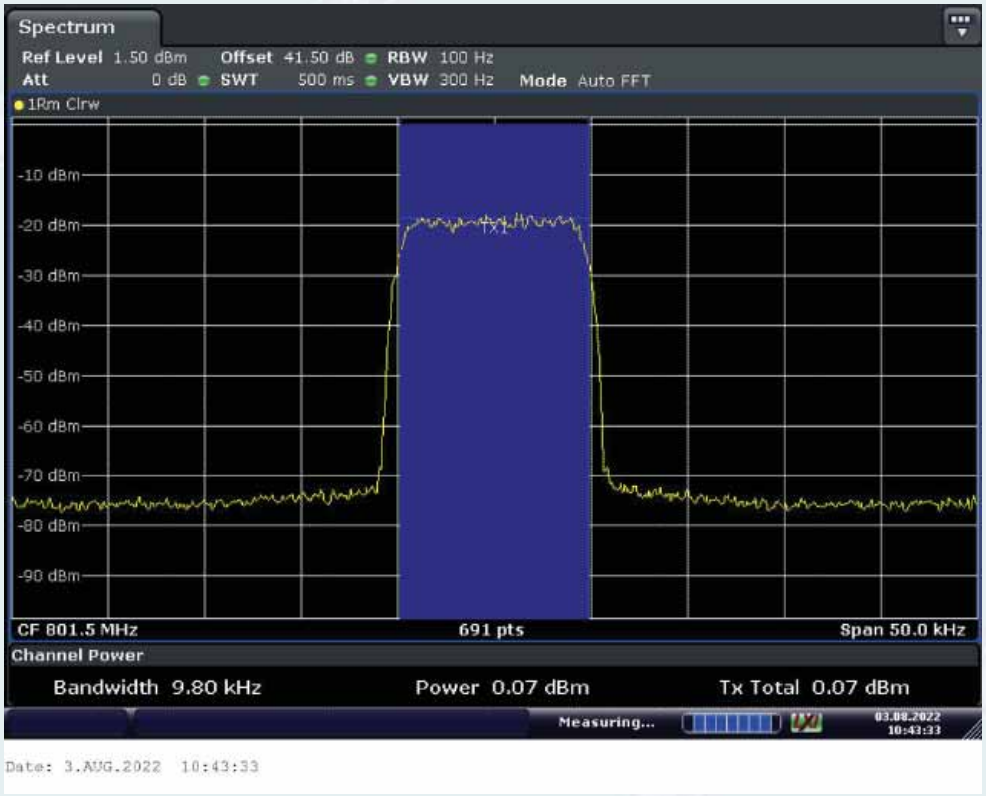
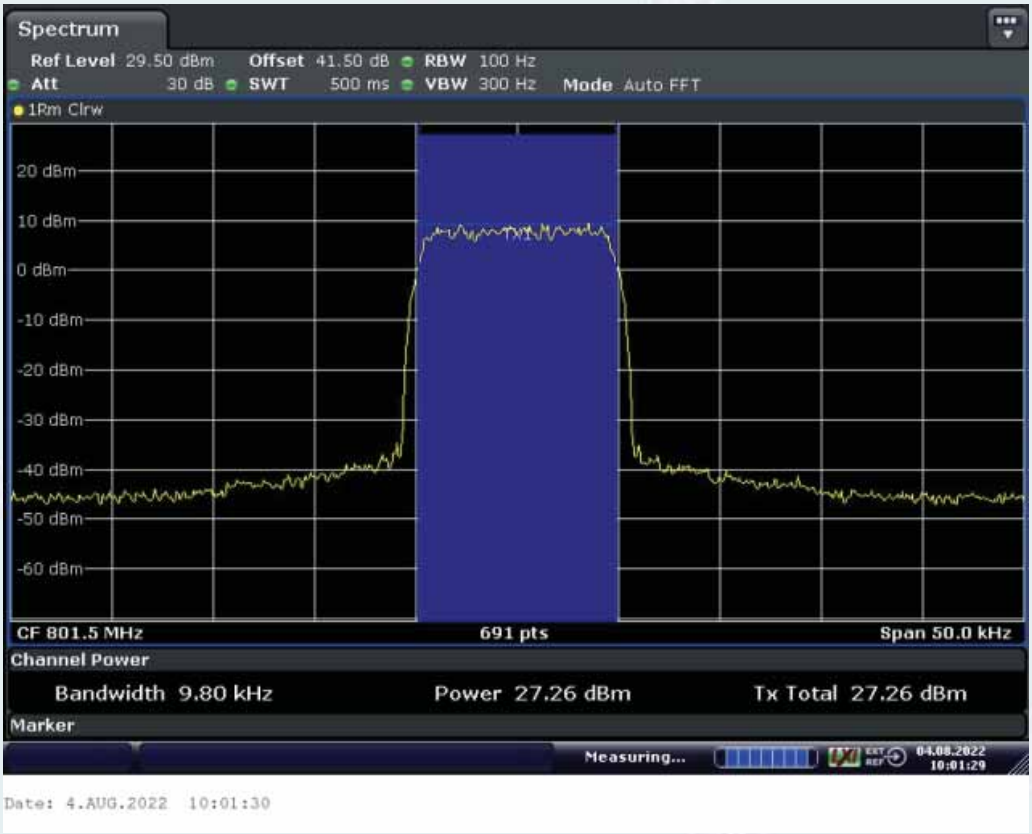
Middle Frequency: 771.5MHz, Output occupied BW (with the input signal amplitude set 3 dB above the AGC threshold)

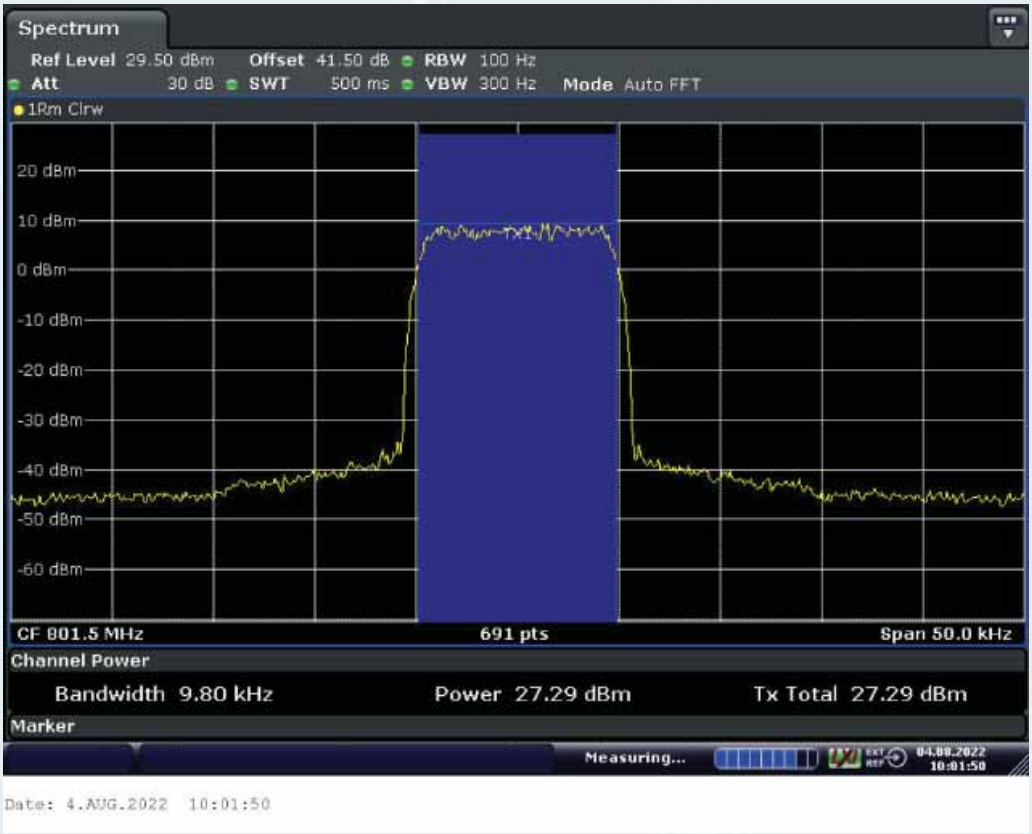
10.5.5.3.1.4.2. Uplink



Middle Frequency: 801.5MHz MHz, Input occupied BW



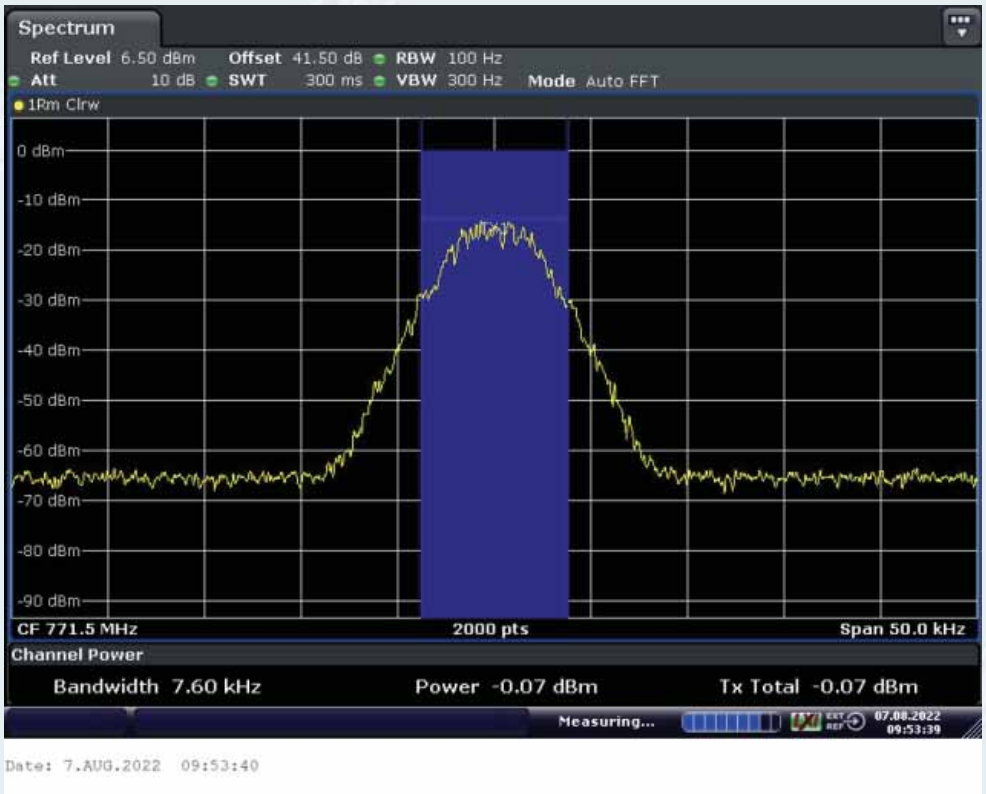
Middle Frequency: 801.5MHz, Output occupied BW(AGC)



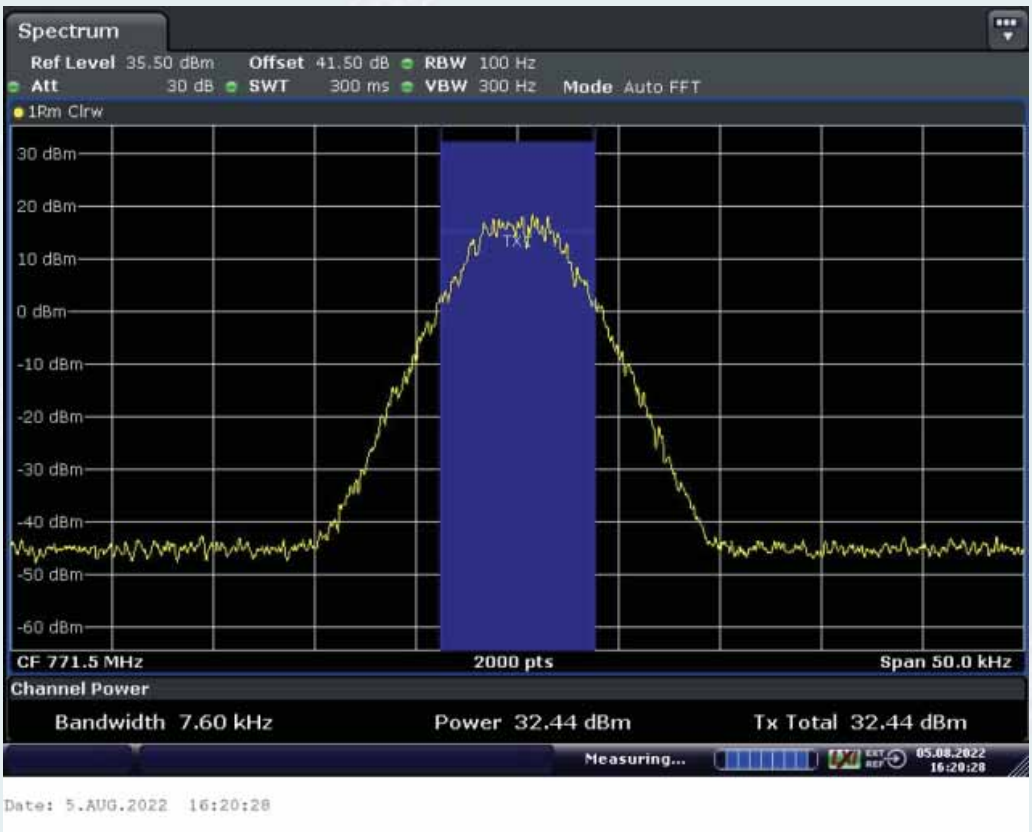
Middle Frequency: 801.5MHz, Output occupied BW (with the input signal amplitude set 3 dB above the AGC threshold)

10.5.5.3.1.5. DMR

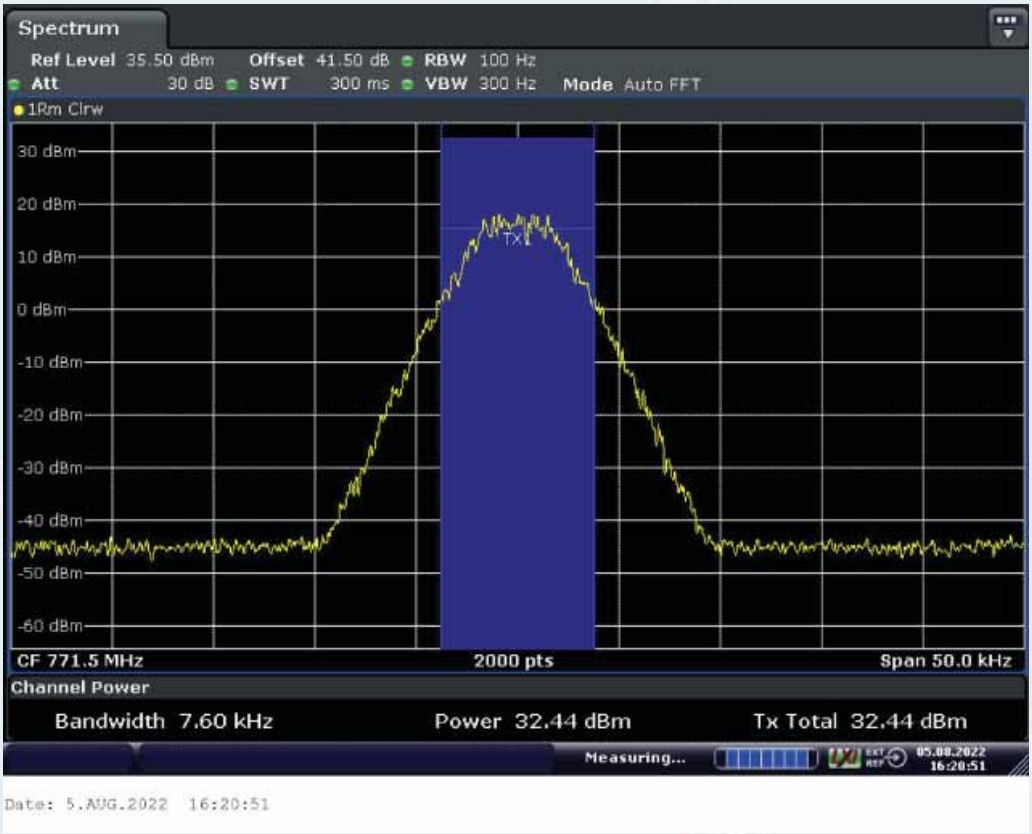
10.5.5.3.1.5.1. Downlink



Middle Frequency: 771.5MHz, Input occupied BW

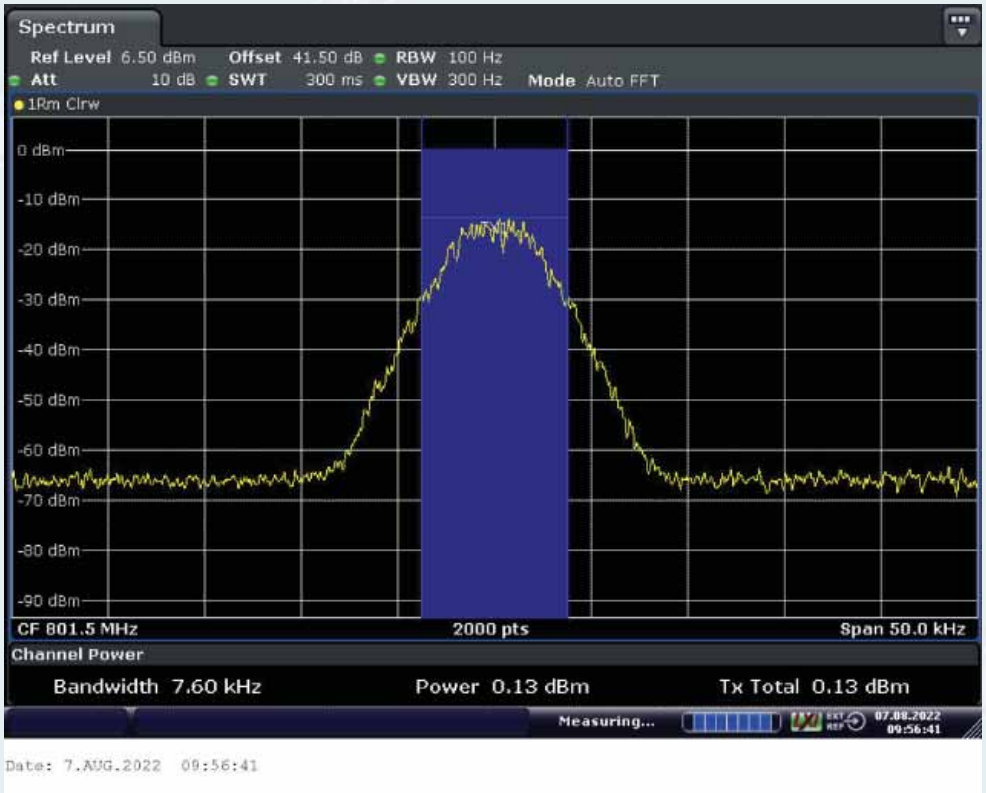


Middle Frequency: 771.5MHz, Output occupied BW(AGC)

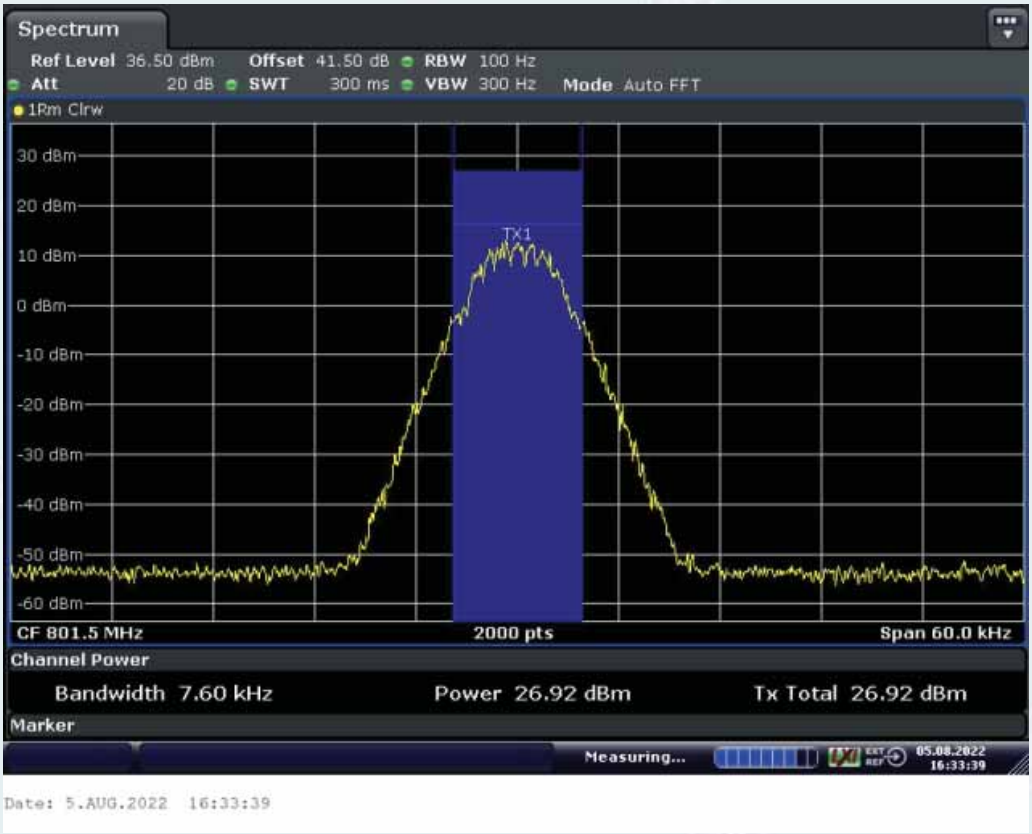


Middle Frequency: 771.5MHz, Output occupied BW (with the input signal amplitude set 3 dB above the AGC threshold)

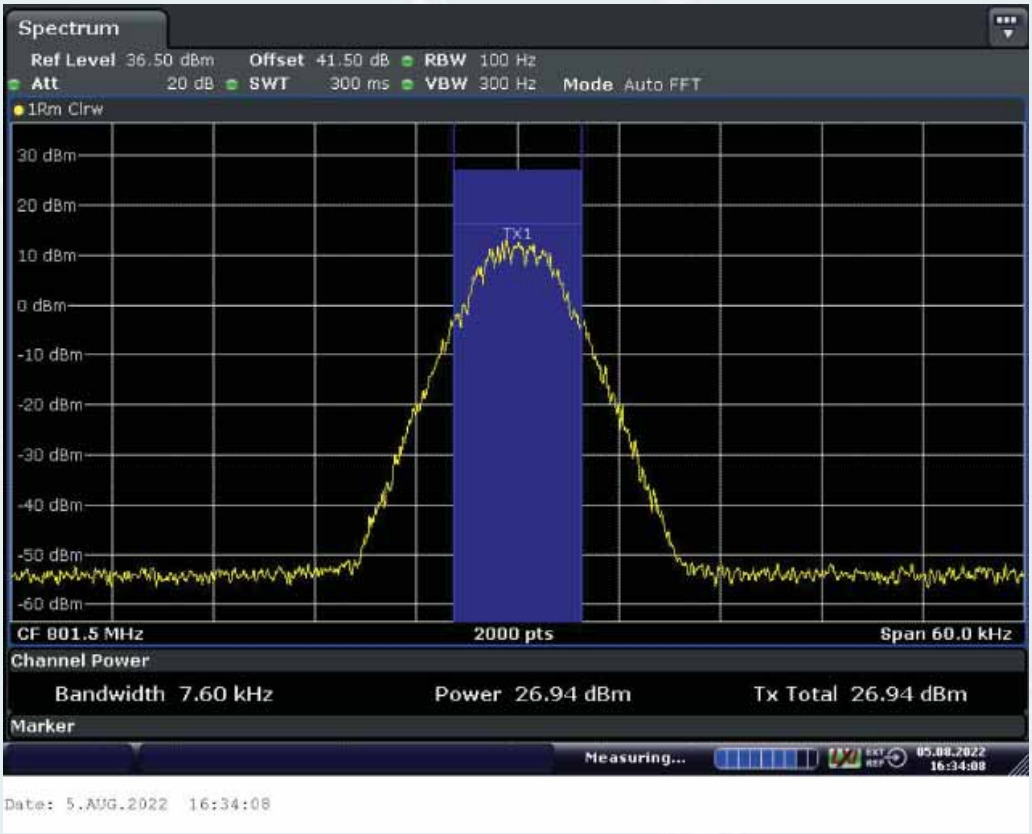
10.5.5.3.1.5.2. Uplink



Middle Frequency: 801.5MHz MHz, Input occupied BW



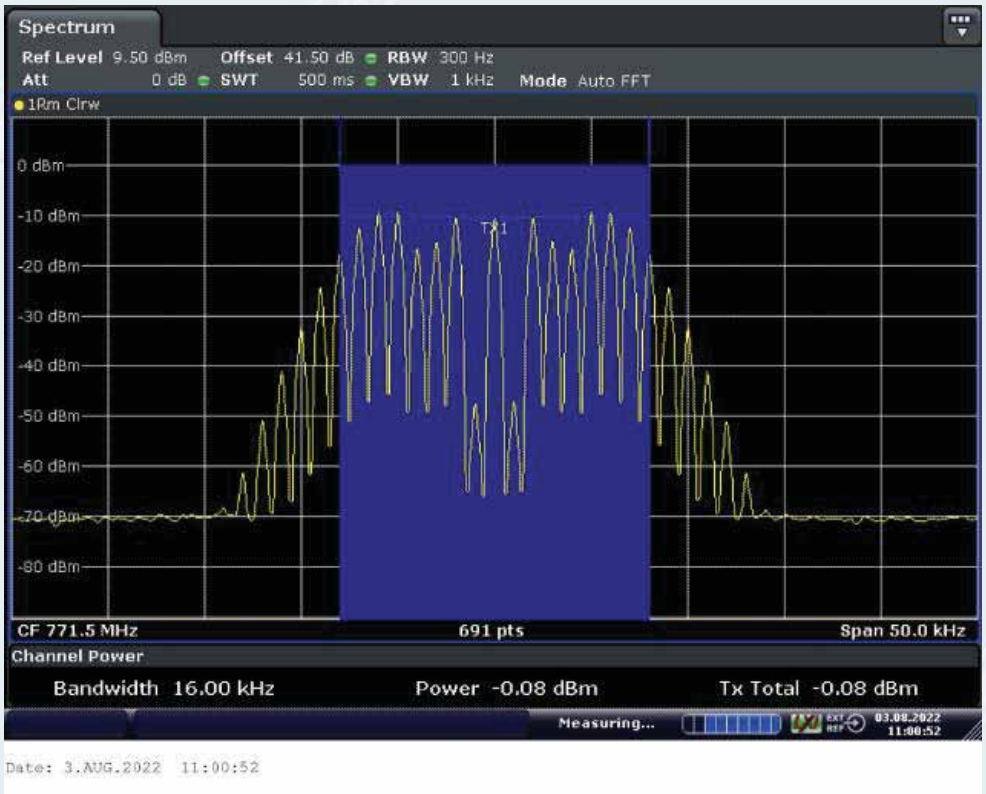
Middle Frequency: 801.5MHz, Output occupied BW(AGC)



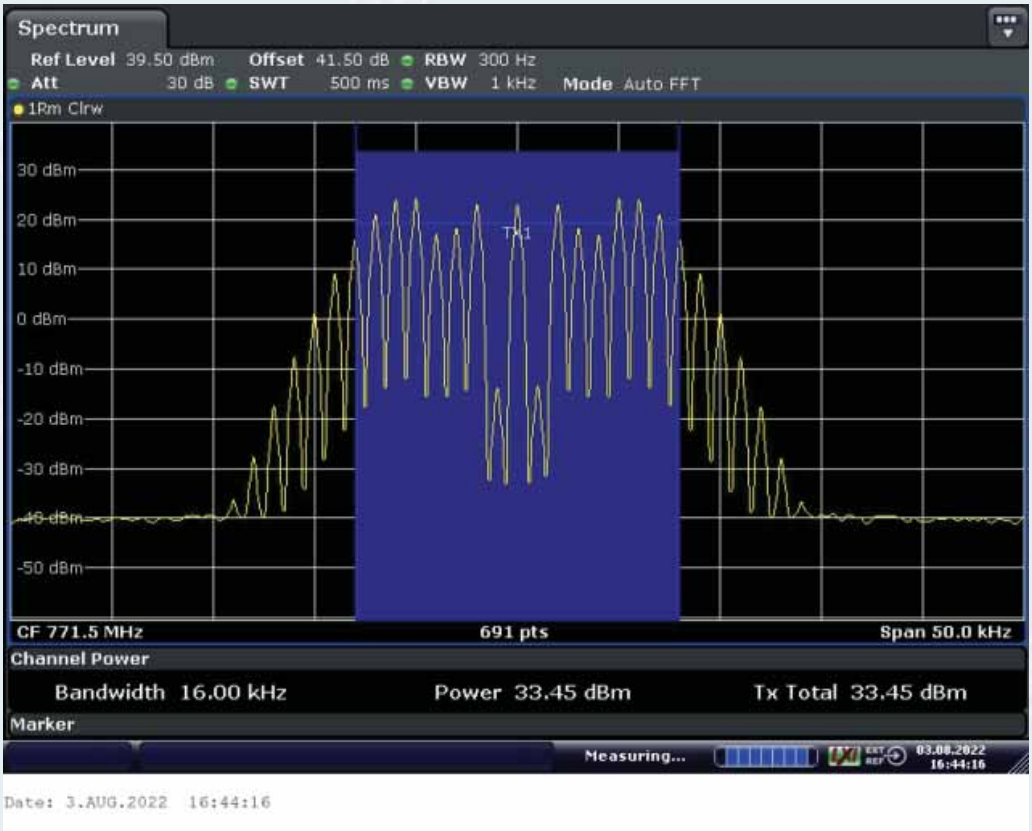
Middle Frequency: 801.5MHz, Output occupied BW (with the input signal amplitude set 3 dB above the AGC threshold)

10.5.5.3.1.6. Analog FM

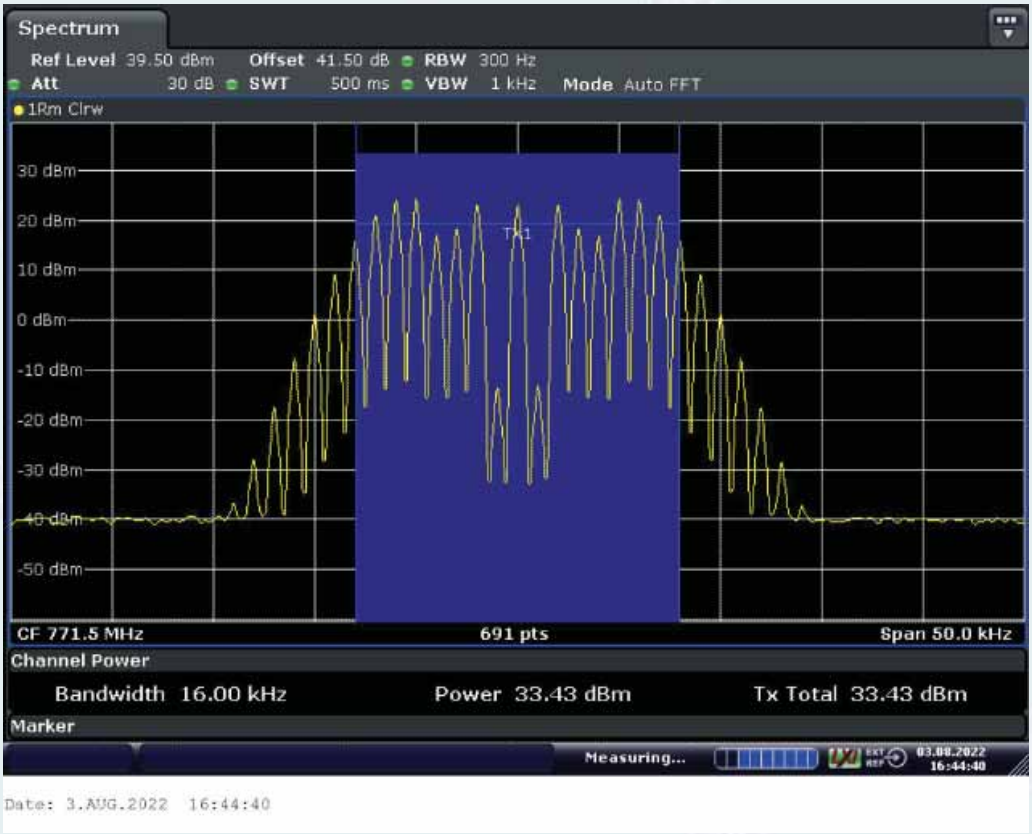
10.5.5.3.1.6.1. Downlink



Middle Frequency: 771.5MHz, Input occupied BW

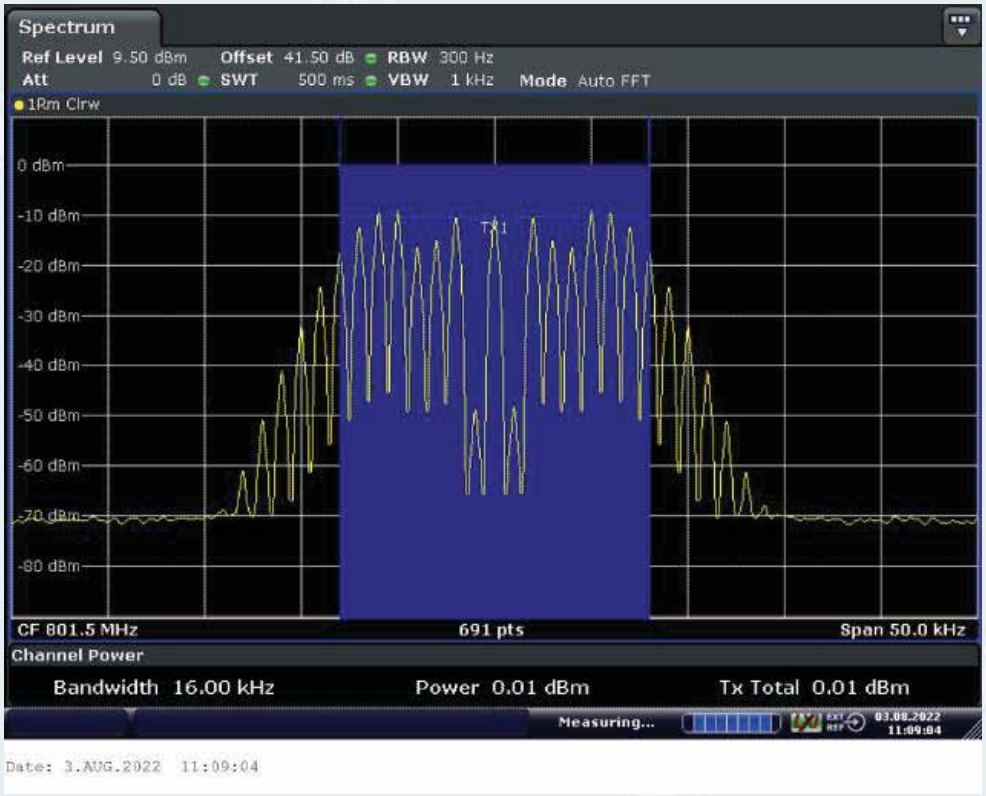


Middle Frequency: 771.5MHz, Output occupied BW(AGC)

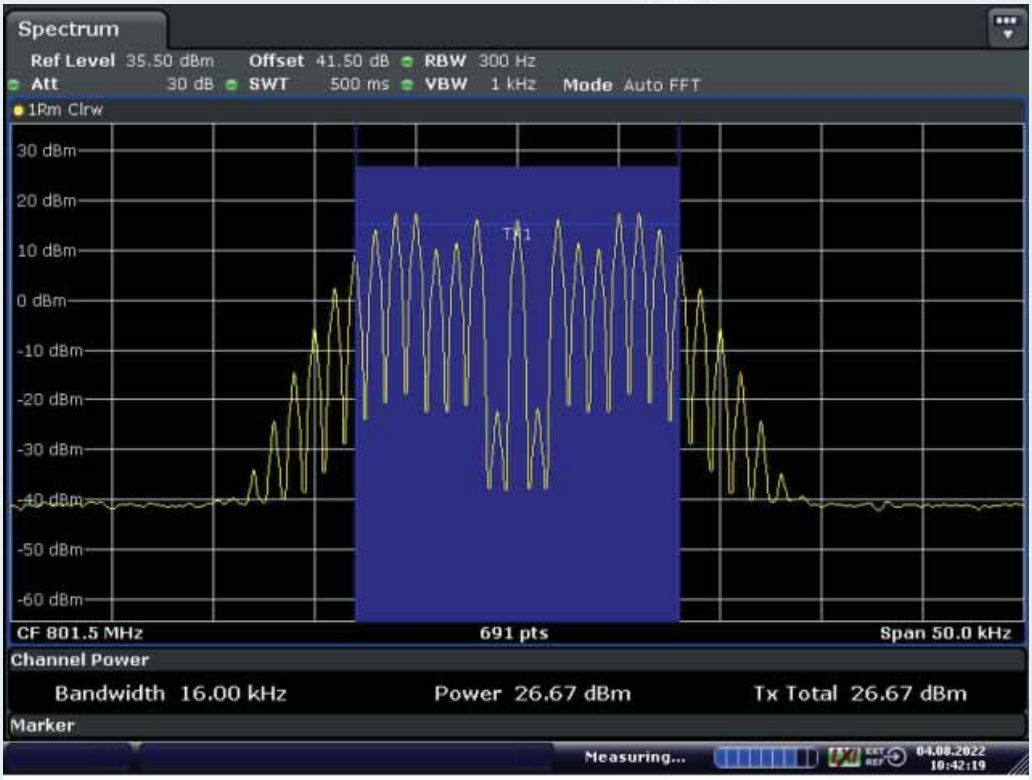


Middle Frequency: 771.5MHz, Output occupied BW (with the input signal amplitude set 3 dB above the AGC threshold)

