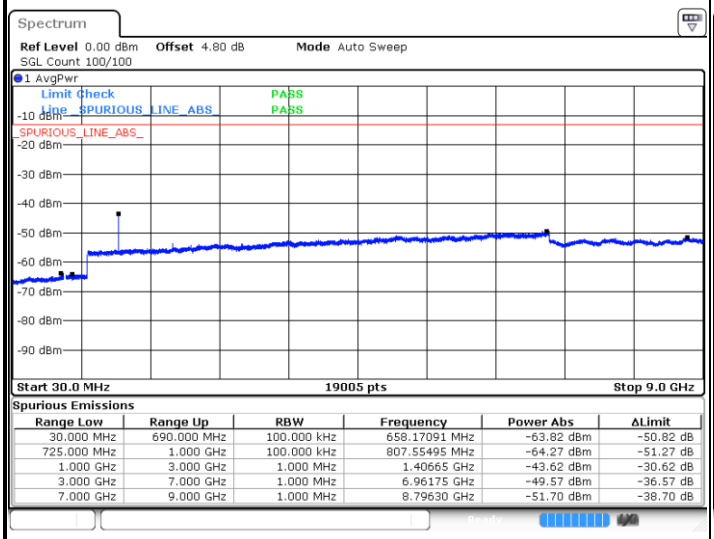
LTE Band 12 / 10MHz

Middle Channel / QPSK

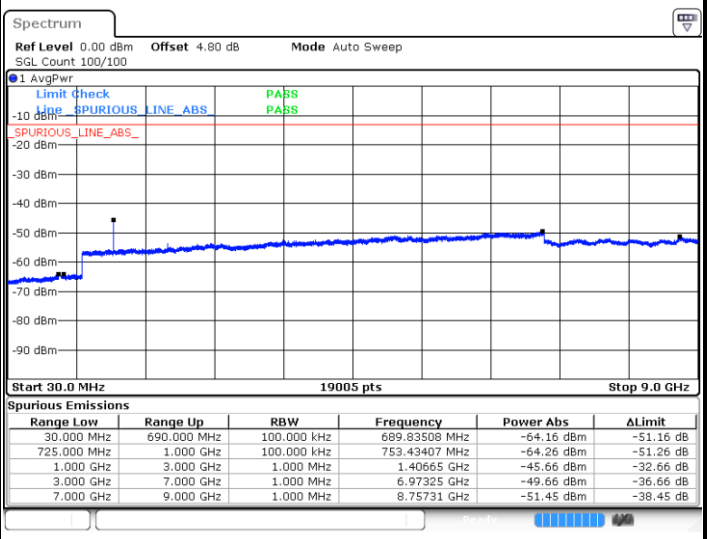


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	658.17091 MHz	-63.82 dBm	-50.82 dB
725.000 MHz	1.000 GHz	100.000 kHz	807.55495 MHz	-64.27 dBm	-51.27 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.40665 GHz	-43.62 dBm	-30.62 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.96175 GHz	-49.57 dBm	-36.57 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.79630 GHz	-51.70 dBm	-38.70 dB

Date: 26.JUN.2020 20:27:41

Middle Channel / 16QAM

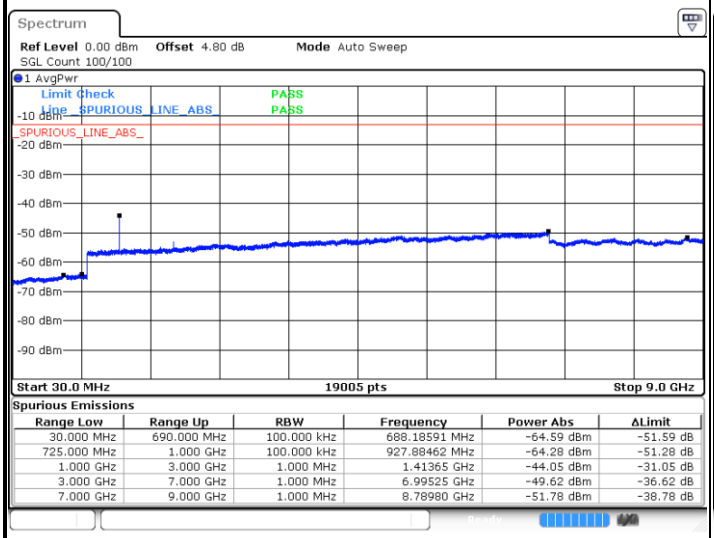


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	689.83508 MHz	-64.16 dBm	-51.16 dB
725.000 MHz	1.000 GHz	100.000 kHz	753.43407 MHz	-64.26 dBm	-51.26 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.40665 GHz	-45.66 dBm	-32.66 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.97325 GHz	-49.66 dBm	-36.66 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.75731 GHz	-51.45 dBm	-38.45 dB

Date: 26.JUN.2020 20:26:47

Highest Channel / QPSK

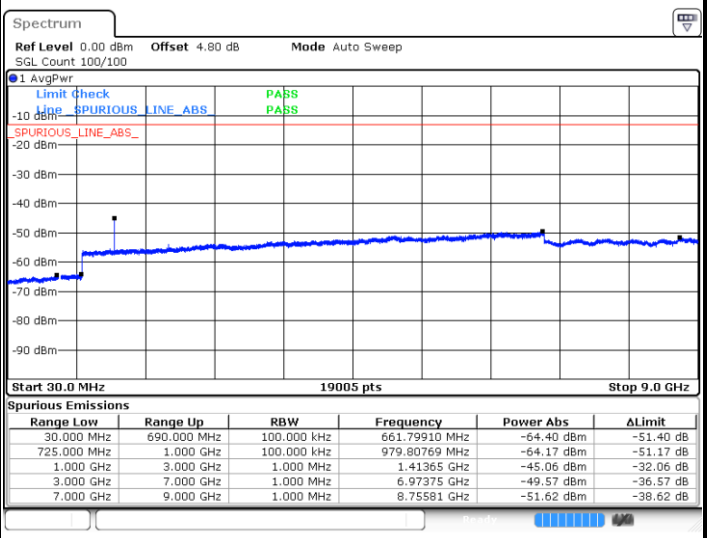


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	688.18591 MHz	-64.59 dBm	-51.59 dB
725.000 MHz	1.000 GHz	100.000 kHz	927.88462 MHz	-64.28 dBm	-51.28 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.41365 GHz	-44.05 dBm	-31.05 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.99525 GHz	-49.62 dBm	-36.62 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.78980 GHz	-51.78 dBm	-38.78 dB

Date: 26.JUN.2020 20:28:36

Highest Channel / 16QAM



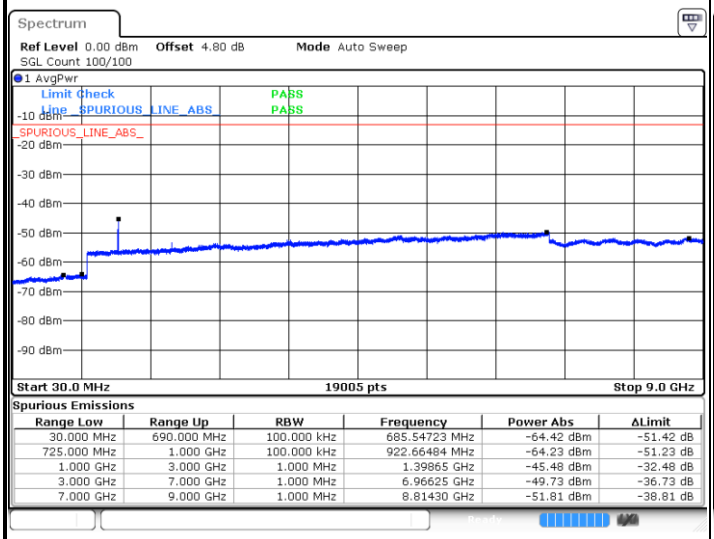
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	661.79910 MHz	-64.40 dBm	-51.40 dB
725.000 MHz	1.000 GHz	100.000 kHz	979.80769 MHz	-64.17 dBm	-51.17 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.41365 GHz	-45.06 dBm	-32.06 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.97375 GHz	-49.57 dBm	-36.57 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.75581 GHz	-51.62 dBm	-38.62 dB

Date: 26.JUN.2020 20:29:31

LTE Band 12 / 1.4MHz

Lowest Channel / 64QAM

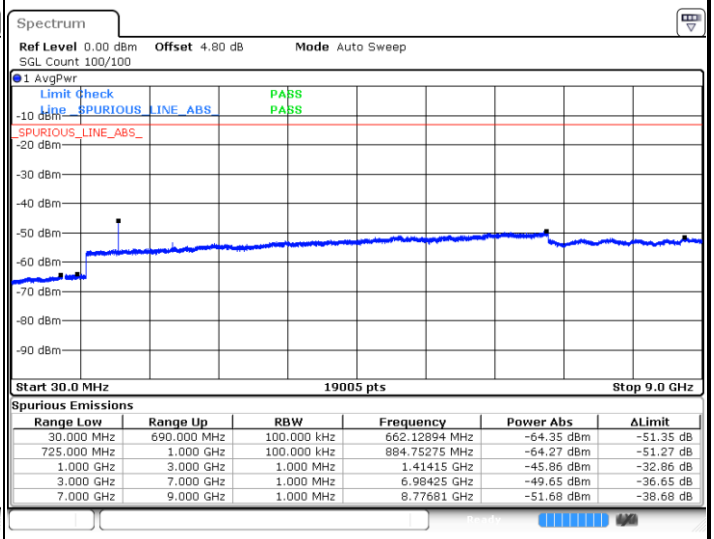


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	685.54723 MHz	-64.42 dBm	-51.42 dB
725.000 MHz	1.000 GHz	100.000 kHz	922.66484 MHz	-64.23 dBm	-51.23 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.39865 GHz	-45.48 dBm	-32.48 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.96625 GHz	-49.73 dBm	-36.73 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.81430 GHz	-51.81 dBm	-38.81 dB

Date: 26.JUN.2020 20:44:55

Middle Channel / 64QAM

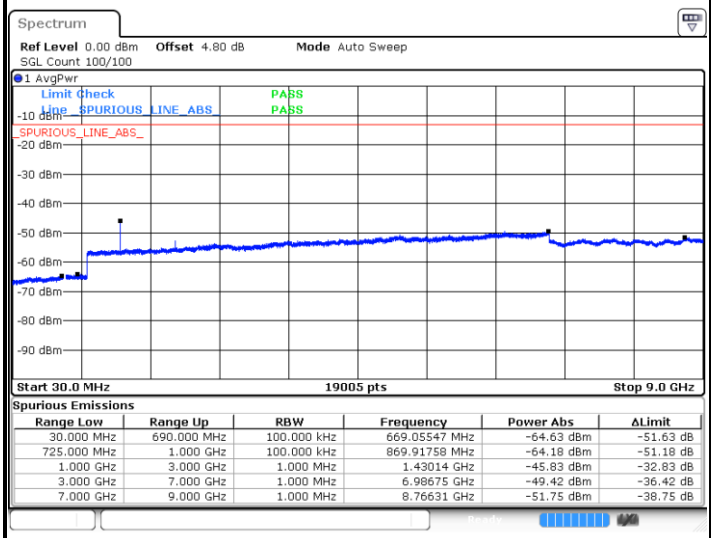


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	662.12894 MHz	-64.35 dBm	-51.35 dB
725.000 MHz	1.000 GHz	100.000 kHz	884.75275 MHz	-64.27 dBm	-51.27 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.41415 GHz	-45.86 dBm	-32.86 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.98425 GHz	-49.65 dBm	-36.65 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.77681 GHz	-51.68 dBm	-38.68 dB

Date: 26.JUN.2020 20:45:50

Highest Channel / 64QAM



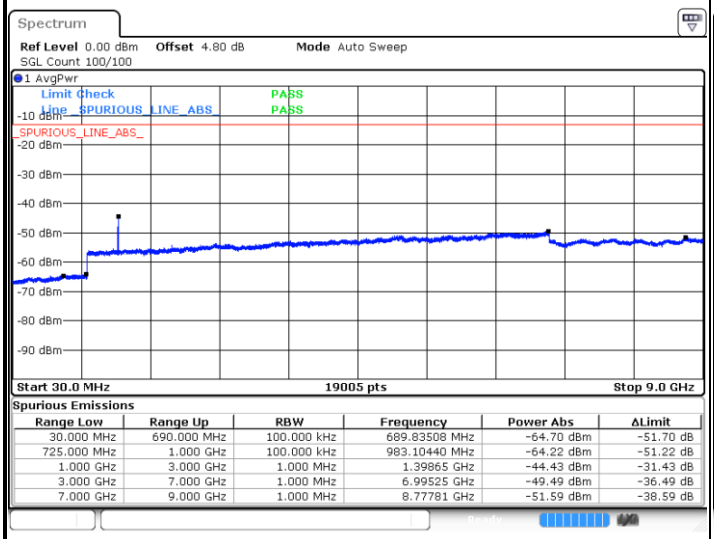
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	669.05547 MHz	-64.63 dBm	-51.63 dB
725.000 MHz	1.000 GHz	100.000 kHz	869.91758 MHz	-64.18 dBm	-51.18 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.43014 GHz	-45.83 dBm	-32.83 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.98675 GHz	-49.42 dBm	-36.42 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.76631 GHz	-51.75 dBm	-38.75 dB

Date: 26.JUN.2020 20:46:45

LTE Band 12 / 3MHz

Lowest Channel / 64QAM

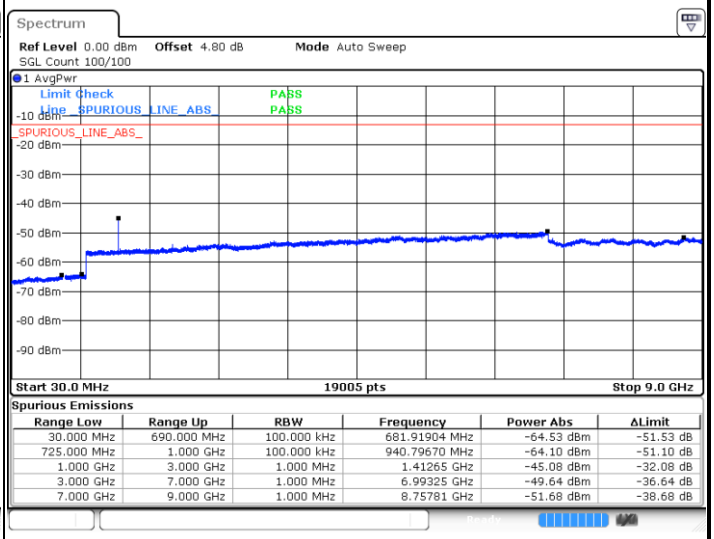


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	689.83508 MHz	-64.70 dBm	-51.70 dB
725.000 MHz	1.000 GHz	100.000 kHz	983.10440 MHz	-64.22 dBm	-51.22 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.39865 GHz	-44.43 dBm	-31.43 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.99525 GHz	-49.49 dBm	-36.49 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.77781 GHz	-51.59 dBm	-38.59 dB

Date: 26.JUN.2020 20:47:39

Middle Channel / 64QAM

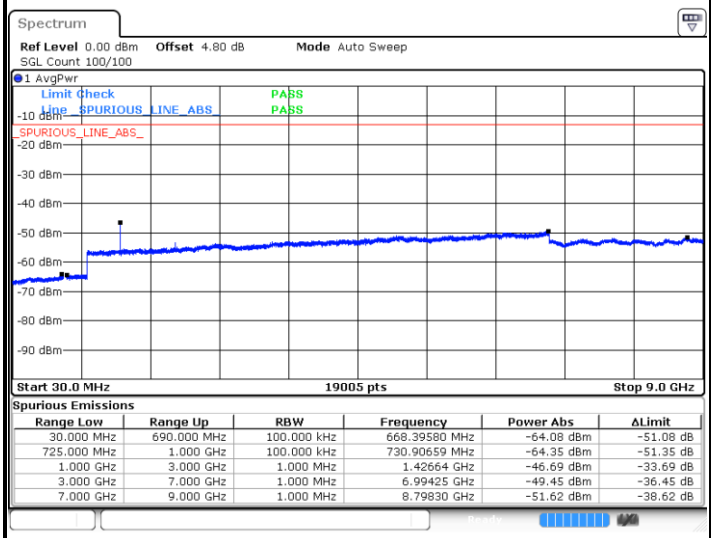


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	681.91904 MHz	-64.53 dBm	-51.53 dB
725.000 MHz	1.000 GHz	100.000 kHz	940.79670 MHz	-64.10 dBm	-51.10 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.41265 GHz	-45.08 dBm	-32.08 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.99325 GHz	-49.64 dBm	-36.64 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.75781 GHz	-51.68 dBm	-38.68 dB

