

11.17. Noise figure

11.17.1. Test results

Test Date (yy-mm-dd): 2023-05-23

Normal condition: Temp:26.7°C, Humid: 53%, Atmospheric Pressure:101kpa

Supply Voltage: AC 110V, 50Hz

11.17.1.1. 700MHz Band

Frequency(MHz)		Max. Limit (dB)	Noise figure data (dB)	Margin (dB)	Result
Downlink:	Low frequency: 769.0125MHz	9	4.76	4.24	PASS
	Middle frequency: 772.0MHz	9	4.30	4.70	PASS
	High frequency: 774.9875MHz	9	3.96	5.04	PASS
Uplink	Low frequency: 799.0125MHz	9	3.35	5.65	PASS
	Middle frequency: 802.0MHz	9	3.09	5.91	PASS
	High frequency: 804.9875MHz	9	2.99	6.01	PASS
NOTE: Margin= specification limit - Noise figure data.					

11.17.1.2. 800MHz Band

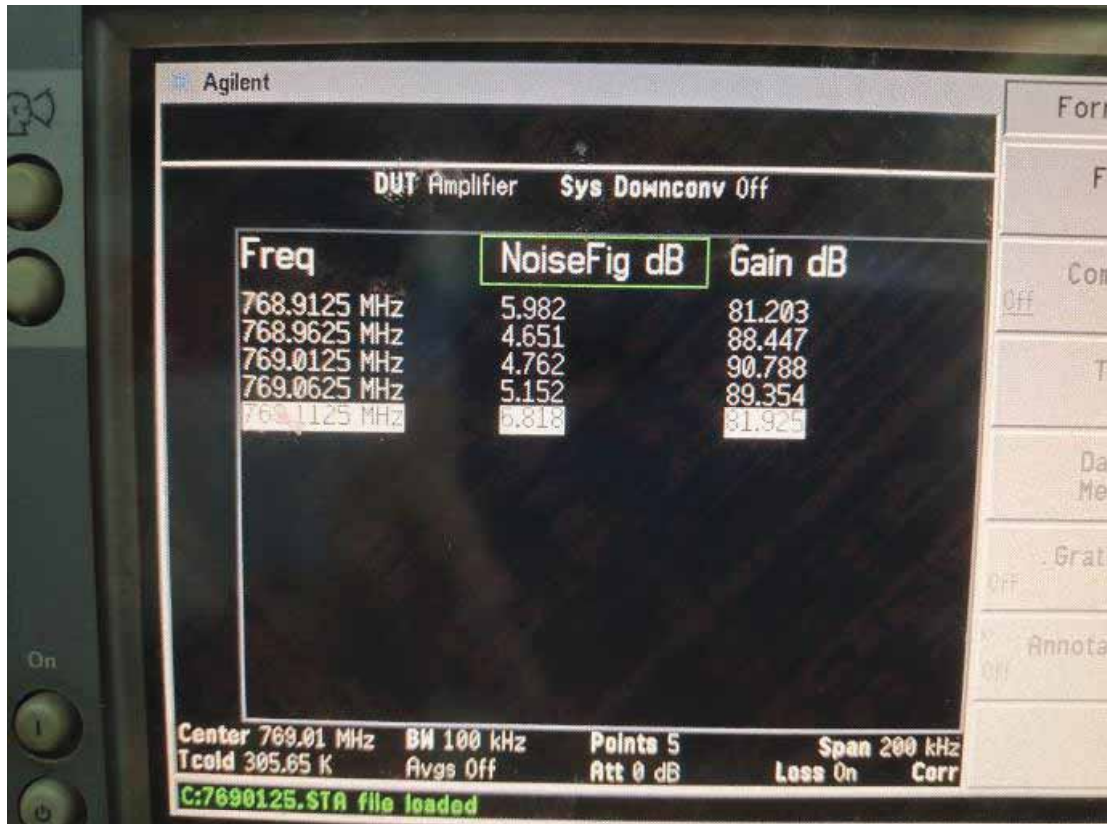
Frequency(MHz)		Max. Limit (dB)	Noise figure data (dB)	Margin (dB)	Result
Downlink:	Low frequency: 851.025MHz	9	4.84	4.16	PASS
	Middle frequency: 856.0MHz	9	3.56	5.44	PASS
	High frequency: 860.975MHz	9	4.07	4.93	PASS
Uplink	Low frequency: 806.025MHz	9	3.95	5.05	PASS
	Middle frequency: 811.0MHz	9	2.78	6.22	PASS
	High frequency: 815.975MHz	9	2.83	6.17	PASS
NOTE: Margin= specification limit - Noise figure data.					

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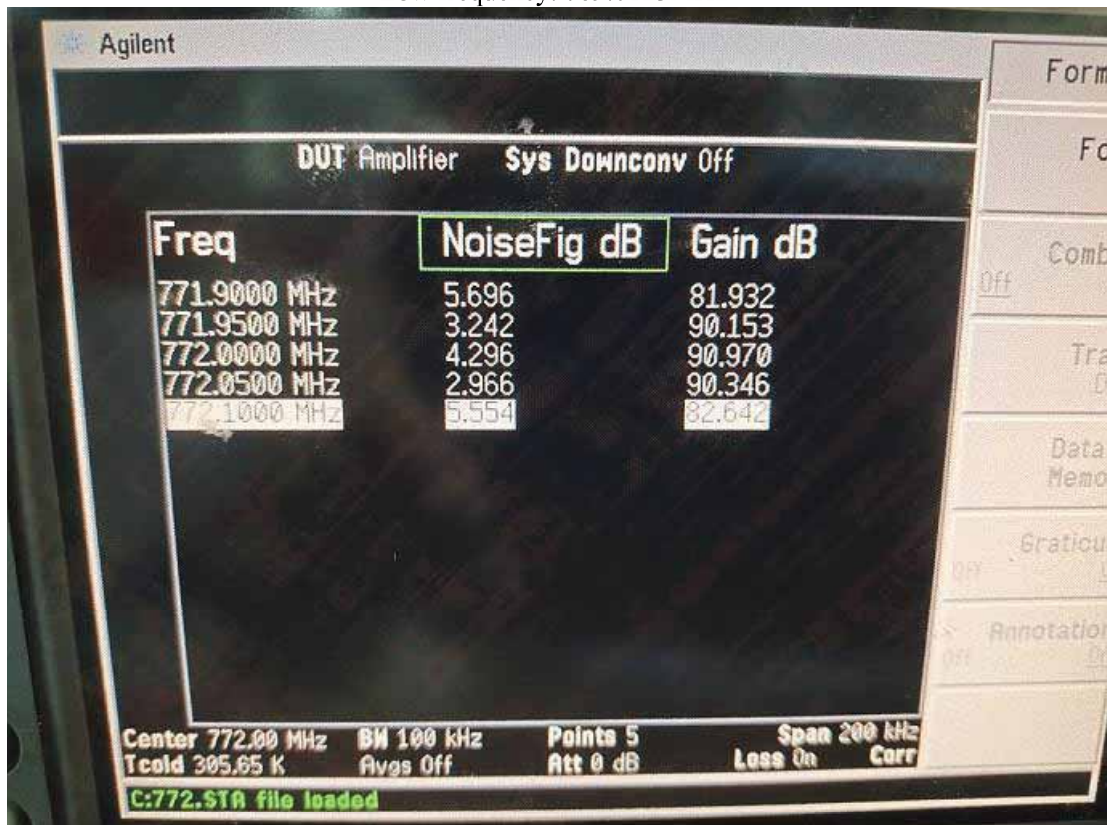
11.17.2. Test screenshot

