

Band 17:

(g) 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.

RSS-130; 4.7.1 General unwanted emissions limits

The unwanted emissions in any 100 kHz bandwidth on any frequency outside the low frequency edge and the high frequency edge of each frequency block range(s), shall be attenuated below the transmitter power, P (dBW), by at least $43 + 10 \log_{10} p$ (watts), dB. However, in the 100 kHz band immediately outside of the equipment's frequency block range, a resolution bandwidth of 30 kHz may be employed.

RSS-130; 4.7.2 Additional unwanted emissions limits

In addition to the limit outlined in section 4.7.1 above, equipment operating in the frequency bands 746-756 MHz and 777-787 MHz shall also comply with the following restrictions:

- a. the power of any unwanted emissions in any 6.25 kHz bandwidth for all frequencies between 763-775 MHz and 793-806 MHz shall be attenuated below the transmitter power, P (dBW), by at least:
 - i. $76 + 10 \log_{10} p$ (watts), dB, for base and fixed equipment and
 - ii. $65 + 10 \log_{10} p$ (watts), dB, for mobile and portable equipment
- b. the e.i.r.p. in the band 1559-1610 MHz shall not exceed -70 dBW/MHz for wideband signal and -80 dBW for discrete emission with bandwidth less than 700 Hz.

5.20.3 TEST PROTOCOL

Ambient temperature: 24 °C
Relative humidity: 38 %

Radio Technology	CH	Ressource Blocks	Bandwidth (MHz)	Peak [dBm]	Average [dBm]	RMS [dBm]	Limit /dBm	Margin to Limit /dB
eFDD 4 QPSK	low	6	1.4	-17.79	-28.44	-26.81	-13	13.81
eFDD 4 QPSK	high	6	1.4	-16.19	-28.86	-27.37	-13	14.37
eFDD 4 16QAM	low	6	1.4	-18.05	-28.18	-26.81	-13	13.81
eFDD 4 16QAM	high	6	1.4	-18.84	-28.86	-27.84	-13	14.84
eFDD 4 64QAM	low	6	1.4	-19.96	-29.24	-28.18	-13	15.18
eFDD 4 64QAM	high	6	1.4	-19.49	-30.02	-28.86	-13	15.86
eFDD 4 QPSK	low	15	3	-12.34	-26.20	-23.80	-13	10.80
eFDD 4 QPSK	high	15	3	-13.59	-27.37	-24.81	-13	11.81
eFDD 4 16QAM	low	15	3	-12.40	-27.02	-24.42	-13	11.42
eFDD 4 16QAM	high	15	3	-14.35	-28.08	-25.52	-13	12.52
eFDD 4 64QAM	low	15	3	-14.04	-27.94	-25.81	-13	12.81
eFDD 4 64QAM	high	15	3	-15.41	-28.86	-26.71	-13	13.71
eFDD 4 QPSK	low	25	5	-10.26	-27.24	-23.80	-13	10.80
eFDD 4 QPSK	high	25	5	-11.58	-28.34	-25.34	-13	12.34
eFDD 4 16QAM	low	25	5	-12.52	-28.18	-24.91	-13	11.91

eFDD 4 16QAM	high	25	5	-12.94	-28.86	-25.52	-13	12.52
eFDD 4 64QAM	low	25	5	-12.06	-28.96	-25.81	-13	12.81
eFDD 4 64QAM	high	25	5	-11.70	-29.72	-26.30	-13	13.30
eFDD 4 QPSK	low	50	10	-12.46	-30.12	-27.47	-13	14.47
eFDD 4 QPSK	high	50	10	-11.55	-29.72	-27.37	-13	14.37
eFDD 4 16QAM	low	50	10	-11.27	-31.11	-28.44	-13	15.44
eFDD 4 16QAM	high	50	10	-14.03	-31.01	-28.86	-13	15.86
eFDD 4 64QAM	low	50	10	-13.55	-31.83	-29.52	-13	16.52
eFDD 4 64QAM	high	50	10	-14.29	-32.12	-29.72	-13	16.72
eFDD 4 QPSK	low	75	15	-11.59	-30.44	-28.18	-13	15.18
eFDD 4 QPSK	high	75	15	-10.81	-28.86	-27.14	-13	14.14
eFDD 4 16QAM	low	75	15	-11.46	-31.46	-28.96	-13	15.96
eFDD 4 16QAM	high	75	15	-10.98	-30.02	-28.08	-13	15.08
eFDD 4 64QAM	low	75	15	-12.79	-32.22	-30.12	-13	17.12
eFDD 4 64QAM	high	75	15	-12.35	-31.01	-29.42	-13	16.42
eFDD 4 QPSK	low	100	20	-14.80	-29.82	-28.44	-13	15.44
eFDD 4 QPSK	high	100	20	-14.24	-29.14	-27.84	-13	14.84
eFDD 4 16QAM	low	100	20	-14.71	-31.11	-29.82	-13	16.82
eFDD 4 16QAM	high	100	20	-15.95	-30.67	-29.42	-13	16.42
eFDD 4 64QAM	low	100	20	-16.16	-33.04	-31.46	-13	18.46
eFDD 4 64QAM	high	100	20	-16.74	-32.12	-31.01	-13	18.01
eFDD 7 QPSK	low	25	5	-3.88	-24.69	-20.71	-13	7.71
eFDD 7 QPSK	high	25	5	-24.76	-37.08	-22.14	-13	9.14
eFDD 7 16QAM	low	25	5	-4.96	-26.00	-22.02	-13	9.02
eFDD 7 16QAM	high	25	5	-6.91	-27.30	-23.25	-13	10.25
eFDD 7 64QAM	low	25	5	-5.70	-25.80	-21.52	-13	8.52
eFDD 7 64QAM	high	25	5	-7.43	-27.78	-23.55	-13	10.55
eFDD 7 QPSK	low	50	10	-3.33	-24.18	-22.02	-13	9.02
eFDD 7 QPSK	high	50	10	-6.85	-25.60	-23.55	-13	10.55
eFDD 7 16QAM	low	50	10	-6.22	-25.41	-23.40	-13	10.40
eFDD 7 16QAM	high	50	10	-8.40	-26.62	-24.51	-13	11.51
eFDD 7 64QAM	low	50	10	-6.53	-26.00	-24.02	-13	11.02
eFDD 7 64QAM	high	50	10	-8.05	-27.30	-25.22	-13	12.22
eFDD 7 QPSK	low	75	15	-1.96	-23.86	-22.54	-13	9.54
eFDD 7 QPSK	high	75	15	-8.20	-24.86	-23.55	-13	10.55
eFDD 7 16QAM	low	75	15	-6.96	-25.04	-23.55	-13	10.55
eFDD 7 16QAM	high	75	15	-8.51	-26.62	-25.22	-13	12.22
eFDD 7 64QAM	low	75	15	-5.39	-25.80	-24.18	-13	11.18
eFDD 7 64QAM	high	75	15	-9.58	-28.30	-26.62	-13	13.62
eFDD 7 QPSK	low	100	20	-4.97	-21.28	-20.39	-13	7.39
eFDD 7 QPSK	high	100	20	-6.11	-22.54	-21.76	-13	8.76
eFDD 7 16QAM	low	100	20	-5.12	-22.14	-21.05	-13	8.05
eFDD 7 16QAM	high	100	20	-6.72	-24.35	-23.40	-13	10.40
eFDD 7 64QAM	low	100	20	-7.02	-22.96	-22.02	-13	9.02
eFDD 7 64QAM	high	100	20	-7.07	-25.41	-24.35	-13	11.35
eFDD 12 QPSK	low	6	1.4	-13.28	-26.50	-23.86	-13	10.86
eFDD 12 QPSK	high	6	1.4	-14.15	-27.52	-25.41	-13	12.41
eFDD 12 16QAM	low	6	1.4	-13.16	-27.10	-24.76	-13	11.76
eFDD 12 16QAM	high	6	1.4	-13.90	-27.74	-25.76	-13	12.76
eFDD 12 64QAM	low	6	1.4	-12.90	-27.97	-25.59	-13	12.59
eFDD 12 64QAM	high	6	1.4	-14.29	-28.44	-26.70	-13	13.70
eFDD 12 QPSK	low	15	3	-10.83	-26.70	-23.58	-13	10.58

eFDD 12 QPSK	high	15	3	-13.27	-28.44	-25.41	-13	12.41
eFDD 12 16QAM	low	15	3	-13.44	-26.90	-24.15	-13	11.15
eFDD 12 16QAM	high	15	3	-14.60	-28.44	-25.94	-13	12.94
eFDD 12 64QAM	low	15	3	-12.64	-27.97	-25.25	-13	12.25
eFDD 12 64QAM	high	15	3	-15.51	-29.74	-27.31	-13	14.31
eFDD 12 QPSK	low	25	5	-10.76	-27.10	-23.72	-13	10.72
eFDD 12 QPSK	high	25	5	-12.70	-28.20	-25.59	-13	12.59
eFDD 12 16QAM	low	25	5	-11.57	-28.44	-25.08	-13	12.08
eFDD 12 16QAM	high	25	5	-12.31	-28.94	-26.12	-13	13.12
eFDD 12 64QAM	low	25	5	-11.32	-28.68	-25.41	-13	12.41
eFDD 12 64QAM	high	25	5	-13.87	-30.32	-27.10	-13	14.10
eFDD 12 QPSK	low	50	10	-2.31	-26.50	-23.72	-13	10.72
eFDD 12 QPSK	high	50	10	-7.47	-25.76	-24.15	-13	11.15
eFDD 12 16QAM	low	50	10	-3.67	-27.10	-24.30	-13	11.30
eFDD 12 16QAM	high	50	10	-9.96	-27.31	-25.41	-13	12.41
eFDD 12 64QAM	low	50	10	-7.87	-27.97	-25.41	-13	12.41
eFDD 12 64QAM	high	50	10	-9.13	-28.68	-26.70	-13	13.70
eFDD 13 QPSK	low	25	5	-16.23	-29.92	-27.21	-13	14.21
eFDD 13 QPSK	high	25	5	-16.13	-29.92	-27.42	-13	14.42
eFDD 13 16QAM	low	25	5	-17.99	-30.52	-27.87	-13	14.87
eFDD 13 16QAM	high	25	5	-15.70	-30.52	-28.10	-13	15.10
eFDD 13 64QAM	low	25	5	-17.50	-31.51	-29.36	-13	16.36
eFDD 13 64QAM	high	25	5	-17.47	-31.51	-29.10	-13	16.10
eFDD 13 QPSK	low	50	10	-22.41	-34.36	-32.62	-13	19.62
eFDD 13 QPSK	high	50	10	-21.57	-34.86	-33.02	-13	20.02
eFDD 13 16QAM	low	50	10	-22.14	-35.38	-33.89	-13	20.89
eFDD 13 16QAM	high	50	10	-23.04	-34.86	-33.44	-13	20.44
eFDD 13 64QAM	low	50	10	-23.23	-37.19	-35.38	-13	22.38
eFDD 13 64QAM	high	50	10	-23.40	-37.19	-35.38	-13	22.38
eFDD 17 QPSK	low	25	5	-15.26	-30.02	-26.50	-13	13.50
eFDD 17 QPSK	high	25	5	-15.98	-29.74	-27.52	-13	14.52
eFDD 17 16QAM	Low	25	5	-11.07	-28.94	-25.25	-13	12.25
eFDD 17 16QAM	high	25	5	-12.21	-28.68	-25.59	-13	12.59
eFDD 17 64QAM	Low	25	5	-12.16	-30.02	-26.12	-13	13.12
eFDD 17 64QAM	high	25	5	-12.63	-29.46	-26.50	-13	13.50
eFDD 17 QPSK	Low	50	10	-21.39	-34.96	-33.12	-13	20.12
eFDD 17 QPSK	high	50	10	-23.13	-34.96	-32.72	-13	19.72
eFDD 17 16QAM	Low	50	10	-10.76	-31.61	-28.44	-13	15.44
eFDD 17 16QAM	high	50	10	-14.71	-30.94	-28.68	-13	15.68
eFDD 17 64QAM	Low	50	10	-13.41	-33.12	-29.74	-13	16.74
eFDD 17 64QAM	high	50	10	-14.15	-32.33	-30.32	-13	17.32
eTDD 38 QPSK	Low	25	5	-4.95	-33.09	-25.22	-13	12.22
eTDD 38 QPSK	high	25	5	-7.66	-35.14	-27.54	-13	14.54
eTDD 38 16QAM	Low	25	5	-6.81	-34.06	-26.84	-13	13.84
eTDD 38 16QAM	high	25	5	-7.90	-34.58	-26.84	-13	13.84
eTDD 38 64QAM	Low	25	5	-5.70	-33.56	-26.00	-13	13.00
eTDD 38 64QAM	high	25	5	-6.12	-35.58	-26.20	-13	13.20
eTDD 38 QPSK	Low	50	10	-6.20	-36.39	-29.72	-13	16.72
eTDD 38 QPSK	high	50	10	-12.98	-39.58	-33.09	-13	20.09
eTDD 38 16QAM	Low	50	10	-8.04	-36.39	-29.72	-13	16.72
eTDD 38 16QAM	high	50	10	-14.76	-39.58	-33.56	-13	20.56
eTDD 38 64QAM	Low	50	10	-9.32	-36.39	-30.37	-13	17.37

