



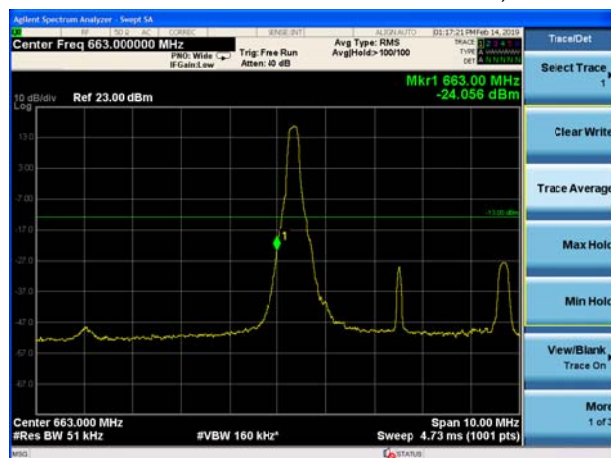
LTE Band 71 QPSK 20MHz CH-Low, 100%RB



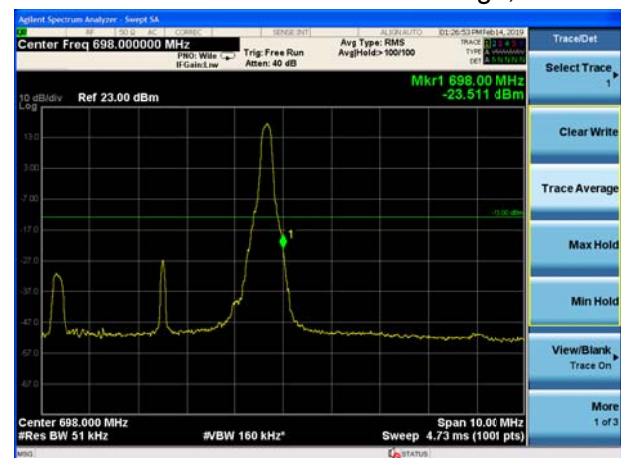
LTE Band 71 QPSK 20MHz CH-High, 100%RB



LTE Band 71 16QAM 5MHz CH-Low, 1 RB



LTE Band 71 16QAM 5MHz CH-High, 1 RB



LTE Band 71 16QAM 5MHz CH-Low, 100%RB

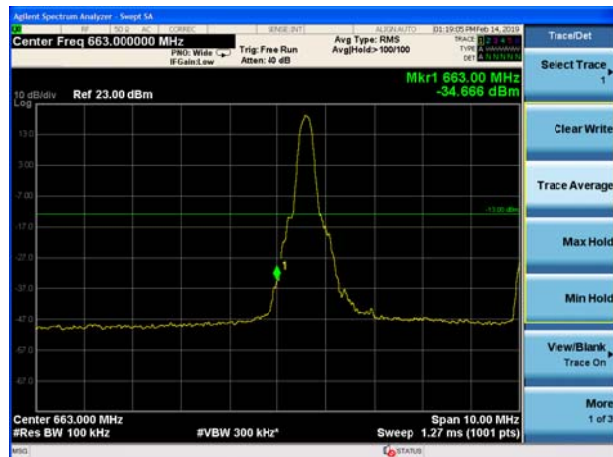


LTE Band 71 16QAM 5MHz CH-High, 100%RB

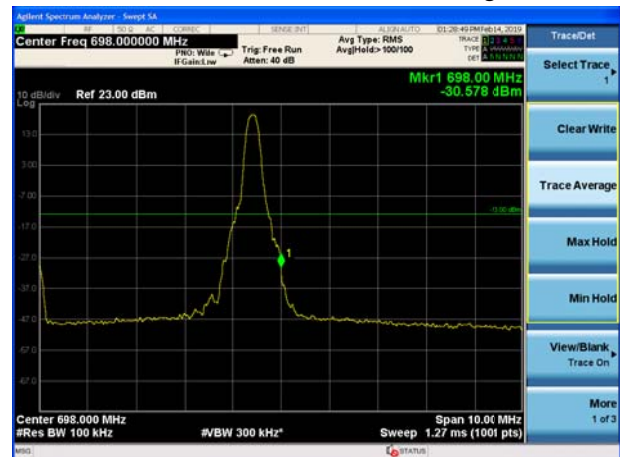




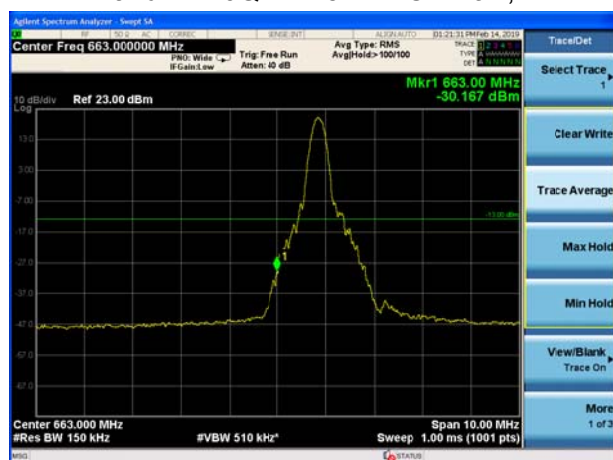
LTE Band 71 16QAM 10MHz CH-Low, 1 RB



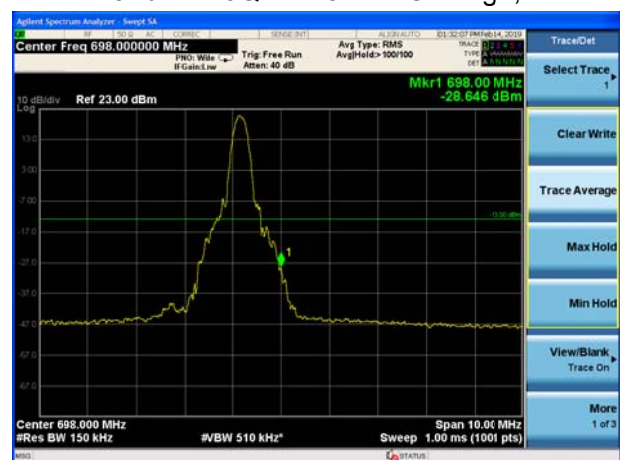
LTE Band 71 16QAM 10MHz CH-High, 1 RB



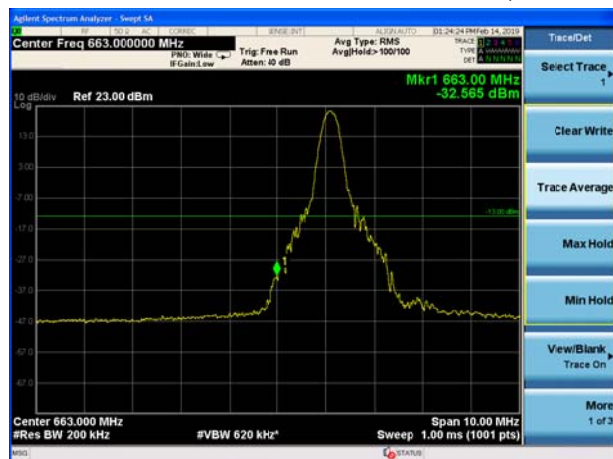
LTE Band 71 16QAM 15MHz CH-Low, 1 RB



LTE Band 71 16QAM 15MHz CH-High, 1 RB



LTE Band 71 16QAM 20MHz CH-Low, 1 RB



LTE Band 71 16QAM 20MHz CH-High, 1 RB



5.5 Peak-to-Average Power Ratio (PAPR)

Ambient condition

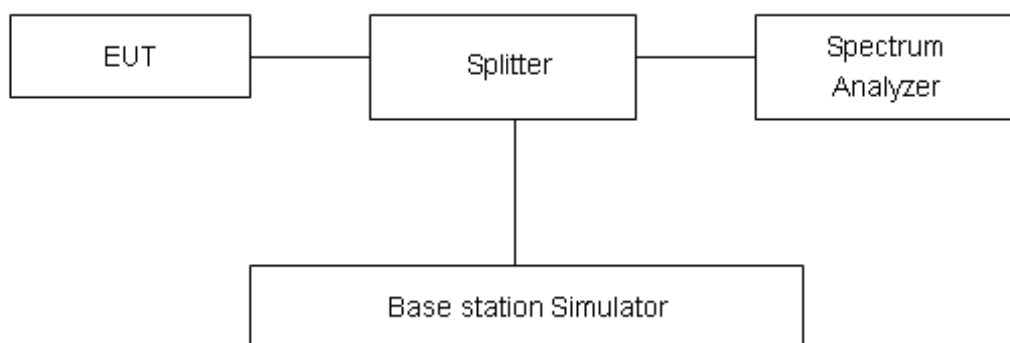
Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Methods of Measurement

Measure the total peak power and record as PPK. And measure the total average power and record as PAvg. Both the peak and average power levels must be expressed in the same logarithmic units (e.g., dBm). Determine the PAPR from:

$$\text{PAPR (dB)} = \text{PPk (dBm)} - \text{PAvg (dBm)}.$$

Test Setup



Limits

Rule Part 27.50(d)(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.

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = 2$, $U = 0.4$ dB.

Test Results

WCDMA Band IV	Channel	Frequency (MHz)	Peak (dBm)	Avg (dBm)	PAPR (dB)	Limit (dB)	Conclusion
RMC	1312	1712.4	26.21	22.95	3.26	≤13	PASS
	1413	1732.6	26.24	23.00	3.24	≤13	PASS
	1513	1752.6	26.34	23.14	3.20	≤13	PASS

LTE Band 4								
Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	Peak (dBm)	Avg (dBm)	PAPR (dB)	Limit (dB)	Conclusion
QPSK	1.4	19957	1710.7	25.24	21.07	4.17	≤13	PASS
		20175	1732.5	24.81	20.25	4.56	≤13	PASS
		20393	1754.3	25.16	20.58	4.58	≤13	PASS
	3	19965	1711.5	25.71	21.33	4.38	≤13	PASS
		20175	1732.5	25.65	21.22	4.43	≤13	PASS
		20385	1753.5	25.68	21.04	4.64	≤13	PASS
	5	19975	1712.5	25.74	21.20	4.54	≤13	PASS
		20175	1732.5	25.37	20.96	4.41	≤13	PASS
		20375	1752.5	25.95	21.40	4.55	≤13	PASS
	10	20000	1715	26.29	21.63	4.66	≤13	PASS
		20175	1732.5	25.83	21.49	4.34	≤13	PASS
		20350	1750	26.13	21.66	4.47	≤13	PASS
	15	20025	1717.5	26.19	21.89	4.30	≤13	PASS
		20175	1732.5	26.61	21.86	4.75	≤13	PASS
		20325	1747.5	25.80	21.49	4.31	≤13	PASS
	20	20050	1720	26.16	21.82	4.34	≤13	PASS
		20175	1732.5	26.40	21.56	4.84	≤13	PASS
		20300	1745	25.68	21.28	4.40	≤13	PASS
16QAM	1.4	19957	1710.7	25.18	20.07	5.11	≤13	PASS
		20175	1732.5	25.15	19.76	5.39	≤13	PASS
		20393	1754.3	25.43	20.06	5.37	≤13	PASS
	3	19965	1711.5	25.10	19.72	5.38	≤13	PASS
		20175	1732.5	25.78	20.59	5.19	≤13	PASS
		20385	1753.5	25.63	20.17	5.46	≤13	PASS
	5	19975	1712.5	25.45	19.95	5.50	≤13	PASS
		20175	1732.5	25.43	20.27	5.16	≤13	PASS
		20375	1752.5	26.14	20.80	5.34	≤13	PASS
	10	20000	1715	26.53	21.11	5.42	≤13	PASS
		20175	1732.5	26.01	20.82	5.19	≤13	PASS
		20350	1750	26.22	20.92	5.30	≤13	PASS



	15	20025	1717.5	26.18	21.08	5.10	≤13	PASS
		20175	1732.5	26.83	21.18	5.65	≤13	PASS
		20325	1747.5	25.77	20.66	5.11	≤13	PASS
	20	20050	1720	26.21	21.26	4.95	≤13	PASS
		20175	1732.5	26.22	20.47	5.75	≤13	PASS
		20300	1745	25.99	20.78	5.21	≤13	PASS

LTE Band 12								
Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	Peak (dBm)	Avg (dBm)	PAPR (dB)	Limit (dB)	Conclusion
QPSK	1.4	23017	699.7	27.83	23.43	4.40	≤13	PASS
		23095	707.5	27.56	23.16	4.40	≤13	PASS
		23173	715.3	27.08	23.32	3.76	≤13	PASS
	3	23025	700.5	27.87	23.30	4.57	≤13	PASS
		23095	707.5	27.49	23.07	4.42	≤13	PASS
		23165	714.5	26.73	22.87	3.86	≤13	PASS
	5	23035	701.5	27.45	22.90	4.55	≤13	PASS
		23095	707.5	27.32	22.97	4.35	≤13	PASS
		23155	713.5	26.80	22.87	3.93	≤13	PASS
	10	23060	704	27.27	22.94	4.33	≤13	PASS
		23095	707.5	27.36	22.95	4.41	≤13	PASS
		23130	711	26.90	22.91	3.99	≤13	PASS
16QAM	1.4	23017	699.7	27.77	22.43	5.34	≤13	PASS
		23095	707.5	27.75	22.54	5.21	≤13	PASS
		23173	715.3	26.96	22.14	4.82	≤13	PASS
	3	23025	700.5	27.62	22.18	5.44	≤13	PASS
		23095	707.5	27.51	22.21	5.30	≤13	PASS
		23165	714.5	26.60	21.69	4.91	≤13	PASS
	5	23035	701.5	27.09	21.56	5.53	≤13	PASS
		23095	707.5	27.36	22.23	5.13	≤13	PASS
		23155	713.5	26.81	22.11	4.70	≤13	PASS
	10	23060	704	27.20	22.01	5.19	≤13	PASS
		23095	707.5	27.66	22.44	5.22	≤13	PASS
		23130	711	26.97	22.14	4.83	≤13	PASS

LTE Band 13								
Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	Peak (dBm)	Avg (dBm)	PAPR (dB)	Limit (dB)	Conclusion
QPSK	5	23205	779.5	26.69	22.59	4.10	≤13	PASS
		23230	782	26.63	22.59	4.04	≤13	PASS



16QAM	10	23255	784.5	26.40	22.62	3.78	≤13	PASS
		23230	782	26.47	22.73	3.74	≤13	PASS
	5	23205	779.5	26.52	21.53	4.99	≤13	PASS
		23230	782	26.71	21.93	4.78	≤13	PASS
		23255	784.5	26.44	21.98	4.46	≤13	PASS
	10	23230	782	26.28	21.59	4.69	≤13	PASS

LTE Band 66								
Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	Peak (dBm)	Avg (dBm)	PAPR (dB)	Limit (dB)	Conclusion
QPSK	1.4	131979	1710.7	26.19	21.98	4.21	≤13	PASS
		132322	1745	25.44	21.16	4.28	≤13	PASS
		132665	1779.3	25.57	21.36	4.21	≤13	PASS
	3	131987	1711.5	26.05	21.60	4.45	≤13	PASS
		132322	1745	25.60	21.26	4.34	≤13	PASS
		132657	1778.5	25.33	21.19	4.14	≤13	PASS
	5	131997	1712.5	25.88	21.30	4.58	≤13	PASS
		132322	1745	25.75	21.42	4.33	≤13	PASS
		132647	1777.5	25.74	21.58	4.16	≤13	PASS
	10	132022	1715	26.05	21.23	4.82	≤13	PASS
		132322	1745	25.87	21.50	4.37	≤13	PASS
		132622	1775	25.56	21.48	4.08	≤13	PASS
	15	132047	1717.5	26.06	21.25	4.81	≤13	PASS
		132322	1745	25.66	21.37	4.29	≤13	PASS
		132597	1772.5	25.64	21.42	4.22	≤13	PASS
	20	132072	1720	25.94	21.18	4.76	≤13	PASS
		132322	1745	26.13	21.63	4.50	≤13	PASS
		132572	1770	25.71	21.68	4.03	≤13	PASS
16QAM	1.4	131979	1710.7	25.86	20.54	5.32	≤13	PASS
		132322	1745	25.61	20.41	5.20	≤13	PASS
		132665	1779.3	25.96	21.06	4.90	≤13	PASS
	3	131987	1711.5	25.46	20.05	5.41	≤13	PASS
		132322	1745	25.45	20.28	5.17	≤13	PASS
		132657	1778.5	25.29	20.20	5.09	≤13	PASS
	5	131997	1712.5	25.24	19.72	5.52	≤13	PASS
		132322	1745	25.83	20.68	5.15	≤13	PASS
		132647	1777.5	25.78	20.94	4.84	≤13	PASS
	10	132022	1715	25.63	20.09	5.54	≤13	PASS
		132322	1745	25.92	20.75	5.17	≤13	PASS



	15	132622	1775	25.75	20.89	4.86	≤13	PASS
		132047	1717.5	25.57	20.34	5.23	≤13	PASS
		132322	1745	25.67	20.61	5.06	≤13	PASS
	20	132597	1772.5	26.02	20.93	5.09	≤13	PASS
		132072	1720	25.59	20.02	5.57	≤13	PASS
		132322	1745	26.40	21.21	5.19	≤13	PASS
		132572	1770	25.76	20.83	4.93	≤13	PASS

LTE Band 71								
Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	Peak (dBm)	Avg (dBm)	PAPR (dB)	Limit (dB)	Conclusion
QPSK	5	133147	665.5	26.41	22.76	3.65	≤13	PASS
		133297	680.5	26.92	22.87	4.05	≤13	PASS
		133447	695.5	27.33	23.03	4.30	≤13	PASS
	10	133172	668	26.72	23.11	3.61	≤13	PASS
		133297	680.5	26.90	23.03	3.87	≤13	PASS
		133422	693	27.33	23.08	4.25	≤13	PASS
	15	133197	670.5	26.49	22.74	3.75	≤13	PASS
		133297	680.5	26.66	22.76	3.90	≤13	PASS
		133397	690.5	26.73	22.71	4.02	≤13	PASS
	20	133222	673	26.72	22.64	4.08	≤13	PASS
		133322	683	26.58	22.29	4.29	≤13	PASS
		133372	688	27.14	22.98	4.16	≤13	PASS
16QAM	5	133147	665.5	26.35	21.74	4.61	≤13	PASS
		133297	680.5	26.92	22.17	4.75	≤13	PASS
		133447	695.5	27.08	21.87	5.21	≤13	PASS
	10	133172	668	26.46	21.79	4.67	≤13	PASS
		133297	680.5	27.05	22.54	4.51	≤13	PASS
		133422	693	26.89	21.67	5.22	≤13	PASS
	15	133197	670.5	26.46	21.84	4.62	≤13	PASS
		133297	680.5	26.80	22.11	4.69	≤13	PASS
		133397	690.5	26.65	21.71	4.94	≤13	PASS
	20	133222	673	26.75	21.87	4.88	≤13	PASS
		133322	683	26.74	21.61	5.13	≤13	PASS
		133372	688	27.04	21.78	5.26	≤13	PASS

5.6 Frequency Stability

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

Frequency Stability (Temperature Variation)

The temperature inside the climate chamber is varied from -40°C to +85°C in 10°C step size.

(1) With all power removed, the temperature was decreased to -10°C and permitted to stabilize for three hours.

(2) Measure the carrier frequency with the test equipment in a “call mode”. These measurements should be made within 1 minute of powering up the mobile station, to prevent significant self warming.

(3) Repeat the above measurements at 10°C increments from -40°C to +85°C. Allow at least 1.5 hours at each temperature, un-powered, before making measurements.

Frequency Stability (Voltage Variation)

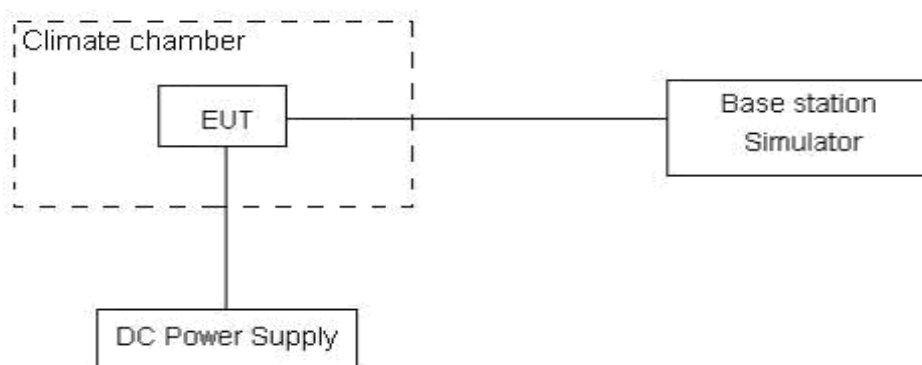
The frequency stability shall be measured with variation of primary supply voltage as follows:

(1) Vary primary supply voltage from 85 to 115 percent of the nominal value for other than hand carried battery equipment.

(2) For hand carried, battery powered equipment, reduce primary supply voltage to the battery-operating end point which shall be specified by the manufacturer.

This transceiver is specified to operate with an input voltage of between 3.3 V and 4.35V, with a nominal voltage of 3.8V.

Test setup



Limits

The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation.

Measurement Uncertainty

The assessed measurement uncertainty to ensure 99.75% confidence level for the normal distribution is with the coverage factor $k = 3$, $U=0.01\text{ppm}$.

Test Result

WCDMA Band IV					
Condition		Freq.Error (Hz)		Frequency Stability (ppm)	
Temperature	Voltage	QPSK		QPSK	
Normal (25°C)	Normal	15.98		0.00850	
Normal (85°C)		9.69		0.00516	
Normal (80°C)		7.25		0.00386	
Normal (70°C)		11.63		0.00619	
Extreme (60°C)		13.95		0.00742	
Extreme (50°C)		8.64		0.00460	
Extreme (40°C)		5.00		0.00266	
Extreme (30°C)		3.73		0.00199	
Extreme (20°C)		9.99		0.00531	
Extreme (10C)		7.37		0.00392	
Extreme (0°C)		15.47		0.00823	
Extreme (-10°C)		6.24		0.00332	
Extreme (-20°C)		5.28		0.00281	
Extreme (-30°C)		13.50		0.00718	
Extreme (-40°C)		12.08		0.00642	
25°C	LV	5.12		0.00272	
	HV	12.63		0.00672	

LTE Band 4 (20MHz BANDWIDTH)					
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK
Normal (25°C)	Normal	16.66	15.21	0.00886	0.00809
Normal (85°C)		9.71	12.62	0.00516	0.00671
Normal (80°C)		5.07	15.66	0.00270	0.00833
Normal (70°C)		16.97	17.96	0.00903	0.00955
Extreme (60°C)		16.62	4.64	0.00884	0.00247
Extreme (50°C)		10.43	16.33	0.00555	0.00868
Extreme (40°C)		9.24	16.00	0.00491	0.00851
Extreme (30°C)		9.92	14.93	0.00528	0.00794
Extreme (20°C)		7.61	3.92	0.00405	0.00209
Extreme (10C)		16.12	14.42	0.00858	0.00767



Extreme (0°C)		17.96	13.17	0.00955	0.00700
Extreme (-10°C)		4.83	5.22	0.00257	0.00278
Extreme (-20°C)		9.86	14.05	0.00525	0.00747
Extreme (-30°C)		2.89	3.03	0.00154	0.00161
Extreme (-40°C)		7.83	14.96	0.00416	0.00796
25°C	LV	5.33	6.16	0.00283	0.00328
	HV	1.91	16.31	0.00102	0.00867

LTE Band 12(10MHz BANDWIDTH)					
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK
Normal (25°C)	Normal	11.24	10.41	0.00598	0.00554
Normal (85°C)		4.22	6.46	0.00225	0.00344
Normal (80°C)		3.56	14.63	0.00189	0.00778
Normal (70°C)		8.76	13.86	0.00466	0.00737
Extreme (60°C)		16.29	1.64	0.00866	0.00087
Extreme (50°C)		3.50	9.63	0.00186	0.00512
Extreme (40°C)		14.14	10.27	0.00752	0.00546
Extreme (30°C)		1.79	3.11	0.00095	0.00165
Extreme (20°C)		11.07	2.27	0.00589	0.00121
Extreme (10C)		10.91	14.47	0.00580	0.00770
Extreme (0°C)		15.22	3.99	0.00809	0.00212
Extreme (-10°C)		1.44	8.88	0.00077	0.00472
Extreme (-20°C)		8.36	3.60	0.00445	0.00191
Extreme (-30°C)		5.07	8.12	0.00270	0.00432
Extreme (-40°C)		4.81	7.51	0.00256	0.00400
25°C	LV	14.93	8.29	0.00794	0.00441
	HV	12.57	10.44	0.00669	0.00556

LTE Band 13(10MHz BANDWIDTH)					
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK
Normal (25°C)	Normal	3.24	11.89	0.00172	0.00632
Normal (85°C)		13.50	17.25	0.00718	0.00918



Normal (80°C)		5.88	10.14	0.00313	0.00539
Normal (70°C)		4.05	10.53	0.00215	0.00560
Extreme (60°C)		15.44	10.18	0.00822	0.00542
Extreme (50°C)		12.49	10.53	0.00664	0.00560
Extreme (40°C)		8.42	6.18	0.00448	0.00329
Extreme (30°C)		14.40	17.93	0.00766	0.00954
Extreme (20°C)		7.64	1.58	0.00406	0.00084
Extreme (10C)		8.67	4.23	0.00461	0.00225
Extreme (0°C)		6.92	17.17	0.00368	0.00913
Extreme (-10°C)		14.42	7.93	0.00767	0.00422
Extreme (-20°C)		13.72	1.29	0.00730	0.00069
Extreme (-30°C)		10.49	9.09	0.00558	0.00484
Extreme (-40°C)		3.73	1.40	0.00199	0.00075
25°C	LV	8.19	16.90	0.00436	0.00899
	HV	13.71	7.21	0.00729	0.00384

LTE Band 66(20MHz BANDWIDTH)					
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK
Normal (25°C)	Normal	12.39	11.55	0.00659	0.00614
Normal (85°C)		9.91	5.68	0.00527	0.00302
Normal (80°C)		10.76	3.66	0.00572	0.00195
Normal (70°C)		9.16	2.61	0.00487	0.00139
Extreme (60°C)		1.39	10.06	0.00074	0.00535
Extreme (50°C)		3.30	10.17	0.00175	0.00541
Extreme (40°C)		13.61	11.70	0.00724	0.00622
Extreme (30°C)		8.39	10.68	0.00446	0.00568
Extreme (20°C)		16.80	13.90	0.00894	0.00740
Extreme (10C)		6.09	2.60	0.00324	0.00138
Extreme (0°C)		15.41	13.70	0.00819	0.00729
Extreme (-10°C)		9.31	4.98	0.00495	0.00265
Extreme (-20°C)		12.93	17.82	0.00688	0.00948
Extreme (-30°C)		5.20	2.78	0.00276	0.00148
Extreme (-40°C)		7.79	7.39	0.00415	0.00393
25°C	LV	16.51	14.60	0.00878	0.00777
	HV	3.62	9.56	0.00193	0.00509



LTE Band 71(20MHz BANDWIDTH)					
Condition		Freq.Error (Hz)	Freq.Error (Hz)	Frequency Stability (ppm)	Frequency Stability (ppm)
Temperature	Voltage	16QAM	QPSK	16QAM	QPSK
Normal (25°C)	Normal	6.30	9.25	0.00335	0.00492
Normal (85°C)		11.04	15.49	0.00587	0.00824
Normal (80°C)		2.62	11.13	0.00139	0.00592
Normal (70°C)		13.10	13.70	0.00697	0.00729
Extreme (60°C)		14.82	7.03	0.00788	0.00374
Extreme (50°C)		9.54	10.00	0.00508	0.00532
Extreme (40°C)		9.55	17.24	0.00508	0.00917
Extreme (30°C)		8.26	14.08	0.00439	0.00749
Extreme (20°C)		17.67	3.53	0.00940	0.00188
Extreme (10C)		2.23	7.35	0.00118	0.00391
Extreme (0°C)		17.78	7.70	0.00946	0.00409
Extreme (-10°C)		14.87	7.01	0.00791	0.00373
Extreme (-20°C)		10.43	13.49	0.00555	0.00718
Extreme (-30°C)		15.63	15.57	0.00831	0.00828
Extreme (-40°C)		2.19	8.23	0.00116	0.00438
25°C	LV	11.50	11.63	0.00612	0.00618
	HV	6.49	8.91	0.00345	0.00474

5.7 Spurious Emissions at Antenna Terminals

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

The EUT was connected to Spectrum Analyzer and Base Station Simulator via power Splitter. The measurement is carried out using a spectrum analyzer. The spectrum analyzer scans from 9kHz to the 10th harmonic of the carrier. The peak detector is used.

