



Spectrum **Spectrum 2** **3.0**

Ref Level 0.00 dBm **Offset** 4.60 dB **Mode** Auto Sweep
SGL Count 100/100

01 AvgPwr

Limit **check** **PASS**

Line **SPURIOUS** **LINE_ABS** **PASS**

SPURIOUS_LINE_ABS

Start 30.0 MHz **19005 pts** **Stop** 9.0 GHz

Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ALimit
30.000 MHz	815.000 MHz	100.000 kHz	794.01174 MHz	-64.67 dBm	-51.67 dB
860.000 MHz	1.000 GHz	100.000 kHz	896.64336 MHz	-57.40 dBm	-44.40 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.64959 GHz	-49.21 dBm	-36.21 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.93876 GHz	-49.28 dBm	-36.28 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.34141 GHz	-52.68 dBm	-39.68 dB

Spectrum **Spectrum 2** **3** **VIEW**

Ref Level 0.00 dBm **Offset** 4.60 dB **Mode** Auto Sweep

SQL Count 100/100

1 **300MHz**

Limit Check **LINE** **PASS**

SPURIOUS_LINE_ABS **PASS**

SPURIOUS_LINE_ABS

Start 30.0 MHz **1000S pts** **Stop 9.0 GHz**

Spectrum Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	AltLimit
30.000 MHz	815.000 kHz	100.000 kHz	808.91929 MHz	-64.73 dBm	-51.73 dB
860.000 MHz	1.000 GHz	100.000 kHz	873.07692 MHz	-57.39 dBm	-44.39 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.65459 GHz	-49.14 dBm	-36.14 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.88226 GHz	-49.37 dBm	-36.37 dB
7.000 GHz	9.000 GHz	1.000 MHz	8.93477 GHz	-52.75 dBm	-39.75 dB

Spectrum

Spectrum 2

Offset 4.60 dB Mode Auto Sweep

Ref Level 0.00 dBm
SGL Count 100/100

1 AvgWv

Limit Check

SPURIOUS LINE_ABS

PASS PASS

SPURIOUS_LINE_ABS

Start 30.0 MHz

19005 pts

Stop 9.0 GHz

Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	AltLimit
30.000 MHz	815.000 GHz	100.000 kHz	804.60395 MHz	-64.69 dBm	-51.69 dB
860.000 GHz	1.000 GHz	100.000 kHz	884.82517 MHz	-57.64 dBm	-44.64 dB
1.000 GHz	3.000 GHz	1.000 MHz	1.555909 GHz	-50.02 dBm	-37.02 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.99275 GHz	-49.11 dBm	-36.11 dB
7.000 GHz	9.000 GHz	1.000 MHz	7.04424 GHz	-52.79 dBm	-39.79 dB

Frequency Stability

Test Conditions		n5 (BPSK) / Middle Channel	Limit
Temperature (°C)	Voltage (Volt)	20MHz	Note 2.
		Deviation (ppm)	Result
50	Normal Voltage	0.0018	PASS
40	Normal Voltage	0.0013	
30	Normal Voltage	0.0018	
20(Ref.)	Normal Voltage	0.0013	
10	Normal Voltage	0.0015	
0	Normal Voltage	0.0025	
-10	Normal Voltage	0.0005	
-20	Normal Voltage	0.0007	
-30	Normal Voltage	0.0006	
20	Maximum Voltage	0.0021	
20	Normal Voltage	0.0015	
20	Battery End Point	0.0006	

Note:

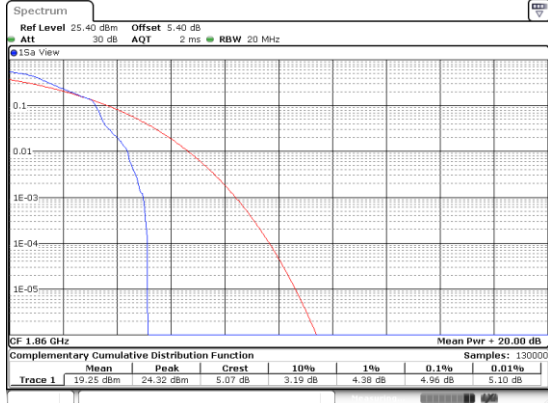
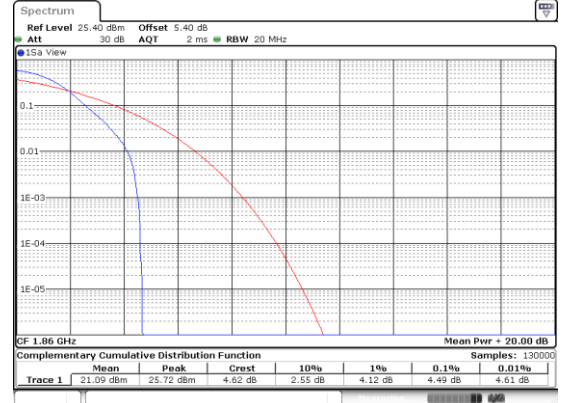
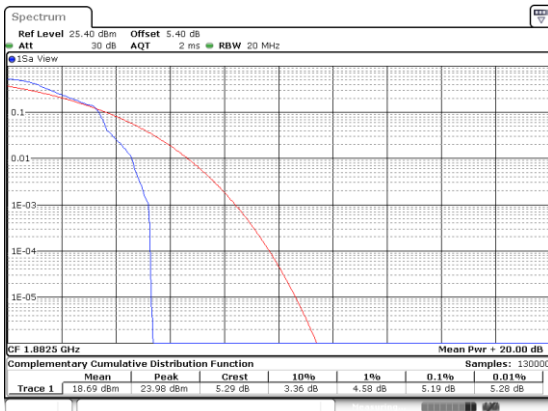
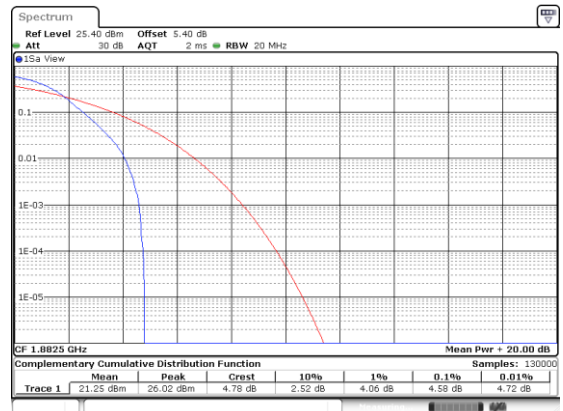
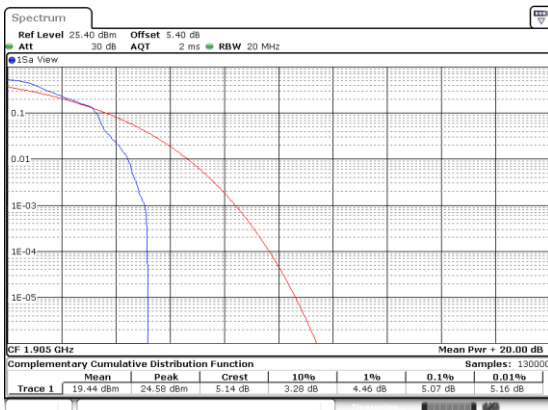
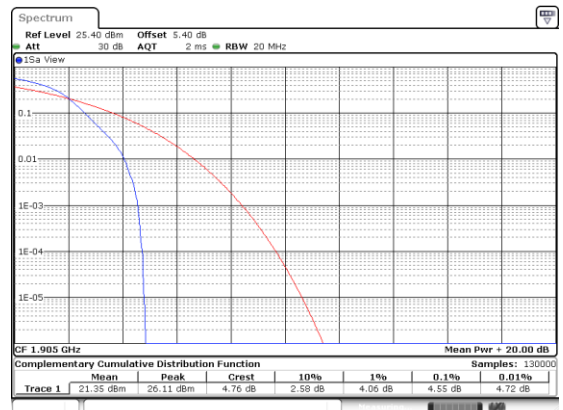
1. Normal Voltage =3.8 V. ; Battery End Point (BEP) =3.4 V. ; Maximum Voltage =4.45 V.
2. The frequency fundamental emissions stay within the authorized frequency block.



5G NR n25

Peak-to-Average Ratio

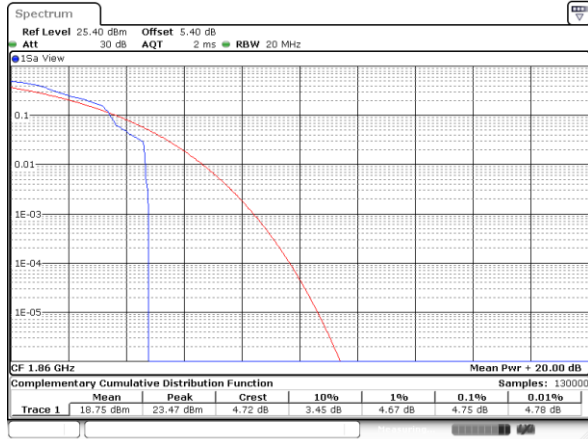
Mode	N25 / 20MHz				
Mod.	QPSK		16QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	4.75	5.22	5.91	6.41	PASS
Middle CH	4.72	5.36	5.86	6.43	
Highest CH	4.75	5.42	6.09	6.52	
Mode	N25 / 20MHz				
Mod.	64QAM		256QAM		Limit: 13dB
RB Size	1RB	Full RB	1RB	Full RB	Result
Lowest CH	6.61	6.90	7.54	7.42	PASS
Middle CH	6.61	6.87	7.42	7.36	
Highest CH	6.61	6.81	7.57	7.39	
Mode	N25 / 20MHz				
Mod.	BPSK				Limit: 13dB
RB Size	1RB	Full RB			Result
Lowest CH	4.96	4.49			PASS
Middle CH	5.19	5.58			
Highest CH	5.07	4.55			

