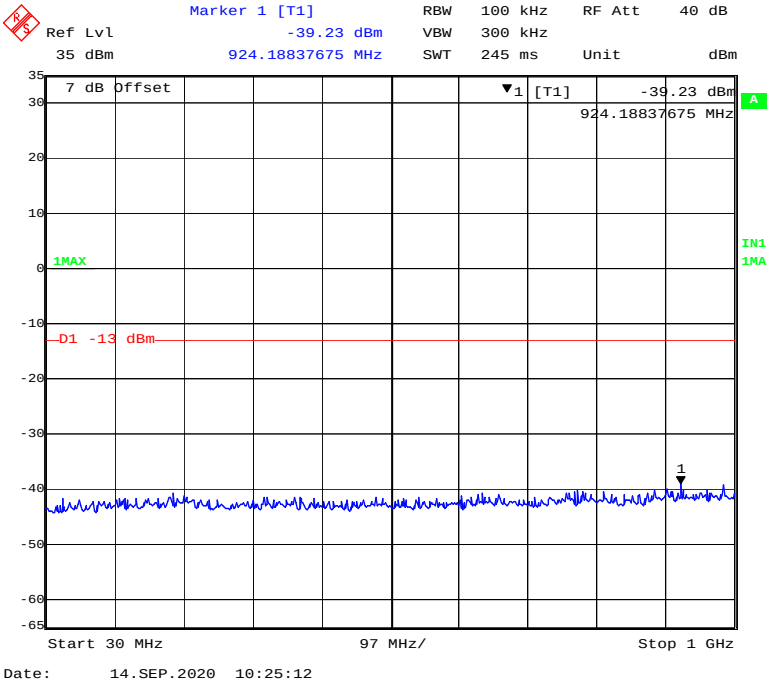
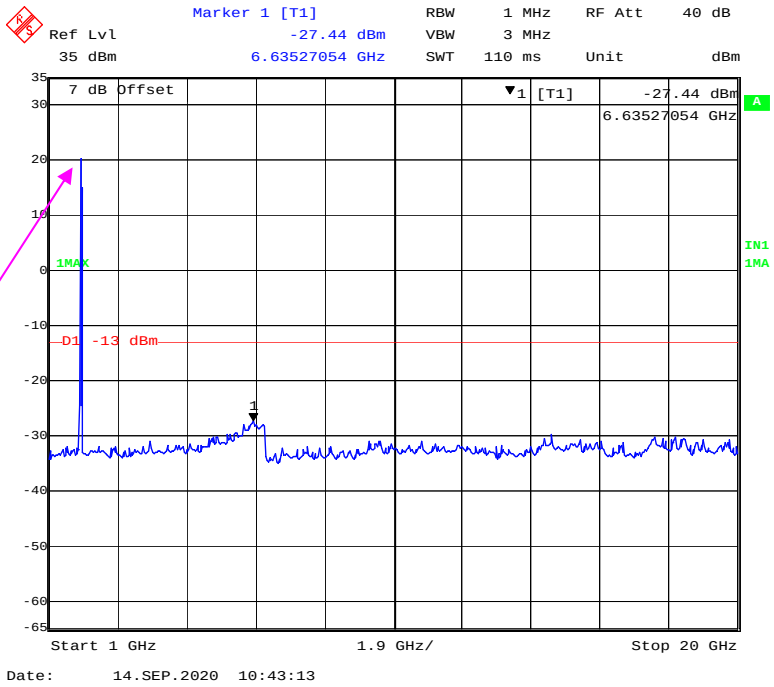
30 MHz - 1 GHz (20 MHz, QPSK, High Channel)

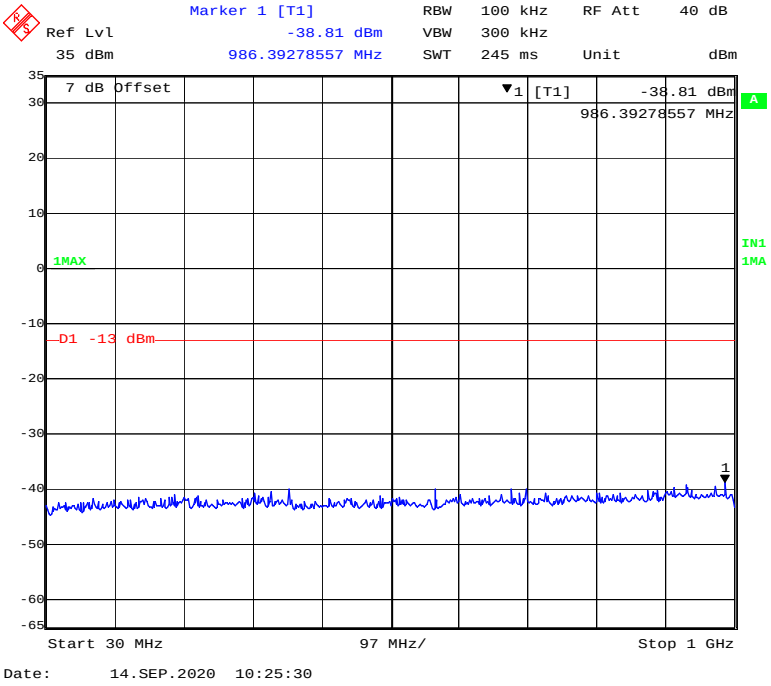


1 GHz – 20 GHz (20 MHz, QPSK, High Channel)

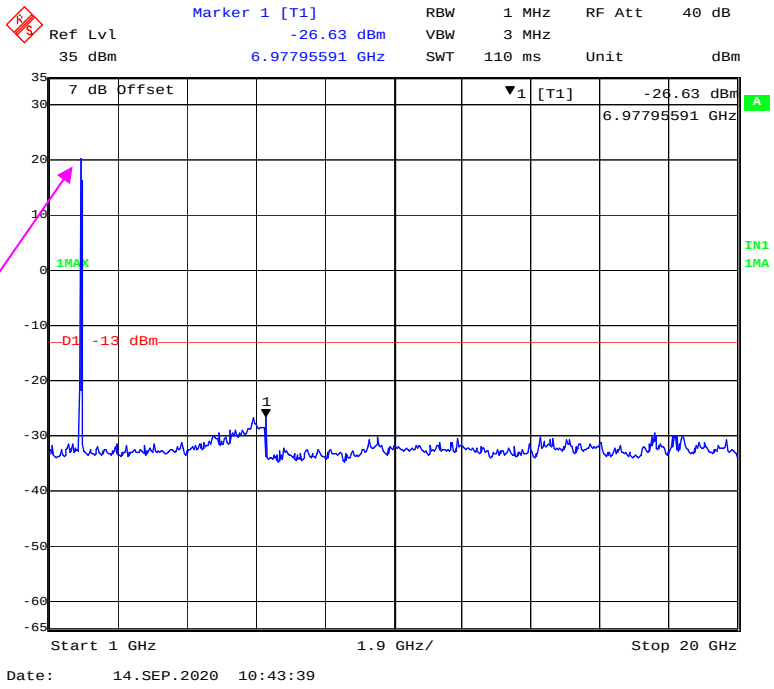


Fundamental

30 MHz - 1 GHz (20 MHz, 16-QAM, High Channel)



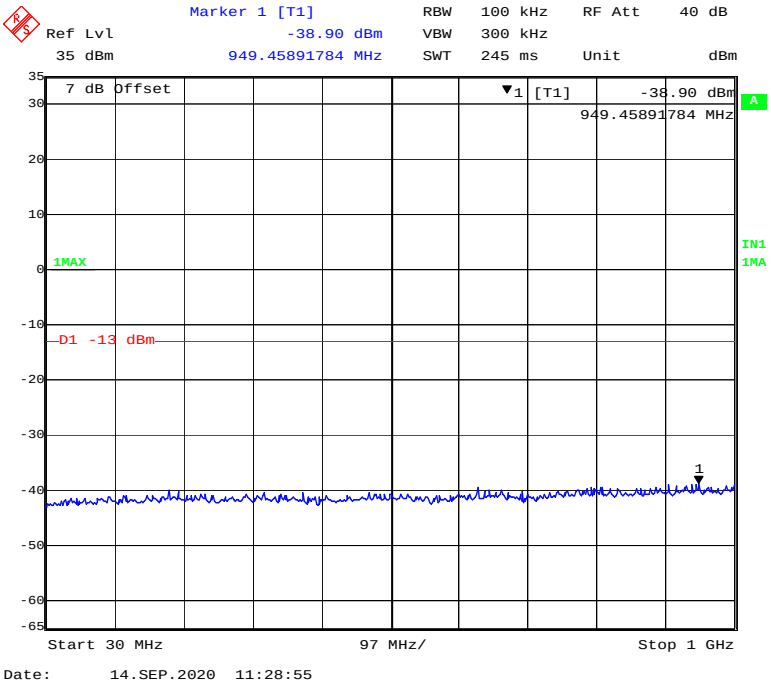
1 GHz – 20 GHz (20 MHz, 16-QAM, High Channel)



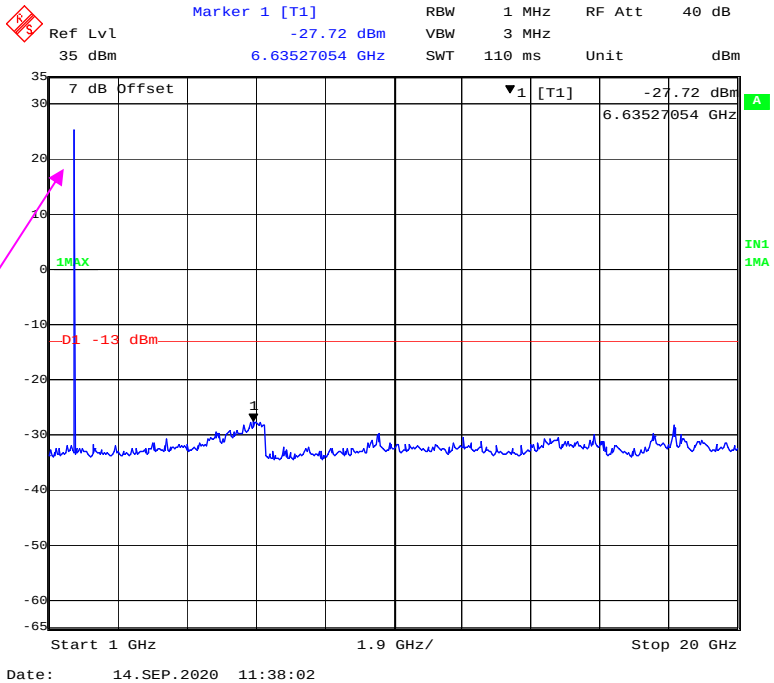
Fundamental

LTE Band 4:

30 MHz - 1 GHz (1.4 MHz, QPSK, Low Channel)

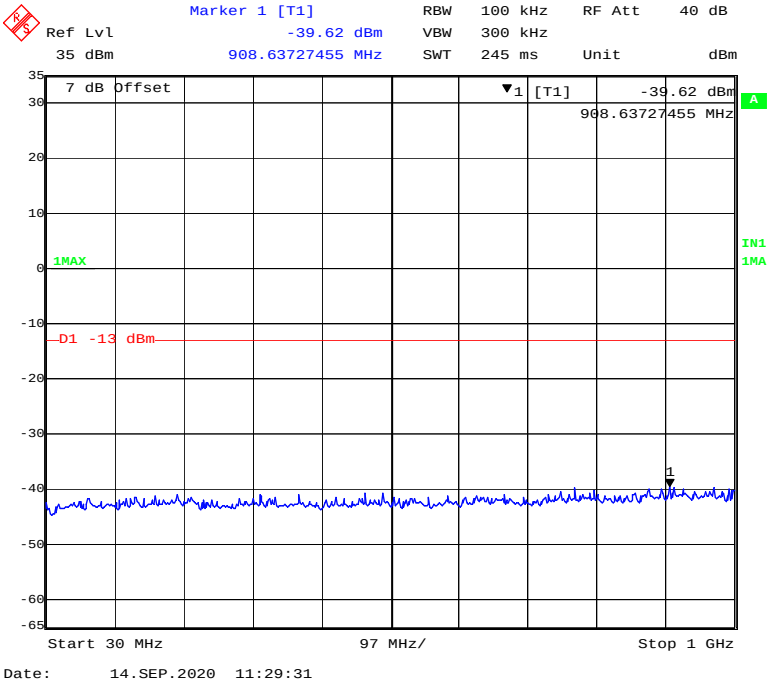


1 GHz – 20 GHz (1.4 MHz, QPSK, Low Channel)

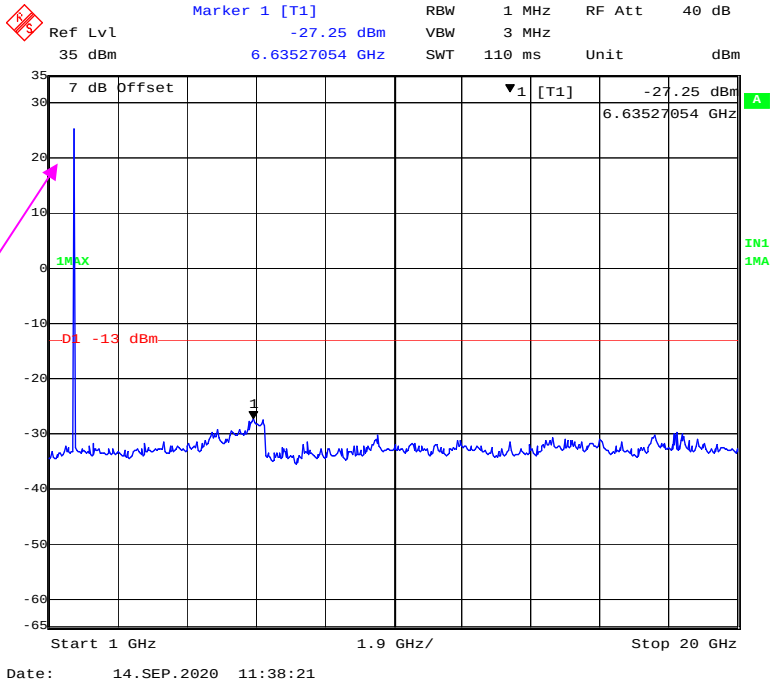


Fundamental

30 MHz - 1 GHz (1.4 MHz, 16-QAM, Low Channel)

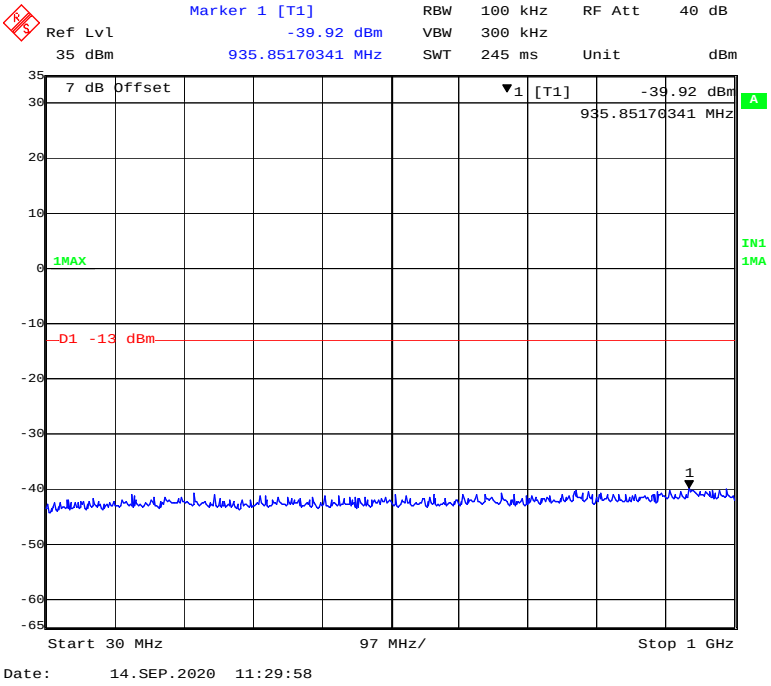


1 GHz – 20 GHz (1.4 MHz, 16-QAM, Low Channel)

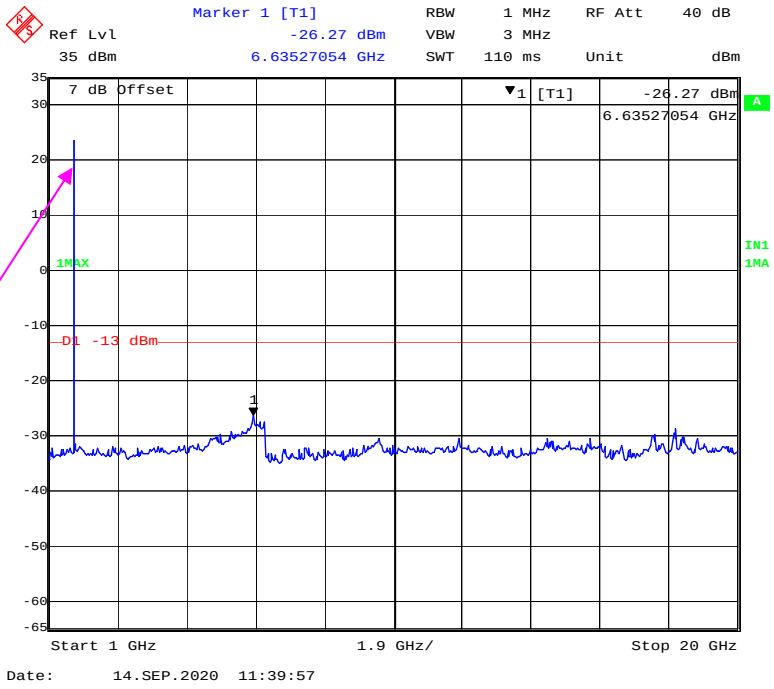


Fundamental

30 MHz - 1 GHz (3 MHz, QPSK, Low Channel)

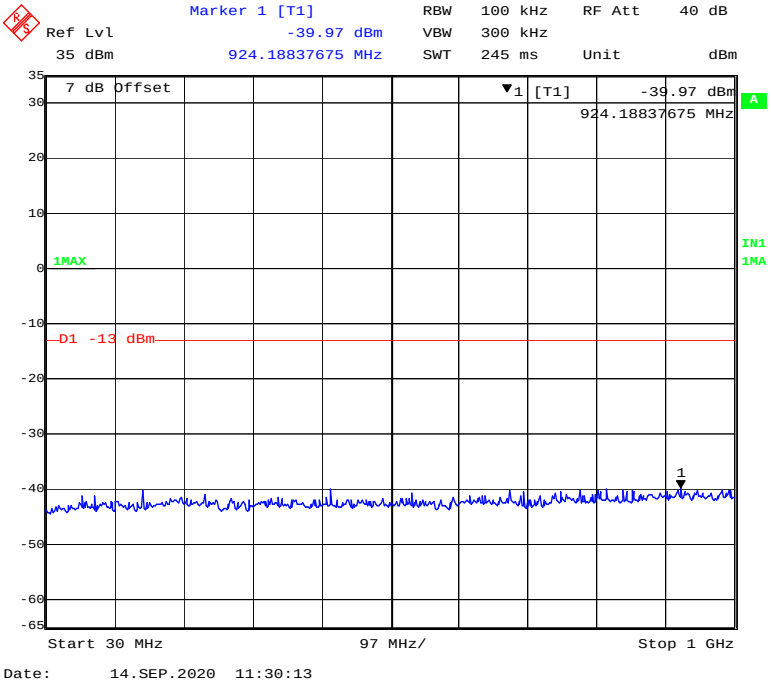


1 GHz – 20 GHz (3 MHz, QPSK, Low Channel)

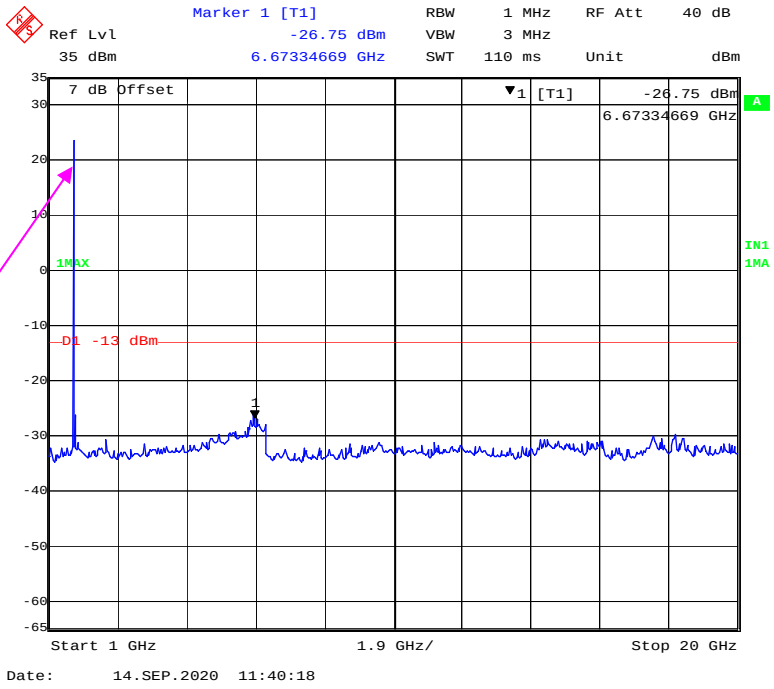


Fundamental

30 MHz - 1 GHz (3 MHz, 16-QAM, Low Channel)

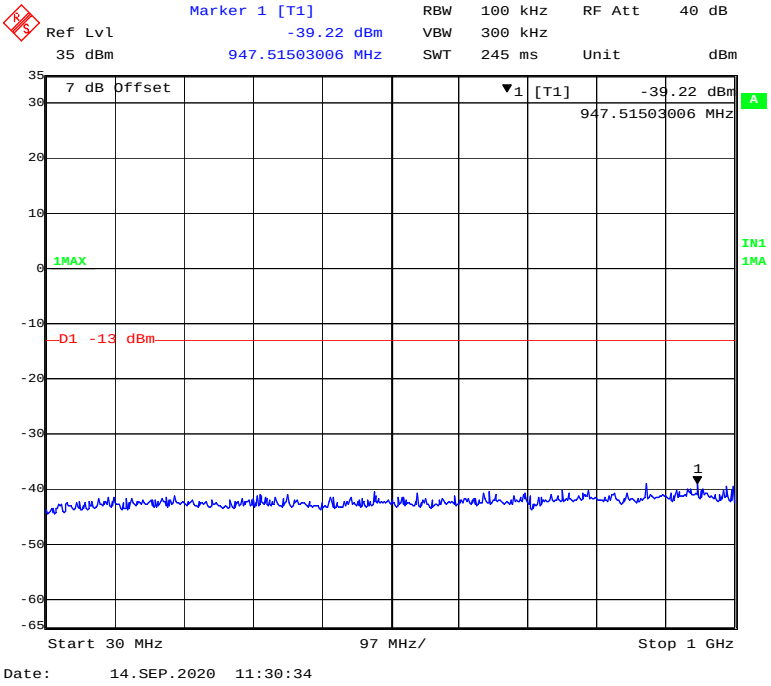


1 GHz – 20 GHz (3 MHz, 16-QAM, Low Channel)

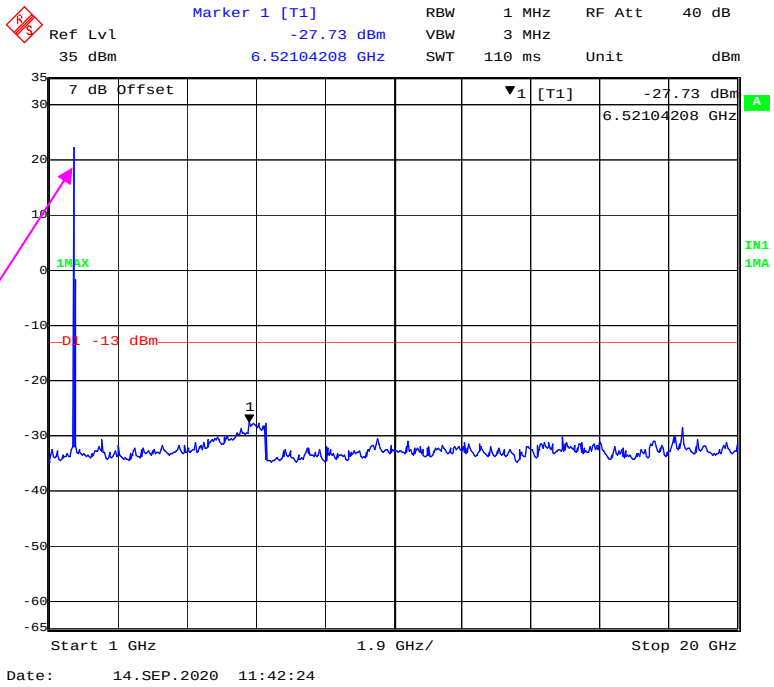


Fundamental

30 MHz - 1 GHz (5 MHz, QPSK, Low Channel)

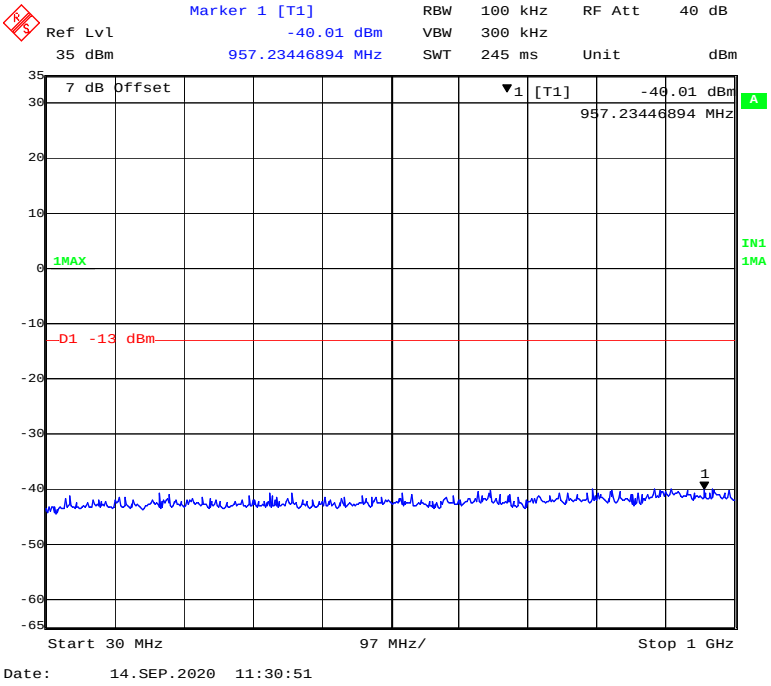


1 GHz – 20 GHz (5 MHz, QPSK, Low Channel)

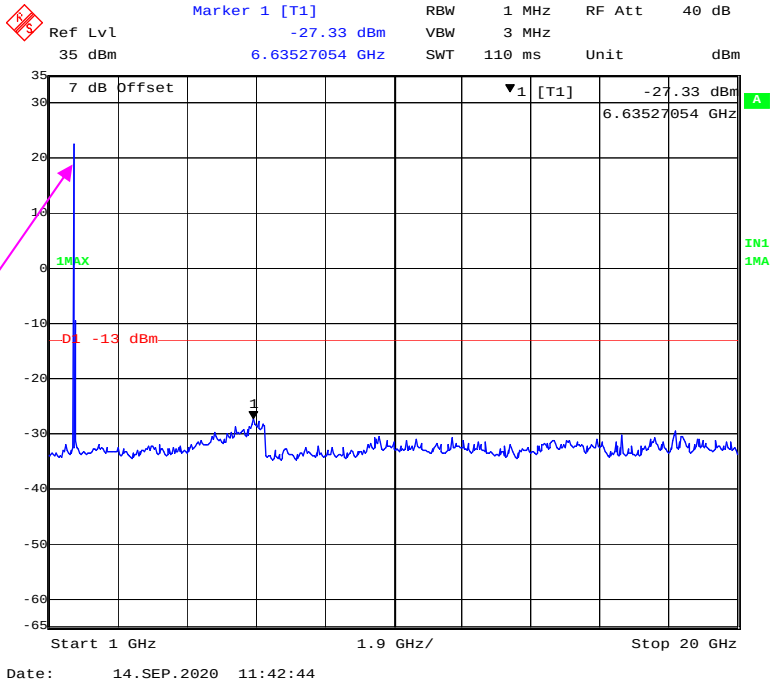


Fundamental

30 MHz - 1 GHz (5 MHz, 16-QAM, Low Channel)

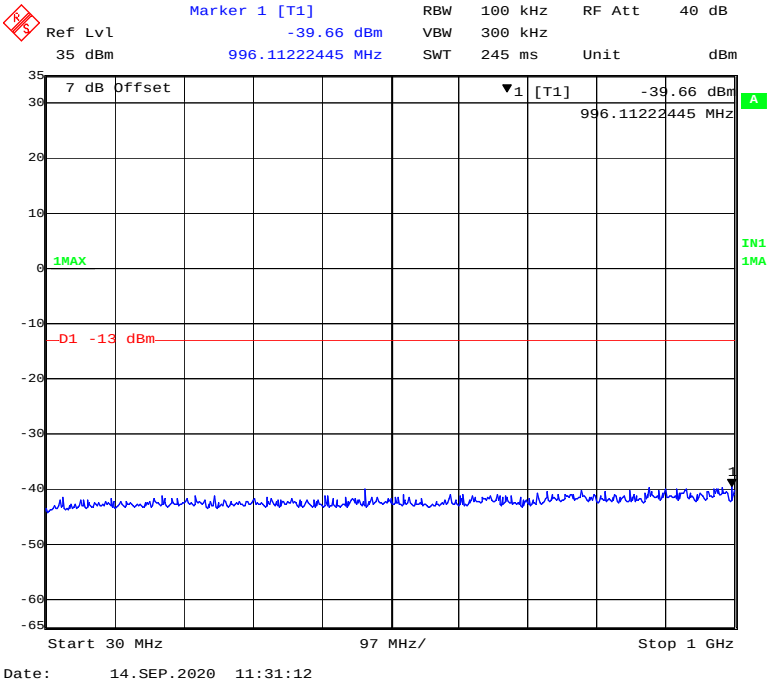


1 GHz – 20 GHz (5 MHz, 16-QAM, Low Channel)

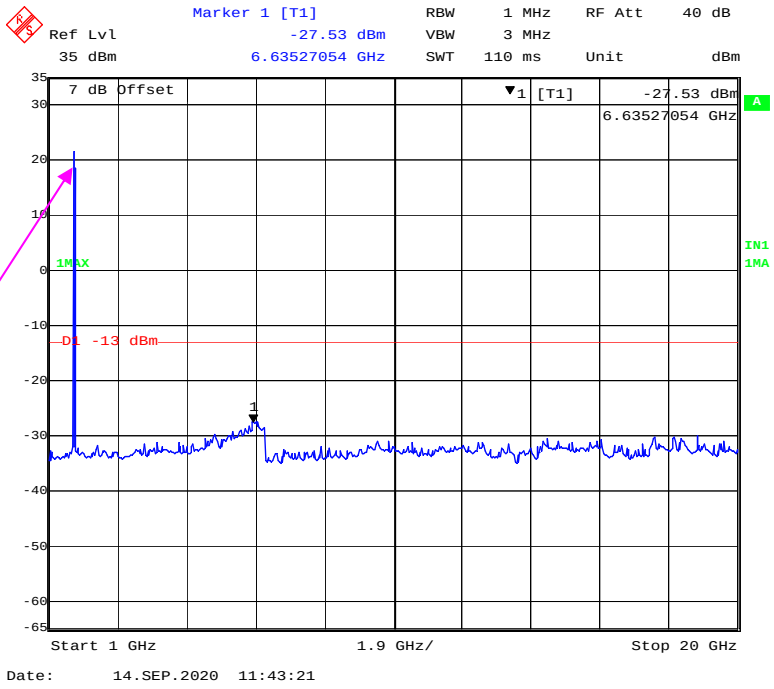


Fundamental

30 MHz - 1 GHz (10 MHz, QPSK, Low Channel)

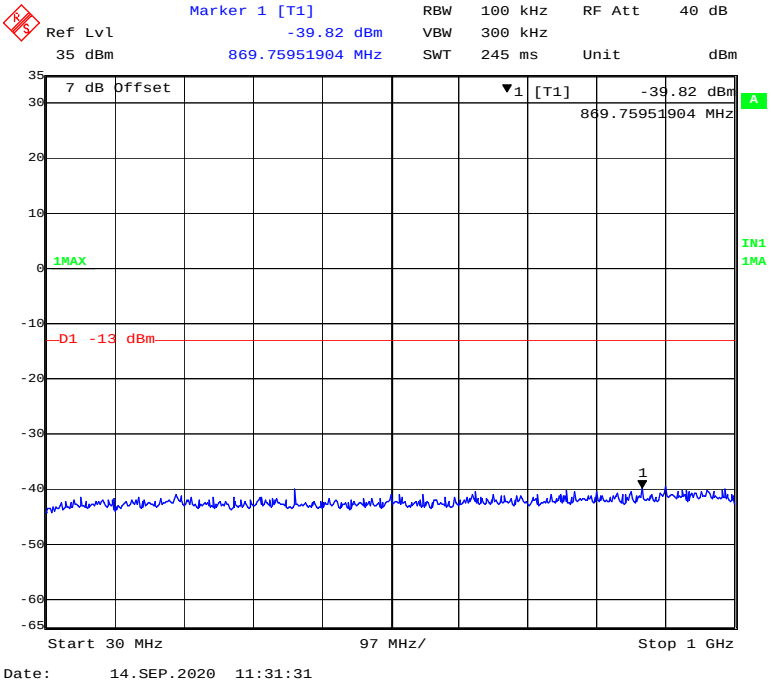


1 GHz – 20 GHz (10 MHz, QPSK, Low Channel)

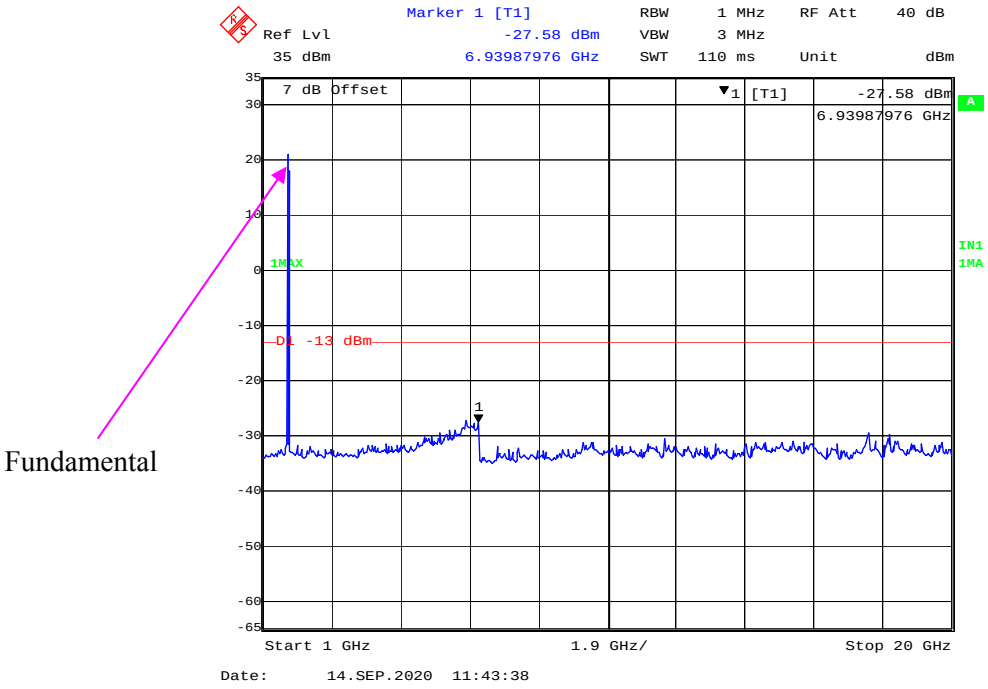


Fundamental

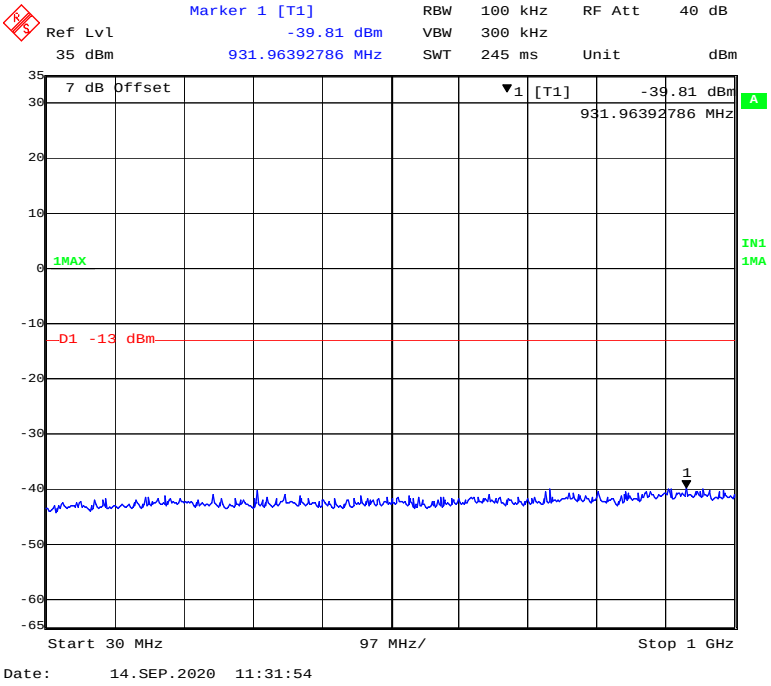
30 MHz - 1 GHz (10 MHz, 16-QAM, Low Channel)



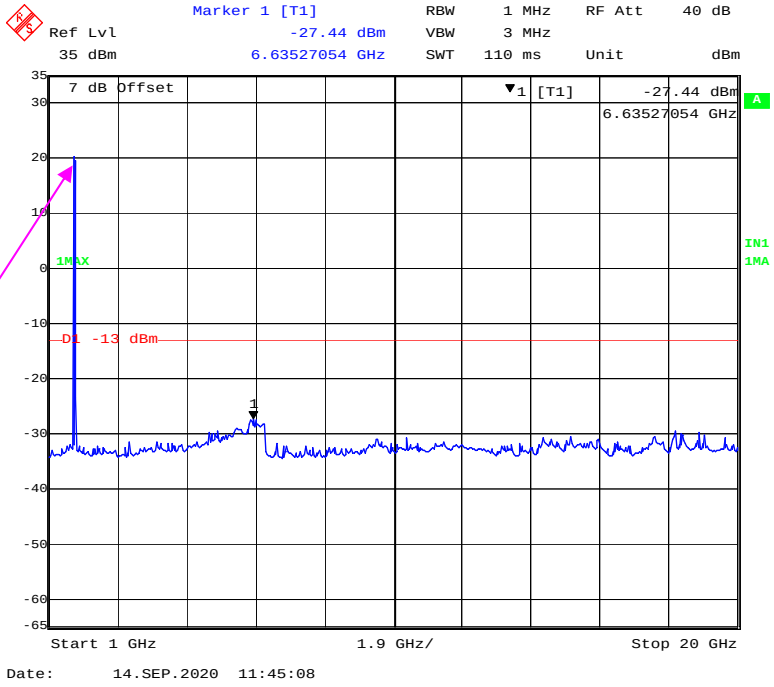
1 GHz – 20 GHz (10 MHz, 16-QAM, Low Channel)



30 MHz - 1 GHz (15 MHz, QPSK, Low Channel)

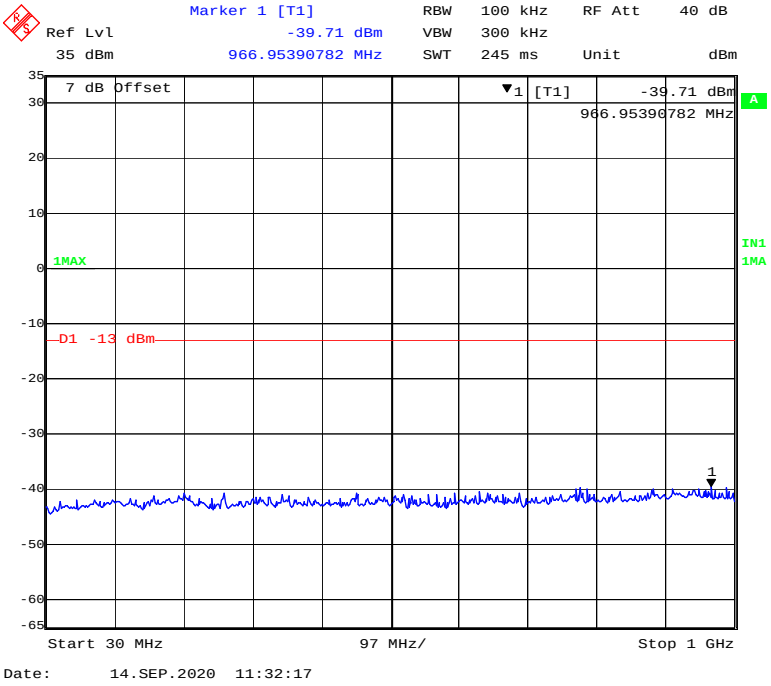


1 GHz – 20 GHz (15 MHz, QPSK, Low Channel)

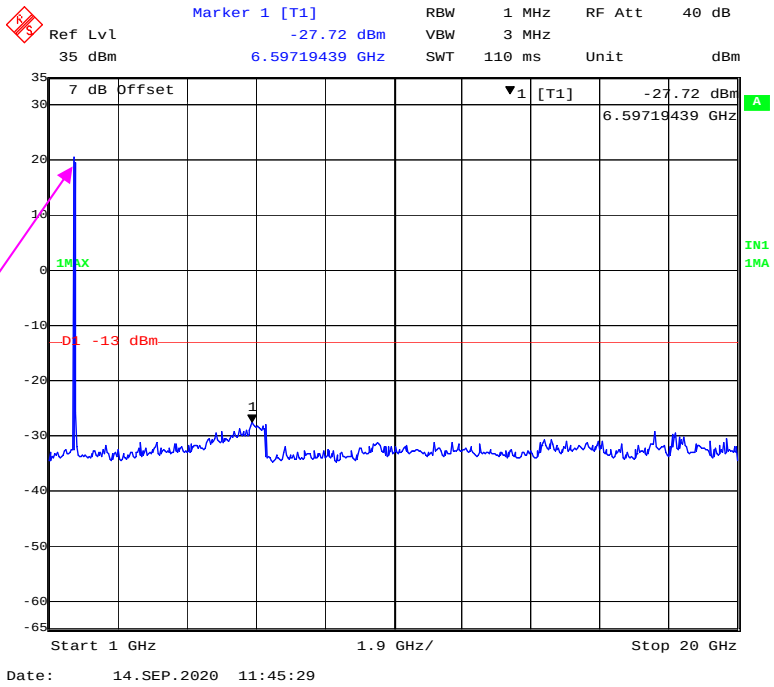


Fundamental

30 MHz - 1 GHz (15 MHz, 16-QAM, Low Channel)

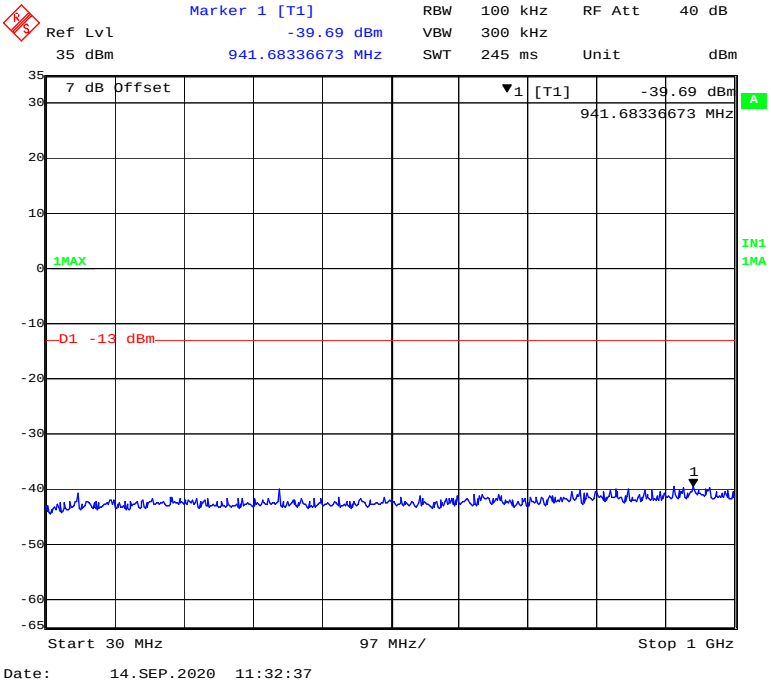


1 GHz – 20 GHz (15 MHz, 16-QAM, Low Channel)

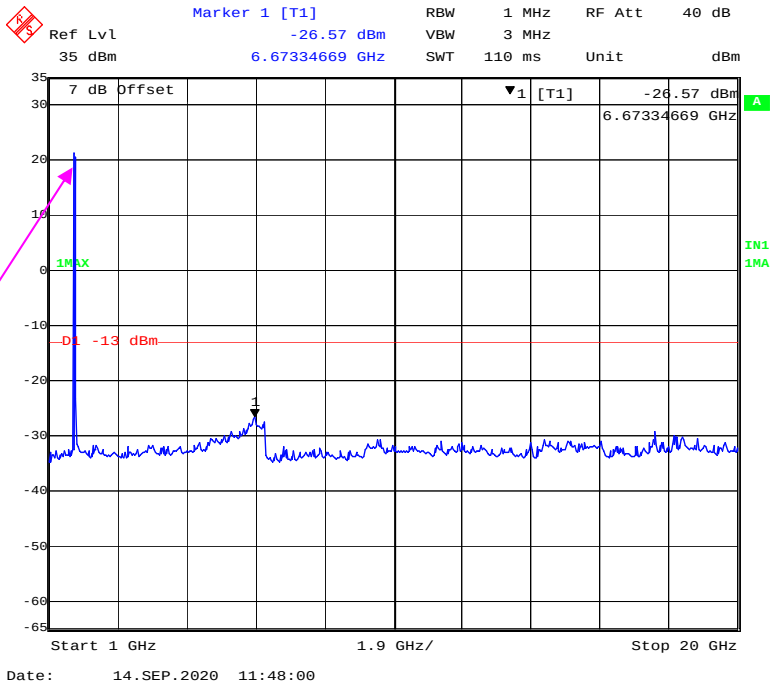


Fundamental

30 MHz - 1 GHz (20 MHz, QPSK, Low Channel)

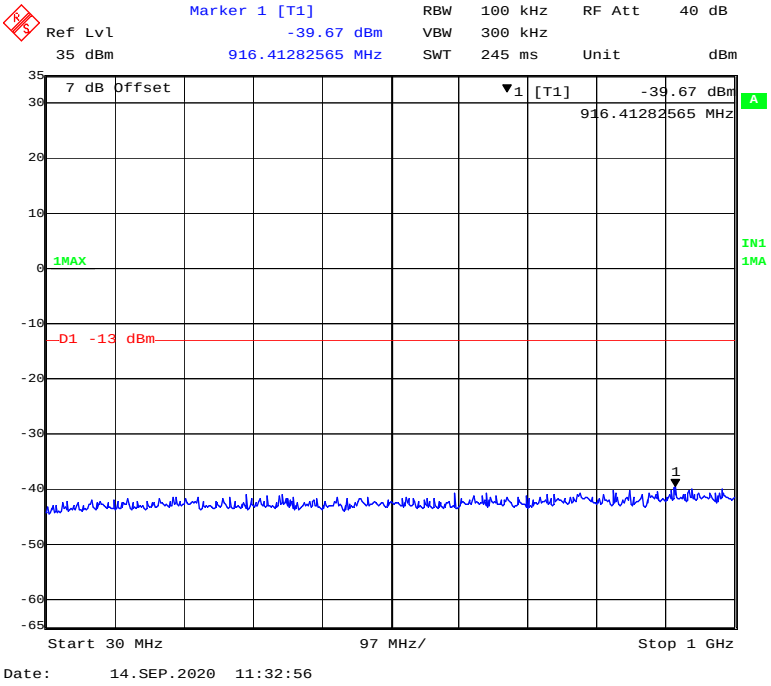


1 GHz – 20 GHz (20 MHz, QPSK, Low Channel)

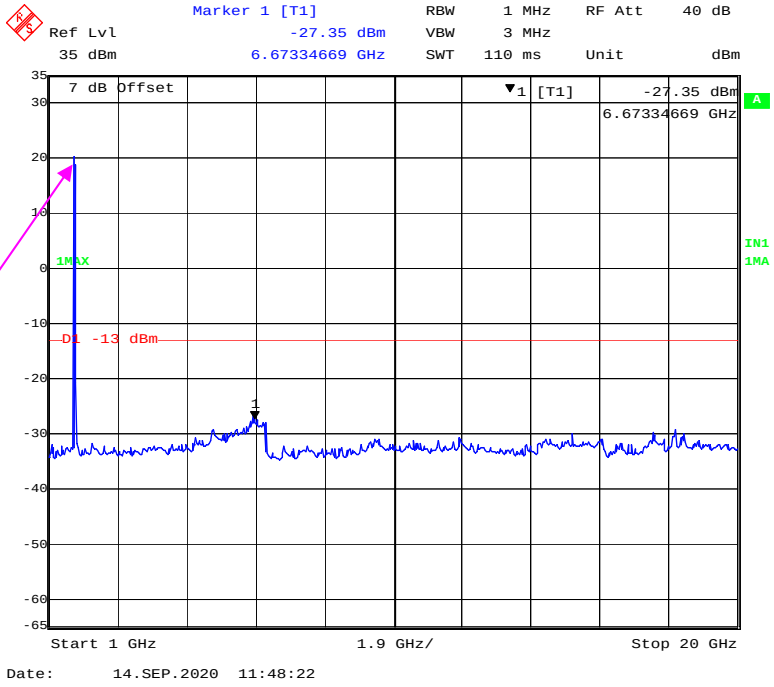


Fundamental

30 MHz - 1 GHz (20 MHz, 16-QAM, Low Channel)

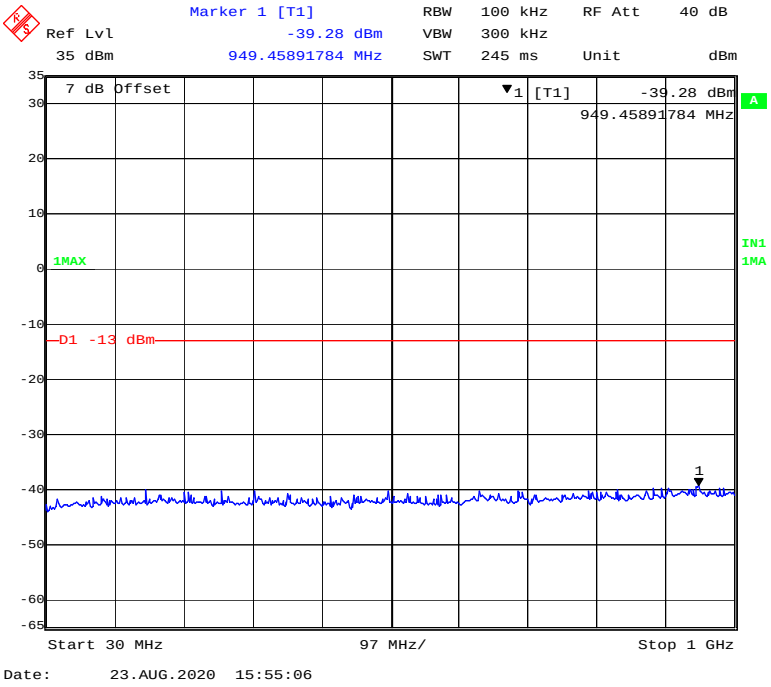


1 GHz – 20 GHz (20 MHz, 16-QAM, Low Channel)

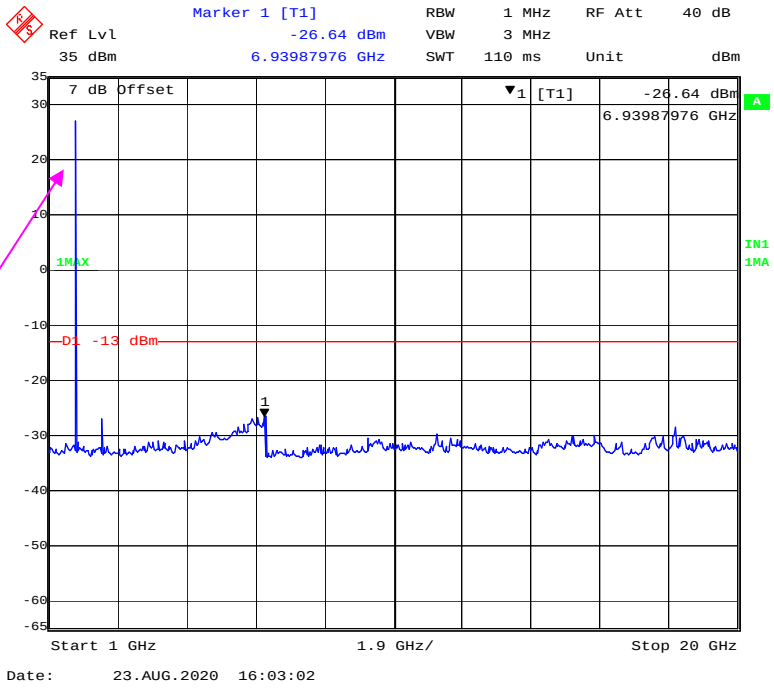


Fundamental

30 MHz - 1 GHz (1.4 MHz, QPSK, Middle Channel)

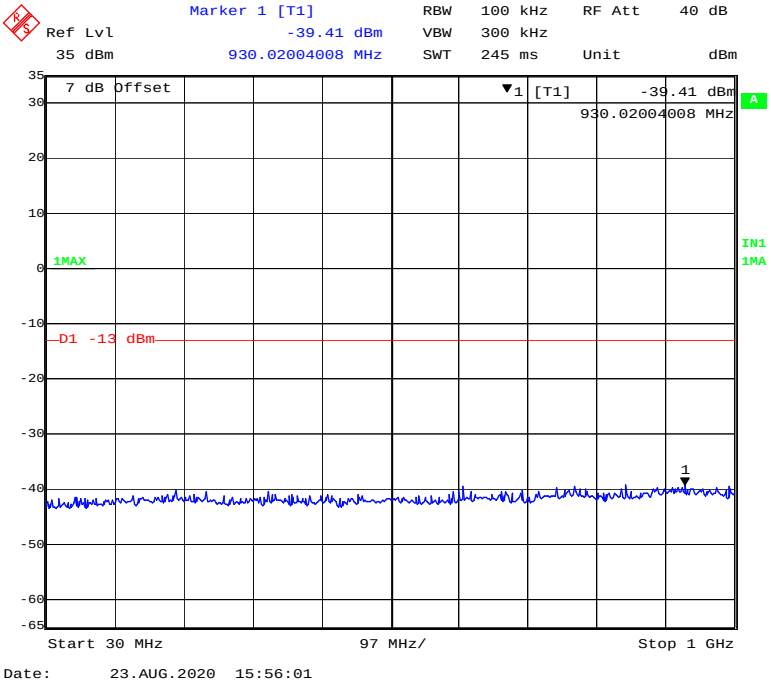


1 GHz – 20 GHz (1.4 MHz, QPSK, Middle Channel)

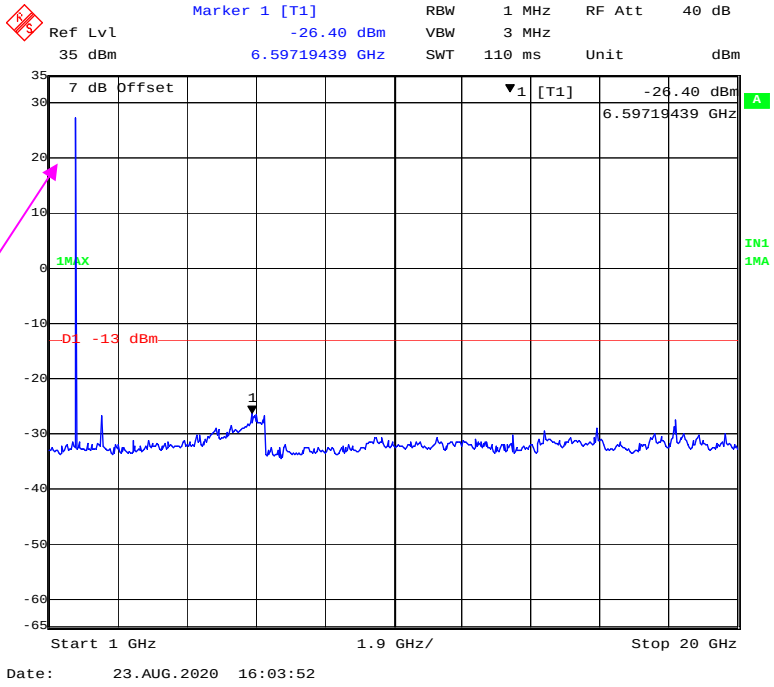


Fundamental

30 MHz - 1 GHz (1.4 MHz, 16-QAM, Middle Channel)

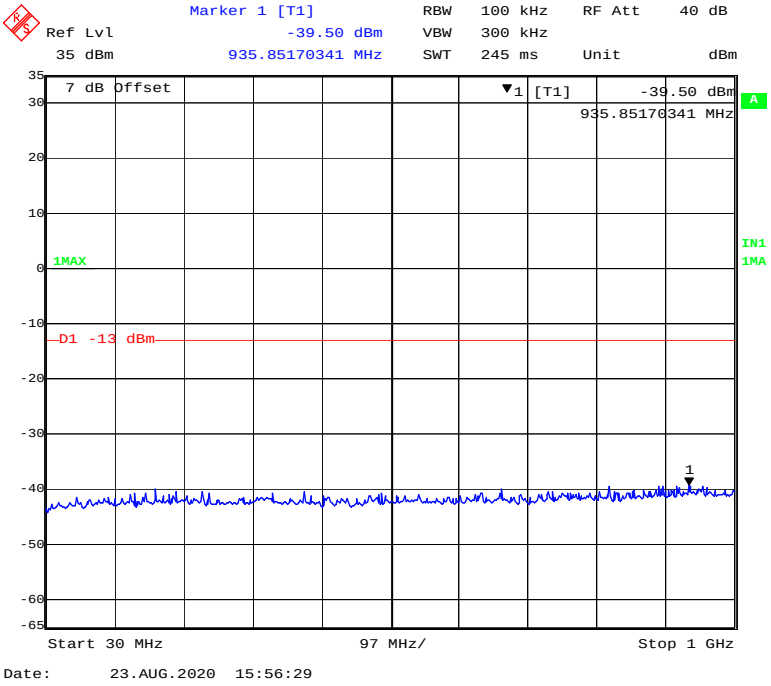


1 GHz – 20 GHz (1.4 MHz, 16-QAM, Middle Channel)

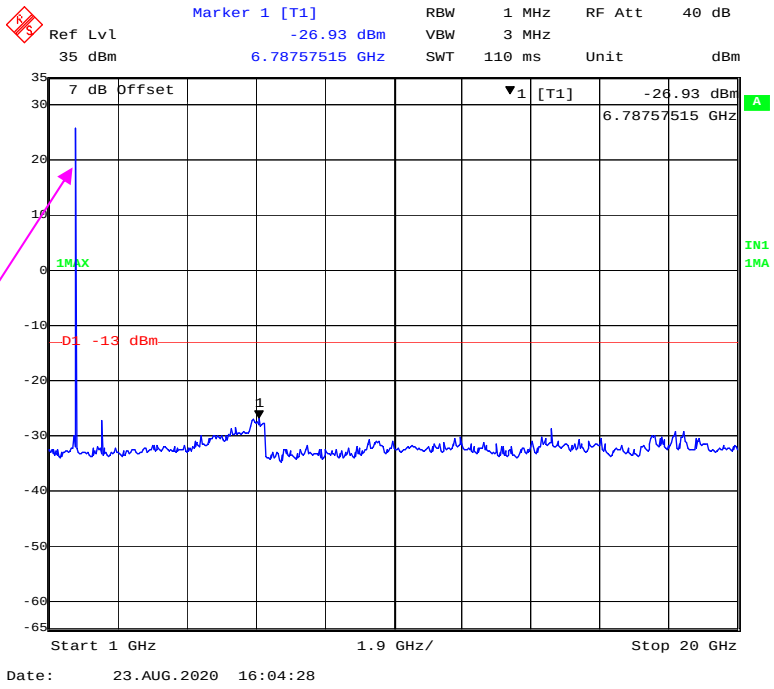


Fundamental

30 MHz - 1 GHz (3 MHz, QPSK, Middle Channel)

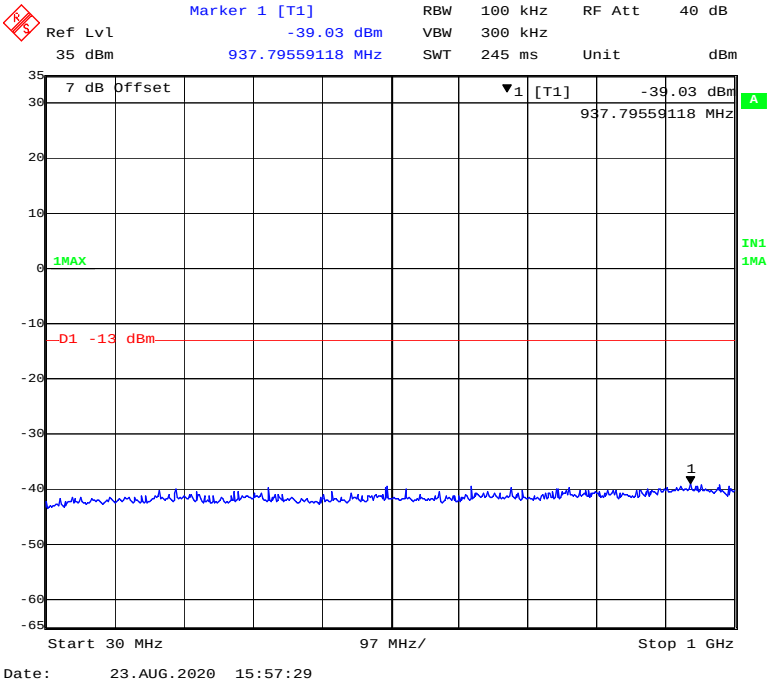


1 GHz – 20 GHz (3 MHz, QPSK, Middle Channel)

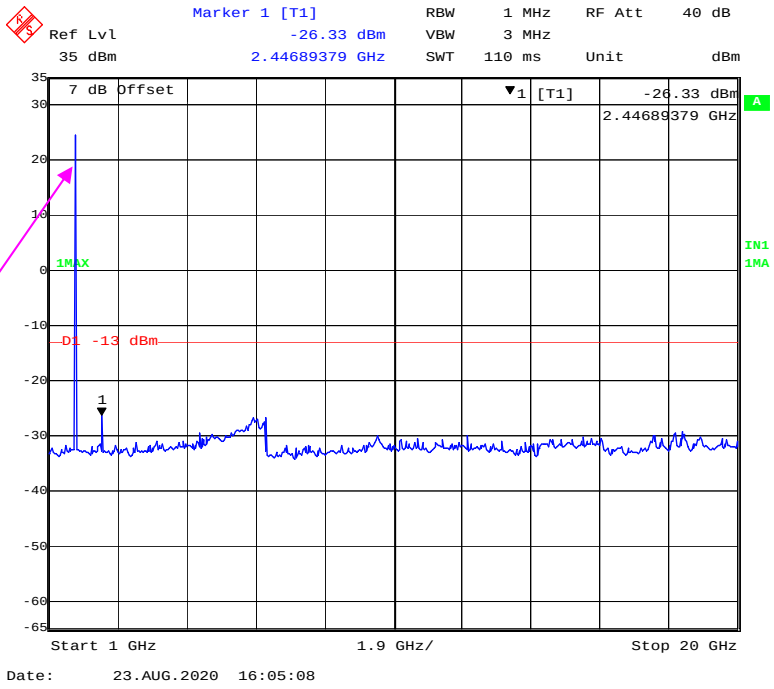


Fundamental

30 MHz - 1 GHz (3 MHz, 16-QAM, Middle Channel)

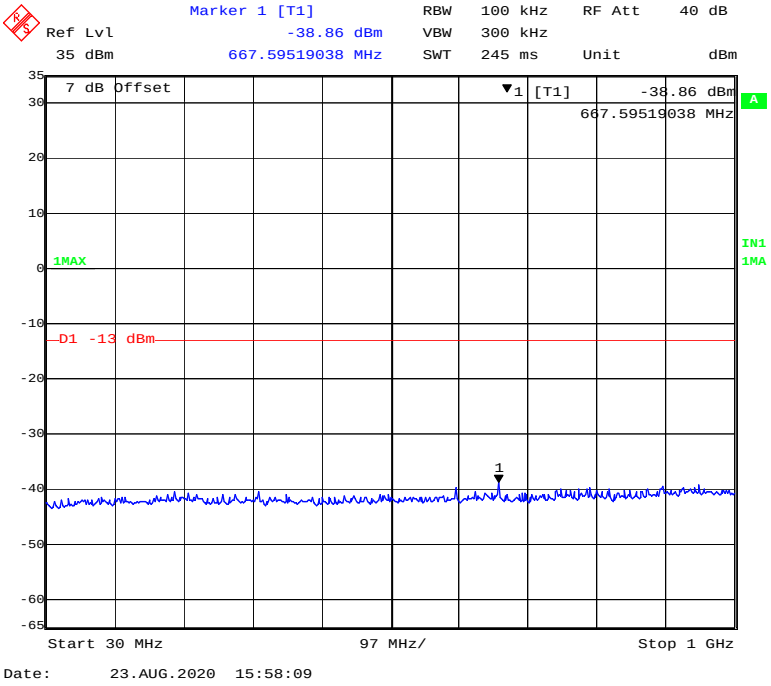


1 GHz – 20 GHz (3 MHz, 16-QAM, Middle Channel)

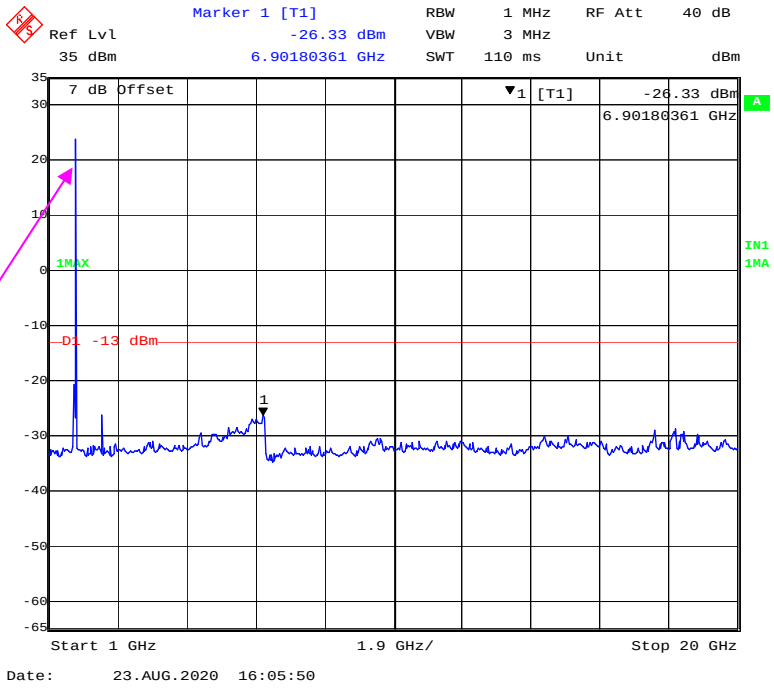


Fundamental

30 MHz - 1 GHz (5 MHz, QPSK, Middle Channel)

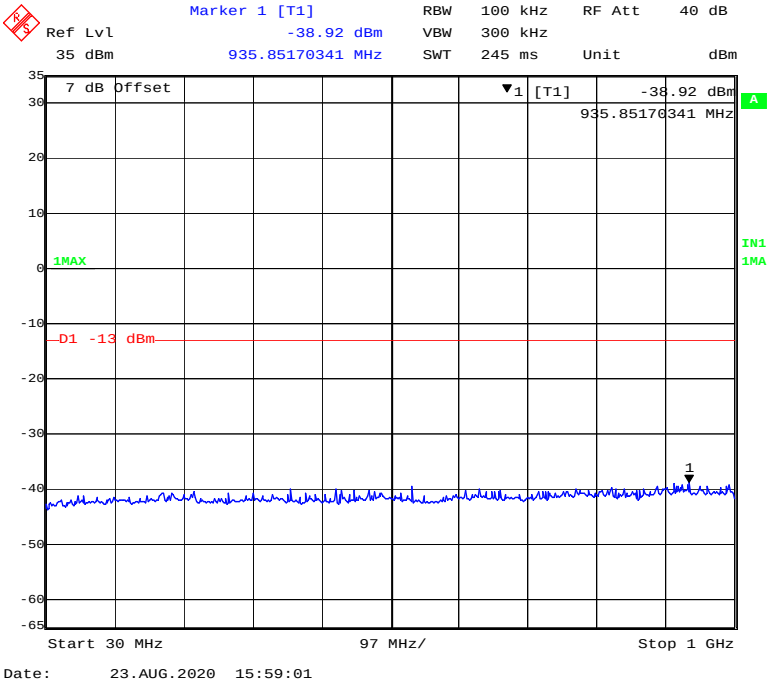


1 GHz – 20 GHz (5 MHz, QPSK, Middle Channel)

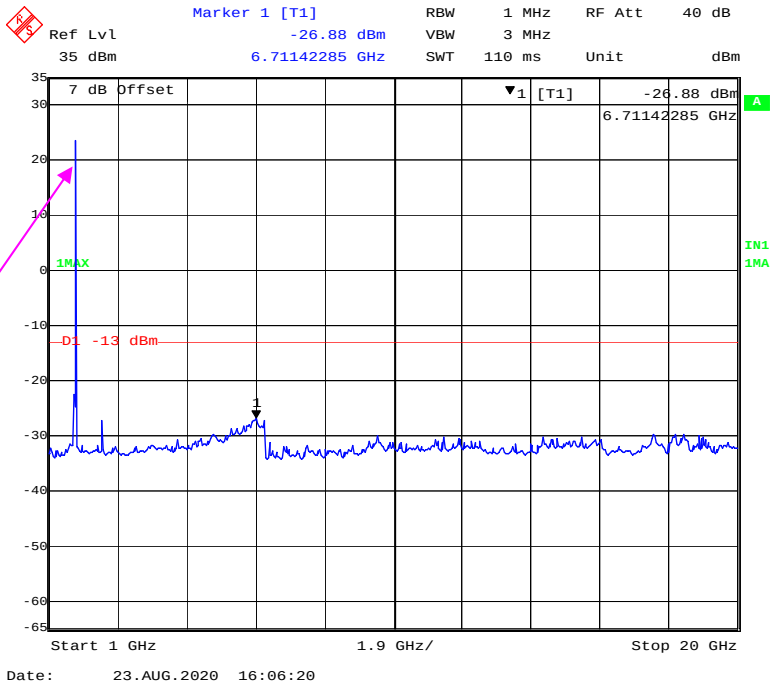


Fundamental

30 MHz - 1 GHz (5 MHz, 16-QAM, Middle Channel)

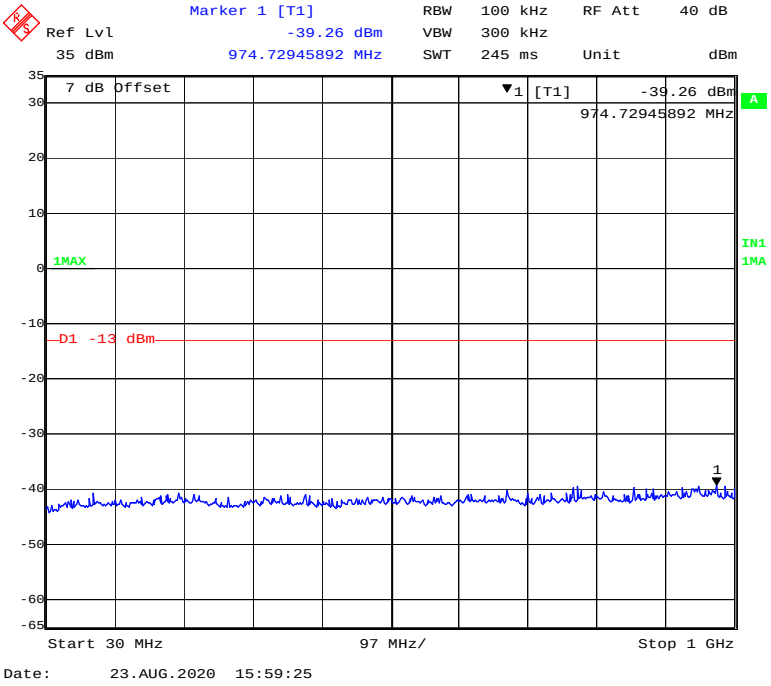


1 GHz – 20 GHz (5 MHz, 16-QAM, Middle Channel)

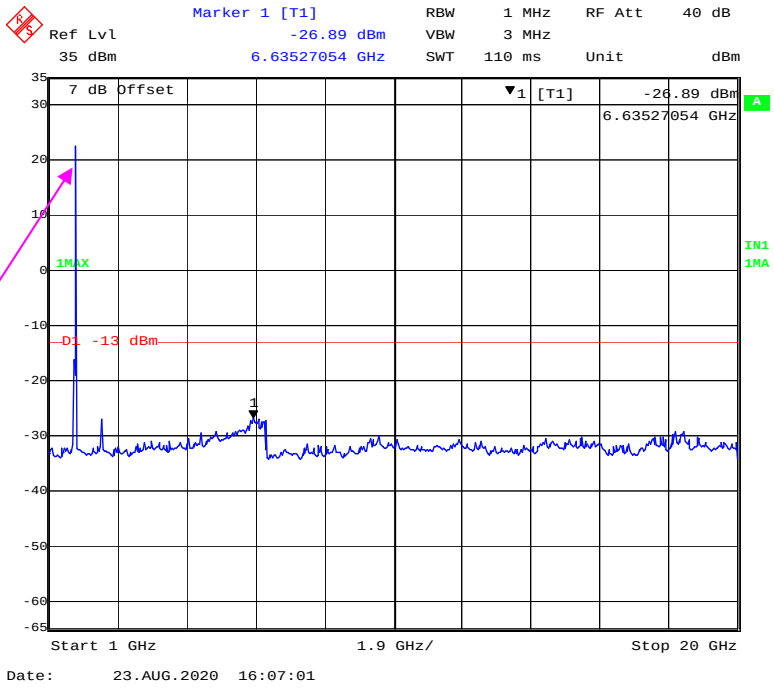


Fundamental

30 MHz - 1 GHz (10 MHz, QPSK, Middle Channel)

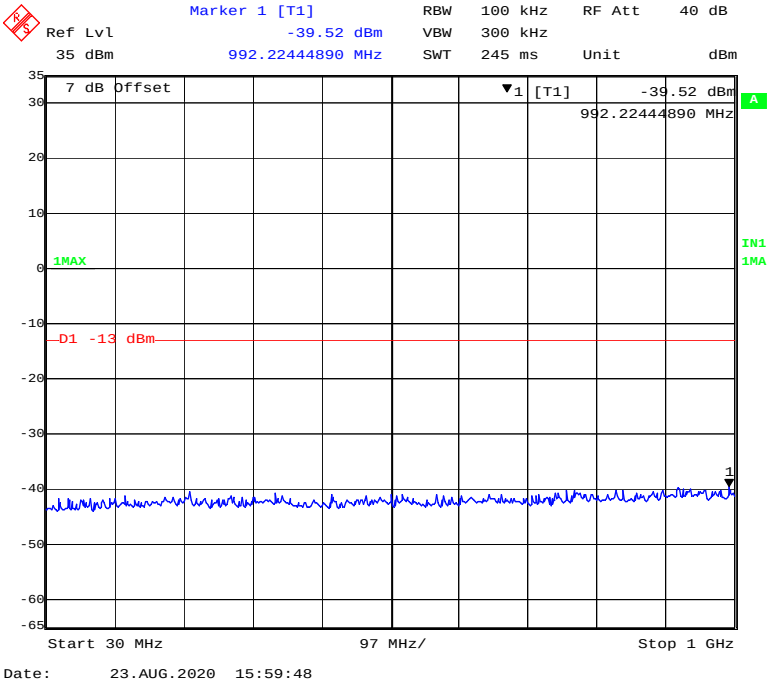


1 GHz – 20 GHz (10 MHz, QPSK, Middle Channel)

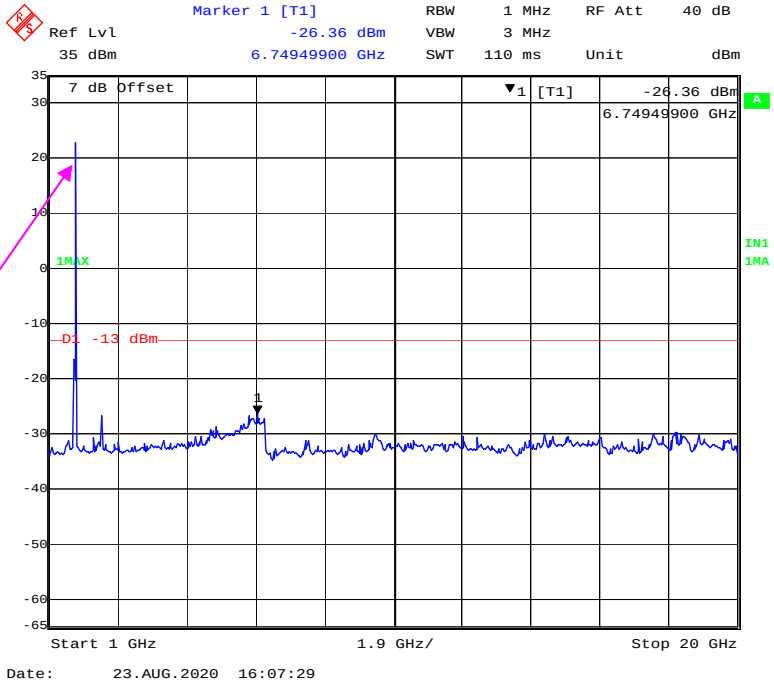


Fundamental

30 MHz - 1 GHz (10 MHz, 16-QAM, Middle Channel)

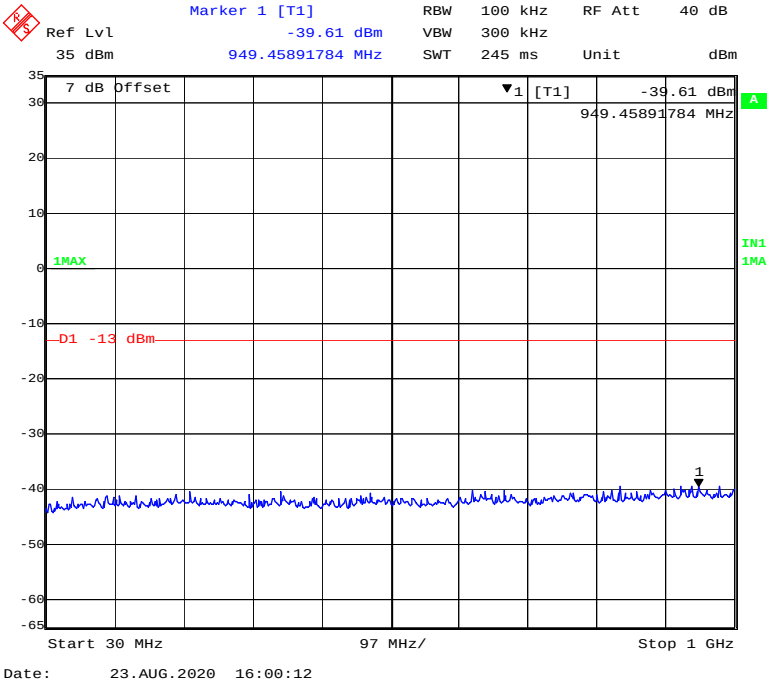


1 GHz – 20 GHz (10 MHz, 16-QAM, Middle Channel)

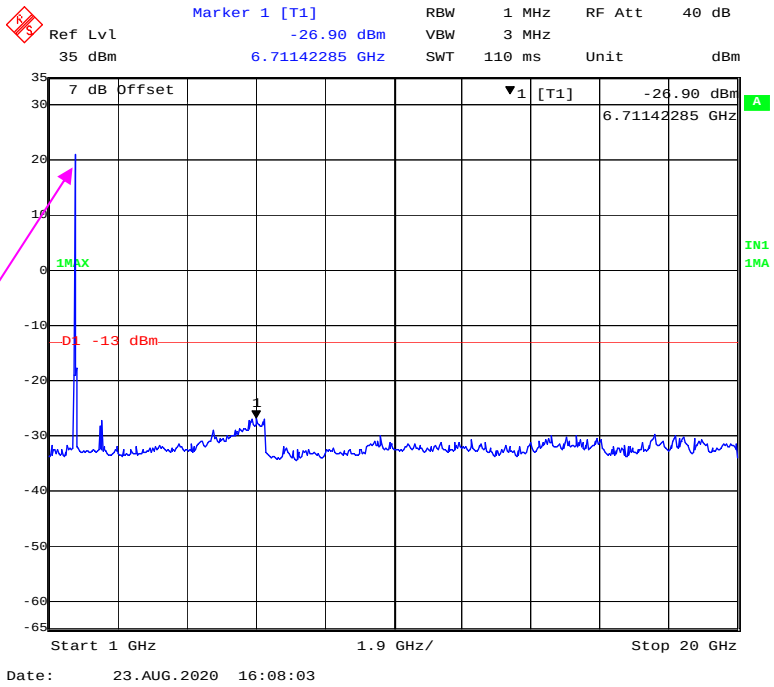


Fundamental

30 MHz - 1 GHz (15 MHz, QPSK, Middle Channel)

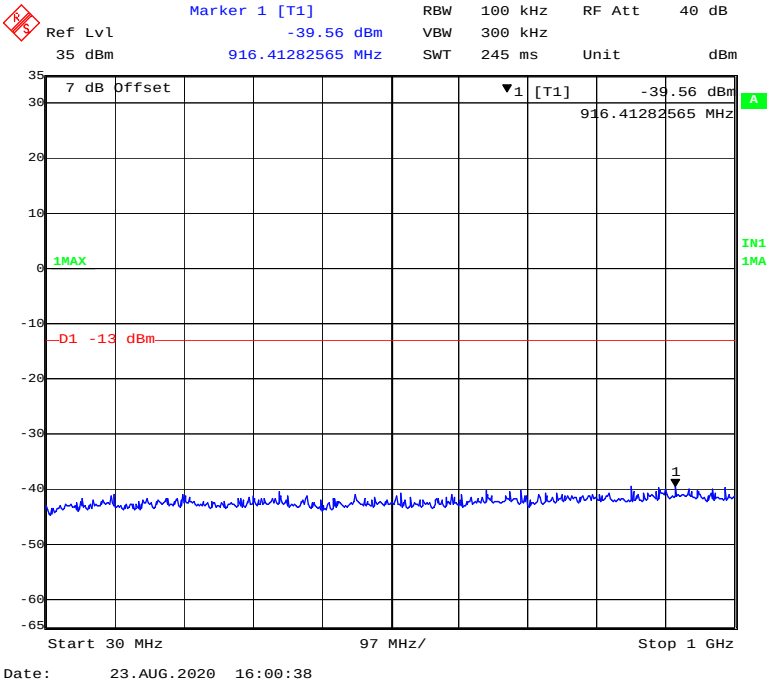


1 GHz – 20 GHz (15 MHz, QPSK, Middle Channel)

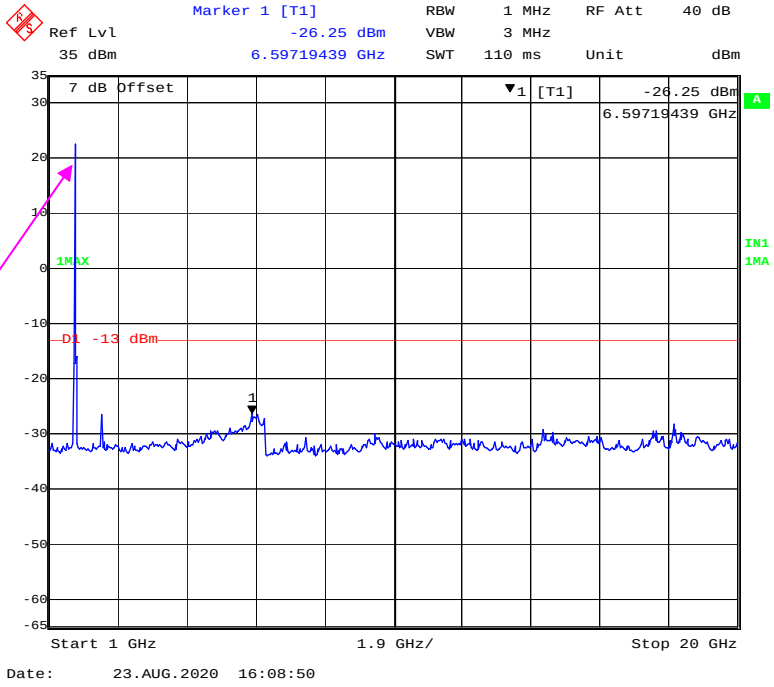


Fundamental

30 MHz - 1 GHz (15 MHz, 16-QAM, Middle Channel)

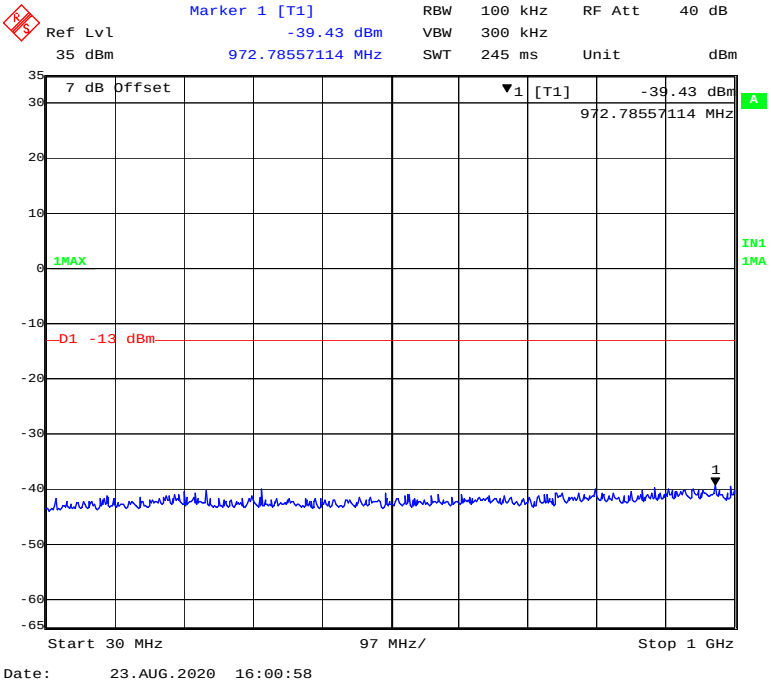


1 GHz – 20 GHz (15 MHz, 16-QAM, Middle Channel)

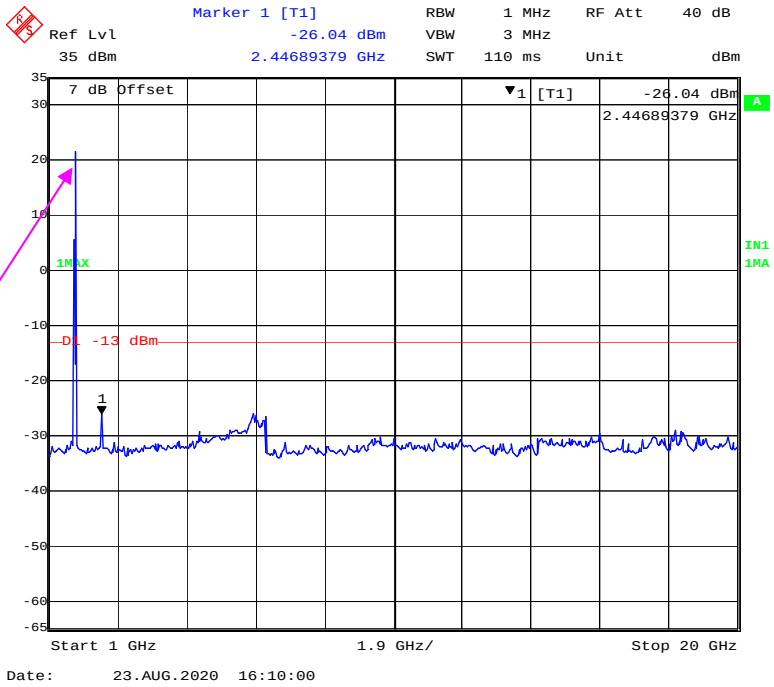


Fundamental

30 MHz - 1 GHz (20 MHz, QPSK, Middle Channel)

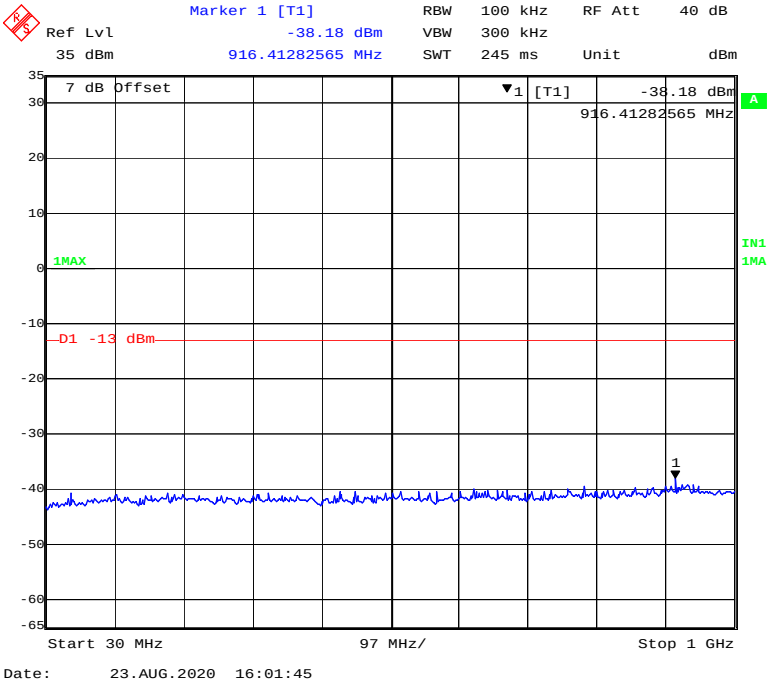


1 GHz – 20 GHz (20 MHz, QPSK, Middle Channel)

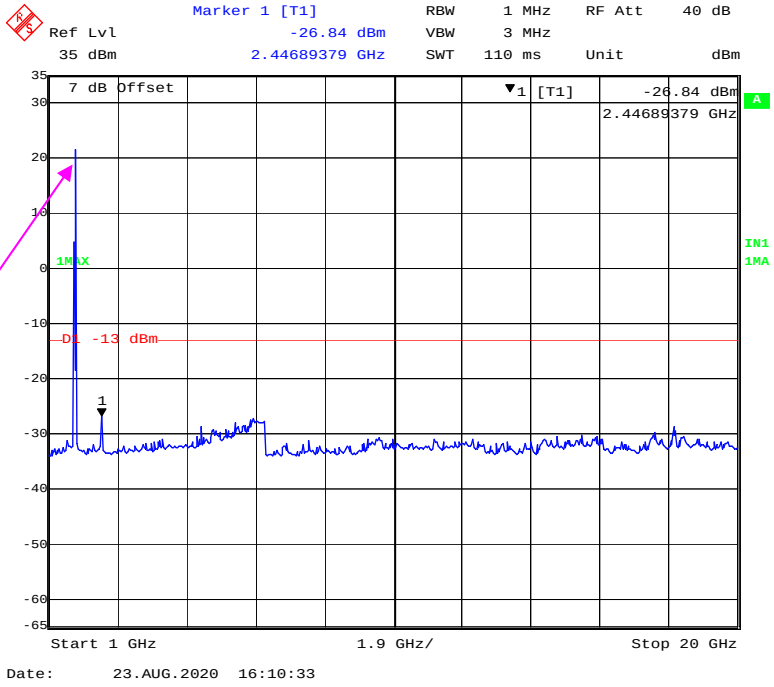


Fundamental

30 MHz - 1 GHz (20 MHz, 16-QAM, Middle Channel)

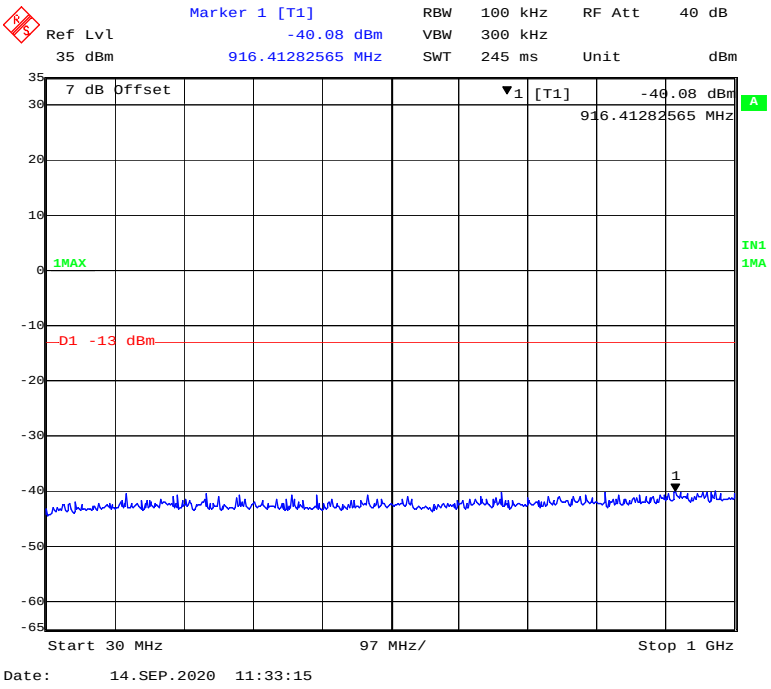


1 GHz – 20 GHz (20 MHz, 16-QAM, Middle Channel)

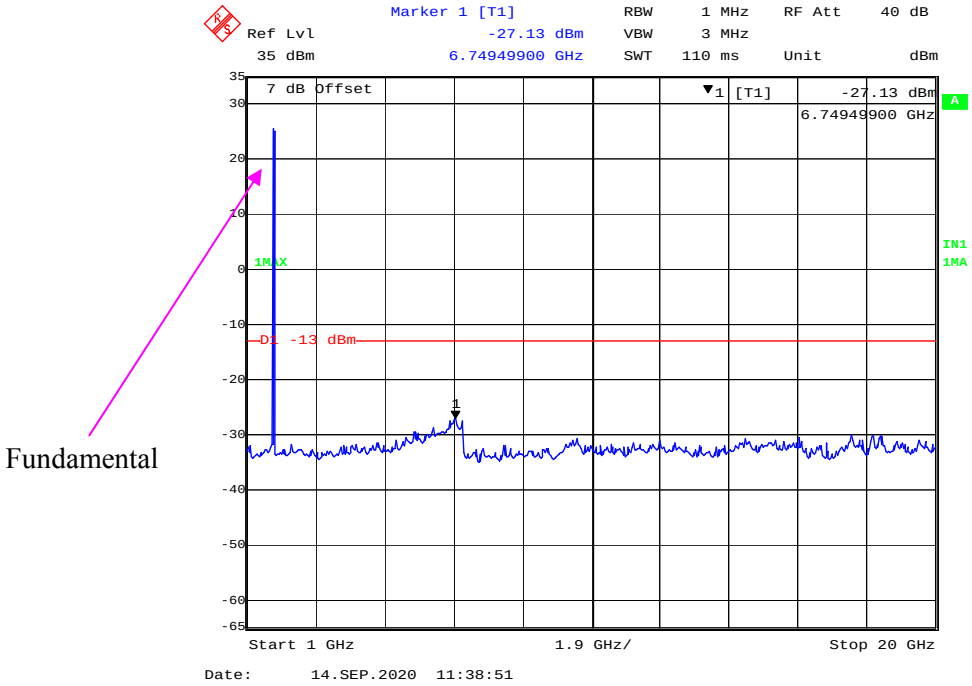


Fundamental

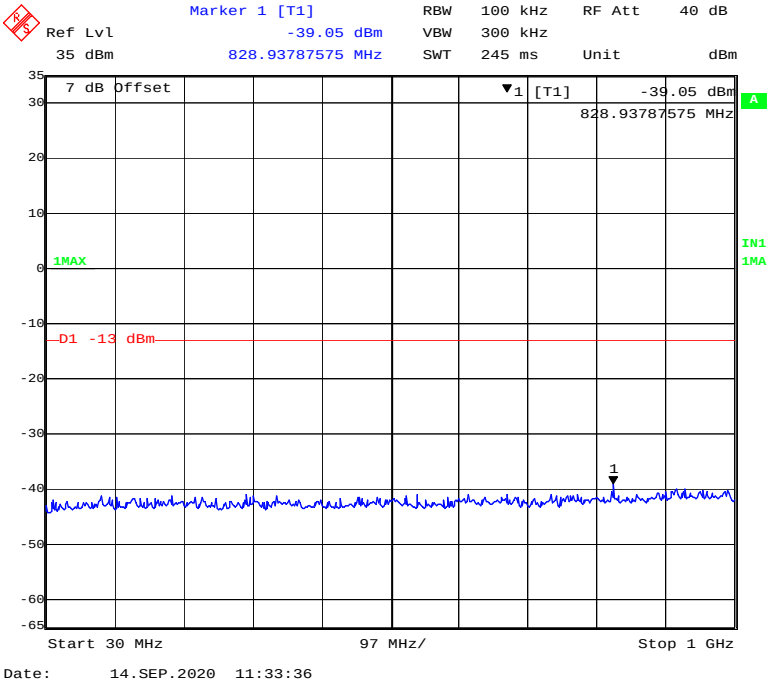
30 MHz - 1 GHz (1.4 MHz, QPSK, High Channel)



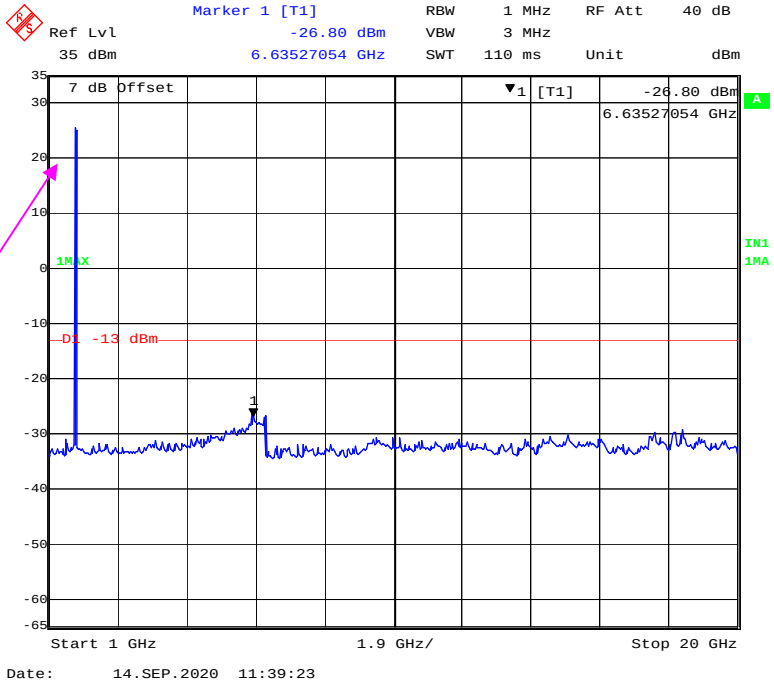
1 GHz – 20 GHz (1.4 MHz, QPSK, High Channel)



