Annex 1: Measurement diagrams to
T E S T R E P O R T
No.: 19-1-0207401T03a-C1

According to:

47 CFR Part 15.249
RSS-210 Issue 10

for
Veoneer US, Inc.

24 GHz SRS Radar Sensor
NB24G175V3

FCC ID: WU8NB24G175V3
ISED Certification Number: 8436B-NB24G175V3

Laboratory Accreditation
ilac-MRA DAkkS Deutsche Akkreditierungsstelle D-PL-12047-01-01 D-PL-12047-01-03 D-PL-12047-01-04
accredited according to DIN EN ISO/IEC 17025:2018

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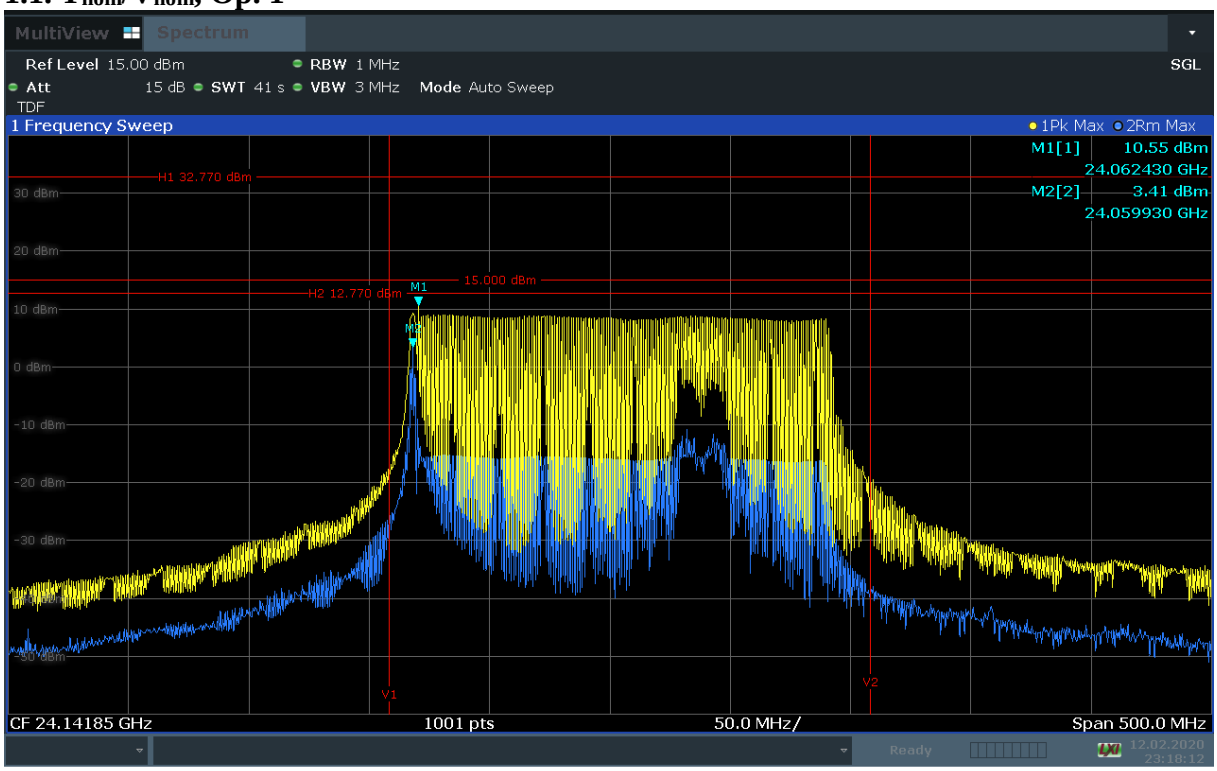
1. Field strength of emissions (wanted signal)

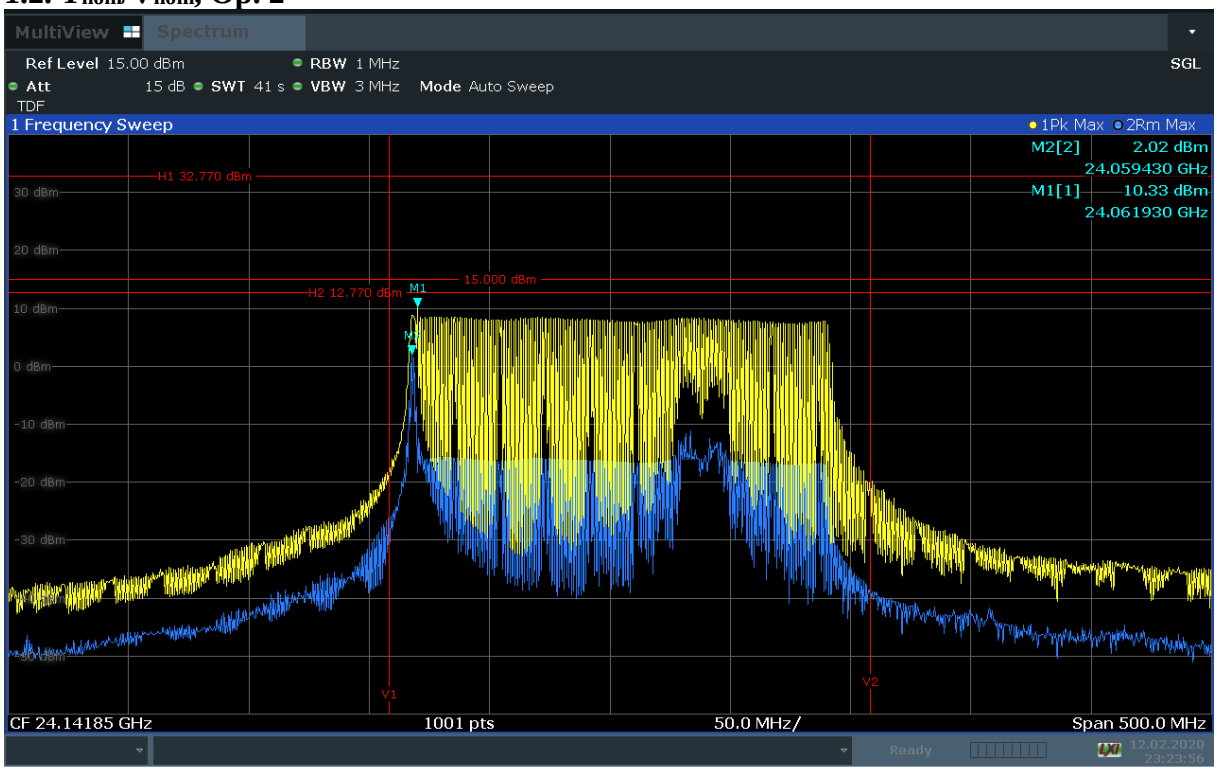
1.1. T_{nom}/V_{nom}, Op. 1



23:18:12 12.02.2020

* -15 dBm is only a reference line from the FSW67. See limits in subsection 1.2. in the main report.

1.2. T_{nom}/V_{nom}, Op. 2

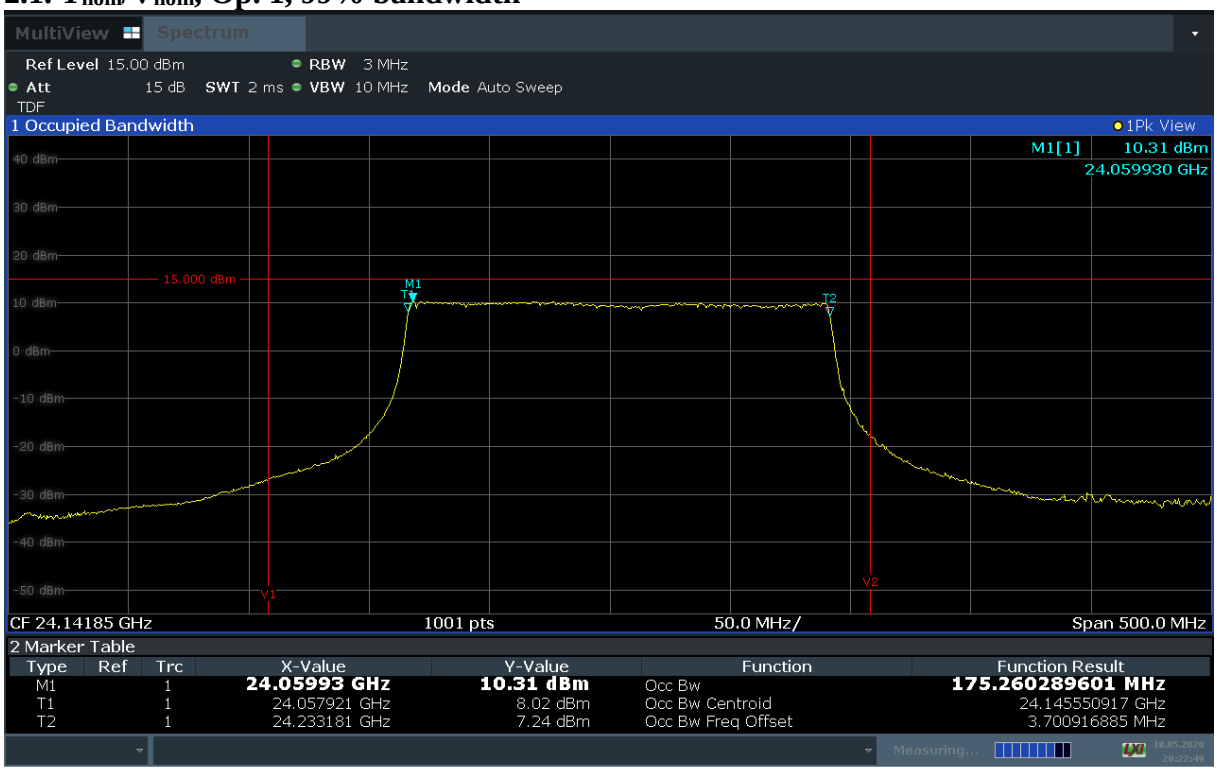


23:23:57 12.02.2020

* -15 dBm is only a reference line from the FSW67. See limits in subsection 1.2. in the main report.

2. Occupied bandwidth

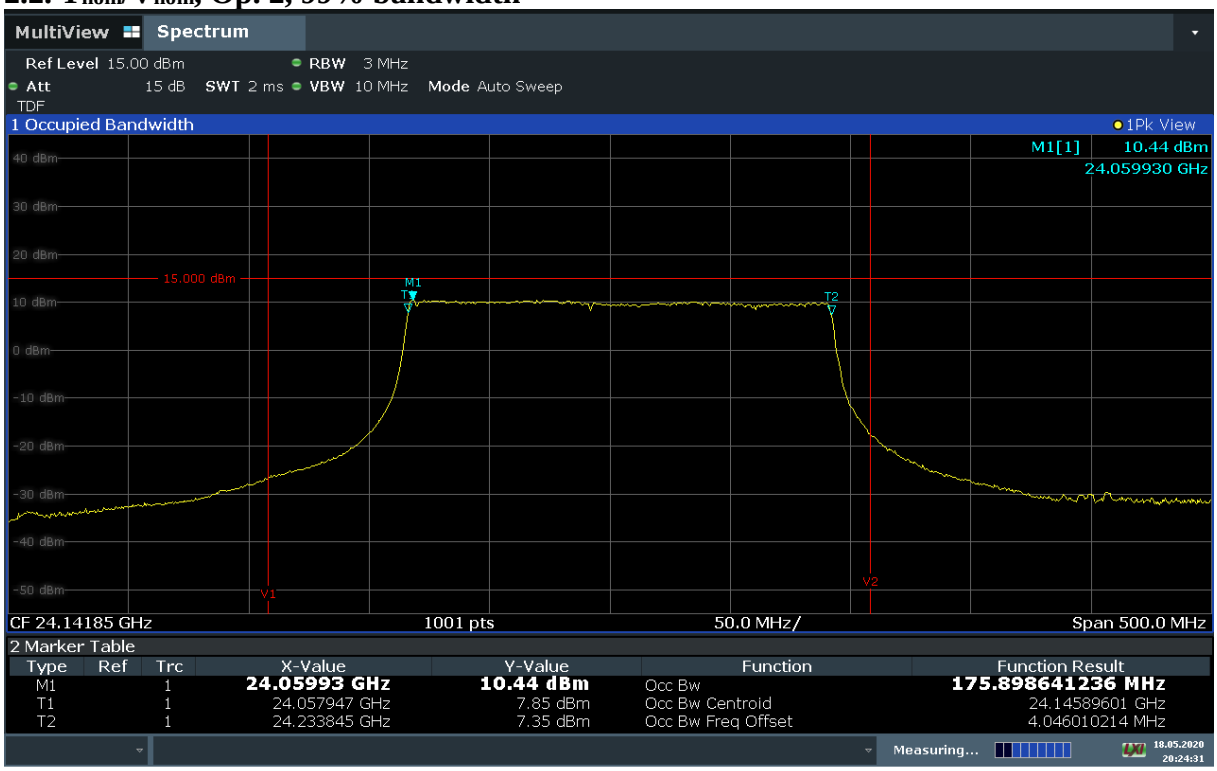
2.1. T_{nom}/V_{nom}, Op. 1, 99% bandwidth



20:22:50 18.05.2020

* -15 dBm is only a reference line from the FSW67. See limits in subsection 1.2. in the main report.

2.2. T_{nom}/V_{nom}, Op. 2, 99% bandwidth

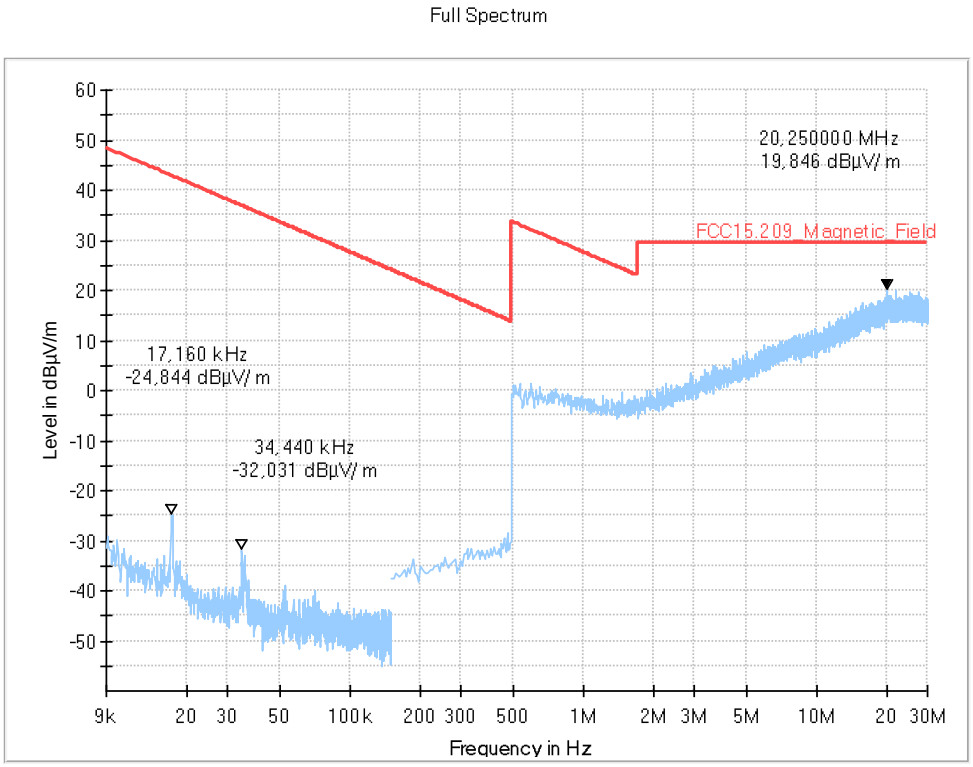


20:24:32 18.05.2020

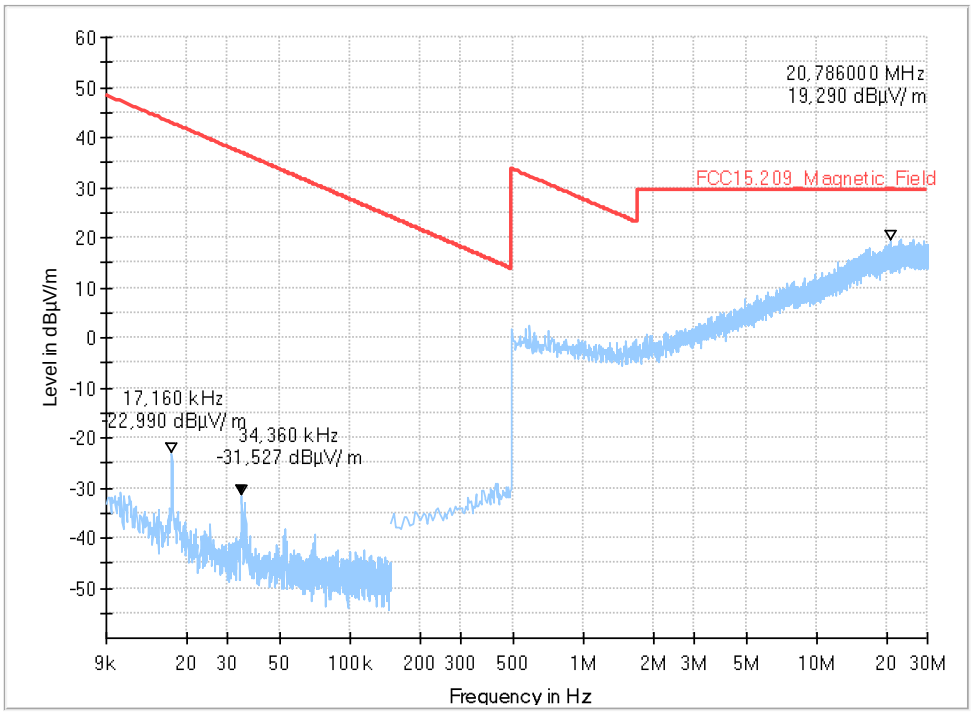
* -15 dBm is only a reference line from the FSW67. See limits in subsection 1.2. in the main report.