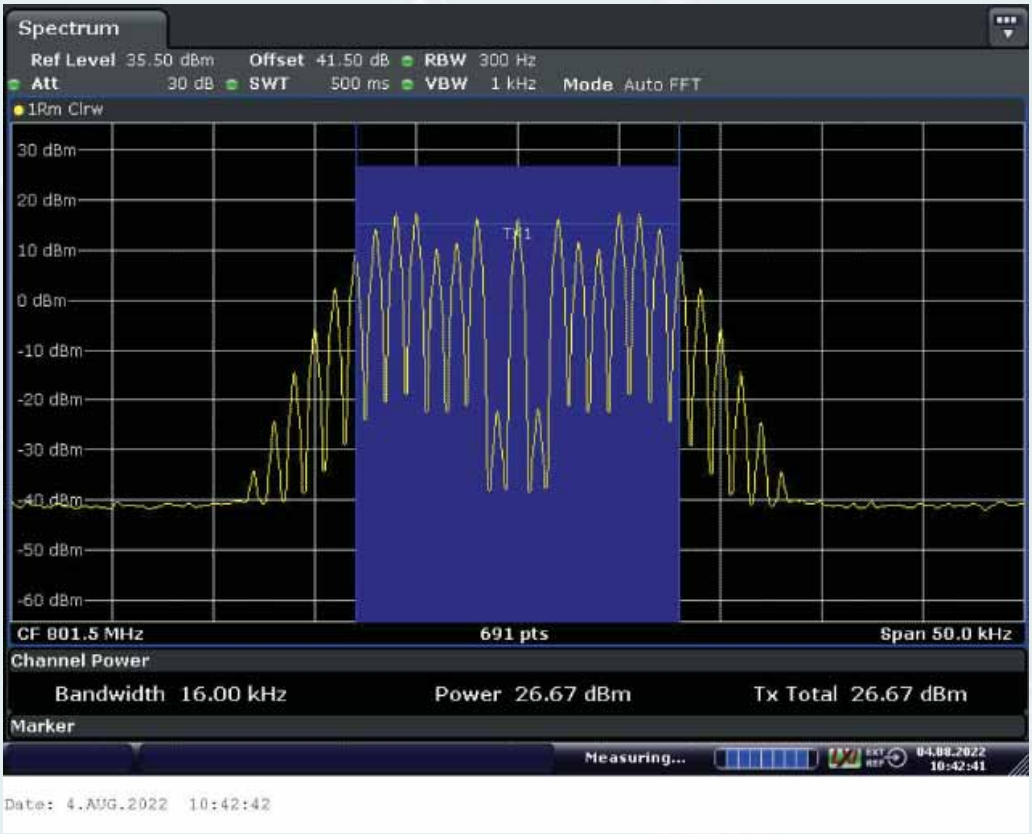
10.5.5.3.1.6.2. Uplink



Middle Frequency: 801.5MHz MHz, Input occupied BW



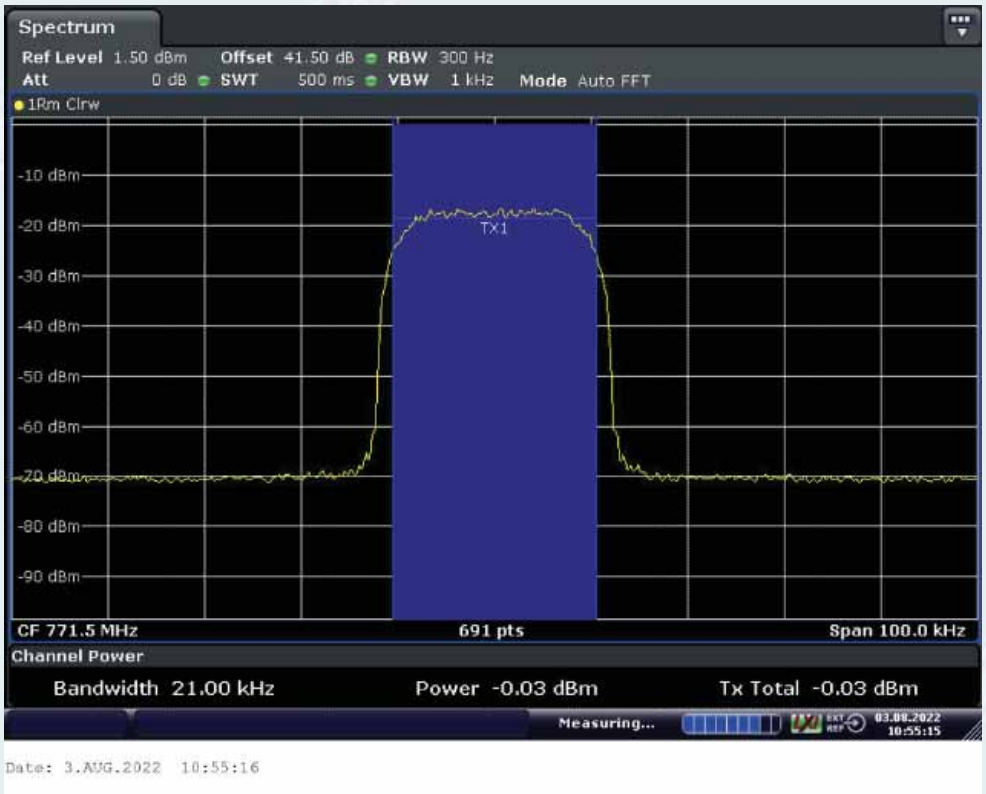
Middle Frequency: 801.5MHz, Output occupied BW(AGC)



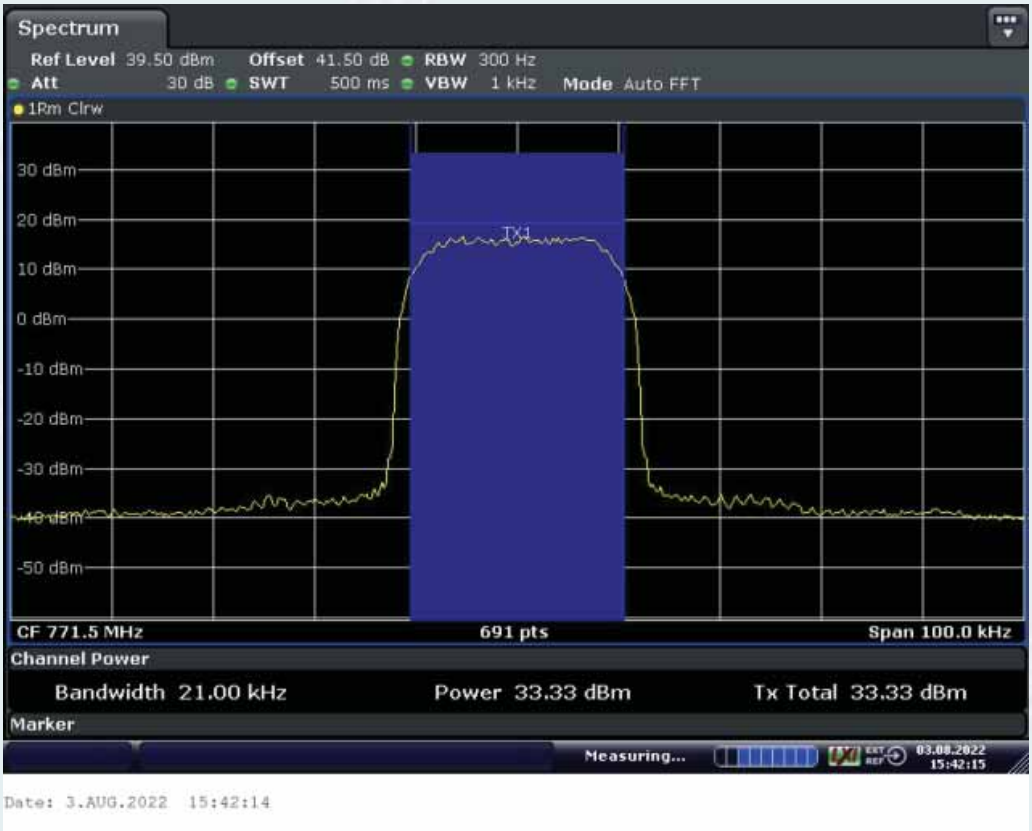
Middle Frequency: 801.5MHz, Output occupied BW (with the input signal amplitude set 3 dB above the AGC threshold)

10.5.5.3.1.7. Tetra

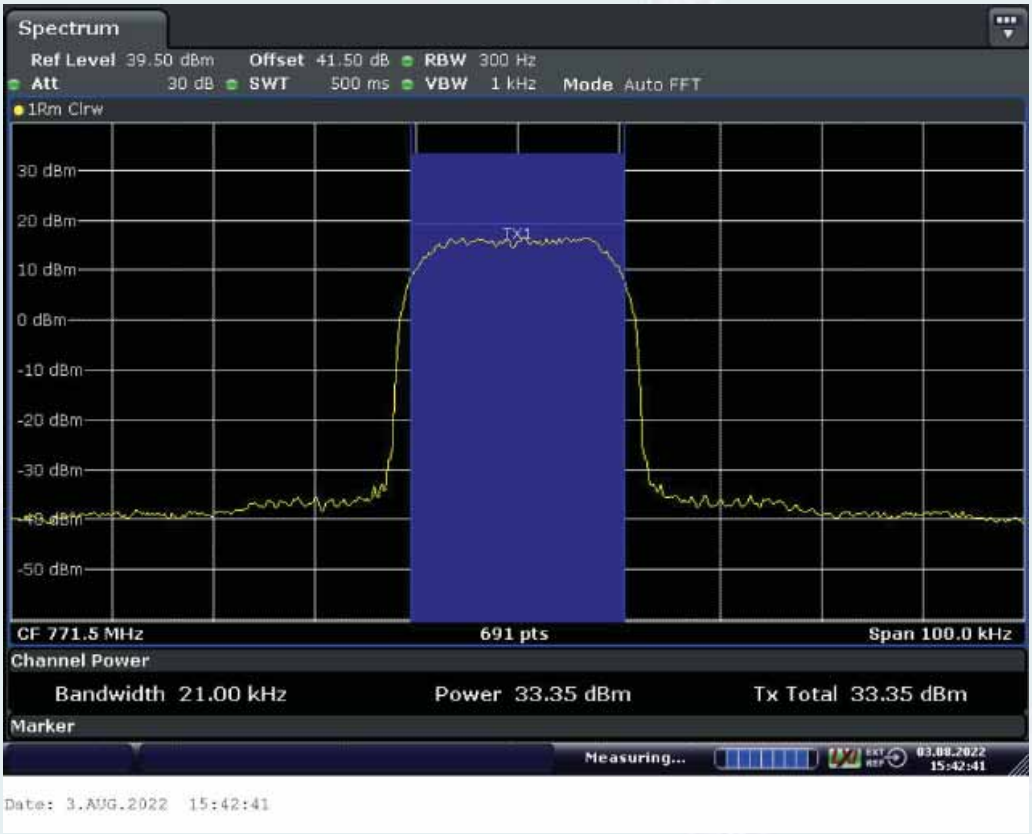
10.5.5.3.1.7.1. Downlink



Middle Frequency: 771.5MHz, Input occupied BW

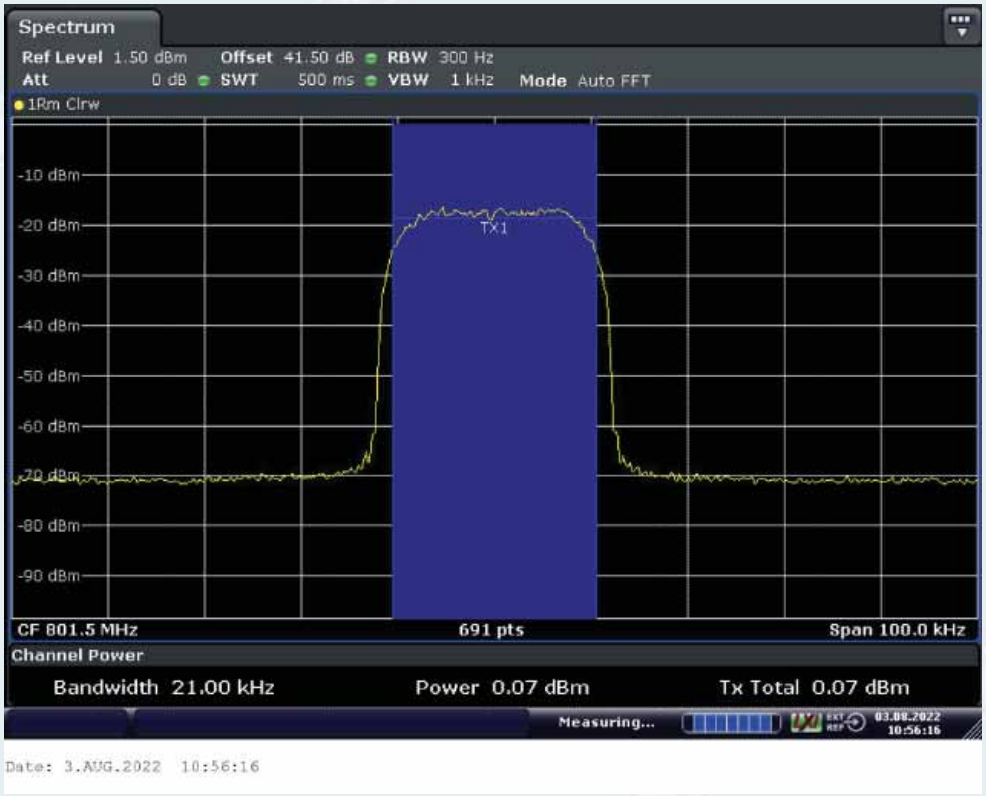


Middle Frequency: 771.5MHz, Output occupied BW(AGC)

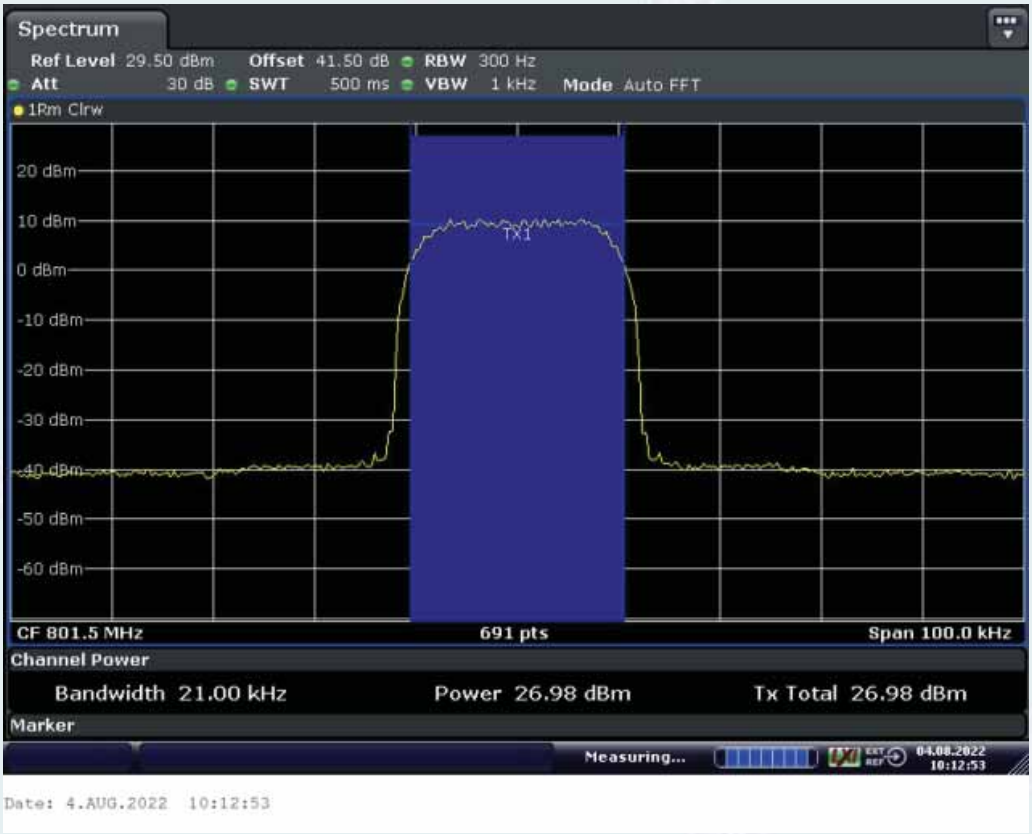


Middle Frequency: 771.5MHz, Output occupied BW (with the input signal amplitude set 3 dB above the AGC threshold)

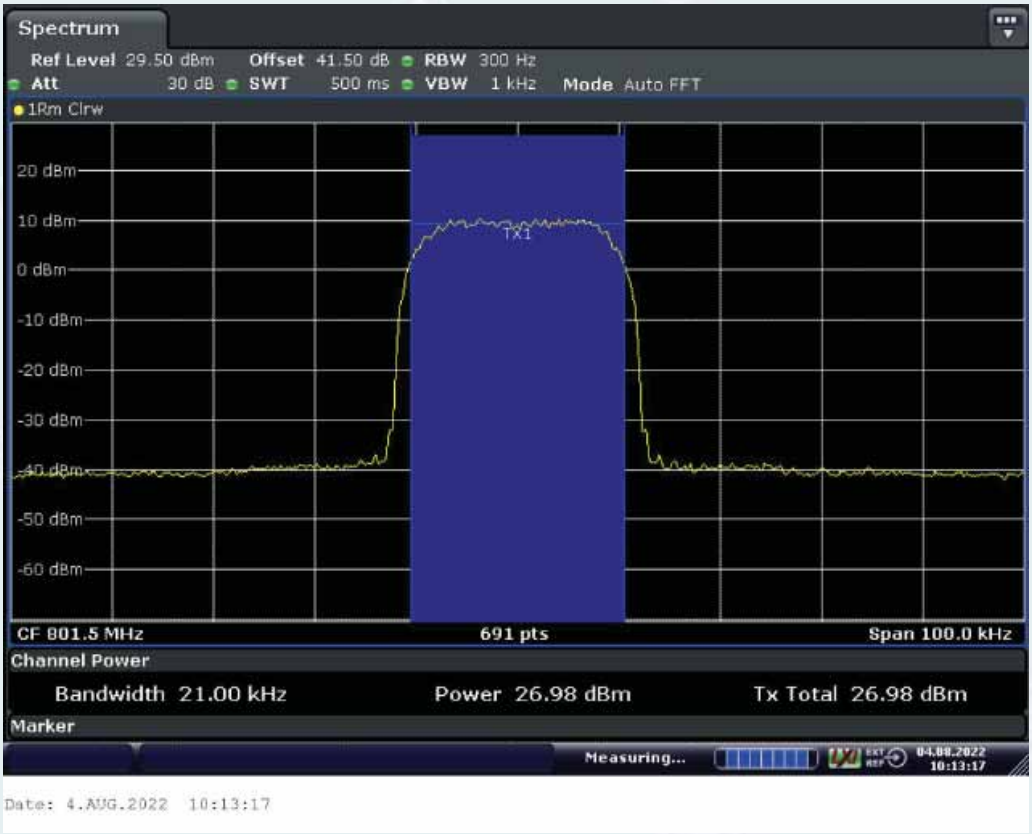
10.5.5.3.1.7.2. Uplink



Middle Frequency: 801.5MHz MHz, Input occupied BW



Middle Frequency: 801.5MHz, Output occupied BW(AGC)

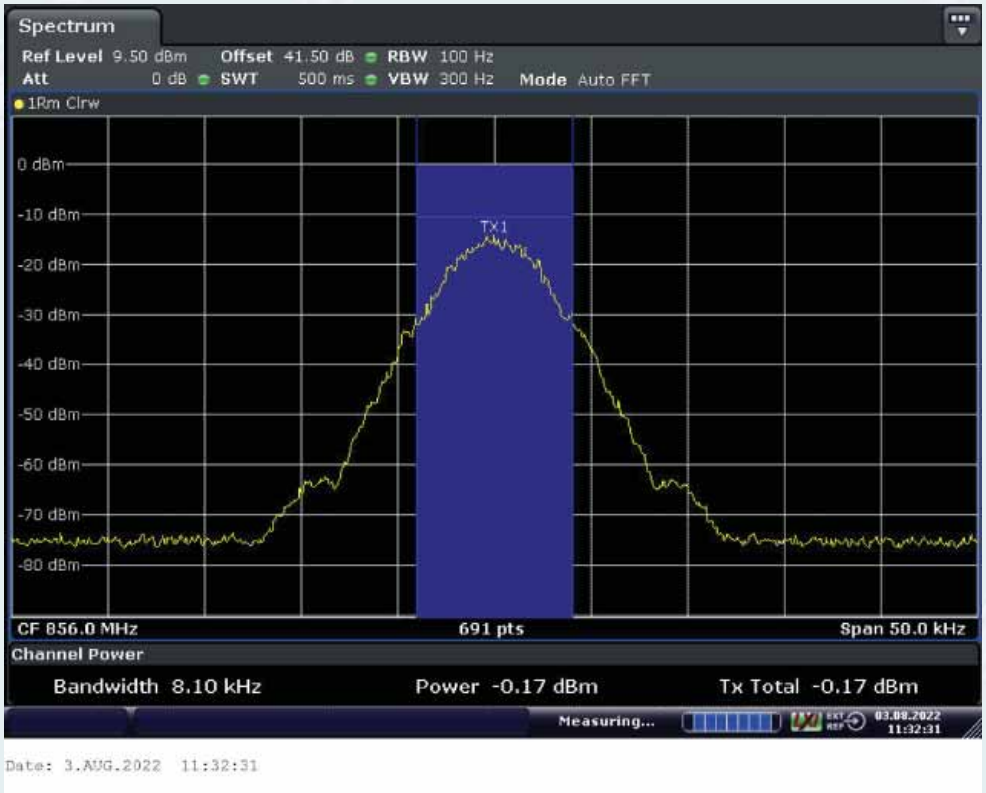


Middle Frequency: 801.5MHz, Output occupied BW (with the input signal amplitude set 3 dB above the AGC threshold)

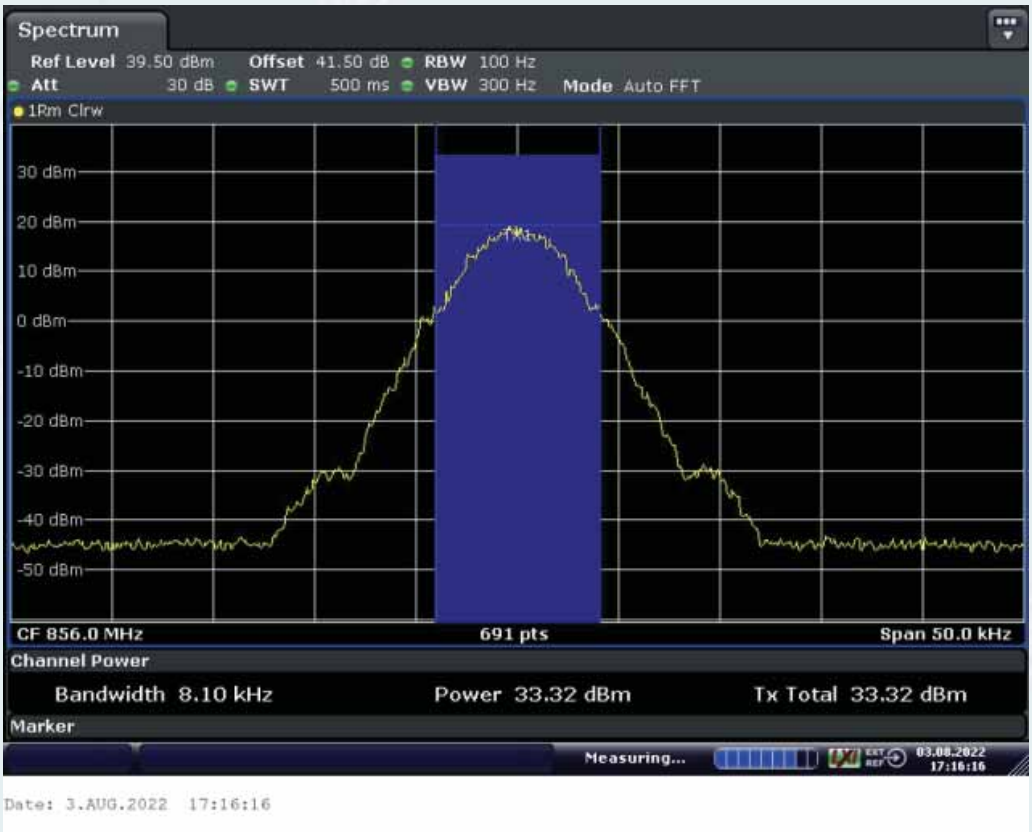
10.5.5.3.2. 800MHz Band

10.5.5.3.2.1. P25 Phase I(C4FM)

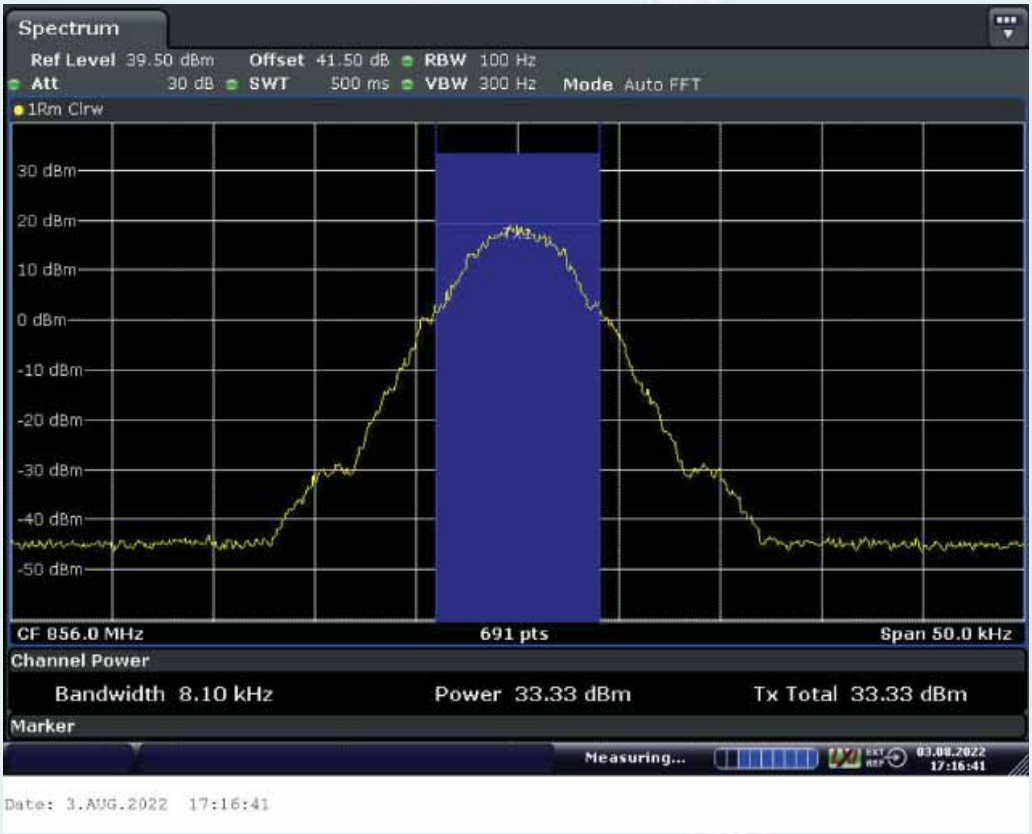
10.5.5.3.2.1.1. Downlink



Middle Frequency: 856.0MHz, Input occupied BW

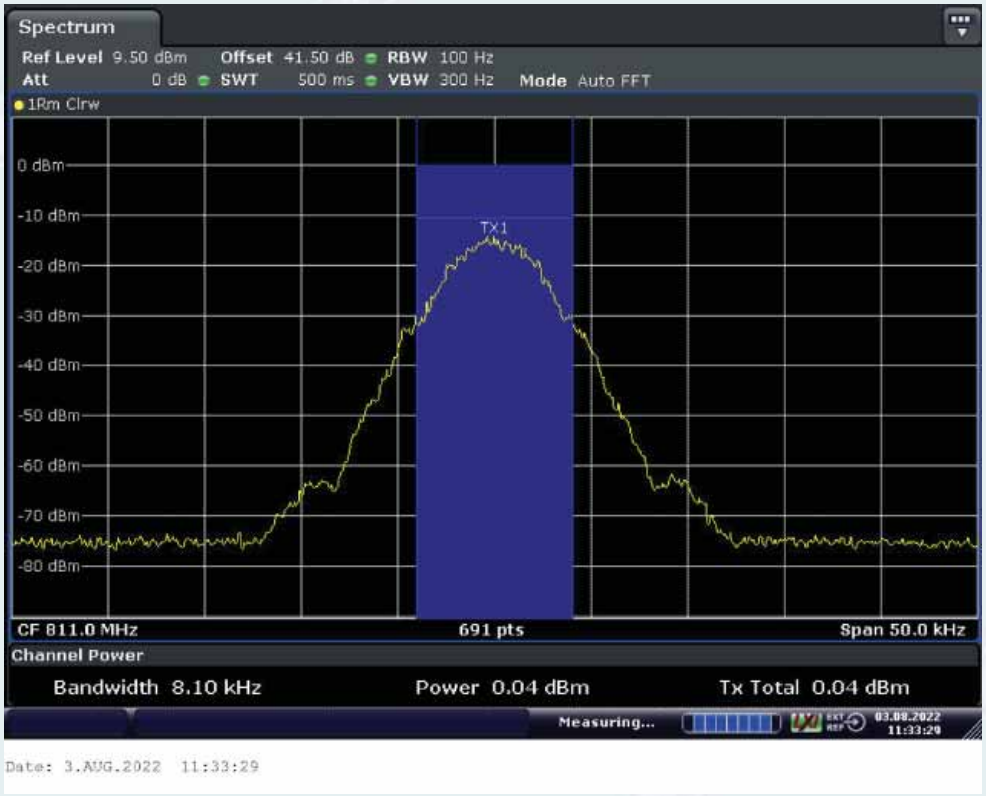


Middle Frequency: 856.0MHz, Output occupied BW(AGC)

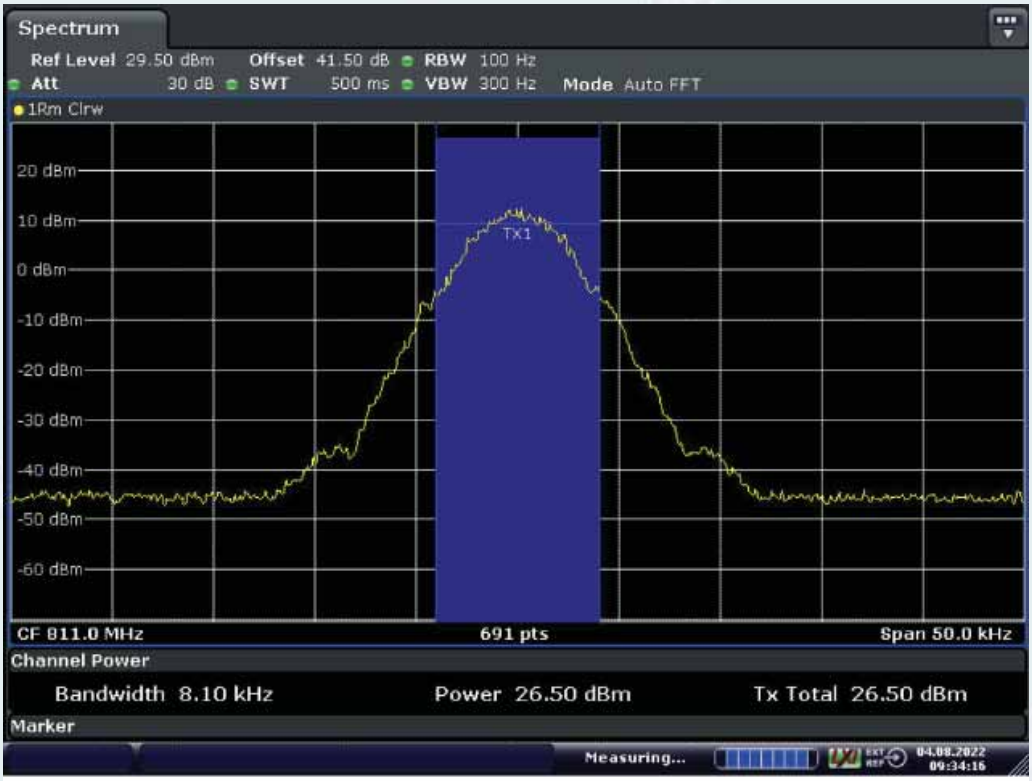


Middle Frequency: 856.0MHz, Output occupied BW (with the input signal amplitude set 3 dB above the AGC threshold)

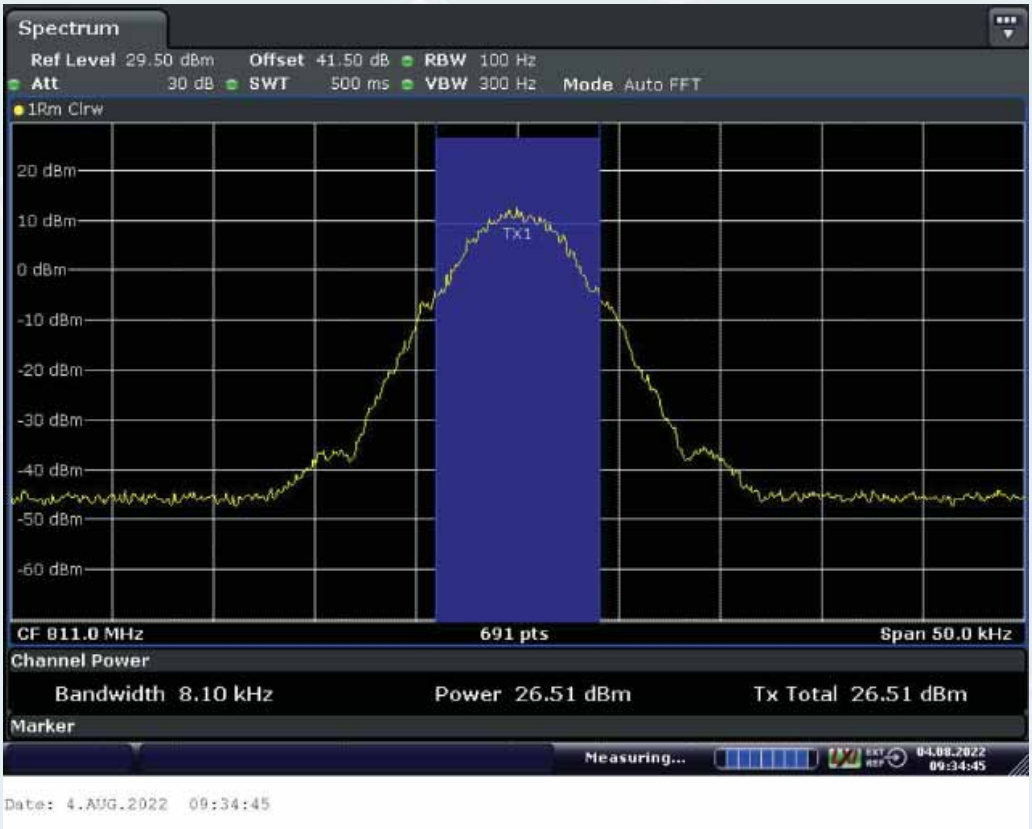
10.5.5.3.2.1.2. Uplink



Middle Frequency: 811.0MHz MHz, Input occupied BW



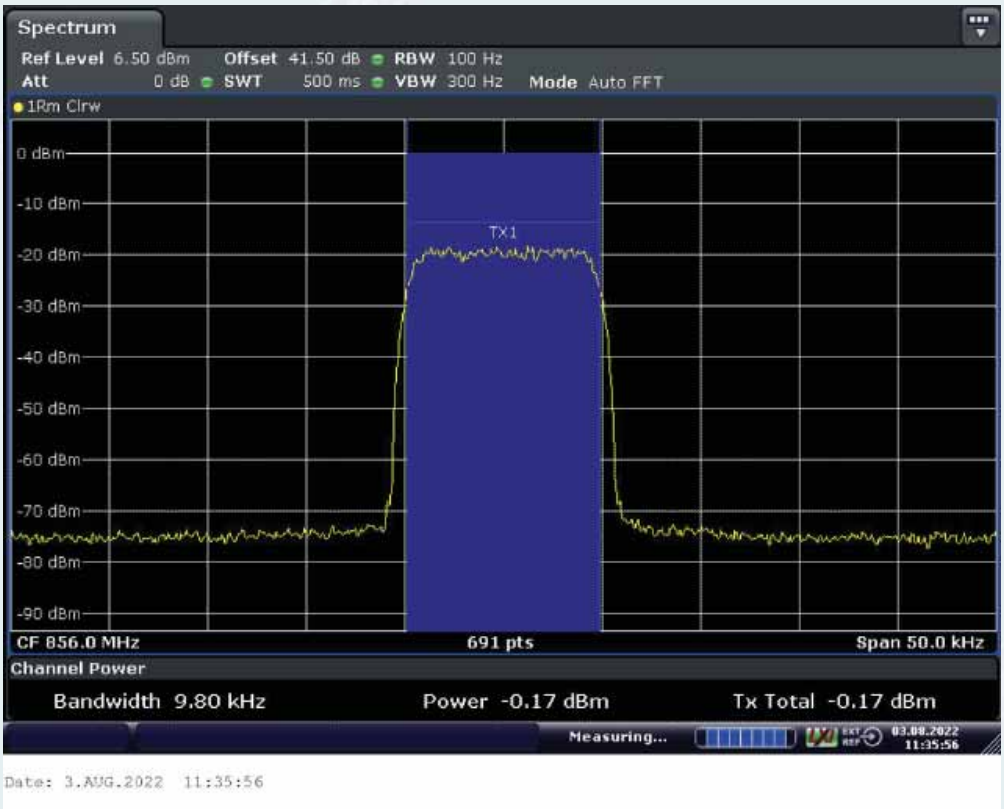
Middle Frequency: 811.0MHz, Output occupied BW(AGC)



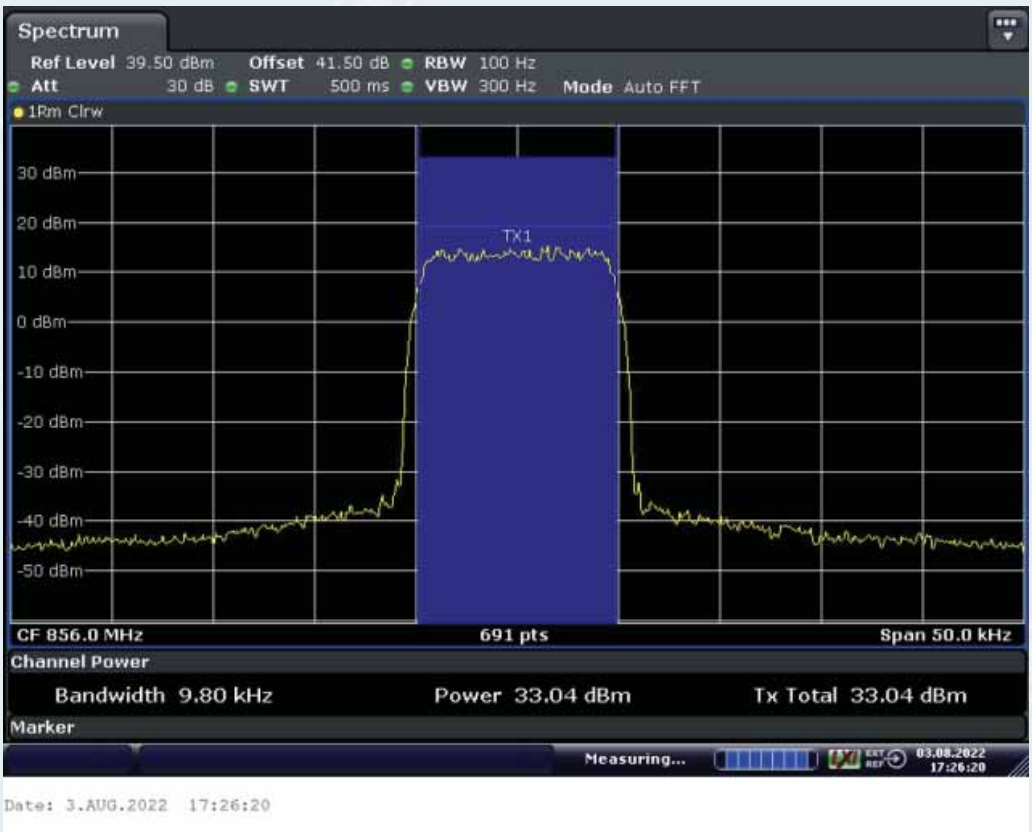
Middle Frequency: 811.0MHz, Output occupied BW (with the input signal amplitude set 3 dB above the AGC threshold)