eTDD 38 64QAM	high	50	10	-16.02	-39.58	-34.06	-13	21.06
eTDD 38 QPSK	Low	75	15	-6.62	-36.39	-30.37	-13	17.37
eTDD 38 QPSK	high	75	15	-13.59	-40.60	-35.14	-13	22.14
eTDD 38 16QAM	Low	75	15	-8.77	-37.08	-31.43	-13	18.43
eTDD 38 16QAM	high	75	15	-12.02	-40.60	-35.14	-13	22.14
eTDD 38 64QAM	Low	75	15	-8.19	-37.08	-31.06	-13	18.06
eTDD 38 64QAM	high	75	15	-12.92	-40.60	-35.14	-13	22.14
eTDD 38 QPSK	Low	100	20	-5.68	-31.82	-27.30	-13	14.30
eTDD 38 QPSK	high	100	20	-17.08	-40.60	-37.08	-13	24.08
eTDD 38 16QAM	Low	100	20	-14.01	-40.60	-35.14	-13	22.14
eTDD 38 16QAM	high	100	20	-16.15	-41.76	-37.08	-13	24.08
eTDD 38 64QAM	Low	100	20	-13.95	-40.60	-35.14	-13	22.14
eTDD 38 64QAM	high	100	20	-16.04	-40.60	-36.39	-13	23.39
eTDD 41 QPSK	Low	25	5	-5.33	-32.64	-25.22	-13	12.22
eTDD 41 QPSK	high	25	5	-4.4	-32.64	-25.04	-13	12.04
eTDD 41 16QAM	Low	25	5	-6.32	-33.56	-26.62	-13	13.62
eTDD 41 16QAM	high	25	5	-7.16	-33.56	-26.62	-13	13.62
eTDD 41 64QAM	Low	25	5	-4.90	-34.06	-26.20	-13	13.20
eTDD 41 64QAM	high	25	5	-6.93	-34.58	-27.07	-13	14.07
eTDD 41 QPSK	Low	50	10	-5.08	-34.06	-28.04	-13	15.04
eTDD 41 QPSK	high	50	10	-5.80	-34.06	-28.04	-13	15.04
eTDD 41 16QAM	Low	50	10	-7.40	-35.14	-28.84	-13	15.84
eTDD 41 16QAM	high	50	10	-6.10	-34.58	-28.56	-13	15.56
eTDD 41 64QAM	Low	50	10	-6.80	-36.39	-29.42	-13	16.42
eTDD 41 64QAM	high	50	10	-8.34	-35.74	-30.04	-13	17.04
eTDD 41 QPSK	Low	75	15	-6.24	-35.14	-29.42	-13	16.42
eTDD 41 QPSK	high	75	15	-7.10	-35.74	-30.71	-13	17.71
eTDD 41 16QAM	Low	75	15	-6.83	-36.39	-30.37	-13	17.37
eTDD 41 16QAM	high	75	15	-5.04	-36.39	-31.43	-13	18.43
eTDD 41 64QAM	Low	75	15	-8.81	-37.08	-31.43	-13	18.43
eTDD 41 64QAM	high	75	15	-10.20	-37.08	-32.22	-13	19.22
eTDD 41 QPSK	Low	100	20	-6.88	-31.06	-26.84	-13	13.84
eTDD 41 QPSK	high	100	20	-3.51	-30.37	-26.20	-13	13.20
eTDD 41 16QAM	Low	100	20	-6.75	-31.82	-27.54	-13	14.54
eTDD 41 16QAM	high	100	20	-5.26	-31.43	-27.07	-13	14.07
eTDD 41 64QAM	Low	100	20	-8.74	-32.64	-28.56	-13	15.56
eTDD 41 64QAM	high	100	20	-6.67	-32.64	-28.30	-13	15.30
eFDD 66 QPSK	Low	6	1.4	-17.55	-29.24	-27.24	-13	14.24
eFDD 66 QPSK	high	6	1.4	-16.92	-29.72	-27.84	-13	14.84
eFDD 66 16QAM	Low	6	1.4	-18.58	-29.82	-27.24	-13	14.24
eFDD 66 16QAM	high	6	1.4	-18.38	-30.02	-28.34	-13	15.34
eFDD 66 64QAM	Low	6	1.4	-19.56	-30.77	-28.96	-13	15.96
eFDD 66 64QAM	high	6	1.4	-17.32	-30.02	-28.86	-13	15.86
eFDD 66 QPSK	Low	15	3	-13.41	-28.18	-24.75	-13	11.75
eFDD 66 QPSK	high	15	3	-11.99	-29.14	-24.99	-13	11.99
eFDD 66 16QAM	Low	15	3	-12.93	-28.44	-25.09	-13	12.09
eFDD 66 16QAM	high	15	3	-13.44	-29.42	-25.34	-13	12.34
eFDD 66 64QAM	Low	15	3	-13.98	-29.52	-26.20	-13	13.20
eFDD 66 64QAM	high	15	3	-14.83	-30.34	-26.71	-13	13.71
eFDD 66 QPSK	Low	25	5	-12.22	-28.44	-24.58	-13	11.58
eFDD 66 QPSK	high	25	5	-11.47	-30.34	-25.52	-13	12.52
eFDD 66 16QAM	Low	25	5	-11.13	-29.24	-25.62	-13	12.62

eFDD 66 16QAM	high	25	5	-9.62	-30.67	-26.30	-13	13.30
eFDD 66 64QAM	Low	25	5	-12.16	-30.12	-26.20	-13	13.20
eFDD 66 64QAM	high	25	5	-13.15	-31.36	-27.37	-13	14.37
eFDD 66 QPSK	Low	50	10	-12.02	-30.77	-27.70	-13	14.70
eFDD 66 QPSK	high	50	10	-12.97	-32.94	-28.86	-13	15.86
eFDD 66 16QAM	Low	50	10	-12.30	-31.46	-28.96	-13	15.96
eFDD 66 16QAM	high	50	10	-11.58	-33.86	-30.34	-13	17.34
eFDD 66 64QAM	Low	50	10	-14.67	-32.62	-30.12	-13	17.12
eFDD 66 64QAM	high	50	10	-12.71	-35.44	-31.01	-13	18.01
eFDD 66 QPSK	Low	75	15	-11.25	-32.62	-29.52	-13	16.52
eFDD 66 QPSK	high	75	15	-12.33	-34.88	-30.34	-13	17.34
eFDD 66 16QAM	Low	75	15	-12.00	-33.04	-30.12	-13	17.12
eFDD 66 16QAM	high	75	15	-13.63	-35.44	-31.36	-13	18.36
eFDD 66 64QAM	Low	75	15	-11.14	-33.96	-31.11	-13	18.11
eFDD 66 64QAM	high	75	15	-13.79	-36.69	-32.12	-13	19.12
eFDD 66 QPSK	Low	100	20	-14.39	-30.77	-29.52	-13	16.52
eFDD 66 QPSK	high	100	20	-16.13	-34.36	-32.52	-13	19.52
eFDD 66 16QAM	Low	100	20	-14.63	-31.83	-30.44	-13	17.44
eFDD 66 16QAM	high	100	20	-16.28	-36.04	-33.39	-13	20.39
eFDD 66 64QAM	Low	100	20	-15.19	-33.49	-31.83	-13	18.83
eFDD 66 64QAM	high	100	20	-17.56	-37.38	-34.88	-13	21.88
eFDD 71 QPSK	Low	25	5	-12.11	-27.31	-24.45	-13	11.45
eFDD 71 QPSK	high	25	5	-11.84	-28.94	-25.76	-13	12.76
eFDD 71 16QAM	Low	25	5	-13.63	-28.94	-25.94	-13	12.94
eFDD 71 16QAM	high	25	5	-12.69	-30.02	-26.70	-13	13.70
eFDD 71 64QAM	Low	25	5	-12.40	-29.74	-26.70	-13	13.70
eFDD 71 64QAM	high	25	5	-15.20	-30.94	-27.52	-13	14.52
eFDD 71 QPSK	Low	50	10	-12.35	-31.61	-28.94	-13	15.94
eFDD 71 QPSK	high	50	10	-13.31	-31.27	-28.94	-13	15.94
eFDD 71 16QAM	Low	50	10	-14.18	-32.72	-30.02	-13	17.02
eFDD 71 16QAM	high	50	10	-15.11	-32.33	-29.74	-13	16.74
eFDD 71 64QAM	Low	50	10	-14.03	-33.99	-30.62	-13	17.62
eFDD 71 64QAM	high	50	10	-16.25	-33.54	-30.94	-13	17.94
eFDD 71 QPSK	Low	75	15	-9.65	-29.46	-27.52	-13	14.52
eFDD 71 QPSK	high	75	15	-11.68	-34.96	-30.94	-13	17.94
eFDD 71 16QAM	Low	75	15	-12.75	-30.32	-28.68	-13	15.68
eFDD 71 16QAM	high	75	15	-13.58	-36.04	-31.96	-13	18.96
eFDD 71 64QAM	Low	75	15	-13.82	-30.94	-29.46	-13	16.46
eFDD 71 64QAM	high	75	15	-14.63	-37.29	-33.54	-13	20.54
eFDD 71 QPSK	Low	100	20	-16.69	-31.61	-30.32	-13	17.32
eFDD 71 QPSK	high	100	20	-16.23	-33.99	-31.96	-13	18.96
eFDD 71 16QAM	Low	100	20	-15.69	-32.33	-30.94	-13	17.94
eFDD 71 16QAM	high	100	20	-16.35	-35.48	-33.54	-13	20.54
eFDD 71 64QAM	Low	100	20	-18.08	-33.12	-31.61	-13	18.61
eFDD 71 64QAM	high	100	20	-17.79	-37.29	-35.48	-13	22.48

