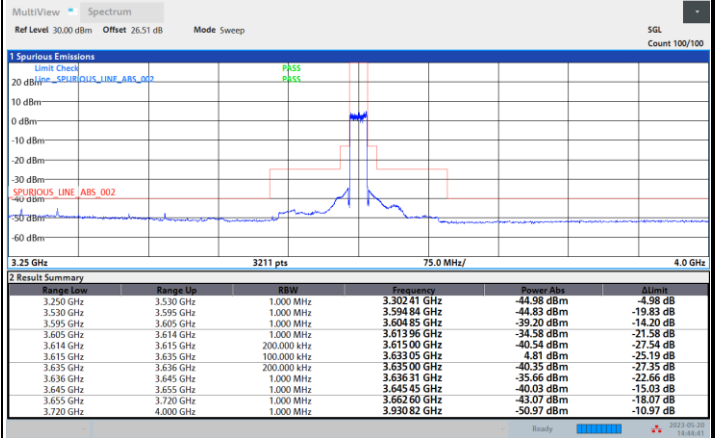
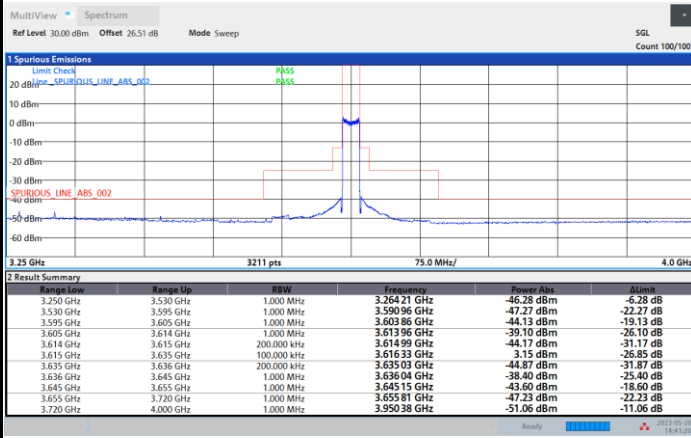




LTE B48 / 20MHz / Middle Channel / MASK

QPSK

16QAM

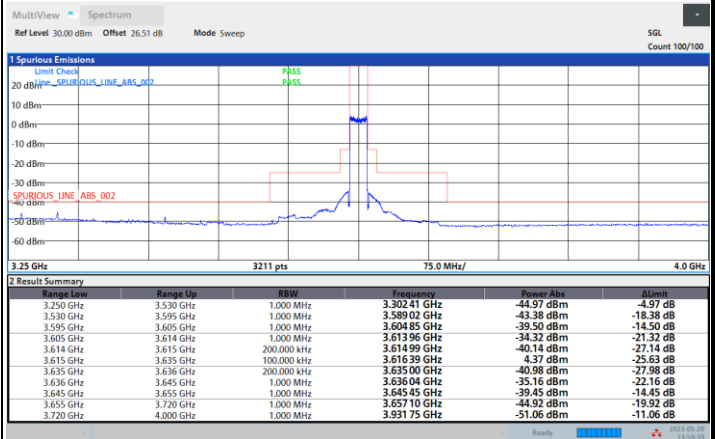
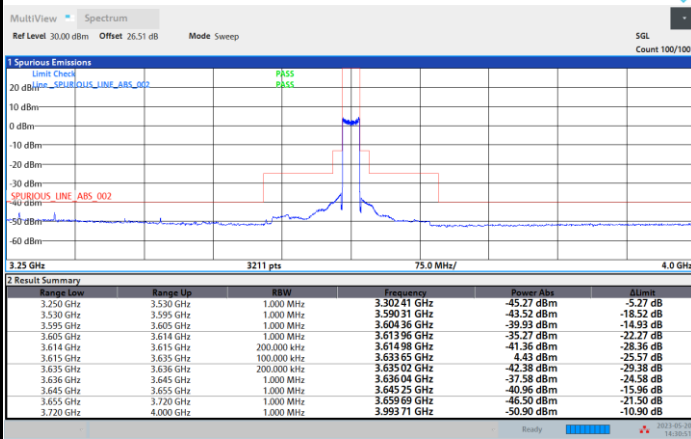


02:41:21 PM 05/20/2023

02:44:42 PM 05/20/2023

64QAM

256QAM



02:30:52 PM 05/20/2023

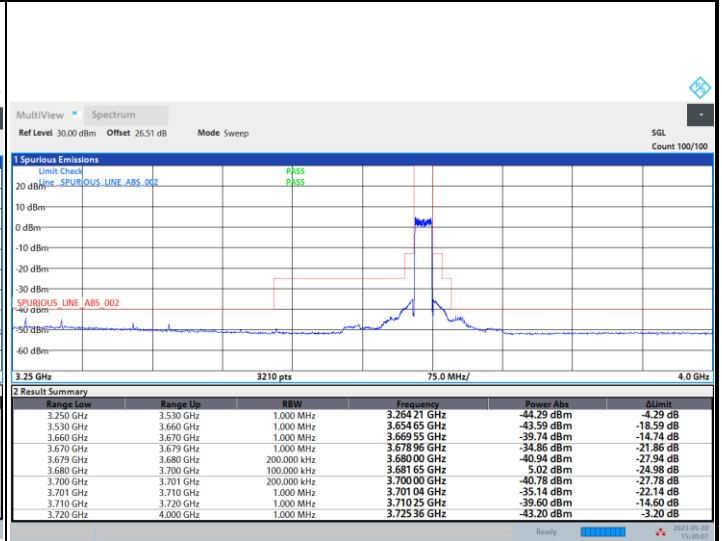
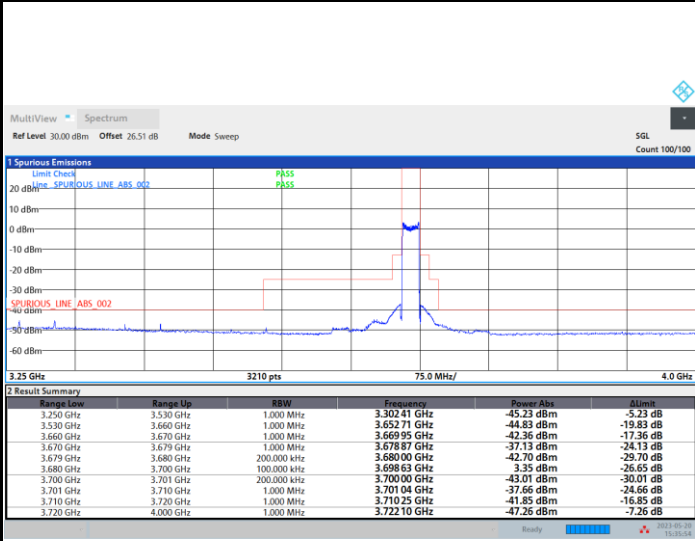
01:59:39 PM 05/20/2023



LTE B48 / 20MHz / Highest Channel / MASK

QPSK

16QAM

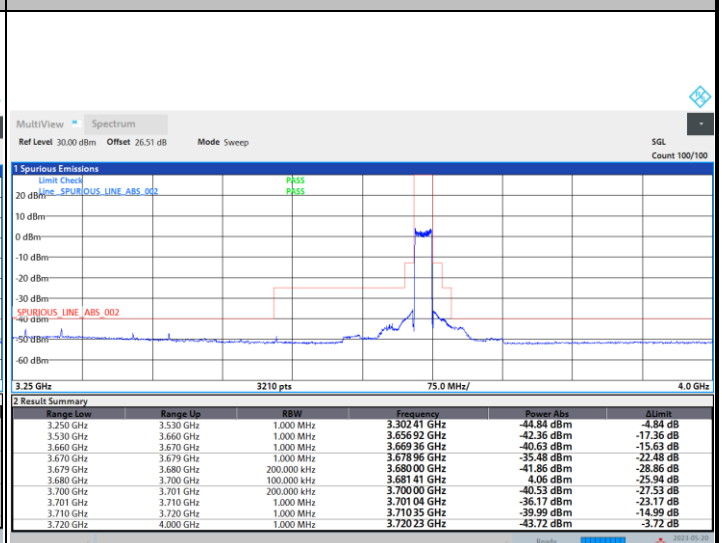
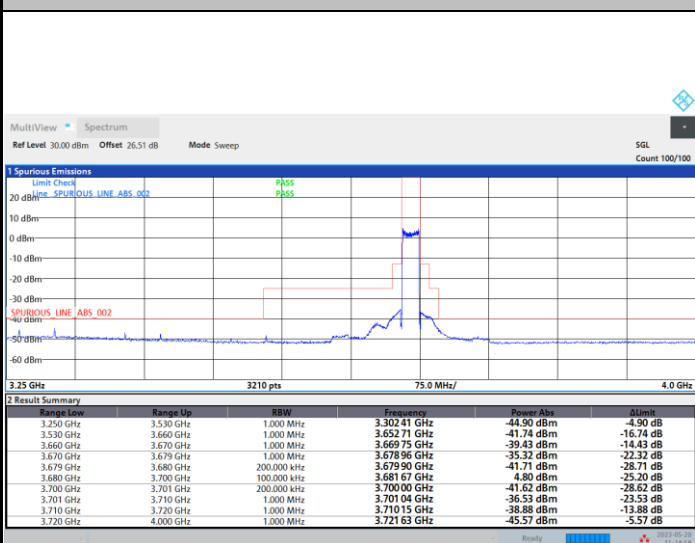


03:35:55 PM 05/20/2023

03:30:08 PM 05/20/2023

64QAM

256QAM



03:24:58 PM 05/20/2023

03:19:56 PM 05/20/2023

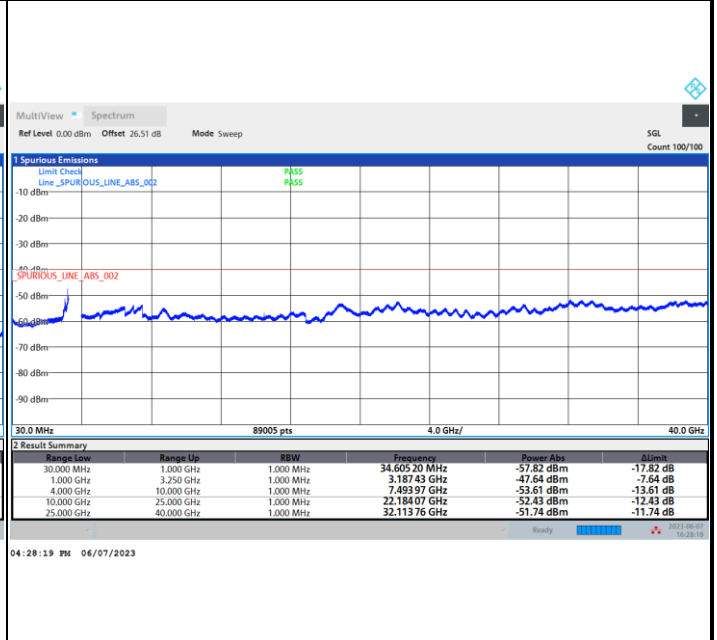
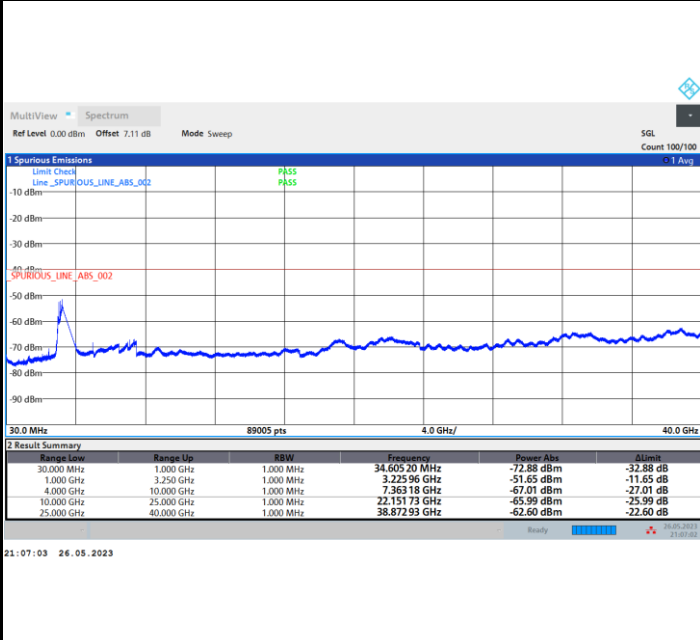


