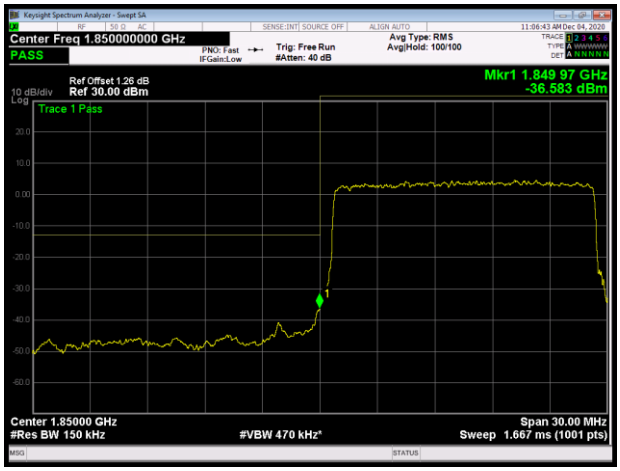
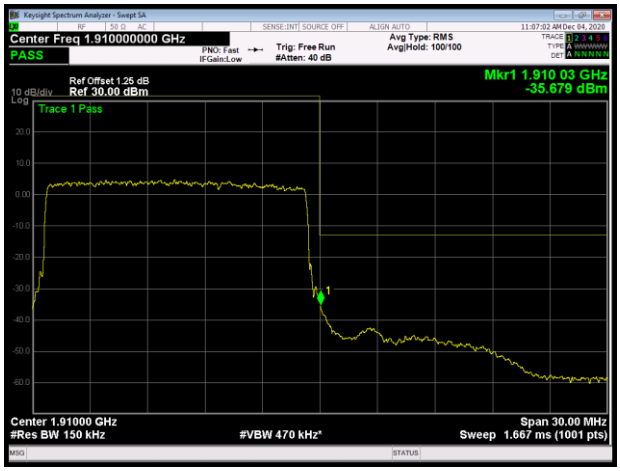
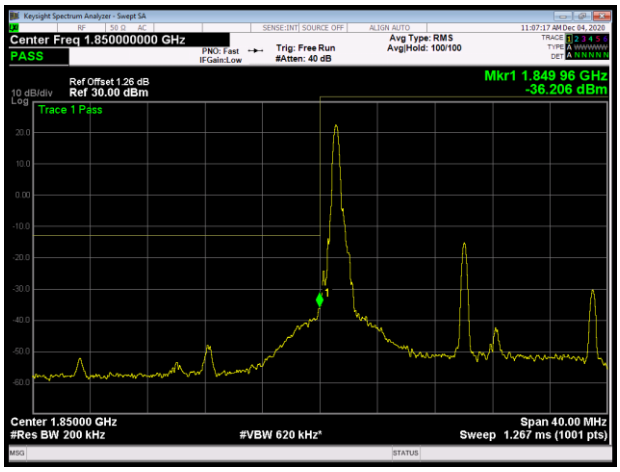
LTE Band 2 15MHz QPSK 100%RB CH-Low



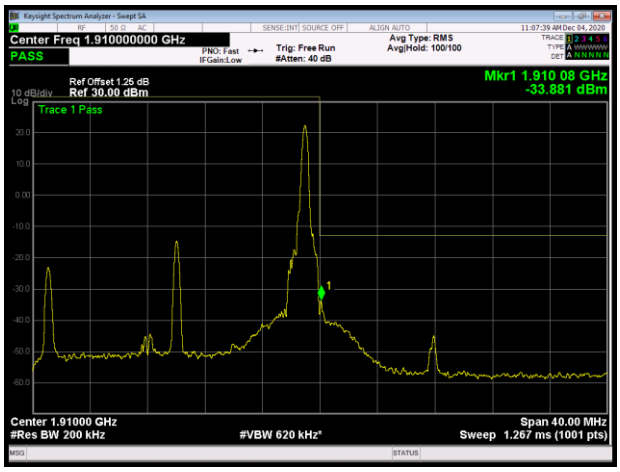
LTE Band 2 15MHz QPSK 100%RB CH-High



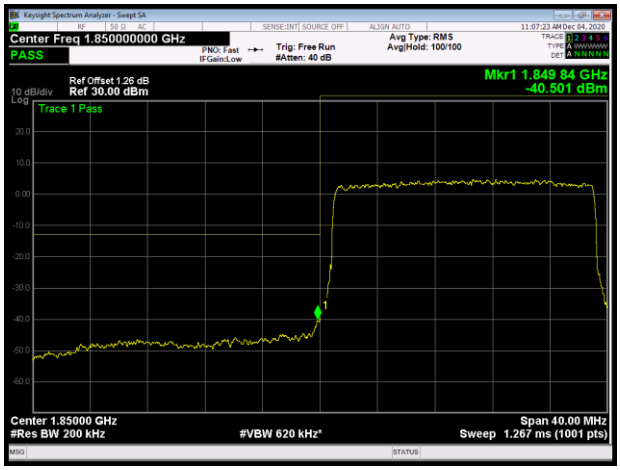
LTE Band 2 20MHz QPSK 1RB CH-Low



LTE Band 2 20MHz QPSK 1RB CH-High



LTE Band 2 20MHz QPSK 100%RB CH-Low



LTE Band 2 20MHz QPSK 100%RB CH-High

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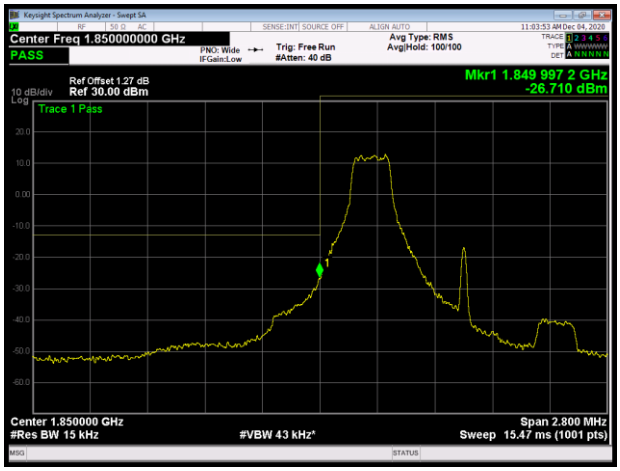
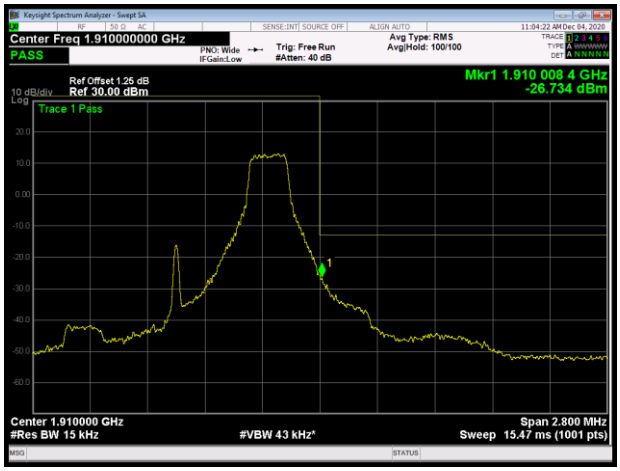
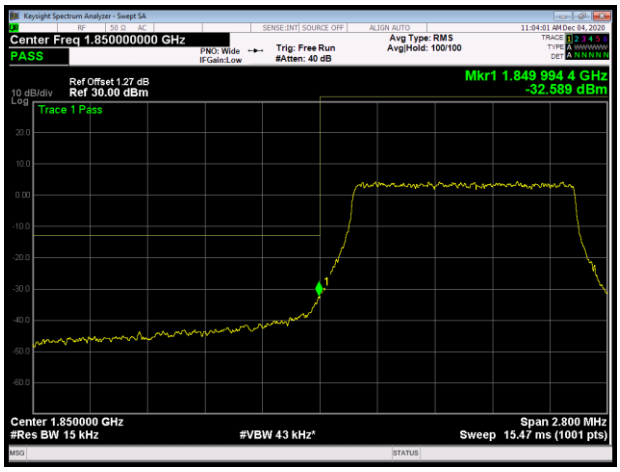
LTE Band 2 1.4MHz 16QAM 1RB CH-Low