Date: 26.JUN.2020 20:48:34

Highest Channel / 64QAM



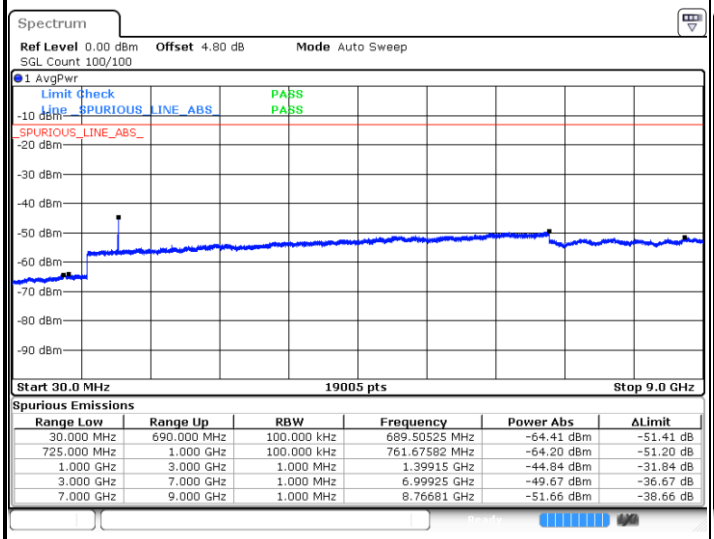
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	668.39580 MHz	-64.08 dBm	-51.08 dB
725.000 MHz	1.000 GHz	100.000 kHz	730.90659 MHz	-64.35 dBm	-51.35 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.42664 GHz	-46.69 dBm	-33.69 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.99425 GHz	-49.45 dBm	-36.45 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.79830 GHz	-51.62 dBm	-38.62 dB

Date: 26.JUN.2020 20:49:28

LTE Band 12 / 5MHz

Lowest Channel / 64QAM

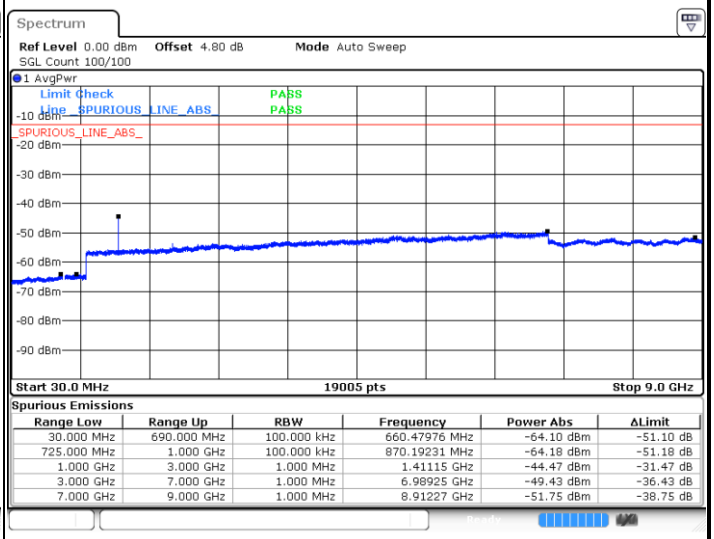


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	689.50525 MHz	-64.41 dBm	-51.41 dB
725.000 MHz	1.000 GHz	100.000 kHz	761.67582 MHz	-64.20 dBm	-51.20 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.39915 GHz	-44.84 dBm	-31.84 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.99925 GHz	-49.67 dBm	-36.67 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.76681 GHz	-51.66 dBm	-38.66 dB

Date: 26.JUN.2020 21:01:23

Middle Channel / 64QAM

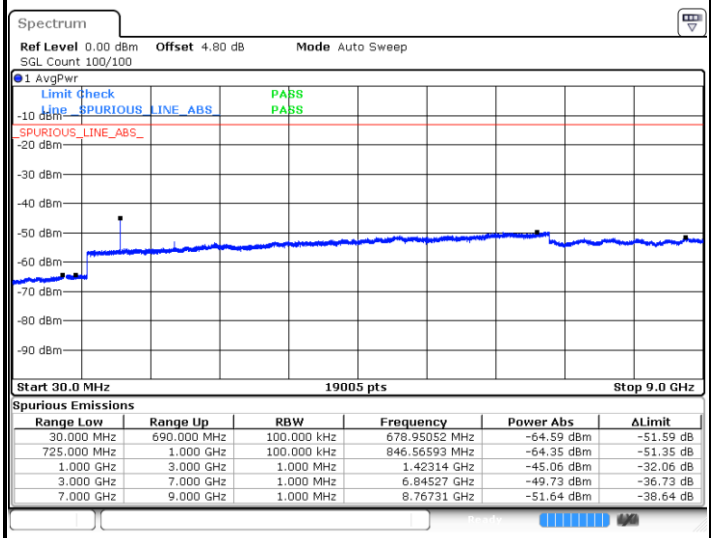


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	660.47976 MHz	-64.10 dBm	-51.10 dB
725.000 MHz	1.000 GHz	100.000 kHz	870.19231 MHz	-64.18 dBm	-51.18 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.41115 GHz	-44.47 dBm	-31.47 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.98925 GHz	-49.43 dBm	-36.43 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.91227 GHz	-51.75 dBm	-38.75 dB

Date: 26.JUN.2020 21:02:18

Highest Channel / 64QAM



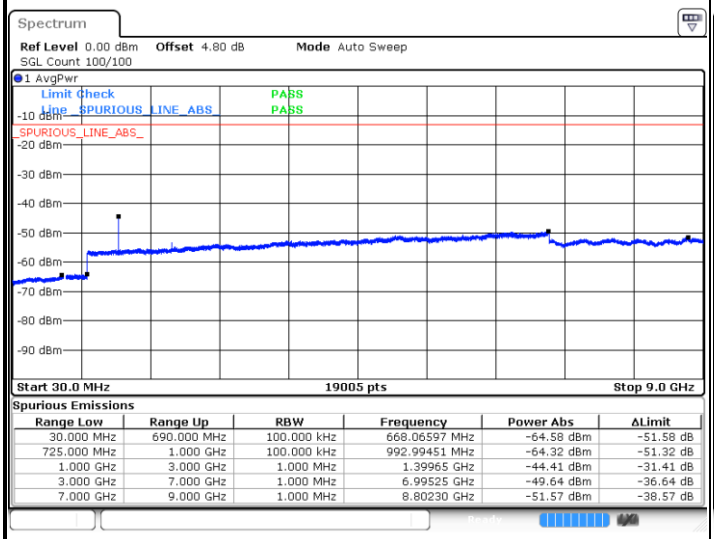
Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	678.95052 MHz	-64.59 dBm	-51.59 dB
725.000 MHz	1.000 GHz	100.000 kHz	846.56593 MHz	-64.35 dBm	-51.35 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.42314 GHz	-45.06 dBm	-32.06 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.84527 GHz	-49.73 dBm	-36.73 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.76731 GHz	-51.64 dBm	-38.64 dB

Date: 26.JUN.2020 21:03:12

LTE Band 12 / 10MHz

Lowest Channel / 64QAM

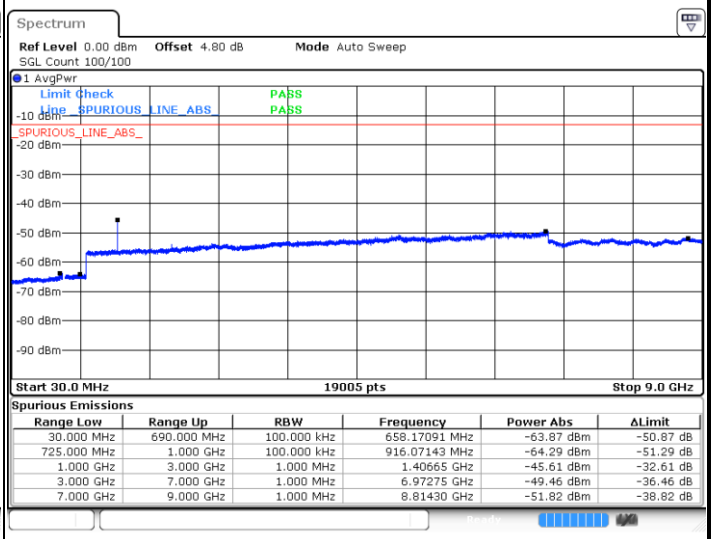


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	668.06597 MHz	-64.58 dBm	-51.58 dB
725.000 MHz	1.000 GHz	100.000 kHz	992.99451 MHz	-64.32 dBm	-51.32 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.39965 GHz	-44.41 dBm	-31.41 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.99525 GHz	-49.64 dBm	-36.64 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.80230 GHz	-51.57 dBm	-38.57 dB

Date: 26.JUN.2020 21:04:07

Middle Channel / 64QAM

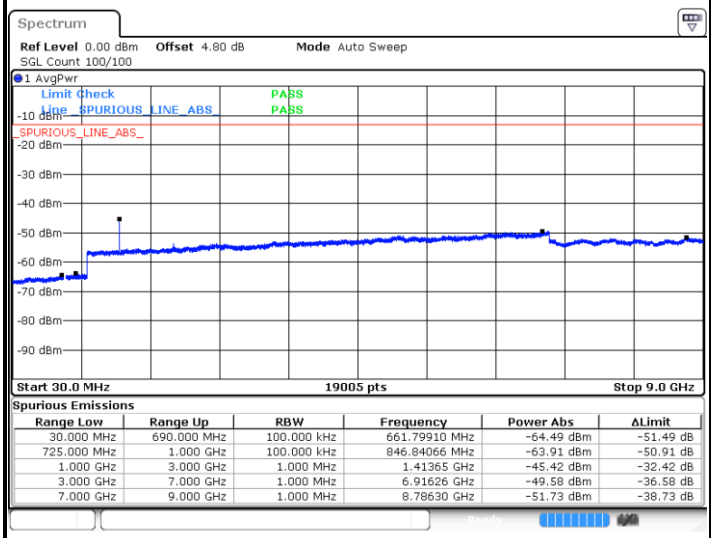


Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	658.17091 MHz	-63.87 dBm	-50.87 dB
725.000 MHz	1.000 GHz	100.000 kHz	916.07143 MHz	-64.29 dBm	-51.29 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.40665 GHz	-45.61 dBm	-32.61 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.97275 GHz	-49.46 dBm	-36.46 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.81430 GHz	-51.82 dBm	-38.82 dB

Date: 26.JUN.2020 21:05:01

Highest Channel / 64QAM



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	690.000 MHz	100.000 kHz	661.79910 MHz	-64.49 dBm	-51.49 dB
725.000 MHz	1.000 GHz	100.000 kHz	846.84066 MHz	-63.91 dBm	-50.91 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.41365 GHz	-45.42 dBm	-32.42 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.91626 GHz	-49.58 dBm	-36.58 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.78630 GHz	-51.73 dBm	-38.73 dB

Date: 26.JUN.2020 21:05:56

Frequency Stability

Test Conditions		LTE Band 12 (QPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	BW 10MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0038	PASS
40	Normal Voltage	0.0049	
30	Normal Voltage	0.0025	
20(Ref.)	Normal Voltage	0.0000	
10	Normal Voltage	0.0033	
0	Normal Voltage	0.0024	
-10	Normal Voltage	0.0006	
-20	Normal Voltage	0.0007	
-30	Normal Voltage	0.0028	
20	Maximum Voltage	0.0035	
20	Normal Voltage	0.0003	
20	Battery End Point	0.0021	

Note:

1. Normal Voltage =3.85 V. ; Battery End Point (BEP) =3.65 V. ; Maximum Voltage =4.4 V.
2. Note: The frequency fundamental emissions stay within the authorized frequency block.

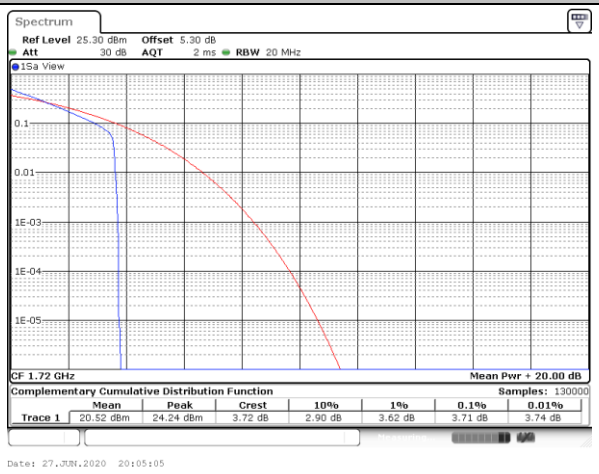
LTE Band 66

Peak-to-Average Ratio

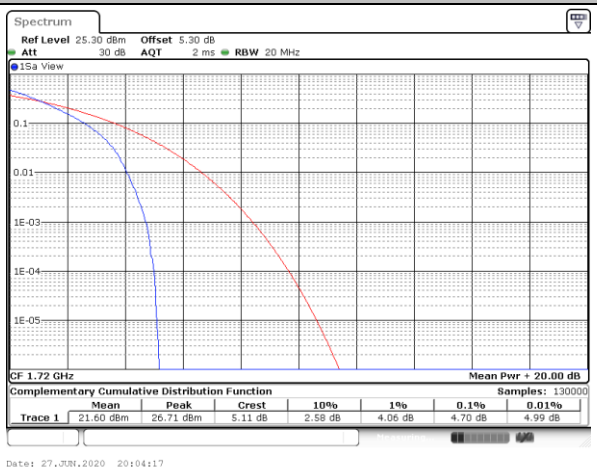
Mode	LTE Band 66 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	3.71	4.70	5.30	6.06	PASS
Middle CH	3.71	4.55	5.13	5.94	
Highest CH	3.94	4.64	5.54	6.06	
Mode	LTE Band 66 / 20MHz				
Mod.	64QAM				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	6.70	6.75	-	-	PASS
Middle CH	6.58	6.55	-	-	
Highest CH	6.90	6.58	-	-	

