Annex 1: Measurement diagrams 21-1-0126102T01a-A1

Number of pages:	61	**Date of Report:**	2022-Mar-30
Testing company:	CETECOM GmbH Im Teelbruch 116 45219 Essen Germany Tel. + 49 (0) 20 54 / 95 19-0 Fax: + 49 (0) 20 54 / 95 19-150	**Applicant:**	Hella GmbH & Co. KGaA
Product: **Model:**	**Advanced Driver Assistance System** **RS6.0**		
FCC ID:	NBG01RS60B1	**IC:**	2694A-RS60B1
Testing has been carried out in accordance with:	**47 CFR Part 95** **RSS-Gen, Issue 5 + Amendment 2** **RSS-251, Issue 2** Deviations, modifications or clarifications (if any) to above mentioned documents are written in each section under "Test method and limit".		

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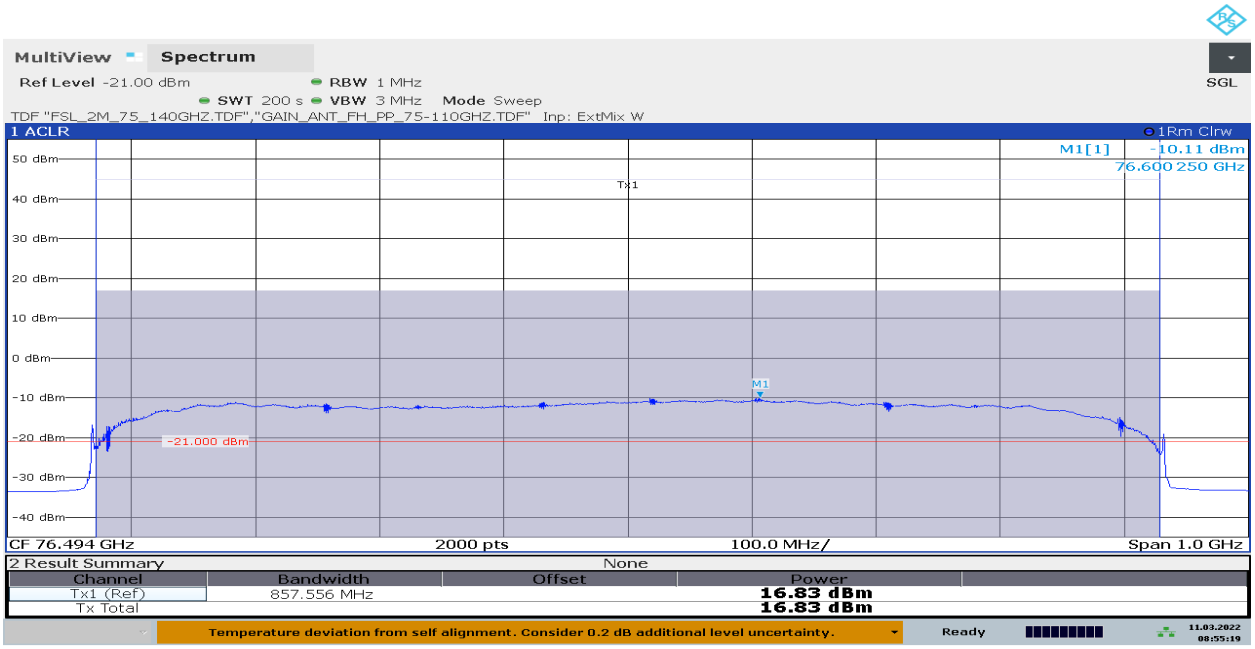
1 The maximum peak power EIRP / peak EIRP spectral density. The maximum power EIRP/ average EIRP.

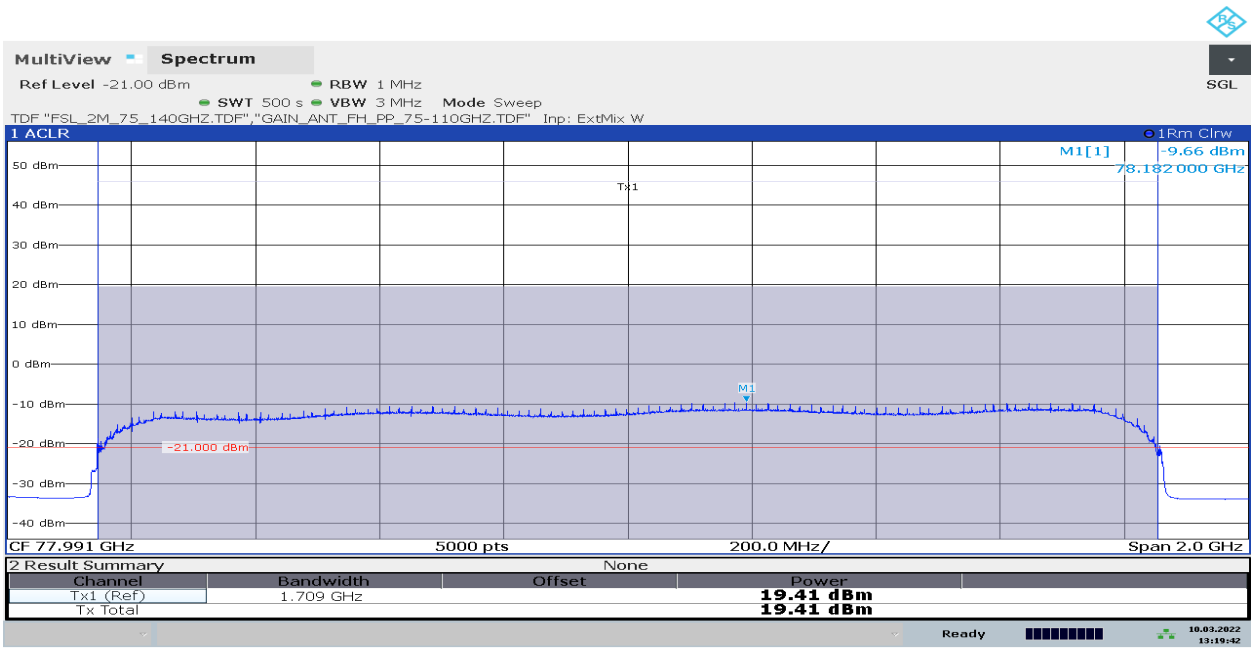
1.1 RMS Detector, Tnom/Vnom,

D113_T01_MEAN_RMS_Power_Tnom_Vnom_Ant_H_RMS_Clrw_857.556MHz_S02



08:55:20 11.03.2022

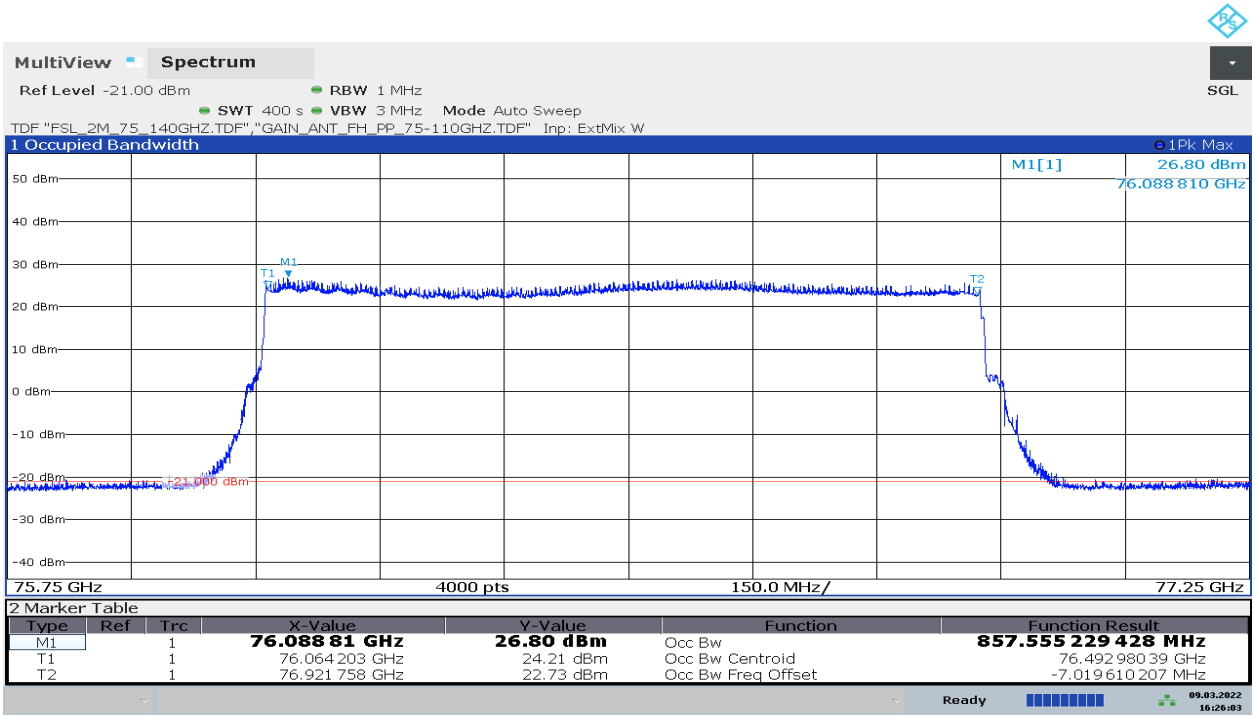
D113_T01_MEAN_RMS_Power_Tnom_Vnom_Ant_H_RMS_Clrw_S05_RBW_1MHz



13:19:43 10.03.2022

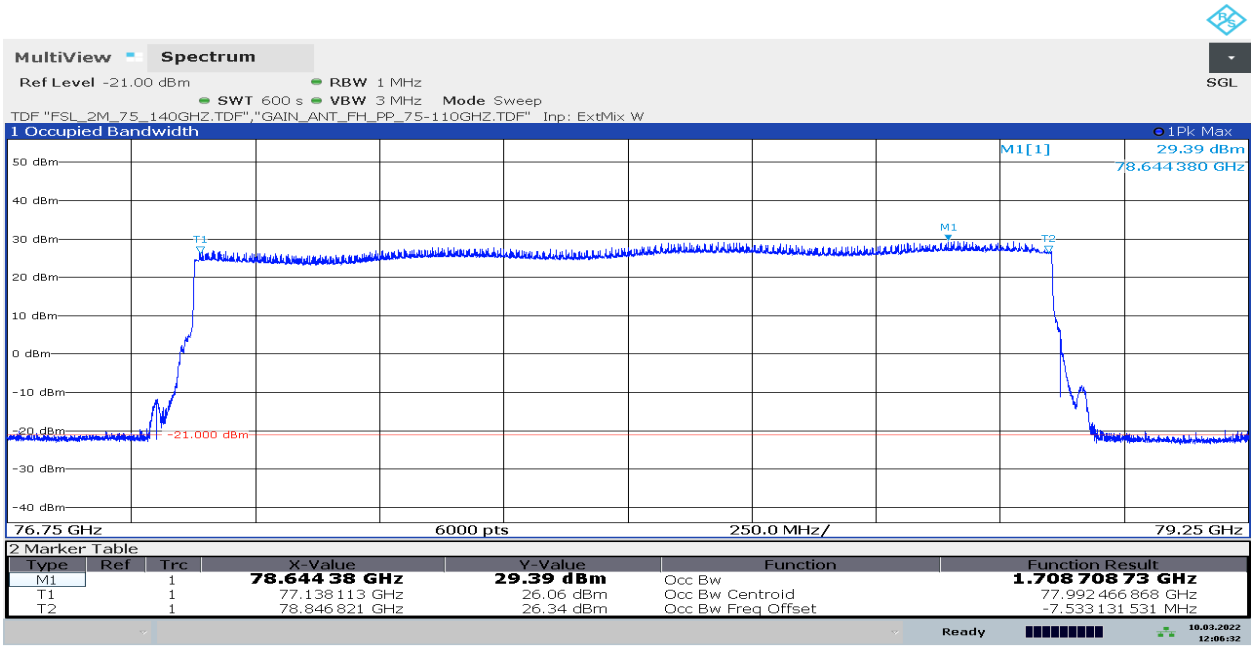
1.2 Peak Detector, T_{nom}/V_{nom}

D108_T01_99%OBW_Tnom_Vnom_Ant_H_S02



16:26:03 09.03.2022

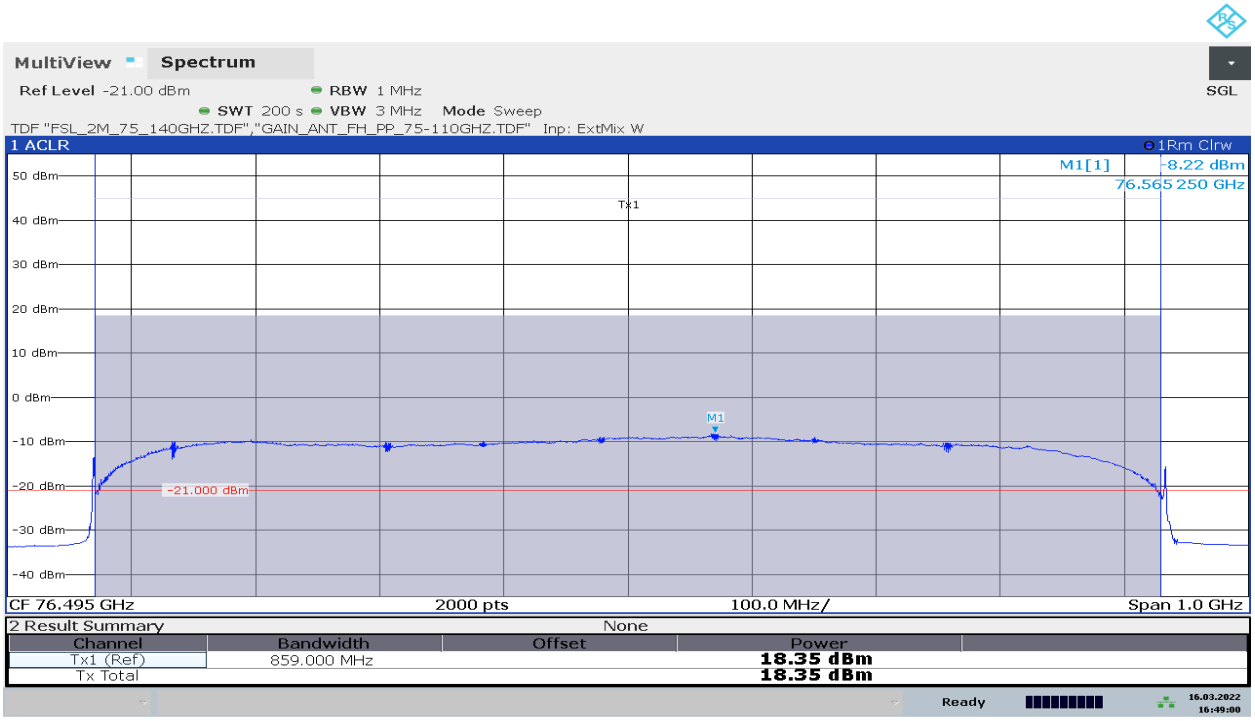
D108_T01_99%OBW_Tnom_Vnom_Ant_H_S05



12:06:32 10.03.2022

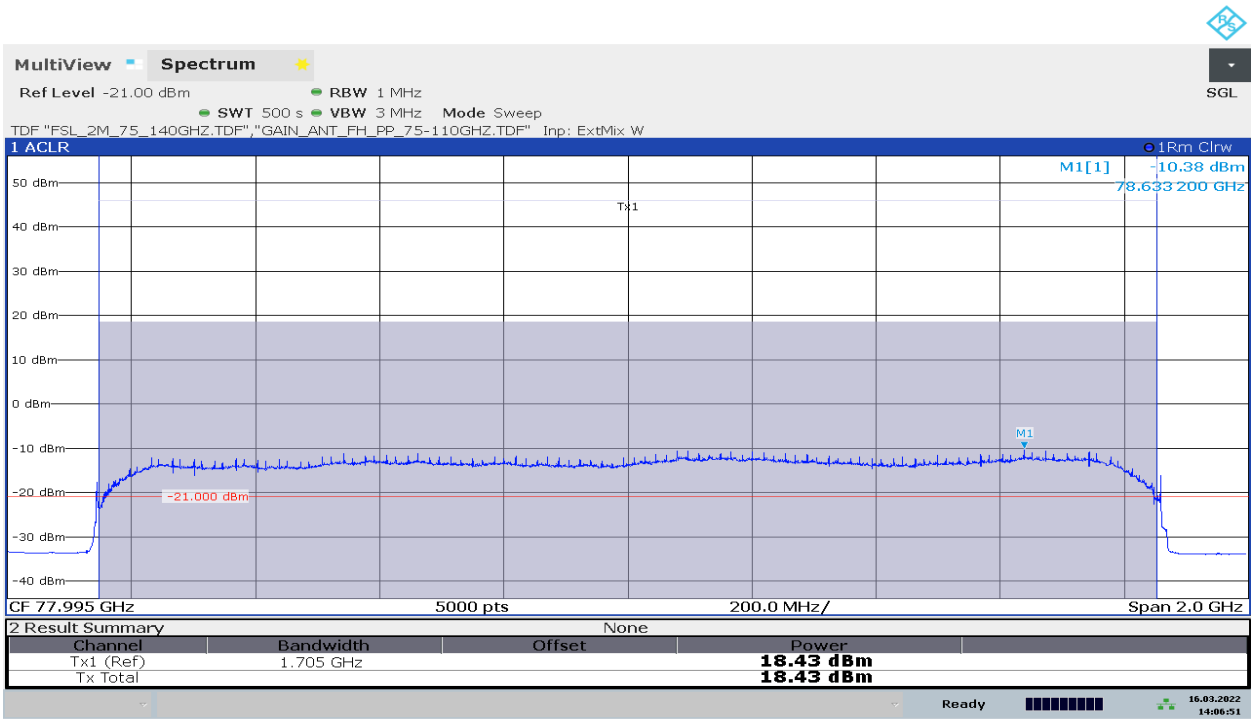
1.3 RMS Detector, T_{min}/V_{nom}

D114_T01_MEAN_RMS_Power_Tmin_Vnom_Ant_H_Clrw_S02



16:49:00 16.03.2022

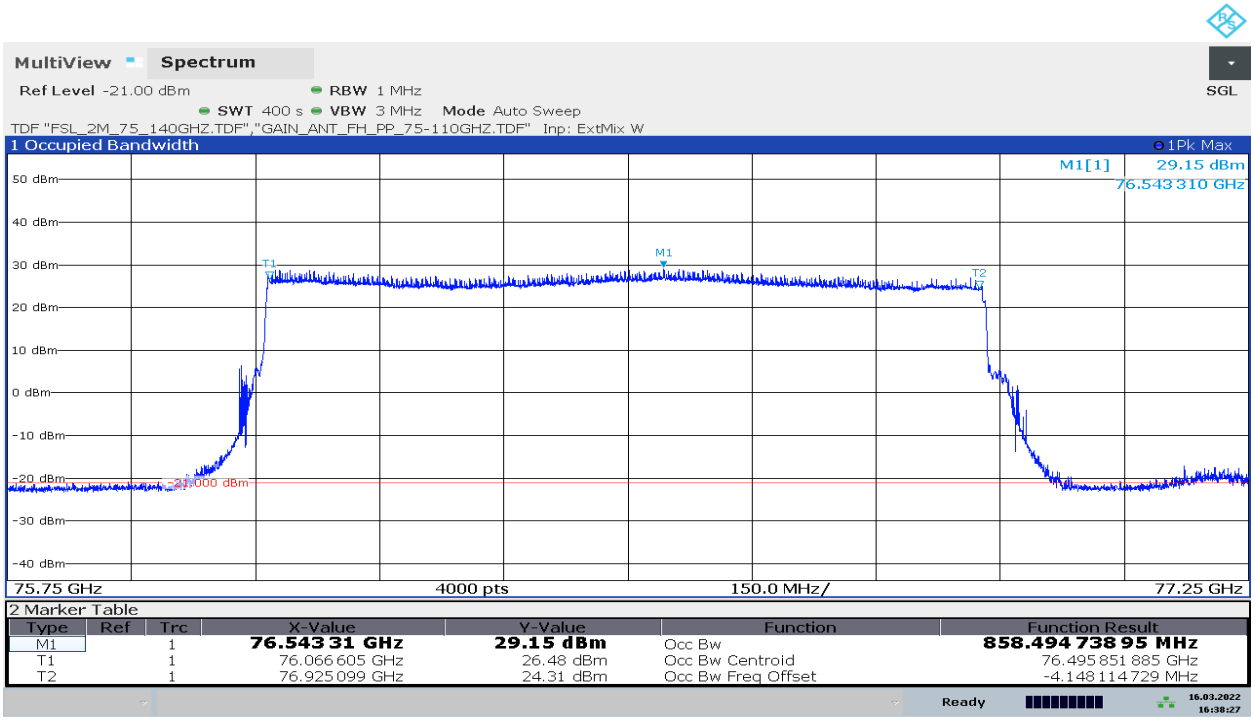
D114_T01_MEAN_RMS_Power_Tmin_Vnom_Ant_H_Clrw_S05



14:06:51 16.03.2022

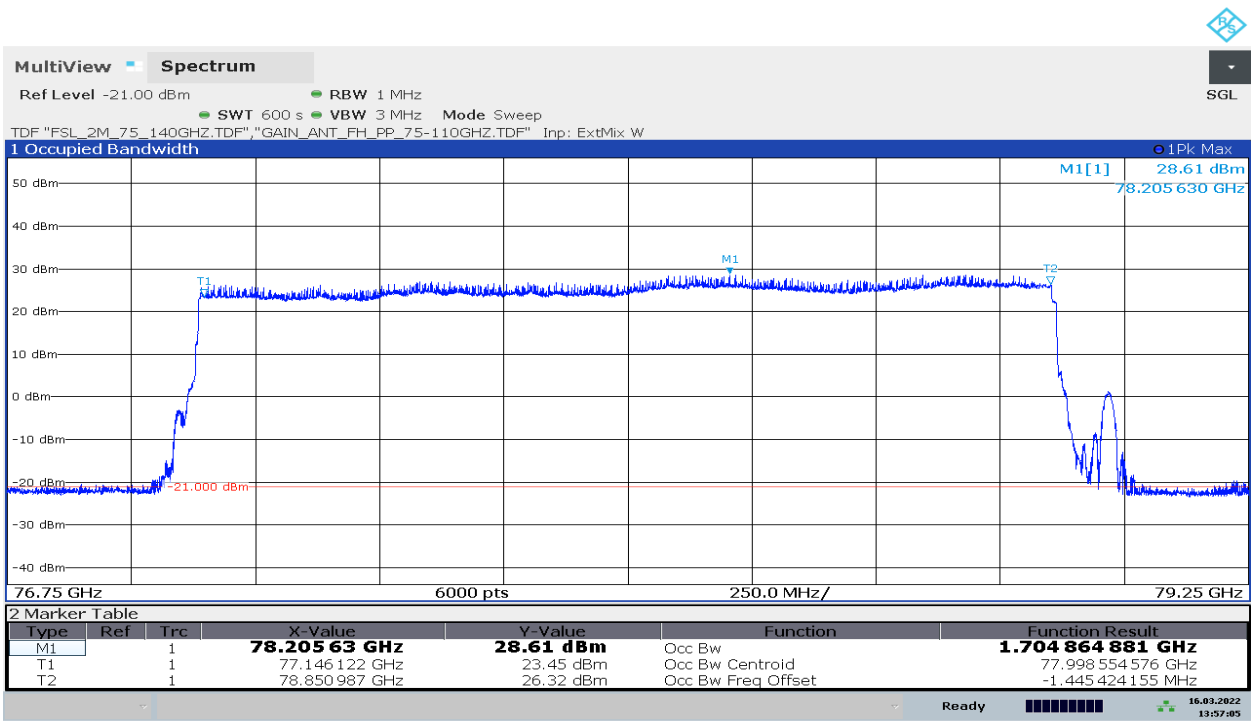
1.4 Peak Detector, T_{min}/V_{nom}

D109_T01_99%OBW_Tmin_Vnom_Ant_H_S02



16:38:27 16.03.2022

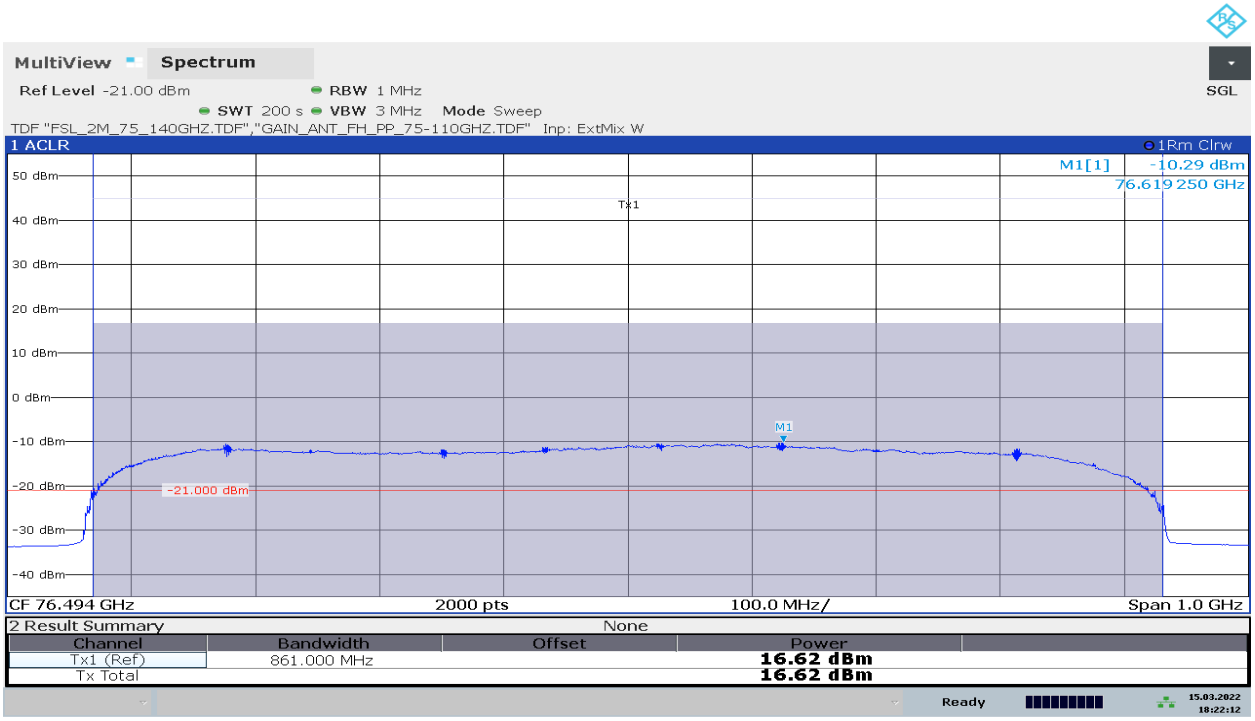
D109_T01_99%OBW_Tmin_Vmin_Ant_H_S05



13:57:05 16.03.2022

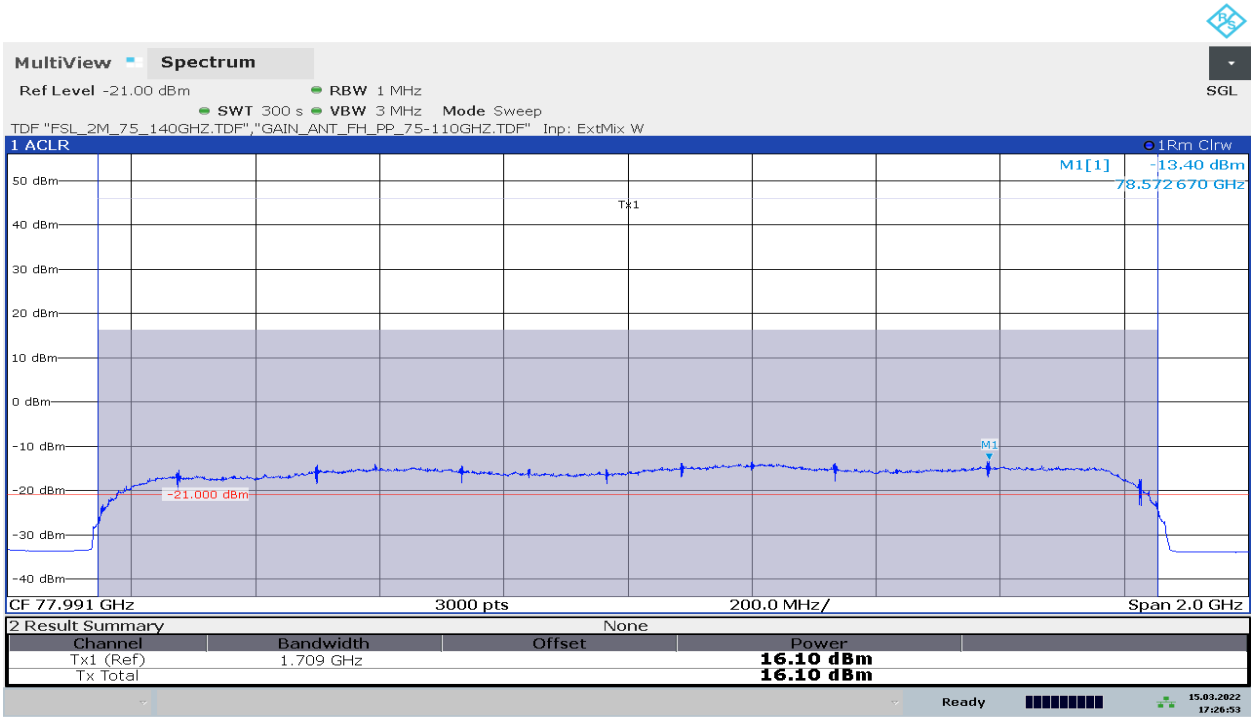
1.5 RMS Detector, Tmax/Vnom

D115_T01_MEAN_RMS_Power_Tmax_Vnom_Ant_H_Clrw_S02



18:22:12 15.03.2022

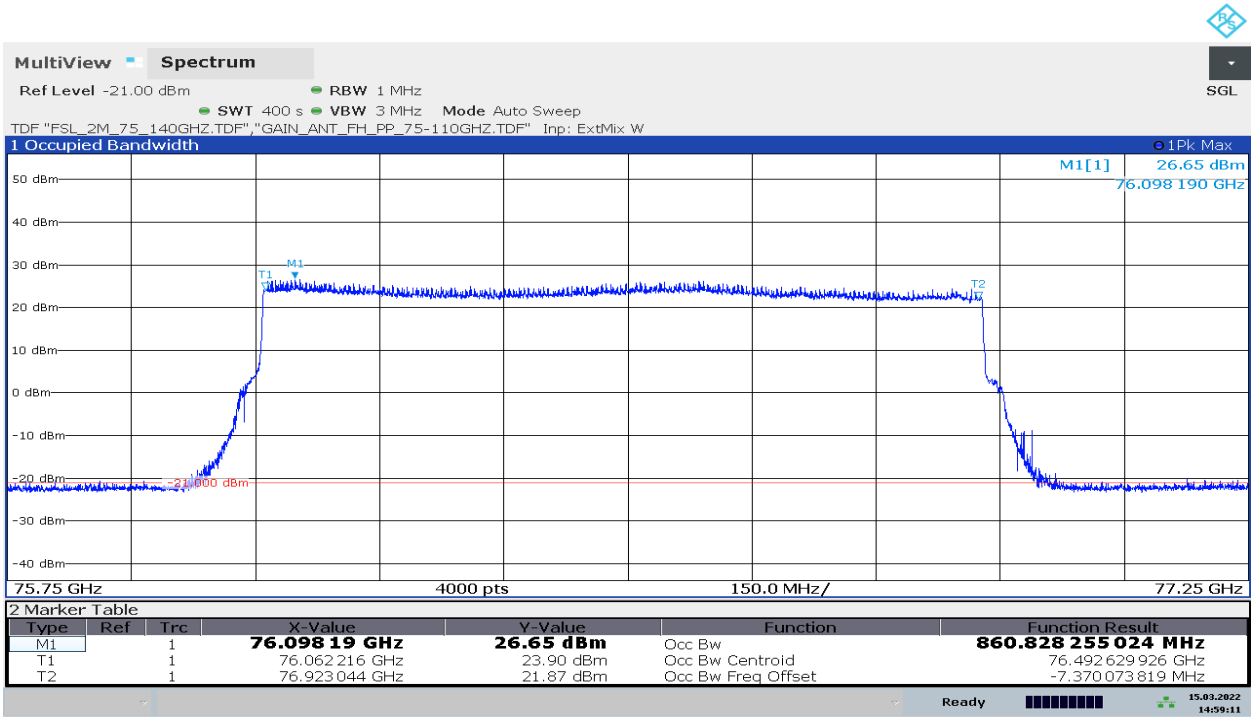
D115_T01_MEAN_RMS_Power_Tmax_Vnom_Ant_H_Clrw_S05