11.17.2.1. 700MHz Band

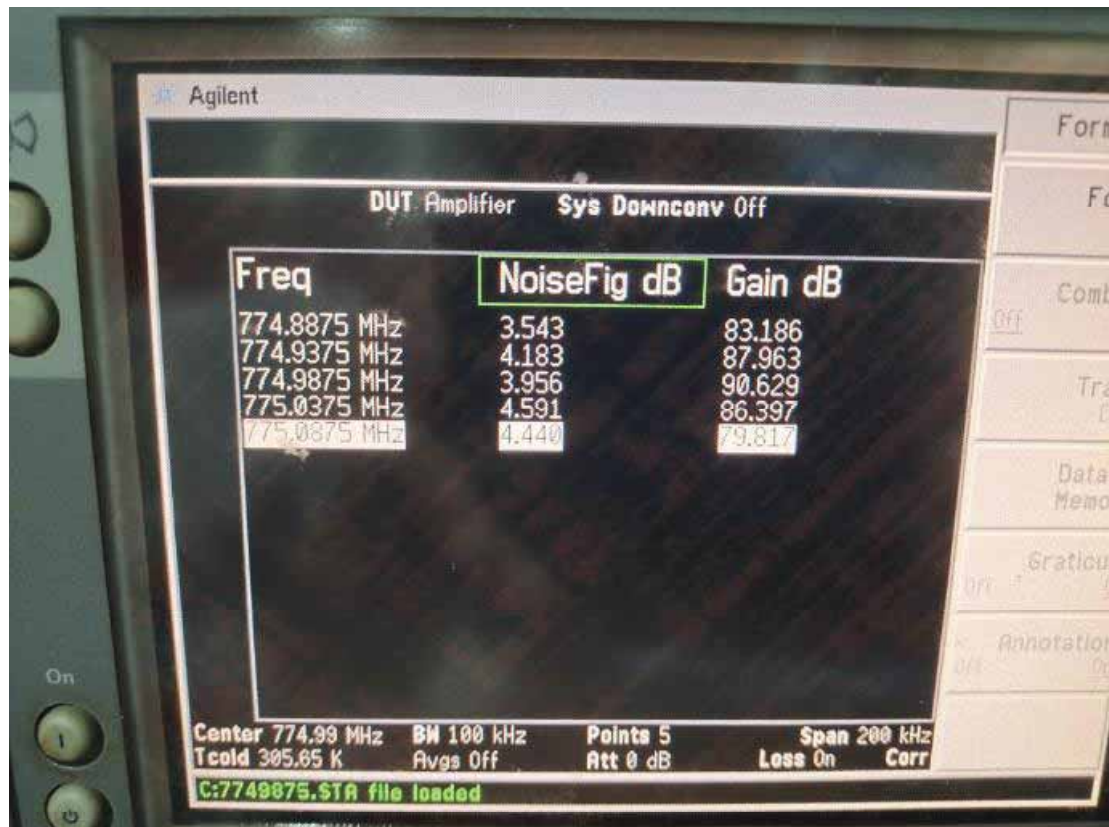
11.17.2.1.1. Downlink



Low frequency: 769.0125MHz

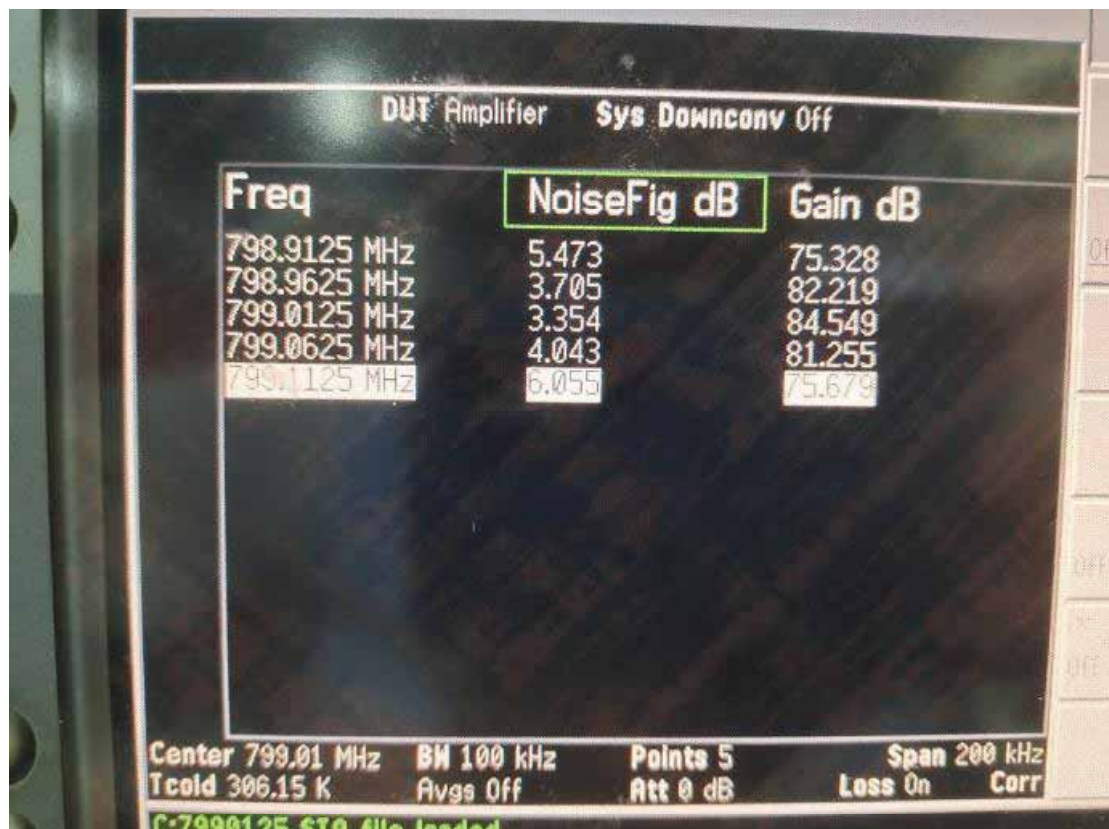


Middle frequency: 772.0MHz

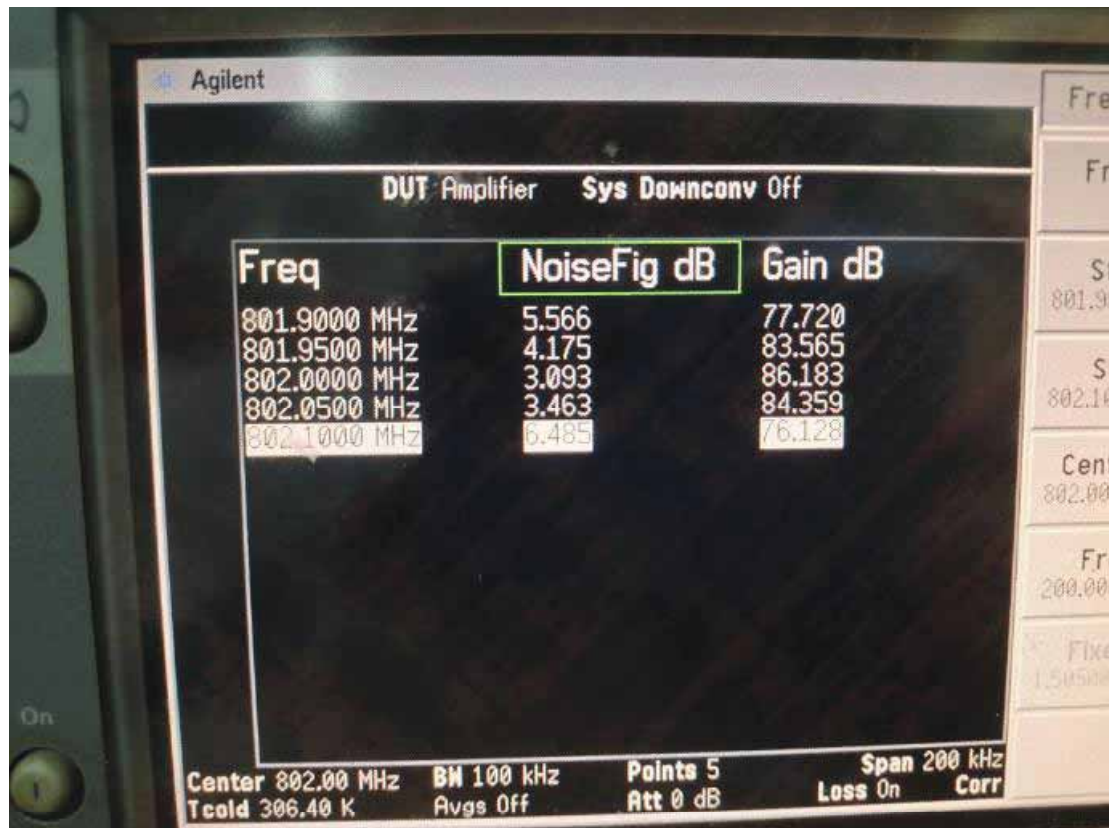


High frequency: 774.9875MHz

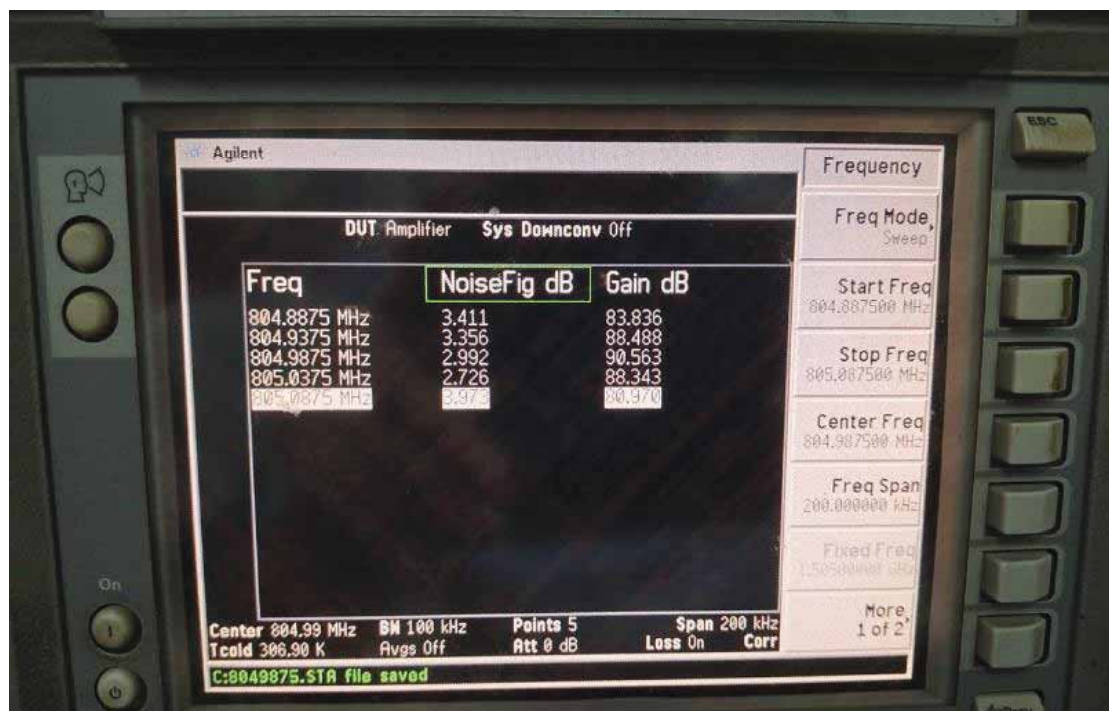
11.17.2.1.2. Uplink



Low frequency: 799.0125MHz



Middle frequency: 802.0MHz



High frequency: 804.9875MHz

11.17.2.2. 800MHz Band

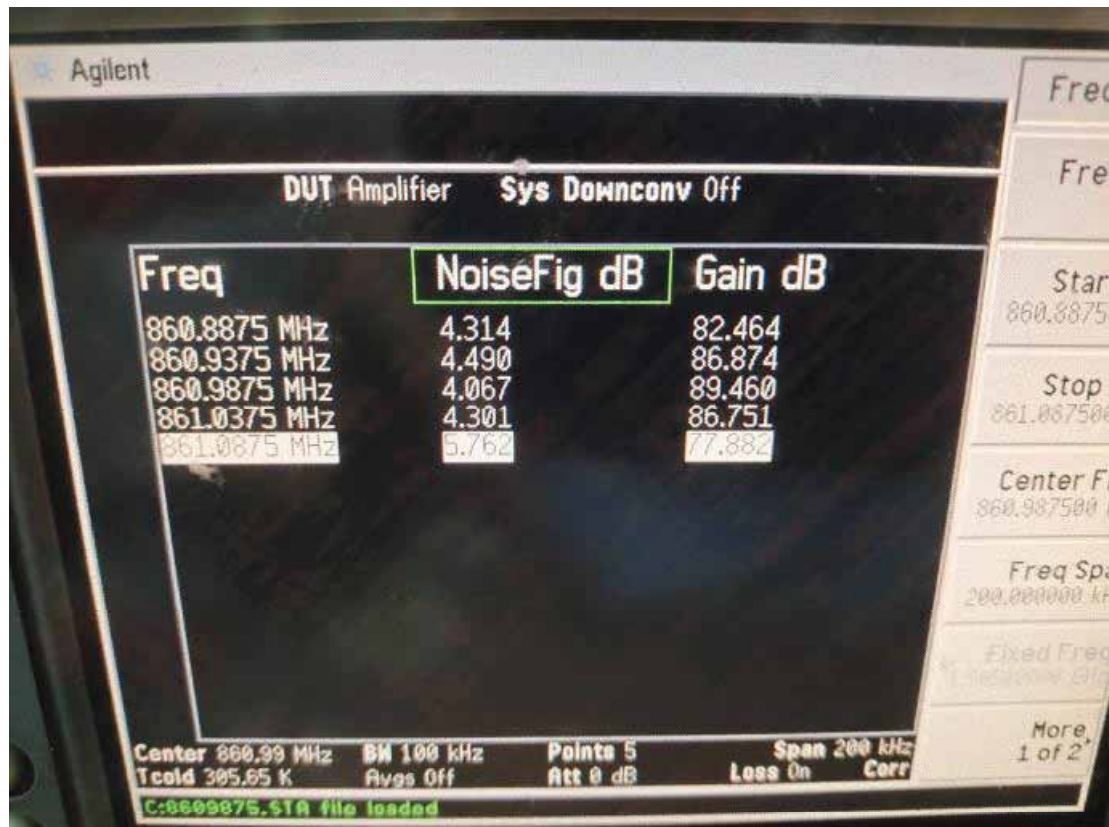
11.17.2.2.1. Downlink



Low frequency: 851.0125MHz



Middle frequency: 856.0MHz

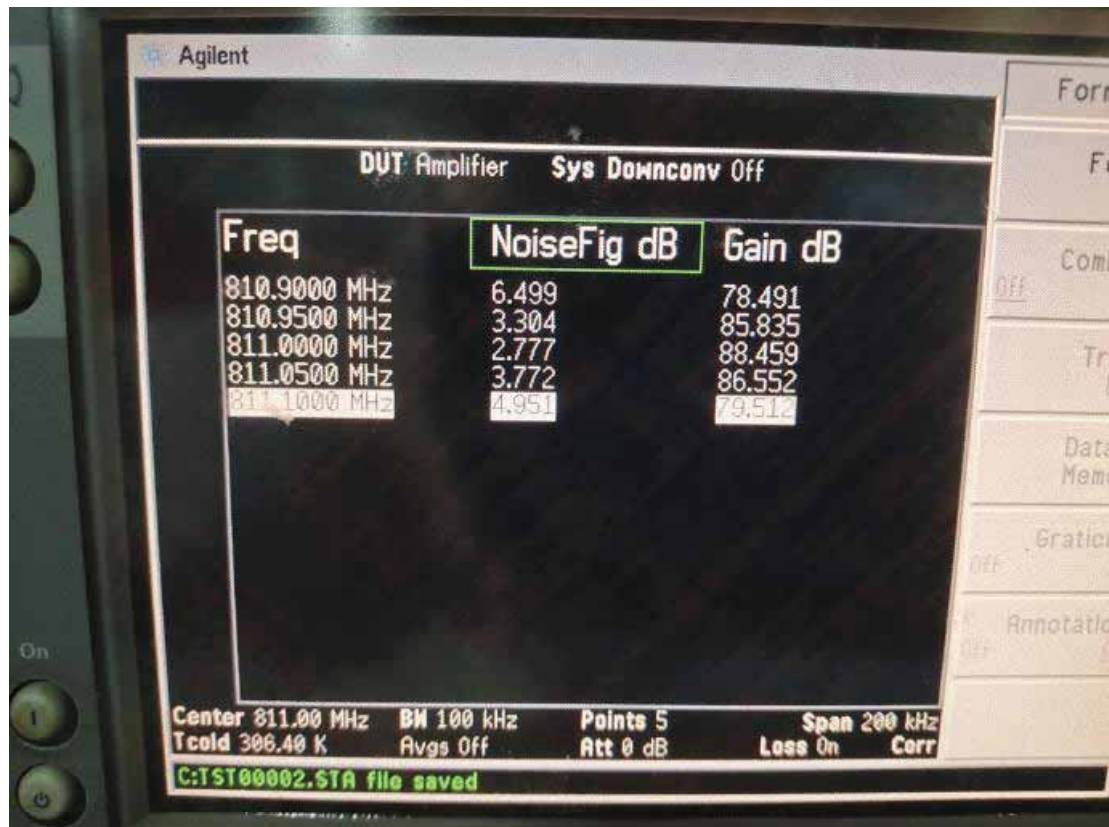


High frequency:860.9875MHz

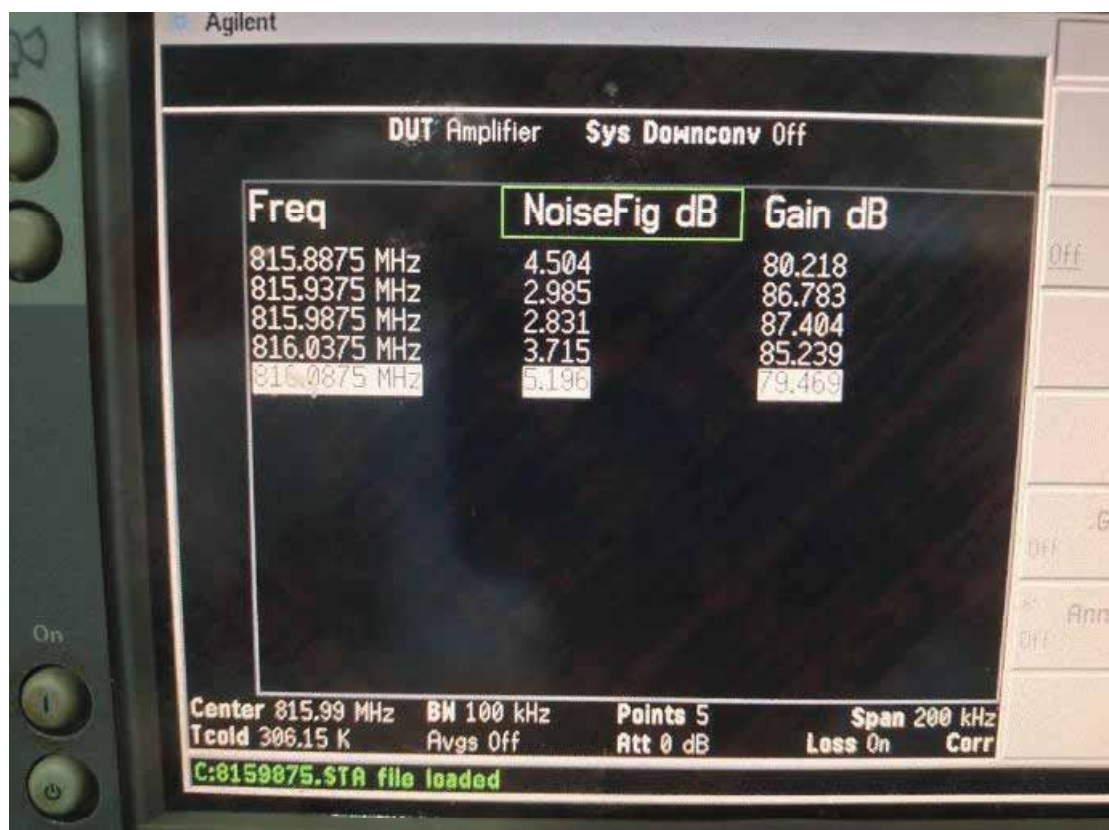
11.17.2.2.2. Uplink



Low frequency: 806.0125MHz



Middle frequency: 811.0MHz



High frequency: 815.9875MHz

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

11.18.1. Test results

Test Date (yy-mm-dd): 2023-05-22

Normal condition: Temp: 26.8°C, Humid: 56%, Atmospheric Pressure:101kpa

Supply Voltage: AC 110V, 50Hz

11.18.1.1. 700MHz Band

11.18.1.1.1. Downlink

Test status	Test frequency	Intermodulation product Limit (dBm)	Max. intermodulation product (dBm)	Margin (dB)	Result
(1) Frequency range: 769MHz~775MHz					
(1.1) Channel Bandwidth: 12.5kHz					
With the ALC threshold level	Low frequency: f1:769.00625MHz f2:769.01875MHz	-13.0	-22.0	9.0	PASS
	Mid frequency: f1:772.0MHz f2:772.0125MHz	-13.0	-25.6	12.6	PASS
	High frequency: f1:774.98125MHz f2:774.99375MHz	-13.0	-21.8	8.8	PASS
With the input signal amplitude set 3 dB above the AGC threshold	Low frequency: f1:769.00625MHz f2:769.01875MHz	-13.0	-21.1	8.1	PASS
	Mid frequency: f1:772.0MHz f2:772.0125MHz	-13.0	-24.3	11.3	PASS
	High frequency: f1:774.98125MHz f2:774.99375MHz	-13.0	-20.9	7.9	PASS
(1.2) Channel Bandwidth: 25kHz					
With the ALC threshold level	Low frequency: f1:769.0125MHz f2:769.0375MHz	-13.0	-20.0	7.0	PASS
	Mid frequency: f1:772.0MHz f2:772.025MHz	-13.0	-24.2	11.2	PASS
	High frequency: f1:774.9625MHz f2:774.9875MHz	-13.0	-20.2	7.2	PASS
With the input signal amplitude set 3 dB above the AGC threshold	Low frequency: f1:769.0125MHz f2:769.0375MHz	-13.0	-20.0	7.0	PASS