LTE Band 2 1.4MHz 16QAM 1RB CH-High

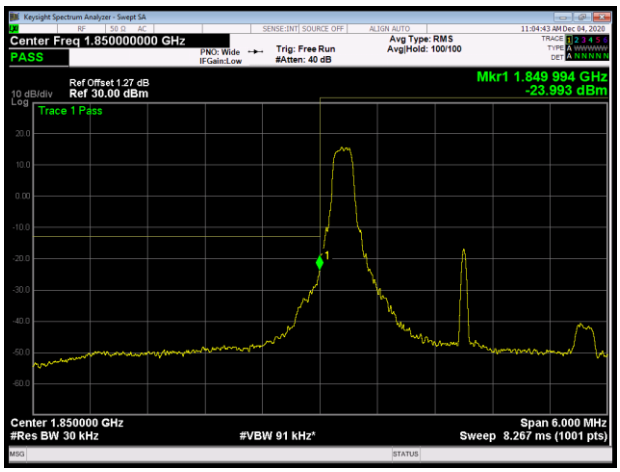


LTE Band 2 1.4MHz 16QAM 100%RB CH-Low

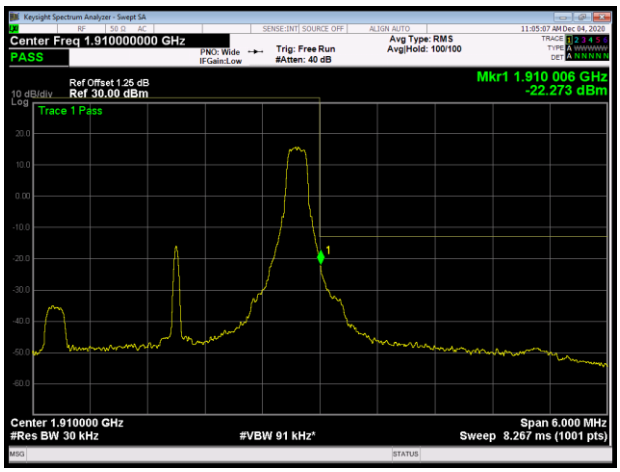


LTE Band 2 1.4MHz 16QAM 100%RB CH-High

LTE Band 2 3MHz 16QAM 1RB CH-Low



LTE Band 2 3MHz 16QAM 1RB CH-High



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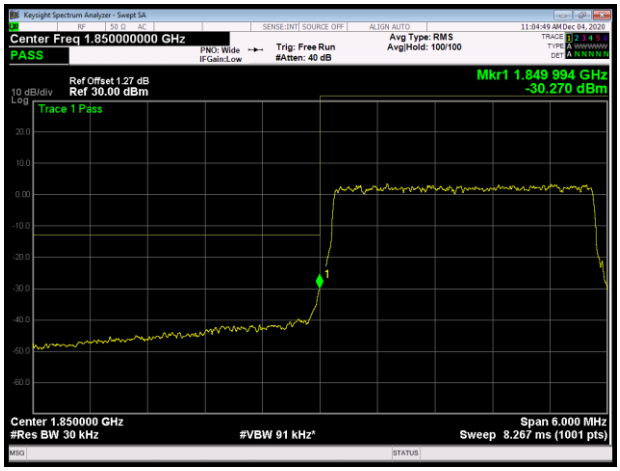
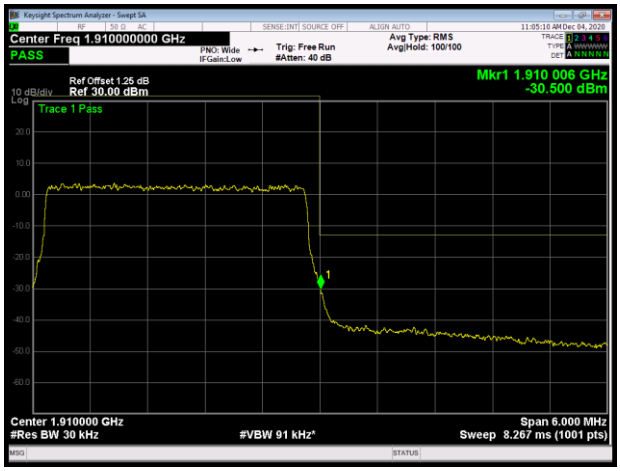
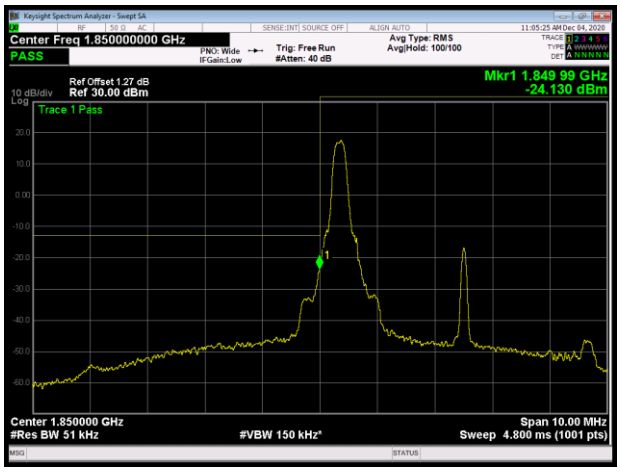
LTE Band 2 3MHz 16QAM 100%RB CH-Low



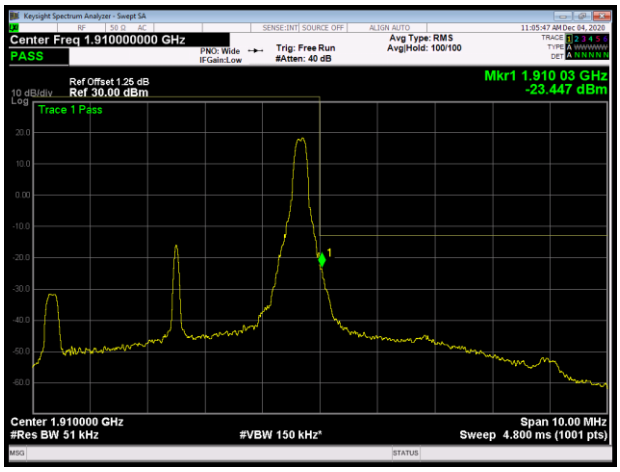
LTE Band 2 3MHz 16QAM 100%RB CH-High



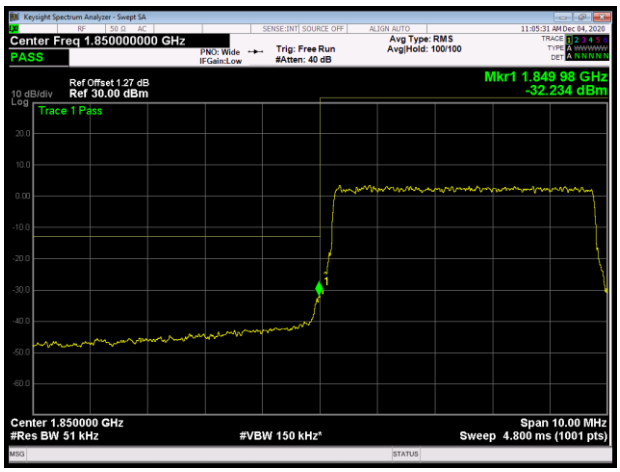
LTE Band 2 5MHz 16QAM 1RB CH-Low



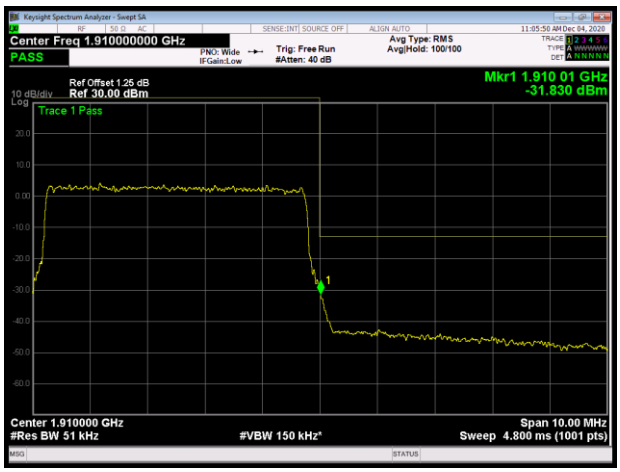
LTE Band 2 5MHz 16QAM 1RB CH-High



LTE Band 2 5MHz 16QAM 100%RB CH-Low



LTE Band 2 5MHz 16QAM 100%RB CH-High



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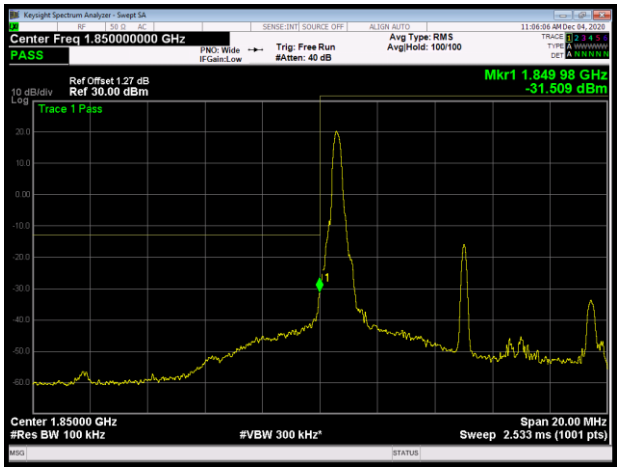
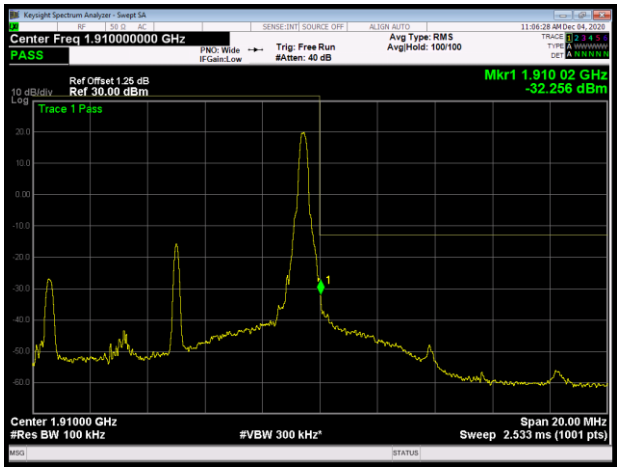
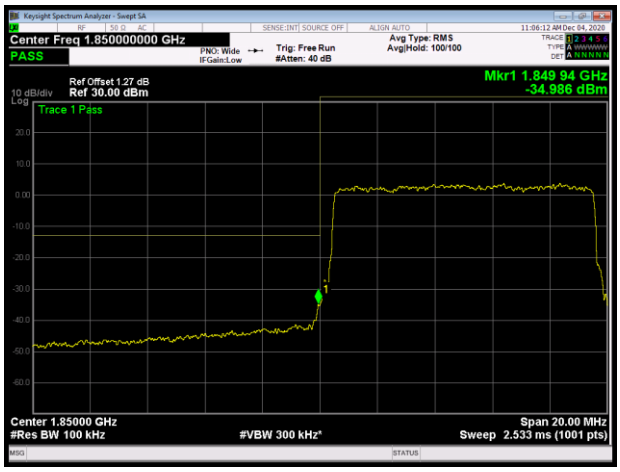
LTE Band 2 10MHz 16QAM 1RB CH-Low