N25 20MHz / BPSK
Lowest Channel / 1RB0

Lowest Channel / 100RB0

Middle Channel / 1RB0

Middle Channel / 100RB0

Highest Channel / 1RB0

Highest Channel / 100RB0


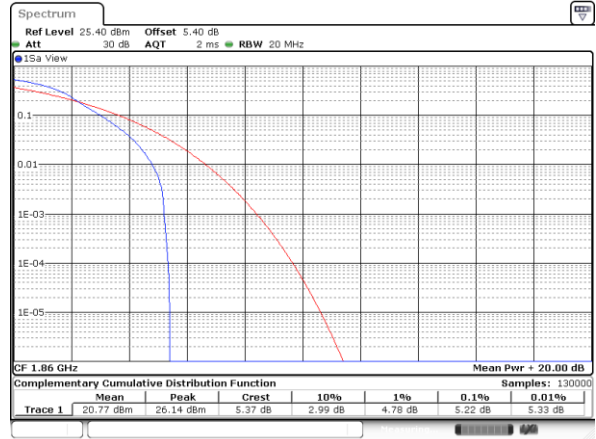


N25 20MHz / QPSK

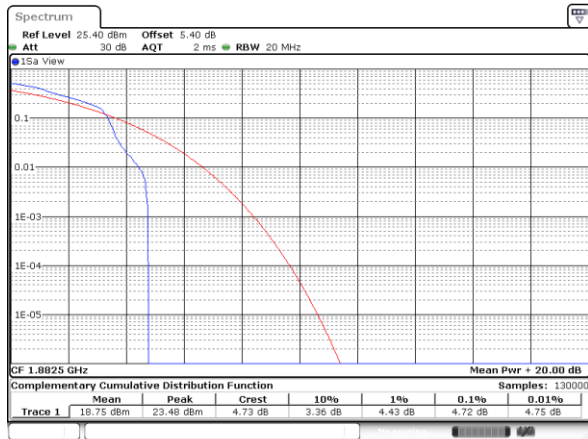
Lowest Channel / 1RB0



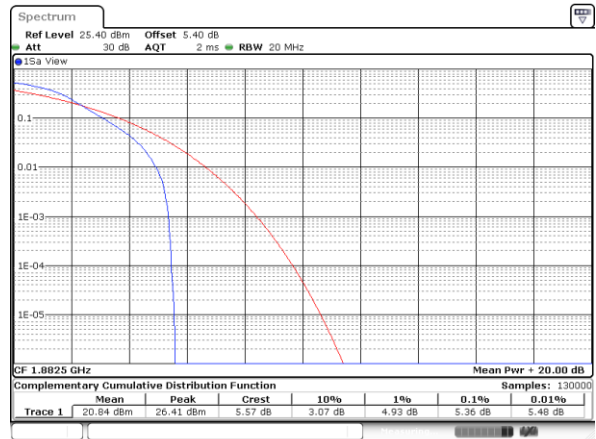
Lowest Channel / 100RB0



Middle Channel / 1RB0



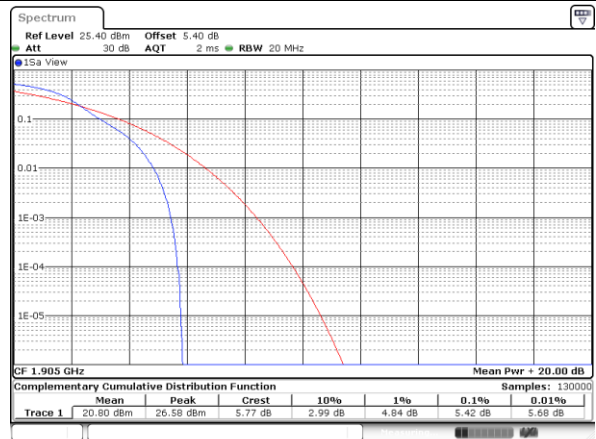
Middle Channel / 100RB0



Highest Channel / 1RB0



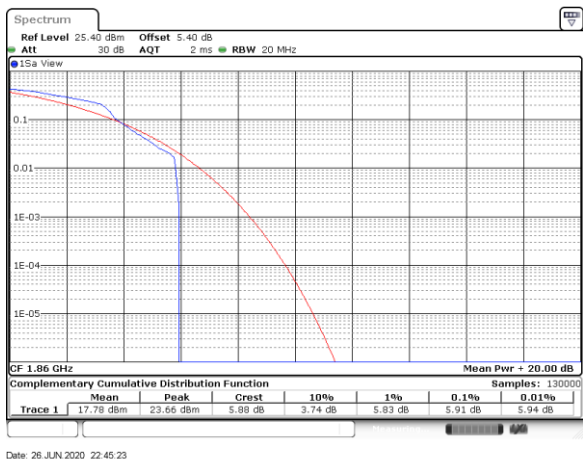
Highest Channel / 100RB0



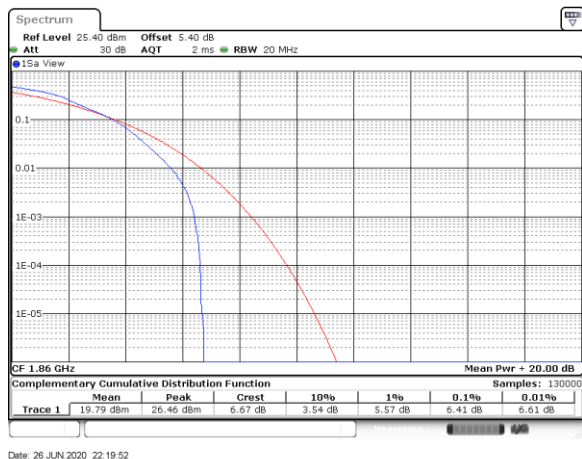


N25 20MHz / 16QAM

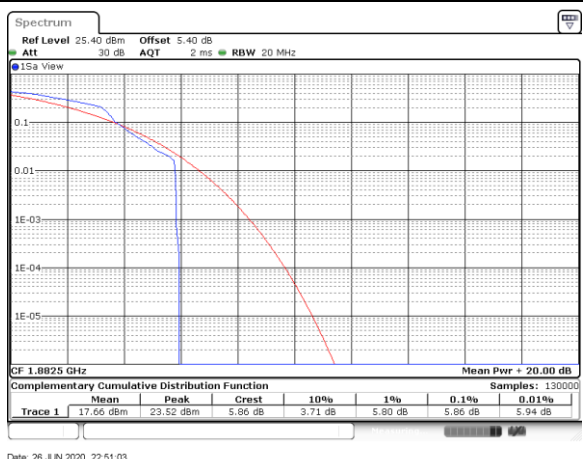
Lowest Channel / 1RB0



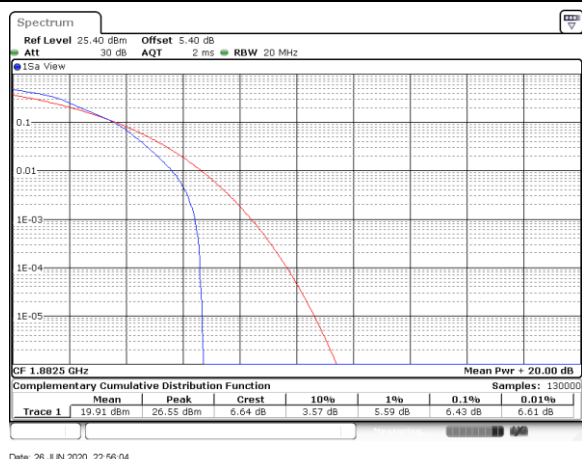
Lowest Channel / 100RB0



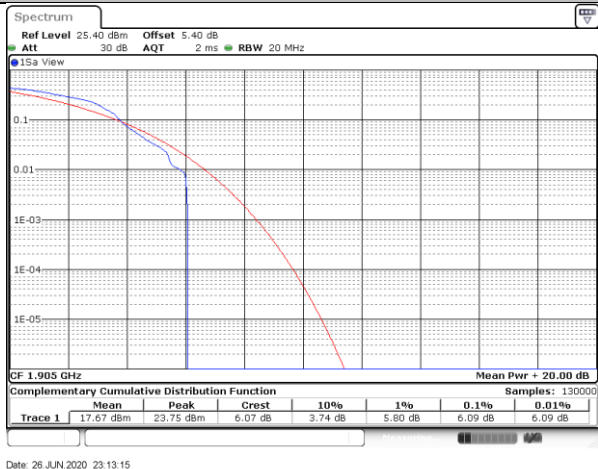
Middle Channel / 1RB0



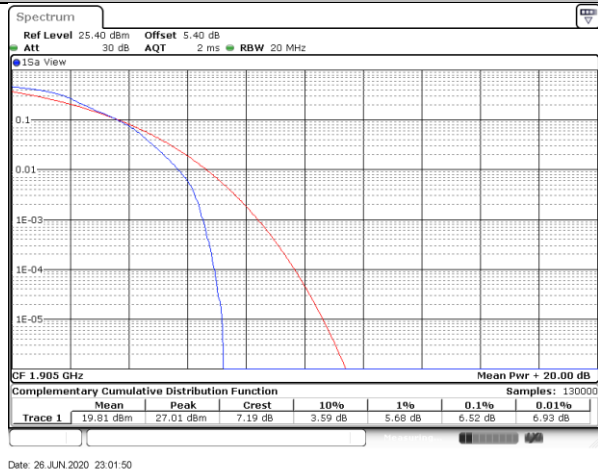
Middle Channel / 100RB0



Highest Channel / 1RB0



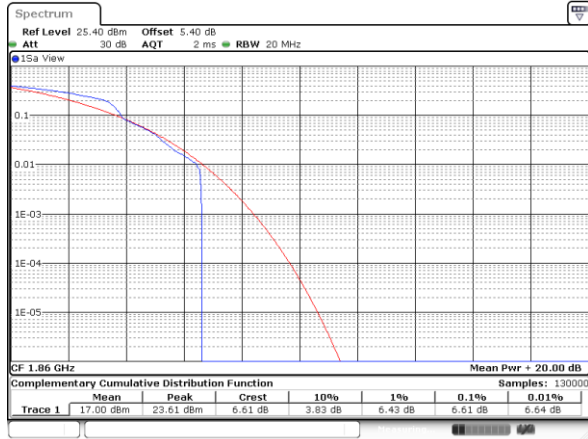
Highest Channel / 100RB0



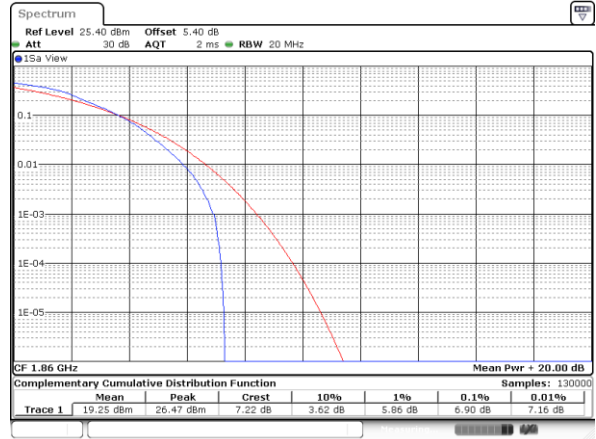


N25 20MHz / 64QAM

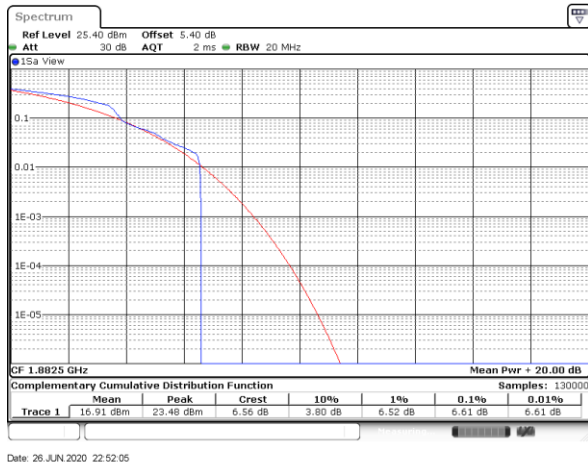
Lowest Channel / 1RB0



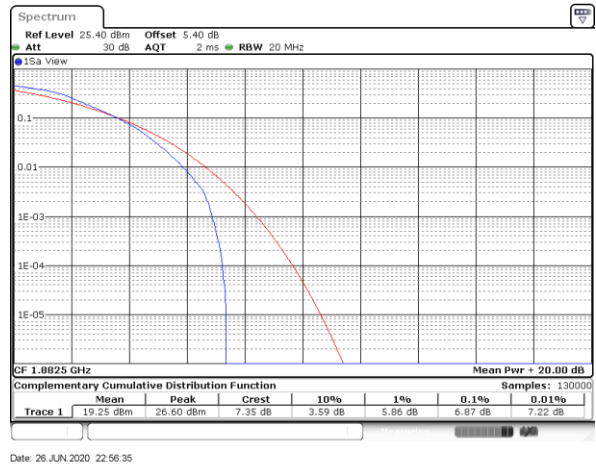
Lowest Channel / 100RB0



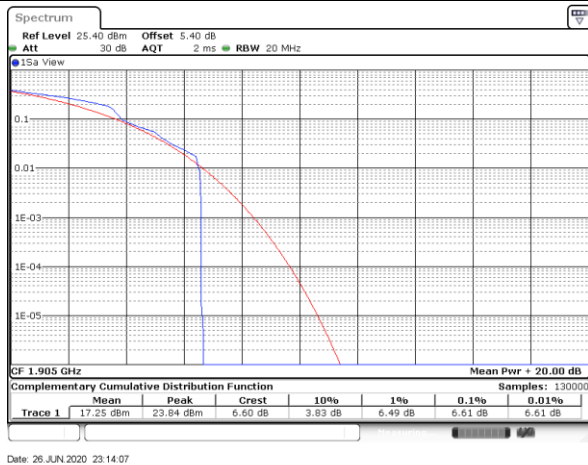
Middle Channel / 1RB0



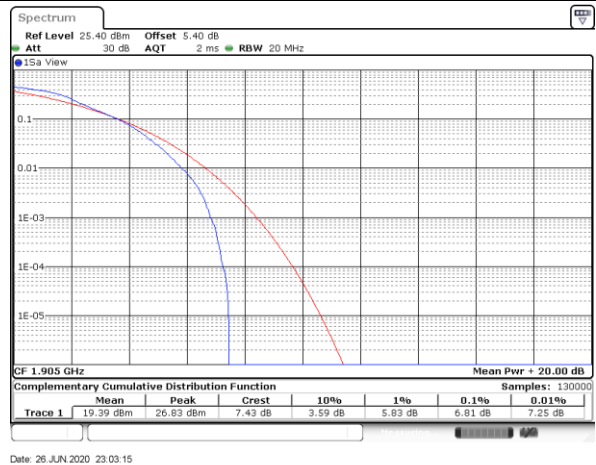