Radio Technology	Modulation	Channel	Ressource Blocks PCC	Ressource Blocks SCC	BW PCC [MHz]	BW SCC1 [MHz]	RMS [dBm]	Limit /dBm	Margin to Limit /dB
CA_7C	QPSK	low + low	75	75	15	15	-24.18	-13	11.18
CA_7C	QPSK	high + high	75	75	15	15	-28.84	-13	15.84
CA_7C	QPSK	low + low	100	75	20	15	-23.65	-13	10.65
CA_7C	QPSK	high + high	100	75	20	15	-28.96	-13	15.96
CA_7C	16 QAM	low + low	100	100	20	20	-23.95	-13	10.95
CA_7C	16 QAM	high + high	100	100	20	20	-28.70	-13	15.70
CA_7C	64 QAM	low + low	100	75	20	15	-23.36	-13	10.36
CA_7C	64 QAM	high + high	100	75	20	15	-35.54	-13	22.54
CA_7C	256 QAM	low + low	100	100	20	20	-23.65	-13	10.65
CA_7C	256 QAM	high + high	100	100	20	20	-28.18	-13	15.18
CA_38C	QPSK	low + low	75	75	15	15	-31.83	-13	18.83
CA_38C	QPSK	high + high	75	75	15	15	-39.07	-13	26.07
CA_38C	16 QAM	low + low	75	75	15	15	-31.46	-13	18.46
CA_38C	16 QAM	high + high	75	75	15	15	-38.24	-13	25.24
CA_38C	64 QAM	low + low	100	100	20	20	-36.14	-13	23.14
CA_38C	64 QAM	high + high	100	100	20	20	-41.00	-13	28.00
CA_38C	256 QAM	low + low	75	75	15	15	-32.62	-13	19.62
CA_38C	256 QAM	high + high	75	75	15	15	-37.48	-13	24.48
CA_41C	QPSK	low + low	100	75	20	15	-35.54	-13	22.54
CA_41C	QPSK	high + high	100	75	20	15	-37.48	-13	24.48
CA_41C	16 QAM	low + low	100	25	20	5	-35.54	-13	22.54
CA_41C	16 QAM	high + high	100	25	20	5	-36.14	-13	23.14
CA_41C	64 QAM	low + low	100	100	20	20	-35.54	-13	22.54
CA_41C	64 QAM	high + high	100	100	20	20	-39.07	-13	26.07
CA_41C	256 QAM	low + low	50	75	10	15	-26.81	-13	13.81
CA_41C	256 QAM	high + high	50	75	10	15	-35.54	-13	22.54
CA_66B	QPSK	low + low	50	50	10	10	-30.77	-13	17.77
CA_66B	QPSK	high + high	50	50	10	10	-33.04	-13	20.04
CA_66B	16 QAM	low + low	50	50	10	10	-30.44	-13	17.44
CA_66B	16 QAM	high + high	50	50	10	10	-32.62	-13	19.62
CA_66B	64 QAM	low + low	50	50	10	10	-30.44	-13	17.44
CA_66B	64 QAM	high + high	50	50	10	10	-32.22	-13	19.22
CA_66B	256 QAM	low + low	50	50	10	10	-34.98	-13	21.98
CA_66B	256 QAM	high + high	50	50	10	10	-39.98	-13	26.98
CA_66C	QPSK	low + low	75	75	15	15	-31.11	-13	18.11
CA_66C	QPSK	high + high	75	75	15	15	-35.54	-13	22.54
CA_66C	16 QAM	low + low	75	75	15	15	-32.62	-13	19.62
CA_66C	16 QAM	high + high	75	75	15	15	-35.54	-13	22.54
CA_66C	64 QAM	low + low	75	75	15	15	-32.62	-13	19.62
CA_66C	64 QAM	high + high	75	75	15	15	-36.14	-13	23.14
CA_66C	256 QAM	low + low	75	75	15	15	-34.46	-13	21.46
CA_66C	256 QAM	high + high	75	75	15	15	-37.48	-13	24.48

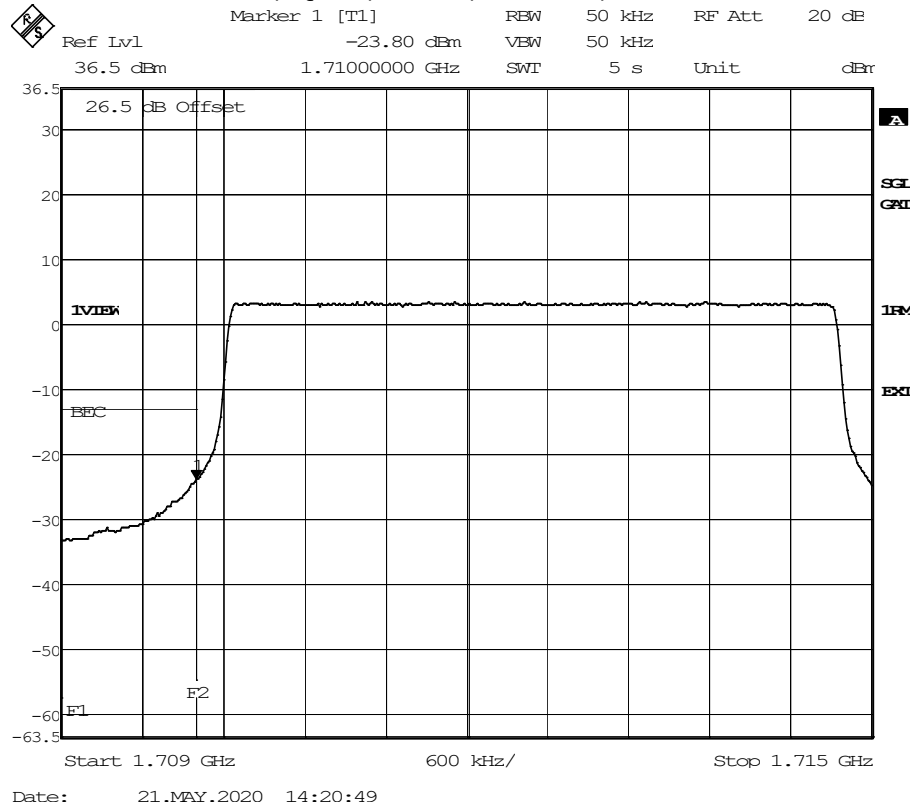
Remark: Please see next sub-clause for the measurement plot.

COMMENT:

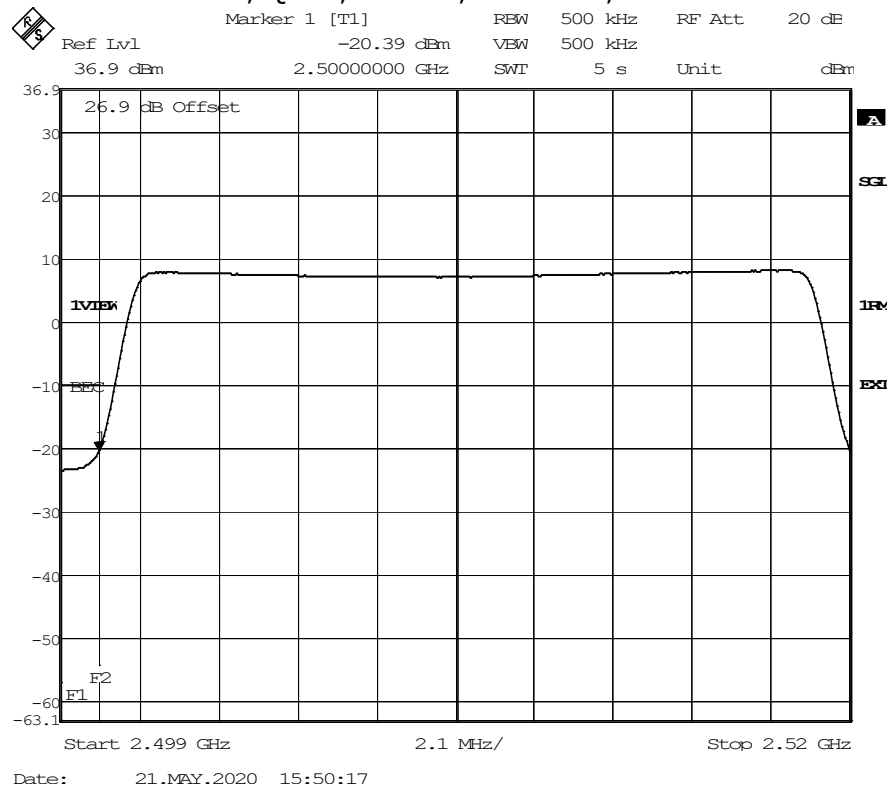
For compliance of the emissions masks for eFDD7 and eTDD38 please refer to the chapters 5.17 (SPURIOUS EMISSIONS AT ANTENNA TERMINALS) and 5.18 (FIELD STRENGTH OF SPURIOUS RADIATION).

5.20.4 MEASUREMENT PLOT (SHOWING THE HIGHEST VALUE, "WORST CASE")

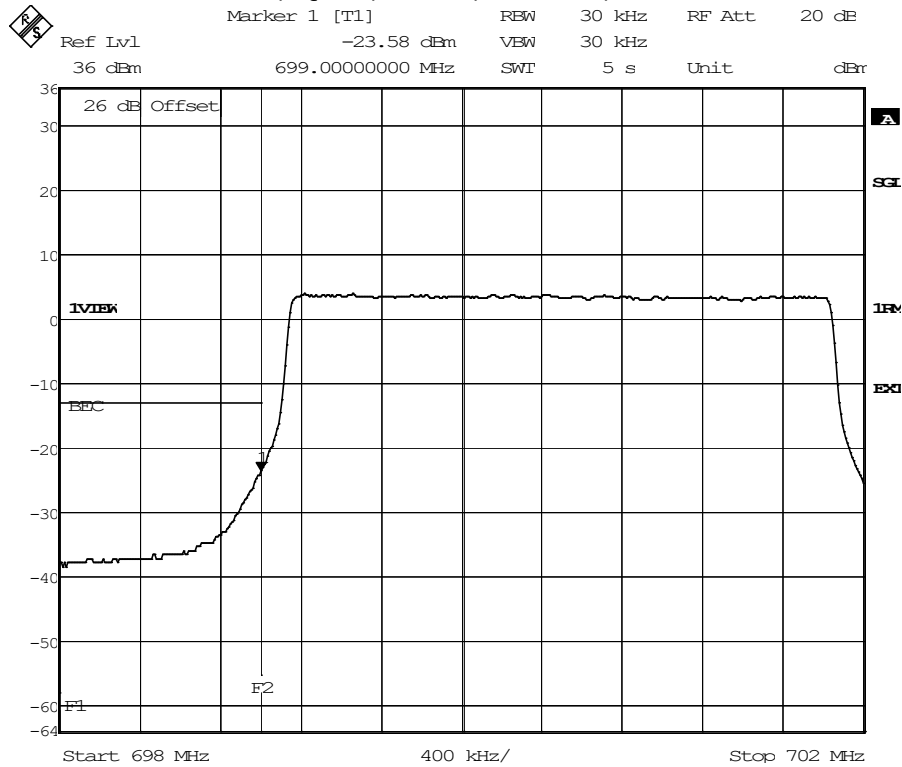
LTE eFDD 4, QPSK, 5 MHz, RB = 25, Channel = low



