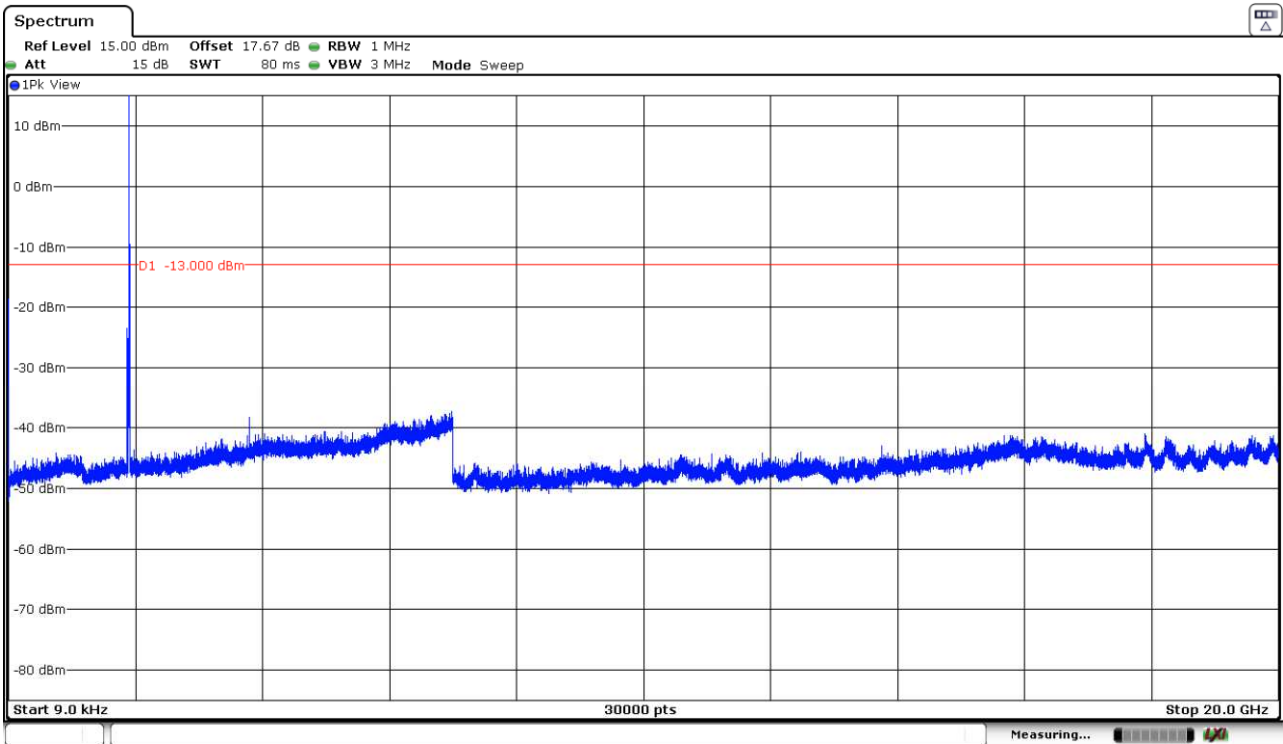


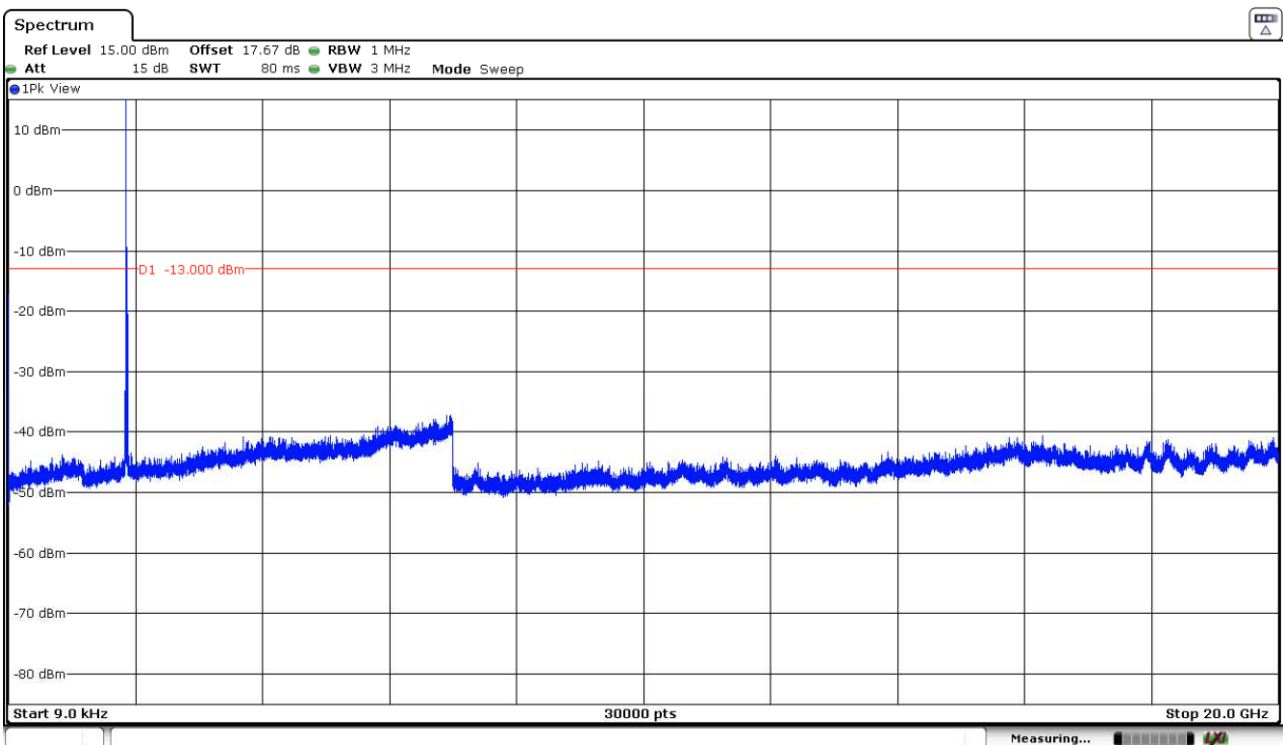
Highest Channel:



The peak above the limit is the carrier frequency.

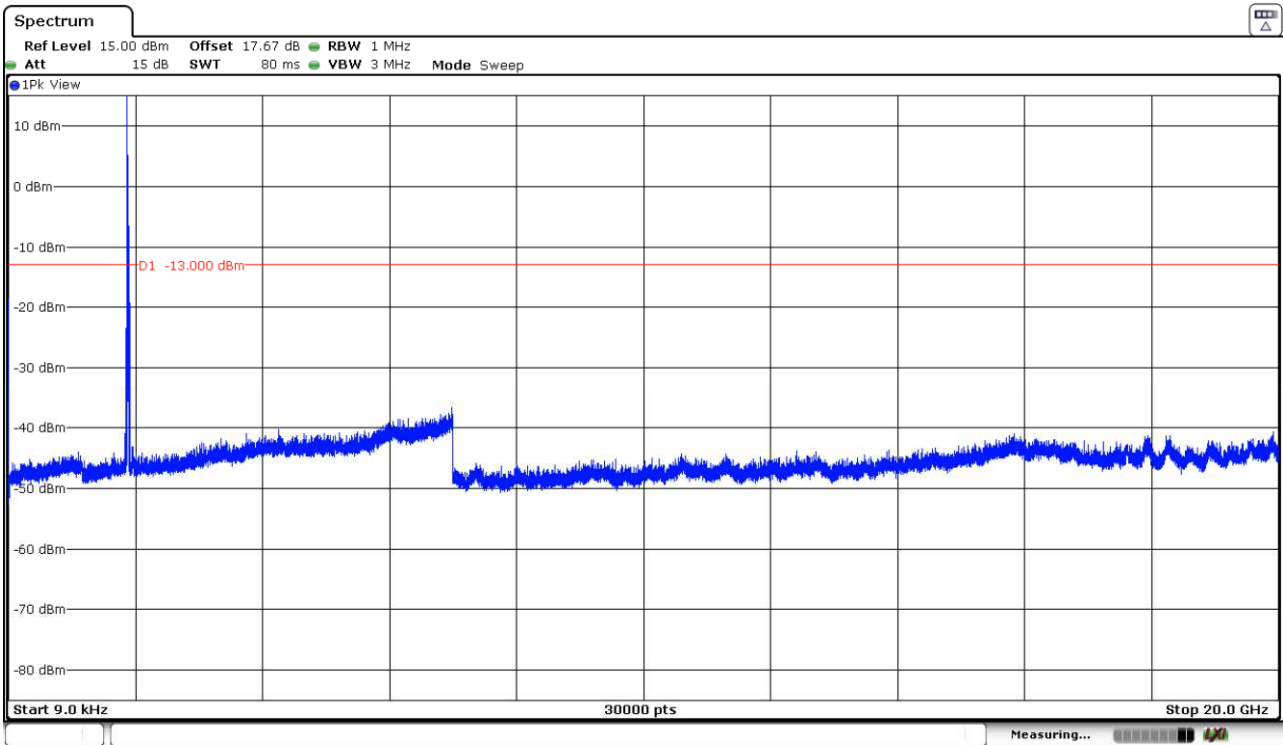
LTE Band 2. QPSK MODULATION. BW = 20 MHz.

Lowest Channel:



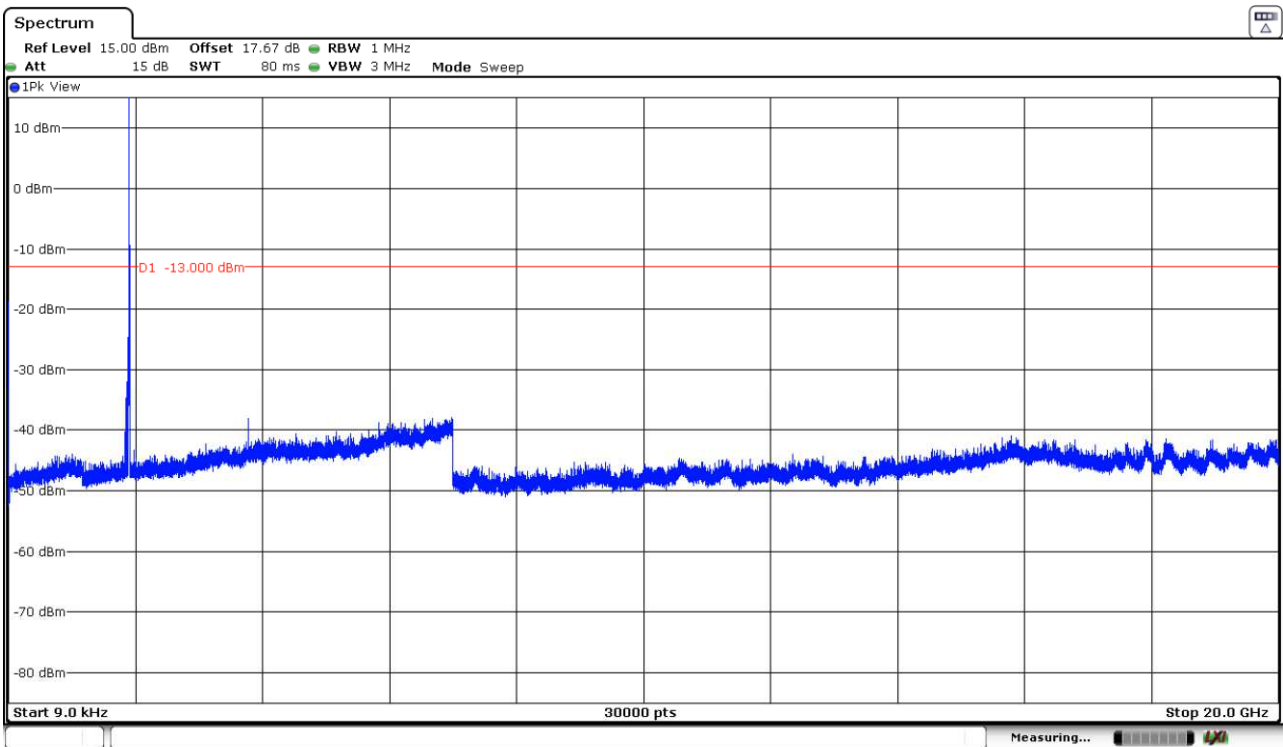
The peak above the limit is the carrier frequency.

Middle Channel:



The peak above the limit is the carrier frequency.

Highest Channel:



The peak above the limit is the carrier frequency.

## Spurious emissions at antenna terminals at Block Edges

### SPECIFICATION:

FCC §2.1051 and §24.238. RSS-133 Clause 6.5.

### METHOD:

The EUT RF output connector was connected to a spectrum analyser and to the Universal Radio Communication tester R&S CMW500 (selecting maximum transmission power of the EUT and different modes of modulation) using a 50 ohm attenuator and a power splitter.

The reading of the spectrum analyser is corrected with the attenuation loss of connection between output terminal of EUT and input of the spectrum analyser.

As indicated in FCC part 24/RSS-133. in the 1 MHz bands immediately outside and adjacent to the frequency block or band a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

The configuration of modulation which is the worst case for conducted power was used.

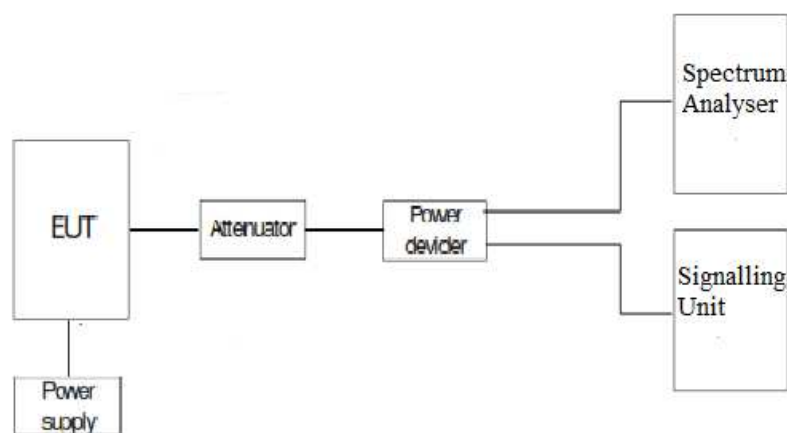
#### Measurement Limit:

According to specification. the power of emissions shall be attenuated below the transmitter power (P) by a factor of at least  $43 + 10 \log (P)$  dB. P in watts.