17:26:53 15.03.2022

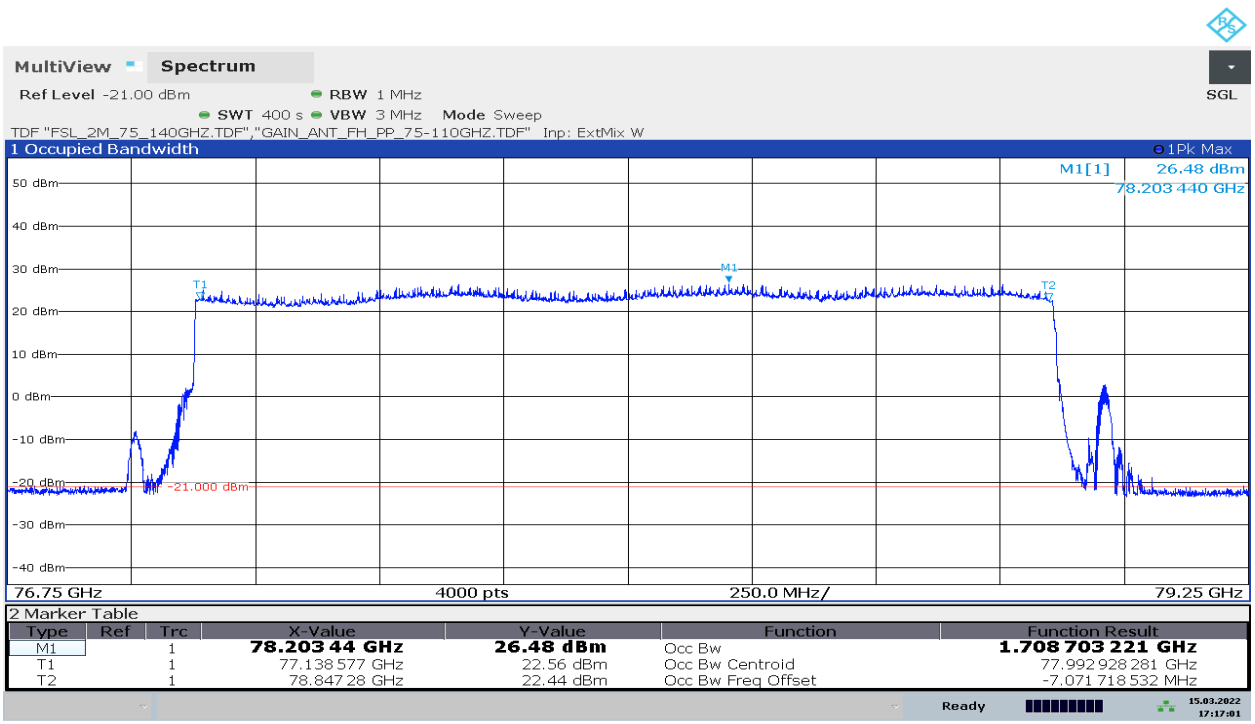
1.6 Peak Detector, Tmax/Vnom

D110_T01_99%OBW_Tmax_Vnom_Ant_H_S02



14:59:11 15.03.2022

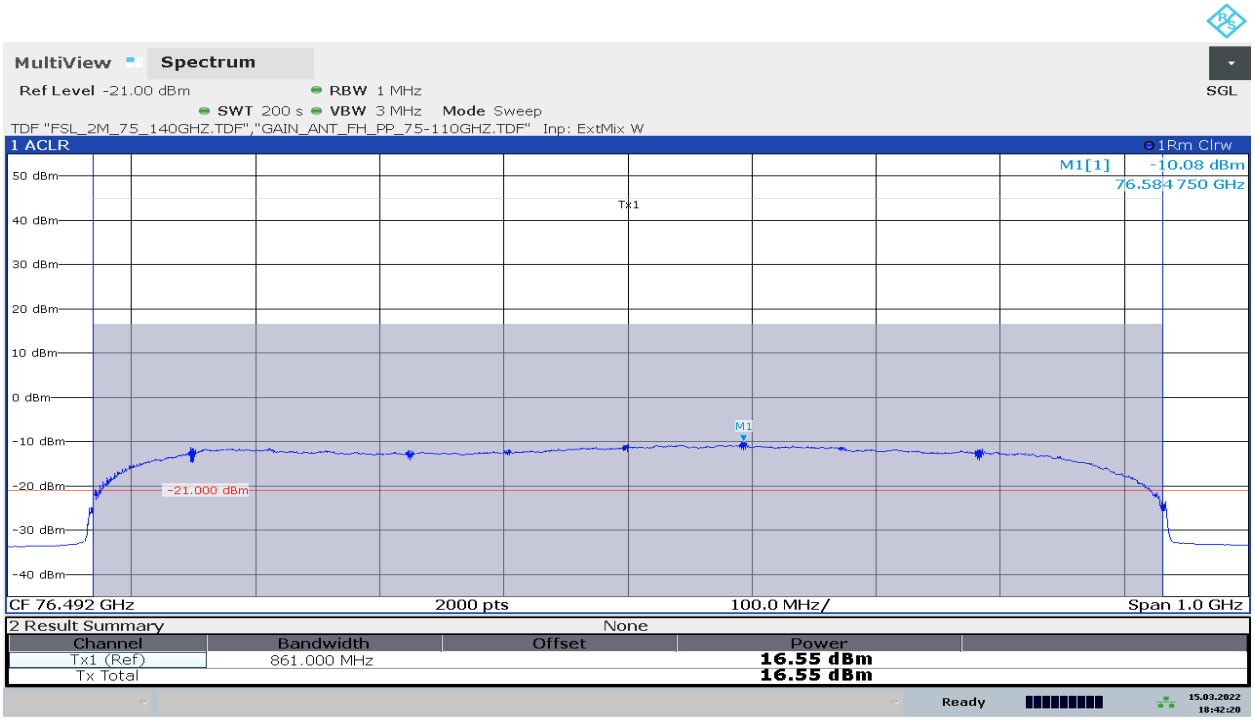
D110_T01_99%OBW_Tmax_Vnom_Ant_H_S05



17:17:01 15.03.2022

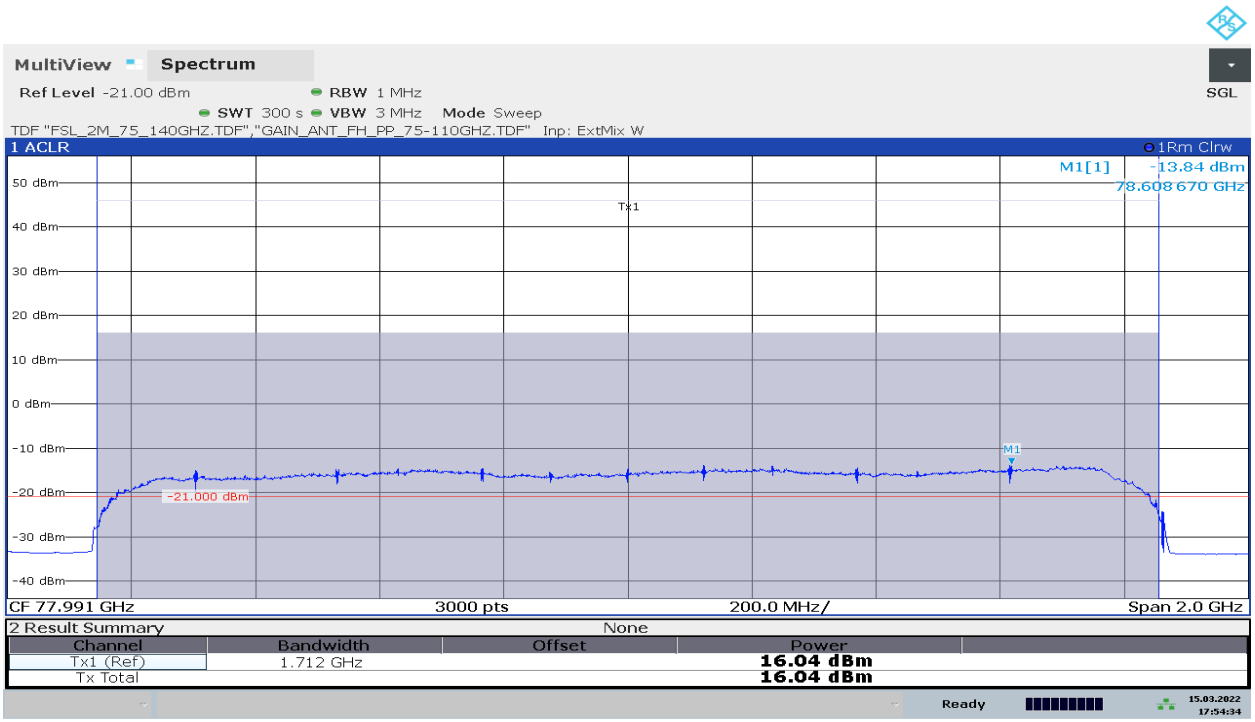
1.7 RMS Detector, Tnom/Vmin

D116_T01_MEAN_RMS_Power_Tnom_Vmin_Ant_H_Clrw_S02



18:42:21 15.03.2022

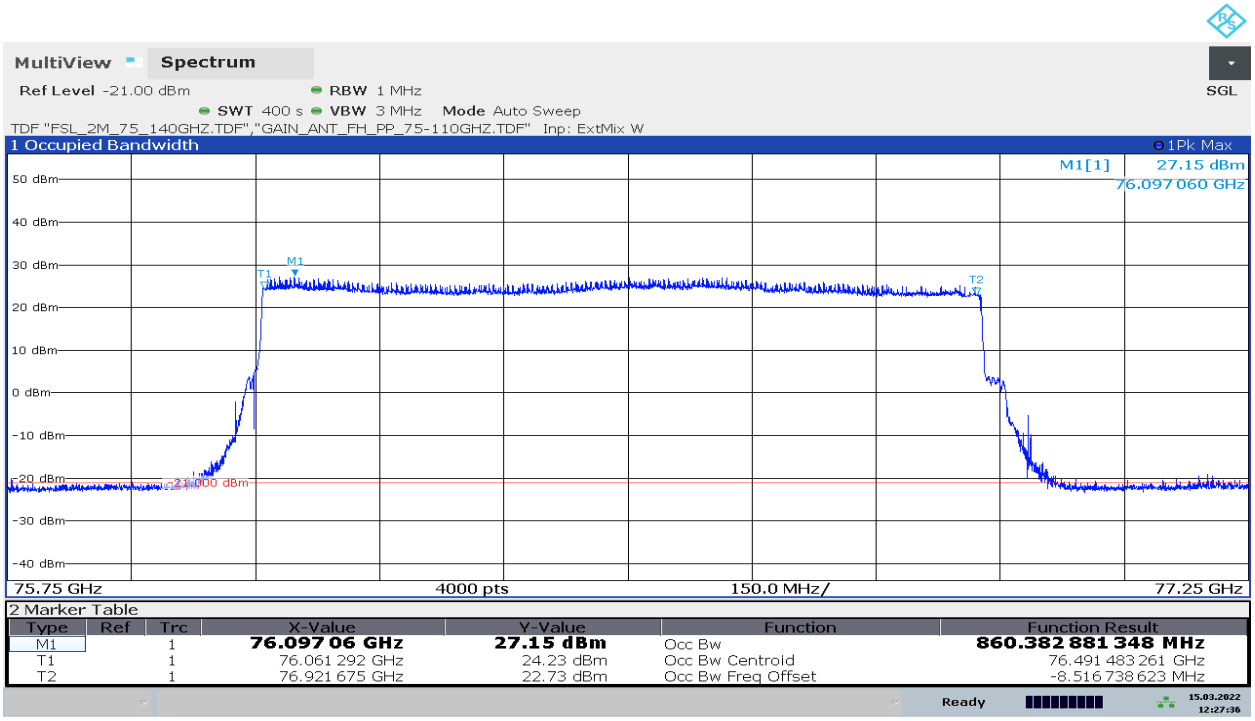
D116_T01_MEAN_RMS_Power_Tnom_Vmin_Ant_H_Clrw_S05



17:54:34 15.03.2022

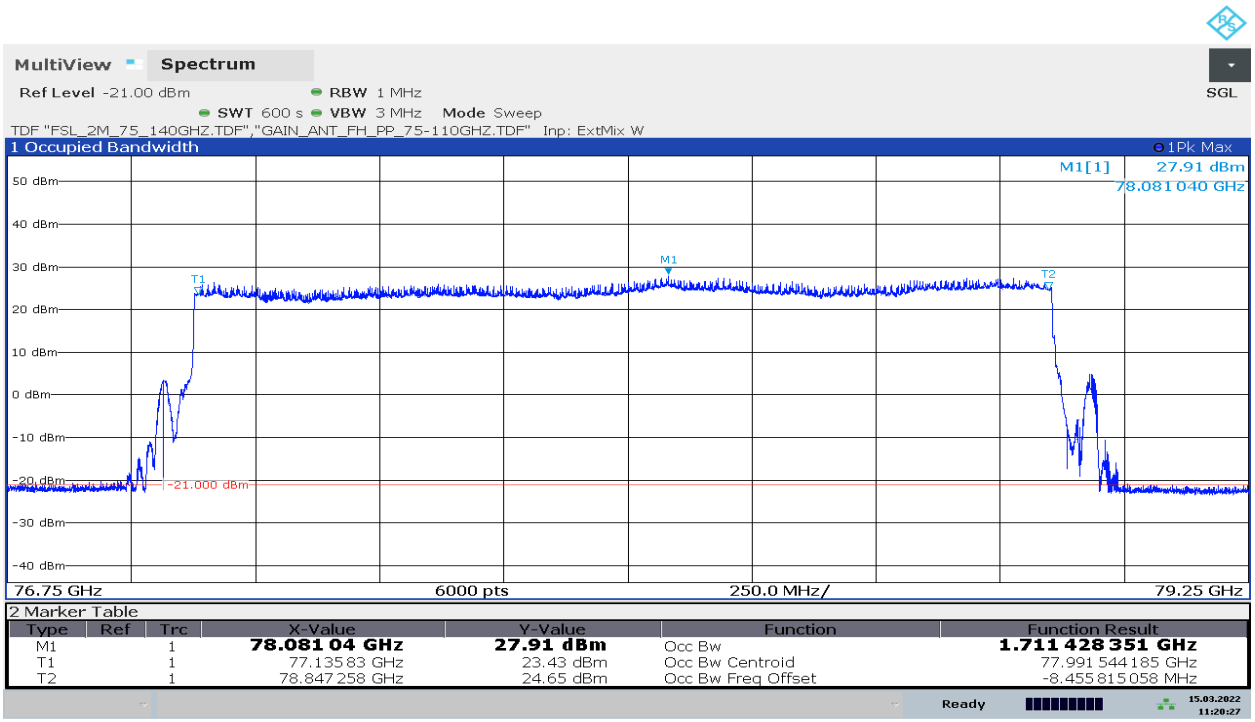
1.8 Peak Detector, T_{nom}/V_{min}

D111_T01_99%OBW_Tnom_Vmin_Ant_H_S02



12:27:37 15.03.2022

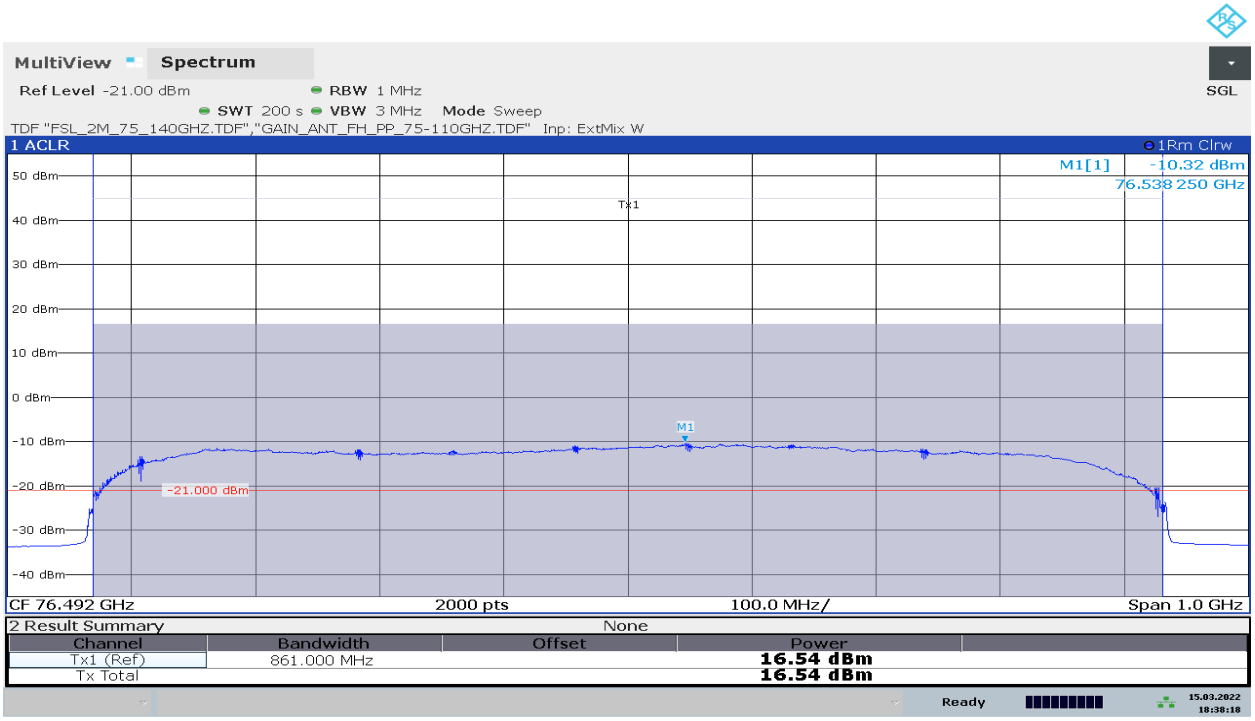
D111_T01_99%OBW_Tnom_Vmin_Ant_H_S05



11:20:27 15.03.2022

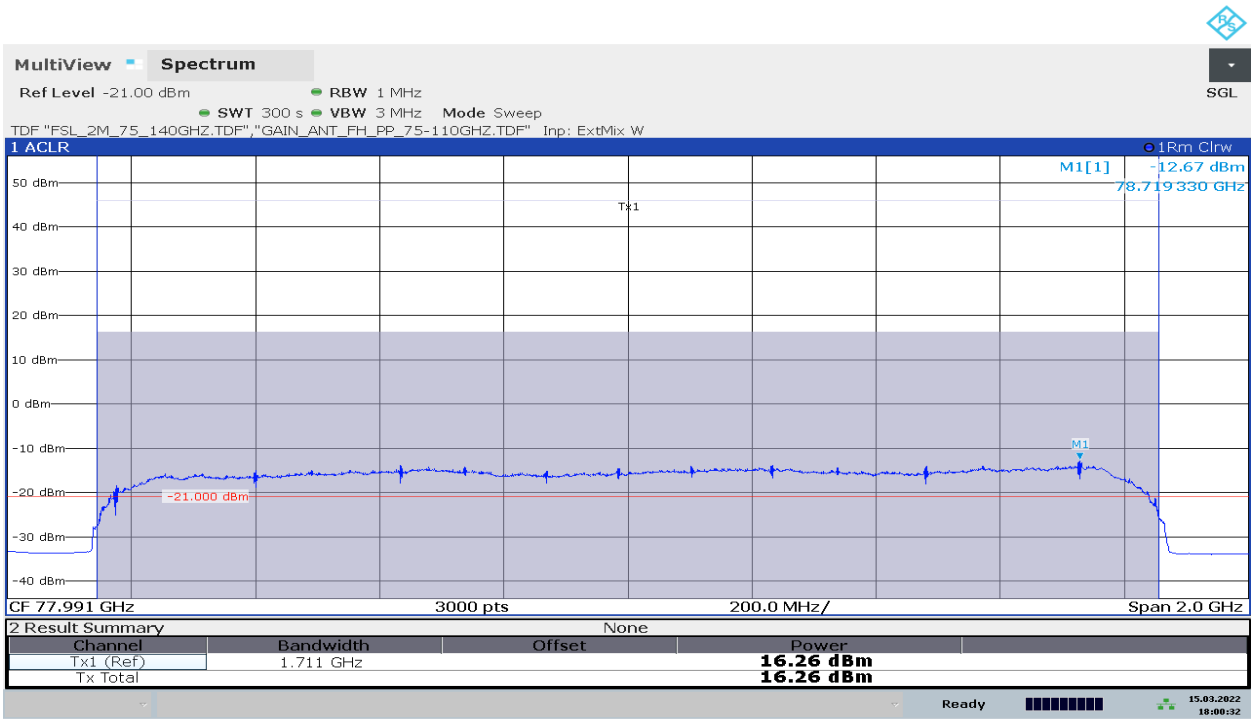
1.9 RMS Detector, Tnom/Vmax

D117_T01_MEAN_RMS_Power_Tnom_Vmax_Ant_H_Clrw_S02



18:38:19 15.03.2022

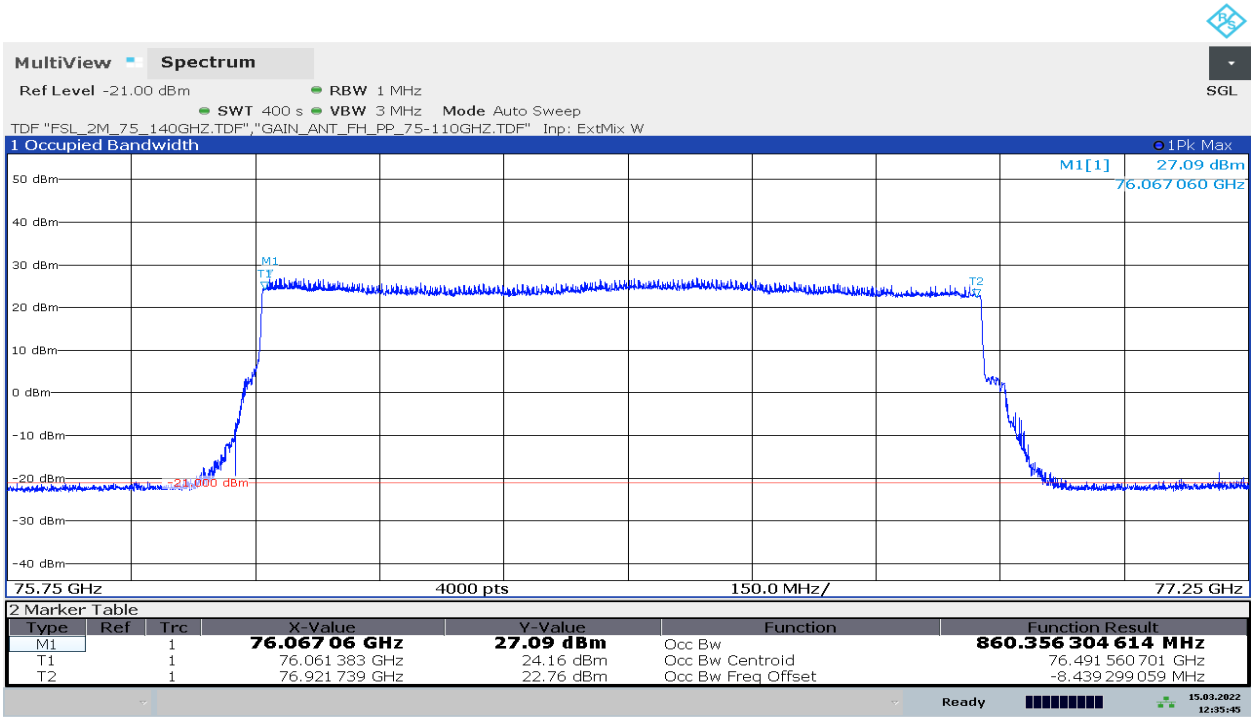
D117_T01_MEAN_RMS_Power_Tnom_Vmax_Ant_H_Clrw_S05



18:00:33 15.03.2022

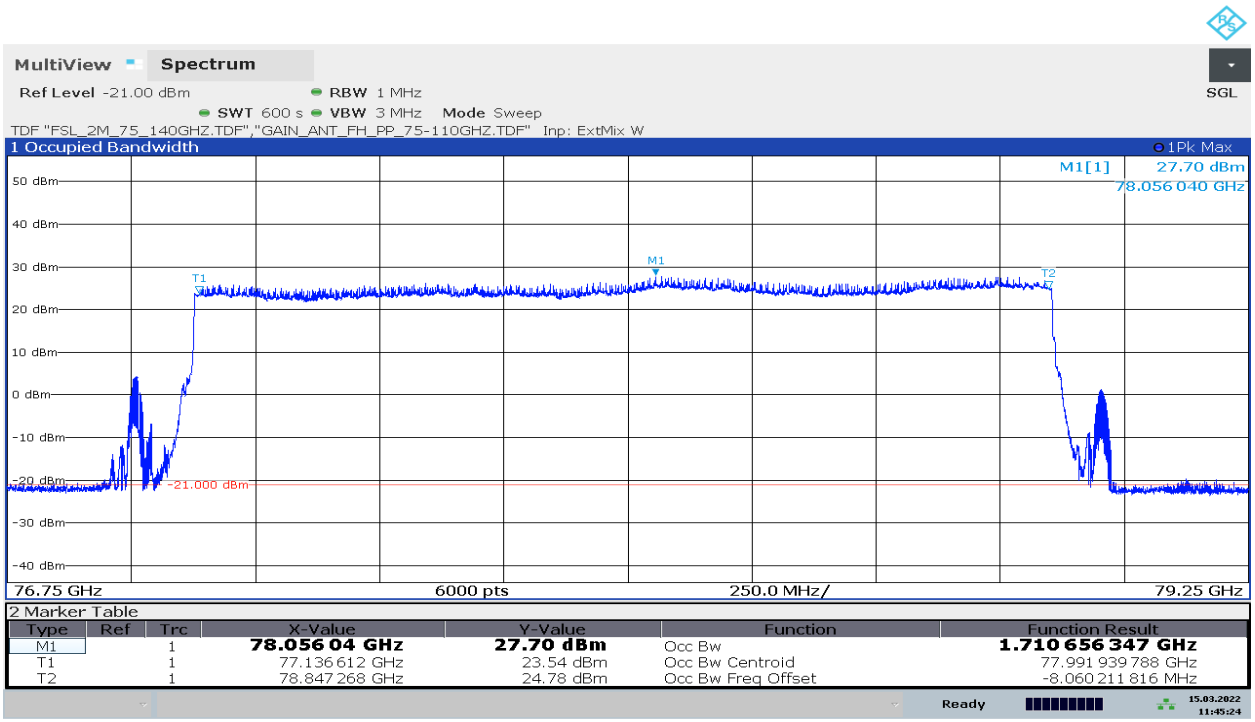
1.10 Peak Detector, Tnom/Vmax

D112_T01_99%OBW_Tnom_Vmax_Ant_H_S02



12:35:46 15.03.2022

D112_T01_99%OBW_Tnom_Vmax_Ant_H_S05



11:45:24 15.03.2022

2 Modulation characteristics

2.1 Peak Detector, T_{nom}/V_{nom}

See diagram 1.2

2.2 Peak Detector, Tmin/Vnom

See diagram 1.4

2.3 Peak Detector, Tmax/Vnom

See diagram 1.6

2.4 Peak Detector, Tnom/Vmin

See diagram 1.8

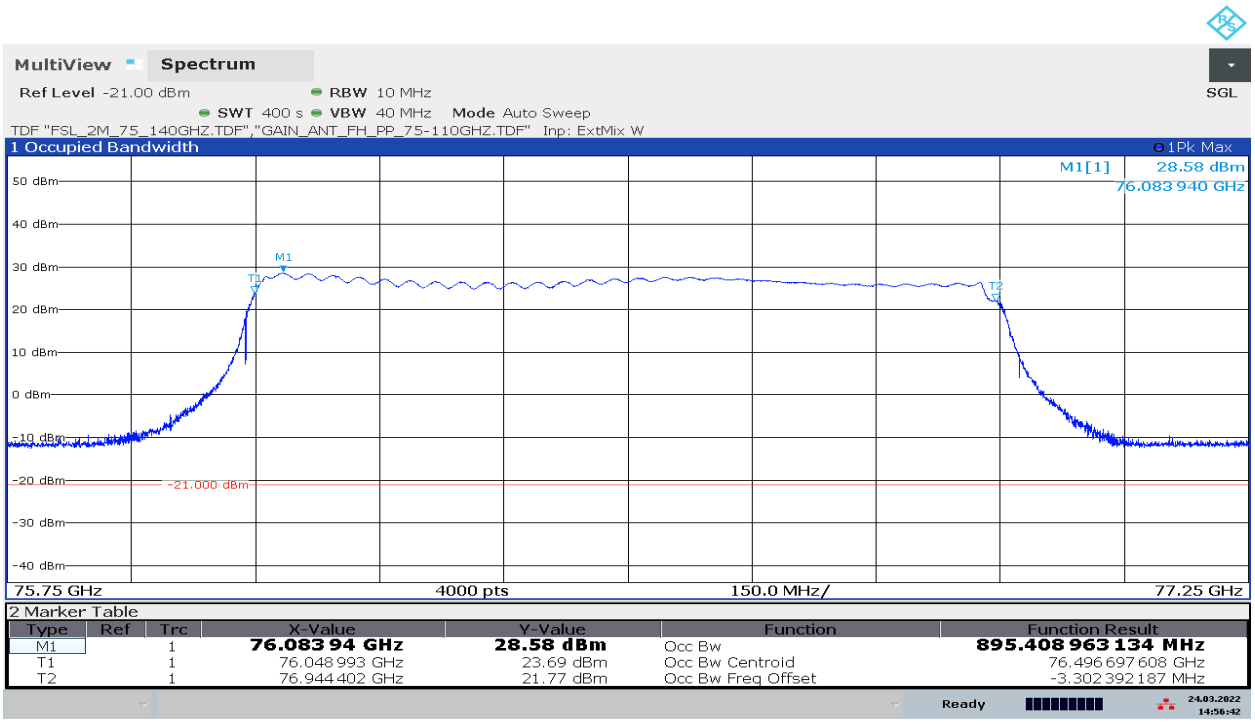
2.5 Peak Detector, T_{nom}/V_{max}

See diagram 1.10

3 Occupied bandwidth

3.1 Peak Detector, T_{nom}/V_{nom}, RBW 10 MHz (only required for 99% RSS Gen Occupied BW)

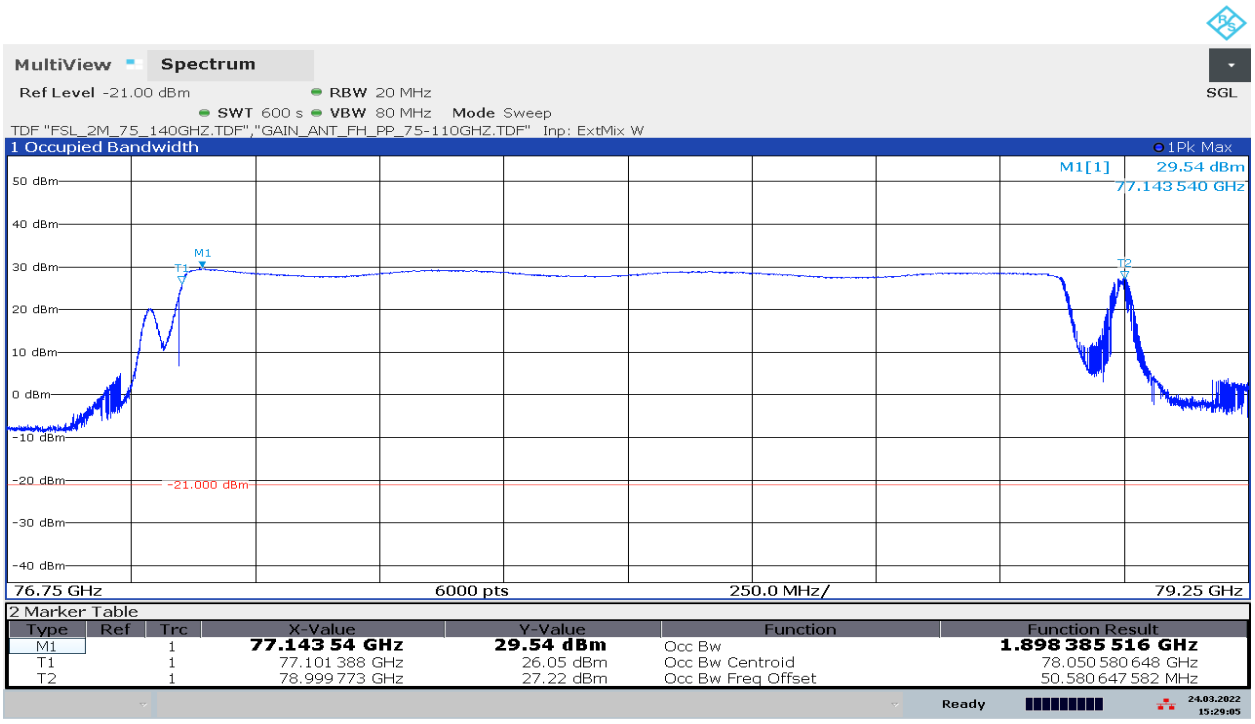
D108_T01_99%OBW_Tnom_Vnom_Ant_H_S02_RBW_10MHz



14:56:43 24.03.2022

Peak Detector, Tnom/Vnom, RBW 20 MHz (only required for 99% RSS Gen Occupied BW)

D108_T01_99%OBW_Tnom_Vnom_Ant_H_S05_RBW_20MHz



15:29:06 24.03.2022

3.2 Peak Detector, T_{nom}/V_{nom}

See diagram 1.2

3.3 Peak Detector, T_{min}/V_{nom}

See diagram 1.4

3.4 Peak Detector, T_{max}/V_{nom}

See diagram 1.6

3.5 Peak Detector, Tnom/Vmin

See diagram 1.8

3.6 Peak Detector, T_{nom}/V_{max}

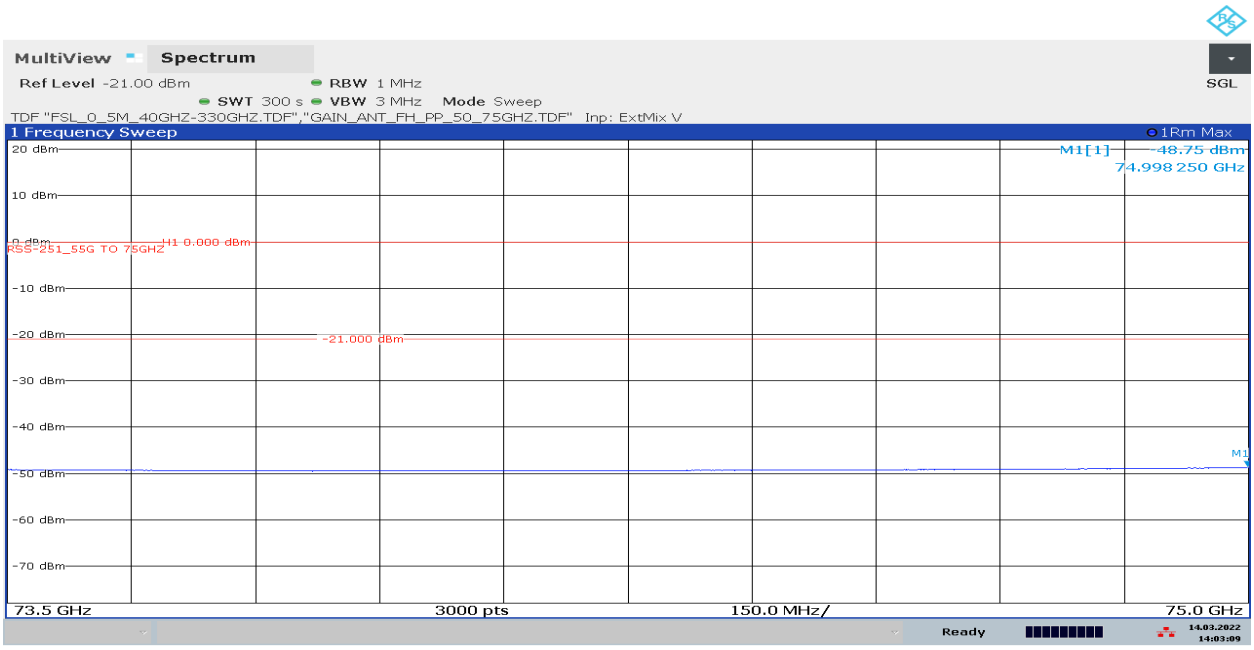
See diagram 1.10

4 Field strength of emissions (band edge)

4.1 RMS Detector, low edge, below 76 GHz (73.5 GHz – 76 GHz)

No emissions found below 76 GHz. See below diagrams,

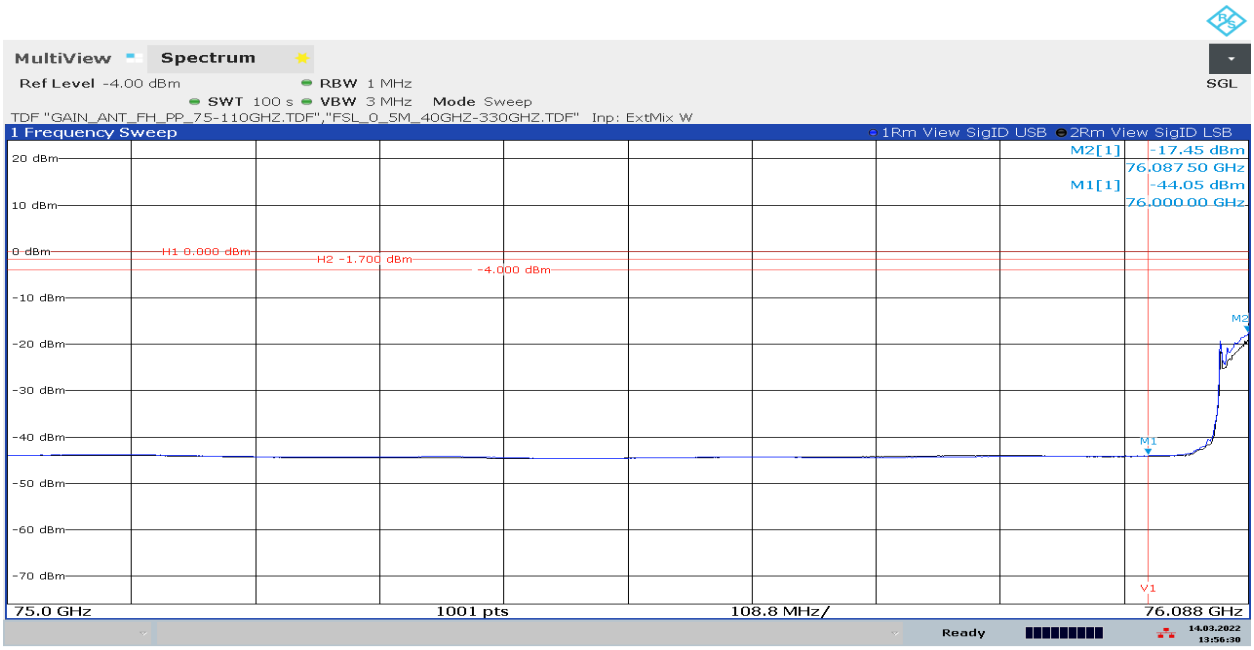
D123_T01_73.5G_to_75GHz_Ant_H + V_S02



14:03:09 14.03.2022

*) The limit for ISED is 0 dBm within 73.5 GHz – 76 GHz, if the occupied bandwidth resides entirely in the 76-77 GHz band.

