

Appendix B.6

E-UTRA BAND 41

Main Test Instruments

RE in Chamber					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date (yyyy-mm-dd)	Cal.Due date (yyyy-mm-dd)
3m Semi-Anechoic Chamber	AUDIX	N/A	SEM001-02	2018/3/13	2021/3/12
Spectrum Analyzer (20Hz-43GHz)	Rohde & Schwarz	FSU43	SEM004-08	2019/3/2	2020/3/1
BiConiLog Antenna (26-3000MHz)	ETS-Lindgren	3142C	SEM003-01	2017/6/27	2020/6/26
Hom Antenna (800MHz-18GHz)	Rohde & Schwarz	HF907	SEM003-07	2018/4/13	2021/4/12
Hom Antenna (15-40GHz)	Schwarzbeck	BBHA 9170	SEM003-15	2017/10/17	2020/10/16
Amplifier (0.1-1300MHz)	HP	8447D	SEM005-02	2018/9/2	2019/9/2
Low Noise Amplifier (100MHz-18GHz)	Black Diamond Series	BDLNA-0118-352810	SEM005-05	2018/9/2	2019/9/2
Pre-Amplifier (0.1-26.5GHz)	Compliance Directions Systems Inc.	PAP-0126	EMC2063	2018/10/20	2019/10/19
Pre-amplifier (26-40GHz)	Compliance Directions Systems Inc.	PAP-2640-50	SEM005-08	2019/3/2	2020/3/1
Band filter	N/A	N/A	N/A	N/A	N/A
Measurement Software	AUDIX	e3 V8.2014-6-27	N/A	N/A	N/A
Coaxial Cable	SGS	N/A	SEM026-01	2018/7/12	2019/7/11
Wideband Radio Communication Tester	Anritsu	MT8821C	6201462742	2018/5/2	2019/5/1
Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	W005-02	2019/1/13	2020/1/12
RF conducted test					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date (yyyy-mm-dd)	Cal.Due date (yyyy-mm-dd)
Dual Output Mobile Communication DC Source	Agilent Technologies Inc	66311B	W009-09	2018/11/2	2019/11/1
Signal Analyzer	Rohde & Schwarz	FSV	W005-02	2019/3/2	2020/3/1
Coaxial Cable	SGS	N/A	SEM031-01	2018/7/12	2019/7/11
Attenuator	Weinschel Associates	WA41	SEM021-09	N/A	N/A
Signal Generator	KEYSIGHT	N5173B	SEM006-05	2018/11/2	2019/11/1
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	HTC-1	W006-17	2018/11/2	2019/11/1
Temperature Chamber	GIANT FORCE	ICT-150-40-CP-AR	W027-03	2018/11/2	2019/11/1
Wideband Radio Communication Tester	Anritsu	MT8821C	6201462742	2019/3/2	2020/3/1
Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	W005-02	2018/11/2	2019/11/1

Measurement Uncertainty

For a 95% confidence level ($k = 2$), the measurement expanded uncertainties for defined systems, in accordance with the recommendations of ISO 17025 as following:

Test Item	Extended Uncertainty	Data
Transmit Output Power Data	Power [dBm]	$U = \pm 0.37 \text{ dB}$
Bandwidth	Magnitude [%]	$U = \pm 0.2\%$
Band Edge Compliance	Disturbance Power [dBm]	$U = \pm 2.0 \text{ dB}$
Spurious Emissions, Conducted	Disturbance Power [dBm]	$U = \pm 2.0 \text{ dB}$
Frequency Stability	Frequency Accuracy [ppm]	$U = \pm 0.24 \text{ ppm}$

1. Effective (Isotropic) Radiated Power

1.1. Test Result

BAND	Bandwidth	Modulation	Channel	RB Configuration	Result (dBm)	EIRP (dBm)	Limit (dBm)	Verdict
Band41	5MHz	QPSK	39675	1RB#0	25.85	28.78	33.00	PASS
Band41	5MHz	QPSK	39675	1RB#12	25.68	28.61	33.00	PASS
Band41	5MHz	QPSK	39675	1RB#24	25.79	28.72	33.00	PASS
Band41	5MHz	QPSK	39675	12RB#0	24.79	27.72	33.00	PASS
Band41	5MHz	QPSK	39675	12RB#6	24.73	27.66	33.00	PASS
Band41	5MHz	QPSK	39675	12RB#13	24.87	27.80	33.00	PASS
Band41	5MHz	QPSK	39675	25RB#0	24.69	27.62	33.00	PASS
Band41	5MHz	QPSK	40620	1RB#0	25.78	28.71	33.00	PASS
Band41	5MHz	QPSK	40620	1RB#12	25.80	28.73	33.00	PASS
Band41	5MHz	QPSK	40620	1RB#24	25.58	28.51	33.00	PASS
Band41	5MHz	QPSK	40620	12RB#0	24.73	27.66	33.00	PASS
Band41	5MHz	QPSK	40620	12RB#6	24.64	27.57	33.00	PASS
Band41	5MHz	QPSK	40620	12RB#13	24.62	27.55	33.00	PASS
Band41	5MHz	QPSK	40620	25RB#0	24.68	27.61	33.00	PASS
Band41	5MHz	QPSK	41565	1RB#0	25.64	28.57	33.00	PASS
Band41	5MHz	QPSK	41565	1RB#12	25.62	28.55	33.00	PASS
Band41	5MHz	QPSK	41565	1RB#24	25.45	28.38	33.00	PASS
Band41	5MHz	QPSK	41565	12RB#0	24.52	27.45	33.00	PASS
Band41	5MHz	QPSK	41565	12RB#6	24.40	27.33	33.00	PASS
Band41	5MHz	QPSK	41565	12RB#13	24.35	27.28	33.00	PASS
Band41	5MHz	QPSK	41565	25RB#0	24.56	27.49	33.00	PASS
Band41	5MHz	16QAM	39675	1RB#0	24.47	27.40	33.00	PASS
Band41	5MHz	16QAM	39675	1RB#12	24.51	27.44	33.00	PASS
Band41	5MHz	16QAM	39675	1RB#24	24.24	27.17	33.00	PASS
Band41	5MHz	16QAM	39675	12RB#0	23.78	26.71	33.00	PASS
Band41	5MHz	16QAM	39675	12RB#6	23.78	26.71	33.00	PASS
Band41	5MHz	16QAM	39675	12RB#13	23.91	26.84	33.00	PASS
Band41	5MHz	16QAM	39675	25RB#0	23.66	26.59	33.00	PASS
Band41	5MHz	16QAM	40620	1RB#0	24.34	27.27	33.00	PASS
Band41	5MHz	16QAM	40620	1RB#12	24.51	27.44	33.00	PASS
Band41	5MHz	16QAM	40620	1RB#24	24.39	27.32	33.00	PASS
Band41	5MHz	16QAM	40620	12RB#0	23.84	26.77	33.00	PASS
Band41	5MHz	16QAM	40620	12RB#6	23.90	26.83	33.00	PASS
Band41	5MHz	16QAM	40620	12RB#13	23.56	26.49	33.00	PASS
Band41	5MHz	16QAM	40620	25RB#0	23.62	26.55	33.00	PASS
Band41	5MHz	16QAM	41565	1RB#0	24.34	27.27	33.00	PASS
Band41	5MHz	16QAM	41565	1RB#12	24.36	27.29	33.00	PASS

Band41	5MHz	16QAM	41565	1RB#24	24.14	27.07	33.00	PASS
Band41	5MHz	16QAM	41565	12RB#0	23.55	26.48	33.00	PASS
Band41	5MHz	16QAM	41565	12RB#6	23.68	26.61	33.00	PASS
Band41	5MHz	16QAM	41565	12RB#13	23.39	26.32	33.00	PASS
Band41	5MHz	16QAM	41565	25RB#0	23.65	26.58	33.00	PASS
Band41	10MHz	QPSK	39700	1RB#0	25.85	28.78	33.00	PASS
Band41	10MHz	QPSK	39700	1RB#24	26.10	29.03	33.00	PASS
Band41	10MHz	QPSK	39700	1RB#49	25.67	28.60	33.00	PASS
Band41	10MHz	QPSK	39700	25RB#0	24.85	27.78	33.00	PASS
Band41	10MHz	QPSK	39700	25RB#12	24.95	27.88	33.00	PASS
Band41	10MHz	QPSK	39700	25RB#25	24.85	27.78	33.00	PASS
Band41	10MHz	QPSK	39700	50RB#0	24.88	27.81	33.00	PASS
Band41	10MHz	QPSK	40620	1RB#0	25.54	28.47	33.00	PASS
Band41	10MHz	QPSK	40620	1RB#24	25.76	28.69	33.00	PASS
Band41	10MHz	QPSK	40620	1RB#49	25.36	28.29	33.00	PASS
Band41	10MHz	QPSK	40620	25RB#0	24.60	27.53	33.00	PASS
Band41	10MHz	QPSK	40620	25RB#12	24.72	27.65	33.00	PASS
Band41	10MHz	QPSK	40620	25RB#25	24.57	27.50	33.00	PASS
Band41	10MHz	QPSK	40620	50RB#0	24.69	27.62	33.00	PASS
Band41	10MHz	QPSK	41540	1RB#0	25.67	28.60	33.00	PASS
Band41	10MHz	QPSK	41540	1RB#24	25.71	28.64	33.00	PASS
Band41	10MHz	QPSK	41540	1RB#49	25.50	28.43	33.00	PASS
Band41	10MHz	QPSK	41540	25RB#0	24.61	27.54	33.00	PASS
Band41	10MHz	QPSK	41540	25RB#12	24.64	27.57	33.00	PASS
Band41	10MHz	QPSK	41540	25RB#25	24.33	27.26	33.00	PASS
Band41	10MHz	QPSK	41540	50RB#0	24.79	27.72	33.00	PASS
Band41	10MHz	16QAM	39700	1RB#0	24.48	27.41	33.00	PASS
Band41	10MHz	16QAM	39700	1RB#24	24.67	27.60	33.00	PASS
Band41	10MHz	16QAM	39700	1RB#49	24.17	27.10	33.00	PASS
Band41	10MHz	16QAM	39700	25RB#0	23.81	26.74	33.00	PASS
Band41	10MHz	16QAM	39700	25RB#12	23.99	26.92	33.00	PASS
Band41	10MHz	16QAM	39700	25RB#25	23.91	26.84	33.00	PASS
Band41	10MHz	16QAM	39700	50RB#0	23.77	26.70	33.00	PASS
Band41	10MHz	16QAM	40620	1RB#0	24.24	27.17	33.00	PASS
Band41	10MHz	16QAM	40620	1RB#24	24.36	27.29	33.00	PASS
Band41	10MHz	16QAM	40620	1RB#49	24.44	27.37	33.00	PASS
Band41	10MHz	16QAM	40620	25RB#0	23.67	26.60	33.00	PASS
Band41	10MHz	16QAM	40620	25RB#12	23.80	26.73	33.00	PASS
Band41	10MHz	16QAM	40620	25RB#25	23.60	26.53	33.00	PASS
Band41	10MHz	16QAM	40620	50RB#0	23.82	26.75	33.00	PASS
Band41	10MHz	16QAM	41540	1RB#0	24.32	27.25	33.00	PASS
Band41	10MHz	16QAM	41540	1RB#24	24.51	27.44	33.00	PASS
Band41	10MHz	16QAM	41540	1RB#49	24.00	26.93	33.00	PASS
Band41	10MHz	16QAM	41540	25RB#0	23.62	26.55	33.00	PASS

