

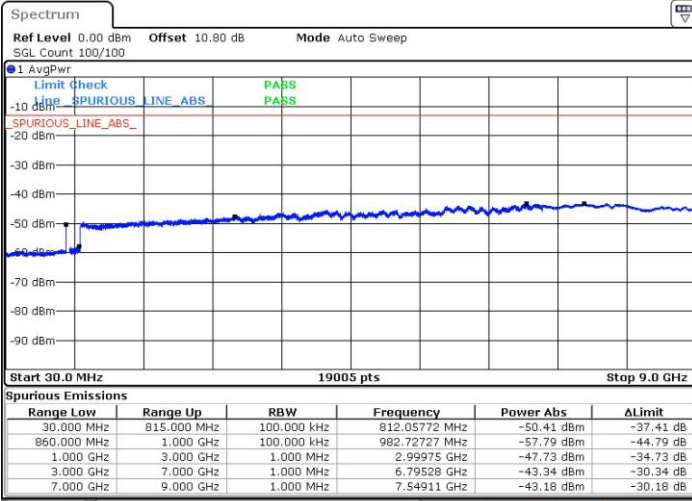


LTE Band 5 / 5MHz+3MHz

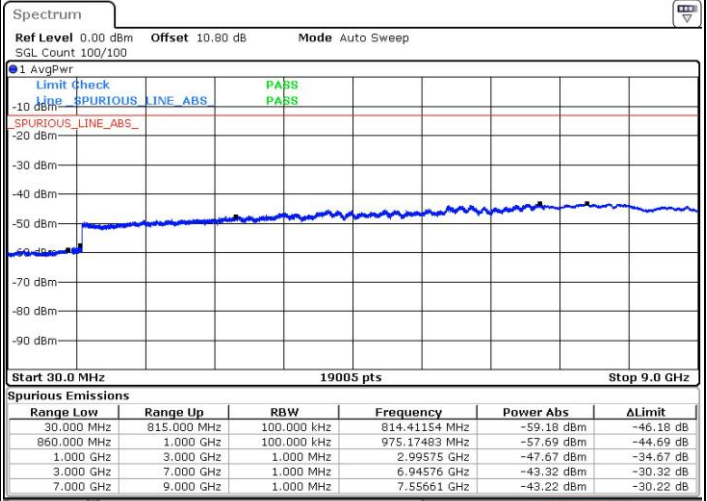
16QAM

Highest Channel / 1RB0 and 1RB14

Highest Channel / 1RB24 and 1RB0



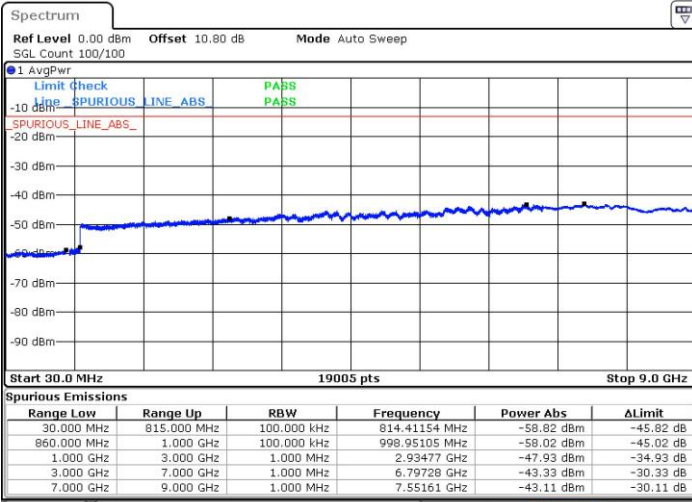
Date: 9 MAY 2019 06:48:11



Date: 9 MAY 2019 06:45:05

Highest Channel / FullIRB

N/A



Date: 9 MAY 2019 06:51:18

Intentionally blank

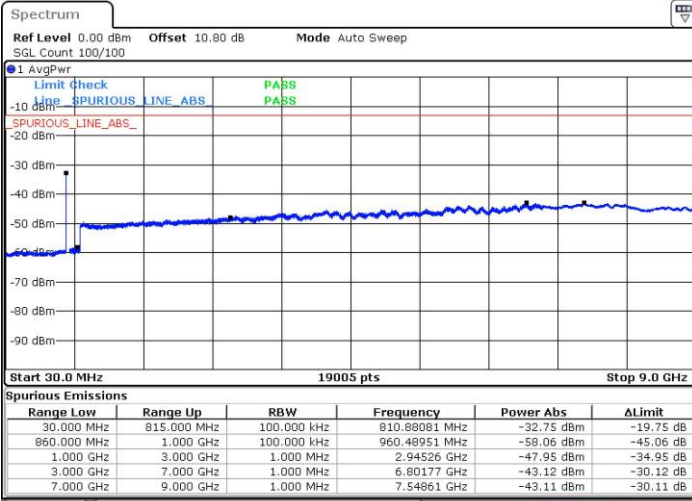


LTE Band 5 / 5MHz+10MHz

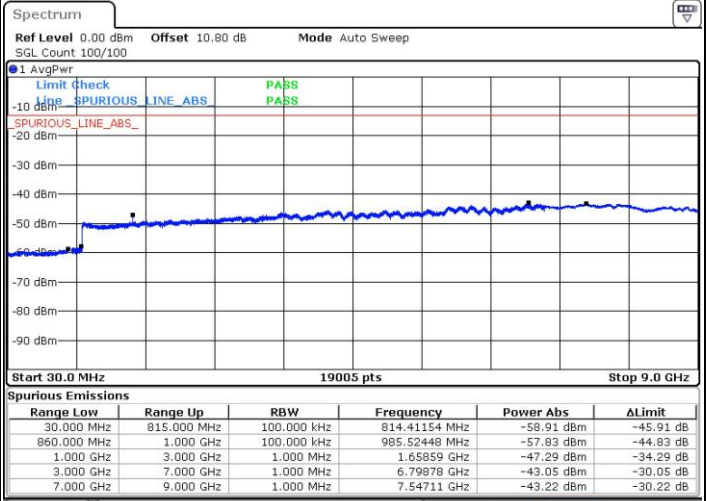
16QAM

Lowest Channel / 1RB0 and 1RB49

Lowest Channel / 1RB24 and 1RB0



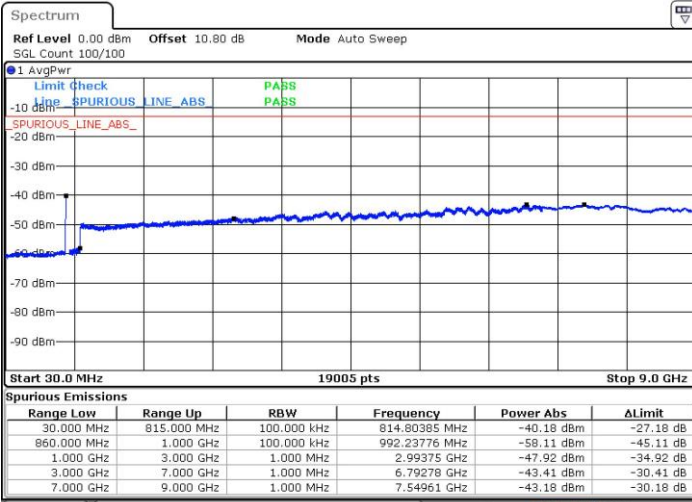
Date: 9 MAY 2019 11:46:02



Date: 9 MAY 2019 11:42:56

Lowest Channel / FullIRB

N/A



Date: 9 MAY 2019 11:49:09

Intentionally blank

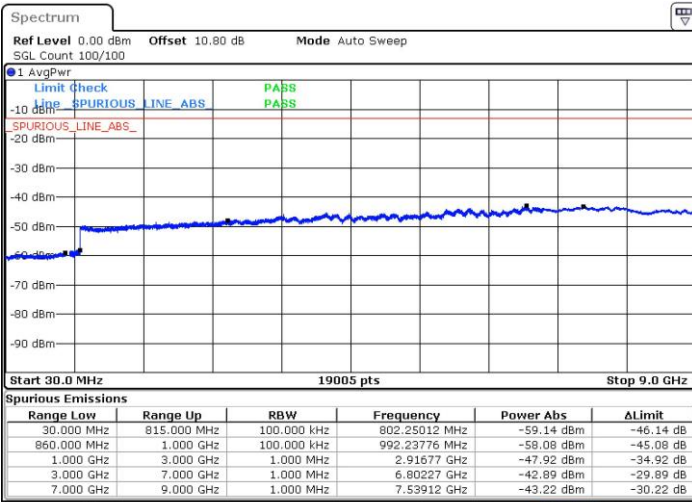


LTE Band 5 / 5MHz+10MHz

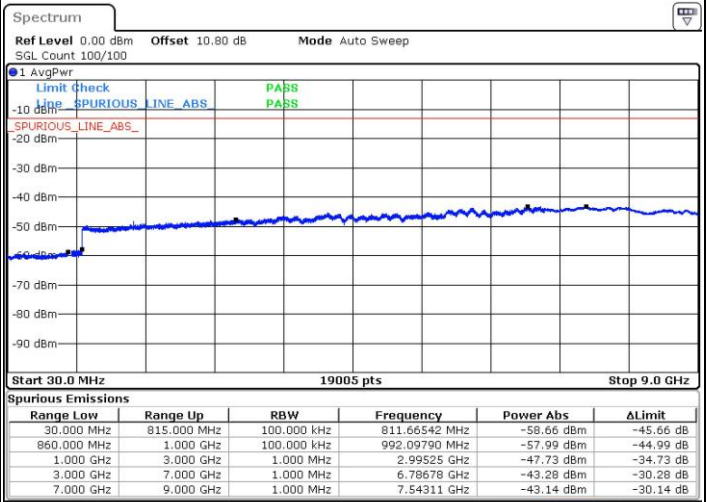
16QAM

Middle Channel / 1RB0 and 1RB49

Middle Channel / 1RB24 and 1RB0



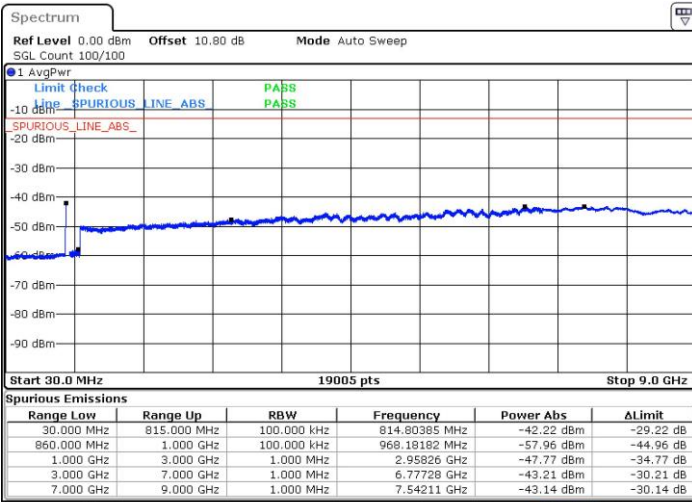