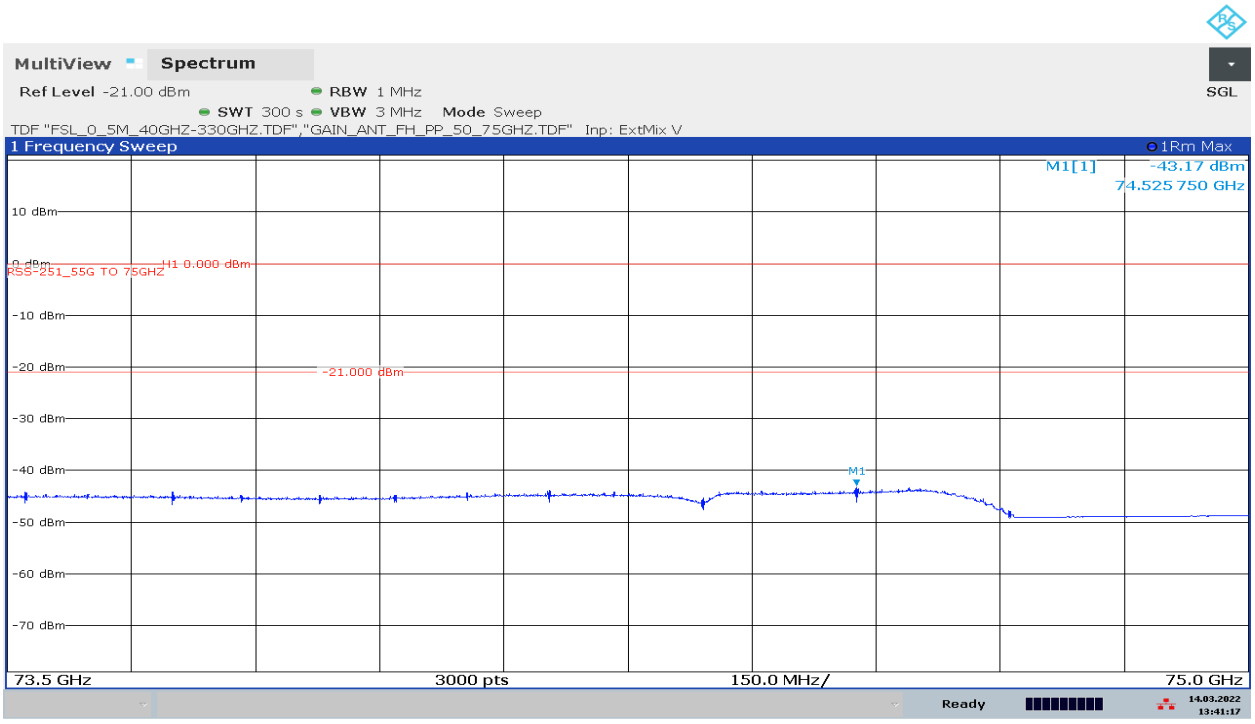
D124_T01_75G_to_76.088GHz_Ant_H + V_S02



13:56:30 14.03.2022

*) The limit for ISED is 0 dBm within 73.5 GHz – 76 GHz, if the occupied bandwidth resides entirely in the 76-77 GHz band.

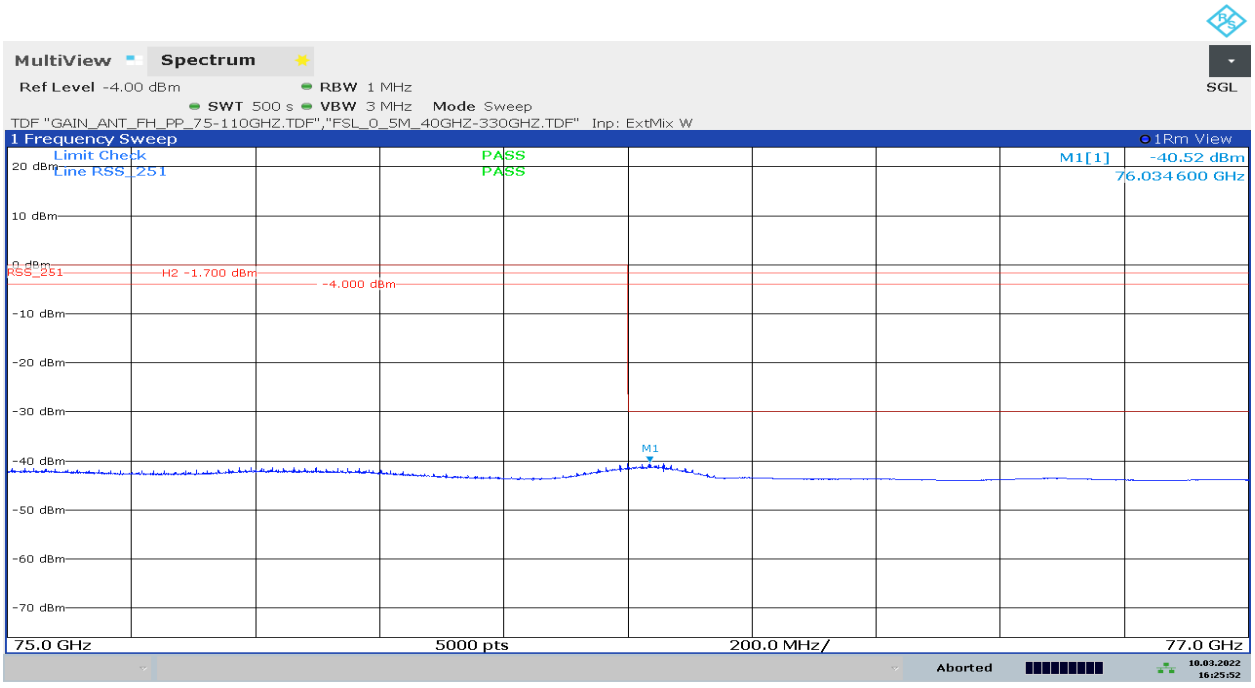
D123_T01_73.5G_to_75GHz_Ant_H + V_S05



13:41:17 14.03.2022

*) The limit for ISED is 0 dBm within 73.5 GHz – 76 GHz, if the occupied bandwidth resides entirely in the 76-77 GHz band.

D124_T01_75G_to_77GHz_Ant_H + V_S05



16:25:52 10.03.2022

*) The limit for ISED is 0 dBm within 73.5 GHz – 76 GHz, if the occupied bandwidth resides entirely in the 76-77 GHz band.

4.2 RMS Detector, high edge, above 81 GHz

No critical emissions found above 81 GHz. See diagram D135, D136.

5 1. Field strength of emissions (radiated spurious emissions)

5.1 9 kHz – 30 MHz, EUT standing

2.01_RSE_TX_RADAR_fc_78GHz_S05_C01_Standing

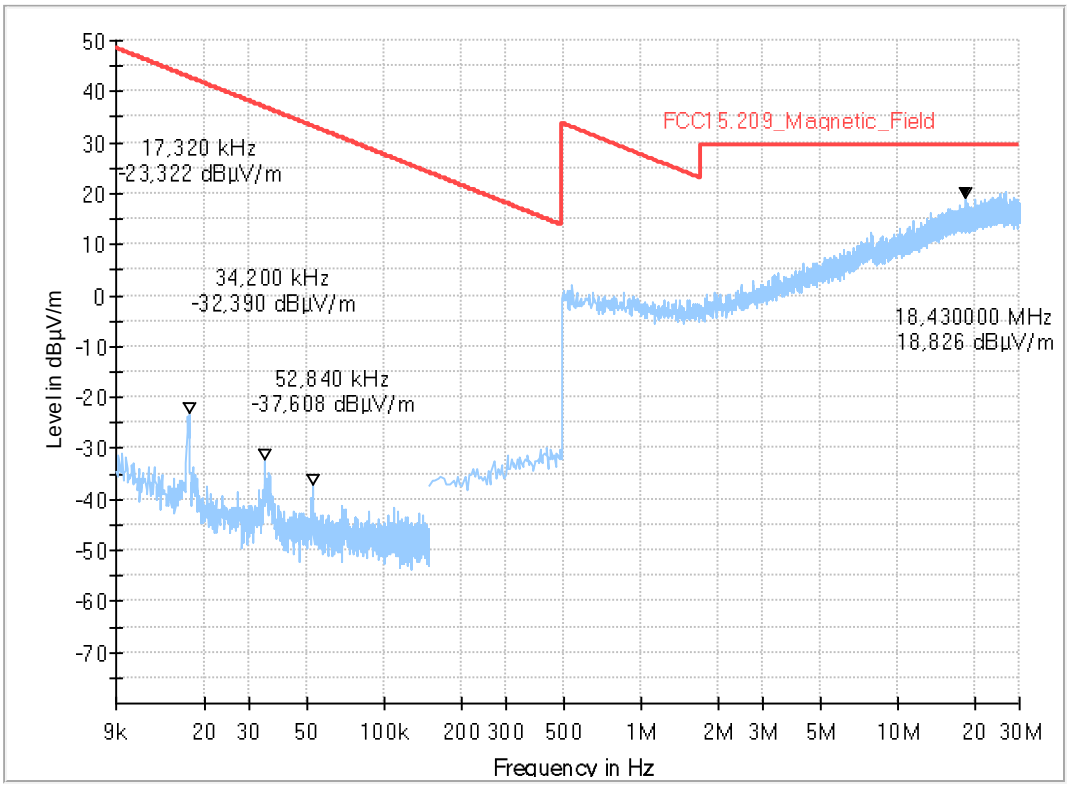
Common Information

Test description:	Magnetic Field Strength Measurement related to 30/300 m distance
Test Site Location:	Ref.-Nr. 441 Semi Anechoic Chamber (SAC1) with 3 m measurement distance
Version of Testsoftware:	EMC32 V10.50.0
Distance correction:	used accord. table, pls. see test report
Technical Data:	Please see page 2 for detailed data of measurement setup
Rec. antenna (pre-scan):	height 1.00 m, parallel and 90° to EUT polarisation
Used filter:	bypass
Test Standard:	FCC 15.205 § 15.209; RSS-Gen: Issue 5
Operator:	Aho
Operating Mode:	RADAR 78G, Park mode
Power during tests:	12V DC,
Environmental Conditions:	Humidity : 45%rH; Temperature: 20°C
EUT Setup:	1
Verdict:	Pass

EUT Information

PMT number	21-1-0126102S05_C01
Power Supply:	12 V DC

Full Spectrum



5.2 9 kHz – 30 MHz, EUT lying

2.02_RSE_TX_RADAR_fc_78GHz_S05_C01_Laying

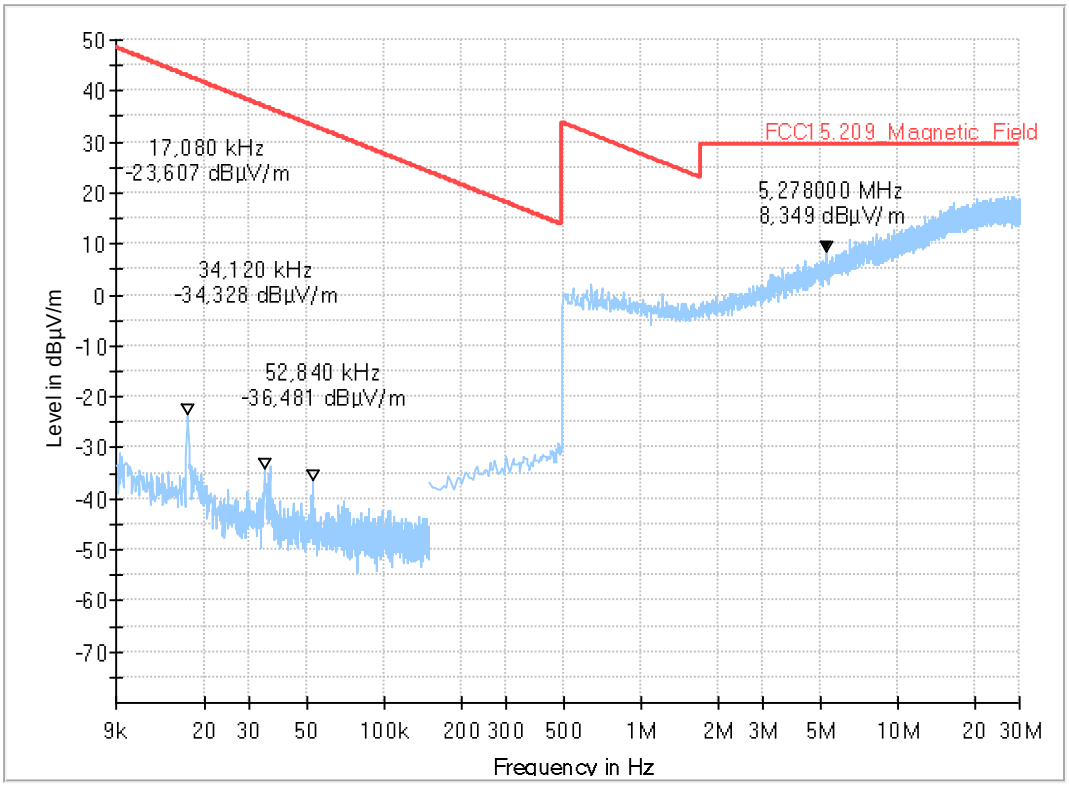
Common Information

Test description:	Magnetic Field Strength Measurement related to 30/300 m distance
Test Site Location:	Ref.-Nr. 441 Semi Anechoic Chamber (SAC1) with 3 m measurement distance
Version of Testsoftware:	EMC32 V10.50.0
Distance correction:	used accord. table, pls. see test report
Technical Data:	Please see page 2 for detailed data of measurement setup
Rec. antenna (pre-scan):	height 1.00 m, parallel and 90° to EUT polarisation
Used filter:	bypass
Test Standard:	FCC 15.205 § 15.209; RSS-Gen: Issue 5
Operator:	Aho
Operating Mode:	RADAR 78G, Park mode
Power during tests:	12V DC,
Environmental Conditions:	Humidity : 45%rH; Temperature: 20°C
EUT Setup:	1
Verdict:	Pass

EUT Information

PMT number	21-1-0126102S05_C01
Power Supply:	12 V DC

Full Spectrum



5.3 30 MHz – 1 GHz, EUT standing

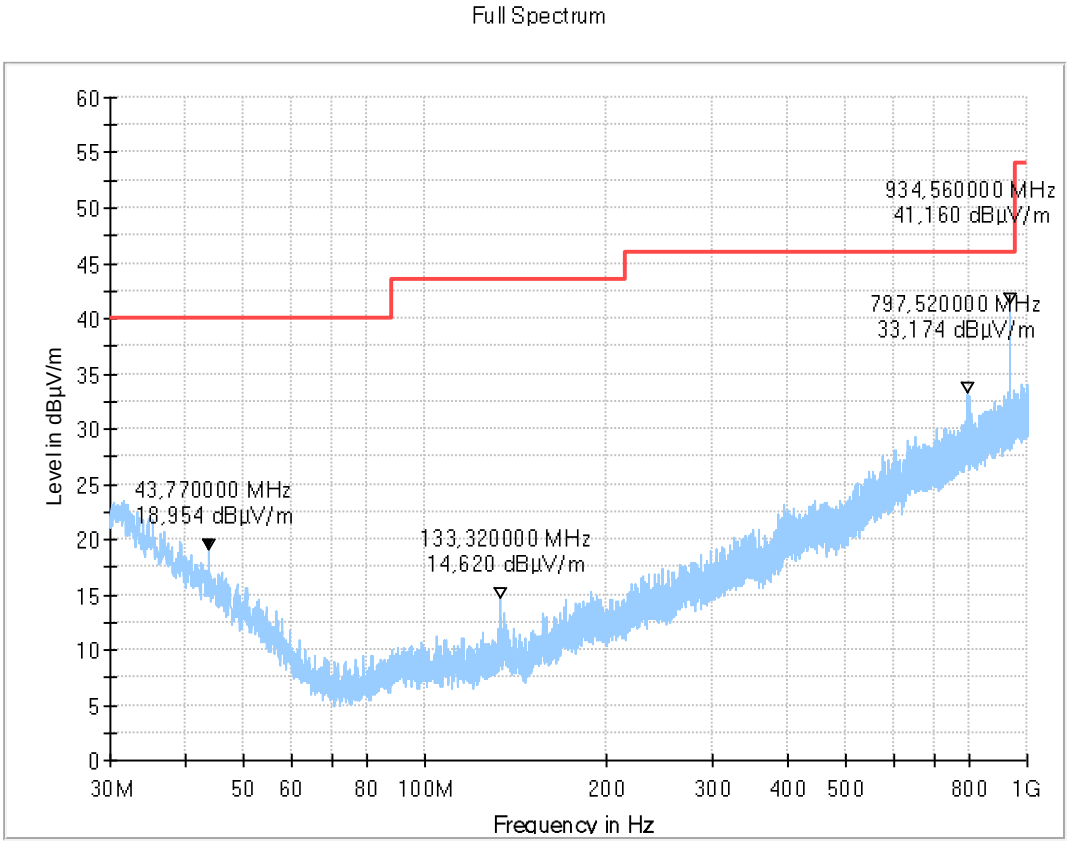
3.01_RSE_TX_RADAR_fc_78GHz_Park_mode_S05_C01_Standing

Common Information

Test Description:	Radiated field strength emission in 3m distance
Test Site:	CETECOM GmbH Essen
Test Standard:	FCC 95M & RSS-251
Antenna polarisation:	horizontal/vertical
Environmental Conditions::	Humidity : 45%rH; Temperature: 20°C
Operator Name:	Aho
EUT:	standing
Operating Mode:	RADAR 78GHz, Park mode
Power supply:	12 V DC
Verdict:	Passed

EUT Information

PMT number	21-1-0126102S05_C01
Power Supply:	12 V DC



Remark: The emissions at 797.52MHz and 934.56 MHz are external interference from outside the chamber, not related to results.

5.4 30 MHz – 1 GHz, EUT laying

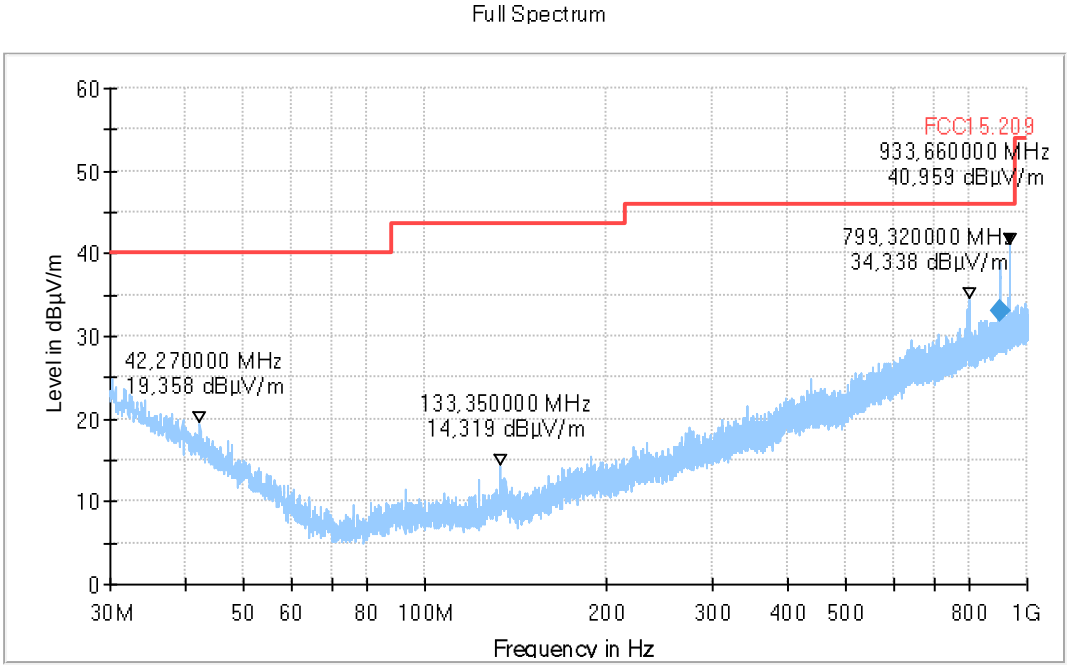
3.02_RSE_TX_RADAR_fc_78GHz_Park_mode_S05_C01_EUT_Laying

Common Information

Test Description:	Radiated field strength emission in 3m distance
Test Site:	CETECOM GmbH Essen
Test Standard:	FCC 95M & RSS-251
Antenna polarisation:	horizontal/vertical
Environmental Conditions::	Humidity : 45%rH; Temperature: 20°C
Operator Name:	Aho
EUT:	laying
Operating Mode:	RADAR 78GHz, Park mode
Power supply:	12 V DC
Verdict:	Passed

EUT Information

PMT number:	21-1-01261S05_C01
Manufacturer:	Hella GmbH & Co. KGaA



Remark: The emissions at 799.32MHz and 933.66 MHz are external interference from outside the chamber, not related to results.

Final_Result

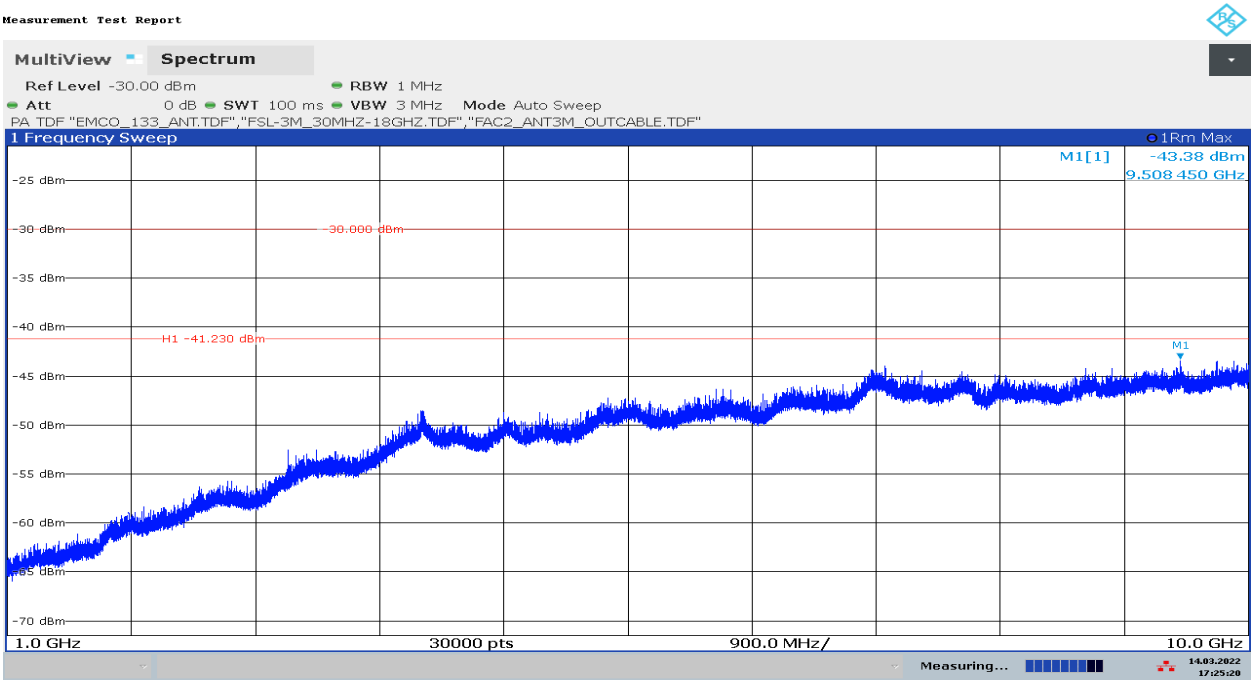
Frequency (MHz)	QuasiPeak (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Bandwidth (kHz)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)	Sig Path (dB)	Preamp (dB)	Trd Corr. (dB/m)
902.403000	33.11	46.00	12.89	120.000	348.0	H	271.0	27.1	0.0	3.5	23.6

(continuation of the "Final_Result" table from column 19 ...)

Frequency (MHz)	Raw Rec (dBµV)	Comment
902.403000	6.0	10:55:40 - 16.03.2022

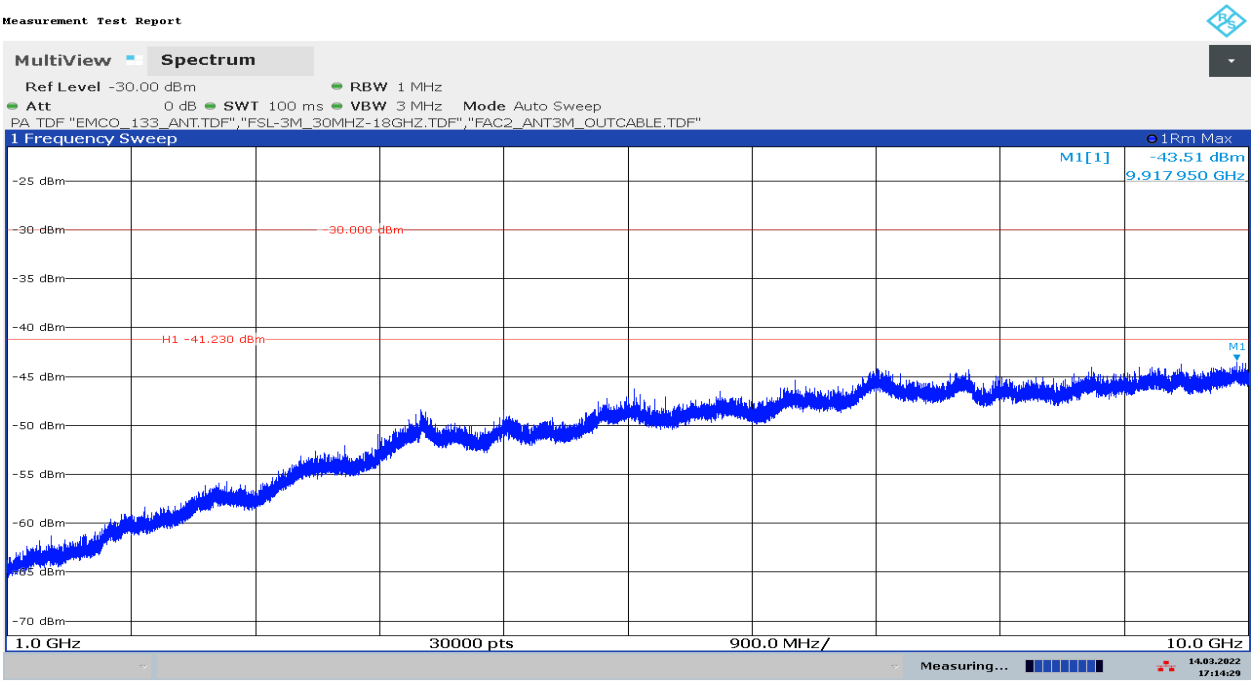
5.5 1 GHz – 10 GHz, ANT VER + HOR, sweep time: 100 ms

D127a_T01_TX_RSE_1G_10GHz_Ant_V



Remarks: Limit line(-41.23 dBm) of FCC and ISED are same from 1G to 40GHz.

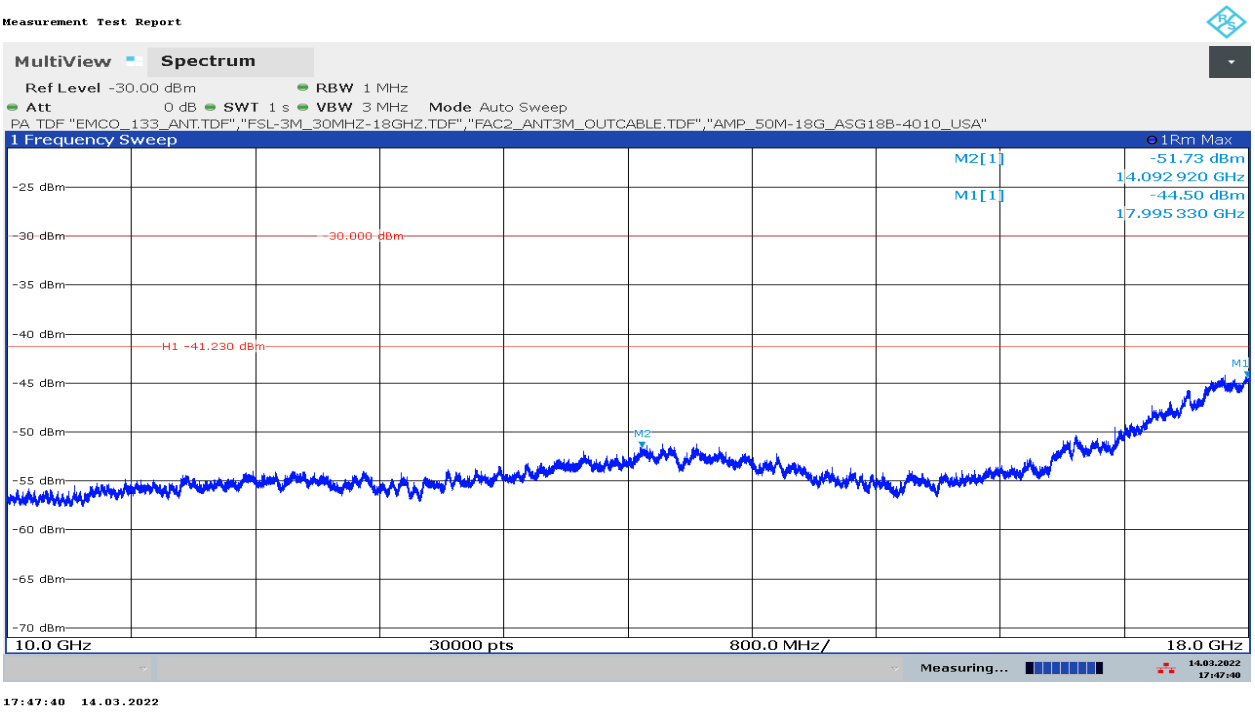
D128a_T01_TX_RSE_1G_10GHz_Ant_H



Remarks: Limit line(-41.23 dBm) of FCC and ISED are same from 1G to 40GHz.

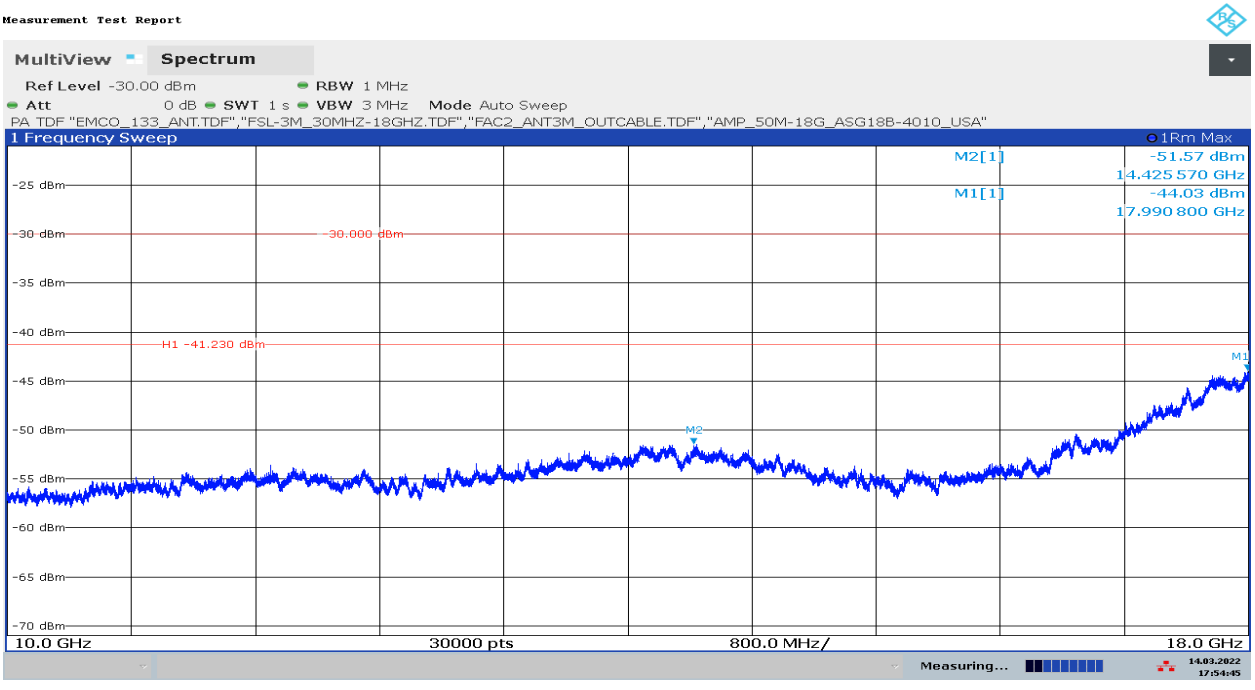
5.6 10 GHz – 18 GHz, ANT VER + HOR, sweep time: 1 s

D127b_T01_TX_RSE_10G_18GHz_Ant_V



Remark: The limit is -41.23 dBm. **Limit line of FCC and ISED are same from 1G to 40GHz.**
-30 dBm is reference level of Spectrum Analyzer, not related to Limit.