30 MHz - 1 GHz (1.4 MHz, 16-QAM, High Channel)

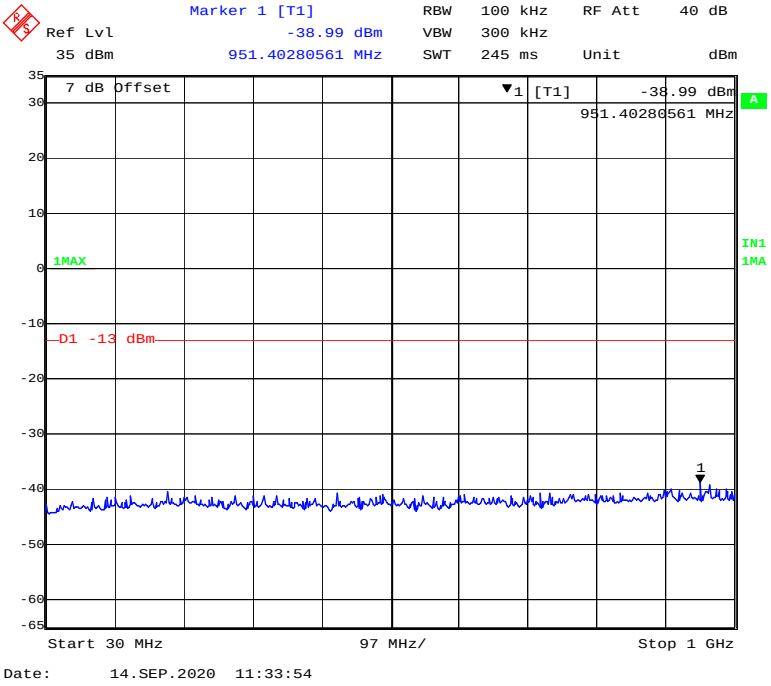


1 GHz – 20 GHz (1.4 MHz, 16-QAM, High Channel)

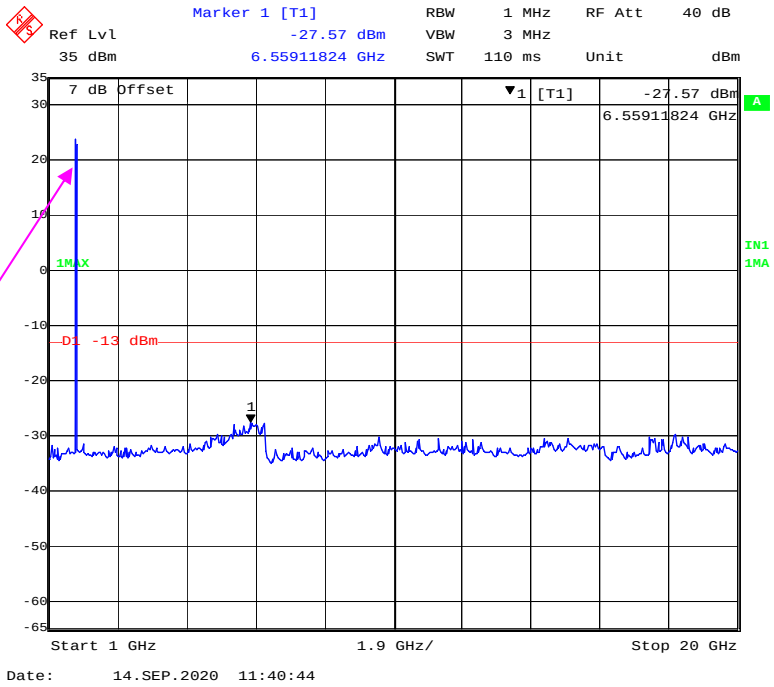


Fundamental

30 MHz - 1 GHz (3 MHz, QPSK, High Channel)

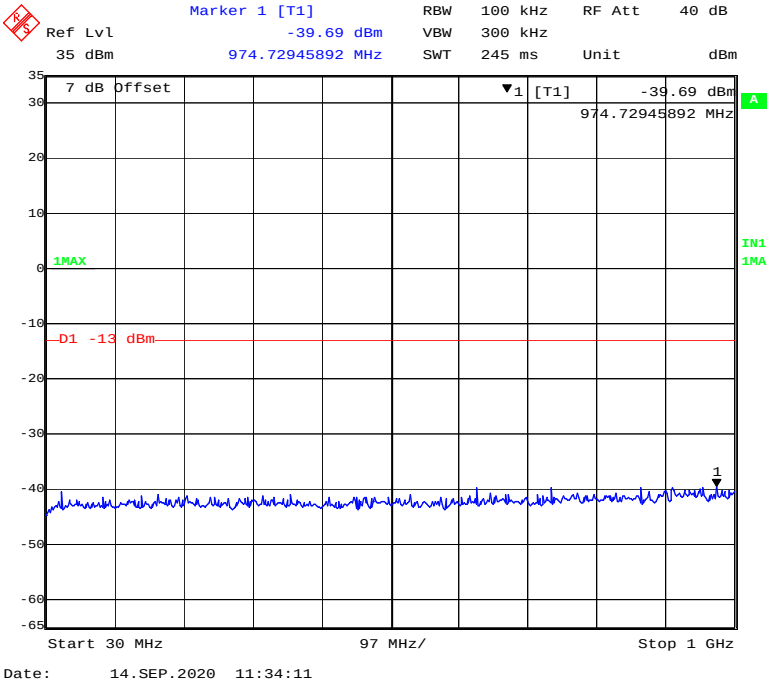


1 GHz – 20 GHz (3 MHz, QPSK, High Channel)

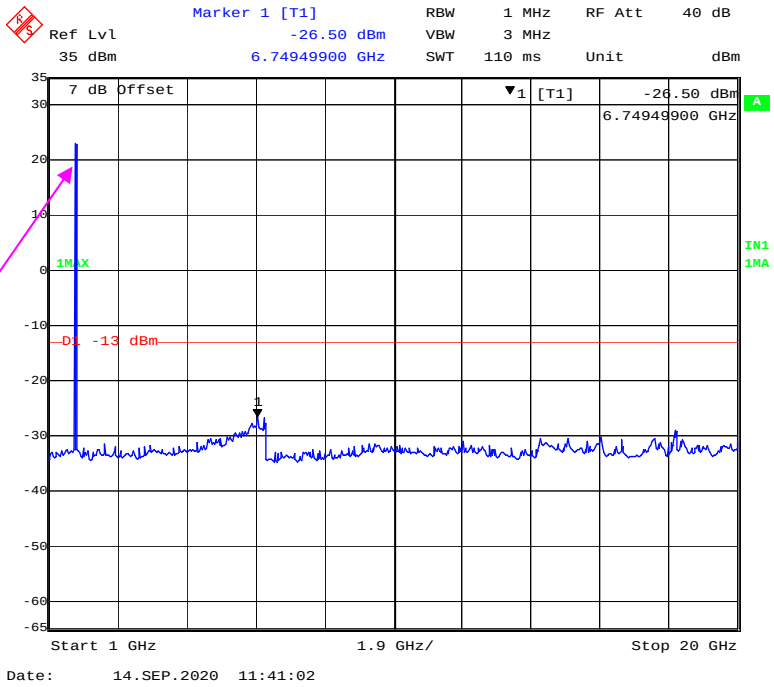


Fundamental

30 MHz - 1 GHz (3 MHz, 16-QAM, High Channel)

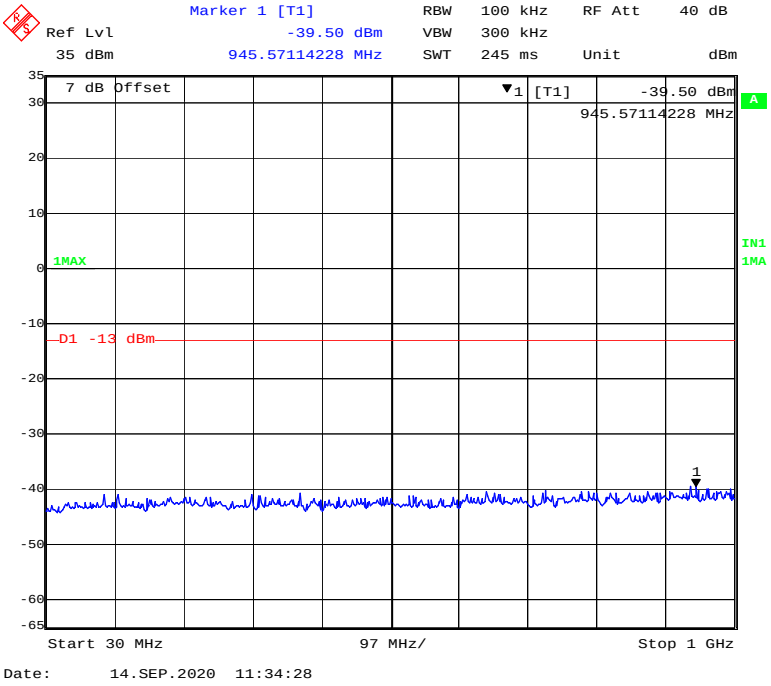


1 GHz – 20 GHz (3 MHz, 16-QAM, High Channel)

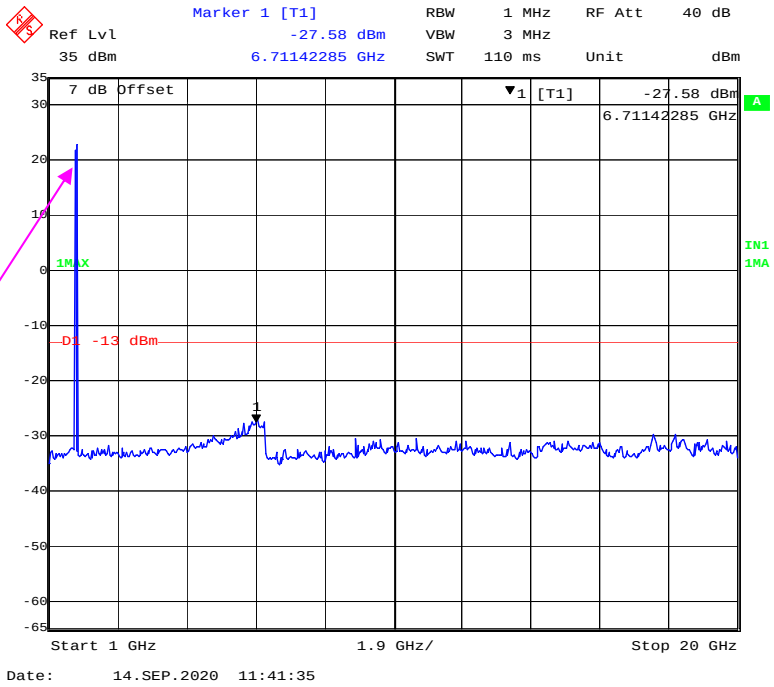


Fundamental

30 MHz - 1 GHz (5 MHz, QPSK, High Channel)

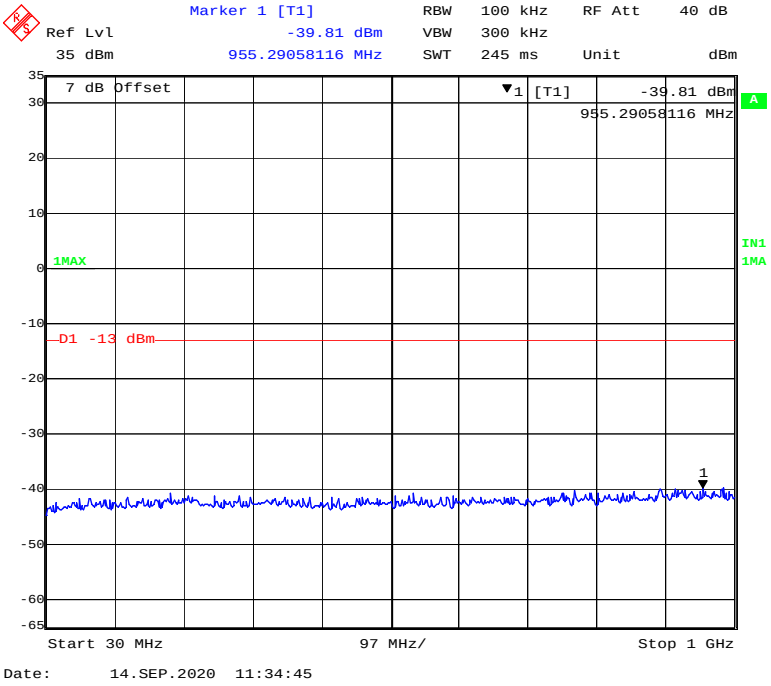


1 GHz – 20 GHz (5 MHz, QPSK, High Channel)

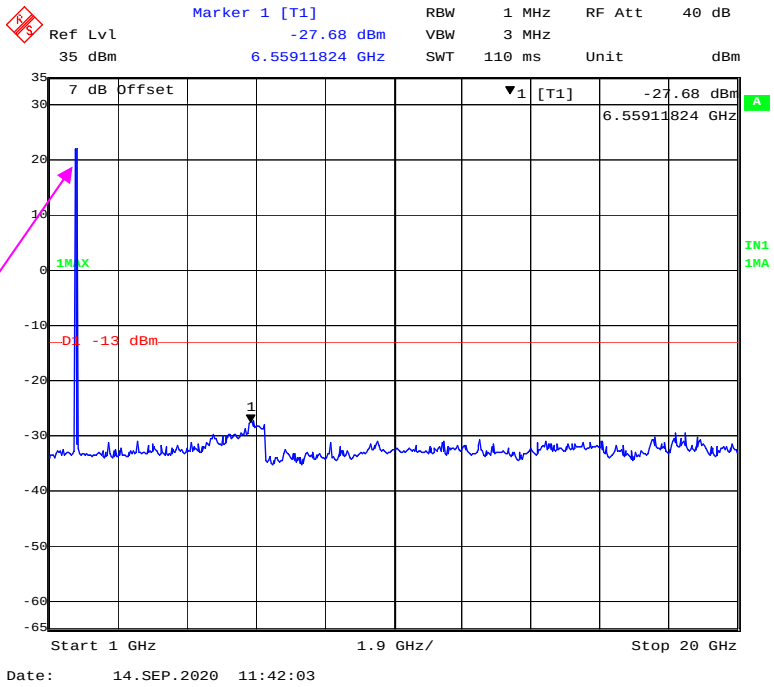


Fundamental

30 MHz - 1 GHz (5 MHz, 16-QAM, High Channel)

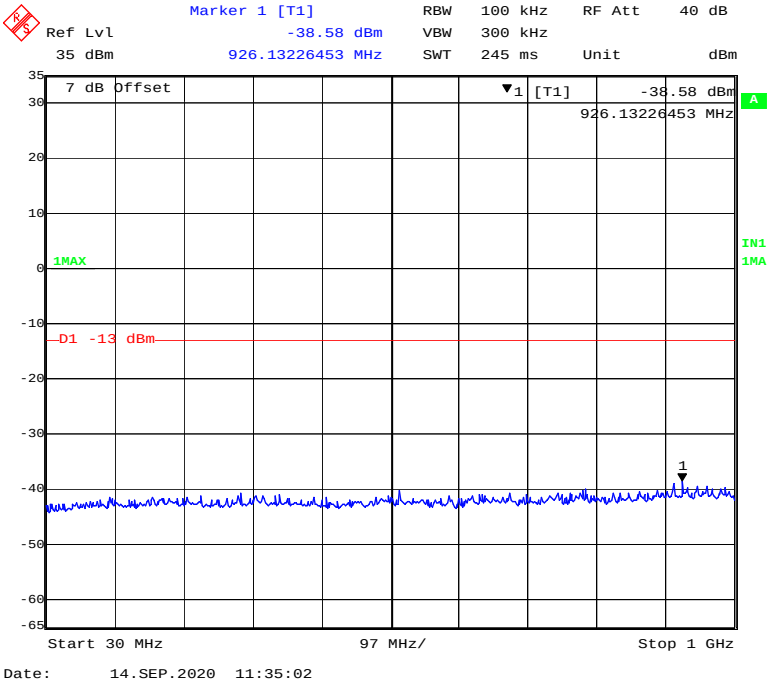


1 GHz – 20 GHz (5 MHz, 16-QAM, High Channel)

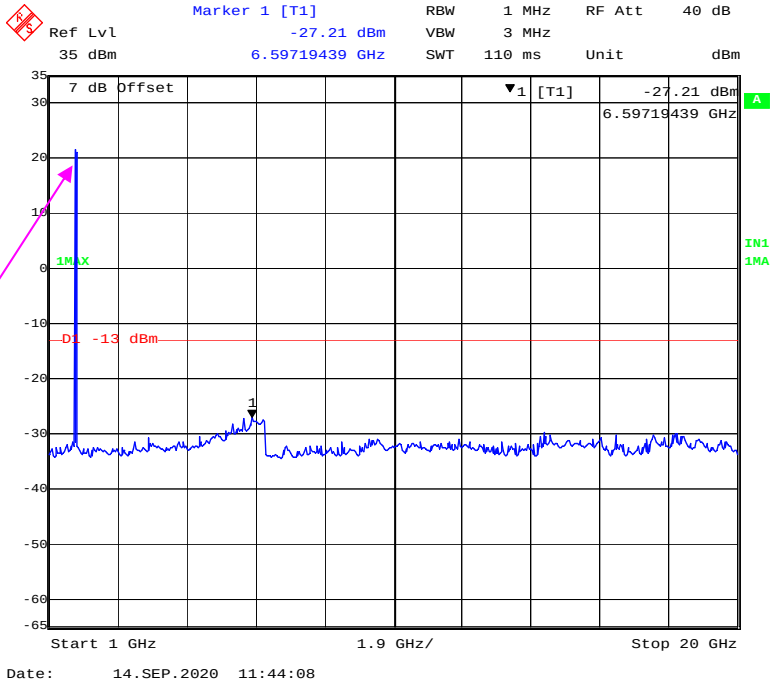


Fundamental

30 MHz - 1 GHz (10 MHz, QPSK, High Channel)

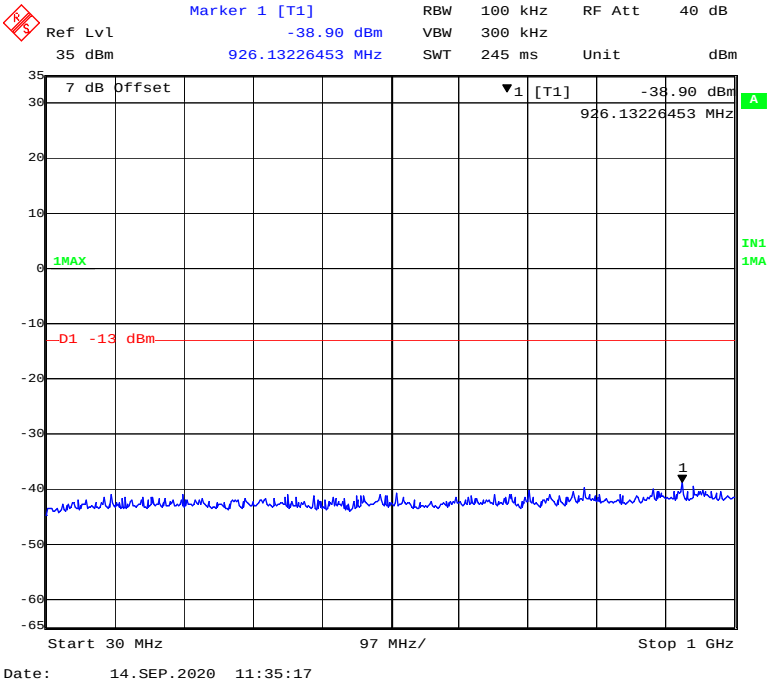


1 GHz – 20 GHz (10 MHz, QPSK, High Channel)

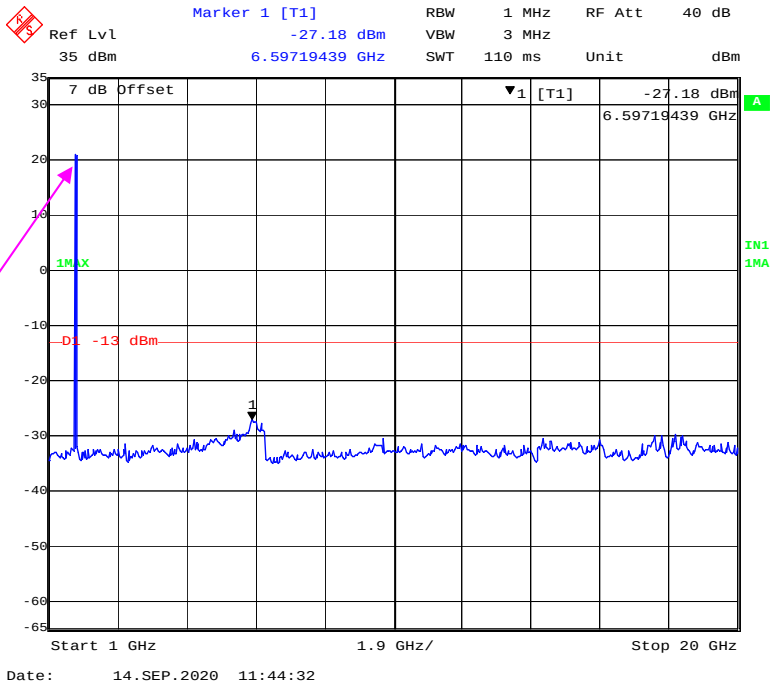


Fundamental

30 MHz - 1 GHz (10 MHz, 16-QAM, High Channel)

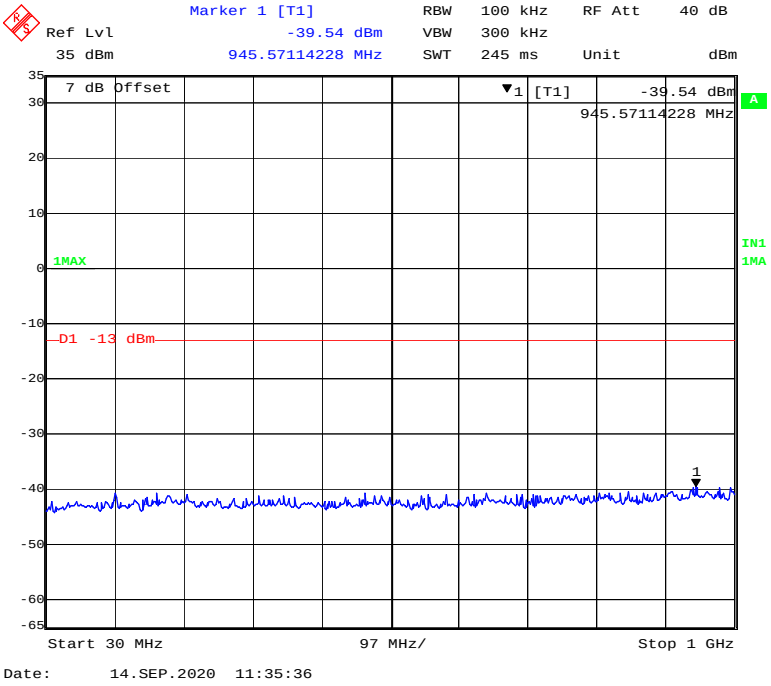


1 GHz – 20 GHz (10 MHz, 16-QAM, High Channel)

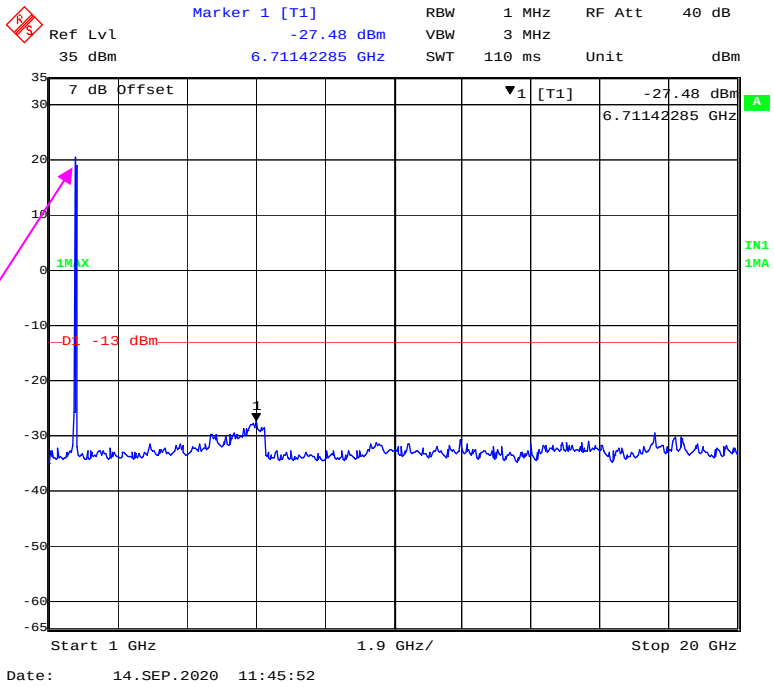


Fundamental

30 MHz - 1 GHz (15 MHz, QPSK, High Channel)

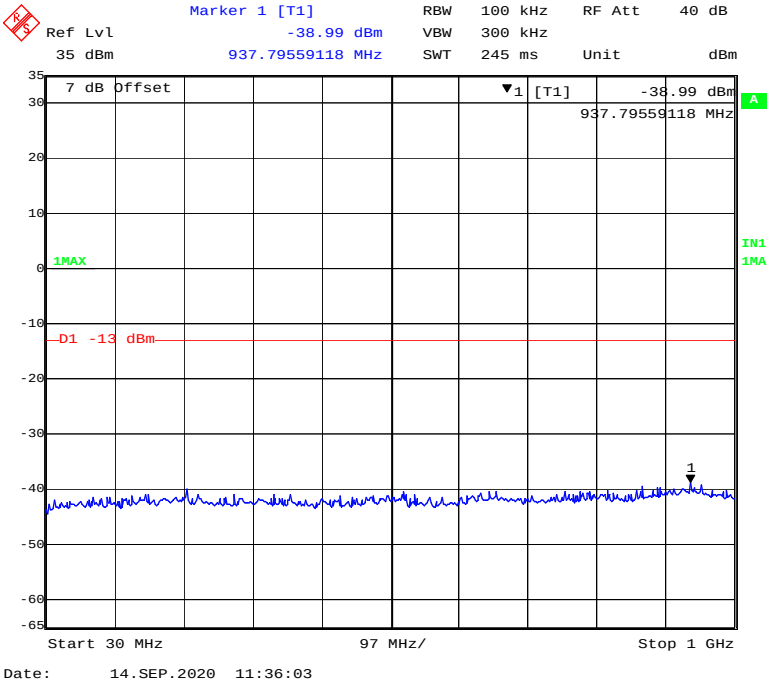


1 GHz – 20 GHz (15 MHz, QPSK, High Channel)

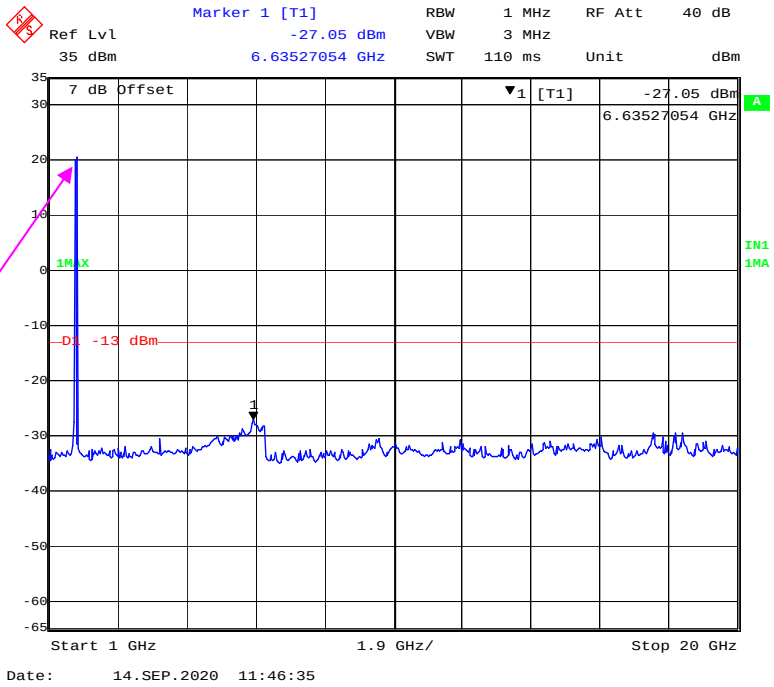


Fundamental

30 MHz - 1 GHz (15 MHz, 16-QAM, High Channel)

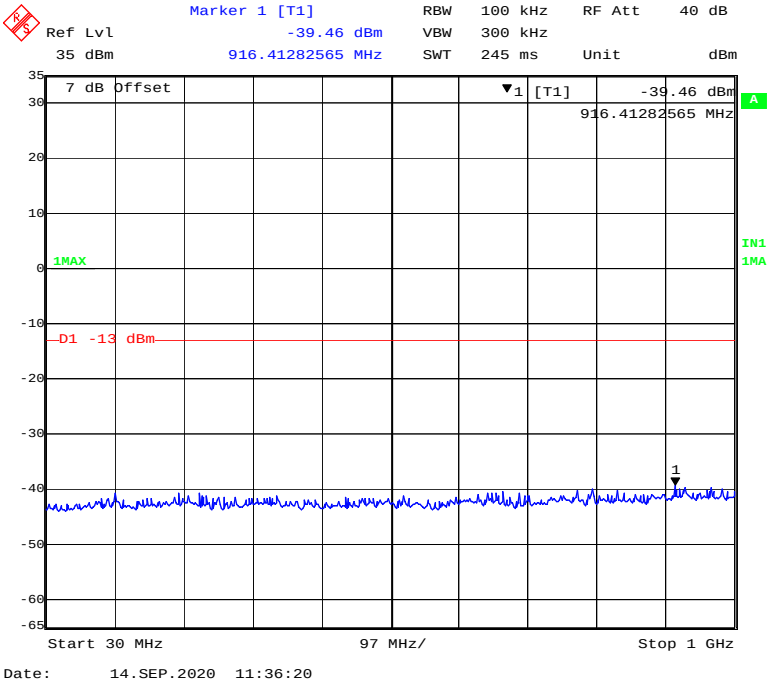


1 GHz – 20 GHz (15 MHz, 16-QAM, High Channel)

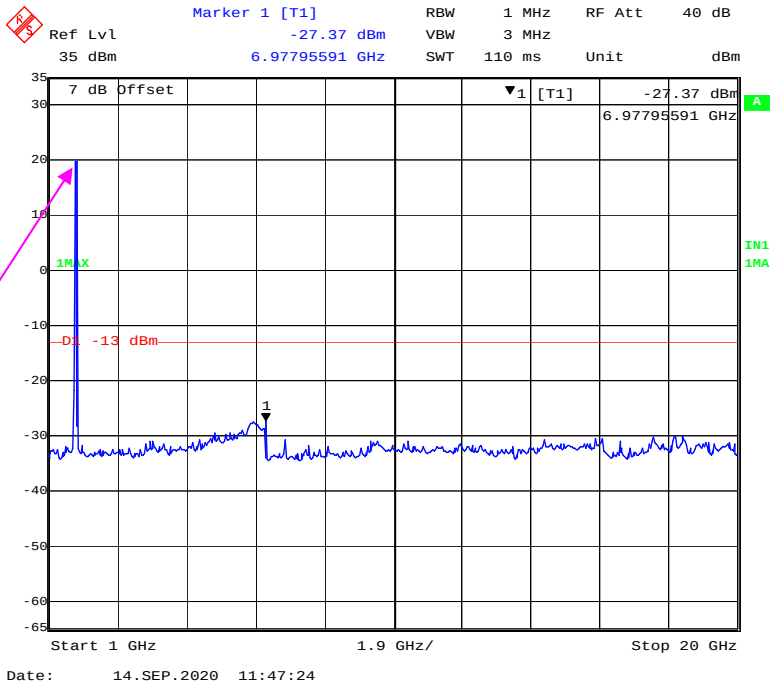


Fundamental

30 MHz - 1 GHz (20 MHz, QPSK, High Channel)

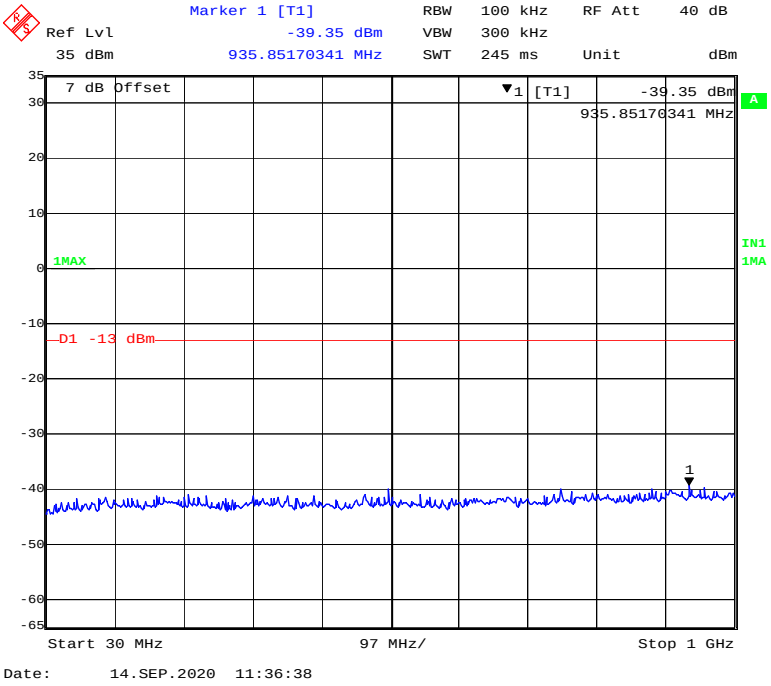


1 GHz – 20 GHz (20 MHz, QPSK, High Channel)

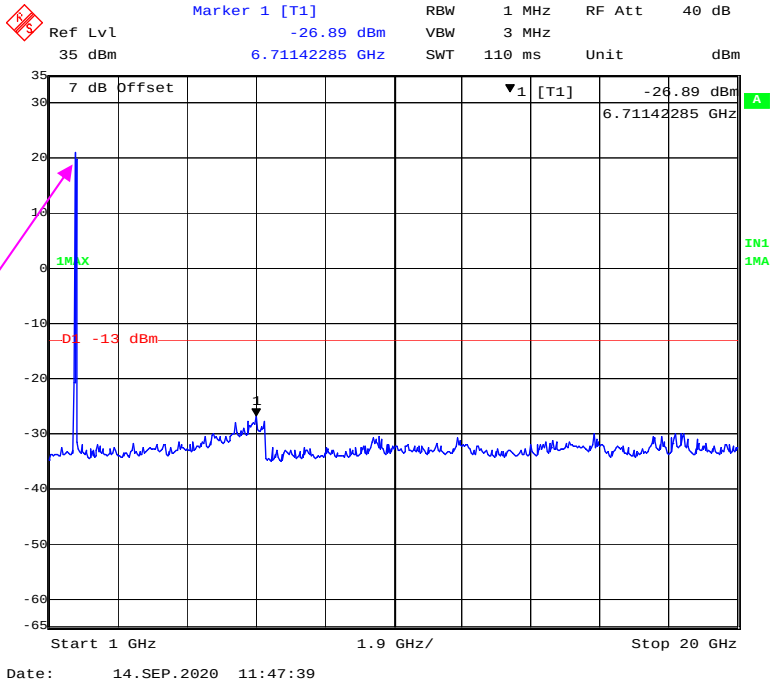


Fundamental

30 MHz - 1 GHz (20 MHz, 16-QAM, High Channel)



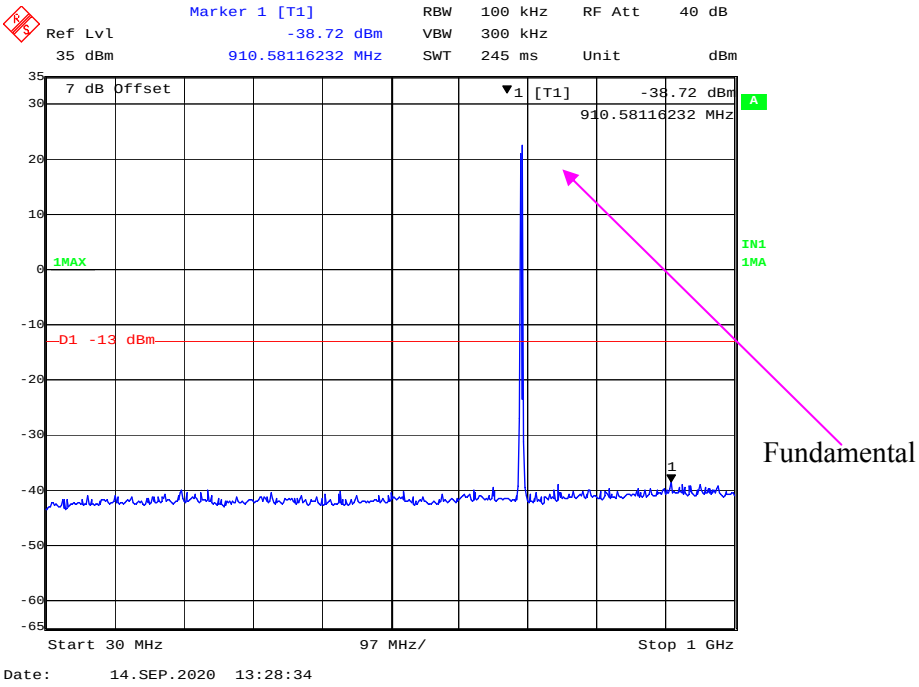
1 GHz – 20 GHz (20 MHz, 16-QAM, High Channel)



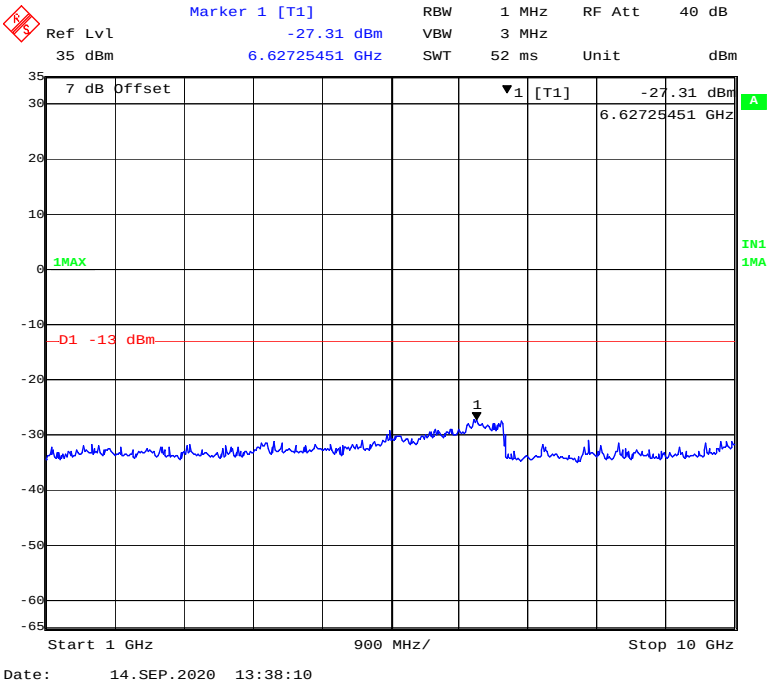
Fundamental

LTE Band 12:

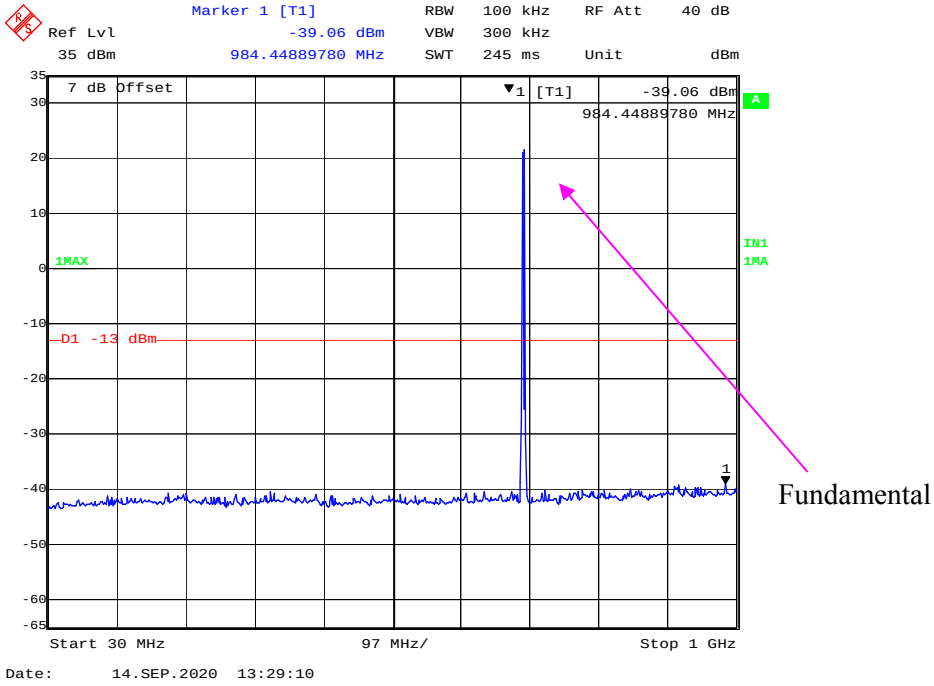
30 MHz - 1 GHz (1.4 MHz, QPSK, Low Channel)



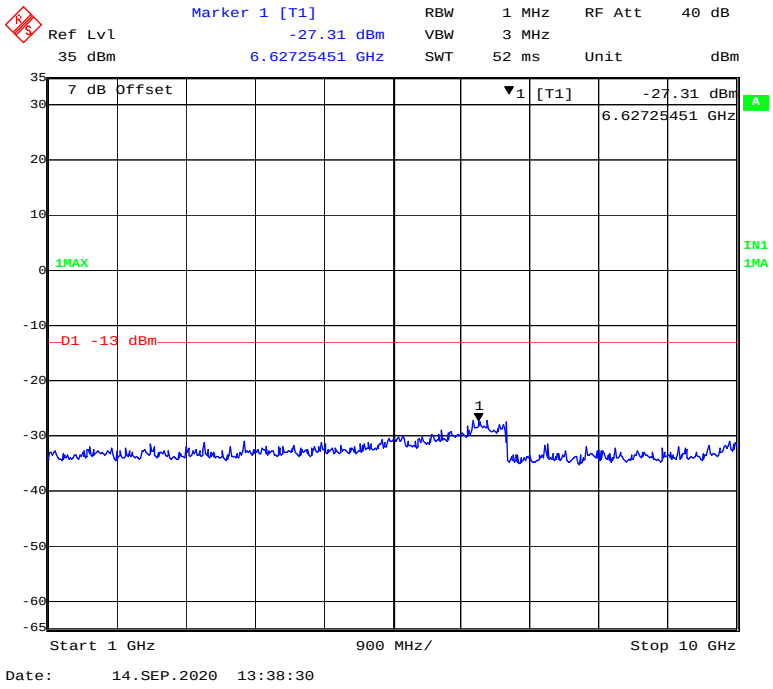
1 GHz – 10 GHz (1.4 MHz, QPSK, Low Channel)



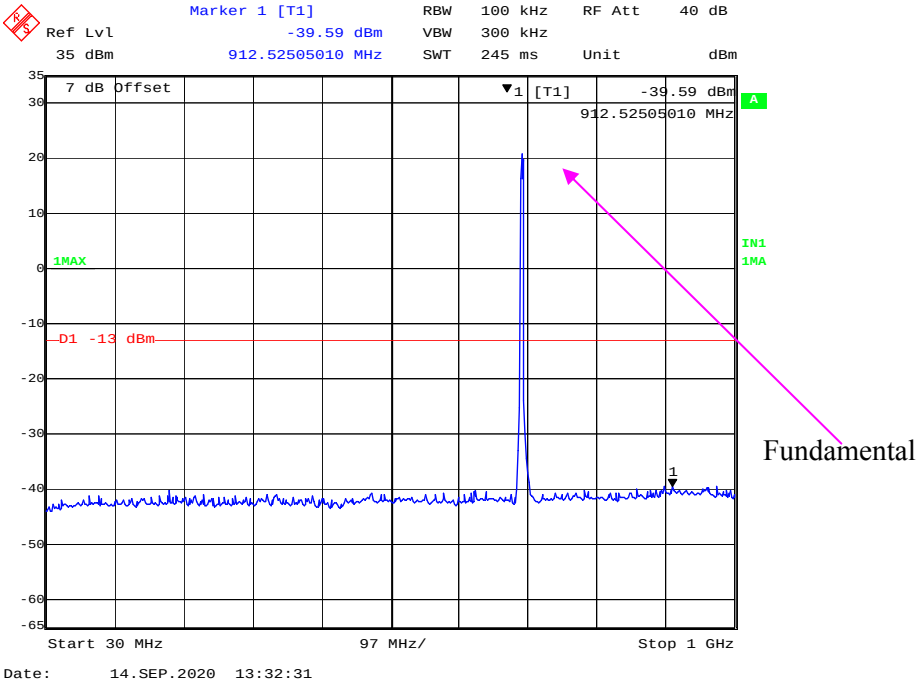
30 MHz - 1 GHz (1.4 MHz, 16-QAM, Low Channel)



1 GHz – 10 GHz (1.4 MHz, 16-QAM, Low Channel)



30 MHz - 1 GHz (3 MHz, QPSK, Low Channel)



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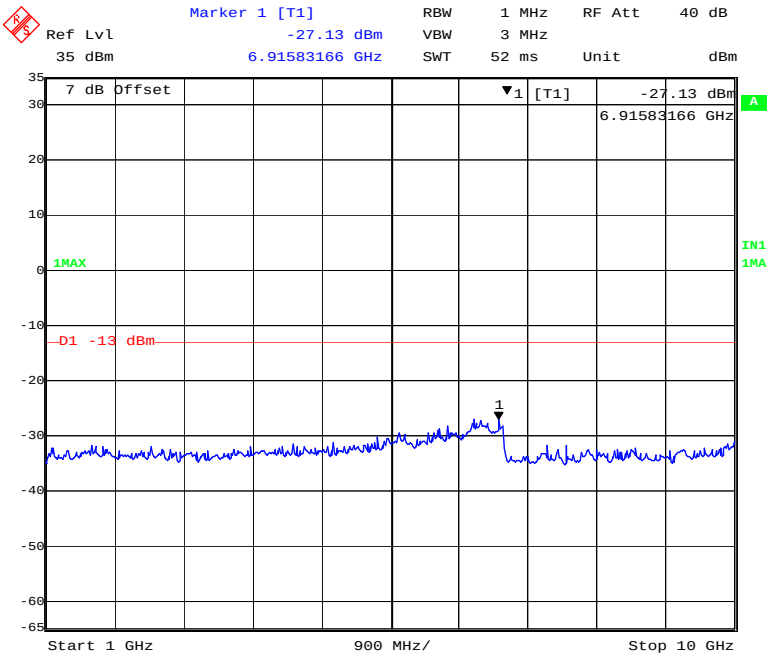
1 GHz – 10 GHz (3 MHz, QPSK, Low Channel)



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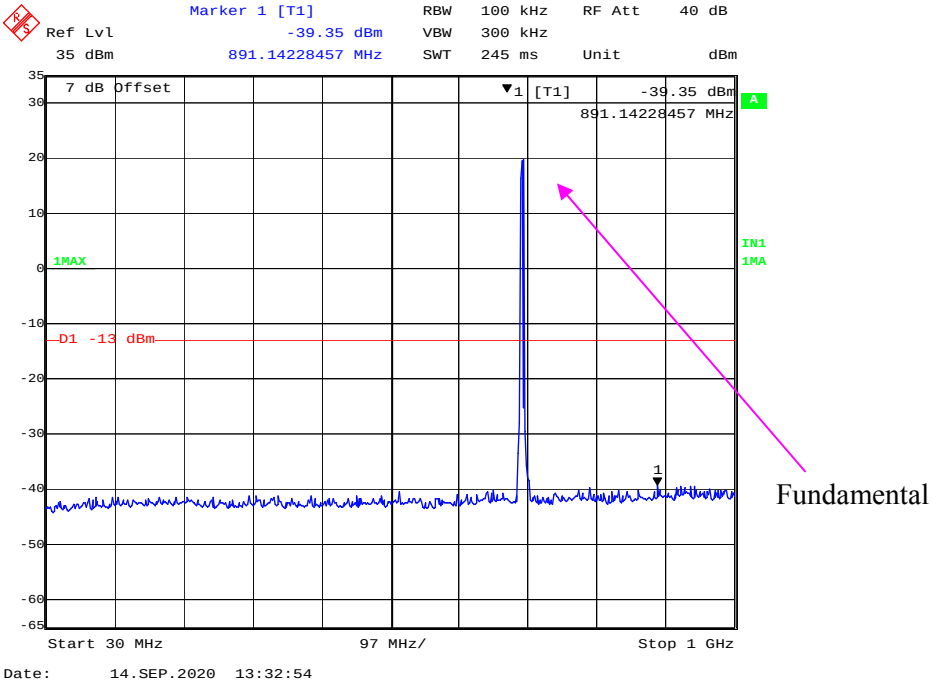
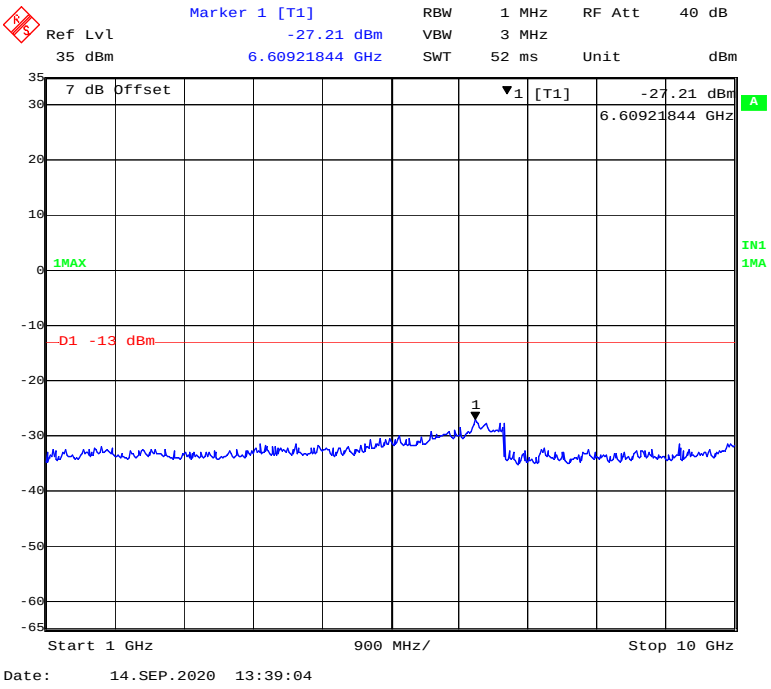
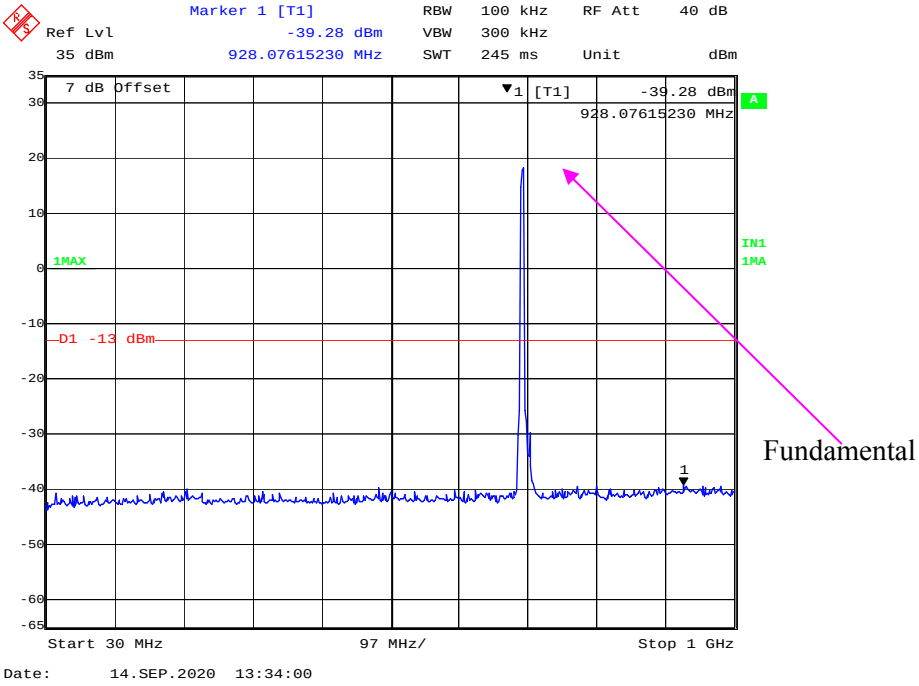
30 MHz - 1 GHz (3 MHz, 16-QAM, Low Channel)



1 GHz – 10 GHz (3 MHz, 16-QAM, Low Channel)



30 MHz - 1 GHz (5 MHz, QPSK, Low Channel)



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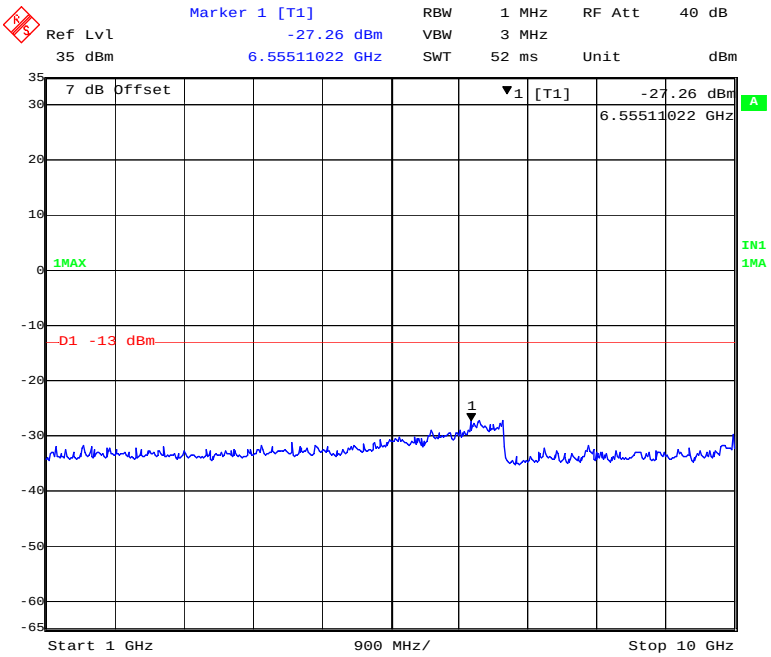
1 GHz – 10 GHz (5 MHz, QPSK, Low Channel)



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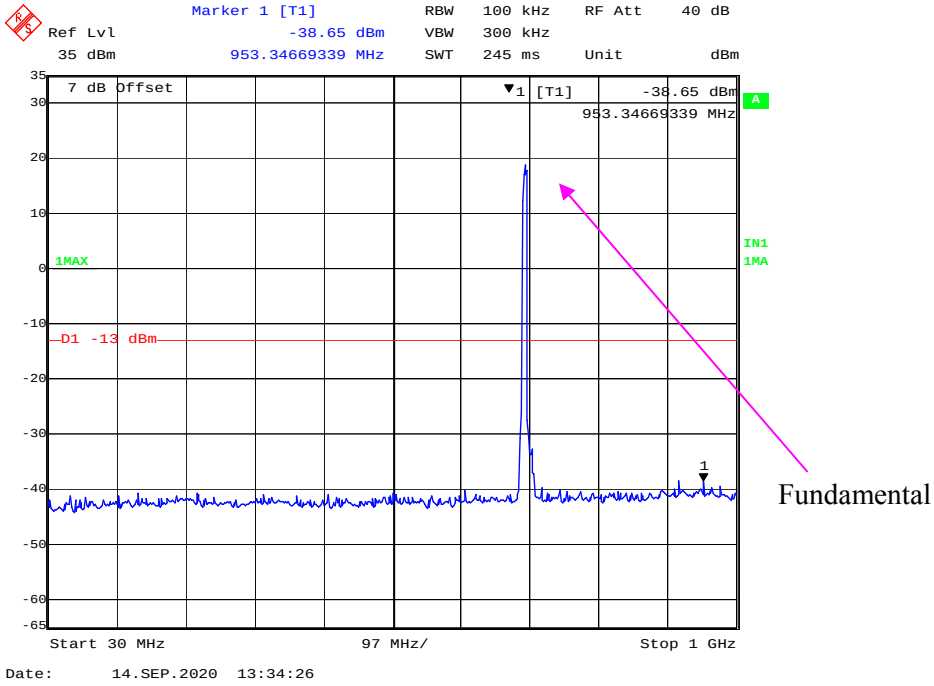
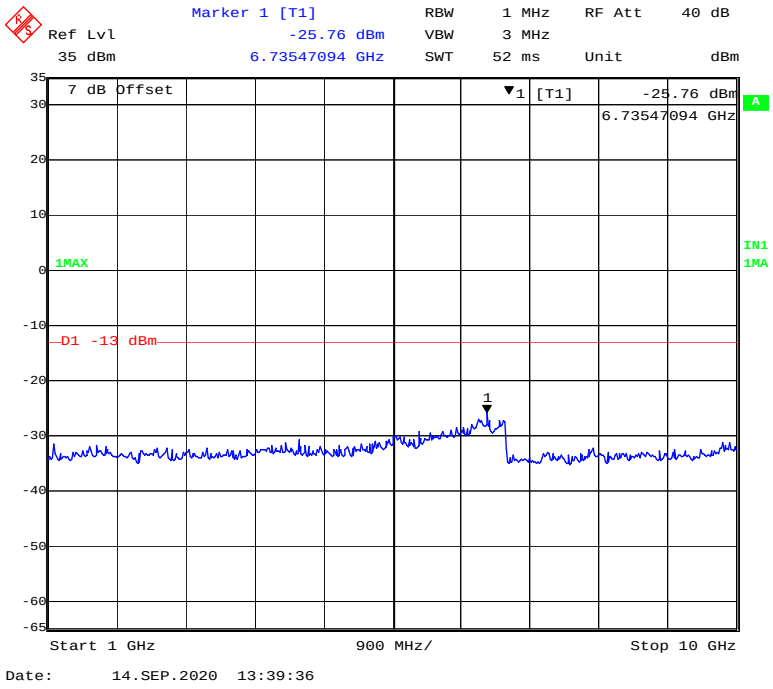
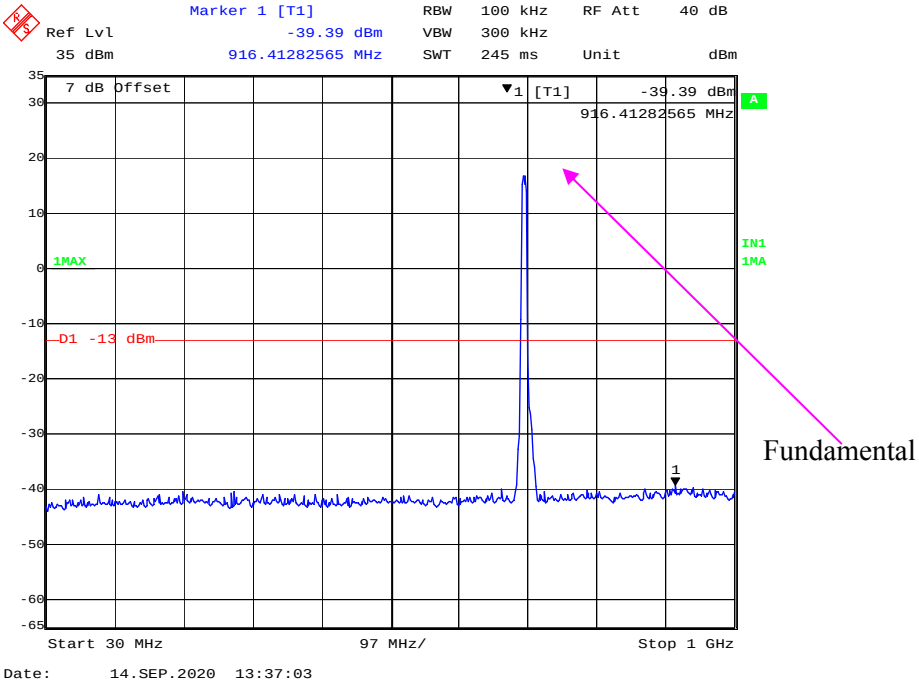
30 MHz - 1 GHz (5 MHz, 16-QAM, Low Channel)



1 GHz – 10 GHz (5 MHz, 16-QAM, Low Channel)



30 MHz - 1 GHz (10 MHz, QPSK, Low Channel)



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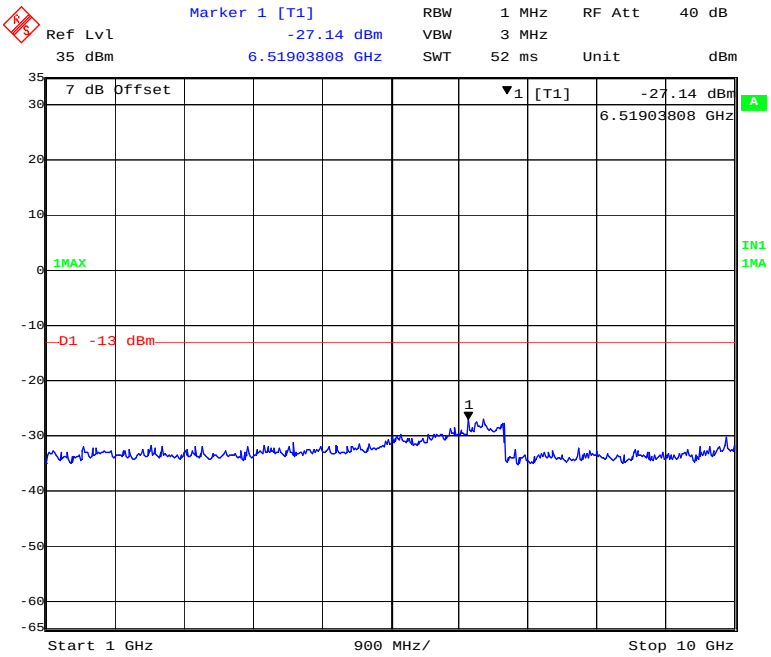
1 GHz – 10 GHz (10 MHz, QPSK, Low Channel)



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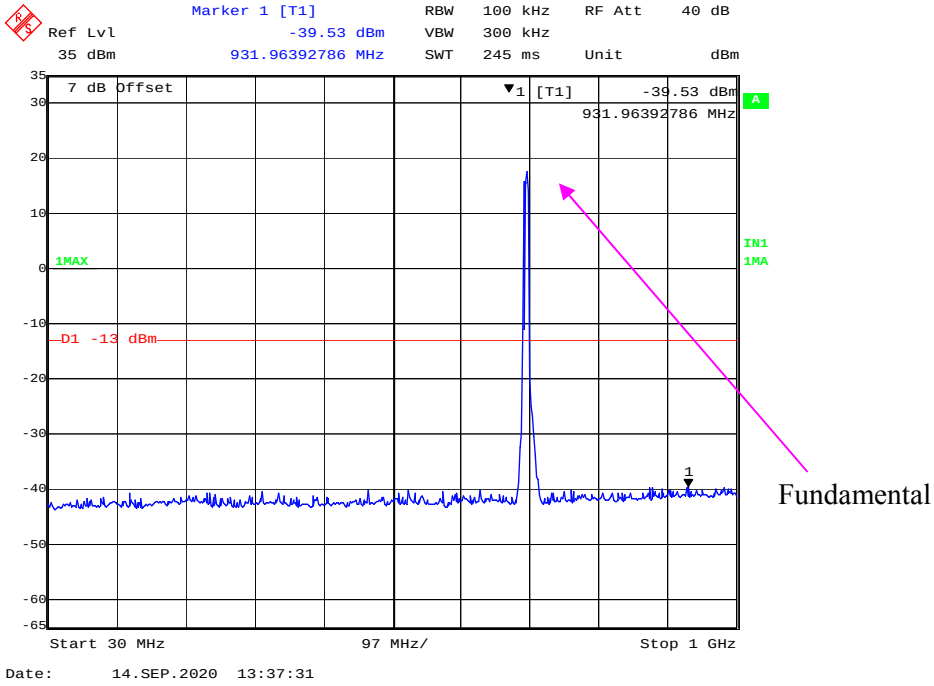
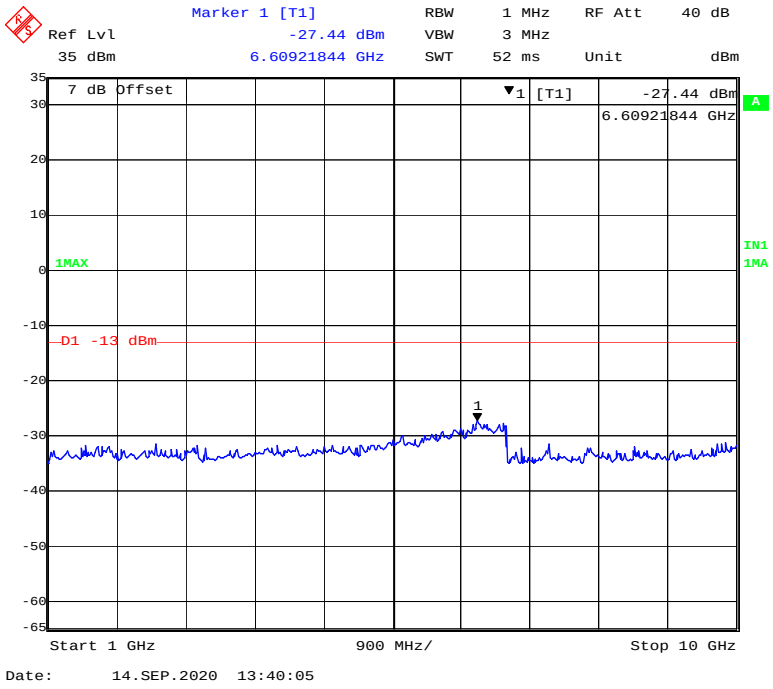
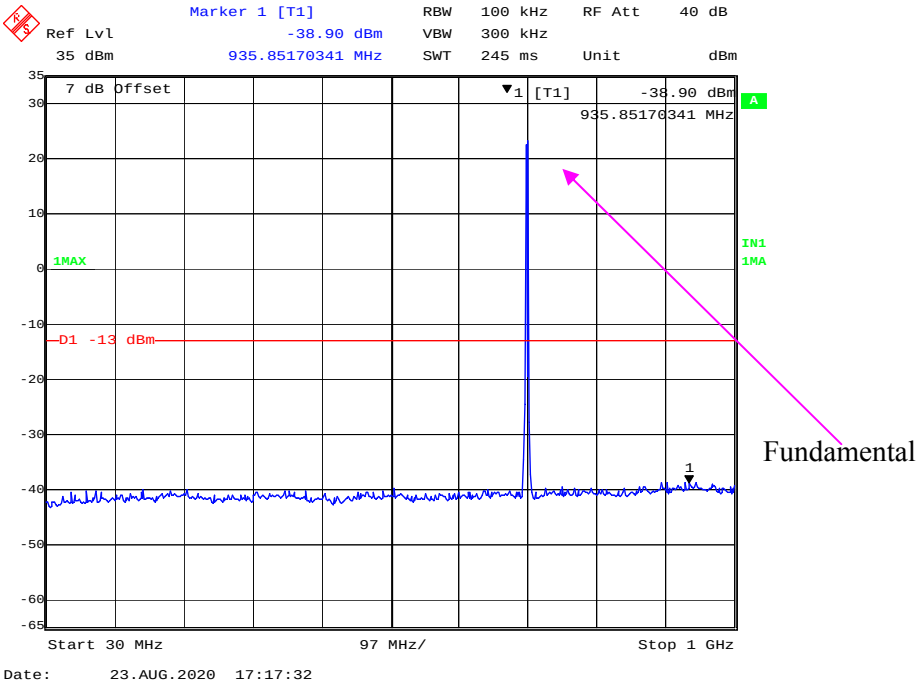
30 MHz - 1 GHz (10 MHz, 16-QAM, Low Channel)



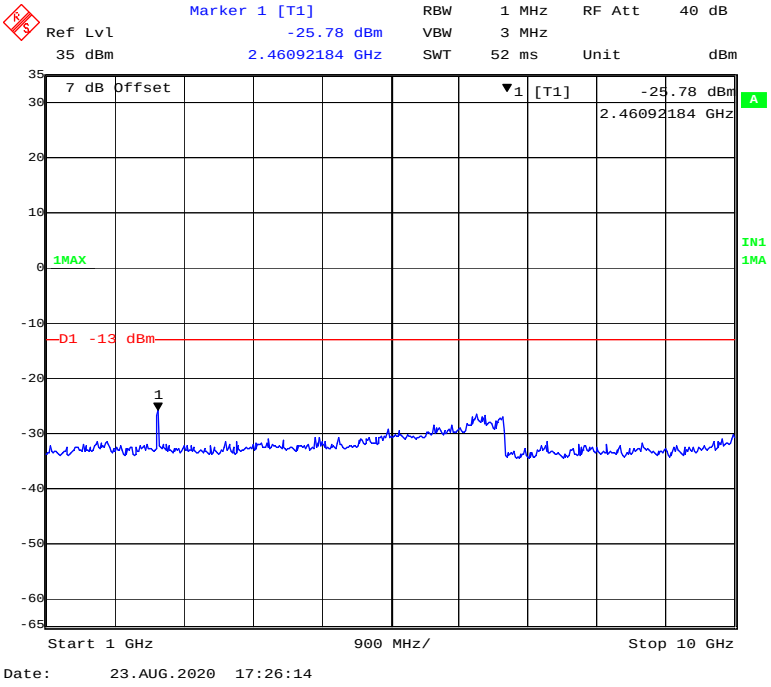
1 GHz – 10 GHz (10 MHz, 16-QAM, Low Channel)



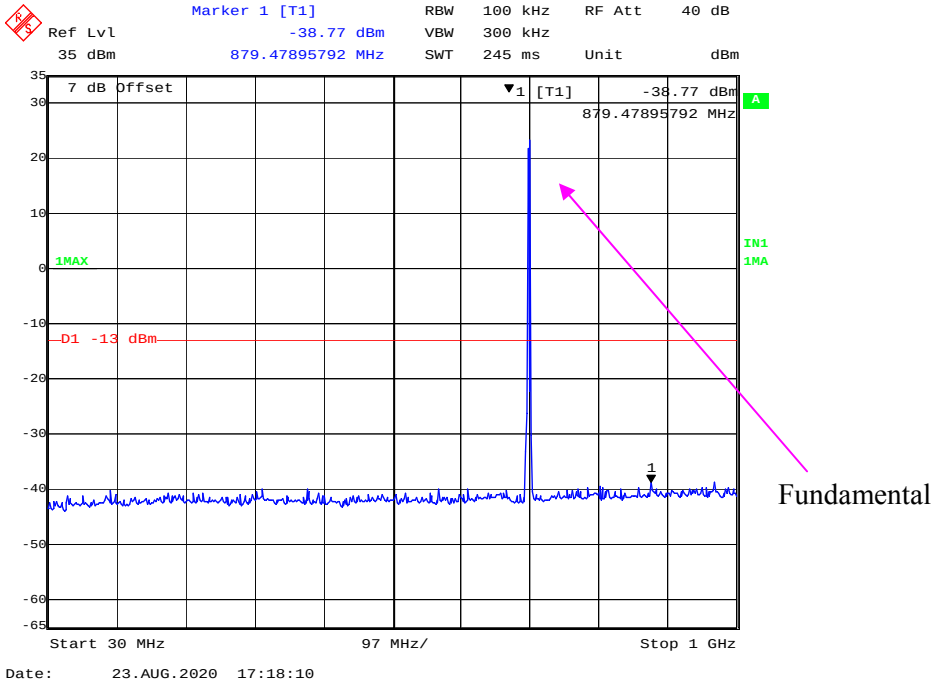
30 MHz - 1 GHz (1.4 MHz, QPSK, Middle Channel)



1 GHz – 10 GHz (1.4 MHz, QPSK, Middle Channel)



30 MHz - 1 GHz (1.4 MHz, 16-QAM, Middle Channel)



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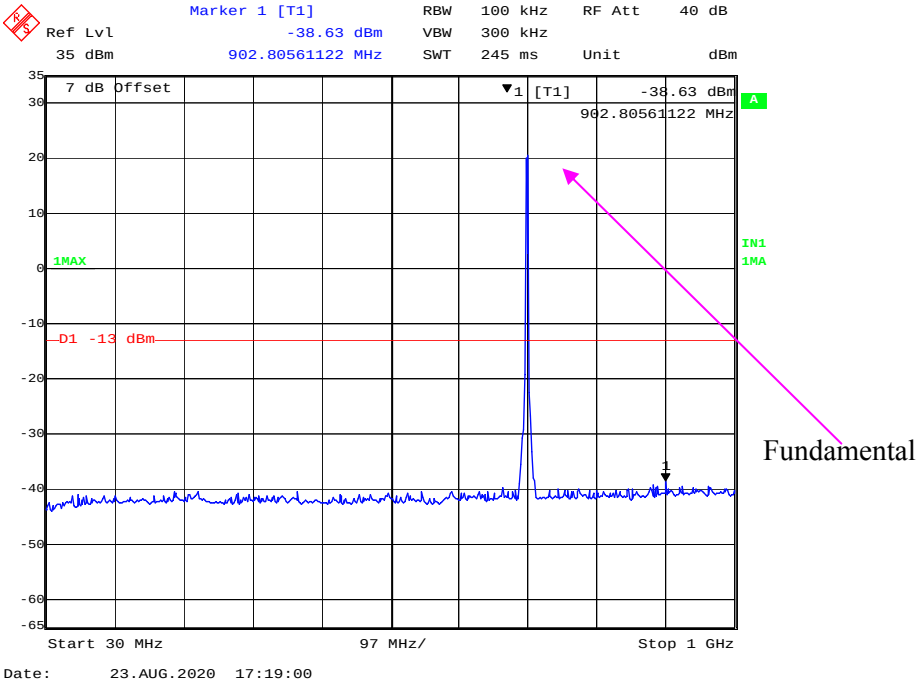
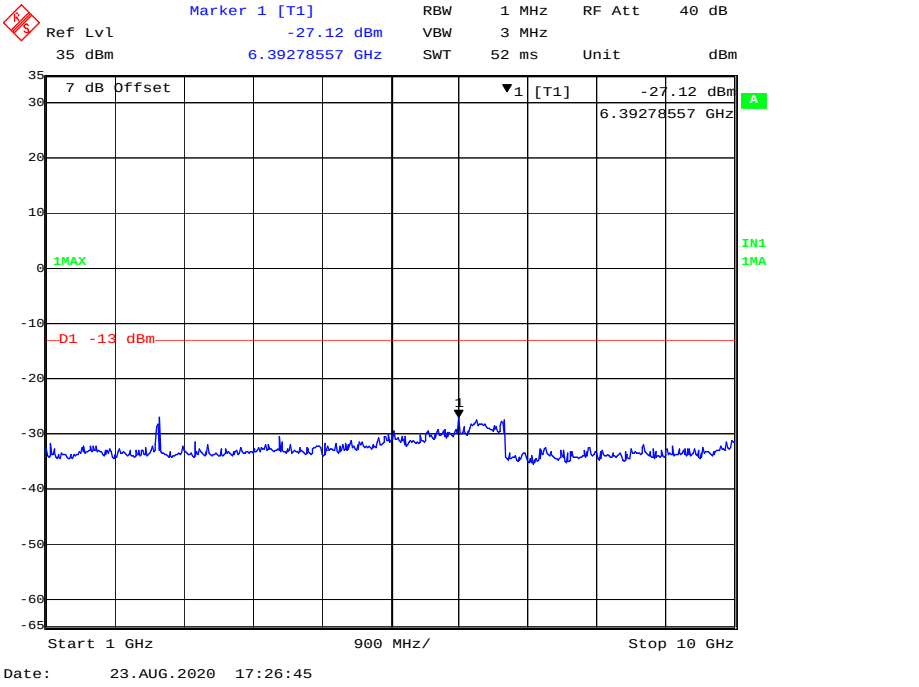
1 GHz – 10 GHz (1.4 MHz, 16-QAM, Middle Channel)

Date: 23.AUG.2020 17:26:27

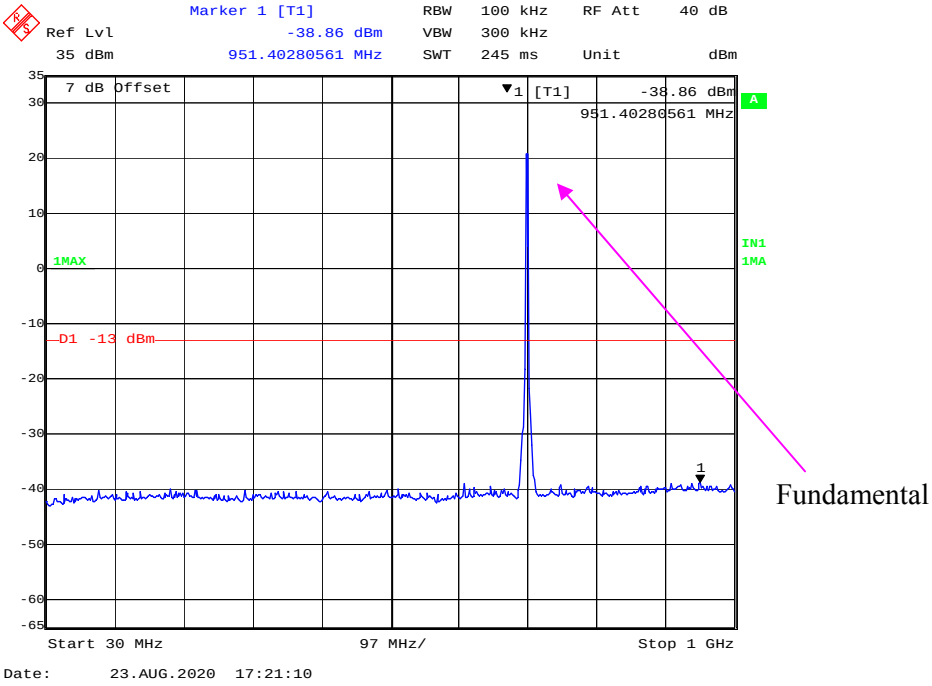
30 MHz - 1 GHz (3 MHz, QPSK, Middle Channel)



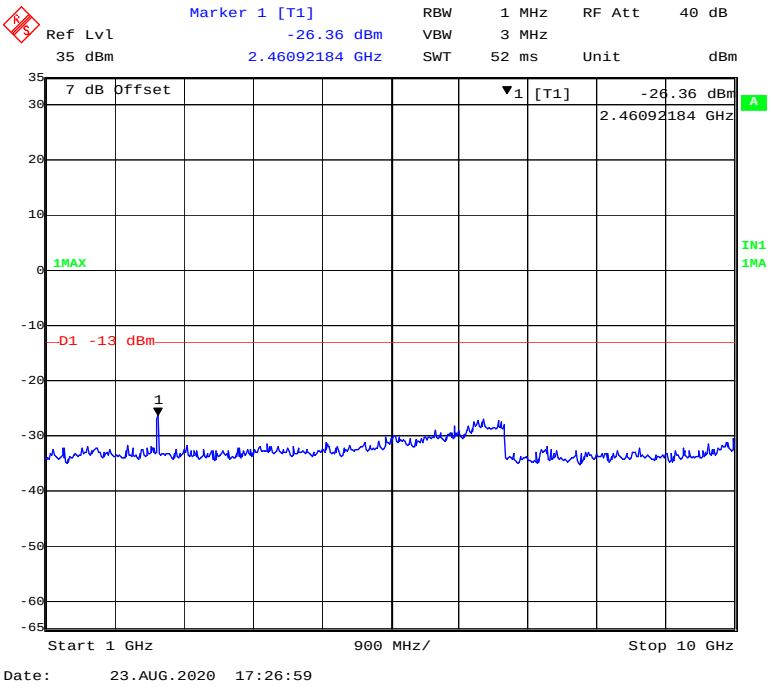
1 GHz – 10 GHz (3 MHz, QPSK, Middle Channel)



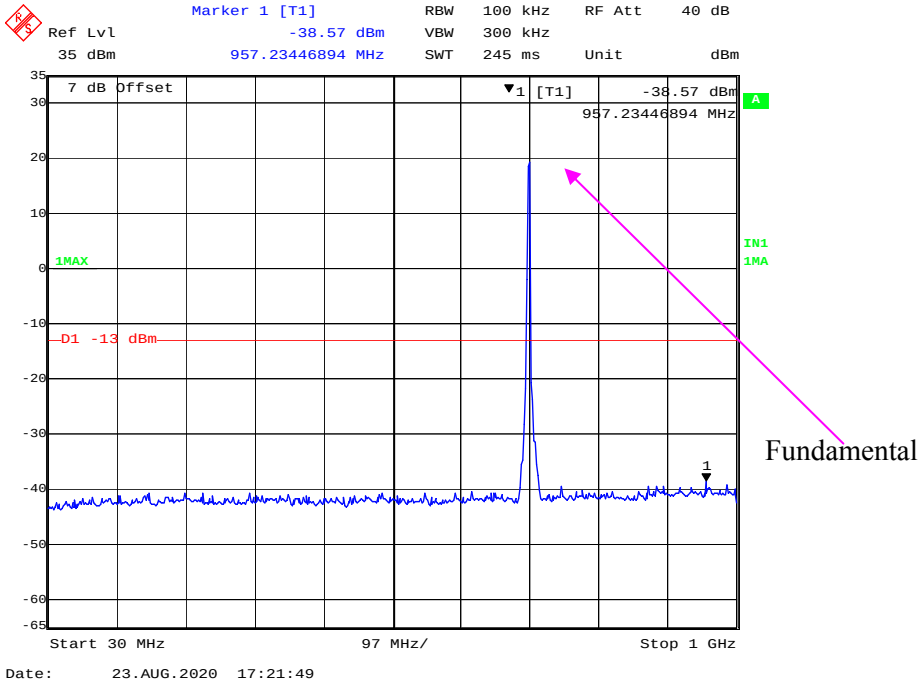
30 MHz - 1 GHz (3 MHz, 16-QAM, Middle Channel)



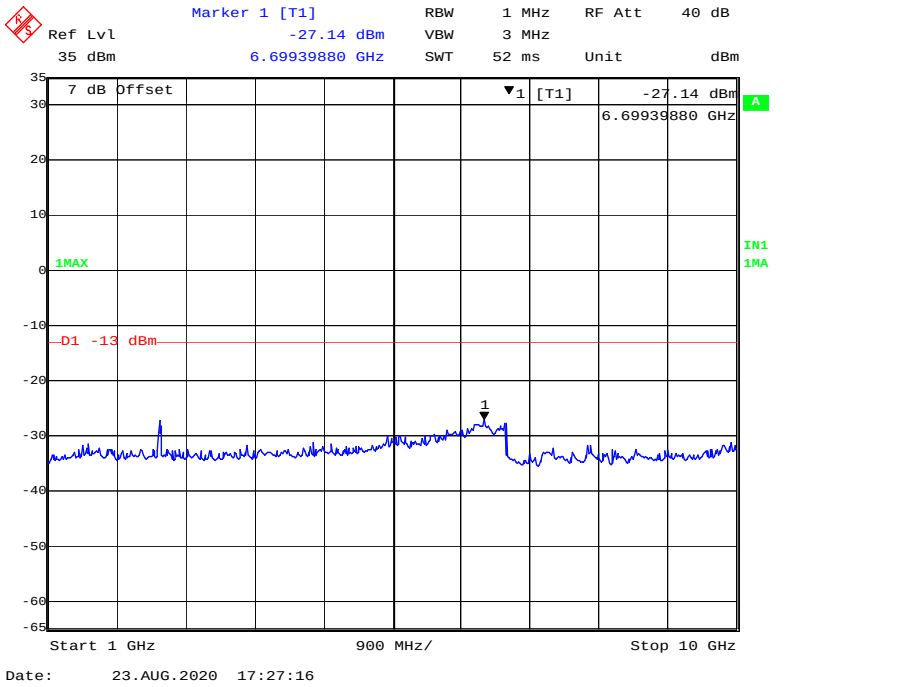
1 GHz – 10 GHz (3 MHz, 16-QAM, Middle Channel)



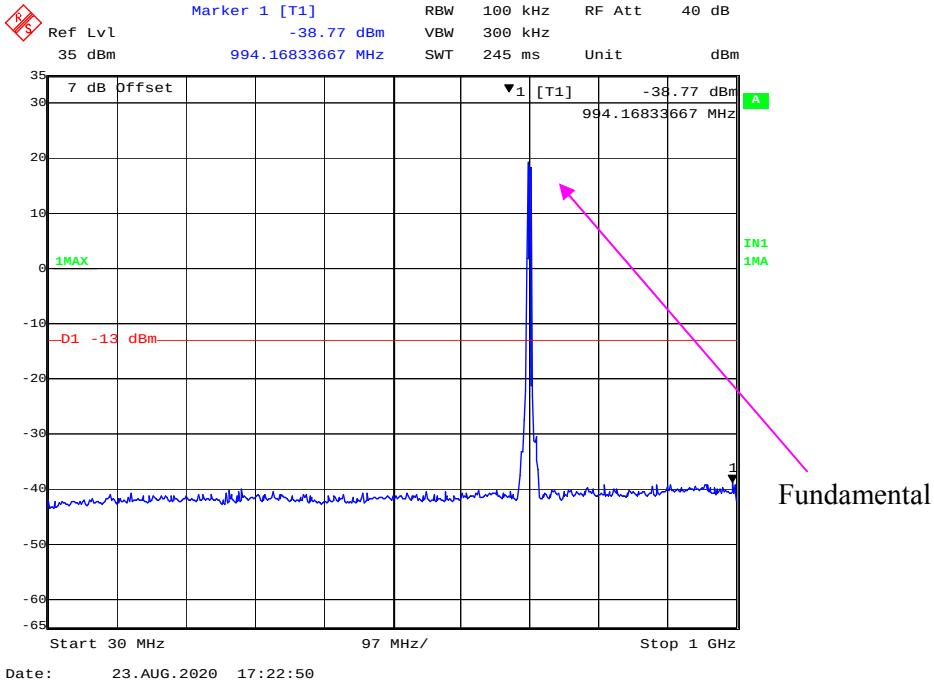
30 MHz - 1 GHz (5 MHz, QPSK, Middle Channel)



1 GHz – 10 GHz (5 MHz, QPSK, Middle Channel)



30 MHz - 1 GHz (5 MHz, 16-QAM, Middle Channel)



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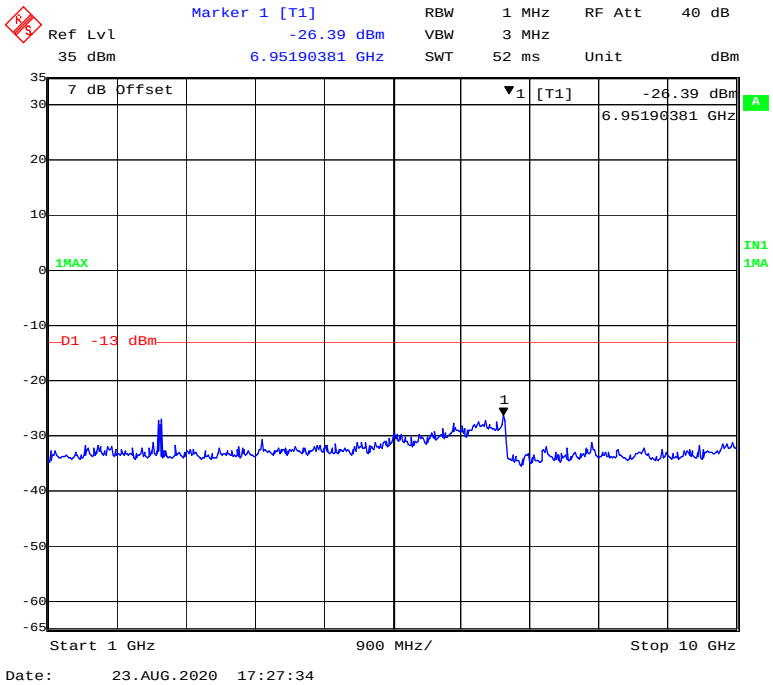
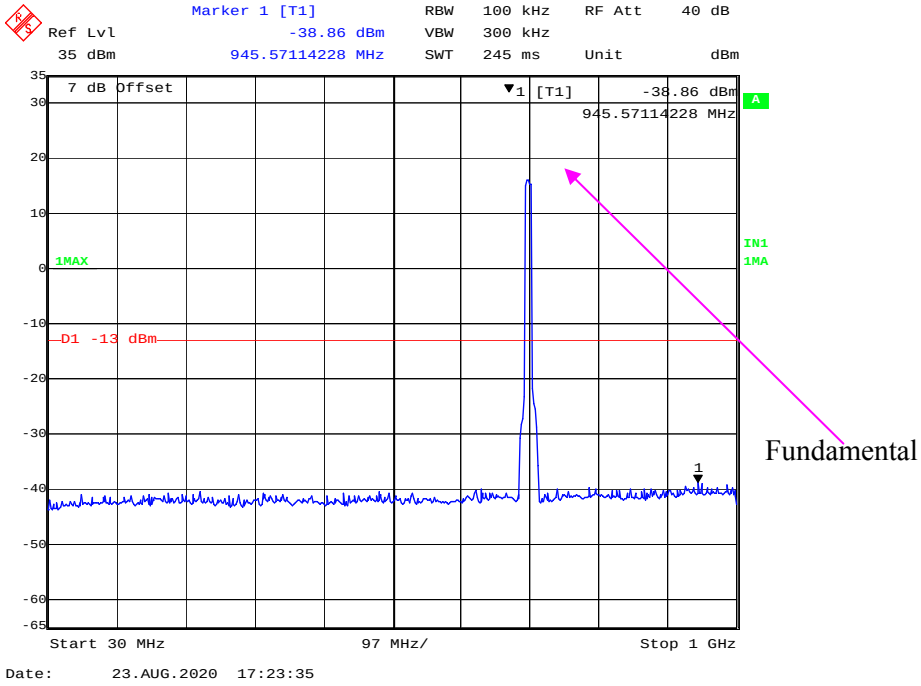
1 GHz – 10 GHz (5 MHz, 16-QAM, Middle Channel)

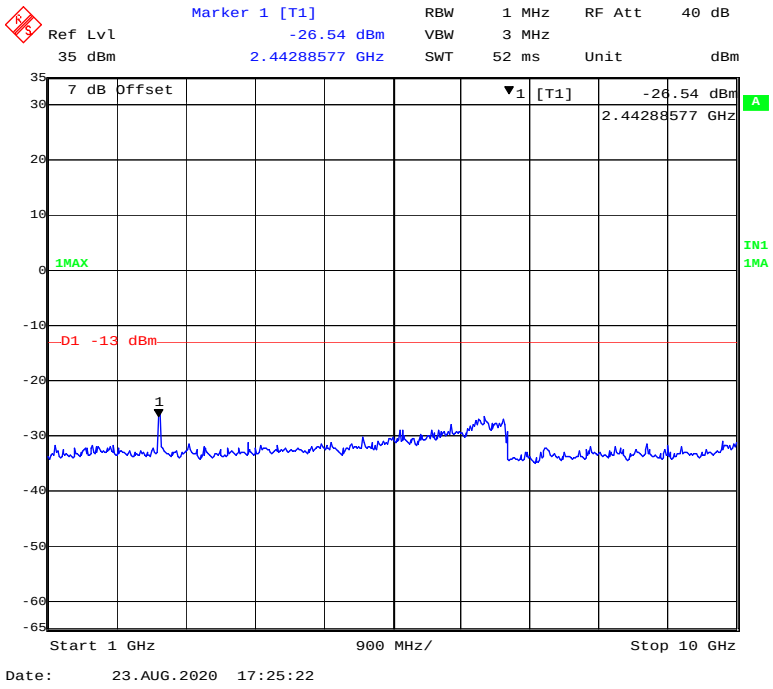


Date: 23.AUG.2020 17:27:34

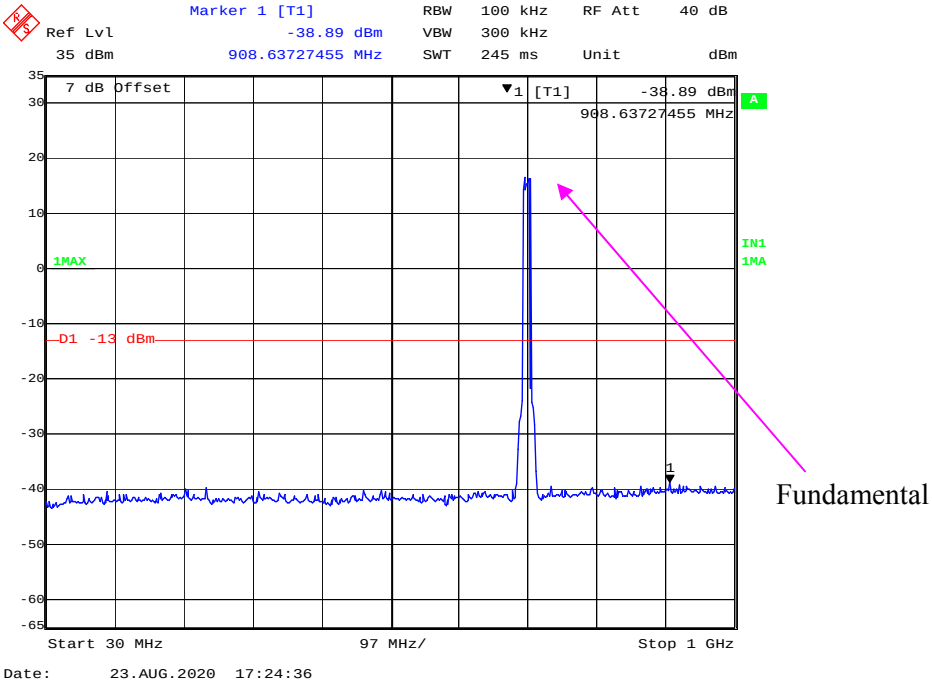
30 MHz - 1 GHz (10 MHz, QPSK, Middle Channel)



1 GHz – 10 GHz (10 MHz, QPSK, Middle Channel)

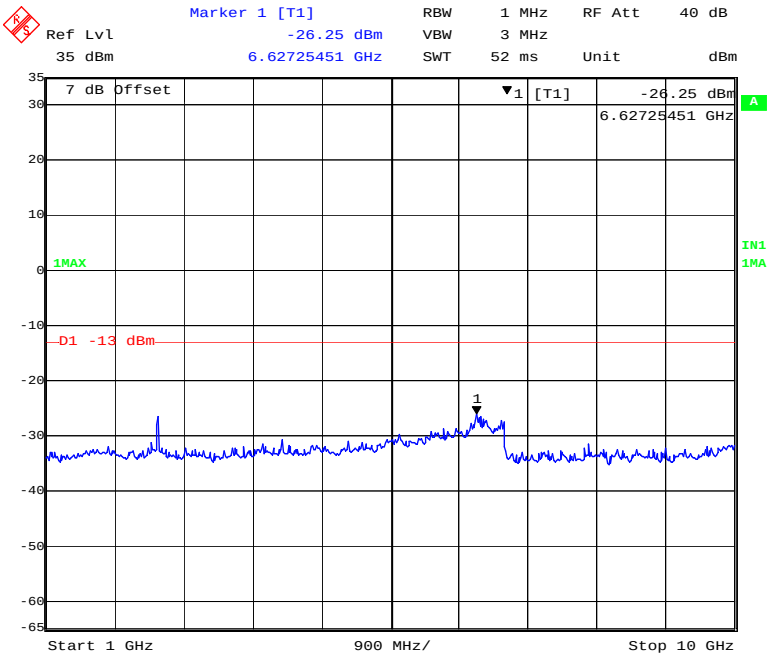


30 MHz - 1 GHz (10 MHz, 16-QAM, Middle Channel)



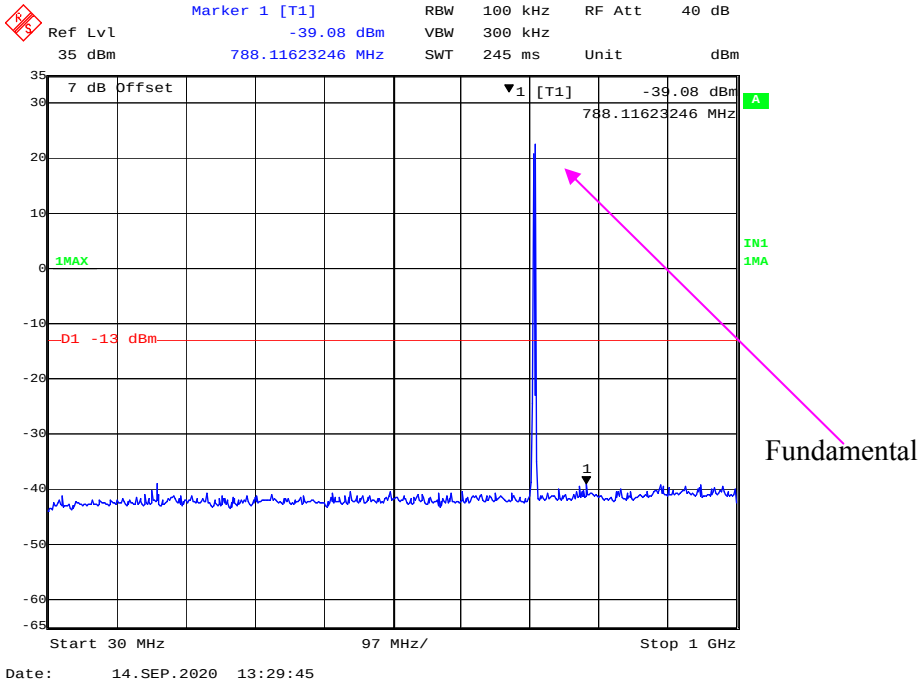
Date: 23.AUG.2020 17:24:36

1 GHz – 10 GHz (10 MHz, 16-QAM, Middle Channel)



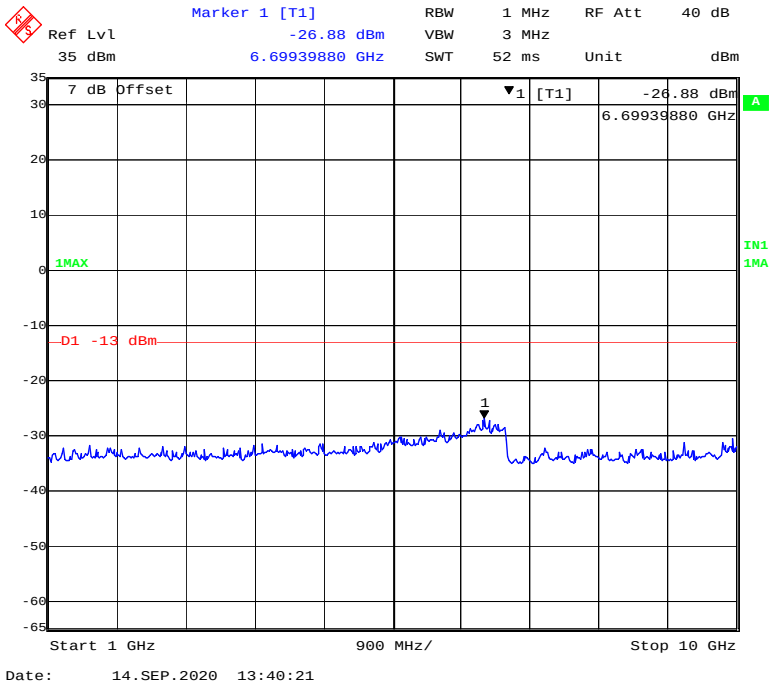
Date: 23.AUG.2020 17:25:41

30 MHz - 1 GHz (1.4 MHz, QPSK, High Channel)



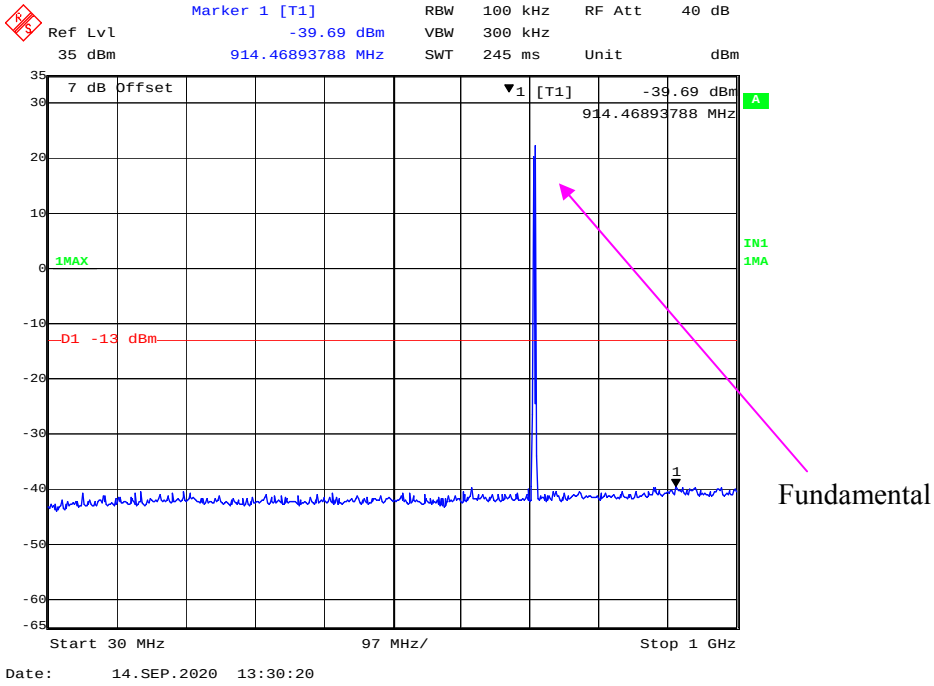
Date: 14.SEP.2020 13:29:45

1 GHz – 10 GHz (1.4 MHz, QPSK, High Channel)



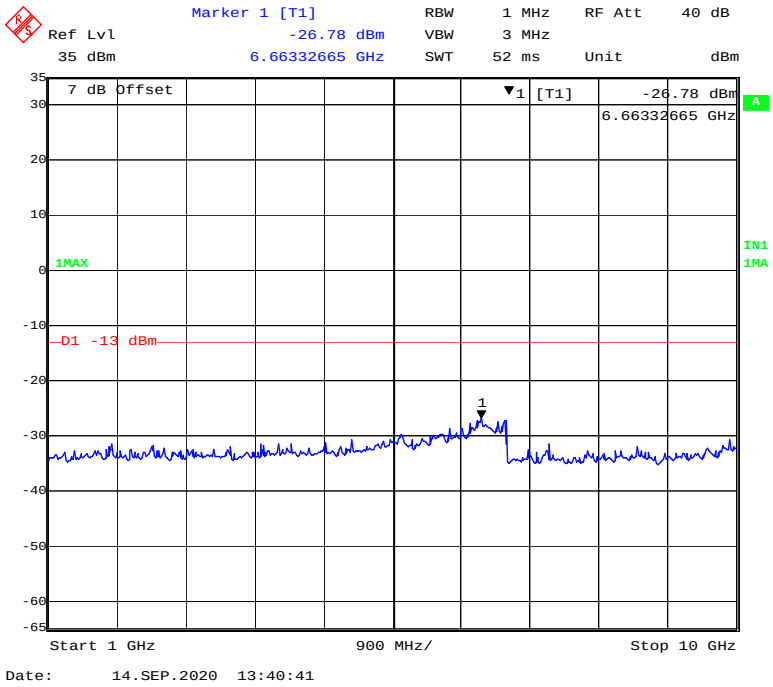
Date: 14.SEP.2020 13:40:21

30 MHz - 1 GHz (1.4 MHz, 16-QAM, High Channel)



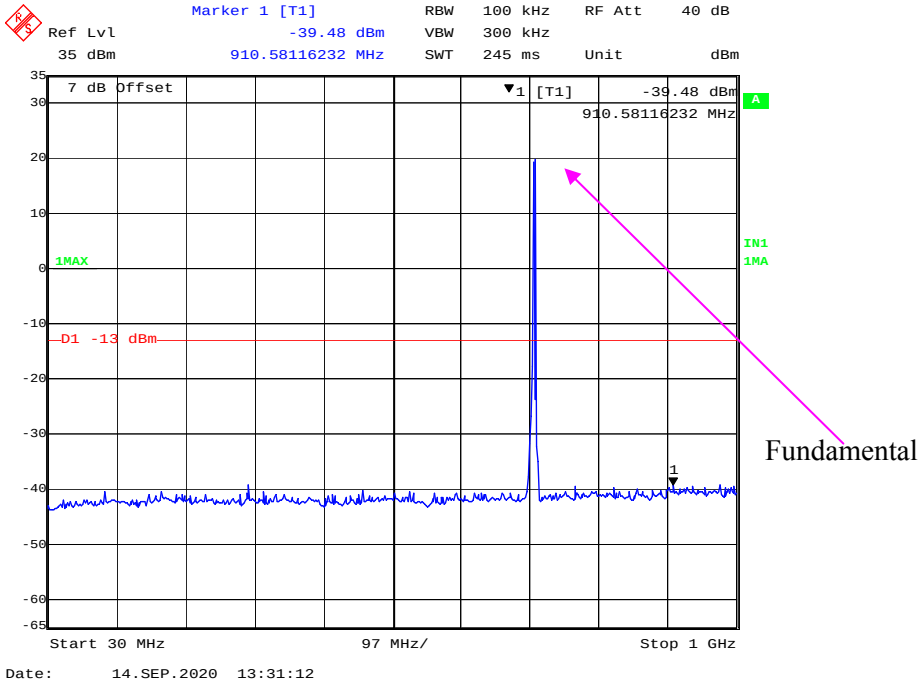
Date: 14.SEP.2020 13:30:20

1 GHz – 10 GHz (1.4 MHz, 16-QAM, High Channel)

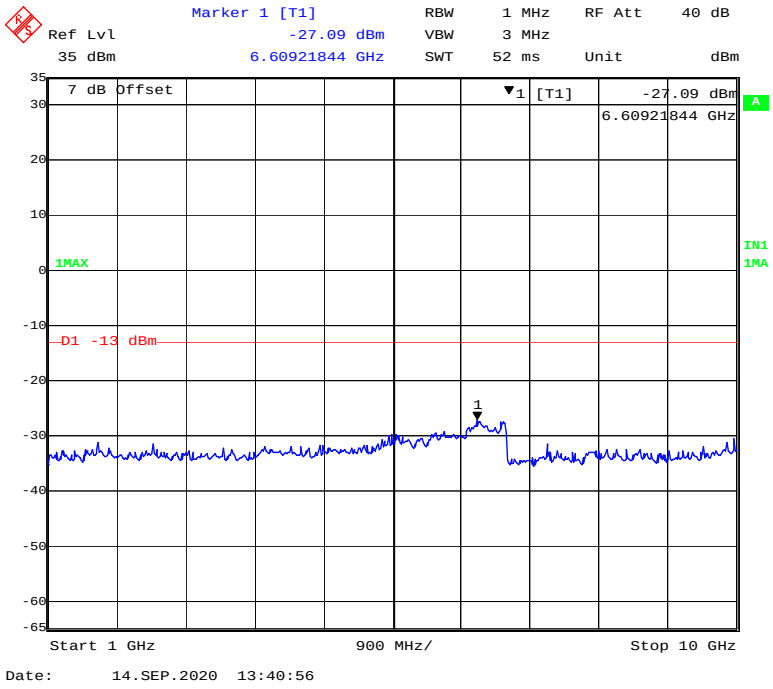


Date: 14.SEP.2020 13:40:41

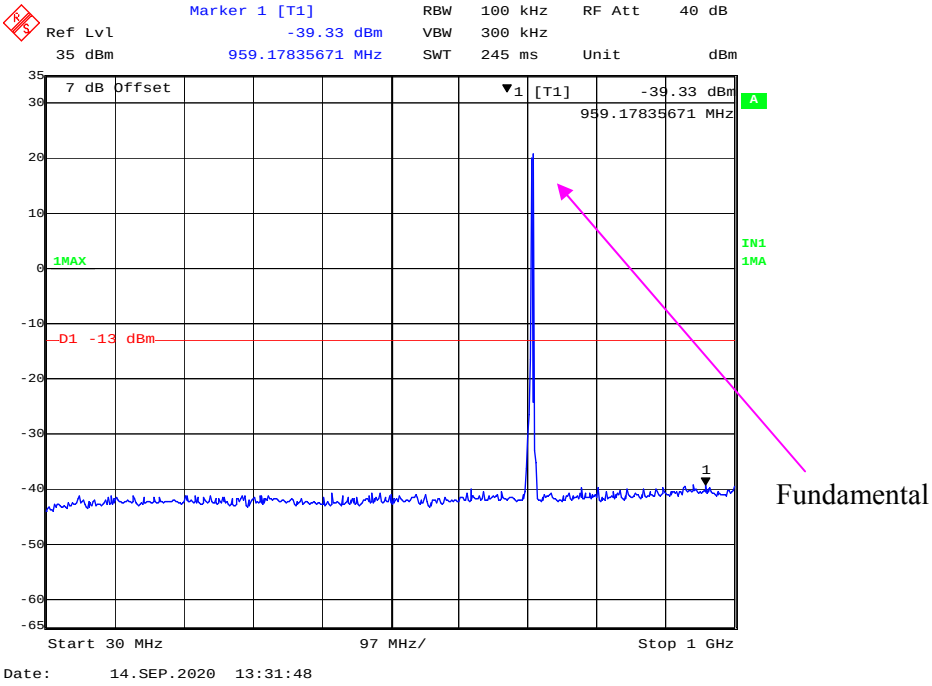
30 MHz - 1 GHz (3 MHz, QPSK, High Channel)



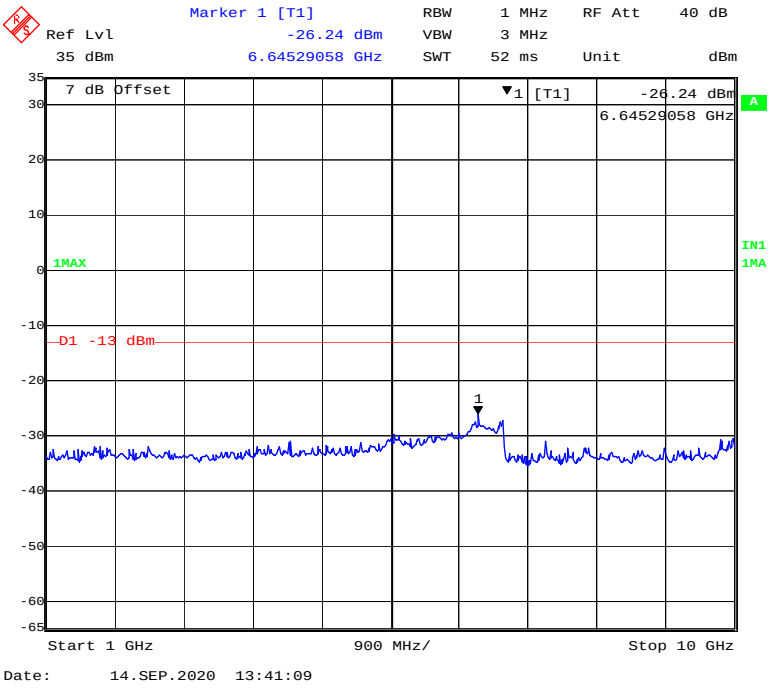
1 GHz – 10 GHz (3 MHz, QPSK, High Channel)



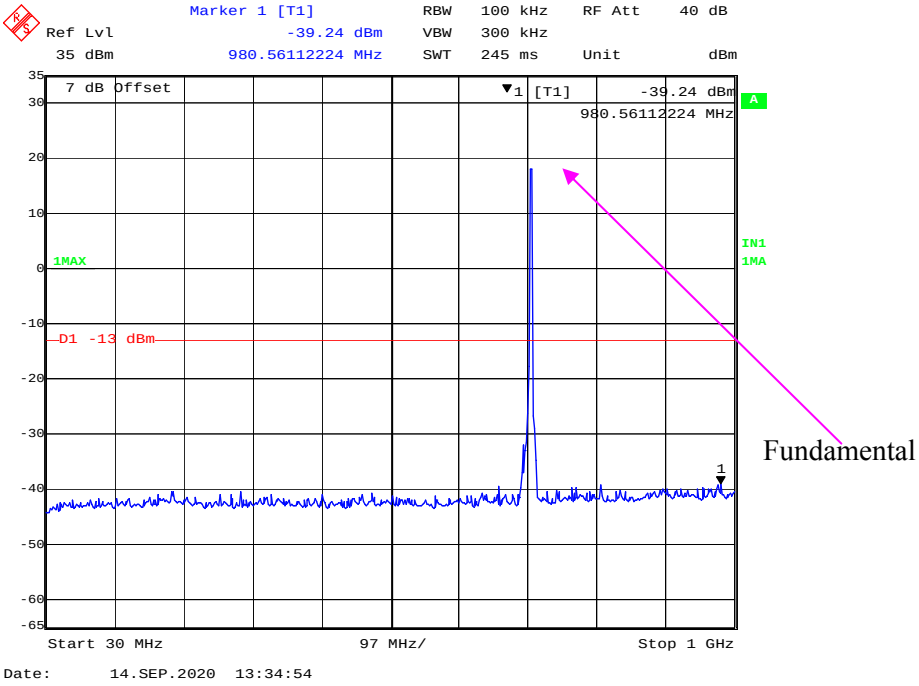
30 MHz - 1 GHz (3 MHz, 16-QAM, High Channel)



1 GHz – 10 GHz (3 MHz, 16-QAM, High Channel)

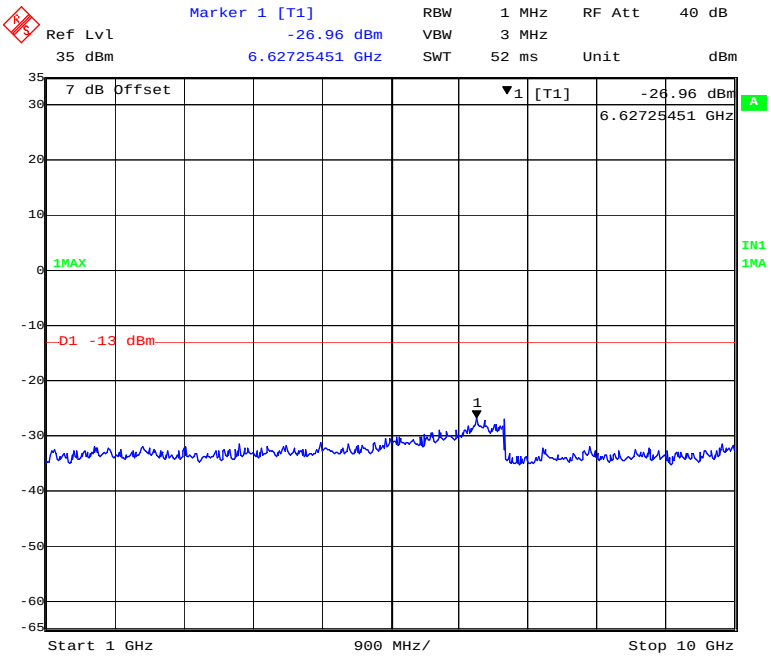


30 MHz - 1 GHz (5 MHz, QPSK, High Channel)



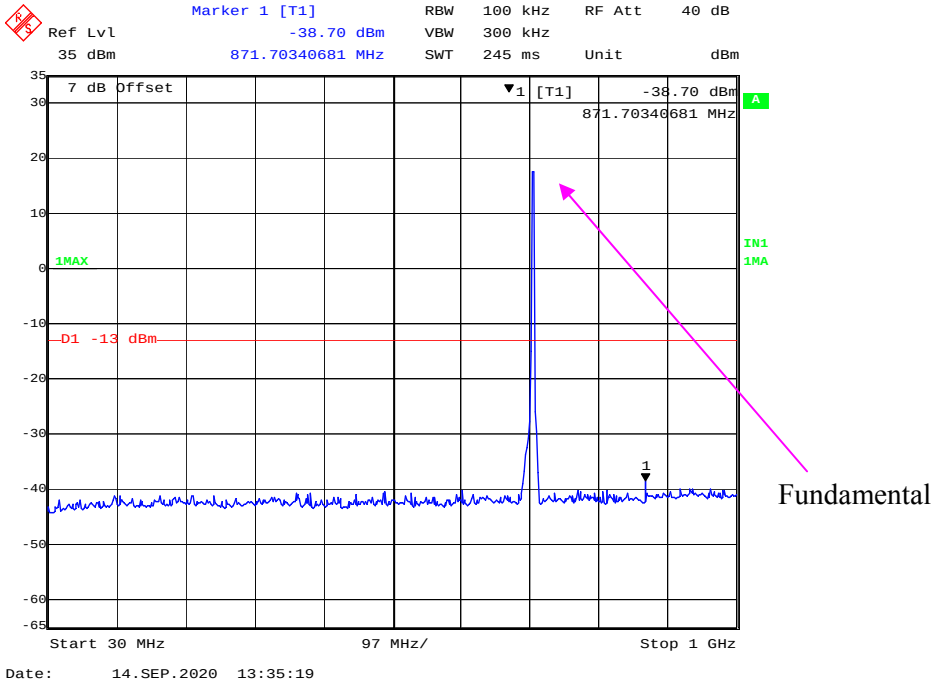
Date: 14.SEP.2020 13:34:54

1 GHz – 10 GHz (5 MHz, QPSK, High Channel)

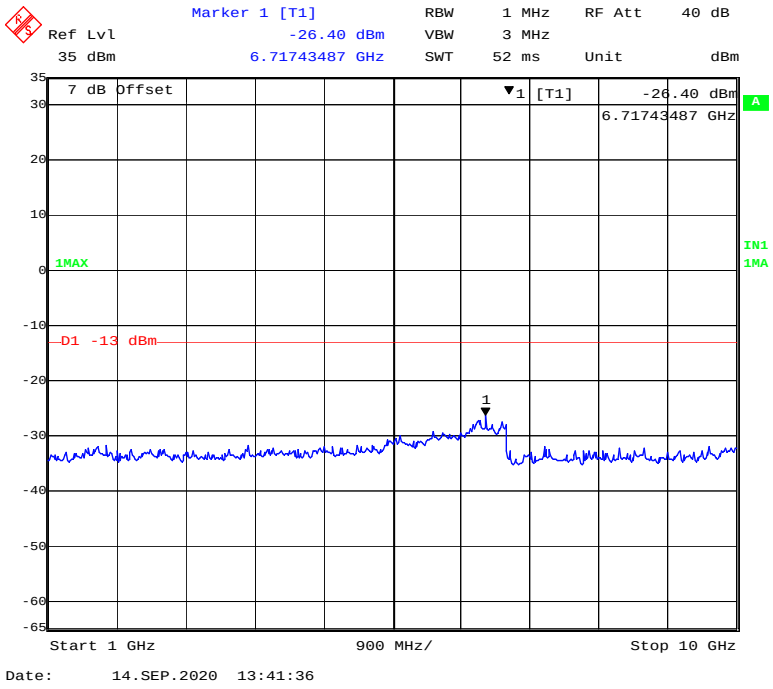


Date: 14.SEP.2020 13:41:24

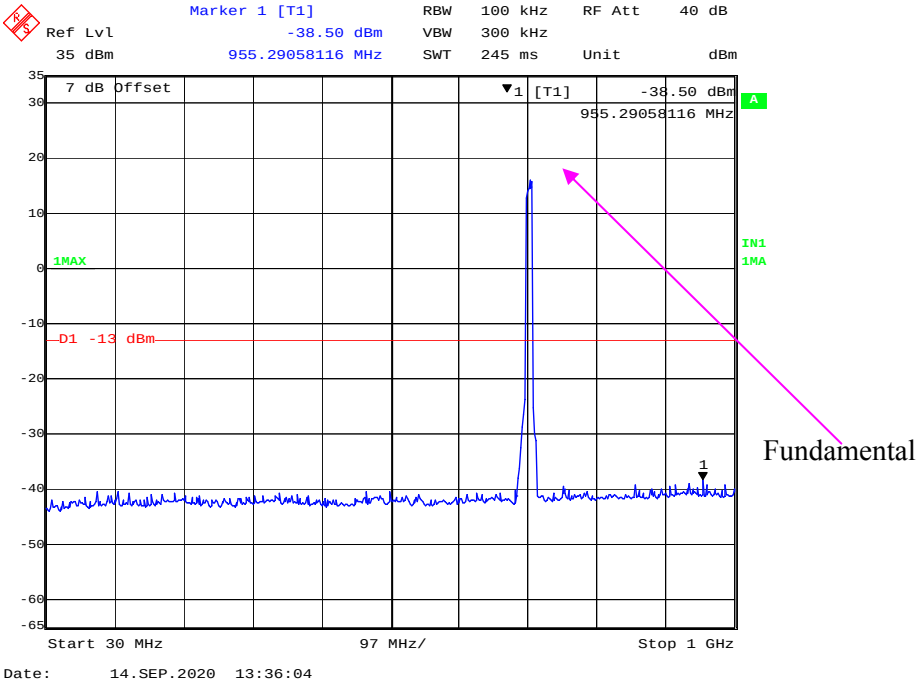
30 MHz - 1 GHz (5 MHz, 16-QAM, High Channel)