Date: 9 MAY 2019 13:48:46



Date: 9 MAY 2019 13:51:52

Middle Channel / FullIRB

N/A



Date: 9 MAY 2019 13:45:39

Intentionally blank

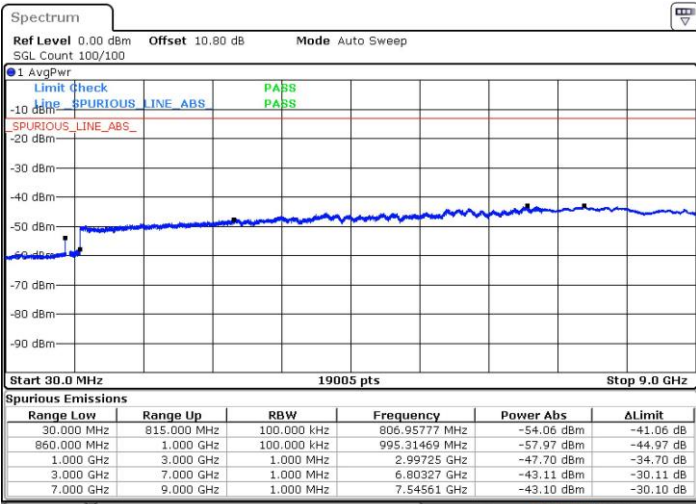


LTE Band 5 / 5MHz+10MHz

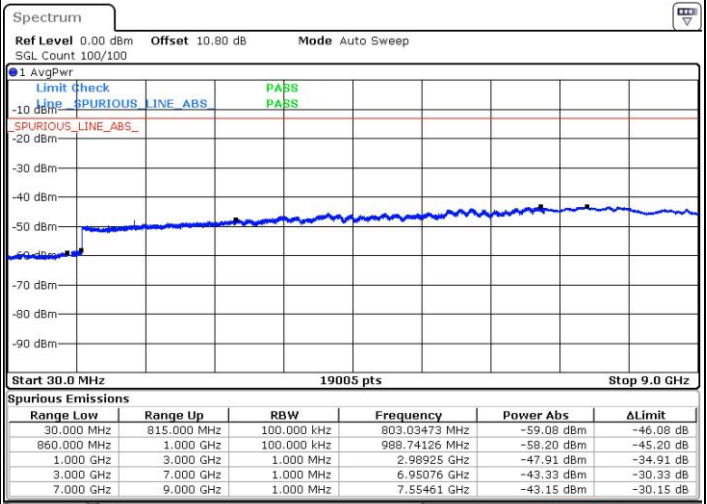
16QAM

Highest Channel / 1RB0 and 1RB49

Highest Channel / 1RB24 and 1RB0



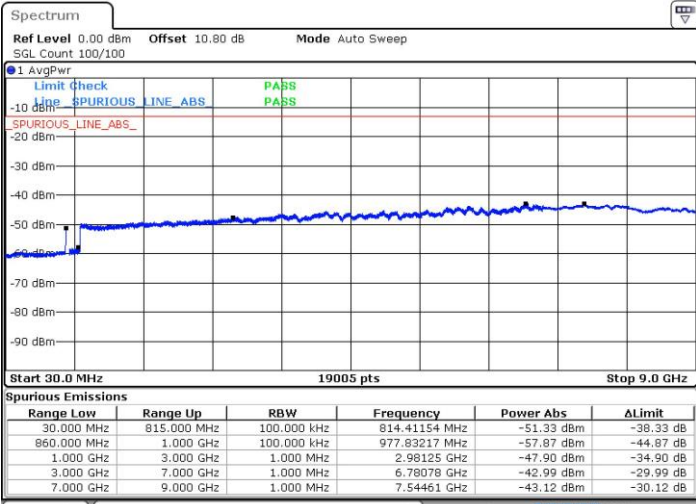
Date: 9 MAY 2019 14:53:12



Date: 9 MAY 2019 14:50:06

Highest Channel / FullIRB

N/A



Date: 9 MAY 2019 14:56:19

Intentionally blank

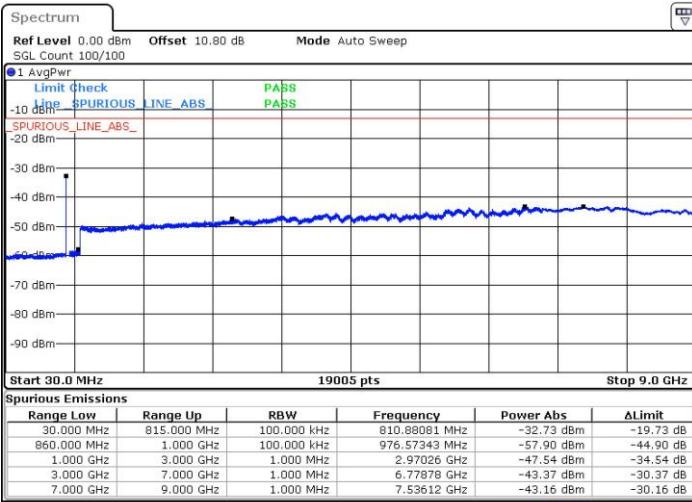


LTE Band 5 / 10MHz+5MHz

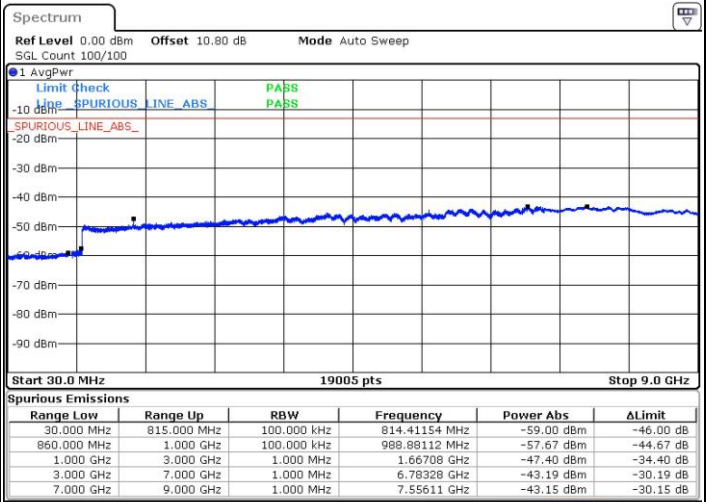
16QAM

Lowest Channel / 1RB0 and 1RB24

Lowest Channel / 1RB49 and 1RB0



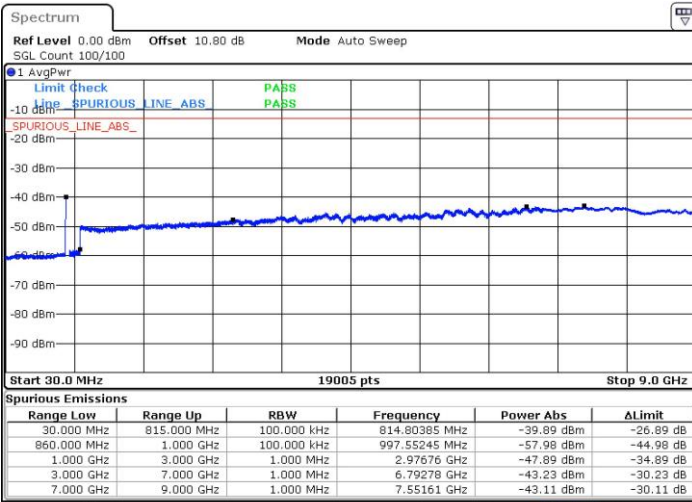
Date: 9 MAY 2019 15:25:45



Date: 9 MAY 2019 15:23:24

Lowest Channel / FullIRB

N/A



Date: 9 MAY 2019 15:28:07

Intentionally blank

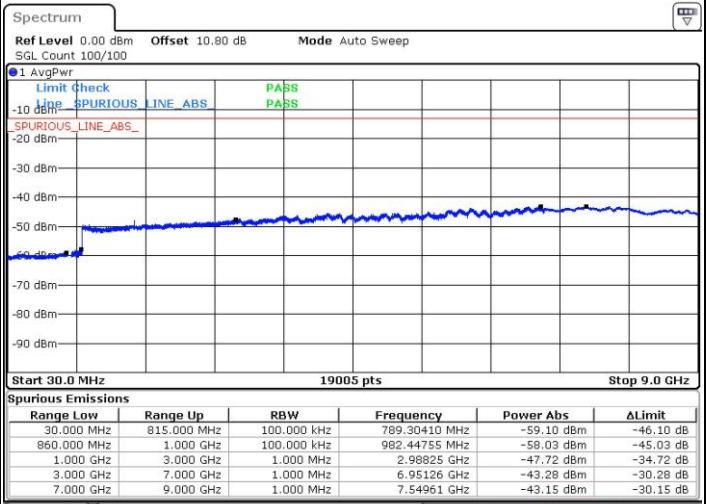
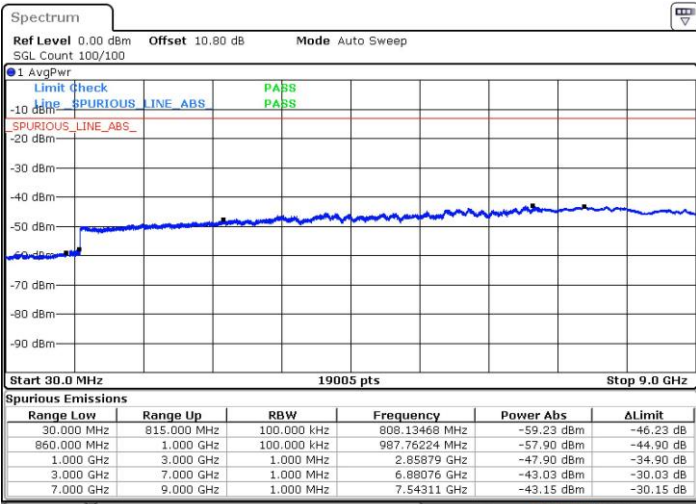