3. Field strength of emissions (radiated spurious)

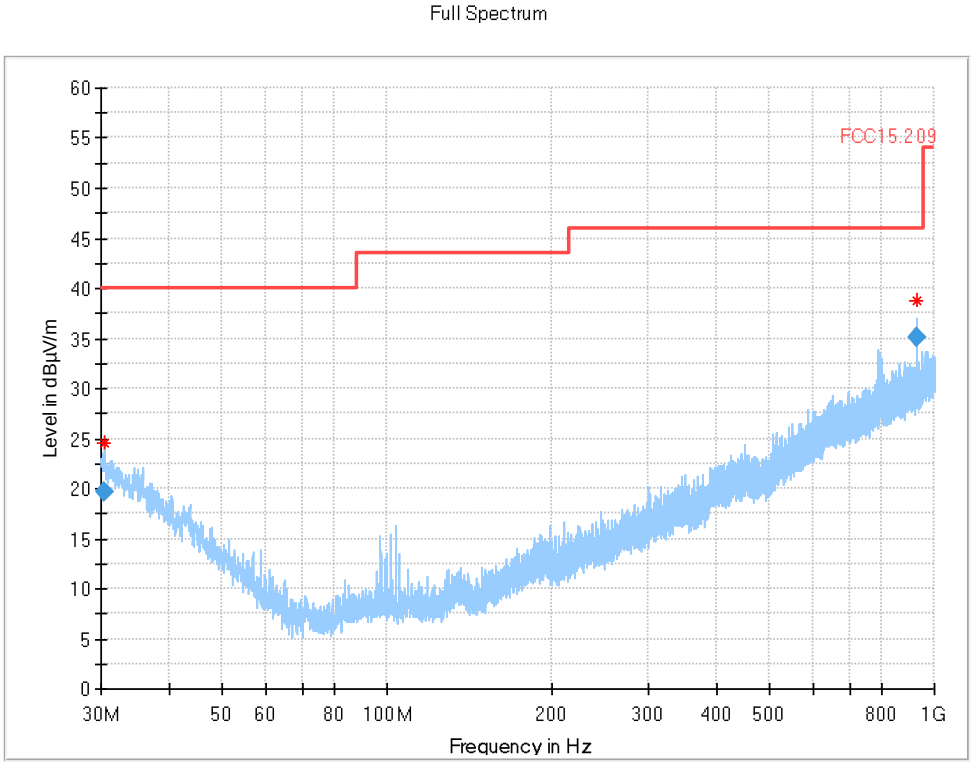
3.1. 9 kHz – 30 MHz, laying, Op.1



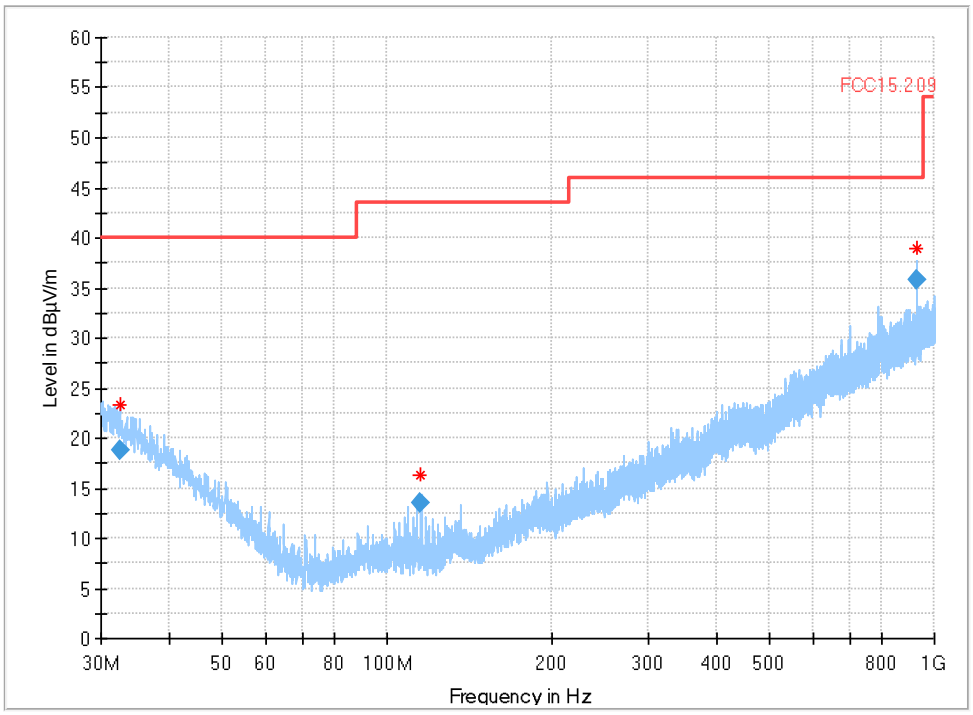
3.2. 9 kHz – 30 MHz, standing, Op.1



3.3. 30 MHz – 1 GHz, laying, Op.1



3.4. 30 MHz – 1 GHz, standing, Op.1

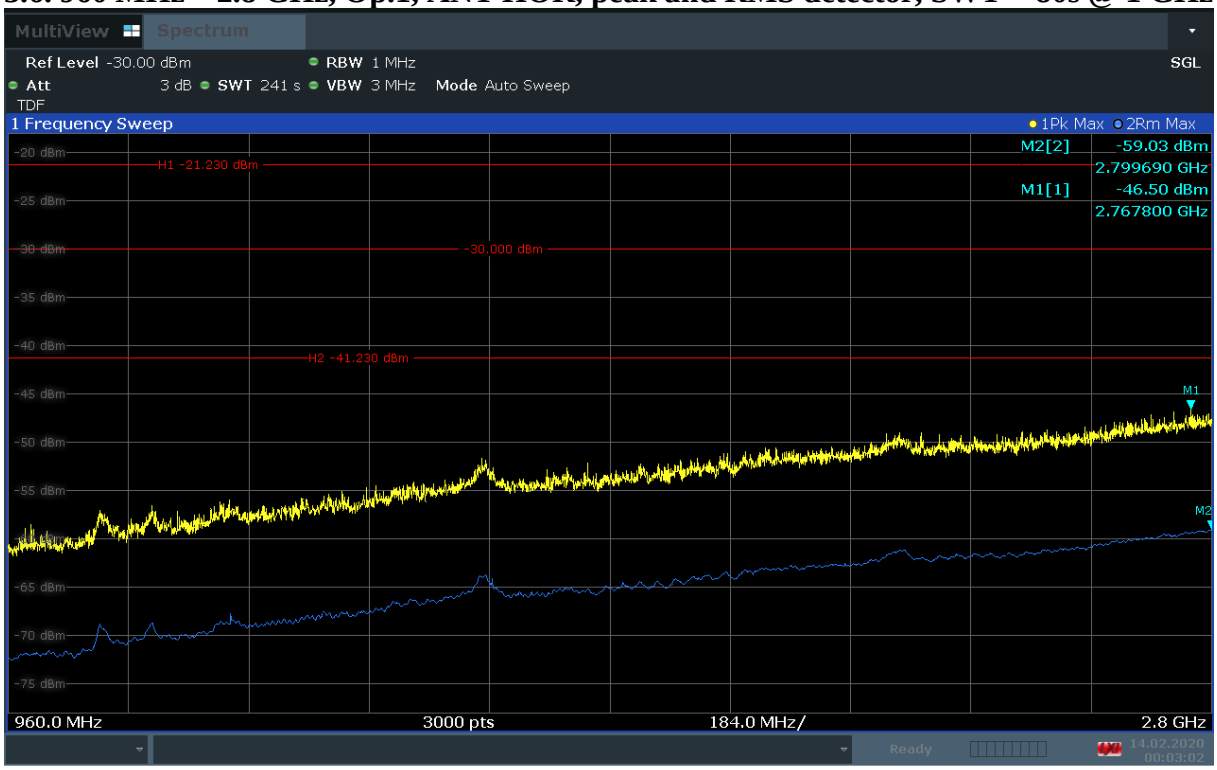


3.5. 960 MHz – 2.8 GHz, Op.1, ANT HOR + VER, peak detector, SWT: auto

19:31:50 21.03.2020

* -30 dBm is only a reference line from the FSW67. See limits in subsection 1.2. in the main report.

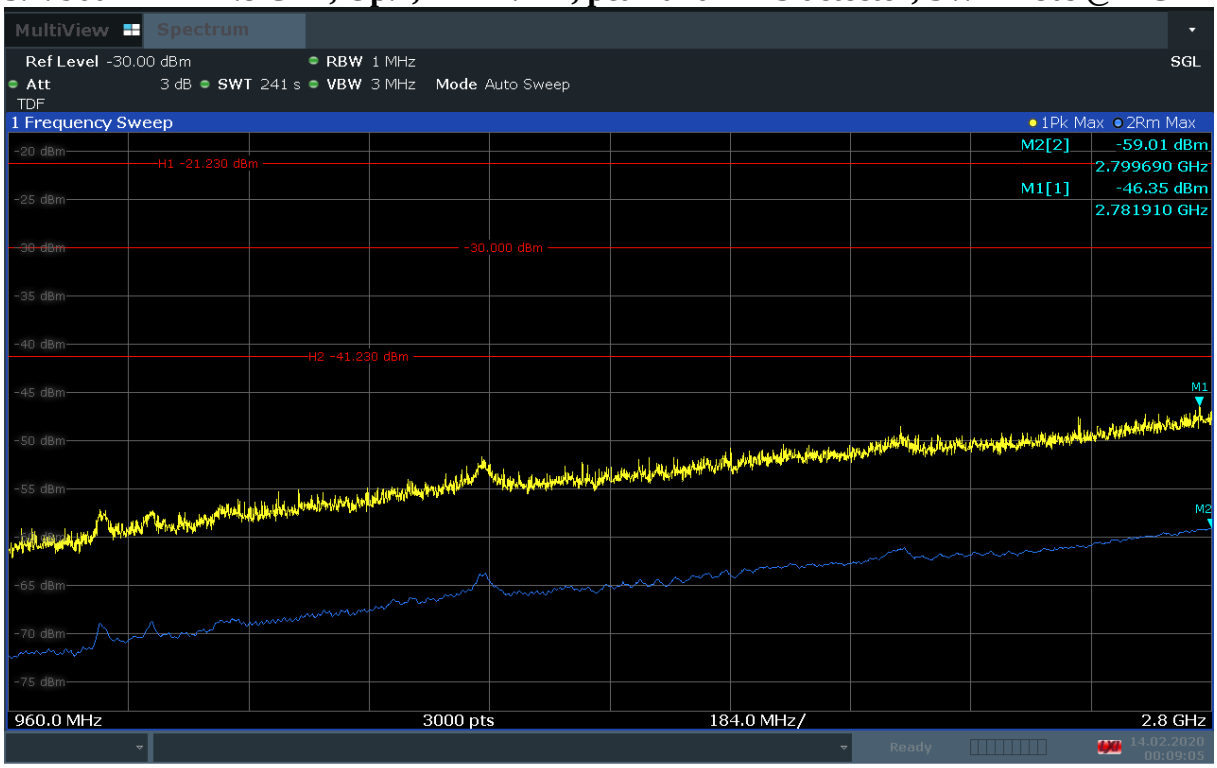
3.6. 960 MHz – 2.8 GHz, Op.1, ANT HOR, peak and RMS detector, SWT > 80s @ 1 GHz



00:03:02 14.02.2020

* -30 dBm is only a reference line from the FSW67. See limits in subsection 1.2. in the main report.

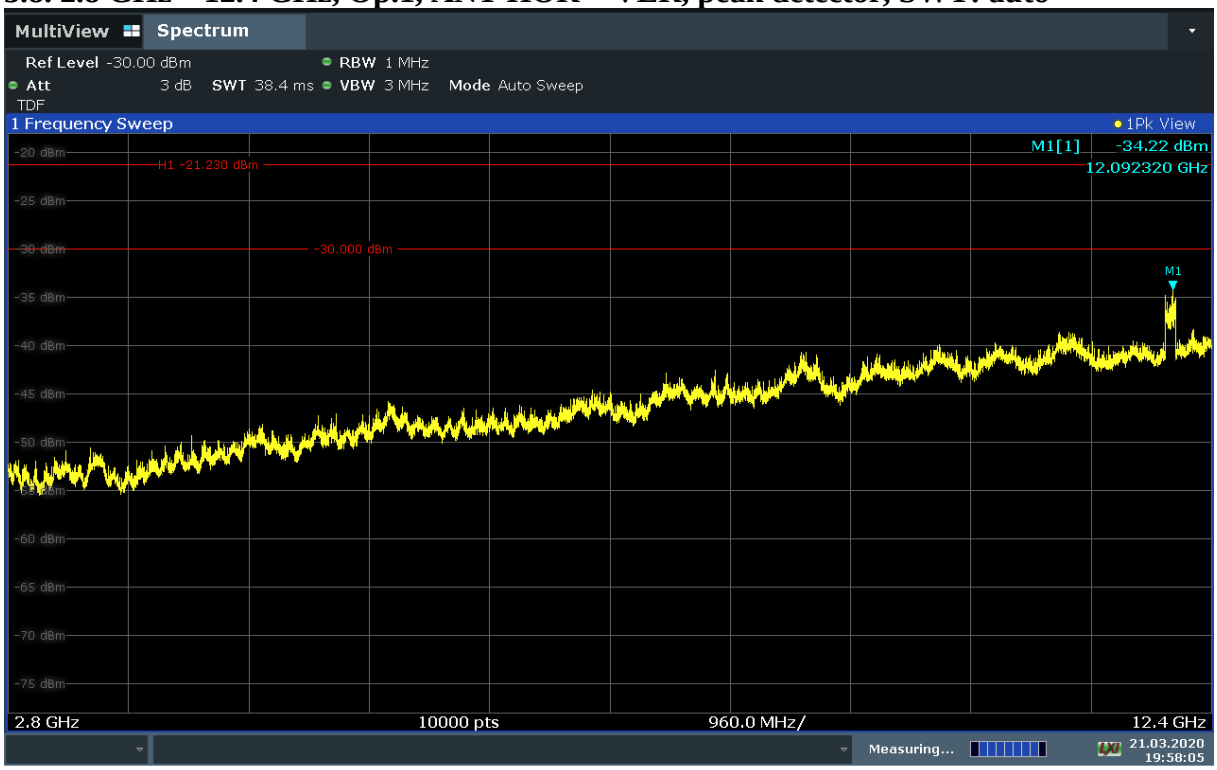
3.7. 960 MHz – 2.8 GHz, Op.1, ANT VER, peak and RMS detector, SWT > 80s @ 1 GHz



00:09:05 14.02.2020

* -30 dBm is only a reference line from the FSW67. See limits in subsection 1.2. in the main report.