1 GHz – 10 GHz (5 MHz, 16-QAM, High Channel)



30 MHz - 1 GHz (10 MHz, QPSK, High Channel)



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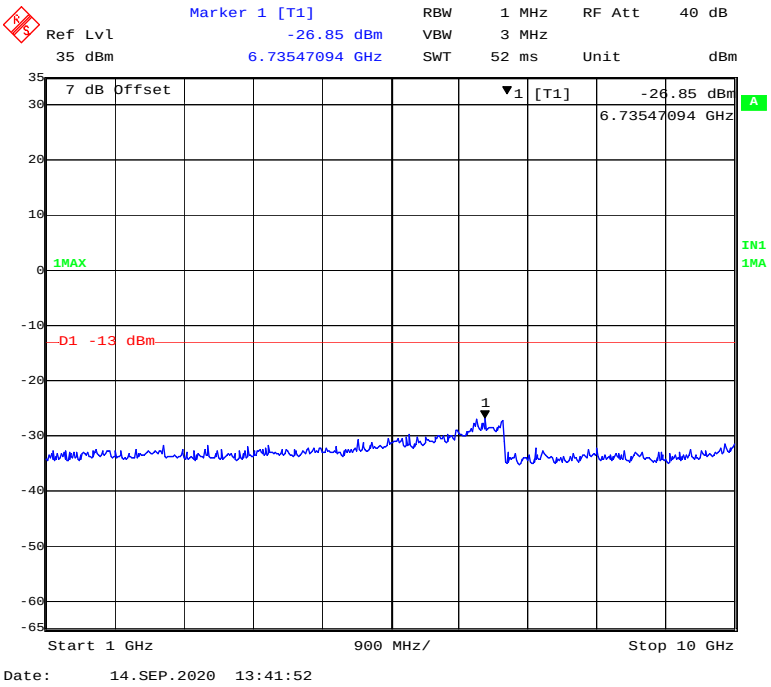
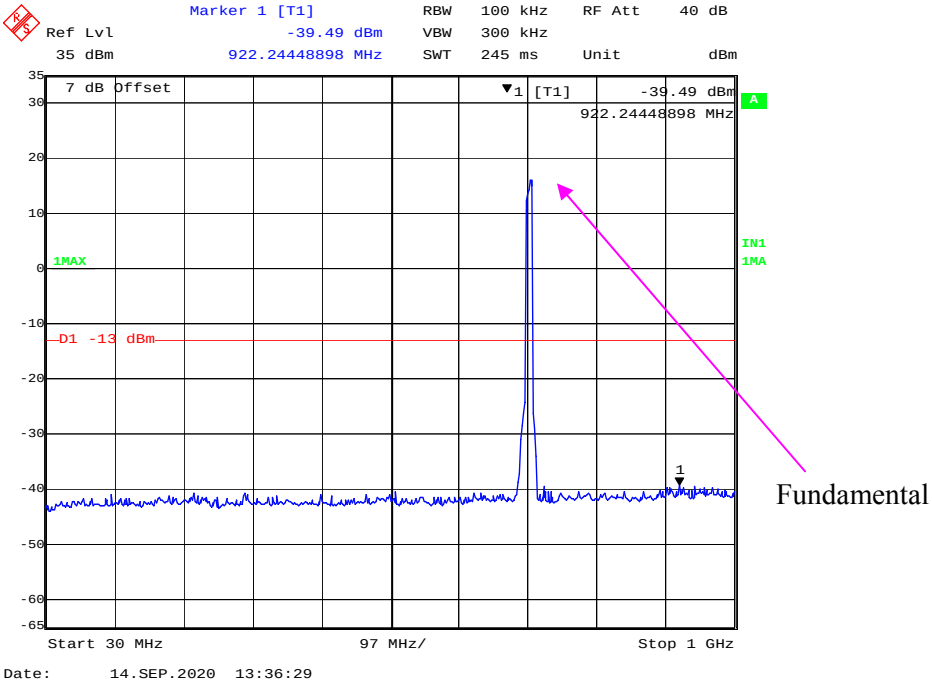
1 GHz – 10 GHz (10 MHz, QPSK, High Channel)

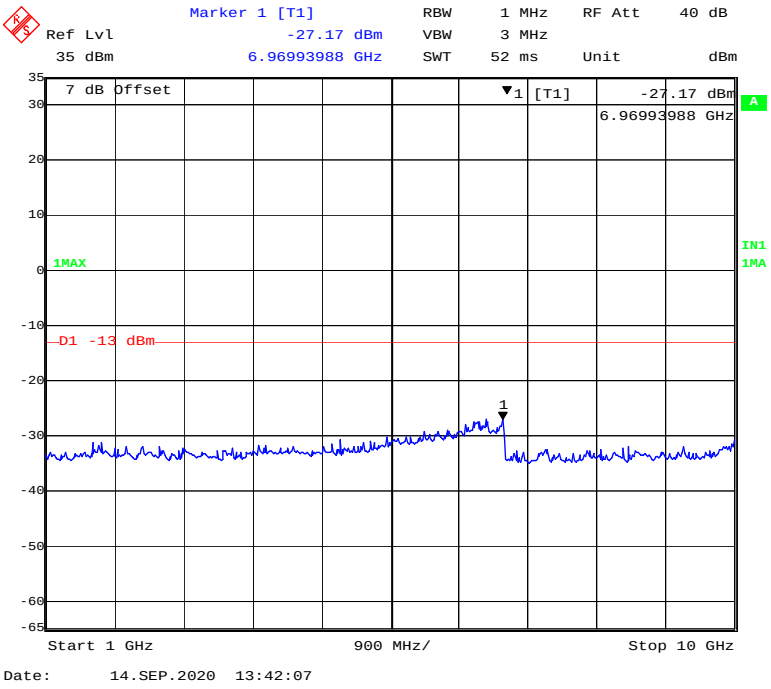


Date: 14.SEP.2020 13:41:52

30 MHz - 1 GHz (10 MHz, 16-QAM, High Channel)

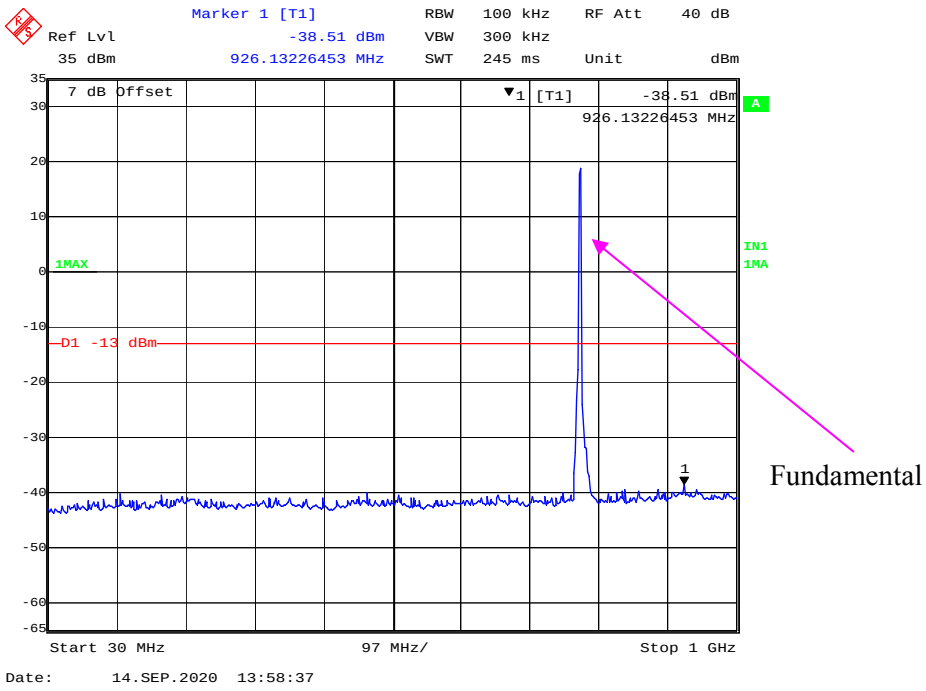


1 GHz – 10 GHz (10 MHz, 16-QAM, High Channel)

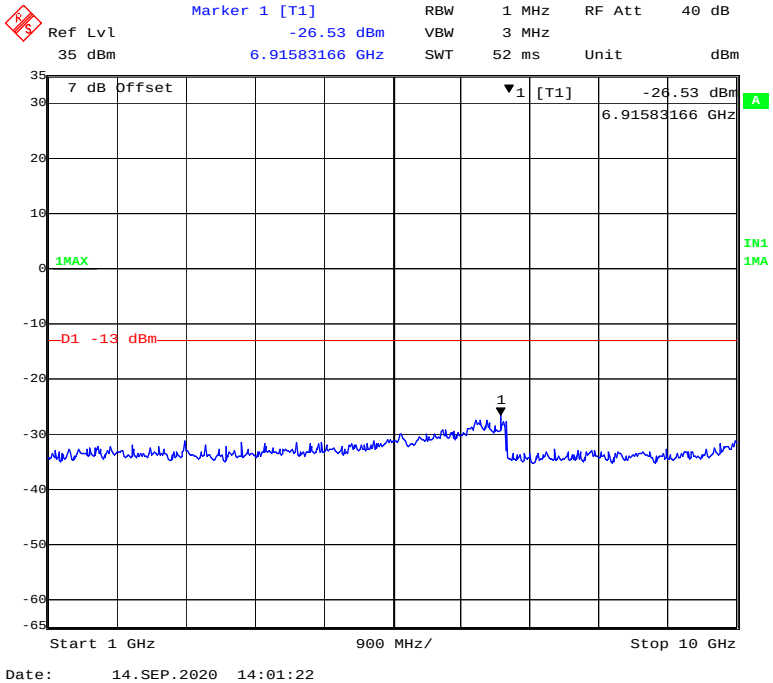


LTE Band 13:

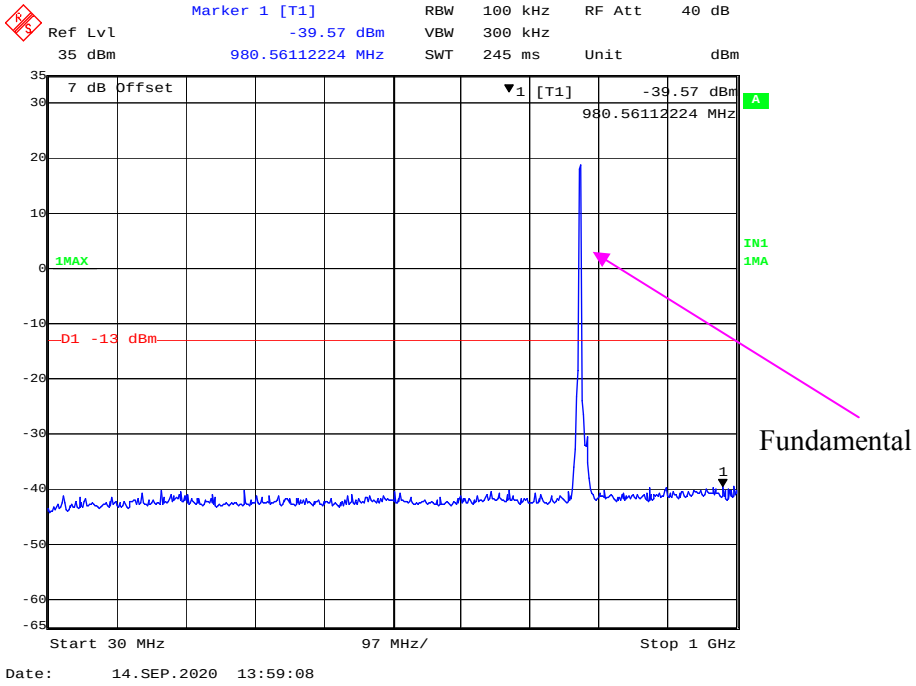
30 MHz - 1 GHz (5 MHz, QPSK, Low Channel)



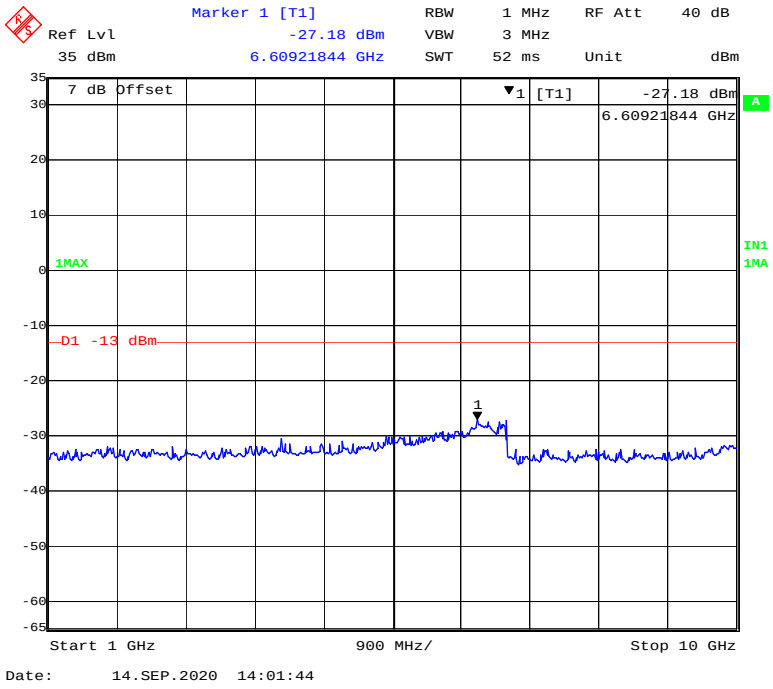
1 GHz – 10 GHz (5 MHz, QPSK, Low Channel)



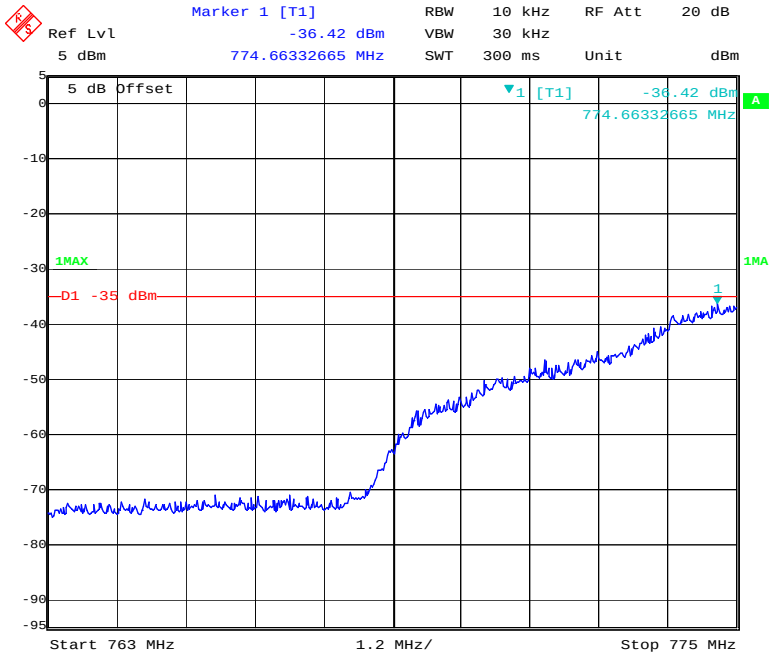
30 MHz - 1 GHz (5 MHz, 16-QAM, Low Channel)



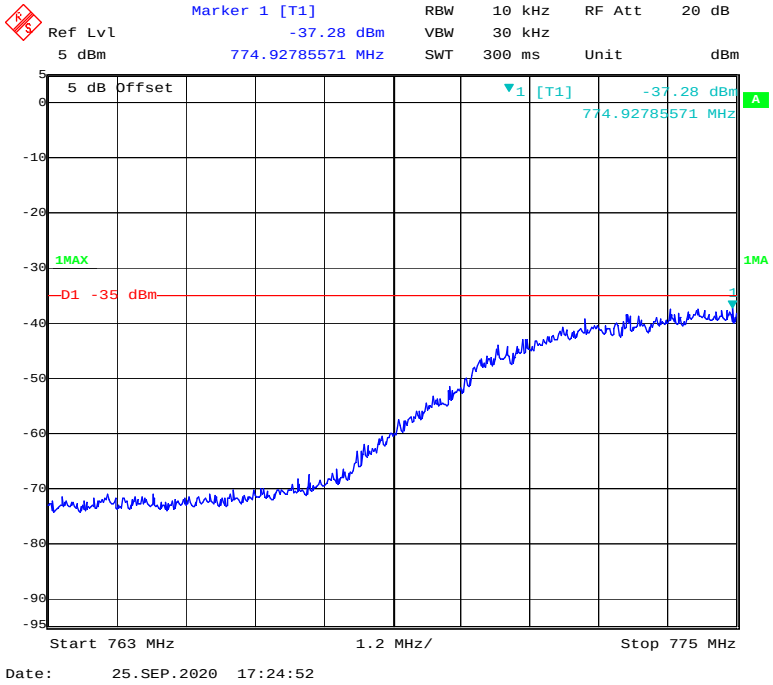
1 GHz – 10 GHz (5 MHz, 16-QAM, Low Channel)



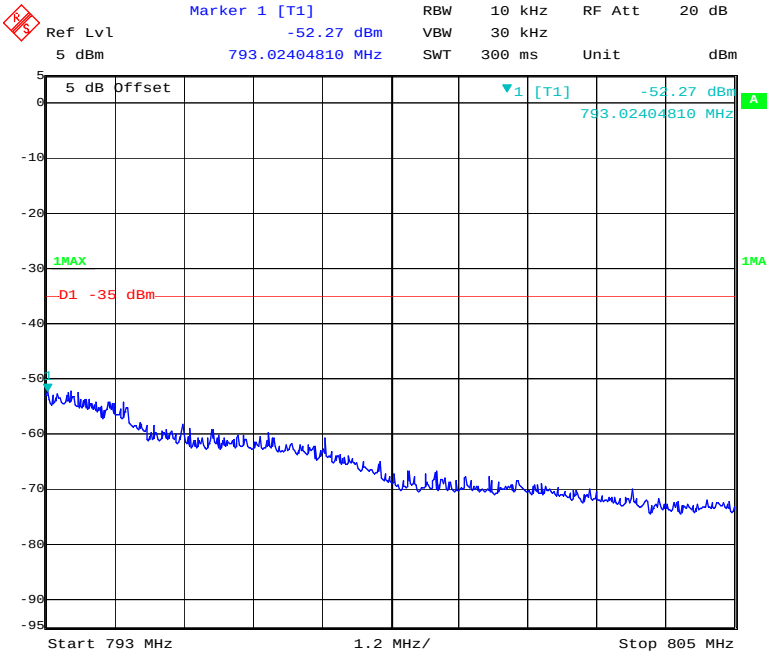
763 MHz - 775 MHz (5 MHz, QPSK, Low Channel)



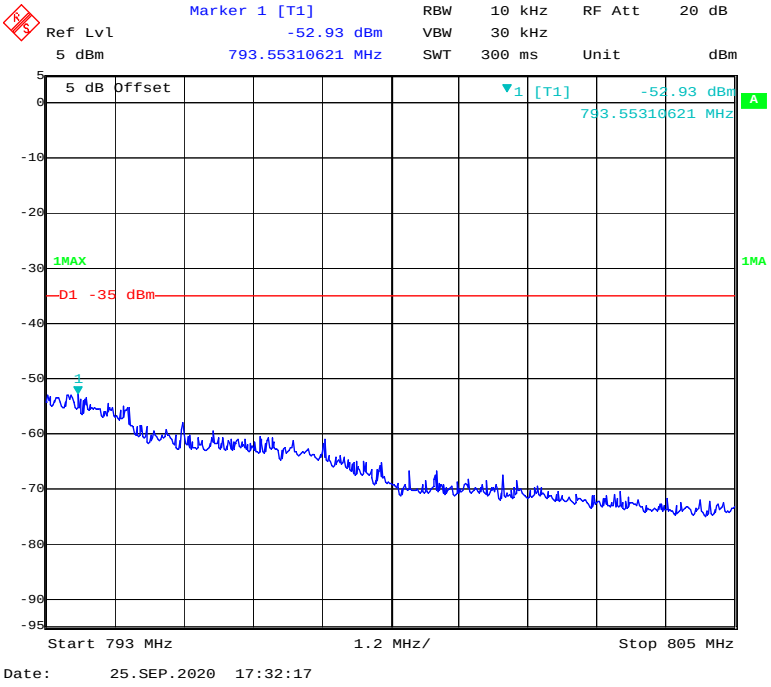
763 MHz - 775 MHz (5 MHz, 16-QAM, Low Channel)



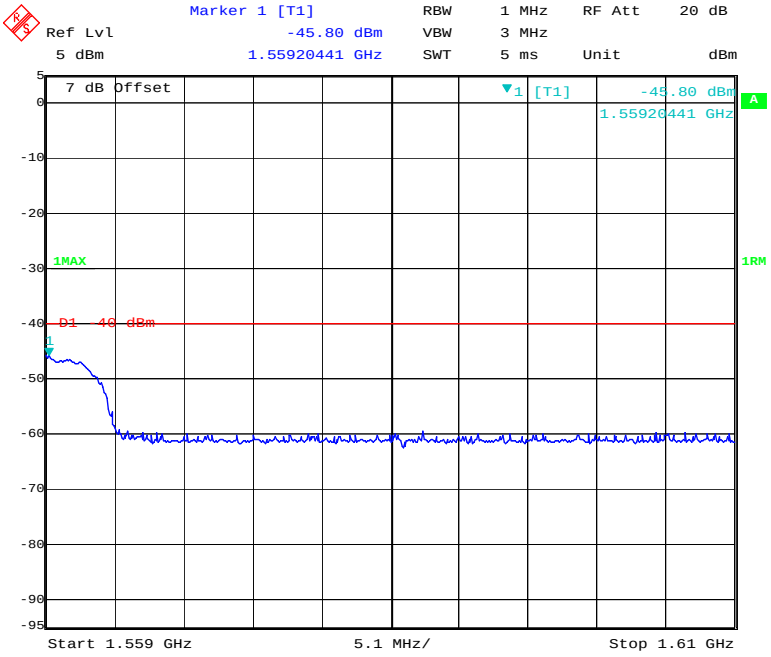
793 MHz - 805 MHz (5 MHz, QPSK, Low Channel)



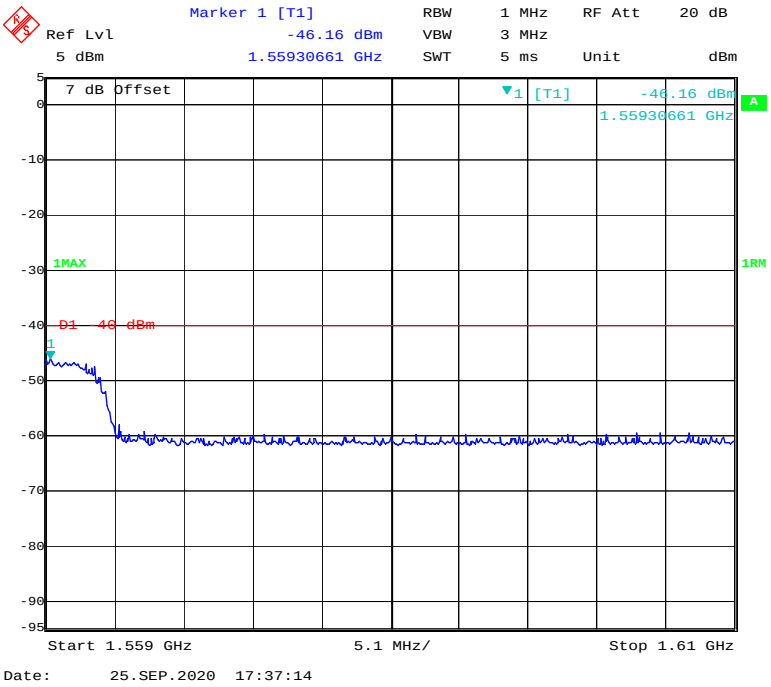
793 MHz - 805 MHz (5 MHz, 16-QAM, Low Channel)



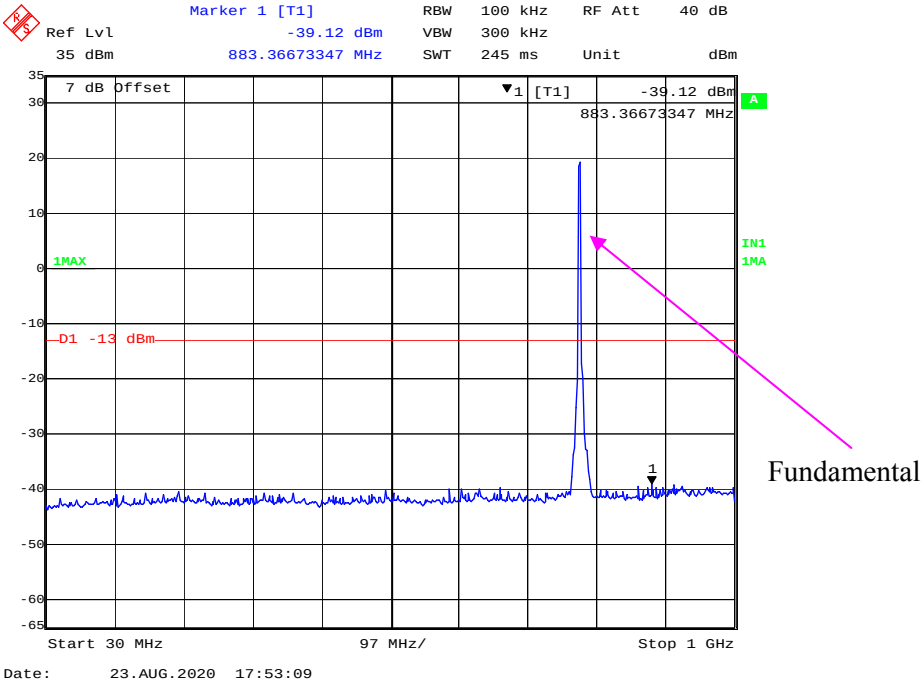
1559 MHz - 1610 MHz (5 MHz, QPSK, Low Channel)



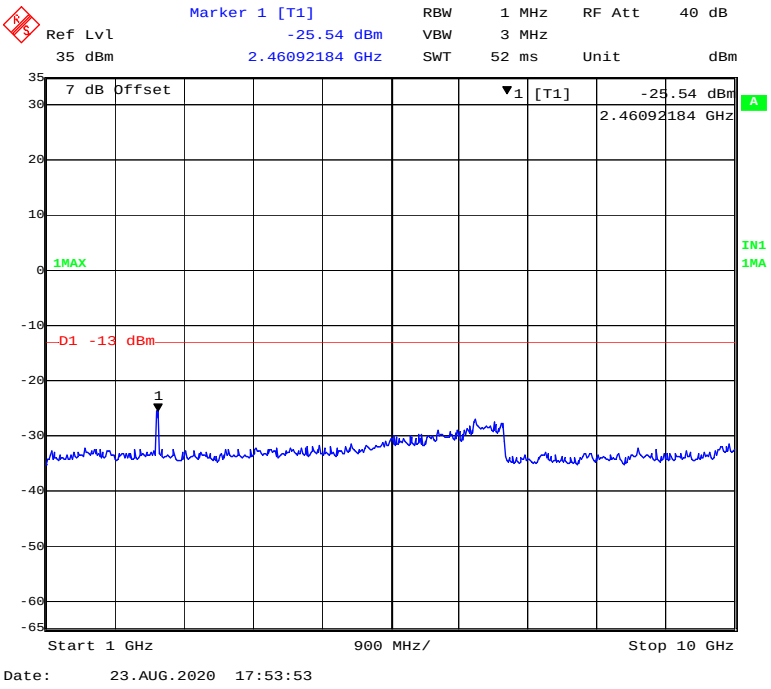
1559 MHz - 1610 MHz (5 MHz, 16-QAM, Low Channel)



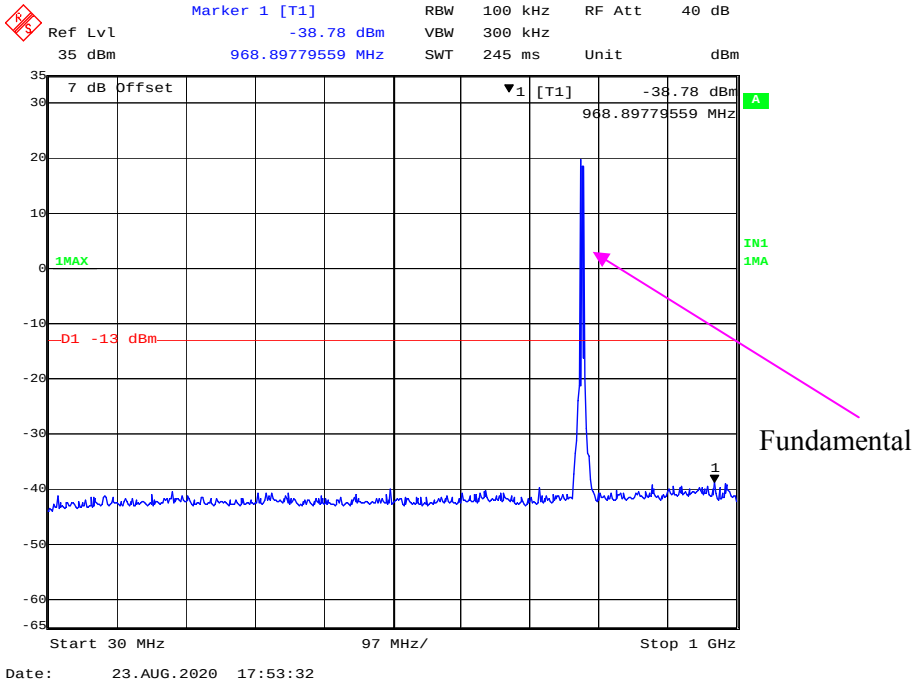
30 MHz - 1 GHz (5 MHz, QPSK, Middle Channel)



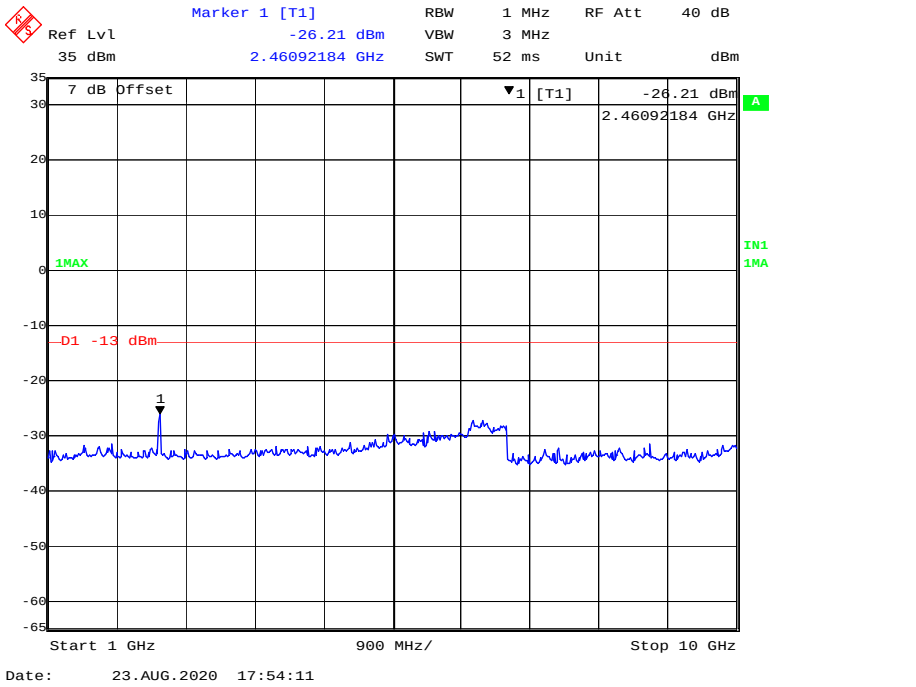
1 GHz – 10 GHz (5 MHz, QPSK, Middle Channel)



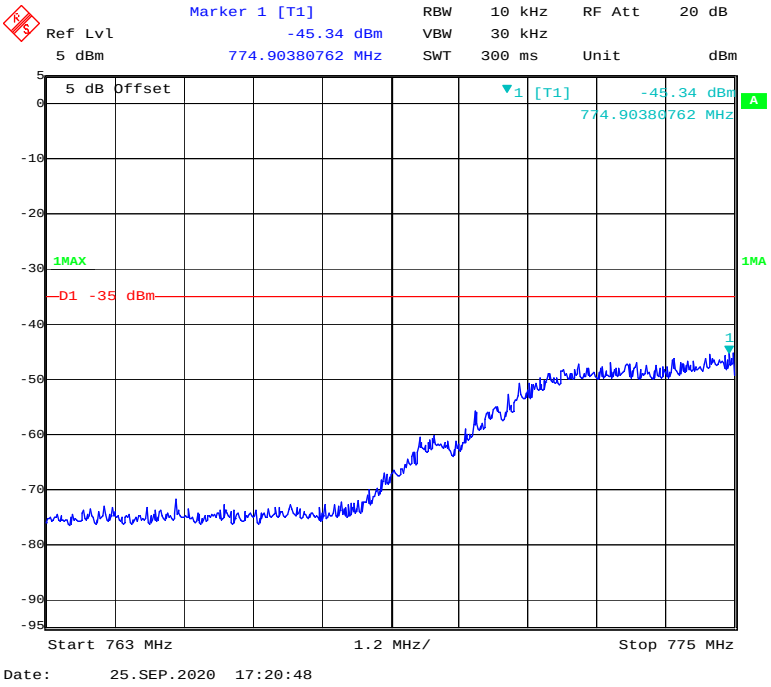
30 MHz - 1 GHz (5 MHz, 16-QAM, Middle Channel)



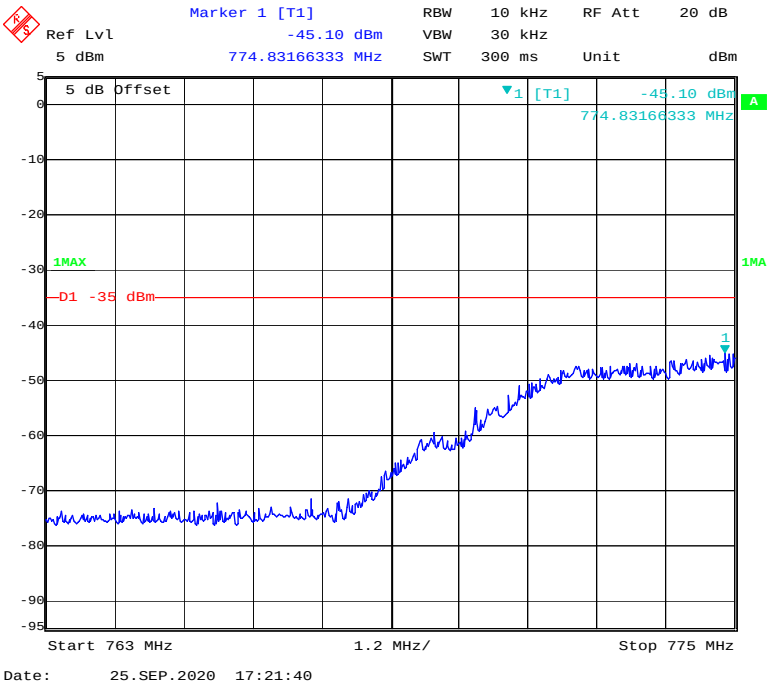
1 GHz – 10 GHz (5 MHz, 16-QAM, Middle Channel)



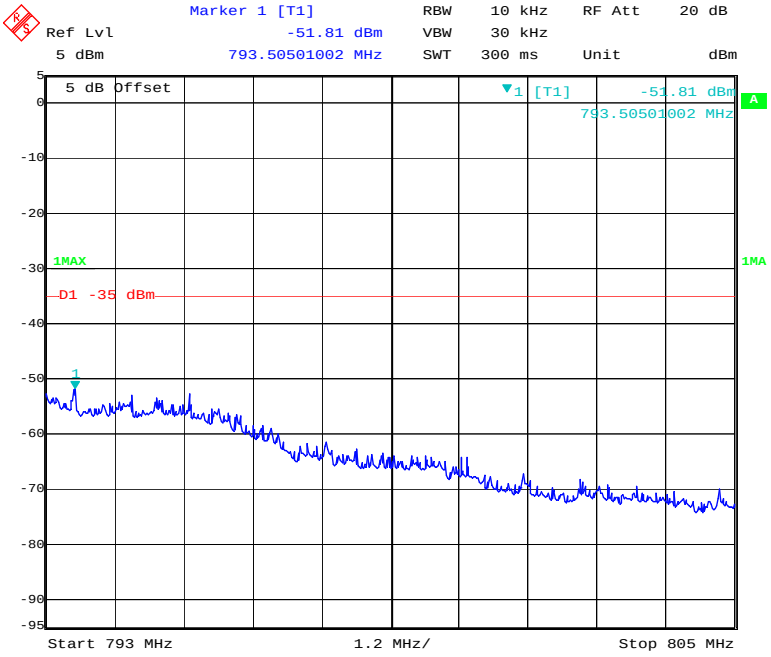
763 MHz - 775 MHz (5 MHz, QPSK, Middle Channel)



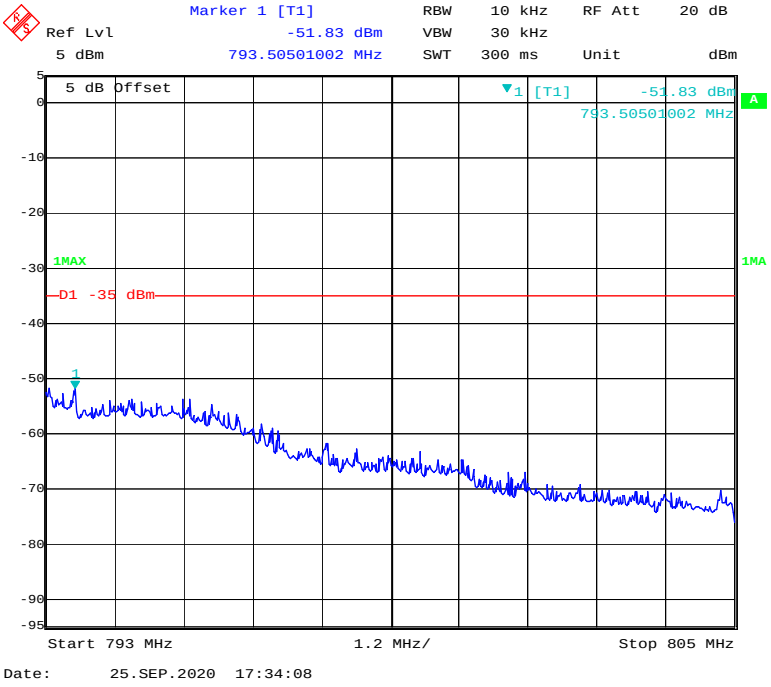
763 MHz - 775 MHz (5 MHz, 16-QAM, Middle Channel)



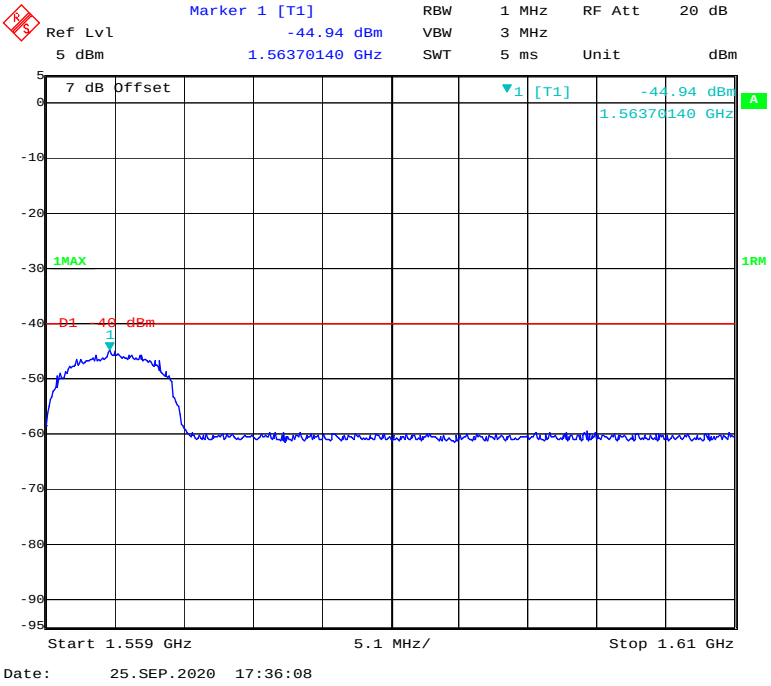
793 MHz - 805 MHz (5 MHz, QPSK, Middle Channel)



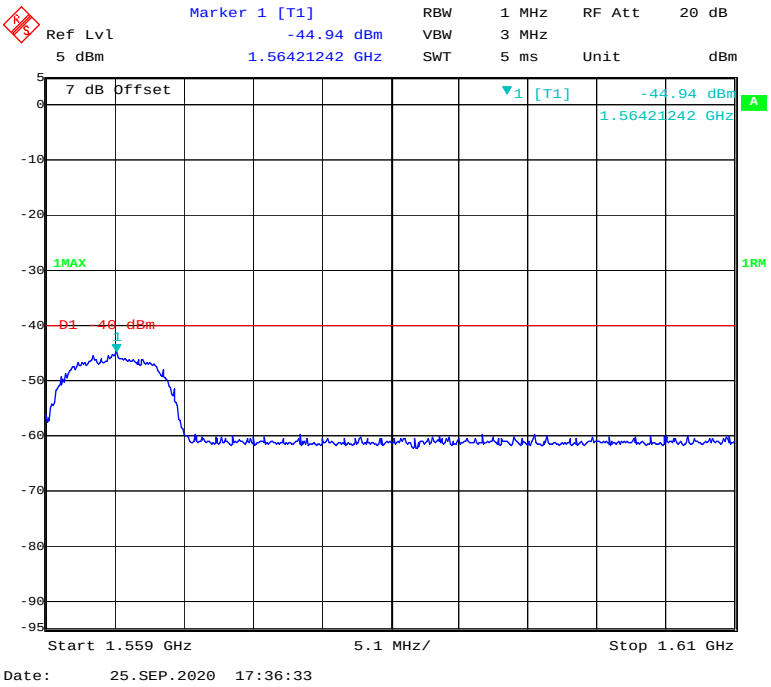
793 MHz - 805 MHz (5 MHz, 16-QAM, Middle Channel)



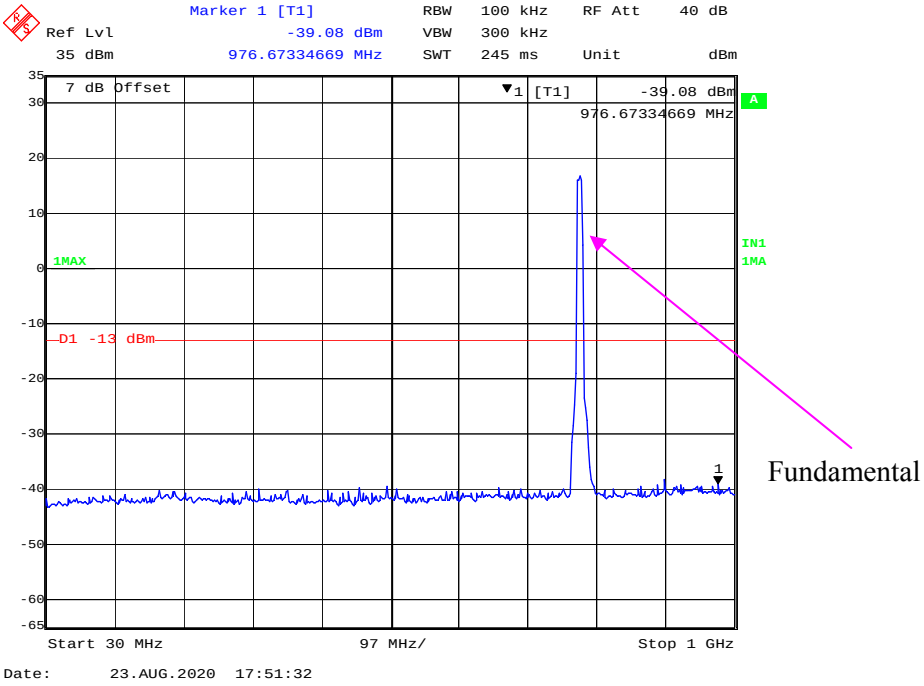
1559 MHz - 1610 MHz (5 MHz, QPSK, Middle Channel)



1559 MHz - 1610 MHz (5 MHz, 16-QAM, Middle Channel)



30 MHz - 1 GHz (10 MHz, QPSK, Middle Channel)



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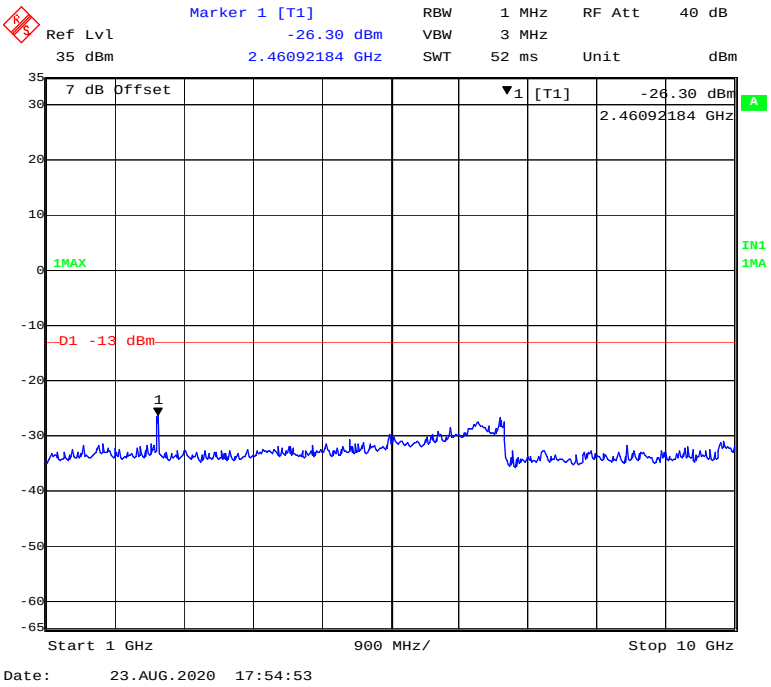
1 GHz – 10 GHz (10 MHz, QPSK, Middle Channel)



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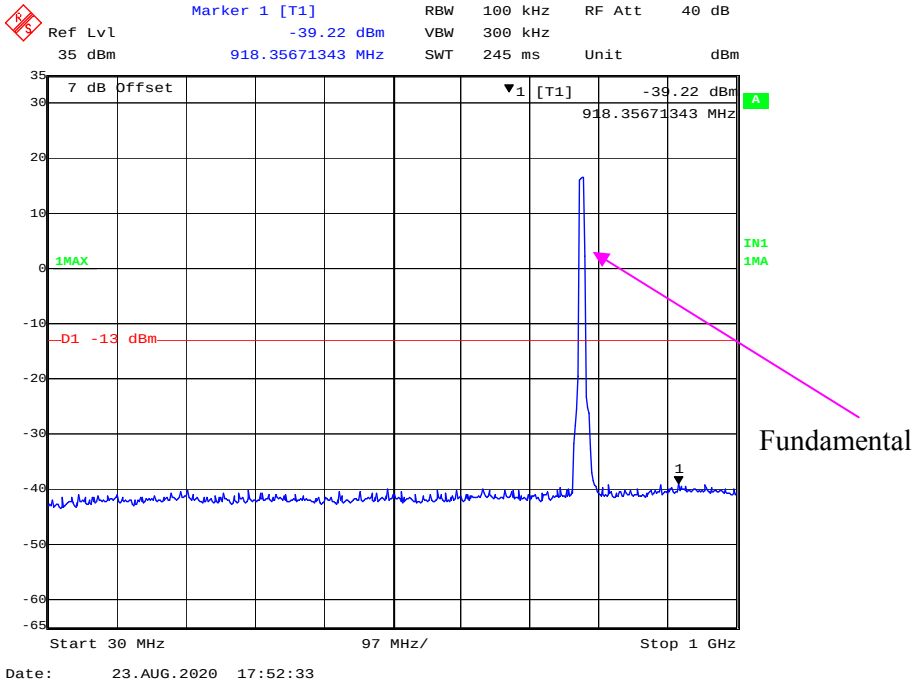
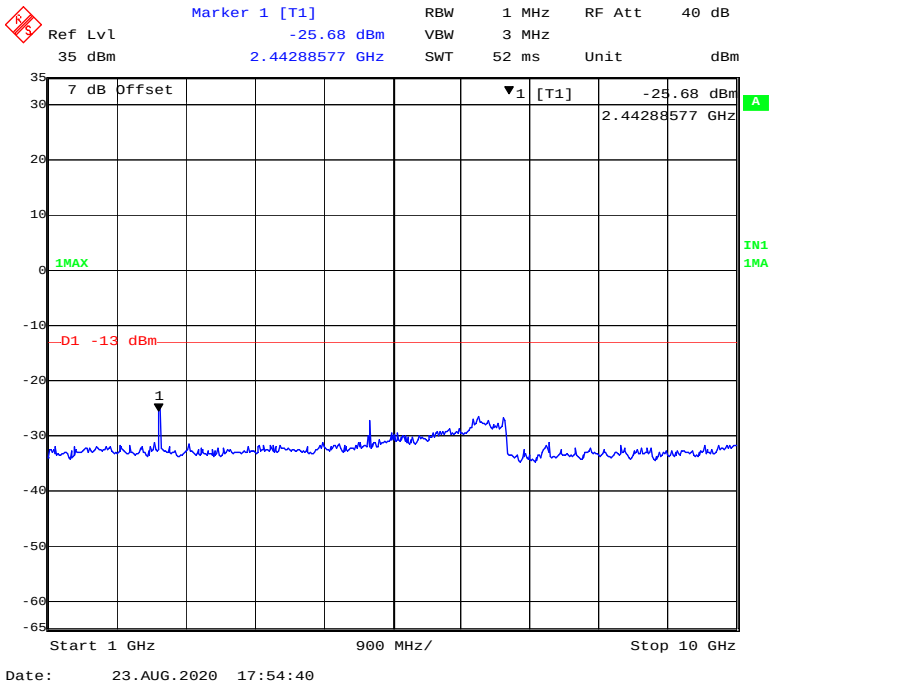
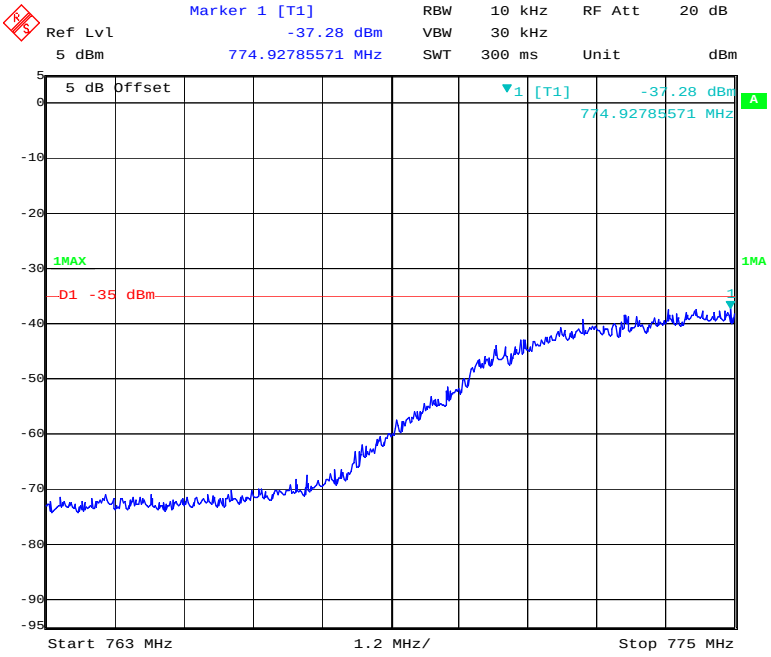
30 MHz - 1 GHz (10 MHz, 16-QAM, Middle Channel)



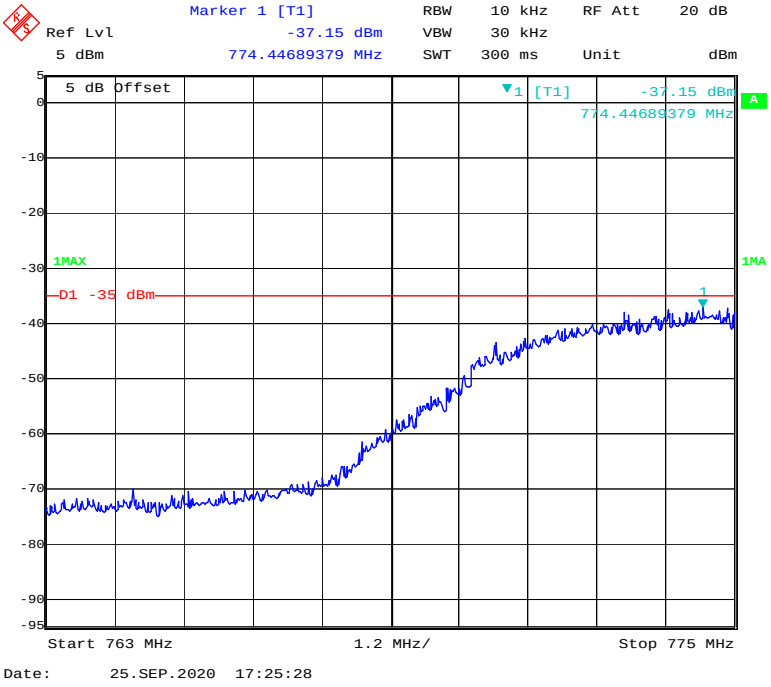
1 GHz – 10 GHz (10 MHz, 16-QAM, Middle Channel)



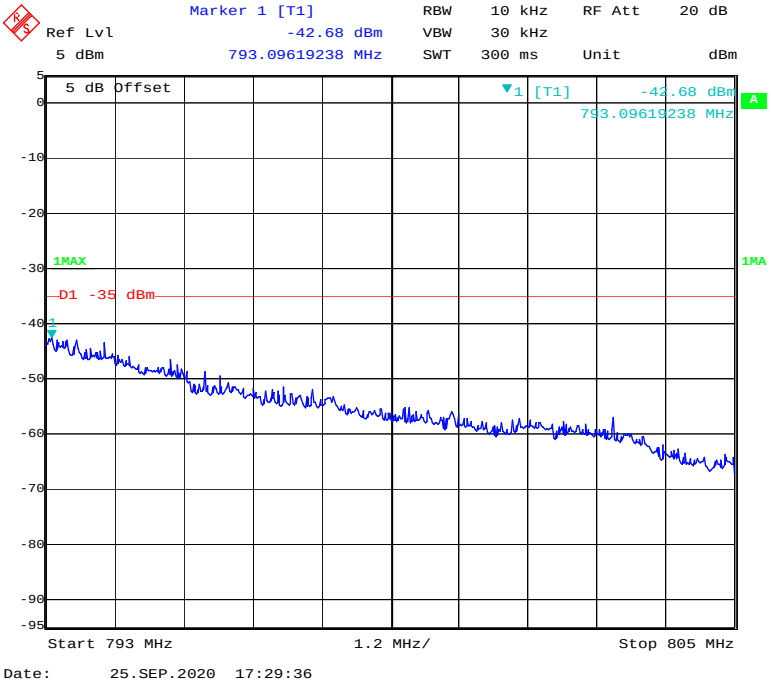
763 MHz - 775 MHz (10 MHz, QPSK, Middle Channel)



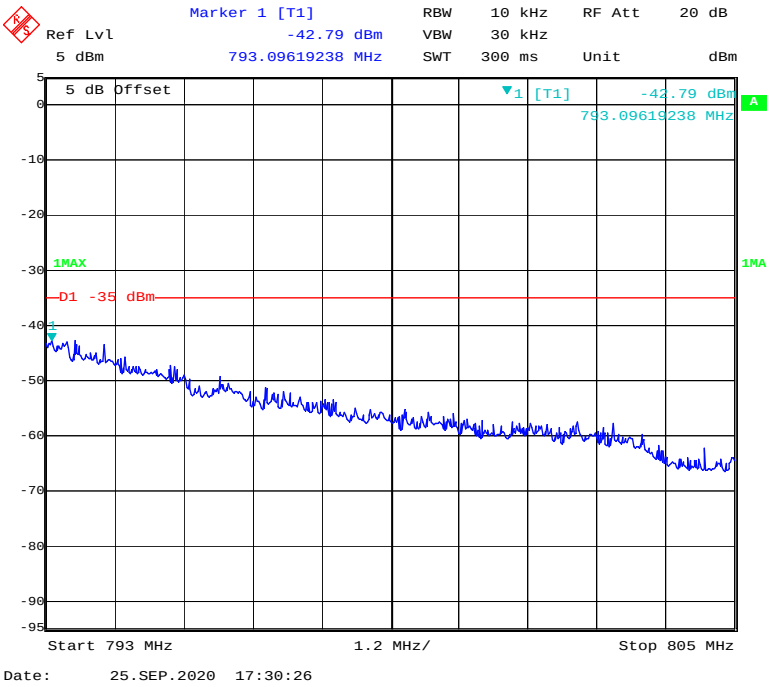
763 MHz - 775 MHz (10 MHz, 16-QAM, Middle Channel)



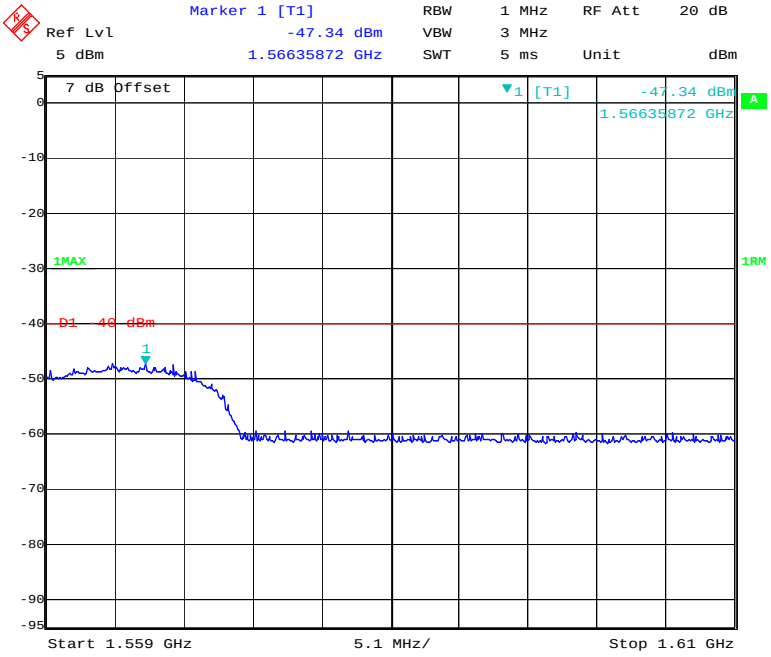
793 MHz - 805 MHz (10 MHz, QPSK, Middle Channel)



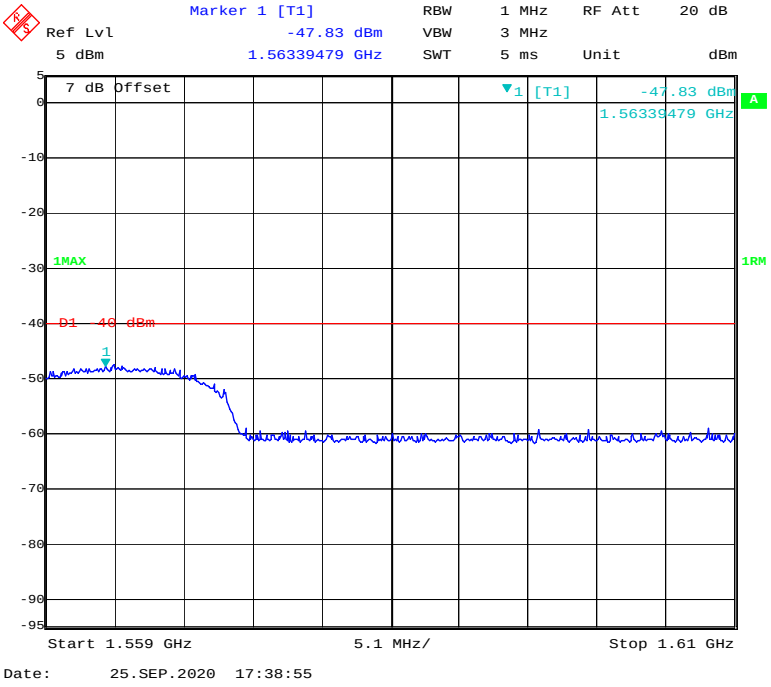
793 MHz - 805 MHz (10 MHz, 16-QAM, Middle Channel)



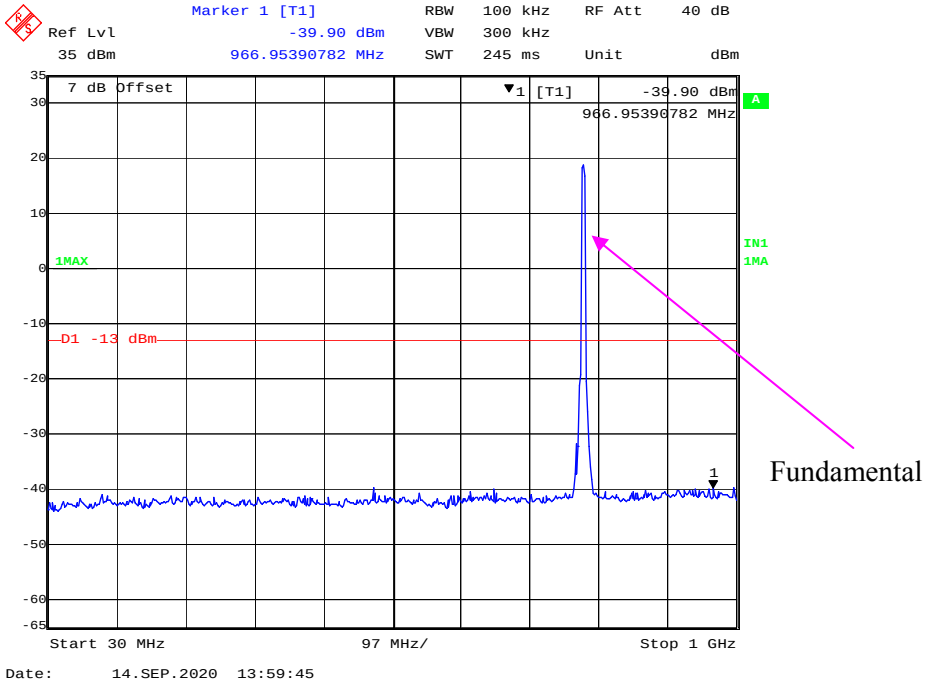
1559 MHz - 1610 MHz (10 MHz, QPSK, Middle Channel)



1559 MHz - 1610 MHz (10 MHz, 16-QAM, Middle Channel)



30 MHz - 1 GHz (5 MHz, QPSK, High Channel)



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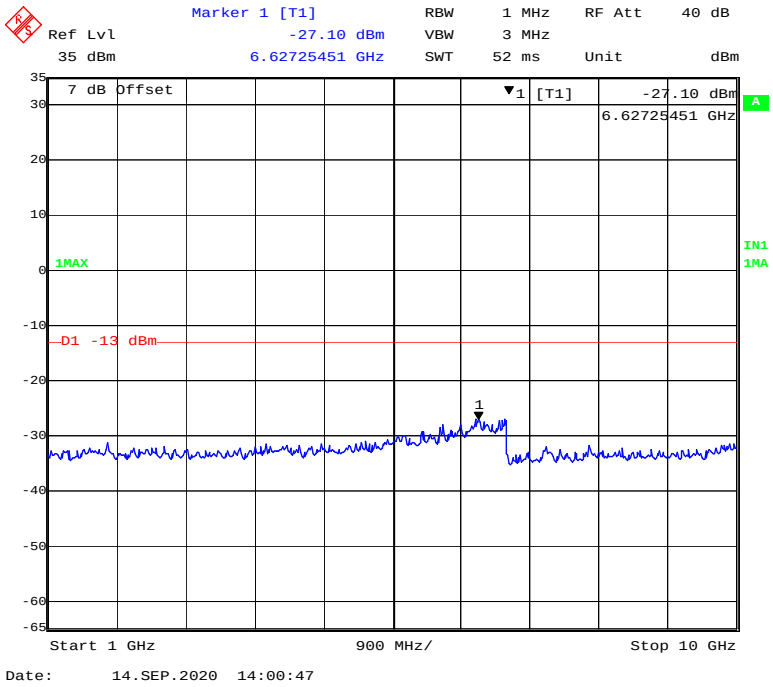
1 GHz – 10 GHz (5 MHz, QPSK, High Channel)



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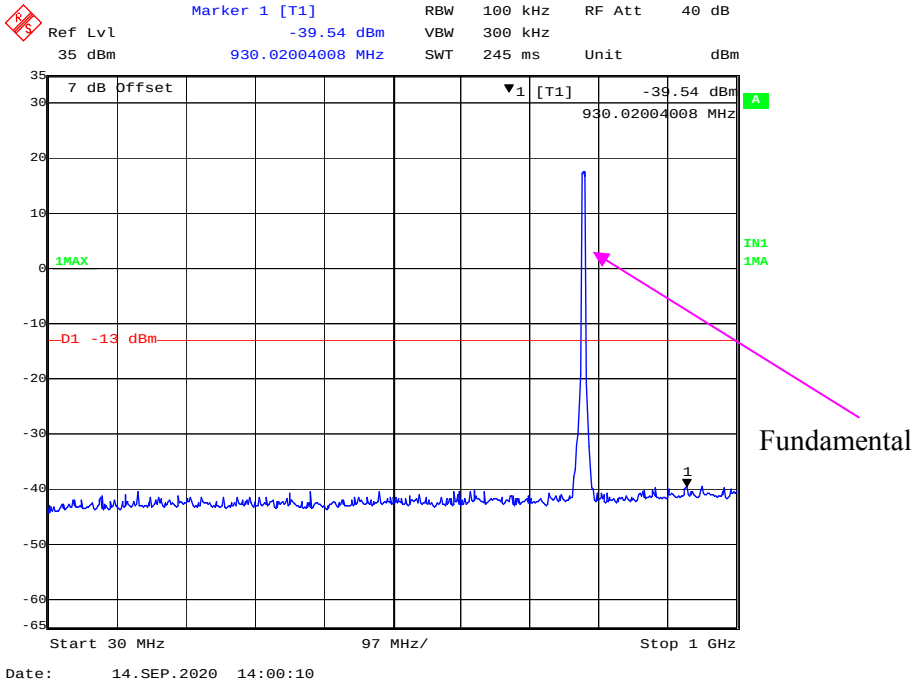
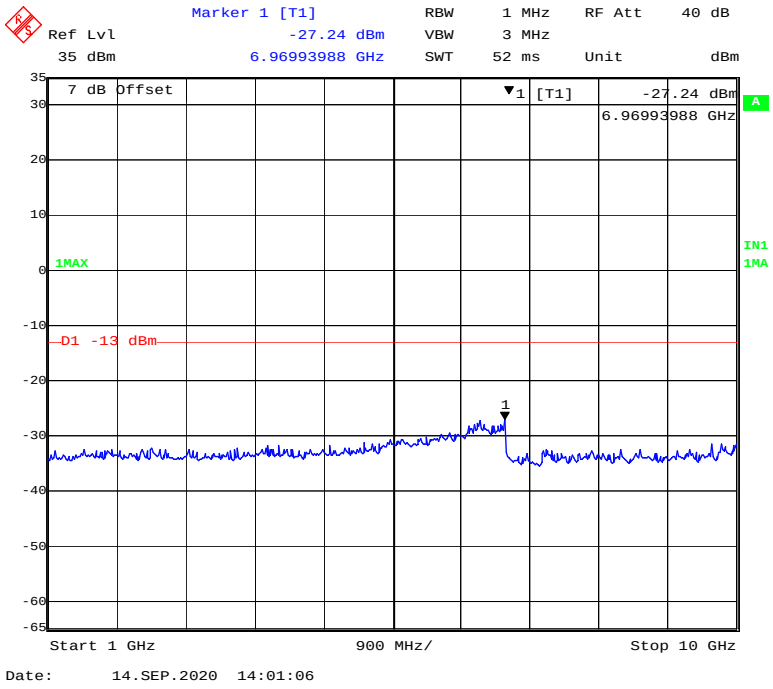
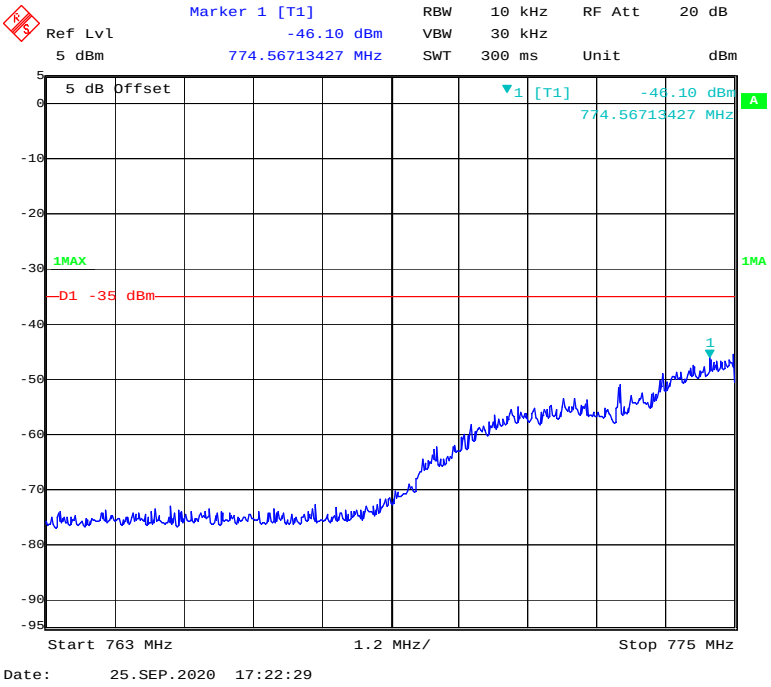
30 MHz - 1 GHz (5 MHz, 16-QAM, High Channel)



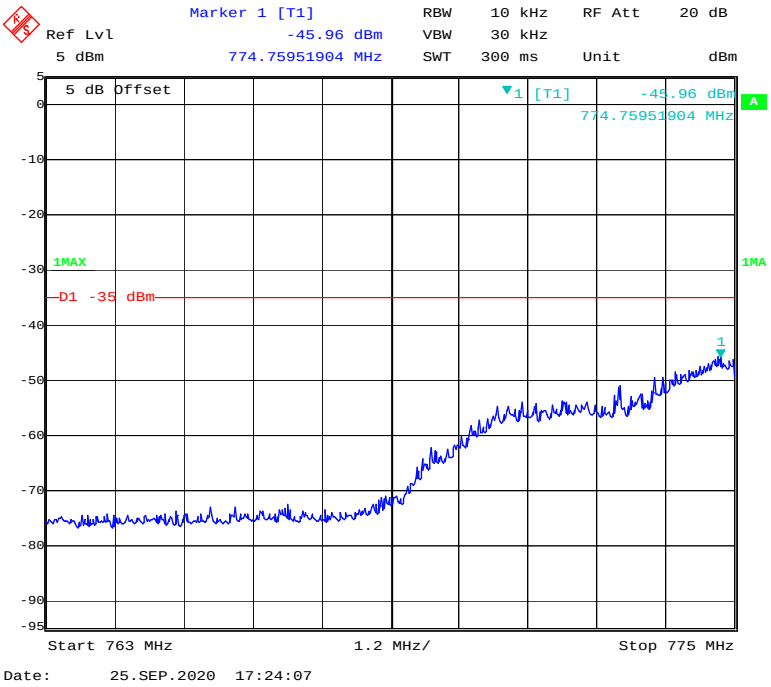
1 GHz – 10 GHz (5 MHz, 16-QAM, High Channel)



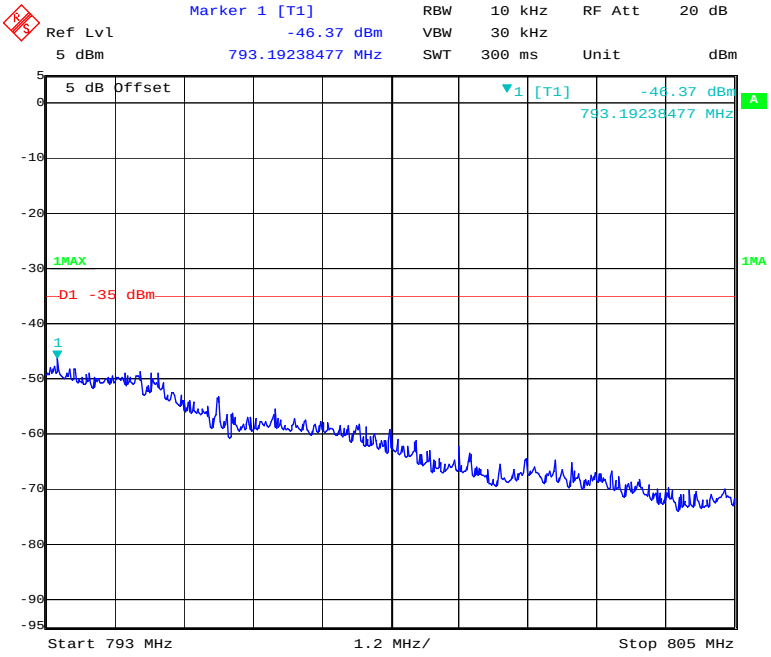
763 MHz - 775 MHz (5 MHz, QPSK, High Channel)



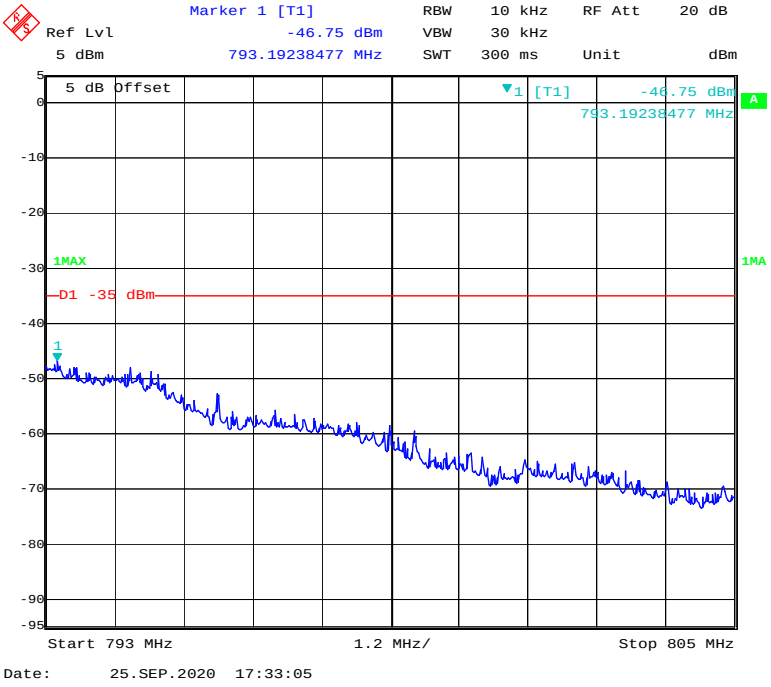
763 MHz - 775 MHz (5 MHz, 16-QAM, High Channel)



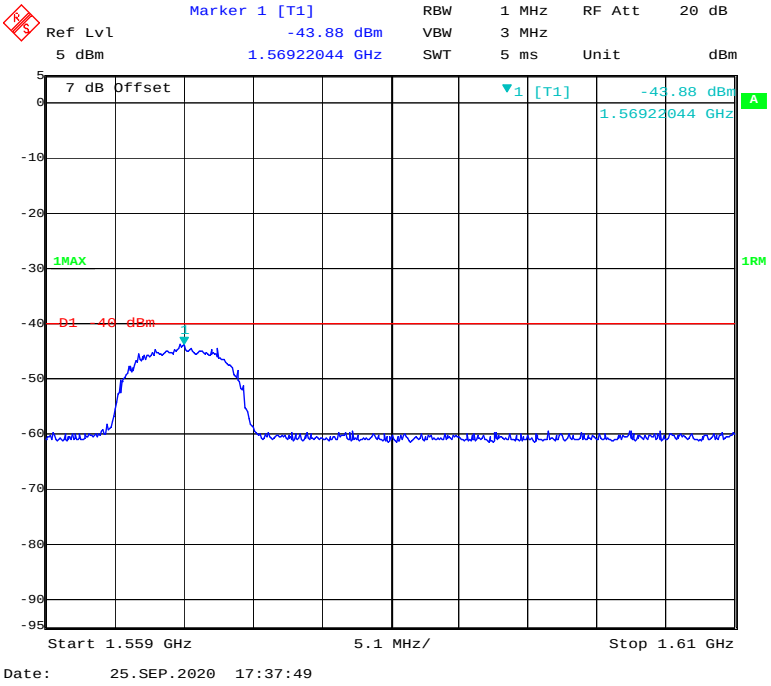
793 MHz - 805 MHz (5 MHz, QPSK, High Channel)



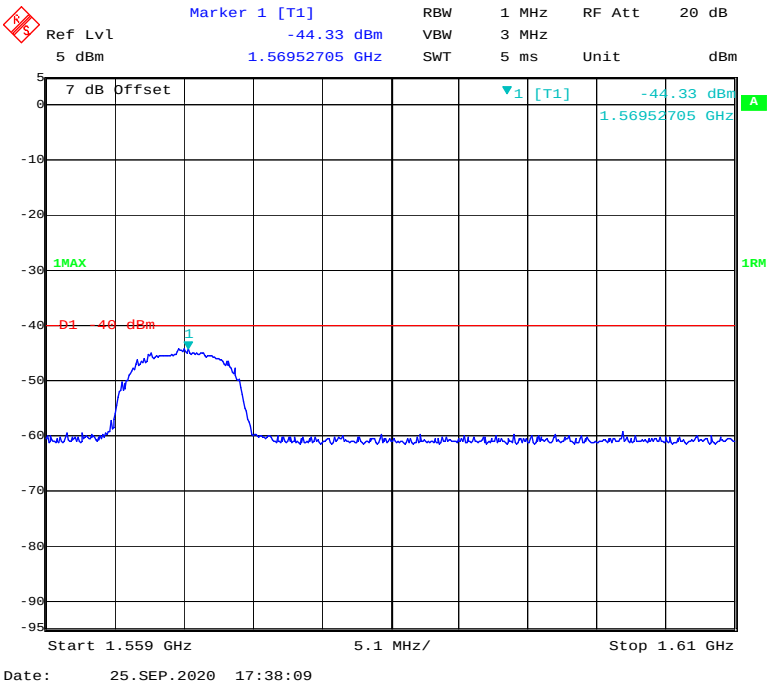
793 MHz - 805 MHz (5 MHz, 16-QAM, High Channel)



1559 MHz - 1610 MHz (5 MHz, QPSK, High Channel)

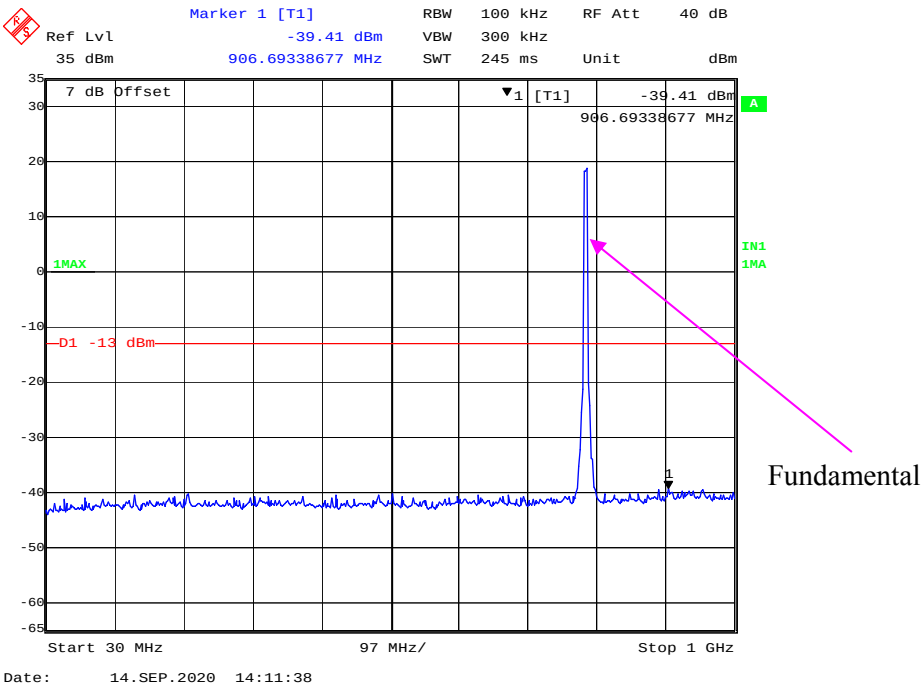


1559 MHz - 1610 MHz (5 MHz, 16-QAM, High Channel)

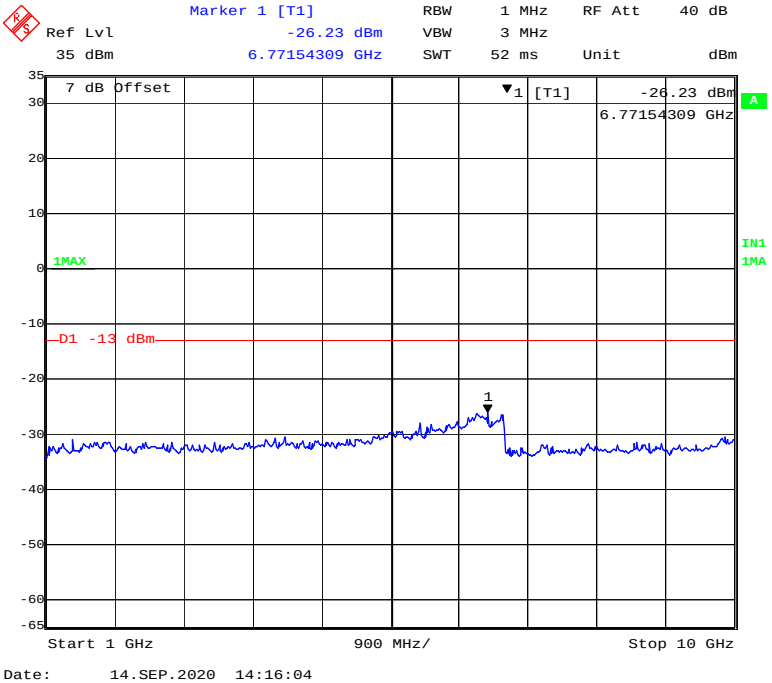


LTE Band 14:

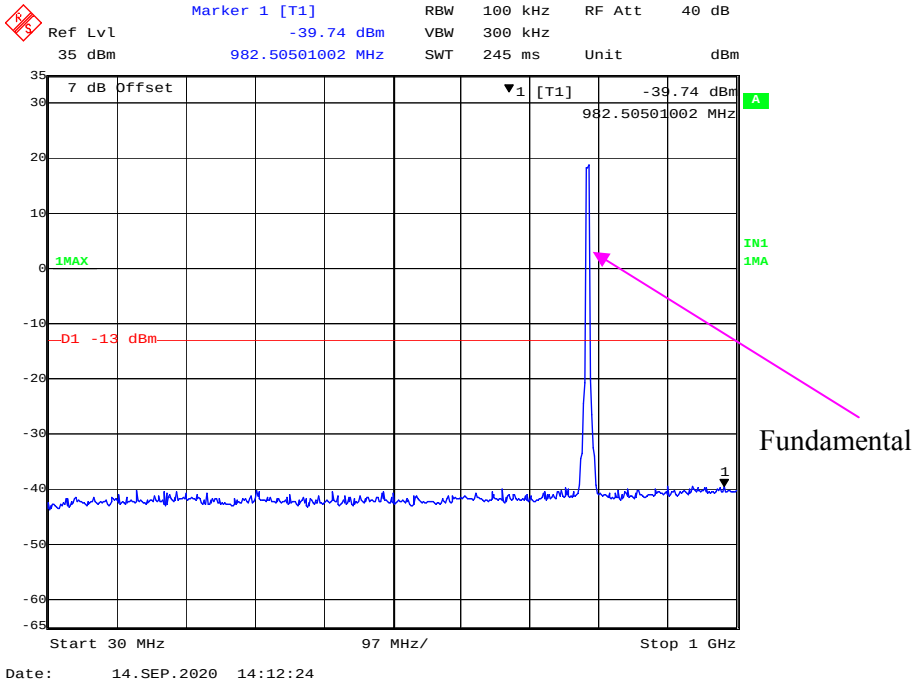
30 MHz - 1 GHz (5 MHz, QPSK, Low Channel)



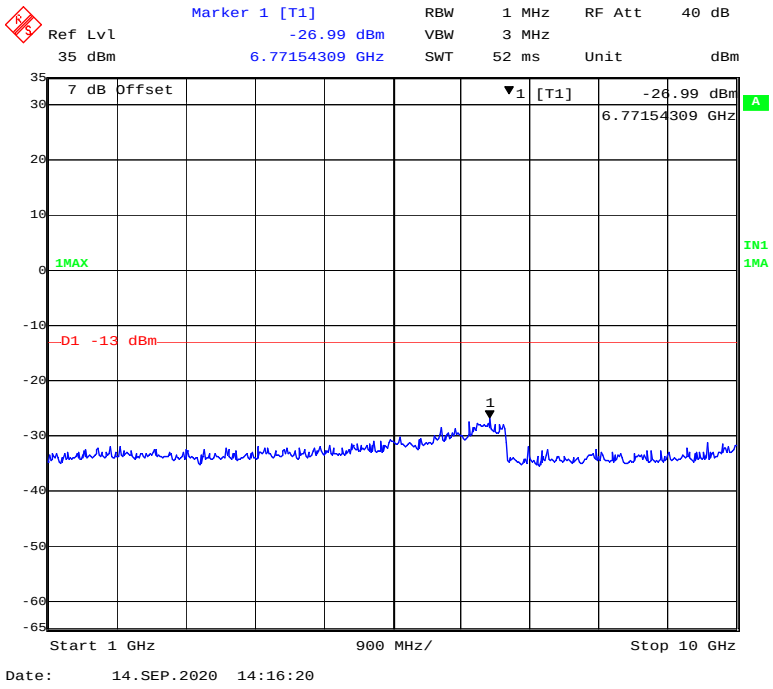
1 GHz – 10 GHz (5 MHz, QPSK, Low Channel)



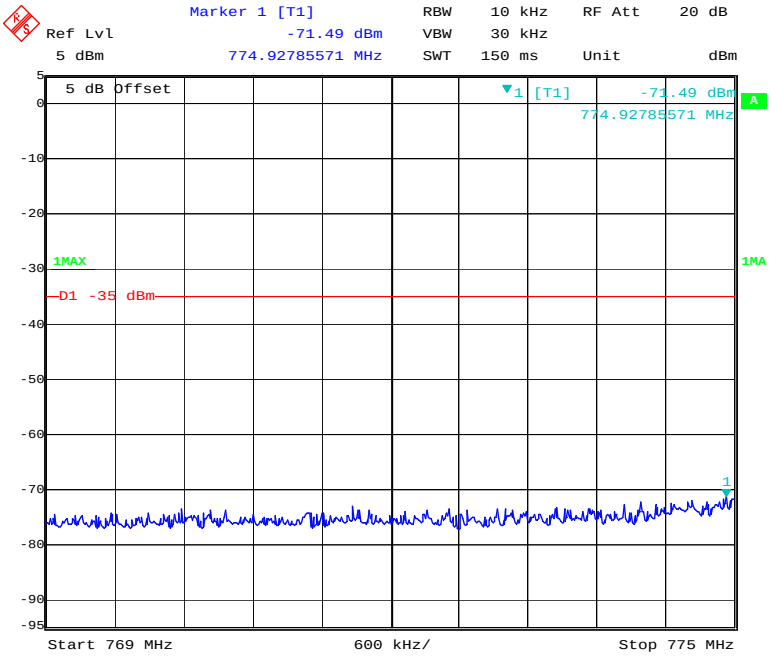
30 MHz - 1 GHz (5 MHz, 16-QAM, Low Channel)



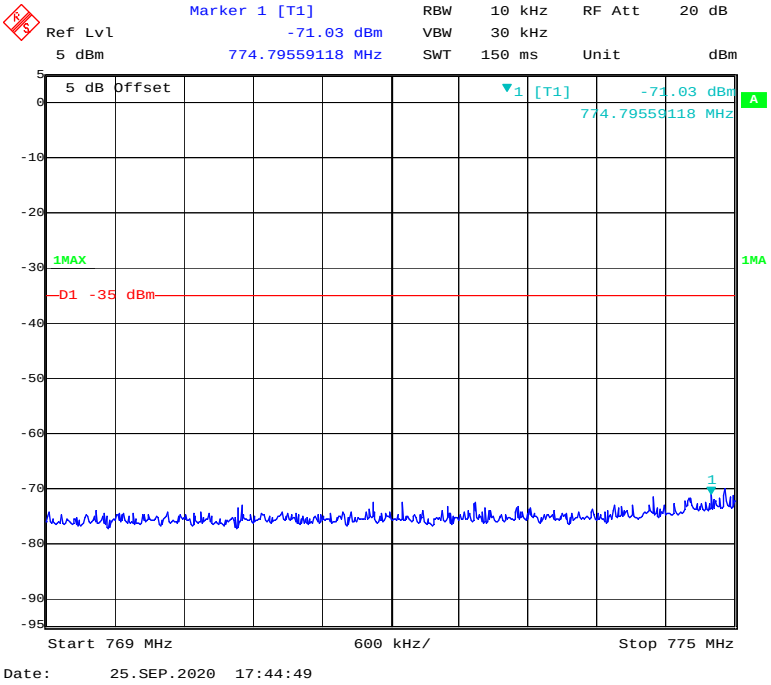
1 GHz – 10 GHz (5 MHz, 16-QAM, Low Channel)



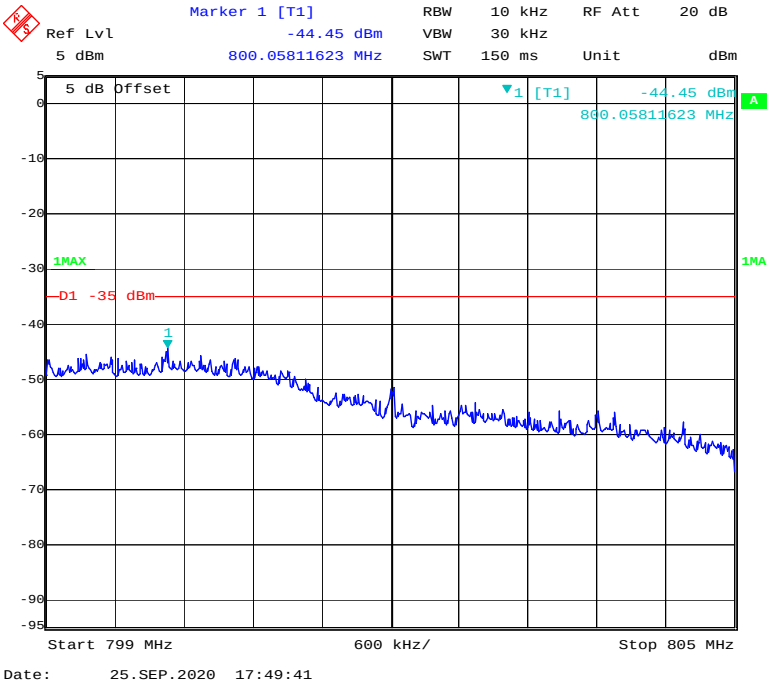
769 MHz - 775 MHz (5 MHz, QPSK, Low Channel)



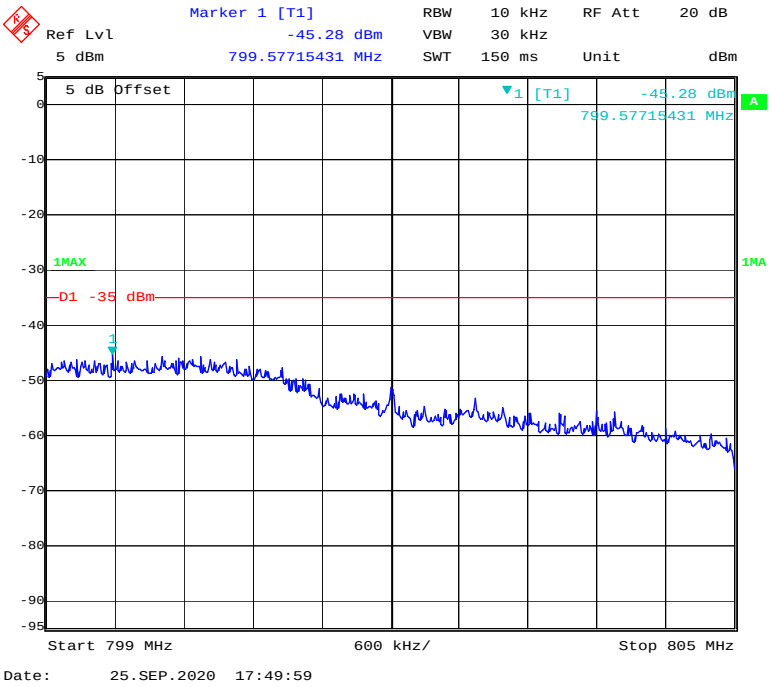
769 MHz - 775 MHz (5 MHz, 16-QAM, Low Channel)



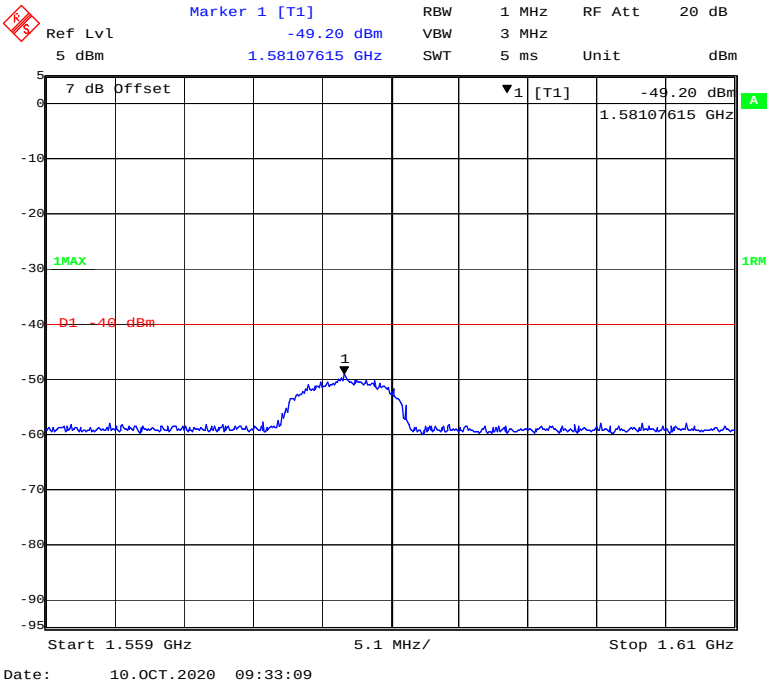
799 MHz - 805 MHz (5 MHz, QPSK, Low Channel)



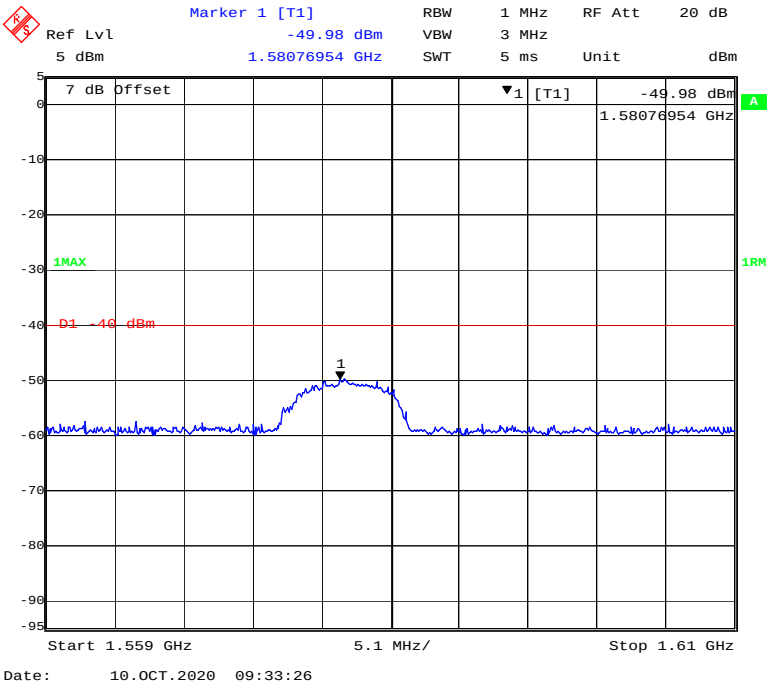
799 MHz - 805 MHz (5 MHz, 16-QAM, Low Channel)



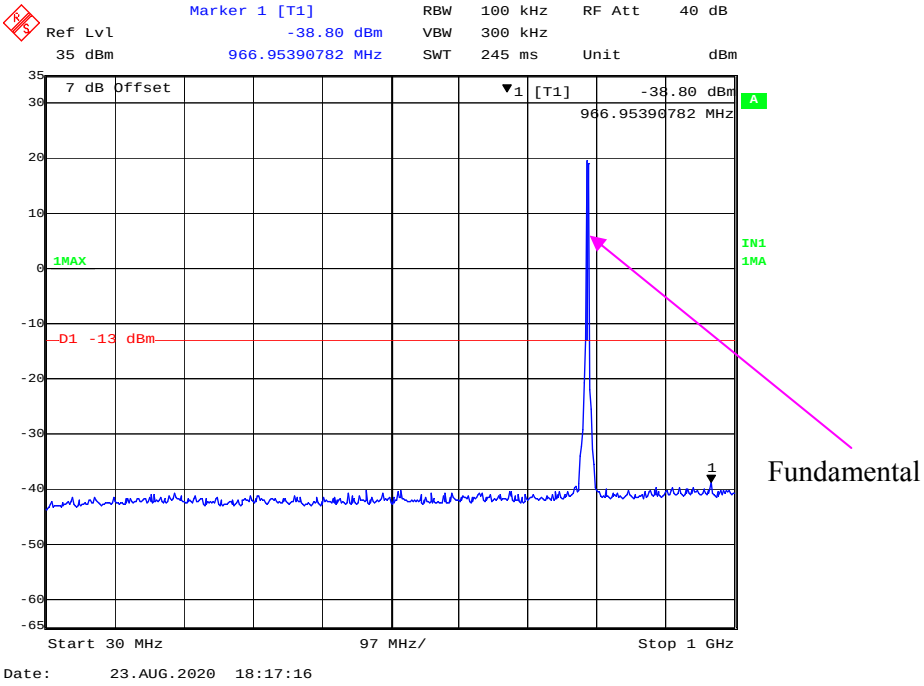
1559 MHz - 1610 MHz (5 MHz, QPSK, Low Channel)



1559 MHz - 1610 MHz (5 MHz, 16-QAM, Low Channel)

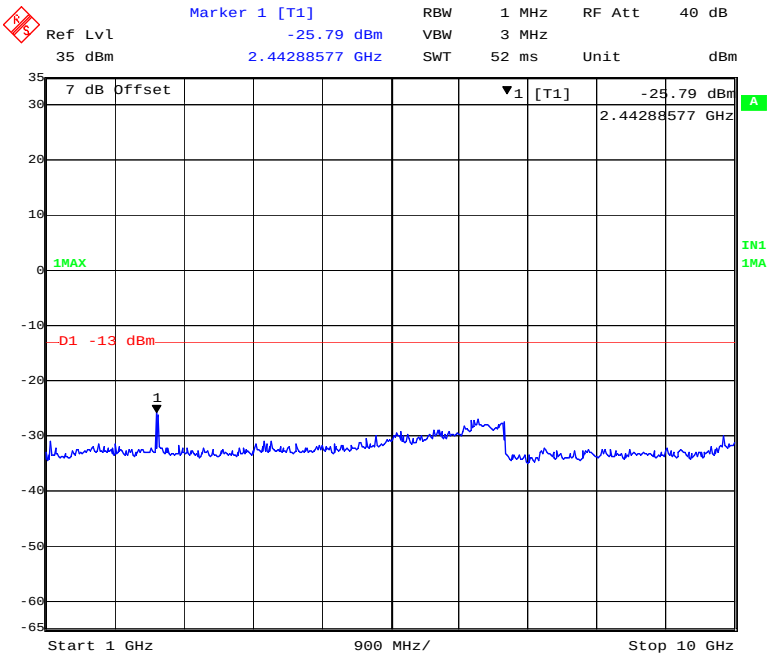


30 MHz - 1 GHz (5 MHz, QPSK, Middle Channel)



Date: 23.AUG.2020 18:17:16

1 GHz – 10 GHz (5 MHz, QPSK, Middle Channel)



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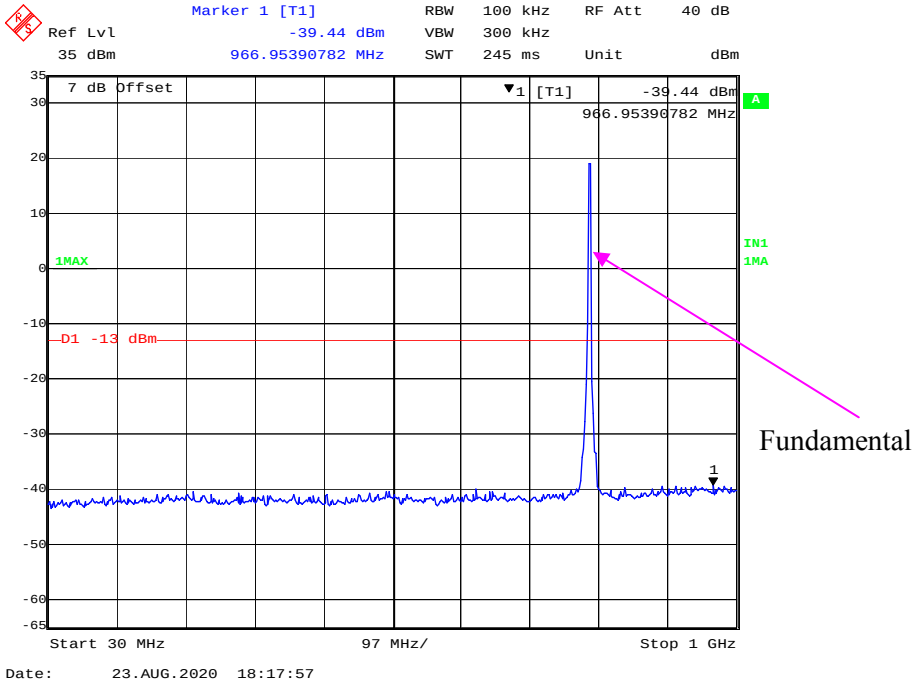
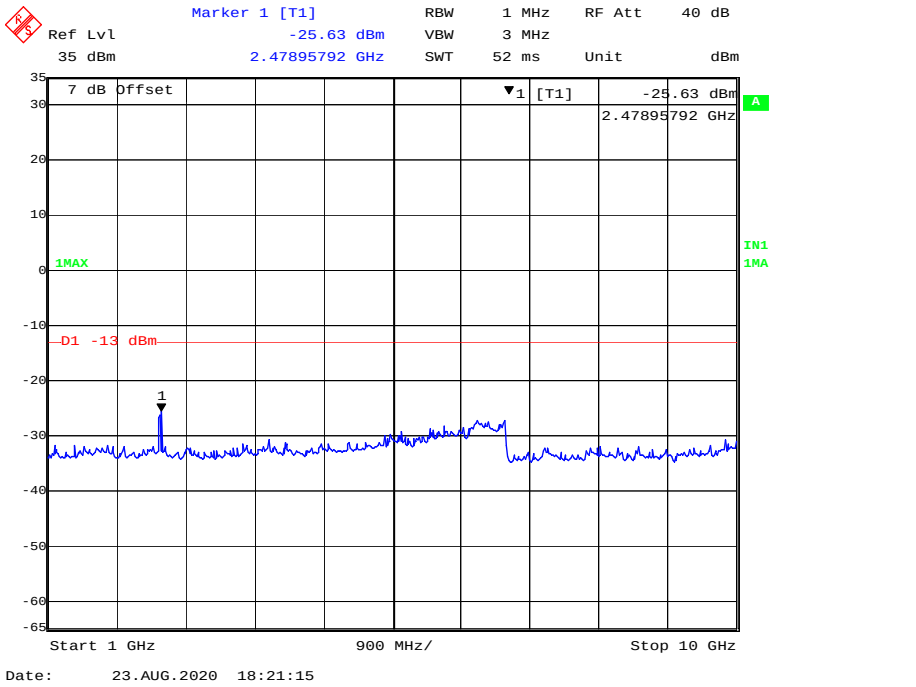
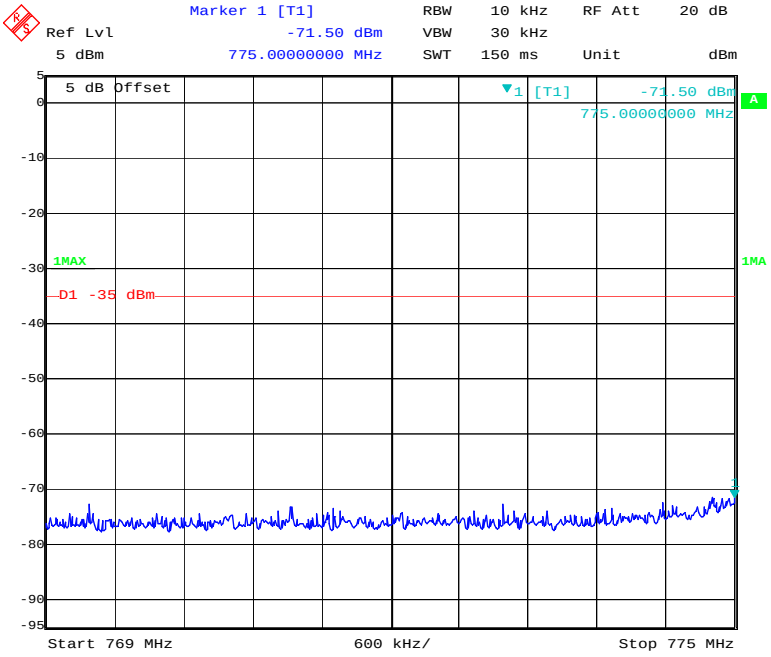
30 MHz - 1 GHz (5 MHz, 16-QAM, Middle Channel)



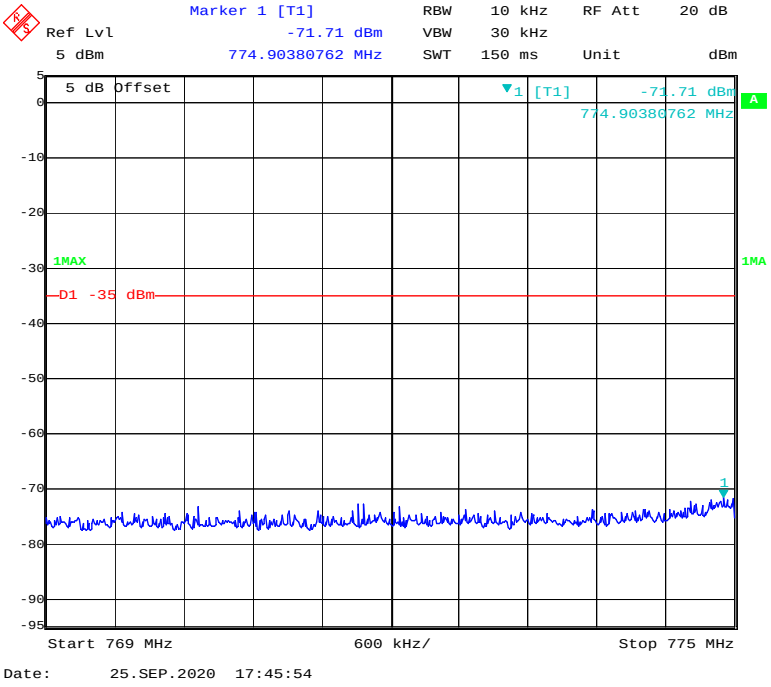
1 GHz – 10 GHz (5 MHz, 16-QAM, Middle Channel)



