6 Appendix

GSM1900

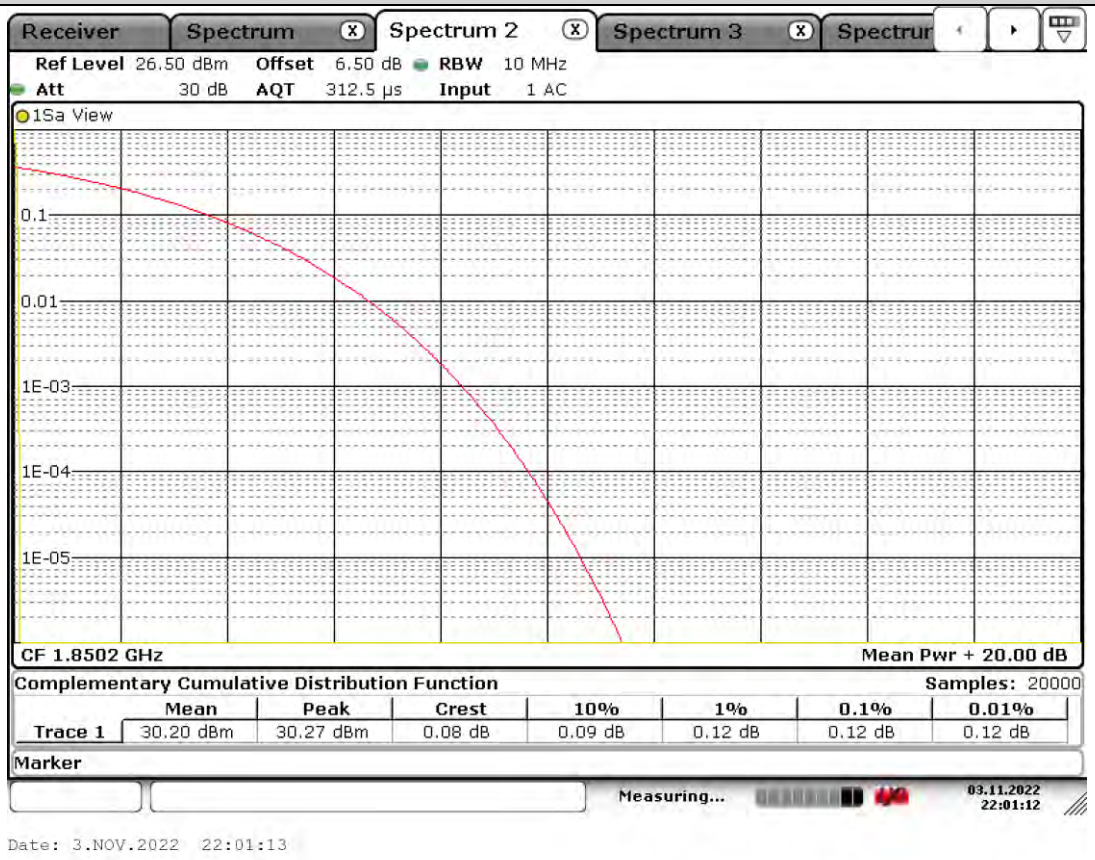
PEAK-TO-AVERAGE RATIO(CCDF)

Test Result

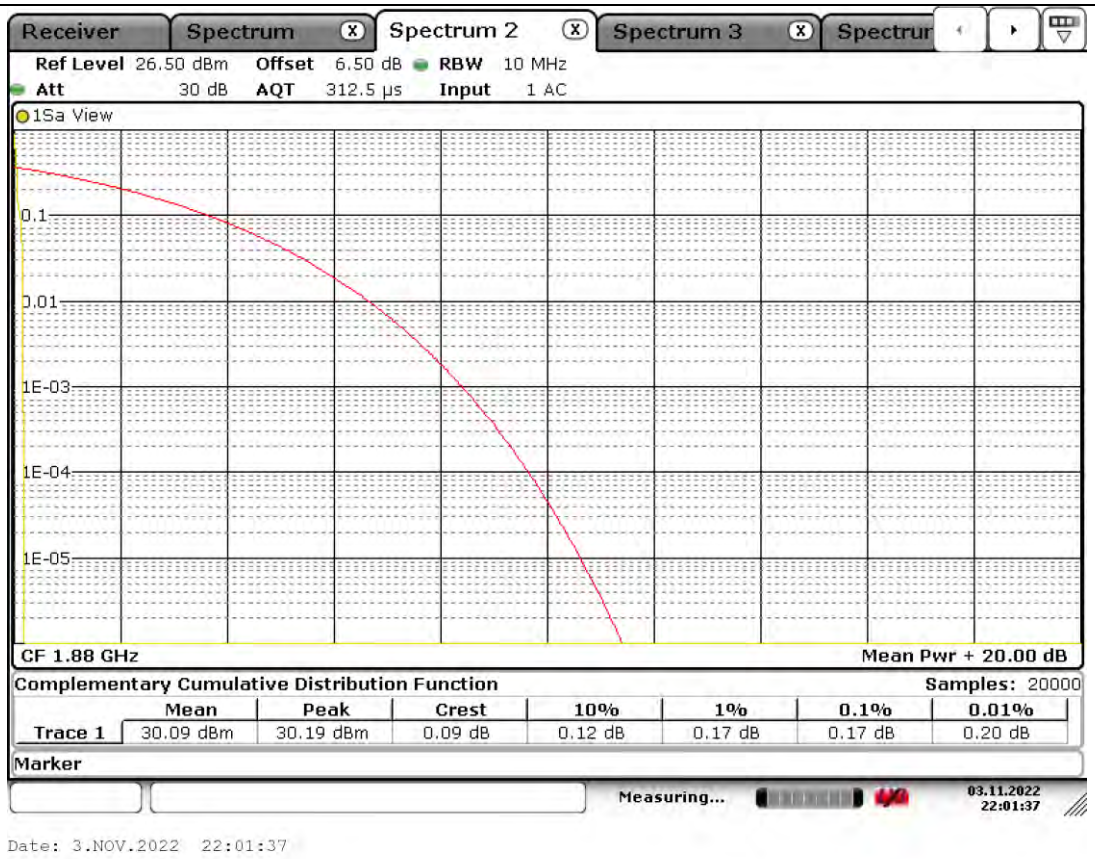
Band	Channel	Result(dB)	Limit(dB)	Verdict
GSM1900	512	0.12	13	PASS
GSM1900	661	0.17	13	PASS
GSM1900	810	0.12	13	PASS
EGPRS1900	512	0.12	13	PASS
EGPRS1900	661	0.12	13	PASS
EGPRS1900	810	0.12	13	PASS

Test Graphs

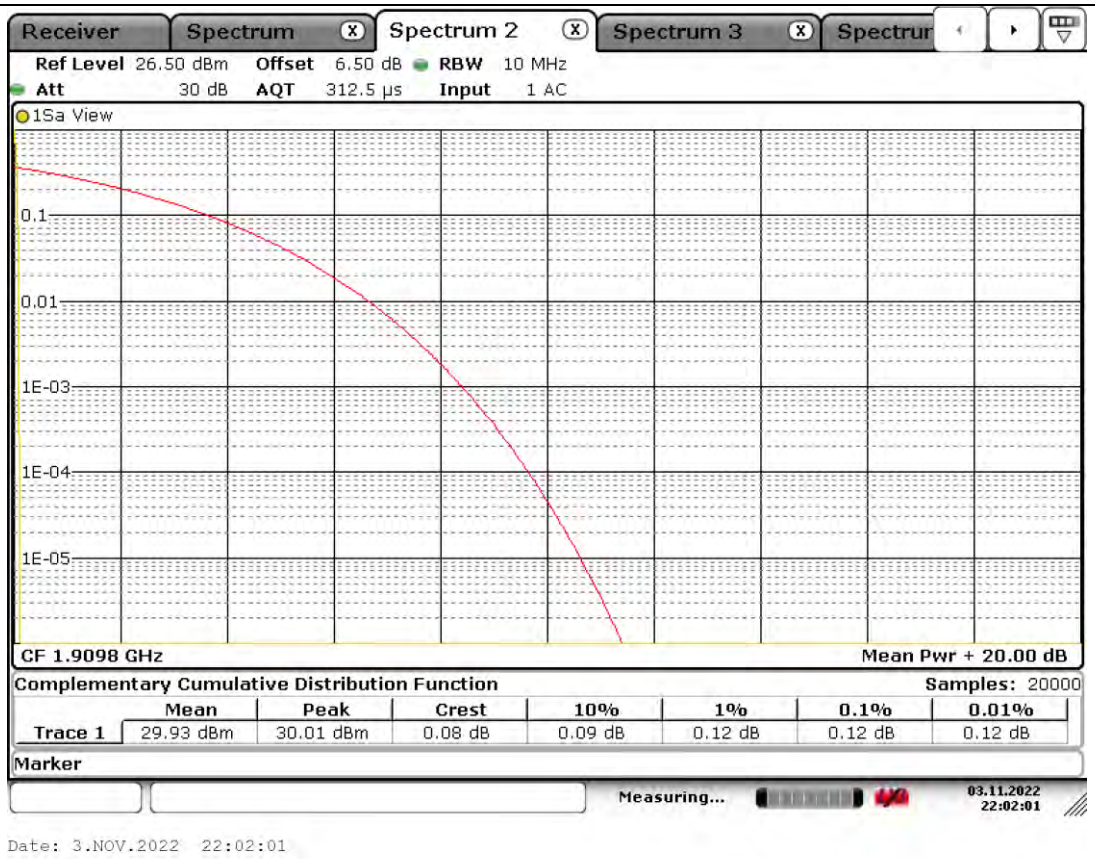
GSM1900-512



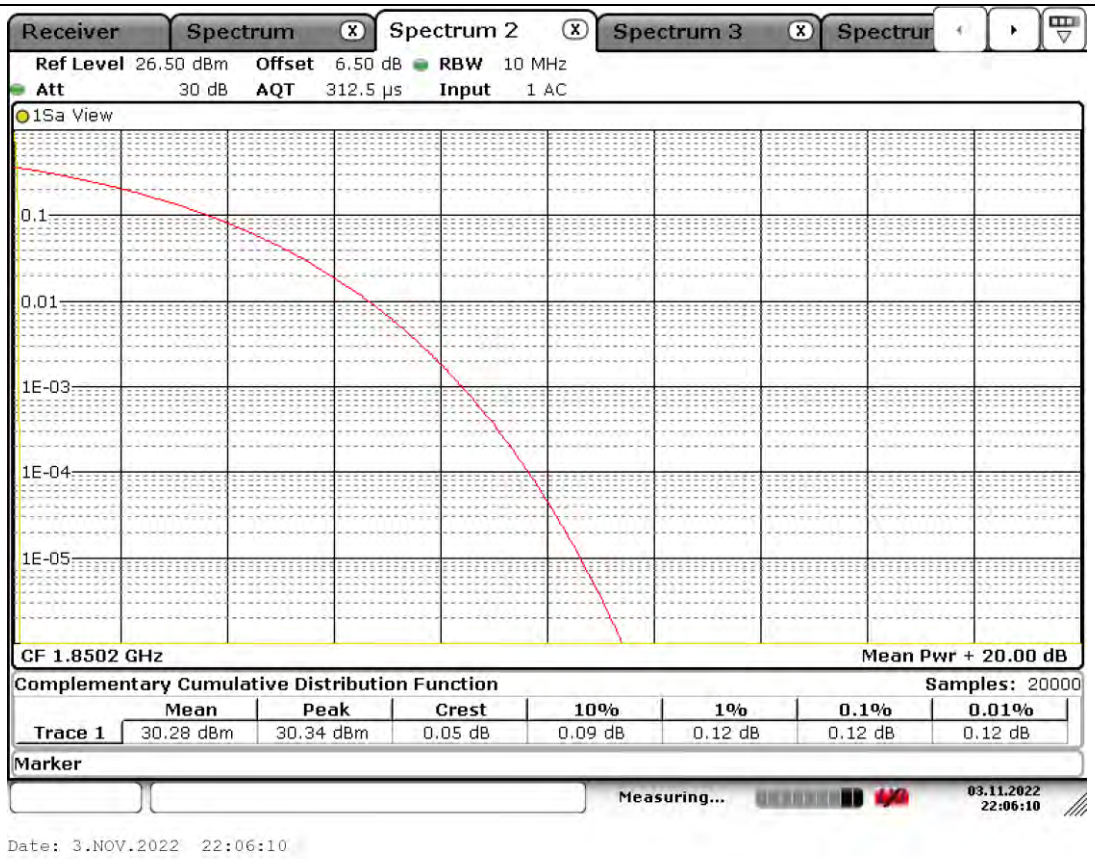
GSM1900-661


Receiver
Spectrum
Spectrum 2
Spectrum 3
Spectrum
Ref Level 26.50 dBm Offset 6.50 dB RBW 10 MHz
Att 30 dB AQT 312.5 µs Input 1 AC
1Sa View
0.1
0.01
1E-03
1E-04
1E-05
CF 1.88 GHz
Mean Pwr + 20.00 dB
Complementary Cumulative Distribution Function
Samples: 20000
Mean Peak Crest 10% 1% 0.1% 0.01%
Trace 1 30.09 dBm 30.19 dBm 0.09 dB 0.12 dB 0.17 dB 0.17 dB 0.20 dB
Marker
Measuring...
03.11.2022
22:01:37
Date: 3.NOV.2022 22:01:37

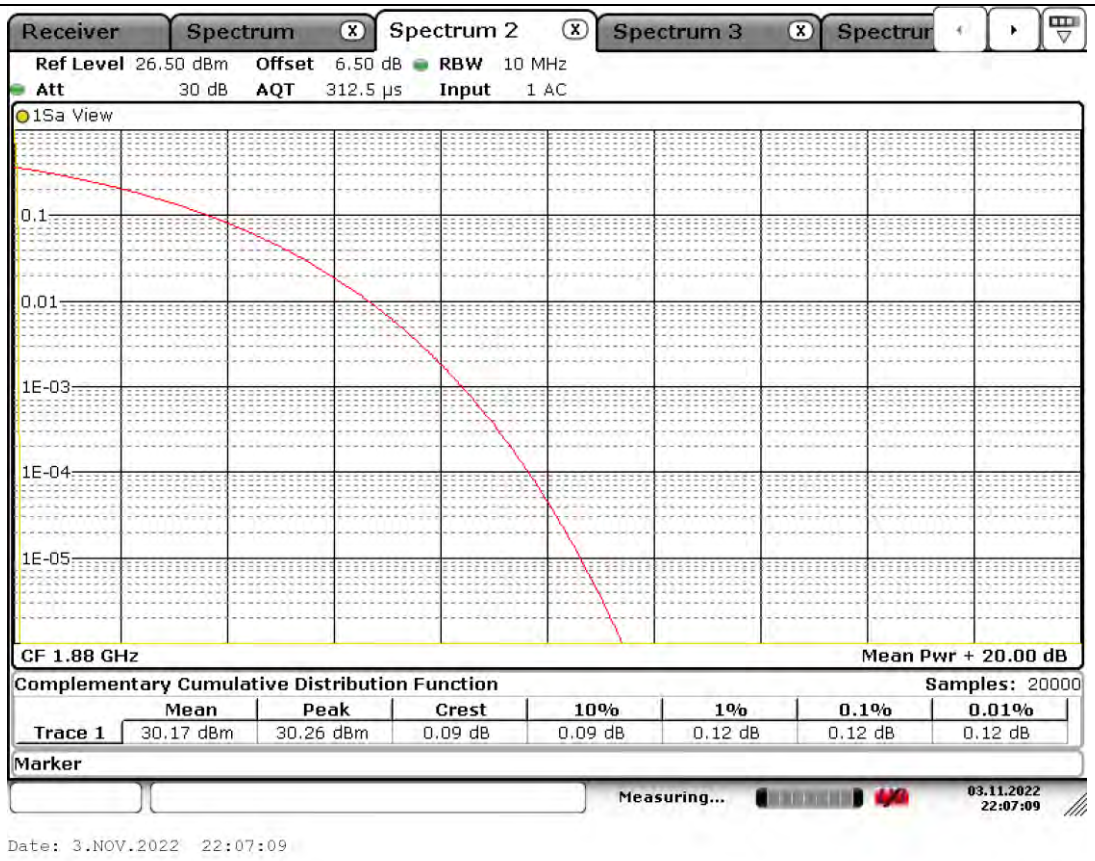
GSM1900-810



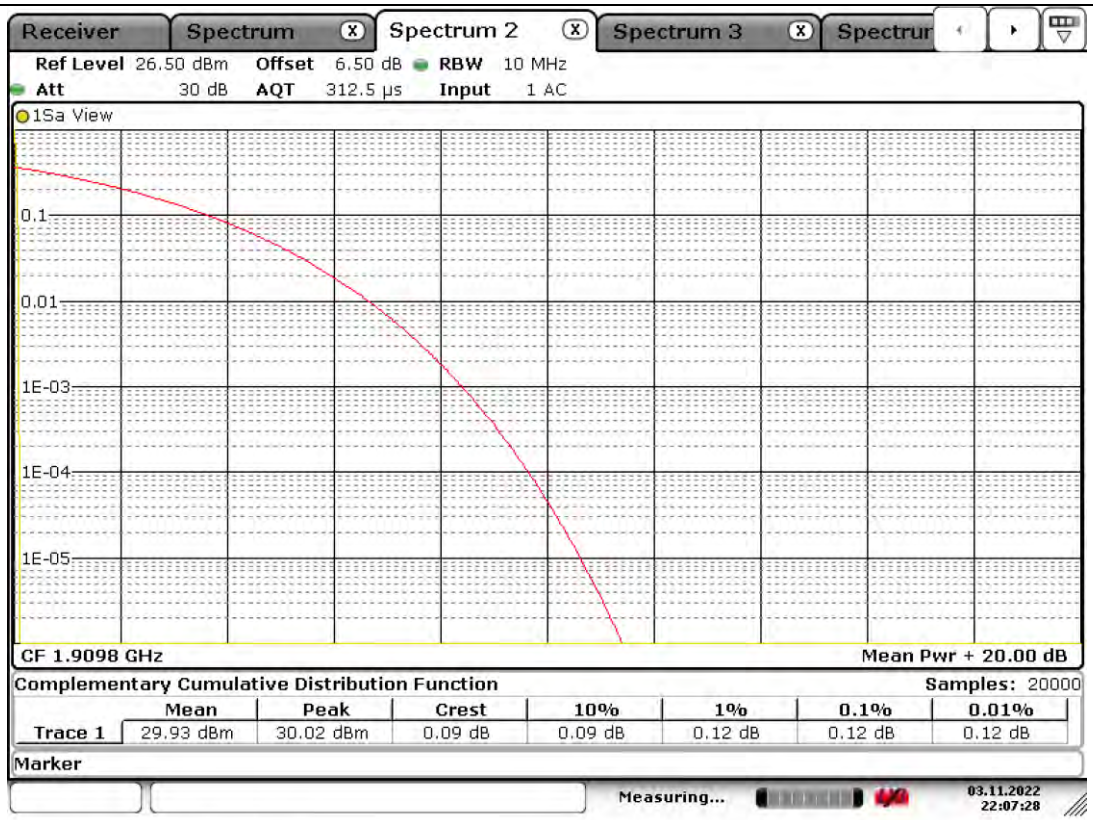
EGPRS1900-512



EGPRS1900-661



EGPRS1900-810


Receiver
Spectrum
Spectrum 2
Spectrum 3
Spectrum
Ref Level 26.50 dBm Offset 6.50 dB RBW 10 MHz
Att 30 dB AQT 312.5 µs Input 1 AC
1Sa View
0.1
0.01
1E-03
1E-04
1E-05
CF 1.9098 GHz
Mean Pwr + 20.00 dB
Complementary Cumulative Distribution Function
Samples: 20000
Mean Peak Crest 10% 1% 0.1% 0.01%
Trace 1 29.93 dBm 30.02 dBm 0.09 dB 0.09 dB 0.12 dB 0.12 dB 0.12 dB
Marker
Measuring...
03.11.2022
22:07:28
Date: 3.NOV.2022 22:07:28

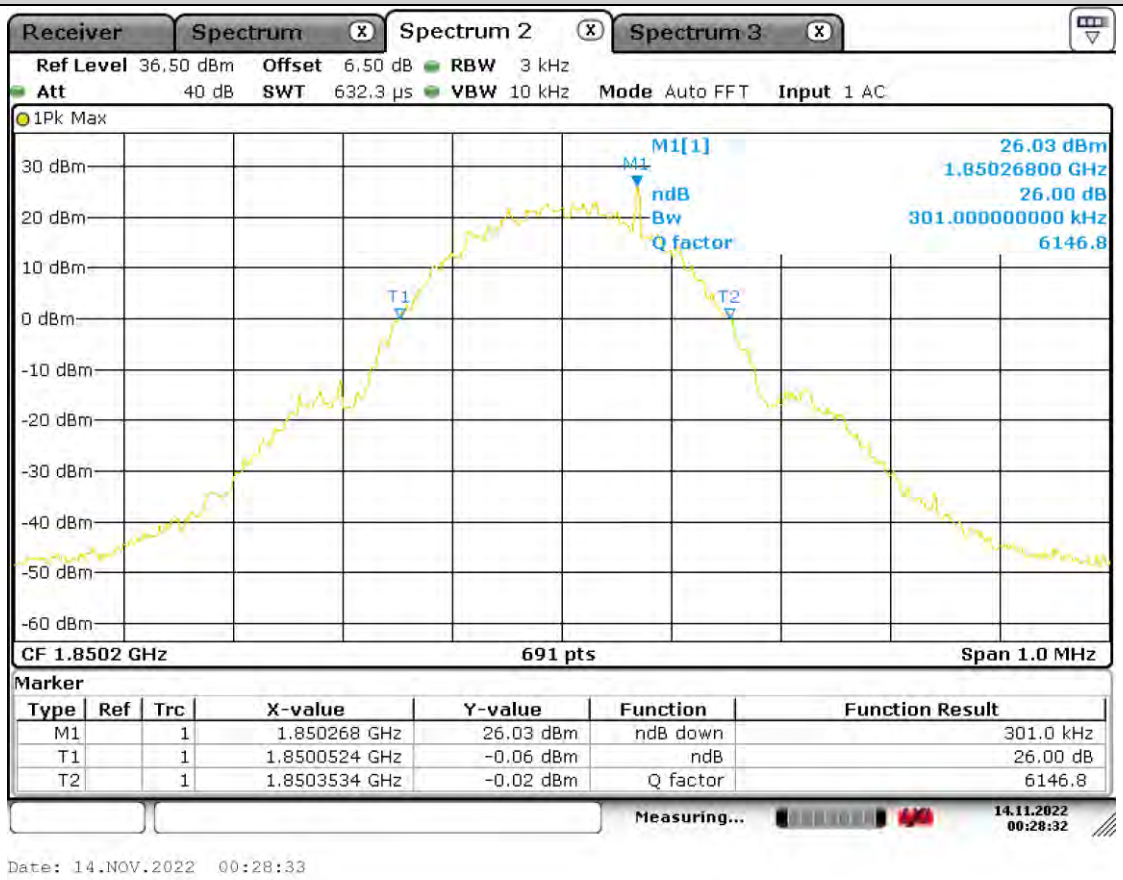
26DB BANDWIDTH AND OCCUPIED BANDWIDTH

Test Result

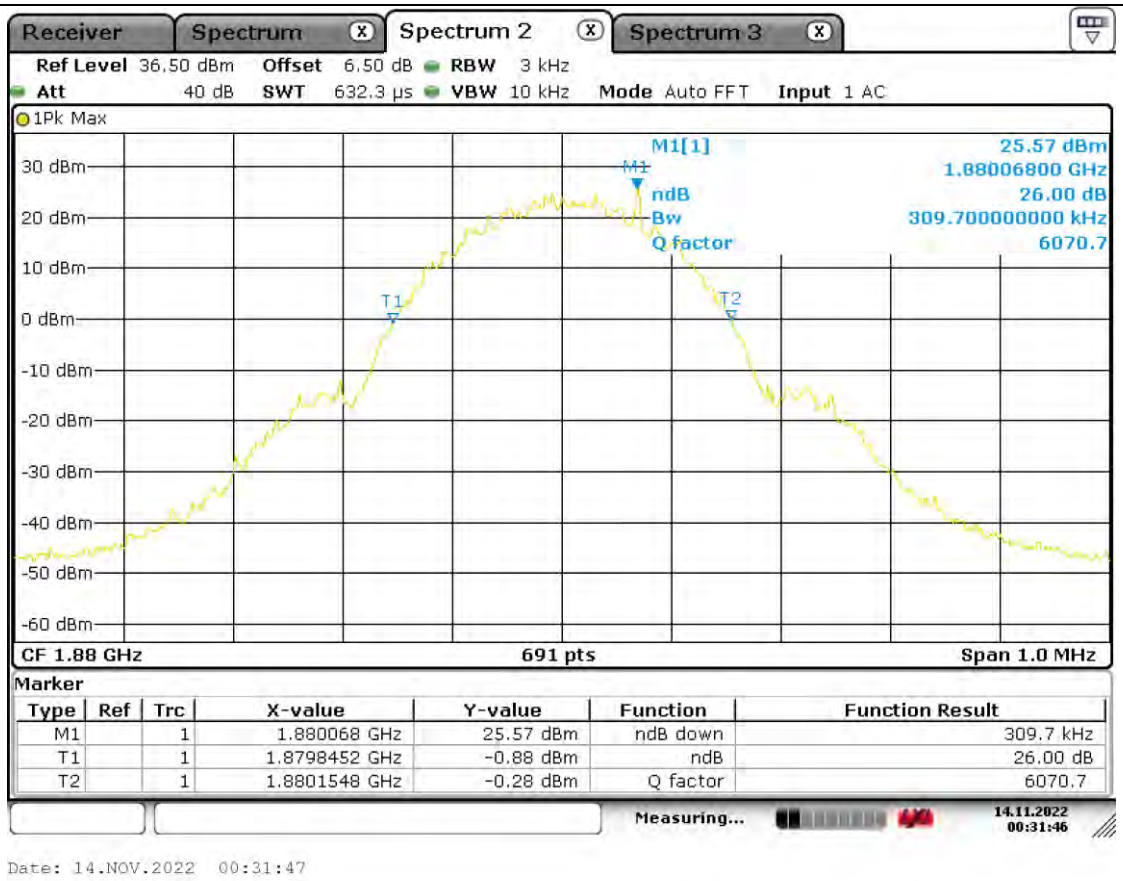
Band	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit (MHz)	Verdict
GSM1900	512	0.24167	0.301	---	PASS
GSM1900	661	0.24313	0.3097	---	PASS
GSM1900	810	0.24168	0.3039	---	PASS
EGPRS1900	512	0.24457	0.3111	---	PASS
EGPRS1900	661	0.24168	0.3126	---	PASS
EGPRS1900	810	0.24313	0.3111	---	PASS