Conducted Spurious Emission

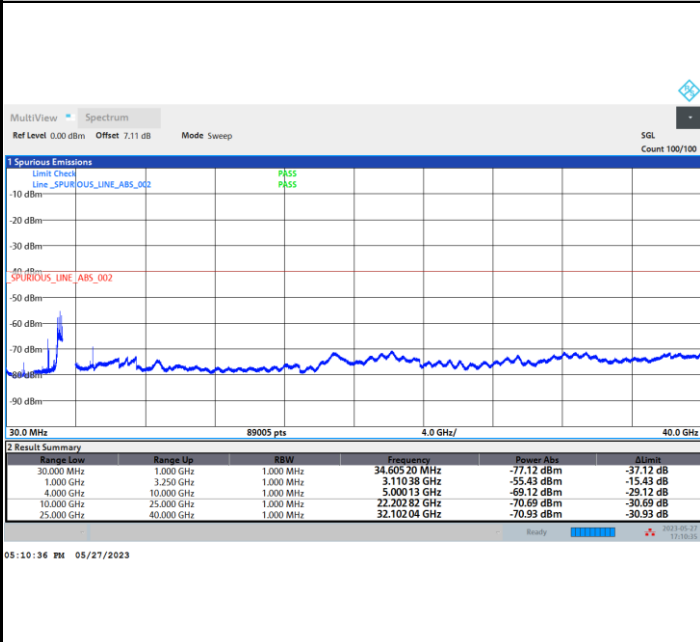
LTE B48 / 10MHz / QPSK / CSE

Lowest Channel

Middle Channel



Highest Channel

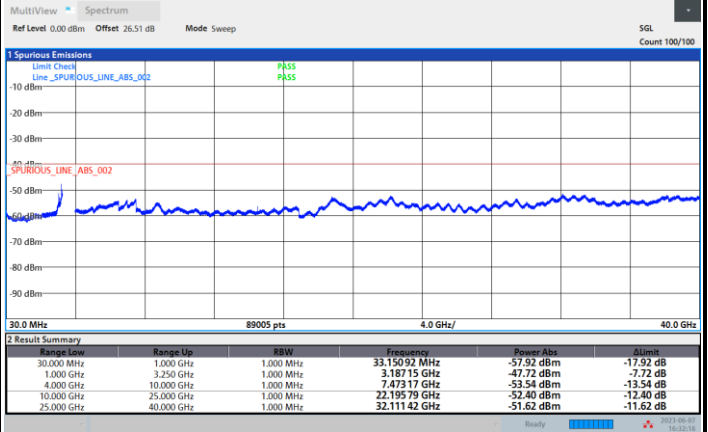
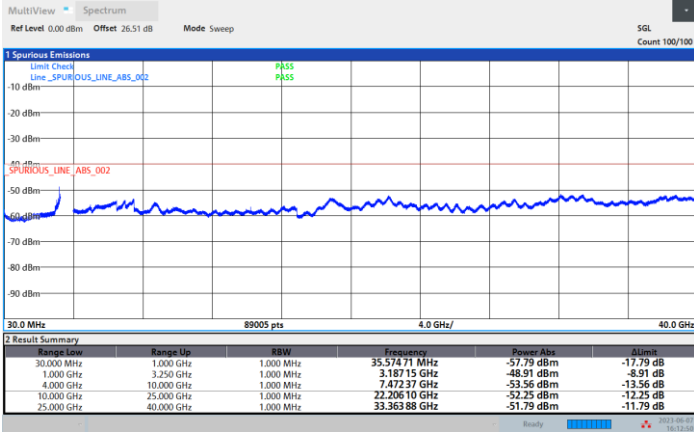




LTE B48 / 10MHz / 16QAM / CSE

Lowest Channel

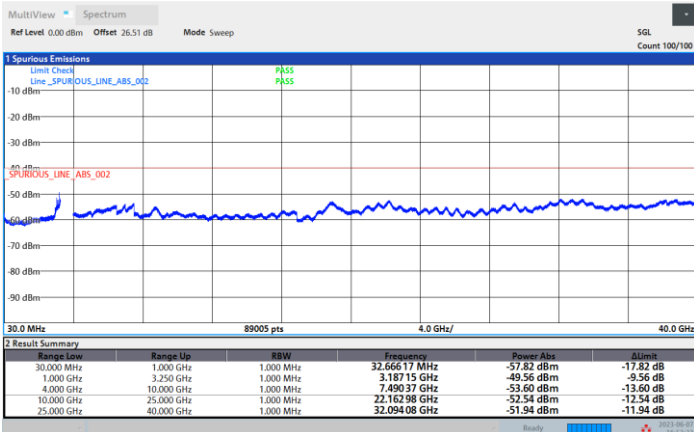
Middle Channel



04:12:50 PM 06/07/2023

04:32:16 PM 06/07/2023

Highest Channel



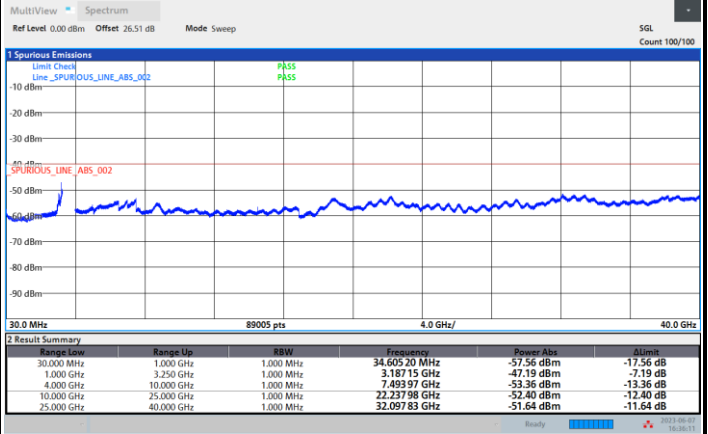
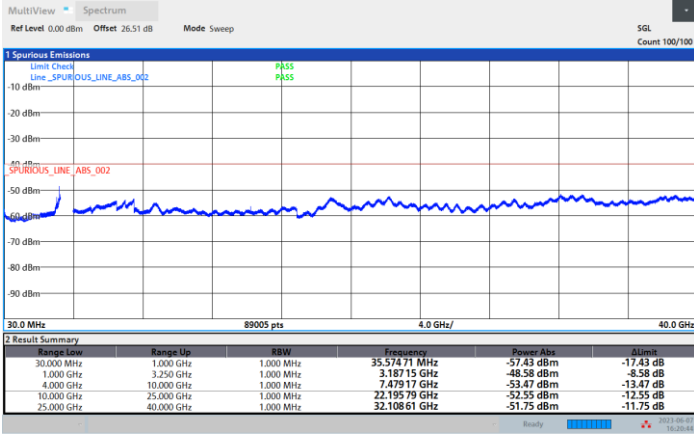
04:53:33 PM 06/07/2023



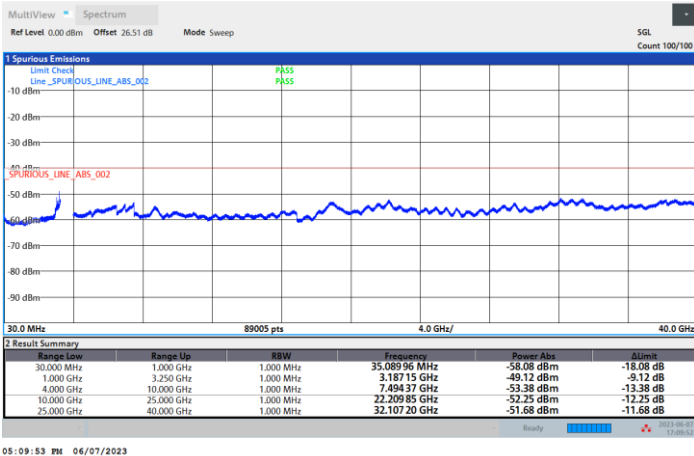
LTE B48 / 10MHz / 64QAM / CSE

Lowest Channel

Middle Channel



Highest Channel

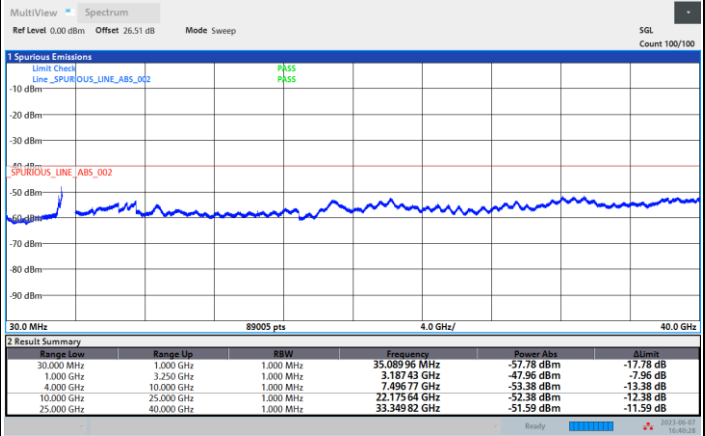
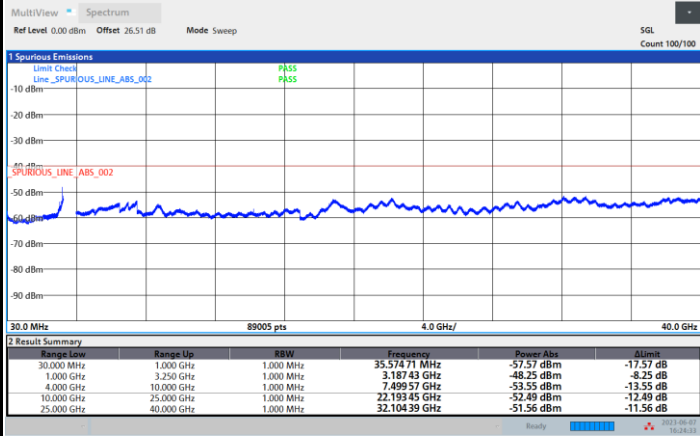




LTE B48 / 10MHz / 256QAM / CSE

Lowest Channel

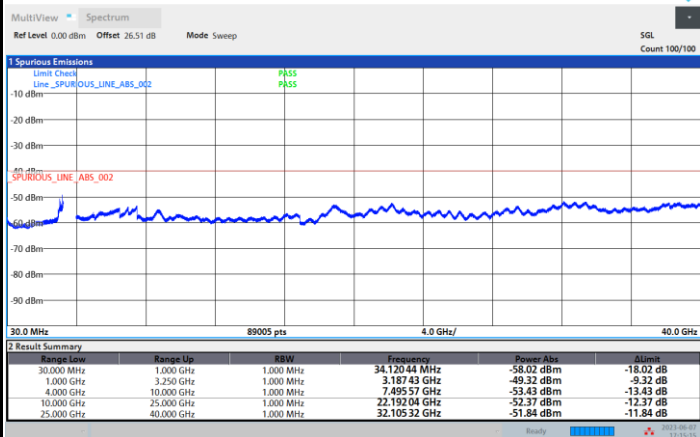
Middle Channel



04:24:34 PM 06/07/2023

04:40:28 PM 06/07/2023

Highest Channel



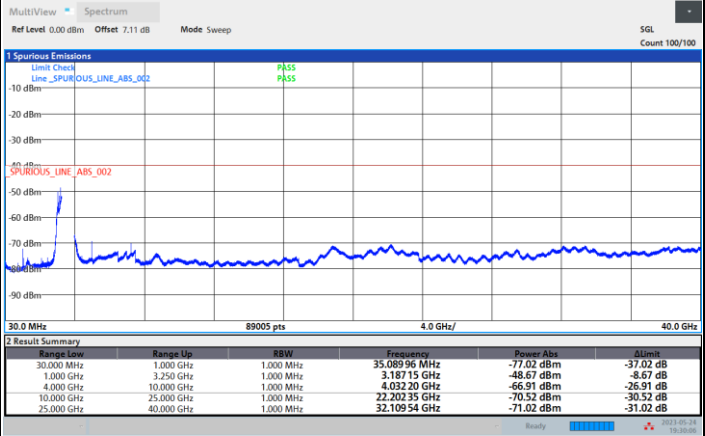
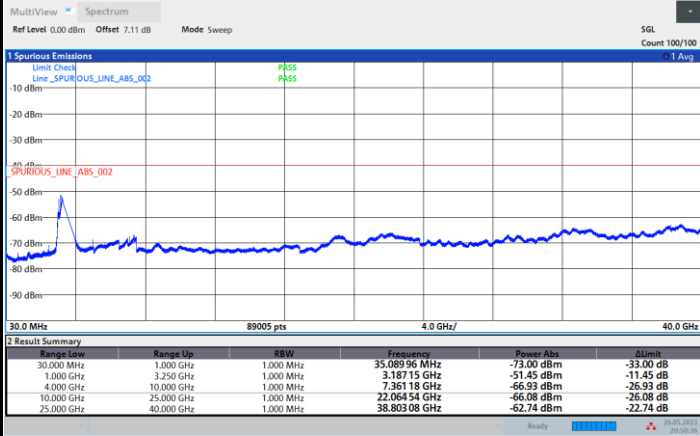
09:19:16 PM 06/07/2023



