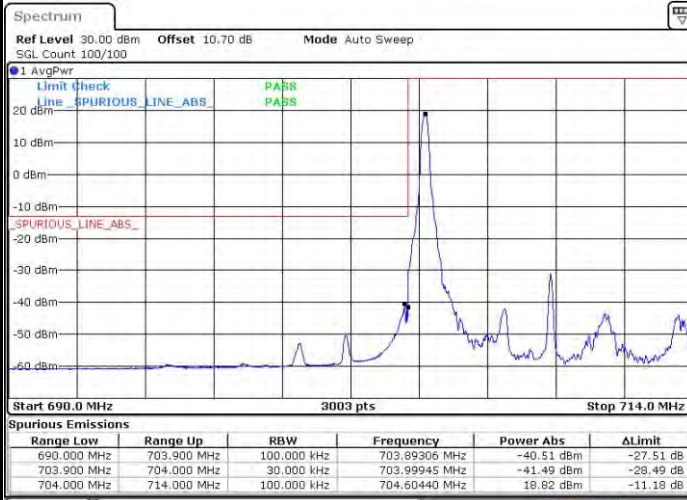




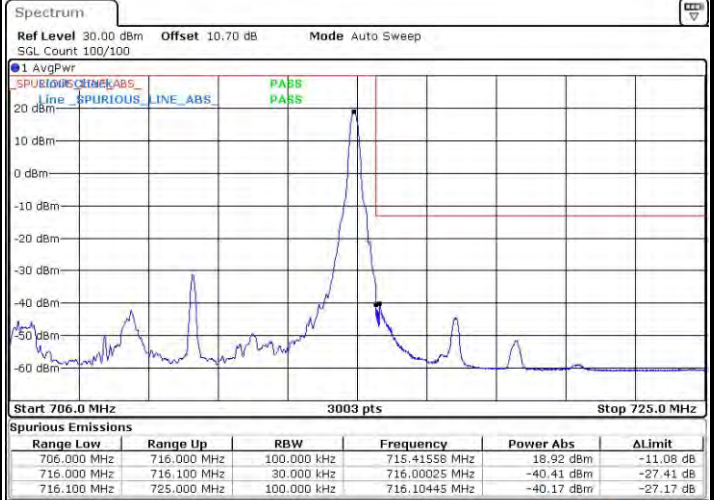
LTE Band 17 / 10MHz / QPSK

Lowest Band Edge / 1 RB



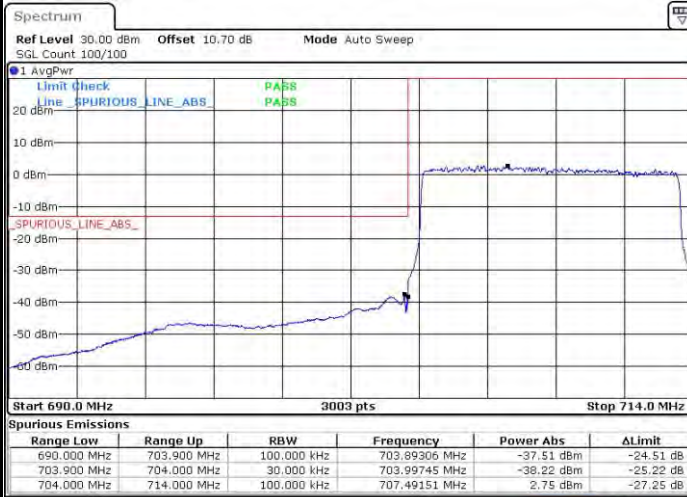
Date: 23.JUL.2019 00:49:43

Highest Band Edge / 1 RB



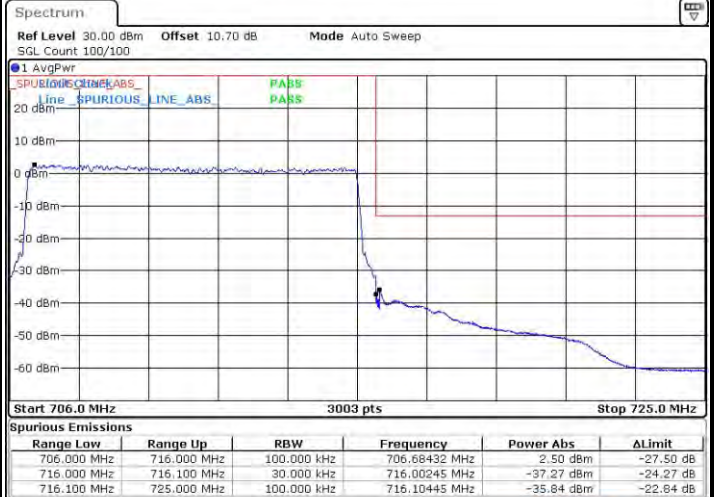
Date: 23.JUL.2019 00:58:27

Lowest Band Edge / Full RB



Date: 23.JUL.2019 00:51:45

Highest Band Edge / Full RB

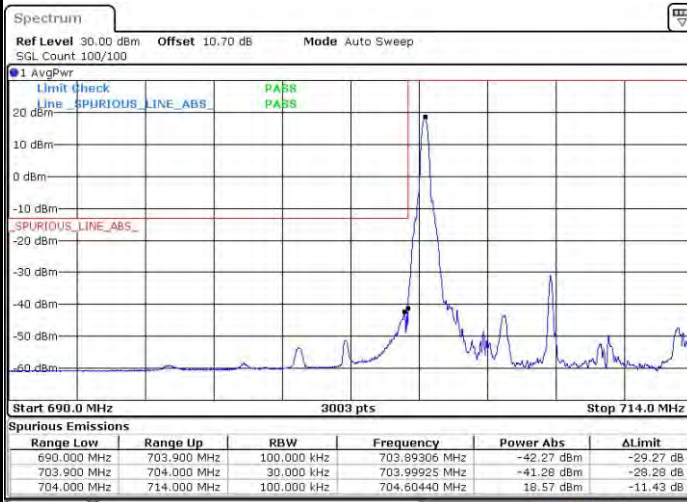


Date: 23.JUL.2019 01:00:30