	Mid frequency: f1:772.0MHz f2:772.025MHz	-13.0	-23.5	10.5	PASS
	High frequency: f1:774.9625MHz f2:774.9875MHz	-13.0	-20.4	7.4	PASS
NOTE 1: Intermodulation products select the worst data record. NOTE 2: Margin= specification limit -Maximum mark level.					

11.18.1.1.2. Uplink

Test status	Test frequency	Intermodulation product Limit (dBm)	Max. intermodulation product (dBm)	Margin (dB)	Result
(2) Frequency range: 799MHz~805MHz					
(2.1) Channel Bandwidth: 12.5kHz					
With the ALC threshold level	Low frequency: f1:799.00625MHz f2:799.01875MHz	-13.0	-22.1	9.1	PASS
	Mid frequency: f1:802.0MHz f2:802.0125MHz	-13.0	-21.5	8.5	PASS
	High frequency: f1:804.98125MHz f2:804.99375MHz	-13.0	-20.6	7.6	PASS
With the input signal amplitude set 3 dB above the AGC threshold	Low frequency: f1:799.00625MHz f2:799.01875MHz	-13.0	-22.1	9.1	PASS
	Mid frequency: f1:802.0MHz f2:802.0125MHz	-13.0	-21.5	8.5	PASS
	High frequency: f1:804.98125MHz f2:804.99375MHz	-13.0	-20.5	7.5	PASS
(2.2) Channel Bandwidth: 25kHz					
With the ALC threshold level	Low frequency: f1:799.0125MHz f2:799.0375MHz	-13.0	-23.3	10.3	PASS
	Mid frequency: f1:802.0MHz f2:802.025MHz	-13.0	-22.2	9.2	PASS
	High frequency: f1:804.9625MHz f2:804.9875MHz	-13.0	-22.7	9.7	PASS
With the input signal amplitude set 3 dB above the AGC threshold	Low frequency: f1:799.0125MHz f2:799.0375MHz	-13.0	-23.4	10.4	PASS
	Mid frequency: f1:802.0MHz f2:802.025MHz	-13.0	-22.6	9.6	PASS
	High frequency: f1:804.9625MHz f2:804.9875MHz	-13.0	-22.4	9.4	PASS
NOTE 1: Intermodulation products select the worst data record. NOTE 2: Margin= specification limit -Maximum mark level.					

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11.18.1.2. 800MHz Band

11.18.1.2.1. Downlink

Test status	Test frequency	Intermodulation 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	-13.0	-22.5	9.5	PASS
	Mid frequency: f1:856.0MHz f2:856.0125MHz	-13.0	-21.2	8.2	PASS
	High frequency: f1:860.98125MHz f2:860.99375MHz	-13.0	-16.7	3.7	PASS
With the input signal amplitude set 3 dB above the AGC threshold	Low frequency: f1:851.00625MHz f2:851.01875MHz	-13.0	-22.5	9.5	PASS