Band41	10MHz	16QAM	41540	25RB#12	23.59	26.52	33.00	PASS
Band41	10MHz	16QAM	41540	25RB#25	23.43	26.36	33.00	PASS
Band41	10MHz	16QAM	41540	50RB#0	23.78	26.71	33.00	PASS
Band41	15MHz	QPSK	39725	1RB#0	25.66	28.59	33.00	PASS
Band41	15MHz	QPSK	39725	1RB#38	25.72	28.65	33.00	PASS
Band41	15MHz	QPSK	39725	1RB#74	25.67	28.60	33.00	PASS
Band41	15MHz	QPSK	39725	36RB#0	24.83	27.76	33.00	PASS
Band41	15MHz	QPSK	39725	36RB#18	24.85	27.78	33.00	PASS
Band41	15MHz	QPSK	39725	36RB#39	24.76	27.69	33.00	PASS
Band41	15MHz	QPSK	39725	75RB#0	24.81	27.74	33.00	PASS
Band41	15MHz	QPSK	40620	1RB#0	25.79	28.72	33.00	PASS
Band41	15MHz	QPSK	40620	1RB#38	25.79	28.72	33.00	PASS
Band41	15MHz	QPSK	40620	1RB#74	25.62	28.55	33.00	PASS
Band41	15MHz	QPSK	40620	36RB#0	24.84	27.77	33.00	PASS
Band41	15MHz	QPSK	40620	36RB#18	24.72	27.65	33.00	PASS
Band41	15MHz	QPSK	40620	36RB#39	24.59	27.52	33.00	PASS
Band41	15MHz	QPSK	40620	75RB#0	24.90	27.83	33.00	PASS
Band41	15MHz	QPSK	41515	1RB#0	25.86	28.79	33.00	PASS
Band41	15MHz	QPSK	41515	1RB#38	25.70	28.63	33.00	PASS
Band41	15MHz	QPSK	41515	1RB#74	25.57	28.50	33.00	PASS
Band41	15MHz	QPSK	41515	36RB#0	24.64	27.57	33.00	PASS
Band41	15MHz	QPSK	41515	36RB#18	24.62	27.55	33.00	PASS
Band41	15MHz	QPSK	41515	36RB#39	24.61	27.54	33.00	PASS
Band41	15MHz	QPSK	41515	75RB#0	25.05	27.98	33.00	PASS
Band41	15MHz	16QAM	39725	1RB#0	24.22	27.15	33.00	PASS
Band41	15MHz	16QAM	39725	1RB#38	24.14	27.07	33.00	PASS
Band41	15MHz	16QAM	39725	1RB#74	24.28	27.21	33.00	PASS
Band41	15MHz	16QAM	39725	36RB#0	23.74	26.67	33.00	PASS
Band41	15MHz	16QAM	39725	36RB#18	23.93	26.86	33.00	PASS
Band41	15MHz	16QAM	39725	36RB#39	23.89	26.82	33.00	PASS
Band41	15MHz	16QAM	39725	75RB#0	23.76	26.69	33.00	PASS
Band41	15MHz	16QAM	40620	1RB#0	24.31	27.24	33.00	PASS
Band41	15MHz	16QAM	40620	1RB#38	24.47	27.40	33.00	PASS
Band41	15MHz	16QAM	40620	1RB#74	24.28	27.21	33.00	PASS
Band41	15MHz	16QAM	40620	36RB#0	23.63	26.56	33.00	PASS
Band41	15MHz	16QAM	40620	36RB#18	23.72	26.65	33.00	PASS
Band41	15MHz	16QAM	40620	36RB#39	23.57	26.50	33.00	PASS
Band41	15MHz	16QAM	40620	75RB#0	23.90	26.83	33.00	PASS
Band41	15MHz	16QAM	41515	1RB#0	24.85	27.78	33.00	PASS
Band41	15MHz	16QAM	41515	1RB#38	24.14	27.07	33.00	PASS
Band41	15MHz	16QAM	41515	1RB#74	24.04	26.97	33.00	PASS
Band41	15MHz	16QAM	41515	36RB#0	23.48	26.41	33.00	PASS
Band41	15MHz	16QAM	41515	36RB#18	23.48	26.41	33.00	PASS
Band41	15MHz	16QAM	41515	36RB#39	23.54	26.47	33.00	PASS

Band41	15MHz	16QAM	41515	75RB#0	23.91	26.84	33.00	PASS
Band41	20MHz	QPSK	39750	1RB#0	25.50	28.43	33.00	PASS
Band41	20MHz	QPSK	39750	1RB#49	25.98	28.91	33.00	PASS
Band41	20MHz	QPSK	39750	1RB#99	25.50	28.43	33.00	PASS
Band41	20MHz	QPSK	39750	50RB#0	24.72	27.65	33.00	PASS
Band41	20MHz	QPSK	39750	50RB#25	24.72	27.65	33.00	PASS
Band41	20MHz	QPSK	39750	50RB#50	24.75	27.68	33.00	PASS
Band41	20MHz	QPSK	39750	100RB#0	24.71	27.64	33.00	PASS
Band41	20MHz	QPSK	40620	1RB#0	25.60	28.53	33.00	PASS
Band41	20MHz	QPSK	40620	1RB#49	25.95	28.88	33.00	PASS
Band41	20MHz	QPSK	40620	1RB#99	25.63	28.56	33.00	PASS
Band41	20MHz	QPSK	40620	50RB#0	24.61	27.54	33.00	PASS
Band41	20MHz	QPSK	40620	50RB#25	24.58	27.51	33.00	PASS
Band41	20MHz	QPSK	40620	50RB#50	24.57	27.50	33.00	PASS
Band41	20MHz	QPSK	40620	100RB#0	25.02	27.95	33.00	PASS
Band41	20MHz	QPSK	41490	1RB#0	25.72	28.65	33.00	PASS
Band41	20MHz	QPSK	41490	1RB#49	25.81	28.74	33.00	PASS
Band41	20MHz	QPSK	41490	1RB#99	25.51	28.44	33.00	PASS
Band41	20MHz	QPSK	41490	50RB#0	24.48	27.41	33.00	PASS
Band41	20MHz	QPSK	41490	50RB#25	24.54	27.47	33.00	PASS
Band41	20MHz	QPSK	41490	50RB#50	24.67	27.60	33.00	PASS
Band41	20MHz	QPSK	41490	100RB#0	24.95	27.88	33.00	PASS
Band41	20MHz	16QAM	39750	1RB#0	24.13	27.06	33.00	PASS
Band41	20MHz	16QAM	39750	1RB#49	24.31	27.24	33.00	PASS
Band41	20MHz	16QAM	39750	1RB#99	24.14	27.07	33.00	PASS
Band41	20MHz	16QAM	39750	50RB#0	23.82	26.75	33.00	PASS
Band41	20MHz	16QAM	39750	50RB#25	23.99	26.92	33.00	PASS
Band41	20MHz	16QAM	39750	50RB#50	23.85	26.78	33.00	PASS
Band41	20MHz	16QAM	39750	100RB#0	23.79	26.72	33.00	PASS
Band41	20MHz	16QAM	40620	1RB#0	24.20	27.13	33.00	PASS
Band41	20MHz	16QAM	40620	1RB#49	24.40	27.33	33.00	PASS
Band41	20MHz	16QAM	40620	1RB#99	24.39	27.32	33.00	PASS
Band41	20MHz	16QAM	40620	50RB#0	23.85	26.78	33.00	PASS
Band41	20MHz	16QAM	40620	50RB#25	23.65	26.58	33.00	PASS
Band41	20MHz	16QAM	40620	50RB#50	23.73	26.66	33.00	PASS
Band41	20MHz	16QAM	40620	100RB#0	23.98	26.91	33.00	PASS
Band41	20MHz	16QAM	41490	1RB#0	24.35	27.28	33.00	PASS
Band41	20MHz	16QAM	41490	1RB#49	24.32	27.25	33.00	PASS
Band41	20MHz	16QAM	41490	1RB#99	23.91	26.84	33.00	PASS
Band41	20MHz	16QAM	41490	50RB#0	23.66	26.59	33.00	PASS
Band41	20MHz	16QAM	41490	50RB#25	23.52	26.45	33.00	PASS
Band41	20MHz	16QAM	41490	50RB#50	23.70	26.63	33.00	PASS
Band41	20MHz	16QAM	41490	100RB#0	23.68	26.61	33.00	PASS

Remark:

a: For getting the EIRP (Efficient Isotropic Radiated Power) in substitution method, the following formula should be taken to calculate it,

$$\text{ERP [dBm]} = \text{SGP [dBm]} - \text{Cable Loss [dB]} + \text{Gain [dBd]}$$

$$\text{EIRP [dBm]} = \text{SGP [dBm]} - \text{Cable Loss [dB]} + \text{Gain [dBi]}$$

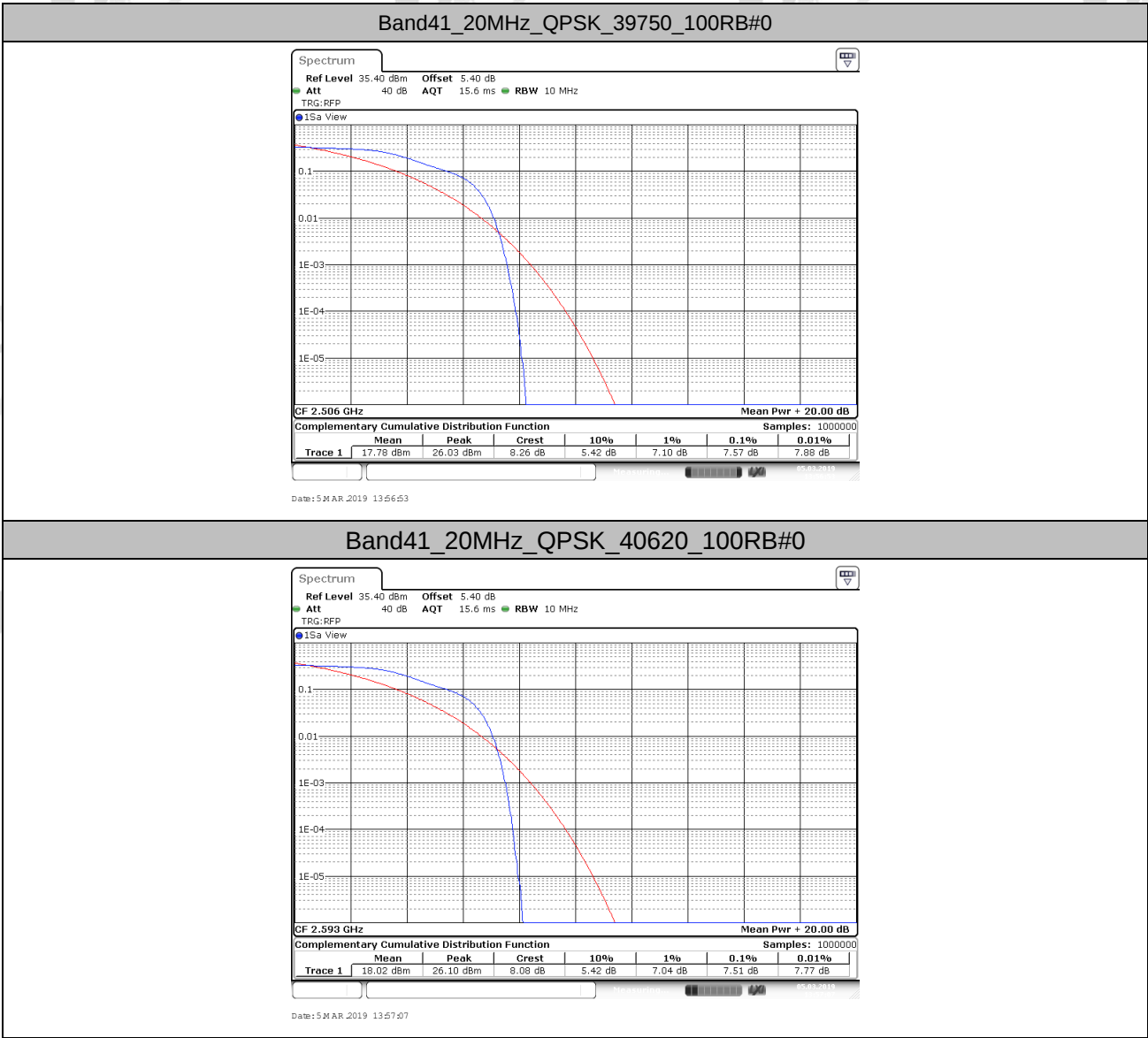
b: SGP=Signal Generator Level

2. Peak-to-Average Ratio(CCDF)

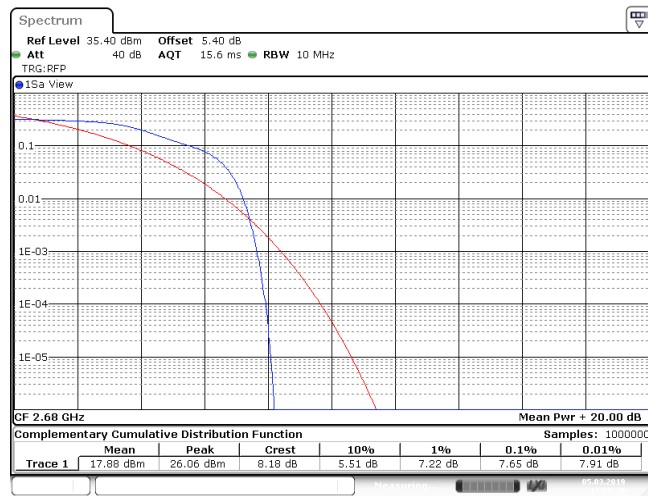
2.1. Test Result

BAND	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band41	20MHz	QPSK	39750	100RB#0	7.57	13	PASS
Band41	20MHz	QPSK	40620	100RB#0	7.51	13	PASS
Band41	20MHz	QPSK	41490	100RB#0	7.65	13	PASS
Band41	20MHz	16QAM	39750	100RB#0	9.04	13	PASS
Band41	20MHz	16QAM	40620	100RB#0	9.25	13	PASS
Band41	20MHz	16QAM	41490	100RB#0	9.48	13	PASS

