

Annex 1: Measurement diagrams to
TEST REPORT
No.: 18-1-0002601T03a-C1

According to:
FCC Regulations
Part 15.519

for

Siemens AG

WIRELESS TAG EPAPER 4 PULSE | PHASE

FCC ID: SCF6032702

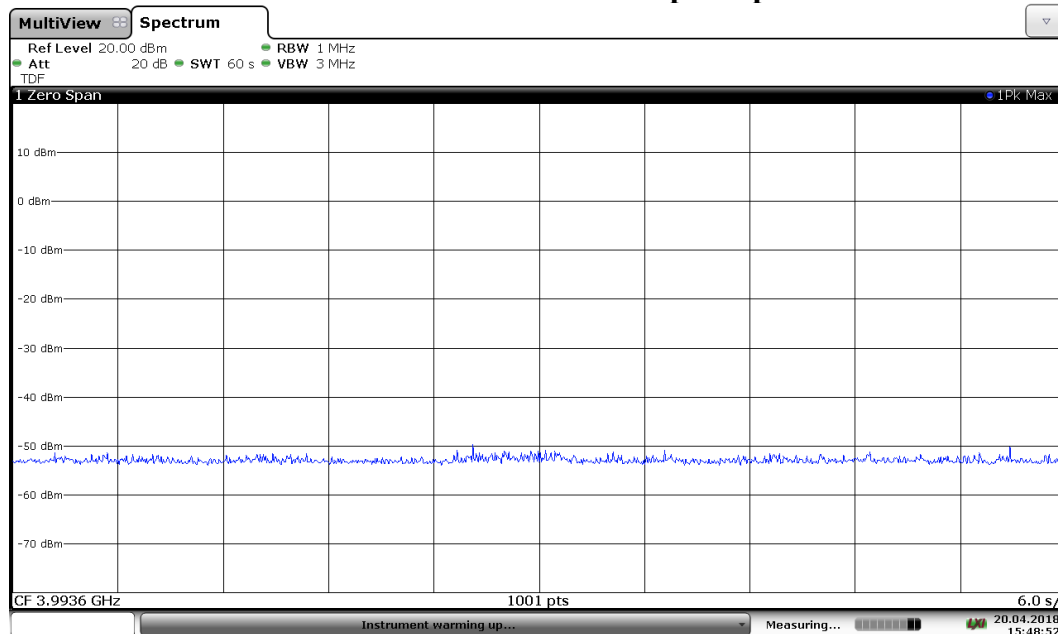
Laboratory Accreditation
 Deutsche Akkreditierungsstelle D-PL-12047-01-01 D-PL-12047-01-03 D-PL-12047-01-04
accredited according to DIN EN ISO/IEC 17025
CETECOM GmbH Laboratory Radio Communications & Electromagnetic Compatibility Im Teelbruch 116 • 45219 Essen • Germany Registered in Essen, Germany, Reg. No.: HRB Essen 8984 Tel.: + 49 (0) 20 54 / 95 19-954 • Fax: + 49 (0) 20 54 / 95 19-964 E-mail: info@cetecom.com • Internet: www.cetecom.com

TABLE OF CONTENTS:

1. TRANSMISSION TIME MEASUREMENT	3
1.1. AE3 is switched OFF. The EUT is ON. Set-up 3. Op. mode 6.....	3
1.2. AE3 is switched ON and after 30 s is switched OFF. The EUT is ON. Set-up 3. Op. mode 6.....	3
1.3. AE3 is switched OFF and after 30 s is switched ON. The EUT is ON. Set-up 3. Op. mode 6.....	4
2. 10 DB BANDWIDTH MEASUREMENT	5
2.1. Op. Mode 2 (DW2_PRF16MHz_DR110k_PCCh2). Set-up 2.	5
2.2. Op. Mode 3 (DW2_PRF16MHz_DR6800k_PCCh2). Set-up 2.	5
2.3. Op. Mode 4 (DW2_PRF64MHz_DR110k_PCCh2). Set-up 2.	6
2.4. Op. Mode 5 (DW2_PRF64MHz_DR6800k_PCCh2). Set-up 2.	6
3. GENERAL LIMIT - RADIATED FIELD STRENGTH EMISSIONS BELOW 30 MHZ.....	7
3.1. Op. Mode 1, laying, set-up 1.	7
3.2. Op. Mode 1, standing, set-up 1.....	7
4. GENERAL LIMIT - RADIATED FIELD STRENGTH EMISSIONS, 30 MHZ - 1 GHZ	8
4.1. Op. Mode 1, laying, set-up 1.	8
4.2. Op. Mode 1, standing, set-up 1.....	8
5. GENERAL LIMIT – RADIATED FIELD STRENGTH EMISSIONS, ABOVE 960 MHZ.....	9
5.1. Frequency range 960 MHz – 1610 MHz, op. mode 1, set-up 1.	9
5.2. Frequency range 1610 MHz – 3100 MHz, op. mode 7, set-up 5.	9
5.3. Frequency range 3100 MHz – 5000 MHz, op. Mode 1, set-up 1.....	10
5.4. UWB Ch. 2 cen. frequency with span 600 MHz, 600 pts, SWT 600ms, op. Mode 1, set-up 1.	10
5.5. UWB Ch. 2 cen. frequency with span 600 MHz, 600 pts, SWT 600ms, op. Mode 7, set-up 4.	11
5.6. Frequency range 5000 MHz – 10600 MHz, op. Mode 1, set-up 1.....	11
5.7. Frequency range 10600 MHz – 12400 MHz, op. Mode 7, set-up 4, ANT HOR.	12
5.8. Frequency range 10600 MHz – 12400 MHz, op. Mode 7, set-up 4, ANT VER.	12
5.9. Frequency range 12400 MHz – 18000 MHz, op. Mode 7, set-up 4.....	13
5.10. Frequency range 18000 MHz – 40000 MHz, op. Mode 7, set-up 4.....	13
6. RADIATED EMISSIONS IN THE GPS BANDS	14
6.1. Frequency range 1164 MHz – 1240 MHz, op. Mode 1, set-up 1.....	14
6.2. Frequency range 1559 MHz – 1610 MHz, op. Mode 1, op. Mode 1, set-up 1.	14
7. FUNDAMENTAL EMISSION PEAK POWER,	15
7.1. Op. Mode 1, set-up 1.	15
7.2. Op. Mode 7, set-up 4.	15