	Mid frequency: f1:856.0MHz f2:856.0125MHz	-13.0	-20.1	7.1	PASS
	High frequency: f1:860.98125MHz f2:860.99375MHz	-13.0	-16.3	3.3	PASS
(3.2) Channel Bandwidth: 25kHz					
With the ALC threshold level	Low frequency: f1:851.0125MHz f2:851.0375MHz	-13.0	-22.3	9.3	PASS
	Mid frequency: f1:856.0MHz f2:856.025MHz	-13.0	-19.7	6.7	PASS
	High frequency: f1:860.9625MHz f2:860.9875MHz	-13.0	-17.4	4.4	PASS
With the input signal amplitude set 3 dB above the AGC threshold	Low frequency: f1:851.0125MHz f2:851.0375MHz	-13.0	-22	9.0	PASS
	Mid frequency: f1:856.0MHz f2:856.025MHz	-13.0	-18.8	5.8	PASS
	High frequency: f1:860.9625MHz f2:860.9875MHz	-13.0	-17.2	4.2	PASS
NOTE 1: Intermodulation products select the worst data record. NOTE 2: Margin= specification limit -Maximum mark level.					

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11.18.1.2.2. Uplink

Test status	Test frequency	Intermodulation 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	-13.0	-21	8.0	PASS
	Mid frequency: f1:811.0MHz f2:811.0125MHz	-13.0	-21.2	8.2	PASS
	High frequency: f1:815.98125MHz f2:815.99375MHz	-13.0	-22.7	9.7	PASS
With the input signal amplitude set 3 dB above the AGC threshold	Low frequency: f1:806.00625MHz f2:806.01875MHz	-13.0	-20.9	7.9	PASS
	Mid frequency: f1:811.0MHz f2:811.0125MHz	-13.0	-20.9	7.9	PASS
	High frequency: f1:815.98125MHz f2:815.99375MHz	-13.0	-22.7	9.7	PASS
(4.2) Channel Bandwidth: 25kHz					
With the ALC threshold level	Low frequency: f1:806.0125MHz f2:806.0375MHz	-13.0	-24.9	11.9	PASS
	Mid frequency: f1:811.0MHz f2:811.025MHz	-13.0	-24.3	11.3	PASS
	High frequency: f1:815.9625MHz f2:815.9875MHz	-13.0	-24.1	11.1	PASS
With the input signal amplitude set 3 dB above the AGC threshold	Low frequency: f1:806.0125MHz f2:806.0375MHz	-13.0	-23.8	10.8	PASS
	Mid frequency: f1:811.0MHz f2:811.025MHz	-13.0	-24.3	11.3	PASS
	High frequency: f1:815.9625MHz f2:815.9875MHz	-13.0	-24.2	11.2	PASS
NOTE 1: Intermodulation products select the worst data record. NOTE 2: Margin= specification limit -Maximum mark level.					