3.8. 2.8 GHz – 12.4 GHz, Op.1, ANT HOR + VER, peak detector, SWT: auto



19:58:05 21.03.2020

* -30 dBm is only a reference line from the FSW67. See limits in subsection 1.2. in the main report.

3.9. 2.8 GHz – 12.4 GHz, Op.1, ANT HOR, peak and RMS detector, SWT > 80s @ 1 GHz

23:30:23 13.02.2020

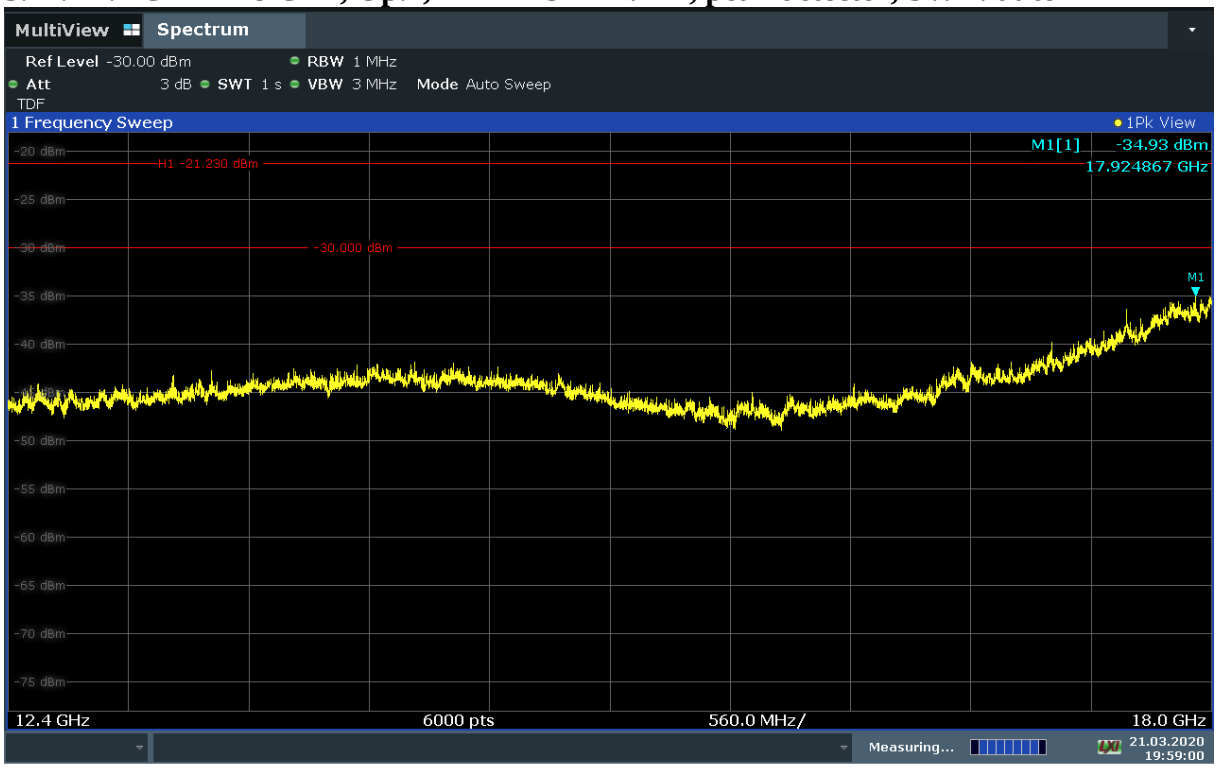
* -30 dBm is only a reference line from the FSW67. See limits in subsection 1.2. in the main report.

3.10. 2.8 GHz – 12.4 GHz, Op.1, ANT VER, peak and RMS detector, SWT > 80s @ 1 GHz

23:14:01 13.02.2020

* -30 dBm is only a reference line from the FSW67. See limits in subsection 1.2. in the main report.

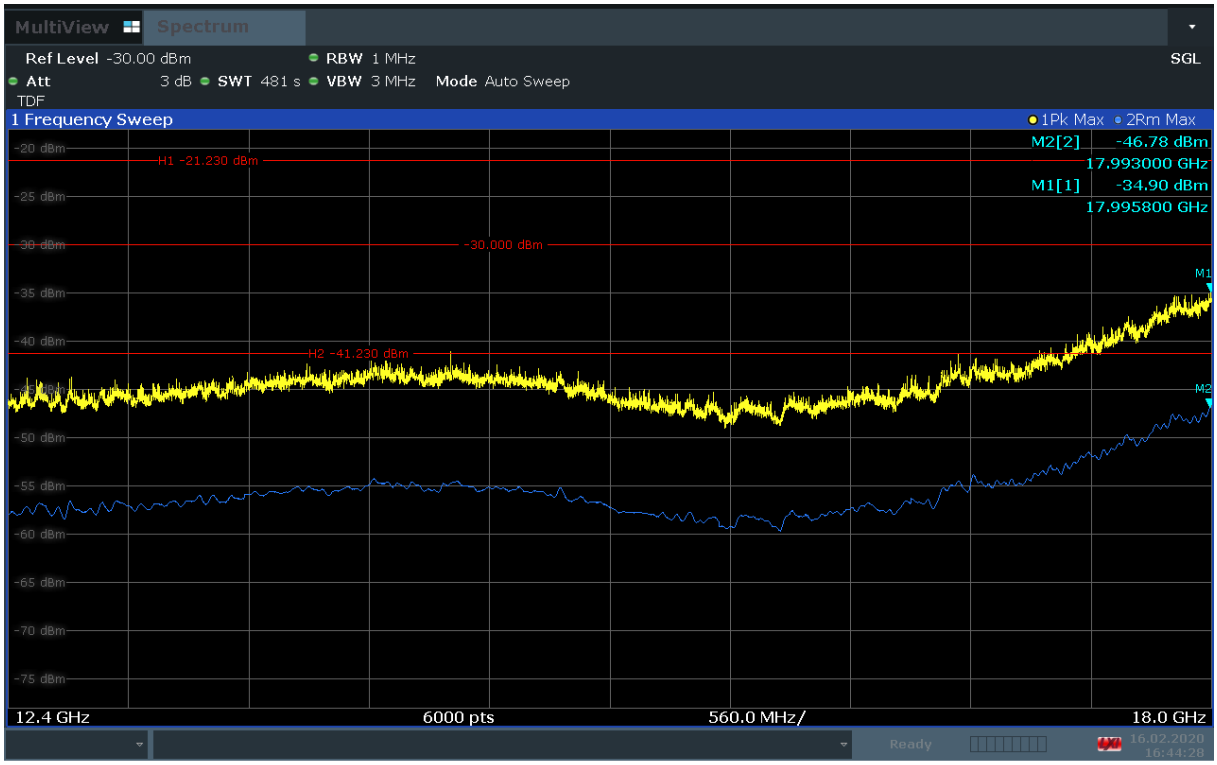
3.11. 12.4 GHz – 18 GHz, Op.1, ANT HOR + VER, peak detector, SWT: auto



19:59:01 21.03.2020

* -30 dBm is only a reference line from the FSW67. See limits in subsection 1.2. in the main report.

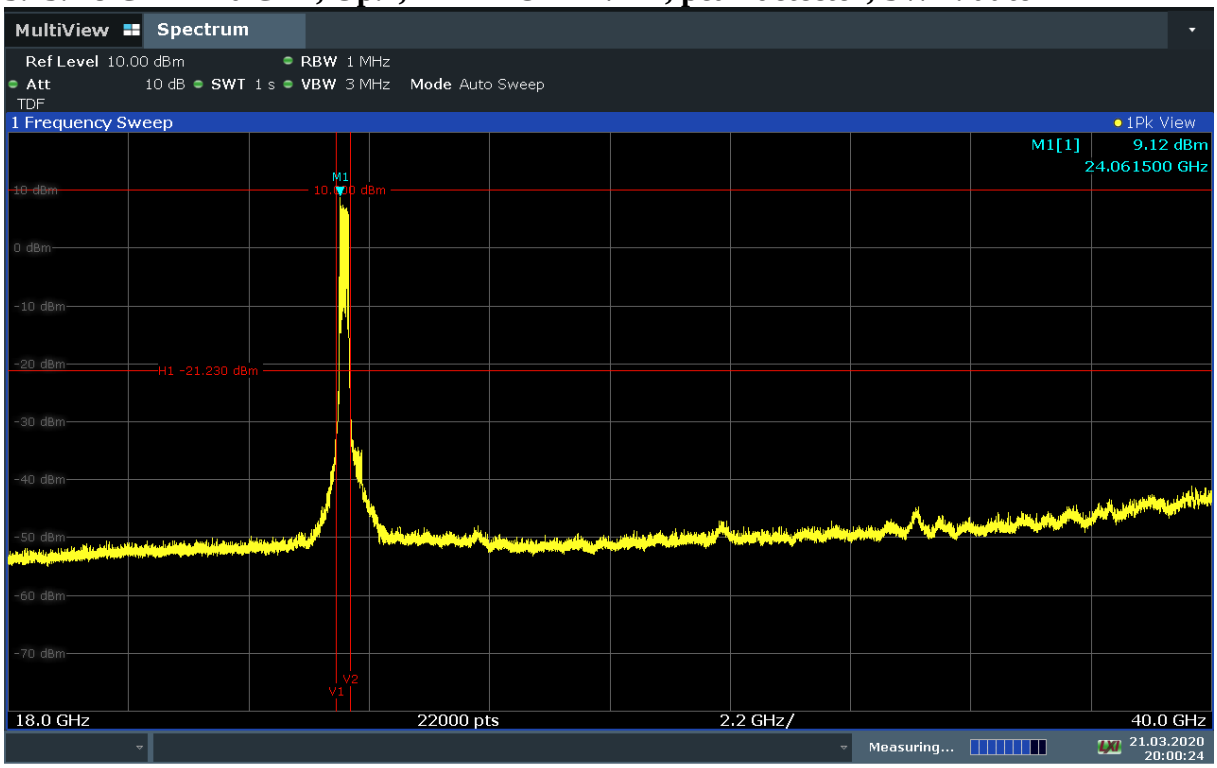
3.12. 12.4 GHz – 18 GHz, Op.1, ANT HOR+VER, peak and RMS detector, SWT > 80s @ 1 GHz



16:44:29 16.02.2020

* -30 dBm is only a reference line from the FSW67. See limits in subsection 1.2. in the main report.

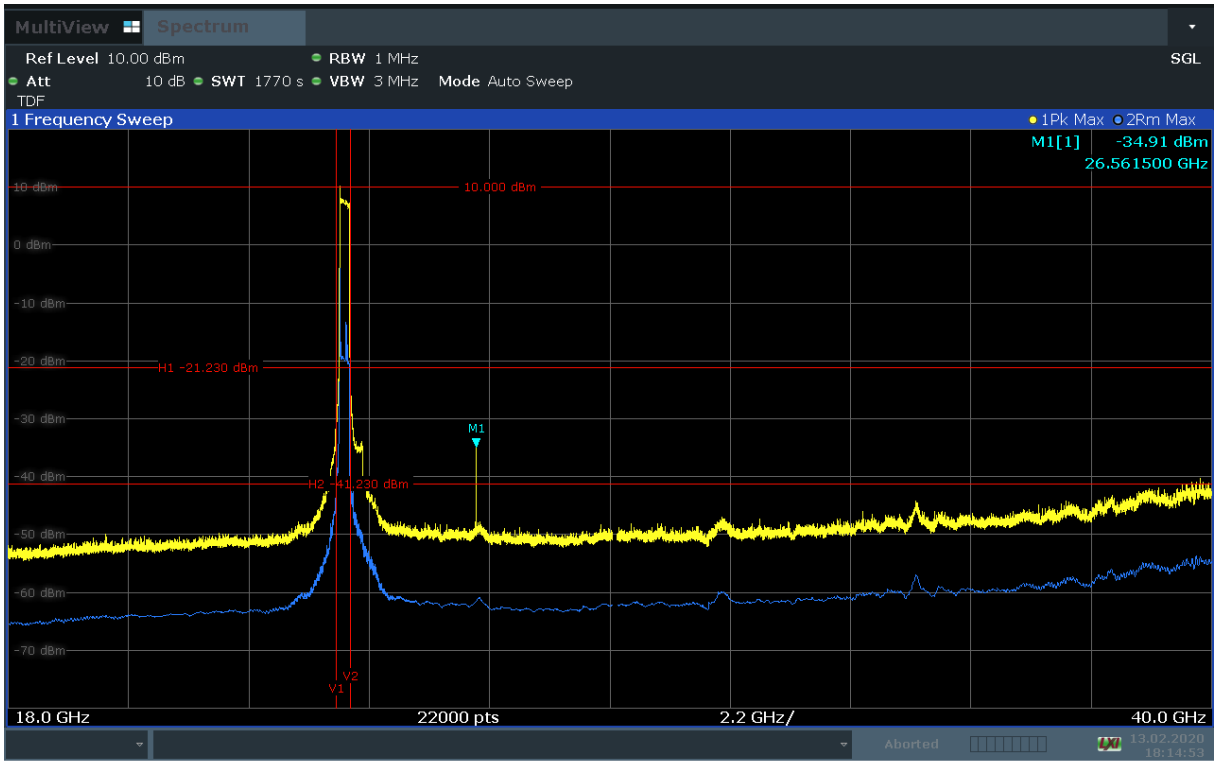
3.13. 18 GHz – 40 GHz, Op.1, ANT HOR + VER, peak detector, SWT: auto



20:00:25 21.03.2020

* 10 dBm is only a reference line from the FSW67. See limits in subsection 1.2. in the main report.