At  $P_o$  transmitting power. the specified minimum attenuation becomes  $43+10\log (P_o)$ . and the level in dBm relative  $P_o$  becomes:

$$P_o \text{ (dBm)} - [43 + 10 \log (P_o \text{ in mwatts}) - 30] = - 13 \text{ dBm}$$

### TEST SETUP:



**RESULTS:**

2G Band 1900 MHz.

2G Band 1900 MHz	GPRS	EDGE
Maximum measured level at <u>Lowest Block Edge</u> at antenna port (dBm)	-22.4	-31.52

2G Band 1900 MHz	GPRS	EDGE
Maximum measured level at <u>Highest Block Edge</u> at antenna port (dBm)	-26.76	-33.48

3G Band II.

3G Band II	WCDMA	HSUPA
Maximum measured level at <u>Lowest Block Edge</u> at antenna port (dBm)	-25.97	-27.4

3G Band II	WCDMA	HSUPA
Maximum measured level at <u>Highest Block Edge</u> at antenna port (dBm)	-28.66	-28.58

LTE Band 2.

LTE QPSK MODULATION:	RB=1. Offset=0. BW=1.4 MHz	RB=1 . Offset =0. BW = 3 MHz	RB=1 . Offset =0. BW = 5 MHz	RB=1 . Offset =0. BW = 10 MHz	RB=1 . Offset =0. BW = 15 MHz	RB=1 . Offset =0. BW = 20 MHz
Maximum measured level at <u>Lowest Block Edge</u> at antenna port (dBm)	-23.57	-22.34	-22.54	-33.54	-32.19	-36.51

LTE QPSK MODULATION:	RB= All. Offset=0. BW=1.4 MHz	RB= All. Offset =0. BW = 3 MHz	RB= All. Offset =0. BW = 5 MHz	RB= All. Offset =0. BW = 10 MHz	RB= All. Offset =0. BW = 15 MHz	RB= All. Offset =0. BW = 20 MHz
Maximum measured level at <u>Lowest Block Edge</u> at antenna port (dBm)	-28.85	-28.71	-28.63	-32.21	-34.93	-36.85

LTE QPSK MODULATION:	RB=1. Offset=Max. BW =1.4 MHz	RB=1. Offset=Max. BW = 3 MHz	RB=1 . Offset=Max. BW = 5 MHz	RB=1 . Offset=Max. BW = 10 MHz	RB=1 . Offset=Max. BW = 15 MHz	RB=1 . Offset=Max. BW = 20 MHz
Maximum measured level at <u>Highest Block Edge</u> at antenna port (dBm)	-22.46	-22.34	-23.73	-32.75	-32.35	-36.14

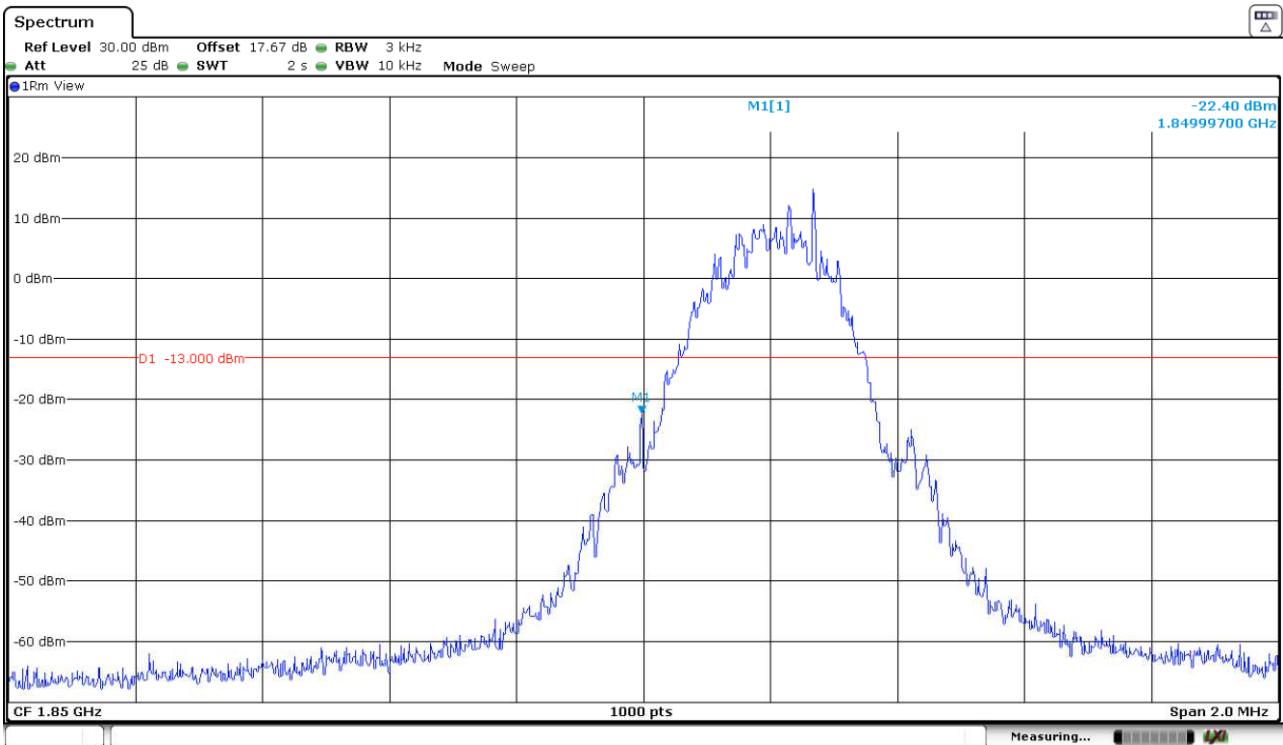
LTE QPSK MODULATION:	RB= All. Offset=0. BW=1.4 MHz	RB= All. Offset =0. BW = 3 MHz	RB= All. Offset =0. BW = 5 MHz	RB= All. Offset =0. BW = 10 MHz	RB= All. Offset =0. BW = 15 MHz	RB= All. Offset =0. BW = 20 MHz
Maximum measured level at <u>Highest Block Edge</u> at antenna port (dBm)	-27.37	-30.06	-29.16	-33.24	-35.86	-38.21

Measurement uncertainty:  $\leq \pm 1.57$  dB

Verdict: PASS

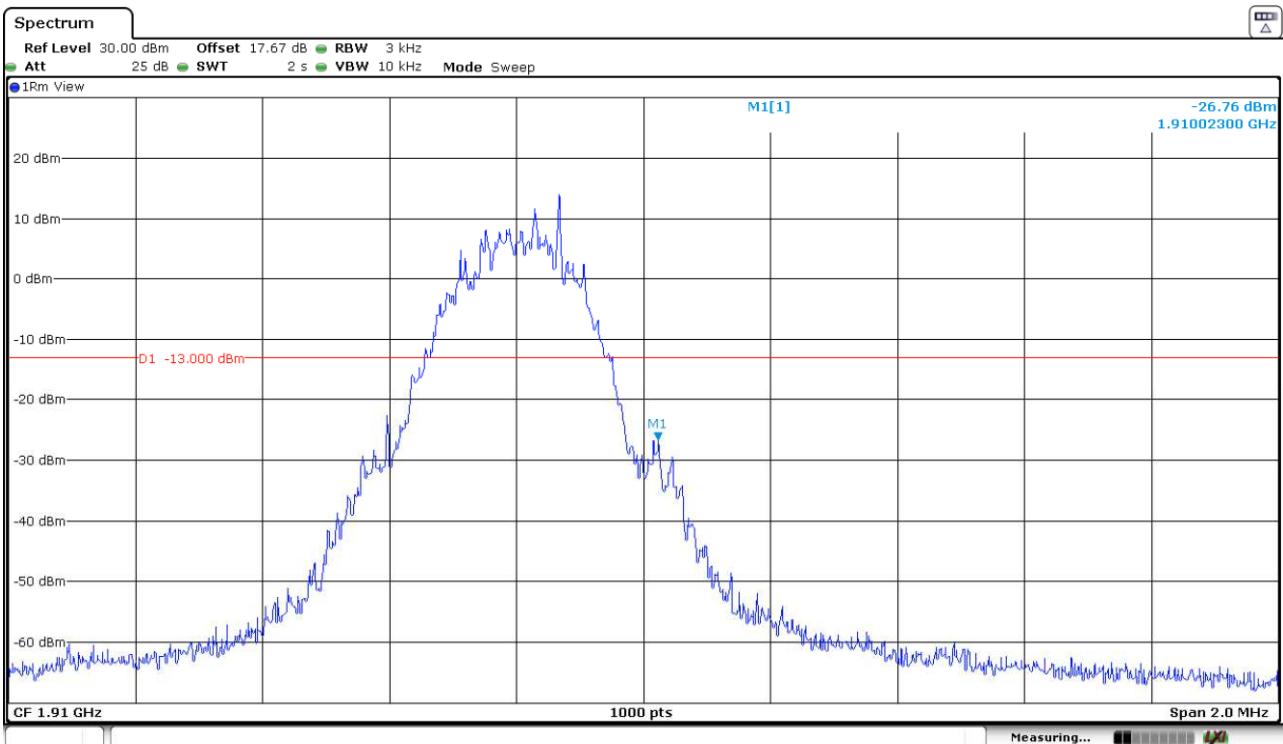
2G Band 1900 MHz. GPRS MODULATION.

Lowest Channel:



The equipment transmits at the maximum output power

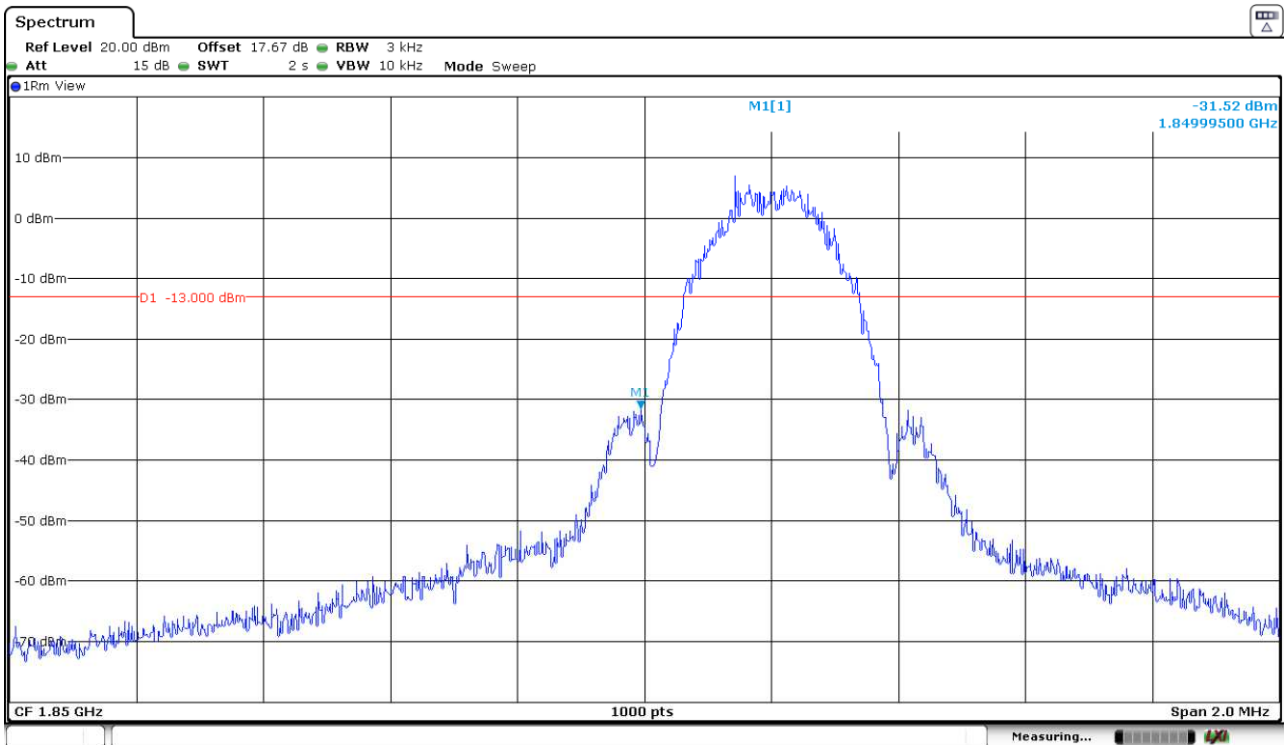
Highest Channel:



The equipment transmits at the maximum output power

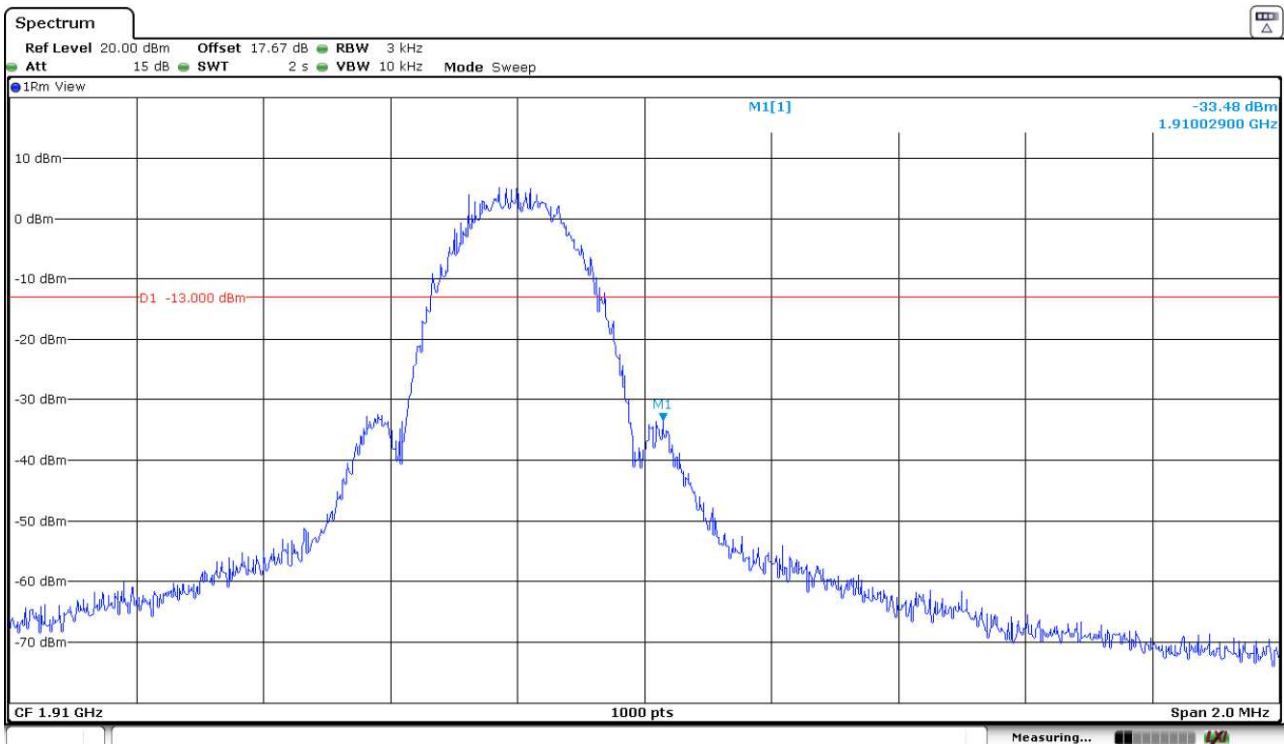
2G Band 1900 MHz. EDGE MODULATION.