Middle Channel / 100RB0



Highest Channel / 1RB0



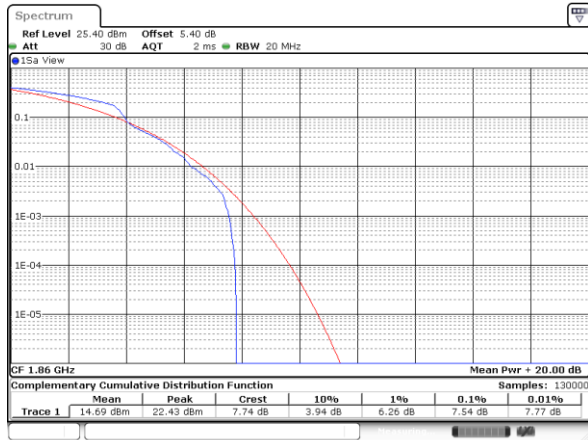
Highest Channel / 100RB0



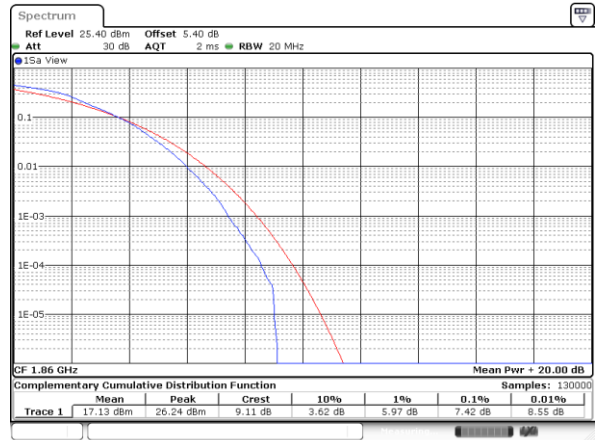


N25 20MHz / 256QAM

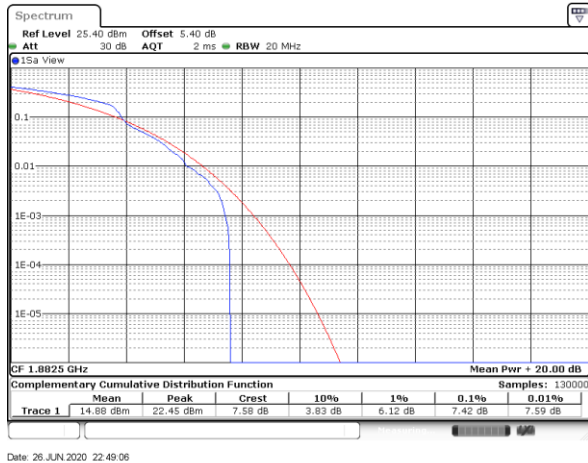
Lowest Channel / 1RB0



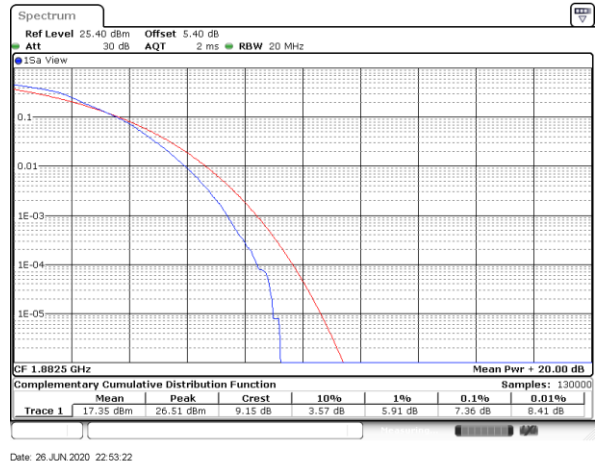
Lowest Channel / 100RB0



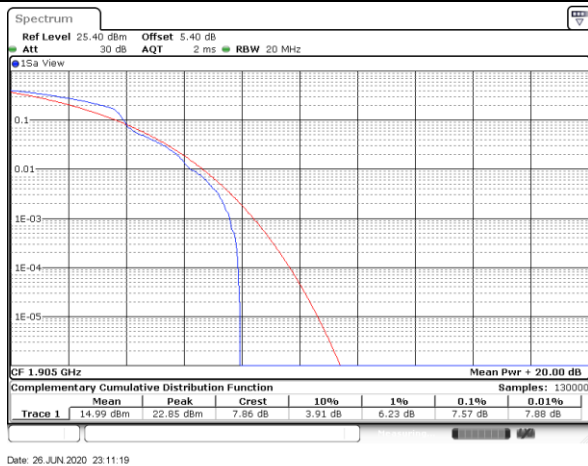
Middle Channel / 1RB0



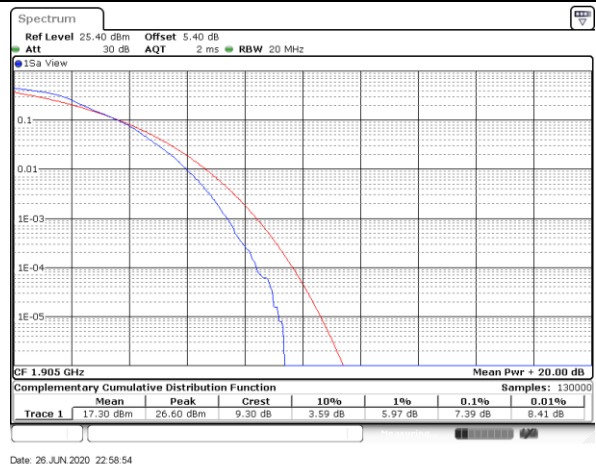
Middle Channel / 100RB0



Highest Channel / 1RB0



Highest Channel / 100RB0



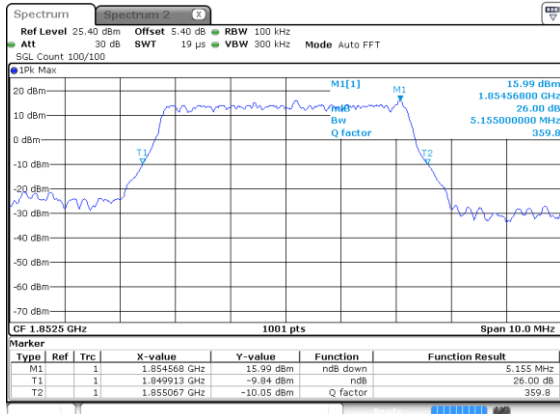
26dB Bandwidth

Mode	N25 : 26dB BW(MHz)							
BW	5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	4.905	5.195	9.85	9.99	14.446	14.326	20.26	20.22
Middle CH	5.215	4.935	9.63	9.71	14.266	14.296	20.18	20.22
Highest CH	5.045	5.115	9.69	9.85	14.535	14.176	20.06	20.10
Mode	N25 : 26dB BW(MHz)							
BW	5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Lowest CH	5.045	5.115	9.85	9.87	14.386	14.266	20.18	20.22
Middle CH	5.205	4.995	9.77	9.69	14.386	14.236	20.18	20.14
Highest CH	5.325	5.245	9.93	9.67	14.236	14.236	20.02	20.10
Mode	N25 : 26dB BW(MHz)							
BW	5MHz		10MHz		15MHz		20MHz	
Mod.	BPSK		BPSK		BPSK		BPSK	
Lowest CH	5.155		9.85		14.446		20.26	
Middle CH	5.045		9.79		14.446		19.98	
Highest CH	5.005		9.73		14.146		20.14	