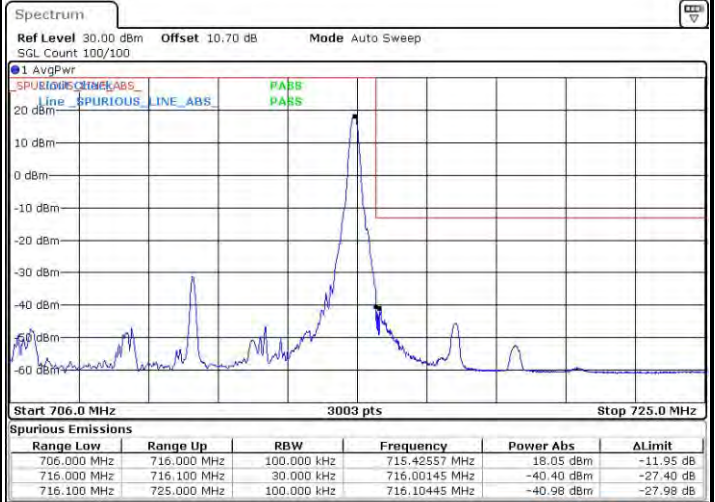
LTE Band 17 / 10MHz / 16QAM

Lowest Band Edge / 1 RB



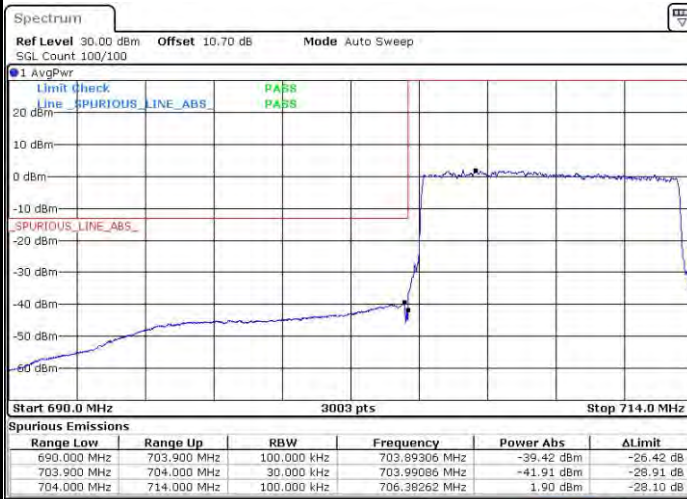
Date: 23 JUL 2019 00:50:44

Highest Band Edge / 1 RB



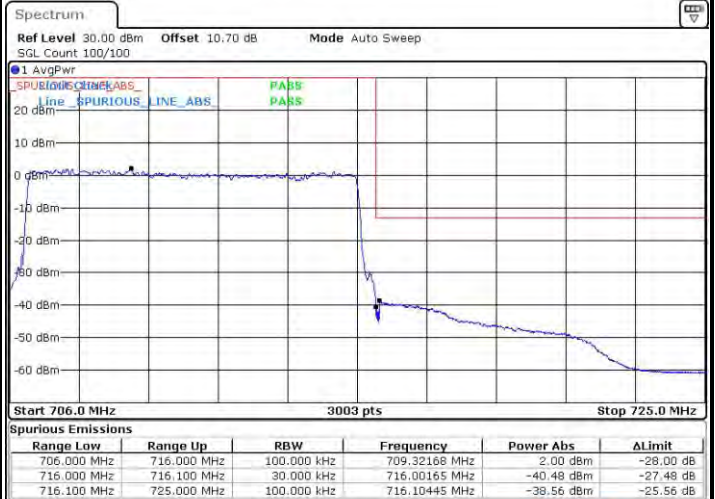
Date: 23 JUL 2019 00:59:29

Lowest Band Edge / Full RB



Date: 23 JUL 2019 00:52:46

Highest Band Edge / Full RB



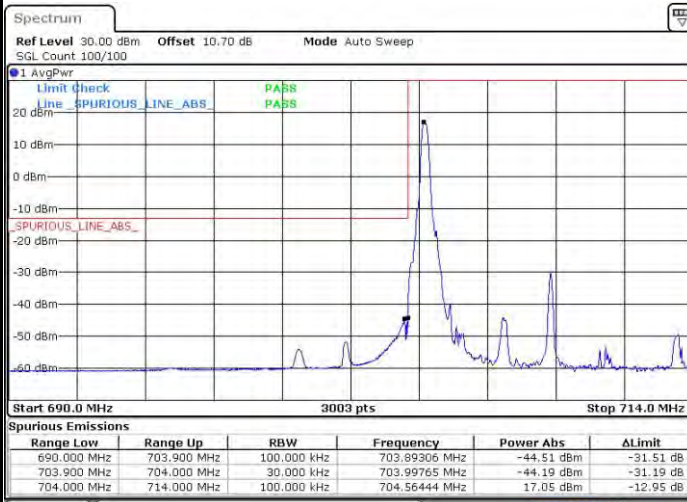
Date: 23 JUL 2019 01:01:31





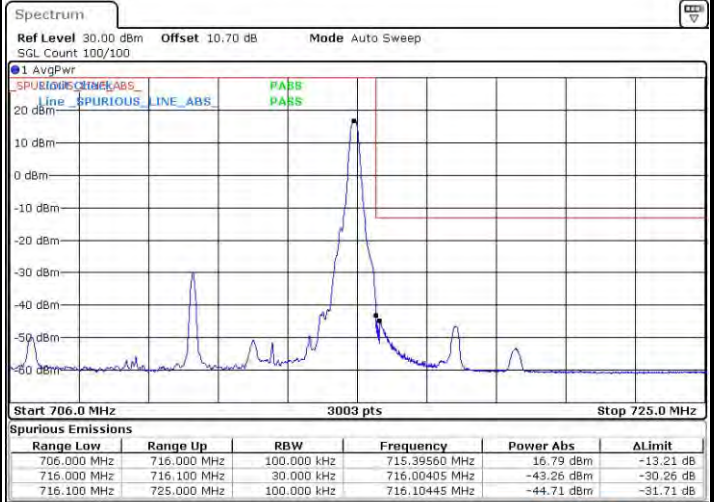