2.2. Test Plots

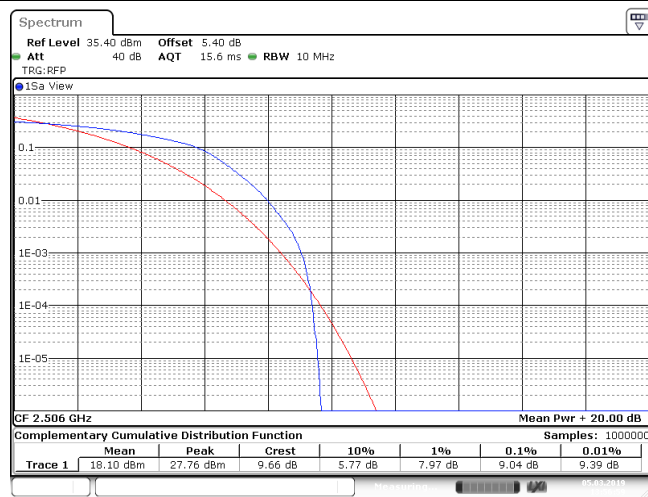


Band41_20MHz_QPSK_41490_100RB#0



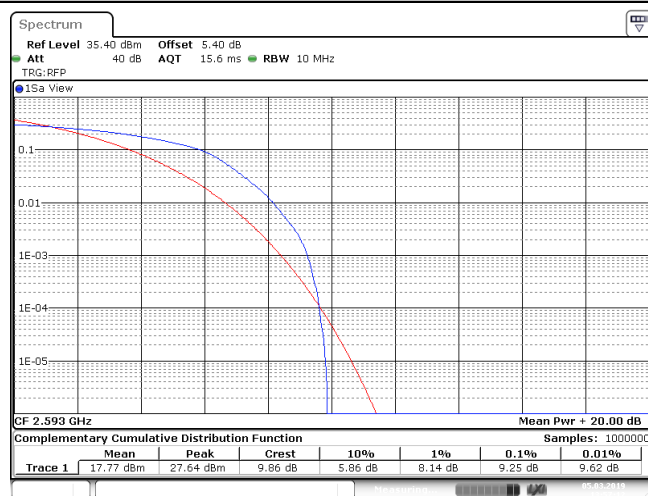
Date: 5 MAR 2019 13:57:21

Band41_20MHz_16QAM_39750_100RB#0

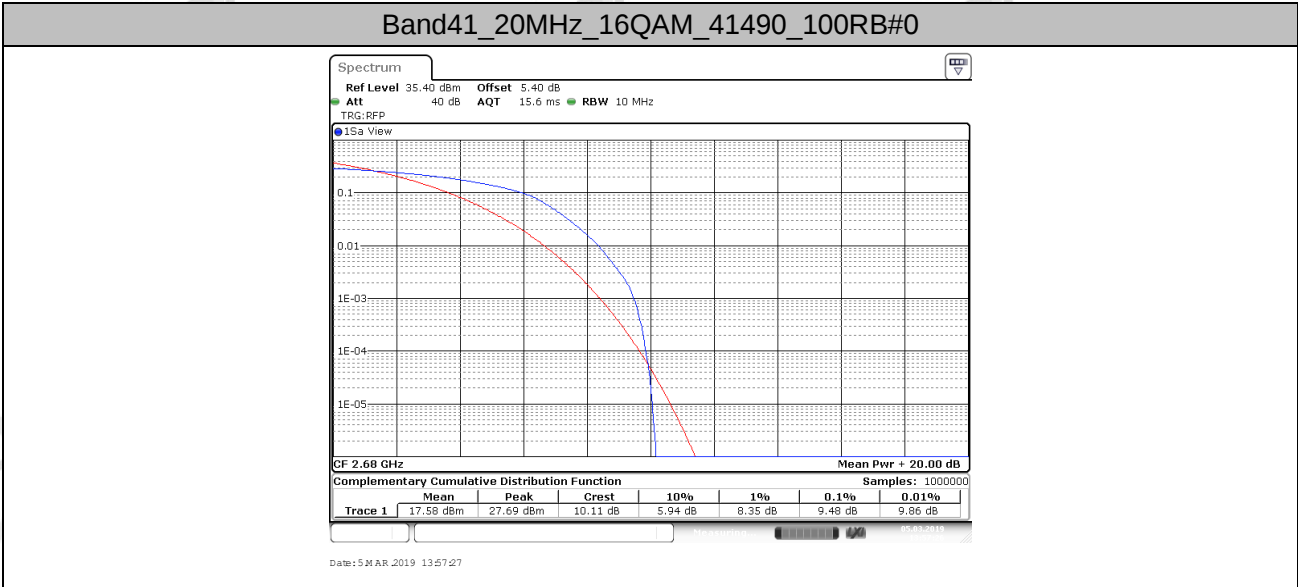


Date: 5 MAR 2019 13:56:59

Band41_20MHz_16QAM_40620_100RB#0



Date: 5 MAR 2019 13:57:13

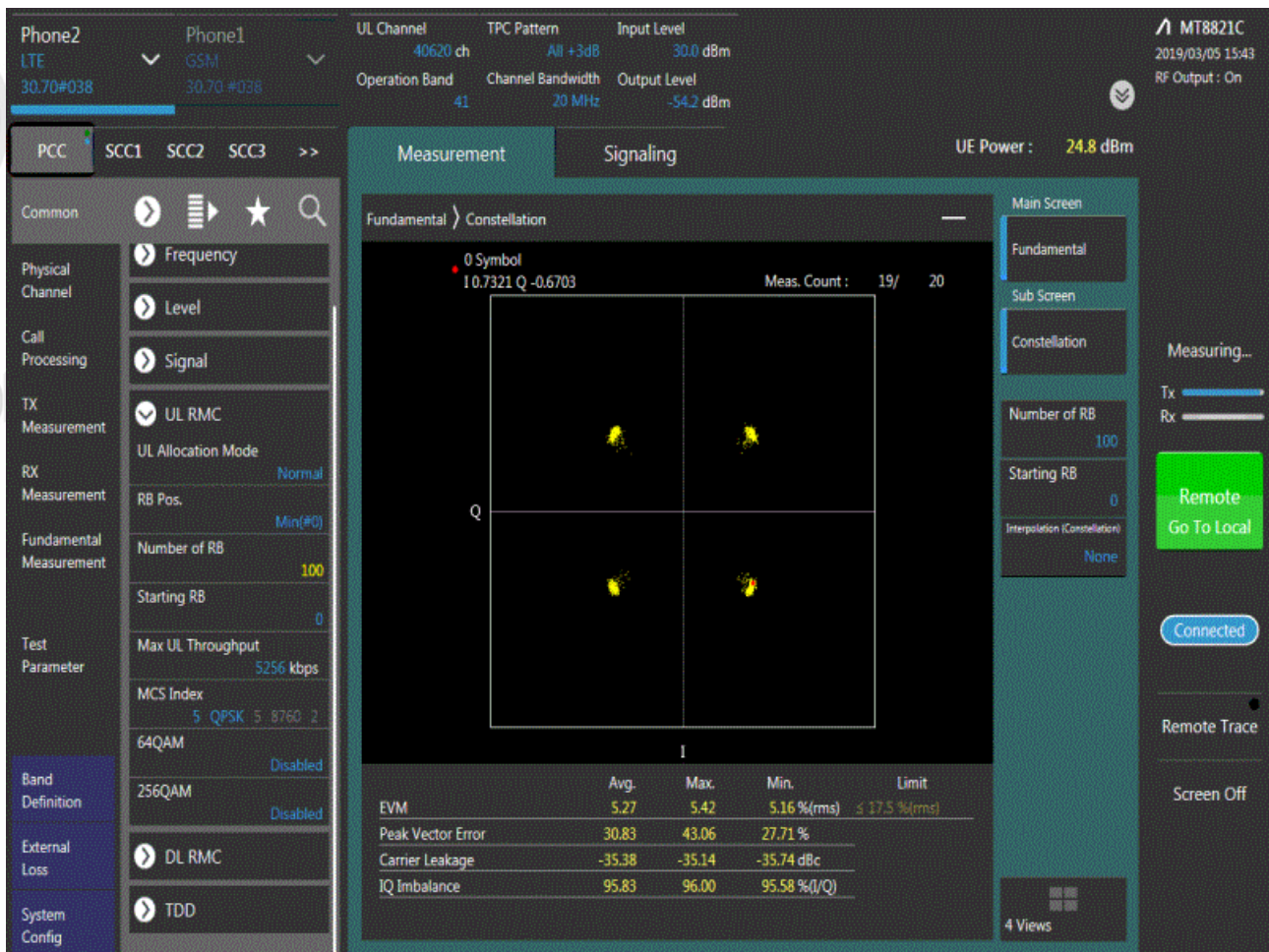


3. Modulation Characteristics

3.1. Test BAND = LTE BAND41

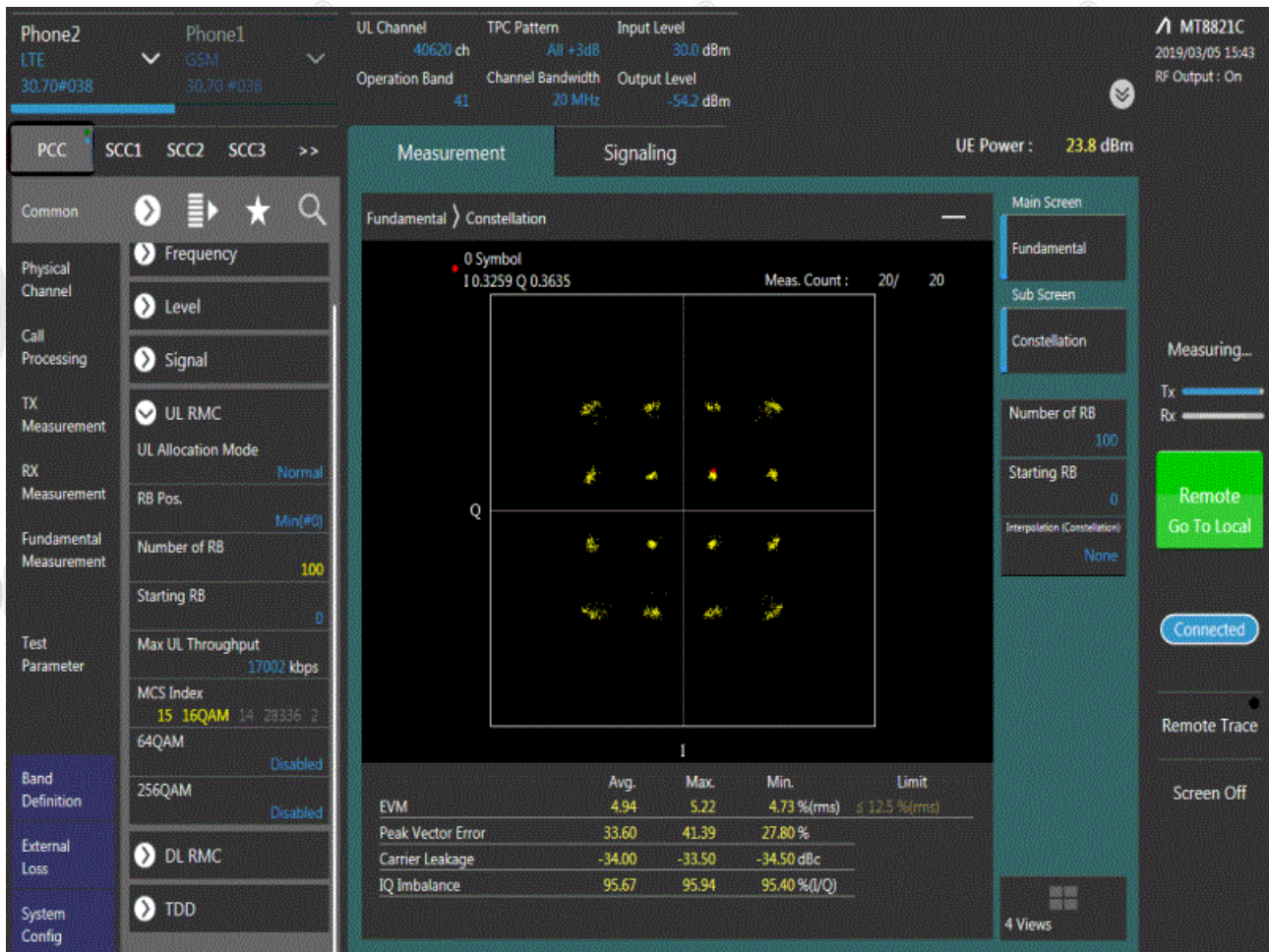
3.1.1. Test Mode = LTE /TM1 20MHz

3.1.1.1. Test Channel = MCH



3.1.2. Test Mode = LTE /TM2 20MHz

3.1.2.1. Test Channel = MCH



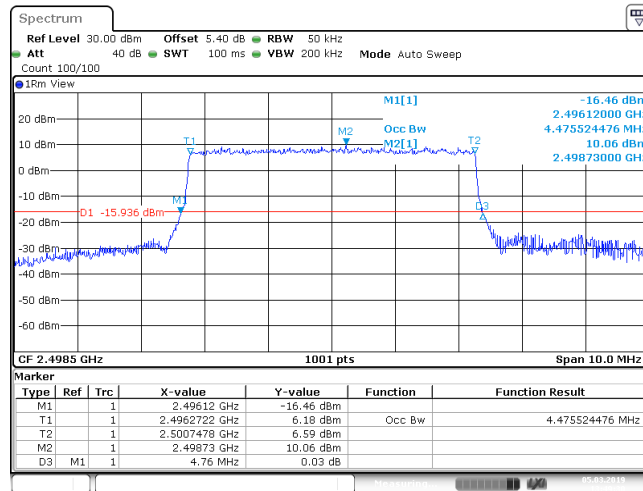
4. 26dB Bandwidth and Occupied Bandwidth

