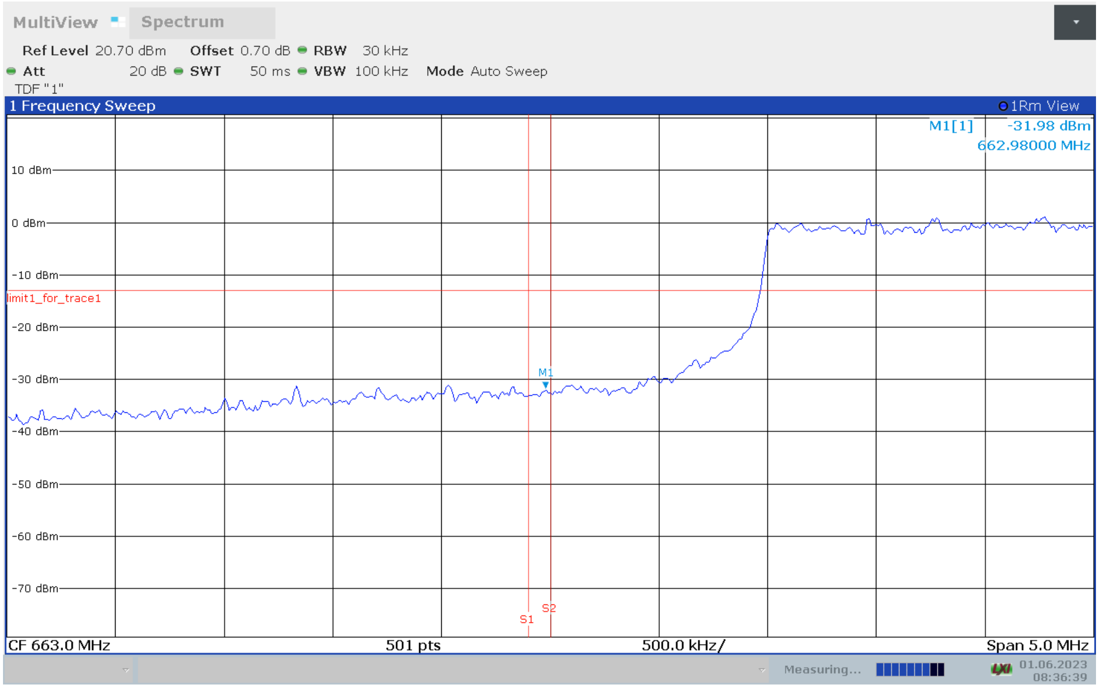
LOW BAND EDGE BLOCK-20M-100%RB


MultiView Spectrum

Ref Level 20.70 dBm Offset 0.70 dB RBW 30 kHz
Att 20 dB SWT 50 ms VBW 100 kHz Mode Auto Sweep
TDF "1"

1 Frequency Sweep

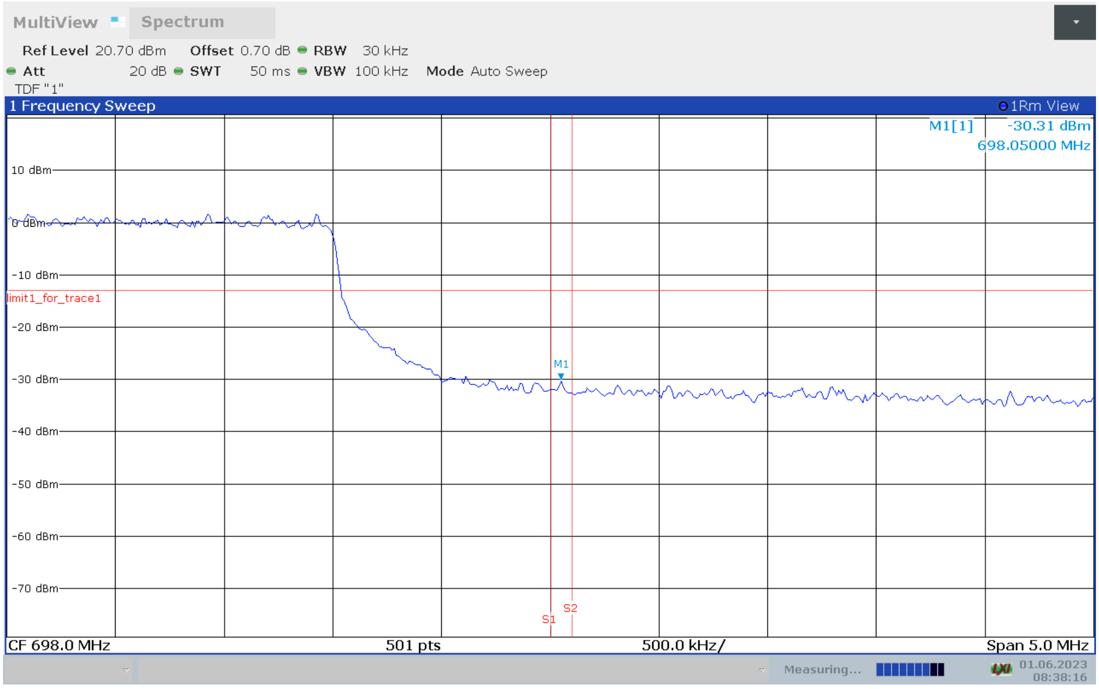
M1[1] -31.98 dBm
662.98000 MHz

CF 663.0 MHz 501 pts 500.0 kHz/ Span 5.0 MHz

Measuring... 01.06.2023 08:36:39

1Rm View
10 dBm
0 dBm
-10 dBm
limit1_for_trace1
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
M1
S1
S2

HIGH BAND EDGE BLOCK-20M-100%RB


MultiView Spectrum

Ref Level 20.70 dBm Offset 0.70 dB RBW 30 kHz
Att 20 dB SWT 50 ms VBW 100 kHz Mode Auto Sweep
TDF "1"

1 Frequency Sweep

M1[1] -30.31 dBm
698.05000 MHz

CF 698.0 MHz 501 pts 500.0 kHz/ Span 5.0 MHz

Measuring... 01.06.2023 08:38:16

1Rm View
10 dBm
0 dBm
-10 dBm
limit1_for_trace1
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
M1
S1
S2

Note: Expanded measurement uncertainty is U = 0.49dB(100KHz-2GHz)/1.21dB(2GHz-26.5GHz), k = 1.96

A.7 CONDUCTED SPURIOUS EMISSION

Reference

FCC: CFR Part 2.1051, 22.917, 24.238, 27.53, 90.691.

A.7.1 Measurement Method

The following steps outline the procedure used to measure the conducted emissions from the EUT.

1. Determine frequency range for measurements: From CFR 2.1051 the spectrum should be investigated from the lowest radio frequency generated in the equipment up to at least the 10th harmonic of the carrier frequency. For the mobile station equipment tested, this equates to a frequency range of 13 MHz to 9 GHz, data taken from 10 MHz to 25 GHz.
2. Determine EUT transmit frequencies: below outlines the band edge frequencies pertinent to conducted emissions testing.
3. The number of sweep points of spectrum analyzer is set to 30001 which is greater than span/RBW.

A. 7.2 Measurement Limit

Part 22.917 For operations in the 824–849MHz band, the FCC limit is 43 +10 log (P)dB below the transmitter power(P) in a 100kHz bandwidth. However, in the 1MHz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

Part 24.238 and Part 27.53(h) specify that the power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least 43 + 10 log(P) dB.

Part 27.53(a) states for mobile and portable stations operating in the 2305–2315 MHz and 2350–2360 MHz bands: (i) By a factor of not less than: 43 + 10 log (P) dB on all frequencies between 2305 and 2320 MHz and on all frequencies between 2345 and 2360 MHz that are outside the licensed band(s) of operation, not less than 55 + 10 log (P) dB on all frequencies between 2320 and 2324 MHz and on all frequencies between 2341 and 2345 MHz, not less than 61 + 10 log (P) dB on all frequencies between 2324 and 2328 MHz and on all frequencies between 2337 and 2341 MHz, and not less than 67 + 10 log (P) dB on all frequencies between 2328 and 2337 MHz; (ii) By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2300 and 2305 MHz, 55 + 10 log (P) dB on all frequencies between 2296 and 2300 MHz, 61 + 10 log (P) dB on all frequencies between 2292 and 2296 MHz, 67 + 10 log (P) dB on all frequencies between 2288 and 2292 MHz, and 70 + 10 log (P) dB below 2288 MHz; (iii) By a factor of not less than 43 + 10 log (P) dB on all frequencies between 2360 and 2365 MHz, and not less than 70 + 10 log (P) dB above 2365 MHz.

Part 27.53(c) states for operations in the 746–758 MHz band and the 776–788 MHz band, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following: (1) On any frequency outside the 746–758 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB; (2) On any frequency outside the 776–788 MHz band, the power of any emission shall be attenuated outside the band below the transmitter power (P) by at least 43 + 10 log (P) dB; (3) On all frequencies between 763–775 MHz and 793–805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations; (4) Compliance with the provisions of paragraphs (c)(1) and (c)(2) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of at least 30 kHz may be employed; (5) Compliance with the provisions of paragraphs (c)(3) and (c)(4) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment.

Part 27.53(g) states for operations in the 600 MHz band and the 698–746 MHz band, the power of any emission outside a licensee’s frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least 43 +10 log (P) dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee’s frequency block, a resolution bandwidth of at least 30 kHz may be employed.

Part 27.53(m) specifies for mobile digital stations, the attenuation factor shall be not less than 40+ 10 log (P) dB on all frequencies between the channel edge and 5 megahertz from the channel edge, 43 + 10 log (P) dB on all frequencies between 5 megahertz and X megahertz from the channel edge, and 55 + 10 log (P) dB on all frequencies more than X megahertz from the channel edge, where X is the greater of 6 megahertz or the actual emission bandwidth as defined in paragraph (m)(6) of this section. In addition, the attenuation factor shall not be less that 43 + 10log (P) dB on all frequencies between 2490.5 MHz and 2496 MHz and 55 + 10 log (P) dB at or below 2490.5 MHz. Mobile Satellite Service licensees operating on frequencies below 2495 MHz may also submit a documented interference complaint against BRS licensees operating on channel BRS Channel 1 on the same terms and conditions as adjacent channel BRS or EBS licensees.

Part 90.543 states For operations in the 758–768 MHz and the 788–798 MHz bands, the power of any emission outside the licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, in accordance with the following: (1) On all frequencies between 769–775 MHz and 799–805 MHz, by a factor not less than 65 + 10 log (P) dB in a 6.25 kHz band segment, for mobile and portable stations. (2) On any frequency between 775–788 MHz, above 805 MHz, and below 758 MHz, by at least 43 + 10 log (P) dB. (3) Compliance with the provisions of paragraphs (e)(1) and (2) of this section is based on the use of measurement instrumentation such that the reading taken with any resolution bandwidth setting should be adjusted to indicate spectral energy in a 6.25 kHz segment. (4) Compliance with the provisions of paragraph (e)(3) of this section is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kHz or greater. However, in the 100 kHz bands immediately outside and adjacent to the frequency block, a resolution bandwidth of 30 kHz may be employed.

Part 90.691 states that out-of-band emission requirement shall apply only to the “outer” channels included in an EA license and to spectrum adjacent to interior channels used by incumbent licensees. The emission limits are as follows:For any frequency removed from the EA licensee's frequency block by up to and including 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 116 Log10(f/6.1) decibels or 50 + 10 Log10(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 12.5

kHz.For any frequency removed from the EA licensee's frequency block greater than 37.5 kHz, the power of any emission shall be attenuated below the transmitter power (P) in watts by at least 43 + 10Log10(P) decibels or 80 decibels, whichever is the lesser attenuation, where f is the frequency removed from the center of the outer channel in the block in kilohertz and where f is greater than 37.5 kHz.

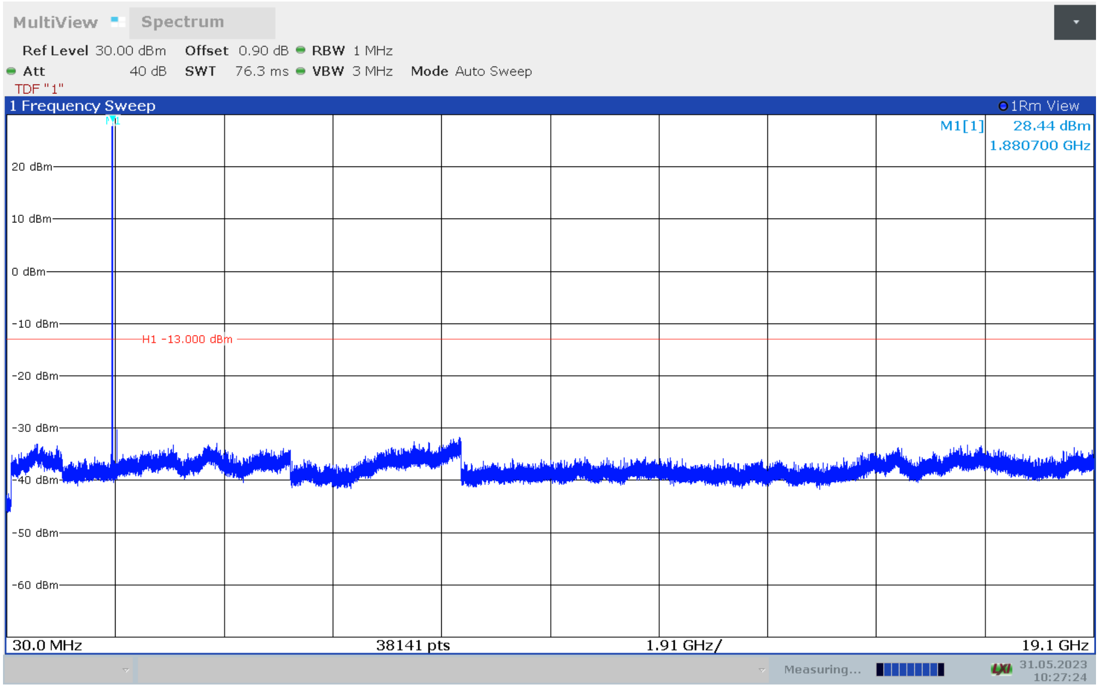
A. 7.3 Measurement result

Only worst case result is given below

LTE band 2 : 30MHz – 19.1GHz

Spurious emission limit –13dBm.

NOTE: peak above the limit line is the carrier frequency.

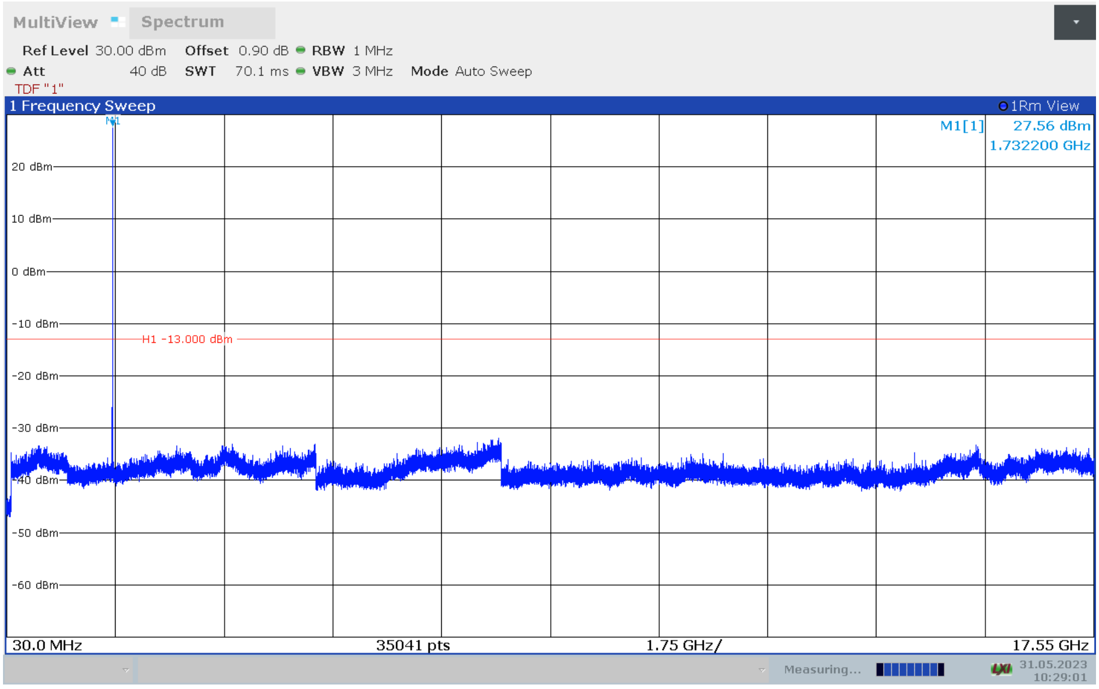

MultiView
Spectrum
1Rm View
M1
20 dBm
10 dBm
0 dBm
-10 dBm
H1 -13.000 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
Measuring...

Ref Level 30.00 dBm Offset 0.90 dB RBW 1 MHz
Att 40 dB SWT 76.3 ms VBW 3 MHz Mode Auto Sweep
TDF "1"
1 Frequency Sweep
M1[1] 28.44 dBm
1.880700 GHz
30.0 MHz 38141 pts 1.91 GHz/ 19.1 GHz
31.05.2023
10:27:24

LTE band 4 : 30MHz – 17.55GHz

Spurious emission limit –13dBm.

NOTE: peak above the limit line is the carrier frequency.

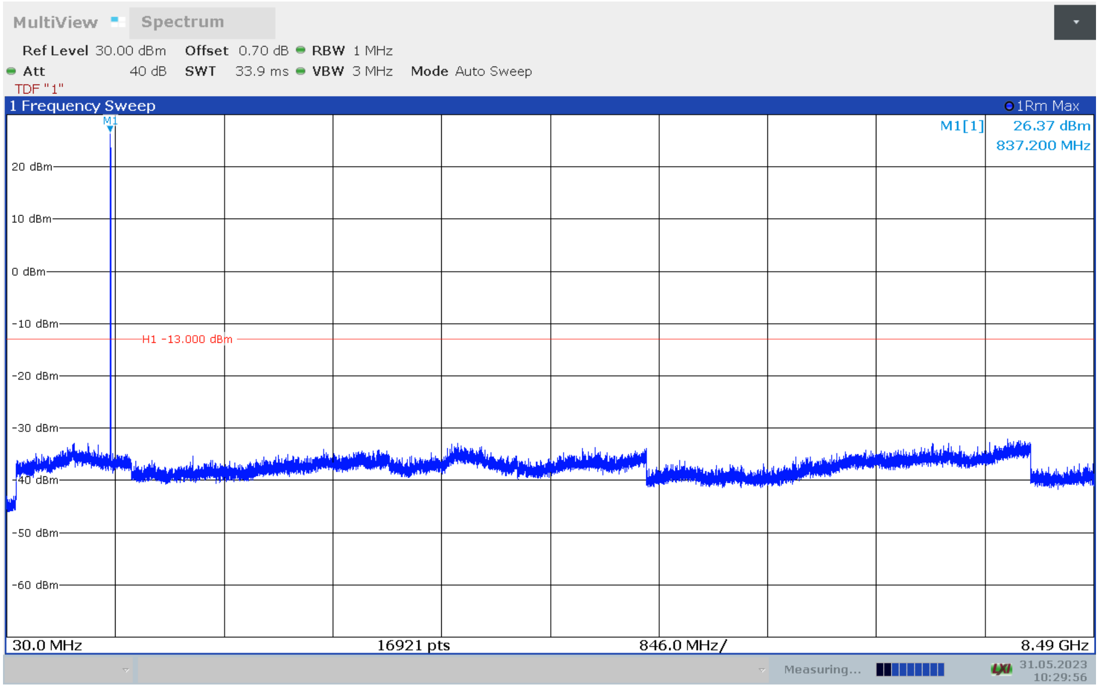

MultiView
Spectrum
1Rm View
M1
20 dBm
10 dBm
0 dBm
-10 dBm
H1 -13.000 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
Measuring...

Ref Level 30.00 dBm Offset 0.90 dB RBW 1 MHz
Att 40 dB SWT 70.1 ms VBW 3 MHz Mode Auto Sweep
TDF "1"
1 Frequency Sweep
M1[1] 27.56 dBm
1.732200 GHz
30.0 MHz 35041 pts 1.75 GHz/ 17.55 GHz
31.05.2023
10:29:01

LTE band 5 20MHz QPSK: 30MHz – 8.49GHz

Spurious emission limit –25dBm.

NOTE: peak above the limit line is the carrier frequency.

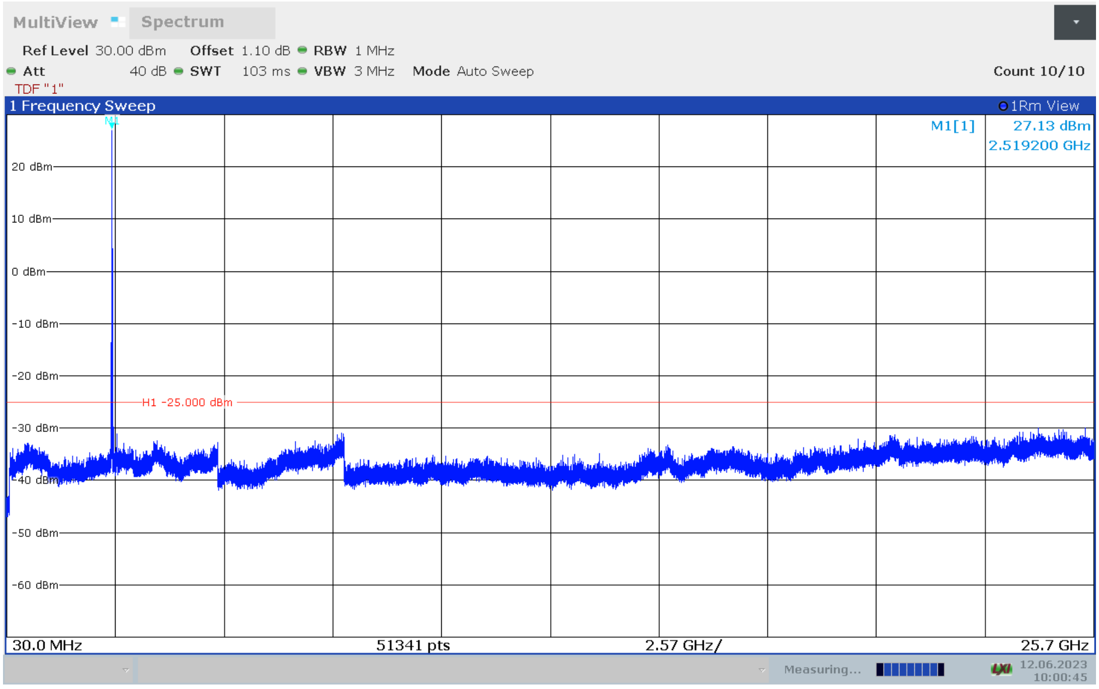

MultiView
Spectrum
M1
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm

Ref Level 30.00 dBm Offset 0.70 dB RBW 1 MHz
Att 40 dB SWT 33.9 ms VBW 3 MHz Mode Auto Sweep
TDF "1"
1 Frequency Sweep 1Rm Max
M1[1] 26.37 dBm
837.200 MHz
H1 -13.000 dBm
30.0 MHz 16921 pts 846.0 MHz/ 8.49 GHz
Measuring... 31.05.2023
10:29:56

LTE band 7 20MHz QPSK: 30MHz – 25.7GHz

Spurious emission limit –25dBm.

