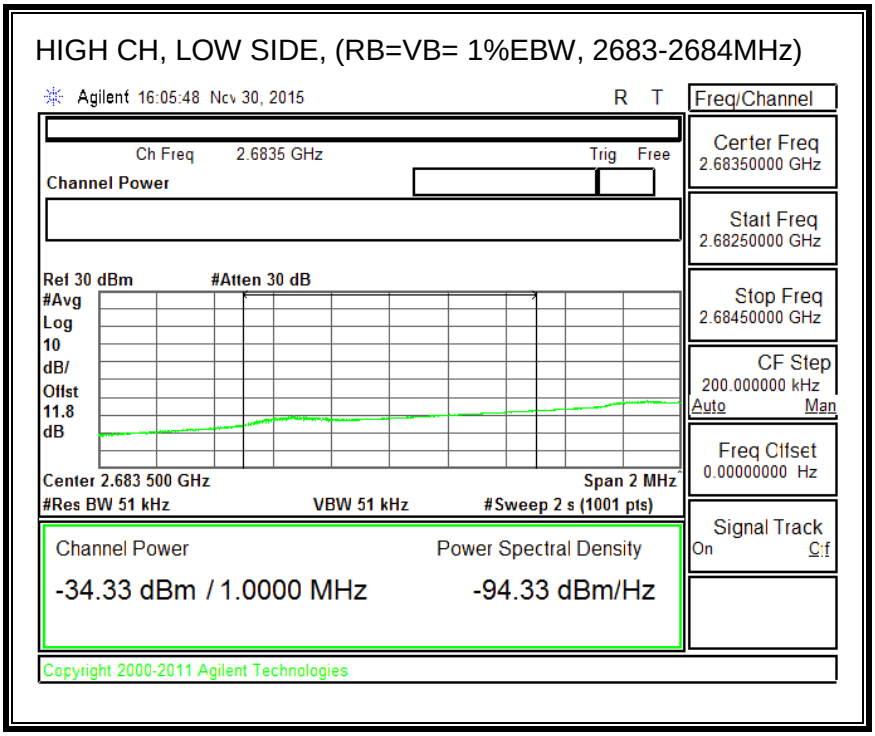


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

HIGH CH, RB25-0

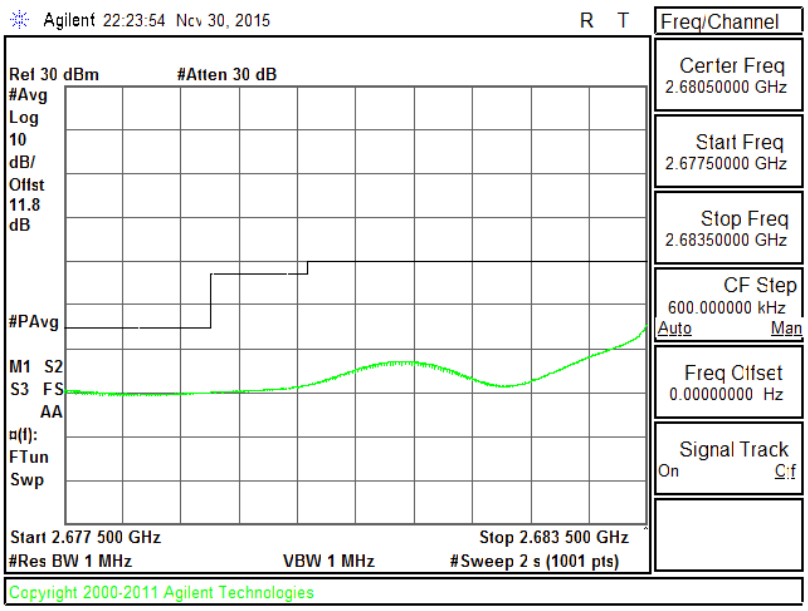


HIGH CH, LOW SIDE, (RB=VB= 1%EBW, 2683-2684MHz)

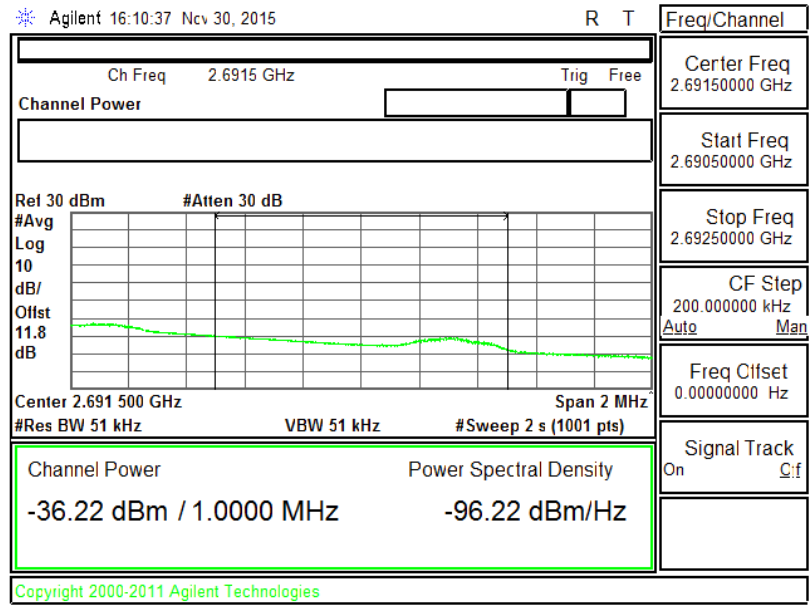


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

HIGH CH, LOW SIDE, (RB=VB= 1MHz, 2677.5-2683.5MHz)

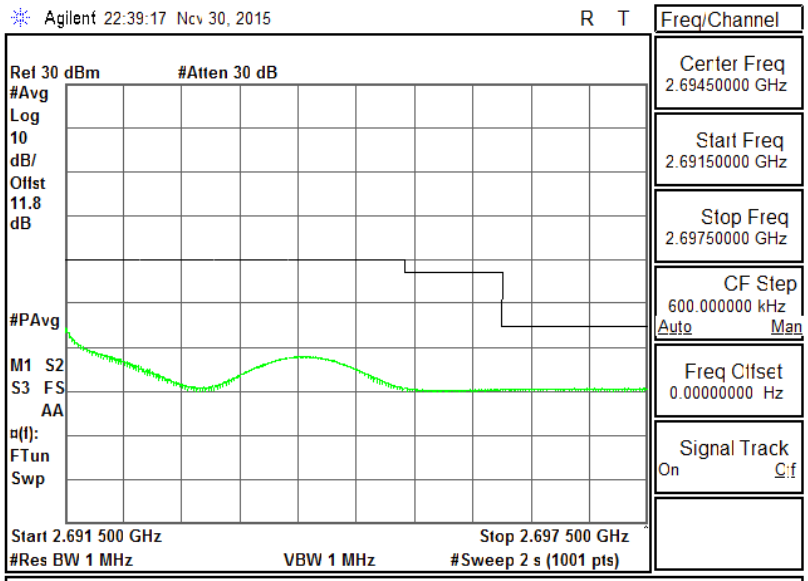


HIGH CH, HIGH SIDE, (RB=VB= 1%EBW, 2691-2692MHz)



This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

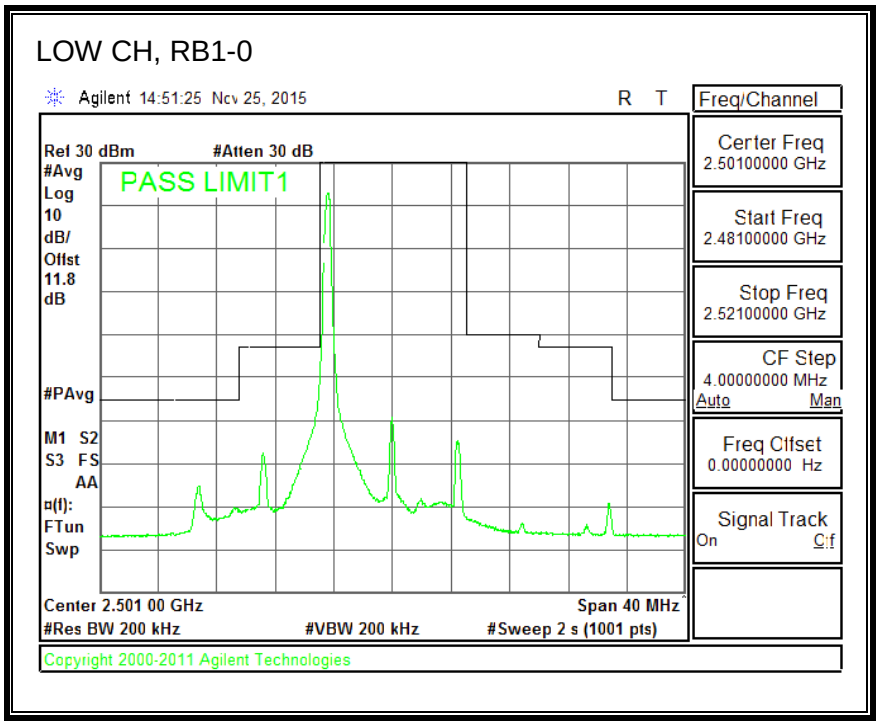
HIGH CH, HIGH SIDE, (RB=VB= 1MHz, 2691.5–2697.5MHz)



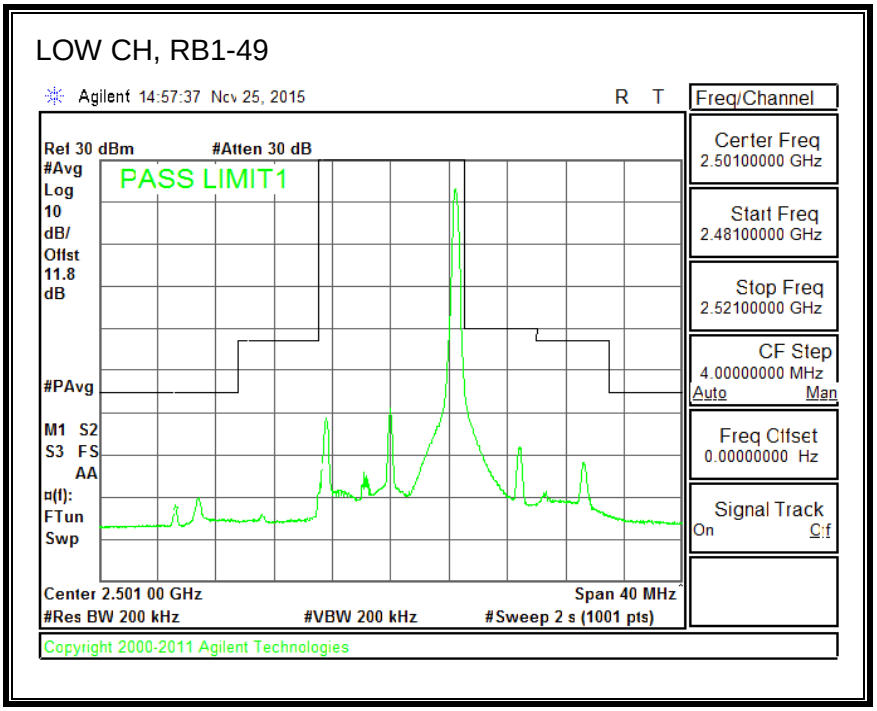
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

QPSK, (10.0 MHz BAND WIDTH)

LOW CH, RB1-0

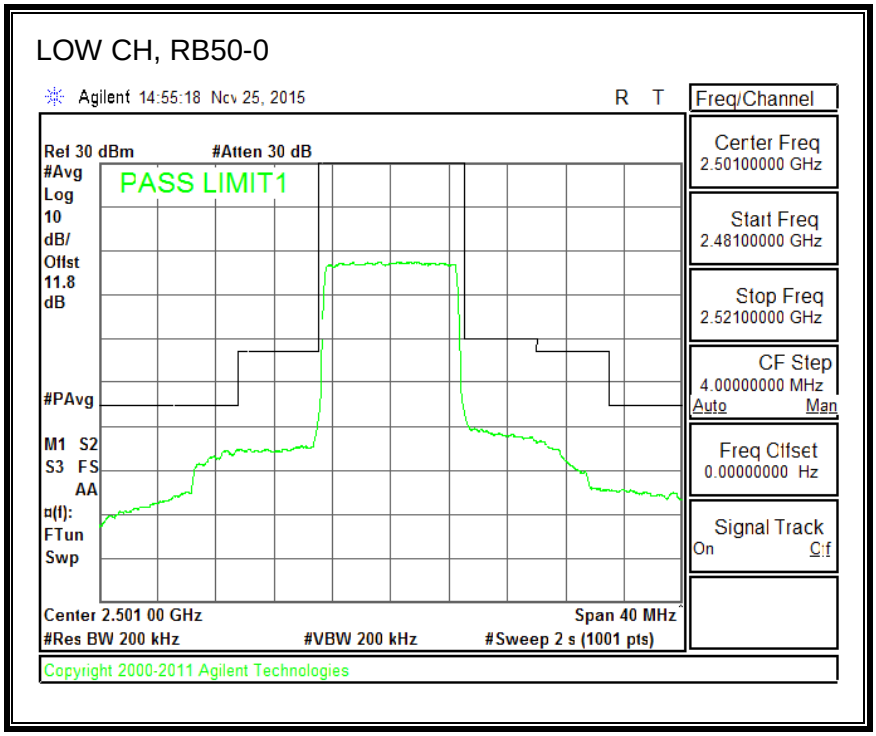


LOW CH, RB1-49

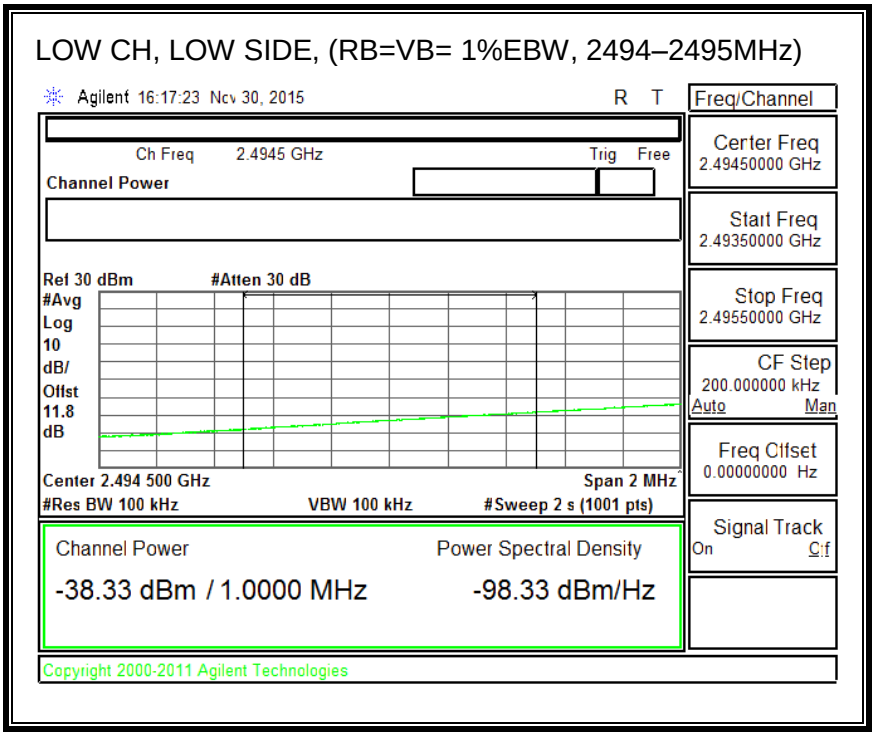


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB50-0

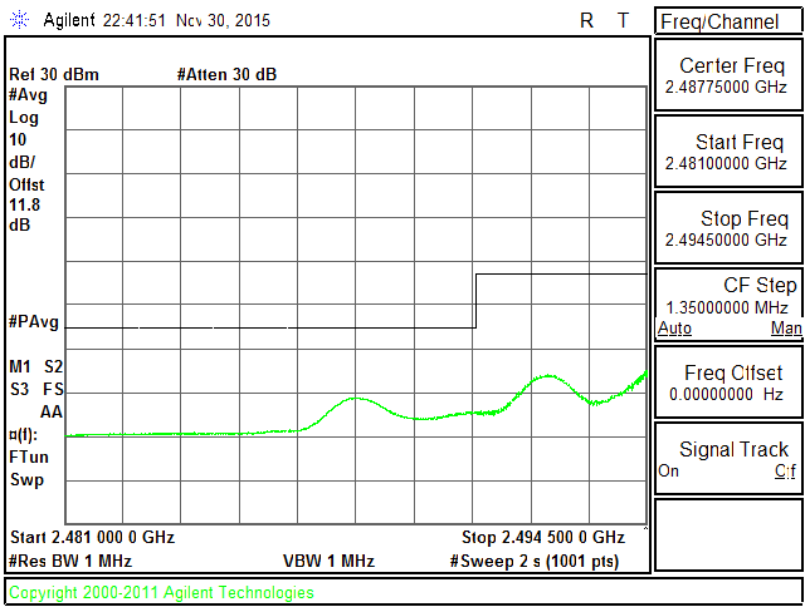


LOW CH, LOW SIDE, (RB=VB= 1%EBW, 2494–2495MHz)

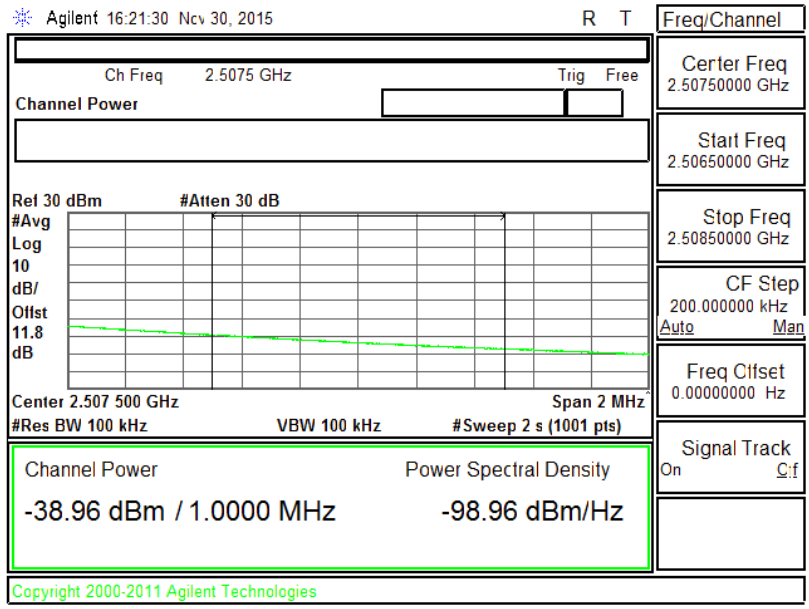


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, LOW SIDE, (RB=VB= 1MHz, 2481-2494.5MHz)

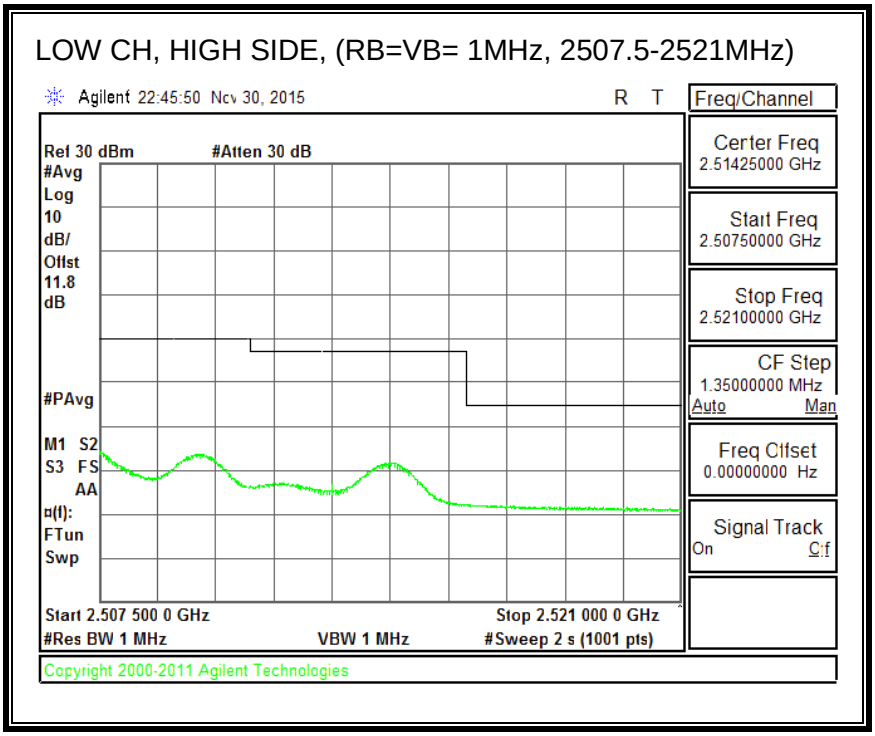


LOW CH, HIGH SIDE, (RB=VB= 1%EBW, 2507-2508MHz)



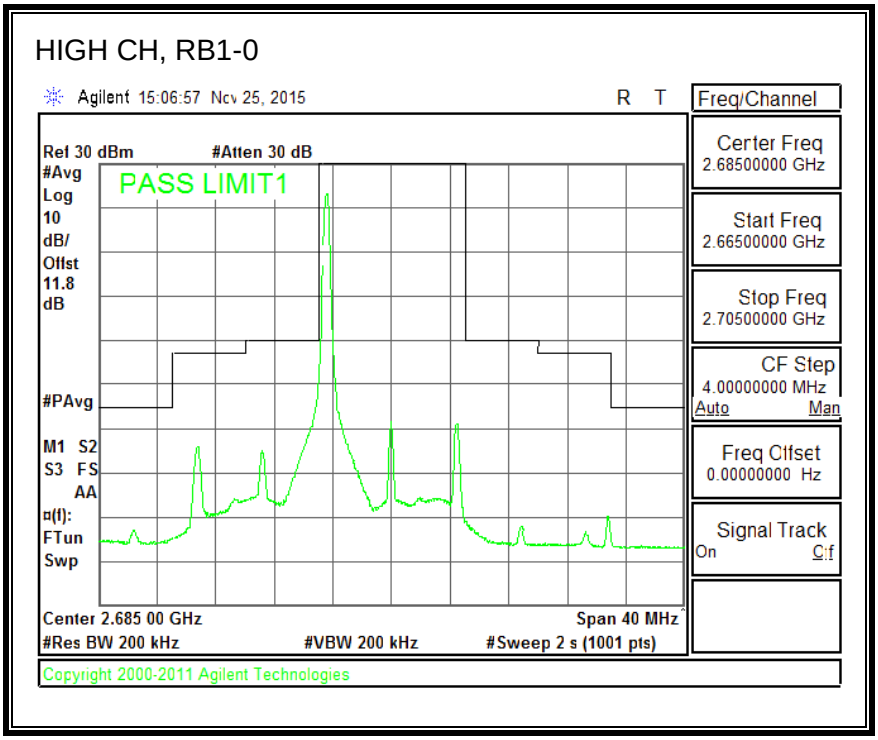
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, HIGH SIDE, (RB=VB= 1MHz, 2507.5-2521MHz)

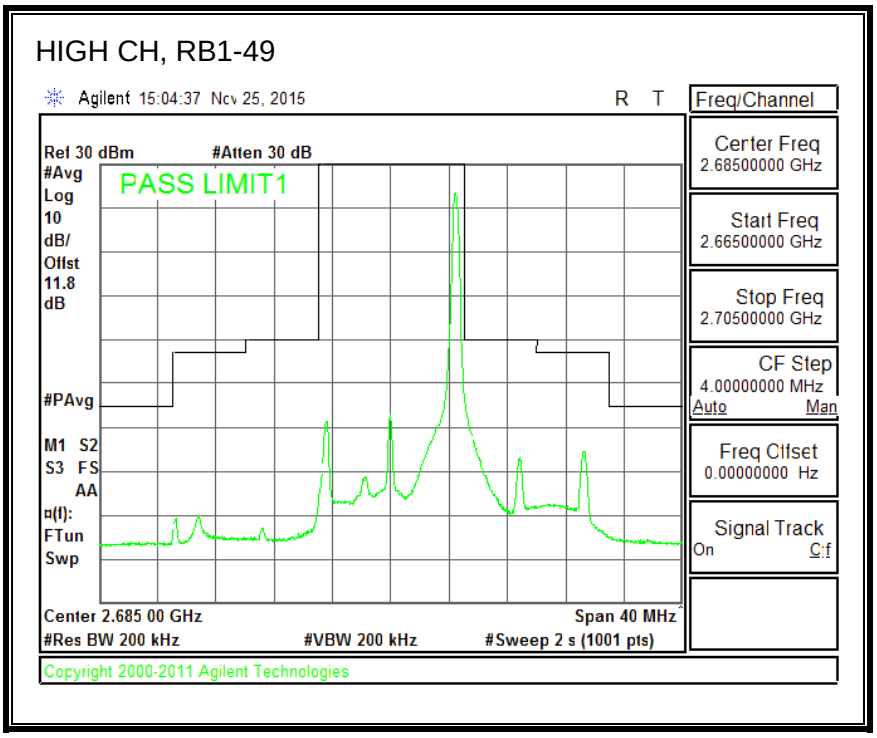


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

HIGH CH, RB1-0

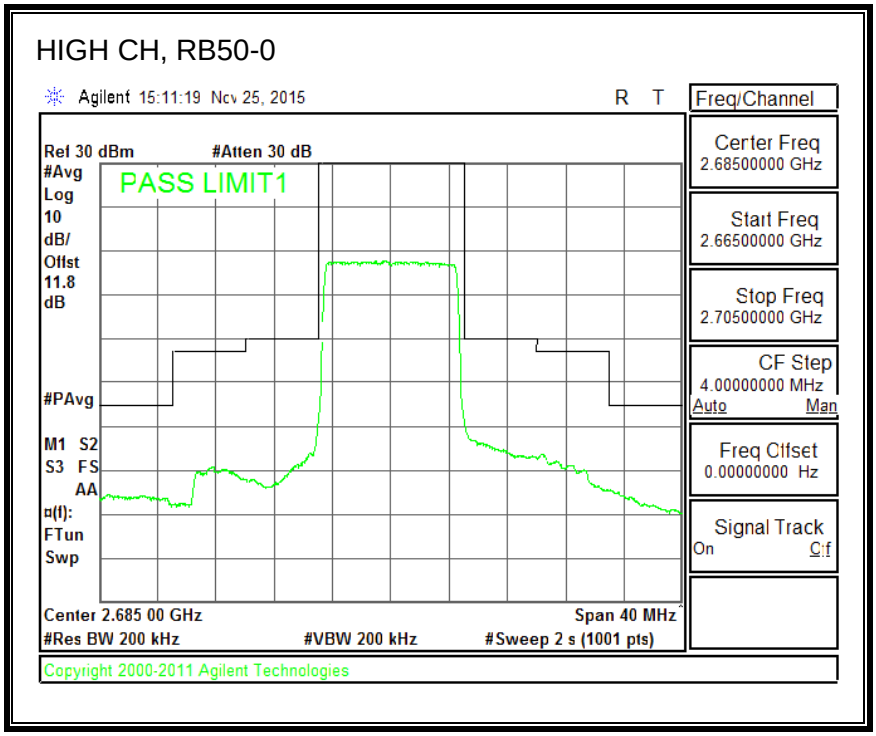


HIGH CH, RB1-49

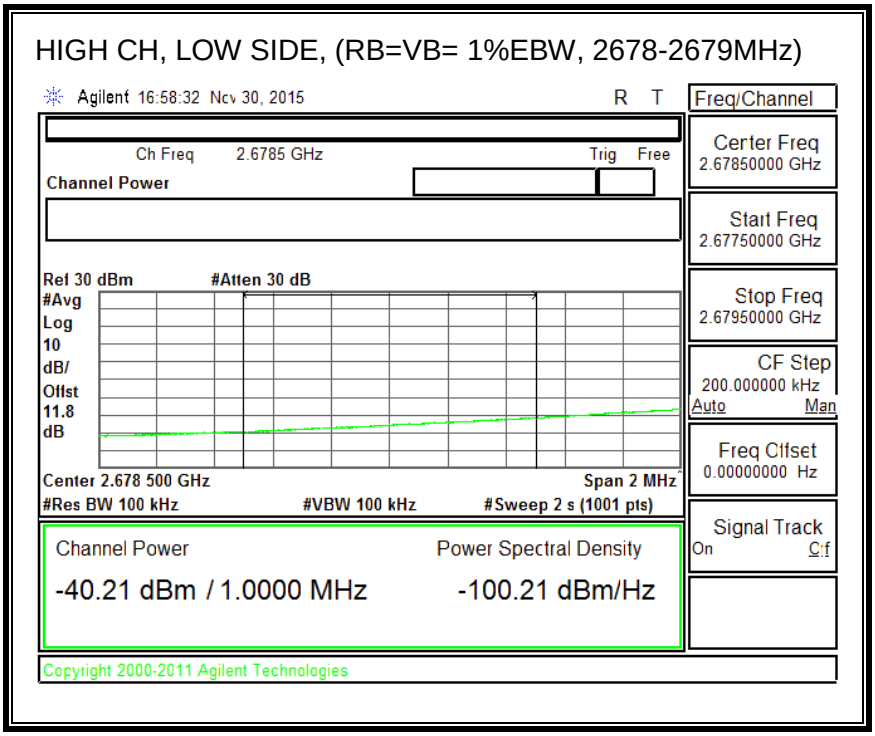


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

HIGH CH, RB50-0

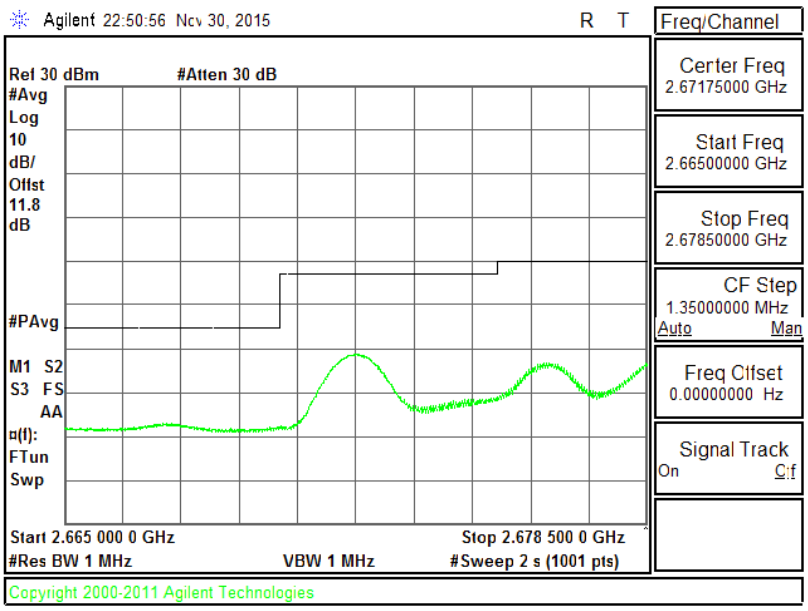


HIGH CH, LOW SIDE, (RB=VB= 1%EBW, 2678-2679MHz)

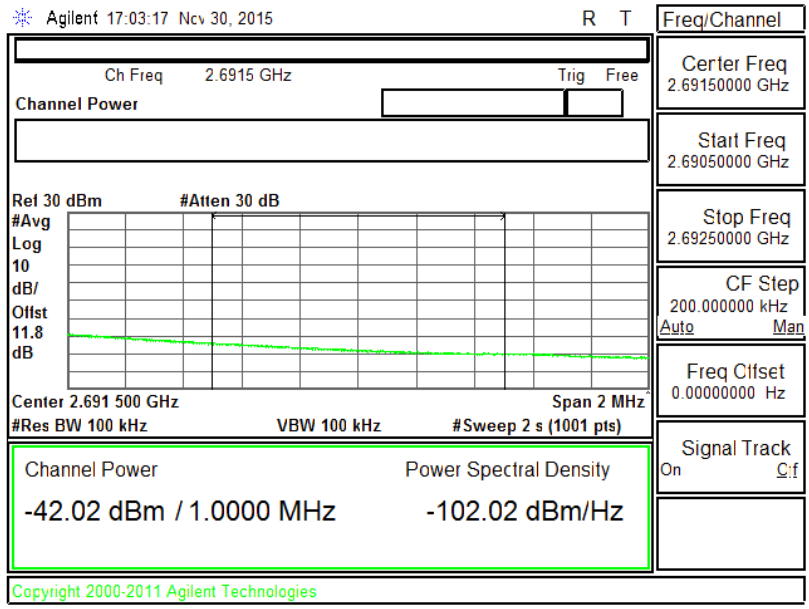


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

HIGH CH, LOW SIDE, (RB=VB= 1MHz, 2665-2678.5MHz)

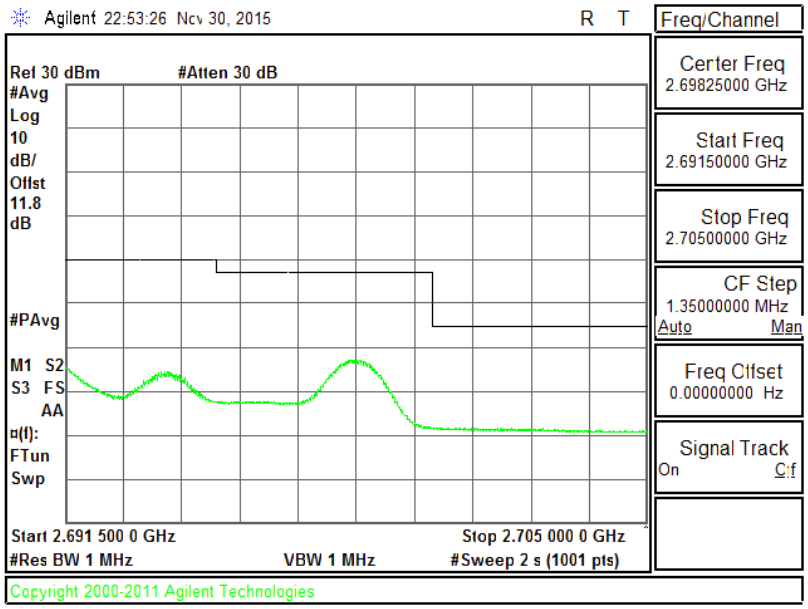


HIGH CH, HIGH SIDE, (RB=VB= 1%EBW, 2691-2692MHz)



This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

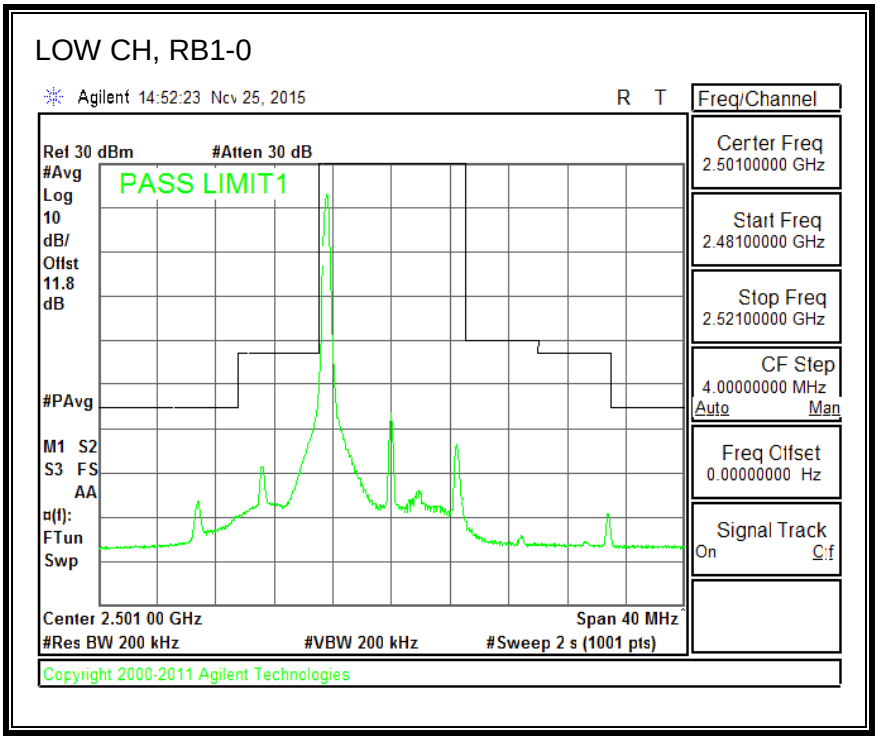
HIGH CH, HIGH SIDE, (RB=VB= 1MHz, 2691.5–2705MHz)



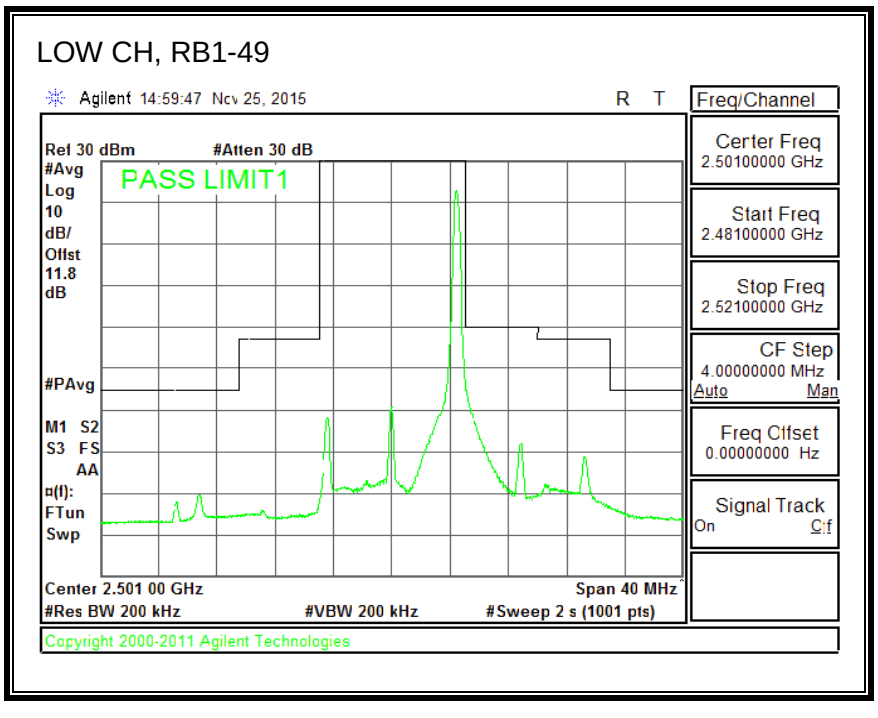
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