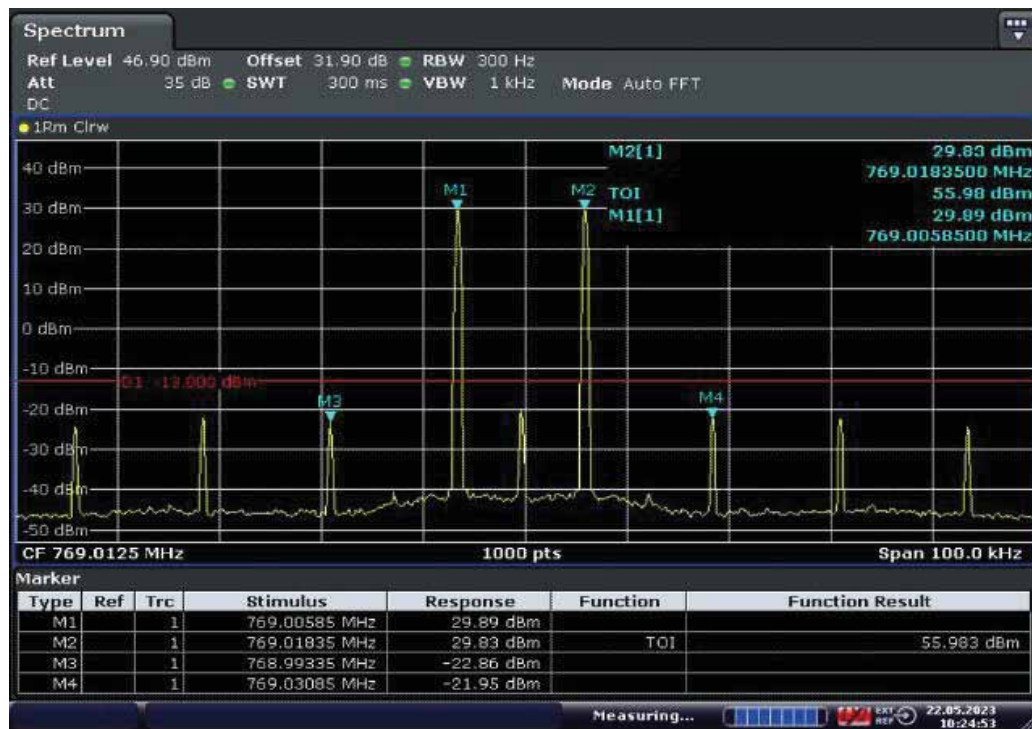
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11.18.2. Test screenshot