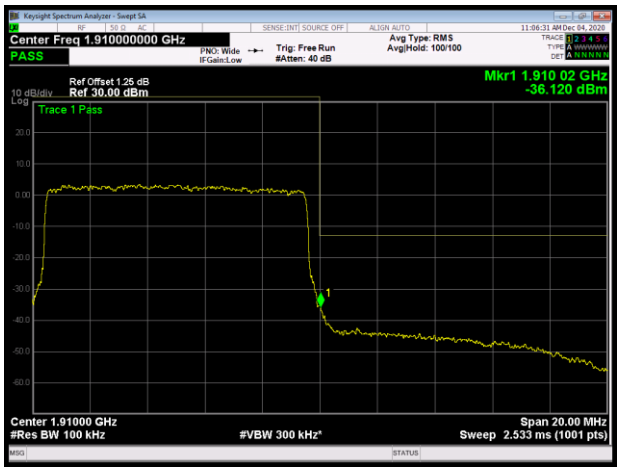
LTE Band 2 10MHz 16QAM 1RB CH-High



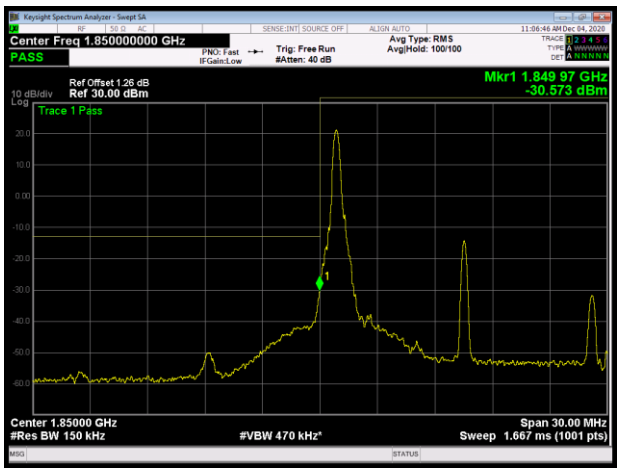
LTE Band 2 10MHz 16QAM 100%RB CH-Low



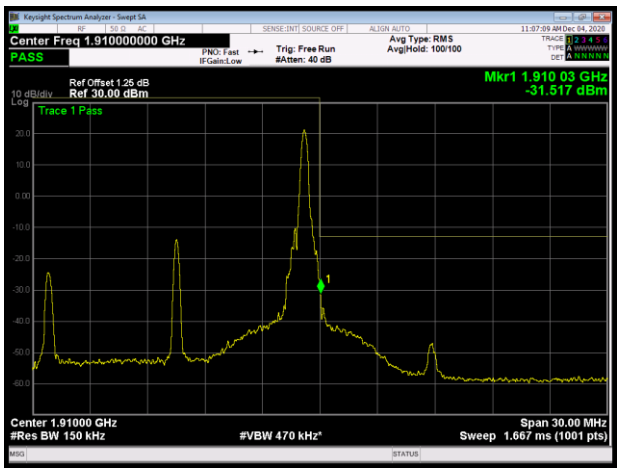
LTE Band 2 10MHz 16QAM 100%RB CH-High



LTE Band 2 15MHz 16QAM 1RB CH-Low



LTE Band 2 15MHz 16QAM 1RB CH-High



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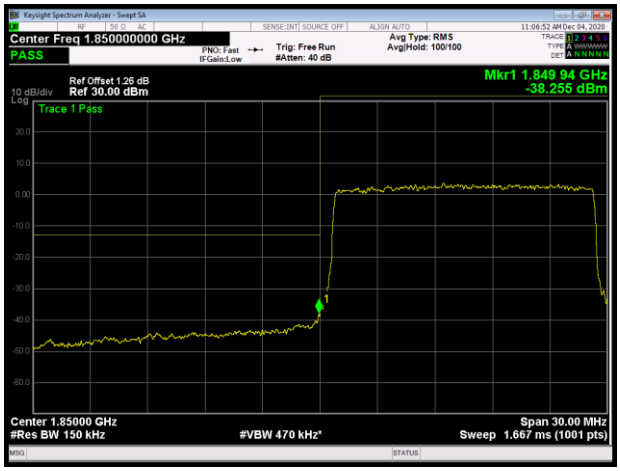
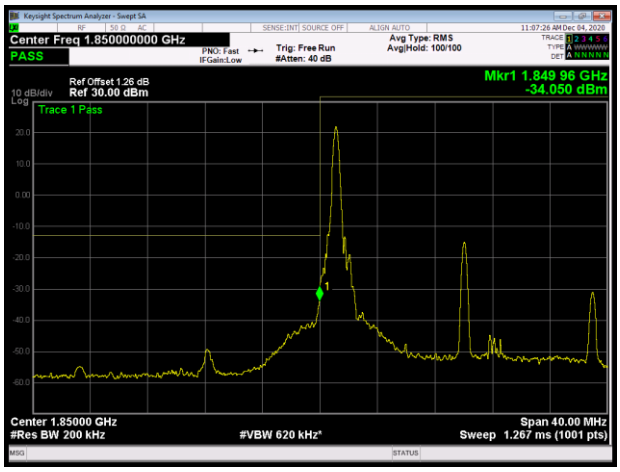
LTE Band 2 15MHz 16QAM 100%RB CH-Low

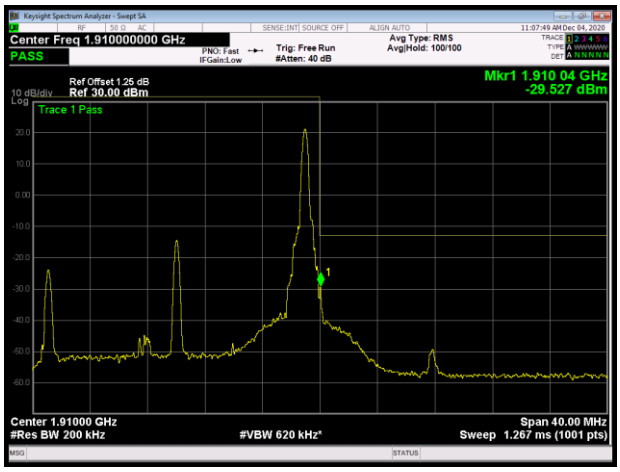


LTE Band 2 15MHz 16QAM 100%RB CH-High

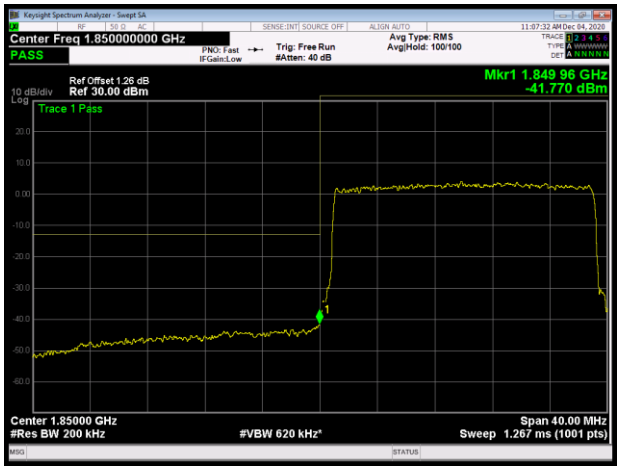
LTE Band 2 20MHz 16QAM 1RB CH-Low



LTE Band 2 20MHz 16QAM 1RB CH-High



LTE Band 2 20MHz 16QAM 100%RB CH-Low



LTE Band 2 20MHz 16QAM 100%RB CH-High

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6.4. Peak-to-Average Power Ratio (PAPR)

LTE Band 2								
Modulation	Bandwidth (MHz)	Channel	Frequency (MHz)	Peak (dBm)	Avg (dBm)	PAPR (dB)	Limit (dB)	Conclusion
QPSK	1.4	18607	1850.7	27.15	22.23	4.92	≤13	PASS
		18900	1880.0	27.66	22.49	5.17	≤13	PASS
		19193	1909.3	27.20	22.07	5.13	≤13	PASS
	3	18615	1851.5	27.28	22.26	5.02	≤13	PASS
		18900	1880	27.76	22.53	5.23	≤13	PASS
		19185	1908.5	27.24	22.10	5.14	≤13	PASS
	5	18625	1852.5	27.29	22.24	5.05	≤13	PASS
		18900	1880	27.72	22.52	5.20	≤13	PASS
		19175	1907.5	27.20	22.08	5.12	≤13	PASS
	10	18650	1855	27.37	22.32	5.05	≤13	PASS
		18900	1880	27.69	22.54	5.15	≤13	PASS
		19150	1905	27.14	22.12	5.02	≤13	PASS
	15	18675	1857.5	27.41	22.30	5.11	≤13	PASS
		18900	1880	27.75	22.50	5.25	≤13	PASS
		19125	1902.5	27.08	22.07	5.01	≤13	PASS
	20	18700	1860	27.29	22.27	5.02	≤13	PASS
		18900	1880	27.53	22.45	5.08	≤13	PASS
		19100	1900	26.92	22.03	4.89	≤13	PASS
16QAM	1.4	18607	1850.7	27.15	21.36	5.79	≤13	PASS
		18900	1880.0	27.27	21.29	5.98	≤13	PASS
		19193	1909.3	27.33	21.30	6.03	≤13	PASS
	3	18615	1851.5	27.25	21.39	5.86	≤13	PASS
		18900	1880	27.37	21.33	6.04	≤13	PASS
		19185	1908.5	27.29	21.33	5.96	≤13	PASS
	5	18625	1852.5	27.19	21.37	5.82	≤13	PASS
		18900	1880	27.28	21.29	5.99	≤13	PASS
		19175	1907.5	27.20	21.28	5.92	≤13	PASS
	10	18650	1855	27.25	21.40	5.85	≤13	PASS
		18900	1880	27.28	21.34	5.94	≤13	PASS
		19150	1905	27.16	21.32	5.84	≤13	PASS
	15	18675	1857.5	27.21	21.37	5.84	≤13	PASS
		18900	1880	27.26	21.29	5.97	≤13	PASS
		19125	1902.5	26.99	21.28	5.71	≤13	PASS
	20	18700	1860	27.17	21.35	5.82	≤13	PASS
		18900	1880	27.16	21.25	5.91	≤13	PASS
		19100	1900	26.96	21.25	5.71	≤13	PASS

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6.5. Frequency Stability

LTE Band 2					
(QPSK, 20MHz BANDWIDTH)					
Condition		1850	1910	Delta(Hz)	Frequency Stability(ppm)
Temperature	Voltage	F low@-13dBm(MHz)	F high@-13dBm(MHz)		
Normal（25°C）	Normal	1850.6462	1909.4831	-1.29	-0.00069
Extreme（85°C）		1850.6471	1909.4827	-1.52	-0.00081
Extreme（80°C）		1850.6432	1909.4859	1.44	0.00077
Extreme（70°C）		1850.6451	1909.4845	0.86	0.00046
Extreme（60°C）		1850.6437	1909.4854	-2.69	-0.00143
Extreme（50°C）		1850.6443	1909.4848	-1.82	-0.00097
Extreme（40°C）		1850.6456	1909.4835	2.10	0.00112
Extreme（30°C）		1850.6463	1909.4828	0.86	0.00046
Extreme（20°C）		1850.6442	1909.4849	-0.07	-0.00004
Extreme（10C）		1850.6454	1909.4837	0.35	0.00019
Extreme（0°C）		1850.6441	1909.4857	-0.40	-0.00021
Extreme（-10°C）		1850.6436	1909.4855	-0.20	-0.00011
Extreme（-20°C）		1850.6447	1909.4844	0.56	0.00030
Extreme（-30°C）		1850.6483	1909.4811	-2.60	-0.00138
Extreme（-40°C）		1850.6492	1909.4799	-0.42	-0.00022
25°C	LV	1850.6444	1909.4847	1.26	0.00067
	HV	1850.6455	1909.4841	3.50	0.00186
(16QAM, 20MHz BANDWIDTH)					
Condition		1850	1910	Delta(Hz)	Frequency Stability(ppm)
Temperature	Voltage	F low@-13dBm(MHz)	F high@-13dBm(MHz)		
Normal（25°C）	Normal	1850.5825	1909.4472	-2.00	-0.00106
Extreme（85°C）		1850.5836	1909.4461	-0.91	-0.00048
Extreme（80°C）		1850.5797	1909.4523	-4.48	-0.00238
Extreme（70°C）		1850.5816	1909.4481	-2.62	-0.00139
Extreme（60°C）		1850.5802	1909.4495	-4.00	-0.00213
Extreme（50°C）		1850.5808	1909.4489	1.51	0.00080
Extreme（40°C）		1850.5821	1909.4476	0.79	0.00042
Extreme（30°C）		1850.5828	1909.4469	0.47	0.00025
Extreme（20°C）		1850.5807	1909.4491	-4.84	-0.00257
Extreme（10C）		1850.5819	1909.4478	-1.19	-0.00063
Extreme（0°C）		1850.5806	1909.4491	-4.88	-0.00260
Extreme（-10°C）		1850.5801	1909.4496	-3.63	-0.00193
Extreme（-20°C）		1850.5812	1909.4485	-0.77	-0.00041
Extreme（-30°C）		1850.5845	1909.4452	-2.98	-0.00159
Extreme（-40°C）		1850.5857	1909.4449	-4.68	-0.00249
25°C	LV	1850.5809	1909.4488	-4.04	-0.00215
	HV	1850.5815	1909.4482	-5.46	-0.00290