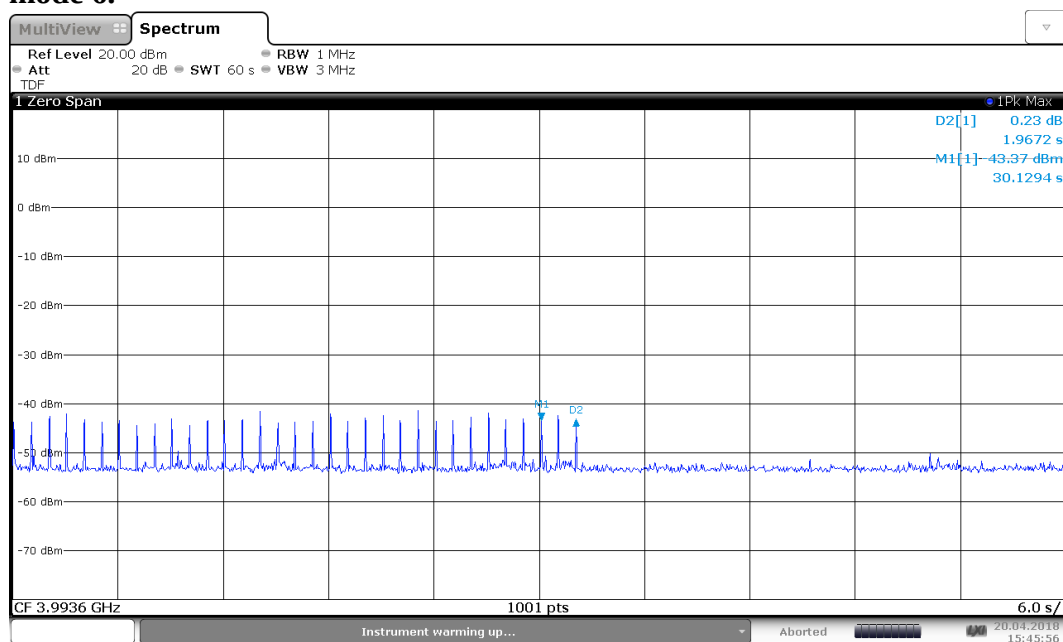
1. Transmission time measurement

1.1. AE3 is switched OFF. The EUT is ON. Set-up 3. Op. mode 6.



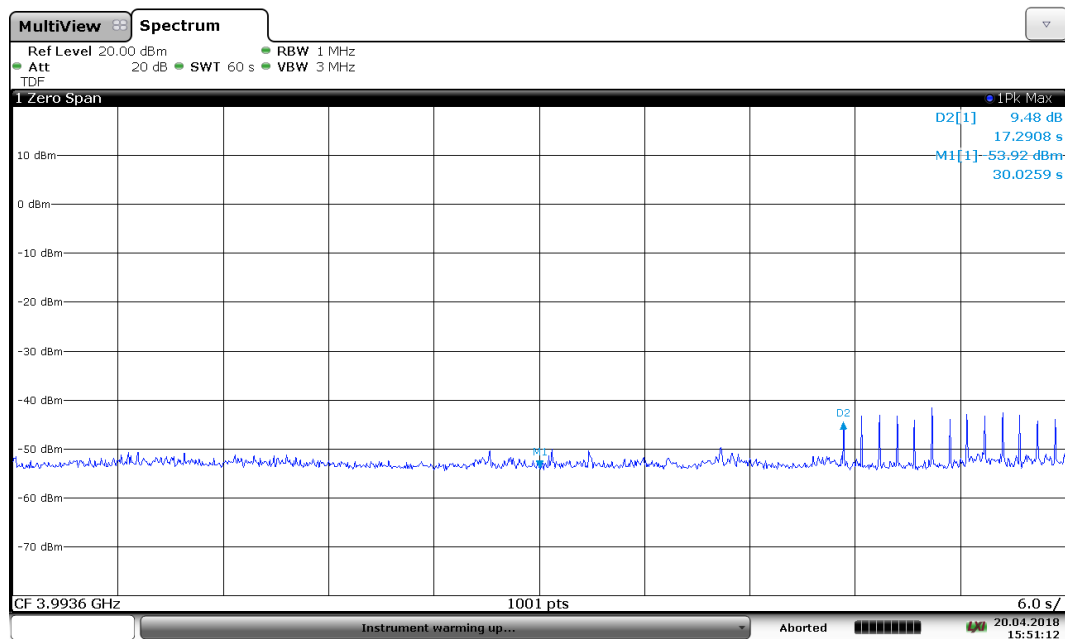
15:48:53 20.04.2018

1.2. AE3 is switched ON and after 30 s is switched OFF. The EUT is ON. Set-up 3. Op. mode 6.



15:45:57 20.04.2018

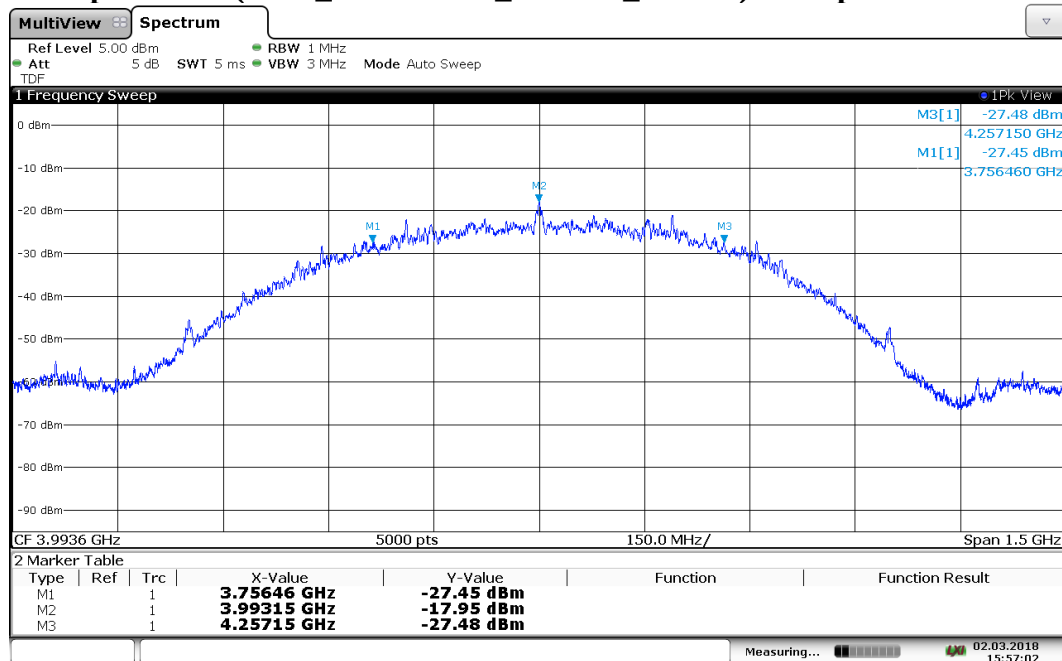
1.3. AE3 is switched OFF and after 30 s is switched ON. The EUT is ON. Set-up 3. Op. mode 6.