11.18.2.1. 700MHz Band

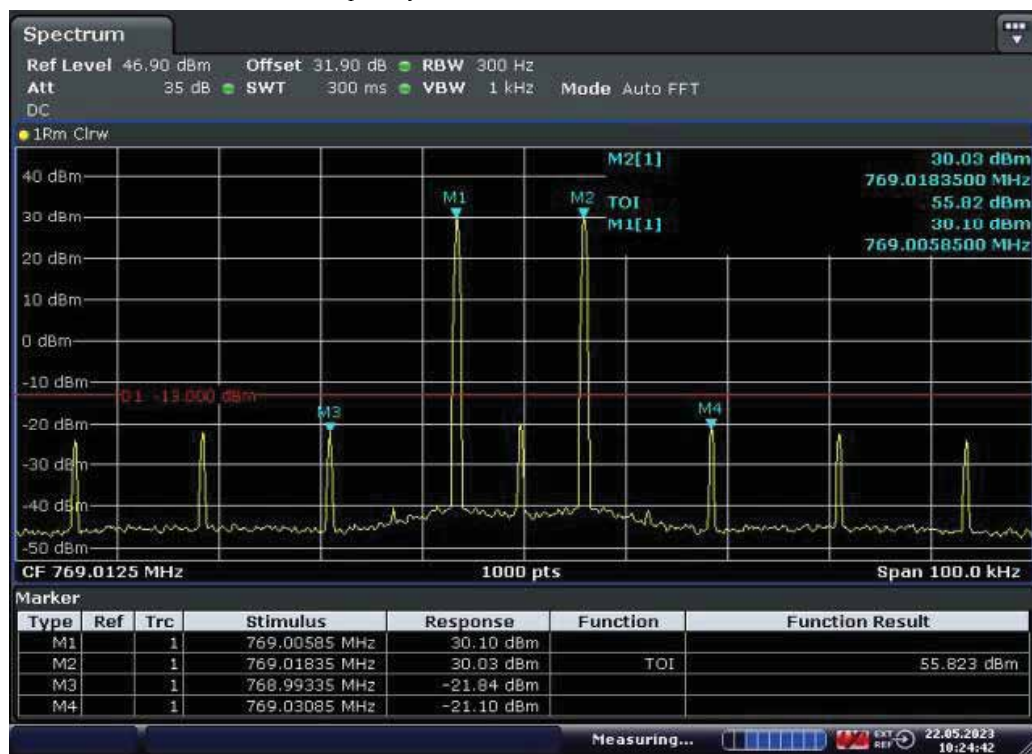
11.18.2.1.1. Channel bandwidth 12.5kHz

11.18.2.1.1.1. Downlink



Date: 22.MAY.2023 10:24:53

Low Frequency and with the ALC threshold level



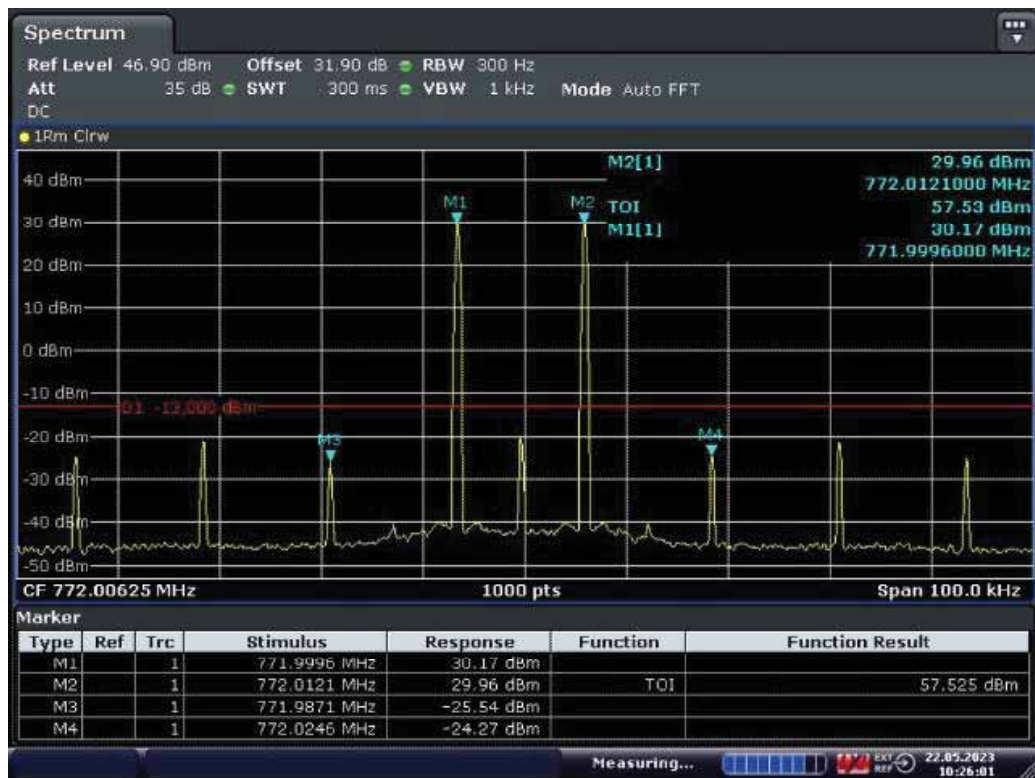
Date: 22.MAY.2023 10:24:42

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



Date: 22.MAY.2023 10:25:47

Mid Frequency and with the ALC threshold level



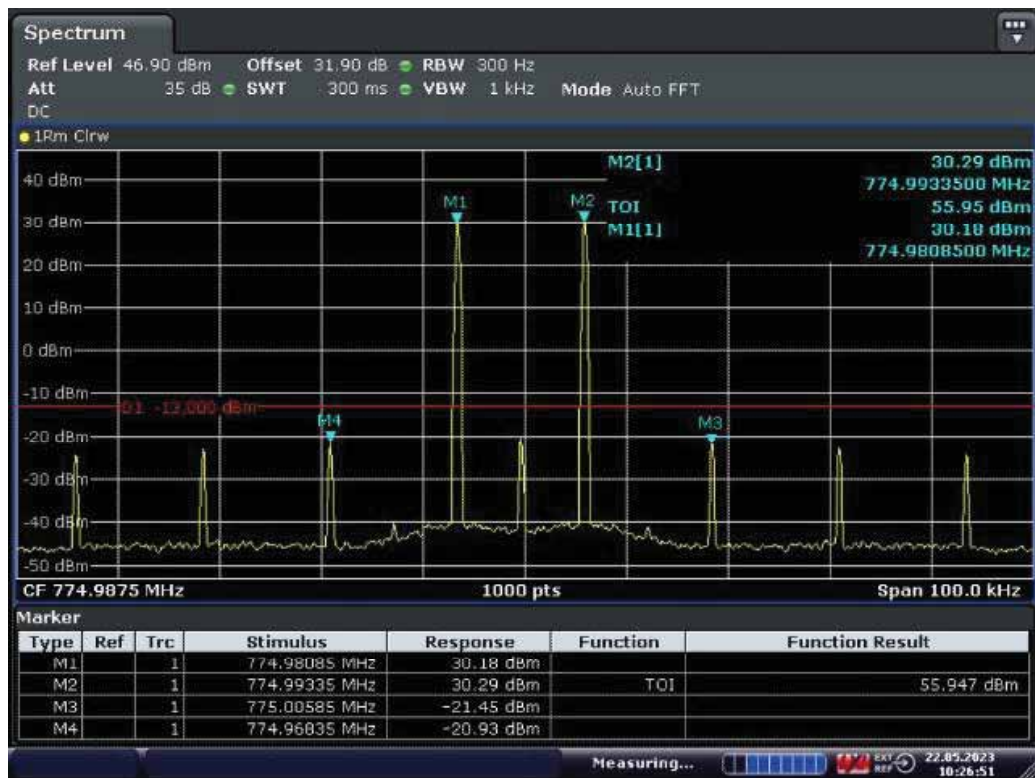
Date: 22.MAY.2023 10:26:01

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



Date: 22.MAY.2023 10:26:43

High Frequency and with the ALC threshold level



Date: 22.MAY.2023 10:26:51

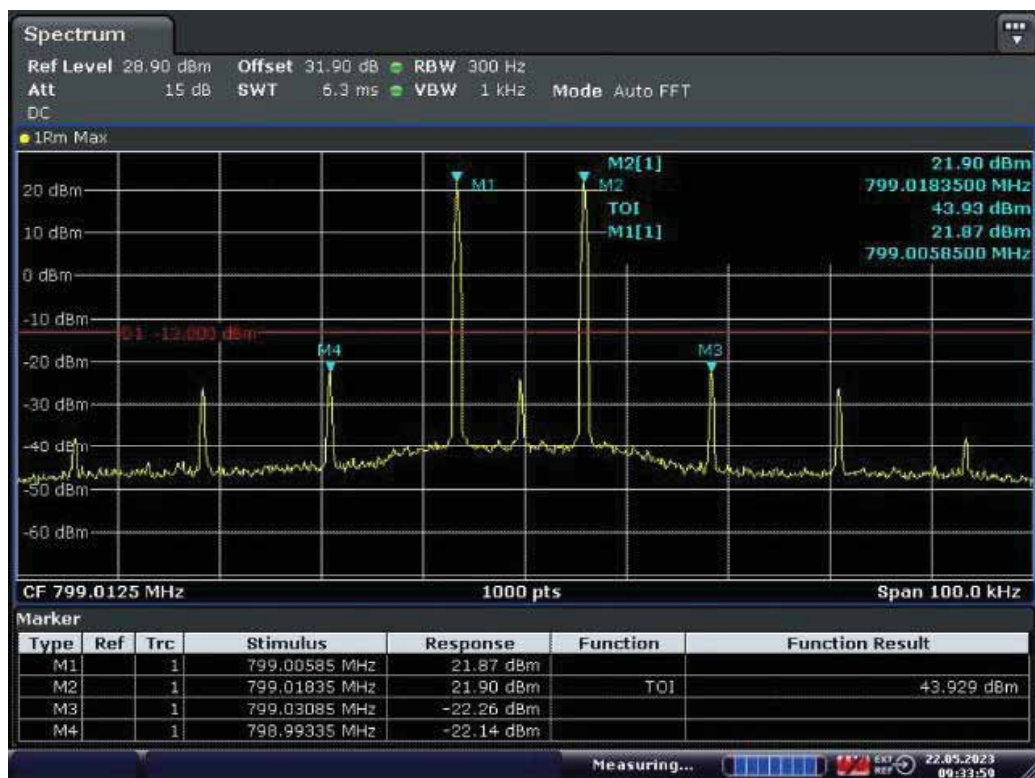
High Frequency and with the input signal amplitude set 3 dB above the ALC threshold