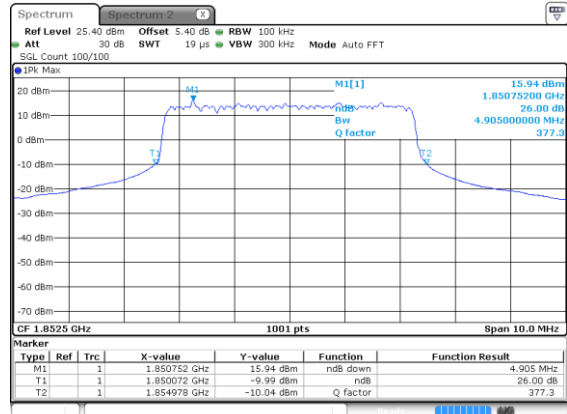


5MHz

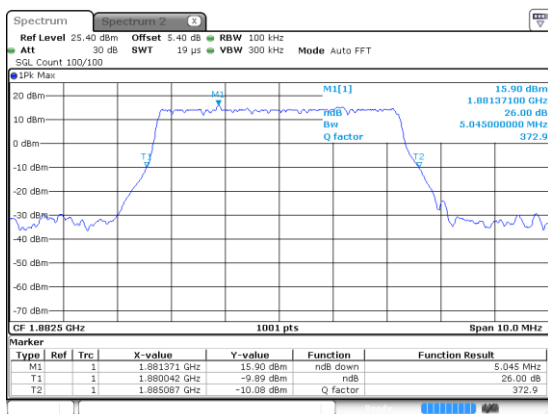
Lowest Channel / BPSK



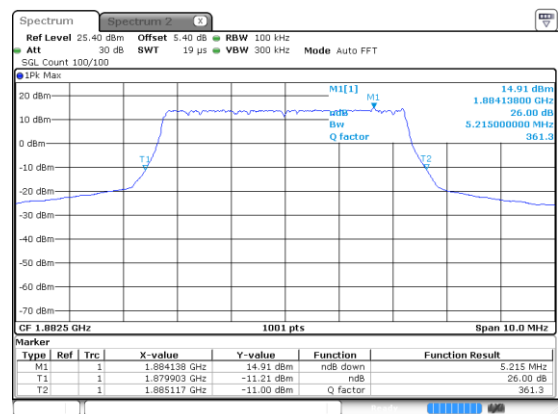
Lowest Channel / QPSK



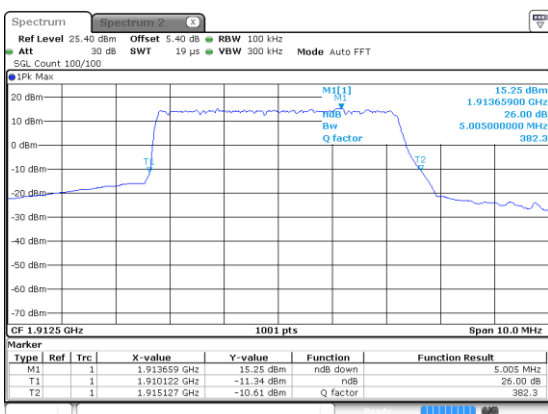
Middle Channel / BPSK



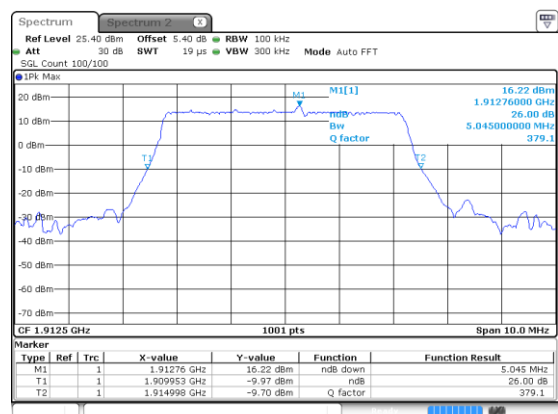
Middle Channel / QPSK



Highest Channel / BPSK



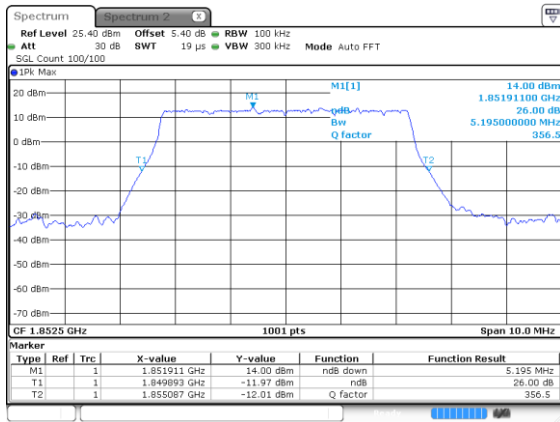
Highest Channel / QPSK



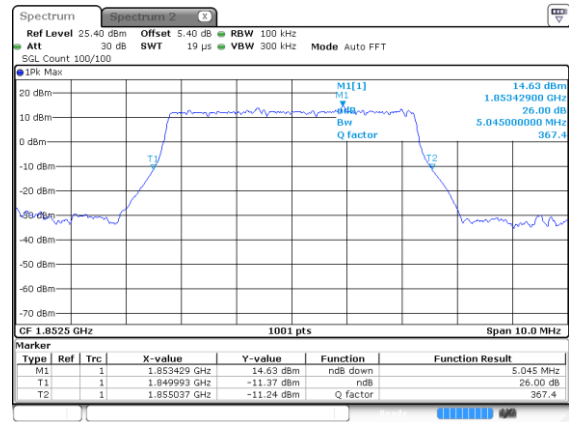


5MHz

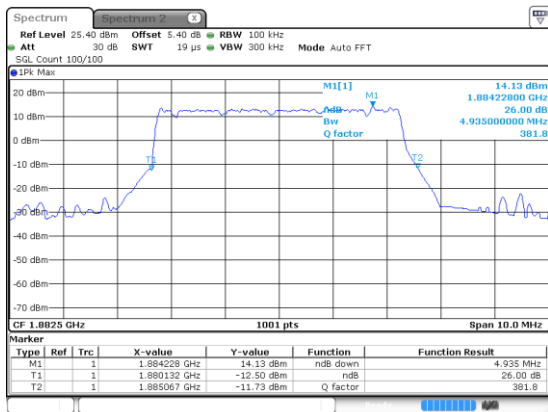
Lowest Channel / 16QAM



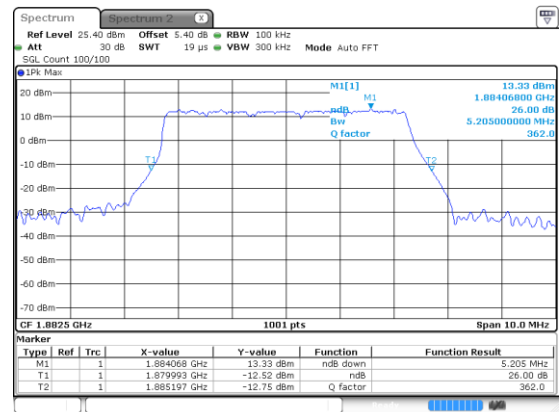
Lowest Channel / 64QAM



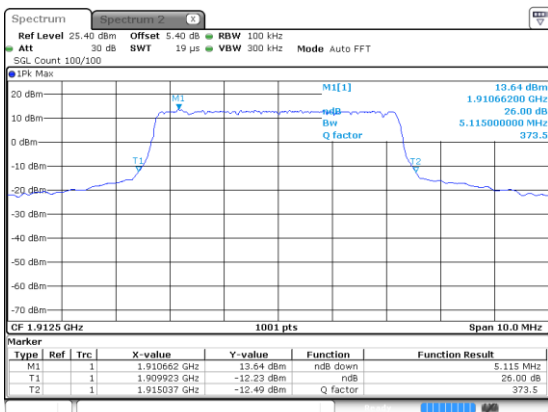
Middle Channel / 16QAM



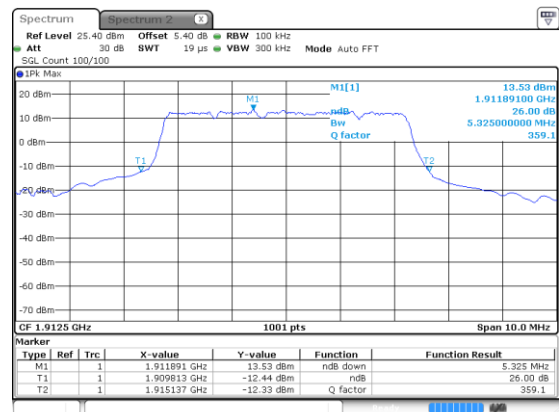
Middle Channel / 64QAM



Highest Channel / 16QAM



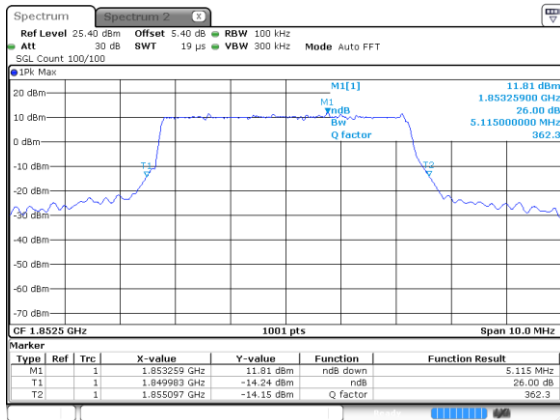
Highest Channel / 64QAM



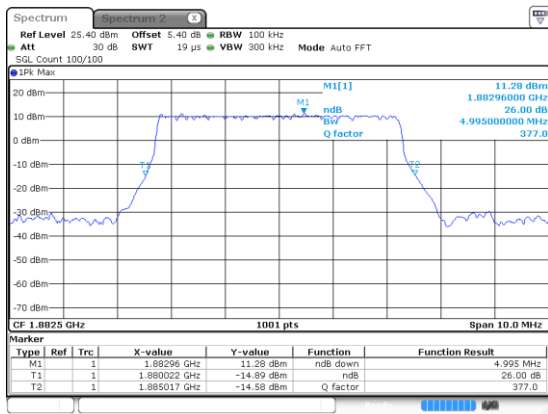


5MHz

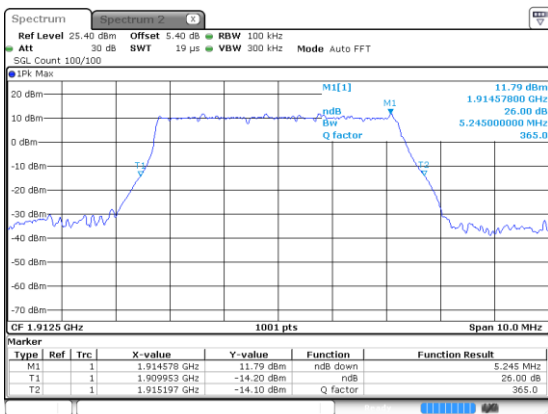
Lowest Channel / 256QAM



Middle Channel / 256QAM



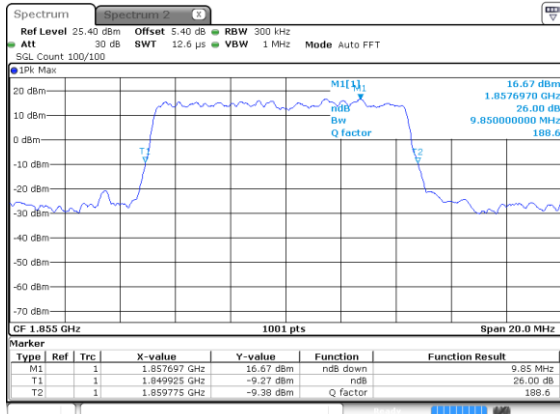
Highest Channel / 256QAM



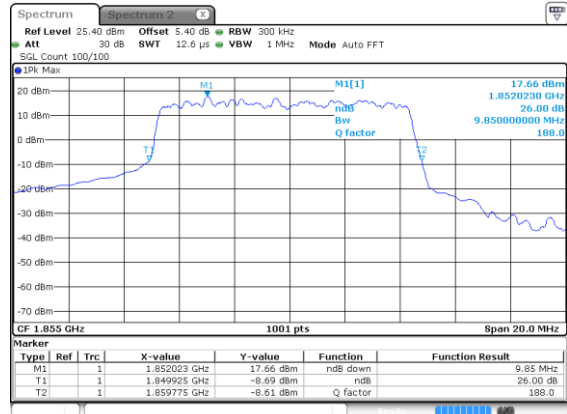


10MHz

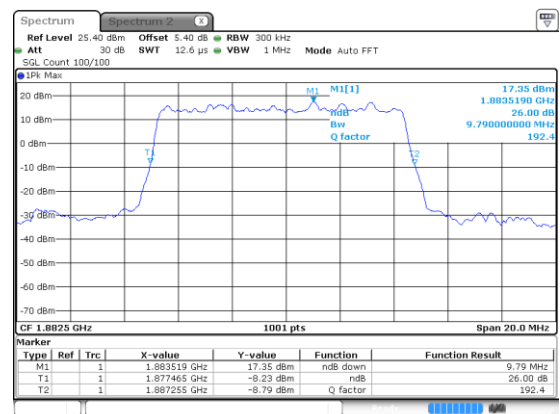
Lowest Channel / BPSK



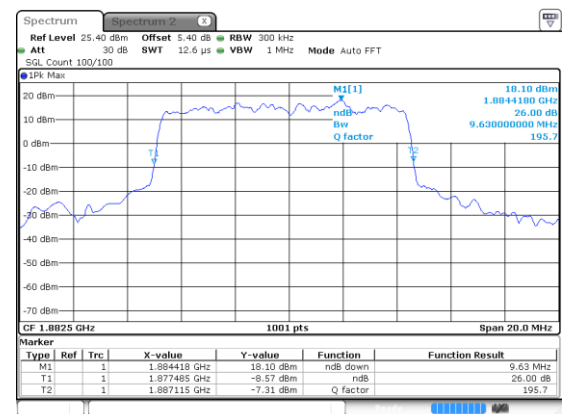
Lowest Channel / QPSK



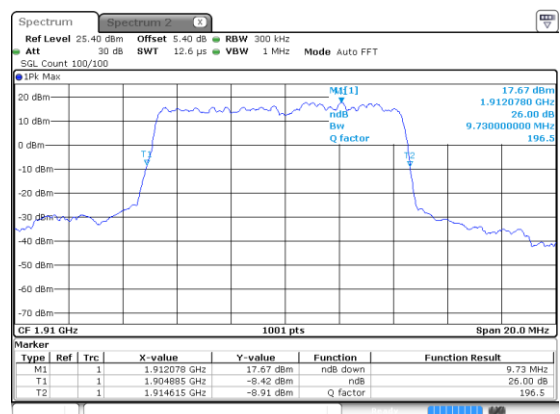
Middle Channel / BPSK



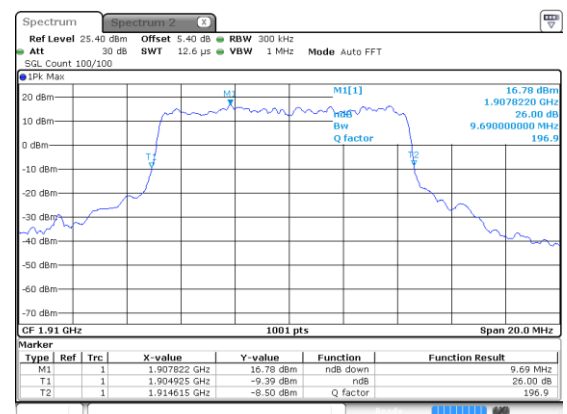
Middle Channel / QPSK



Highest Channel / BPSK



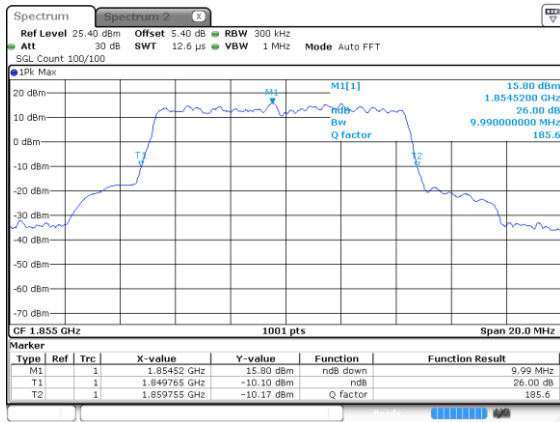
Highest Channel / QPSK



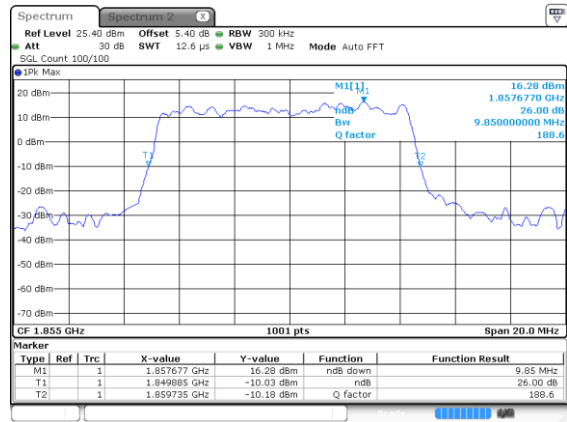


10MHz

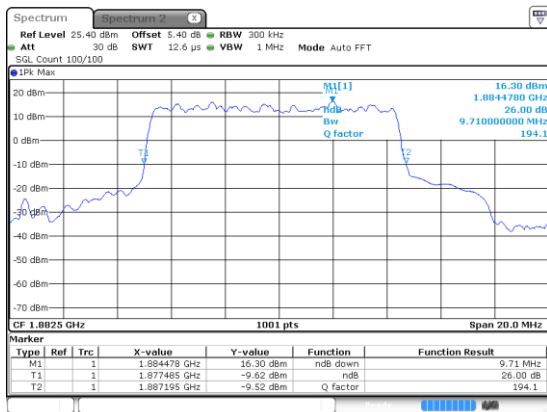
Lowest Channel / 16QAM



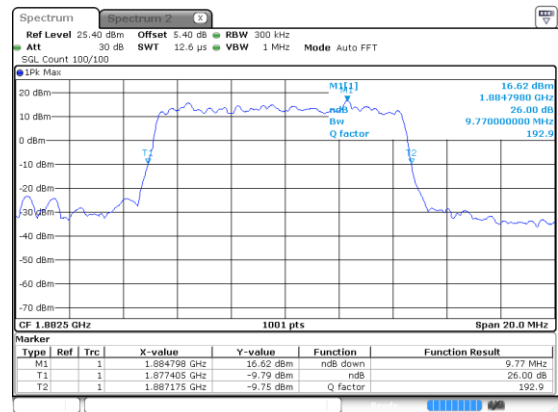
Lowest Channel / 64QAM



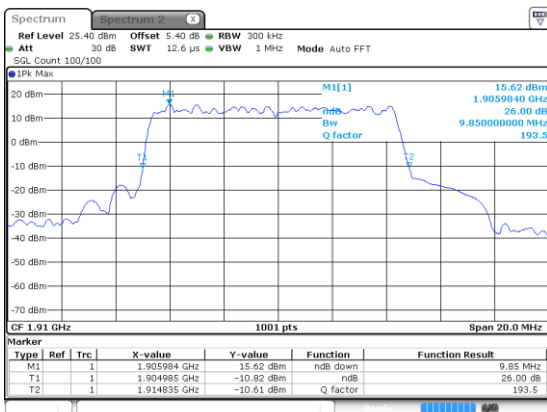