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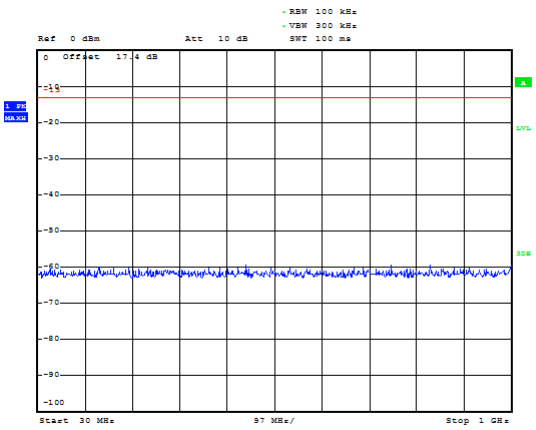
6.6. Spurious Emissions at Antenna Terminals

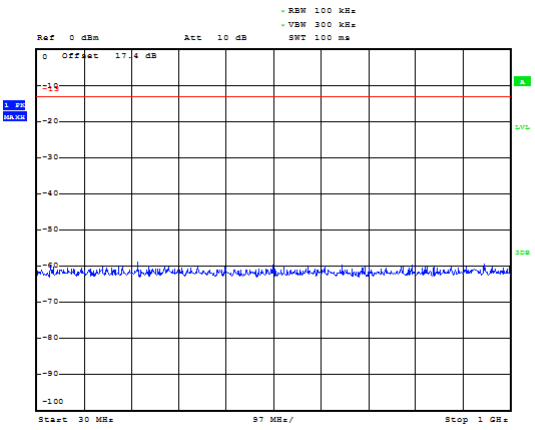
Sweep the whole frequency band through the range from 9kHz to the 10th harmonic of the carrier, the emissions more than 20 dB below the limit are not reported.

The signal beyond the limit is carrier.

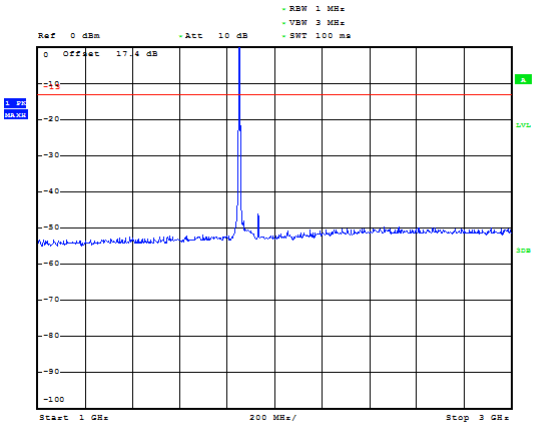
LTE Band 2 1.4MHz CH-Low 30MHz~1GHz



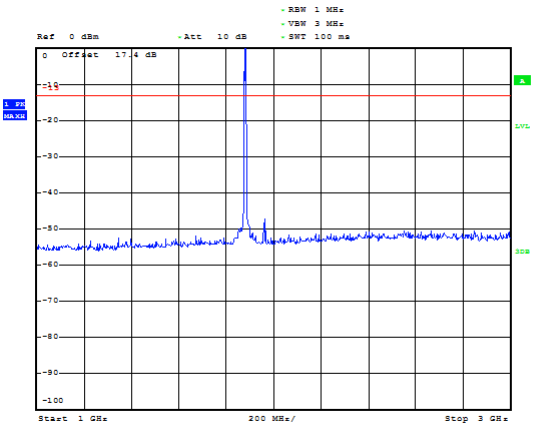
LTE Band 2 1.4MHz CH-Middle 30MHz~1GHz



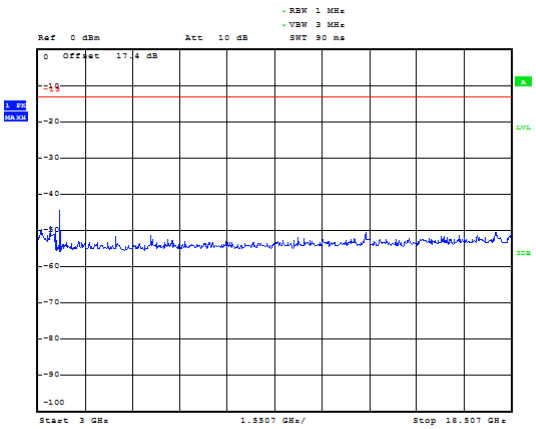
LTE Band 2 1.4MHz CH-Low 1GHz~3GHz



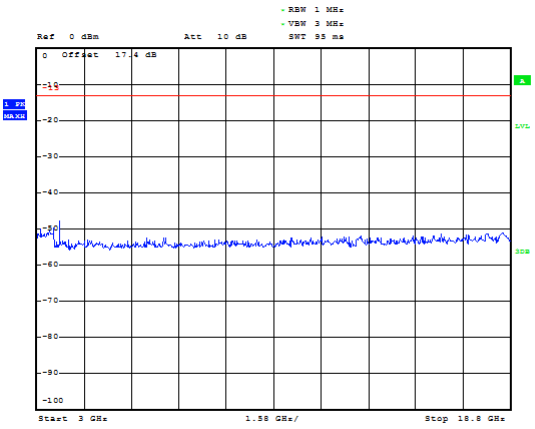
LTE Band 2 1.4MHz CH-Middle 1GHz~3GHz



LTE Band 2 1.4MHz CH-Low 3GHz~20GHz



LTE Band 2 1.4MHz CH-Middle 3GHz~20GHz



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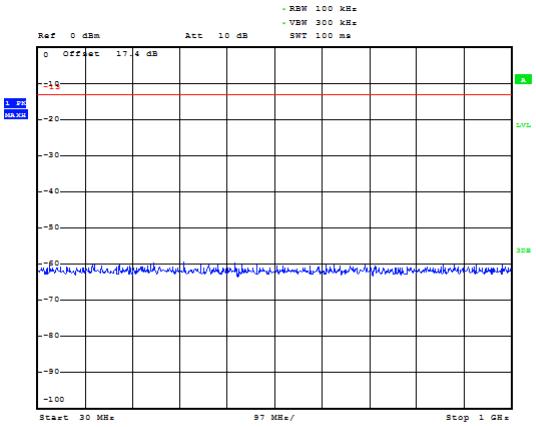
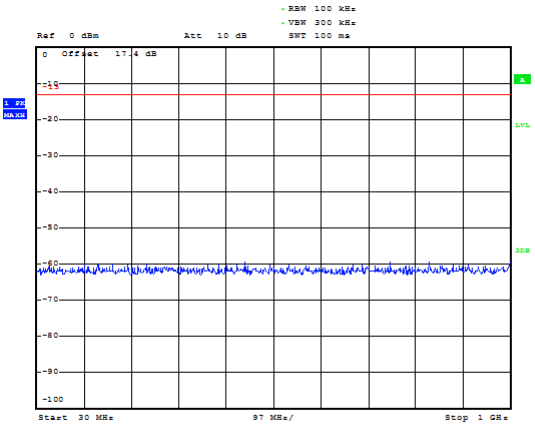
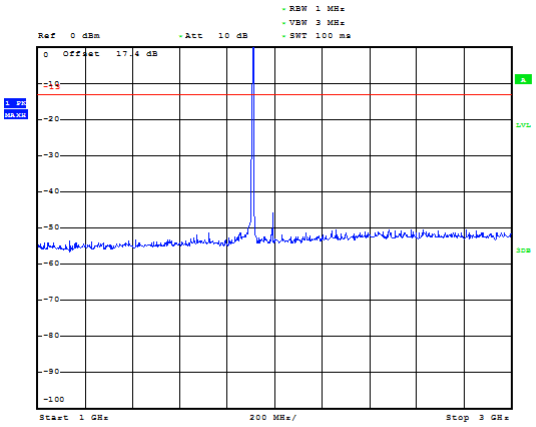
LTE Band 2 1.4MHz CH-High 30MHz~1GHz