10.5.5.3.2.2. P25 Phase II(H-DQPSK)

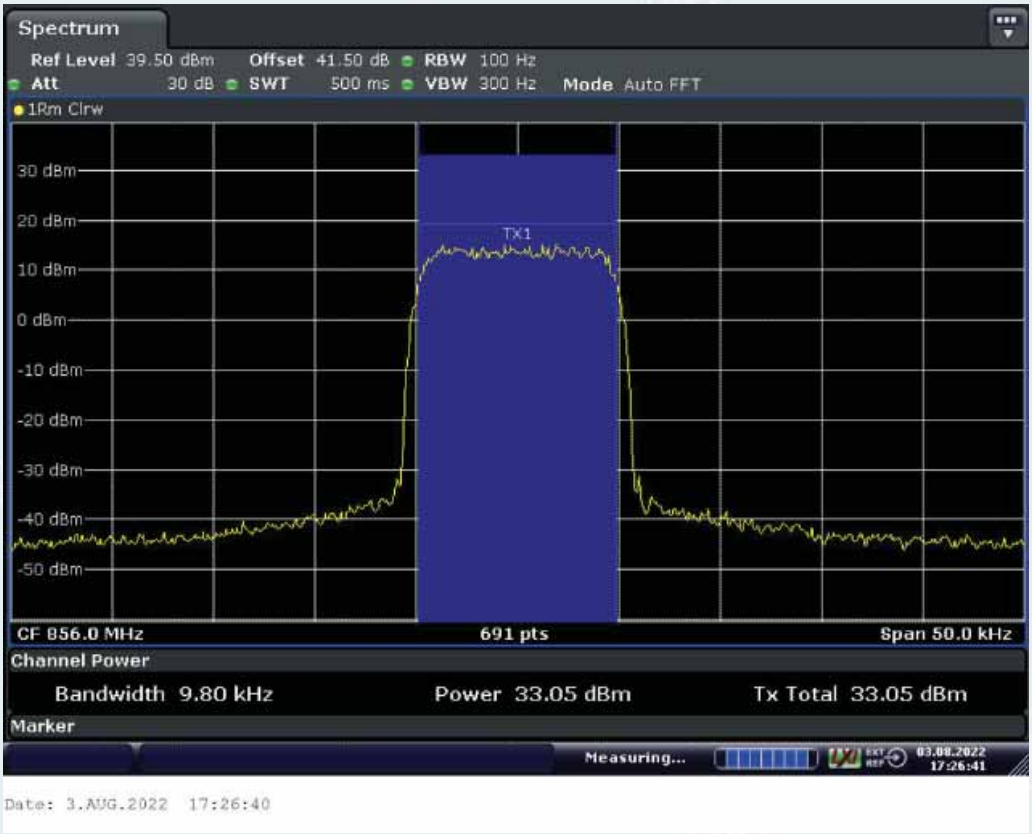
10.5.5.3.2.2.1. Downlink



Middle Frequency: 856.0MHz, Input occupied BW

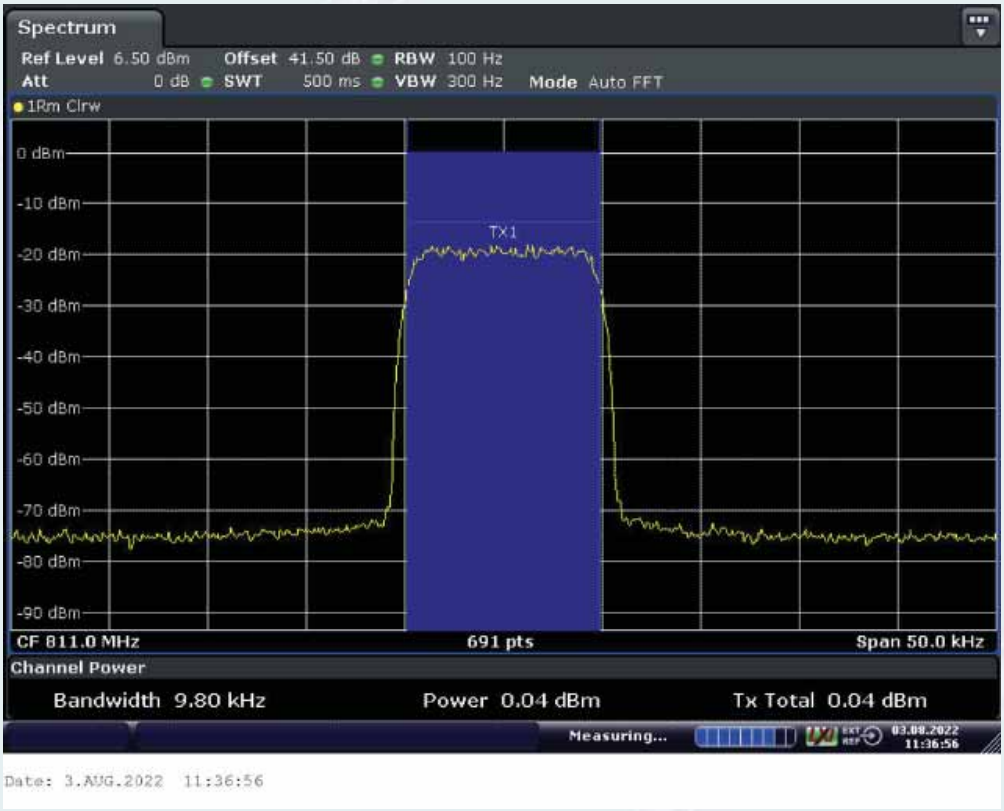


Middle Frequency: 856.0MHz, Output occupied BW(AGC)

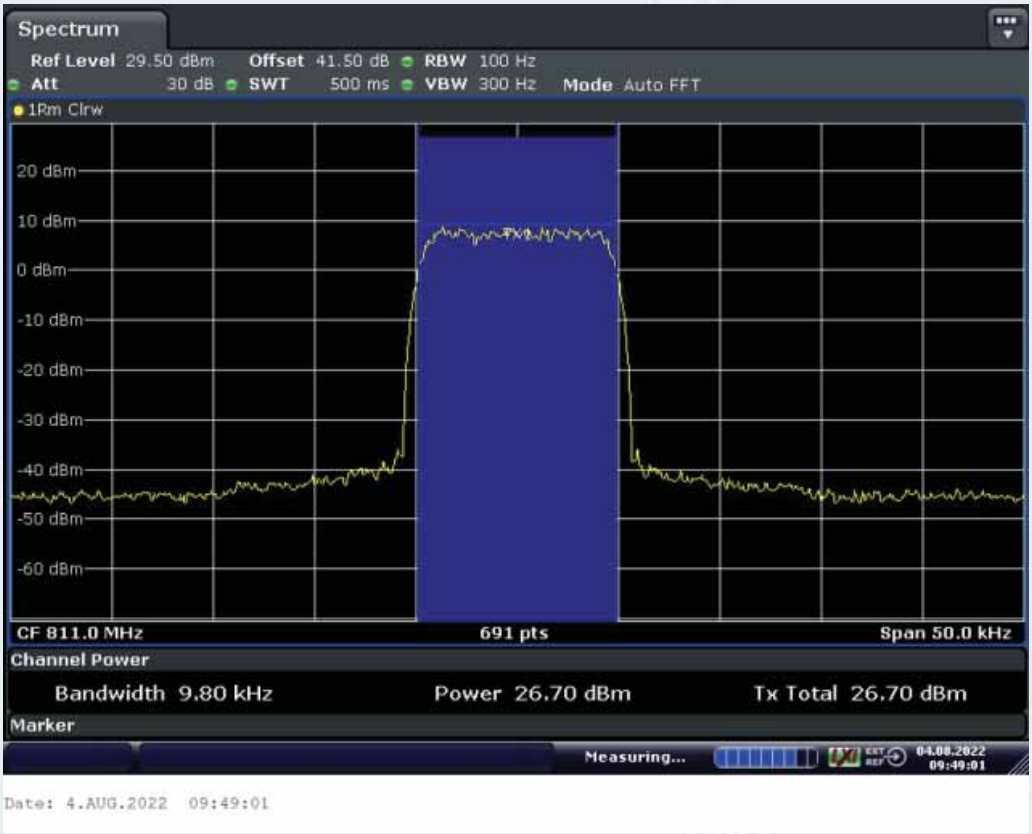


Middle Frequency: 856.0MHz, Output occupied BW (with the input signal amplitude set 3 dB above the AGC threshold)

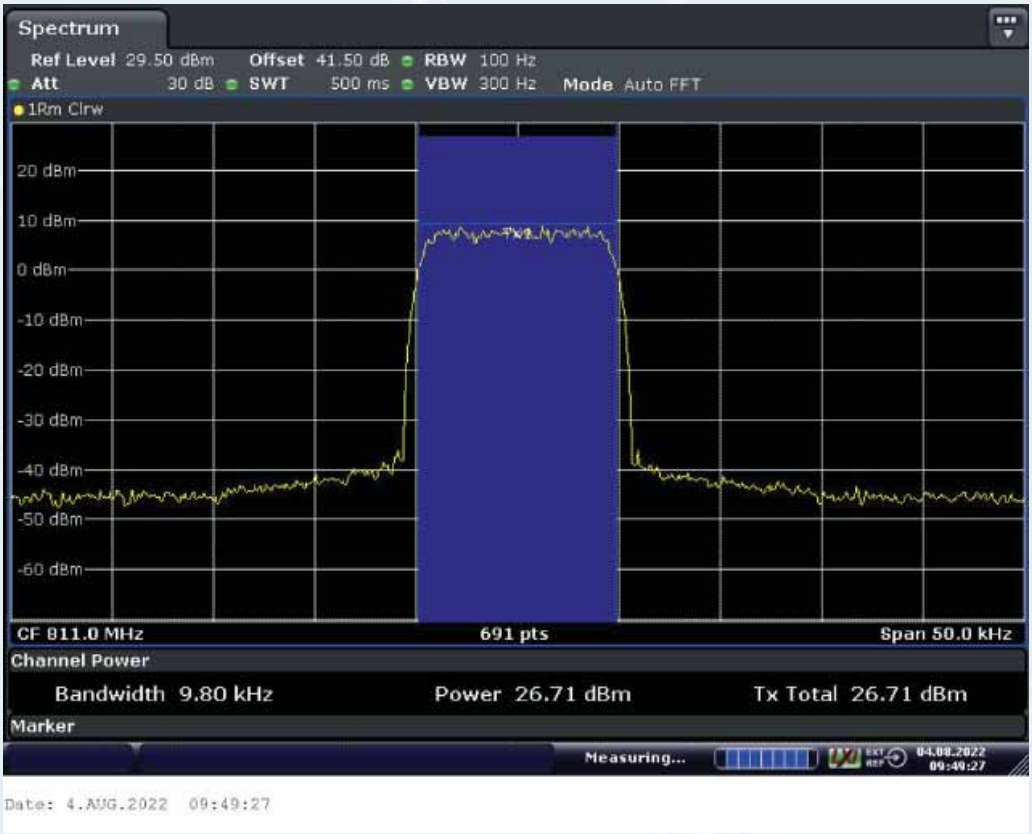
10.5.5.3.2.2.2. Uplink



Middle Frequency: 811.0MHz MHz, Input occupied BW



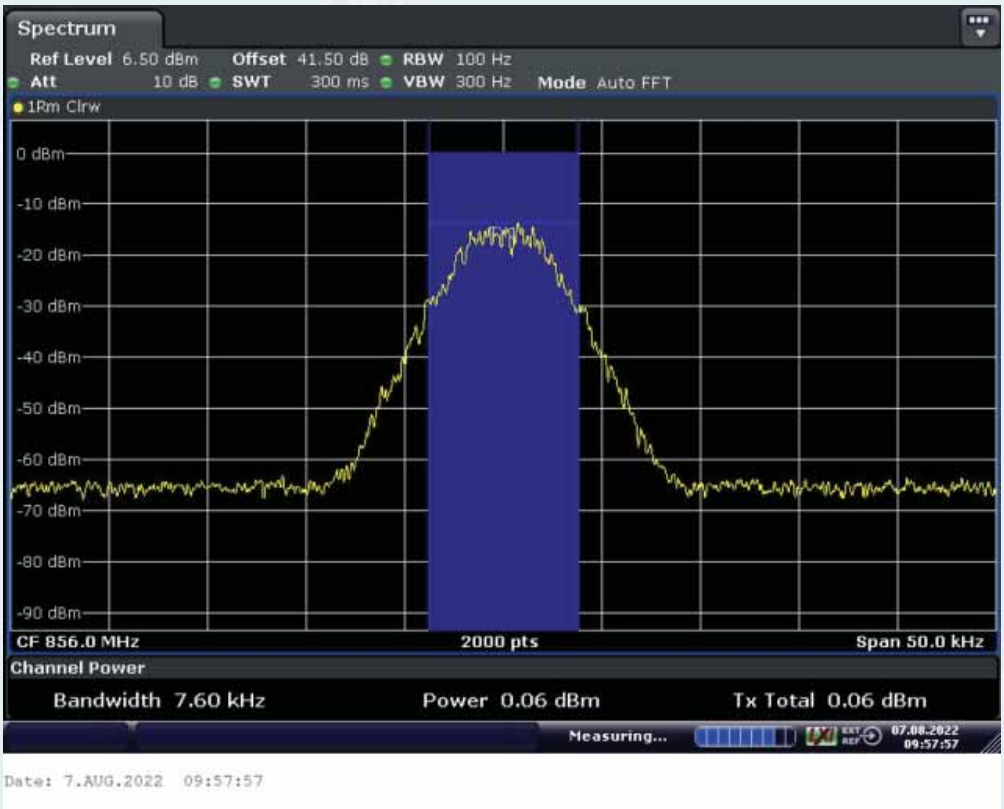
Middle Frequency: 811.0MHz, Output occupied BW(AGC)



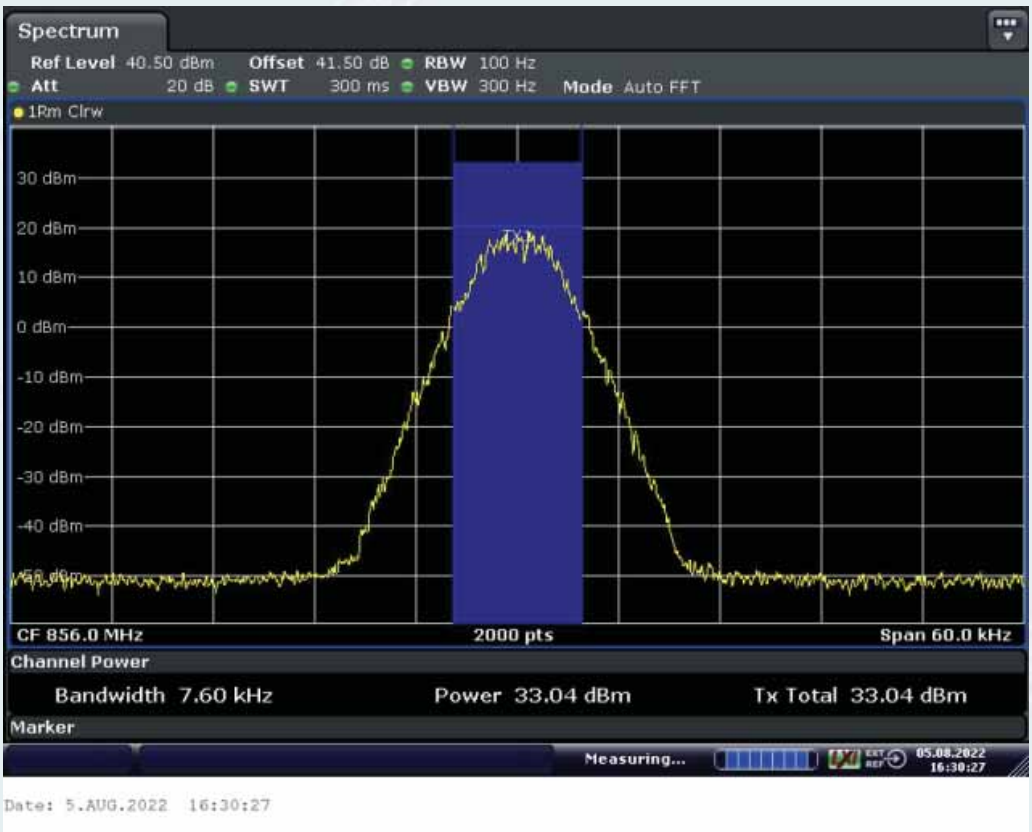
Middle Frequency: 811.0MHz, Output occupied BW (with the input signal amplitude set 3 dB above the AGC threshold)

10.5.5.3.2.3. DMR

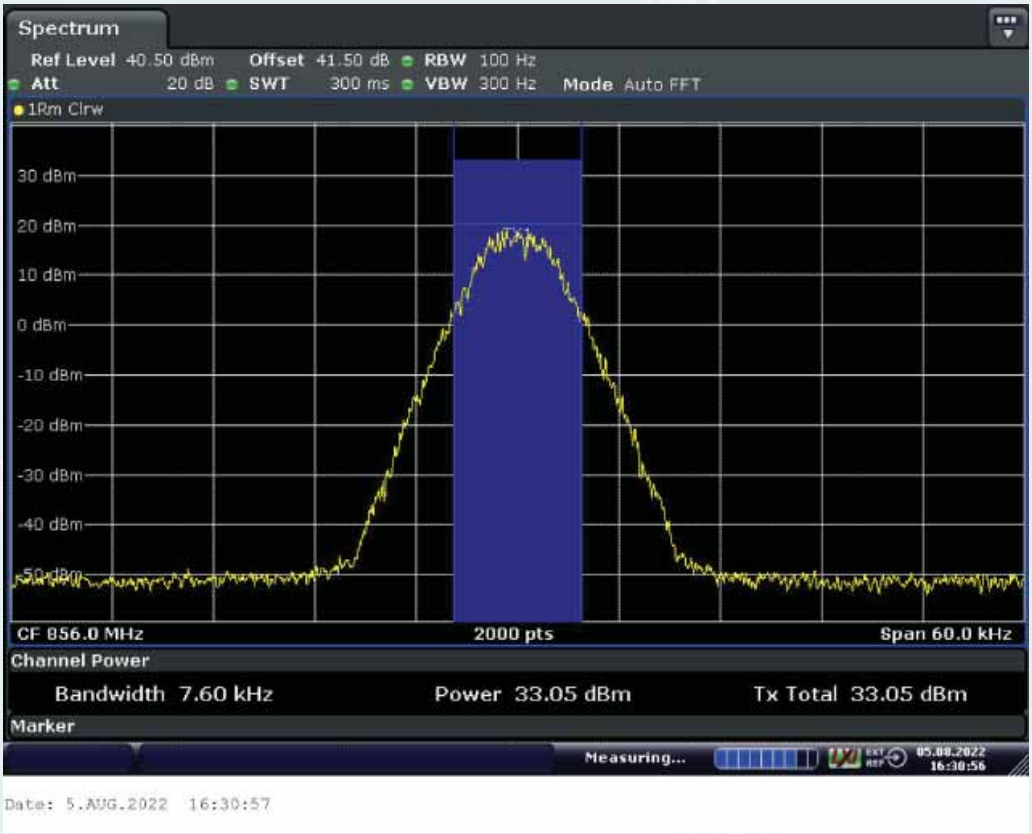
10.5.5.3.2.3.1. Downlink



Middle Frequency: 856.0MHz, Input occupied BW

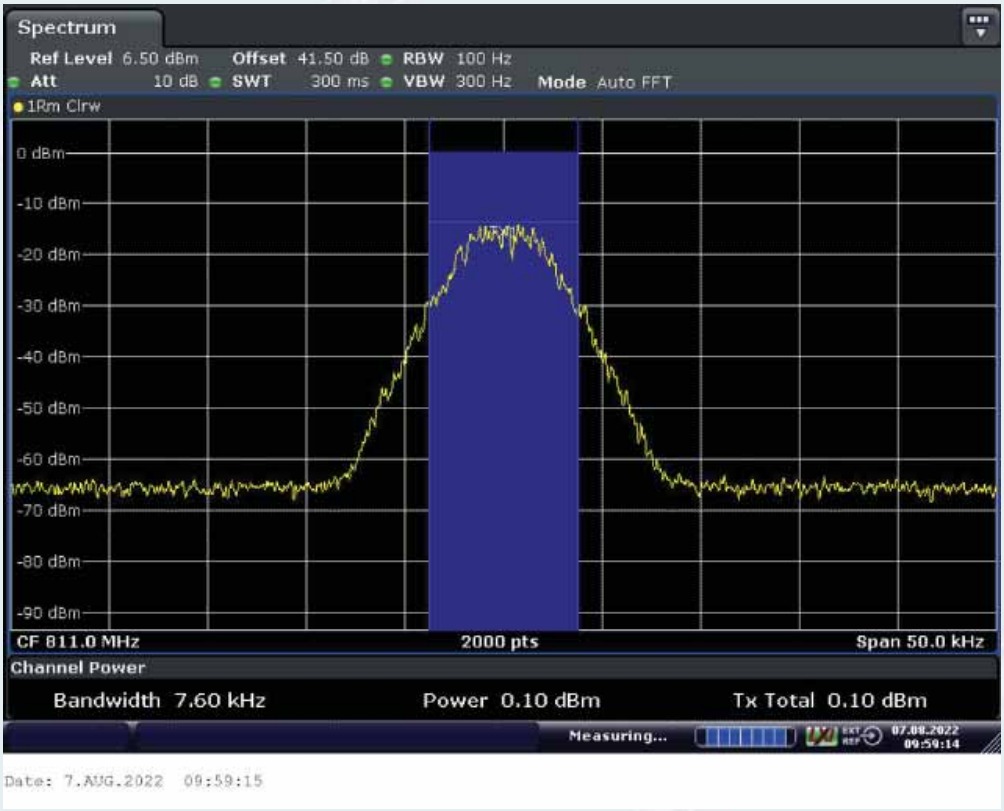


Middle Frequency: 856.0MHz, Output occupied BW(AGC)

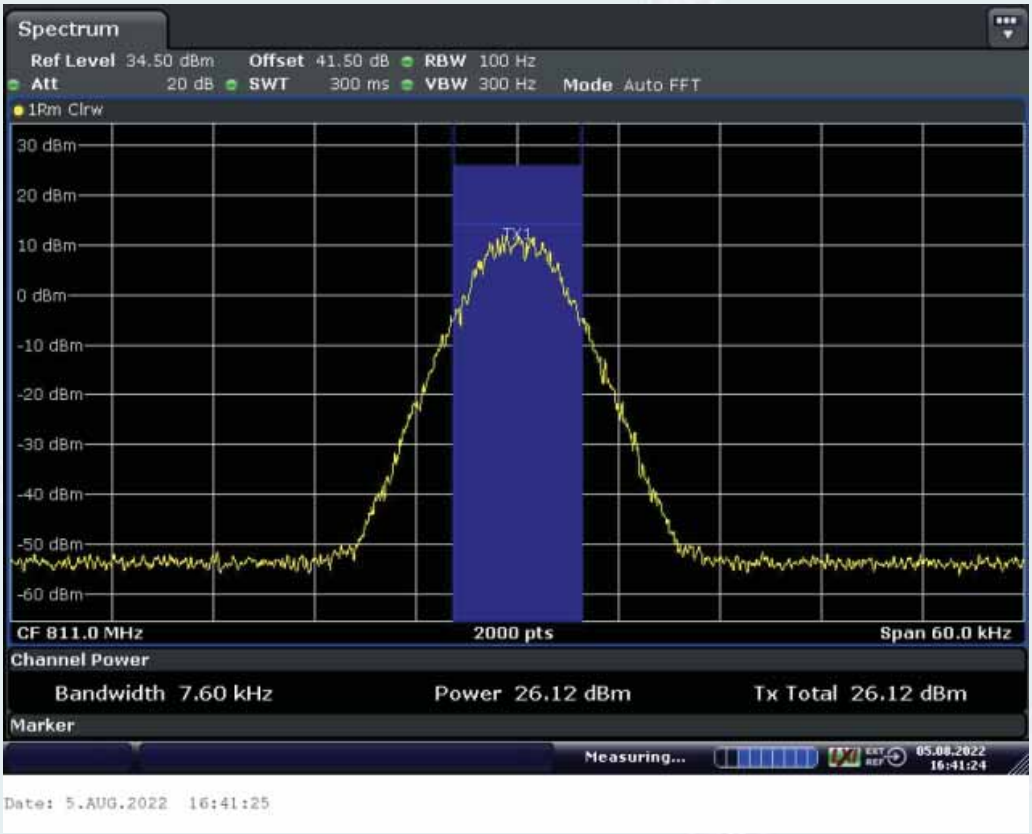


Middle Frequency: 856.0MHz, Output occupied BW (with the input signal amplitude set 3 dB above the AGC threshold)

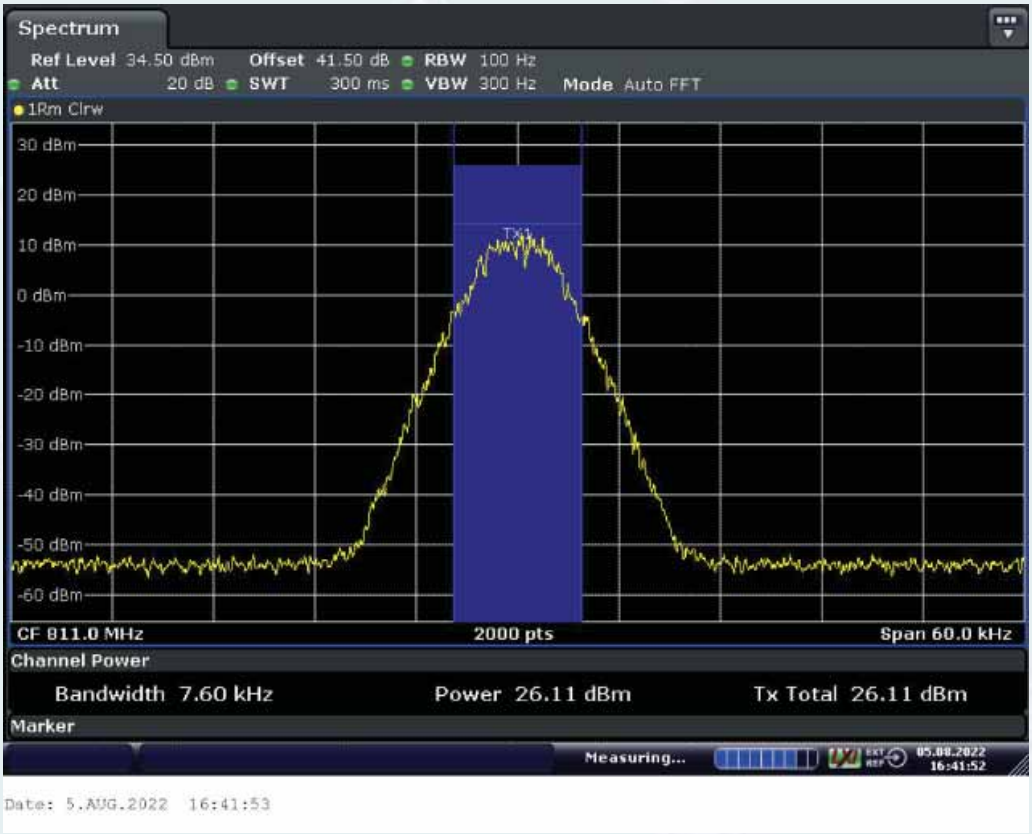
10.5.5.3.2.3.2. Uplink



Middle Frequency: 811.0MHz MHz, Input occupied BW



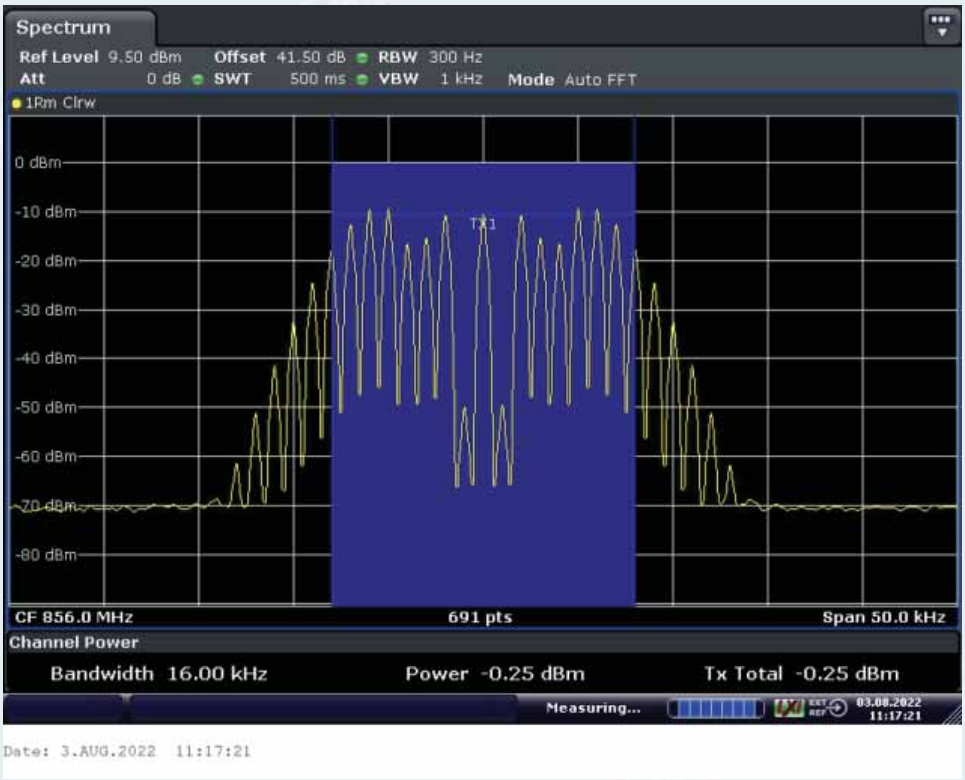
Middle Frequency: 811.0MHz, Output occupied BW(AGC)



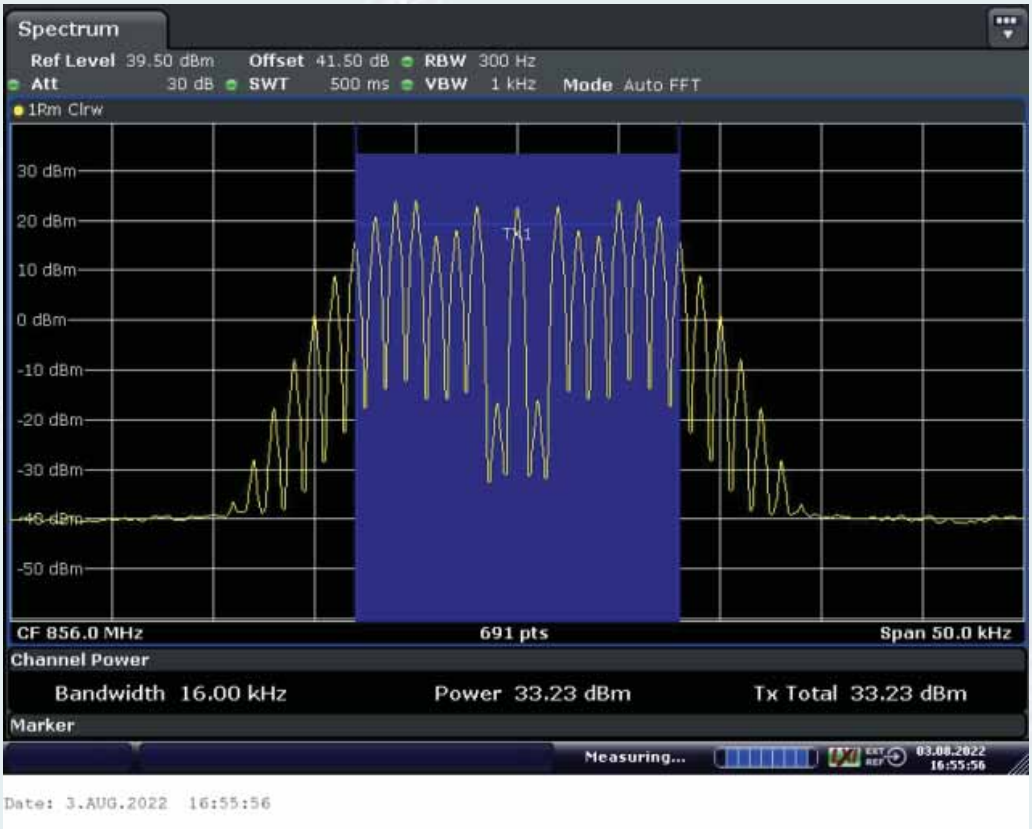
Middle Frequency: 811.0MHz, Output occupied BW (with the input signal amplitude set 3 dB above the AGC threshold)

10.5.5.3.2.4. Analog FM

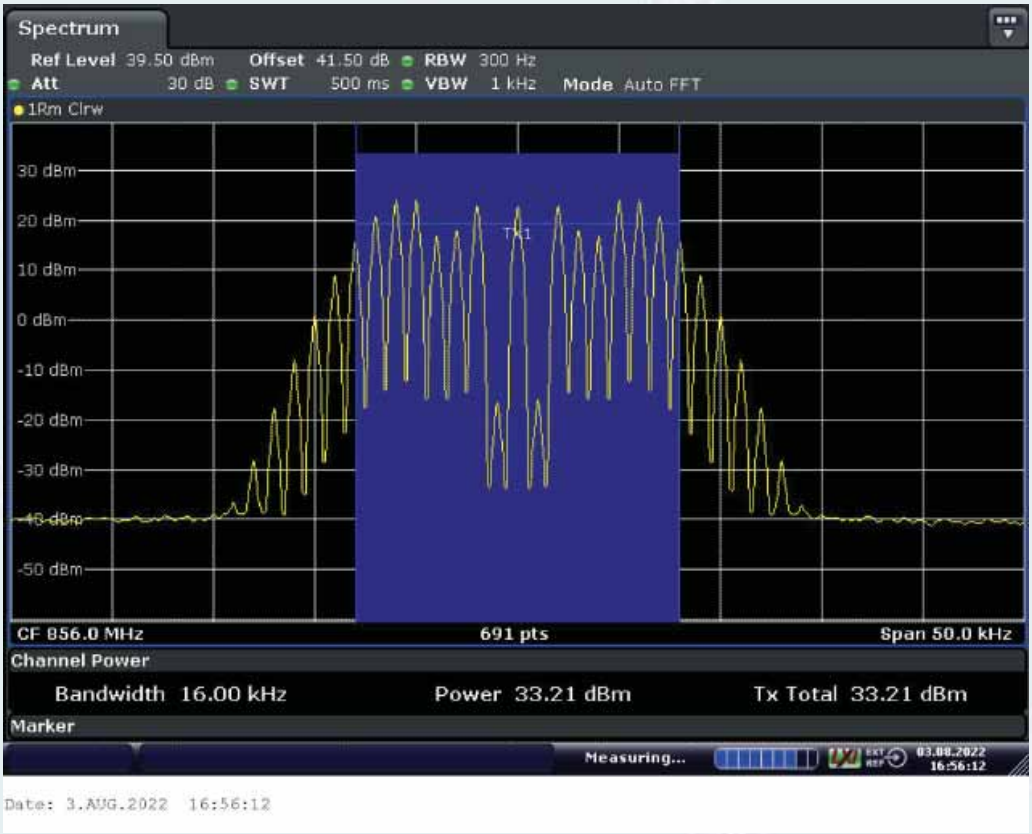
10.5.5.3.2.4.1. Downlink



Middle Frequency: 856.0MHz, Input occupied BW

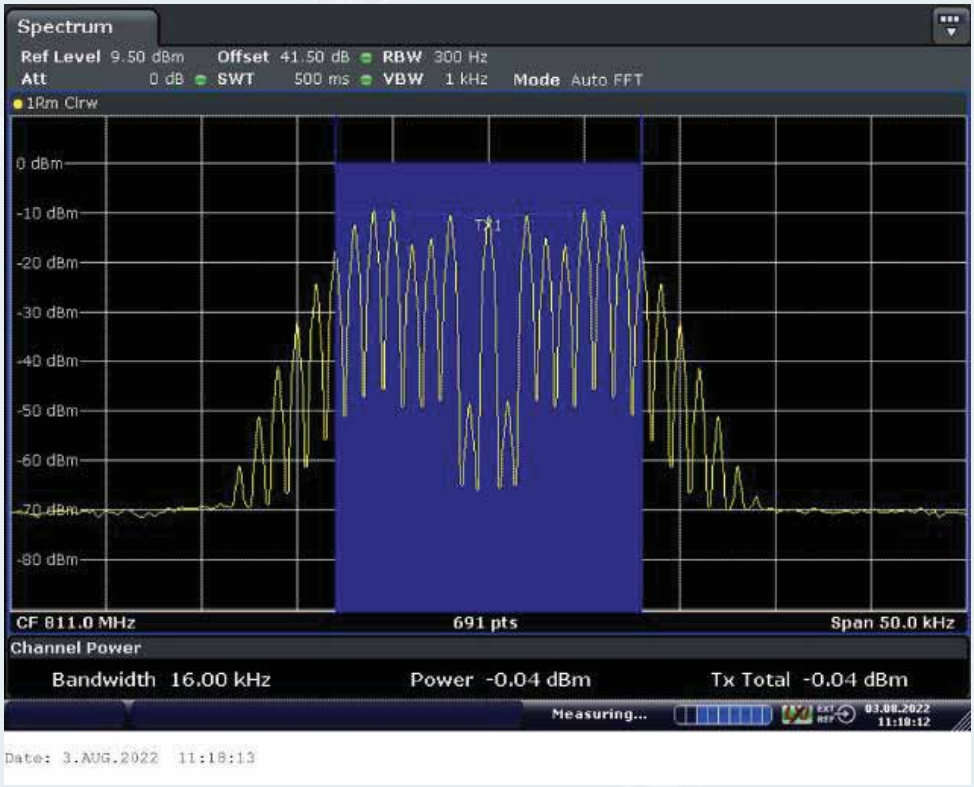


Middle Frequency: 856.0MHz, Output occupied BW(AGC)

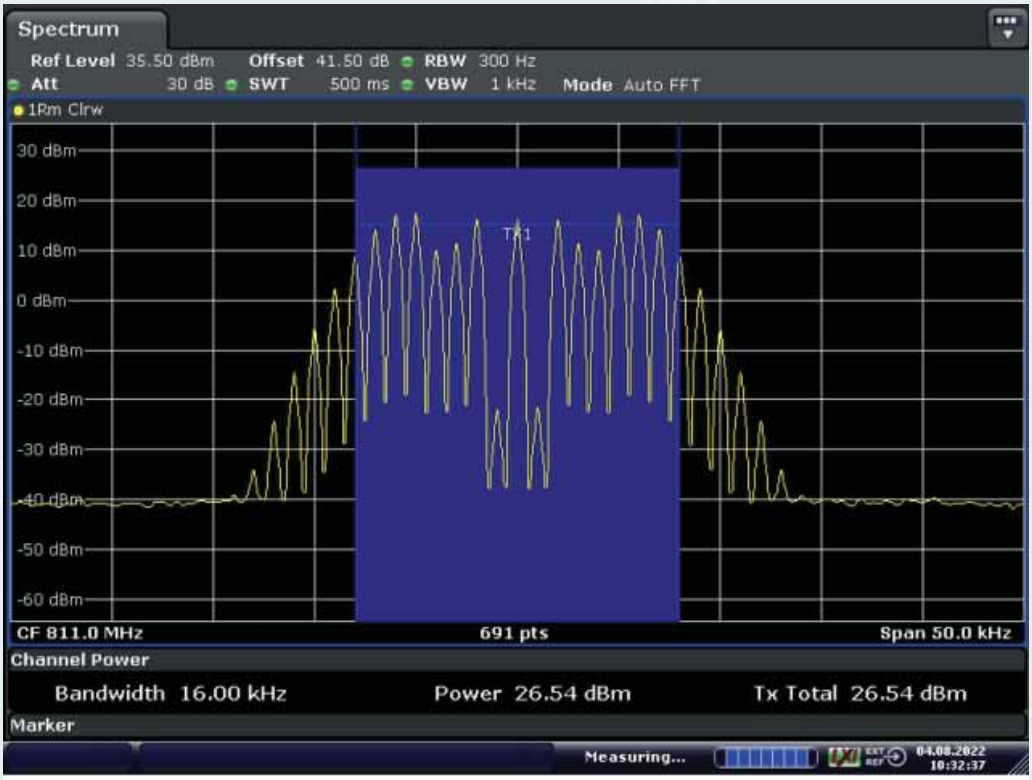


Middle Frequency: 856.0MHz, Output occupied BW (with the input signal amplitude set 3 dB above the AGC threshold)