16QAM, (10.0 MHz BAND WIDTH)

LOW CH, RB1-0

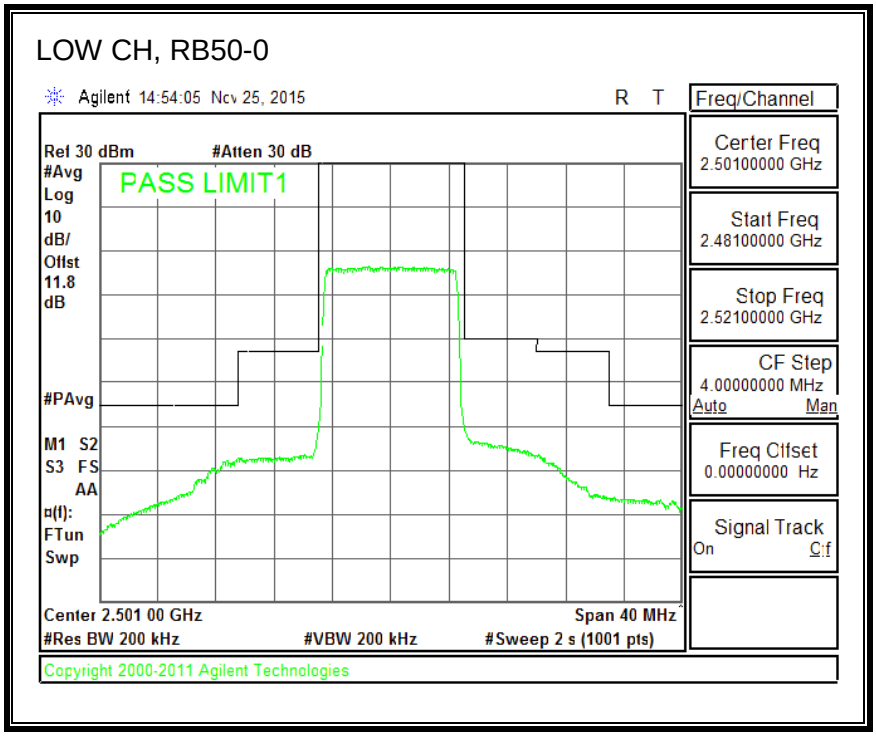


LOW CH, RB1-49

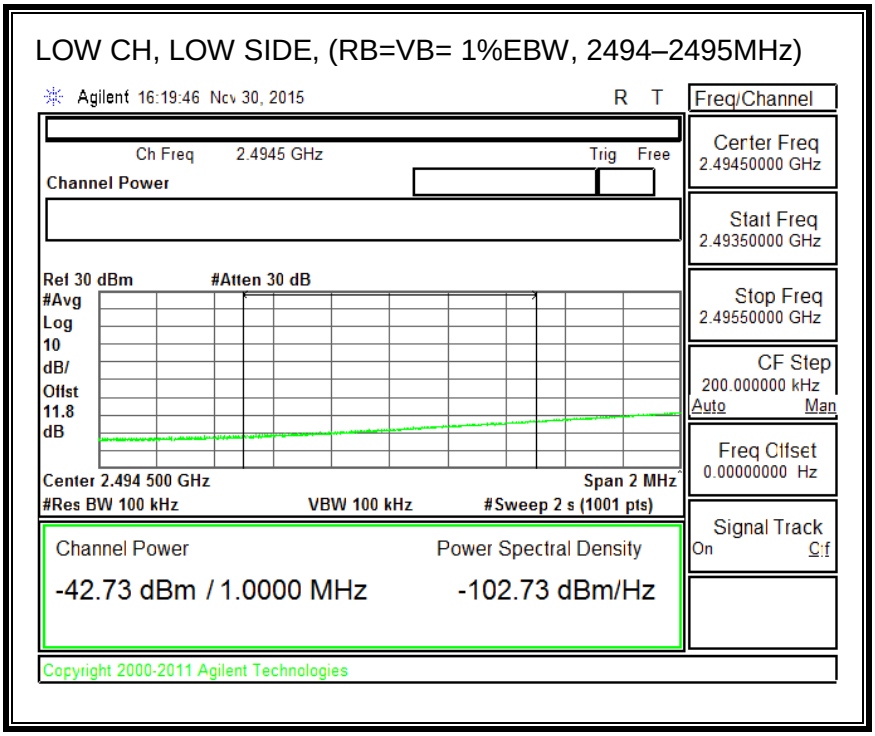


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB50-0

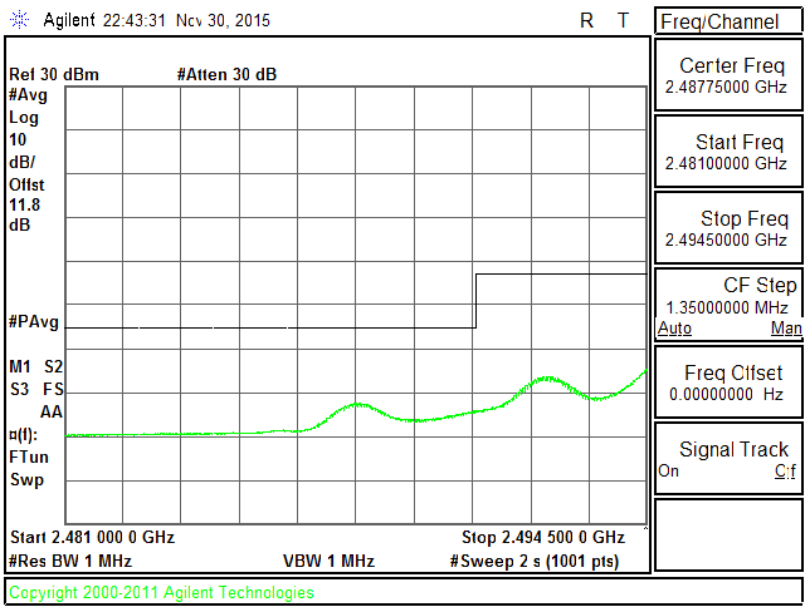


LOW CH, LOW SIDE, (RB=VB= 1%EBW, 2494–2495MHz)

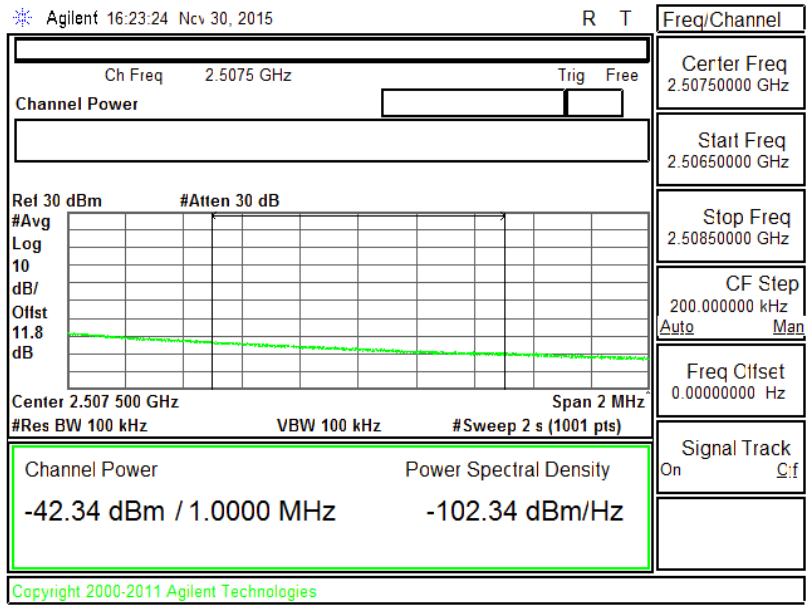


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, LOW SIDE, (RB=VB= 1MHz, 2481-2494.5MHz)

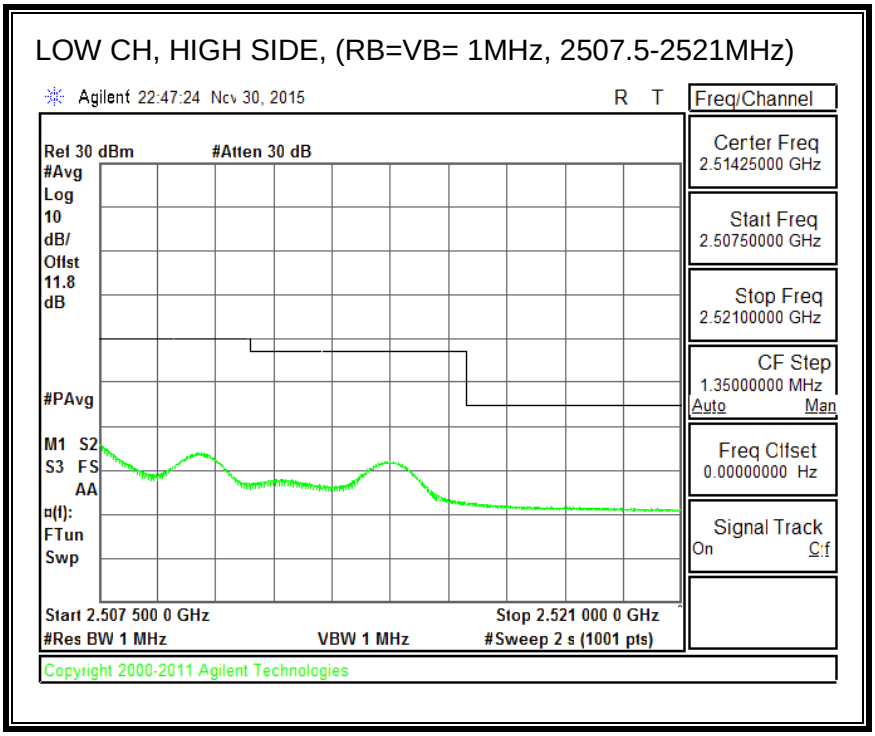


LOW CH, HIGH SIDE, (RB=VB= 1%EBW, 2507-2508MHz)



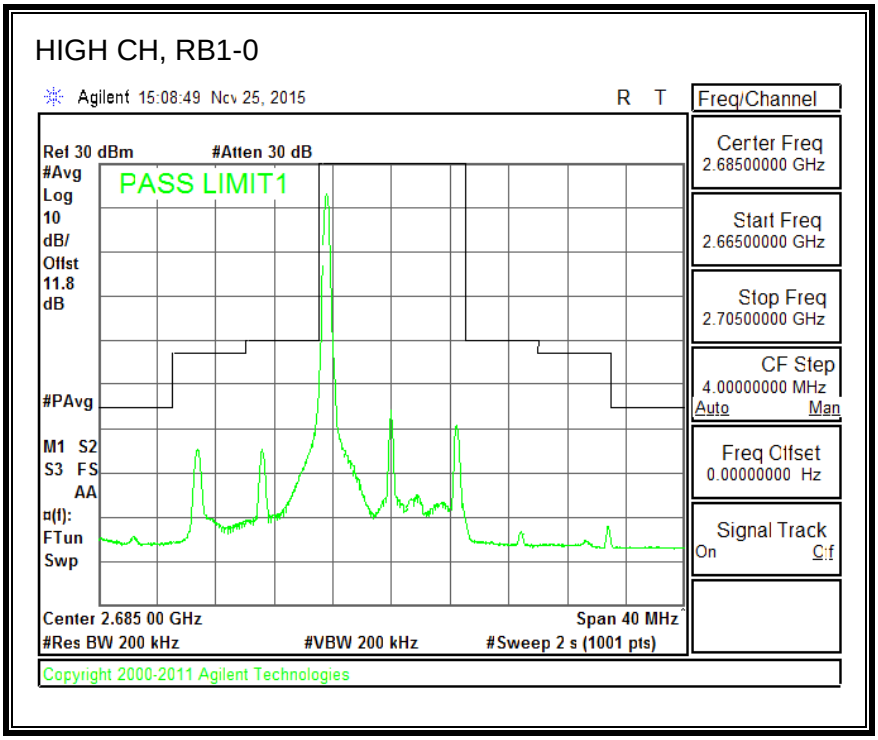
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, HIGH SIDE, (RB=VB= 1MHz, 2507.5-2521MHz)

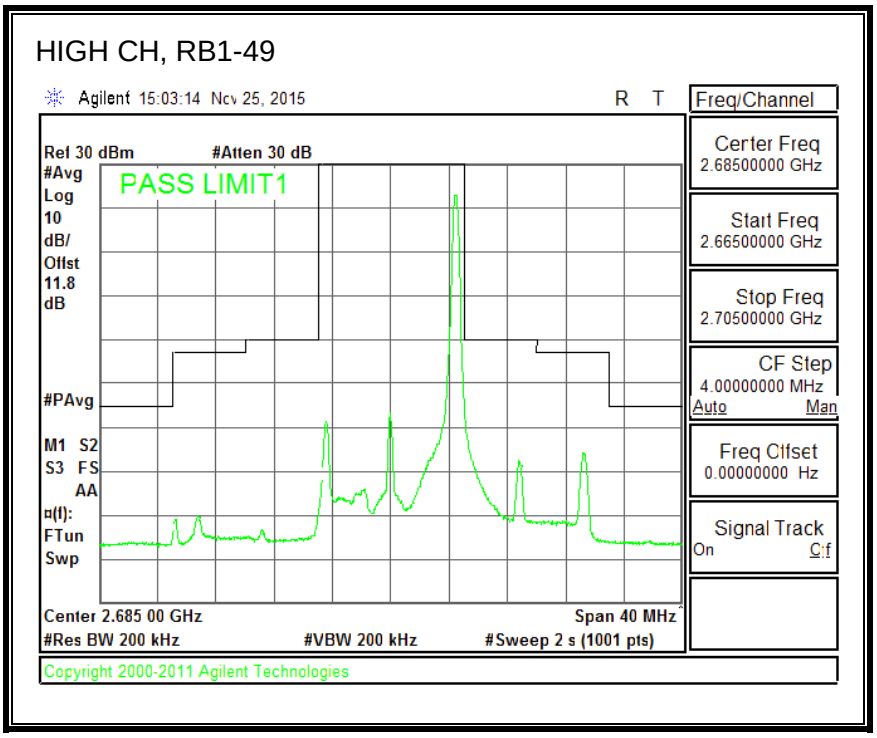


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

HIGH CH, RB1-0

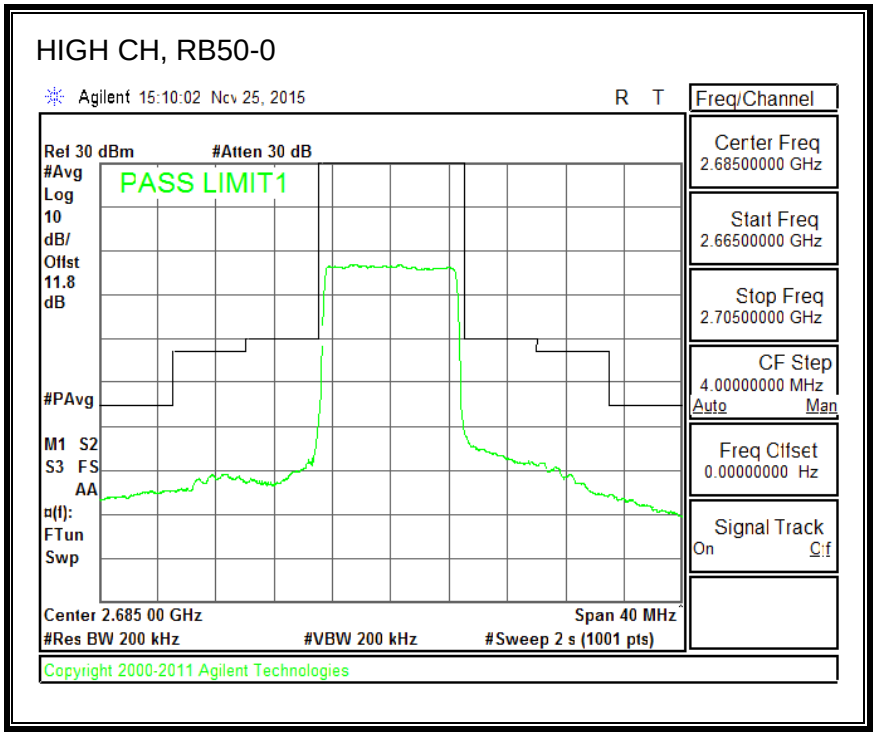


HIGH CH, RB1-49

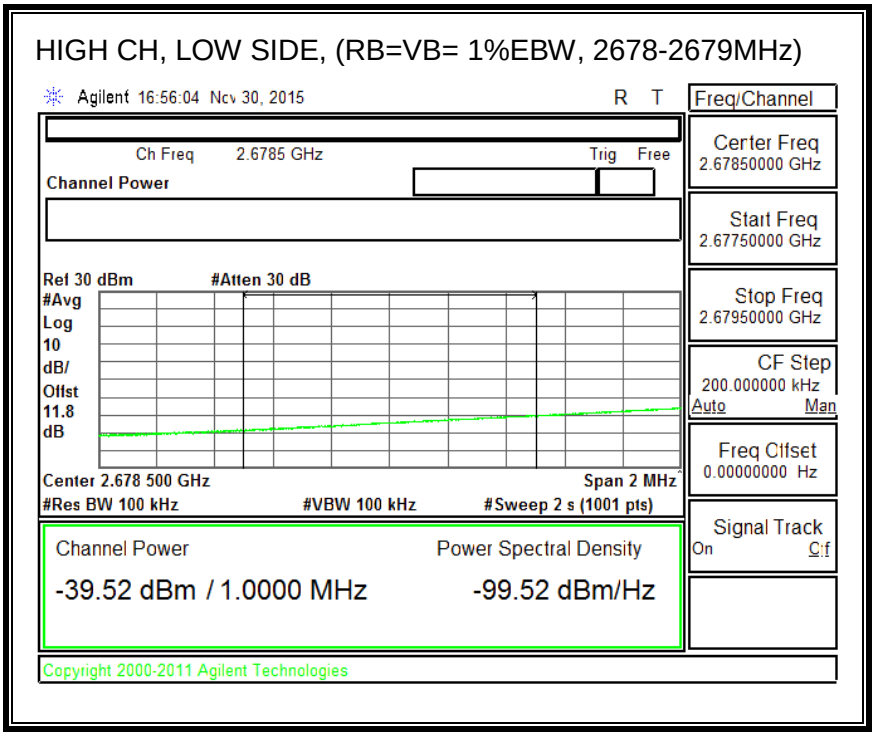


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

HIGH CH, RB50-0

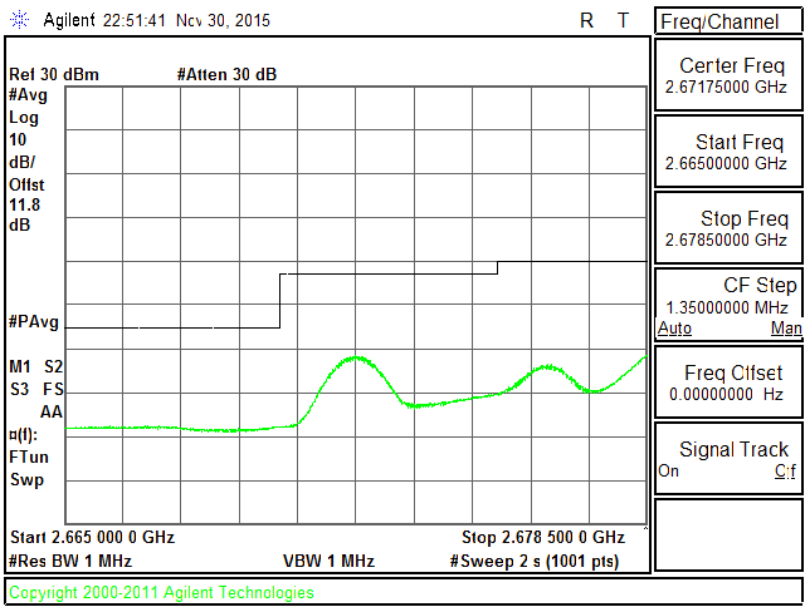


HIGH CH, LOW SIDE, (RB=VB= 1%EBW, 2678-2679MHz)

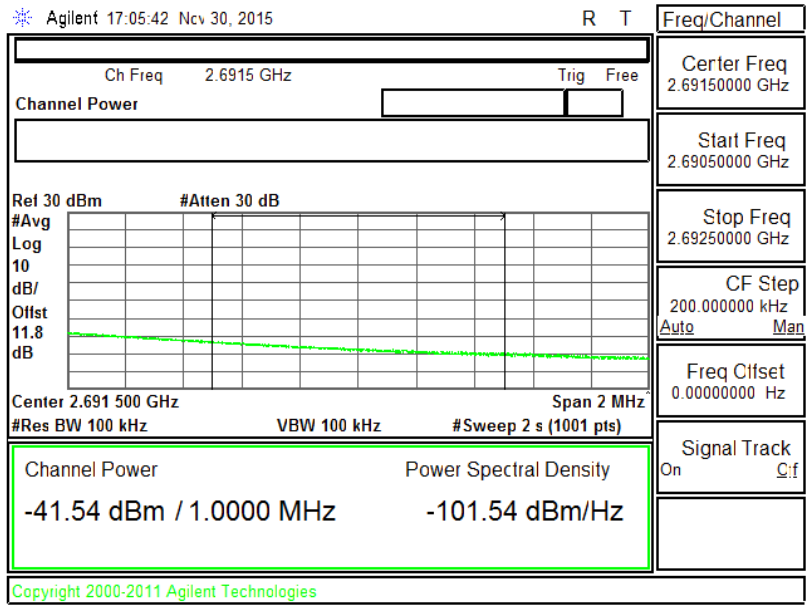


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

HIGH CH, LOW SIDE, (RB=VB= 1MHz, 2665-2678.5MHz)

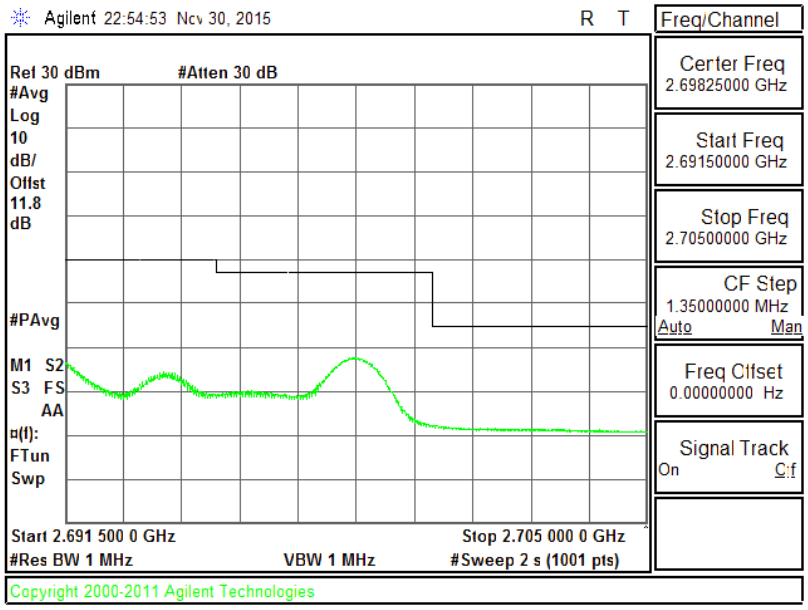


HIGH CH, HIGH SIDE, (RB=VB= 1%EBW, 2691-2692MHz)



This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

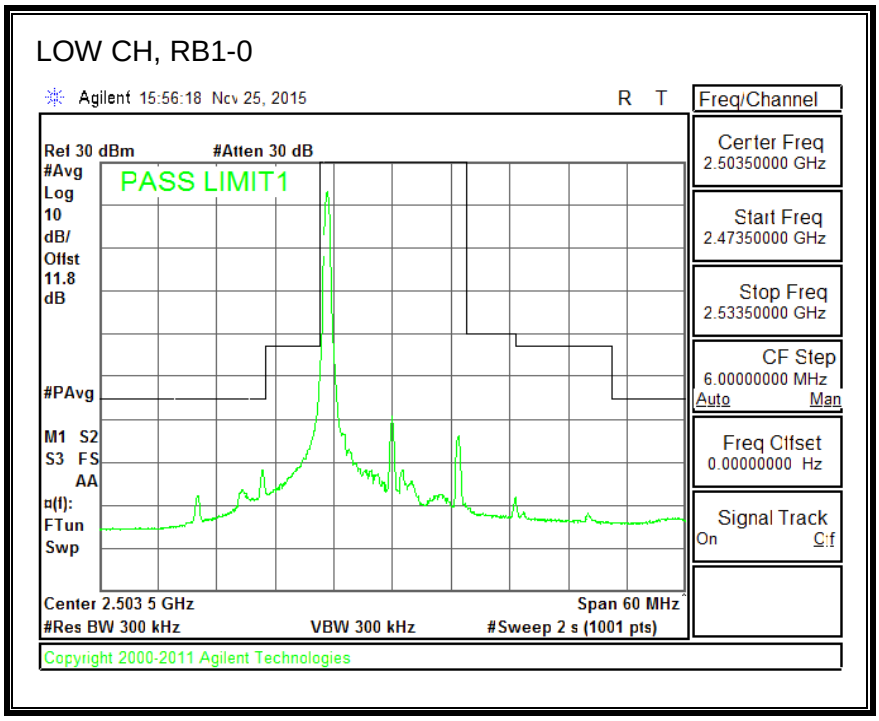
HIGH CH, HIGH SIDE, (RB=VB= 1MHz, 2691.5–2705MHz)



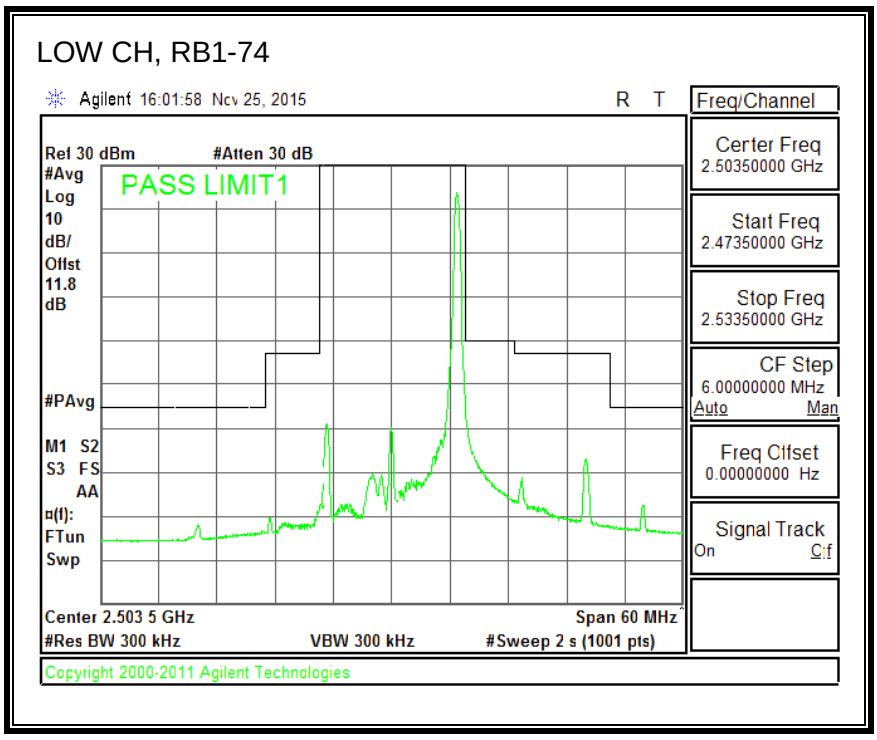
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

QPSK, (15.0 MHz BAND WIDTH)

LOW CH, RB1-0

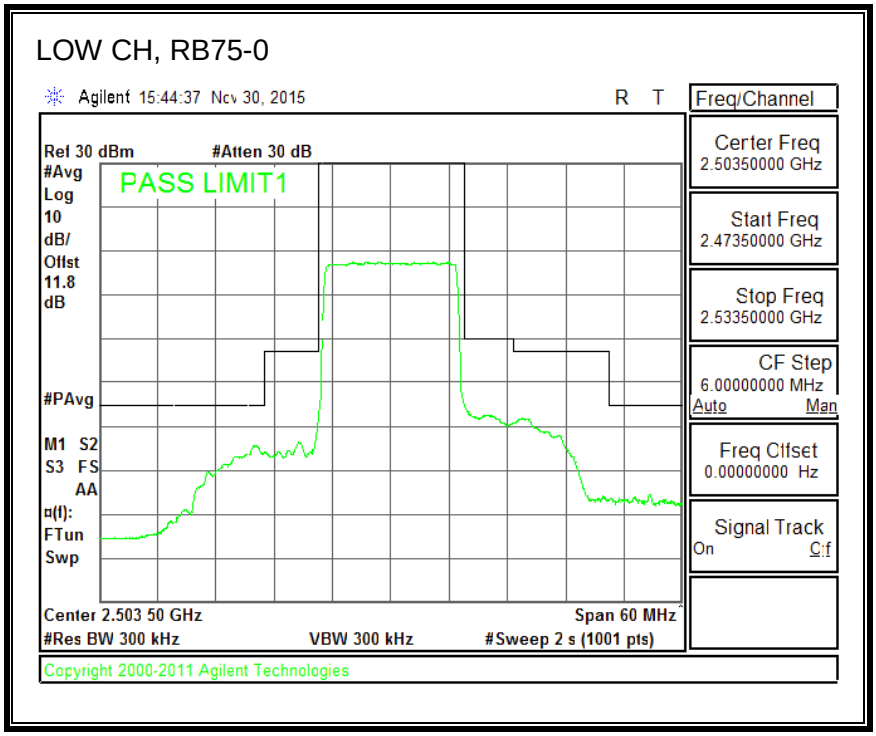


LOW CH, RB1-74

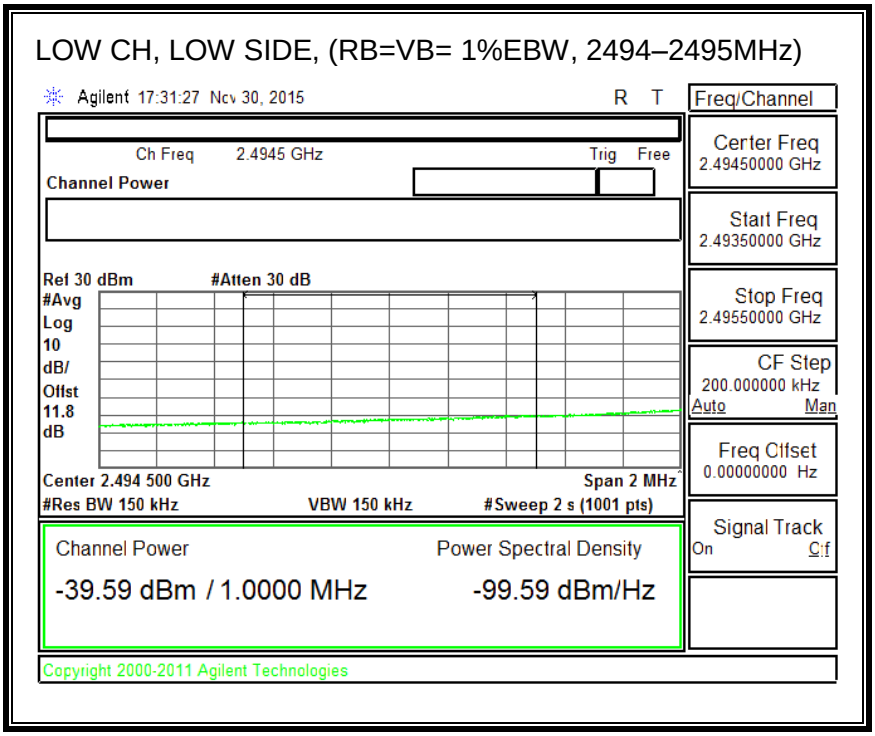


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB75-0

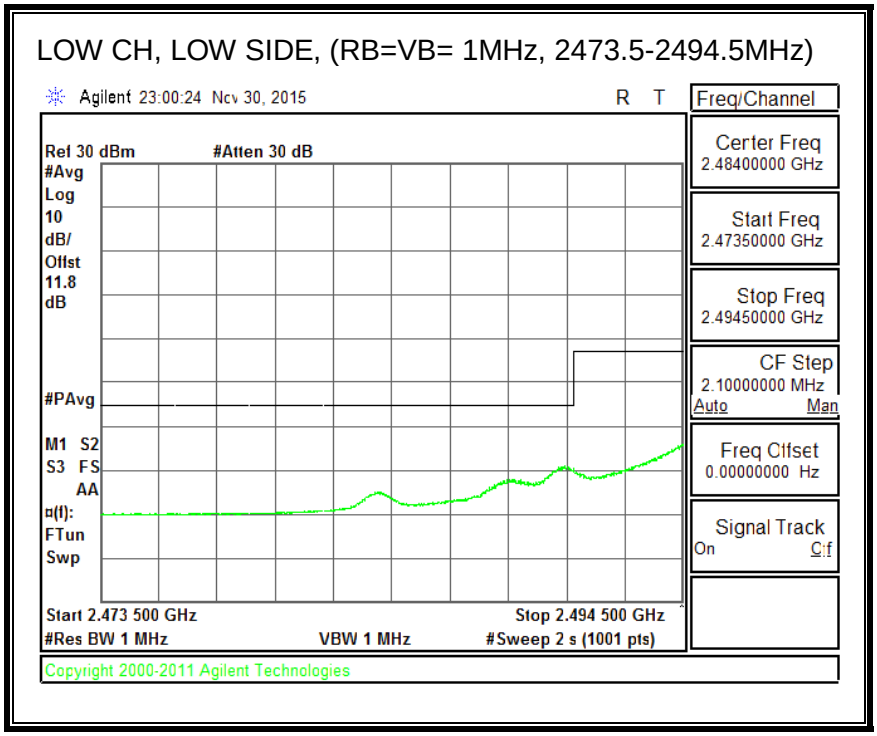


LOW CH, LOW SIDE, (RB=VB= 1%EBW, 2494–2495MHz)

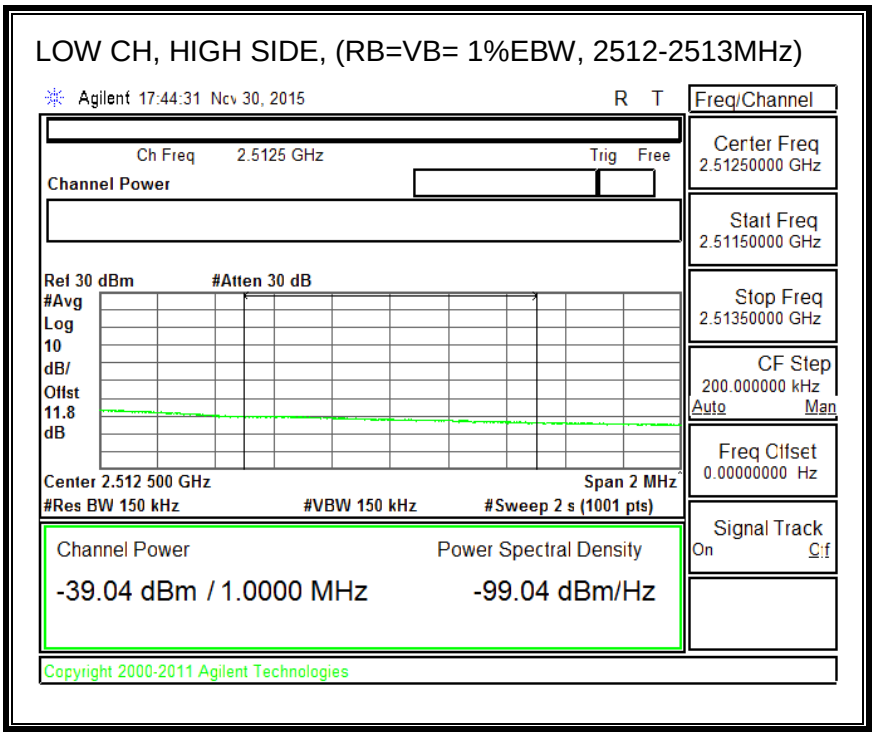


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, LOW SIDE, (RB=VB= 1MHz, 2473.5-2494.5MHz)

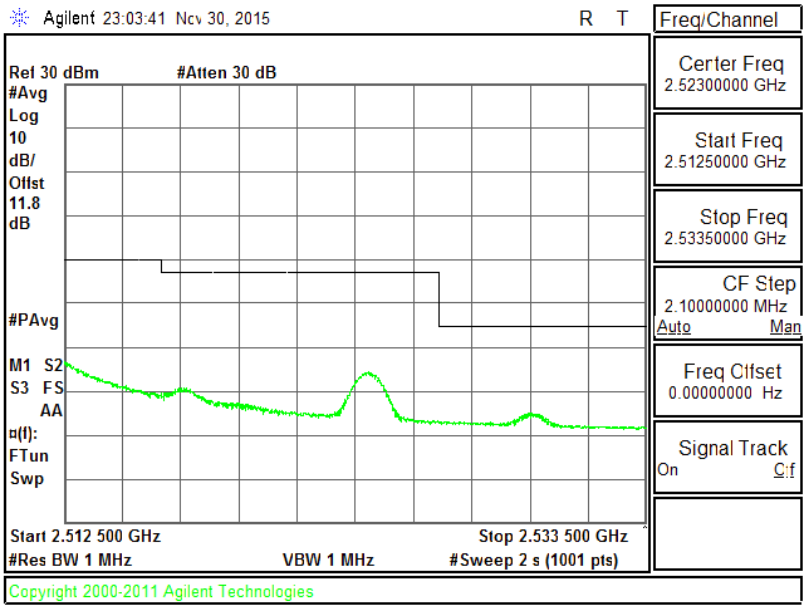


LOW CH, HIGH SIDE, (RB=VB= 1%EBW, 2512-2513MHz)