Middle Channel / 16QAM



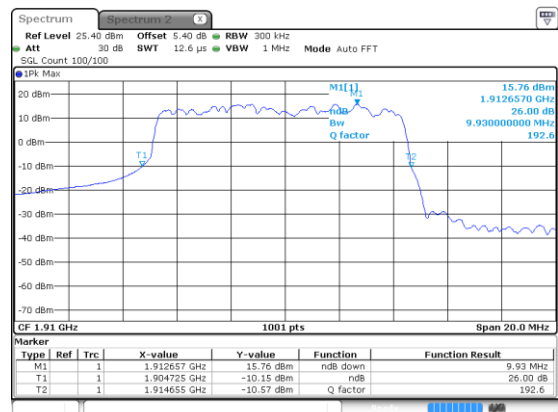
Middle Channel / 64QAM



Highest Channel / 16QAM



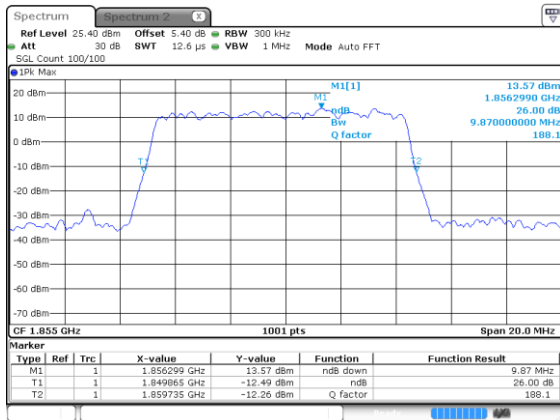
Highest Channel / 64QAM



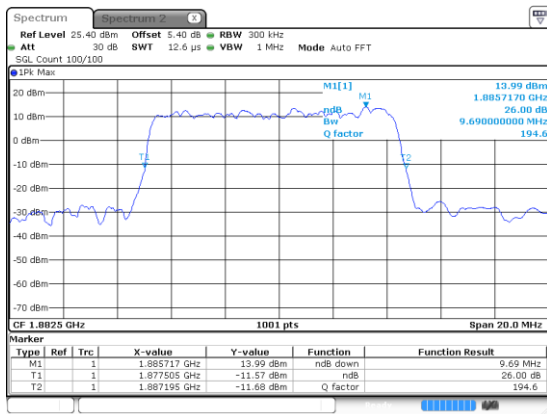


10MHz

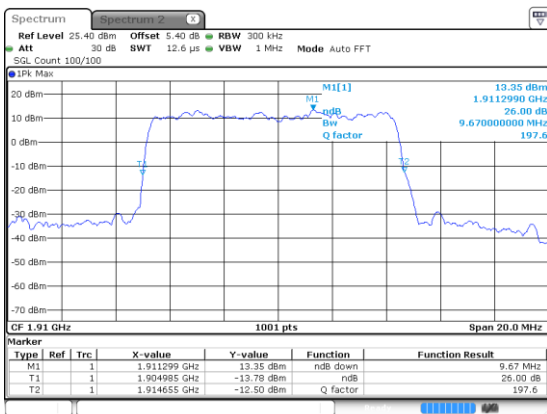
Lowest Channel / 256QAM



Middle Channel / 256QAM



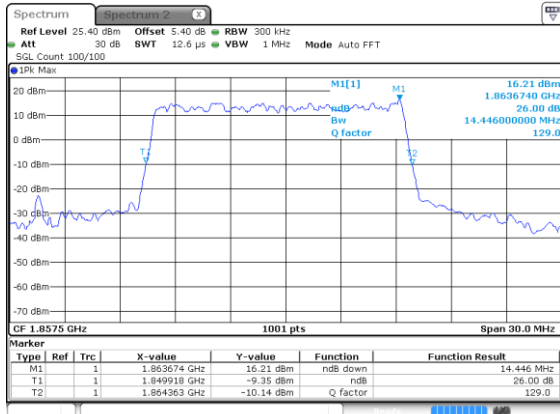
Highest Channel / 256QAM



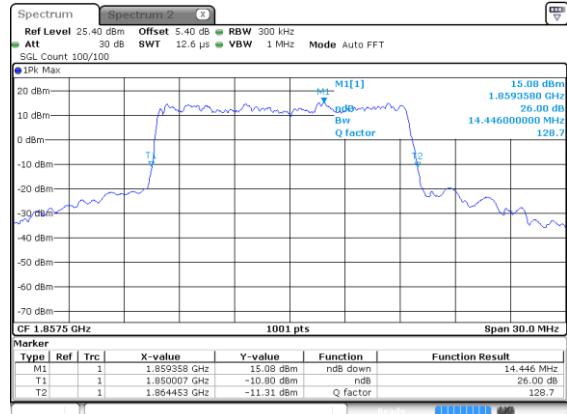


15MHz

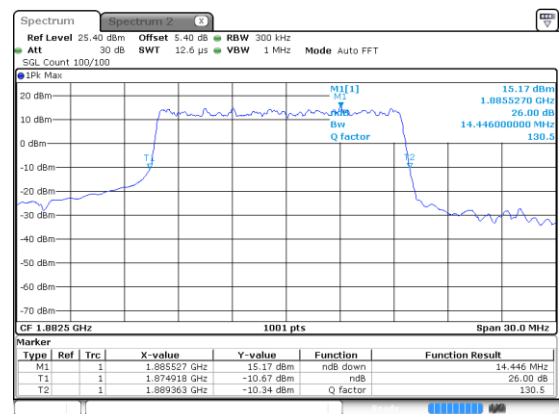
Lowest Channel / BPSK



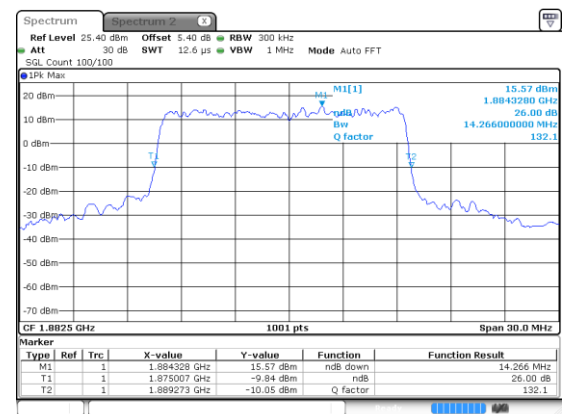
Lowest Channel / QPSK



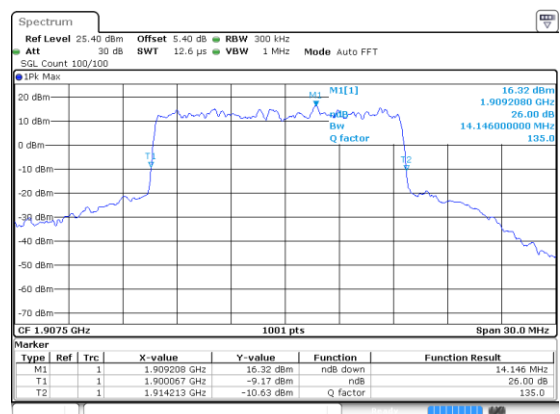
Middle Channel / BPSK



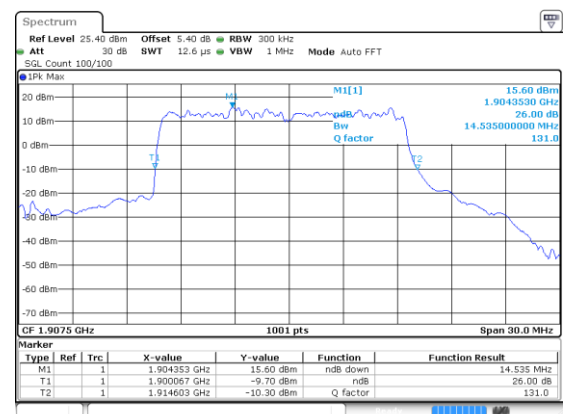
Middle Channel / QPSK



Highest Channel / BPSK



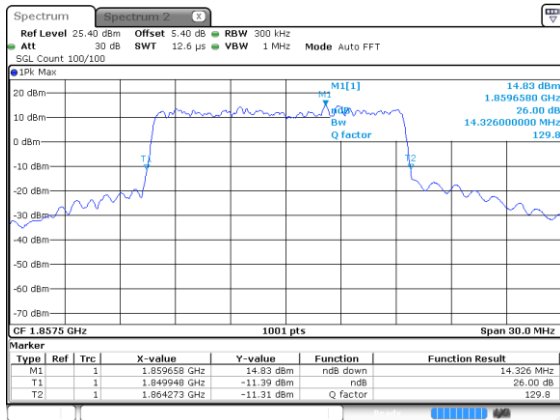
Highest Channel / QPSK



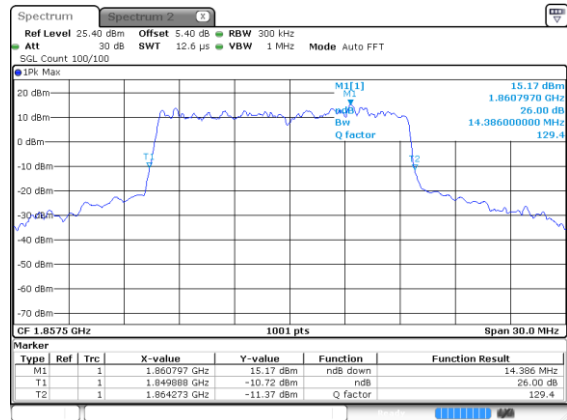


15MHz

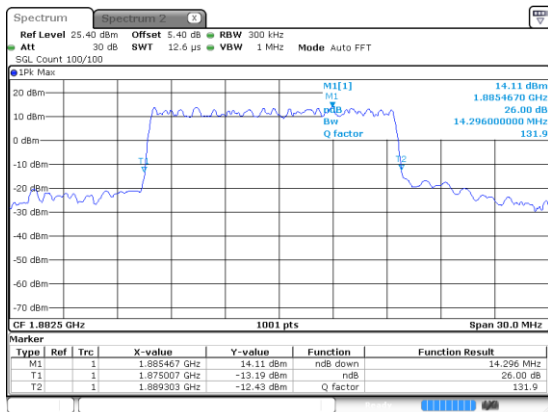
Lowest Channel / 16QAM



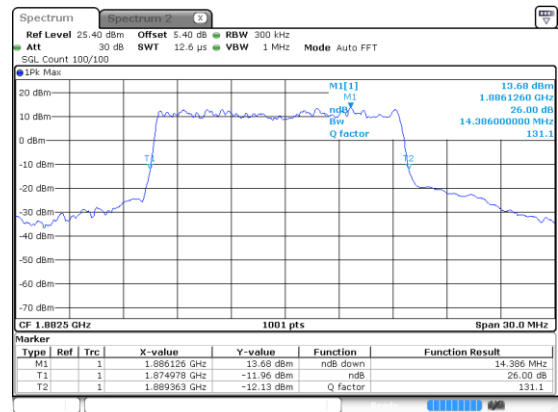
Lowest Channel / 64QAM



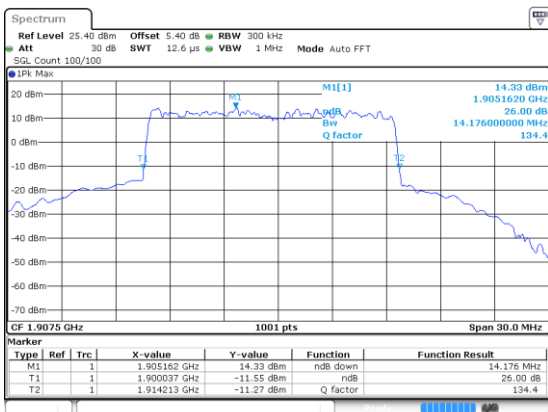
Middle Channel / 16QAM



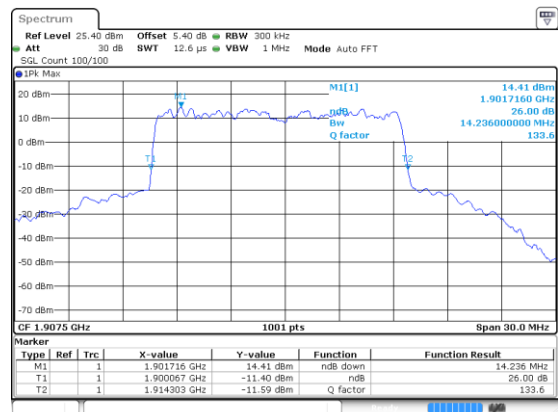
Middle Channel / 64QAM



Highest Channel / 16QAM



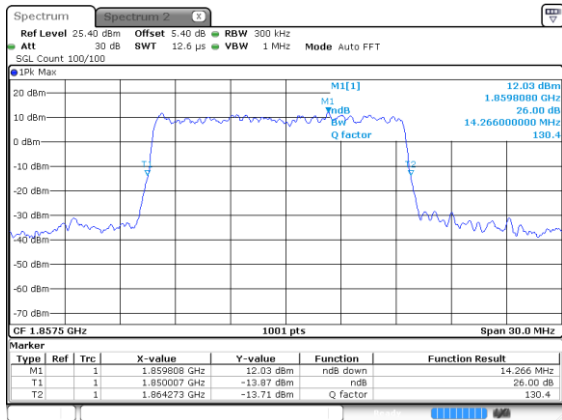
Highest Channel / 64QAM





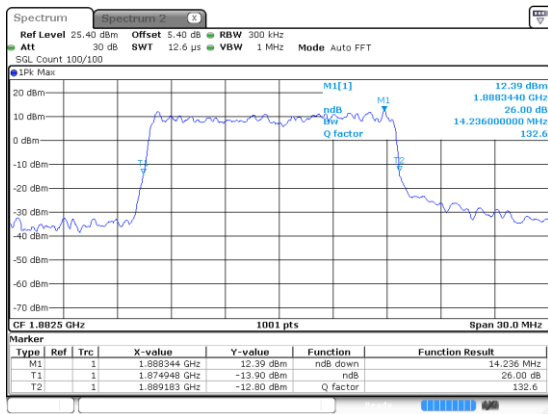
15MHz

Lowest Channel / 256QAM

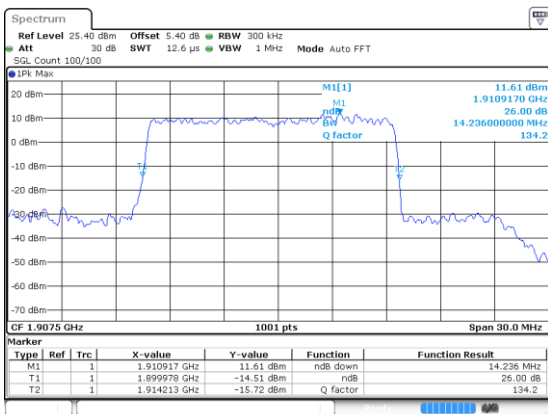


Date: 20. 8. 14 2020, 05:53:33

Middle Channel / 256QAM



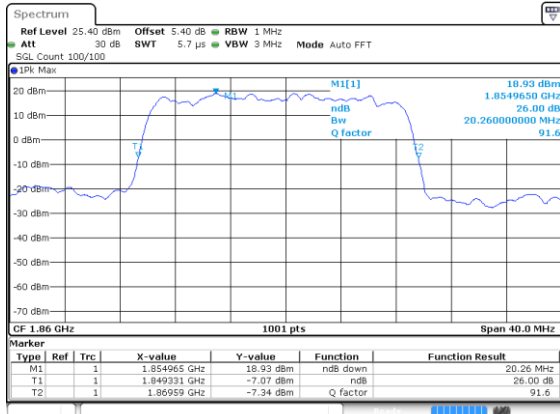
Highest Channel / 256QAM



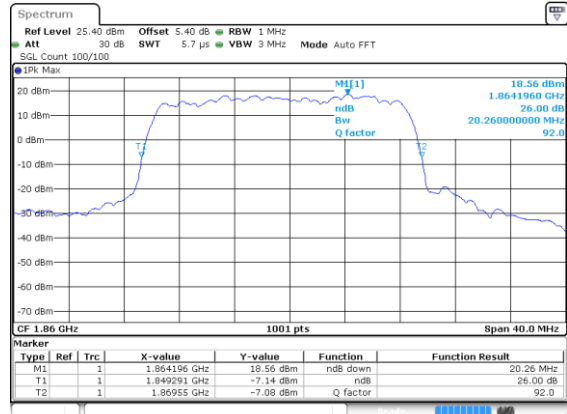


20MHz

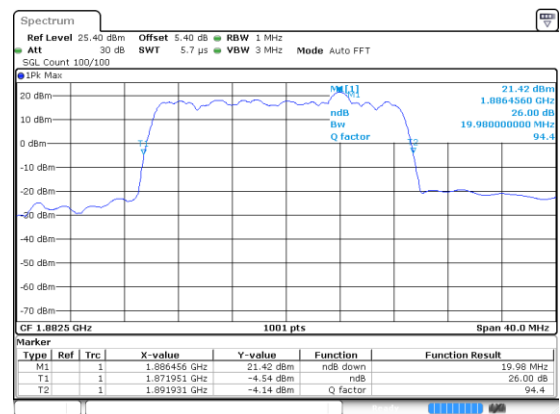
Lowest Channel / BPSK



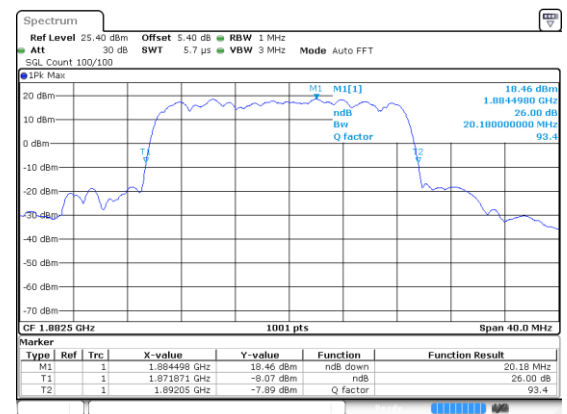
Lowest Channel / QPSK