11.18.2.1.1.2. Uplink



Date: 22.MAY.2023 09:33:39

Low Frequency and with the ALC threshold level



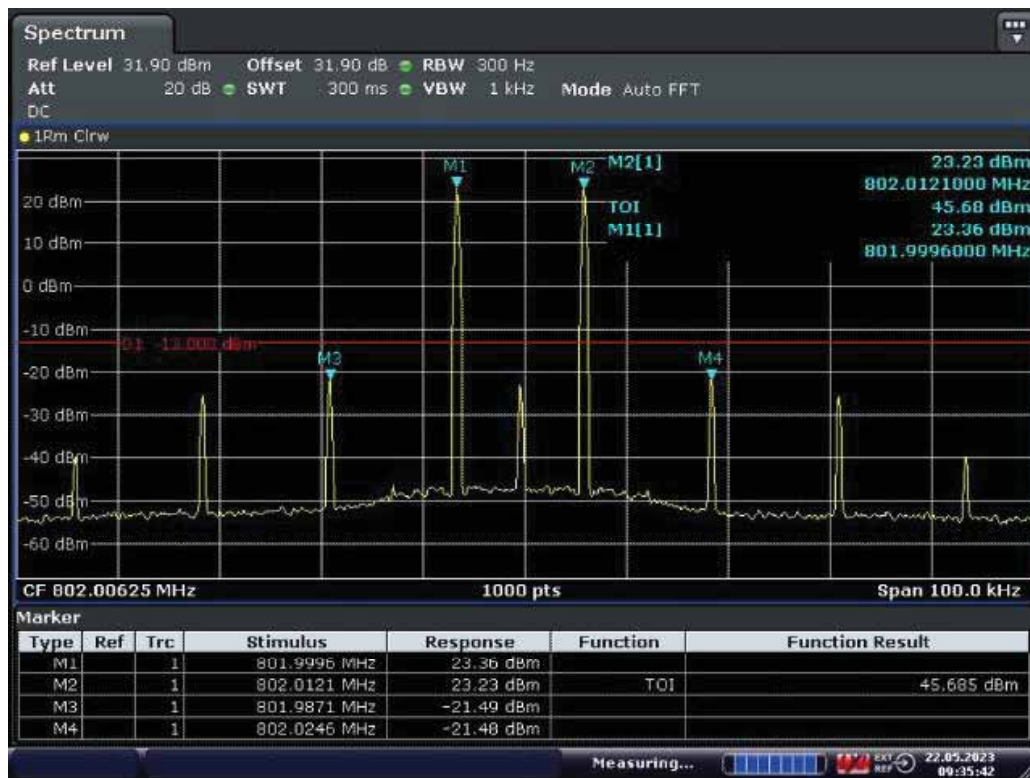
Date: 22.MAY.2023 09:34:00

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



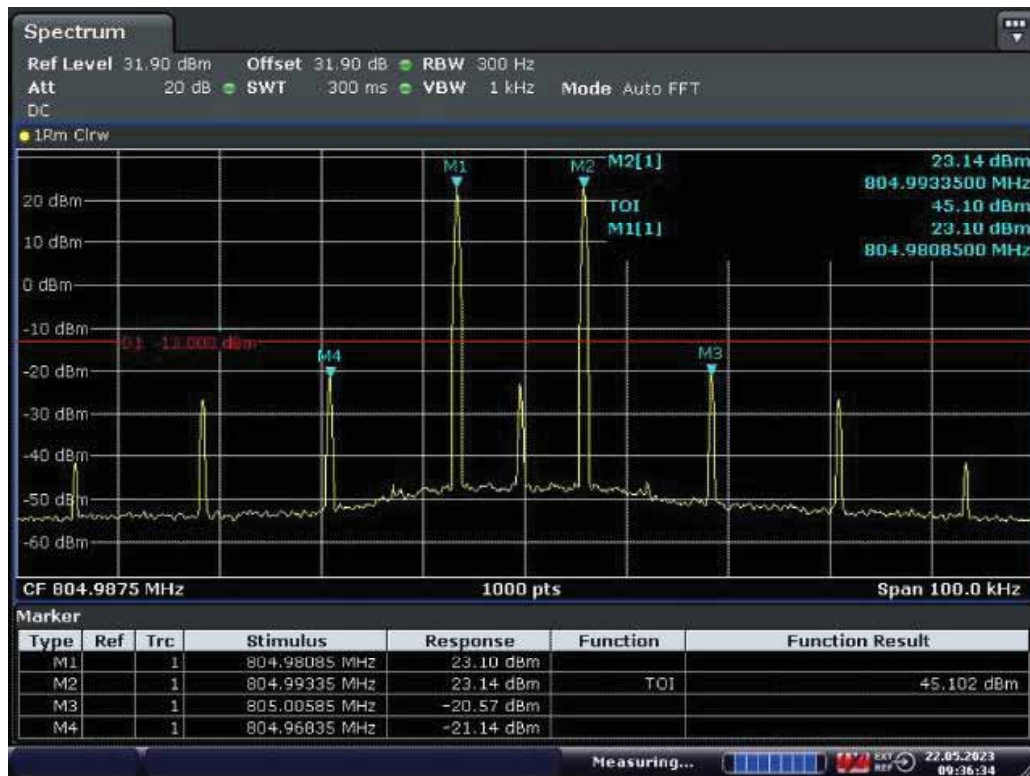
Date: 22.MAY.2023 09:35:34

Mid Frequency and with the ALC threshold level



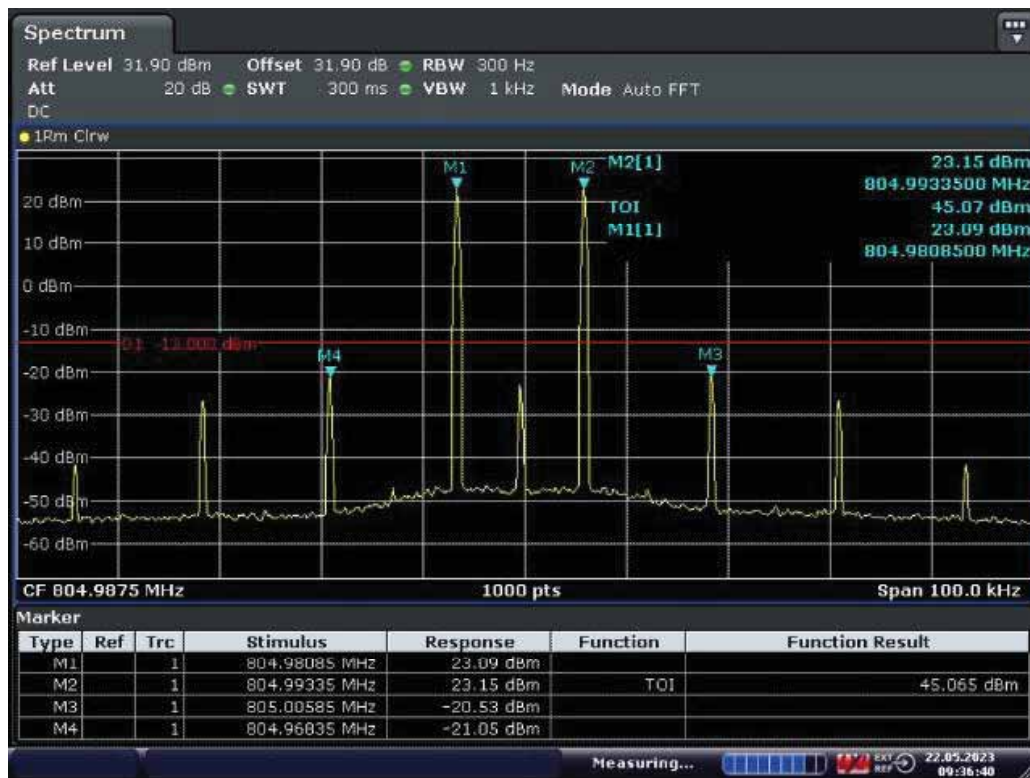
Date: 22.MAY.2023 09:35:42

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



Date: 22.MAY.2023 09:36:34

High Frequency and with the ALC threshold level

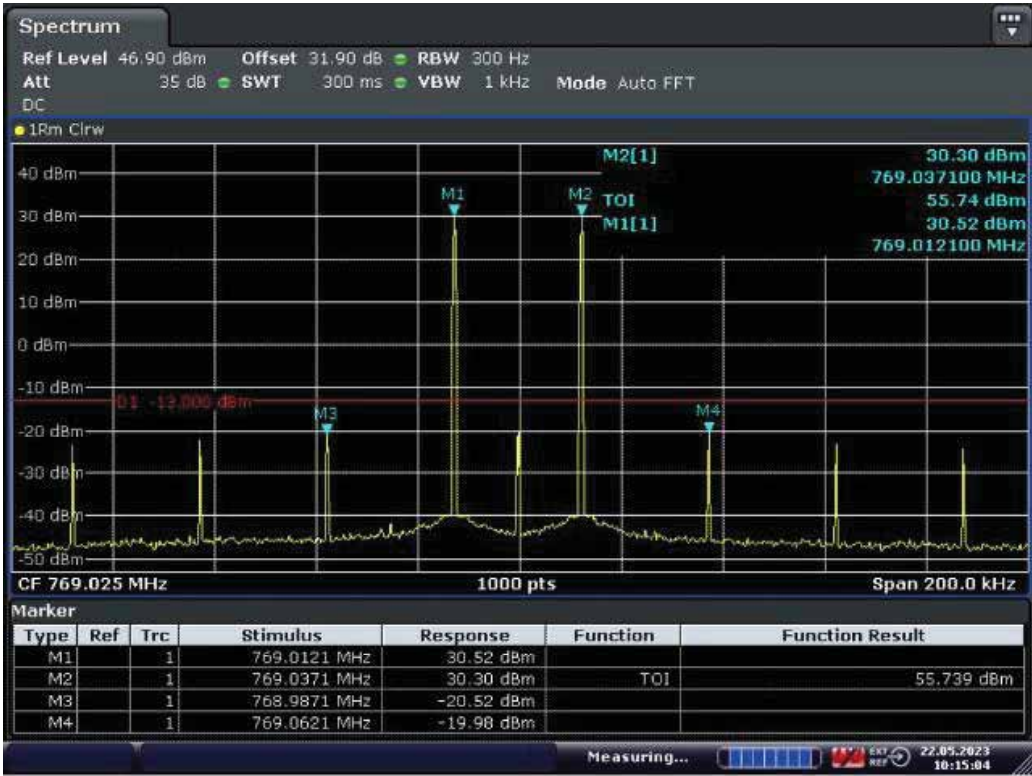


Date: 22.MAY.2023 09:36:40

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

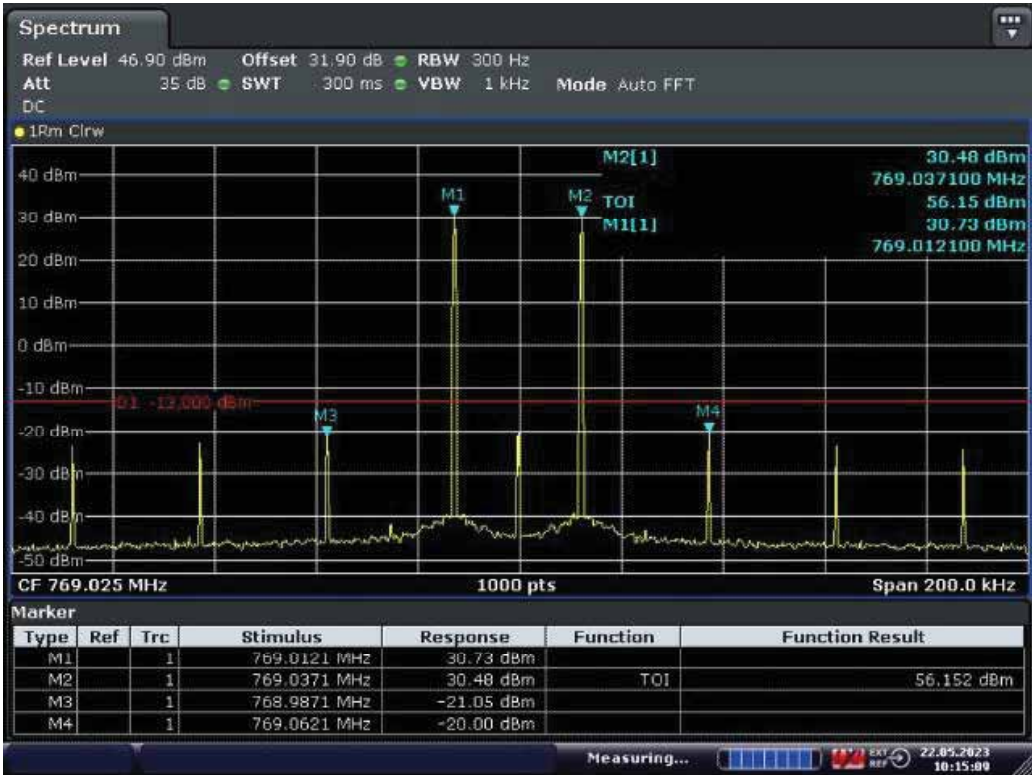
11.18.2.1.2. Channel bandwidth 25kHz

11.18.2.1.2.1. Downlink



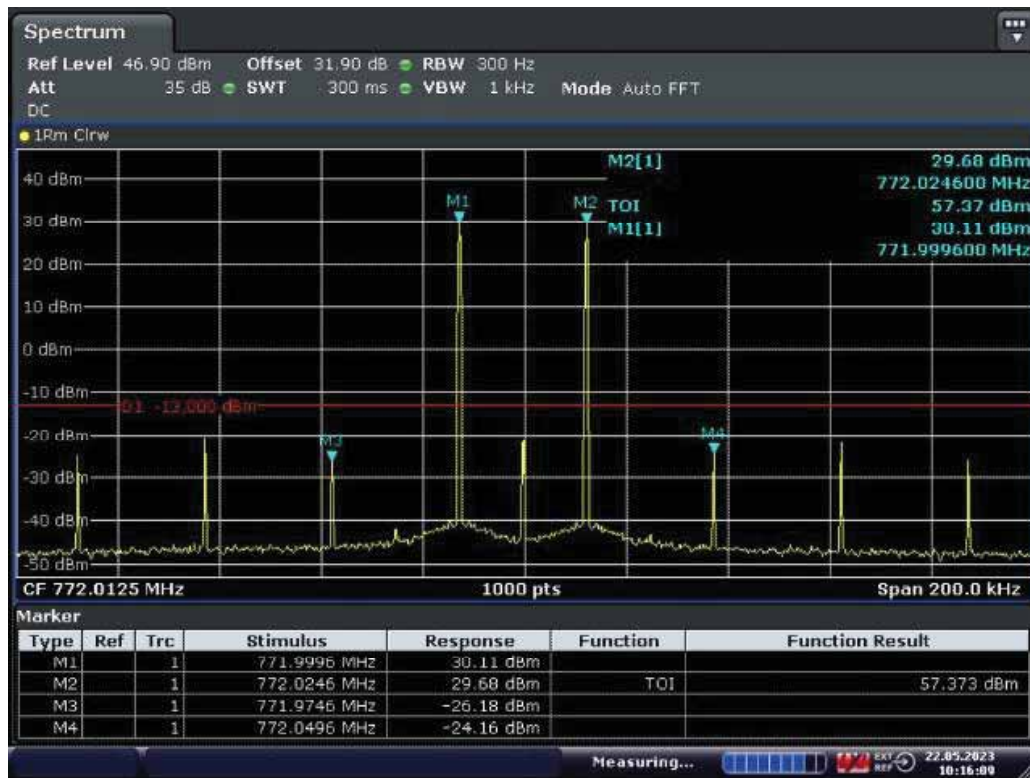
Date: 22.MAY.2023 10:15:04

Low Frequency and with the ALC threshold level



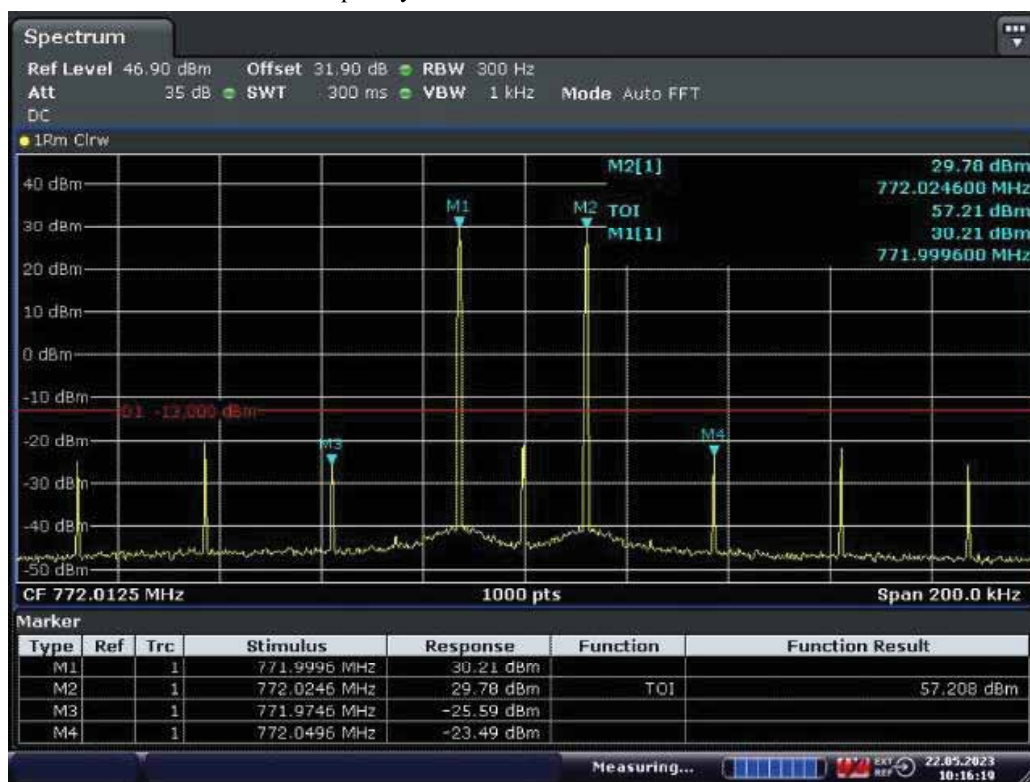
Date: 22.MAY.2023 10:15:09

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



Date: 22.MAY.2023 10:16:09

Mid Frequency and with the ALC threshold level