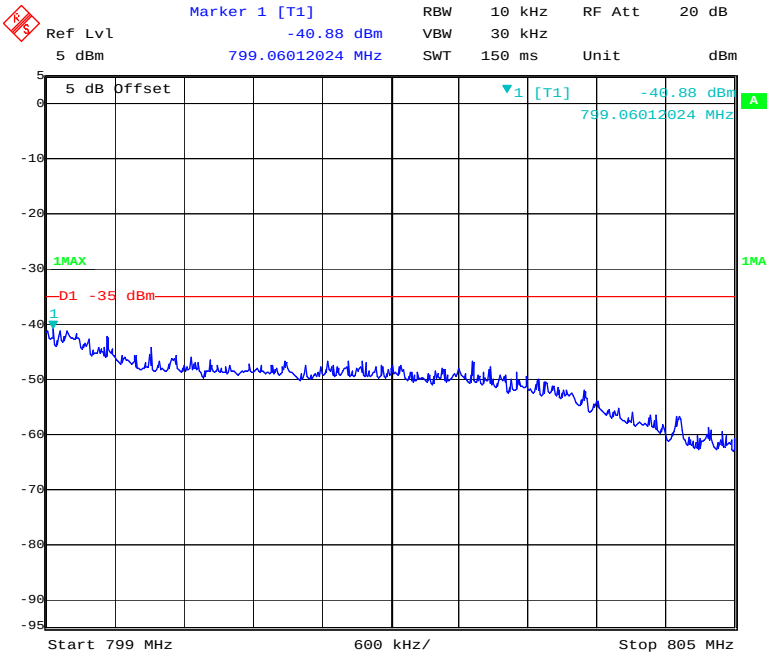
769 MHz - 775 MHz (5 MHz, QPSK, Middle Channel)



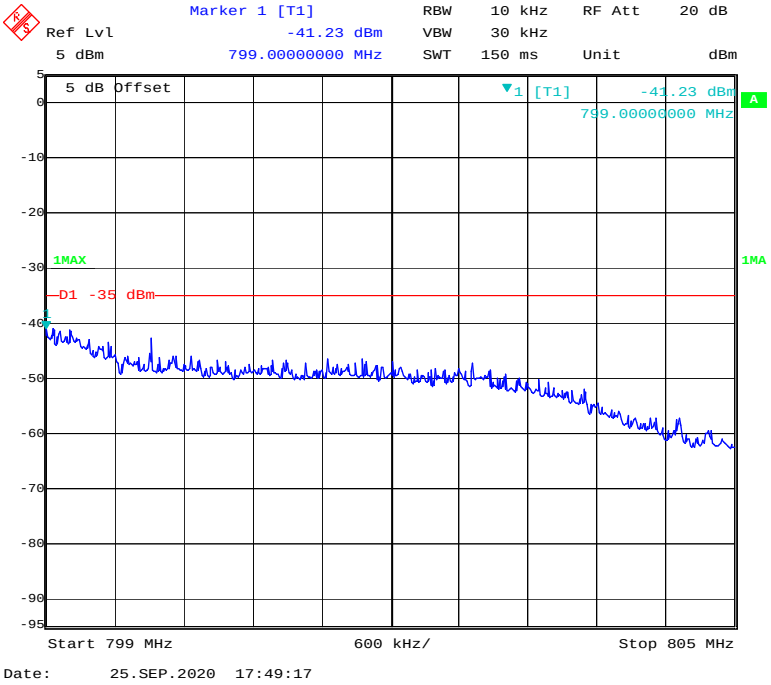
769 MHz - 775 MHz (5 MHz, 16-QAM, Middle Channel)



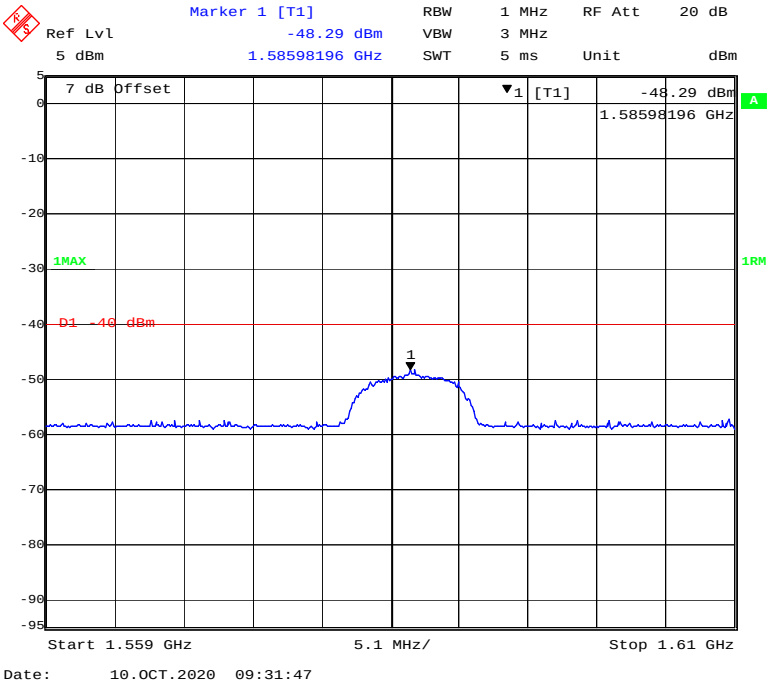
799 MHz - 805 MHz (5 MHz, QPSK, Middle Channel)



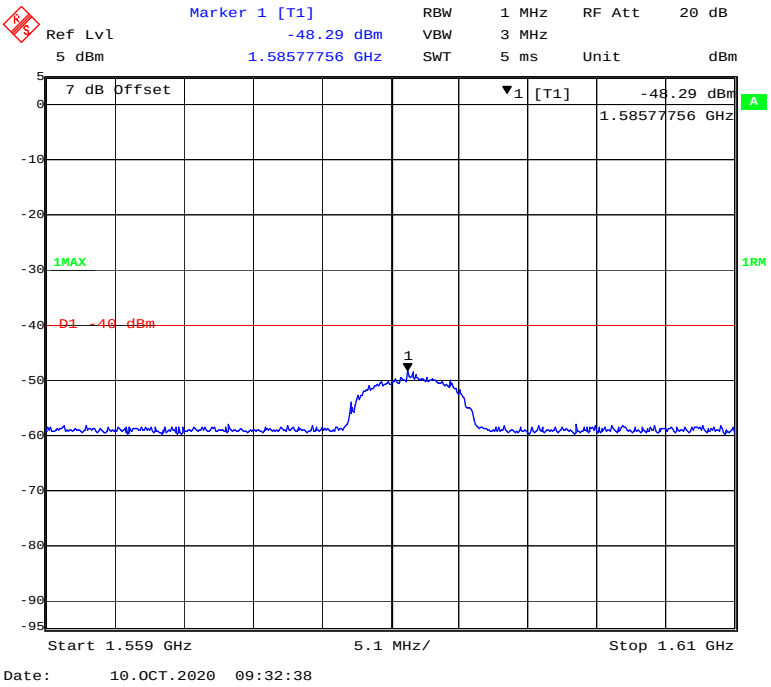
799 MHz - 805 MHz (5 MHz, 16-QAM, Middle Channel)



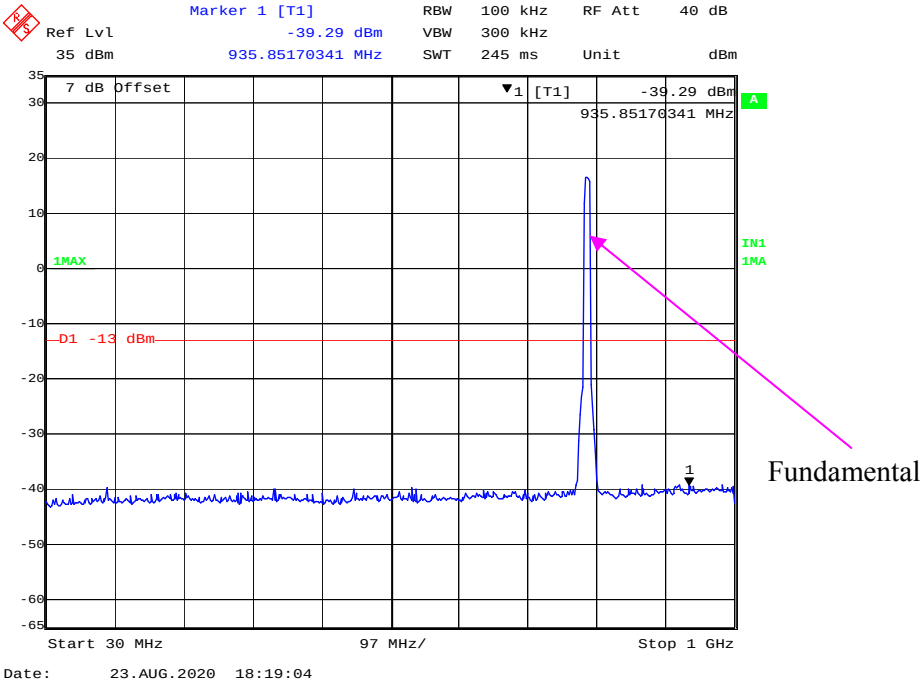
1559 MHz - 1610 MHz (5 MHz, QPSK, Middle Channel)



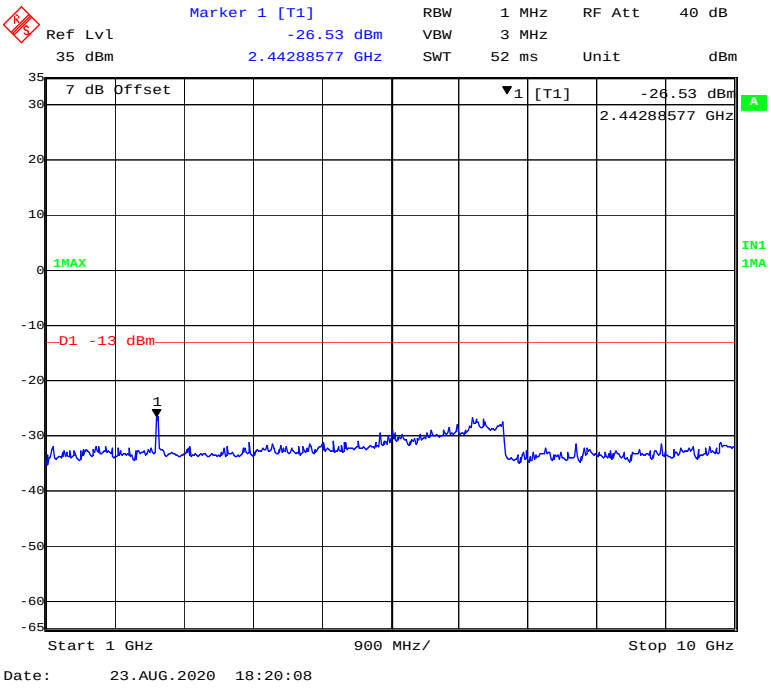
1559 MHz - 1610 MHz (5 MHz, 16-QAM, Middle Channel)



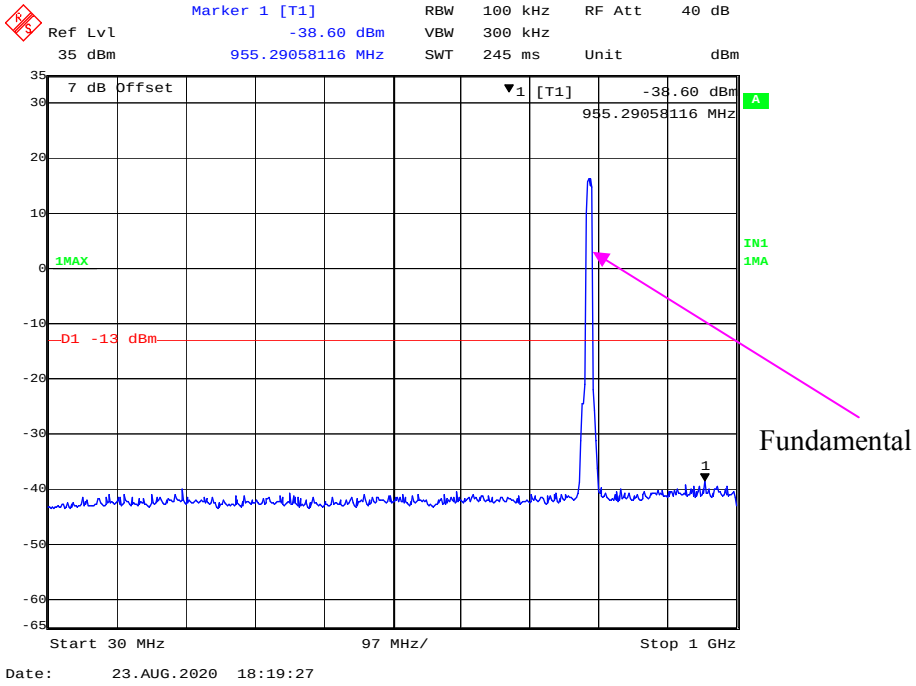
30 MHz - 1 GHz (10 MHz, QPSK, Middle Channel)



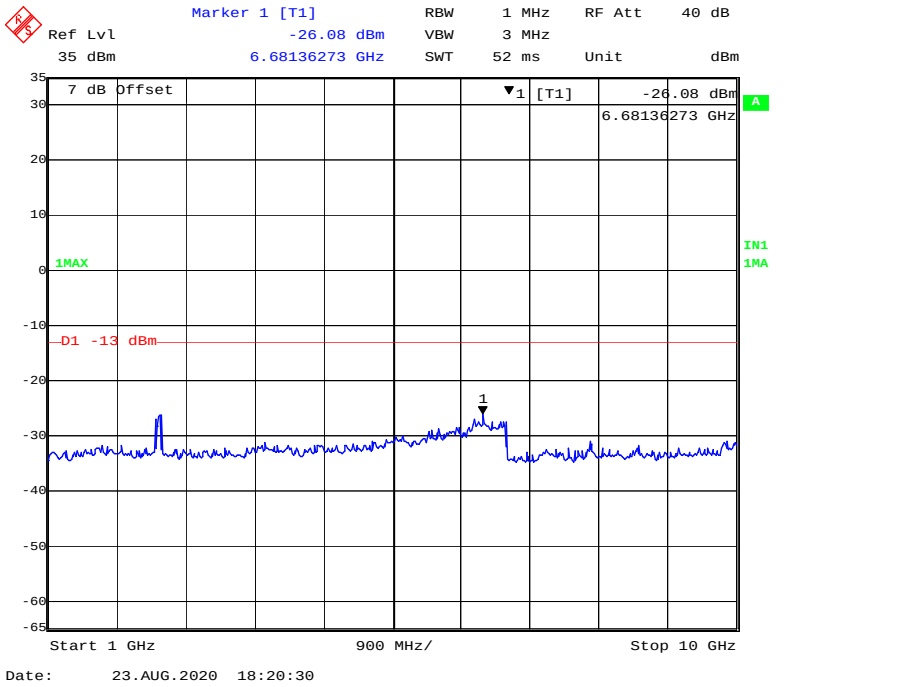
1 GHz – 10 GHz (10 MHz, QPSK, Middle Channel)



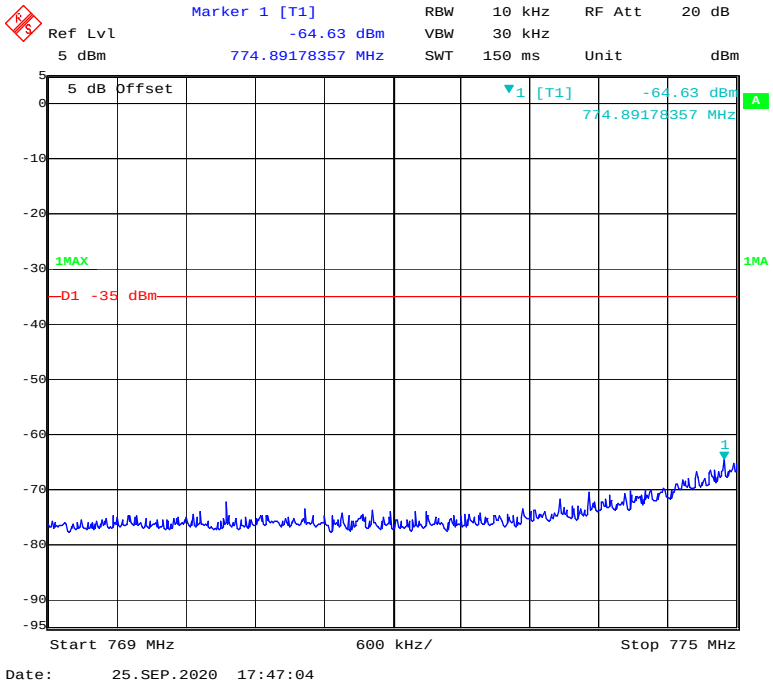
30 MHz - 1 GHz (10 MHz, 16-QAM, Middle Channel)



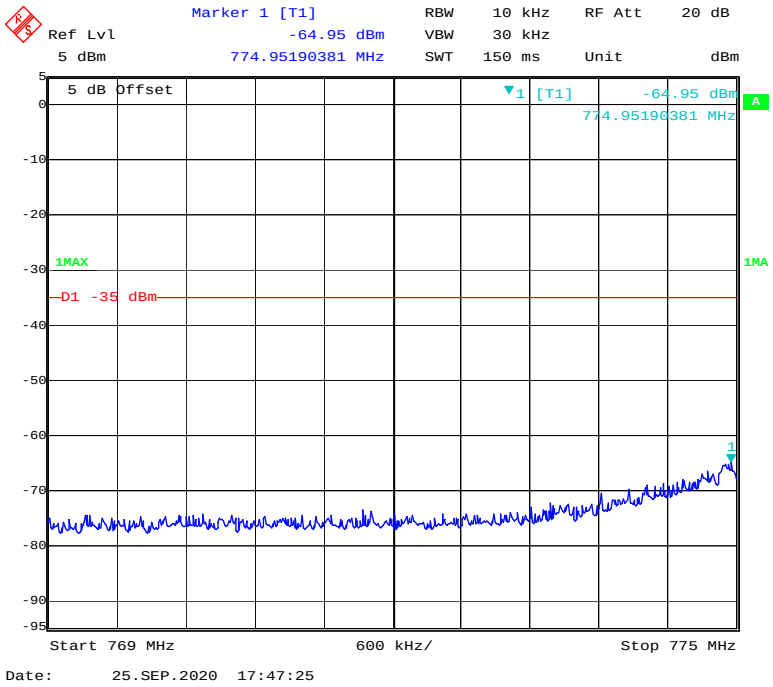
1 GHz – 10 GHz (10 MHz, 16-QAM, Middle Channel)



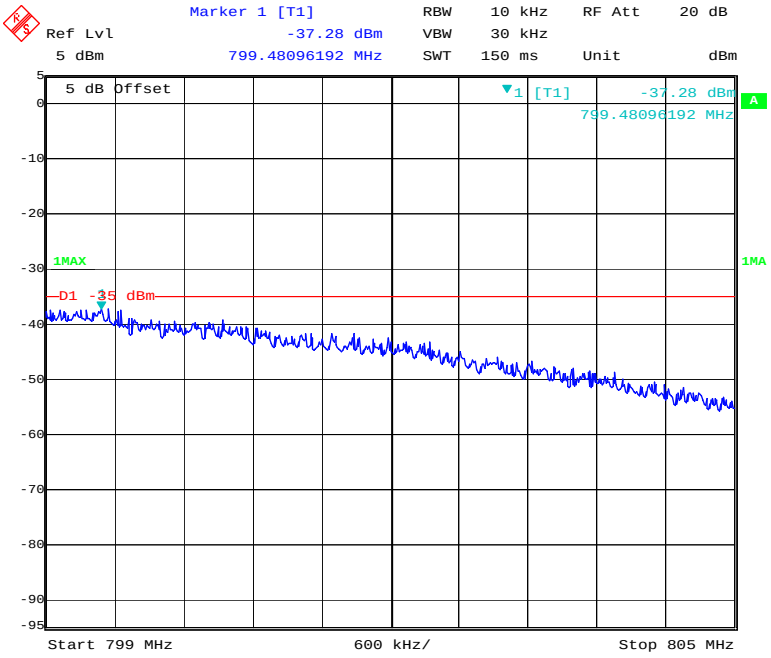
769 MHz - 775 MHz (10 MHz, QPSK, Middle Channel)



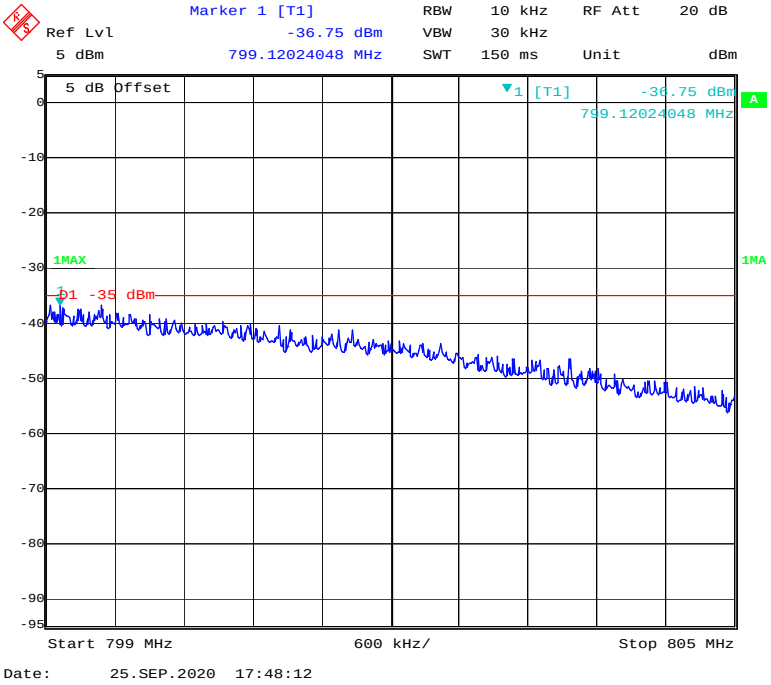
769 MHz - 775 MHz (10 MHz, 16-QAM, Middle Channel)



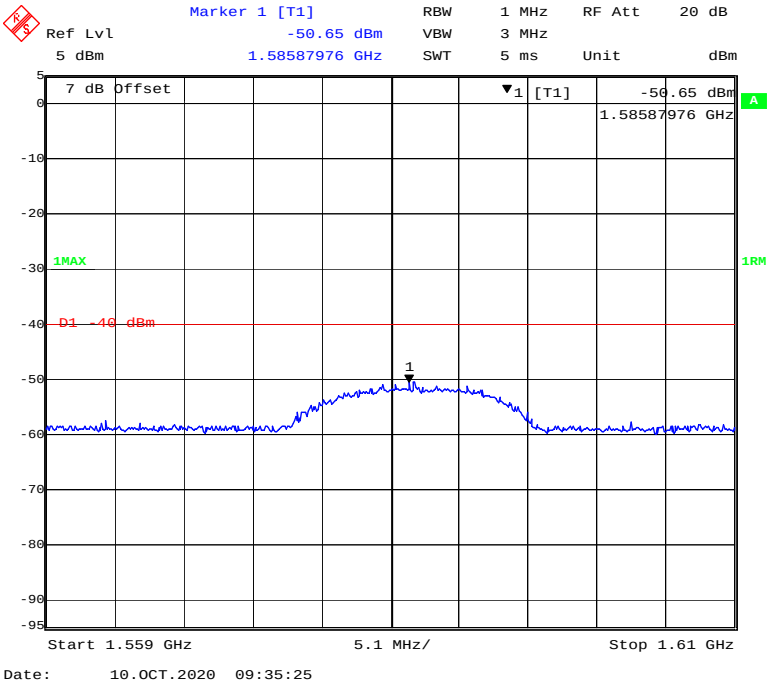
799 MHz - 805 MHz (10 MHz, QPSK, Middle Channel)



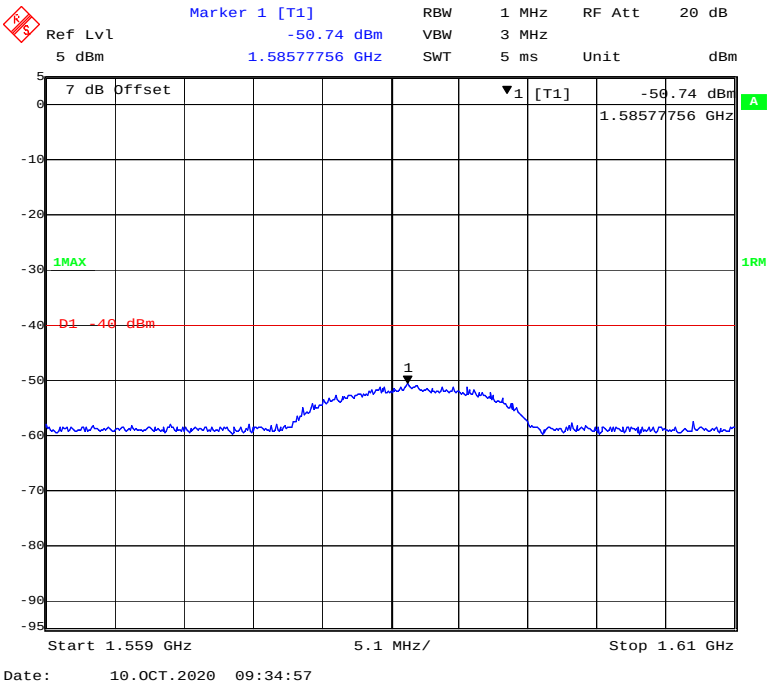
799 MHz - 805 MHz (10 MHz, 16-QAM, Middle Channel)



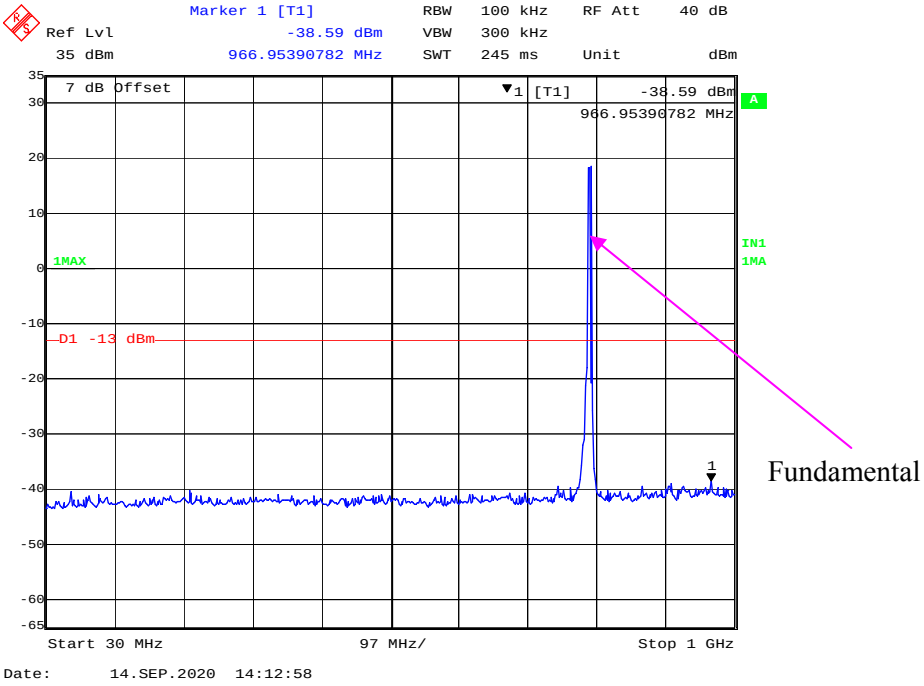
1559 MHz - 1610 MHz (10 MHz, QPSK, Middle Channel)



1559 MHz - 1610 MHz (10 MHz, 16-QAM, Middle Channel)



30 MHz - 1 GHz (5 MHz, QPSK, High Channel)



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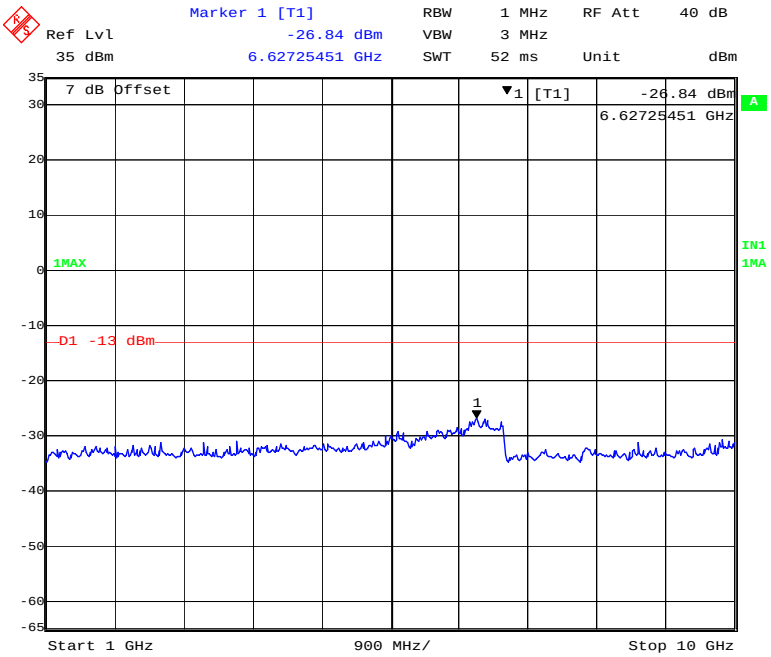
1 GHz – 10 GHz (5 MHz, QPSK, High Channel)



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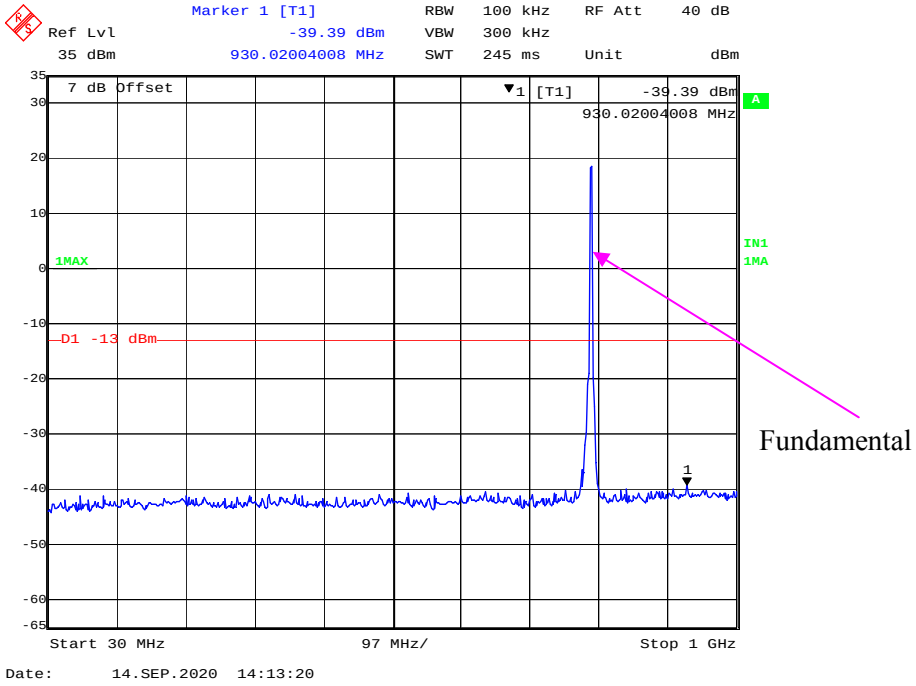
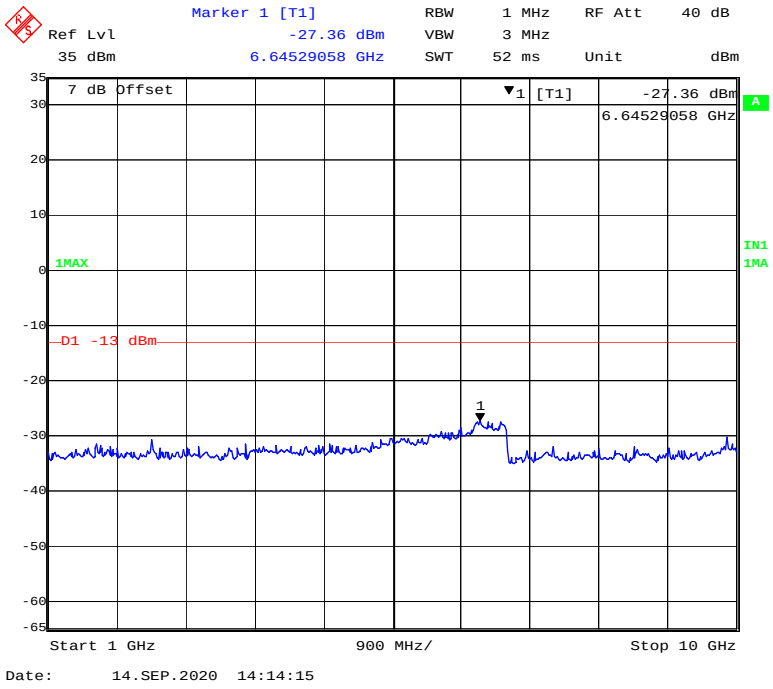
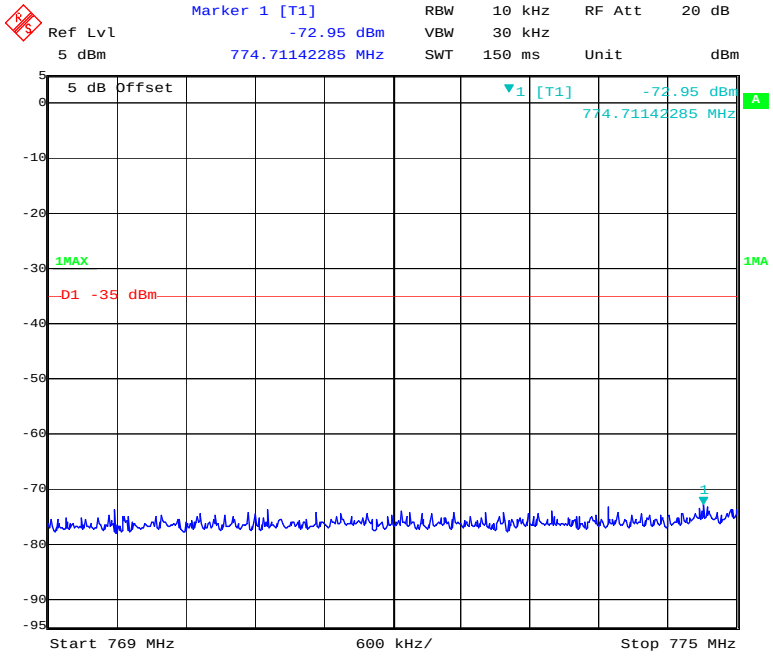
30 MHz - 1 GHz (5 MHz, 16-QAM, High Channel)



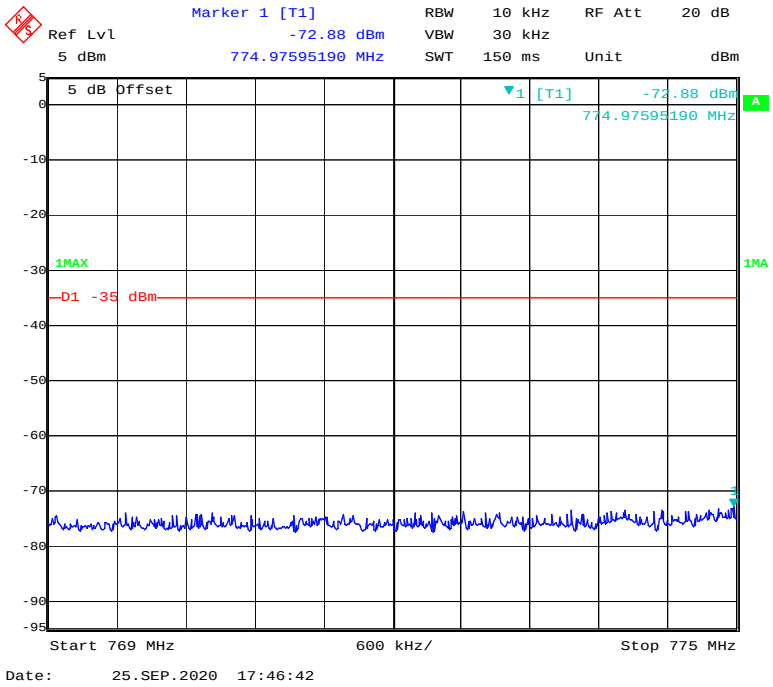
1 GHz – 10 GHz (5 MHz, 16-QAM, High Channel)



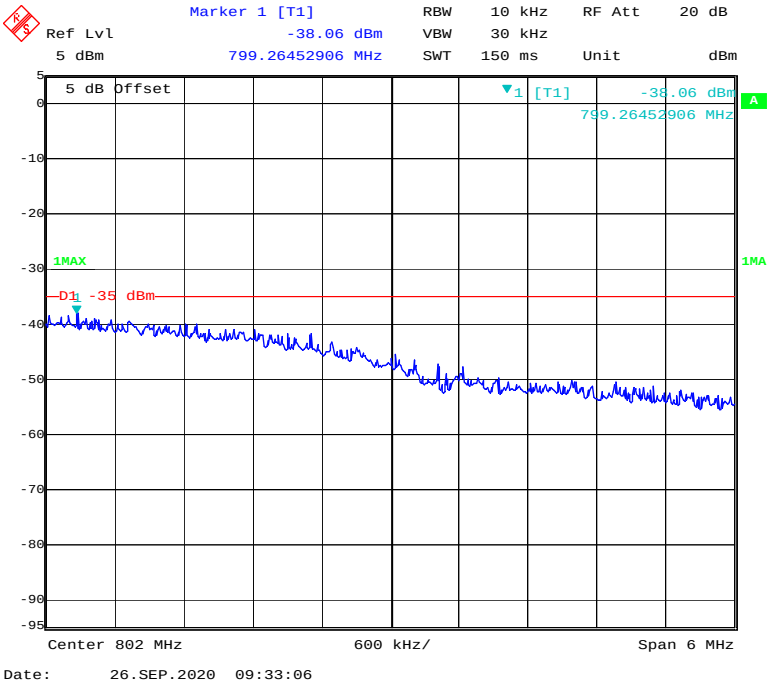
769 MHz - 775 MHz (5 MHz, QPSK, High Channel)



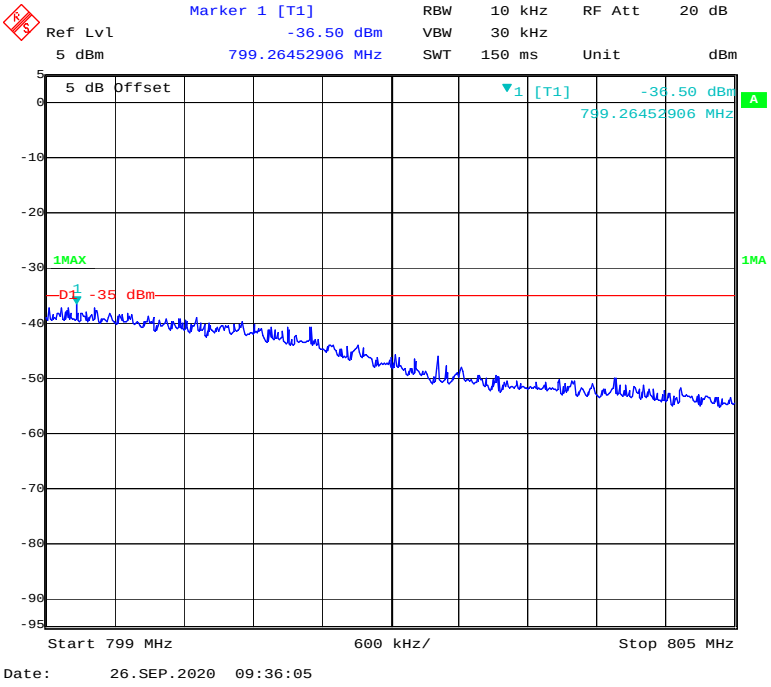
769 MHz - 775 MHz (5 MHz, 16-QAM, High Channel)



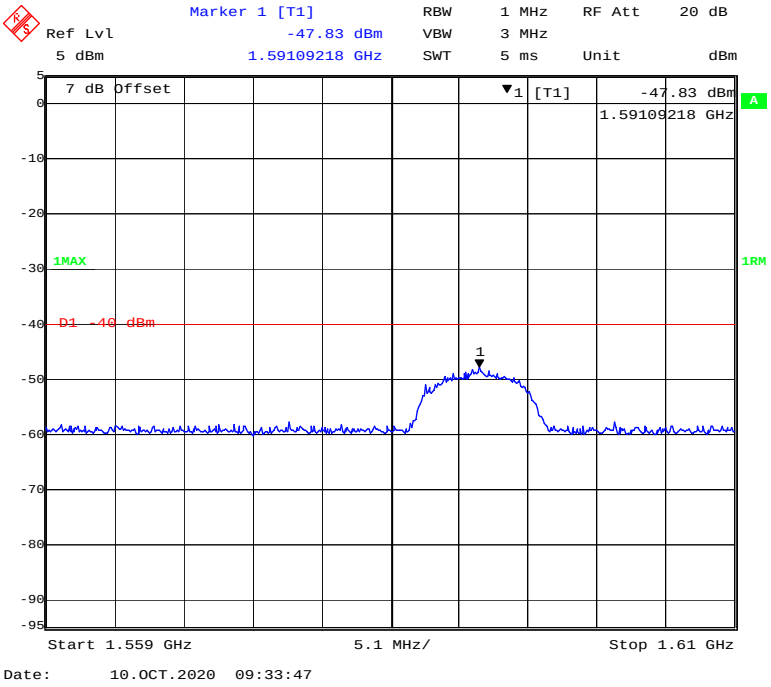
799 MHz - 805 MHz (5 MHz, QPSK, High Channel)



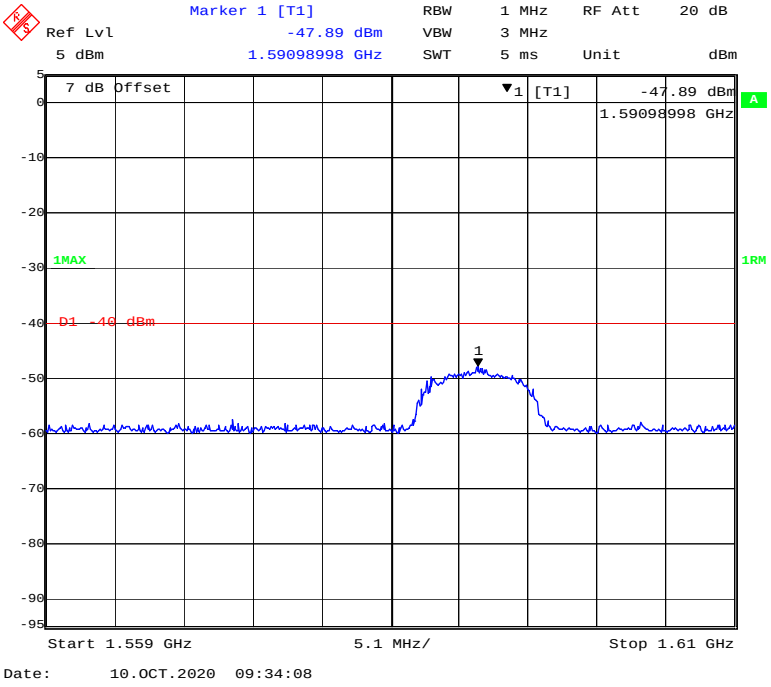
799 MHz - 805 MHz (5 MHz, 16-QAM, High Channel)



1559 MHz - 1610 MHz (5 MHz, QPSK, High Channel)

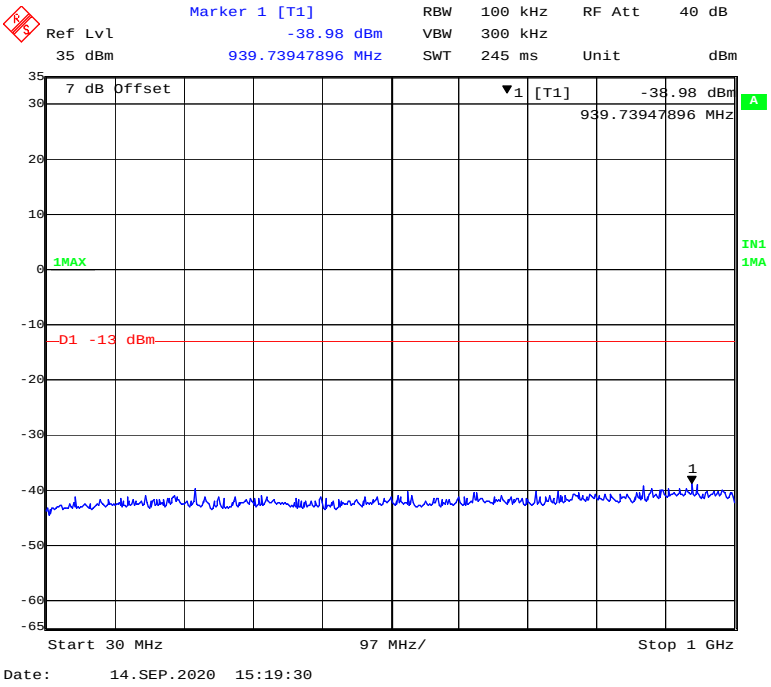


1559 MHz - 1610 MHz (5 MHz, 16-QAM, High Channel)

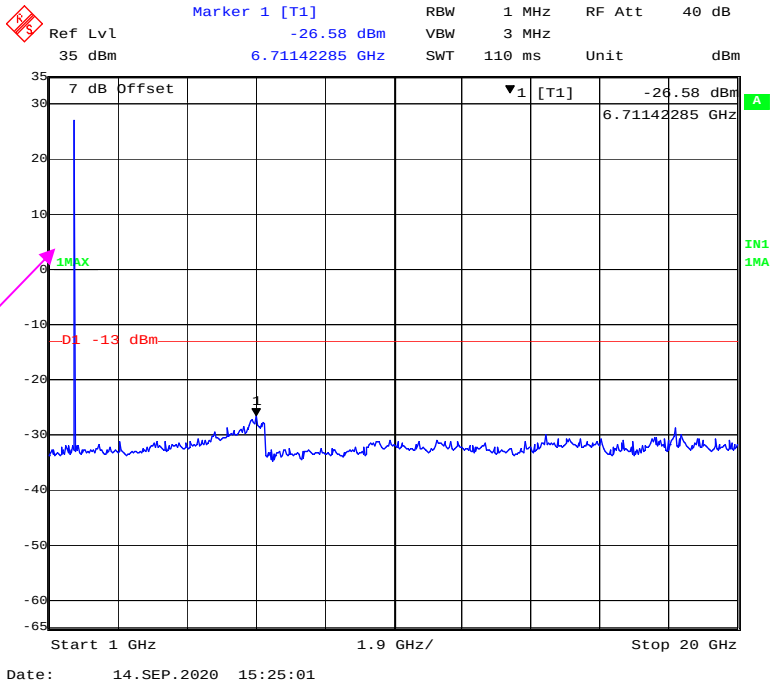


LTE Band 66:

30 MHz - 1 GHz (1.4 MHz, QPSK, Low Channel)

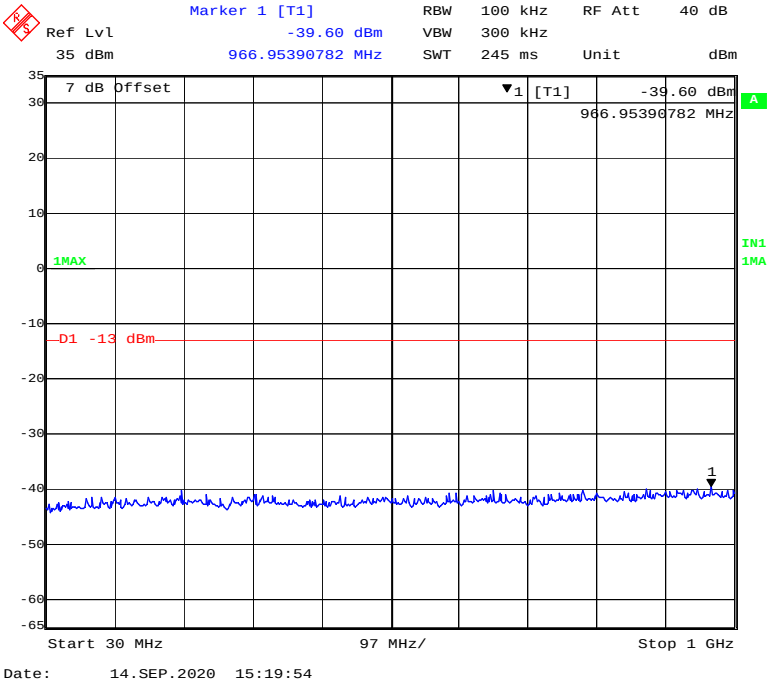


1 GHz – 20 GHz (1.4 MHz, QPSK, Low Channel)

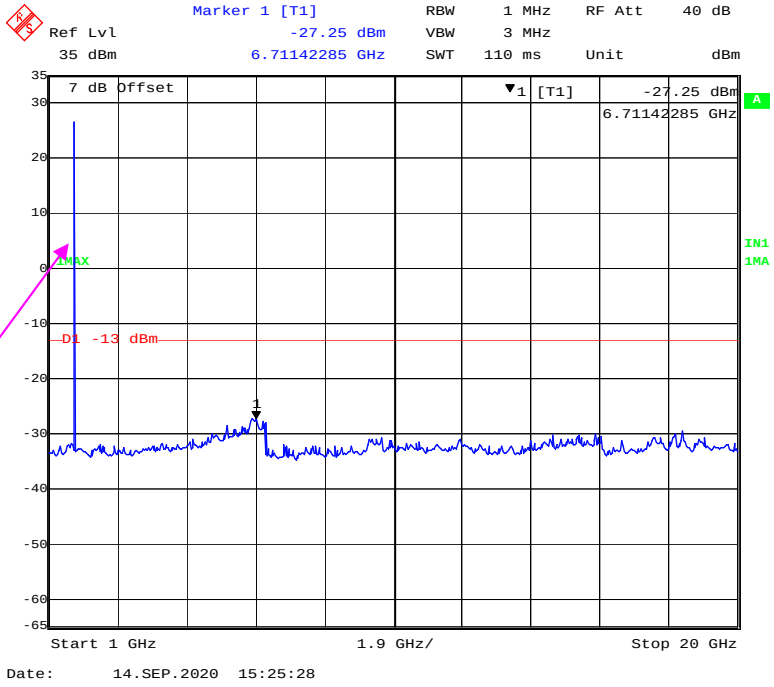


Fundamental

30 MHz - 1 GHz (1.4 MHz, 16-QAM, Low Channel)

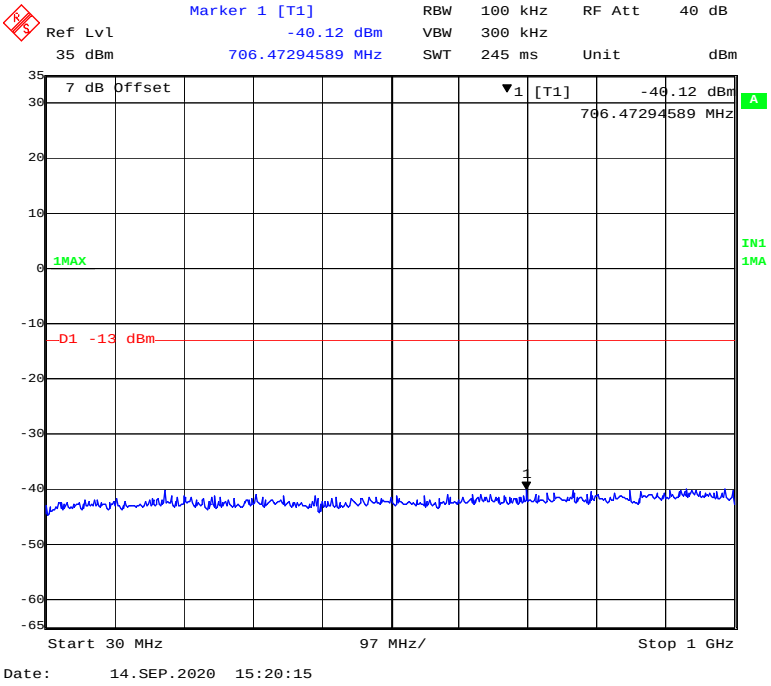


1 GHz – 20 GHz (1.4 MHz, 16-QAM, Low Channel)

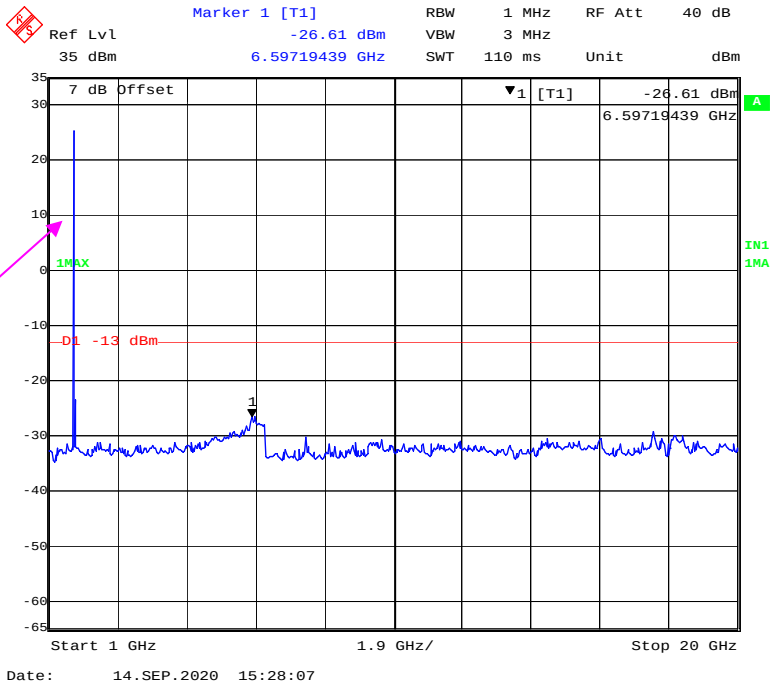


Fundamental

30 MHz - 1 GHz (3 MHz, QPSK, Low Channel)

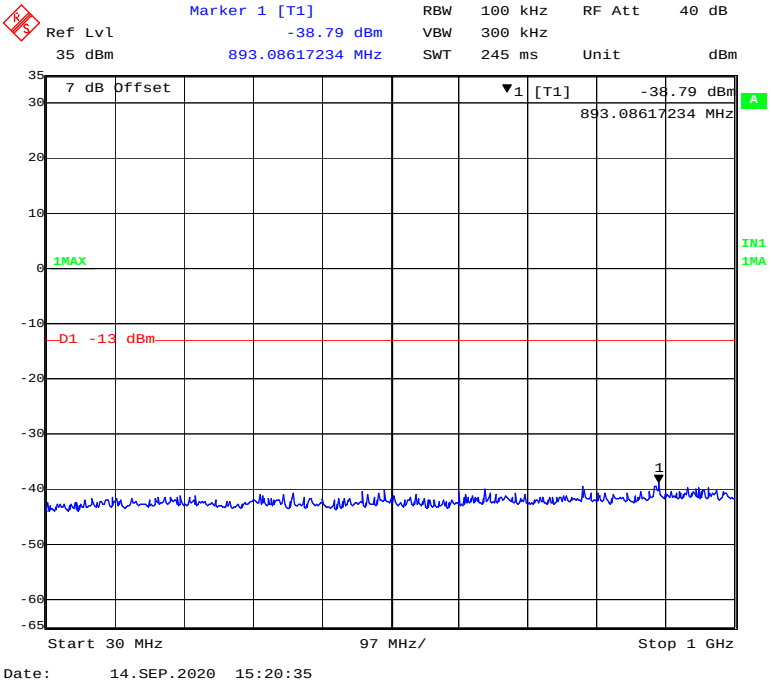


1 GHz – 20 GHz (3 MHz, QPSK, Low Channel)

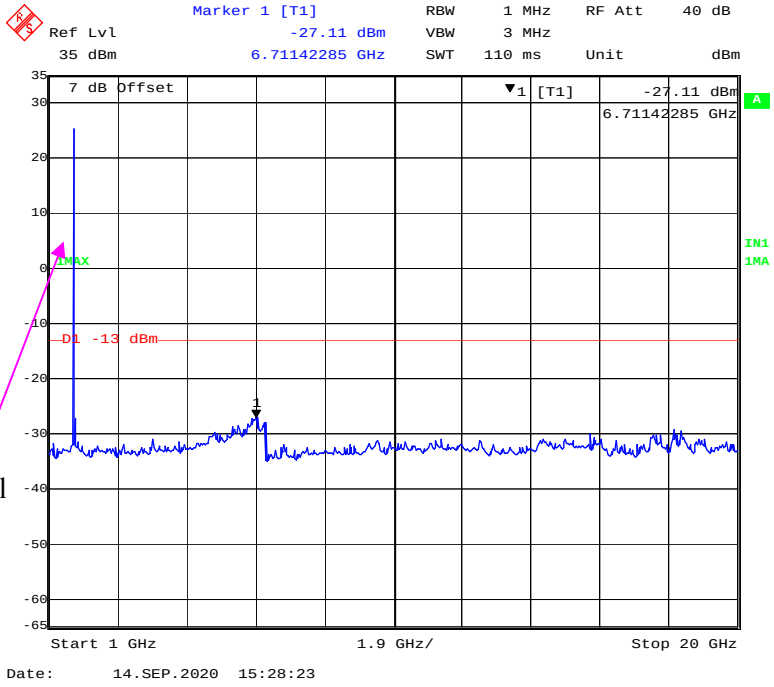


Fundamental

30 MHz - 1 GHz (3 MHz, 16-QAM, Low Channel)

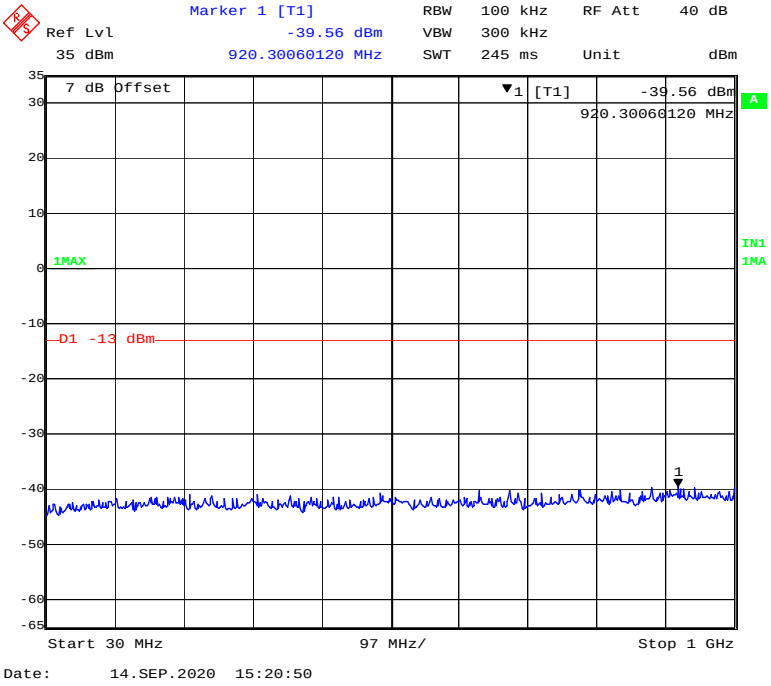


1 GHz – 20 GHz (3 MHz, 16-QAM, Low Channel)

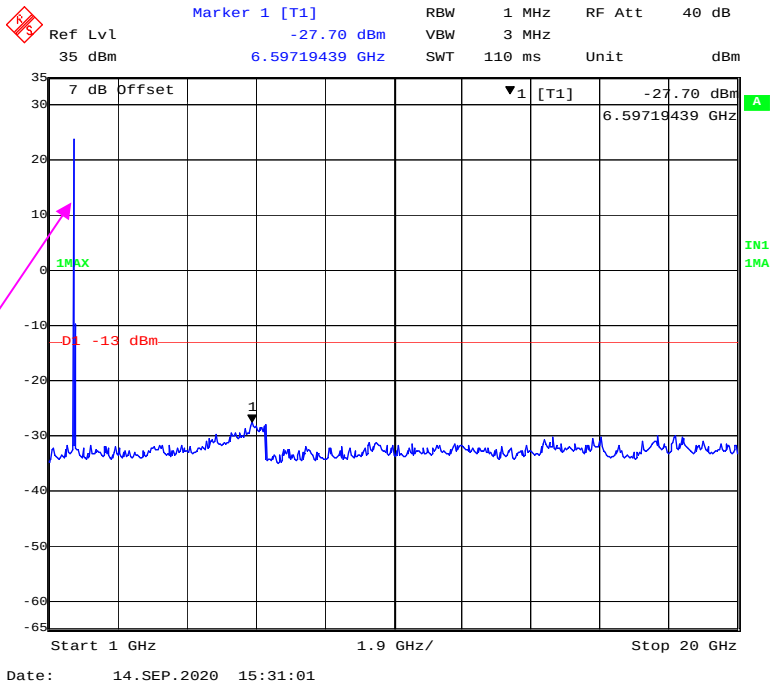


Fundamental

30 MHz - 1 GHz (5 MHz, QPSK, Low Channel)

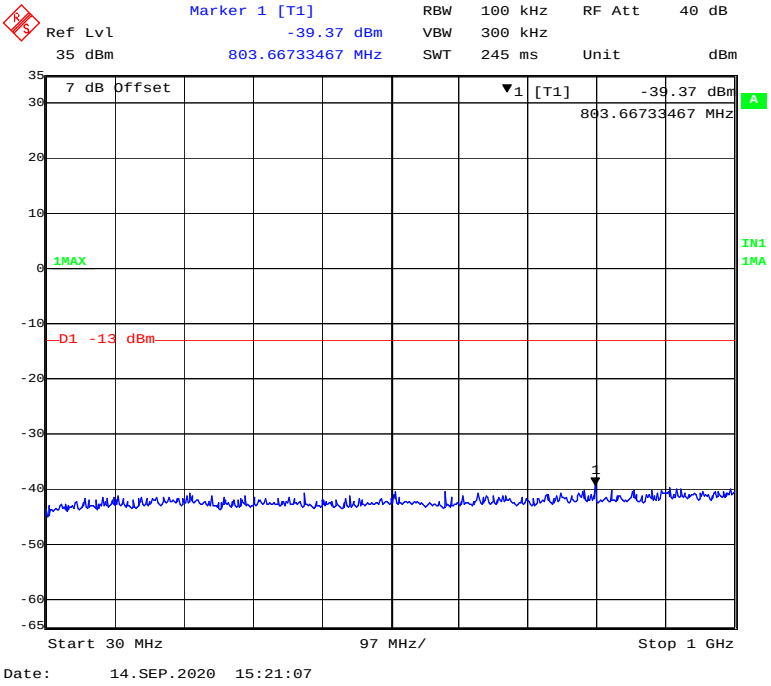


1 GHz – 20 GHz (5 MHz, QPSK, Low Channel)

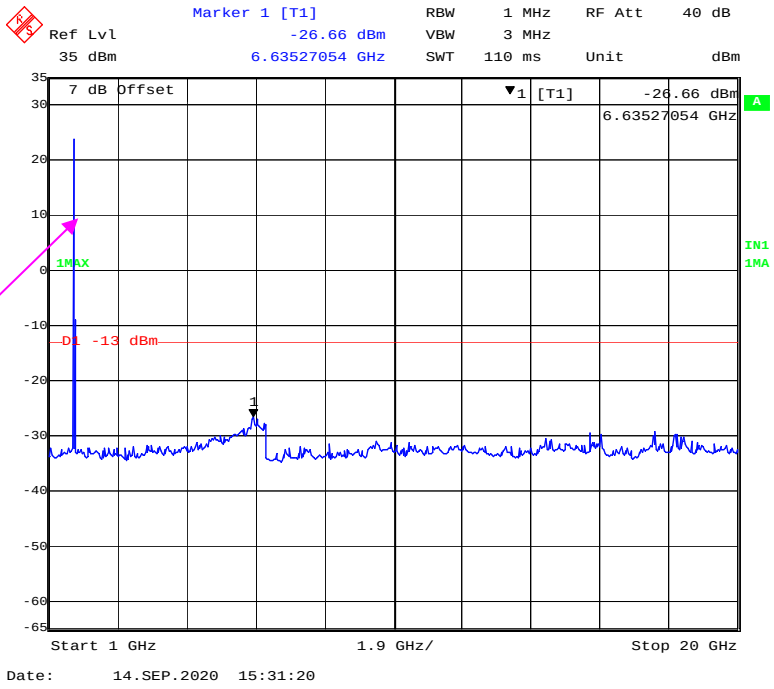


Fundamental

30 MHz - 1 GHz (5 MHz, 16-QAM, Low Channel)

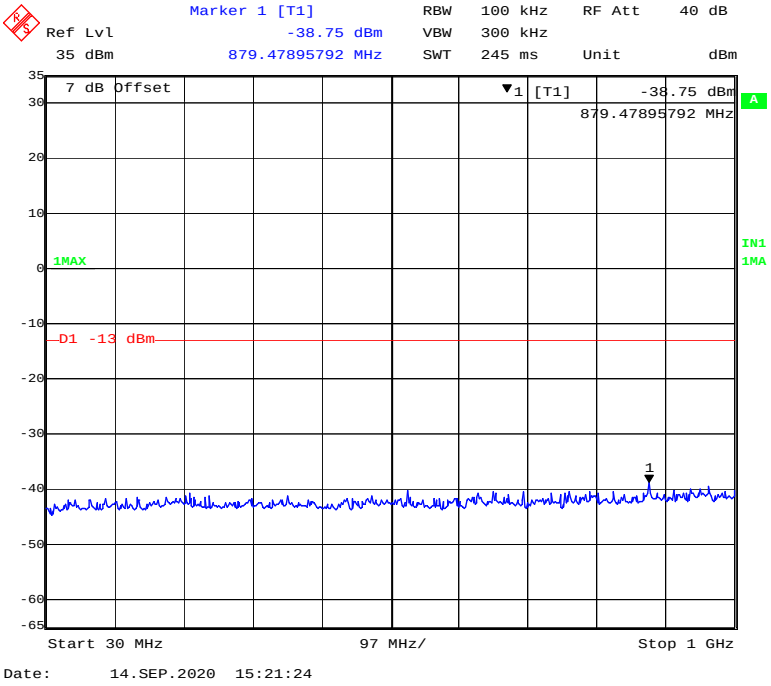


1 GHz – 20 GHz (5 MHz, 16-QAM, Low Channel)

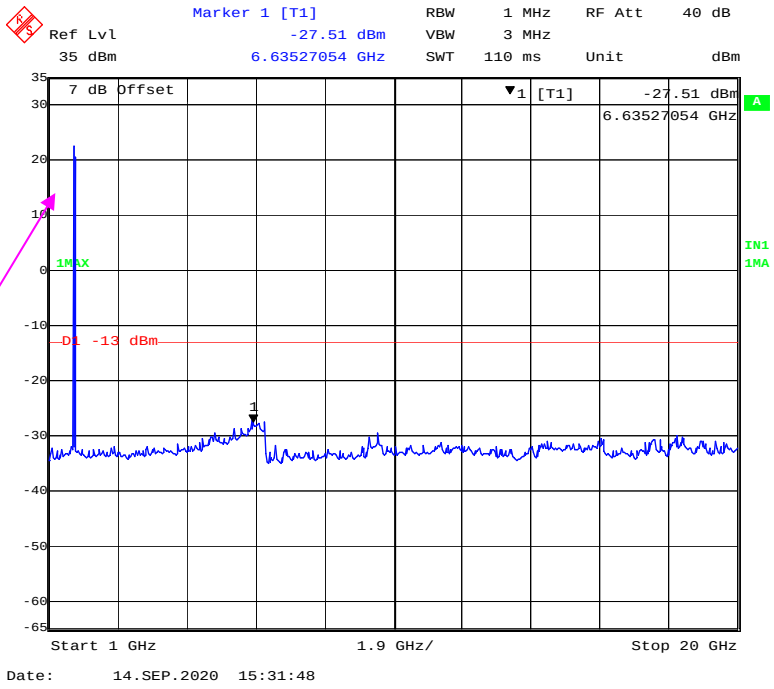


Fundamental

30 MHz - 1 GHz (10 MHz, QPSK, Low Channel)

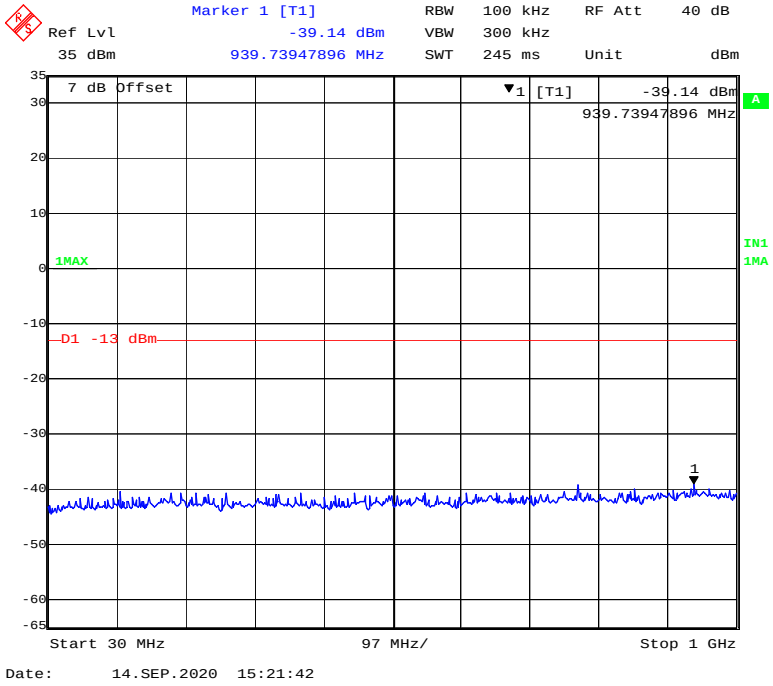


1 GHz – 20 GHz (10 MHz, QPSK, Low Channel)

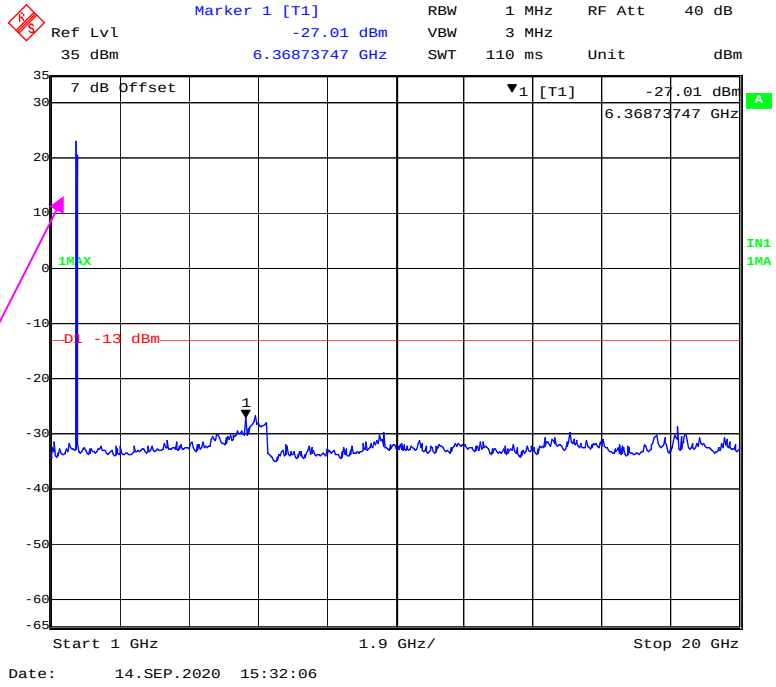


Fundamental

30 MHz - 1 GHz (10 MHz, 16-QAM, Low Channel)

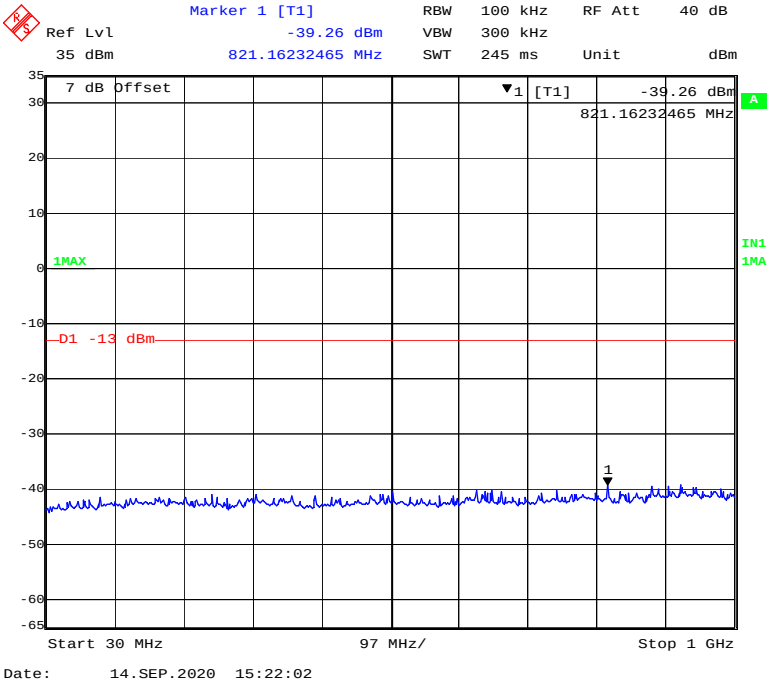


1 GHz – 20 GHz (10 MHz, 16-QAM, Low Channel)

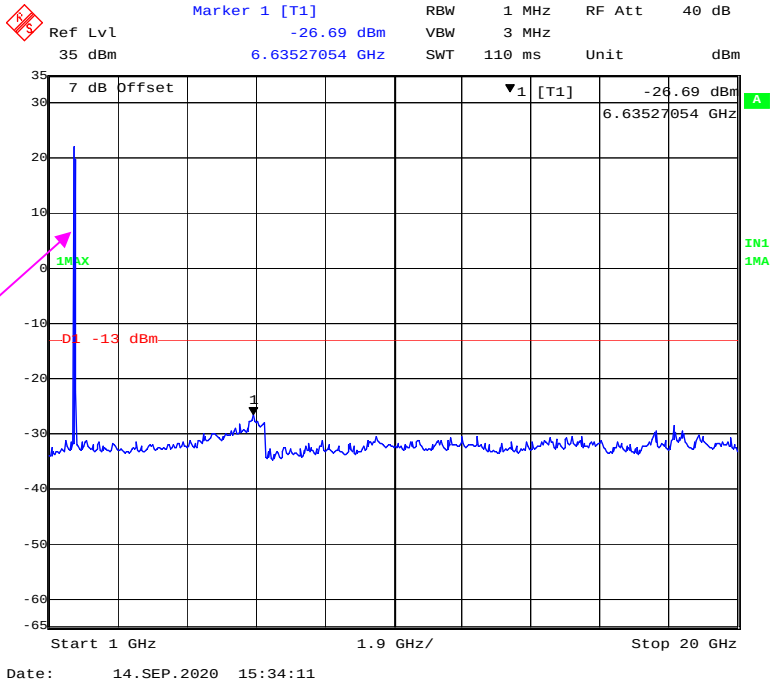


Fundamental

30 MHz - 1 GHz (15 MHz, QPSK, Low Channel)

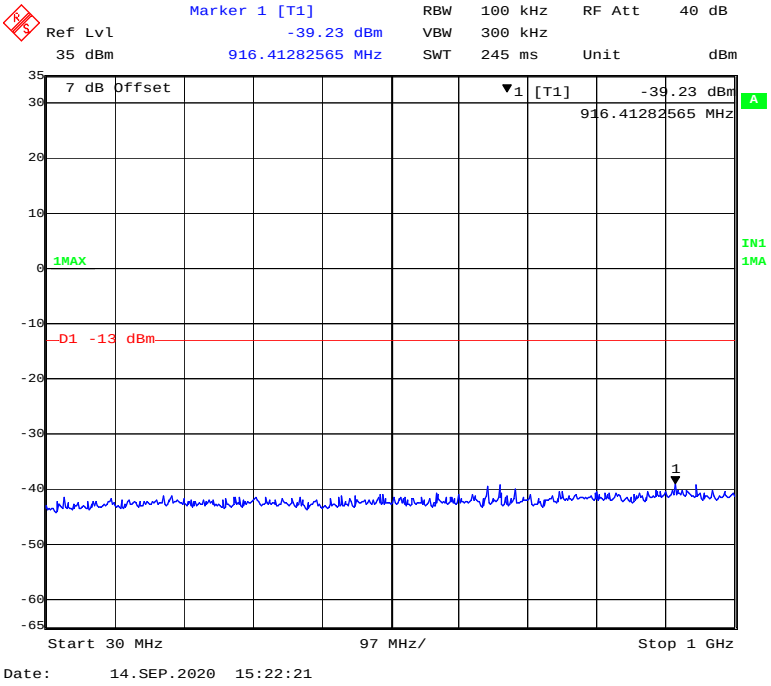


1 GHz – 20 GHz (15 MHz, QPSK, Low Channel)

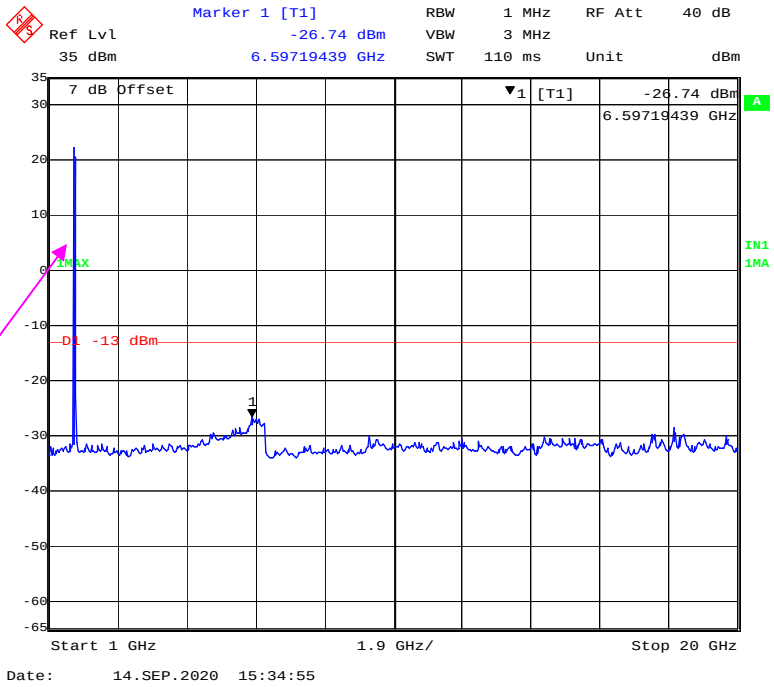


Fundamental

30 MHz - 1 GHz (15 MHz, 16-QAM, Low Channel)

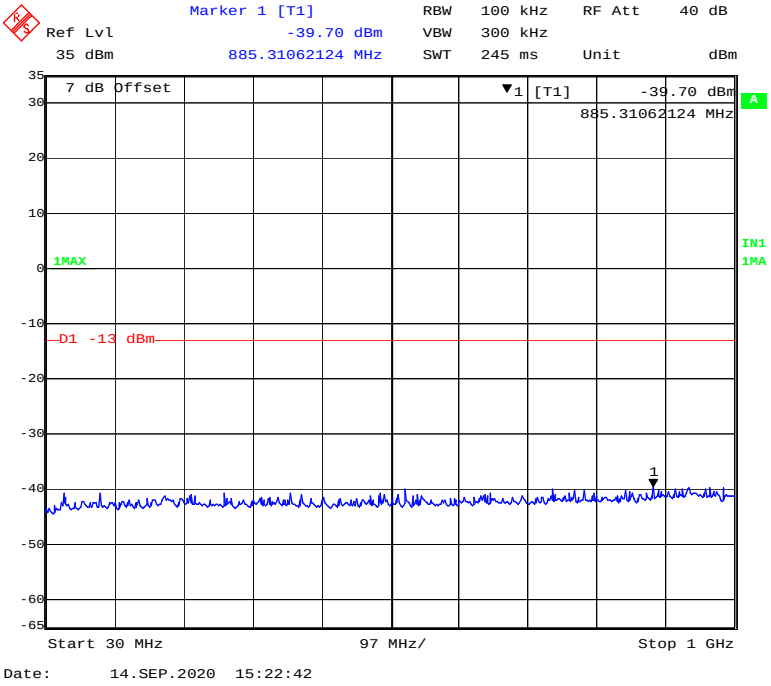


1 GHz – 20 GHz (15 MHz, 16-QAM, Low Channel)

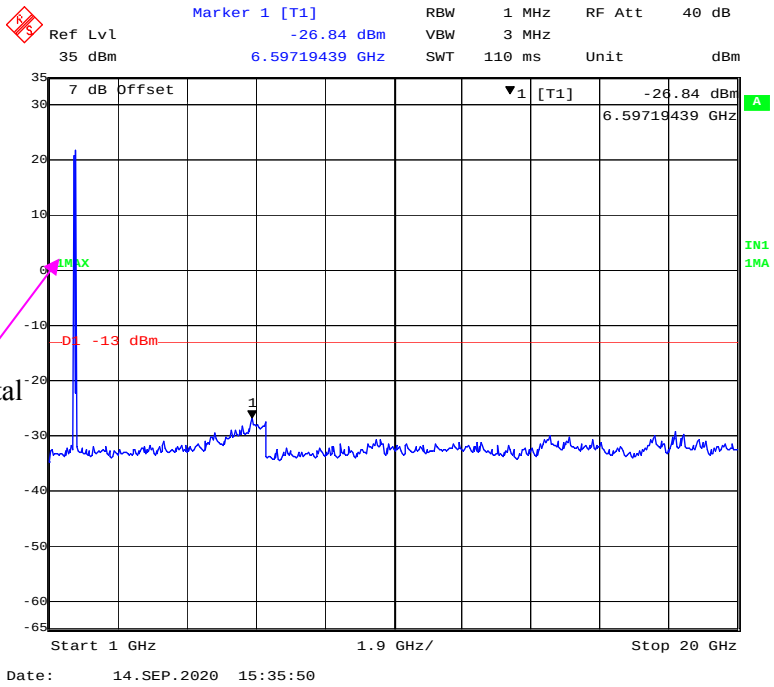


Fundamental

30 MHz - 1 GHz (20 MHz, QPSK, Low Channel)

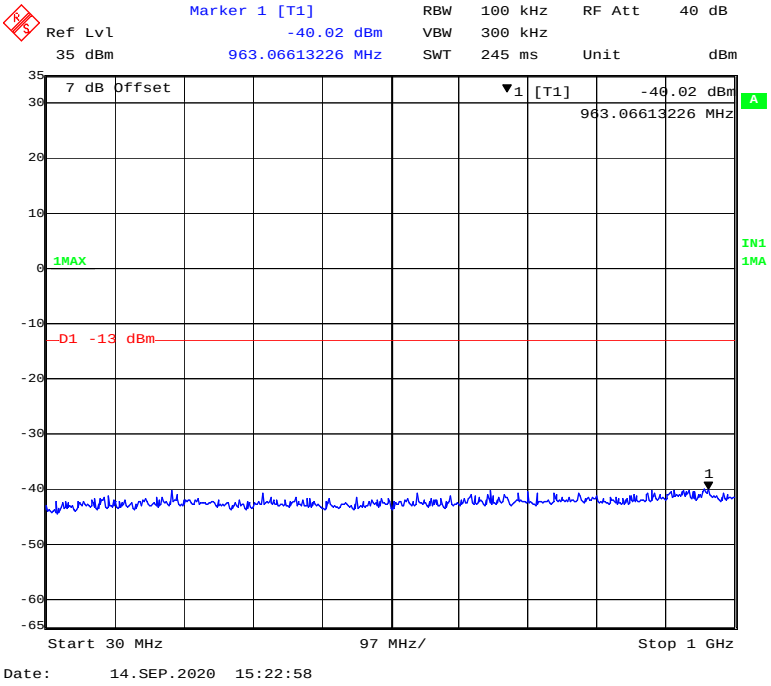


1 GHz – 20 GHz (20 MHz, QPSK, Low Channel)

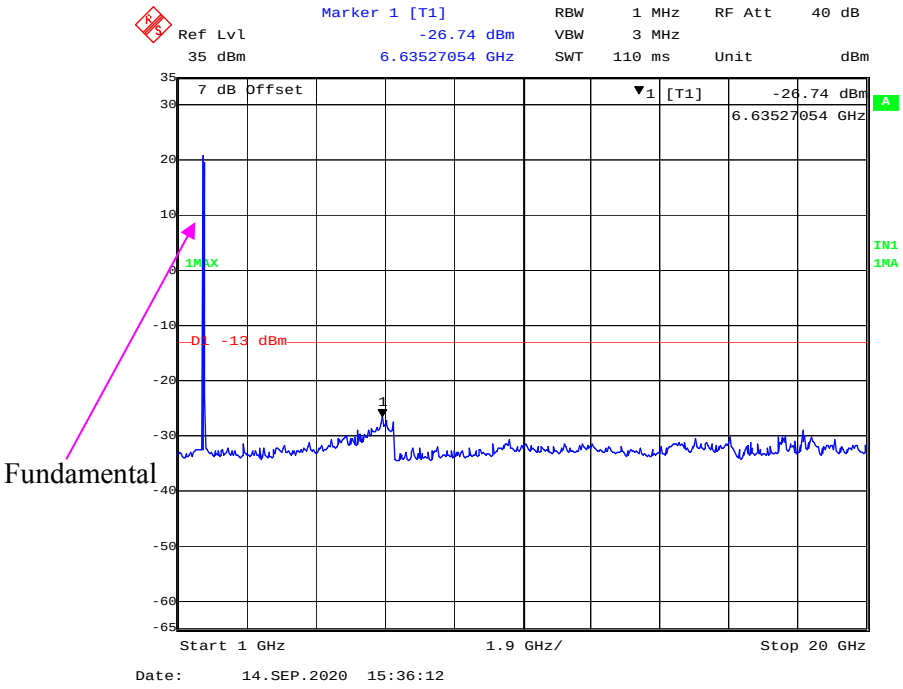


Fundamental

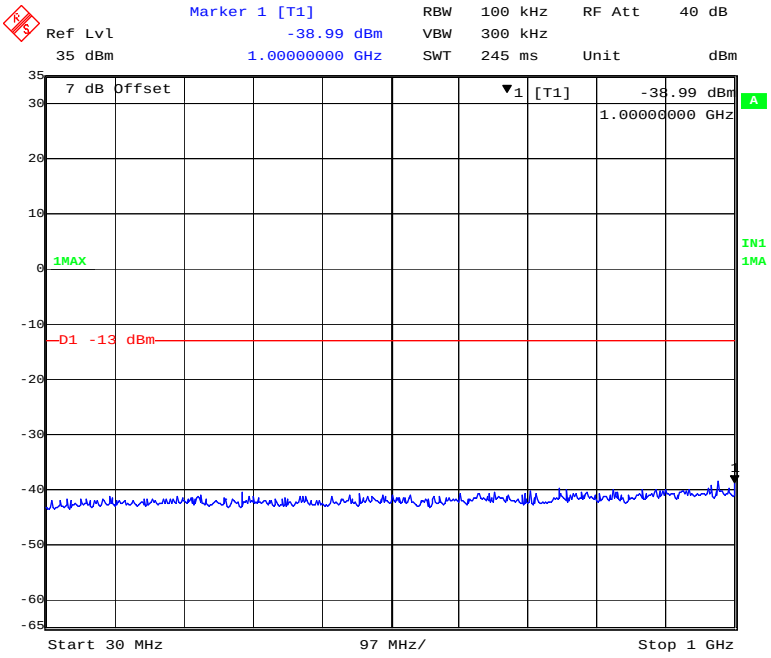
30 MHz - 1 GHz (20 MHz, 16-QAM, Low Channel)



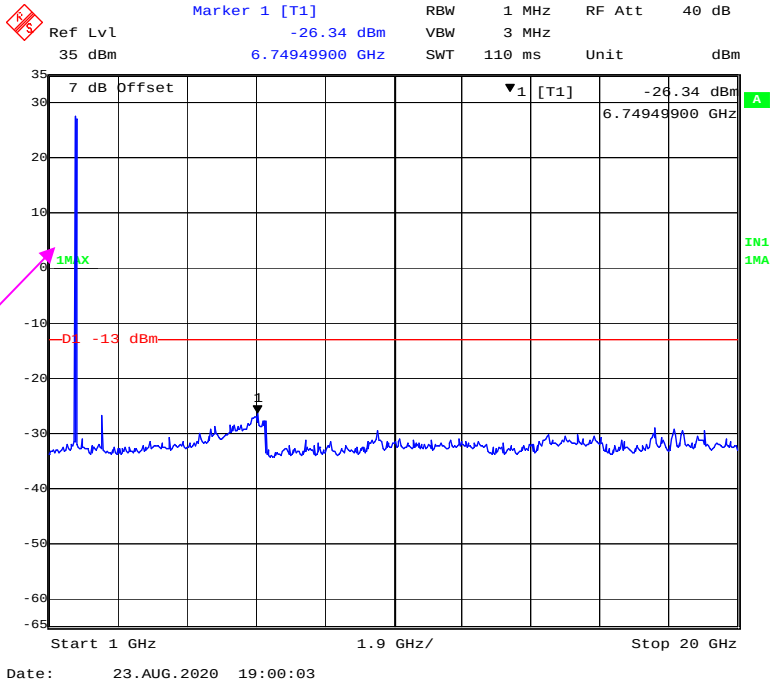
1 GHz – 20 GHz (20 MHz, 16-QAM, Low Channel)