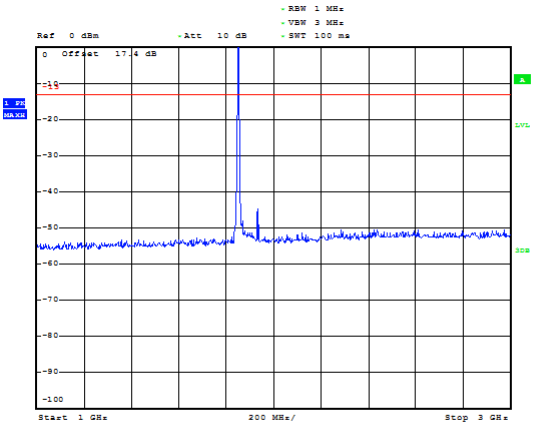
LTE Band 2 3MHz CH-Low 30MHz~1GHz



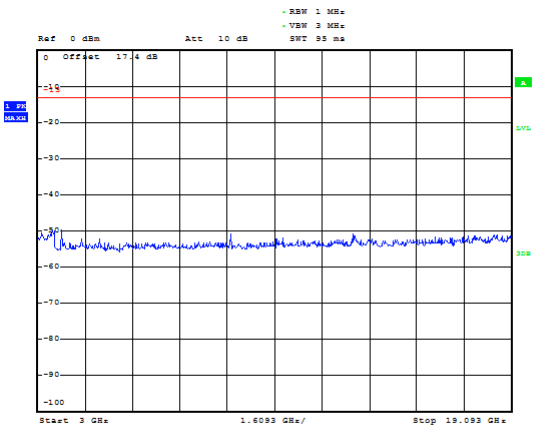
LTE Band 2 1.4MHz CH-High 1GHz~3GHz



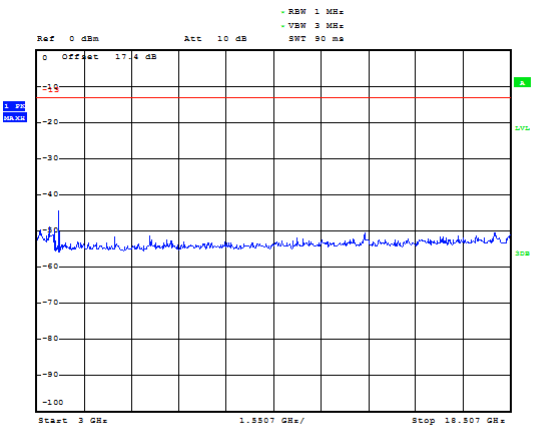
LTE Band 2 3MHz CH-Low 1GHz~3GHz



LTE Band 2 1.4MHz CH-High 3GHz~20GHz



LTE Band 2 3MHz CH-Low 3GHz~20GHz



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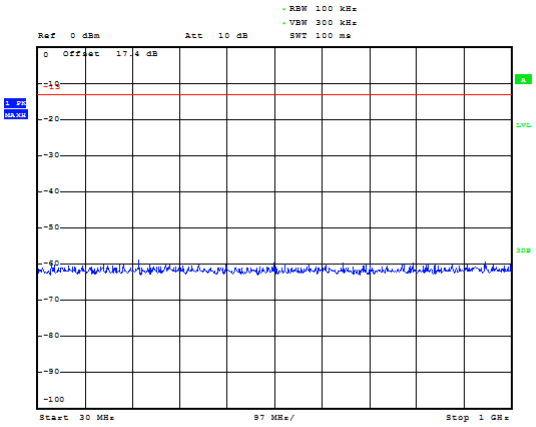
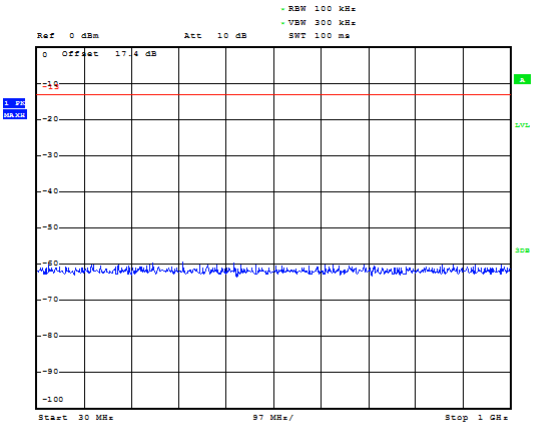
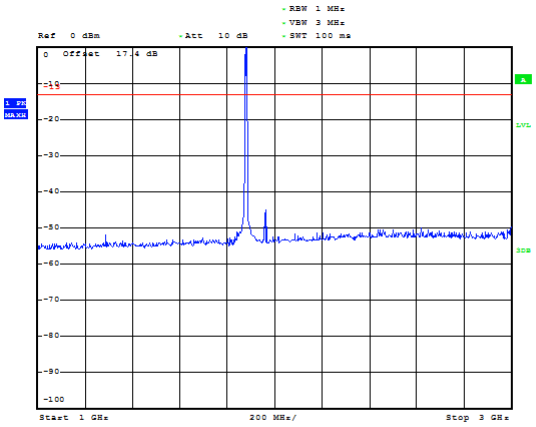
LTE Band 2 3MHz CH-Middle 30MHz~1GHz



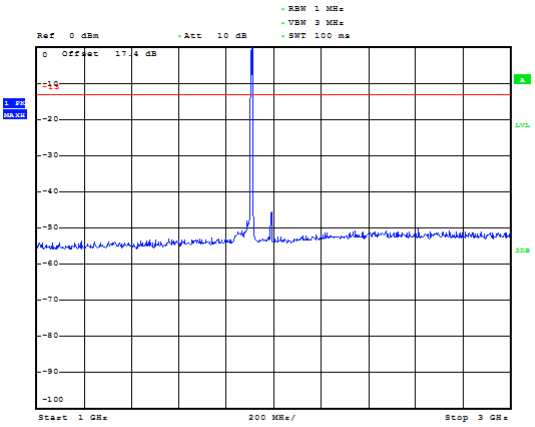
LTE Band 2 3MHz CH-High 30MHz~1GHz



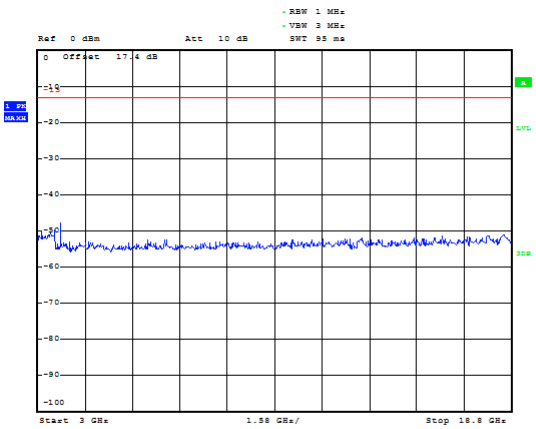
LTE Band 2 3MHz CH-Middle 1GHz~3GHz



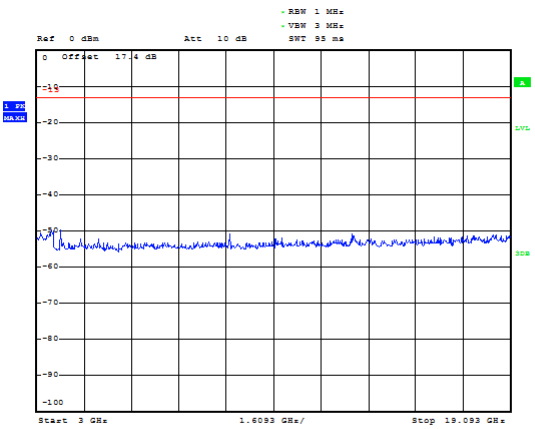
LTE Band 2 3MHz CH-High 1GHz~3GHz



LTE Band 2 3MHz CH-Middle 3GHz~20GHz



LTE Band 2 3MHz CH-High 3GHz~20GHz



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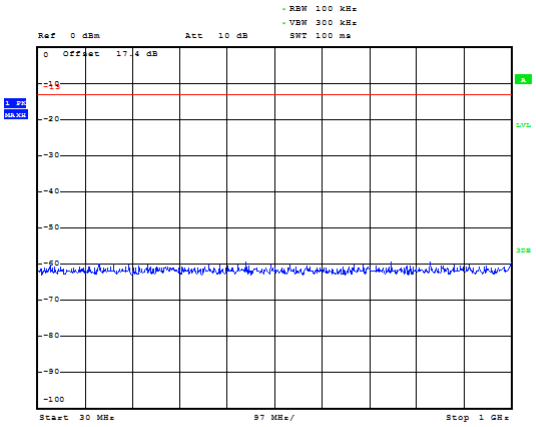
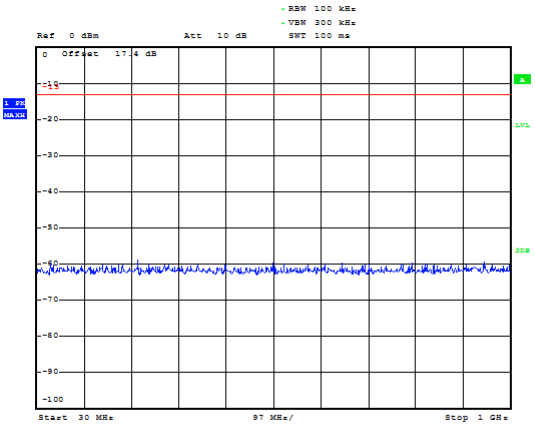
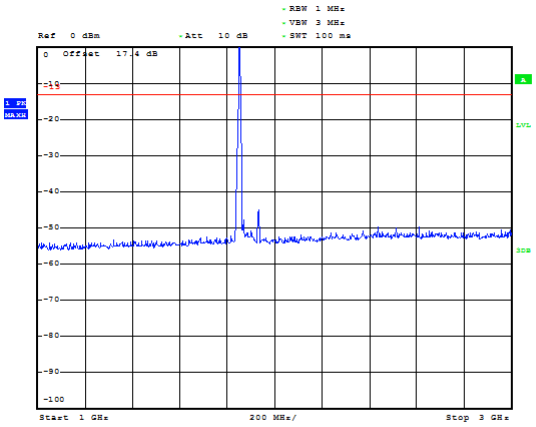
LTE Band 2 5MHz CH-Low 30MHz~1GHz