15:51:13 20.04.2018

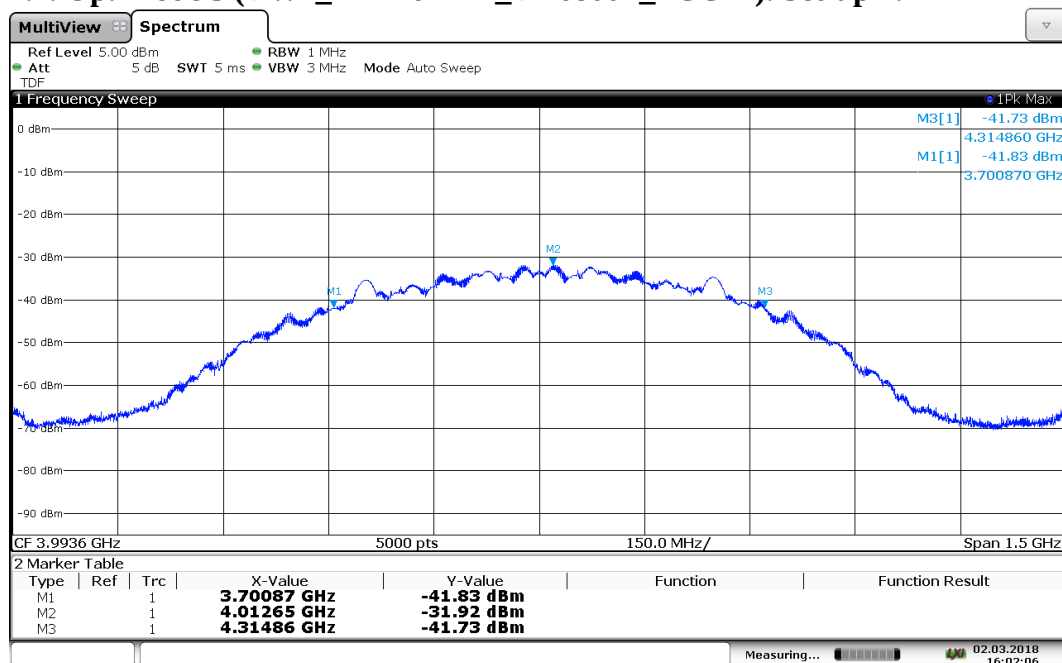
2. 10 dB bandwidth measurement

2.1. Op. Mode 2 (DW2_PRF16MHz_DR110k_PCCh2). Set-up 2.



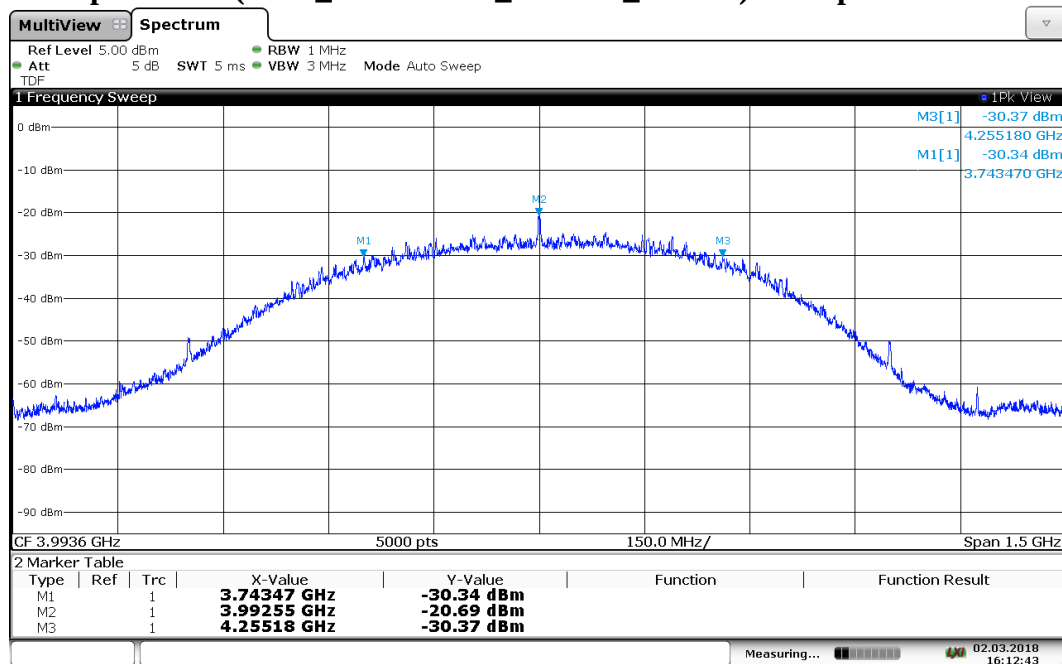
15:57:03 02.03.2018

2.2. Op. Mode 3 (DW2_PRF16MHz_DR6800k_PCCh2). Set-up 2.



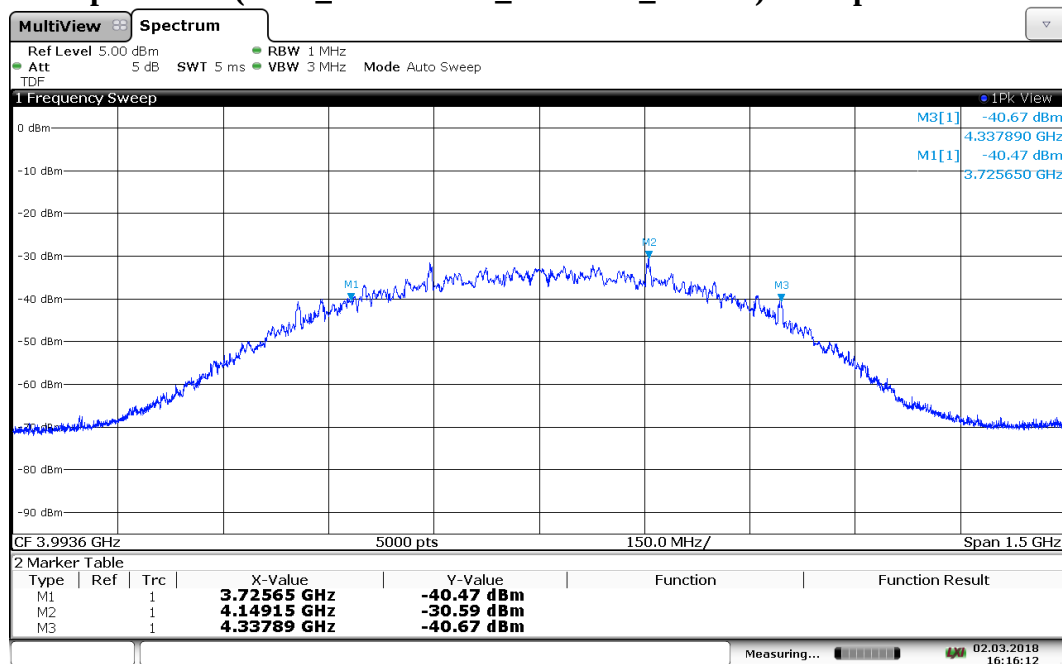
16:02:06 02.03.2018

2.3. Op. Mode 4 (DW2_PRF64MHz_DR110k_PCCh2). Set-up 2.



16:12:44 02.03.2018

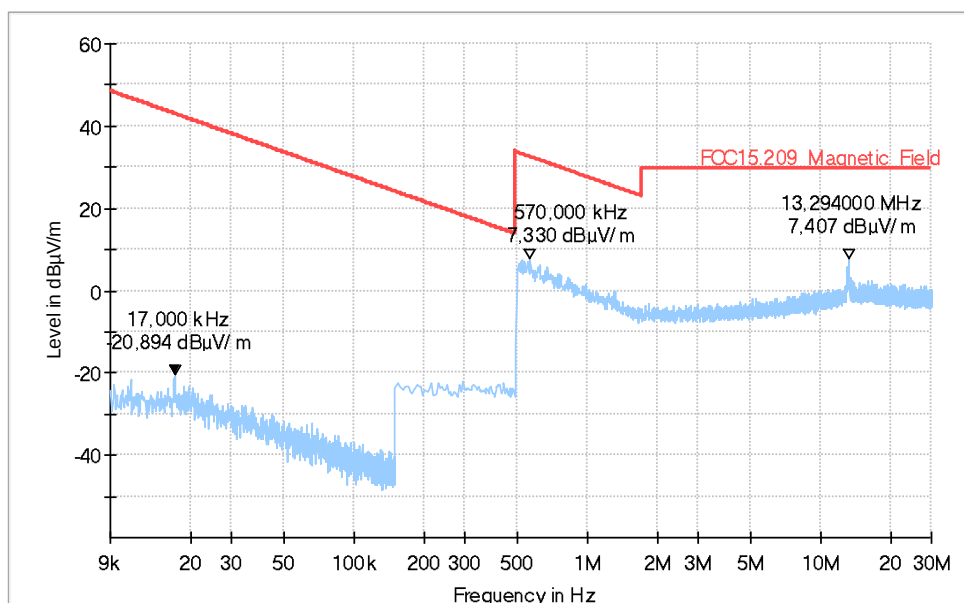
2.4. Op. Mode 5 (DW2_PRF64MHz_DR6800k_PCCh2). Set-up 2.