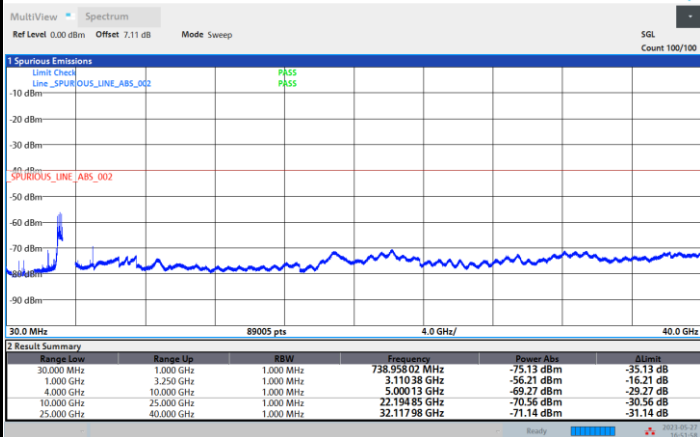
LTE B48 / 20MHz / QPSK / CSE

Lowest Channel

Middle Channel



Highest Channel

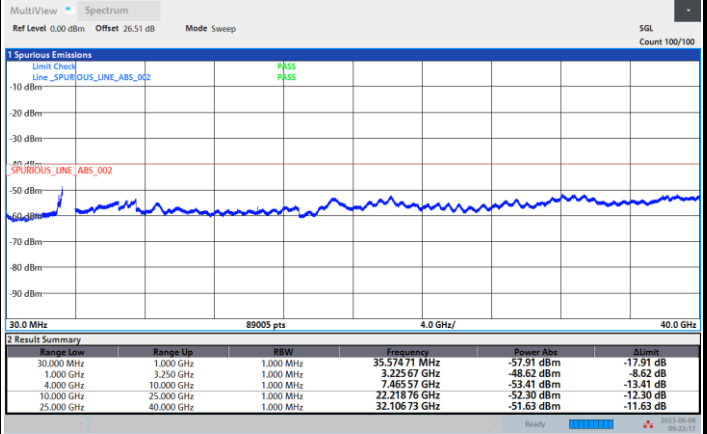
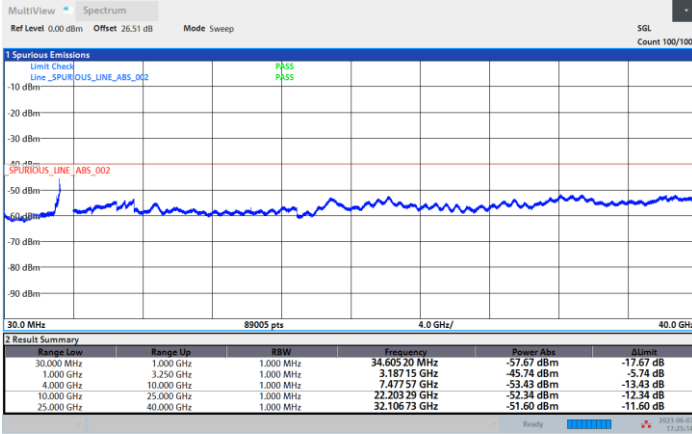




LTE B48 / 20MHz / 16QAM / CSE

Lowest Channel

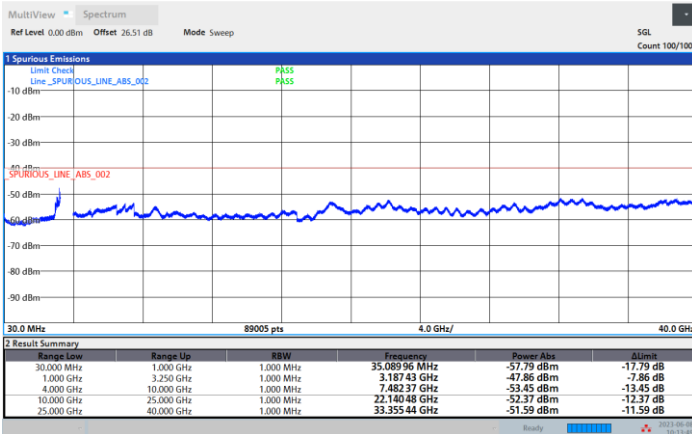
Middle Channel



05:25:14 PM 06/07/2023

09:22:17 AM 06/08/2023

Highest Channel



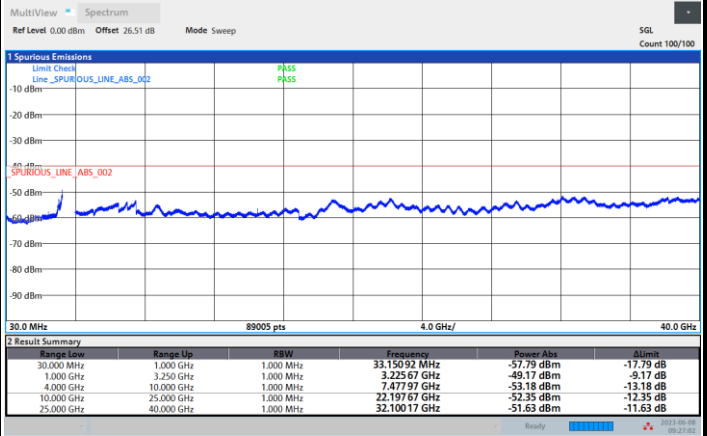
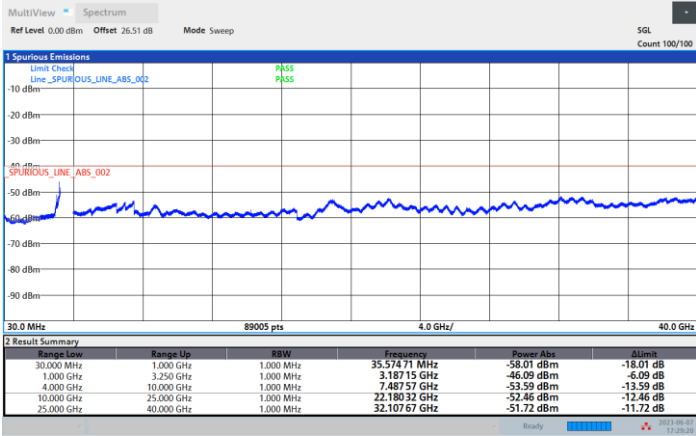
10:13:50 AM 06/08/2023



LTE B48 / 20MHz / 64QAM / CSE

Lowest Channel

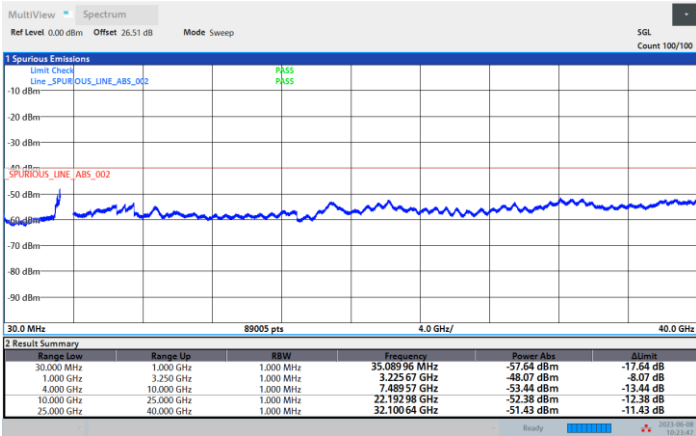
Middle Channel



05:29:20 PM 06/07/2023

09:27:02 AM 06/08/2023

Highest Channel



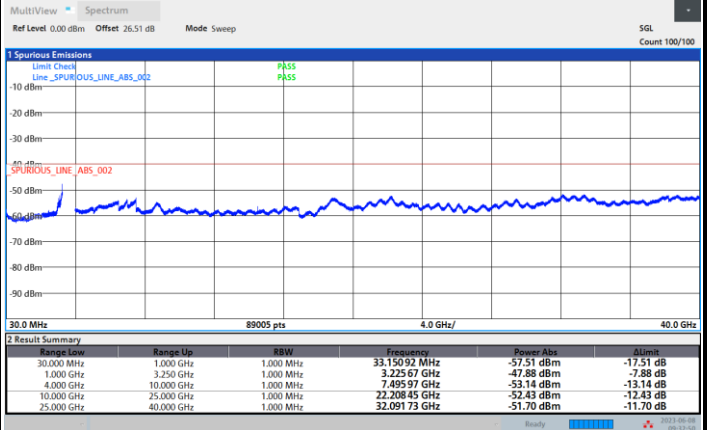
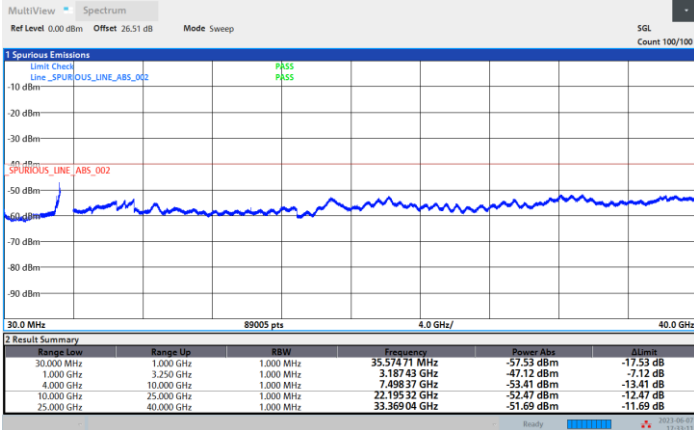
10:23:47 AM 06/08/2023



LTE B48 / 20MHz / 256QAM / CSE

Lowest Channel

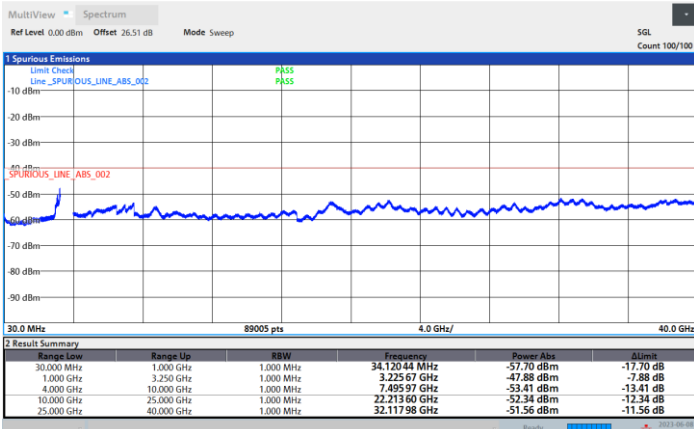
Middle Channel



05:33:12 PM 06/07/2023

09:32:50 AM 06/08/2023

Highest Channel



10:27:34 AM 06/08/2023



Frequency Stability

Test Conditions		LTE B48 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 20MHz	Note 2.
		Frequency offset (ppm)	Result
50	Normal Voltage	0.7724	PASS
40	Normal Voltage	0.2759	
30	Normal Voltage	0.7724	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.2759	
0	Normal Voltage	0.3310	
-10	Normal Voltage	0.5517	
-20	Normal Voltage	0.1655	
-30	Normal Voltage	2.1517	
20	Maximum Voltage	0.6621	
20	Normal Voltage	1.1586	
20	Minimum Voltage	0.6069	

Note:

- 1. Normal Voltage = 48 V. ; Minimum Voltage = 43.2 V. ; Maximum Voltage = 57 V.
- 2. The frequency fundamental emissions stay within the authorized frequency block.



MIMO <ANT 0+1(1)>

Maximum EIRP (dBm/10MHz)

Mode	LTE B48 : Conducted (dBm/10MHz) <SISO> Lowest Channel							
	10MHz		20MHz		40MHz		50MHz	
BW								
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	19.03	17.71	18.71	18.14	-	-	-	-
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Lowest CH	18.63	18.44	18.69	18.82	-	-	-	-

Mode	LTE B48 : Maximum EIRP (dBm/10MHz) <MIMO 2TX> Lowest Channel							
	10MHz		20MHz		40MHz		50MHz	
BW								
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	28.63	27.31	28.31	27.74	-	-	-	-
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Lowest CH	28.23	28.04	28.29	28.42	-	-	-	-
Limit	30dBm/10MHz							
Result	PASS							

Note

1. The measured conducted result has included duty cycle offset factor.
2. The Maximum EIRP = conducted result + 3.01dB (2TX) + 6.59dBi MIMO antenna gain.



Mode	LTE B48 : Conducted (dBm/10MHz) <SISO> Middle Channel							
	10MHz		20MHz		40MHz		50MHz	
BW								
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	19.16	17.55	18.42	18.87	-	-	-	-
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Middle CH	18.55	18.75	18.21	18.97	-	-	-	-

Mode	LTE B48 : Maximum EIRP (dBm/10MHz) <MIMO 2TX> Middle Channel							
	10MHz		20MHz		40MHz		50MHz	
BW								
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	28.76	27.15	28.02	28.47	-	-	-	-
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Middle CH	28.15	28.35	27.81	28.57	-	-	-	-
Limit	30dBm/10MHz							
Result	PASS							

Note

1. The measured conducted result has included duty cycle offset factor.
2. The Maximum EIRP = conducted result + 3.01dB (2TX) + 6.59dBi MIMO antenna gain.



Mode	LTE B48 : Conducted (dBm/10MHz) <SISO> Highest Channel							
	10MHz		20MHz		40MHz		50MHz	
BW								
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Highest CH	18.93	17.66	18.64	18.64	-	-	-	-
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Highest CH	18.55	18.46	18.89	18.70	-	-	-	-

Mode	LTE B48 : Maximum EIRP (dBm/10MHz) <MIMO 2TX> Highest Channel							
	10MHz		20MHz		40MHz		50MHz	
BW								
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Highest CH	28.53	27.26	28.24	28.24	-	-	-	-
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Highest CH	28.15	28.06	28.49	28.30	-	-	-	-
Limit	30dBm/10MHz							
Result	PASS							

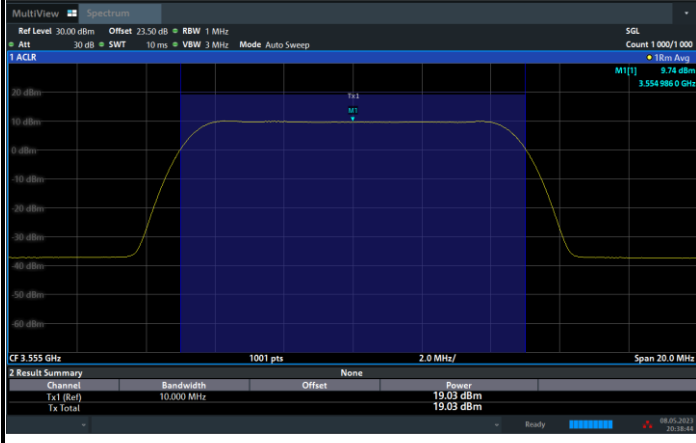
Note

1. The measured conducted result has included duty cycle offset factor.
2. The Maximum EIRP = conducted result + 3.01dB (2TX) + 6.59dBi MIMO antenna gain.