30 MHz - 1 GHz (1.4 MHz, QPSK, Middle Channel)

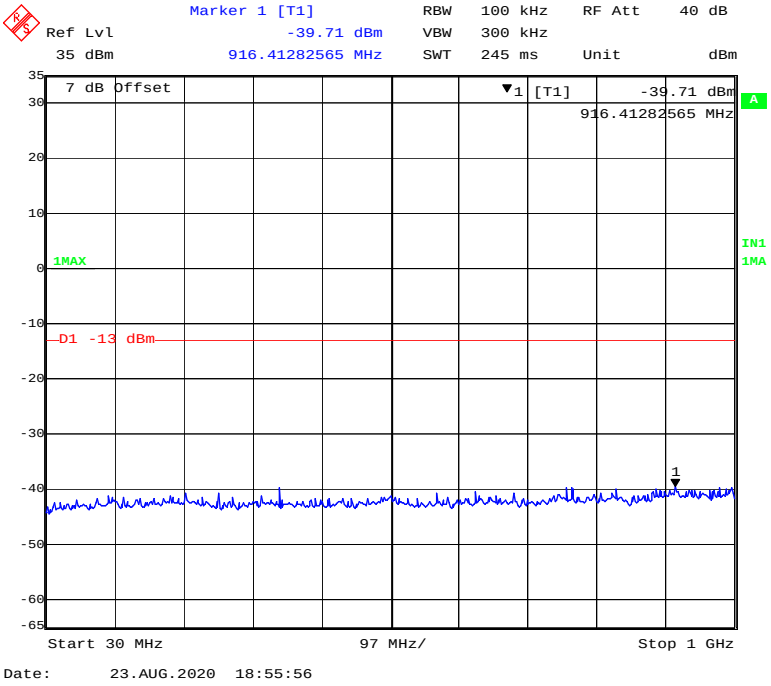


1 GHz – 20 GHz (1.4 MHz, QPSK, Middle Channel)

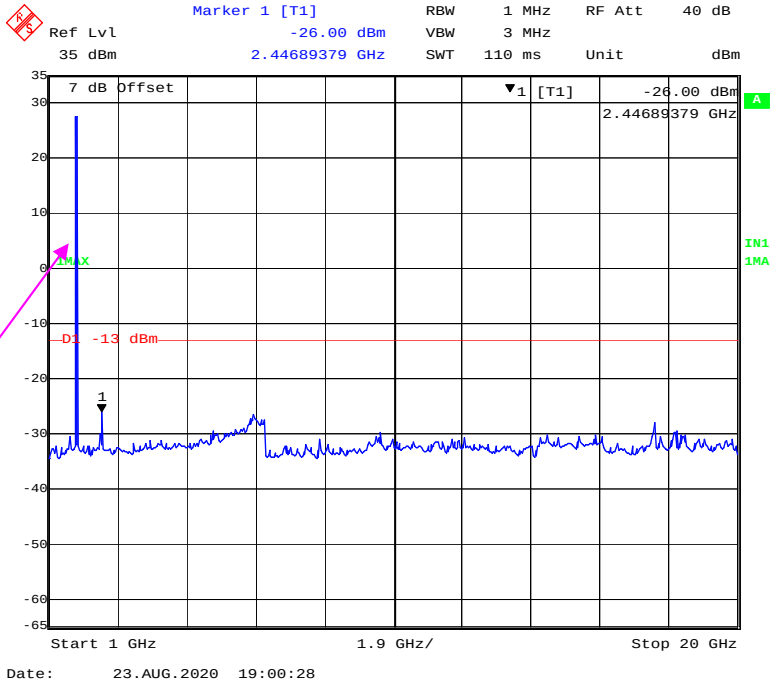


Fundamental

30 MHz - 1 GHz (1.4 MHz, 16-QAM, Middle Channel)

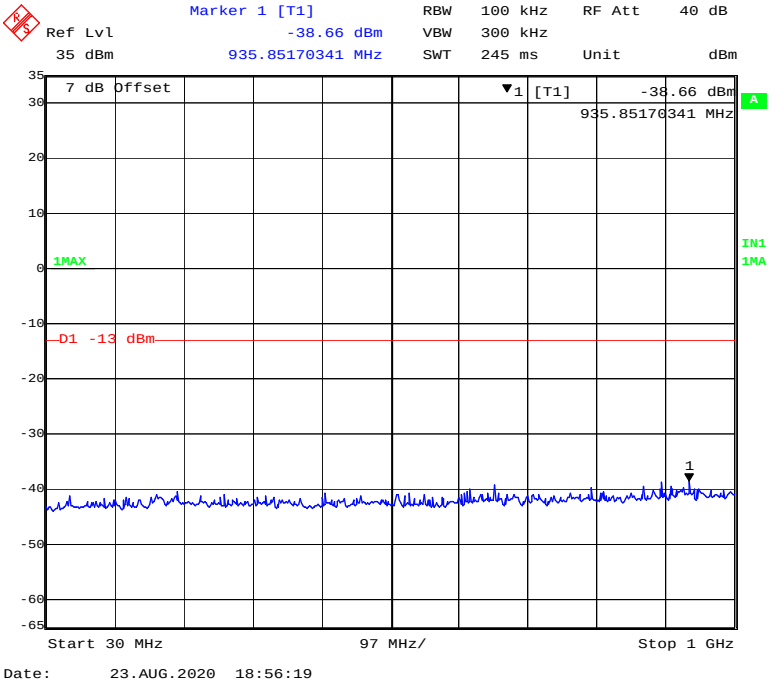


1 GHz – 20 GHz (1.4 MHz, 16-QAM, Middle Channel)

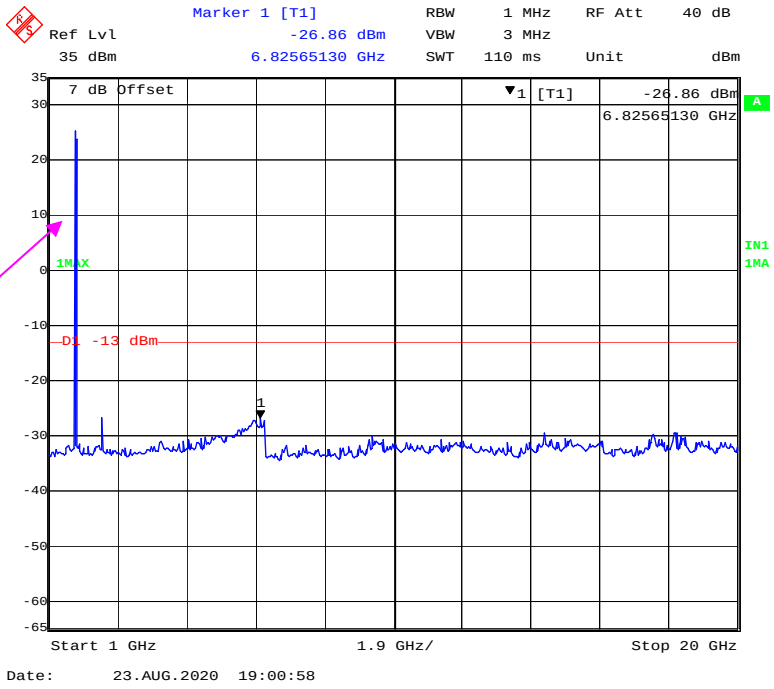


Fundamental

30 MHz - 1 GHz (3 MHz, QPSK, Middle Channel)

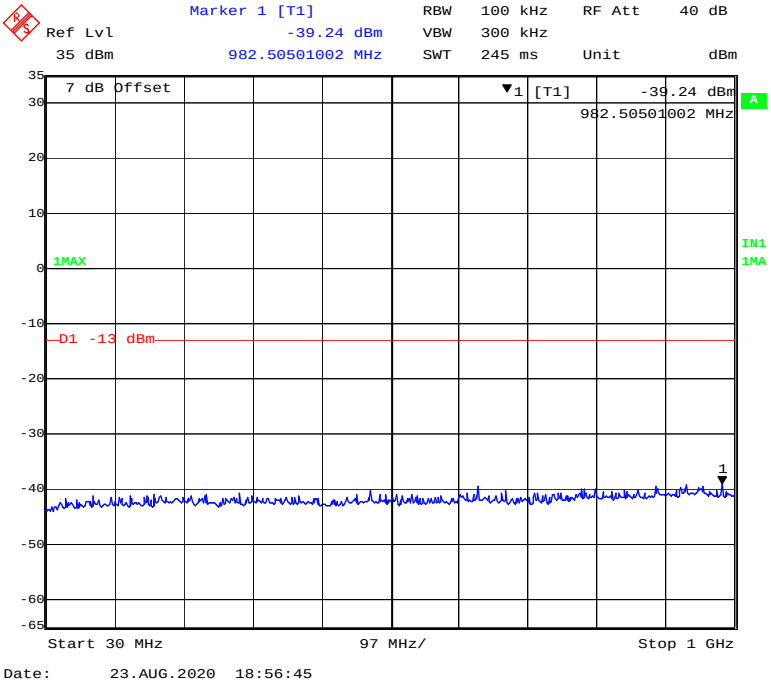


1 GHz – 20 GHz (3 MHz, QPSK, Middle Channel)

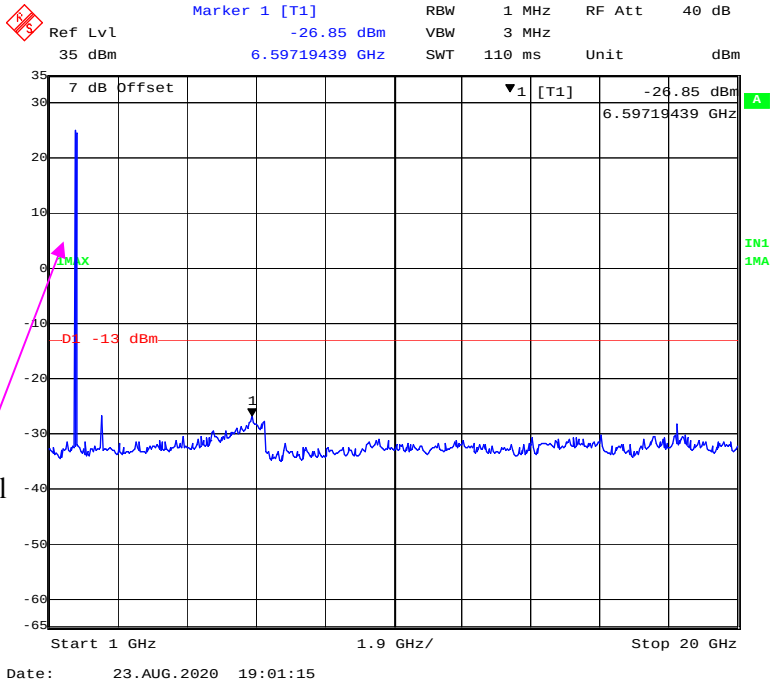


Fundamental

30 MHz - 1 GHz (3 MHz, 16-QAM, Middle Channel)

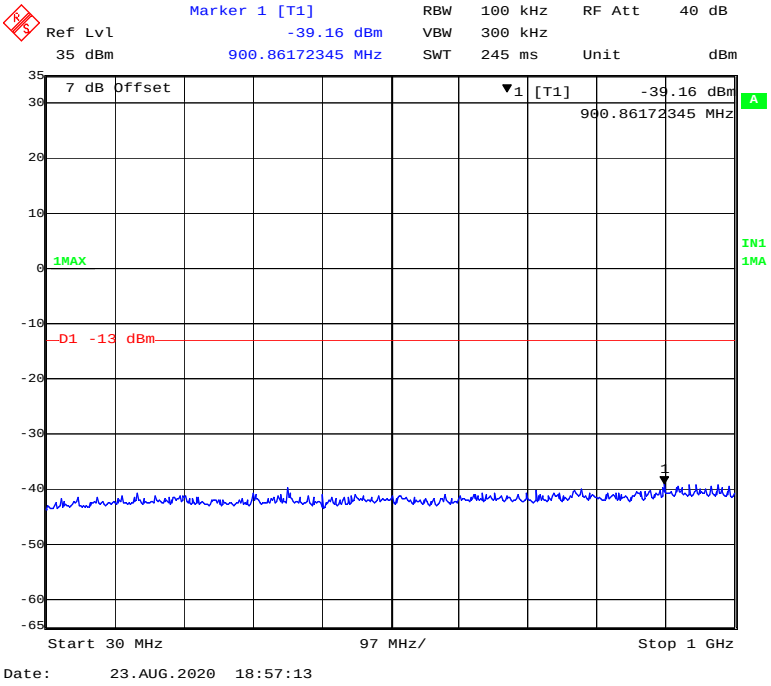


1 GHz – 20 GHz (3 MHz, 16-QAM, Middle Channel)

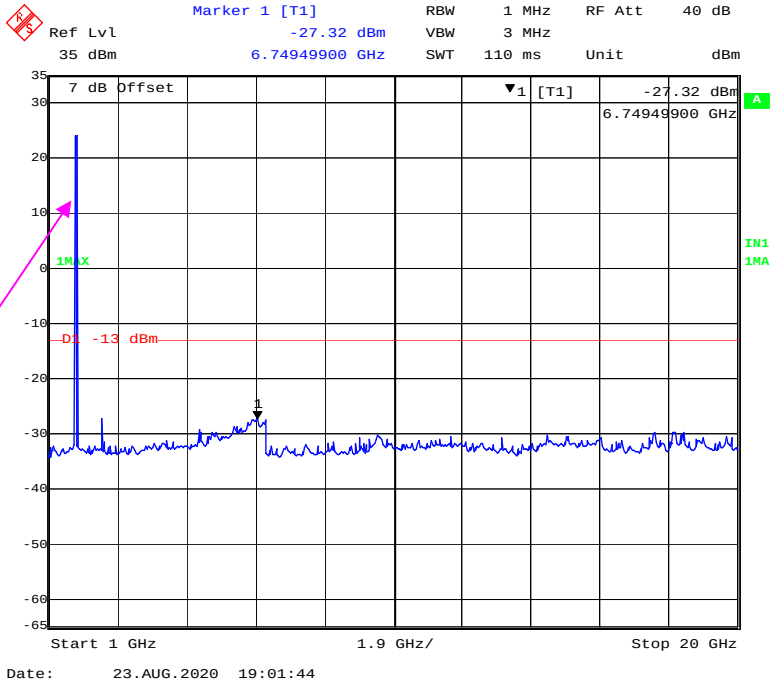


Fundamental

30 MHz - 1 GHz (5 MHz, QPSK, Middle Channel)

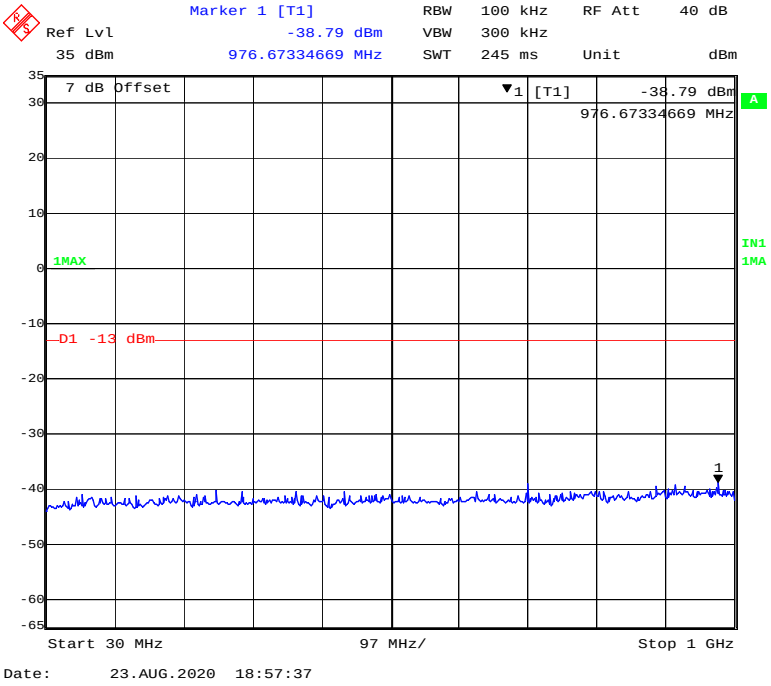


1 GHz – 20 GHz (5 MHz, QPSK, Middle Channel)

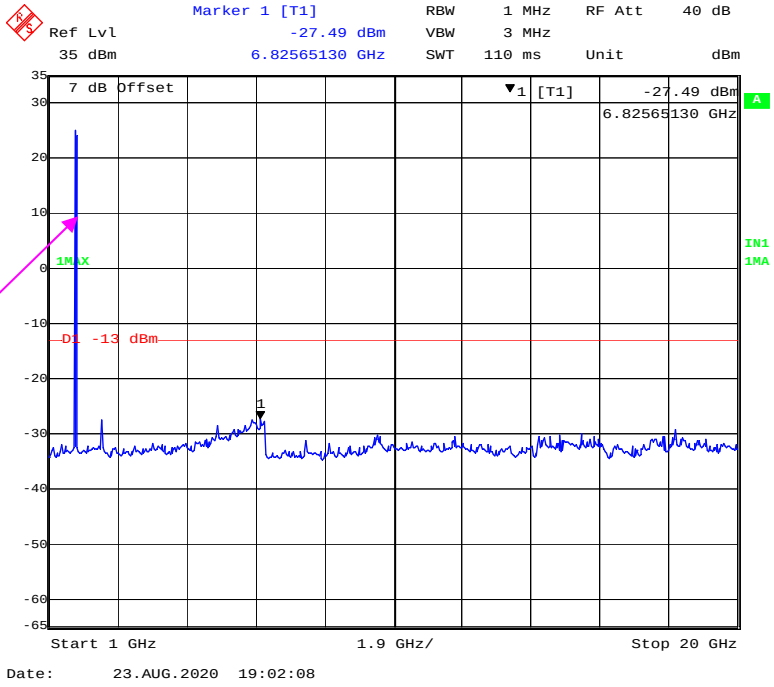


Fundamental

30 MHz - 1 GHz (5 MHz, 16-QAM, Middle Channel)

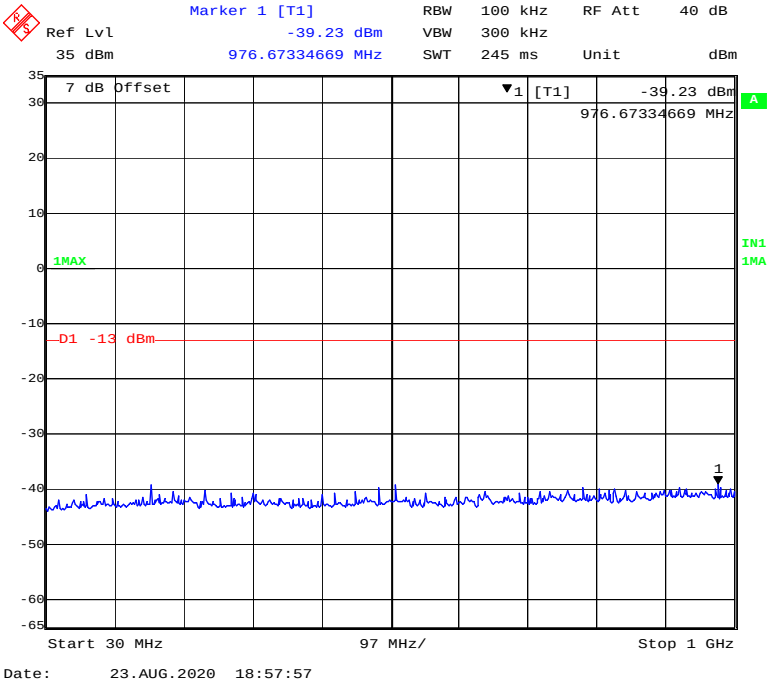


1 GHz – 20 GHz (5 MHz, 16-QAM, Middle Channel)

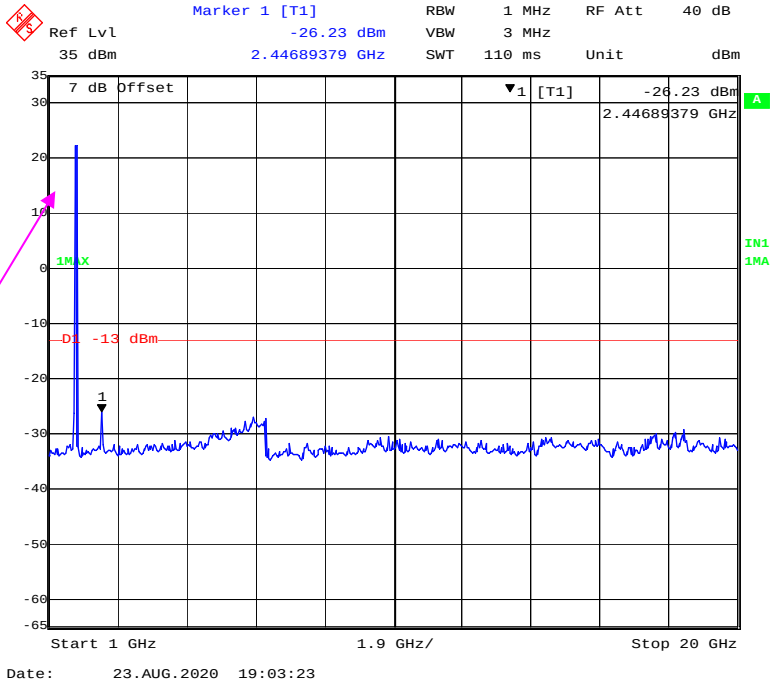


Fundamental

30 MHz - 1 GHz (10 MHz, QPSK, Middle Channel)

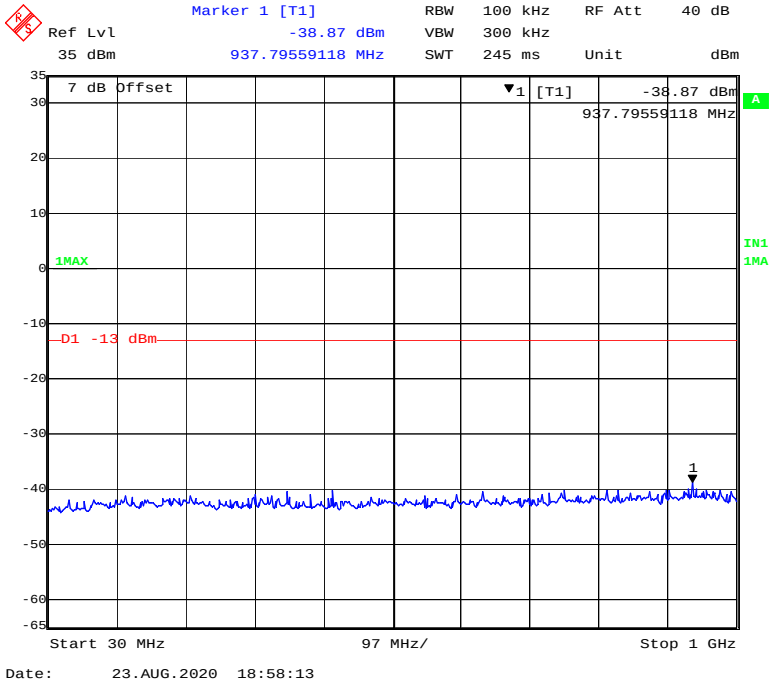


1 GHz – 20 GHz (10 MHz, QPSK, Middle Channel)

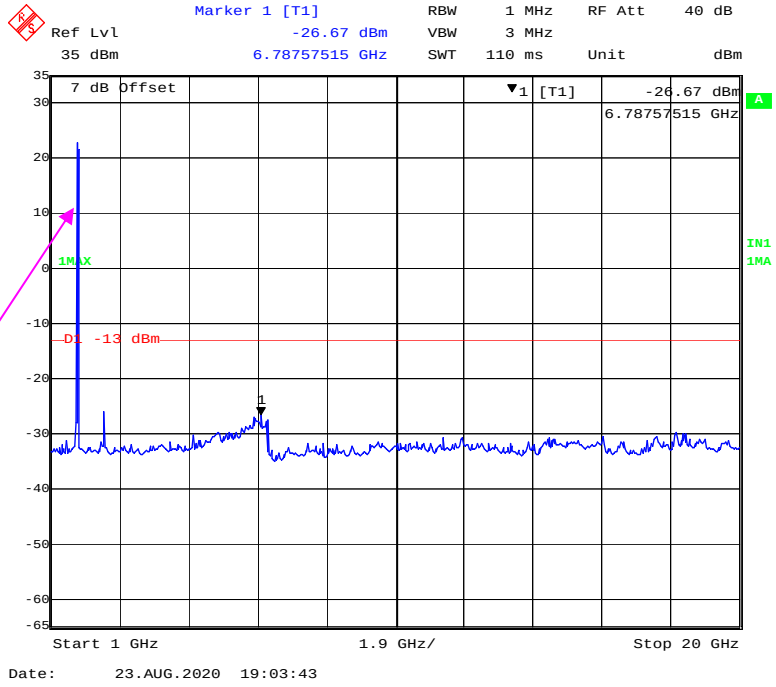


Fundamental

30 MHz - 1 GHz (10 MHz, 16-QAM, Middle Channel)

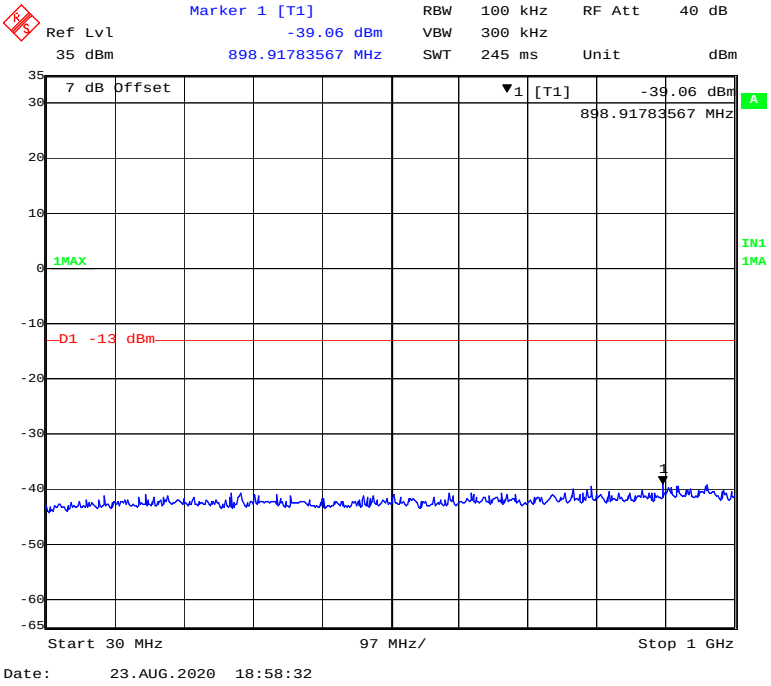


1 GHz – 20 GHz (10 MHz, 16-QAM, Middle Channel)

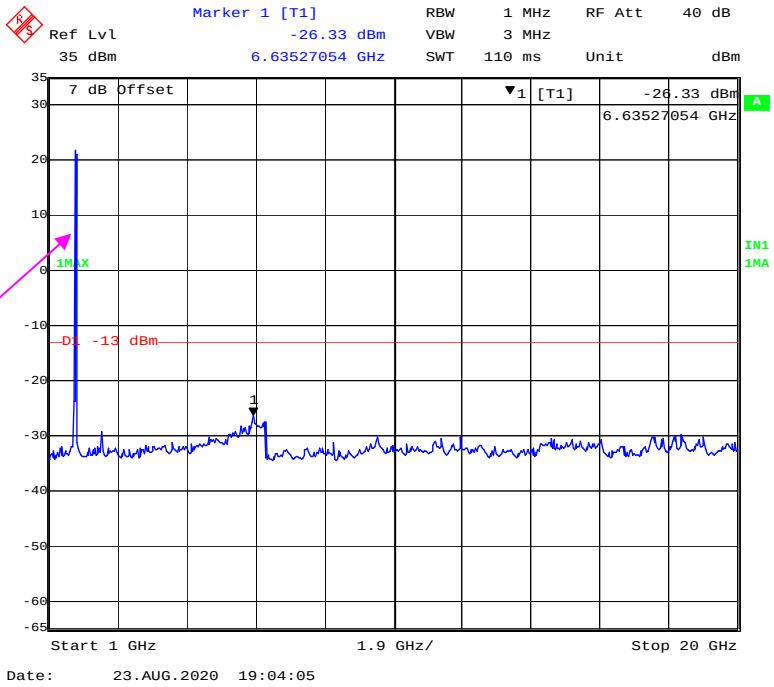


Fundamental

30 MHz - 1 GHz (15 MHz, QPSK, Middle Channel)

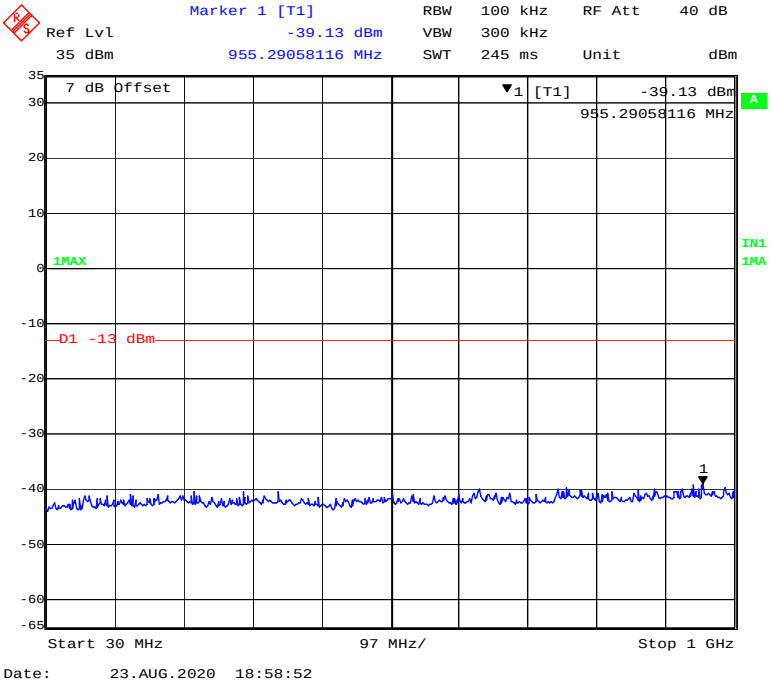


1 GHz – 20 GHz (15 MHz, QPSK, Middle Channel)

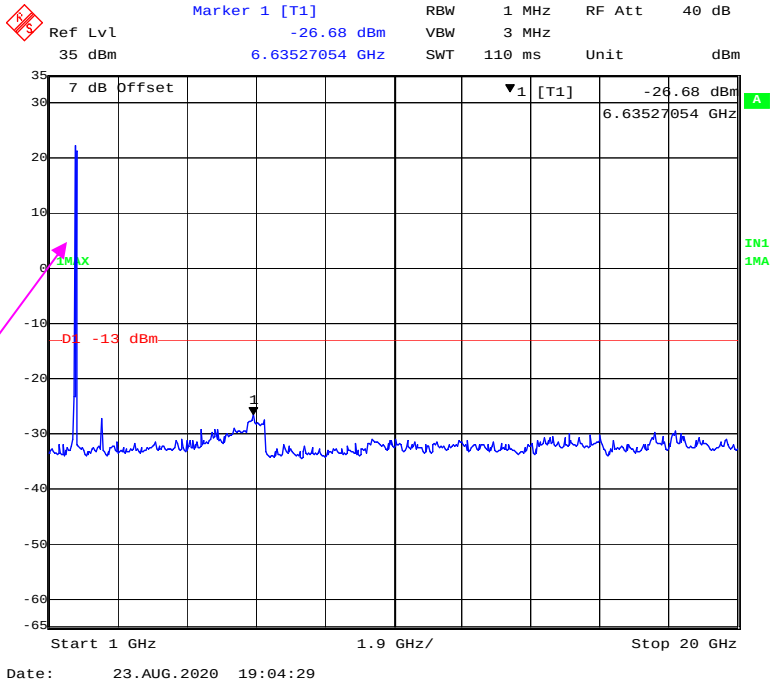


Fundamental

30 MHz - 1 GHz (15 MHz, 16-QAM, Middle Channel)

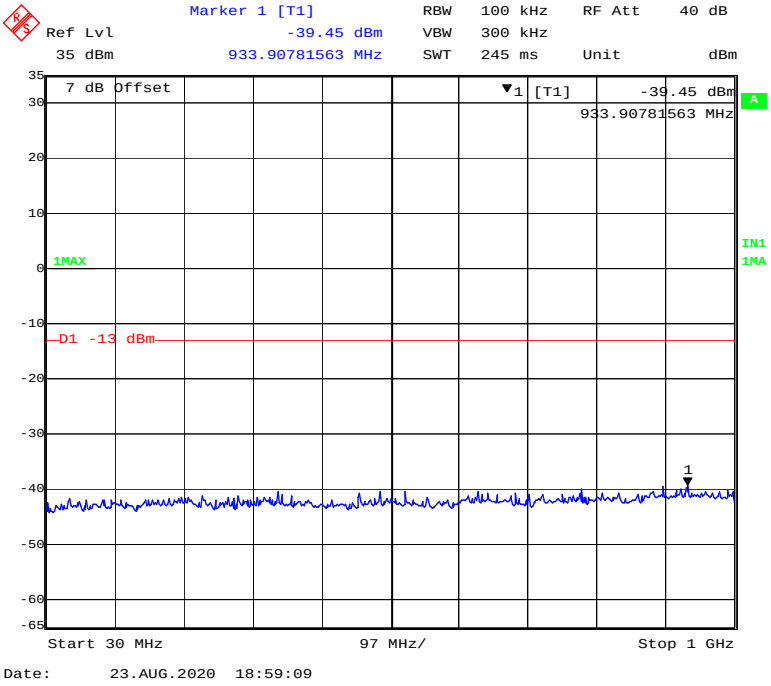


1 GHz – 20 GHz (15 MHz, 16-QAM, Middle Channel)

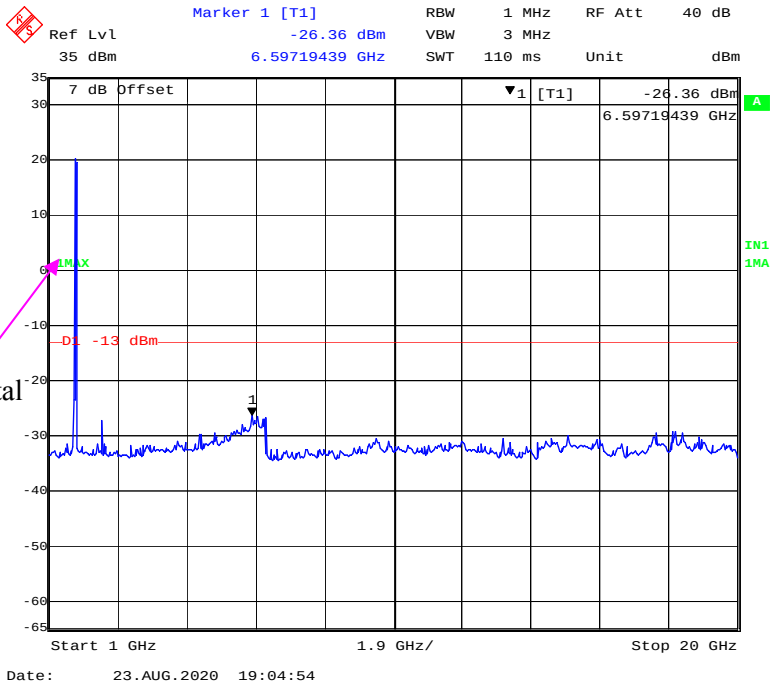


Fundamental

30 MHz - 1 GHz (20 MHz, QPSK, Middle Channel)

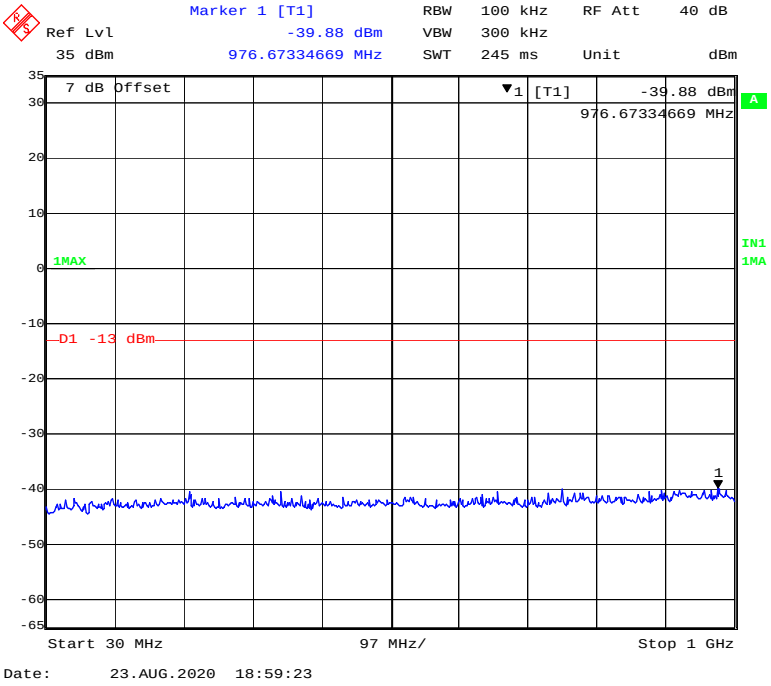


1 GHz – 20 GHz (20 MHz, QPSK, Middle Channel)

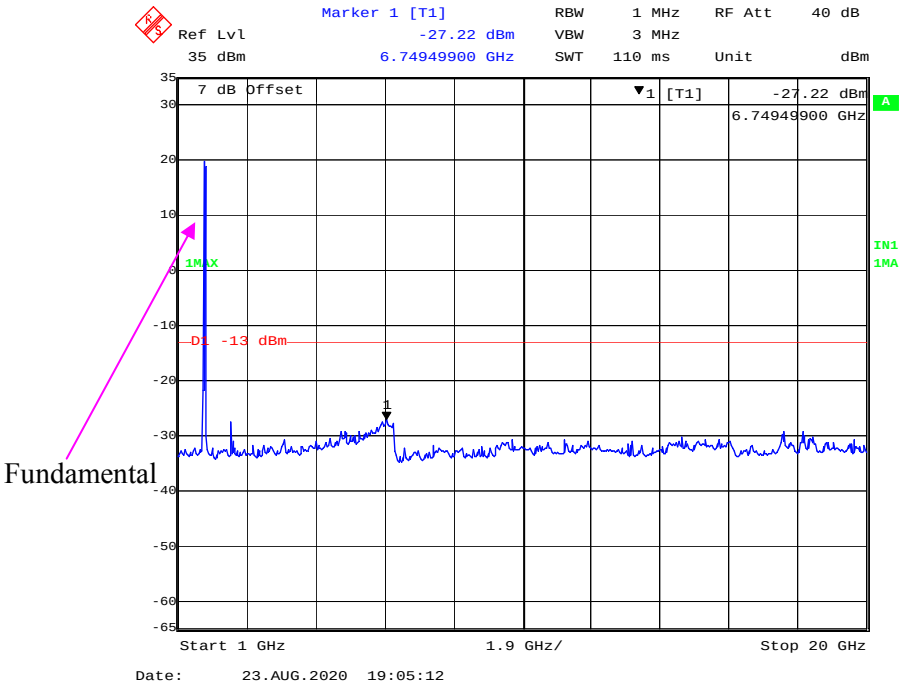


Fundamental

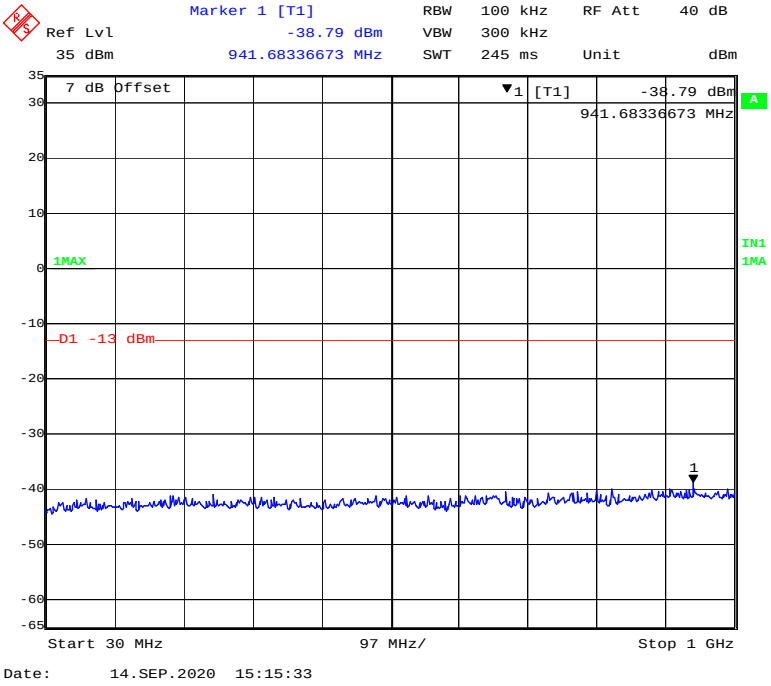
30 MHz - 1 GHz (20 MHz, 16-QAM, Middle Channel)



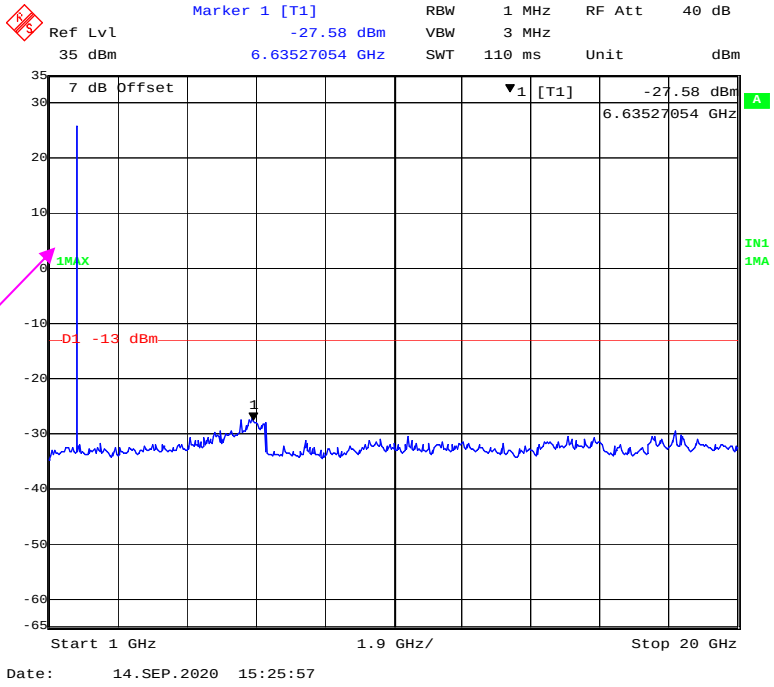
1 GHz – 20 GHz (20 MHz, 16-QAM, Middle Channel)



30 MHz - 1 GHz (1.4 MHz, QPSK, High Channel)

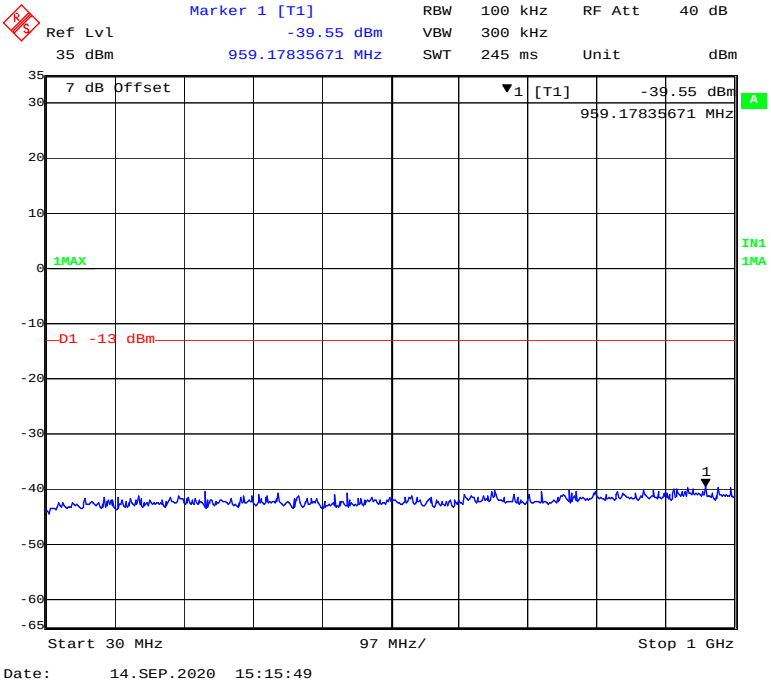


1 GHz – 20 GHz (1.4 MHz, QPSK, High Channel)

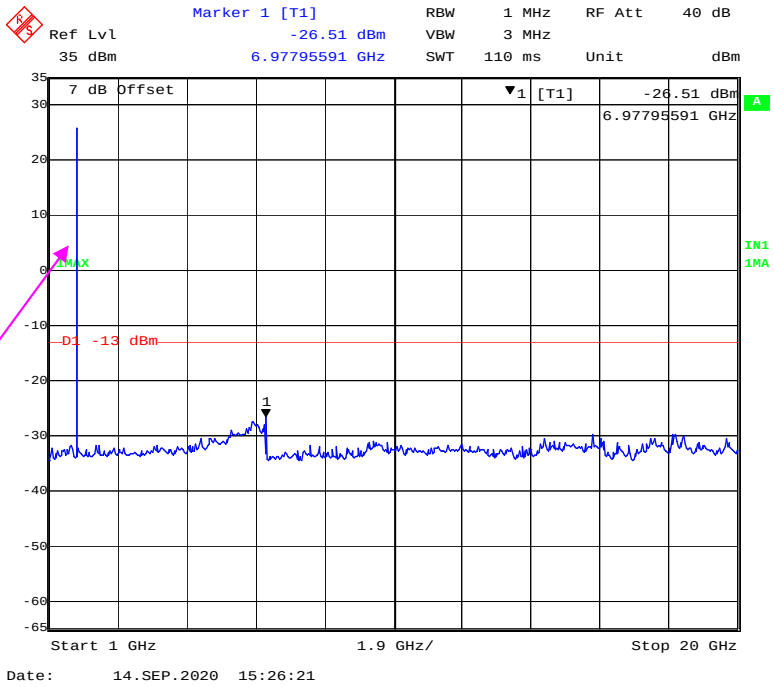


Fundamental

30 MHz - 1 GHz (1.4 MHz, 16-QAM, High Channel)

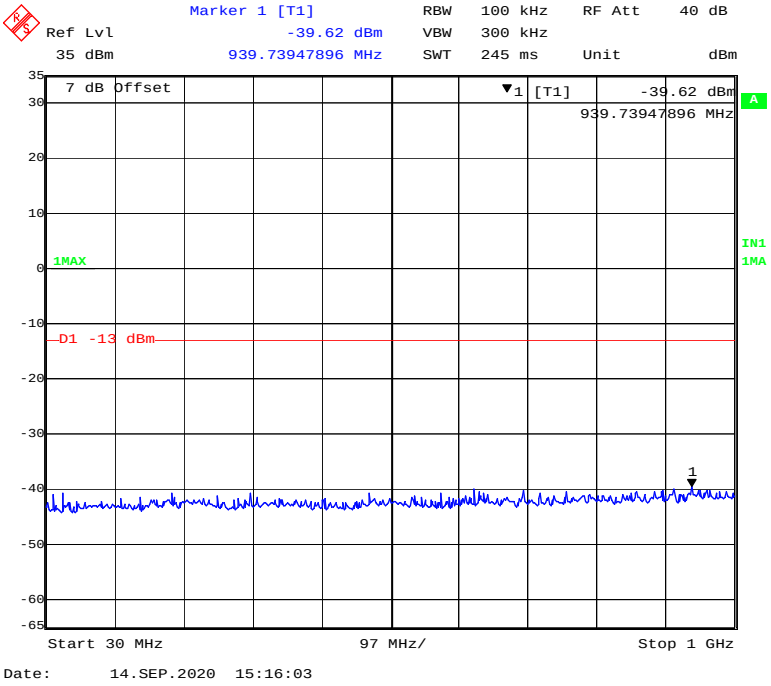


1 GHz – 20 GHz (1.4 MHz, 16-QAM, High Channel)

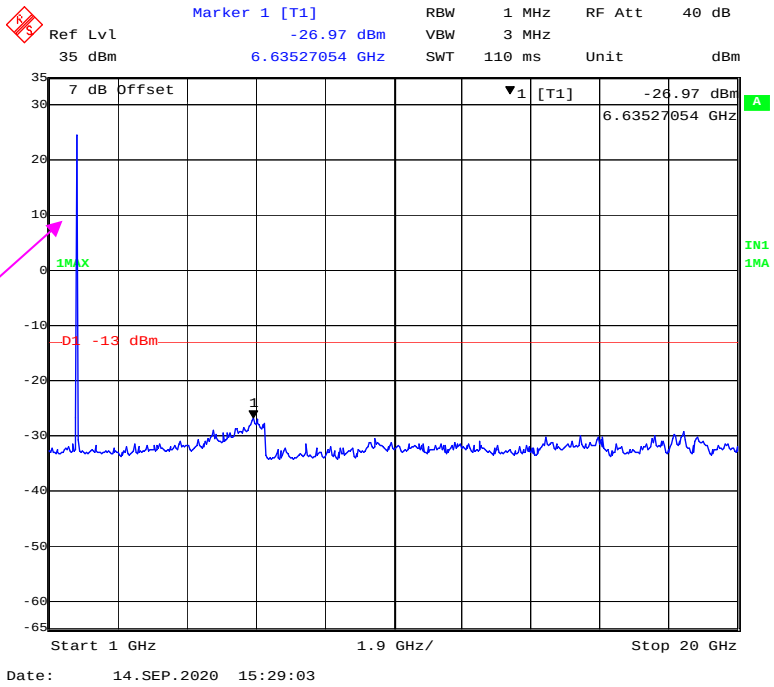


Fundamental

30 MHz - 1 GHz (3 MHz, QPSK, High Channel)

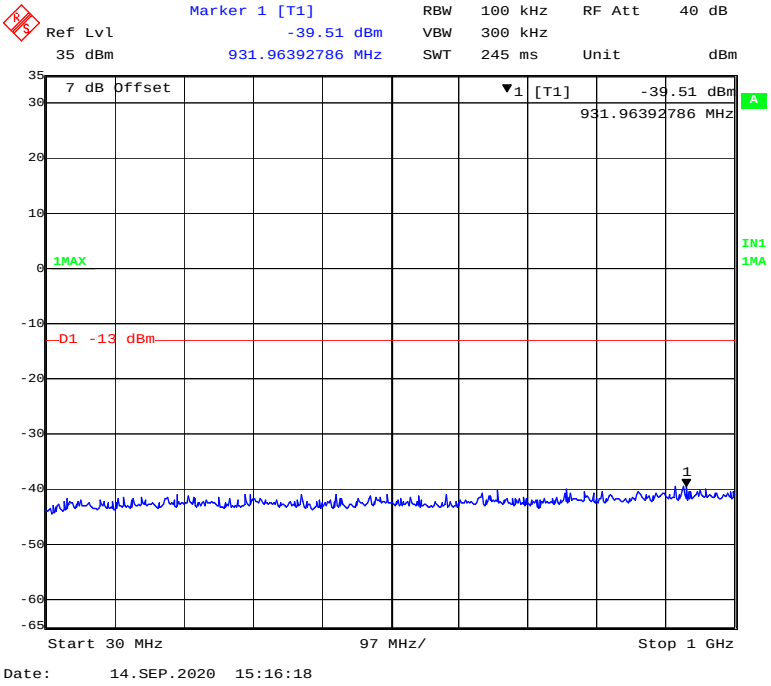


1 GHz – 20 GHz (3 MHz, QPSK, High Channel)

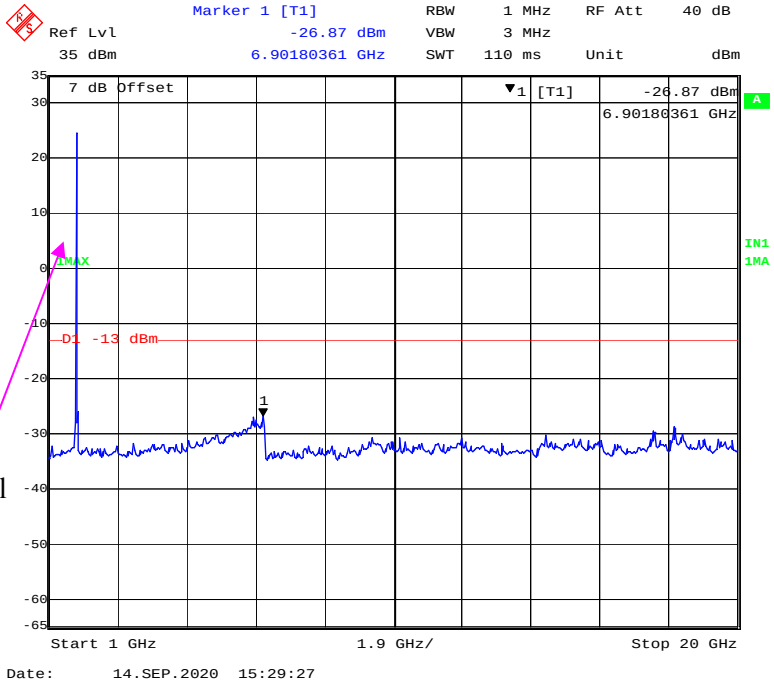


Fundamental

30 MHz - 1 GHz (3 MHz, 16-QAM, High Channel)

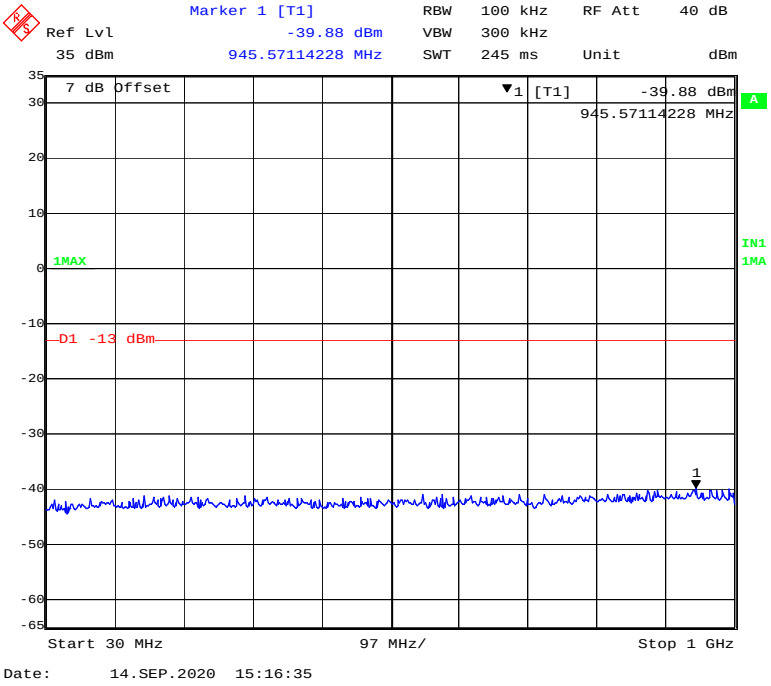


1 GHz – 20 GHz (3 MHz, 16-QAM, High Channel)

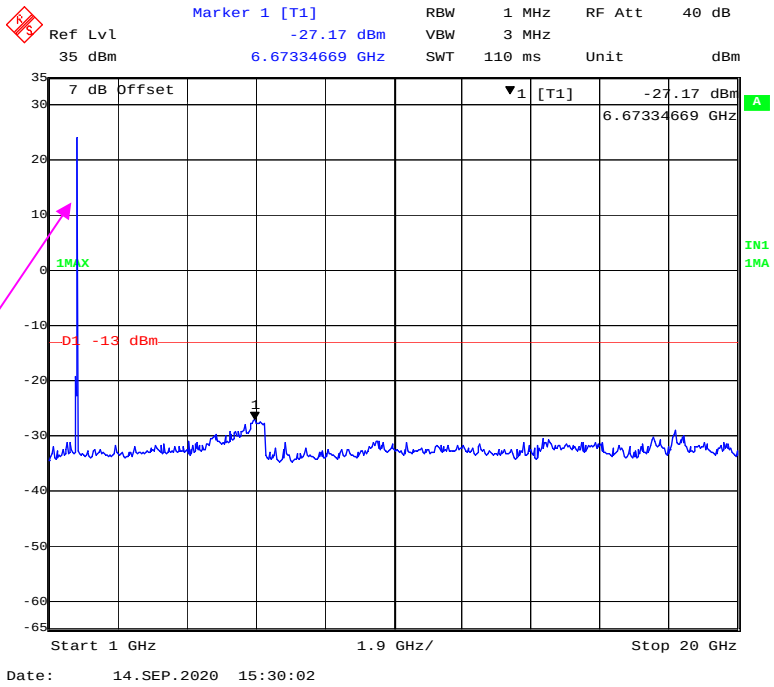


Fundamental

30 MHz - 1 GHz (5 MHz, QPSK, High Channel)

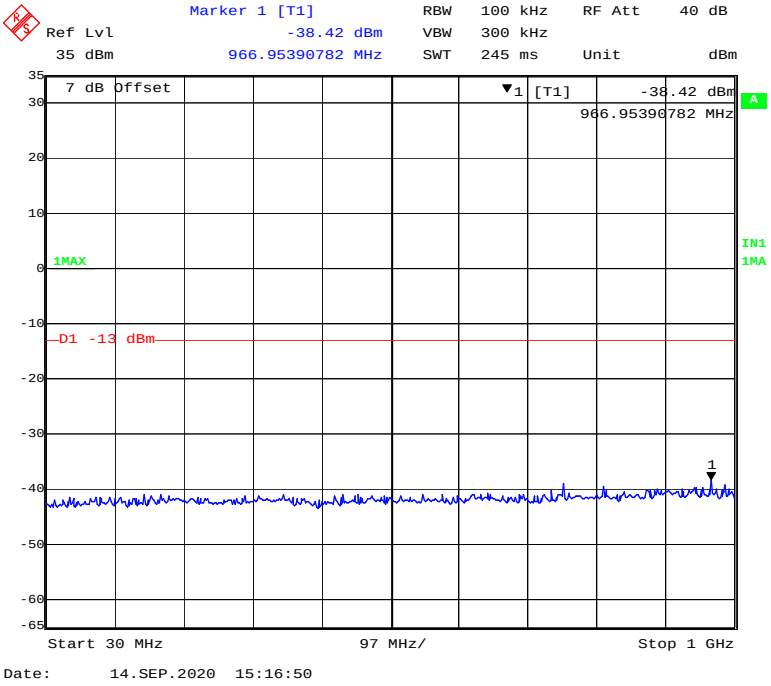


1 GHz – 20 GHz (5 MHz, QPSK, High Channel)

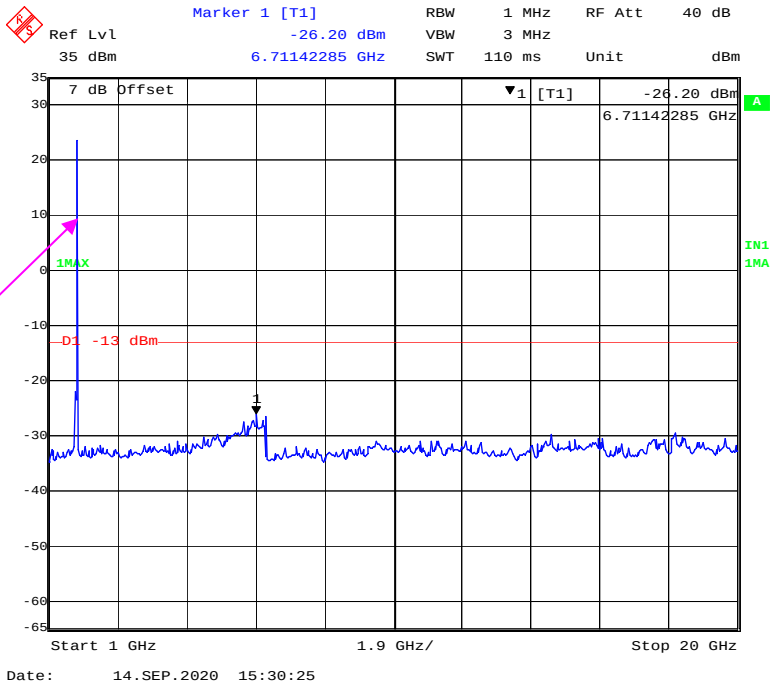


Fundamental

30 MHz - 1 GHz (5 MHz, 16-QAM, High Channel)

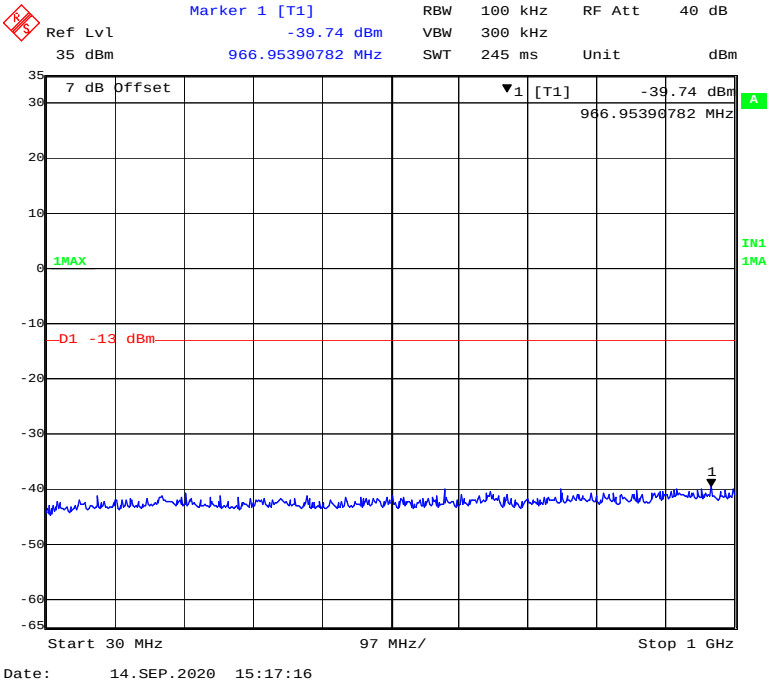


1 GHz – 20 GHz (5 MHz, 16-QAM, High Channel)

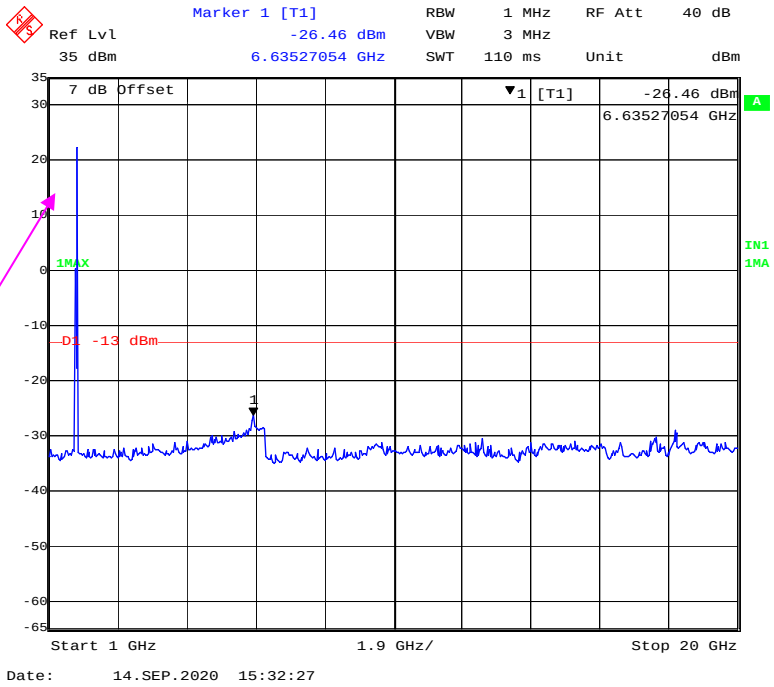


Fundamental

30 MHz - 1 GHz (10 MHz, QPSK, High Channel)

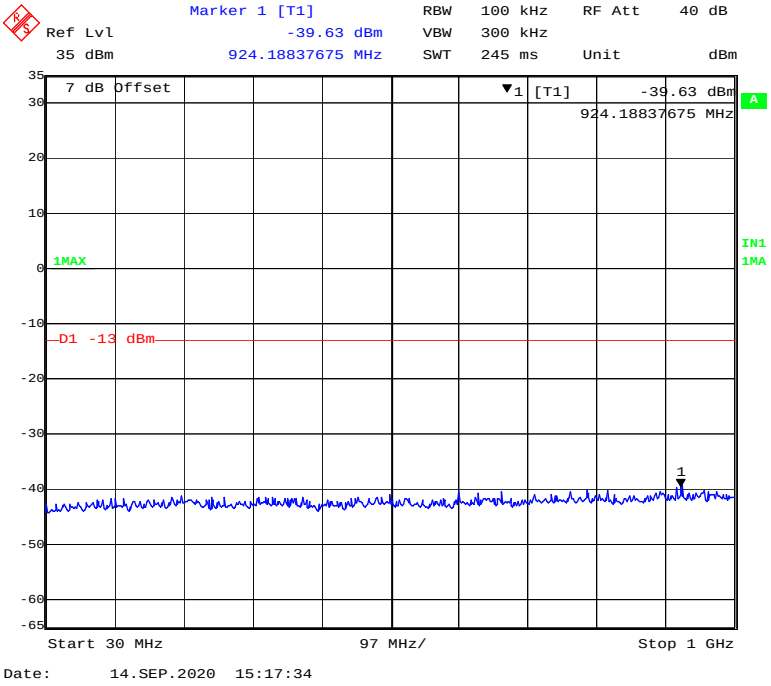


1 GHz – 20 GHz (10 MHz, QPSK, High Channel)

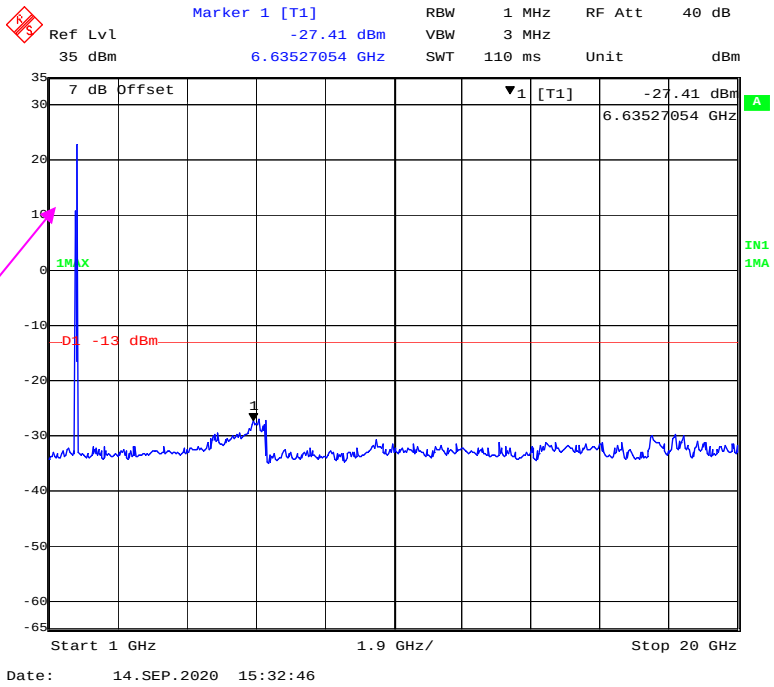


Fundamental

30 MHz - 1 GHz (10 MHz, 16-QAM, High Channel)

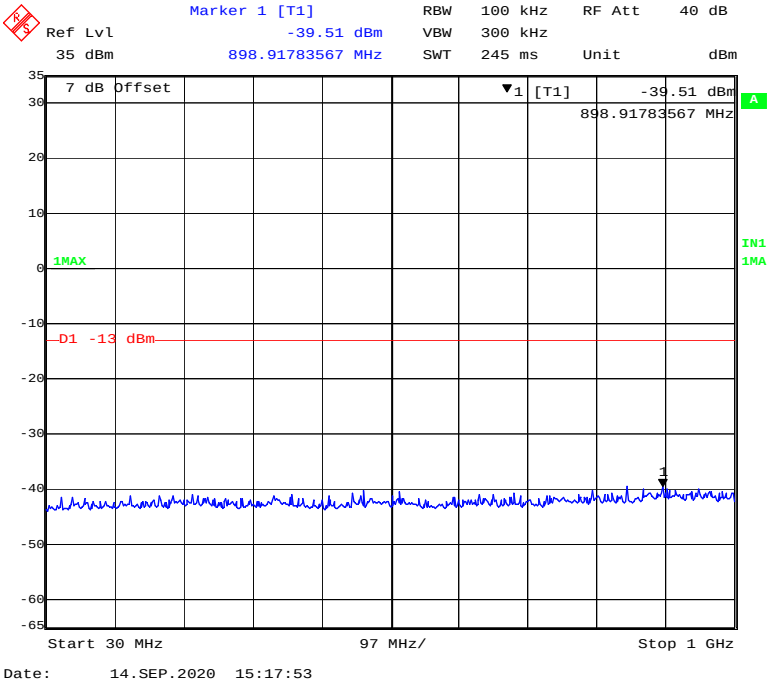


1 GHz – 20 GHz (10 MHz, 16-QAM, High Channel)

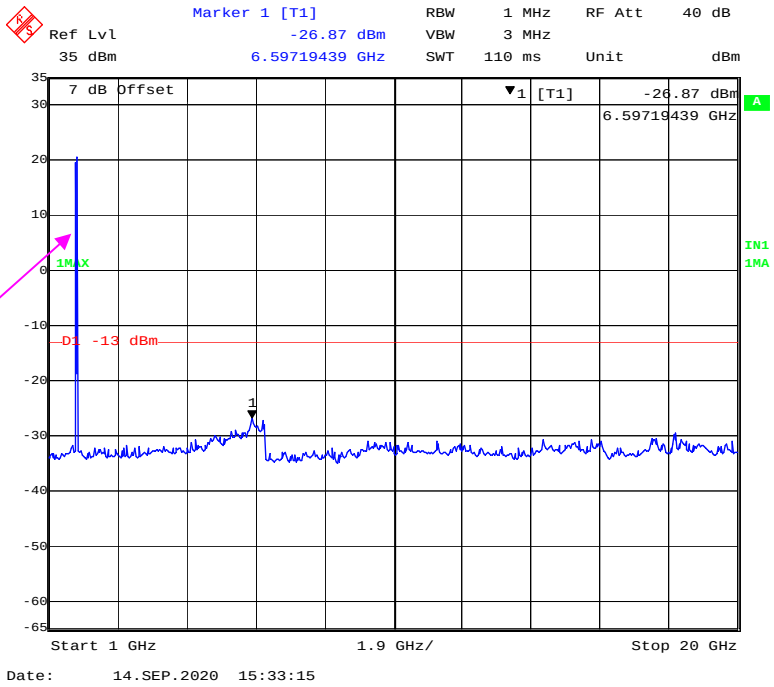


Fundamental

30 MHz - 1 GHz (15 MHz, QPSK, High Channel)

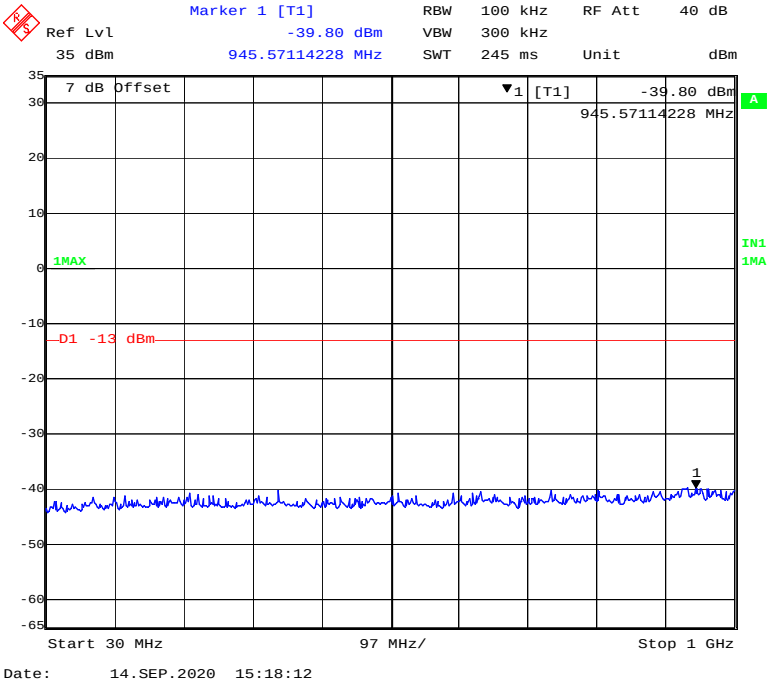


1 GHz – 20 GHz (15 MHz, QPSK, High Channel)

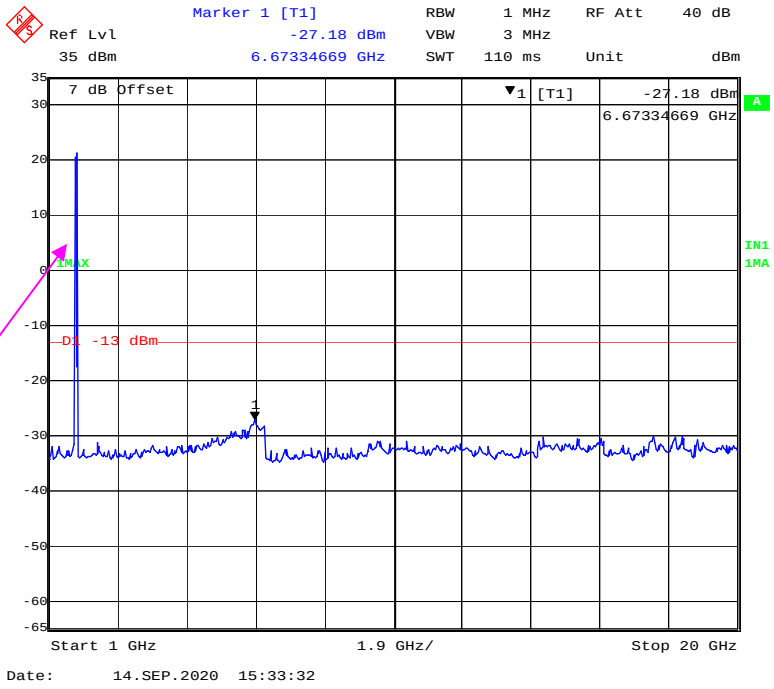


Fundamental

30 MHz - 1 GHz (15 MHz, 16-QAM, High Channel)

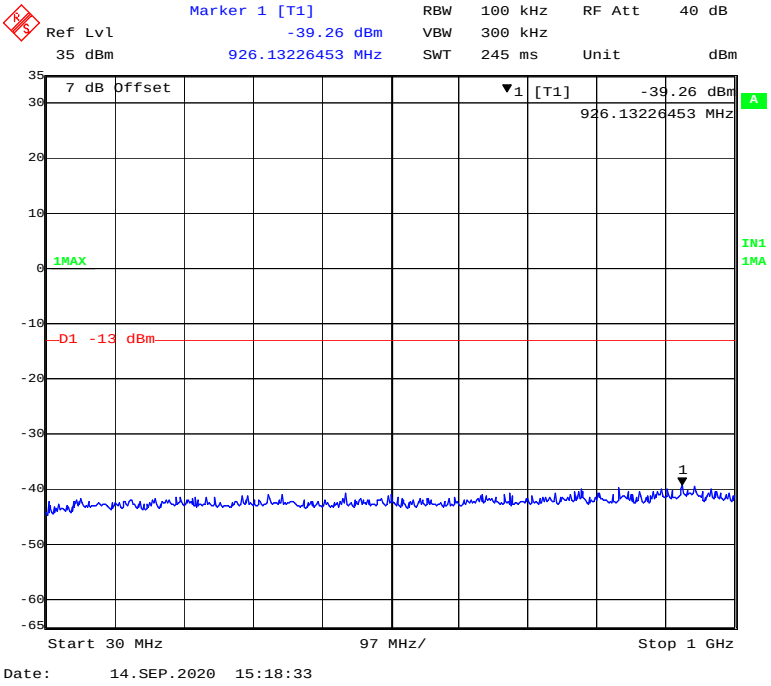


1 GHz – 20 GHz (15 MHz, 16-QAM, High Channel)

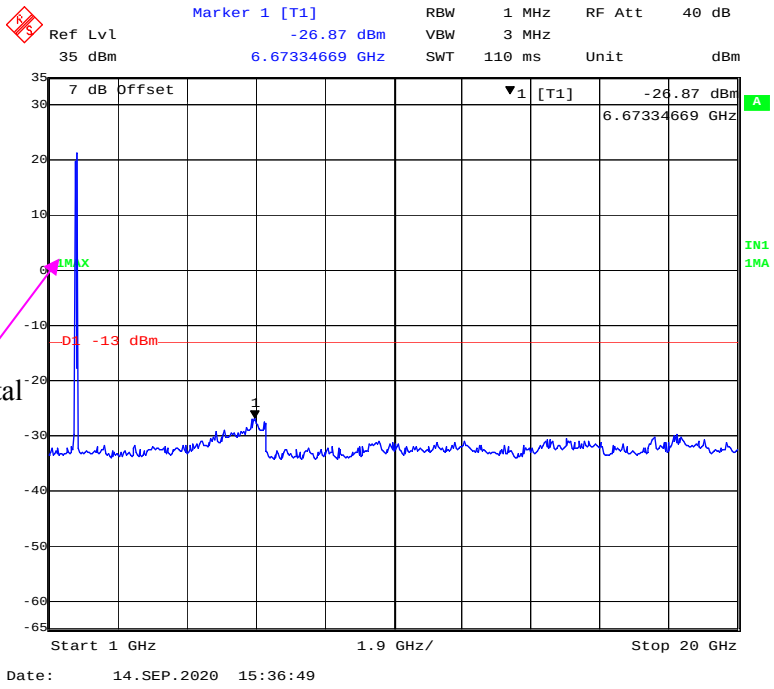


Fundamental

30 MHz - 1 GHz (20 MHz, QPSK, High Channel)

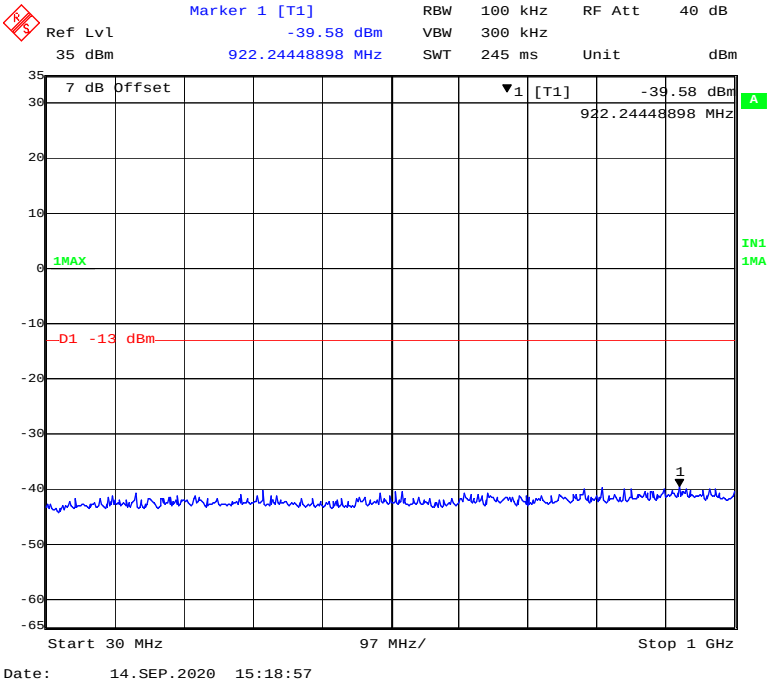


1 GHz – 20 GHz (20 MHz, QPSK, High Channel)

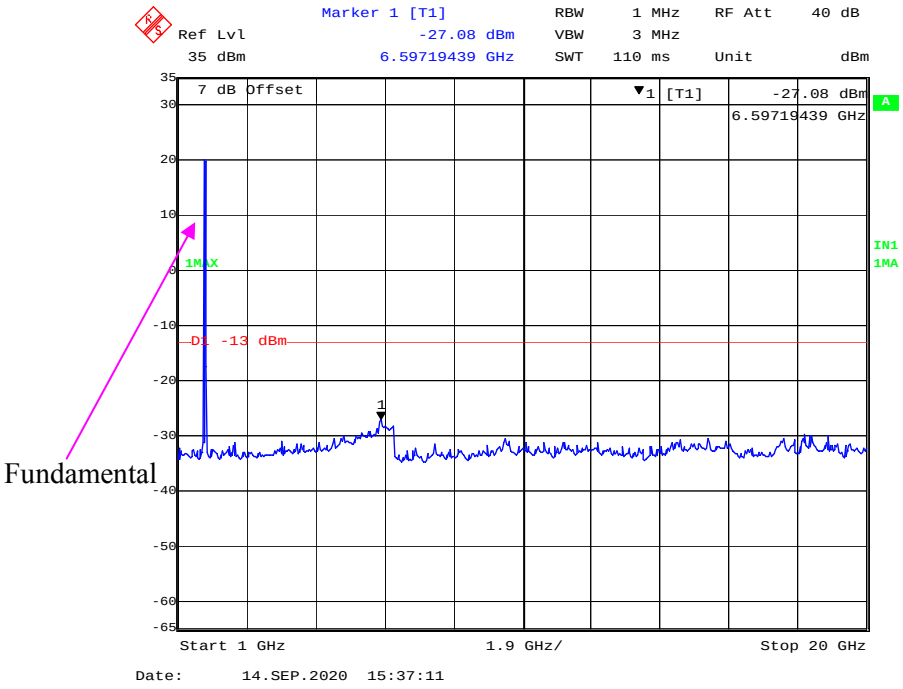


Fundamental

30 MHz - 1 GHz (20 MHz, 16-QAM, High Channel)

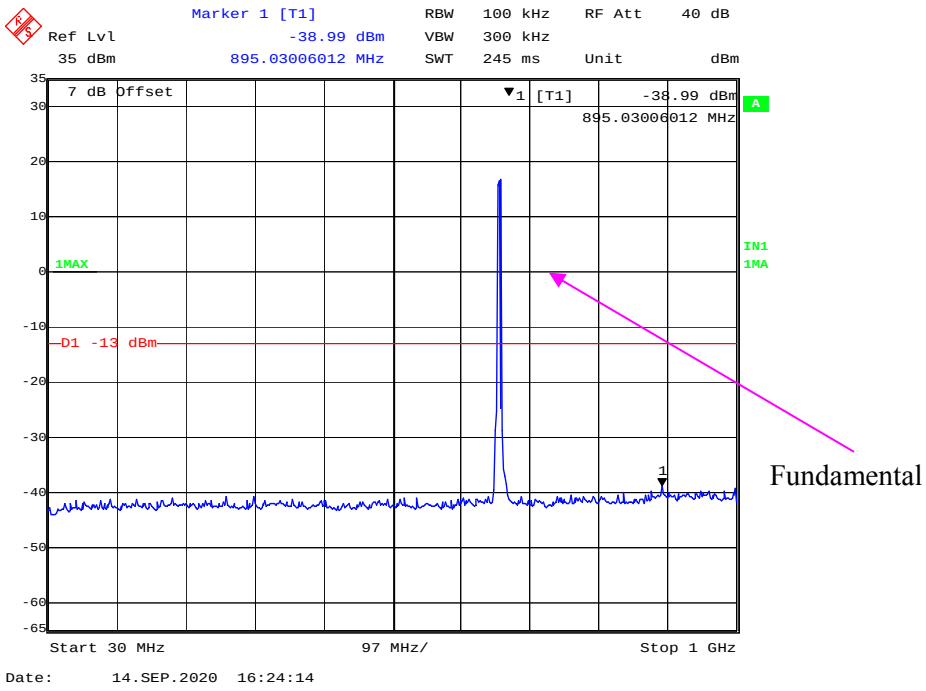


1 GHz – 20 GHz (20 MHz, 16-QAM, High Channel)

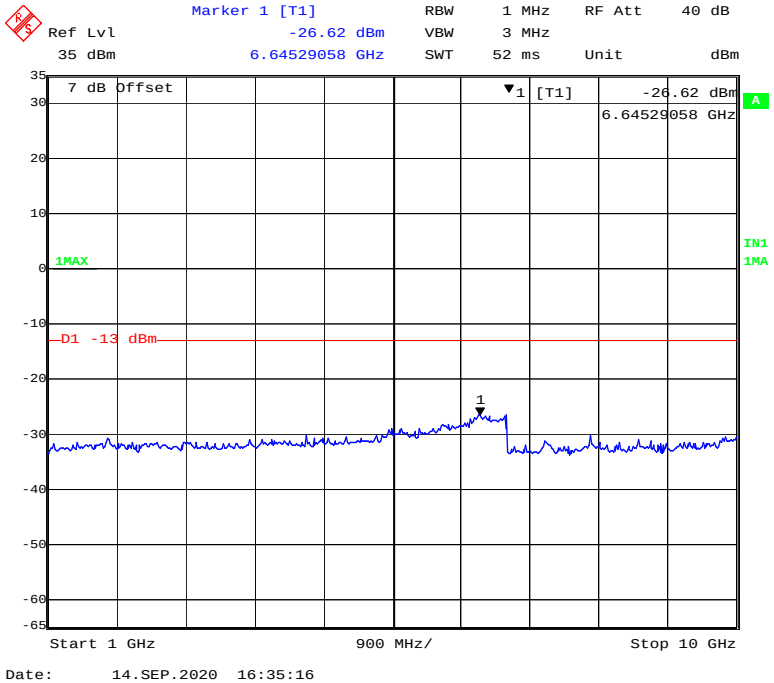


LTE Band 71:

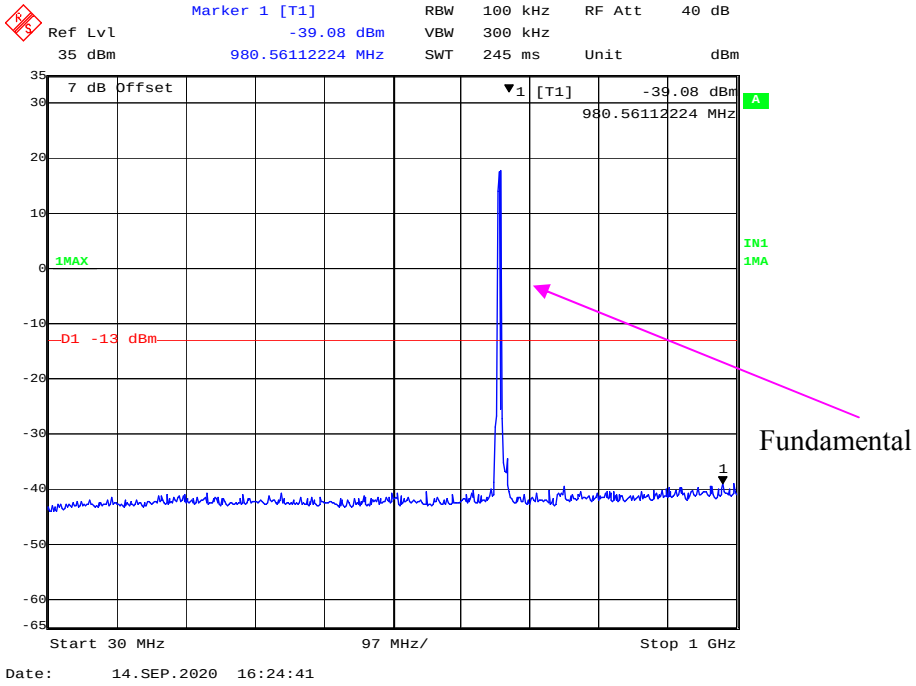
30 MHz - 1 GHz (5 MHz, QPSK, Low Channel)



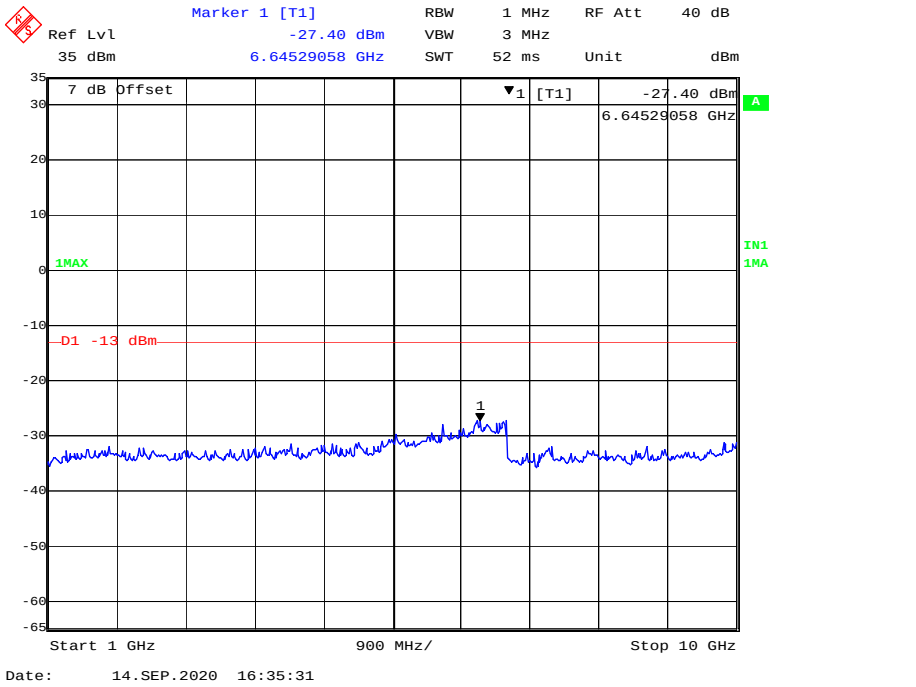
1 GHz – 10 GHz (5 MHz, QPSK, Low Channel)



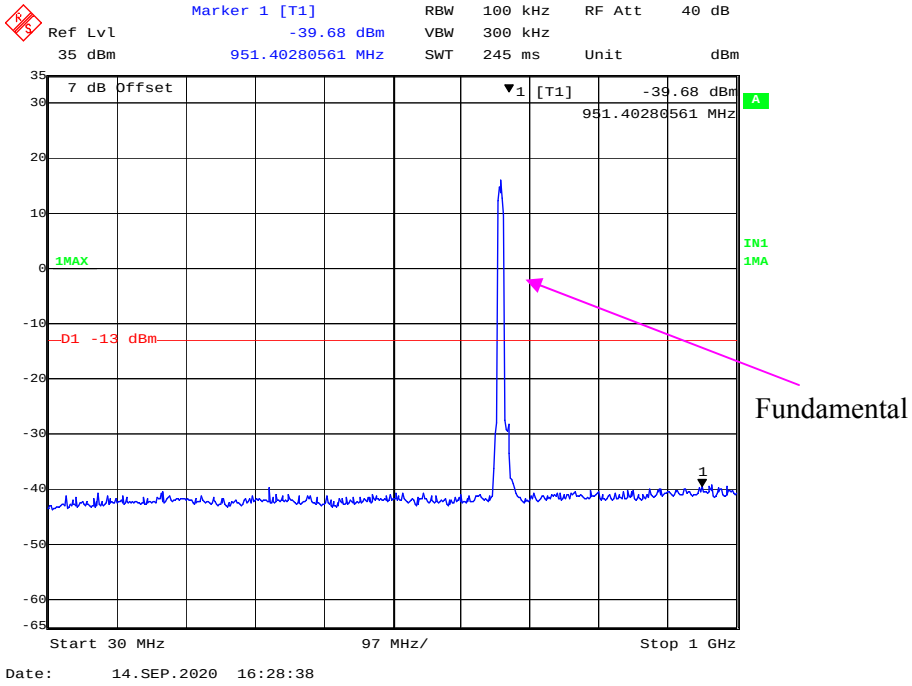
30 MHz - 1 GHz (5 MHz, 16-QAM, Low Channel)



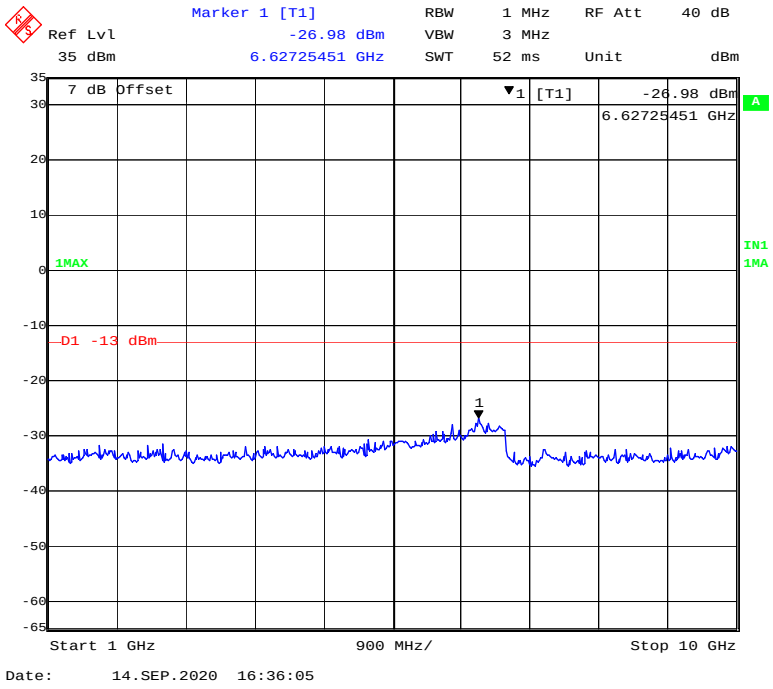
1 GHz – 10 GHz (5 MHz, 16-QAM, Low Channel)



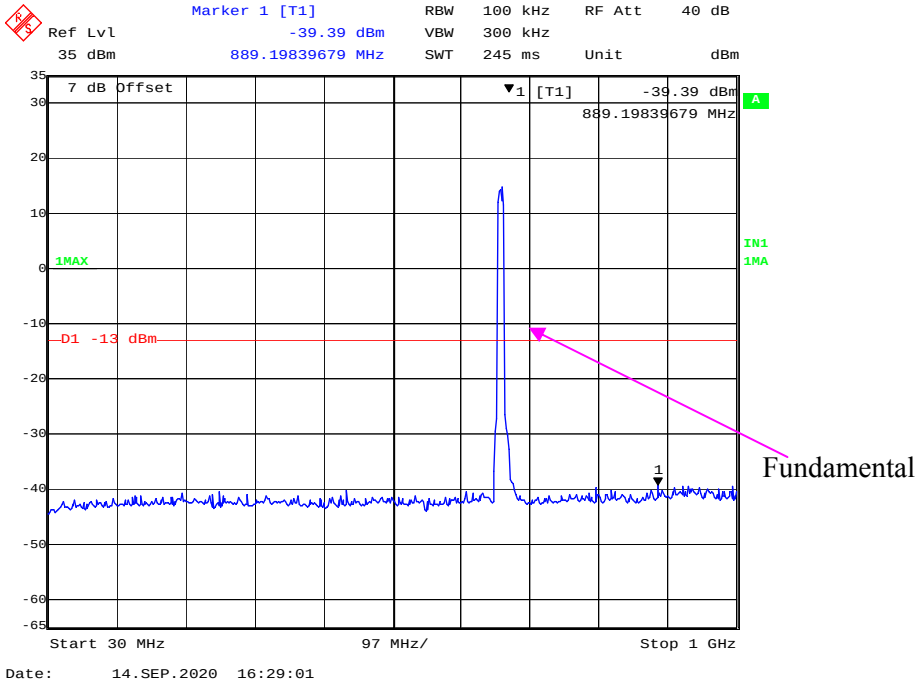
30 MHz - 1 GHz (10 MHz, QPSK, Low Channel)



1 GHz – 10GHz (10MHz, QPSK, Low Channel)



30 MHz - 1 GHz (10 MHz, 16-QAM, Low Channel)



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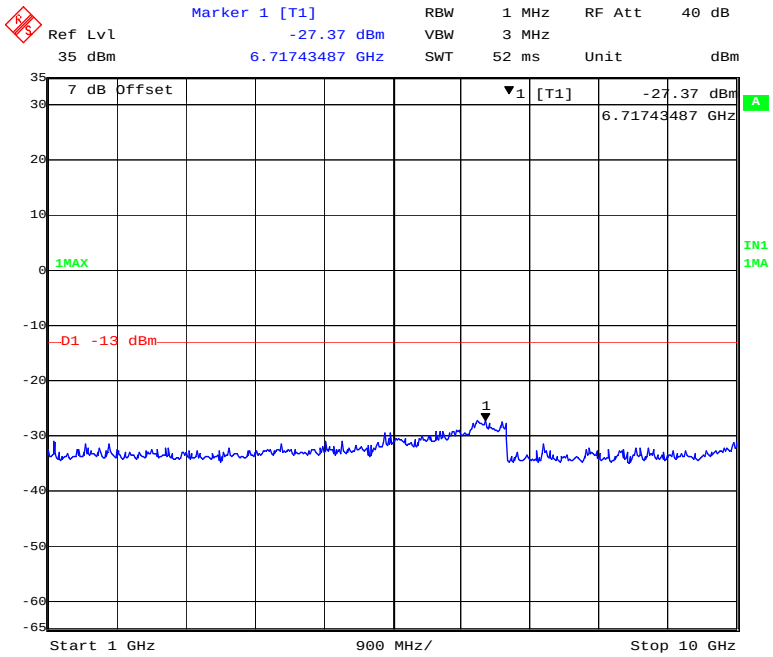
1 GHz – 10 GHz (10 MHz, 16-QAM, Low Channel)



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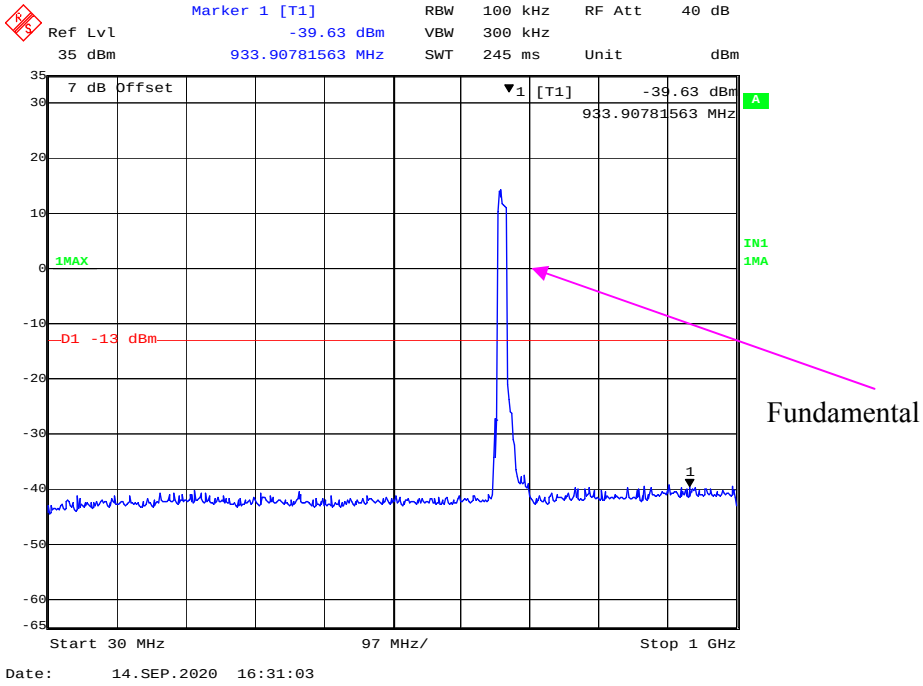
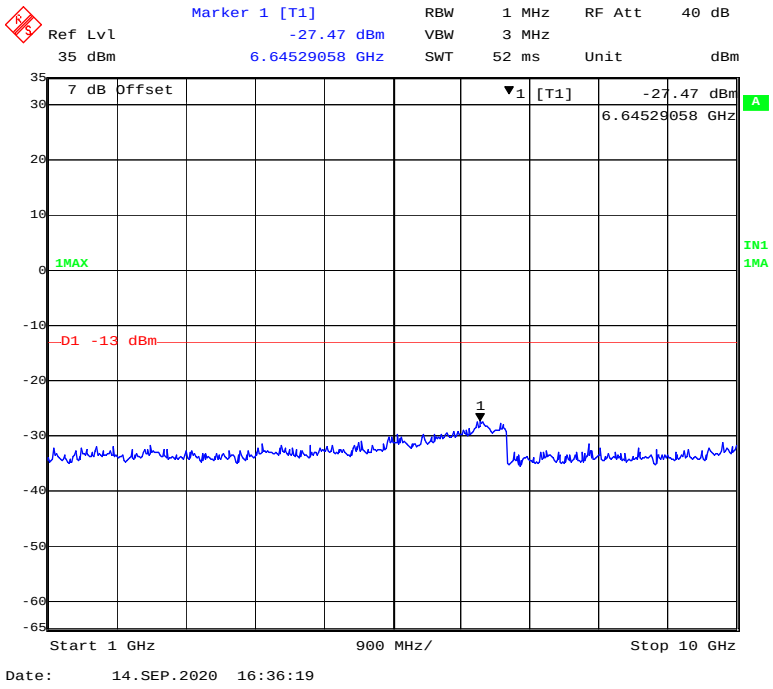
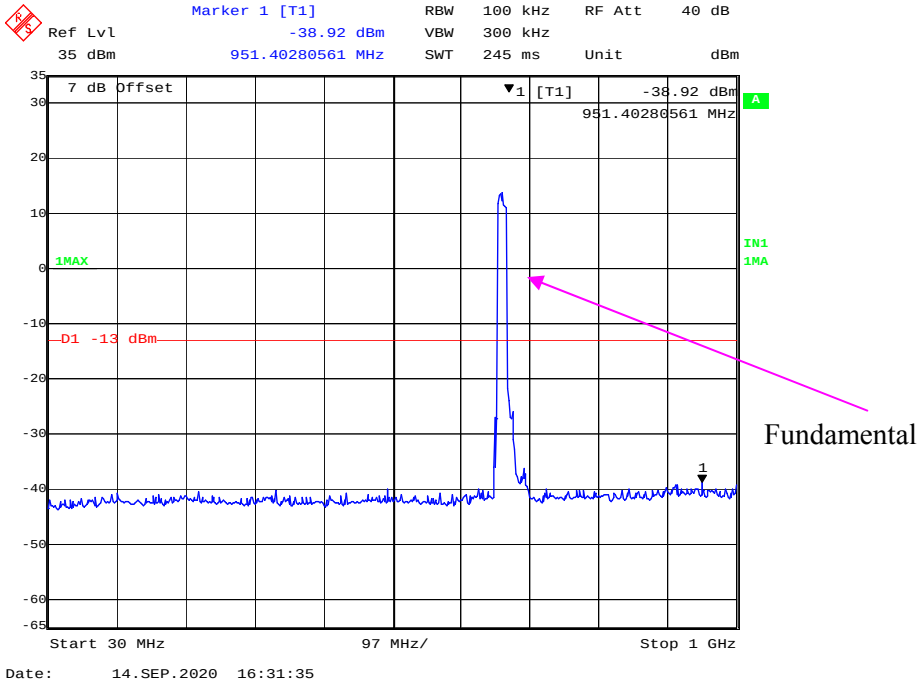
30 MHz - 1 GHz (15 MHz, QPSK, Low Channel)



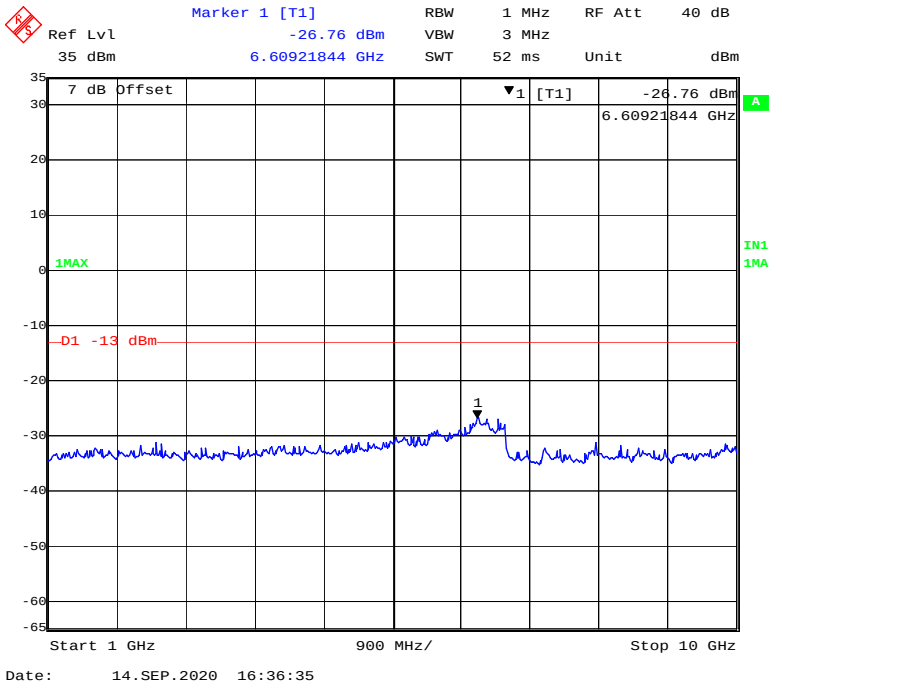
1 GHz – 10 GHz (15MHz, QPSK, Low Channel)



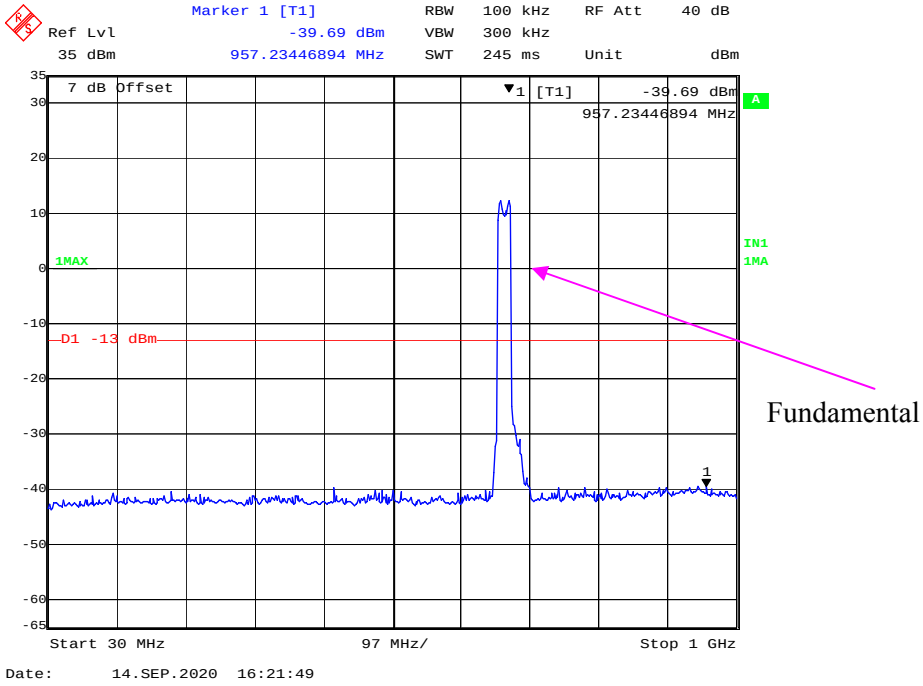
30 MHz - 1 GHz (15 MHz, 16-QAM, Low Channel)



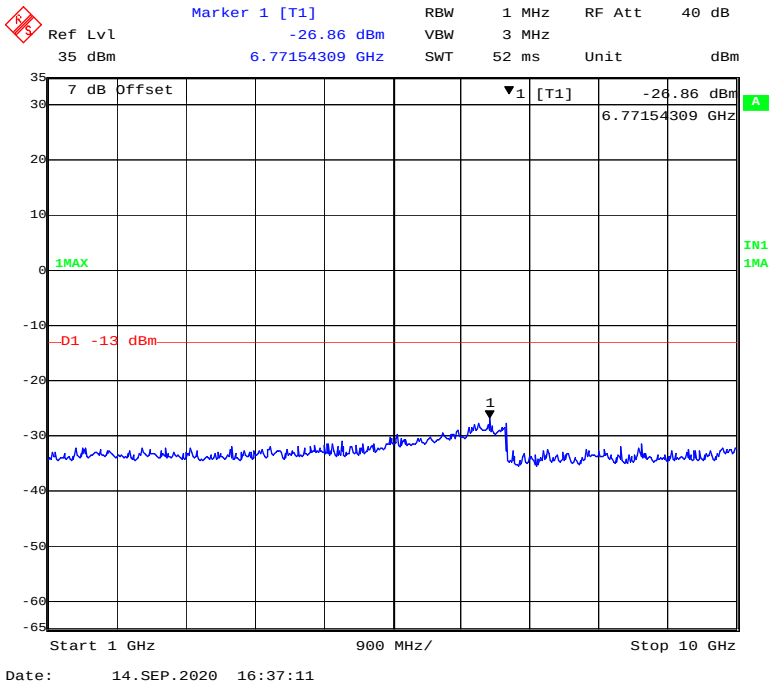
1 GHz – 10 GHz (15 MHz, 16-QAM, Low Channel)



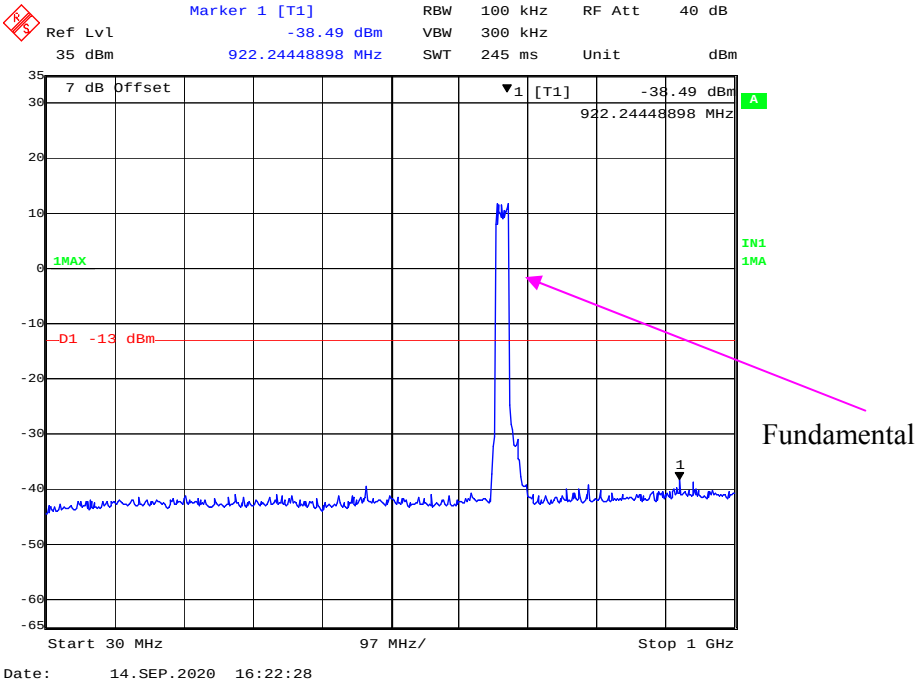
30 MHz - 1 GHz (20 MHz, QPSK, Low Channel)



1 GHz – 10 GHz (20MHz, QPSK, Low Channel)



30 MHz - 1 GHz (20 MHz, 16-QAM, Low Channel)



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1 GHz – 10 GHz (20 MHz, 16-QAM, Low Channel)

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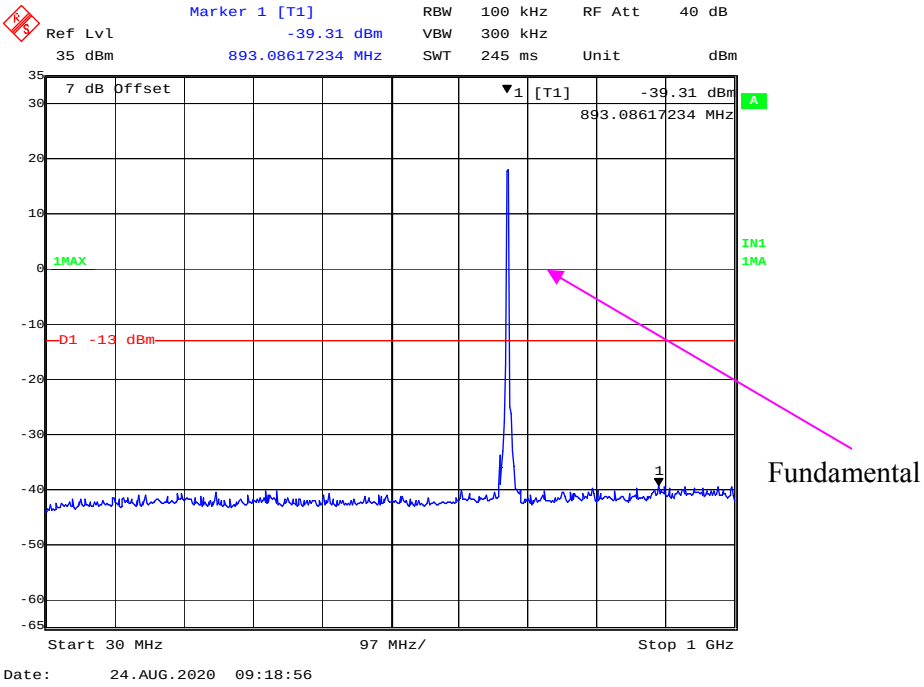
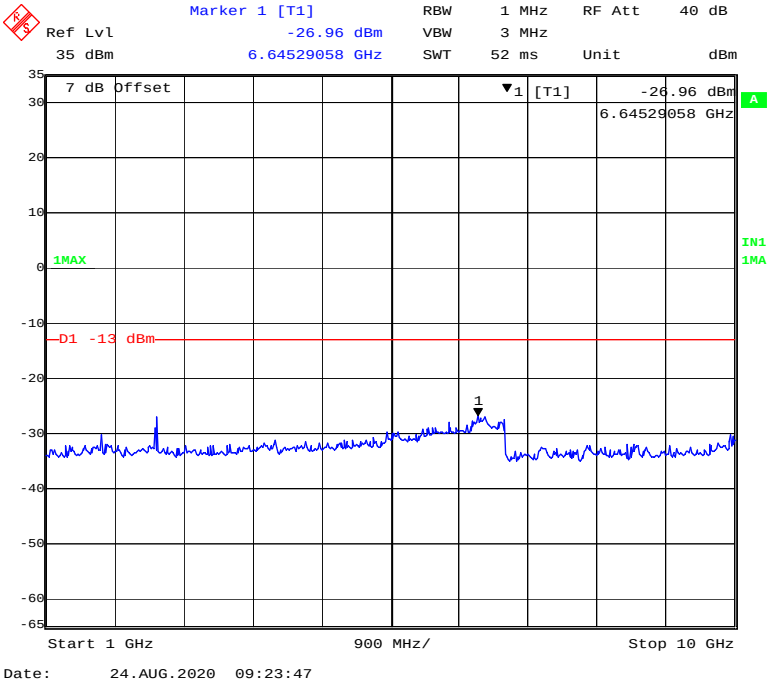
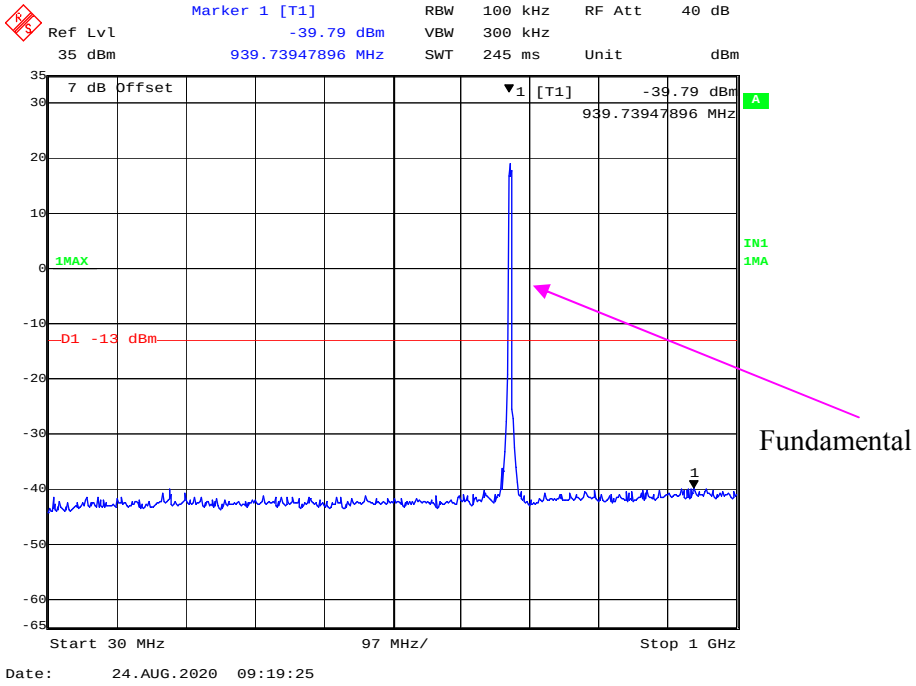
30 MHz - 1 GHz (5 MHz, QPSK, Middle Channel)



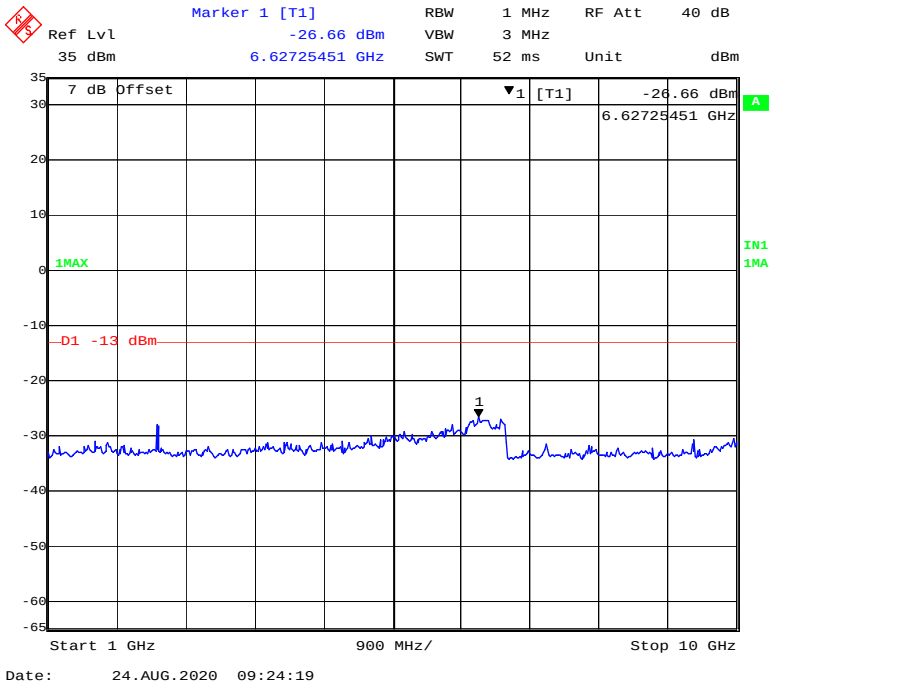
1 GHz – 10 GHz (5 MHz, QPSK, Middle Channel)



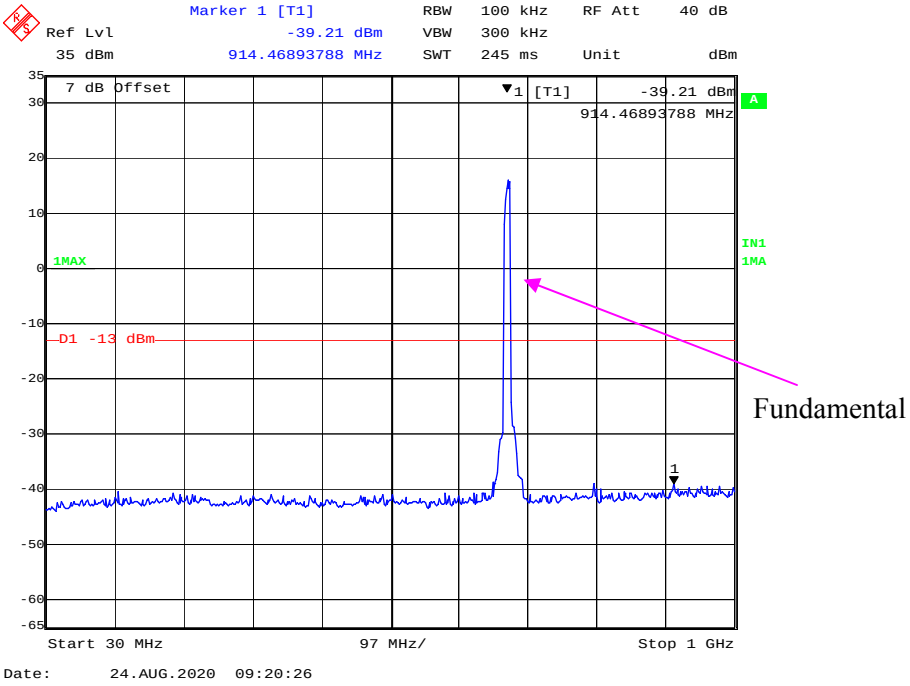
30 MHz - 1 GHz (5 MHz, 16-QAM, Middle Channel)



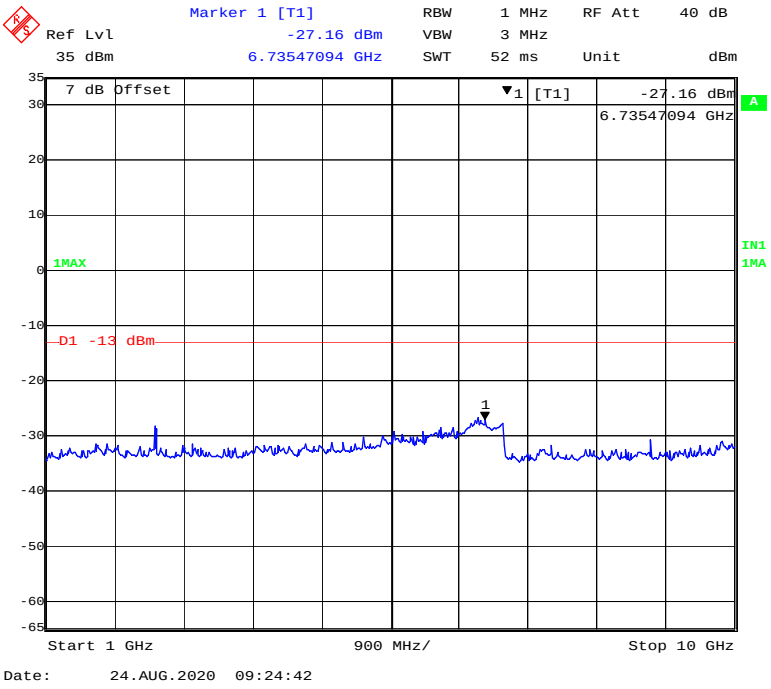
1 GHz – 10 GHz (5 MHz, 16-QAM, Middle Channel)



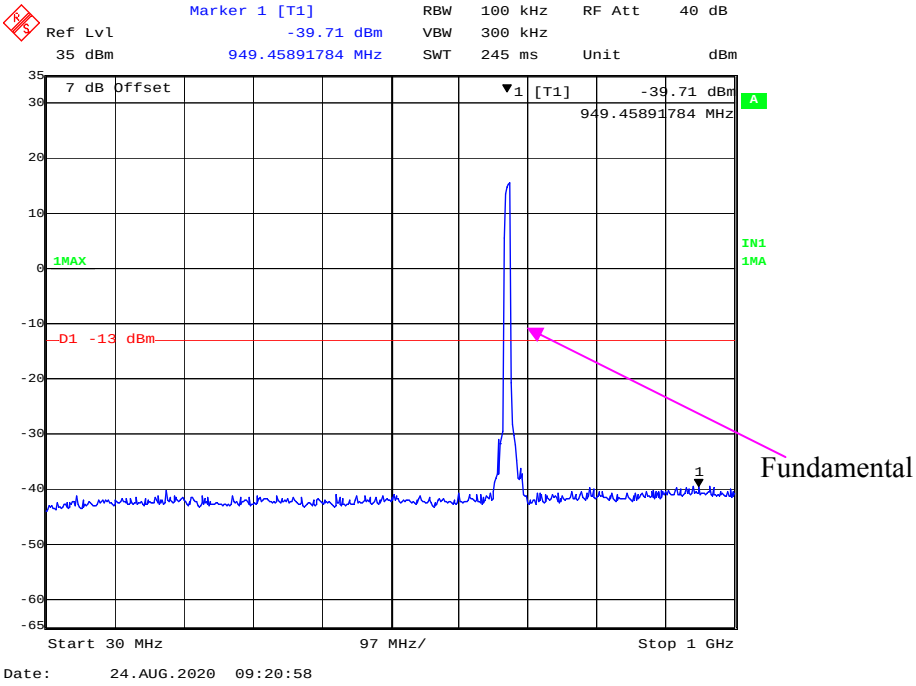
30 MHz - 1 GHz (10 MHz, QPSK, Middle Channel)



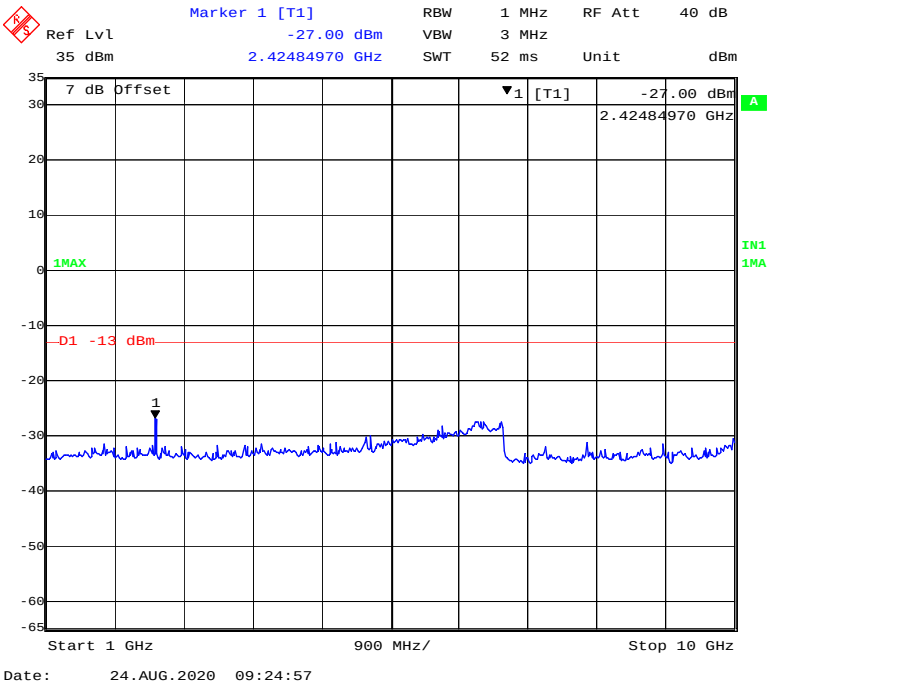
1 GHz – 10GHz (10MHz, QPSK, Middle Channel)



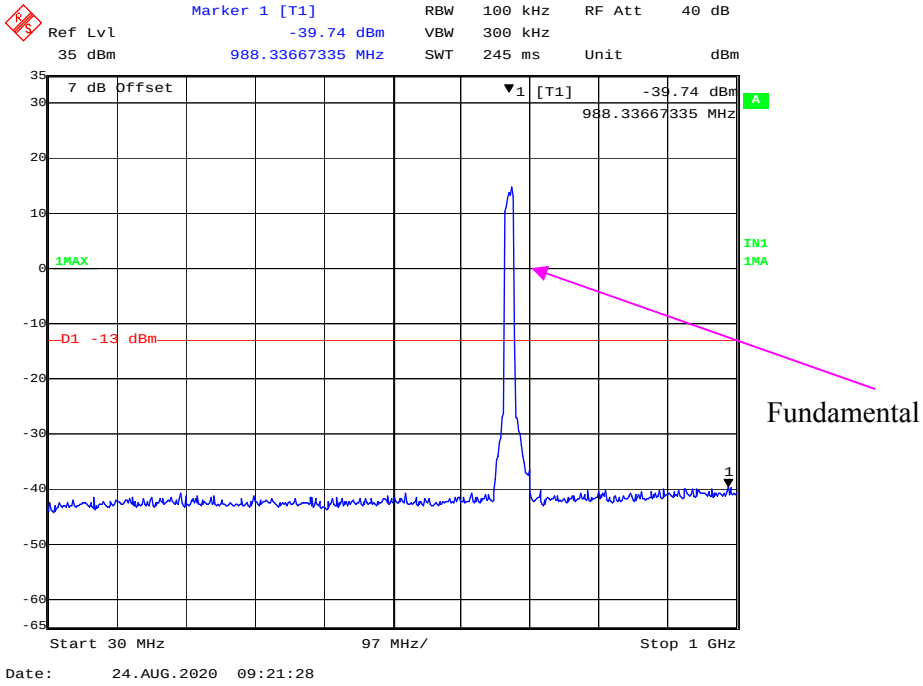
30 MHz - 1 GHz (10 MHz, 16-QAM, Middle Channel)



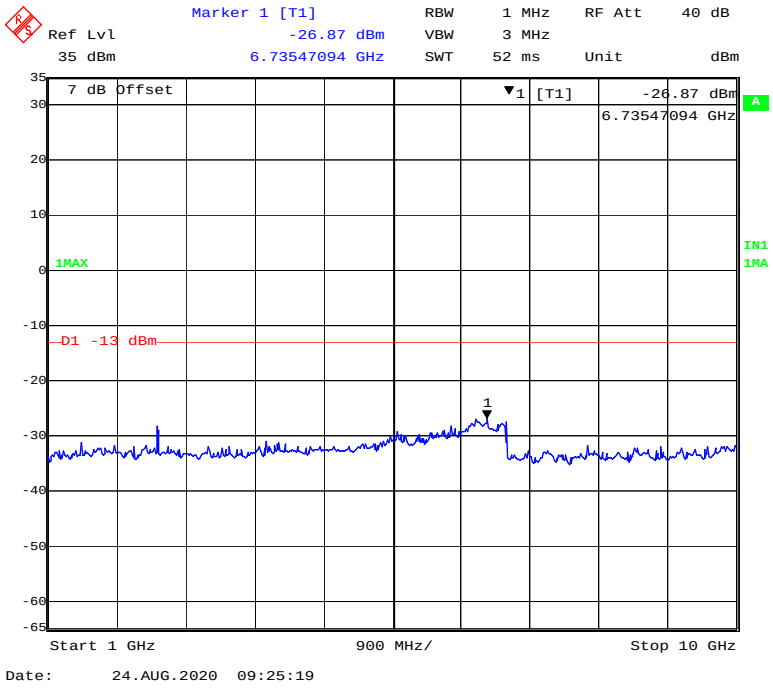
1 GHz – 10 GHz (10 MHz, 16-QAM, Middle Channel)