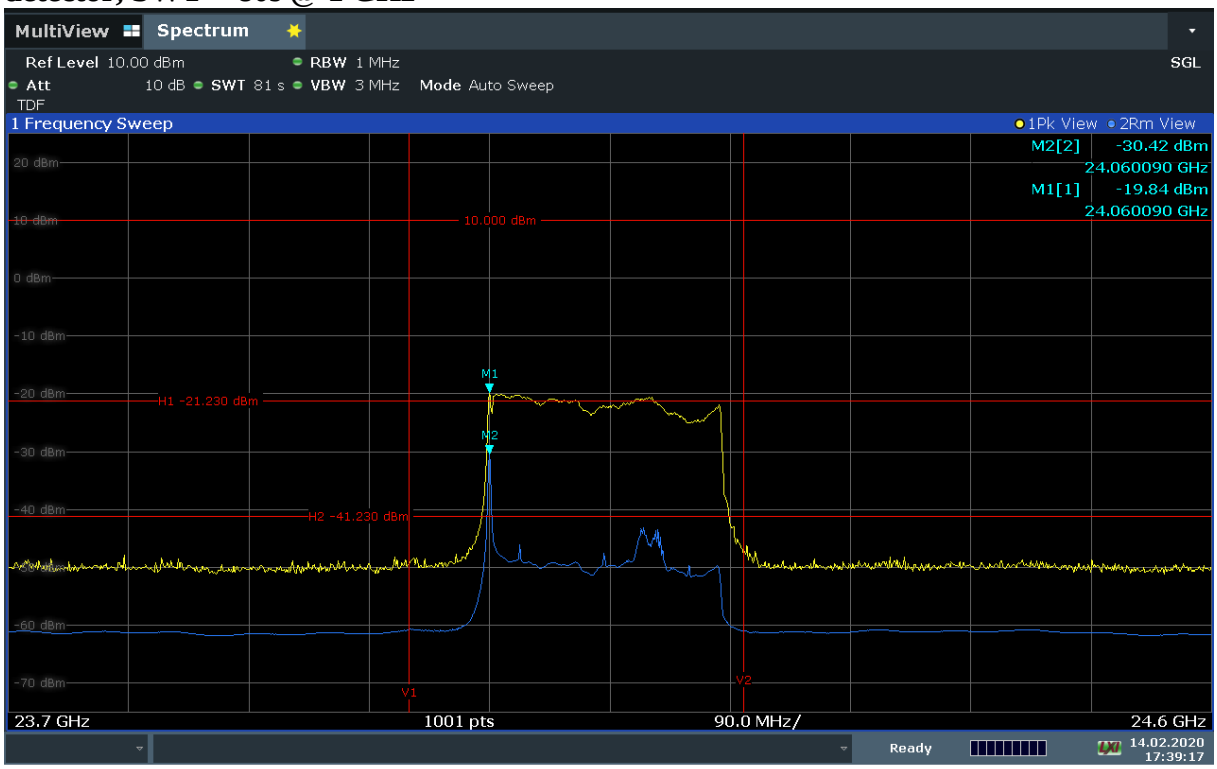
3.14. 18 GHz – 40 GHz, Op.1, ANT HOR+VER, peak and RMS detector, SWT > 80s @ 1 GHz



18:14:54 13.02.2020

* 10 dBm is only a reference line from the FSW67. See limits in subsection 1.2. in the main report.

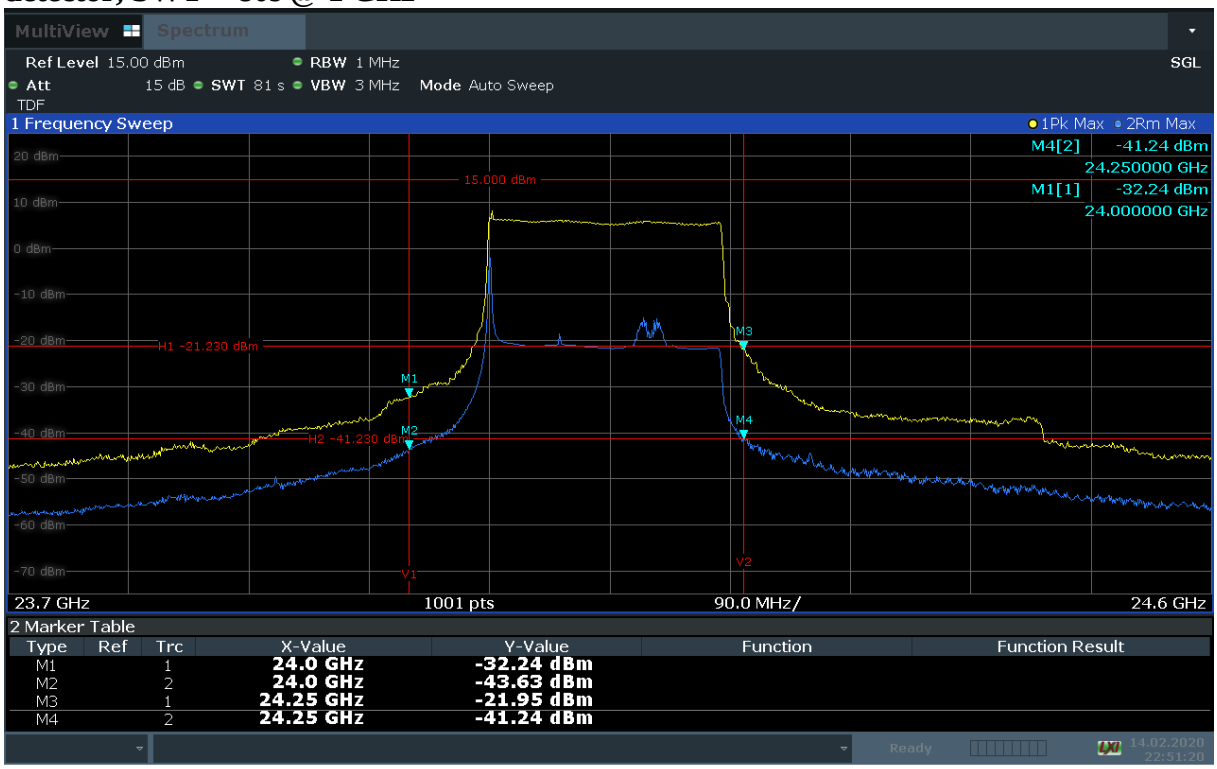
3.15. Band edge investigation from the diagram 3.14, ANT VER, Op.1, peak and RMS detector, SWT > 80s @ 1 GHz



17:39:18 14.02.2020

* 10 dBm is only a reference line from the FSW67. See limits in subsection 1.2. in the main report.

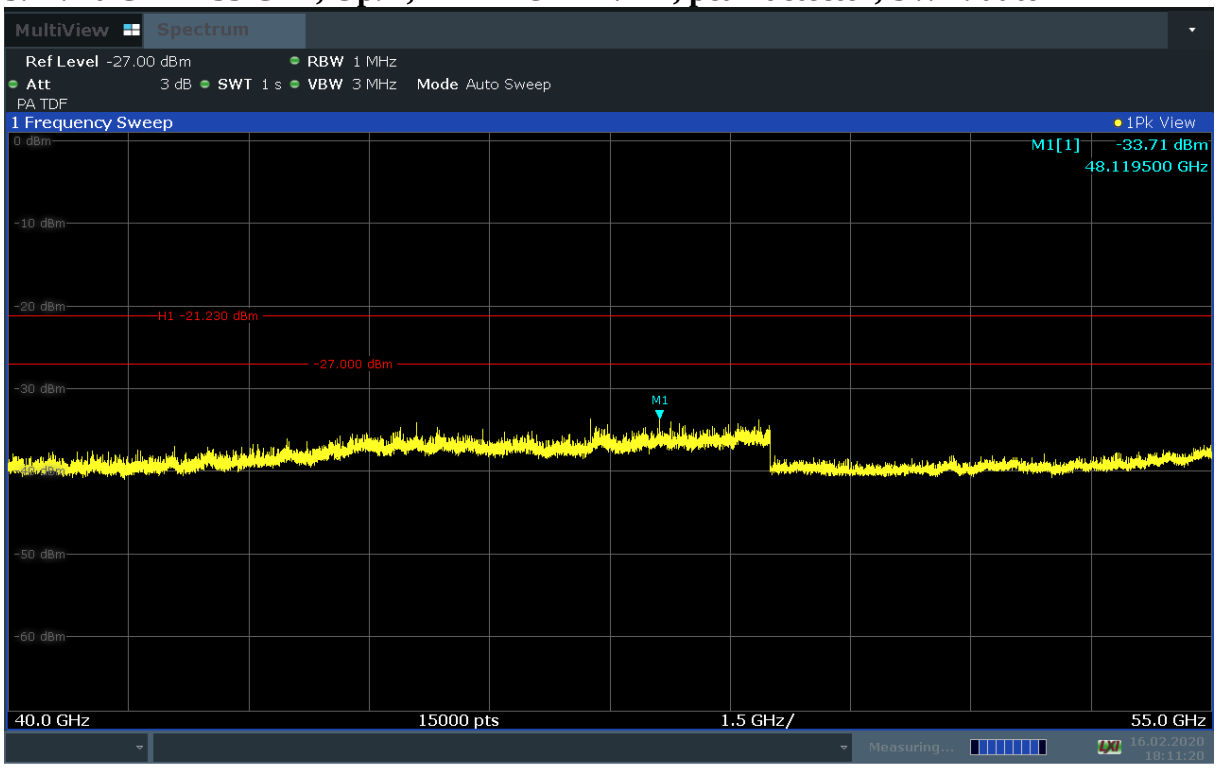
3.16. Band edge investigation from the diagram 3.14, ANT HOR, Op.1, peak and RMS detector, SWT > 80s @ 1 GHz



22:51:20 14.02.2020

* 10 dBm is only a reference line from the FSW67. See limits in subsection 1.2. in the main report.

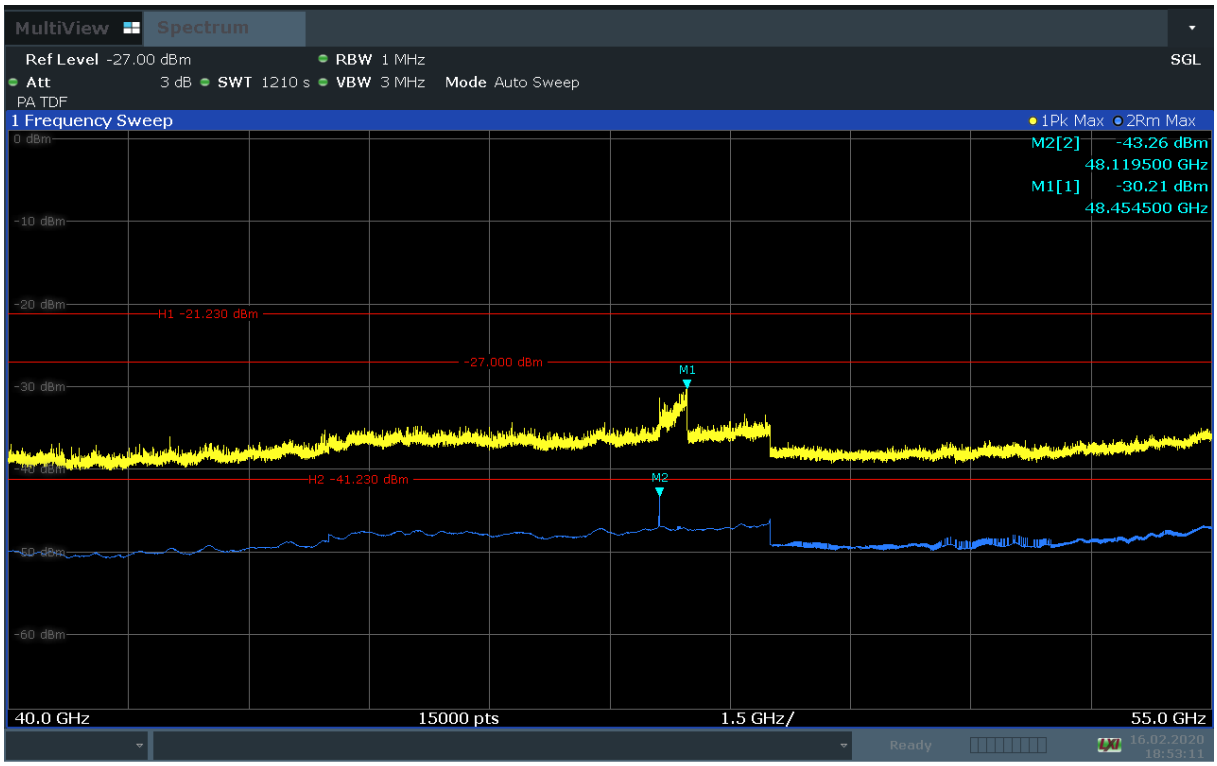
3.17. 40 GHz – 55 GHz, Op. 1, ANT HOR + VER, peak detector, SWT: auto



18:11:21 16.02.2020

* -27 dBm is only a reference line from the FSW67. See limits in subsection 1.2. in the main report.

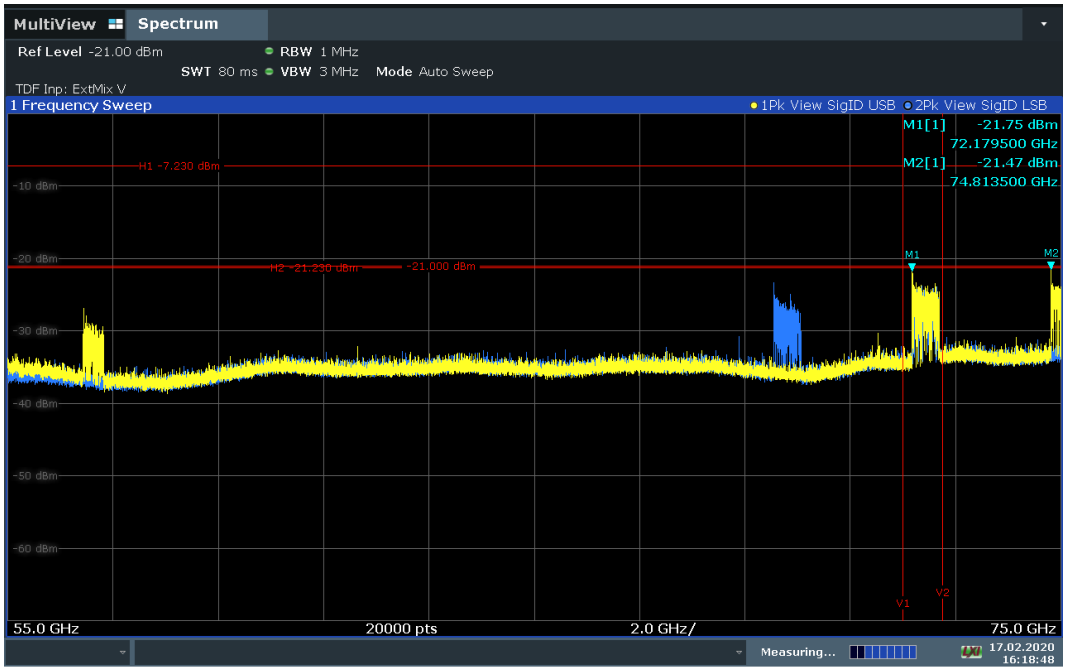
3.18. 40 GHz – 55 GHz, Op.1, ANT HOR+VER, peak and RMS detector, SWT > 80s @ 1 GHz



18:53:12 16.02.2020

* -27 dBm is only a reference line from the FSW67. See limits in subsection 1.2. in the main report.

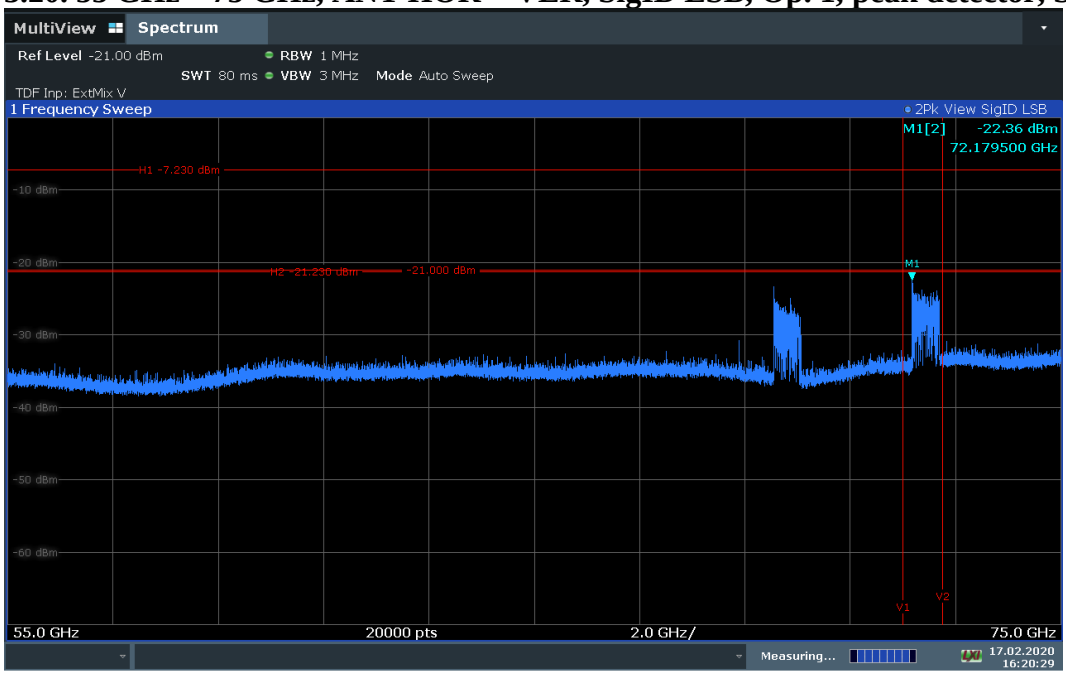
3.19. 55 GHz – 75 GHz, ANT HOR + VER, SigID USB + LSB, Op. 1, peak detector, SWT: auto



16:18:48 17.02.2020

* Signal ID function is used. The diagram shows image signals and mixer products. The real input signal is shown, only when USB and LSB traces have the same position on the frequency axis => No real input signal were observed above limit line. See subsection 5.8.6. in the main report. -21 dBm is a reference line from the FSW67. See limits in subsection 1.2. in the main report.