NOTE: peak above the limit line is the carrier frequency.

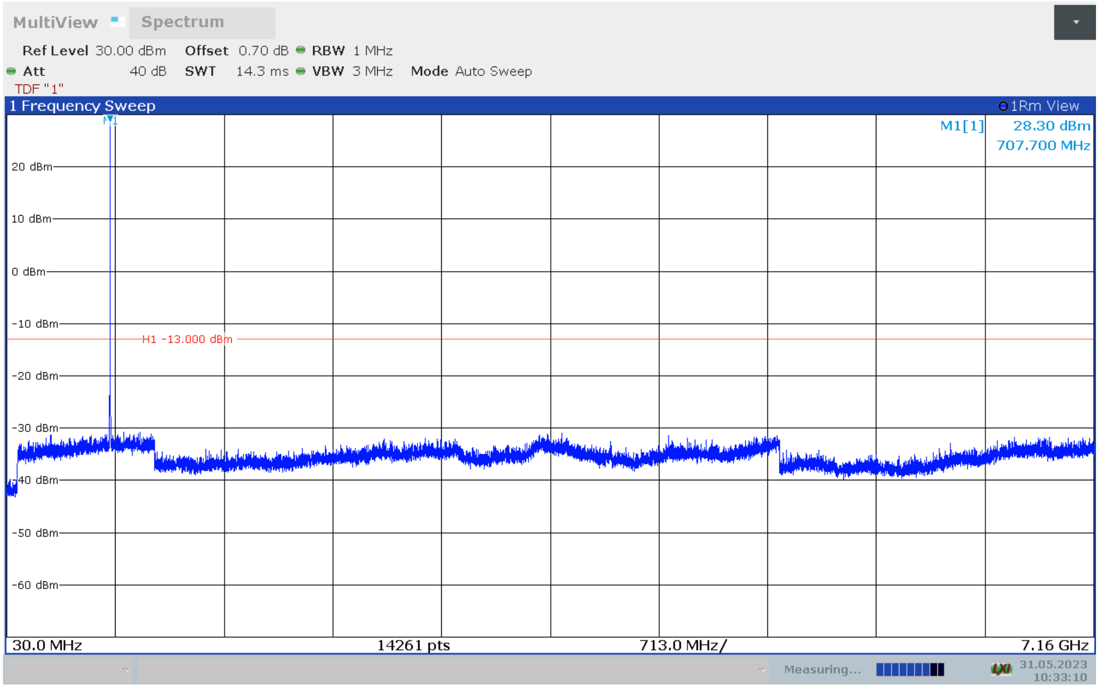

MultiView
Spectrum
M1
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm

Ref Level 30.00 dBm Offset 1.10 dB RBW 1 MHz
Att 40 dB SWT 103 ms VBW 3 MHz Mode Auto Sweep Count 10/10
TDF "1"
1 Frequency Sweep 1Rm View
M1[1] 27.13 dBm
2.519200 GHz
H1 -25.000 dBm
30.0 MHz 51341 pts 2.57 GHz/ 25.7 GHz
Measuring... 12.06.2023
10:00:45

LTE band 12: 30MHz – 7.16GHz

Spurious emission limit –13dBm.

NOTE: peak above the limit line is the carrier frequency.



Ref Level 30.00 dBm Offset 0.70 dB RBW 1 MHz
Att 40 dB SWT 14.3 ms VBW 3 MHz Mode Auto Sweep
TDF "1"

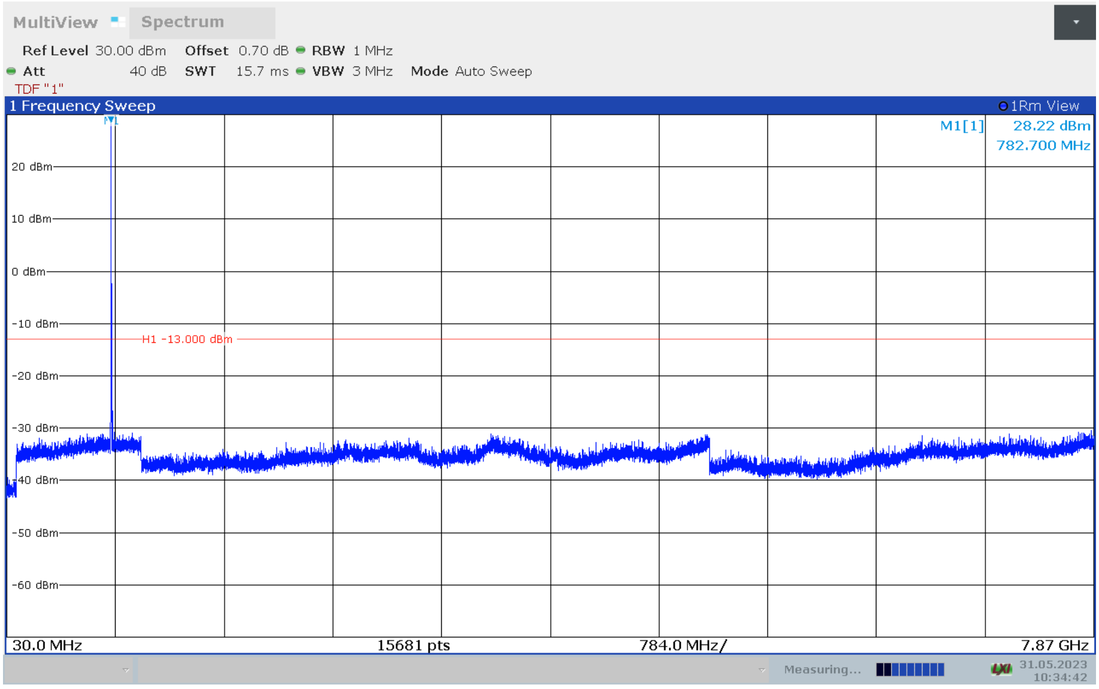
M1[1] 28.30 dBm 707.700 MHz

MultiView
Spectrum
1 Frequency Sweep
1Rm View
M1
20 dBm
10 dBm
0 dBm
-10 dBm
H1 -13.000 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
30.0 MHz
14261 pts
713.0 MHz/
7.16 GHz
Measuring...
31.05.2023
10:33:10

LTE band 13: 30MHz – 7.87GHz

Spurious emission limit –13dBm.

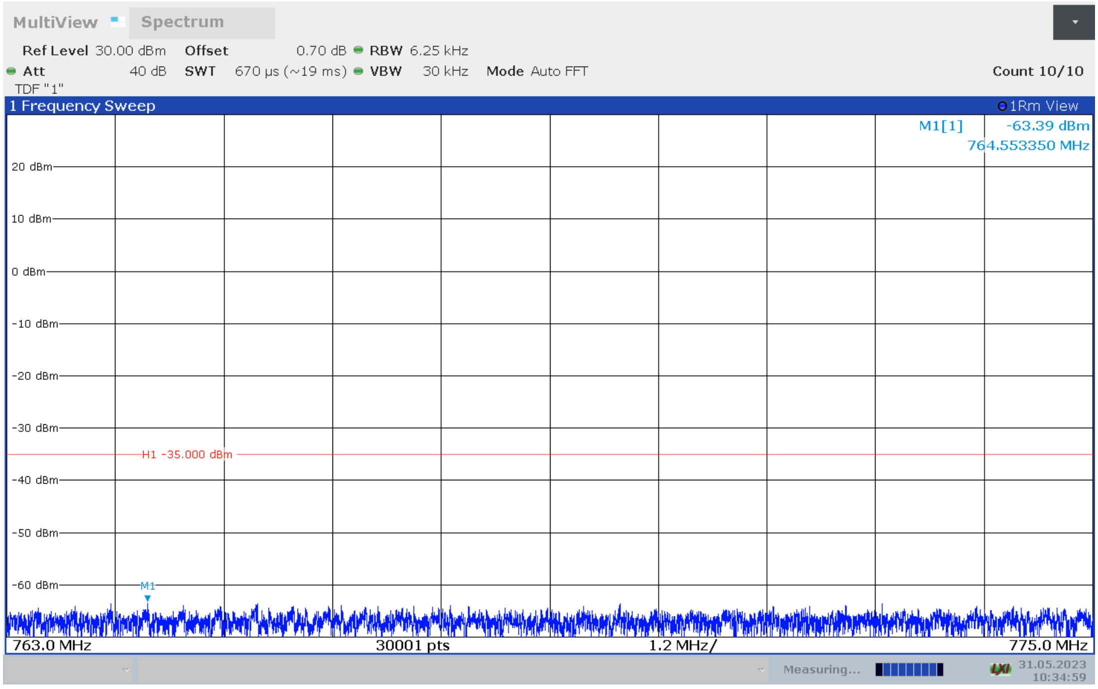
NOTE: peak above the limit line is the carrier frequency.



Ref Level 30.00 dBm Offset 0.70 dB RBW 1 MHz
Att 40 dB SWT 15.7 ms VBW 3 MHz Mode Auto Sweep
TDF "1"

M1[1] 28.22 dBm 782.700 MHz

MultiView
Spectrum
1 Frequency Sweep
1Rm View
M1
20 dBm
10 dBm
0 dBm
-10 dBm
H1 -13.000 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
30.0 MHz
15681 pts
784.0 MHz/
7.87 GHz
Measuring...
31.05.2023
10:34:42



MultiView Spectrum

Ref Level 30.00 dBm **Offset** 0.70 dB **RBW** 6.25 kHz
Att 40 dB **SWT** 670 µs (~19 ms) **VBW** 30 kHz **Mode** Auto FFT **Count** 10/10
TDF "1"

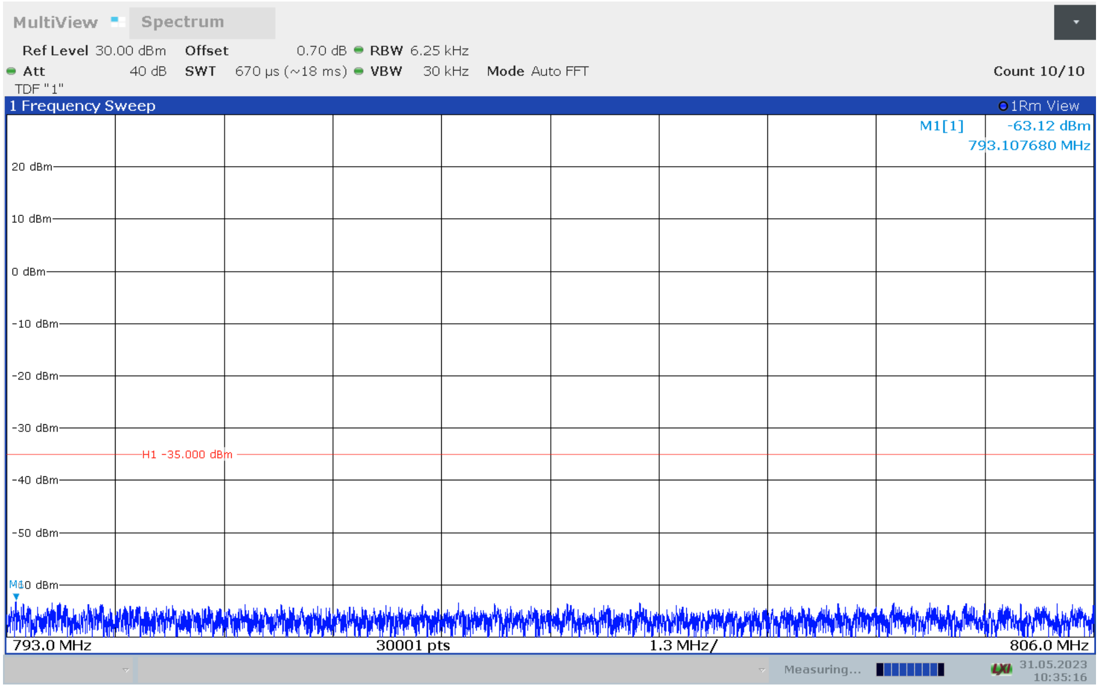
1 Frequency Sweep

M1[1] -63.39 dBm
764.553350 MHz

763.0 MHz 30001 pts 1.2 MHz/ 775.0 MHz

Measuring... 31.05.2023 10:34:59

1Rm View
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
H1 -35.000 dBm
-40 dBm
-50 dBm
-60 dBm
M1



MultiView Spectrum

Ref Level 30.00 dBm **Offset** 0.70 dB **RBW** 6.25 kHz
Att 40 dB **SWT** 670 µs (~18 ms) **VBW** 30 kHz **Mode** Auto FFT **Count** 10/10
TDF "1"

1 Frequency Sweep

M1[1] -63.12 dBm
793.107680 MHz

793.0 MHz 30001 pts 1.3 MHz/ 806.0 MHz

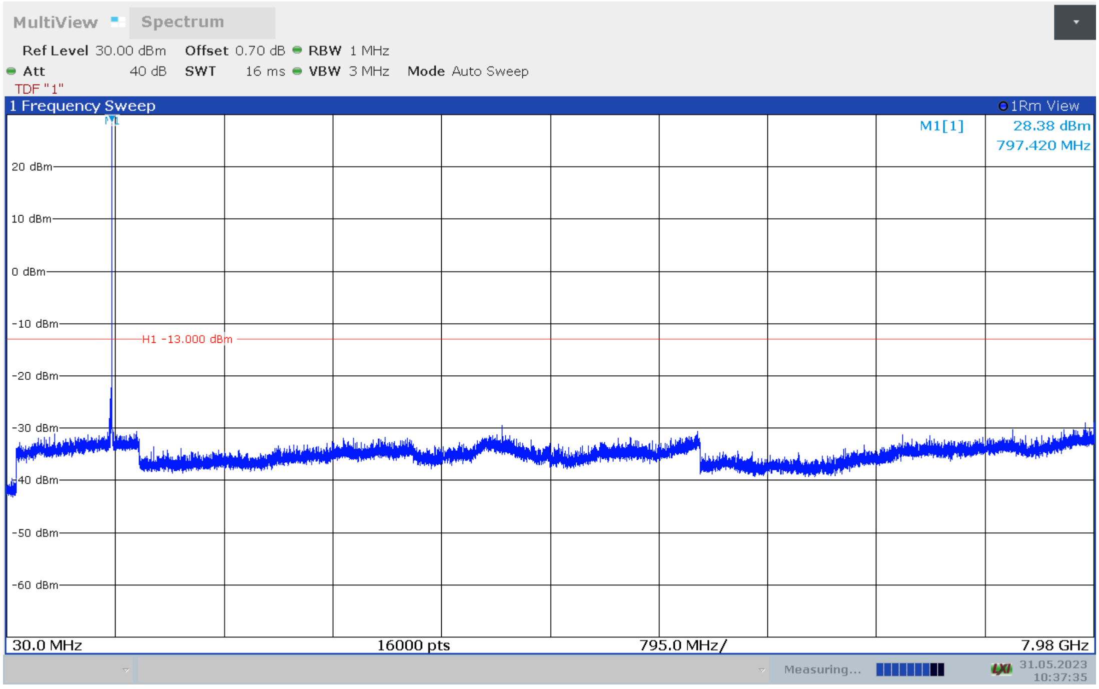
Measuring... 31.05.2023 10:35:16

1Rm View
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
H1 -35.000 dBm
-40 dBm
-50 dBm
-60 dBm
M1

LTE band 14: 30MHz – 7.98GHz

Spurious emission limit –13dBm.

NOTE: peak above the limit line is the carrier frequency.



MultiView Spectrum

Ref Level 30.00 dBm Offset 0.70 dB RBW 1 MHz

Att 40 dB SWT 16 ms VBW 3 MHz Mode Auto Sweep

TDF "1"

1 Frequency Sweep

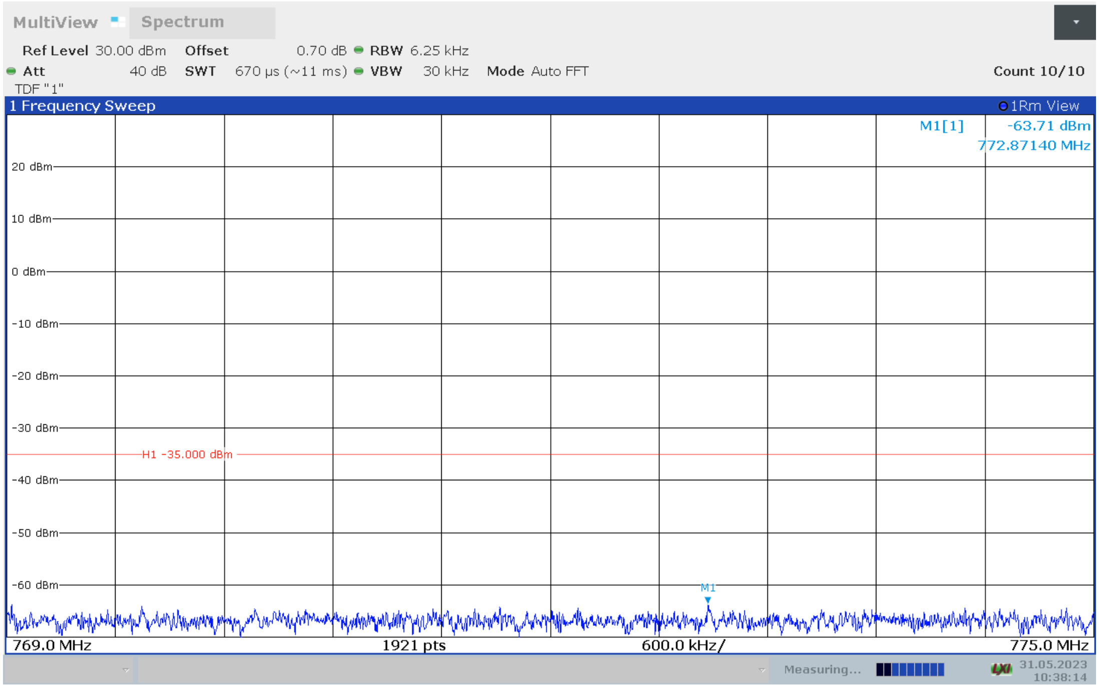
M1[1] 28.38 dBm 797.420 MHz

30.0 MHz 16000 pts 795.0 MHz/ 7.98 GHz

Measuring...

31.05.2023 10:37:35

1Rm View
M1
20 dBm
10 dBm
0 dBm
-10 dBm
H1 -13.000 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm



MultiView Spectrum

Ref Level 30.00 dBm Offset 0.70 dB RBW 6.25 kHz

Att 40 dB SWT 670 µs (~11 ms) VBW 30 kHz Mode Auto FFT Count 10/10

TDF "1"

1 Frequency Sweep

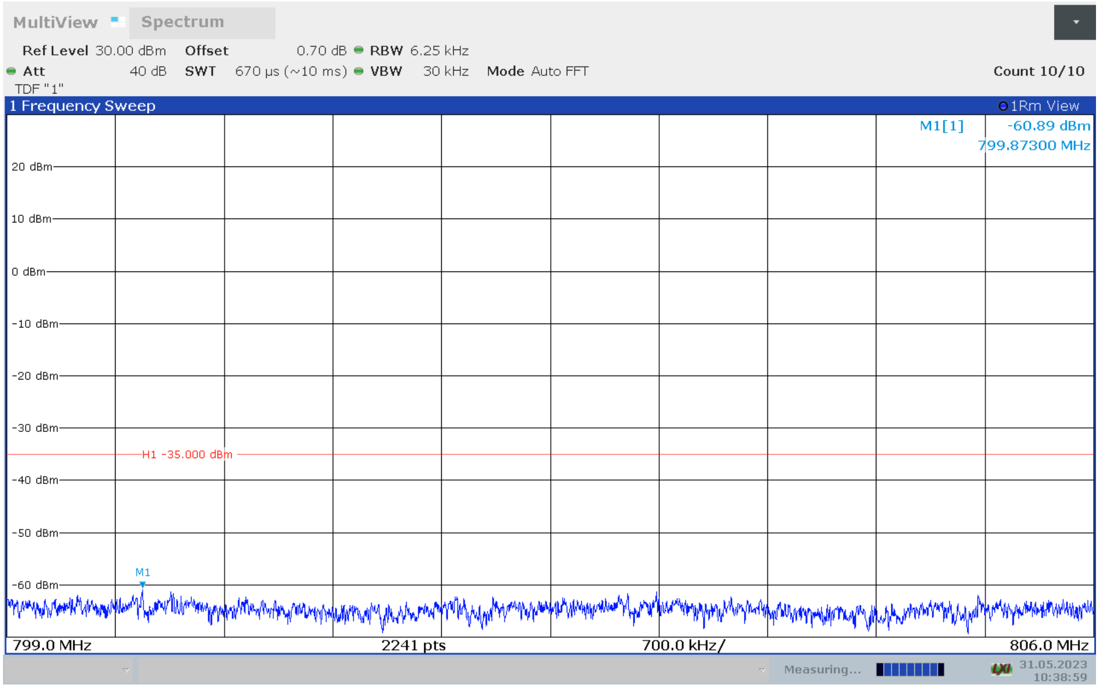
M1[1] -63.71 dBm 772.87140 MHz

769.0 MHz 1921 pts 600.0 kHz/ 775.0 MHz

Measuring...