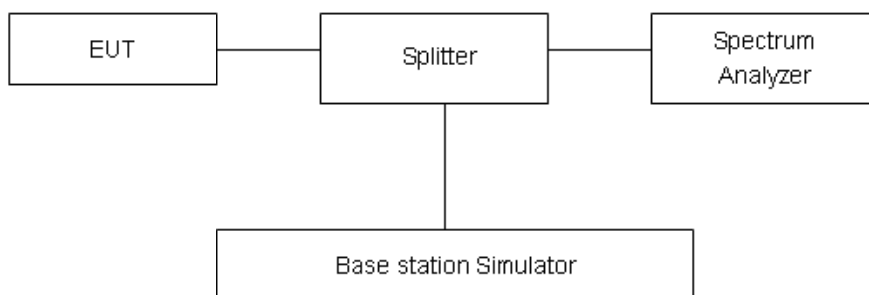
RBW is set to 100kHz, VBW is set to 300kHz for 30MHz~1GHz

RBW is set to 1MHz, VBW is set to 3MHz for above 1GHz, Sweep is set to ATUO.

Of those disturbances below (limit – 20 dB), the mark is not required for the EUT.

The modulation mode and RB allocation refer to section 5.1, using the maximum output power configuration.

Test setup



Limits

Rule Part 27.53(h) specifies that “for operations 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 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10} (P)$ dB..”

Rule Part 27.53 (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.

Rule Part 27.53(f) For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically

radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

Part 27.53 (c) 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 $76 + 10 \log (P)$ dB in a 6.25 kHz band segment, for base and fixed stations;
- (4) 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;
- (5) 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;

Part 27.53 (h)/(g) Limit		-13 dBm
Part 27.53(f) Limit	Limit out of the band 1559-1610 MHz	-13 dBm
	Limit in the band 1559-1610 MHz	-40 dBm

Measurement Uncertainty

The assessed measurement uncertainty to ensure 99.75% confidence level for the normal distribution is with the coverage factor $k = 1.96$.

Frequency	Uncertainty
9kHz-1GHz	0.684 dB
1GHz-27GHz	1.407 dB

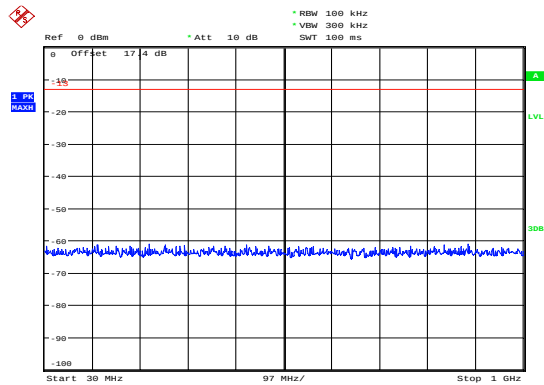


Test Result

Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier, the emissions more than 20 dB below the limit are not reported.

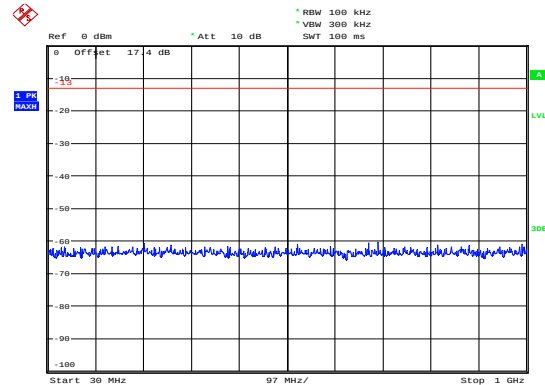
The signal beyond the limit is carrier.

WCDMA Band IV CH-Low 30MHz~1GHz



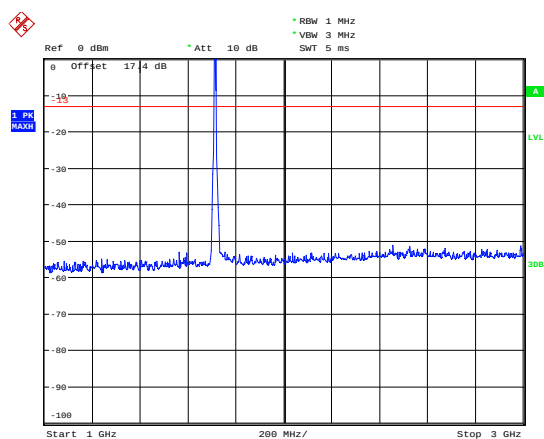
Date: 11.FEB.2019 09:57:26

WCDMA Band IV CH- Middle 30MHz~1GHz



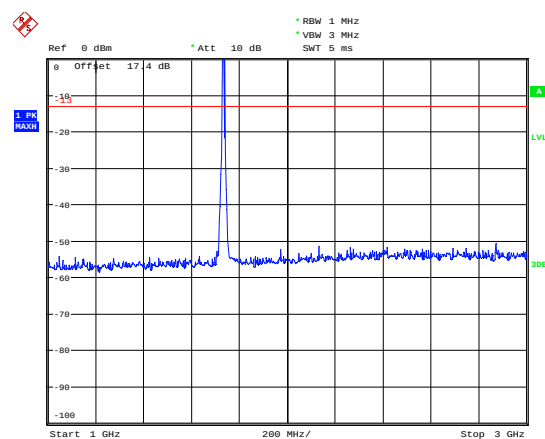
Date: 11.FEB.2019 09:57:49

WCDMA Band IV CH- Low 1GHz~3GHz



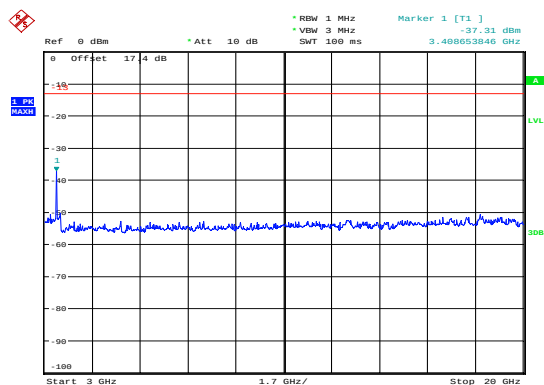
Date: 11.FEB.2019 09:56:21

WCDMA Band IV CH-Middle 1GHz~3GHz



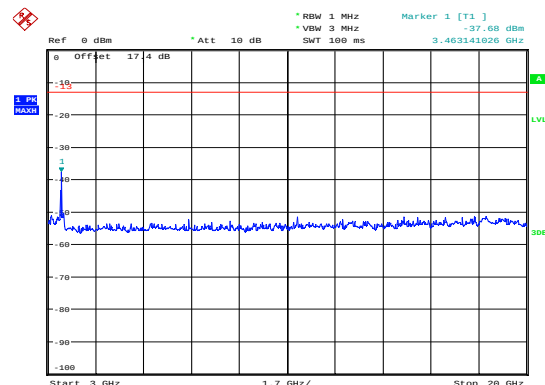
Date: 11.FEB.2019 09:56:04

WCDMA Band IV CH Low 3GHz~20GHz



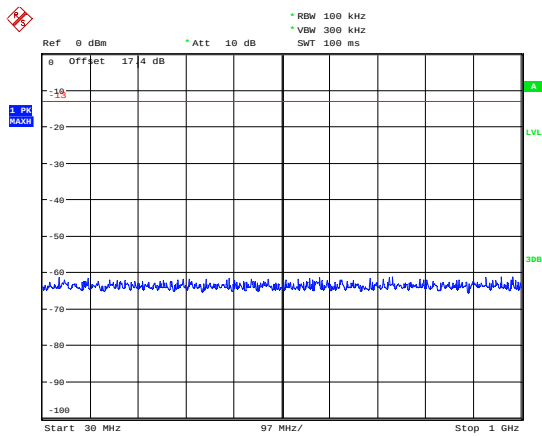
Date: 11.FEB.2019 09:54:37

WCDMA Band IV CH- Middle 3GHz~20GHz



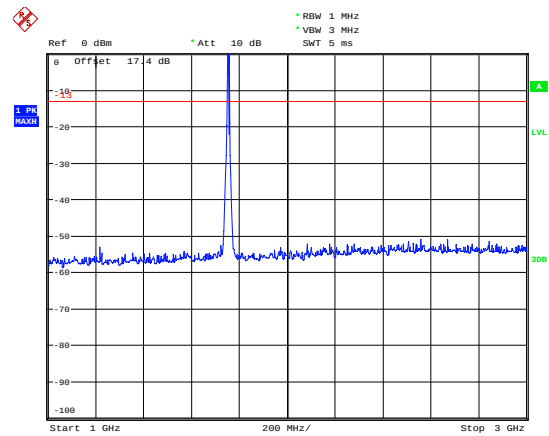
Date: 11.FEB.2019 09:55:02

WCDMA Band IV CH- High 30MHz~1GHz



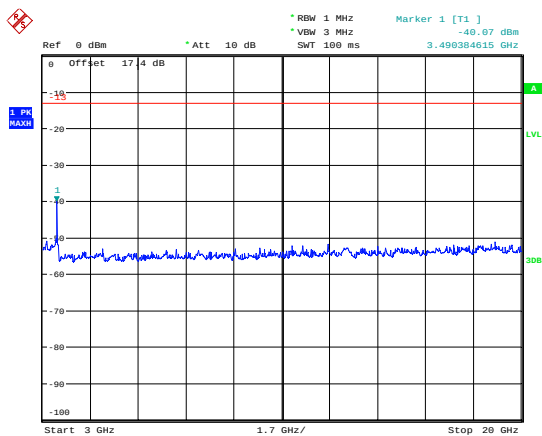
Date: 11.FEB.2019 09:58:08

WCDMA Band IV CH- High 1GHz~3GHz



Date: 11.FEB.2019 09:55:43

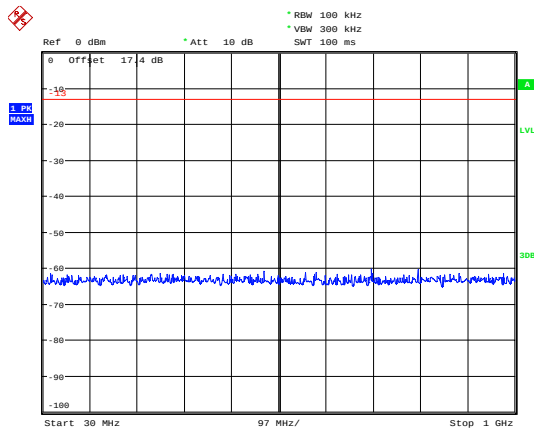
WCDMA Band IV CH- High 3GHz~20GHz



Date: 11.FEB.2019 09:55:24

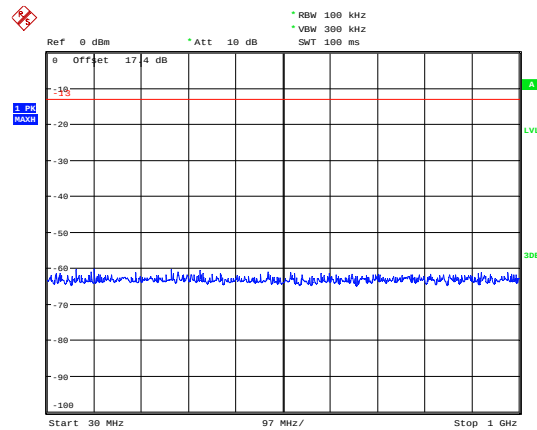


LTE Band 4 1.4MHz CH-Low 30MHz~1GHz



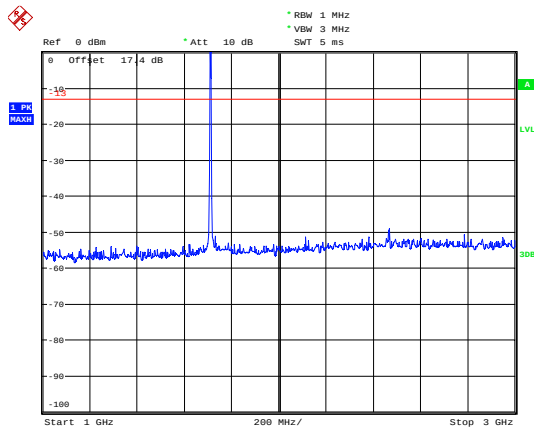
Date: 16.FEB.2019 14:59:20

LTE Band 4 1.4MHz CH-Middle 30MHz~1GHz



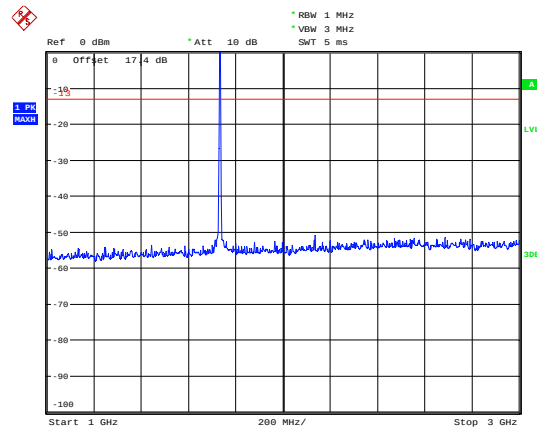
Date: 16.FEB.2019 14:59:32

LTE Band 4 1.4MHz CH-Low 1GHz~3GHz



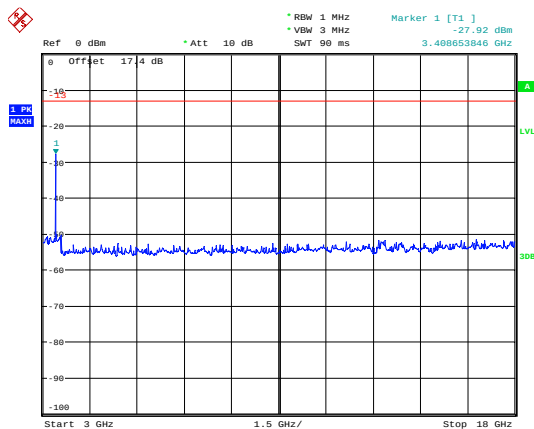
Date: 16.FEB.2019 15:00:31

LTE Band 4 1.4MHz CH-Middle 1GHz~3GHz



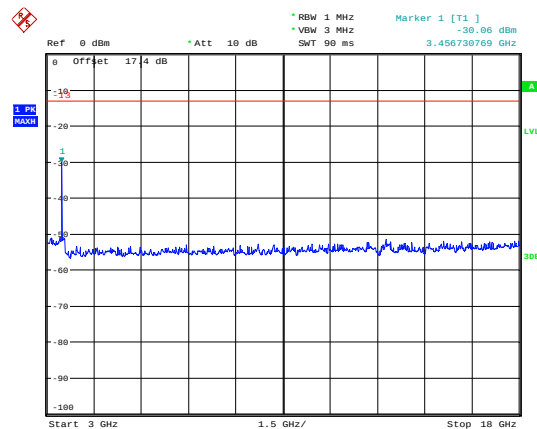
Date: 16.FEB.2019 15:00:15

LTE Band 4 1.4MHz CH-Low 3GHz~18GHz



Date: 16.FEB.2019 15:01:02

LTE Band 4 1.4MHz CH-Middle 3GHz~18GHz

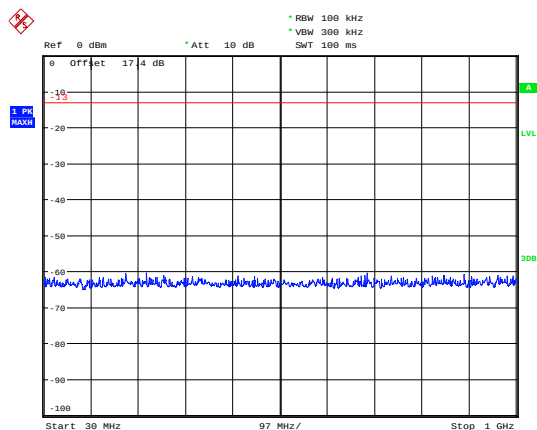


Date: 16.FEB.2019 15:01:16



Report No: R1901A0050-R2

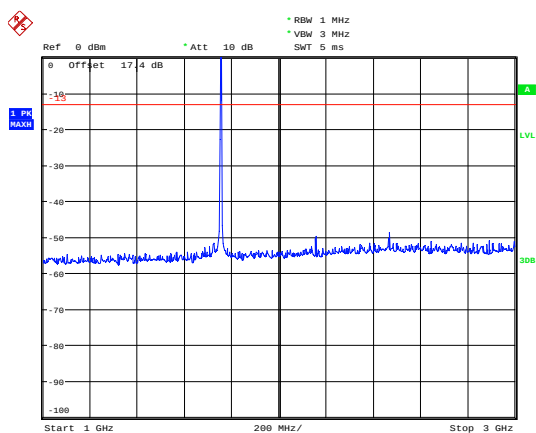
LTE Band 4 3MHz CH-Low 30MHz~1GHz



Date: 16.FEB.2019 14:59:47

Date: 16.FEB.2019 15:07:32

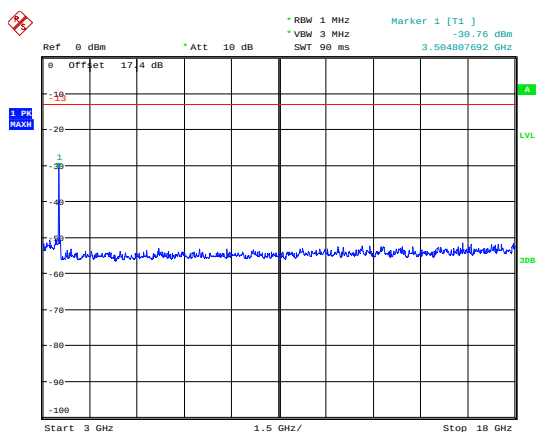
LTE Band 4 3MHz CH-Low 1GHz~3GHz



Date: 16.FEB.2019 15:00:01

Date: 16.FEB.2019 15:07:16

LTE Band 4 3MHz CH-Low 3GHz~18GHz



Date: 16.FEB.2019 15:02:01

Ref 0 dBm Att 10 dB

* RBW 1 MHz * VBW 3 MHz * SWT 90 ms

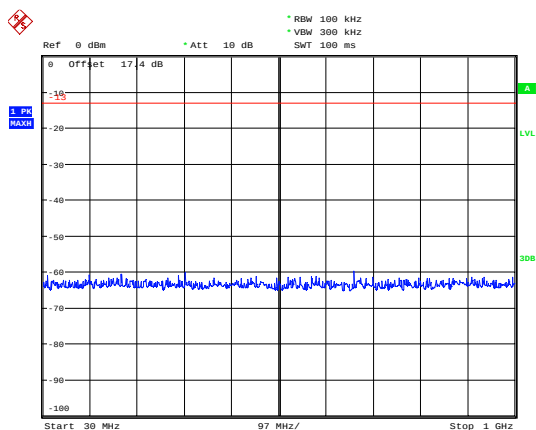
Marker 1 [T1] -20.50 dBm 3.408653846 GHz

1 PK MAX!

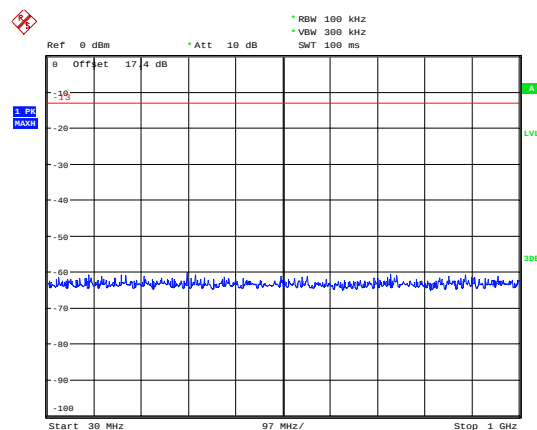
Start 3 GHz 1.5 GHz/ Stop 16 GHz

Date: 16.FEB.2019 15:02:36

LTE Band 4 3MHz CH-High 30MHz~1GHz

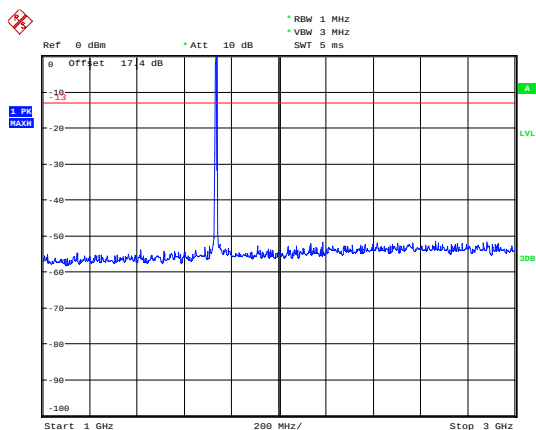


Date: 16.FEB.2019 15:07:43



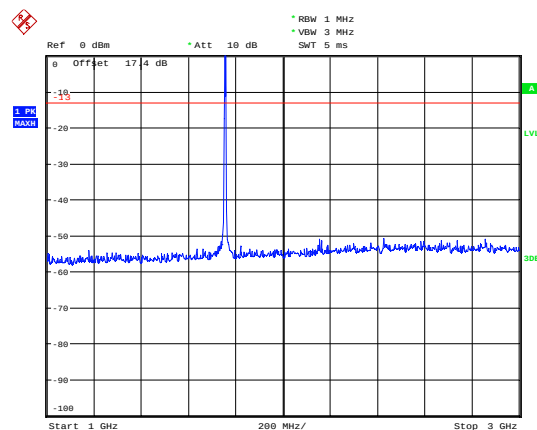
Date: 16.FEB.2019 15:07:54

LTE Band 4 3MHz CH-Middle 1GHz~3GHz



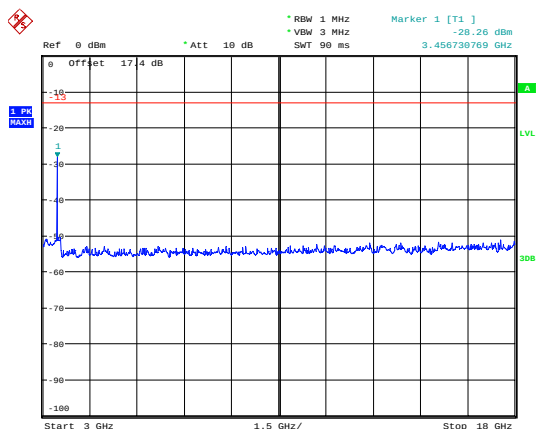
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LTE Band 4 3MHz CH-High 1GHz~3GHz