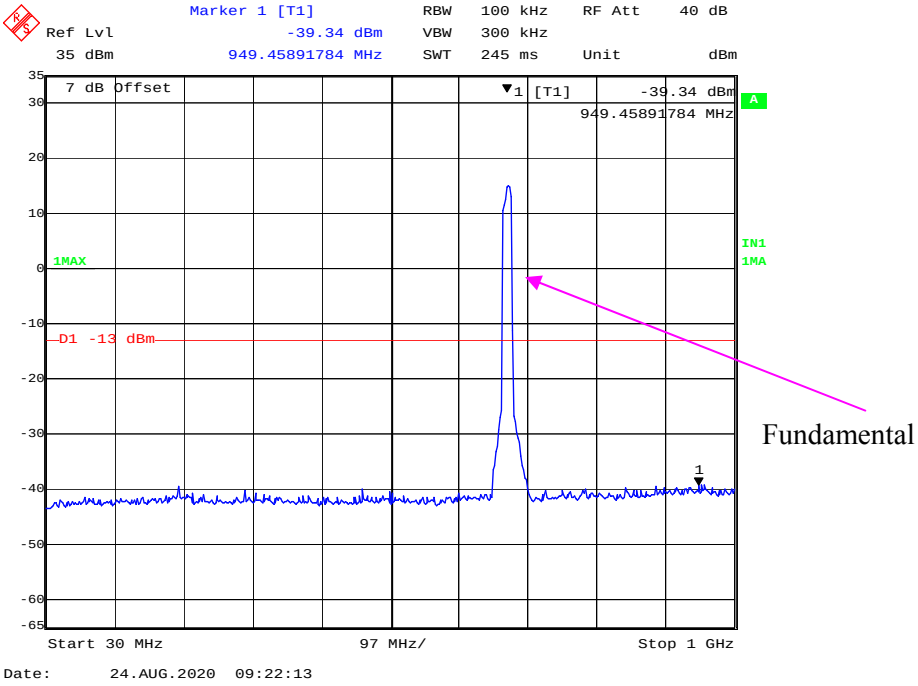
30 MHz - 1 GHz (15 MHz, QPSK, Middle Channel)



1 GHz – 10 GHz (15MHz, QPSK, Middle Channel)

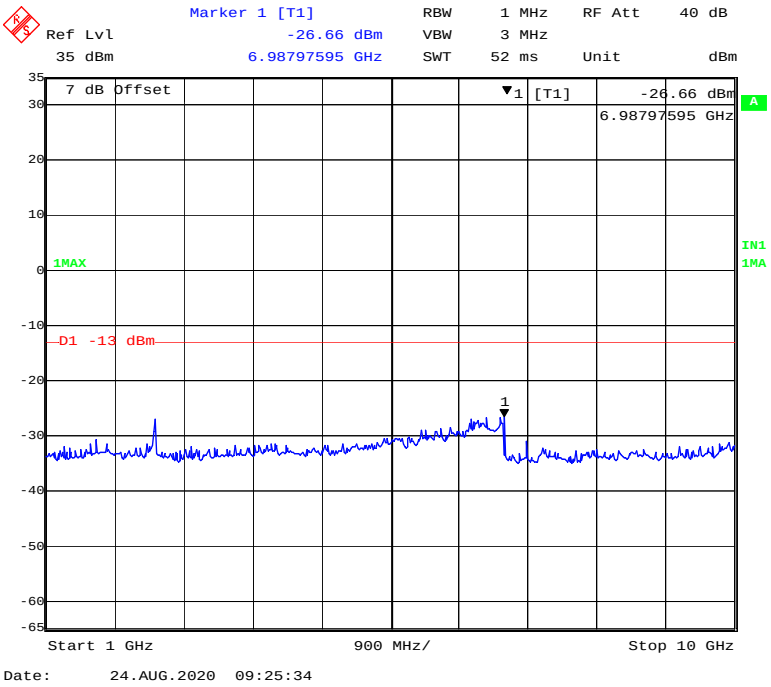


30 MHz - 1 GHz (15 MHz, 16-QAM, Middle Channel)



Date: 24.AUG.2020 09:22:13

1 GHz – 10 GHz (15 MHz, 16-QAM, Middle Channel)



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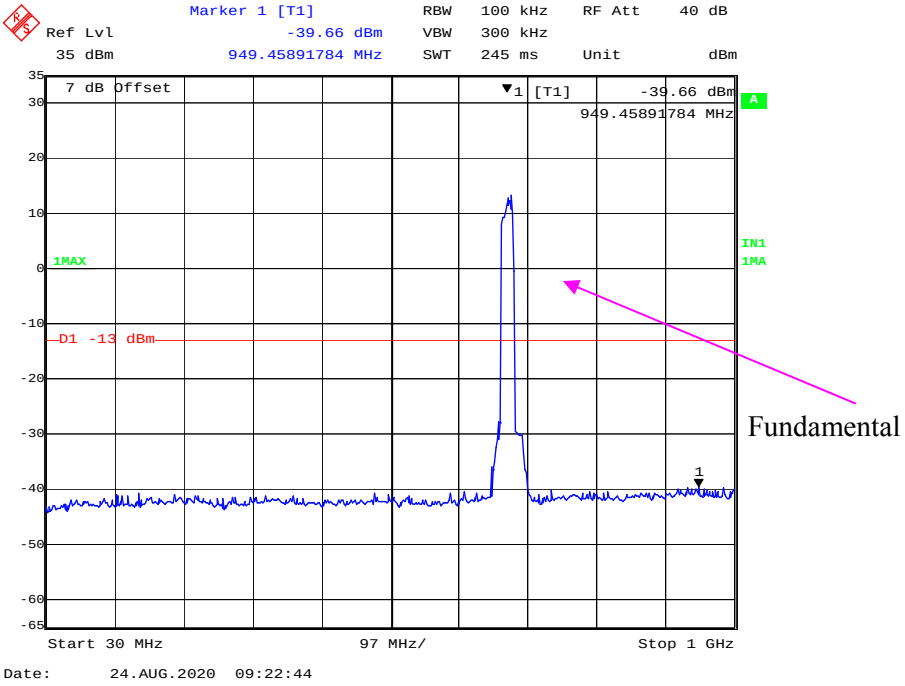
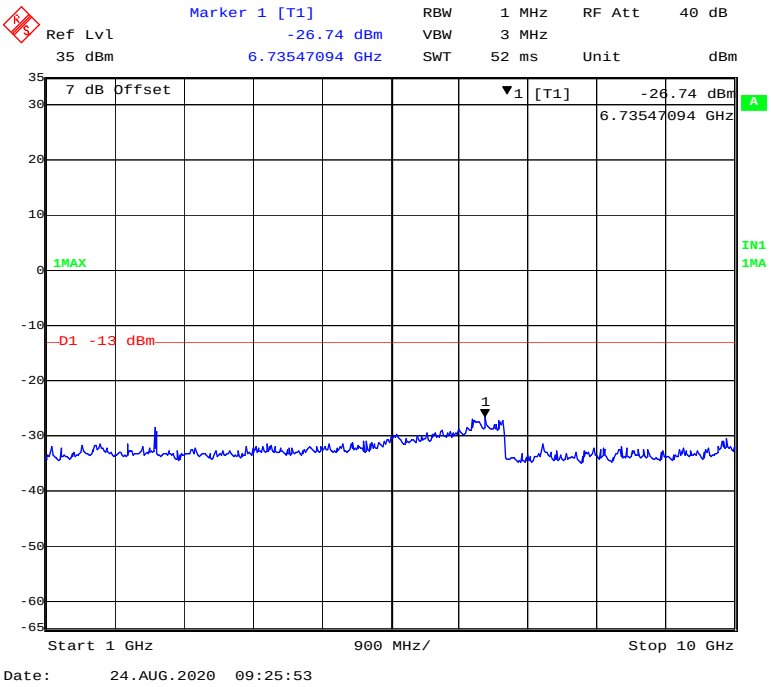
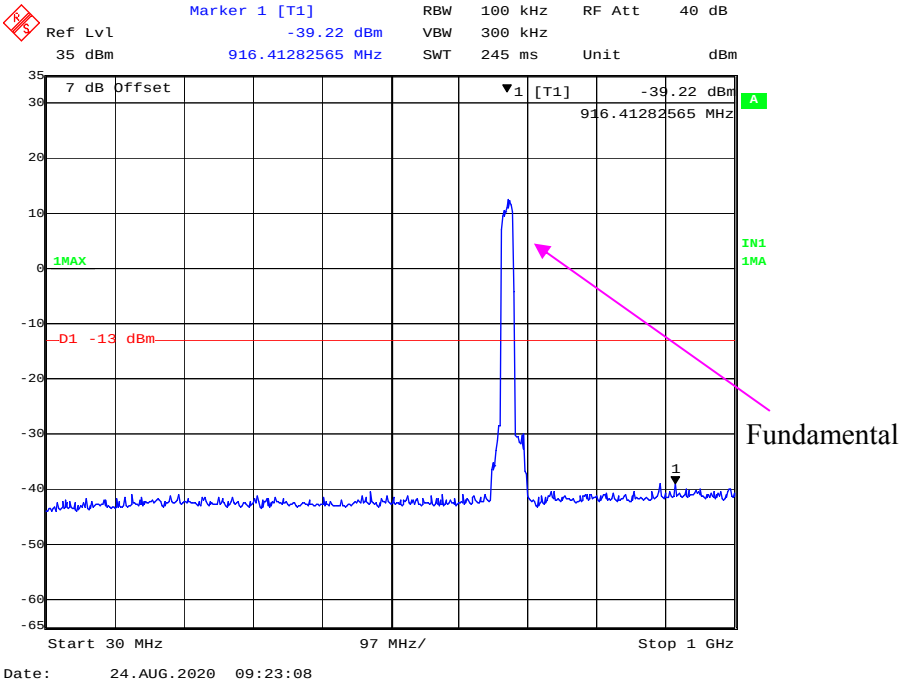
30 MHz - 1 GHz (20 MHz, QPSK, Middle Channel)



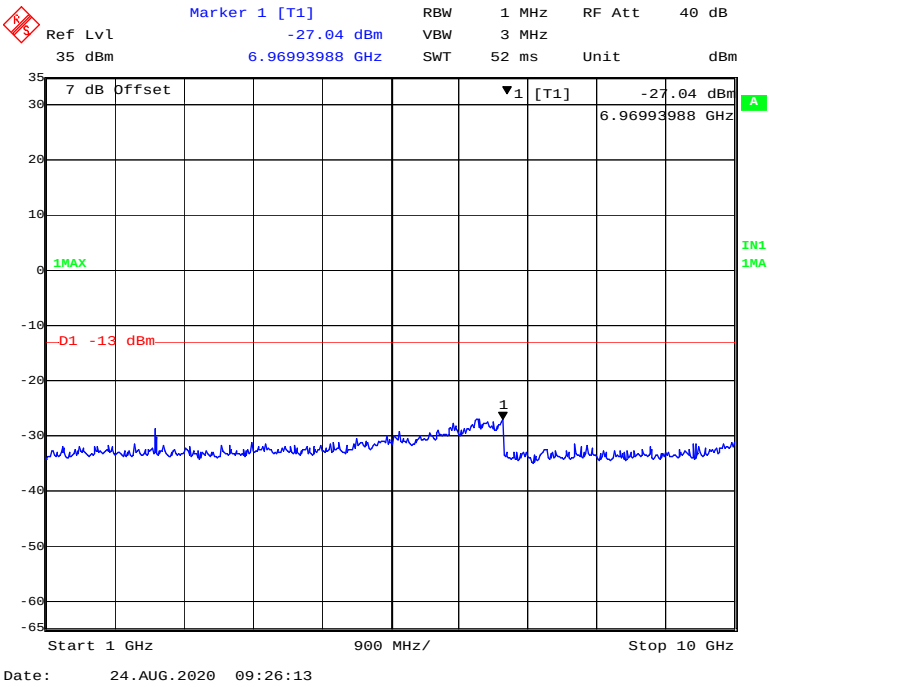
1 GHz – 10 GHz (20MHz, QPSK, Middle Channel)



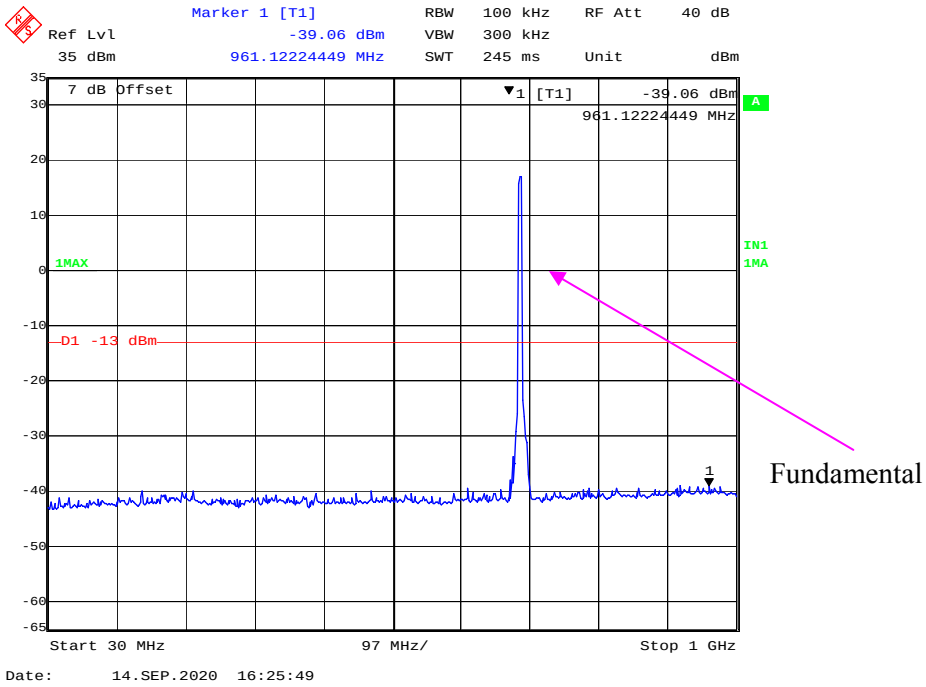
30 MHz - 1 GHz (20 MHz, 16-QAM, Middle Channel)



1 GHz – 10 GHz (20 MHz, 16-QAM, Middle Channel)



30 MHz - 1 GHz (5 MHz, QPSK, High Channel)



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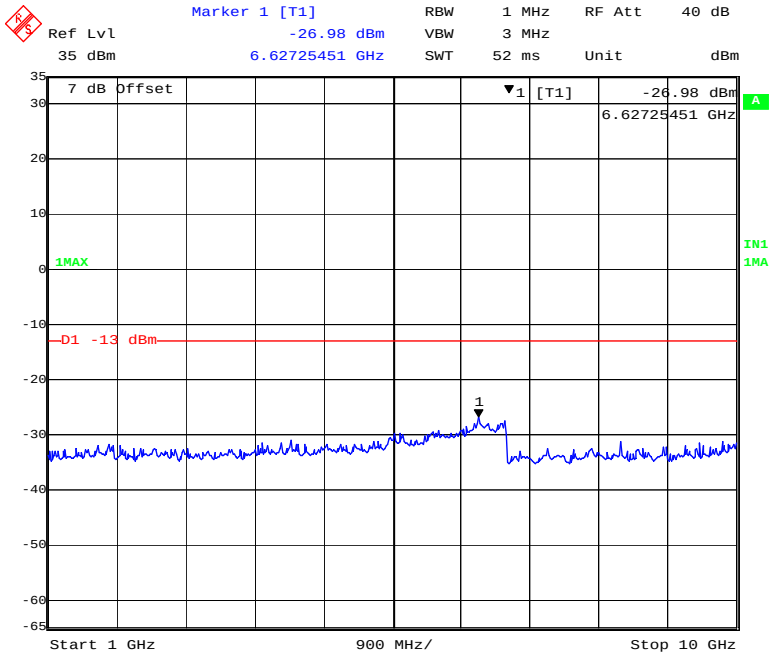
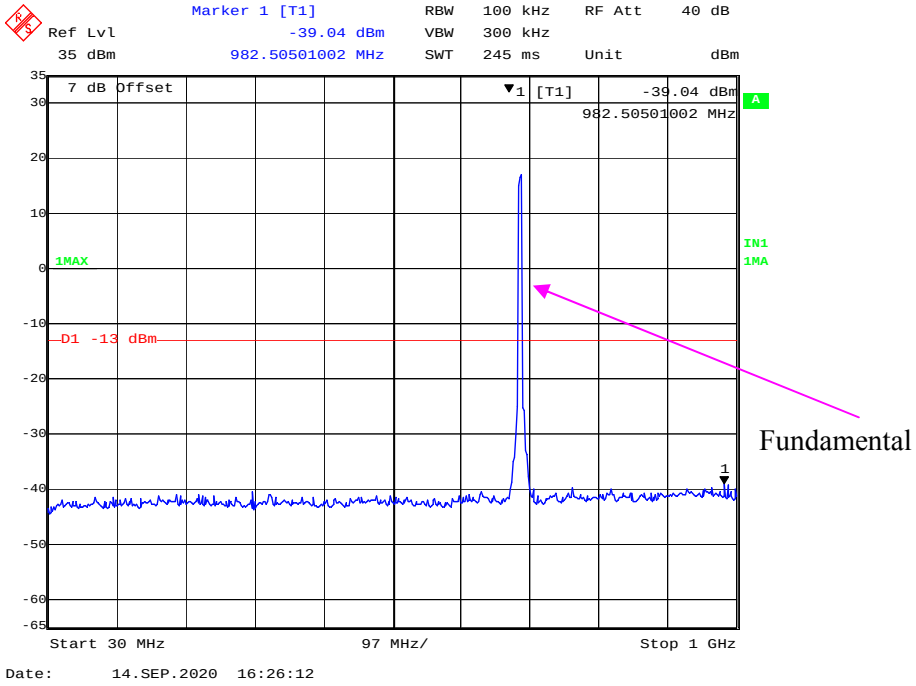
1 GHz – 10 GHz (5 MHz, QPSK, High Channel)

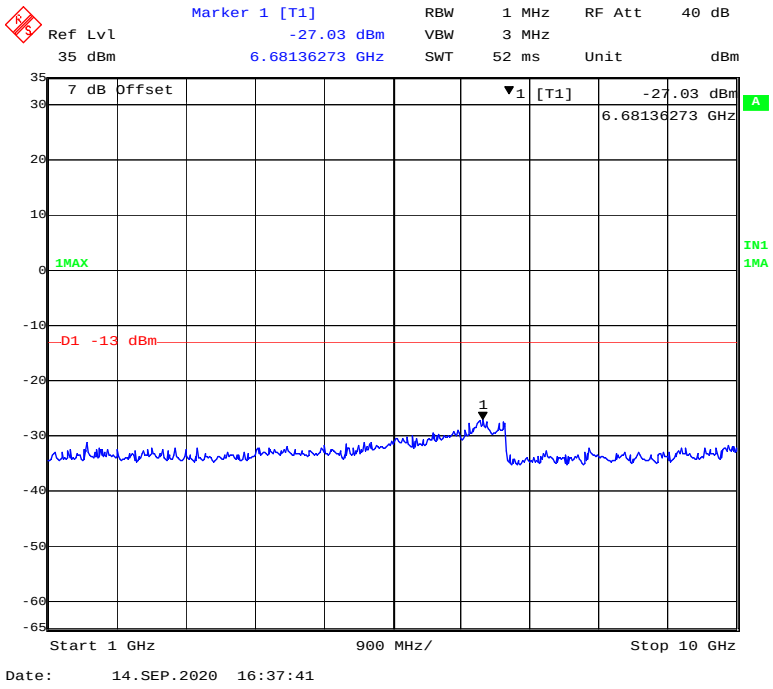


Date: 14.SEP.2020 16:37:26

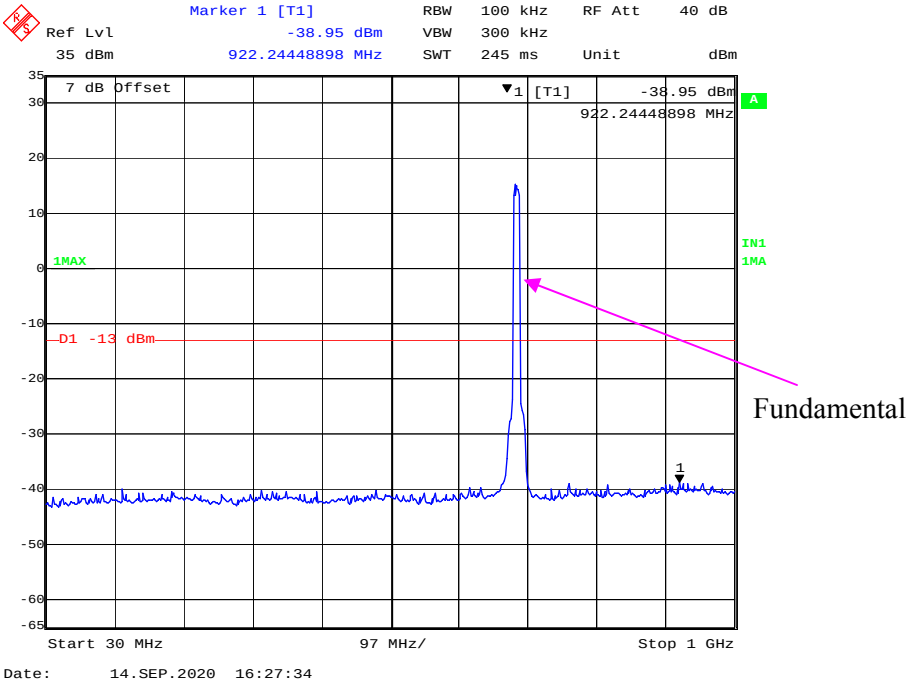
30 MHz - 1 GHz (5 MHz, 16-QAM, High Channel)



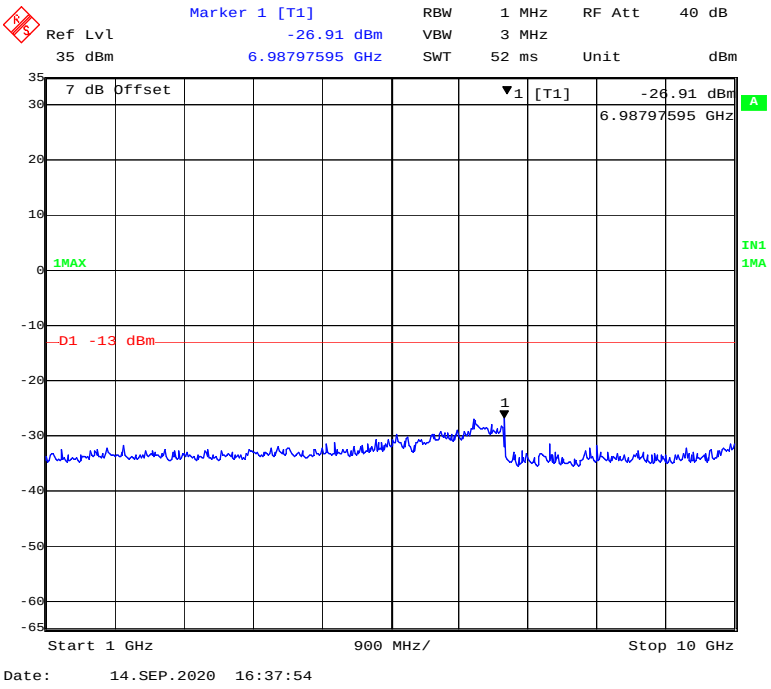
1 GHz – 10 GHz (5 MHz, 16-QAM, High Channel)



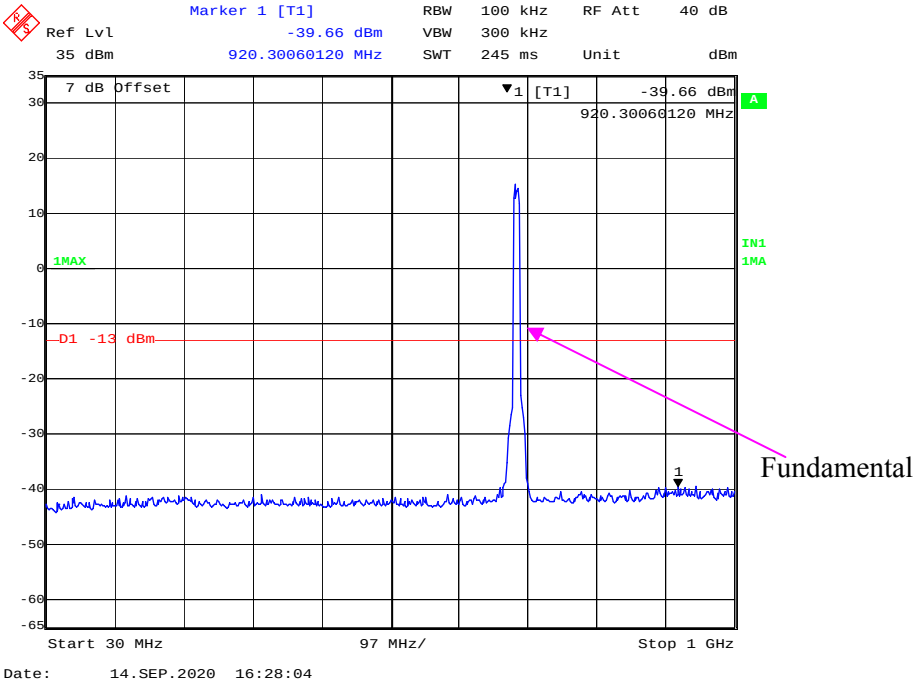
30 MHz - 1 GHz (10 MHz, QPSK, High Channel)



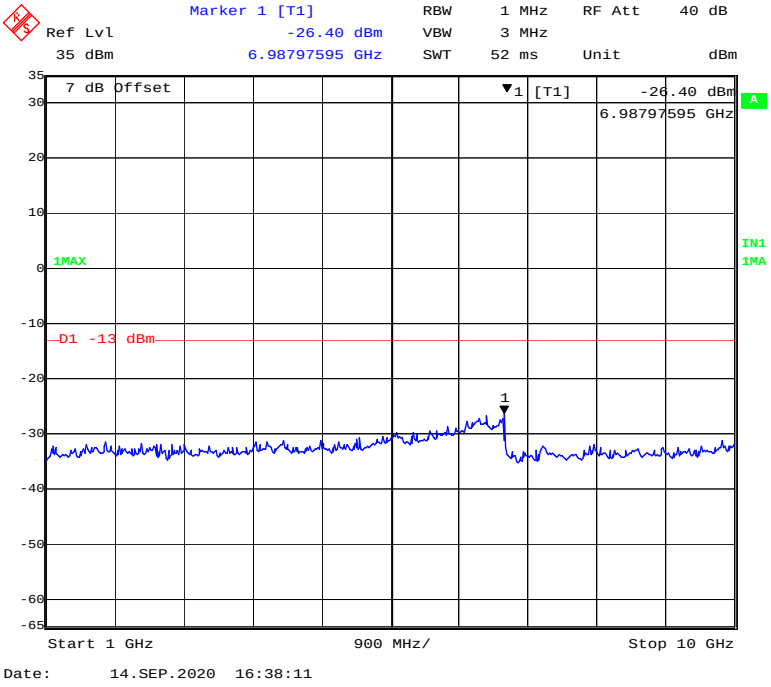
1 GHz – 10GHz (10MHz, QPSK, High Channel)



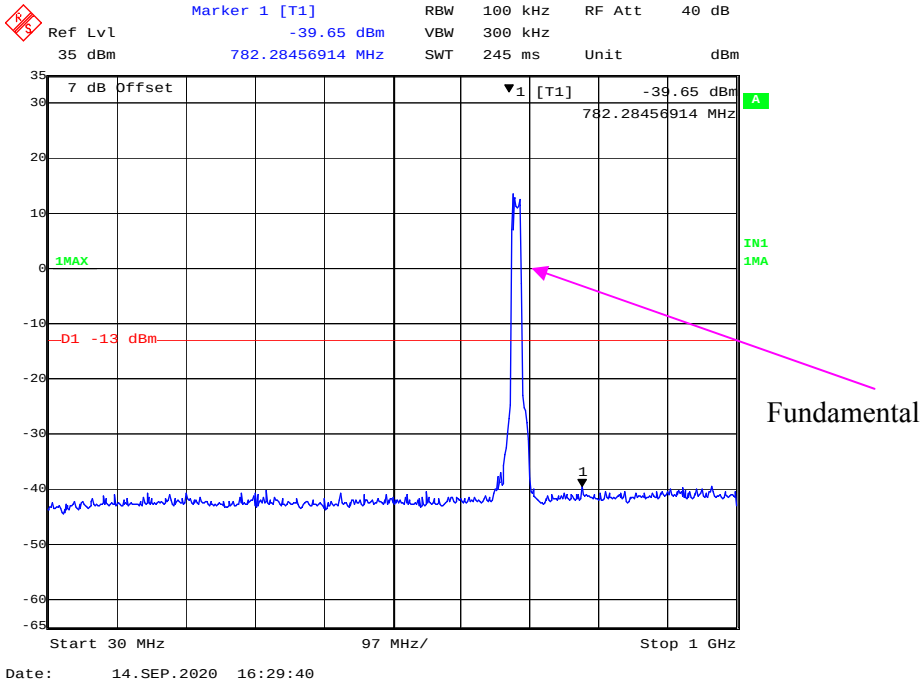
30 MHz - 1 GHz (10 MHz, 16-QAM, High Channel)



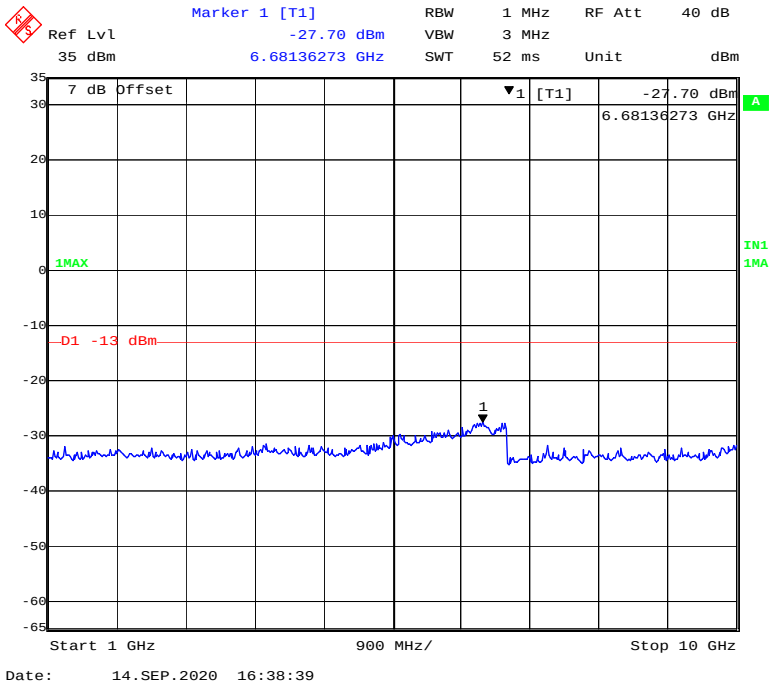
1 GHz – 10 GHz (10 MHz, 16-QAM, High Channel)



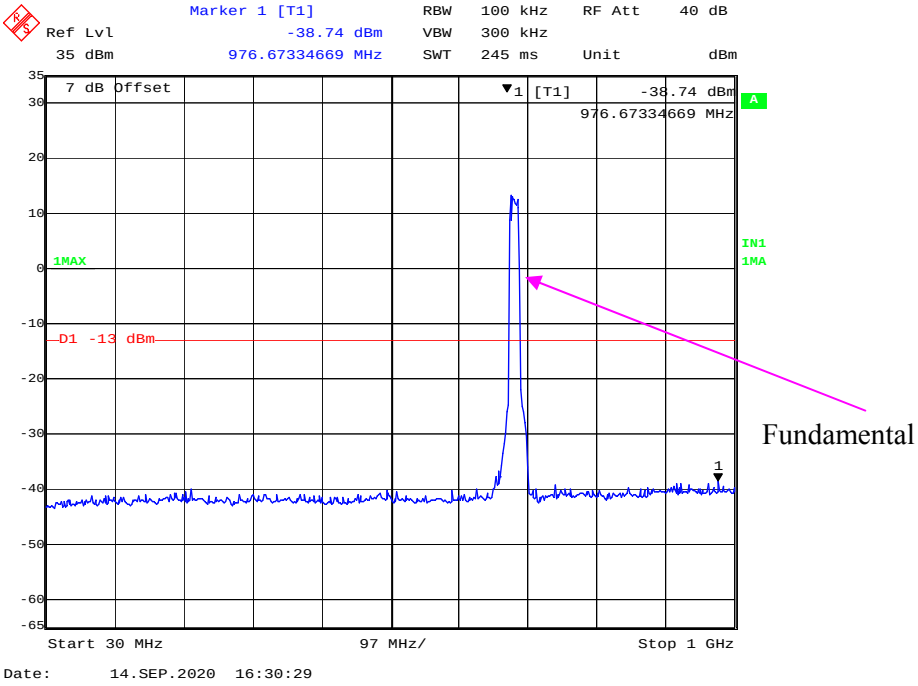
30 MHz - 1 GHz (15 MHz, QPSK, High Channel)



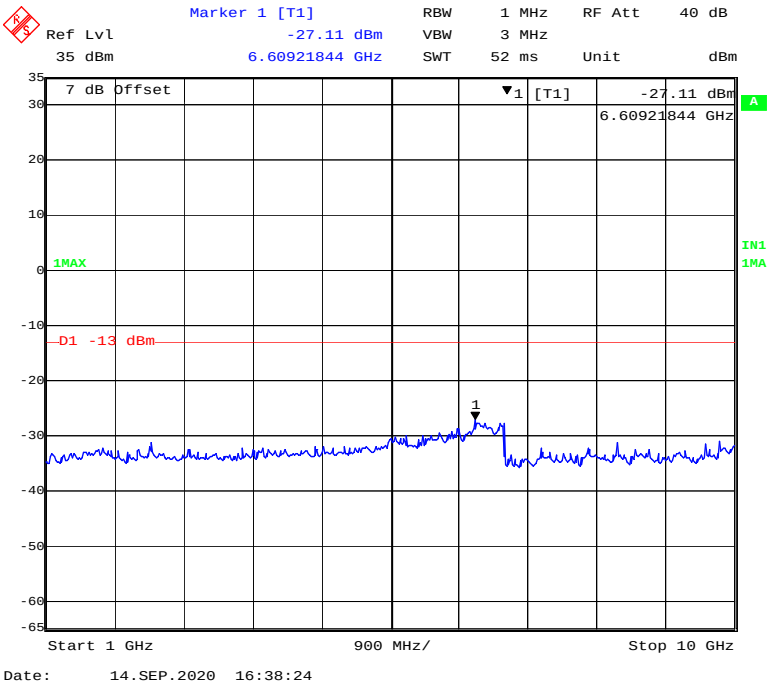
1 GHz – 10 GHz (15MHz, QPSK, High Channel)



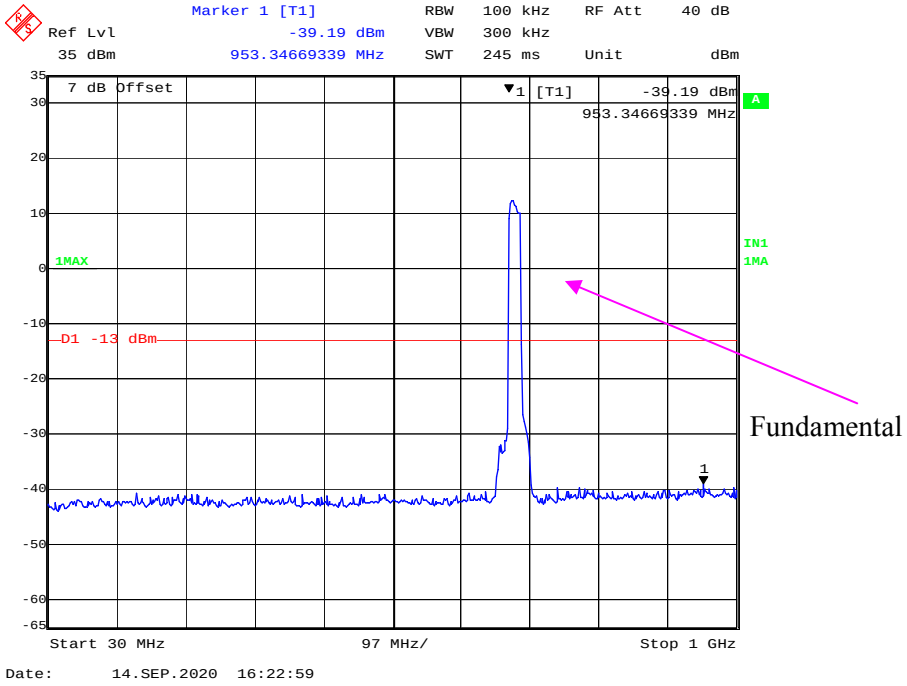
30 MHz - 1 GHz (15 MHz, 16-QAM, High Channel)



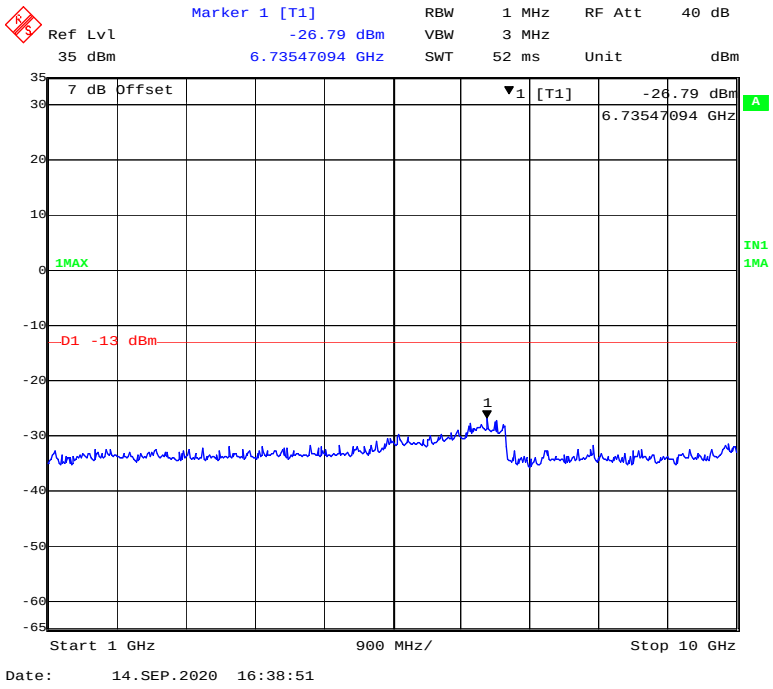
1 GHz – 10 GHz (15 MHz, 16-QAM, High Channel)



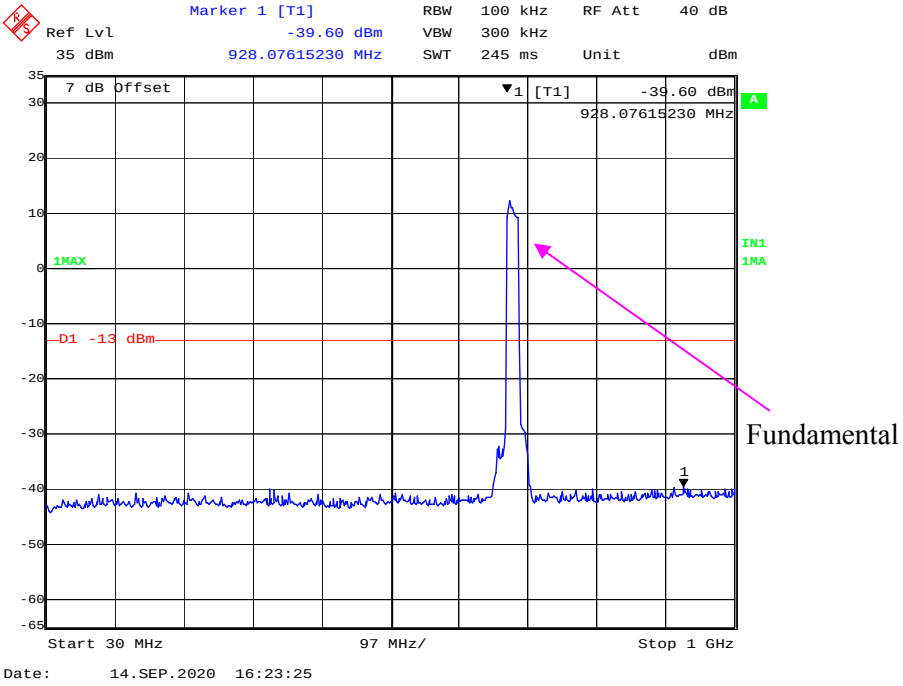
30 MHz - 1 GHz (20 MHz, QPSK, High Channel)



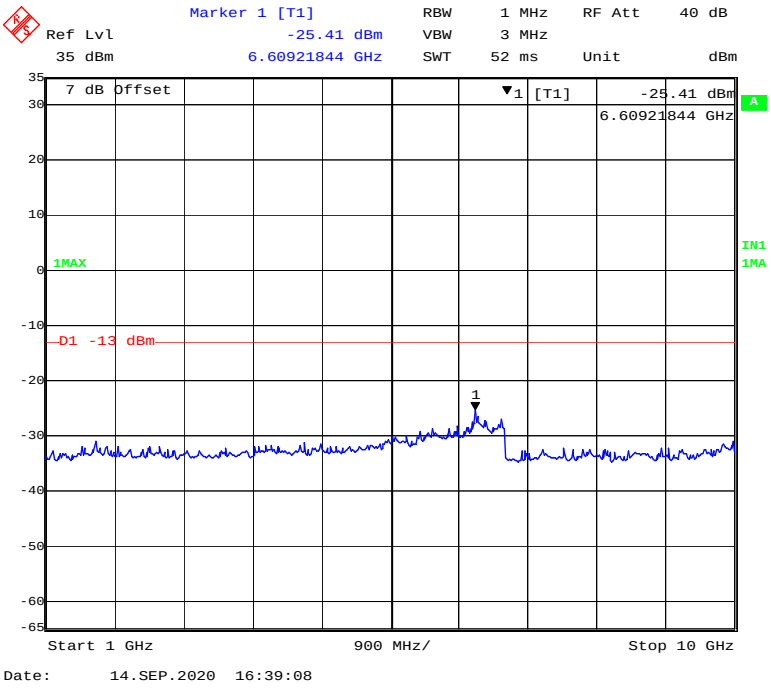
1 GHz – 10 GHz (20MHz, QPSK, High Channel)



30 MHz - 1 GHz (20 MHz, 16-QAM, High Channel)



1 GHz – 10 GHz (20 MHz, 16-QAM, High Channel)



FCC § 2.1053; § 22.917 (a); § 24.238 (a); §27.53 (c) (g) (h); § 90.543 - SPURIOUS RADIATED EMISSIONS

Applicable Standards

FCC § 2.1053, §22.917(a), § 24.238(a), §90.543 and § 27.53(h) (m)

22.917 (a) Out of band emissions. 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.

24.238 (a) Out of band emissions. 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.

According to §24.238(a), the power of any emissions 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.
According to FCC §27.53 (c) (g) (h), (c) For operations in the 746-758 MHz band and the 776-788 MHz band, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

(1) On any frequency outside the 746-758 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;

(2) On any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;

(3) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than 76 + 10 log (P) dB in a 6.25 kHz band segment, for base and fixed stations;

(4) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations;

(5) Compliance with the provisions of paragraphs (c)(1) and (c)(2) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz may be employed;

(6) Compliance with the provisions of paragraphs (c)(3) and (c)(4) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.

(g)For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

(h) AWS emission limits—(1) General protection levels. Except as otherwise specified below, for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 log10 (P) dB.

According to §90.543, for operations in the 758-768 MHz and the 788-798 MHz bands, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

(1) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than 76 + 10 log (P) dB in a 6.25 kHz band segment, for base and fixed stations.

(2) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations.

(3) On any frequency between 775-788 MHz, above 805 MHz, and below 758 MHz, by at least 43 + 10 log (P) dB.

(4) Compliance with the provisions of paragraphs (e)(1) and (2) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.

(5) Compliance with the provisions of paragraph (e)(3) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of 30 kHz may be employed.

Test Procedure

The transmitter was placed on a wooden turntable, and it was transmitting into a non-radiating load which was also placed on the turntable.

The measurement antenna was placed at a distance of 3 meters from the EUT. During the tests, the antenna height and polarization as well as EUT azimuth were varied in order to identify the maximum level of emissions from the EUT. The test was performed by placing the EUT on 3-orthogonal axis.

The frequency range up to tenth harmonic of the fundamental frequency was investigated.

Remove the EUT and replace it with substitution antenna. A signal generator was connected to the substitution antenna by a non-radiating cable. The absolute levels of the spurious emissions were measured by the substitution.

Spurious emissions in dB = 10 lg (TX pwr in Watts/0.001) – the absolute level

Spurious attenuation limit in dB = 43 + 10 Log_{10} (power out in Watts)

Test Data

Environmental Conditions

Temperature:	23.2℃
Relative Humidity:	51 %
ATM Pressure:	101.3kPa

The testing was performed by CK Huang on 2020-09-16.

Test mode: Transmitting (Pre-scan with low, middle and high channels, and the worse case data as below)

30 MHz ~ 10 GHz:

WCDMA Band V

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
WCDMA Mode, Low channel										
335.30	53.19	46	150	H	-54.89	0.48	-1.87	-57.24	-13	44.24
335.30	52.79	108	150	V	-55.29	0.48	-1.87	-57.64	-13	44.64
1652.80	41.56	96	100	H	-71.76	0.84	8.44	-64.16	-13	51.16
1652.80	39.9	142	100	V	-73.42	0.84	8.44	-65.82	-13	52.82

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
WCDMA Mode, Middle channel										
335.30	52.09	115	150	H	-55.99	0.48	-1.87	-58.34	-13	45.34
335.30	52.46	37	150	V	-55.62	0.48	-1.87	-57.97	-13	44.97
1673.20	30.63	272	100	H	-72.76	0.84	8.48	-65.12	-13	52.12
1673.20	30.29	245	100	V	-73.10	0.84	8.48	-65.46	-13	52.46

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
WCDMA Mode, High channel										
335.30	53.13	269	150	H	-54.95	0.48	-1.87	-57.3	-13	44.3
335.30	52.89	136	150	V	-55.19	0.48	-1.87	-57.54	-13	44.54
1693.20	39.17	251	100	H	-73.86	0.84	8.51	-66.19	-13	53.19
1693.20	39.53	152	100	V	-73.50	0.84	8.51	-65.83	-13	52.83

30 MHz ~ 20 GHz:

WCDMA Band II

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
WCDMA Mode, Low channel										
557.43	54.16	165	150	H	-50.47	0.58	-1.2	-52.25	-13	39.25
557.43	53.89	35	150	V	-50.74	0.58	-1.2	-52.52	-13	39.52
3704.80	36.74	321	200	H	-70.22	0.95	9.78	-61.39	-13	48.39
3704.80	37.94	274	100	V	-69.02	0.95	9.78	-60.19	-13	47.19

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
WCDMA Mode, Middle channel										
557.43	53.76	350	150	H	-50.87	0.58	-1.2	-52.65	-13	39.65
557.43	53.19	90	150	V	-51.44	0.58	-1.2	-53.22	-13	40.22
3760.00	37.68	125	200	H	-69.1	0.95	9.74	-60.31	-13	47.31
3760.00	37.86	90	100	V	-68.92	0.95	9.74	-60.13	-13	47.13

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
WCDMA Mode, High channel										
557.43	53.19	127	150	H	-51.44	0.58	-1.2	-53.22	-13	40.22
557.43	52.76	90	150	V	-51.87	0.58	-1.2	-53.65	-13	40.65
3815.20	37.36	339	200	H	-69.24	0.96	9.71	-60.49	-13	47.49
3815.20	38.36	44	100	V	-68.24	0.96	9.71	-59.49	-13	46.49

WCDMA Band IV

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
WCDMA Mode, Low channel										
711.18	58.36	193	150	H	-42.21	0.62	-1.69	-44.52	-13	31.52
711.18	59.49	298	150	V	-41.08	0.62	-1.69	-43.39	-13	30.39
3430.00	42.87	202	200	H	-65.03	0.93	9.83	-56.13	-13	43.13
3430.00	43.14	308	100	V	-64.76	0.93	9.83	-55.86	-13	42.86

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
WCDMA Mode, Middle channel										
711.18	59.47	153	150	H	-41.1	0.62	-1.69	-43.41	-13	30.41
711.18	59.16	312	150	V	-41.41	0.62	-1.69	-43.72	-13	30.72
3465.20	42.23	45	200	H	-65.52	0.93	9.87	-56.58	-13	43.58
3465.20	42.32	37	100	V	-65.43	0.93	9.87	-56.49	-13	43.49

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
WCDMA Mode, High channel										
711.18	58.49	30	150	H	-42.08	0.62	-1.69	-44.39	-13	31.39
711.18	60.16	101	150	V	-40.41	0.62	-1.69	-42.72	-13	29.72
3500.00	41.80	200	200	H	-65.80	0.93	9.90	-56.83	-13	43.83
3500.00	41.44	60	100	V	-66.16	0.93	9.90	-57.19	-13	44.19

Note:
1) Absolute Level (dBm) = Submitted Level (dBm) - Cable loss (dB) + Antenna Gain (dBd/dBi)
2) Margin (dB) = Limit (dBm) - Absolute Level (dBm)

Test mode: Transmitting (Pre-scan with all the bandwidth, and worse case as below)

30 MHz ~ 20 GHz:

LTE Band 2:

Frequency (MHz)	Receiver Reading (dBµV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 1.4MHz Bandwidth Low Channel										
584.11	58.16	230	100	H	-45.11	0.59	-0.86	-43.66	-13	30.66
584.11	57.96	339	200	V	-45.31	0.59	-0.86	-43.86	-13	30.86
3701.40	42.37	83	150	H	-64.59	0.95	9.78	-55.76	-13	42.76
3701.40	41.77	164	100	V	-65.19	0.95	9.78	-56.36	-13	43.36
16-QAM 1.4MHz Bandwidth Low Channel										
584.11	58.02	225	150	H	-45.25	0.59	-0.86	-43.8	-13	30.80
584.11	57.49	23	150	V	-45.78	0.59	-0.86	-44.33	-13	31.33
3701.40	41.37	360	200	H	-65.59	0.95	9.78	-56.76	-13	43.76
3701.40	42.15	66	200	V	-64.81	0.95	9.78	-55.98	-13	42.98

Frequency (MHz)	Receiver Reading (dBµV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 1.4MHz Bandwidth Middle Channel										
584.11	57.81	94	100	H	-45.46	0.59	-0.86	-44.01	-13	31.01
584.11	57.49	259	200	V	-45.78	0.59	-0.86	-44.33	-13	31.33
3760.00	41.78	340	150	H	-65	0.95	9.74	-56.21	-13	43.21
3760.00	41.5	70	100	V	-65.28	0.95	9.74	-56.49	-13	43.49
16-QAM 1.4MHz Bandwidth Middle Channel										
584.11	57.09	254	150	H	-46.18	0.59	-0.86	-44.73	-13	31.73
584.11	57.68	224	150	V	-45.59	0.59	-0.86	-44.14	-13	31.14
3760.00	41.76	187	200	H	-65.02	0.95	9.74	-56.23	-13	43.23
3760.00	41.18	293	200	V	-65.6	0.95	9.74	-56.81	-13	43.81

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 1.4MHz Bandwidth High Channel										
584.11	57.38	99	100	H	-45.89	0.59	-0.86	-44.44	-13	31.44
584.11	56.19	288	200	V	-47.08	0.59	-0.86	-45.63	-13	32.63
3818.60	41.66	201	150	H	-64.94	0.96	9.71	-56.19	-13	43.19
3818.60	40.32	260	100	V	-66.28	0.96	9.71	-57.53	-13	44.53
16-QAM 1.4MHz Bandwidth High Channel										
584.11	57.19	148	150	H	-46.08	0.59	-0.86	-44.63	-13	31.63
584.11	56.89	33	150	V	-46.38	0.59	-0.86	-44.93	-13	31.93
3818.60	41.76	322	200	H	-64.84	0.96	9.71	-56.09	-13	43.09
3818.60	40.69	160	200	V	-65.91	0.96	9.71	-57.16	-13	44.16

30 MHz ~ 20 GHz:
LTE Band 4:

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 1.4MHz Bandwidth Low Channel										
736.16	58.49	27	100	H	-42.5	0.62	-1.57	-40.31	-13	27.31
736.16	57.68	253	200	V	-43.31	0.62	-1.57	-41.12	-13	28.12
3421.40	43	356	150	H	-64.94	0.93	9.82	-56.05	-13	43.05
3421.40	43.37	258	100	V	-64.57	0.93	9.82	-55.68	-13	42.68
16-QAM 1.4MHz Bandwidth Low Channel										
736.16	58.19	85	150	H	-42.8	0.62	-1.57	-40.61	-13	27.61
736.16	58.69	349	150	V	-42.3	0.62	-1.57	-40.11	-13	27.11
3421.40	43.19	216	200	H	-64.75	0.93	9.82	-55.86	-13	42.86
3421.40	42.14	101	200	V	-65.8	0.93	9.82	-56.91	-13	43.91

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 1.4MHz Bandwidth Middle Channel										
736.16	58.6	94	100	H	-42.39	0.62	-1.57	-40.2	-13	27.2
736.16	58.34	263	200	V	-42.65	0.62	-1.57	-40.46	-13	27.46
3465.00	42.25	252	150	H	-65.5	0.93	9.87	-56.56	-13	43.56
3465.00	42	103	100	V	-65.75	0.93	9.87	-56.81	-13	43.81
16-QAM 1.4MHz Bandwidth Middle Channel										
736.16	58.01	10	150	H	-42.98	0.62	-1.57	-40.79	-13	27.79
736.16	57.98	57	150	V	-43.01	0.62	-1.57	-40.82	-13	27.82
3465.00	42.03	92	200	H	-65.72	0.93	9.87	-56.78	-13	43.78
3465.00	41.79	150	200	V	-65.96	0.93	9.87	-57.02	-13	44.02

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 1.4MHz Bandwidth High Channel										
736.16	57.69	185	100	H	-43.3	0.62	-1.57	-41.11	-13	28.11
736.16	58.03	133	200	V	-42.96	0.62	-1.57	-40.77	-13	27.77
3508.60	41.74	224	150	H	-65.83	0.93	9.90	-56.86	-13	43.86
3508.60	41.59	18	100	V	-65.98	0.93	9.90	-57.01	-13	44.01
16-QAM 1.4MHz Bandwidth High Channel										
736.16	57.98	82	150	H	-43.01	0.62	-1.57	-40.82	-13	27.82
736.16	56.19	230	150	V	-44.8	0.62	-1.57	-42.61	-13	29.61
3508.60	42.11	39	200	H	-65.46	0.93	9.90	-56.49	-13	43.49
3508.60	41.87	164	200	V	-65.7	0.93	9.90	-56.73	-13	43.73

30 MHz ~ 10 GHz:
LTE Band 12:

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 1.4MHz Bandwidth Middle Channel										
342.82	49.38	97	100	H	-58.88	0.49	-1.81	-56.58	-13	43.58
342.82	49.68	83	200	V	-58.58	0.49	-1.81	-56.28	-13	43.28
1399.40	43.58	134	150	H	-70.59	0.82	7.92	-63.49	-13	50.49
1399.40	43.26	275	100	V	-70.91	0.82	7.92	-63.81	-13	50.81
16-QAM 1.4MHz Bandwidth Middle Channel										
342.82	50.19	352	150	H	-58.07	0.49	-1.91	-55.67	-13	42.67
342.82	49.68	264	150	V	-58.58	0.49	-1.91	-56.18	-13	43.18
1399.40	43.58	170	200	H	-70.59	0.82	7.92	-63.49	-13	50.49
1399.40	42.34	317	200	V	-71.83	0.82	7.92	-64.73	-13	51.73

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 1.4MHz Bandwidth Middle Channel										
342.82	49.25	34	100	H	-59.01	0.49	-1.81	-56.71	-13	43.71
342.82	49.16	338	200	V	-59.1	0.49	-1.81	-56.8	-13	43.80
1415.00	42.23	140	150	H	-71.97	0.82	7.96	-64.83	-13	51.83
1415.00	42.98	347	100	V	-71.22	0.82	7.96	-64.08	-13	51.08
16-QAM 1.4MHz Bandwidth Middle Channel										
342.82	49.05	139	150	H	-59.21	0.49	-1.91	-56.81	-13	43.81
342.82	49.76	245	150	V	-58.5	0.49	-1.91	-56.1	-13	43.10
1415.00	42.04	227	200	H	-72.16	0.82	7.96	-65.02	-13	52.02
1415.00	42.88	123	200	V	-71.32	0.82	7.96	-64.18	-13	51.18

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 1.4MHz Bandwidth Middle Channel										
342.82	50.26	239	100	H	-58	0.49	-1.81	-55.7	-13	42.70
342.82	48.93	306	200	V	-59.33	0.49	-1.81	-57.03	-13	44.03
1430.60	43.56	332	150	H	-70.67	0.82	8	-63.49	-13	50.49
1430.60	42.22	255	100	V	-72.01	0.82	8	-64.83	-13	51.83
16-QAM 1.4MHz Bandwidth Middle Channel										
342.82	50.49	10	150	H	-57.77	0.49	-1.91	-55.37	-13	42.37
342.82	51.69	334	150	V	-56.57	0.49	-1.91	-54.17	-13	41.17
1430.60	43.86	266	200	H	-70.37	0.82	8	-63.19	-13	50.19
1430.60	42.23	154	200	V	-72	0.82	8	-64.82	-13	51.82

30 MHz ~ 10 GHz:
LTE Band 13:

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 5MHz Bandwidth Low Channel										
749.01	57.69	356	200	H	-43.5	0.62	-1.50	-41.38	-13	28.38
749.01	56.86	17	200	V	-44.33	0.62	-1.50	-42.21	-13	29.21
1559.00	50.34	307	100	H	-63.62	0.83	8.29	-56.16	-13	43.16
1559.00	50.64	348	150	V	-63.32	0.83	8.29	-55.86	-13	42.86
16-QAM 5MHz Bandwidth Low Channel										
749.01	57.03	329	100	H	-44.16	0.62	-1.50	-42.04	-13	29.04
749.01	57.16	11	150	V	-44.03	0.62	-1.50	-41.91	-13	28.91
1559.00	50.81	316	150	H	-63.15	0.83	8.29	-55.69	-13	42.69
1559.00	50.49	183	200	V	-63.47	0.83	8.29	-56.01	-13	43.01

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 5MHz Bandwidth Middle Channel										
749.01	56.75	209	200	H	-44.44	0.62	-1.50	-42.32	-13	29.32
749.01	56.81	197	200	V	-44.38	0.62	-1.50	-42.26	-13	29.26
1564.00	47.53	126	100	H	-66.4	0.83	8.30	-58.93	-13	45.93
1564.00	49.37	260	150	V	-64.56	0.83	8.30	-57.09	-13	44.09
16-QAM 5MHz Bandwidth Middle Channel										
749.01	57.02	184	100	H	-44.17	0.62	-1.50	-42.05	-13	29.05
749.01	56.49	320	150	V	-44.7	0.62	-1.50	-42.58	-13	29.58
1564.00	47.97	324	150	H	-65.96	0.83	8.30	-58.49	-13	45.49
1564.00	48.44	19	200	V	-65.49	0.83	8.30	-58.02	-13	45.02

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 5MHz Bandwidth High Channel										
749.01	58.76	29	200	H	-42.43	0.62	-1.50	-40.31	-13	27.31
749.01	57.99	160	200	V	-43.2	0.62	-1.50	-41.08	-13	28.08
1569.00	47.22	13	100	H	-66.67	0.83	8.31	-59.19	-13	46.19
1569.00	45.92	348	150	V	-67.97	0.83	8.31	-60.49	-13	47.49
16-QAM 5MHz Bandwidth High Channel										
749.01	56.39	265	100	H	-44.8	0.62	-1.50	-42.68	-13	29.68
749.01	57.49	177	150	V	-43.7	0.62	-1.50	-41.58	-13	28.58
1569.00	46.92	341	150	H	-66.97	0.83	8.31	-59.49	-13	46.49
1569.00	46.22	243	200	V	-67.67	0.83	8.31	-60.19	-13	47.19

30 MHz ~ 10 GHz:
LTE Band 14:

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 5MHz Bandwidth Low Channel										
760.16	57.19	41	100	H	-43.41	0.62	-1.65	-41.14	-13	28.14
760.16	57.09	159	200	V	-43.51	0.62	-1.65	-41.24	-13	28.24
1581.00	48.92	127	100	H	-64.89	0.83	8.33	-57.39	-40	17.39
1581.00	48.12	174	150	V	-65.69	0.83	8.33	-58.19	-40	18.19
16-QAM 5MHz Bandwidth Low Channel										
760.16	56.19	23	100	H	-44.41	0.62	-1.65	-42.14	-13	29.14
760.16	55.49	195	150	V	-45.11	0.62	-1.65	-42.84	-13	29.84
1581.00	48.82	211	100	H	-64.99	0.83	8.33	-57.49	-40	17.49
1581.00	49.35	29	200	V	-64.46	0.83	8.33	-56.96	-40	16.96

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 5MHz Bandwidth Middle Channel										
760.16	54.69	212	100	H	-45.91	0.62	-1.65	-43.64	-13	30.64
760.16	53.97	33	200	V	-46.63	0.62	-1.65	-44.36	-13	31.36
1586.00	47.71	195	100	H	-66.06	0.83	8.34	-58.55	-40	18.55
1586.00	48.24	149	150	V	-65.53	0.83	8.34	-58.02	-40	18.02
16-QAM 5MHz Bandwidth Middle Channel										
760.16	54.19	239	100	H	-46.41	0.62	-1.65	-44.14	-13	31.14
760.16	53.82	170	150	V	-46.78	0.62	-1.65	-44.51	-13	31.51
1586.00	49.07	213	100	H	-64.7	0.83	8.34	-57.19	-40	17.19
1586.00	48.20	335	200	V	-65.57	0.83	8.34	-58.06	-40	18.06

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 5MHz Bandwidth High Channel										
760.16	54.36	62	100	H	-46.24	0.62	-1.65	-43.97	-13	30.97
760.16	53.79	330	200	V	-46.81	0.62	-1.65	-44.54	-13	31.54
1591.00	49.03	163	100	H	-64.71	0.83	8.35	-57.19	-40	17.19
1591.00	48.13	211	150	V	-65.61	0.83	8.35	-58.09	-40	18.09
16-QAM 5MHz Bandwidth High Channel										
760.16	53.76	140	100	H	-46.84	0.62	-1.65	-44.57	-13	31.57
760.16	54.06	95	150	V	-46.54	0.62	-1.65	-44.27	-13	31.27
1591.00	50.03	355	100	H	-63.71	0.83	8.35	-56.19	-40	16.19
1591.00	48.76	136	200	V	-64.98	0.83	8.35	-57.46	-40	17.46

30 MHz ~ 20 GHz:
LTE Band 66:

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 1.4MHz Bandwidth Low Channel										
346.94	41.39	217	150	H	-66.98	0.49	-1.77	-64.72	-13	51.72
346.94	42.69	161	200	V	-65.68	0.49	-1.77	-63.42	-13	50.42
3421.40	57.66	79	100	H	-50.28	0.93	9.82	-41.39	-13	28.39
3421.40	56.86	78	100	V	-51.08	0.93	9.82	-42.19	-13	29.19
6842.80	51.39	252	150	H	-50.60	1.60	10.31	-41.89	-13	28.89
6842.80	52.89	266	200	V	-49.10	1.60	10.31	-40.39	-13	27.39
16-QAM 1.4MHz Bandwidth Low Channel										
346.94	41.39	252	200	H	-66.98	0.49	-1.77	-64.72	-13	51.72
346.94	40.89	72	150	V	-67.48	0.49	-1.77	-65.22	-13	52.22
3421.40	57.66	211	150	H	-50.28	0.93	9.82	-41.39	-13	28.39
3421.40	58.19	28	100	V	-49.75	0.93	9.82	-40.86	-13	27.86
6842.80	52.49	241	100	H	-49.50	1.60	10.31	-40.79	-13	27.79
6842.80	52.09	214	200	V	-49.90	1.60	10.31	-41.19	-13	28.19

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 1.4MHz Bandwidth Middle Channel										
346.94	40.95	205	150	H	-67.42	0.49	-1.77	-65.16	-13	52.16
346.94	41.15	351	200	V	-67.22	0.49	-1.77	-64.96	-13	51.96
3490.00	57.46	184	100	H	-50.18	0.93	9.89	-41.22	-13	28.22
3490.00	57.19	359	100	V	-50.45	0.93	9.89	-41.49	-13	28.49
6980.00	51.56	10	150	H	-50.26	1.67	10.21	-41.72	-13	28.72
6980.00	51.69	126	200	V	-50.13	1.67	10.21	-41.59	-13	28.59
16-QAM 1.4MHz Bandwidth Middle Channel										
346.94	41.05	185	200	H	-67.32	0.49	-1.77	-65.06	-13	52.06
346.94	40.89	341	150	V	-67.48	0.49	-1.77	-65.22	-13	52.22
3490.00	57.15	2	150	H	-50.49	0.93	9.89	-41.53	-13	28.53
3490.00	56.63	13	100	V	-51.01	0.93	9.89	-42.05	-13	29.05
6980.00	51.82	278	100	H	-50.00	1.67	10.21	-41.46	-13	28.46
6980.00	52.17	63	200	V	-49.65	1.67	10.21	-41.11	-13	28.11

Frequency (MHz)	Receiver Reading (dBµV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 1.4MHz Bandwidth High Channel										
346.94	41.36	332	150	H	-67.01	0.49	-1.77	-64.75	-13	51.75
346.94	42.65	153	200	V	-65.72	0.49	-1.77	-63.46	-13	50.46
3558.60	56.12	107	100	H	-51.3	0.93	9.87	-42.36	-13	29.36
3558.60	56.62	32	100	V	-50.8	0.93	9.87	-41.86	-13	28.86
7117.20	49.5	179	150	H	-51.97	1.70	10.18	-43.49	-13	30.49
7117.20	50.41	236	200	V	-51.06	1.70	10.18	-42.58	-13	29.58
16-QAM 1.4MHz Bandwidth High Channel										
346.94	42.16	233	200	H	-66.21	0.49	-1.77	-63.95	-13	50.95
346.94	41.69	70	150	V	-66.68	0.49	-1.77	-64.42	-13	51.42
3558.60	55.8	105	150	H	-51.62	0.93	9.87	-42.68	-13	29.68
3558.60	55.29	356	100	V	-52.13	0.93	9.87	-43.19	-13	30.19
7117.20	50.14	94	100	H	-51.33	1.70	10.18	-42.85	-13	29.85
7117.20	51.01	58	200	V	-50.46	1.70	10.18	-41.98	-13	28.98

30 MHz ~ 10 GHz:

LTE Band 71:

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 5MHz Bandwidth Low Channel										
516.69	50.16	159	150	H	-53.59	0.58	-1.73	-51.28	-13	38.28
516.69	49.49	256	200	V	-54.26	0.58	-1.73	-51.95	-13	38.95
1331.00	46.94	326	100	H	-67.09	0.81	7.71	-60.19	-13	47.19
1331.00	48.64	3	100	V	-65.39	0.81	7.71	-58.49	-13	45.49
16-QAM 5MHz Bandwidth Low Channel										
516.69	49.76	294	200	H	-53.99	0.58	-1.73	-51.68	-13	38.68
516.69	50.19	35	150	V	-53.56	0.58	-1.73	-51.25	-13	38.25
1331.00	47.94	38	150	H	-66.09	0.81	7.71	-59.19	-13	46.19
1331.00	48.66	218	100	V	-65.37	0.81	7.71	-58.47	-13	45.47

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 5MHz Bandwidth Middle Channel										
516.69	49.15	1	150	H	-54.6	0.58	-1.73	-52.29	-13	39.29
516.69	48.22	273	200	V	-55.53	0.58	-1.73	-53.22	-13	40.22
1361.00	47.39	350	100	H	-66.7	0.62	7.81	-59.51	-13	46.51
1361.00	47.44	357	100	V	-66.65	0.62	7.81	-59.46	-13	46.46
16-QAM 5MHz Bandwidth Middle Channel										
516.69	48.16	354	200	H	-55.59	0.58	-1.73	-53.28	-13	40.28
516.69	48.85	114	150	V	-54.9	0.58	-1.73	-52.59	-13	39.59
1361.00	47.71	351	150	H	-66.38	0.62	7.81	-59.19	-13	46.19
1361.00	47.92	17	100	V	-66.17	0.62	7.81	-58.98	-13	45.98

Frequency (MHz)	Receiver Reading (dBμV)	Turntable Angle Degree	Rx Antenna		Substituted			Absolute Level (dBm)	Limit (dBm)	Margin (dB)
			Height (cm)	Polar (H/V)	Submitted Level (dBm)	Cable Loss (dB)	Antenna Gain (dBd/dBi)			
QPSK 5MHz Bandwidth High Channel										
516.69	50.63	94	150	H	-53.12	0.58	-1.73	-50.81	-13	37.81
516.69	49.48	88	200	V	-54.27	0.58	-1.73	-51.96	-13	38.96
1391.00	48.59	56	100	H	-65.56	0.82	7.89	-58.49	-13	45.49
1391.00	49.39	114	100	V	-64.76	0.82	7.89	-57.69	-13	44.69
16-QAM 5MHz Bandwidth High Channel										
516.69	49.16	239	200	H	-54.59	0.58	-1.73	-52.28	-13	39.28
516.69	48.68	185	150	V	-55.07	0.58	-1.73	-52.76	-13	39.76
1391.00	48.59	317	150	H	-65.56	0.82	7.89	-58.49	-13	45.49
1391.00	49.12	217	100	V	-65.03	0.82	7.89	-57.96	-13	44.96

Note:
1) Absolute Level (dBm) = Submitted Level (dBm) - Cable loss (dB) + Antenna Gain (dBd/dBi)
2) Margin (dB) = Limit (dBm) - Absolute Level (dBm)

FCC § 22.917 (a); § 24.238 (a); §27.53 (c) (g) (h); § 90.543 - BAND EDGES

Applicable Standards

According to § 22.917(a), the power of any emissions 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.
According to §24.238(a), the power of any emissions 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.
According to FCC §27.53 (c) (g) (h), (c) For operations in the 746-758 MHz band and the 776-788 MHz band, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

(1) On any frequency outside the 746-758 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;

(2) On any frequency outside the 776-788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB;

(3) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than 76 + 10 log (P) dB in a 6.25 kHz band segment, for base and fixed stations;

(4) On all frequencies between 763-775 MHz and 793-805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations;

(5) Compliance with the provisions of paragraphs (c)(1) and (c)(2) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz may be employed;

(6) Compliance with the provisions of paragraphs (c)(3) and (c)(4) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.

(g)For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 + 10 log (P) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

(h) AWS emission limits—(1) General protection levels. Except as otherwise specified below, for operations in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz, and 2180-2200 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least 43 + 10 log10 (P) dB.

According to §90.543, for operations in the 758-768 MHz and the 788-798 MHz bands, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following:

(1) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than 76 + 10 log (P) dB in a 6.25 kHz band segment, for base and fixed stations.

(2) On all frequencies between 769-775 MHz and 799-805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations.

(3) On any frequency between 775-788 MHz, above 805 MHz, and below 758 MHz, by at least 43 + 10 log (P) dB.

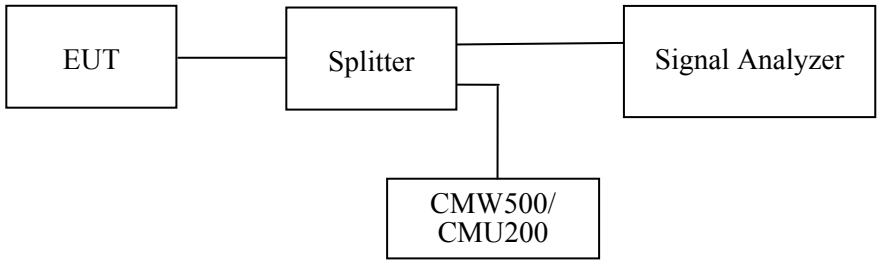
(4) Compliance with the provisions of paragraphs (e)(1) and (2) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.

(5) Compliance with the provisions of paragraph (e)(3) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of 30 kHz may be employed.

Test Procedure

The RF output of the transmitter was connected to the input of the spectrum analyzer through sufficient attenuation.

The center of the spectrum analyzer was set to block edge frequency.



Test Data

Environmental Conditions

Temperature:	23.2℃-23.5℃
Relative Humidity:	51 %-53%
ATM Pressure:	101.1kPa-103.3kPa

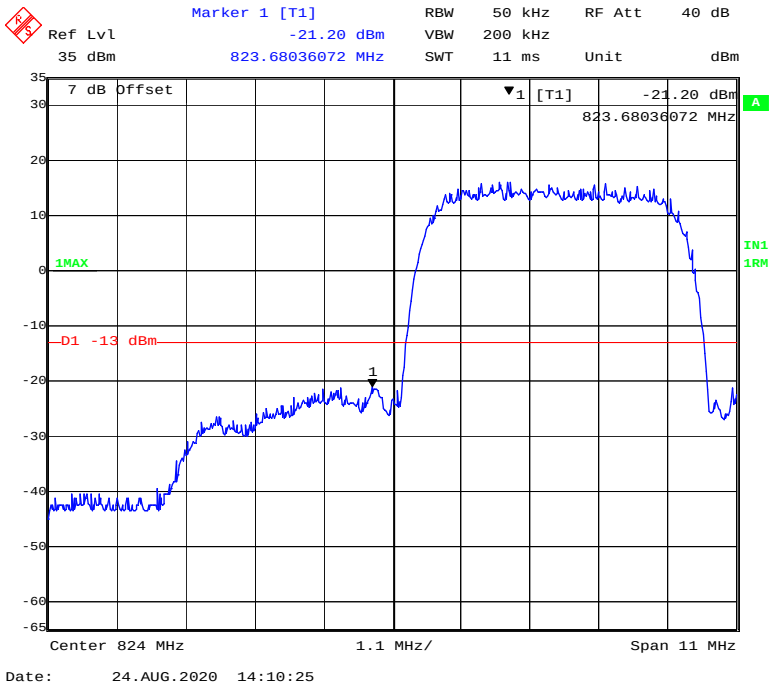
The testing was performed by CK Huang from 2020-08-23 to 2020-08-24.

EUT operation mode: Transmitting

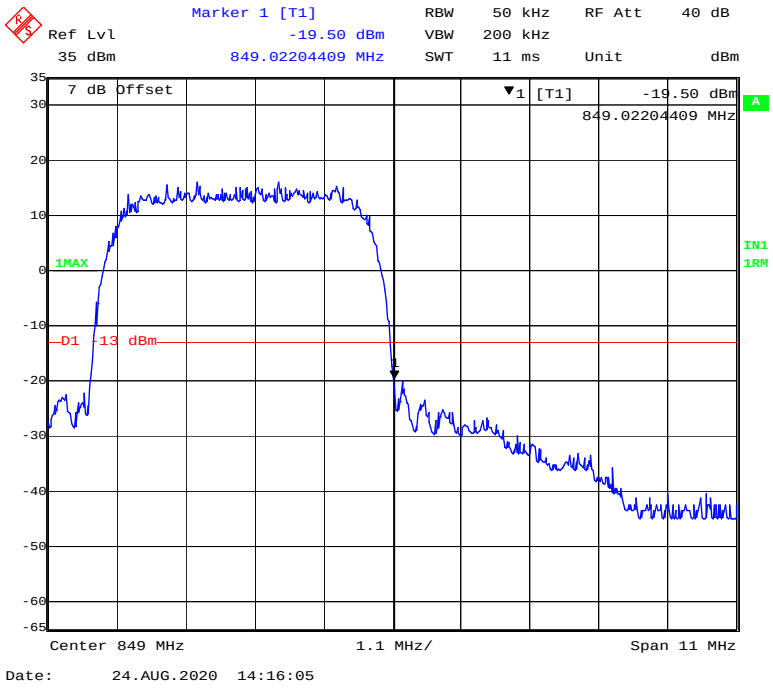
Test Result: Compliance.

WCDMA Band V

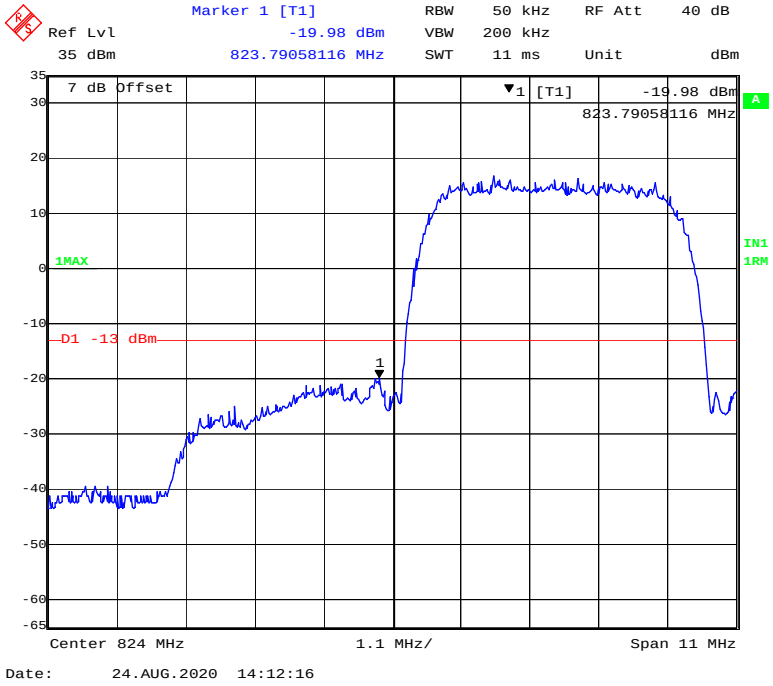
WCDMA (Rel 99) Mode, Left Band Edge



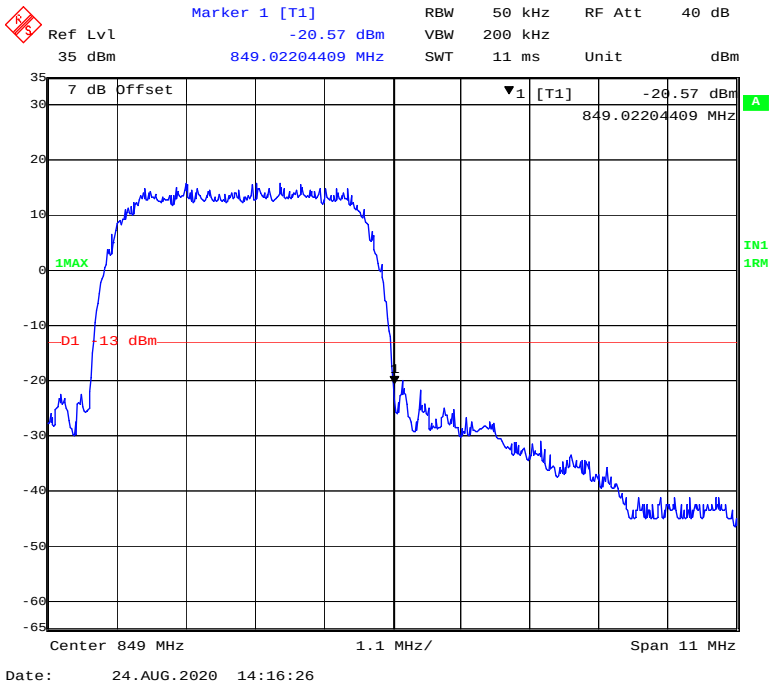
WCDMA (Rel 99) Mode, Right Band Edge



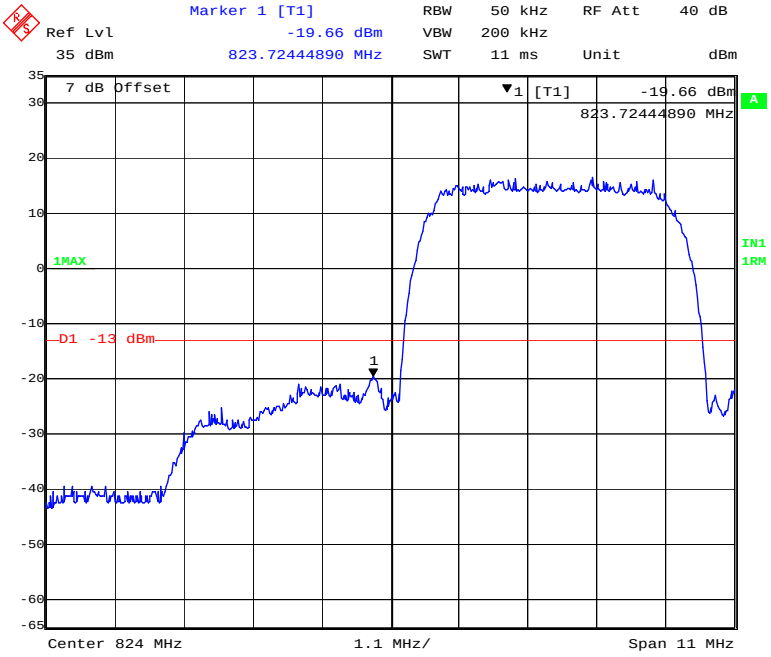
WCDMA (HSDPA) Mode, Left Band Edge



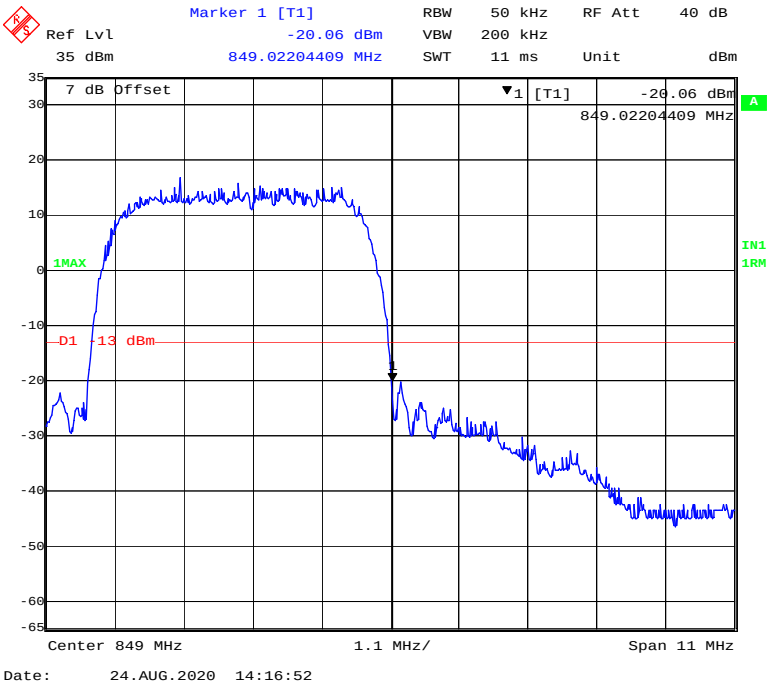
WCDMA (HSDPA) Mode, Right Band Edge



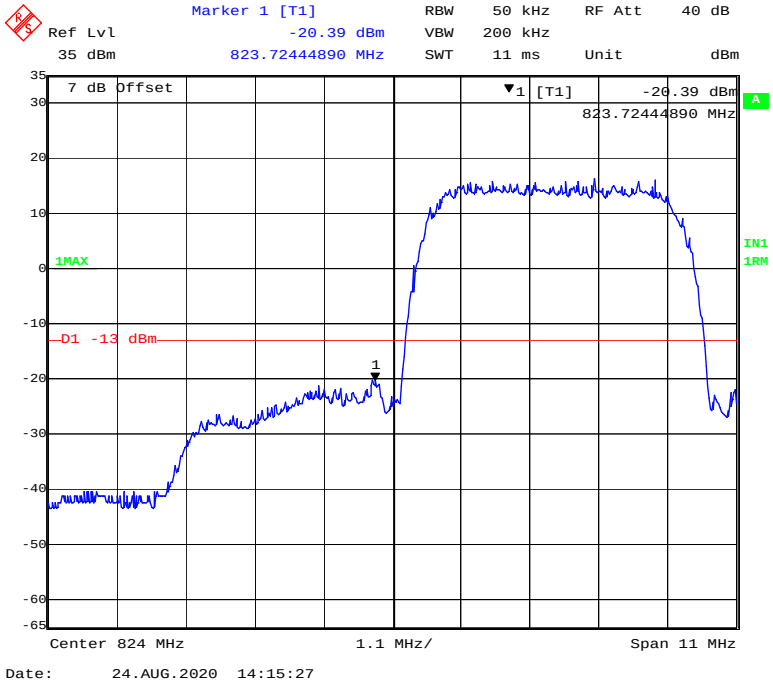
WCDMA (HSUPA) Mode, Left Band Edge



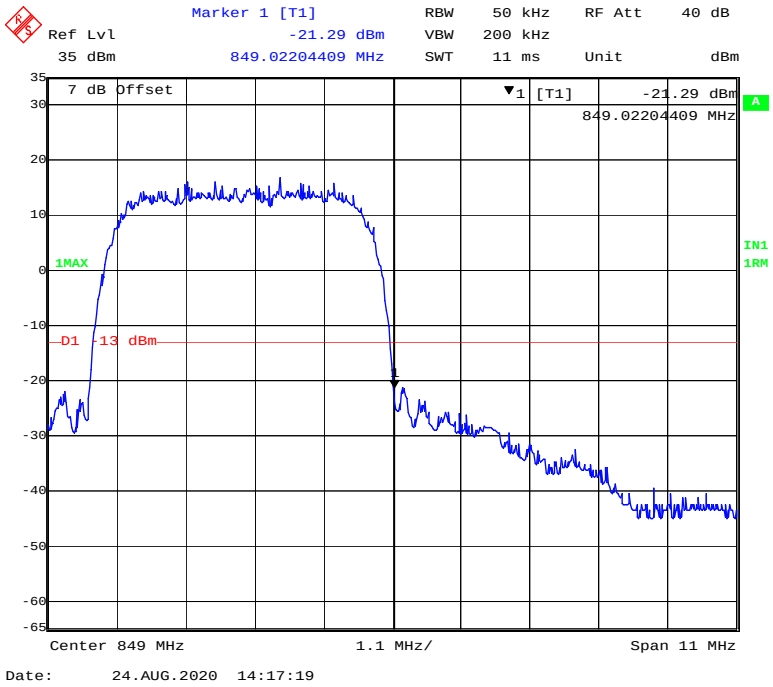
WCDMA (HSUPA) Mode, Right Band Edge



WCDMA (HSPA+) Mode, Left Band Edge

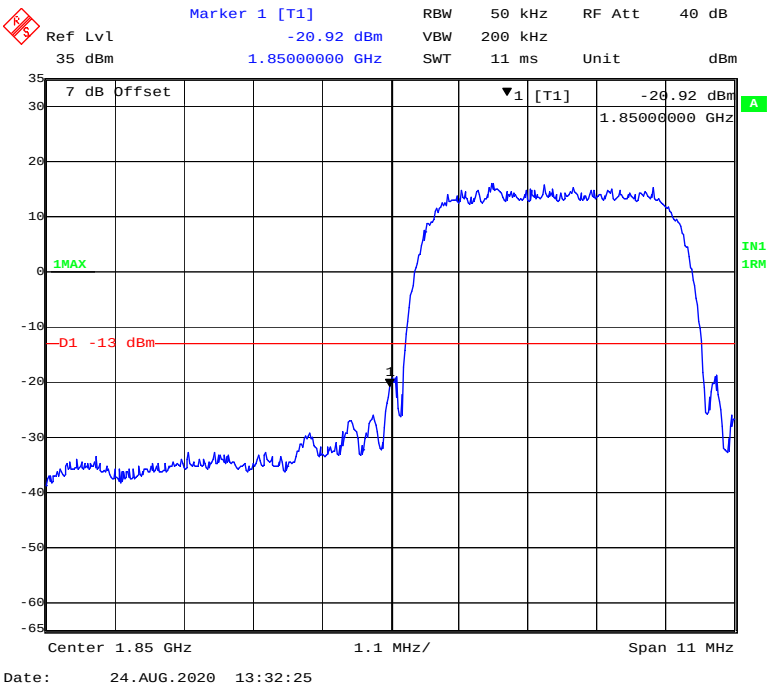


WCDMA (HSPA+) Mode, Right Band Edge

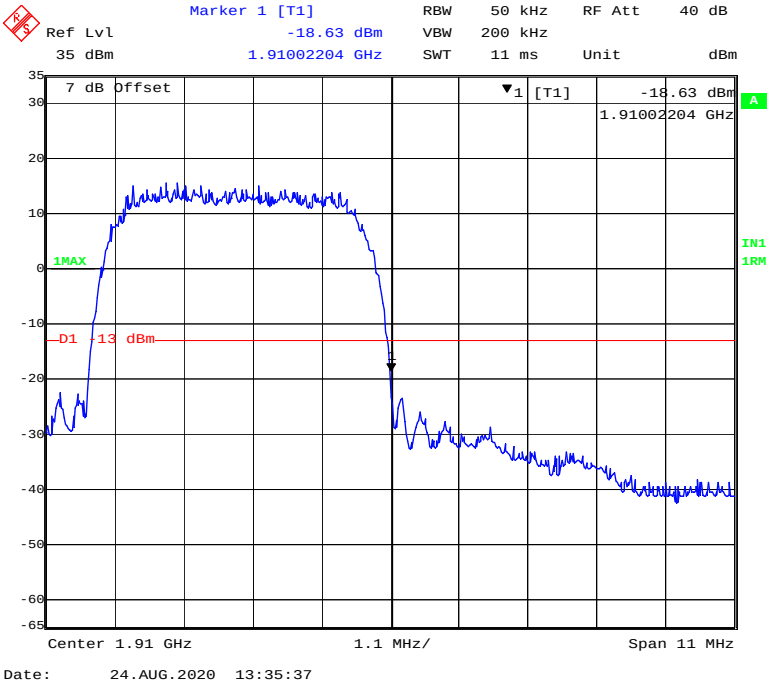


WCDMA Band II

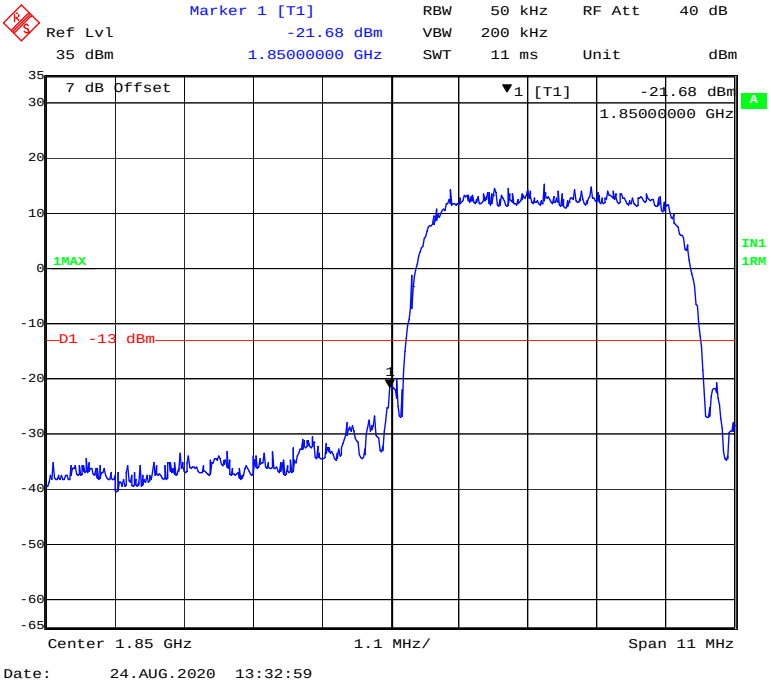
WCDMA (Rel99) Mode, Left Band Edge



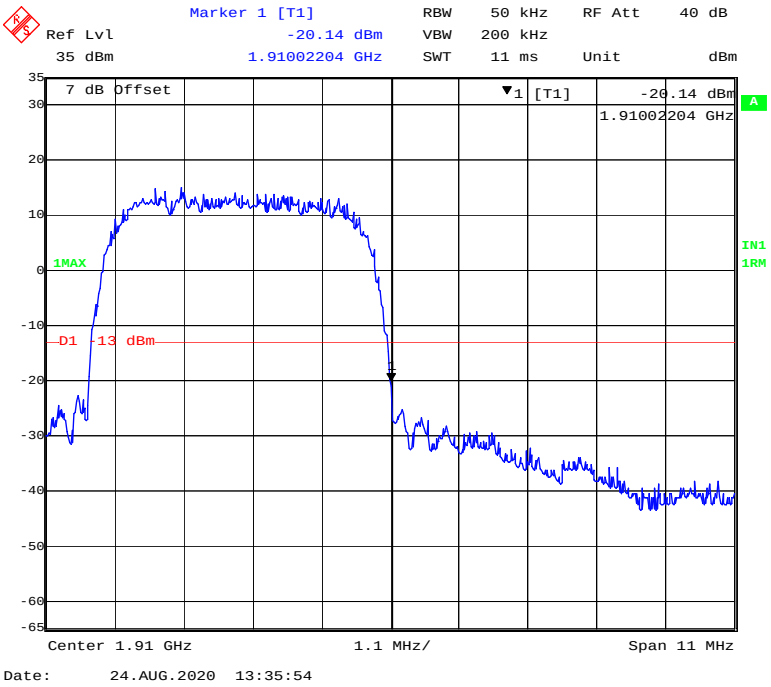
WCDMA (Rel99) Mode, Right Band Edge



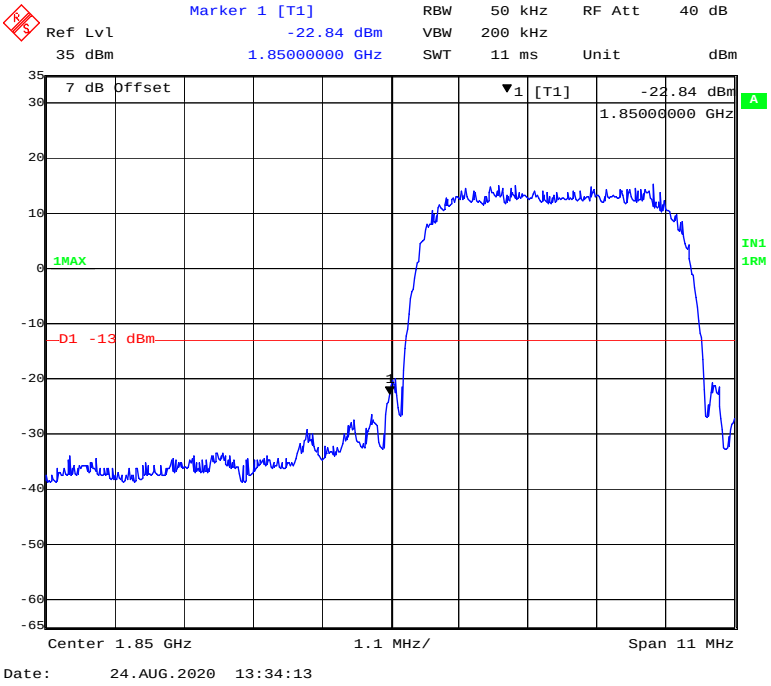
WCDMA (HSDPA) Mode, Left Band Edge



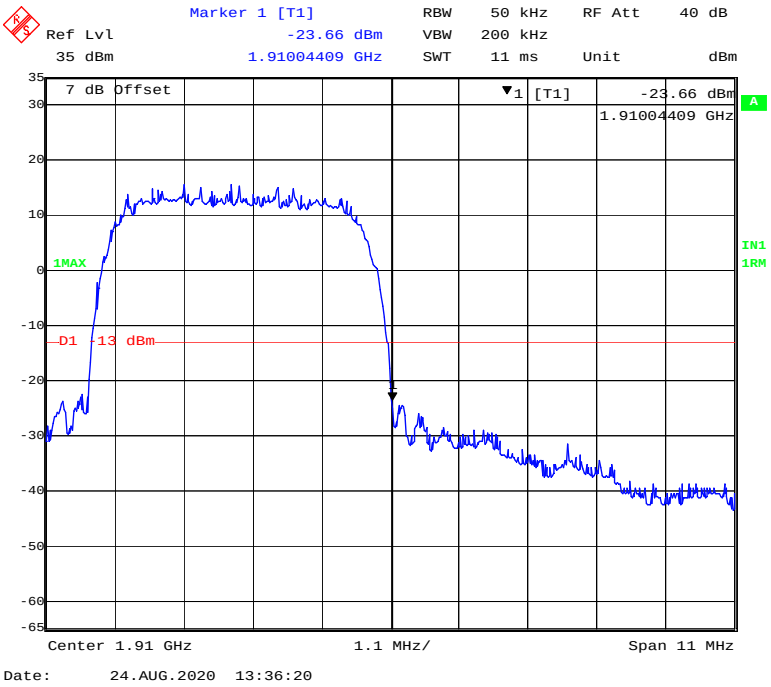
WCDMA (HSDPA) Mode, Right Band Edge



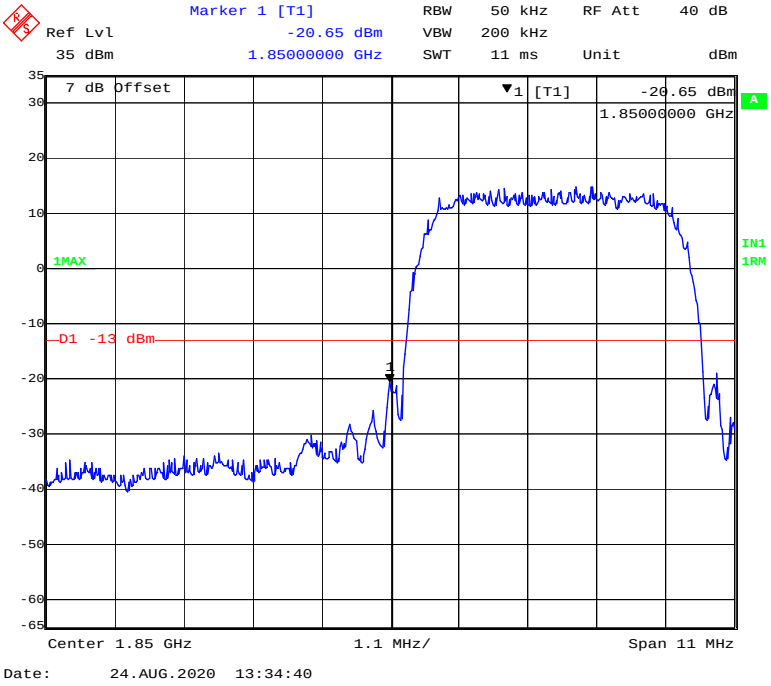
WCDMA (HSUPA) Mode, Left Band Edge



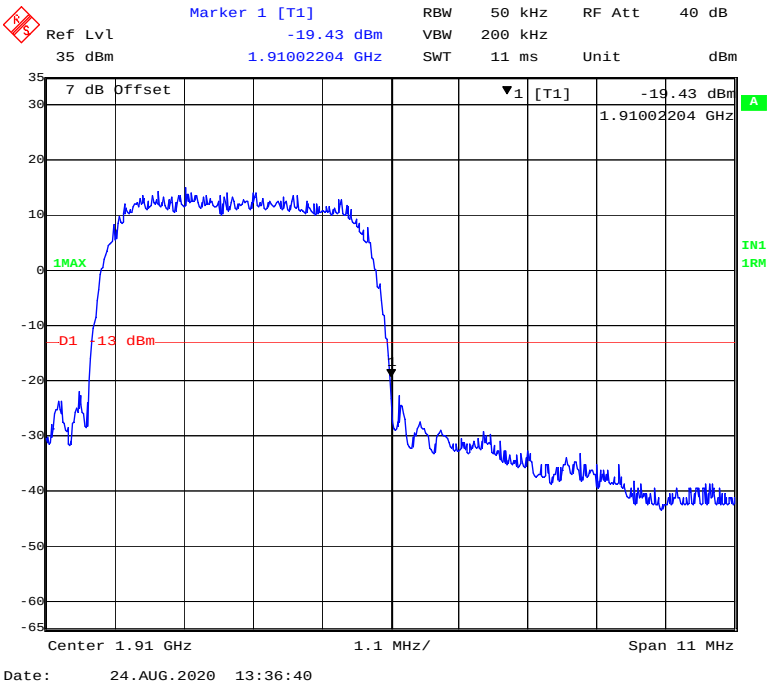
WCDMA (HSUPA) Mode, Right Band Edge



WCDMA (HSPA+) Mode, Left Band Edge

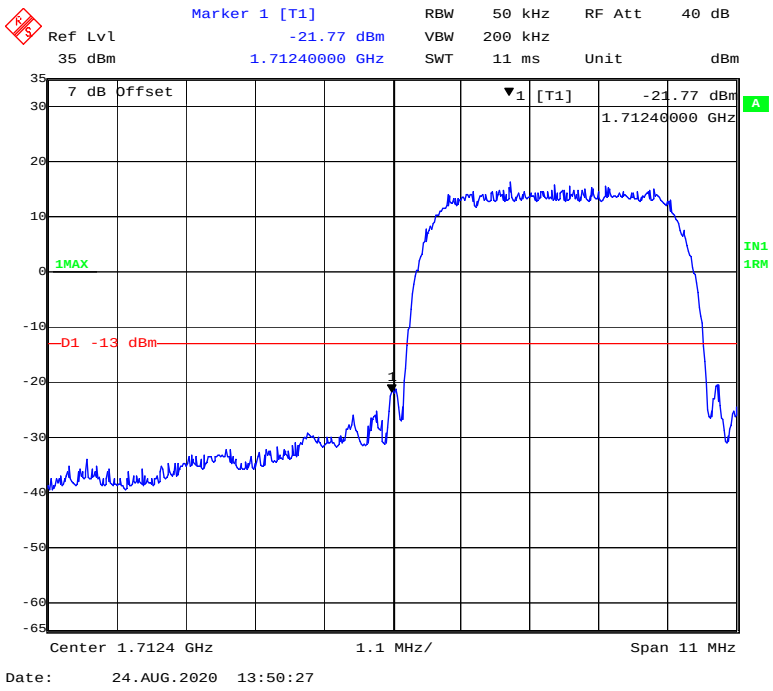


WCDMA (HSPA+) Mode, Right Band Edge

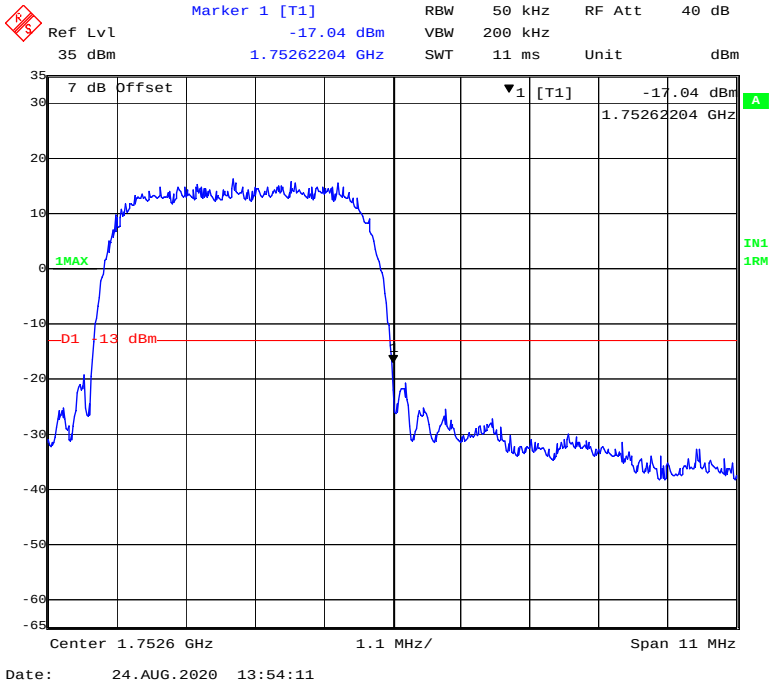


WCDMA Band IV

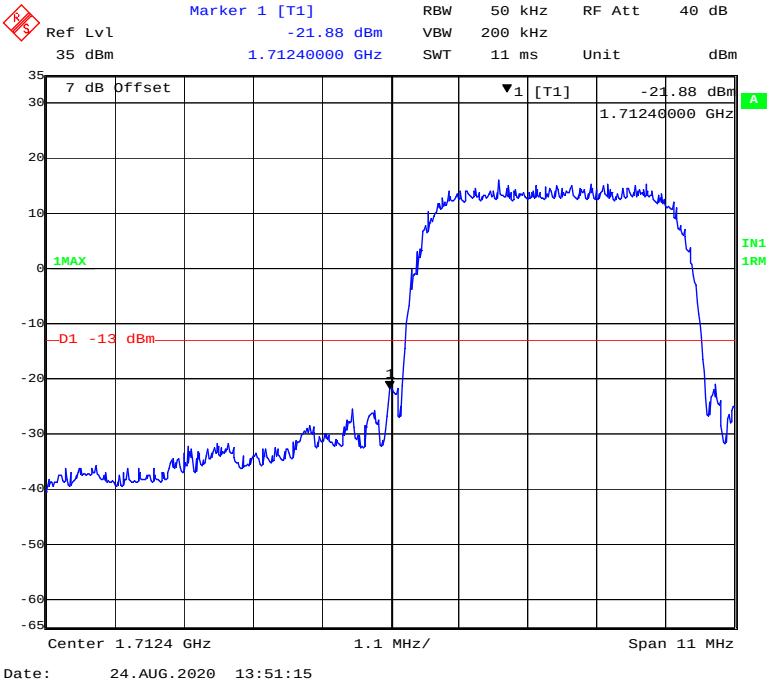
WCDMA (Rel99) Mode, Left Band Edge



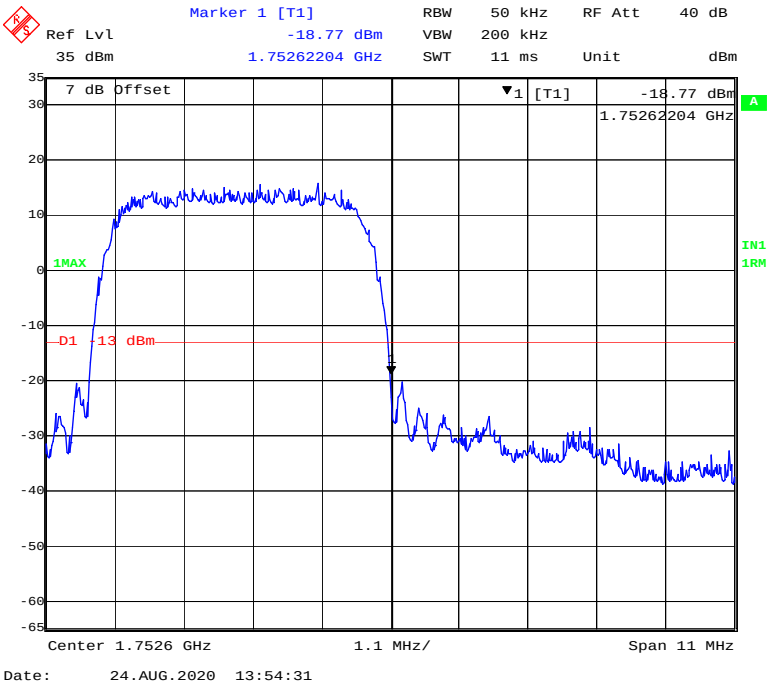
WCDMA (Rel99) Mode, Right Band Edge



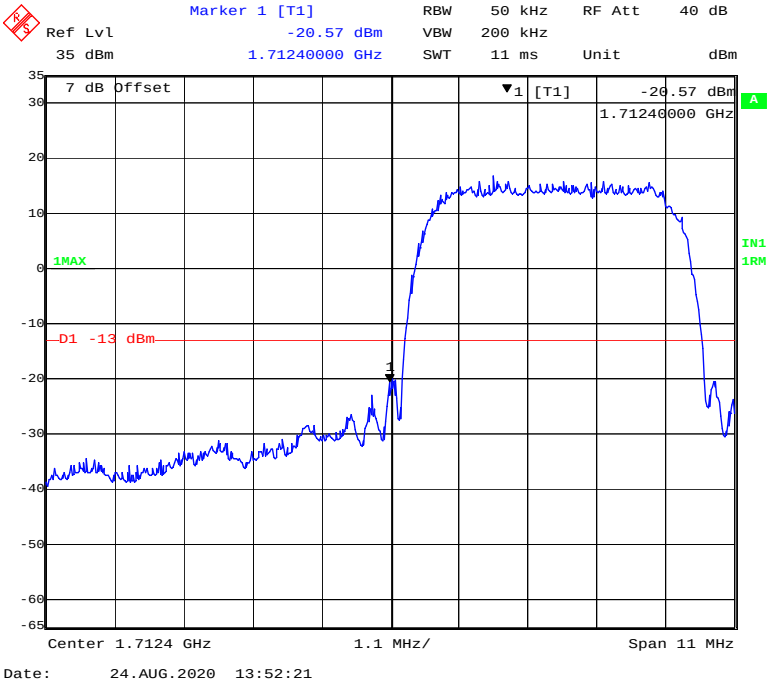
WCDMA (HSDPA) Mode, Left Band Edge



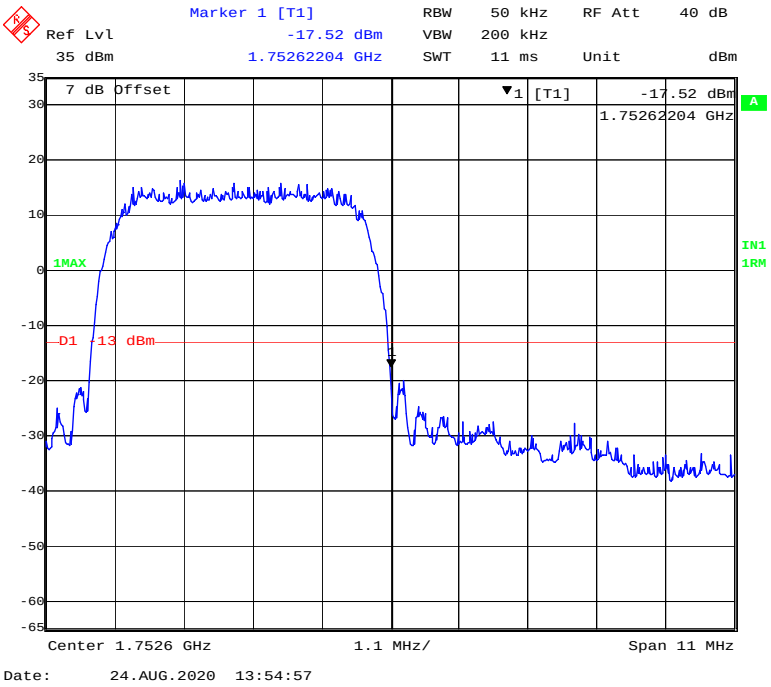
WCDMA (HSDPA) Mode, Right Band Edge



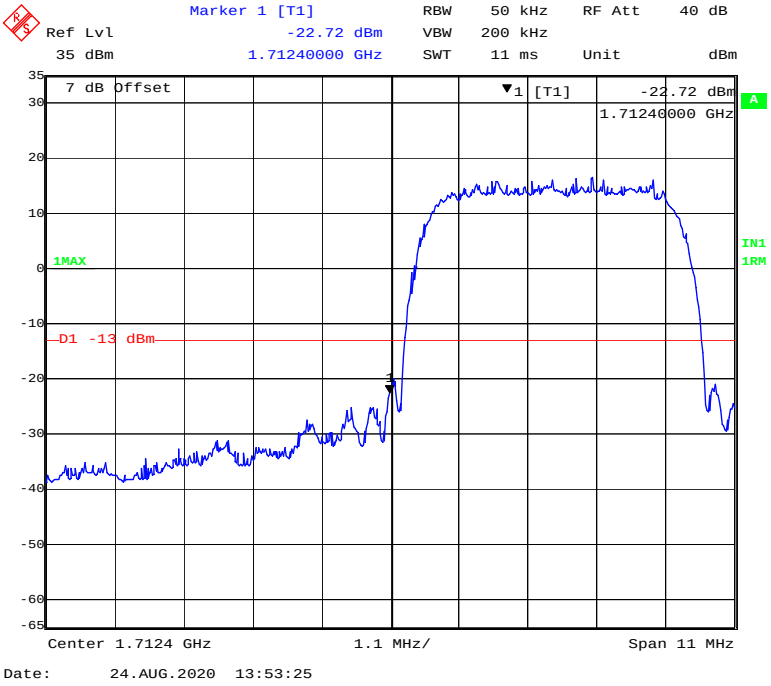
WCDMA (HSUPA) Mode, Left Band Edge



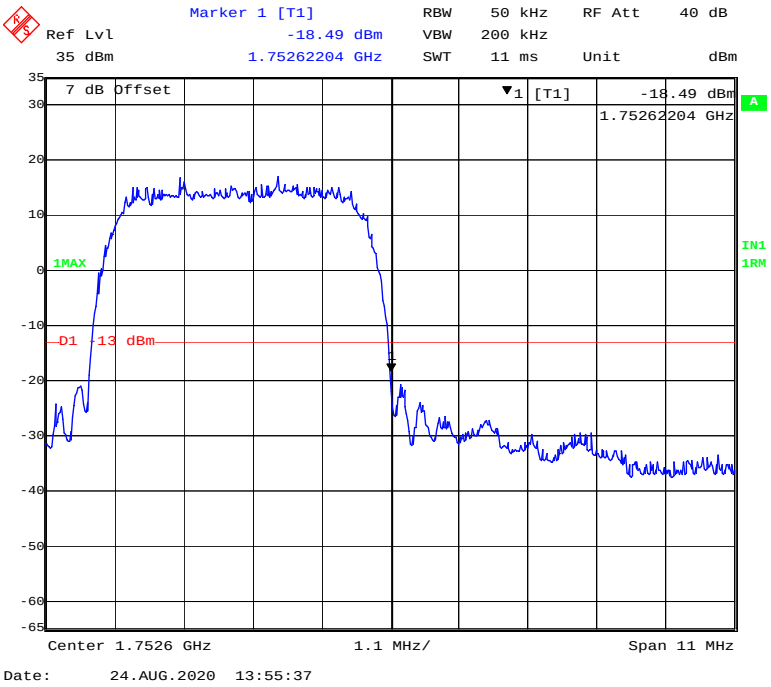
WCDMA (HSUPA) Mode, Right Band Edge



WCDMA (HSPA+) Mode, Left Band Edge

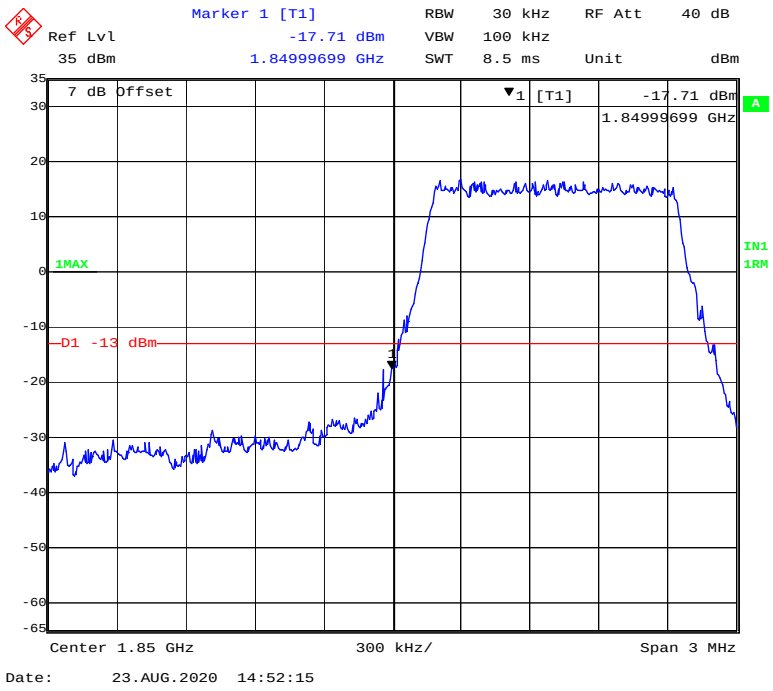


WCDMA (HSPA+) Mode, Right Band Edge

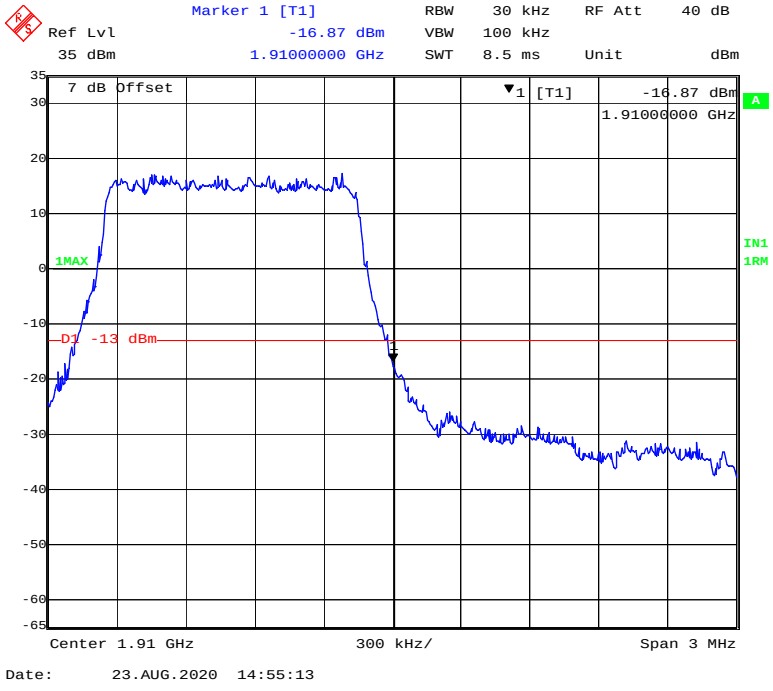


LTE Band 2:

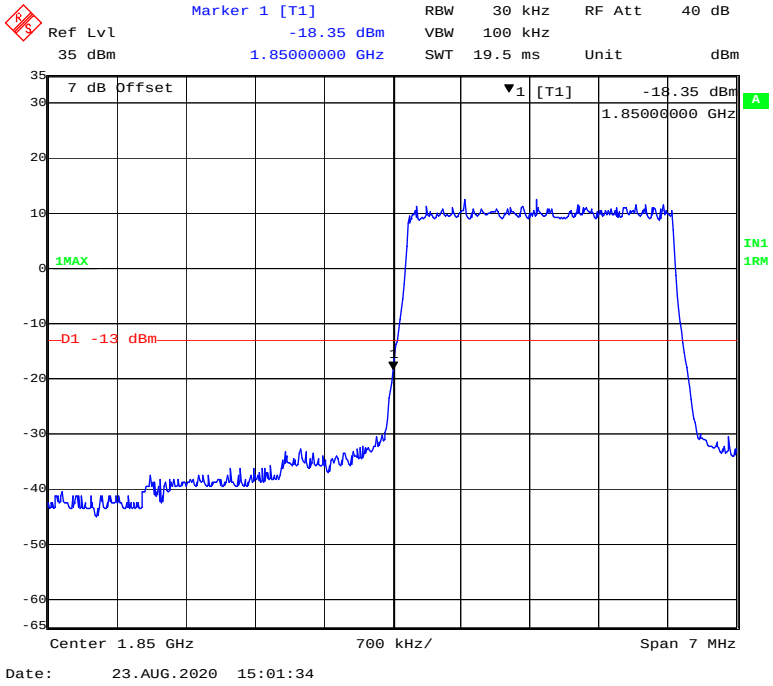
QPSK (1.4 MHz, FULL RB) - Left Band Edge



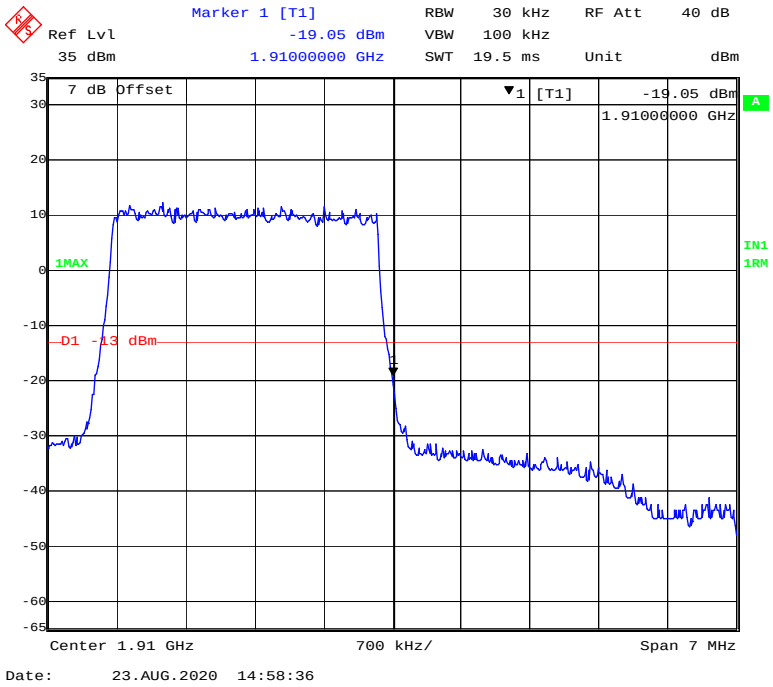
QPSK (1.4 MHz, FULL RB) - Right Band Edge



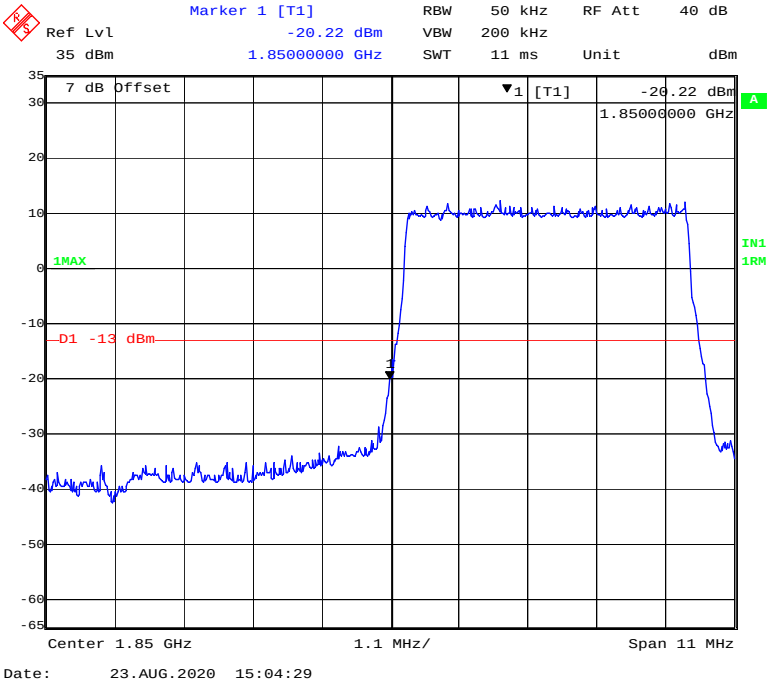
QPSK (3 MHz, FULL RB) - Left Band Edge



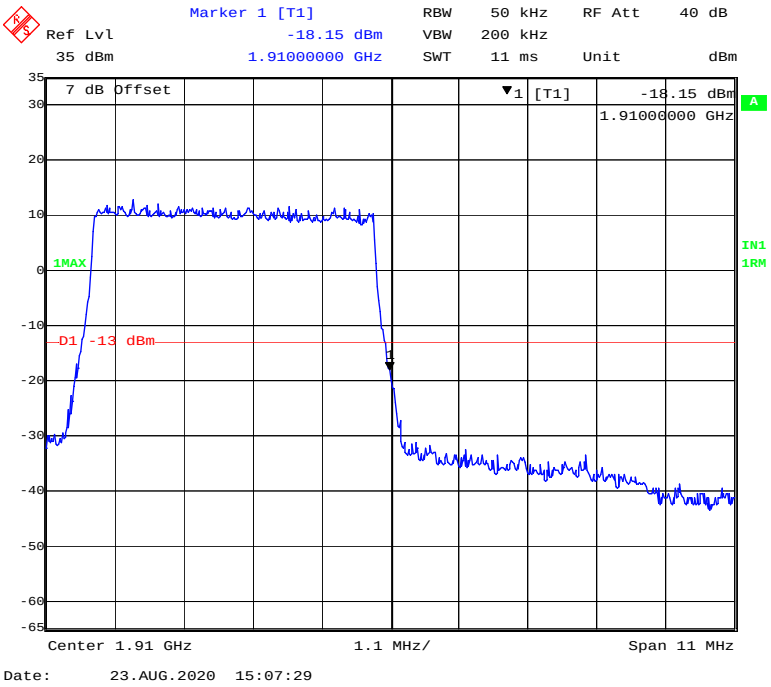
QPSK (3 MHz, FULL RB) - Right Band Edge



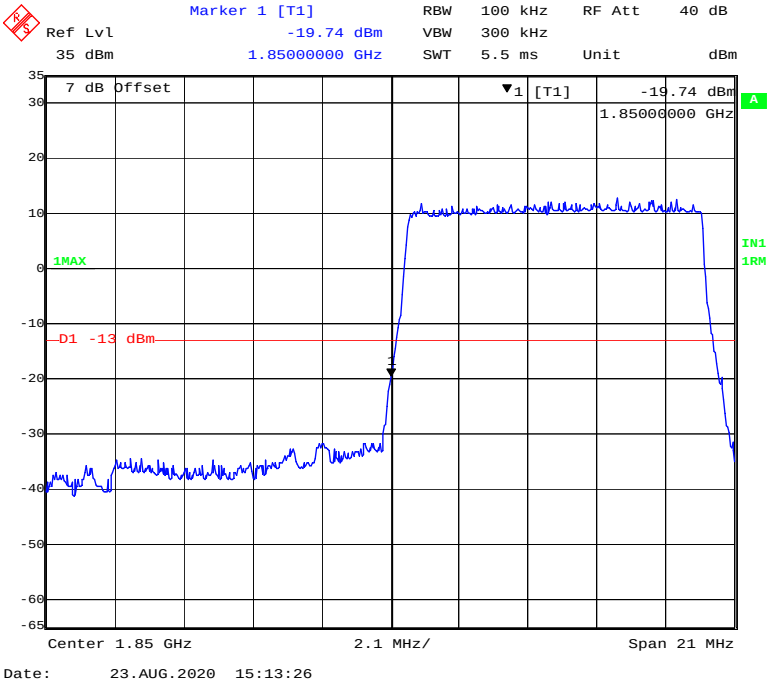
QPSK (5 MHz, FULL RB) - Left Band Edge



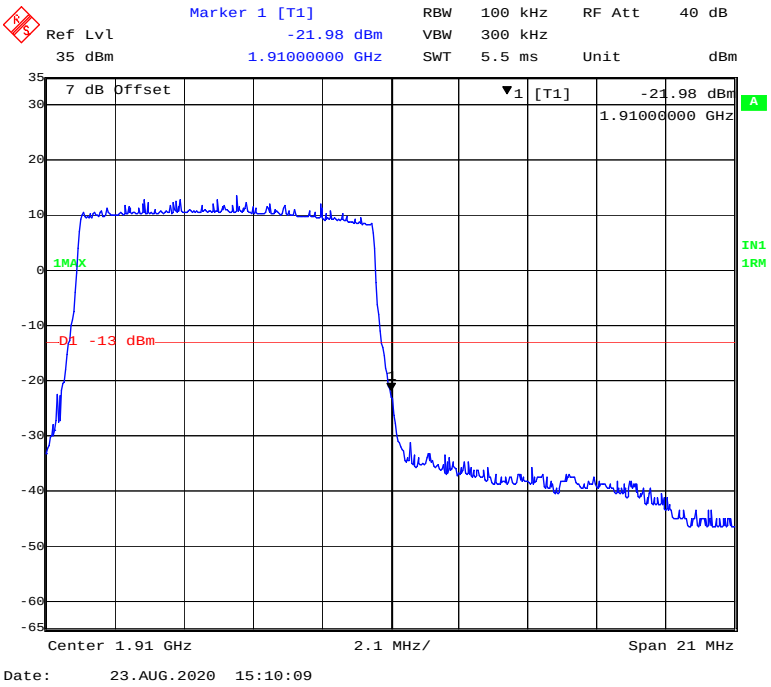
QPSK (5 MHz, FULL RB) - Right Band Edge



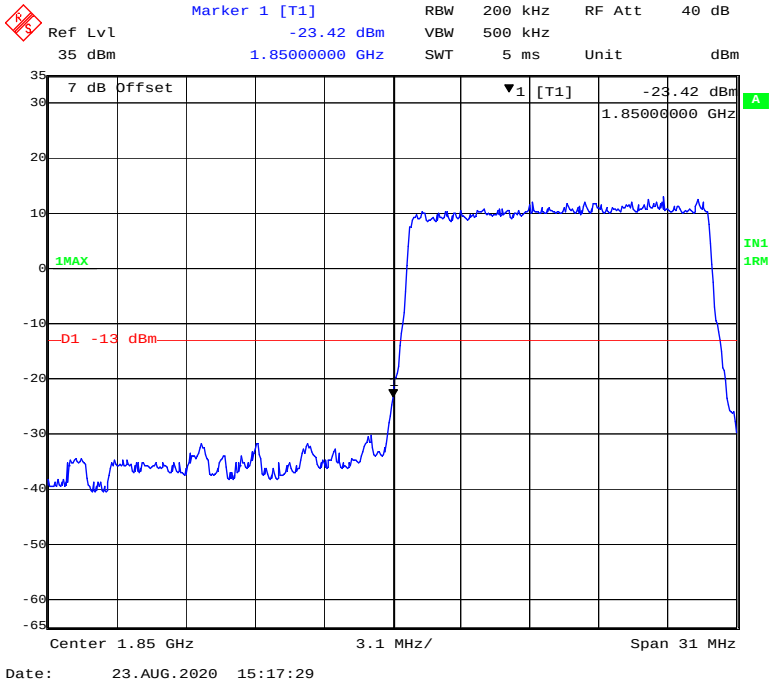
QPSK (10 MHz, FULL RB) - Left Band Edge



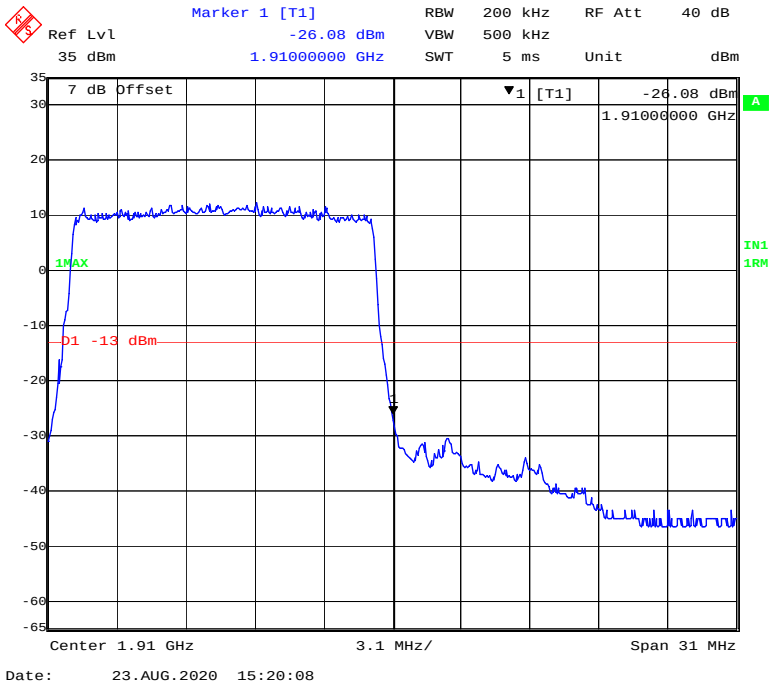
QPSK (10 MHz, FULL RB) - Right Band Edge



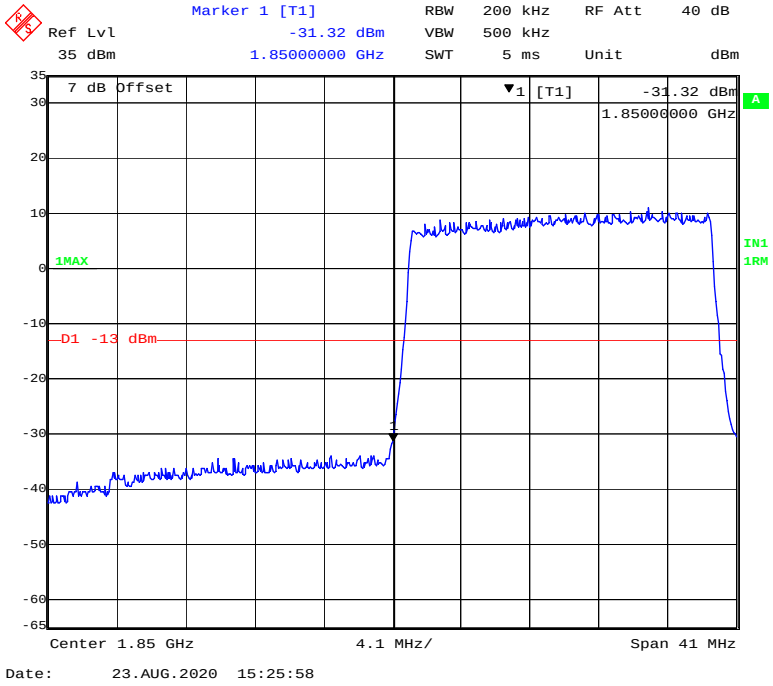
QPSK (15 MHz, FULL RB) - Left Band Edge



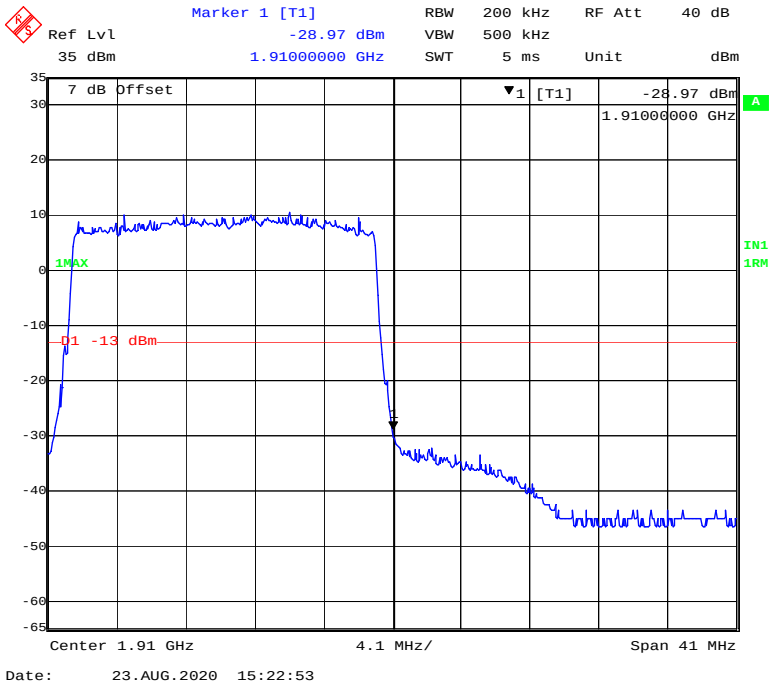
QPSK (15 MHz, FULL RB) - Right Band Edge



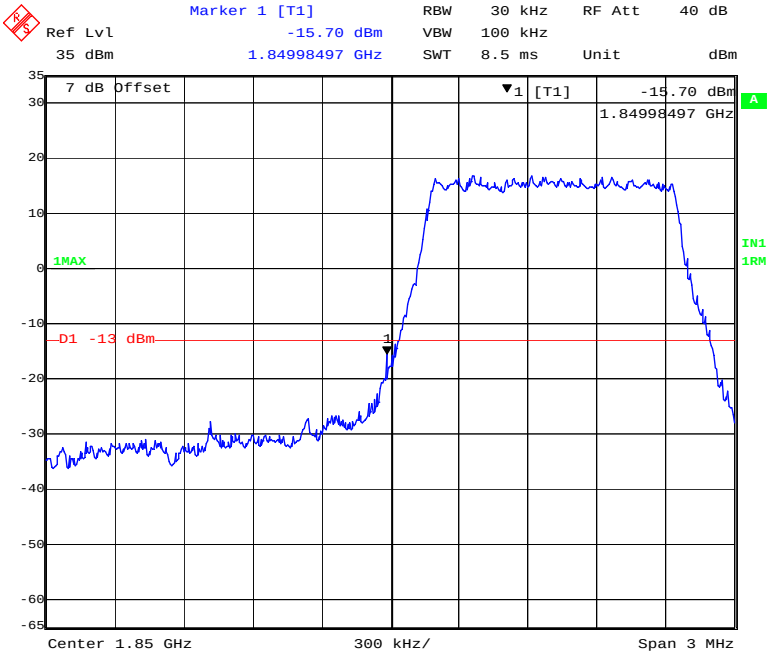
QPSK (20 MHz, FULL RB) - Left Band Edge



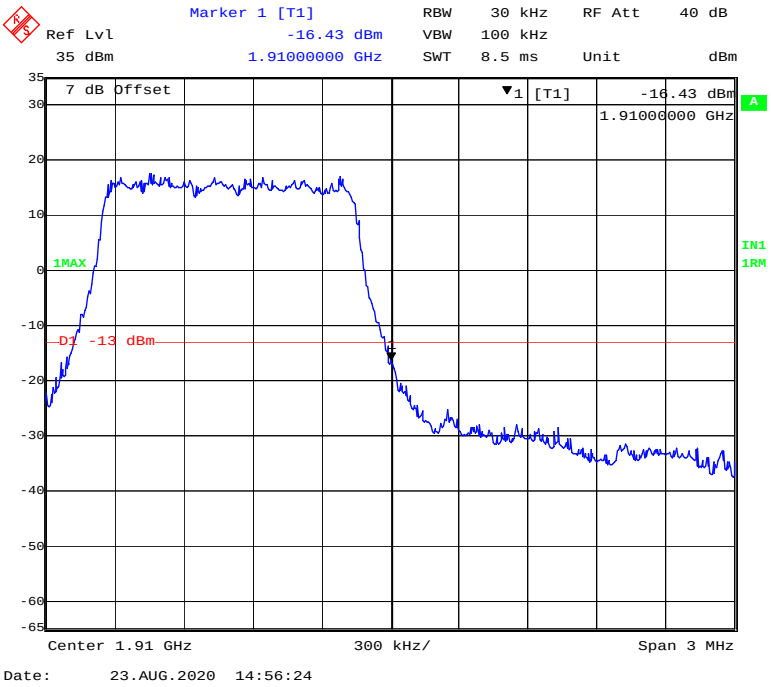
QPSK (20 MHz, FULL RB) - Right Band Edge



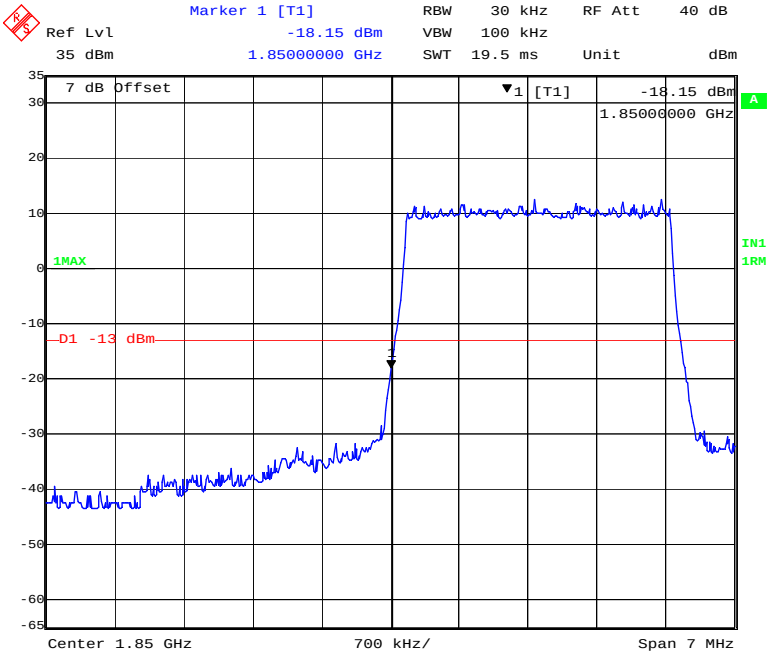
16-QAM (1.4 MHz, FULL RB) - Left Band Edge



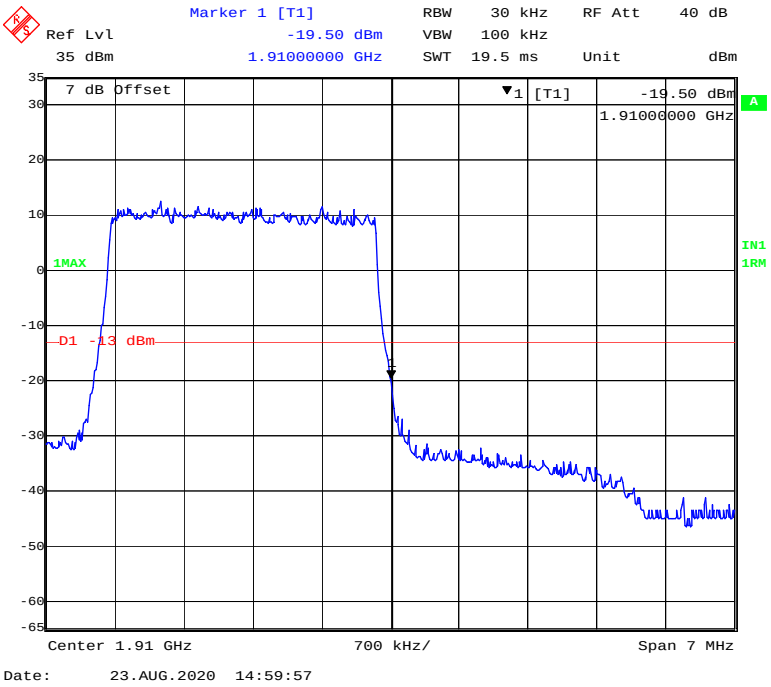
16-QAM (1.4 MHz, FULL RB) - Right Band Edge



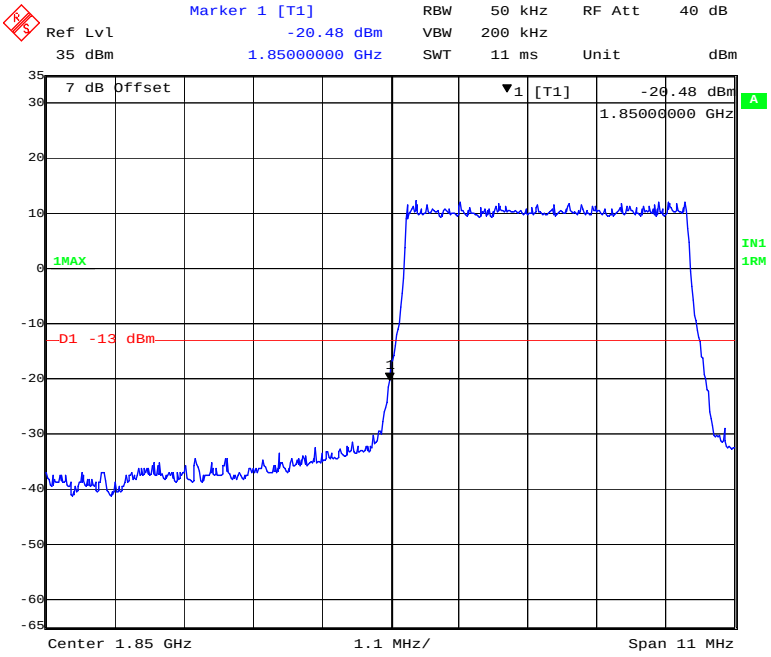
16-QAM (3 MHz, FULL RB) - Left Band Edge



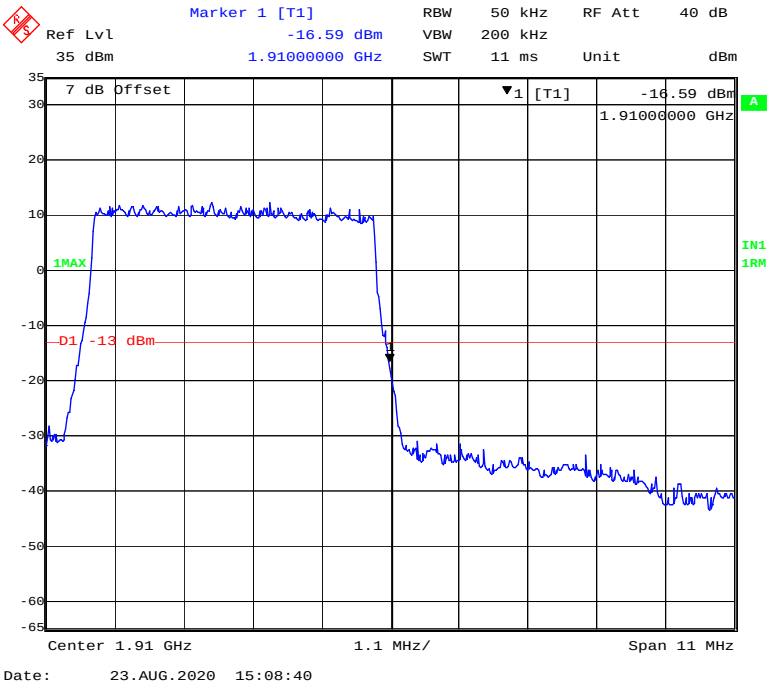
16-QAM (3 MHz, FULL RB) - Right Band Edge



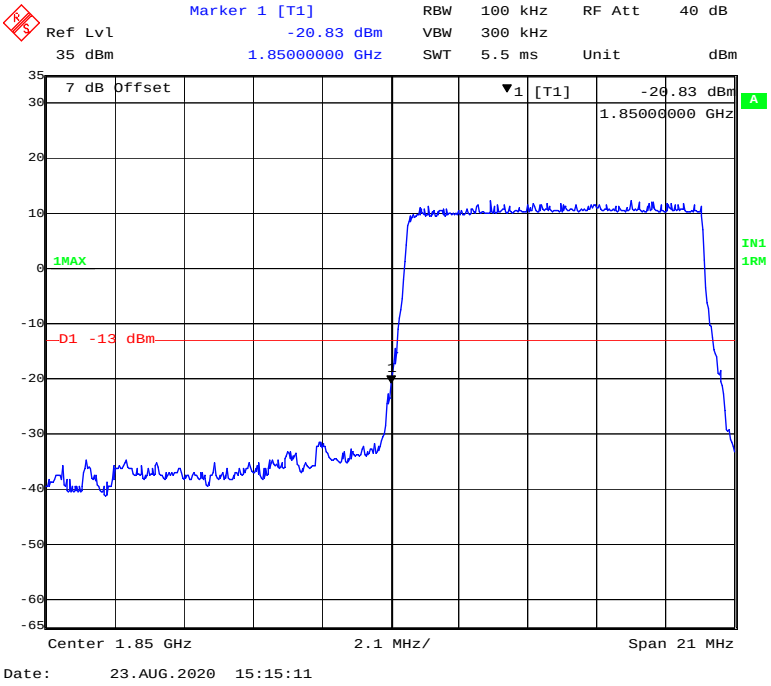
16-QAM (5 MHz, FULL RB) - Left Band Edge



16-QAM (5 MHz, FULL RB) - Right Band Edge

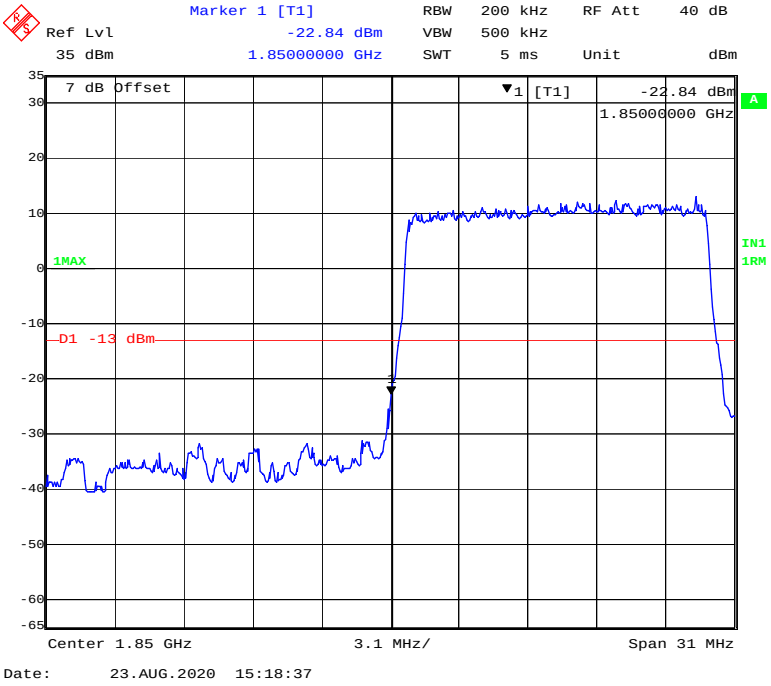


16-QAM (10 MHz, FULL RB) - Left Band Edge

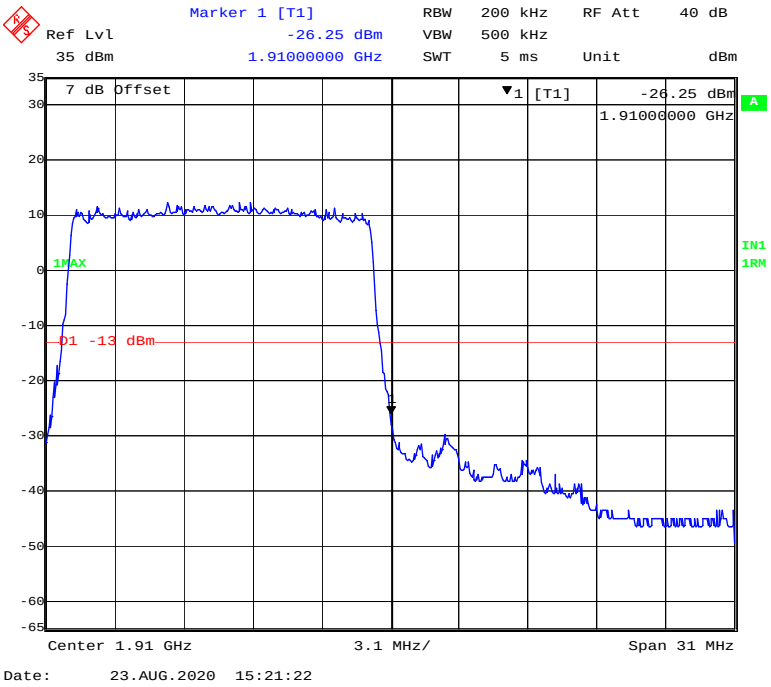


16-QAM (10 MHz, FULL RB) - Right Band Edge

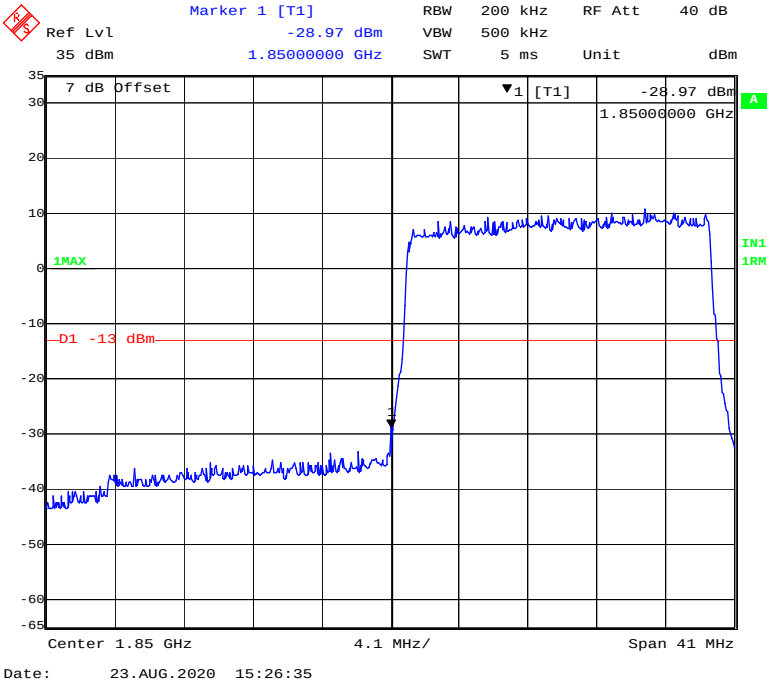
16-QAM (15 MHz, FULL RB) - Left Band Edge



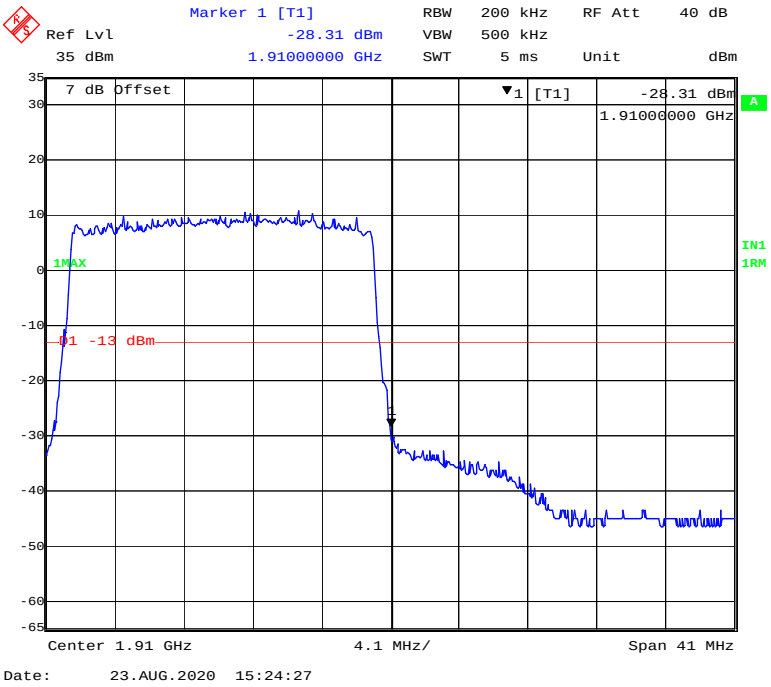
16-QAM (15 MHz, FULL RB) - Right Band Edge



16-QAM (20 MHz, FULL RB) - Left Band Edge

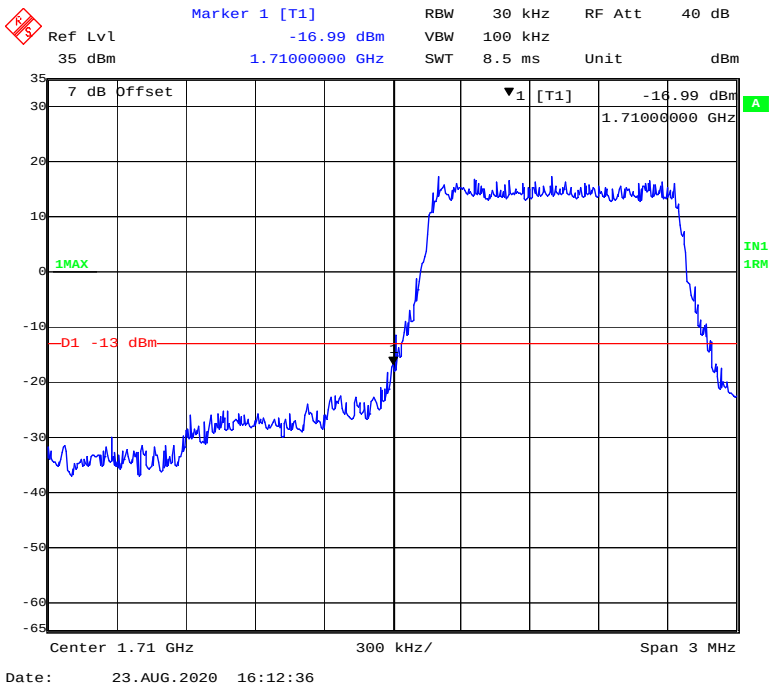


16-QAM (20 MHz, FULL RB) - Right Band Edge

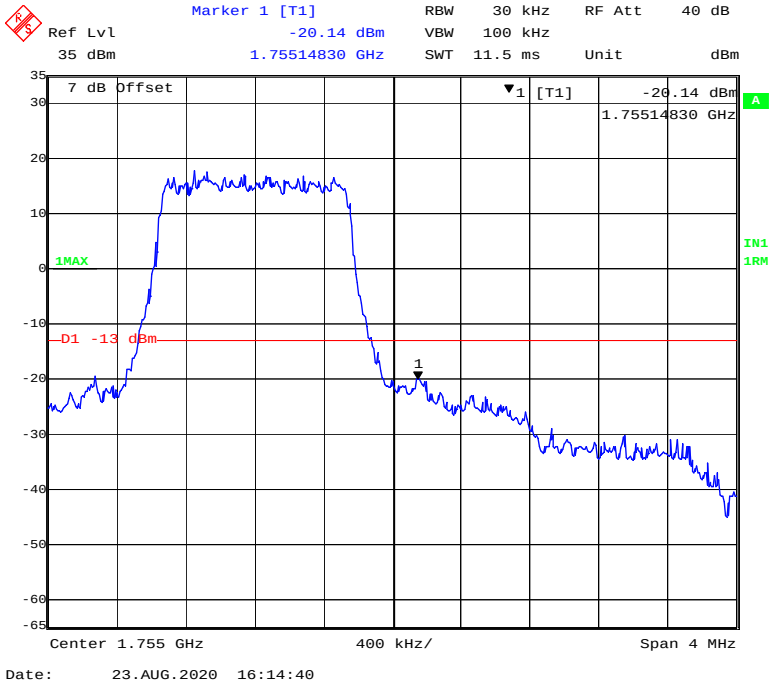


LTE Band 4:

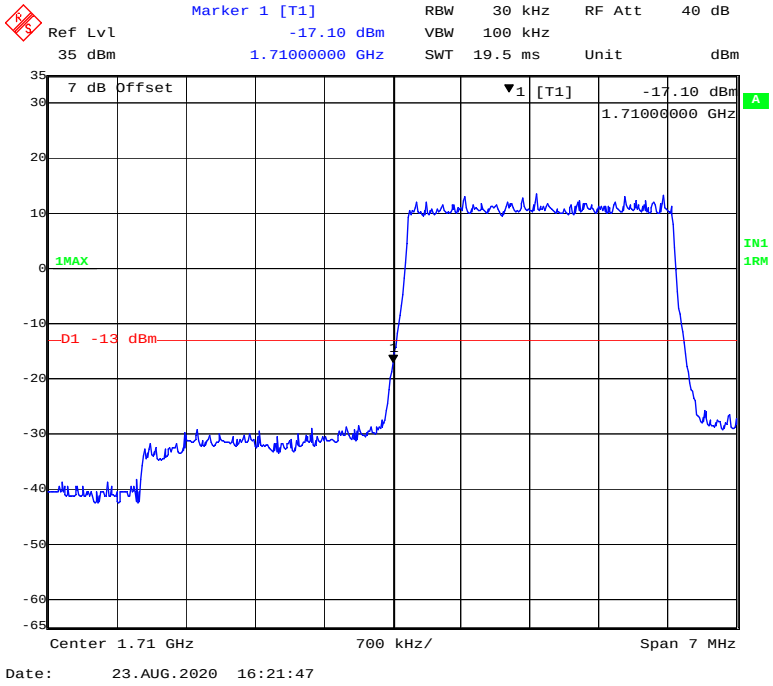
QPSK (1.4 MHz, FULL RB) - Left Band Edge



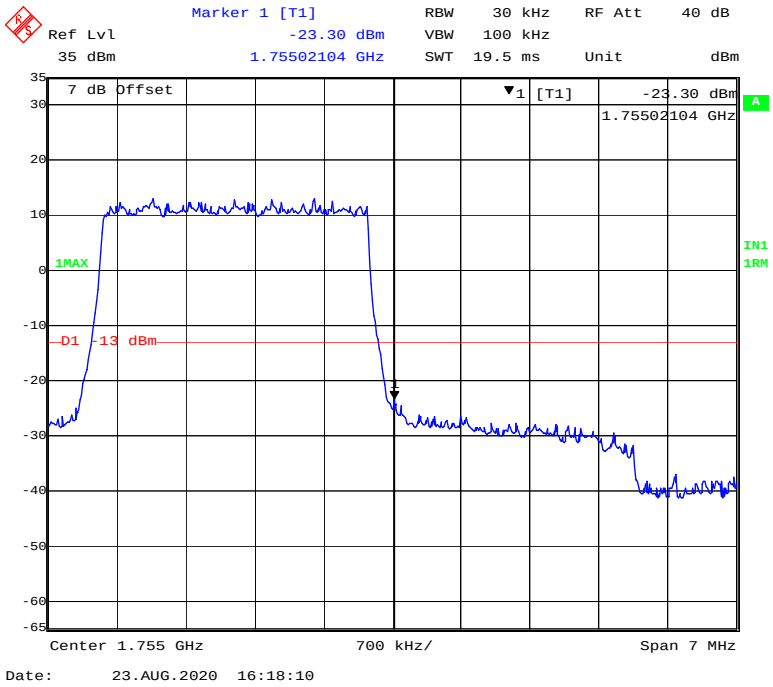
QPSK (1.4 MHz, FULL RB) - Right Band Edge



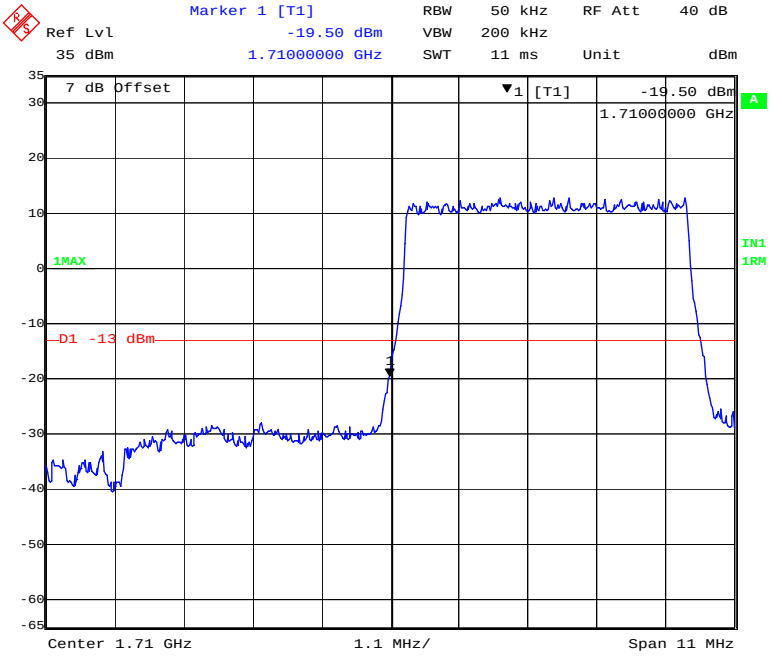
QPSK (3 MHz, FULL RB) - Left Band Edge



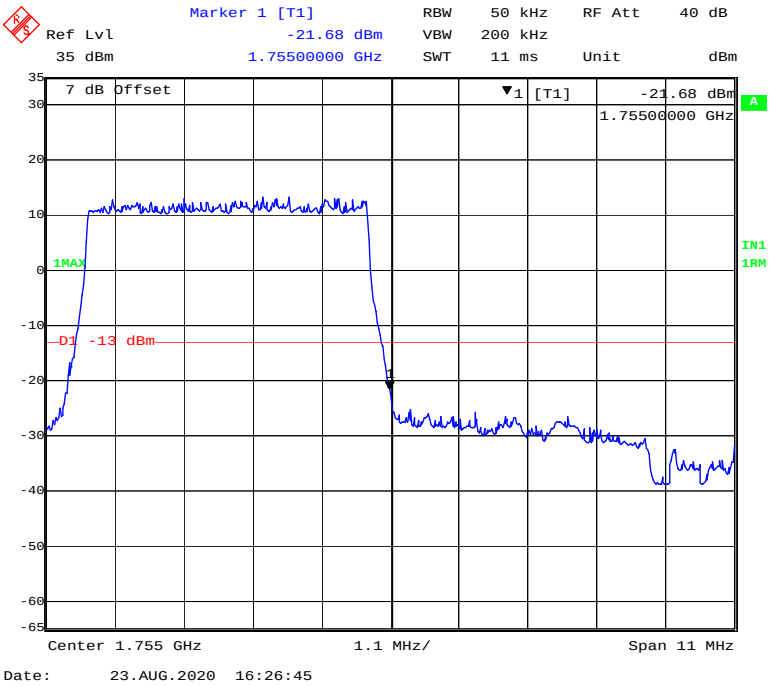
QPSK (3 MHz, FULL RB) - Right Band Edge



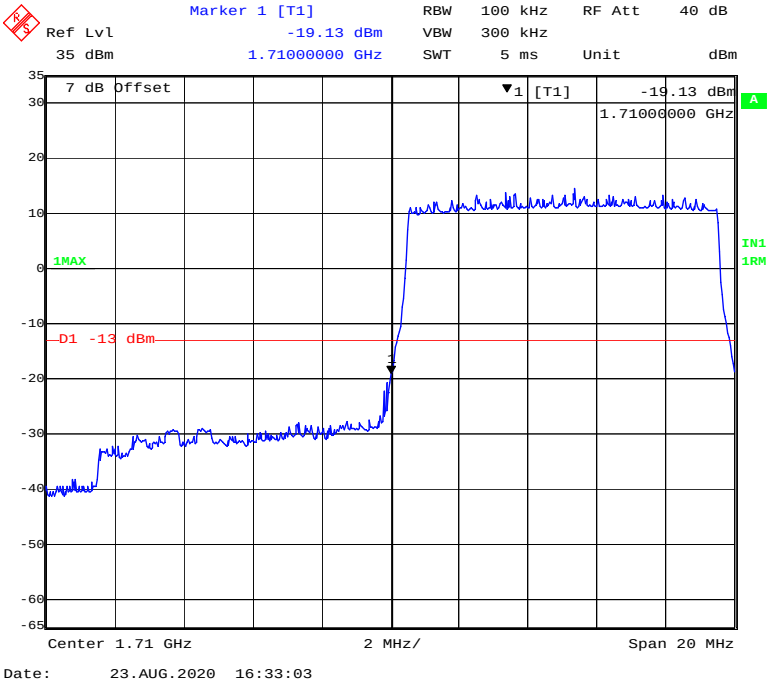
QPSK (5 MHz, FULL RB) - Left Band Edge



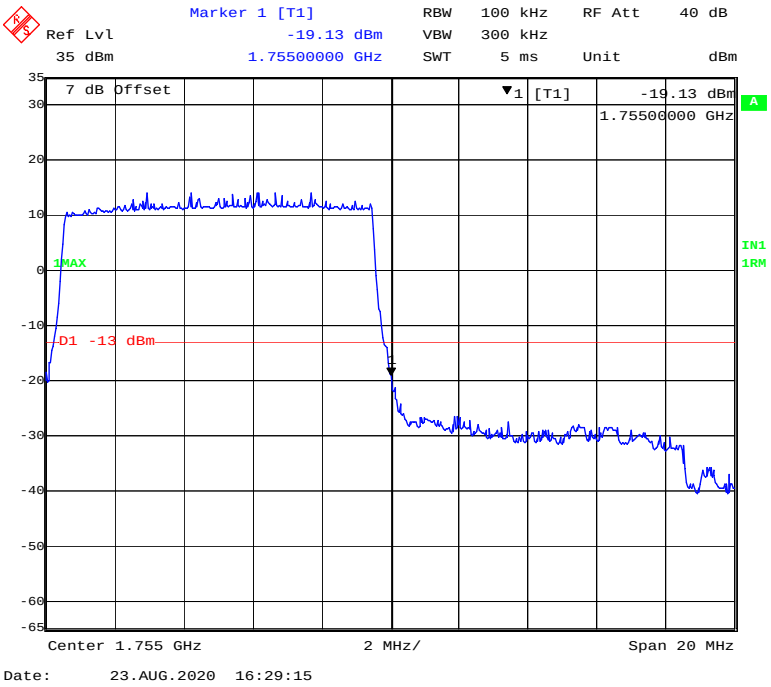
QPSK (5 MHz, FULL RB) - Right Band Edge



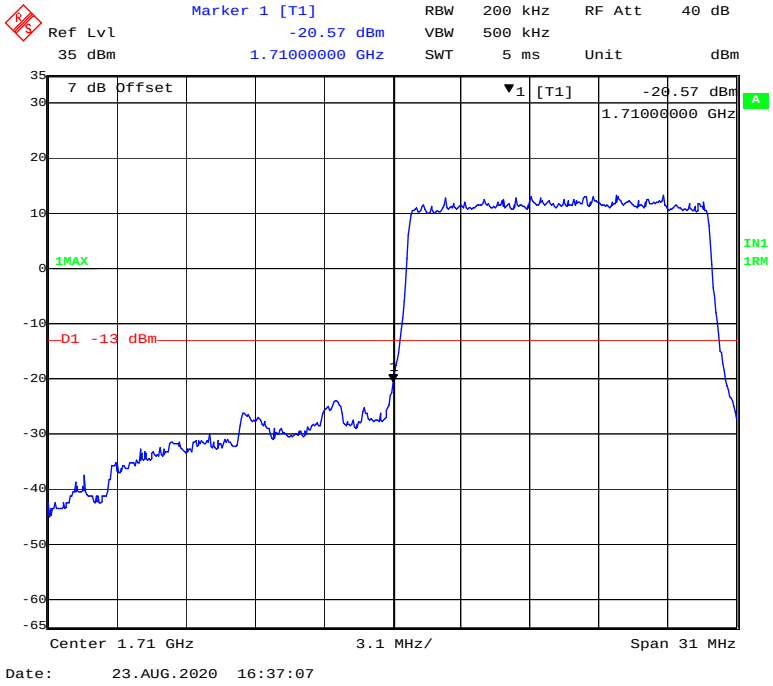
QPSK (10 MHz, FULL RB) - Left Band Edge



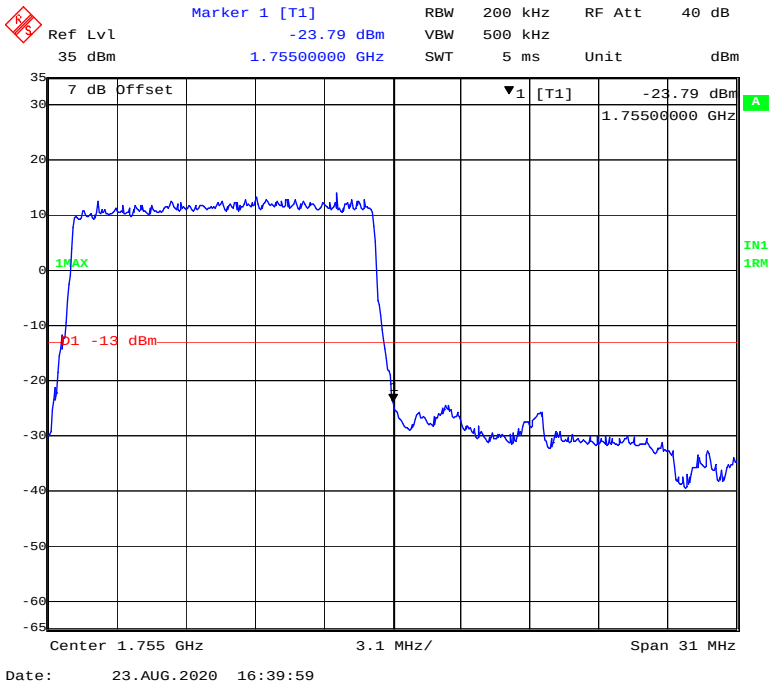
QPSK (10 MHz, FULL RB) - Right Band Edge



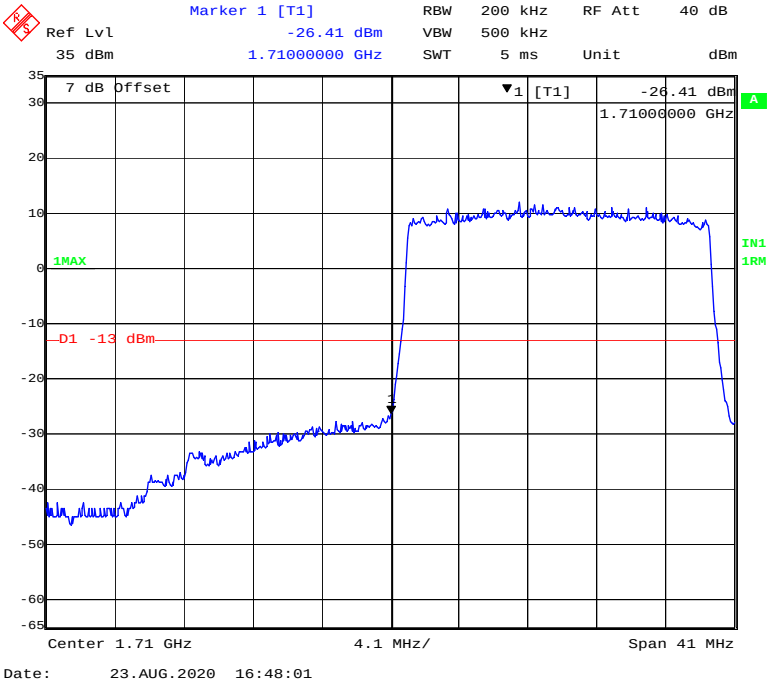
QPSK (15 MHz, FULL RB) - Left Band Edge



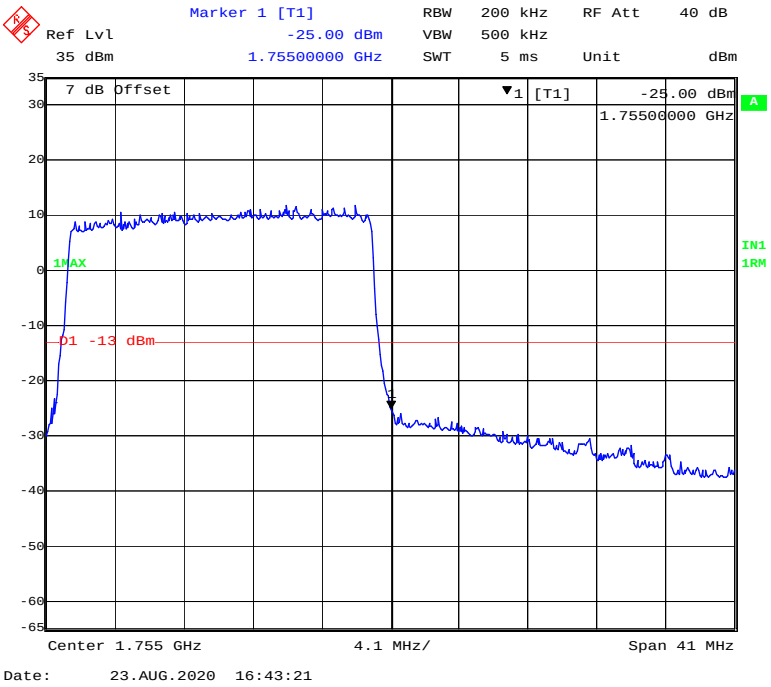
QPSK (15 MHz, FULL RB) - Right Band Edge



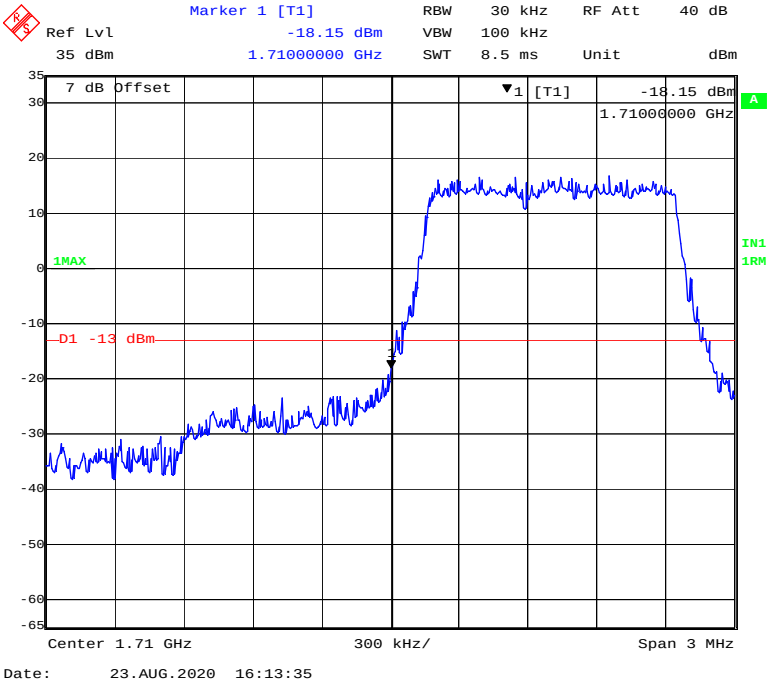
QPSK (20 MHz, FULL RB) - Left Band Edge



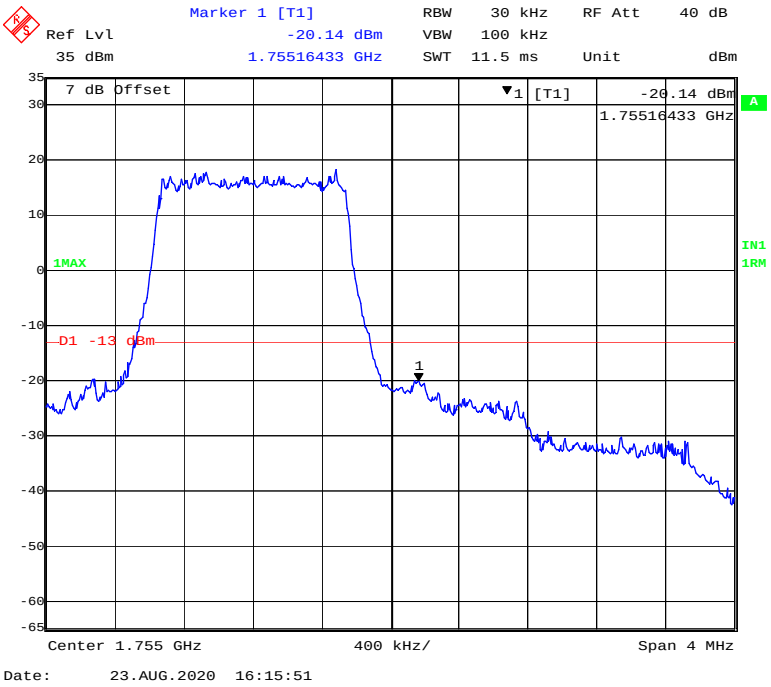
QPSK (20 MHz, FULL RB) - Right Band Edge



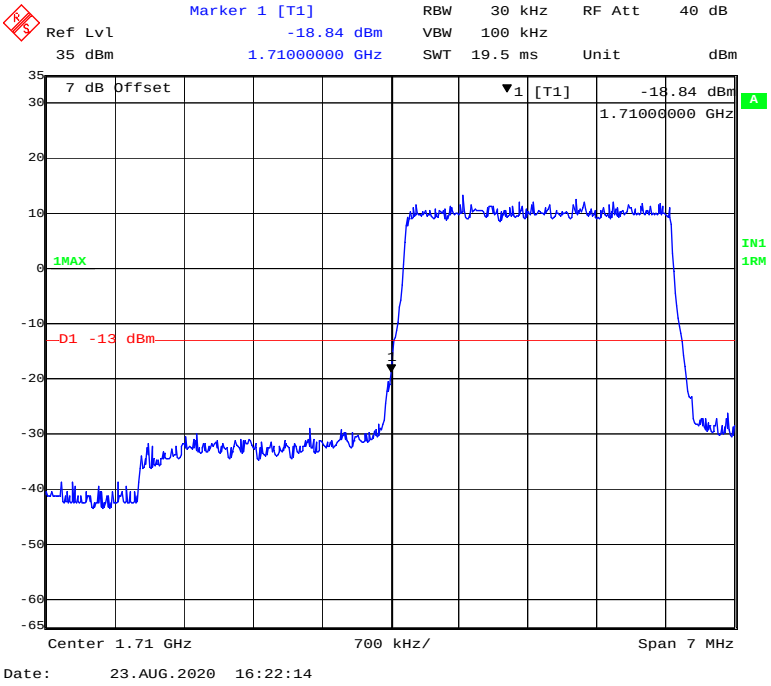
16-QAM (1.4 MHz, FULL RB) - Left Band Edge



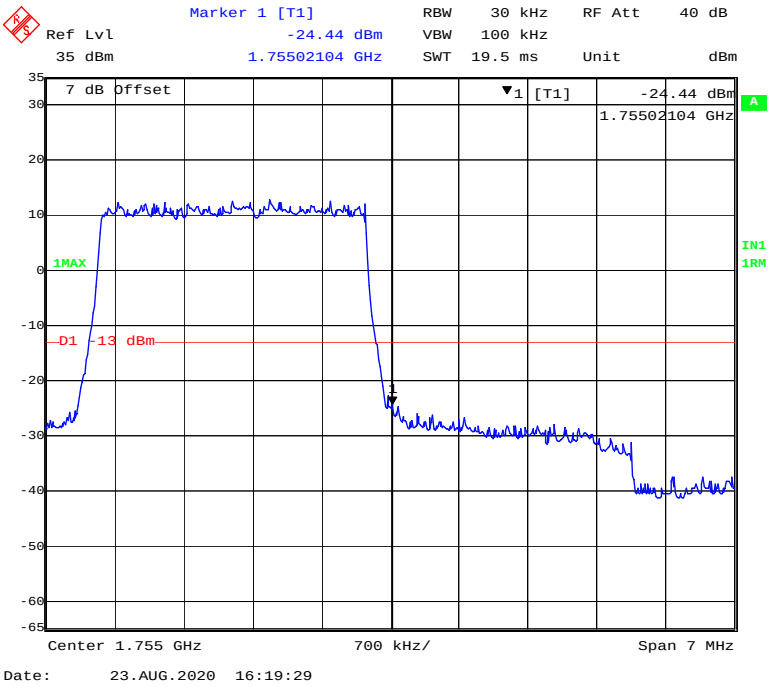
16-QAM (1.4 MHz, FULL RB) - Right Band Edge



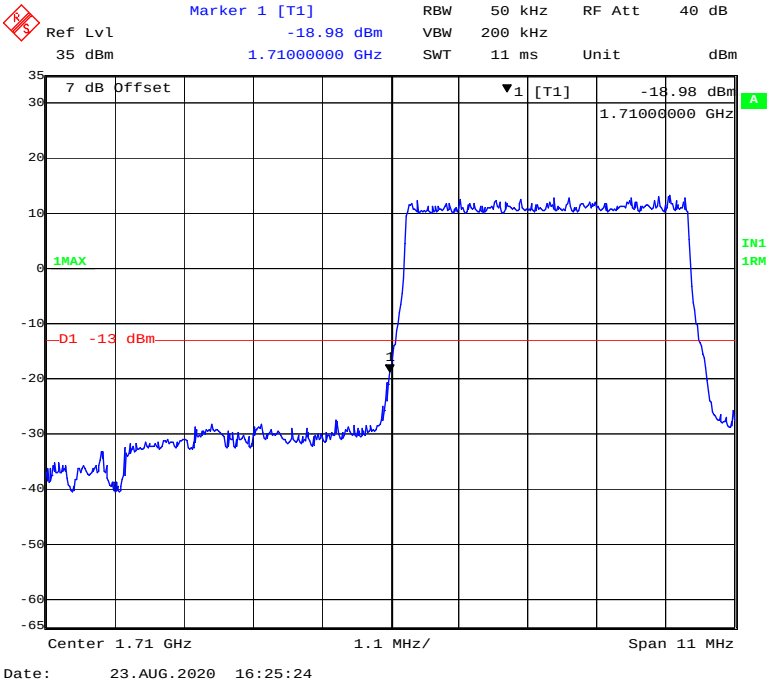
16-QAM (3 MHz, FULL RB) - Left Band Edge



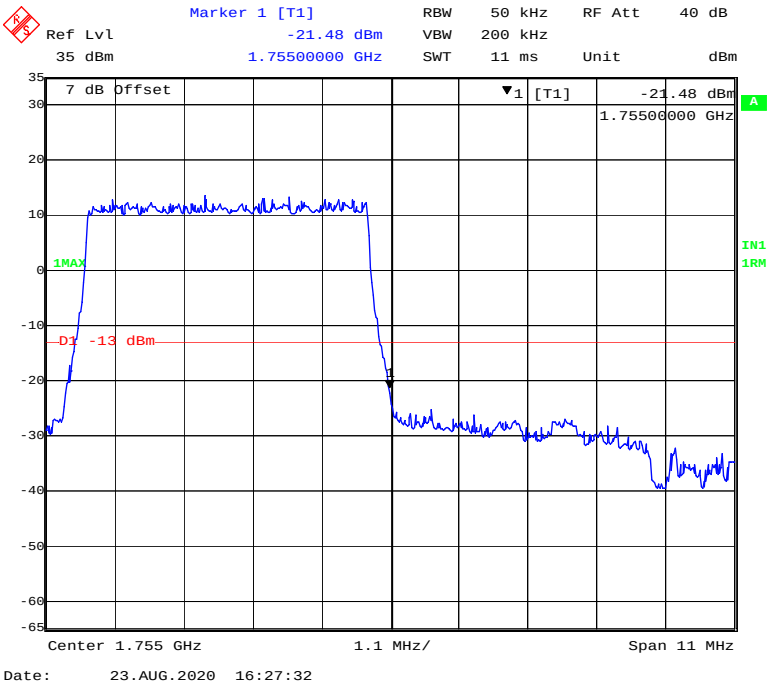
16-QAM (3 MHz, FULL RB) - Right Band Edge



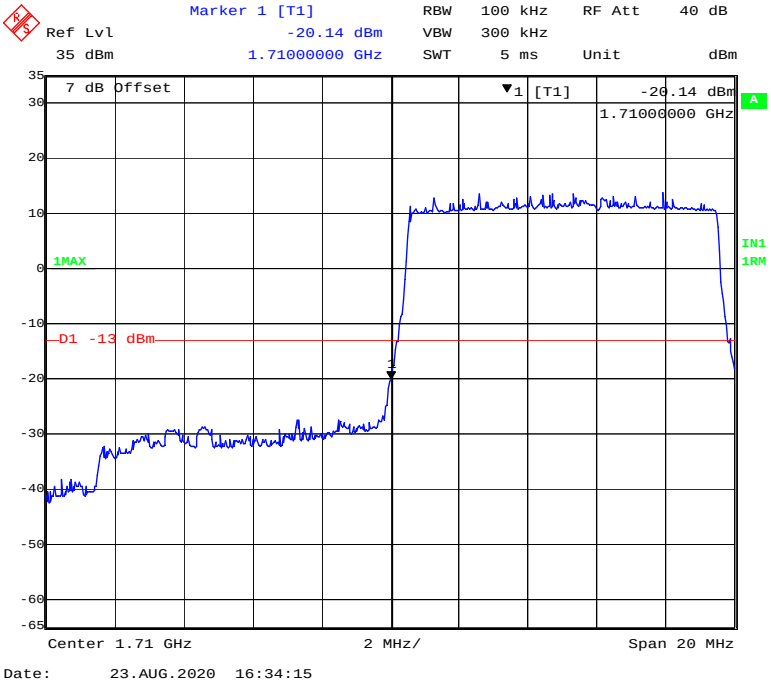
16-QAM (5 MHz, FULL RB) - Left Band Edge



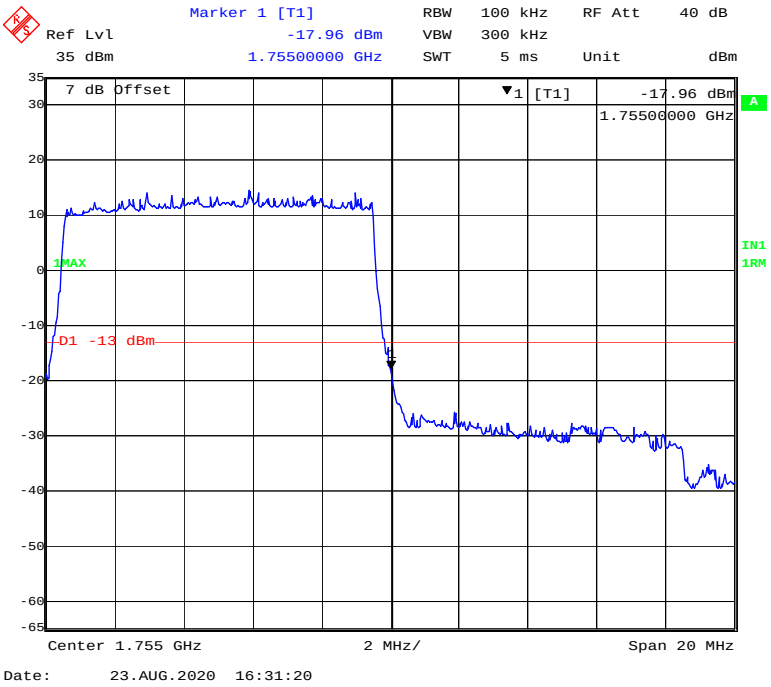
16-QAM (5 MHz, FULL RB) - Right Band Edge



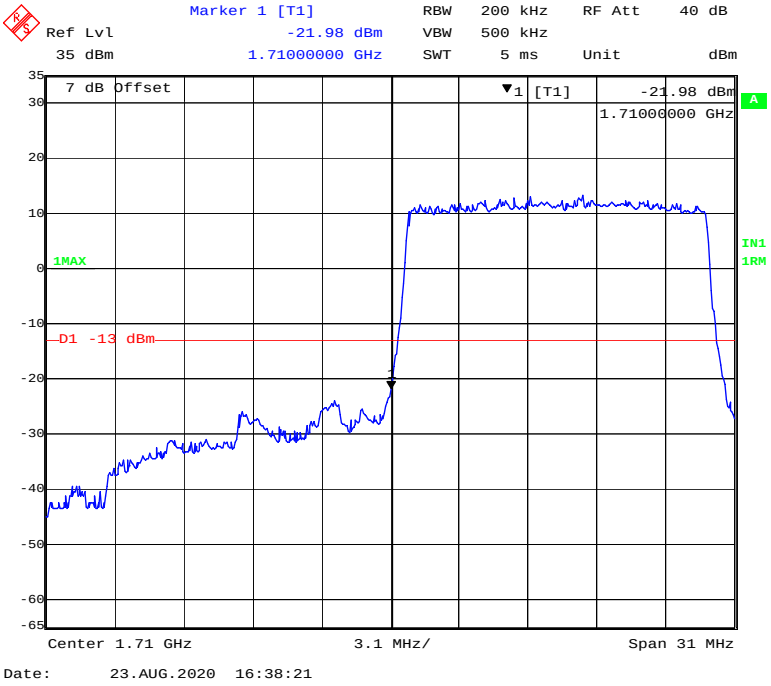
16-QAM (10 MHz, FULL RB) - Left Band Edge



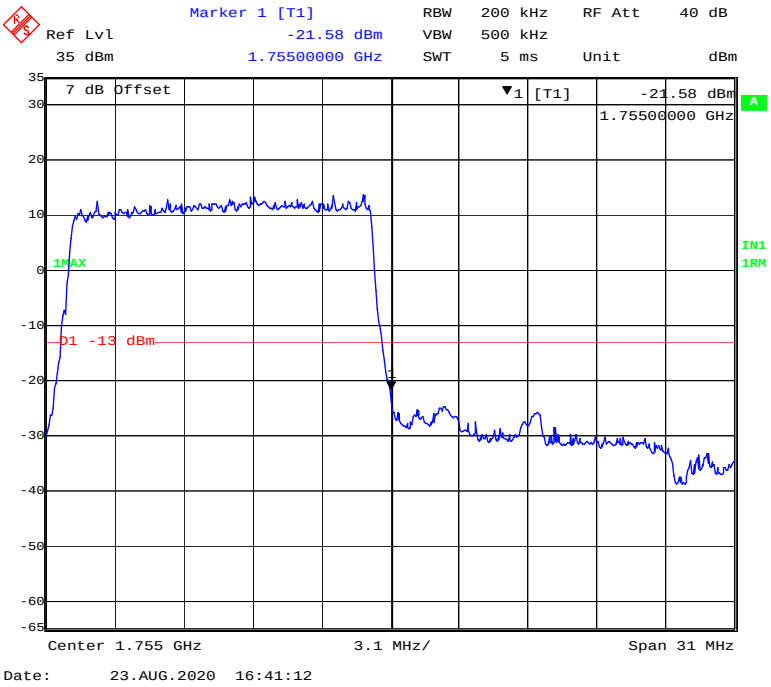
16-QAM (10 MHz, FULL RB) - Right Band Edge



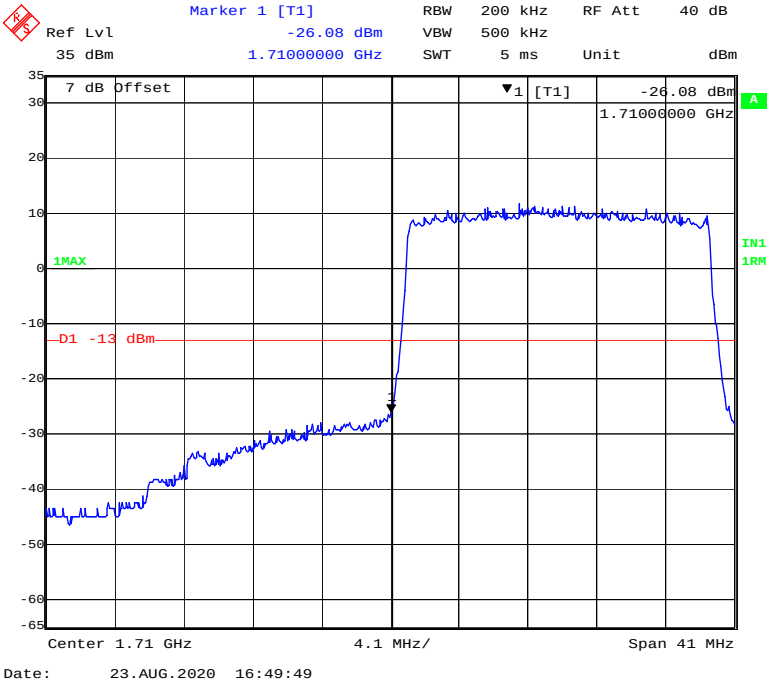
16-QAM (15 MHz, FULL RB) - Left Band Edge



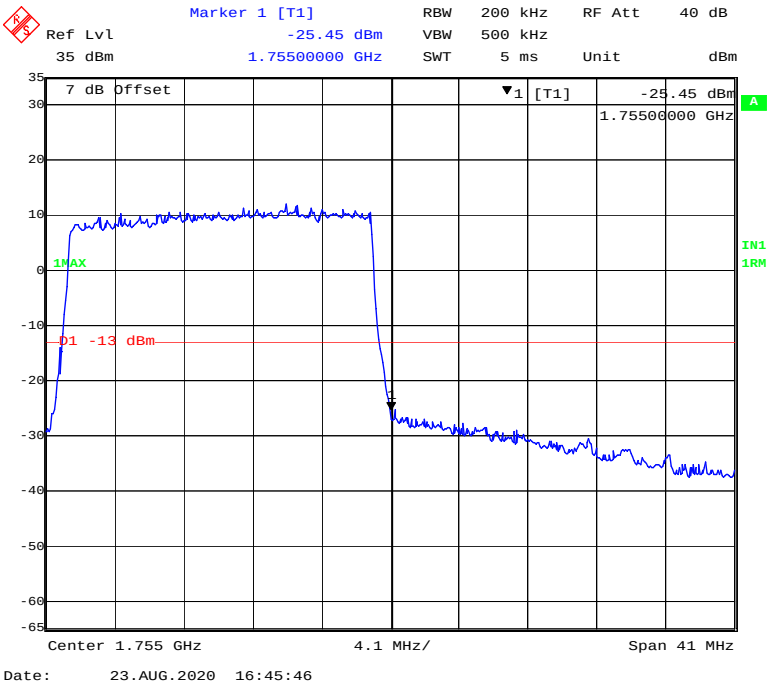
16-QAM (15 MHz, FULL RB) - Right Band Edge



16-QAM (20 MHz, FULL RB) - Left Band Edge

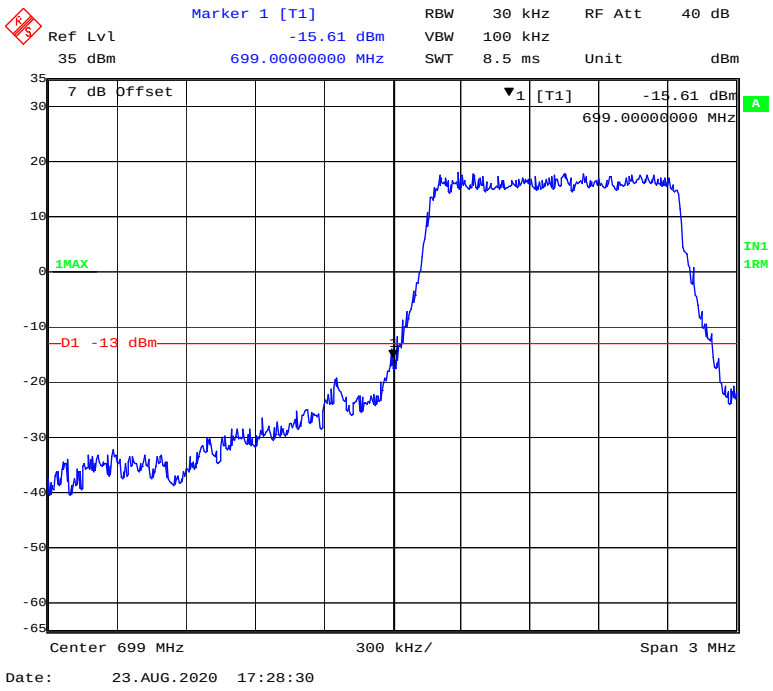


16-QAM (20 MHz, FULL RB) - Right Band Edge

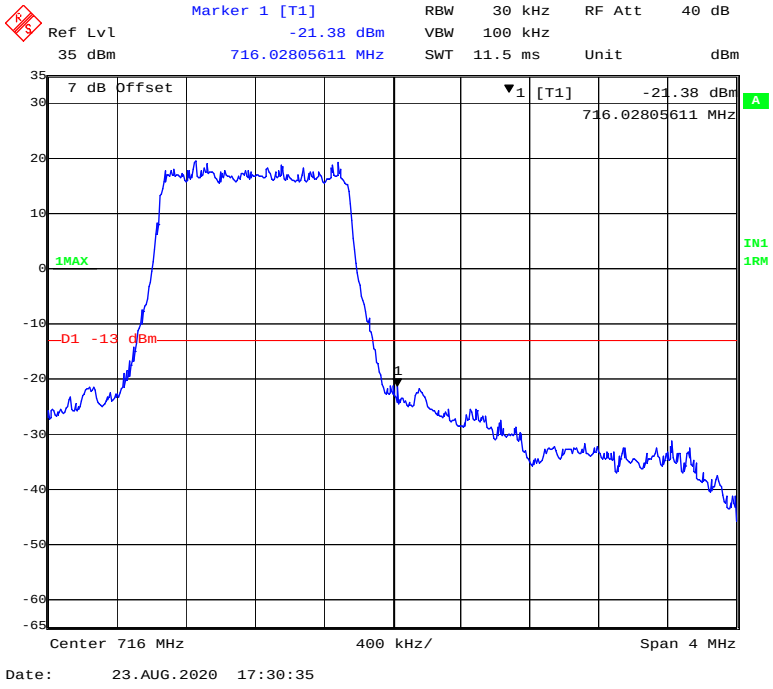


LTE Band 12:

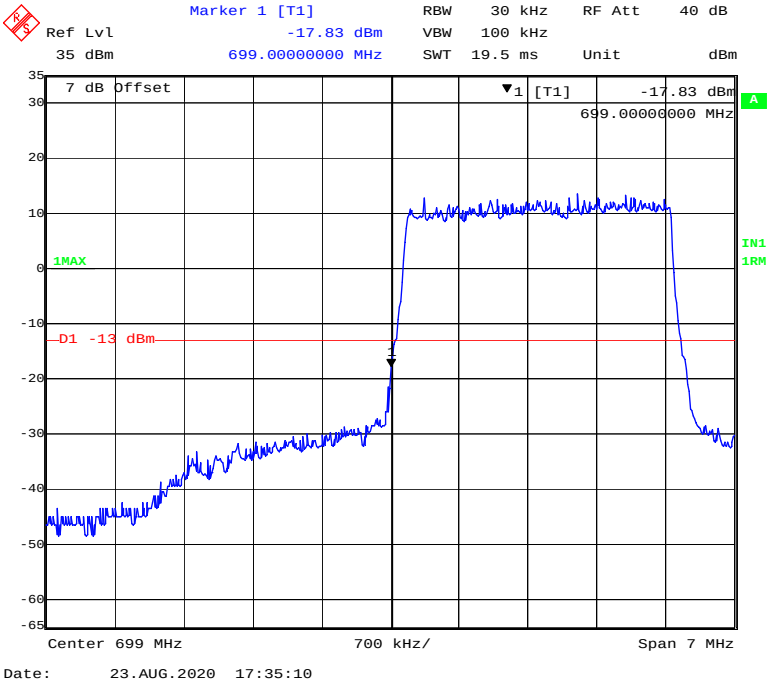
QPSK (1.4 MHz, FULL RB) - Left Band Edge



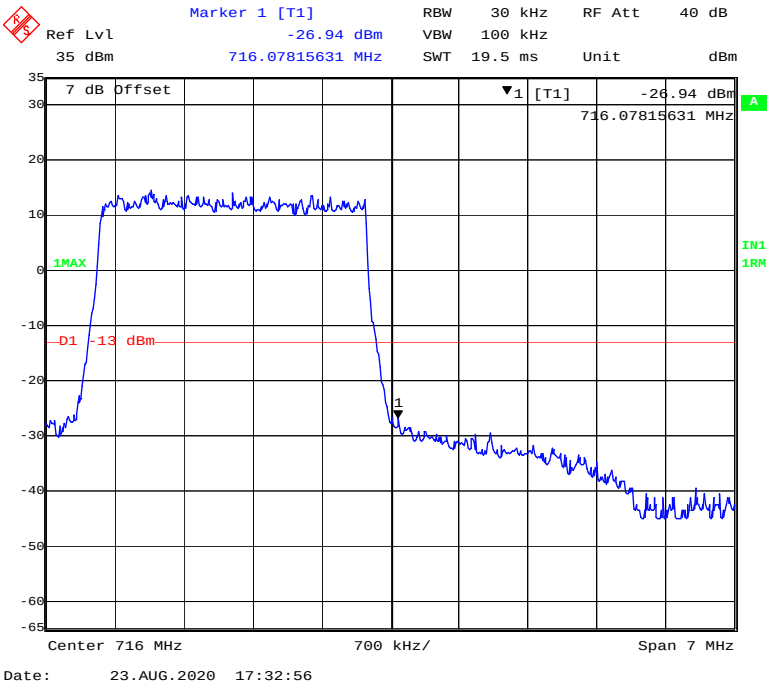
QPSK (1.4 MHz, FULL RB) - Right Band Edge



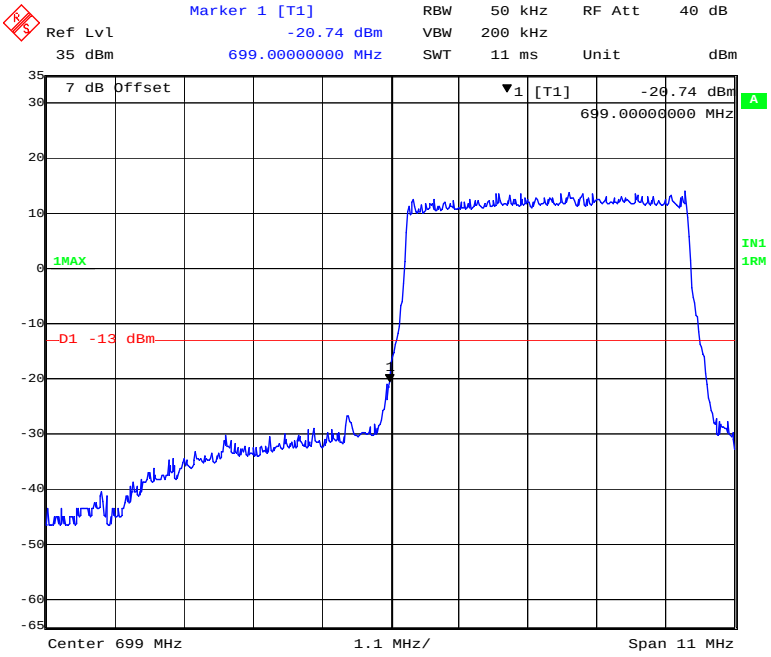
QPSK (3 MHz, FULL RB) - Left Band Edge



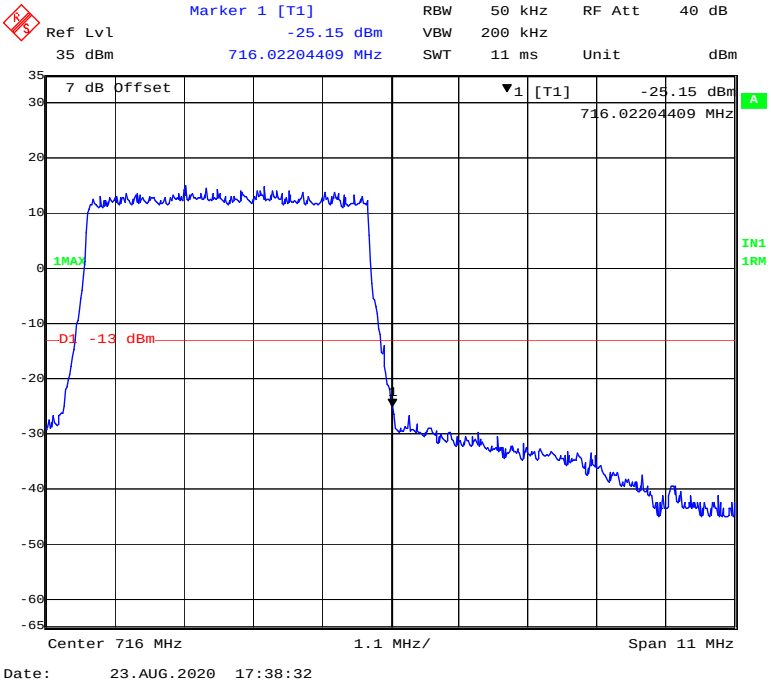
QPSK (3 MHz, FULL RB) - Right Band Edge



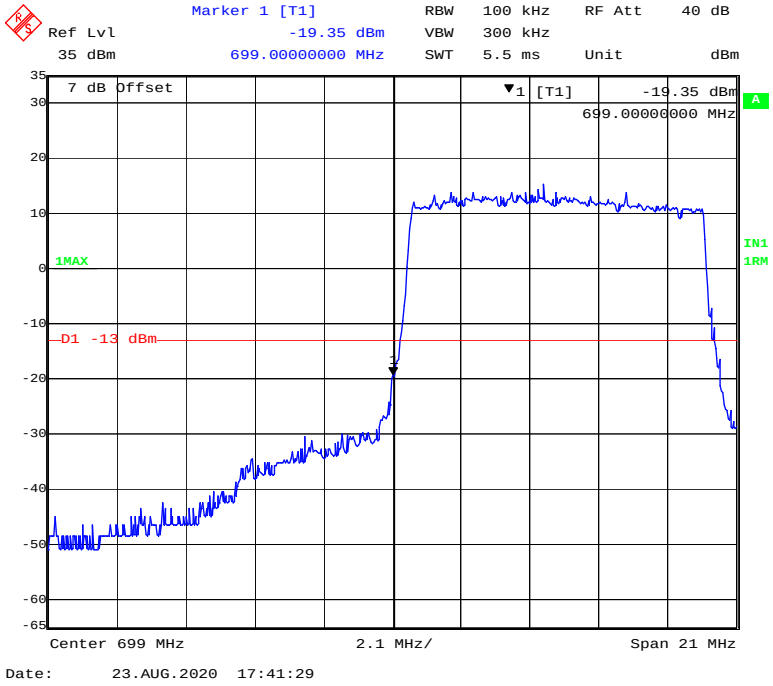
QPSK (5 MHz, FULL RB) - Left Band Edge



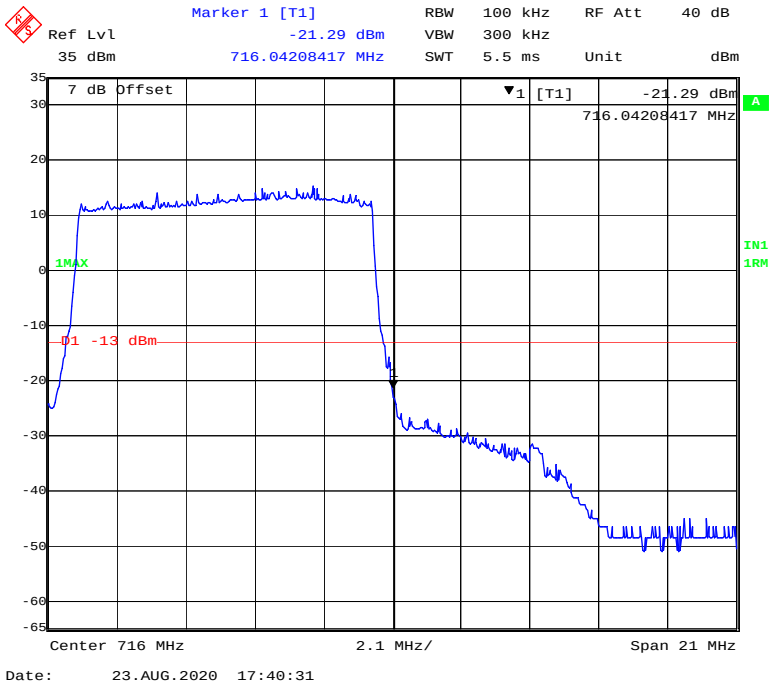
QPSK (5 MHz, FULL RB) - Right Band Edge



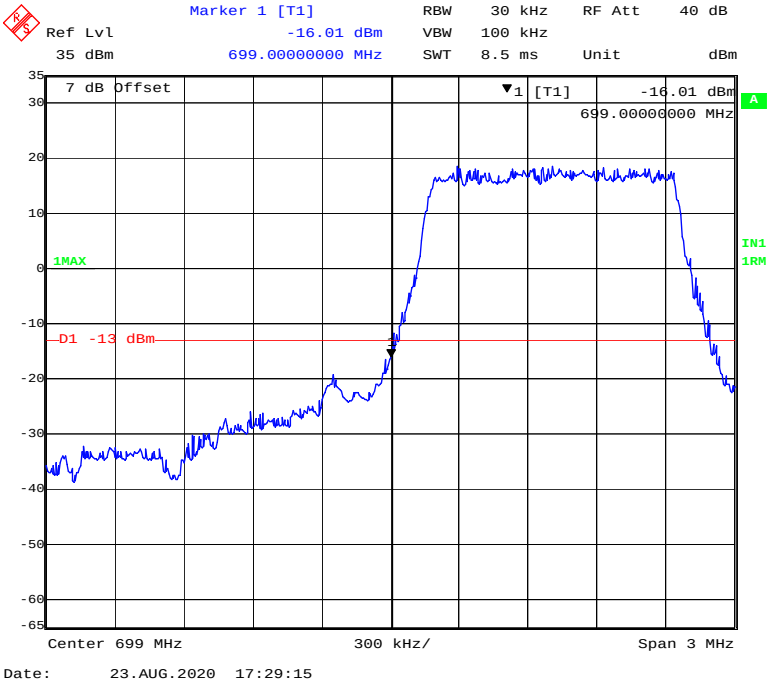
QPSK (10 MHz, FULL RB) - Left Band Edge



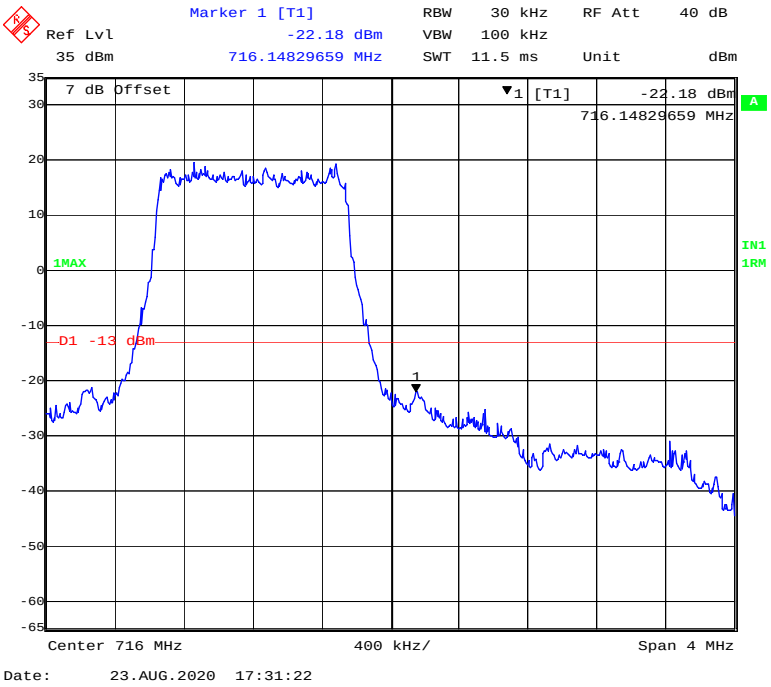
QPSK (10 MHz, FULL RB) - Right Band Edge



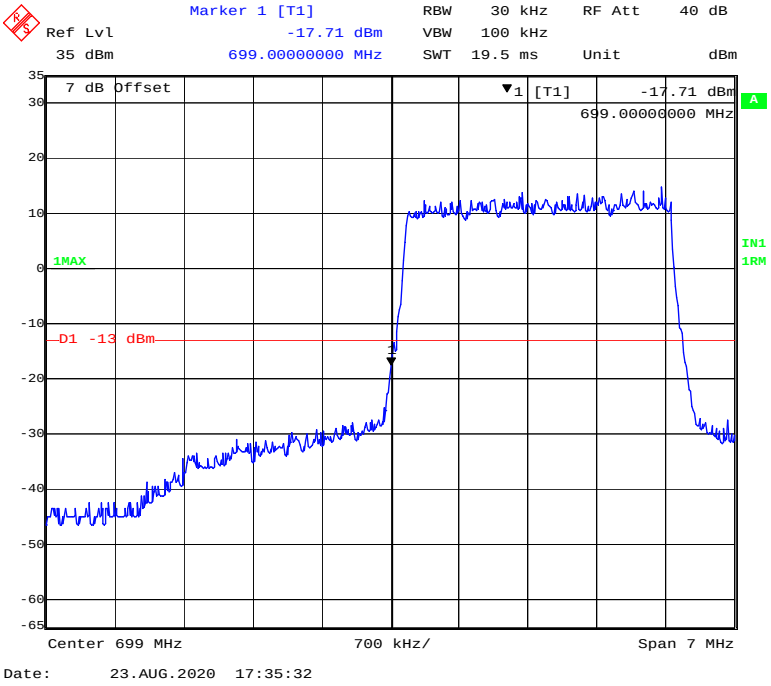
16-QAM (1.4 MHz, FULL RB) - Left Band Edge



16-QAM (1.4 MHz, FULL RB) - Right Band Edge

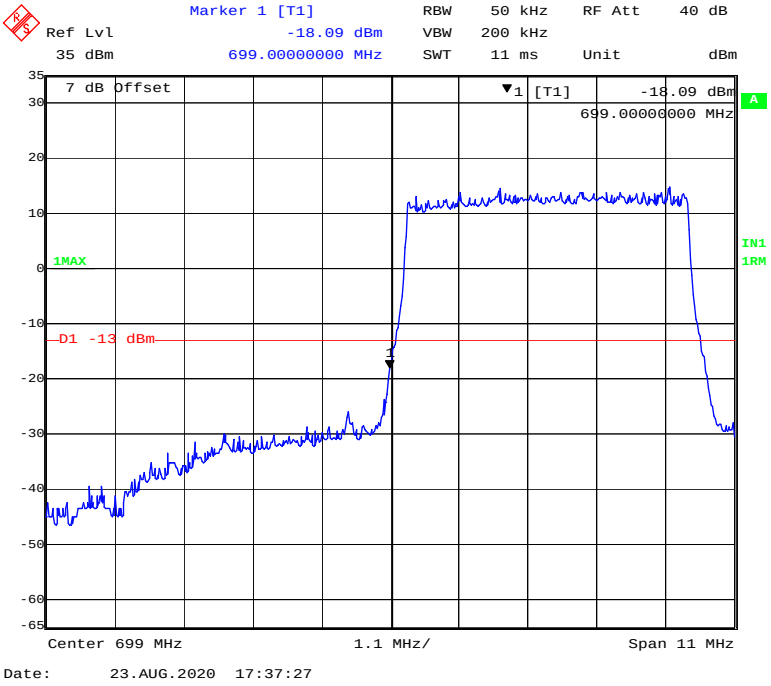


16-QAM (3 MHz, FULL RB) - Left Band Edge

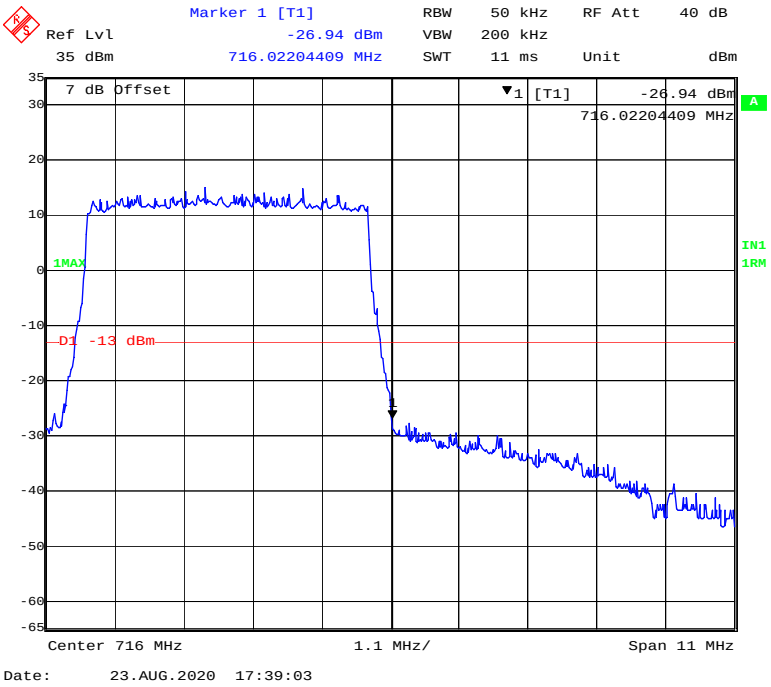


16-QAM (3 MHz, FULL RB) - Right Band Edge

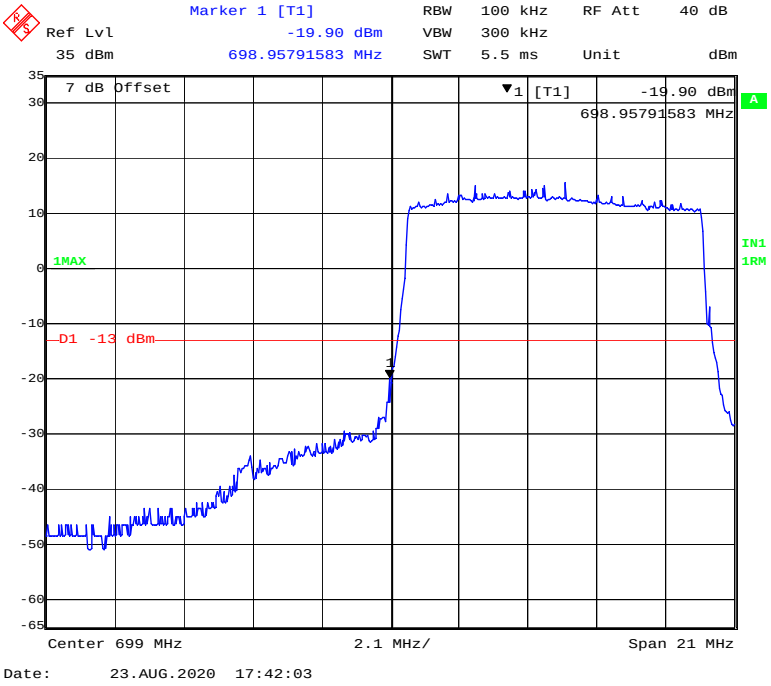
16-QAM (5 MHz, FULL RB) - Left Band Edge