LTE Band 17 / 10MHz / 64QAM

Lowest Band Edge / 1 RB



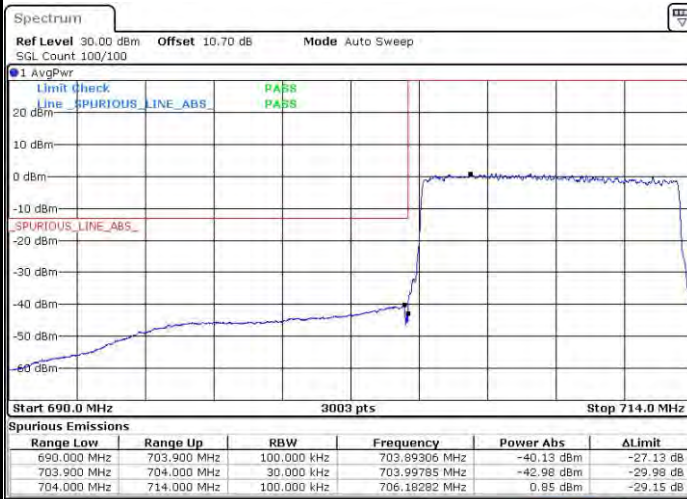
Date: 23.JUL.2019 01:12:05

Highest Band Edge / 1 RB



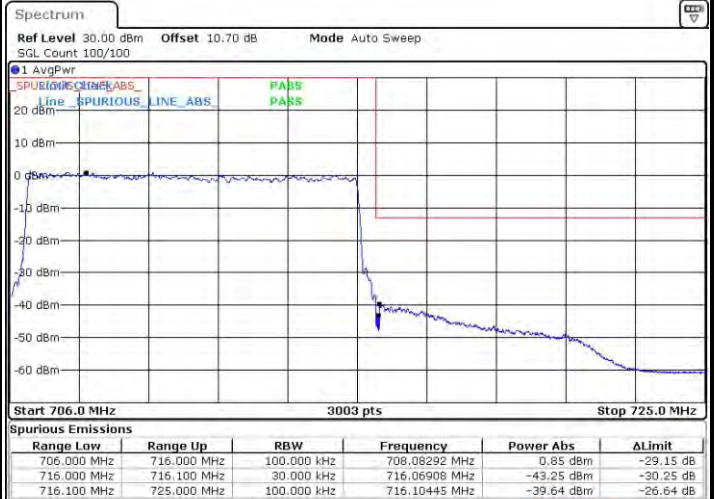
Date: 23.JUL.2019 01:16:27

Lowest Band Edge / Full RB



Date: 23.JUL.2019 01:13:06

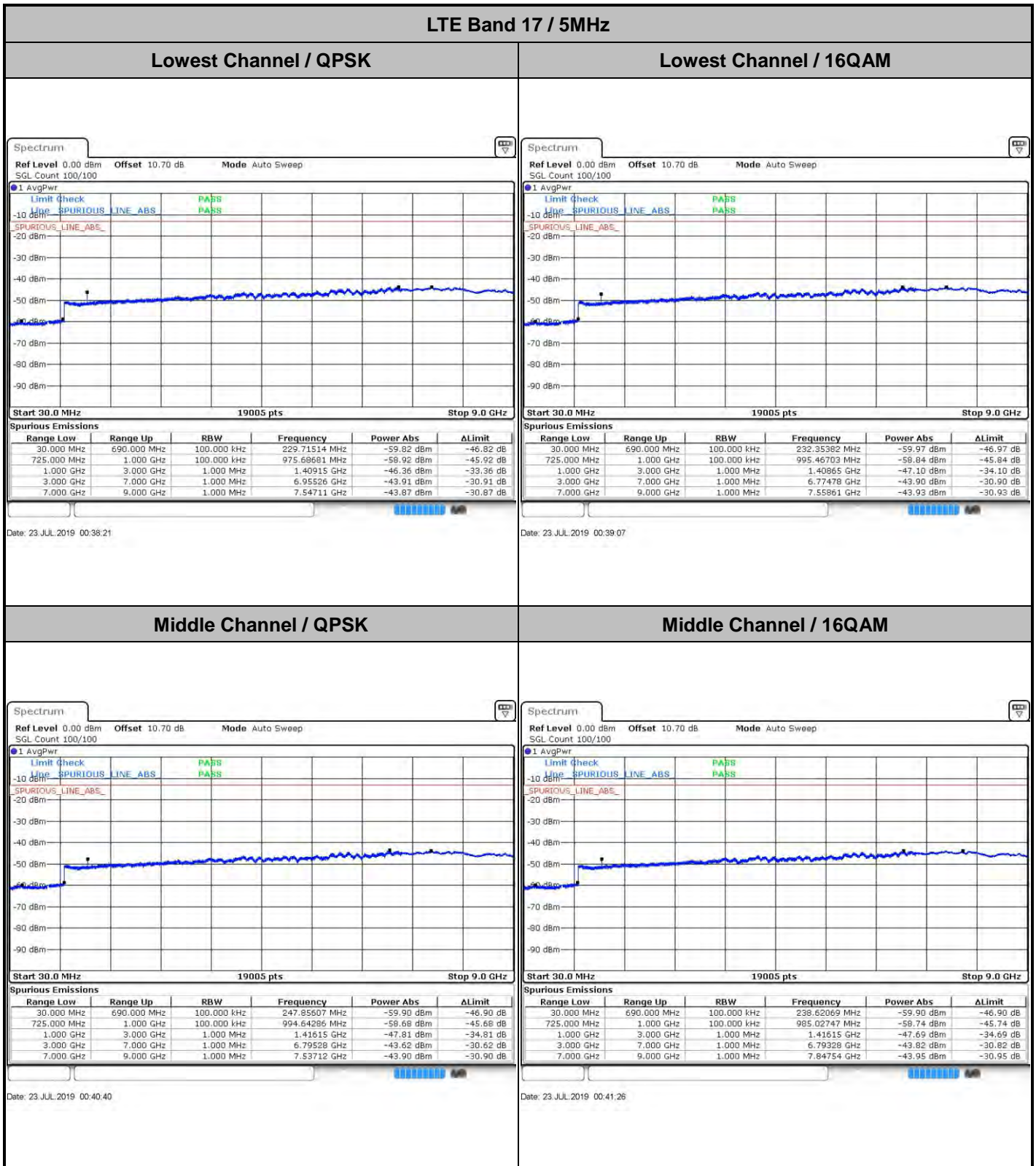
Highest Band Edge / Full RB



Date: 23.JUL.2019 01:17:28



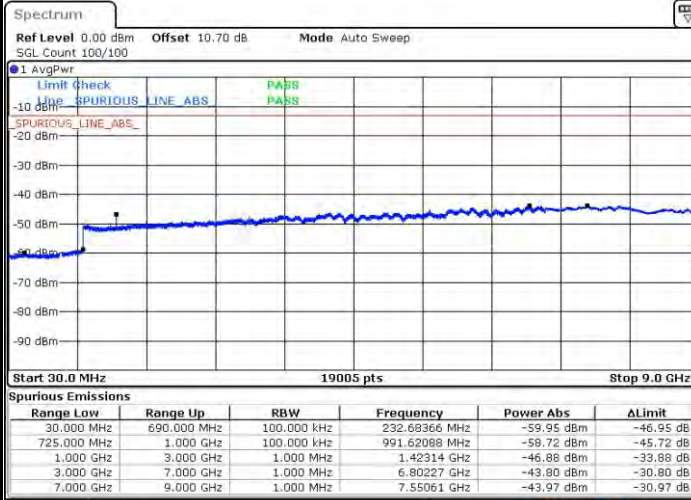