LTE Band 66 / 20MHz / QPSK

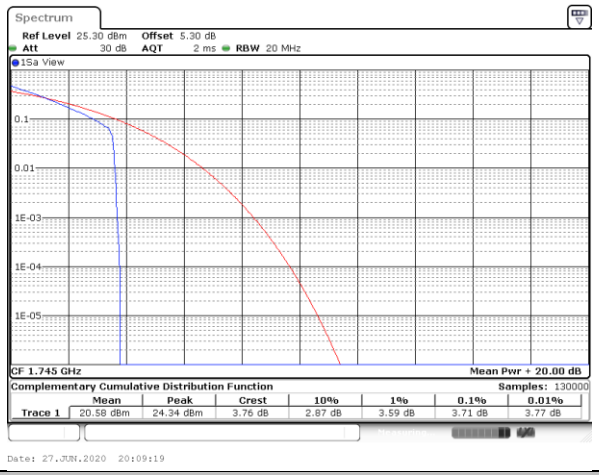
Lowest Channel / 1RB



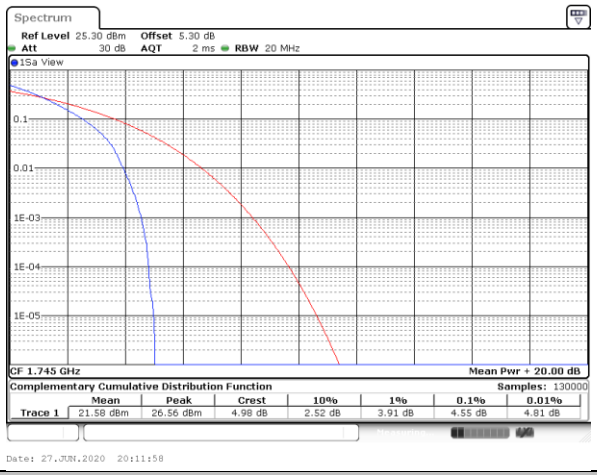
Lowest Channel / Full RB



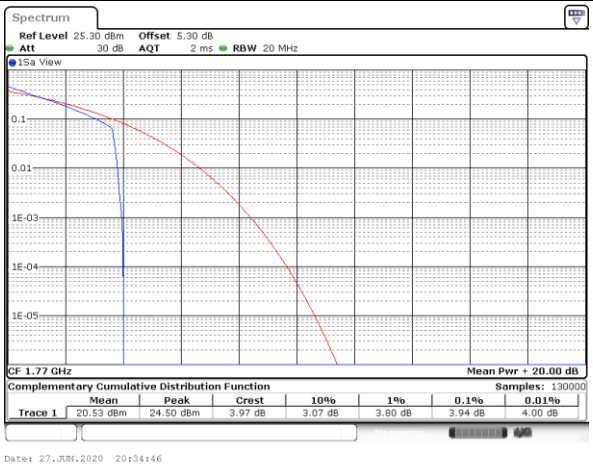
Middle Channel / 1RB



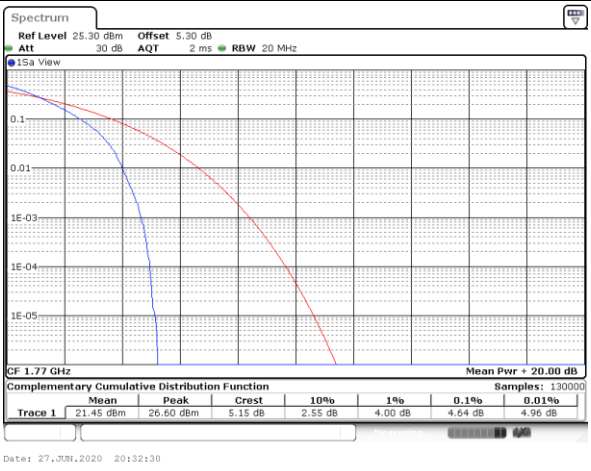
Middle Channel / Full RB



Highest Channel / 1RB

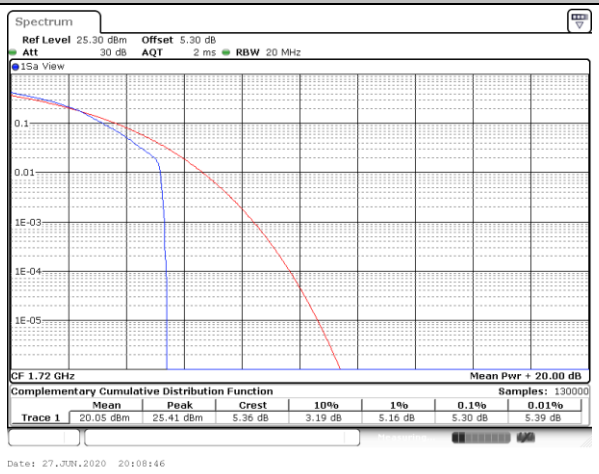


Highest Channel / Full RB

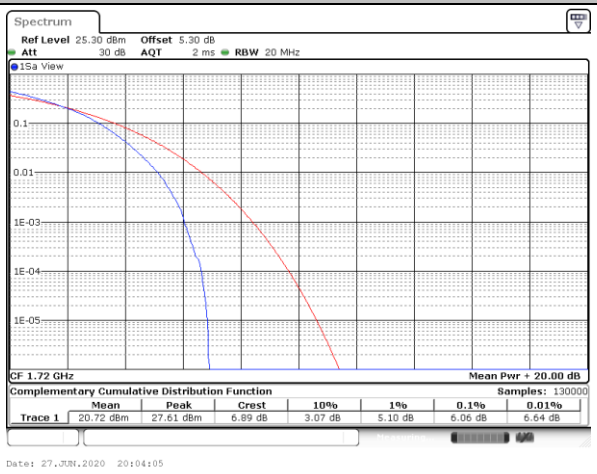


LTE Band 66 / 20MHz / 16QAM

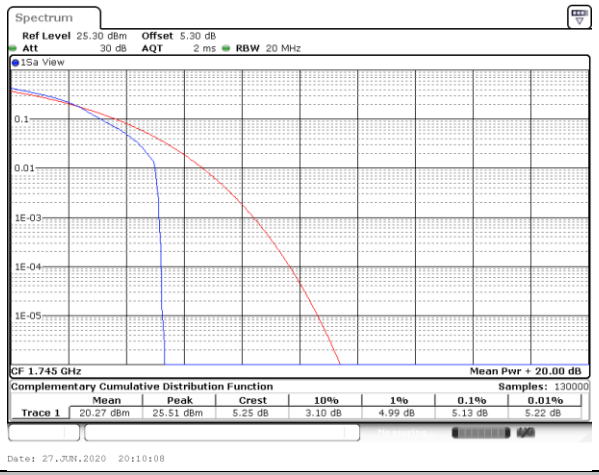
Lowest Channel / 1RB



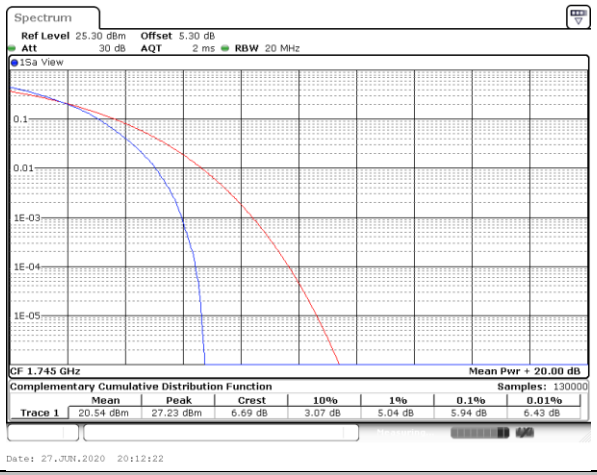
Lowest Channel / Full RB



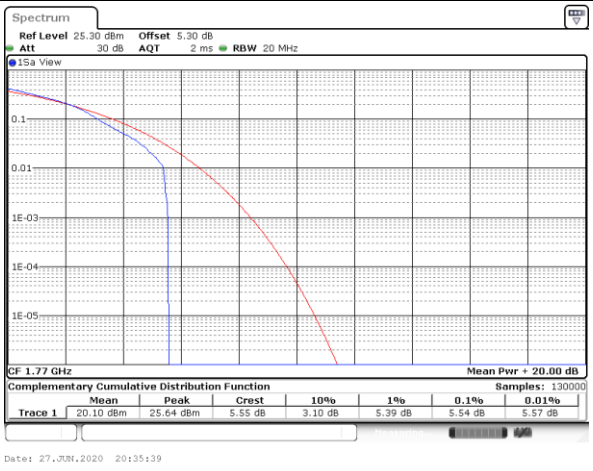
Middle Channel / 1RB



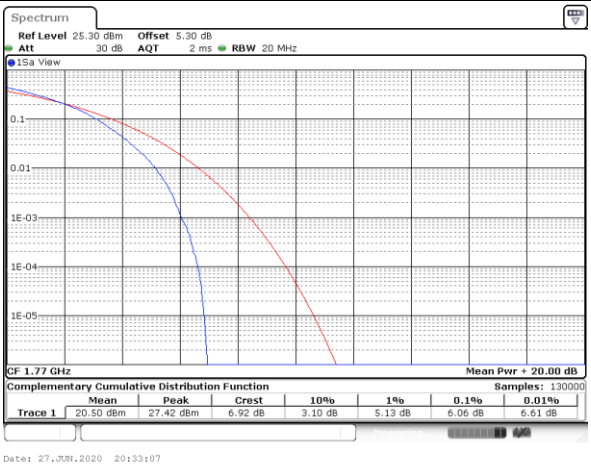
Middle Channel / Full RB



Highest Channel / 1RB

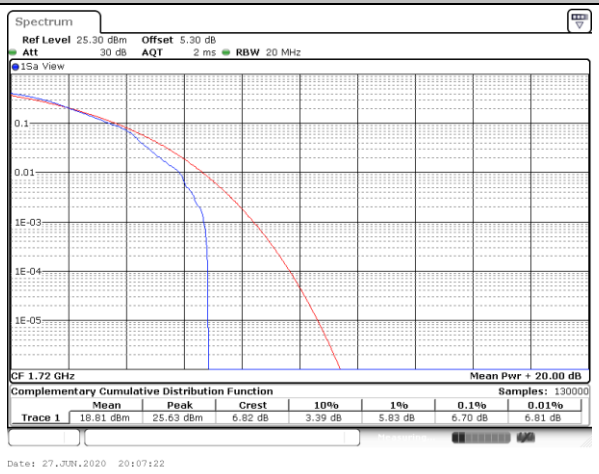


Highest Channel / Full RB

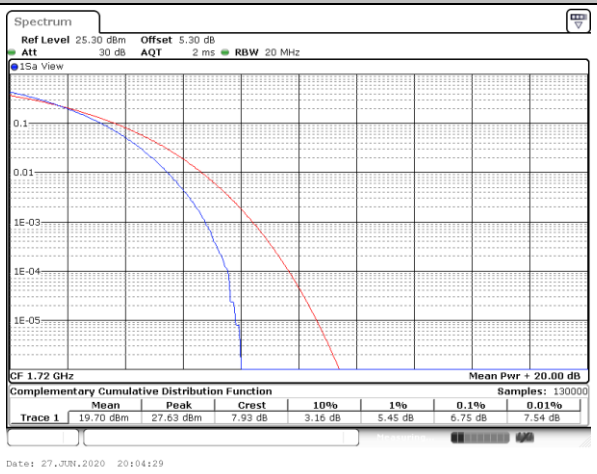


LTE Band 66 / 20MHz / 64QAM

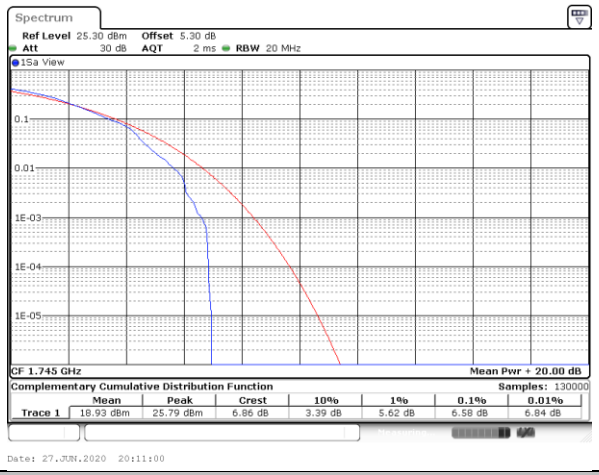
Lowest Channel / 1RB



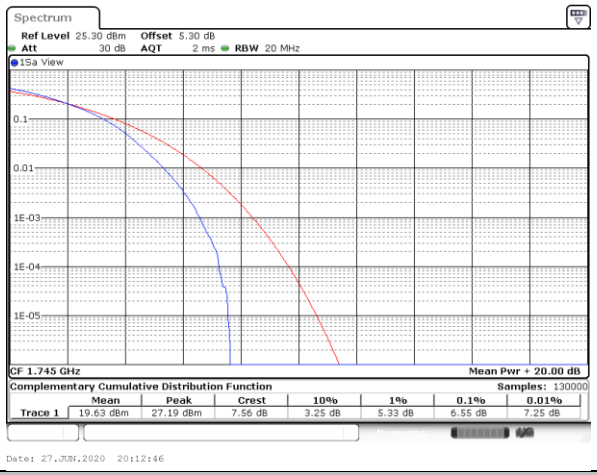
Lowest Channel / Full RB



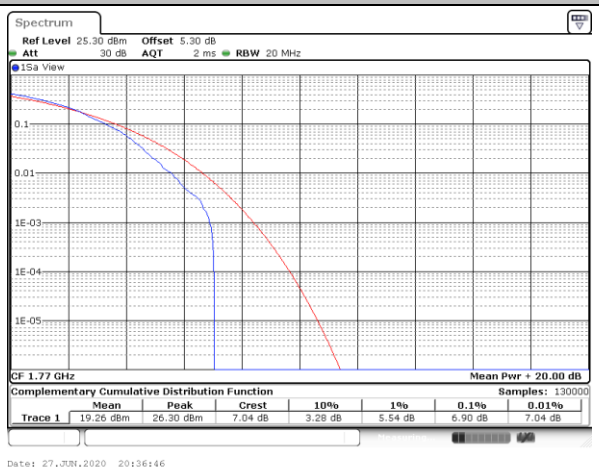
Middle Channel / 1RB



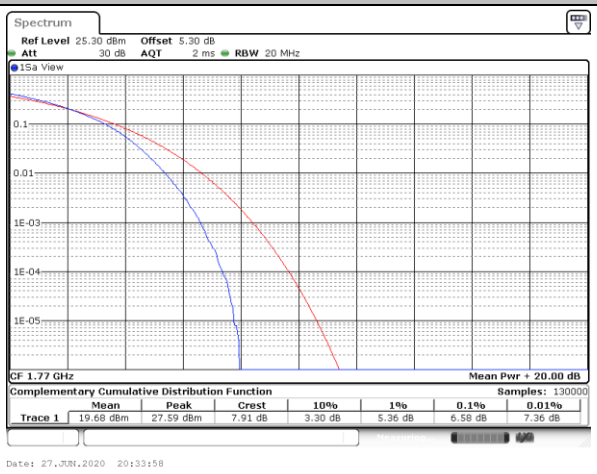
Middle Channel / Full RB



Highest Channel / 1RB



Highest Channel / Full RB

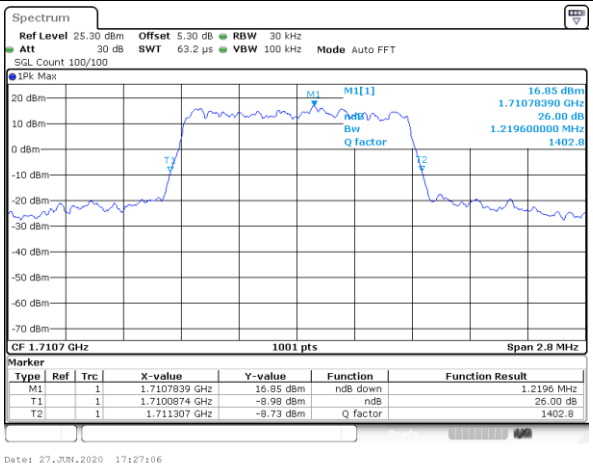


26dB Bandwidth

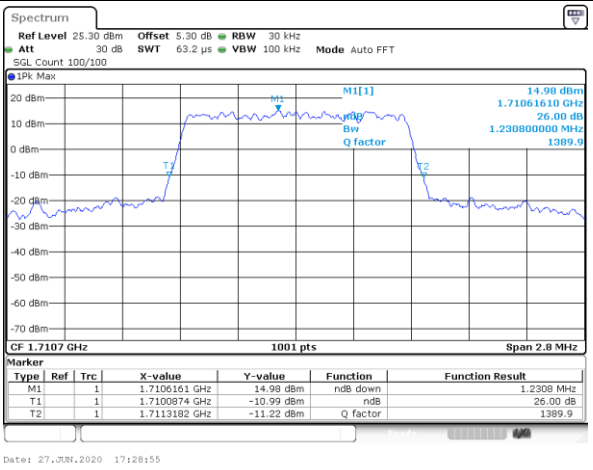
Mode	LTE Band 66 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.22	1.23	3.02	3.00	4.96	4.92	9.87	9.87	14.36	14.36	20.22	20.06
Middle CH	1.22	1.23	3.03	3.03	4.87	4.86	9.89	9.77	14.48	14.36	20.26	20.18
Highest CH	1.23	1.23	3.04	2.99	4.93	4.89	9.83	9.81	14.12	14.54	20.18	20.14
Mode	LTE Band 66 : 26dB BW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	1.23	-	3.03	-	4.86	-	9.79	-	14.39	-	20.22	-
Middle CH	1.24	-	2.97	-	4.97	-	9.65	-	14.45	-	20.30	-
Highest CH	1.22	-	3.00	-	4.92	-	9.87	-	14.45	-	20.14	-