Date: 22.MAY.2023 10:16:19

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

11.18.2.1.2.2. Uplink



Date: 22.MAY.2023 10:02:17

Low Frequency and with the ALC threshold level



Date: 22.MAY.2023 10:02:31

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



Date: 22.MAY.2023 10:03:35

Mid Frequency and with the ALC threshold level



Date: 22.MAY.2023 10:03:49

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



Date: 22.MAY.2023 10:04:54

High Frequency and with the ALC threshold level



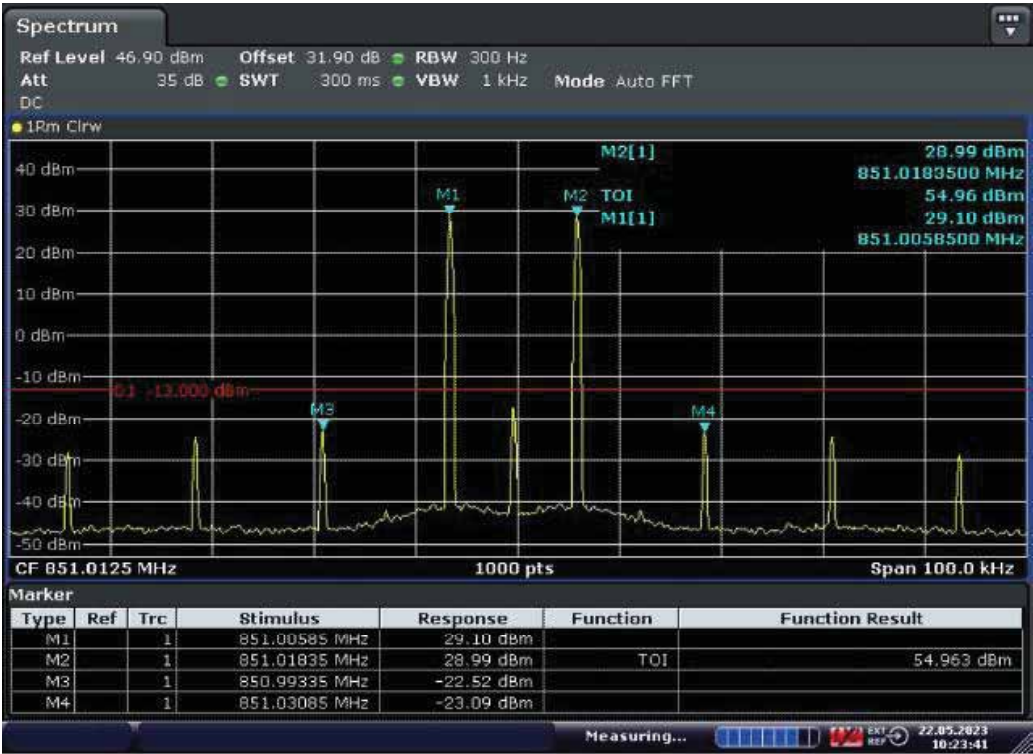
Date: 22.MAY.2023 10:04:58

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

11.18.2.2. 800MHz Band

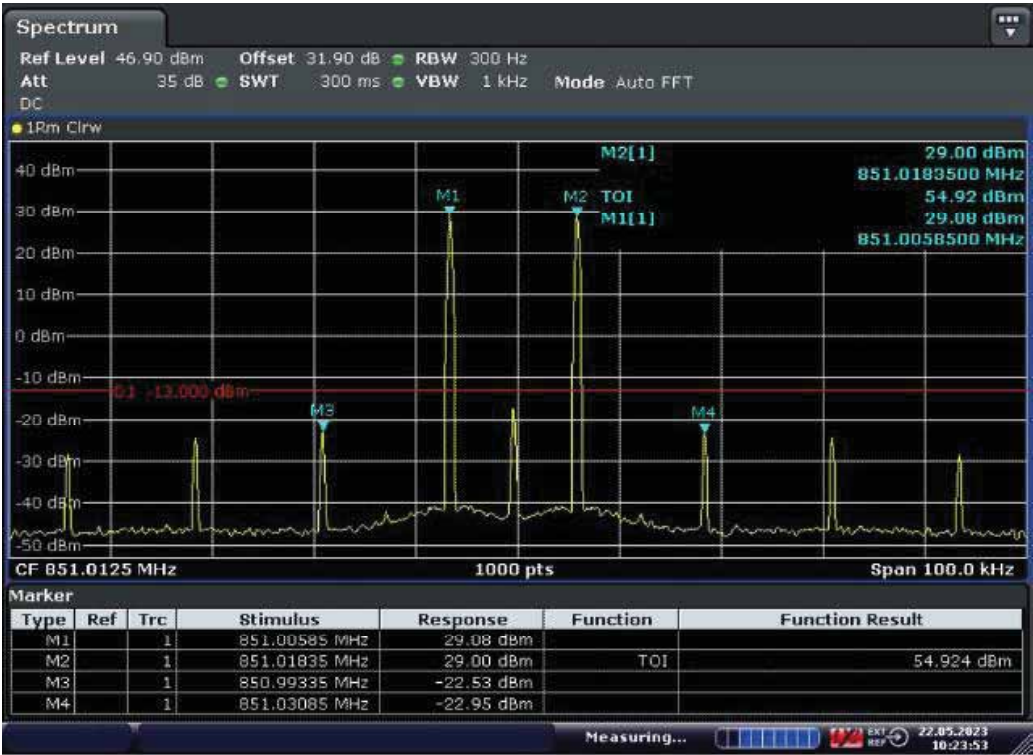
11.18.2.2.1. Channel bandwidth 12.5kHz

11.18.2.2.1.1. Downlink



Date: 22.MAY.2023 10:23:41

Low Frequency and with the ALC threshold level



Date: 22.MAY.2023 10:23:53

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



Date: 22.MAY.2023 10:22:49

Mid Frequency and with the ALC threshold level



Date: 22.MAY.2023 10:23:05

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