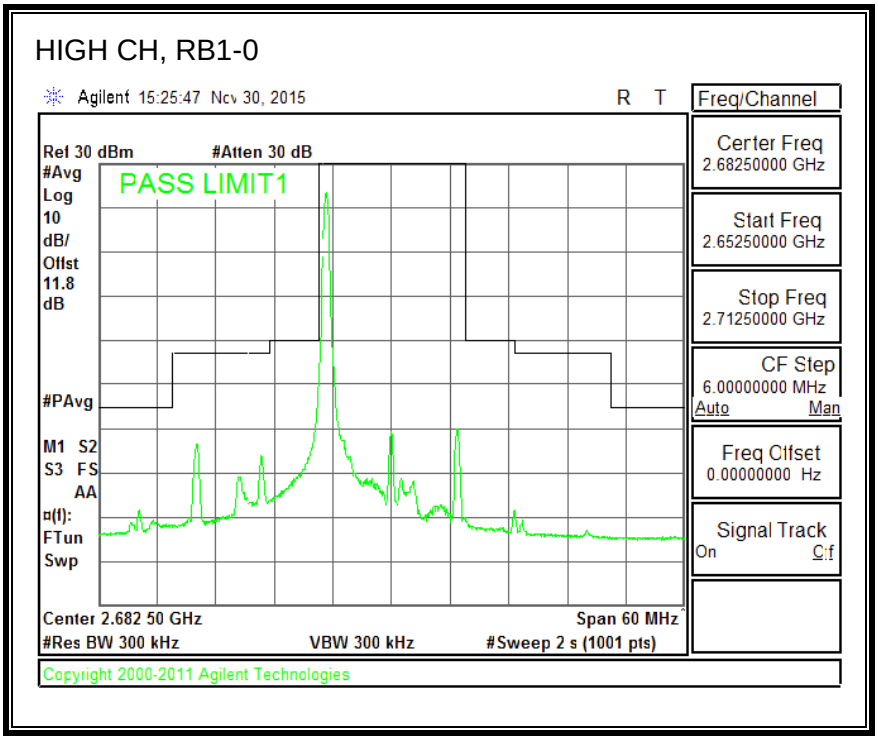
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, HIGH SIDE, (RB=VB= 1MHz, 2512.5-2533.5MHz)

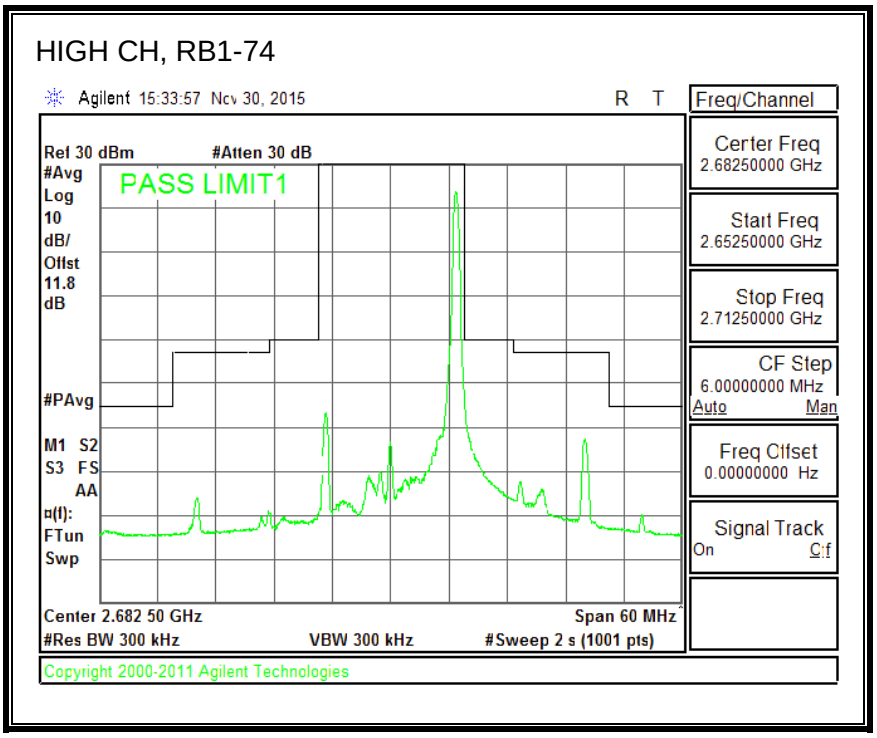


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

HIGH CH, RB1-0

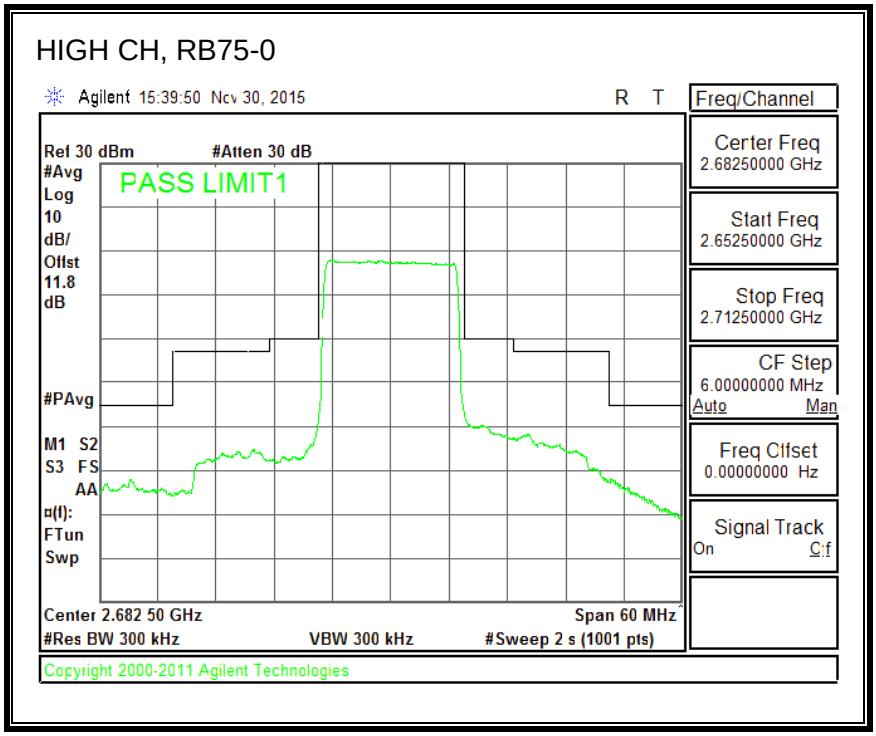


HIGH CH, RB1-74

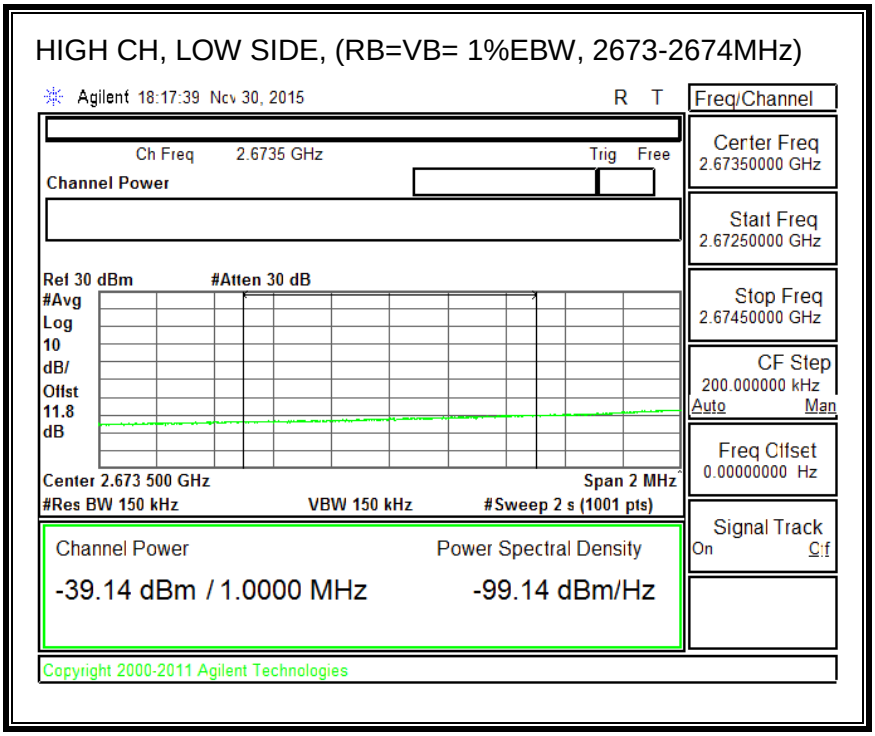


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

HIGH CH, RB75-0

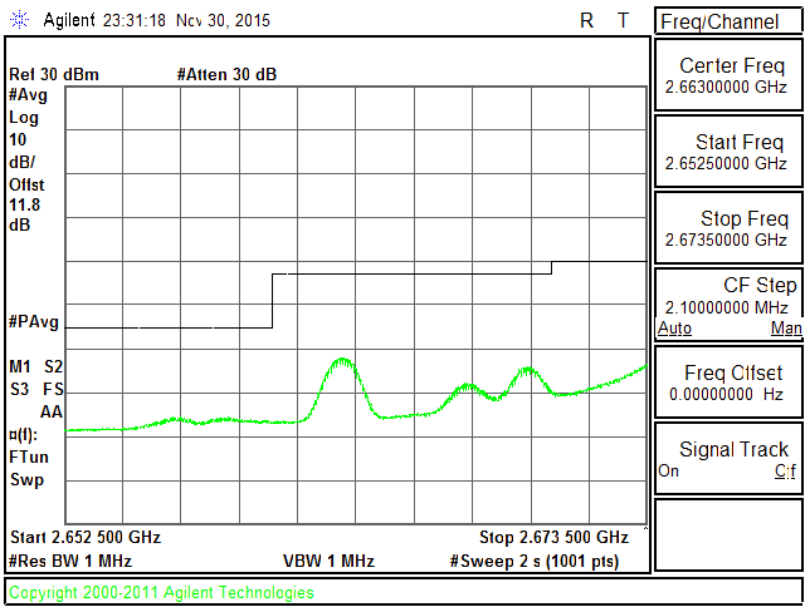


HIGH CH, LOW SIDE, (RB=VB= 1%EBW, 2673-2674MHz)

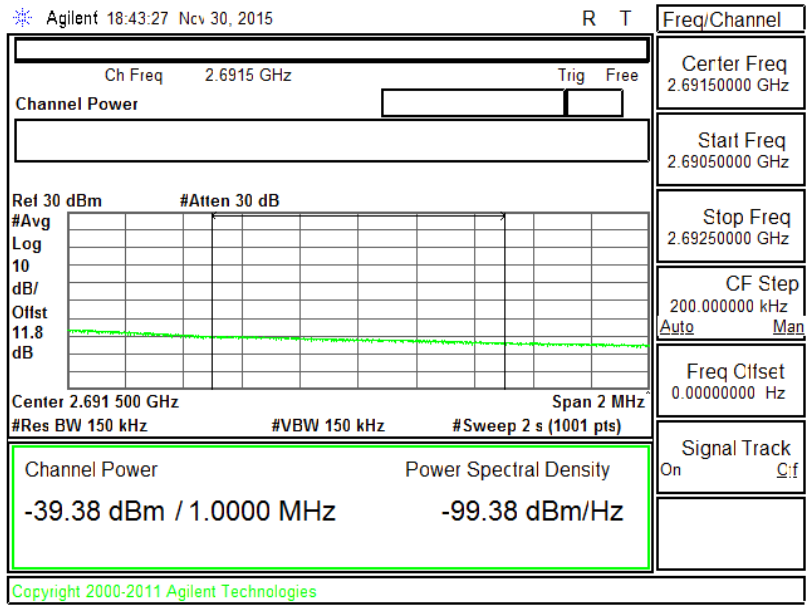


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

HIGH CH, LOW SIDE, (RB=VB= 1MHz, 2652.5-2673.5MHz)

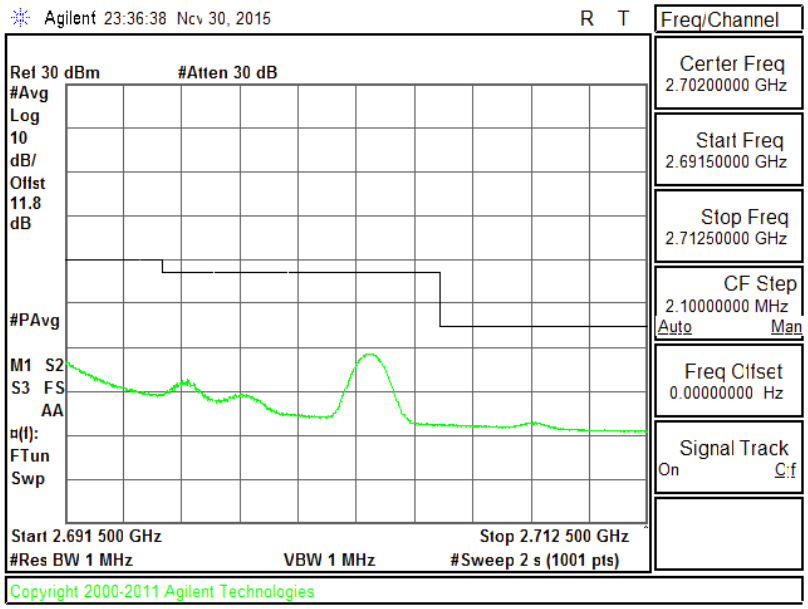


HIGH CH, HIGH SIDE, (RB=VB= 1%EBW, 2691-2692MHz)



This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

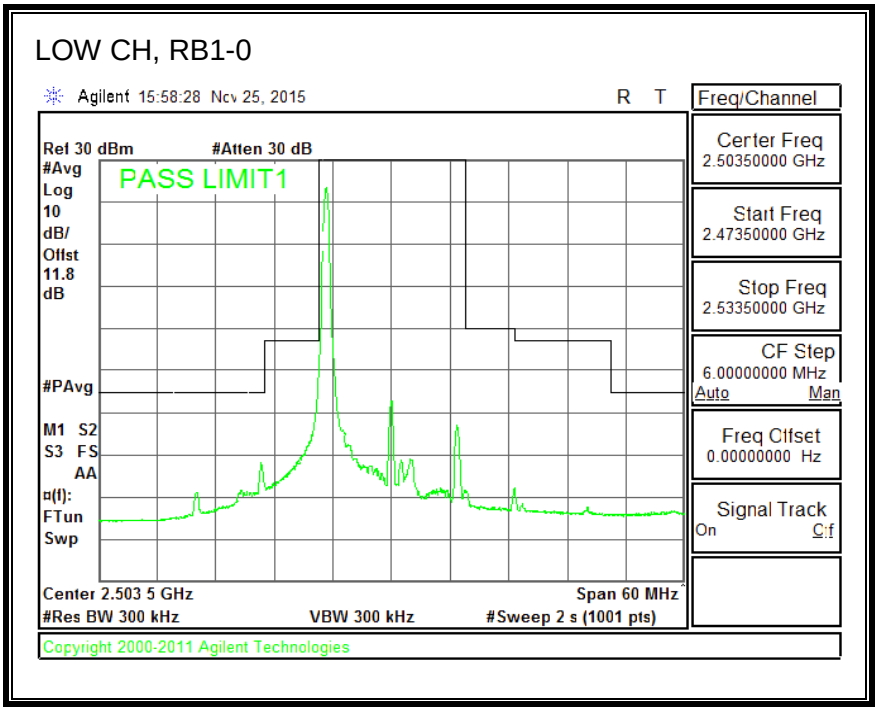
HIGH CH, HIGH SIDE, (RB=VB= 1MHz, 2691.5–2712.5MHz)



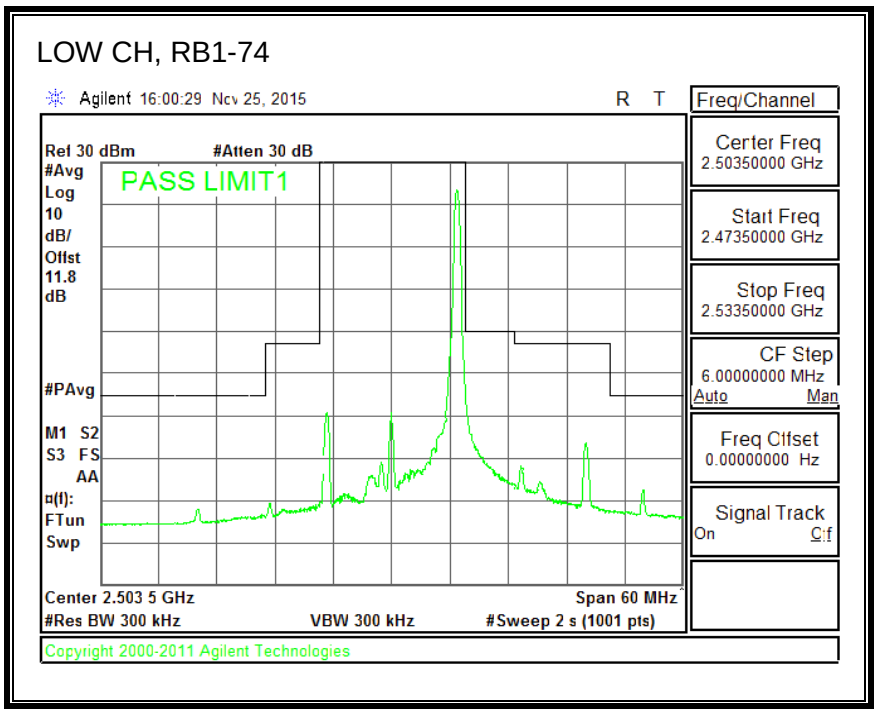
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

16QAM, (15.0 MHz BAND WIDTH)

LOW CH, RB1-0

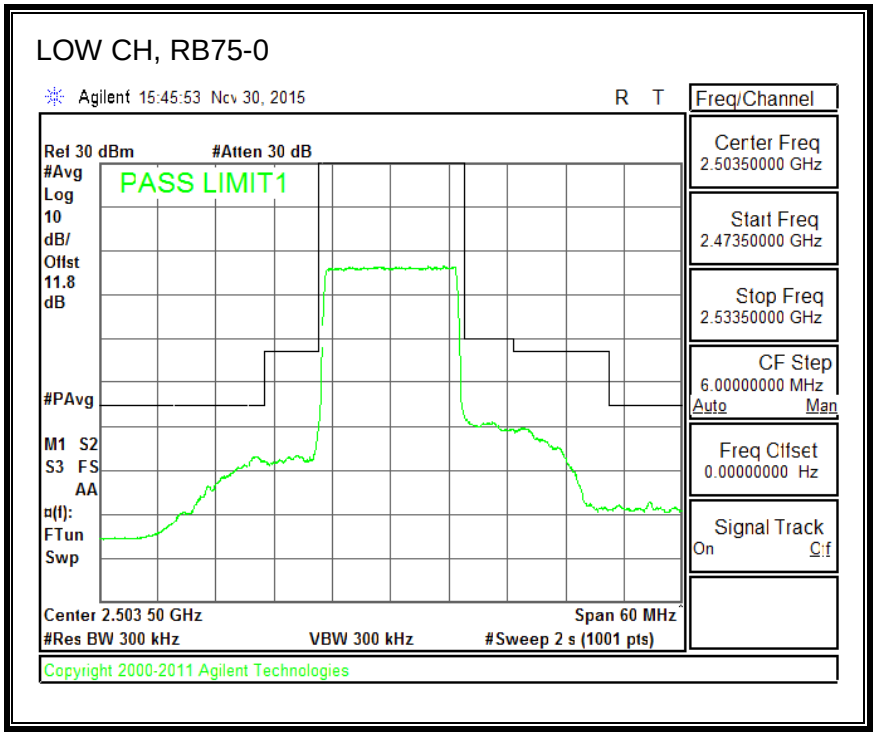


LOW CH, RB1-74

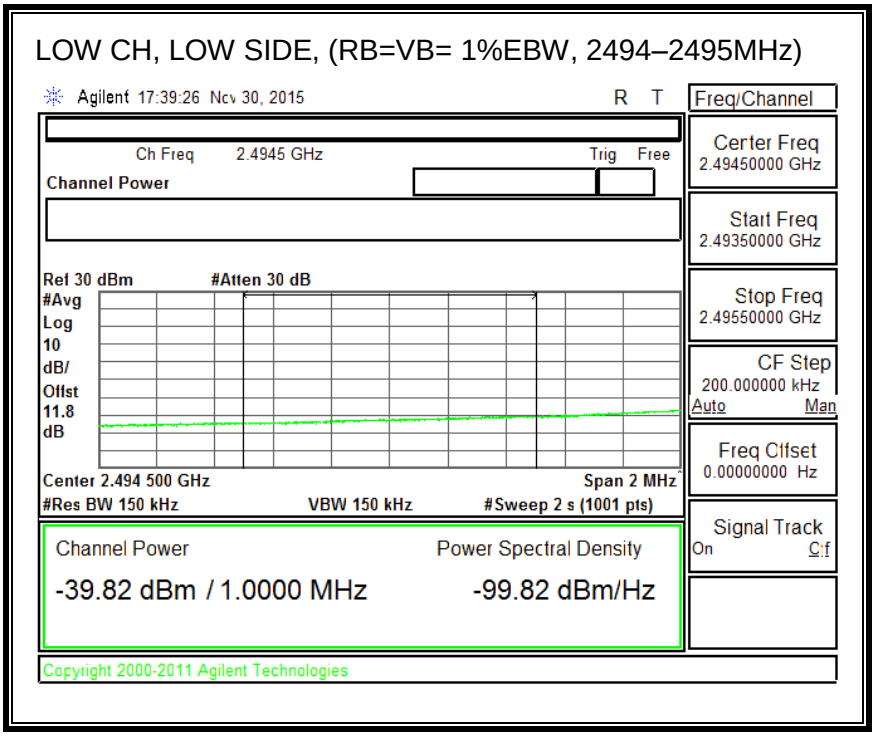


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB75-0

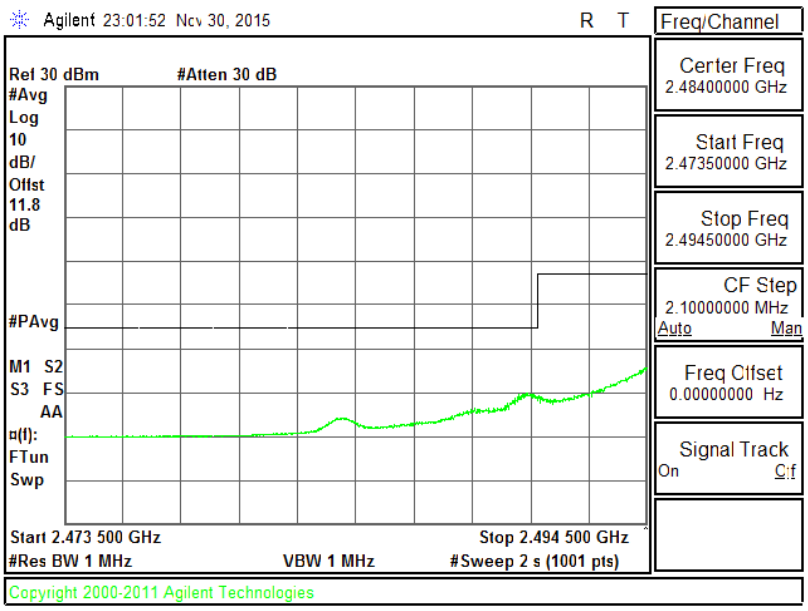


LOW CH, LOW SIDE, (RB=VB= 1%EBW, 2494–2495MHz)

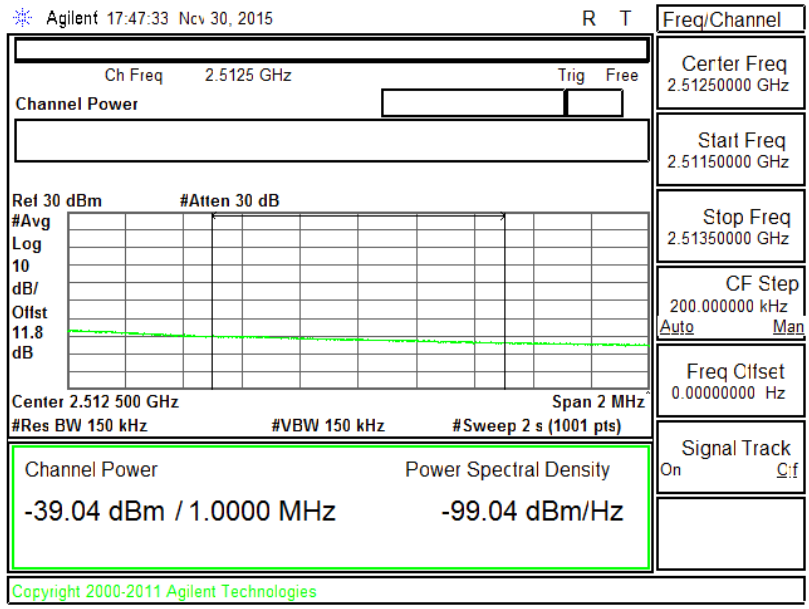


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, LOW SIDE, (RB=VB= 1MHz, 2473.5-2494.5MHz)

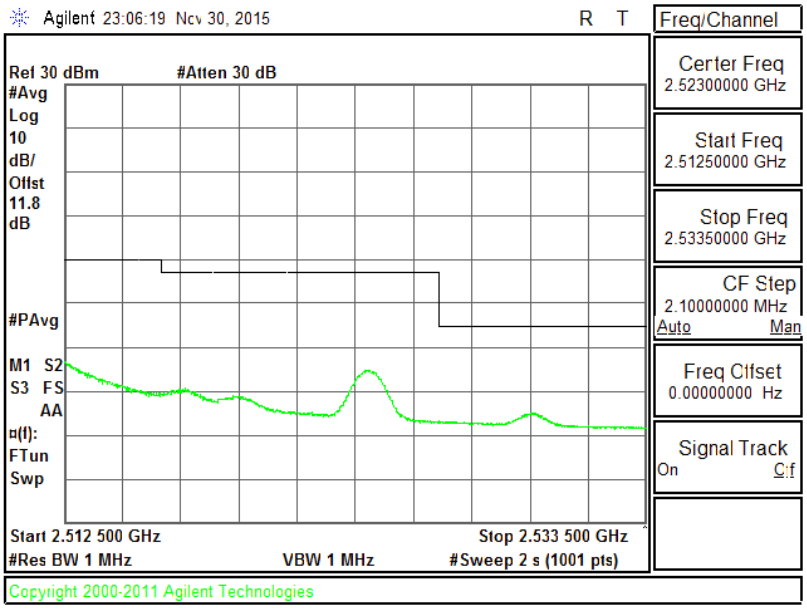


LOW CH, HIGH SIDE, (RB=VB= 1%EBW, 2512-2513MHz)



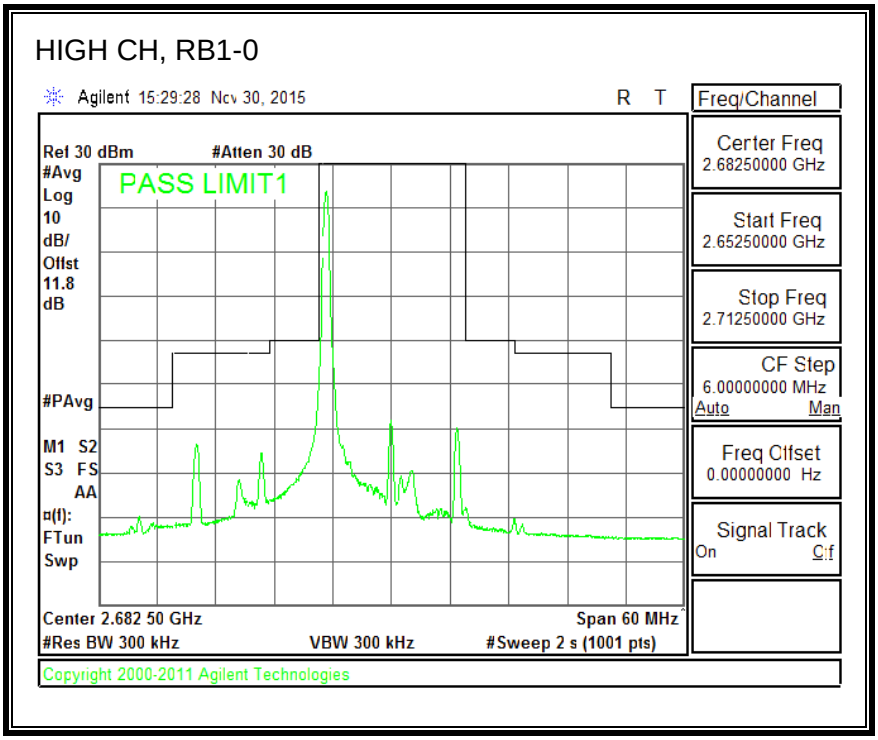
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, HIGH SIDE, (RB=VB= 1MHz, 2512.5-2533.5MHz)

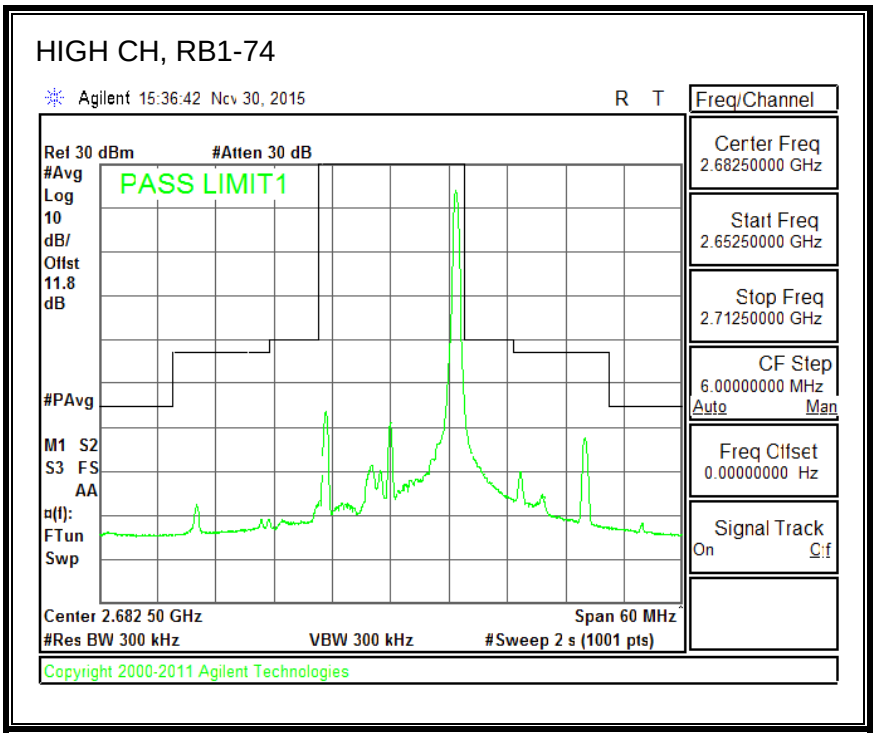


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

HIGH CH, RB1-0

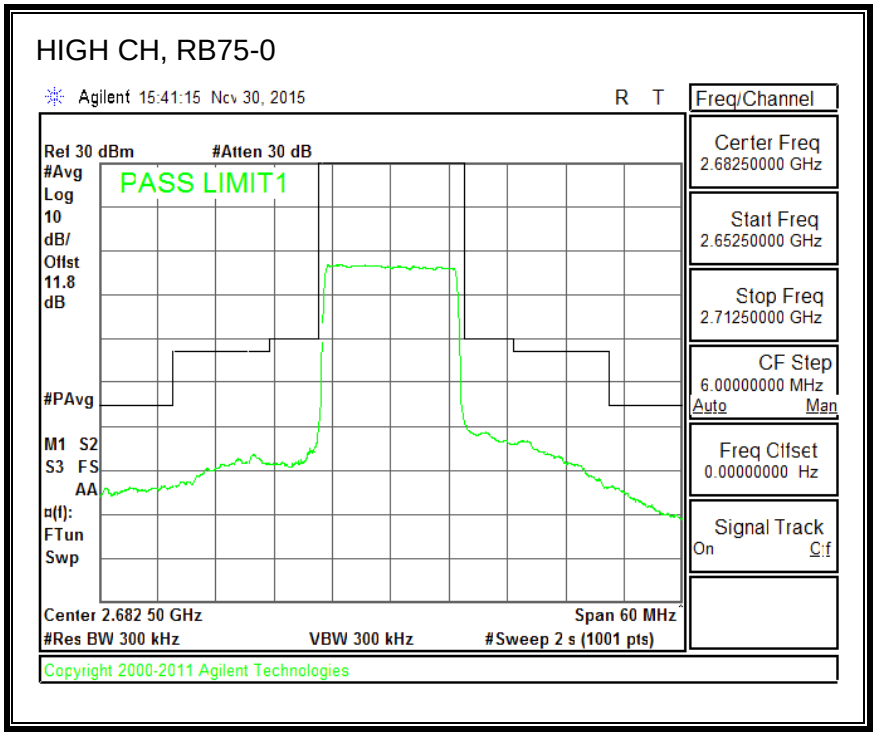


HIGH CH, RB1-74

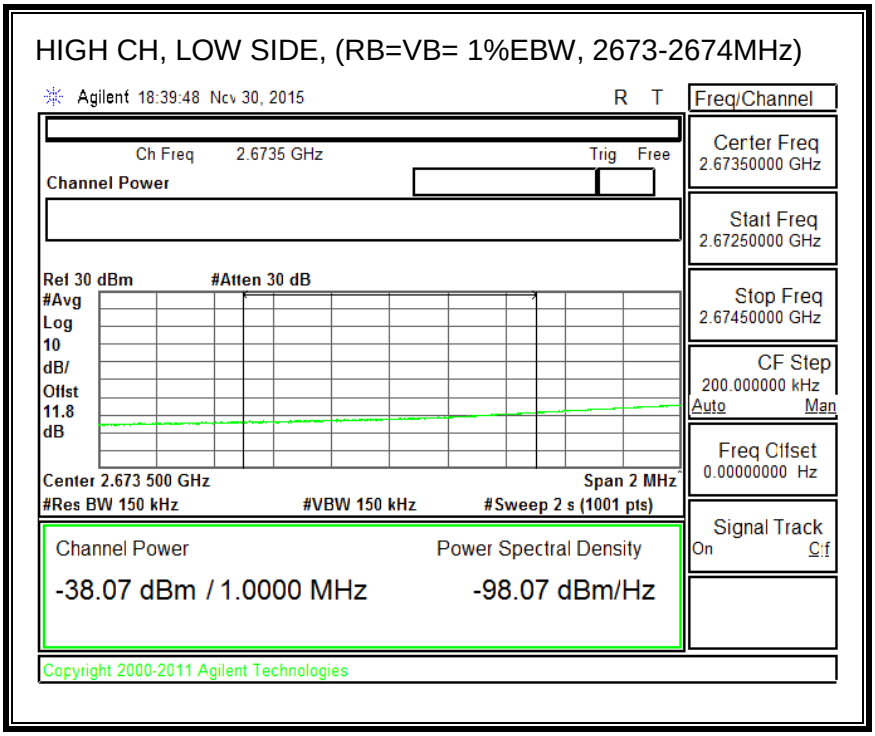


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

HIGH CH, RB75-0

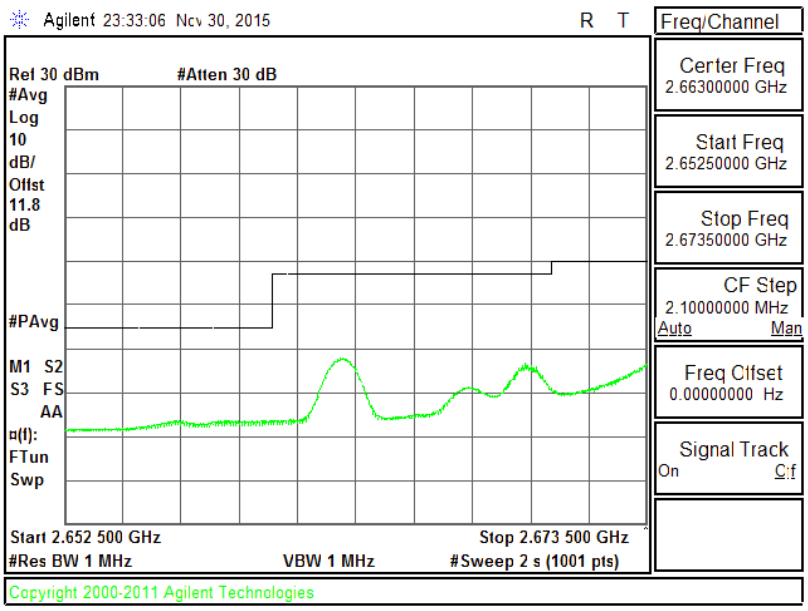


HIGH CH, LOW SIDE, (RB=VB= 1%EBW, 2673-2674MHz)