31.05.2023 10:38:14

1Rm View
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
H1 -35.000 dBm
-40 dBm
-50 dBm
-60 dBm
M1



MultiView Spectrum

Ref Level 30.00 dBm Offset 0.70 dB RBW 6.25 kHz
Att 40 dB SWT 670 µs (~10 ms) VBW 30 kHz Mode Auto FFT Count 10/10
TDF "1"

1 Frequency Sweep ○1Rm View

M1[1] -60.89 dBm 799.87300 MHz

799.0 MHz 2241 pts 700.0 kHz/ 806.0 MHz

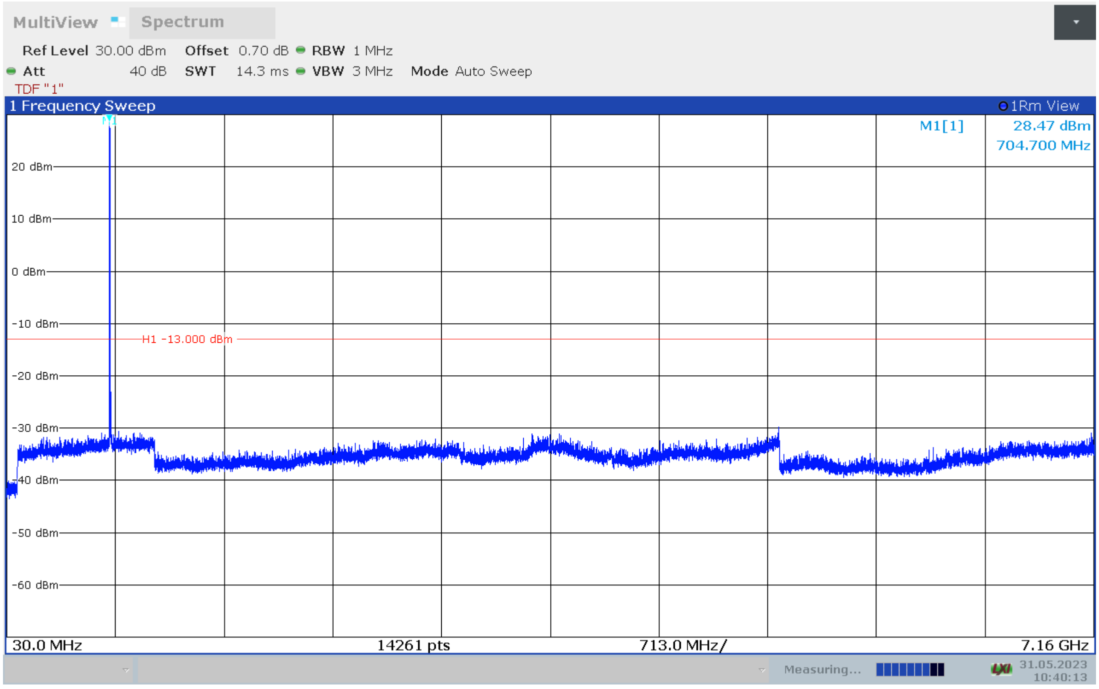
Measuring... 31.05.2023 10:38:59

20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
H1 -35.000 dBm
-40 dBm
-50 dBm
M1
-60 dBm

LTE band 17: 30MHz – 7.16GHz

Spurious emission limit –13dBm.

NOTE: peak above the limit line is the carrier frequency.



MultiView Spectrum

Ref Level 30.00 dBm Offset 0.70 dB RBW 1 MHz
Att 40 dB SWT 14.3 ms VBW 3 MHz Mode Auto Sweep
TDF "1"

1 Frequency Sweep ○1Rm View

M1[1] 28.47 dBm 704.700 MHz

30.0 MHz 14261 pts 713.0 MHz/ 7.16 GHz

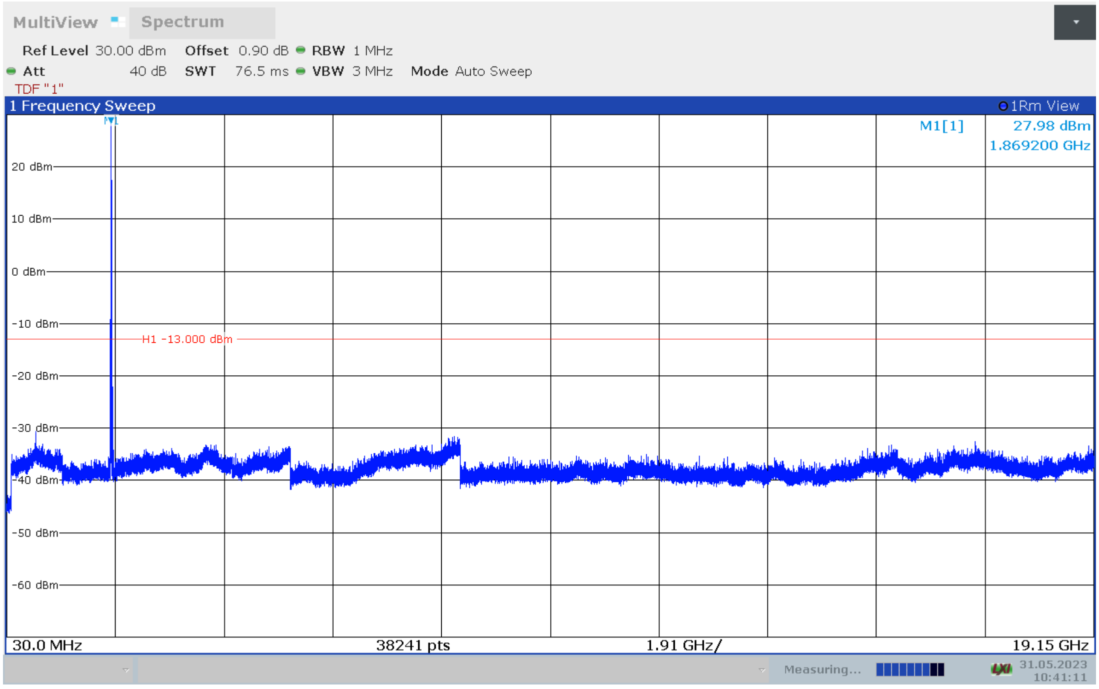
Measuring... 31.05.2023 10:40:13

M1
20 dBm
10 dBm
0 dBm
-10 dBm
H1 -13.000 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm

LTE band 25: 30MHz – 19.15GHz

Spurious emission limit –13dBm.

NOTE: peak above the limit line is the carrier frequency.



MultiView Spectrum

Ref Level 30.00 dBm Offset 0.90 dB RBW 1 MHz
Att 40 dB SWT 76.5 ms VBW 3 MHz Mode Auto Sweep
TDF "1"

1 Frequency Sweep

M1[1] 27.98 dBm 1.869200 GHz

30.0 MHz 38241 pts 1.91 GHz/ 19.15 GHz

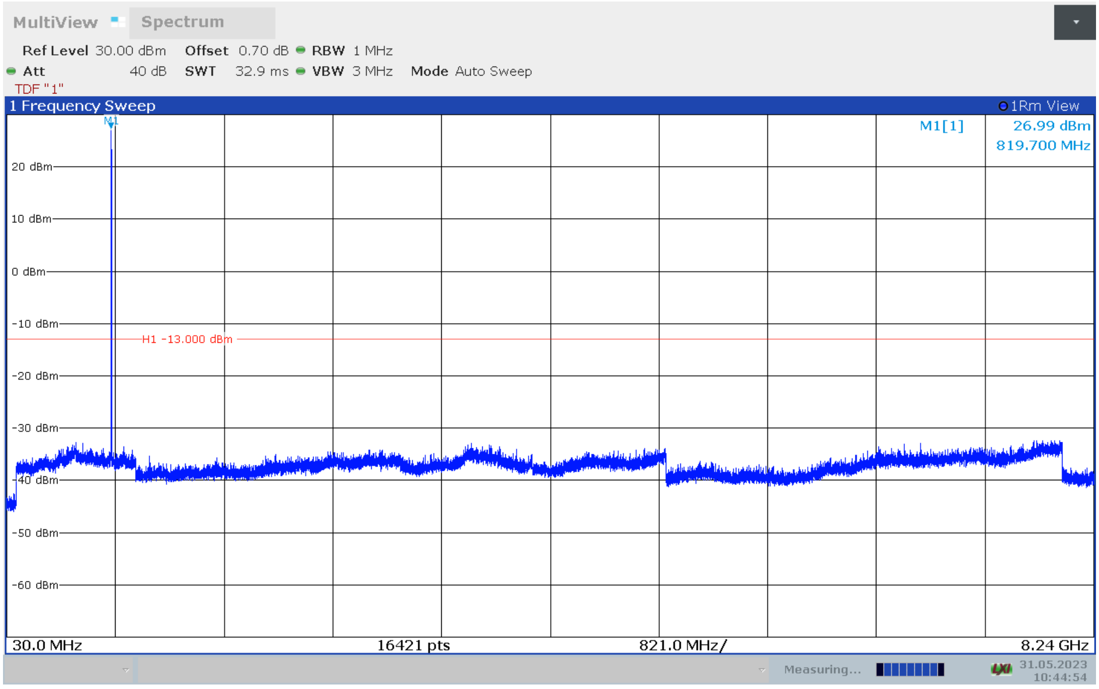
Measuring... 31.05.2023 10:41:11

1Rm View
M1
20 dBm
10 dBm
0 dBm
-10 dBm
H1 -13.000 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm

LTE band 26(814MHz-824MHz): 30MHz – 8.24GHz

Spurious emission limit –13dBm.

NOTE: peak above the limit line is the carrier frequency.



MultiView Spectrum

Ref Level 30.00 dBm Offset 0.70 dB RBW 1 MHz
Att 40 dB SWT 32.9 ms VBW 3 MHz Mode Auto Sweep
TDF "1"

1 Frequency Sweep

M1[1] 26.99 dBm 819.700 MHz

30.0 MHz 16421 pts 821.0 MHz/ 8.24 GHz

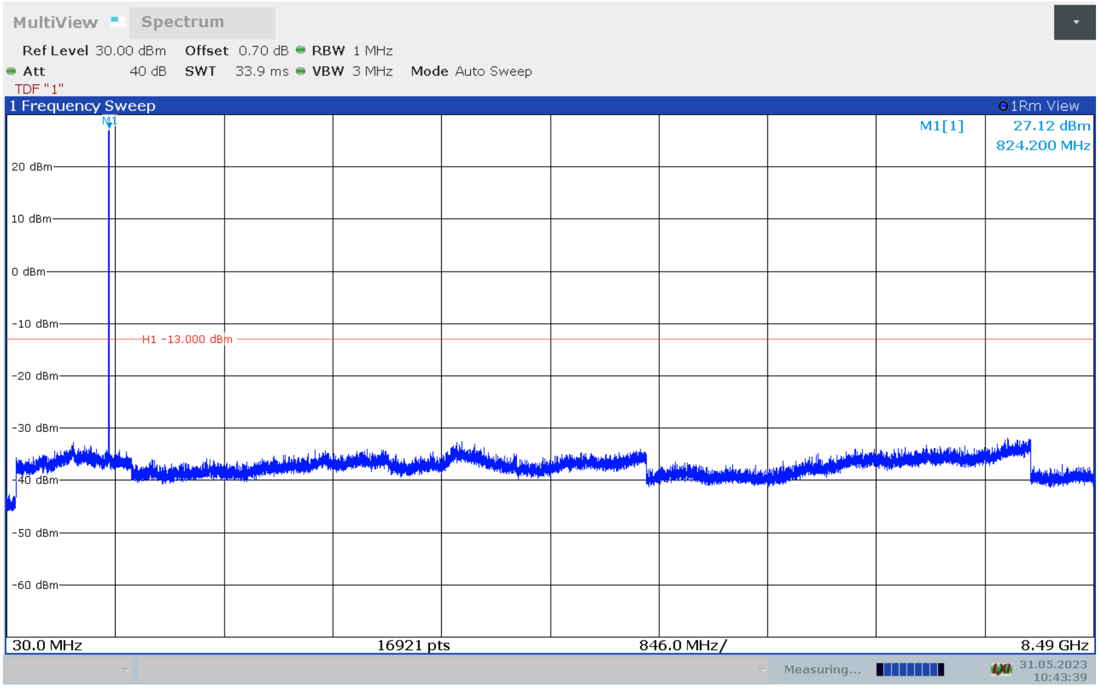
Measuring... 31.05.2023 10:44:54

1Rm View
M1
20 dBm
10 dBm
0 dBm
-10 dBm
H1 -13.000 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm

LTE band 26(824MHz-849MHz): 30MHz – 8.49GHz

Spurious emission limit –13dBm.

NOTE: peak above the limit line is the carrier frequency.



MultiView Spectrum

Ref Level 30.00 dBm Offset 0.70 dB RBW 1 MHz

Att 40 dB SWT 33.9 ms VBW 3 MHz Mode Auto Sweep

TDF "1"

1 Frequency Sweep

M1[1] 27.12 dBm 824.200 MHz

30.0 MHz 16921 pts 846.0 MHz/ 8.49 GHz

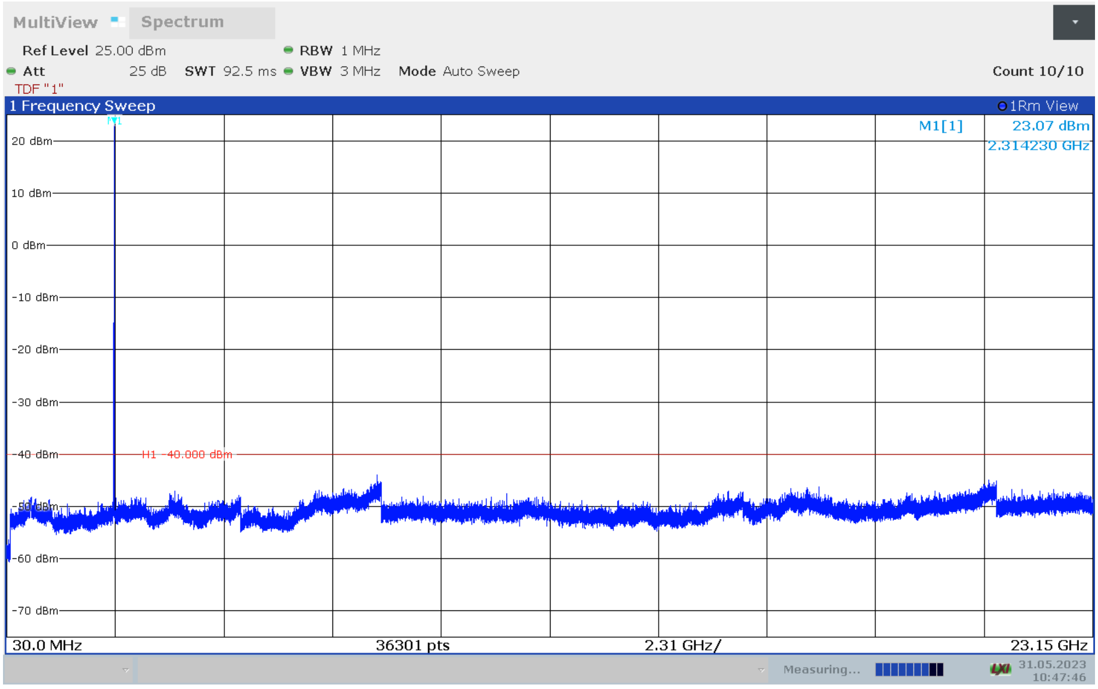
Measuring... 31.05.2023 10:43:39

1Rm View
M1
20 dBm
10 dBm
0 dBm
-10 dBm
H1 -13.000 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm

LTE band 30: 30MHz – 23.15GHz

Spurious emission limit –40dBm.

NOTE: peak above the limit line is the carrier frequency.



MultiView Spectrum

Ref Level 25.00 dBm RBW 1 MHz

Att 25 dB SWT 92.5 ms VBW 3 MHz Mode Auto Sweep Count 10/10

TDF "1"

1 Frequency Sweep

M1[1] 23.07 dBm 2.314230 GHz

30.0 MHz 36301 pts 2.31 GHz/ 23.15 GHz

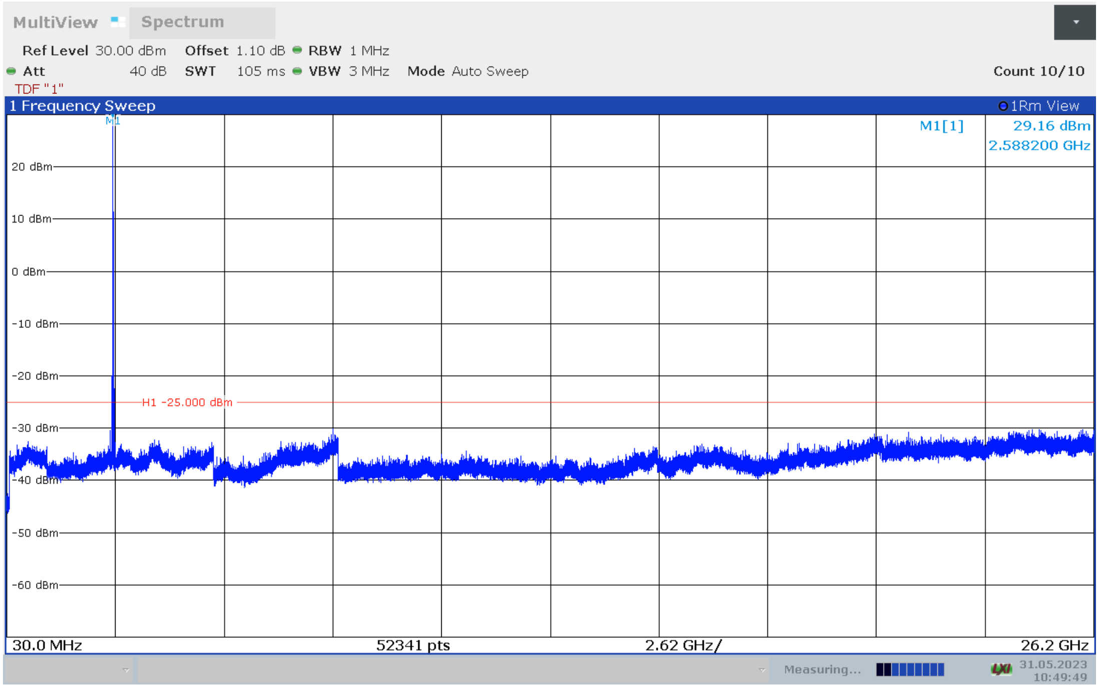
Measuring... 31.05.2023 10:47:46

1Rm View
M1
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
H1 -40.000 dBm
-50 dBm
-60 dBm
-70 dBm

LTE band 38: 30MHz – 26.2GHz

Spurious emission limit –25dBm.

NOTE: peak above the limit line is the carrier frequency.



MultiView Spectrum

Ref Level 30.00 dBm Offset 1.10 dB RBW 1 MHz
Att 40 dB SWT 105 ms VBW 3 MHz Mode Auto Sweep Count 10/10
TDF "1"

1 Frequency Sweep 1Rm View

M1[1] 29.16 dBm 2.588200 GHz

30.0 MHz 52341 pts 2.62 GHz/ 26.2 GHz

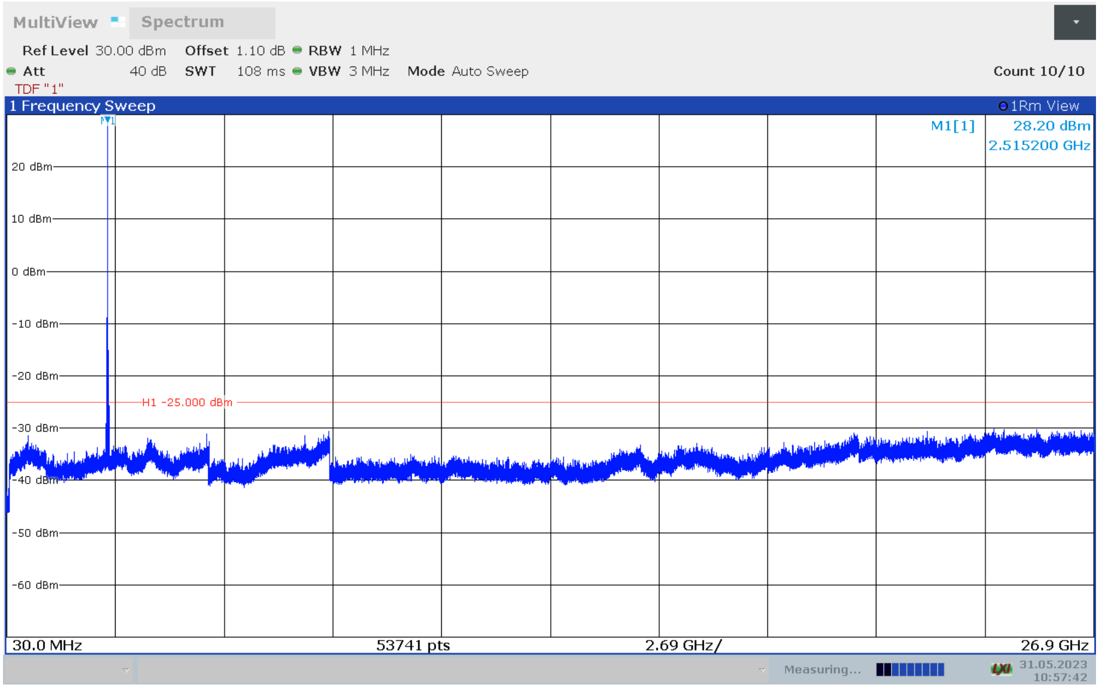
Measuring... 31.05.2023 10:49:49

M1
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
H1 -25.000 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm

LTE band 41: 30MHz – 26.9GHz

Spurious emission limit –25dBm.

NOTE: peak above the limit line is the carrier frequency.



MultiView Spectrum

Ref Level 30.00 dBm Offset 1.10 dB RBW 1 MHz
Att 40 dB SWT 108 ms VBW 3 MHz Mode Auto Sweep Count 10/10
TDF "1"

1 Frequency Sweep 1Rm View

M1[1] 28.20 dBm 2.515200 GHz

30.0 MHz 53741 pts 2.69 GHz/ 26.9 GHz

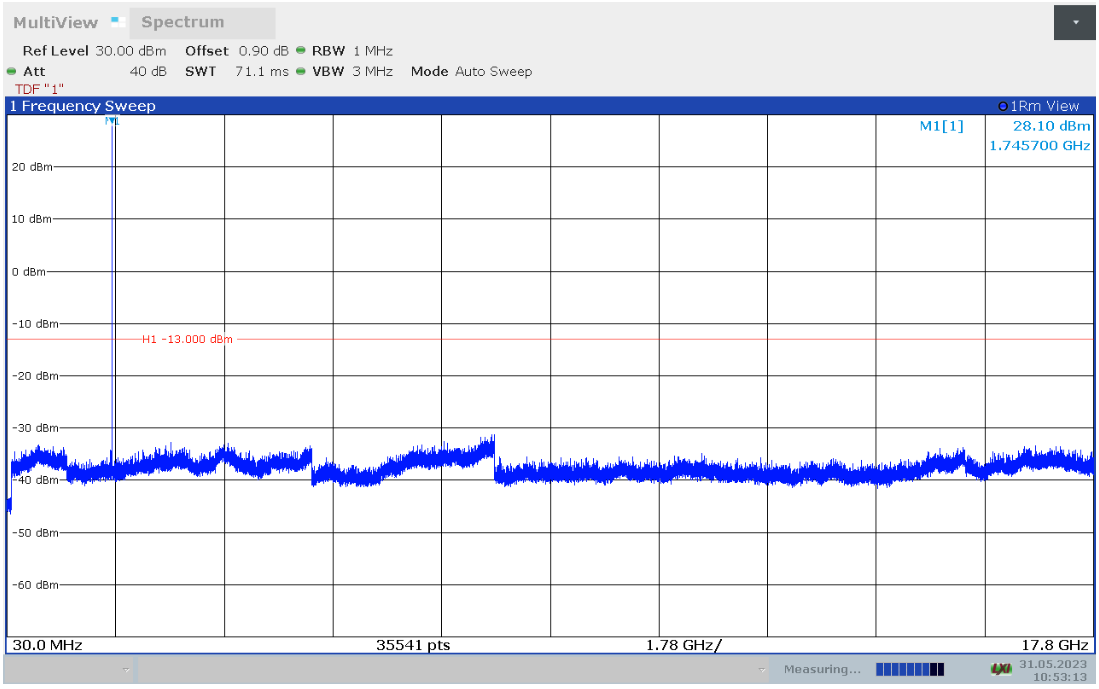
Measuring... 31.05.2023 10:57:42

M1
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
H1 -25.000 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm

LTE Band 66: 30MHz – 17.8GHz

Spurious emission limit –13dBm.