Test Graphs

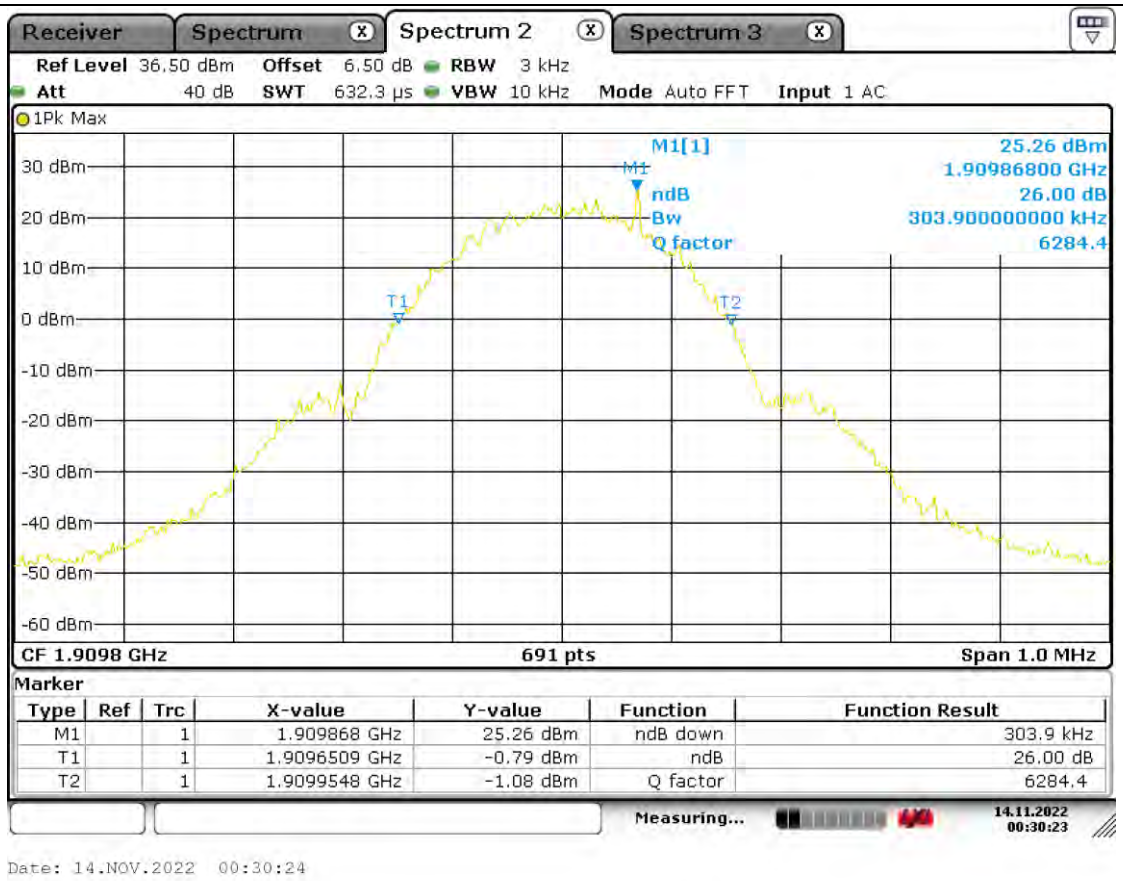
GSM1900-512



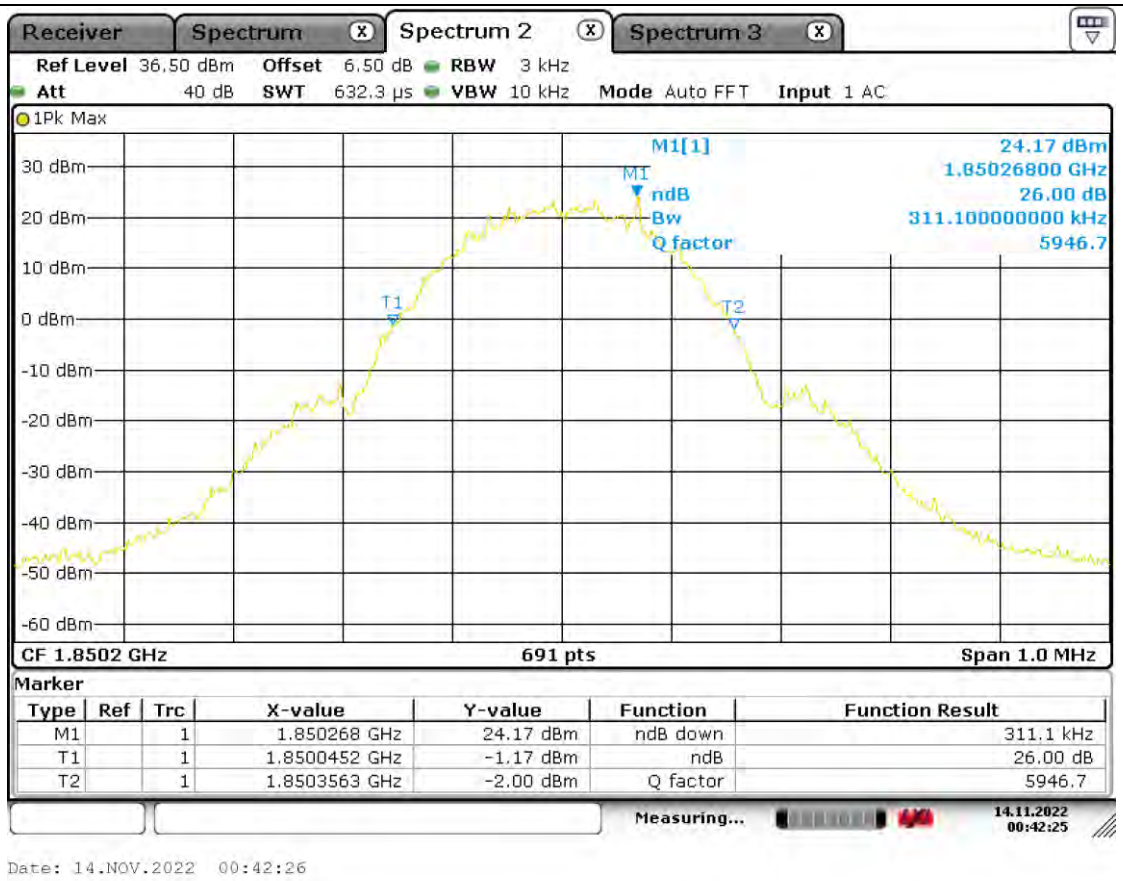
GSM1900-661


Receiver
Spectrum
Spectrum 2
Spectrum 3
Ref Level 36.50 dBm Offset 6.50 dB RBW 3 kHz
Att 40 dB SWT 632.3 µs VBW 10 kHz Mode Auto FFT Input 1 AC
1Pk Max
M1[1] 25.57 dBm
1.88006800 GHz
ndB 26.00 dB
Bw 309.700000000 kHz
Q factor 6070.7
30 dBm
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
T1
T2
CF 1.88 GHz
691 pts
Span 1.0 MHz
Marker
Type Ref Trc X-value Y-value Function Function Result
M1 1 1.880068 GHz 25.57 dBm ndB down 309.7 kHz
T1 1 1.8798452 GHz -0.88 dBm ndB 26.00 dB
T2 1 1.8801548 GHz -0.28 dBm Q factor 6070.7
Measuring...
14.11.2022
00:31:46
Date: 14.NOV.2022 00:31:47

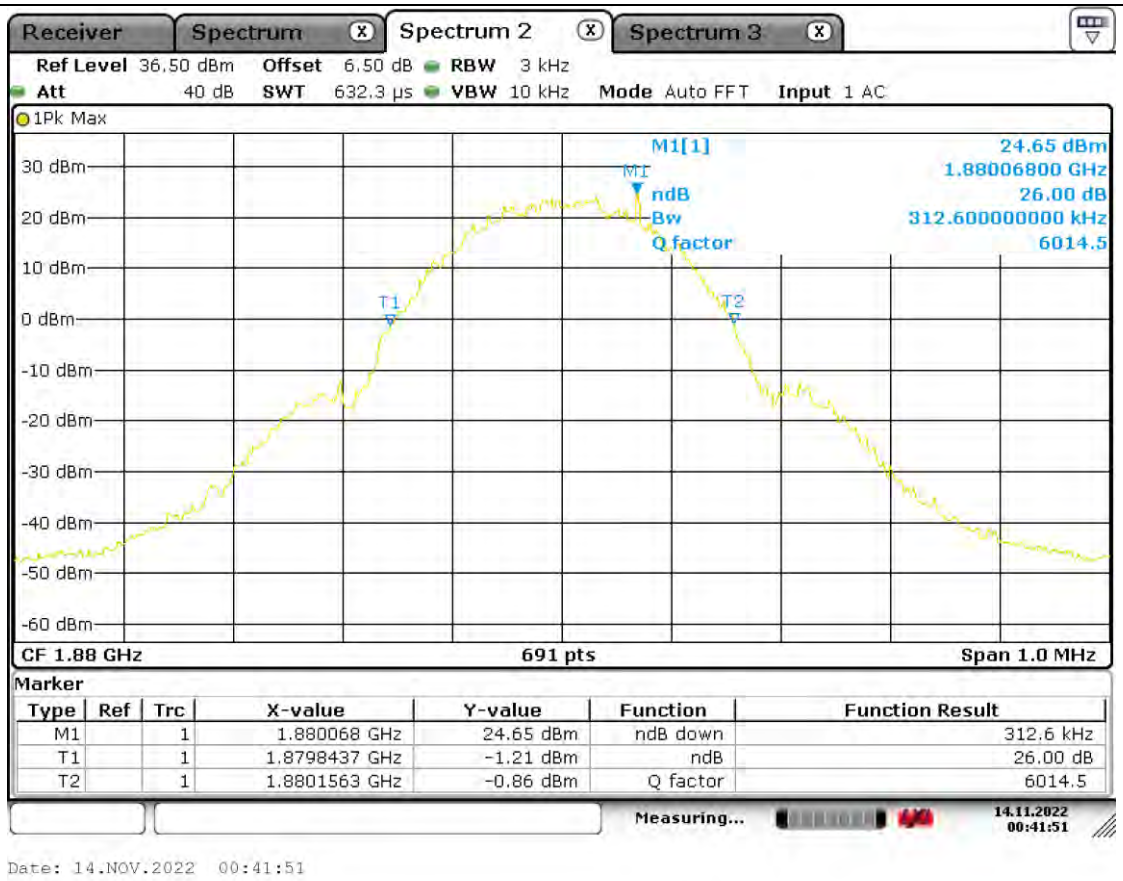
GSM1900-810



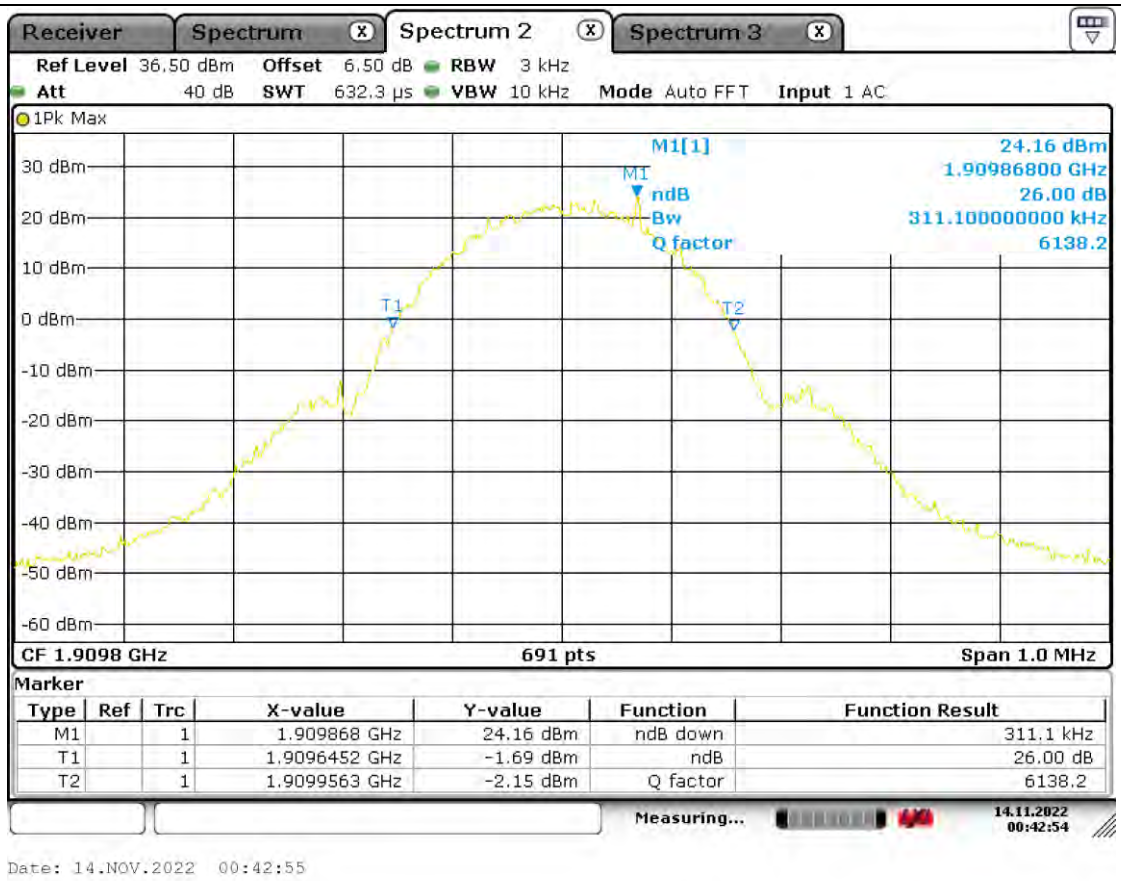
EGPRS1900-512



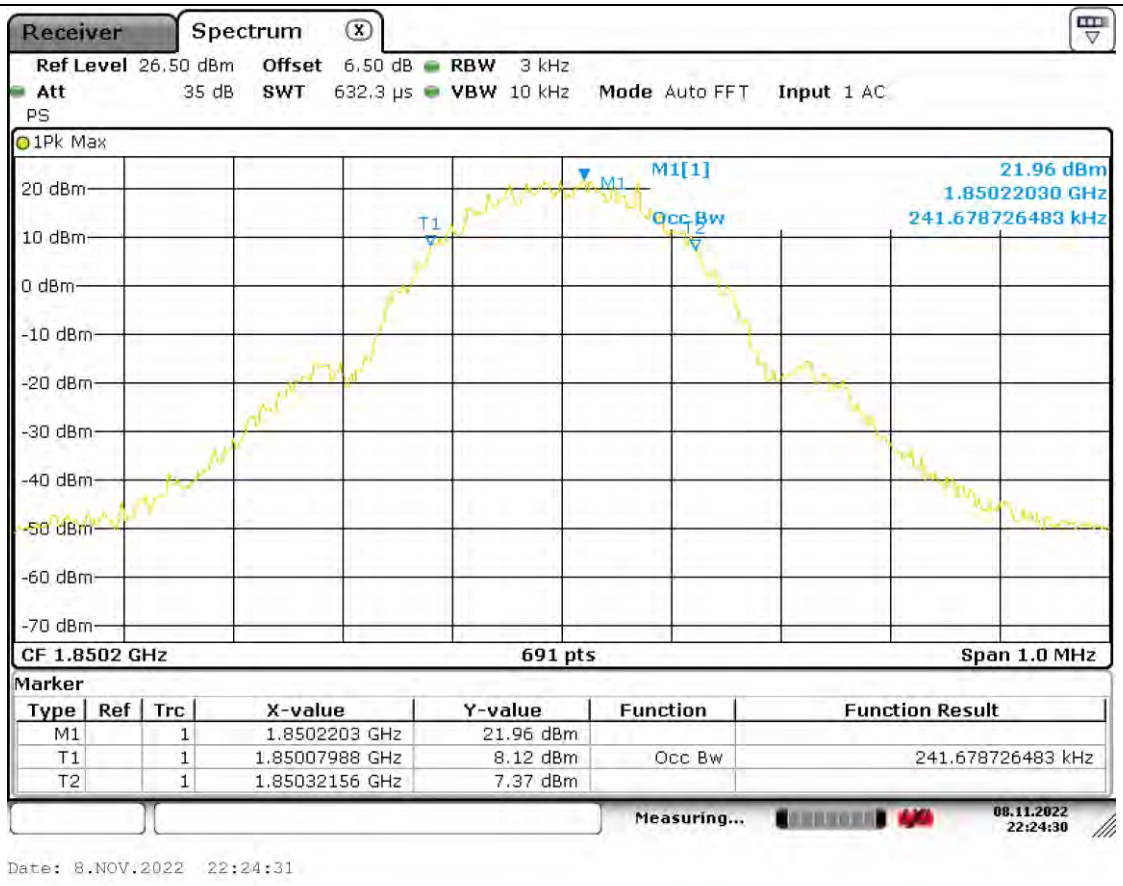
EGPRS1900-661



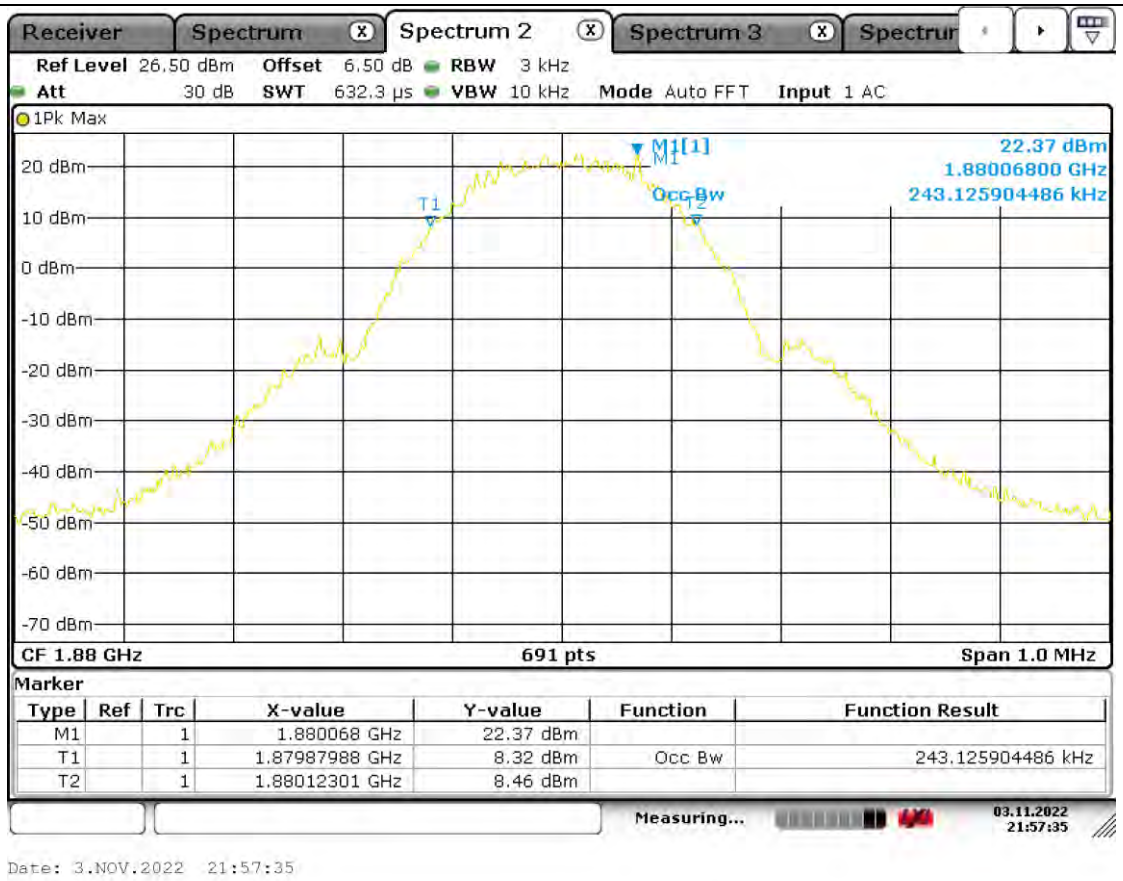
EGPRS1900-810


Receiver
Spectrum
Spectrum 2
Spectrum 3
Ref Level 36.50 dBm Offset 6.50 dB RBW 3 kHz
Att 40 dB SWT 632.3 µs VBW 10 kHz Mode Auto FFT Input 1 AC
1Pk Max
M1[1] 24.16 dBm
1.90986800 GHz
ndB 26.00 dB
Bw 311.100000000 kHz
Q factor 6138.2
30 dBm
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
T1
T2
CF 1.9098 GHz
691 pts
Span 1.0 MHz
Marker
Type Ref Trc X-value Y-value Function Function Result
M1 1 1.909868 GHz 24.16 dBm ndB down 311.1 kHz
T1 1 1.9096452 GHz -1.69 dBm ndB 26.00 dB
T2 1 1.9099563 GHz -2.15 dBm Q factor 6138.2
Measuring...
14.11.2022
00:42:54
Date: 14.NOV.2022 00:42:55

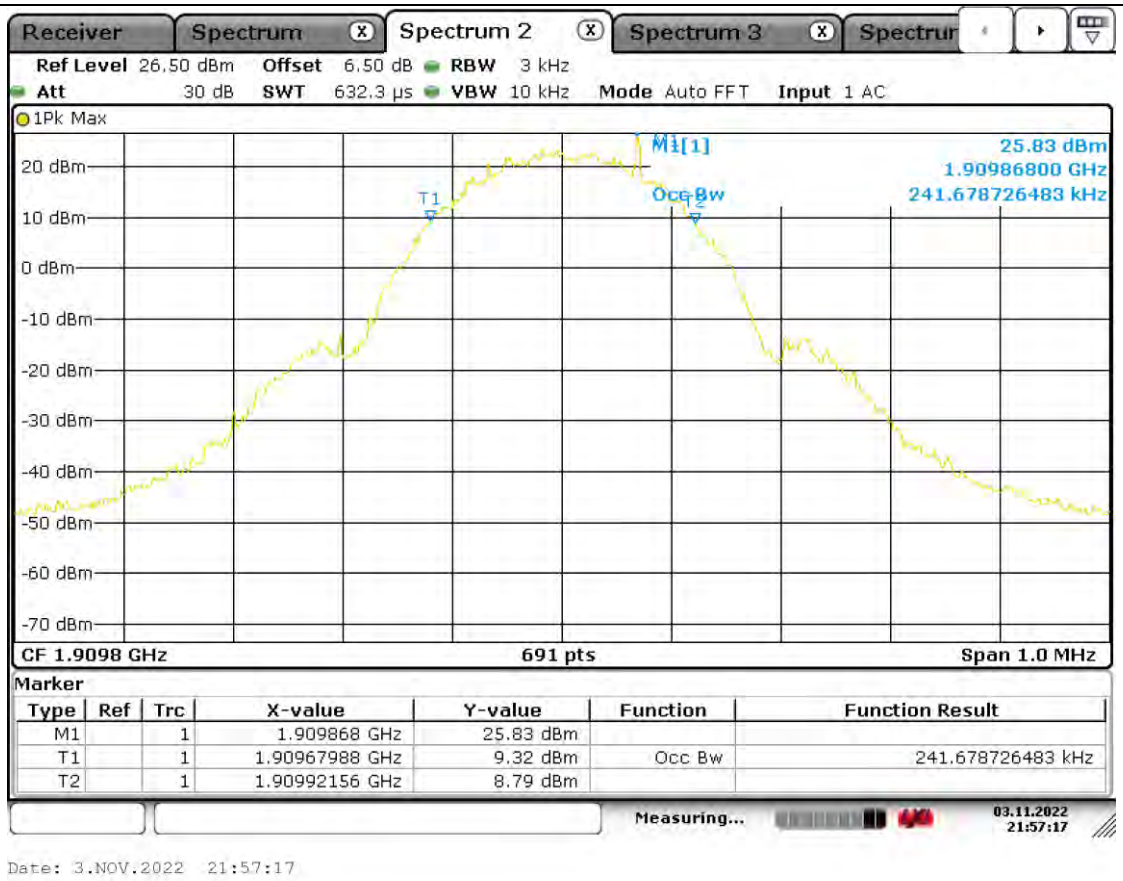
Occupied Bandwidth



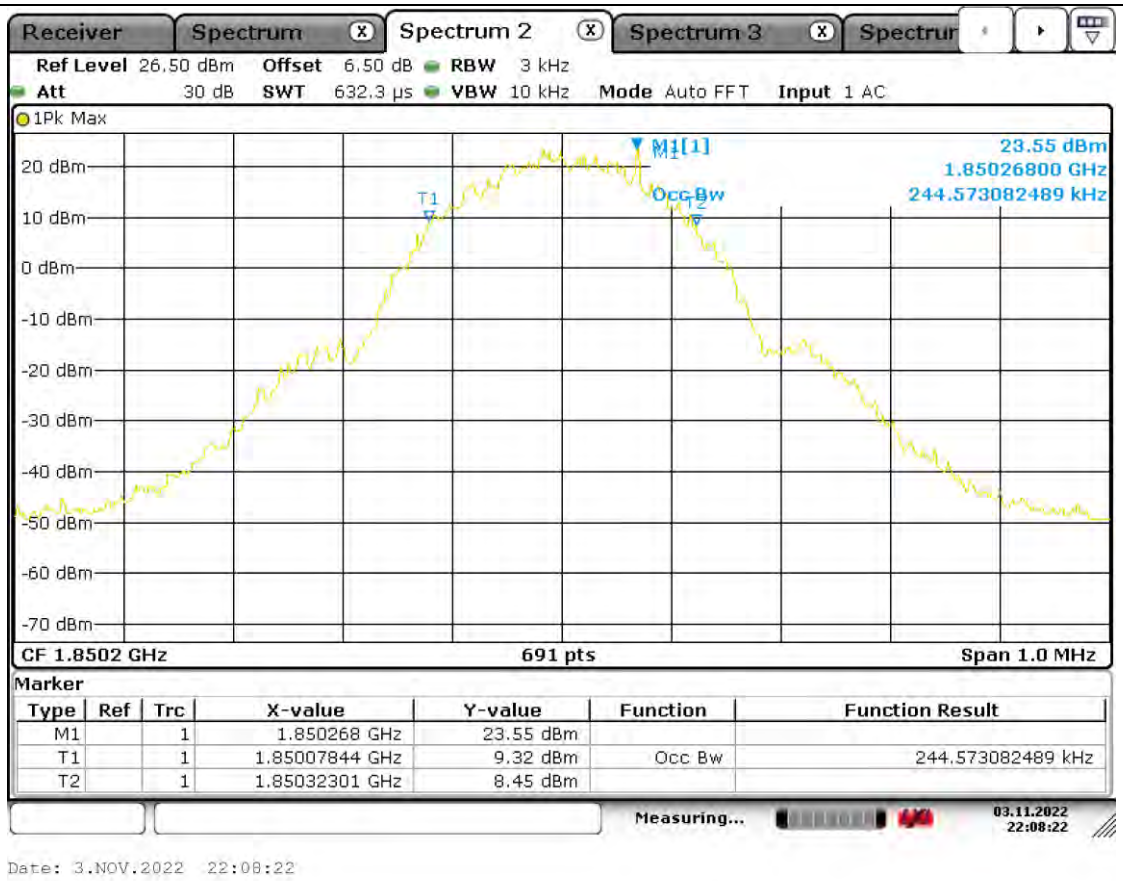
GSM1900-661


Receiver
Spectrum
Spectrum 2
Spectrum 3
Spectrum
Ref Level 26.50 dBm Offset 6.50 dB RBW 3 kHz
Att 30 dB SWT 632.3 µs VBW 10 kHz Mode Auto FFT Input 1 AC
1Pk Max
M1[1]
22.37 dBm
1.88006800 GHz
243.125904486 kHz
Occ Bw
T1
T2
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 1.88 GHz
691 pts
Span 1.0 MHz
Marker
Type Ref Trc X-value Y-value Function Function Result
M1 1 1.880068 GHz 22.37 dBm
T1 1 1.87987988 GHz 8.32 dBm Occ Bw 243.125904486 kHz
T2 1 1.88012301 GHz 8.46 dBm
Measuring...
03.11.2022
21:57:35
Date: 3.NOV.2022 21:57:35