Lowest Channel:



The equipment transmits at the maximum output power

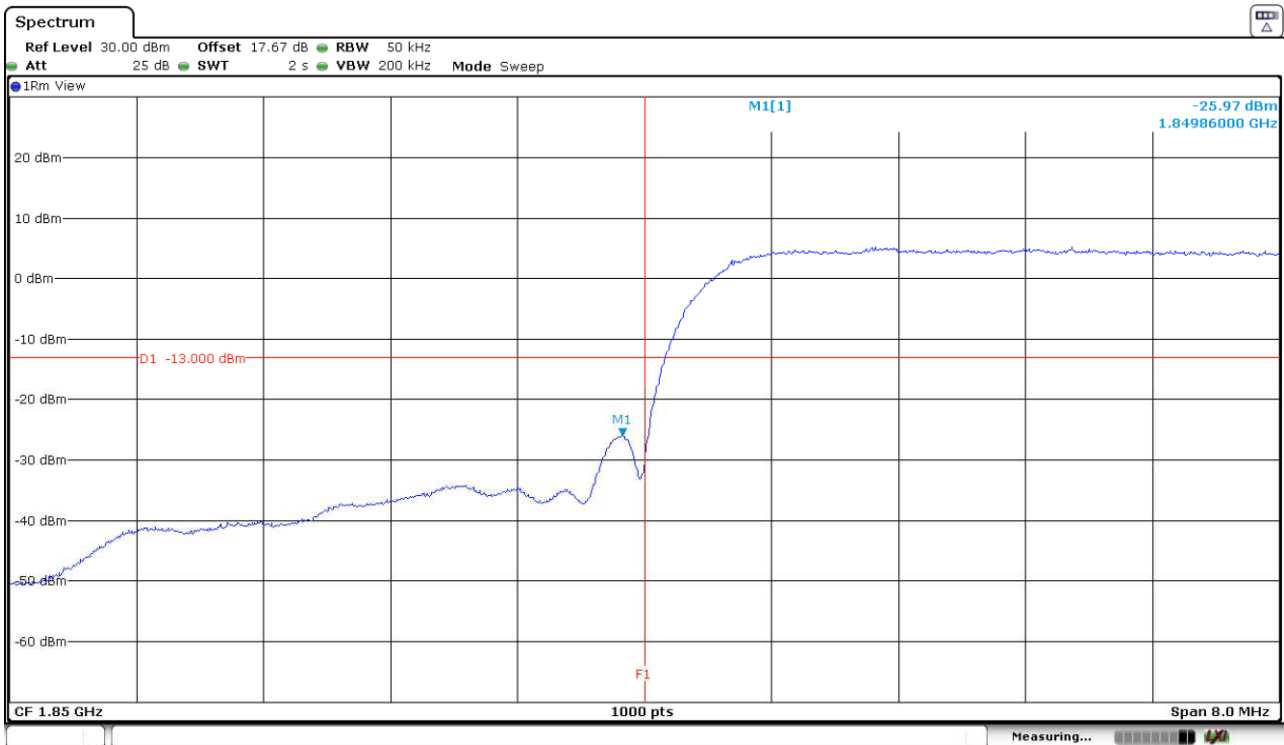
Highest Channel:



The equipment transmits at the maximum output power

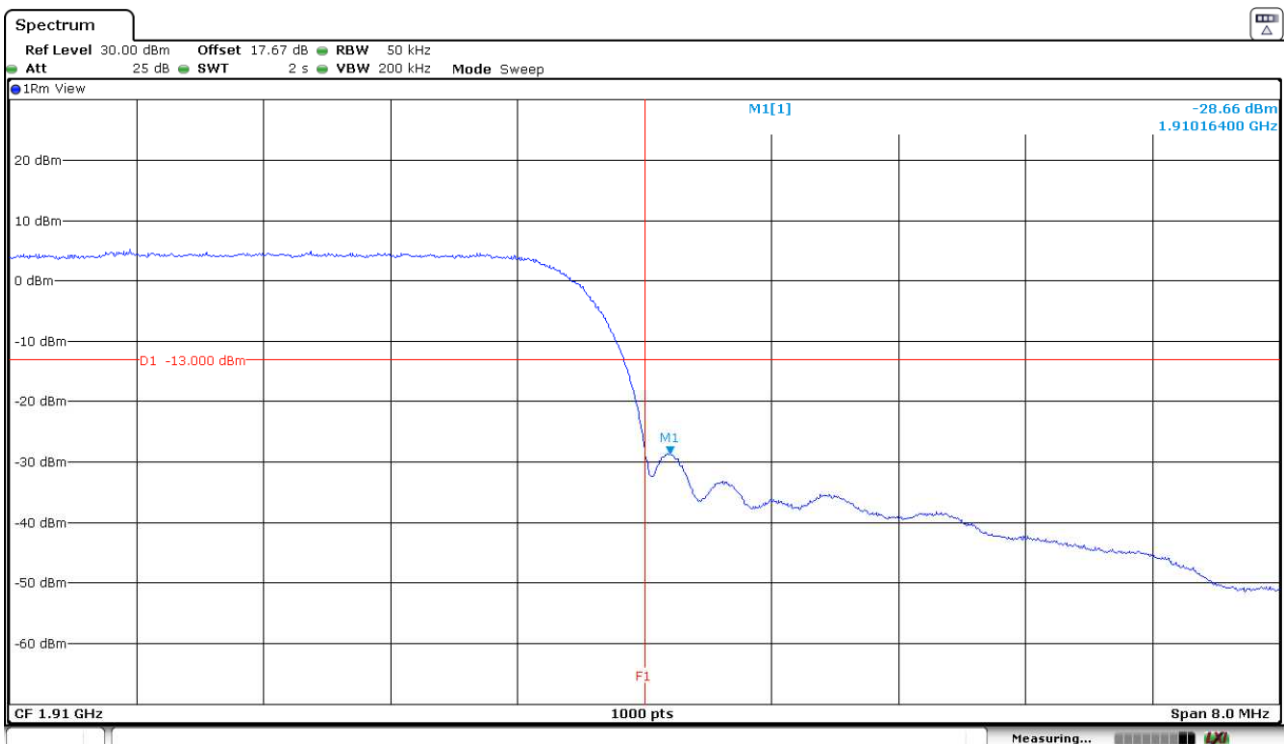
3G Band II. WCDMA MODULATION.

Lowest Channel:



The equipment transmits at the maximum output power

Highest Channel:

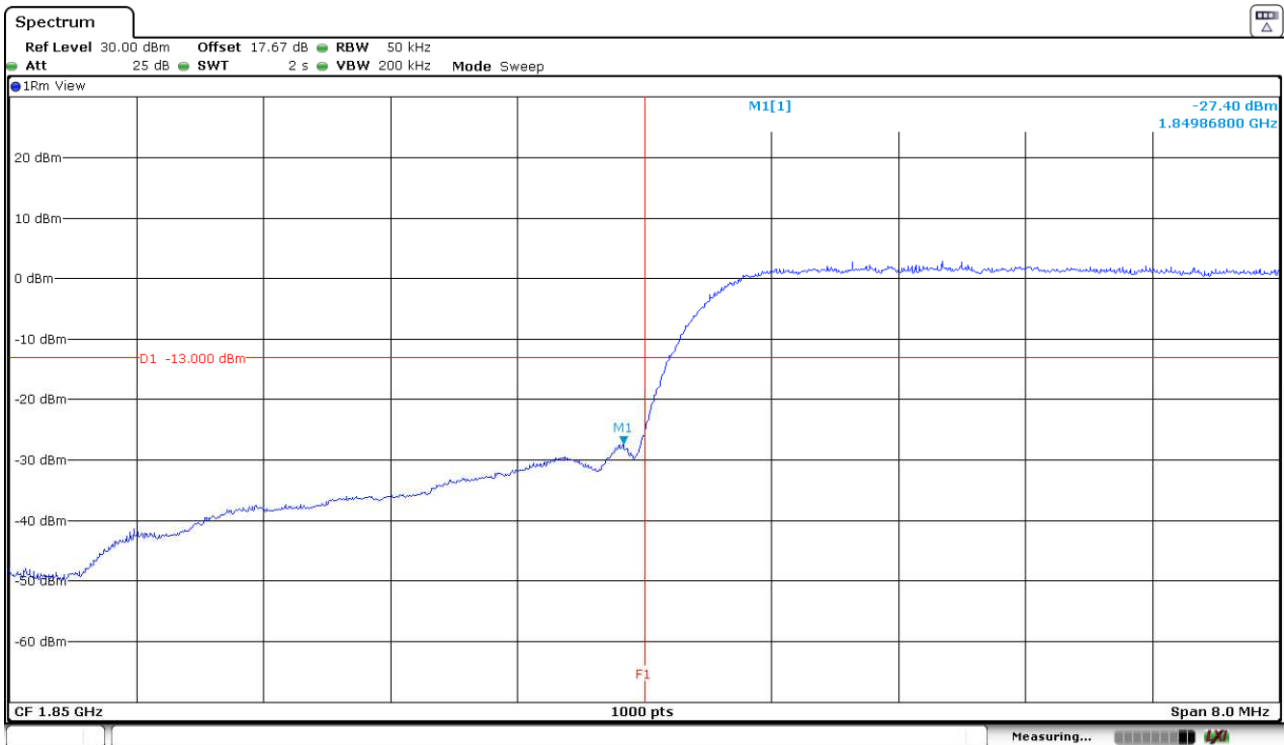


The equipment transmits at the maximum output power



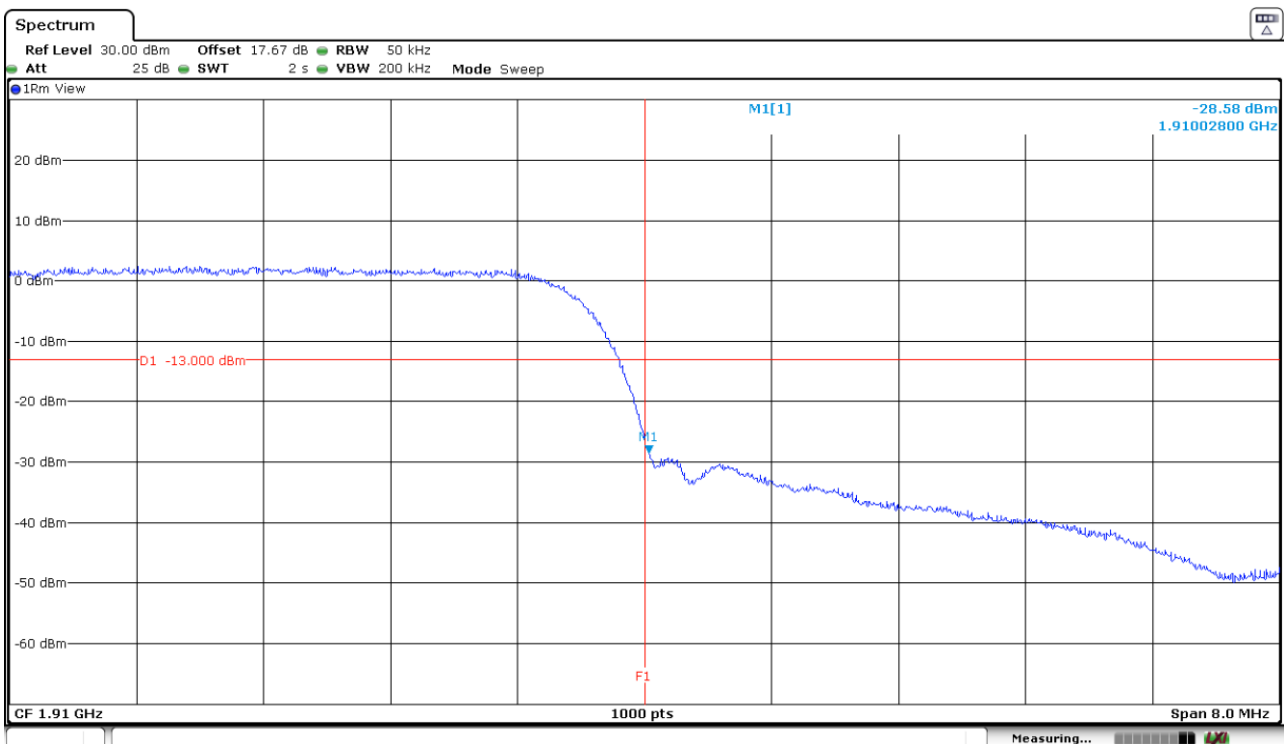
3G Band II. HSUPA MODULATION.