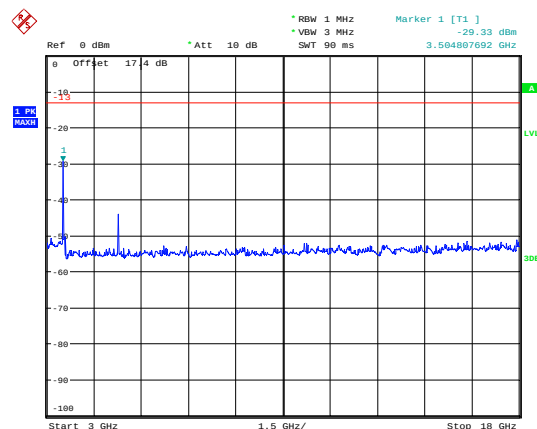
Date: 16.FEB.2019 15:06:55

LTE Band 4 3MHz CH-Middle 3GHz~18GHz



Date: 16.FEB.2019 15:02:52

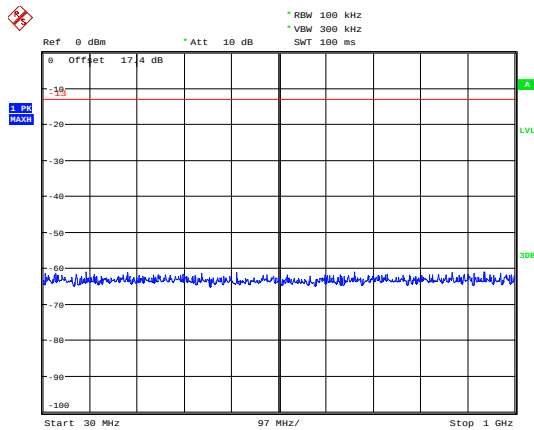
LTE Band 4 3MHz CH-High 3GHz~18GHz



Date: 16.FEB.2019 15:06:37

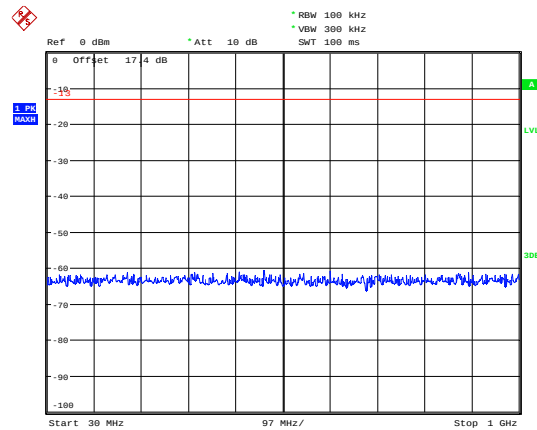


LTE Band 4 5MHz CH-Low 30MHz~1GHz



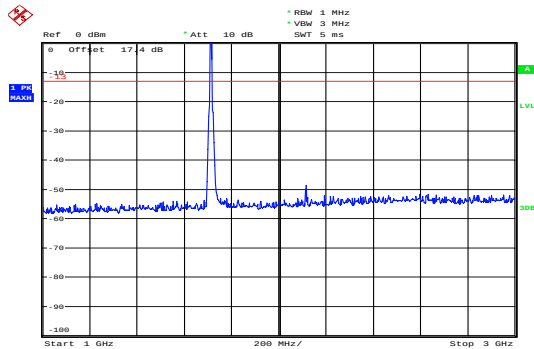
Date: 16.FEB.2019 15:18:12

LTE Band 4 5MHz CH-Middle 30MHz~1GHz



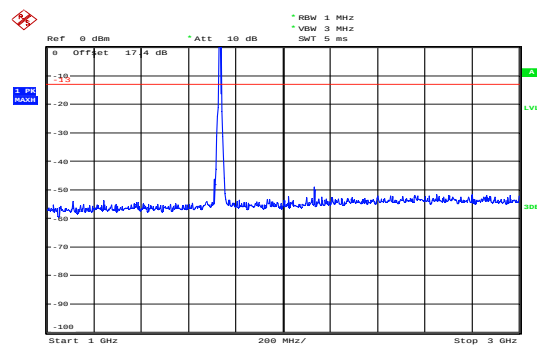
Date: 16.FEB.2019 15:18:23

LTE Band 4 5MHz CH-Low 1GHz~3GHz



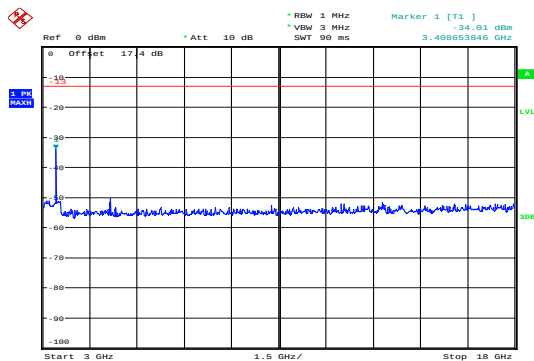
Date: 16.FEB.2019 15:19:09

LTE Band 4 5MHz CH-Middle 1GHz~3GHz



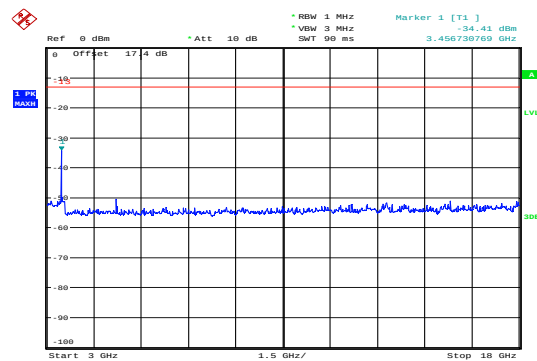
Date: 16.FEB.2019 15:18:56

LTE Band 4 5MHz CH-Low 3GHz~18GHz



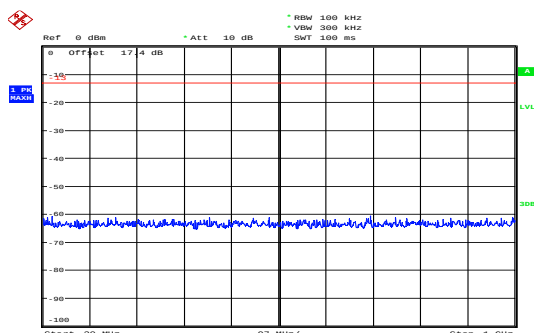
Date: 16.FEB.2019 15:19:25

LTE Band 4 5MHz CH-Middle 3GHz~18GHz



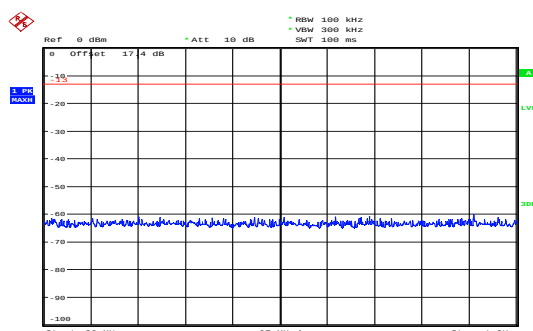
Date: 16.FEB.2019 15:19:38

LTE Band 4 5MHz CH-High 30MHz~1GHz



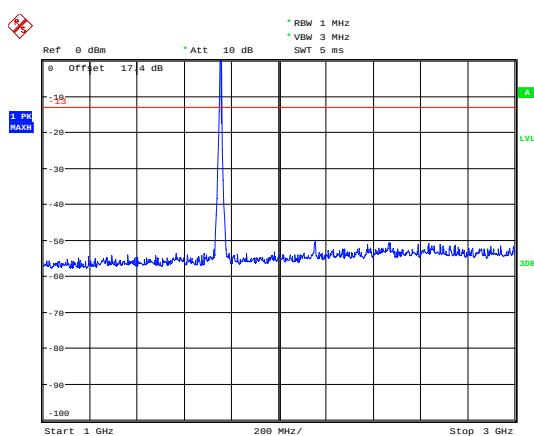
Date: 16 FEB 2019 15:18:36

LTE Band 4 10MHz CH-Low 30MHz~1GHz



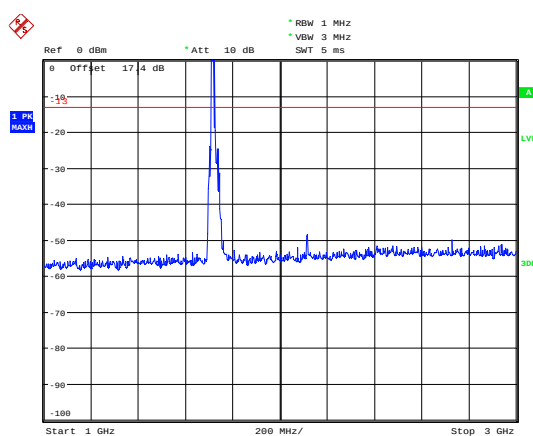
Date: 16.FEB.2019 15:23:26

LTE Band 4 5MHz CH-High 1GHz~3GHz



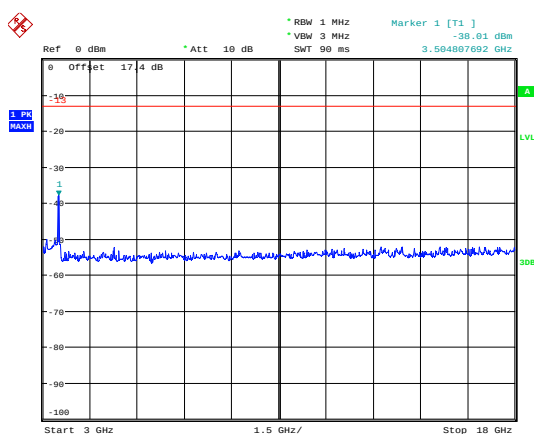
Date: 16.FEB.2019 15:18:47

LTE Band 4 10MHz CH-Low 1GHz~3GHz



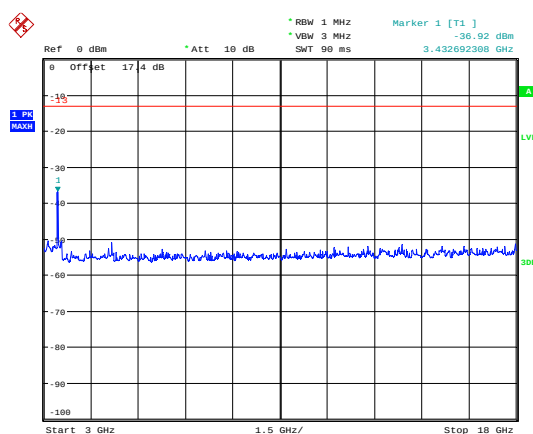
Date: 16.FEB.2019 15:21:47

LTE Band 4 5MHz CH-High 3GHz~18GHz



Date: 16.FEB.2019 15:19:51

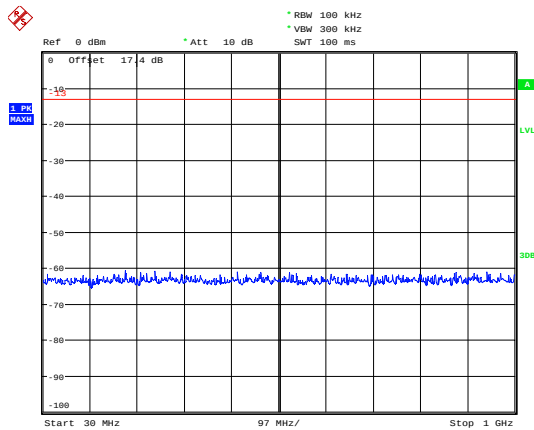
LTE Band 4 10MHz CH-Low 3GHz~18GHz



Date: 16.FEB.2019 15:20:22

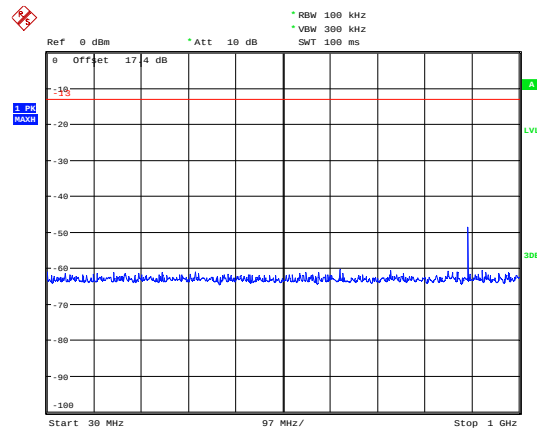


LTE Band 4 10MHz CH-Middle 30MHz~1GHz



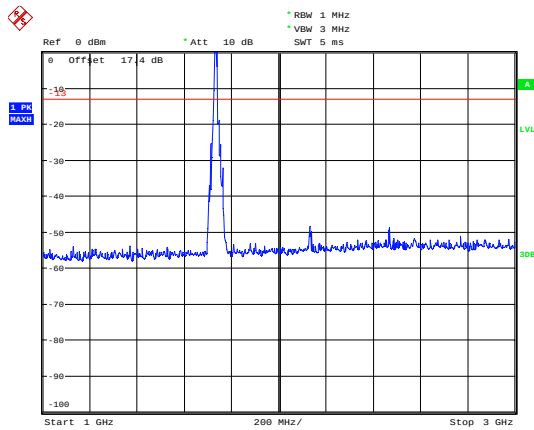
Date: 16.FEB.2019 15:23:13

LTE Band 4 10MHz CH-High 30MHz~1GHz



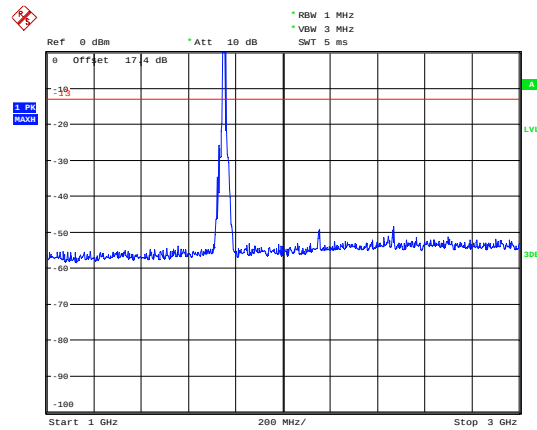
Date: 16.FEB.2019 15:23:04

LTE Band 4 10MHz CH-Middle 1GHz~3GHz



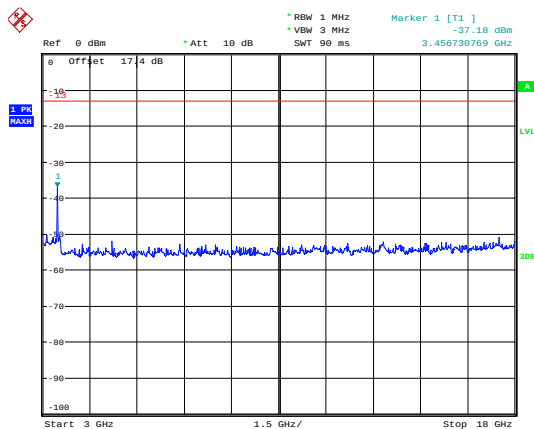
Date: 16.FEB.2019 15:22:33

LTE Band 4 10MHz CH-High 1GHz~3GHz



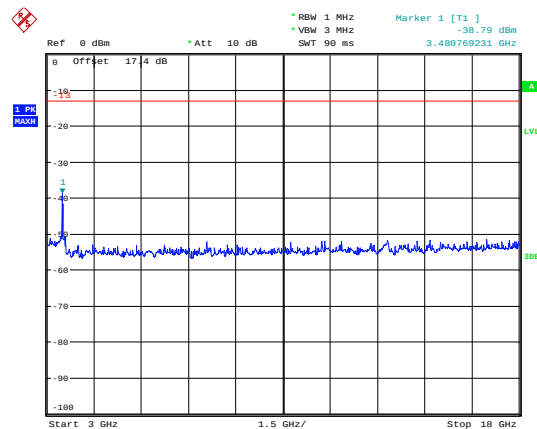
Date: 16.FEB.2019 15:22:48

LTE Band 4 10MHz CH-Middle 3GHz~18GHz



Date: 16.FEB.2019 15:20:33

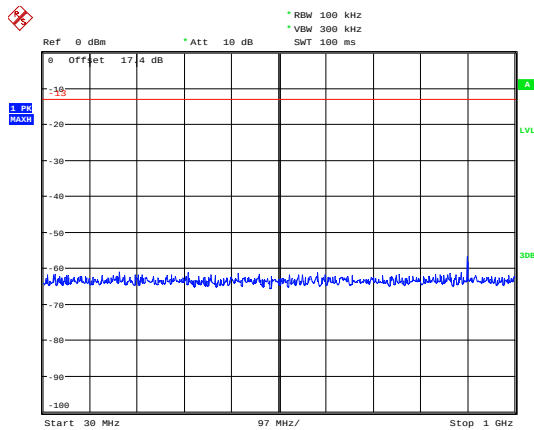
LTE Band 4 10MHz CH-High 3GHz~18GHz



Date: 16.FEB.2019 15:20:46

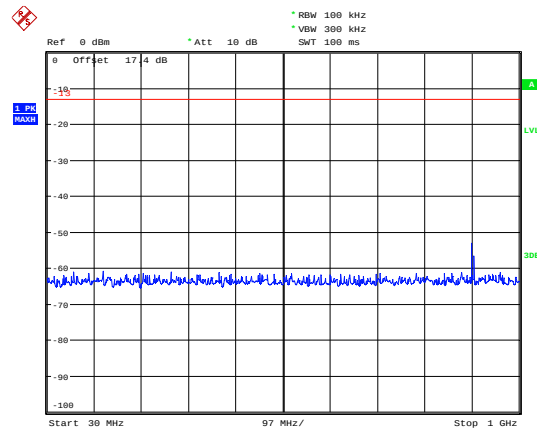


LTE Band 4 15MHz CH-Low 30MHz~1GHz



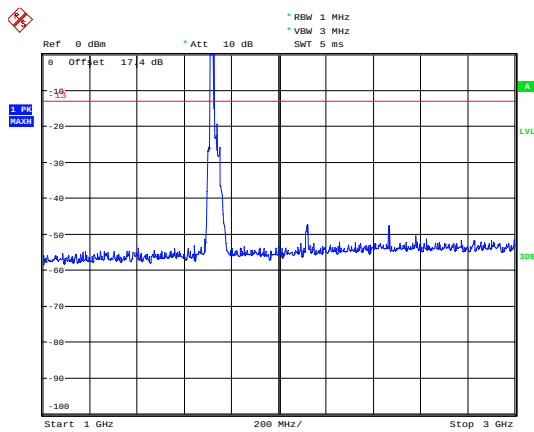
Date: 16.FEB.2019 15:23:48

LTE Band 4 15MHz CH-Middle 30MHz~1GHz



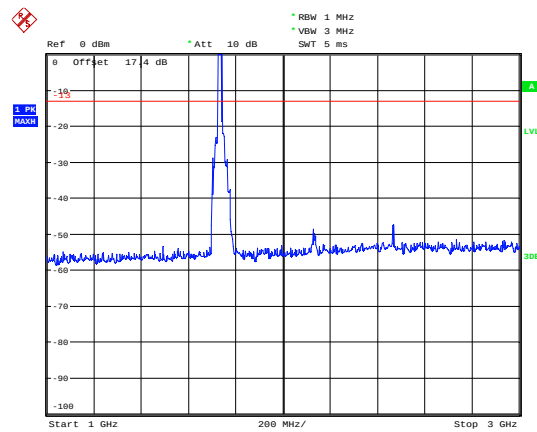
Date: 16.FEB.2019 15:24:00

LTE Band 4 15MHz CH-Low 1GHz~3GHz



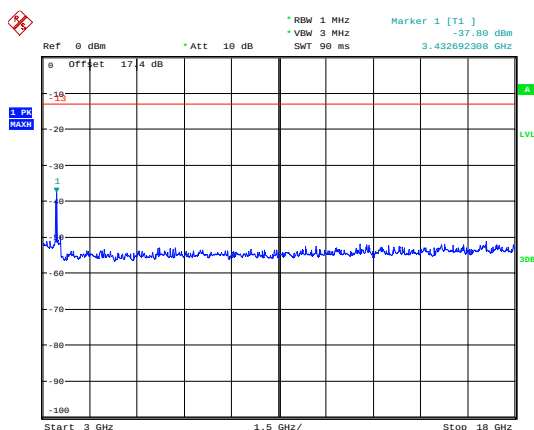
Date: 16.FEB.2019 15:26:07

LTE Band 4 15MHz CH-Middle 1GHz~3GHz



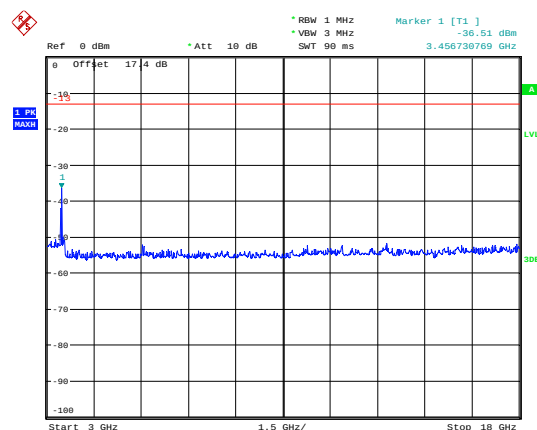
Date: 16.FEB.2019 15:26:18

LTE Band 4 15MHz CH-Low 3GHz~18GHz



Date: 16.FEB.2019 15:27:19

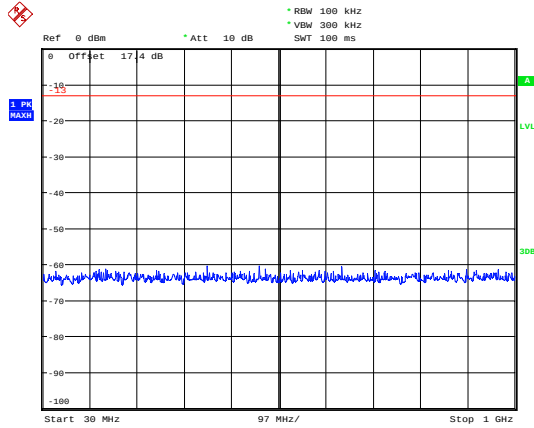
LTE Band 4 15MHz CH-Middle 3GHz~18GHz



Date: 16.FEB.2019 15:27:05

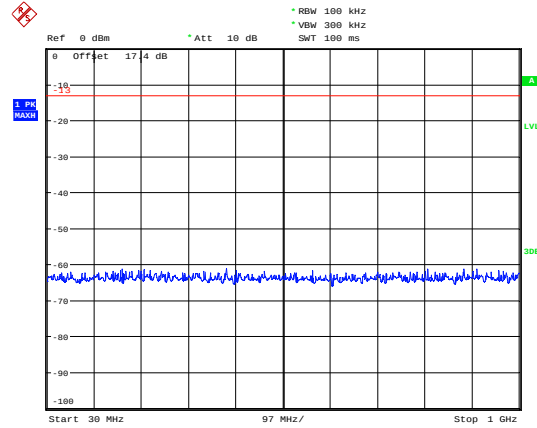


LTE Band 4 15MHz CH-High 30MHz~1GHz



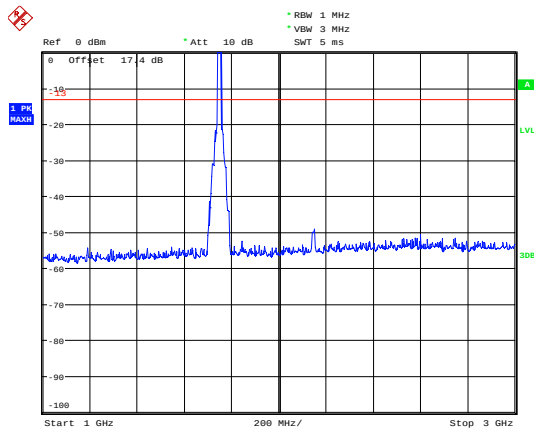
Date: 16.FEB.2019 15:24:12

LTE Band 4 20MHz CH-Low 30MHz~1GHz



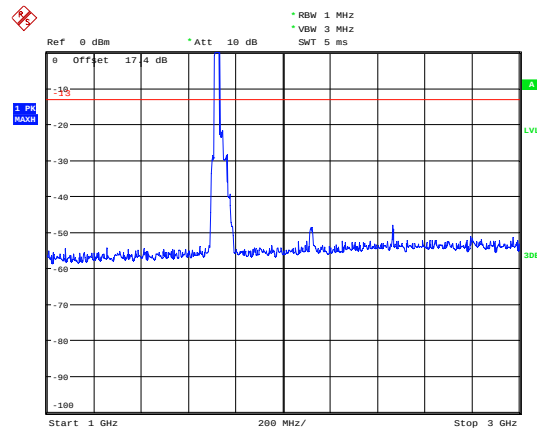
Date: 16.FEB.2019 15:24:31

LTE Band 4 15MHz CH-High 1GHz~3GHz



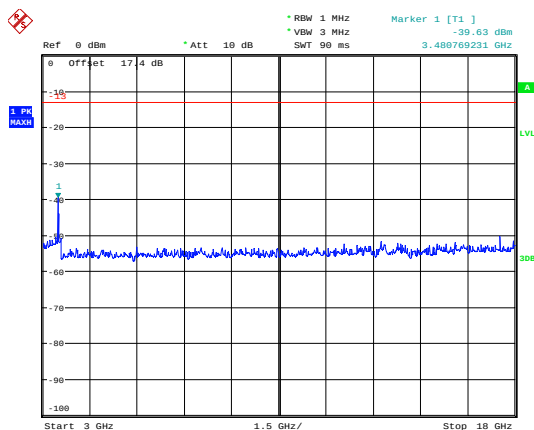
Date: 16.FEB.2019 15:26:32

LTE Band 4 20MHz CH-Low 1GHz~3GHz



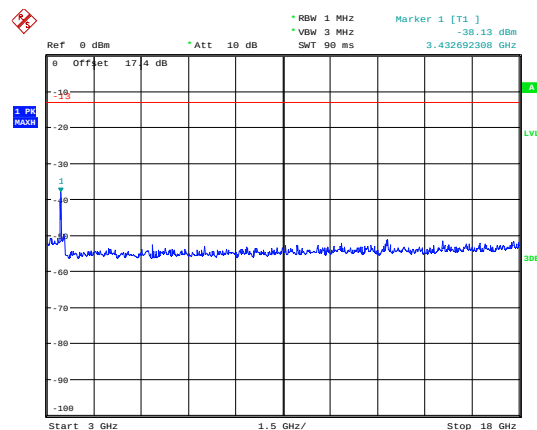