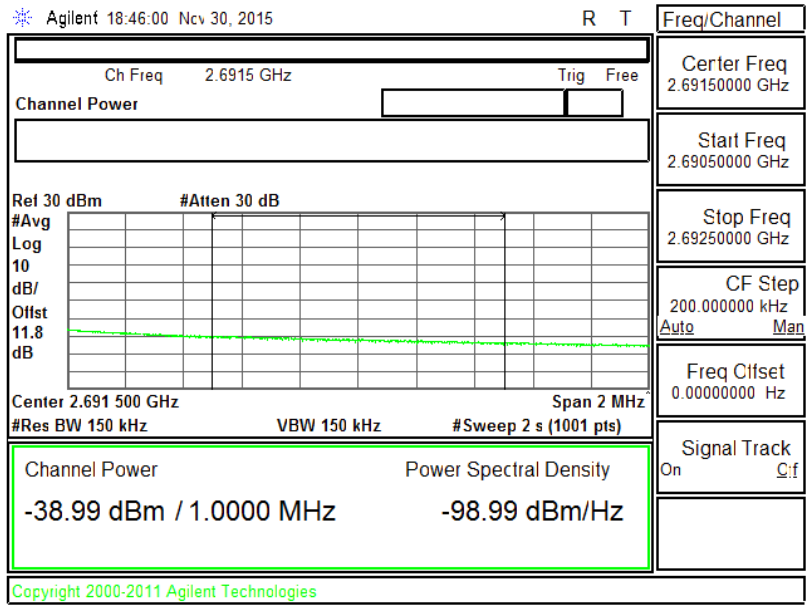


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

HIGH CH, LOW SIDE, (RB=VB= 1MHz, 2652.5-2673.5MHz)

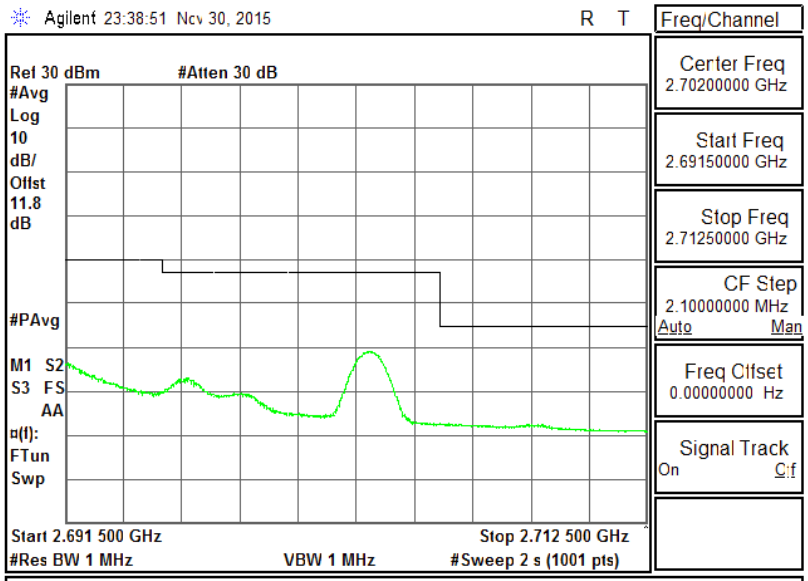


HIGH CH, HIGH SIDE, (RB=VB= 1%EBW, 2691-2692MHz)



This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

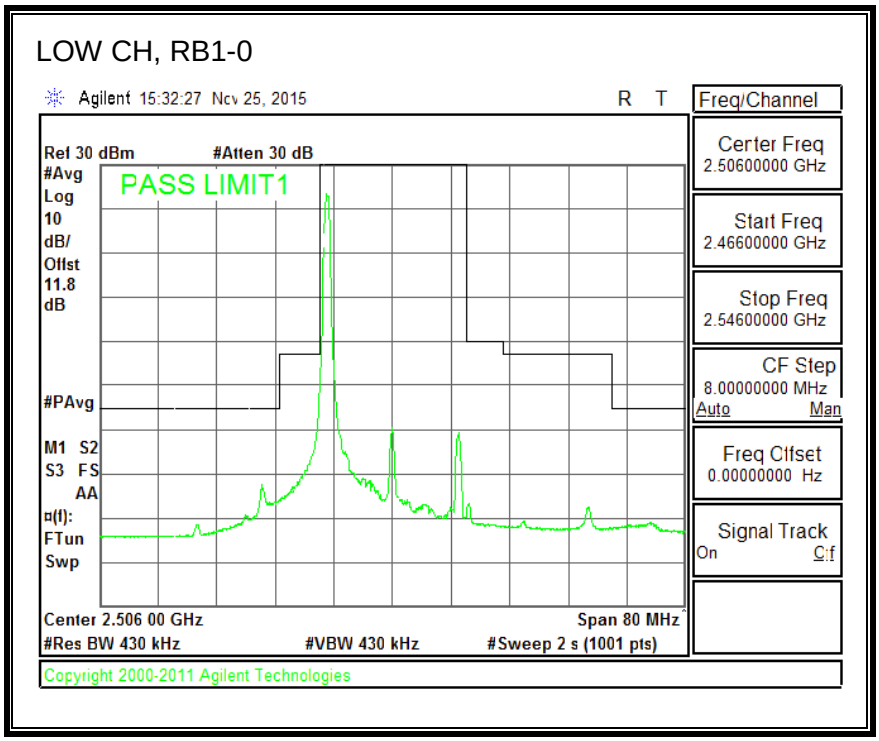
HIGH CH, HIGH SIDE, (RB=VB= 1MHz, 2691.5–2712.5MHz)



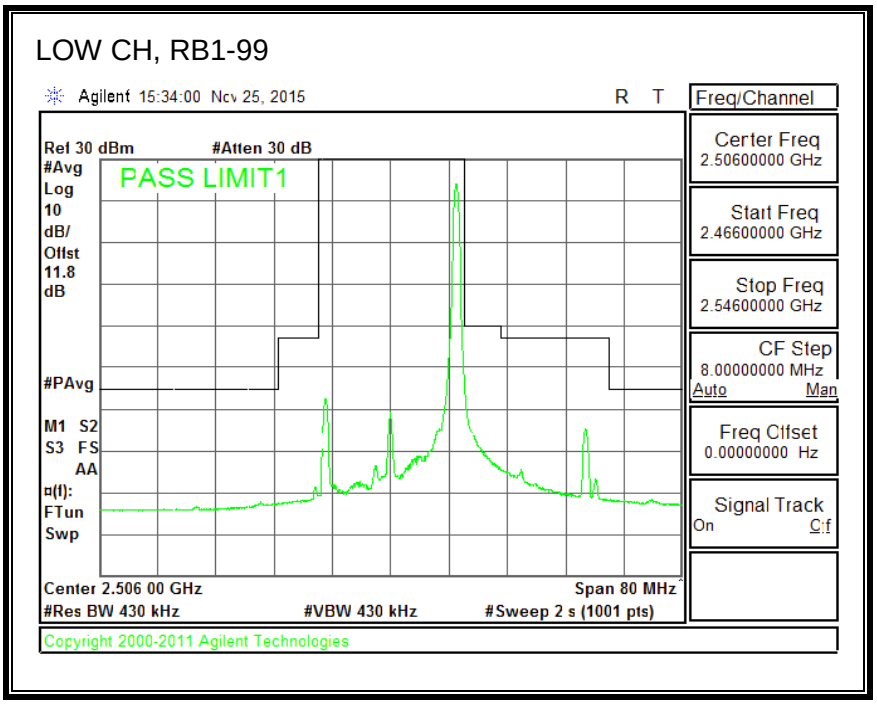
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

QPSK, (20.0 MHz BAND WIDTH)

LOW CH, RB1-0

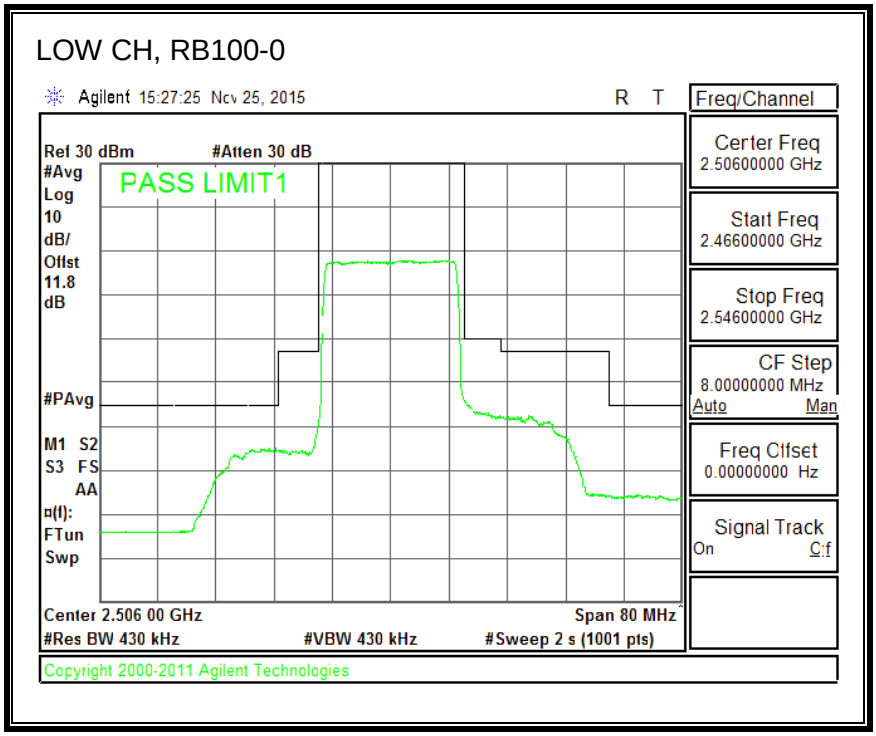


LOW CH, RB1-99

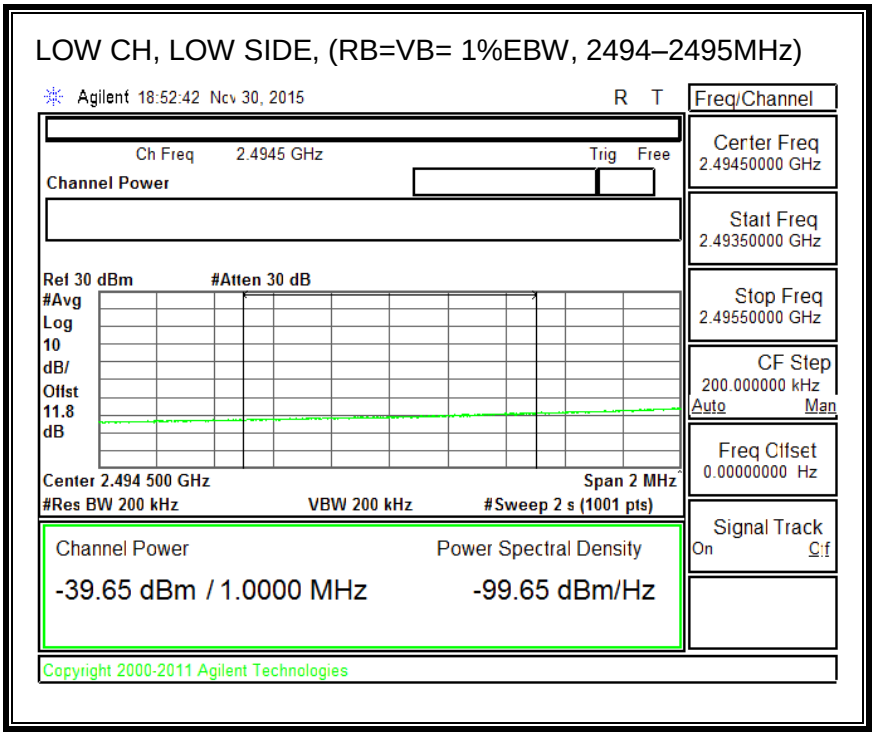


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, RB100-0

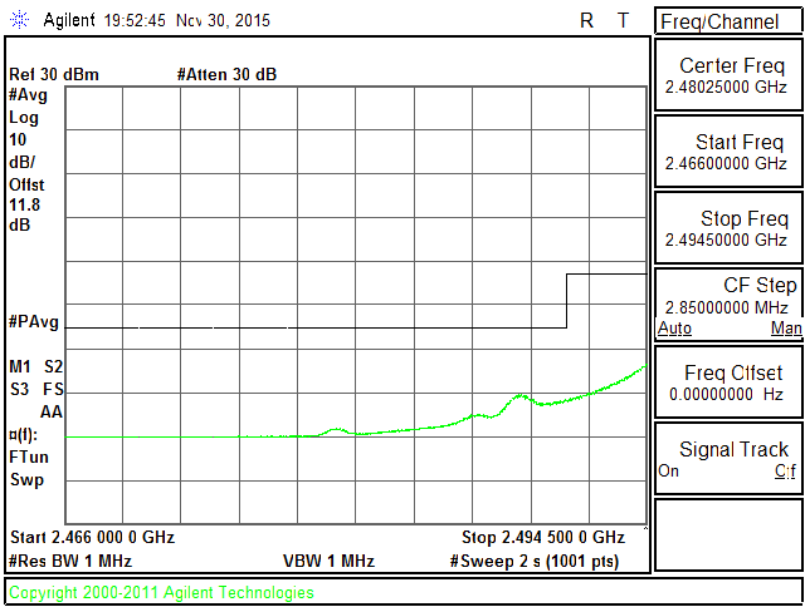


LOW CH, LOW SIDE, (RB=VB= 1%EBW, 2494–2495MHz)

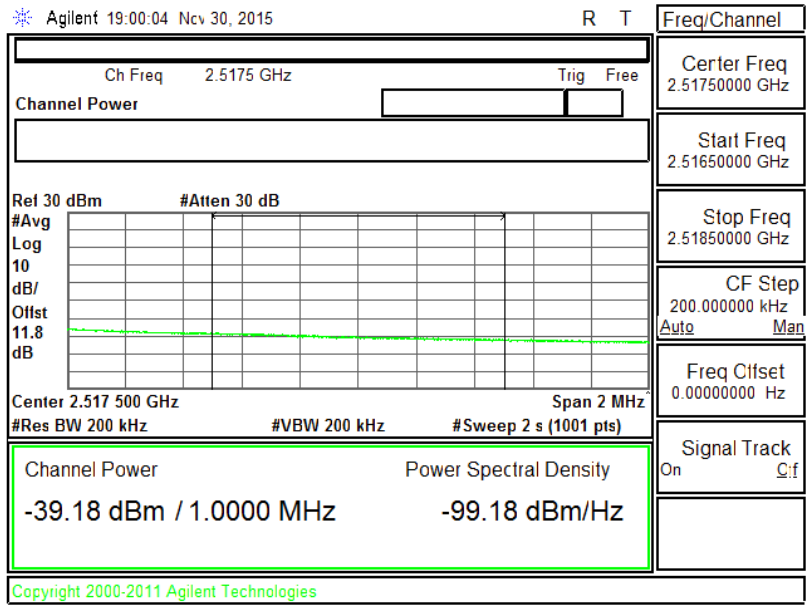


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, LOW SIDE, (RB=VB= 1MHz, 2466-2494.5MHz)

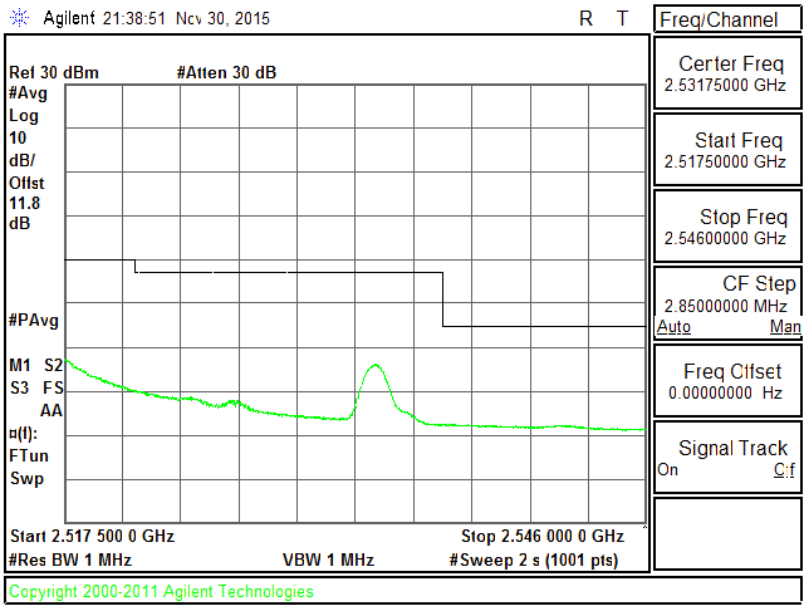


LOW CH, HIGH SIDE, (RB=VB= 1%EBW, 2517-2518MHz)



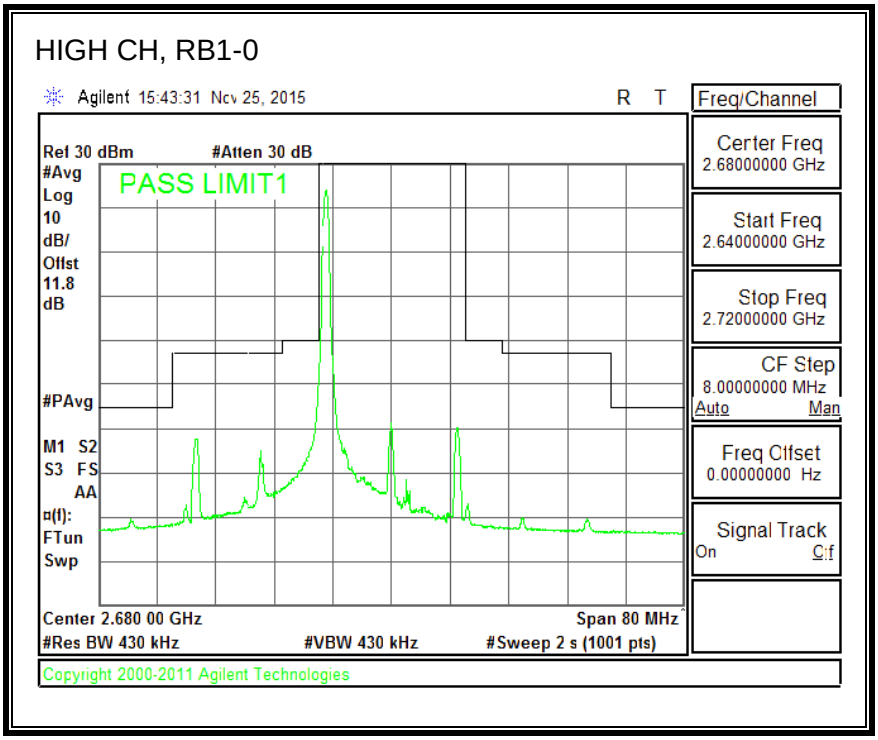
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, HIGH SIDE, (RB=VB= 1MHz, 2517.5-2546MHz)

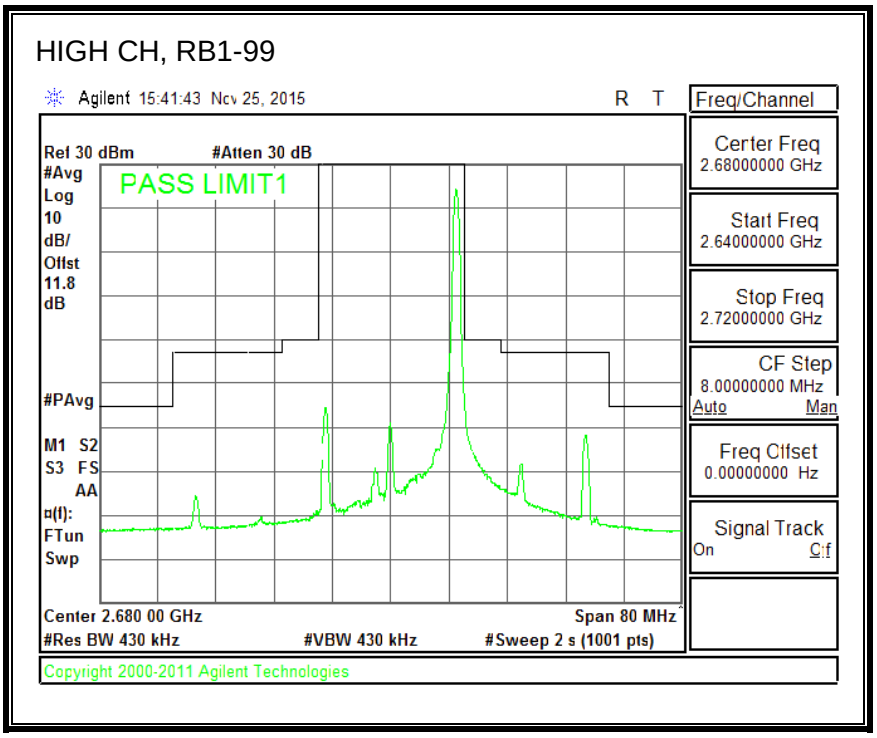


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

HIGH CH, RB1-0

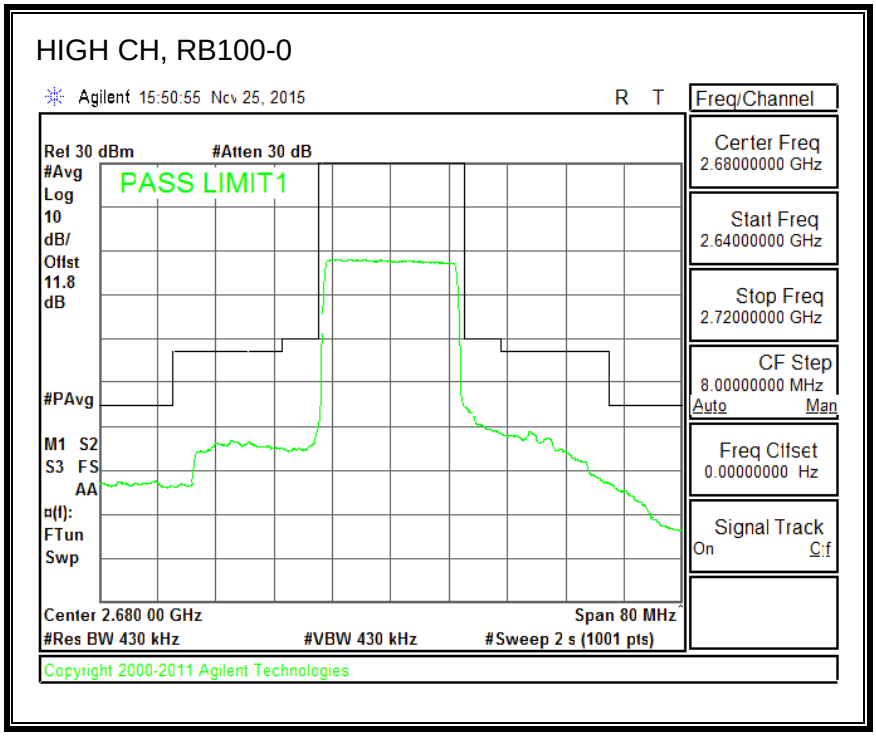


HIGH CH, RB1-99

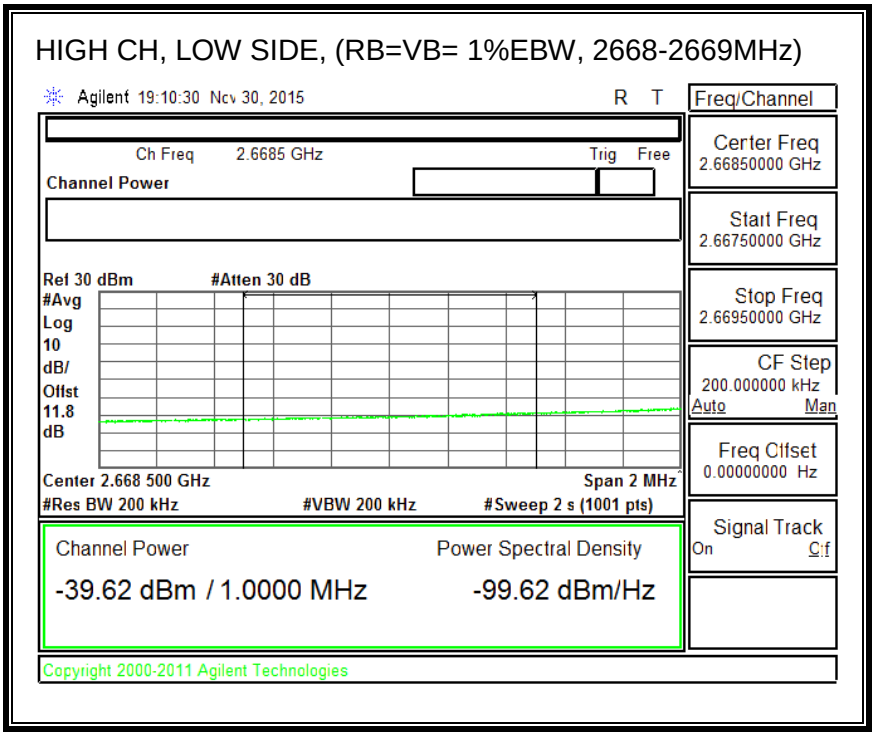


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

HIGH CH, RB100-0

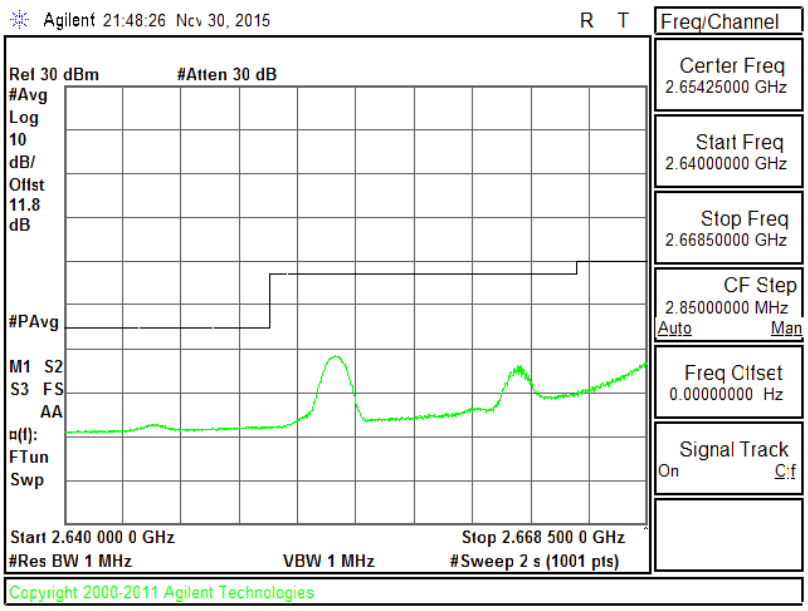


HIGH CH, LOW SIDE, (RB=VB= 1%EBW, 2668-2669MHz)

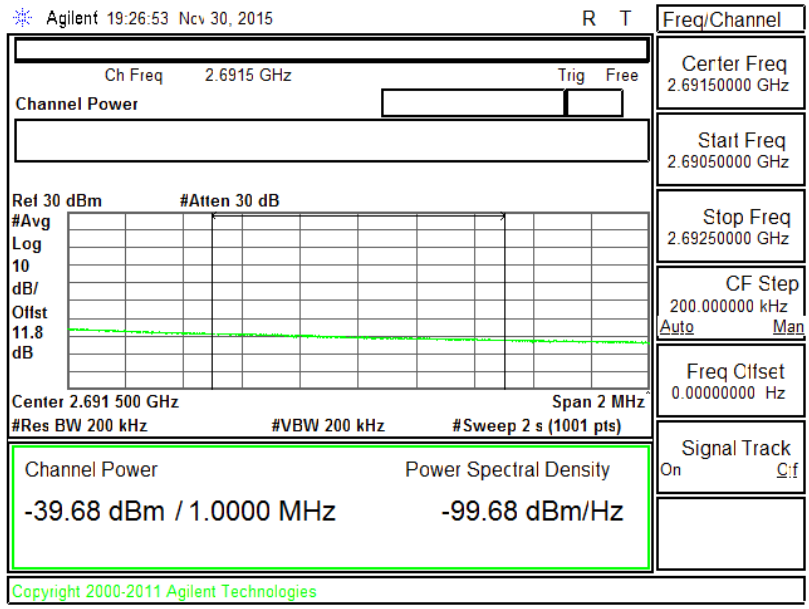


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

HIGH CH, LOW SIDE, (RB=VB= 1MHz, 2640-2668.5MHz)

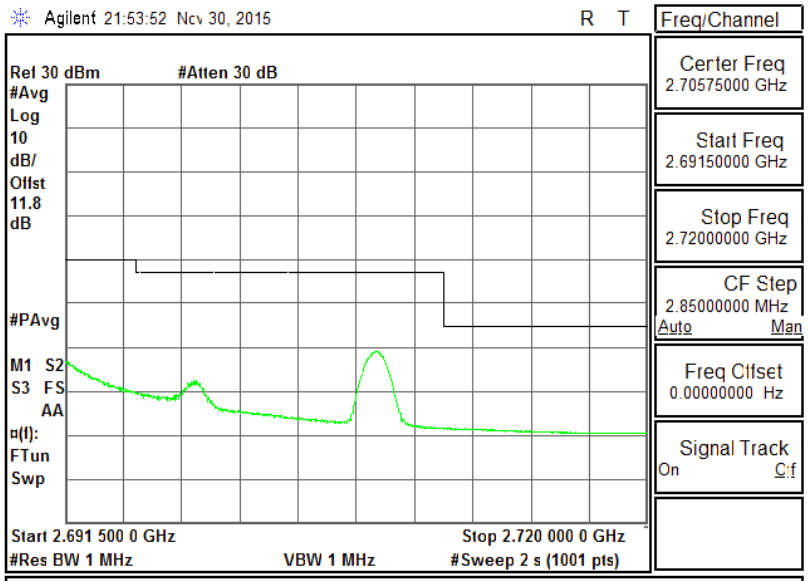


HIGH CH, HIGH SIDE, (RB=VB= 1%EBW, 2691-2692MHz)



This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

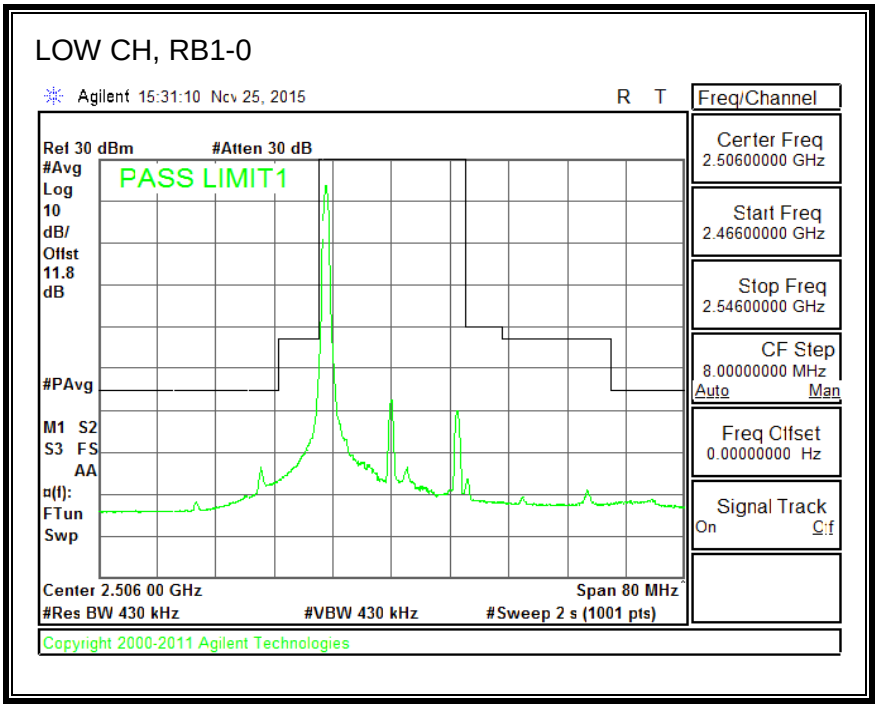
HIGH CH, HIGH SIDE, (RB=VB= 1MHz, 2691.5–2720MHz)



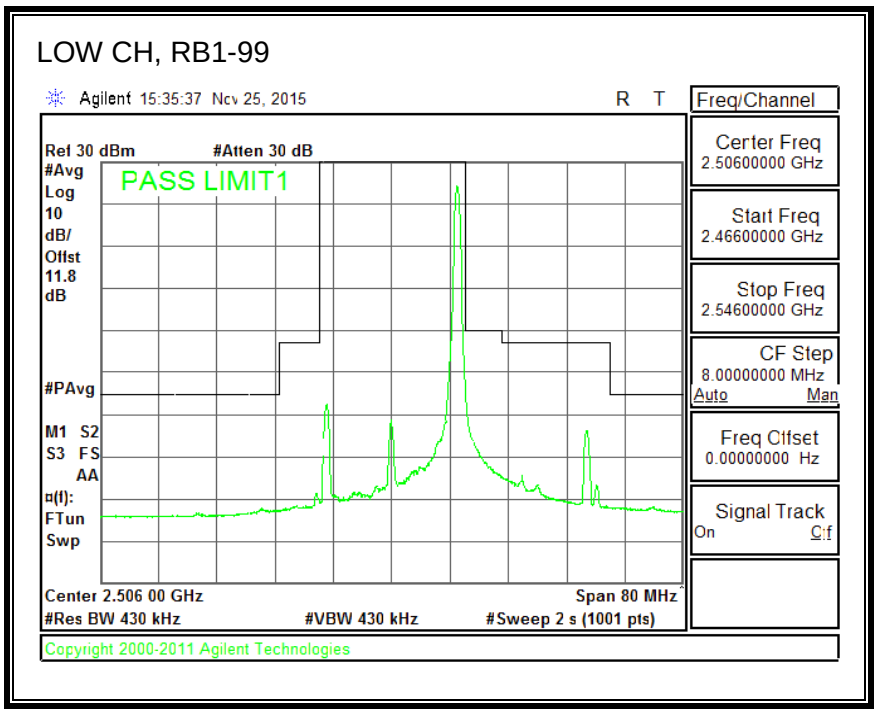
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

16QAM, (20.0 MHz BAND WIDTH)

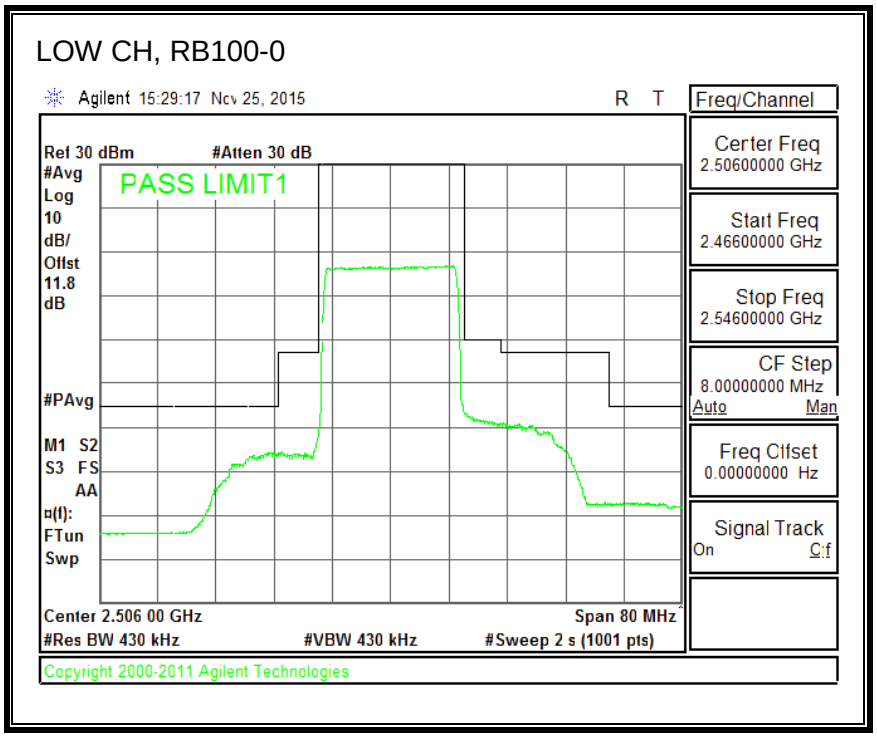
LOW CH, RB1-0

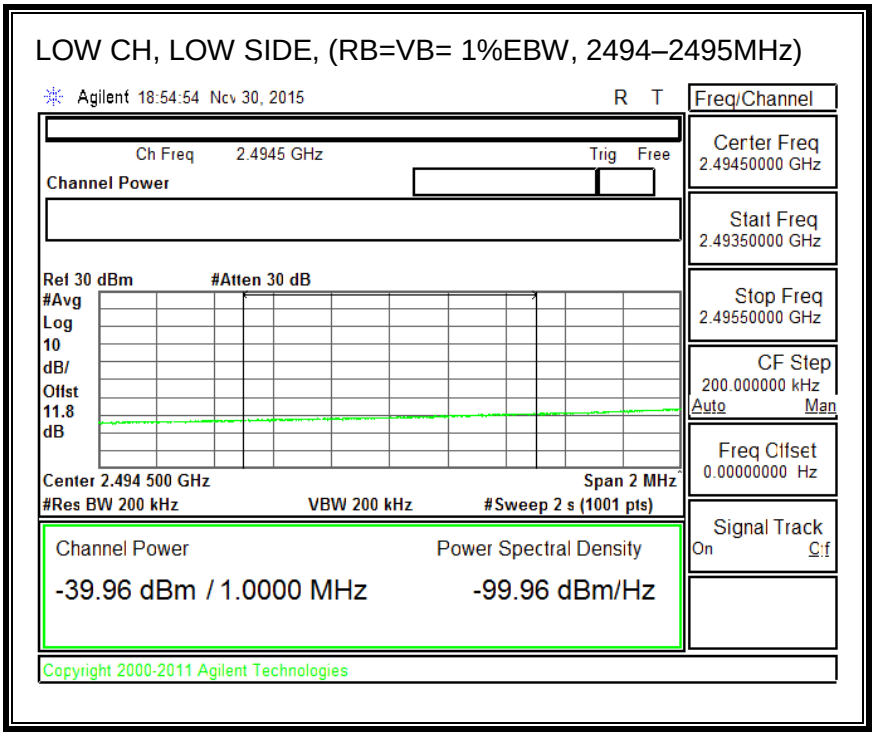


LOW CH, RB1-99



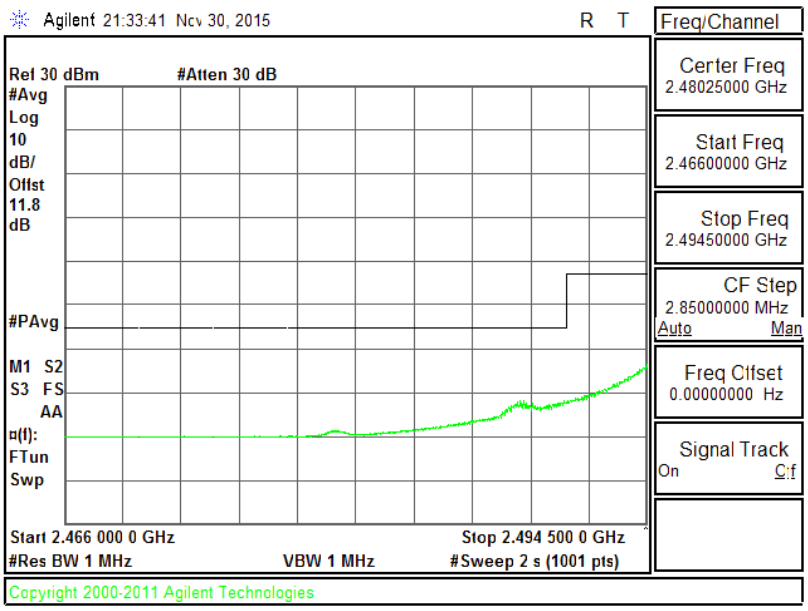
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.