LTE Band 5 / 10MHz+5MHz

16QAM

Middle Channel / 1RB0 and 1RB24

Middle Channel / 1RB49 and 1RB0

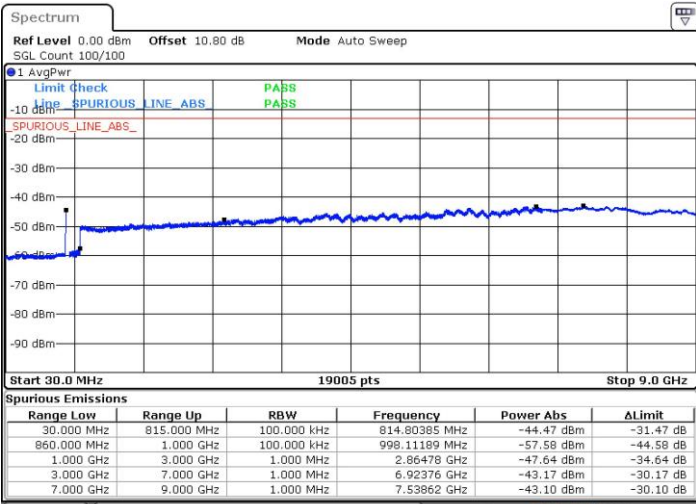


Date: 9 MAY 2019 15:40:57

Date: 9 MAY 2019 15:43:17

Middle Channel / FullIRB

N/A



Date: 9 MAY 2019 15:38:35

Intentionally blank

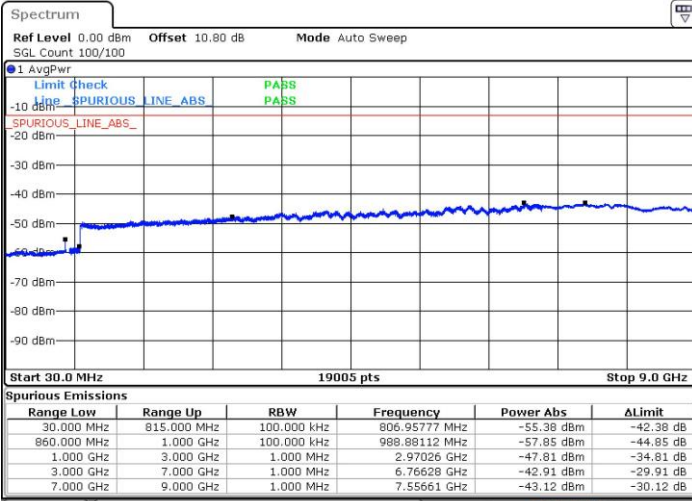


LTE Band 5 / 10MHz+5MHz

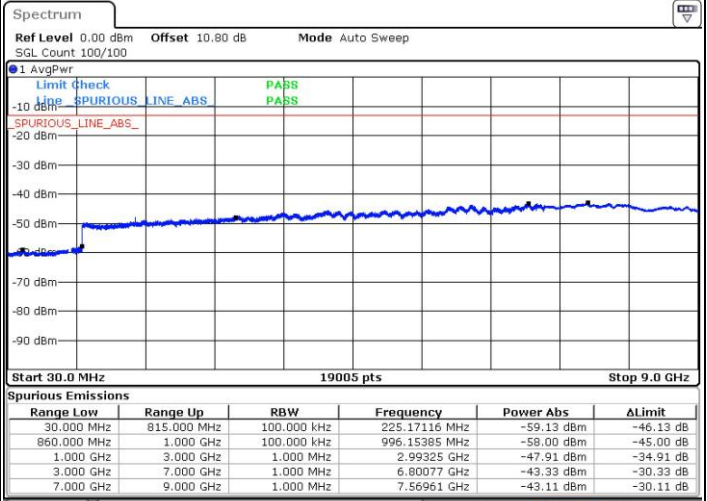
16QAM

Highest Channel / 1RB0 and 1RB24

Highest Channel / 1RB49 and 1RB0



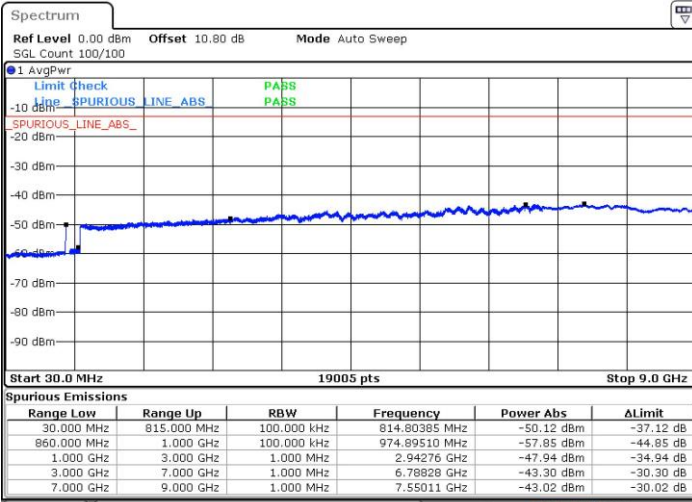
Date: 9 MAY 2019 16:23:14



Date: 9 MAY 2019 16:20:53

Highest Channel / FullIRB

N/A



Date: 9 MAY 2019 16:25:36

Intentionally blank

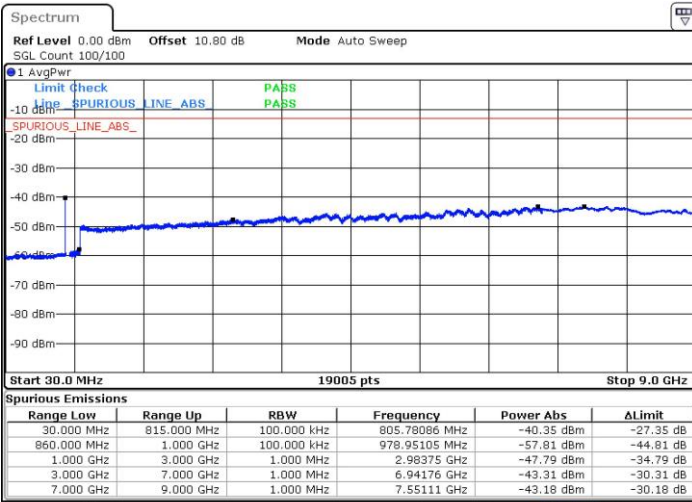


LTE Band 5 / 10MHz+10MHz

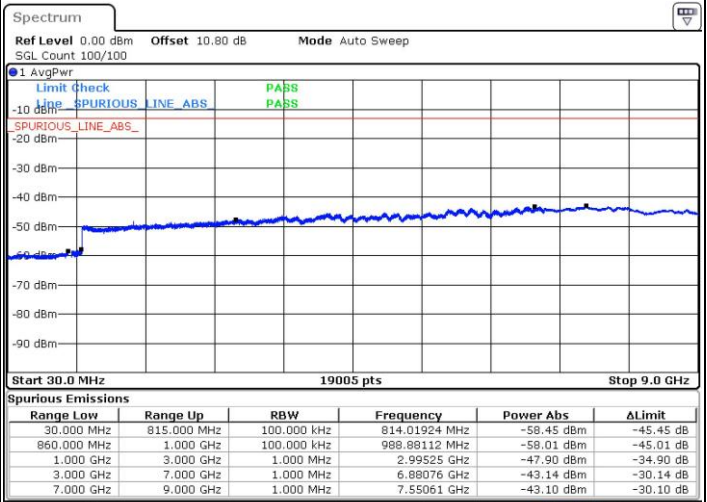
16QAM

Lowest Channel / 1RB0 and 1RB49

Lowest Channel / 1RB49 and 1RB0



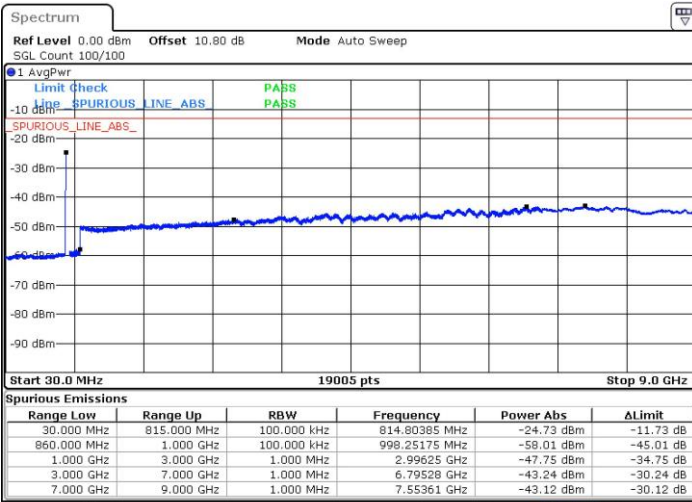
Date: 9 MAY 2019 16:52:21



Date: 9 MAY 2019 16:50:00

Lowest Channel / FullIRB

N/A



Date: 9 MAY 2019 16:54:43

Intentionally blank

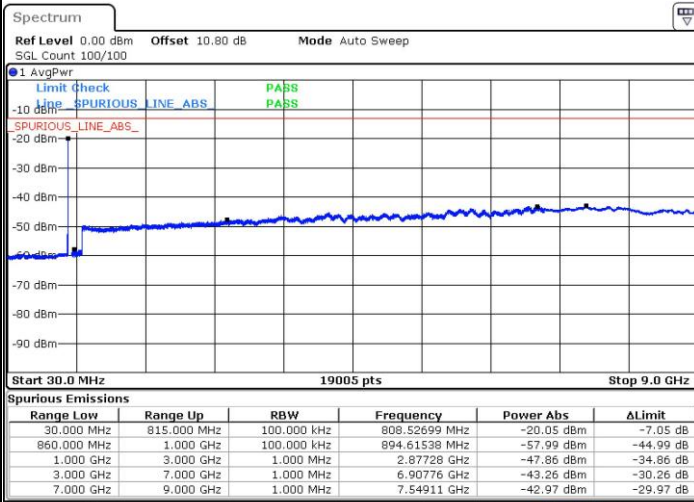


LTE Band 5 / 10MHz+10MHz

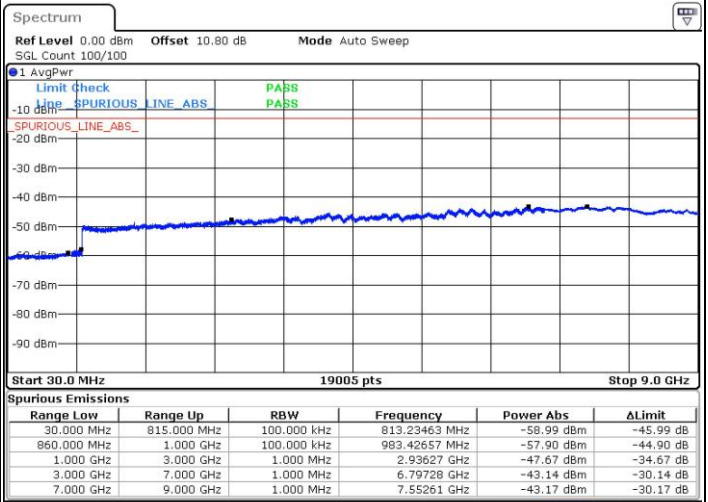
16QAM

Middle Channel / 1RB0 and 1RB49

Middle Channel / 1RB49 and 1RB0



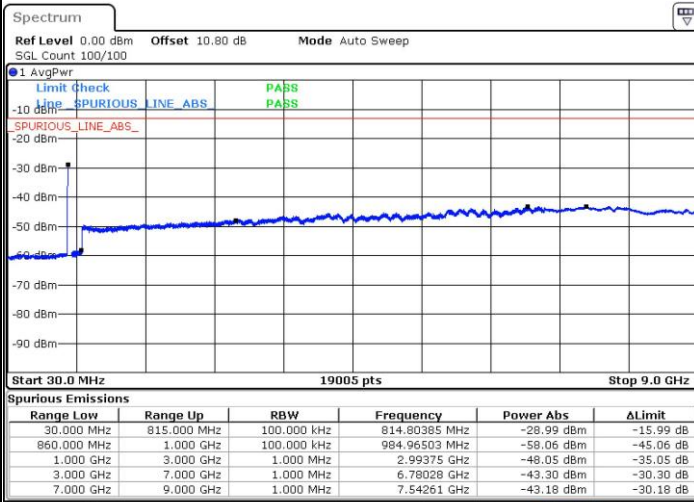
Date: 9 MAY 2019 17:05:36



Date: 9 MAY 2019 17:07:57

Middle Channel / FullIRB

N/A



Date: 9 MAY 2019 17:03:14

Intentionally blank

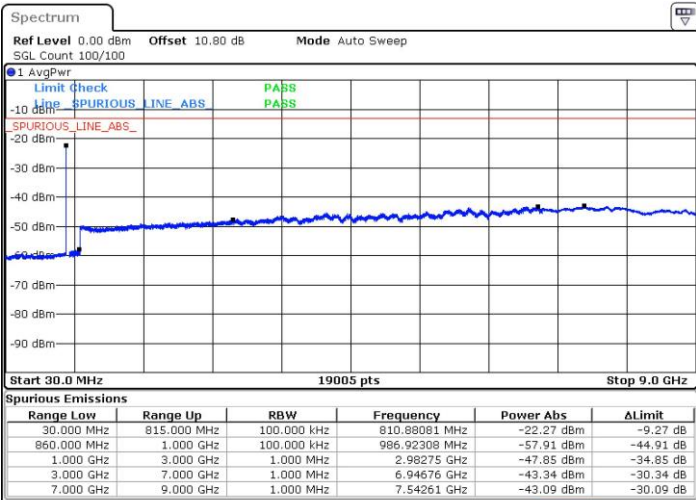


LTE Band 5 / 10MHz+10MHz

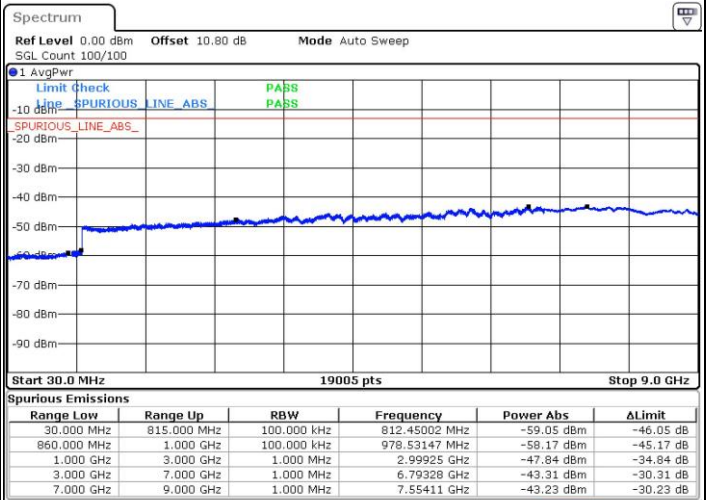
16QAM

Highest Channel / 1RB0 and 1RB49

Highest Channel / 1RB49 and 1RB0



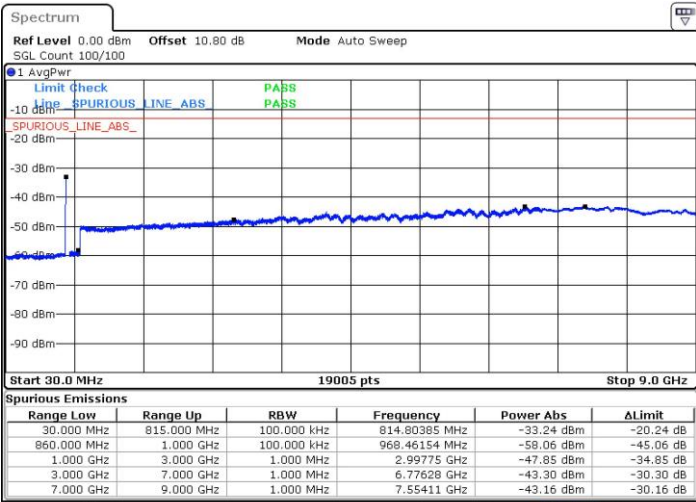
Date: 9 MAY 2019 17:39:51



Date: 9 MAY 2019 17:37:30

Highest Channel / FullIRB

N/A



Date: 9 MAY 2019 17:42:12

Intentionally blank

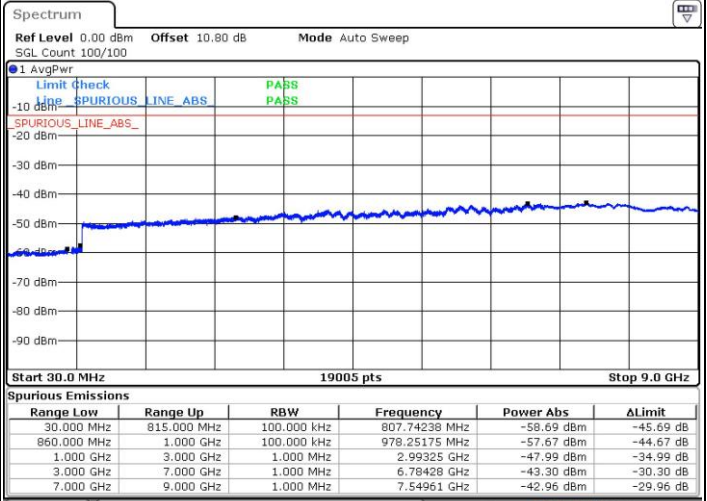
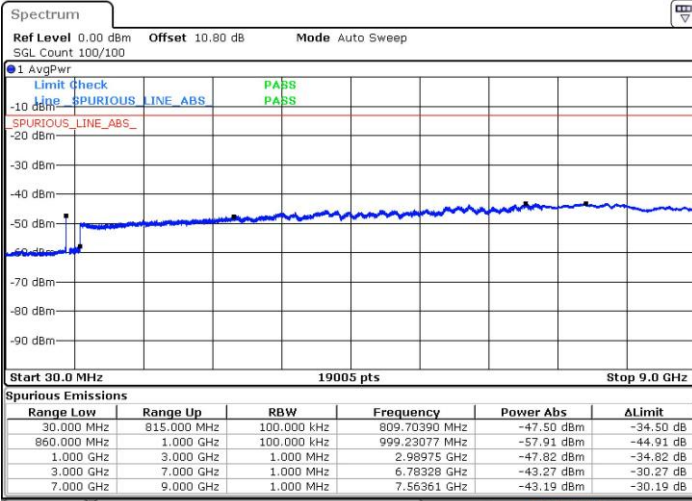