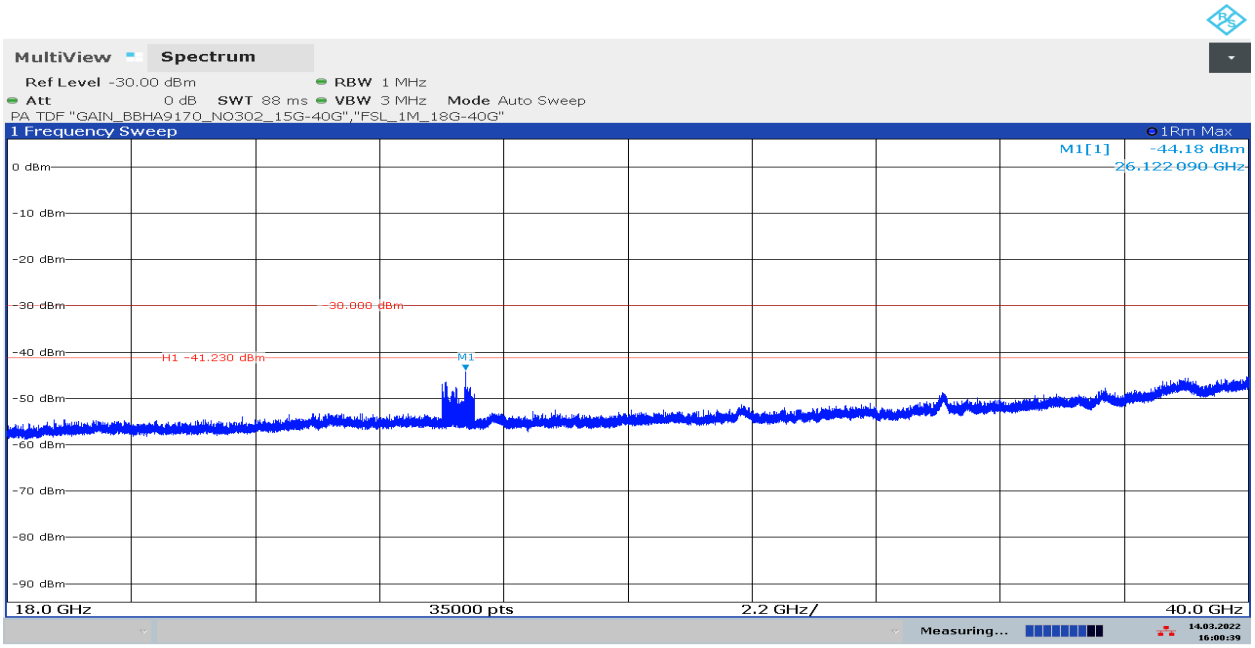
D128b_T01_TX_RSE_10G_18GHz_Ant_H



Remark: The limit is -41.23 dBm. **Limit line of FCC and ISED are same from 1G to 40GHz.**
-30 dBm is reference level of Spectrum Analyzer, not related to Limit.

5.7 18 GHz – 40 GHz, ANT HOR + VER, sweep time: auto

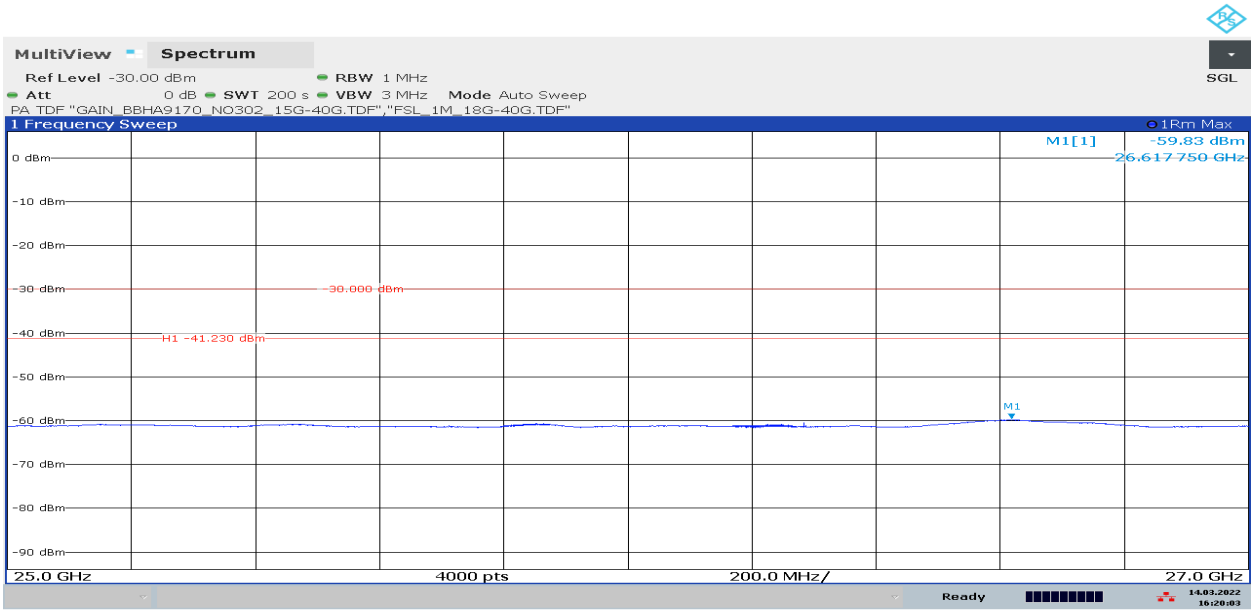
D129_T01_TX_RSE_18G_40GHz_Ant_H



16:00:39 14.03.2022

Remark 1: The limit is -41.23 dBm. **Limit line of FCC and ISED are same from 1G to 40GHz.**
-30 dBm is reference level of Spectrum Analyzer, not related to Limit.
Remark 2: Final measurement has been perfomed on Marker 1 and found no critical emission, check below Diagram(25G to 27GHz) with 200 second. Therefore no issue with Marker 1.

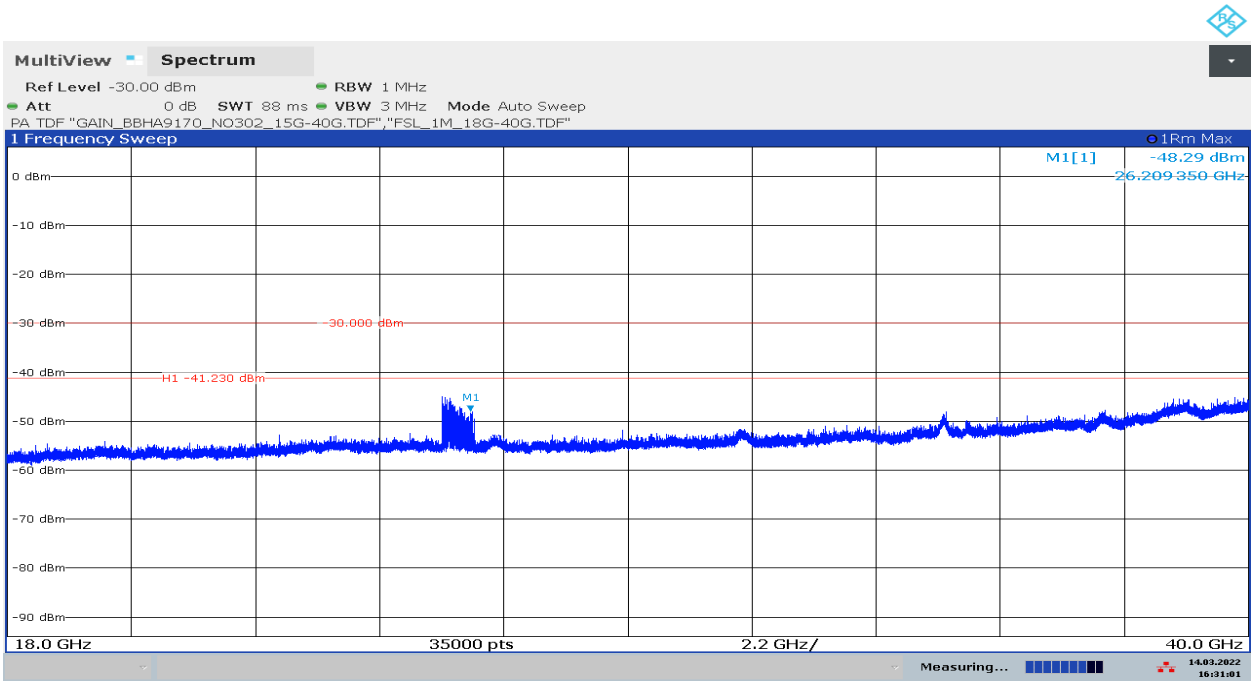
D129_T01_TX_RSE_18G_40GHz_EUT_90_Ant_H_TT_30_200s_Final_Test_M1



16:20:03 14.03.2022

Remark: The limit is -41.23 dBm.
-30 dBm is reference level of Spectrum Analyzer, not related to Limit.
Remark: No critical Emission found from 25G to 27GHz.

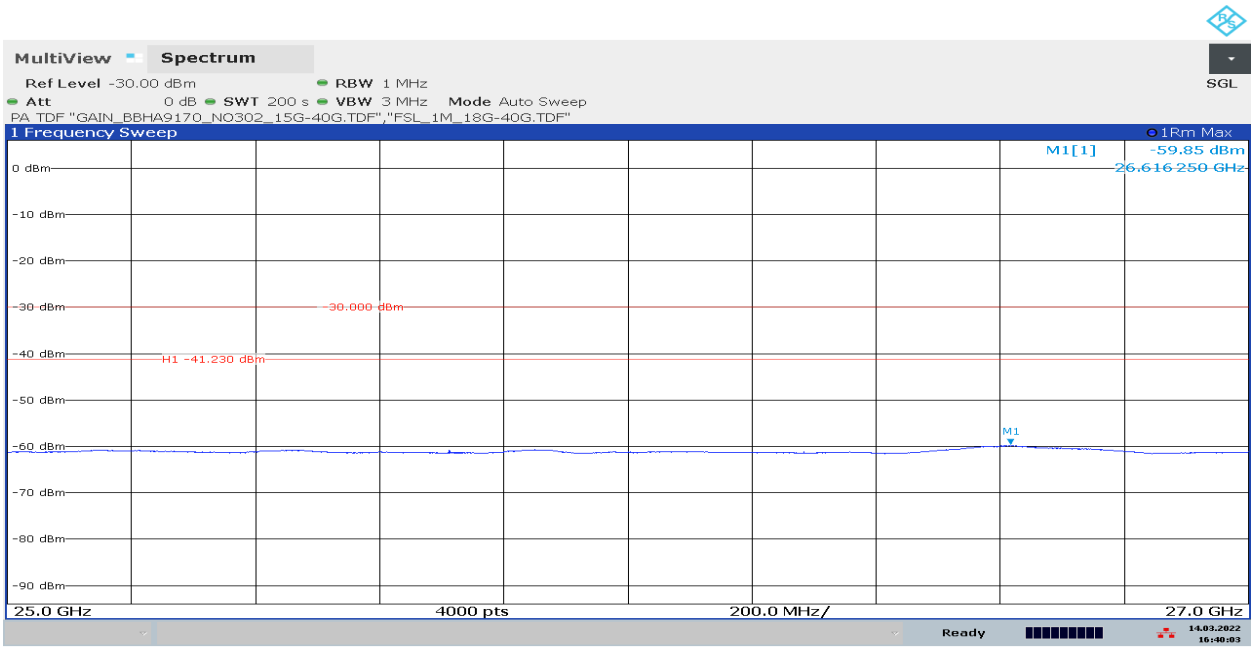
D130_T01_TX_RSE_18G_40GHz_Ant_V



16:31:01 14.03.2022

Remark: The limit is -41.23 dBm. **Limit line of FCC and ISED are same from 1G to 40GHz.**
-30 dBm is reference level of Spectrum Analyzer, not related to Limit.
Remark: Final measurement has been perfomed on Marker 1 and found no critical emission, check below Diagram(25G to 27GHz) with 200 second. Therefore no issue with Marker 1.

D130_T01_TX_RSE_18G_40GHz_EUT_90_TT_220_Ant_V_220s Final_Test_M1

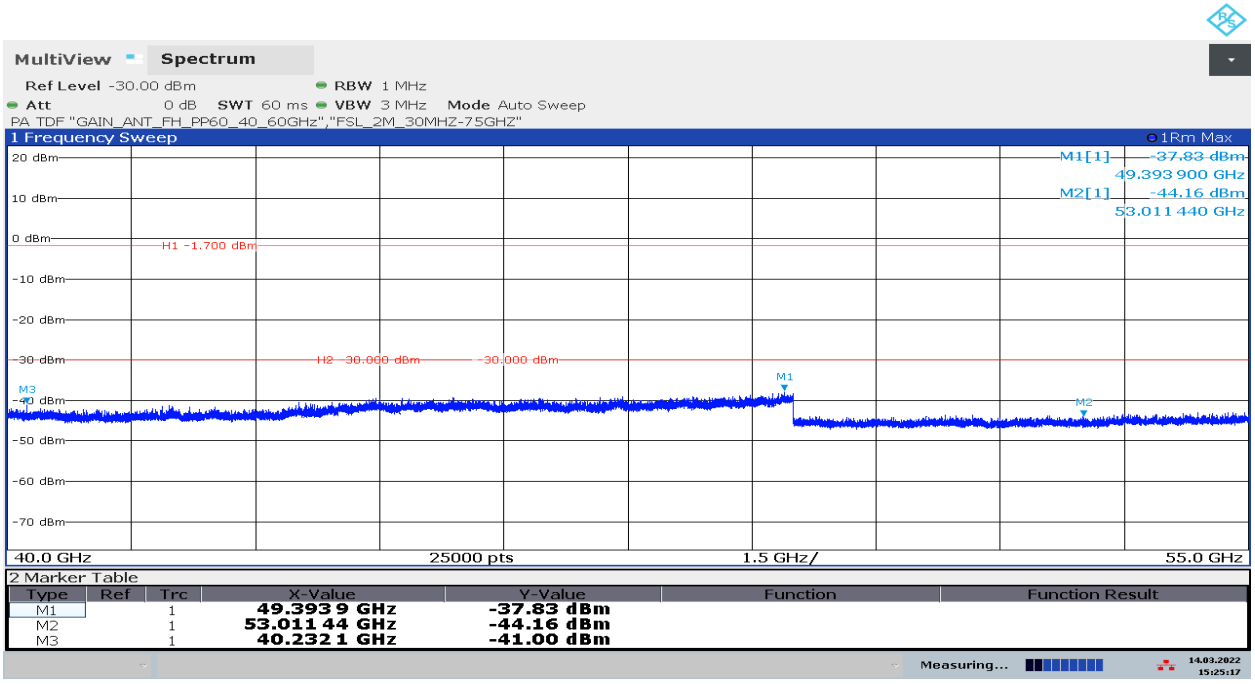


16:40:03 14.03.2022

Remark: The limit is -41.23 dBm. **Limit line of FCC and ISED are same from 1G to 40GHz.**
-30 dBm is reference level of Spectrum Analyzer, not related to Limit.
Remark: No critical Emission found from 25G to 27GHz.

5.8 40 GHz – 55 GHz, ANT VER + HOR, sweep time: auto

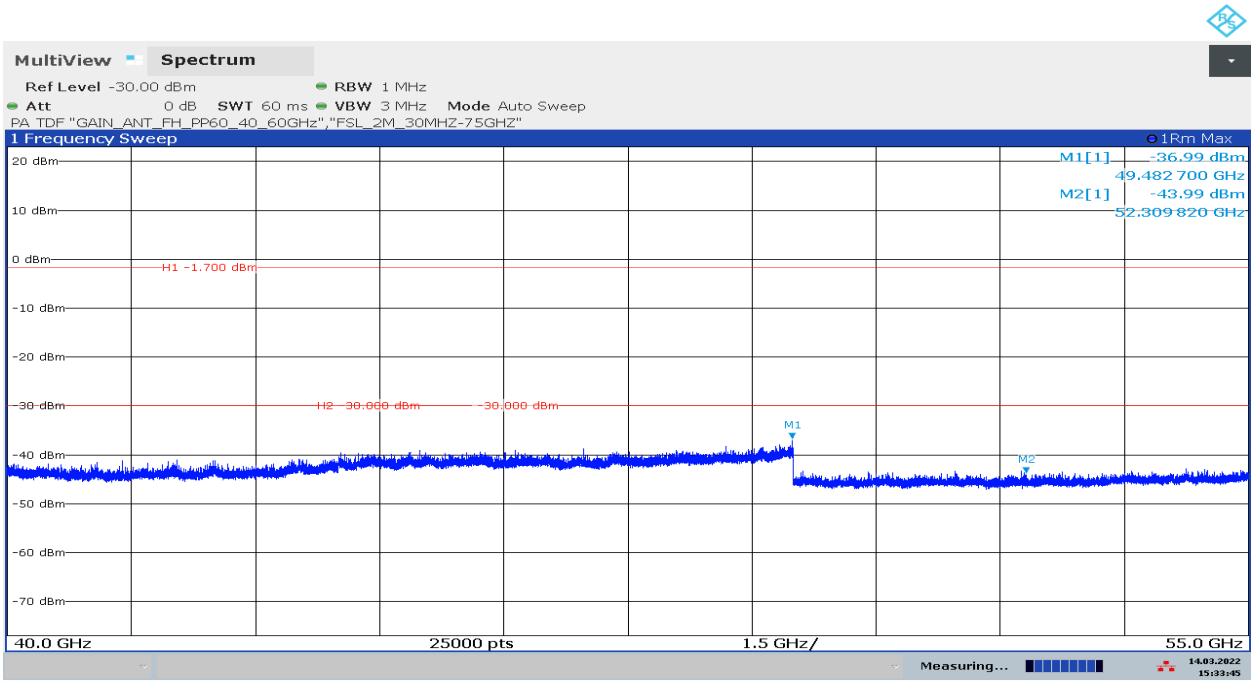
D131_T01_TX_RSE_40G_55GHz_Ant_V



15:25:17 14.03.2022

Remark: Limits are -1.7 dBm (FCC) and -30 dBm (ISED).

D132_T01_TX_RSE_40G_55GHz_Ant_H



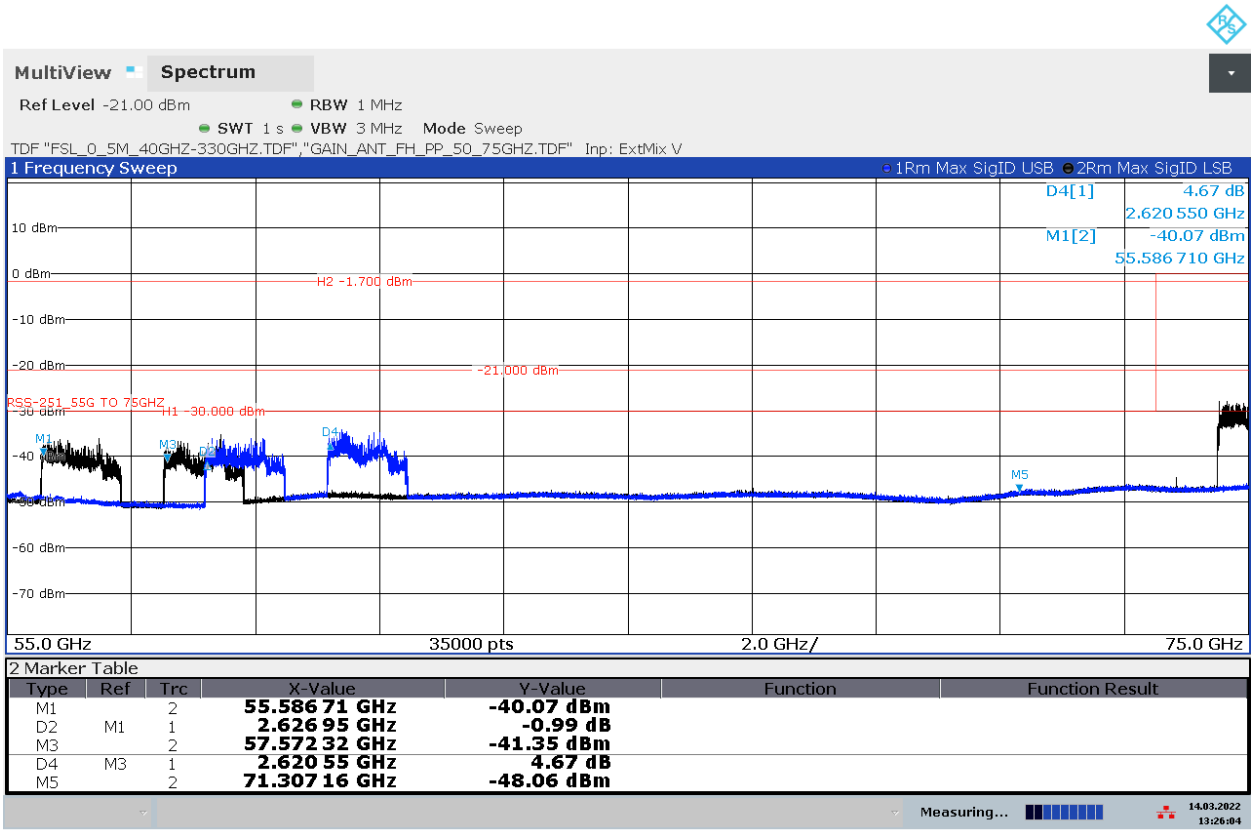
15:33:45 14.03.2022

Remarks: Marker M1 and M2 are noise level only, no Critical Emission have been found.

Remark: The emissions above 55 GHz are measured with help of an external mixer. Due to its intrinsic characteristic, it produces image signals while receives signal with decent amount of power. In order to identify the image signals, the signal ID function is activated. The emission is only real, when the traces USB and LSB completely overlap, otherwise it is an image signal.

5.9 55 GHz – 75 GHz, ANT VER + HOR, SigID USB + LSB, sweep time: 1 s

D133_T01_TX_RSE_55G_75GHz_EUT_90_Ant_V



13:26:05 14.03.2022

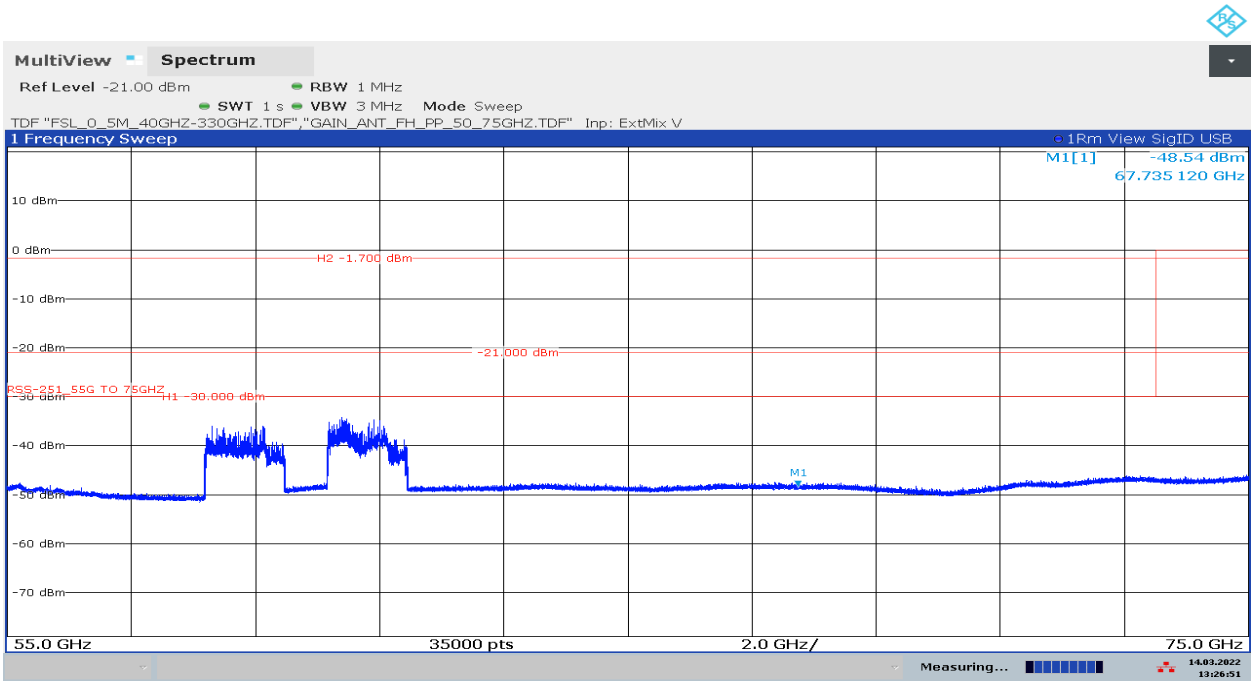
Remark 1: Signal ID function is activated in order to identify image signals. No real signal is observed.
The limits are -1.7 dBm (FCC) and -30 dBm (ISED)*.

* The signal ID function is activated to identify image signals produced by the external mixer. The emissions are only real, if the trace USB and LSB completely overlap.

Remark 2: the emissions over the limit are ghost signals, because the traces USB and LSB do not overlap. Such emissions are irrelevant to the limit.

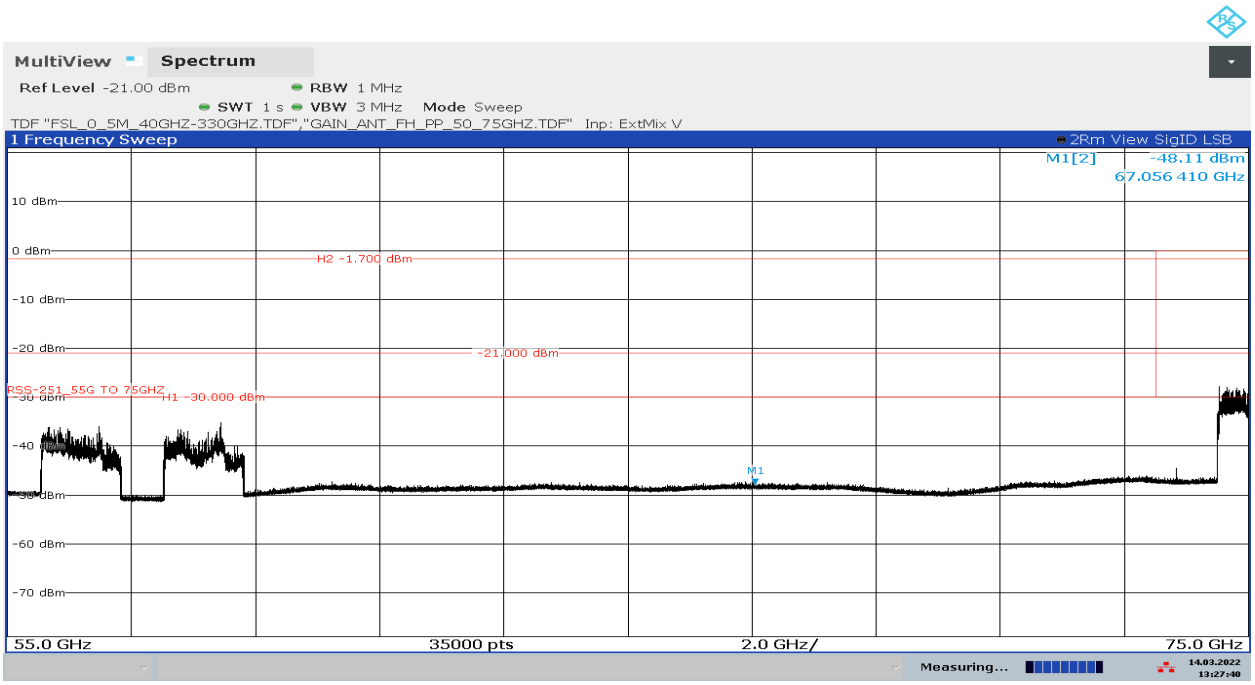
USB and LSB are given below in seperate Diagrams only for information

D133_T01_TX_RSE_55G_75GHz_EUT_90_Ant_V_USB



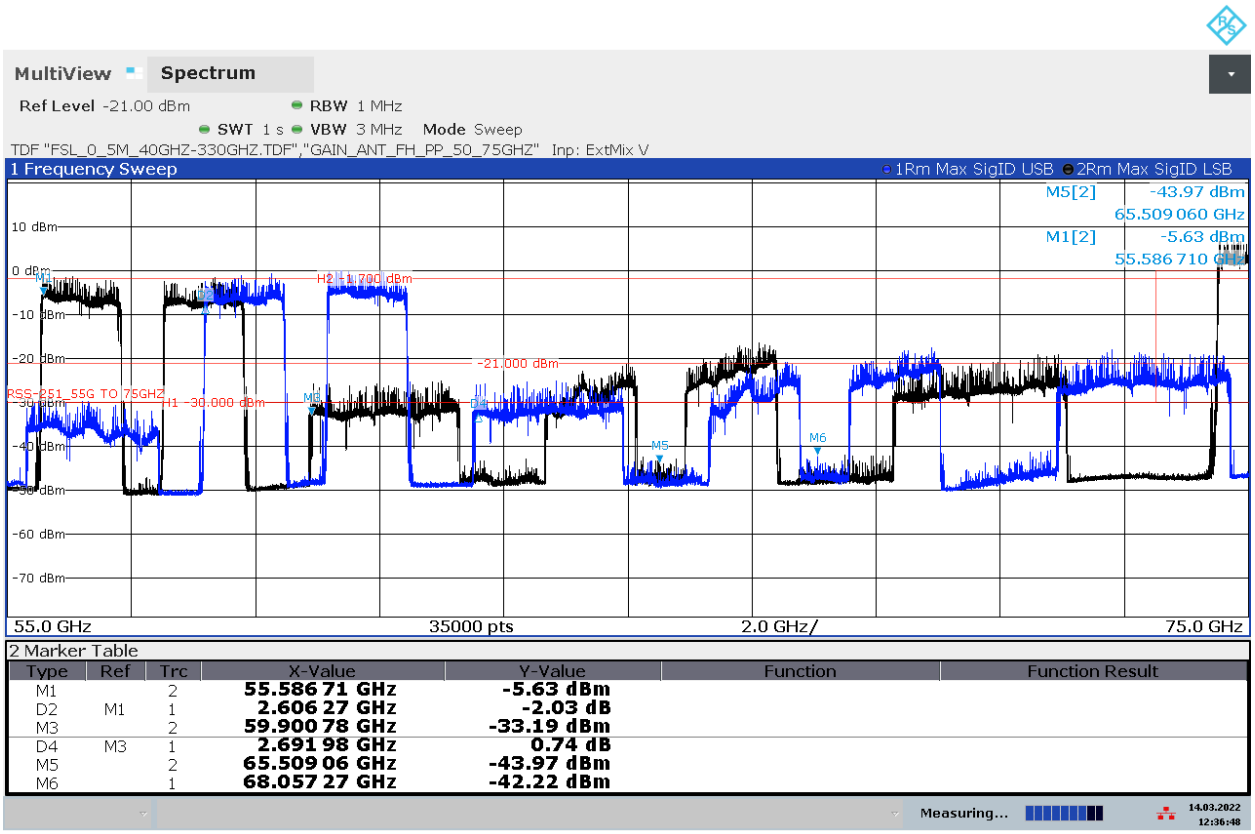
13:26:51 14.03.2022

D133_T01_TX_RSE_55G_75GHz_EUT_90_Ant_V_LSB



13:27:40 14.03.2022

D134_T01_TX_RSE_55G_75GHz_EUT0_90_Ant_H



12:36:49 14.03.2022

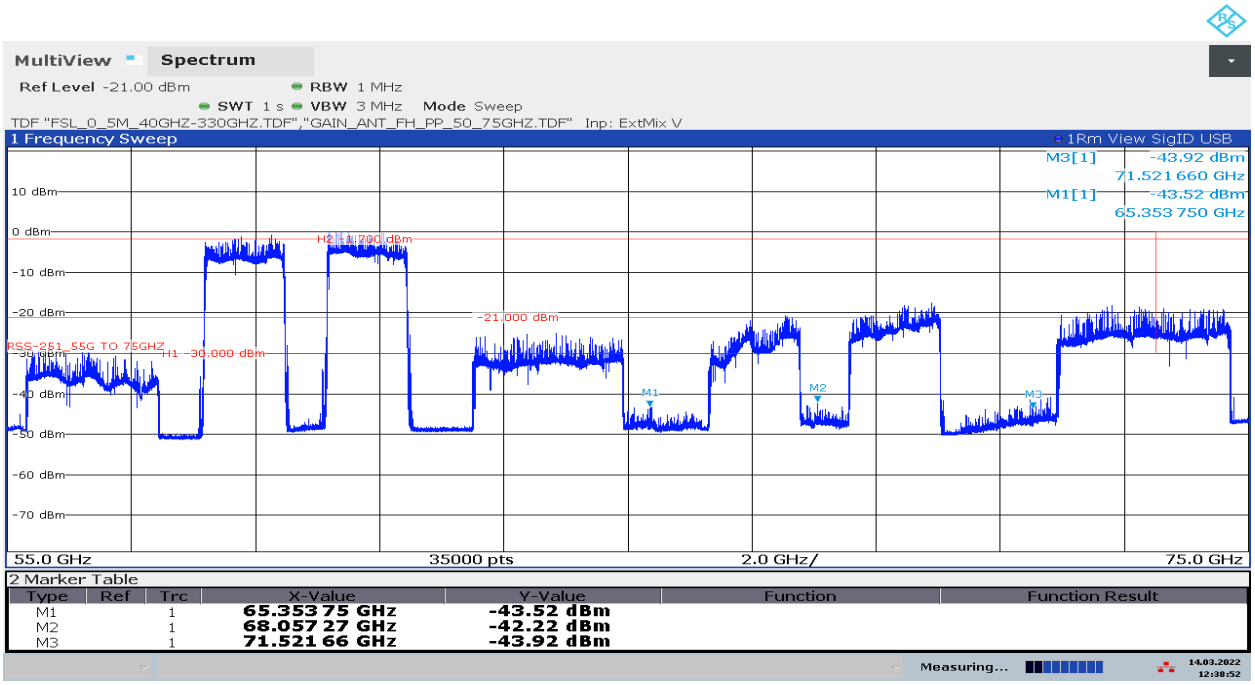
Remark 1: Signal ID function is activated in order to identify image signals. No real signal is observed. The limits are -1.7 dBm (FCC) and -30 dBm (ISED)*.