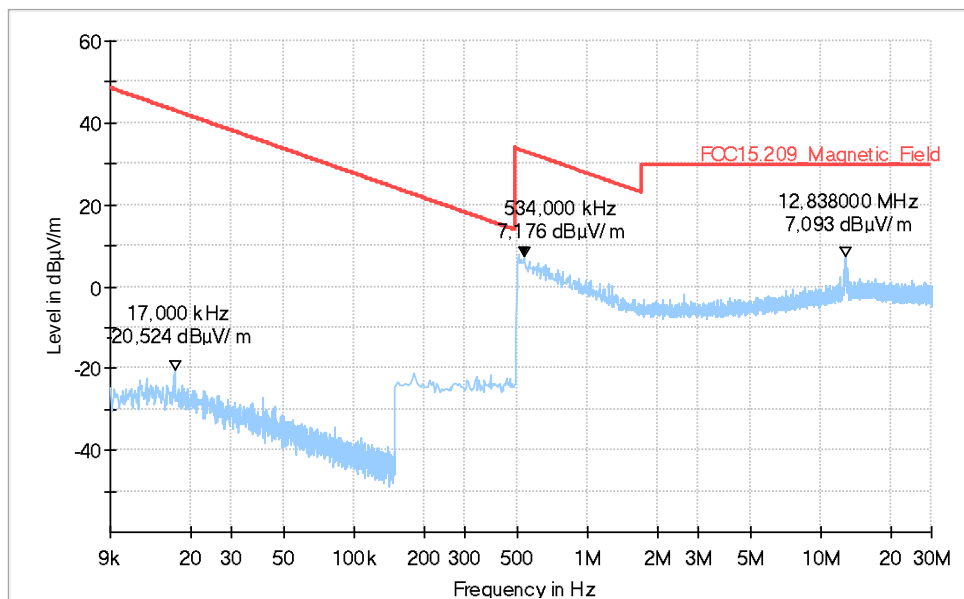
16:16:13 02.03.2018

3. General Limit - Radiated field strength emissions below 30 MHz

3.1. Op. Mode 1, laying, set-up 1.



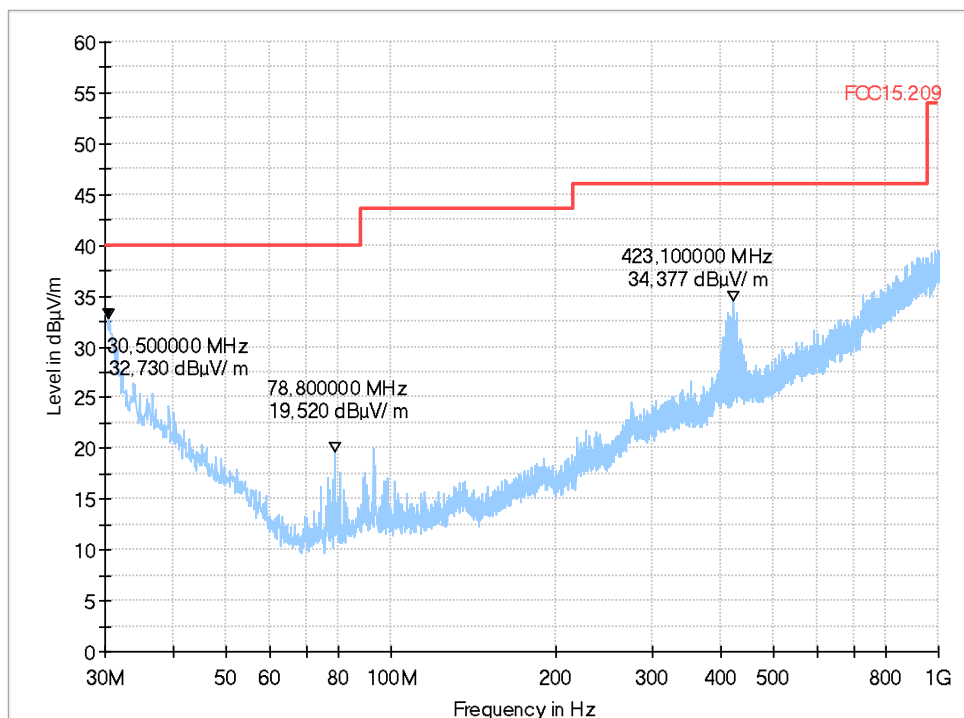
3.2. Op. Mode 1, standing, set-up 1.



4. General Limit - Radiated field strength emissions, 30 MHz - 1 GHz

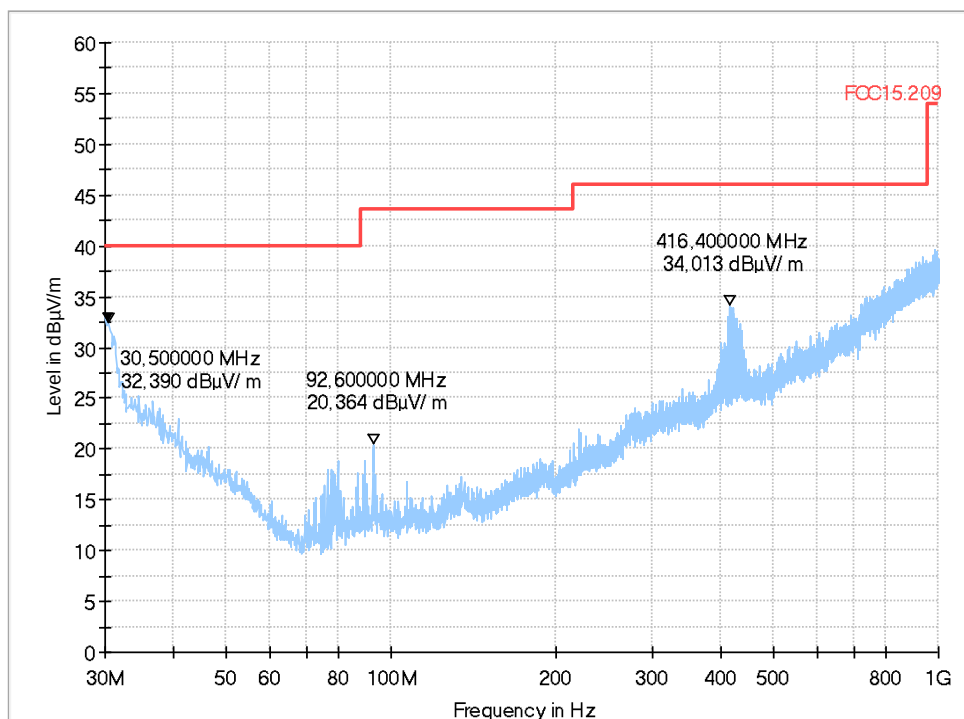
4.1. Op. Mode 1, laying, set-up 1.

Full Spectrum



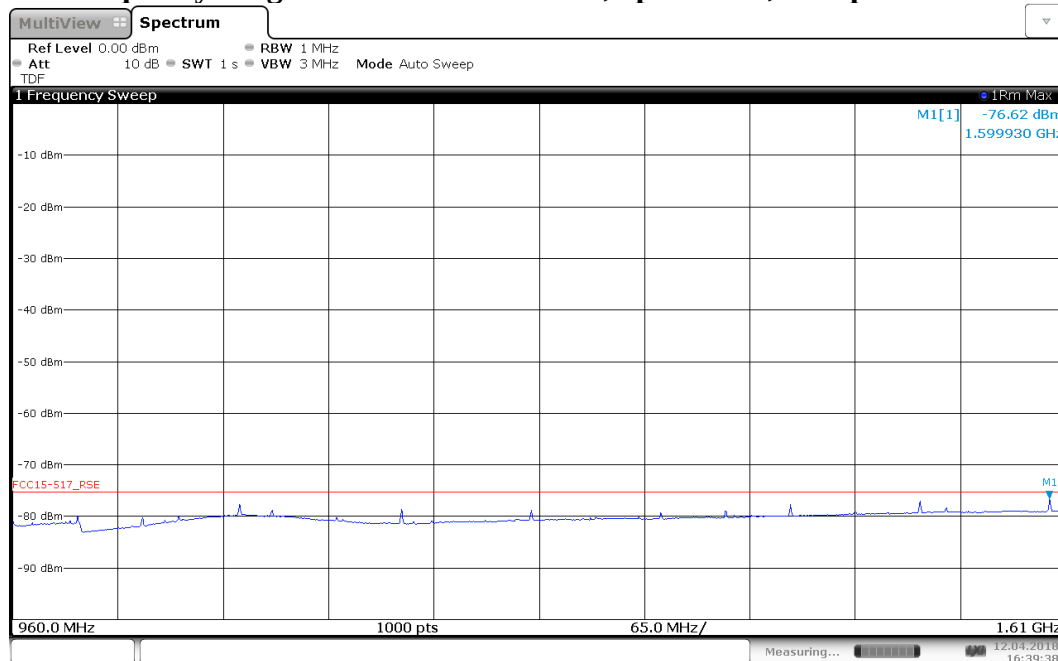
4.2. Op. Mode 1, standing, set-up 1.