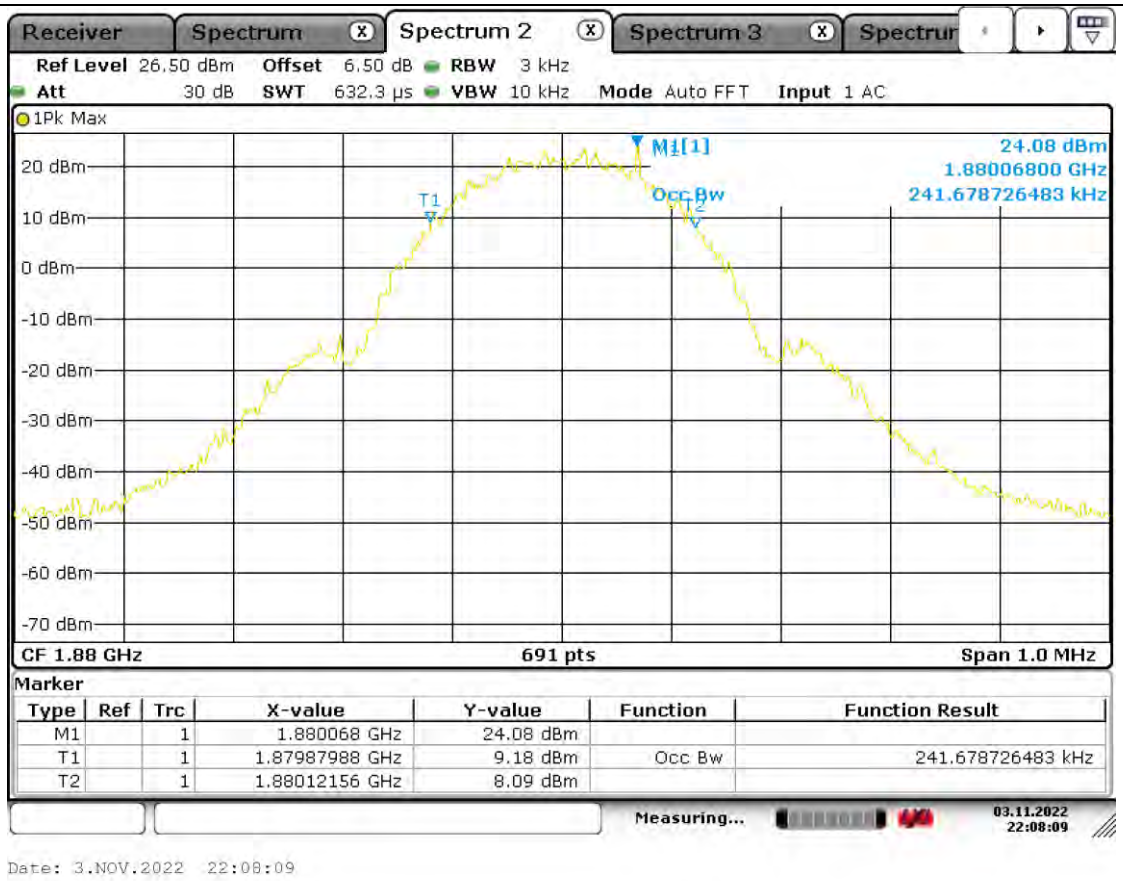
GSM1900-810



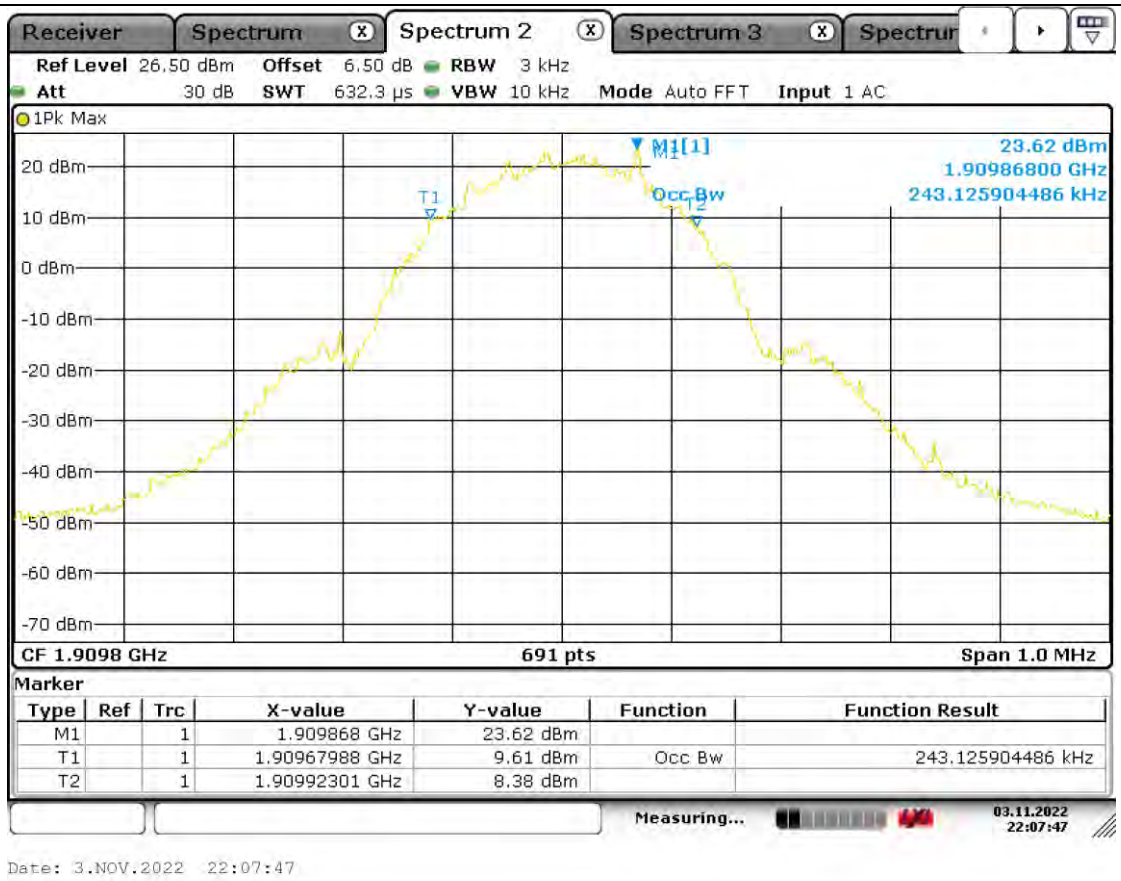
EGPRS1900-512



EGPRS1900-661



EGPRS1900-810


Receiver
Spectrum
Spectrum 2
Spectrum 3
Spectrum
Ref Level 26.50 dBm Offset 6.50 dB RBW 3 kHz
Att 30 dB SWT 632.3 µs VBW 10 kHz Mode Auto FFT Input 1 AC
1Pk Max
M1[1]
23.62 dBm
1.90986800 GHz
243.125904486 kHz
Occ Bw
T1
T2
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 1.9098 GHz
691 pts
Span 1.0 MHz
Marker
Type Ref Trc X-value Y-value Function Function Result
M1 1 1.909868 GHz 23.62 dBm
T1 1 1.90967988 GHz 9.61 dBm Occ Bw 243.125904486 kHz
T2 1 1.90992301 GHz 8.38 dBm
Measuring...
03.11.2022
22:07:47
Date: 3.NOV.2022 22:07:47

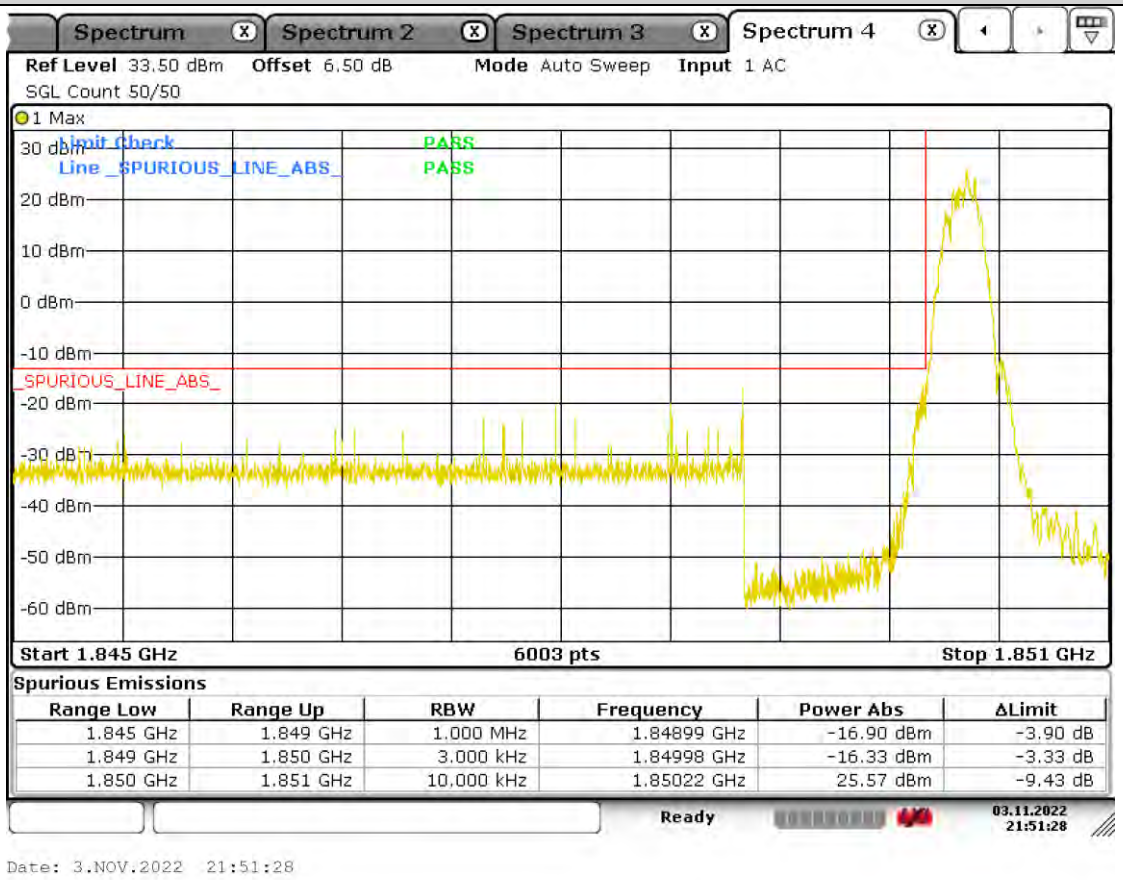
BAND EDGE

Test Result

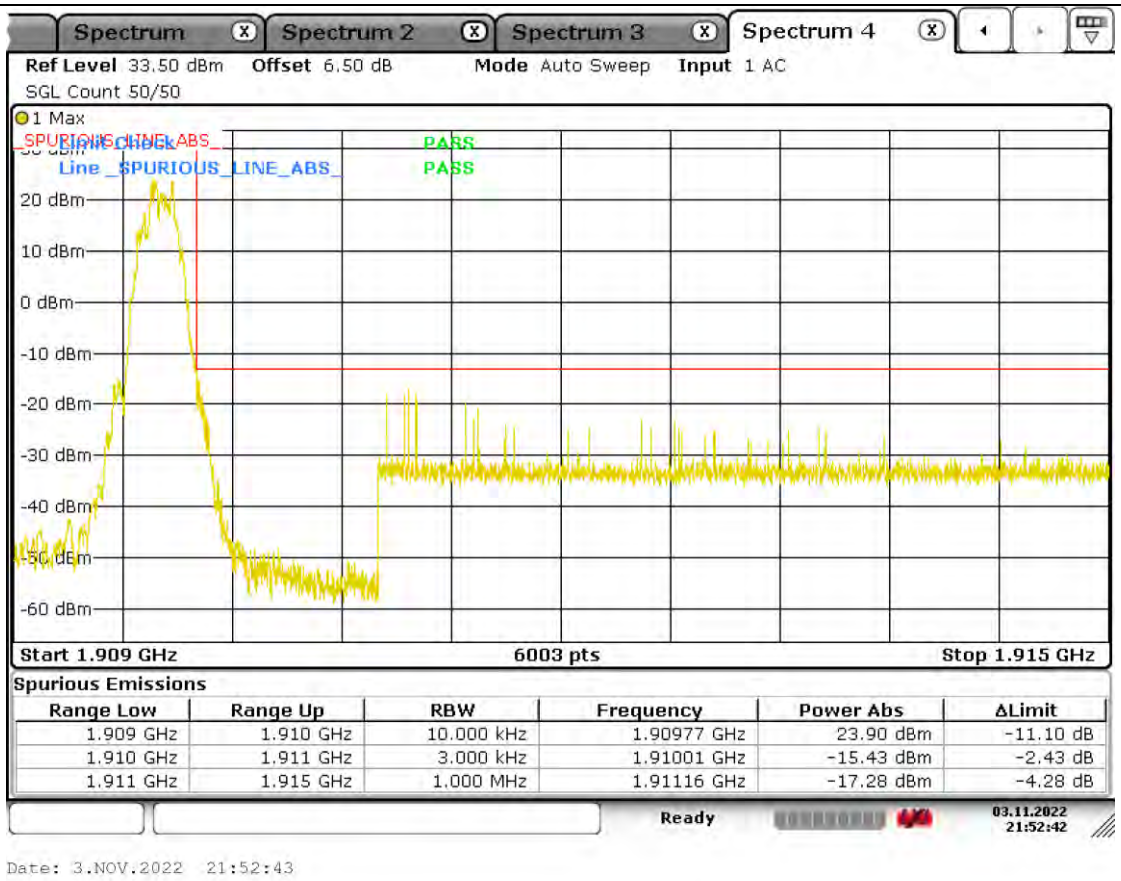
Band	Channel	Freq (MHz)	Result (dBm)	Limit(dBm)	Verdict
GSM1900	512	1849.98	-16.33	-13	PASS
GSM1900	810	1910.01	-15.43	-13	PASS
EGPRS1900	512	1850.00	-16.68	-13	PASS
EGPRS1900	810	1910.02	-17.03	-13	PASS

Test Graphs

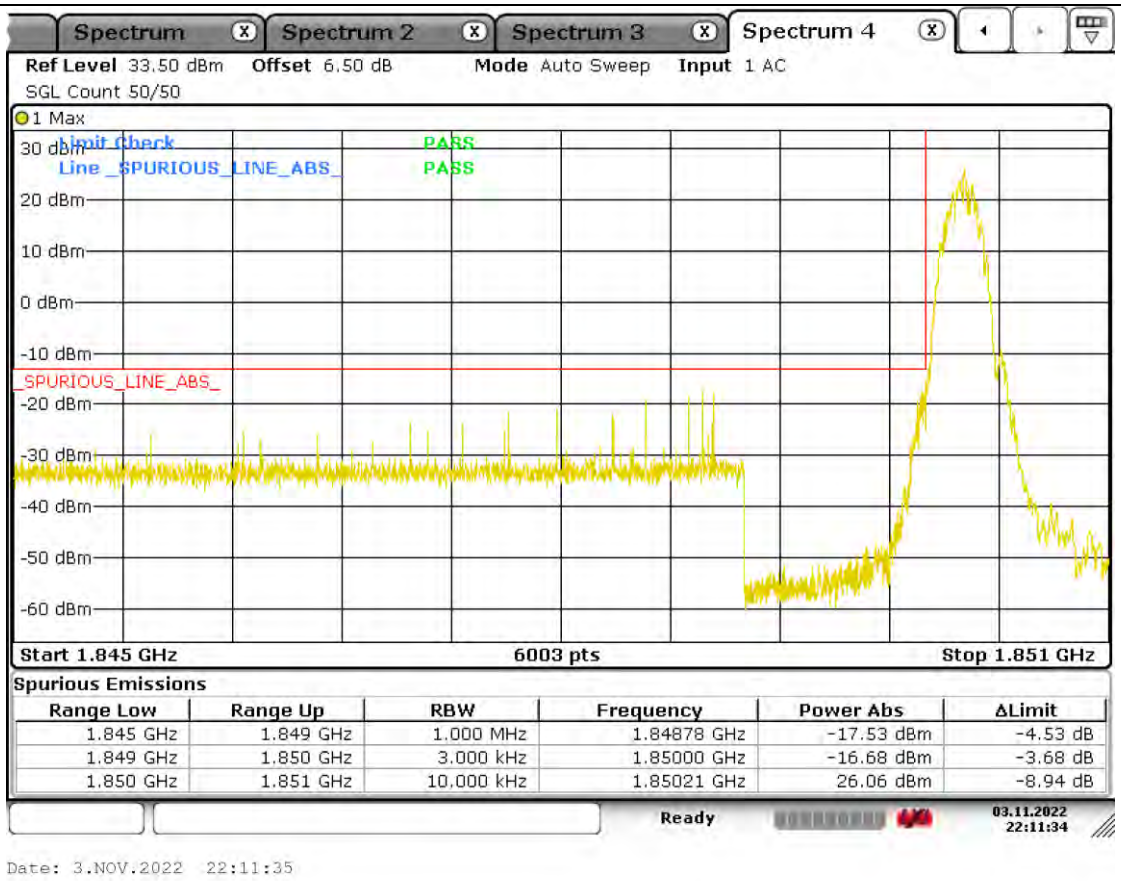
GSM1900-512



GSM1900-810



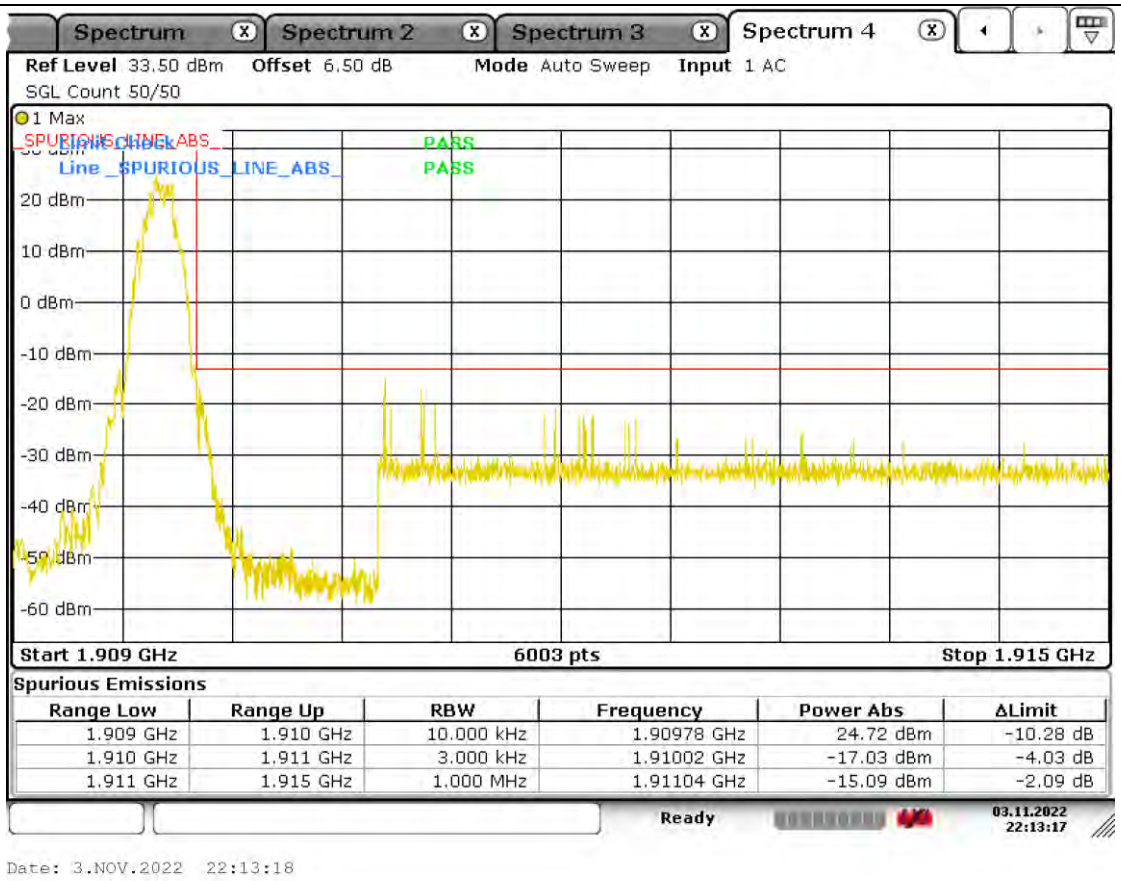
EGPRS1900-512



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.845 GHz	1.849 GHz	1.000 MHz	1.84878 GHz	-17.53 dBm	-4.53 dB
1.849 GHz	1.850 GHz	3.000 kHz	1.85000 GHz	-16.68 dBm	-3.68 dB
1.850 GHz	1.851 GHz	10.000 kHz	1.85021 GHz	26.06 dBm	-8.94 dB

EGPRS1900-810



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.909 GHz	1.910 GHz	10.000 kHz	1.90978 GHz	24.72 dBm	-10.28 dB
1.910 GHz	1.911 GHz	3.000 kHz	1.91002 GHz	-17.03 dBm	-4.03 dB
1.911 GHz	1.915 GHz	1.000 MHz	1.91104 GHz	-15.09 dBm	-2.09 dB

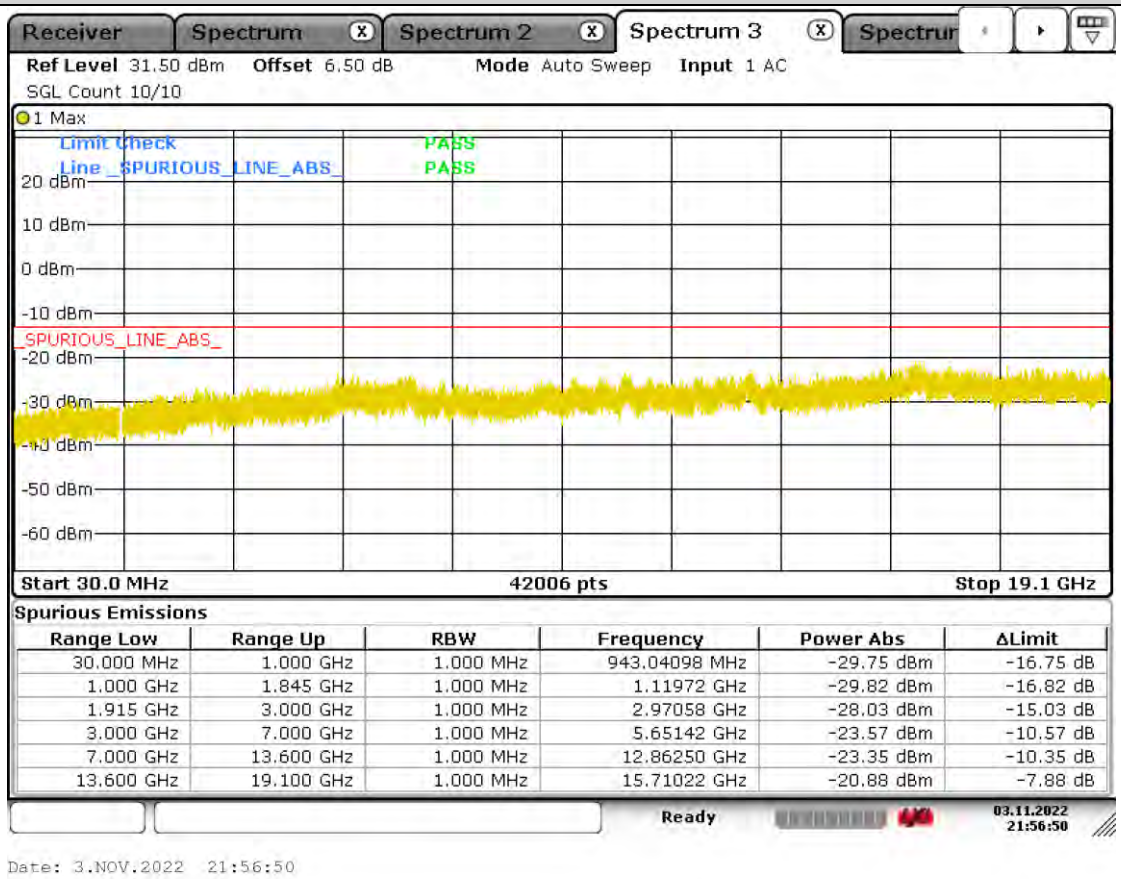
CONDUCTED SPURIOUS EMISSION

Test Result

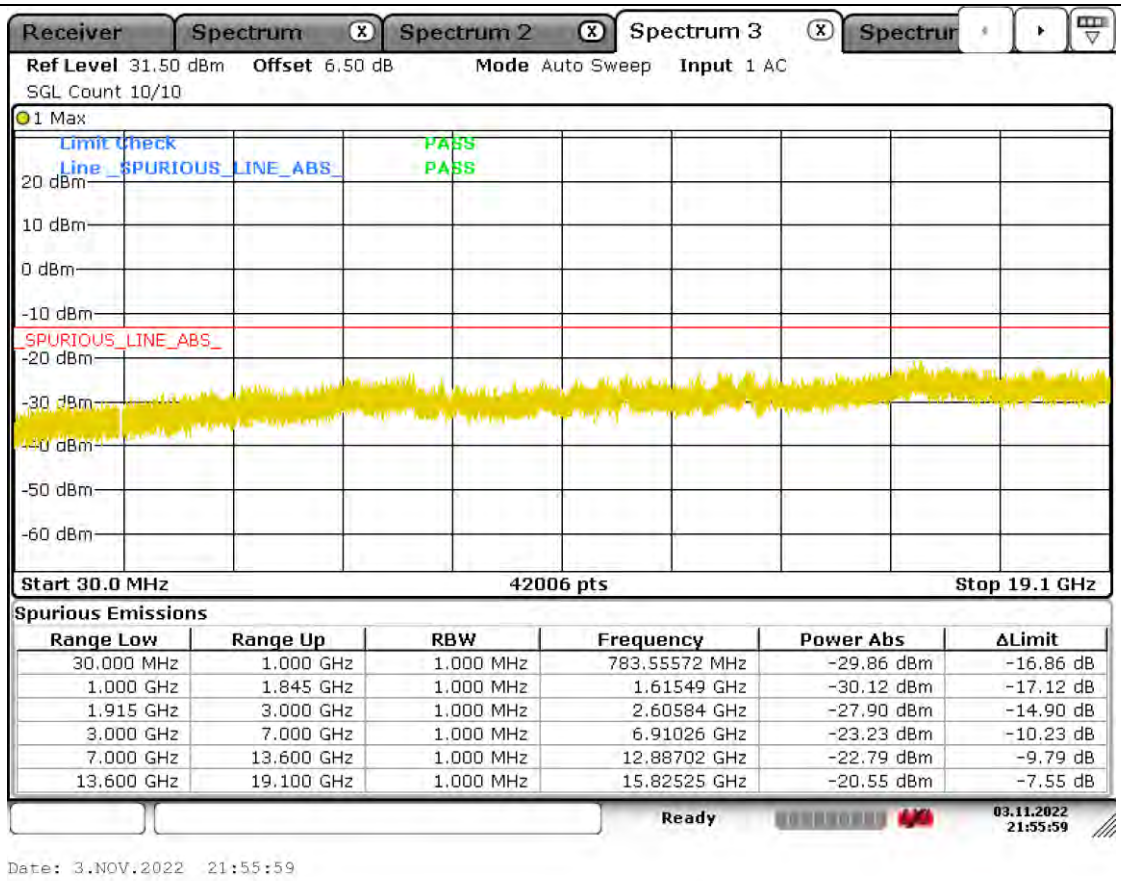
Band	Channel	Frequency Range(MHz)	Max.Freq. (MHz)	Result (dBm)	Limit (dBm)	Verdict
GSM1900	512	30~1000MHz	943.04	-29.75	-13	PASS
GSM1900	512	1000~3000MHz	2970.58	-28.03	-13	PASS
GSM1900	512	3000~19100MHz	15710.22	-20.88	-13	PASS
GSM1900	661	30~1000MHz	783.55	-29.86	-13	PASS
GSM1900	661	1000~3000MHz	2605.84	-27.90	-13	PASS
GSM1900	661	3000~19100MHz	15825.25	-20.55	-13	PASS
GSM1900	810	30~1000MHz	838.69	-30.36	-13	PASS
GSM1900	810	1000~3000MHz	2640	-28.50	-13	PASS
GSM1900	810	3000~19100MHz	7639.3	-21.22	-13	PASS
EGPRS1900	512	30~1000MHz	951.28	-30.74	-13	PASS
EGPRS1900	512	1000~3000MHz	2577.90	-28.35	-13	PASS
EGPRS1900	512	3000~19100MHz	15684.10	-21.15	-13	PASS
EGPRS1900	661	30~1000MHz	618.73	-29.64	-13	PASS
EGPRS1900	661	1000~3000MHz	2882.71	-28.70	-13	PASS
EGPRS1900	661	3000~19100MHz	16268.88	-20.98	-13	PASS
EGPRS1900	810	30~1000MHz	797.61	-29.95	-13	PASS
EGPRS1900	810	1000~3000MHz	2423.06	-27.94	-13	PASS
EGPRS1900	810	3000~19100MHz	15826.17	-19.27	-13	PASS