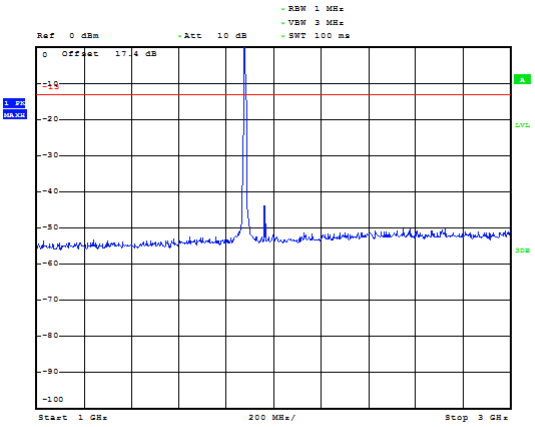
LTE Band 2 5MHz CH-Middle 30MHz~1GHz



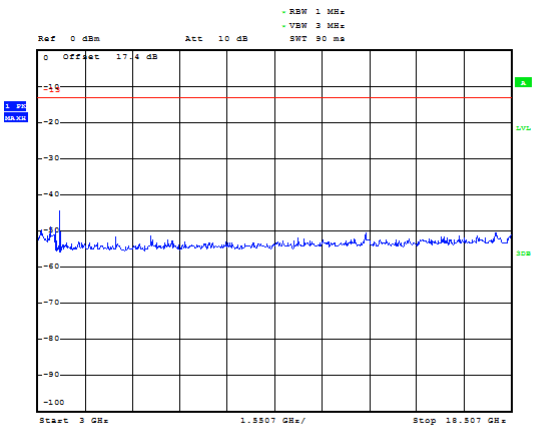
LTE Band 2 5MHz CH-Low 1GHz~3GHz



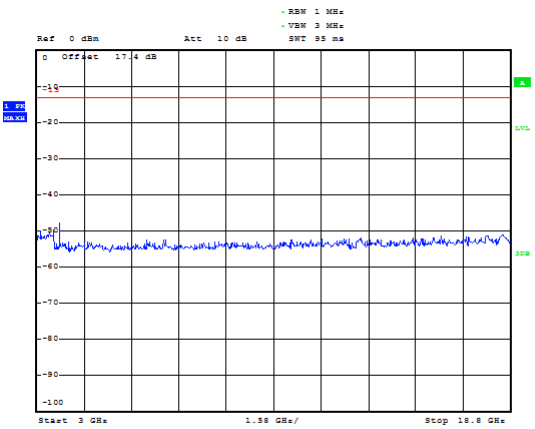
LTE Band 2 5MHz CH-Middle 1GHz~3GHz



LTE Band 2 5MHz CH-Low 3GHz~20GHz



LTE Band 2 5MHz CH-Middle 3GHz~20GHz



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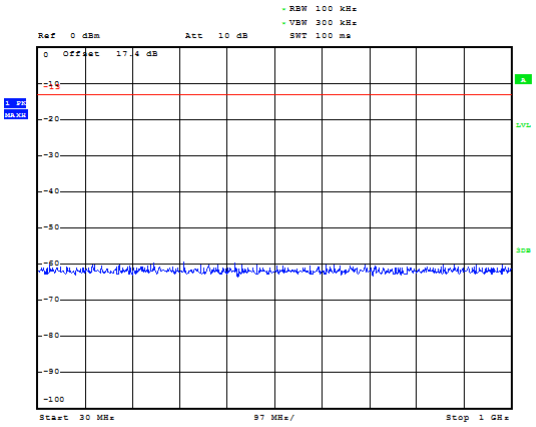
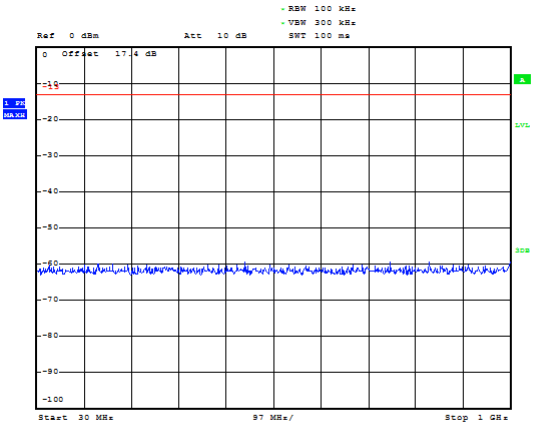
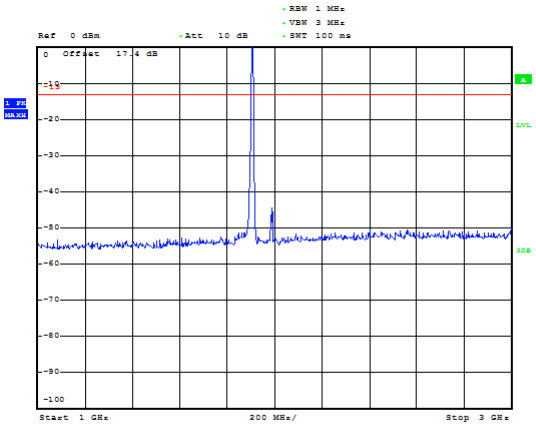
LTE Band 2 5MHz CH-High 30MHz~1GHz



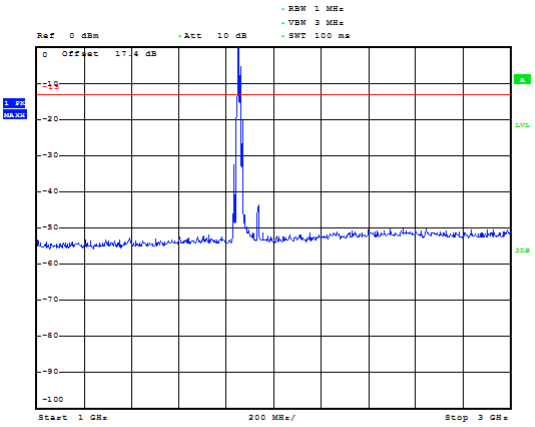
LTE Band 2 10MHz CH-Low 30MHz~1GHz



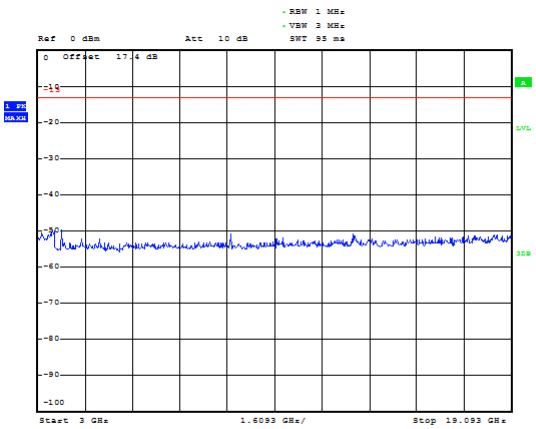
LTE Band 2 5MHz CH-High 1GHz~3GHz



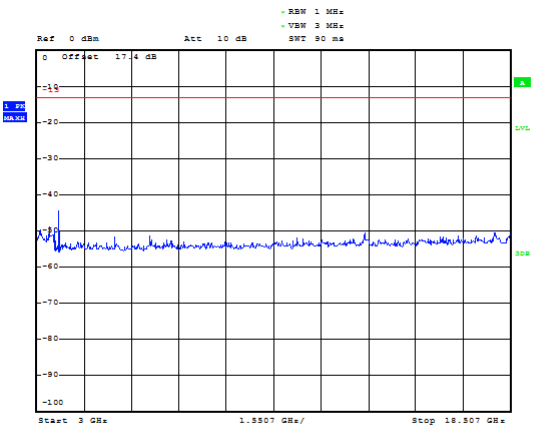
LTE Band 2 10MHz CH-Low 1GHz~3GHz



LTE Band 2 5MHz CH-High 3GHz~20GHz



LTE Band 2 10MHz CH-Low 3GHz~20GHz



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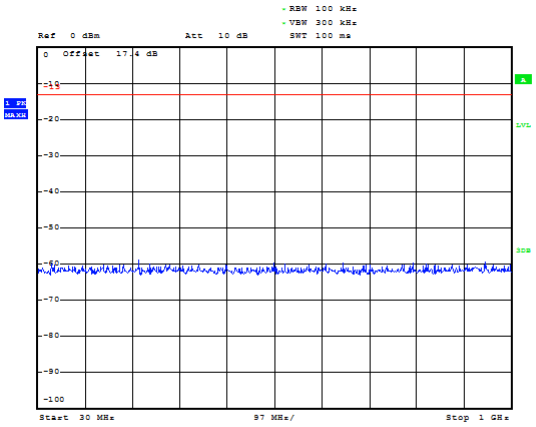
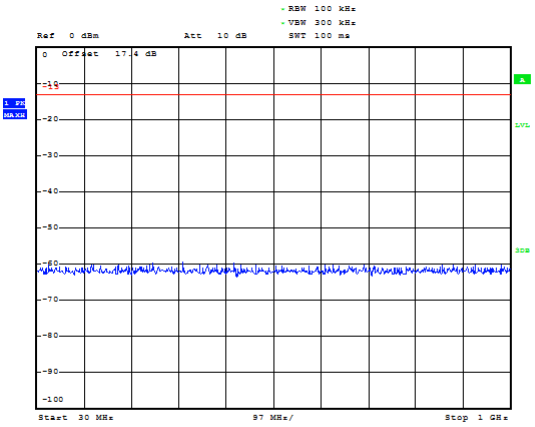
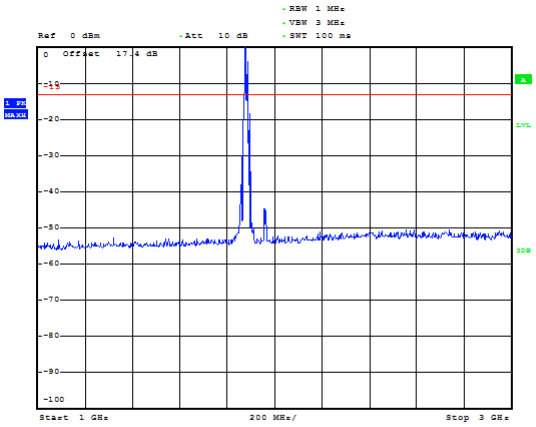
LTE Band 2 10MHz CH-Middle 30MHz~1GHz