Full Spectrum



5. General Limit – Radiated field strength emissions, above 960 MHz

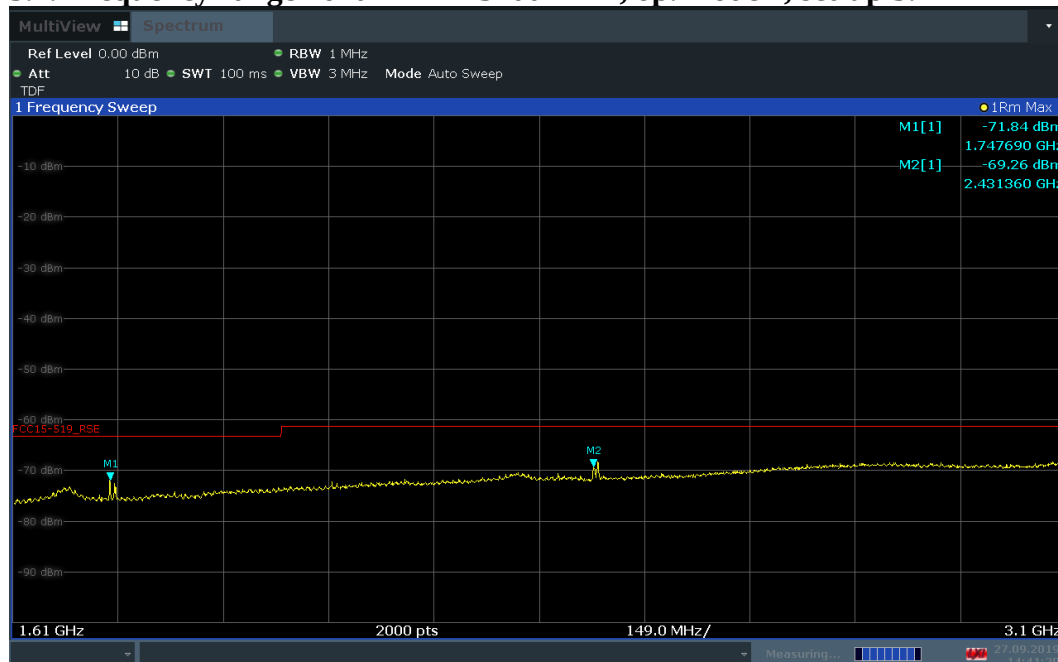
5.1. Frequency range 960 MHz – 1610 MHz, op. mode 1, set-up 1.



16:39:38 12.04.2018

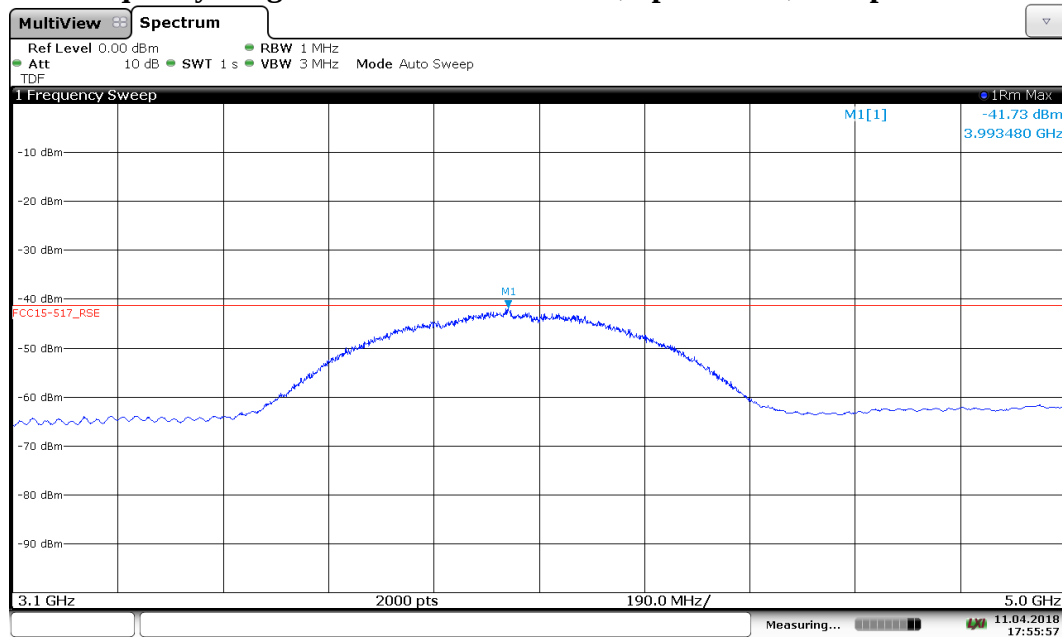
* The limit line on the diagram has a value -75.3 dBm. This limit is the same for §15.517 and for §15.519.

5.2. Frequency range 1610 MHz – 3100 MHz, op. mode 7, set-up 5.



14:41:21 27.09.2019

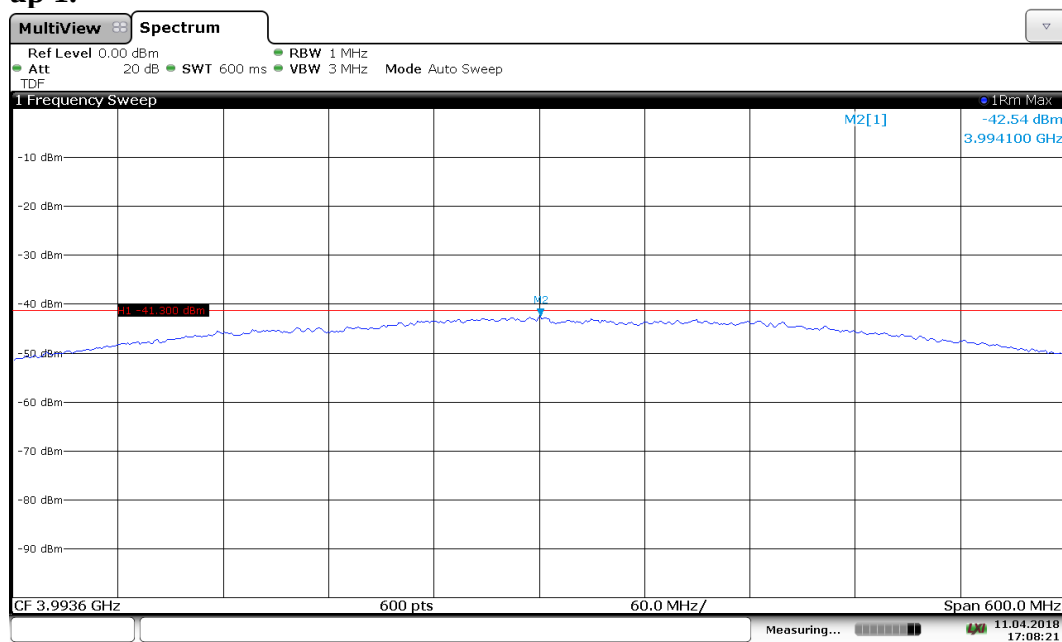
5.3. Frequency range 3100 MHz – 5000 MHz, op. Mode 1, set-up 1.