LTE Band 5 / 3MHz+5MHz

64QAM

Lowest Channel / 1RB0 and 1RB24

Lowest Channel / 1RB14 and 1RB0

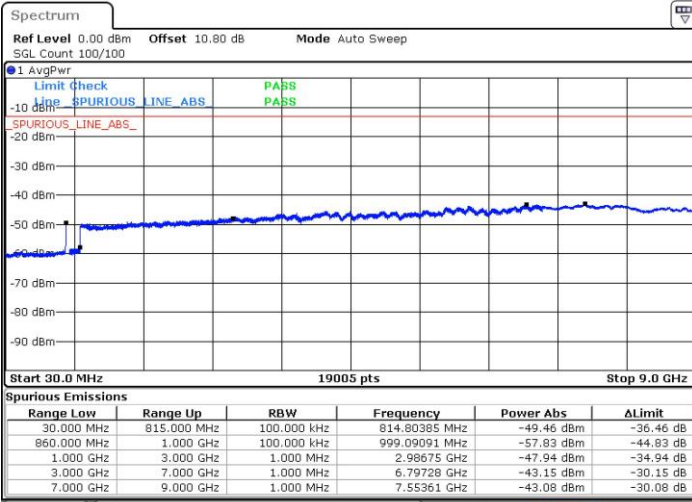


Date: 9 MAY 2019 04:35:05

Date: 9 MAY 2019 04:29:54

Lowest Channel / FullIRB

N/A



Date: 9 MAY 2019 04:36:07

Intentionally blank

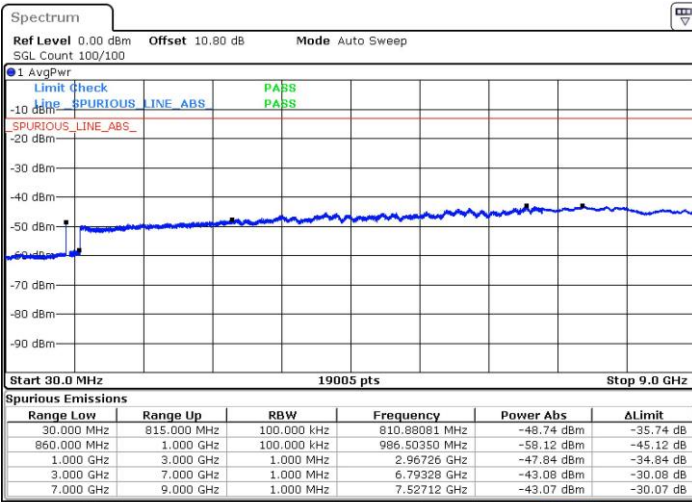


LTE Band 5 / 3MHz+5MHz

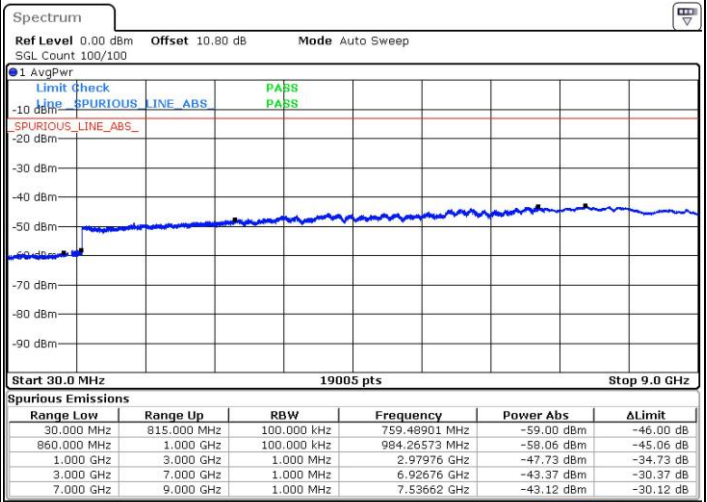
64QAM

MiddleChannel / 1RB0 and 1RB24

Middle Channel / 1RB14 and 1RB0



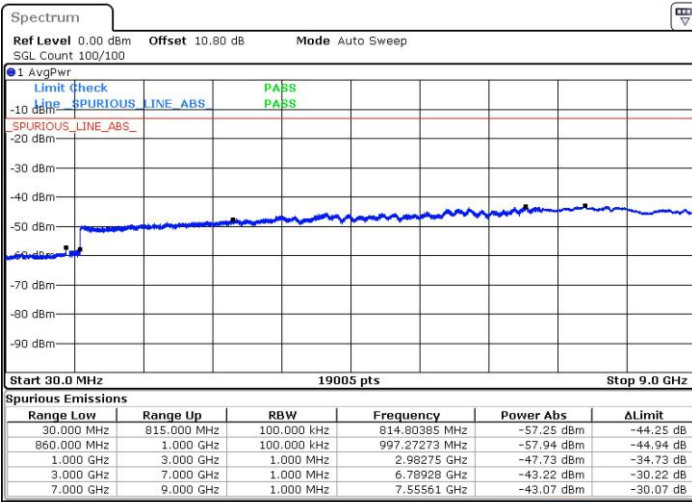
Date: 9 MAY 2019 04:47:13



Date: 9 MAY 2019 04:52:24

Middle Channel / FullIRB

N/A



Date: 9 MAY 2019 04:46:11

Intentionally blank

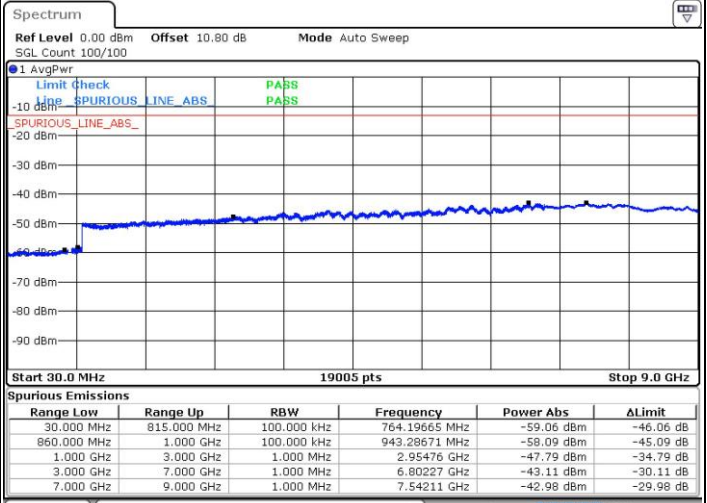
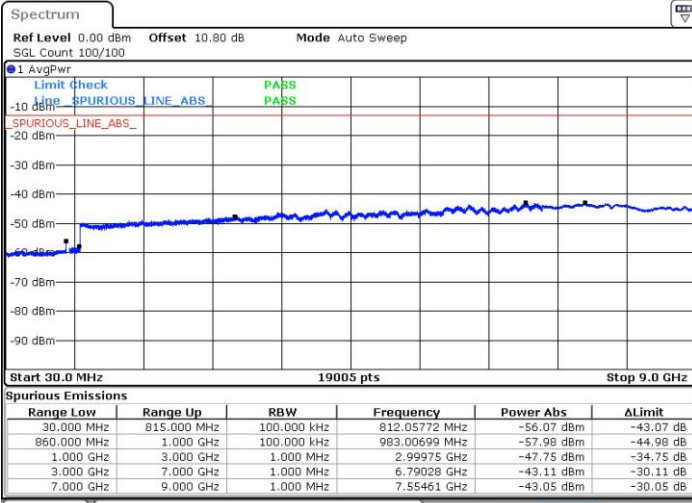