4.1. Test Result

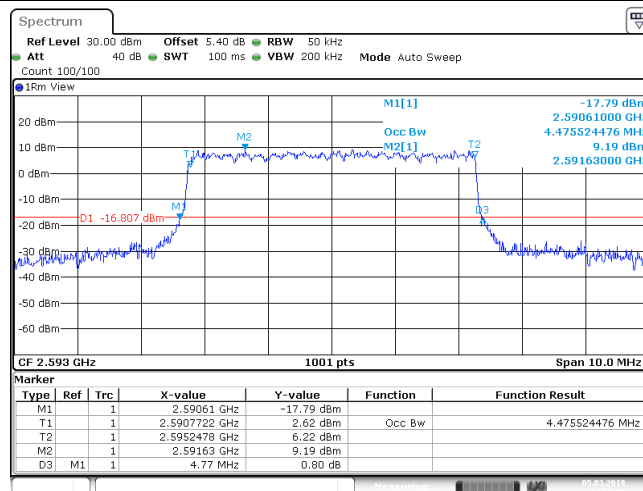
BAND	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band41	5MHz	QPSK	39675	25RB#0	4.476	4.760	PASS
Band41	5MHz	QPSK	40620	25RB#0	4.476	4.770	PASS
Band41	5MHz	QPSK	41565	25RB#0	4.476	4.880	PASS
Band41	5MHz	16QAM	39675	25RB#0	4.476	4.820	PASS
Band41	5MHz	16QAM	40620	25RB#0	4.466	4.820	PASS
Band41	5MHz	16QAM	41565	25RB#0	4.466	4.830	PASS
Band41	10MHz	QPSK	39700	50RB#0	8.911	9.480	PASS
Band41	10MHz	QPSK	40620	50RB#0	8.911	9.420	PASS
Band41	10MHz	QPSK	41540	50RB#0	8.911	9.480	PASS
Band41	10MHz	16QAM	39700	50RB#0	8.911	9.360	PASS
Band41	10MHz	16QAM	40620	50RB#0	8.931	9.460	PASS
Band41	10MHz	16QAM	41540	50RB#0	8.911	9.360	PASS
Band41	15MHz	QPSK	39725	75RB#0	13.427	14.370	PASS
Band41	15MHz	QPSK	40620	75RB#0	13.427	14.400	PASS
Band41	15MHz	QPSK	41515	75RB#0	13.427	14.310	PASS
Band41	15MHz	16QAM	39725	75RB#0	13.427	14.370	PASS
Band41	15MHz	16QAM	40620	75RB#0	13.427	14.340	PASS
Band41	15MHz	16QAM	41515	75RB#0	13.427	14.340	PASS
Band41	20MHz	QPSK	39750	100RB#0	17.822	18.840	PASS
Band41	20MHz	QPSK	40620	100RB#0	17.862	18.920	PASS
Band41	20MHz	QPSK	41490	100RB#0	17.822	18.800	PASS
Band41	20MHz	16QAM	39750	100RB#0	17.822	18.840	PASS
Band41	20MHz	16QAM	40620	100RB#0	17.862	18.800	PASS
Band41	20MHz	16QAM	41490	100RB#0	17.822	18.840	PASS