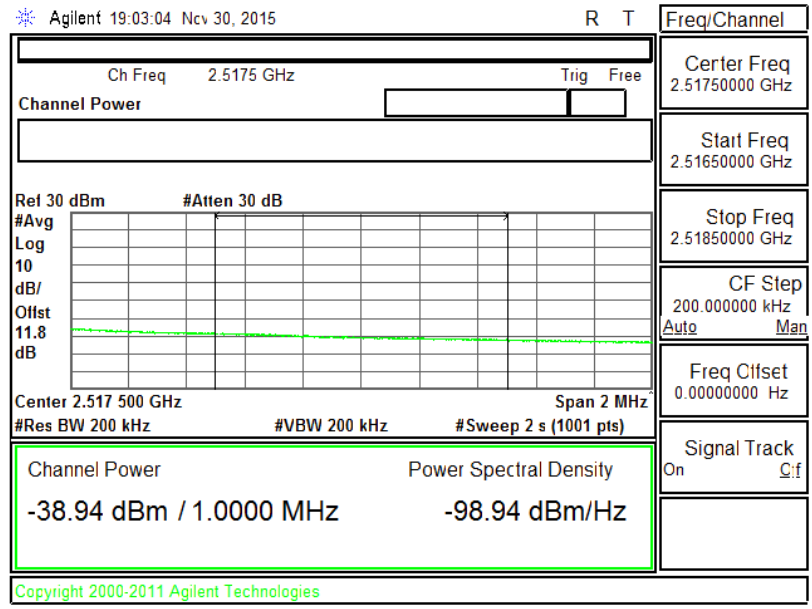


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, LOW SIDE, (RB=VB= 1MHz, 2466-2494.5MHz)

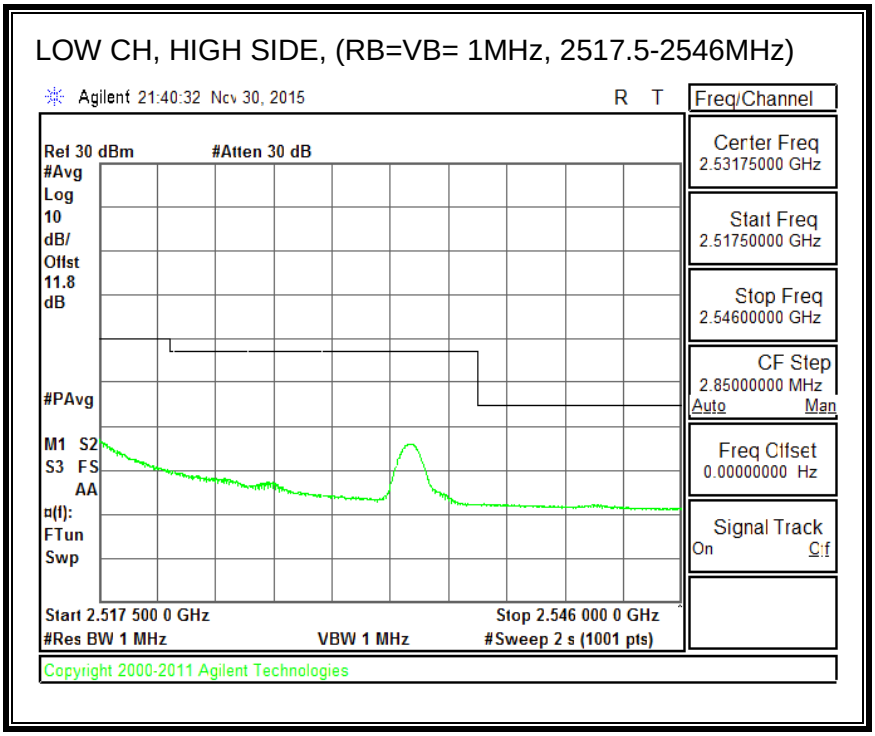


LOW CH, HIGH SIDE, (RB=VB= 1%EBW, 2517-2518MHz)



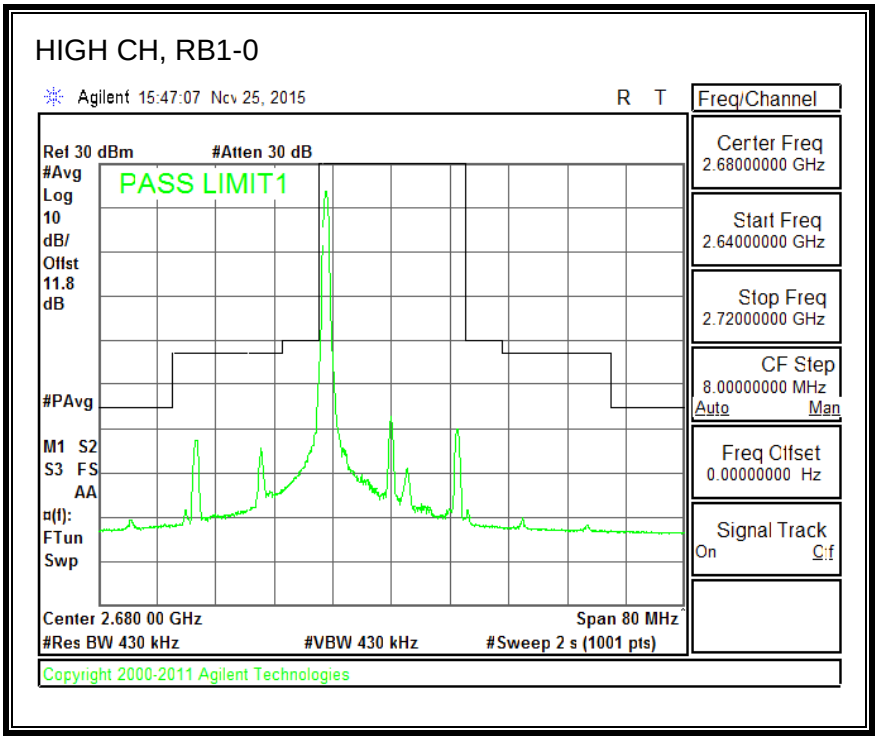
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

LOW CH, HIGH SIDE, (RB=VB= 1MHz, 2517.5-2546MHz)

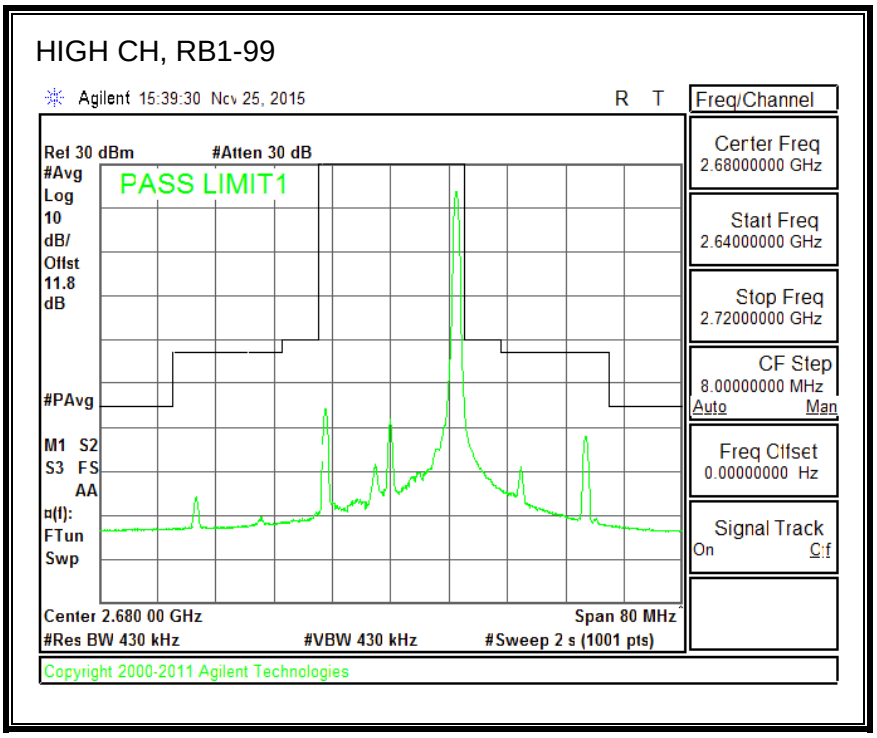


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

HIGH CH, RB1-0

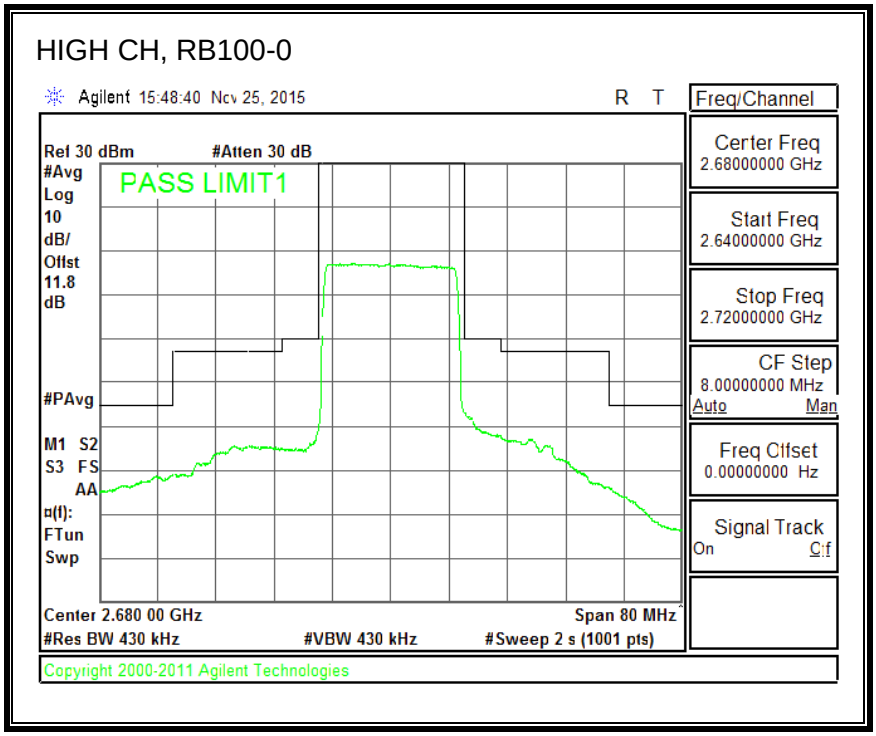


HIGH CH, RB1-99

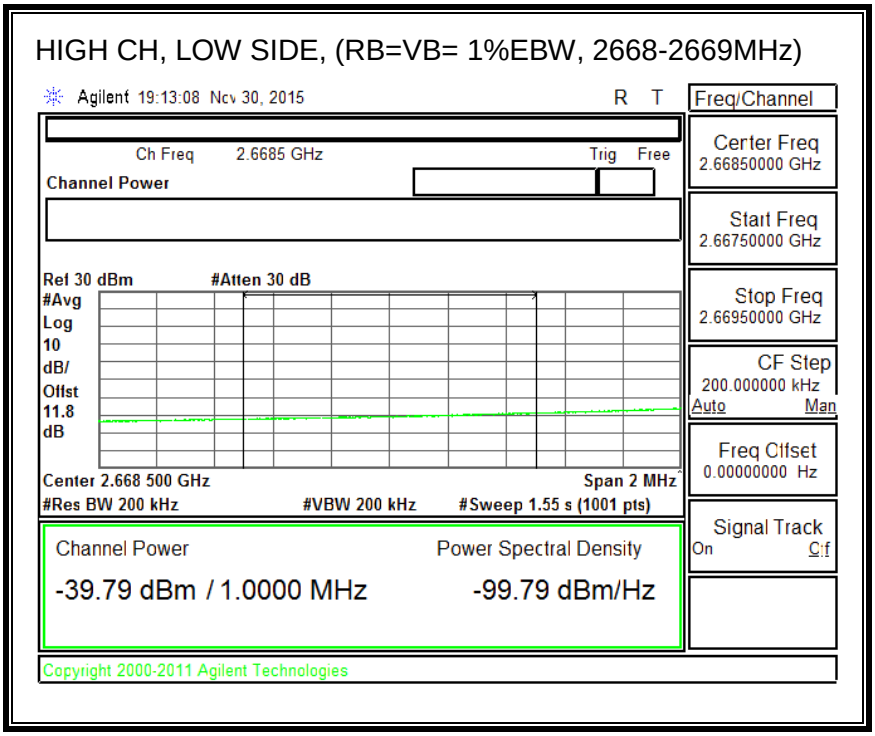


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

HIGH CH, RB100-0

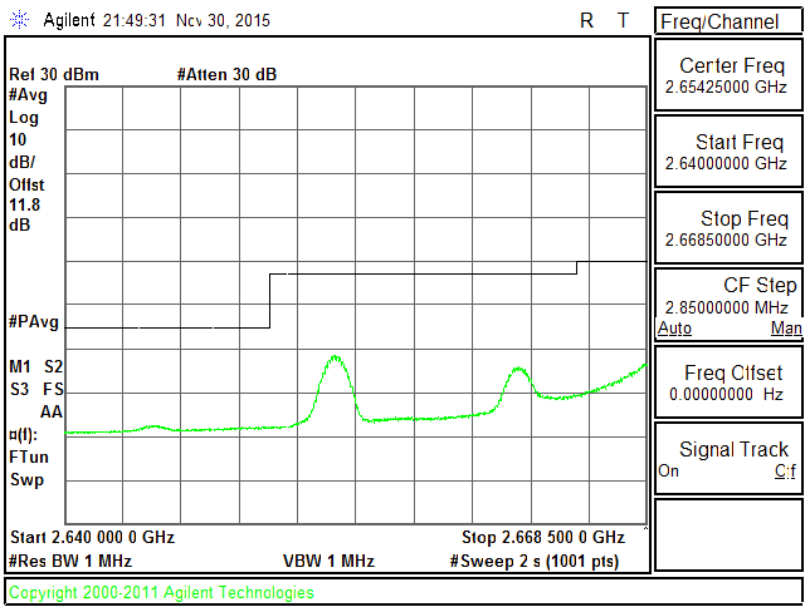


HIGH CH, LOW SIDE, (RB=VB= 1%EBW, 2668-2669MHz)

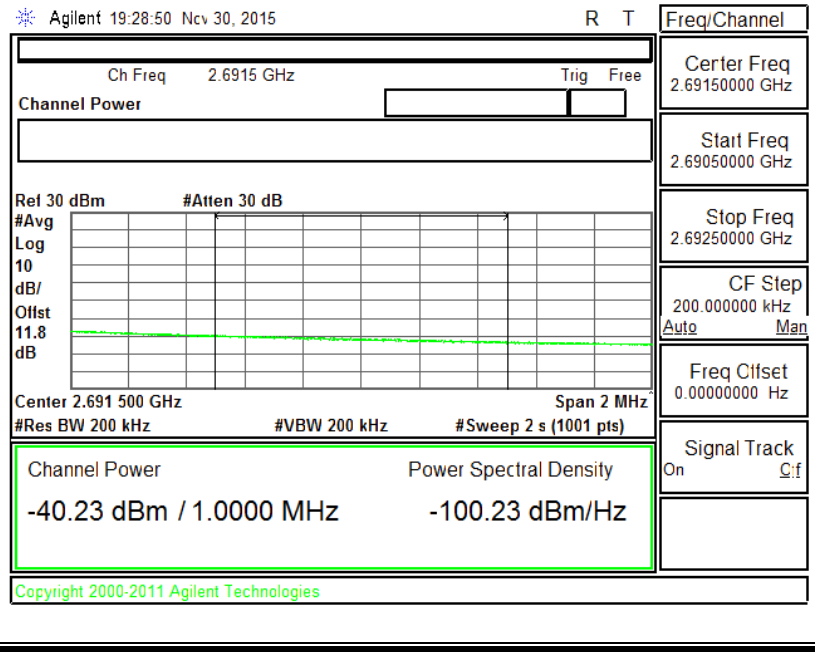


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

HIGH CH, LOW SIDE, (RB=VB= 1MHz, 2640-2668.5MHz)

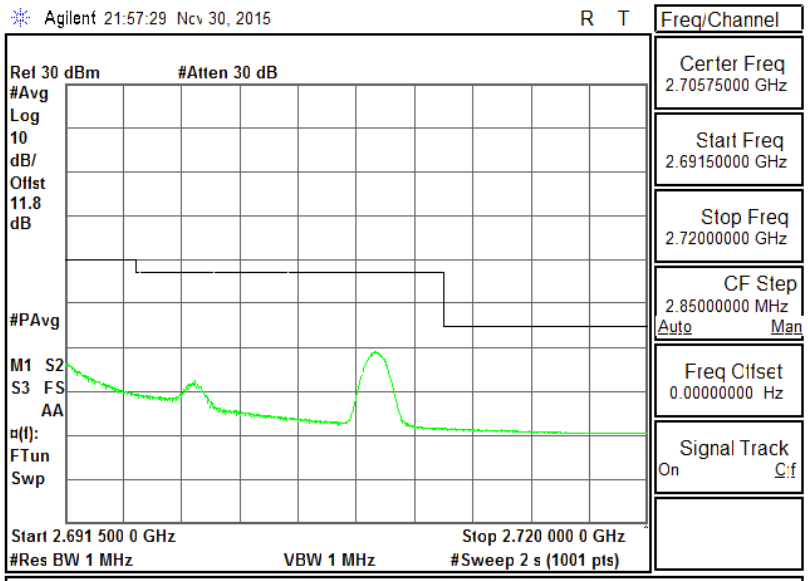


HIGH CH, HIGH SIDE, (RB=VB= 1%EBW, 2691-2692MHz)



This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

HIGH CH, HIGH SIDE, (RB=VB= 1MHz, 2691.5–2720MHz)



This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

8.3. OUT OF BAND EMISSIONS

RULE PART(S)

FCC: §2.1051, §22.901, §22.917, §24.238 and §27.53

LIMITS

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log (P) dB.

TEST PROCEDURE

The RF output of the transmitter was connected to a spectrum analyzer through a calibrated coaxial cable. Sufficient scans were taken to show the out-of-band Emissions, if any, up to 10th harmonic. Multiple sweeps were recorded in maximum hold mode using a peak detector to ensure that the worst-case emissions were caught.

For each out of band emissions measurement:

- Set display line at -13 dBm
- Set RBW & VBW to 100 kHz for the measurement below 1 GHz, and 1 MHz for the measurement above 1 GHz.

MODES TESTED

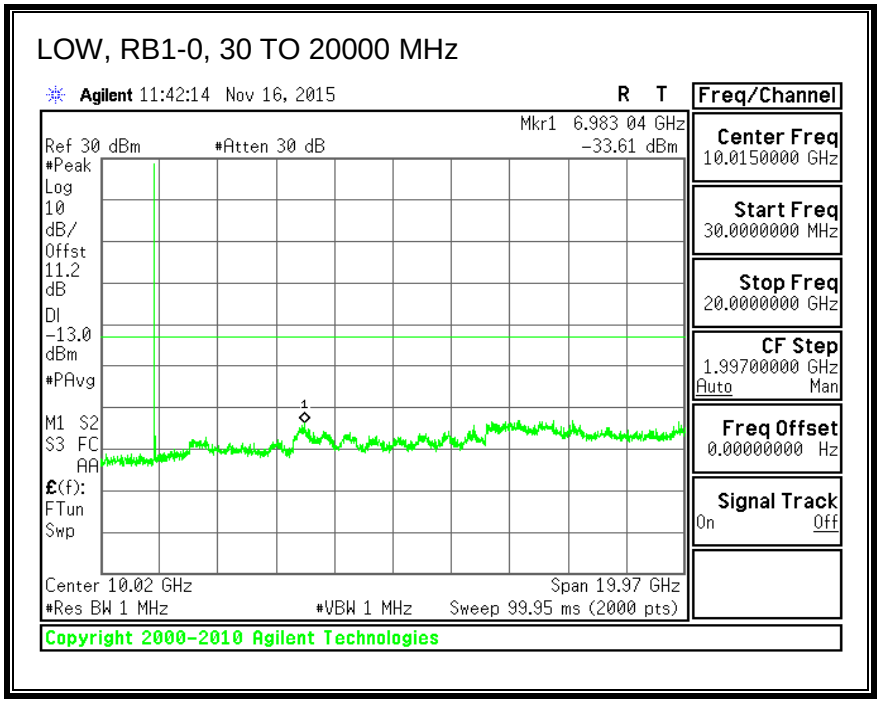
- LTE Band 2
- LTE Band 4
- LTE Band 5
- LTE Band 7
- LTE Band 12
- LTE Band 13
- LTE Band 17
- LTE Band 25
- LTE Band 26
- LTE Band 27
- LTE Band 30
- LTE Band 41

This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

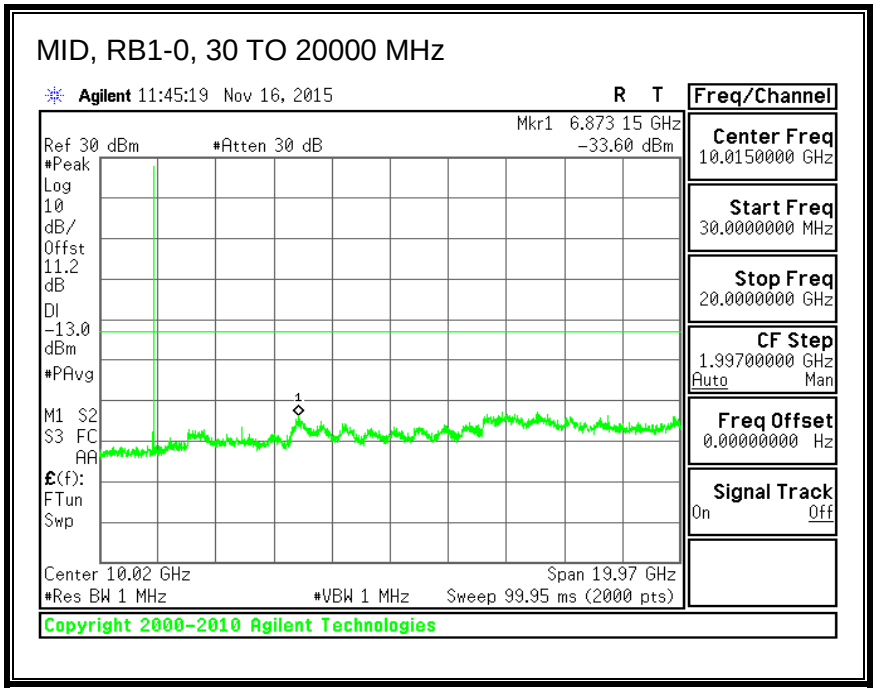
8.3.1. LTE BAND 2

QPSK, (1.4 MHz BAND WIDTH)

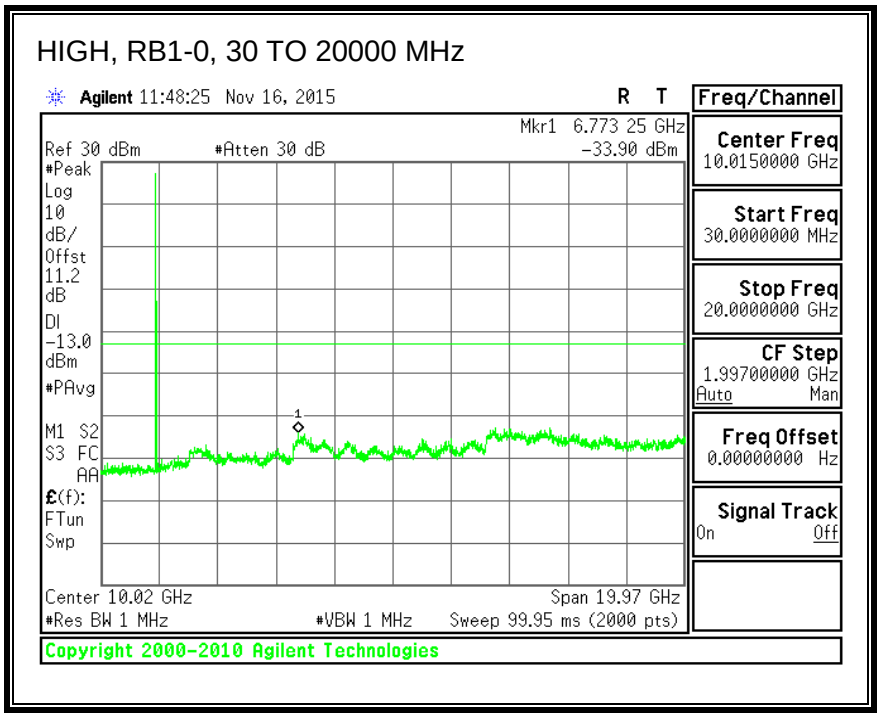
LOW, RB1-0, 30 TO 20000 MHz



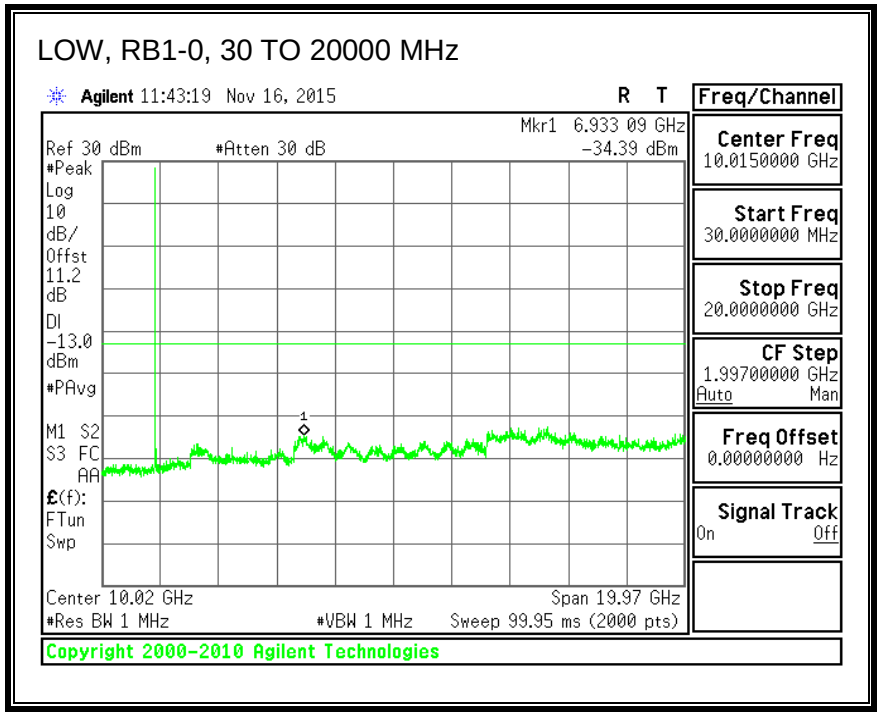
MID, RB1-0, 30 TO 20000 MHz



This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

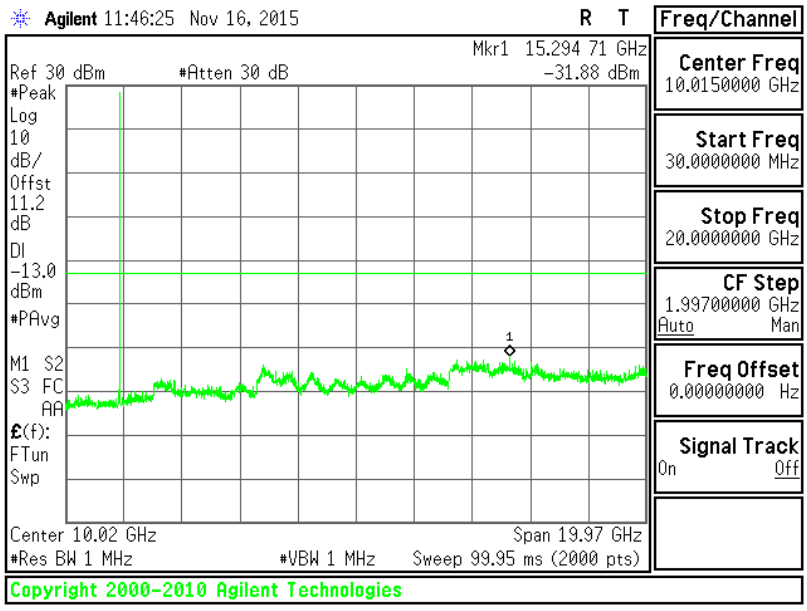


16QAM, (1.4 MHz BAND WIDTH)

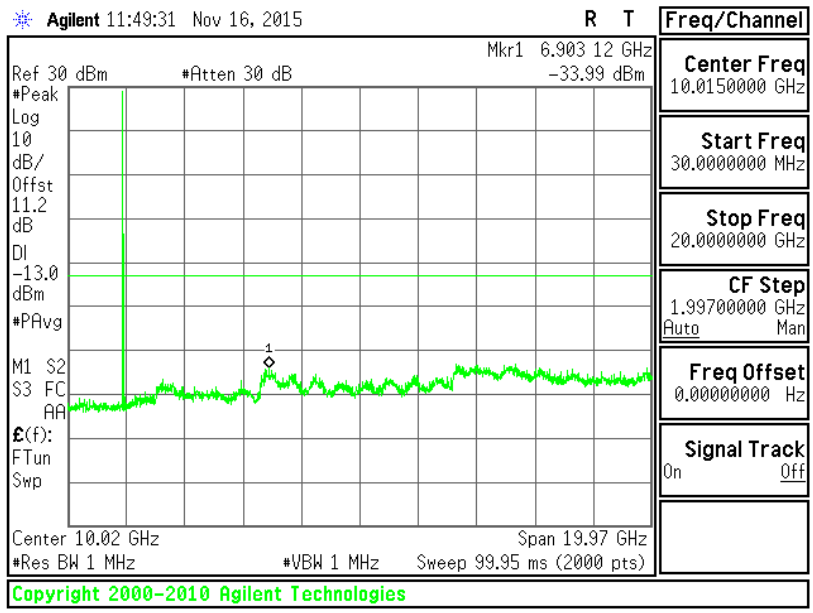


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

MID, RB1-0, 30 TO 20000 MHz



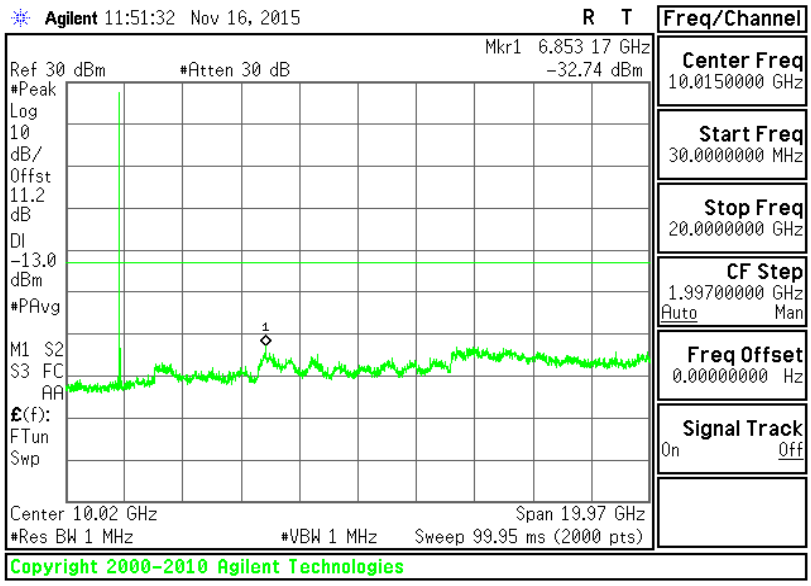
HIGH, RB1-0, 30 TO 20000 MHz



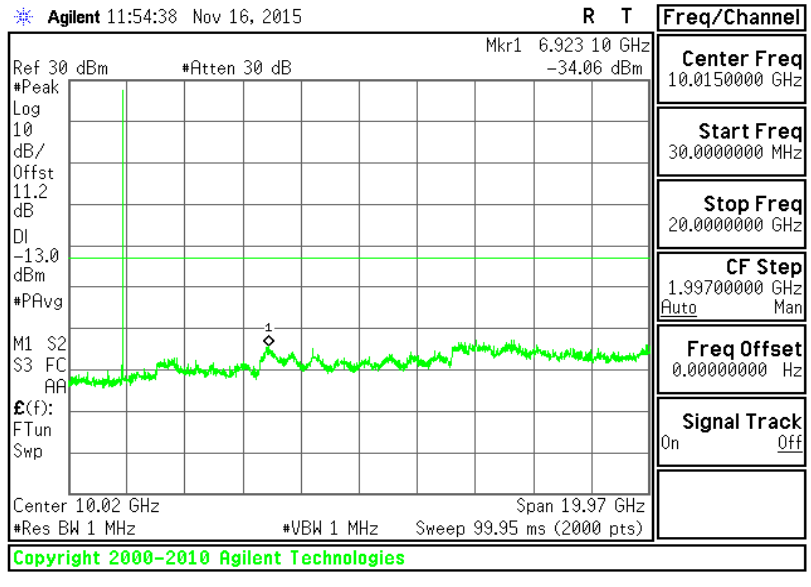
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

QPSK, (3.0 MHz BAND WIDTH)

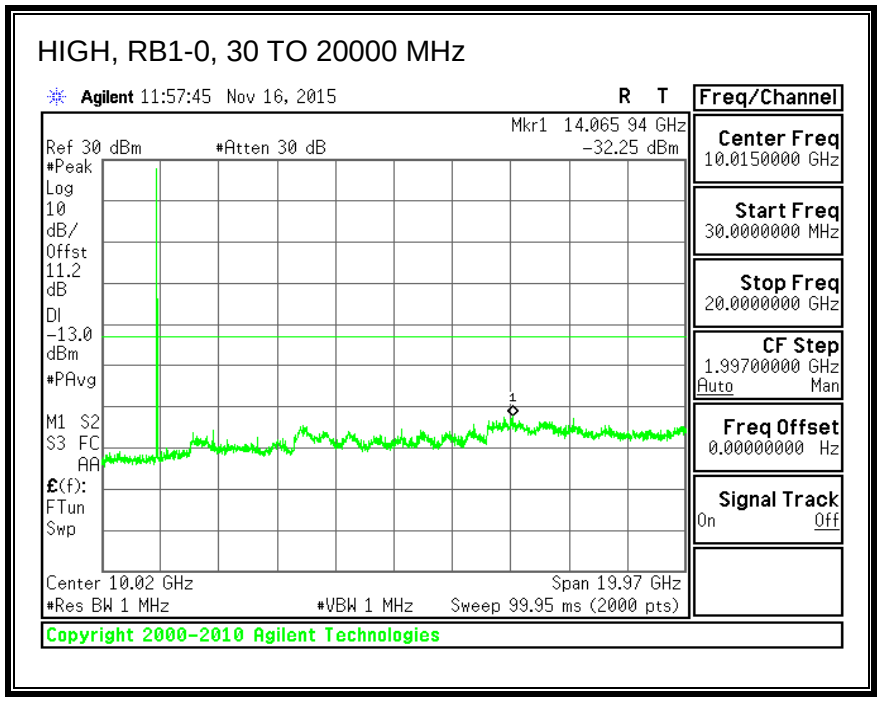
LOW, RB1-0, 30 TO 20000 MHz



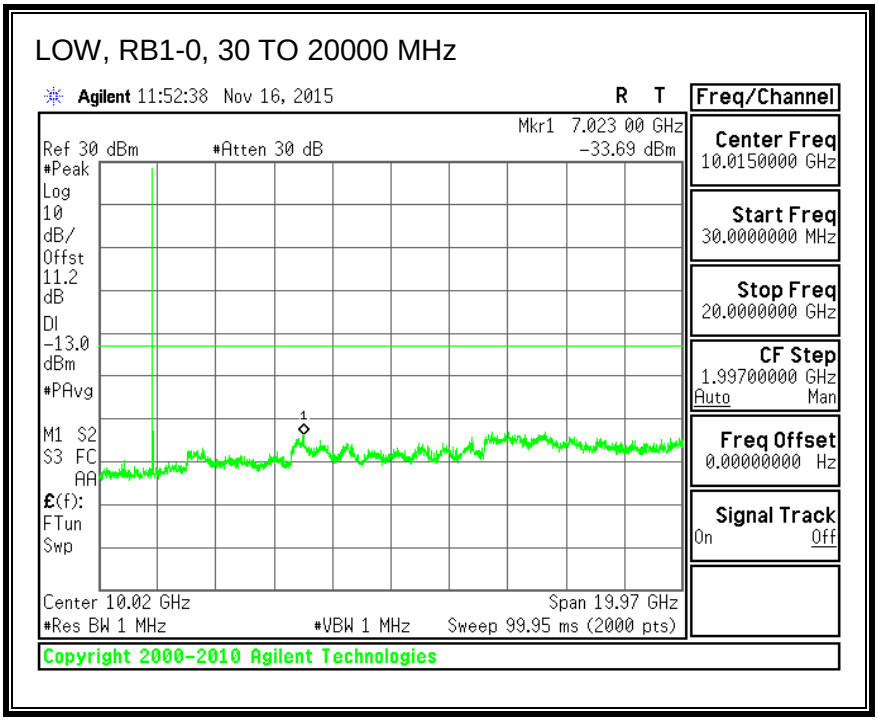
MID, RB1-0, 30 TO 20000 MHz



This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

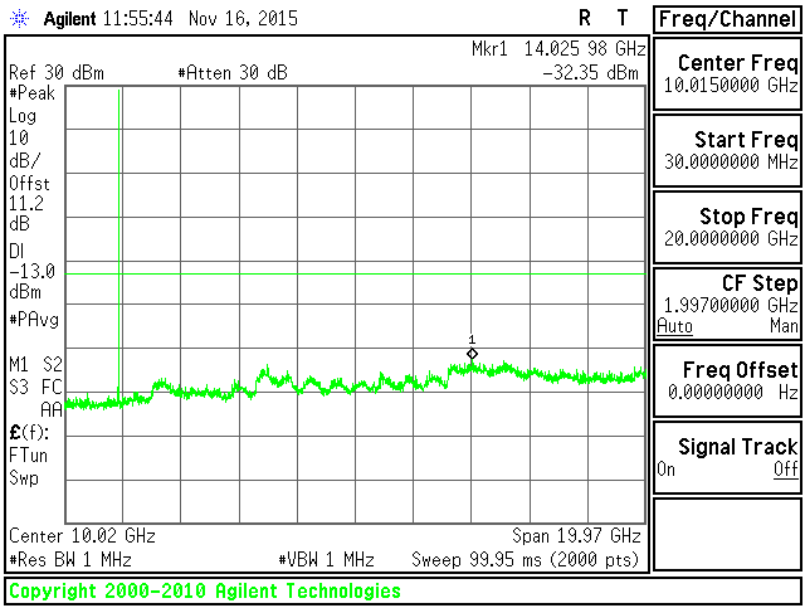


16QAM, (3.0 MHz BAND WIDTH)