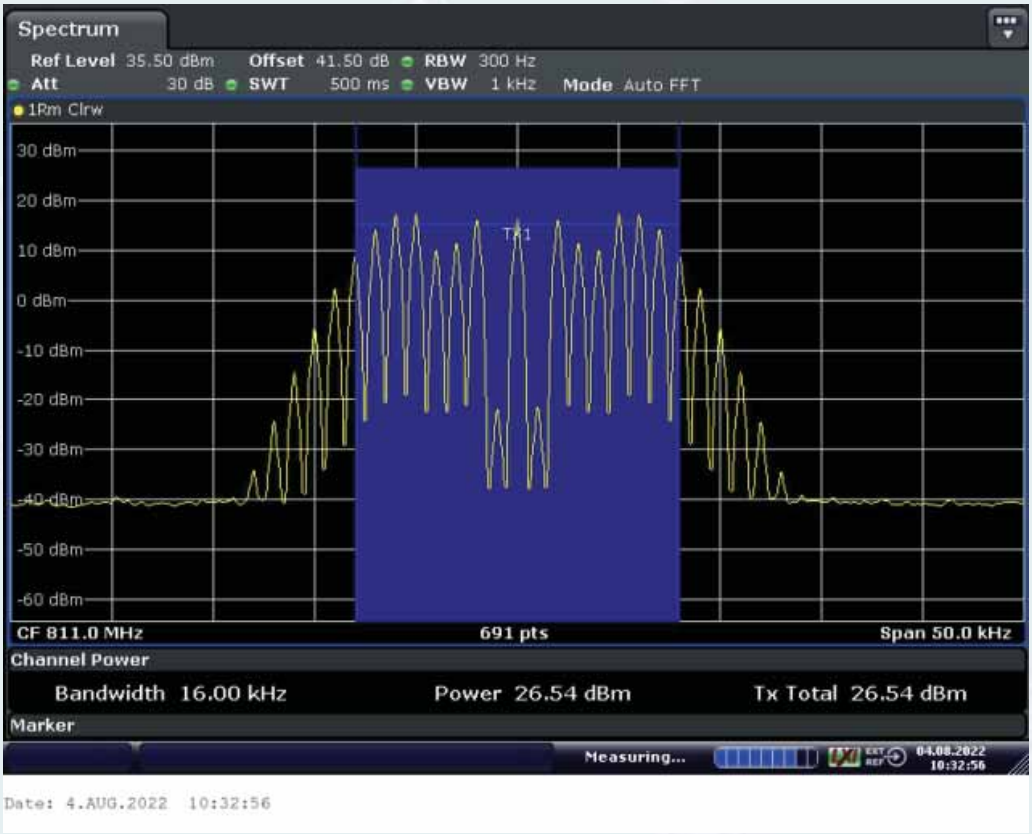
10.5.5.3.2.4.2. Uplink



Middle Frequency: 811.0MHz MHz, Input occupied BW



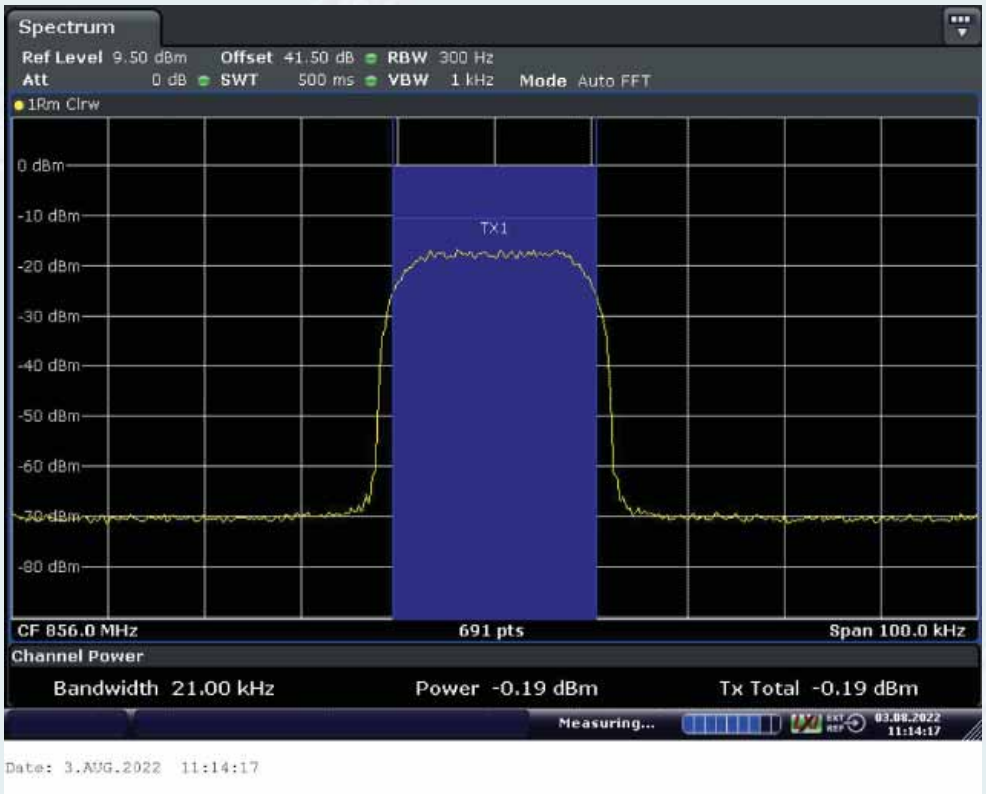
Middle Frequency: 811.0MHz, Output occupied BW(AGC)



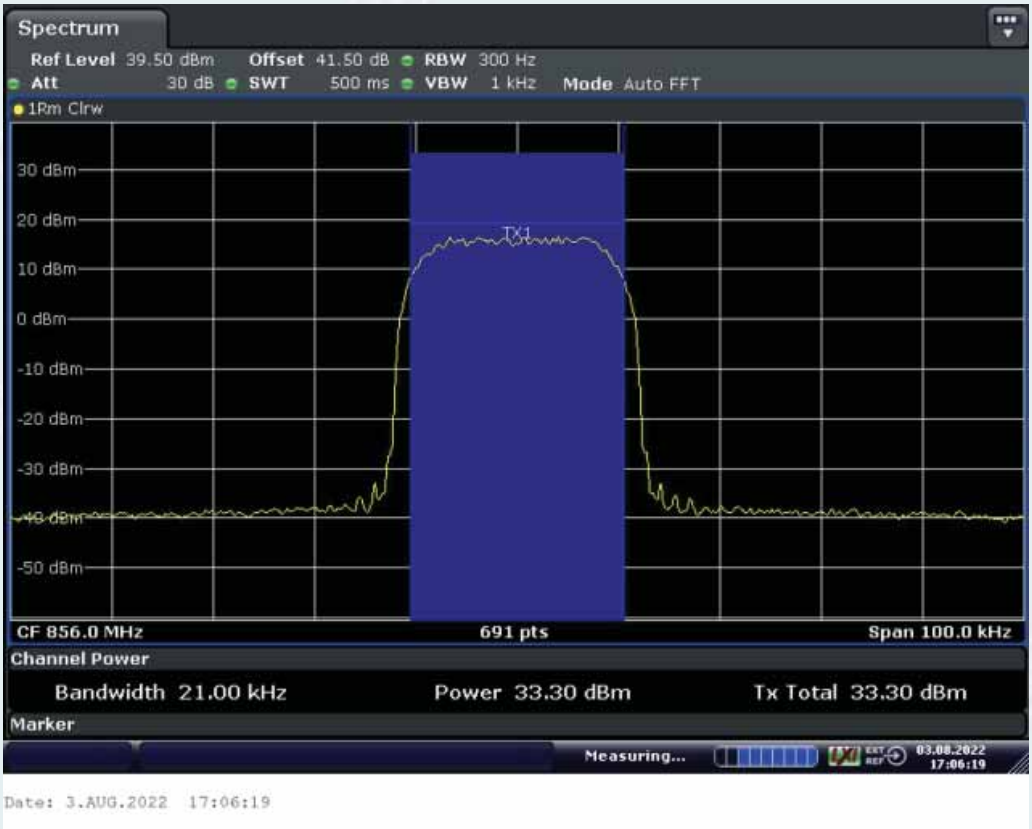
Middle Frequency: 811.0MHz, Output occupied BW (with the input signal amplitude set 3 dB above the AGC threshold)

10.5.5.3.2.5. Tetra

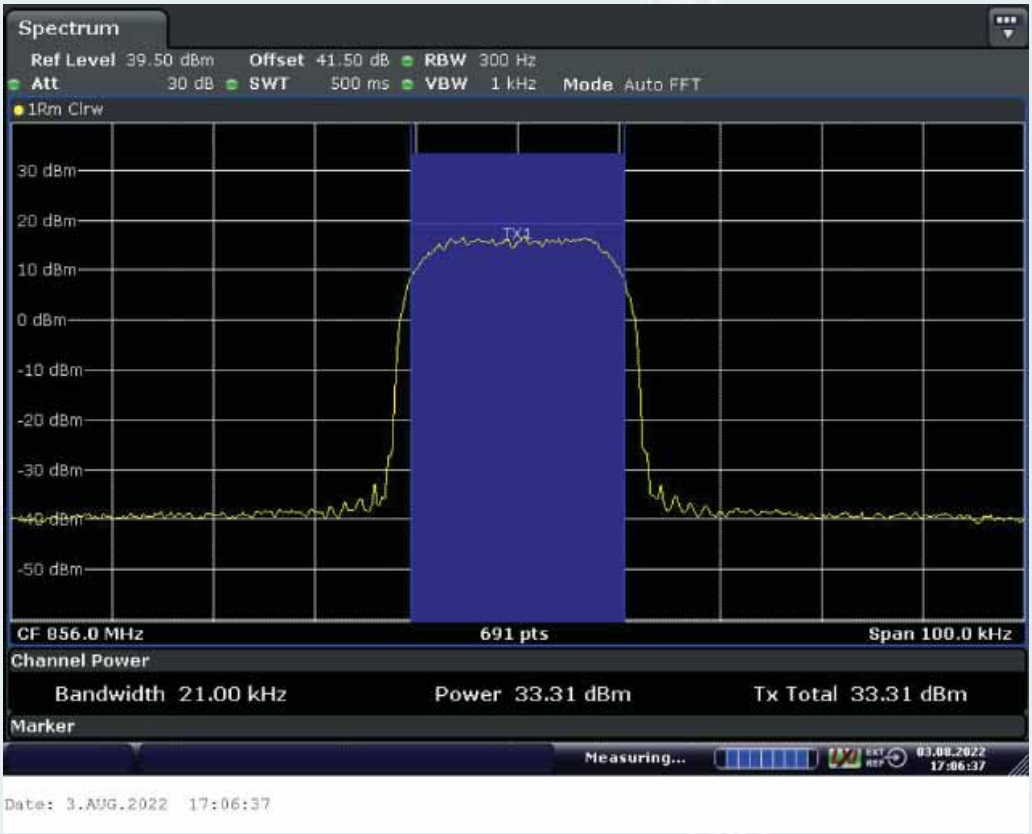
10.5.5.3.2.5.1. Downlink



Middle Frequency: 856.0MHz, Input occupied BW

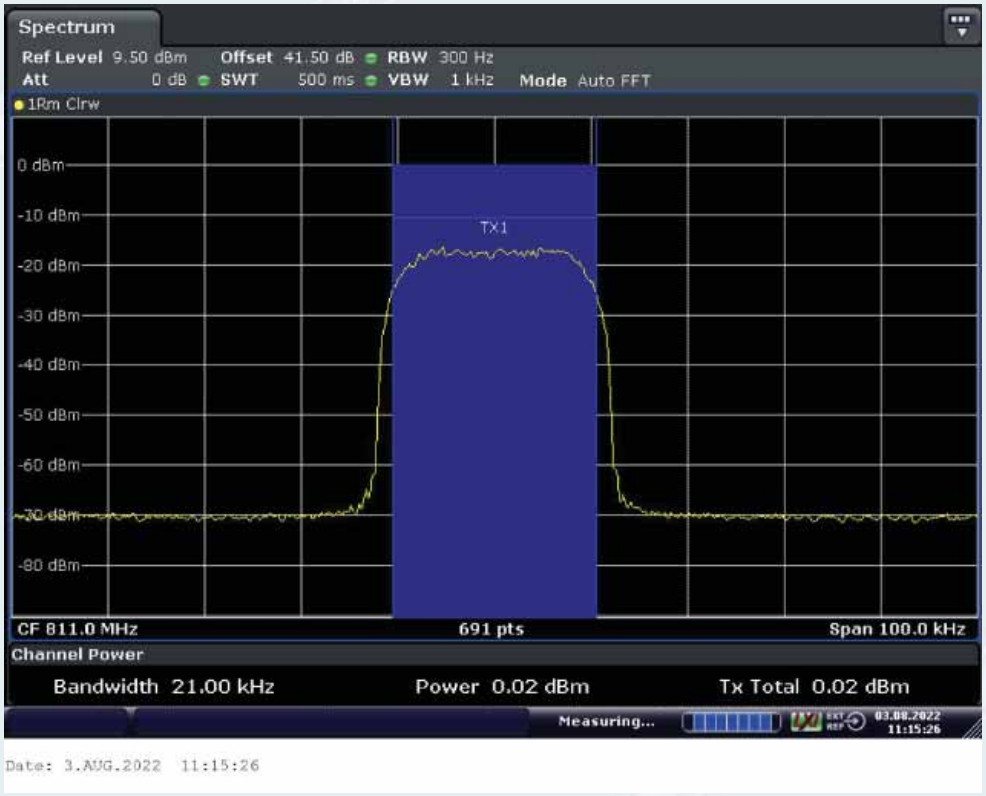


Middle Frequency: 856.0MHz, Output occupied BW(AGC)

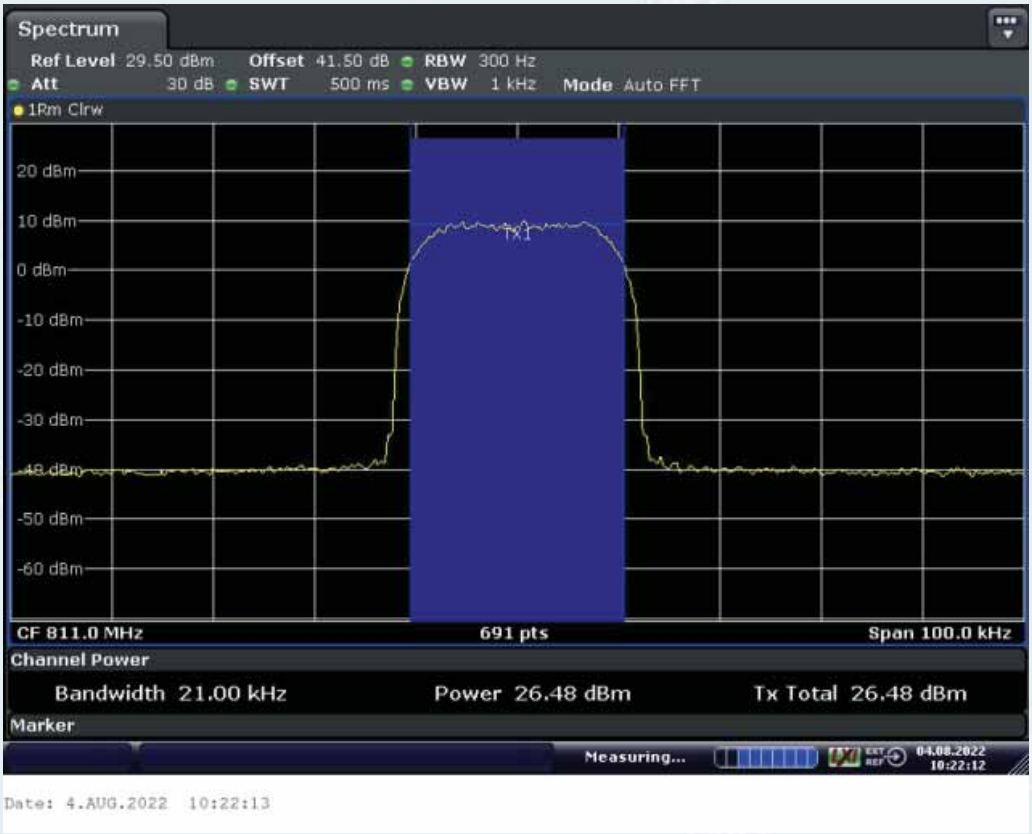


Middle Frequency: 856.0MHz, Output occupied BW (with the input signal amplitude set 3 dB above the AGC threshold)

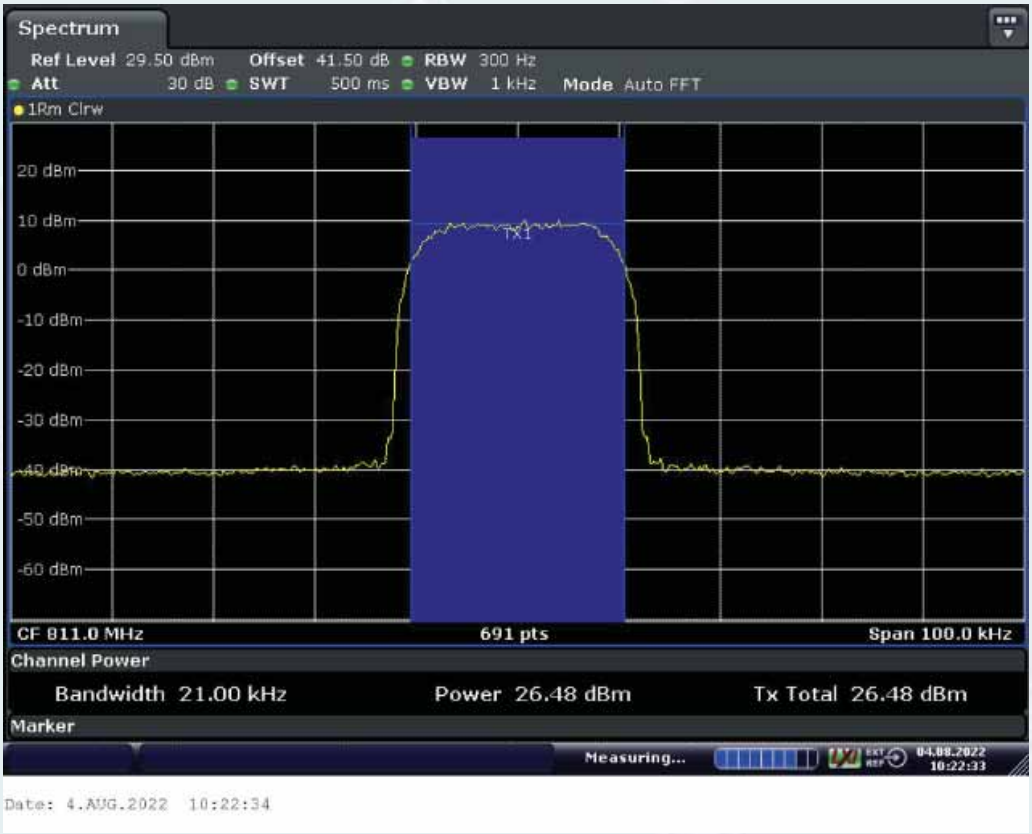
10.5.5.3.2.5.2. Uplink



Middle Frequency: 811.0MHz MHz, Input occupied BW



Middle Frequency: 811.0MHz, Output occupied BW(AGC)



Middle Frequency: 811.0MHz, Output occupied BW (with the input signal amplitude set 3 dB above the AGC threshold)

10.6. Mean power and amplifier/booster gain

Test requirement:	KDB 935210 D05 clause 4.5 FCC PART 90.219 (e)(1)
Test Method:	KDB 935210 D05 clause 4.5

10.6.1. Requirements

According to KDB 935210 D05 clause 4.5, the mean input and output power and the amplifier gain was measured by adjusting the internal gain control of the EUT to the maximum gain for which equipment certification is sought. Any EUT attenuation settings were set to their minimum value.

Input power levels (Downlink and Uplink) were set to maximum input ratings while confirming that the device is not capable of operating in saturation (Non-linear mode) at the rated input levels, including during the performance of the input/output power measurements.

ForFCC PART 90.219 (e)(1) requirement:

(e) *Device Specifications.* In addition to the general rules for equipment certification in §90.203(a)(2) and part 2, subpart J of this chapter, a signal booster must also meet the rules in this paragraph.

(1) The output power capability of a signal booster must be designed for deployments providing a radiated power not exceeding 5 Watts ERP for each retransmitted channel.

10.6.2. Test configuration

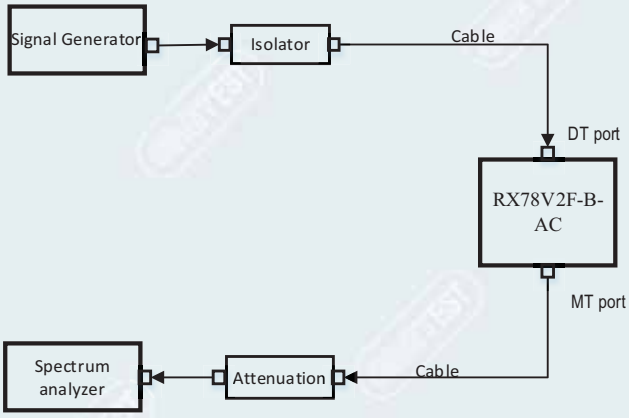


Figure 10.6-1 Downlink connection diagram

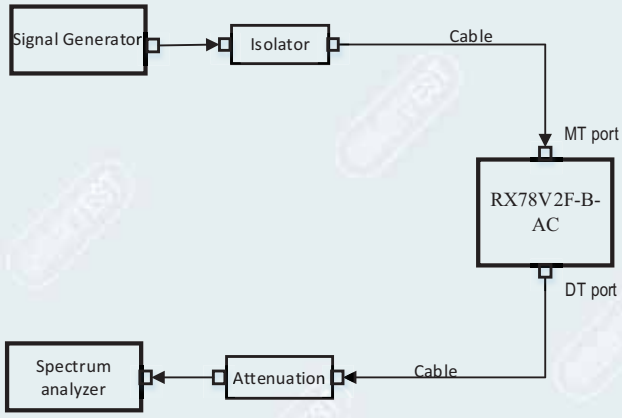


Figure 10.6-2 Uplink connection diagram

10.6.3. Test procedures

a) Connect a signal generator to the input of the EUT.
b) Configure to generate the AWGN (broadband) test signal.
c) The frequency of the signal generator shall be set to the frequency f_0 as determined from 3.3.
d) Connect a spectrum analyzer or power meter to the output of the EUT using appropriate attenuation as necessary.
e) Set the signal generator output power to a level that produces an EUT output level that is just below the AGC threshold (see 3.2), but not more than 0.5 dB below.
f) Measure and record the output power of the EUT; use 3.5.3 or 3.5.4 for power measurement.
g) Remove the EUT from the measurement setup. Using the same signal generator settings, repeat the power measurement at the signal generator port, which was used as the input signal to the EUT, and record as the input power. EUT gain may be calculated as described in 3.5.5.
h) Repeat steps f) and g) with input signal amplitude set to 3 dB above the AGC threshold level.
i) Repeat steps e) to h) with the narrowband test signal.
j) Repeat steps e) to i) for all frequency bands authorized for use by the EUT.

10.6.4. Test results

Test Date (yy-mm-dd): 2022-08-03~2022-08-05

Normal condition: Temp:26.6~27.1℃, Humid: 50~52%, Atmospheric Pressure:101kpa

Supply Voltage: AC 110V, 50Hz

10.6.4.1. Mean power and gain

10.6.4.1.1. 700MHz Band

10.6.4.1.1.1. Downlink

Test link	Frequency (MHz)	Sig output power (dBm)	Input Cable Loss (dB)	Peak power (dBm)	Output Atten +Output Cable Loss(dB)	Output power (dBm)	Output power (W)	Gain (dB)
1. LTE 5MHz								
Down(1)	760.5	-56.7	0.7	-9.1	41.5	32.4	1.74	88.4
Down(2)	760.5	-53.7	0.7	-9.1	41.5	32.4	1.74	85.4
Down(1)	763.0	-57.1	0.7	-7.7	41.5	33.8	2.40	90.2
Down(2)	763.0	-54.1	0.7	-7.7	41.5	33.8	2.40	87.2
Down(1)	765.5	-58.0	0.7	-8.0	41.5	33.5	2.24	90.8
Down(2)	765.5	-55.0	0.7	-8.0	41.5	33.5	2.24	87.8
2. LTE 10MHz								
Down(1)	763.0	-57.3	0.7	-8.2	41.5	33.3	2.14	89.9
Down(2)	763.0	-54.3	0.7	-8.2	41.5	33.3	2.14	86.9
3. P25 Phase I(C4FM)								
Down(1)	768.00625	-55.8	0.7	-7.9	41.5	33.6	2.29	88.7
Down(2)	768.00625	-52.8	0.7	-7.9	41.5	33.6	2.29	85.7
Down(1)	771.5	-56.8	0.7	-8.4	41.5	33.1	2.04	89.2
Down(2)	771.5	-53.8	0.7	-8.4	41.5	33.1	2.04	86.2
Down(1)	774.99375	-56.8	0.7	-8.1	41.5	33.4	2.19	89.5
Down(2)	774.99375	-53.8	0.7	-8.1	41.5	33.4	2.19	86.5
4. P25 Phase II(H-DQPSK)								
Down(1)	768.00625	-55.6	0.7	-7.7	41.5	33.8	2.40	88.7
Down(2)	768.00625	-52.6	0.7	-7.7	41.5	33.8	2.40	85.7
Down(1)	771.5	-56.4	0.7	-8.1	41.5	33.4	2.19	89.1
Down(2)	771.5	-53.4	0.7	-8.1	41.5	33.4	2.19	86.1
Down(1)	774.99375	-56.8	0.7	-8.0	41.5	33.5	2.24	89.6
Down(2)	774.99375	-53.8	0.7	-8.0	41.5	33.5	2.24	86.6

5. DMR								
Down(1)	768.00625	-56.1	0.7	-8.9	41.5	32.6	1.82	88.0
Down(2)	768.00625	-53.1	0.7	-8.9	41.5	32.6	1.82	85.0
Down(1)	771.5	-57.1	0.7	-9.1	41.5	32.4	1.74	88.8
Down(2)	771.5	-54.1	0.7	-9.1	41.5	32.4	1.74	85.8
Down(1)	774.99375	-57.1	0.7	-9.1	41.5	32.4	1.74	88.8
Down(2)	774.99375	-54.1	0.7	-9.1	41.5	32.4	1.74	85.8
6. Analog FM								
Down(1)	768.0125	-56.0	0.7	-8.0	41.5	33.5	2.24	88.8
Down(2)	768.0125	-53.0	0.7	-8.0	41.5	33.5	2.24	85.8
Down(1)	771.5	-56.5	0.7	-8.1	41.5	33.4	2.19	89.2
Down(2)	771.5	-53.5	0.7	-8.1	41.5	33.4	2.19	86.2
Down(1)	774.9875	-57.0	0.7	-8.3	41.5	33.2	2.09	89.5
Down(2)	774.9875	-54.0	0.7	-8.3	41.5	33.2	2.09	86.5
7. Tetra								
Down(1)	768.0125	-55.6	0.7	-7.6	41.5	33.9	2.45	88.8
Down(2)	768.0125	-52.6	0.7	-7.6	41.5	33.9	2.45	85.8
Down(1)	771.5	-56.6	0.7	-8.2	41.5	33.3	2.14	89.2
Down(2)	771.5	-53.6	0.7	-8.2	41.5	33.3	2.14	86.2
Down(1)	774.9875	-56.5	0.7	-8.3	41.5	33.2	2.09	89.0
Down(2)	774.9875	-53.5	0.7	-8.3	41.5	33.2	2.09	86.0

NOTE: (1) Level is 0.5 dB below AGC threshold; (2) Level is 3dB above AGC threshold.

10.6.4.1.1.2. Uplink

Test link	Frequency (MHz)	Sig output power (dBm)	Input Cable Loss (dB)	Peak power (dBm)	Output Atten +Output Cable Loss(dB)	Output power (dBm)	Output power (W)	Gain (dB)
1. LTE 5MHz								
Up(1)	790.5	-62.4	0.7	-14.1	41.5	27.4	0.55	89.1
Up(2)	790.5	-59.4	0.7	-14.1	41.5	27.4	0.55	86.1
Up(1)	793.0	-62.3	0.7	-13.9	41.5	27.6	0.58	89.2
Up(2)	793.0	-59.3	0.7	-13.9	41.5	27.6	0.58	86.2
Up(1)	795.5	-62.7	0.7	-14.1	41.5	27.4	0.55	89.4
Up(2)	795.5	-59.7	0.7	-14.1	41.5	27.4	0.55	86.4

2. LTE 10MHz								
Up(1)	793.0	-62.5	0.7	-14.0	41.5	27.5	0.56	89.3
Up(2)	793.0	-59.5	0.7	-14.0	41.5	27.5	0.56	86.3
3. P25 Phase I(C4FM)								
Up(1)	798.00625	-62.5	0.7	-14.4	41.5	27.1	0.51	88.9
Up(2)	798.00625	-59.5	0.7	-14.4	41.5	27.1	0.51	85.9
Up(1)	801.5	-63.0	0.7	-14.5	41.5	27.0	0.50	89.3
Up(2)	801.5	-60.0	0.7	-14.5	41.5	27.0	0.50	86.3
Up(1)	804.99375	-63.5	0.7	-14.6	41.5	26.9	0.49	89.7
Up(2)	804.99375	-60.5	0.7	-14.6	41.5	26.9	0.49	86.7
4. P25 Phase II(H-DQPSK)								
Up(1)	798.00625	-62.4	0.7	-14.1	41.5	27.4	0.55	89.1
Up(2)	798.00625	-59.4	0.7	-14.1	41.5	27.4	0.55	86.1
Up(1)	801.5	-62.9	0.7	-14.2	41.5	27.3	0.54	89.5
Up(2)	801.5	-59.9	0.7	-14.2	41.5	27.3	0.54	86.5
Up(1)	804.99375	-63.4	0.7	-14.3	41.5	27.2	0.52	89.9
Up(2)	804.99375	-60.4	0.7	-14.3	41.5	27.2	0.52	86.9
5. DMR								
Up(1)	798.00625	-62.1	0.7	-14.7	41.5	26.8	0.48	88.2
Up(2)	798.00625	-59.1	0.7	-14.7	41.5	26.8	0.48	85.2
Up(1)	801.5	-62.6	0.7	-14.8	41.5	26.7	0.47	88.6
Up(2)	801.5	-59.6	0.7	-14.8	41.5	26.7	0.47	85.6
Up(1)	804.99375	-63.1	0.7	-14.9	41.5	26.6	0.46	89.0
Up(2)	804.99375	-60.1	0.7	-14.9	41.5	26.6	0.46	86.0
6. Analog FM								
Up(1)	798.0125	-62.1	0.7	-14.7	41.5	26.8	0.48	88.2
Up(2)	798.0125	-59.1	0.7	-14.7	41.5	26.8	0.48	85.2
Up(1)	801.5	-62.6	0.7	-14.8	41.5	26.7	0.47	88.6
Up(2)	801.5	-59.6	0.7	-14.8	41.5	26.7	0.47	85.6
Up(1)	804.9875	-63.1	0.7	-15.0	41.5	26.5	0.45	88.9
Up(2)	804.9875	-60.1	0.7	-15.0	41.5	26.5	0.45	85.9

7. Tetra								
Up(1)	798.0125	-61.8	0.7	-14.4	41.5	27.1	0.51	88.2
Up(2)	798.0125	-58.8	0.7	-14.4	41.5	27.1	0.51	85.2
Up(1)	801.5	-62.3	0.7	-14.5	41.5	27.0	0.50	88.6
Up(2)	801.5	-59.3	0.7	-14.5	41.5	27.0	0.50	85.6
Up(1)	804.9875	-62.8	0.7	-14.6	41.5	26.9	0.49	89.0
Up(2)	804.9875	-59.8	0.7	-14.6	41.5	26.9	0.49	86.0

NOTE: (1) Level is 0.5 dB below AGC threshold; (2) Level is 3dB above AGC threshold.

---------- The following blanks ----------

10.6.4.1.2. 800MHz Band

10.6.4.1.2.1. Downlink

Test link	Frequency (MHz)	Sig output power (dBm)	Input Cable Loss (dB)	Peak power (dBm)	Output Atten +Output Cable Loss(dB)	Output power (dBm)	Output power (W)	Gain (dB)
1. P25 Phase I(C4FM)								
Down(1)	851.00625	-57.0	0.7	-9.0	41.5	32.5	1.78	88.8
Down(2)	851.00625	-54.0	0.7	-9.0	41.5	32.5	1.78	85.8
Down(1)	856.0	-56.5	0.7	-8.2	41.5	33.3	2.14	89.1
Down(2)	856.0	-53.5	0.7	-8.2	41.5	33.3	2.14	86.1
Down(1)	860.99375	-57.5	0.7	-7.7	41.5	33.8	2.40	90.6
Down(2)	860.99375	-54.5	0.7	-7.7	41.5	33.8	2.40	87.6
2. P25 Phase II(H-DQPSK)								
Down(1)	851.00625	-56.8	0.7	-8.8	41.5	32.7	1.86	88.8
Down(2)	851.00625	-53.8	0.7	-8.8	41.5	32.7	1.86	85.8
Down(1)	856.0	-56.8	0.7	-8.5	41.5	33.0	2.00	89.1
Down(2)	856.0	-53.8	0.7	-8.5	41.5	33.0	2.00	86.1
Down(1)	860.99375	-57.8	0.7	-8.0	41.5	33.5	2.24	90.6
Down(2)	860.99375	-54.8	0.7	-8.0	41.5	33.5	2.24	87.6
3. DMR								
Down(1)	851.00625	-57.6	0.7	-8.8	41.5	32.7	1.86	89.6
Down(2)	851.00625	-54.6	0.7	-8.8	41.5	32.7	1.86	86.6
Down(1)	856.0	-57.8	0.7	-8.3	41.5	33.2	2.09	90.3
Down(2)	856.0	-54.8	0.7	-8.3	41.5	33.2	2.09	87.3
Down(1)	860.99375	-58.6	0.7	-7.9	41.5	33.6	2.29	91.5
Down(2)	860.99375	-55.6	0.7	-7.9	41.5	33.6	2.29	88.5
4. Analog FM mode								
Down(1)	851.0125	-57.0	0.7	-9.1	41.5	32.4	1.74	88.7
Down(2)	851.0125	-54.0	0.7	-9.1	41.5	32.4	1.74	85.7
Down(1)	856.0	-56.5	0.7	-8.3	41.5	33.2	2.09	89.0
Down(2)	856.0	-53.5	0.7	-8.3	41.5	33.2	2.09	86.0
Down(1)	860.9875	-57.5	0.7	-7.8	41.5	33.7	2.34	90.5
Down(2)	860.9875	-54.5	0.7	-7.8	41.5	33.7	2.34	87.5
5. Tetra								

Down(1)	851.0125	-57.0	0.7	-9.0	41.5	32.5	1.78	88.8
Down(2)	851.0125	-54.0	0.7	-9.0	41.5	32.5	1.78	85.8
Down(1)	856.0	-56.5	0.7	-8.2	41.5	33.3	2.14	89.1
Down(2)	856.0	-53.5	0.7	-8.2	41.5	33.3	2.14	86.1
Down(1)	860.9875	-57.5	0.7	-7.7	41.5	33.8	2.40	90.6
Down(2)	860.9875	-54.5	0.7	-7.7	41.5	33.8	2.40	87.6

NOTE: (1) Level is 0.5 dB below AGC threshold; (2) Level is 3dB above AGC threshold.

10.6.4.1.2.2. Uplink

Test link	Frequency (MHz)	Sig output power (dBm)	Input Cable Loss (dB)	Peak power (dBm)	Output Atten +Output Cable Loss(dB)	Output power (dBm)	Output power (W)	Gain (dB)
1. P25 Phase I(C4FM)								
Up(1)	806.00625	-62.5	0.7	-14.4	41.5	27.1	0.51	88.9
Up(2)	806.00625	-59.5	0.7	-14.4	41.5	27.1	0.51	85.9
Up(1)	811.0	-63.0	0.7	-14.5	41.5	27.0	0.50	89.3
Up(2)	811.0	-60.0	0.7	-14.5	41.5	27.0	0.50	86.3
Up(1)	815.99375	-63.5	0.7	-14.6	41.5	26.9	0.49	89.7
Up(2)	815.99375	-60.5	0.7	-14.6	41.5	26.9	0.49	86.7
2. P25 Phase II(H-DQPSK)								
Up(1)	806.00625	-62.4	0.7	-14.1	41.5	27.4	0.55	89.1
Up(2)	806.00625	-59.4	0.7	-14.1	41.5	27.4	0.55	86.1
Up(1)	811.0	-62.9	0.7	-14.2	41.5	27.3	0.54	89.5
Up(2)	811.0	-59.9	0.7	-14.2	41.5	27.3	0.54	86.5
Up(1)	815.99375	-63.4	0.7	-14.3	41.5	27.2	0.52	89.9
Up(2)	815.99375	-60.4	0.7	-14.3	41.5	27.2	0.52	86.9
3. DMR								
Up(1)	806.00625	-62.1	0.7	-14.7	41.5	26.8	0.48	88.2
Up(2)	806.00625	-59.1	0.7	-14.7	41.5	26.8	0.48	85.2
Up(1)	811.0	-62.6	0.7	-14.8	41.5	26.7	0.47	88.6
Up(2)	811.0	-59.6	0.7	-14.8	41.5	26.7	0.47	85.6
Up(1)	815.99375	-63.1	0.7	-14.9	41.5	26.6	0.46	89.0
Up(2)	815.99375	-60.1	0.7	-14.9	41.5	26.6	0.46	86.0
4. Analog FM mode								

Up(1)	806.0125	-62.1	0.7	-14.7	41.5	26.8	0.48	88.2
Up(2)	806.0125	-59.1	0.7	-14.7	41.5	26.8	0.48	85.2
Up(1)	811.0	-62.6	0.7	-14.8	41.5	26.7	0.47	88.6
Up(2)	811.0	-59.6	0.7	-14.8	41.5	26.7	0.47	85.6
Up(1)	815.9875	-63.1	0.7	-15.0	41.5	26.5	0.45	88.9
Up(2)	815.9875	-60.1	0.7	-15.0	41.5	26.5	0.45	85.9
5. Tetra								
Up(1)	806.0125	-61.8	0.7	-14.4	41.5	27.1	0.51	88.2
Up(2)	806.0125	-58.8	0.7	-14.4	41.5	27.1	0.51	85.2
Up(1)	811.0	-62.3	0.7	-14.5	41.5	27.0	0.50	88.6
Up(2)	811.0	-59.3	0.7	-14.5	41.5	27.0	0.50	85.6
Up(1)	815.9875	-62.8	0.7	-14.6	41.5	26.9	0.49	89.0
Up(2)	815.9875	-59.8	0.7	-14.6	41.5	26.9	0.49	86.0

NOTE: (1) Level is 0.5 dB below AGC threshold; (2) Level is 3dB above AGC threshold.