Date: 16.FEB.2019 15:25:38

LTE Band 4 15MHz CH-High 3GHz~18GHz



Date: 16.FEB.2019 15:26:53

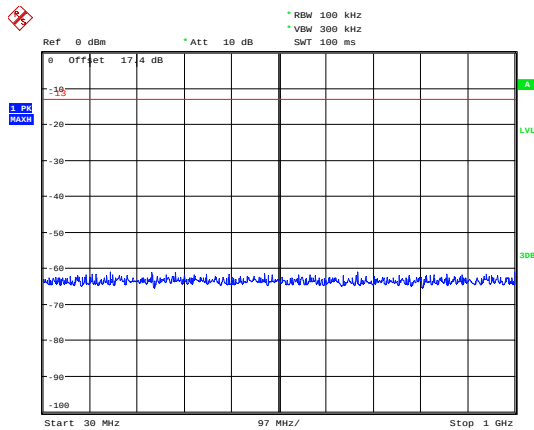
LTE Band 4 20MHz CH-Low 3GHz~18GHz



Date: 16.FEB.2019 15:27:51

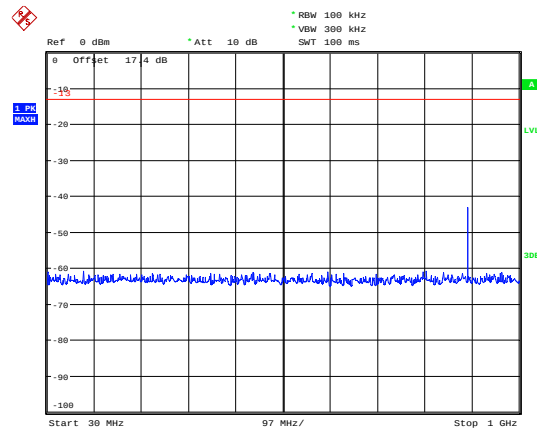


LTE Band 4 20MHz CH-Middle 30MHz~1GHz



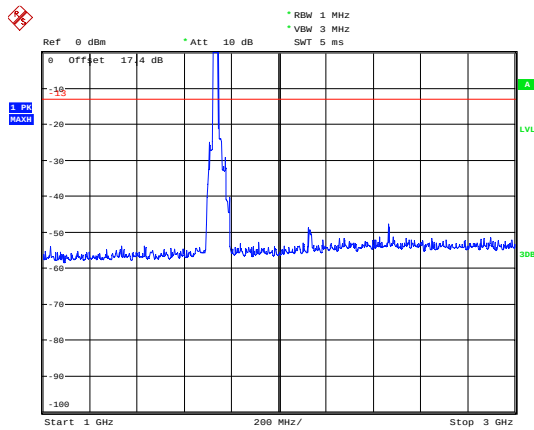
Date: 16.FEB.2019 15:24:41

LTE Band 4 20MHz CH-High 30MHz~1GHz



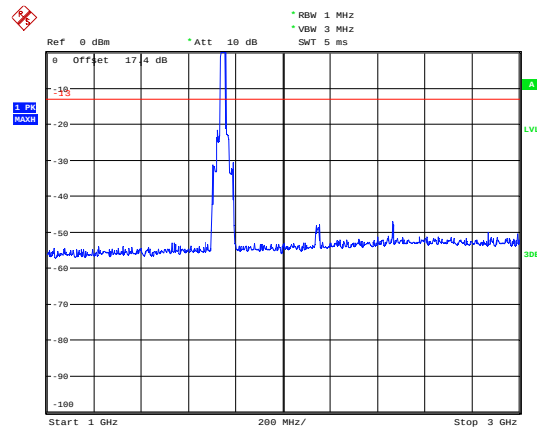
Date: 16.FEB.2019 15:24:52

LTE Band 4 20MHz CH-Middle 1GHz~3GHz



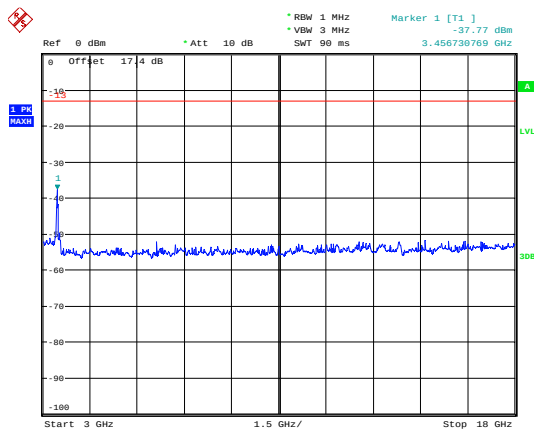
Date: 16.FEB.2019 15:25:27

LTE Band 4 20MHz CH-High 1GHz~3GHz



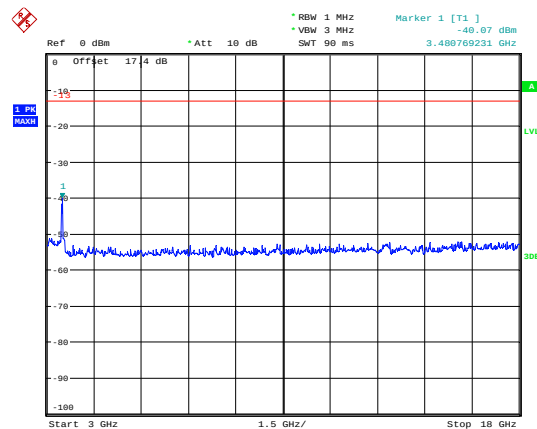
Date: 16.FEB.2019 15:25:17

LTE Band 4 20MHz CH-Middle 3GHz~18GHz



Date: 16.FEB.2019 15:28:02

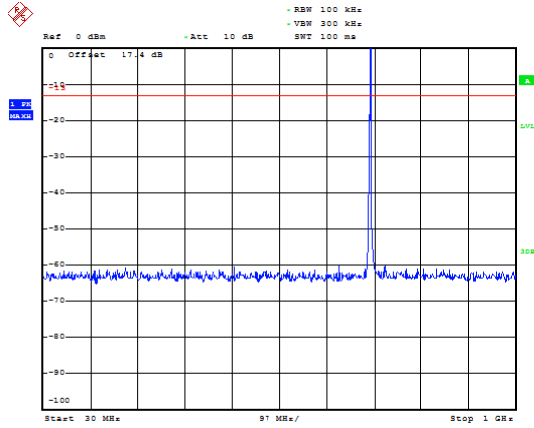
LTE Band 4 20MHz CH-High 3GHz~18GHz



Date: 16.FEB.2019 15:28:14

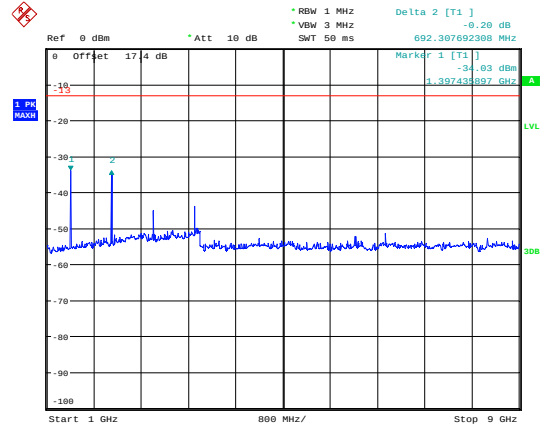


LTE Band 12 1.4MHz CH-Low 30MHz~1GHz



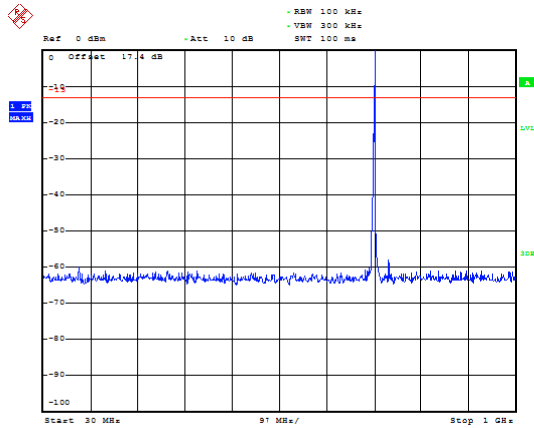
Date: 18.FEB.2019 11:47:02

LTE Band 12 1.4MHz CH-Low 1GHz~9GHz



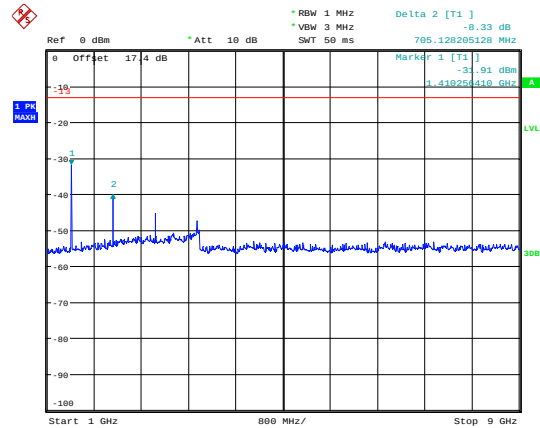
Date: 18.FEB.2019 12:05:54

LTE Band 12 1.4MHz CH- Middle 30MHz~1GHz



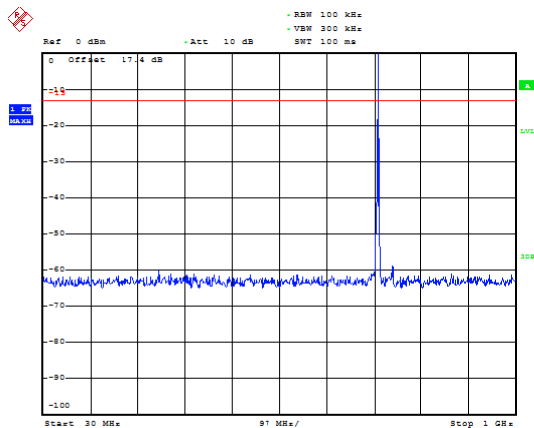
Date: 18.FEB.2019 11:47:49

LTE Band 12 1.4MHz CH- Middle 1GHz~9GHz



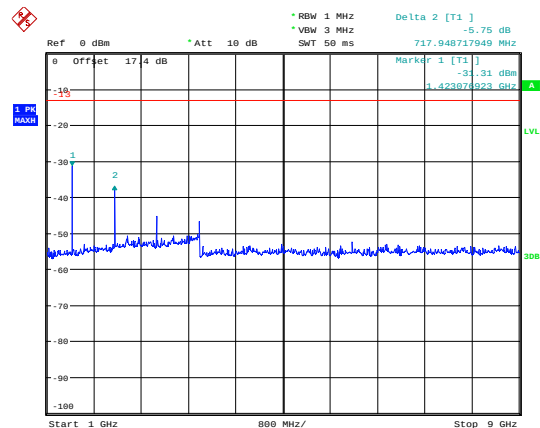
Date: 18.FEB.2019 12:06:38

LTE Band 12 1.4MHz CH-High 30MHz~1GHz



Date: 18.FEB.2019 11:48:08

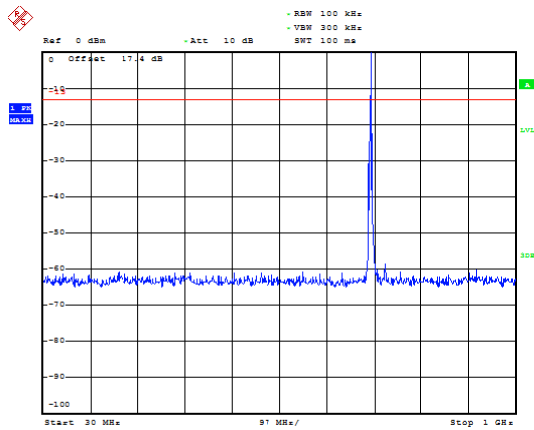
LTE Band 12 1.4MHz CH-High 1GHz~9GHz



Date: 18.FEB.2019 12:08:46

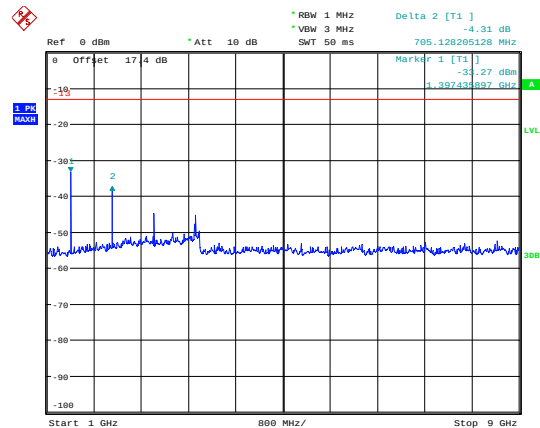


LTE Band 12 3MHz CH-Low 30MHz~1GHz



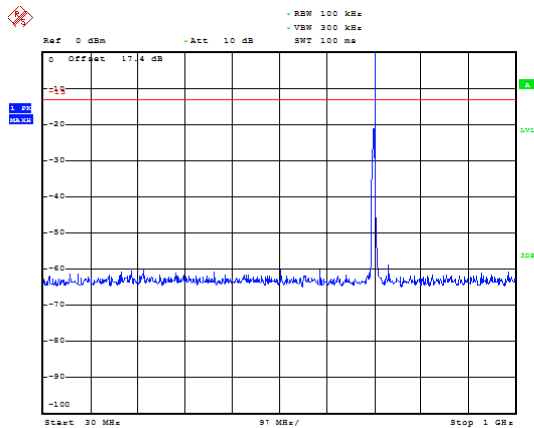
Date: 18.FEB.2019 11:53:56

LTE Band 12 3MHz CH-Low 1GHz~9GHz



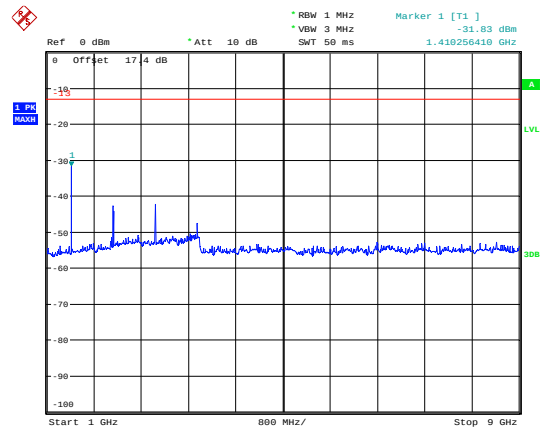
Date: 18.FEB.2019 12:09:08

LTE Band 12 3MHz CH- Middle 30MHz~1GHz



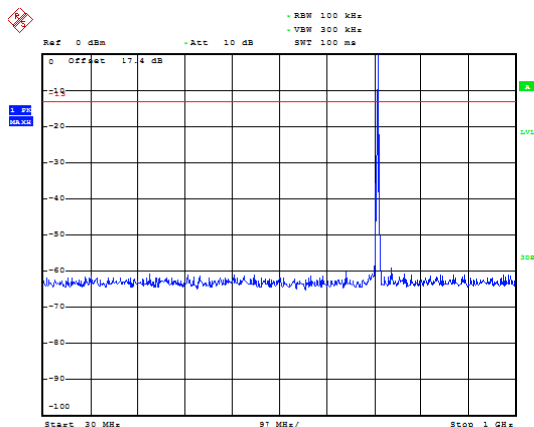
Date: 18.FEB.2019 11:54:11

LTE Band 12 3MHz CH- Middle 1GHz~9GHz



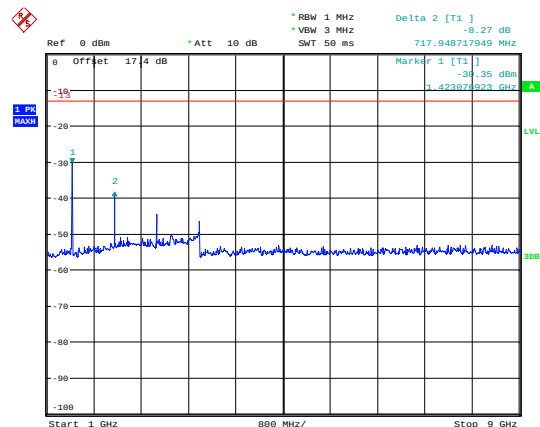
Date: 18.FEB.2019 12:09:22

LTE Band 12 3MHz CH-High 30MHz~1GHz



Date: 18.FEB.2019 11:54:44

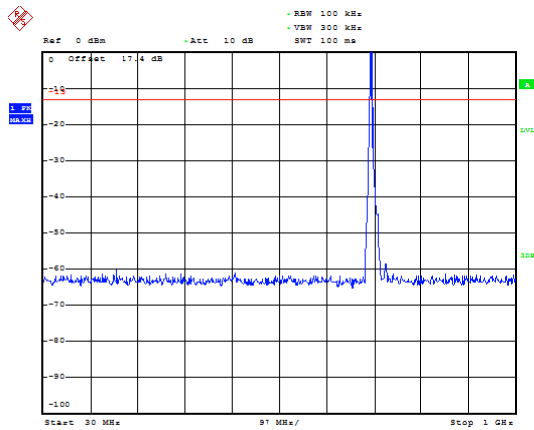
LTE Band 12 3MHz CH-High 1GHz~9GHz



Date: 18.FEB.2019 12:09:40

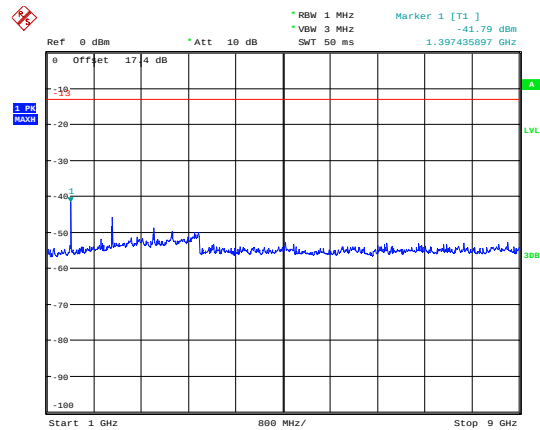


LTE Band 12 5MHz CH-Low 30MHz~1GHz



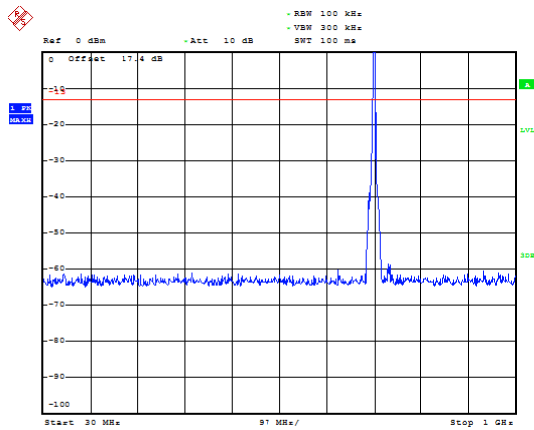
Date: 18.FEB.2019 11:55:59

LTE Band 12 5MHz CH-Low 1GHz~9GHz



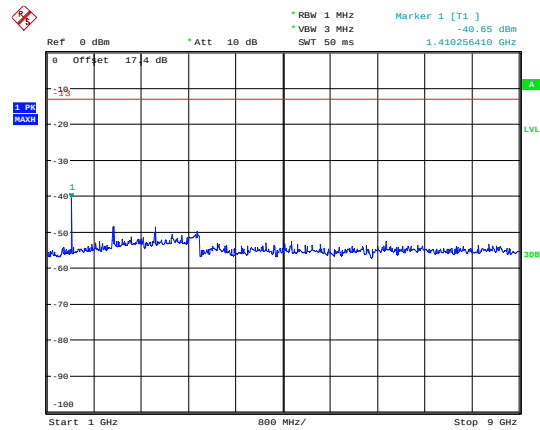
Date: 18.FEB.2019 12:10:04

LTE Band 12 5MHz CH- Middle 30MHz~1GHz



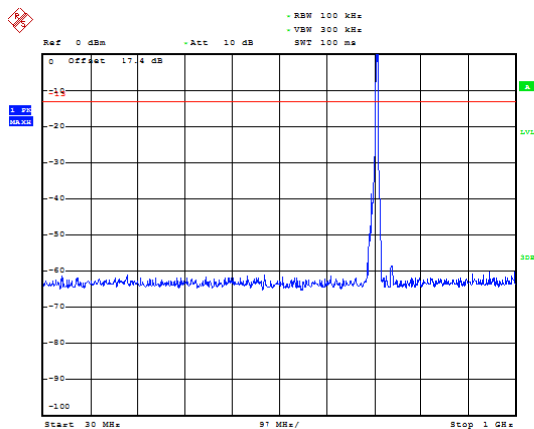
Date: 18.FEB.2019 11:56:10

LTE Band 12 5MHz CH- Middle 1GHz~9GHz



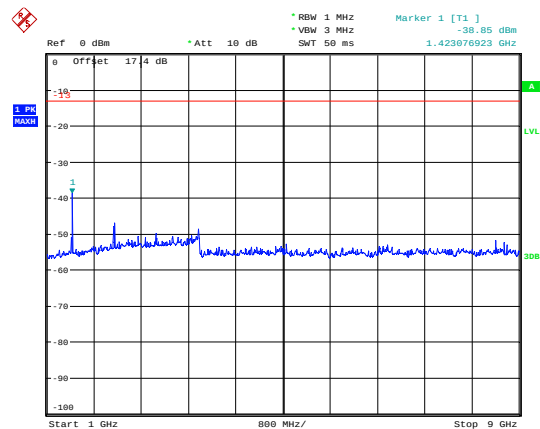
Date: 18.FEB.2019 12:10:18

LTE Band 12 5MHz CH-High 30MHz~1GHz



Date: 18.FEB.2019 11:56:22

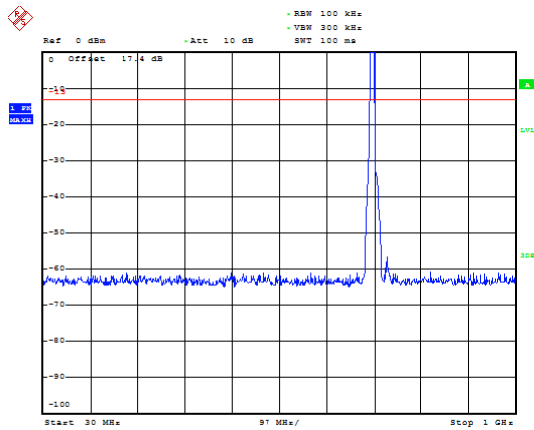
LTE Band 12 5MHz CH-High 1GHz~9GHz



Date: 18.FEB.2019 12:10:33

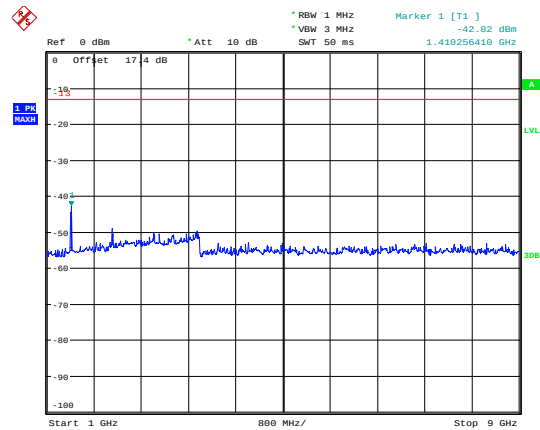


LTE Band 12 10MHz CH-Low 30MHz~1GHz



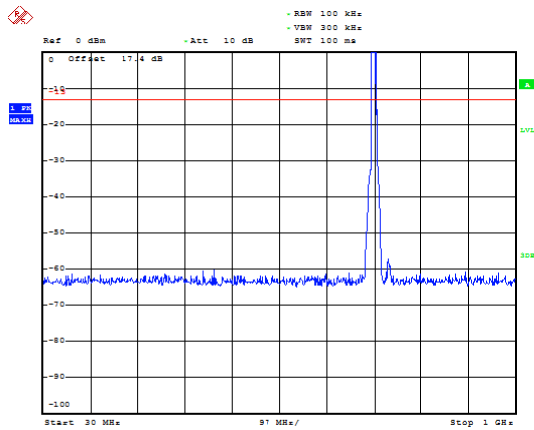
Date: 18.FEB.2019 11:59:08

LTE Band 12 10MHz CH-Low 1GHz~9GHz



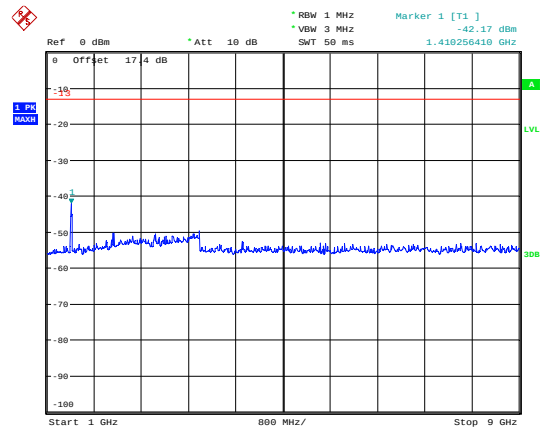
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LTE Band 12 10MHz CH- Middle 30MHz~1GHz



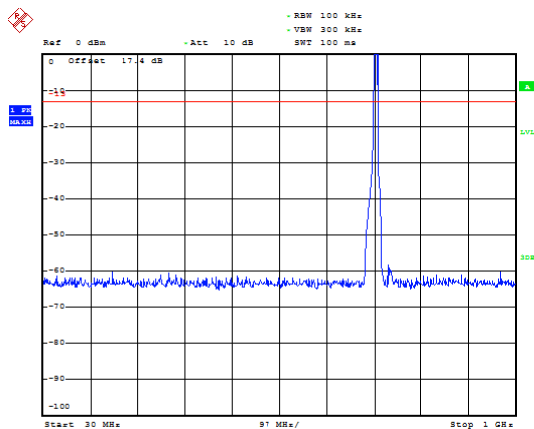
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LTE Band 12 10MHz CH- Middle 1GHz~9GHz