LTE eFDD 7, QPSK, 20 MHz, RB = 100, Channel = low

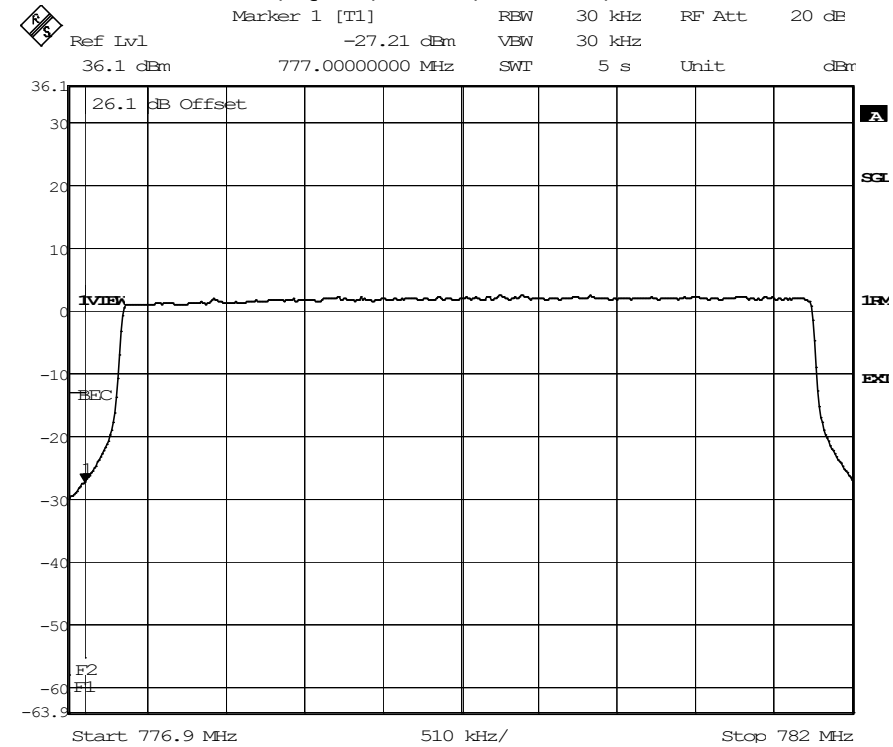


LTE eFDD 12, QPSK, 3 MHz, RB = 15, Channel = low



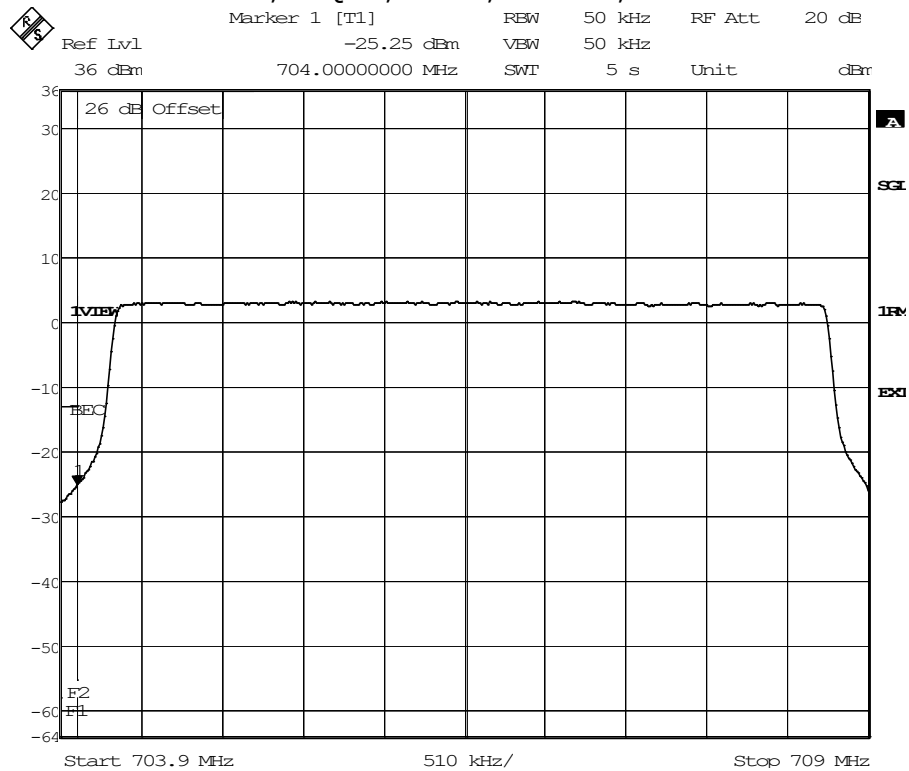
Date: 21.MAY.2020 16:27:51

LTE eFDD 13, QPSK, 5 MHz, RB = 25, Channel = low



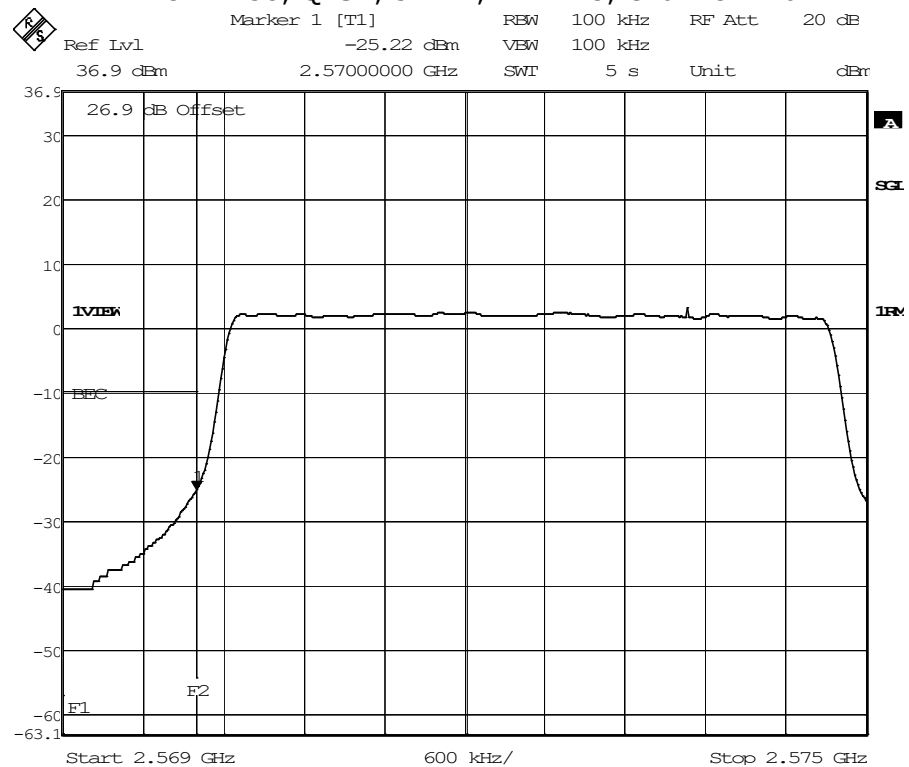
Date: 21.MAY.2020 16:39:02

LTE eFDD 17, 16QAM, 5 MHz, RB = 25, Channel = low



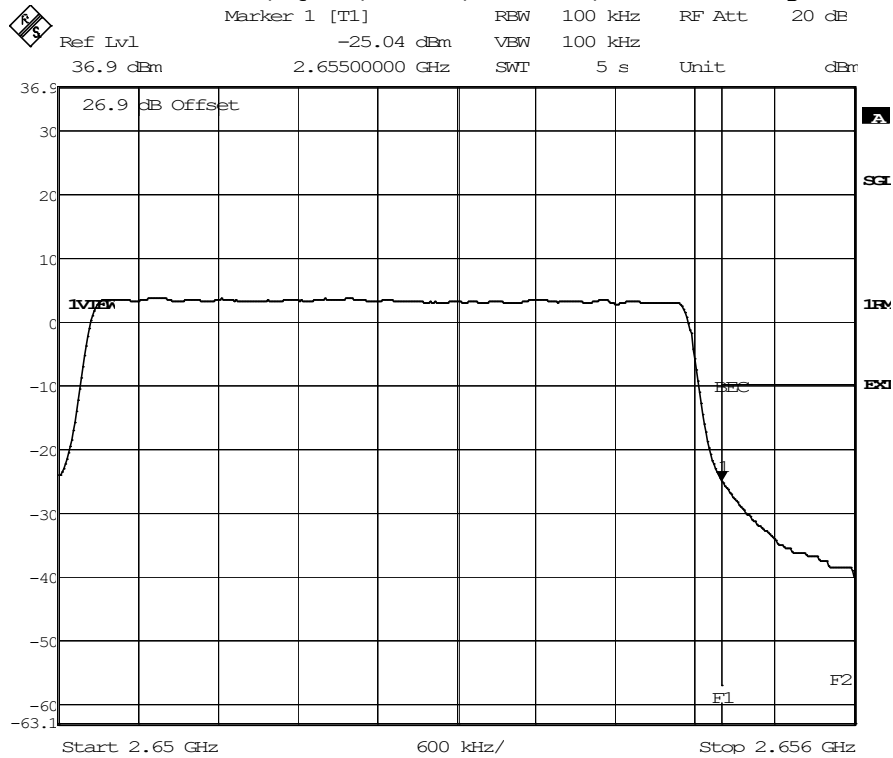
Date: 25.MAY.2020 18:36:16

LTE eTDD 38, QPSK, 5 MHz, RB = 25, Channel = low



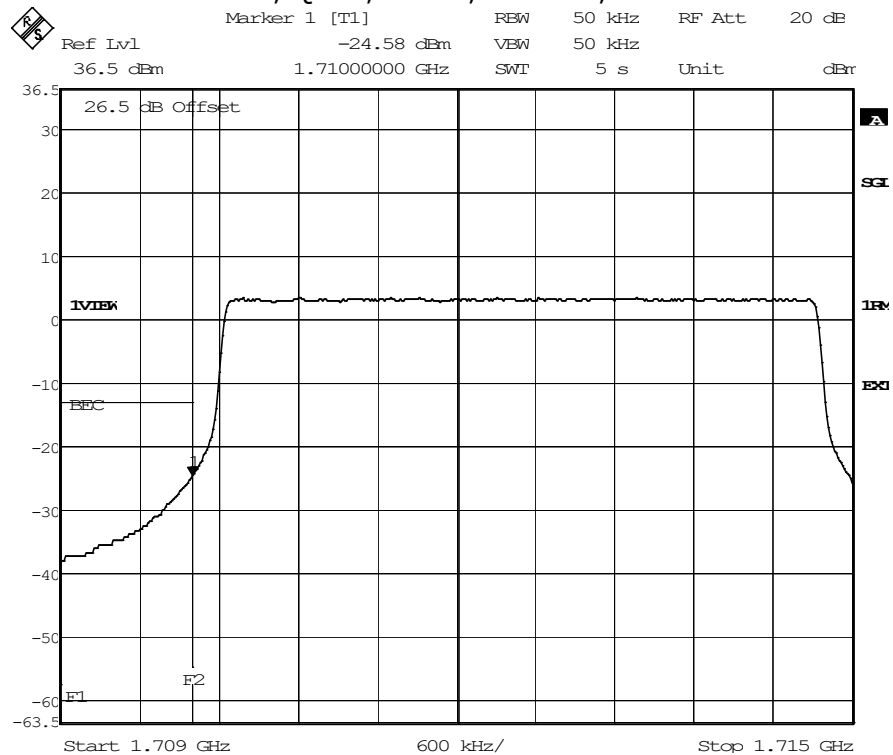
Date: 8.JUN.2020 11:52:51