NOTE: peak above the limit line is the carrier frequency.



Ref Level 30.00 dBm Offset 0.90 dB RBW 1 MHz
Att 40 dB SWT 71.1 ms VBW 3 MHz Mode Auto Sweep
TDF "1"

1 Frequency Sweep

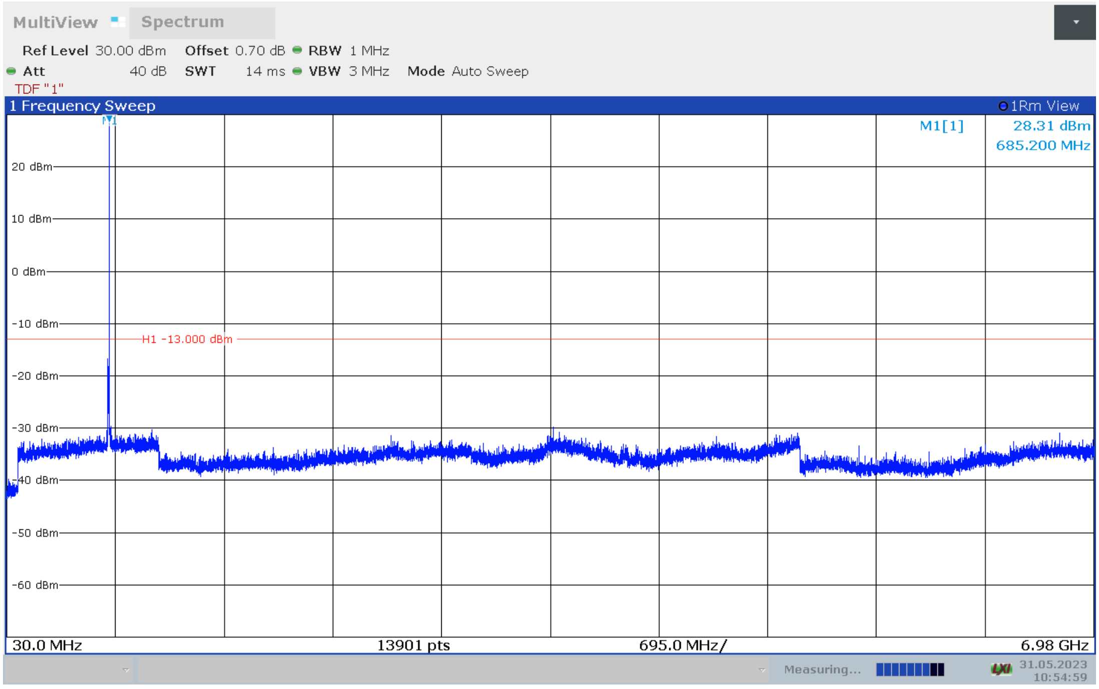
M1[1] 28.10 dBm 1.745700 GHz

MultiView
Spectrum
1Rm View
M1
20 dBm
10 dBm
0 dBm
-10 dBm
H1 -13.000 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
30.0 MHz
35541 pts
1.78 GHz/
17.8 GHz
Measuring...
31.05.2023
10:53:13

LTE Band 71: 30MHz – 6.98GHz

Spurious emission limit –13dBm.

NOTE: peak above the limit line is the carrier frequency.



Ref Level 30.00 dBm Offset 0.70 dB RBW 1 MHz
Att 40 dB SWT 14 ms VBW 3 MHz Mode Auto Sweep
TDF "1"

1 Frequency Sweep

M1[1] 28.31 dBm 685.200 MHz

MultiView
Spectrum
1Rm View
M1
20 dBm
10 dBm
0 dBm
-10 dBm
H1 -13.000 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
30.0 MHz
13901 pts
695.0 MHz/
6.98 GHz
Measuring...
31.05.2023
10:54:59

A.8 PEAK-TO-AVERAGE POWER RATIO

Reference

The peak-to-average power ratio (PAPR) of the transmission may not exceed 13 dB

a) Refer to instrument's analyzer instruction manual for details on how to use the power statistics/CCDF function;

b) Set resolution/measurement bandwidth ≥ signal's occupied bandwidth;

c) Set the number of counts to a value that stabilizes the measured CCDF curve;

d) Record the maximum PAPR level associated with a probability of 0.1%.

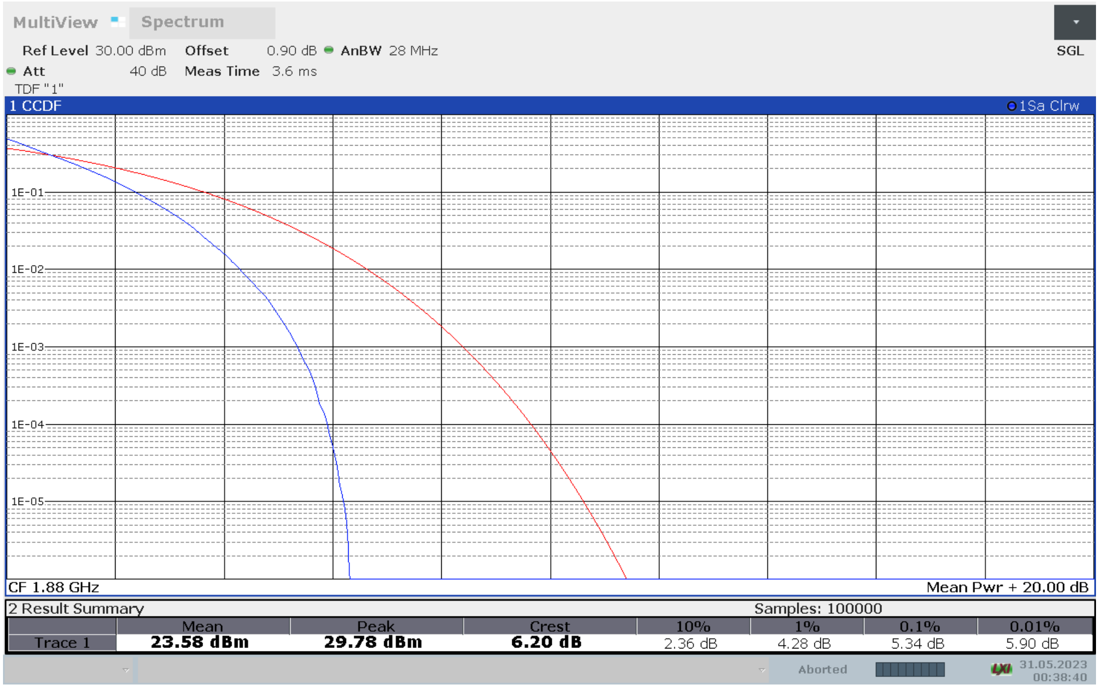
Measurement results

Only worst case result is given below

LTE band 2

Frequency(MHz)	Bandwidth(MHz)	PAPR(dB)	
		QPSK	16QAM
1880.0	20	5.34	6.14

LTE band 2, 20MHz Bandwidth, QPSK (PAPR)



Ref Level 30.00 dBm Offset 0.90 dB AnBW 28 MHz

Att 40 dB Meas Time 3.6 ms

TDF "1"

CF 1.88 GHz

Mean Pwr + 20.00 dB

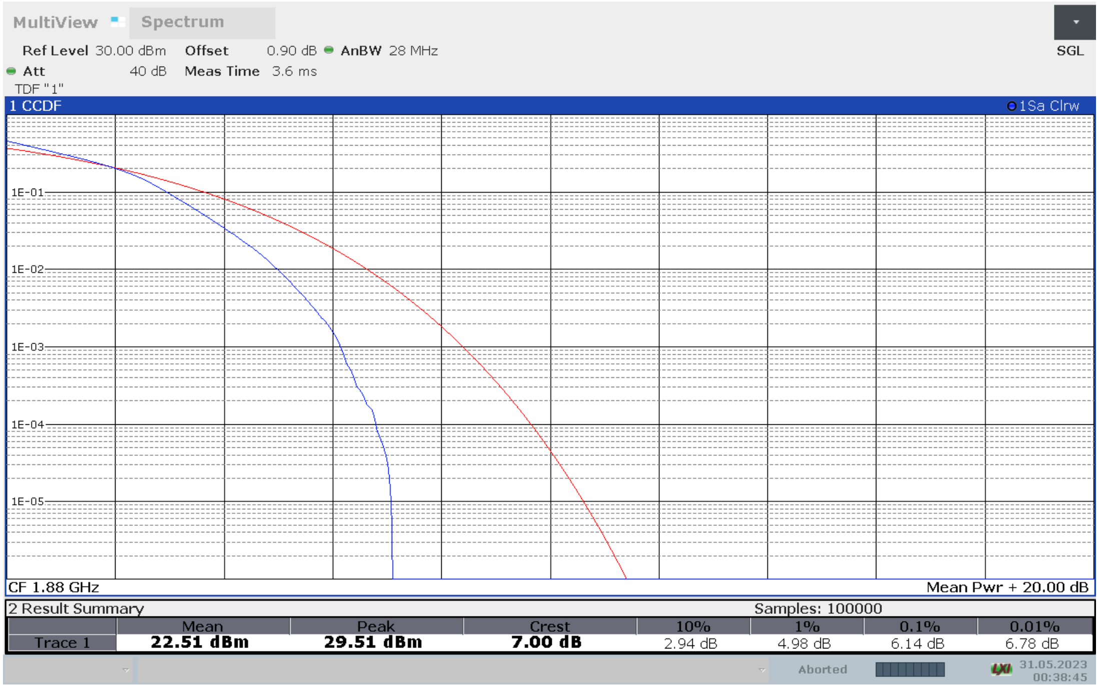
2 Result Summary Samples: 100000

	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	**23.58 dBm**	**29.78 dBm**	**6.20 dB**	2.36 dB	4.28 dB	5.34 dB	5.90 dB

Aborted

31.05.2023 00:38:40

LTE band 2, 20MHz Bandwidth, 16QAM (PAPR)


MultiView
Spectrum
SGL
1 CCDF
1Sa Clrw
1E-01
1E-02
1E-03
1E-04
1E-05
Aborted

Ref Level 30.00 dBm Offset 0.90 dB AnBW 28 MHz

Att 40 dB Meas Time 3.6 ms

TDF "1"

CF 1.88 GHz Mean Pwr + 20.00 dB

2 Result Summary Samples: 100000

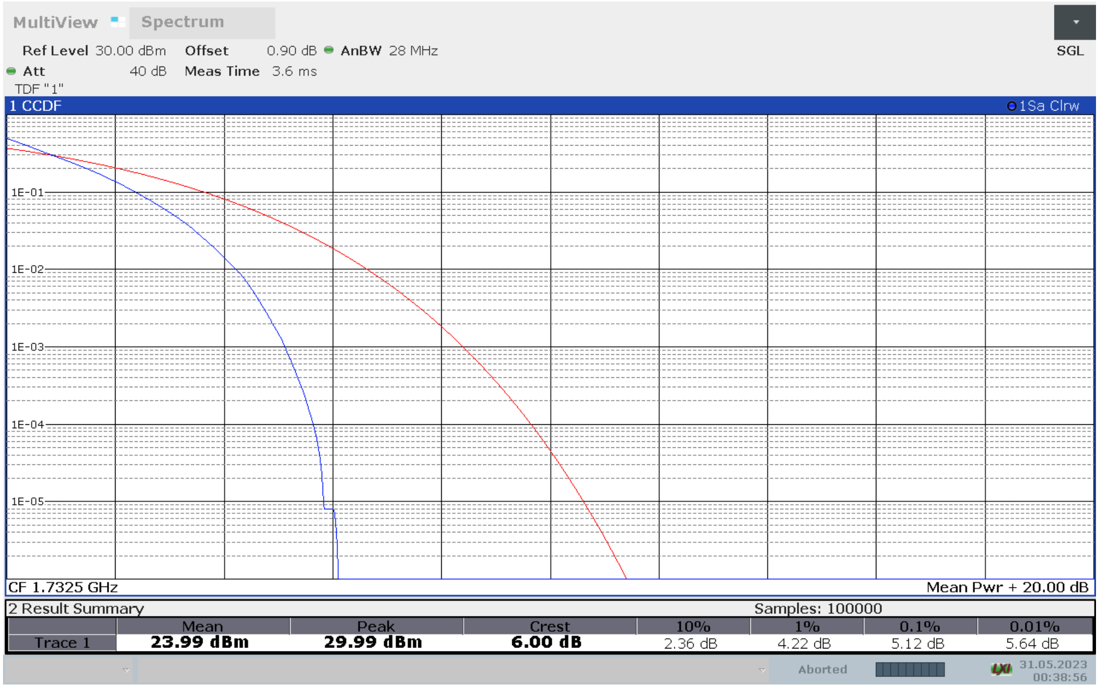
	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	**22.51 dBm**	**29.51 dBm**	**7.00 dB**	2.94 dB	4.98 dB	6.14 dB	6.78 dB

31.05.2023
00:38:45

LTE band 4

Frequency(MHz)	Bandwidth(MHz)	PAPR(dB)	
		QPSK	16QAM
1732.5	20	5.12	6.06

LTE band 4, 20MHz Bandwidth, QPSK (PAPR)


MultiView
Spectrum
SGL
1 CCDF
1Sa Clrw
1E-01
1E-02
1E-03
1E-04
1E-05
Aborted
31.05.2023
00:38:56

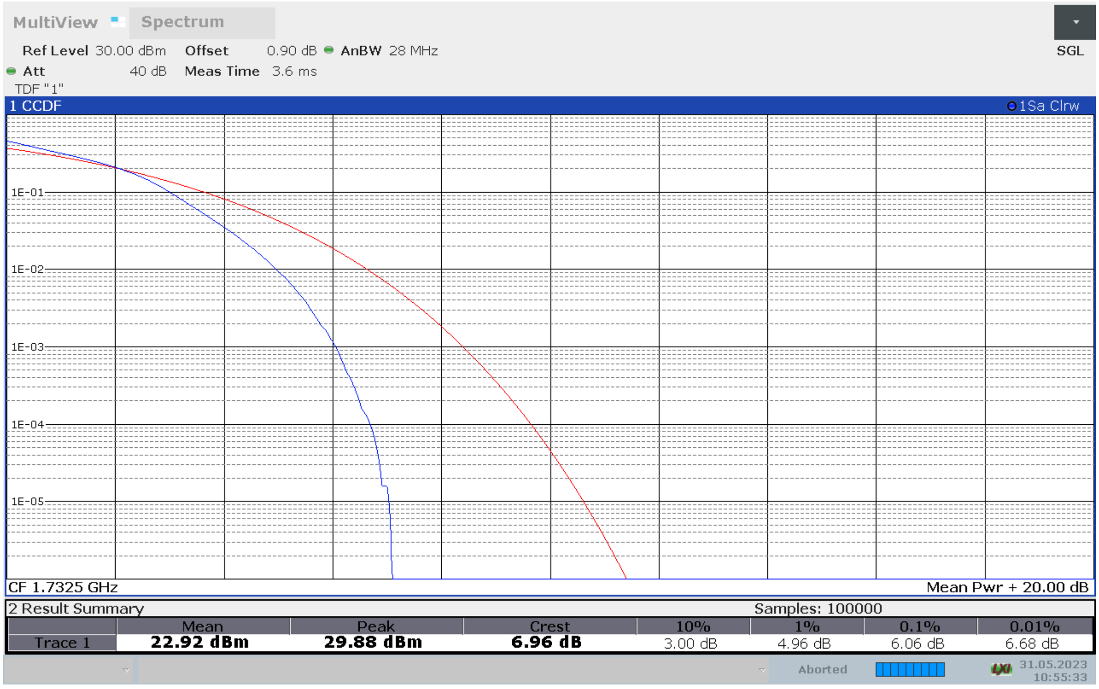
Ref Level 30.00 dBm Offset 0.90 dB AnBW 28 MHz
Att 40 dB Meas Time 3.6 ms
TDF "1"

CF 1.7325 GHz Mean Pwr + 20.00 dB

2 Result Summary Samples: 100000

	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	23.99 dBm	29.99 dBm	6.00 dB	2.36 dB	4.22 dB	5.12 dB	5.64 dB

LTE band 4, 20MHz Bandwidth, 16QAM (PAPR)


MultiView
Spectrum
SGL
1 CCDF
1Sa Clrw
1E-01
1E-02
1E-03
1E-04
1E-05
Aborted
31.05.2023
10:55:33

Ref Level 30.00 dBm Offset 0.90 dB AnBW 28 MHz
Att 40 dB Meas Time 3.6 ms
TDF "1"

CF 1.7325 GHz Mean Pwr + 20.00 dB

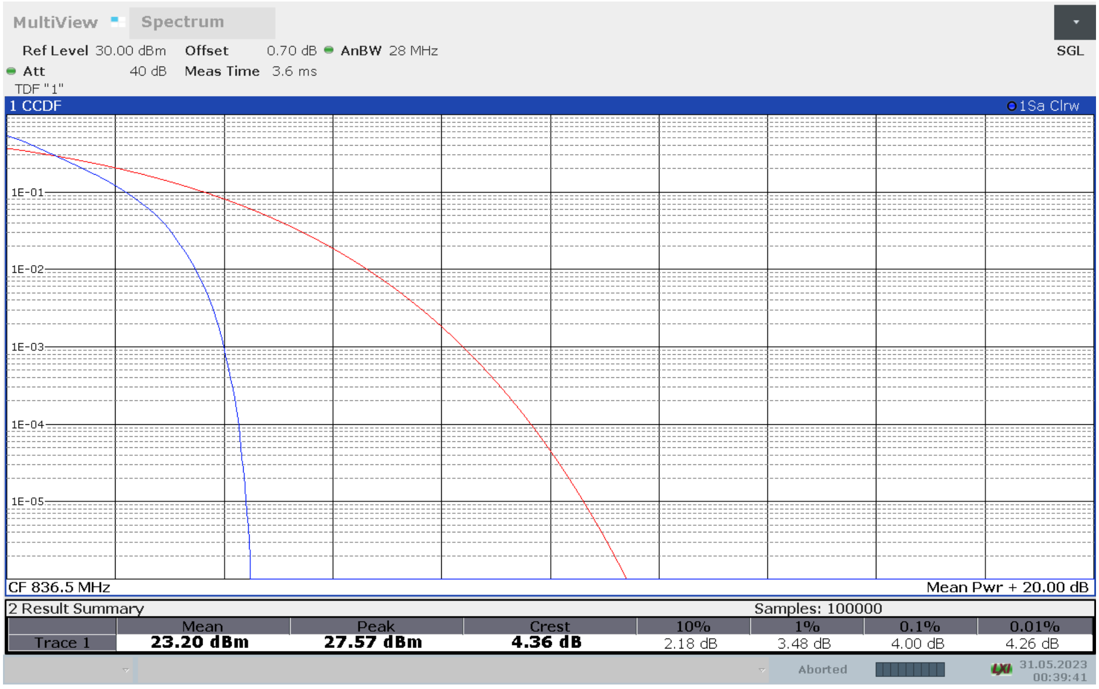
2 Result Summary Samples: 100000

	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	22.92 dBm	29.88 dBm	6.96 dB	3.00 dB	4.96 dB	6.06 dB	6.68 dB

LTE band 5

Frequency(MHz)	Bandwidth(MHz)	PAPR(dB)	
		QPSK	16QAM
826.5	10	4.00	4.90

LTE band 5, 10MHz Bandwidth, QPSK (PAPR)



MultiView
Spectrum
SGL
1 CCDF
1Sa Clrw
1E-01
1E-02
1E-03
1E-04
1E-05
Aborted
31.05.2023
00:39:41

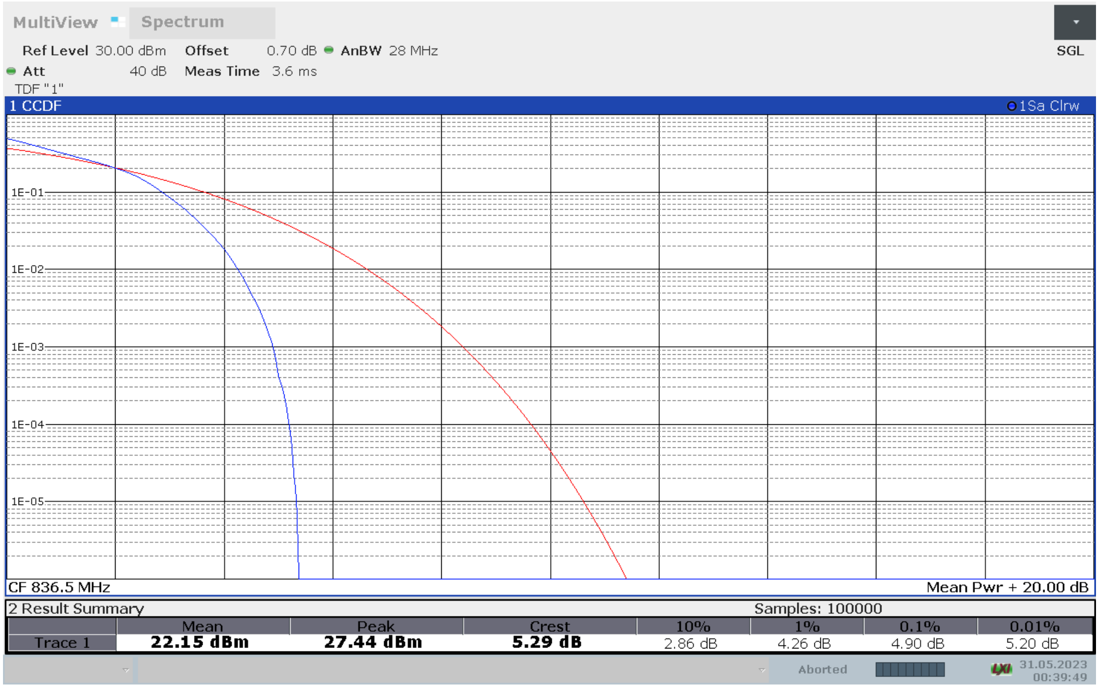
Ref Level 30.00 dBm Offset 0.70 dB AnBW 28 MHz
Att 40 dB Meas Time 3.6 ms
TDF "1"

CF 836.5 MHz Mean Pwr + 20.00 dB

2 Result Summary Samples: 100000

	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	23.20 dBm	27.57 dBm	4.36 dB	2.18 dB	3.48 dB	4.00 dB	4.26 dB

LTE band 5, 10MHz Bandwidth, 16QAM (PAPR)