# Conducted Spurious Emission





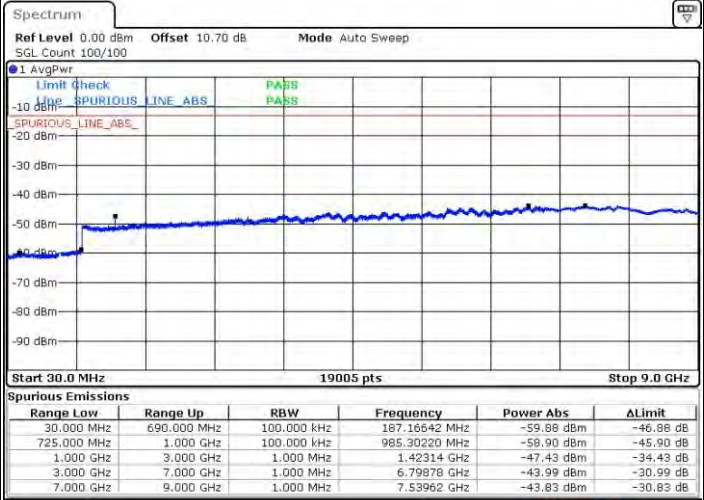
LTE Band 17 / 5MHz

Highest Channel / QPSK



Date: 23 JUL 2019 00:47:06

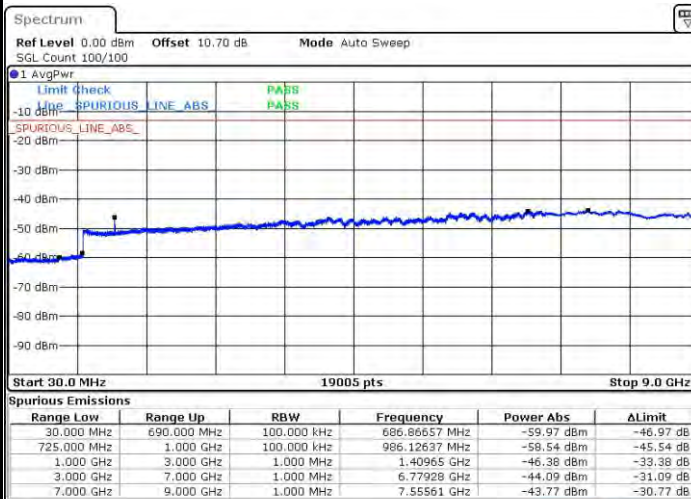
Highest Channel / 16QAM



Date: 23 JUL 2019 00:47:52

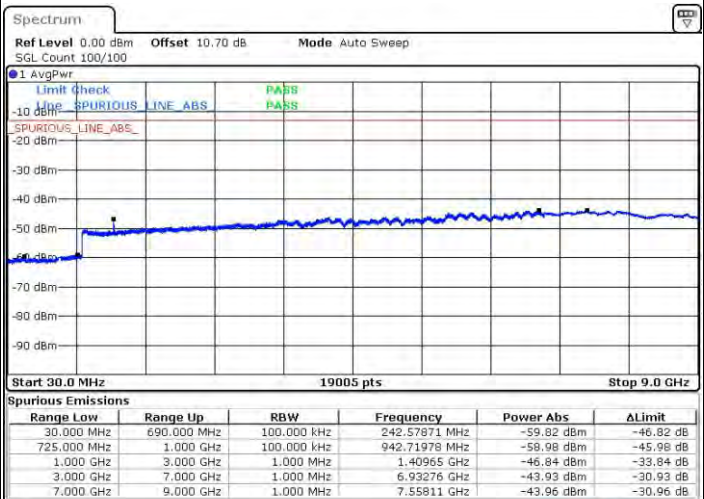
LTE Band 17 / 10MHz

Lowest Channel / QPSK



Date: 23 JUL 2019 00:53:33

Lowest Channel / 16QAM



Date: 23 JUL 2019 00:54:19

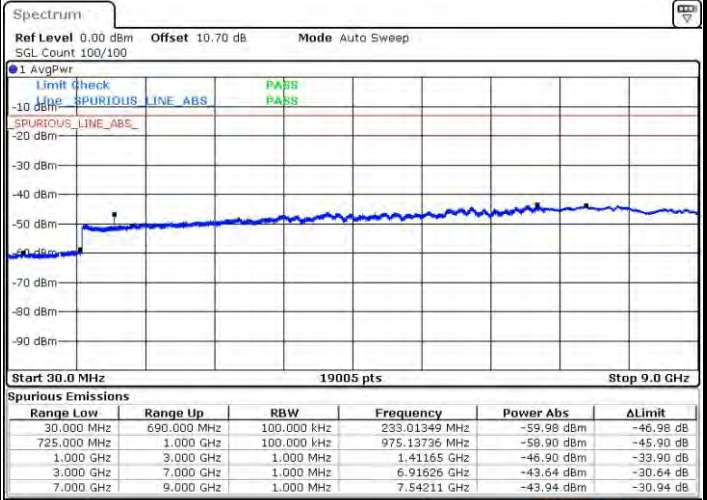
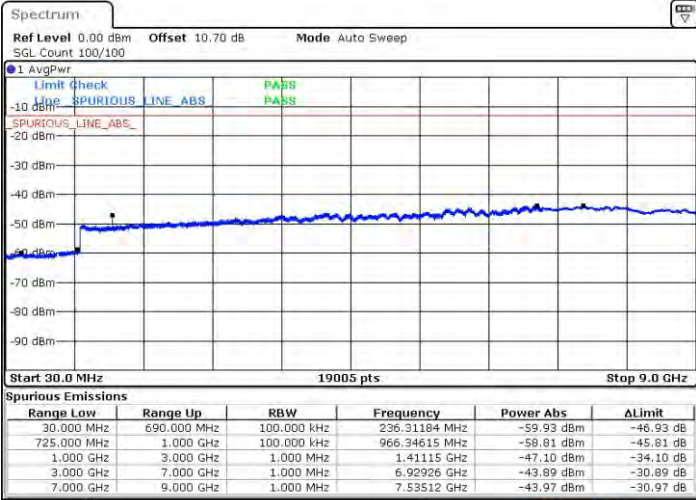