LTE Band 66

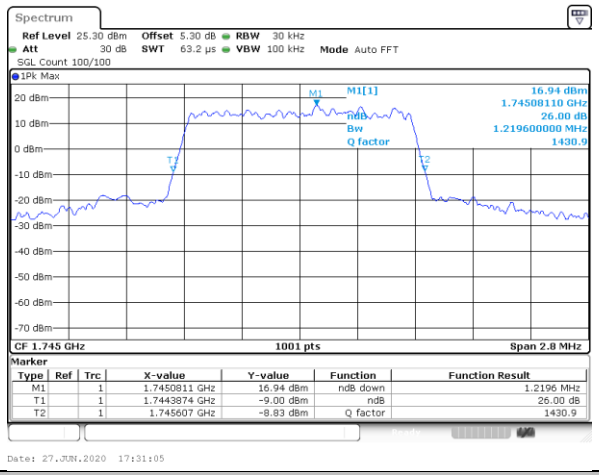
Lowest Channel / 1.4MHz / QPSK



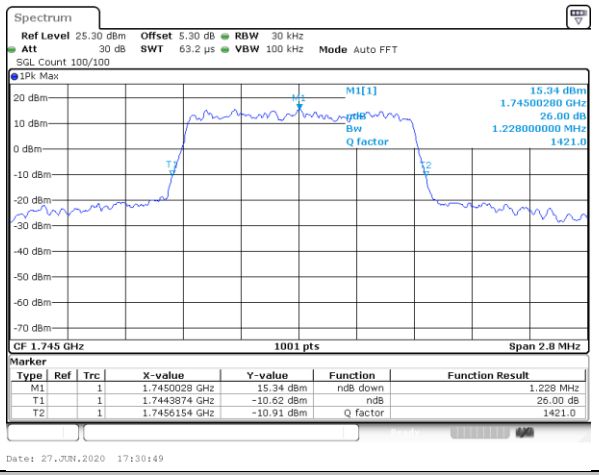
Lowest Channel / 1.4MHz / 16QAM



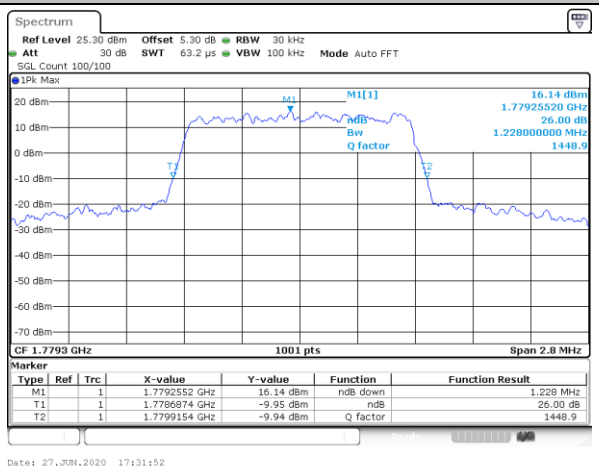
Middle Channel / 1.4MHz / QPSK



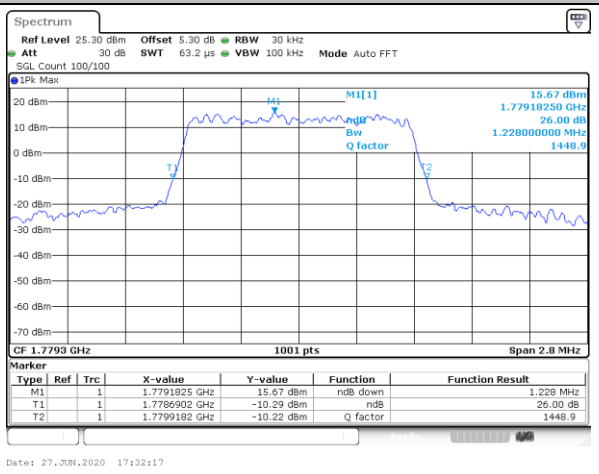
Middle Channel / 1.4MHz / 16QAM



Highest Channel / 1.4MHz / QPSK

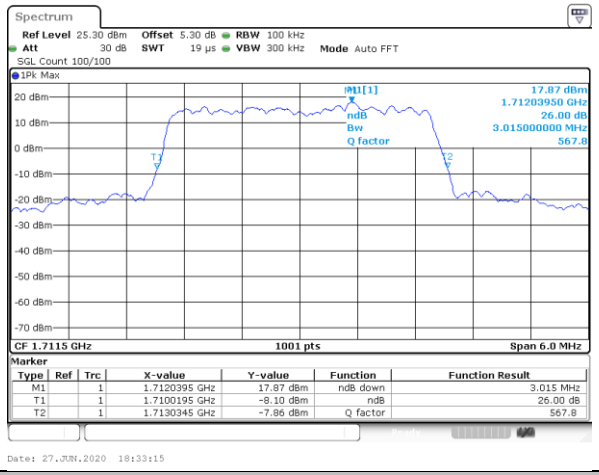


Highest Channel / 1.4MHz / 16QAM

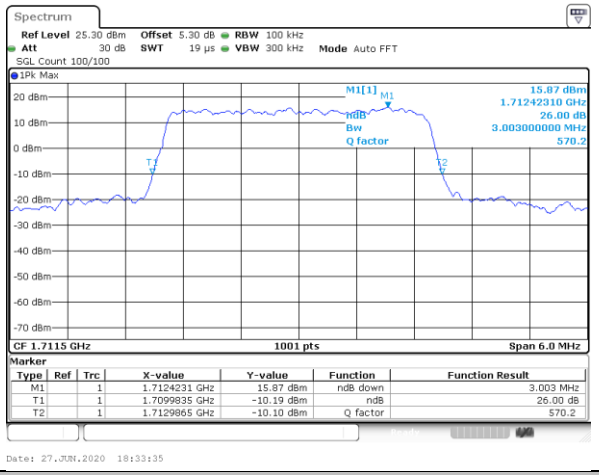


LTE Band 66

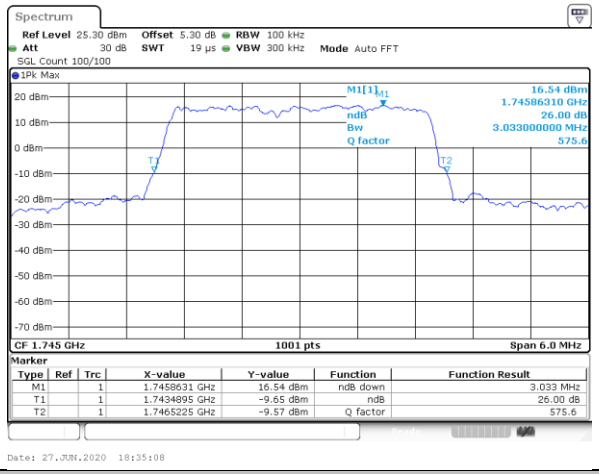
Lowest Channel / 3MHz / QPSK



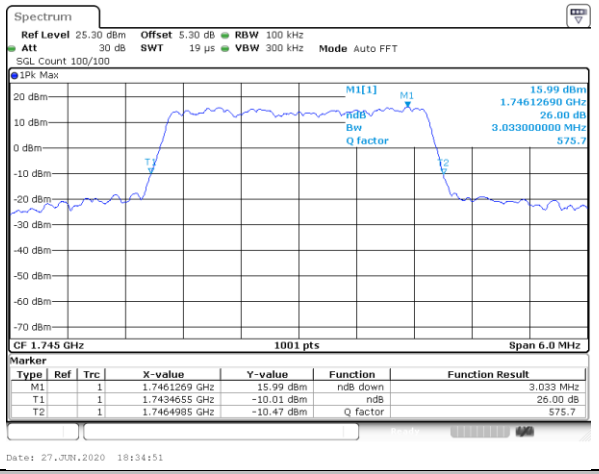
Lowest Channel / 3MHz / 16QAM



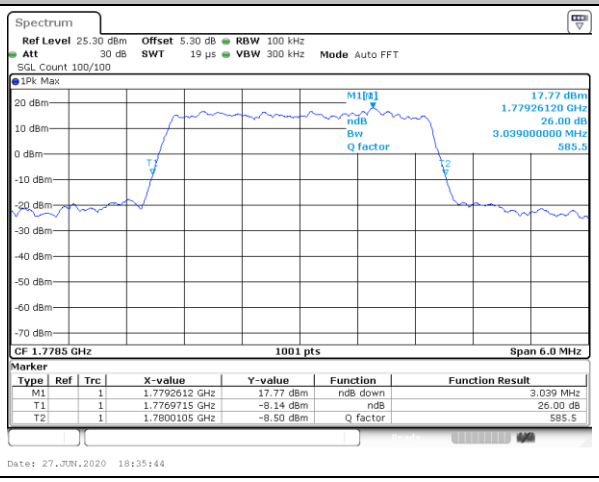
Middle Channel / 3MHz / QPSK



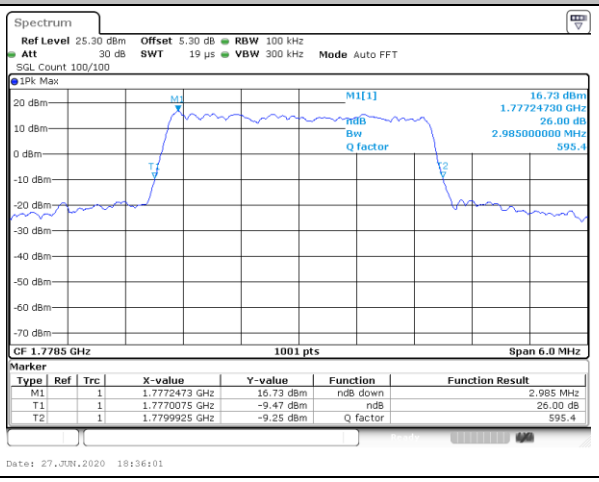
Middle Channel / 3MHz / 16QAM



Highest Channel / 3MHz / QPSK

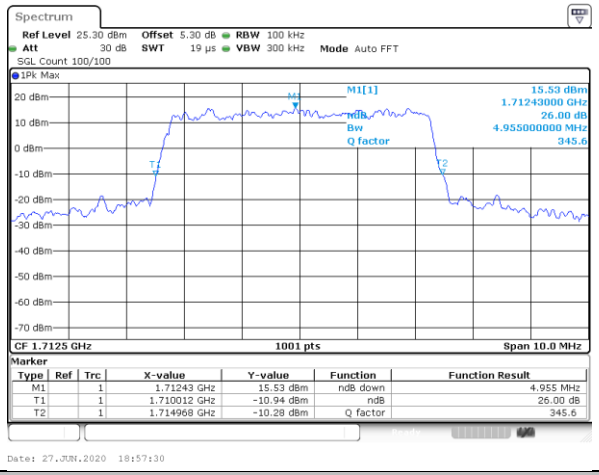


Highest Channel / 3MHz / 16QAM

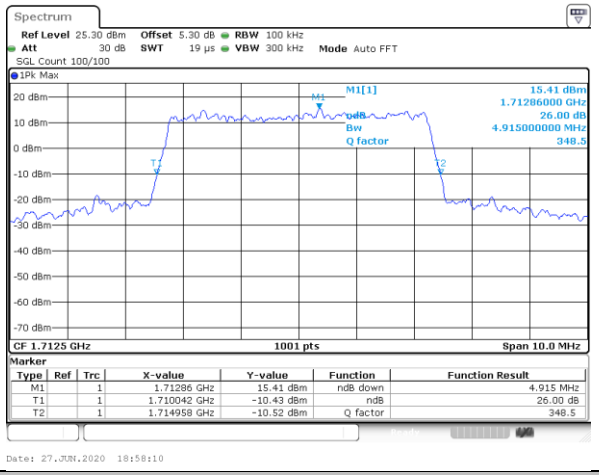


LTE Band 66

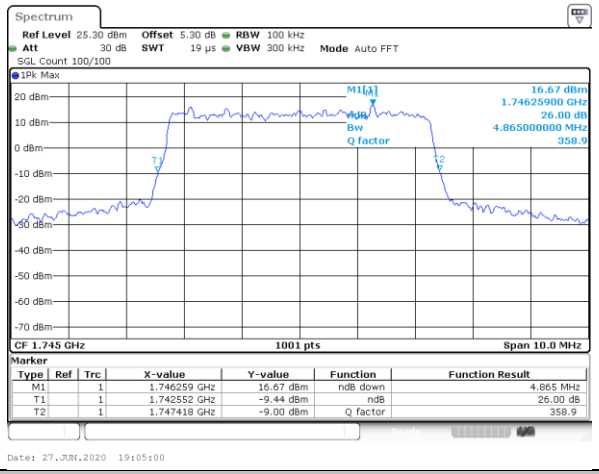
Lowest Channel / 5MHz / QPSK



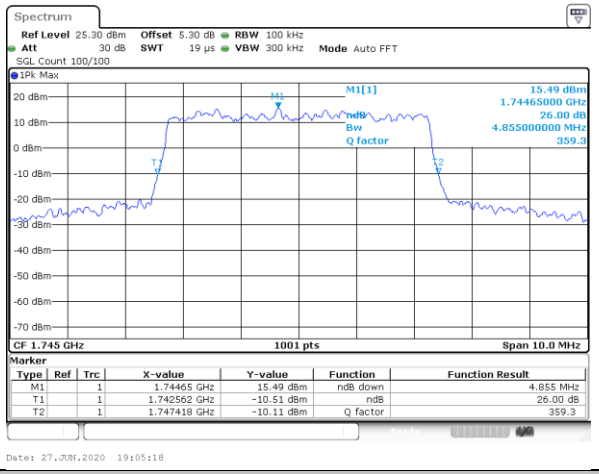
Lowest Channel / 5MHz / 16QAM



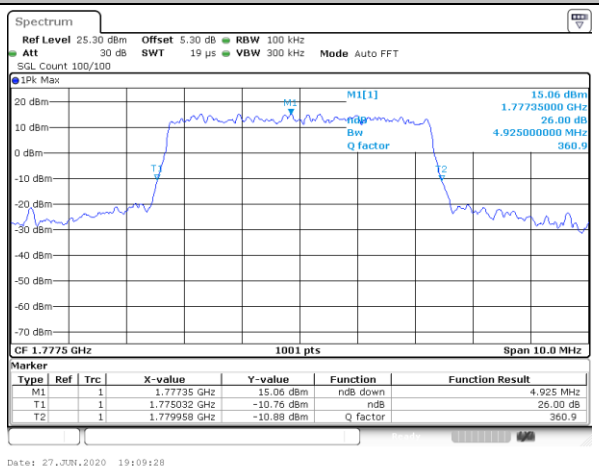
Middle Channel / 5MHz / QPSK



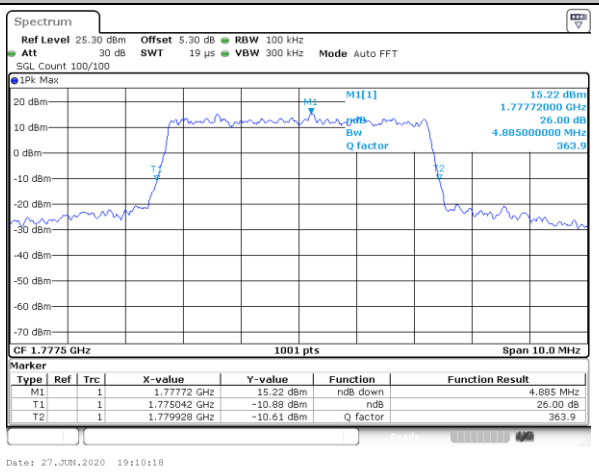
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK

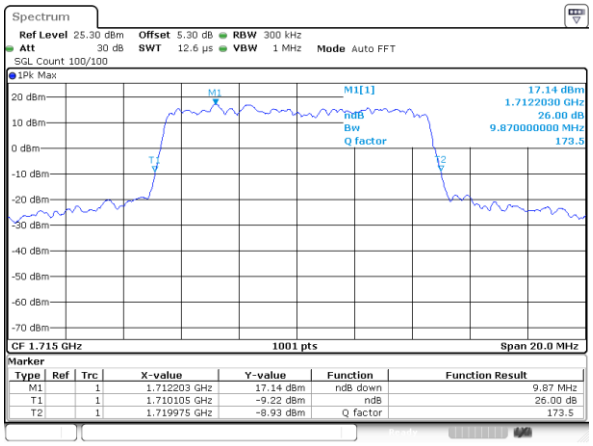


Highest Channel / 5MHz / 16QAM

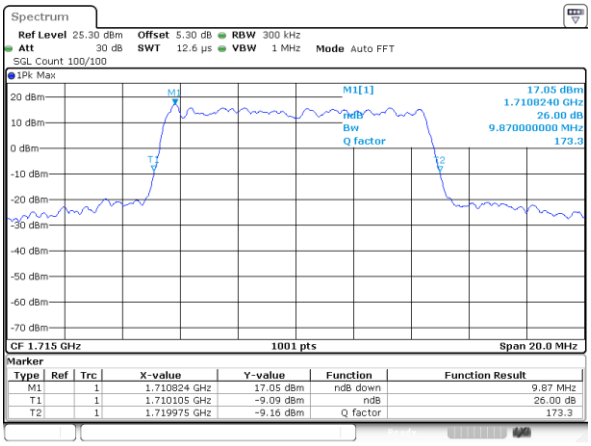


LTE Band 66

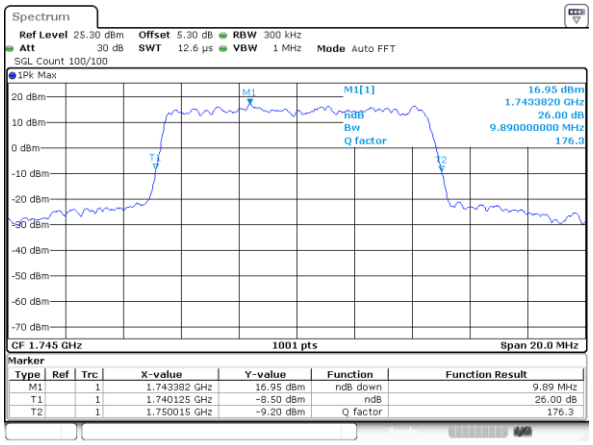
Lowest Channel / 10MHz / QPSK



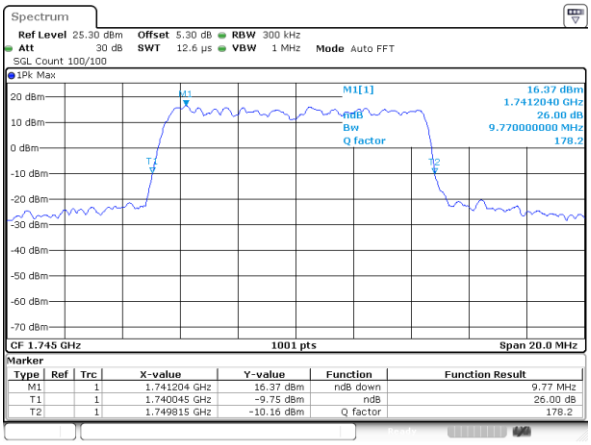
Lowest Channel / 10MHz / 16QAM



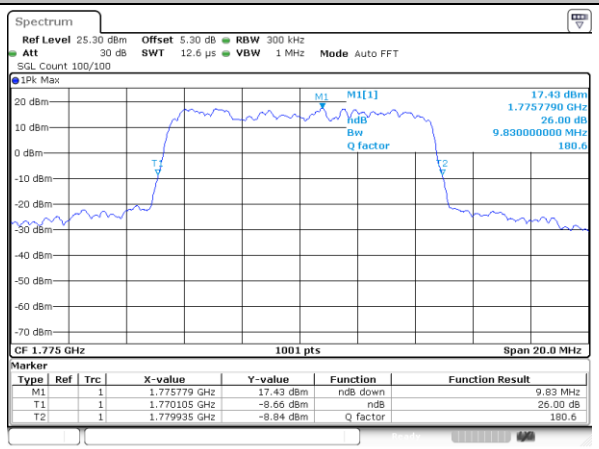
Middle Channel / 10MHz / QPSK



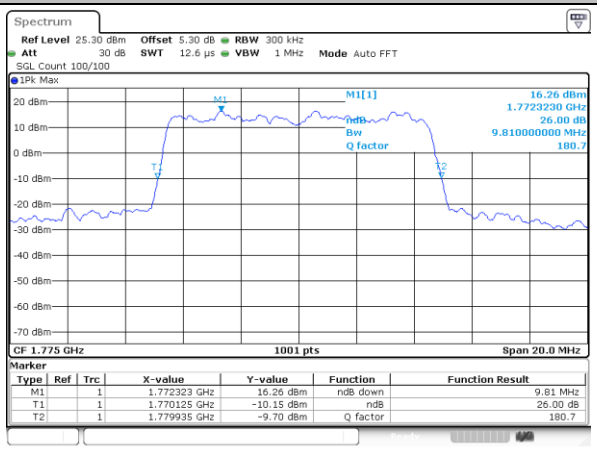
Middle Channel / 10MHz / 16QAM



Highest Channel / 10MHz / QPSK

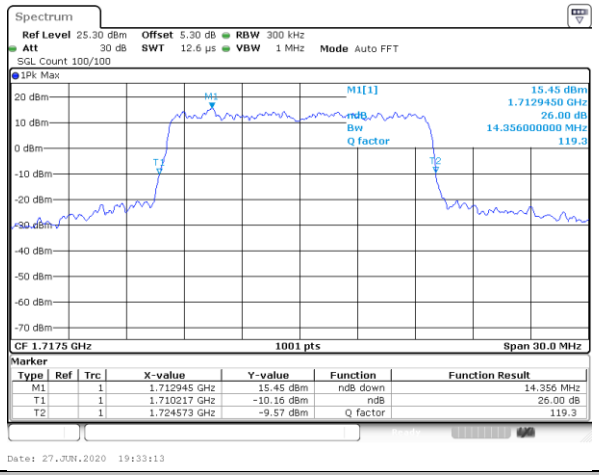


Highest Channel / 10MHz / 16QAM

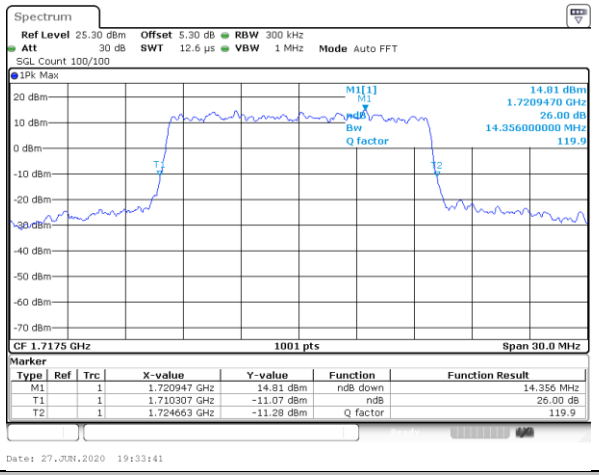


LTE Band 66

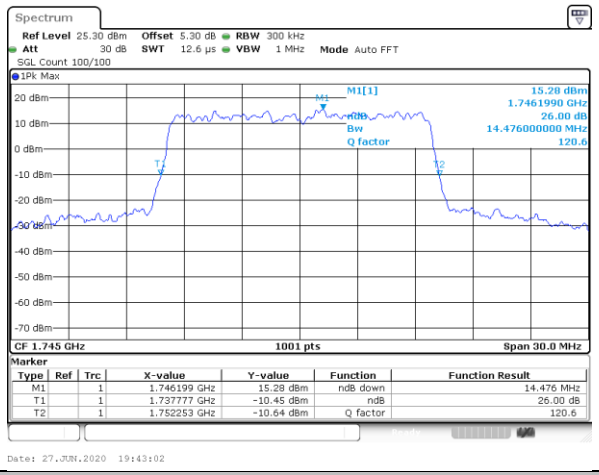
Lowest Channel / 15MHz / QPSK



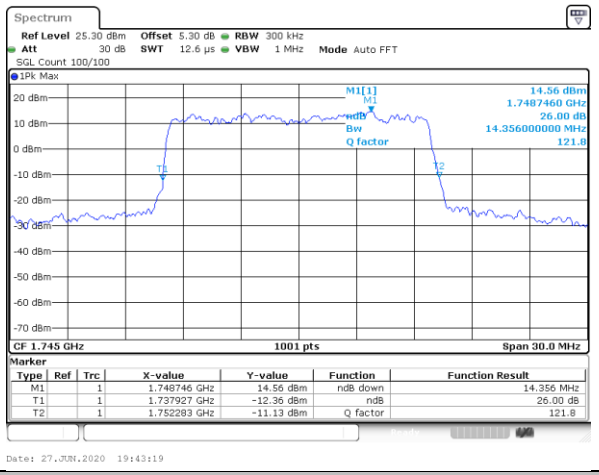
Lowest Channel / 15MHz / 16QAM



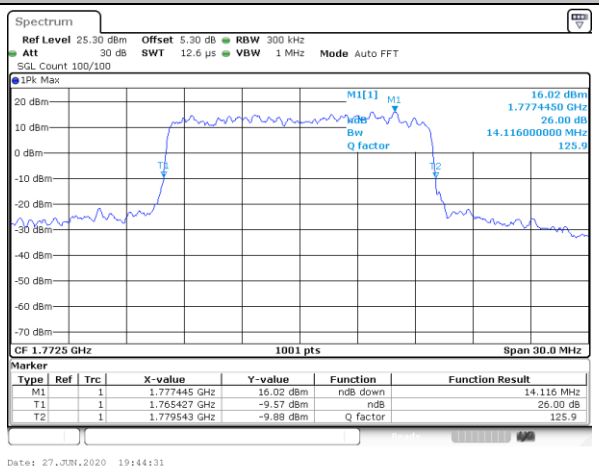
Middle Channel / 15MHz / QPSK



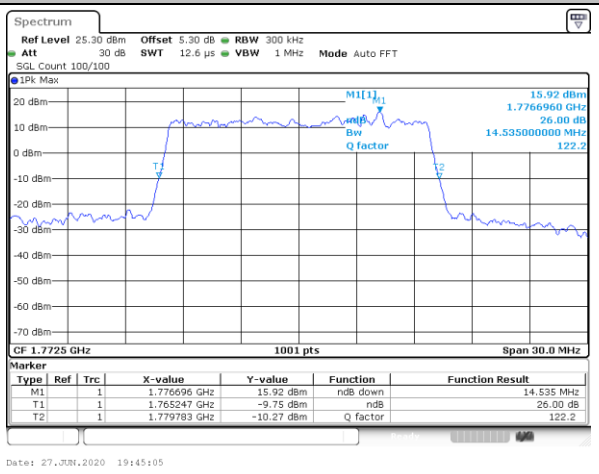
Middle Channel / 15MHz / 16QAM



Highest Channel / 15MHz / QPSK

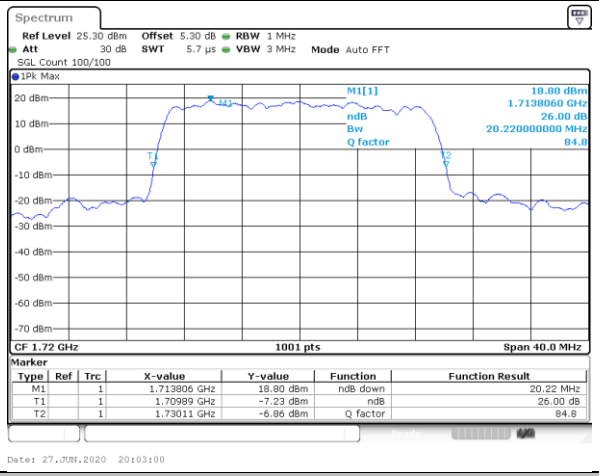


Highest Channel / 15MHz / 16QAM

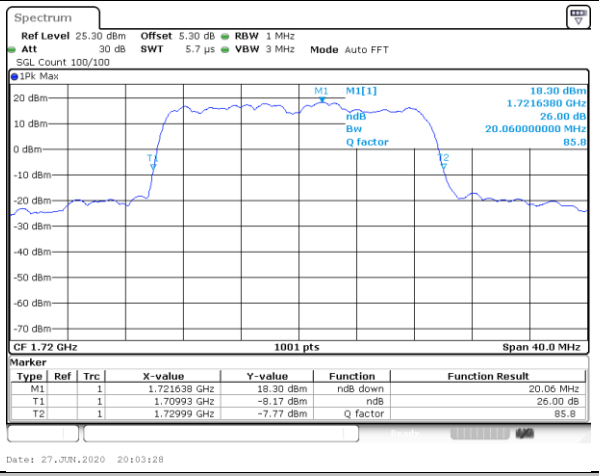


LTE Band 66

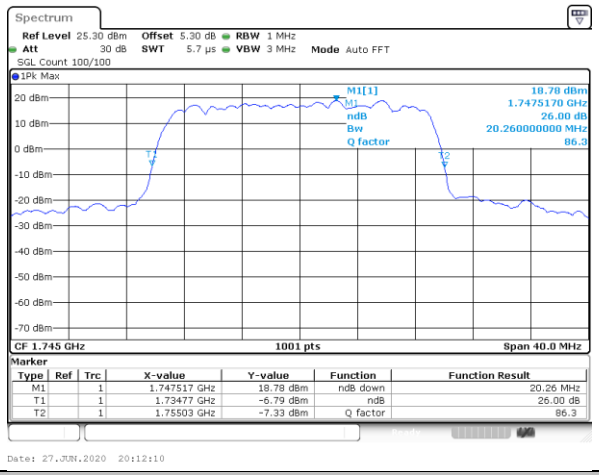
Lowest Channel / 20MHz / QPSK



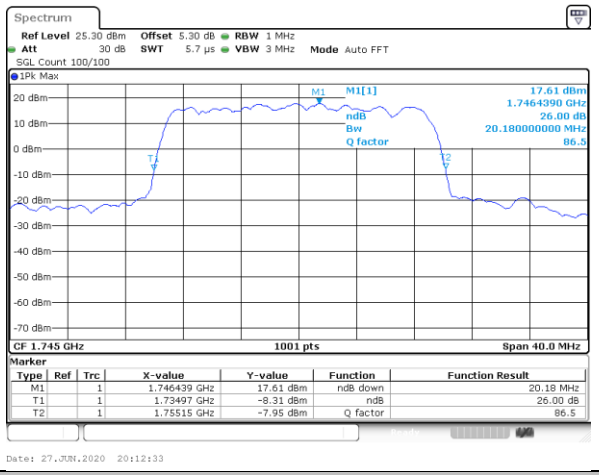
Lowest Channel / 20MHz / 16QAM



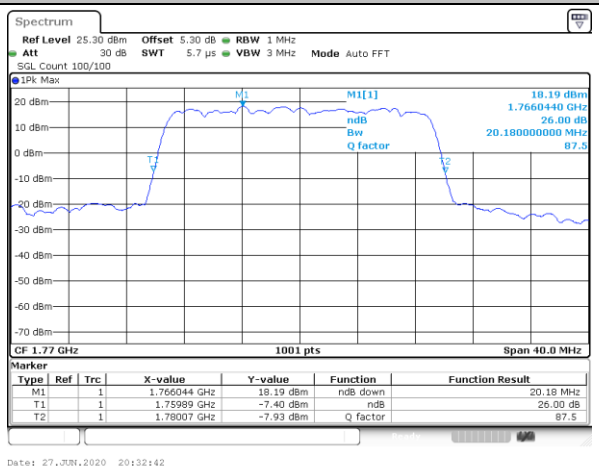
Middle Channel / 20MHz / QPSK



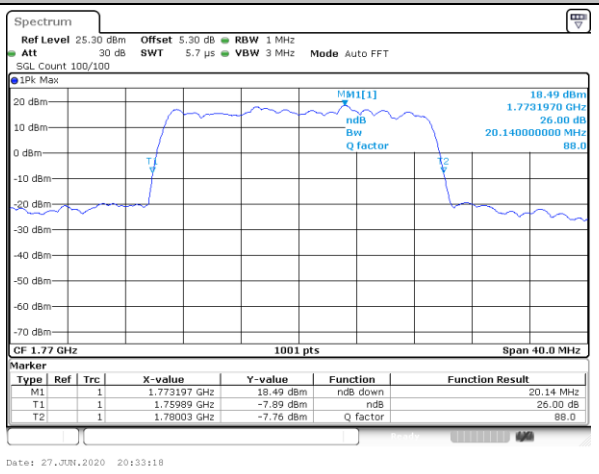
Middle Channel / 20MHz / 16QAM



Highest Channel / 20MHz / QPSK

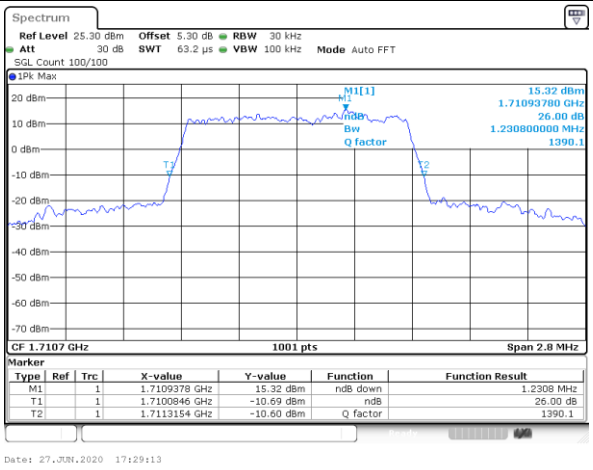


Highest Channel / 20MHz / 16QAM

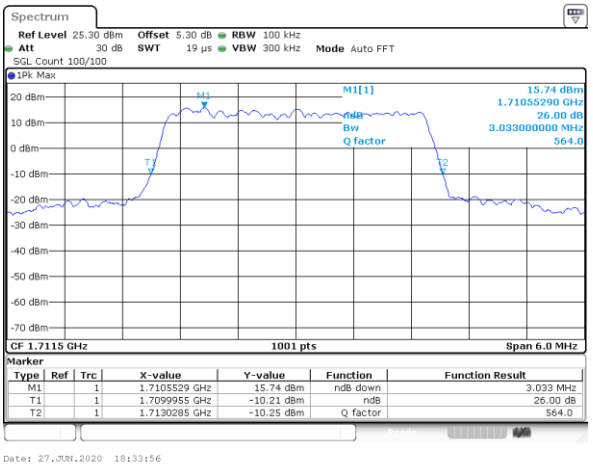


LTE Band 66

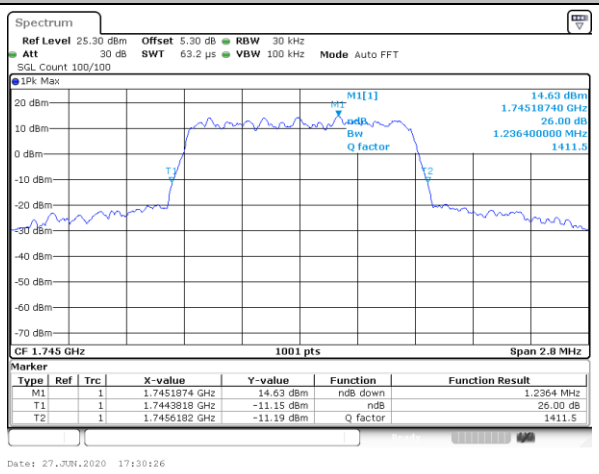
Lowest Channel / 1.4MHz / 64QAM



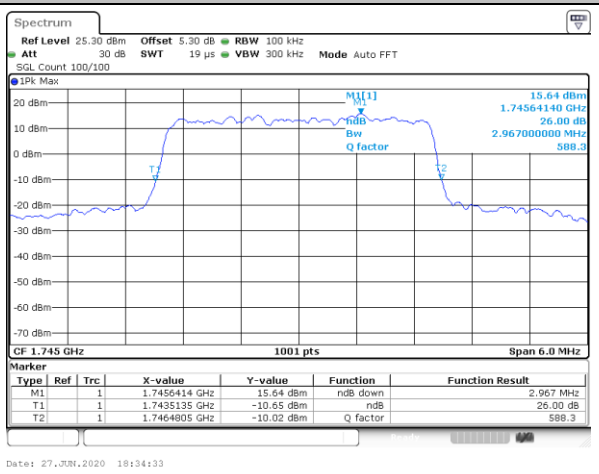
Lowest Channel / 3MHz / 64QAM



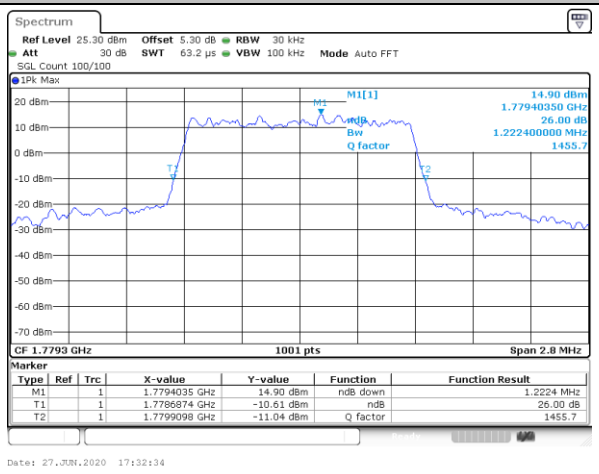
Middle Channel / 20MHz / 64QAM