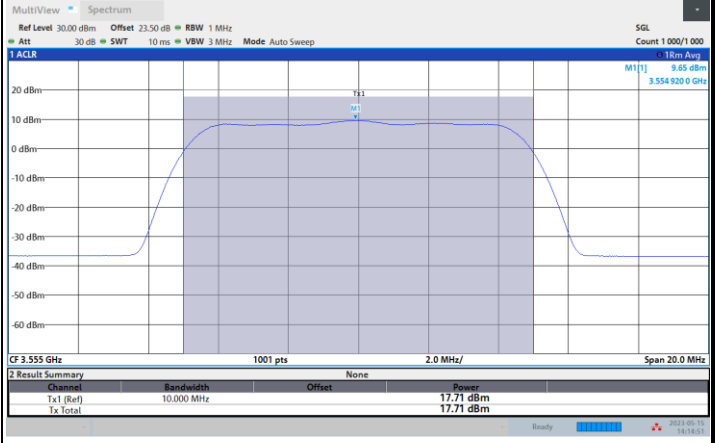
LTE B48 / 10MHz / Lowest Channel / Conducted (dBm/10MHz)

QPSK



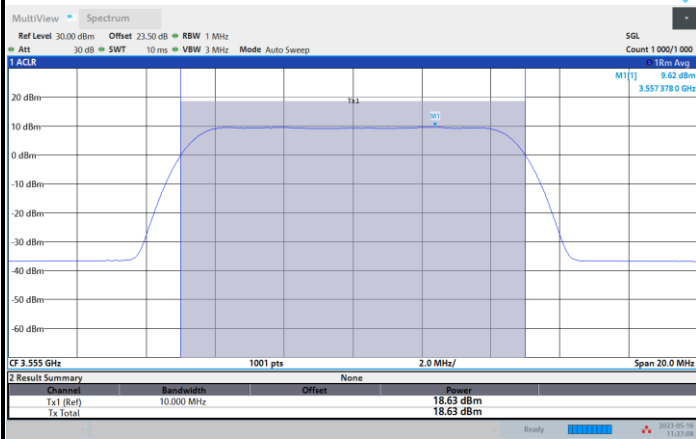
20:38:45 08/05/2023

16QAM



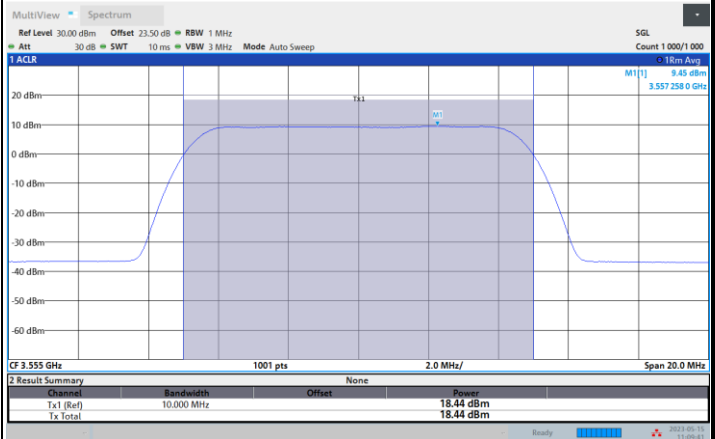
02:14:52 PM 05/15/2023

64QAM



11:37:08 AM 05/16/2023

256QAM



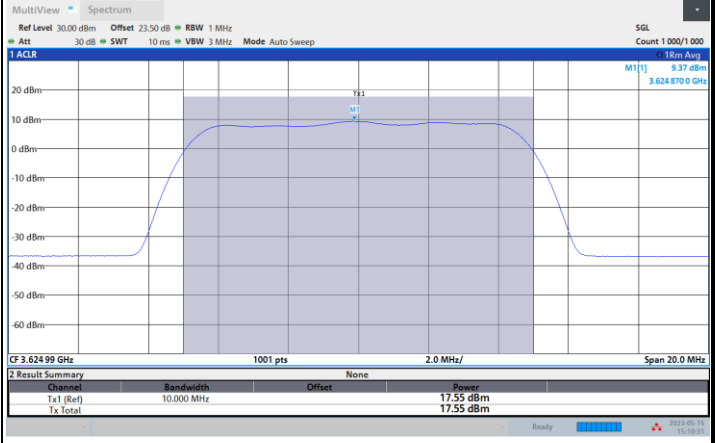
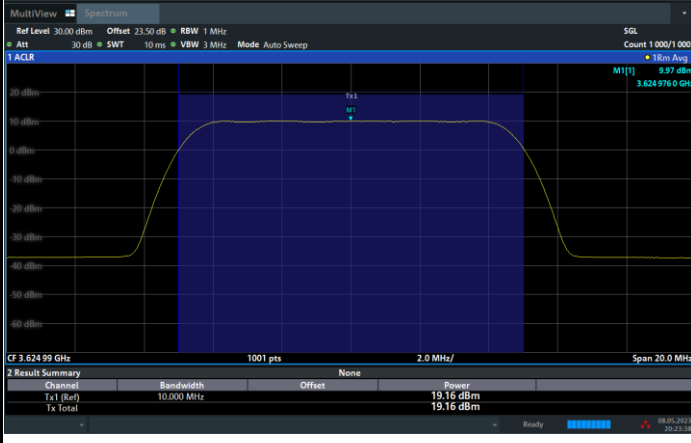
11:09:41 AM 05/15/2023



LTE B48 / 10MHz / Middle Channel / Conducted (dBm/10MHz)

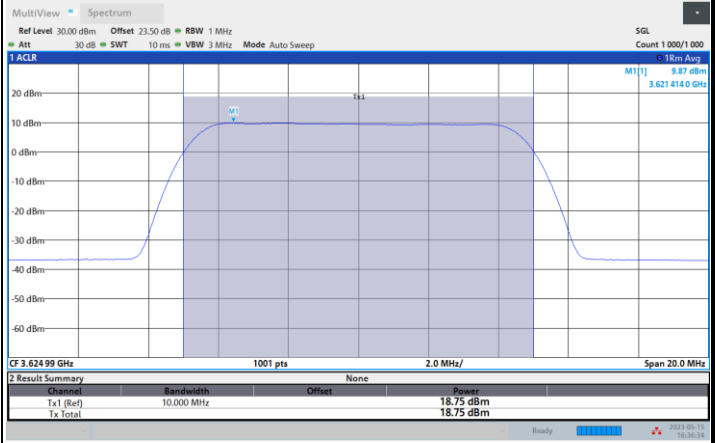
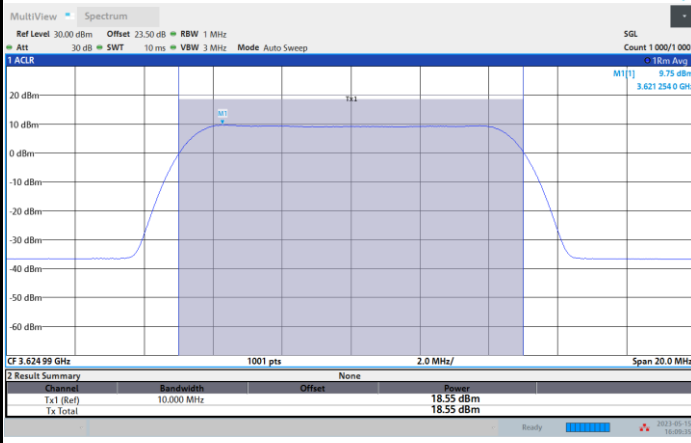
QPSK

16QAM



64QAM

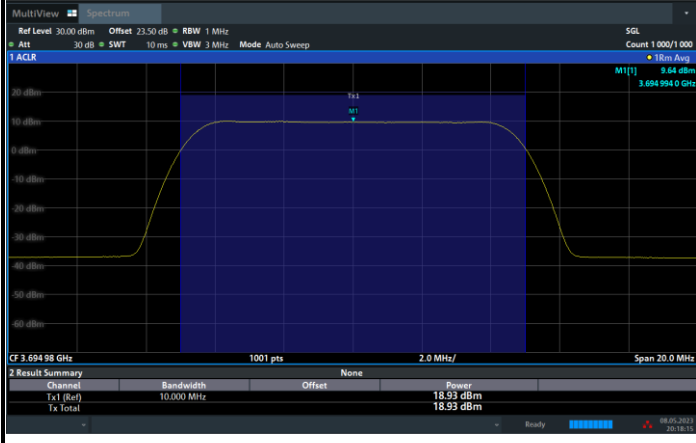
256QAM



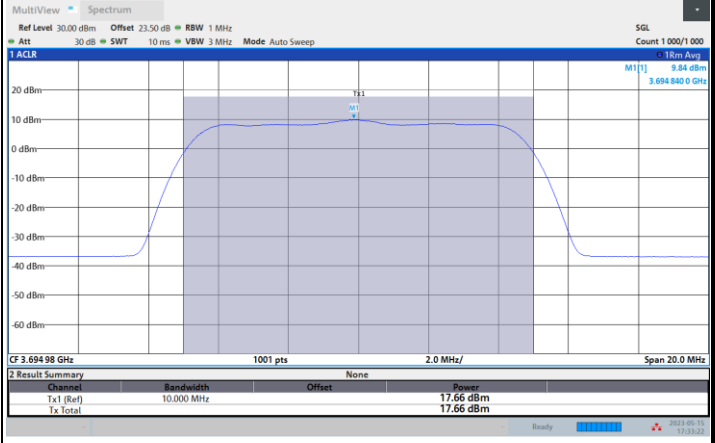


LTE B48 / 10MHz / Highest Channel / Conducted (dBm/10MHz)

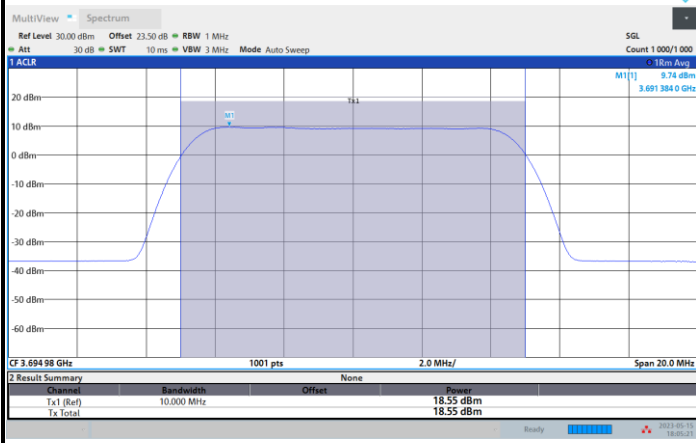
QPSK



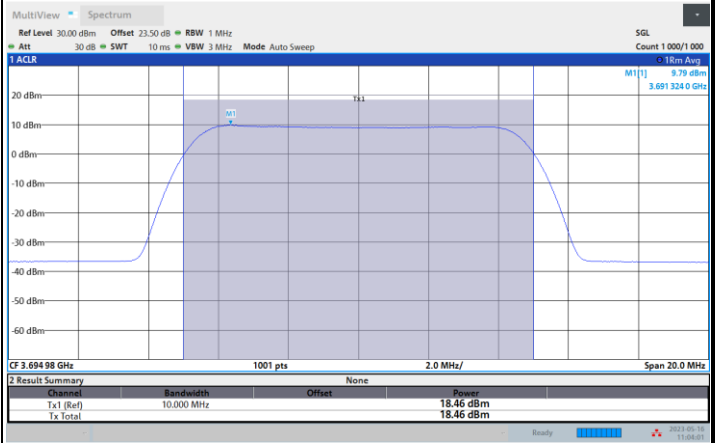
16QAM



64QAM



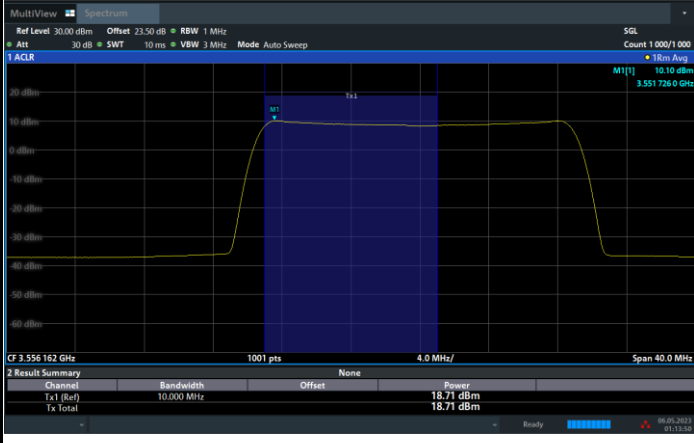
256QAM





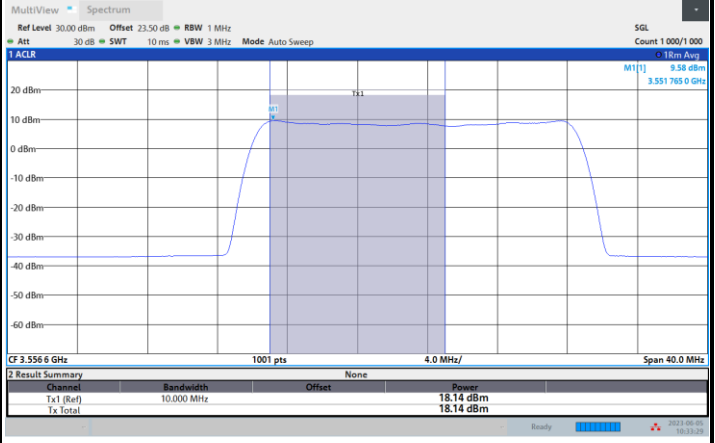
LTE B48 / 20MHz / Lowest Channel / Conducted (dBm/10MHz)