Test Graphs

GSM1900-512-30~19100MHz



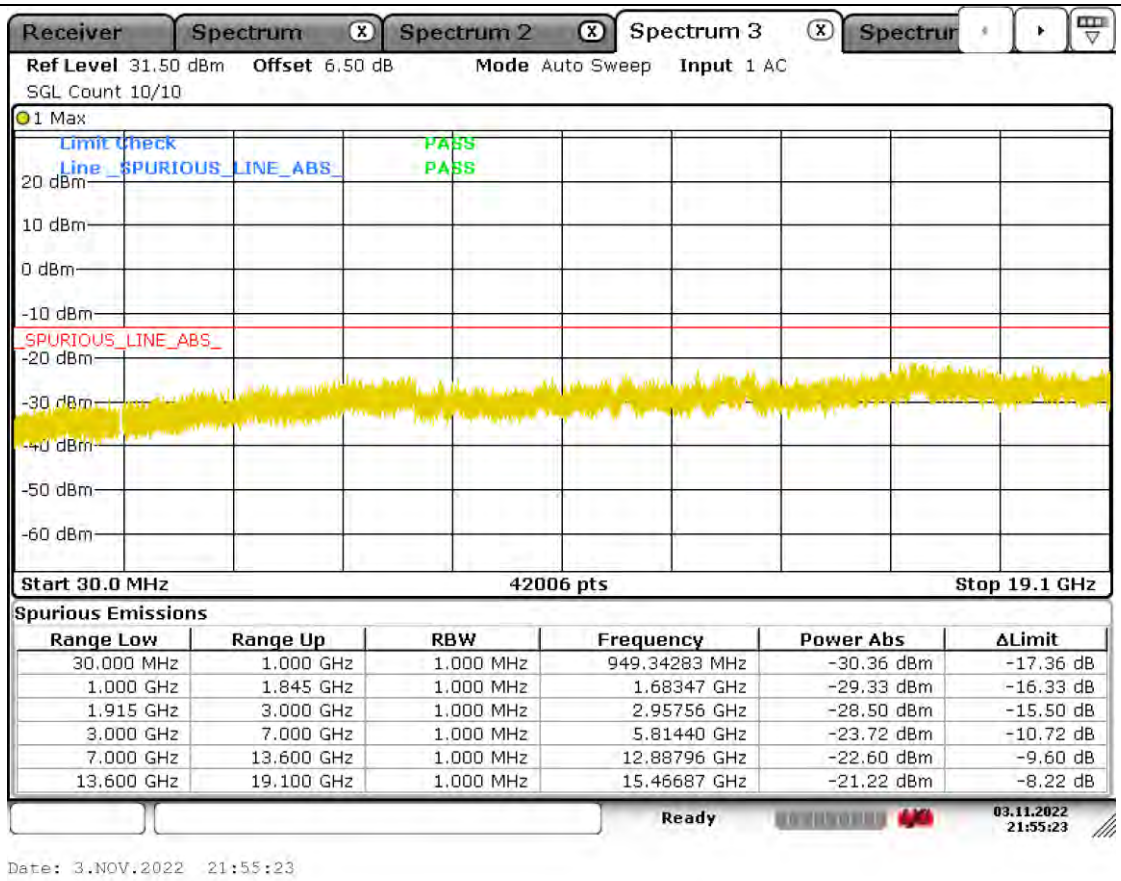
GSM1900-661-30~19100MHz



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	783.55572 MHz	-29.86 dBm	-16.86 dB
1.000 GHz	1.845 GHz	1.000 MHz	1.61549 GHz	-30.12 dBm	-17.12 dB
1.915 GHz	3.000 GHz	1.000 MHz	2.60584 GHz	-27.90 dBm	-14.90 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.91026 GHz	-23.23 dBm	-10.23 dB
7.000 GHz	13.600 GHz	1.000 MHz	12.88702 GHz	-22.79 dBm	-9.79 dB
13.600 GHz	19.100 GHz	1.000 MHz	15.82525 GHz	-20.55 dBm	-7.55 dB

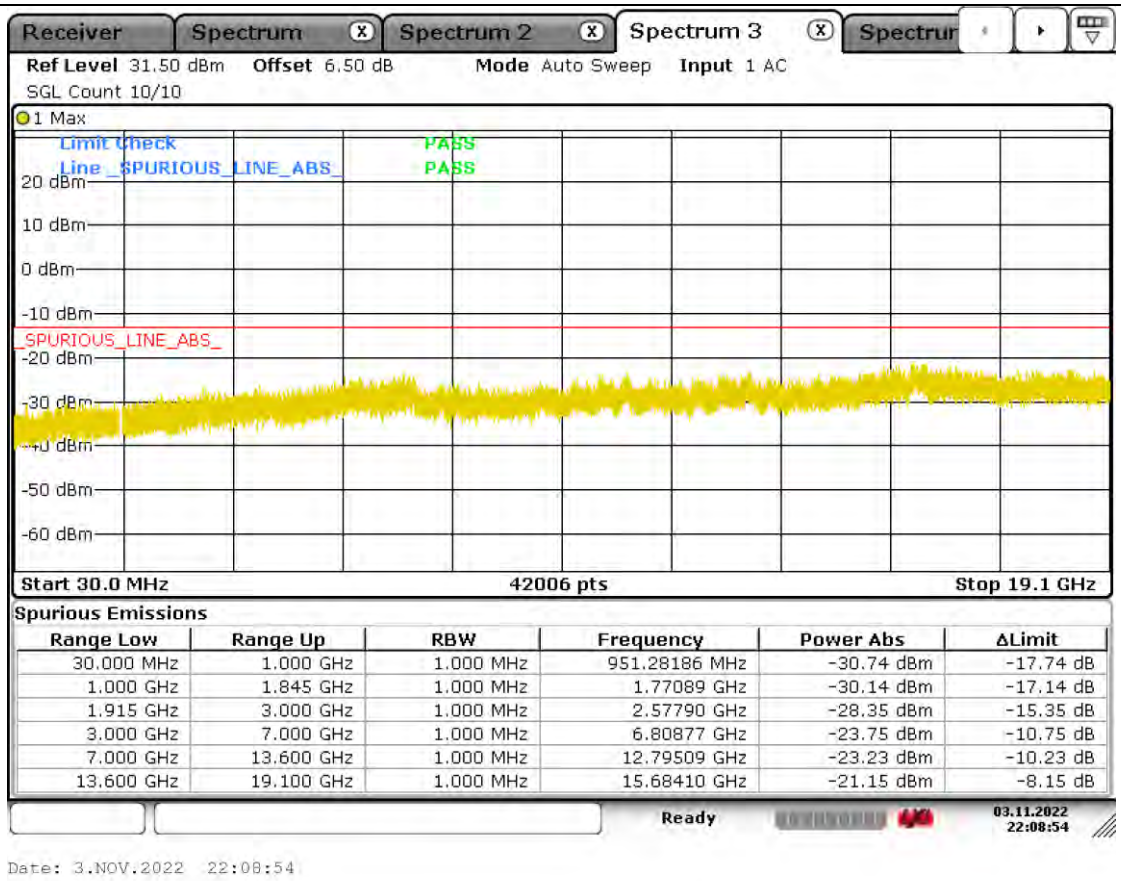
GSM1900-810-30~19100MHz



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	949.34283 MHz	-30.36 dBm	-17.36 dB
1.000 GHz	1.845 GHz	1.000 MHz	1.68347 GHz	-29.33 dBm	-16.33 dB
1.915 GHz	3.000 GHz	1.000 MHz	2.95756 GHz	-28.50 dBm	-15.50 dB
3.000 GHz	7.000 GHz	1.000 MHz	5.81440 GHz	-23.72 dBm	-10.72 dB
7.000 GHz	13.600 GHz	1.000 MHz	12.88796 GHz	-22.60 dBm	-9.60 dB
13.600 GHz	19.100 GHz	1.000 MHz	15.46687 GHz	-21.22 dBm	-8.22 dB

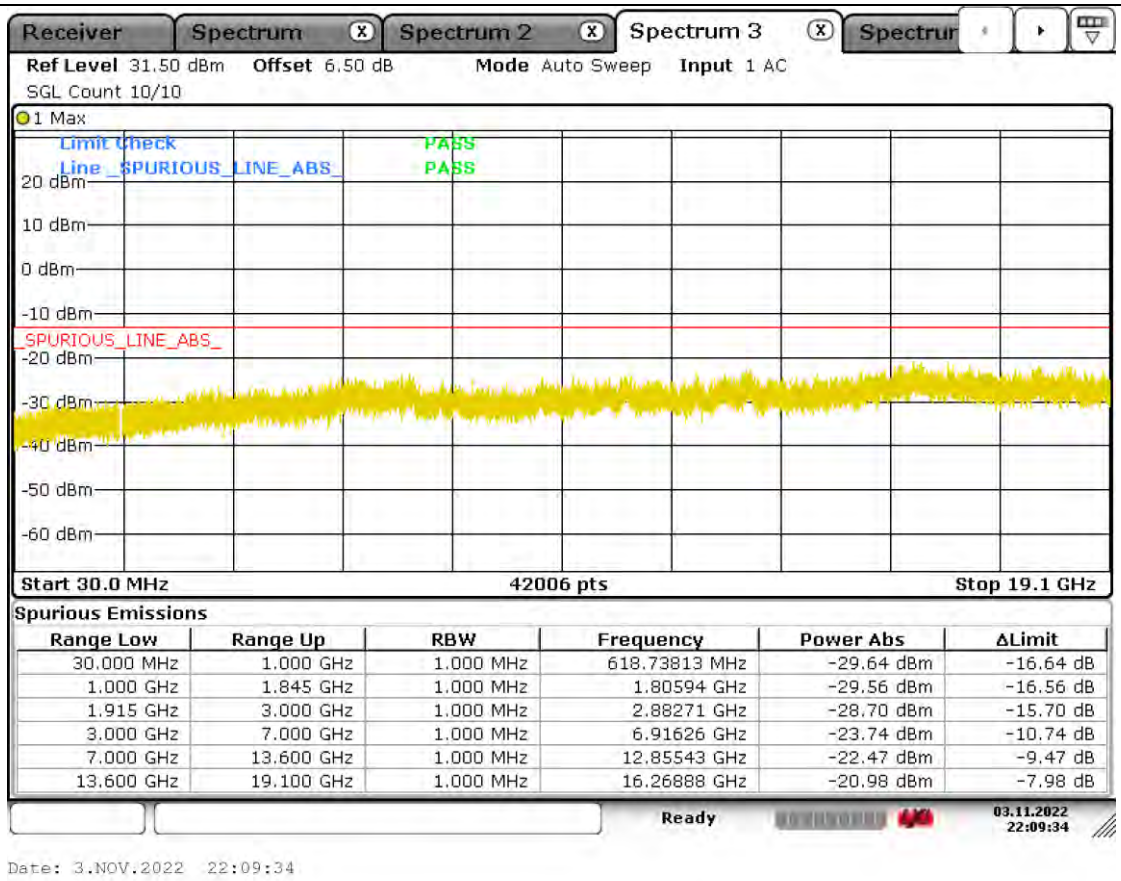
EGPRS1900-512-30~30~19100MHz



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	951.28186 MHz	-30.74 dBm	-17.74 dB
1.000 GHz	1.845 GHz	1.000 MHz	1.77089 GHz	-30.14 dBm	-17.14 dB
1.915 GHz	3.000 GHz	1.000 MHz	2.57790 GHz	-28.35 dBm	-15.35 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.80877 GHz	-23.75 dBm	-10.75 dB
7.000 GHz	13.600 GHz	1.000 MHz	12.79509 GHz	-23.23 dBm	-10.23 dB
13.600 GHz	19.100 GHz	1.000 MHz	15.68410 GHz	-21.15 dBm	-8.15 dB

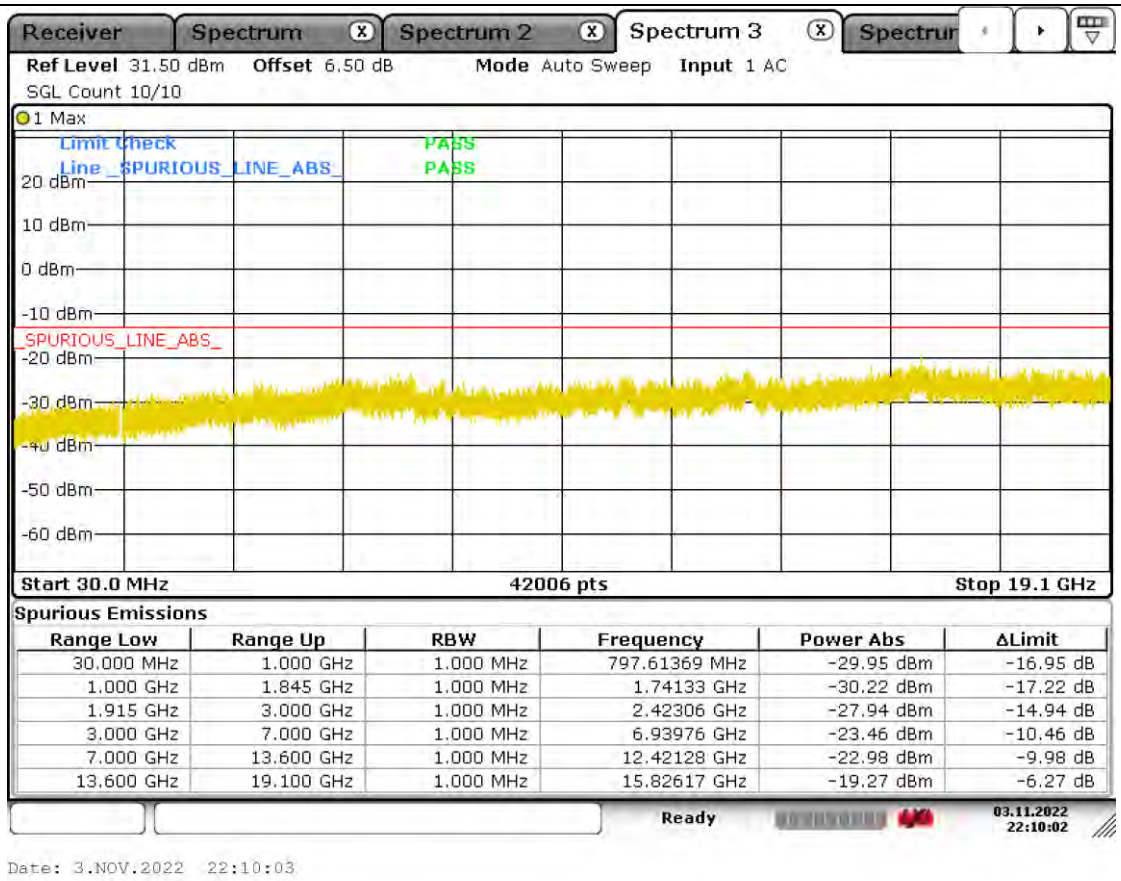
EGPRS1900-661-30~19100MHz



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	618.73813 MHz	-29.64 dBm	-16.64 dB
1.000 GHz	1.845 GHz	1.000 MHz	1.80594 GHz	-29.56 dBm	-16.56 dB
1.915 GHz	3.000 GHz	1.000 MHz	2.88271 GHz	-28.70 dBm	-15.70 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.91626 GHz	-23.74 dBm	-10.74 dB
7.000 GHz	13.600 GHz	1.000 MHz	12.85543 GHz	-22.47 dBm	-9.47 dB
13.600 GHz	19.100 GHz	1.000 MHz	16.26888 GHz	-20.98 dBm	-7.98 dB

EGPRS1900-810-30~19100MHz



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	797.61369 MHz	-29.95 dBm	-16.95 dB
1.000 GHz	1.845 GHz	1.000 MHz	1.74133 GHz	-30.22 dBm	-17.22 dB
1.915 GHz	3.000 GHz	1.000 MHz	2.42306 GHz	-27.94 dBm	-14.94 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.93976 GHz	-23.46 dBm	-10.46 dB
7.000 GHz	13.600 GHz	1.000 MHz	12.42128 GHz	-22.98 dBm	-9.98 dB
13.600 GHz	19.100 GHz	1.000 MHz	15.82617 GHz	-19.27 dBm	-6.27 dB

FREQUENCY STABILITY

Test Result

Voltage							
Band	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
GSM1900	512	VL	NT	-3.07	-0.001659	±2.5	PASS
GSM1900	512	VN	NT	-8.64	-0.004670	±2.5	PASS
GSM1900	512	VH	NT	-7.62	-0.004118	±2.5	PASS
GSM1900	661	VL	NT	-4.2	-0.002234	±2.5	PASS
GSM1900	661	VN	NT	4.93	0.002622	±2.5	PASS
GSM1900	661	VH	NT	2.63	0.001399	±2.5	PASS
GSM1900	810	VL	NT	9.97	0.005220	±2.5	PASS
GSM1900	810	VN	NT	5.19	0.002718	±2.5	PASS
GSM1900	810	VH	NT	-3.09	-0.001618	±2.5	PASS
EGPRS1900	512	VL	NT	5.06	0.002735	±2.5	PASS
EGPRS1900	512	VN	NT	8.87	0.004794	±2.5	PASS
EGPRS1900	512	VH	NT	7.46	0.004032	±2.5	PASS
EGPRS1900	661	VL	NT	-1.34	-0.000713	±2.5	PASS
EGPRS1900	661	VN	NT	-5.31	-0.002824	±2.5	PASS
EGPRS1900	661	VH	NT	6.92	0.003681	±2.5	PASS
EGPRS1900	810	VL	NT	-8.43	-0.004414	±2.5	PASS
EGPRS1900	810	VN	NT	-3.68	-0.001927	±2.5	PASS
EGPRS1900	810	VH	NT	-4.8	-0.002513	±2.5	PASS

Temperature							
Band	Channel	Voltage [Vdc]	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
GSM1900	512	NV	-30	-6.75	-0.003648	±2.5	PASS
GSM1900	512	NV	-20	0.66	0.000357	±2.5	PASS
GSM1900	512	NV	-10	3.29	0.001778	±2.5	PASS
GSM1900	512	NV	0	4.54	0.002454	±2.5	PASS
GSM1900	512	NV	10	-8.83	-0.004772	±2.5	PASS
GSM1900	512	NV	20	-6.23	-0.003367	±2.5	PASS
GSM1900	512	NV	30	-7.91	-0.004275	±2.5	PASS
GSM1900	512	NV	40	9.37	0.005064	±2.5	PASS
GSM1900	512	NV	50	0.88	0.000476	±2.5	PASS

GSM1900	661	NV	-30	2.53	0.001346	±2.5	PASS
GSM1900	661	NV	-20	7.36	0.003915	±2.5	PASS
GSM1900	661	NV	-10	3.48	0.001851	±2.5	PASS
GSM1900	661	NV	0	0.38	0.000202	±2.5	PASS
GSM1900	661	NV	10	0.56	0.000298	±2.5	PASS
GSM1900	661	NV	20	-6.43	-0.003420	±2.5	PASS
GSM1900	661	NV	30	-9.57	-0.005090	±2.5	PASS
GSM1900	661	NV	40	2.49	0.001324	±2.5	PASS
GSM1900	661	NV	50	9.53	0.005069	±2 .5	PASS
GSM1900	810	NV	-30	0.84	0.000440	±2.5	PASS
GSM1900	810	NV	-20	9.73	0.005095	±2.5	PASS
GSM1900	810	NV	-10	-0.22	-0.000115	±2.5	PASS
GSM1900	810	NV	0	5.67	0.002969	±2.5	PASS
GSM1900	810	NV	10	5.02	0.002629	±2.5	PASS
GSM1900	810	NV	20	2.58	0.001351	±2.5	PASS
GSM1900	810	NV	30	7.95	0.004163	±2.5	PASS
GSM1900	810	NV	40	6.82	0.003571	±2.5	PASS
GSM1900	810	NV	50	0.77	0.000403	±2.5	PASS
EGPRS1900	512	NV	-30	7.32	0.003956	±2.5	PASS
EGPRS1900	512	NV	-20	-5.48	-0.002962	±2.5	PASS
EGPRS1900	512	NV	-10	-5.93	-0.003205	±2.5	PASS
EGPRS1900	512	NV	0	-9.16	-0.004951	±2.5	PASS
EGPRS1900	512	NV	10	5.93	0.003205	±2.5	PASS
EGPRS1900	512	NV	20	4.62	0.002497	±2.5	PASS
EGPRS1900	512	NV	30	9.65	0.005216	±2.5	PASS
EGPRS1900	512	NV	40	7.67	0.004145	±2.5	PASS
EGPRS1900	512	NV	50	1.04	0.000562	±2.5	PASS
EGPRS1900	661	NV	-30	4.11	0.002186	±2.5	PASS
EGPRS1900	661	NV	-20	1.89	0.001005	±2.5	PASS
EGPRS1900	661	NV	-10	1.79	0.000952	±2.5	PASS
EGPRS1900	661	NV	0	0.88	0.000468	±2.5	PASS
EGPRS1900	661	NV	10	-0.15	-0.000080	±2.5	PASS
EGPRS1900	661	NV	20	-1.46	-0.000777	±2.5	PASS
EGPRS1900	661	NV	30	2.82	0.001500	±2.5	PASS
EGPRS19	661	NV	40	5.43	0.002888	±2.5	PASS

00							
EGPRS1900	661	NV	50	5.22	0.002777	±2.5	PASS
EGPRS1900	810	NV	-30	-5.72	-0.002995	±2.5	PASS
EGPRS1900	810	NV	-20	-0.98	-0.000513	±2.5	PASS
EGPRS1900	810	NV	-10	-4.34	-0.002272	±2.5	PASS
EGPRS1900	810	NV	0	9.74	0.005100	±2.5	PASS
EGPRS1900	810	NV	10	3.8	0.001990	±2.5	PASS
EGPRS1900	810	NV	20	-3.4	-0.001780	±2.5	PASS
EGPRS1900	810	NV	30	-8.21	-0.004299	±2.5	PASS
EGPRS1900	810	NV	40	-8.64	-0.004524	±2.5	PASS
EGPRS1900	810	NV	50	2.62	0.001372	±2.5	PASS

WDCMA BAND2

PEAK-TO-AVERAGE RATIO

Test Result

Band	Channel	Peak-to-Average Ratio(dB)	Limit(dBm)	Verdict
Band2	9262	2.99	13	PASS
Band2	9400	3.04	13	PASS
Band2	9538	2.9	13	PASS

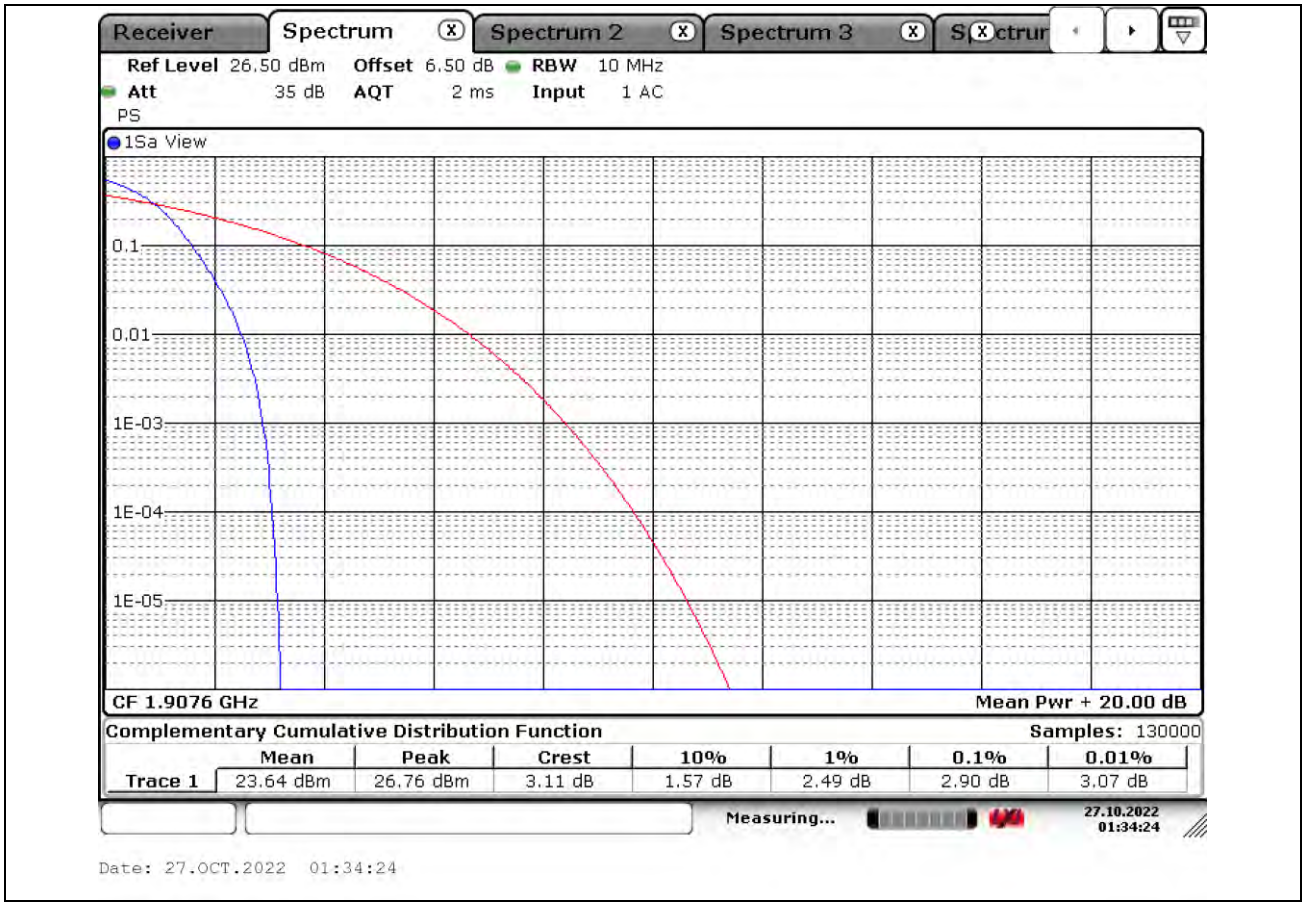
Test Graphs

Band2-9262

Band2-9400

Receiver
Spectrum
Spectrum 2
Spectrum 3
Ref Level 26.50 dBm Offset 6.50 dB RBW 10 MHz
Att 35 dB AQT 2 ms Input 1 AC
PS
1Sa View
0.1
0.01
1E-03
1E-04
1E-05
CF 1.88 GHz
Mean Pwr + 20.00 dB
Complementary Cumulative Distribution Function
Samples: 130000
Mean Peak Crest 10% 1% 0.1% 0.01%
Trace 1 23.70 dBm 27.05 dBm 3.35 dB 1.62 dB 2.58 dB 3.04 dB 3.22 dB
Measuring...
27.10.2022
01:33:53
Date: 27.OCT.2022 01:33:53