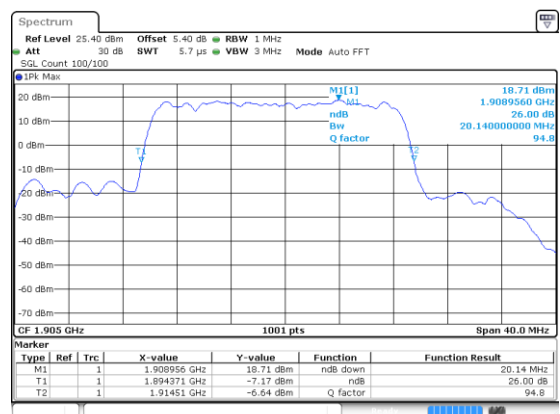
Middle Channel / BPSK



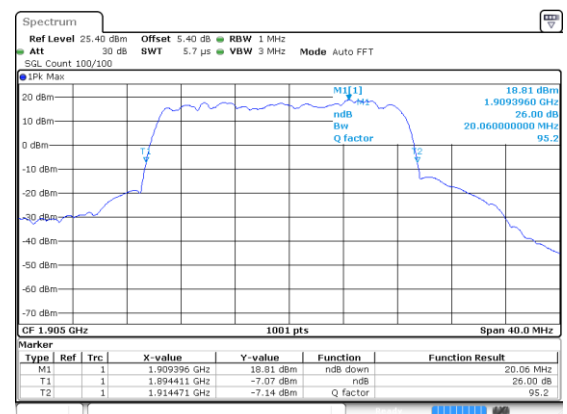
Middle Channel / QPSK



Highest Channel / BPSK



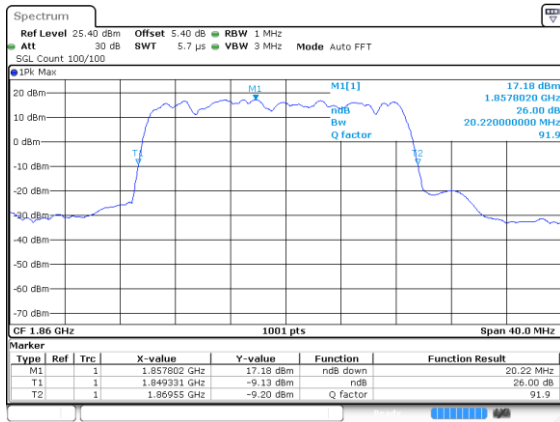
Highest Channel / QPSK



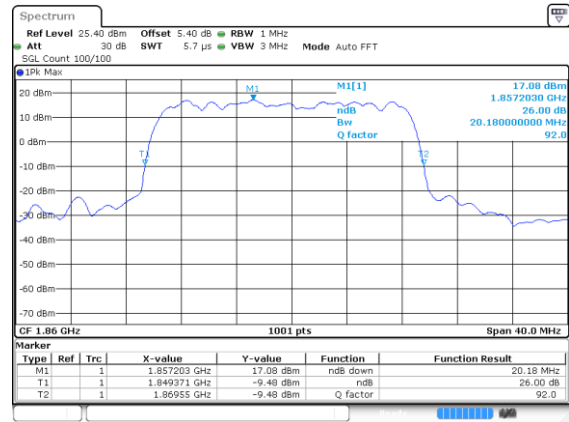


20MHz

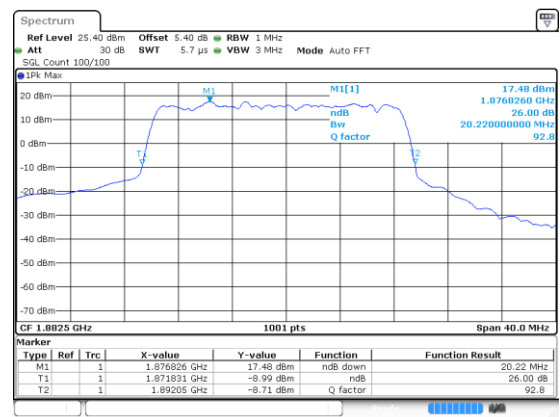
Lowest Channel / 16QAM



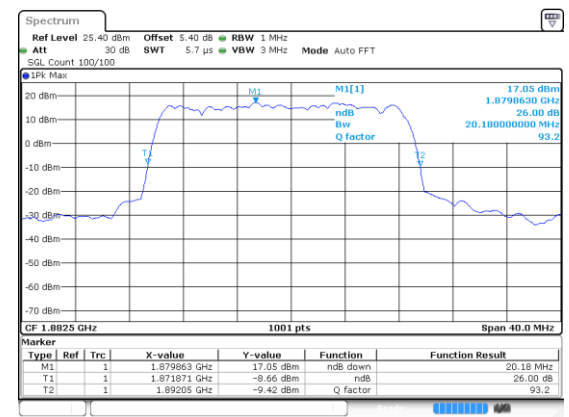
Lowest Channel / 64QAM



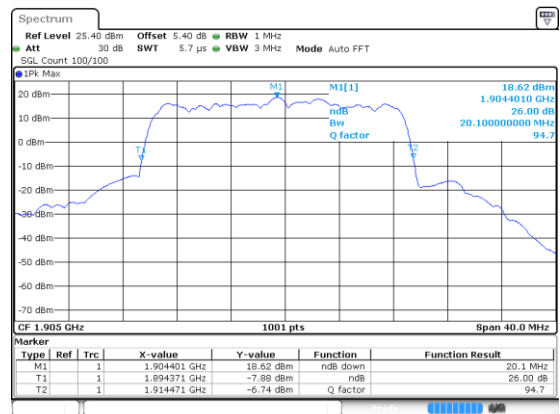
Middle Channel / 16QAM



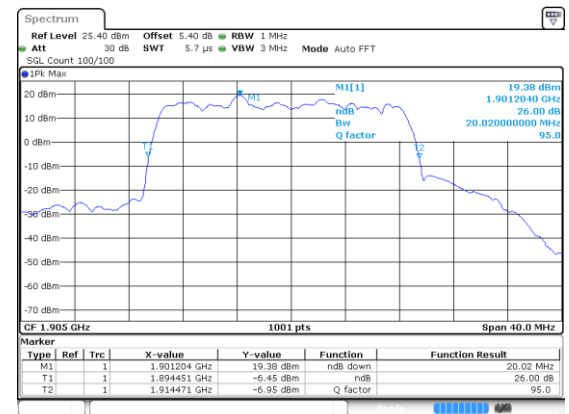
Middle Channel / 64QAM



Highest Channel / 16QAM



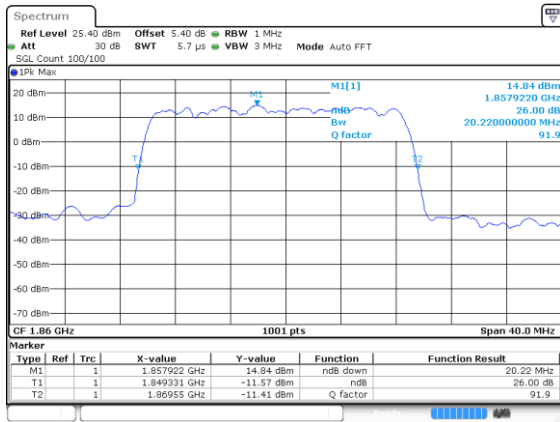
Highest Channel / 64QAM



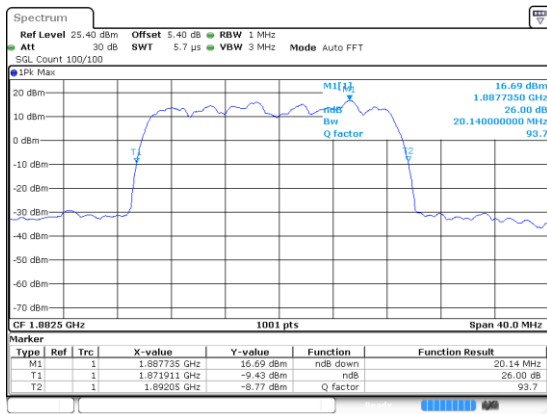


20MHz

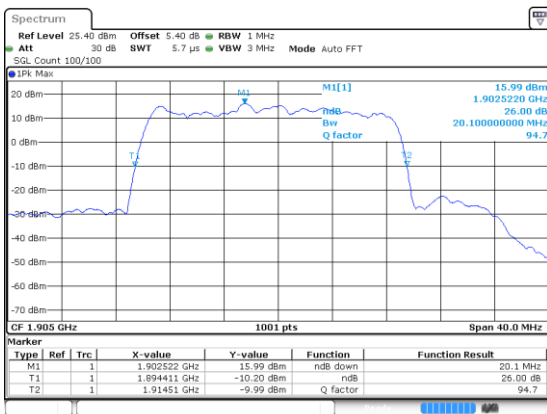
Lowest Channel / 256QAM



Middle Channel / 256QAM



Highest Channel / 256QAM



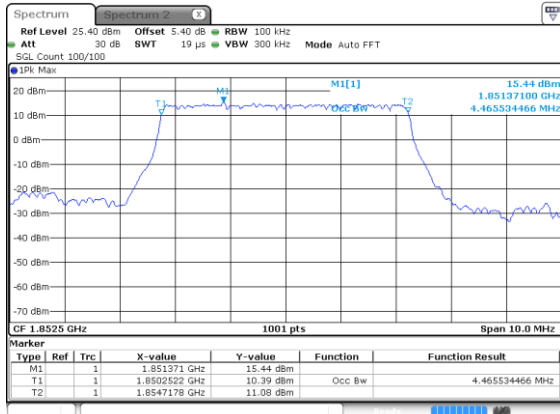
**Occupied Bandwidth**

Mode	N25 : OB BW(MHz)							
BW	5MHz		10MHz		15MHz		20MHz	
Mod.	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM	QPSK	16QAM
Lowest CH	4.51	4.50	8.99	9.07	13.52	13.52	18.34	18.26
Middle CH	4.49	4.50	9.05	9.05	13.49	13.49	18.34	18.26
Highest CH	4.48	4.48	9.01	9.05	13.49	13.49	18.22	18.38
Mode	N25 : OB BW(MHz)							
BW	5MHz		10MHz		15MHz		20MHz	
Mod.	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM	64QAM	256QAM
Lowest CH	4.49	4.49	9.05	9.07	13.52	13.49	18.26	18.34
Middle CH	4.53	4.50	9.05	9.09	13.52	13.49	18.38	18.34
Highest CH	4.52	4.48	9.03	9.03	13.49	13.52	18.22	18.22
Mode	N25 : OB BW(MHz)							
BW	5MHz		10MHz		15MHz		20MHz	
Mod.	BPSK		BPSK		BPSK		BPSK	
Lowest CH	4.47		9.05		13.49		18.54	
Middle CH	4.48		9.05		13.49		18.38	
Highest CH	4.48		9.03		13.52		18.26	