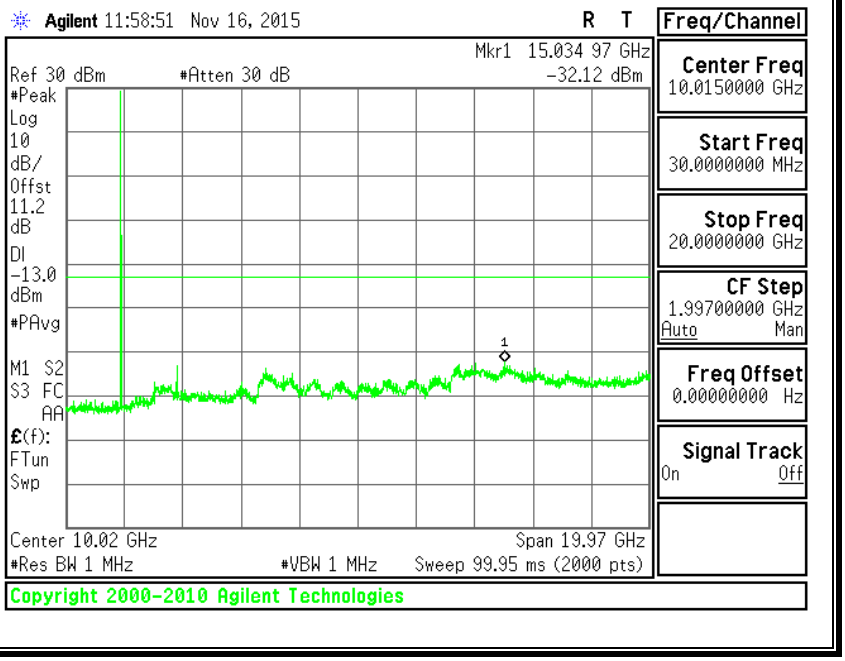


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

MID, RB1-0, 30 TO 20000 MHz



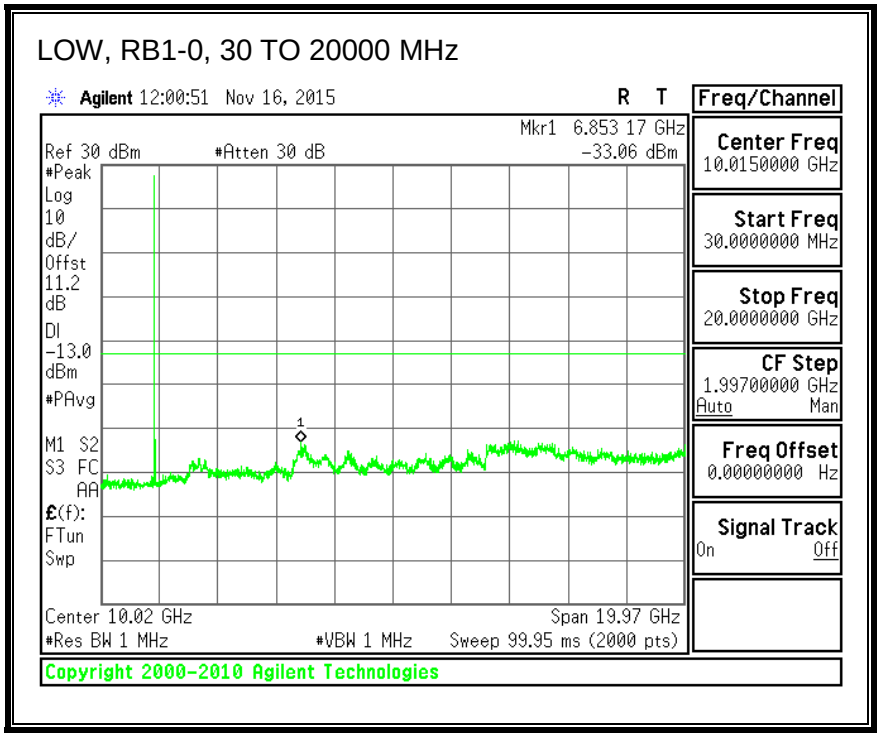
HIGH, RB1-0, 30 TO 20000 MHz



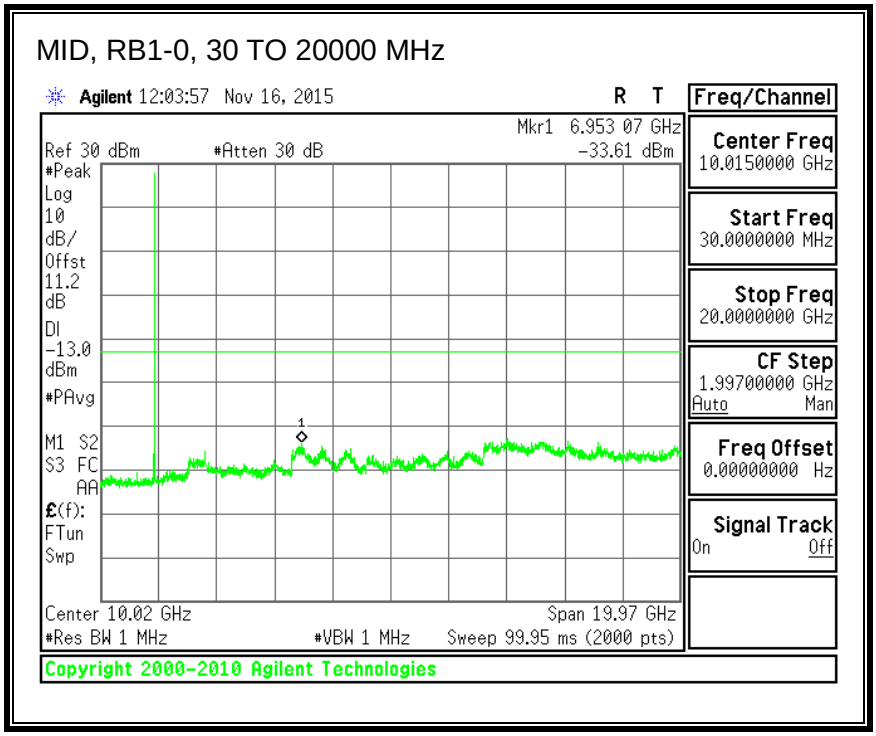
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

QPSK, (5.0 MHz BAND WIDTH)

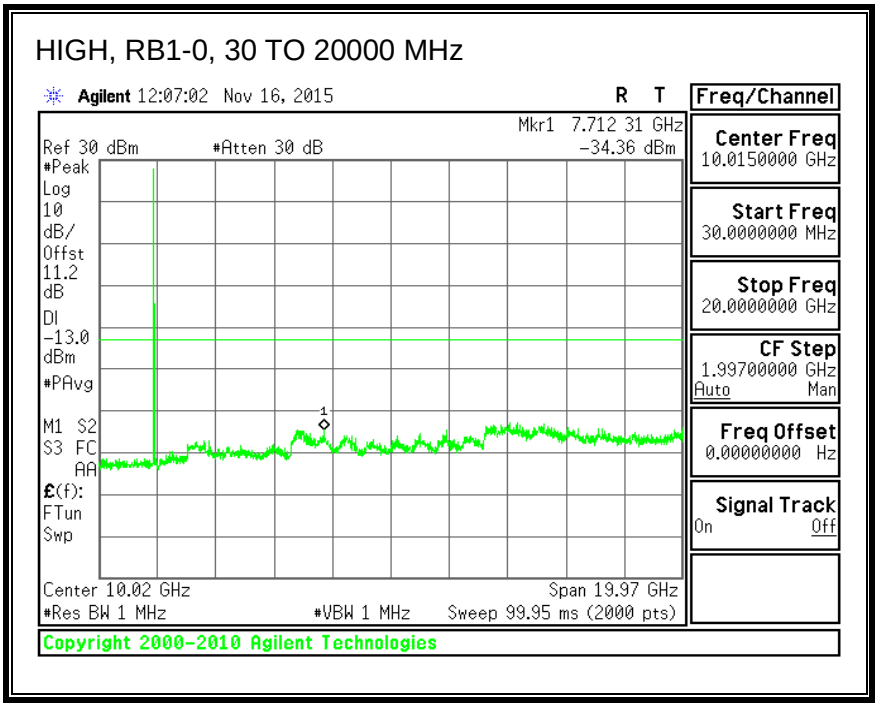
LOW, RB1-0, 30 TO 20000 MHz



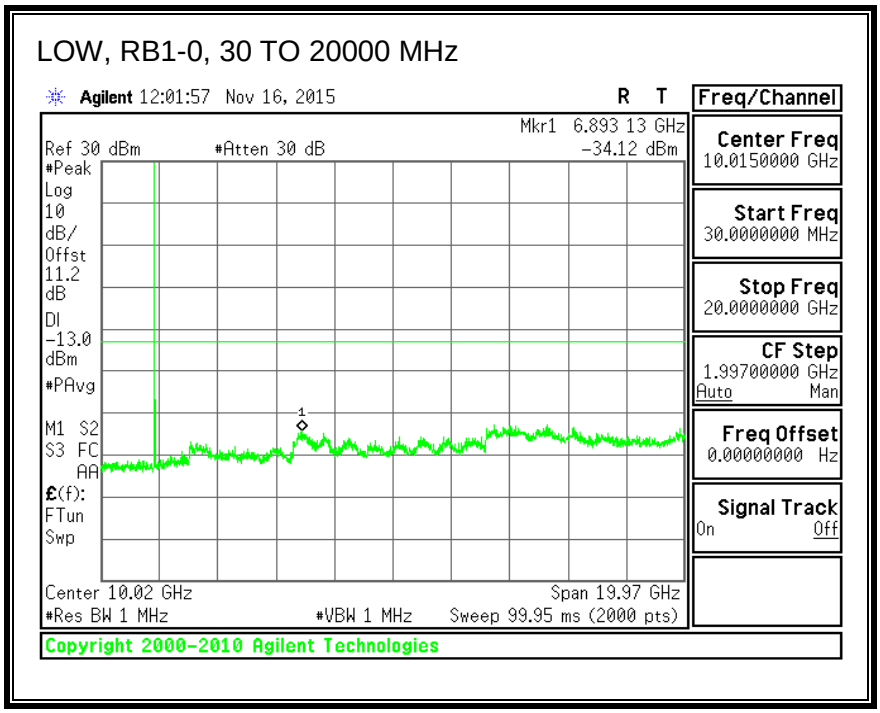
MID, RB1-0, 30 TO 20000 MHz



This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

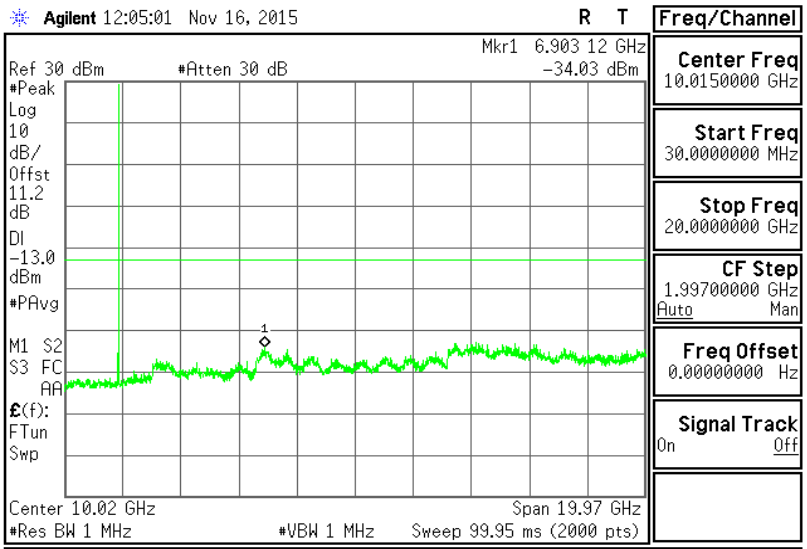


16QAM, (5.0 MHz BAND WIDTH)

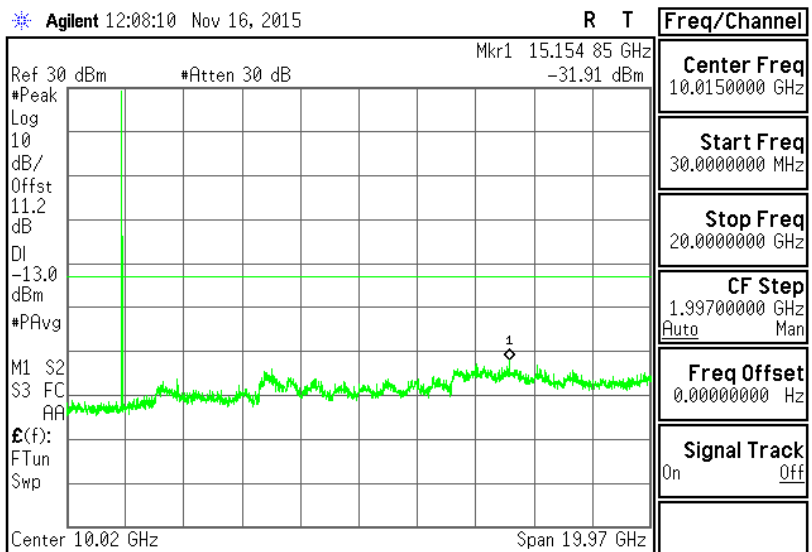


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

MID, RB1-0, 30 TO 20000 MHz



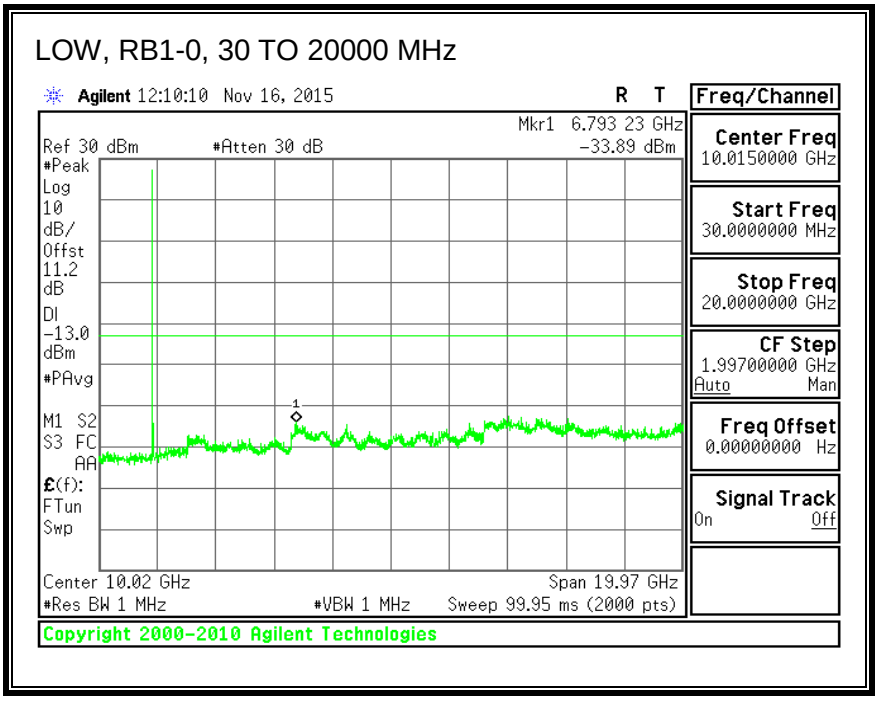
HIGH, RB1-0, 30 TO 20000 MHz



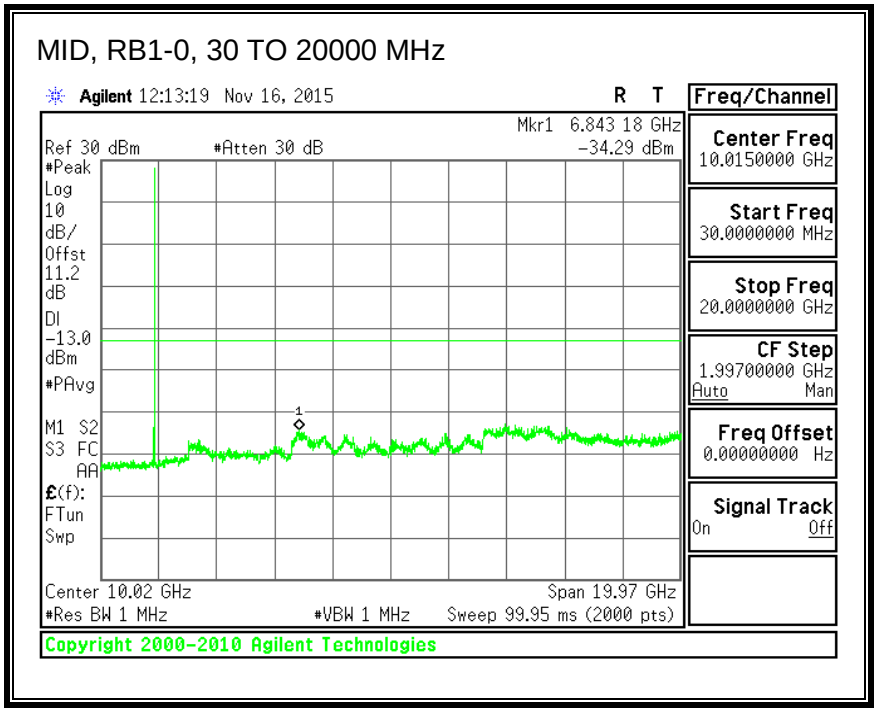
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

QPSK, (10.0 MHz BAND WIDTH)

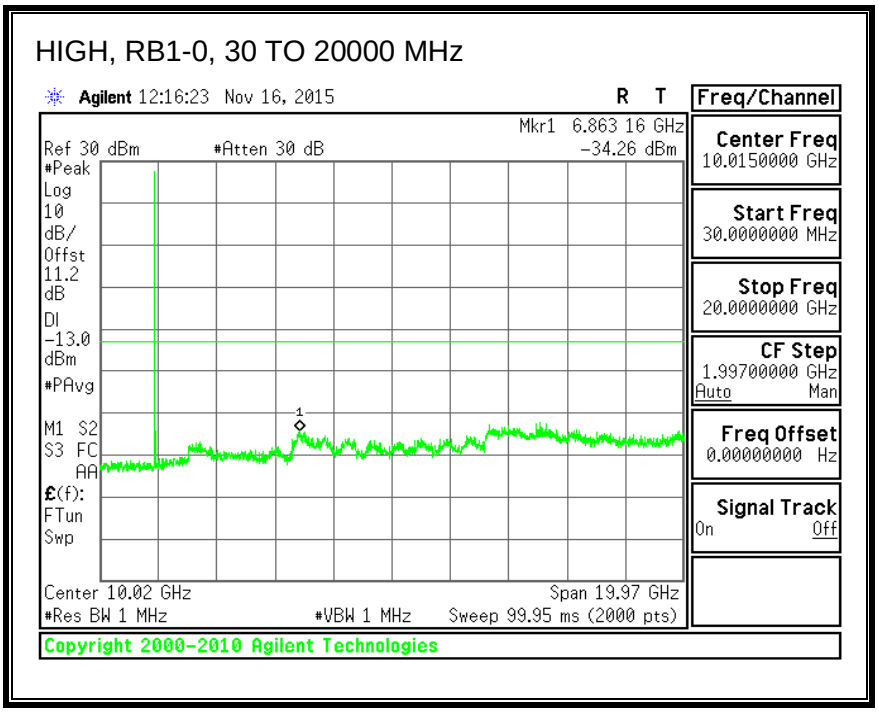
LOW, RB1-0, 30 TO 20000 MHz



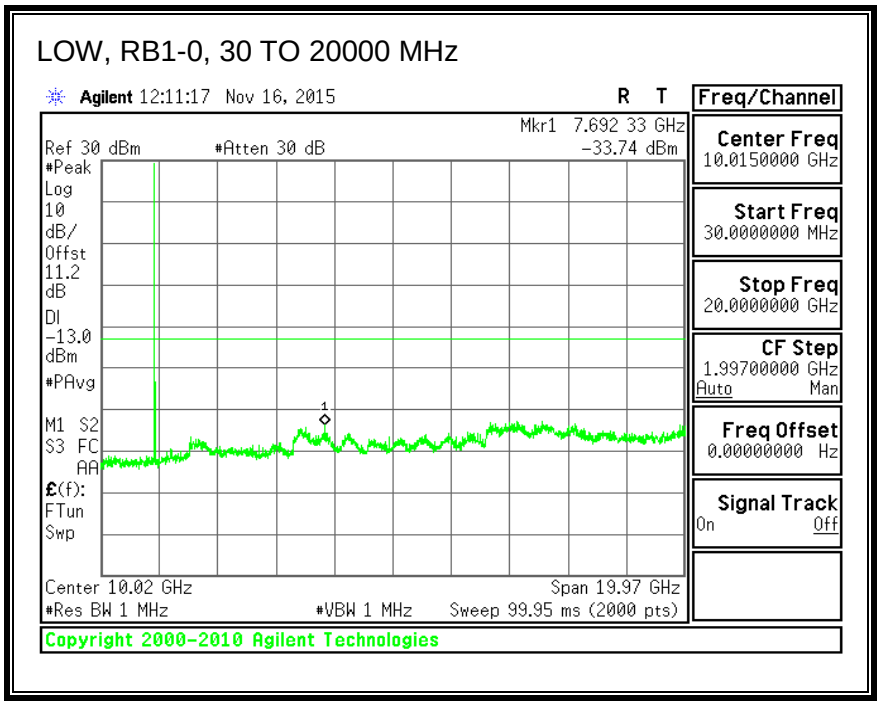
MID, RB1-0, 30 TO 20000 MHz



This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

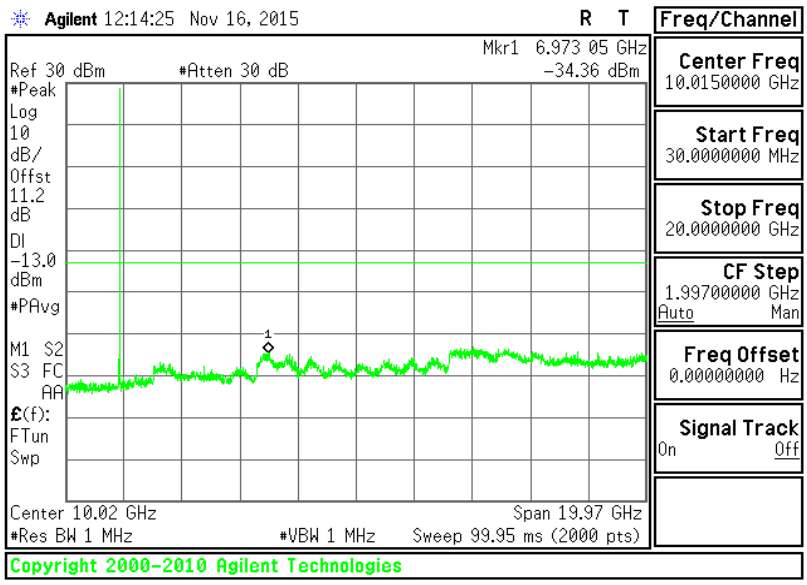


16QAM, (10.0 MHz BAND WIDTH)

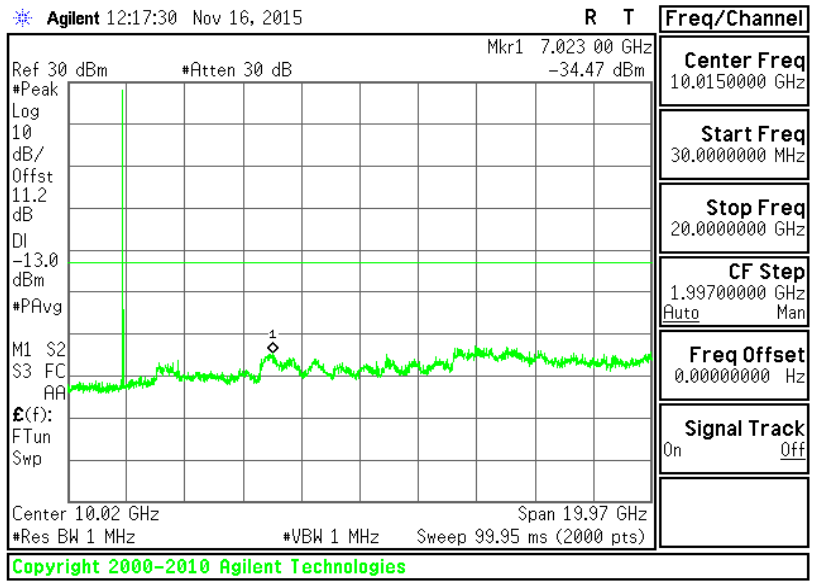


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

MID, RB1-0, 30 TO 20000 MHz



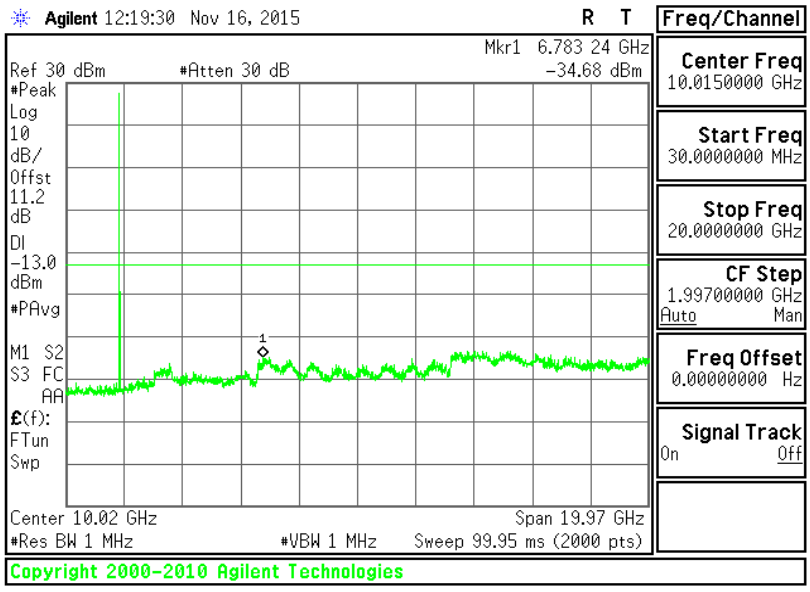
HIGH, RB1-0, 30 TO 20000 MHz



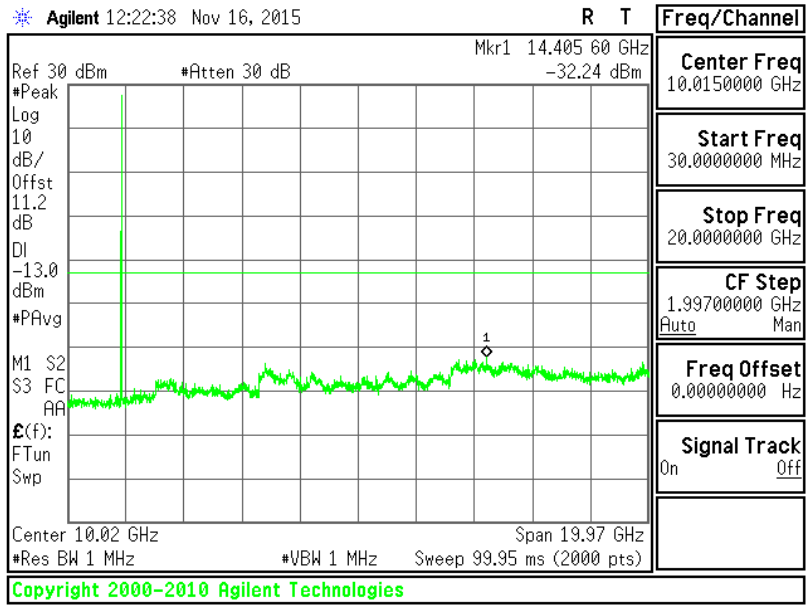
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

QPSK, (15.0 MHz BAND WIDTH)

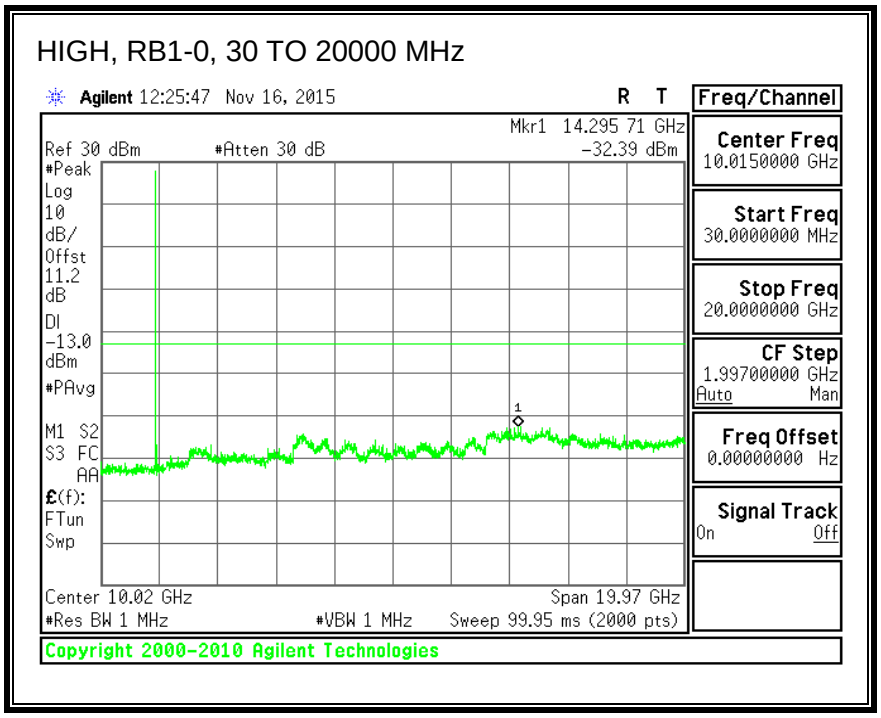
LOW, RB1-0, 30 TO 20000 MHz



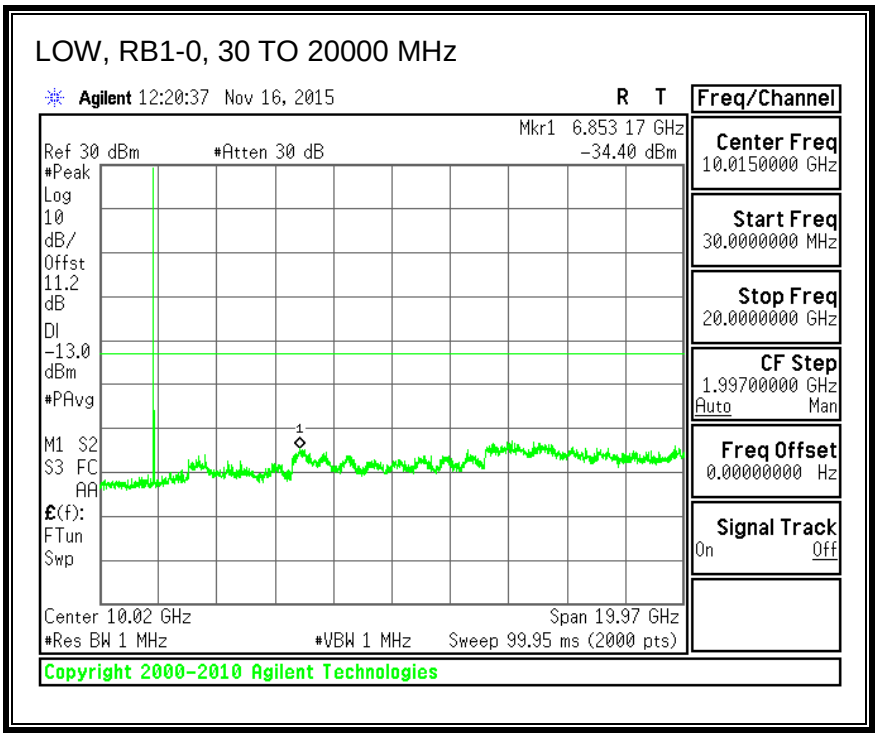
MID, RB1-0, 30 TO 20000 MHz



This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

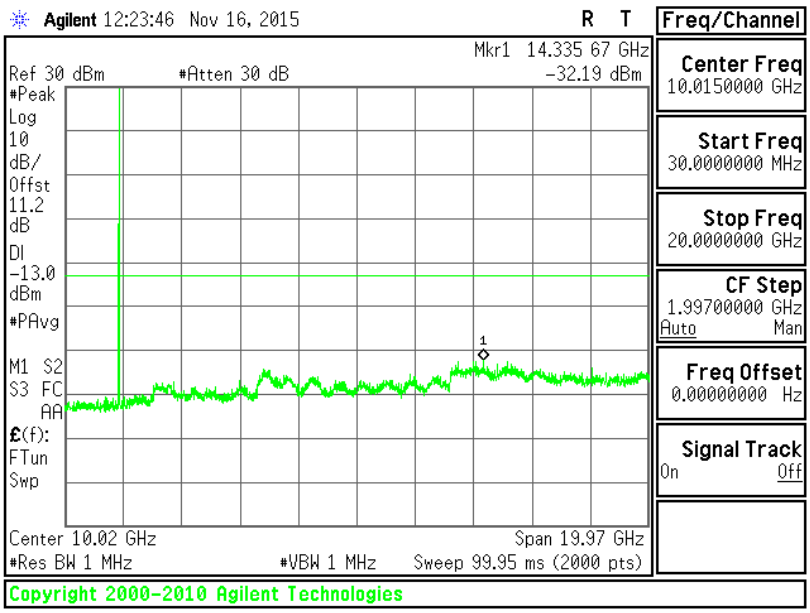


16QAM, (15.0 MHz BAND WIDTH)