Band2-9538



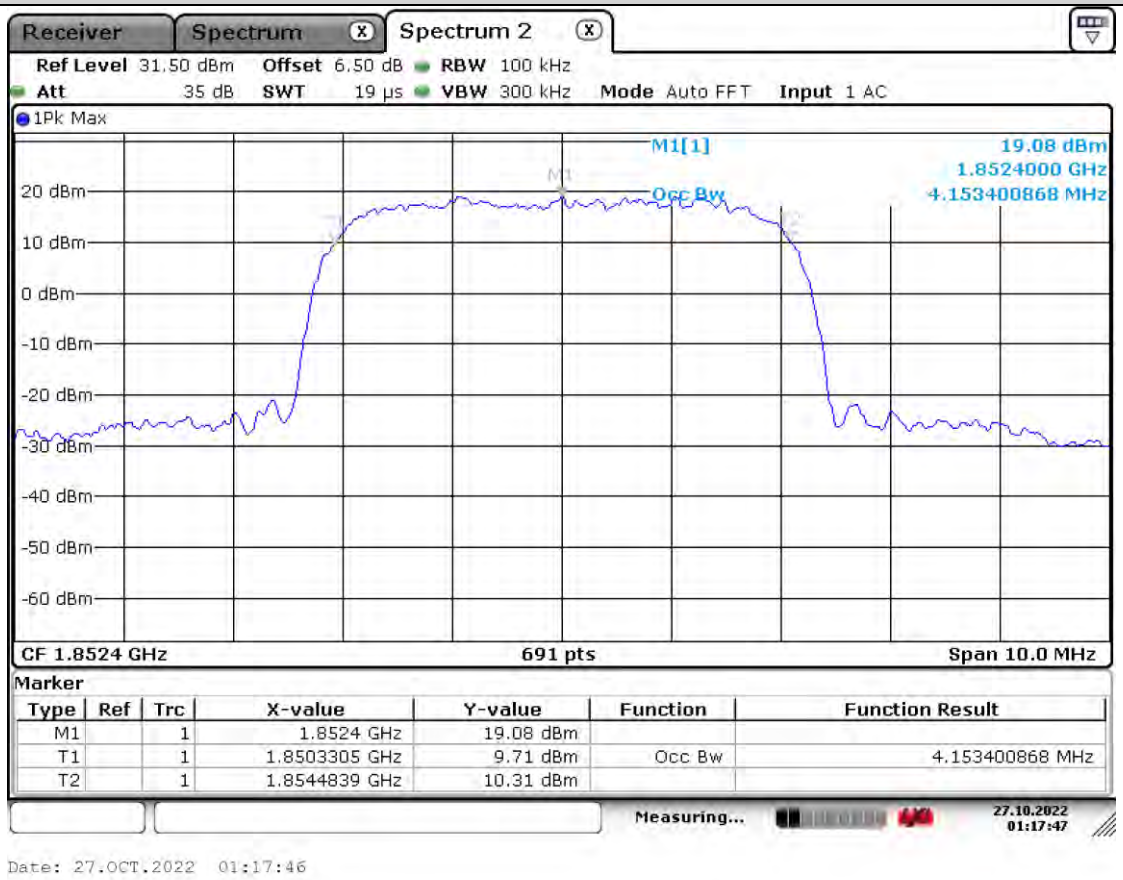
26DB BANDWIDTH AND OCCUPIED BANDWIDTH

Test Result

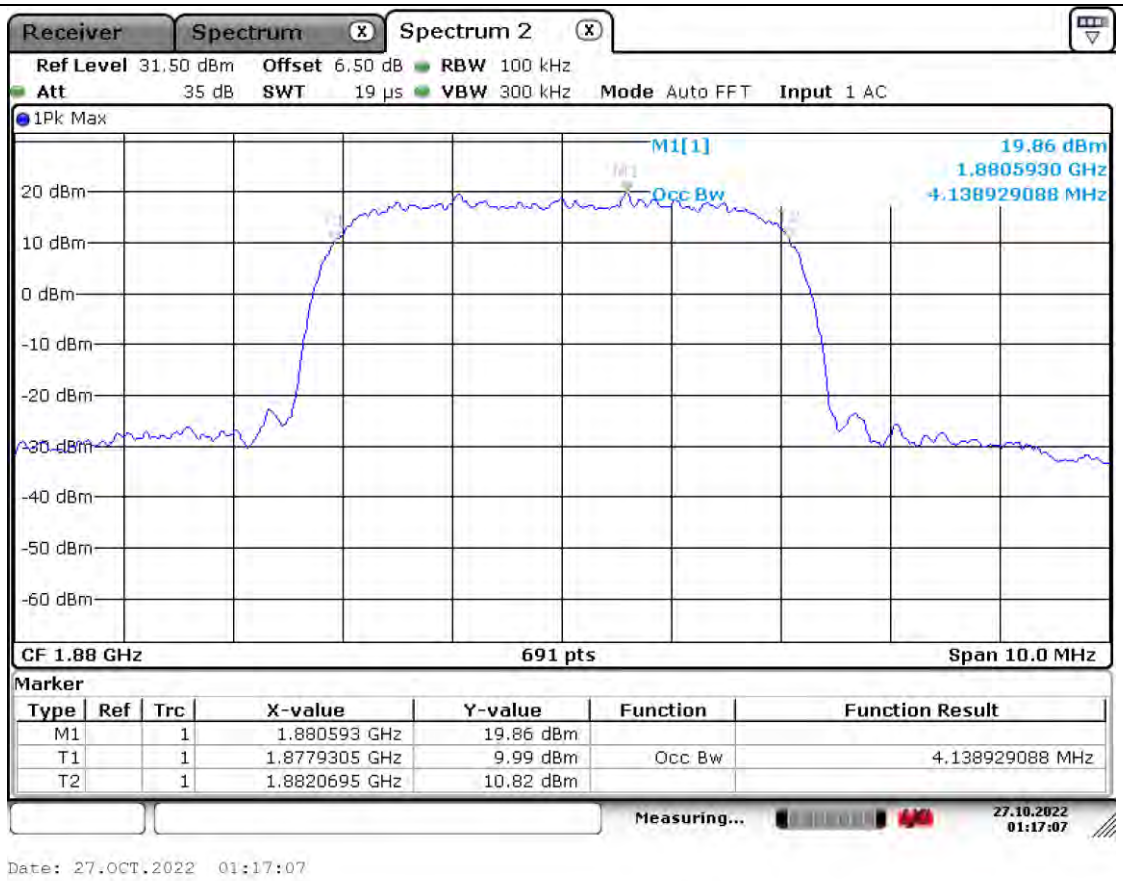
Band	Channel	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Limit(kHz)	Verdict
Band2	9262	4.153	4.689	---	PASS
Band2	9400	4.139	4.689	---	PASS
Band2	9538	4.139	4.689	---	PASS

Test Graphs

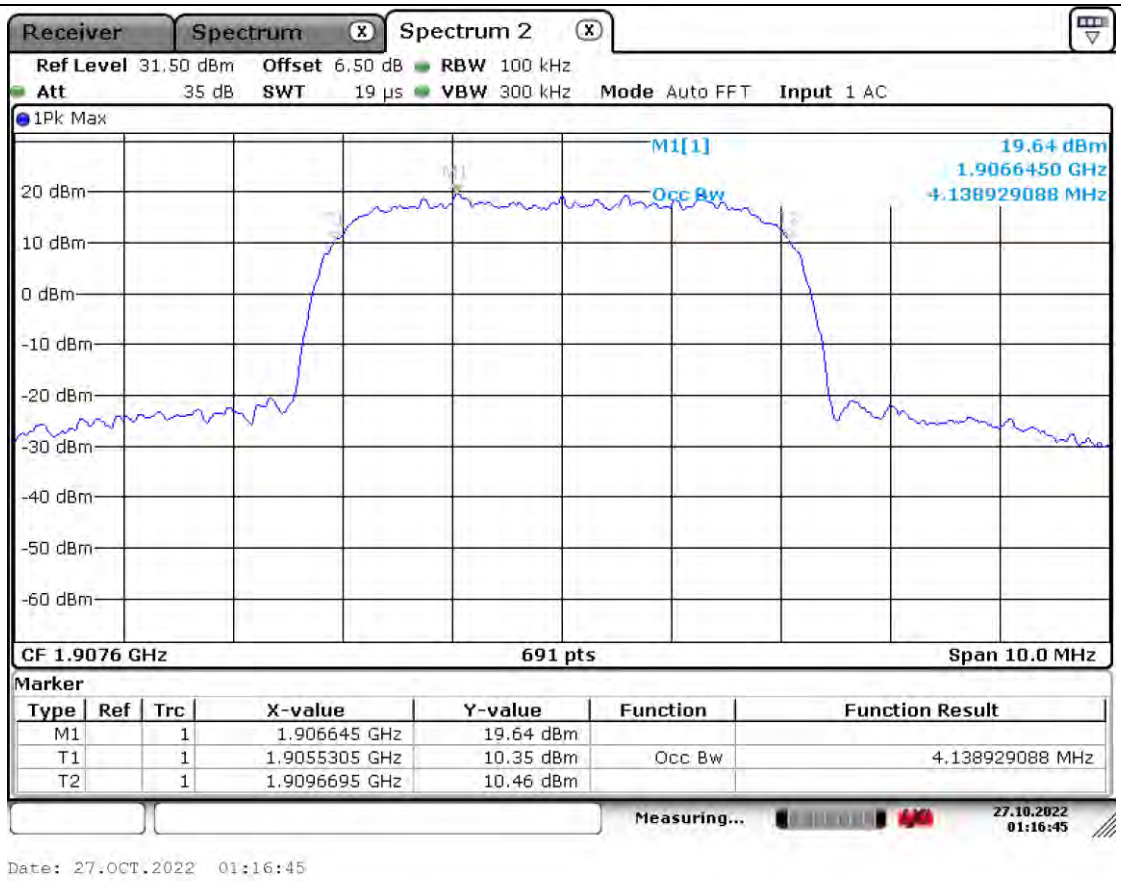
Band2-9262



Band2-9400

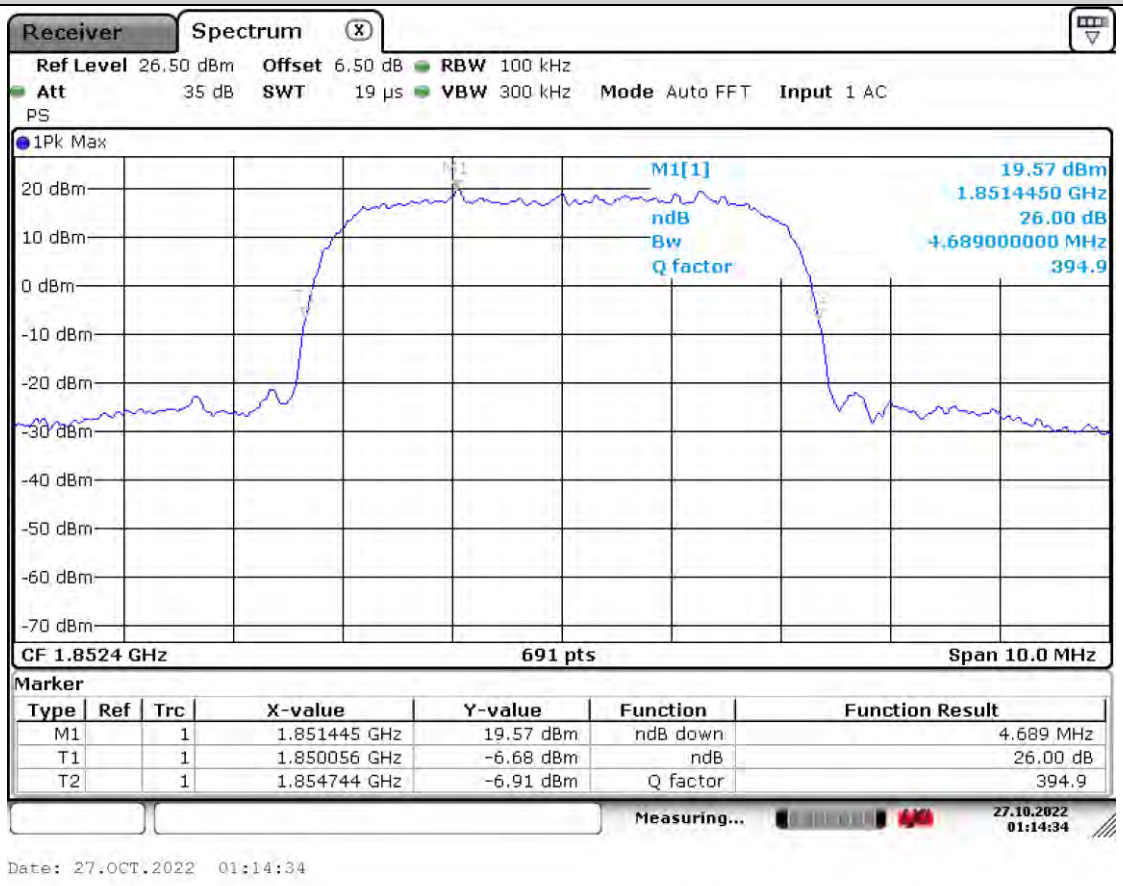

Receiver
Spectrum
Spectrum 2
Ref Level 31.50 dBm Offset 6.50 dB RBW 100 kHz
Att 35 dB SWT 19 µs VBW 300 kHz Mode Auto FFT Input 1 AC
1Pk Max
M1[1] 19.86 dBm
1.8805930 GHz
Occ Bw 4.138929088 MHz
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
CF 1.88 GHz
691 pts
Span 10.0 MHz
Marker
Type Ref Trc X-value Y-value Function Function Result
M1 1 1.880593 GHz 19.86 dBm
T1 1 1.8779305 GHz 9.99 dBm Occ Bw 4.138929088 MHz
T2 1 1.8820695 GHz 10.82 dBm
Measuring...
27.10.2022
01:17:07
Date: 27.OCT.2022 01:17:07

Band2-9538

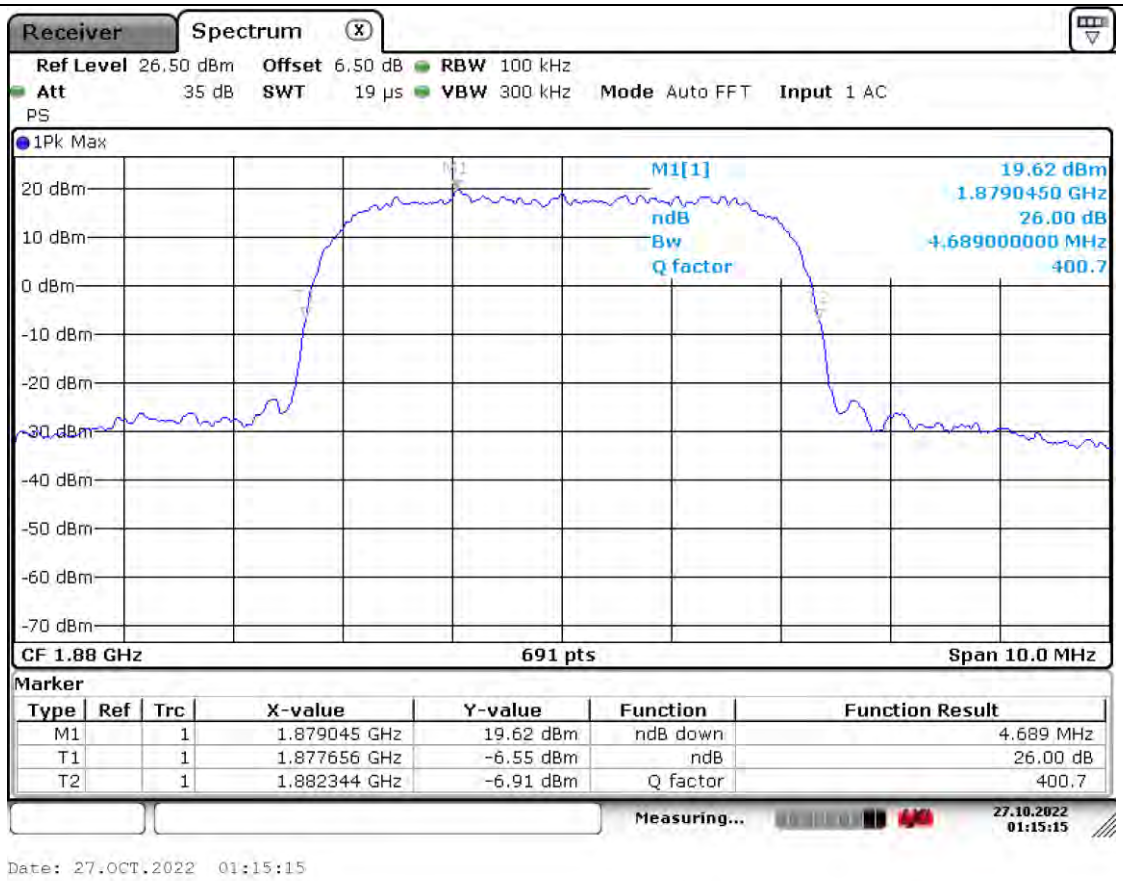

Receiver
Spectrum
Spectrum 2
Ref Level 31.50 dBm Offset 6.50 dB RBW 100 kHz
Att 35 dB SWT 19 µs VBW 300 kHz Mode Auto FFT Input 1 AC
1Pk Max
M1[1] 19.64 dBm
1.9066450 GHz
Occ Bw 4.138929088 MHz
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
CF 1.9076 GHz
691 pts
Span 10.0 MHz
Marker
Type Ref Trc X-value Y-value Function Function Result
M1 1 1.906645 GHz 19.64 dBm
T1 1 1.9055305 GHz 10.35 dBm Occ Bw 4.138929088 MHz
T2 1 1.9096695 GHz 10.46 dBm
Measuring...
27.10.2022
01:16:45
Date: 27.OCT.2022 01:16:45

26dB Bandwidth

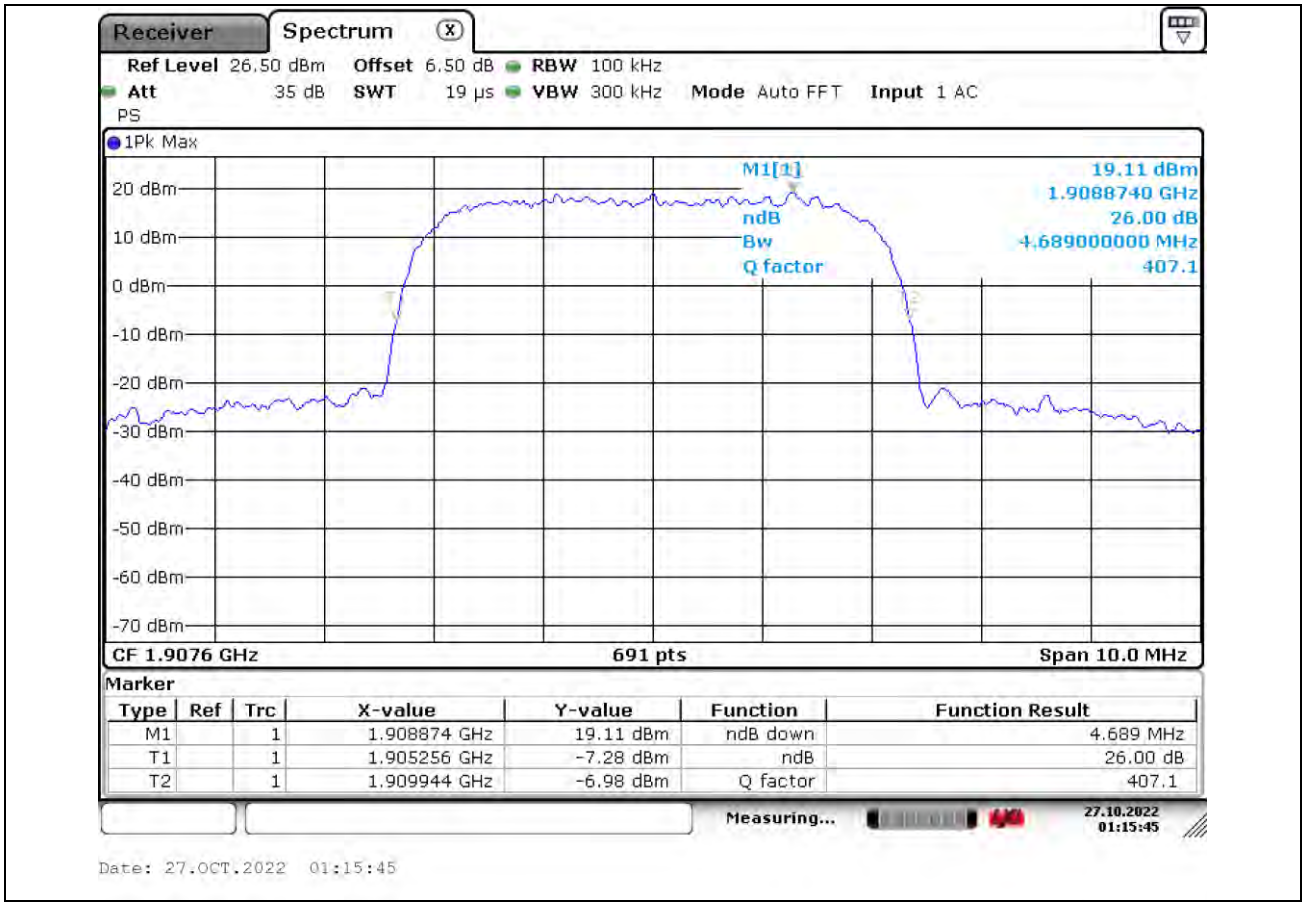
Band2-9262



Band2-9400


Receiver
Spectrum
Ref Level 26.50 dBm Offset 6.50 dB RBW 100 kHz
Att 35 dB SWT 19 µs VBW 300 kHz Mode Auto FFT Input 1 AC
PS
1Pk Max
M1[1] 19.62 dBm
1.8790450 GHz
ndB 26.00 dB
Bw 4.689000000 MHz
Q factor 400.7
20 dBm
10 dBm
0 dBm
-10 dBm
-20 dBm
-30 dBm
-40 dBm
-50 dBm
-60 dBm
-70 dBm
CF 1.88 GHz
691 pts
Span 10.0 MHz
Marker
Type Ref Trc X-value Y-value Function Function Result
M1 1 1.879045 GHz 19.62 dBm ndB down 4.689 MHz
T1 1 1.877656 GHz -6.55 dBm ndB 26.00 dB
T2 1 1.882344 GHz -6.91 dBm Q factor 400.7
Measuring...
27.10.2022
01:15:15
Date: 27.OCT.2022 01:15:15