LTE Band 17 / 10MHz

Middle Channel / QPSK

Middle Channel / 16QAM

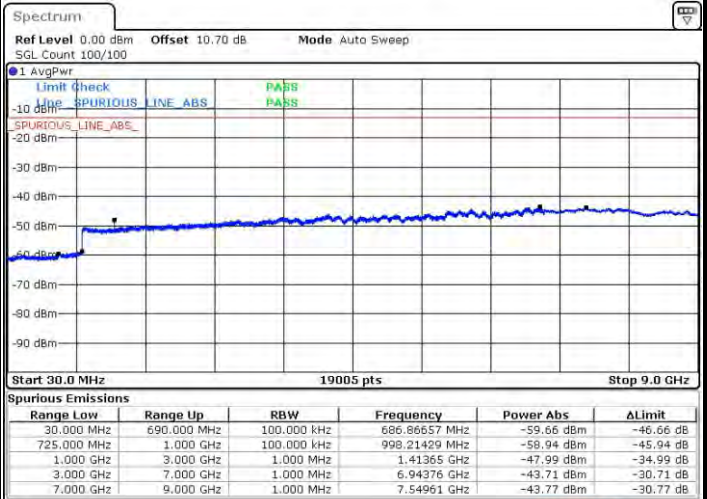
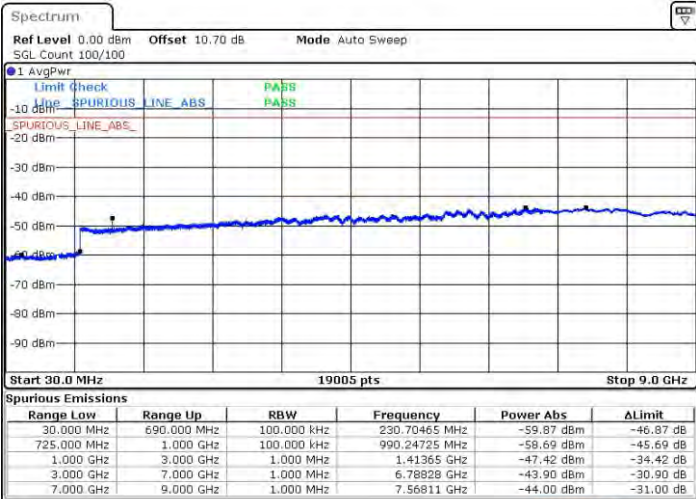