Lowest Channel:



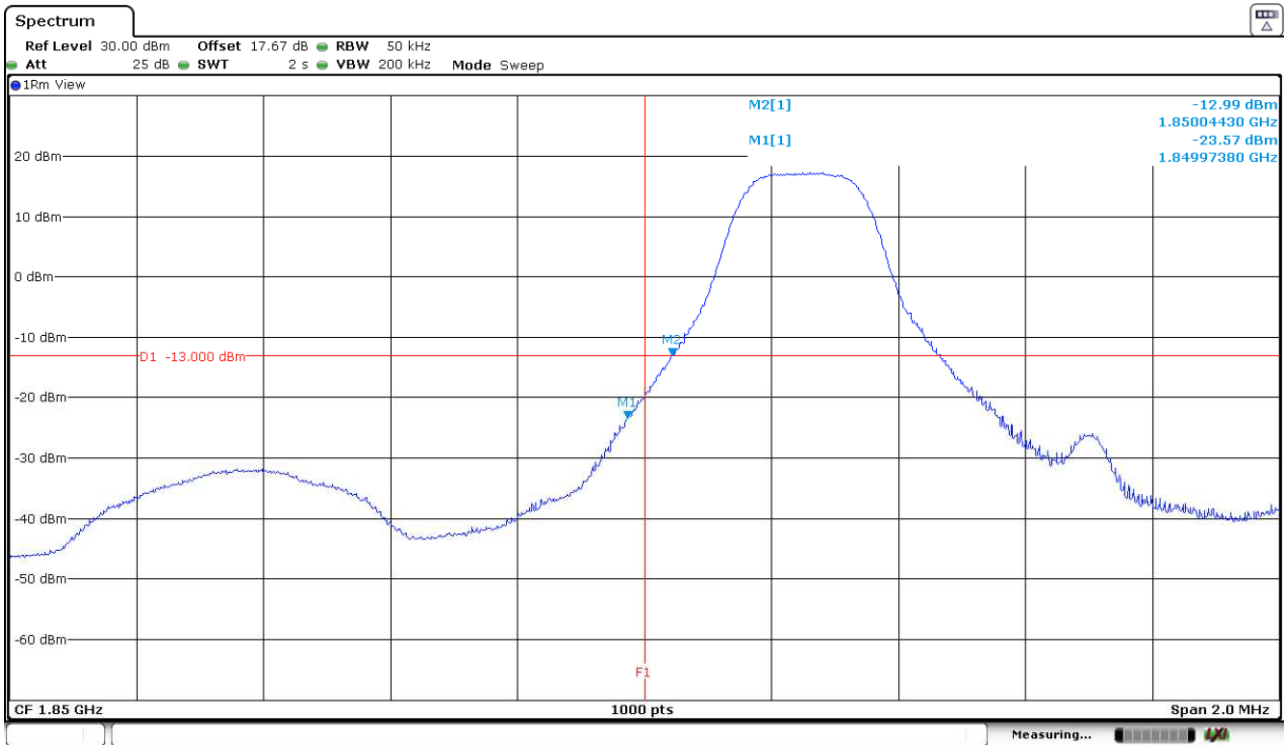
The equipment transmits at the maximum output power

Highest Channel:



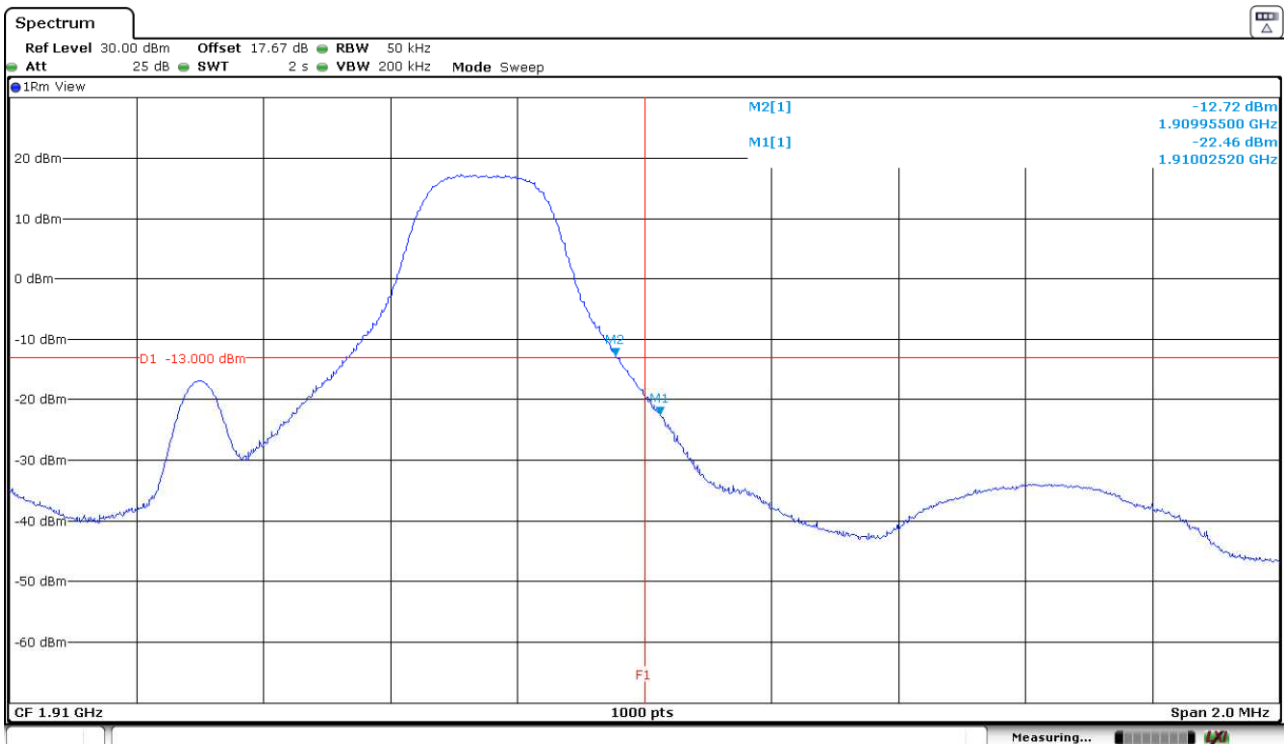
The equipment transmits at the maximum output power

**LTE Band 2. QPSK MODULATION. BW=1.4 MHz. RB=1. Offset=0. Lowest Block Edge:**



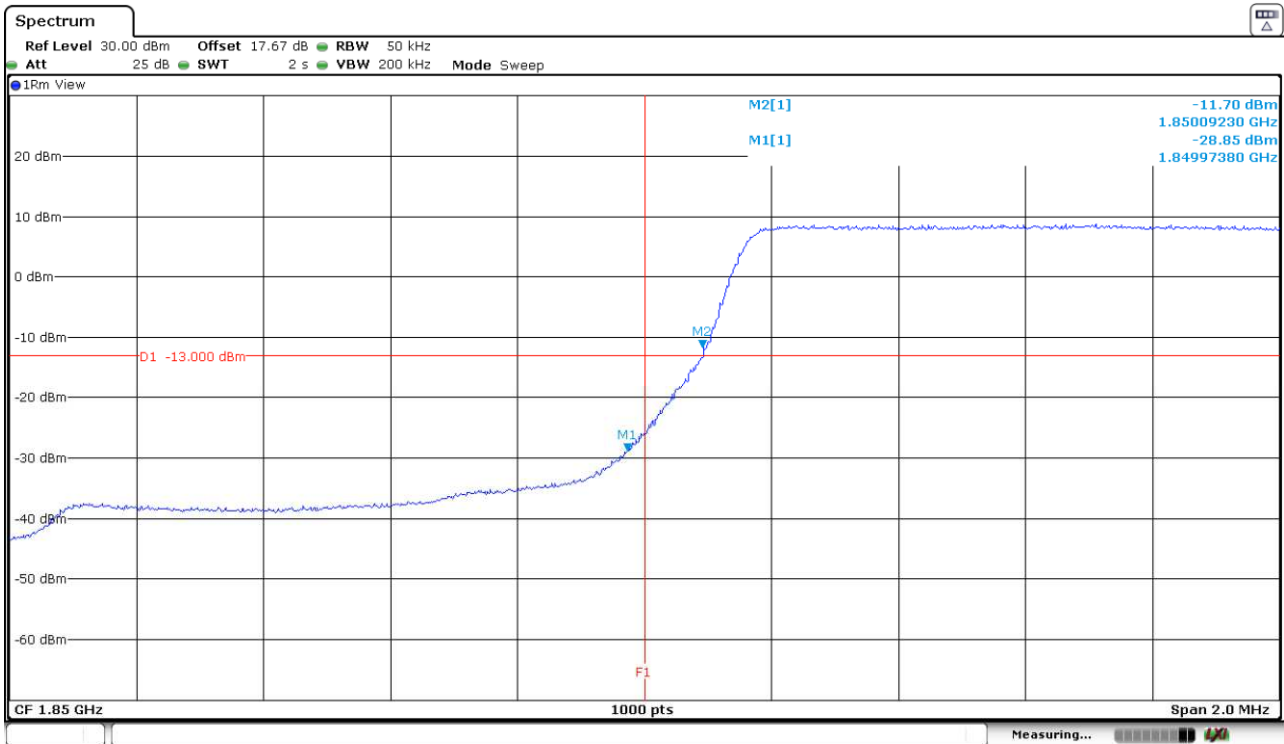
The equipment transmits at the maximum output power

**LTE Band 2. QPSK MODULATION. BW=1.4 MHz. RB=1. Offset=Max. Highest Block Edge:**

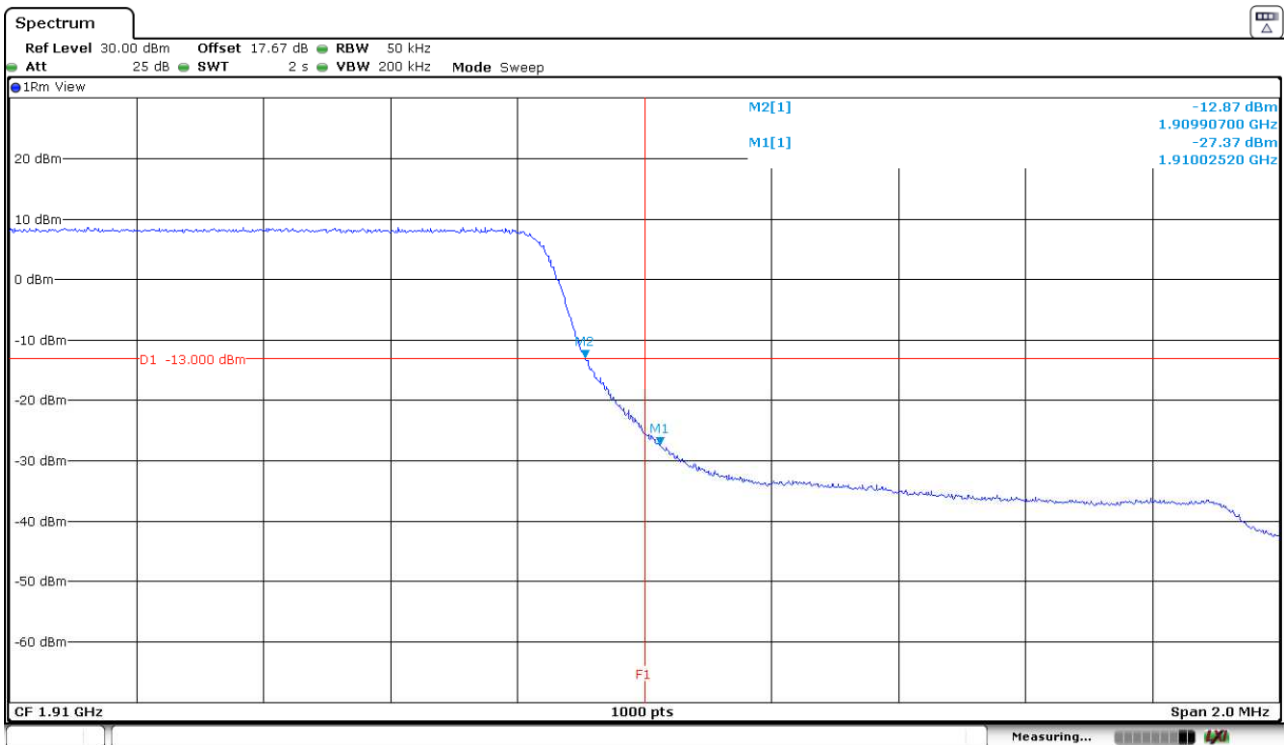


The equipment transmits at the maximum output power

**LTE Band 2. QPSK MODULATION. BW=1.4 MHz. RB=All. Offset=0. Lowest and Highest Block Edges:**



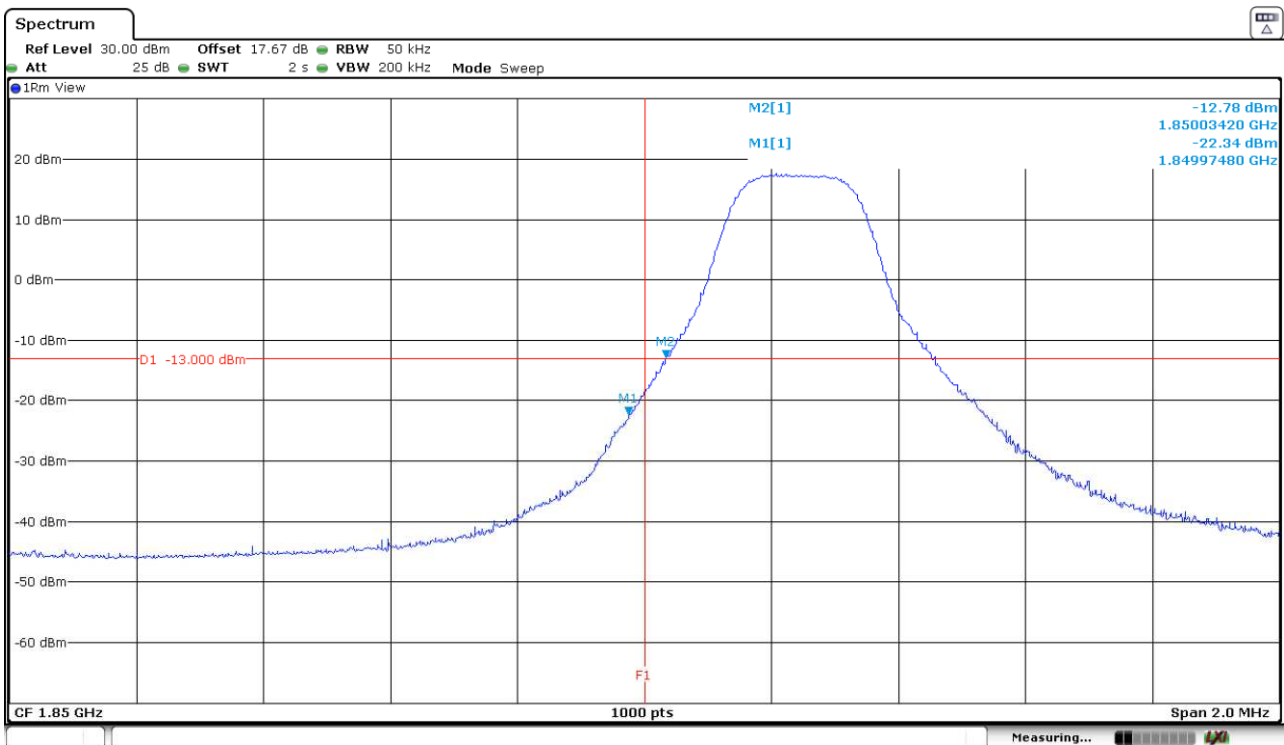
The equipment transmits at the maximum output power