Band2-9538



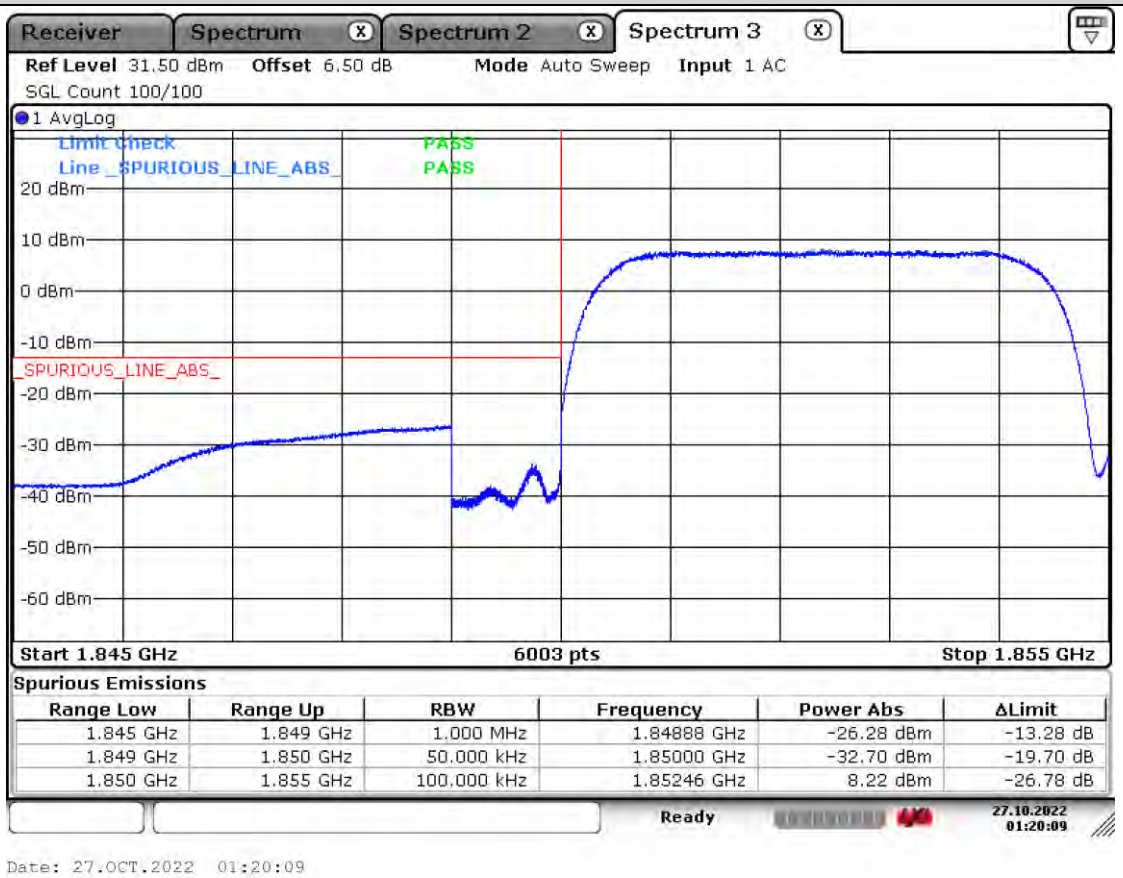
BAND EDGE

Test Result

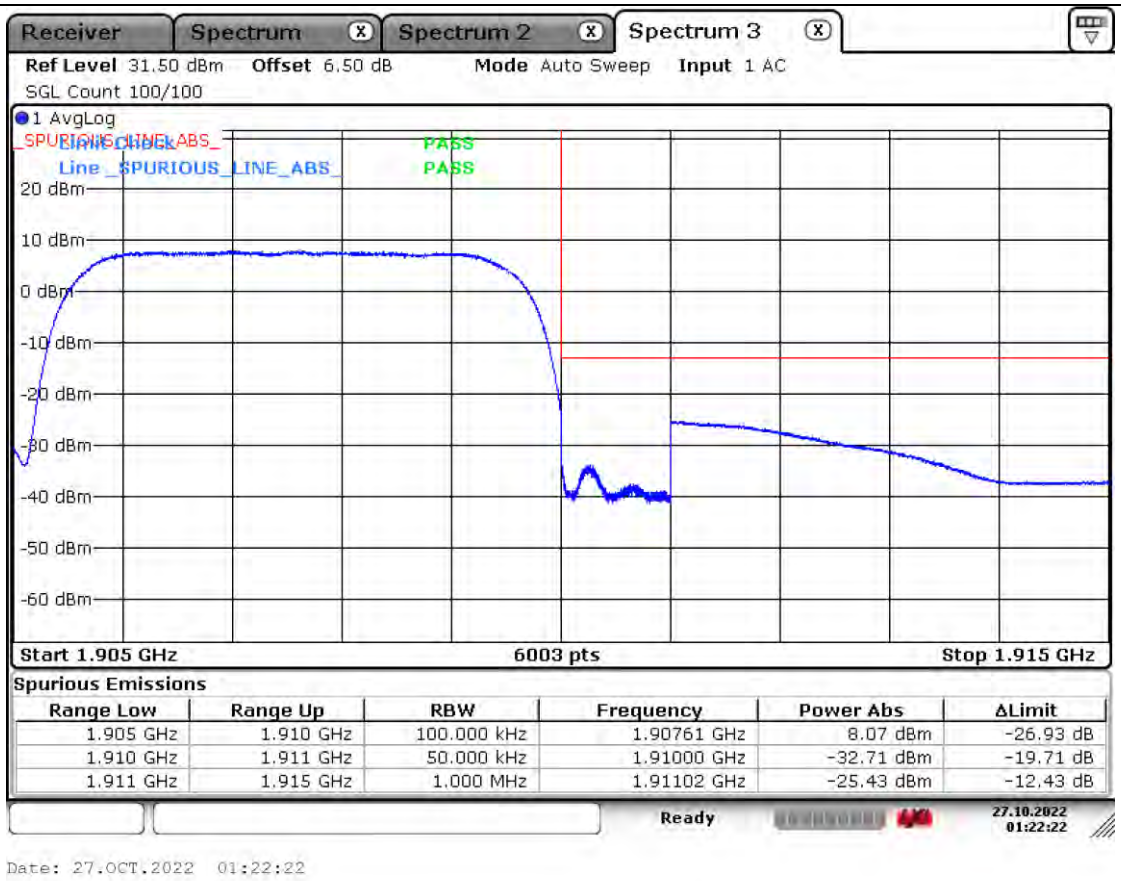
Band	Channel	Frequency (MHz)	Result (dBm)	Limit(dBm)	Verdict
Band2	9262	1848.88	-26.28	-13	PASS
Band2	9538	1911.02	-25.43	-13	PASS

Test Graphs

Band2-9262



Band2-9538



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
1.905 GHz	1.910 GHz	100.000 kHz	1.90761 GHz	8.07 dBm	-26.93 dB
1.910 GHz	1.911 GHz	50.000 kHz	1.91000 GHz	-32.71 dBm	-19.71 dB
1.911 GHz	1.915 GHz	1.000 MHz	1.91102 GHz	-25.43 dBm	-12.43 dB

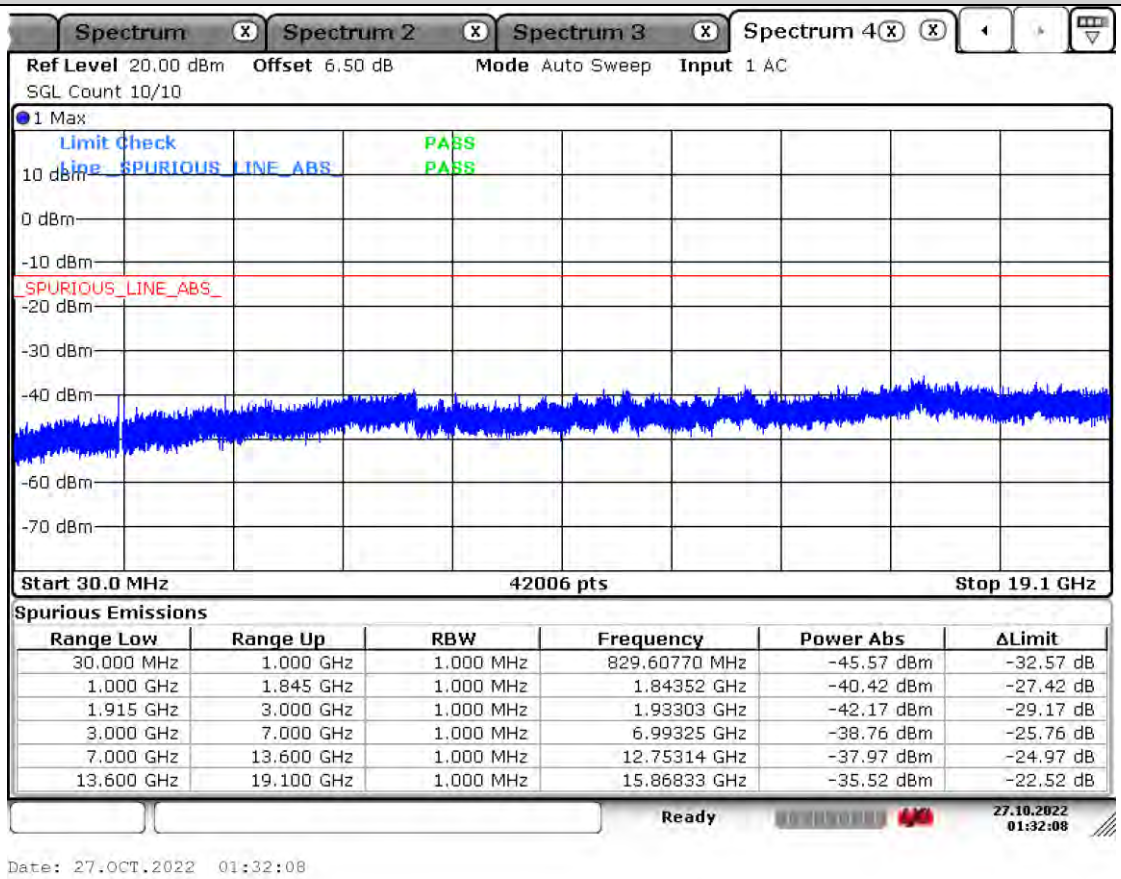
CONDUCTED SPURIOUS EMISSION

Test Result

Band	Channel	Frequency Range (Mhz)	Frequency (MHz)	Result (dBm)	Limit (dBm)	Verdict
Band2	9262	30~1000MHz	829.6077	-45.57	-13	PASS
Band2	9262	1000~3000MHz	1843.52	-40.42	-13	PASS
Band2	9262	3000~19100MHz	15869.33	-35.52	-13	PASS
Band2	9400	30~1000MHz	948.37331	-44.28	-13	PASS
Band2	9400	1000~3000MHz	1959.34	-42.2	-13	PASS
Band2	9400	3000~19100MHz	15533.68	-35.88	-13	PASS
Band2	9538	30~1000MHz	861.11694	-44.41	-13	PASS
Band2	9538	1000~3000MHz	1915.41	-34.82	-13	PASS
Band2	9538	3000~19100MHz	16055.32	-36.64	-13	PASS

Test Graphs

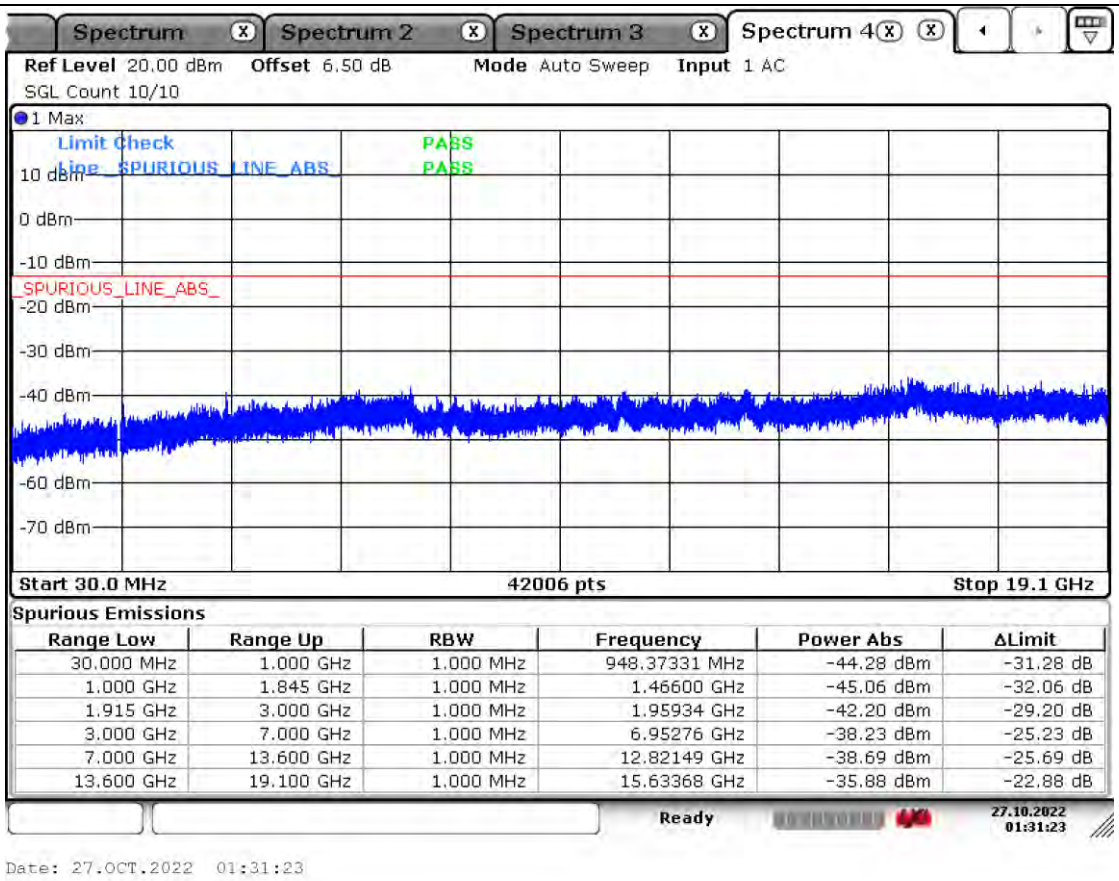
Band2-9262-30~19100MHz



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	829.60770 MHz	-45.57 dBm	-32.57 dB
1.000 GHz	1.845 GHz	1.000 MHz	1.84352 GHz	-40.42 dBm	-27.42 dB
1.915 GHz	3.000 GHz	1.000 MHz	1.93303 GHz	-42.17 dBm	-29.17 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.99325 GHz	-38.76 dBm	-25.76 dB
7.000 GHz	13.600 GHz	1.000 MHz	12.75314 GHz	-37.97 dBm	-24.97 dB
13.600 GHz	19.100 GHz	1.000 MHz	15.86833 GHz	-35.52 dBm	-22.52 dB

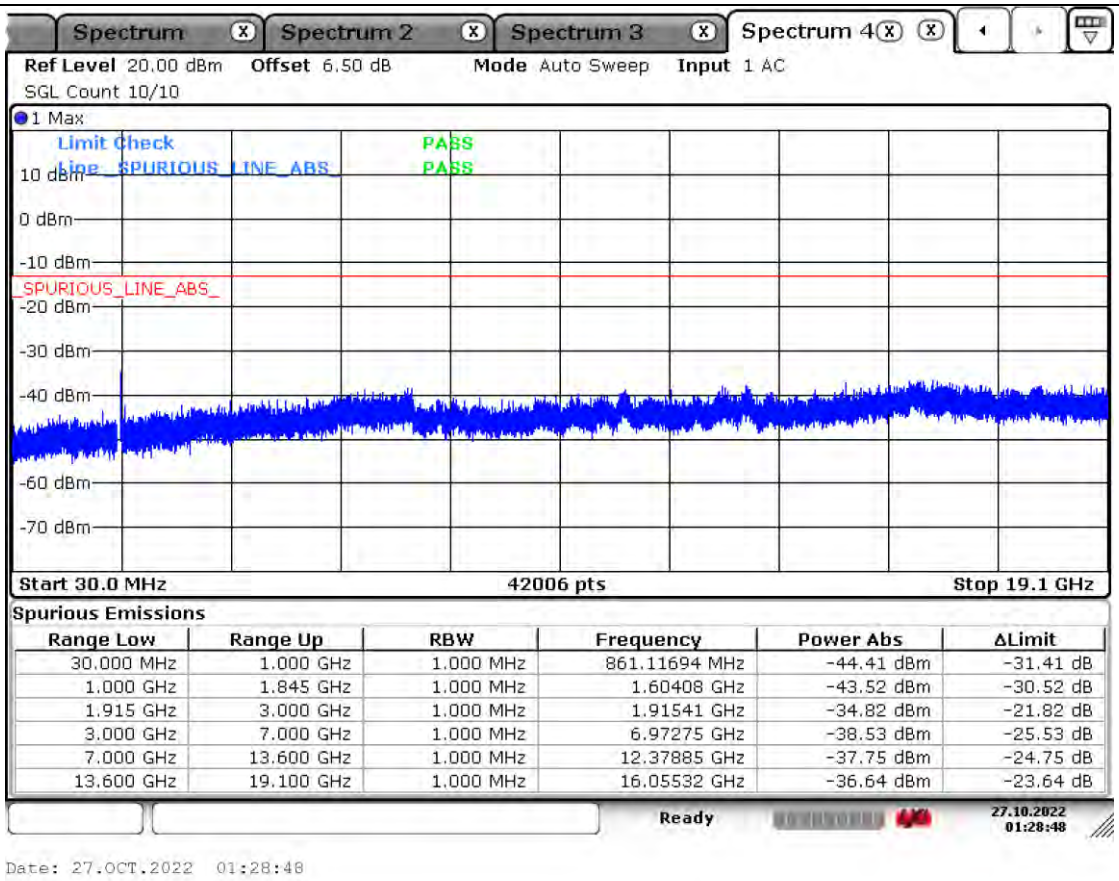
Band2-9400-30~19100MHz



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	948.37331 MHz	-44.28 dBm	-31.28 dB
1.000 GHz	1.845 GHz	1.000 MHz	1.46600 GHz	-45.06 dBm	-32.06 dB
1.915 GHz	3.000 GHz	1.000 MHz	1.95934 GHz	-42.20 dBm	-29.20 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.95276 GHz	-38.23 dBm	-25.23 dB
7.000 GHz	13.600 GHz	1.000 MHz	12.82149 GHz	-38.69 dBm	-25.69 dB
13.600 GHz	19.100 GHz	1.000 MHz	15.63368 GHz	-35.88 dBm	-22.88 dB

Band2-9538-30~19100MHz



Spurious Emissions

Range Low	Range Up	RBW	Frequency	Power Abs	ΔLimit
30.000 MHz	1.000 GHz	1.000 MHz	861.11694 MHz	-44.41 dBm	-31.41 dB
1.000 GHz	1.845 GHz	1.000 MHz	1.60408 GHz	-43.52 dBm	-30.52 dB
1.915 GHz	3.000 GHz	1.000 MHz	1.91541 GHz	-34.82 dBm	-21.82 dB
3.000 GHz	7.000 GHz	1.000 MHz	6.97275 GHz	-38.53 dBm	-25.53 dB
7.000 GHz	13.600 GHz	1.000 MHz	12.37885 GHz	-37.75 dBm	-24.75 dB
13.600 GHz	19.100 GHz	1.000 MHz	16.05532 GHz	-36.64 dBm	-23.64 dB

FREQUENCY STABILITY

Test Result

Voltage							
Band	Channel	Voltage (Vdc)	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band2	9262	VL	NT	-6.99	-0.003773	±2.5	PASS
Band2	9262	VN	NT	-2.14	-0.001155	±2.5	PASS
Band2	9262	VH	NT	-7.94	-0.004286	±2.5	PASS
Band2	9400	VL	NT	7.88	0.004191	±2.5	PASS
Band2	9400	VN	NT	-8.11	-0.004314	±2.5	PASS
Band2	9400	VH	NT	-7.69	-0.004090	±2.5	PASS
Band2	9538	VL	NT	6.35	0.003211	±2.5	PASS
Band2	9538	VN	NT	1.43	0.000723	±2.5	PASS
Band2	9538	VH	NT	2.71	0.001370	±2.5	PASS

Temperature							
Band	Channel	Voltage (Vdc)	Temperature (℃)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band2	1852.4	NV	-30	-6.76	-0.003649	±2.5	PASS
Band2	1852.4	NV	-20	3.95	0.002132	±2.5	PASS
Band2	1852.4	NV	0	-5.05	-0.002726	±2.5	PASS
Band2	1852.4	NV	10	2.92	0.001576	±2.5	PASS
Band2	1852.4	NV	20	-3.44	-0.001857	±2.5	PASS
Band2	1852.4	NV	30	-4.11	-0.002219	±2.5	PASS
Band2	1852.4	NV	40	-9.46	-0.005107	±2.5	PASS
Band2	1852.4	NV	50	-5.08	-0.002742	±2.5	PASS
Band2	1880	NV	-30	2.71	0.001441	±2.5	PASS
Band2	1880	NV	-20	9.56	0.005085	±2.5	PASS
Band2	1880	NV	0	1.07	0.000569	±2.5	PASS
Band2	1880	NV	10	0.18	0.000096	±2.5	PASS
Band2	1880	NV	20	4.49	0.002388	±2.5	PASS
Band2	1880	NV	30	5.32	0.002830	±2.5	PASS
Band2	1880	NV	40	0.59	0.000314	±2.5	PASS
Band2	1880	NV	50	2.91	0.001548	±2.5	PASS
Band2	1977.6	NV	-30	-2.25	-0.001138	±2.5	PASS
Band2	1977.6	NV	-20	-0.64	-0.000324	±2.5	PASS
Band2	1977.6	NV	0	0.88	0.000445	±2.5	PASS
Band2	1977.6	NV	10	2.51	0.001269	±2.5	PASS
Band2	1977.6	NV	20	7.72	0.003904	±2.5	PASS
Band2	1977.6	NV	30	9.2	0.004652	±2.5	PASS
Band2	1977.6	NV	40	-2.81	-0.001421	±2.5	PASS
Band2	1977.6	NV	50	-6.16	-0.003115	±2.5	PASS

LTE BAND2

PEAK-TO-AVERAGE RATIO(CCDF)

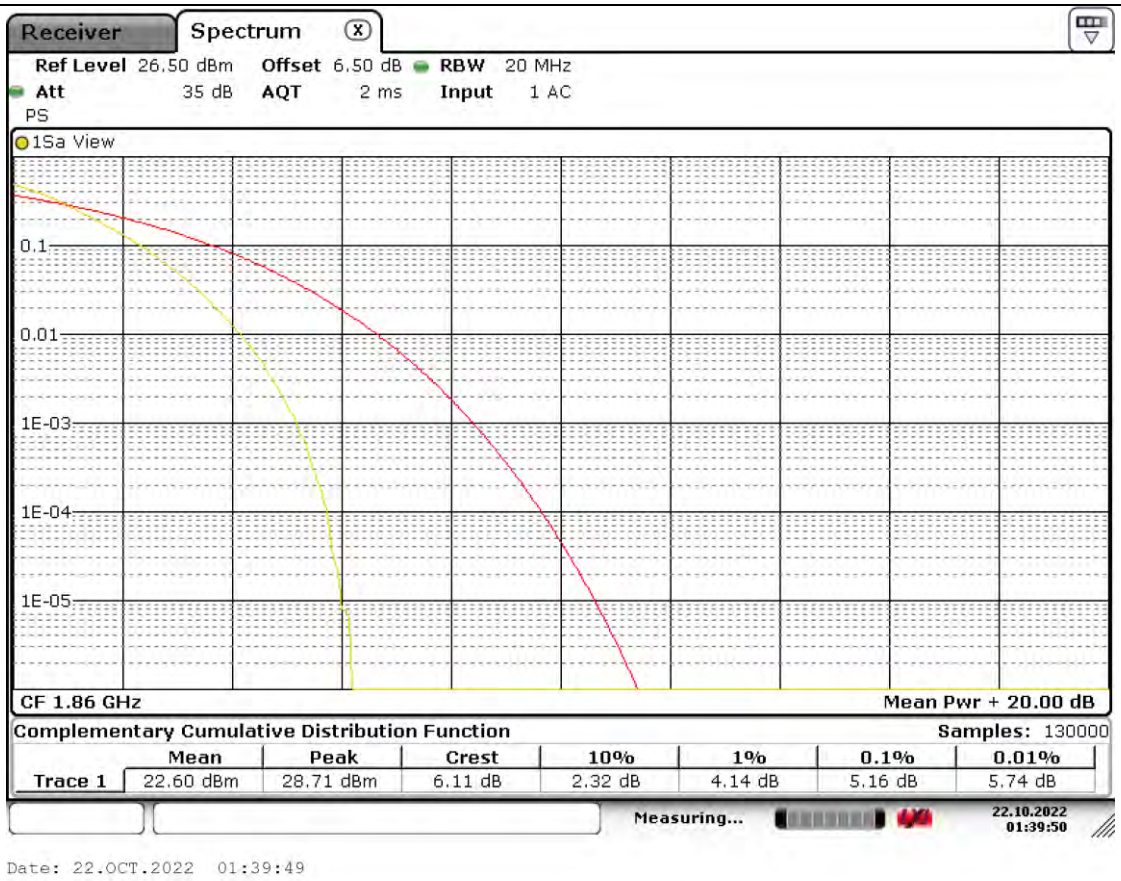
Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band2	20MHz	QPSK	18700	1RB#0	5.01	13	PASS
Band2	20MHz	QPSK	18700	100RB#0	5.16	13	PASS
Band2	20MHz	QPSK	18900	1RB#0	4.67	13	PASS
Band2	20MHz	QPSK	18900	100RB#0	5.16	13	PASS
Band2	20MHz	QPSK	19100	1RB#0	4.41	13	PASS
Band2	20MHz	QPSK	19100	100RB#0	4.81	13	PASS
Band2	20MHz	16QAM	18700	1RB#0	5.39	13	PASS
Band2	20MHz	16QAM	18700	100RB#0	5.97	13	PASS
Band2	20MHz	16QAM	18900	1RB#0	5.71	13	PASS
Band2	20MHz	16QAM	18900	100RB#0	5.97	13	PASS
Band2	20MHz	16QAM	19100	1RB#0	5.07	13	PASS
Band2	20MHz	16QAM	19100	100RB#0	5.74	13	PASS