LTE Band 5 / 3MHz+5MHz

64QAM

Highest Channel / 1RB0 and 1RB24

Highest Channel / 1RB14 and 1RB0

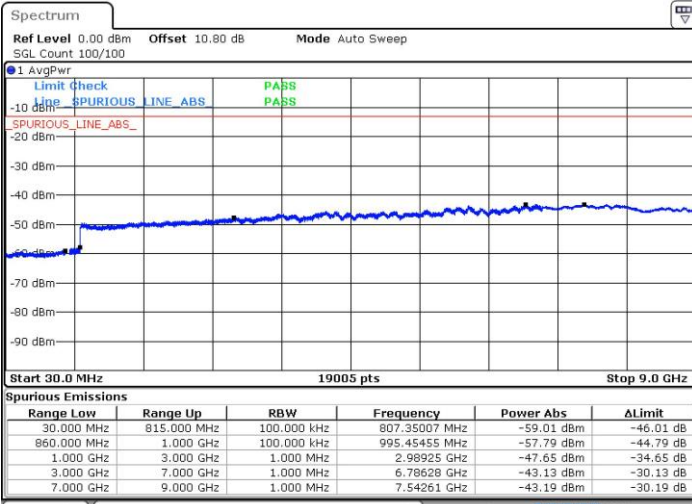


Date: 9 MAY 2019 05:22:23

Date: 9 MAY 2019 05:21:22

Highest Channel / FullIRB

N/A



Date: 9 MAY 2019 05:27:34

Intentionally blank

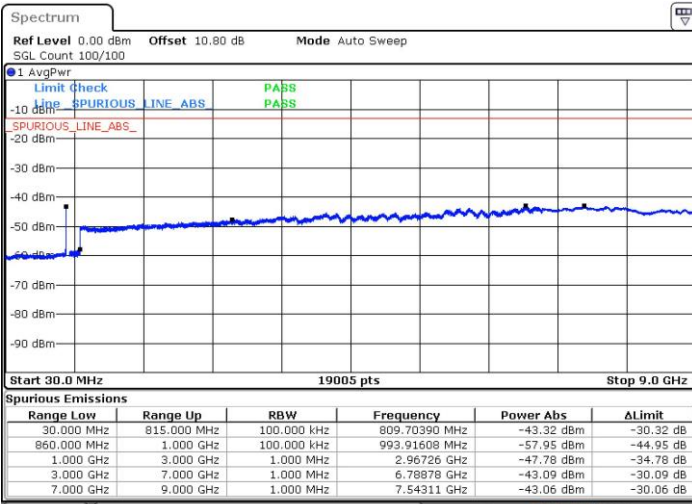


LTE Band 5 / 5MHz+3MHz

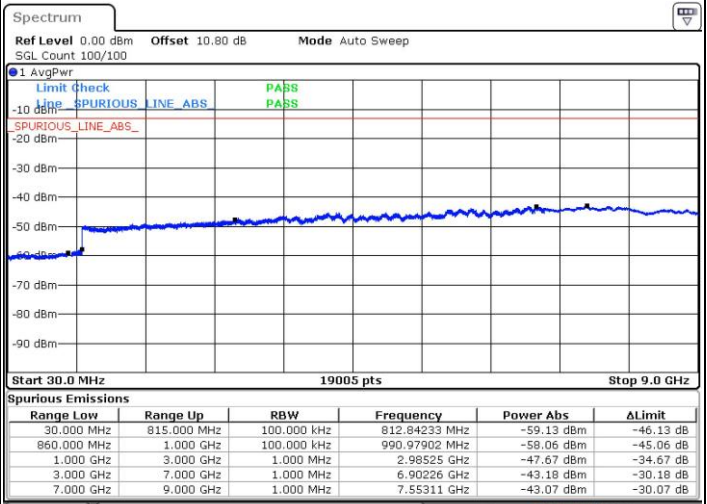
64QAM

Lowest Channel / 1RB0 and 1RB14

Lowest Channel / 1RB24 and 1RB0



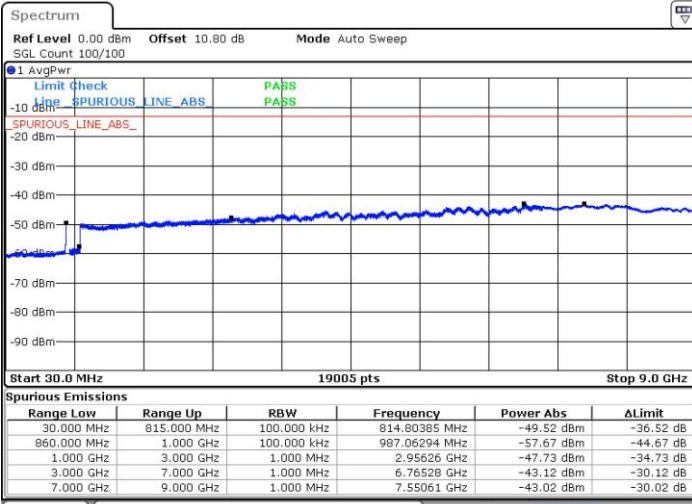
Date: 9 MAY 2019 05:59:43



Date: 9 MAY 2019 05:54:32

Lowest Channel / FullIRB

N/A



Date: 9 MAY 2019 06:00:45

Intentionally blank

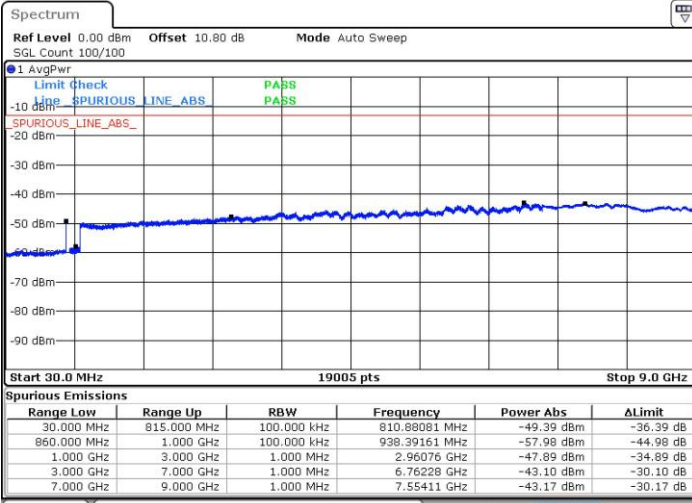


LTE Band 5 / 5MHz+3MHz

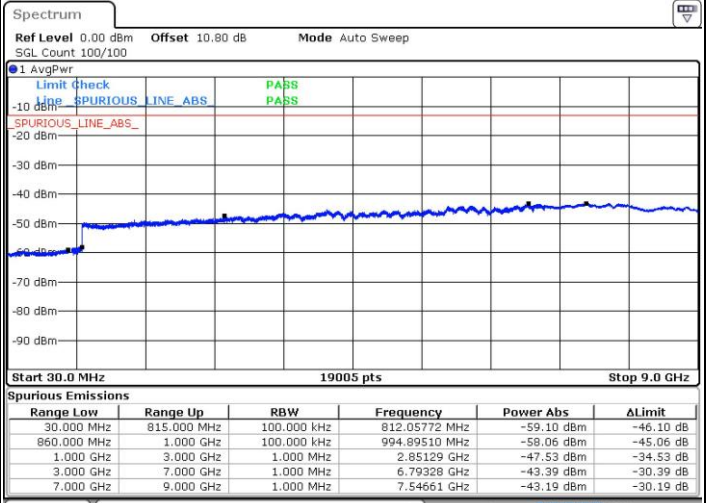
64QAM

Middle Channel / 1RB0 and 1RB14

Middle Channel / 1RB24 and 1RB0



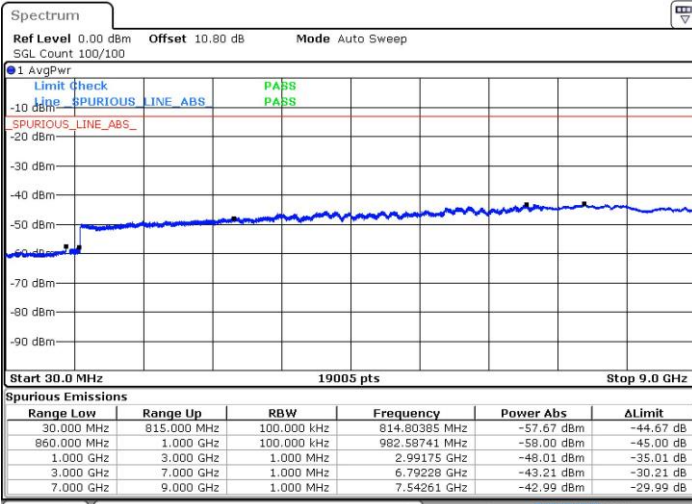
Date: 9 MAY 2019 06:12:39



Date: 9 MAY 2019 06:17:51

Middle Channel / FullIRB

N/A



Date: 9 MAY 2019 06:11:37

Intentionally blank

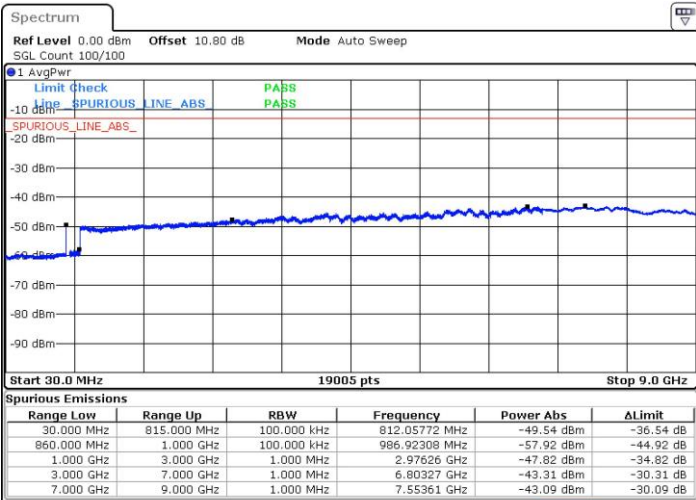


LTE Band 5 / 5MHz+3MHz

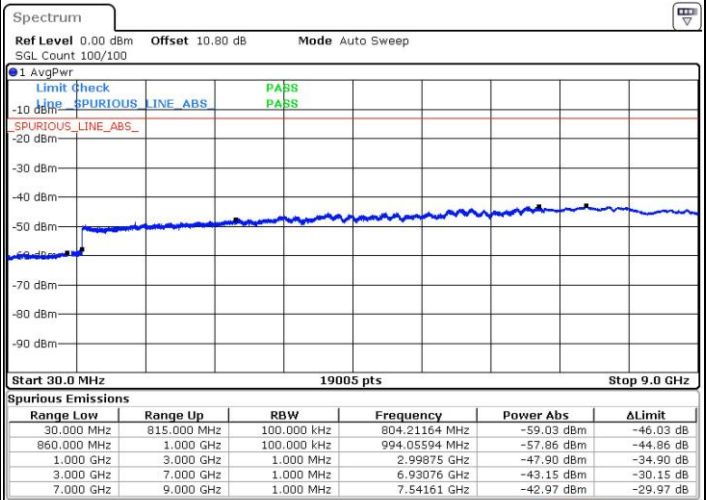
64QAM

Highest Channel / 1RB0 and 1RB14

Highest Channel / 1RB24 and 1RB0



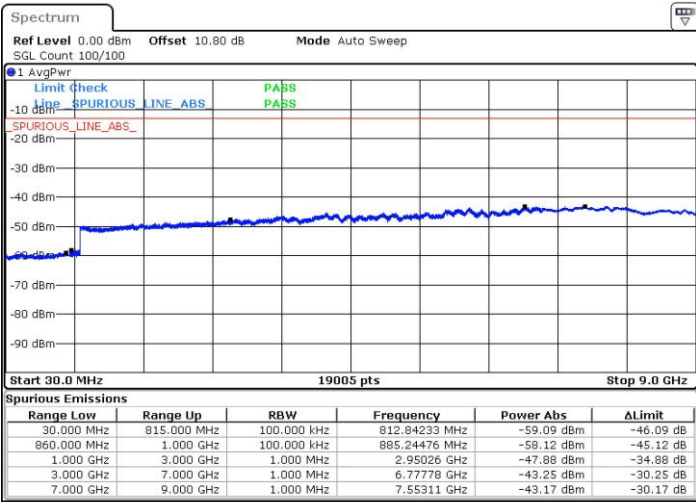
Date: 9 MAY 2019 06:47:08



Date: 9 MAY 2019 06:46:07

Highest Channel / FullIRB

N/A



Date: 9 MAY 2019 06:52:21

Intentionally blank

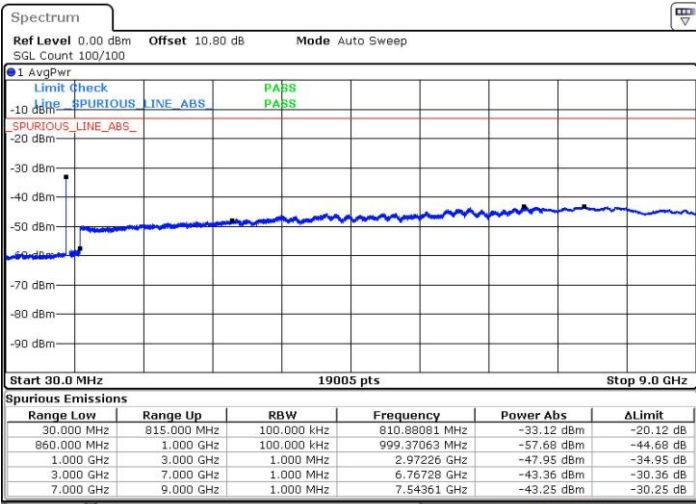


LTE Band 5 / 5MHz+10MHz