MultiView
Spectrum
SGL
1 CCDF
1Sa Clrw
1E-01
1E-02
1E-03
1E-04
1E-05
Aborted
31.05.2023
00:39:49

Ref Level 30.00 dBm Offset 0.70 dB AnBW 28 MHz
Att 40 dB Meas Time 3.6 ms
TDF "1"

CF 836.5 MHz Mean Pwr + 20.00 dB

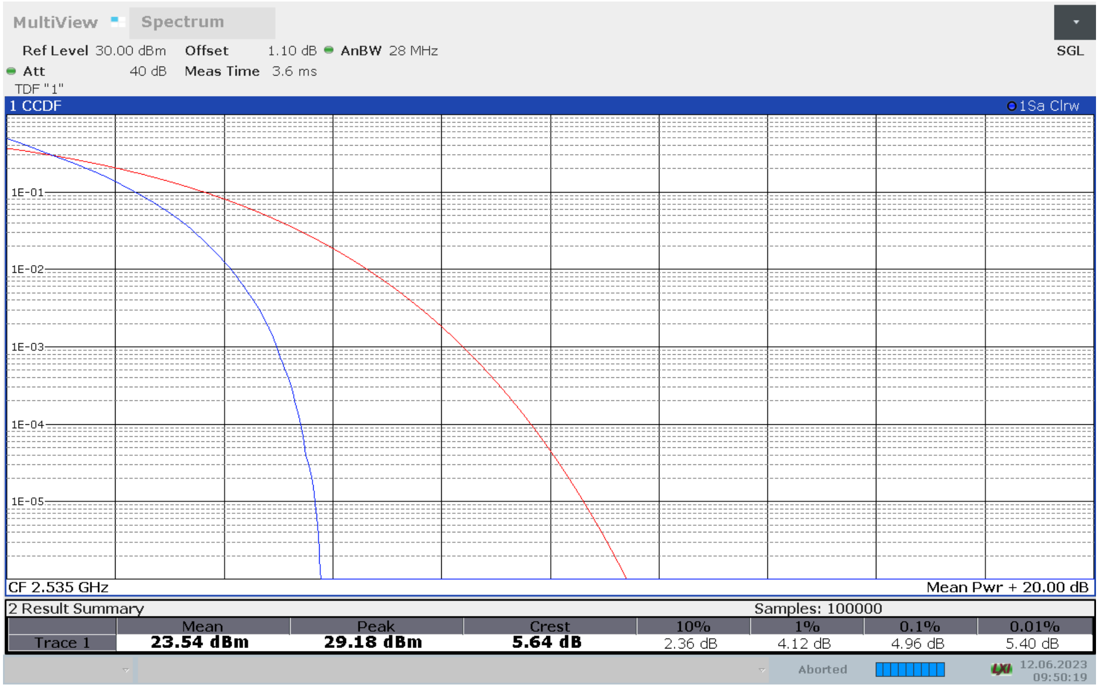
2 Result Summary Samples: 100000

	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	22.15 dBm	27.44 dBm	5.29 dB	2.86 dB	4.26 dB	4.90 dB	5.20 dB

LTE band 7

Frequency(MHz)	Bandwidth(MHz)	PAPR(dB)	
		QPSK	16QAM
2535.0	20	4.96	5.68

LTE band 7, 20MHz Bandwidth, QPSK (PAPR)

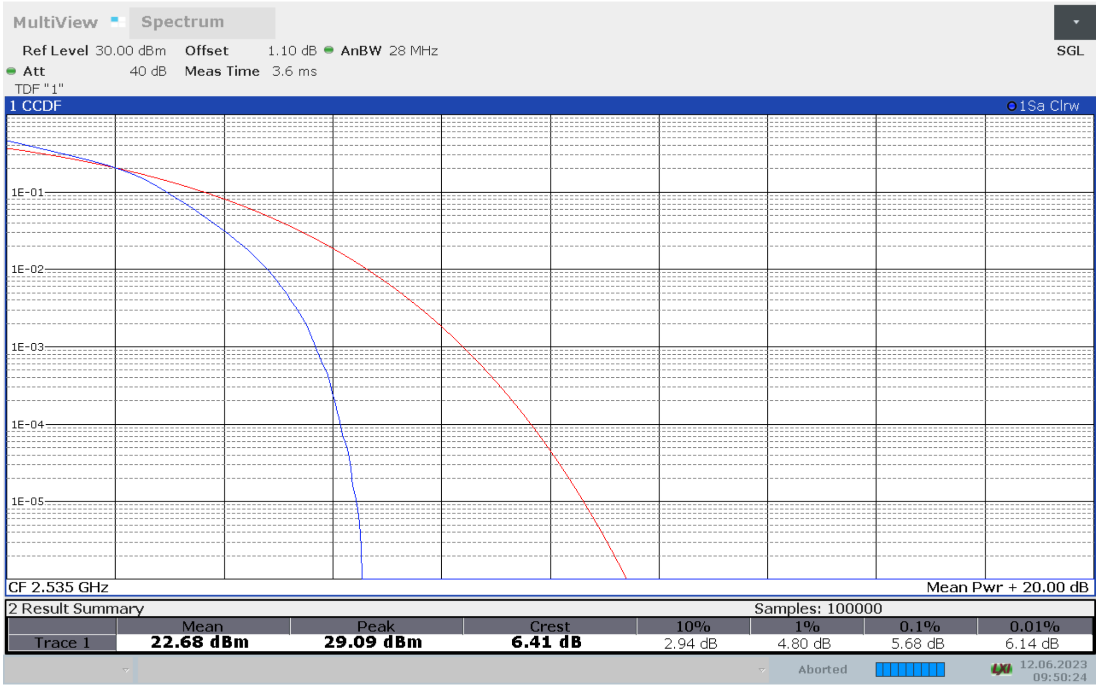

MultiView
Spectrum
SGL
1 CCDF
1Sa Clrw
1E-01
1E-02
1E-03
1E-04
1E-05
CF 2.535 GHz
Mean Pwr + 20.00 dB
Aborted
12.06.2023
09:50:19

Ref Level 30.00 dBm Offset 1.10 dB AnBW 28 MHz
Att 40 dB Meas Time 3.6 ms
TDF "1"

2 Result Summary Samples: 100000

	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	23.54 dBm	29.18 dBm	5.64 dB	2.36 dB	4.12 dB	4.96 dB	5.40 dB

LTE band 7, 20MHz Bandwidth, 16QAM (PAPR)


MultiView
Spectrum
SGL
1 CCDF
1Sa Clrw
1E-01
1E-02
1E-03
1E-04
1E-05
CF 2.535 GHz
Mean Pwr + 20.00 dB
Aborted
12.06.2023
09:50:24

Ref Level 30.00 dBm Offset 1.10 dB AnBW 28 MHz
Att 40 dB Meas Time 3.6 ms
TDF "1"

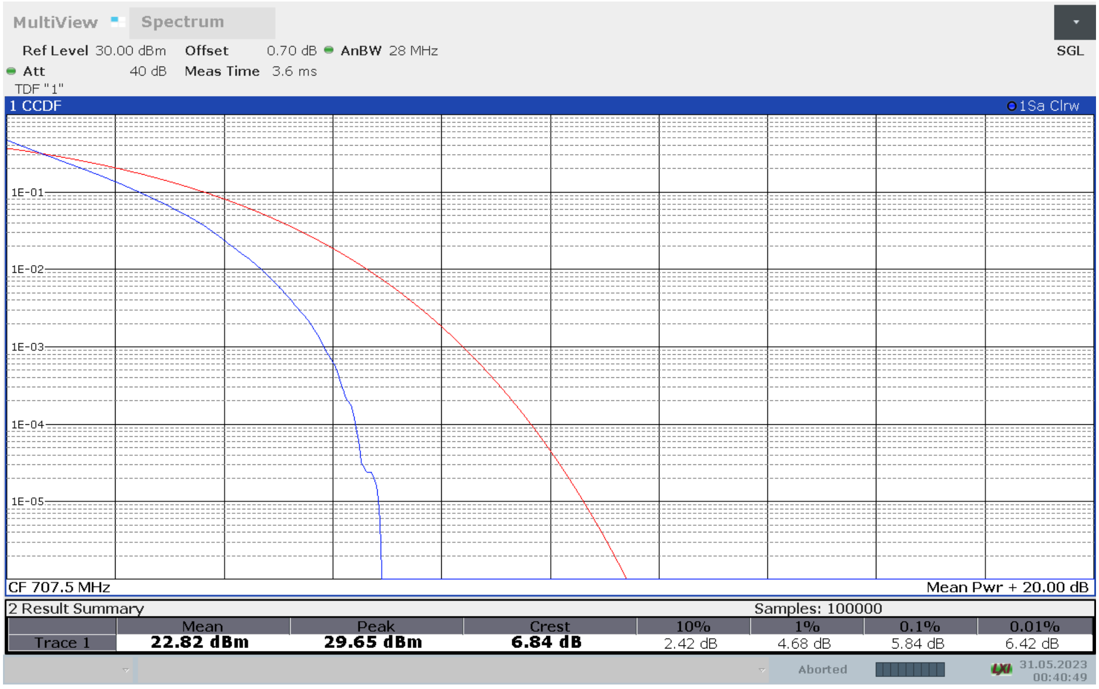
2 Result Summary Samples: 100000

	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	22.68 dBm	29.09 dBm	6.41 dB	2.94 dB	4.80 dB	5.68 dB	6.14 dB

LTE band 12

Frequency(MHz)	Bandwidth(MHz)	PAPR(dB)	
		QPSK	16QAM
707.5	10	5.84	6.74

LTE band 12, 10MHz Bandwidth, QPSK (PAPR)


MultiView
Spectrum
SGL
1 CCDF
1Sa Clrw
1E-01
1E-02
1E-03
1E-04
1E-05
Aborted
31.05.2023
00:40:49

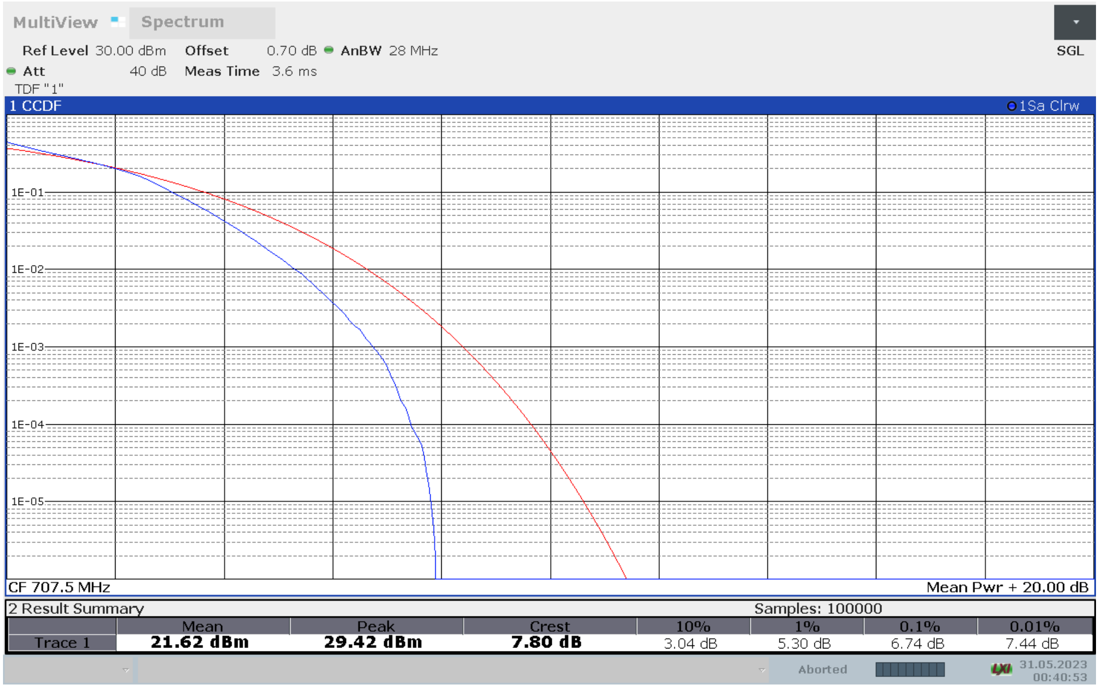
Ref Level 30.00 dBm Offset 0.70 dB AnBW 28 MHz
Att 40 dB Meas Time 3.6 ms
TDF "1"

CF 707.5 MHz
Mean Pwr + 20.00 dB

2 Result Summary
Samples: 100000

	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	**22.82 dBm**	**29.65 dBm**	**6.84 dB**	2.42 dB	4.68 dB	5.84 dB	6.42 dB

LTE band 12, 10MHz Bandwidth, 16QAM (PAPR)


MultiView
Spectrum
SGL
1 CCDF
1Sa Clrw
1E-01
1E-02
1E-03
1E-04
1E-05
Aborted
31.05.2023
00:40:53

Ref Level 30.00 dBm Offset 0.70 dB AnBW 28 MHz
Att 40 dB Meas Time 3.6 ms
TDF "1"

CF 707.5 MHz
Mean Pwr + 20.00 dB

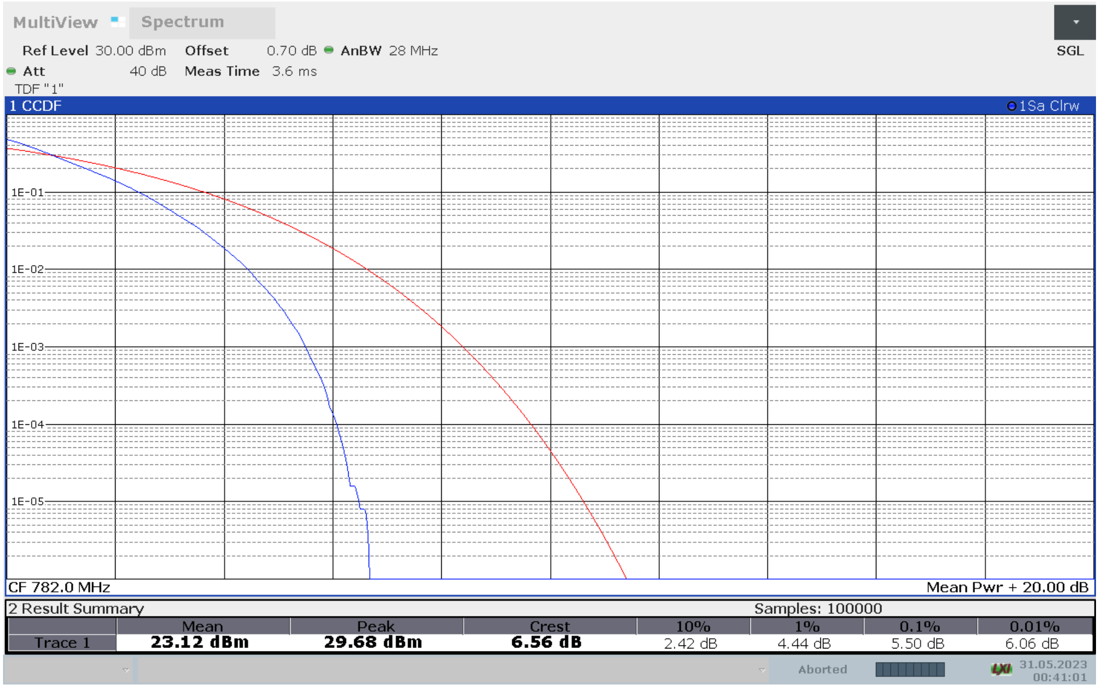
2 Result Summary
Samples: 100000

	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	**21.62 dBm**	**29.42 dBm**	**7.80 dB**	3.04 dB	5.30 dB	6.74 dB	7.44 dB

LTE band 13

Frequency(MHz)	Bandwidth(MHz)	PAPR(dB)	
		QPSK	16QAM
782.0	10	5.50	6.36

LTE band 13, 10MHz Bandwidth, QPSK (PAPR)


MultiView
Spectrum
1 CCDF
1Sa Clrw
1E-01
1E-02
1E-03
1E-04
1E-05
Aborted

Ref Level 30.00 dBm Offset 0.70 dB AnBW 28 MHz
Att 40 dB Meas Time 3.6 ms
TDF "1"
SGL

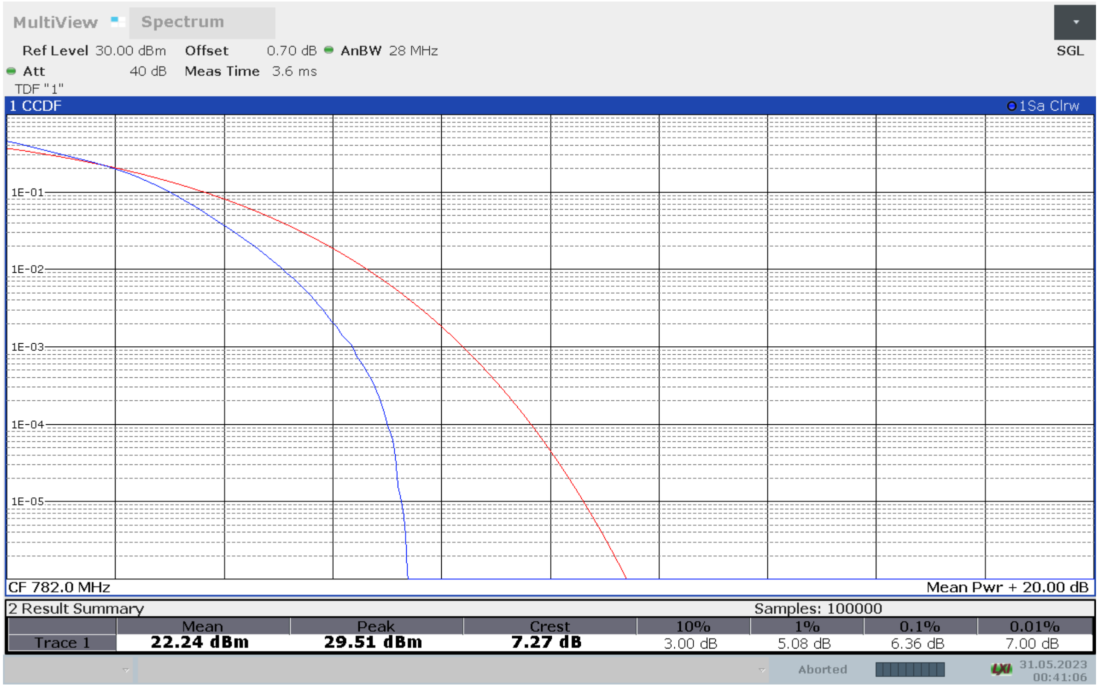
CF 782.0 MHz
Mean Pwr + 20.00 dB

2 Result Summary
Samples: 100000

	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	23.12 dBm	29.68 dBm	6.56 dB	2.42 dB	4.44 dB	5.50 dB	6.06 dB

31.05.2023
00:41:01

LTE band 13, 10MHz Bandwidth, 16QAM (PAPR)


MultiView
Spectrum
1 CCDF
1Sa Clrw
1E-01
1E-02
1E-03
1E-04
1E-05
Aborted

Ref Level 30.00 dBm Offset 0.70 dB AnBW 28 MHz
Att 40 dB Meas Time 3.6 ms
TDF "1"
SGL

CF 782.0 MHz
Mean Pwr + 20.00 dB

2 Result Summary
Samples: 100000

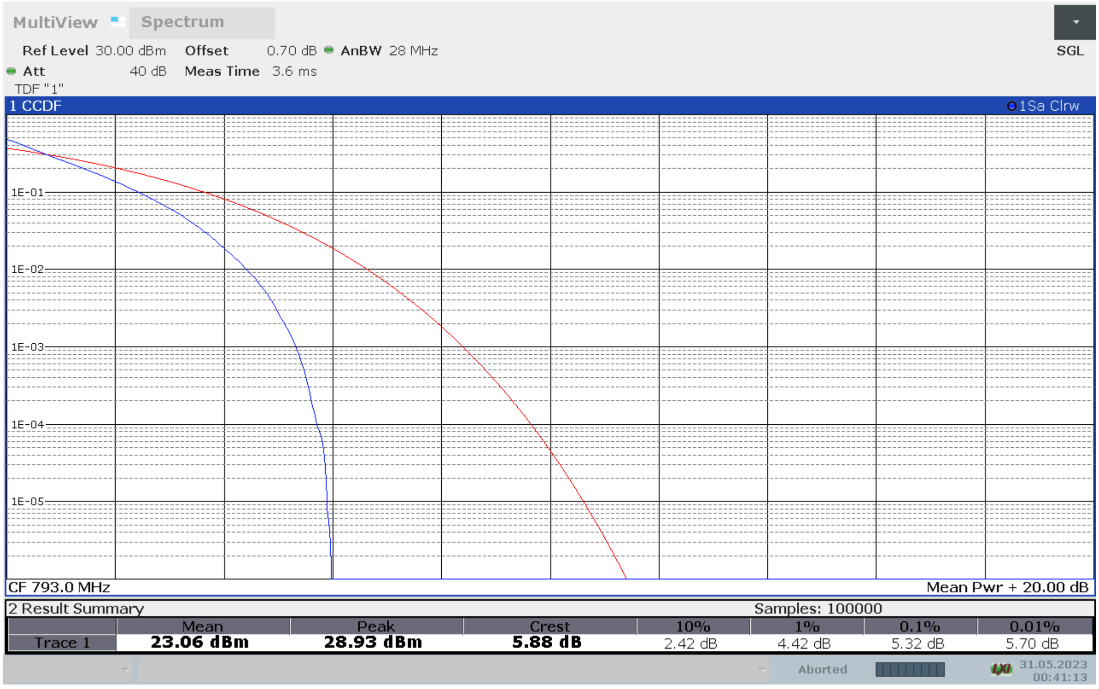
	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	22.24 dBm	29.51 dBm	7.27 dB	3.00 dB	5.08 dB	6.36 dB	7.00 dB

31.05.2023
00:41:06

LTE band 14

Frequency(MHz)	Bandwidth(MHz)	PAPR(dB)	
		QPSK	16QAM
793.0	10	5.32	6.18

LTE band 14, 10MHz Bandwidth, QPSK (PAPR)


MultiView
Spectrum
SGL
1 CCDF
1Sa Clrw
1E-01
1E-02
1E-03
1E-04
1E-05
Aborted

Ref Level 30.00 dBm Offset 0.70 dB AnBW 28 MHz
Att 40 dB Meas Time 3.6 ms
TDF "1"