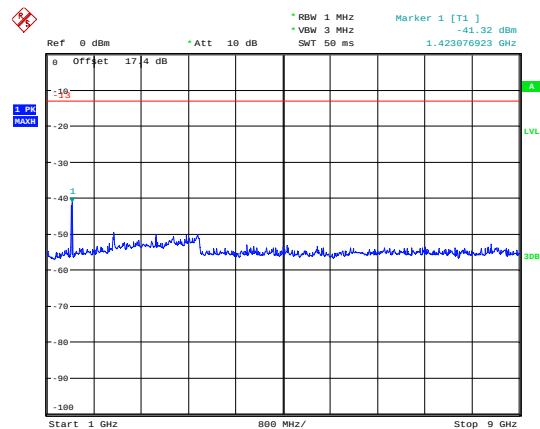
Date: 18.FEB.2019 12:02:04

LTE Band 12 10MHz CH-High 30MHz~1GHz



Date: 18.FEB.2019 11:59:28

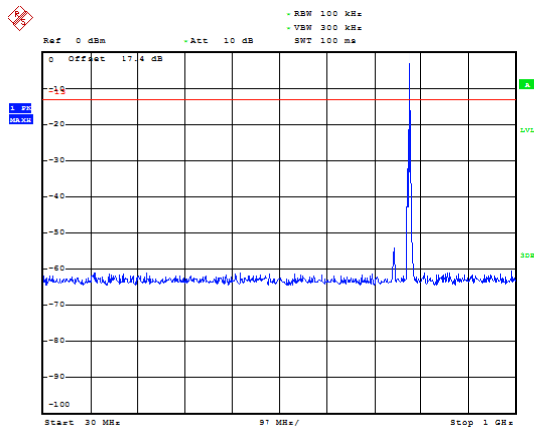
LTE Band 12 10MHz CH-High 1GHz~9GHz



Date: 18.FEB.2019 11:59:59

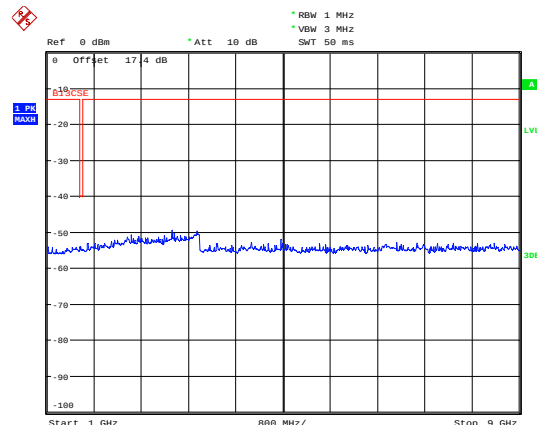


LTE Band 13 5MHz CH-Low 30MHz~1GHz



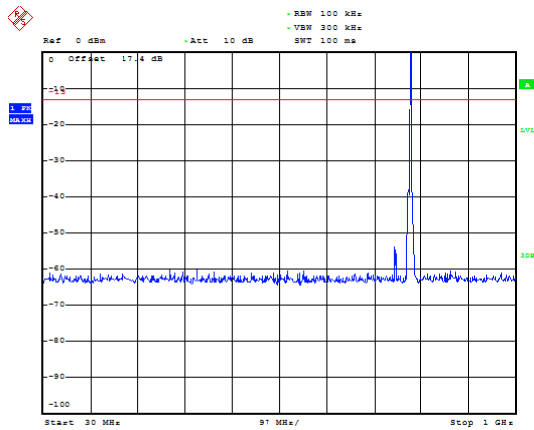
Date: 19.FEB.2019 14:59:55

LTE Band 13 5MHz CH-Low 1GHz~9GHz



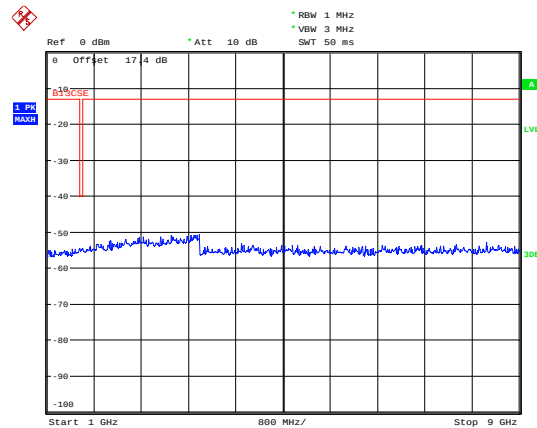
Date: 2.MAR.2019 11:33:38

LTE Band 13 5MHz CH-Middle 30MHz~1GHz



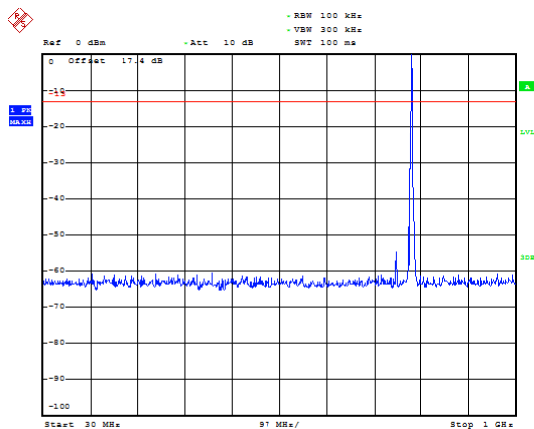
Date: 19.FEB.2019 15:00:16

LTE Band 13 5MHz CH-Middle 1GHz~9GHz



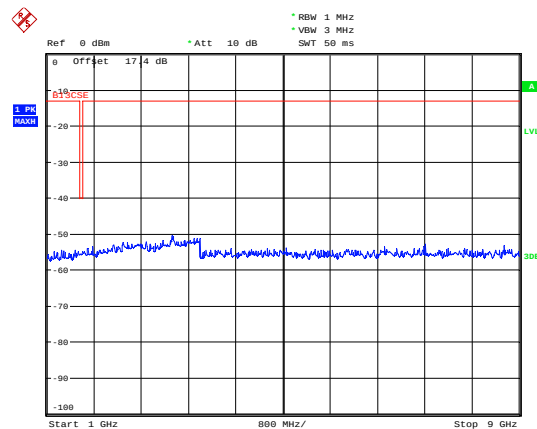
Date: 2.MAR.2019 11:33:57

LTE Band 13 5MHz CH-High 30MHz~1GHz



Date: 19.FEB.2019 15:00:26

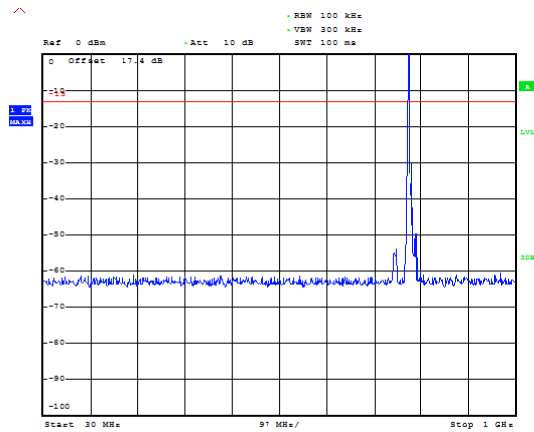
LTE Band 13 5MHz CH-High 1GHz~9GHz



Date: 2.MAR.2019 11:34:18

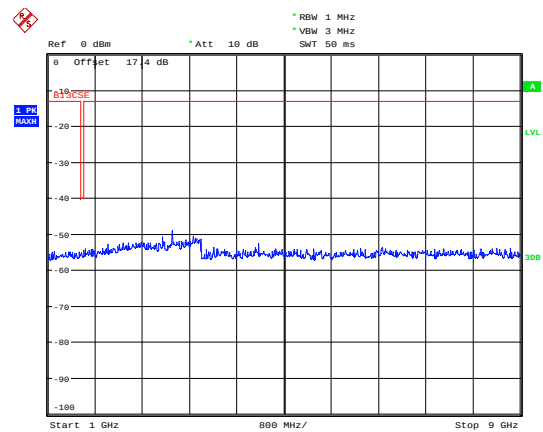


LTE Band 13 10MHz CH-Middle 30MHz~1GHz



Date: 19.FEB.2019 15:01:10

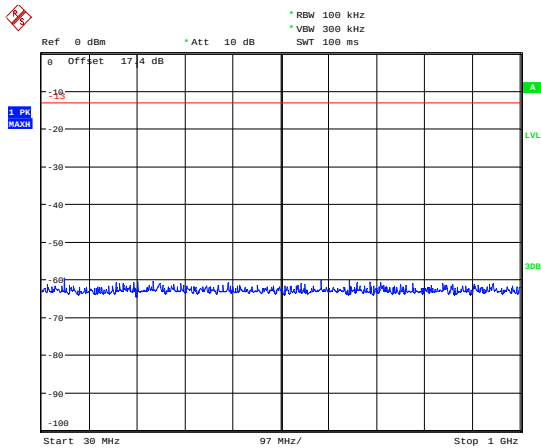
LTE Band 13 10MHz CH-Middle 1GHz~9GHz



Date: 2.MAR.2019 11:34:28

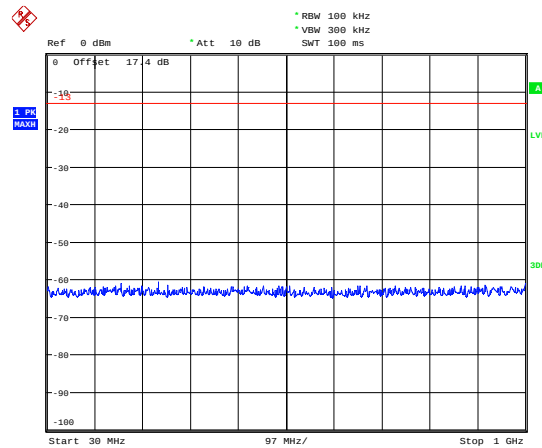


LTE Band 66 1.4MHz CH-Low 30MHz~1GHz



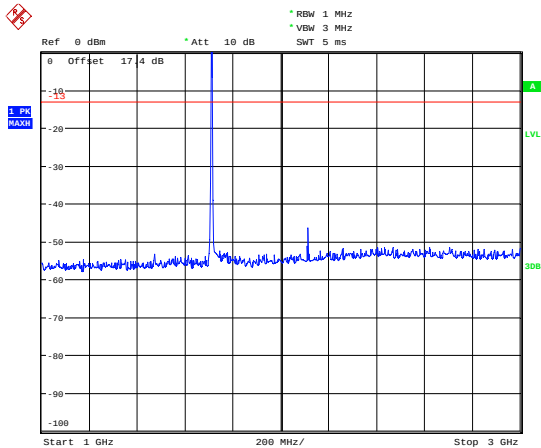
Date: 19.FEB.2019 15:15:20

LTE Band 66 1.4MHz CH- Middle 30MHz~1GHz



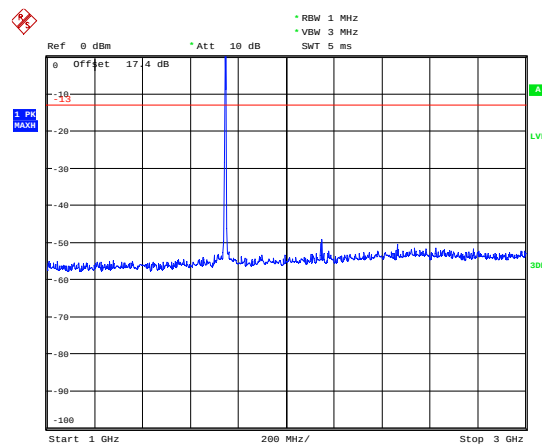
Date: 19.FEB.2019 15:16:09

LTE Band 66 1.4MHz CH--Low 1GHz ~3GHz



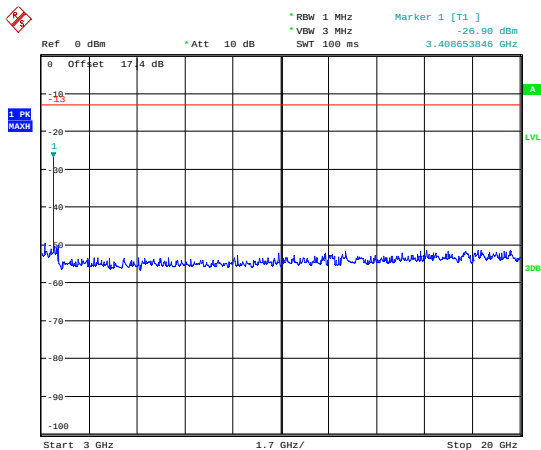
Date: 19.FEB.2019 15:35:38

LTE Band 66 1.4MHz CH-Middle 1GHz ~3GHz



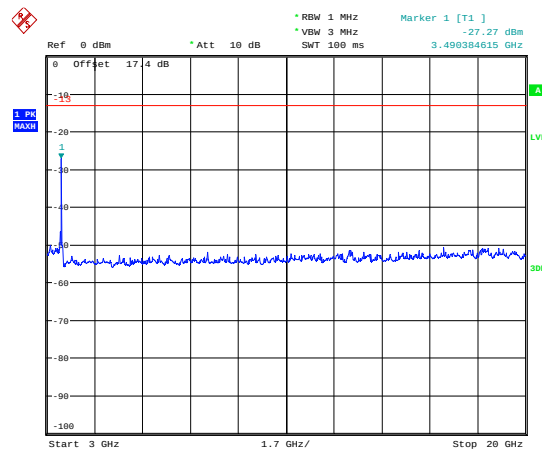
Date: 19.FEB.2019 15:35:50

LTE Band 66 1.4MHz CH--Low 3GHz ~20GHz



Date: 19.FEB.2019 15:52:48

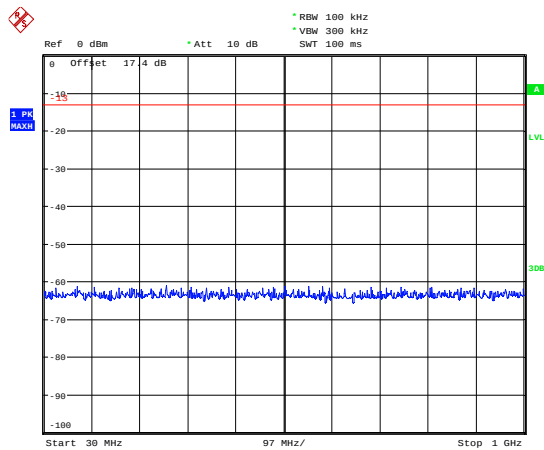
LTE Band 66 1.4MHz CH- Middle 3GHz ~20GHz



Date: 19.FEB.2019 15:55:06

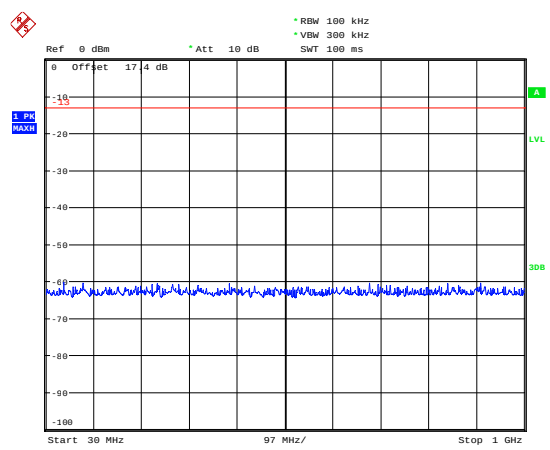


LTE Band 66 1.4MHz CH- High 30MHz~1GHz



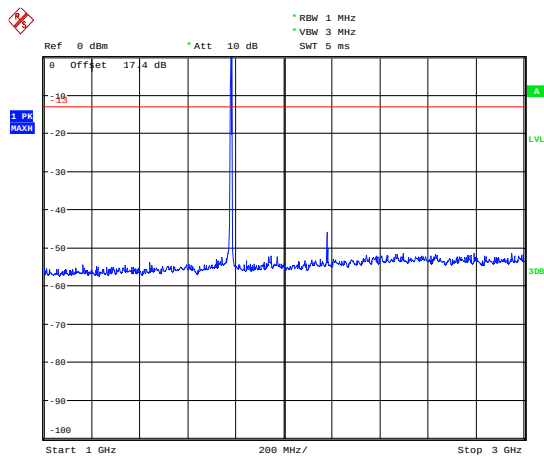
Date: 19.FEB.2019 15:16:28

LTE Band 66 3MHz CH-Low 30MHz~1GHz



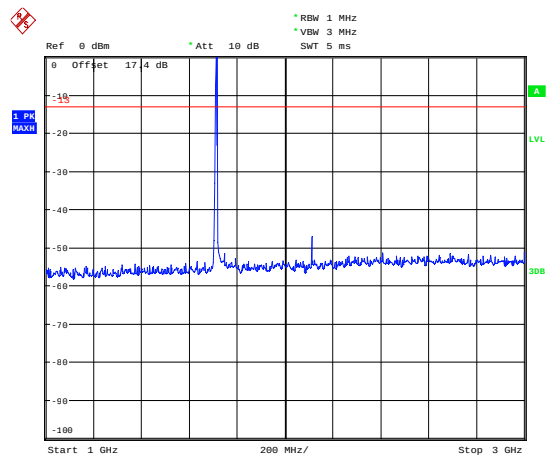
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LTE Band 66 1.4MHz CH- High 1GHz~3GHz



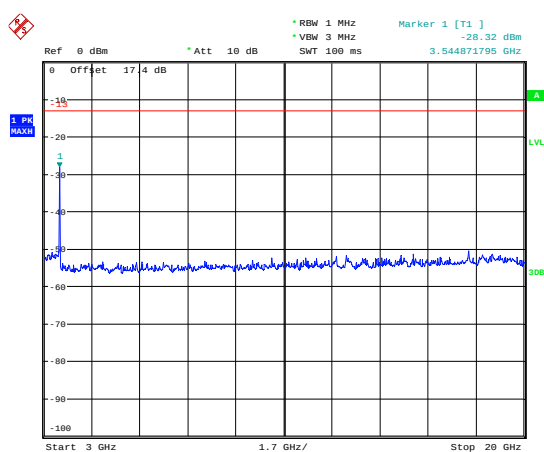
Date: 19.FEB.2019 15:36:04

LTE Band 66 3MHz CH--Low 1GHz~3GHz



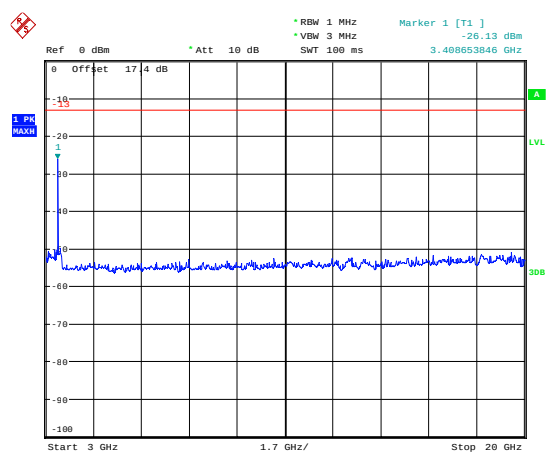
Date: 19.FEB.2019 15:36:37

LTE Band 66 1.4MHz CH-High 3GHz~20GHz



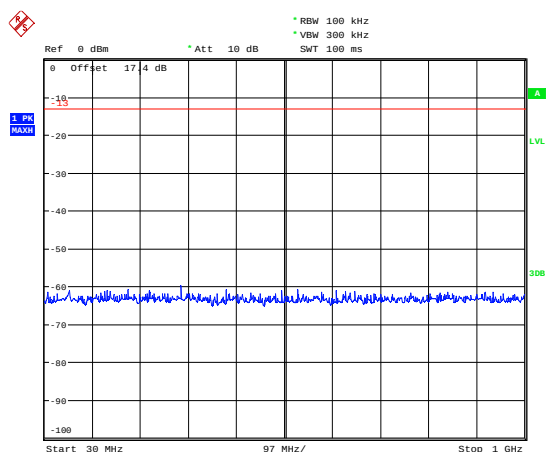
Date: 19.FEB.2019 15:55:26

LTE Band 66 3MHz CH--Low 3GHz~20GHz



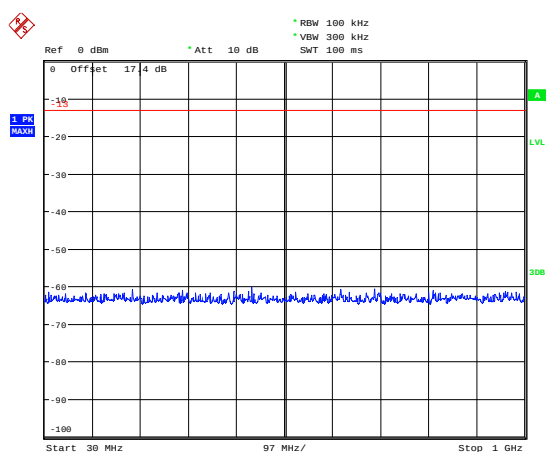
Date: 19.FEB.2019 15:55:50

LTE Band 66 3MHz CH- Middle 30MHz~1GHz



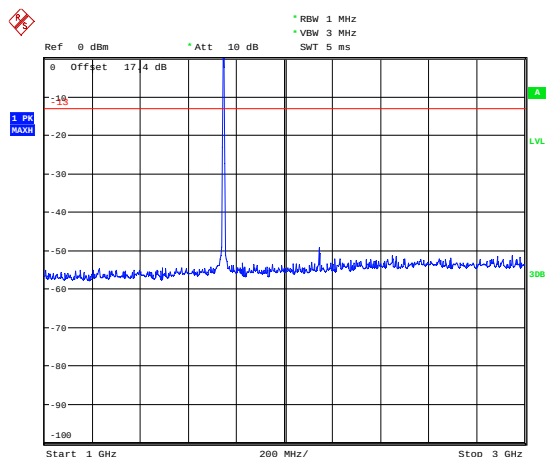
Date: 19.FEB.2019 15:18:26

LTE Band 66 3MHz CH- High 30MHz~1GHz



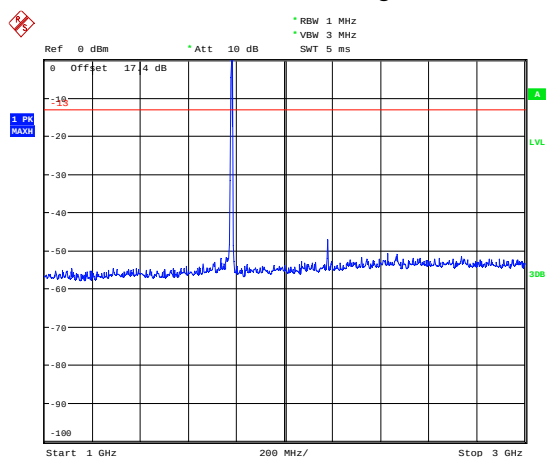
Date: 19.FEB.2019 15:18:42

LTE Band 66 3MHz CH-Middle 1GHz ~3GHz



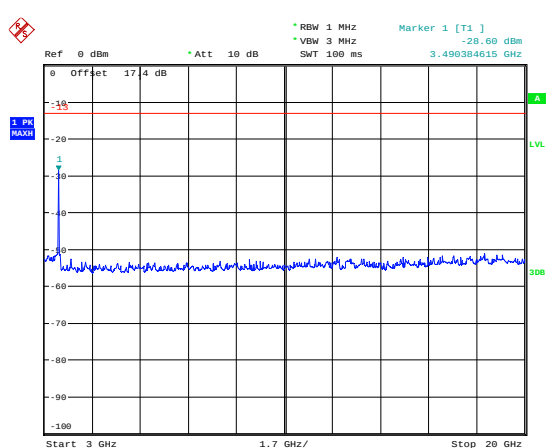
Date: 19.FEB.2019 15:36:47

LTE Band 66 3MHz CH- High 1GHz ~3GHz



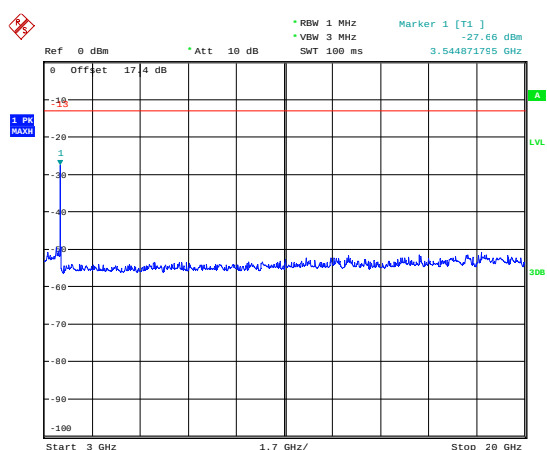
Date: 19.FEB.2019 15:37:01

LTE Band 66 3MHz CH- Middle 3GHz ~20GHz



Date: 19.FEB.2019 15:56:04

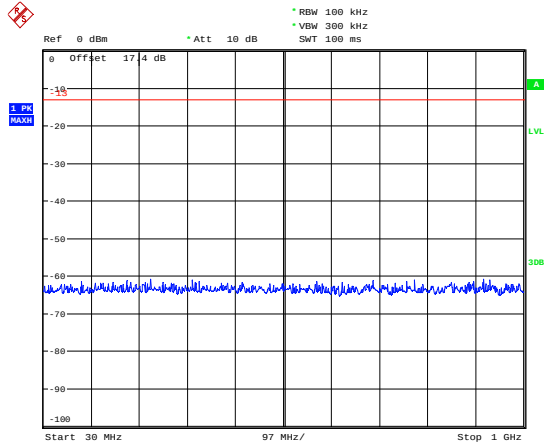
LTE Band 66 3MHz CH-High 3GHz ~20GHz



Date: 19.FEB.2019 15:56:27

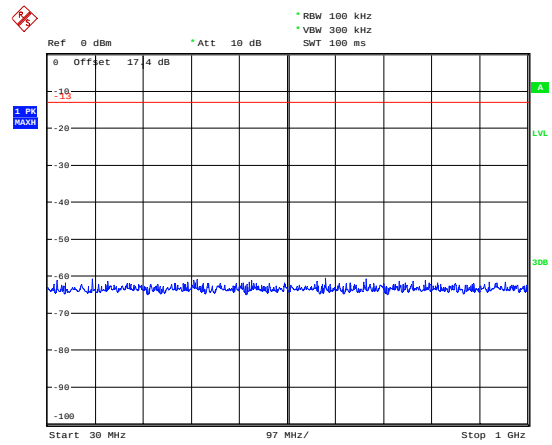


LTE Band 66 5MHz CH-Low 30MHz~1GHz



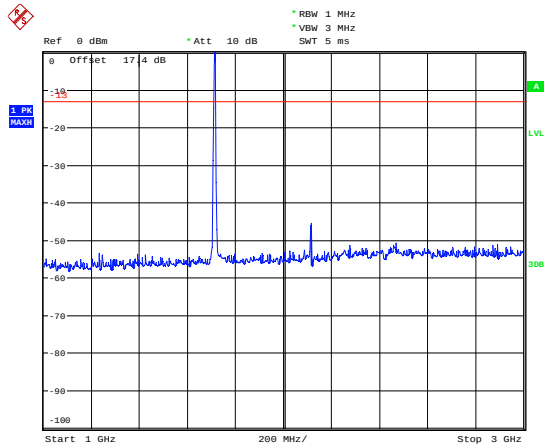
Date: 19.FEB.2019 15:19:04

LTE Band 66 5MHz CH- Middle 30MHz~1GHz



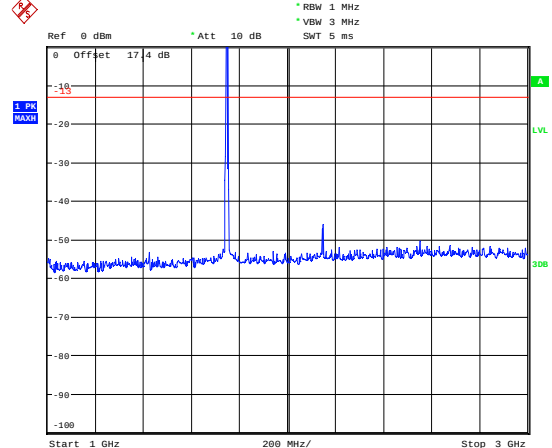
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LTE Band 66 5MHz CH--Low 1GHz ~3GHz