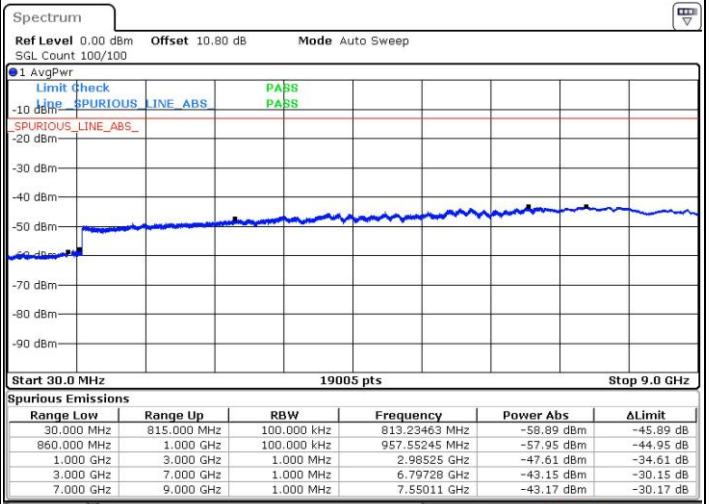
64QAM

Lowest Channel / 1RB0 and 1RB49

Lowest Channel / 1RB24 and 1RB0



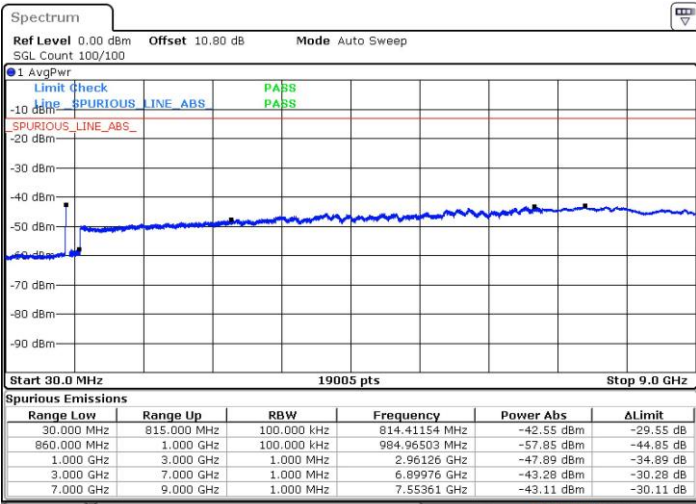
Date: 9 MAY 2019 11:47:04



Date: 9 MAY 2019 11:41:53

Lowest Channel / FullIRB

N/A



Date: 9 MAY 2019 11:48:06

Intentionally blank

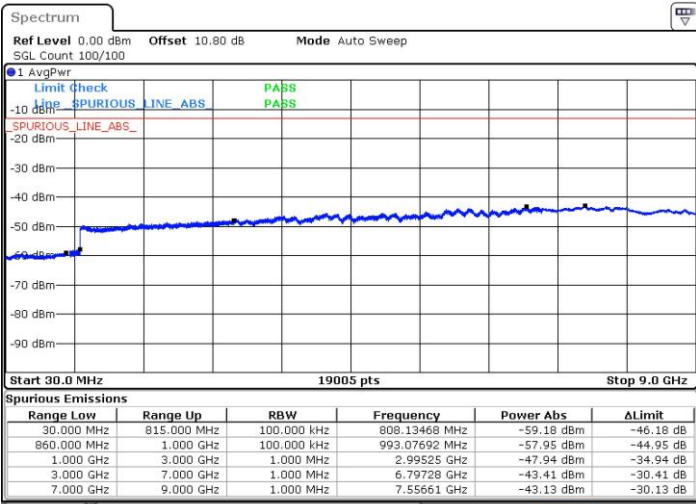


LTE Band 5 / 5MHz+10MHz

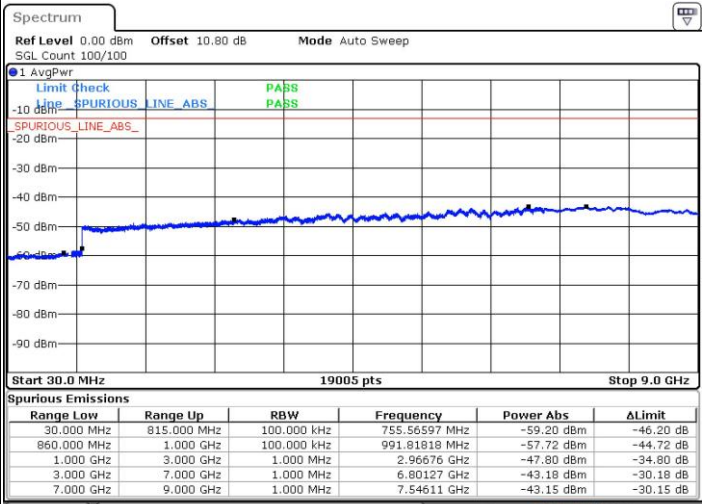
64QAM

Middle Channel / 1RB0 and 1RB49

Middle Channel / 1RB24 and 1RB0



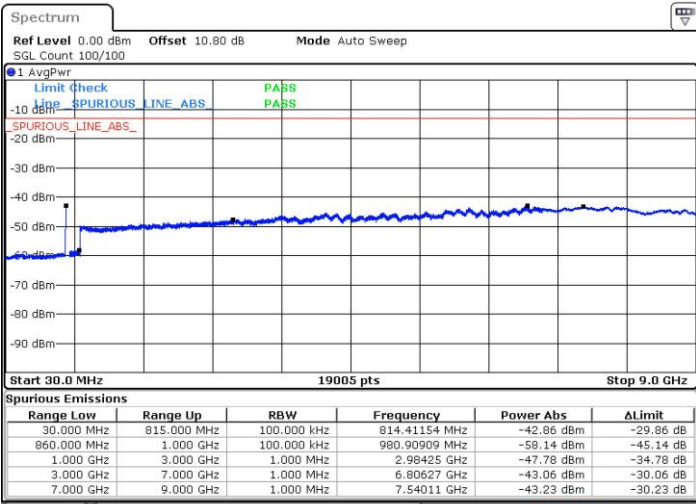
Date: 9 MAY 2019 13:47:43



Date: 9 MAY 2019 13:52:54

Middle Channel / FullIRB

N/A



Date: 9 MAY 2019 13:46:41

Intentionally blank

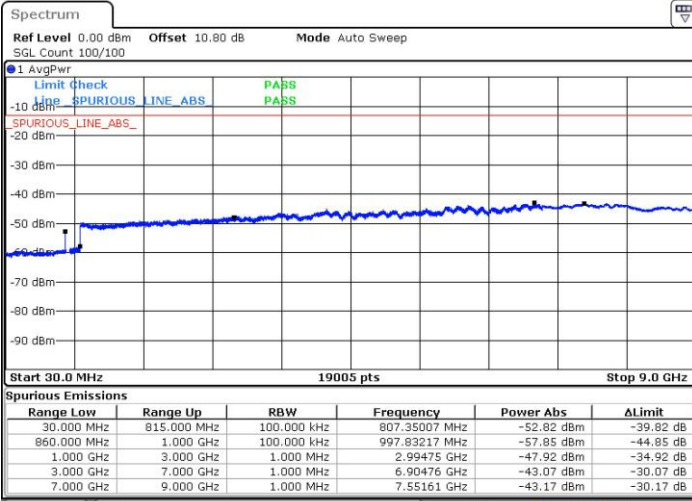


LTE Band 5 / 5MHz+10MHz

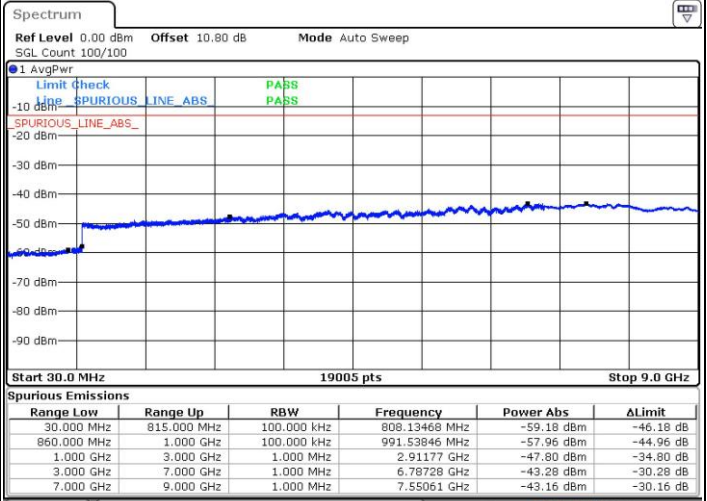
64QAM

Highest Channel / 1RB0 and 1RB49

Highest Channel / 1RB24 and 1RB0



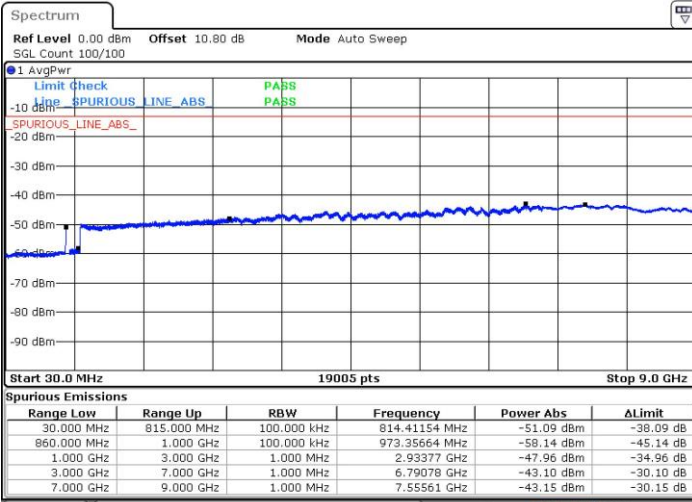
Date: 9 MAY 2019 14:52:10



Date: 9 MAY 2019 14:51:08

Highest Channel / FullIRB

N/A



Date: 9 MAY 2019 14:57:22

Intentionally blank

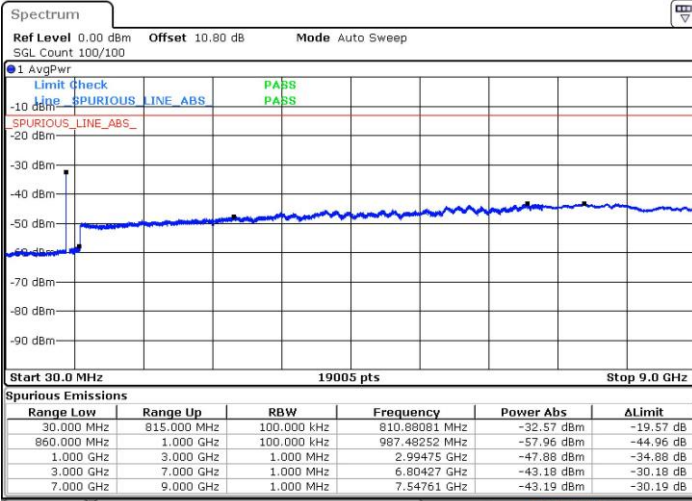


LTE Band 5 / 10MHz+5MHz

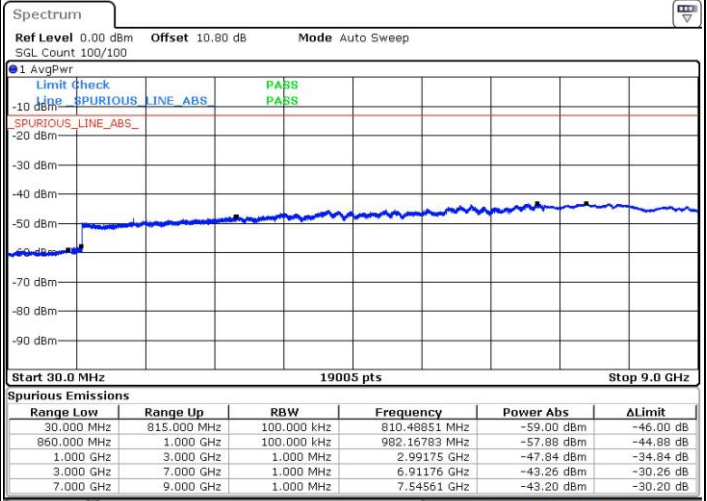
64QAM

Lowest Channel / 1RB0 and 1RB24

Lowest Channel / 1RB49 and 1RB0



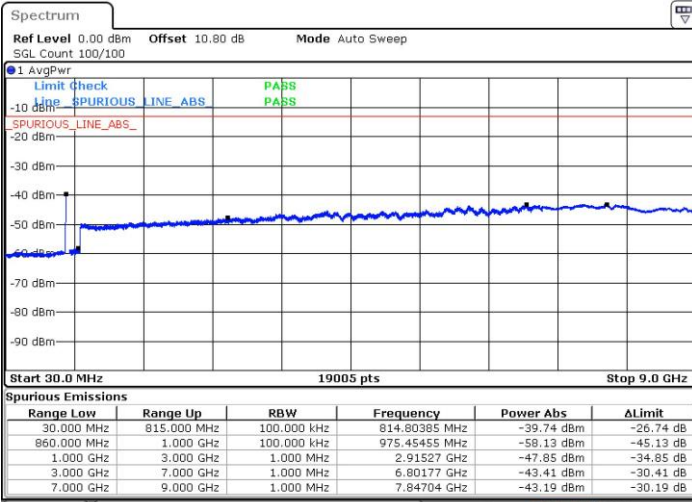
Date: 9 MAY 2019 15:26:32



Date: 9 MAY 2019 15:22:36

Lowest Channel / FullIRB

N/A



Date: 9 MAY 2019 15:27:19

Intentionally blank

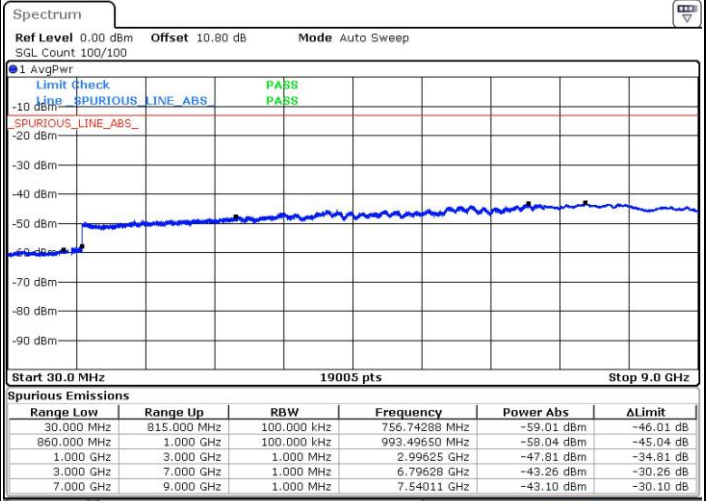
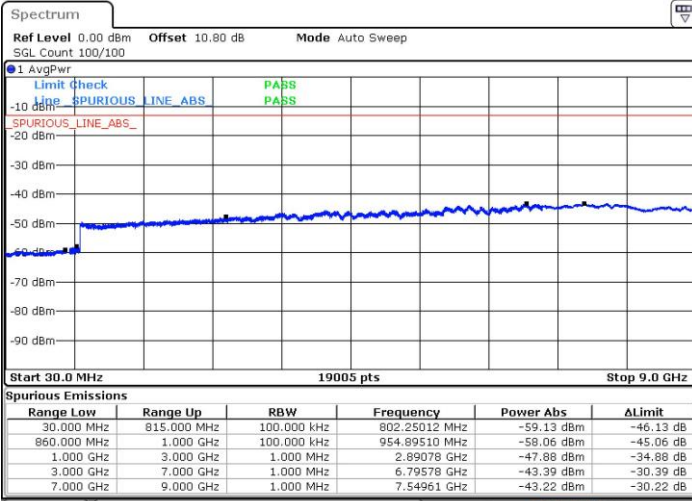