The equipment transmits at the maximum output power

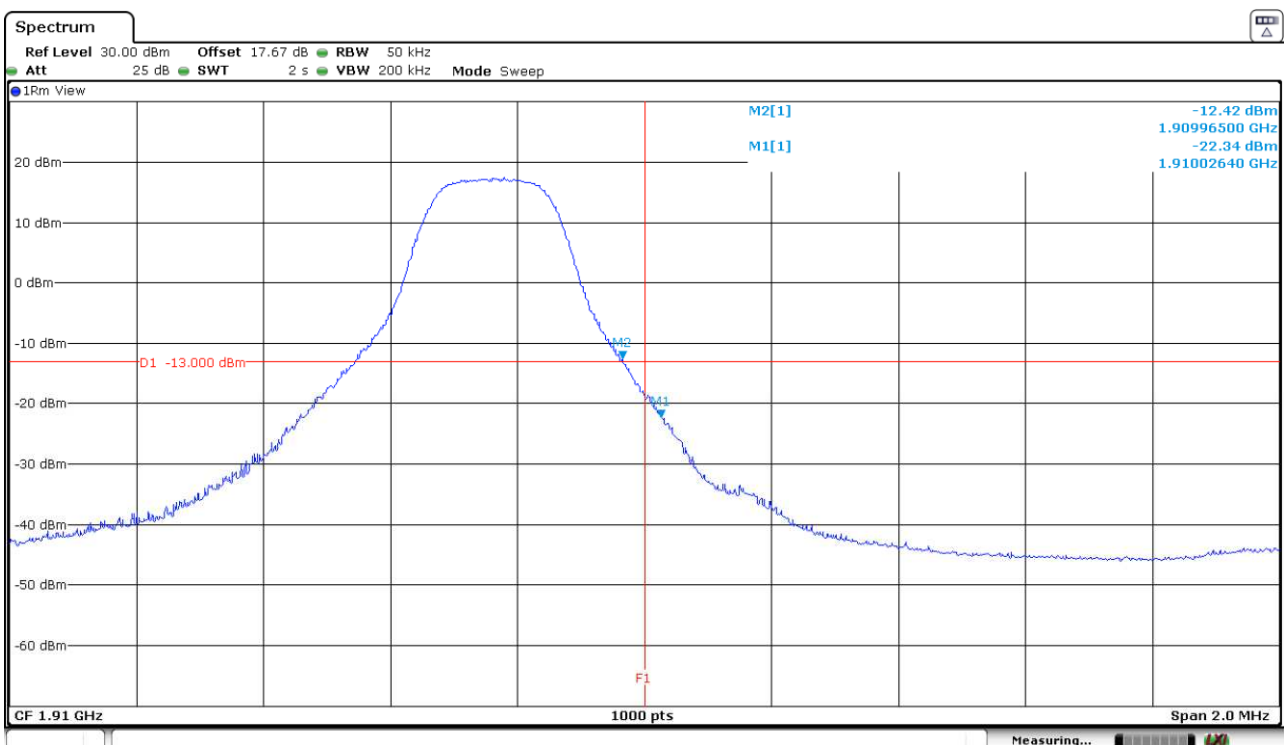
Verdict: PASS

**LTE Band 2. QPSK MODULATION. BW=3 MHz. RB=1. Offset=0. Lowest Block Edge:**



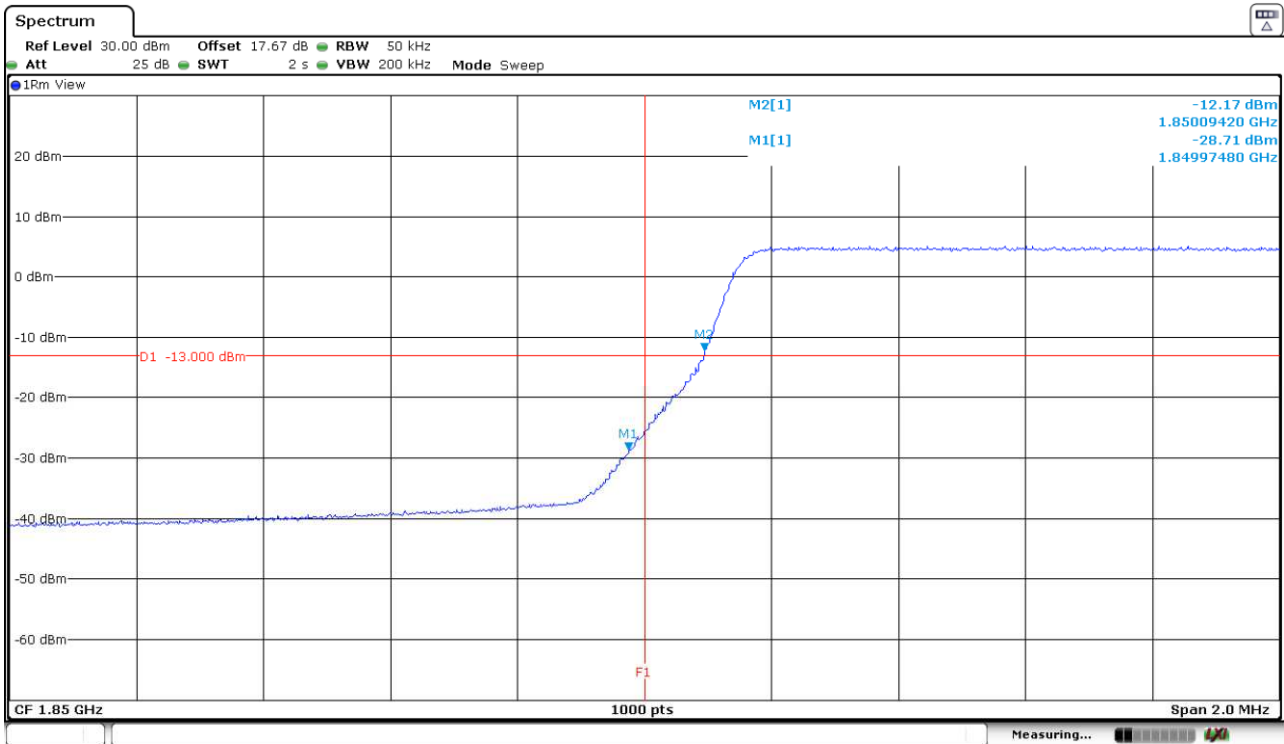
The equipment transmits at the maximum output power

**LTE Band 2. QPSK MODULATION. BW=3 MHz. RB=1. Offset=Max. Highest Block Edge:**

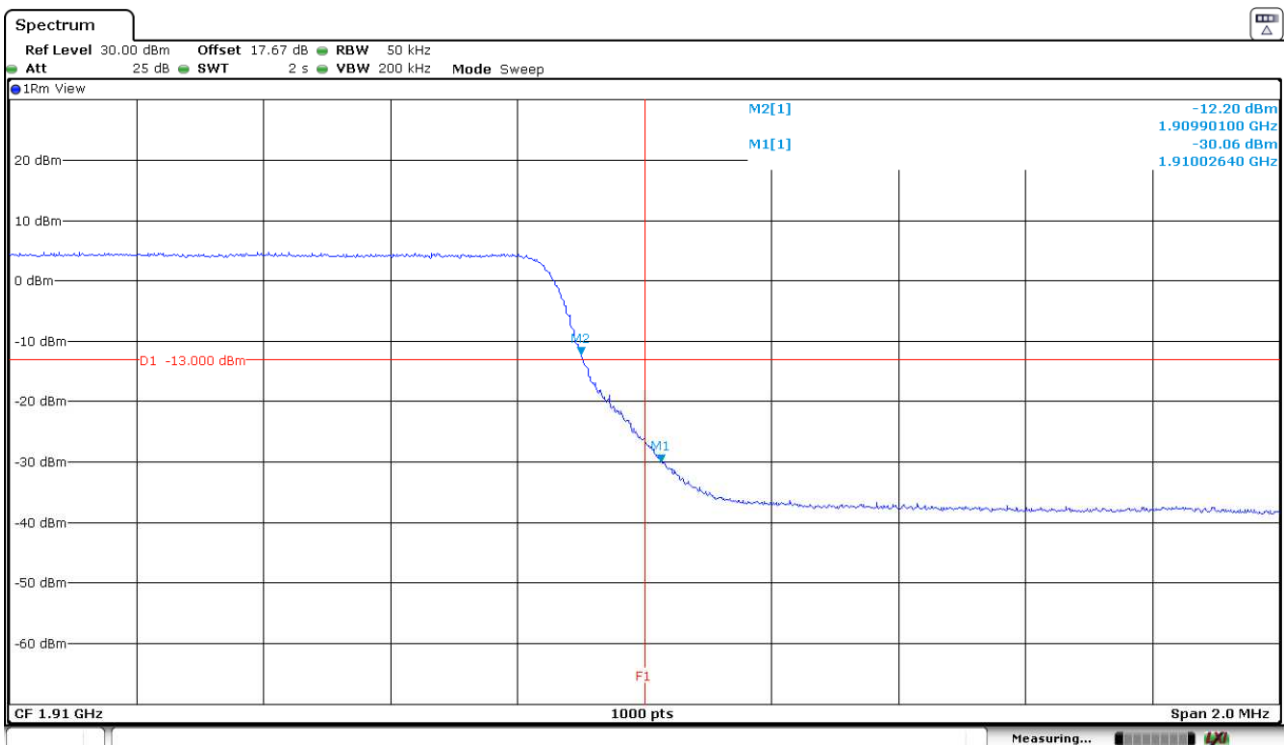


The equipment transmits at the maximum output power

**LTE Band 2. QPSK MODULATION. BW=3 MHz. RB=All. Offset=0. Lowest and Highest Block Edges:**



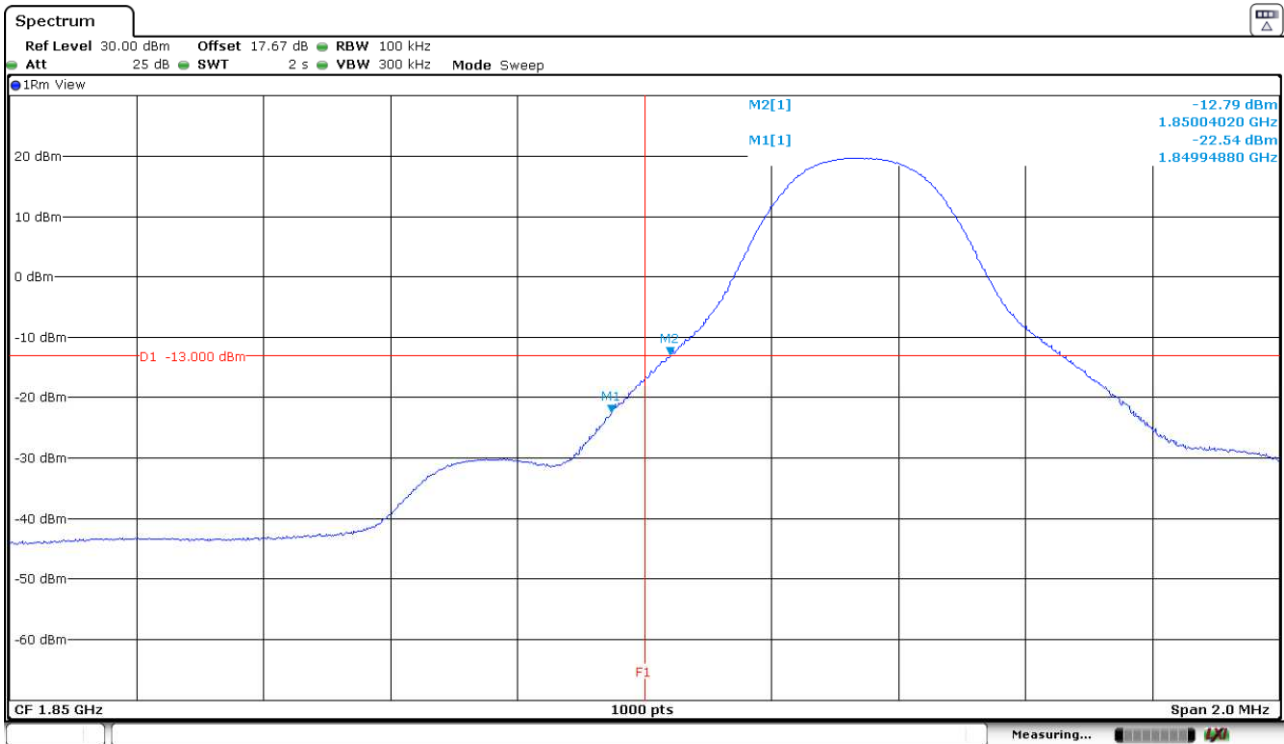
The equipment transmits at the maximum output power