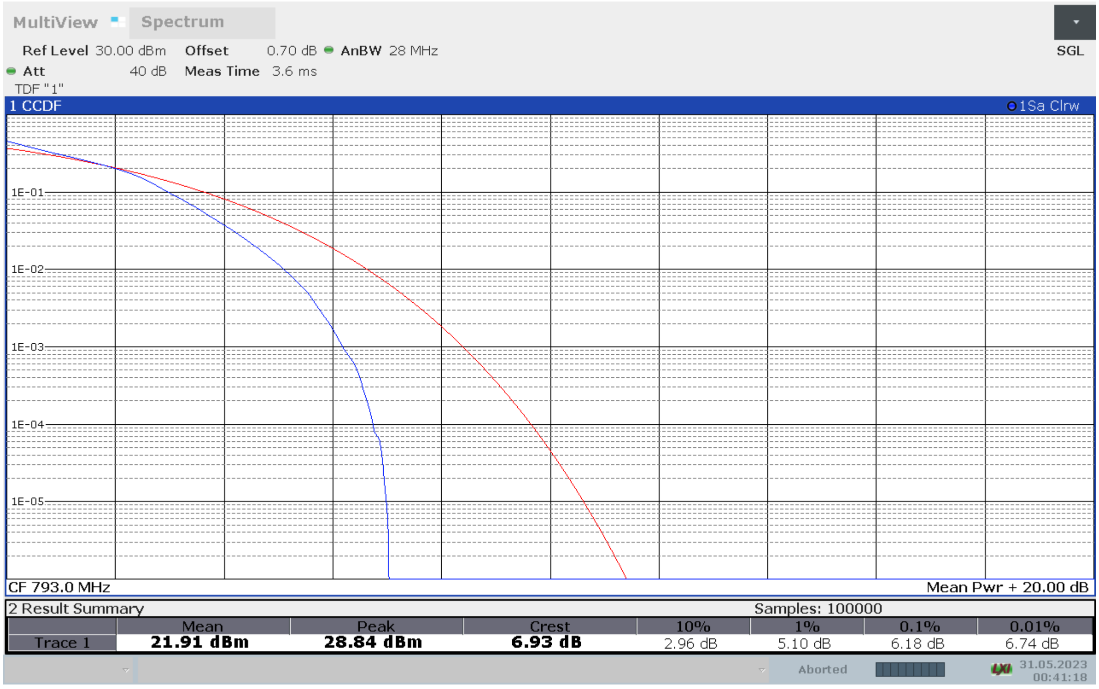
CF 793.0 MHz Mean Pwr + 20.00 dB

2 Result Summary Samples: 100000

	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	23.06 dBm	28.93 dBm	5.88 dB	2.42 dB	4.42 dB	5.32 dB	5.70 dB

31.05.2023 00:41:13

LTE band 14, 10MHz Bandwidth, 16QAM (PAPR)


MultiView
Spectrum
SGL
1 CCDF
1Sa Clrw
1E-01
1E-02
1E-03
1E-04
1E-05
Aborted

Ref Level 30.00 dBm Offset 0.70 dB AnBW 28 MHz
Att 40 dB Meas Time 3.6 ms
TDF "1"

CF 793.0 MHz Mean Pwr + 20.00 dB

2 Result Summary Samples: 100000

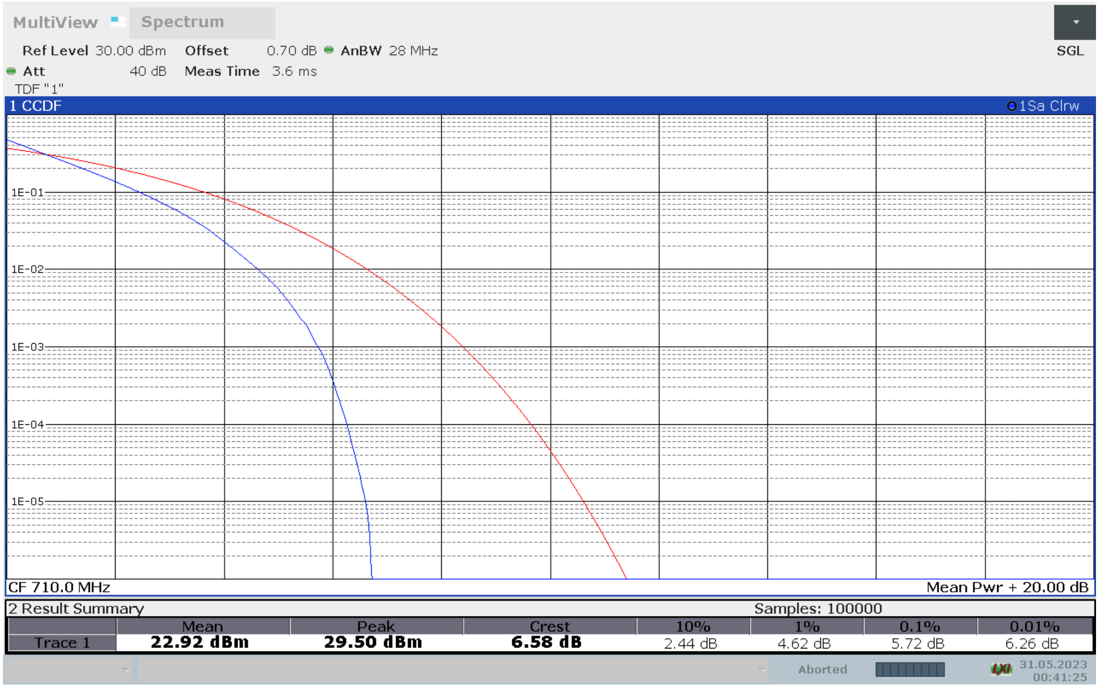
	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	21.91 dBm	28.84 dBm	6.93 dB	2.96 dB	5.10 dB	6.18 dB	6.74 dB

31.05.2023 00:41:18

LTE band 17

Frequency(MHz)	Bandwidth(MHz)	PAPR(dB)	
		QPSK	16QAM
710.0	10	5.72	6.64

LTE band 17, 10MHz Bandwidth, QPSK (PAPR)

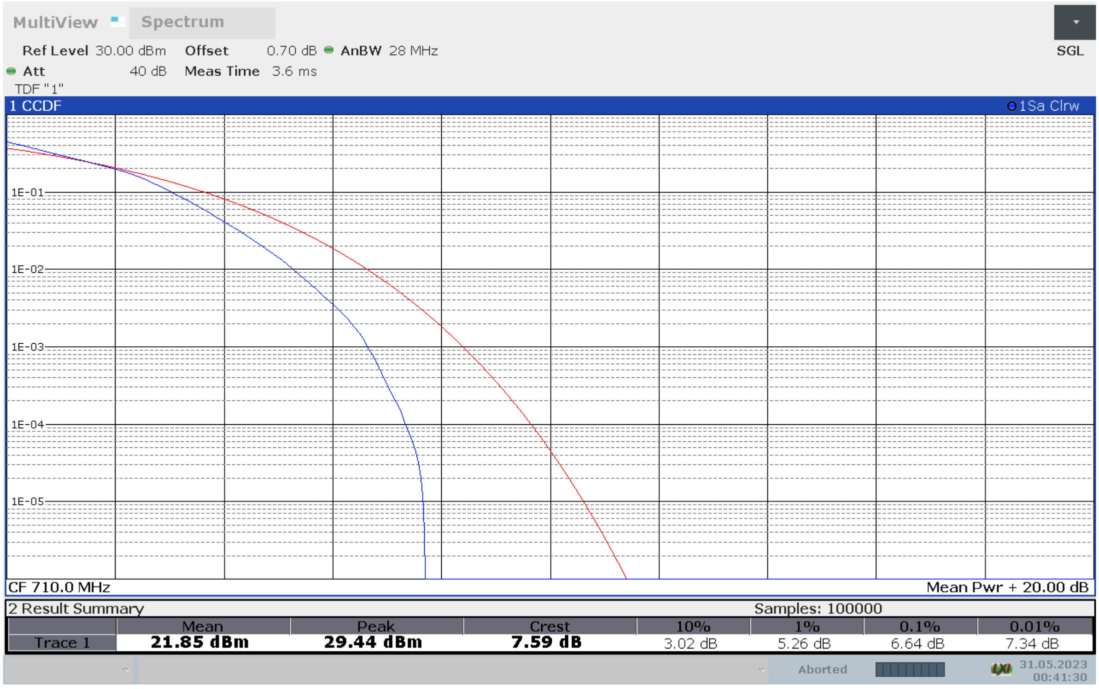

MultiView
Spectrum
SGL
1 CCDF
1Sa Clrw
1E-01
1E-02
1E-03
1E-04
1E-05
CF 710.0 MHz
Mean Pwr + 20.00 dB
Aborted
31.05.2023
00:41:25

Ref Level 30.00 dBm Offset 0.70 dB AnBW 28 MHz
Att 40 dB Meas Time 3.6 ms
TDF "1"

2 Result Summary — Samples: 100000

	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	22.92 dBm	29.50 dBm	6.58 dB	2.44 dB	4.62 dB	5.72 dB	6.26 dB

LTE band 17, 10MHz Bandwidth, 16QAM (PAPR)


MultiView
Spectrum
SGL
1 CCDF
1Sa Clrw
1E-01
1E-02
1E-03
1E-04
1E-05
CF 710.0 MHz
Mean Pwr + 20.00 dB
Aborted
31.05.2023
00:41:30

Ref Level 30.00 dBm Offset 0.70 dB AnBW 28 MHz
Att 40 dB Meas Time 3.6 ms
TDF "1"

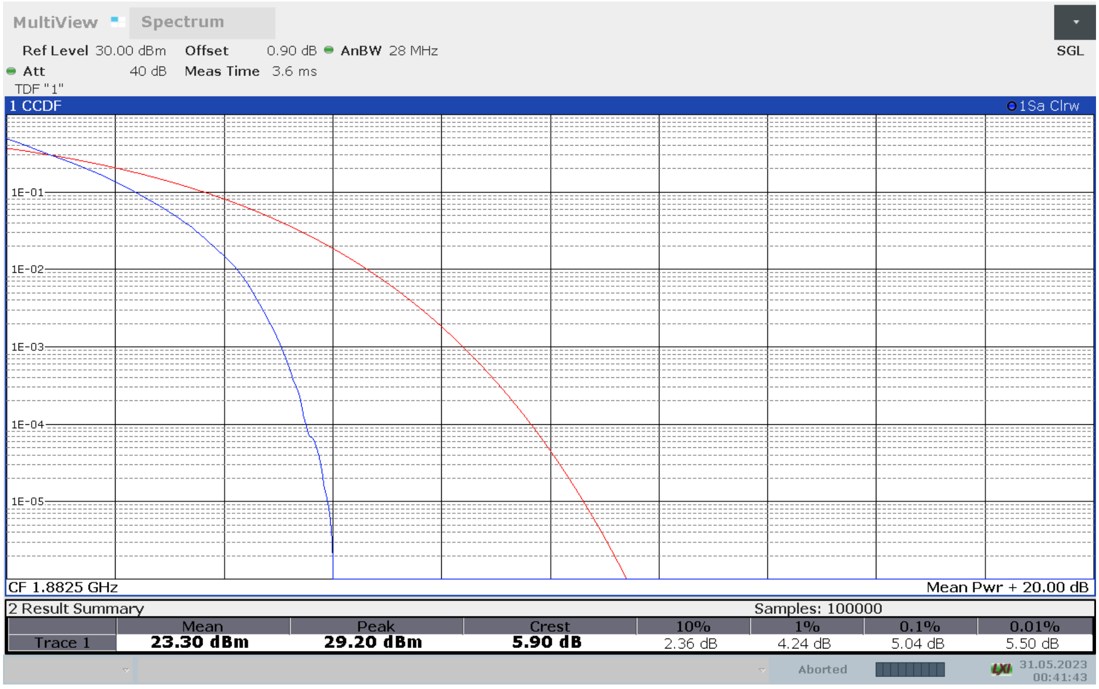
2 Result Summary — Samples: 100000

	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	21.85 dBm	29.44 dBm	7.59 dB	3.02 dB	5.26 dB	6.64 dB	7.34 dB

LTE band 25

Frequency(MHz)	Bandwidth(MHz)	PAPR(dB)	
		QPSK	16QAM
1882.5	20	5.04	5.86

LTE band 25, 20MHz Bandwidth, QPSK (PAPR)



MultiView Spectrum

Ref Level 30.00 dBm Offset 0.90 dB AnBW 28 MHz SGL

Att 40 dB Meas Time 3.6 ms

TDF "1"

1 CCDF

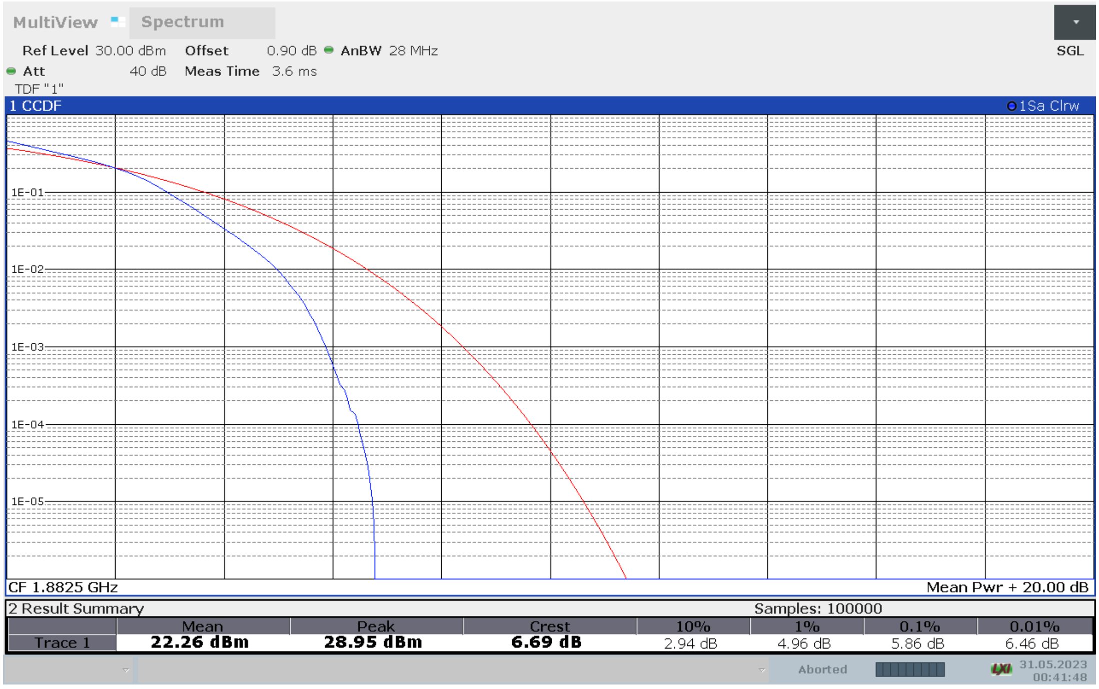
1Sa Clrw
1E-01
1E-02
1E-03
1E-04
1E-05
CF 1.8825 GHz
Mean Pwr + 20.00 dB

2 Result Summary Samples: 100000

	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	23.30 dBm	29.20 dBm	5.90 dB	2.36 dB	4.24 dB	5.04 dB	5.50 dB

Aborted
31.05.2023
00:41:43

LTE band 25, 20MHz Bandwidth, 16QAM (PAPR)



MultiView Spectrum

Ref Level 30.00 dBm Offset 0.90 dB AnBW 28 MHz SGL

Att 40 dB Meas Time 3.6 ms

TDF "1"

1 CCDF

1Sa Clrw
1E-01
1E-02
1E-03
1E-04
1E-05
CF 1.8825 GHz
Mean Pwr + 20.00 dB

2 Result Summary Samples: 100000

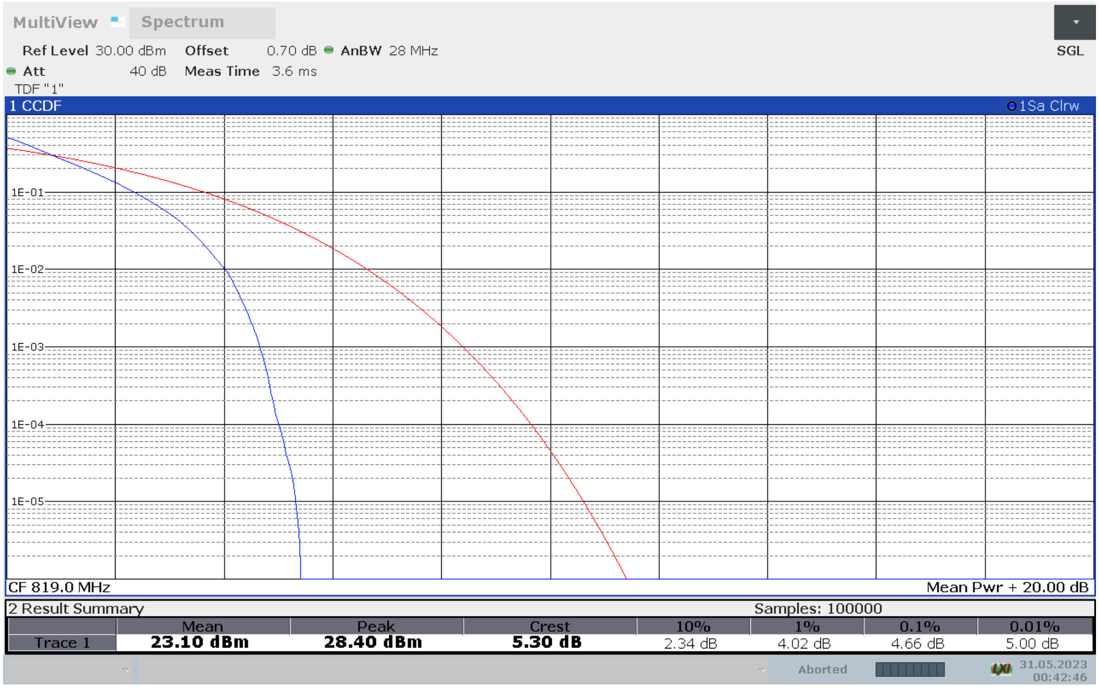
	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	22.26 dBm	28.95 dBm	6.69 dB	2.94 dB	4.96 dB	5.86 dB	6.46 dB

Aborted
31.05.2023
00:41:48

LTE band 26(814MHz -824MHz)

Frequency(MHz)	Bandwidth(MHz)	PAPR(dB)	
		QPSK	16QAM
819.0	10	4.66	5.54

LTE band 26(814MHz -824MHz), 10MHz Bandwidth, QPSK (PAPR)

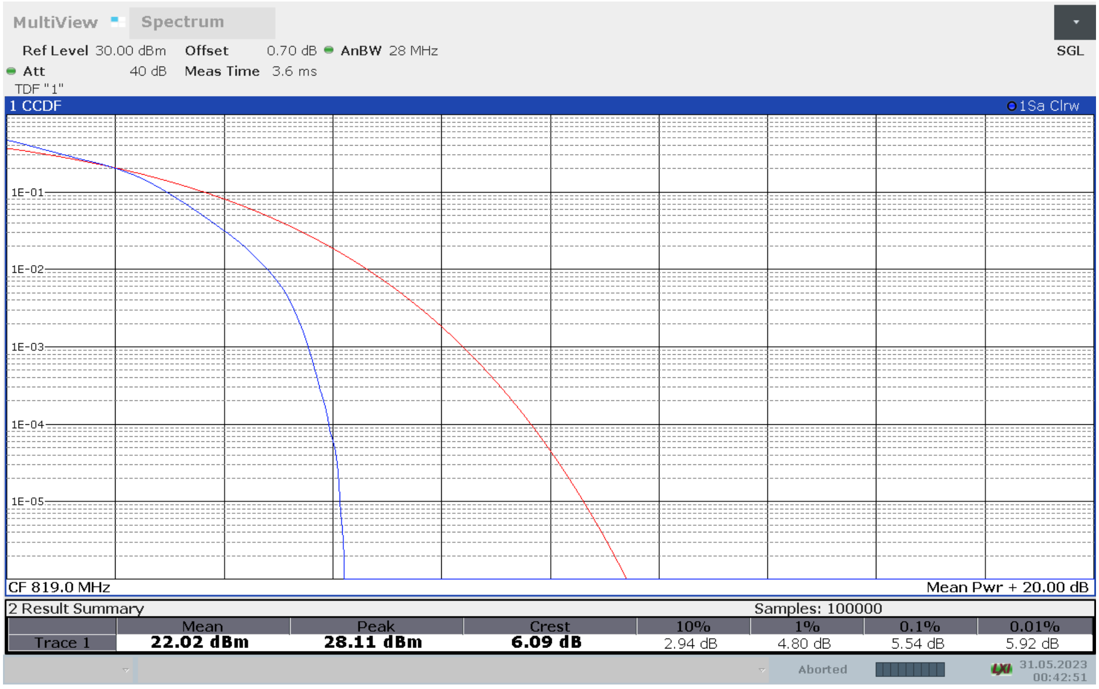

MultiView
Spectrum
SGL
1 CCDF
1Sa Clrw
1E-01
1E-02
1E-03
1E-04
1E-05
CF 819.0 MHz
Mean Pwr + 20.00 dB
Aborted
31.05.2023
00:42:46

Ref Level 30.00 dBm Offset 0.70 dB AnBW 28 MHz
Att 40 dB Meas Time 3.6 ms
TDF "1"

2 Result Summary Samples: 100000

	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	**23.10 dBm**	**28.40 dBm**	**5.30 dB**	2.34 dB	4.02 dB	4.66 dB	5.00 dB

LTE band 26(814MHz -824MHz), 10MHz Bandwidth, 16QAM (PAPR)


MultiView
Spectrum
SGL
1 CCDF
1Sa Clrw
1E-01
1E-02
1E-03
1E-04
1E-05
CF 819.0 MHz
Mean Pwr + 20.00 dB
Aborted
31.05.2023
00:42:51

Ref Level 30.00 dBm Offset 0.70 dB AnBW 28 MHz
Att 40 dB Meas Time 3.6 ms
TDF "1"

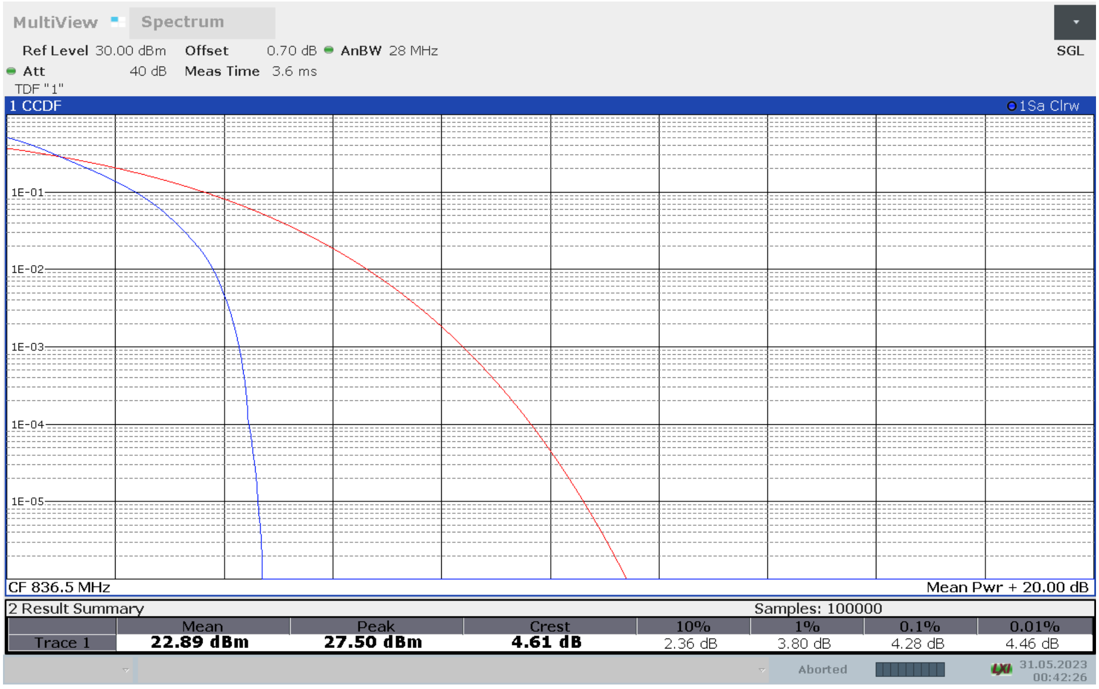
2 Result Summary Samples: 100000

	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	**22.02 dBm**	**28.11 dBm**	**6.09 dB**	2.94 dB	4.80 dB	5.54 dB	5.92 dB