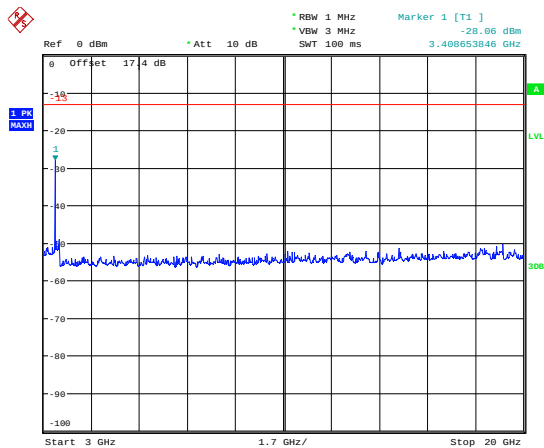
Date: 19.FEB.2019 15:37:24

LTE Band 66 5MHz CH-Middle 1GHz ~3GHz



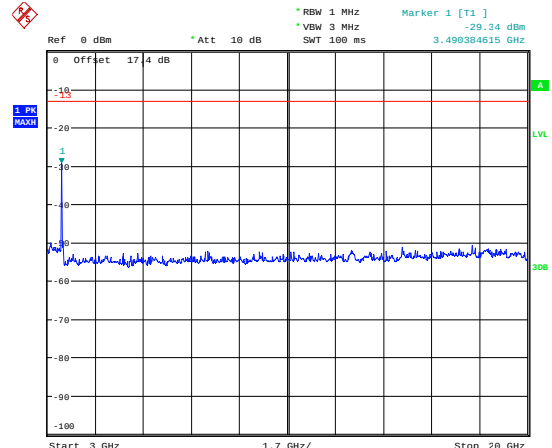
Date: 19.FEB.2019 15:37:36

LTE Band 66 5MHz CH--Low 3GHz ~20GHz



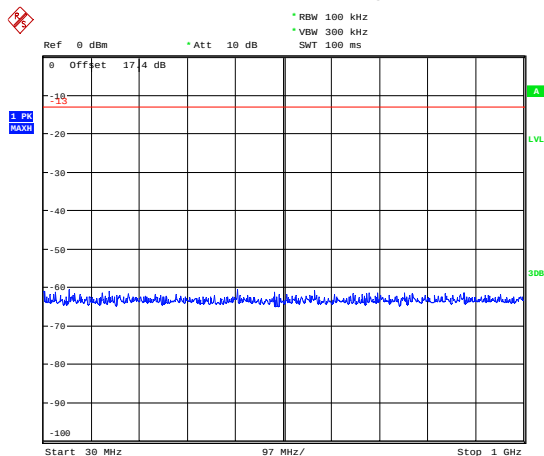
Date: 19.FEB.2019 15:57:00

LTE Band 66 5MHz CH- Middle 3GHz ~20GHz



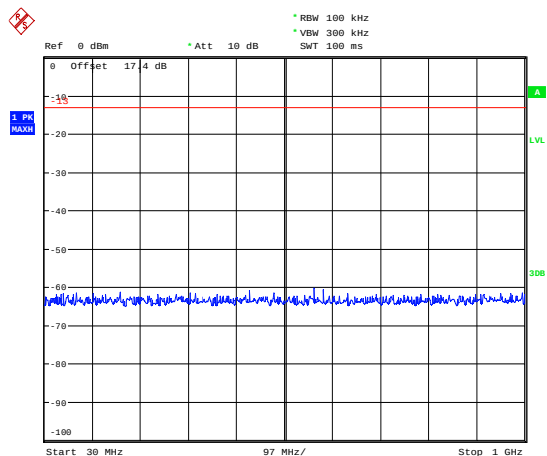
Date: 19.FEB.2019 15:57:14

LTE Band 66 5MHz CH- High 30MHz~1GHz



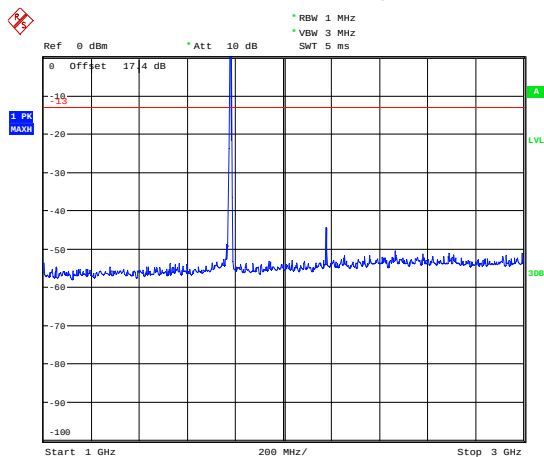
Date: 19.FEB.2019 15:19:28

LTE Band 66 10MHz CH-Low 30MHz~1GHz



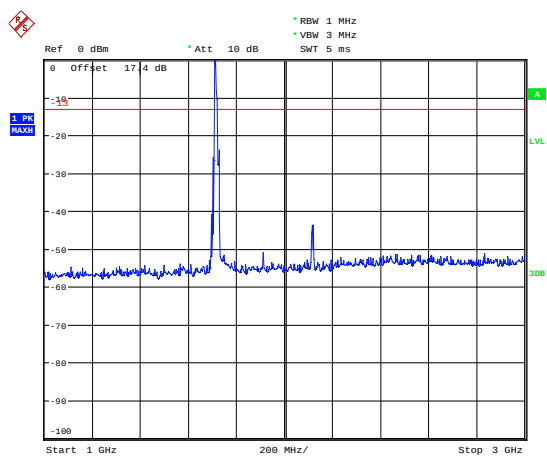
Date: 19.FEB.2019 15:19:57

LTE Band 66 5MHz CH- High 1GHz ~3GHz



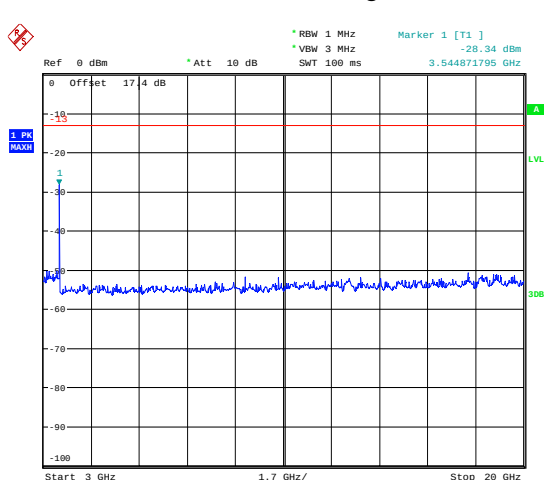
Date: 19.FEB.2019 15:37:48

LTE Band 66 10MHz CH--Low 1GHz ~3GHz



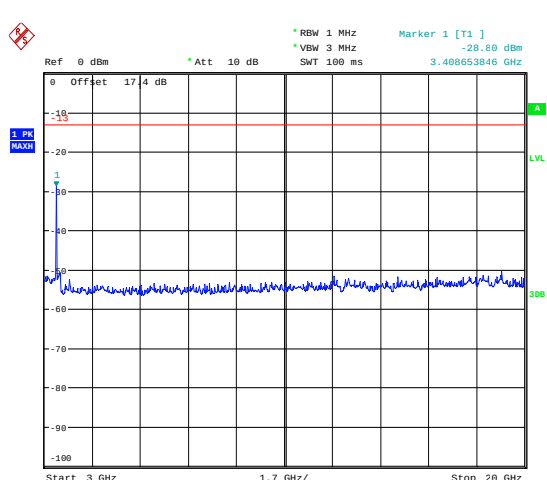
Date: 19.FEB.2019 15:38:09

LTE Band 66 5MHz CH-High 3GHz ~20GHz



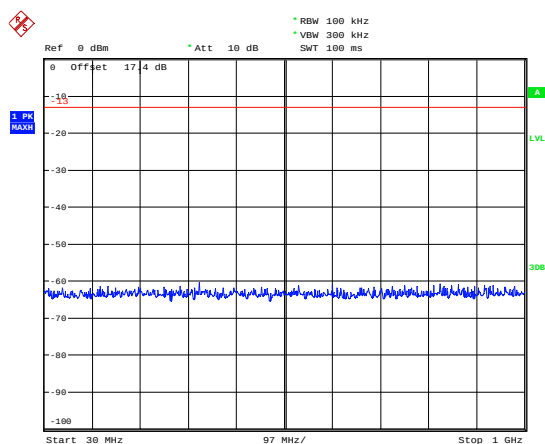
Date: 19.FEB.2019 15:57:33

LTE Band 66 10MHz CH--Low 3GHz ~20GHz



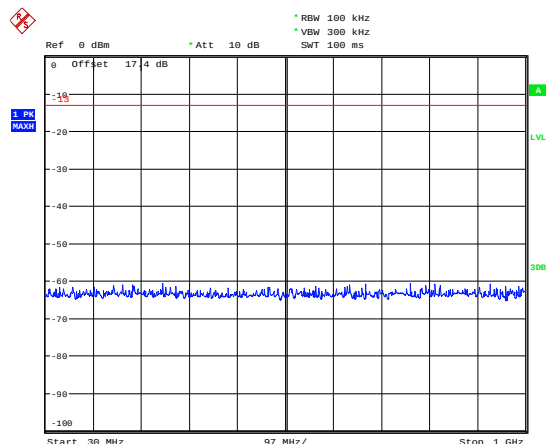
Date: 19.FEB.2019 15:57:53

LTE Band 66 10MHz CH- Middle 30MHz~1GHz



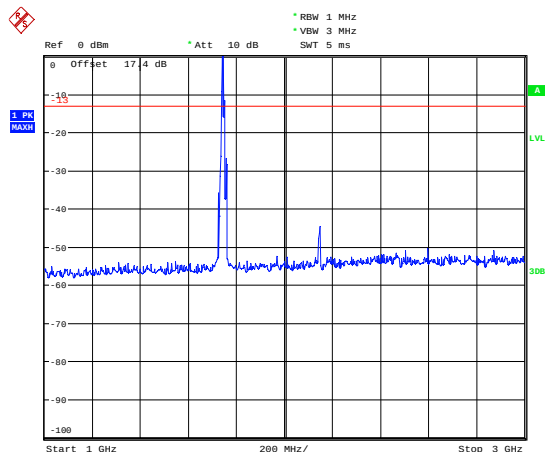
Date: 19.FEB.2019 15:20:10

LTE Band 66 10MHz CH- High 30MHz~1GHz



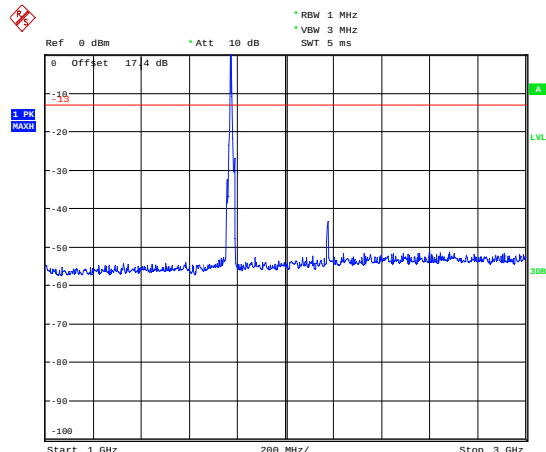
Date: 19.FEB.2019 15:20:24

LTE Band 66 10MHz CH-Middle 1GHz ~3GHz



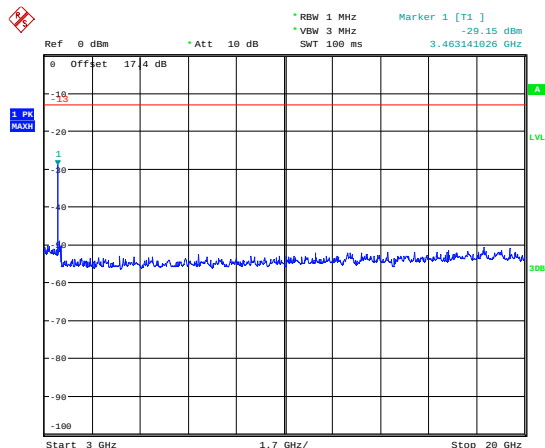
Date: 19.FEB.2019 15:38:19

LTE Band 66 10MHz CH- High 1GHz ~3GHz



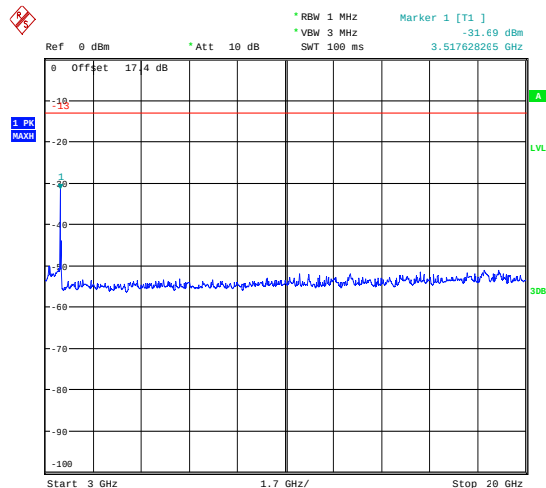
Date: 19.FEB.2019 15:38:37

LTE Band 66 10MHz CH- Middle 3GHz ~20GHz



Date: 19.FEB.2019 15:58:04

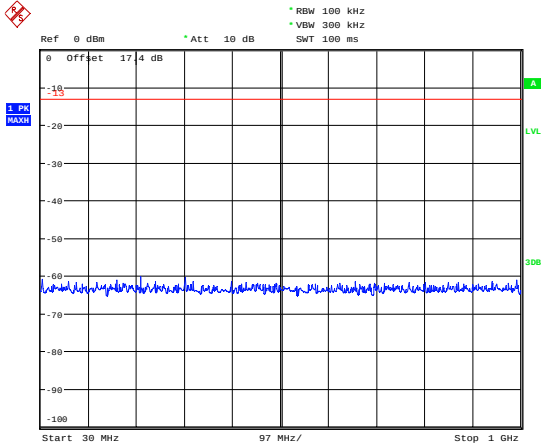
LTE Band 66 10MHz CH-High 3GHz ~20GHz



Date: 19.FEB.2019 15:58:20

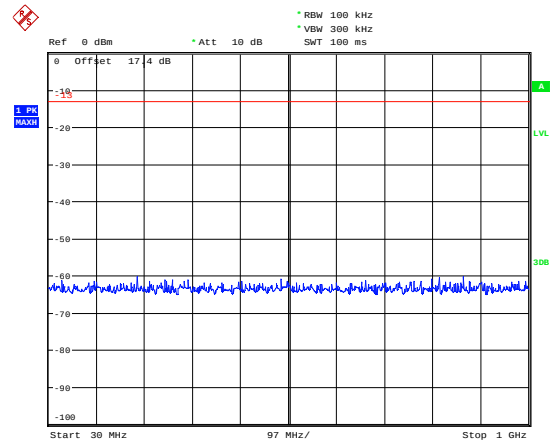


LTE Band 66 15MHz CH-Low 30MHz~1GHz



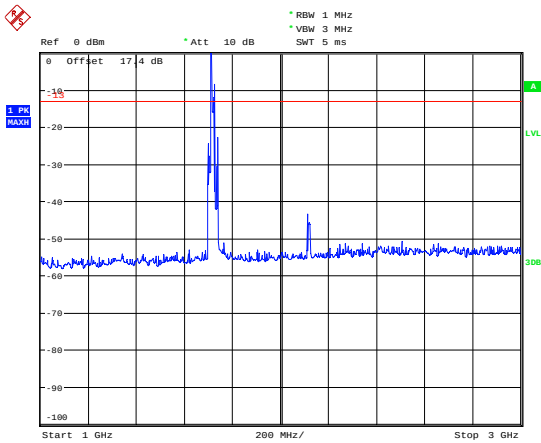
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LTE Band 66 15MHz CH- Middle 30MHz~1GHz



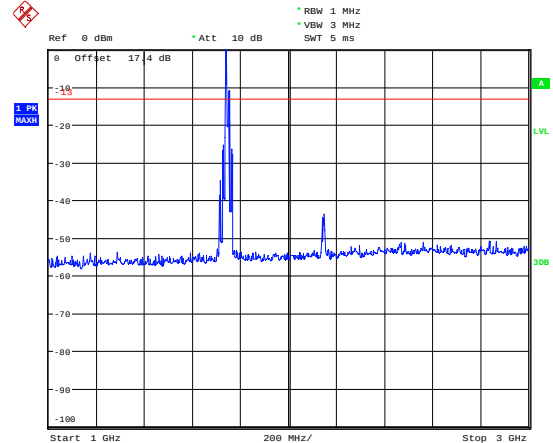
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LTE Band 66 15MHz CH--Low 1GHz ~3GHz



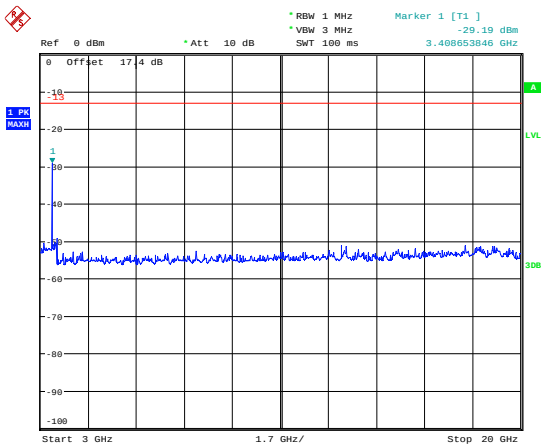
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LTE Band 66 15MHz CH-Middle 1GHz ~3GHz



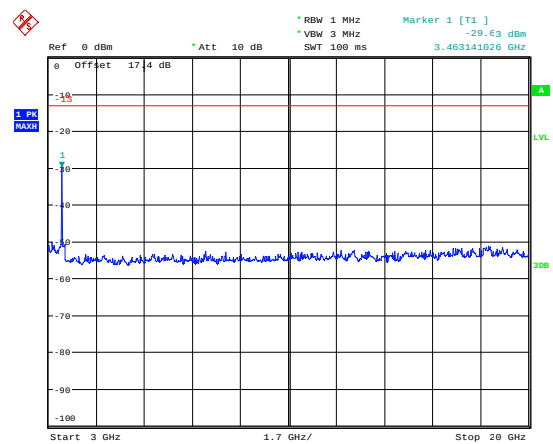
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LTE Band 66 15MHz CH--Low 3GHz ~20GHz



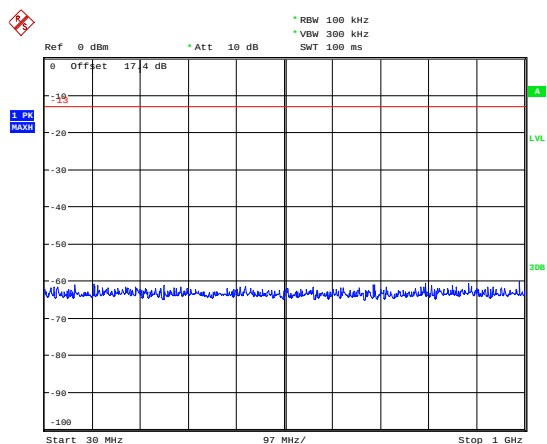
Date: 19.FEB.2019 15:50:30

LTE Band 66 15MHz CH- Middle 3GHz ~20GHz



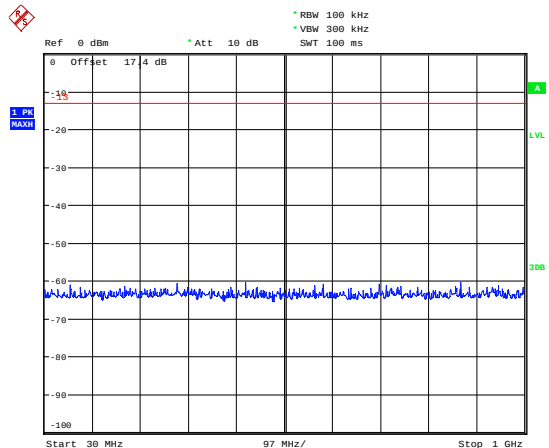
Date: 19.FEB.2019 15:50:12

LTE Band 66 15MHz CH- High 30MHz~1GHz



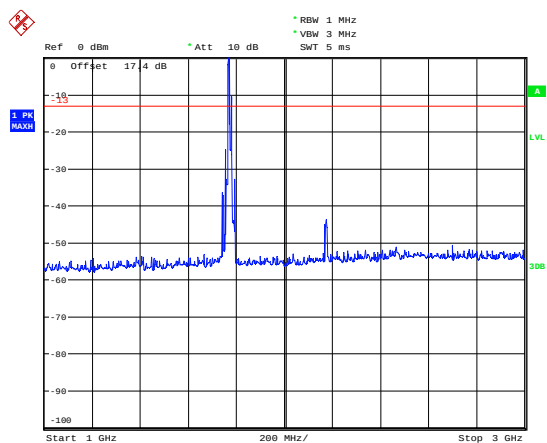
Date: 19.FEB.2019 15:21:19

LTE Band 66 20MHz CH-Low 30MHz~1GHz



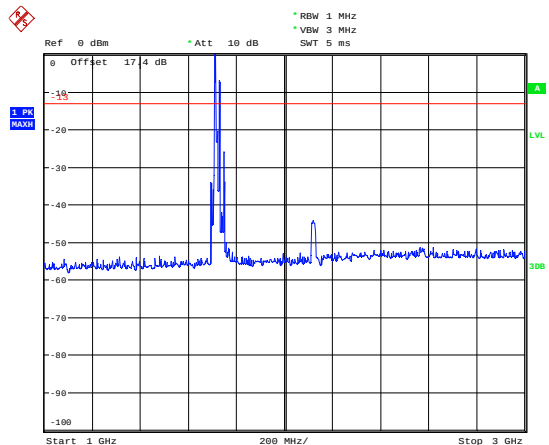
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LTE Band 66 15MHz CH- High 1GHz ~3GHz



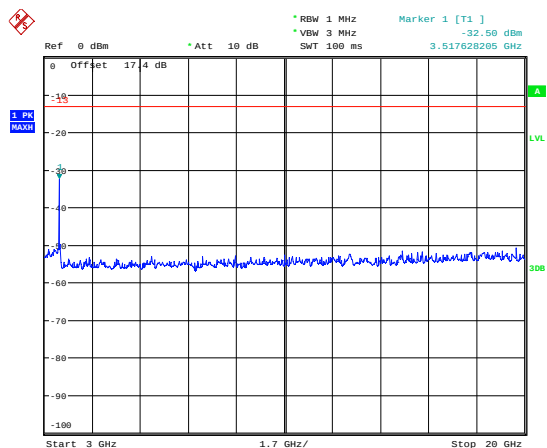
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LTE Band 66 20MHz CH--Low 1GHz ~3GHz



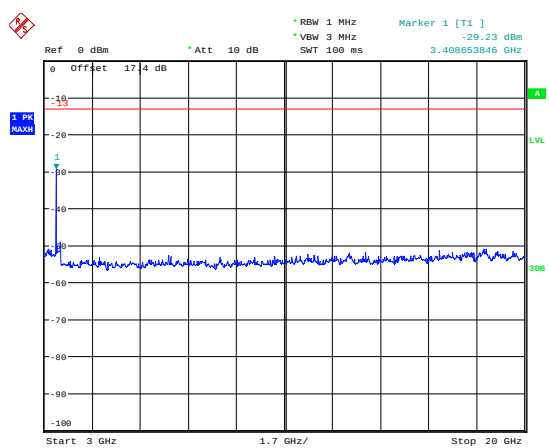
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LTE Band 66 15MHz CH-High 3GHz ~20GHz

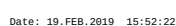
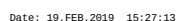
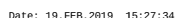


Date: 19.FEB.2019 15:49:59

LTE Band 66 20MHz CH--Low 3GHz ~20GHz

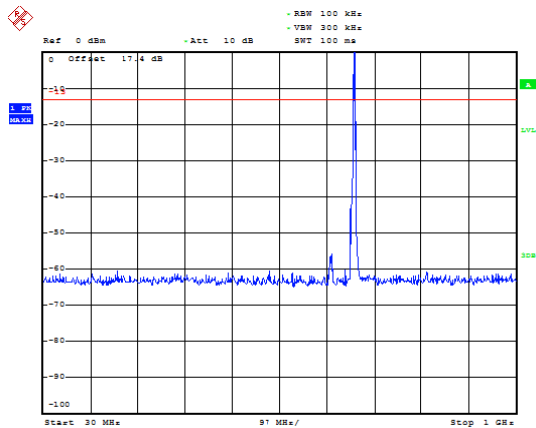


Date: 19.FEB.2019 15:51:04



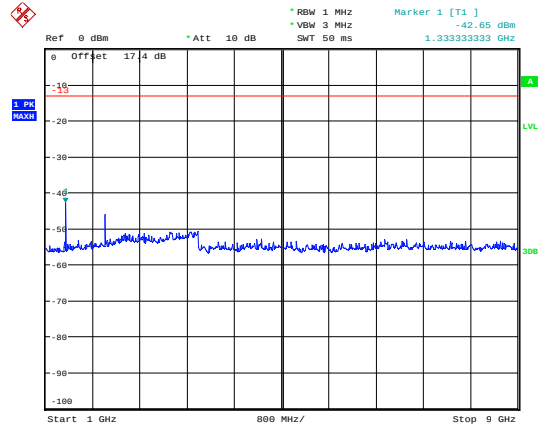


LTE Band 71 5MHz CH-Low 30MHz~1GHz



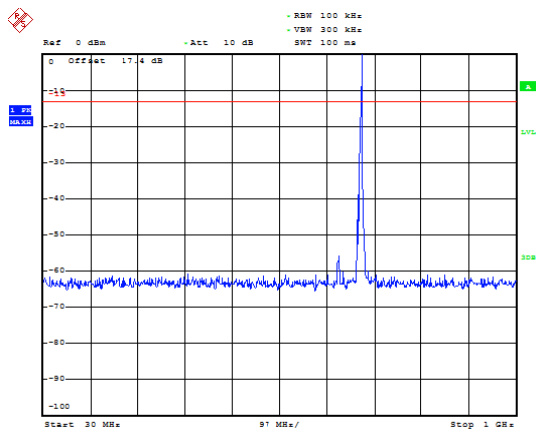
Date: 19.FEB.2019 16:00:06

LTE Band 71 5MHz CH-Low 1GHz~9GHz



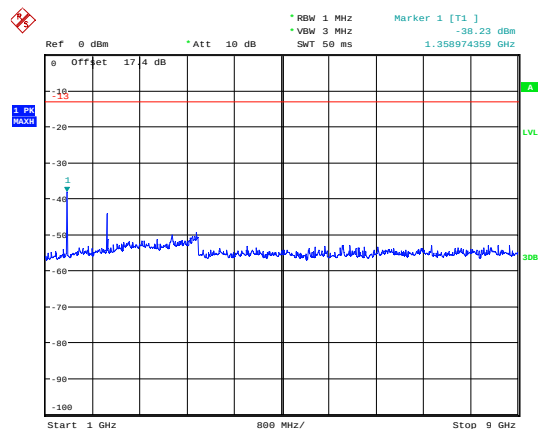
Date: 19.FEB.2019 16:06:19

LTE Band 71 5MHz CH-Middle 30MHz~1GHz



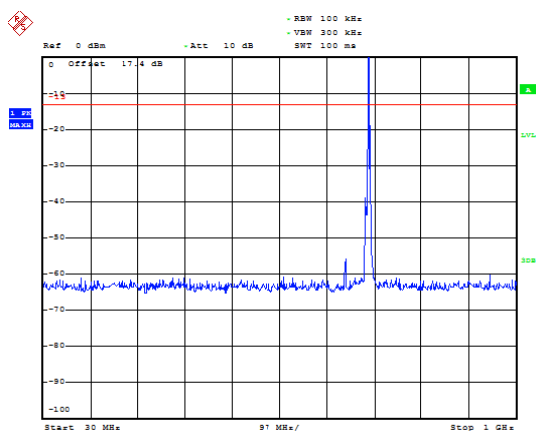
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LTE Band 71 5MHz CH-Middle 1GHz~9GHz