Date: 23 JUL 2019 00:55:52

Date: 23 JUL 2019 00:56:38

Highest Channel / QPSK

Highest Channel / 16QAM



Date: 23 JUL 2019 01:02:18

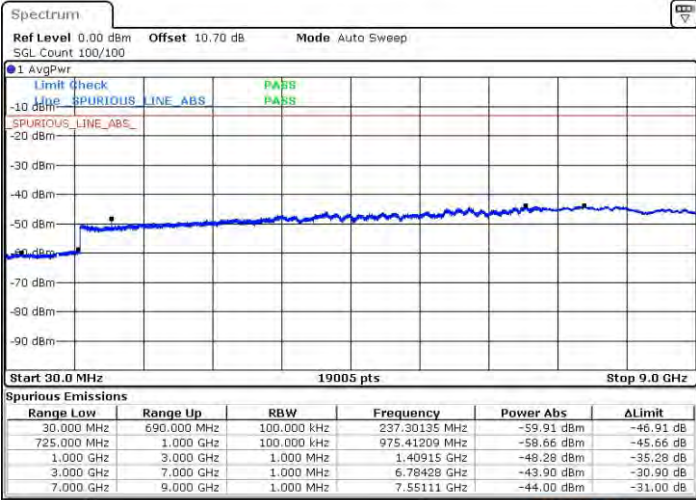
Date: 23 JUL 2019 01:03:04



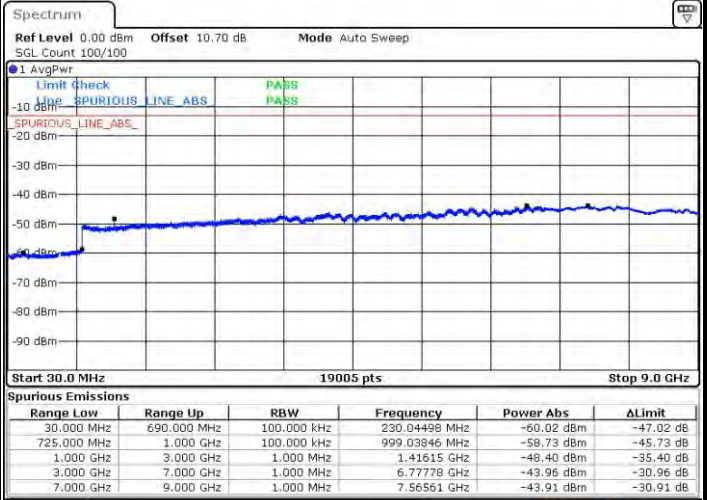
LTE Band 17 / 5MHz

Lowest Channel / 64QAM

Middle Channel / 64QAM

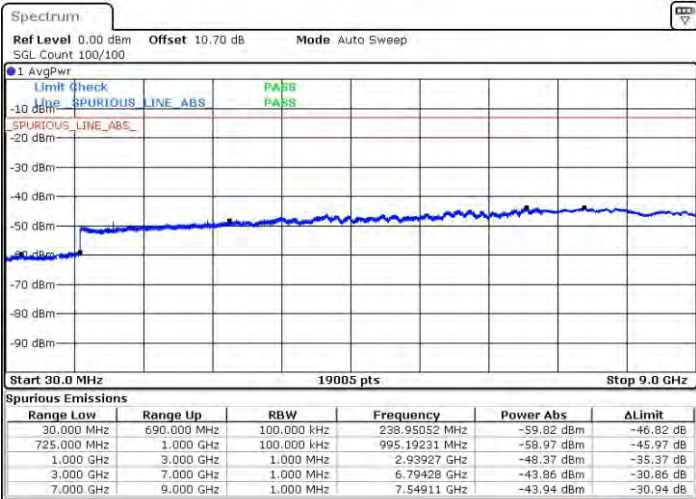


Date: 23 JUL 2019 01:06:17



Date: 23 JUL 2019 01:07:27

Highest Channel / 64QAM



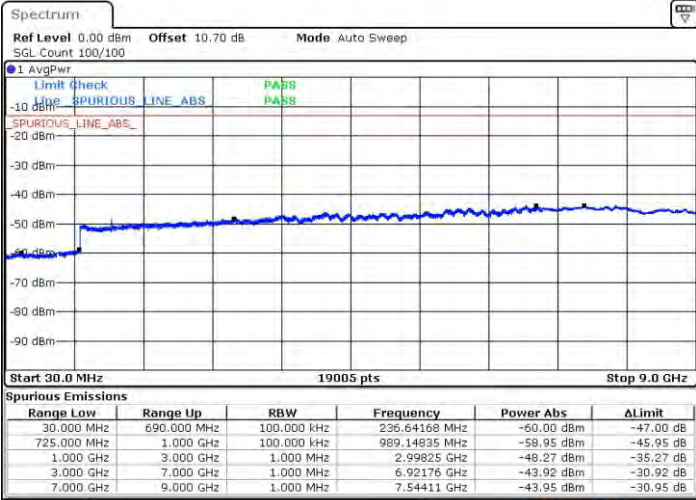
Date: 23 JUL 2019 01:10:39



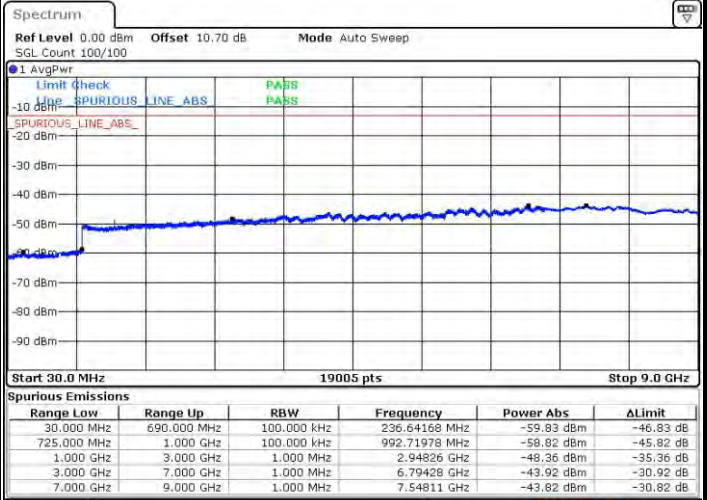
LTE Band 17 / 10MHz

Lowest Channel / 64QAM

Middle Channel / 64QAM

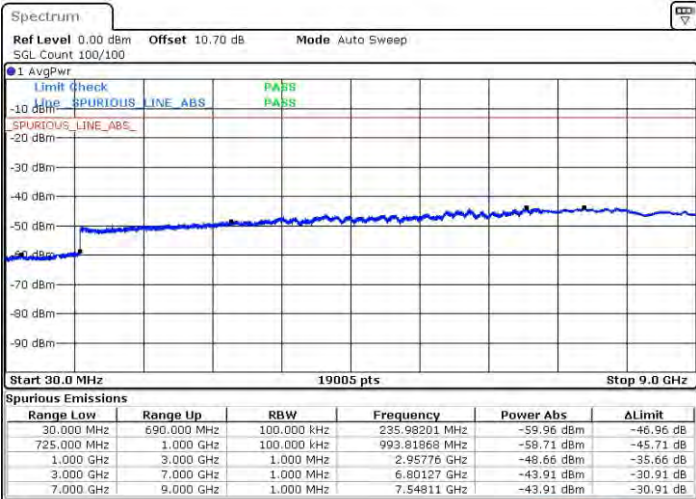


Date: 23 JUL 2019 01:13:53



Date: 23 JUL 2019 01:15:02

Highest Channel / 64QAM



Date: 23 JUL 2019 01:18:15





### Frequency Stability

Test Conditions		LTE Band 17 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0004	PASS
40	Normal Voltage	0.0021	
30	Normal Voltage	0.0013	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0137	
0	Normal Voltage	0.0038	
-10	Normal Voltage	0.0024	
-20	Normal Voltage	0.0031	
-30	Normal Voltage	0.0038	
20	Maximum Voltage	0.0025	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0004	

**Note:**

- 1. Normal Voltage =4 V. ; Battery End Point (BEP) =3.7 V. ; Maximum Voltage =4 V.
- 2. The frequency fundamental emissions stay within the authorized frequency block.



## Appendix B. Test Results of ERP and Radiated Test

### ERP

LTE Band 5 / 1.4MHz (Average) (GT - LC = -6 dB)							
Channel	Mode	RB		Conducted		ERP	
		Size	Offset	Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
Lowest	QPSK	3	3	23.16	0.2070	15.01	0.0317
Middle		3	3	22.92	0.1959	14.77	0.0300
Highest		3	3	22.99	0.1991	14.84	0.0305
Lowest	16QAM	1	3	22.02	0.1592	13.87	0.0244
Middle		1	3	21.88	0.1542	13.73	0.0236
Highest		1	3	22.19	0.1656	14.04	0.0254
Lowest	64QAM	1	3	21.19	0.1315	13.04	0.0201
Middle		1	3	20.98	0.1253	12.83	0.0192
Highest		1	3	21.04	0.1271	12.89	0.0195
Limit	ERP < 7W			Result		PASS	

LTE Band 5 / 3MHz (Average) (GT - LC = -6 dB)							
Channel	Mode	RB		Conducted		ERP	
		Size	Offset	Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	0	23.16	0.2070	15.01	0.0317
Middle		1	0	23.06	0.2023	14.91	0.0310
Highest		1	0	23.24	0.2109	15.09	0.0323
Lowest	16QAM	1	14	22.45	0.1758	14.30	0.0269
Middle		1	14	22.43	0.1750	14.28	0.0268
Highest		1	14	22.50	0.1778	14.35	0.0272
Lowest	64QAM	1	8	21.19	0.1315	13.04	0.0201
Middle		1	8	21.40	0.1380	13.25	0.0211
Highest		1	8	21.48	0.1406	13.33	0.0215
Limit	ERP < 7W			Result		PASS	