LTE Band 5 / 10MHz+5MHz

64QAM

Middle Channel / 1RB0 and 1RB24

Middle Channel / 1RB49 and 1RB0

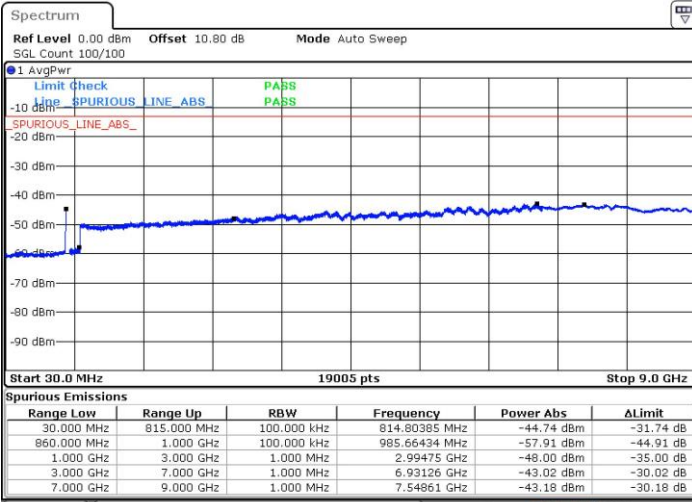


Date: 9 MAY 2019 15:40:09

Date: 9 MAY 2019 15:44:04

Middle Channel / FullIRB

N/A



Intentionally blank

Date: 9 MAY 2019 15:39:22

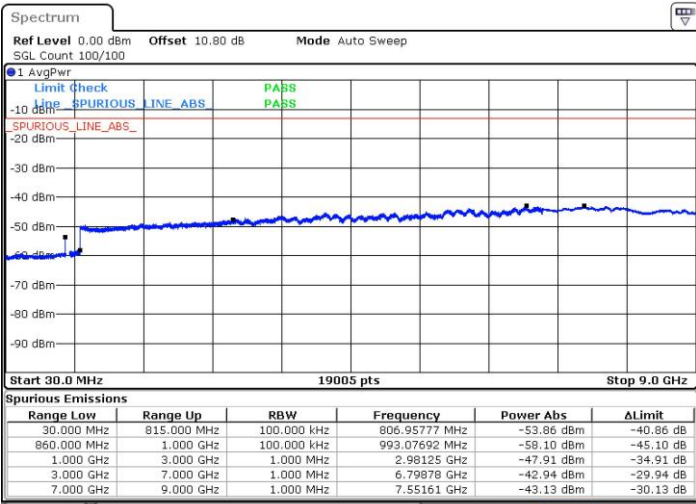


LTE Band 5 / 10MHz+5MHz

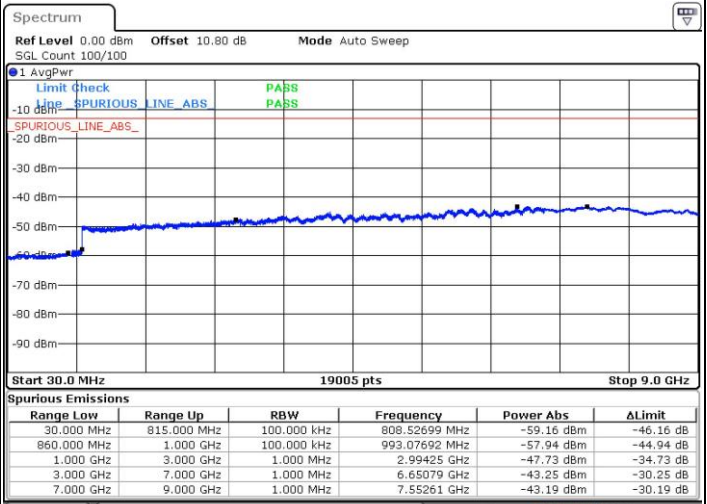
64QAM

Highest Channel / 1RB0 and 1RB24

Highest Channel / 1RB49 and 1RB0



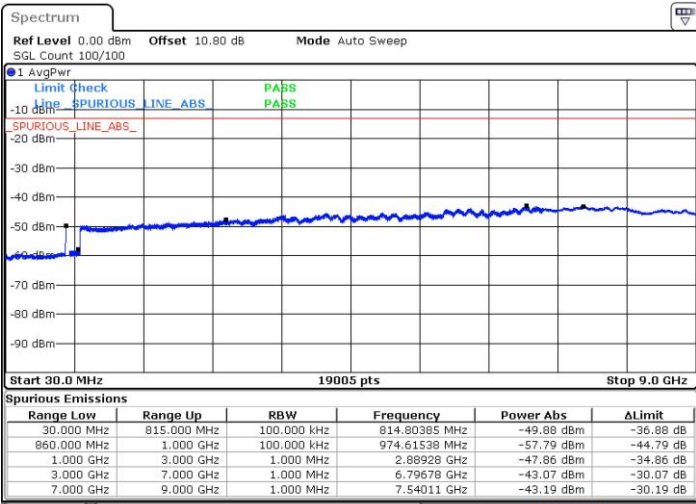
Date: 9 MAY 2019 16:22:27



Date: 9 MAY 2019 16:21:41

Highest Channel / FullIRB

N/A



Date: 9 MAY 2019 16:26:23

Intentionally blank

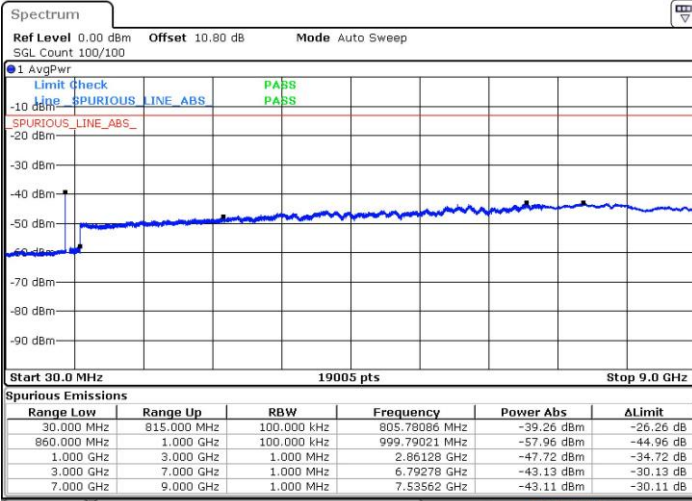


LTE Band 5 / 10MHz+10MHz

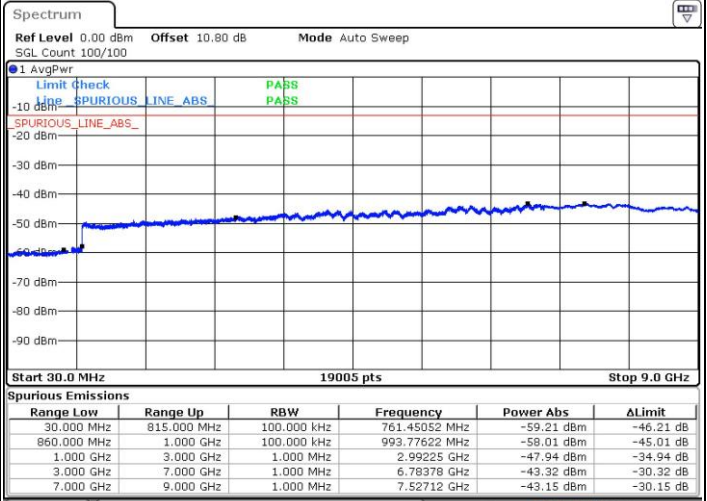
64QAM

Lowest Channel / 1RB0 and 1RB49

Lowest Channel / 1RB49 and 1RB0



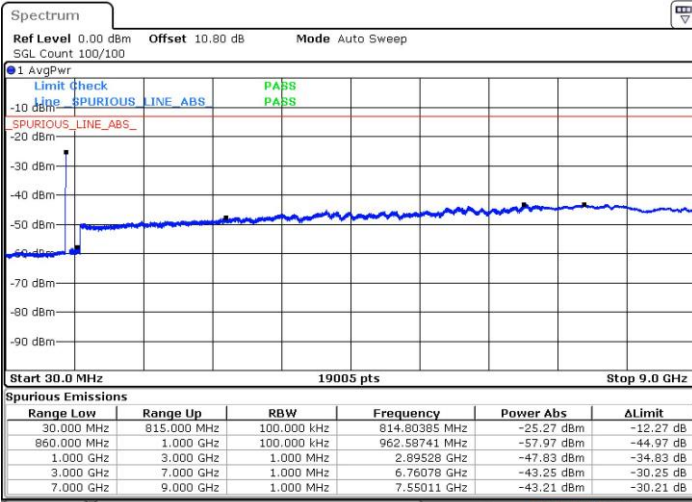
Date: 9 MAY 2019 16:53:08



Date: 9 MAY 2019 16:49:12

Lowest Channel / FullIRB

N/A



Date: 9 MAY 2019 16:53:56

Intentionally blank

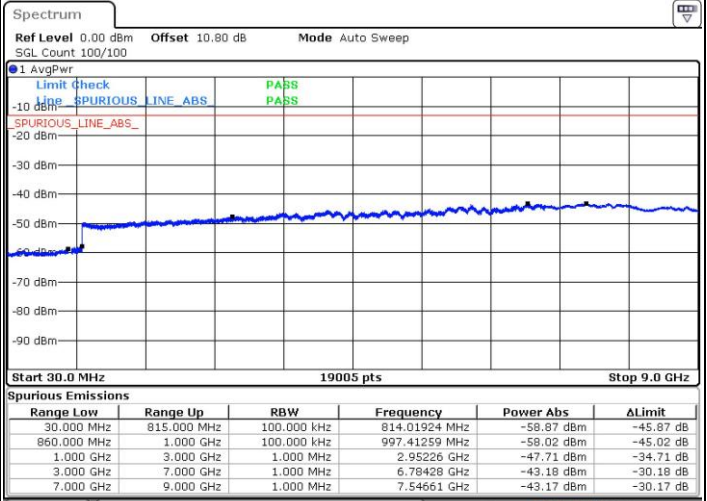
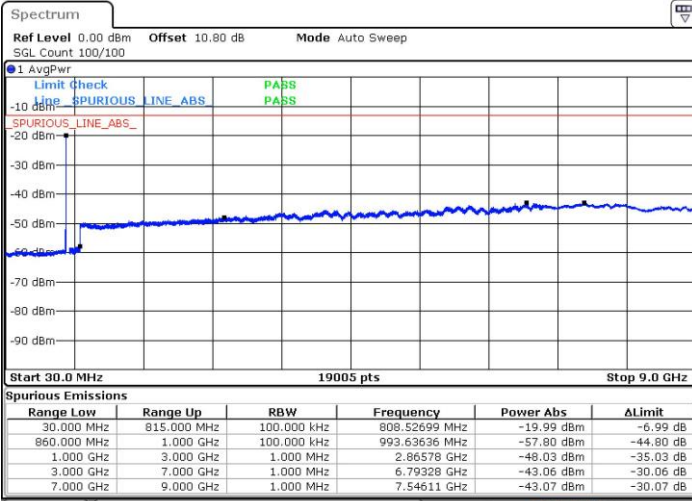