* The signal ID function is activated to identify image signals produced by the external mixer. The emissions are only real, if the trace USB and LSB completely overlap.

Remark 2: **the emissions over the limit are ghost signals, because the traces USB and LSB do not overlap. Such emissions are irrelevant to the limit.**

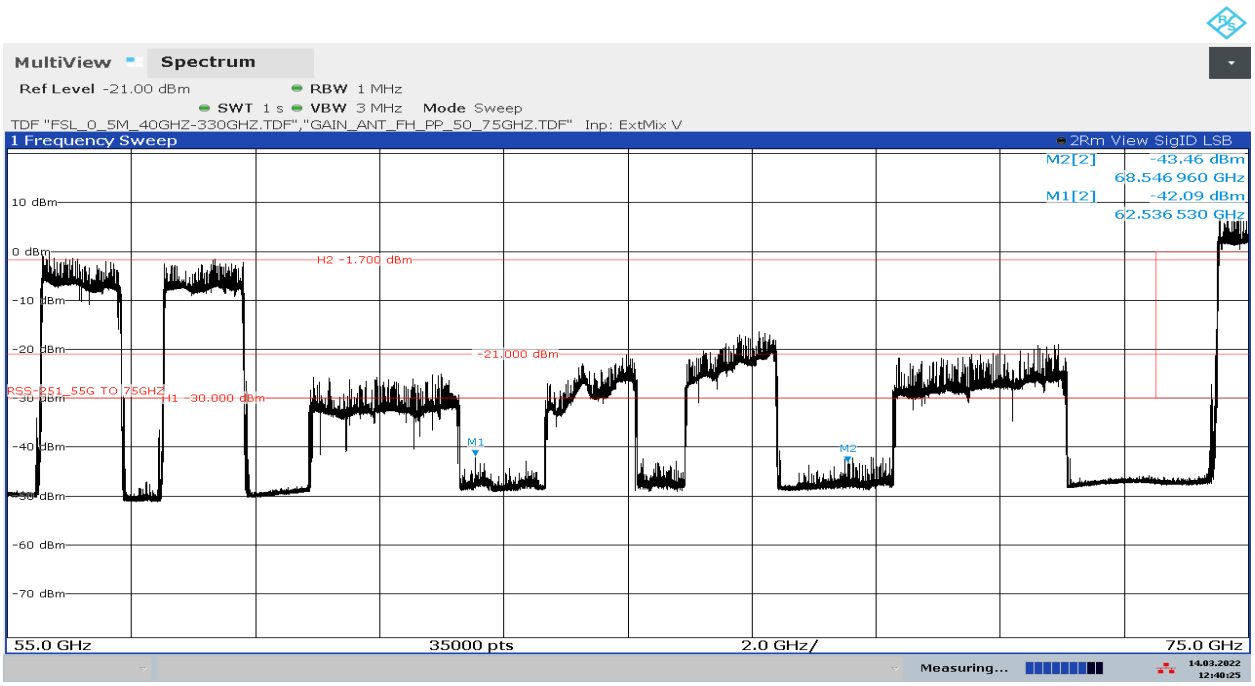
USB and LSB are given below in seperate Diagrams only for information

D134_T01_TX_RSE_55G_75GHz_EUT0_90_Ant_H_USB



12:38:52 14.03.2022

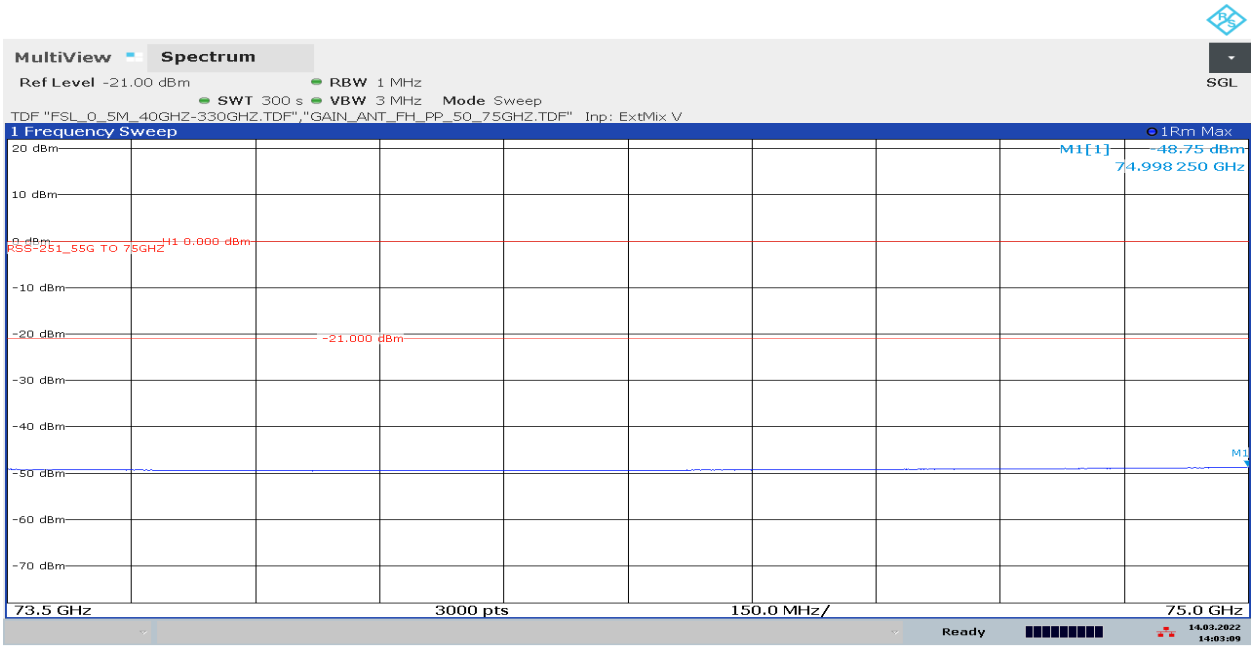
D134_T01_TX_RSE_55G_75GHz_EUT0_90_Ant_H_LSB



12:40:26 14.03.2022

5.10 75 GHz – 76 GHz, ANT VER + HOR, SigID USB + LSB, sweep time: 300 s, 100 s, 300 s, 500 s.

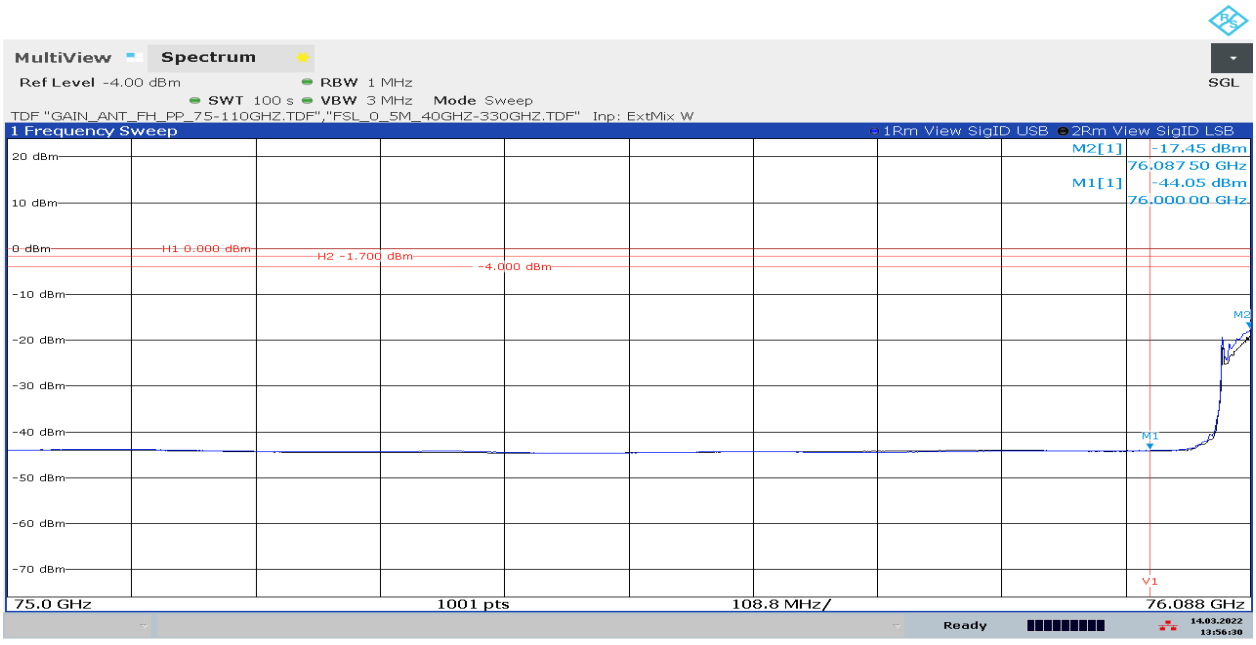
D123_01_T01_73.5G_to_75GHz_Ant_H + V_S02



14:03:09 14.03.2022

*) The limit for ISED is 0 dBm within 73.5 GHz – 76 GHz, if the occupied bandwidth resides entirely in the 76-77 GHz band.

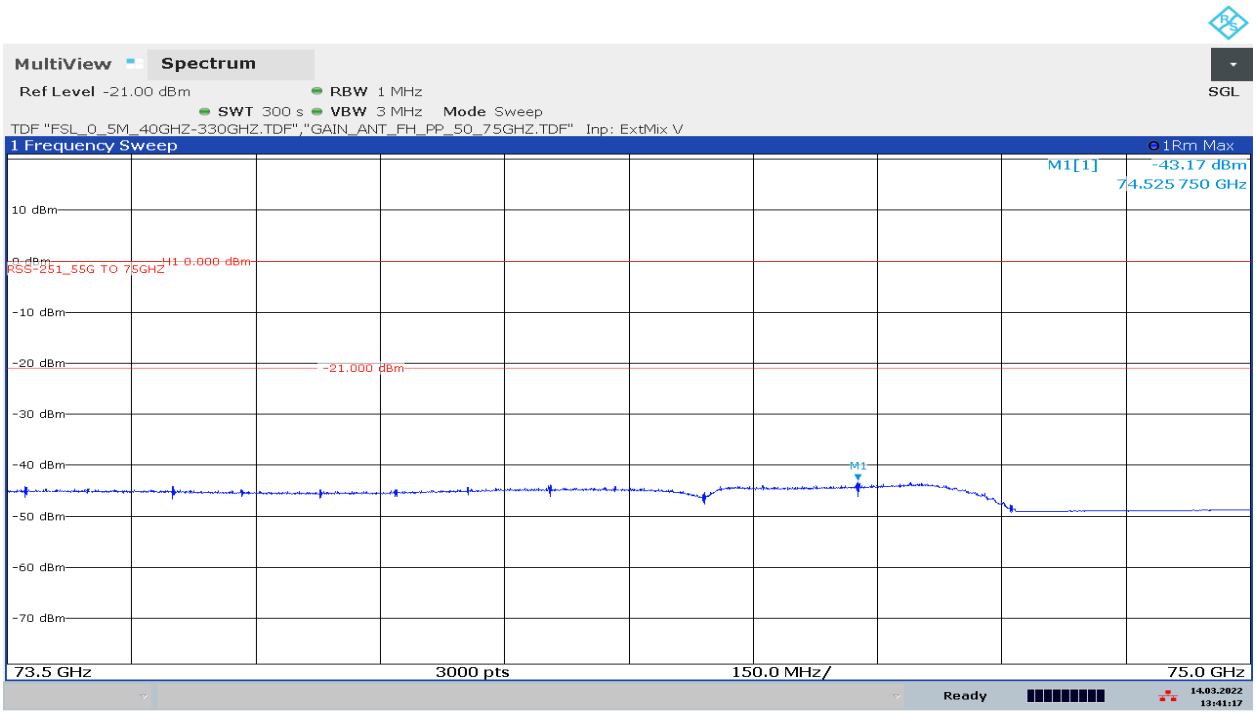
D124_01_T01_75G_to_76.088GHz_Ant_H + V_S02



13:56:30 14.03.2022

*) The limit for ISED is 0 dBm within 73.5 GHz – 76 GHz, if the occupied bandwidth resides entirely in the 76-77 GHz band.

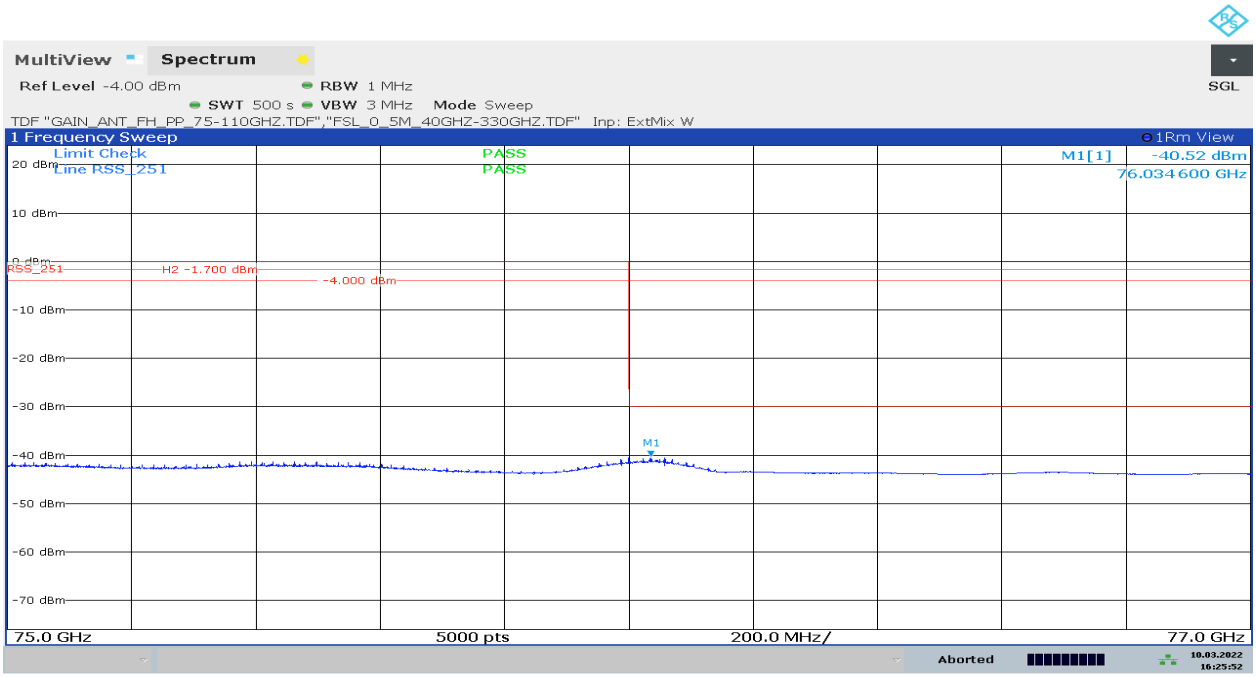
D123_02_T01_73.5G_to_75GHz_Ant_H_S05



13:41:17 14.03.2022

*) The limit for ISED is 0 dBm within 73.5 GHz – 76 GHz, if the occupied bandwidth resides entirely in the 76-77 GHz band.

D124_02_T01_75G_to_77GHz_Ant_H_S05

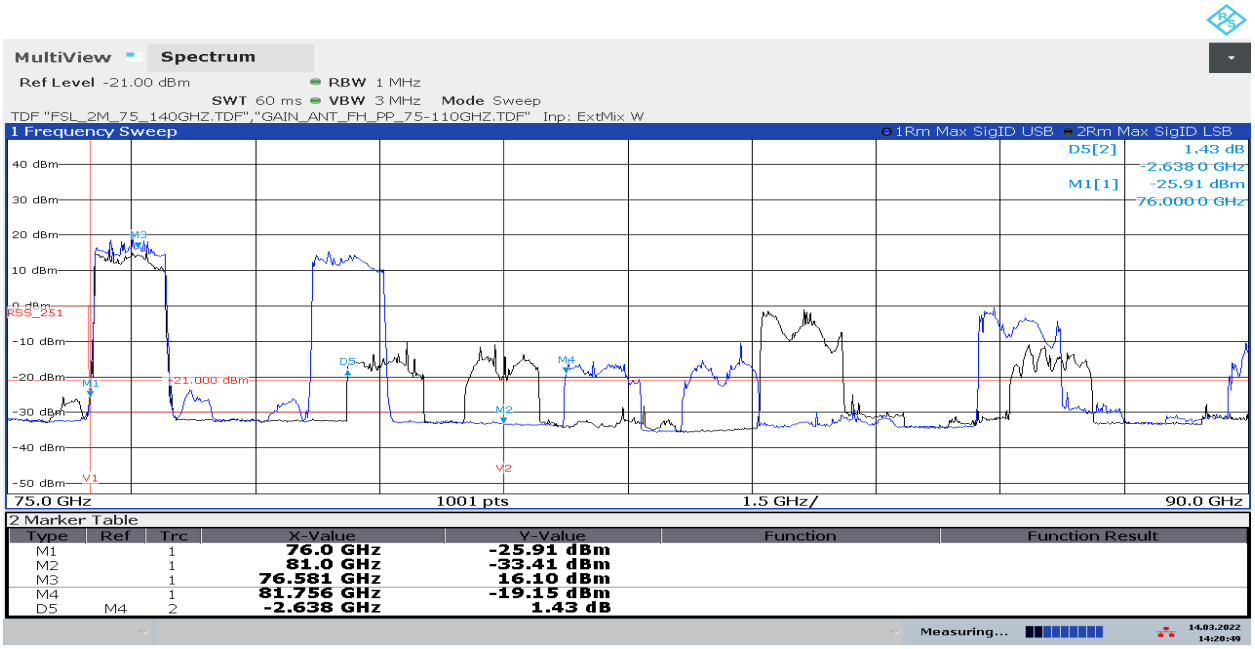


16:25:52 10.03.2022

*) The limit for ISED is 0 dBm within 73.5 GHz – 76 GHz, if the occupied bandwidth resides entirely in the 76-77 GHz band.

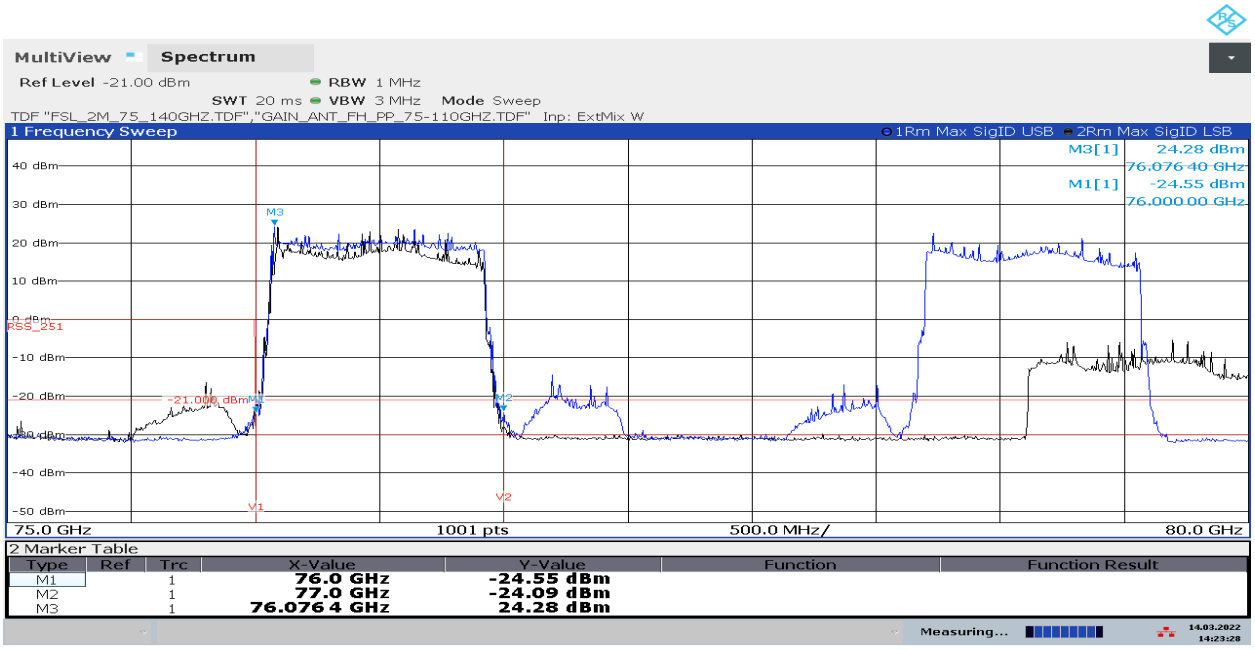
5.11 Overview_75 GHz to 90 GHz, only for information not for assessment

D000_01_overview_75GHz to 90 GHz_Carrier_76.5 GHz_S02



Remark: Marker M3 is Carrier_76.5 GHz,
Both USB and LSB are completely overlapping in Carrier signal, therefore Carrier signal are real signal and which are not overlapping they are ghost signals.

D001_01_overview 75GHz to 80 GHz_Carrier_76.5 GHz_S02

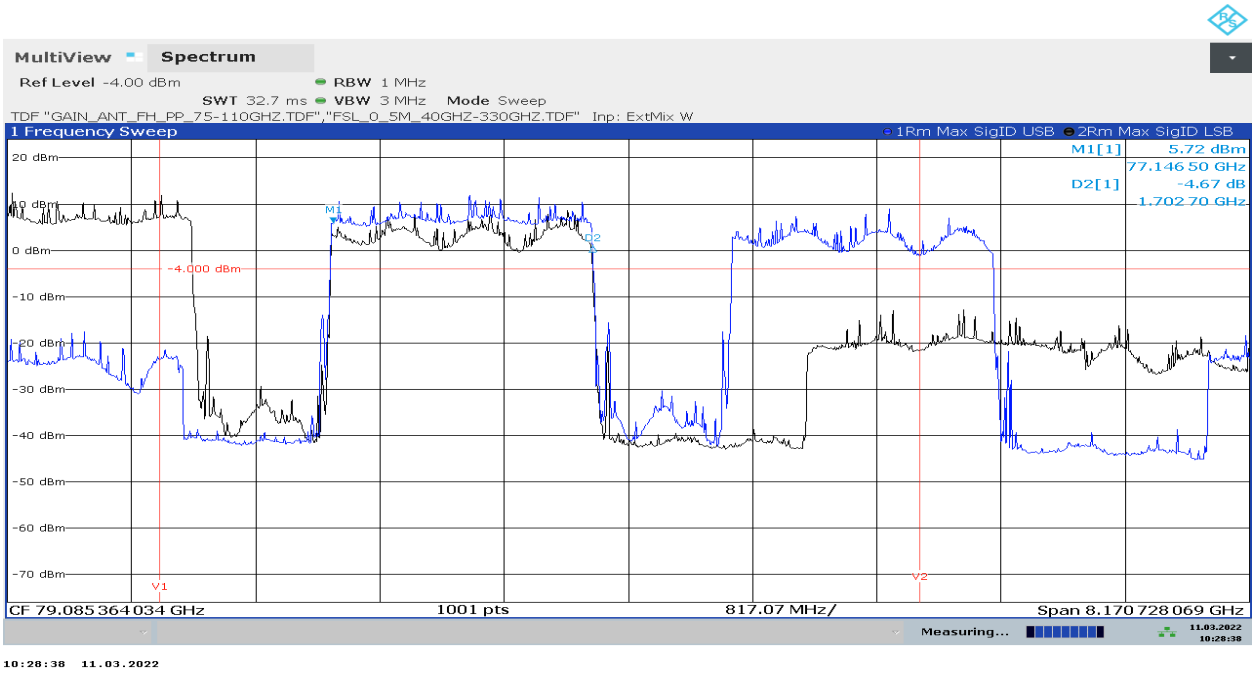


Remark: Carrier_76.5 GHz,
Both USB and LSB are completely overlapping in Carrier signal, therefore Carrier signal are real signal and which are not overlapping they are ghost signals.

D000_02_overview 75G to 90 GHz_Carrier_S05

Remark: Carrier_78 GHz,
Both USB and LSB are completely overlapping in Carrier signal, therefore Carrier signal are real signal and which are not overlapping they are ghost signals.

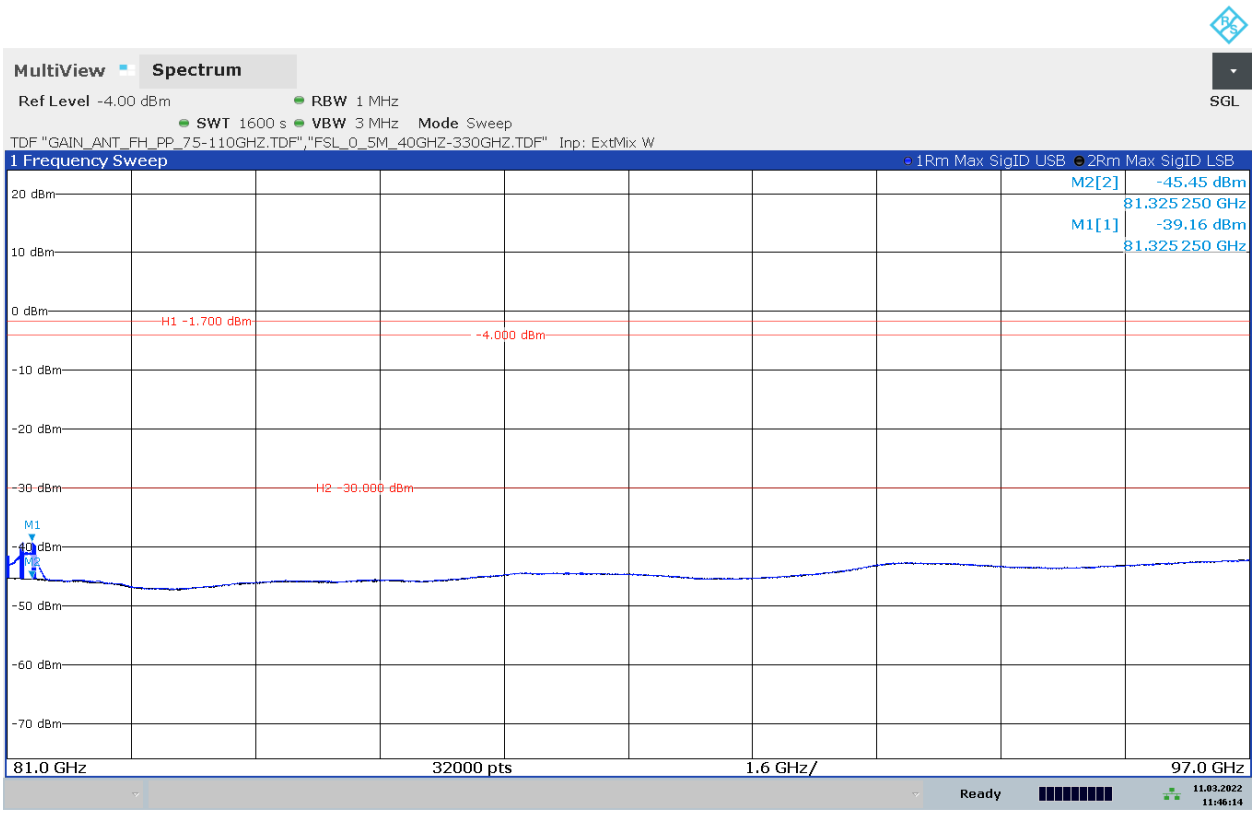
D001_02_overview_75G to 80 GHz_Carrier_S05



Remark: Carrier_78 GHz,
Both USB and LSB are completely overlapping in Carrier signal, therefore Carrier signal are real signal and which are not overlapping they are ghost signals.

5.12 81 GHz – 97 GHz, ANT VER + HOR, SigID USB+LSB, sweep time: 1600 s

D135_T01_TX_RSE_81G_97GHz_EUT_90_Ant_V



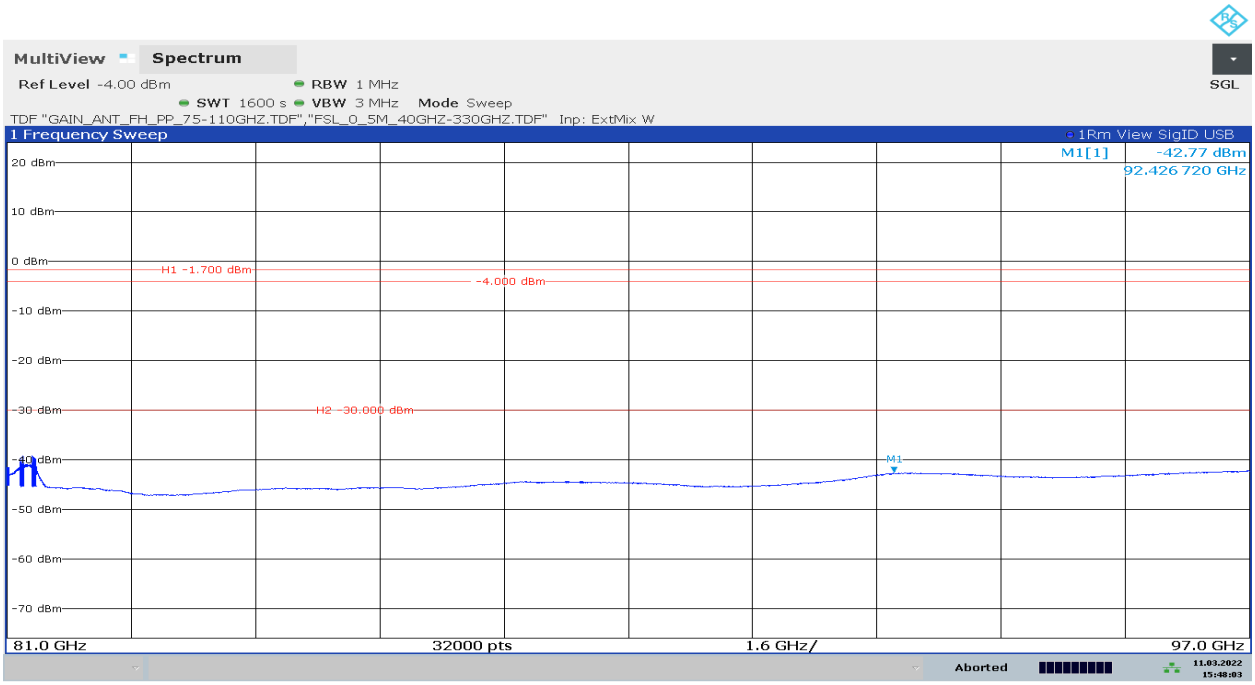
11:46:14 11.03.2022

Remark 1: Signal ID function is activated in order to identify image signals. No real signal is observed. The limits are -1.7 dBm (FCC) and -30 dBm (ISED)*.

* The signal ID function is activated to identify image signals produced by the external mixer. The emissions are only real, if the trace USB and LSB completely overlap.

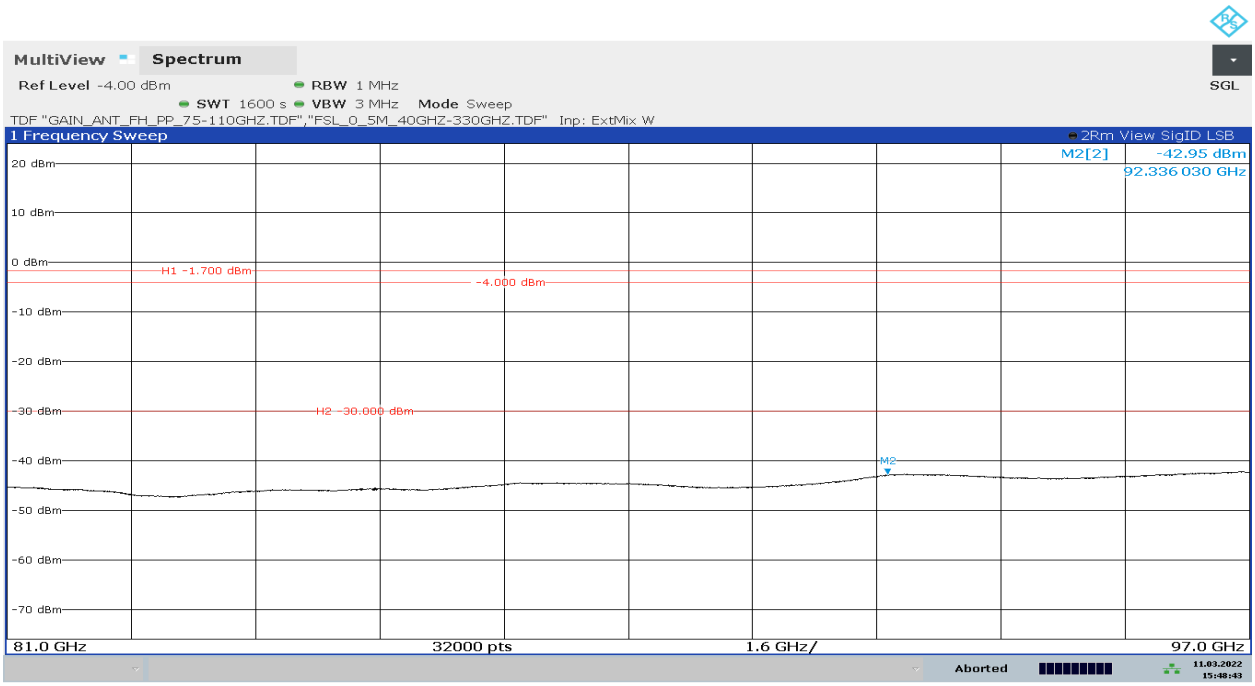
USB and LSB are given below in seperate Diagrams only for information

D135_T01_TX_RSE_81G_97GHz_EUT_90_Ant_V_USB



15:48:03 11.03.2022

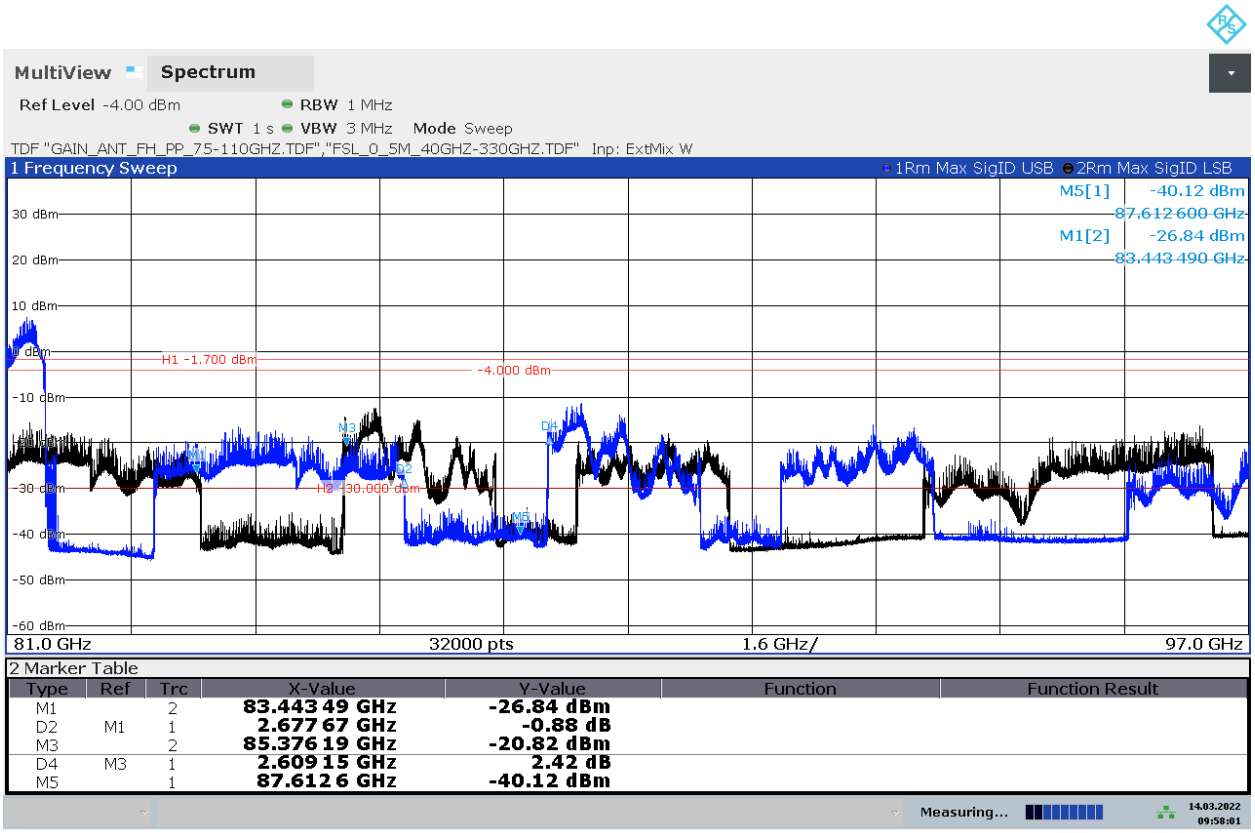
D135_T01_TX_RSE_81G_97GHz_EUT_90_Ant_V_LSB



15:48:43 11.03.2022

Remark: Signal ID function is activated in order to identify image signals. No real signal is observed. The limits are -1.7 dBm (FCC) and -30 dBm (ISED).