LTE eTDD 41, QPSK, 5 MHz, RB = 25, Channel = high



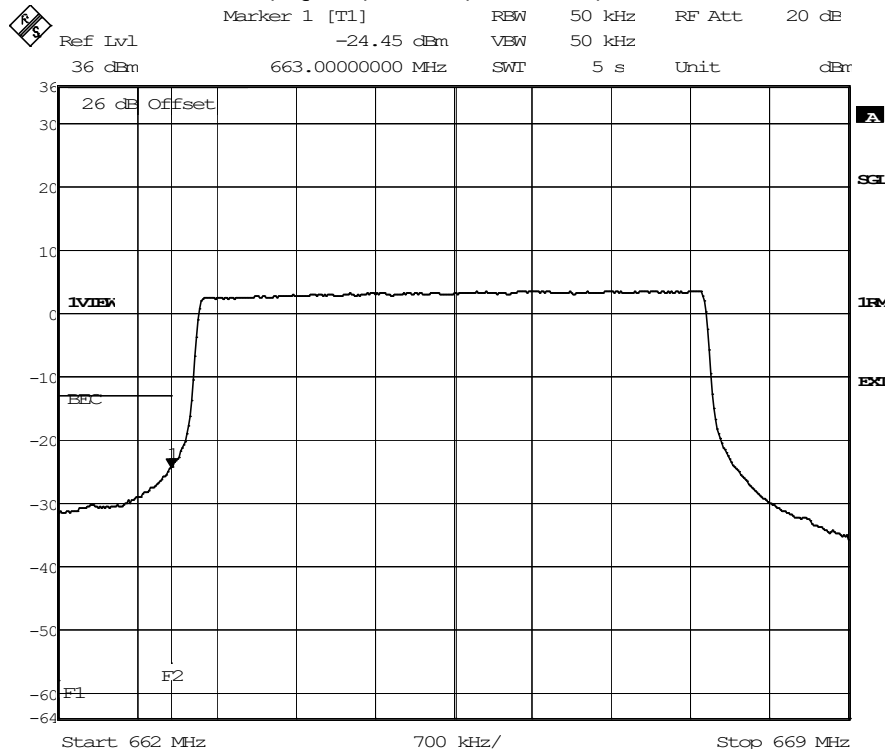
Date: 27.MAY.2020 16:28:25

LTE eFDD 66, QPSK, 5 MHz, RB = 25, Channel = low



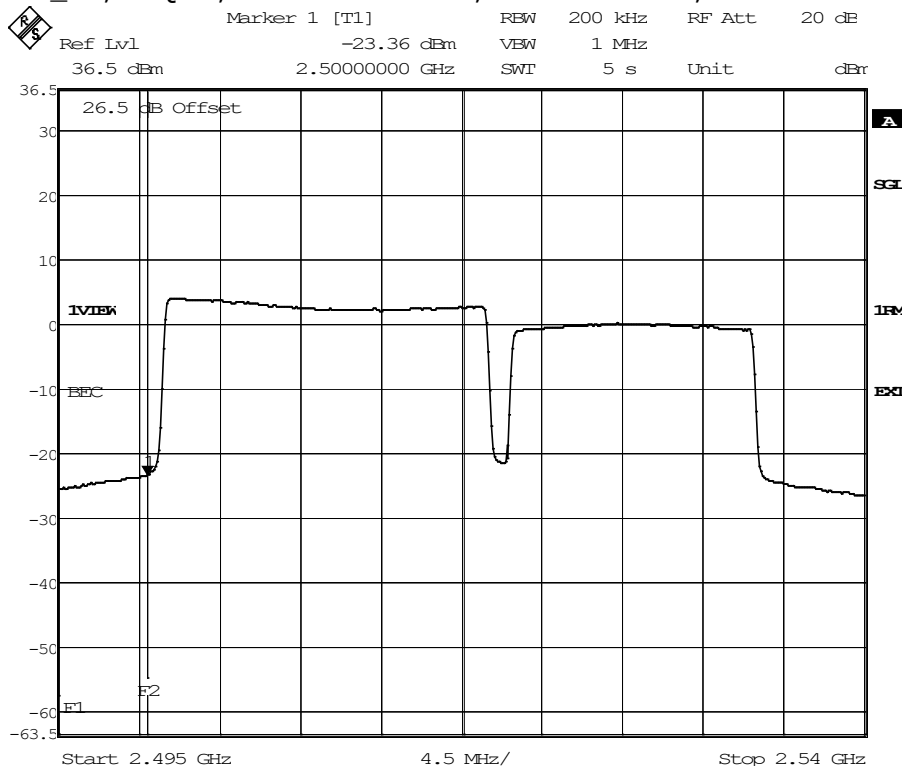
Date: 23.MAY.2020 09:39:06

LTE eFDD 71, QPSK, 5 MHz, RB = 25, Channel = low



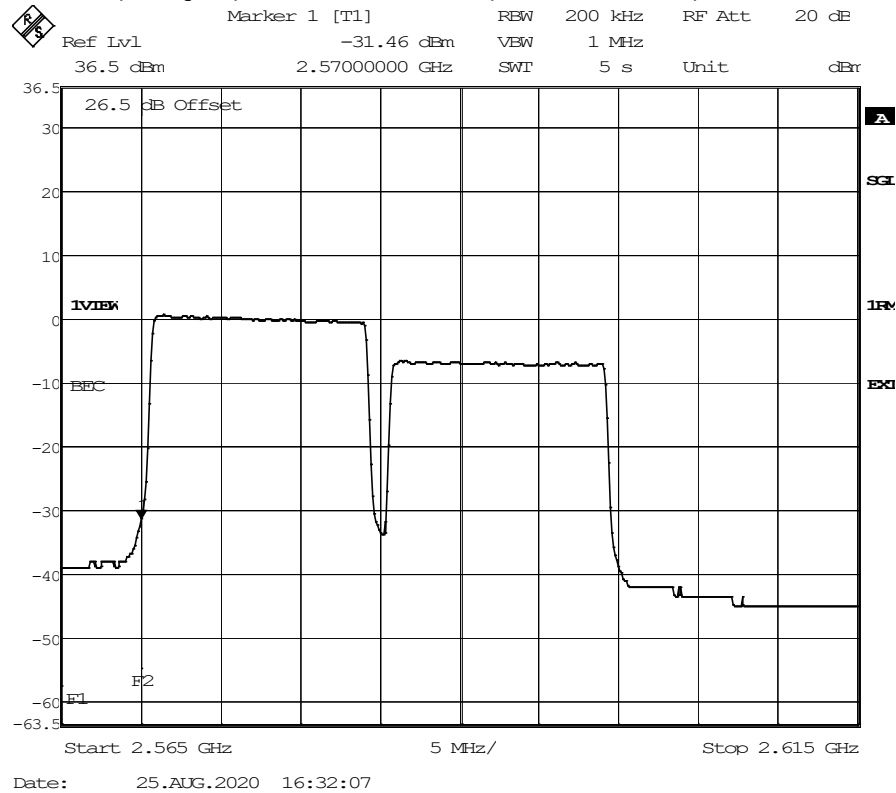
Date: 9.NOV.2020 19:07:36

CA_7C, 64QAM, 20 MHz & 15 MHz, RB = 100 & 75, Channel = low

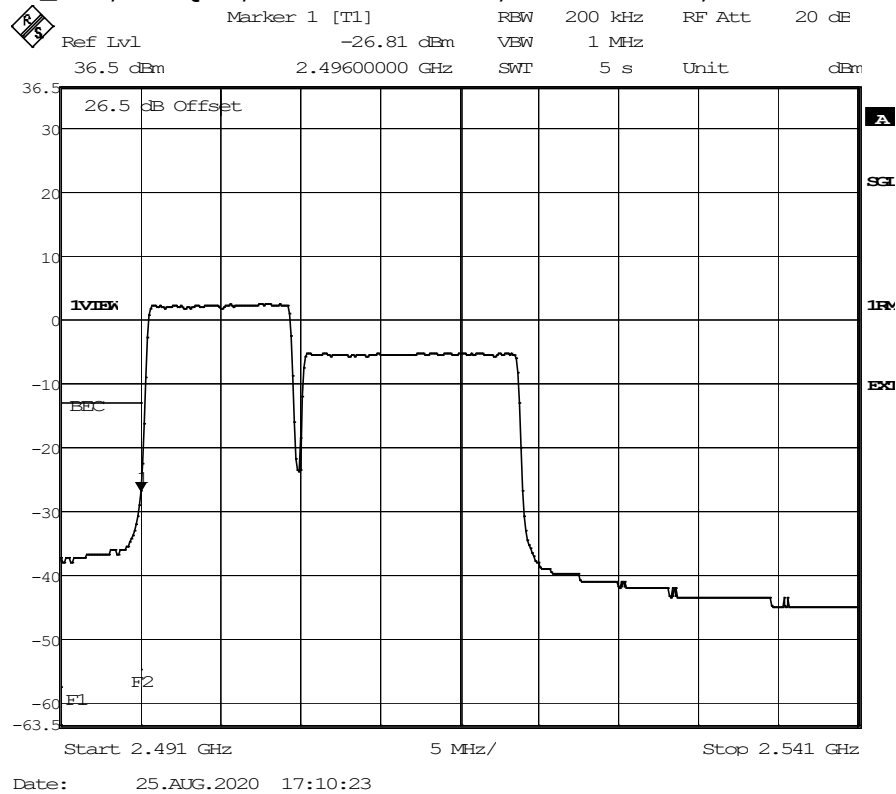


Date: 25.AUG.2020 16:14:17

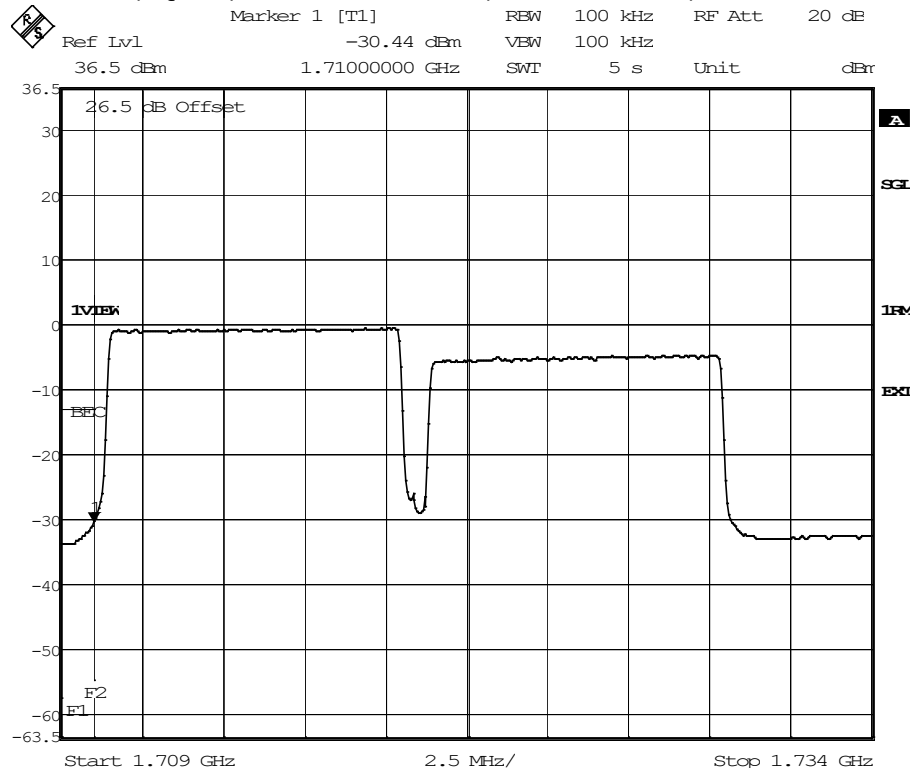
CA_38C, 16QAM, 15 MHz & 15 MHz, RB = 75 & 75, Channel = low