---------- The following blanks ----------

10.6.4.2. ERP Calculations

10.6.4.2.1. 700MHz Band

10.6.4.2.1.1. Downlink

Test link	Frequency (MHz)	EUT Max. output power (dBm)	Max. Ant Gain(dBi)	ERP (W)	ERP Limit (W)	AGC Mode
1. LTE 5MHz						
Down	760.5	32.4	3.0	3.5	5.0	-0.5dB Below
Down	760.5	32.4	3.0	3.5	5.0	+3.0dB above
Down	763.0	33.8	3.0	4.8	5.0	-0.5dB Below
Down	763.0	33.8	3.0	4.8	5.0	+3.0dB above
Down	765.5	33.5	3.0	4.5	5.0	-0.5dB Below
Down	765.5	33.5	3.0	4.5	5.0	+3.0dB above
2. LTE 10MHz						
Down	763.0	33.3	3.0	4.3	5.0	-0.5dB Below
Down	763.0	33.3	3.0	4.3	5.0	+3.0dB above
3. P25 Phase I(C4FM)						
Down	768.00625	33.6	3.0	4.6	5.0	-0.5dB Below
Down	768.00625	33.6	3.0	4.6	5.0	+3.0dB above
Down	771.5	33.1	3.0	4.1	5.0	-0.5dB Below
Down	771.5	33.1	3.0	4.1	5.0	+3.0dB above
Down	774.99375	33.4	3.0	4.4	5.0	-0.5dB Below
Down	774.99375	33.4	3.0	4.4	5.0	+3.0dB above
4. P25 Phase II(H-DQPSK)						
Down	768.00625	33.8	3.0	4.8	5.0	-0.5dB Below
Down	768.00625	33.8	3.0	4.8	5.0	+3.0dB above
Down	771.5	33.4	3.0	4.4	5.0	-0.5dB Below
Down	771.5	33.4	3.0	4.4	5.0	+3.0dB above
Down	774.99375	33.5	3.0	4.5	5.0	-0.5dB Below
Down	774.99375	33.5	3.0	4.5	5.0	+3.0dB above
5. DMR						
Down	768.00625	32.6	3.0	3.6	5.0	-0.5dB Below
Down	768.00625	32.6	3.0	3.6	5.0	+3.0dB above
Down	771.5	32.4	3.0	3.5	5.0	-0.5dB Below

Down	771.5	32.4	3.0	3.5	5.0	+3.0dB above
Down	774.99375	32.4	3.0	3.5	5.0	-0.5dB Below
Down	774.99375	32.4	3.0	3.5	5.0	+3.0dB above
6. Analog FM						
Down	768.0125	33.5	3.0	4.5	5.0	-0.5dB Below
Down	768.0125	33.5	3.0	4.5	5.0	+3.0dB above
Down	771.5	33.4	3.0	4.4	5.0	-0.5dB Below
Down	771.5	33.4	3.0	4.4	5.0	+3.0dB above
Down	774.9875	33.2	3.0	4.2	5.0	-0.5dB Below
Down	774.9875	33.2	3.0	4.2	5.0	+3.0dB above
7. Tetra						
Down	768.0125	33.9	3.0	4.9	5.0	-0.5dB Below
Down	768.0125	33.9	3.0	4.9	5.0	+3.0dB above
Down	771.5	33.3	3.0	4.3	5.0	-0.5dB Below
Down	771.5	33.3	3.0	4.3	5.0	+3.0dB above
Down	774.9875	33.2	3.0	4.2	5.0	-0.5dB Below
Down	774.9875	33.2	3.0	4.2	5.0	+3.0dB above

10.6.4.2.1.2. Uplink

Test link	Frequency (MHz)	EUT Max. output power (dBm)	Max. Ant Gain(dBi)	ERP (W)	ERP Limit (W)	AGC Mode
1. LTE 5MHz						
Up	790.5	27.4	9.0	4.4	5.0	-0.5dB Below
Up	790.5	27.4	9.0	4.4	5.0	+3.0dB above
Up	793.0	27.6	9.0	4.6	5.0	-0.5dB Below
Up	793.0	27.6	9.0	4.6	5.0	+3.0dB above
Up	795.5	27.4	9.0	4.4	5.0	-0.5dB Below
Up	795.5	27.4	9.0	4.4	5.0	+3.0dB above
2. LTE 10MHz						
Up	793.0	27.5	9.0	4.5	5.0	-0.5dB Below
Up	793.0	27.5	9.0	4.5	5.0	+3.0dB above
3. P25 Phase I(C4FM)						
Up	798.00625	27.1	9.0	4.1	5.0	-0.5dB Below

Up	798.00625	27.1	9.0	4.1	5.0	+3.0dB above
Up	801.5	27.0	9.0	4.0	5.0	-0.5dB Below
Up	801.5	27.0	9.0	4.0	5.0	+3.0dB above
Up	804.99375	26.9	9.0	3.9	5.0	-0.5dB Below
Up	804.99375	26.9	9.0	3.9	5.0	+3.0dB above
4. P25 Phase II(H-DQPSK)						
Up	798.00625	27.4	9.0	4.4	5.0	-0.5dB Below
Up	798.00625	27.4	9.0	4.4	5.0	+3.0dB above
Up	801.5	27.3	9.0	4.3	5.0	-0.5dB Below
Up	801.5	27.3	9.0	4.3	5.0	+3.0dB above
Up	804.99375	27.2	9.0	4.2	5.0	-0.5dB Below
Up	804.99375	27.2	9.0	4.2	5.0	+3.0dB above
5. DMR						
Up	798.00625	26.8	9.0	3.8	5.0	-0.5dB Below
Up	798.00625	26.8	9.0	3.8	5.0	+3.0dB above
Up	801.5	26.7	9.0	3.7	5.0	-0.5dB Below
Up	801.5	26.7	9.0	3.7	5.0	+3.0dB above
Up	804.99375	26.6	9.0	3.6	5.0	-0.5dB Below
Up	804.99375	26.6	9.0	3.6	5.0	+3.0dB above
6. Analog FM mode						
Up	798.0125	26.8	9.0	3.8	5.0	-0.5dB Below
Up	798.0125	26.8	9.0	3.8	5.0	+3.0dB above
Up	801.5	26.7	9.0	3.7	5.0	-0.5dB Below
Up	801.5	26.7	9.0	3.7	5.0	+3.0dB above
Up	804.9875	26.5	9.0	3.5	5.0	-0.5dB Below
Up	804.9875	26.5	9.0	3.5	5.0	+3.0dB above
7. Tetra						
Up	798.0125	27.1	9.0	4.1	5.0	-0.5dB Below
Up	798.0125	27.1	9.0	4.1	5.0	+3.0dB above
Up	801.5	27.0	9.0	4.0	5.0	-0.5dB Below
Up	801.5	27.0	9.0	4.0	5.0	+3.0dB above

Up	804.9875	26.9	9.0	3.9	5.0	-0.5dB Below
Up	804.9875	26.9	9.0	3.9	5.0	+3.0dB above

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10.6.4.2.2. 800MHz Band

10.6.4.2.2.1. Downlink

Test link	Frequency (MHz)	EUT Max. output power (dBm)	Max. Ant Gain(dBi)	ERP (W)	ERP Limit (W)	AGC Mode
1. P25 Phase I(C4FM)						
Down	851.00625	32.5	3.0	3.5	5.0	-0.5dB Below
Down	851.00625	32.5	3.0	3.5	5.0	+3.0dB above
Down	856.0	33.3	3.0	4.3	5.0	-0.5dB Below
Down	856.0	33.3	3.0	4.3	5.0	+3.0dB above
Down	860.99375	33.8	3.0	4.8	5.0	-0.5dB Below
Down	860.99375	33.8	3.0	4.8	5.0	+3.0dB above
2. P25 Phase II(H-DQPSK)						
Down	851.00625	32.7	3.0	3.7	5.0	-0.5dB Below
Down	851.00625	32.7	3.0	3.7	5.0	+3.0dB above
Down	856.0	33.0	3.0	4.0	5.0	-0.5dB Below
Down	856.0	33.0	3.0	4.0	5.0	+3.0dB above
Down	860.99375	33.5	3.0	4.5	5.0	-0.5dB Below
Down	860.99375	33.5	3.0	4.5	5.0	+3.0dB above
3. 32.4						
32.4	851.00625	32.7	3.0	3.7	5.0	-0.5dB Below
33.2	851.00625	32.7	3.0	3.7	5.0	+3.0dB above
33.2	856.0	33.2	3.0	4.2	5.0	-0.5dB Below
33.7	856.0	33.2	3.0	4.2	5.0	+3.0dB above
33.7	860.99375	33.6	3.0	4.6	5.0	-0.5dB Below
32.4	860.99375	33.6	3.0	4.6	5.0	+3.0dB above
4. Analog FM						
Down	851.0125	32.4	3.0	3.5	5.0	-0.5dB Below
Down	851.0125	32.4	3.0	3.5	5.0	+3.0dB above
Down	856.0	33.2	3.0	4.2	5.0	-0.5dB Below
Down	856.0	33.2	3.0	4.2	5.0	+3.0dB above
Down	860.9875	33.7	3.0	4.7	5.0	-0.5dB Below
Down	860.9875	33.7	3.0	4.7	5.0	+3.0dB above

5. Tetra						
Down	851.0125	32.5	3.0	3.5	5.0	-0.5dB Below
Down	851.0125	32.5	3.0	3.5	5.0	+3.0dB above
Down	856.0	33.3	3.0	4.3	5.0	-0.5dB Below
Down	856.0	33.3	3.0	4.3	5.0	+3.0dB above
Down	860.9875	33.8	3.0	4.8	5.0	-0.5dB Below
Down	860.9875	33.8	3.0	4.8	5.0	+3.0dB above

10.6.4.2.2.2. Uplink

Test link	Frequency (MHz)	EUT Max. output power (dBm)	Max. Ant Gain(dBi)	ERP (W)	ERP Limit (W)	AGC Mode
1. P25 Phase I(C4FM)						
Up	806.00625	27.1	9.0	4.1	5.0	-0.5dB Below
Up	806.00625	27.1	9.0	4.1	5.0	+3.0dB above
Up	811.0	27.0	9.0	4.0	5.0	-0.5dB Below
Up	811.0	27.0	9.0	4.0	5.0	+3.0dB above
Up	815.99375	26.9	9.0	3.9	5.0	-0.5dB Below
Up	815.99375	26.9	9.0	3.9	5.0	+3.0dB above
2. P25 Phase II(H-DQPSK)						
Up	806.00625	27.4	9.0	4.4	5.0	-0.5dB Below
Up	806.00625	27.4	9.0	4.4	5.0	+3.0dB above
Up	811.0	27.3	9.0	4.3	5.0	-0.5dB Below
Up	811.0	27.3	9.0	4.3	5.0	+3.0dB above
Up	815.99375	27.2	9.0	4.2	5.0	-0.5dB Below
Up	815.99375	27.2	9.0	4.2	5.0	+3.0dB above
3. 26.8						
26.8	806.00625	26.8	9.0	3.8	5.0	-0.5dB Below
26.7	806.00625	26.8	9.0	3.8	5.0	+3.0dB above
26.7	811.0	26.7	9.0	3.7	5.0	-0.5dB Below
26.5	811.0	26.7	9.0	3.7	5.0	+3.0dB above
26.5	815.99375	26.6	9.0	3.6	5.0	-0.5dB Below
26.8	815.99375	26.6	9.0	3.6	5.0	+3.0dB above
4. Analog FM						

Up	806.0125	26.8	9.0	3.8	5.0	-0.5dB Below
Up	806.0125	26.8	9.0	3.8	5.0	+3.0dB above
Up	811.0	26.7	9.0	3.7	5.0	-0.5dB Below
Up	811.0	26.7	9.0	3.7	5.0	+3.0dB above
Up	815.9875	26.5	9.0	3.5	5.0	-0.5dB Below
Up	815.9875	26.5	9.0	3.5	5.0	+3.0dB above
5. Tetra						
Up	806.0125	27.1	9.0	4.1	5.0	-0.5dB Below
Up	806.0125	27.1	9.0	4.1	5.0	+3.0dB above
Up	811.0	27.0	9.0	4.0	5.0	-0.5dB Below
Up	811.0	27.0	9.0	4.0	5.0	+3.0dB above
Up	815.9875	26.9	9.0	3.9	5.0	-0.5dB Below
Up	815.9875	26.9	9.0	3.9	5.0	+3.0dB above

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10.7. Noise figure

Test requirement: KDB 935210 D05 clause 4.6
FCC PART 90.219 (e)(2)

Test Method: KDB 935210 D05/4.6

10.7.1. Requirements

According to FCC PART 90 § 90.219 (e) (2) requirement, the noise figure limit of a signal booster must are given in table 10.7-1 in either direction.

Table 10.7-1Noise figure limits

frequency range(MHz)	Max. Noise figure limit(dB)
758-775/788~805	9
851-861/806-816	9

10.7.2. Test configuration

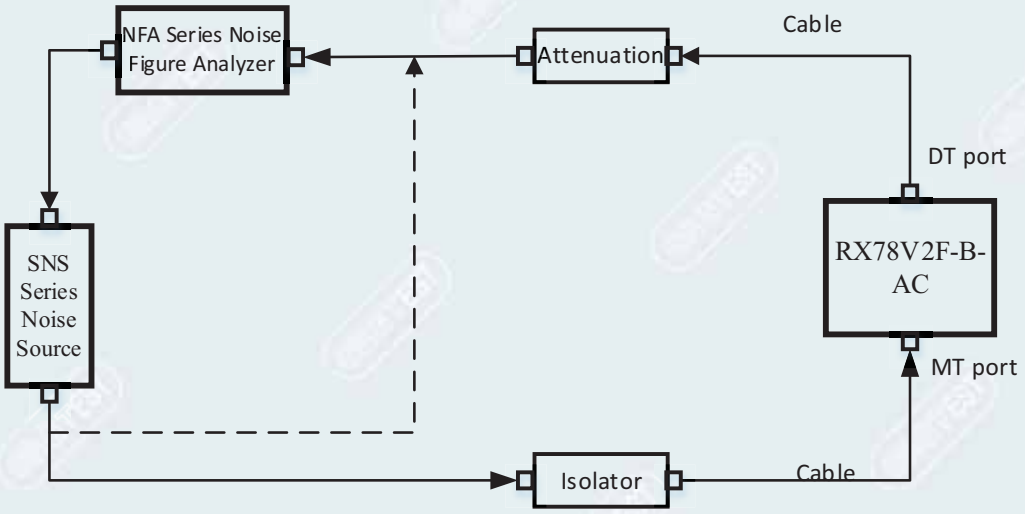

Figure 10.7-1 Downlink connection diagram

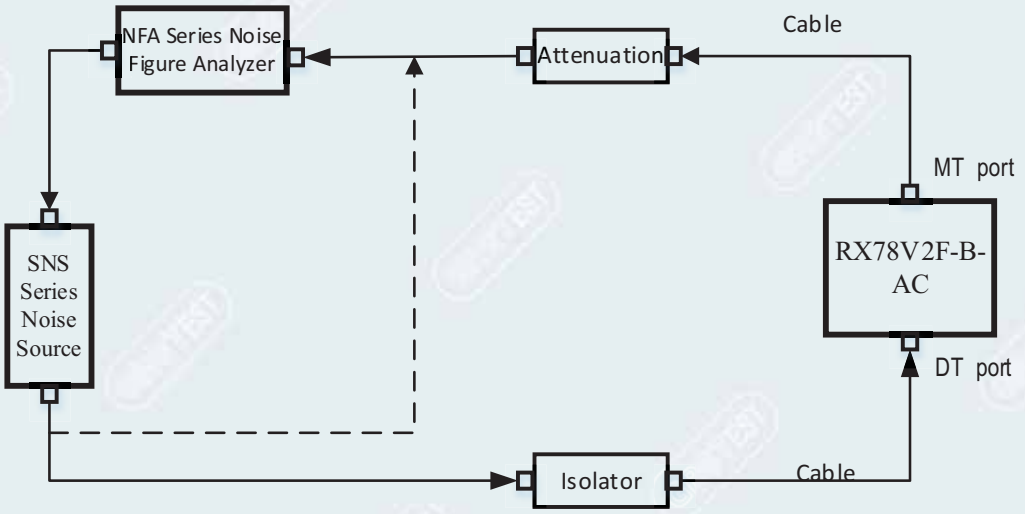

Figure 10.7-2 Uplink connection diagram

10.7.3. Test procedures

(1) Connect the device as illustrated Figure, when the output power is over the maximum value of the Noise meter, add the attenuator to avoid destroying;

(2) Set the EUT operating band and maximum gain;

(3) Set the relevant parameters for 700MHz of device and connect the dotted line to calibrate;

(4) After calibrating, according to the solid line connecting and testing Noise figure and record data;

(5) Repeat RF channels to be tested for 800MHz of device and Repeat steps (2) to (4);

---------- The following blanks ----------

10.7.4. Test results

Test Date (yy-mm-dd): 2022-08-05

Normal condition: Temp:26.6℃, Humid: 50%, Atmospheric Pressure:101kpa

Supply Voltage: AC 110V, 50Hz

10.7.4.1. 700MHz Band

Frequency(MHz)	Max. Limit (dB)	Noise figure data (dB)	Margin (dB)	Result
Downlink: 758~775	9	1.66	7.34	PASS
Uplink: 788~805	9	2.09	6.91	PASS
NOTE: Margin= specification limit - Noise figure data.				

10.7.4.2. 800MHz Band

Frequency(MHz)	Max. Limit (dB)	Noise figure data (dB)	Margin (dB)	Result
Downlink: 851~861	9	1.88	7.12	PASS
Uplink: 806~816	9	1.93	7.07	PASS
NOTE: Margin= specification limit - Noise figure data.				

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10.7.5. Test screenshot

10.7.5.1. 700MHz Band

Downlink: 758MHz~775MHz

Uplink: 788MHz~805MHz

10.7.5.2. 800MHz Band

Downlink: 851MHz~861MHz

Uplink: 806MHz~816MHz

10.8. Out-of-band/out-of-block emissions

Test requirement:	KDB 935210 D05 clause 4.7.2 FCC PART 90.219 (d)(6)(i) FCC PART 90.219 (e)(3)
Test Method:	KDB 935210 D05/4.7.1 and 4.7.2

10.8.1. Requirements

Refer to the applicable rule part(s) for specified limits on unwanted (out-of-band/out-of-block and spurious) emissions (e.g., Section 90.210).

Spurious emissions shall be measured using a single test signal sequentially tuned to the low, middle, and high channels or frequencies within each authorized frequency band of operation.

Intermodulation products shall be measured using two CW signals with all available channel spacings (e.g., 12.5 kHz and 6.25 kHz) with the center between these channels being equal to the center frequency f_0 as determined from 4.3.

NOTE—Intermodulation-product spurious emission measurements are not required for single-channel boosters that cannot accommodate two simultaneous signals within the passband.

For a multi-channel enhancer, any intermodulation product level must be attenuated, relative to P, by at least:43+10*$\log_{10}$ P is less stringent than 70dB, that limit was used.

Spurious emissions shall be measured using a single test signal sequentially tuned to the low, middle, and high channels or frequencies within each authorized frequency band of operation.

Out-of-band/out-of-block emissions (including intermodulation products) shall be measured under each of the following two stimulus conditions:

a) two adjacent test signals sequentially tuned to the lower and upper frequency band/block edges;
b) a single test signal, sequentially tuned to the lowest and highest frequencies or channels within the frequency band/block under examination.

NOTE—Single-channel boosters that cannot accommodate two simultaneous signals within the passband may be excluded from the test stipulated in step a).

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10.8.2. Test configuration

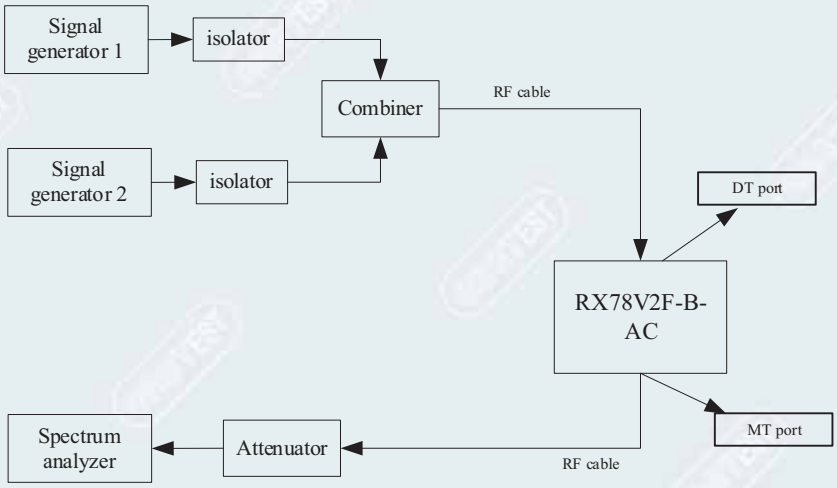

Figure 10.8-1 Downlink connection diagram

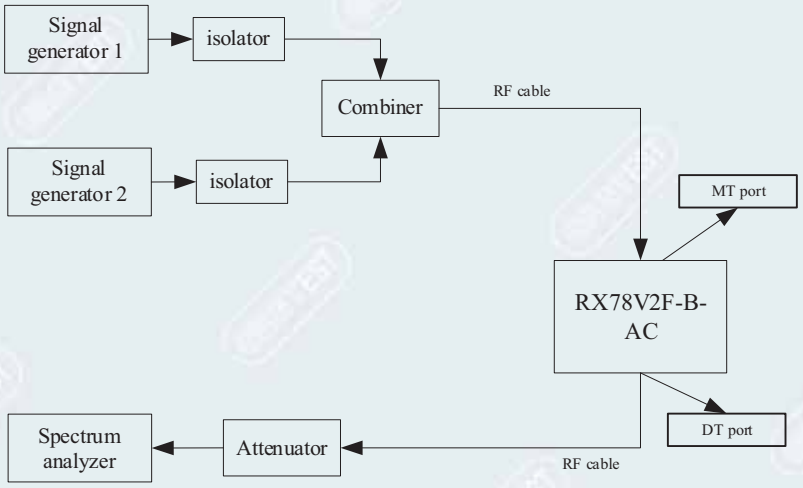

Figure 10.8-2 Uplink connection diagram

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10.8.3. Test procedures

a) Connect a signal generator to the input of the EUT.
If the signal generator is not capable of producing two independent modulated carriers simultaneously, then two discrete signal generators can be connected, with an appropriate combining network to support the two-signal test.
b) Configure the two signal generators to produce CW on frequencies spaced consistent with 4.7.1, with amplitude levels set to just below the AGC threshold (see 4.2). Set the signal generator amplitudes so that the power from each into the EUT is equivalent.
c) Connect a spectrum analyzer to the EUT output.
d) Set the span to 100 kHz.
e) Set RBW = 300 Hz with VBW ≥ 3 × RBW.
f) Set the detector to power averaging (rms).
g) Place a marker on highest intermodulation product amplitude.
h) Capture the plot for inclusion in the test report.
i) Repeat steps c) to h) with the composite input power level set to 3 dB above the AGC threshold.
j) Repeat steps b) to i) for all operational bands.

Any frequency outside the authorized bandwidth was attenuated by at least 43+10*log(P)dB. This corresponds to an absolute level of -13dBm ($P_{(dBm)}$-(43+10*log($P_{(W)}$)).

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10.8.4. Test results

Test Date (yy-mm-dd): 2022-08-04~2022-08-05

Normal condition: Temp: 26.6~27.1℃, Humid: 50~52%, Atmospheric Pressure:101kpa

Supply Voltage: AC 110V, 50Hz

10.8.4.1. 700MHz Band

10.8.4.1.1. Downlink Transmit

Test status	Test frequency	Intermodulaiton product Limit (dBm)	Max. intermodulation product (dBm)	Margin (dB)	Result
(1) Frequency range: 758MHz~775MHz(758 ~ 768MHz is LTE band)					
(1.1) Channel Bandwidth: 12.5kHz					
With the ALC threshold level	Low frequency: f1:768.00625MHz f2:768.01875MHz	-13	-20.3	7.3	PASS
	Mid frequency: f1:771.50MHz f2:771.5125MHz	-13	-20.4	7.4	PASS
	High frequency: f1:774.98125MHz f2:774.99375MHz	-13	-20.3	7.3	PASS
With the input signal amplitude set 3 dB above the AGC threshold	Low frequency: f1:768.00625MHz f2:768.01875MHz	-13	-20.5	7.5	PASS
	Mid frequency: f1:771.50MHz f2:771.5125MHz	-13	-20.4	7.4	PASS
	High frequency: f1:774.98125MHz f2:774.99375MHz	-13	-20.3	7.3	PASS
(1.2) Channel Bandwidth: 25kHz					
With the ALC threshold level	Low frequency: f1:768.0125MHz f2:768.0375MHz	-13	-21.0	8.0	PASS
	Mid frequency: f1:771.50MHz f2:771.525MHz	-13	-21.2	8.2	PASS
	High frequency: f1:774.9625MHz f2:774.9875MHz	-13	-20.9	7.9	PASS
With the input signal amplitude set 3 dB above the AGC threshold	Low frequency: f1:768.0125MHz f2:768.0375MHz	-13	-20.9	7.9	PASS
	Mid frequency: f1:771.50MHz f2:771.525MHz	-13	-20.9	7.9	PASS
	High frequency: f1:774.9625MHz f2:774.9875MHz	-13	-20.8	7.8	PASS
NOTE 1:Intermodulation products select the worst data record. NOTE 2: Margin= specification limit -Maximum mark level.					

10.8.4.1.2. Uplink Transmit

Test status	Test frequency	Intermodulaiton product Limit (dBm)	Max. intermodulation product (dBm)	Margin (dB)	Result
(2) Frequency range: 798MHz~805MHz(788 ~ 798MHz is LTE band)					
(2.1) Channel Bandwidth: 12.5kHz					
With the ALC threshold level	Low frequency: f1:798.00625MHz f2:798.01875MHz	-13	-23.1	10.1	PASS
	Mid frequency: f1:801.5MHz f2:801.5125MHz	-13	-23.7	10.7	PASS
	High frequency: f1:804.98125MHz f2:804.99375MHz	-13	-24.1	11.1	PASS
With the input signal amplitude set 3 dB above the AGC threshold	Low frequency: f1:798.00625MHz f2:798.01875MHz	-13	-23.3	10.3	PASS
	Mid frequency: f1:801.5MHz f2:801.5125MHz	-13	-23.8	10.8	PASS
	High frequency: f1:804.98125MHz f2:804.99375MHz	-13	-24.2	11.2	PASS
(2.2) Channel Bandwidth: 25kHz					
With the ALC threshold level	Low frequency: f1:798.0125MHz f2:798.0375MHz	-13	-23.3	10.3	PASS
	Mid frequency: f1:801.5MHz f2:801.525MHz	-13	-24.2	11.2	PASS
	High frequency: f1:804.9625MHz f2:804.9875MHz	-13	-27.1	14.1	PASS
With the input signal amplitude set 3 dB above the AGC threshold	Low frequency: f1:798.0125MHz f2:798.0375MHz	-13	-23.4	10.4	PASS
	Mid frequency: f1:801.5MHz f2:801.525MHz	-13	-24.2	11.2	PASS
	High frequency: f1:804.9625MHz f2:804.9875MHz	-13	-27.1	14.1	PASS
NOTE 1:Intermodulation products select the worst data record. NOTE 2: Margin= specification limit -Maximum mark level.					

10.8.4.2. 800MHz Band

10.8.4.2.1. Downlink Transmit

Test status	Test frequency	Intermodulaiton product Limit (dBm)	Max. intermodulation product (dBm)	Margin (dB)	Result
(3) Frequency range: 851MHz~861MHz					
(3.1) Channel Bandwidth: 12.5kHz					
With the ALC threshold level	Low frequency: f1:851.00625MHz f2:851.01875MHz	-13	-23.3	10.3	PASS
	Mid frequency: f1:856.0MHz f2:856.0125MHz	-13	-21.7	8.7	PASS
	High frequency: f1:860.98125MHz f2:860.99375MHz	-13	-18.3	5.3	PASS
With the input signal amplitude set 3 dB above the AGC threshold	Low frequency: f1:851.00625MHz f2:851.01875MHz	-13	-23.3	10.3	PASS
	Mid frequency: f1:856.0MHz f2:856.0125MHz	-13	-21.8	8.8	PASS
	High frequency: f1:860.98125MHz f2:860.99375MHz	-13	-18.5	5.5	PASS
(3.2) Channel Bandwidth: 25kHz					
With the ALC threshold level	Low frequency: f1:851.0125MHz f2:851.0375MHz	-13	-22.8	9.8	PASS
	Mid frequency: f1:856.0MHz f2:856.025MHz	-13	-22.7	9.7	PASS
	High frequency: f1:860.9625MHz f2:860.9875MHz	-13	-19.1	6.1	PASS
With the input signal amplitude set 3 dB above the AGC threshold	Low frequency: f1:851.0125MHz f2:851.0375MHz	-13	-22.7	9.7	PASS
	Mid frequency: f1:856.0MHz f2:856.025MHz	-13	-22.7	9.7	PASS
	High frequency: f1:860.9625MHz f2:860.9875MHz	-13	-19.2	6.2	PASS
NOTE 1:Intermodulation products select the worst data record. NOTE 2: Margin= specification limit -Maximum mark level.					

10.8.4.2.2. Uplink Transmit

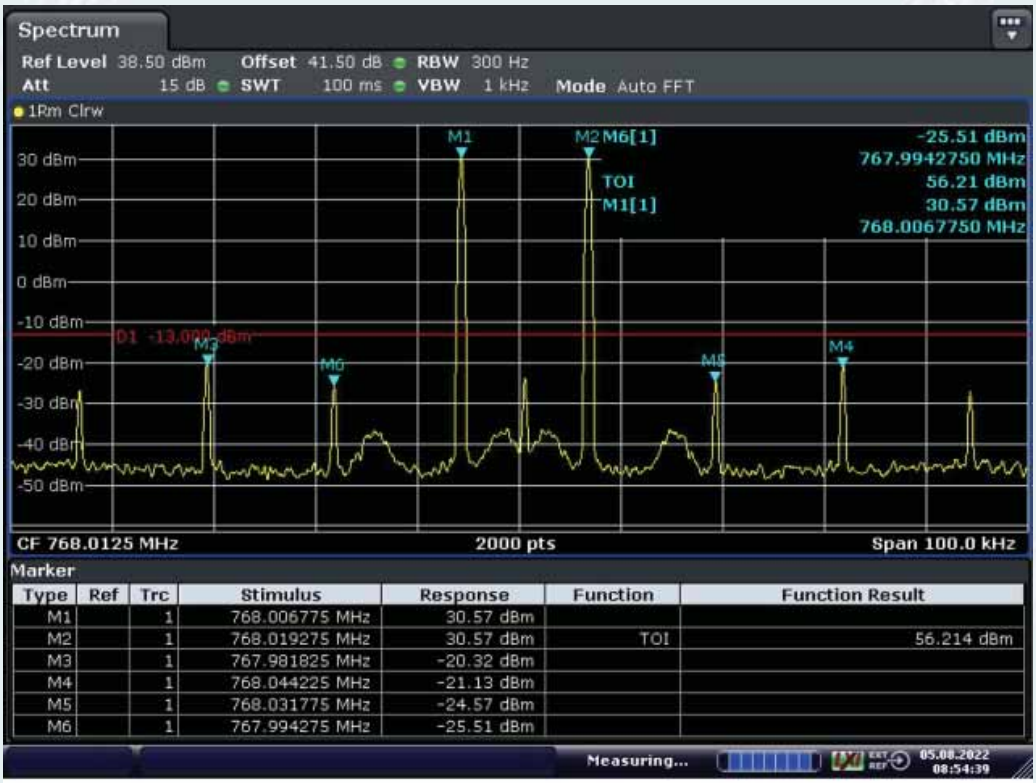
Test status	Test frequency	Intermodulaiton product Limit (dBm)	Max. intermodulation product (dBm)	Margin (dB)	Result
(4) Frequency range: 806MHz~816MHz					
(4.1) Channel Bandwidth: 12.5kHz					
With the ALC threshold level	Low frequency: f1:806.00625MHz f2:806.01875MHz	-13	-24.4	11.4	PASS
	Mid frequency: f1:811.0MHz f2:811.0125MHz	-13	-25.7	12.7	PASS
	High frequency: f1:815.98125MHz f2:815.99375MHz	-13	-25.9	12.9	PASS
With the input signal amplitude set 3 dB above the AGC threshold	Low frequency: f1:806.00625MHz f2:806.01875MHz	-13	-24.3	11.3	PASS
	Mid frequency: f1:811.0MHz f2:811.0125MHz	-13	-26.0	13.0	PASS
	High frequency: f1:815.98125MHz f2:815.99375MHz	-13	-26.1	13.1	PASS
(4.2) Channel Bandwidth: 25kHz					
With the ALC threshold level	Low frequency: f1:806.0125MHz f2:806.0375MHz	-13	-25.0	12.0	PASS
	Mid frequency: f1:811.0MHz f2:811.025MHz	-13	-26.8	13.8	PASS
	High frequency: f1:815.9625MHz f2:815.9875MHz	-13	-26.2	13.2	PASS
With the input signal amplitude set 3 dB above the AGC threshold	Low frequency: f1:806.0125MHz f2:806.0375MHz	-13	-25.0	12.0	PASS
	Mid frequency: f1:811.0MHz f2:811.025MHz	-13	-26.9	13.9	PASS
	High frequency: f1:815.9625MHz f2:815.9875MHz	-13	-26.2	13.2	PASS
NOTE 1:Intermodulation products select the worst data record. NOTE 2: Margin= specification limit -Maximum mark level.					