The equipment transmits at the maximum output power

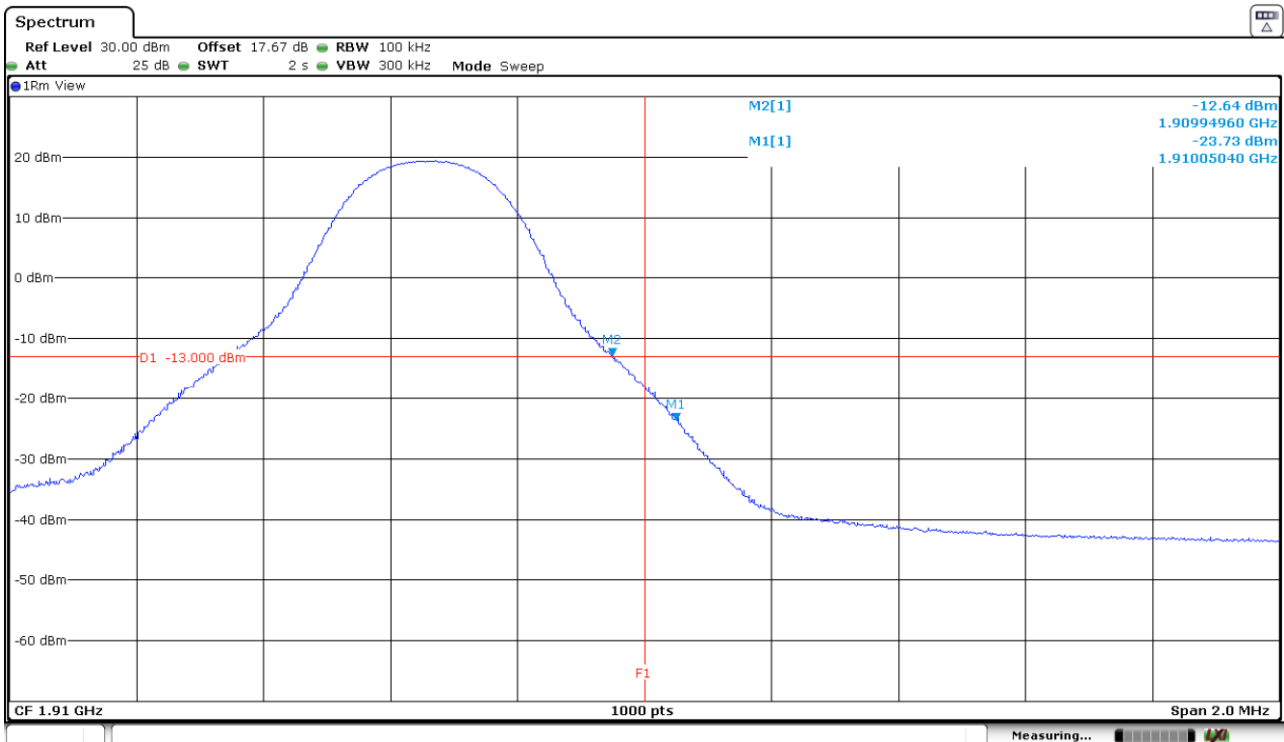
Verdict: PASS

**LTE Band 2. QPSK MODULATION. BW=5 MHz. RB=1. Offset=0. Lowest Block Edge:**



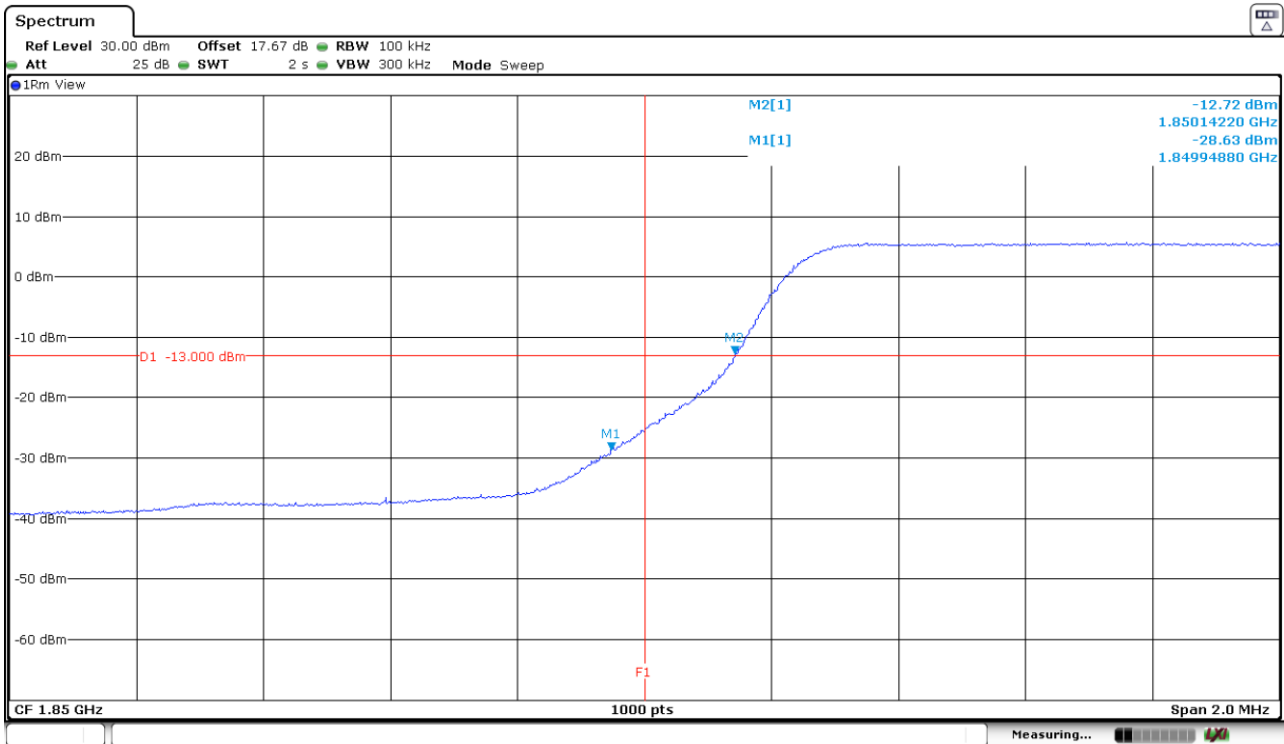
The equipment transmits at the maximum output power

**LTE Band 2. QPSK MODULATION. BW=5 MHz. RB=1. Offset=Max. Highest Block Edge:**

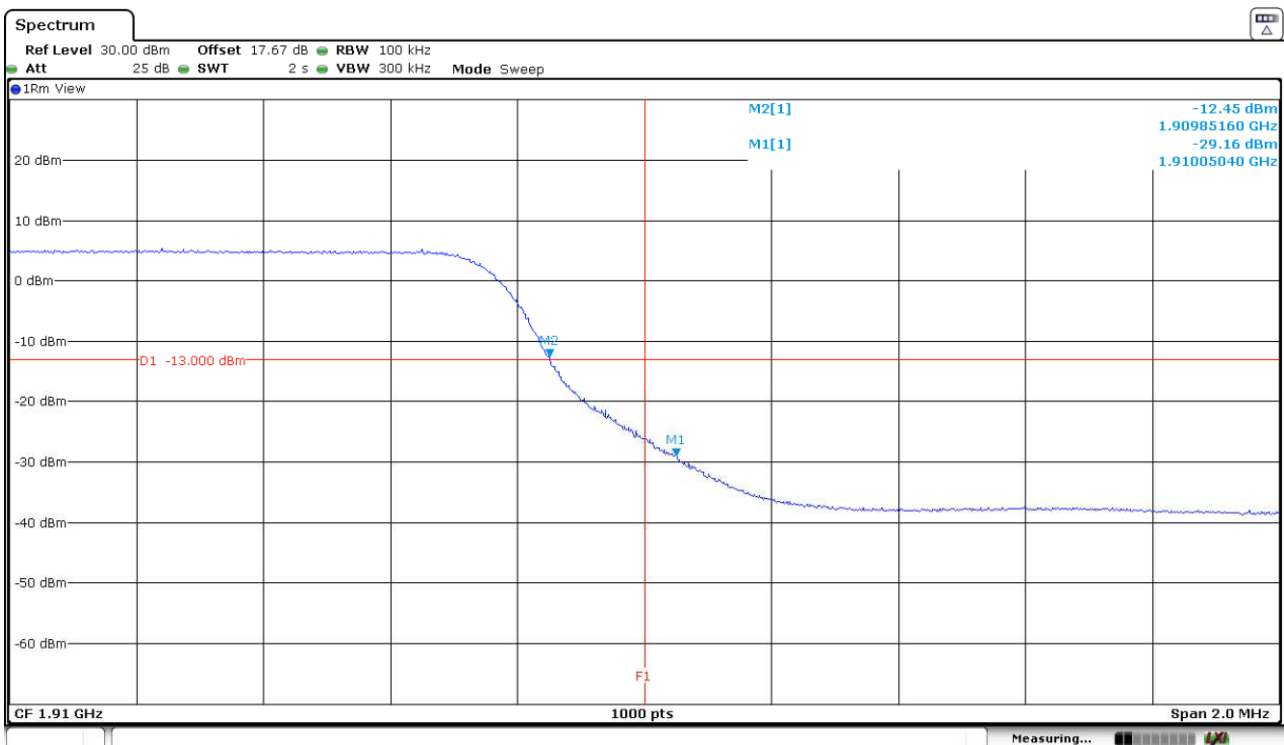


The equipment transmits at the maximum output power

**LTE Band 2. QPSK MODULATION. BW=5 MHz. RB=All. Offset=0. Lowest and Highest Block Edges:**



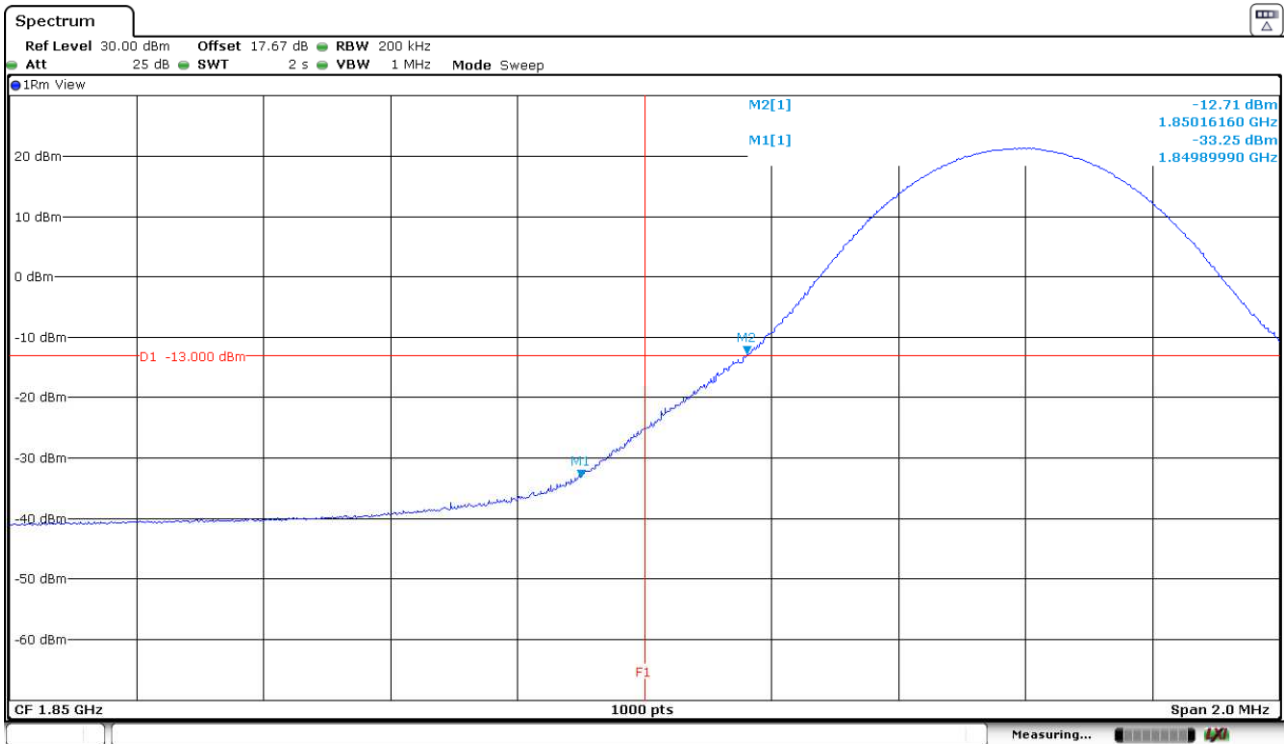
The equipment transmits at the maximum output power