D136_T01_TX_RSE_81G_97GHz_EUT_90_Ant_H_1s



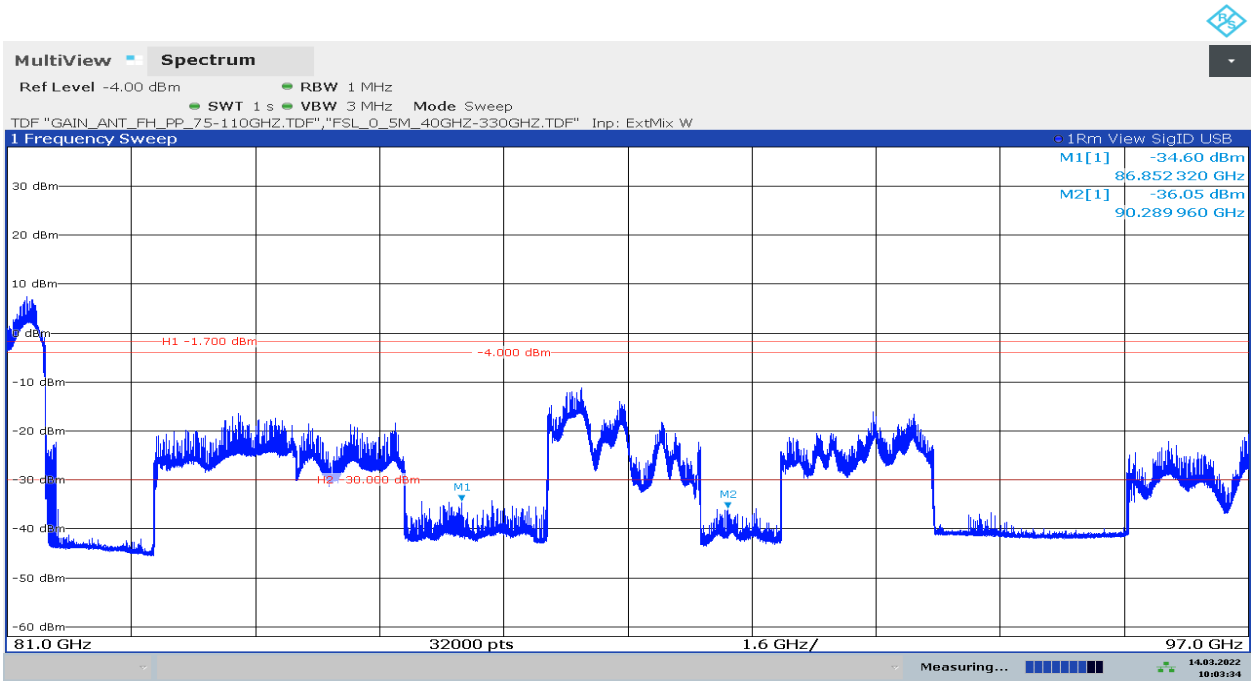
Remark 1: Signal ID function is activated in order to identify image signals. No real signal is observed. The limits are -1.7 dBm (FCC) and -30 dBm (ISED)*.

* The signal ID function is activated to identify image signals produced by the external mixer. The emissions are only real, if the trace USB and LSB completely overlap.

Remark 2: **the emissions over the limit are ghost signals, because the traces USB and LSB do not overlap. Such emissions are irrelevant to the limit.**

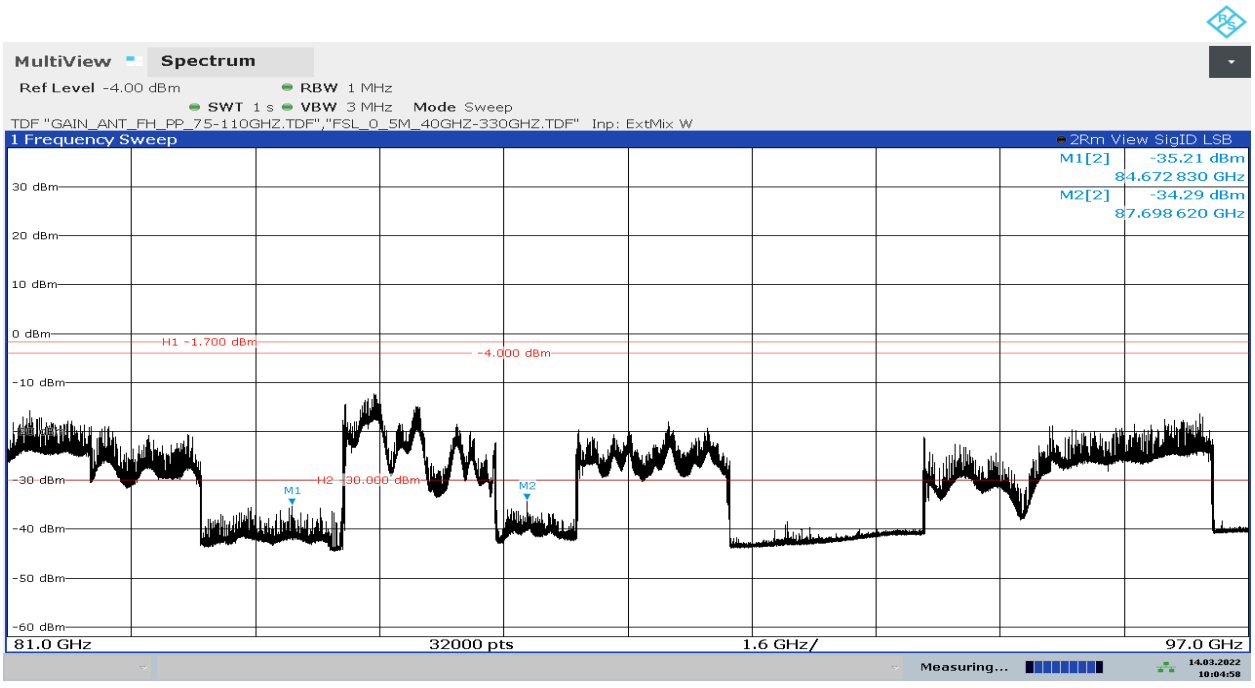
USB and LSB are given below in seperate Diagrams only for information

D136_T01_TX_RSE_81G_97GHz_EUT_90_Ant_H_1s_USB



10:03:34 14.03.2022

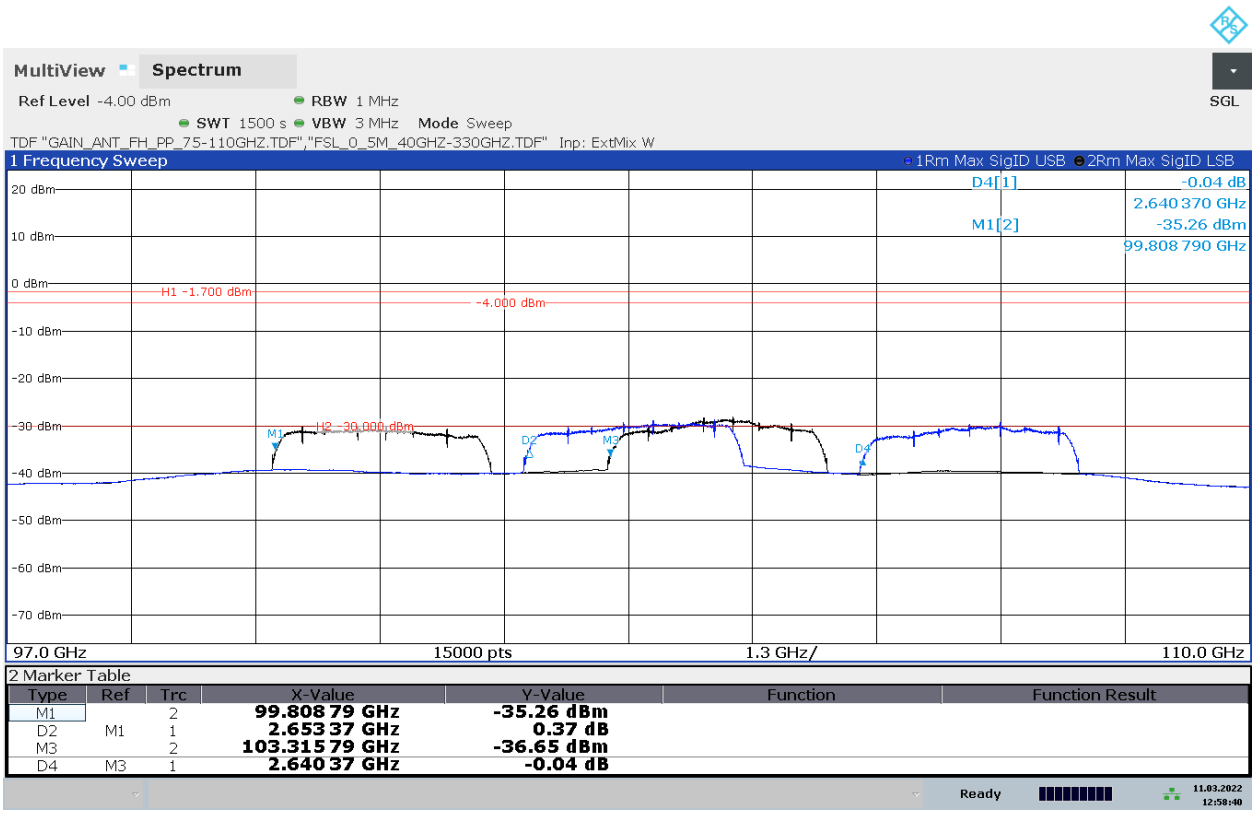
D136_T01_TX_RSE_81G_97GHz_EUT_90_Ant_H_1s_LSB



10:04:59 14.03.2022

5.13 97 GHz – 110 GHz, ANT VER + HOR, SigID USB + LSB, sweep time: 1500 s

D137_T01_TX_RSE_97G_110GHz_EUT_90_Ant_V



12:58:40 11.03.2022

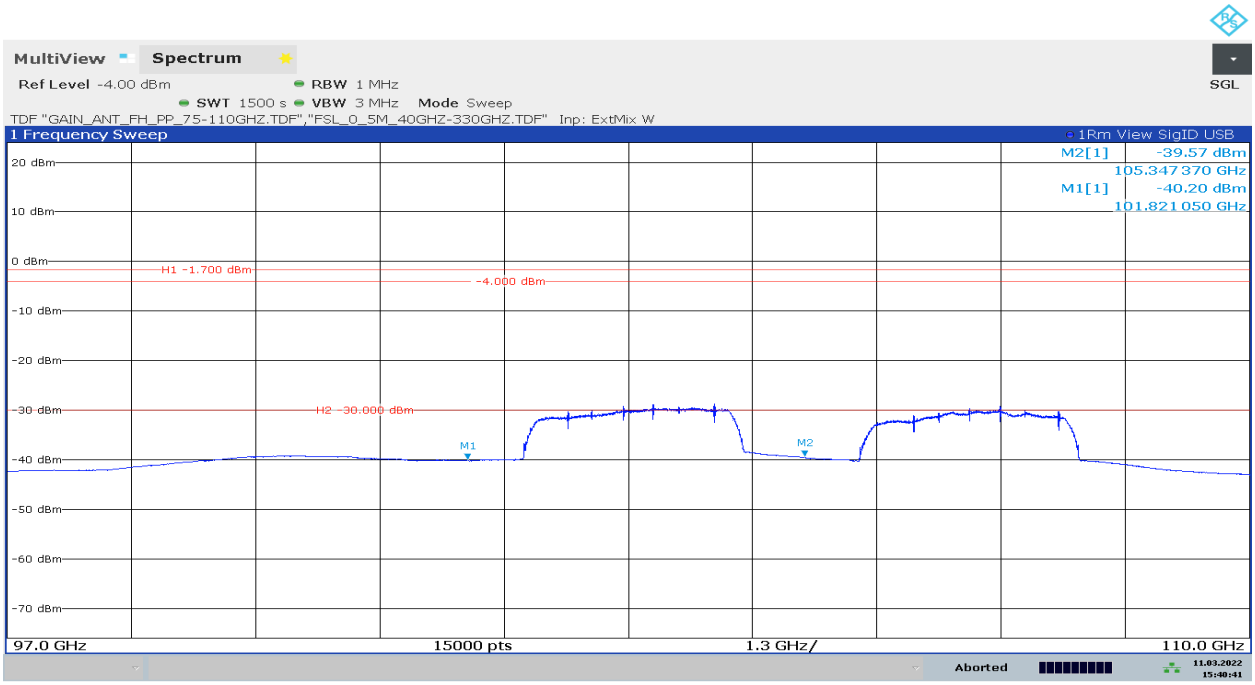
Remark 1: Signal ID function is activated in order to identify image signals. No real signal is observed. The limits are -1.7 dBm (FCC) and -30 dBm (ISED)*.

* The signal ID function is activated to identify image signals produced by the external mixer. The emissions are only real, if the trace USB and LSB completely overlap.

Remark 2: **the emissions over the limit are ghost signals, because the traces USB and LSB do not overlap. Such emissions are irrelevant to the limit.**

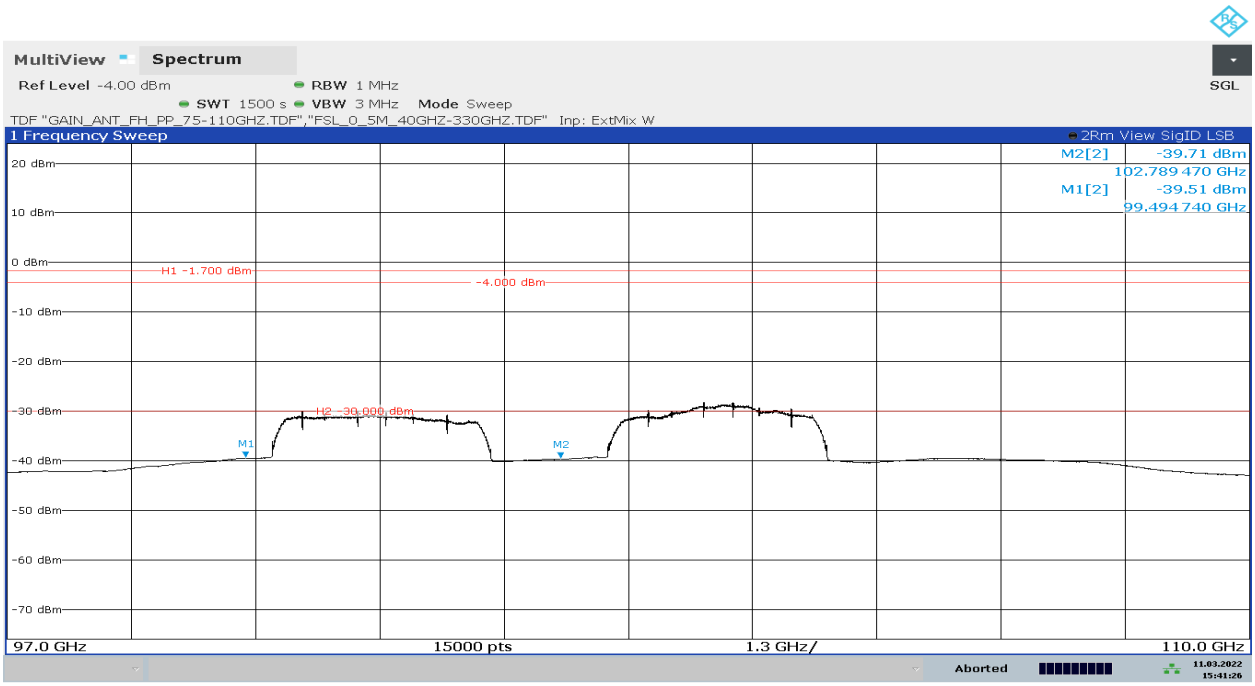
USB and LSB are given below in seperate Diagrams only for information

D137_T01_TX_RSE_97G_110GHz_EUT_90_Ant_V_USB



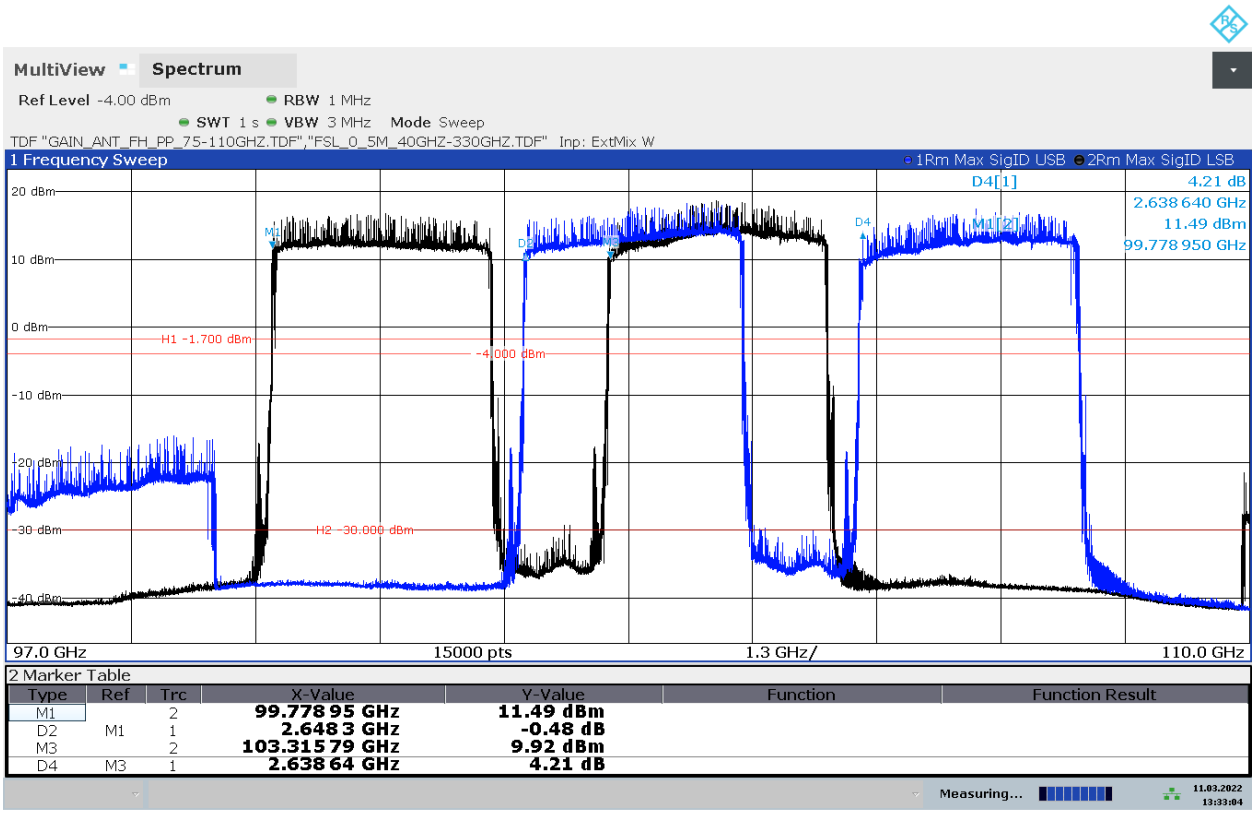
15:40:41 11.03.2022

D137_T01_TX_RSE_97G_110GHz_EUT_90_Ant_V_LSB



15:41:26 11.03.2022

D138_T01_TX_RSE_97G_110GHz_EUT_90_Ant_H_sweep time_1 s



13:33:04 11.03.2022

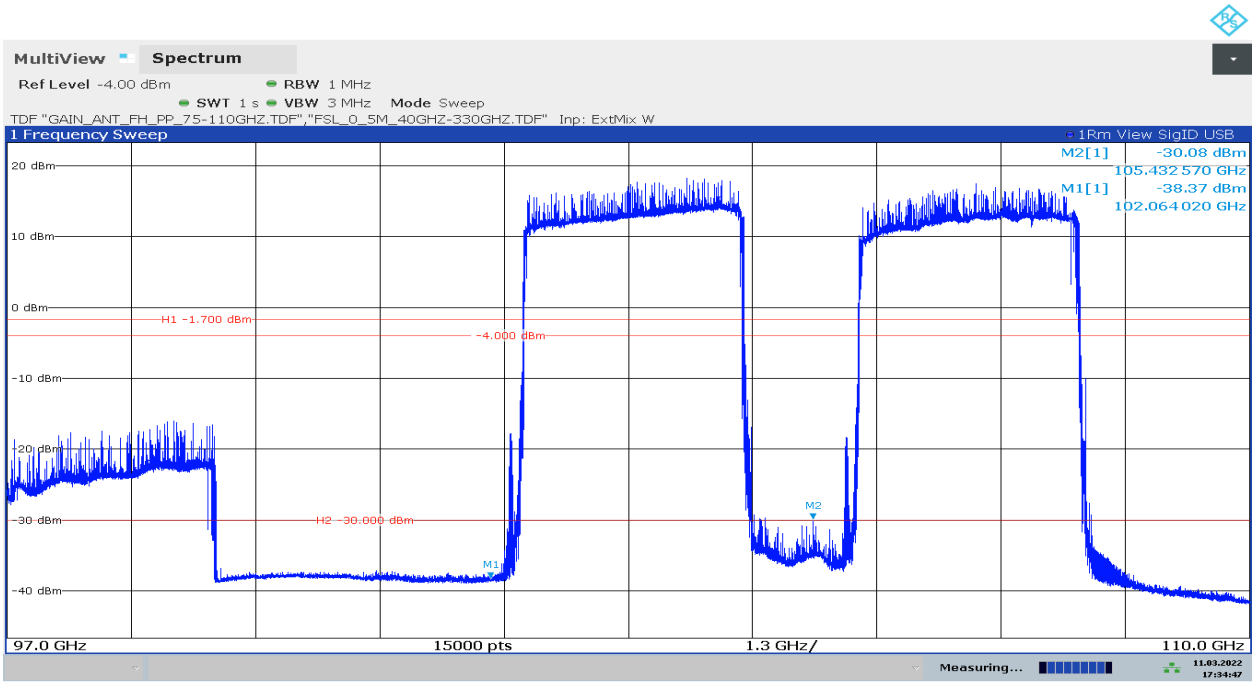
Remark 1: Signal ID function is activated in order to identify image signals. No real signal is observed. The limits are -1.7 dBm (FCC) and -30 dBm (ISED)*.

* The signal ID function is activated to identify image signals produced by the external mixer. The emissions are only real, if the trace USB and LSB completely overlap.

Remark 2: **the emissions over the limit are ghost signals, because the traces USB and LSB do not overlap. Such emissions are irrelevant to the limit.**

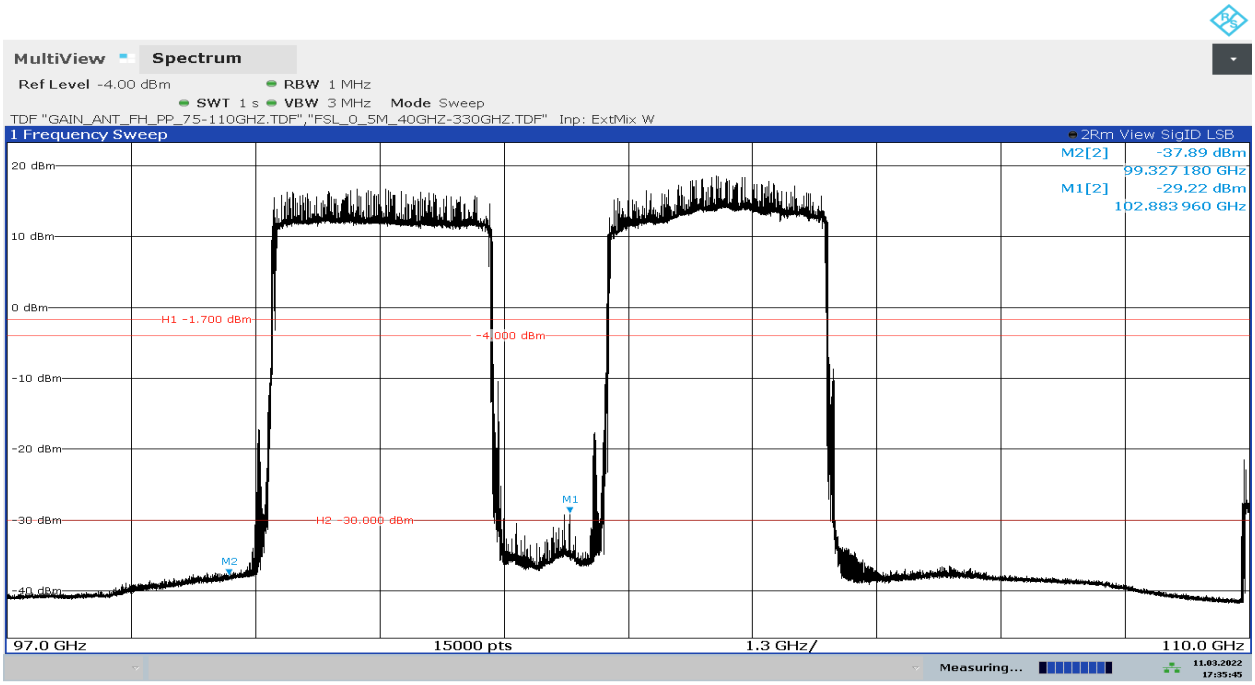
USB and LSB are given below in seperate Diagrams only for information

D138_T01_TX_RSE_97G_110GHz_EUT_90_Ant_H_USB



17:34:47 11.03.2022

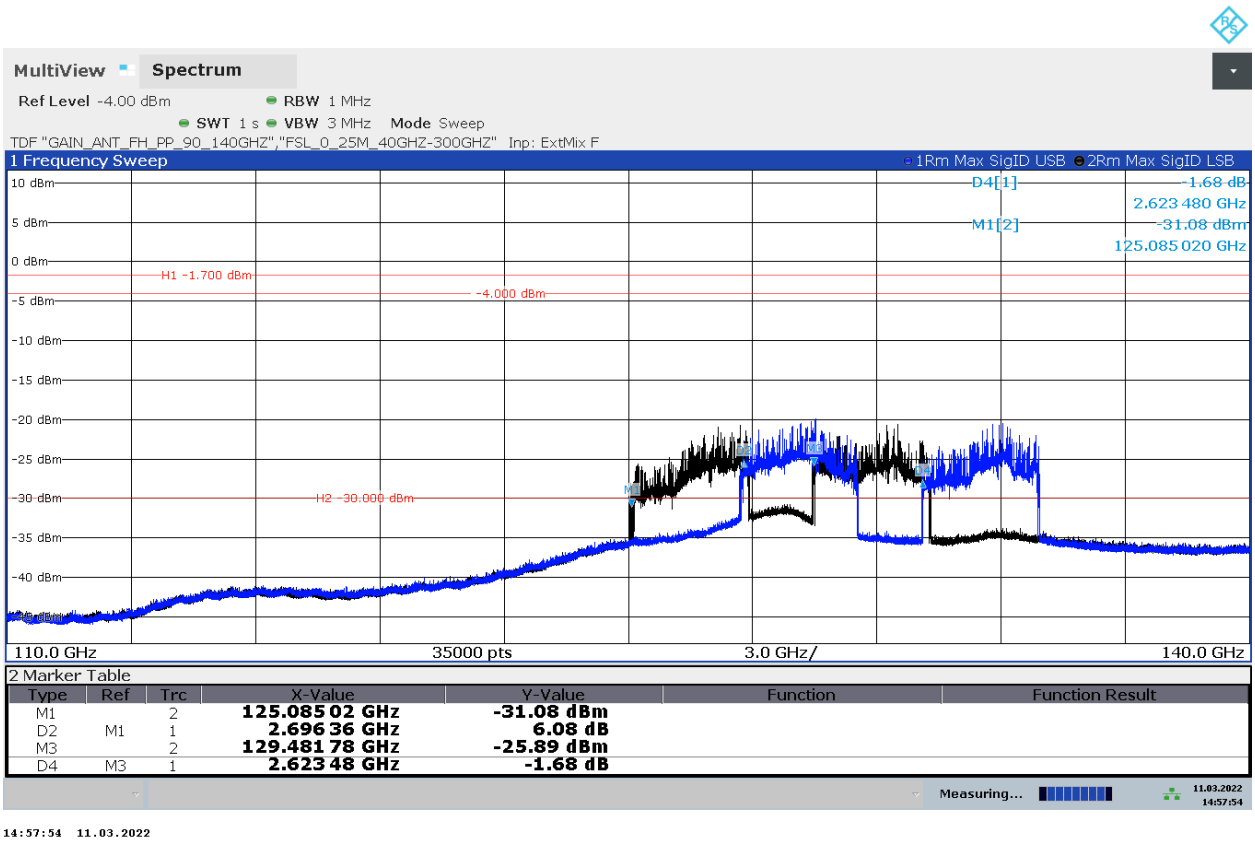
D138_T01_TX_RSE_97G_110GHz_EUT_90_Ant_H_LSB



17:35:45 11.03.2022

5.14 110 GHz – 140 GHz, ANT HOR + VER, SigID USB + LSB, sweep time: 1 s

D139_T01_TX_RSE_110G_140GHz_EUT_90_Ant_V



14:57:54 11.03.2022

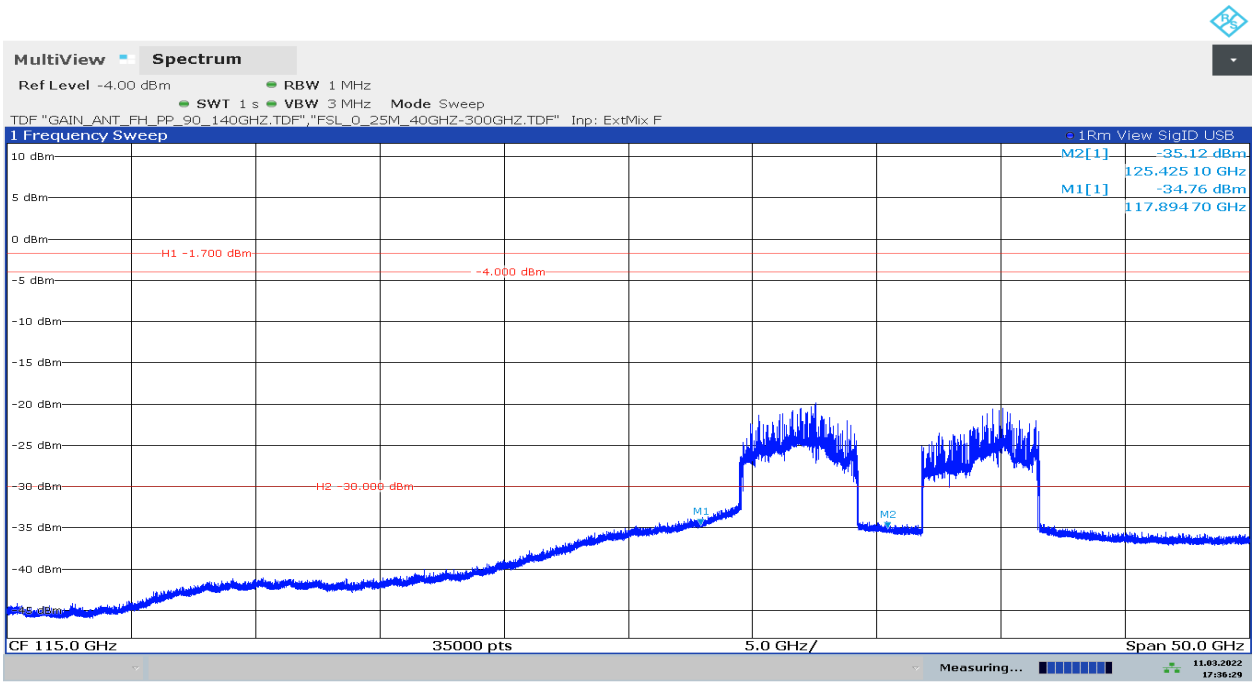
Remark 1: Signal ID function is activated in order to identify image signals. No real signal is observed. The limits are -1.7 dBm (FCC) and -30 dBm (ISED)*.

* The signal ID function is activated to identify image signals produced by the external mixer. The emissions are only real, if the trace USB and LSB completely overlap.