QPSK



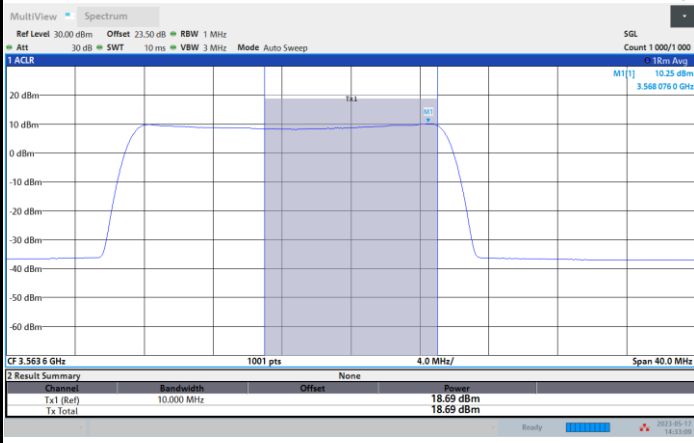
01:13:51 06/05/2023

16QAM



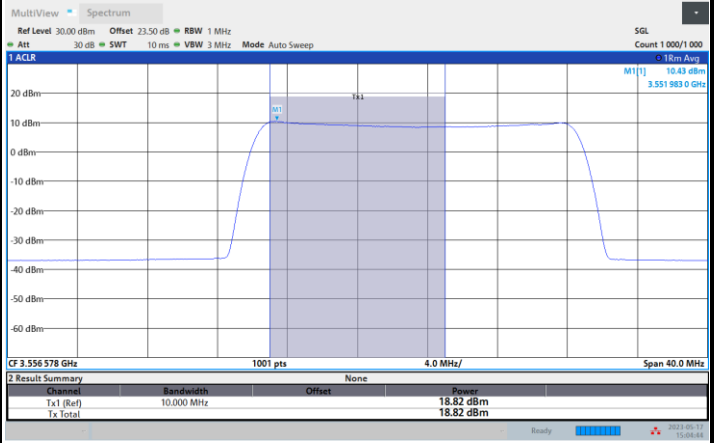
10:33:29 AM 06/05/2023

64QAM



02:33:09 PM 05/17/2023

256QAM

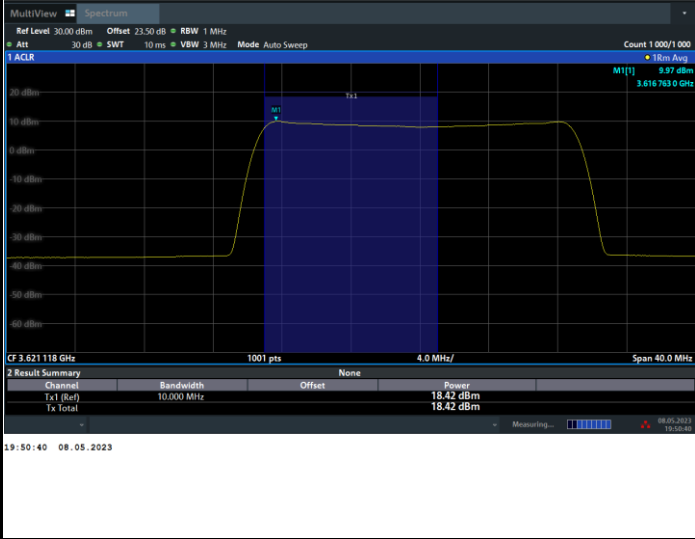


03:04:44 PM 05/17/2023

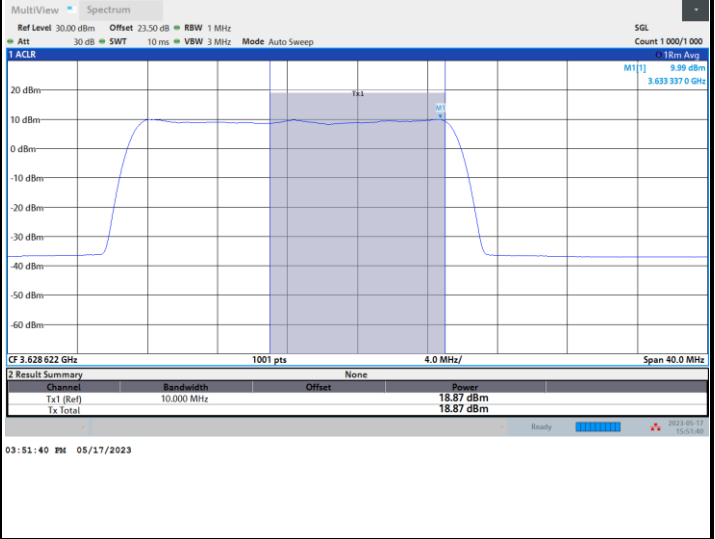


LTE B48 / 20MHz / Middle Channel / Conducted (dBm/10MHz)

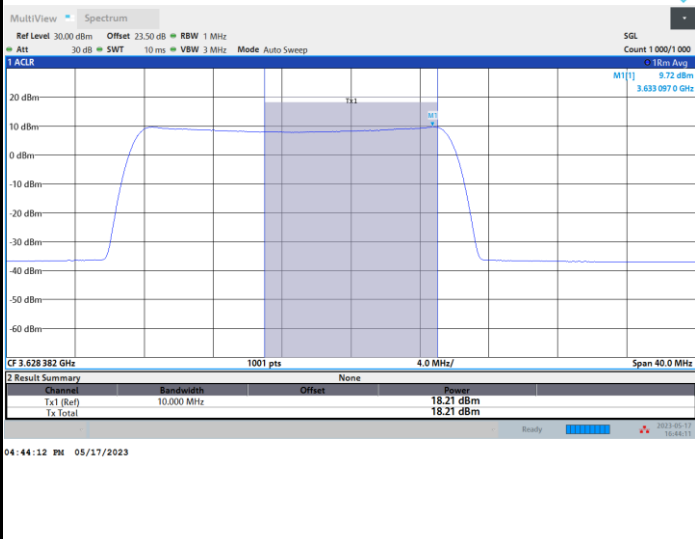
QPSK



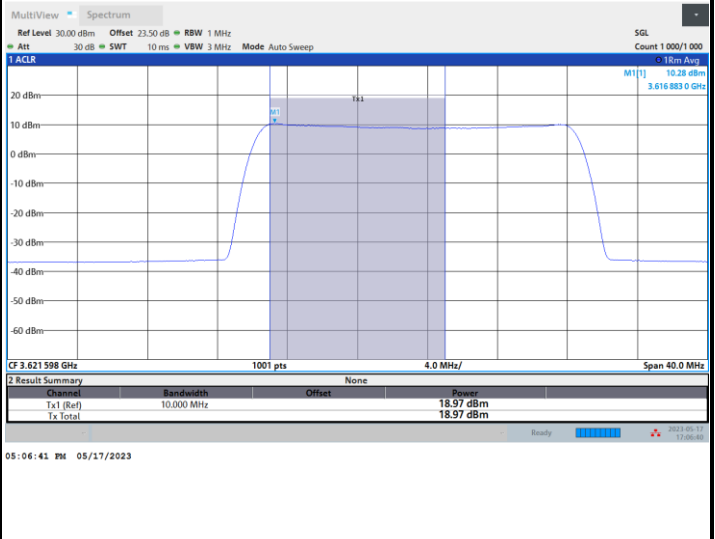
16QAM



64QAM



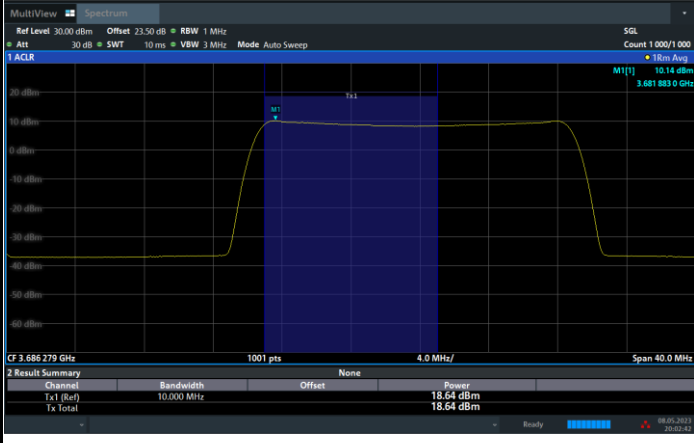
256QAM





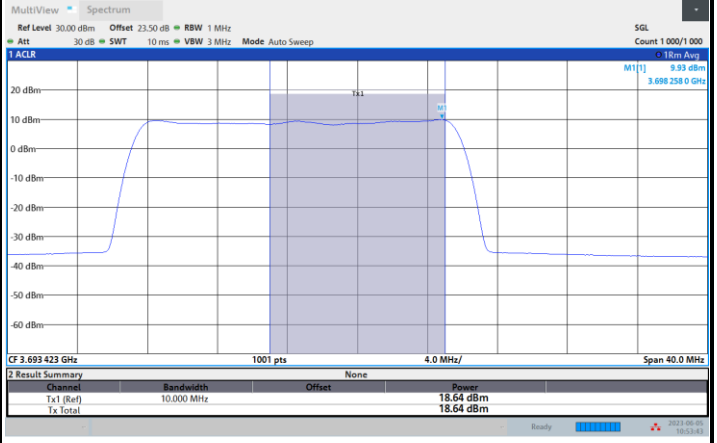
LTE B48 / 20MHz / Highest Channel / Conducted (dBm/10MHz)

QPSK



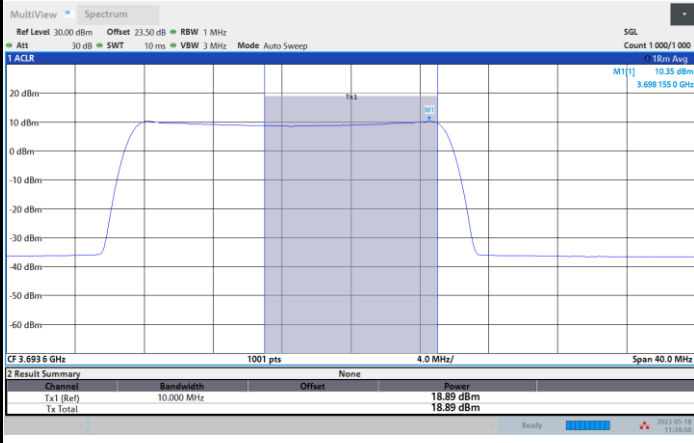
20:02:43 08/05/2023

16QAM



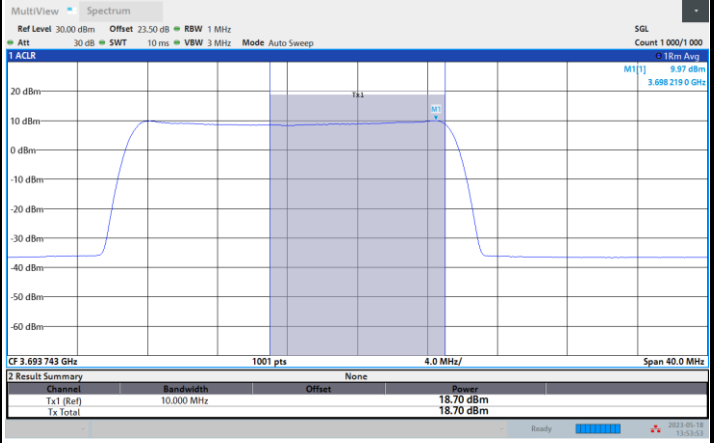
10:53:43 AM 06/05/2023

64QAM



11:39:51 AM 05/18/2023

256QAM



01:53:53 PM 05/18/2023



Power Spectral Density

Mode	LTE B48 : Conducted PSD (dBm/MHz) <SISO> Lowest Channel							
	10MHz		20MHz		40MHz		50MHz	
BW								
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	10.27	10.03	10.38	9.75	-	-	-	-
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Lowest CH	10.09	9.76	10.33	10.30	-	-	-	-

Mode	LTE B48 : EIRP PSD (dBm/MHz) <MIMO 2TX> Lowest Channel							
	10MHz		20MHz		40MHz		50MHz	
BW								
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	19.87	19.63	19.98	19.35	-	-	-	-
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Lowest CH	19.69	19.36	19.93	19.90	-	-	-	-
Limit	20dBm/MHz							
Result	PASS							

Note

1. The measured conducted PSD result has included duty cycle offset factor.
2. The EIRP PSD = conducted PSD result + 3.01dB (2TX) + 6.59dBi MIMO antenna gain.