Test Graphs

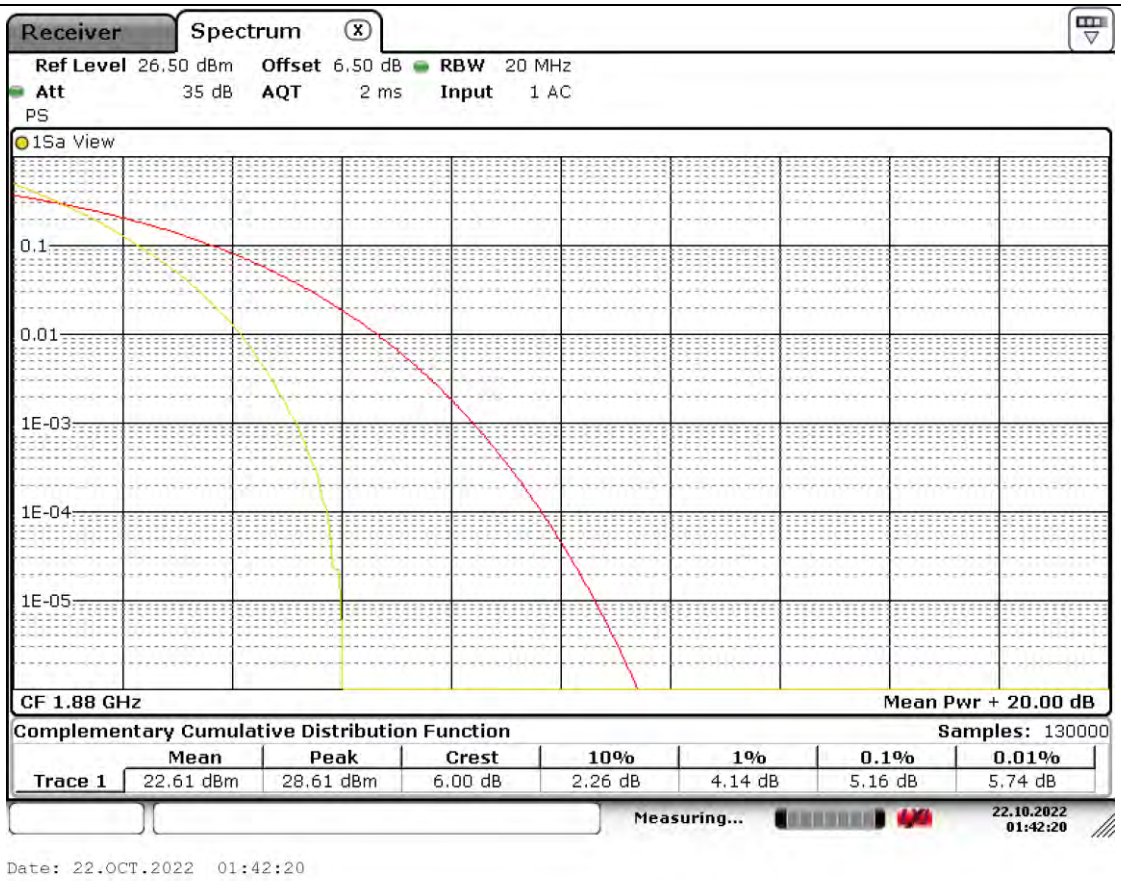
Band2-20MHz-QPSK-18700-1RB#0

Band2-20MHz-QPSK-18700-100RB#0



Band2-20MHz-QPSK-18900-1RB#0

Band2-20MHz-QPSK-18900-100RB#0



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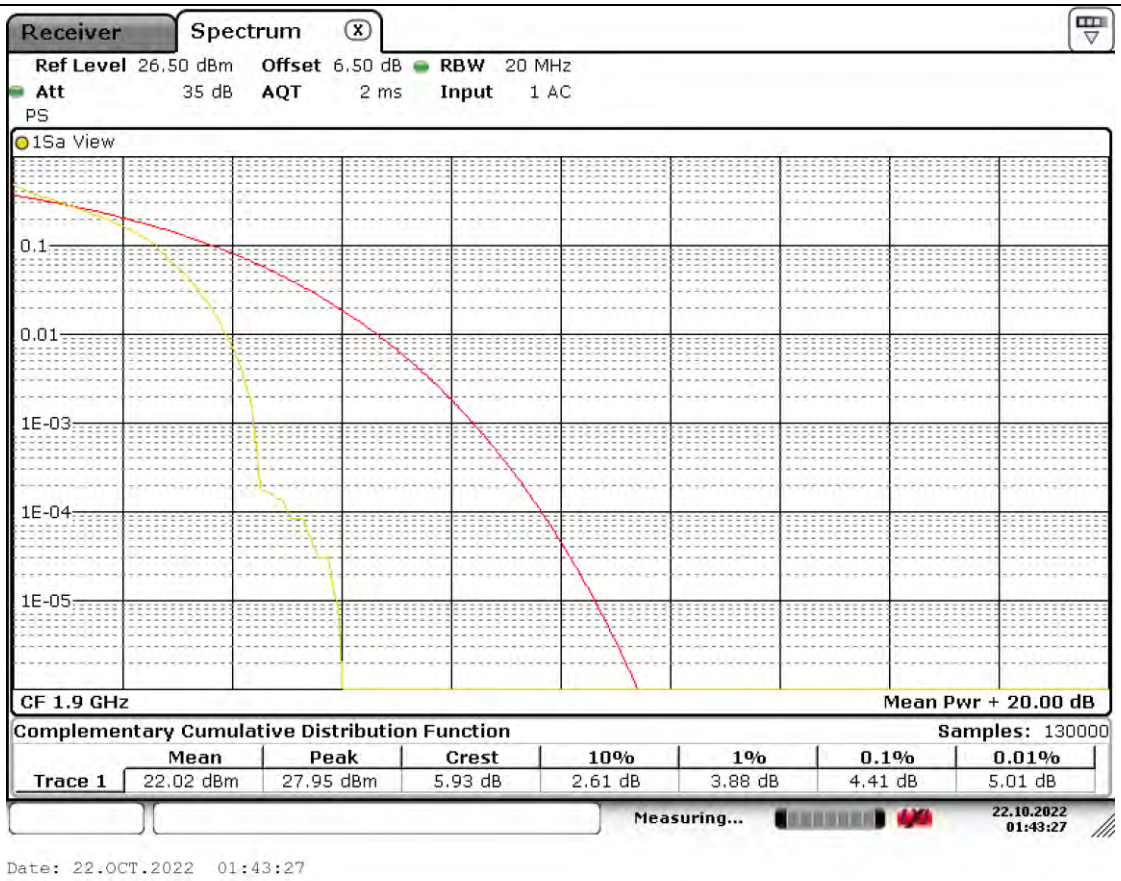
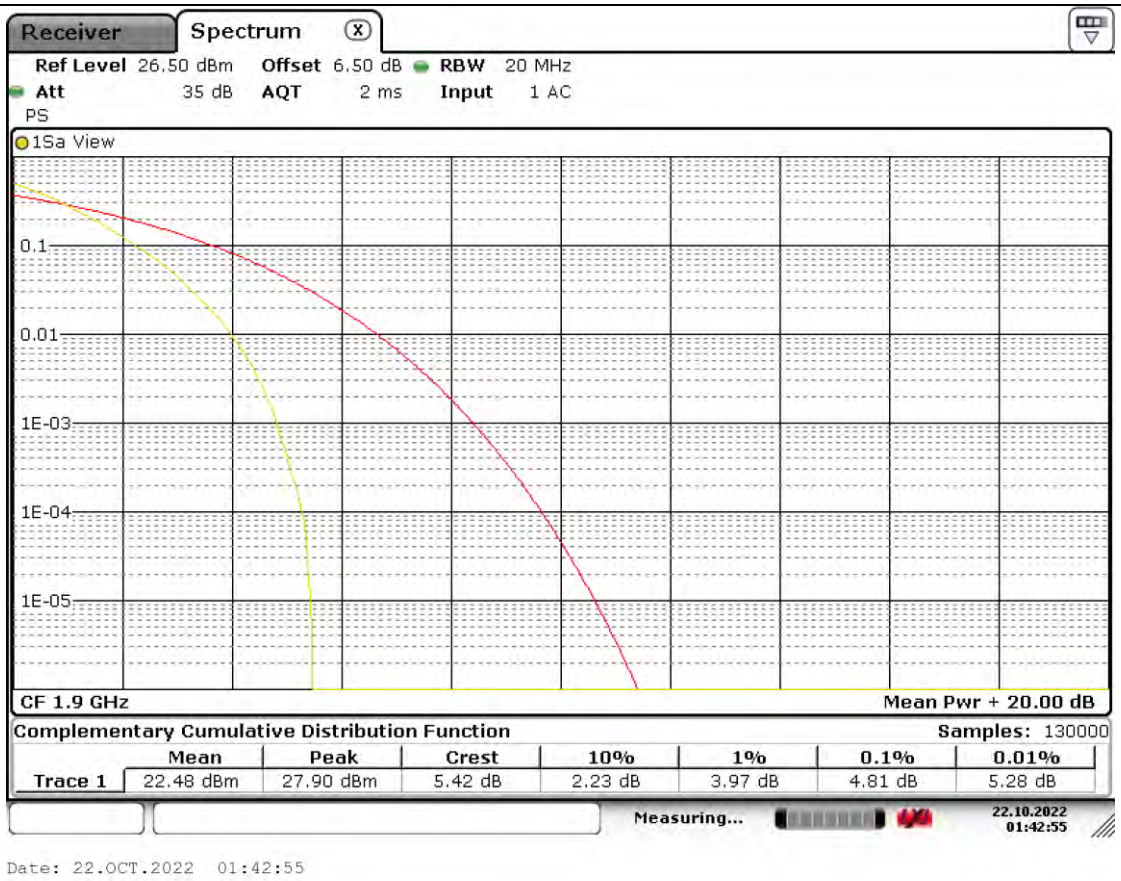
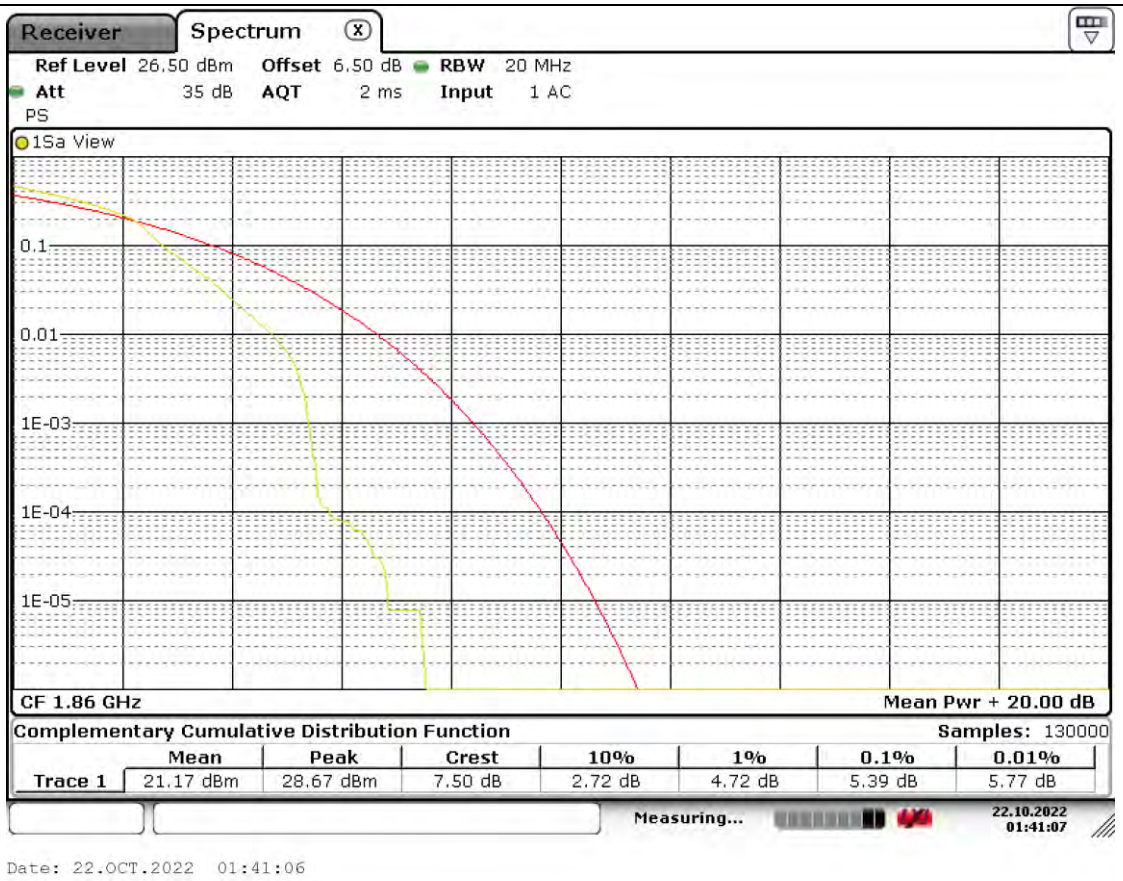


Band2-20MHz-QPSK-19100-100RB#0



Band2-20MHz-16QAM-18700-1RB#0



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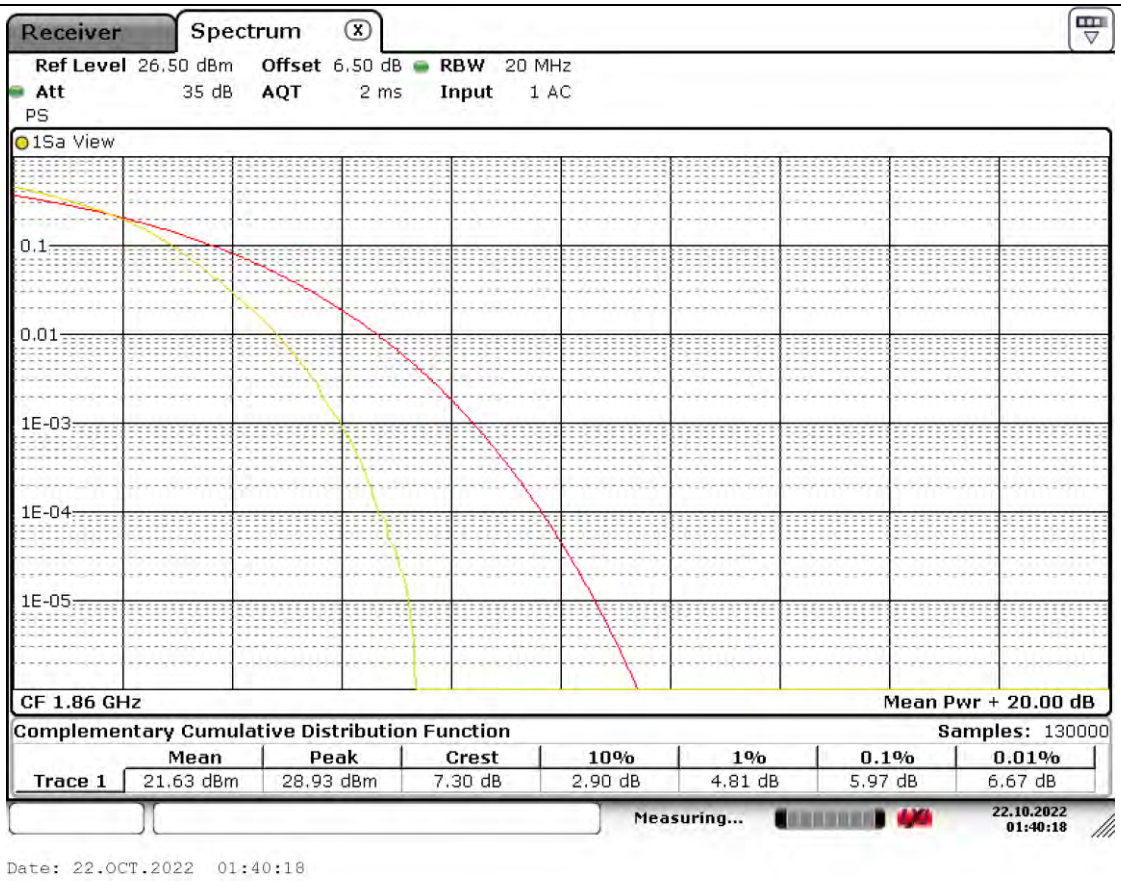

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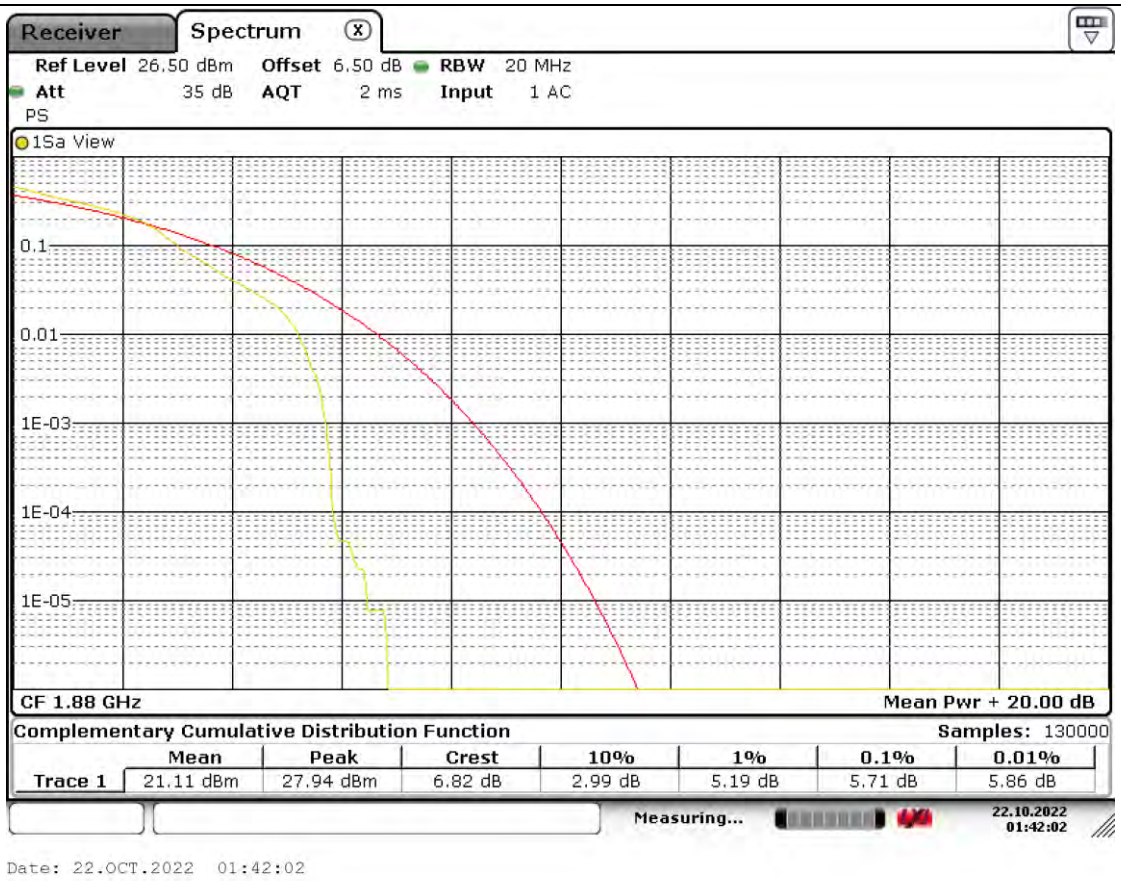
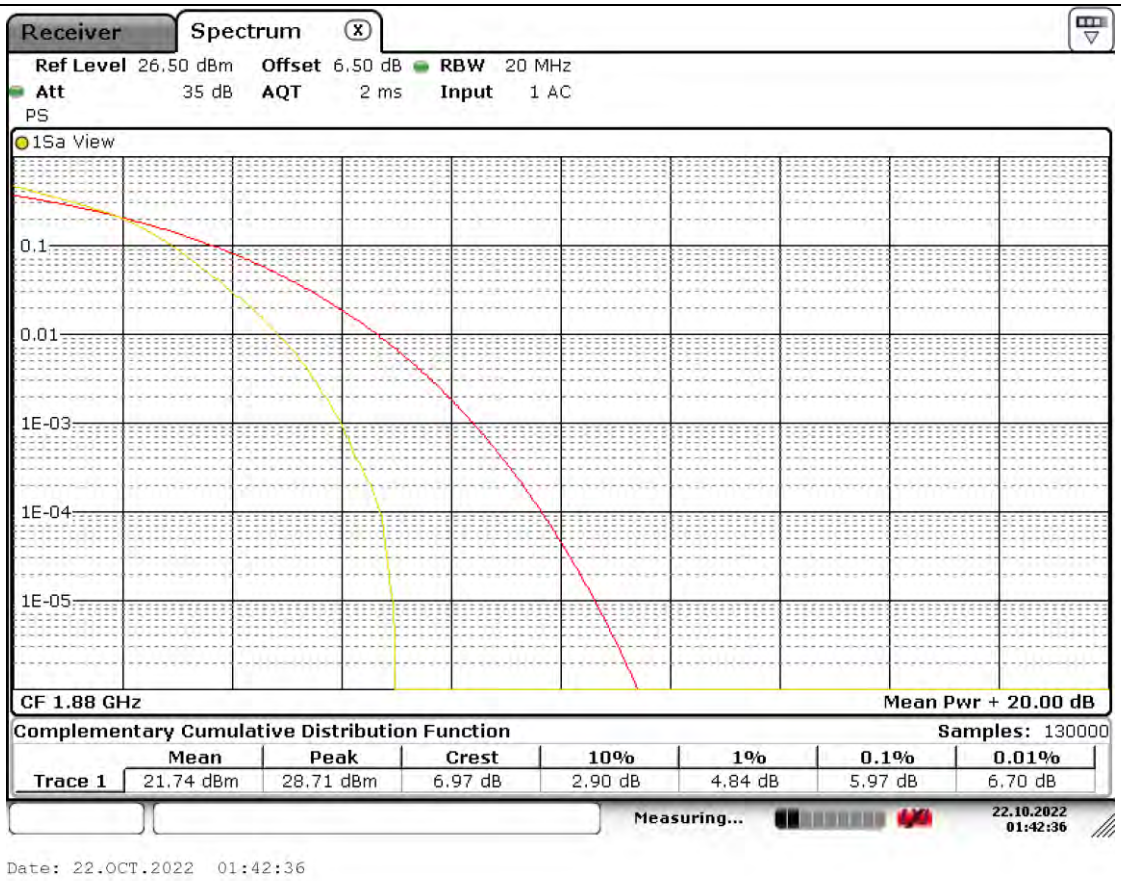
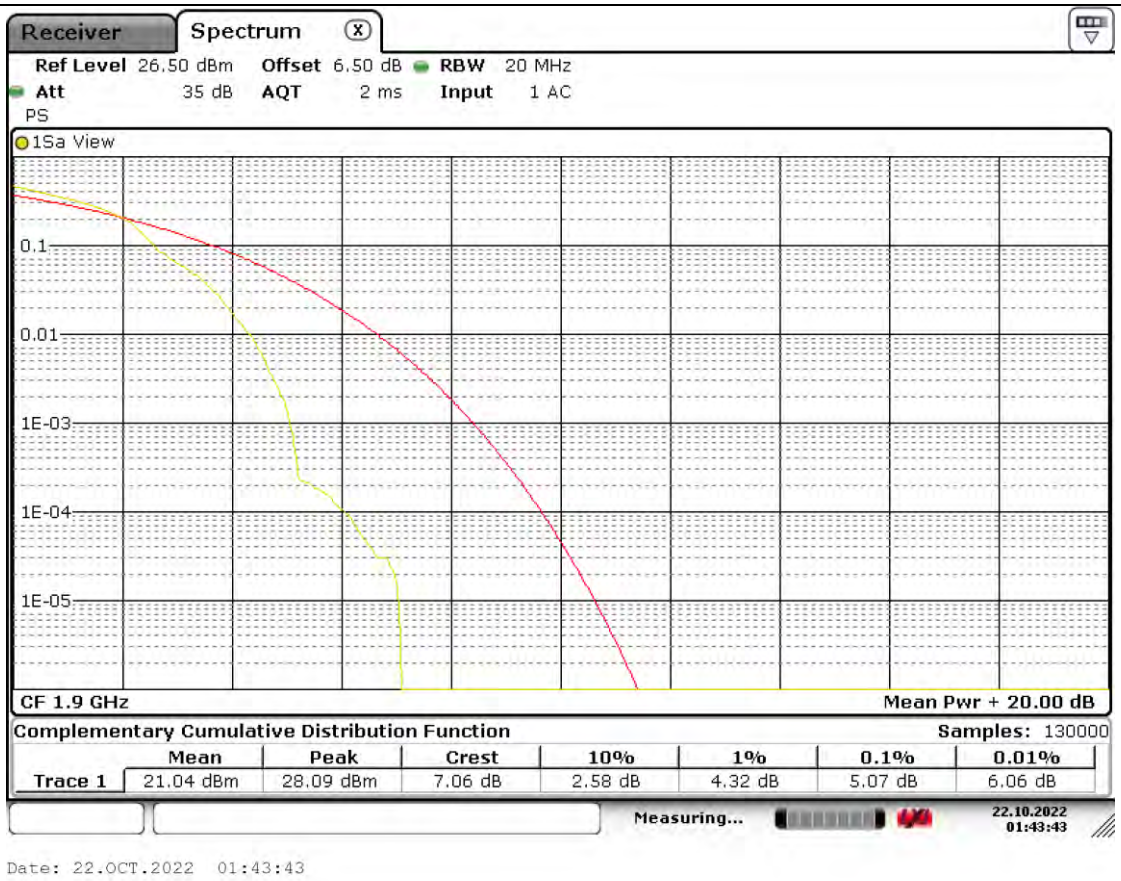


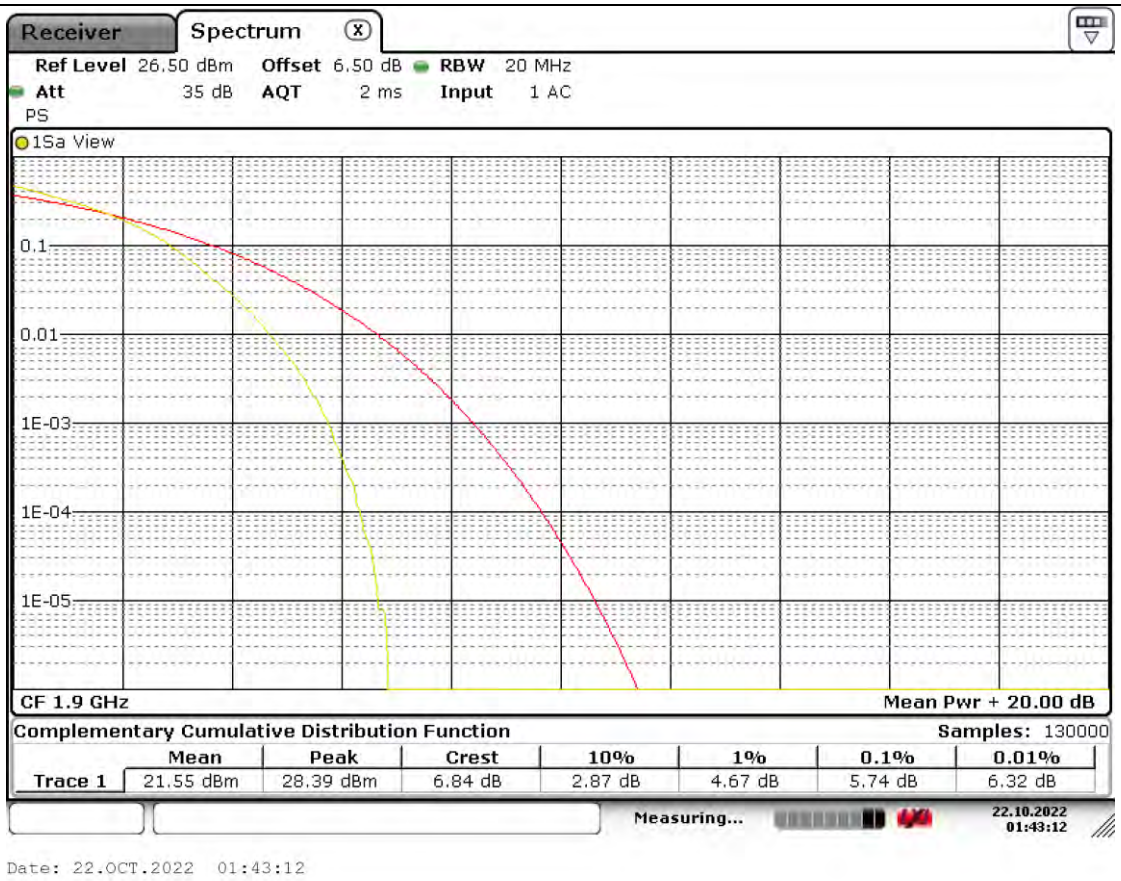
Band2-20MHz-16QAM-18900-100RB#0



Band2-20MHz-16QAM-19100-1RB#0



Band2-20MHz-16QAM-19100-100RB#0


Receiver
Spectrum
Ref Level 26.50 dBm Offset 6.50 dB RBW 20 MHz
Att 35 dB AQT 2 ms Input 1 AC
PS
1Sa View
0.1
0.01
1E-03
1E-04
1E-05
CF 1.9 GHz
Mean Pwr + 20.00 dB
Complementary Cumulative Distribution Function
Samples: 130000
Mean Peak Crest 10% 1% 0.1% 0.01%
Trace 1 21.55 dBm 28.39 dBm 6.84 dB 2.87 dB 4.67 dB 5.74 dB 6.32 dB
Measuring...
22.10.2022
01:43:12
Date: 22.OCT.2022 01:43:12