Remark 2: **the emissions over the limit are ghost signals, because the traces USB and LSB do not overlap. Such emissions are irrelevant to the limit.**

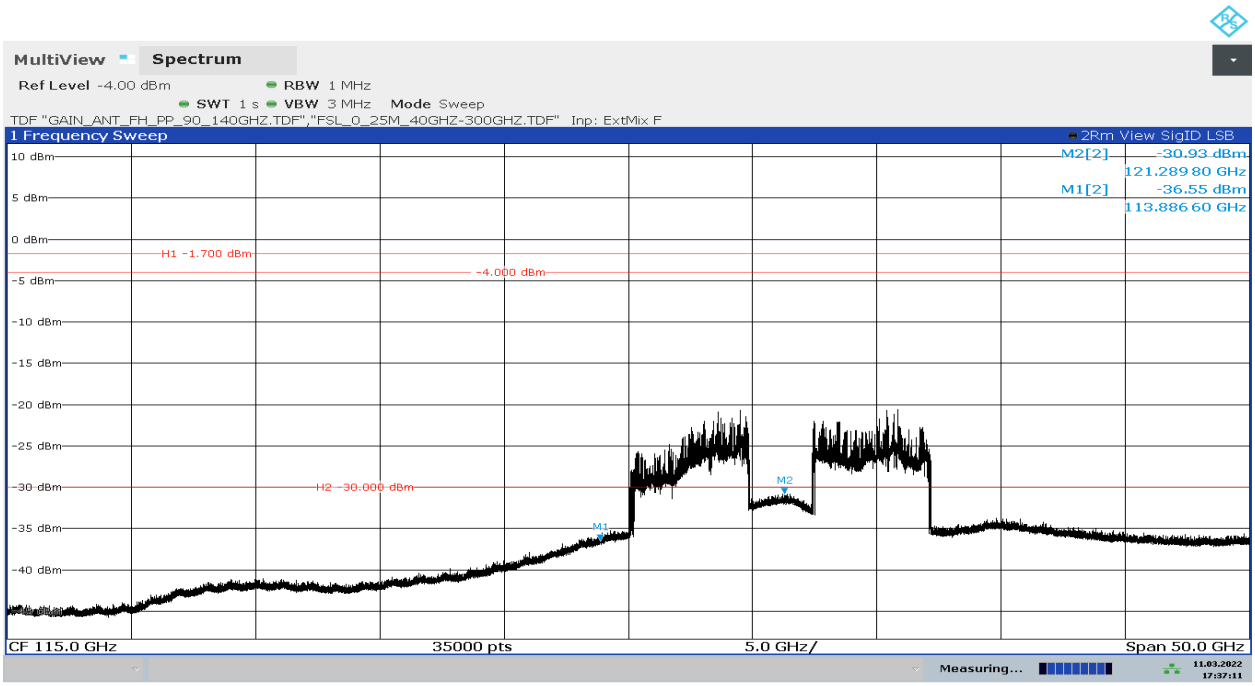
USB and LSB are given below in seperate Diagrams only for information

D139_T01_TX_RSE_110G_140GHz_EUT_90_Ant_V_USB



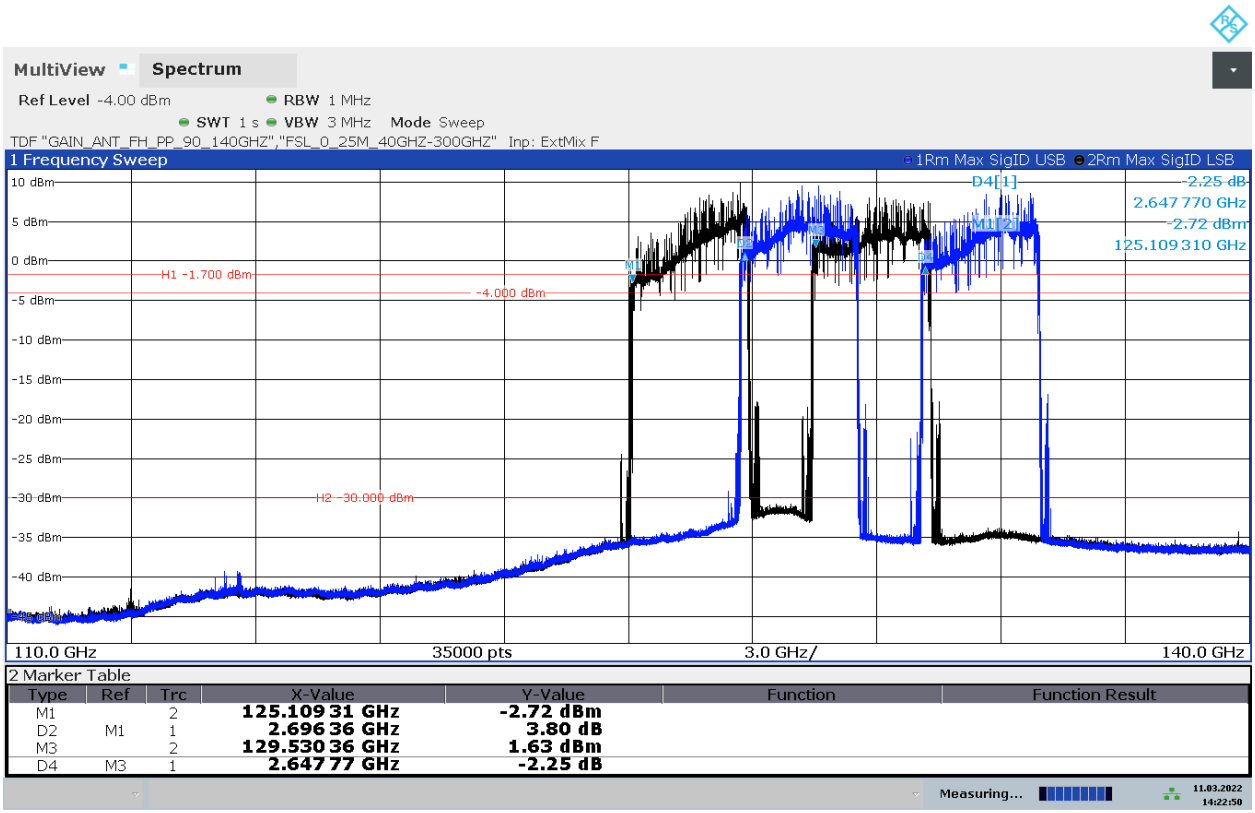
17:36:29 11.03.2022

D139_T01_TX_RSE_110G_140GHz_EUT_90_Ant_V_LSB



17:37:11 11.03.2022

D140_T01_TX_RSE_110G_140GHz_EUT_90_Ant_H



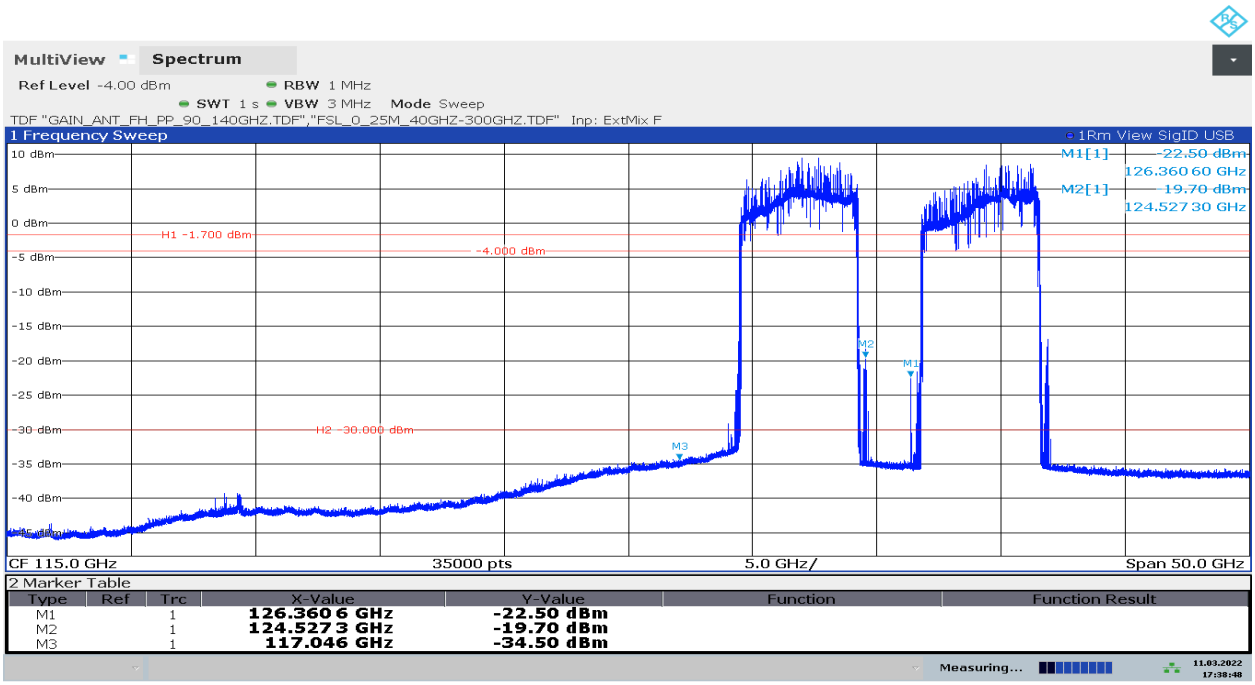
14:22:50 11.03.2022

Remark 1: Signal ID function is activated in order to identify image signals. No real signal is observed. The limits are -1.7 dBm (FCC) and -30 dBm (ISED)*.

* The signal ID function is activated to identify image signals produced by the external mixer. The emissions are only real, if the trace USB and LSB completely overlap.

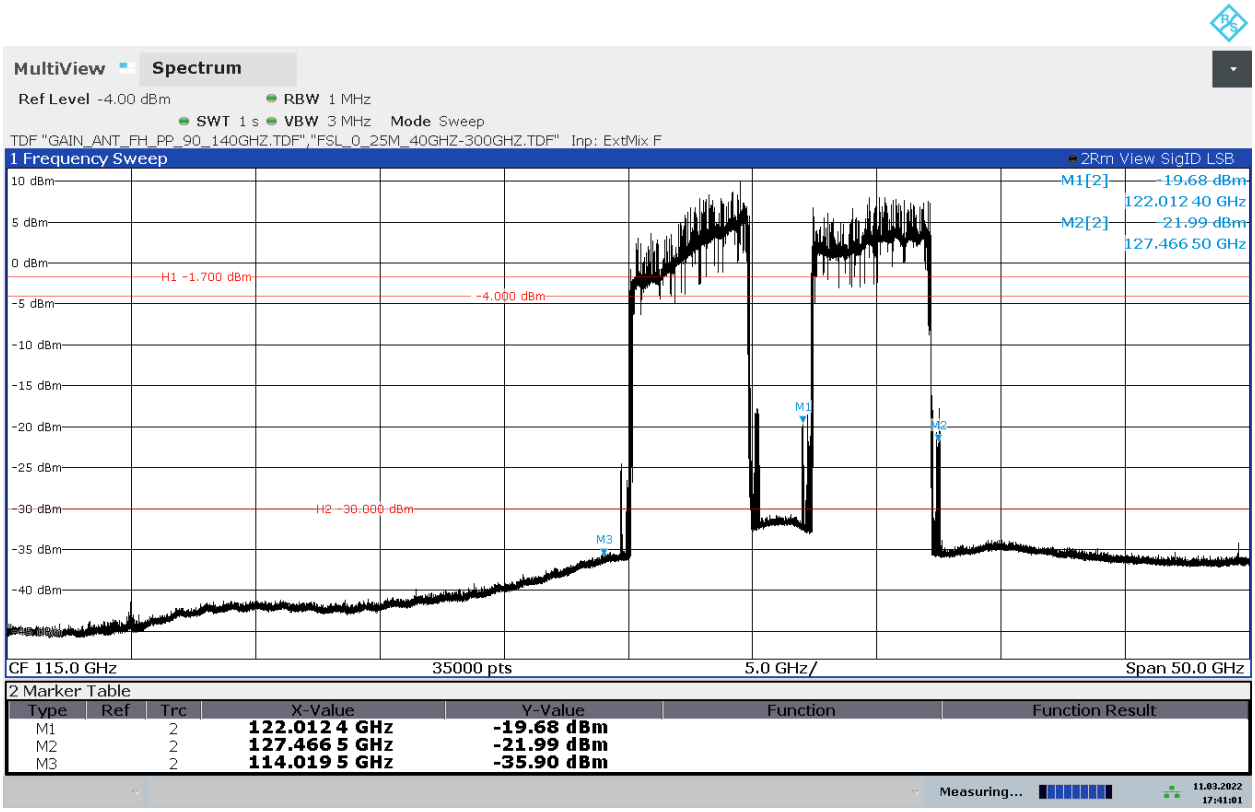
Remark 2: **the emissions over the limit are ghost signals, because the traces USB and LSB do not overlap. Such emissions are irrelevant to the limit.**

D140_T01_TX_RSE_110G_140GHz_EUT_90_Ant_H_USB



17:38:48 11.03.2022

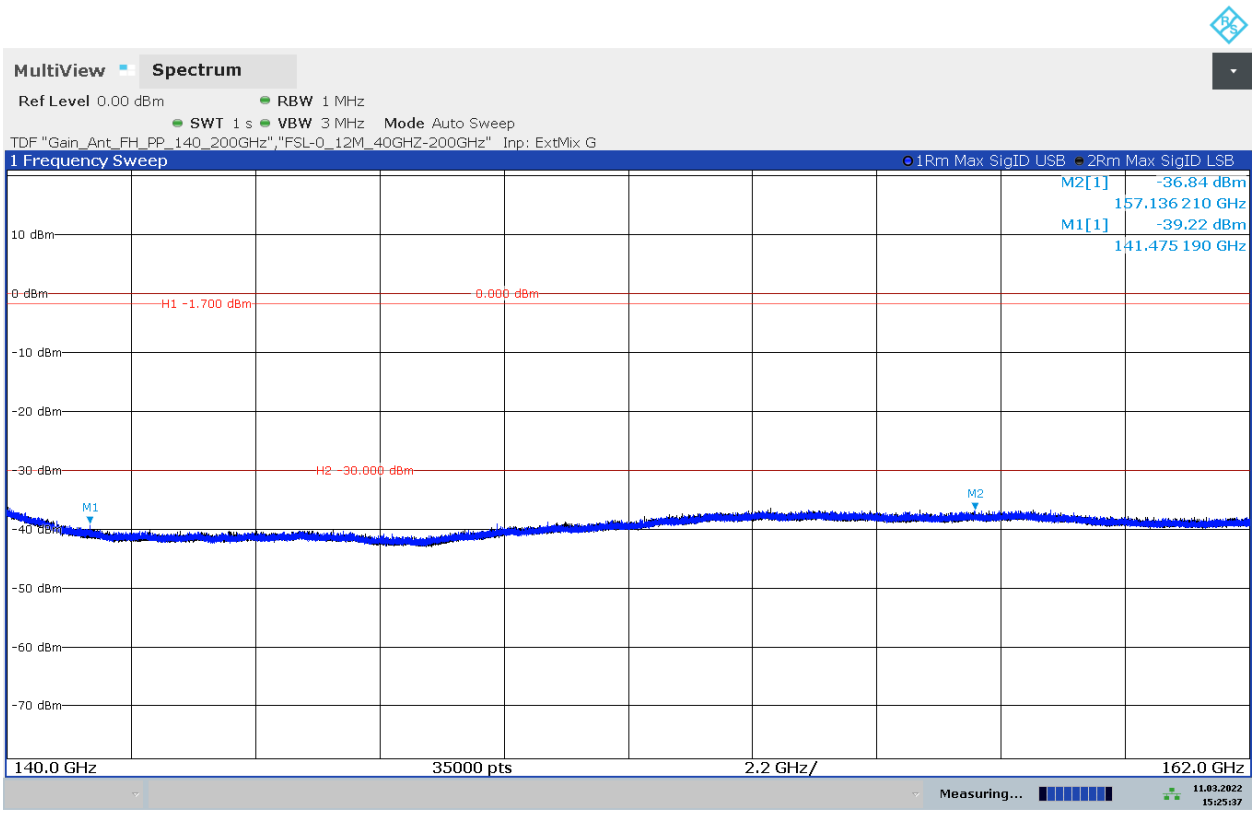
D140_T01_TX_RSE_110G_140GHz_EUT_90_Ant_H_LSB



17:41:01 11.03.2022

5.15 140 GHz – 162 GHz, ANT VER + HOR, SigID USB + LSB, sweep time: 1 s

D141_T01_TX_RSE_140G_162GHz_EUT_90_Ant_V



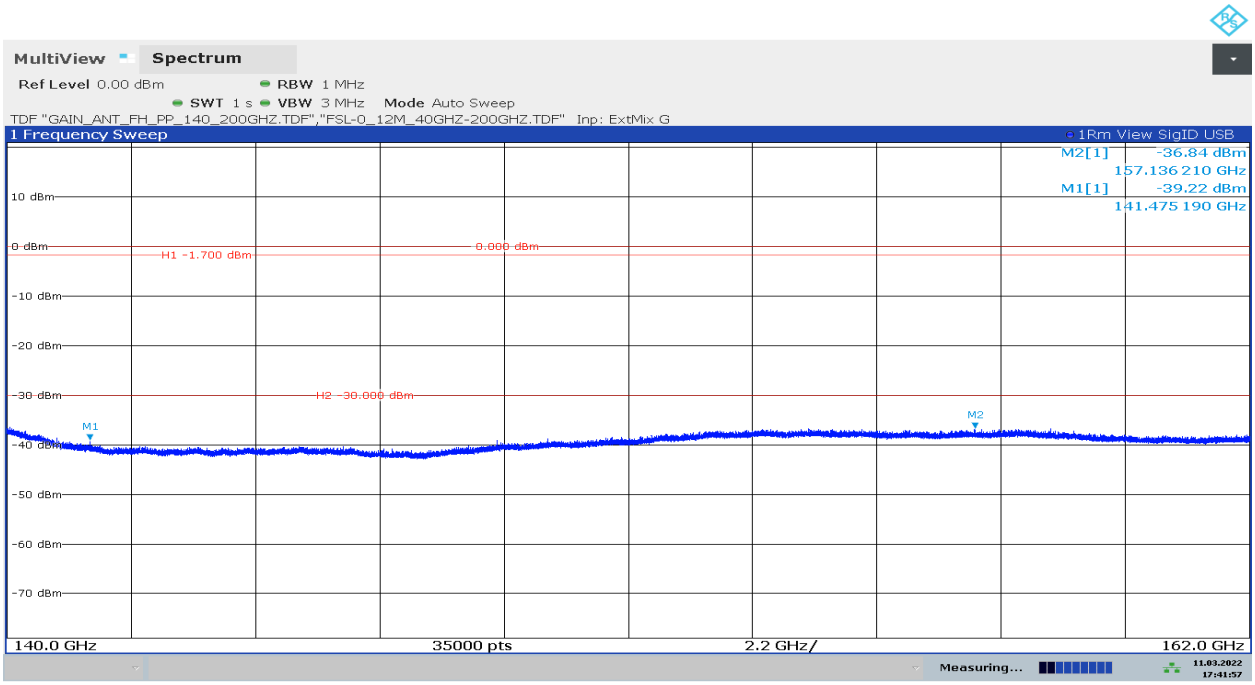
15:25:37 11.03.2022

Remark 1: Signal ID function is activated in order to identify image signals. No real signal is observed. The limits are -1.7 dBm (FCC) and -30 dBm (ISED)*.

* The signal ID function is activated to identify image signals produced by the external mixer. The emissions are only real, if the trace USB and LSB completely overlap.

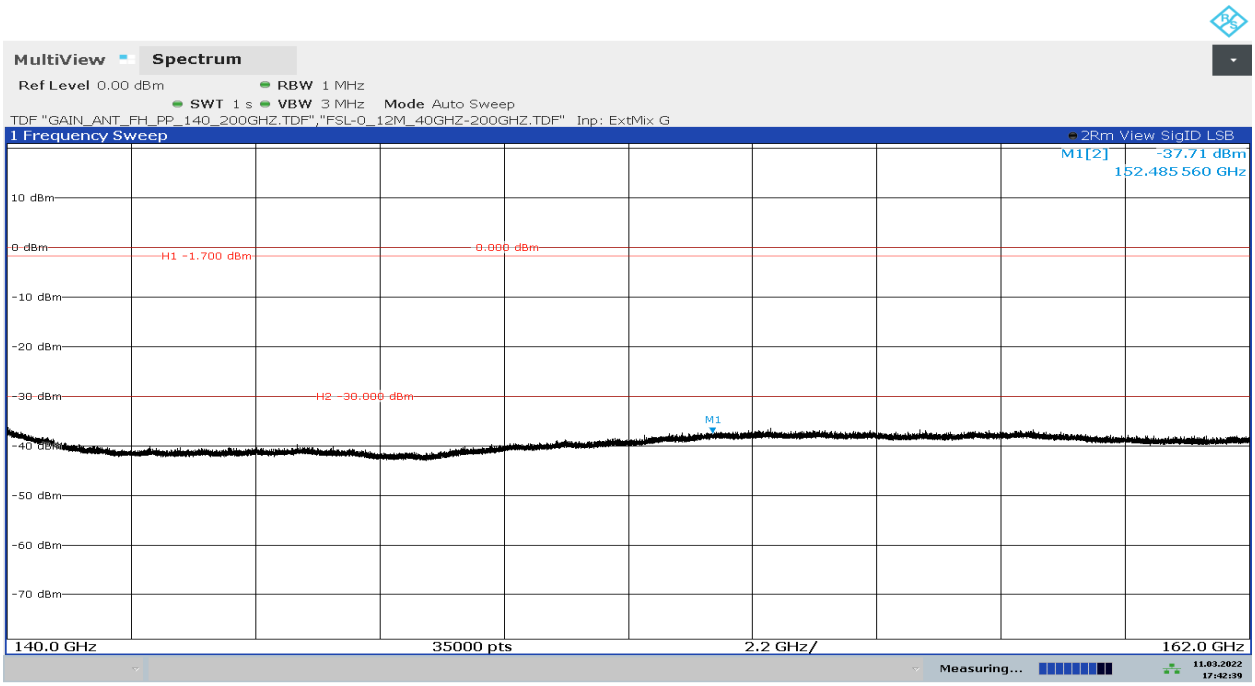
USB and LSB are given below in seperate Diagrams only for information

D141_T01_TX_RSE_140G_162GHz_EUT_90_Ant_V_USB



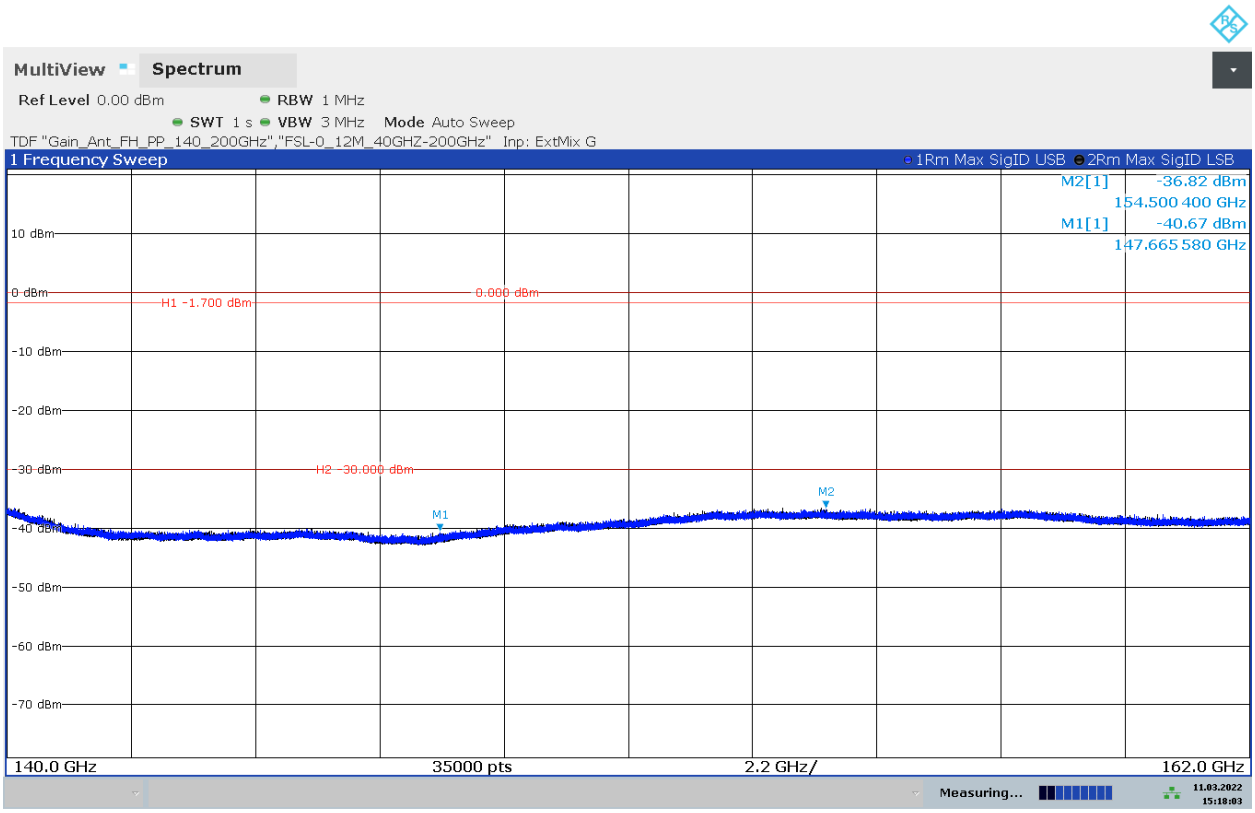
17:41:58 11.03.2022

D141_T01_TX_RSE_140G_162GHz_EUT_90_Ant_V_LSB



17:42:39 11.03.2022

D142_T01_TX_RSE_140G_162GHz_EUT_90_Ant_H



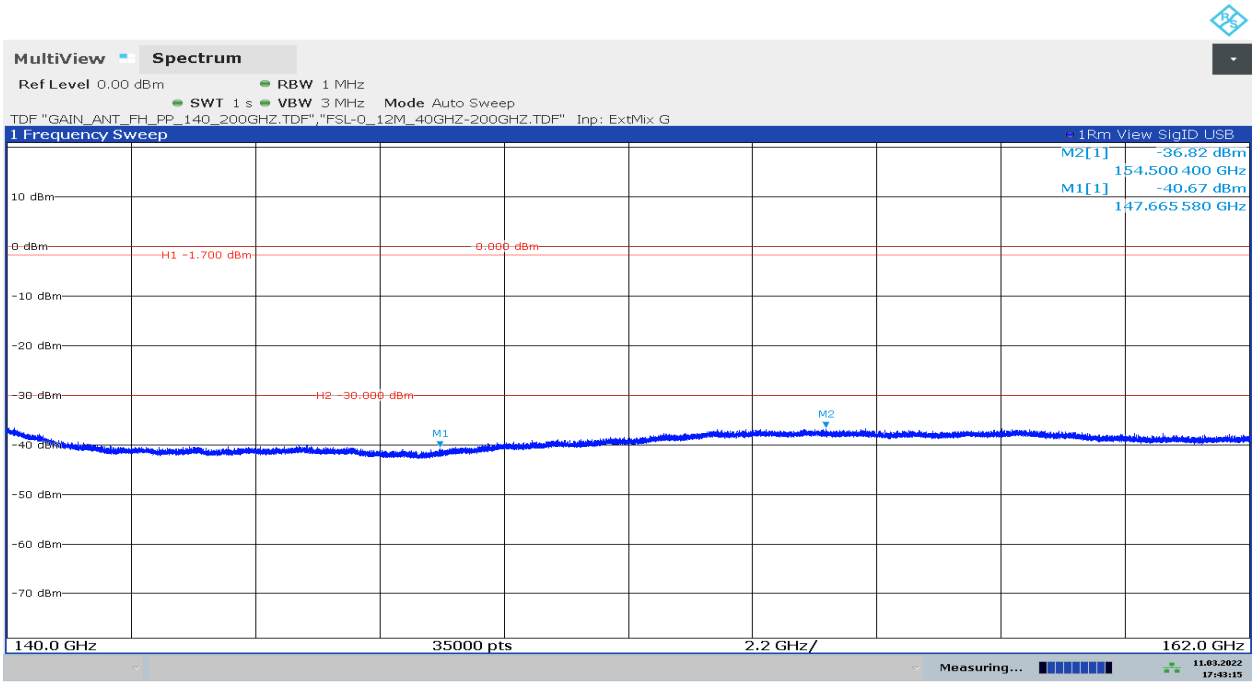
15:18:03 11.03.2022

Remark 1: Signal ID function is activated in order to identify image signals. No real signal is observed. The limits are -1.7 dBm (FCC) and -30 dBm (ISED)*.

* The signal ID function is activated to identify image signals produced by the external mixer. The emissions are only real, if the trace USB and LSB completely overlap.

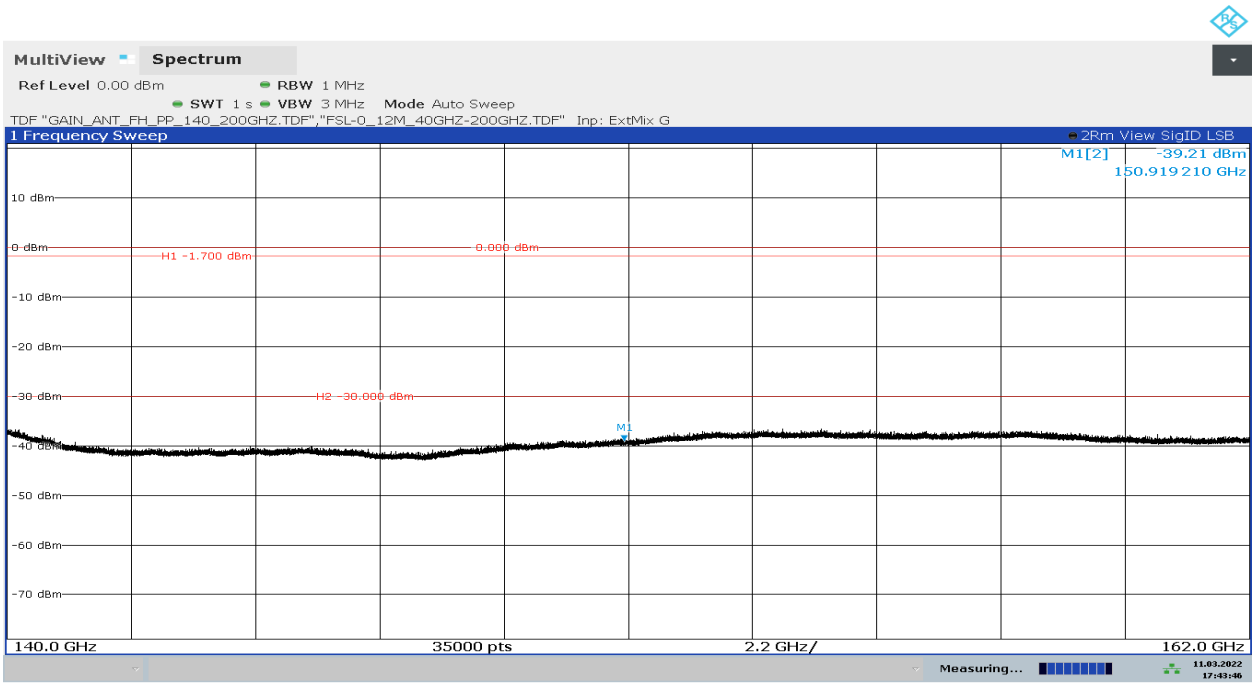
USB and LSB are given below in seperate Diagrams only for information

D142_T01_TX_RSE_140G_162GHz_EUT_90_Ant_H_USB



17:43:15 11.03.2022

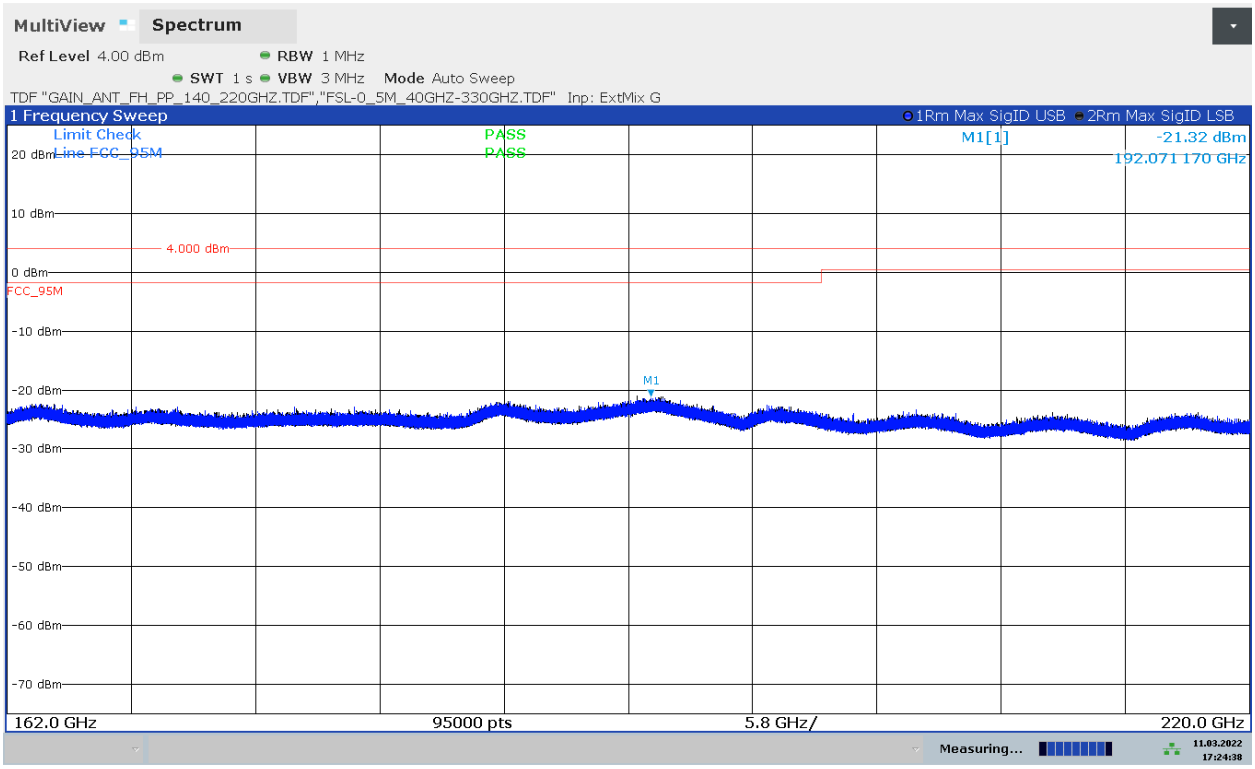
D142_T01_TX_RSE_140G_162GHz_EUT_90_Ant_H_LSB



17:43:46 11.03.2022

5.16 162 GHz – 220 GHz, ANT VER + HOR, SigID USB + LSB, sweep time: 1 s

D143_T01_TX_RSE_162G_220GHz_EUT_90_Ant_V



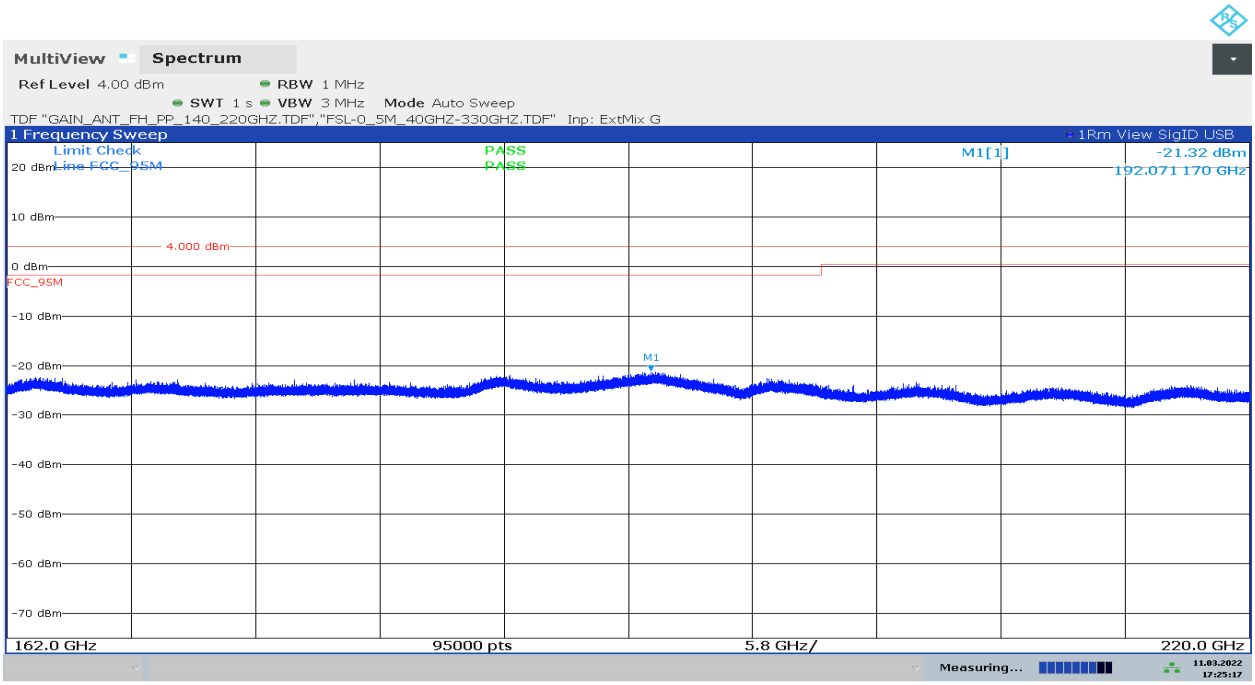
17:24:38 11.03.2022

Remark: Signal ID function is activated in order to identify image signals. No real signal is observed.
The limits for FCC are:
162G to 200 GHz is -1.7 dBm,
200G to 220 GHz is 0.5 dBm.