LTE band 26(824MHz -849MHz)

Frequency(MHz)	Bandwidth(MHz)	PAPR(dB)	
		QPSK	16QAM
836.5	15	4.28	5.00

LTE band 26(824MHz -849MHz), 15MHz Bandwidth, QPSK (PAPR)


MultiView
Spectrum
SGL
1 CCDF
1Sa Clrw
1E-01
1E-02
1E-03
1E-04
1E-05
Aborted

Ref Level 30.00 dBm Offset 0.70 dB AnBW 28 MHz
Att 40 dB Meas Time 3.6 ms
TDF "1"

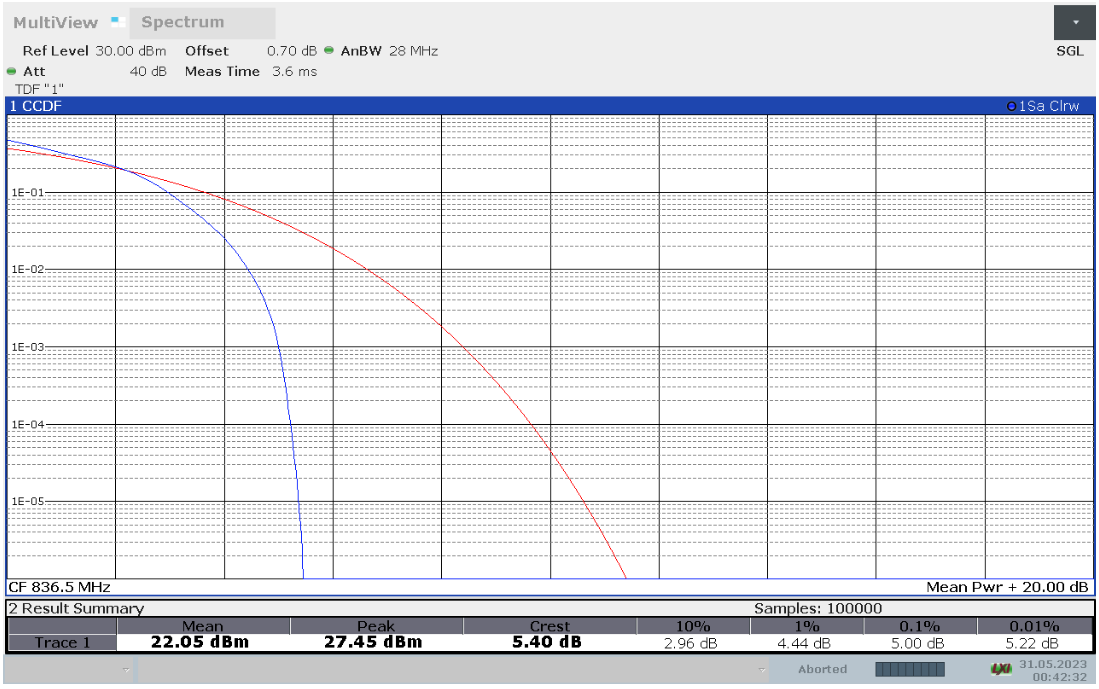
CF 836.5 MHz Mean Pwr + 20.00 dB

2 Result Summary Samples: 100000

	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	22.89 dBm	27.50 dBm	4.61 dB	2.36 dB	3.80 dB	4.28 dB	4.46 dB

31.05.2023
00:42:26

LTE band 26(824MHz -849MHz), 15MHz Bandwidth, 16QAM (PAPR)


MultiView
Spectrum
SGL
1 CCDF
1Sa Clrw
1E-01
1E-02
1E-03
1E-04
1E-05
Aborted

Ref Level 30.00 dBm Offset 0.70 dB AnBW 28 MHz
Att 40 dB Meas Time 3.6 ms
TDF "1"

CF 836.5 MHz Mean Pwr + 20.00 dB

2 Result Summary Samples: 100000

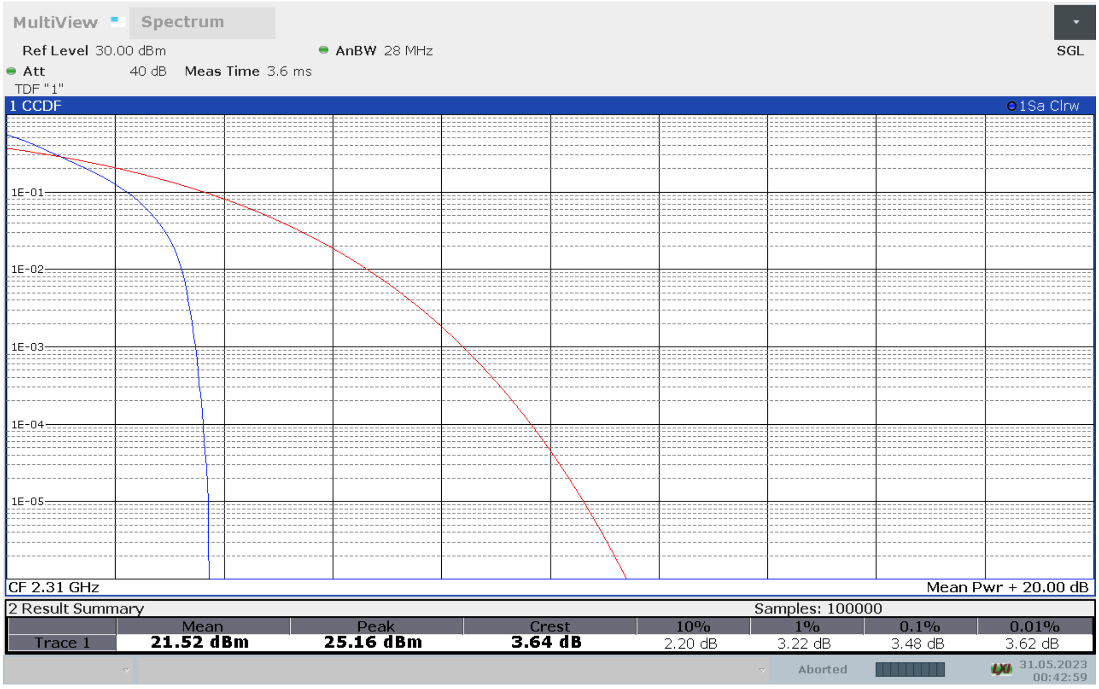
	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	22.05 dBm	27.45 dBm	5.40 dB	2.96 dB	4.44 dB	5.00 dB	5.22 dB

31.05.2023
00:42:32

LTE band 30

Frequency(MHz)	Bandwidth(MHz)	PAPR(dB)	
		QPSK	16QAM
2310.0	10	3.48	4.48

LTE band 30, 10MHz Bandwidth, QPSK (PAPR)


MultiView
Spectrum
SGL
1 CCDF
1Sa Clrw
1E-01
1E-02
1E-03
1E-04
1E-05
Aborted
31.05.2023
00:42:59

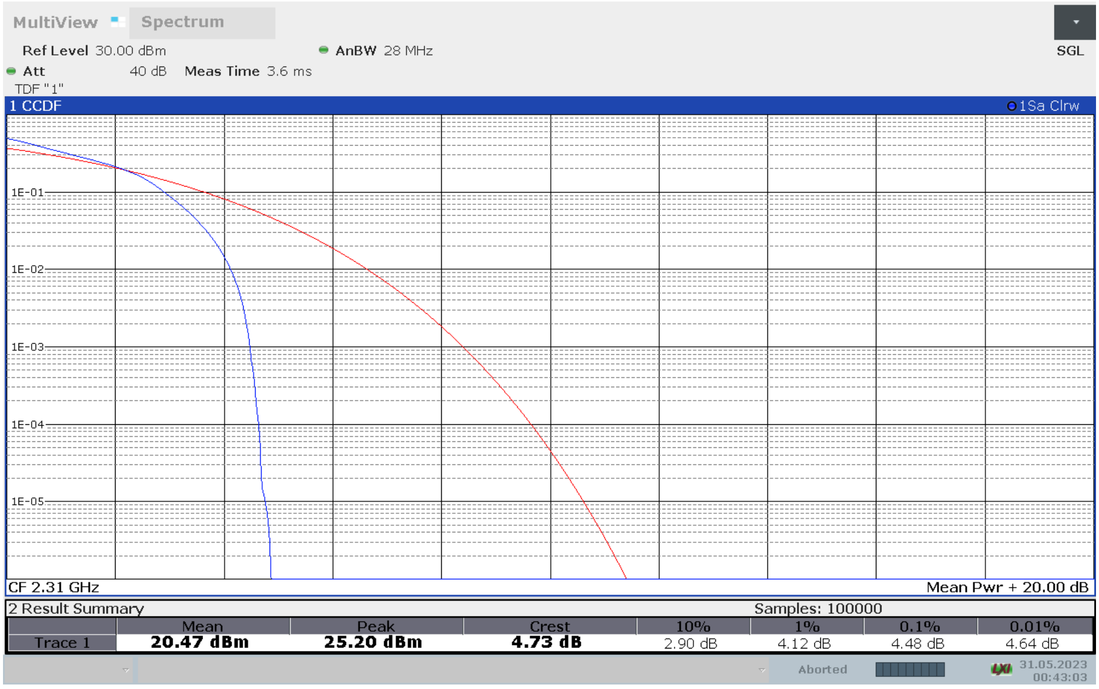
Ref Level 30.00 dBm AnBW 28 MHz
Att 40 dB Meas Time 3.6 ms
TDF "1"

CF 2.31 GHz Mean Pwr + 20.00 dB

2 Result Summary Samples: 100000

	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	21.52 dBm	25.16 dBm	3.64 dB	2.20 dB	3.22 dB	3.48 dB	3.62 dB

LTE band 30, 10MHz Bandwidth, 16QAM (PAPR)


MultiView
Spectrum
SGL
1 CCDF
1Sa Clrw
1E-01
1E-02
1E-03
1E-04
1E-05
Aborted
31.05.2023
00:43:03

Ref Level 30.00 dBm AnBW 28 MHz
Att 40 dB Meas Time 3.6 ms
TDF "1"

CF 2.31 GHz Mean Pwr + 20.00 dB

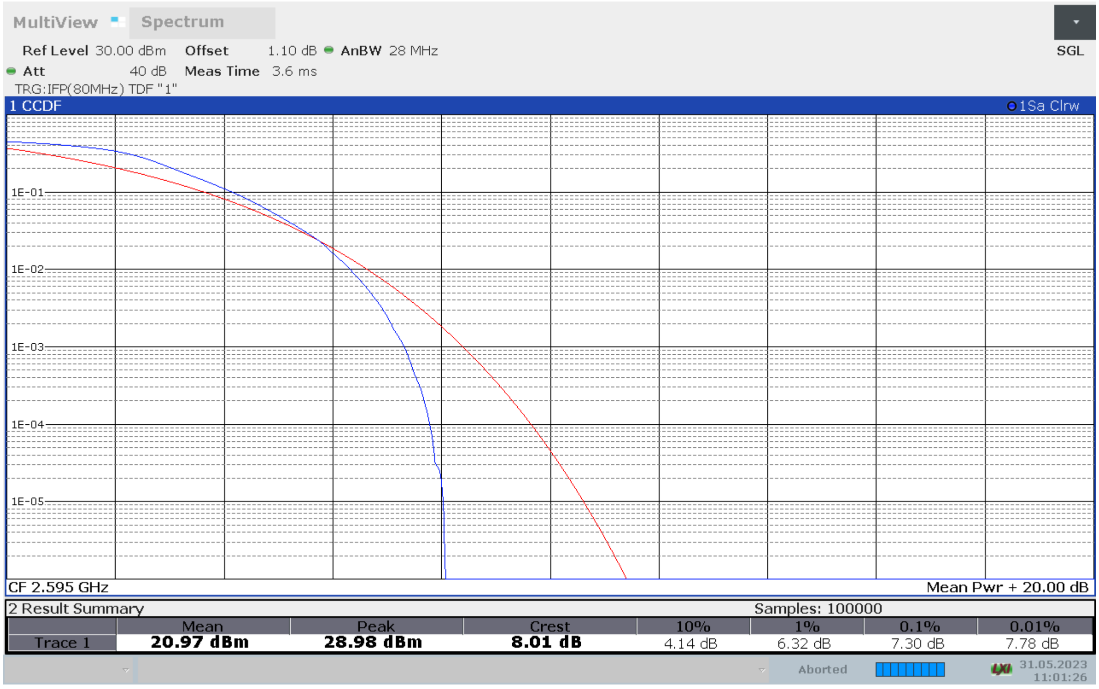
2 Result Summary Samples: 100000

	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	20.47 dBm	25.20 dBm	4.73 dB	2.90 dB	4.12 dB	4.48 dB	4.64 dB

LTE band 38

Frequency(MHz)	Bandwidth(MHz)	PAPR(dB)	
		QPSK	16QAM
2595.0	20	7.30	8.18

LTE band 38, 20MHz Bandwidth, QPSK (PAPR)


MultiView
Spectrum
SGL
1 CCDF
1Sa Clrw
1E-01
1E-02
1E-03
1E-04
1E-05
Aborted
31.05.2023
11:01:26

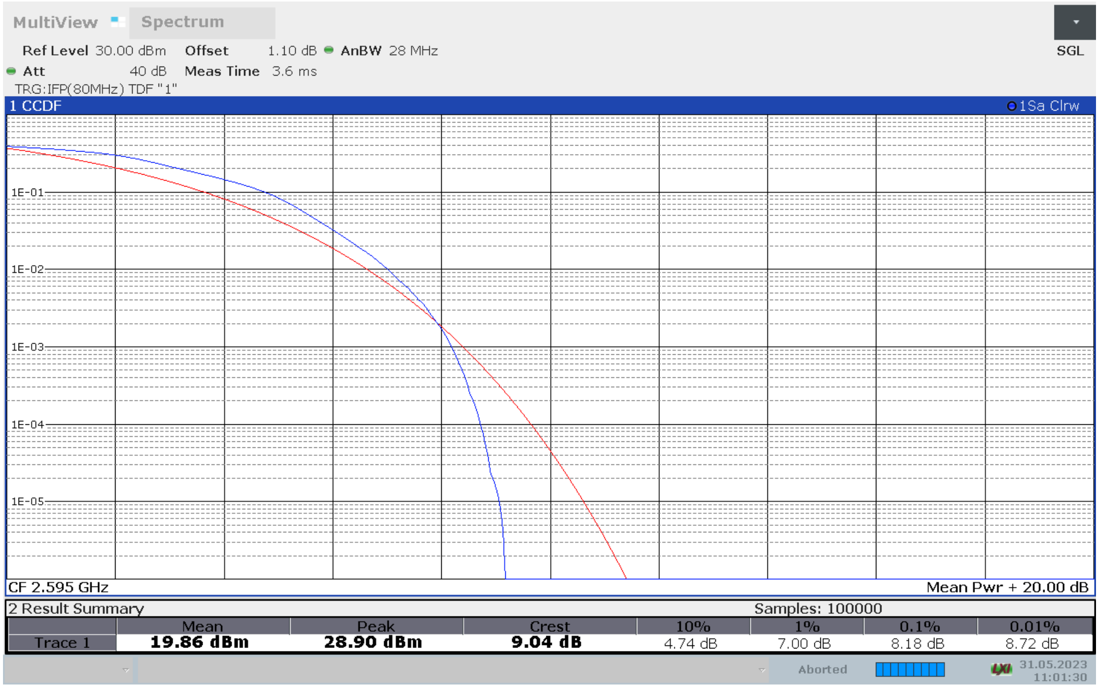
Ref Level 30.00 dBm Offset 1.10 dB AnBW 28 MHz
Att 40 dB Meas Time 3.6 ms
TRG:IFP(80MHz) TDF "1"

CF 2.595 GHz Mean Pwr + 20.00 dB

2 Result Summary Samples: 100000

	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	**20.97 dBm**	**28.98 dBm**	**8.01 dB**	4.14 dB	6.32 dB	7.30 dB	7.78 dB

LTE band 38, 20MHz Bandwidth, 16QAM (PAPR)


MultiView
Spectrum
SGL
1 CCDF
1Sa Clrw
1E-01
1E-02
1E-03
1E-04
1E-05
Aborted
31.05.2023
11:01:30

Ref Level 30.00 dBm Offset 1.10 dB AnBW 28 MHz
Att 40 dB Meas Time 3.6 ms
TRG:IFP(80MHz) TDF "1"

CF 2.595 GHz Mean Pwr + 20.00 dB

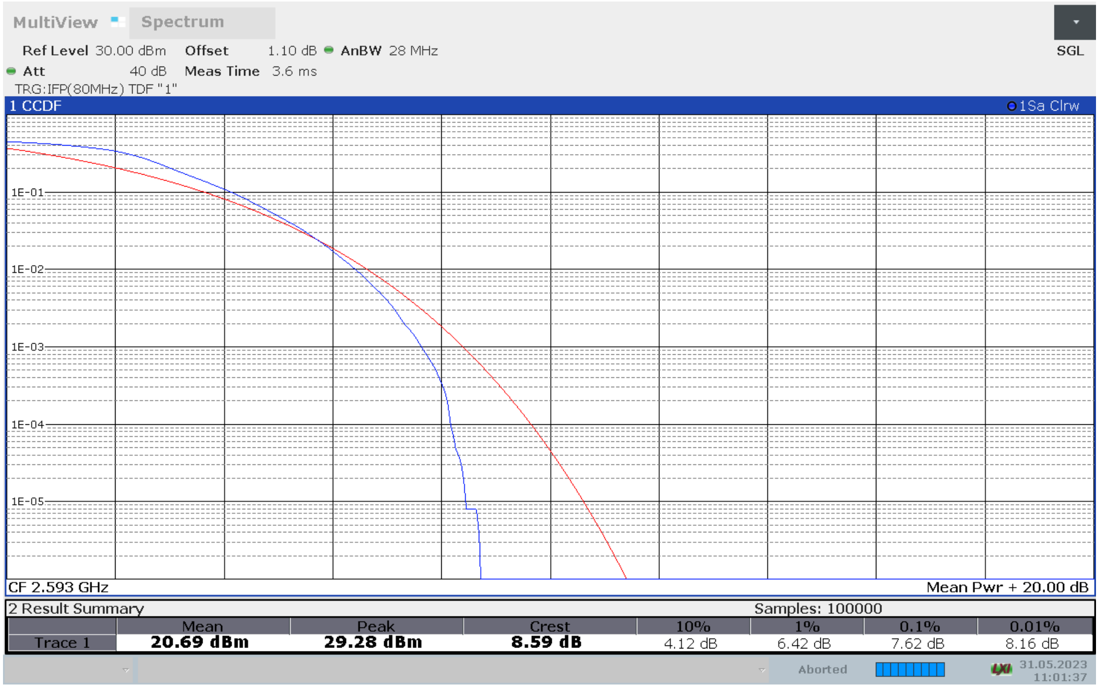
2 Result Summary Samples: 100000

	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	**19.86 dBm**	**28.90 dBm**	**9.04 dB**	4.74 dB	7.00 dB	8.18 dB	8.72 dB

LTE band 41

Frequency(MHz)	Bandwidth(MHz)	PAPR(dB)	
		QPSK	16QAM
2593.0	20	7.62	8.38

LTE band 41, 20MHz Bandwidth, QPSK (PAPR)


MultiView
Spectrum
SGL
1 CCDF
1Sa Clrw
1E-01
1E-02
1E-03
1E-04
1E-05
Aborted

Ref Level 30.00 dBm Offset 1.10 dB AnBW 28 MHz
Att 40 dB Meas Time 3.6 ms
TRG:IFP(80MHz) TDF "1"

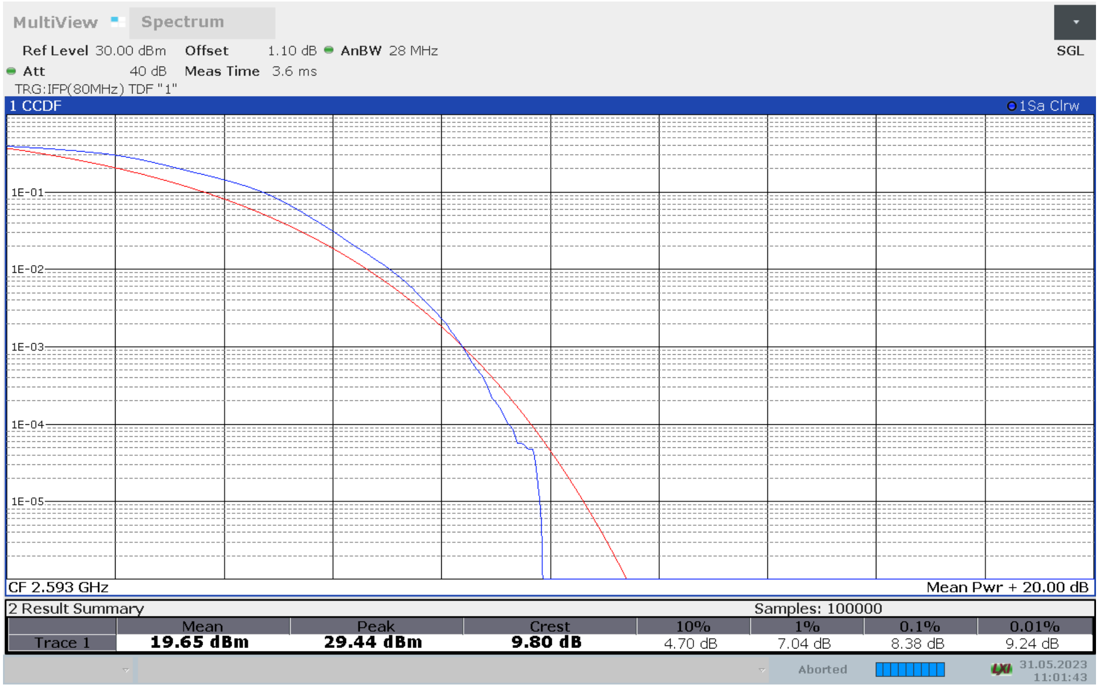
CF 2.593 GHz Mean Pwr + 20.00 dB

2 Result Summary Samples: 100000

	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	20.69 dBm	29.28 dBm	8.59 dB	4.12 dB	6.42 dB	7.62 dB	8.16 dB