17:55:57 11.04.2018

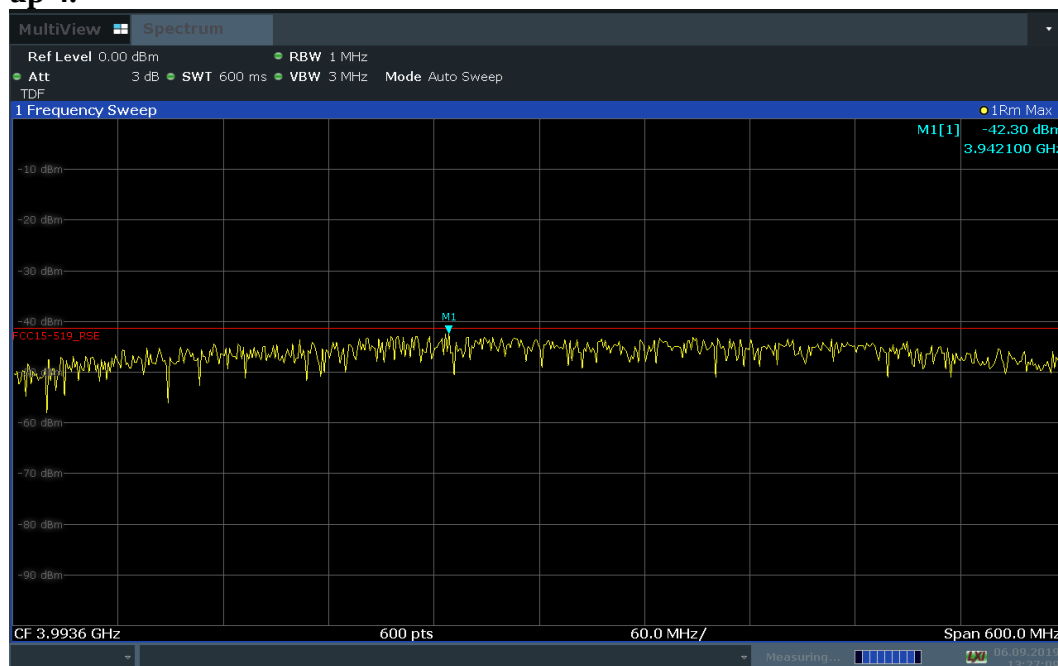
* The limit line on the diagram has a value -41.3 dBm. This limit is the same for §15.517 and for §15.519.

5.4. UWB Ch. 2 cen. frequency with span 600 MHz, 600 pts, SWT 600ms, op. Mode 1, set-up 1.



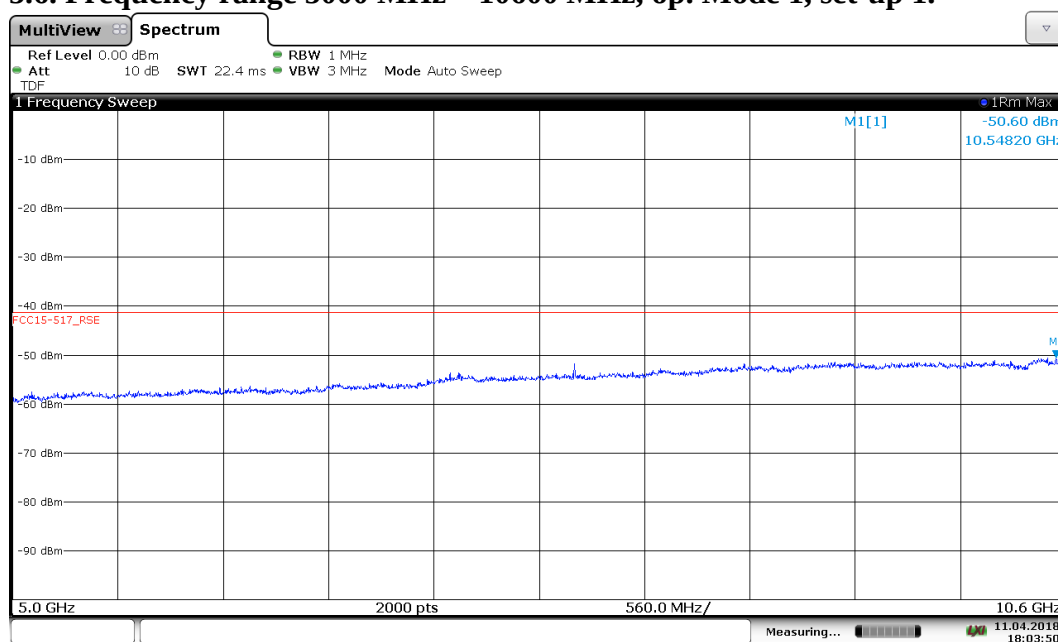
17:08:21 11.04.2018

5.5. UWB Ch. 2 cen. frequency with span 600 MHz, 600 pts, SWT 600ms, op. Mode 7, set-up 4.



13:27:09 06.09.2019

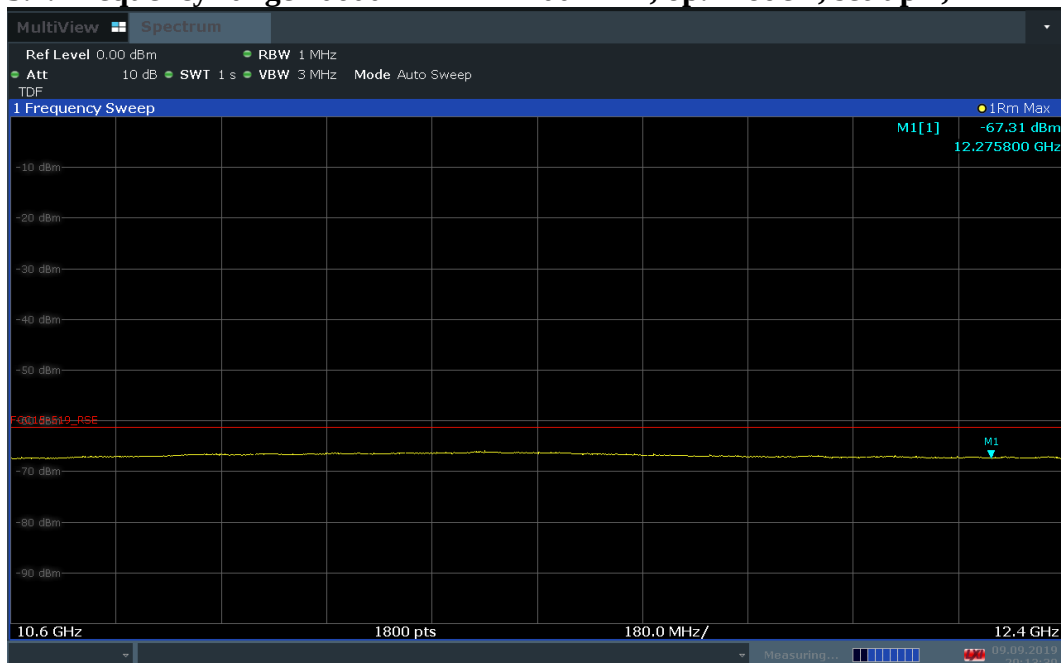
5.6. Frequency range 5000 MHz – 10600 MHz, op. Mode 1, set-up 1.