10.8.5. Test screenshot

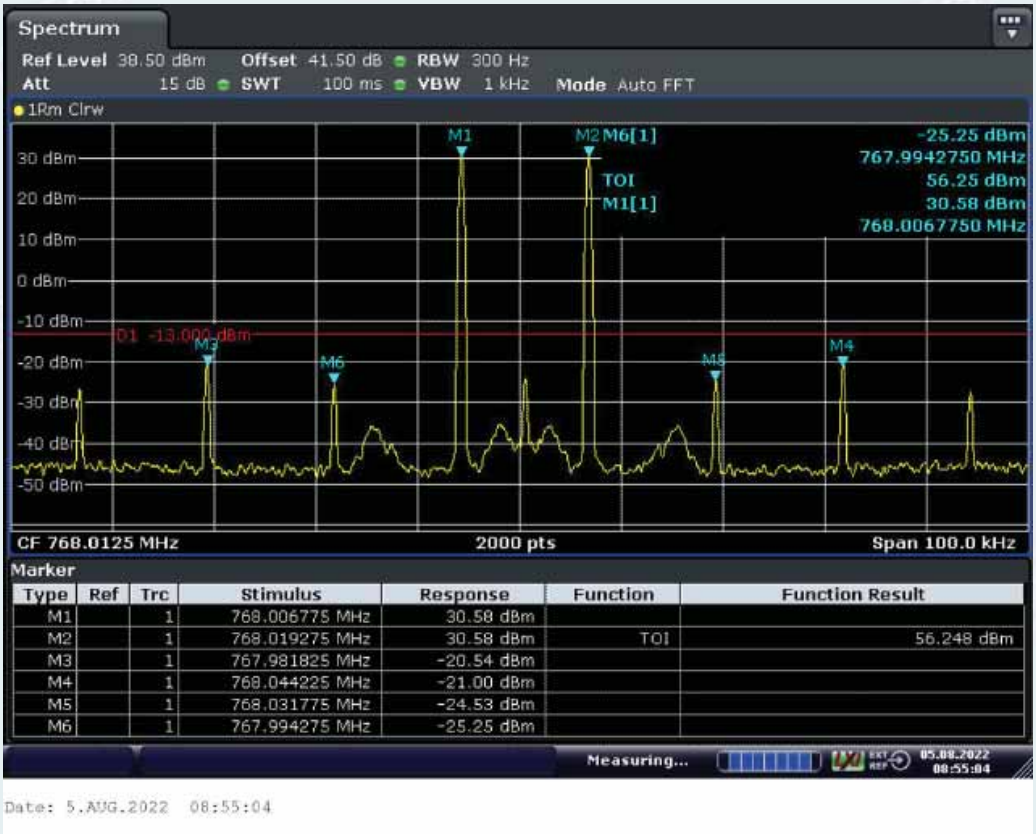
10.8.5.1. 700MHz Band

10.8.5.1.1. Channel bandwidth 12.5kHz

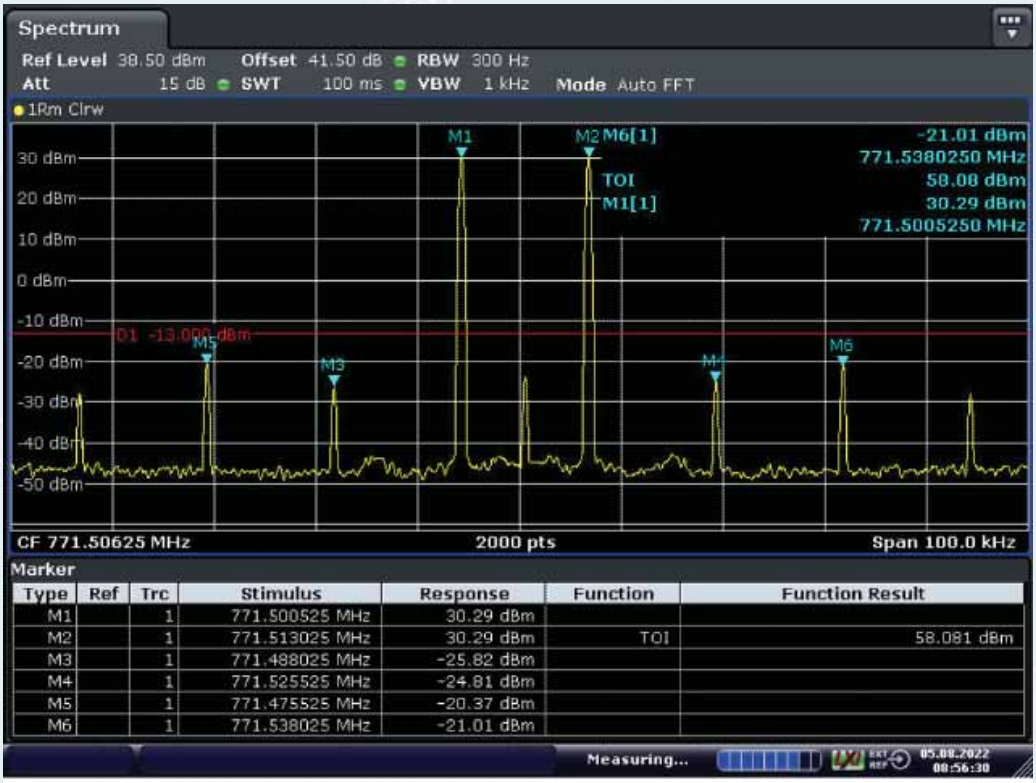
10.8.5.1.1.1. Downlink



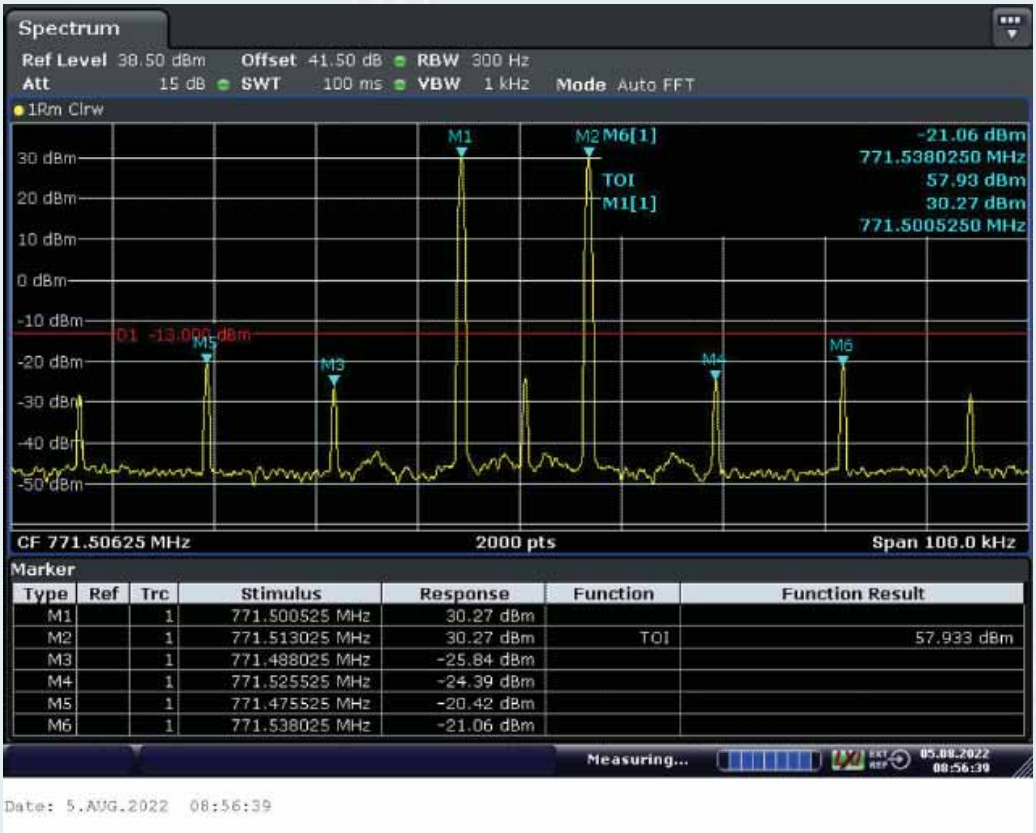
Low Frequency and with the ALC threshold level



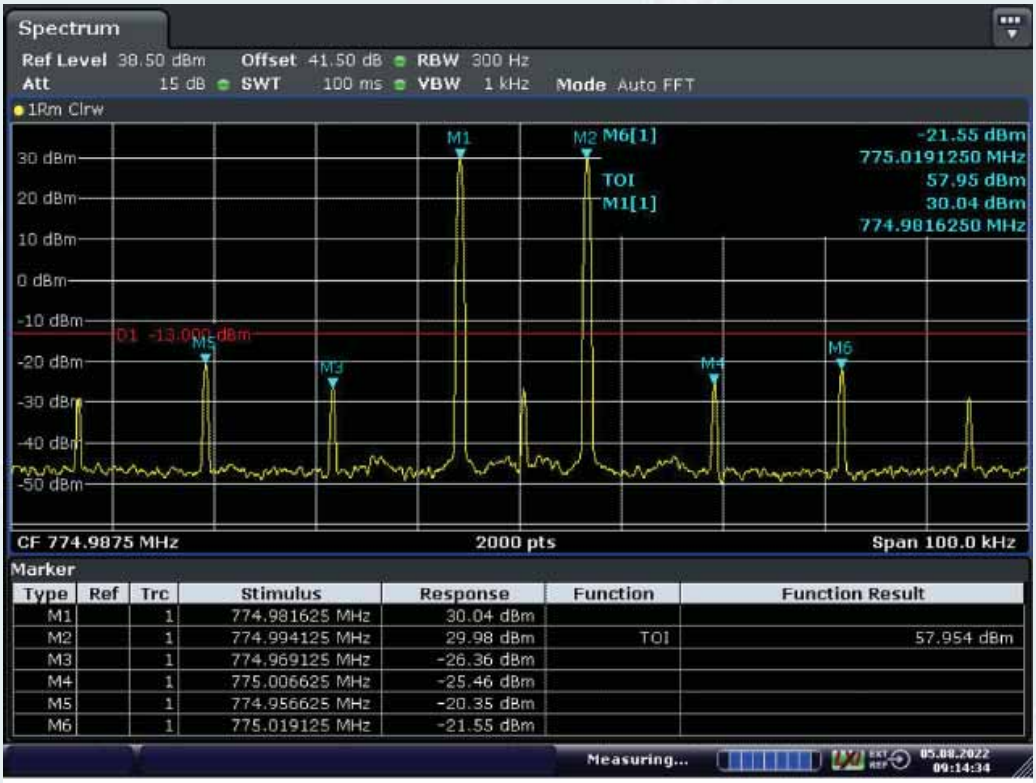
Low Frequency and with the input signal amplitude set 3 dB above the ALC threshold



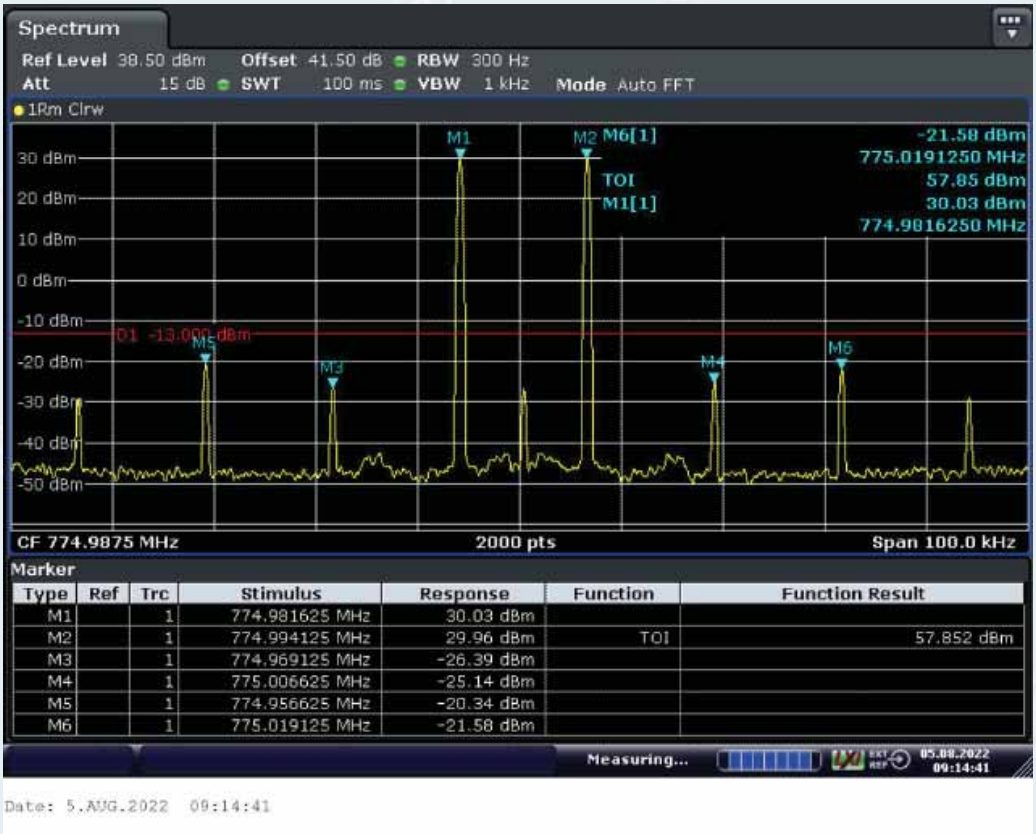
Mid Frequency and with the ALC threshold level



Mid Frequency and with the input signal amplitude set 3 dB above the ALC threshold

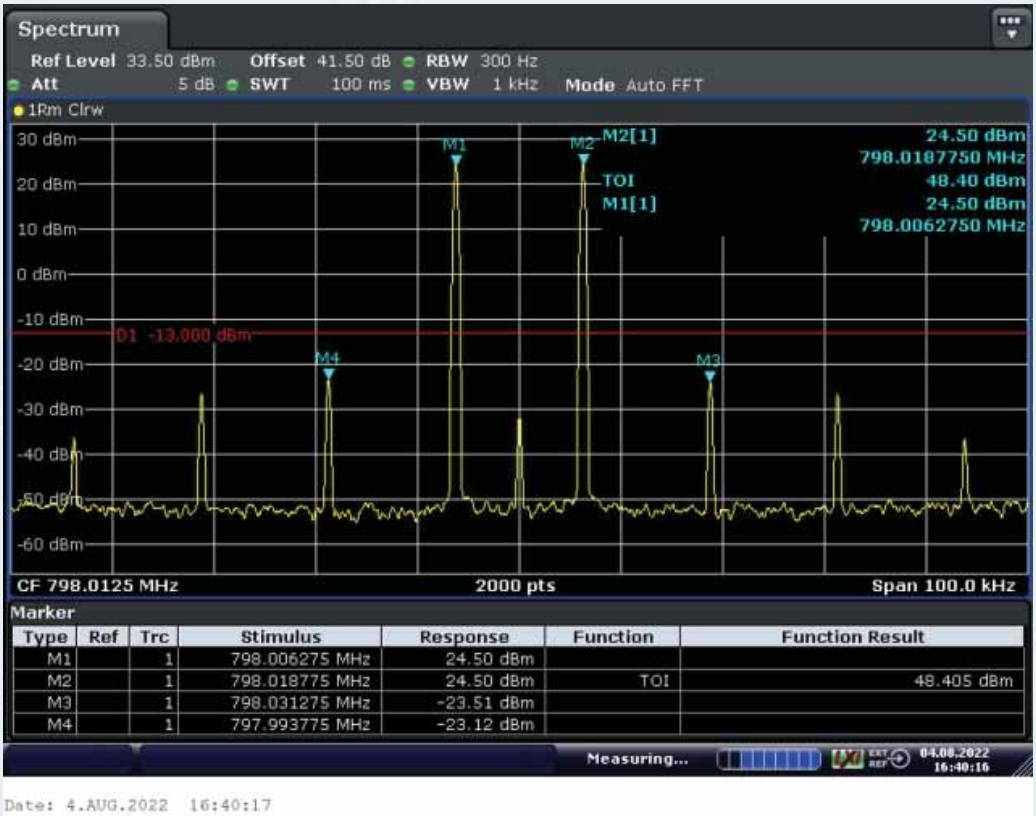


High Frequency and with the ALC threshold level

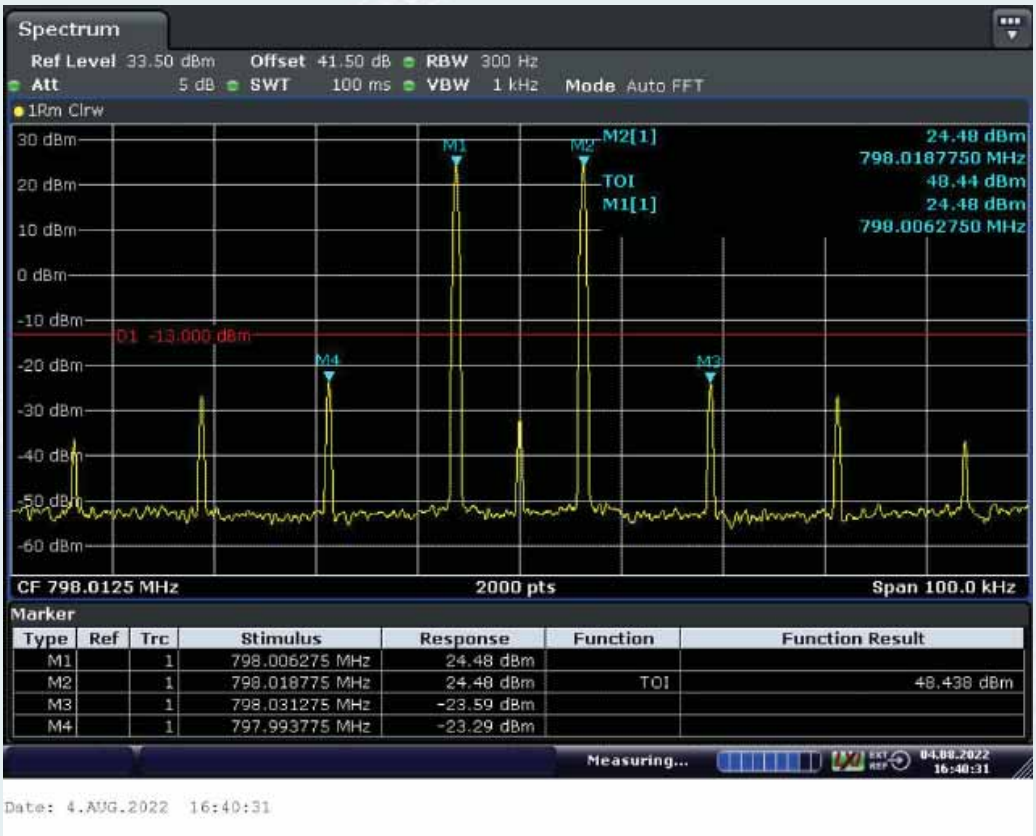


High Frequency and with the input signal amplitude set 3 dB above the ALC threshold

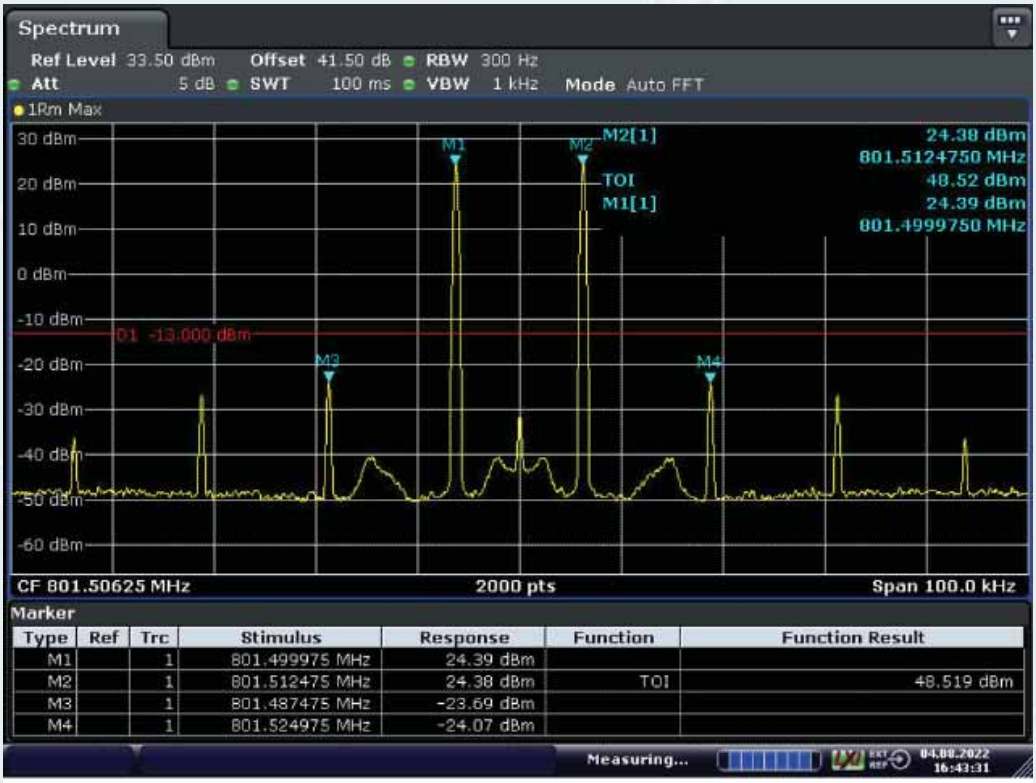
10.8.5.1.1.2. Uplink



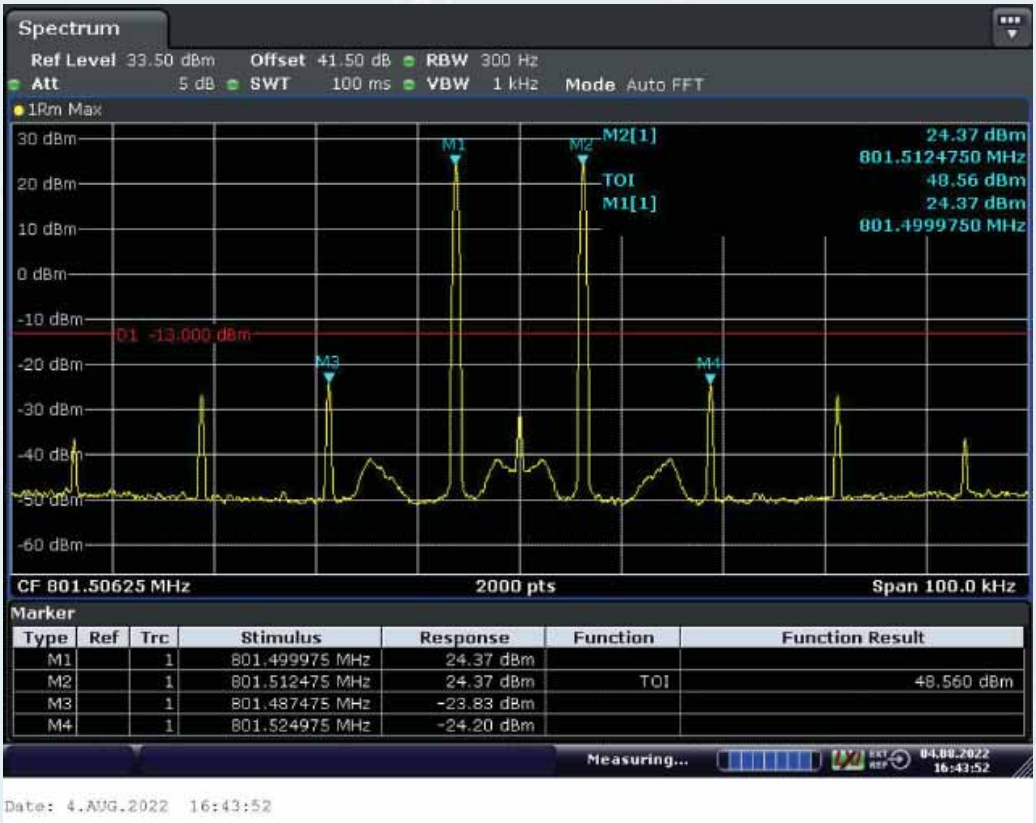
Low Frequency and with the ALC threshold level



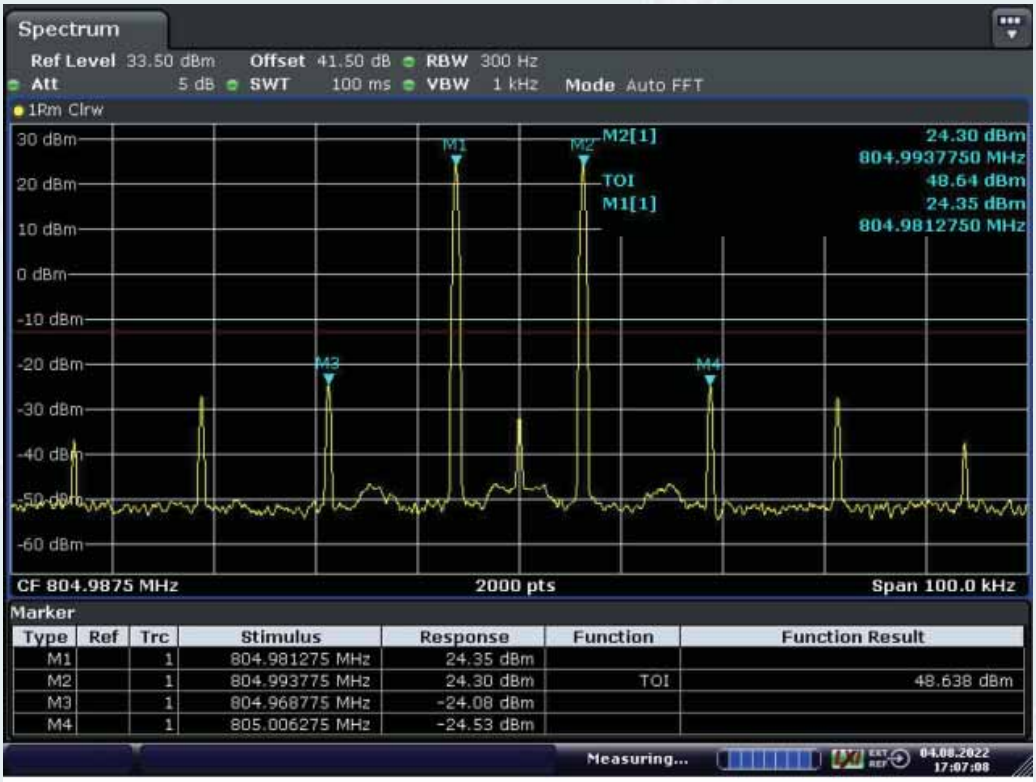
Low Frequency and with the input signal amplitude set 3 dB above the ALC threshold



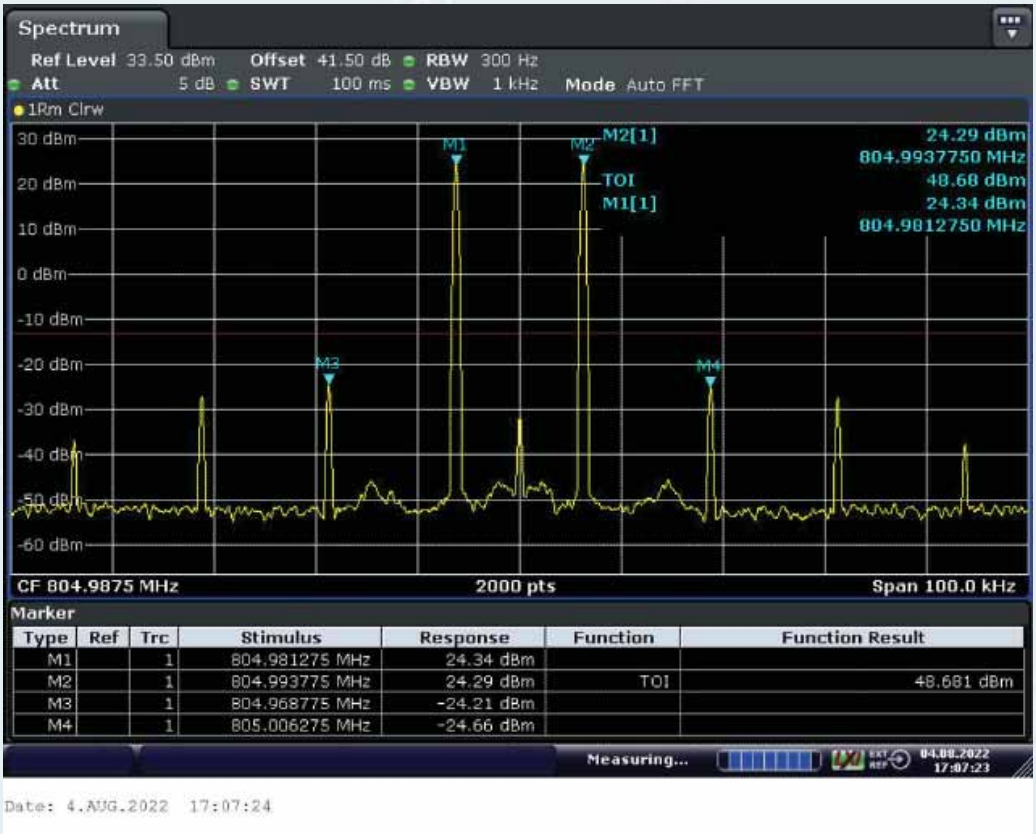
Mid Frequency and with the ALC threshold level



Mid Frequency and with the input signal amplitude set 3 dB above the ALC threshold



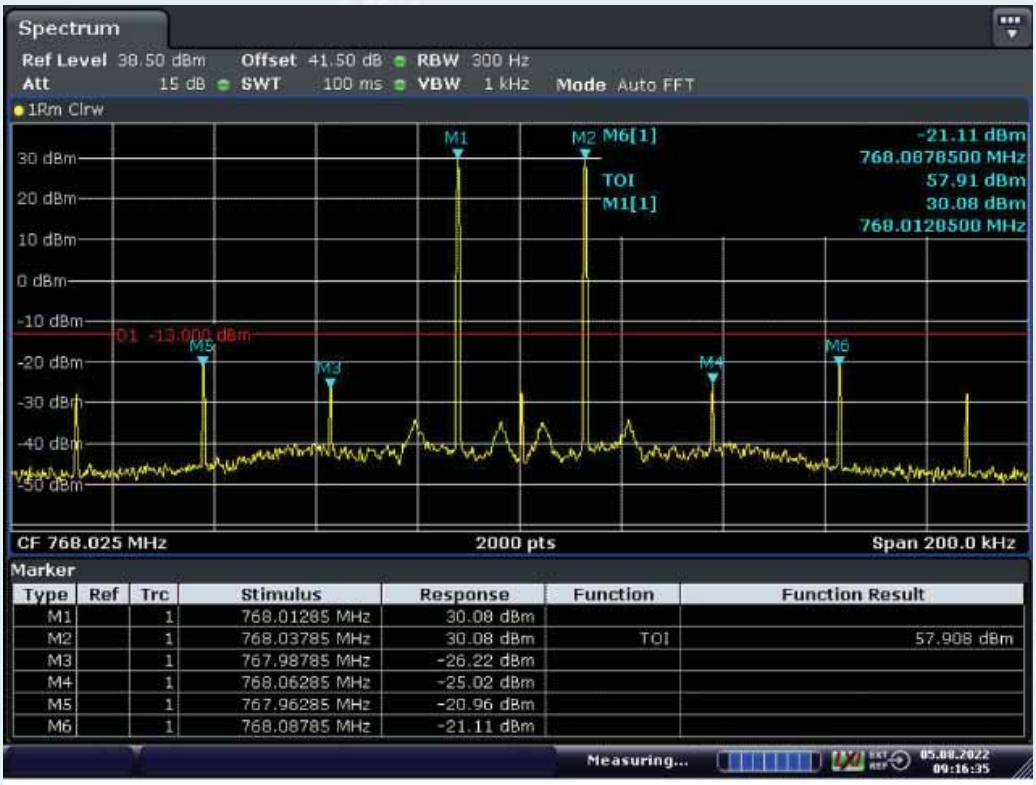
High Frequency and with the ALC threshold level



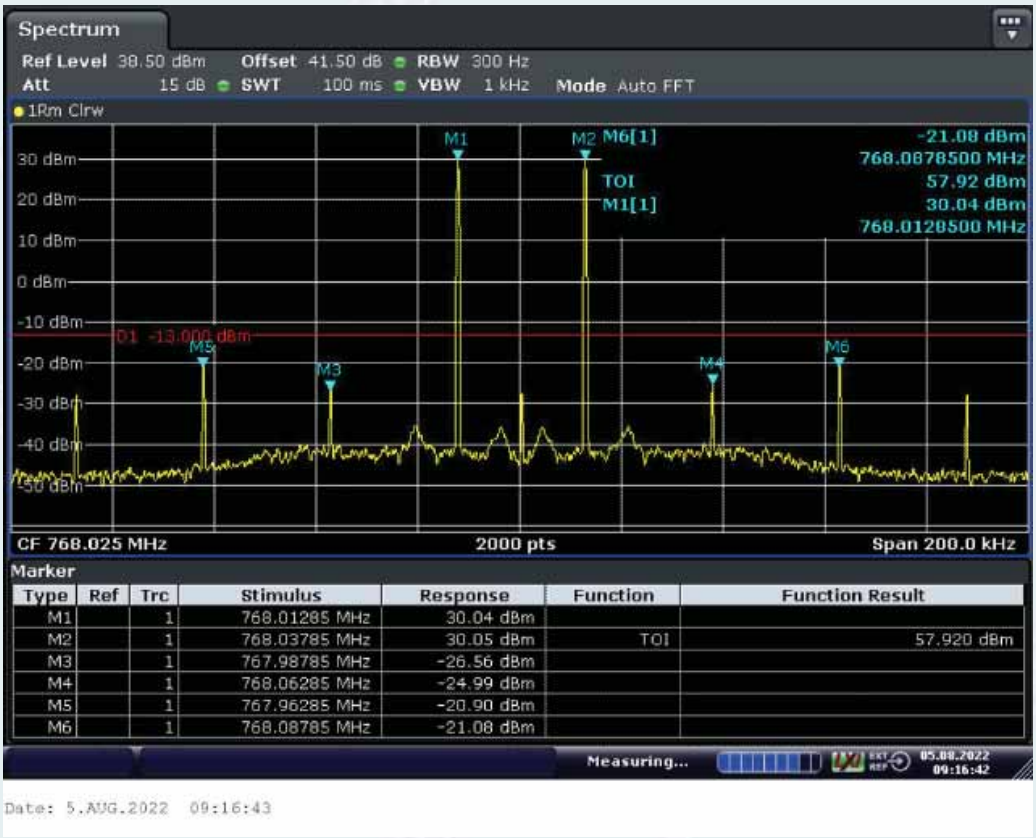
High Frequency and with the input signal amplitude set 3 dB above the ALC threshold

10.8.5.1.2. Channel bandwidth 25kHz

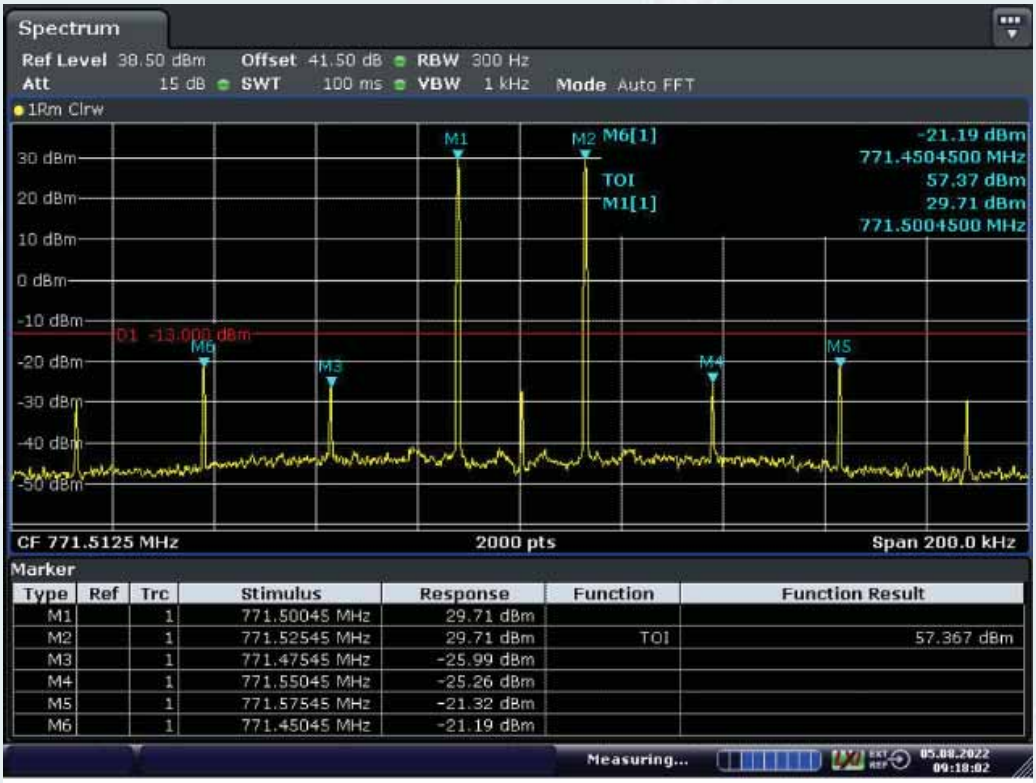
10.8.5.1.2.1. Downlink



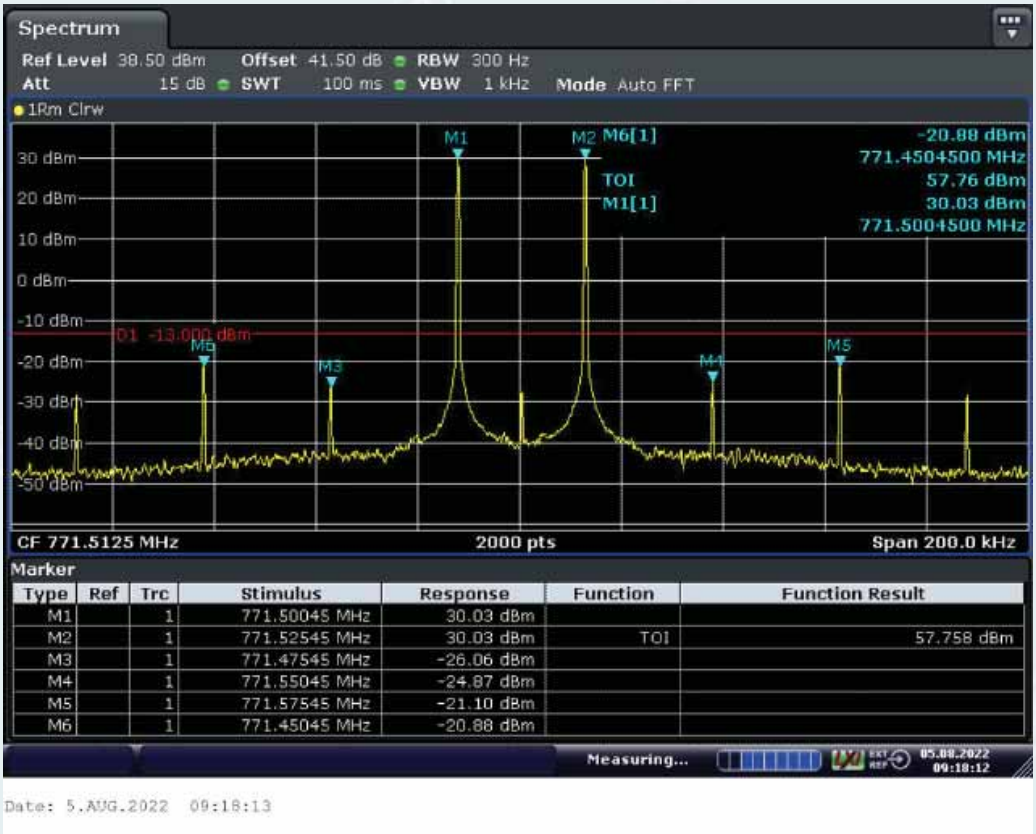
Low Frequency and with the ALC threshold level



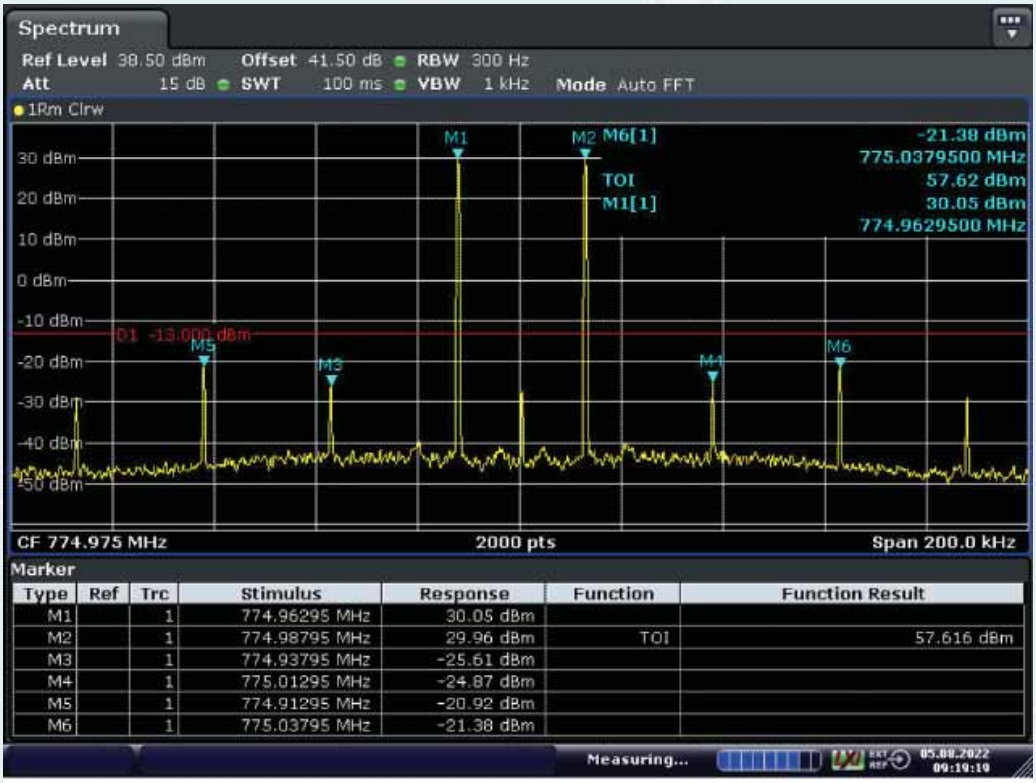
Low Frequency and with the input signal amplitude set 3 dB above the ALC threshold



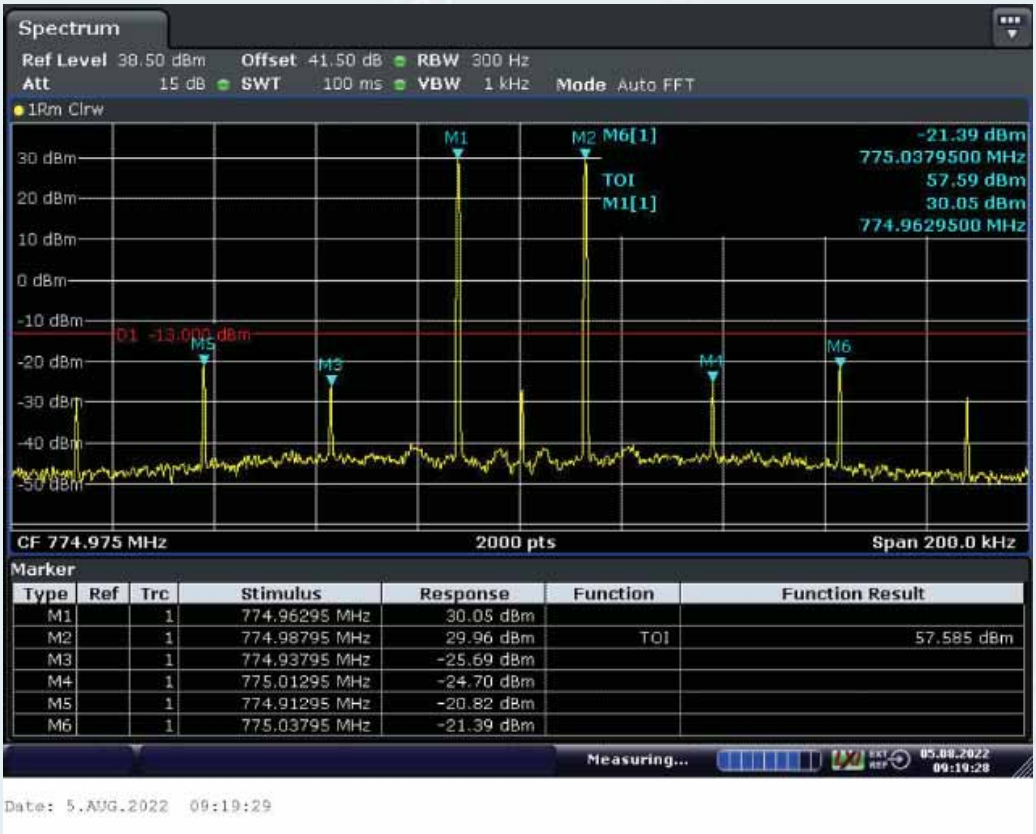
Mid Frequency and with the ALC threshold level