CA_41C, 256QAM, 10 MHz & 15 MHz, RB = 50 & 75, Channel = low

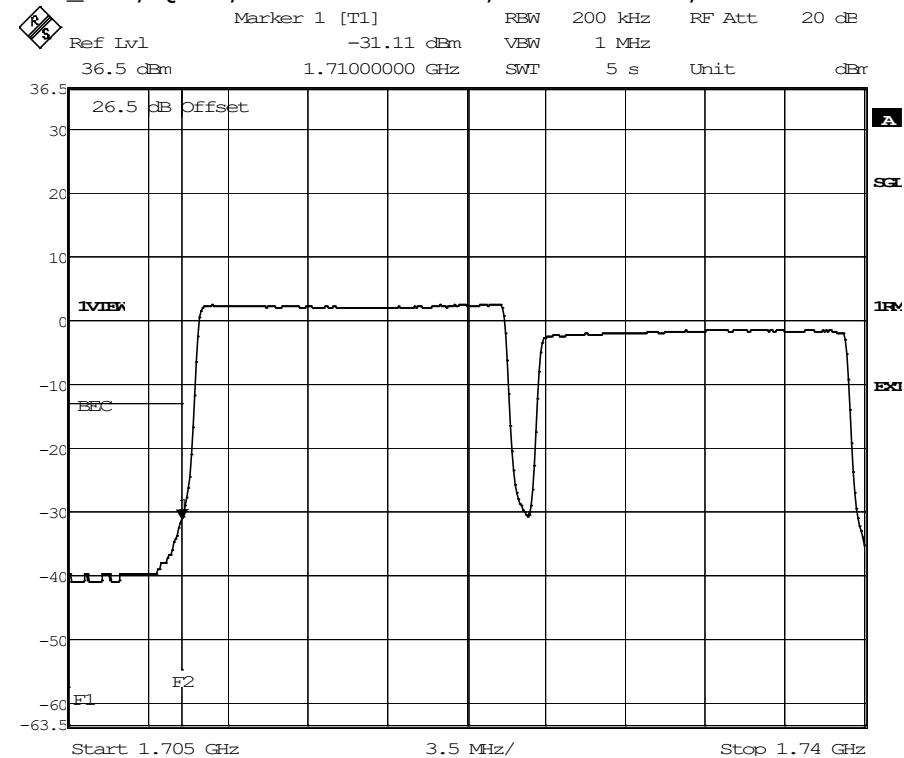


CA_66B, QPSK, 10 MHz & 10 MHz, RB = 50 & 50, Channel = low



Date: 9.NOV.2020 20:04:41

CA_66C, QPSK, 15 MHz & 15 MHz, RB = 75 & 75, Channel = low



Date: 25.AUG.2020 17:32:40

5.20.5 TEST EQUIPMENT USED

- Radio Lab

5.21 PEAK TO AVERAGE RATIO

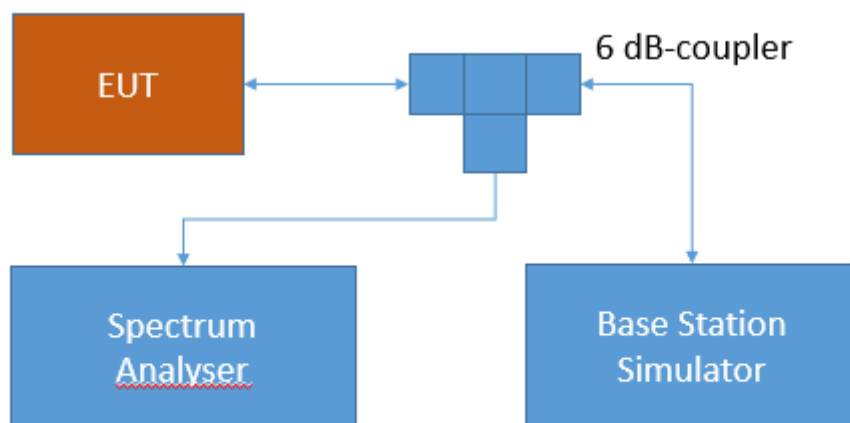
Standard **FCC PART 27 Subpart C**

The test was performed according to:
ANSI C63.26: 2015

5.21.1 TEST DESCRIPTION

This test case is intended to demonstrate compliance of the EUT to the peak-to-average limits and requirements of the applicable rule part and ISSED RSS-Standard for the operating band of the cellular device.

The EUT was connected to the test setup according to the following diagram:



Test Setup FCC Part 22/24/27/90 Cellular;
Peak-average ratio

The attenuation of the measuring and stimulus path are known for each measured frequency and are considered.

The Spectrum Analyzer settings can be directly found in the measurement diagrams. The internal CCDF (complementary cumulative distribution function) of the spectrum analyser is used for this measurement

5.21.2 TEST REQUIREMENTS / LIMITS

FCC Part 27; Miscellaneous Wireless Communication Services

Subpart C – Technical standards

§ 27.50 - Power limits and duty cycle

Band 13:

No applicable PAPR limit.

RSS-130; 4.6.1 General

The transmitter output power shall be measured in terms of average power. In addition, the peak-to-average power ratio (PAPR) of the transmitter shall not exceed 13 dB for more than 0.1% of the time and shall use a signal corresponding to the highest PAPR during periods of continuous transmission.

Band 12:

No applicable PAPR limit.

RSS-130; 4.6.1 General

The transmitter output power shall be measured in terms of average power. In addition, the peak-to-average power ratio (PAPR) of the transmitter shall not exceed 13 dB for more than 0.1% of the time and shall use a signal corresponding to the highest PAPR during periods of continuous transmission.

Band 4/10/66:

d) The following power and antenna height requirements apply to stations transmitting in the 1695-1710 MHz, 1710-1755 MHz, 1755-1780 MHz, 1915-1920 MHz, 1995-2000 MHz, 2000-2020 MHz, 2110-2155 MHz, 2155-2180 MHz and 2180-2200 MHz bands:

(5) Equipment employed must be authorized in accordance with the provisions of §24.51. Power measurements for transmissions by stations authorized under this section may be made either in accordance with a Commission-approved average power technique or in compliance with paragraph (d)(6) of this section. In measuring transmissions in this band using an average power technique, the peak-to-average ratio (PAR) of the transmission may not exceed 13 dB.

RSS-139; 6.5 Transmitter Output Power

In addition, the peak to average power ratio (PAPR) of the equipment shall not exceed 13 dB for more than 0.1% of the time, using a signal that corresponds to the highest PAPR during periods of continuous transmission.

Band 17:

No applicable PAPR limit.

RSS-130; 4.6.1 General

The transmitter output power shall be measured in terms of average power. In addition, the peak-to-average power ratio (PAPR) of the transmitter shall not exceed 13 dB for more than

0.1% of the time and shall use a signal corresponding to the highest PAPR during periods of continuous transmission.

Band 7:

No applicable PAPR limit.

RSS-199; 4.4 Transmitter output power and equivalent isotropically power (e.i.r.p.)

In addition, the peak-to-average power ratio (PAPR) of the transmitter shall not exceed 13 dB for more than 0.1% of the time and shall use a signal corresponding to the highest PAPR during periods of continuous transmission.

For equipment with multiple antennas, the transmitter output power and e.i.r.p shall be measured according to ANSI C63.26-2015.

5.21.3 TEST PROTOCOL

Ambient temperature: 24 °C
Relative humidity: 38 %

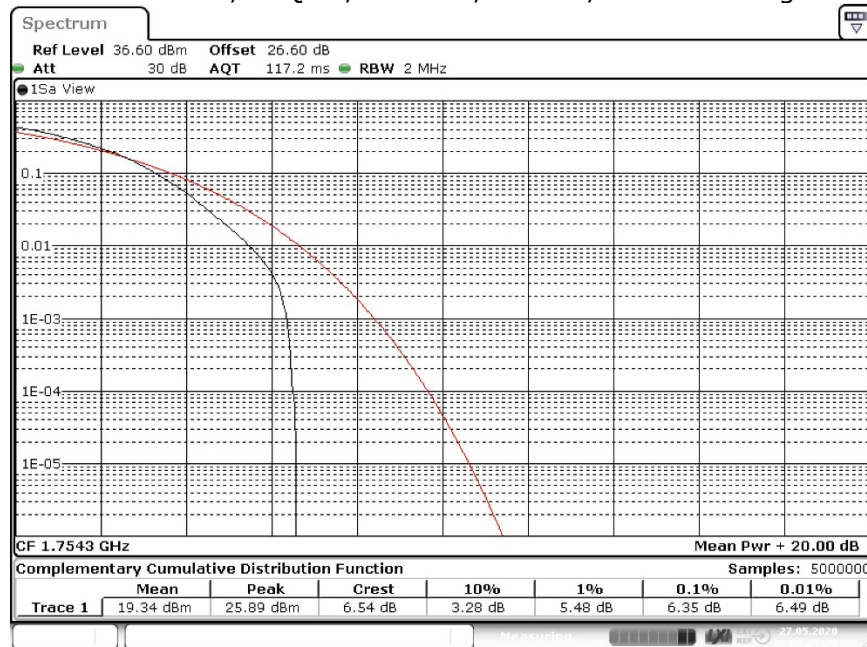
Radio Technology	Channel	Resource Blocks	Bandwidth (MHz)	Peak to Average Ratio	Limit (IC) (dB)
eFDD 4 QPSK	low	6	1.4	6.06	13
eFDD 4 QPSK	mid	6	1.4	6.00	13
eFDD 4 QPSK	high	6	1.4	6.12	13
eFDD 4 16QAM	low	6	1.4	6.29	13
eFDD 4 16QAM	mid	6	1.4	6.26	13
eFDD 4 16QAM	high	6	1.4	6.41	13
eFDD 4 64QAM	low	6	1.4	6.41	13
eFDD 4 64QAM	mid	6	1.4	6.38	13
eFDD 4 64QAM	high	6	1.4	6.49	13
eFDD 7 QPSK	low	25	5	5.30	13
eFDD 7 QPSK	mid	25	5	5.74	13
eFDD 7 QPSK	high	25	5	5.65	13
eFDD 7 16QAM	low	25	5	5.94	13
eFDD 7 16QAM	mid	25	5	6.14	13
eFDD 7 16QAM	high	25	5	6.00	13
eFDD 7 64QAM	low	25	5	6.12	13
eFDD 7 64QAM	mid	25	5	6.23	13
eFDD 7 64QAM	high	25	5	6.17	13
eFDD 12 QPSK	low	6	1.4	5.51	13
eFDD 12 QPSK	mid	6	1.4	5.45	13
eFDD 12 QPSK	high	6	1.4	5.57	13
eFDD 12 16QAM	low	6	1.4	5.83	13
eFDD 12 16QAM	mid	6	1.4	5.80	13
eFDD 12 16QAM	high	6	1.4	5.97	13
eFDD 12 64QAM	low	6	1.4	5.91	13
eFDD 12 64QAM	mid	6	1.4	5.94	13
eFDD 12 64QAM	high	6	1.4	6.12	13
eFDD 13 QPSK	low	25	5	5.59	13