Mode	LTE B48 : Conducted PSD (dBm/MHz) <SISO> Middle Channel							
	10MHz		20MHz		40MHz		50MHz	
BW								
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	10.19	9.95	9.93	10.32	-	-	-	-
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Middle CH	9.92	10.11	9.91	10.24	-	-	-	-

Mode	LTE B48 : EIRP PSD (dBm/MHz) <MIMO 2TX> Middle Channel							
	10MHz		20MHz		40MHz		50MHz	
BW								
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	19.79	19.55	19.53	19.92	-	-	-	-
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Middle CH	19.52	19.71	19.51	19.84	-	-	-	-
Limit	20dBm/MHz							
Result	PASS							

Note

1. The measured conducted PSD result has included duty cycle offset factor.
2. The EIRP PSD = conducted PSD result + 3.01dB (2TX) + 6.59dBi MIMO antenna gain.



Mode	LTE B48 : Conducted PSD (dBm/MHz) <SISO> Highest Channel							
	10MHz		20MHz		40MHz		50MHz	
BW								
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Highest CH	10.06	10.23	10.21	9.86	-	-	-	-
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Highest CH	10.06	10.15	10.34	10.00	-	-	-	-

Mode	LTE B48 : EIRP PSD (dBm/MHz) <MIMO 2TX> Highest Channel							
	10MHz		20MHz		40MHz		50MHz	
BW								
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Highest CH	19.66	19.83	19.81	19.46	-	-	-	-
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Highest CH	19.66	19.75	19.94	19.60	-	-	-	-
Limit	20dBm/MHz							
Result	PASS							

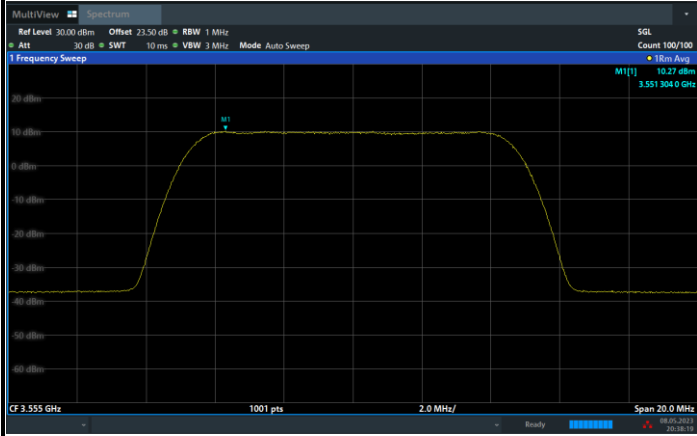
Note

1. The measured conducted PSD result has included duty cycle offset factor.
2. The EIRP PSD = conducted PSD result + 3.01dB (2TX) + 6.59dBi MIMO antenna gain.