31.05.2023
11:01:37

LTE band 41, 20MHz Bandwidth, 16QAM (PAPR)


MultiView
Spectrum
SGL
1 CCDF
1Sa Clrw
1E-01
1E-02
1E-03
1E-04
1E-05
Aborted

Ref Level 30.00 dBm Offset 1.10 dB AnBW 28 MHz
Att 40 dB Meas Time 3.6 ms
TRG:IFP(80MHz) TDF "1"

CF 2.593 GHz Mean Pwr + 20.00 dB

2 Result Summary Samples: 100000

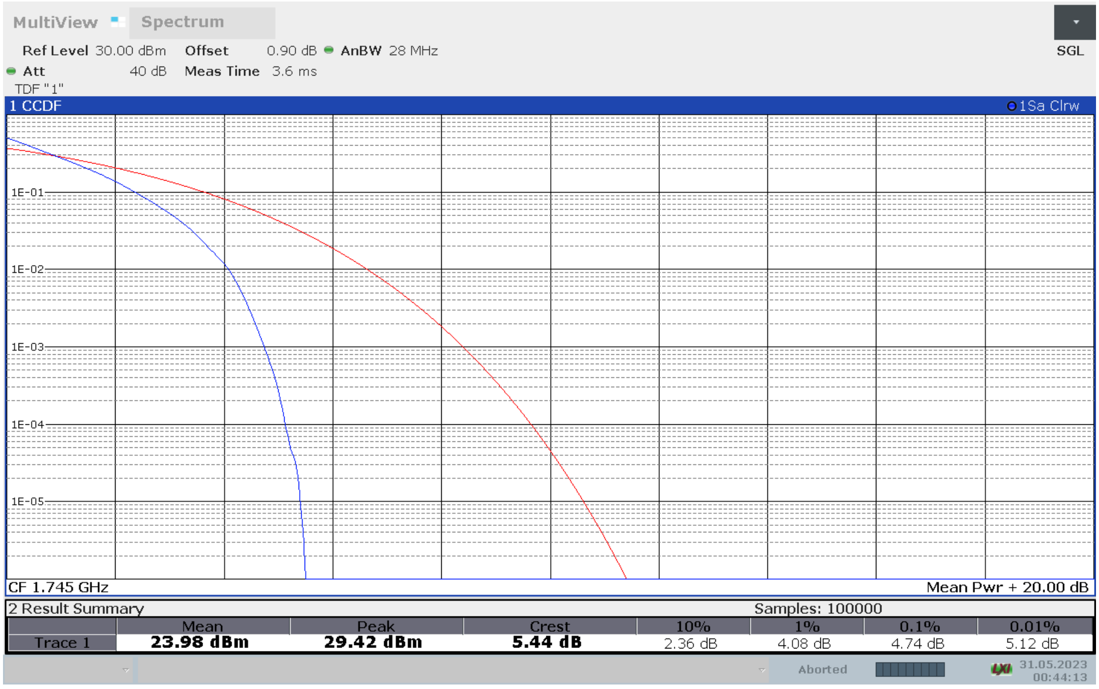
	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	19.65 dBm	29.44 dBm	9.80 dB	4.70 dB	7.04 dB	8.38 dB	9.24 dB

31.05.2023
11:01:43

LTE band 66

Frequency(MHz)	Bandwidth(MHz)	PAPR(dB)	
		QPSK	16QAM
1745.0	20	4.74	5.60

LTE band 66, 20MHz Bandwidth, QPSK (PAPR)

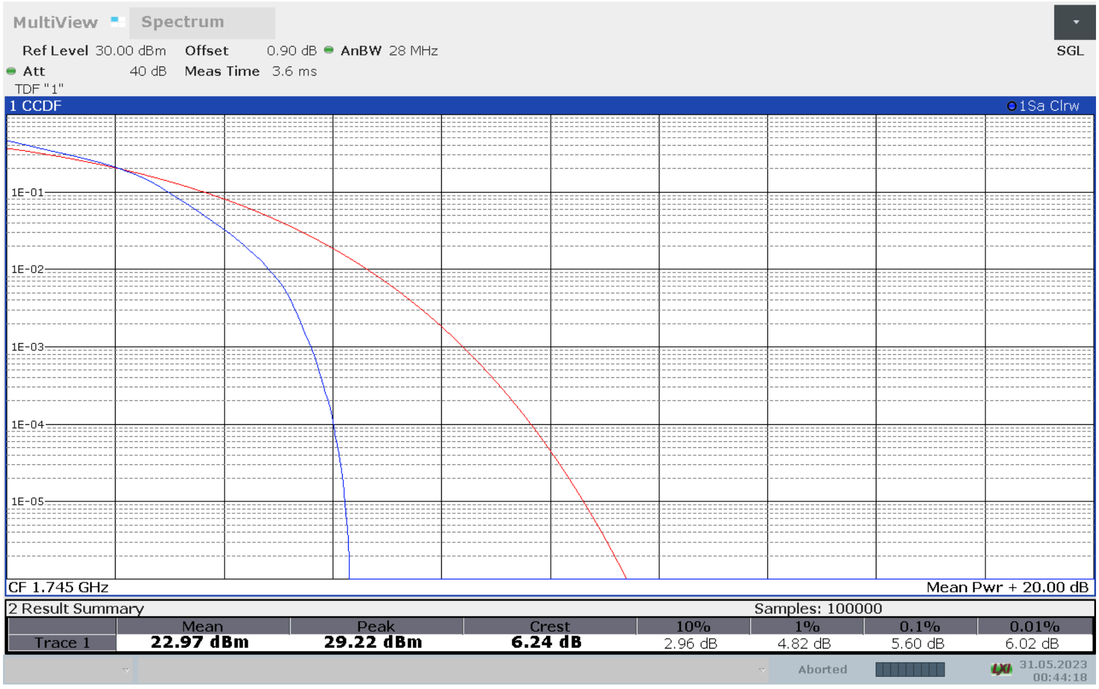

MultiView
Spectrum
SGL
1E-01
1E-02
1E-03
1E-04
1E-05
1Sa Clrw
Aborted

Ref Level 30.00 dBm Offset 0.90 dB AnBW 28 MHz
Att 40 dB Meas Time 3.6 ms
TDF "1"
1 CCDF
CF 1.745 GHz Mean Pwr + 20.00 dB
2 Result Summary Samples: 100000

	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	23.98 dBm	29.42 dBm	5.44 dB	2.36 dB	4.08 dB	4.74 dB	5.12 dB

31.05.2023
00:44:13

LTE band 66, 20MHz Bandwidth, 16QAM (PAPR)


MultiView
Spectrum
SGL
1E-01
1E-02
1E-03
1E-04
1E-05
1Sa Clrw
Aborted

Ref Level 30.00 dBm Offset 0.90 dB AnBW 28 MHz
Att 40 dB Meas Time 3.6 ms
TDF "1"
1 CCDF
CF 1.745 GHz Mean Pwr + 20.00 dB
2 Result Summary Samples: 100000

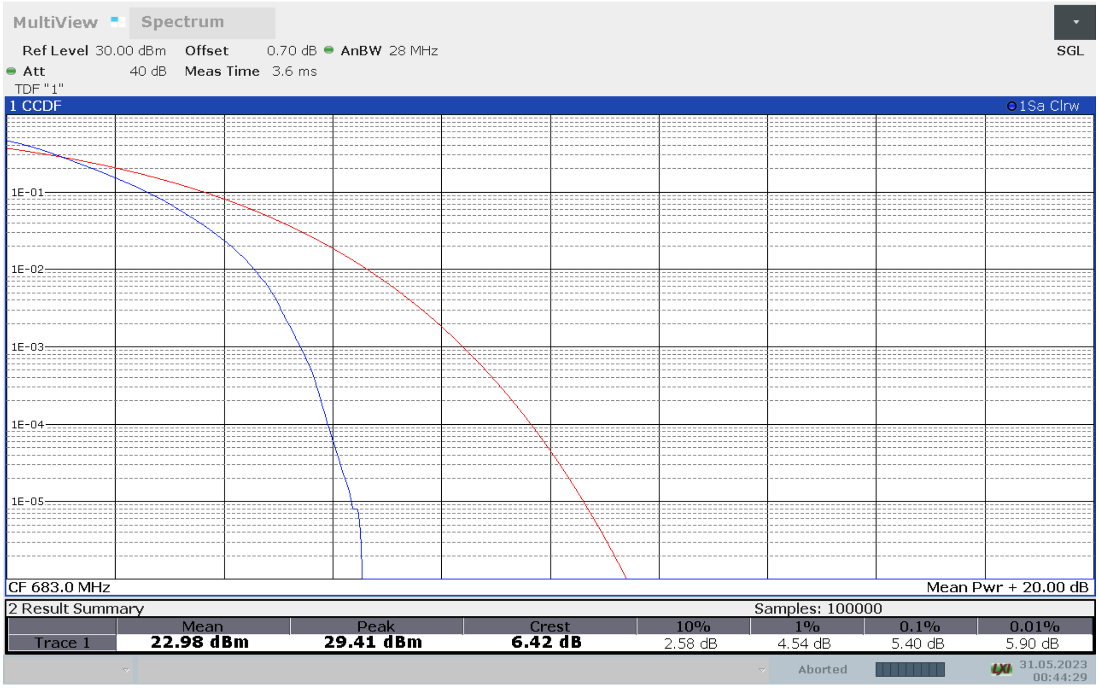
	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	22.97 dBm	29.22 dBm	6.24 dB	2.96 dB	4.82 dB	5.60 dB	6.02 dB

31.05.2023
00:44:18

LTE band 71

Frequency(MHz)	Bandwidth(MHz)	PAPR(dB)	
		QPSK	16QAM
1745.0	20	5.40	6.36

LTE band 71, 20MHz Bandwidth, QPSK (PAPR)


MultiView
Spectrum
SGL
1 CCDF
1Sa Clrw
1E-01
1E-02
1E-03
1E-04
1E-05
Aborted
31.05.2023
00:44:29

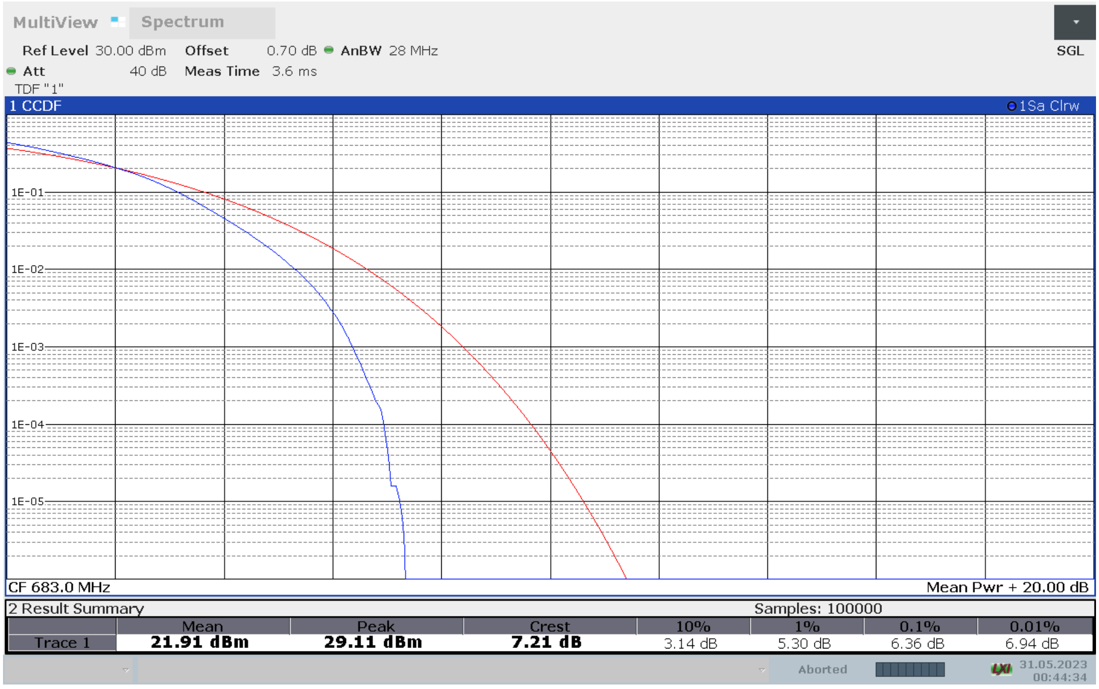
Ref Level 30.00 dBm Offset 0.70 dB AnBW 28 MHz
Att 40 dB Meas Time 3.6 ms
TDF "1"

CF 683.0 MHz Mean Pwr + 20.00 dB

2 Result Summary Samples: 100000

	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	22.98 dBm	29.41 dBm	6.42 dB	2.58 dB	4.54 dB	5.40 dB	5.90 dB

LTE band 71, 20MHz Bandwidth, 16QAM (PAPR)


MultiView
Spectrum
SGL
1 CCDF
1Sa Clrw
1E-01
1E-02
1E-03
1E-04
1E-05
Aborted
31.05.2023
00:44:34

Ref Level 30.00 dBm Offset 0.70 dB AnBW 28 MHz
Att 40 dB Meas Time 3.6 ms
TDF "1"

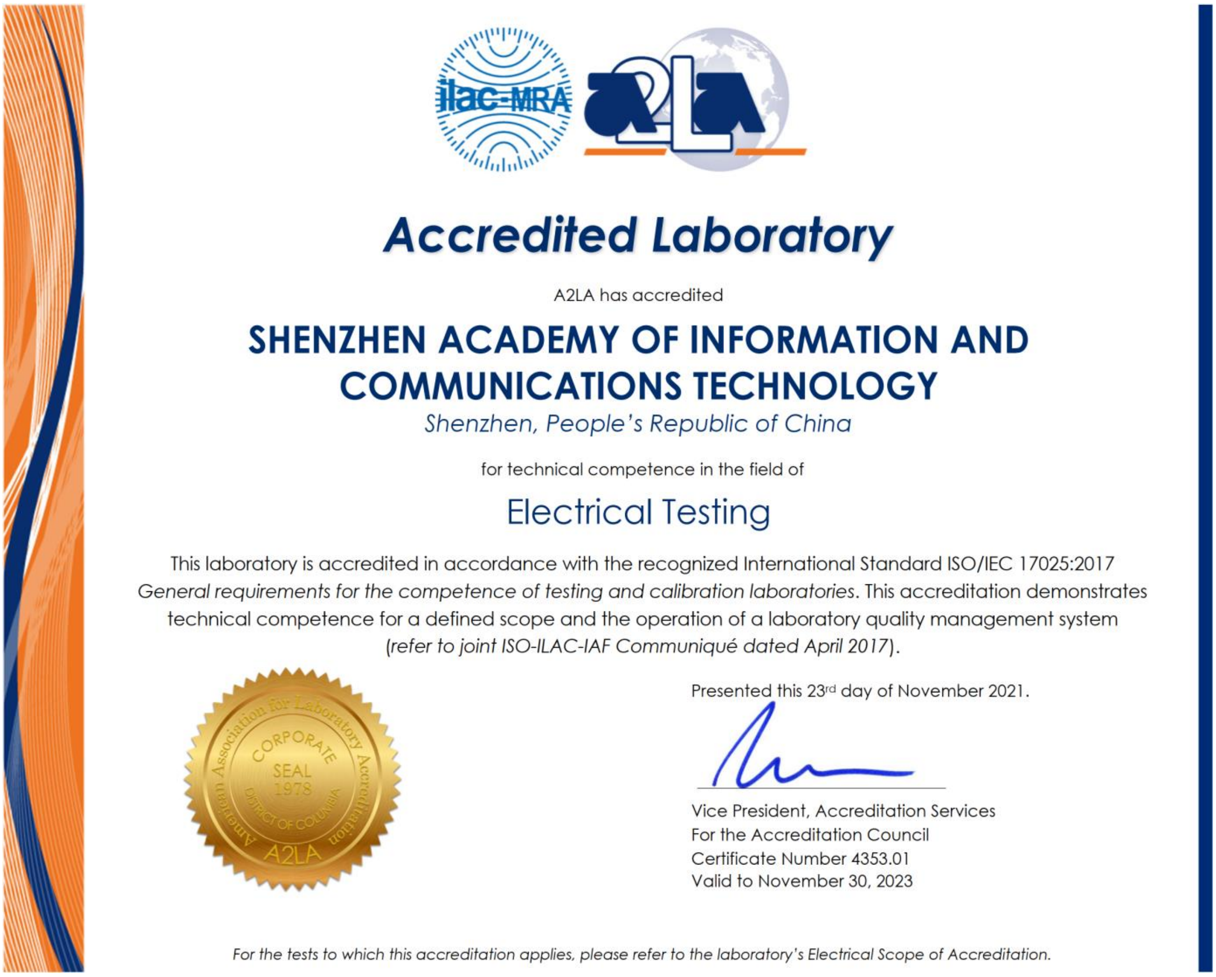
CF 683.0 MHz Mean Pwr + 20.00 dB

2 Result Summary Samples: 100000

	Mean	Peak	Crest	10%	1%	0.1%	0.01%
Trace 1	21.91 dBm	29.11 dBm	7.21 dB	3.14 dB	5.30 dB	6.36 dB	6.94 dB

Note: Expanded measurement uncertainty is U = 0.48, k = 2

ANNEX B ccreditation Certificate



Accredited Laboratory

A2LA has accredited

SHENZHEN ACADEMY OF INFORMATION AND COMMUNICATIONS TECHNOLOGY

Shenzhen, People's Republic of China

for technical competence in the field of

Electrical Testing

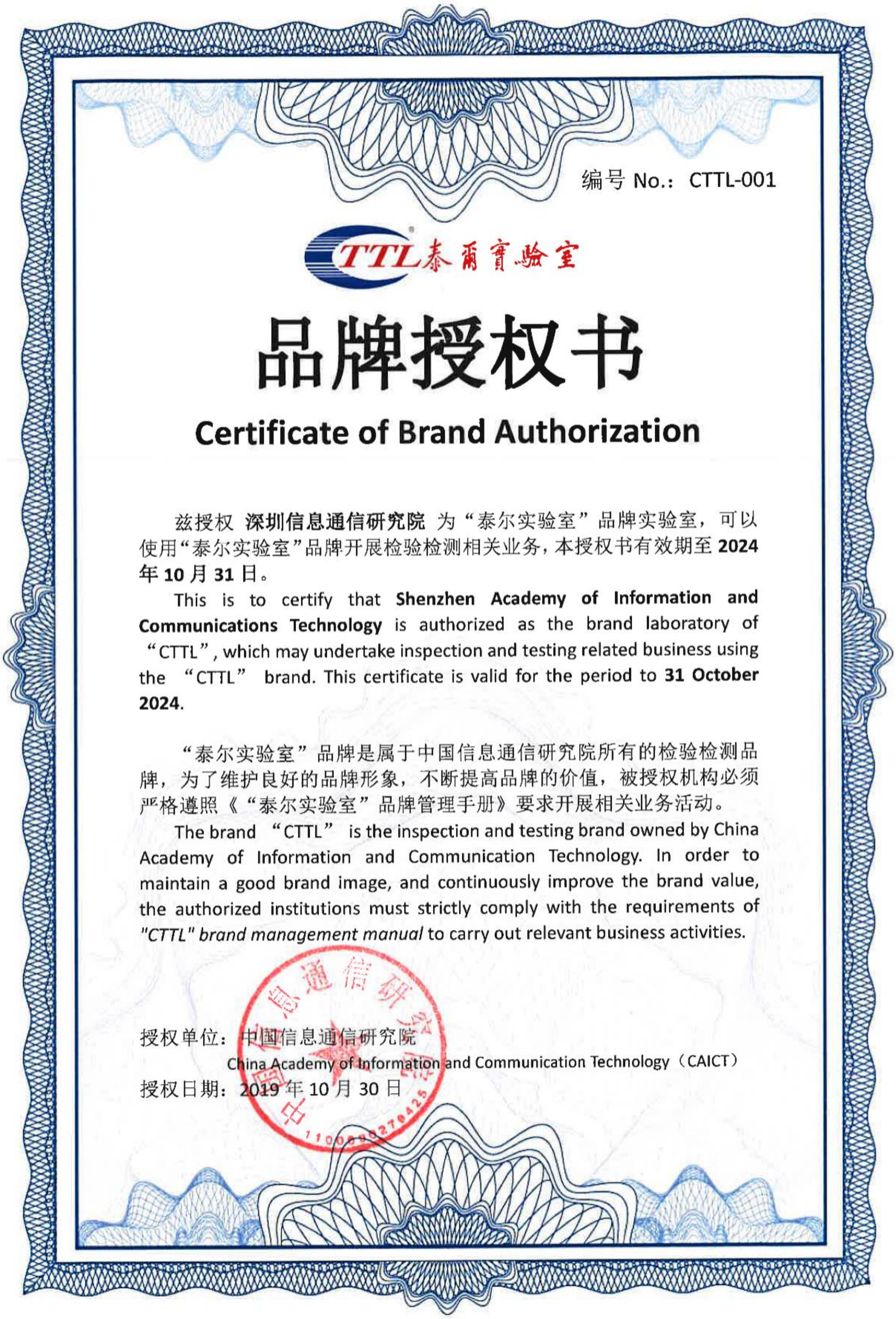
This laboratory is accredited in accordance with the recognized International Standard ISO/IEC 17025:2017 *General requirements for the competence of testing and calibration laboratories*. This accreditation demonstrates technical competence for a defined scope and the operation of a laboratory quality management system (*refer to joint ISO-ILAC-IAF Communiqué dated April 2017*).

Presented this 23rd day of November 2021.

Vice President, Accreditation Services
For the Accreditation Council
Certificate Number 4353.01
Valid to November 30, 2023

For the tests to which this accreditation applies, please refer to the laboratory's Electrical Scope of Accreditation.

ANNEX C Certificate of Brand Authorization



编号 No.：CTTL-001

品牌授权书

Certificate of Brand Authorization

兹授权 **深圳信息通信研究院** 为“泰尔实验室”品牌实验室，可以使用“泰尔实验室”品牌开展检验检测相关业务，本授权书有效期至 **2024** 年 **10** 月 **31** 日。

This is to certify that **Shenzhen Academy of Information and Communications Technology** is authorized as the brand laboratory of “CTTL”, which may undertake inspection and testing related business using the “CTTL” brand. This certificate is valid for the period to **31 October 2024**.

“泰尔实验室”品牌是属于中国信息通信研究院所有的检验检测品牌，为了维护良好的品牌形象，不断提高品牌的价值，被授权机构必须严格遵照《“泰尔实验室”品牌管理手册》要求开展相关业务活动。

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授权单位：中国信息通信研究院
China Academy of Information and Communication Technology（CAICT）
授权日期：2019 年 10 月 30 日

END OF REPORT