4.2. Test Plots

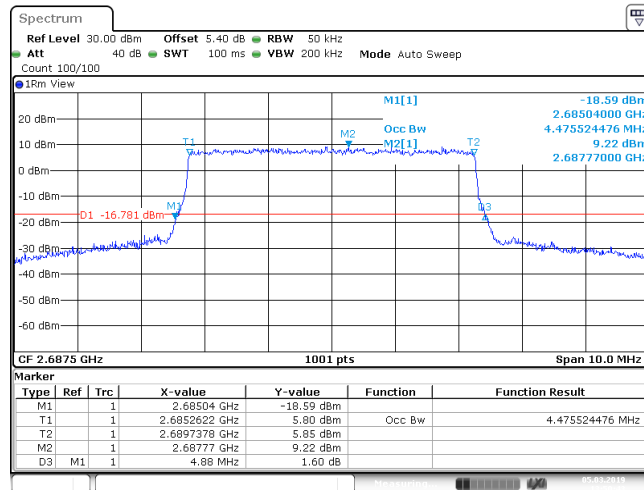
Band41_5MHz_QPSK_39675_25RB#0



Band41_5MHz_QPSK_40620_25RB#0

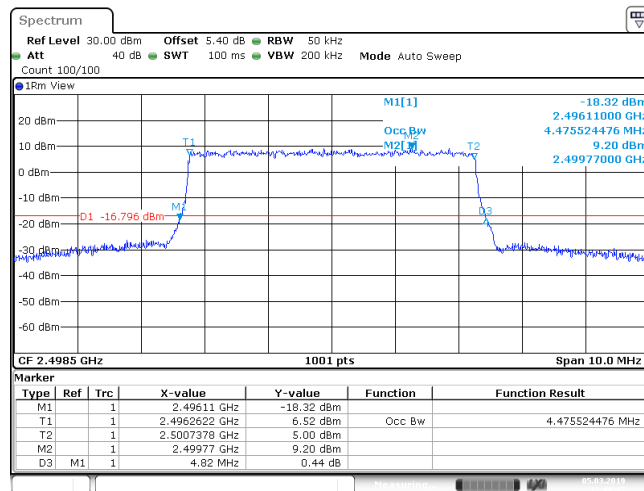


Band41_5MHz_QPSK_41565_25RB#0



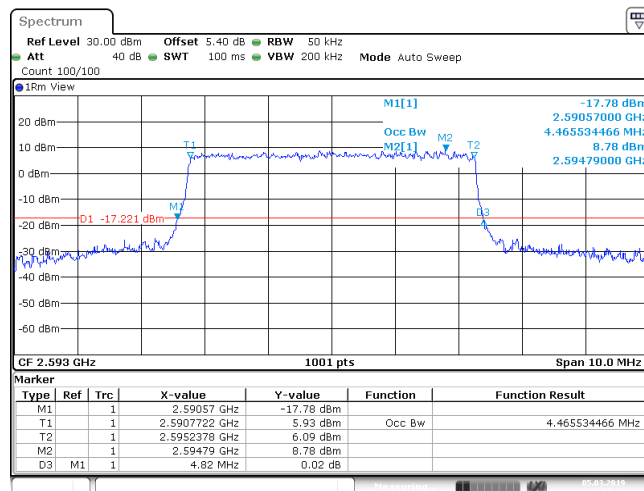
Date: 5 MAR 2019 13:50:43

Band41_5MHz_16QAM_39675_25RB#0



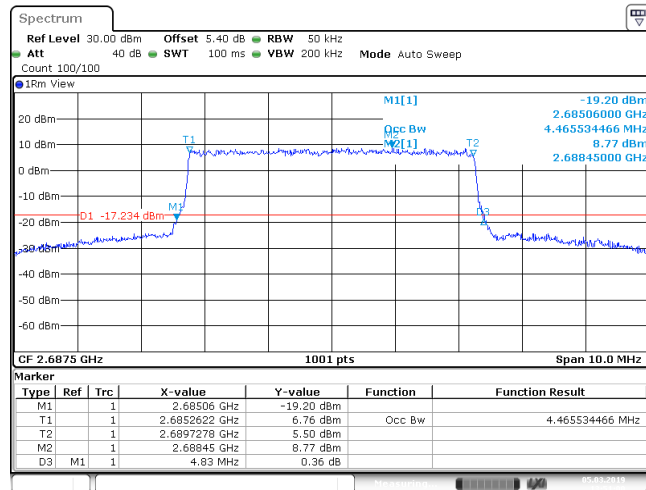
Date: 5 MAR 2019 13:49:47

Band41_5MHz_16QAM_40620_25RB#0



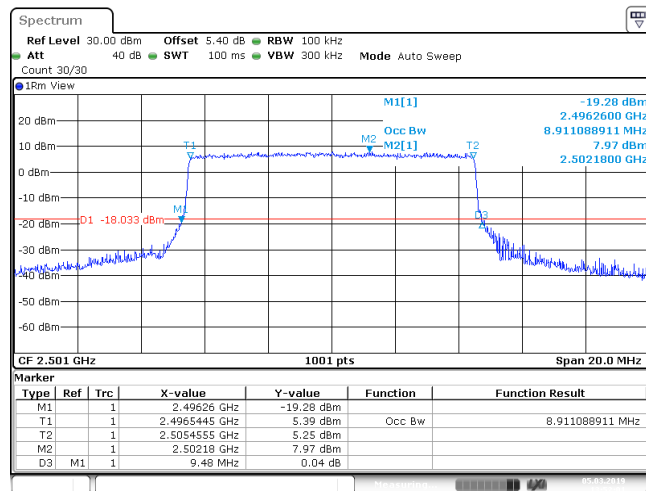
Date: 5 MAR 2019 13:50:24

Band41_5MHz_16QAM_41565_25RB#0



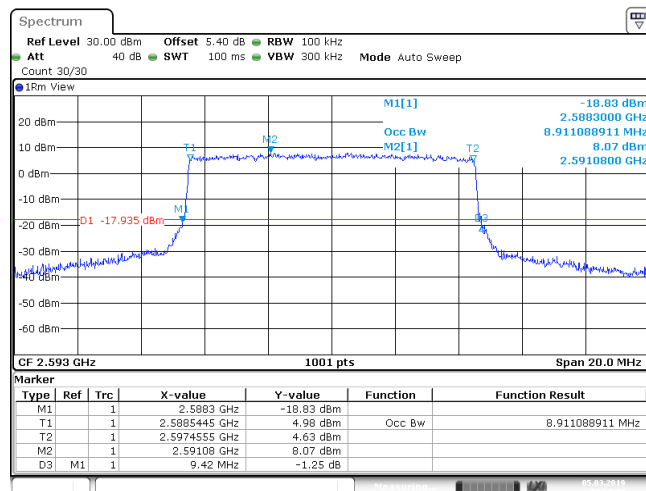
Date: 5 MAR 2019 13:51:01

Band41_10MHz_QPSK_39700_50RB#0



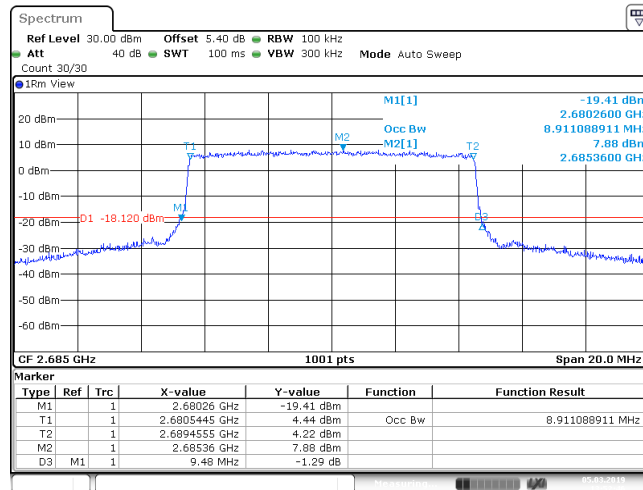
Date: 5 MAR 2019 13:52:01

Band41_10MHz_QPSK_40620_50RB#0



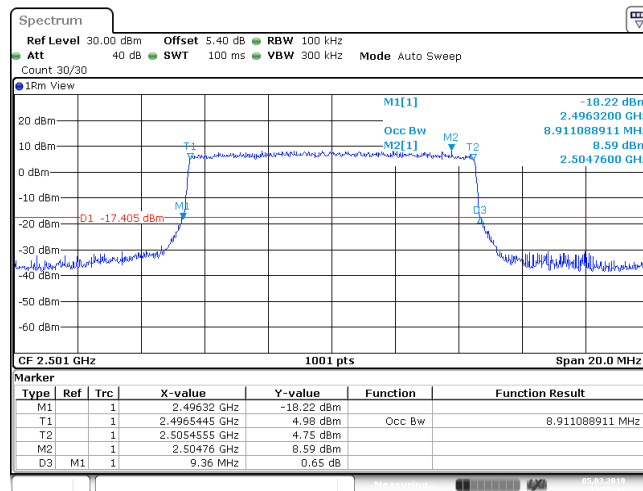
Date: 5 MAR 2019 13:52:24

Band41_10MHz_QPSK_41540_50RB#0



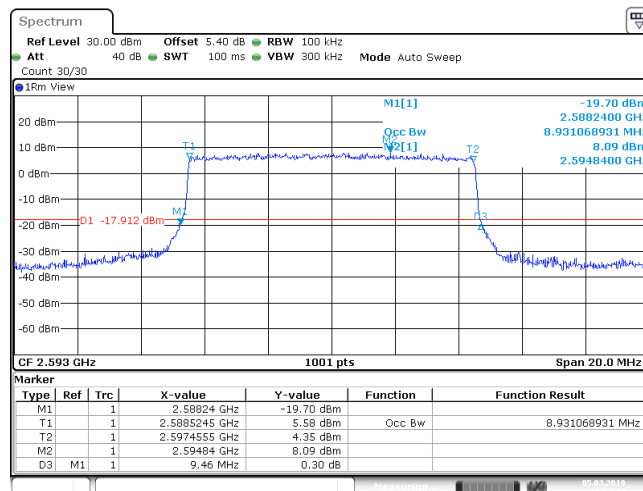
Date: 5 MAR 2019 13:52:47

Band41_10MHz_16QAM_39700_50RB#0



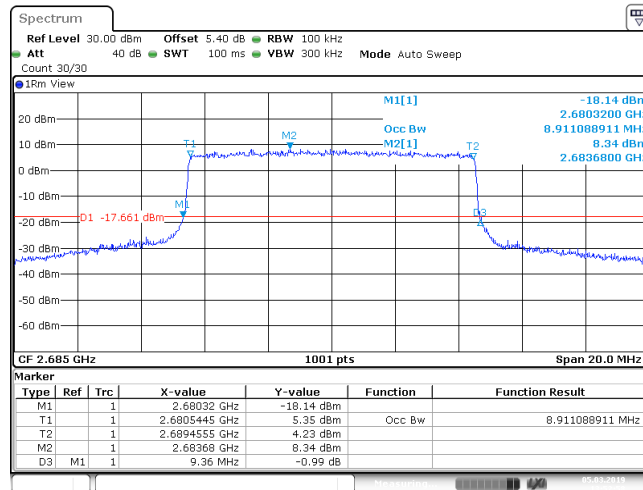
Date: 5 MAR 2019 13:52:11