Mid Frequency and with the input signal amplitude set 3 dB above the ALC threshold

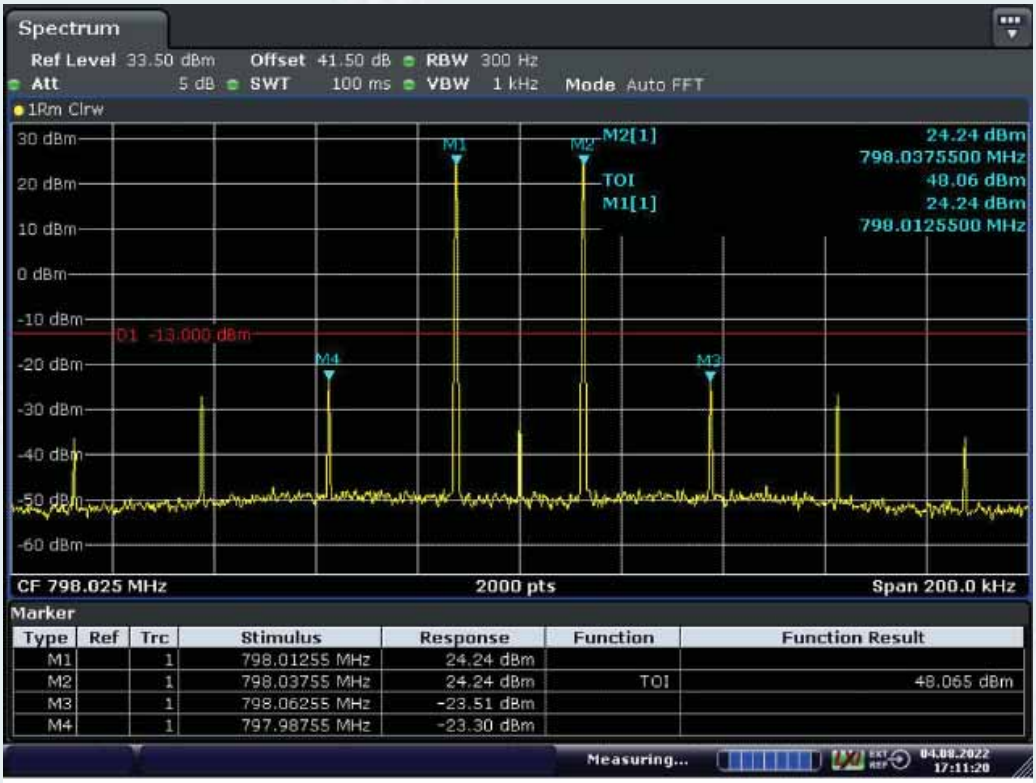


High Frequency and with the ALC threshold level

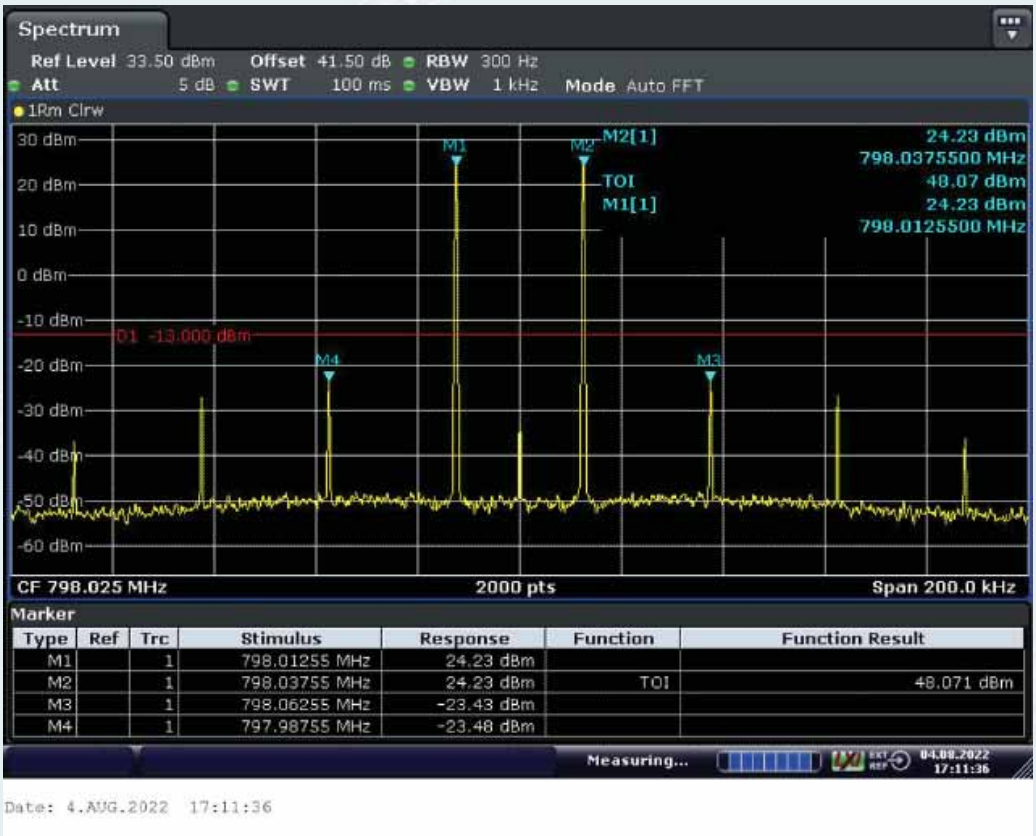


High Frequency and with the input signal amplitude set 3 dB above the ALC threshold

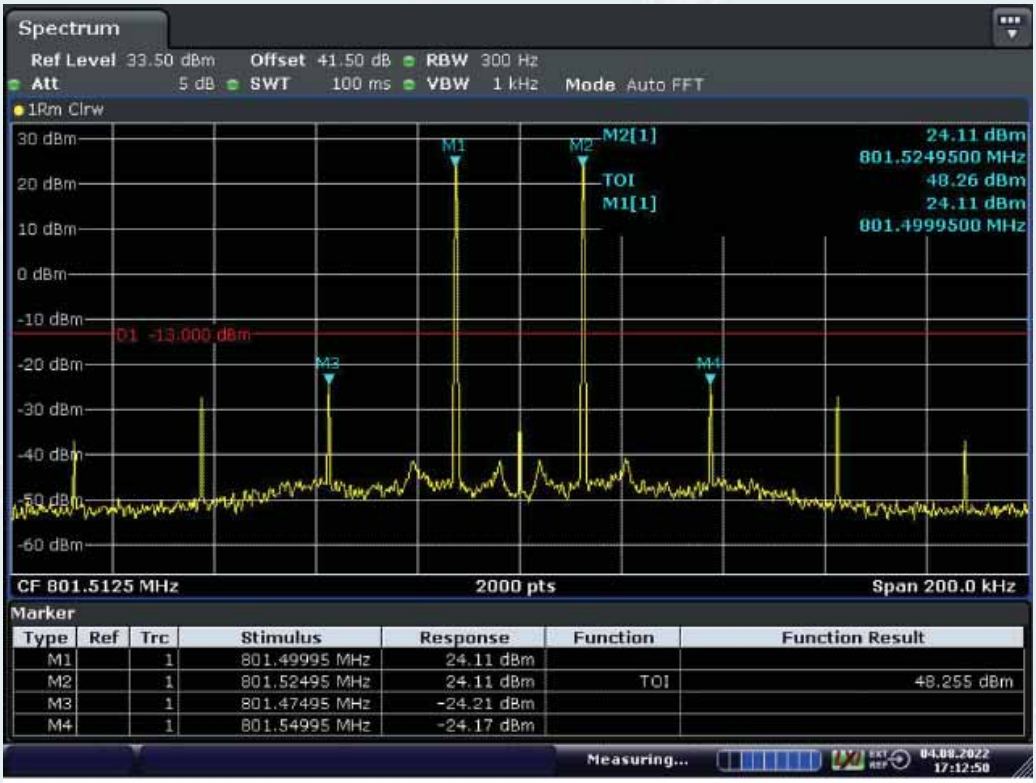
10.8.5.1.2.2. Uplink



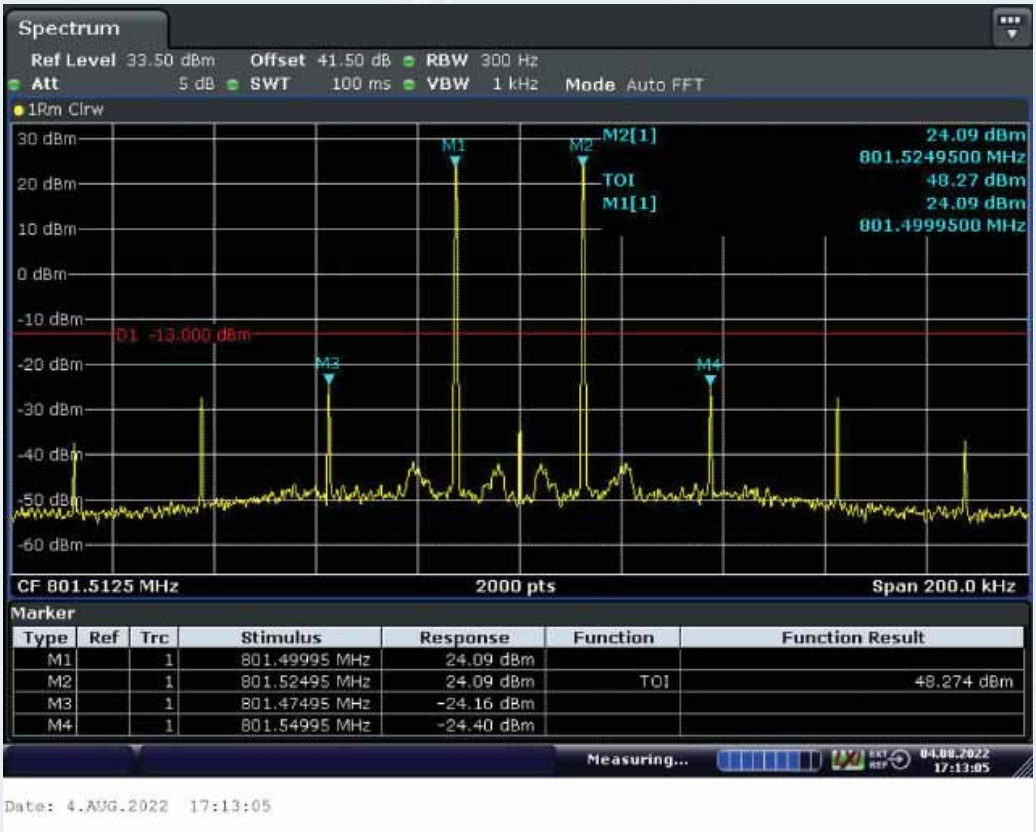
Low Frequency and with the ALC threshold level



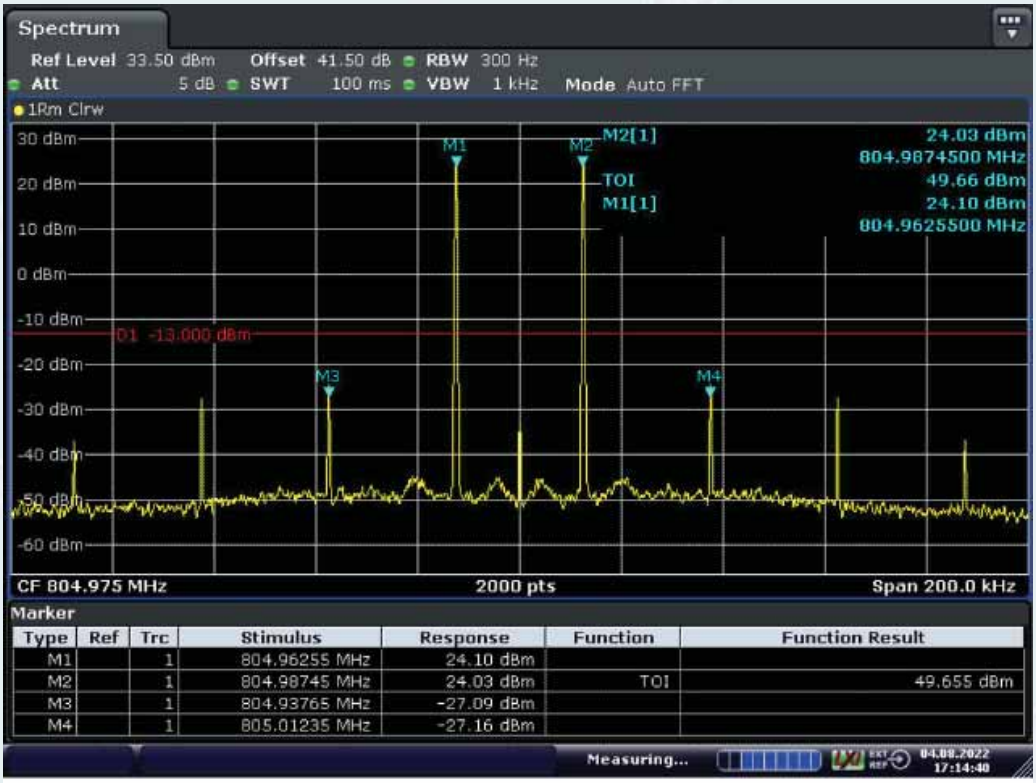
Low Frequency and with the input signal amplitude set 3 dB above the ALC threshold



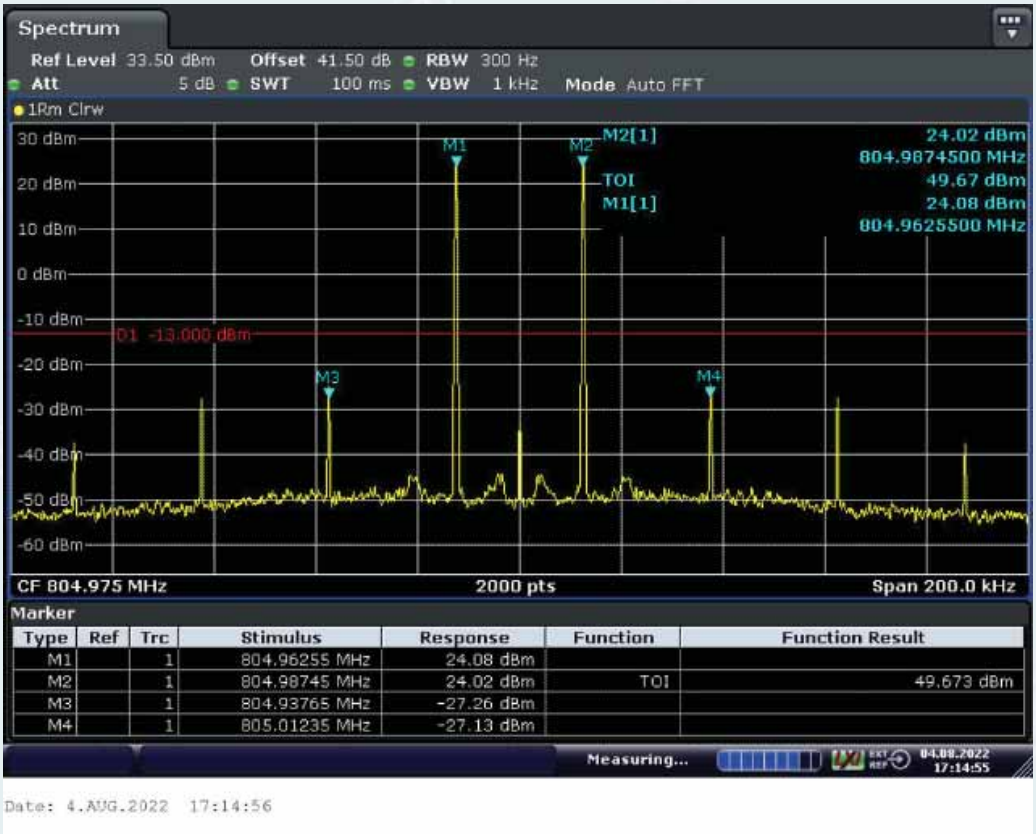
Mid Frequency and with the ALC threshold level



Mid Frequency and with the input signal amplitude set 3 dB above the ALC threshold



High Frequency and with the ALC threshold level

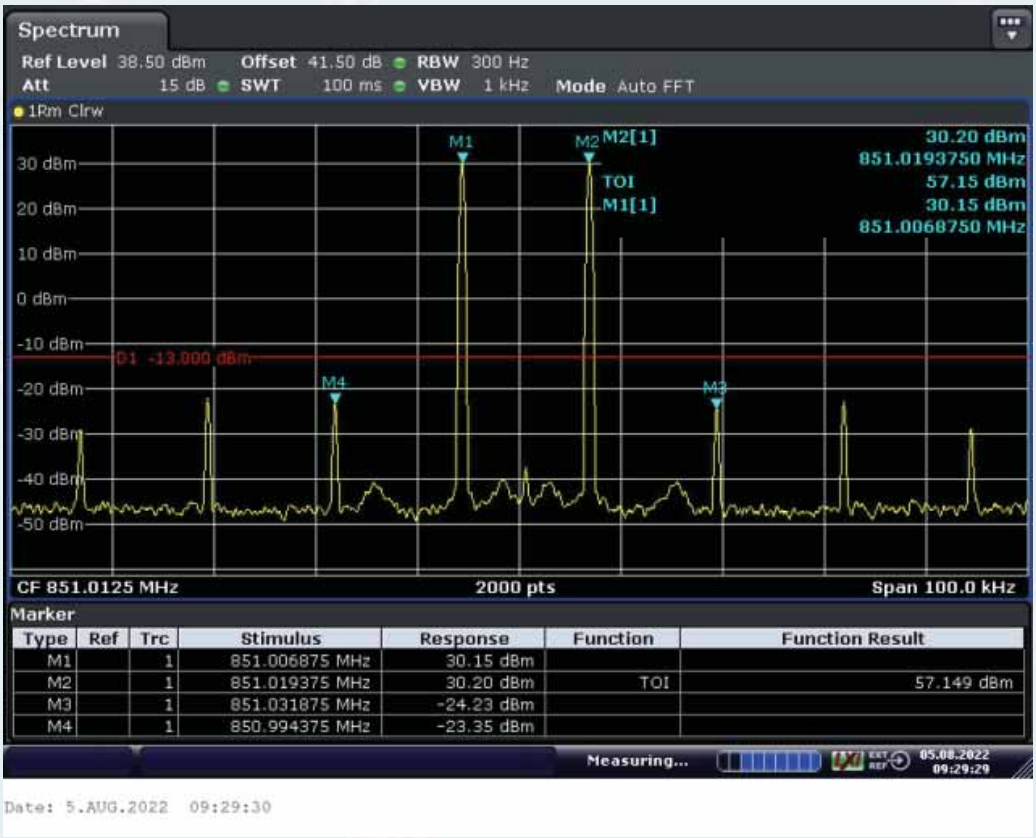


High Frequency and with the input signal amplitude set 3 dB above the ALC threshold

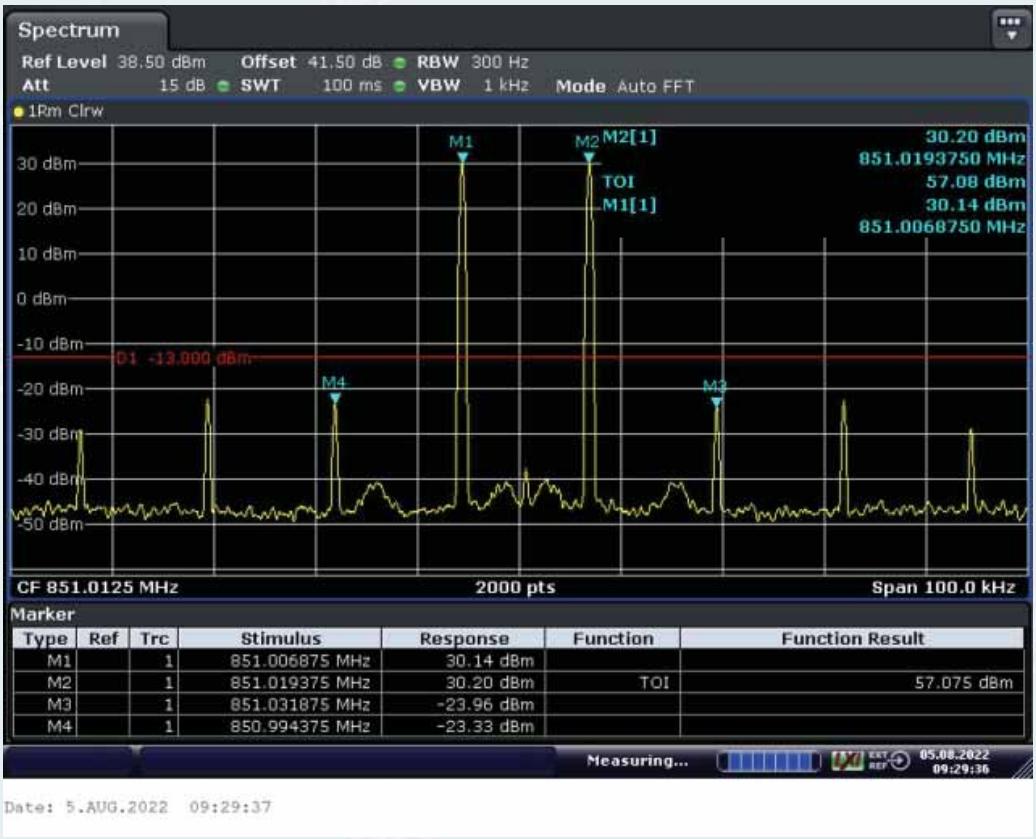
10.8.5.2. 800MHz Band

10.8.5.2.1. Channel bandwidth 12.5kHz

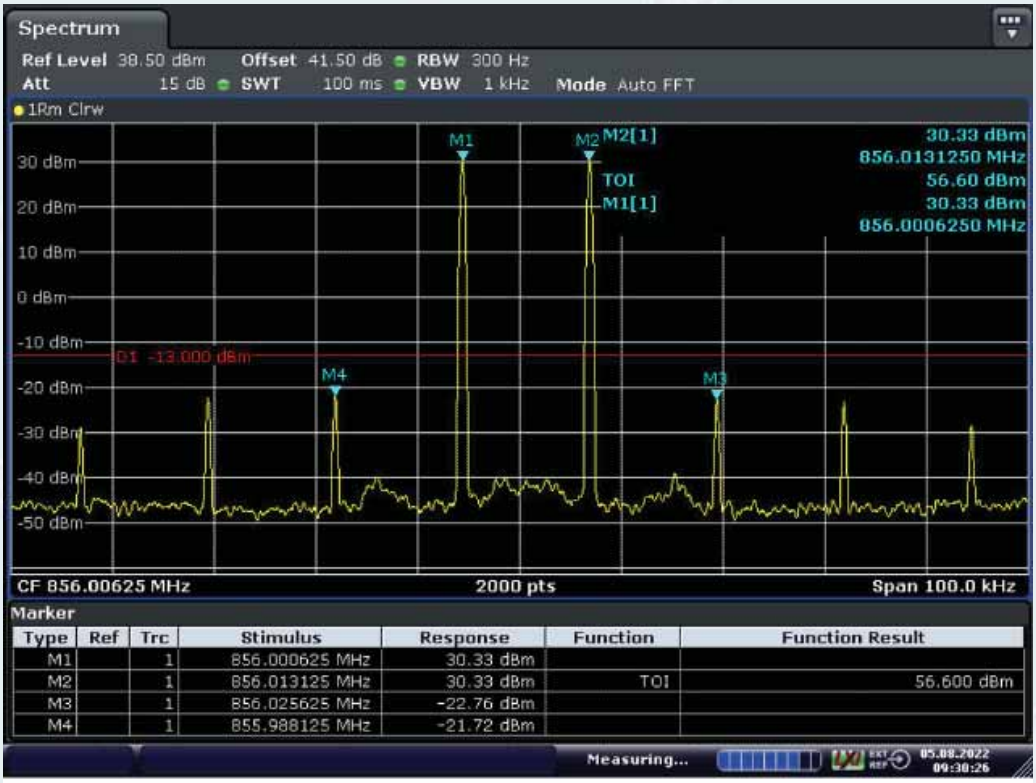
10.8.5.2.1.1. Downlink



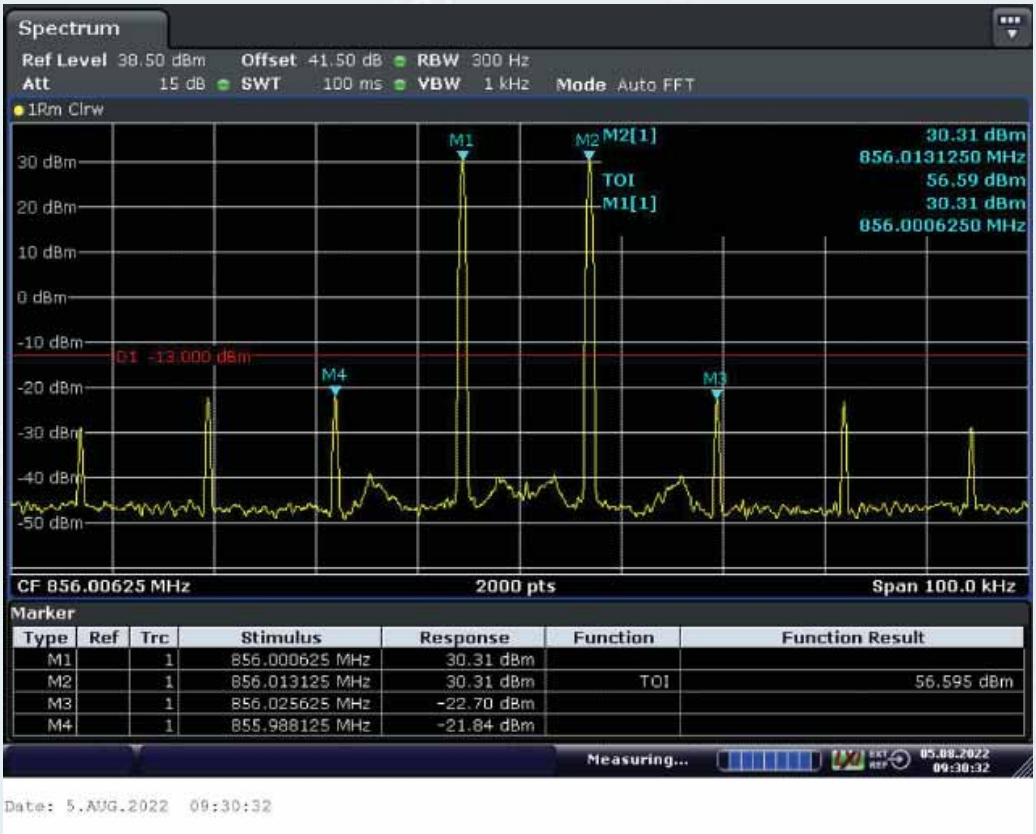
Low Frequency and with the ALC threshold level



Low Frequency and with the input signal amplitude set 3 dB above the ALC threshold

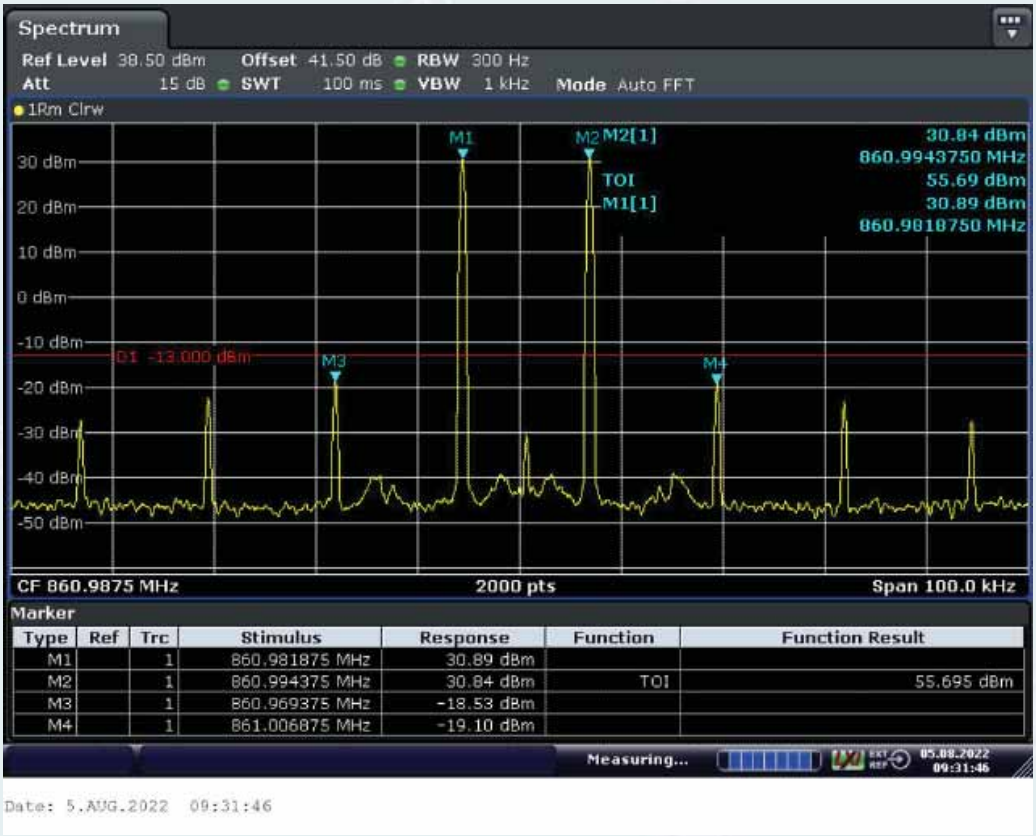


Mid Frequency and with the ALC threshold level



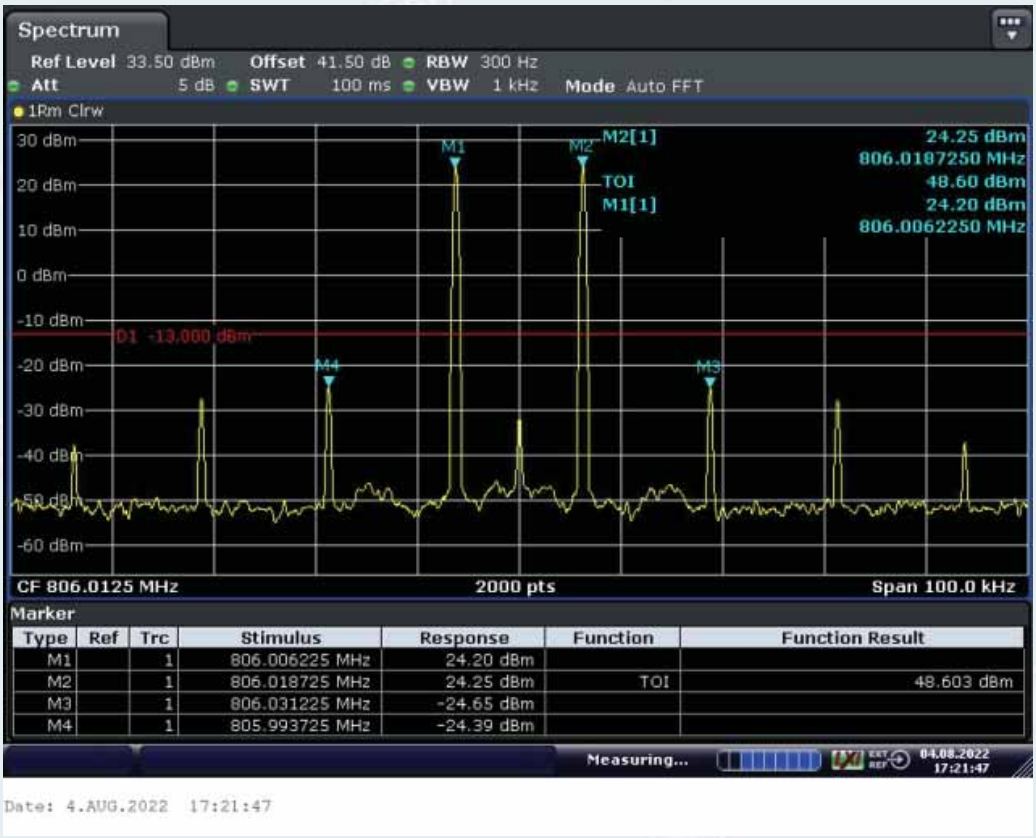
Mid Frequency and with the input signal amplitude set 3 dB above the ALC threshold

High Frequency and with the ALC threshold level

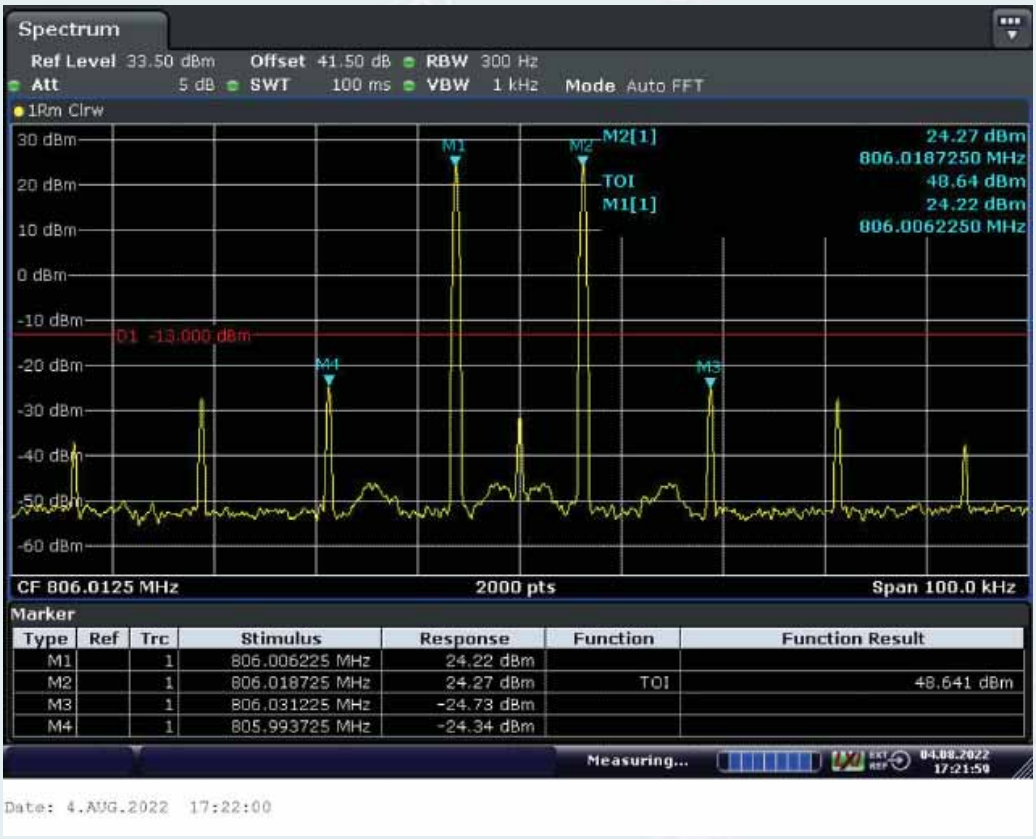


High Frequency and with the input signal amplitude set 3 dB above the ALC threshold

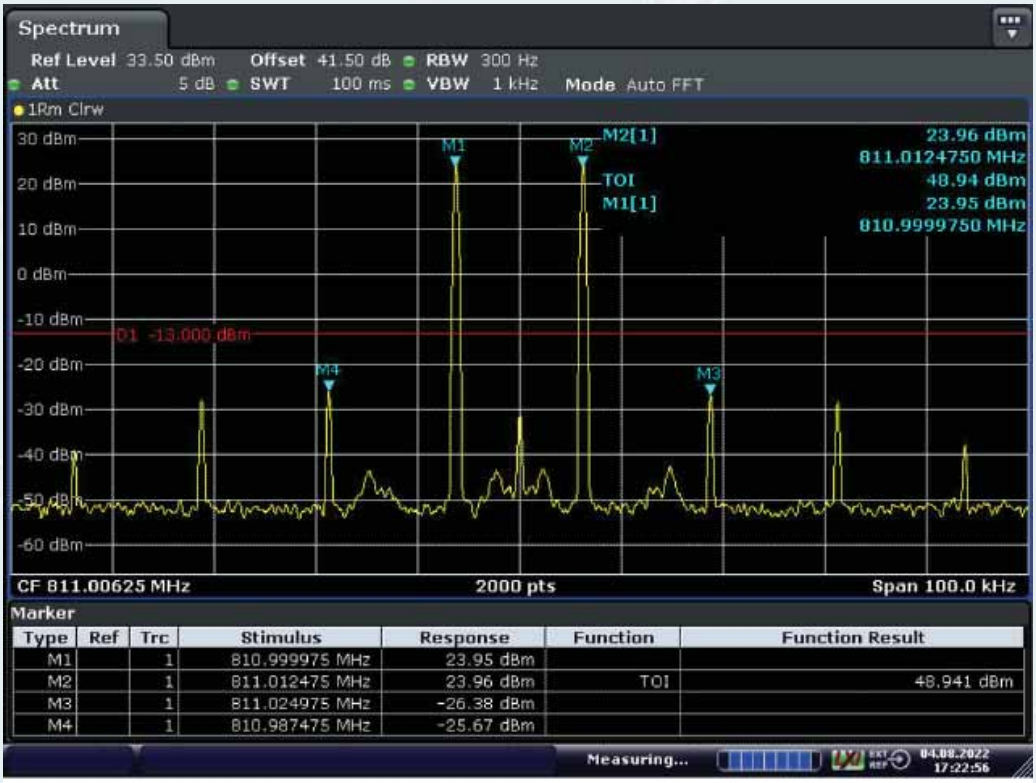
10.8.5.2.1.2. Uplink



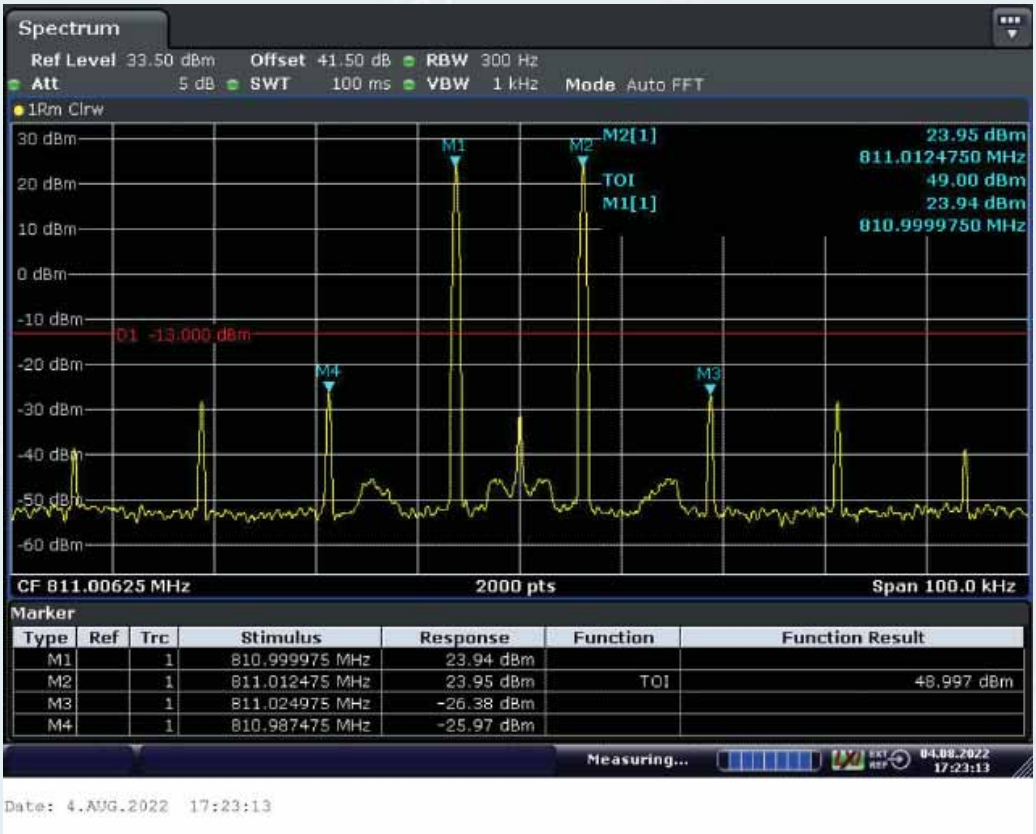
Low Frequency and with the ALC threshold level