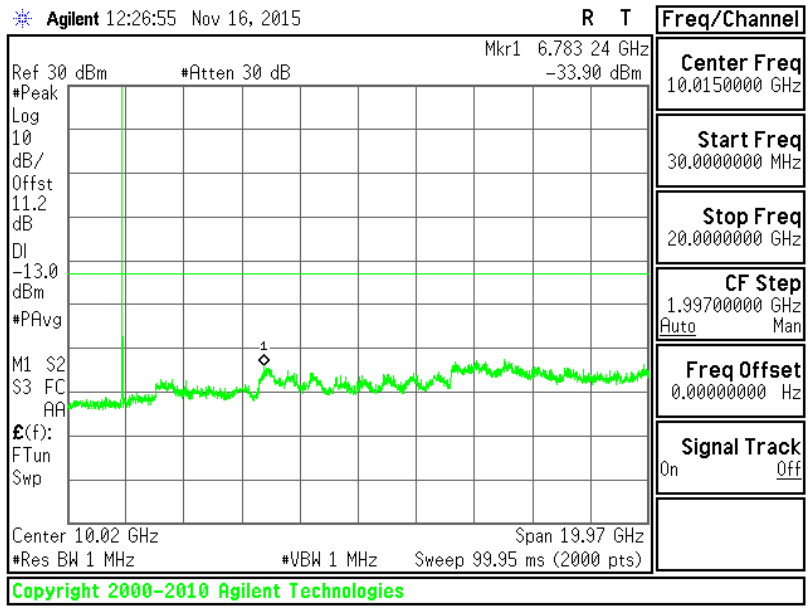


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

MID, RB1-0, 30 TO 20000 MHz



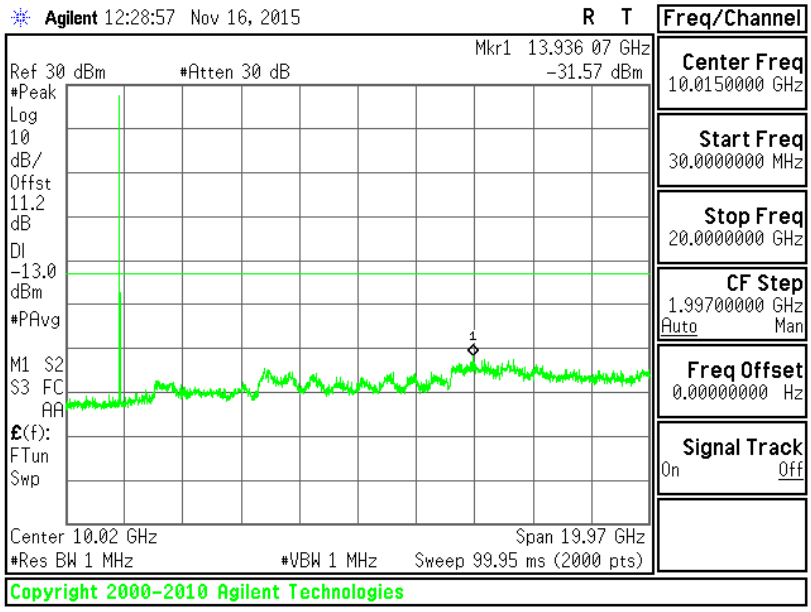
HIGH, RB1-0, 30 TO 20000 MHz



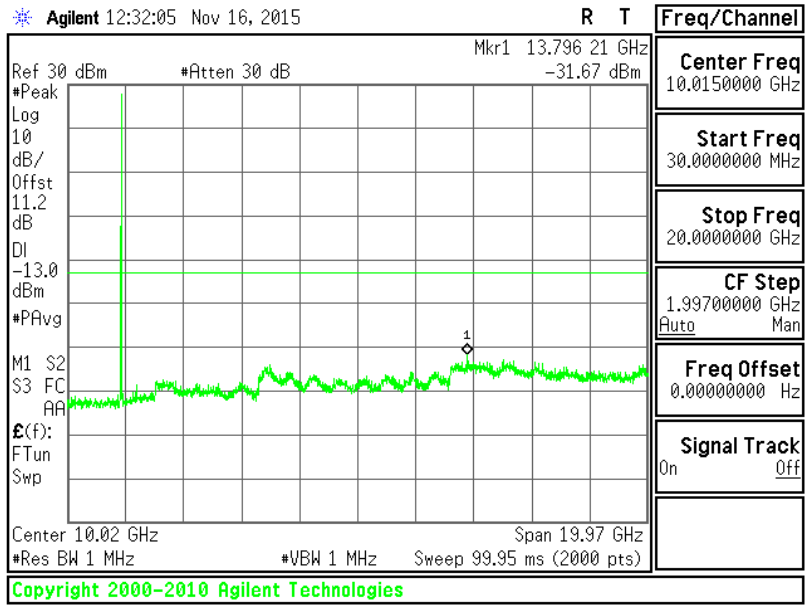
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

QPSK, (20.0 MHz BAND WIDTH)

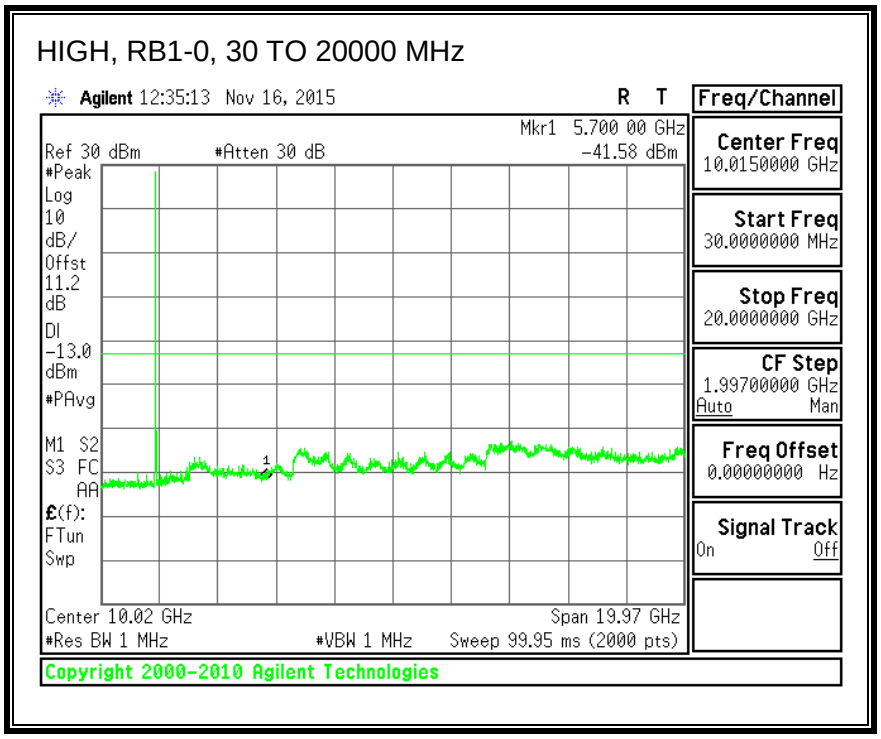
LOW, RB1-0, 30 TO 20000 MHz



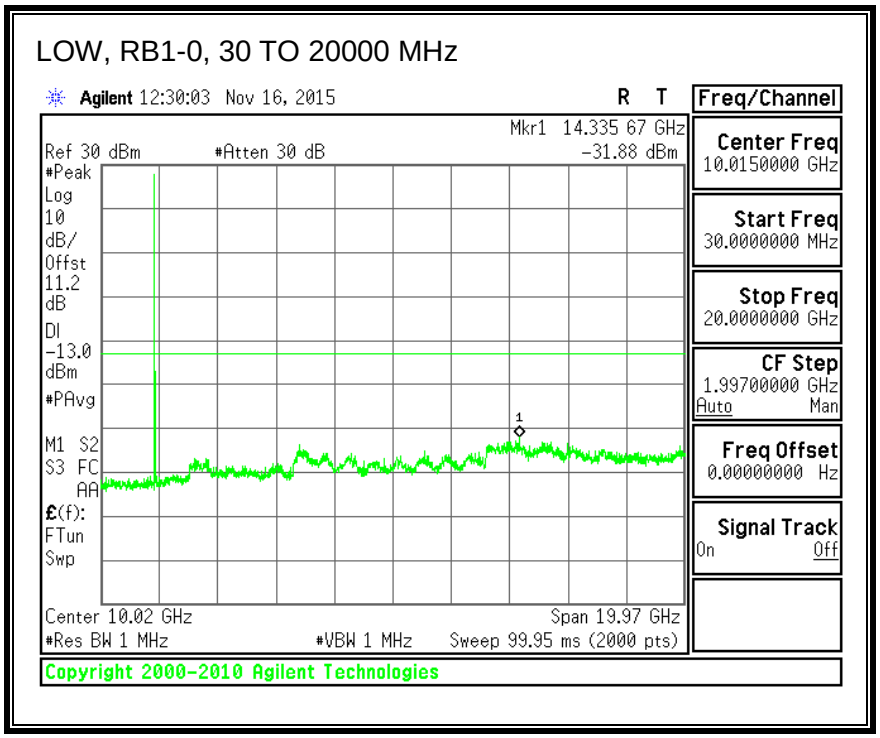
MID, RB1-0, 30 TO 20000 MHz



This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

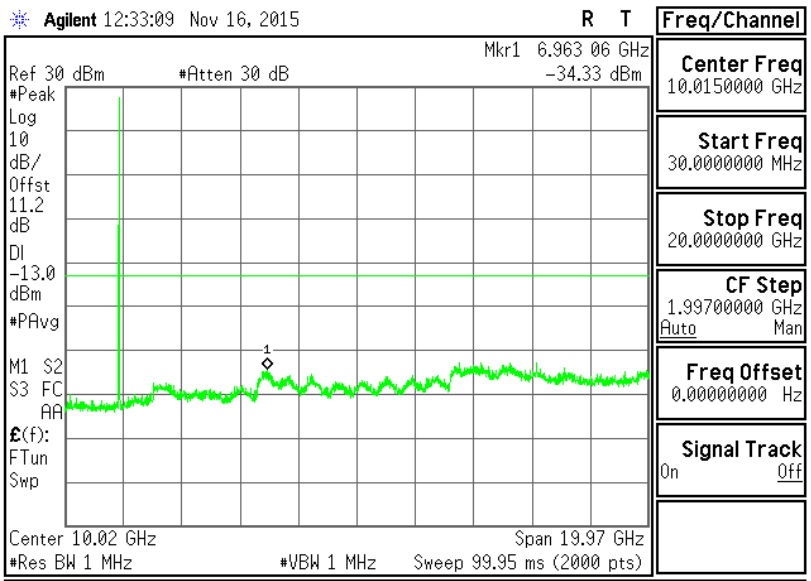


16QAM, (20.0 MHz BAND WIDTH)

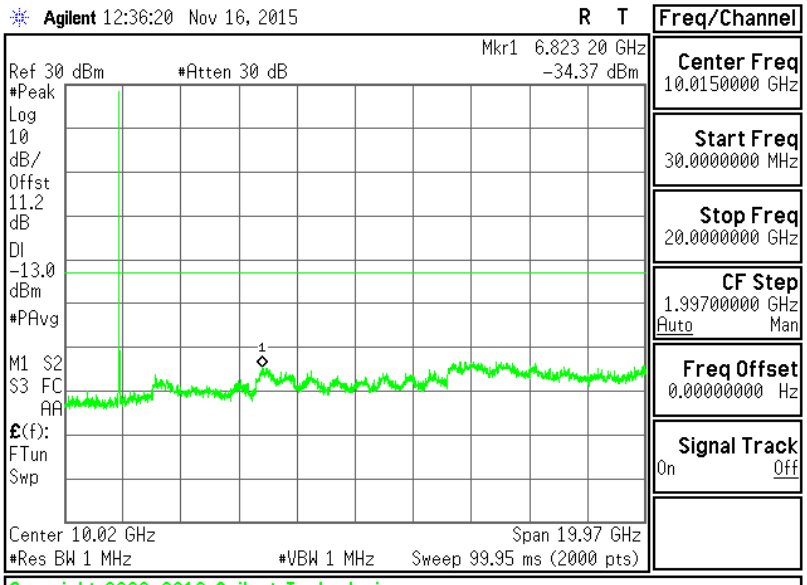


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

MID, RB1-0, 30 TO 20000 MHz



HIGH, RB1-0, 30 TO 20000 MHz

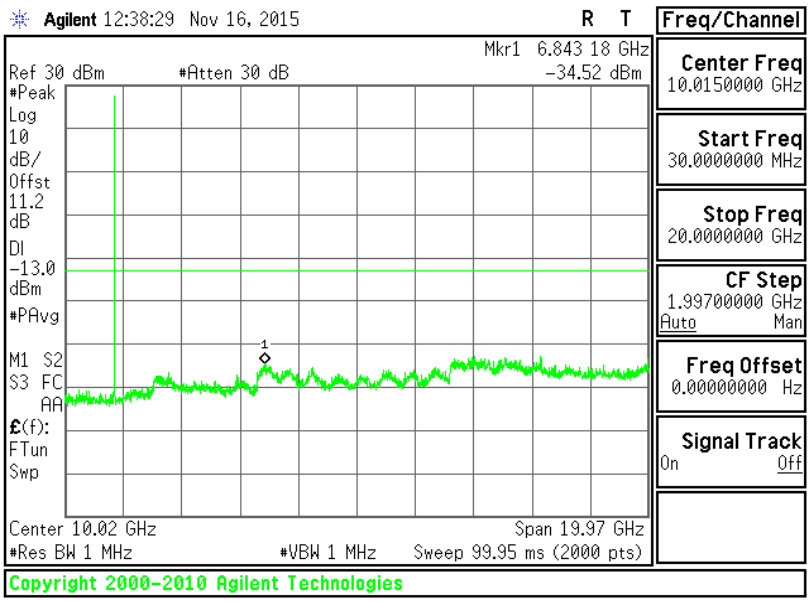


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

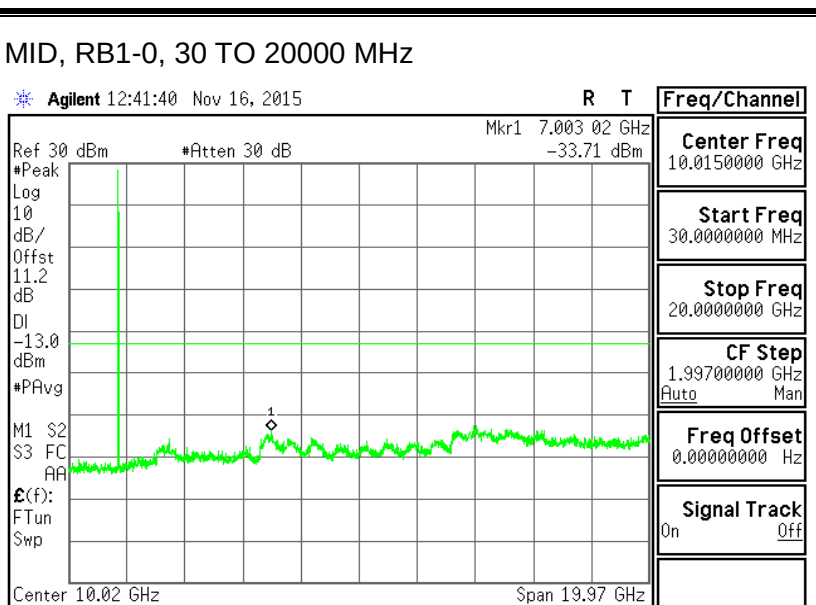
8.3.2. LTE BAND 4

QPSK, (1.4 MHz BAND WIDTH)

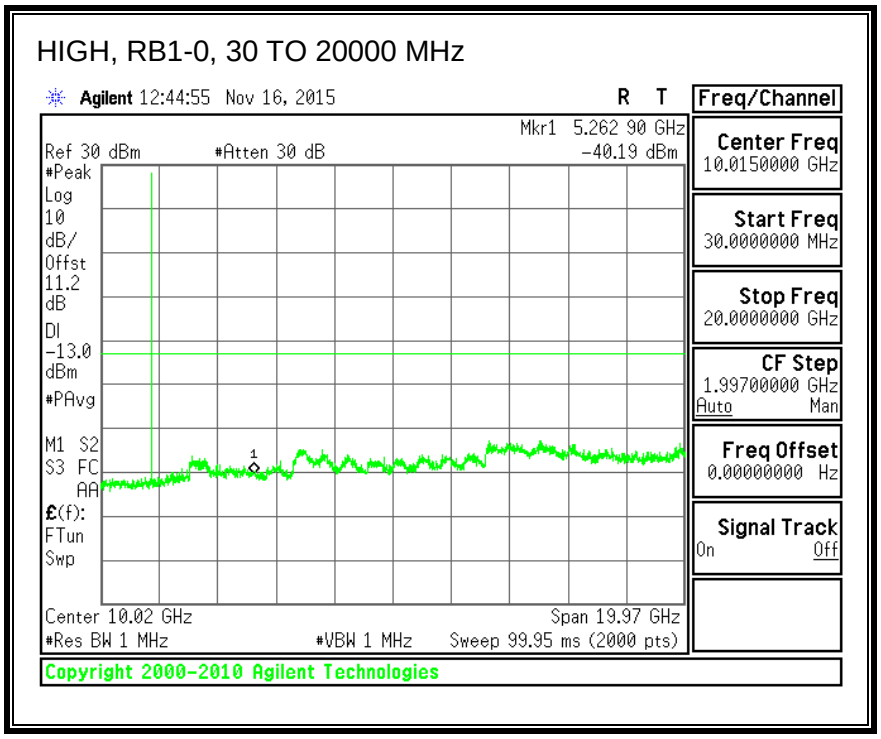
LOW, RB1-0, 30 TO 20000 MHz



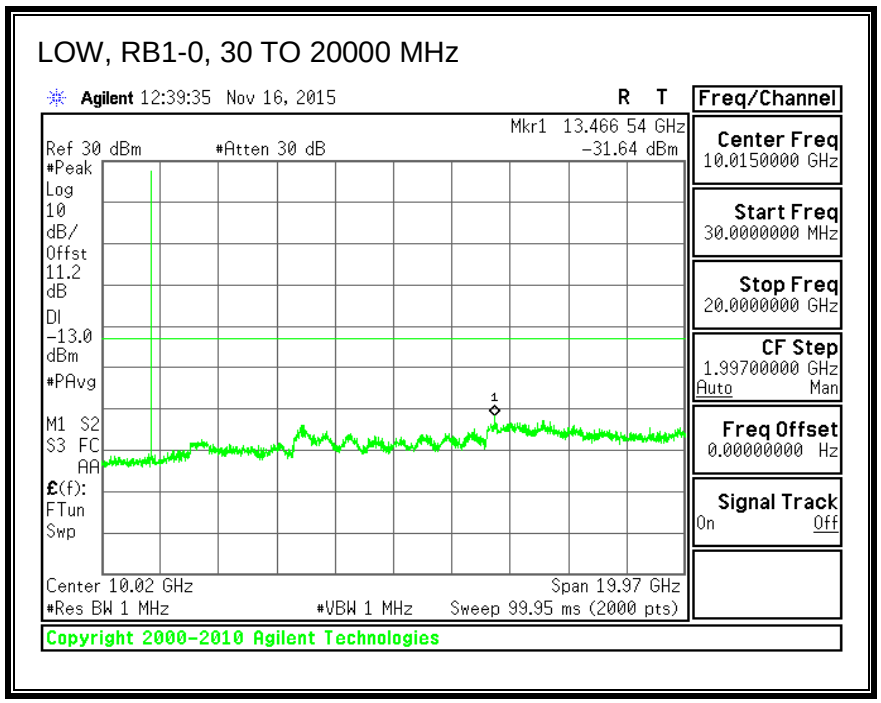
MID, RB1-0, 30 TO 20000 MHz



This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

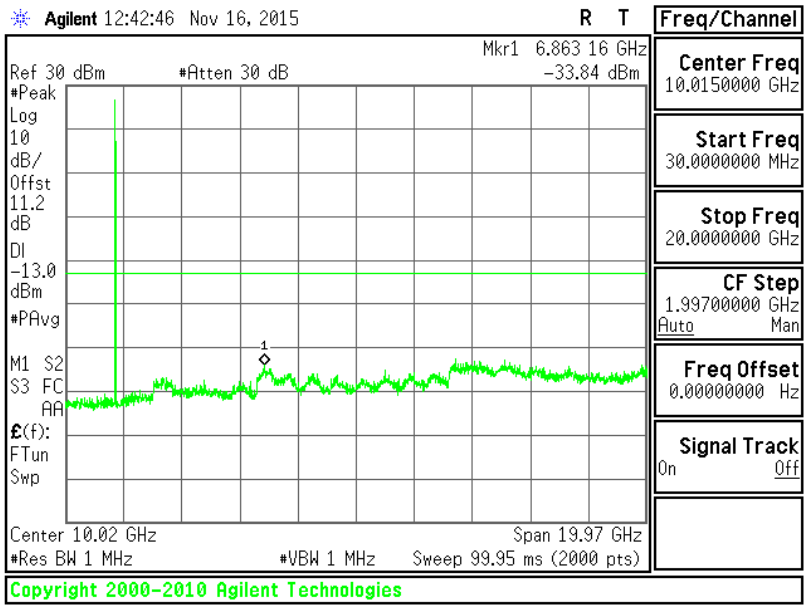


16QAM, (1.4 MHz BAND WIDTH)

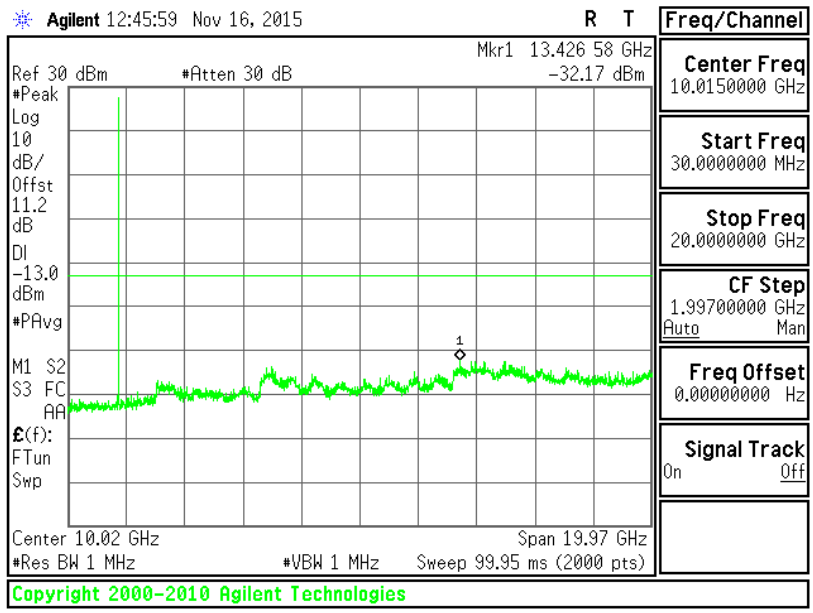


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

MID, RB1-0, 30 TO 20000 MHz



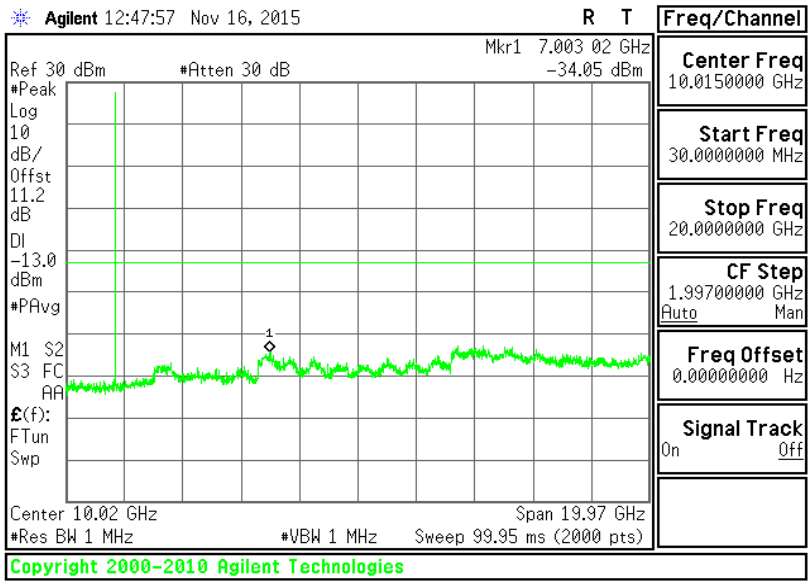
HIGH, RB1-0, 30 TO 20000 MHz



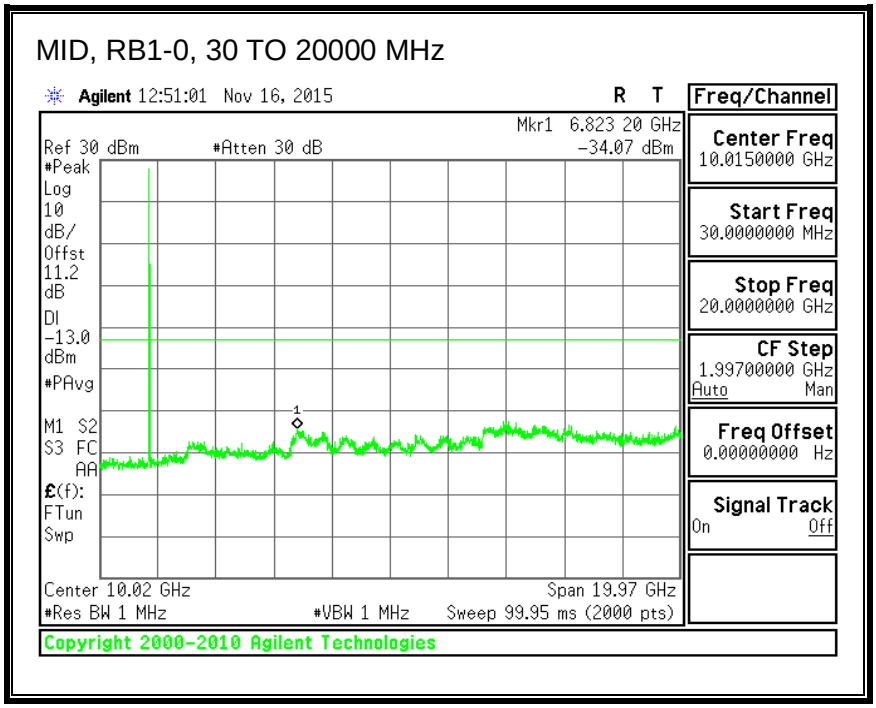
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

QPSK, (3.0 MHz BAND WIDTH)

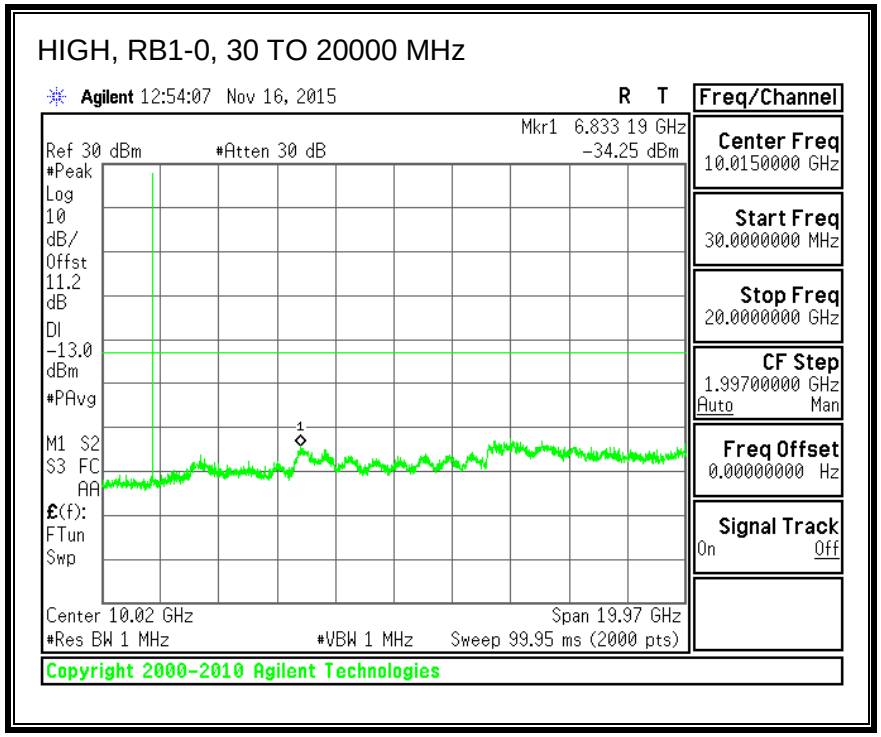
LOW, RB1-0, 30 TO 20000 MHz



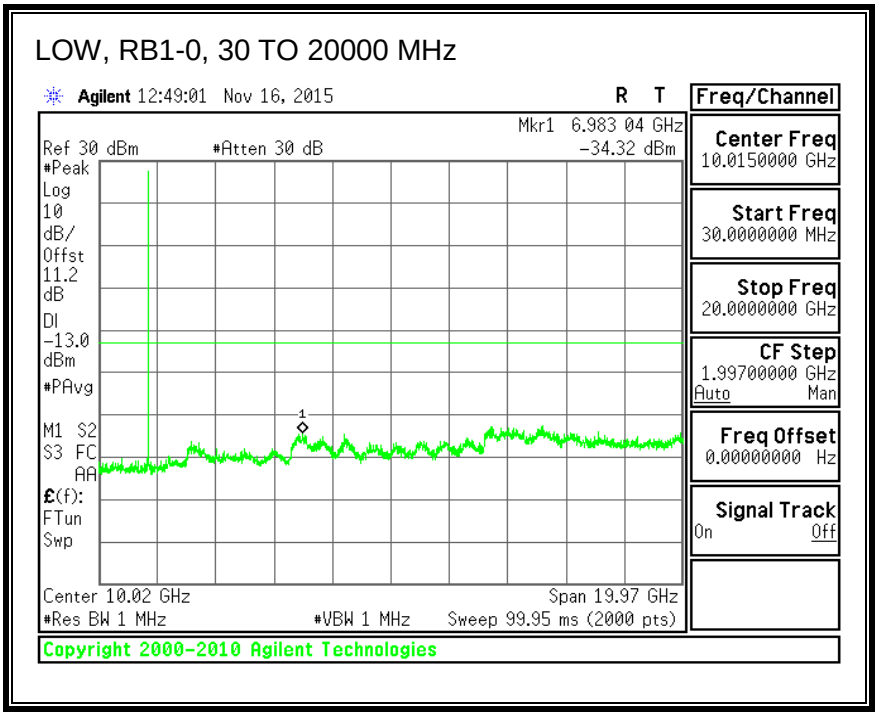
MID, RB1-0, 30 TO 20000 MHz



This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

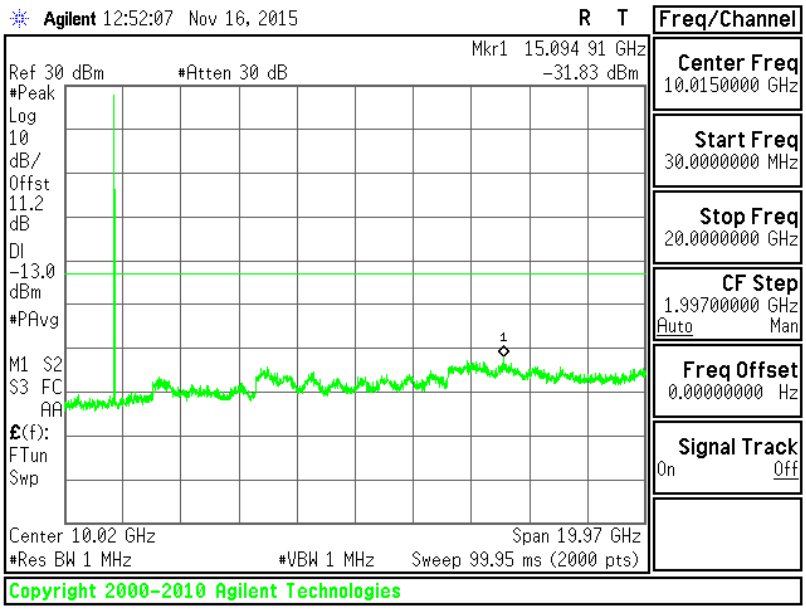


16QAM, (3.0 MHz BAND WIDTH)

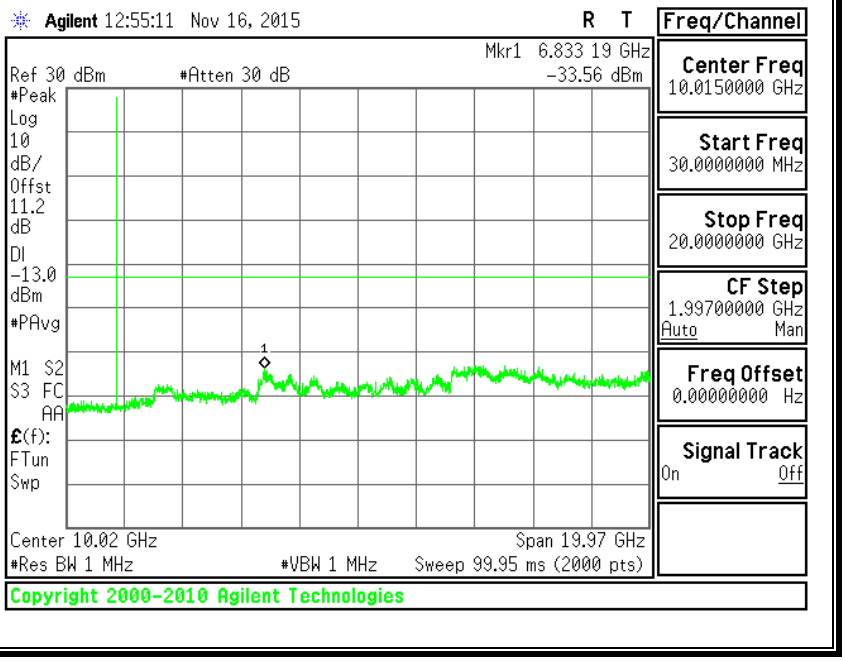


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

MID, RB1-0, 30 TO 20000 MHz



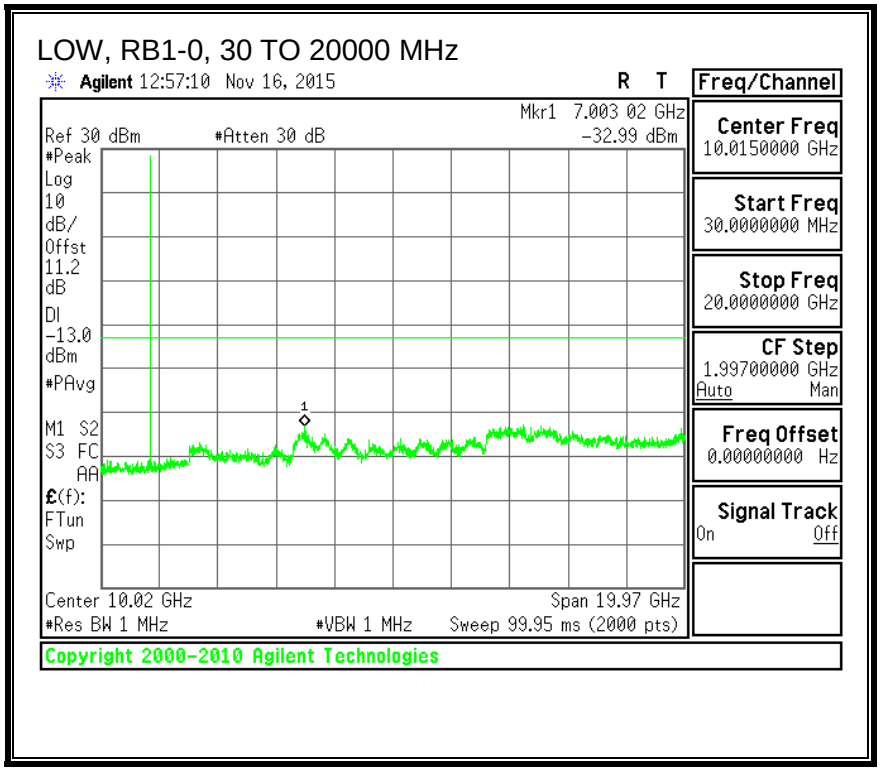
HIGH, RB1-0, 30 TO 20000 MHz



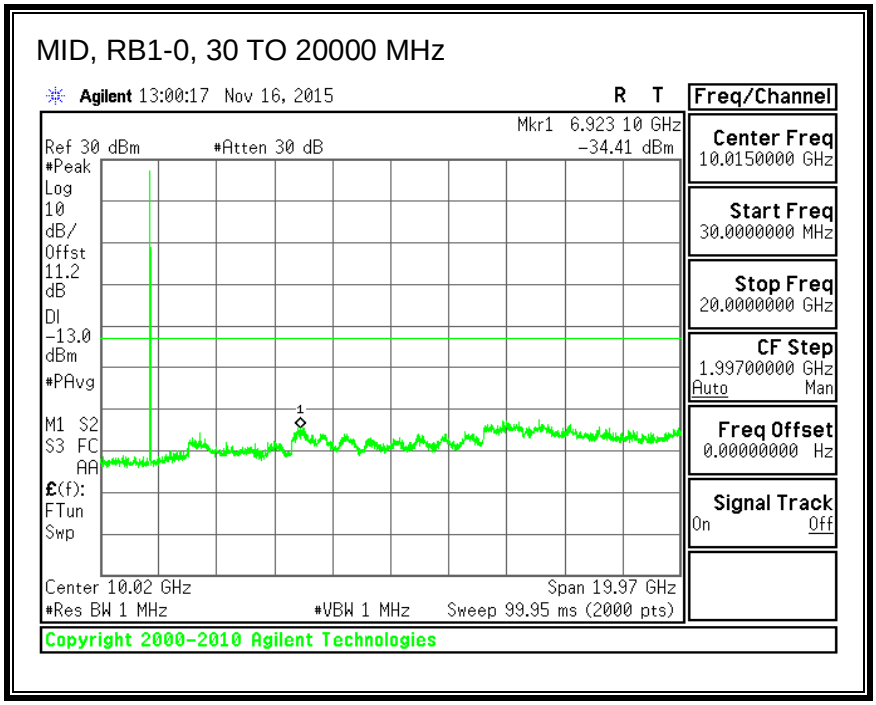
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

QPSK, (5.0 MHz BAND WIDTH)