Band41_10MHz_16QAM_40620_50RB#0



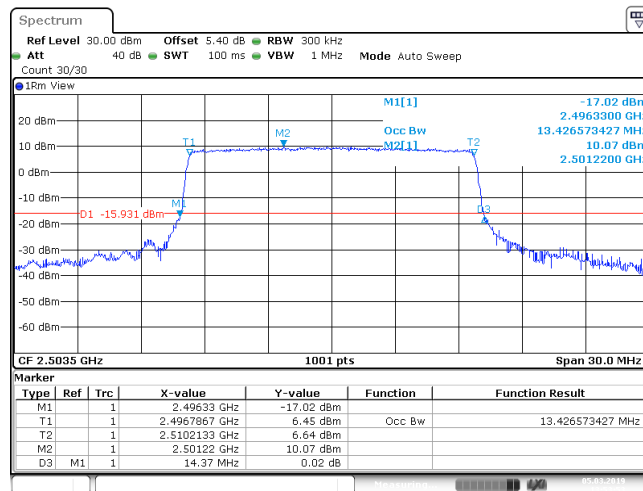
Date: 5 MAR 2019 13:52:34

Band41_10MHz_16QAM_41540_50RB#0



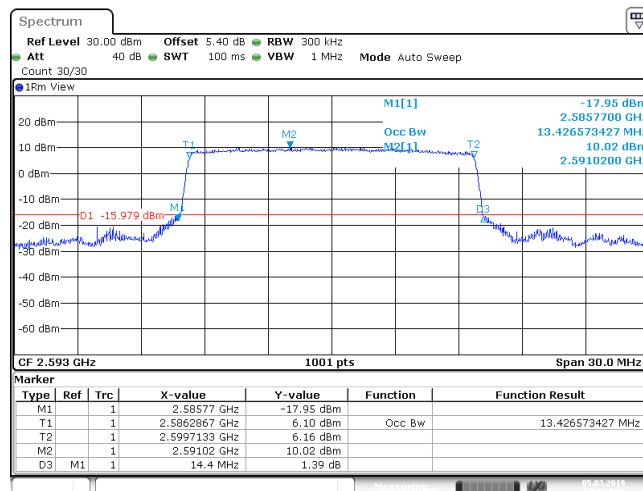
Date: 5 MAR 2019 13:52:57

Band41_15MHz_QPSK_39725_75RB#0



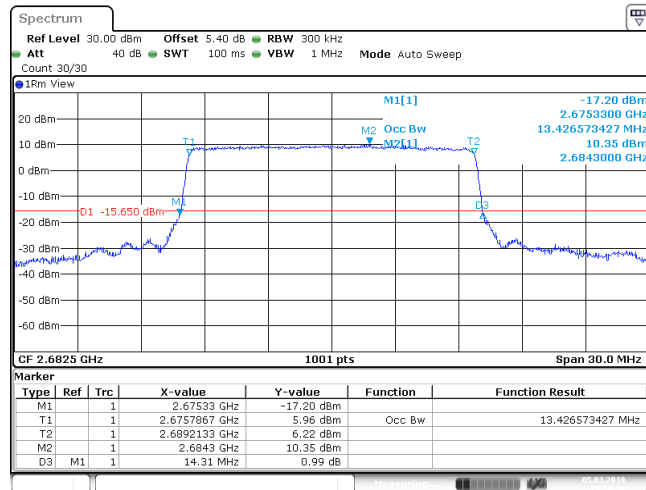
Date: 5 MAR 2019 13:53:54

Band41_15MHz_QPSK_40620_75RB#0



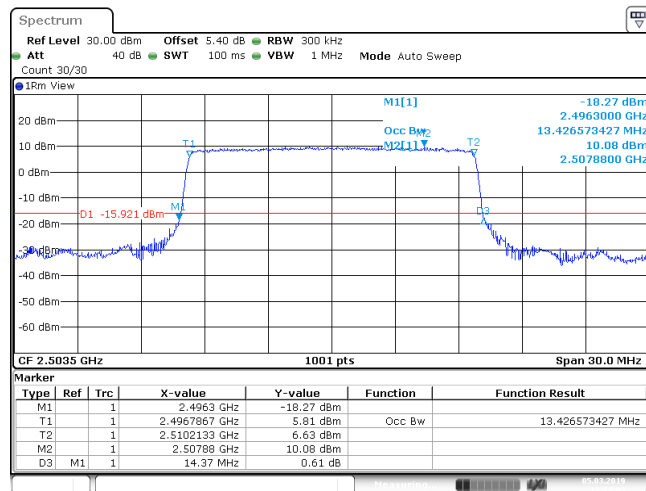
Date: 5 MAR 2019 13:54:16

Band41_15MHz_QPSK_41515_75RB#0



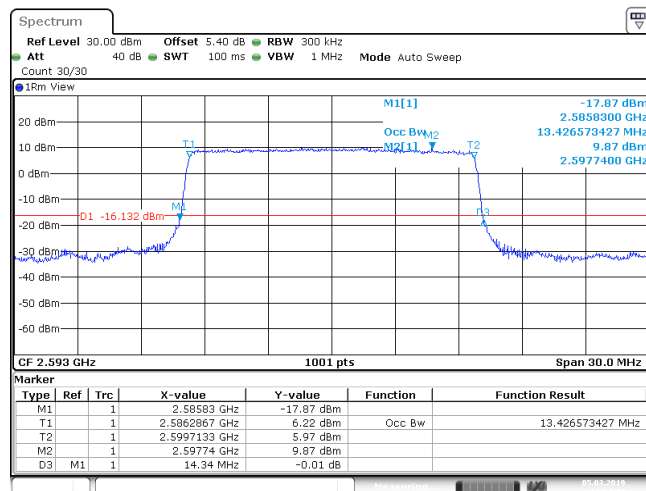
Date: 5 MAR 2019 13:54:39

Band41_15MHz_16QAM_39725_75RB#0



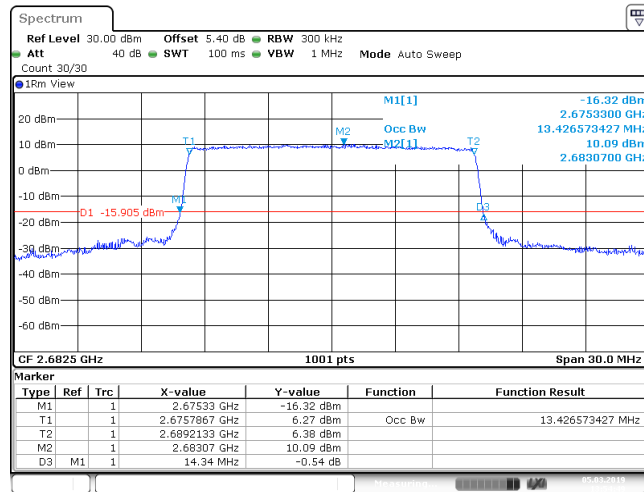
Date: 5 MAR 2019 13:54:04

Band41_15MHz_16QAM_40620_75RB#0



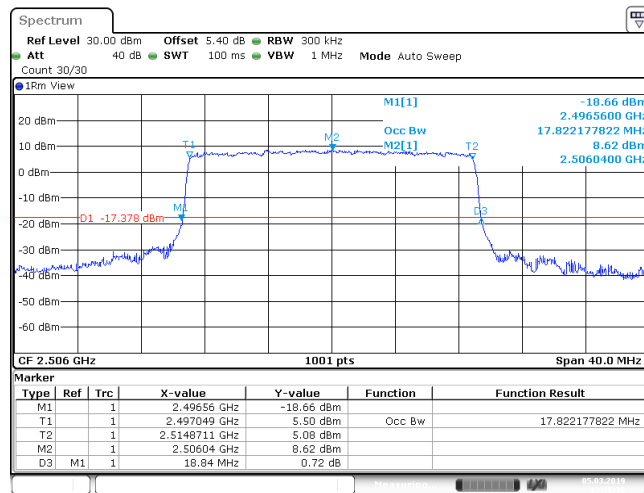
Date: 5 MAR 2019 13:54:27

Band41_15MHz_16QAM_41515_75RB#0



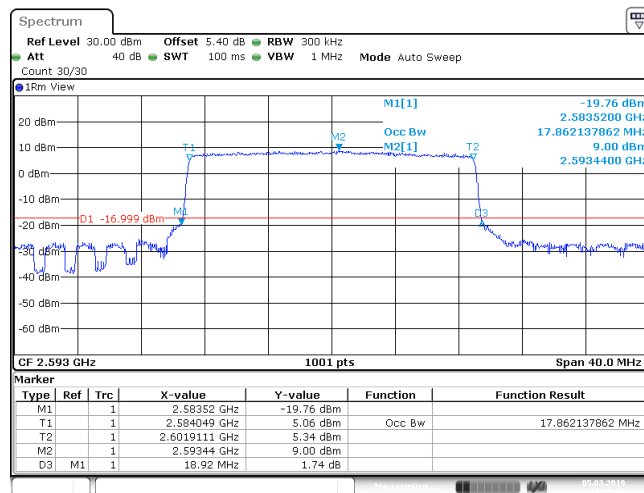
Date: 5 MAR 2019 13:54:49

Band41_20MHz_QPSK_39750_100RB#0



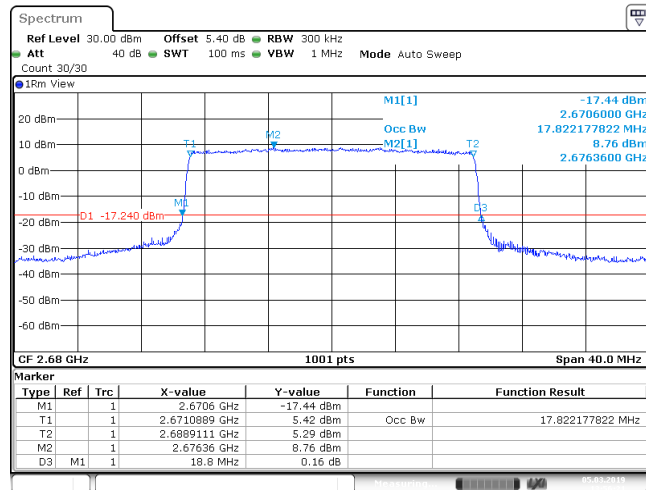
Date: 5 MAR 2019 13:55:36

Band41_20MHz_QPSK_40620_100RB#0



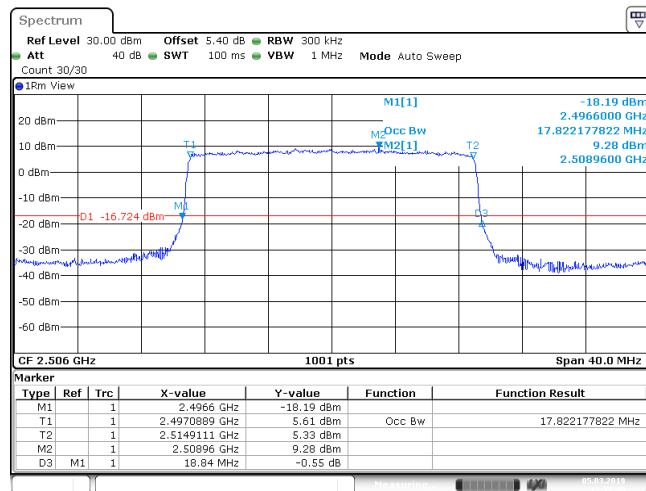