LTE Band 5 / 10MHz+10MHz

64QAM

Middle Channel / 1RB0 and 1RB49

Middle Channel / 1RB49 and 1RB0

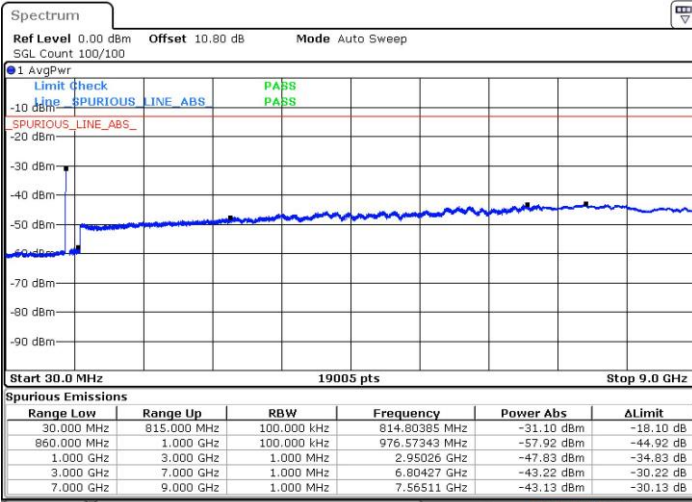


Date: 9 MAY 2019 17:04:48

Date: 9 MAY 2019 17:08:44

Middle Channel / FullIRB

N/A



Intentionally blank

Date: 9 MAY 2019 17:04:01

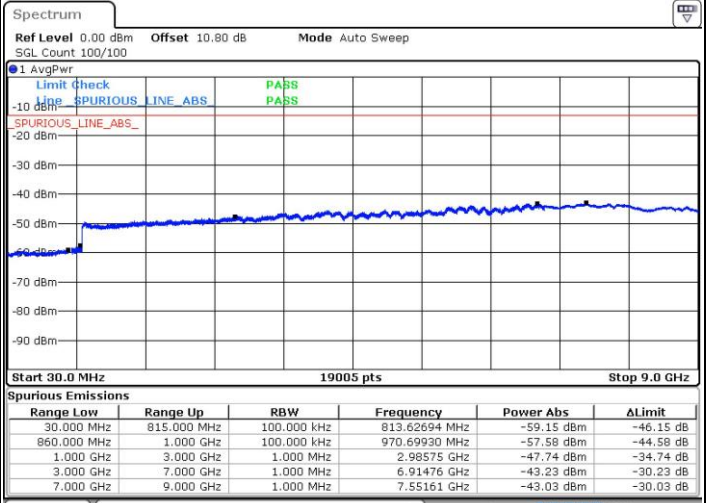
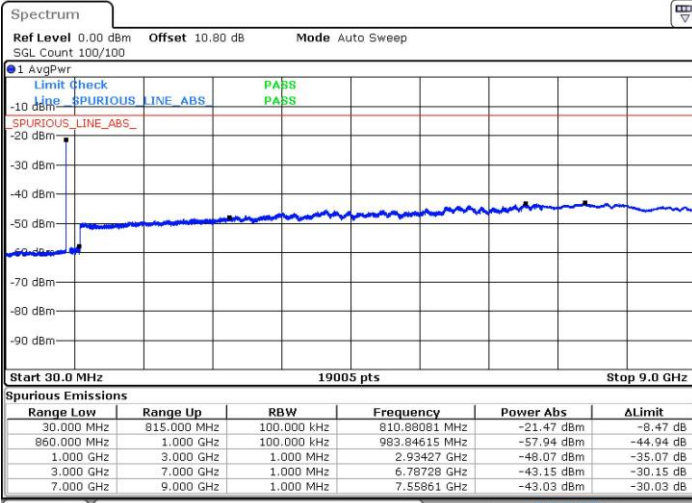


LTE Band 5 / 10MHz+10MHz

64QAM

Highest Channel / 1RB0 and 1RB49

Highest Channel / 1RB49 and 1RB0

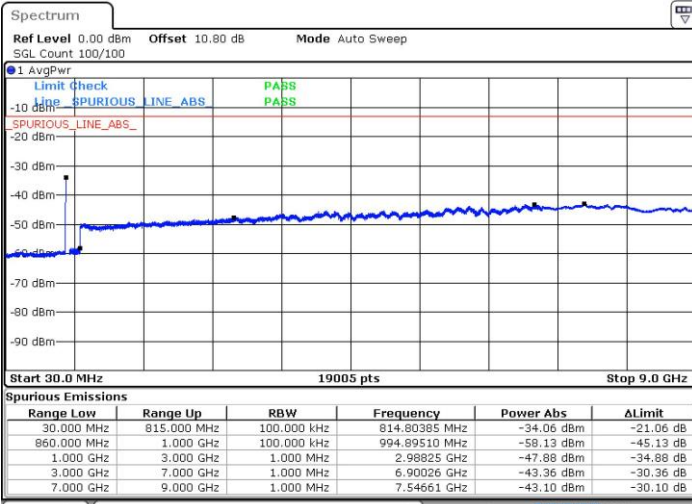


Date: 9 MAY 2019 17:39:03

Date: 9 MAY 2019 17:38:17

Highest Channel / FullIRB

N/A



Date: 9 MAY 2019 17:42:59

Intentionally blank



Frequency Stability

Test Conditions		LTE Band 5 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MMHz	2.5ppm
		Deviation (ppm)	Result
50	Normal Voltage	0.0001	PASS
40	Normal Voltage	0.0023	
30	Normal Voltage	0.0014	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0023	
0	Normal Voltage	0.0020	
-10	Normal Voltage	0.0001	
-20	Normal Voltage	0.0019	
-30	Normal Voltage	0.0010	
20	Maximum Voltage	0.0006	
20	Normal Voltage	0.0000	
20	Battery End Point	0.0002	

Note:

1. Normal Voltage =3.8 V. ; Battery End Point (BEP) =3.3 V. ; Maximum Voltage =4.2 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.



Appendix B. Test Results of ERP and Radiated Test

ERP

LTE Band 5_CA / 10 + 10 MHz (GT - LC = 0 dB)									
Channel	Mode	PCC		SCC		Conducted		ERP	
		RB		RB		Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
		Size	Offset	Size	Offset				
Lowest	QPSK	1	0	0	0	24.05	0.2541	21.9	0.1549
Middle		1	0	0	0	23.85	0.2427	21.7	0.1479
Highest		1	0	0	0	23.61	0.2296	21.46	0.14
Lowest	16QAM	1	0	0	0	23.61	0.2296	21.46	0.14
Middle		1	0	0	0	23.16	0.207	21.01	0.1262
Highest		1	0	0	0	23.03	0.2009	20.88	0.1225
Lowest	64QAM	1	0	0	0	22.35	0.1718	20.2	0.1047
Middle		1	0	0	0	22.11	0.1626	19.96	0.0991
Highest		1	0	0	0	21.83	0.1524	19.68	0.0929
Limit	ERP < 7W					Result		PASS	

LTE Band 5_CA / 10 + 5 MHz (GT - LC = 0 dB)									
Channel	Mode	PCC		SCC		Conducted		ERP	
		RB		RB		Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
		Size	Offset	Size	Offset				
Lowest	QPSK	1	49	1	0	24.13	0.2588	21.98	0.1578
Middle		1	49	1	0	23.89	0.2449	21.74	0.1493
Highest		1	49	1	0	23.27	0.2123	21.12	0.1294
Lowest	16QAM	1	49	1	0	23.45	0.2213	21.3	0.1349
Middle		1	49	1	0	23.19	0.2084	21.04	0.1271
Highest		1	49	1	0	22.66	0.1845	20.51	0.1125
Lowest	64QAM	1	49	1	0	21.35	0.1365	19.2	0.0832
Middle		1	49	1	0	21	0.1259	18.85	0.0767
Highest		1	49	1	0	19.68	0.0929	17.53	0.0566
Limit	ERP < 7W					Result		PASS	

LTE Band 5_CA / 5 + 10 MHz (GT - LC = 0 dB)									
Channel	Mode	PCC		SCC		Conducted		ERP	
		RB		RB		Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
		Size	Offset	Size	Offset				
Lowest	QPSK	1	24	1	0	24.09	0.2564	21.94	0.1563
Middle		1	24	1	0	23.95	0.2483	21.8	0.1514
Highest		1	24	1	0	23.68	0.2333	21.53	0.1422
Lowest	16QAM	1	24	1	0	23.19	0.2084	21.04	0.1271
Middle		1	24	1	0	23.41	0.2193	21.26	0.1337
Highest		1	24	1	0	22.98	0.1986	20.83	0.1211
Lowest	64QAM	1	24	1	0	20.52	0.1127	18.37	0.0687
Middle		1	24	1	0	21.31	0.1352	19.16	0.0824
Highest		1	24	1	0	20.99	0.1256	18.84	0.0766
Limit	ERP < 7W					Result		PASS	



LTE Band 5_CA / 5 + 3 MHz (GT - LC = 0 dB)									
Channel	Mode	PCC		SCC		Conducted		ERP	
		RB		RB		Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
		Size	Offset	Size	Offset				
Lowest	QPSK	1	24	1	0	22.05	0.1603	19.9	0.0977
Middle		1	24	1	0	21.72	0.1486	19.57	0.0906
Highest		1	24	1	0	21.2	0.1318	19.05	0.0804
Lowest	16QAM	1	24	1	0	21.56	0.1432	19.41	0.0873
Middle		1	24	1	0	21.06	0.1276	18.91	0.0778
Highest		1	24	1	0	20.56	0.1138	18.41	0.0693
Lowest	64QAM	1	24	1	0	20.41	0.1099	18.26	0.067
Middle		1	24	1	0	20.98	0.1253	18.83	0.0764
Highest		1	24	1	0	20.1	0.1023	17.95	0.0624
Limit	ERP < 7W					Result		PASS	

LTE Band 5_CA / 3 + 5 MHz (GT - LC = 0 dB)									
Channel	Mode	PCC		SCC		Conducted		ERP	
		RB		RB		Power (dBm)	Power (Watts)	ERP(dBm)	ERP(W)
		Size	Offset	Size	Offset				
Lowest	QPSK	15	0	25	0	21.77	0.1503	19.62	0.0916
Middle		15	0	25	0	21.94	0.1563	19.79	0.0953
Highest		15	0	25	0	21.35	0.1365	19.2	0.0832
Lowest	16QAM	1	14	1	0	21.23	0.1327	19.08	0.0809
Middle		1	14	1	0	21.14	0.13	18.99	0.0793
Highest		1	14	1	0	20.59	0.1146	18.44	0.0698
Lowest	64QAM	15	0	25	0	20.16	0.1038	18.01	0.0632
Middle		15	0	25	0	20.92	0.1236	18.77	0.0753
Highest		15	0	25	0	19.83	0.0962	17.68	0.0586
Limit	ERP < 7W					Result		PASS	



Radiated Spurious Emission

Mode 5 LTE ULCA_5B_10M_1RB49_QPSK+5M_1RB0_QPSK

LTE ULCA_5B_10M_1RB49_QPSK+5M_1RB0_QPSK									
Channel	Frequency (MHz)	EIRP (dBm)	Limit (dBm)	Over Limit (dB)	SPA Reading (dBm)	S.G. Power (dBm)	TX Cable loss (dB)	TX Antenna Gain (dBi)	Polarization (H/V)
Low	1664	-62.66	-13	-49.66	-75.01	-64.37	0.98	4.84	H
	2504	-57.36	-13	-44.36	-74.78	-59.32	1.29	5.40	H
	3336	-57.94	-13	-44.94	-77.6	-61.52	1.55	7.28	H
	1664	-62.33	-13	-49.33	-75.16	-64.04	0.98	4.84	V
	2504	-55.32	-13	-42.32	-73.22	-57.28	1.29	5.40	V
	3336	-57.66	-13	-44.66	-77.54	-61.24	1.55	7.28	V
Middle	1678	-62.36	-13	-49.36	-75.12	-64.02	0.99	4.80	H
	2517	-59.07	-13	-46.07	-76.79	-61.04	1.30	5.41	H
	3356	-57.47	-13	-44.47	-77.54	-61.13	1.56	7.37	H
	1678	-61.95	-13	-48.95	-75.2	-63.61	0.99	4.80	V
	2517	-58.94	-13	-45.94	-77.09	-60.91	1.30	5.41	V
	3356	-57.37	-13	-44.37	-77.62	-61.03	1.56	7.37	V
High	1688	-62.72	-13	-49.72	-75.38	-64.35	1.00	4.77	H
	2532	-58.74	-13	-45.74	-76.51	-60.71	1.30	5.43	H
	3376	-57.09	-13	-44.09	-77.33	-60.83	1.57	7.45	H
	1678	-62.23	-13	-49.23	-75.43	-63.89	0.99	4.80	V
	2517	-58.56	-13	-45.56	-76.74	-60.53	1.30	5.41	V
	3356	-56.71	-13	-43.71	-77.03	-60.37	1.56	7.37	V

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