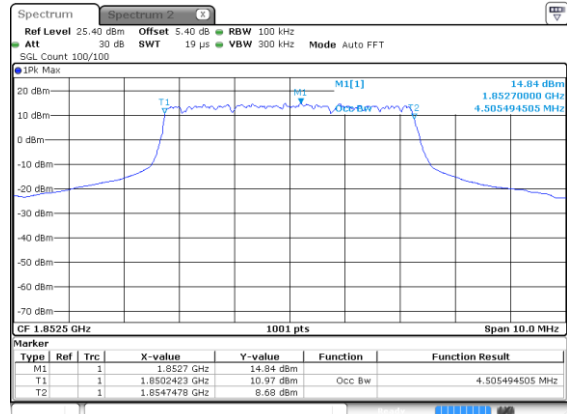


5MHz

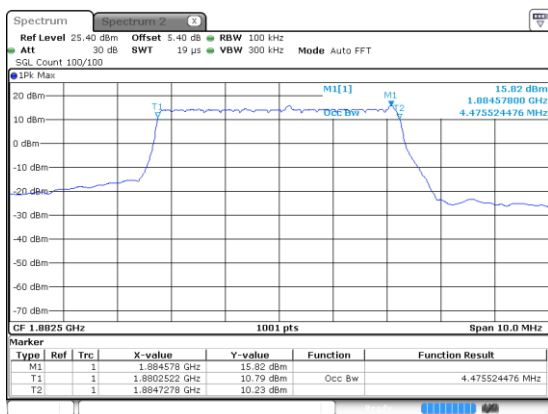
Lowest Channel / BPSK



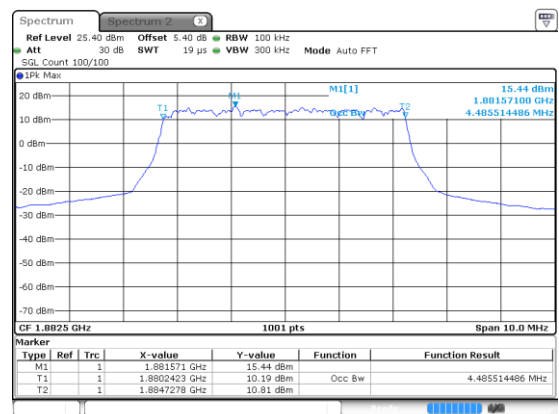
Lowest Channel / QPSK



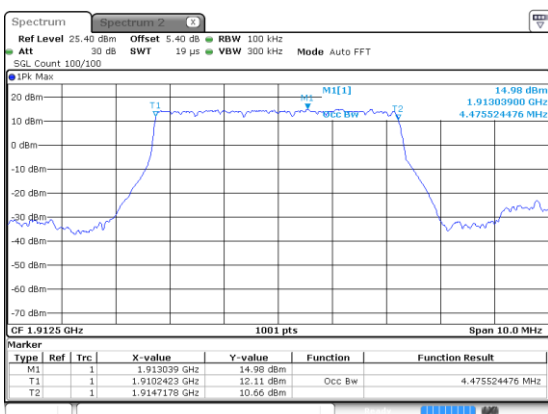
Middle Channel / BPSK



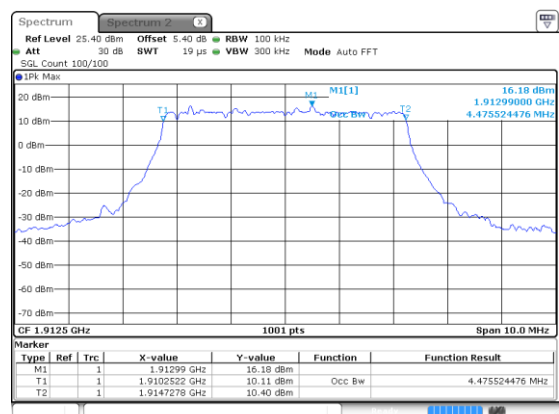
Middle Channel / QPSK



Highest Channel / BPSK



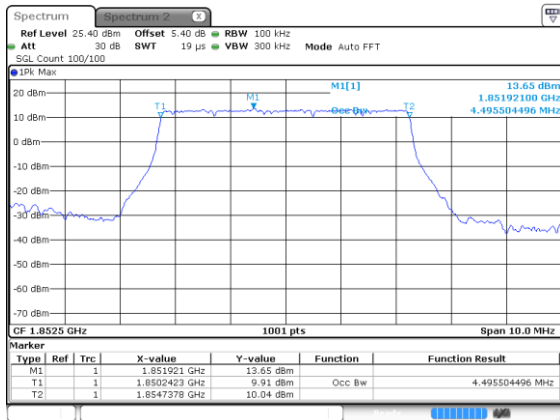
Highest Channel / QPSK





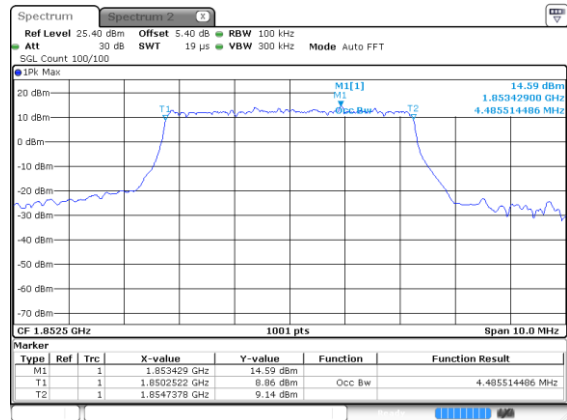
5MHz

Lowest Channel / 16QAM



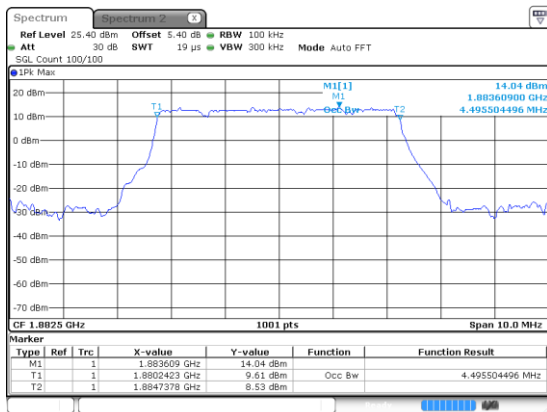
Date: 2018/11/20 09:33:34

Lowest Channel / 64QAM



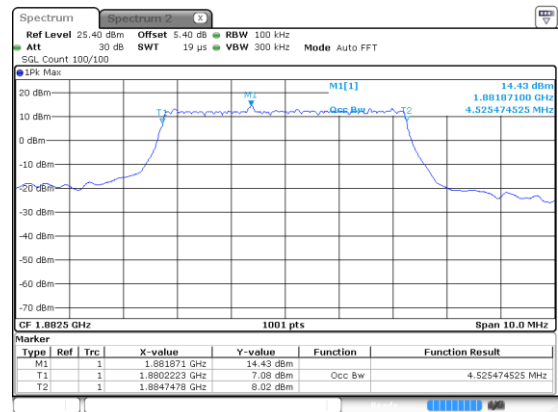
Date: 2018/11/20 09:33:34

Middle Channel / 16QAM



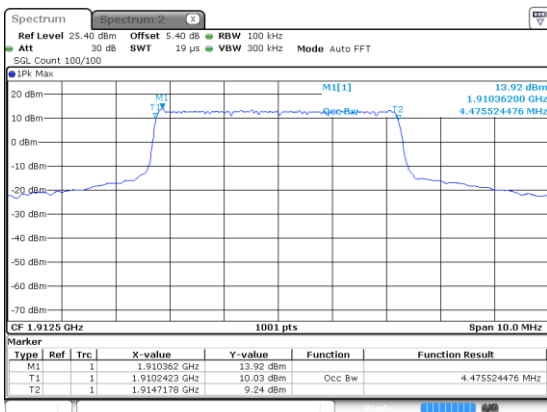
Date: 2018/11/20 09:33:34

Middle Channel / 64QAM



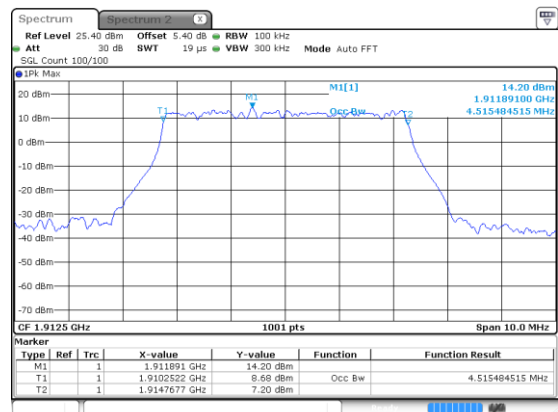
Date: 2018/11/20 09:33:34

Highest Channel / 16QAM



Date: 2018/11/20 09:33:34

Highest Channel / 64QAM

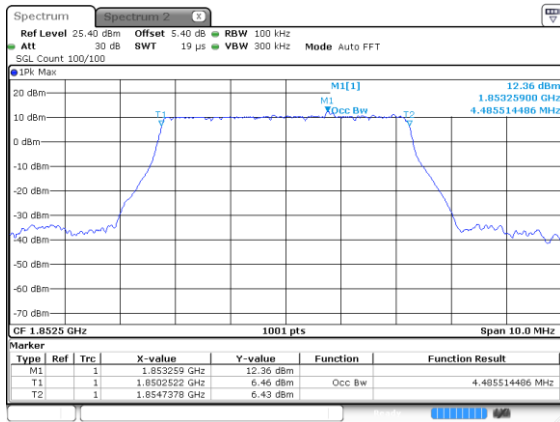


Date: 2018/11/20 09:33:34

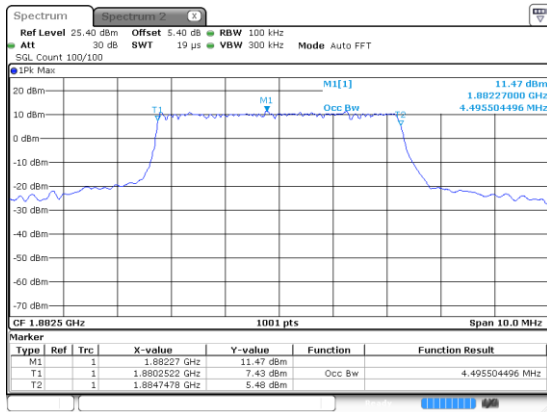


5MHz

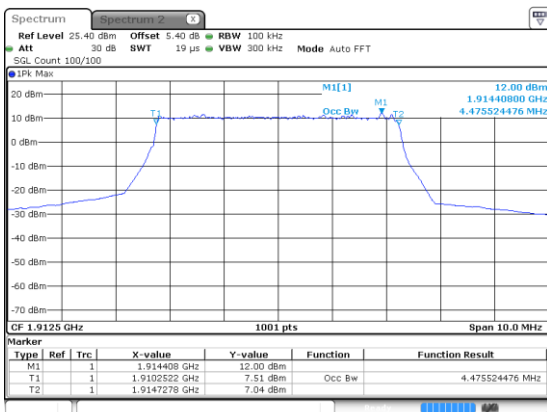
Lowest Channel / 256QAM



Middle Channel / 256QAM



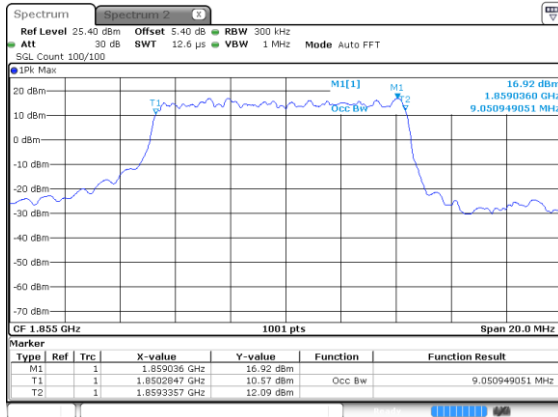
Highest Channel / 256QAM



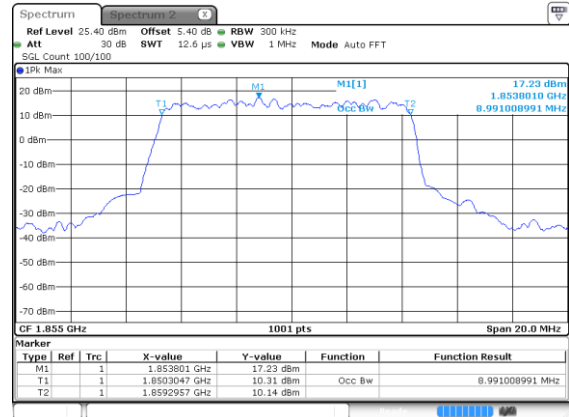


10MHz

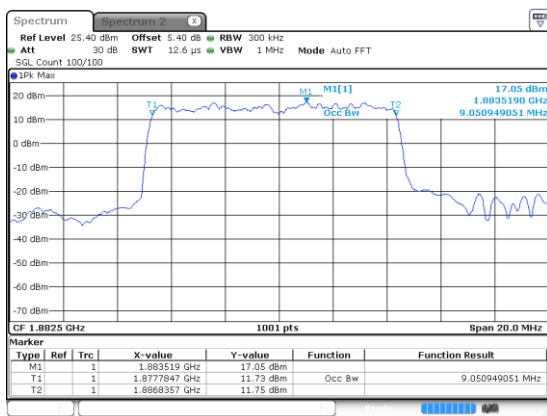
Lowest Channel / BPSK



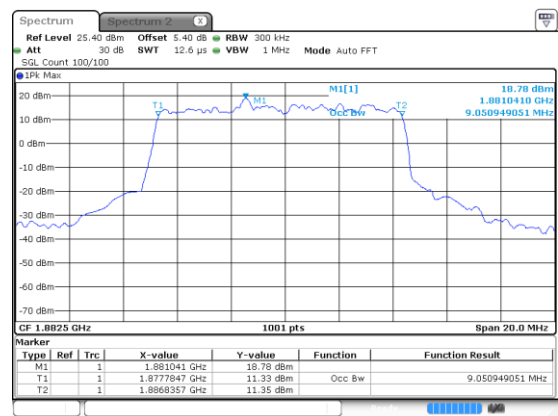
Lowest Channel / QPSK