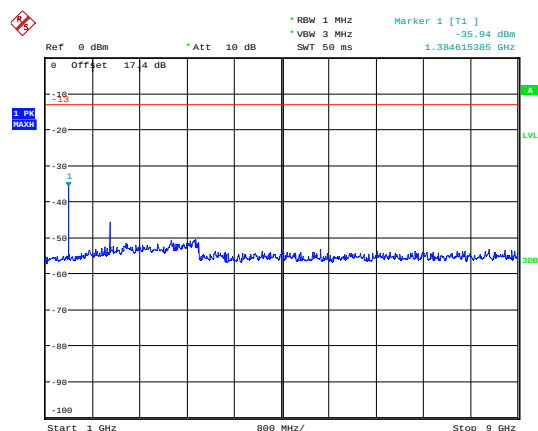
Date: 19.FEB.2019 16:06:34

LTE Band 71 5MHz CH-High 30MHz~1GHz



Date: 19.FEB.2019 16:00:34

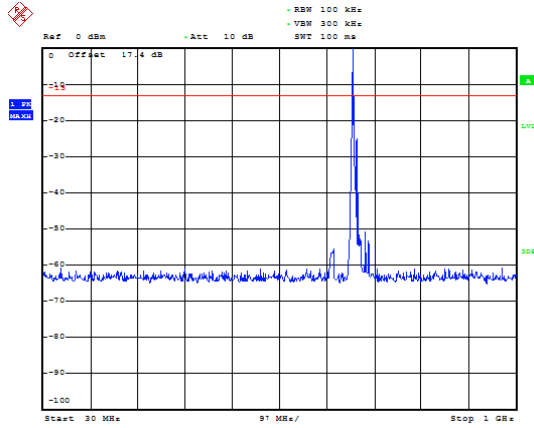
LTE Band 71 5MHz CH-High 1GHz~9GHz



Date: 19.FEB.2019 16:06:49

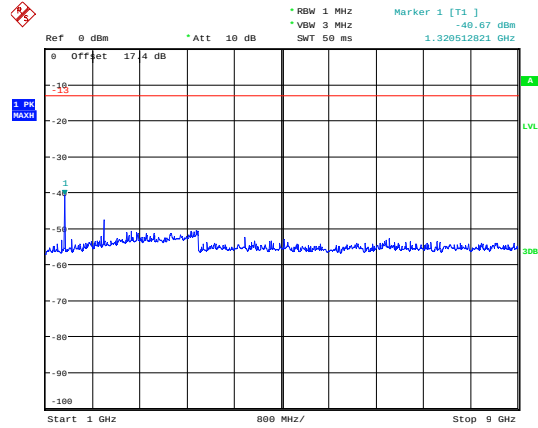


LTE Band 71 10MHz CH-Low 30MHz~1GHz



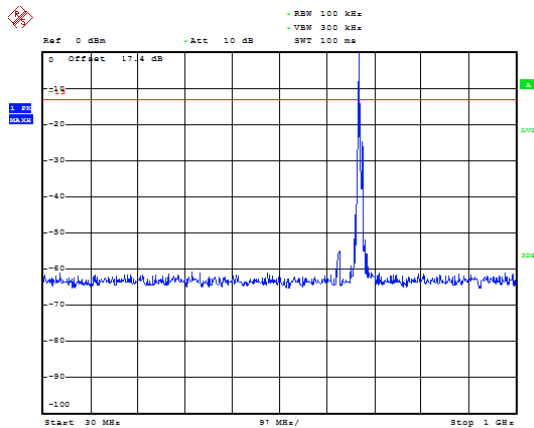
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LTE Band 71 10MHz CH-Low 1GHz~9GHz



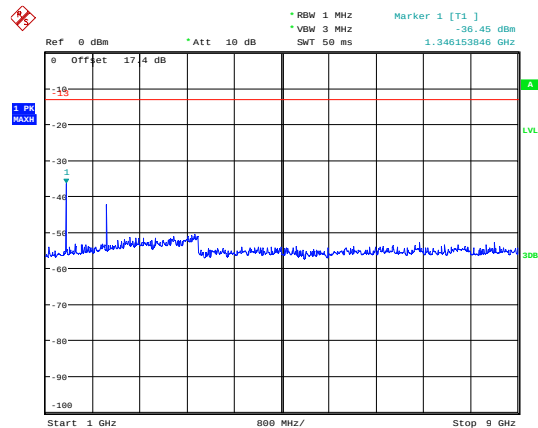
Date: 19.FEB.2019 16:07:21

LTE Band 71 10MHz CH-Middle 30MHz~1GHz



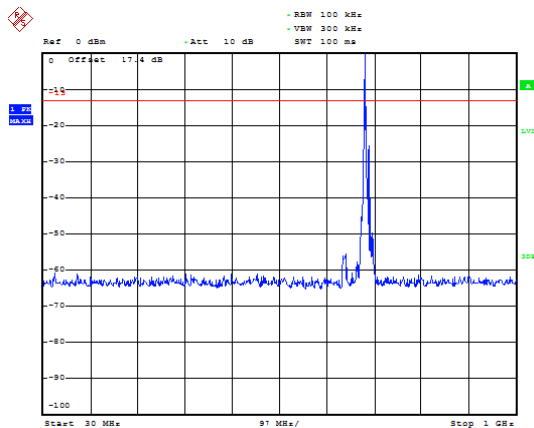
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LTE Band 71 10MHz CH-Middle 1GHz~9GHz



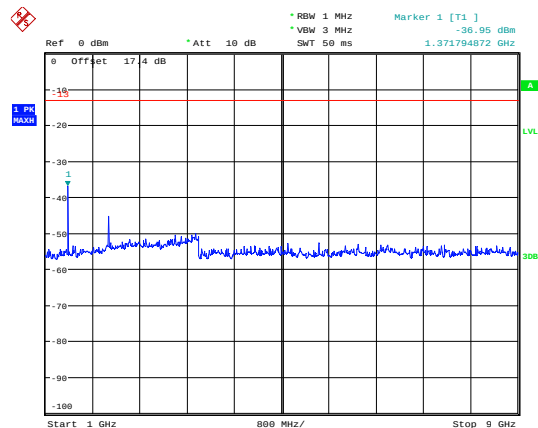
Date: 19.FEB.2019 16:07:36

LTE Band 71 10MHz CH-High 30MHz~1GHz



Date: 19.FEB.2019 16:01:20

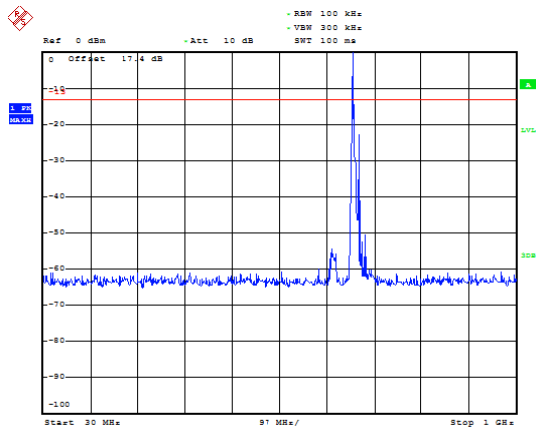
LTE Band 71 10MHz CH-High 1GHz~9GHz



Date: 19.FEB.2019 16:07:51

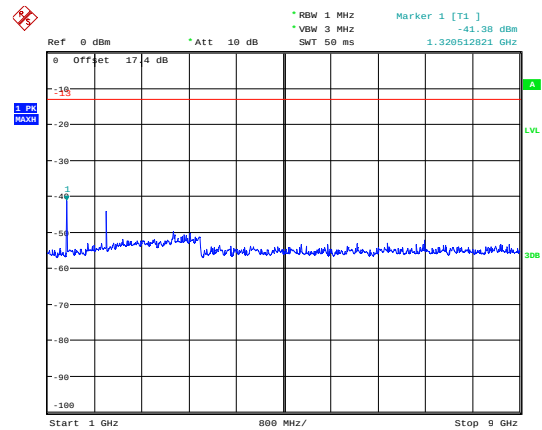


LTE Band 71 15MHz CH-Low 30MHz~1GHz



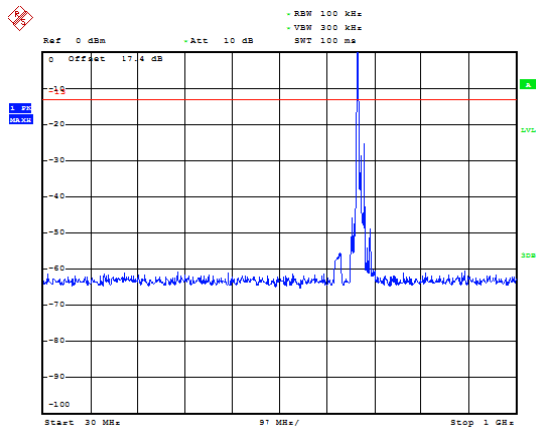
Date: 19.FEB.2019 16:01:42

LTE Band 71 15MHz CH-Low 1GHz~9GHz



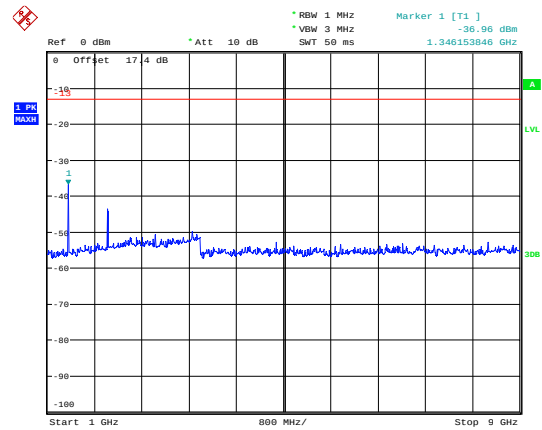
Date: 19.FEB.2019 16:08:13

LTE Band 71 15MHz CH-Middle 30MHz~1GHz



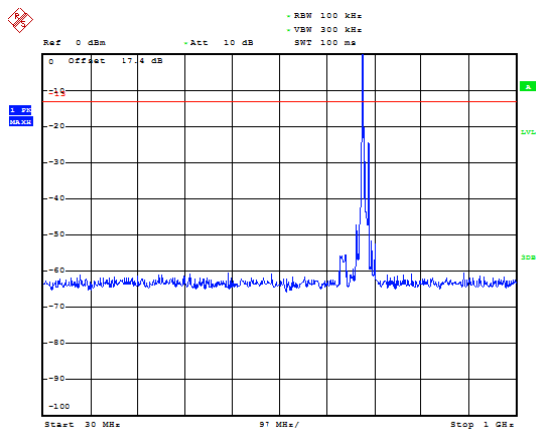
Date: 19.FEB.2019 16:01:55

LTE Band 71 15MHz CH-Middle 1GHz~9GHz



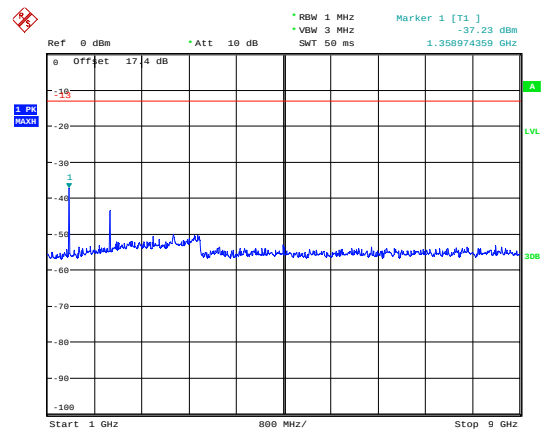
Date: 19.FEB.2019 16:08:28

LTE Band 71 15MHz CH-High 30MHz~1GHz



Date: 19.FEB.2019 16:02:08

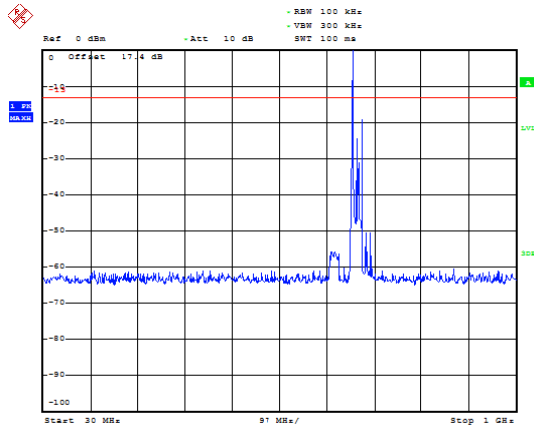
LTE Band 71 15MHz CH-High 1GHz~9GHz



Date: 19.FEB.2019 16:08:44

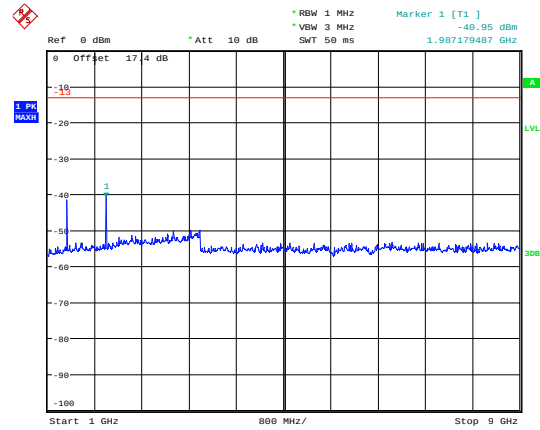


LTE Band 71 20MHz CH-Low 30MHz~1GHz



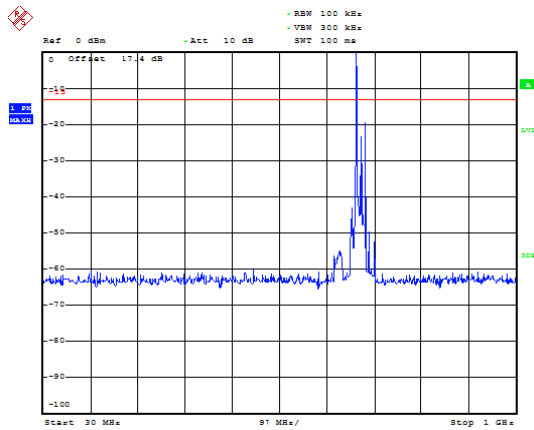
Date: 19.FEB.2019 16:02:28

LTE Band 71 20MHz CH-Low 1GHz~9GHz



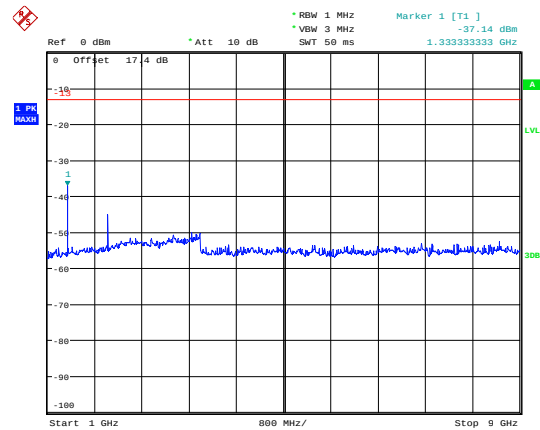
Date: 19.FEB.2019 16:05:53

LTE Band 71 20MHz CH-Middle 30MHz~1GHz



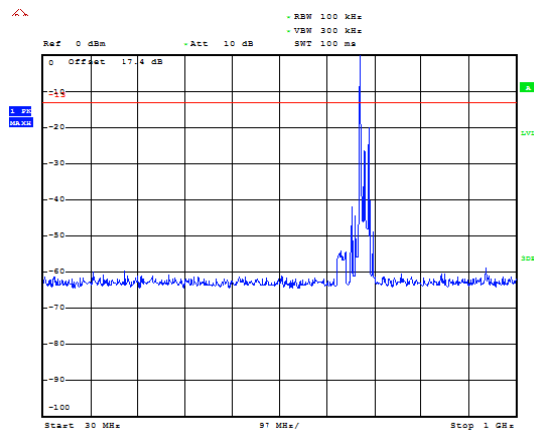
Date: 19.FEB.2019 16:02:42

LTE Band 71 20MHz CH-Middle 1GHz~9GHz



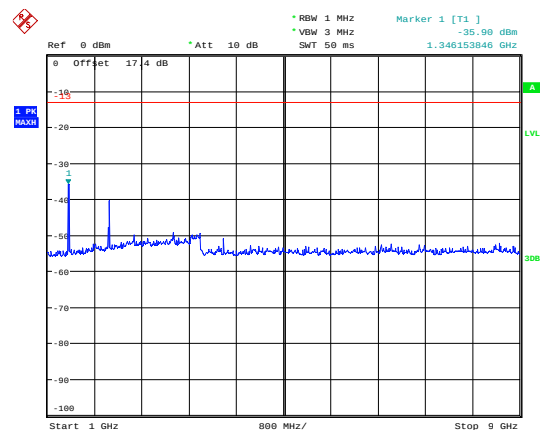
Date: 19.FEB.2019 16:05:40

LTE Band 71 20MHz CH-High 30MHz~1GHz



Date: 19.FEB.2019 16:02:56

LTE Band 71 20MHz CH-High 1GHz~9GHz



Date: 19.FEB.2019 16:05:19

5.8 Radiates Spurious Emission

Ambient condition

Temperature	Relative humidity	Pressure
23°C ~25°C	45%~50%	101.5kPa

Method of Measurement

1. The testing follows FCC KDB 971168 D01 v03r01 Section 5.8 and ANSI C63.26 (2015).
2. Below 1GHz: The EUT is placed on a turntable 0.8 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H). Above 1GHz: (Note: the FCC's permission to use 1.5m as an alternative per TCBC Conf call of Dec. 2, 2014.) The EUT is placed on a turntable 1.5 meters above the ground in the chamber, 3 meter away from the antenna. The maximal emission value is acquired by adjusting the antenna height, polarisation and turntable azimuth. Normally, the height range of antenna is 1 m to 4 m, the azimuth range of turntable is 0° to 360°, and the receive antenna has two polarizations Vertical (V) and Horizontal (H).
3. A loop antenna, A log-periodic antenna or horn antenna shall be substituted in place of the EUT. The log-periodic antenna will be driven by a signal generator and the level will be adjusted till the same power value on the spectrum analyzer or receiver. The level of the spurious emissions can be calculated through the level of the signal generator, cable loss, the gain of the substitution antenna and the reading of the spectrum analyzer or receiver.
4. The EUT is then put into continuously transmitting mode at its maximum power level during the test. Set Test Receiver or Spectrum RBW=200Hz,VBW=600Hz for 9kHz150kHz , RBW=10kHz, VBW=30kHz 150kHz-30MHz ,RBW=100kHz,VBW=300kHz for 30MHz to 1GHz and RBW=1MHz, VBW=3MHz for above 1GHz And the maximum value of the receiver should be recorded as (Pr).
5. The EUT shall be replaced by a substitution antenna. In the chamber, an substitution antenna for the frequency band of interest is placed at the reference point of the chamber. An RF Signal source for the frequency band of interest is connected to the substitution antenna with a cable that has been constructed to not interfere with the radiation pattern of the antenna. A power (PMea) is applied to the input of the substitution antenna, and adjust the level of the signal generator output until the value of the receiver reach the previously recorded (Pr). The power of signal source (PMea) is recorded. The test should be performed by rotating the test item and adjusting the receiving antenna polarization.
6. A amplifier should be connected to the Signal Source output port. And the cable should be connect between the Amplifier and the Substitution Antenna. The cable loss (Pcl) ,the Substitution Antenna Gain (Ga) and the Amplifier Gain (PAg) should be recorded after test.
7. The measurement results are obtained as described below:

$$\text{Power(EIRP)} = \text{PMea} - \text{PAg} - \text{Pcl} + \text{Ga}$$
The measurement results are amend as described below:

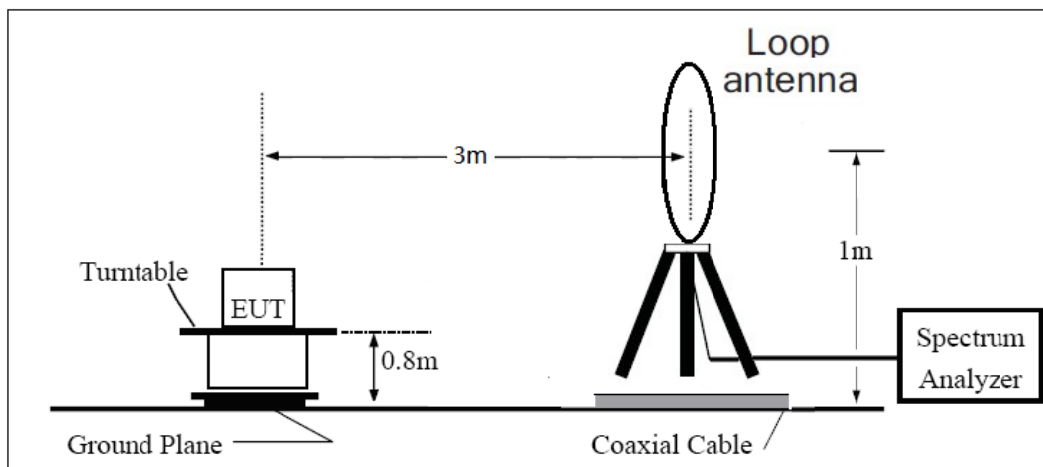
$$\text{Power(EIRP)} = \text{PMea} - \text{Pcl} + \text{Ga}$$
8. This value is EIRP since the measurement is calibrated using an antenna of known gain (2.15 dBi) and known input power. ERP can be calculated from EIRP by subtracting the gain of the dipole, ERP

= EIRP-2.15dBi.

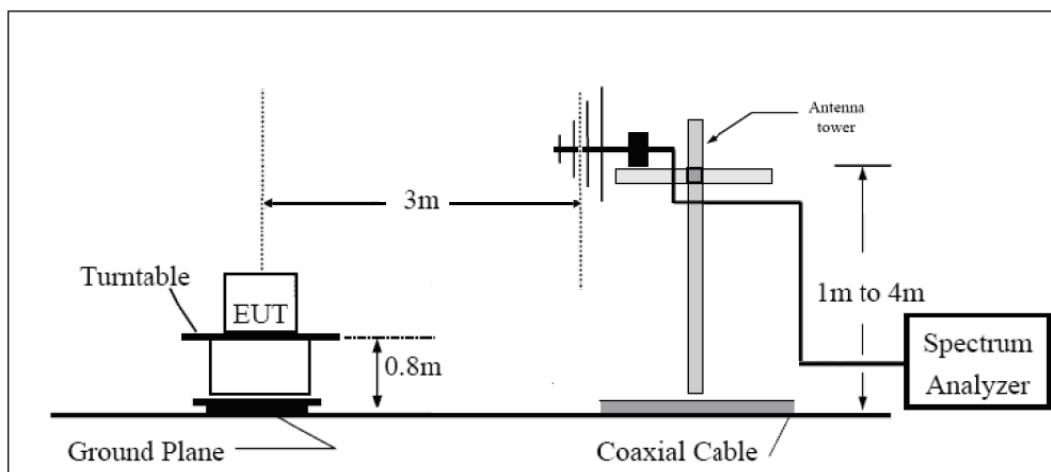
The modulation mode and RB allocation refer to section 5.1, using the maximum output power configuration.

Test setup

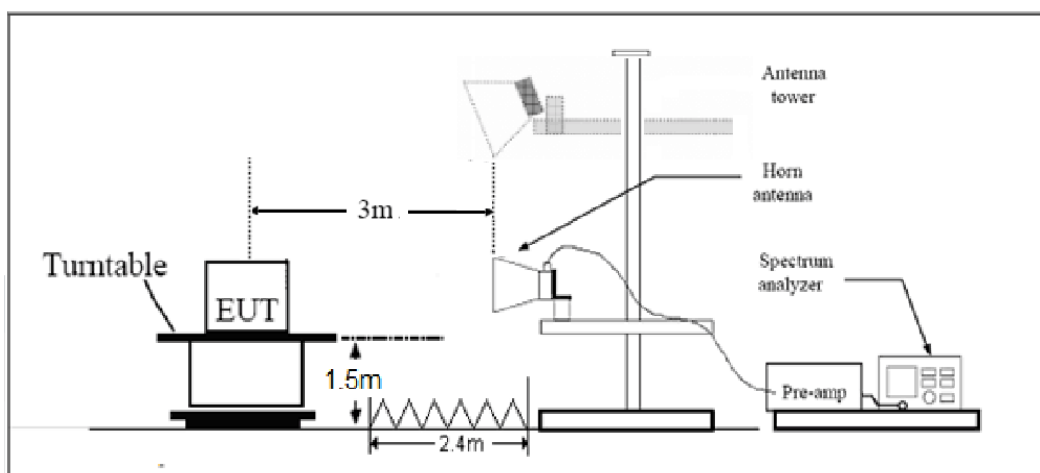
9KHz ~ 30MHz



30MHz ~ 1GHz



Above 1GHz



Note: Area side:2.4mX3.6m

Limits

Rule Part 27.53(h) specifies that “for operations 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 bands, the power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) in watts by at least $43 + 10 \log_{10} (P)$ dB.”

Rule Part 27.53 (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.

Rule Part 27.53(f) For operations in the 746-758 MHz, 775-788 MHz, and 805-806 MHz bands, emissions in the band 1559-1610 MHz shall be limited to -70 dBW/MHz equivalent isotropically radiated power (EIRP) for wideband signals, and -80 dBW EIRP for discrete emissions of less than 700 Hz bandwidth. For the purpose of equipment authorization, a transmitter shall be tested with an antenna that is representative of the type that will be used with the equipment in normal operation.

Part 27.53 (c) 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 $76 + 10 \log (P)$ dB in a 6.25 kHz band segment, for base and fixed stations;
- (4) 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;
- (5) 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;

Part 27.53(h)/(g) Limit		-13 dBm
Part 27.53(f) Limit	Limit out of the band 1559-1610 MHz	-13 dBm
	Limit in the band 1559-1610 MHz	-40 dBm



Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor $k = \pm 1.96$, $U = \pm 3.55$ dB.

Test Result

Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier, the emissions below the noise floor will not be recorded in the report.

WCDMA Band IV CH-Low

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3424.8	-56.41	2.6	10.15	Vertical	-48.86	-13.00	35.86	225
3	5137.2	-55.96	2.4	11.35	Vertical	-47.01	-13.00	34.01	0
4	6850.1	-53.71	4.5	10.85	Vertical	-47.36	-13.00	34.36	90
5	8562.0	-53.87	5.1	11.35	Vertical	-47.62	-13.00	34.62	45
6	10274.4	-52.90	5.3	11.95	Vertical	-46.25	-13.00	33.25	180
7	11986.8	-53.03	5.5	13.55	Vertical	-44.98	-13.00	31.98	135
8	13699.2	-51.72	6.3	13.75	Vertical	-44.27	-13.00	31.27	225
9	15411.6	-52.14	6.7	13.85	Vertical	-44.99	-13.00	31.99	90
10	17124.0	-51.62	6.8	14.25	Vertical	-44.17	-13.00	31.17	135

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.
2. The worst emission was found in the antenna is Vertical position.

WCDMA Band IV CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3462.8	-56.87	2.6	10.75	Vertical	-48.72	-13.00	35.72	225
3	5201.3	-57.97	2.4	11.05	Vertical	-49.32	-13.00	36.32	90
4	6925.1	-55.22	4.5	11.15	Vertical	-48.57	-13.00	35.57	180
5	8663.0	-54.82	5.1	11.35	Vertical	-48.57	-13.00	35.57	315
6	10395.6	-53.09	5.3	11.95	Vertical	-46.44	-13.00	33.44	45
7	12128.2	-53.43	5.5	13.55	Vertical	-45.38	-13.00	32.38	90
8	13860.8	-52.31	6.3	13.75	Vertical	-44.86	-13.00	31.86	135
9	15593.4	-54.17	6.7	13.85	Vertical	-47.02	-13.00	34.02	225
10	17326.0	-51.06	6.8	14.25	Vertical	-43.61	-13.00	30.61	90

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.
2. The worst emission was found in the antenna is Vertical position.