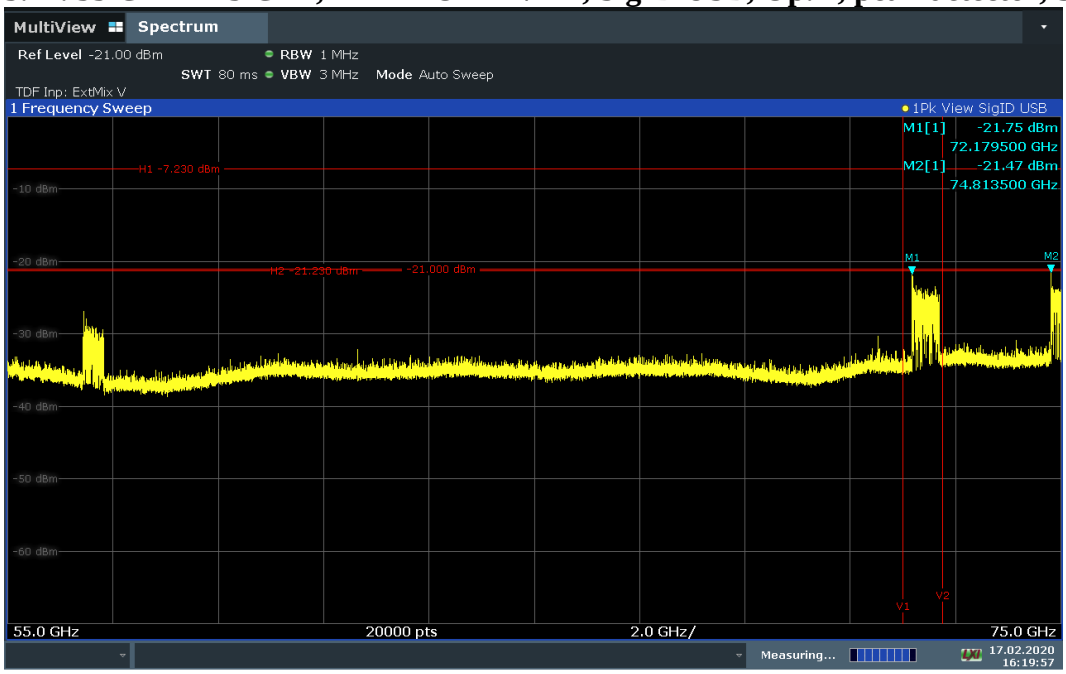
3.20. 55 GHz – 75 GHz, ANT HOR + VER, SigID LSB, Op. 1, peak detector, SWT: auto



16:20:30 17.02.2020

* Signal ID function is used. The diagram shows image signals and mixer products. The real input signal is shown, only when USB and LSB traces have the same position on the frequency axis => No real input signal were observed above limit line. See subsection 5.8.6. in the main report. -21 dBm is a reference line from the FSW67. See limits in subsection 1.2. in the main report.

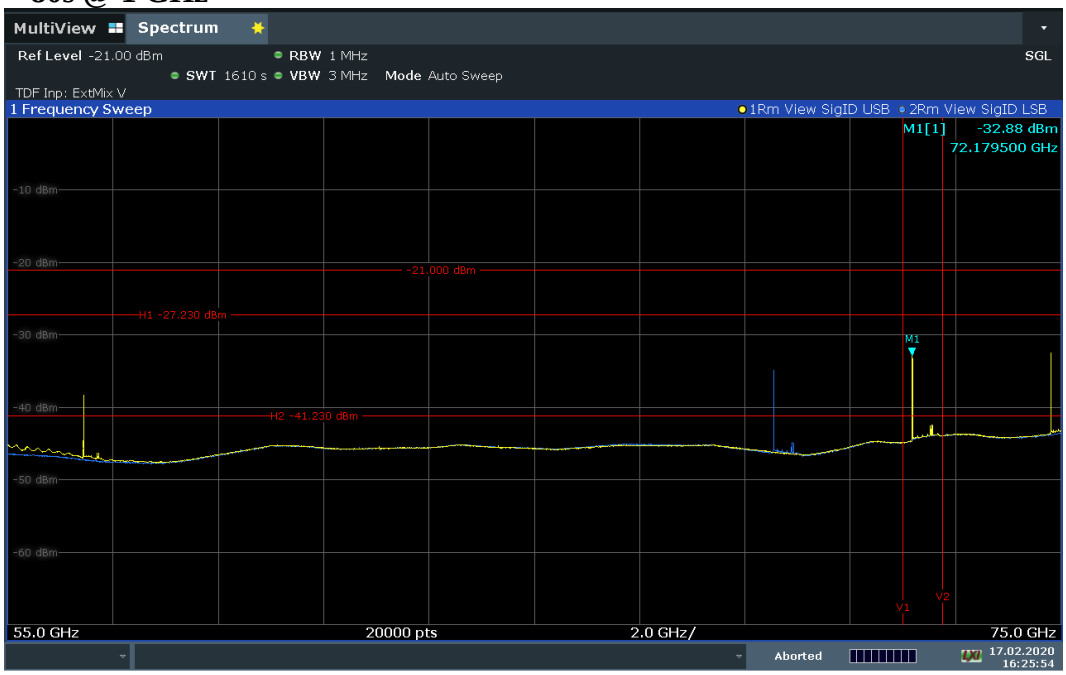
3.21. 55 GHz – 75 GHz, ANT HOR + VER, SigID USB, Op. 1, peak detector, SWT: auto



16:19:57 17.02.2020

* Signal ID function is used. The diagram shows image signals and mixer products. The real input signal is shown, only when USB and LSB traces have the same position on the frequency axis => No real input signal were observed above limit line. See subsection 5.8.6. in the main report. -21 dBm is a reference line from the FSW67. See limits in subsection 1.2. in the main report.

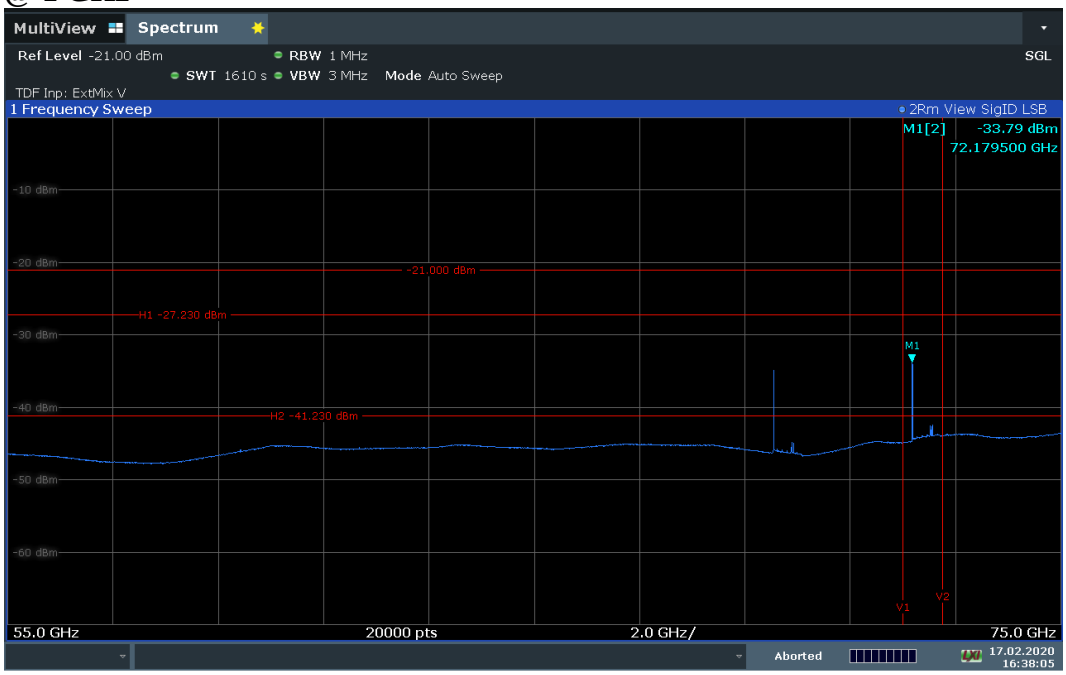
3.22. 55 GHz – 75 GHz, ANT HOR + VER, SigID USB + LSB, Op. 1, RMS detector, SWT > 80s @ 1 GHz



16:25:54 17.02.2020

* Signal ID function is used. The diagram shows image signals and mixer products. The real input signal is shown, only when USB and LSB traces have the same position on the frequency axis => No real input signal were observed above limit line. See subsection 5.8.6. in the main report. -21 dBm is a reference line from the FSW67. See limits in subsection 1.2. in the main report.

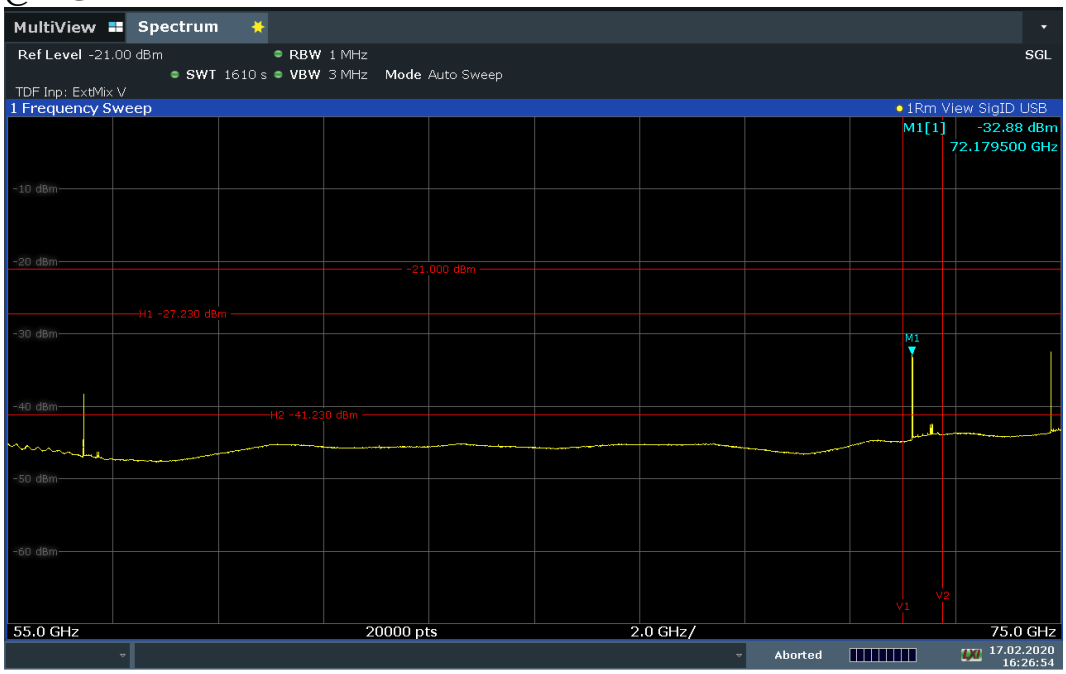
3.23. 55 GHz – 75 GHz, ANT HOR + VER, SigID LSB, Op. 1, RMS detector, SWT > 80s @ 1 GHz



16:38:05 17.02.2020

* Signal ID function is used. The diagram shows image signals and mixer products. The real input signal is shown, only when USB and LSB traces have the same position on the frequency axis => No real input signal were observed above limit line. See subsection 5.8.6. in the main report. -21 dBm is a reference line from the FSW67. See limits in subsection 1.2. in the main report.

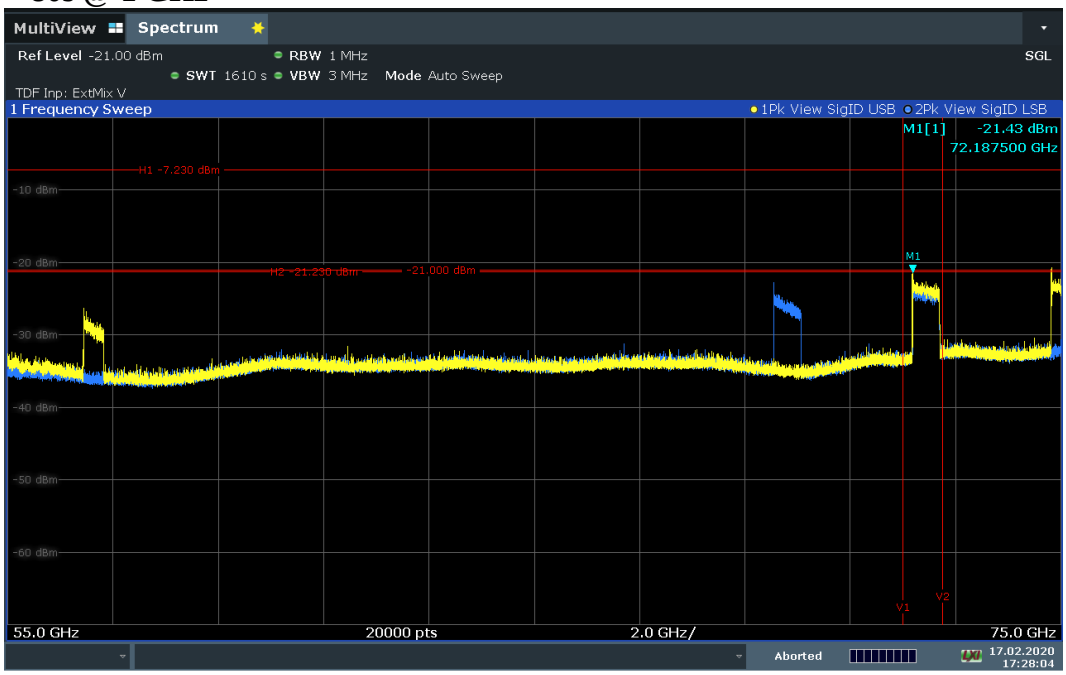
3.24. 55 GHz – 75 GHz, ANT HOR + VER, SigID USB, Op. 1, RMS detector, SWT > 80s @ 1 GHz



16:26:55 17.02.2020

* Signal ID function is used. The diagram shows image signals and mixer products. The real input signal is shown, only when USB and LSB traces have the same position on the frequency axis => No real input signal were observed above limit line. See subsection 5.8.6. in the main report. -21 dBm is a reference line from the FSW67. See limits in subsection 1.2. in the main report.