18:03:50 11.04.2018

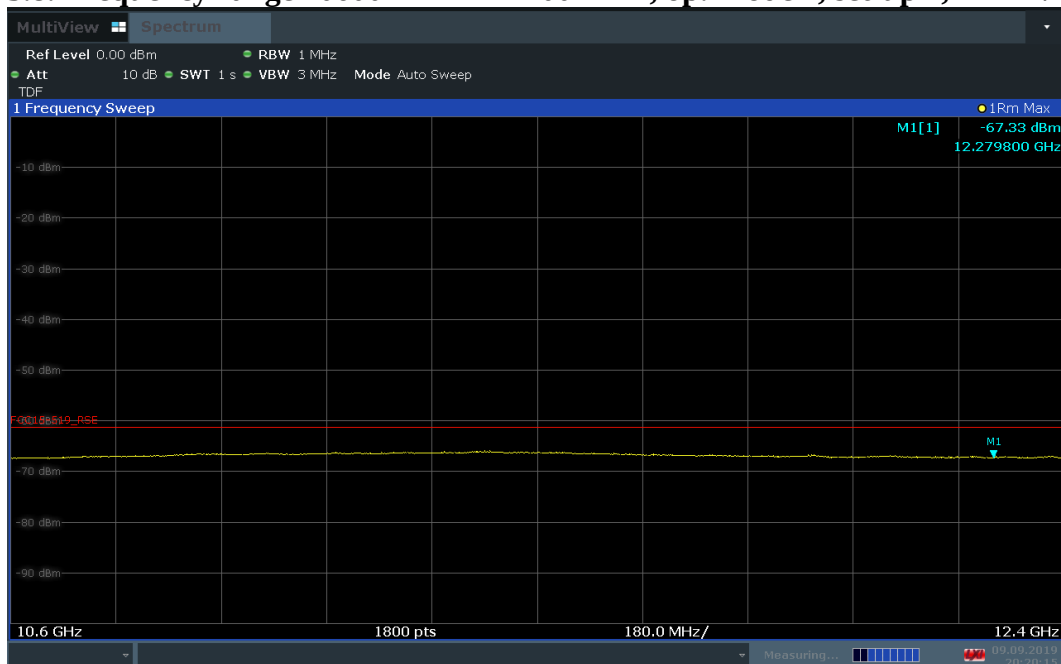
* The limit line on the diagram has a value -41.3 dBm. This limit is the same for §15.517 and for §15.519.

5.7. Frequency range 10600 MHz – 12400 MHz, op. Mode 7, set-up 4, ANT HOR.



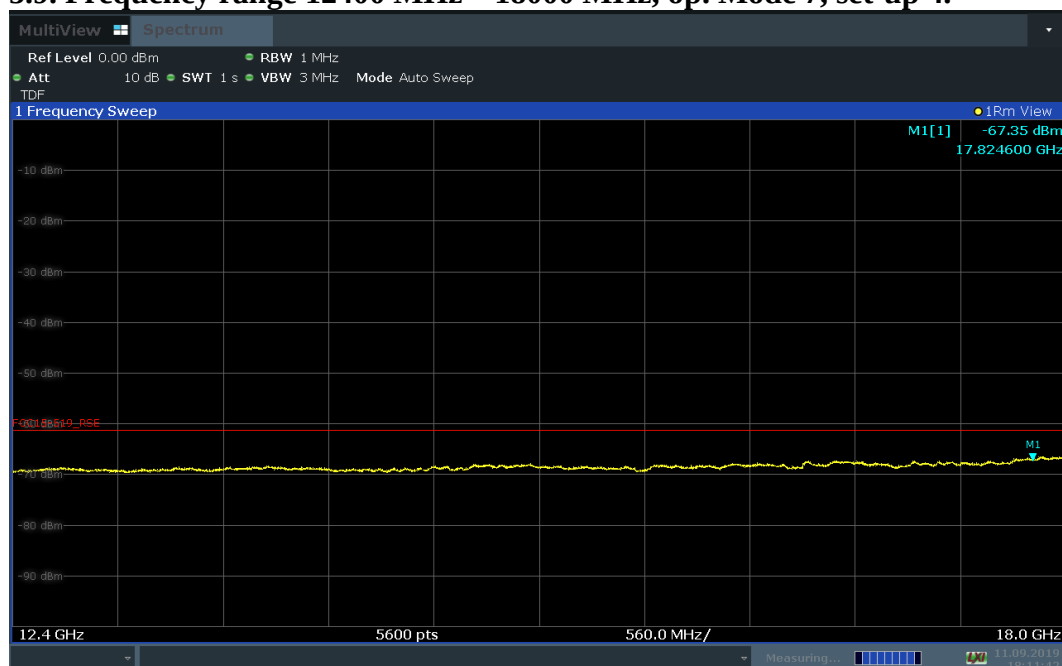
20:13:40 09.09.2019

5.8. Frequency range 10600 MHz – 12400 MHz, op. Mode 7, set-up 4, ANT VER.



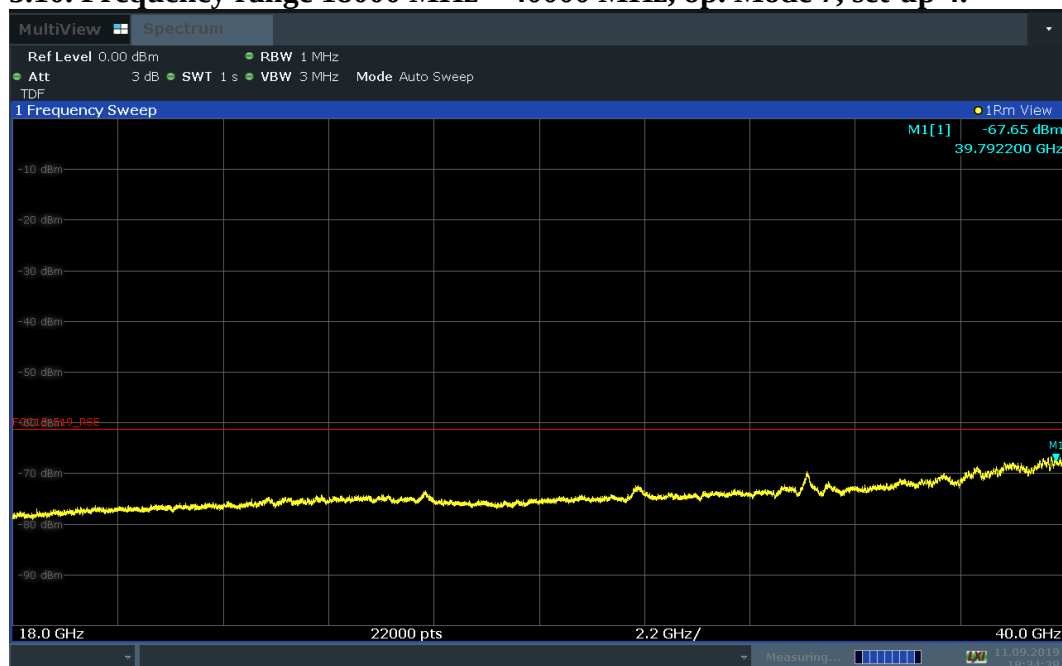
20:20:16 09.09.2019

5.9. Frequency range 12400 MHz – 18000 MHz, op. Mode 7, set-up 4.



18:11:43 11.09.2019

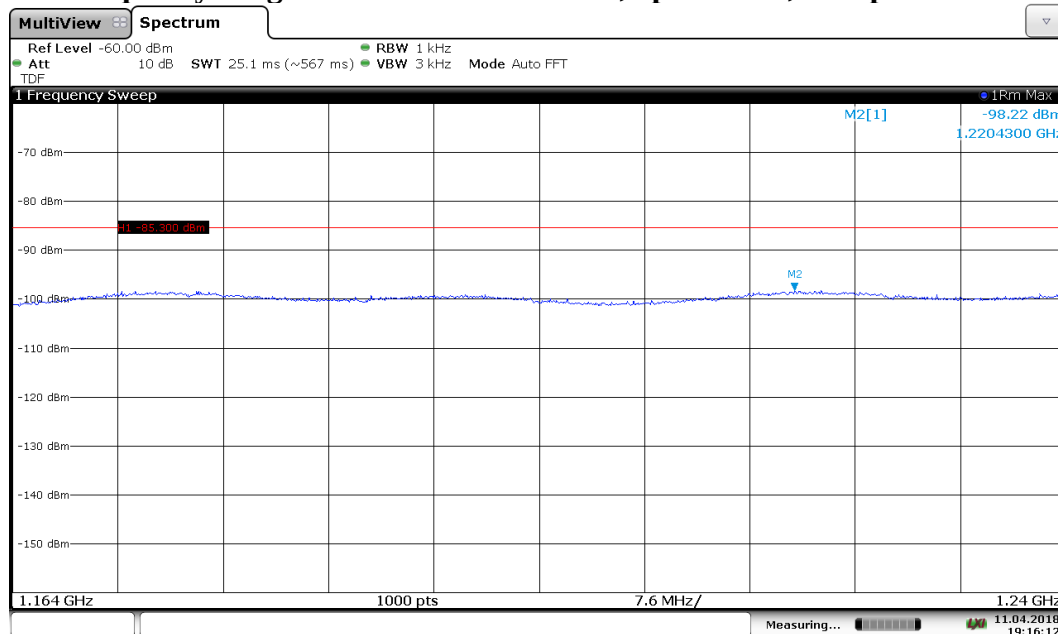
5.10. Frequency range 18000 MHz – 40000 MHz, op. Mode 7, set-up 4.