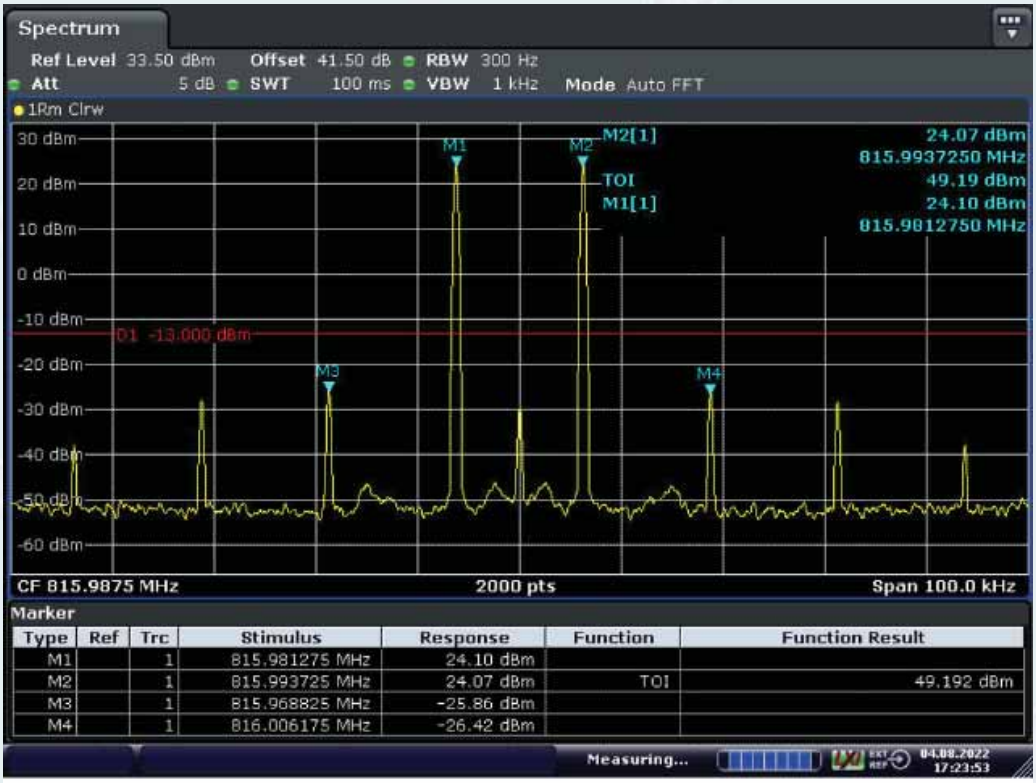
Low Frequency and with the input signal amplitude set 3 dB above the ALC threshold



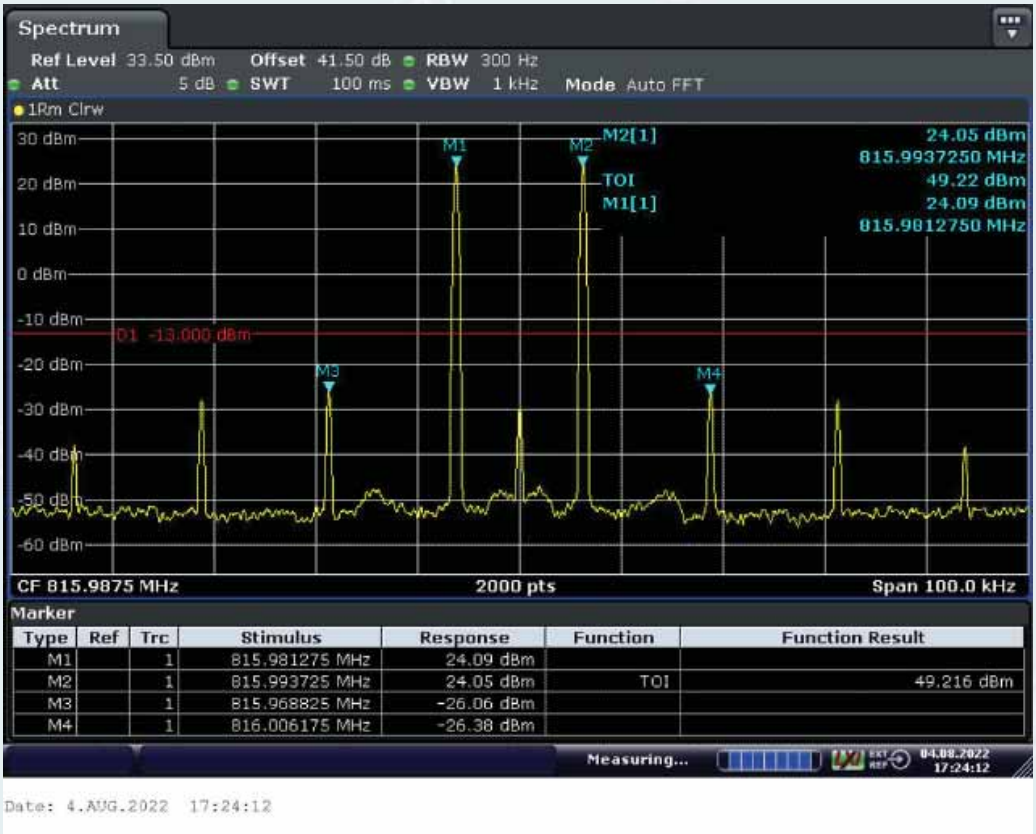
Mid Frequency and with the ALC threshold level



Mid Frequency and with the input signal amplitude set 3 dB above the ALC threshold



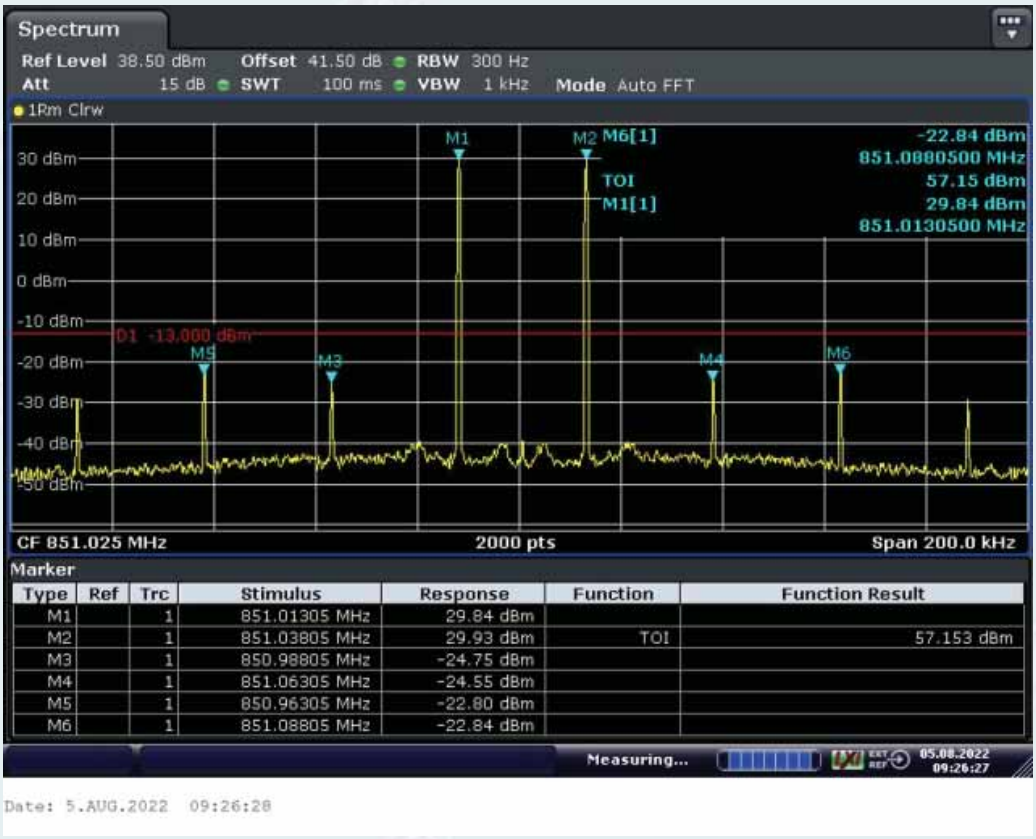
High Frequency and with the ALC threshold level



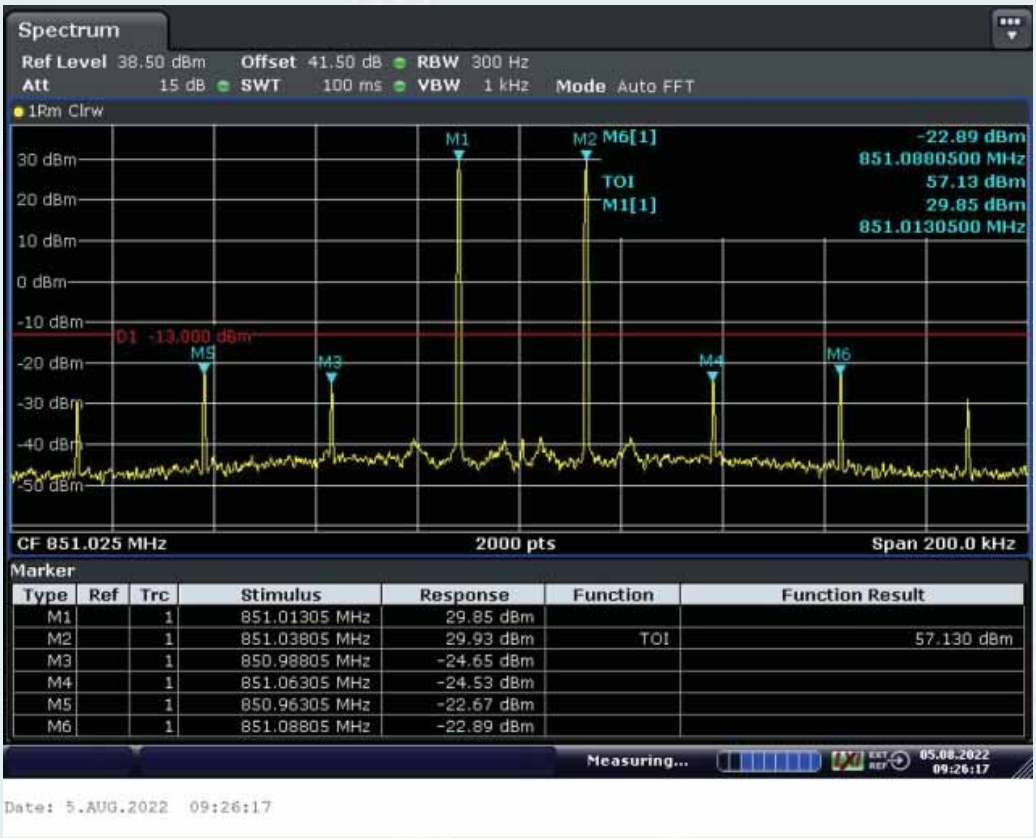
High Frequency and with the input signal amplitude set 3 dB above the ALC threshold

10.8.5.2.2. Channel bandwidth 25kHz

10.8.5.2.2.1. Downlink

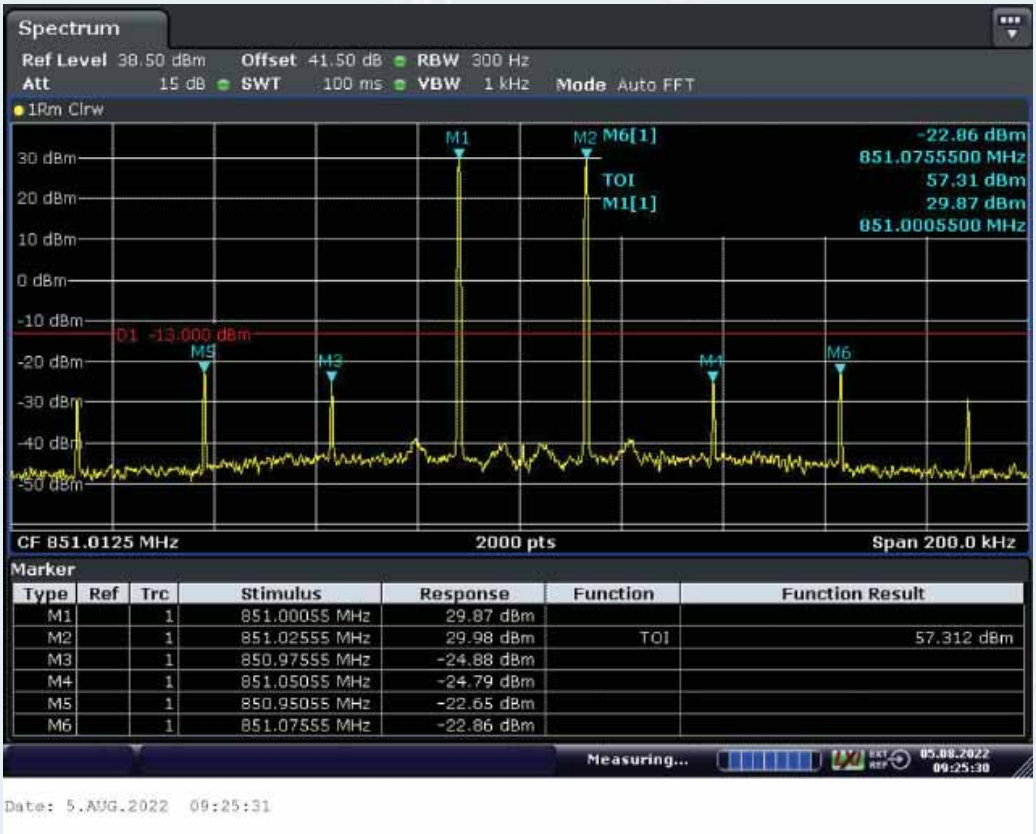


Low Frequency and with the ALC threshold level

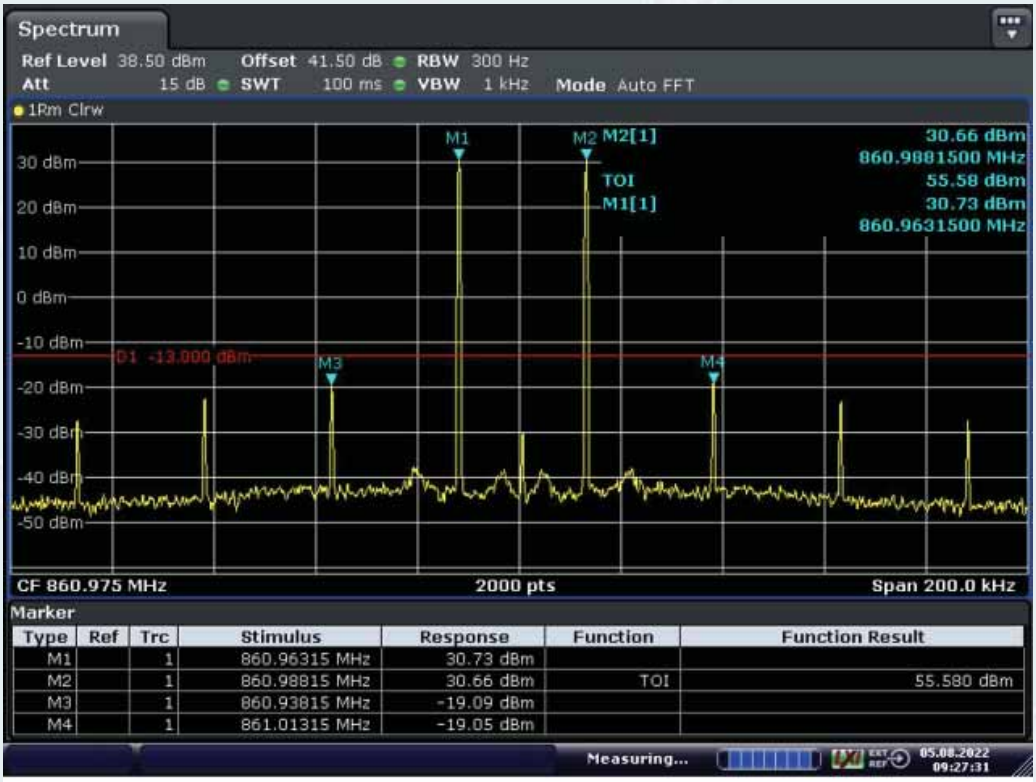


Low Frequency and with the input signal amplitude set 3 dB above the ALC threshold

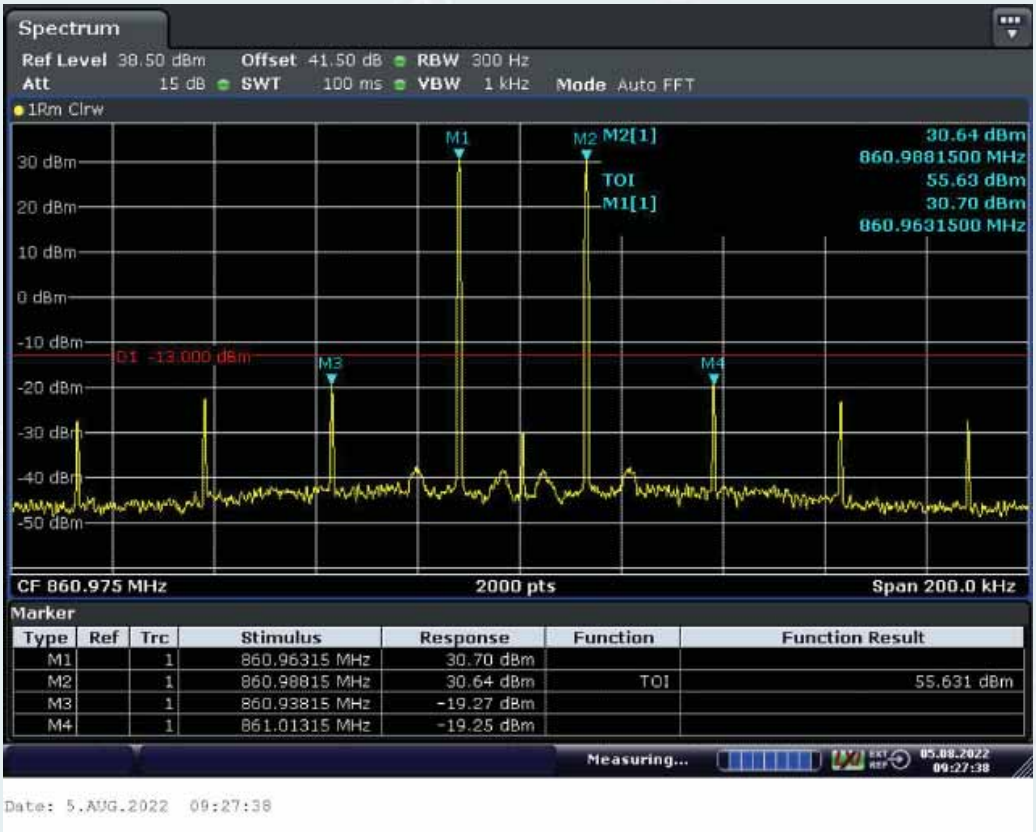
Mid Frequency and with the ALC threshold level



Mid Frequency and with the input signal amplitude set 3 dB above the ALC threshold

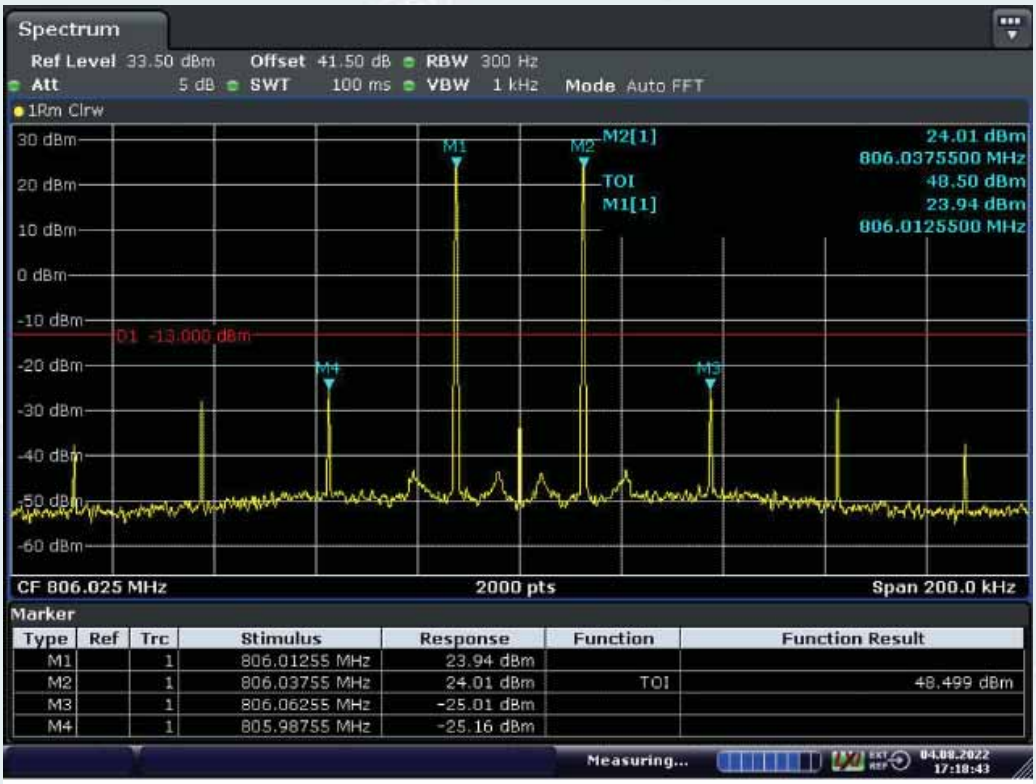


High Frequency and with the ALC threshold level

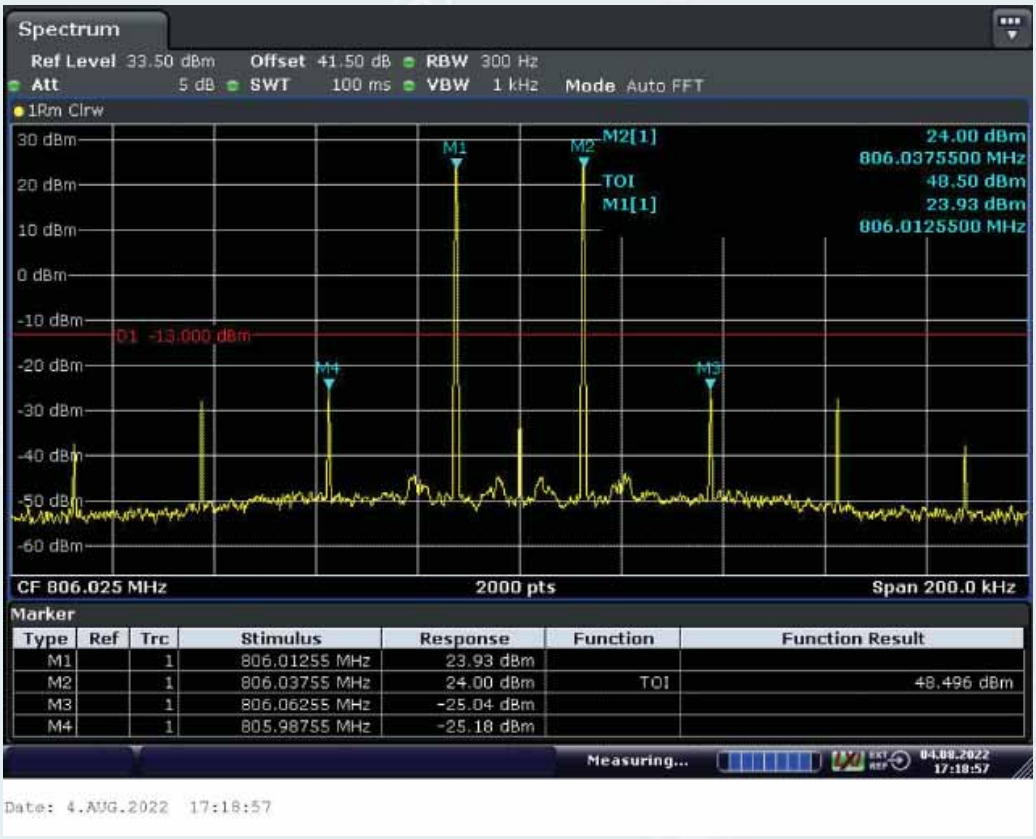


High Frequency and with the input signal amplitude set 3 dB above the ALC threshold

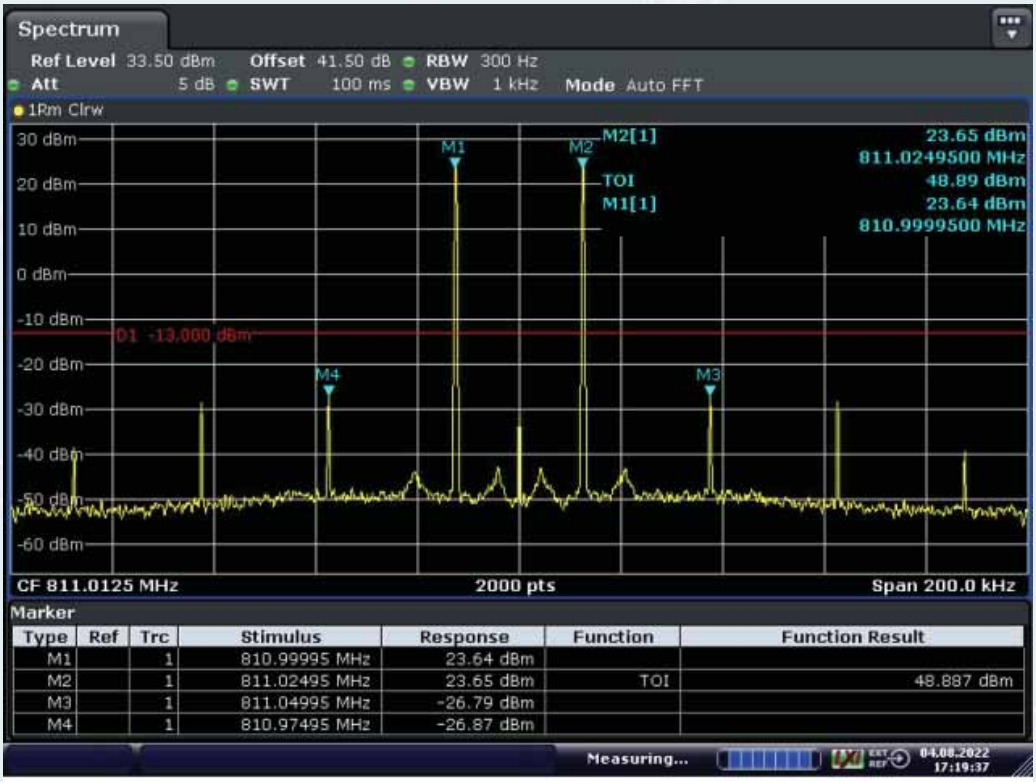
10.8.5.2.2.2. Uplink



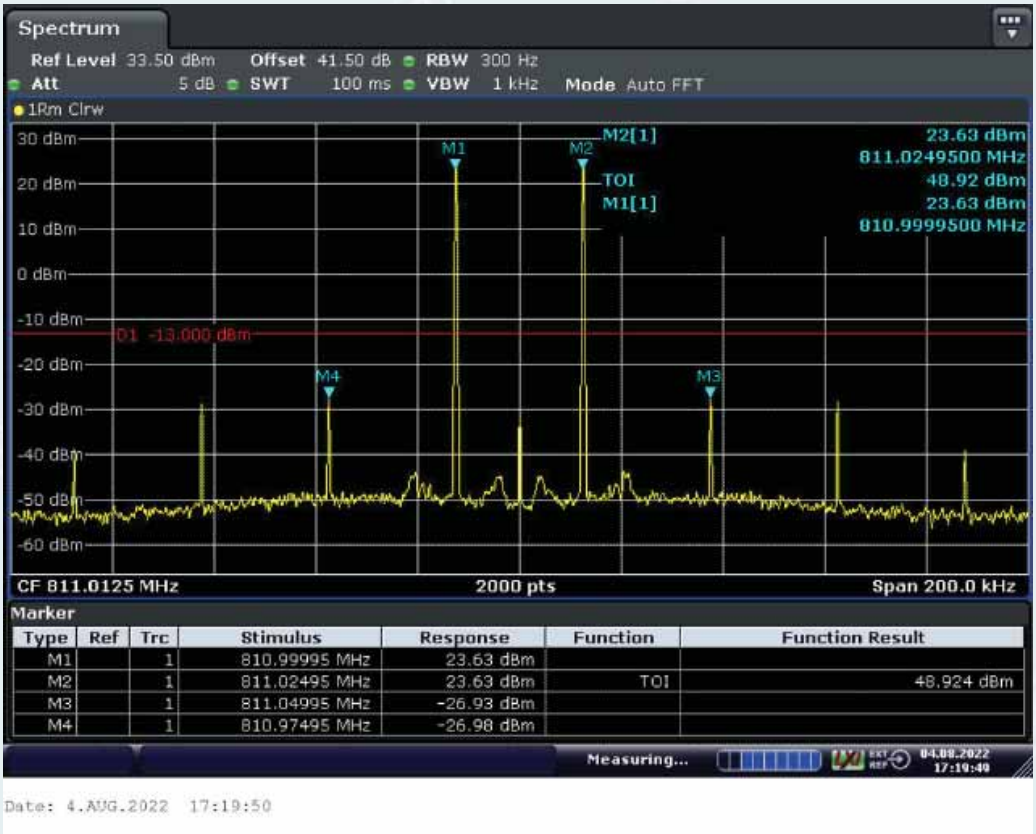
Low Frequency and with the ALC threshold level



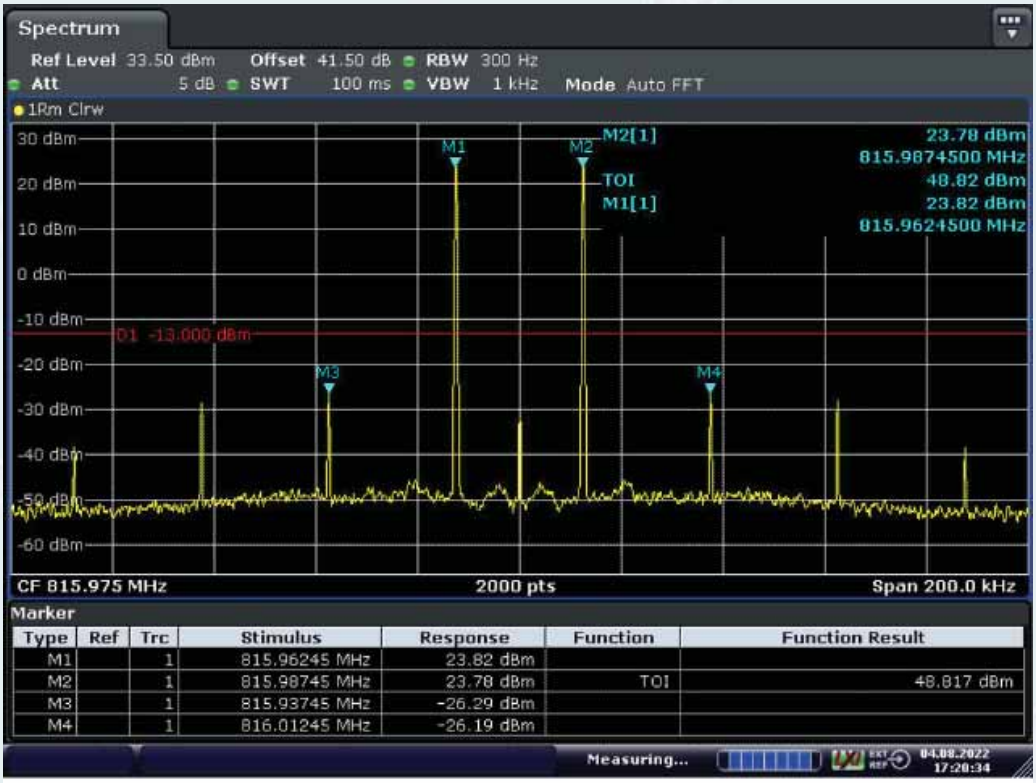
Low Frequency and with the input signal amplitude set 3 dB above the ALC threshold



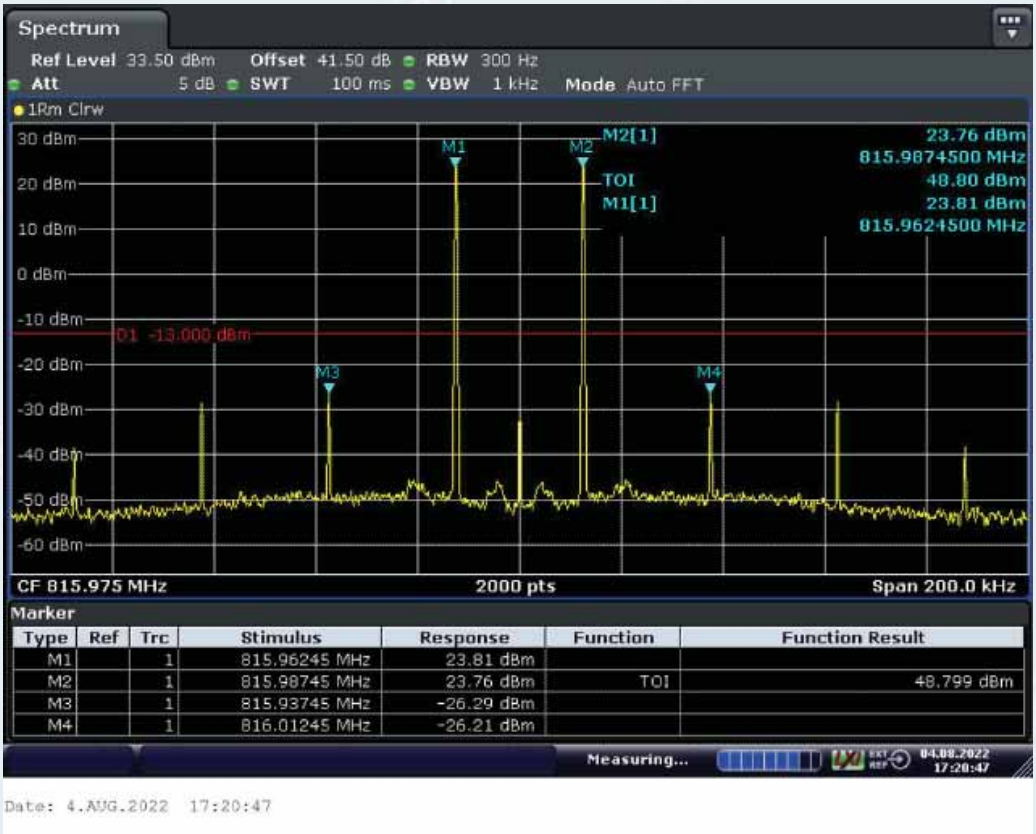
Mid Frequency and with the ALC threshold level



Mid Frequency and with the input signal amplitude set 3 dB above the ALC threshold



High Frequency and with the ALC threshold level



High Frequency and with the input signal amplitude set 3 dB above the ALC threshold

10.9. Conducted spurious emissions

Test requirement:	KDB 935210 D05 clause 4.7.3 FCC PART 2.1051 FCC PART 90.219 (e)(3)
Test Method:	KDB 935210 D05/4.7.3

10.9.1. Limit

Refer to the applicable rule part(s) for specified limits on unwanted (out-of-band/out-of-block and spurious) emissions (e.g., Section 90.210).

Spurious emissions shall be measured using a single test signal sequentially tuned to the low, middle, and high channels or frequencies within each authorized frequency band of operation.

Intermodulation products shall be measured using two CW signals with all available channel spacings (e.g., 12.5 kHz and 6.25 kHz) with the center between these channels being equal to the center frequency f_0 as determined from 4.3.

NOTE—Intermodulation-product spurious emission measurements are not required for single-channel boosters that cannot accommodate two simultaneous signals within the passband.

For a multi-channel enhancer, any intermodulation product level must be attenuated, relative to P, by at least:43+10*$\log_{10}$ P is less stringent than 70dB, that limit was used.

Spurious emissions shall be measured using a single test signal sequentially tuned to the low, middle, and high channels or frequencies within each authorized frequency band of operation.

Out-of-band/out-of-block emissions (including intermodulation products) shall be measured under each of the following two stimulus conditions:

a) two adjacent test signals sequentially tuned to the lower and upper frequency band/block edges;
b) a single test signal, sequentially tuned to the lowest and highest frequencies or channels within the frequency band/block under examination.

NOTE—Single-channel boosters that cannot accommodate two simultaneous signals within the passband may be excluded from the test stipulated in step a).

10.9.2. Test configuration

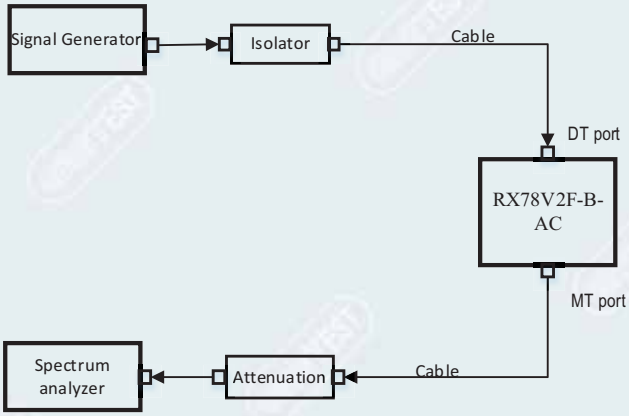


Figure 10.9-1 Downlink connection diagram

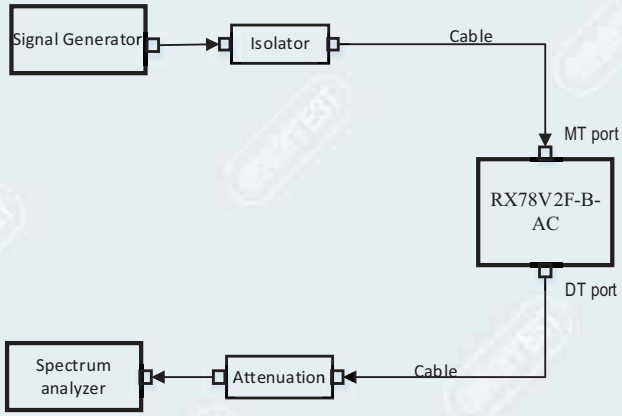


Figure 10.9-2 Uplink connection diagram