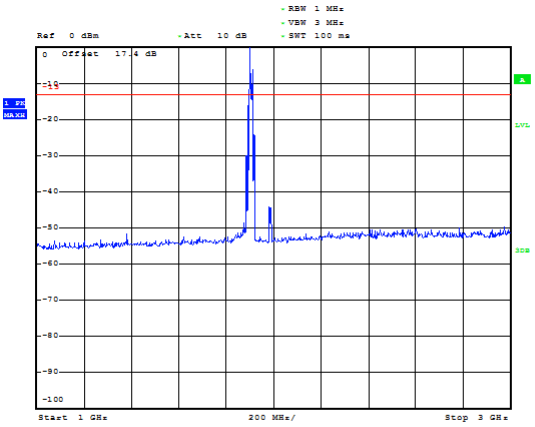
LTE Band 2 10MHz CH-High 30MHz~1GHz



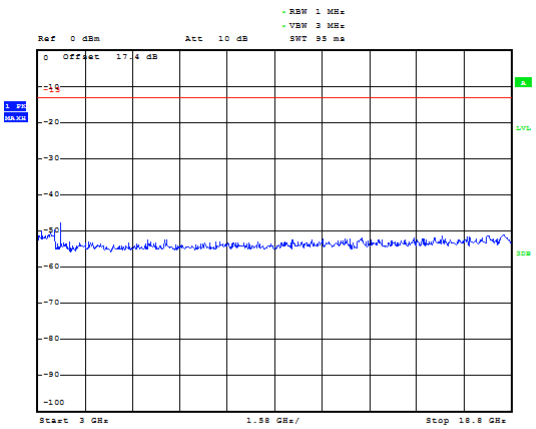
LTE Band 2 10MHz CH-Middle 1GHz~3GHz



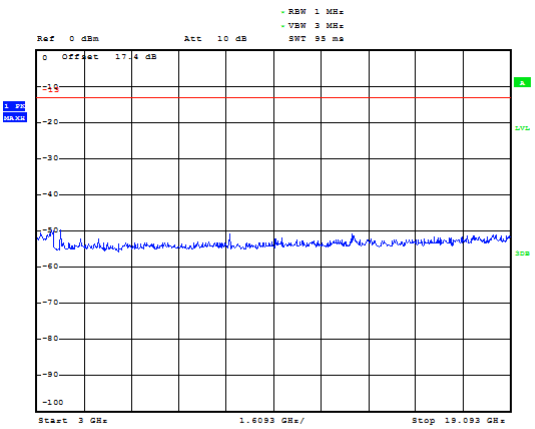
LTE Band 2 10MHz CH-High 1GHz~3GHz



LTE Band 2 10MHz CH-Middle 3GHz~20GHz



LTE Band 2 10MHz CH-High 3GHz~20GHz



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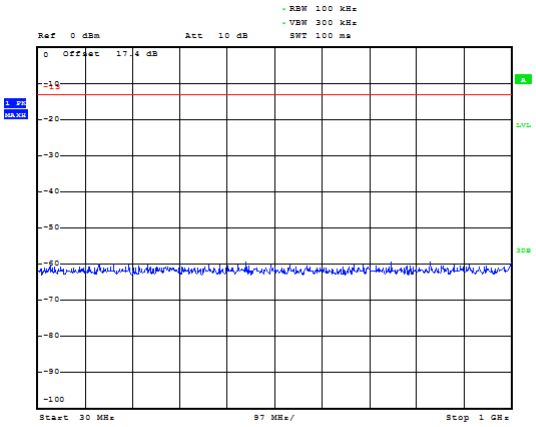
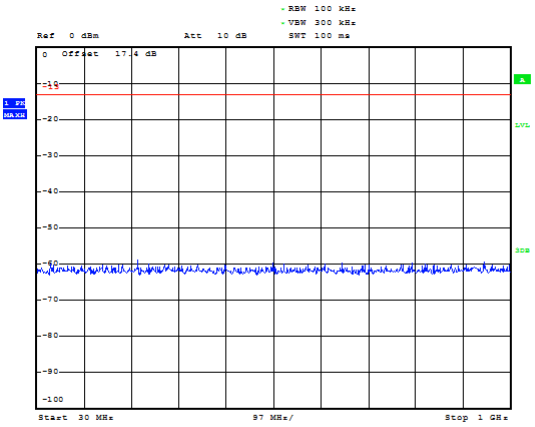
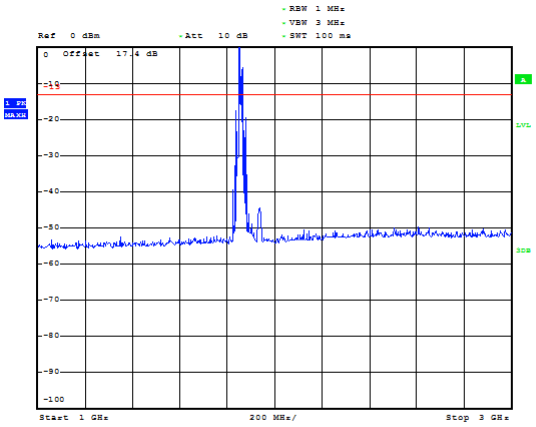
LTE Band 2 15MHz CH-Low 30MHz~1GHz



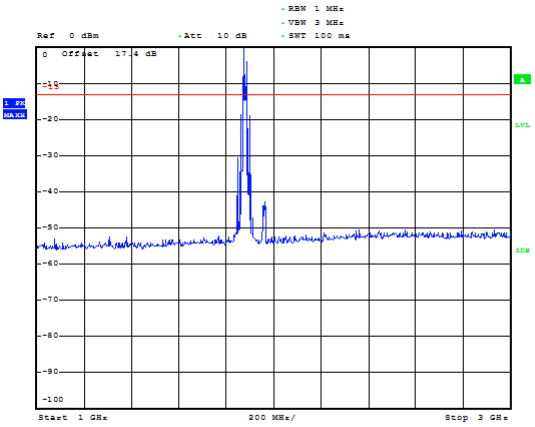
LTE Band 2 15MHz CH-Middle 30MHz~1GHz



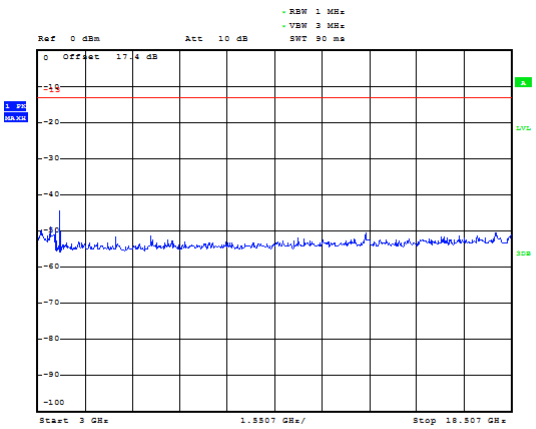
LTE Band 2 15MHz CH-Low 1GHz~3GHz



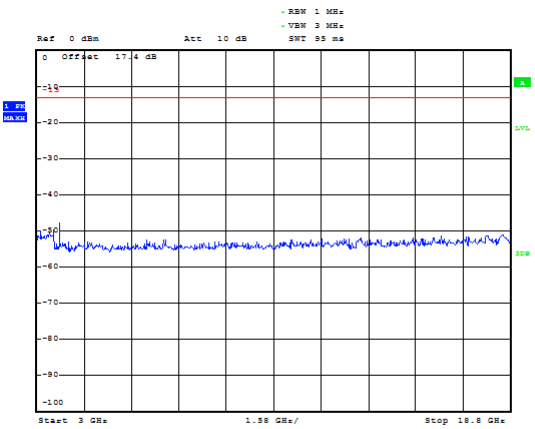
LTE Band 2 15MHz CH-Middle 1GHz~3GHz



LTE Band 2 15MHz CH-Low 3GHz~20GHz



LTE Band 2 15MHz CH-Middle 3GHz~20GHz



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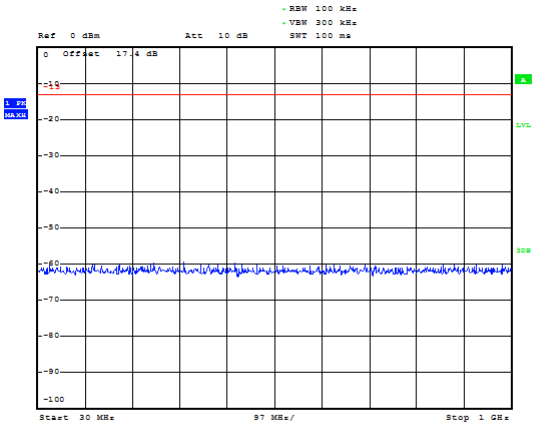
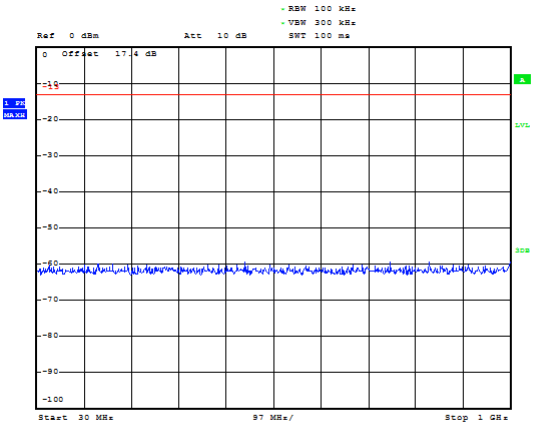
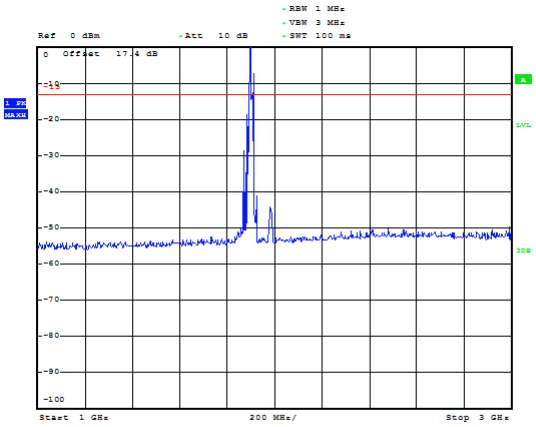
LTE Band 2 15MHz CH-High 30MHz~1GHz