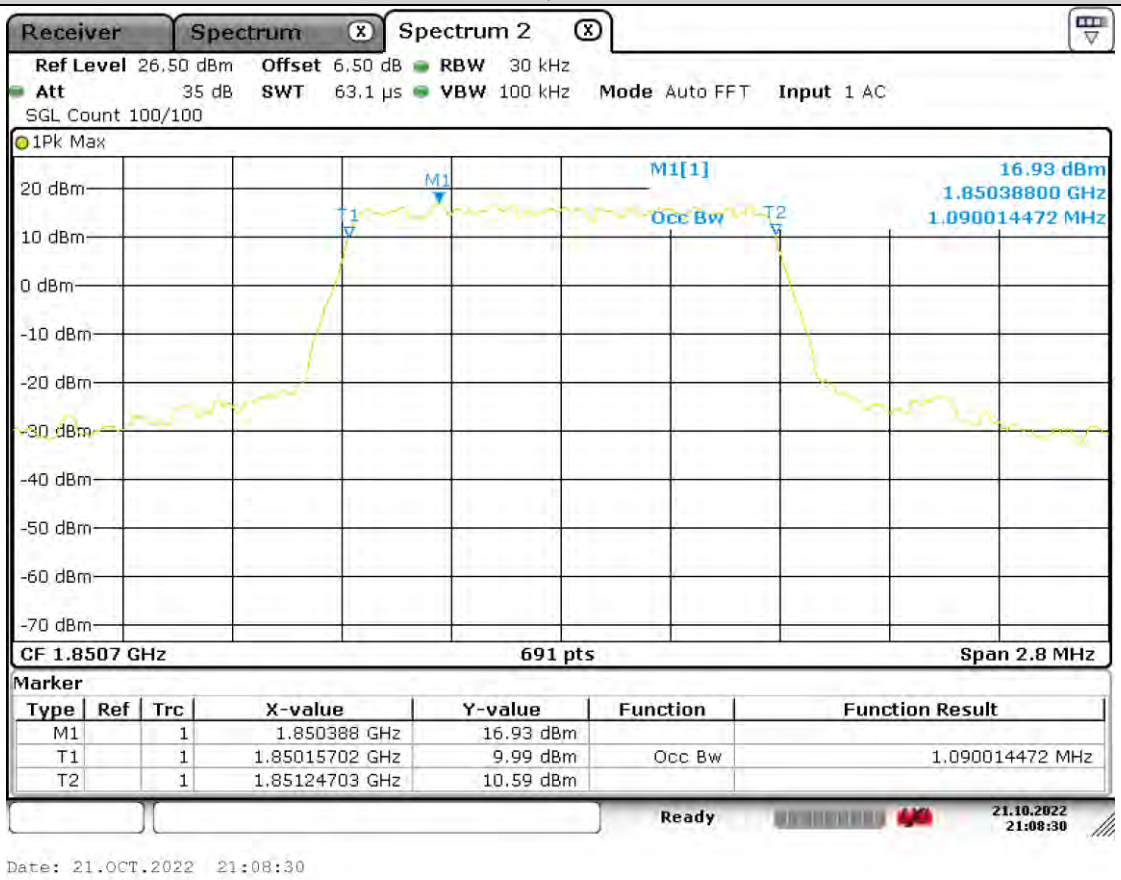
26DB BANDWIDTH AND OCCUPIED BANDWIDTH

Test Result

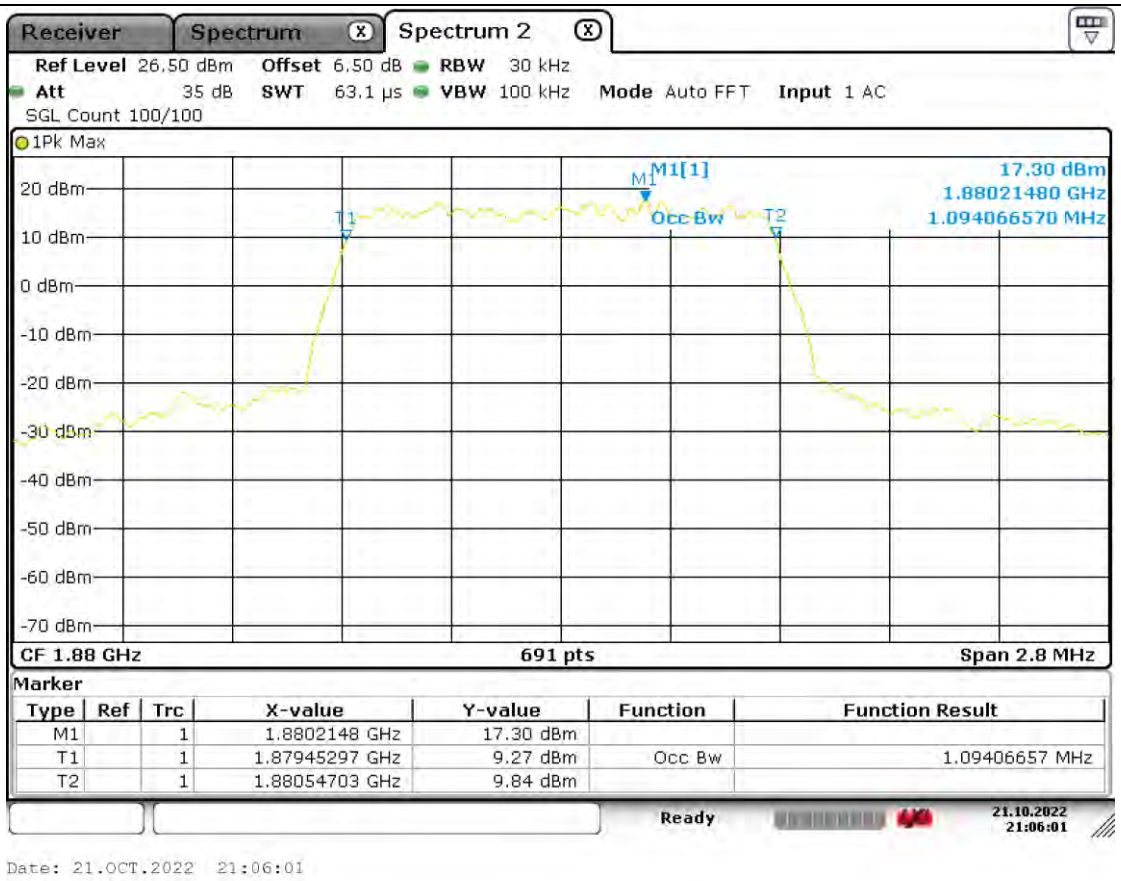
Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band2	1.4MHz	QPSK	18607	6RB#0	1.090	1.2399	PASS
Band2	1.4MHz	QPSK	18900	6RB#0	1.094	1.248	PASS
Band2	1.4MHz	QPSK	19193	6RB#0	1.098	1.248	PASS
Band2	1.4MHz	16QAM	18607	6RB#0	1.090	1.248	PASS
Band2	1.4MHz	16QAM	18900	6RB#0	1.090	1.2359	PASS
Band2	1.4MHz	16QAM	19193	6RB#0	1.090	1.2521	PASS
Band2	3MHz	QPSK	18615	15RB#0	2.735	3.0825	PASS
Band2	3MHz	QPSK	18900	15RB#0	2.770	3.0738	PASS
Band2	3MHz	QPSK	19185	15RB#0	2.709	3.0651	PASS
Band2	3MHz	16QAM	18615	15RB#0	2.744	3.0487	PASS
Band2	3MHz	16QAM	18900	15RB#0	2.735	3.013	PASS
Band2	3MHz	16QAM	19185	15RB#0	2.761	3.0738	PASS
Band2	5MHz	QPSK	18625	25RB#0	4.501	4.993	PASS
Band2	5MHz	QPSK	18900	25RB#0	4.501	4.891	PASS
Band2	5MHz	QPSK	19175	25RB#0	4.530	4.949	PASS
Band2	5MHz	16QAM	18625	25RB#0	4.530	4.92	PASS
Band2	5MHz	16QAM	18900	25RB#0	4.515	4.964	PASS
Band2	5MHz	16QAM	19175	25RB#0	4.530	4.92	PASS
Band2	10MHz	QPSK	18650	50RB#0	9.001	9.725	PASS
Band2	10MHz	QPSK	18900	50RB#0	9.030	9.725	PASS
Band2	10MHz	QPSK	19150	50RB#0	9.001	9.841	PASS
Band2	10MHz	16QAM	18650	50RB#0	9.059	9.754	PASS
Band2	10MHz	16QAM	18900	50RB#0	9.001	9.928	PASS
Band2	10MHz	16QAM	19150	50RB#0	9.030	9.783	PASS
Band2	15MHz	QPSK	18675	75RB#0	13.502	15.022	PASS
Band2	15MHz	QPSK	18900	75RB#0	13.459	14.674	PASS
Band2	15MHz	QPSK	19125	75RB#0	13.502	14.197	PASS
Band2	15MHz	16QAM	18675	75RB#0	13.546	14.631	PASS
Band2	15MHz	16QAM	18900	75RB#0	13.415	14.718	PASS
Band2	15MHz	16QAM	19125	75RB#0	13.459	14.631	PASS
Band2	20MHz	QPSK	18700	100RB#0	18.466	20.087	PASS
Band2	20MHz	QPSK	18900	100RB#0	18.408	20.145	PASS
Band2	20MHz	QPSK	19100	100RB#0	18.350	20.26	PASS
Band2	20MHz	16QAM	18700	100RB#0	18.350	20.492	PASS
Band2	20MHz	16QAM	18900	100RB#0	18.466	20.492	PASS
Band2	20MHz	16QAM	19100	100RB#0	18.408	20.145	PASS

Test Graphs

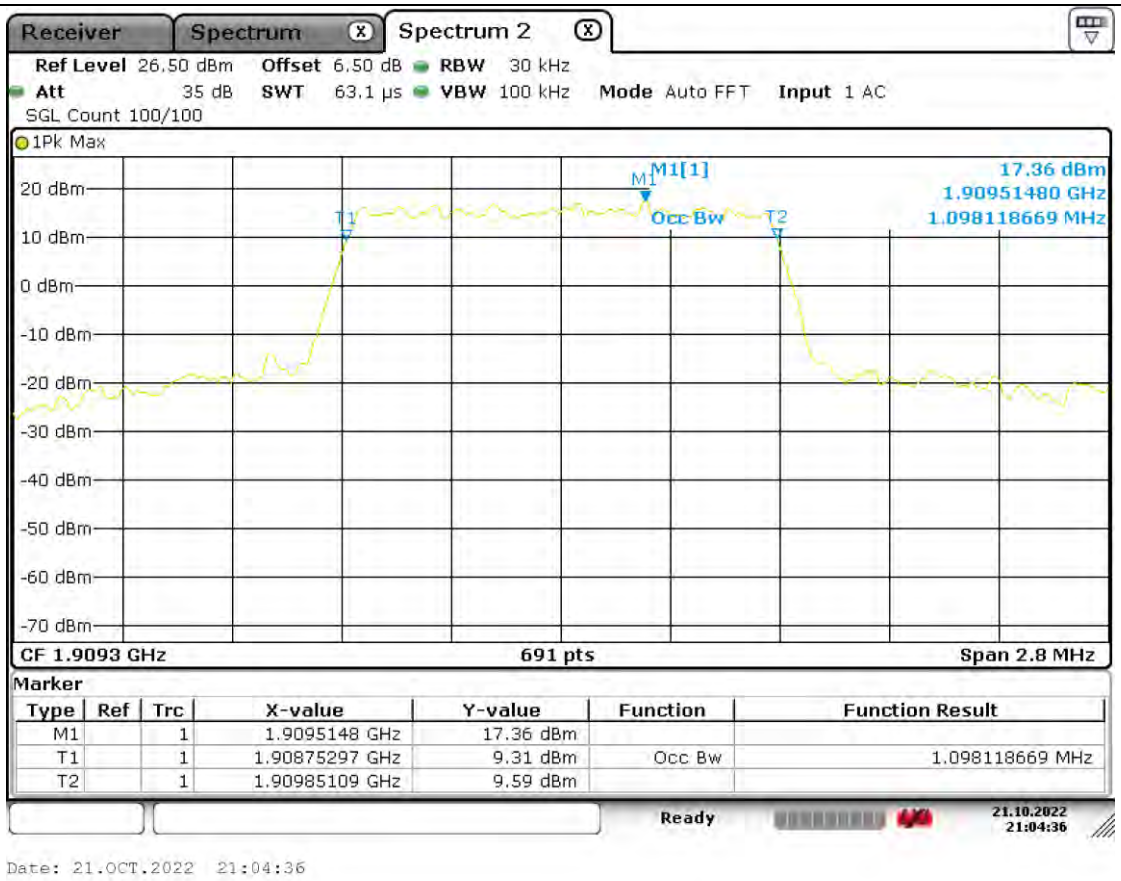
Band2-1.4MHz-QPSK-18607-6RB#0



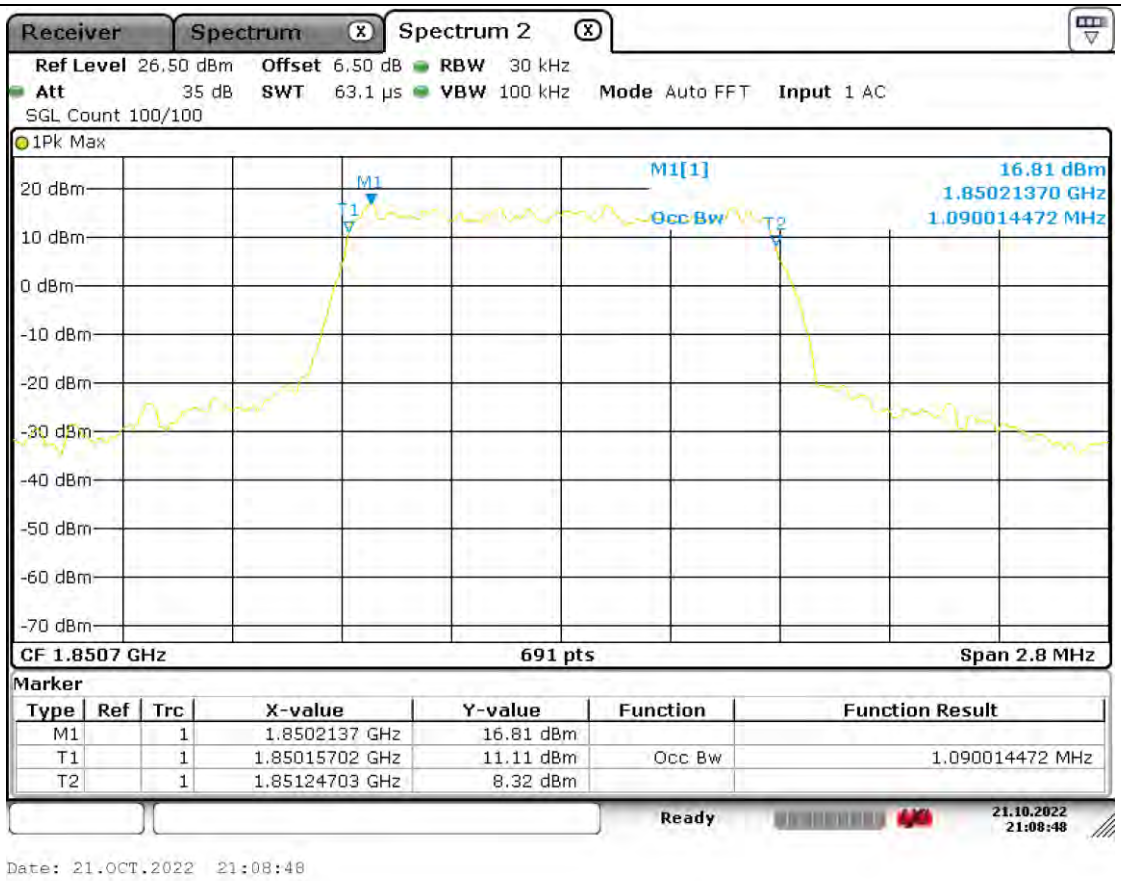
Band2-1.4MHz-QPSK-18900-6RB#0



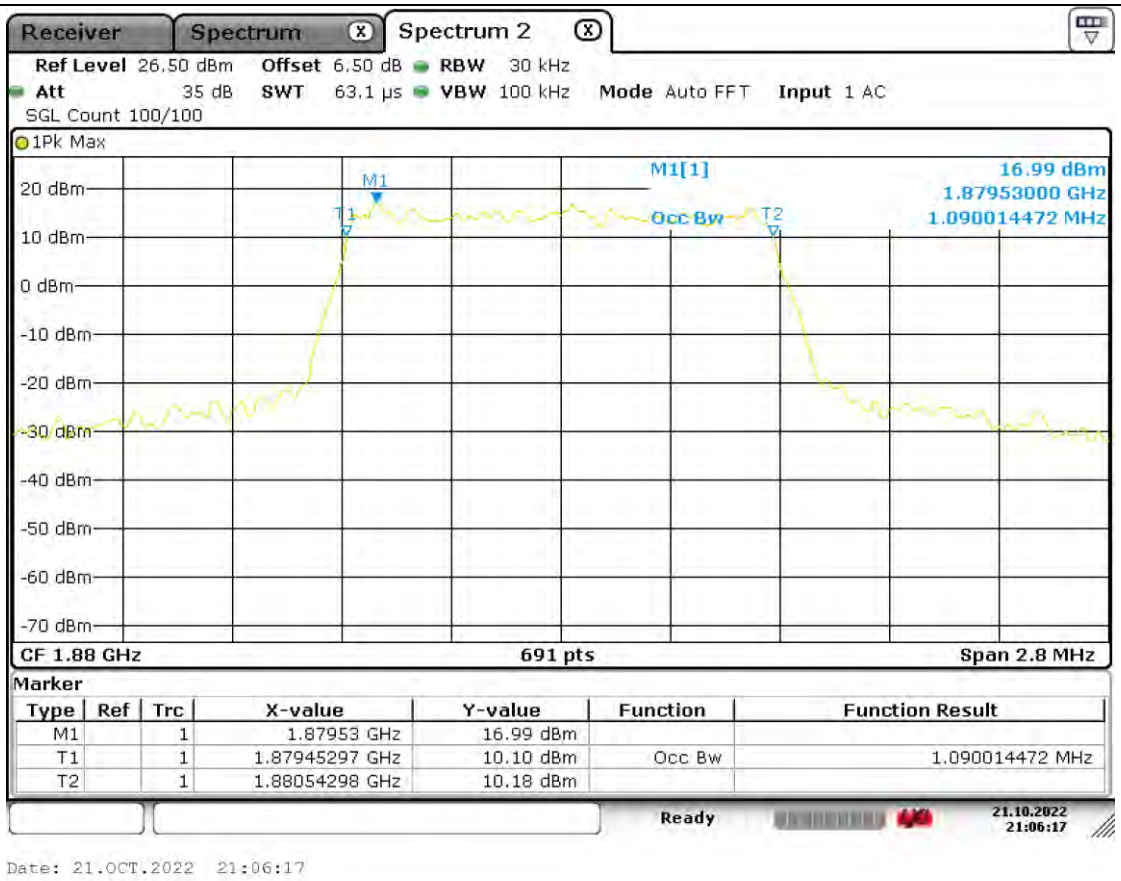
Band2-1.4MHz-QPSK-19193-6RB#0



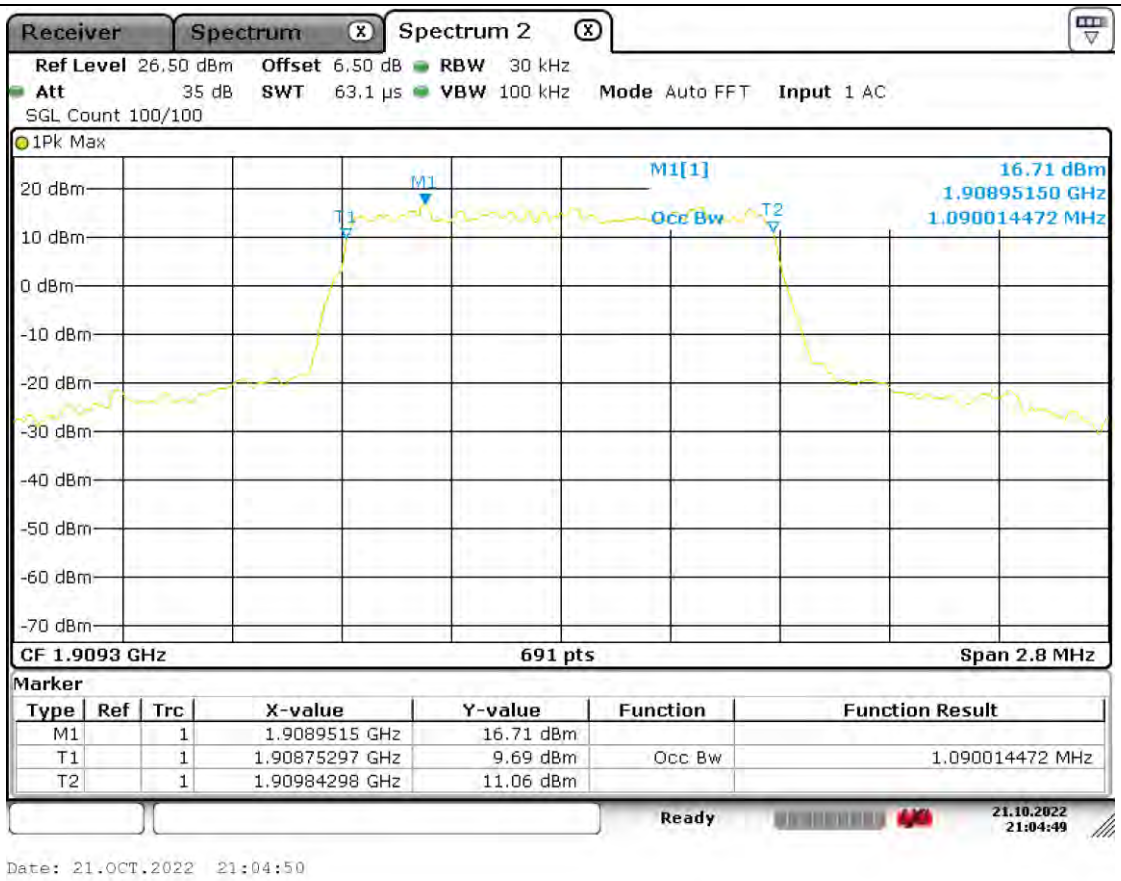
Band2-1.4MHz-16QAM-18607-6RB#0



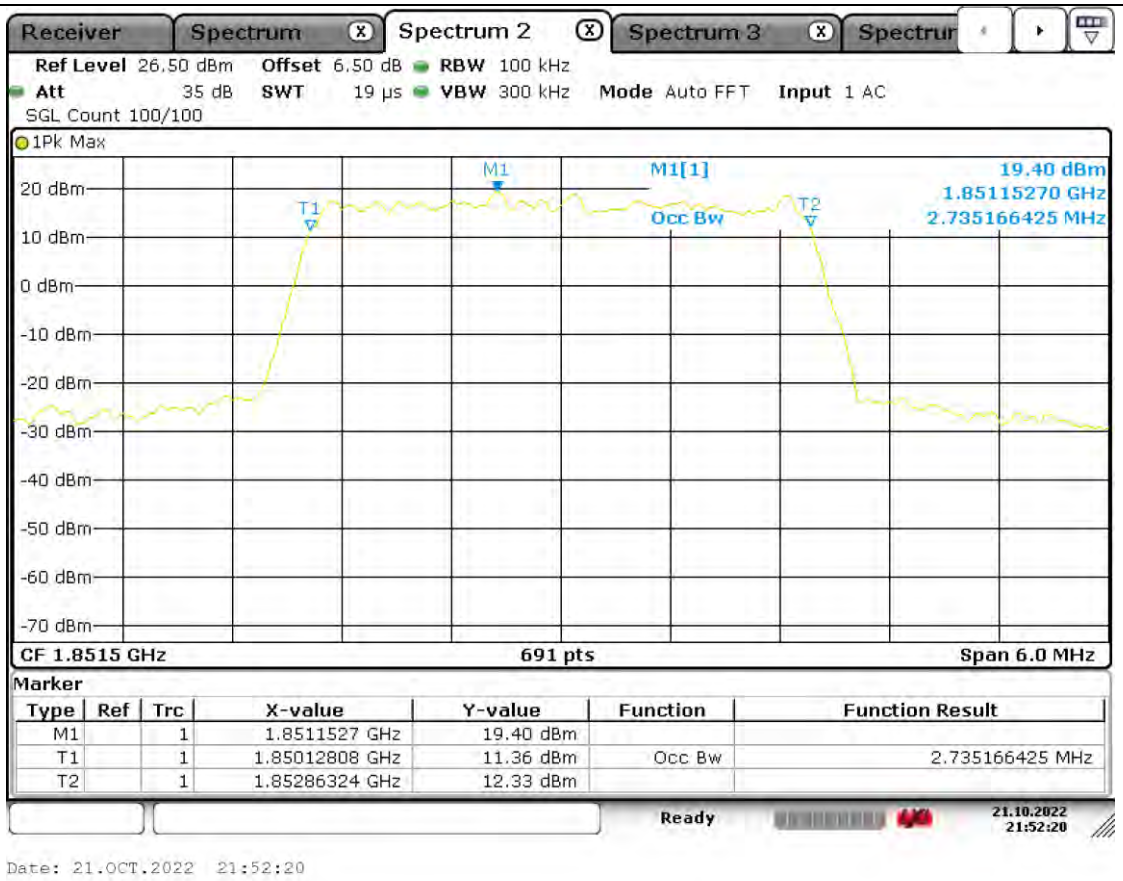
Band2-1.4MHz-16QAM-18900-6RB#0



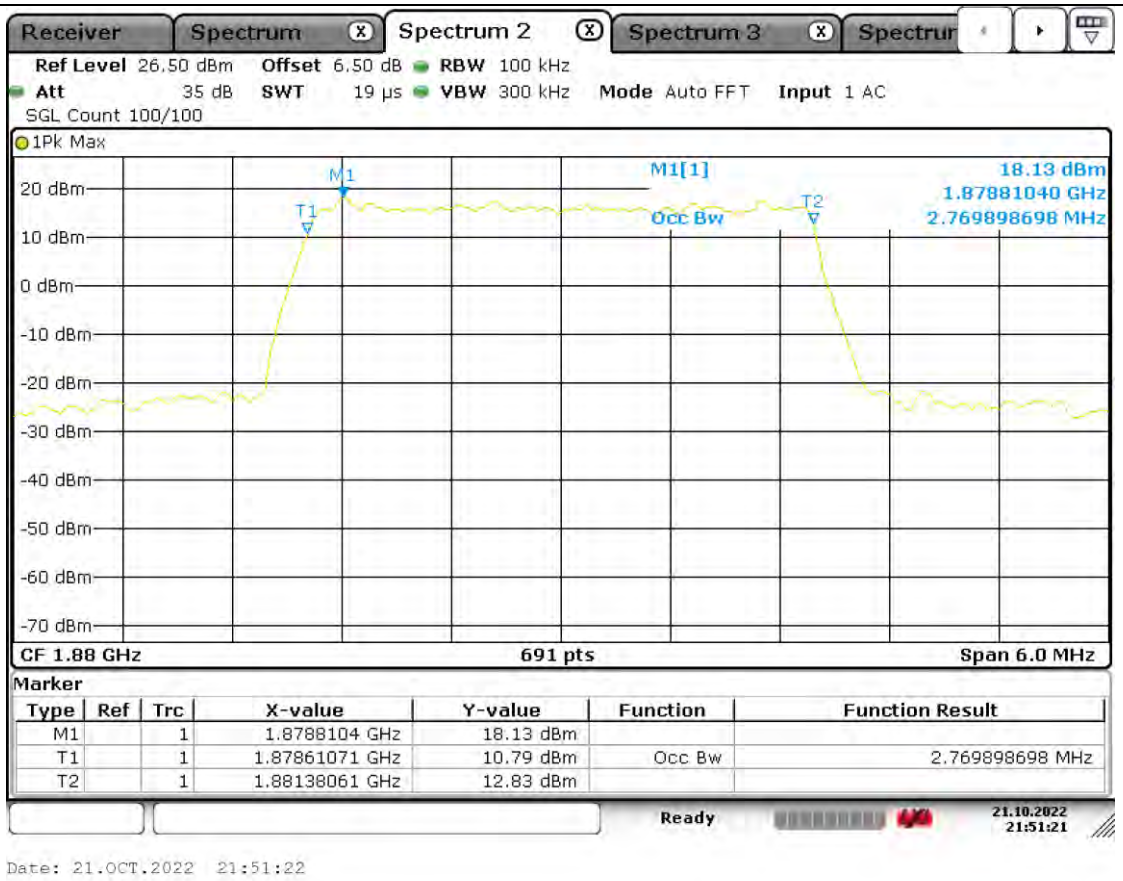
Band2-1.4MHz-16QAM-19193-6RB#0



Band2-3MHz-QPSK-18615-15RB#0



Band2-3MHz-QPSK-18900-15RB#0



Band2-3MHz-QPSK-19185-15RB#0