Date: 5 MAR 2019 13:55:59

Band41_20MHz_QPSK_41490_100RB#0



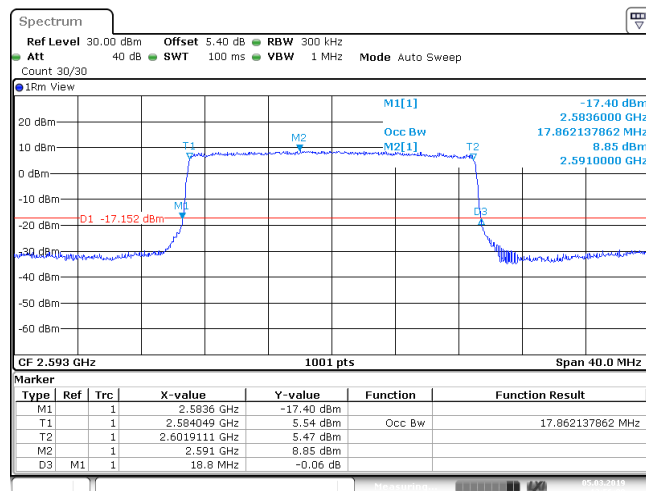
Date: 5 MAR 2019 13:56:22

Band41_20MHz_16QAM_39750_100RB#0

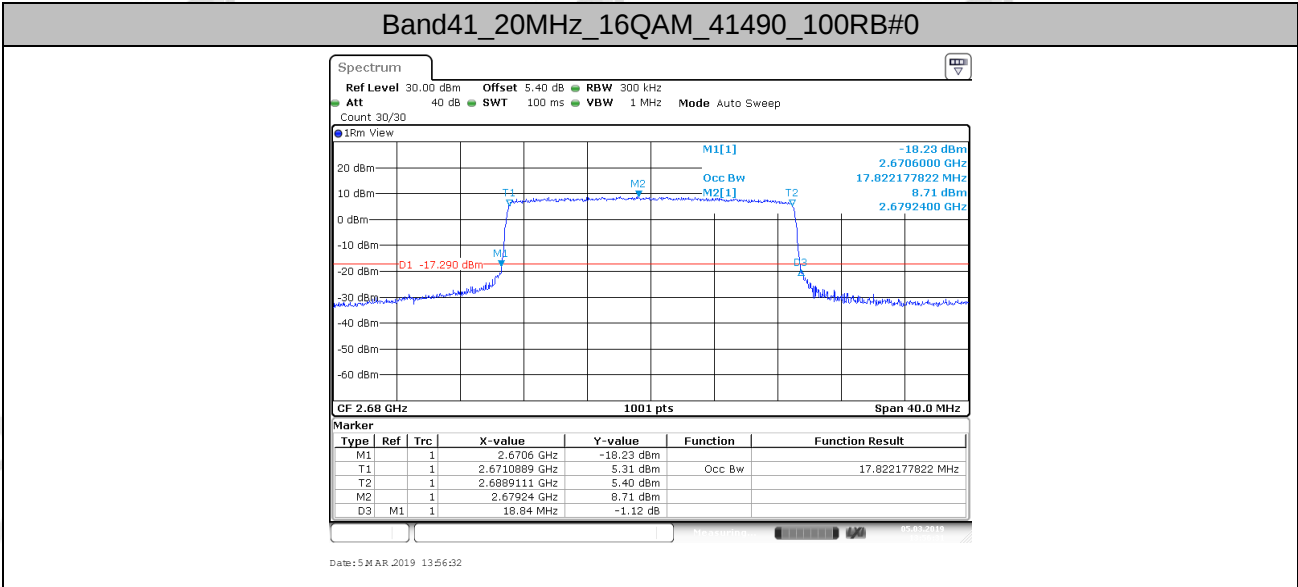


Date: 5 MAR 2019 13:55:46

Band41_20MHz_16QAM_40620_100RB#0

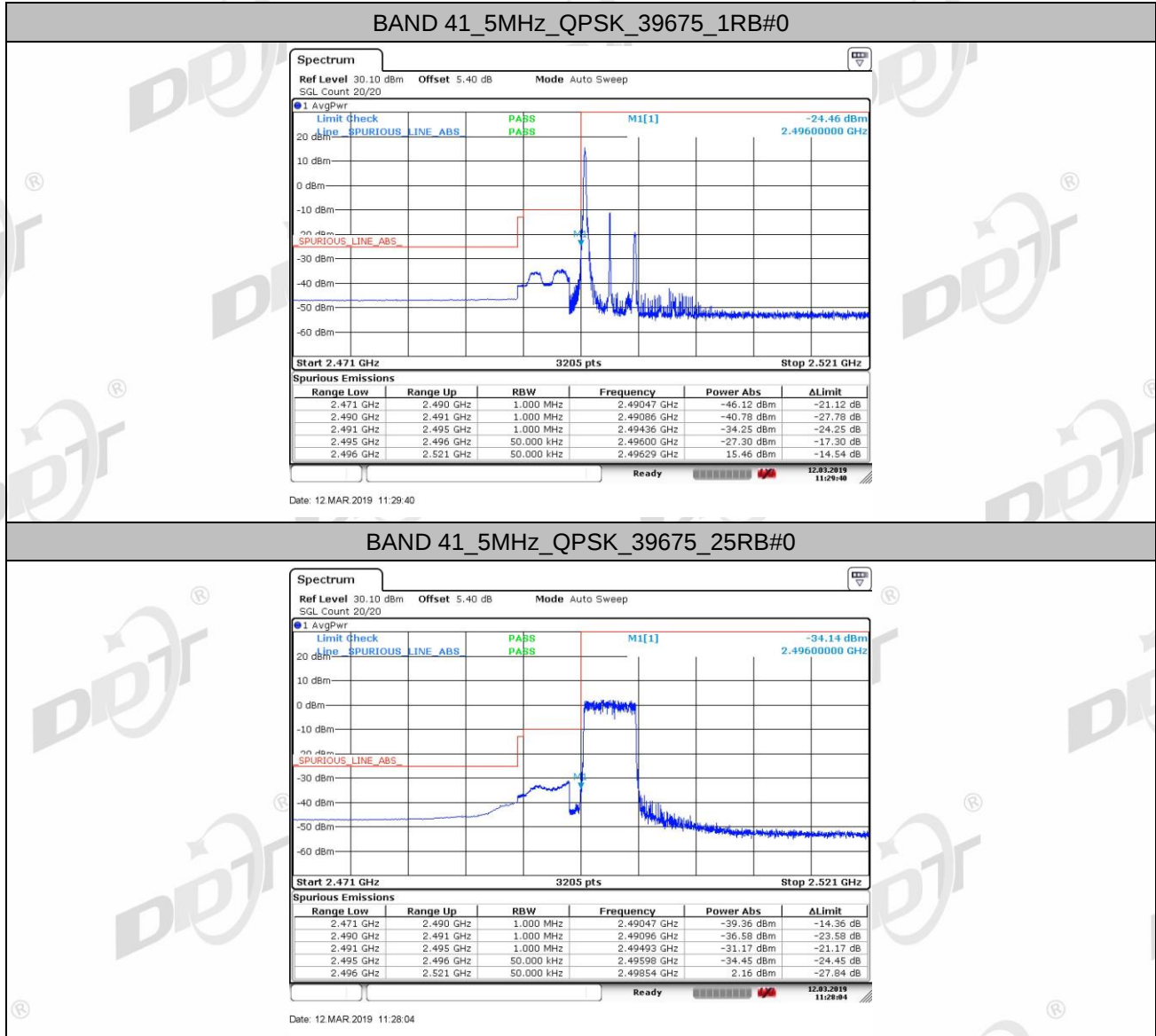


Date: 5 MAR 2019 13:56:09

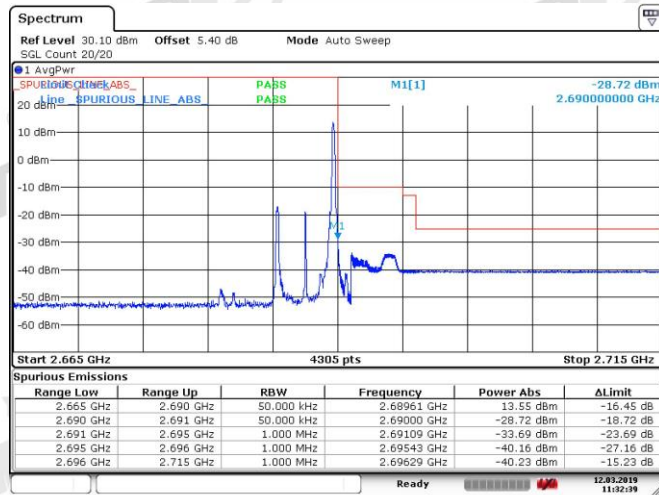


5. Band Edge Compliance

5.1. Test Plots

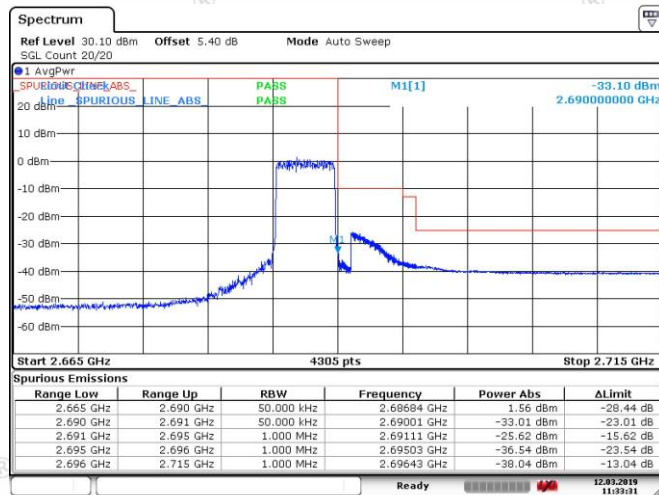


BAND 41_5MHz_QPSK_41565_1RB#24



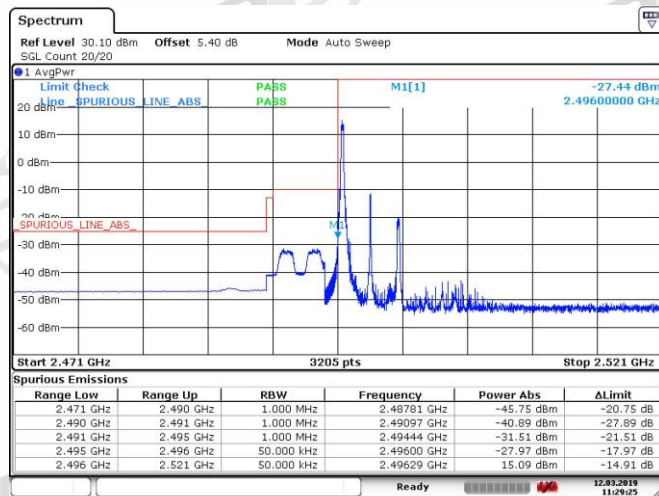
Date: 12 MAR 2019 11:32:39

BAND 41_5MHz_QPSK_41565_25RB#0



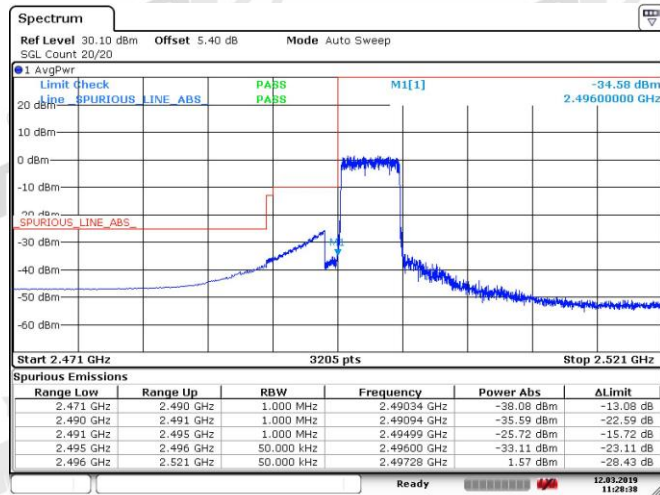
Date: 12 MAR 2019 11:33:31

BAND 41_5MHz_16QAM_39675_1RB#0



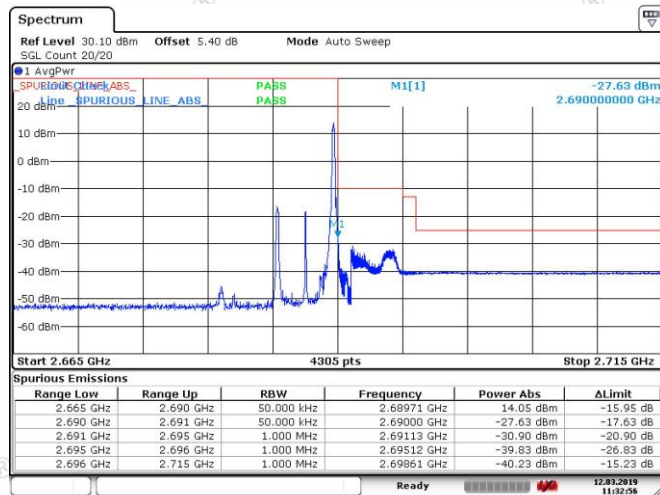
Date: 12 MAR 2019 11:29:26

BAND 41_5MHz_16QAM_39675_25RB#0



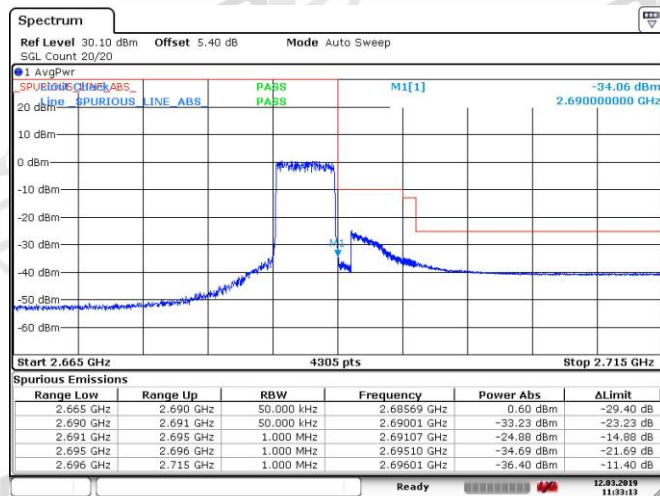
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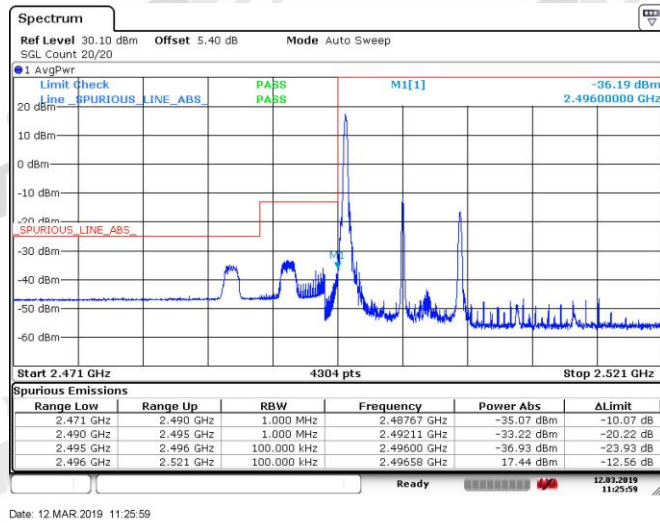
Date: 12 MAR 2019 11:32:56