eFDD 13 QPSK	mid	25	5	5.86	13
eFDD 13 QPSK	high	25	5	5.65	13
eFDD 13 16QAM	low	25	5	6.26	13
eFDD 13 16QAM	mid	25	5	6.12	13
eFDD 13 16QAM	high	25	5	5.91	13
eFDD 13 64QAM	low	25	5	6.41	13
eFDD 13 64QAM	mid	25	5	6.17	13
eFDD 13 64QAM	high	25	5	6.03	13
eFDD 17 QPSK	low	25	5	5.65	13
eFDD 17 QPSK	mid	25	5	5.74	13
eFDD 17 QPSK	high	25	5	5.80	13
eFDD 17 16QAM	low	25	5	5.88	13
eFDD 17 16QAM	mid	25	5	5.97	13
eFDD 17 16QAM	high	25	5	6.43	13
eFDD 17 64QAM	low	25	5	6.12	13
eFDD 17 64QAM	mid	25	5	6.09	13
eFDD 17 64QAM	high	25	5	6.70	13
eTDD 38 QPSK	low	25	5	10.26	13
eTDD 38 QPSK	mid	25	5	11.33	13
eTDD 38 QPSK	high	25	5	10.93	13
eTDD 38 16QAM	low	25	5	10.99	13
eTDD 38 16QAM	mid	25	5	11.01	13
eTDD 38 16QAM	high	25	5	11.04	13
eTDD 38 64QAM	low	25	5	11.45	13
eTDD 38 64QAM	mid	25	5	11.42	13
eTDD 38 64QAM	high	25	5	11.48	13
eTDD 41 QPSK	low	25	5	9.68	13
eTDD 41 QPSK	mid	25	5	9.94	13
eTDD 41 QPSK	high	25	5	9.97	13
eTDD 41 16QAM	low	25	5	10.12	13
eTDD 41 16QAM	mid	25	5	10.29	13
eTDD 41 16QAM	high	25	5	10.14	13
eTDD 41 64QAM	low	25	5	10.41	13
eTDD 41 64QAM	mid	25	5	10.23	13
eTDD 41 64QAM	high	25	5	10.17	13
eFDD 66 QPSK	low	6	1.4	5.80	13
eFDD 66 QPSK	mid	6	1.4	6.00	13
eFDD 66 QPSK	high	6	1.4	5.83	13
eFDD 66 16QAM	low	6	1.4	5.94	13
eFDD 66 16QAM	mid	6	1.4	6.20	13
eFDD 66 16QAM	high	6	1.4	6.12	13
eFDD 66 64QAM	low	6	1.4	6.12	13
eFDD 66 64QAM	mid	6	1.4	6.32	13
eFDD 66 64QAM	high	6	1.4	6.17	13
eFDD 71 QPSK	high	25	5	5.62	13
eFDD 71 16QAM	low	25	5	6.03	13
eFDD 71 16QAM	mid	25	5	5.97	13
eFDD 71 16QAM	high	25	5	6.00	13
eFDD 71 64QAM	low	25	5	6.14	13
eFDD 71 64QAM	mid	25	5	6.06	13
eFDD 71 64QAM	high	25	5	6.06	13

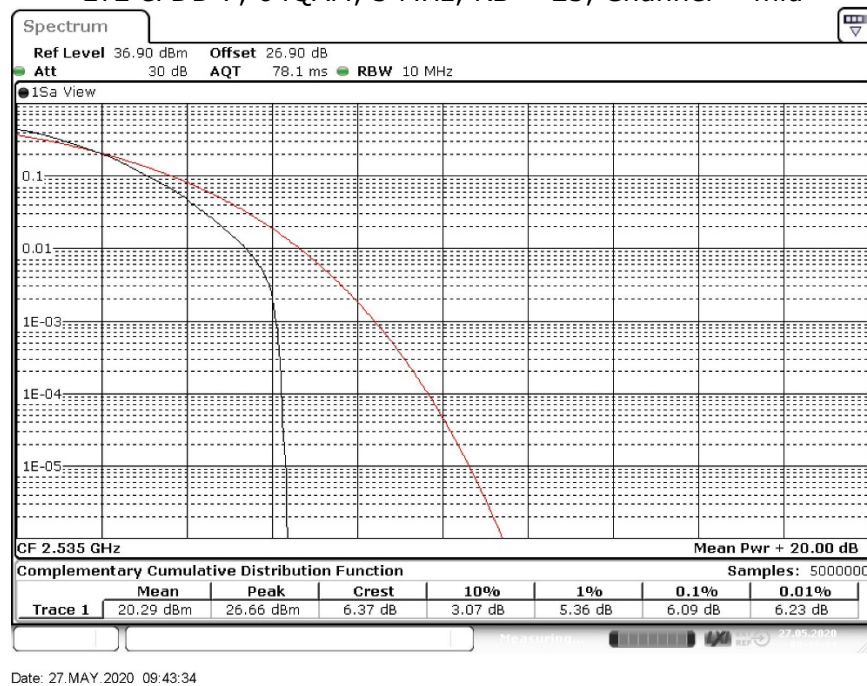
Remark: Please see next sub-clause for the measurement plot.

5.21.4 MEASUREMENT PLOT (SHOWING THE HIGHEST VALUE, "WORST CASE")

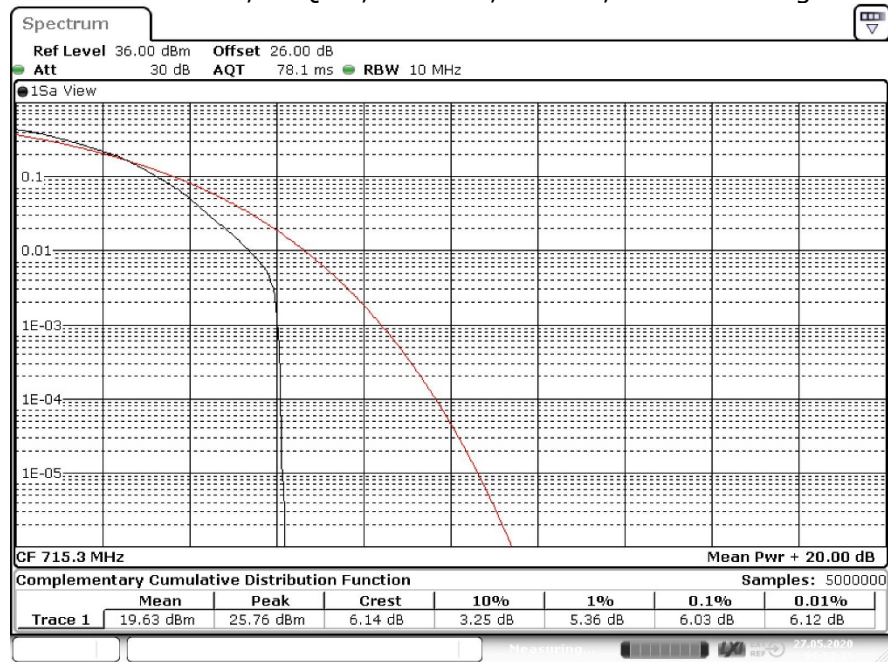
LTE eFDD 4, 64QAM, 1.4 MHz, RB = 6, Channel = high