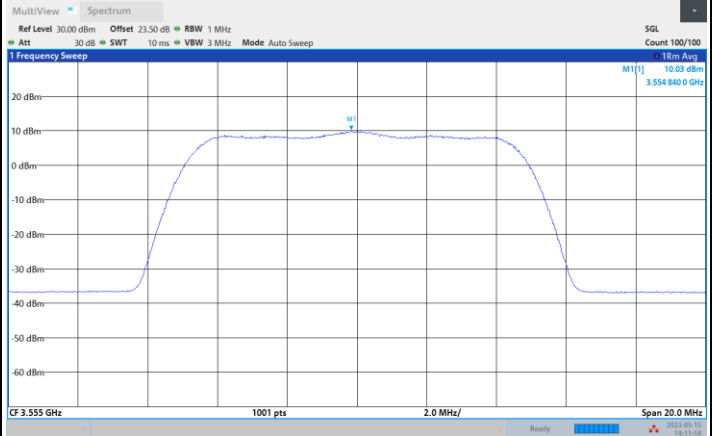
LTE B48 / 10MHz / Lowest Channel / PSD

QPSK



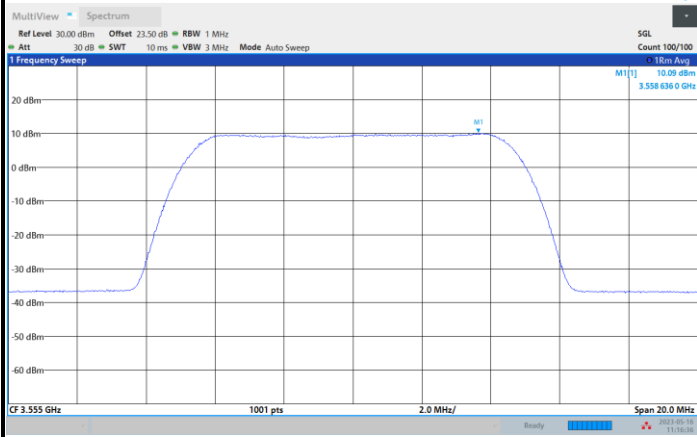
20:38:20 08.05.2023

16QAM



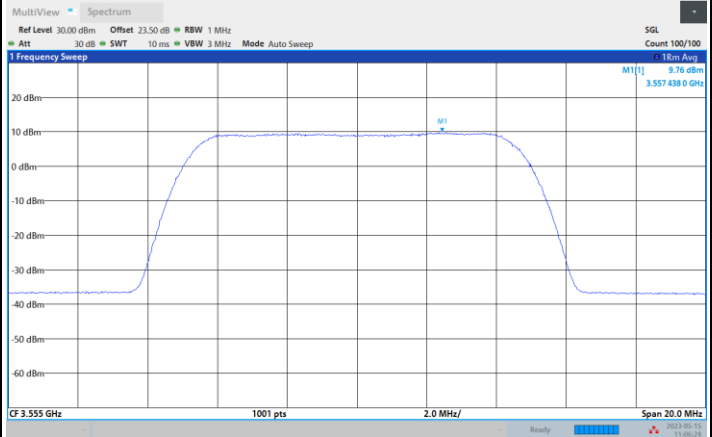
02:11:59 PM 05/15/2023

64QAM



11:16:38 AM 05/16/2023

256QAM

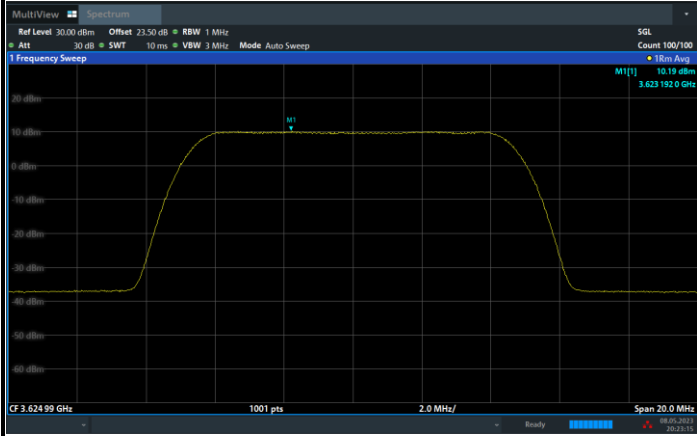


11:06:25 AM 05/15/2023



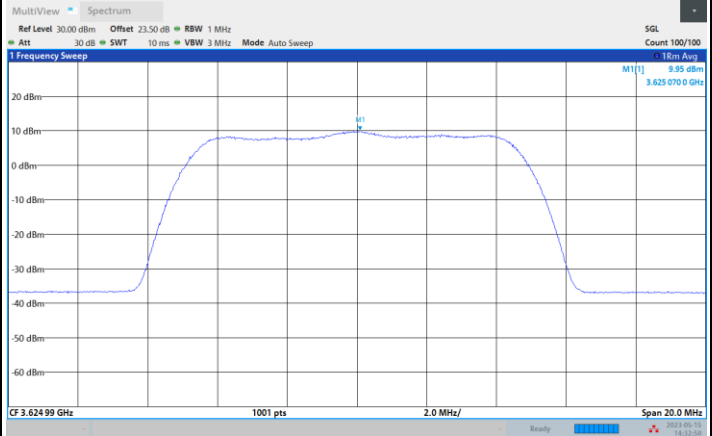
LTE B48 / 10MHz / Middle Channel / PSD

QPSK



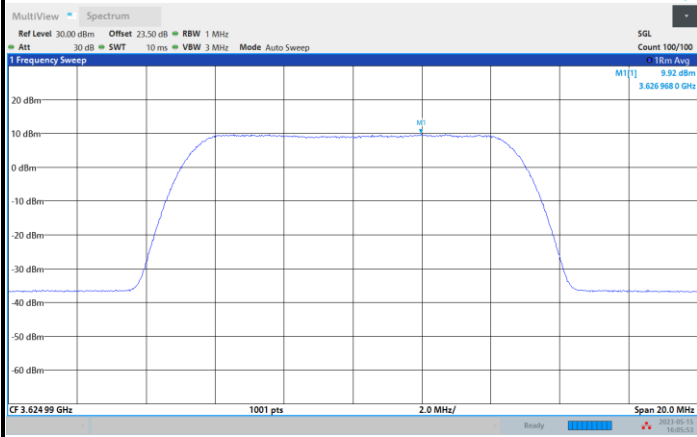
20:23:15 08/05/2023

16QAM



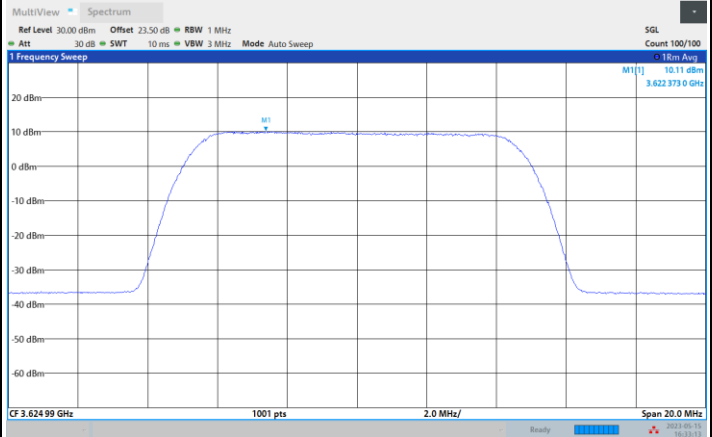
02:32:51 PM 05/15/2023

64QAM



04:05:53 PM 05/15/2023

256QAM

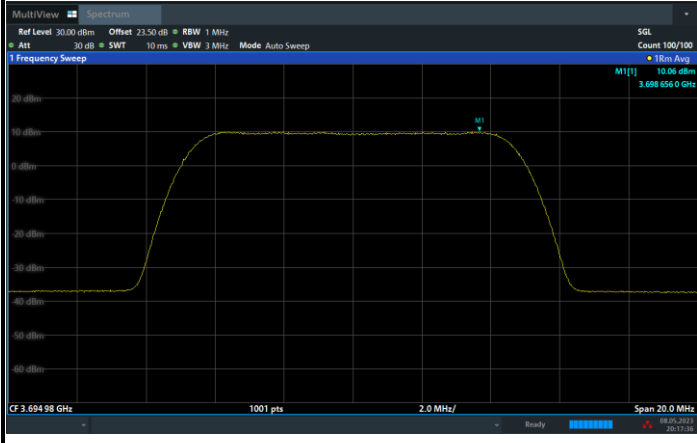


04:33:13 PM 05/15/2023



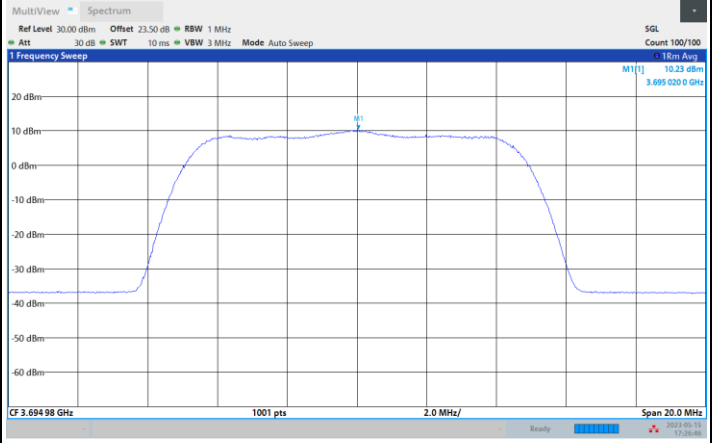
LTE B48 / 10MHz / Highest Channel / PSD

QPSK



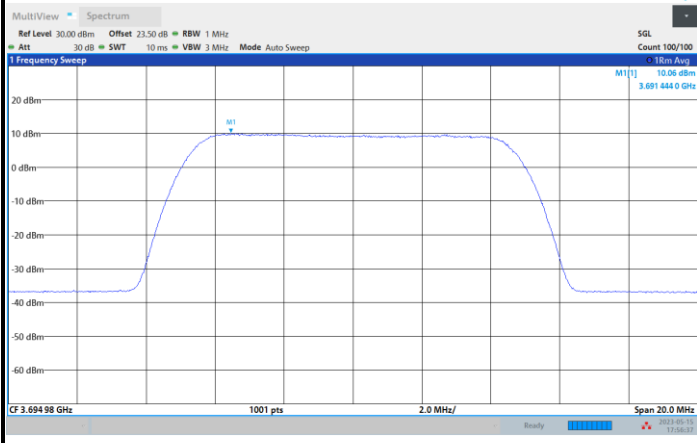
20:17:37 08/05/2023

16QAM



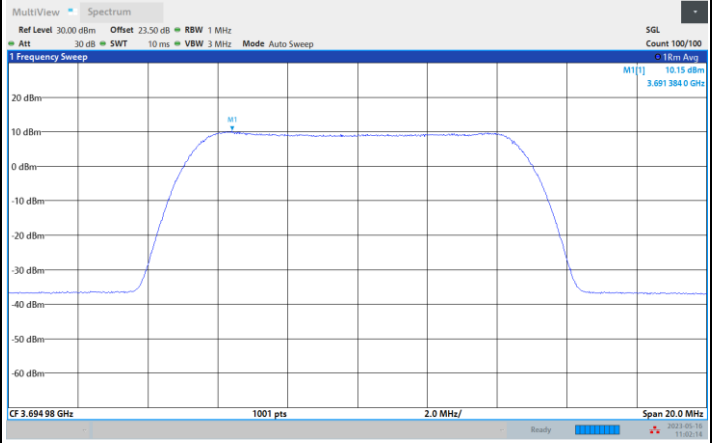
05:26:47 PM 05/15/2023

64QAM



05:56:38 PM 05/15/2023

256QAM

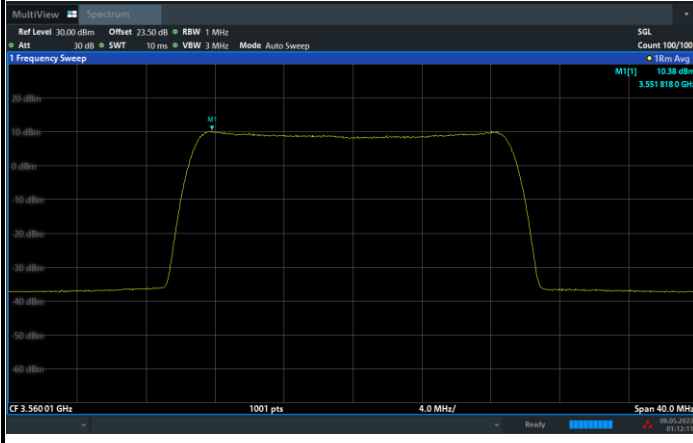


11:02:14 AM 05/16/2023



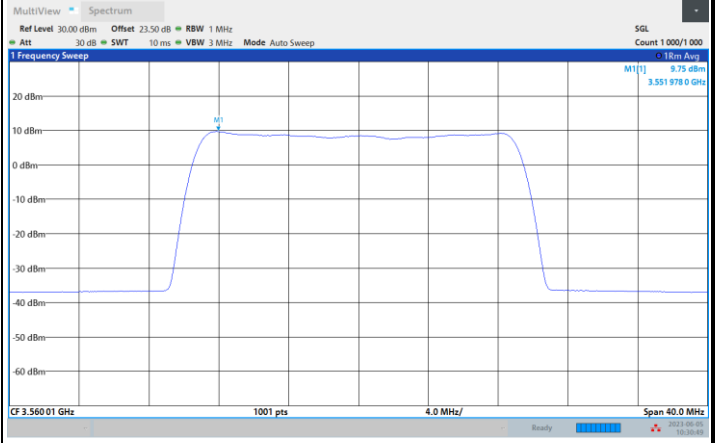
LTE B48 / 20MHz / Lowest Channel / PSD

QPSK



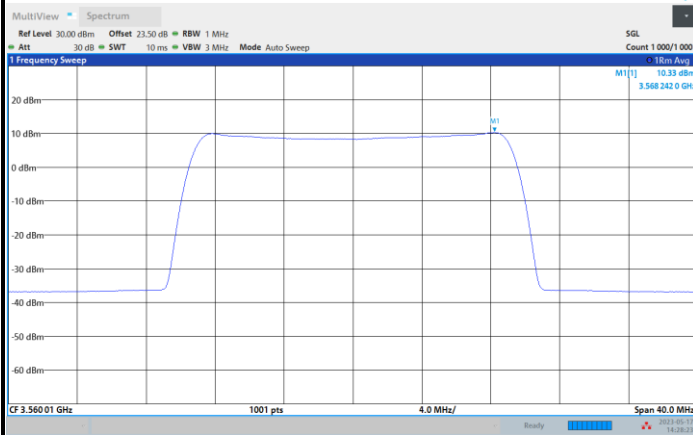
01:12:11 06/05/2023

16QAM



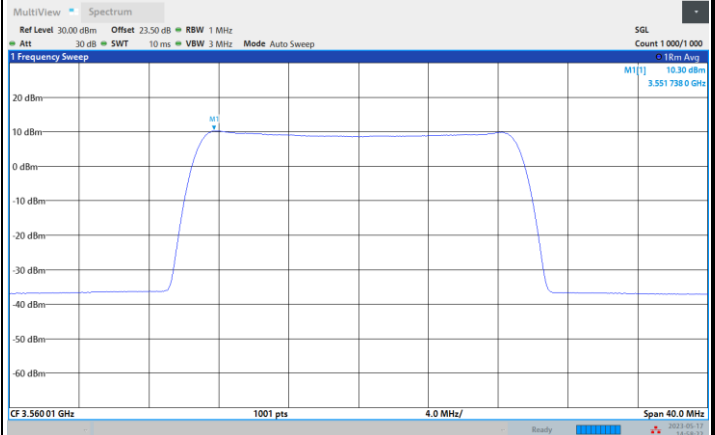
10:30:49 AM 06/05/2023

64QAM



02:28:23 PM 05/17/2023

256QAM

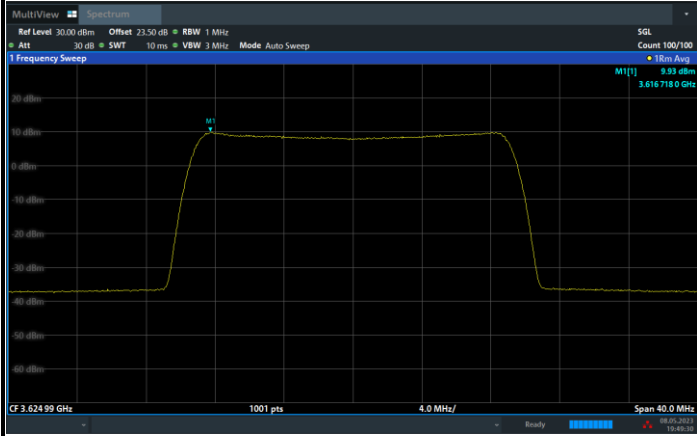


02:58:22 PM 05/17/2023



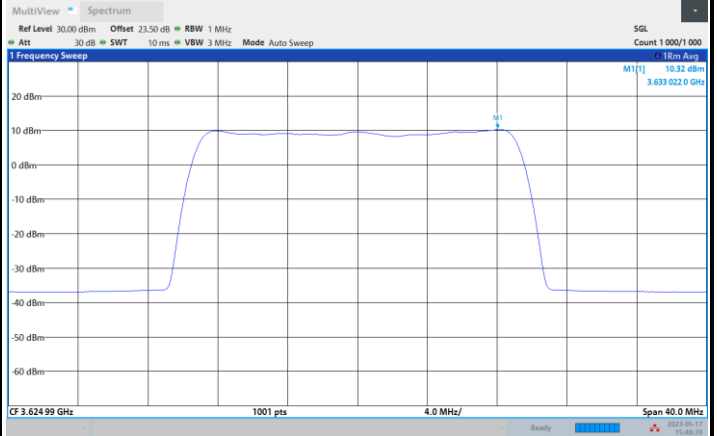
LTE B48 / 20MHz / Middle Channel / PSD

QPSK



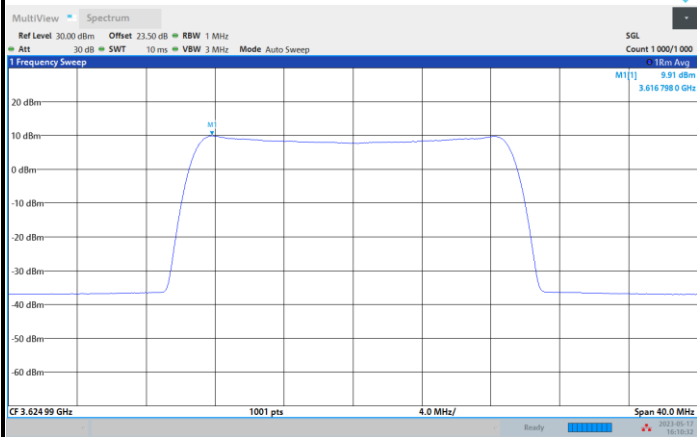
19:49:30 08.05.2023