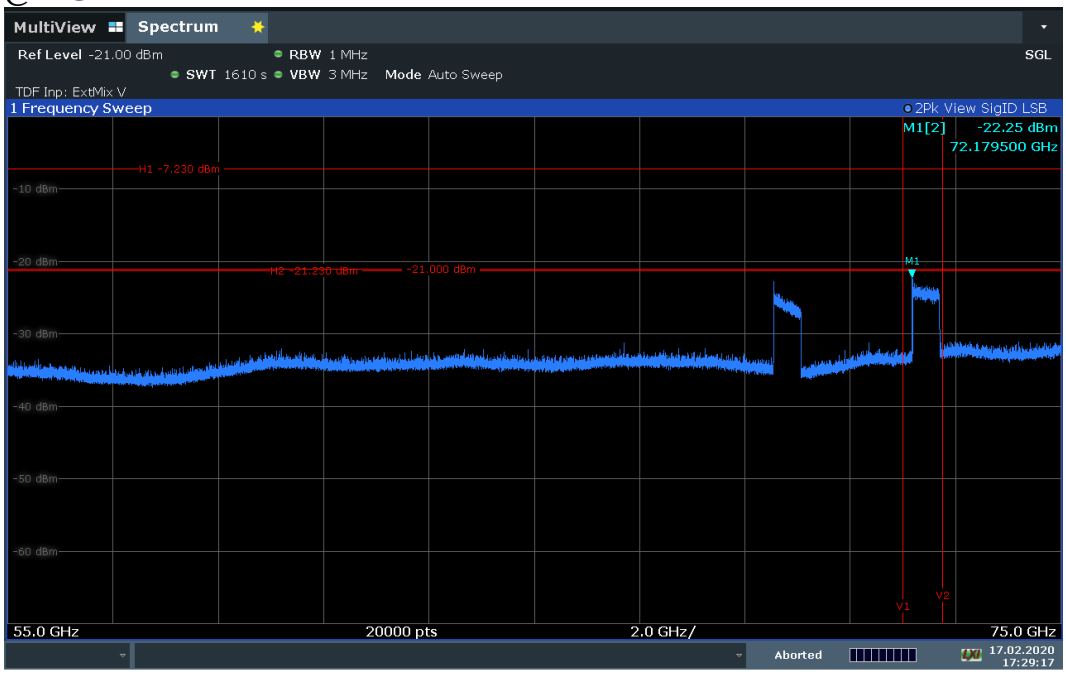
3.25. 55 GHz – 75 GHz, ANT HOR + VER, SigID USB + LSB, Op. 1, peak detector, SWT > 80s @ 1 GHz



17:28:04 17.02.2020

* Signal ID function is used. The diagram shows image signals and mixer products. The real input signal is shown, only when USB and LSB traces have the same position on the frequency axis => No real input signal were observed above limit line. See subsection 5.8.6. in the main report. -21 dBm is a reference line from the FSW67. See limits in subsection 1.2. in the main report.

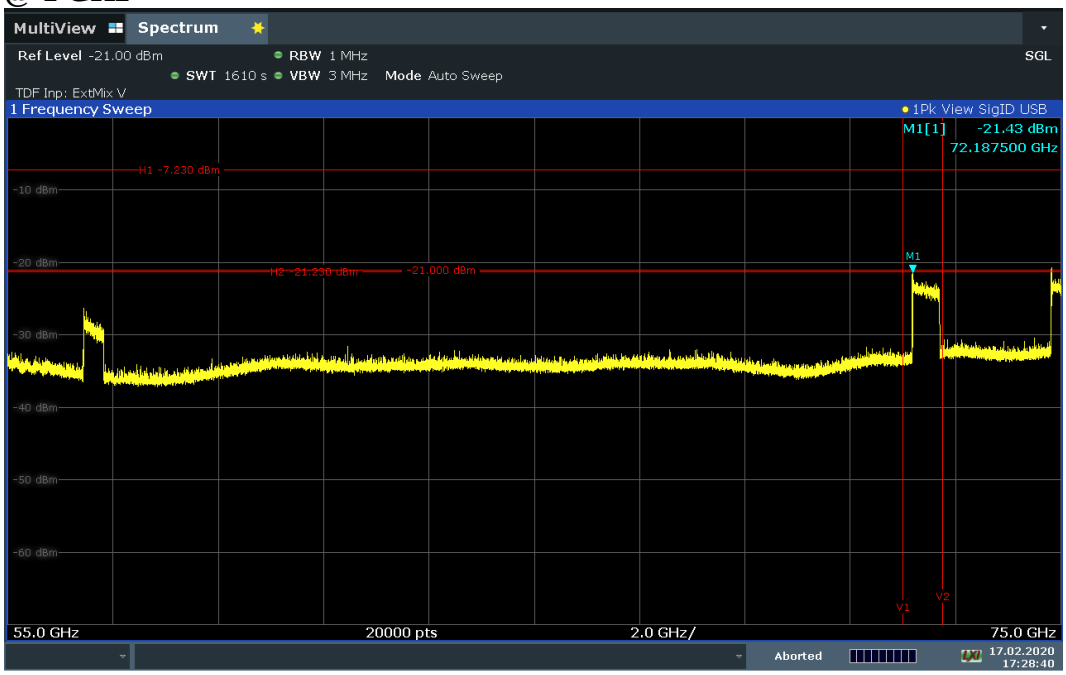
3.26. 55 GHz – 75 GHz, ANT HOR + VER, SigID LSB, Op. 1, peak detector, SWT > 80s @ 1 GHz



17:29:18 17.02.2020

* Signal ID function is used. The diagram shows image signals and mixer products. The real input signal is shown, only when USB and LSB traces have the same position on the frequency axis => No real input signal were observed above limit line. See subsection 5.8.6. in the main report. -21 dBm is a reference line from the FSW67. See limits in subsection 1.2. in the main report.

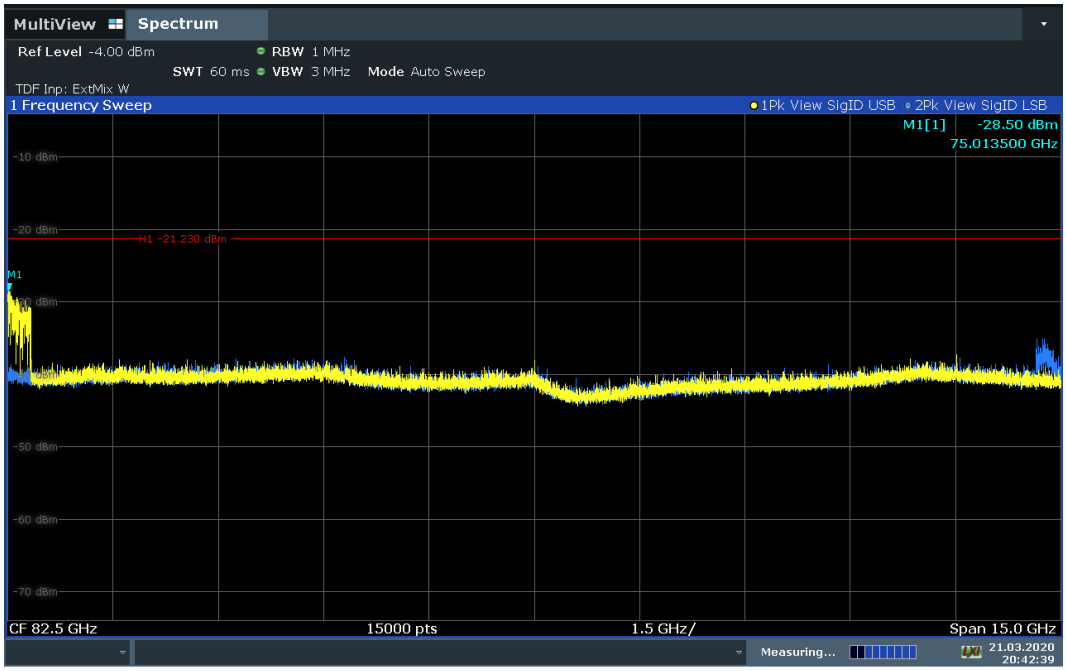
3.27. 55 GHz – 75 GHz, ANT HOR + VER, SigID USB, Op. 1, peak detector, SWT > 80s @ 1 GHz



17:28:40 17.02.2020

* Signal ID function is used. The diagram shows image signals and mixer products. The real input signal is shown, only when USB and LSB traces have the same position on the frequency axis => No real input signal were observed above limit line. See subsection 5.8.6. in the main report. -21 dBm is a reference line from the FSW67. See limits in subsection 1.2. in the main report.

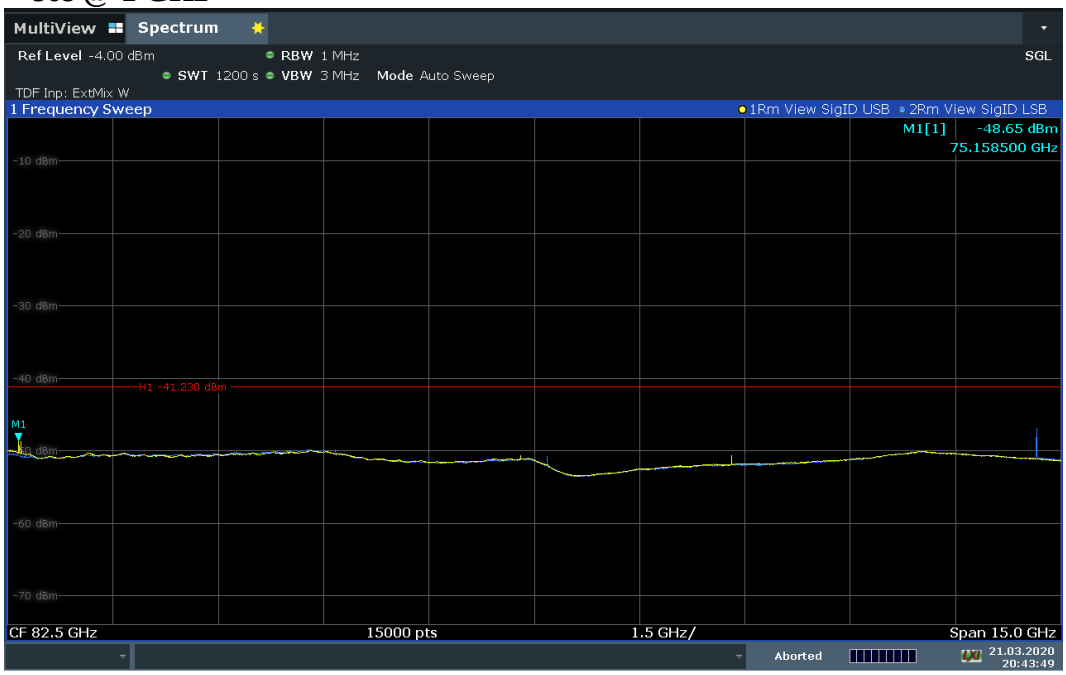
3.28. 75 GHz – 90 GHz, ANT HOR + VER, SigID USB + LSB, Op. 1, peak detector, SWT: auto



20:42:40 21.03.2020

* Signal ID function is used. The diagram shows image signals and mixer products. The real input signal is shown, only when USB and LSB traces have the same position on the frequency axis => Apart from the noise floor no real input signal was observed. See subsection 5.8.6. in the main report.

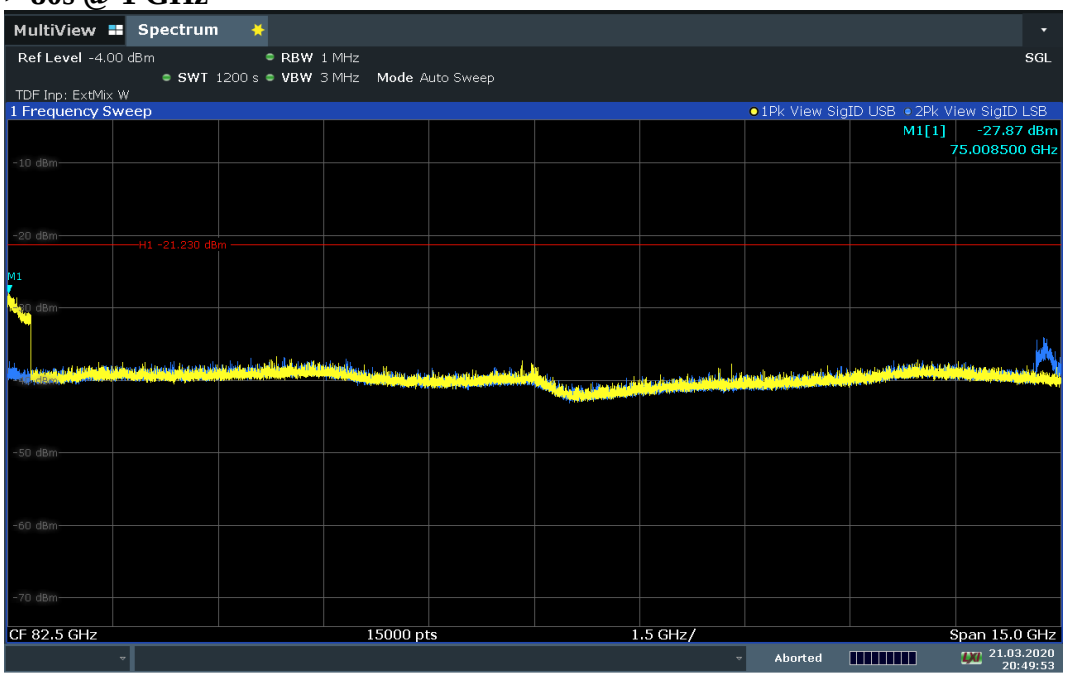
3.29. 75 GHz – 90 GHz, ANT HOR + VER, SigID USB+LSB, Op. 1, RMS detector, SWT > 80s @ 1 GHz



20:43:49 21.03.2020

* Signal ID function is used. The diagram shows image signals and mixer products. The real input signal is shown, only when USB and LSB traces have the same position on the frequency axis => Apart from the noise floor no real input signal was observed. See subsection 5.8.6. in the main report.

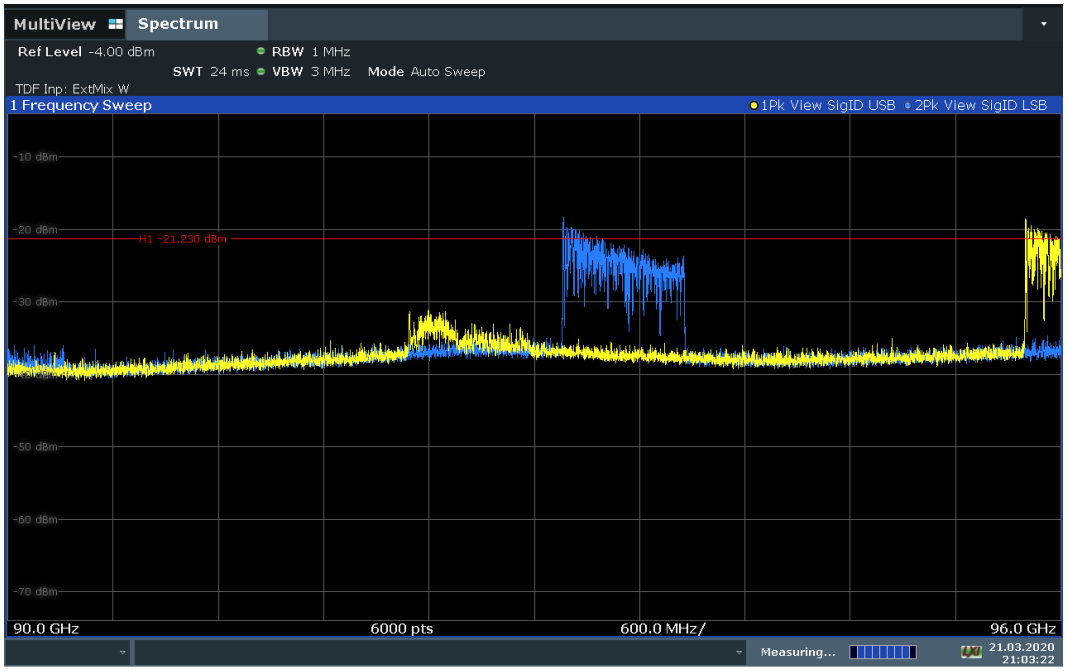
3.30. 75 GHz – 90 GHz, ANT HOR + VER, SigID USB+LSB, Op. 1, peak detector, SWT > 80s @ 1 GHz



20:49:53 21.03.2020

* Signal ID function is used. The diagram shows image signals and mixer products. The real input signal is shown, only when USB and LSB traces have the same position on the frequency axis => Apart from the noise floor no real input signal was observed. See subsection 5.8.6. in the main report.