LTE Band 5 / 5MHz (Average) (GT - LC = -6 dB)							
Channel	Mode	RB		Conducted		ERP	
		Size	Offset	Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	0	23.10	0.2042	14.95	0.0313
Middle		1	0	23.20	0.2089	15.05	0.0320
Highest		1	0	23.29	0.2133	15.14	0.0327
Lowest	16QAM	1	12	22.36	0.1722	14.21	0.0264
Middle		1	12	22.48	0.1770	14.33	0.0271
Highest		1	12	22.60	0.1820	14.45	0.0279
Lowest	64QAM	1	24	21.33	0.1358	13.18	0.0208
Middle		1	24	21.28	0.1343	13.13	0.0206
Highest		1	24	21.59	0.1442	13.44	0.0221
Limit	ERP < 7W			Result		PASS	



LTE Band 5 / 10MHz (Average) (GT - LC = -6 dB)							
Channel	Mode	RB		Conducted		ERP	
		Size	Offset	Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	0	23.03	0.2009	14.88	0.0308
Middle		1	0	23.18	0.2080	15.03	0.0318
Highest		1	0	23.14	0.2061	14.99	0.0316
Lowest	16QAM	1	49	22.50	0.1778	14.35	0.0272
Middle		1	49	22.46	0.1762	14.31	0.0270
Highest		1	49	22.59	0.1816	14.44	0.0278
Lowest	64QAM	1	25	21.39	0.1377	13.24	0.0211
Middle		1	25	21.49	0.1409	13.34	0.0216
Highest		1	25	21.50	0.1413	13.35	0.0216
Limit	ERP < 7W			Result		PASS	





LTE Band 12 / 1.4MHz (Average) (GT - LC = -4.6 dB)							
Channel	Mode	RB		Conducted		ERP	
		Size	Offset	Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	5	22.76	0.1888	16.01	0.0399
Middle		1	5	23.16	0.2070	16.41	0.0438
Highest		1	5	22.96	0.1977	16.21	0.0418
Lowest	16QAM	1	3	21.89	0.1545	15.14	0.0327
Middle		1	3	22.00	0.1585	15.25	0.0335
Highest		1	3	22.23	0.1671	15.48	0.0353
Lowest	64QAM	3	1	21.23	0.1327	14.48	0.0281
Middle		3	1	20.77	0.1194	14.02	0.0252
Highest		3	1	21.04	0.1271	14.29	0.0269
Limit	ERP < 3W		Result		PASS		

LTE Band 12 / 3MHz (Average) (GT - LC = -4.6 dB)							
Channel	Mode	RB		Conducted		ERP	
		Size	Offset	Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	8	23.08	0.2032	16.33	0.0430
Middle		1	8	23.04	0.2014	16.29	0.0426
Highest		1	8	23.14	0.2061	16.39	0.0436
Lowest	16QAM	1	8	22.39	0.1734	15.64	0.0366
Middle		1	8	22.46	0.1762	15.71	0.0372
Highest		1	8	22.49	0.1774	15.74	0.0375
Lowest	64QAM	1	8	21.43	0.1390	14.68	0.0294
Middle		1	8	21.25	0.1334	14.50	0.0282
Highest		1	8	21.45	0.1396	14.70	0.0295
Limit	ERP < 3W		Result		PASS		

LTE Band 12 / 5MHz (Average) (GT - LC = -4.6 dB)							
Channel	Mode	RB		Conducted		ERP	
		Size	Offset	Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	24	23.22	0.2099	16.47	0.0444
Middle		1	24	23.02	0.2004	16.27	0.0424
Highest		1	24	23.12	0.2051	16.37	0.0434
Lowest	16QAM	1	12	22.45	0.1758	15.70	0.0372
Middle		1	12	22.44	0.1754	15.69	0.0371
Highest		1	12	22.56	0.1803	15.81	0.0381
Lowest	64QAM	1	24	21.61	0.1449	14.86	0.0306
Middle		1	24	21.43	0.1390	14.68	0.0294
Highest		1	24	21.39	0.1377	14.64	0.0291
Limit	ERP < 3W		Result		PASS		



LTE Band 12 / 10MHz (Average) (GT - LC = -4.6 dB)							
Channel	Mode	RB		Conducted		ERP	
		Size	Offset	Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	49	23.18	0.2080	16.43	0.0440
Middle		1	49	23.09	0.2037	16.34	0.0431
Highest		1	49	23.10	0.2042	16.35	0.0432
Lowest	16QAM	1	49	22.48	0.1770	15.73	0.0374
Middle		1	49	22.54	0.1795	15.79	0.0379
Highest		1	49	22.47	0.1766	15.72	0.0373
Lowest	64QAM	1	25	21.48	0.1406	14.73	0.0297
Middle		1	25	21.42	0.1387	14.67	0.0293
Highest		1	25	21.33	0.1358	14.58	0.0287
Limit	ERP < 3W			Result		PASS	



LTE Band 17 / 5MHz (Average) (GT - LC = -4.6 dB)							
Channel	Mode	RB		Conducted		ERP	
		Size	Offset	Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	24	22.90	0.1950	16.15	0.0412
Middle		1	24	22.97	0.1982	16.22	0.0419
Highest		1	24	23.03	0.2009	16.28	0.0425
Lowest	16QAM	1	12	22.27	0.1687	15.52	0.0356
Middle		1	12	22.21	0.1663	15.46	0.0352
Highest		1	12	22.37	0.1726	15.62	0.0365
Lowest	64QAM	1	12	21.19	0.1315	14.44	0.0278
Middle		1	12	21.19	0.1315	14.44	0.0278
Highest		1	12	21.30	0.1349	14.55	0.0285
Limit	ERP < 3W			Result		PASS	

LTE Band 17 / 10MHz (Average) (GT - LC = -4.6 dB)							
Channel	Mode	RB		Conducted		ERP	
		Size	Offset	Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
Lowest	QPSK	1	49	22.98	0.1986	16.23	0.0420
Middle		1	49	23.05	0.2018	16.30	0.0427
Highest		1	49	22.96	0.1977	16.21	0.0418
Lowest	16QAM	1	49	22.36	0.1722	15.61	0.0364
Middle		1	49	22.30	0.1698	15.55	0.0359
Highest		1	49	22.27	0.1687	15.52	0.0356
Lowest	64QAM	1	49	21.27	0.1340	14.52	0.0283
Middle		1	49	21.24	0.1330	14.49	0.0281
Highest		1	49	21.21	0.1321	14.46	0.0279
Limit	ERP < 3W			Result		PASS	