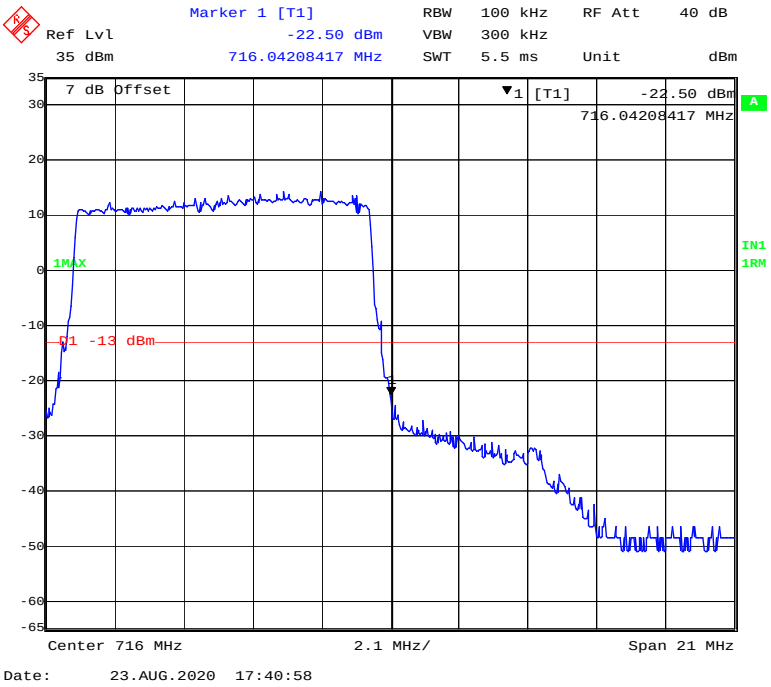
16-QAM (5 MHz, FULL RB) - Right Band Edge



16-QAM (10 MHz, FULL RB) - Left Band Edge

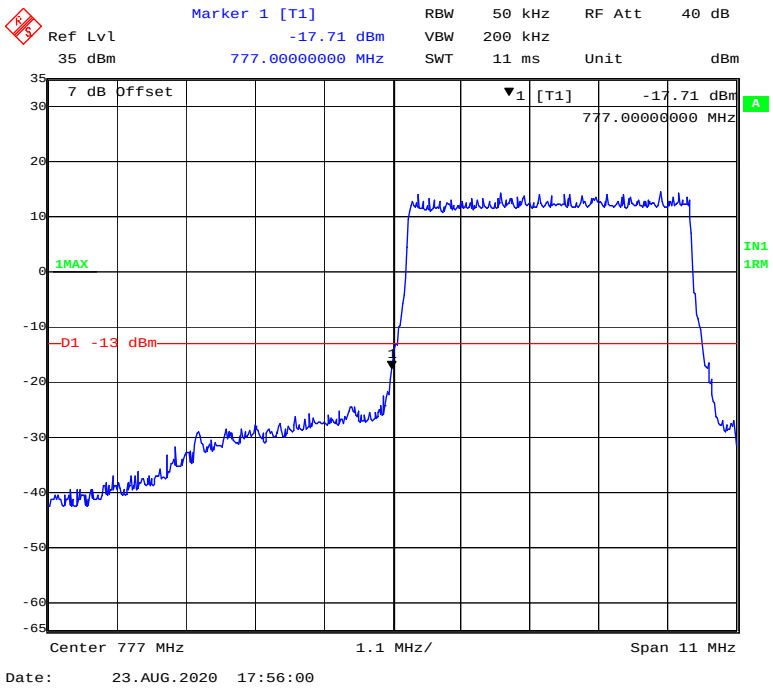


16-QAM (10 MHz, FULL RB) - Right Band Edge

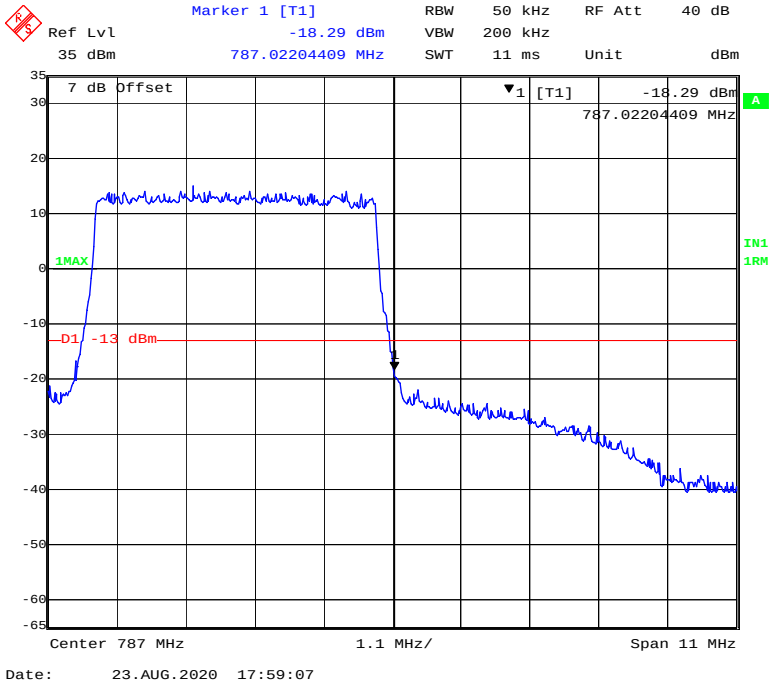


LTE Band 13:

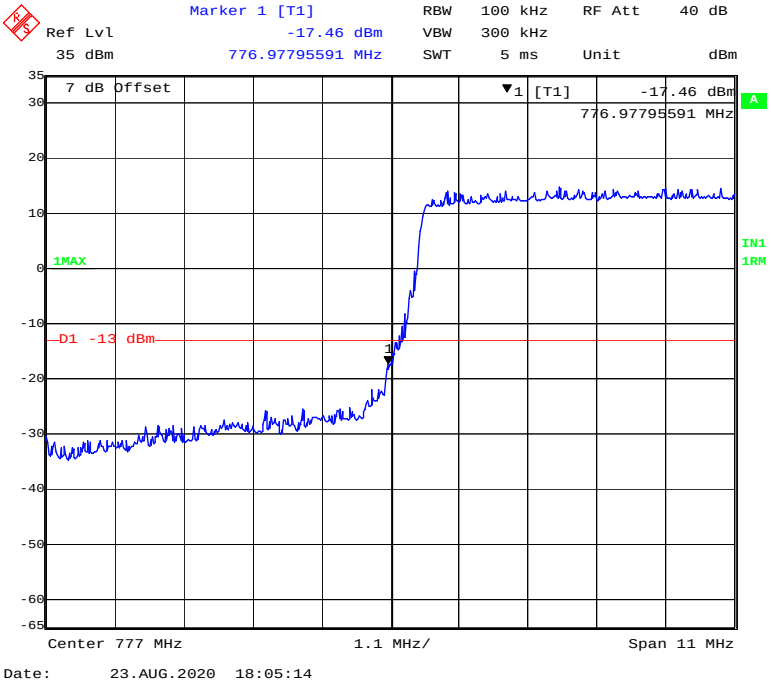
QPSK (5 MHz, FULL RB) - Left Band Edge



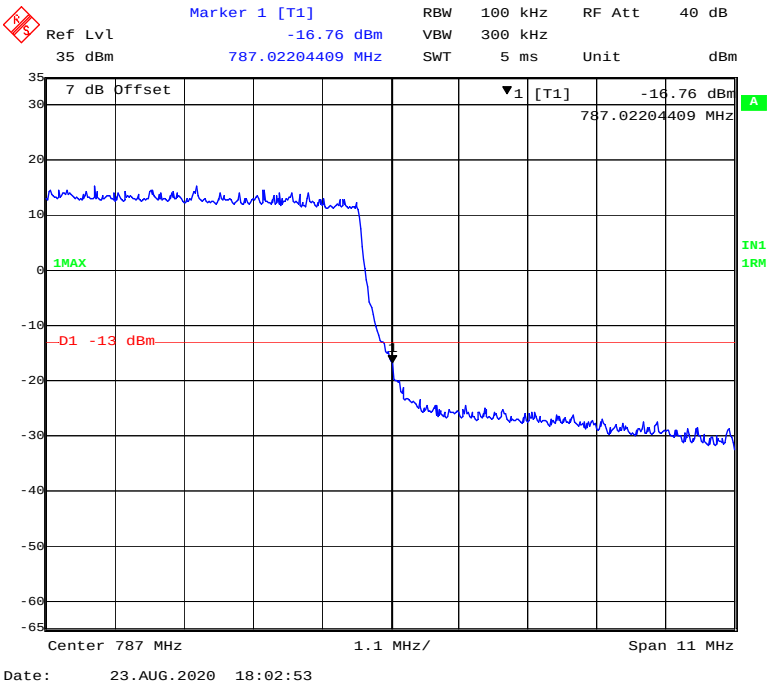
QPSK (5 MHz, FULL RB) - Right Band Edge



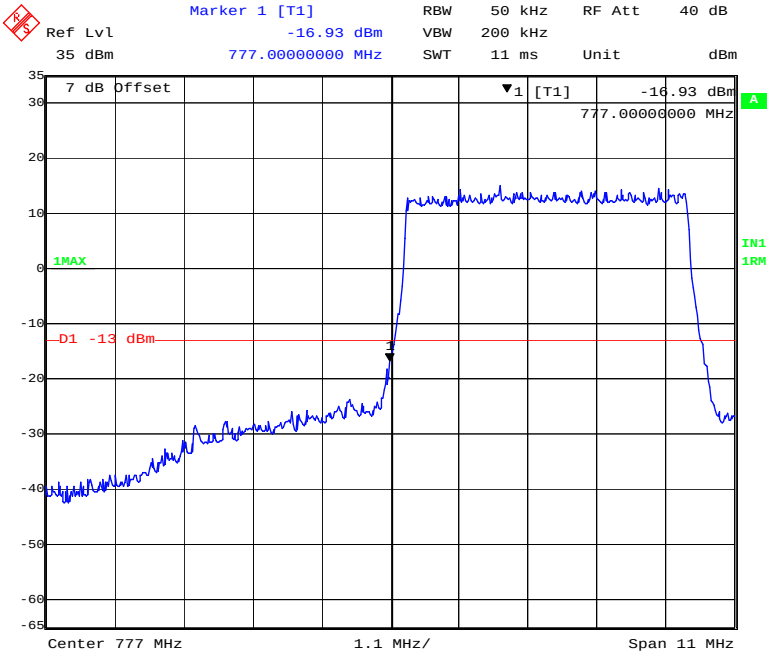
QPSK (10 MHz, FULL RB) - Left Band Edge



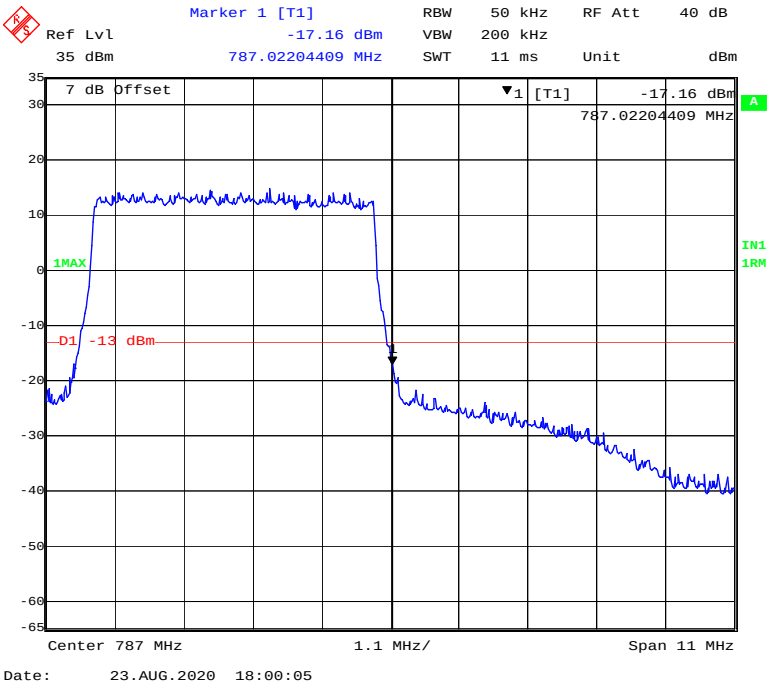
QPSK (10 MHz, FULL RB) - Right Band Edge



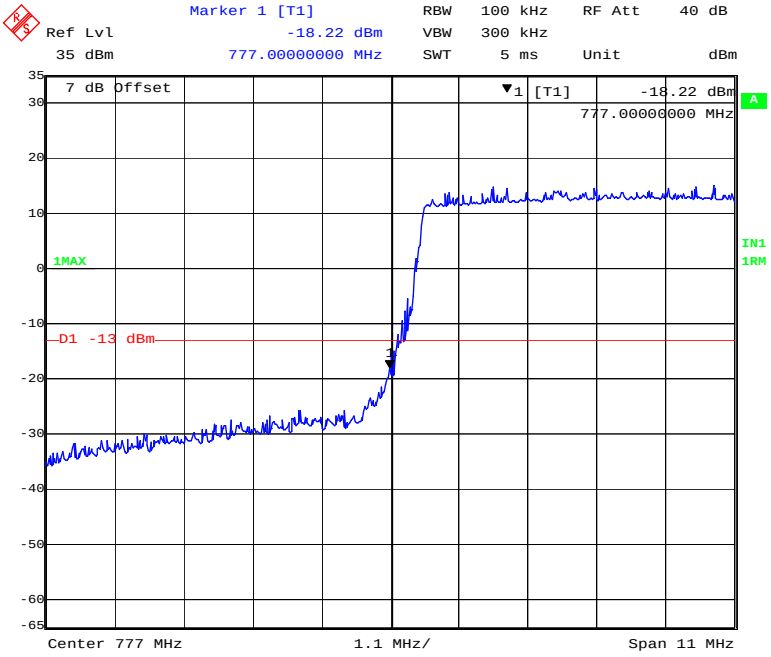
16-QAM (5 MHz, FULL RB) - Left Band Edge



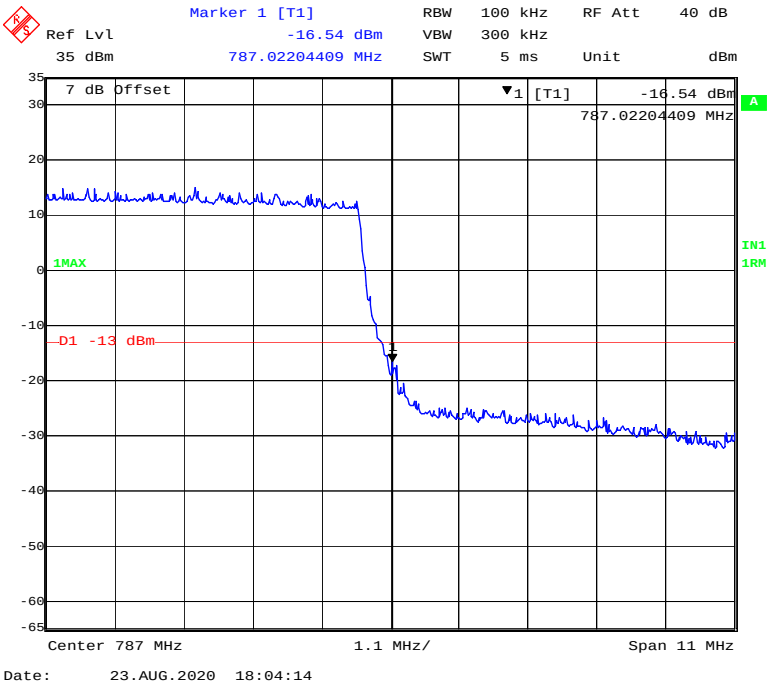
16-QAM (5 MHz, FULL RB) - Right Band Edge



16-QAM (10 MHz, FULL RB) - Left Band Edge

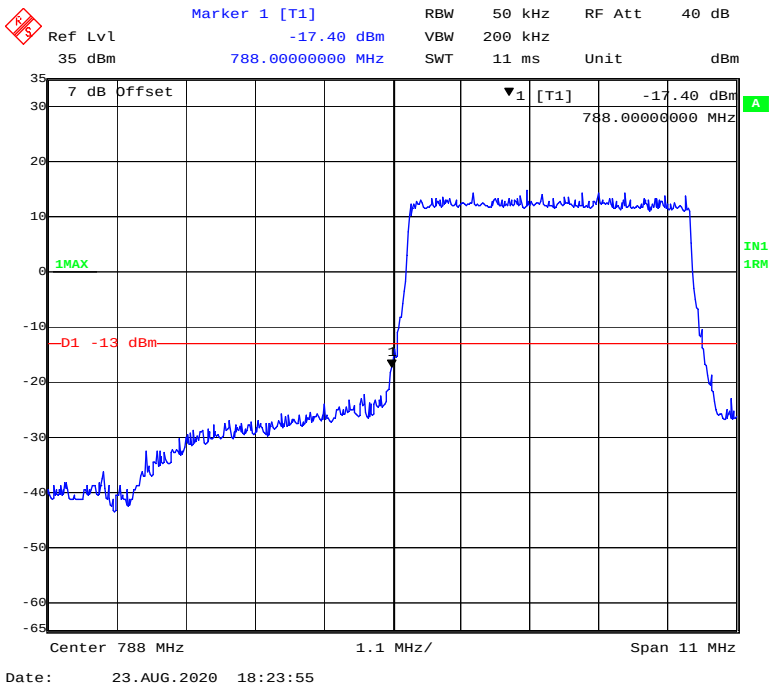


16-QAM (10 MHz, FULL RB) - Right Band Edge

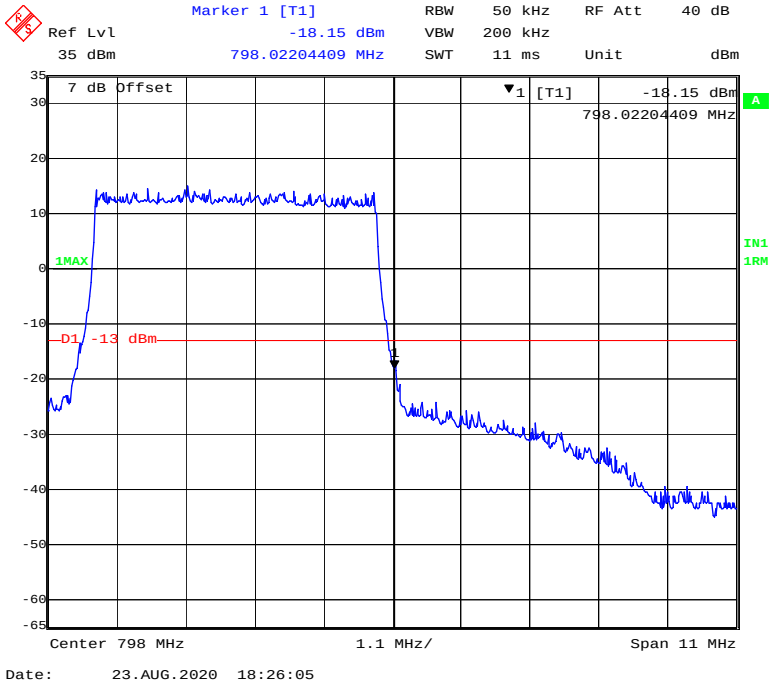


LTE Band 14:

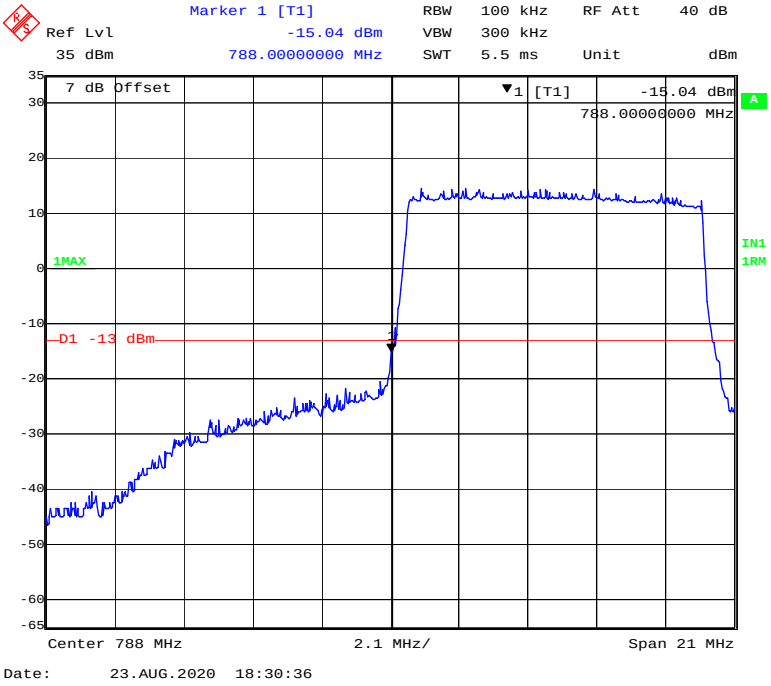
QPSK (5 MHz, FULL RB) - Left Band Edge



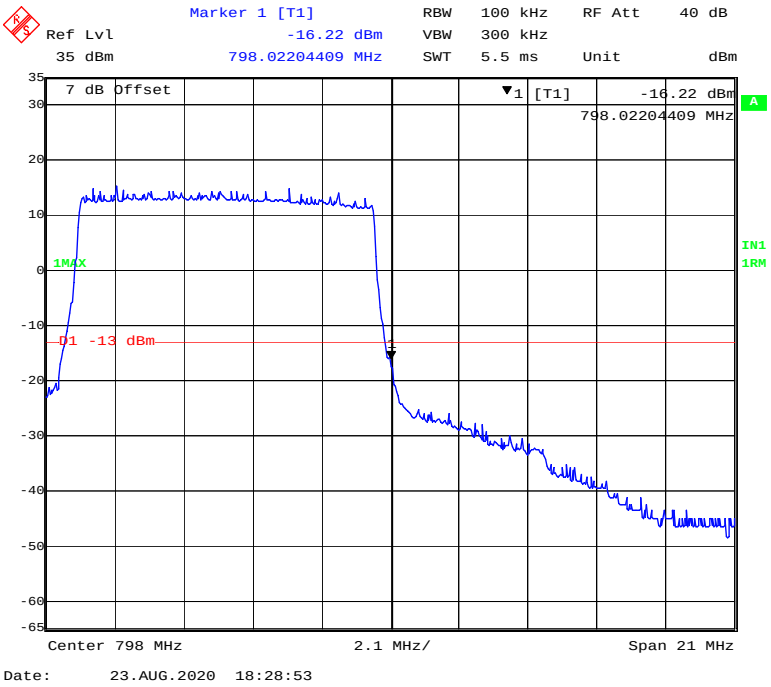
QPSK (5 MHz, FULL RB) - Right Band Edge



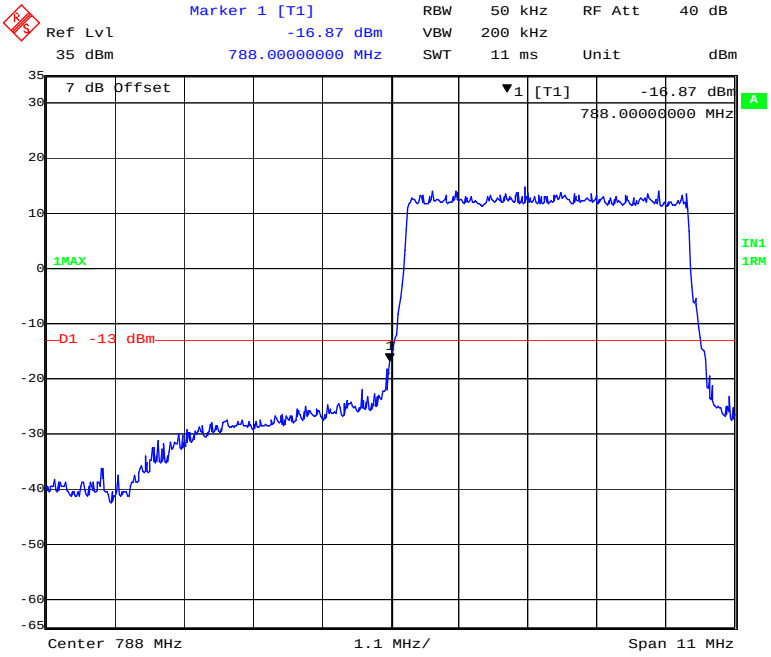
QPSK (10 MHz, FULL RB) - Left Band Edge



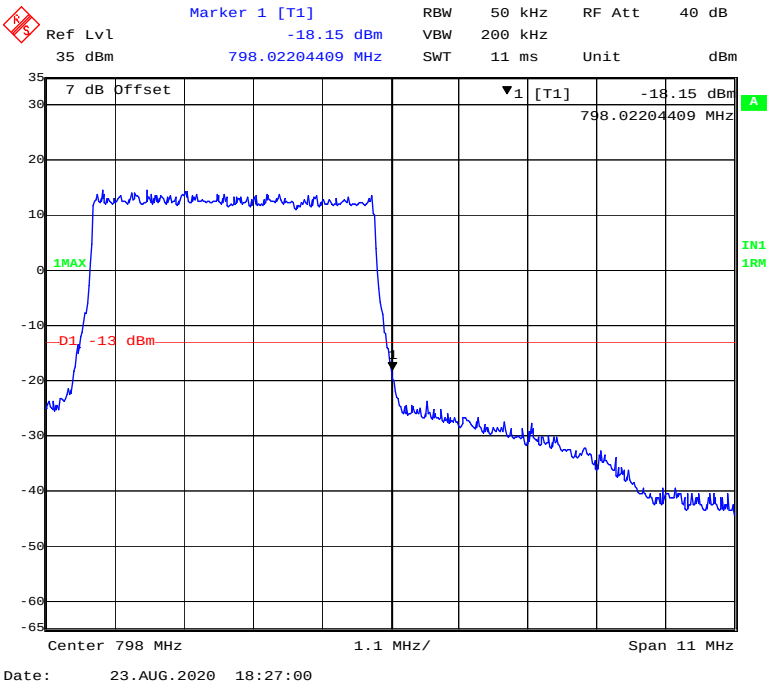
QPSK (10 MHz, FULL RB) - Right Band Edge



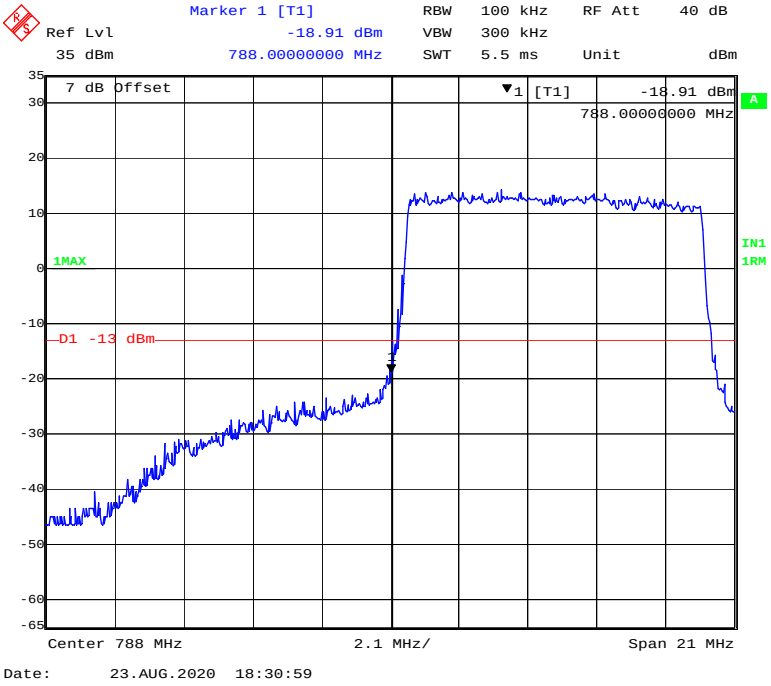
16-QAM (5 MHz, FULL RB) - Left Band Edge



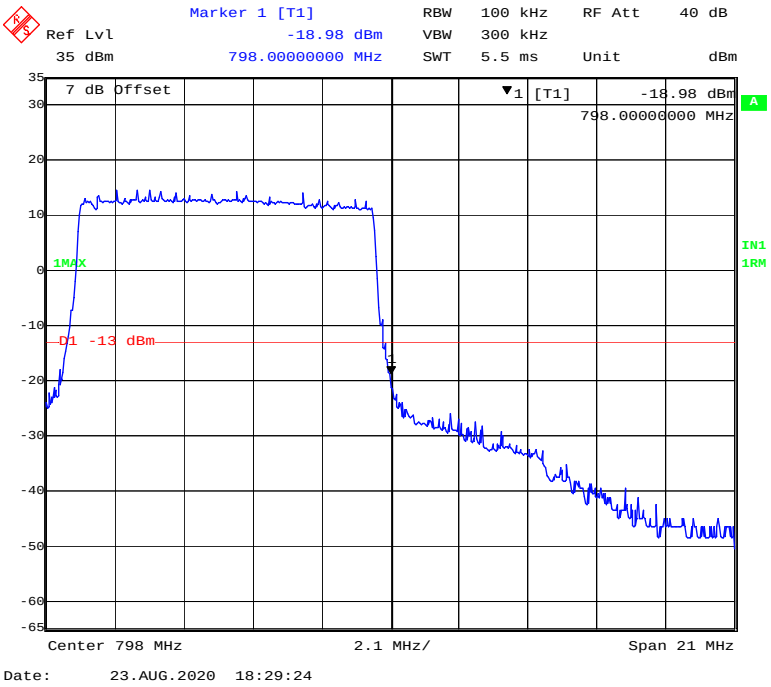
16-QAM (5 MHz, FULL RB) - Right Band Edge



16-QAM (10 MHz, FULL RB) - Left Band Edge

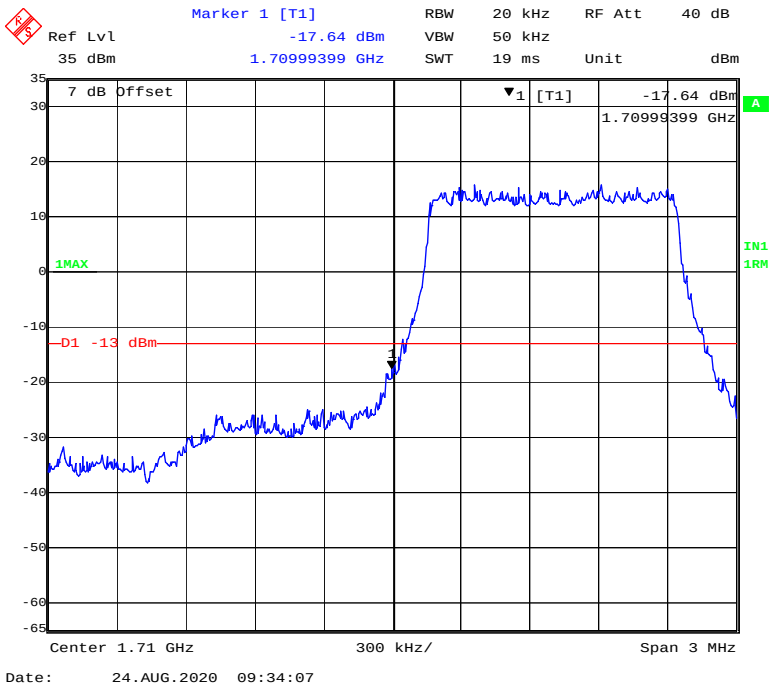


16-QAM (10 MHz, FULL RB) - Right Band Edge

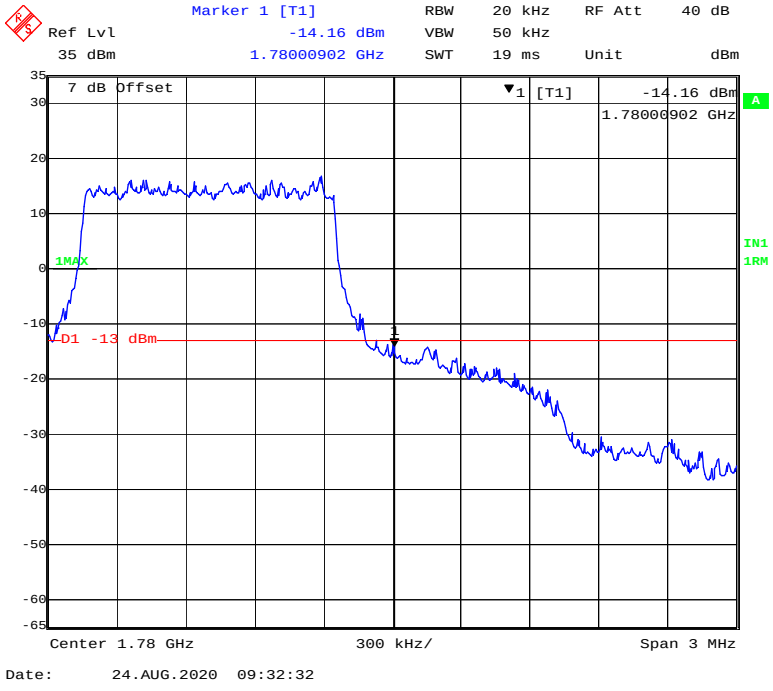


LTE Band 66:

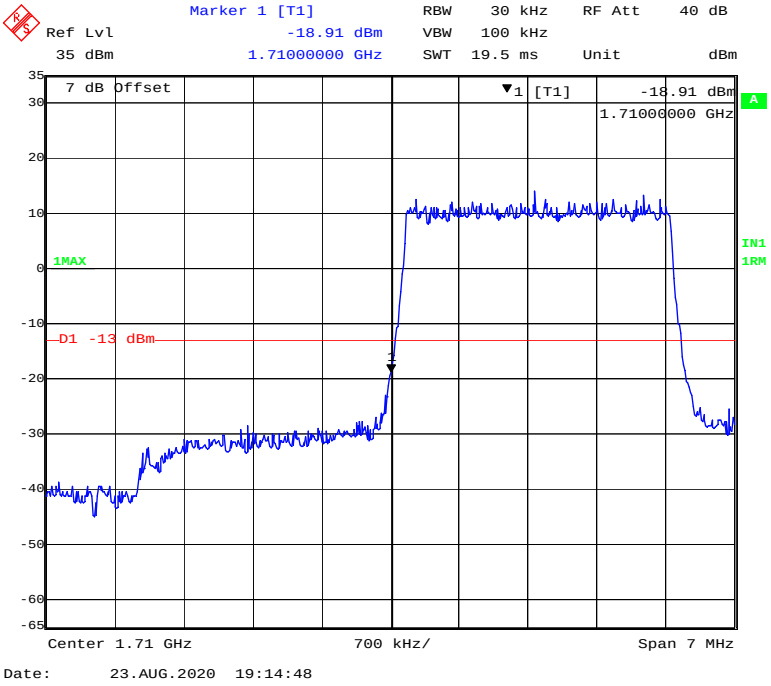
QPSK (1.4 MHz, FULL RB) - Left Band Edge



QPSK (1.4 MHz, FULL RB) - Right Band Edge

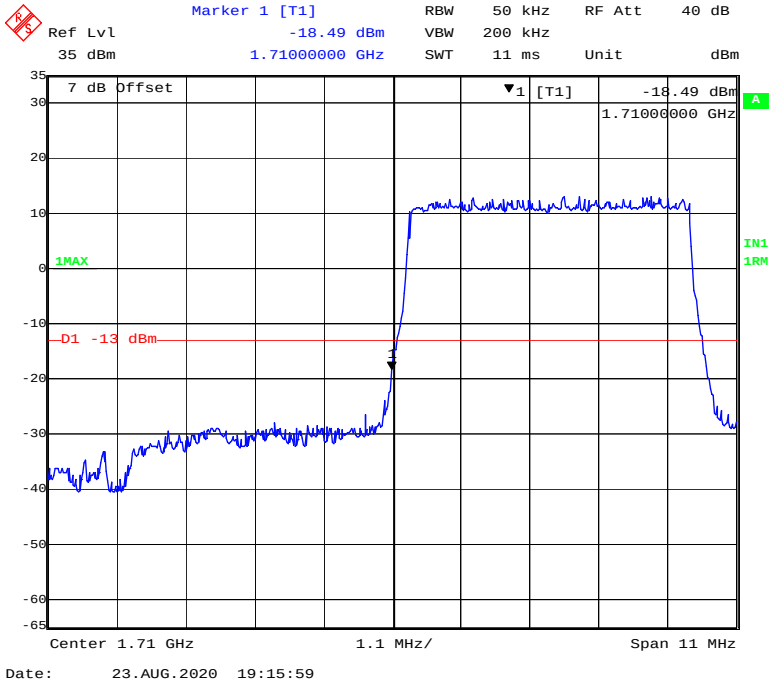


QPSK (3 MHz, FULL RB) - Left Band Edge

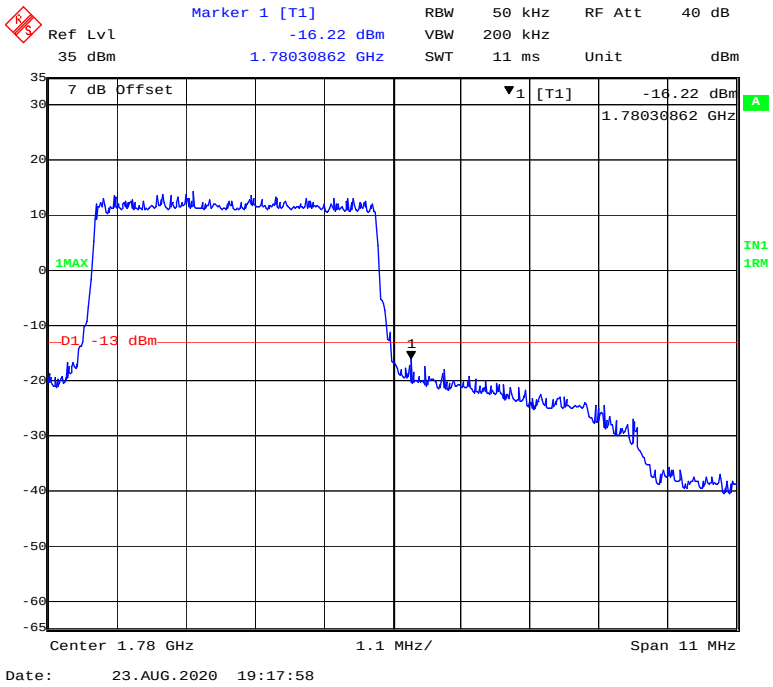


QPSK (3 MHz, FULL RB) - Right Band Edge

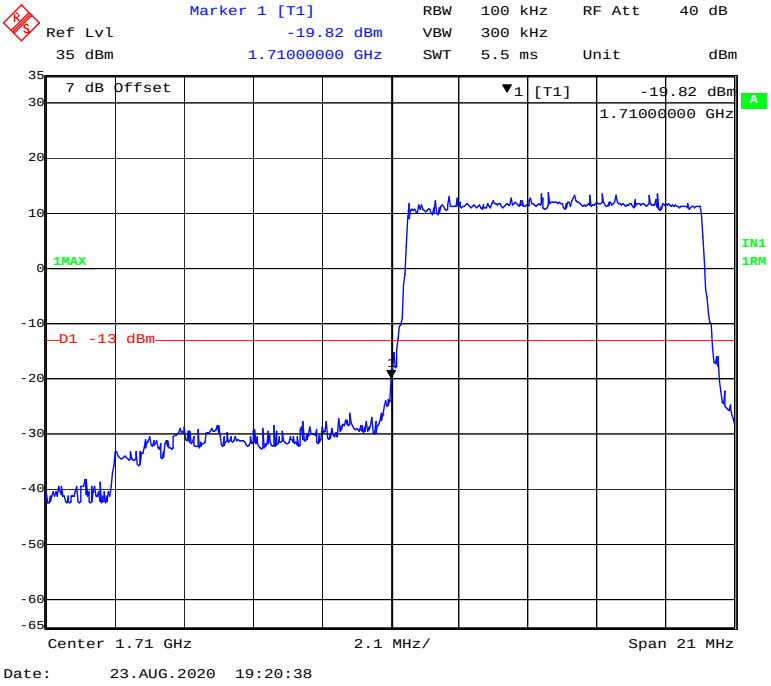
QPSK (5 MHz, FULL RB) - Left Band Edge



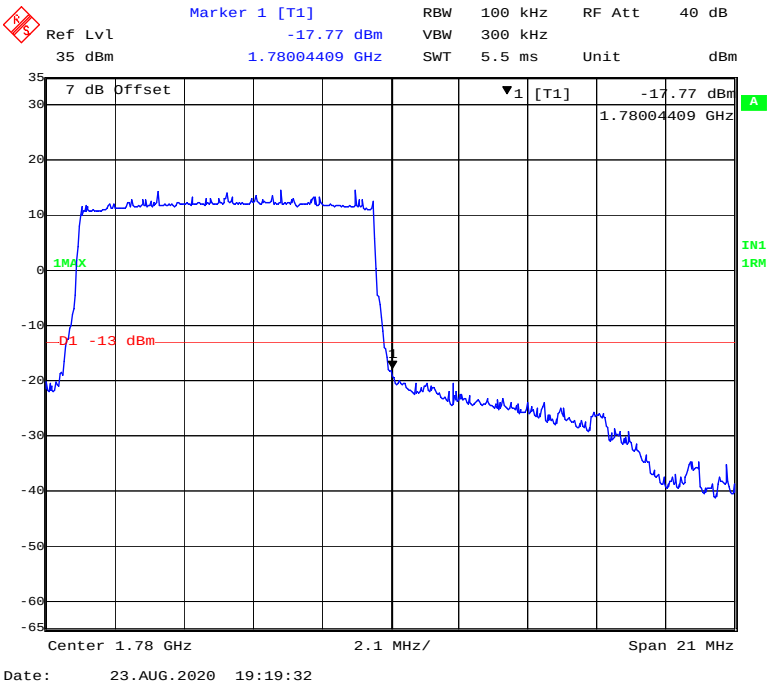
QPSK (5 MHz, FULL RB) - Right Band Edge



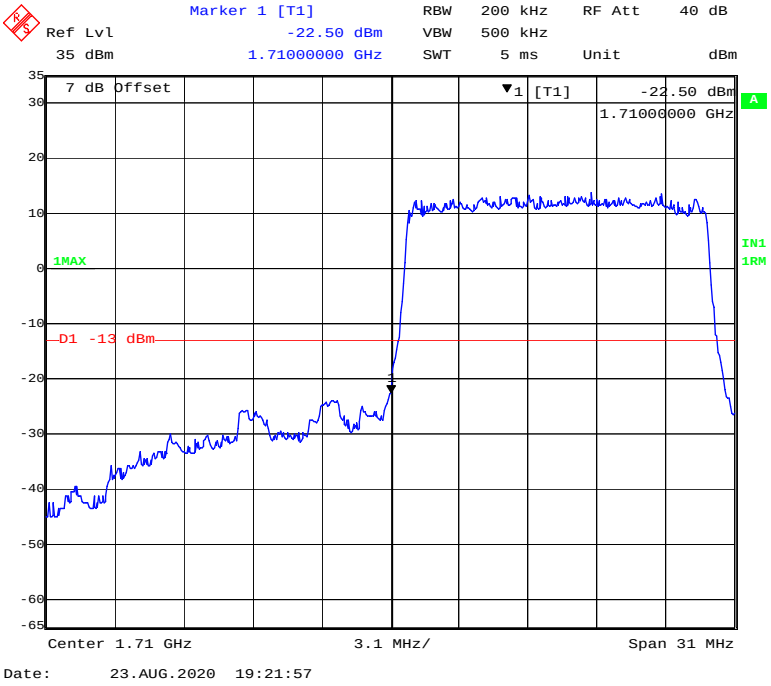
QPSK (10 MHz, FULL RB) - Left Band Edge



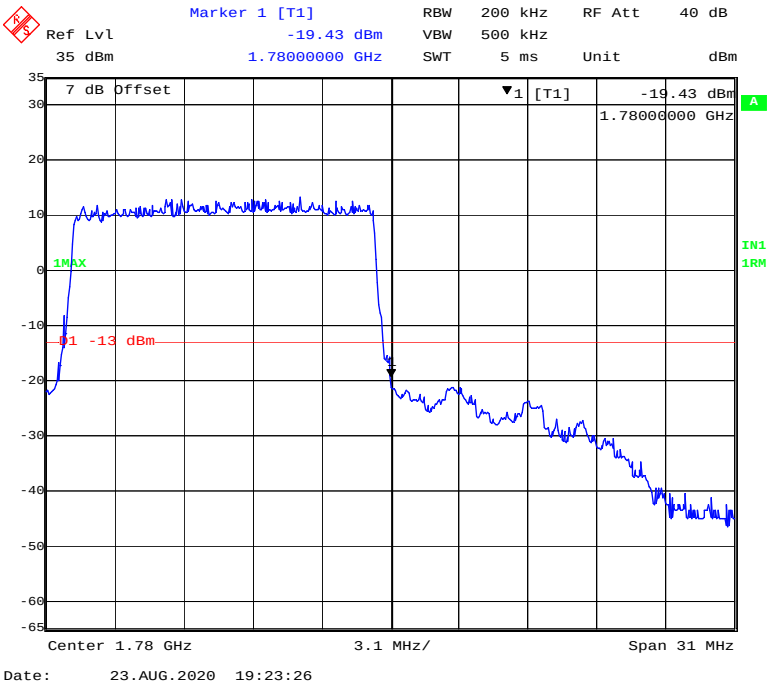
QPSK (10 MHz, FULL RB) - Right Band Edge



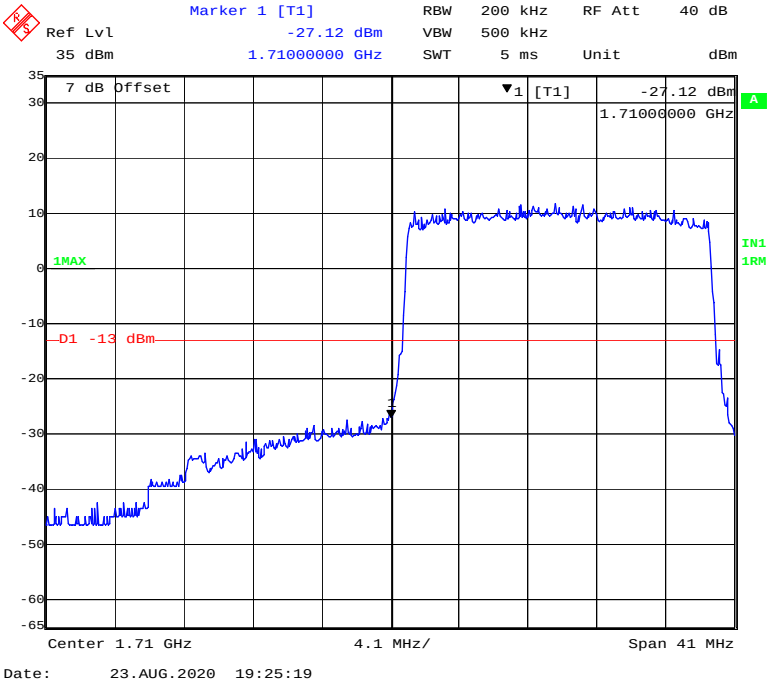
QPSK (15 MHz, FULL RB) - Left Band Edge



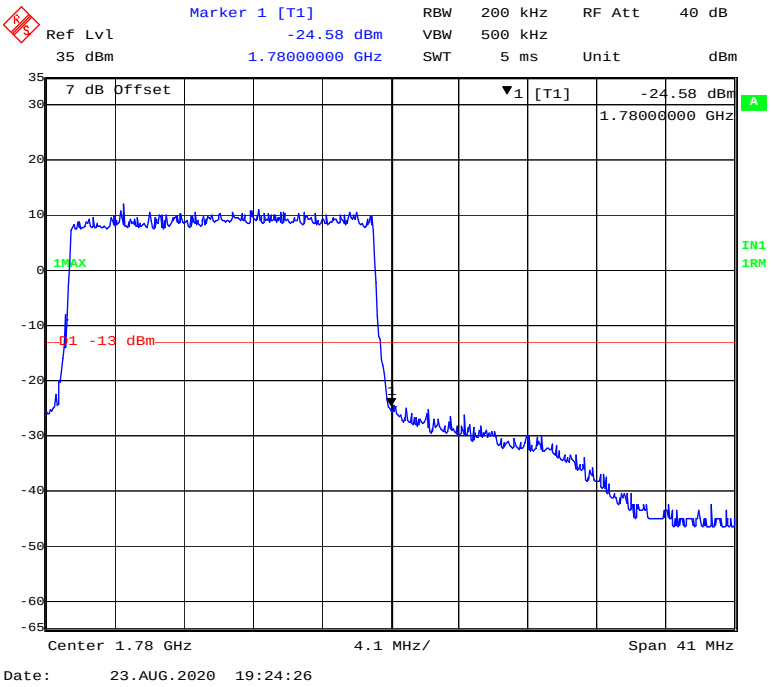
QPSK (15 MHz, FULL RB) - Right Band Edge



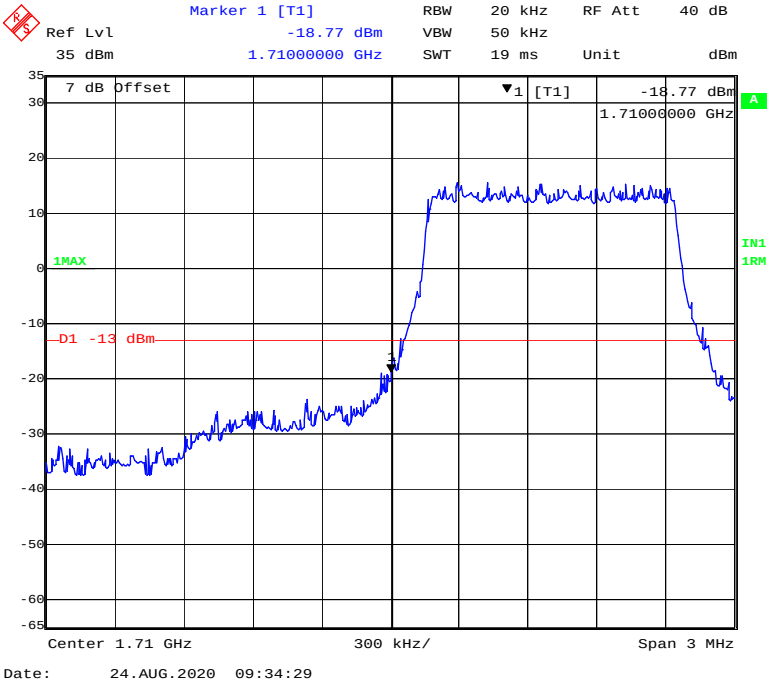
QPSK (20 MHz, FULL RB) - Left Band Edge



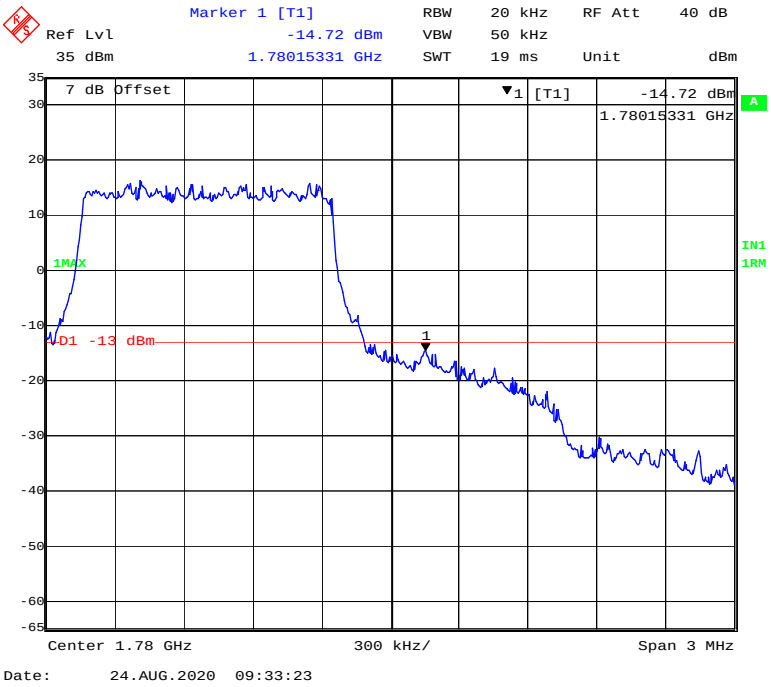
QPSK (20 MHz, FULL RB) - Right Band Edge



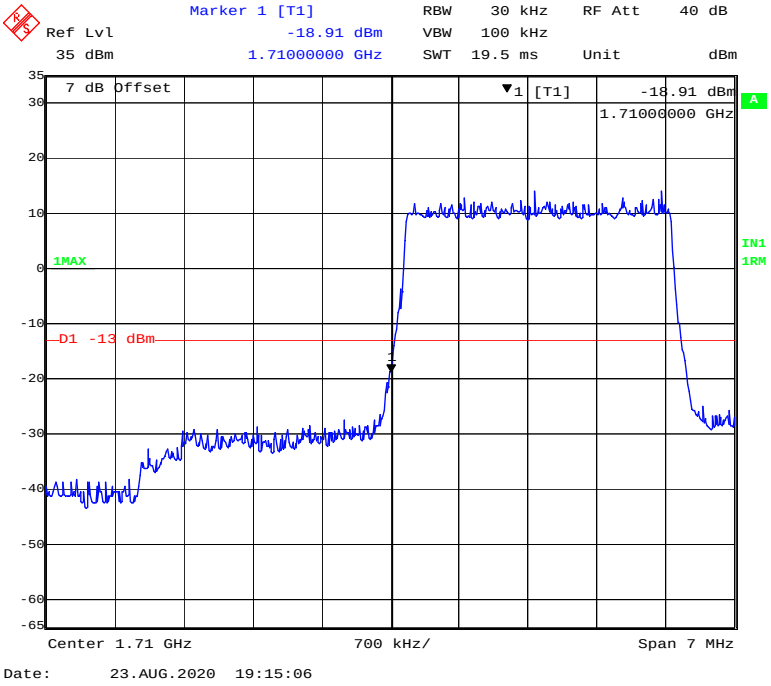
16-QAM (1.4 MHz, FULL RB) - Left Band Edge



16-QAM (1.4 MHz, FULL RB) - Right Band Edge

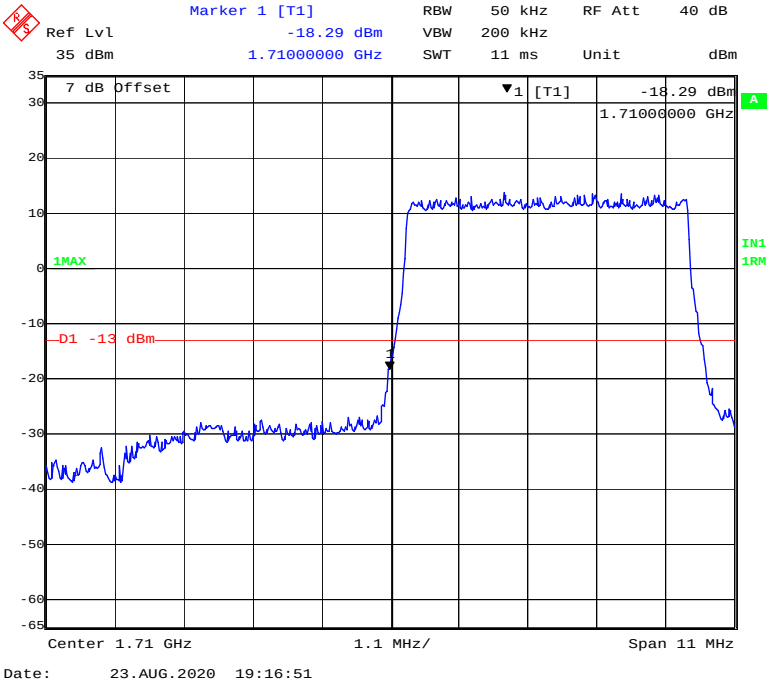


16-QAM (3 MHz, FULL RB) - Left Band Edge

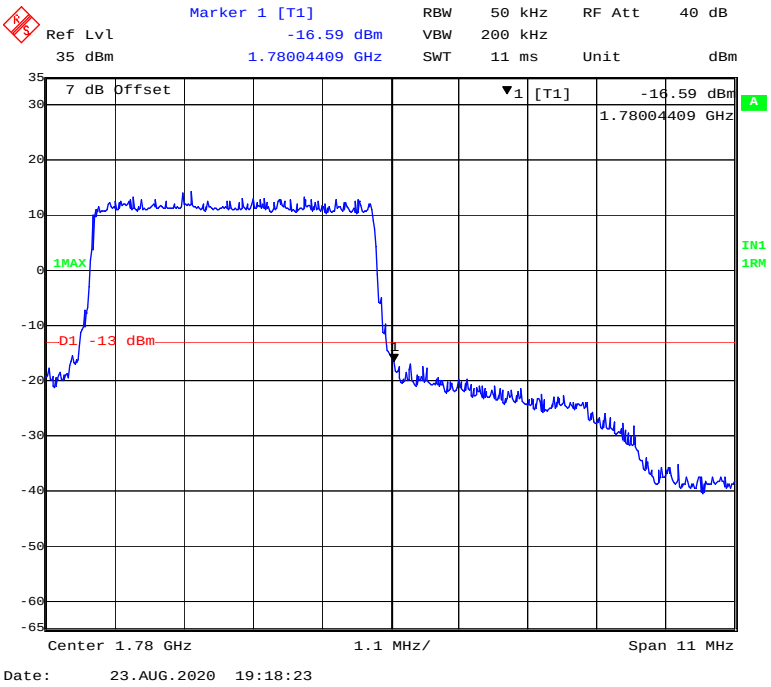


16-QAM (3 MHz, FULL RB) - Right Band Edge

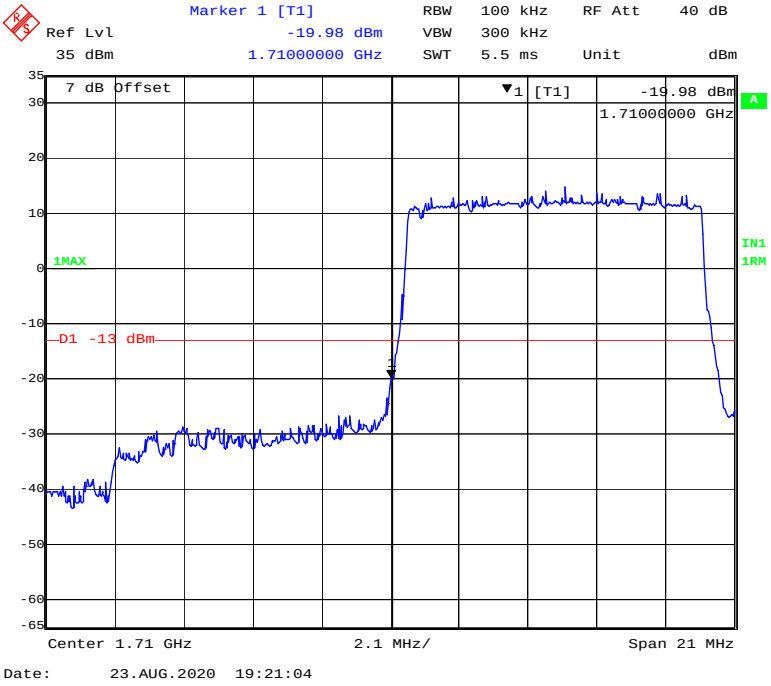
16-QAM (5 MHz, FULL RB) - Left Band Edge



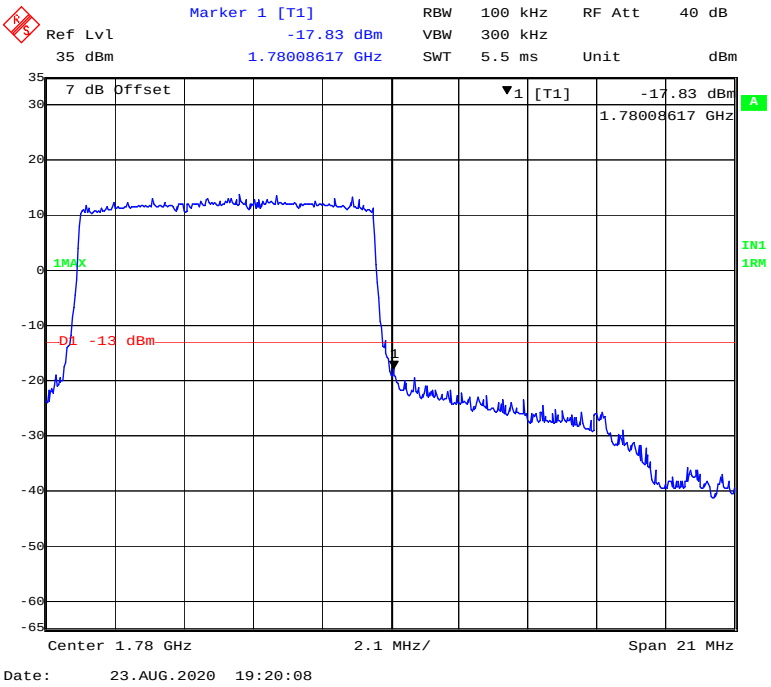
16-QAM (5 MHz, FULL RB) - Right Band Edge



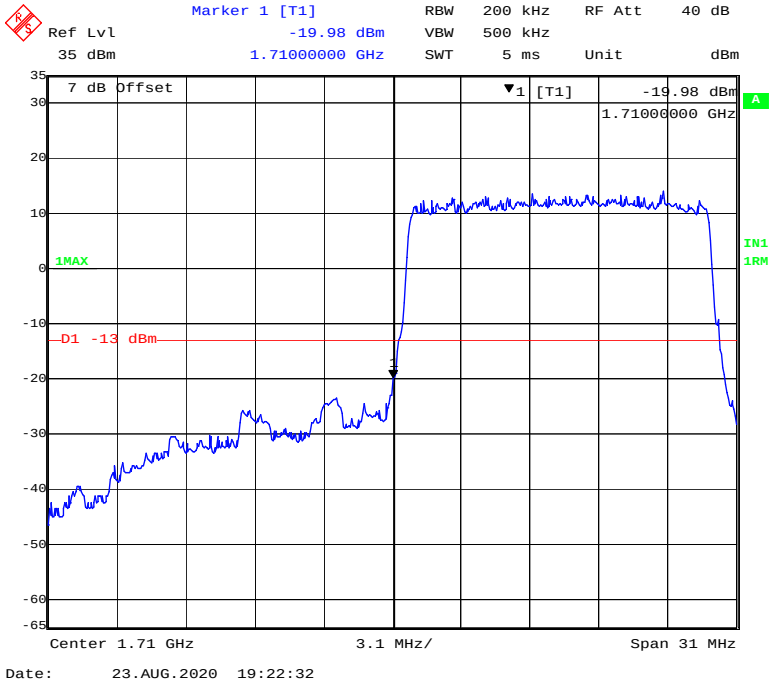
16-QAM (10 MHz, FULL RB) - Left Band Edge



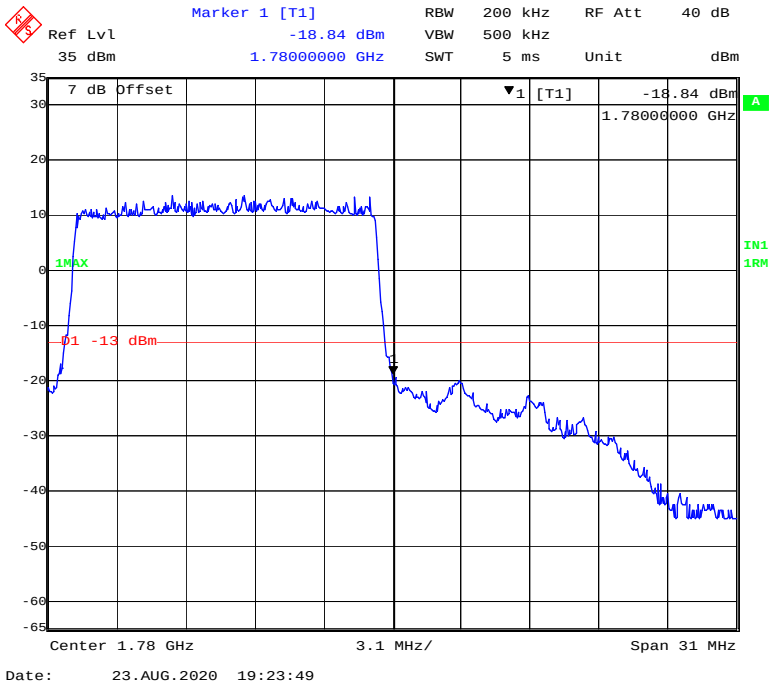
16-QAM (10 MHz, FULL RB) - Right Band Edge



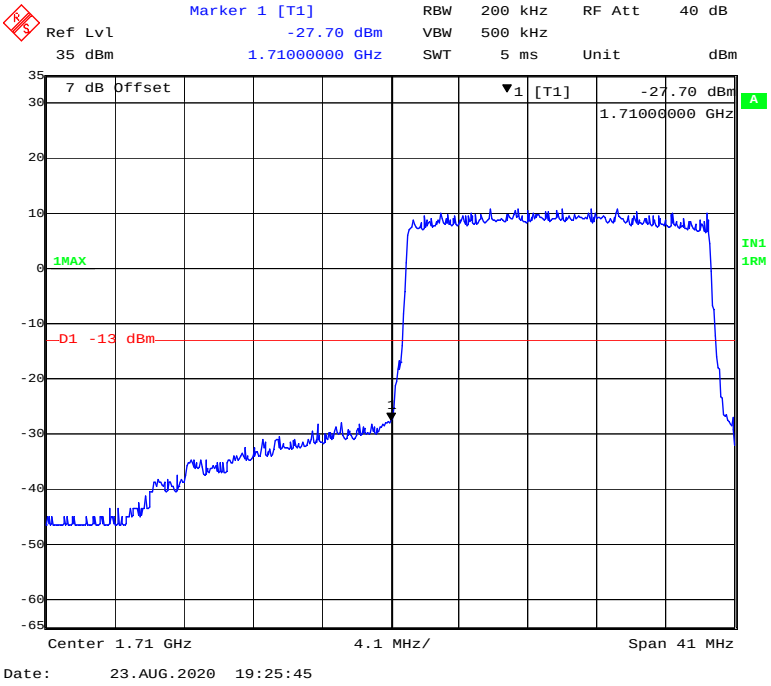
16-QAM (15 MHz, FULL RB) - Left Band Edge



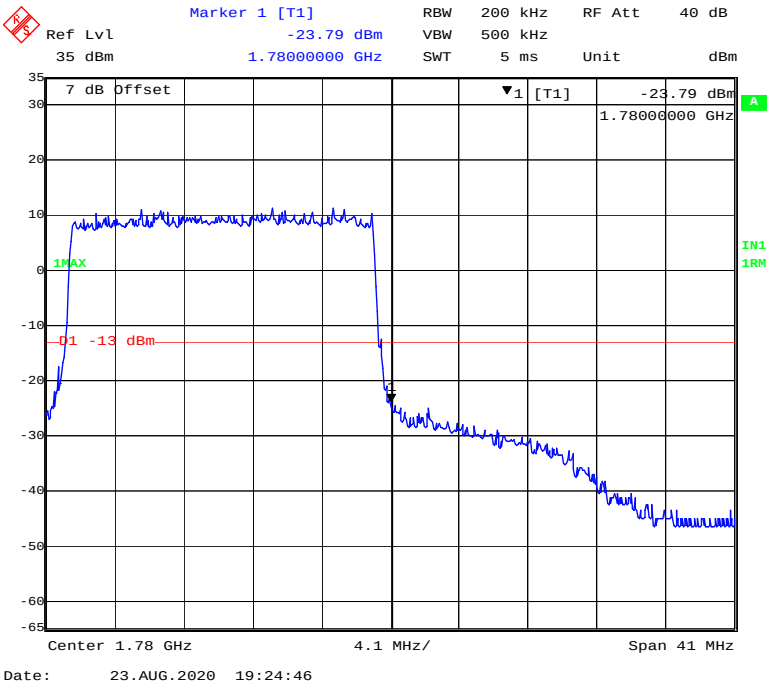
16-QAM (15 MHz, FULL RB) - Right Band Edge



16-QAM (20 MHz, FULL RB) - Left Band Edge

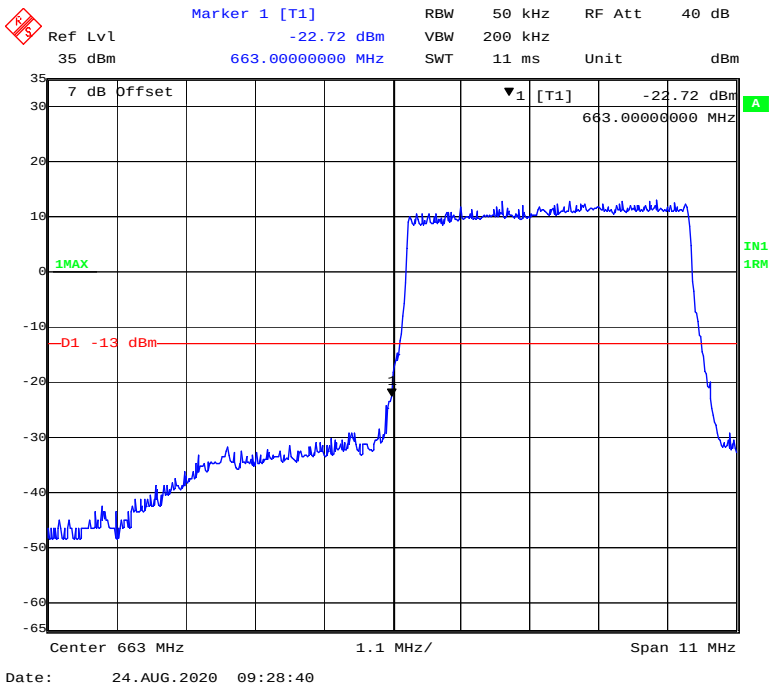


16-QAM (20 MHz, FULL RB) - Right Band Edge

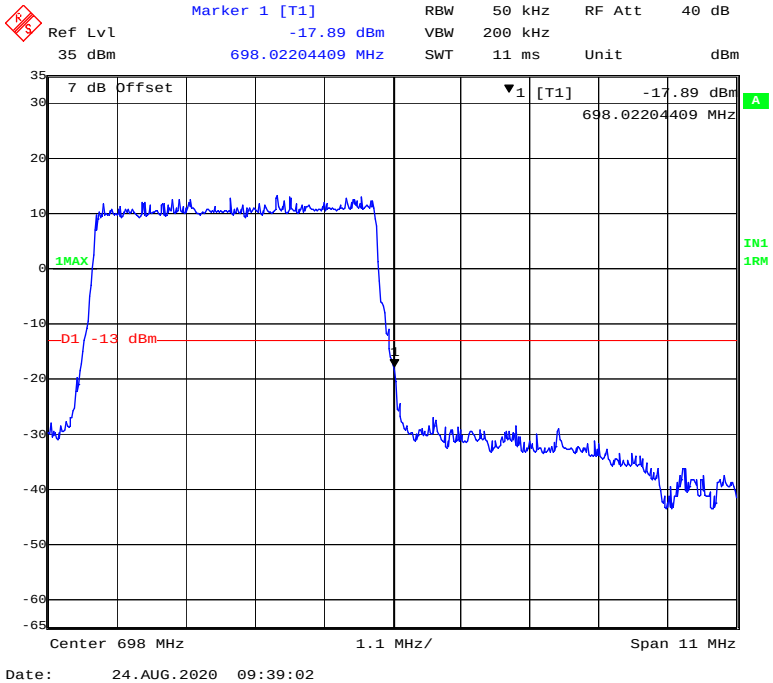


LTE Band 71:

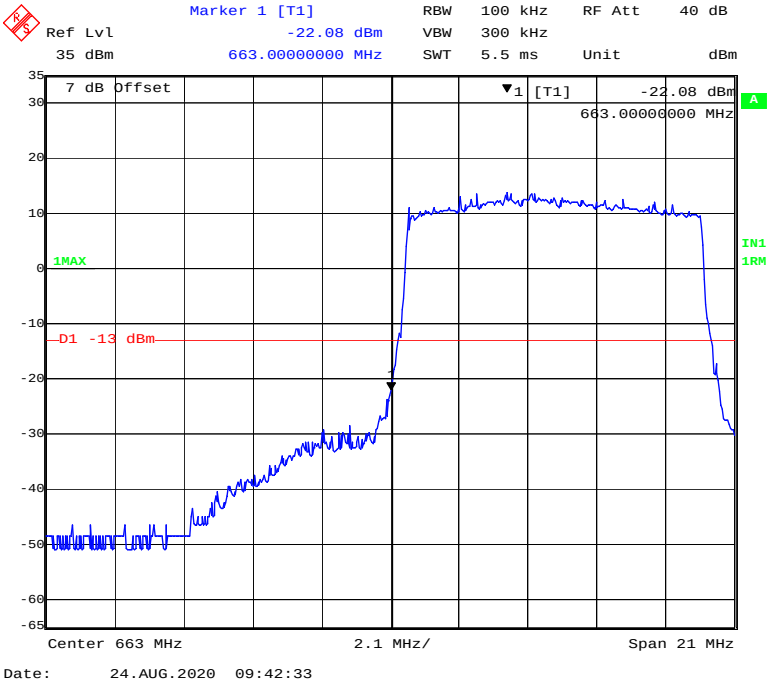
QPSK (5 MHz, FULL RB) - Left Band Edge



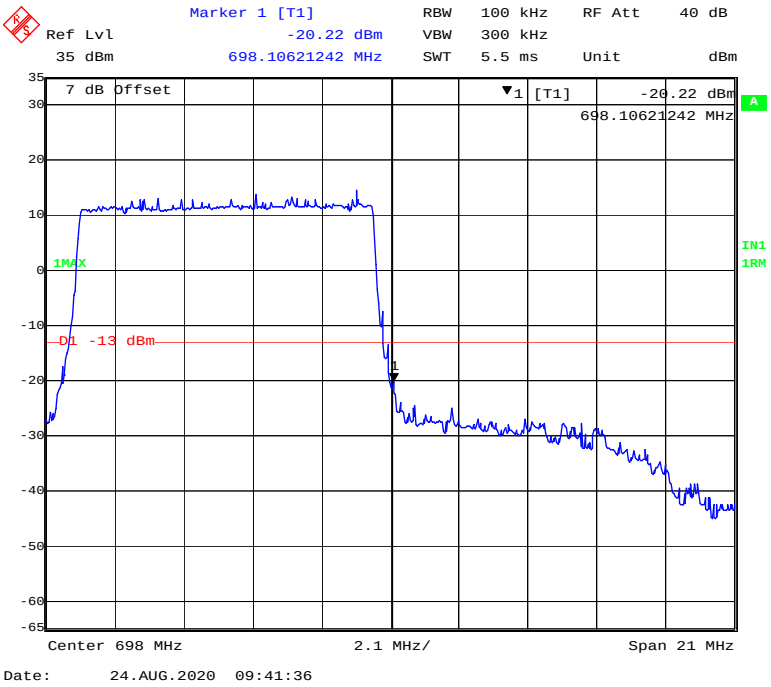
QPSK (5 MHz, FULL RB) - Right Band Edge



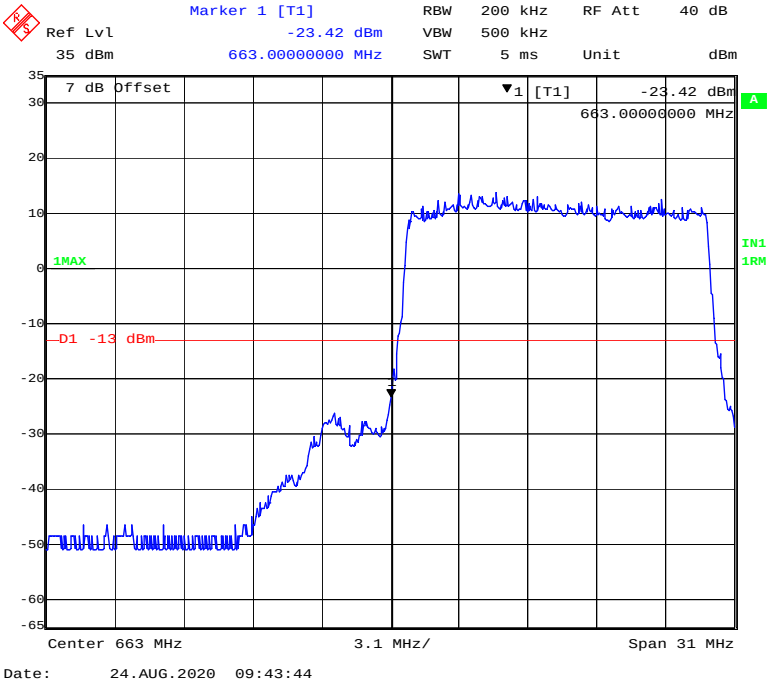
QPSK (10 MHz, FULL RB) - Left Band Edge



QPSK (10 MHz, FULL RB) - Right Band Edge

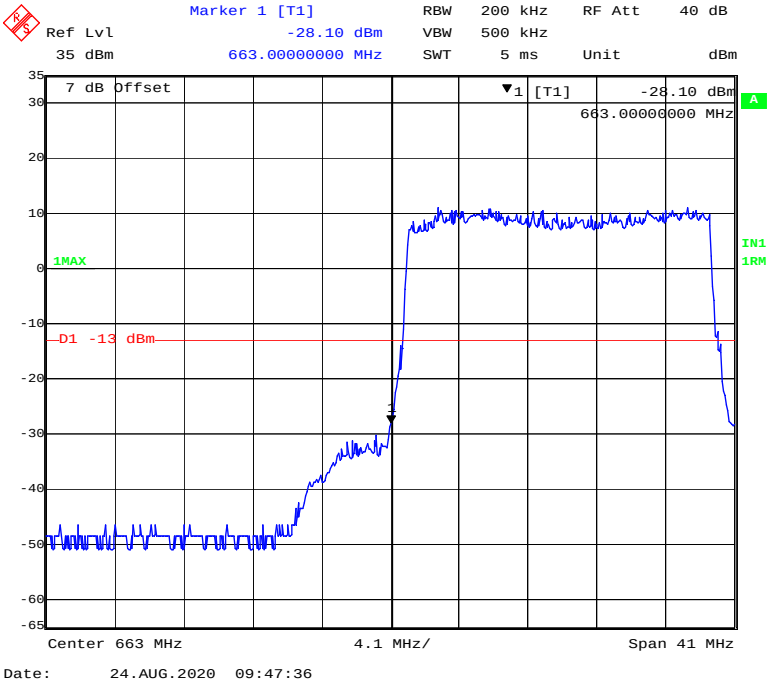


QPSK (15 MHz, FULL RB) - Left Band Edge

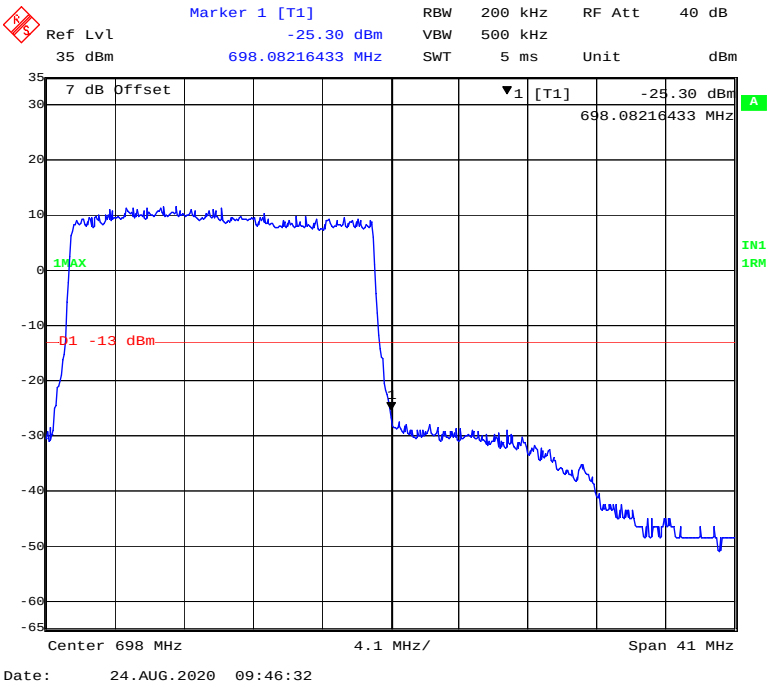


QPSK (15 MHz, FULL RB) - Right Band Edge

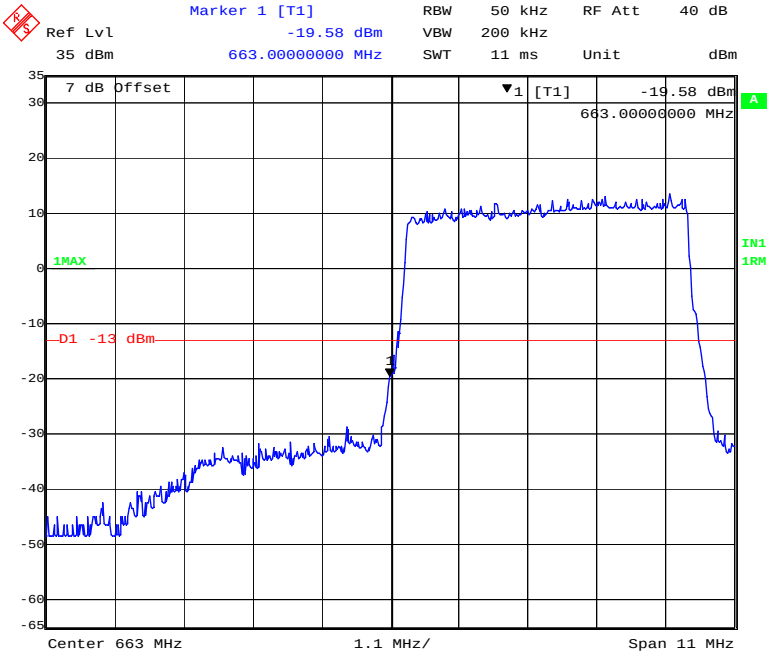
QPSK (20 MHz, FULL RB) - Left Band Edge



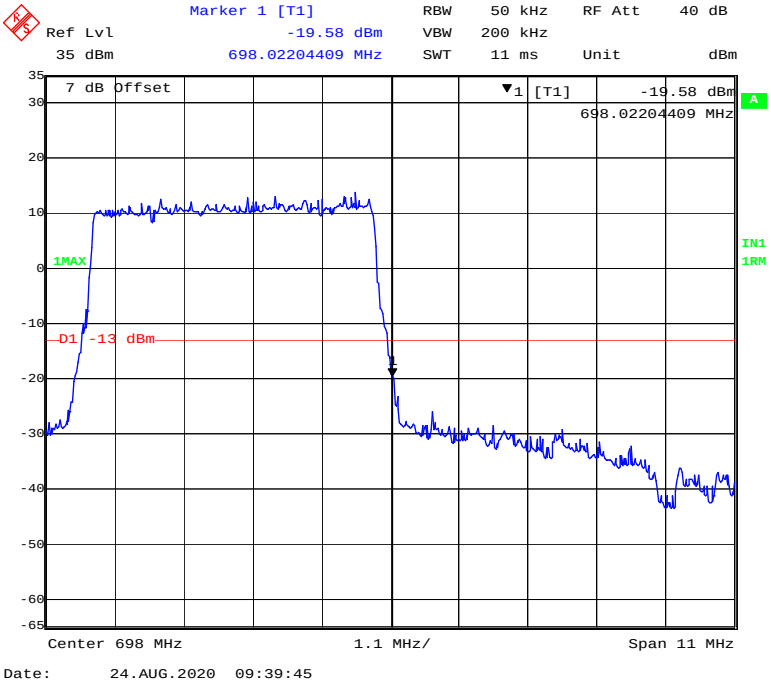
QPSK (20 MHz, FULL RB) - Right Band Edge



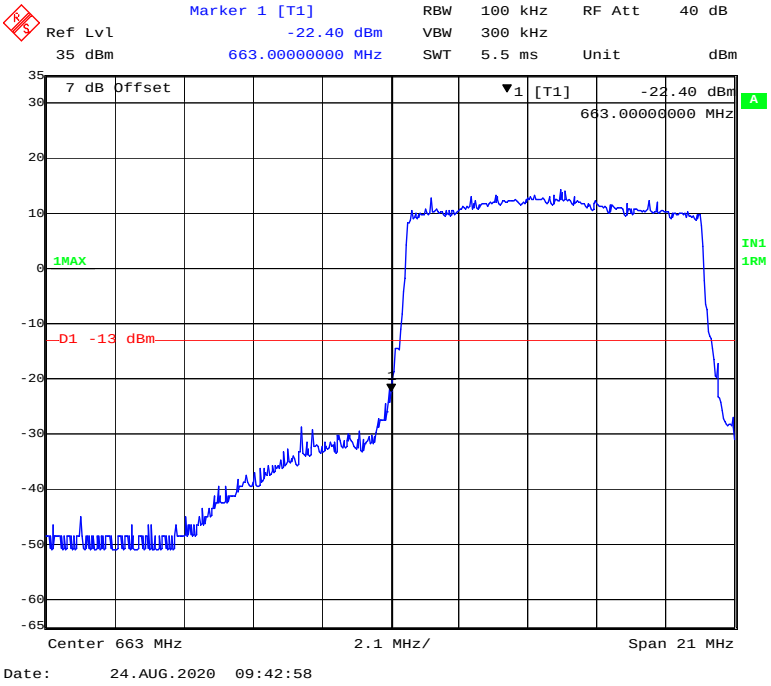
16-QAM (5 MHz, FULL RB) - Left Band Edge



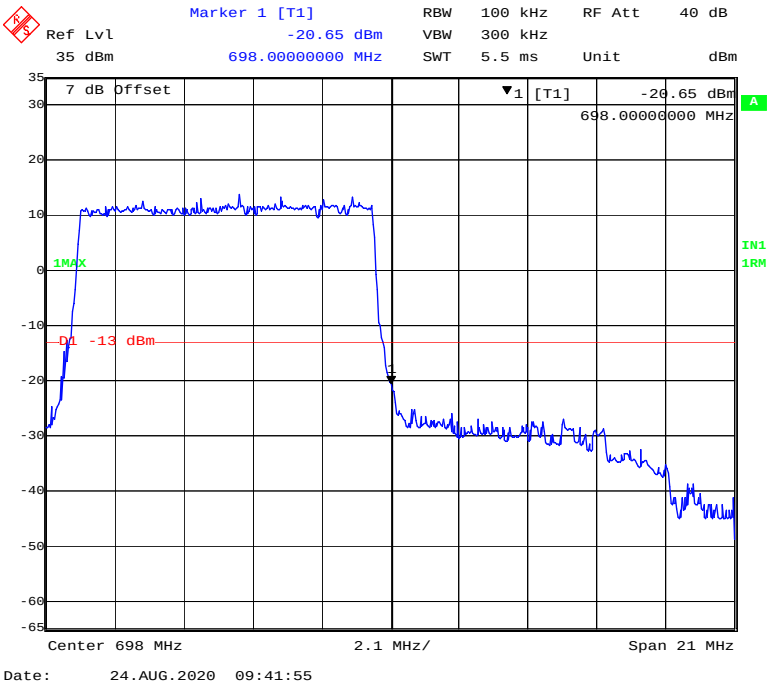
16-QAM (5 MHz, FULL RB) - Right Band Edge



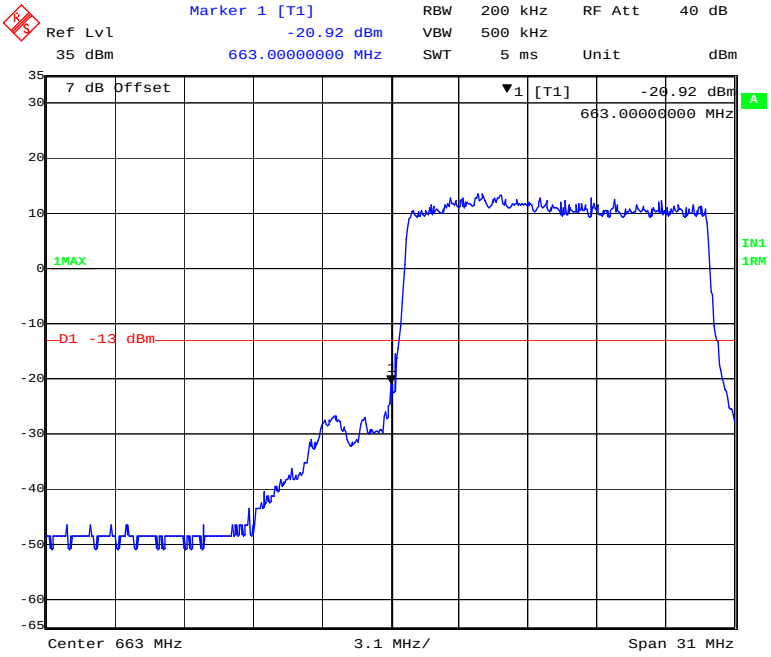
16-QAM (10 MHz, FULL RB) - Left Band Edge



16-QAM (10 MHz, FULL RB) - Right Band Edge

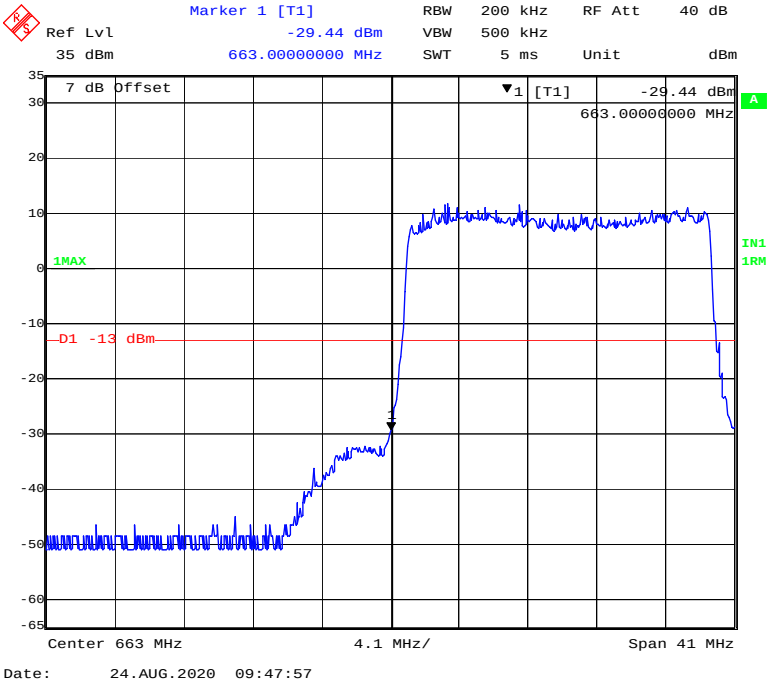


16-QAM (15 MHz, FULL RB) - Left Band Edge

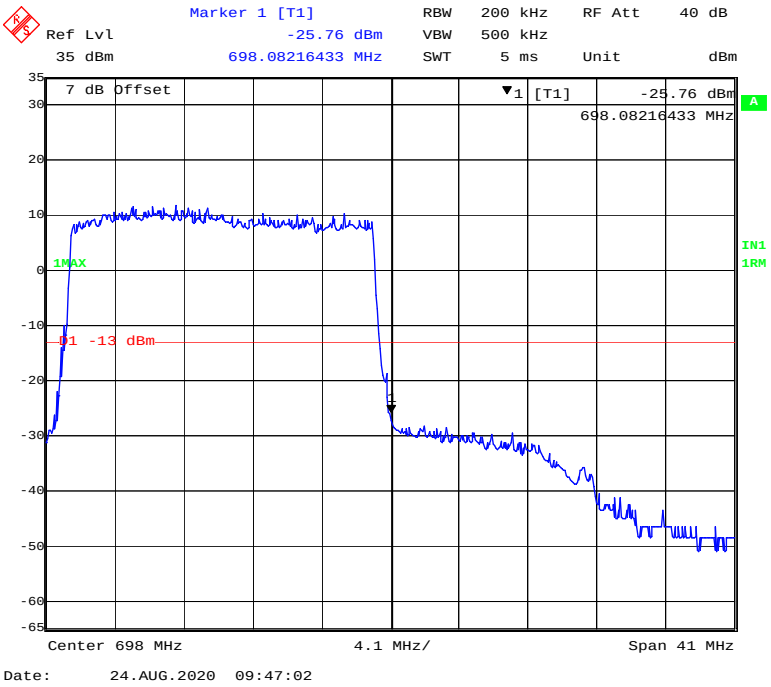


16-QAM (15 MHz, FULL RB) - Right Band Edge

16-QAM (20 MHz, FULL RB) - Left Band Edge



16-QAM (20 MHz, FULL RB) - Right Band Edge



FCC § 2.1055; § 22.355; § 24.235; §27.54, § 90.213 - FREQUENCY STABILITY

Applicable Standards

FCC § 2.1055, §22.355, §24.235, § 90.213 and §27.54.

According to FCC §2.1055, the frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

According to §22.355, the carrier frequency of each transmitter in the Public Mobile Services must be maintained within the tolerances given in Table below:

Frequency Tolerance for Transmitters in the Public Mobile Services

Frequency Range (MHz)	Base, fixed (ppm)	Mobile > 3 watts (ppm)	Mobile ≤ 3 watts (ppm)
25 to 50	20.0	20.0	50.0
50 to 450	5.0	5.0	50.0
450 to 512	2.5	5.0	5.0
821 to 896	1.5	2.5	2.5
928 to 929.	5.0	N/A	N/A
929 to 960.	1.5	N/A	N/A
2110 to 2220	10.0	N/A	N/A

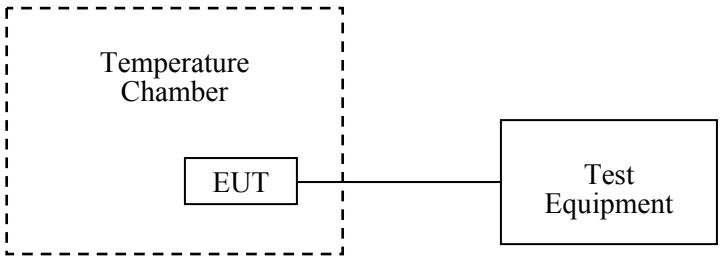
According to §24.235, the frequency stability shall be sufficient to ensure that the fundamental emissions stays within the authorized frequency block.

Test Procedure

Frequency Stability vs. Temperature: The equipment under test was connected to an external DC power supply and the RF output was connected to communication test set via feed-through attenuators. The EUT was placed inside the temperature chamber. The DC leads and RF output cable exited the chamber through an opening made for the purpose.

After the temperature stabilized for approximately 20 minutes, the frequency output was recorded from the communication test set.

Frequency Stability vs. Voltage: For hand carried, battery powered equipment; reduce primary supply voltage to the battery operating end point which shall be specified by the manufacturer.



Test Data

Environmental Conditions

Temperature:	23.2℃
Relative Humidity:	51 %
ATM Pressure:	101.3kPa

The testing was performed by CK Huang on 2020-09-18.

EUT operation mode: Transmitting

Test Result: Compliance.

WCDMA Band V:

Middle Channel, f_o = 836.6 MHz				
Temperature (℃)	**Power Supplied (V_{AC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)**
-30	120	28	0.033469	2.5
-20		26	0.017930	2.5
-10		18	0.011953	2.5
0		15	0.017930	2.5
10		10	0.011953	2.5
20		8	0.009563	2.5
30		9	0.010758	2.5
40		6	0.007172	2.5
50		10	0.011953	2.5
20	V min.= 108	11	0.013148	2.5
20	V max.= 132	9	0.010758	2.5

WCDMA Band II:

WCDMA Mode, Middle Channel, f_o=1880.0 MHz				
Temperature (℃)	**Power Supplied (V_{AC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)**
-30	120	29	0.015426	2.5
-20		18	0.009574	2.5
-10		16	0.008511	2.5
0		17	0.009043	2.5
10		13	0.006915	2.5
20		8	0.004255	2.5
30		11	0.005851	2.5
40		12	0.006383	2.5
50		15	0.007979	2.5
20	V min.= 108	13	0.006915	2.5
20	V max.= 132	18	0.009574	2.5

WCDMA Band IV:

WCDMA Mode, Low Channel & High Channel					
Temperature	**Power Supplied**	**F_L**	**F_H**	**F_L Limit**	**F_H Limit**
(℃)	**(V_{AC})**	**(MHz)**	**(MHz)**	**(MHz)**	**(MHz)**
-30	120	1710.3862	1754.7649	1710	1755
-20		1710.3819	1754.7659	1710	1755
-10		1710.3829	1754.7692	1710	1755
0		1710.3610	1754.7639	1710	1755
10		1710.3991	1754.7655	1710	1755
20		1710.3374	1754.7697	1710	1755
30		1710.3742	1754.7664	1710	1755
40		1710.4258	1754.7639	1710	1755
50		1710.4215	1754.7616	1710	1755
20	V min.= 108	1710.4237	1754.7604	1710	1755
20	V max.= 132	1710.3446	1754.7654	1710	1755

LTE Band 2:

Middle Channel, f_o =1880.0 MHz (QPSK) /Channel Bandwidth:20MHz				
Temperature (℃)	**Power Supplied (V_{AC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)**
-30	120	19	0.0227	2.5
-20		16	0.0191	2.5
-10		15	0.0179	2.5
0		12	0.0143	2.5
10		12	0.0143	2.5
20		7	0.0084	2.5
30		5	0.0060	2.5
40		8	0.0096	2.5
50		9	0.0108	2.5
20	V min.= 108	12	0.0143	2.5
20	V max.= 132	11	0.0132	2.5

Middle Channel, f_o =1880.0 MHz (16-QAM) /Channel Bandwidth:20MHz				
Temperature (℃)	**Power Supplied (V_{AC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)**
-30	120	19	0.0227	2.5
-20		18	0.0215	2.5
-10		16	0.0191	2.5
0		14	0.0167	2.5
10		8	0.0096	2.5
20		13	0.0155	2.5
30		11	0.0132	2.5
40		9	0.0108	2.5
50		8	0.0096	2.5
20	V min.= 108	10	0.0120	2.5
20	V max.= 132	12	0.0143	2.5

LTE Band 4:

Low Channel & High Channel (QPSK) /Channel Bandwidth:20MHz					
Temperature	**Power Supplied**	**F_L**	**F_H**	**F_L Limit**	**F_H Limit**
(℃)	**(V_{AC})**	**(MHz)**	**(MHz)**	**(MHz)**	**(MHz)**
-30	120	1710.0496	1754.9497	1710	1755
-20		1710.0507	1754.9493	1710	1755
-10		1710.0502	1754.9502	1710	1755
0		1710.0496	1754.9487	1710	1755
10		1710.0509	1754.9486	1710	1755
20		1710.0489	1754.9499	1710	1755
30		1710.0495	1754.9497	1710	1755
40		1710.049	1754.9496	1710	1755
50		1710.0503	1754.9502	1710	1755
20	V min.= 108	1710.0496	1754.9499	1710	1755
20	V max.= 132	1710.0500	1754.9517	1710	1755

Low Channel & High Channel (16-QAM) /Channel Bandwidth:20MHz					
Temperature	**Power Supplied**	**F_L**	**F_H**	**F_L Limit**	**F_H Limit**
(℃)	**(V_{AC})**	**(MHz)**	**(MHz)**	**(MHz)**	**(MHz)**
-30	120	1710.0500	1754.9496	1710	1755
-20		1710.0496	1754.9505	1710	1755
-10		1710.0500	1754.9497	1710	1755
0		1710.0503	1754.9496	1710	1755
10		1710.0501	1754.9495	1710	1755
20		1710.0510	1754.9497	1710	1755
30		1710.0501	1754.9496	1710	1755
40		1710.0495	1754.9489	1710	1755
50		1710.0509	1754.9511	1710	1755
20	V min.= 108	1710.0494	1754.9481	1710	1755
20	V max.= 132	1710.0492	1754.9485	1710	1755

LTE Band 12:

Low Channel & High Channel (QPSK) /Channel Bandwidth:10MHz					
Temperature	**Power Supplied**	**F_L**	**F_H**	**F_L Limit**	**F_H Limit**
(℃)	**(V_{AC})**	**(MHz)**	**(MHz)**	**(MHz)**	**(MHz)**
-30	120	699.1389	715.7647	699	716
-20		699.1163	715.6689	699	716
-10		699.2820	715.8043	699	716
0		699.0428	715.9745	699	716
10		699.2237	715.9851	699	716
20		699.0858	715.9939	699	716
30		699.2676	715.9893	699	716
40		699.3256	715.6758	699	716
50		699.1979	715.7645	699	716
20	V min.= 108	699.1607	715.8477	699	716
20	V max.= 132	699.0578	715.6496	699	716

Low Channel & High Channel (16-QAM) /Channel Bandwidth:10MHz					
Temperature	**Power Supplied**	**F_L**	**F_H**	**F_L Limit**	**F_H Limit**
(℃)	**(V_{AC})**	**(MHz)**	**(MHz)**	**(MHz)**	**(MHz)**
-30	120	699.0745	715.8395	699	716
-20		699.2272	715.9904	699	716
-10		699.2658	715.7142	699	716
0		699.1272	715.8427	699	716
10		699.2364	715.8581	699	716
20		699.1985	715.8016	699	716
30		699.2949	715.8626	699	716
40		699.0387	715.9961	699	716
50		699.0857	715.9321	699	716
20	V min.= 108	699.2466	715.7896	699	716
20	V max.= 132	699.3991	715.8825	699	716

LTE Band 13:

Low Channel & High Channel (QPSK) /Channel Bandwidth:5MHz					
Temperature	**Power Supplied**	**F_L**	**F_H**	**F_L Limit**	**F_H Limit**
(℃)	**(V_{AC})**	**(MHz)**	**(MHz)**	**(MHz)**	**(MHz)**
-30	120	777.2851	786.8630	777	787
-20		777.0712	786.6839	777	787
-10		777.3615	786.9544	777	787
0		777.3575	786.7978	777	787
10		777.0284	786.6281	777	787
20		777.3848	786.8563	777	787
30		777.3355	786.8056	777	787
40		777.3047	786.7234	777	787
50		777.3450	786.6534	777	787
20	V min.= 108	777.2187	786.8166	777	787
20	V max.= 132	777.2960	786.7631	777	787

Low Channel & High Channel (16-QAM) /Channel Bandwidth:5MHz					
Temperature	**Power Supplied**	**F_L**	**F_H**	**F_L Limit**	**F_H Limit**
(℃)	**(V_{AC})**	**(MHz)**	**(MHz)**	**(MHz)**	**(MHz)**
-30	120	777.2469	786.6873	777	787
-20		777.2598	786.9116	777	787
-10		777.0918	786.9216	777	787
0		777.1785	786.7511	777	787
10		777.1632	786.6253	777	787
20		777.1525	786.8605	777	787
30		777.3919	786.9445	777	787
40		777.2913	786.6438	777	787
50		777.3975	786.7966	777	787
20	V min.= 108	777.1161	786.8745	777	787
20	V max.= 132	777.0812	786.9427	777	787

LTE Band 14:

Middle Channel, f_o =793.0 MHz (QPSK) /Channel Bandwidth:10MHz				
Temperature (℃)	**Power Supplied (V_{AC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)**
-30	120	18	0.0227	2.5
-20		17	0.0214	2.5
-10		15	0.0189	2.5
0		14	0.0177	2.5
10		9	0.0113	2.5
20		10	0.0126	2.5
30		9	0.0113	2.5
40		6	0.0076	2.5
50		8	0.0101	2.5
20	V min.= 108	11	0.0139	2.5
20	V max.= 132	12	0.0151	2.5

Middle Channel, f_o =793.0 MHz (16-QAM) /Channel Bandwidth:10MHz				
Temperature (℃)	**Power Supplied (V_{AC})**	**Frequency Error (Hz)**	**Frequency Error (ppm)**	**Limit (ppm)**
-30	120	20	0.0252	2.5
-20		19	0.0240	2.5
-10		17	0.0214	2.5
0		13	0.0164	2.5
10		9	0.0113	2.5
20		12	0.0151	2.5
30		8	0.0101	2.5
40		8	0.0101	2.5
50		11	0.0139	2.5
20	V min.= 108	13	0.0164	2.5
20	V max.= 132	12	0.0151	2.5

LTE Band 66:

Low Channel & High Channel (QPSK) /Channel Bandwidth:20MHz					
Temperature	**Power Supplied**	**F_L**	**F_H**	**F_L Limit**	**F_H Limit**
(℃)	**(V_{AC})**	**(MHz)**	**(MHz)**	**(MHz)**	**(MHz)**
-30	120	1710.3084	1779.8528	1710	1780
-20		1710.1568	1779.6455	1710	1780
-10		1710.3777	1779.6378	1710	1780
0		1710.2150	1779.7302	1710	1780
10		1710.3983	1779.8041	1710	1780
20		1710.1486	1779.6540	1710	1780
30		1710.3324	1779.8900	1710	1780
40		1710.0226	1779.6564	1710	1780
50		1710.3603	1779.7889	1710	1780
20	V min.= 108	1710.0901	1779.7330	1710	1780
20	V max.= 132	1710.3713	1779.9420	1710	1780

Low Channel & High Channel (QPSK) /Channel Bandwidth:20MHz					
Temperature	**Power Supplied**	**F_L**	**F_H**	**F_L Limit**	**F_H Limit**
(℃)	**(V_{AC})**	**(MHz)**	**(MHz)**	**(MHz)**	**(MHz)**
-30	120	1710.1268	1779.8090	1710	1780
-20		1710.3717	1779.9497	1710	1780
-10		1710.1695	1779.7702	1710	1780
0		1710.2809	1779.7619	1710	1780
10		1710.2543	1779.8056	1710	1780
20		1710.3048	1779.9417	1710	1780
30		1710.0889	1779.7344	1710	1780
40		1710.3745	1779.6850	1710	1780
50		1710.3126	1779.8461	1710	1780
20	V min.= 108	1710.1582	1779.9074	1710	1780
20	V max.= 132	1710.3015	1779.6364	1710	1780

LTE Band 71:

Low Channel & High Channel (QPSK) /Channel Bandwidth:20MHz					
Temperature	**Power Supplied**	**F_L**	**F_H**	**F_L Limit**	**F_H Limit**
(℃)	**(V_{AC})**	**(MHz)**	**(MHz)**	**(MHz)**	**(MHz)**
-30	120	663.3862	697.7649	663	698
-20		663.3819	697.7659	663	698
-10		663.3829	697.7692	663	698
0		663.3610	697.7639	663	698
10		663.3991	697.7655	663	698
20		663.3374	697.7697	663	698
30		663.3742	697.7664	663	698
40		663.4258	697.7639	663	698
50		663.4215	697.7616	663	698
20	V min.= 108	663.4237	697.7604	663	698
20	V max.= 132	663.3446	697.7654	663	698

Low Channel & High Channel (QPSK) /Channel Bandwidth:20MHz					
Temperature	**Power Supplied**	**F_L**	**F_H**	**F_L Limit**	**F_H Limit**
(℃)	**(V_{AC})**	**(MHz)**	**(MHz)**	**(MHz)**	**(MHz)**
-30	120	663.3862	697.7649	663	698
-20		663.3819	697.7659	663	698
-10		663.3829	697.7692	663	698
0		663.3610	697.7639	663	698
10		663.3991	697.7655	663	698
20		663.3374	697.7697	663	698
30		663.3742	697.7664	663	698
40		663.4258	697.7639	663	698
50		663.4215	697.7616	663	698
20	V min.= 108	663.4237	697.7604	663	698
20	V max.= 132	663.3446	697.7654	663	698

Declarations

1: BACL is not responsible for the authenticity of any test data provided by the applicant. Data included from the applicant that may affect test results are marked with an asterisk '*'. Customer model name, addresses, names, trademarks etc. are not considered data.

2: Unless otherwise stated the results shown in this test report refer only to the sample(s) tested.

3: Otherwise required by the applicant or Product Regulations, Decision Rule in this report did not consider the uncertainty.

4: The extended uncertainty given in this report is obtained by combining the standard uncertainty times the coverage factor K with the 95% confidence interval.

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******* END OF REPORT *******