WCDMA Band IV CH-High

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3503.3	-54.78	2.6	10.15	Vertical	-47.23	-13.00	34.23	180
3	5254.1	-58.19	2.4	11.05	Vertical	-49.54	-13.00	36.54	315
4	7010.4	-54.95	4.5	11.15	Vertical	-48.30	-13.00	35.30	45
5	8763.0	-54.30	5.1	11.35	Vertical	-48.05	-13.00	35.05	90
6	10515.6	-52.49	5.3	11.95	Vertical	-45.84	-13.00	32.84	315
7	12268.2	-53.47	5.5	13.55	Vertical	-45.42	-13.00	32.42	225
8	14020.8	-52.26	6.3	13.75	Vertical	-44.81	-13.00	31.81	0
9	15773.4	-54.04	6.7	13.85	Vertical	-46.89	-13.00	33.89	90
10	17526.0	-51.81	6.8	14.25	Vertical	-44.36	-13.00	31.36	45

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Vertical position.

LTE Band 4 QPSK 20MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3421.9	-52.61	2.6	10.15	Vertical	-45.06	-13.00	32.06	225
3	5133.0	-51.37	2.4	11.35	Vertical	-42.42	-13.00	29.42	90
4	6880.0	-48.56	4.5	10.85	Vertical	-42.21	-13.00	29.21	135
5	8600.0	-49.81	5.1	11.35	Vertical	-43.56	-13.00	30.56	225
6	10320.0	-52.63	5.3	11.95	Vertical	-45.98	-13.00	32.98	90
7	12040.0	-53.16	5.5	13.55	Vertical	-45.11	-13.00	32.11	180
8	13760.0	-51.43	6.3	13.75	Vertical	-43.98	-13.00	30.98	315
9	15480.0	-48.94	6.7	13.85	Vertical	-41.79	-13.00	28.79	45
10	17200.0	-49.26	6.8	14.25	Vertical	-41.81	-13.00	28.81	90

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Vertical position.

LTE Band 4 QPSK 20MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3447.0	-53.88	2.6	10.75	Vertical	-45.73	-13.00	32.73	135
3	5170.5	-53.81	2.4	11.05	Vertical	-45.16	-13.00	32.16	225
4	6930.0	-48.90	4.5	11.15	Vertical	-42.25	-13.00	29.25	90
5	8662.5	-52.94	5.1	11.35	Vertical	-46.69	-13.00	33.69	180
6	10395.0	-52.46	5.3	11.95	Vertical	-45.81	-13.00	32.81	315
7	12127.5	-53.77	5.5	13.55	Vertical	-45.72	-13.00	32.72	225
8	13860.0	-51.15	6.3	13.75	Vertical	-43.70	-13.00	30.70	225
9	15592.5	-50.63	6.7	13.85	Vertical	-43.48	-13.00	30.48	90
10	17325.0	-51.03	6.8	14.25	Vertical	-43.58	-13.00	30.58	180
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Vertical position.									

LTE Band 4 QPSK 20MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3472.1	-51.86	2.6	10.15	Vertical	-44.31	-13.00	31.31	315
3	5208.4	-54.65	2.4	11.05	Vertical	-46.00	-13.00	33.00	45
4	6980.0	-49.62	4.5	11.15	Vertical	-42.97	-13.00	29.97	90
5	8725.0	-51.73	5.1	11.35	Vertical	-45.48	-13.00	32.48	135
6	10470.0	-51.57	5.3	11.95	Vertical	-44.92	-13.00	31.92	225
7	12215.0	-51.66	5.5	13.55	Vertical	-43.61	-13.00	30.61	90
8	13960.0	-51.07	6.3	13.75	Vertical	-43.62	-13.00	30.62	180
9	15705.0	-48.70	6.7	13.85	Vertical	-41.55	-13.00	28.55	315
10	17450.0	-51.34	6.8	14.25	Vertical	-43.89	-13.00	30.89	225
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Vertical position.									



LTE Band 12 QPSK 10MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1408.00	-55.18	2.00	10.15	Vertical	-49.18	-13.00	36.18	90
3	2112.00	-47.96	2.51	11.35	Vertical	-41.27	-13.00	28.27	180
4	2816.00	-39.43	4.20	10.85	Vertical	-34.93	-13.00	21.93	315
5	3520.00	-51.09	5.20	11.35	Vertical	-47.09	-13.00	34.09	315
6	4224.00	-60.02	5.50	11.95	Vertical	-55.72	-13.00	42.72	225
7	4928.00	-58.28	5.70	13.55	Vertical	-52.58	-13.00	39.58	225
8	5632.00	-57.47	6.30	13.75	Vertical	-52.17	-13.00	39.17	90
9	6336.00	-56.67	6.80	13.85	Vertical	-51.77	-13.00	38.77	180
10	7040.00	-54.54	6.90	14.25	Vertical	-49.34	-13.00	36.34	315
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Vertical position.									

LTE Band 12 QPSK 10MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1415.00	-63.16	2.00	10.75	Vertical	-56.56	-13.00	43.56	225
3	2122.50	-54.52	2.51	11.05	Vertical	-48.13	-13.00	35.13	225
4	2830.00	-57.30	4.20	11.15	Vertical	-52.50	-13.00	39.50	90
5	3537.50	-50.70	5.20	11.15	Vertical	-46.90	-13.00	33.90	45
6	4245.00	-59.20	5.50	11.95	Vertical	-54.90	-13.00	41.90	180
7	4952.50	-60.15	5.70	13.55	Vertical	-54.45	-13.00	41.45	315
8	5660.00	-59.08	6.30	13.75	Vertical	-53.78	-13.00	40.78	225
9	6367.50	-56.42	6.80	13.85	Vertical	-51.52	-13.00	38.52	225
10	7075.00	-54.21	6.90	14.25	Vertical	-49.01	-13.00	36.01	90
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Vertical position.									



LTE Band 12 QPSK 10MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1422.00	-59.99	2.00	10.15	Vertical	-53.99	-13.00	40.99	180
3	2133.00	-48.11	2.51	11.05	Vertical	-41.72	-13.00	28.72	315
4	2844.00	-45.06	4.20	11.15	Vertical	-40.26	-13.00	27.26	45
5	3555.00	-56.01	5.20	11.15	Vertical	-52.21	-13.00	39.21	180
6	4266.00	-59.28	5.50	11.95	Vertical	-54.98	-13.00	41.98	315
7	4977.00	-60.84	5.70	13.55	Vertical	-55.14	-13.00	42.14	45
8	5688.00	-60.55	6.30	13.75	Vertical	-55.25	-13.00	42.25	315
9	6399.00	-57.25	6.80	13.85	Vertical	-52.35	-13.00	39.35	0
10	7110.00	-52.63	6.90	14.25	Vertical	-47.43	-13.00	34.43	45

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Vertical position.

LTE Band 13 QPSK 10MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1555.0	-54.46	2.00	10.15	Vertical	-48.46	-13.00	35.46	45
3	2333.0	-43.36	2.51	11.35	Vertical	-36.67	-13.00	23.67	315
4	3128.0	-54.18	4.20	10.85	Vertical	-49.68	-13.00	36.68	315
5	3910.0	-60.04	5.20	11.35	Vertical	-56.04	-13.00	43.04	45
6	4692.0	-59.13	5.50	11.95	Vertical	-54.83	-13.00	41.83	180
7	5474.0	-60.06	5.70	13.55	Vertical	-54.36	-13.00	41.36	315
8	6256.0	-57.52	6.30	13.75	Vertical	-52.22	-13.00	39.22	225
9	7038.0	-53.41	6.80	13.85	Vertical	-48.51	-13.00	35.51	225
10	7820.0	-54.36	6.90	14.25	Vertical	-49.16	-13.00	36.16	90

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Vertical position.



LTE Band 13 QPSK 10MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1555.0	-54.71	2.00	10.75	Vertical	-48.11	-13.00	35.11	225
3	2333.0	-42.66	2.51	11.05	Vertical	-36.27	-13.00	23.27	225
4	3128.0	-53.67	4.20	11.15	Vertical	-48.87	-13.00	35.87	180
5	3910.0	-59.11	5.20	11.15	Vertical	-55.31	-13.00	42.31	315
6	4692.0	-59.45	5.50	11.95	Vertical	-55.15	-13.00	42.15	45
7	5474.0	-59.49	5.70	13.55	Vertical	-53.79	-13.00	40.79	315
8	6256.0	-57.93	6.30	13.75	Vertical	-52.63	-13.00	39.63	0
9	7038.0	-54.57	6.80	13.85	Vertical	-49.67	-13.00	36.67	180
10	7820.0	-53.77	6.90	14.25	Vertical	-48.57	-13.00	35.57	315

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Vertical position.

LTE Band 13 QPSK 10MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1555.0	-54.29	2.00	10.15	Vertical	-48.29	-13.00	35.29	90
3	2333.0	-42.74	2.51	11.05	Vertical	-36.35	-13.00	23.35	180
4	3128.0	-54.77	4.20	11.15	Vertical	-49.97	-13.00	36.97	225
5	3910.0	-59.21	5.20	11.15	Vertical	-55.41	-13.00	42.41	225
6	4692.0	-57.72	5.50	11.95	Vertical	-53.42	-13.00	40.42	90
7	5474.0	-59.19	5.70	13.55	Vertical	-53.49	-13.00	40.49	180
8	6256.0	-58.06	6.30	13.75	Vertical	-52.76	-13.00	39.76	315
9	7038.0	-54.49	6.80	13.85	Vertical	-49.59	-13.00	36.59	45
10	7820.0	-54.02	6.90	14.25	Vertical	-48.82	-13.00	35.82	315

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.

2. The worst emission was found in the antenna is Vertical position.



LTE Band 66 QPSK 20MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3421.9	-51.96	2.6	10.15	Vertical	-44.41	-13.00	31.41	45
3	5133.4	-51.60	2.4	11.35	Vertical	-42.65	-13.00	29.65	225
4	6844.9	-48.38	4.5	10.85	Vertical	-42.03	-13.00	29.03	225
5	8556.4	-49.92	5.1	11.35	Vertical	-43.67	-13.00	30.67	90
6	10267.9	-50.63	5.3	11.95	Vertical	-43.98	-13.00	30.98	180
7	11979.4	-51.53	5.5	13.55	Vertical	-43.48	-13.00	30.48	315
8	13690.9	-49.51	6.3	13.75	Vertical	-42.06	-13.00	29.06	45
9	15402.4	-49.14	6.7	13.85	Vertical	-41.99	-13.00	28.99	315
10	17113.9	-49.08	6.8	14.25	Vertical	-41.63	-13.00	28.63	0
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Vertical position.									

TE Band 66 QPSK 20MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3472.1	-53.59	2.6	10.75	Vertical	-45.44	-13.00	32.44	180
3	5208.4	-54.50	2.4	11.05	Vertical	-45.85	-13.00	32.85	315
4	6943.5	-51.37	4.5	11.15	Vertical	-44.72	-13.00	31.72	225
5	8680.5	-52.26	5.1	11.35	Vertical	-46.01	-13.00	33.01	225
6	10416.2	-51.03	5.3	11.95	Vertical	-44.38	-13.00	31.38	90
7	12152.2	-53.93	5.5	13.55	Vertical	-45.88	-13.00	32.88	225
8	13888.2	-50.73	6.3	13.75	Vertical	-43.28	-13.00	30.28	90
9	15624.3	-50.14	6.7	13.85	Vertical	-42.99	-13.00	29.99	180
10	17360.3	-50.71	6.8	14.25	Vertical	-43.26	-13.00	30.26	315
Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor. 2. The worst emission was found in the antenna is Vertical position.									

LTE Band 66 QPSK 20MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	EIRP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3522.0	-54.16	2.6	10.15	Vertical	-46.61	-13.00	33.61	45
3	5283.0	-55.90	2.4	11.05	Vertical	-47.25	-13.00	34.25	315
4	7044.0	-50.14	4.5	11.15	Vertical	-43.49	-13.00	30.49	0
5	8805.0	-54.32	5.1	11.35	Vertical	-48.07	-13.00	35.07	45
6	10566.0	-52.91	5.3	11.95	Vertical	-46.26	-13.00	33.26	225
7	12327.0	-52.96	5.5	13.55	Vertical	-44.91	-13.00	31.91	225
8	14088.0	-48.47	6.3	13.75	Vertical	-41.02	-13.00	28.02	90
9	15849.0	-50.47	6.7	13.85	Vertical	-43.32	-13.00	30.32	180
10	17610.0	-51.36	6.8	14.25	Vertical	-43.91	-13.00	30.91	315

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.
2. The worst emission was found in the antenna is Vertical position.

LTE Band 71 QPSK 20MHz CH-Low, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1328.0	-57.45	2.00	10.15	Vertical	-49.30	-13.00	36.30	315
3	1992.0	-52.85	2.51	11.35	Vertical	-44.01	-13.00	31.01	0
4	2675.0	-51.28	4.20	10.85	Vertical	-44.63	-13.00	31.63	0
5	3365.0	-61.98	5.20	11.35	Vertical	-55.83	-13.00	42.83	90
6	4038.0	-62.32	5.50	11.95	Vertical	-55.87	-13.00	42.87	180
7	4711.0	-63.08	5.70	13.55	Vertical	-55.23	-13.00	42.23	315
8	5384.0	-59.63	6.30	13.75	Vertical	-52.18	-13.00	39.18	45
9	6057.0	-59.83	6.80	13.85	Vertical	-52.78	-13.00	39.78	315
10	6730.0	-57.40	6.90	14.25	Vertical	-50.05	-13.00	37.05	0

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.
2. The worst emission was found in the antenna is Vertical position.

LTE Band 71 QPSK 20MHz CH-Middle, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1347.5	-60.54	2.00	10.75	Vertical	-51.79	-13.00	38.79	180
3	2022.5	-57.70	2.51	11.05	Vertical	-49.16	-13.00	36.16	315
4	2696.5	-59.37	4.20	11.15	Vertical	-52.42	-13.00	39.42	225
5	3415.0	-64.29	5.20	11.15	Vertical	-58.34	-13.00	45.34	45
6	4098.0	-62.63	5.50	11.95	Vertical	-56.18	-13.00	43.18	225
7	4781.0	-61.97	5.70	13.55	Vertical	-54.12	-13.00	41.12	225
8	5464.0	-60.74	6.30	13.75	Vertical	-53.29	-13.00	40.29	90
9	6147.0	-59.41	6.80	13.85	Vertical	-52.36	-13.00	39.36	90
10	6830.0	-57.04	6.90	14.25	Vertical	-49.69	-13.00	36.69	225

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.
2. The worst emission was found in the antenna is Vertical position.

LTE Band 71 QPSK 20MHz CH-High, RB 1

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	ERP Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	1358.0	-54.79	2.00	10.15	Vertical	-46.64	-13.00	33.64	225
3	2037.0	-48.12	2.51	11.05	Vertical	-39.58	-13.00	26.58	90
4	2716.0	-41.16	4.20	11.15	Vertical	-34.21	-13.00	21.21	225
5	3395.3	-49.93	5.20	11.15	Vertical	-43.98	-13.00	30.98	90
6	4084.0	-61.61	5.50	11.95	Vertical	-55.16	-13.00	42.16	180
7	4772.8	-62.47	5.70	13.55	Vertical	-54.62	-13.00	41.62	315
8	5461.5	-60.89	6.30	13.75	Vertical	-53.44	-13.00	40.44	45
9	6150.3	-59.90	6.80	13.85	Vertical	-52.85	-13.00	39.85	315
10	6839.0	-57.86	6.90	14.25	Vertical	-50.51	-13.00	37.51	0

Note: 1.The other Spurious RF Radiated emissions level is no more than noise floor.
2. The worst emission was found in the antenna is Vertical position.

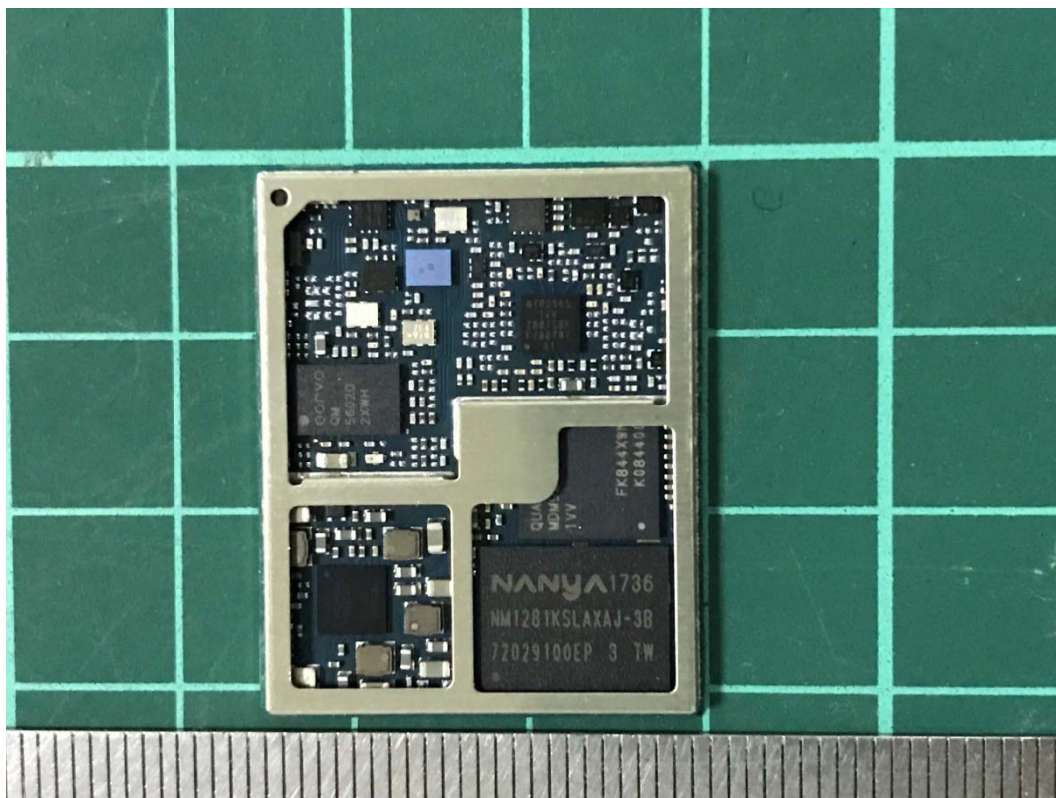
6 Main Test Instruments

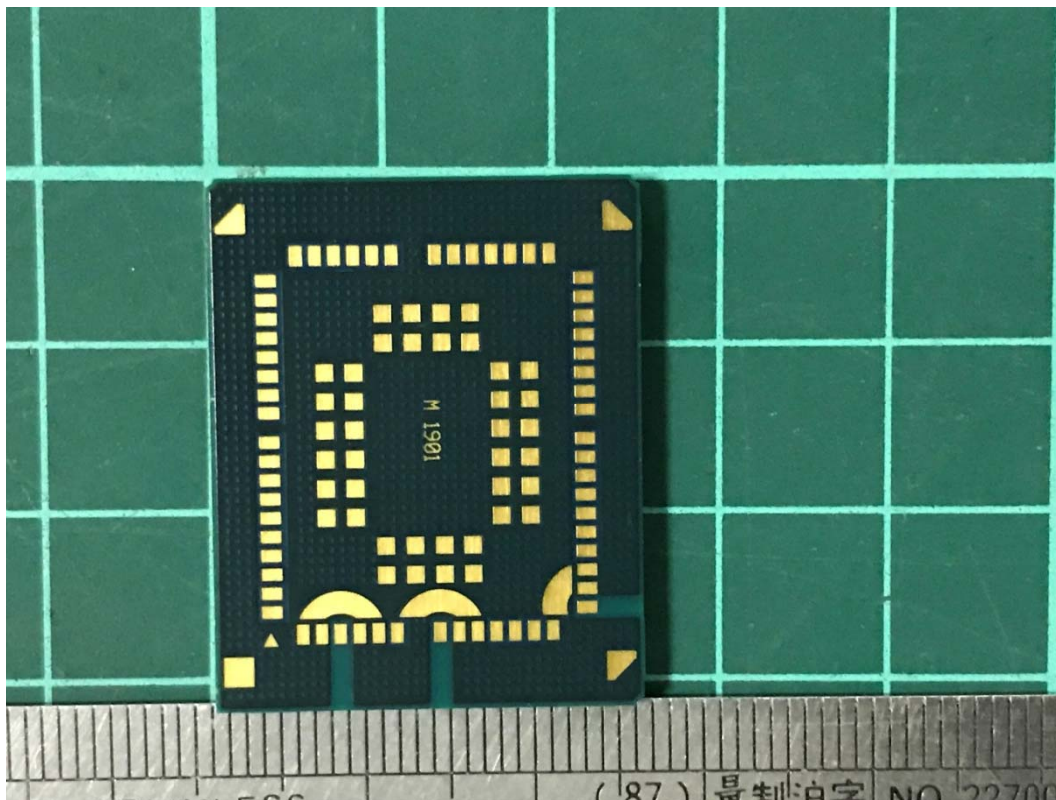
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Base Station Simulator	R&S	CMW500	113824	2018-05-20	2019-05-19
Power Splitter	Hua Xiang	SHX-GF2-2-13	10120101	/	/
Spectrum Analyzer	Key sight	N9010A	MY50210259	2018-05-20	2019-05-19
Signal Analyzer	R&S	FSV30	100815	2018-12-16	2019-12-15
Loop Antenna	SCHWARZBECK	FMZB1519	1519-047	2017-09-26	2019-09-25
Trilog Antenna	SCHWARZBECK	VUBL 9163	9163-201	2017-11-18	2019-11-17
Horn Antenna	R&S	HF907	100126	2018-07-07	2020-07-06
Horn Antenna	ETS-Lindgren	3160-09	00102643	2018-06-20	2020-06-19
Signal generator	R&S	SMB 100A	102594	2018-05-20	2019-05-19
Climatic Chamber	ESPEC	SU-242	93000506	2017-12-17	2020-12-16
Preamplifier	R&S	SCU18	102327	2018-05-20	2019-05-19
MOB COMMS DC SUPPLY	Keysight	66319D	MY43004105	2018-05-21	2019-05-20
RF Cable	Agilent	SMA 15cm	0001	/	/
Software	R&S	EMC32	9.26.0	/	/

*******END OF REPORT *******

ANNEX A: EUT Appearance and Test Setup

A.1 EUT Appearance

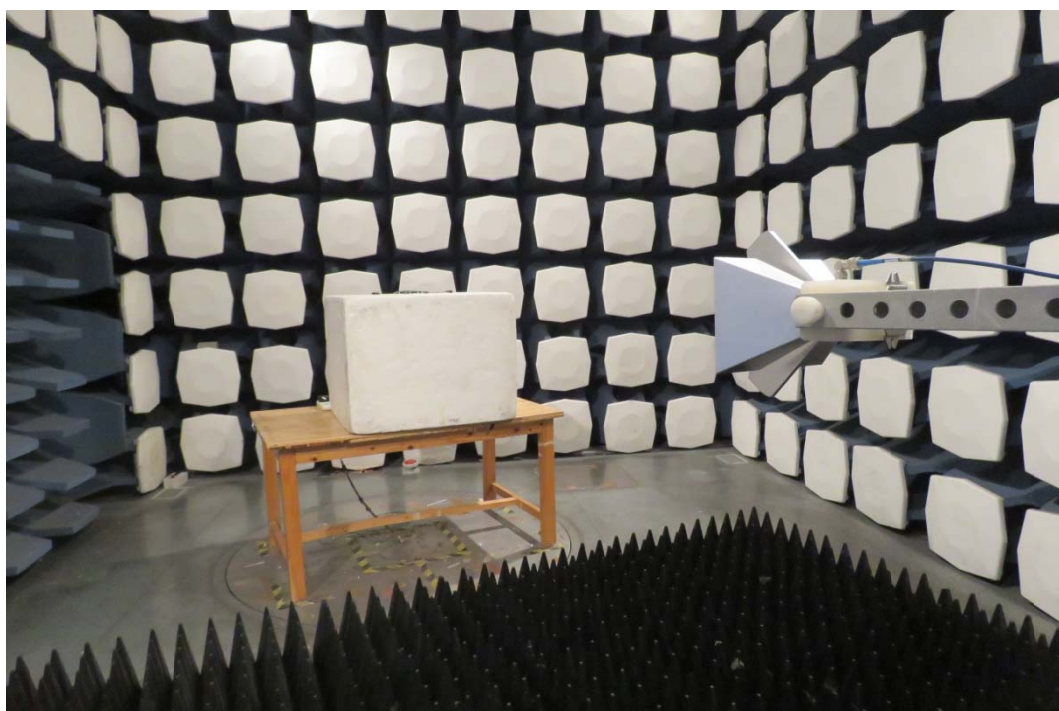
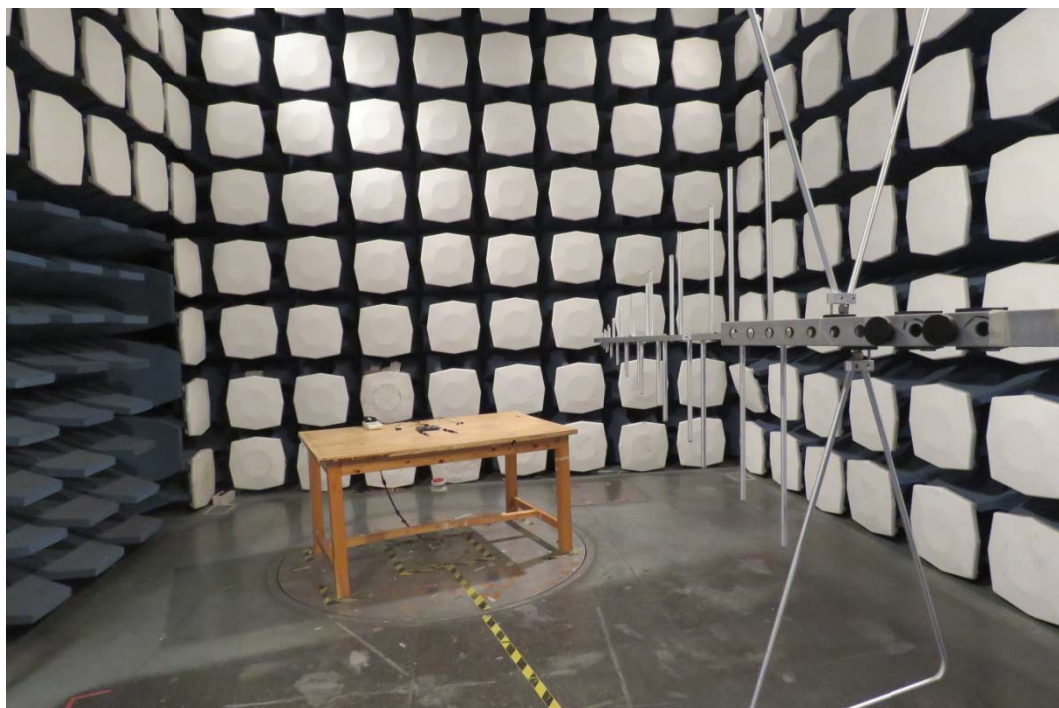




a: EUT

Picture 1 EUT and Accessory

A.2 Test Setup



Picture 2 Radiated Spurious Emissions Test setup