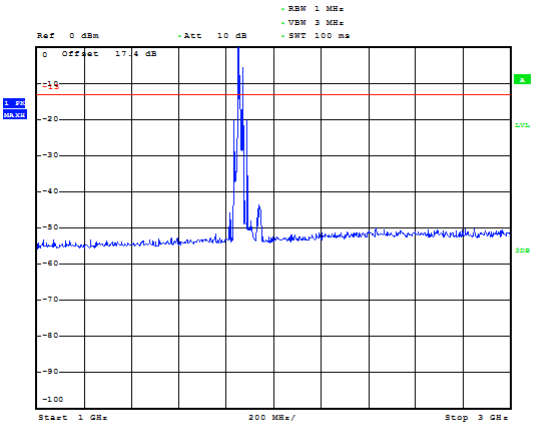
LTE Band 2 20MHz CH-Low 30MHz~1GHz



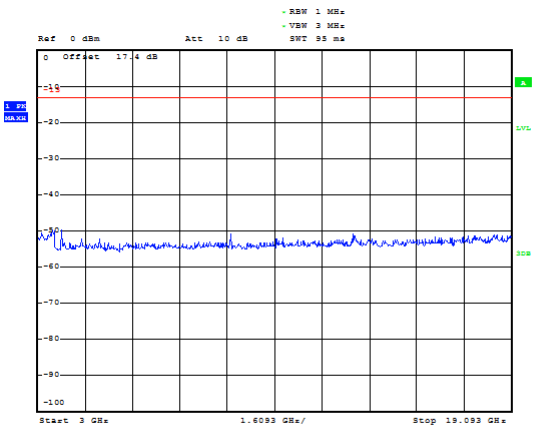
LTE Band 2 15MHz CH-High 1GHz~3GHz



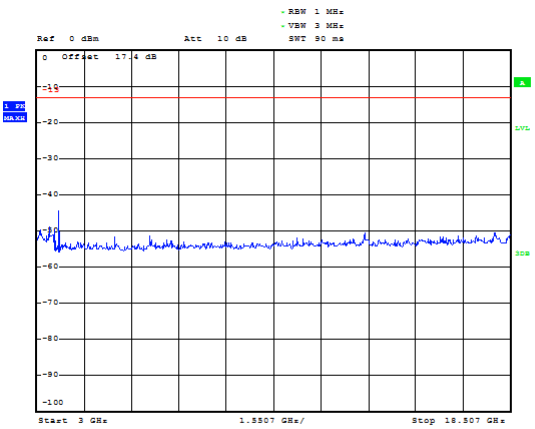
LTE Band 2 20MHz CH-Low 1GHz~3GHz



LTE Band 2 15MHz CH-High 3GHz~20GHz



LTE Band 2 20MHz CH-Low 3GHz~20GHz



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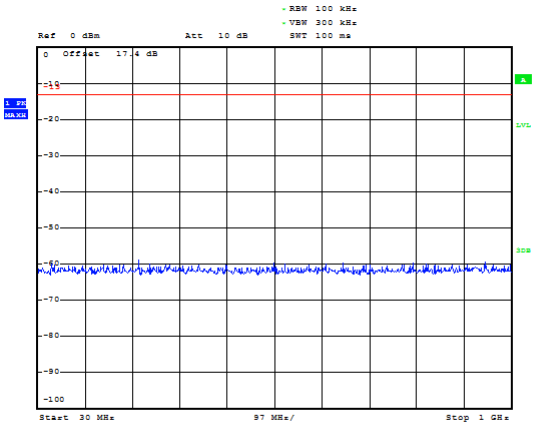
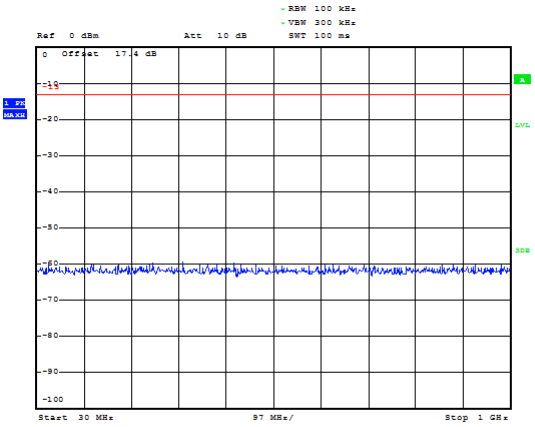
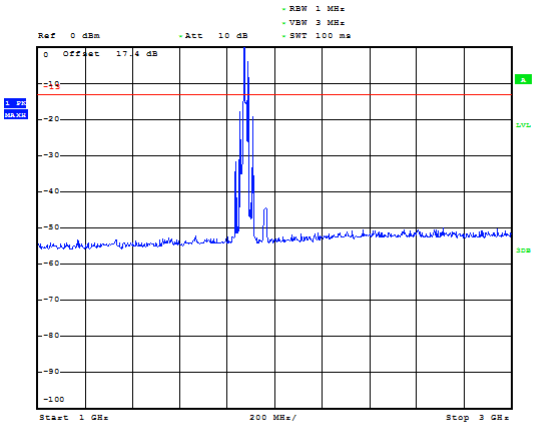
LTE Band 2 20MHz CH-Middle 30MHz~1GHz



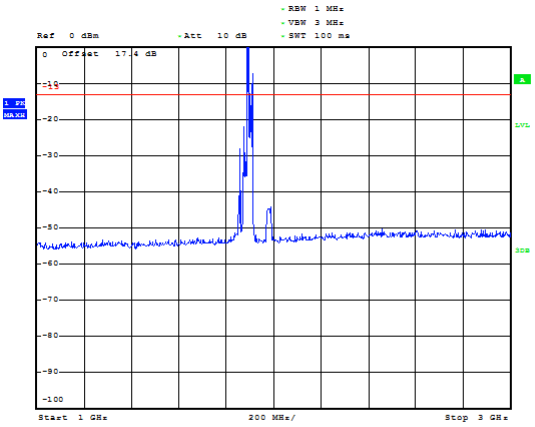
LTE Band 2 20MHz CH-High 30MHz~1GHz



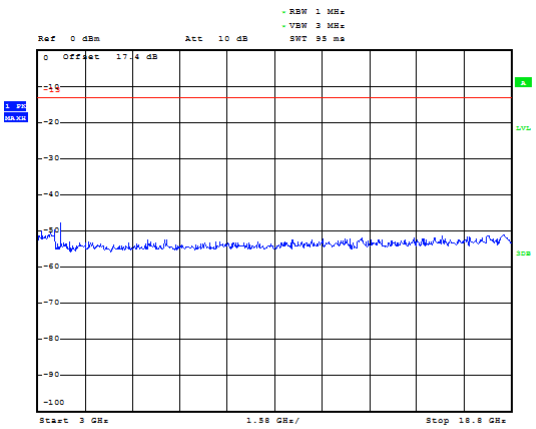
LTE Band 2 20MHz CH-Middle 1GHz~3GHz



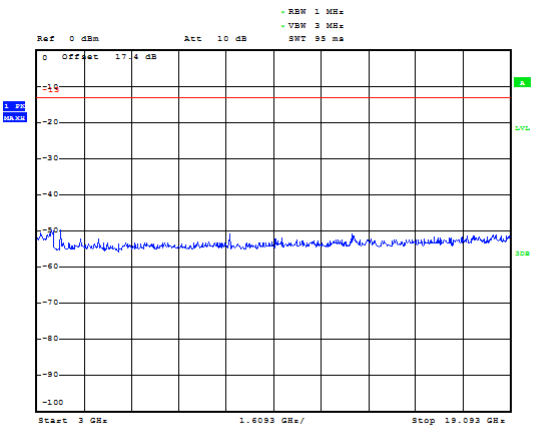
LTE Band 2 20MHz CH-High 1GHz~3GHz



LTE Band 2 20MHz CH-Middle 3GHz~20GHz



LTE Band 2 20MHz CH-High 3GHz~20GHz



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6.7. Radiated Spurious Emission

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.

LTE Band 2 1.4MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3759.0	-60.71	2.60	12.50	Horizontal	-50.81	-13.00	37.81	45
3	5638.5	-58.19	3.30	12.50	Horizontal	-48.99	-13.00	35.99	45
4	7520.0	-58.73	4.20	12.20	Horizontal	-50.73	-13.00	37.73	0
5	9400.0	-56.23	4.30	11.10	Horizontal	-49.43	-13.00	36.43	315
6	11280.0	-50.89	5.90	11.90	Horizontal	-44.89	-13.00	31.89	45
7	13160.0	-53.80	5.70	14.00	Horizontal	-45.50	-13.00	32.50	225
8	15040.0	-52.79	5.80	13.10	Horizontal	-45.49	-13.00	32.49	90
9	16920.0	-51.50	6.10	14.60	Horizontal	-43.00	-13.00	30.00	180
10	18800.0	--	--	--	--	--	--	--	--
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 Horizontal position.									

LTE Band 2 5MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3755.6	-61.39	2.60	12.50	Horizontal	-51.49	-13.00	38.49	90
3	5633.6	-50.95	3.30	12.50	Horizontal	-41.75	-13.00	28.75	180
4	7520.0	-58.18	4.20	12.20	Horizontal	-50.18	-13.00	37.18	270
5	9400.0	-54.66	4.30	11.10	Horizontal	-47.86	-13.00	34.86	315
6	11280.0	-50.41	5.90	11.90	Horizontal	-44.41	-13.00	31.41	45
7	13160.0	-53.26	5.70	14.00	Horizontal	-44.96	-13.00	31.96	0
8	15040.0	-54.68	5.80	13.10	Horizontal	-47.38	-13.00	34.38	180
9	16920.0	-51.45	6.10	14.60	Horizontal	-42.95	-13.00	29.95	270
10	18800.0	--	--	--	--	--	--	--	--
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 Horizontal position.									

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LTE Band 2 20MHz CH-Middle

Harmonic	Frequency (MHz)	SG (dBm)	Cable Loss (dB)	Gain (dBi)	Antenna Polarization	Result Level (dBm)	Limit (dBm)	Margin (dB)	Azimuth (deg)
2	3742.1	-58.59	2.60	12.50	Horizontal	-48.69	-13.00	35.69	45
3	5613.4	-52.89	3.30	12.50	Horizontal	-43.69	-13.00	30.69	315
4	7484.6	-57.56	4.20	12.20	Horizontal	-49.56	-13.00	36.56	90
5	9400.0	-54.50	4.30	11.10	Horizontal	-47.70	-13.00	34.70	180
6	11280.0	-50.82	5.90	11.90	Horizontal	-44.82	-13.00	31.82	270
7	13160.0	-55.18	5.70	14.00	Horizontal	-46.88	-13.00	33.88	45
8	15040.0	-53.69	5.80	13.10	Horizontal	-46.39	-13.00	33.39	225
9	16920.0	-51.20	6.10	14.60	Horizontal	-42.70	-13.00	29.70	0
10	18800.0	--	--	--	--	--	--	--	--

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 Horizontal position.

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7. Main Test Instruments

Name	Manufacturer	Type	Serial Number	Calibration Date	Expiration Date
Base Station Simulator	R&S	CMU200	118133	2020-05-17	2021-05-16
Base Station Simulator	R&S	CMW500	113824	2020-05-18	2021-05-17
Power Splitter	Hua Xiang	SHX-GF2-2-13	10120101	/	/
Spectrum Analyzer	Key sight	N9010A	MY50210259	2020-05-18	2021-05-17
Universal Radio Communication Tester	Key sight	E5515C	MY48367192	2020-05-27	2021-05-26
Signal Analyzer	R&S	FSV30	100815	2019-12-15	2020-12-14
Loop Antenna	SCHWARZBECK	FMZB1519	1519-047	2020-04-02	2023-04-01
TRILOG Broadband Antenna	SCHWARZBECK	VULB 9163	391	2019-12-16	2021-12-15
Horn Antenna	R&S	HF907	102723	2018-08-11	2021-08-10
Horn Antenna	ETS-Lindgren	3160-09	00102643	2018-06-20	2021-06-19
Signal generator	R&S	SMB 100A	102594	2020-05-18	2021-05-17
Climatic Chamber	ESPEC	SU-242	93000506	2017-12-17	2020-12-16
Preampflier	R&S	SCU18	102327	2020-05-18	2021-05-17
MOB COMMS DC SUPPLY	Keysight	66319D	MY43004105	2020-05-18	2021-05-17
RF Cable	Agilent	SMA 15cm	0001	2020-06-12	2020-12-11
Software	R&S	EMC32	9.26.0	/	/

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ANNEX A: The EUT Appearance

The EUT Appearance is submitted separately.

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ANNEX B: Test Setup Photos

The Test Setup Photos is submitted separately.

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ANNEX C: Product Change Description (Variant 1)

The Product Change Description are submitted separately.

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ANNEX D: Product Change Description (Variant 2)

The Product Change Description are submitted separately.

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