The equipment transmits at the maximum output power

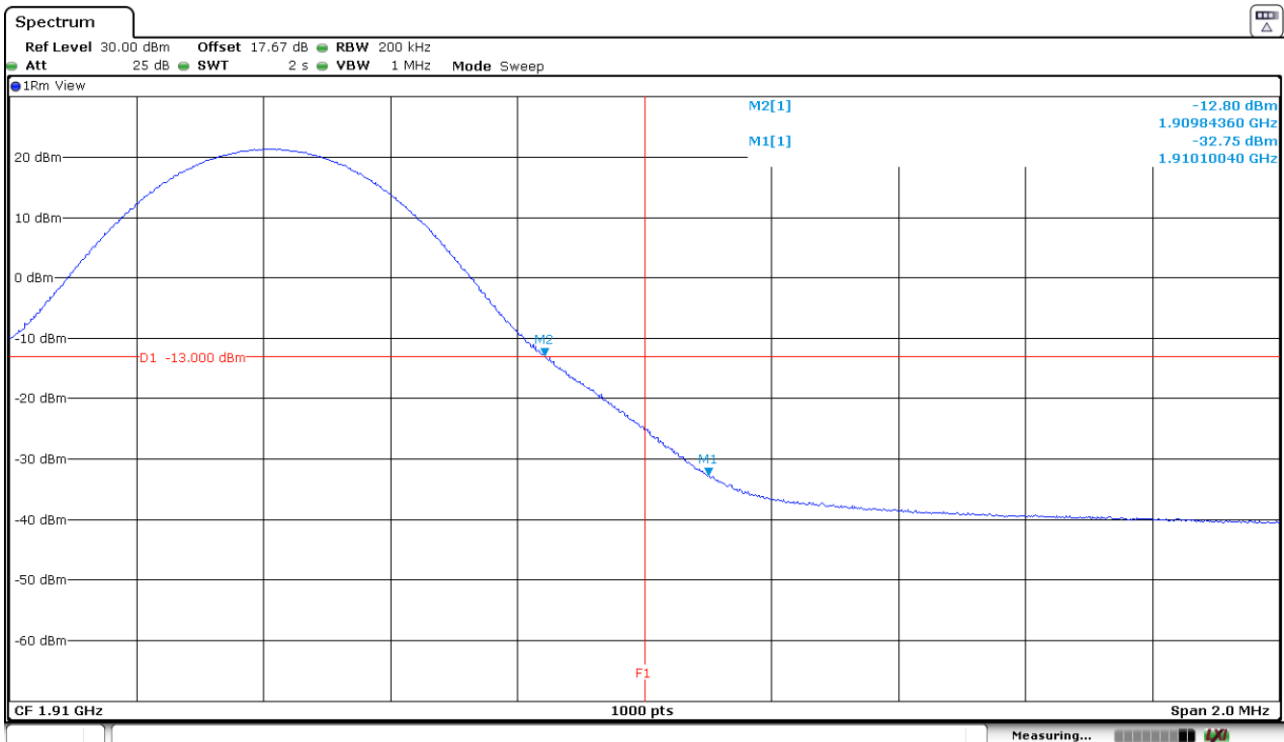
Verdict: PASS

**LTE Band 2. QPSK MODULATION. BW=10 MHz. RB=1. Offset=0. Lowest Block Edge:**



The equipment transmits at the maximum output power

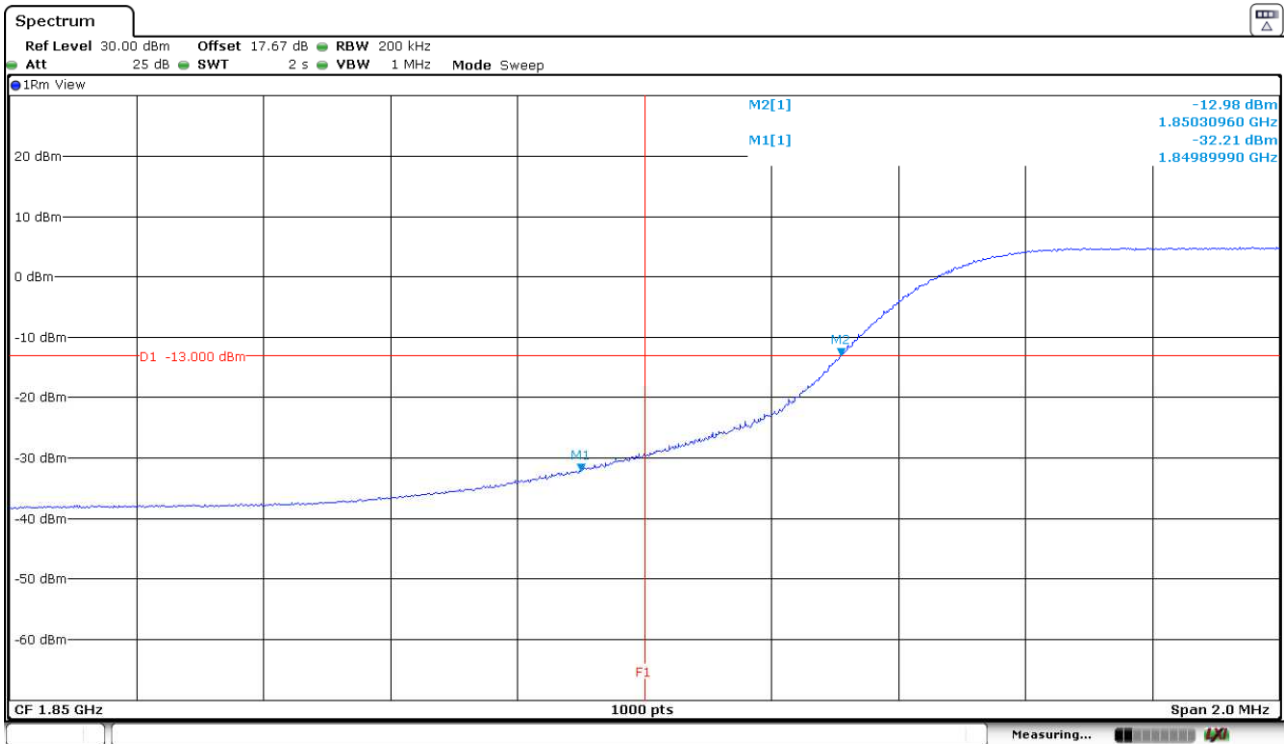
**LTE Band 2. QPSK MODULATION. BW=10 MHz. RB=1. Offset=Max. Highest Block Edge:**



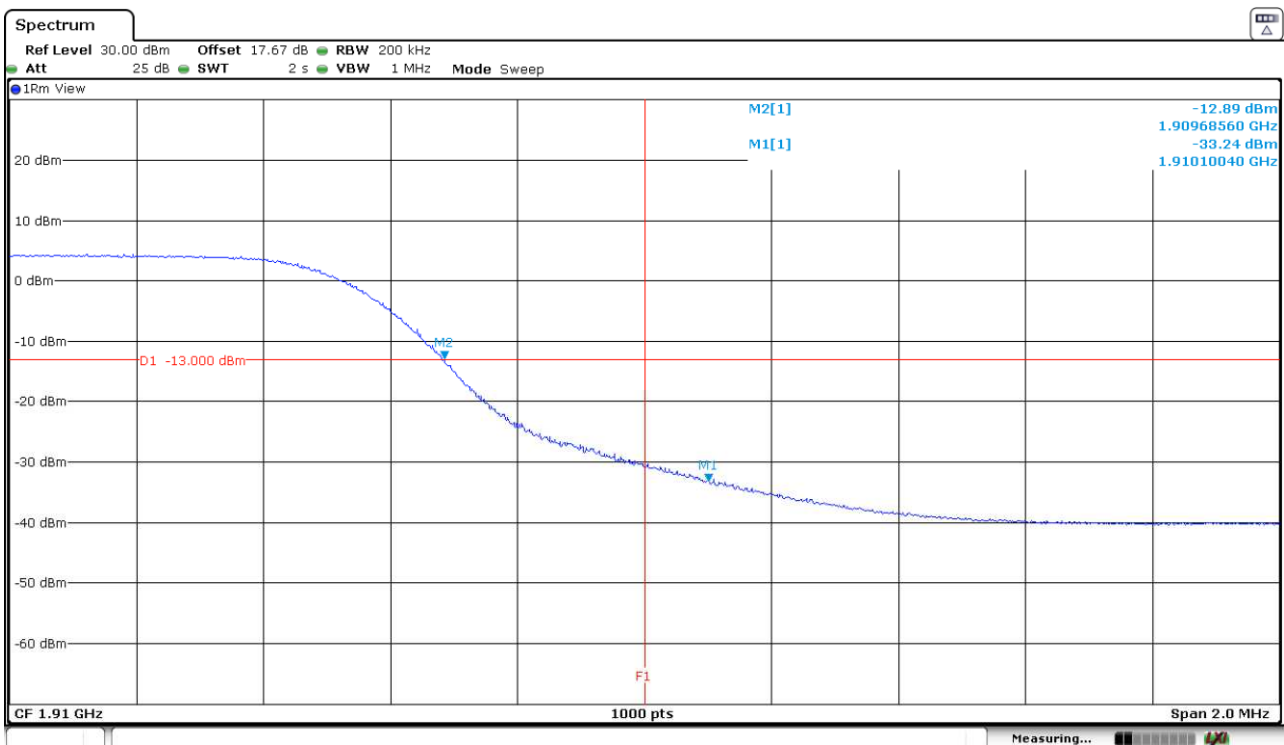
The equipment transmits at the maximum output power



**LTE Band 2. QPSK MODULATION. BW=10 MHz. RB=All. Offset=0. Lowest and Highest Block Edges:**



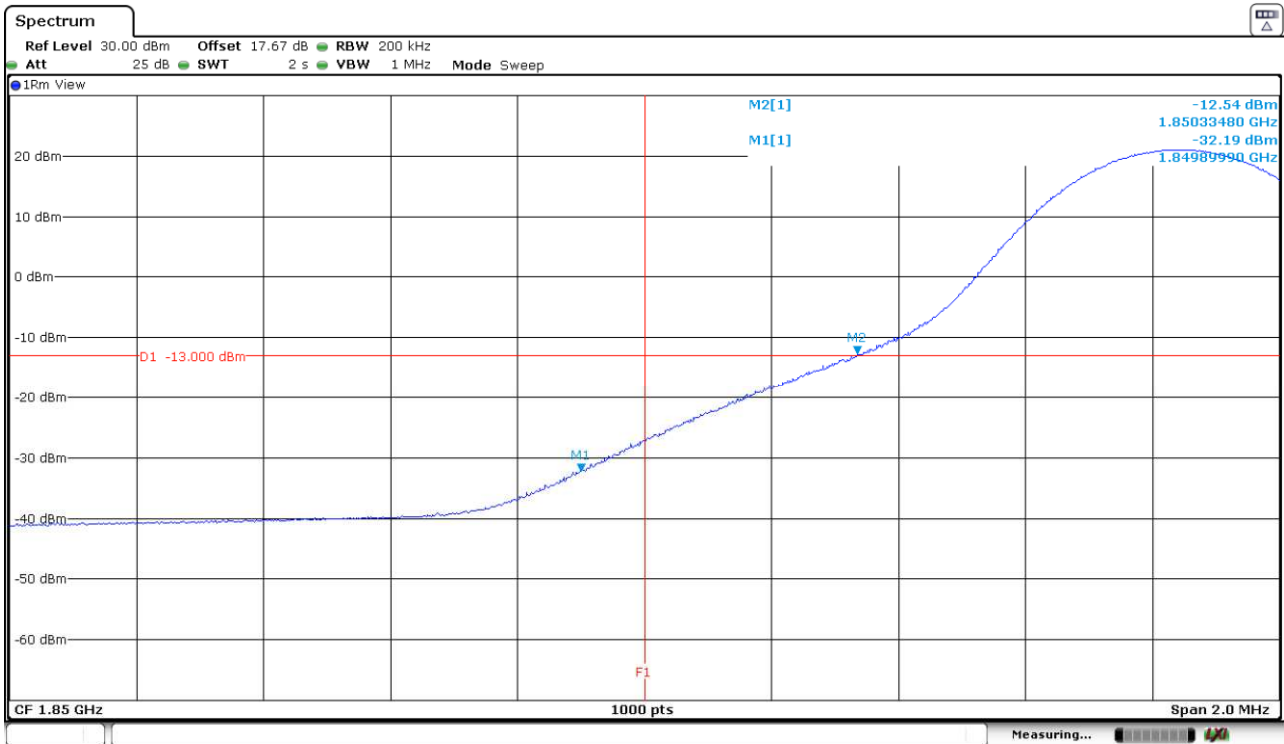
The equipment transmits at the maximum output power