16QAM



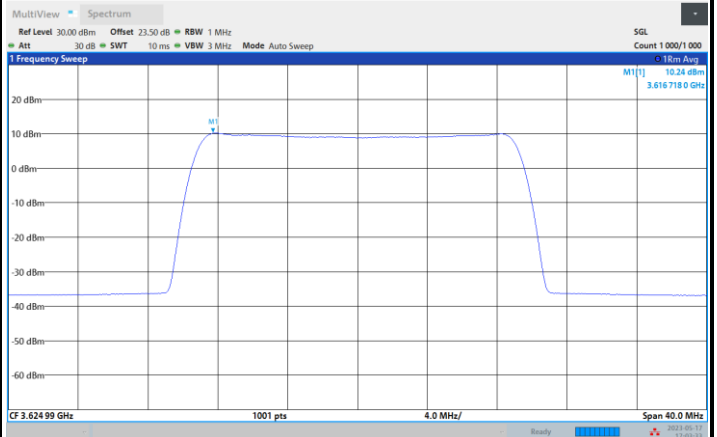
03:48:39 PM 05/17/2023

64QAM



04:10:33 PM 05/17/2023

256QAM

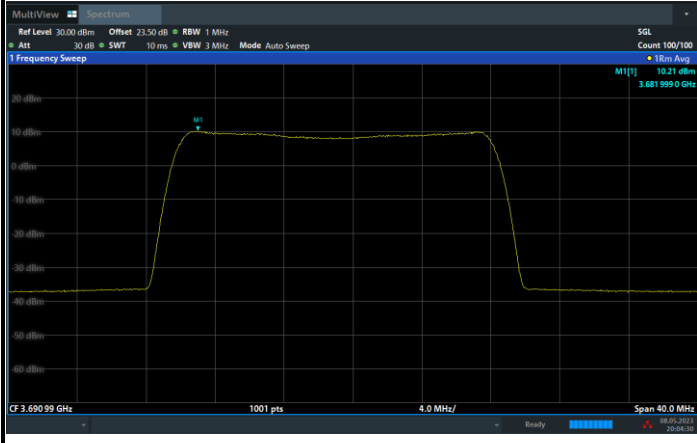


05:03:33 PM 05/17/2023



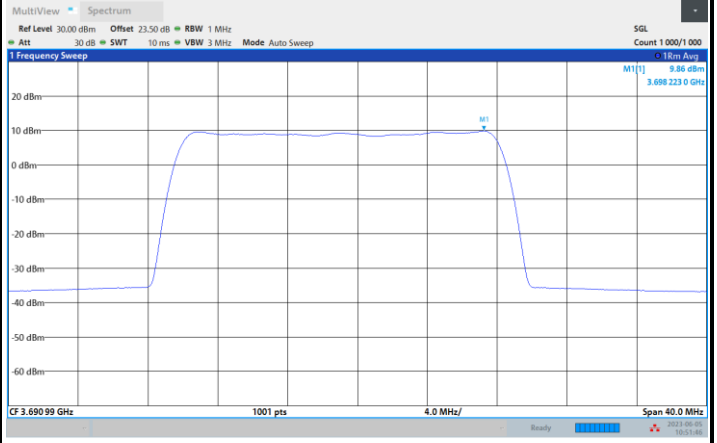
LTE B48 / 20MHz / Highest Channel / PSD

QPSK



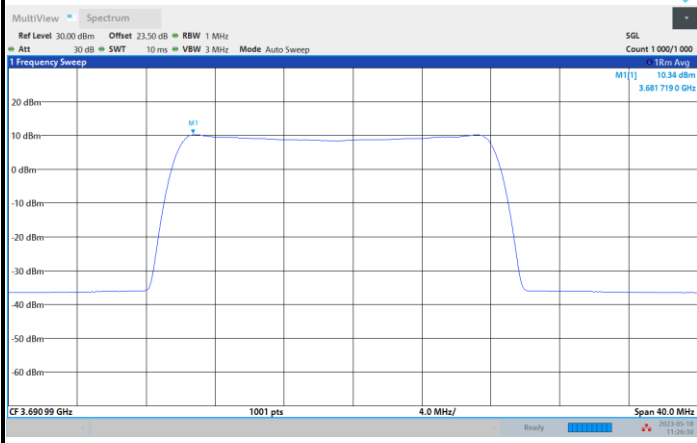
20:04:31 08/05/2023

16QAM



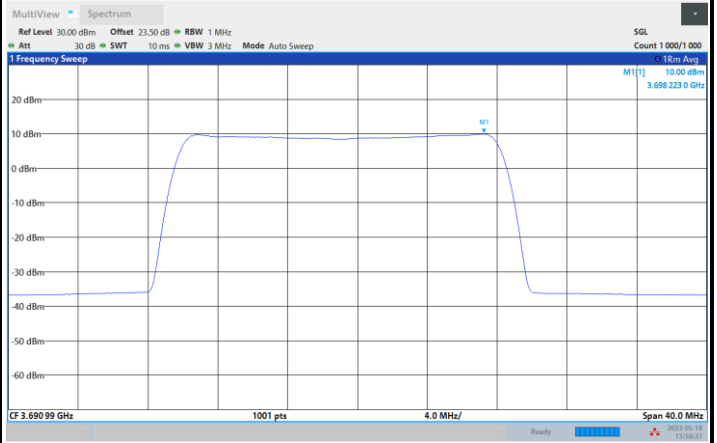
10:51:46 AM 06/05/2023

64QAM



11:26:30 AM 05/18/2023

256QAM

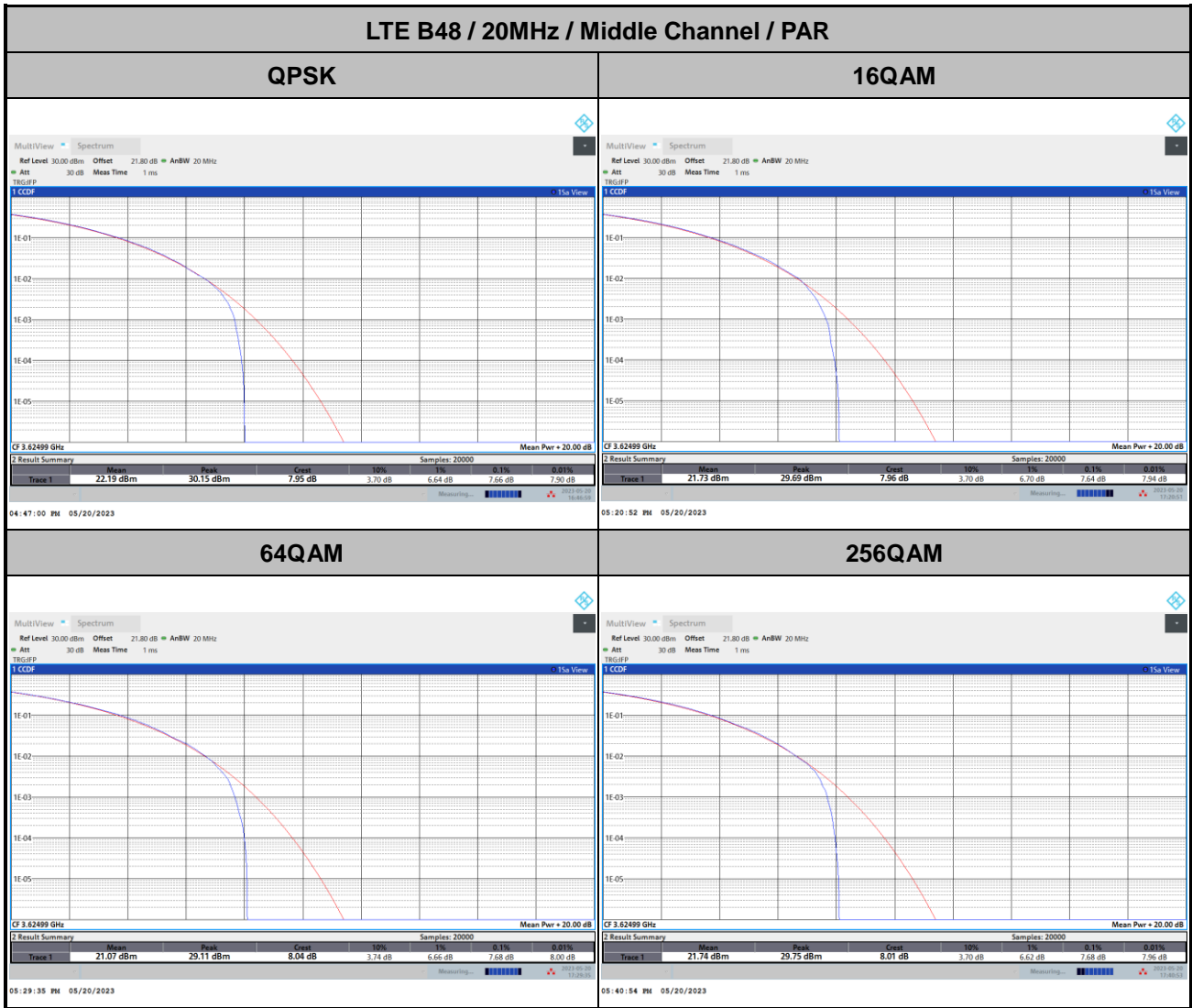


01:50:38 PM 05/18/2023



Peak-to-Average Ratio

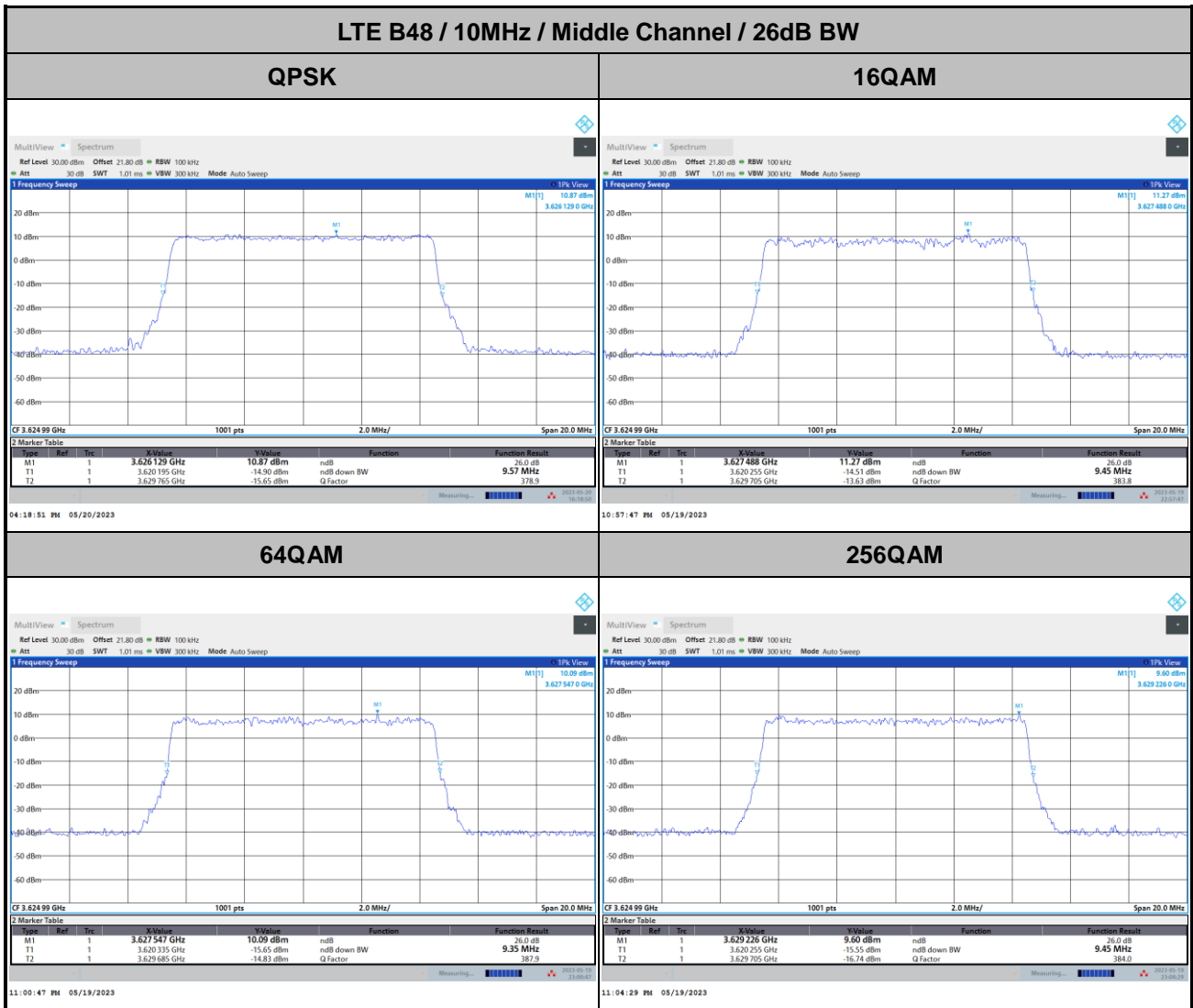
Mode	LTE B48 / 20MHz / PAR (dB)				Limit: 13dB
Mod.	QPSK	16QAM	64QAM	256QAM	Result
Middle CH	7.66	7.64	7.68	7.68	PASS





26dB Bandwidth

Mode	LTE B48 : 26dB BW(MHz)							
	10MHz		20MHz		40MHz		50MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH	9.57	9.45	18.98	18.90	-	-	-	-
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Middle CH	9.35	9.45	18.94	18.98	-	-	-	-

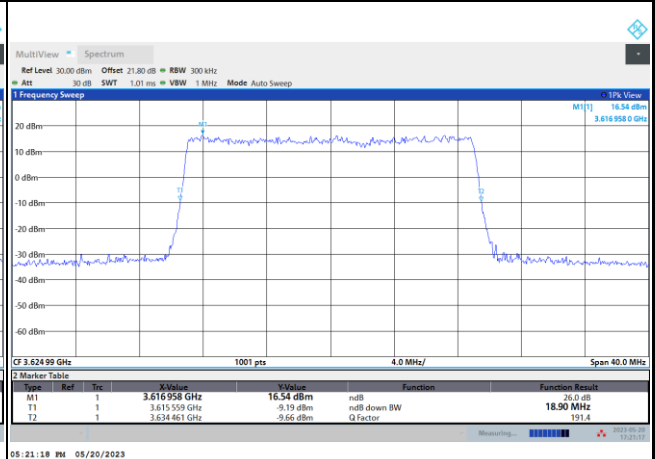
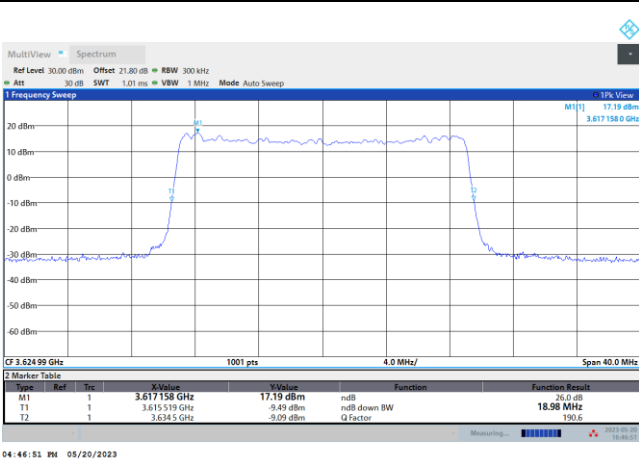




LTE B48 / 20MHz / Middle Channel / 26dB BW

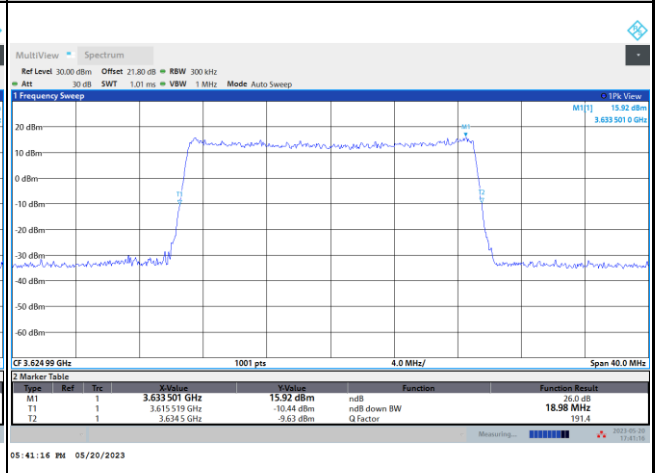
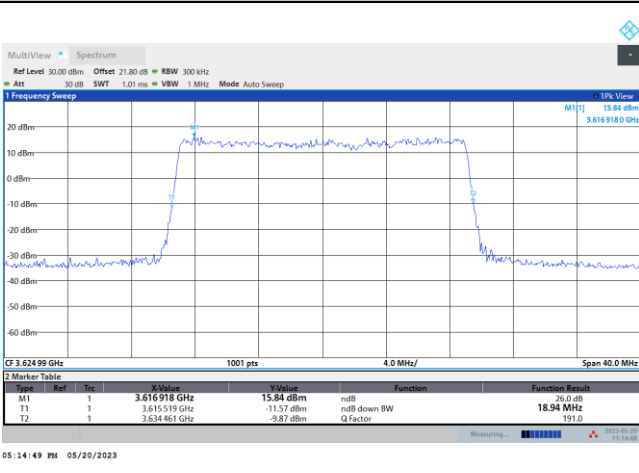
QPSK

16QAM



64QAM

256QAM





Occupied Bandwidth

Mode		LTE B48 : 99%OBW (MHz)							
BW		10MHz		20MHz		40MHz		50MHz	
Mod.		QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Middle CH		8.90	8.90	17.88	17.90	-	-	-	-
Mod.		64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Middle CH		8.88	8.89	17.89	17.92	-	-	-	-