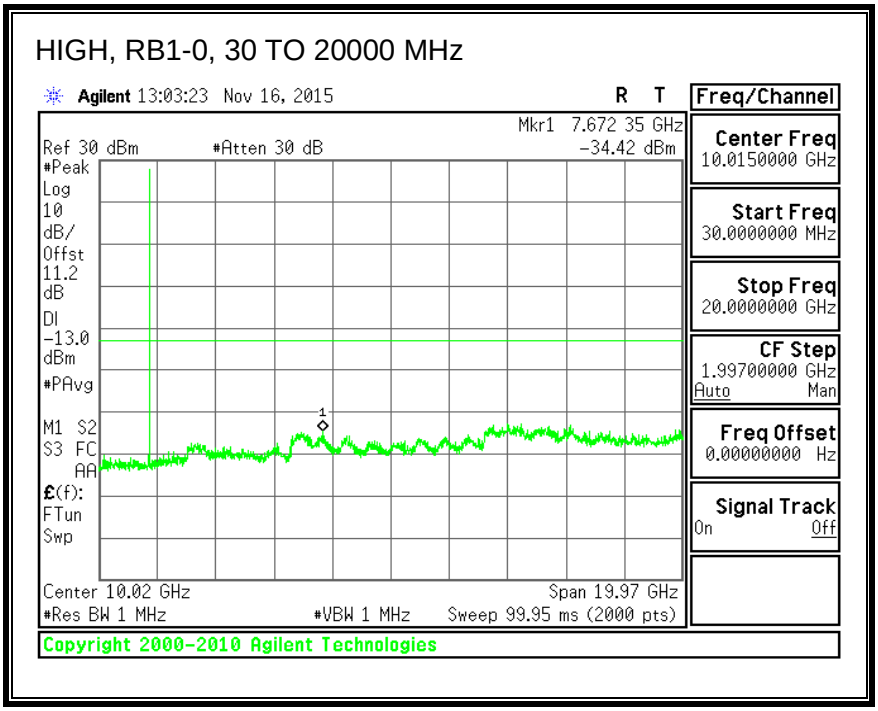
LOW, RB1-0, 30 TO 20000 MHz



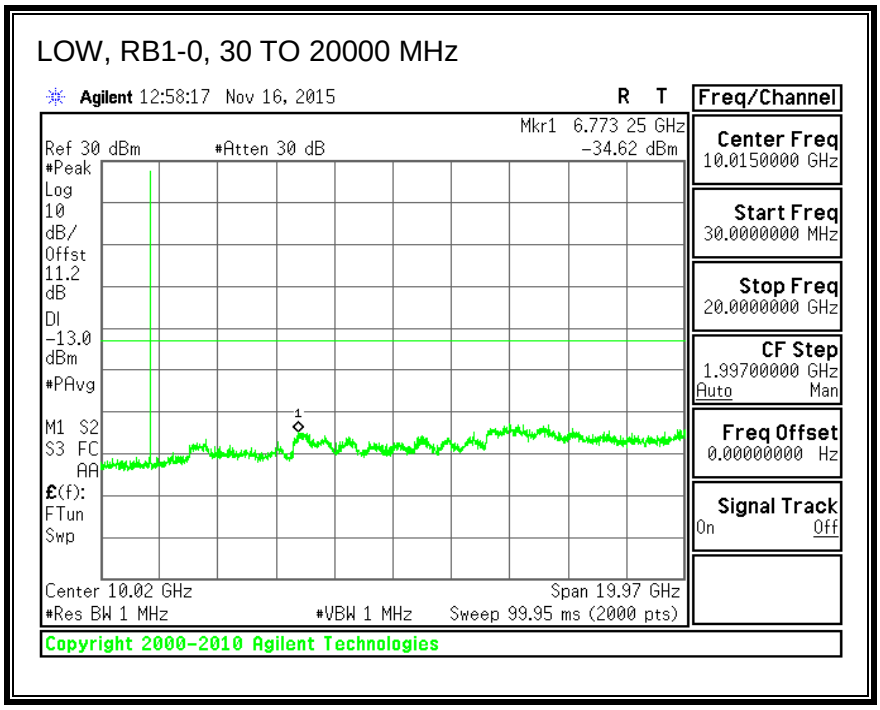
MID, RB1-0, 30 TO 20000 MHz



This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

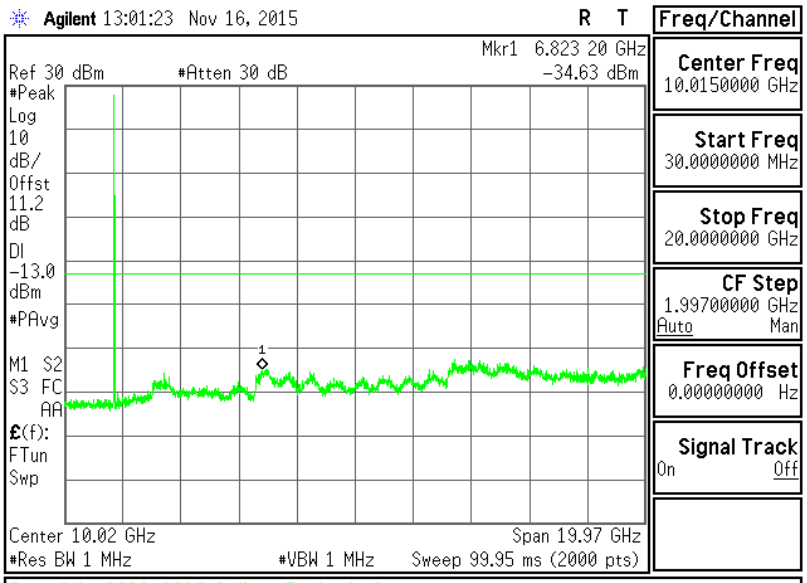


16QAM, (5.0 MHz BAND WIDTH)

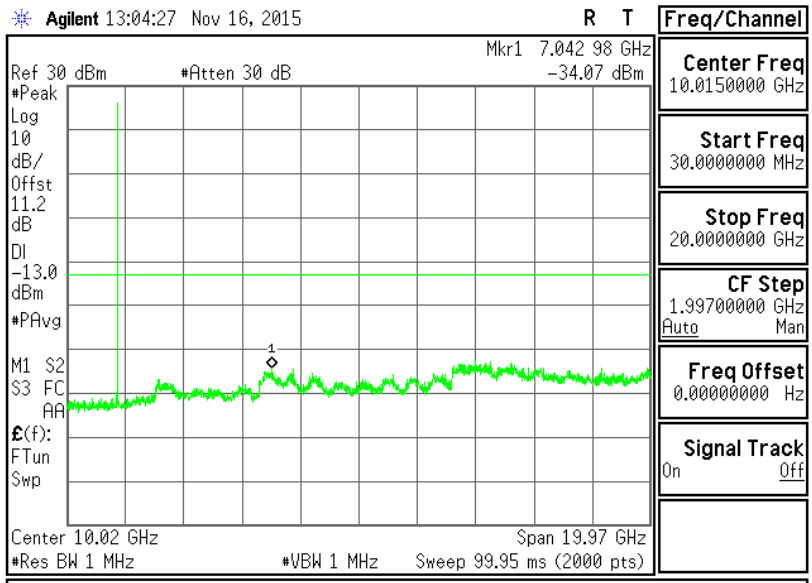


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

MID, RB1-0, 30 TO 20000 MHz



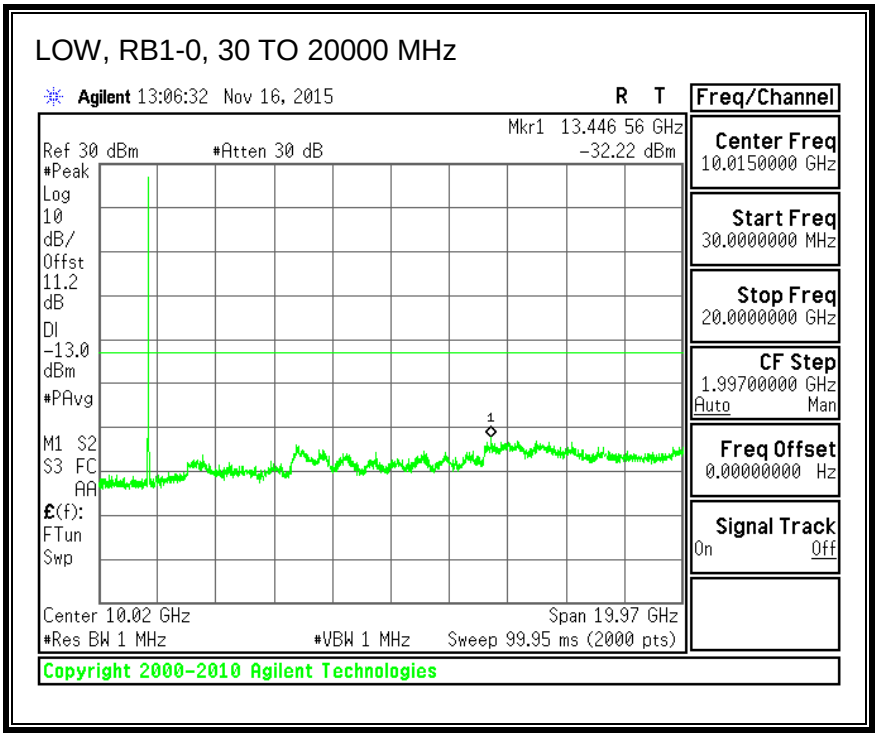
HIGH, RB1-0, 30 TO 20000 MHz



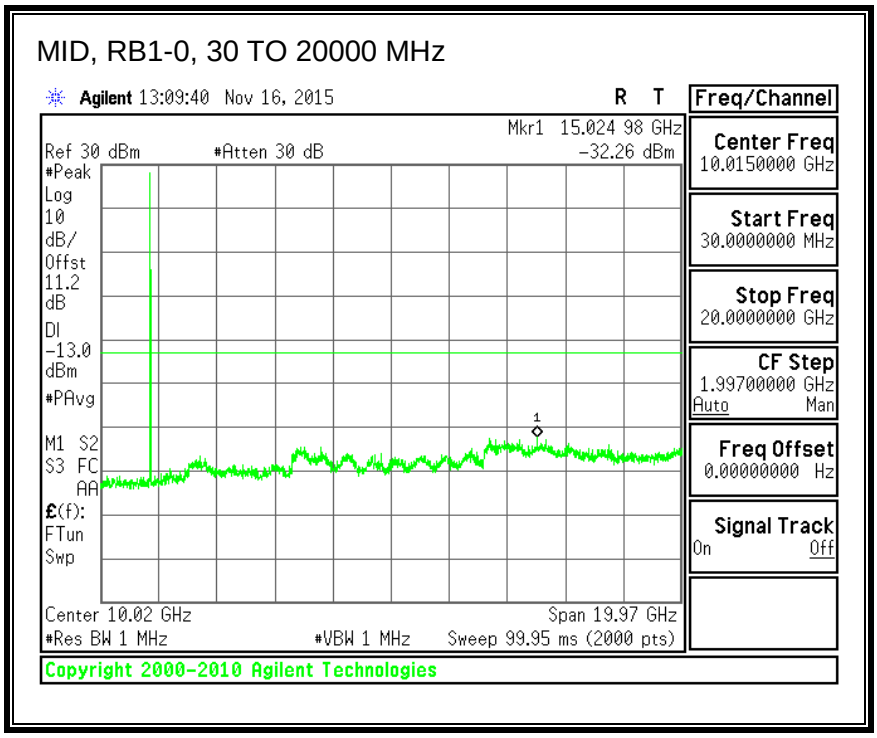
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

QPSK, (10.0 MHz BAND WIDTH)

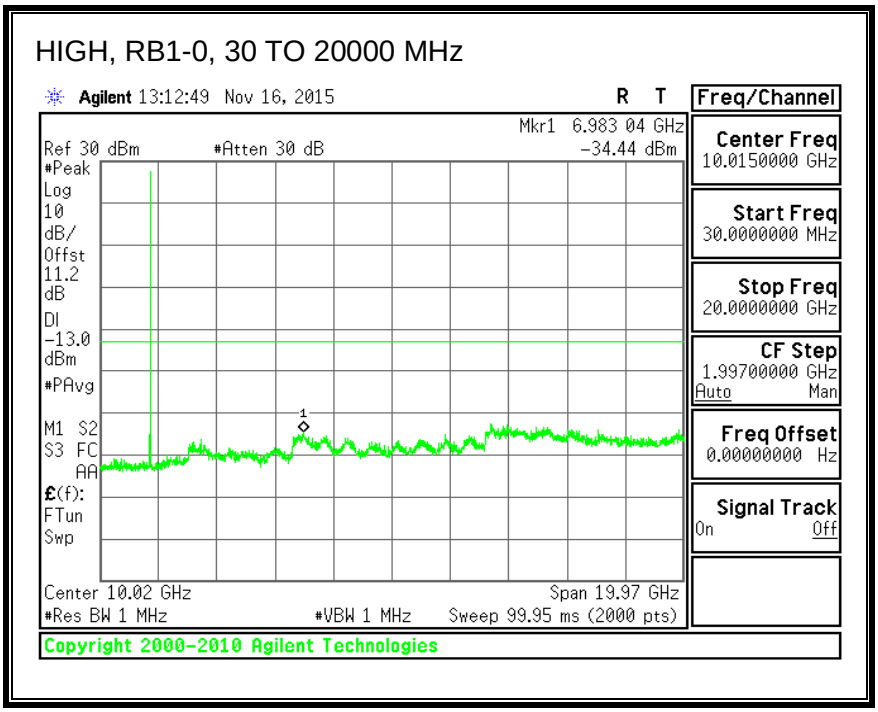
LOW, RB1-0, 30 TO 20000 MHz



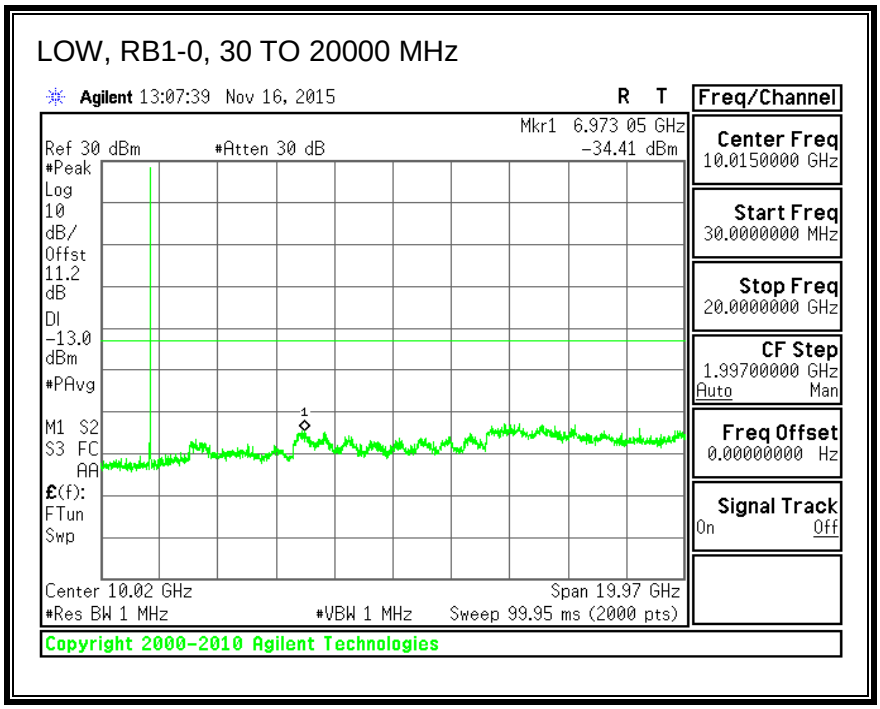
MID, RB1-0, 30 TO 20000 MHz



This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

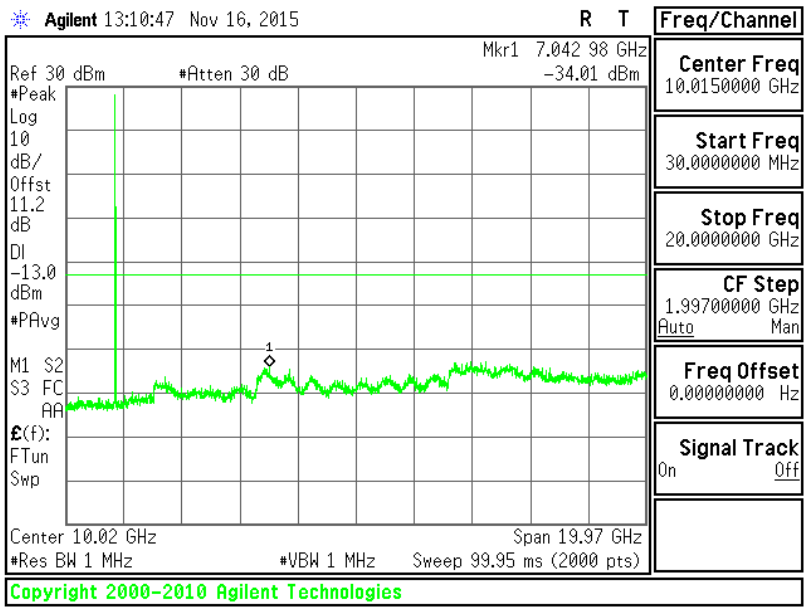


16QAM, (10.0 MHz BAND WIDTH)

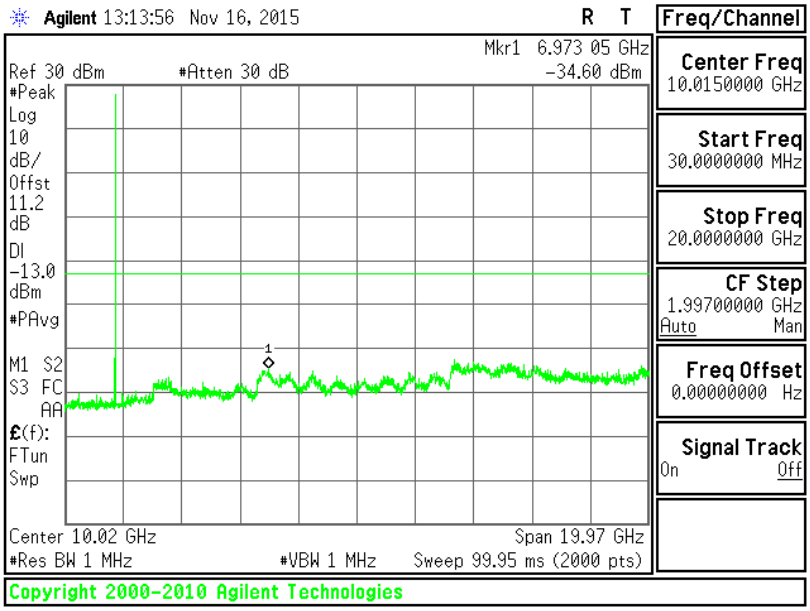


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

MID, RB1-0, 30 TO 20000 MHz



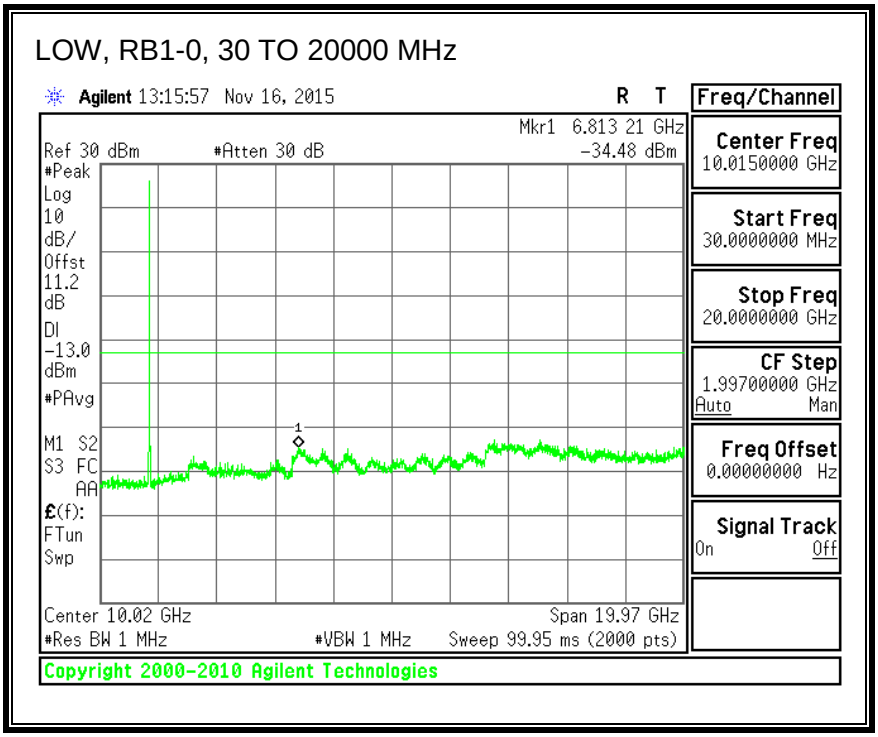
HIGH, RB1-0, 30 TO 20000 MHz



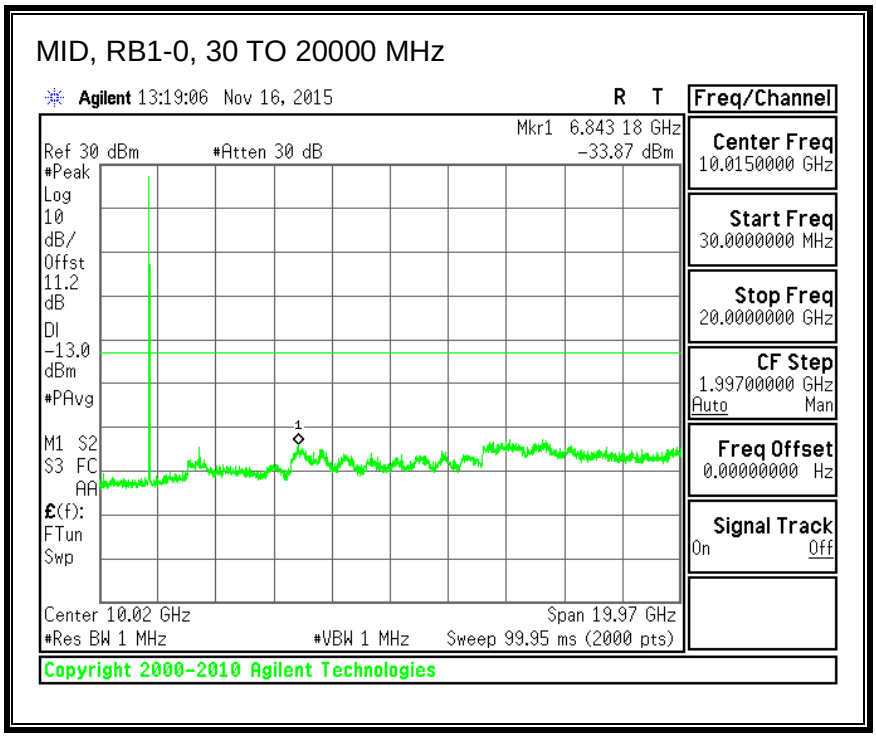
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

QPSK, (15.0 MHz BAND WIDTH)

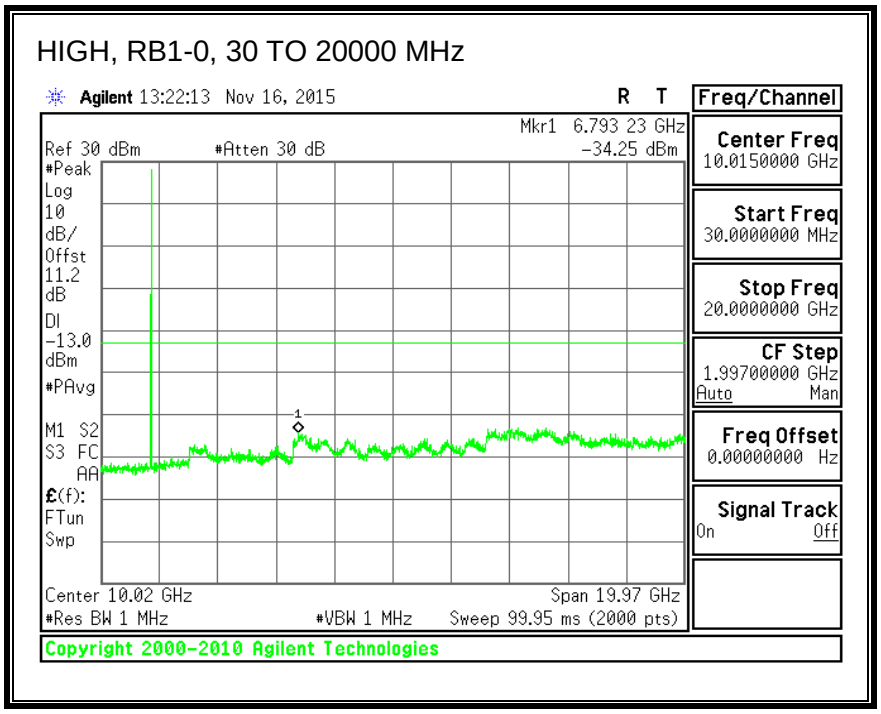
LOW, RB1-0, 30 TO 20000 MHz



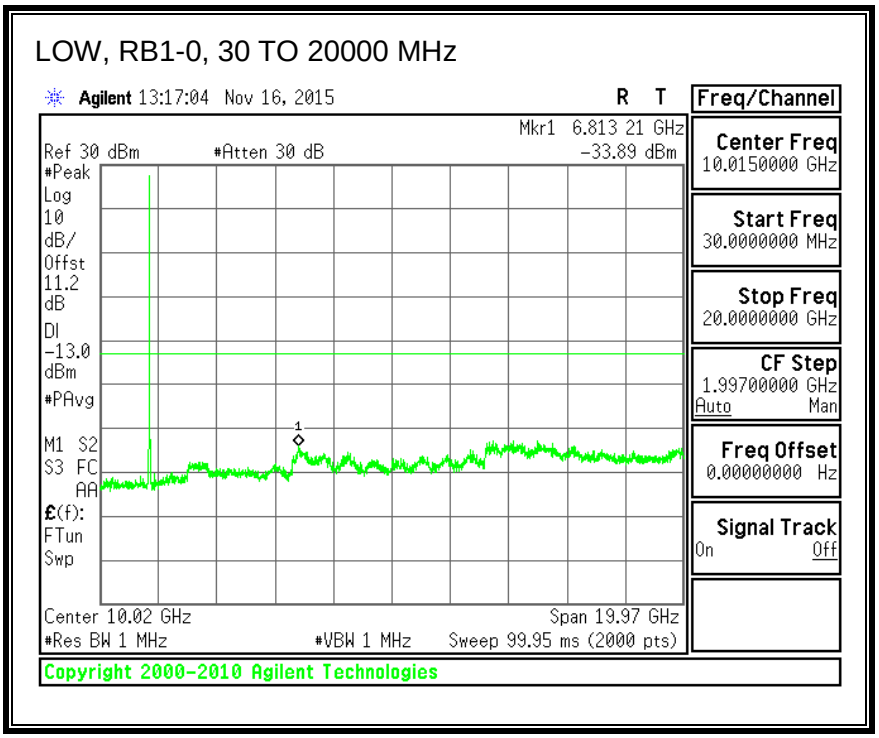
MID, RB1-0, 30 TO 20000 MHz



This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

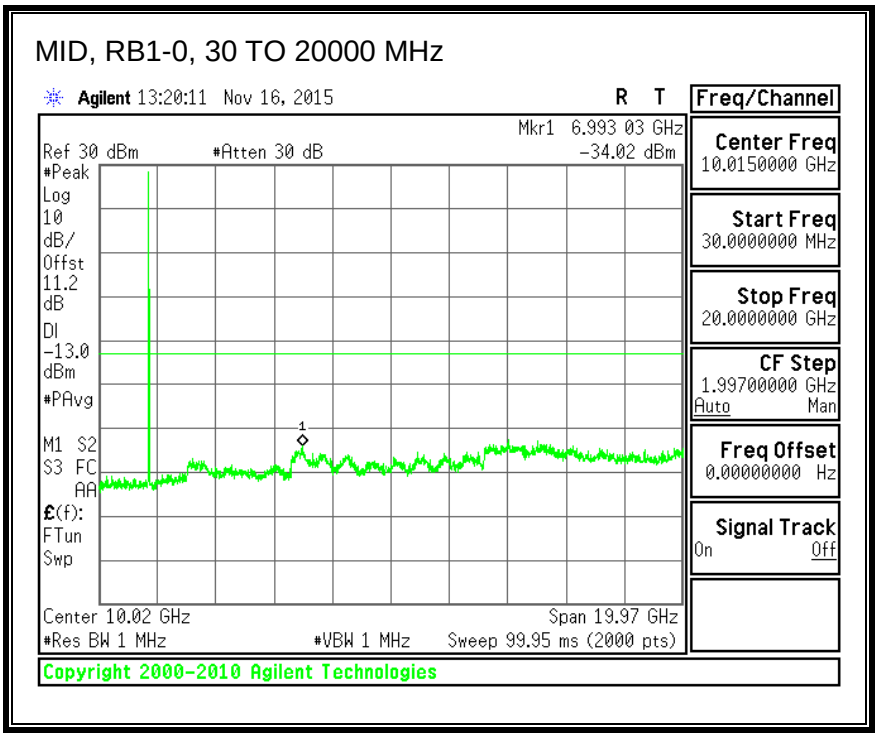


16QAM, (15.0 MHz BAND WIDTH)

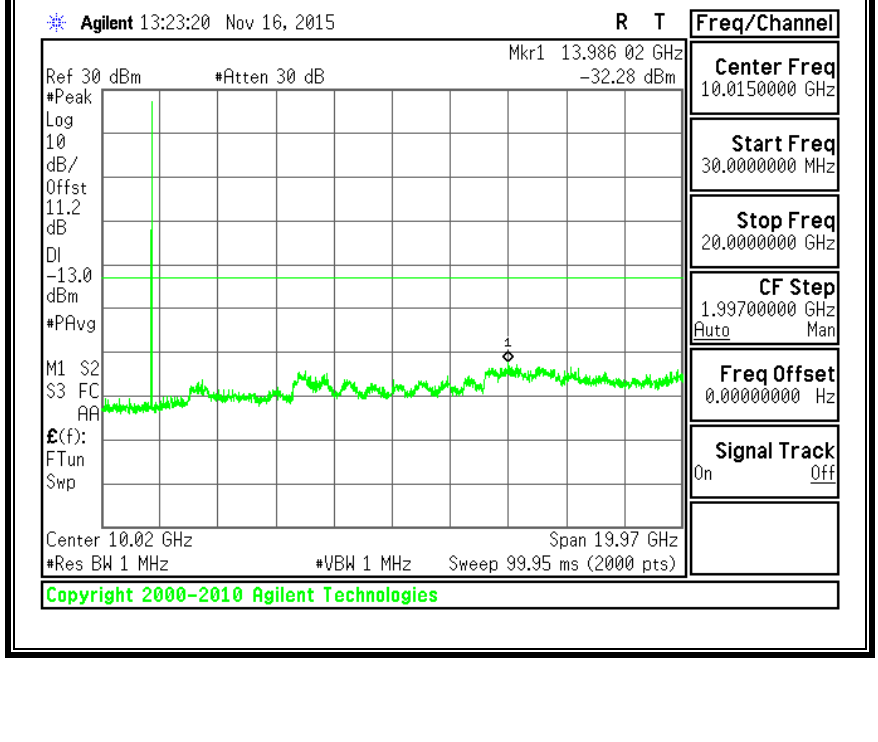


This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

MID, RB1-0, 30 TO 20000 MHz



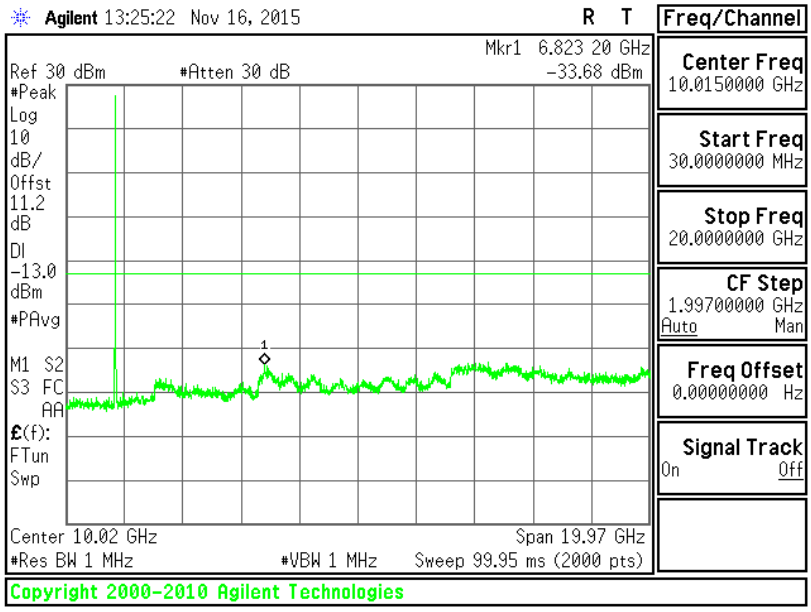
HIGH, RB1-0, 30 TO 20000 MHz



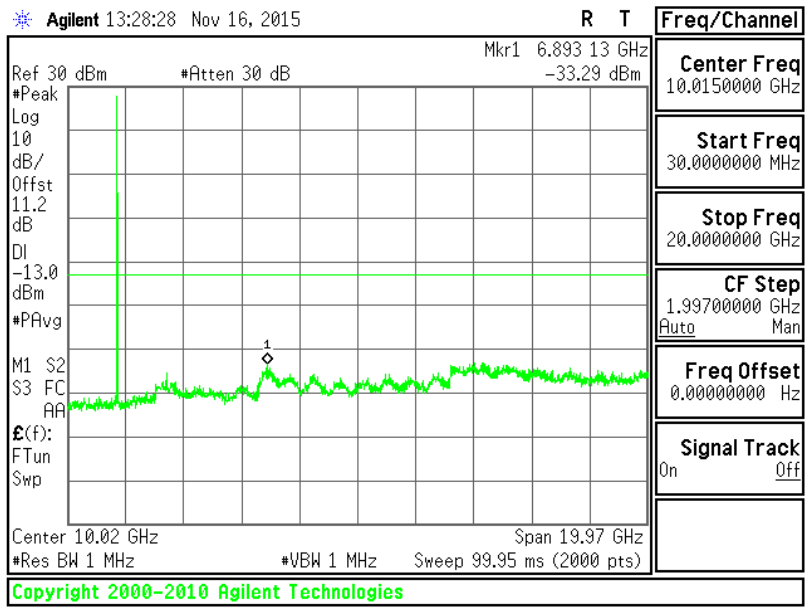
This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.

QPSK, (20.0 MHz BAND WIDTH)

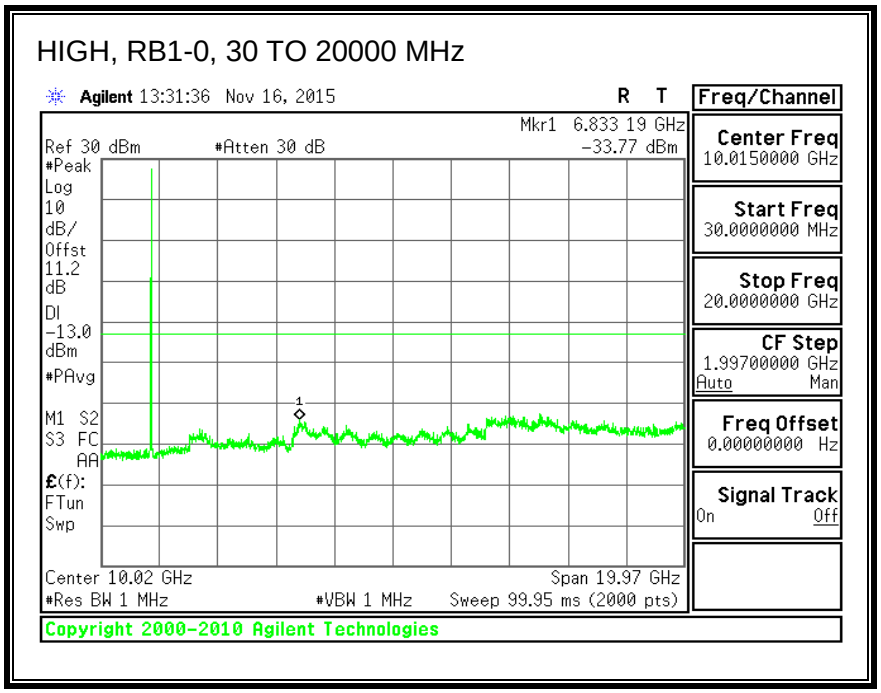
LOW, RB1-0, 30 TO 20000 MHz



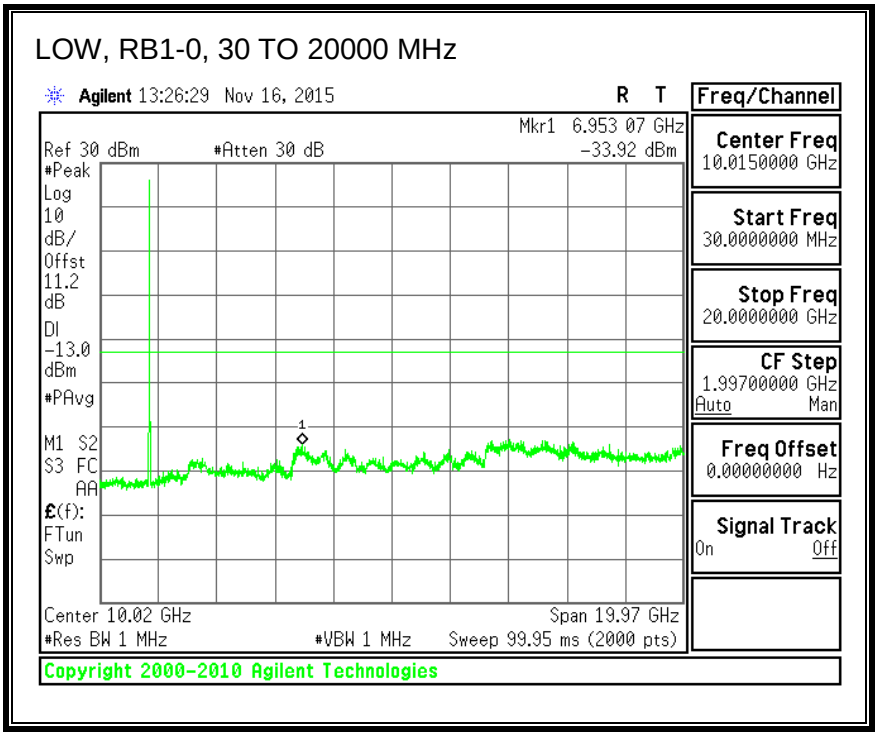
MID, RB1-0, 30 TO 20000 MHz



This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.



16QAM, (20.0 MHz BAND WIDTH)



This report shall not be reproduced except in full, without the written approval of UL Verification Services Inc.