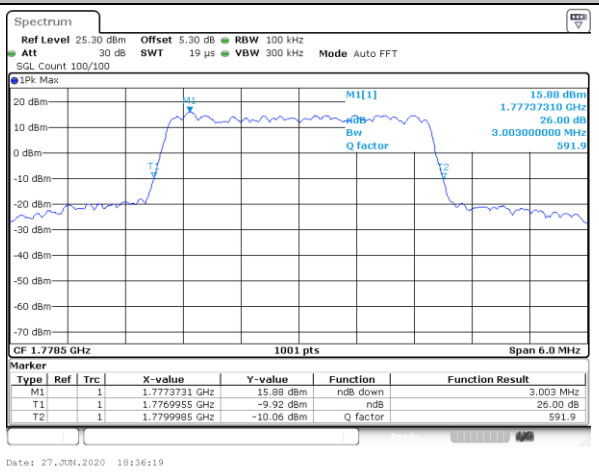
Middle Channel / 3MHz / 64QAM



Highest Channel / 20MHz / 64QAM

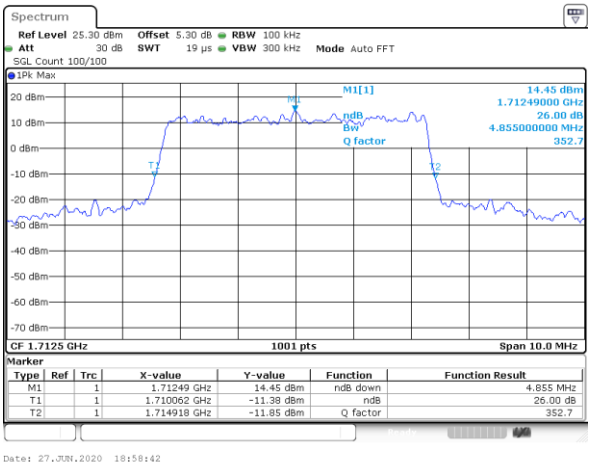


Highest Channel / 3MHz / 64QAM

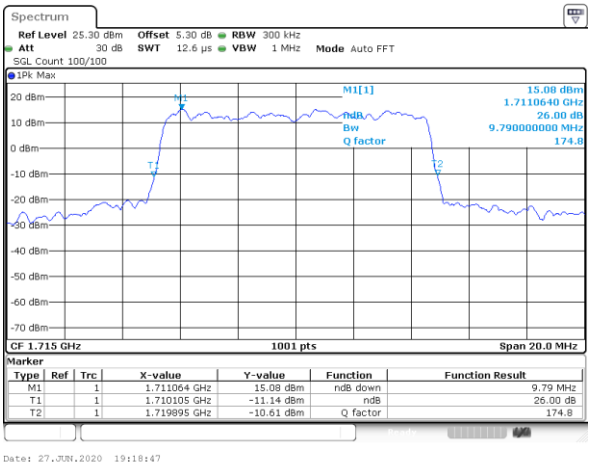


LTE Band 66

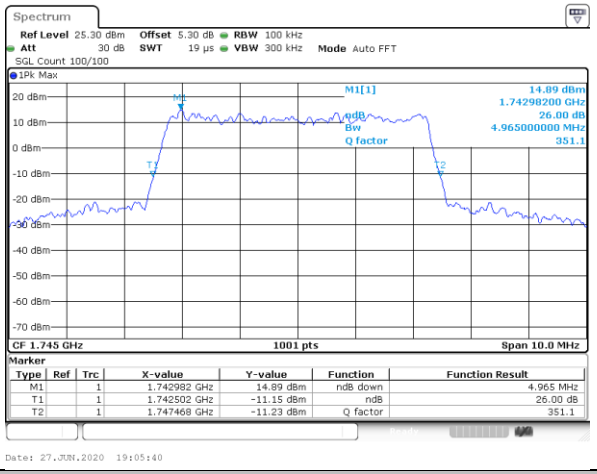
Lowest Channel / 5MHz / 64QAM



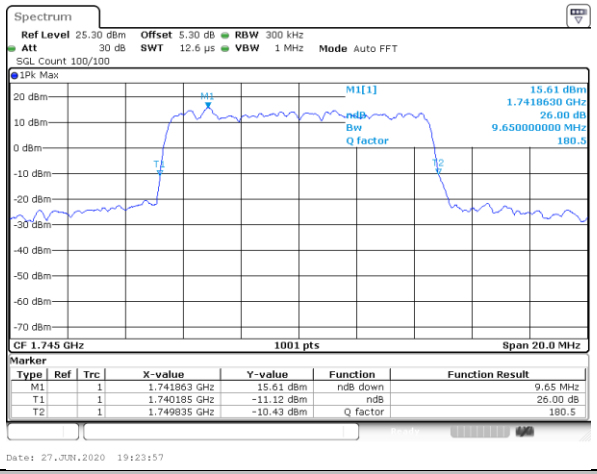
Lowest Channel / 10MHz / 64QAM



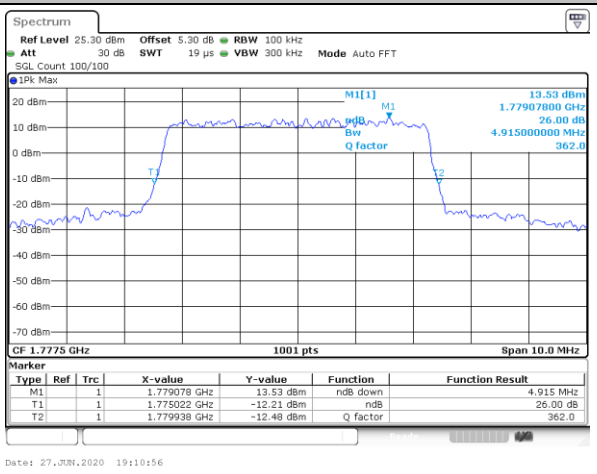
Middle Channel / 5MHz / 64QAM



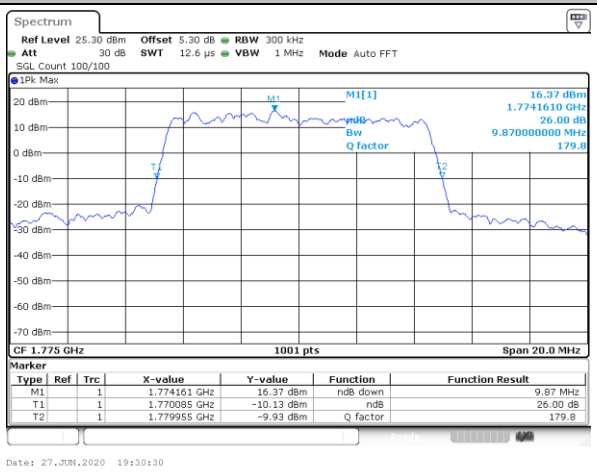
Middle Channel / 10MHz / 64QAM



Highest Channel / 5MHz / 64QAM

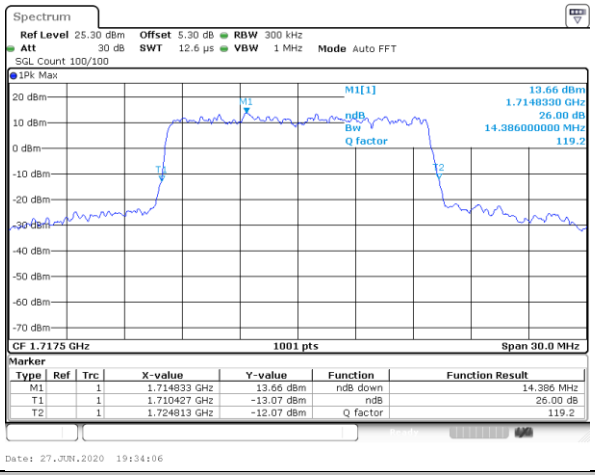


Highest Channel / 10MHz / 64QAM

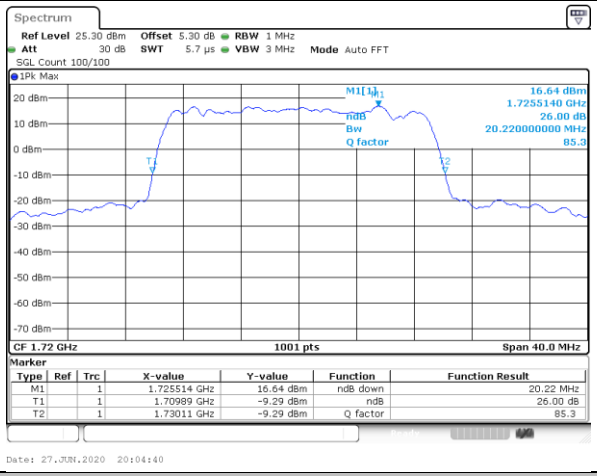


LTE Band 66

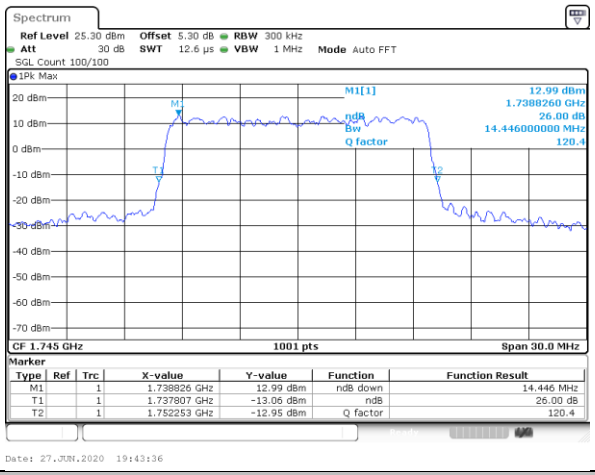
Lowest Channel / 15MHz / 64QAM



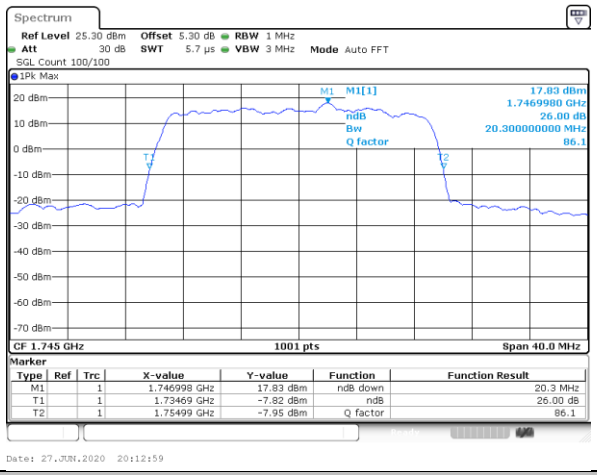
Lowest Channel / 20MHz / 64QAM



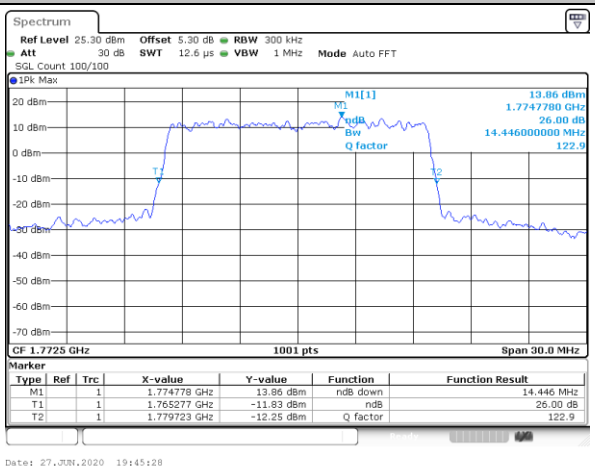
Middle Channel / 15MHz / 64QAM



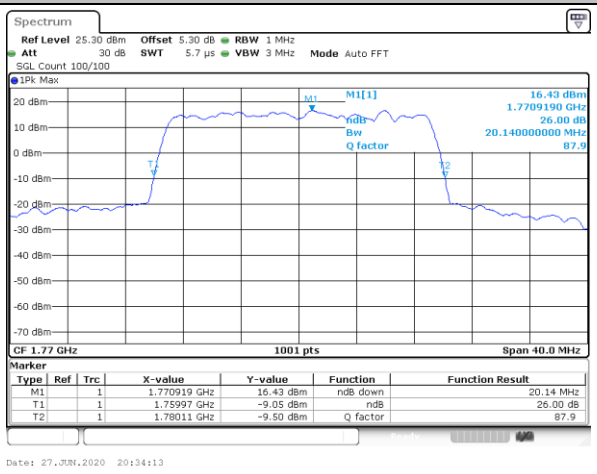
Middle Channel / 20MHz / 64QAM



Highest Channel / 15MHz / 64QAM



Highest Channel / 20MHz / 64QAM

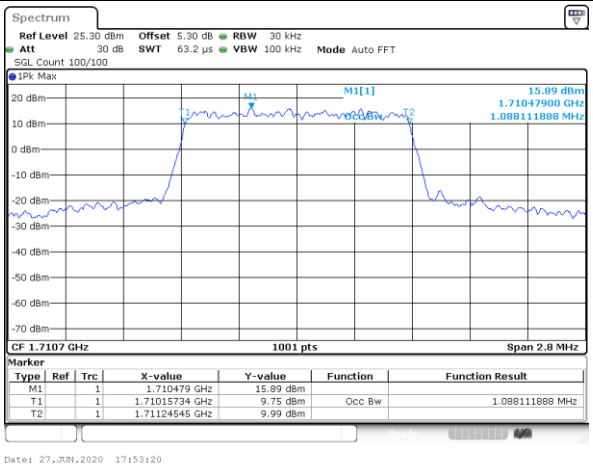


Occupied Bandwidth

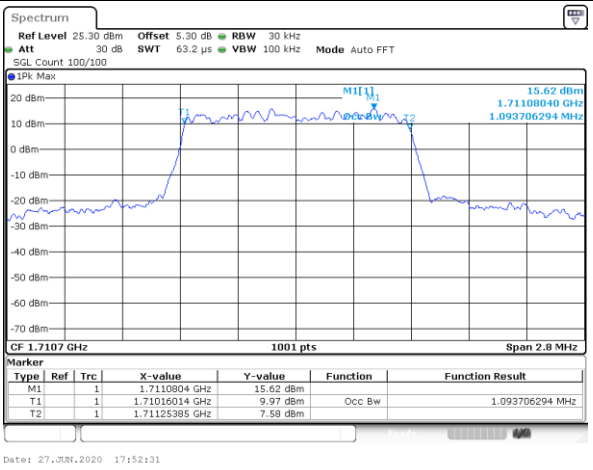
Mode	LTE Band 66 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	1.09	1.09	2.72	2.72	4.50	4.47	9.03	8.99	13.43	13.46	18.22	18.30
Middle CH	1.09	1.09	2.70	2.73	4.50	4.52	9.03	8.99	13.46	13.40	18.26	18.38
Highest CH	1.09	1.09	2.71	2.73	4.50	4.49	9.03	9.01	13.43	13.52	18.46	18.38
Mode	LTE Band 66 : 99%OBW(MHz)											
BW	1.4MHz		3MHz		5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM		64QAM		64QAM		64QAM		64QAM		64QAM	
Lowest CH	1.09	-	2.73	-	4.49	-	9.01	-	13.43	-	18.38	-
Middle CH	1.09	-	2.72	-	4.50	-	9.03	-	13.43	-	18.22	-
Highest CH	1.09	-	2.72	-	4.49	-	9.01	-	13.43	-	18.42	-