The equipment transmits at the maximum output power

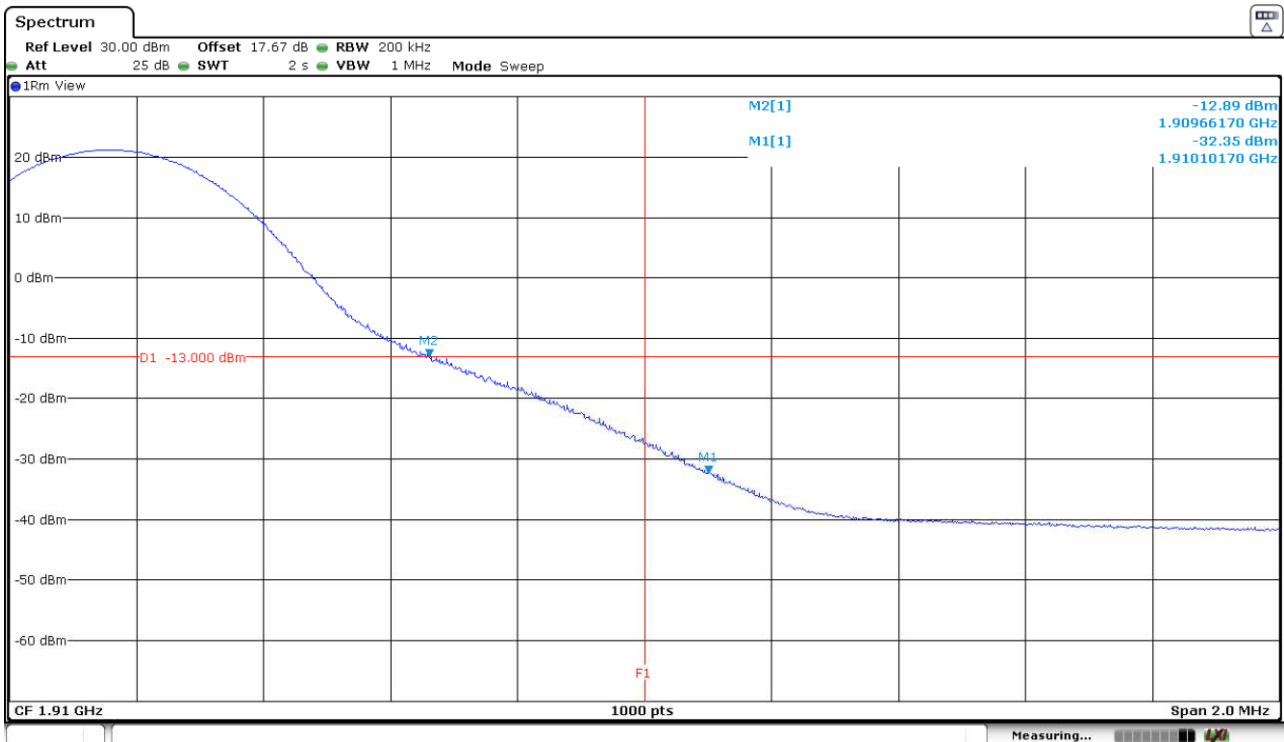
Verdict: PASS

**LTE Band 2. QPSK MODULATION. BW=15 MHz. RB=1. Offset=0. Lowest Block Edge:**



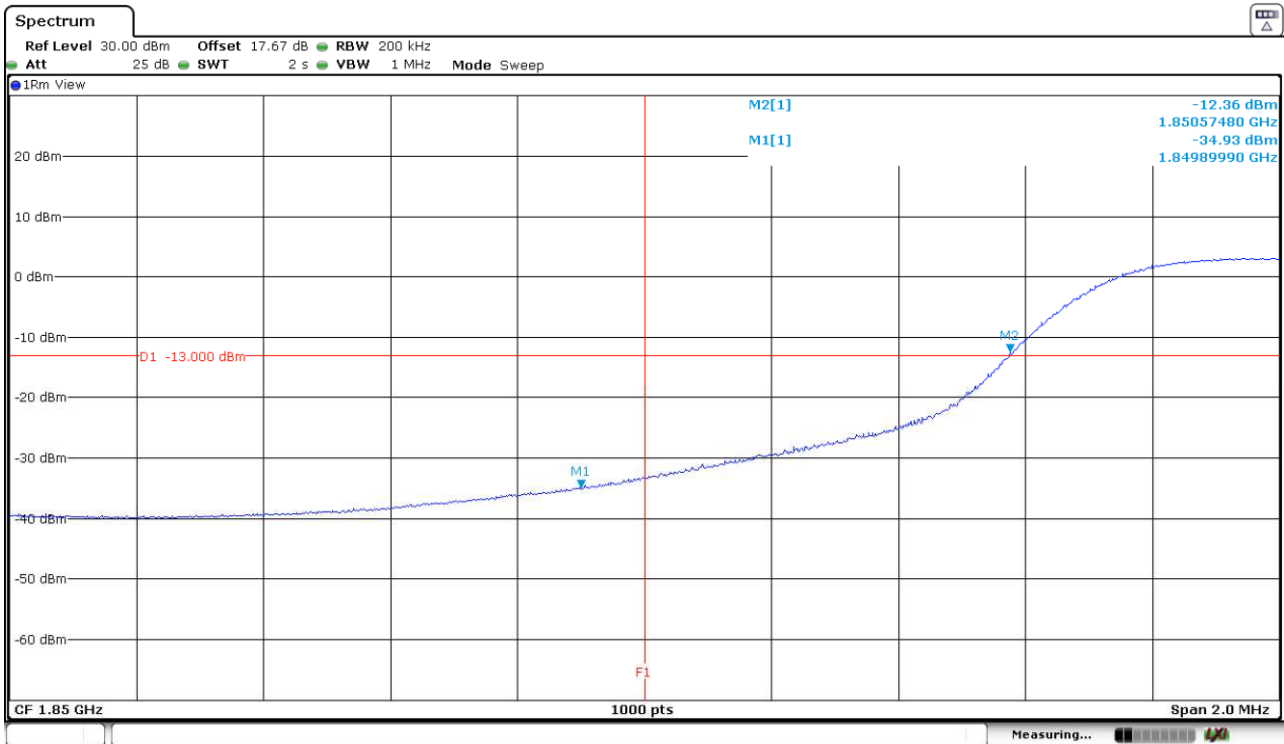
The equipment transmits at the maximum output power

**LTE Band 2. QPSK MODULATION. BW=15 MHz. RB=1. Offset=Max. Highest Block Edge:**

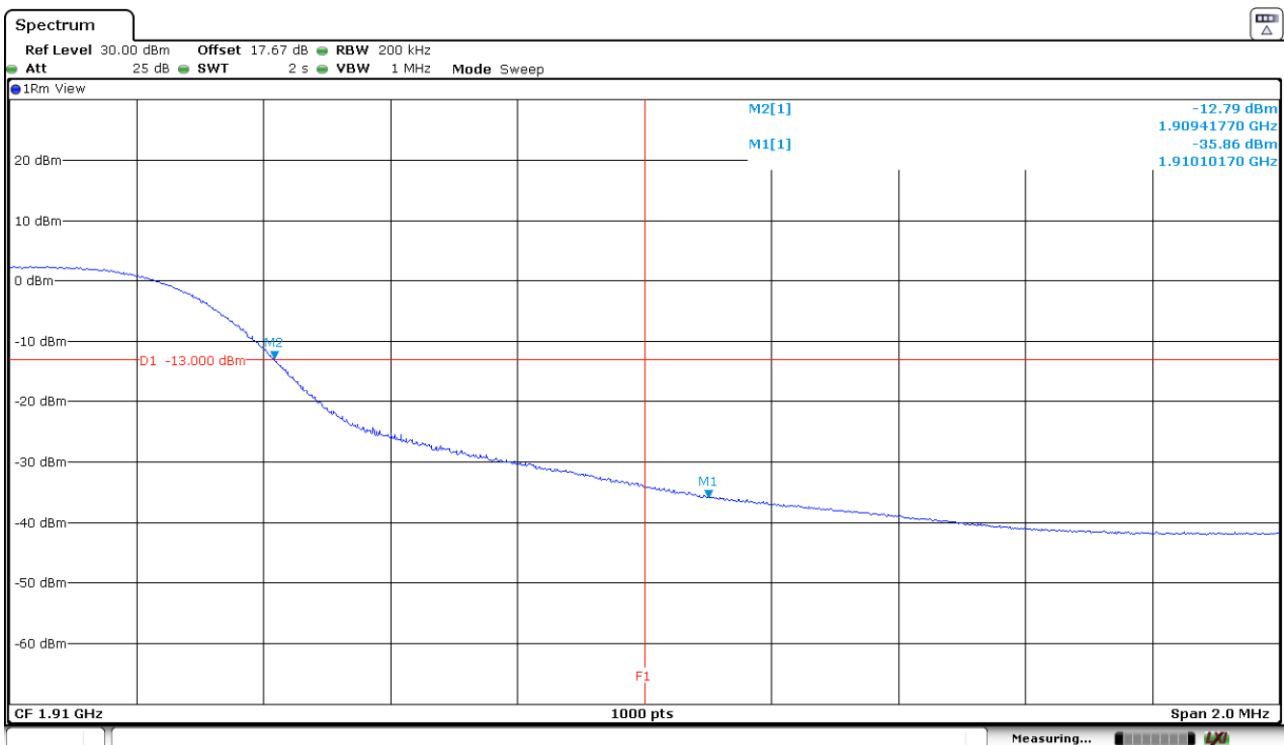


The equipment transmits at the maximum output power

**LTE Band 2. QPSK MODULATION. BW=15 MHz. RB=All. Offset=0. Lowest and Highest Block Edges:**



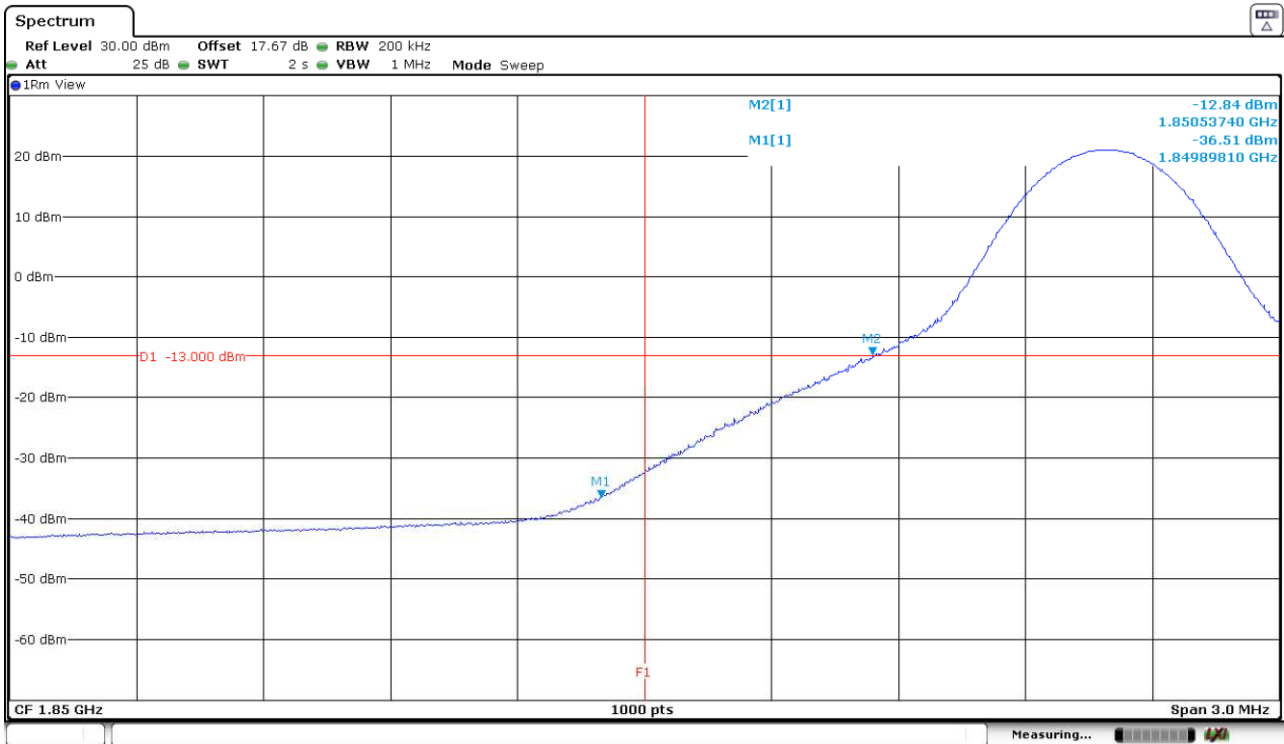
The equipment transmits at the maximum output power



The equipment transmits at the maximum output power

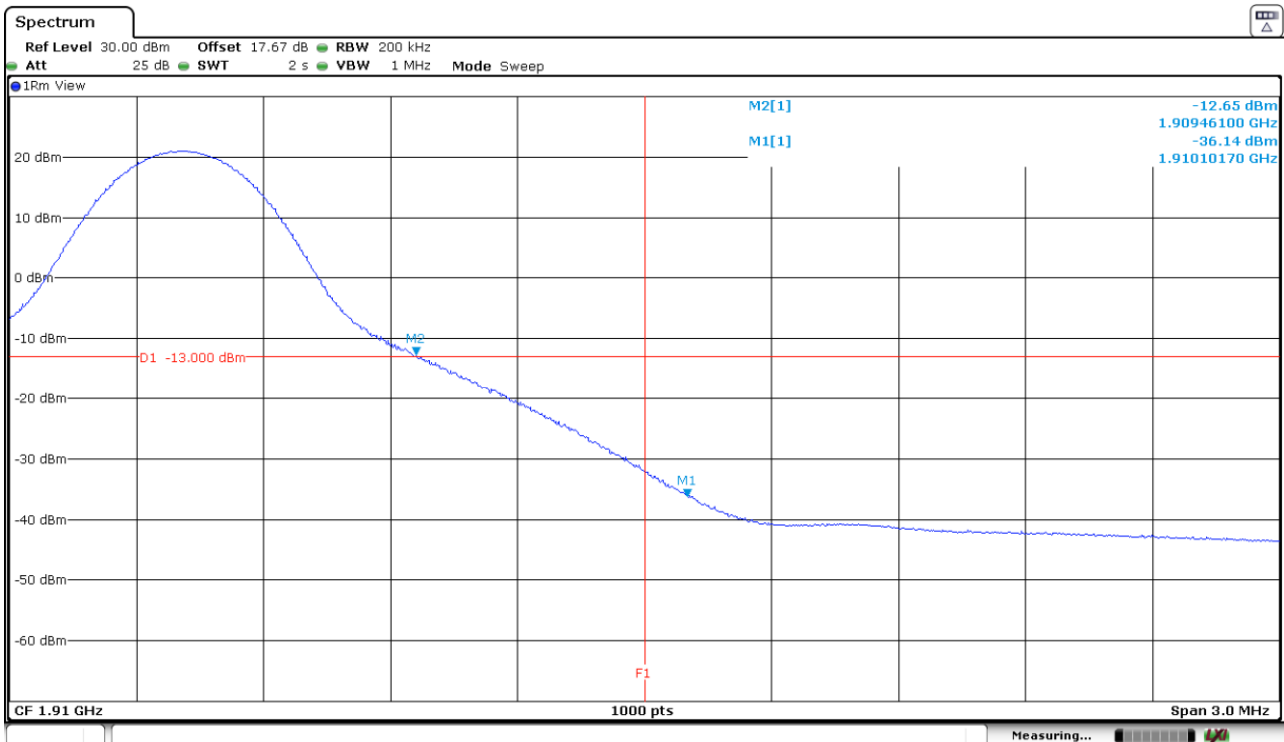
Verdict: PASS

**LTE Band 2. QPSK MODULATION. BW=20 MHz. RB=1. Offset=0. Lowest Block Edge:**



The equipment transmits at the maximum output power

**LTE Band 2. QPSK MODULATION. BW=20 MHz. RB=1. Offset=Max. Highest Block Edge:**



The equipment transmits at the maximum output power