* The signal ID function is activated to identify image signals produced by the external mixer. The emissions are only real, if the trace USB and LSB completely overlap.

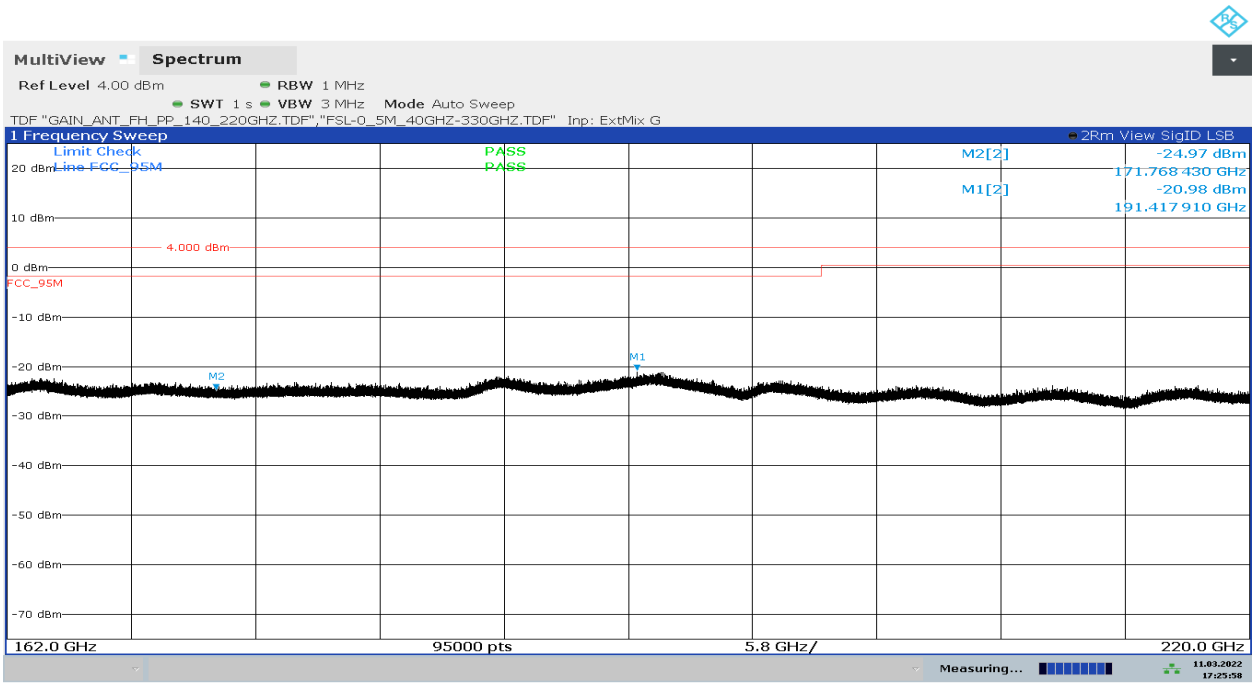
USB and LSB are given below in seperate Diagrams only for information

D143_T01_TX_RSE_162G_220GHz_EUT_90_Ant_V_USB



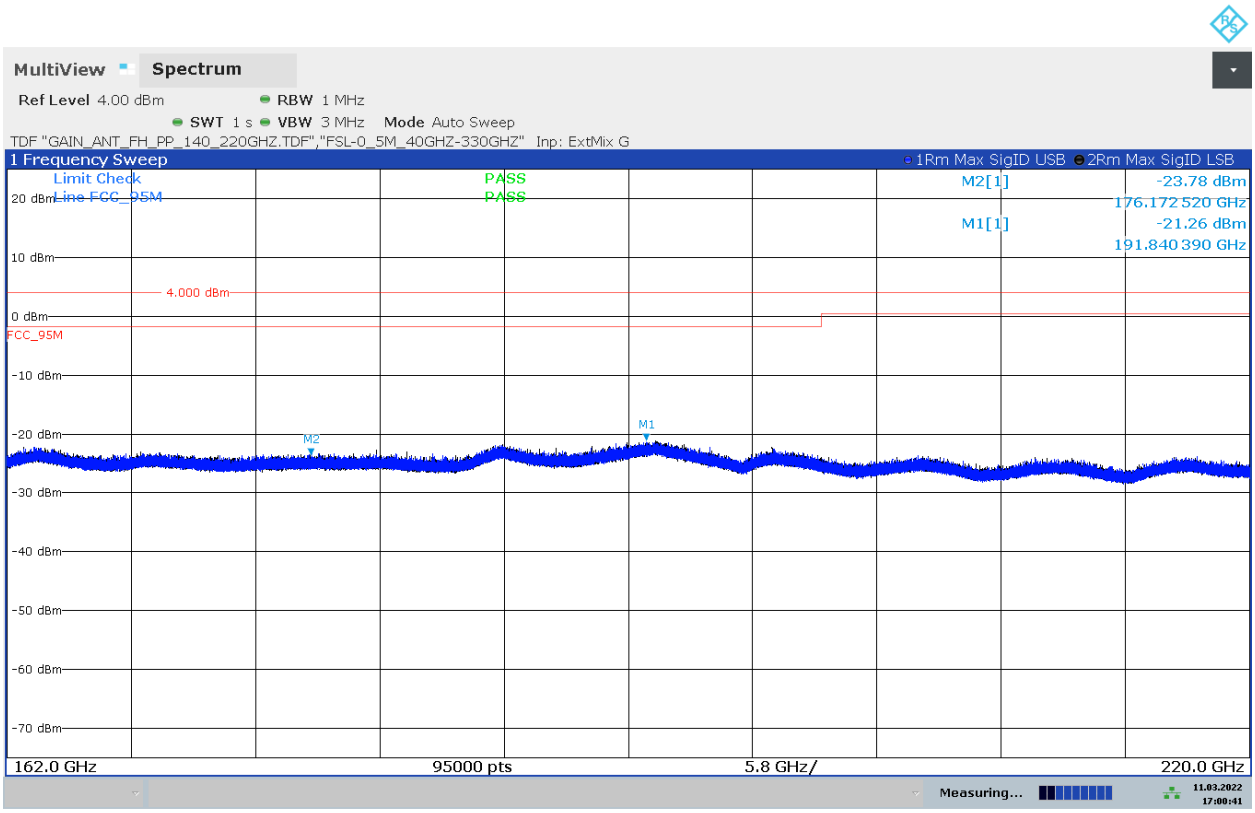
17:25:17 11.03.2022

D143_T01_TX_RSE_162G_220GHz_EUT_90_Ant_V_LSB



17:25:58 11.03.2022

D144_T01_TX_RSE_162G_220GHz_EUT_90_Ant_H



17:00:42 11.03.2022

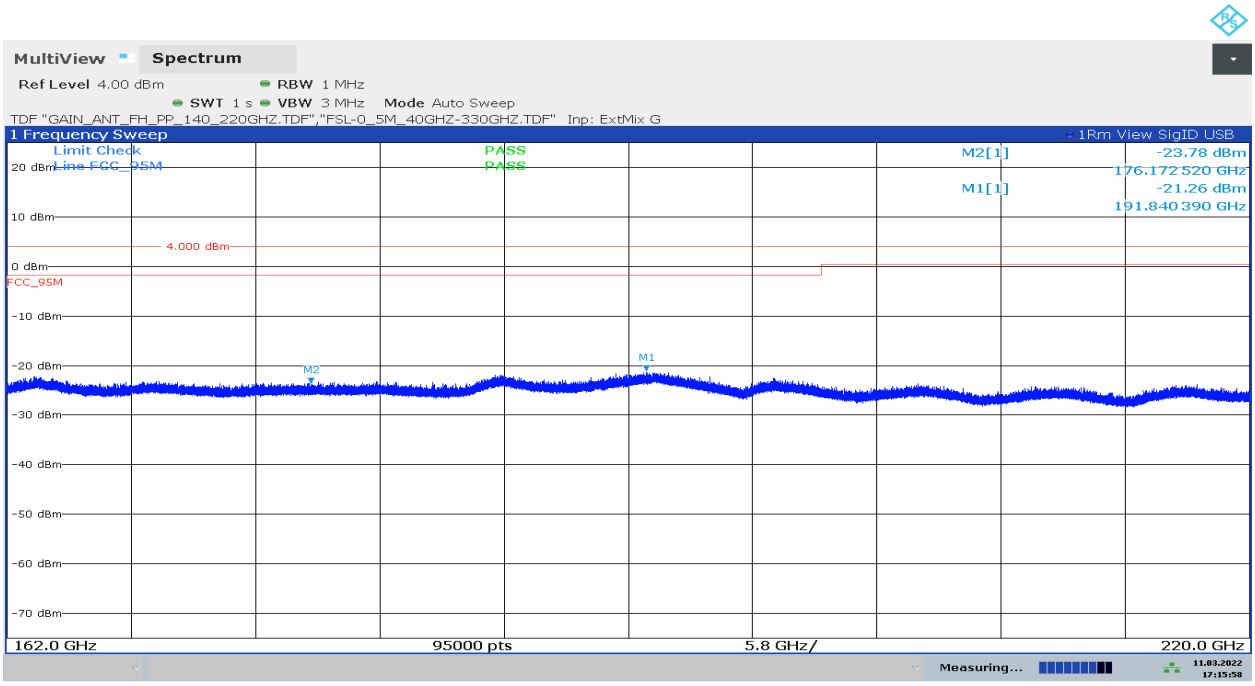
Remark: Signal ID function is activated in order to identify image signals. No real signal is observed.

The limits for FCC are:
162G to 200 GHz is -1.7 dBm,
200G to 220 GHz is 0.5 dBm.

* The signal ID function is activated to identify image signals produced by the external mixer. The emissions are only real, if the trace USB and LSB completely overlap.

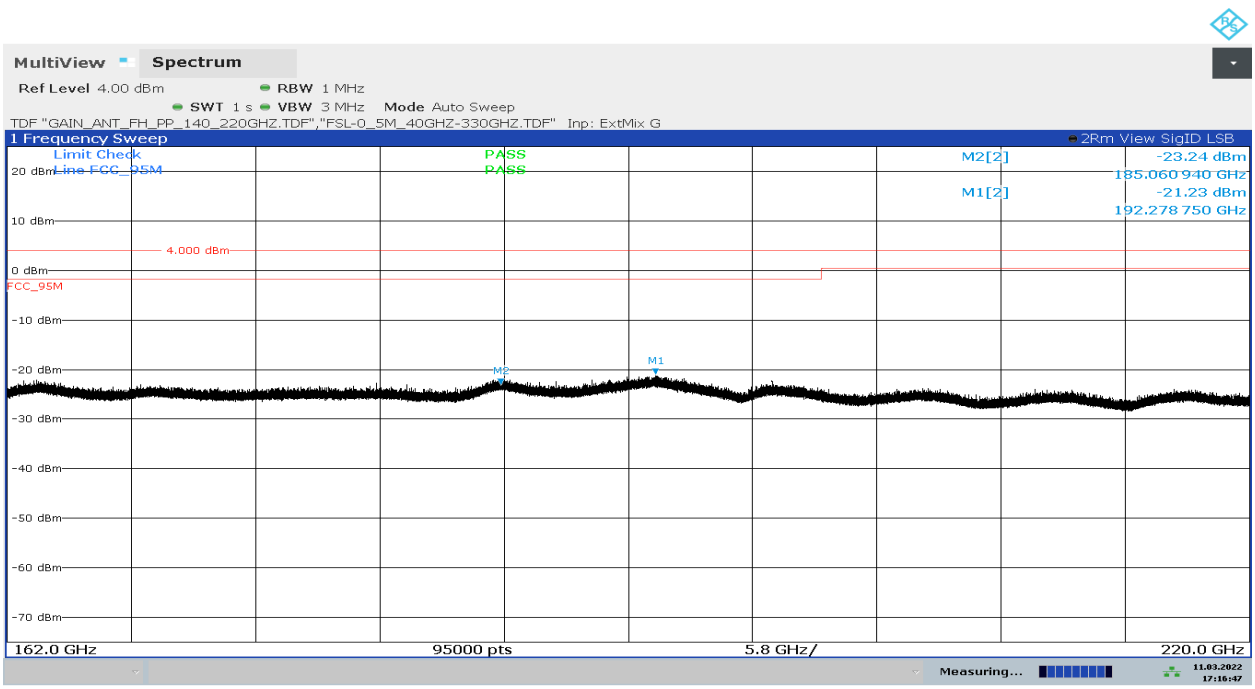
USB and LSB are given below in seperate Diagrams only for information

D144_T01_TX_RSE_162G_220GHz_EUT_90_Ant_H_USB



17:15:58 11.03.2022

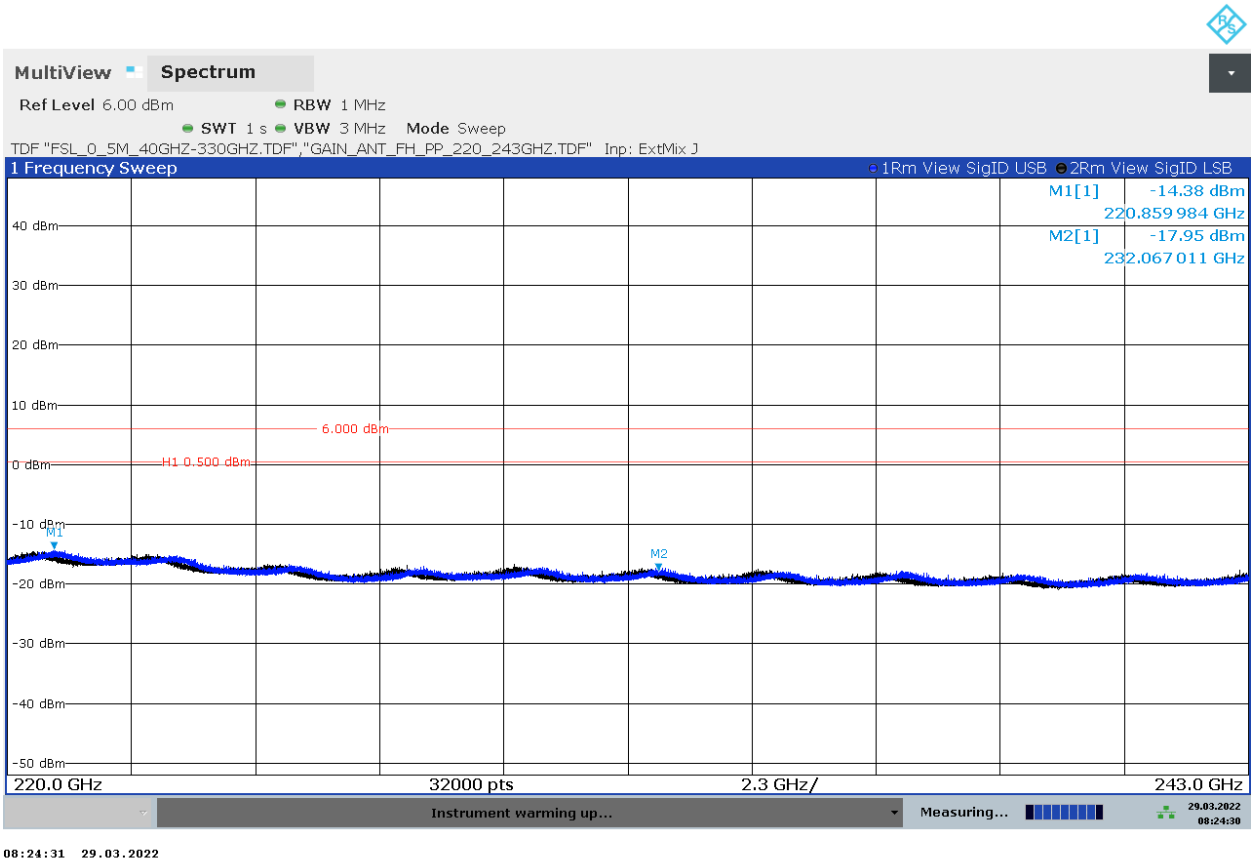
D144_T01_TX_RSE_162G_220GHz_EUT_90_Ant_H_LSB



17:16:47 11.03.2022

5.17 220 GHz – 243 GHz, ANT HOR + VER, SigID USB + LSB, sweep time: 1 s

D145_T01_TX_RSE_220G_243GHz_EUT_90_Ant_V



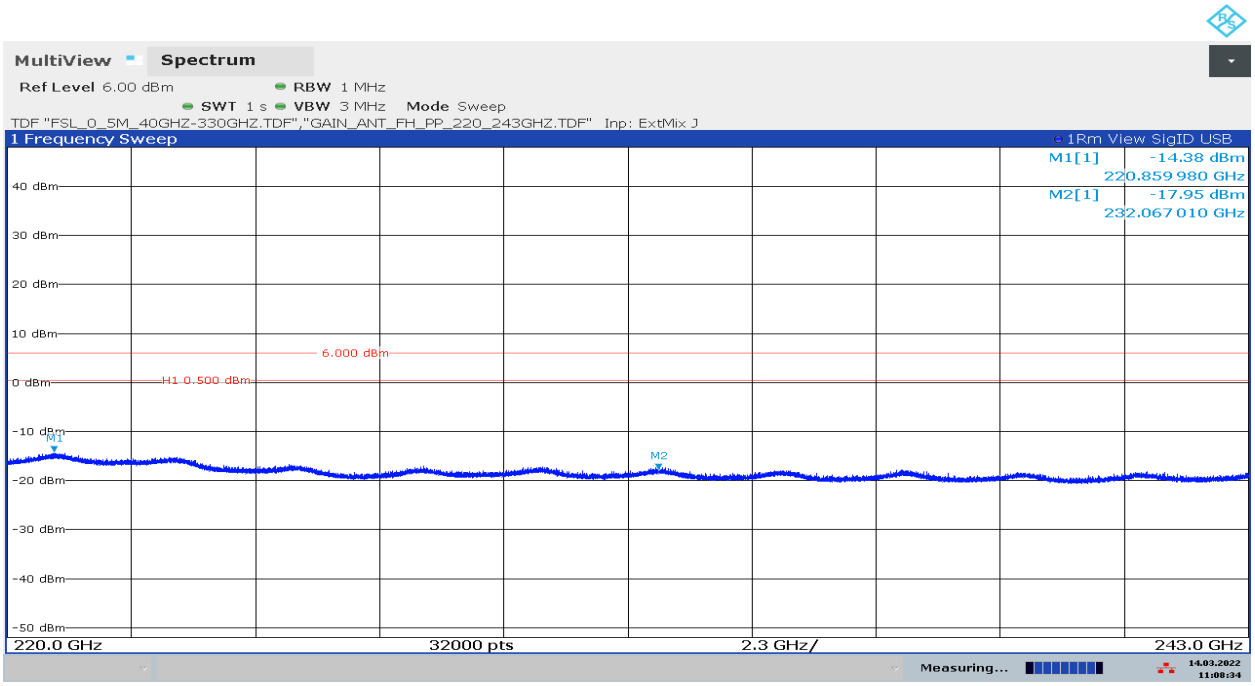
08:24:31 29.03.2022

Remark: Signal ID function is activated in order to identify image signals. No real signal is observed. The limits are 0.5 dBm (FCC).

* The signal ID function is activated to identify image signals produced by the external mixer. The emissions are only real, if the trace USB and LSB completely overlap.

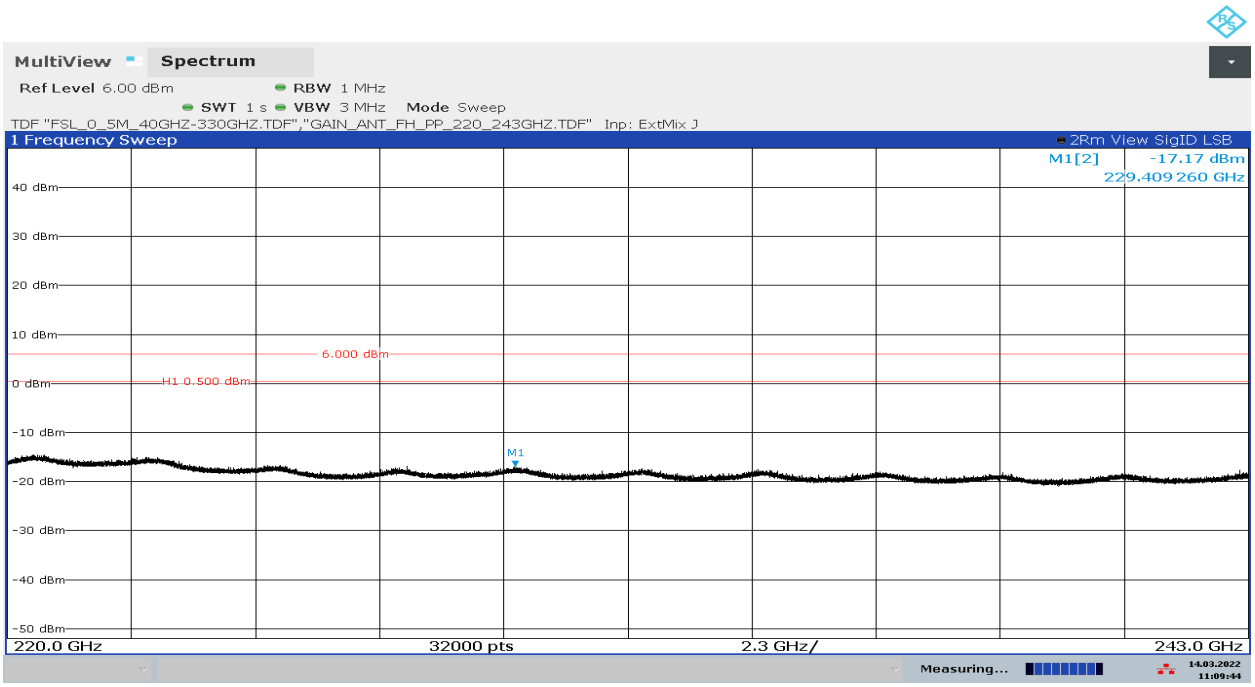
USB and LSB are given below in seperate Diagrams only for information

D145_T01_TX_RSE_220G_243GHz_EUT_90_Ant_V_USB



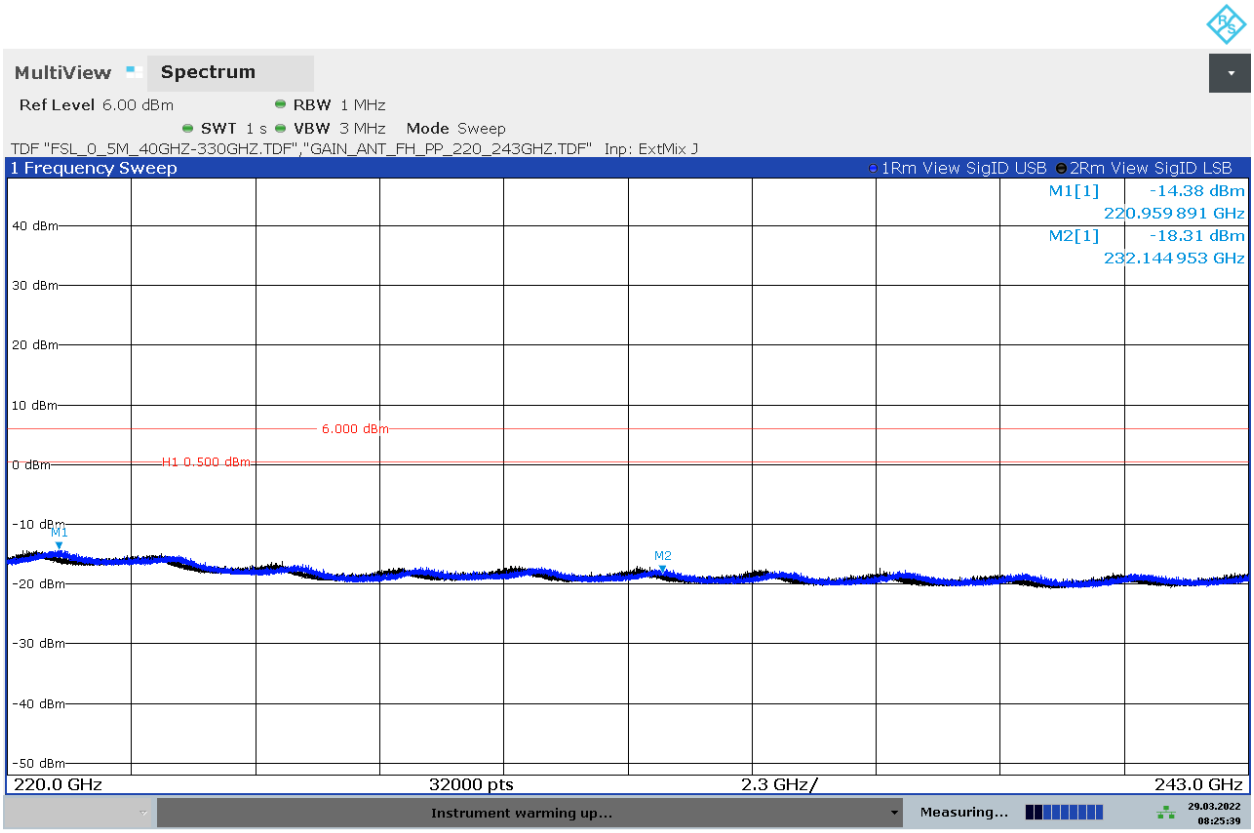
11:08:34 14.03.2022

D145_T01_TX_RSE_220G_243GHz_EUT_90_Ant_V_LSB



11:09:44 14.03.2022

D146_T01_TX_RSE_220G_243GHz_EUT_90_Ant_H
USB is missing here and limit line need to be corrected

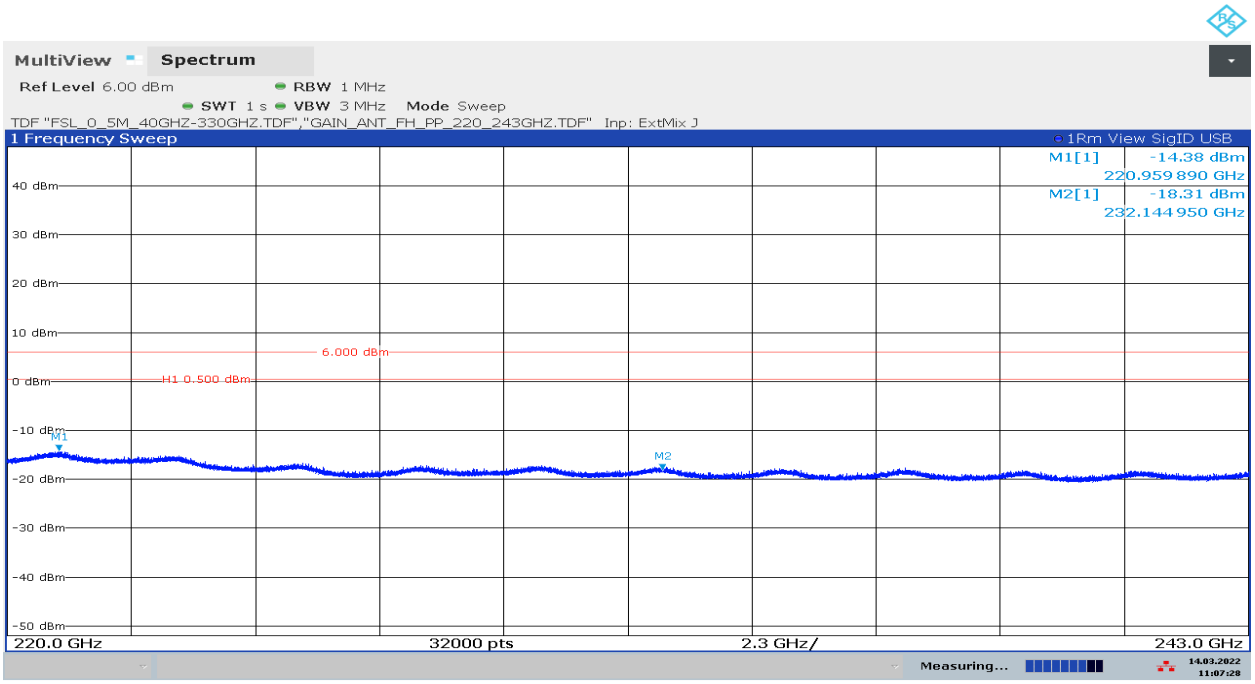


Remark: Signal ID function is activated in order to identify image signals. No real signal is observed. The limits are 0.5 dBm (FCC).

* The signal ID function is activated to identify image signals produced by the external mixer. The emissions are only real, if the trace USB and LSB completely overlap.

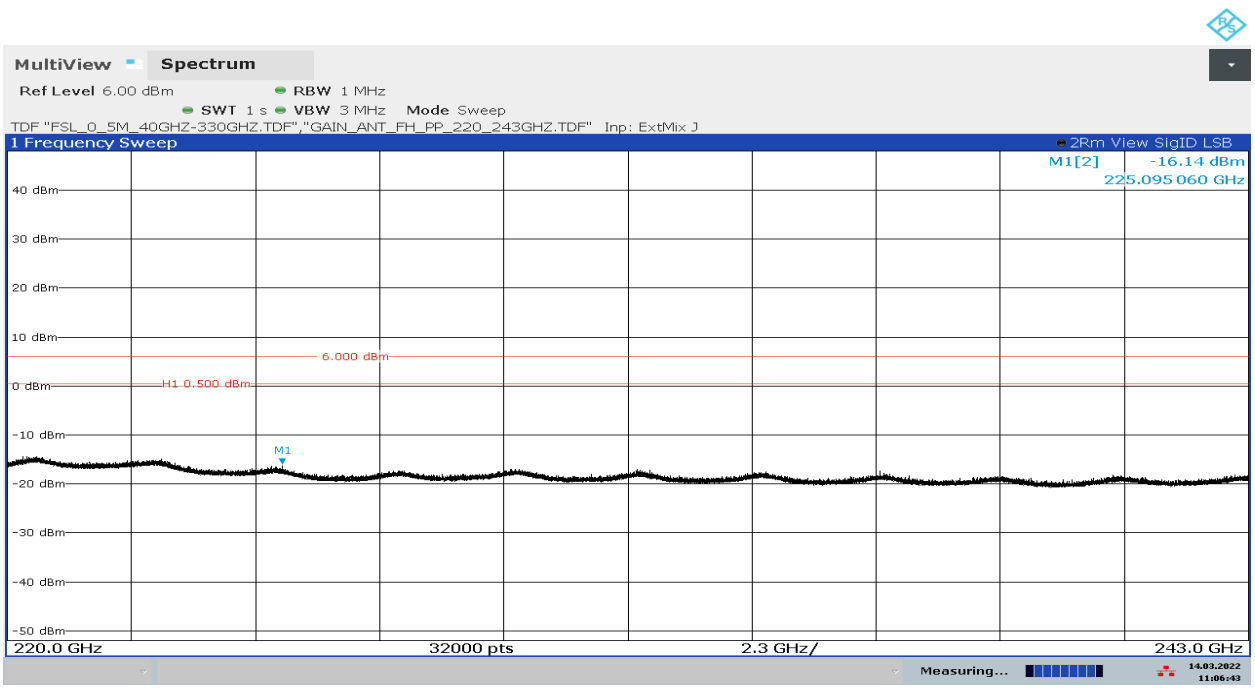
USB and LSB are given below in seperate Diagrams only for information

D146_T01_TX_RSE_220G_243GHz_EUT_90_Ant_H_USB



11:07:28 14.03.2022

D146_T01_TX_RSE_220G_243GHz_EUT_90_Ant_H_LSB



11:06:43 14.03.2022

6 Frequency stability

6.1 Tnom/Vnom

See diagram 1.2

6.2 T_{min}/V_{nom}

See diagram 1.4

6.3 Tmax/Vnom

See diagram 1.6

6.4 Tnom/Vmin

See diagram 1.8

6.5 Tnom/Vmax

See diagram 1.10

End of the Annex