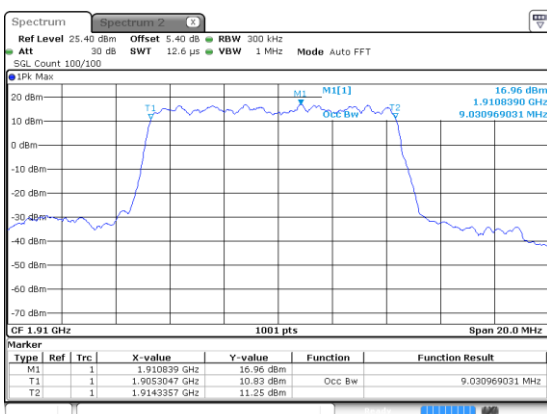
Middle Channel / BPSK



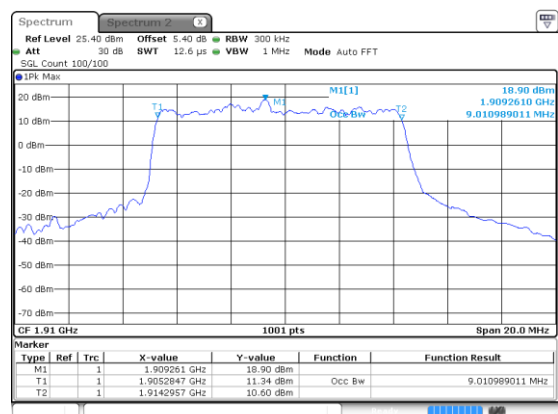
Middle Channel / QPSK



Highest Channel / BPSK



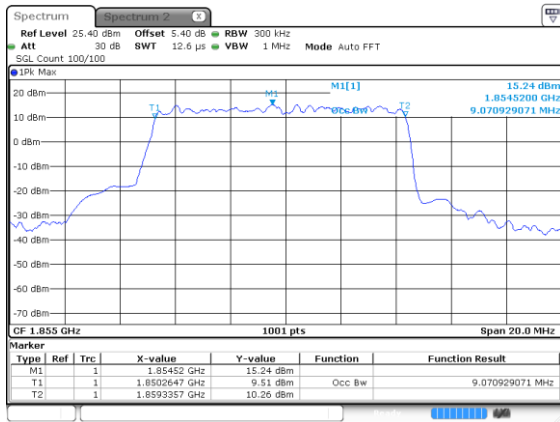
Highest Channel / QPSK





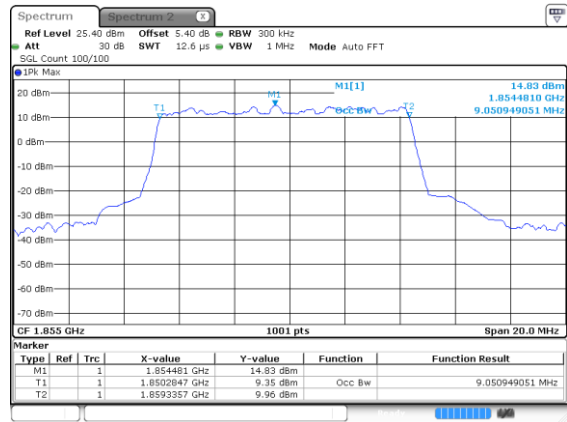
10MHz

Lowest Channel / 16QAM



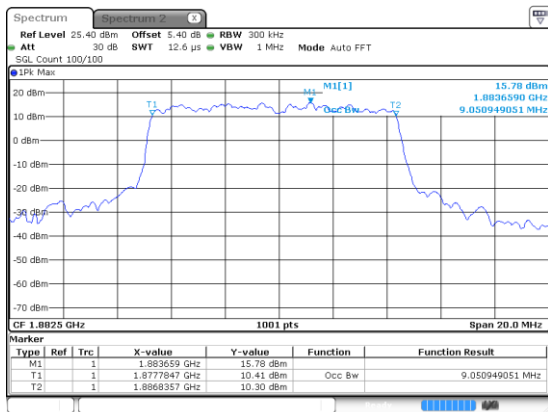
Data: 20-10-17 2020-04-03-26

Lowest Channel / 64QAM



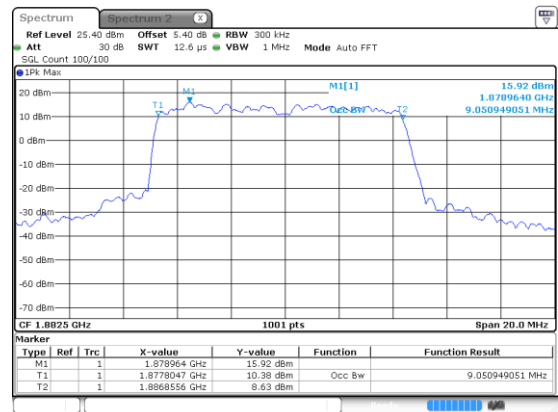
Data: 20-10-17 2020-04-03-26

Middle Channel / 16QAM



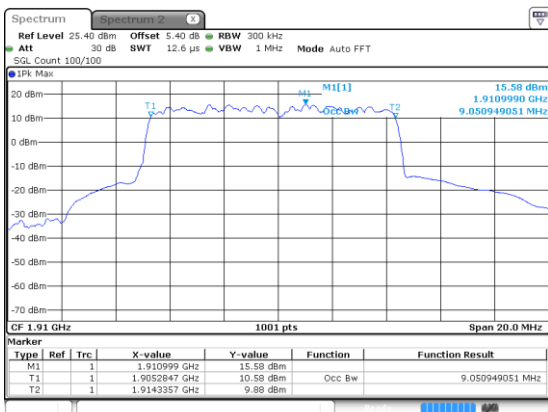
Data: 20-10-17 2020-04-03-26

Middle Channel / 64QAM



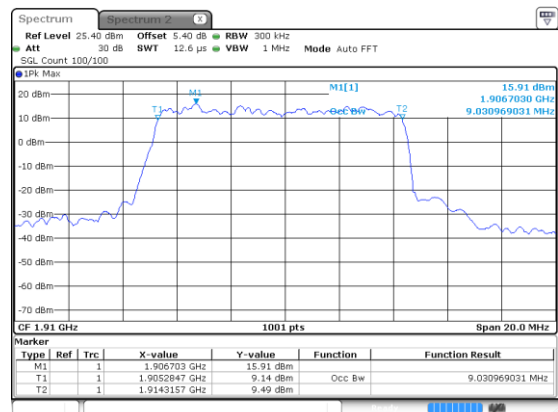
Data: 20-10-17 2020-04-03-26

Highest Channel / 16QAM



Data: 20-10-17 2020-04-03-26

Highest Channel / 64QAM

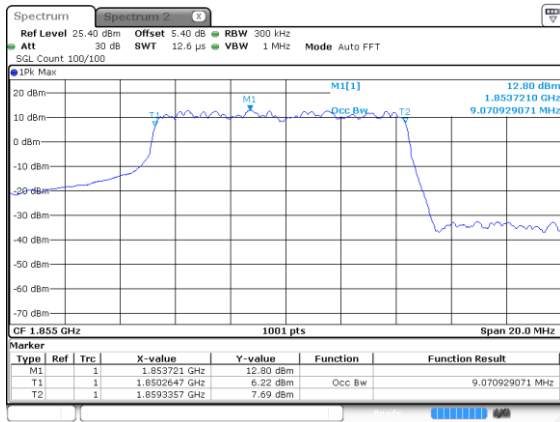


Data: 20-10-17 2020-04-03-26

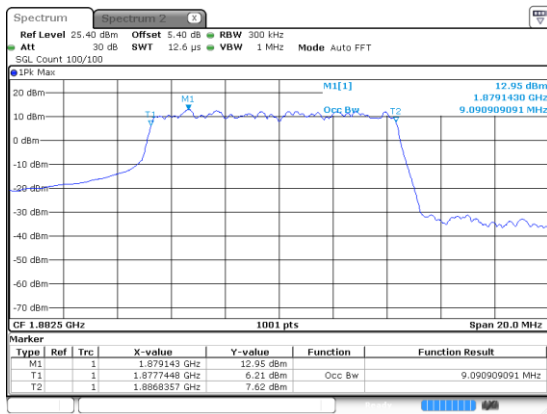


10MHz

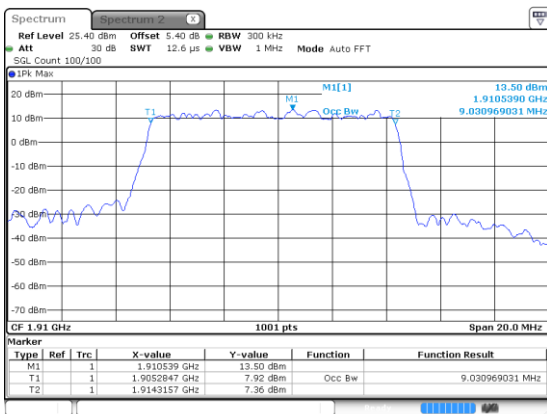
Lowest Channel / 256QAM



Middle Channel / 256QAM



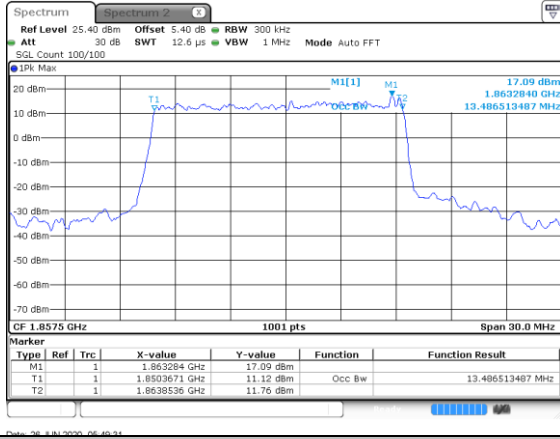
Highest Channel / 256QAM



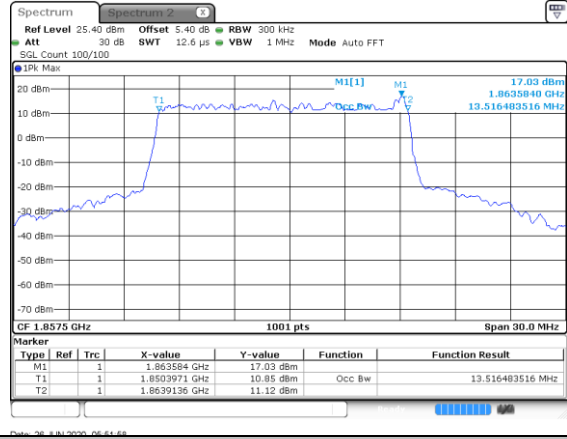


15MHz

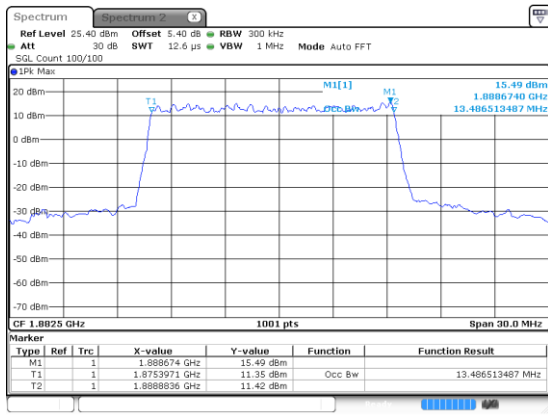
Lowest Channel / BPSK



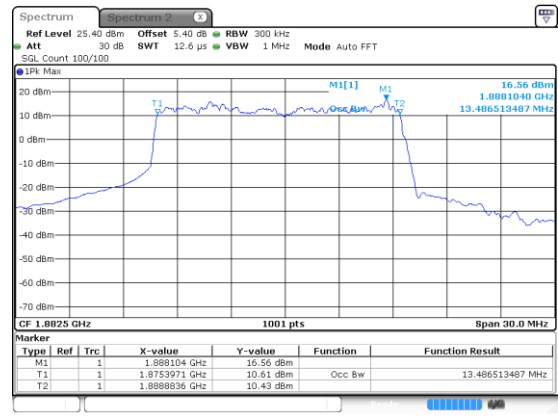
Lowest Channel / QPSK



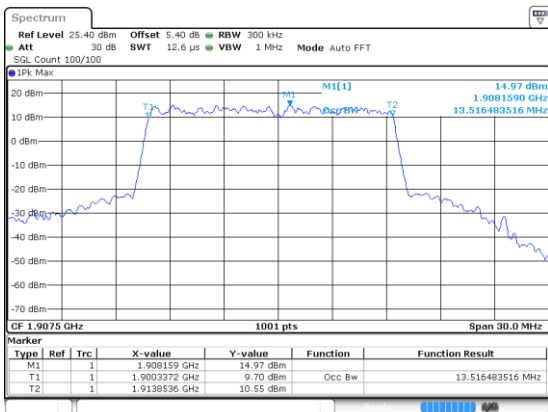
Middle Channel / BPSK



Middle Channel / QPSK



Highest Channel / BPSK



Highest Channel / QPSK