LTE eFDD 7, 64QAM, 5 MHz, RB = 25, Channel = mid

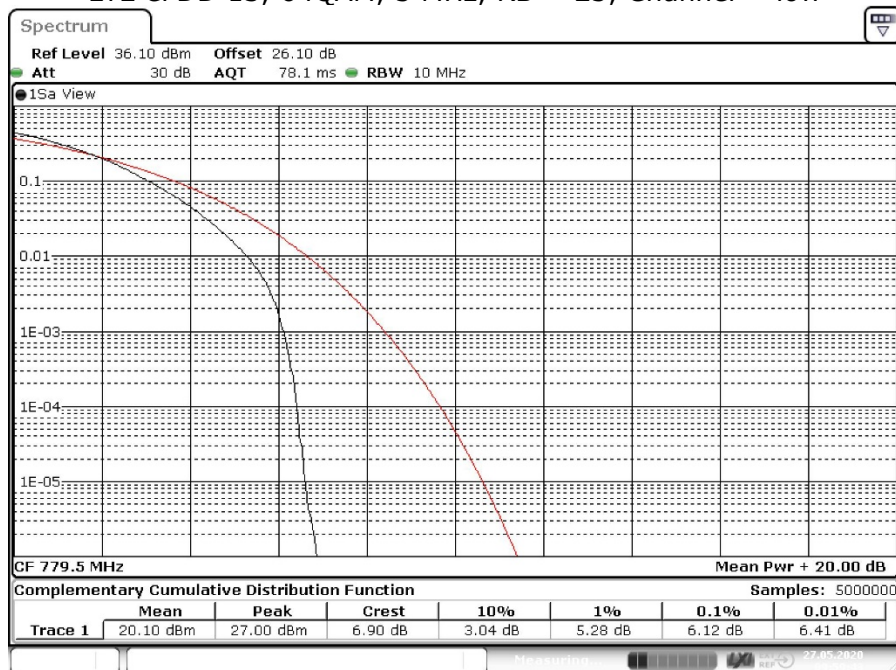


LTE eFDD 12, 64QAM, 1.4 MHz, RB = 6, Channel = high



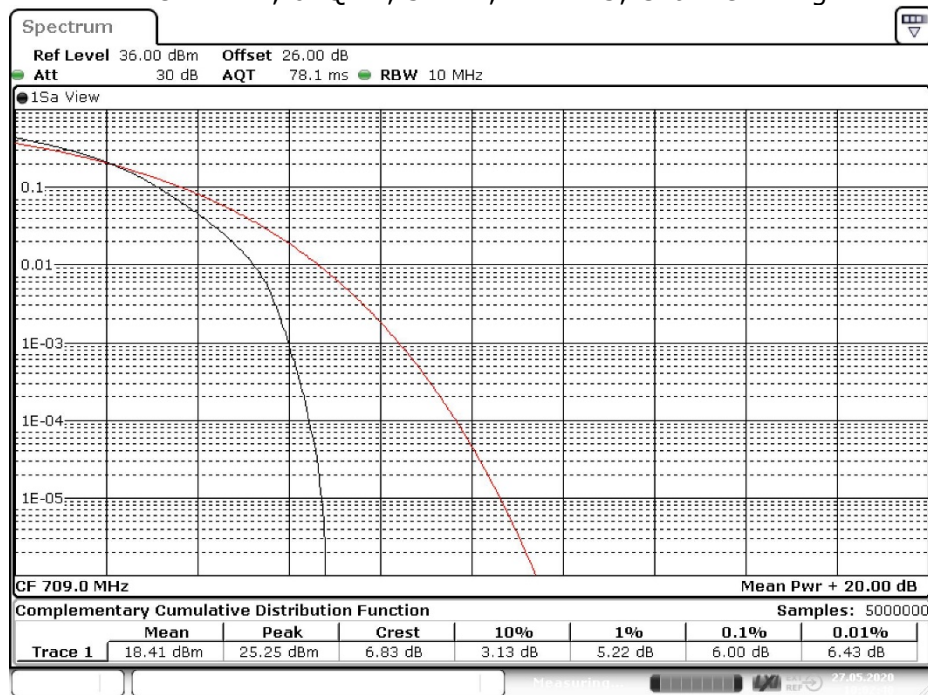
Date: 27.MAY.2020 09:53:33

LTE eFDD 13, 64QAM, 5 MHz, RB = 25, Channel = low



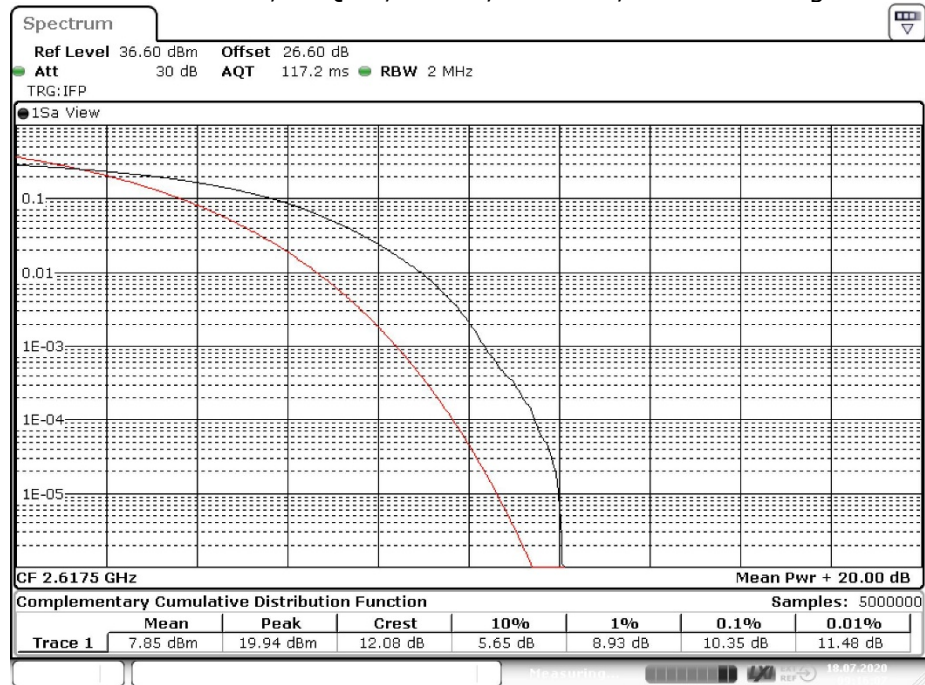
Date: 27.MAY.2020 09:59:43

LTE eFDD 17, 64QAM, 5 MHz, RB = 25, Channel = high



Date: 27.MAY.2020 10:02:40

LTE eTDD 38, 64QAM, 5 MHz, RB = 25, Channel = high

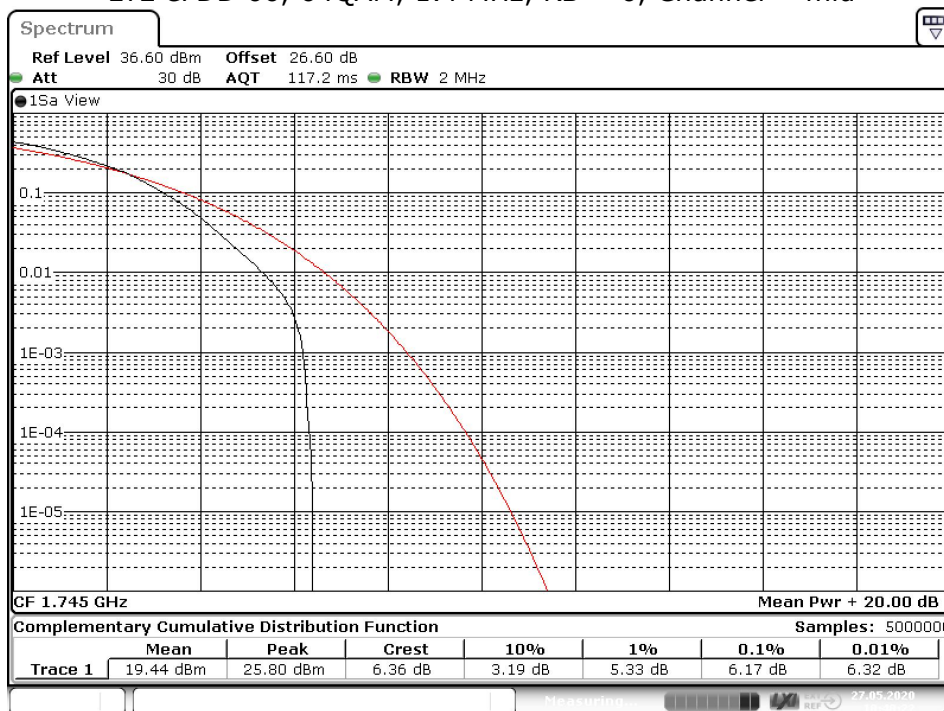


Date: 18.JUL.2020 09:16:07

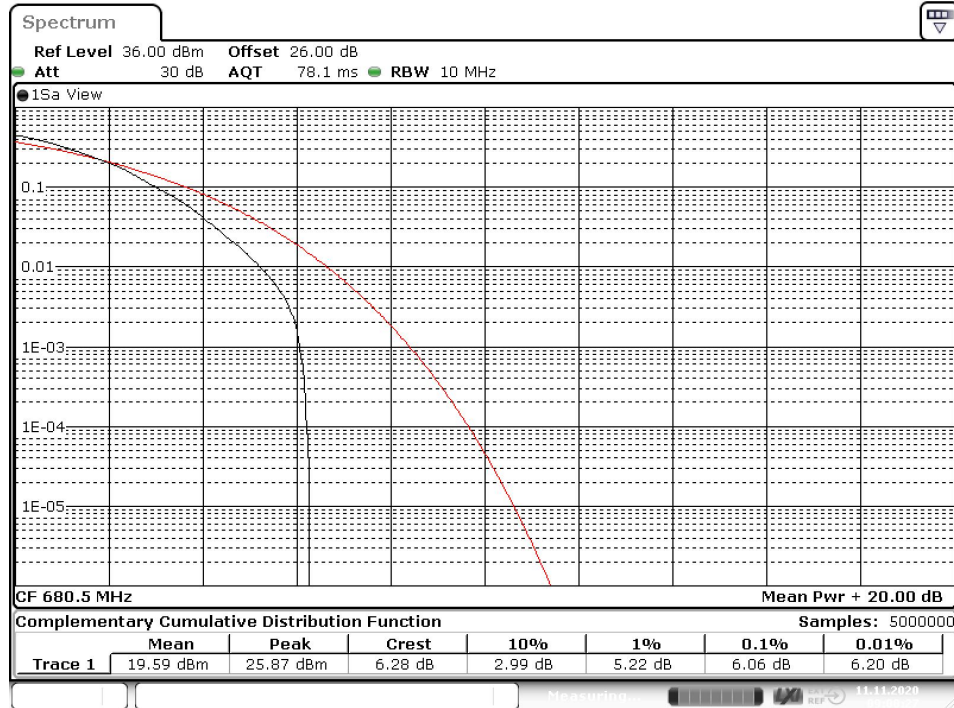
LTE eTDD 41, 64QAM, 5 MHz, RB = 25, Channel = low



LTE eFDD 66, 64QAM, 1.4 MHz, RB = 6, Channel = mid



LTE eFDD 71, 64QAM, 5 MHz, RB = 25, Channel = mid



Date: 11.NOV.2020 09:00:26

5.21.5 TEST EQUIPMENT USED

- Radio Lab

5.22 RF OUTPUT POWER

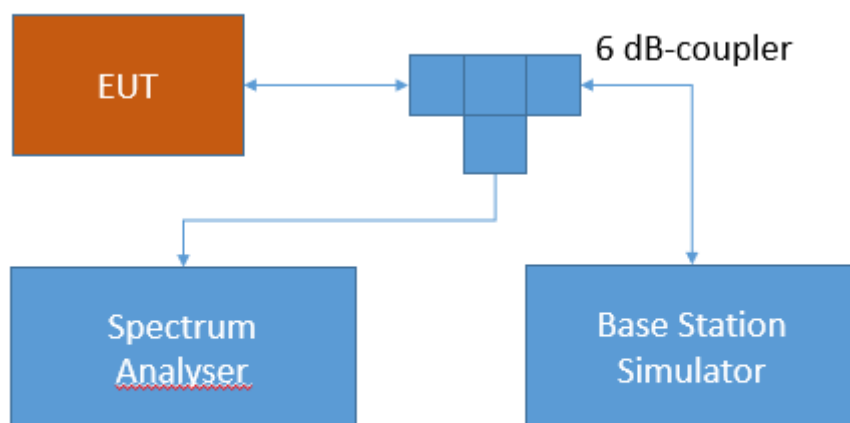
Standard **FCC PART 90 Subpart S**

The test was performed according to:
ANSI C63.26: 2015

5.22.1 TEST DESCRIPTION

This test case is intended to demonstrate compliance to the applicable RF Output power test case per § 2.1046 and RSS-GEN 6.12. The limit and the requirements come from the applicable rule part and ISSED RSS-Standard for the operating band of the cellular device.

The EUT was connected to the test setup according to the following diagram:



Test Setup FCC Part 22/24/27/90 Cellular;
RF Output power

The attenuation of the measuring and stimulus path are known for each measured frequency and are considered.

The Spectrum Analyzer settings can be directly found in the measurement diagrams.

5.22.2 TEST REQUIREMENTS / LIMITS

Part 90; PRIVATE LAND MOBILE RADIO SERVICES

Subpart S—Regulations Governing Licensing and Use of Frequencies in the 806-824, 851-869, 896-901, and 935-940 MHz Bands

§90.635 Limitations on power and antenna height.

(b) The maximum output power of the transmitter for mobile stations is 100 watts (20 dBw).

5.22.3 TEST PROTOCOL

Ambient temperature: 24 °C
Relative humidity: 38 %

Radio Technology	CH	Ressource Blocks	Bandwidth (MHz)	RMS Conducted Power (dBm)	FCC EIRP Limit (W)	IC EIRP Limit (W)	Maximum Antenna Gain FCC (dBi)	Maximum Antenna Gain IC (dBi)
eFDD 26 QPSK	low	1	1.4	24.10	1	1	5.90	5.90
eFDD 26 QPSK	low	3	1.4	23.82	1	1	6.18	6.18
eFDD 26 QPSK	low	6	1.4	22.79	1	1	7.21	7.21
eFDD 26 QPSK	mid	1	1.4	24.19	1	1	5.81	5.81
eFDD 26 QPSK	mid	3	1.4	23.75	1	1	6.25	6.25
eFDD 26 QPSK	mid	6	1.4	22.75	1	1	7.25	7.25
eFDD 26 QPSK	high	1	1.4	24.00	1	1	6.00	6.00
eFDD 26 QPSK	high	3	1.4	23.73	1	1	6.27	6.27
eFDD 26 QPSK	high	6	1.4	22.70	1	1	7.30	7.30
eFDD 26 16QAM	low	1	1.4	23.34	1	1	6.66	6.66
eFDD 26 16QAM	low	6	1.4	21.78	1	1	8.22	8.22
eFDD 26 16QAM	mid	1	1.4	23.21	1	1	6.79	6.79
eFDD 26 16QAM	mid	6	1.4	21.72	1	1	8.28	8.28
eFDD 26 16QAM	high	1	1.4	23.14	1	1	6.86	6.86
eFDD 26 16QAM	high	6	1.4	21.70	1	1	8.30	8.30
eFDD 26 64QAM	low	1	1.4	22.04	1	1	7.96	7.96
eFDD 26 64QAM	low	6	1.4	20.49	1	1	9.51	9.51
eFDD 26 64QAM	mid	1	1.4	21.95	1	1	8.05	8.05
eFDD 26 64QAM	mid	6	1.4	20.51	1	1	9.49	9.49
eFDD 26 64QAM	high	1	1.4	21.76	1	1	8.24	8.24
eFDD 26 64QAM	high	6	1.4	20.47	1	1	9.53	9.53
eFDD 26 256QAM	low	1	1.4	17.69	1	1	12.31	12.31
eFDD 26 256QAM	low	6	1.4	17.26	1	1	12.74	12.74
eFDD 26 256QAM	mid	1	1.4	17.55	1	1	12.45	12.45