Radiated Spurious Emission

Part 22H LTE Band 5

LTE Band 5 / 5MHz / QPSK									
Channel	Frequency ( MHz )	ERP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading (dBm)	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	1656	-57.81	-13	-44.81	-67.7	-64.78	0.53	9.64	H
	2484	-60.49	-13	-47.49	-73.91	-68.48	0.65	10.79	H
	3312	-58.30	-13	-45.30	-74.45	-67.43	0.76	12.04	H
									H
									H
									H
	1656	-55.05	-13	-42.05	-64.65	-62.02	0.53	9.64	V
	2484	-60.25	-13	-47.25	-74.09	-68.24	0.65	10.79	V
	3312	-58.88	-13	-45.88	-74.92	-68.01	0.76	12.04	V
									V
Middle	1672	-58.27	-13	-45.27	-68.31	-65.27	0.53	9.68	H
	2504	-60.49	-13	-47.49	-73.94	-68.49	0.66	10.80	H
	3344	-58.44	-13	-45.44	-74.64	-67.66	0.76	12.13	H
									H
									H
									H
	1672	-55.27	-13	-42.27	-64.91	-62.27	0.53	9.68	V
	2504	-59.91	-13	-46.91	-73.77	-67.91	0.66	10.80	V
	3344	-58.70	-13	-45.70	-74.71	-67.92	0.76	12.13	V
									V
Highest	1680	-56.80	-13	-43.80	-66.98	-63.82	0.53	9.70	H
	2520	-60.70	-13	-47.70	-74.18	-68.7	0.66	10.81	H
	3360	-58.55	-13	-45.55	-74.78	-67.81	0.77	12.18	H
									H
									H
									H
	1680	-52.28	-13	-39.28	-61.96	-59.3	0.53	9.70	V
	2520	-60.33	-13	-47.33	-74.19	-68.33	0.66	10.81	V
	3360	-58.60	-13	-45.60	-74.57	-67.86	0.77	12.18	V
									V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



**Part 27H LTE Band 12**

LTE Band 12 / 5MHz / QPSK									
Channel	Frequency ( MHz )	ERP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading (dBm)	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	1408	-60.83	-13	-47.83	-72.05	-66.93	0.50	8.75	H
	2111	-60.45	-13	-47.45	-74.10	-68.20	0.59	10.49	H
	2815	-59.78	-13	-46.78	-74.20	-67.91	0.71	10.99	H
									H
									H
									H
	1408	-61.16	-13	-48.16	-72.13	-67.26	0.50	8.75	V
	2111	-60.66	-13	-47.66	-74.12	-68.41	0.59	10.49	V
	2815	-59.76	-13	-46.76	-74.56	-67.89	0.71	10.99	V
									V
									V
Middle	1416	-60.11	-13	-47.11	-71.28	-66.25	0.50	8.80	H
	2129	-60.36	-13	-47.36	-74.28	-68.12	0.59	10.50	H
	2839	-59.79	-13	-46.79	-74.26	-67.93	0.71	11.00	H
									H
									H
									H
	1416	-59.83	-13	-46.83	-70.80	-65.97	0.50	8.80	V
	2129	-60.10	-13	-47.10	-73.91	-67.86	0.59	10.50	V
	2839	-59.80	-13	-46.80	-74.59	-67.94	0.71	11.00	V
									V
									V
Highest	1432	-60.77	-13	-47.77	-72.08	-67.01	0.50	8.89	H
	2147	-60.07	-13	-47.07	-74.28	-67.84	0.59	10.52	H
	2863	-59.97	-13	-46.97	-74.54	-68.12	0.72	11.02	H
									H
									H
									H
	1432	-61.35	-13	-48.35	-72.20	-67.59	0.50	8.89	V
	2147	-60.12	-13	-47.12	-74.28	-67.89	0.59	10.52	V
	2863	-59.61	-13	-46.61	-74.42	-67.76	0.72	11.02	V
									V
									V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.



Part 27H LTE Band 17

LTE Band 17 / 10MHz / QPSK									
Channel	Frequency ( MHz )	ERP ( dBm )	Limit ( dBm )	Over Limit ( dB )	SPA Reading (dBm)	S.G. Power ( dBm )	TX Cable loss ( dB )	TX Antenna Gain (dBi)	Polarization (H/V)
Lowest	1424	-59.79	-13	-46.79	-71.09	-65.98	0.50	8.84	H
	2140	-59.63	-13	-46.63	-73.55	-67.40	0.59	10.51	H
	2854	-59.70	-13	-46.70	-74.22	-67.85	0.71	11.01	H
									H
									H
									H
	1424	-61.04	-13	-48.04	-71.88	-67.23	0.50	8.84	V
	2140	-60.14	-13	-47.14	-73.95	-67.91	0.59	10.51	V
	2854	-59.85	-13	-46.85	-74.65	-68.00	0.71	11.01	V
									V
									V
Middle	1432	-60.38	-13	-47.38	-71.69	-66.62	0.50	8.89	H
	2143	-60.33	-13	-47.33	-74.54	-68.10	0.59	10.51	H
	2858	-59.98	-13	-46.98	-74.50	-68.13	0.72	11.01	H
									H
									H
									H
	1432	-61.67	-13	-48.67	-72.52	-67.91	0.50	8.89	V
	2143	-60.14	-13	-47.14	-74.30	-67.91	0.59	10.51	V
	2858	-59.89	-13	-46.89	-74.69	-68.04	0.72	11.01	V
									V
									V
Highest	1432	-60.54	-13	-47.54	-71.85	-66.78	0.50	8.89	H
	2146	-60.03	-13	-47.03	-74.24	-67.80	0.59	10.52	H
	2862	-59.16	-13	-46.16	-73.73	-67.31	0.72	11.02	H
									H
									H
									H
	1432	-60.25	-13	-47.25	-72.10	-66.49	0.50	8.89	V
	2146	-59.55	-13	-46.55	-73.71	-67.32	0.59	10.52	V
	2862	-59.47	-13	-46.47	-74.28	-67.62	0.72	11.02	V
									V
									V

Remark: Spurious emissions within 30-1000MHz were found more than 20dB below limit line.