18:34:39 11.09.2019

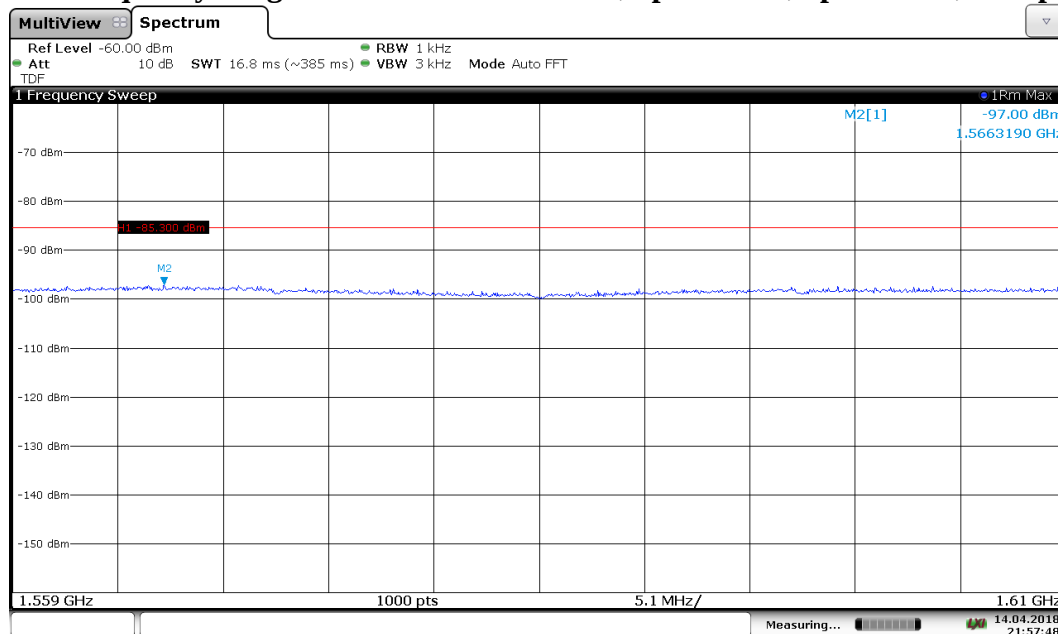
6. Radiated emissions in the GPS bands

6.1. Frequency range 1164 MHz – 1240 MHz, op. Mode 1, set-up 1.



19:16:13 11.04.2018

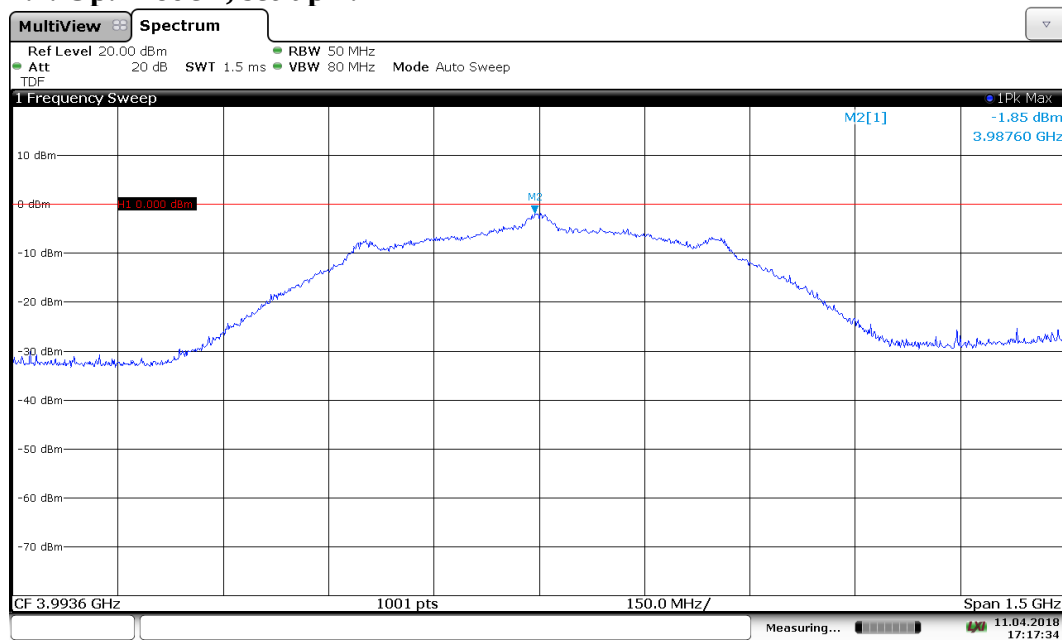
6.2. Frequency range 1559 MHz – 1610 MHz, op. Mode 1, op. Mode 1, set-up 1.



21:57:49 14.04.2018

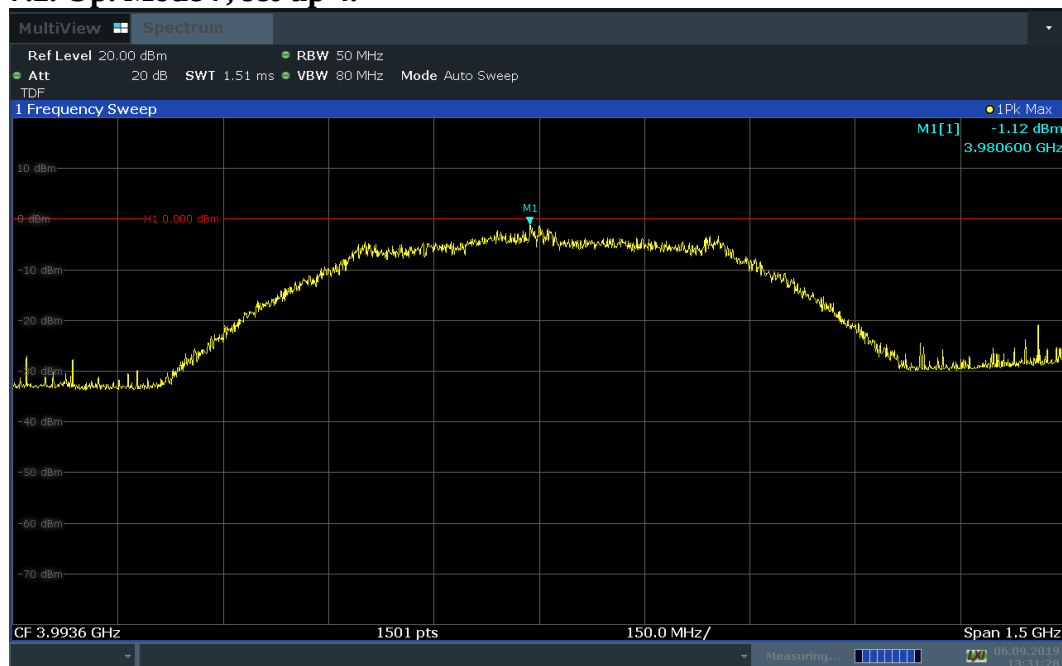
7. Fundamental emission peak power,

7.1. Op. Mode 1, set-up 1.



17:17:35 11.04.2018

7.2. Op. Mode 7, set-up 4.



13:31:29 06.09.2019