LTE Band 66

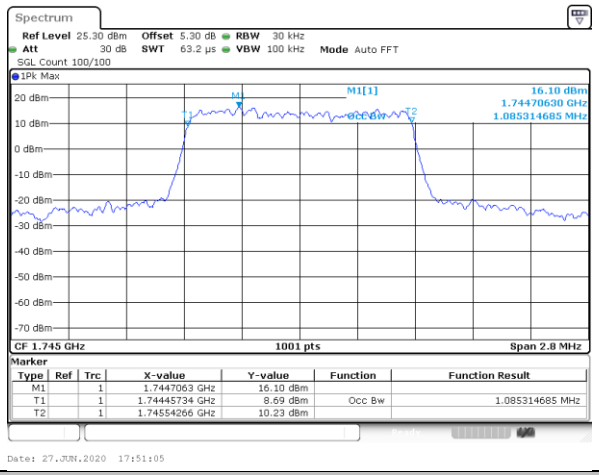
Lowest Channel / 1.4MHz / QPSK



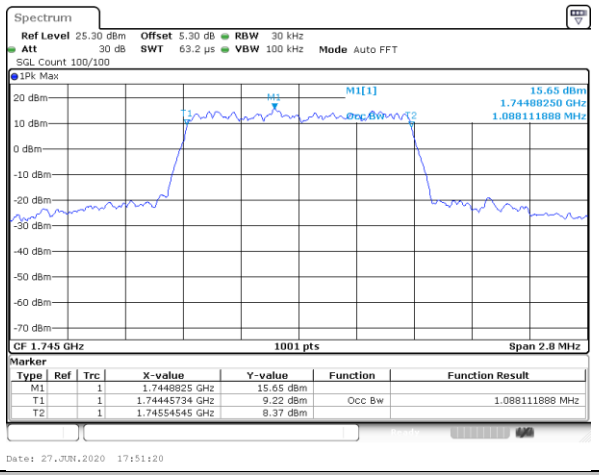
Lowest Channel / 1.4MHz / 16QAM



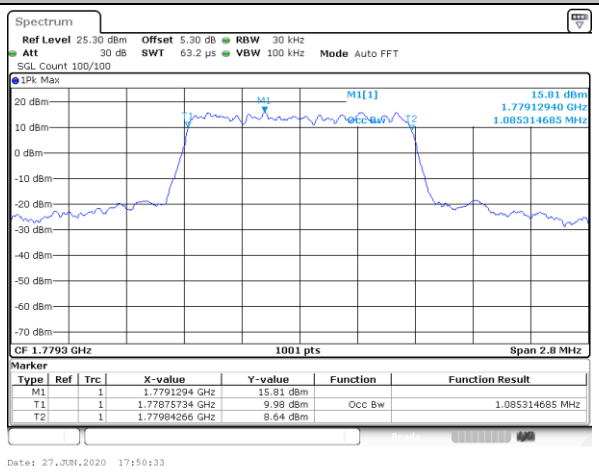
Middle Channel / 1.4MHz / QPSK



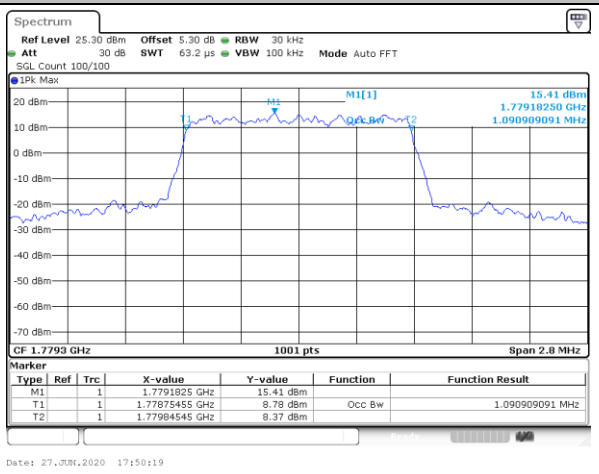
Middle Channel / 1.4MHz / 16QAM



Highest Channel / 1.4MHz / QPSK

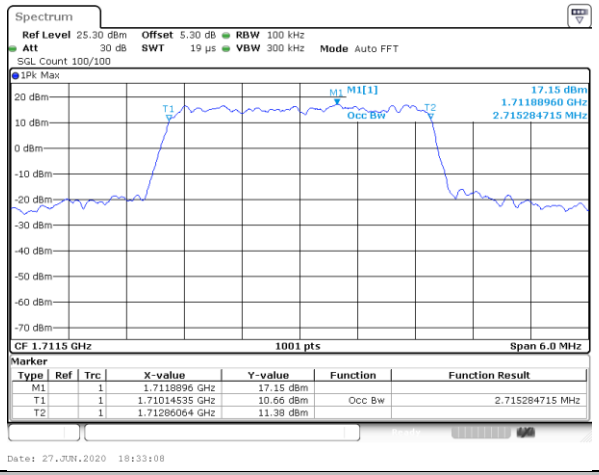


Highest Channel / 1.4MHz / 16QAM

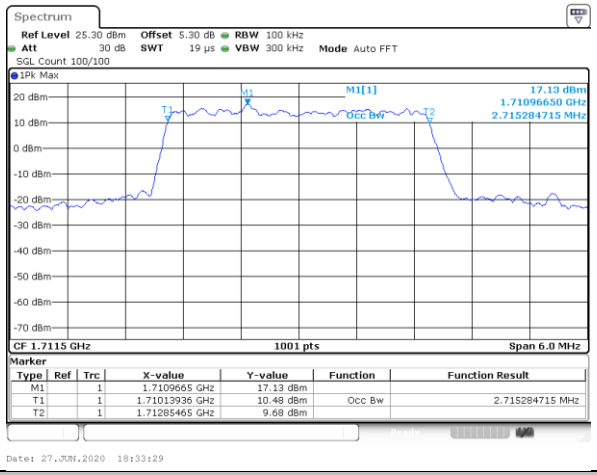


LTE Band 66

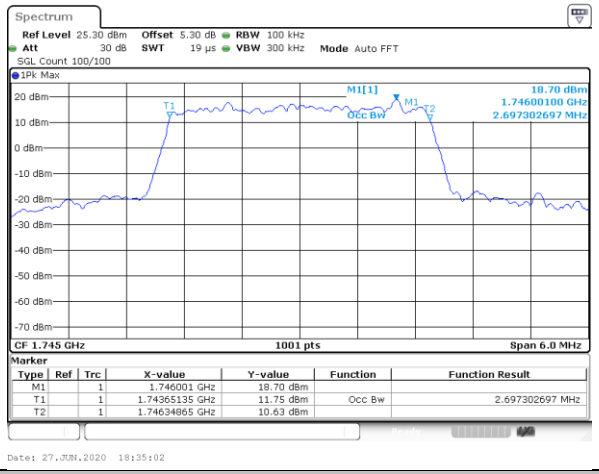
Lowest Channel / 3MHz / QPSK



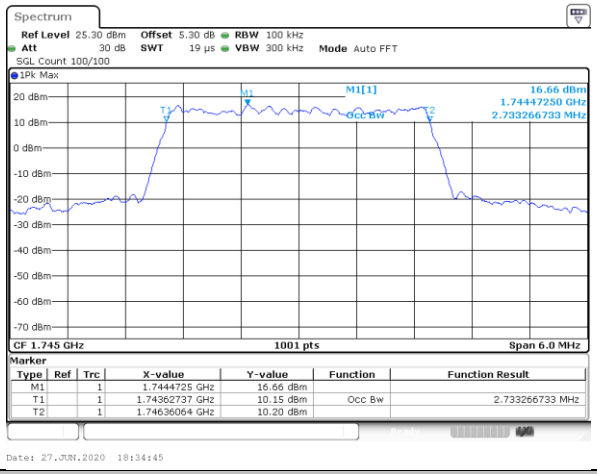
Lowest Channel / 3MHz / 16QAM



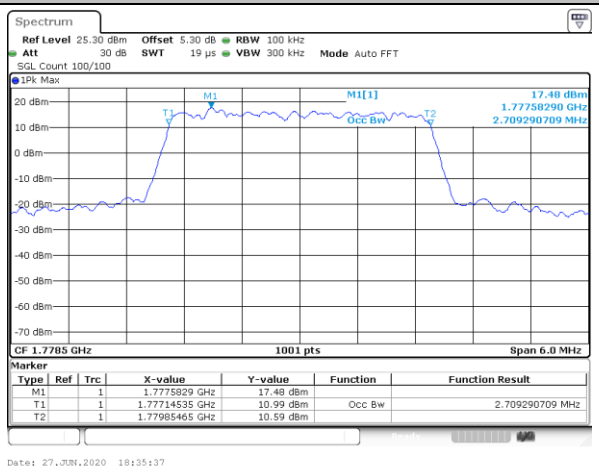
Middle Channel / 3MHz / QPSK



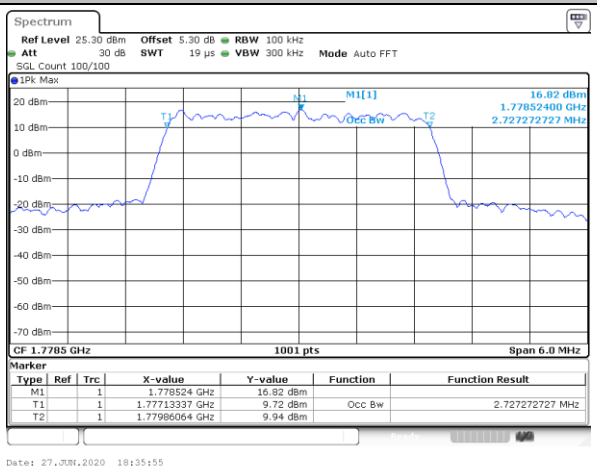
Middle Channel / 3MHz / 16QAM



Highest Channel / 3MHz / QPSK

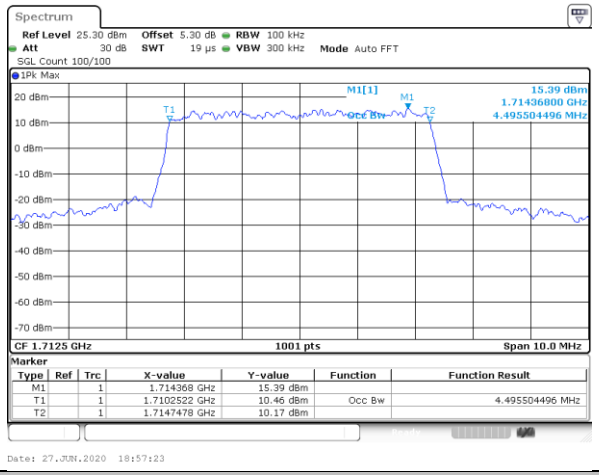


Highest Channel / 3MHz / 16QAM

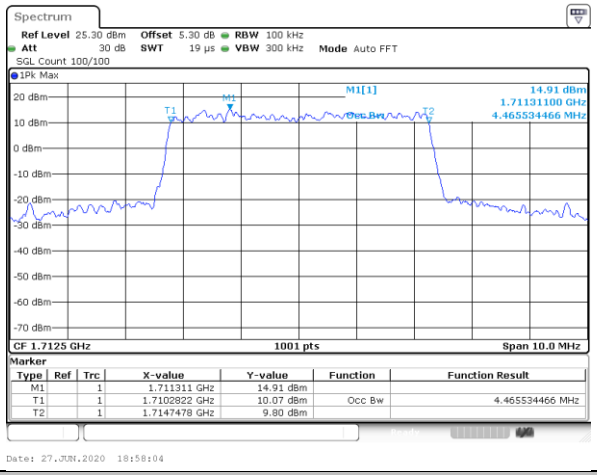


LTE Band 66

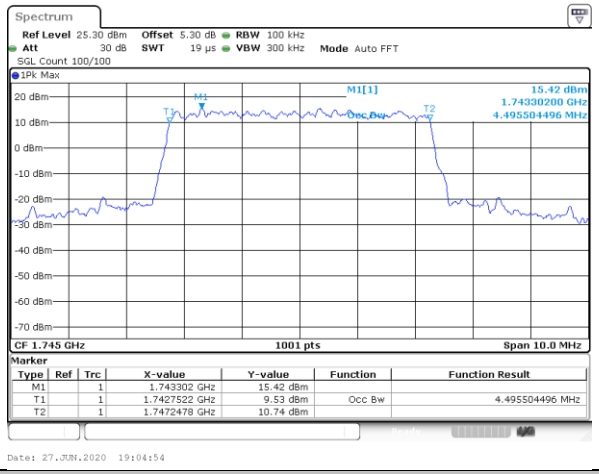
Lowest Channel / 5MHz / QPSK



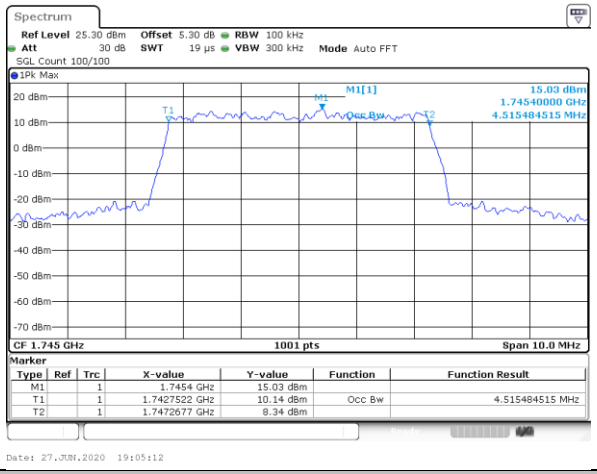
Lowest Channel / 5MHz / 16QAM



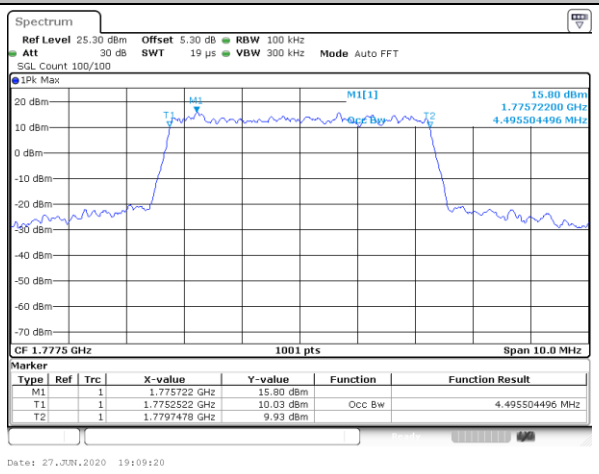
Middle Channel / 5MHz / QPSK



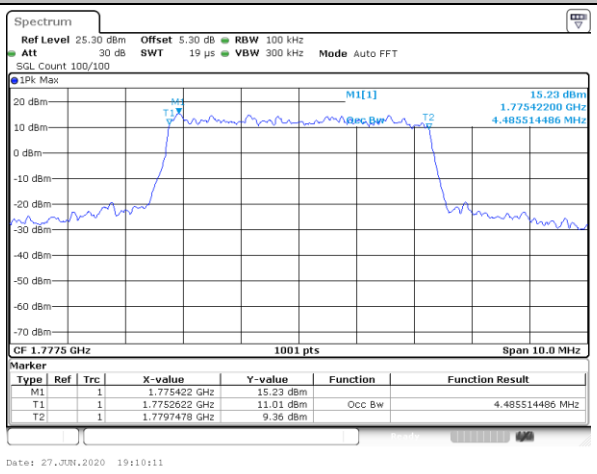
Middle Channel / 5MHz / 16QAM



Highest Channel / 5MHz / QPSK

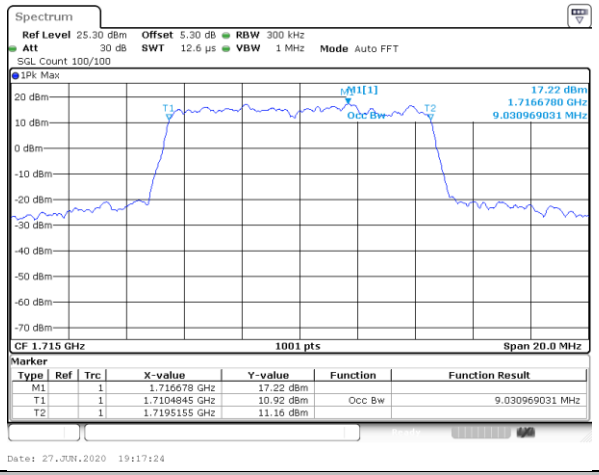


Highest Channel / 5MHz / 16QAM