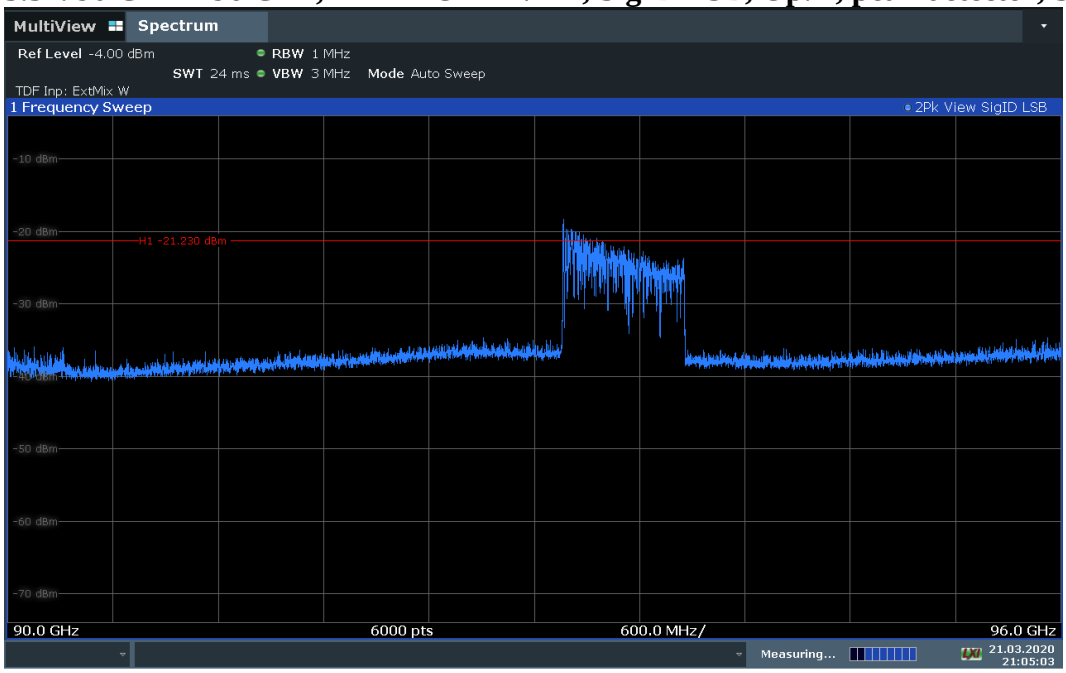
3.31. 90 GHz – 96 GHz, ANT HOR + VER, SigID USB + LSB, Op. 1, peak detector, SWT: auto



21:03:23 21.03.2020

* Signal ID function is used. The diagram shows image signals and mixer products. The real input signal is shown, only when USB and LSB traces have the same position on the frequency axis => No real input signal were observed above limit line. See subsection 5.8.6. in the main report.

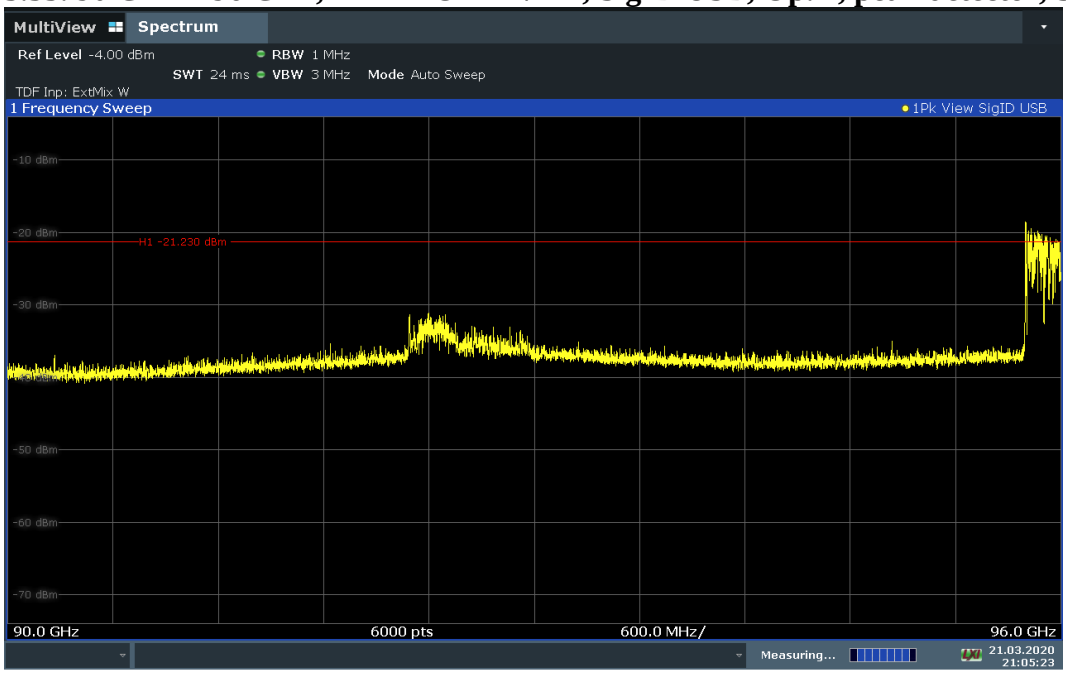
3.32. 90 GHz – 96 GHz, ANT HOR + VER, SigID LSB, Op. 1, peak detector, SWT: auto



21:05:03 21.03.2020

* Signal ID function is used. The diagram shows image signals and mixer products. The real input signal is shown, only when USB and LSB traces have the same position on the frequency axis => No real input signal were observed above limit line. See subsection 5.8.6. in the main report.

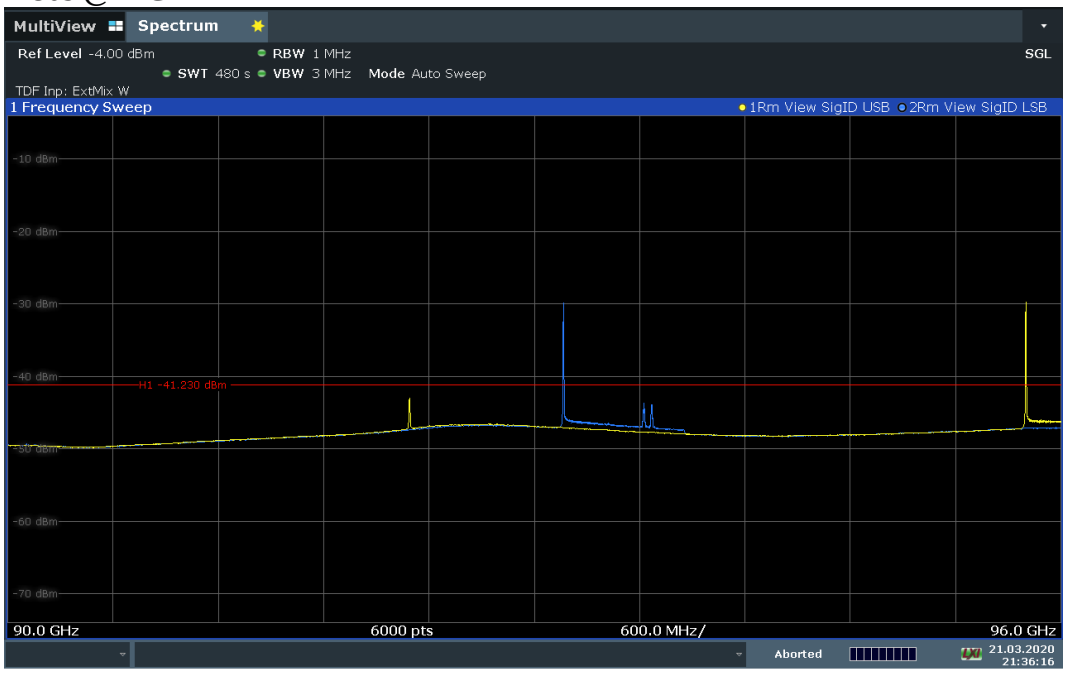
3.33. 90 GHz – 96 GHz, ANT HOR + VER, SigID USB, Op. 1, peak detector, SWT: auto



21:05:23 21.03.2020

* Signal ID function is used. The diagram shows image signals and mixer products. The real input signal is shown, only when USB and LSB traces have the same position on the frequency axis => No real input signal were observed above limit line. See subsection 5.8.6. in the main report.

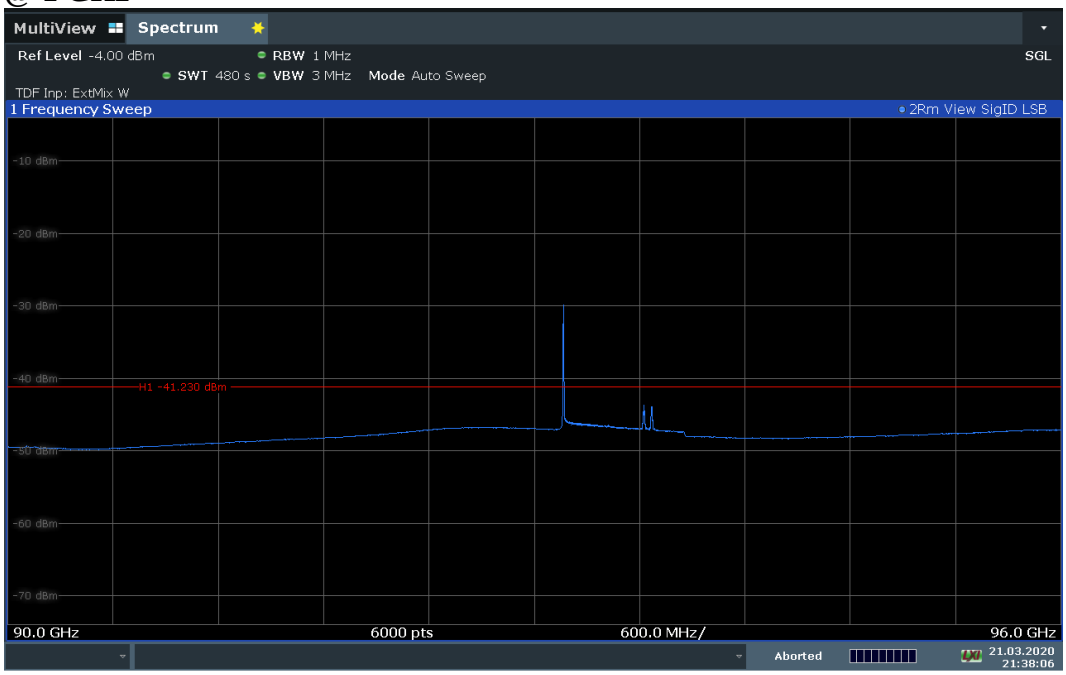
3.34. 90 GHz – 96 GHz, ANT HOR + VER, SigID USB + LSB, Op. 1, RMS detector, SWT > 80s @ 1 GHz



21:36:17 21.03.2020

* Signal ID function is used. The diagram shows image signals and mixer products. The real input signal is shown, only when USB and LSB traces have the same position on the frequency axis => No real input signal were observed above limit line. See subsection 5.8.6. in the main report

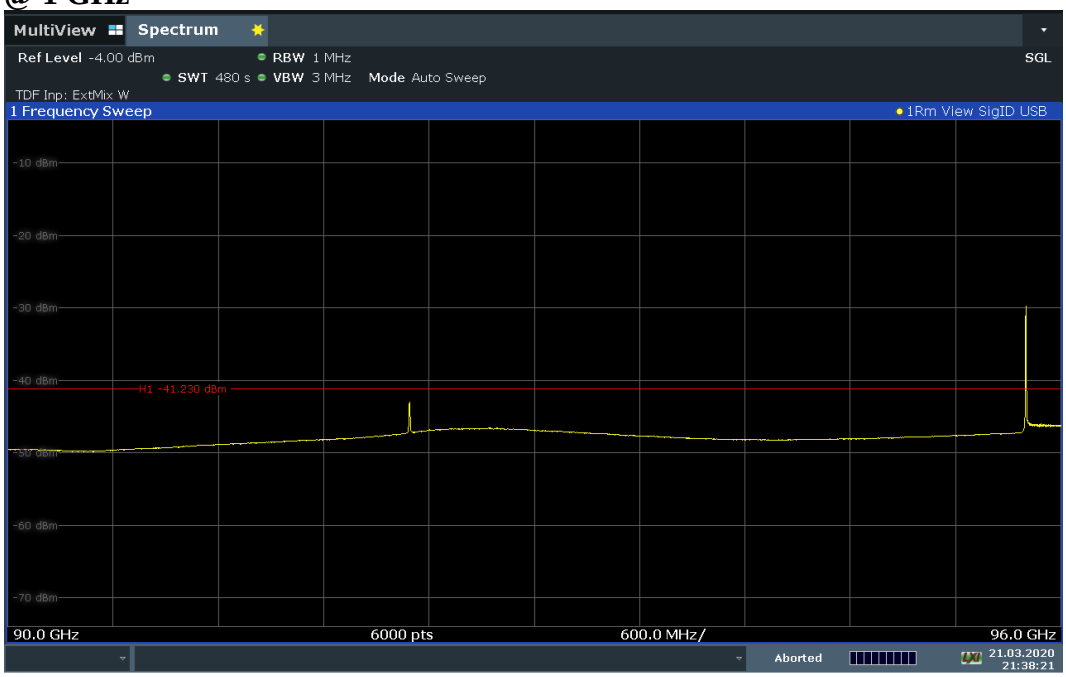
3.35. 90 GHz – 96 GHz, ANT HOR + VER, SigID LSB, Op. 1, RMS detector, SWT > 80s @ 1 GHz



21:38:07 21.03.2020

* Signal ID function is used. The diagram shows image signals and mixer products. The real input signal is shown, only when USB and LSB traces have the same position on the frequency axis => No real input signal were observed above limit line. See subsection 5.8.6. in the main report.

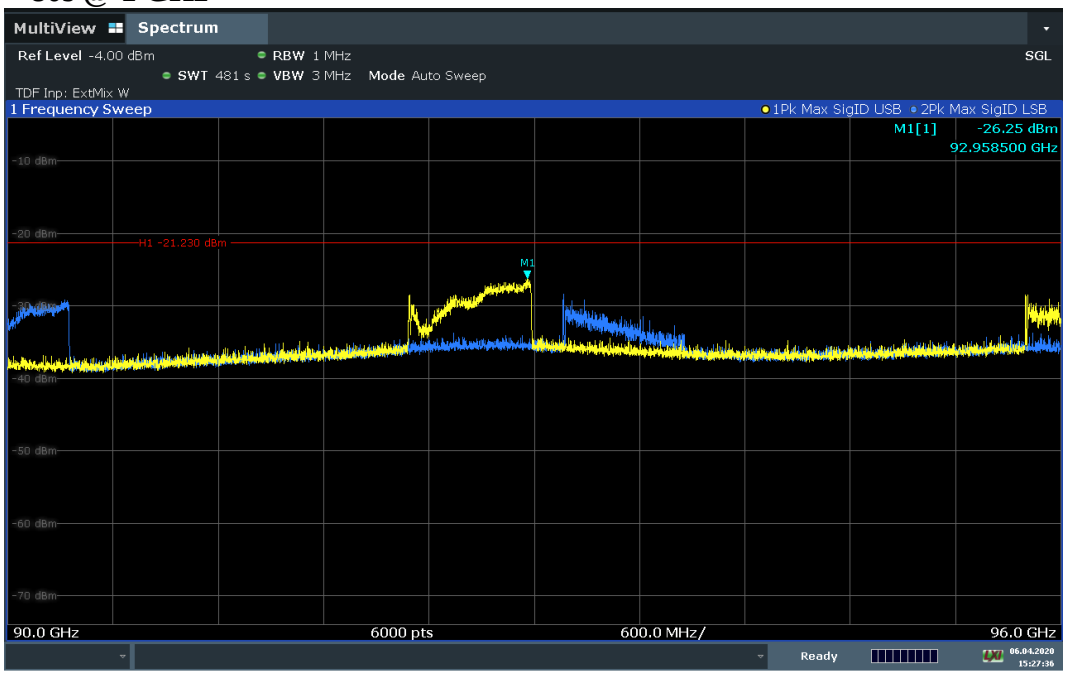
3.36. 90 GHz – 96 GHz, ANT HOR + VER, SigID USB, Op. 1, RMS detector, SWT > 80s @ 1 GHz



21:38:22 21.03.2020

* Signal ID function is used. The diagram shows image signals and mixer products. The real input signal is shown, only when USB and LSB traces have the same position on the frequency axis => No real input signal were observed above limit line. See subsection 5.8.6. in the main report.

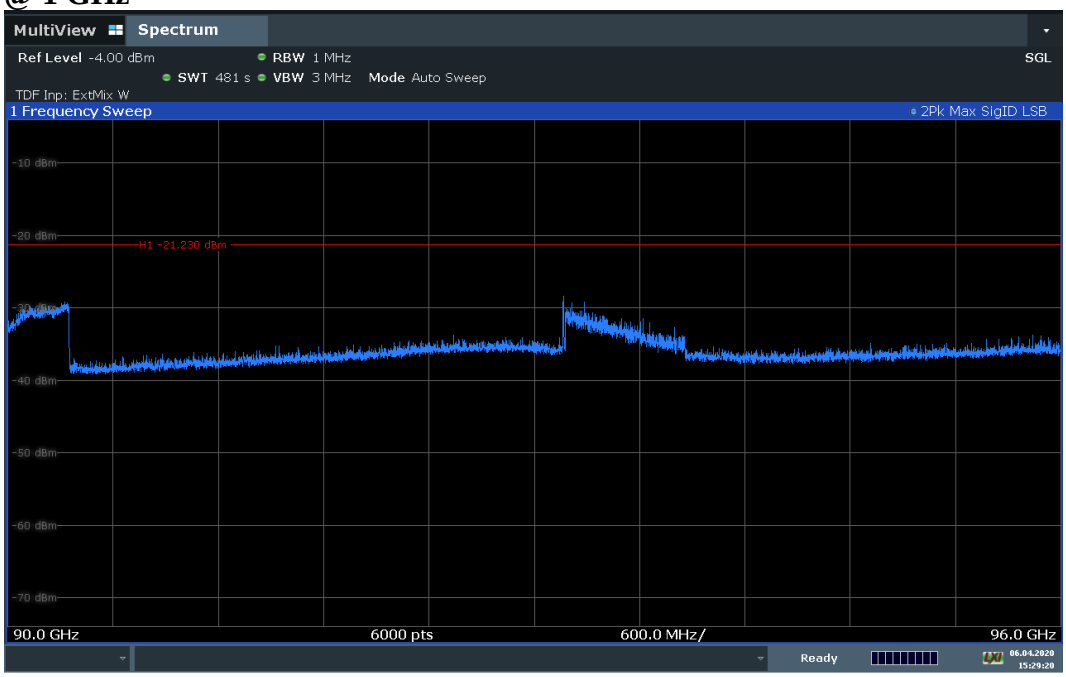
3.37. 90 GHz – 96 GHz, ANT HOR + VER, SigID USB + LSB, Op. 1, peak detector, SWT > 80s @ 1 GHz



15:27:37 06.04.2020

* Signal ID function is used. The diagram shows image signals and mixer products. The real input signal is shown, only when USB and LSB traces have the same position on the frequency axis => No real input signal were observed above limit line. See subsection 5.8.6. in the main report.

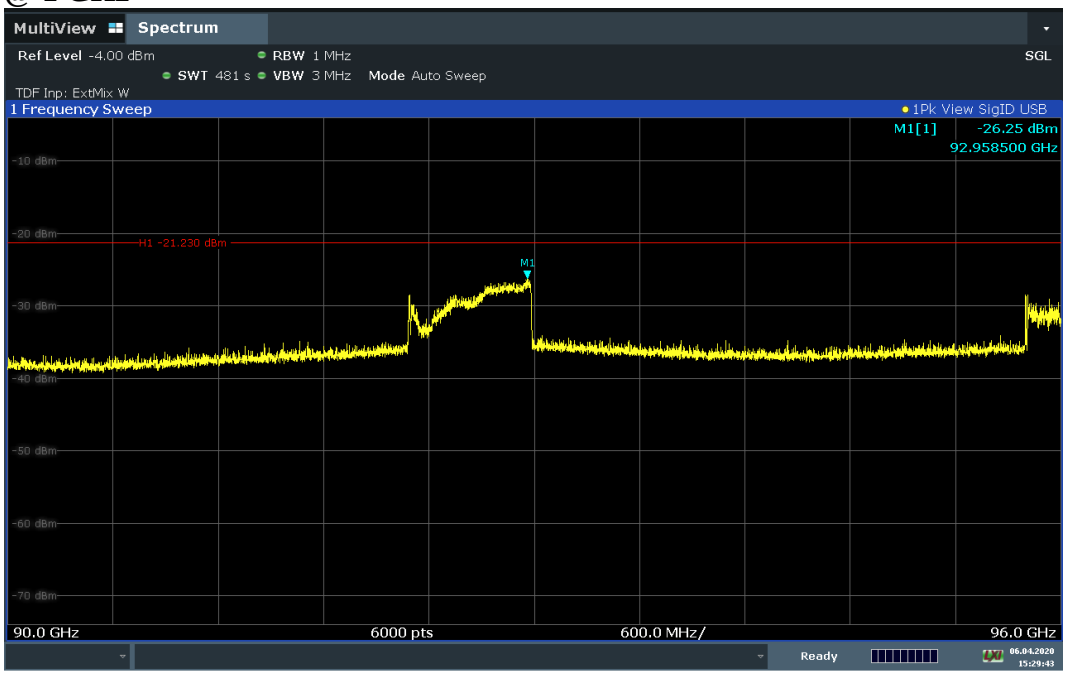
3.38. 90 GHz – 96 GHz, ANT HOR + VER, SigID LSB, Op. 1, peak detector, SWT > 80s @ 1 GHz



15:29:21 06.04.2020

* Signal ID function is used. The diagram shows image signals and mixer products. The real input signal is shown, only when USB and LSB traces have the same position on the frequency axis => No real input signal were observed above limit line. See subsection 5.8.6. in the main report.

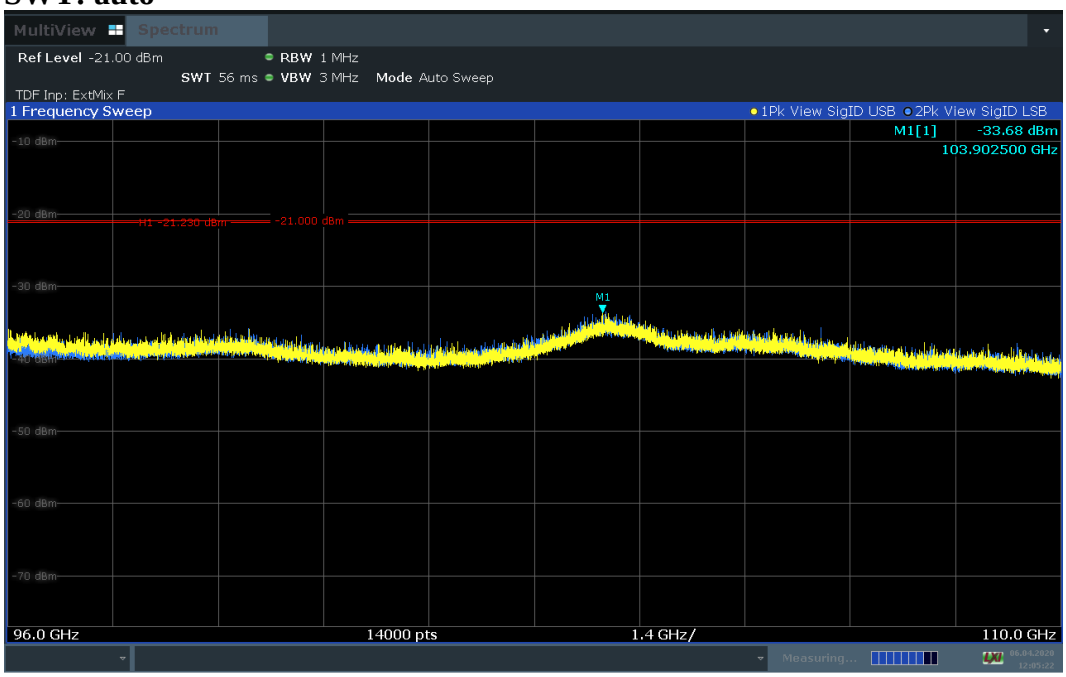
3.39. 90 GHz – 96 GHz, ANT HOR + VER, SigID USB, Op. 1, peak detector, SWT > 80s @ 1 GHz



15:29:43 06.04.2020

* Signal ID function is used. The diagram shows image signals and mixer products. The real input signal is shown, only when USB and LSB traces have the same position on the frequency axis => No real input signal were observed above limit line. See subsection 5.8.6. in the main report.

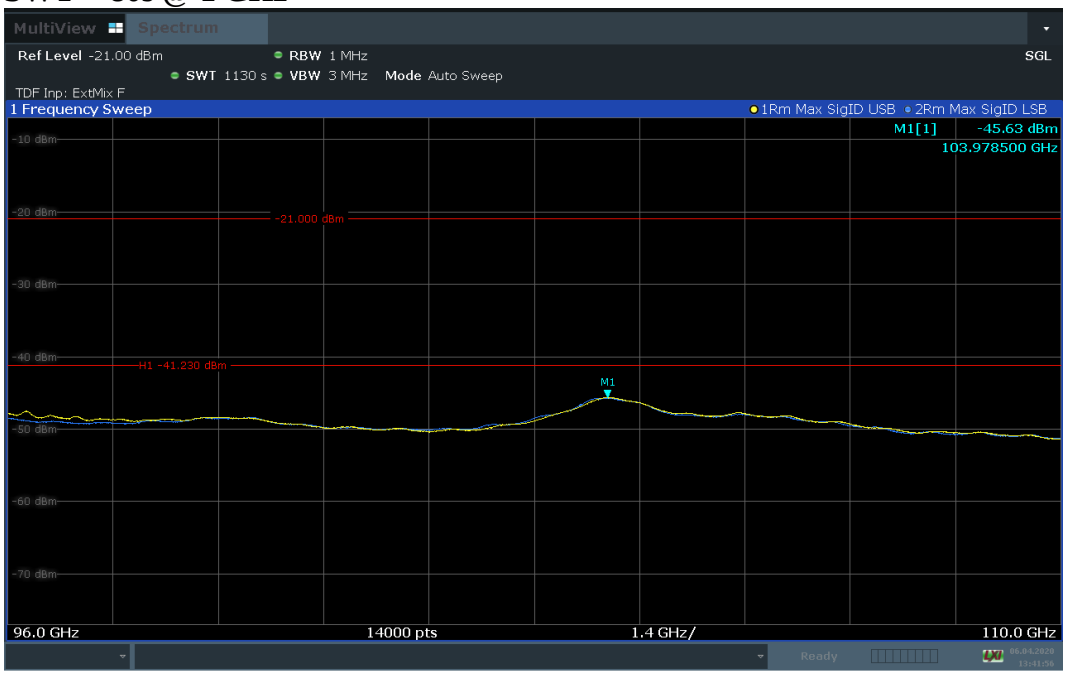
3.40. 96 GHz – 110 GHz, ANT HOR + VER, SigID USB + LSB, Op. 1, peak detector, SWT: auto



12:05:22 06.04.2020

* Signal ID function is used. The diagram shows image signals and mixer products. The real input signal is shown, only when USB and LSB traces have the same position on the frequency axis => No real input signal were observed above limit line. See subsection 5.8.6. in the main report. -21 dBm is a reference line from the FSW67. See limits in subsection 1.2. in the main report.

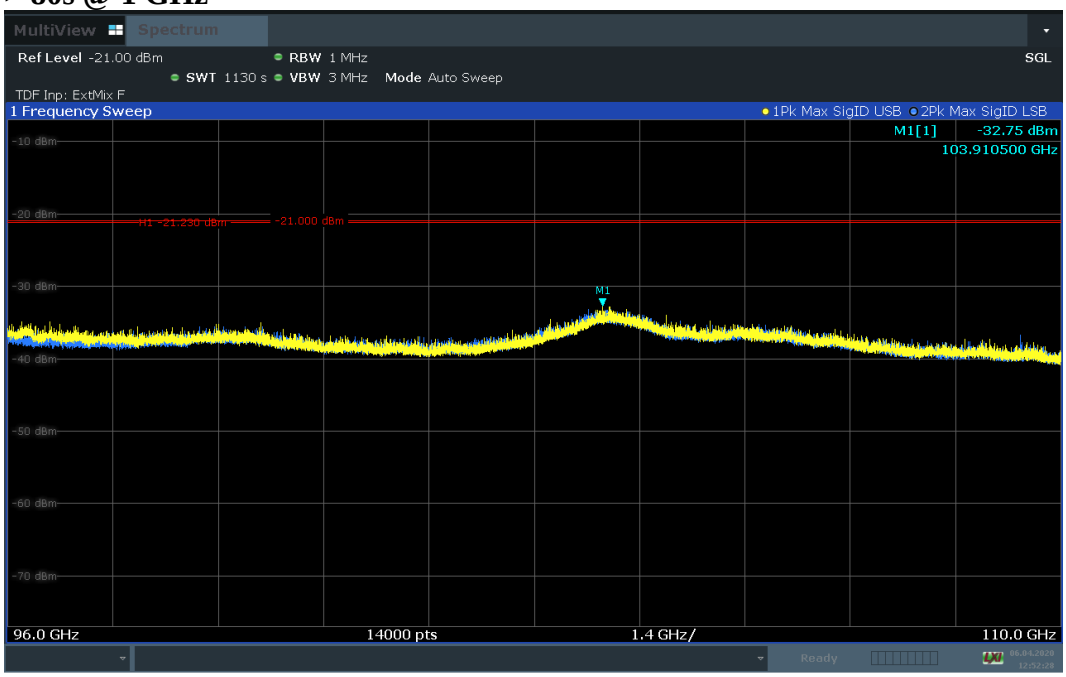
3.41. 96 GHz – 110 GHz, ANT HOR + VER, SigID USB + LSB, Op. 1, RMS detector, SWT > 80s @ 1 GHz



13:41:57 06.04.2020

* Signal ID function is used. The diagram shows image signals and mixer products. The real input signal is shown, only when USB and LSB traces have the same position on the frequency axis => No real input signal were observed above limit line. See subsection 5.8.6. in the main report. -21 dBm is a reference line from the FSW67. See limits in subsection 1.2. in the main report.

3.42. 96 GHz – 110 GHz, ANT HOR + VER, SigID USB + LSB, Op. 1, peak detector, SWT > 80s @ 1 GHz



12:52:28 06.04.2020

* Signal ID function is used. The diagram shows image signals and mixer products. The real input signal is shown, only when USB and LSB traces have the same position on the frequency axis => No real input signal were observed above limit line. See subsection 5.8.6. in the main report. -21 dBm is a reference line from the FSW67. See limits in subsection 1.2. in the main report.

End of Annex 1