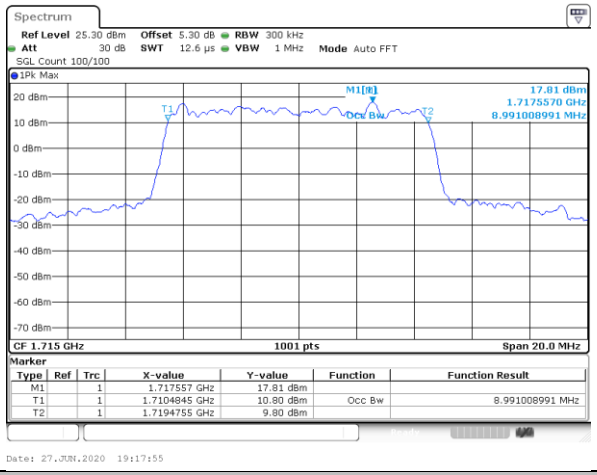


LTE Band 66

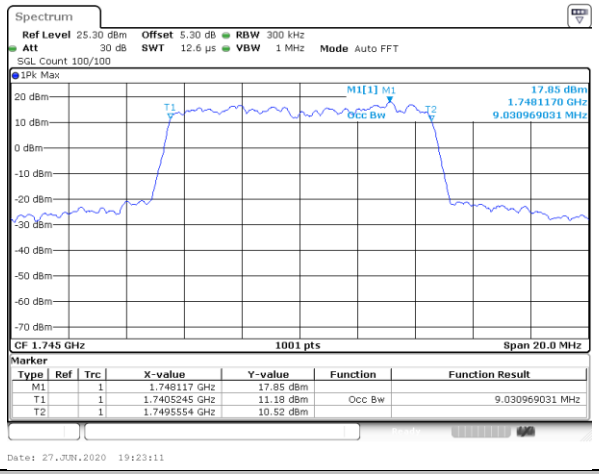
Lowest Channel / 10MHz / QPSK



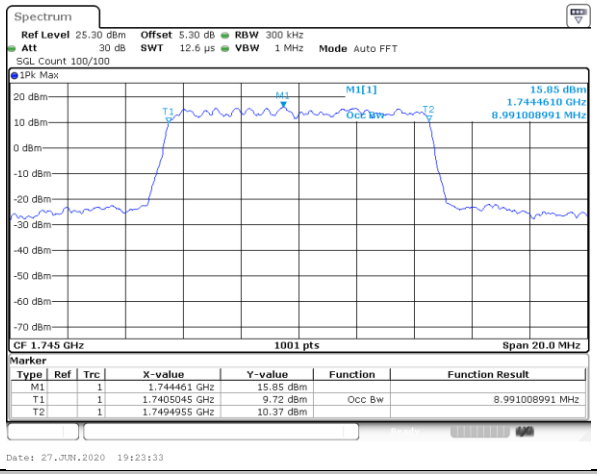
Lowest Channel / 10MHz / 16QAM



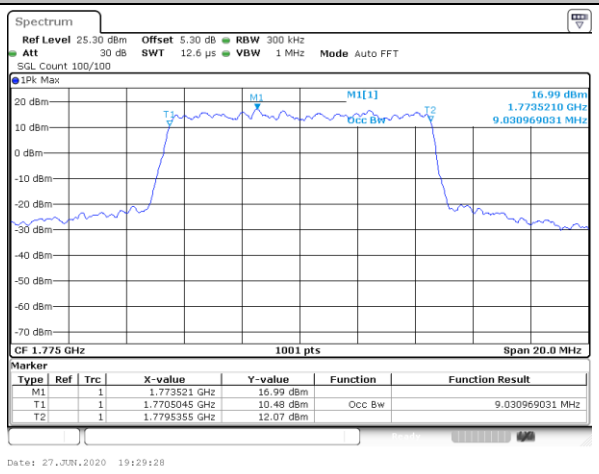
Middle Channel / 10MHz / QPSK



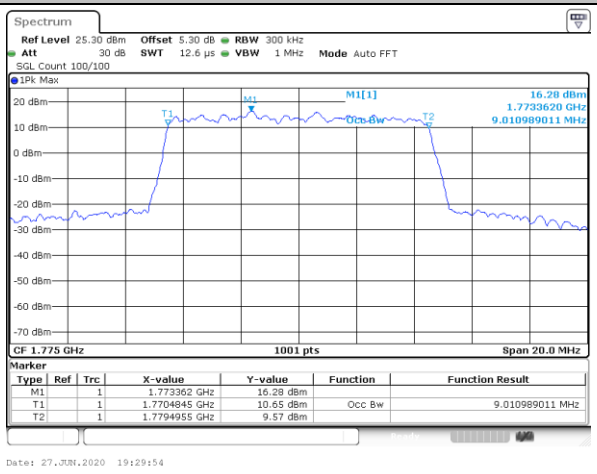
Middle Channel / 10MHz / 16QAM



Highest Channel / 10MHz / QPSK

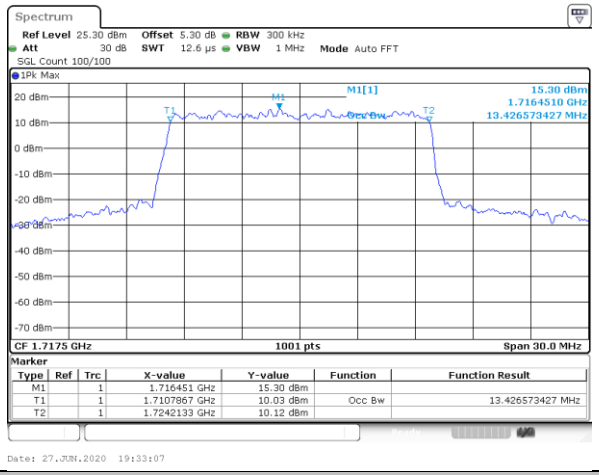


Highest Channel / 10MHz / 16QAM

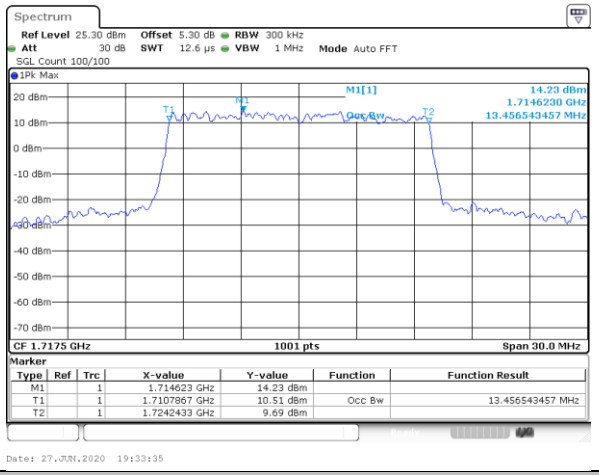


LTE Band 66

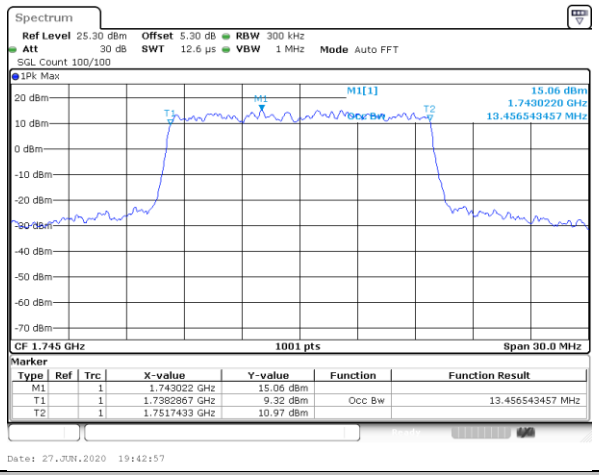
Lowest Channel / 15MHz / QPSK



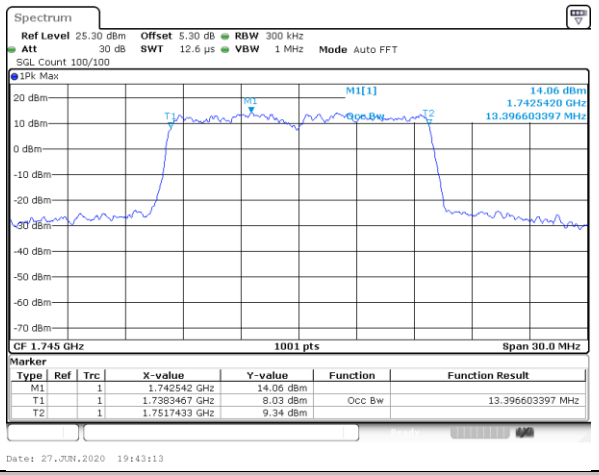
Lowest Channel / 15MHz / 16QAM



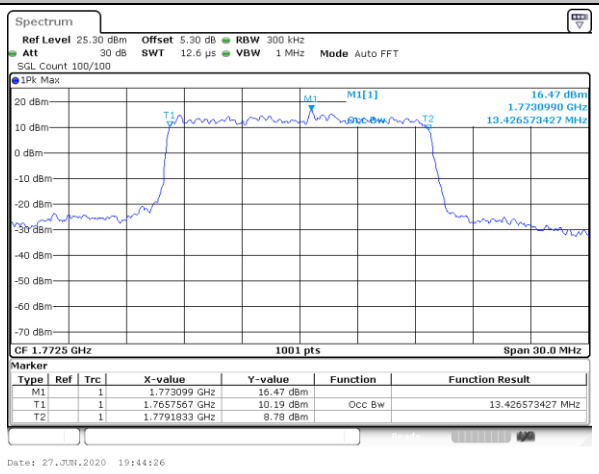
Middle Channel / 15MHz / QPSK



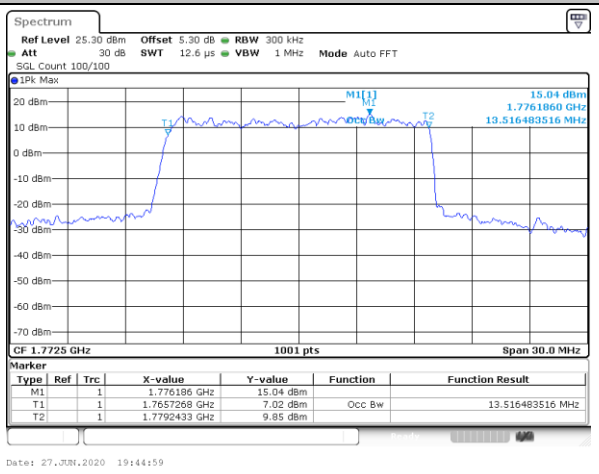
Middle Channel / 15MHz / 16QAM



Highest Channel / 15MHz / QPSK

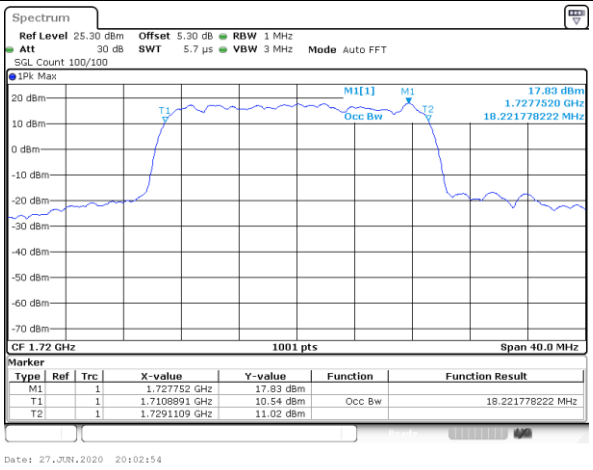


Highest Channel / 15MHz / 16QAM

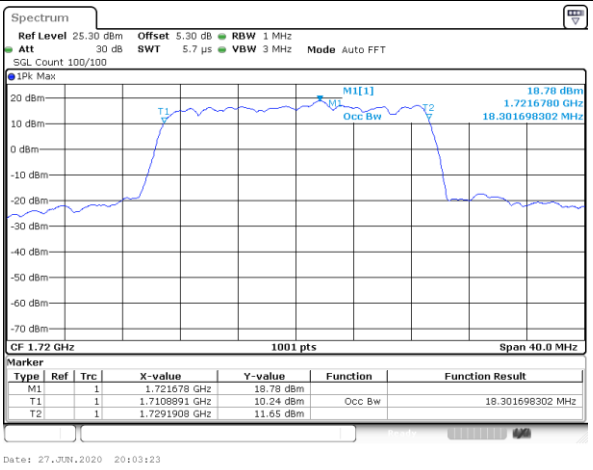


LTE Band 66

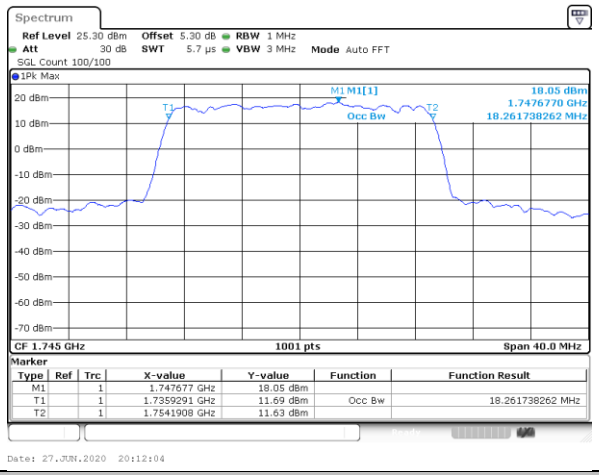
Lowest Channel / 20MHz / QPSK



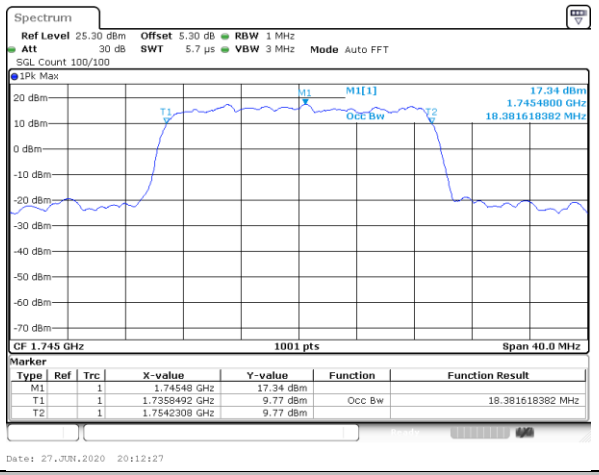
Lowest Channel / 20MHz / 16QAM



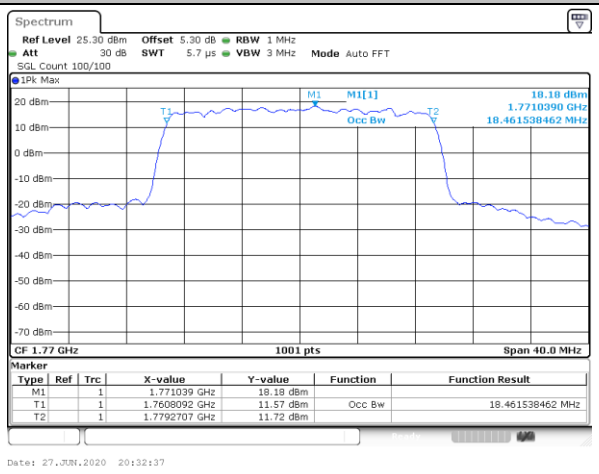
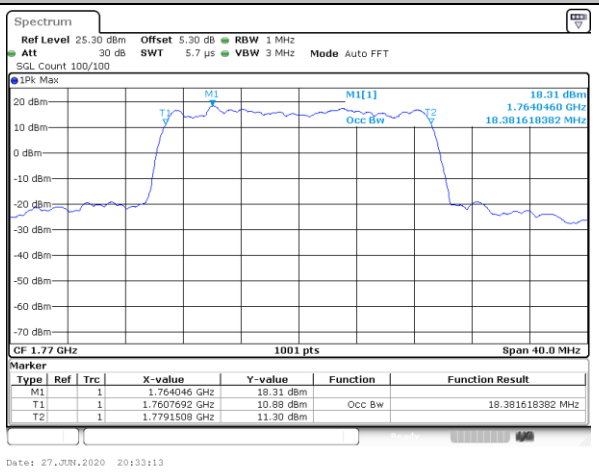
Middle Channel / 20MHz / QPSK



Middle Channel / 20MHz / 16QAM



Highest Channel / 20MHz / QPSK



Highest Channel / 20MHz / 16QAM