BAND 41_5MHz_16QAM_41565_25RB#0

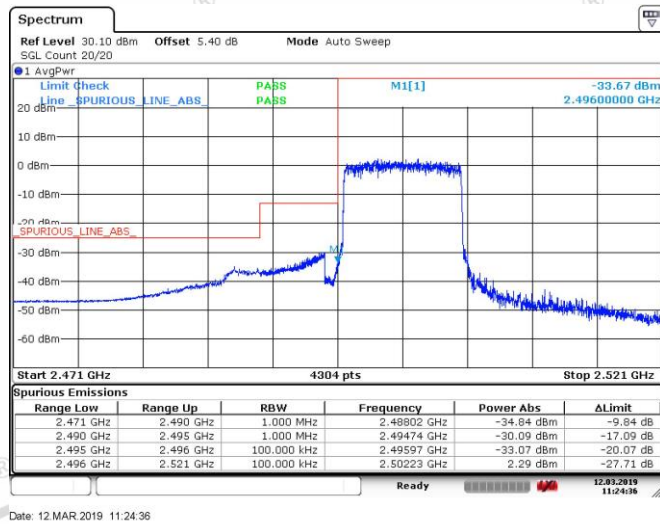


Date: 12 MAR 2019 11:33:14

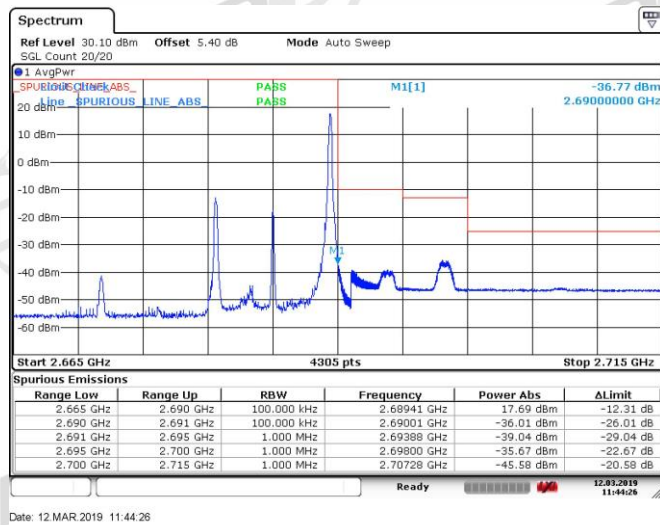
BAND 41_10MHz_QPSK_39700_1RB#0



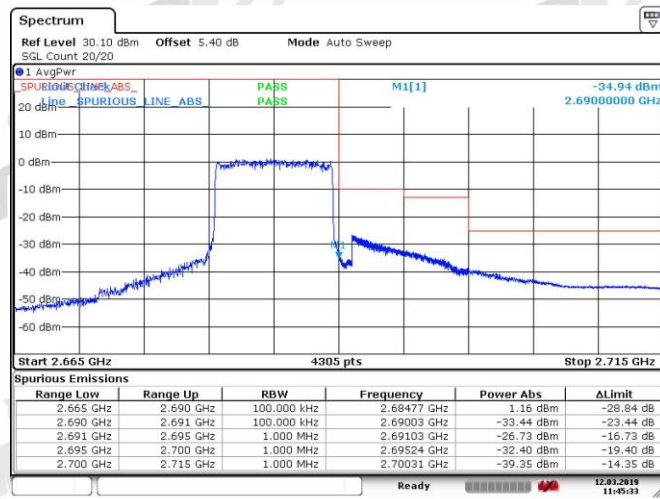
BAND 41_10MHz_QPSK_39700_50RB#0



BAND 41_10MHz_QPSK_41540_1RB#49

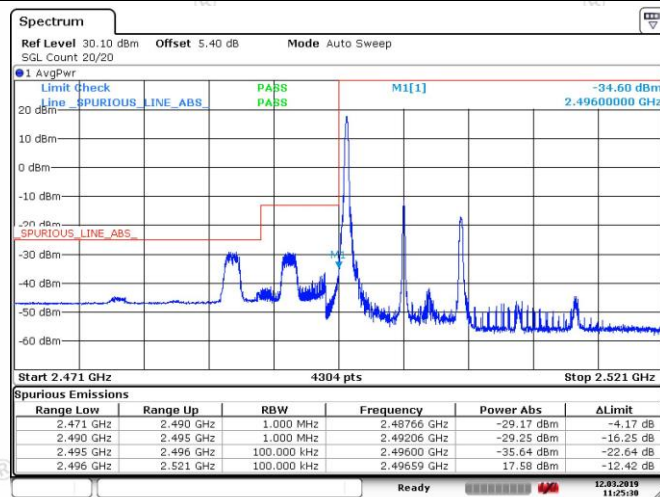


BAND 41_10MHz_QPSK_41540_50RB#0



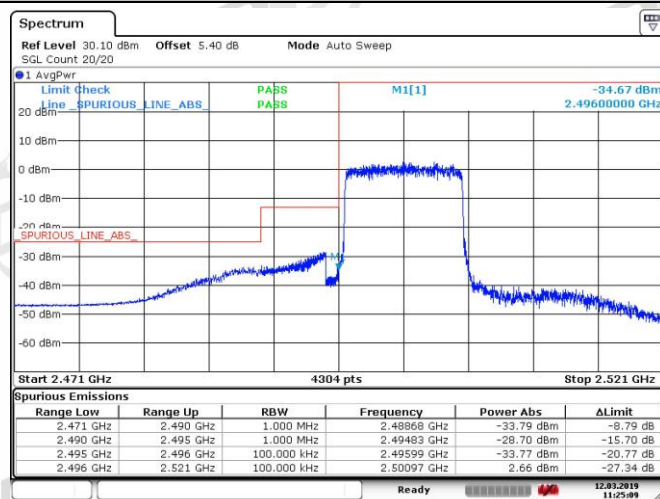
Date: 12 MAR 2019 11:45:33

BAND 41_10MHz_16QAM_39700_1RB#0



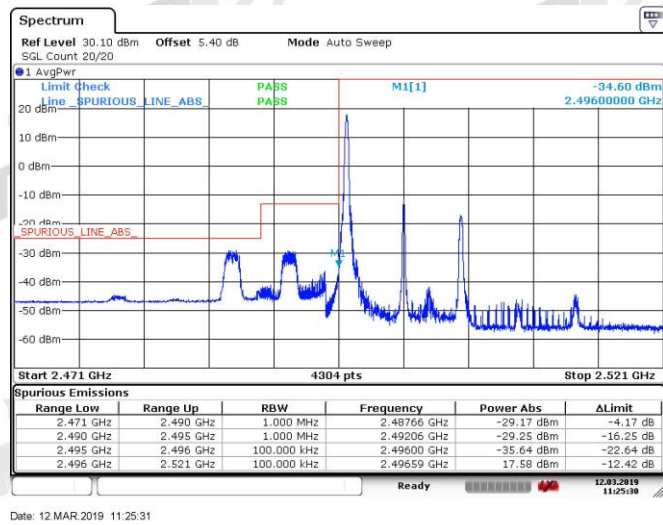
Date: 12 MAR 2019 11:25:31

BAND 41_10MHz_16QAM_39700_50RB#0

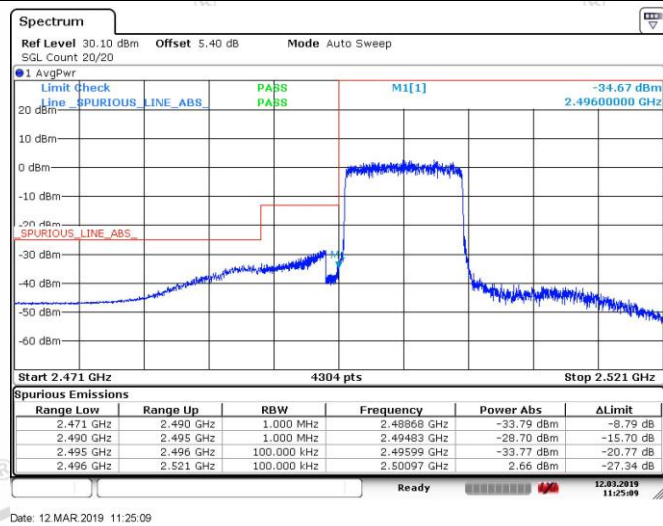


Date: 12 MAR 2019 11:25:09

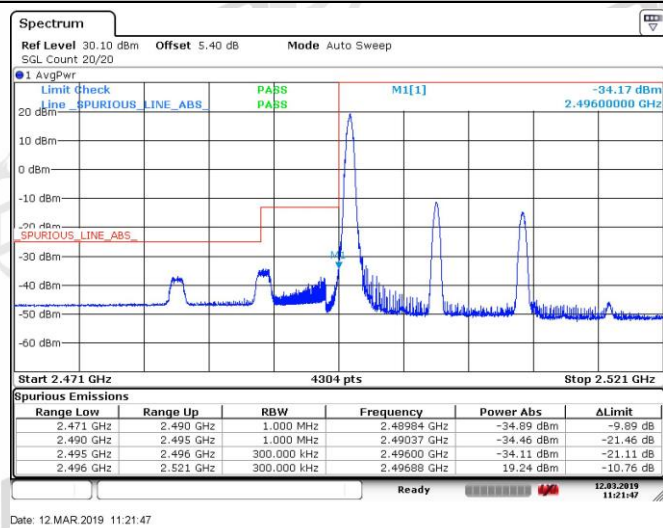
BAND 41_10MHz_16QAM_41540_1RB#49



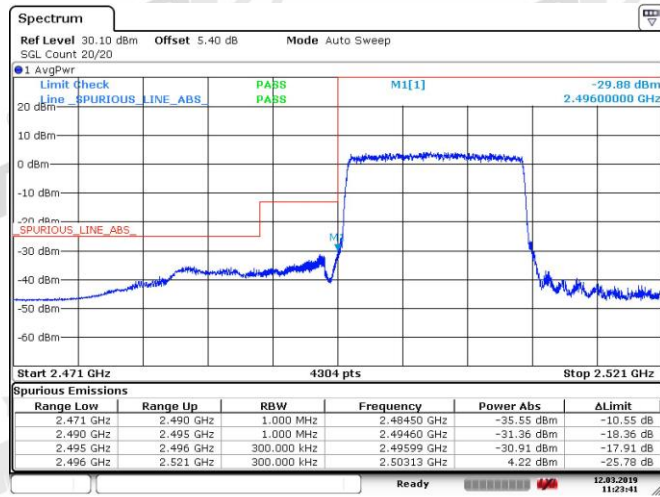
BAND 41_10MHz_16QAM_41540_50RB#0



BAND 41_15MHz_QPSK_39725_1RB#0

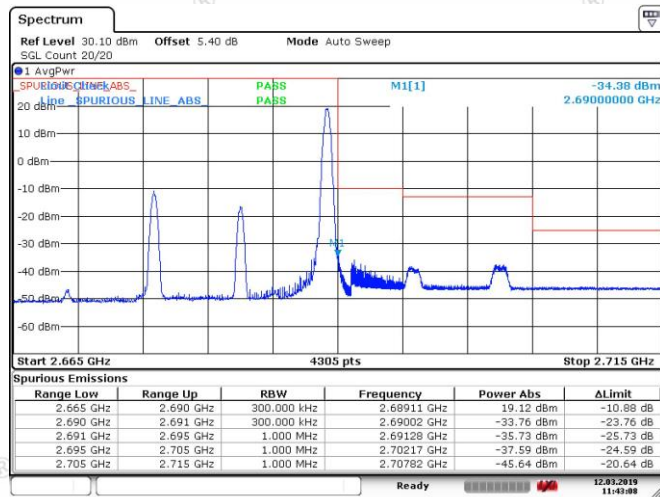


BAND 41_15MHz_QPSK_39725_75RB#0



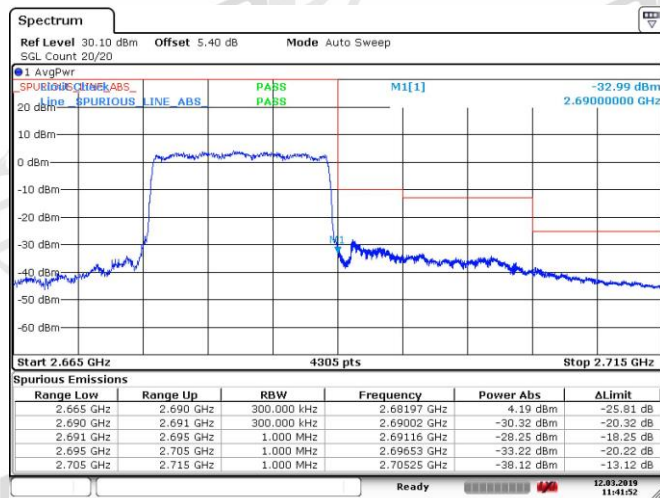
Date: 12 MAR 2019 11:23:41

BAND 41_15MHz_QPSK_41515_1RB#74



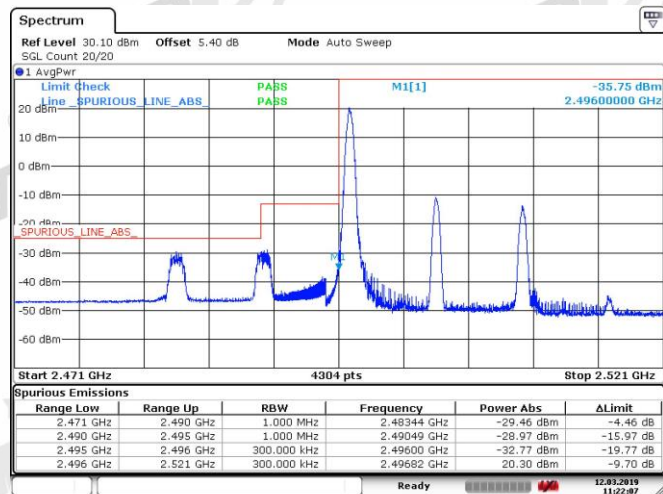
Date: 12 MAR 2019 11:43:08

BAND 41_15MHz_QPSK_41515_75RB#0



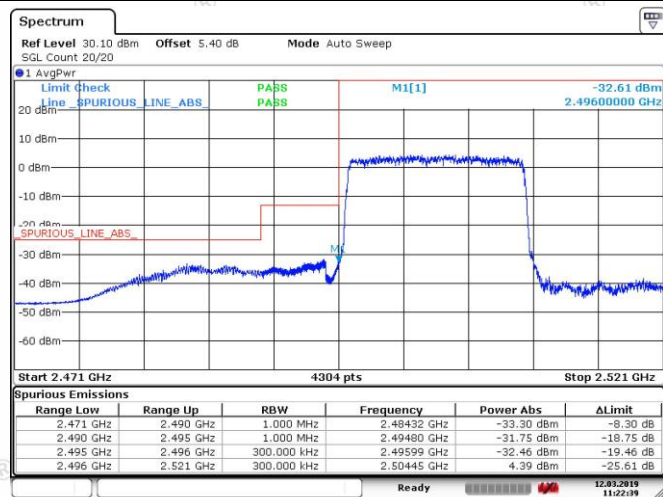
Date: 12 MAR 2019 11:41:52

BAND 41_15MHz_16QAM_39725_1RB#0



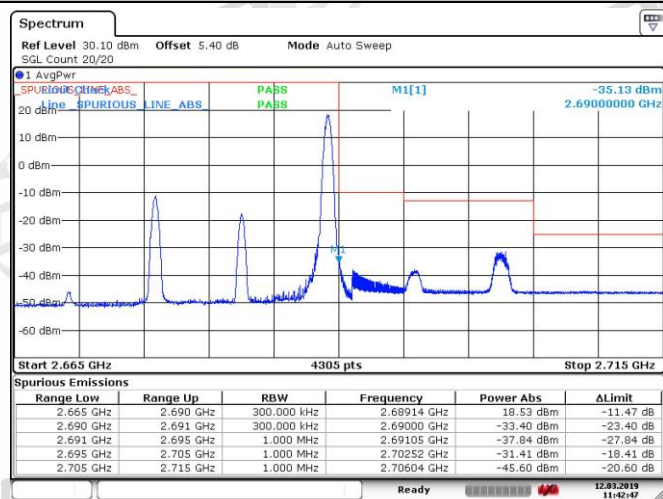
Date: 12 MAR 2019 11:22:08

BAND 41_15MHz_16QAM_39725_75RB#0



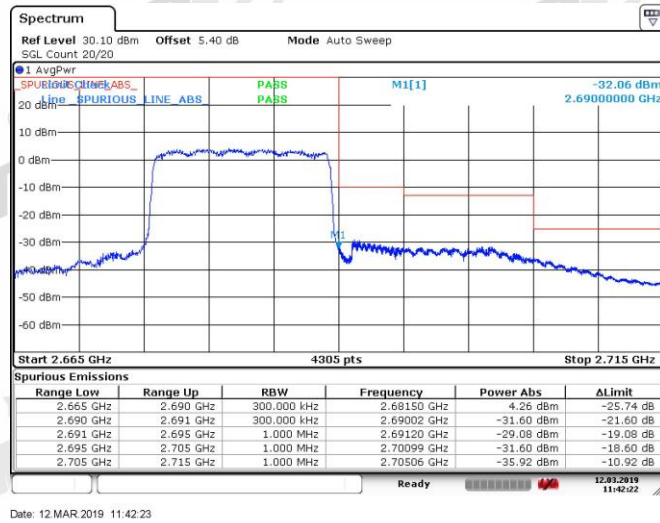
Date: 12 MAR 2019 11:22:39

BAND 41_15MHz_16QAM_41515_1RB#74

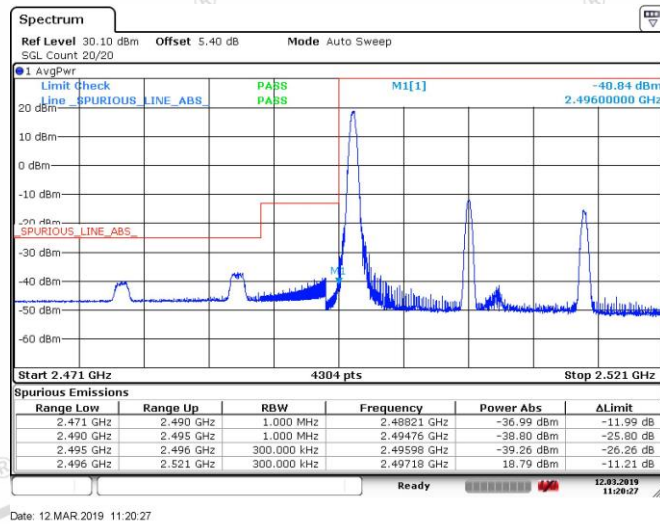


Date: 12 MAR 2019 11:42:47

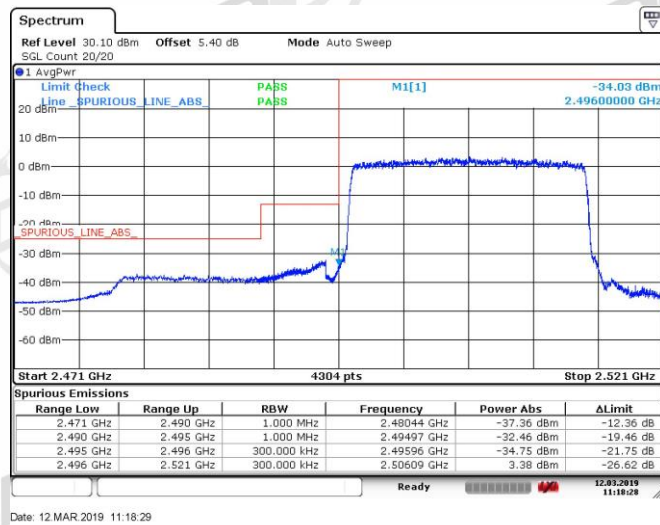
BAND 41_15MHz_16QAM_41515_75RB#0



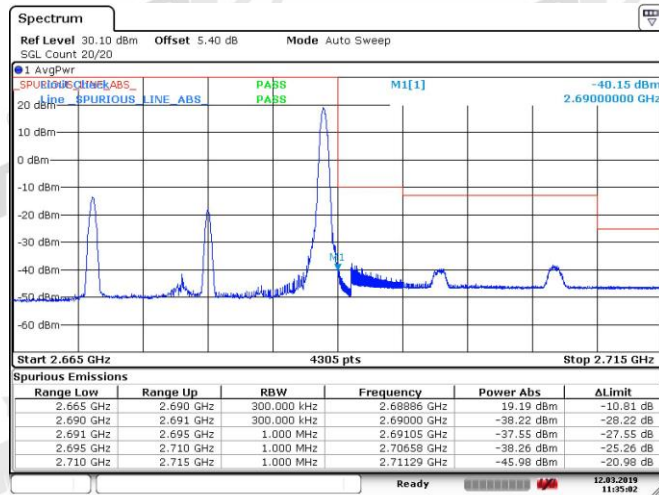
BAND 41_20MHz_QPSK_39750_1RB#0



BAND 41_20MHz_QPSK_39750_100RB#0

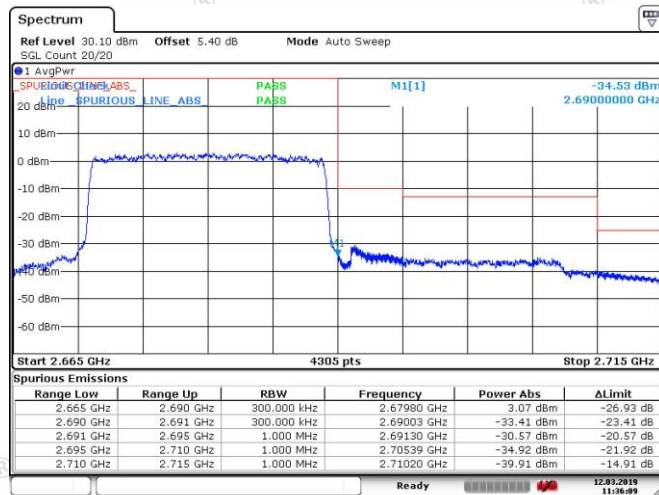


BAND 41_20MHz_QPSK_41490_1RB#99



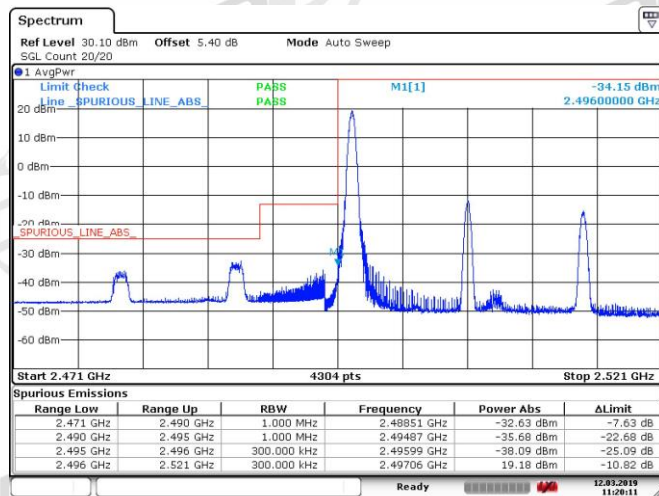
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BAND 41_20MHz_QPSK_41490_100RB#0



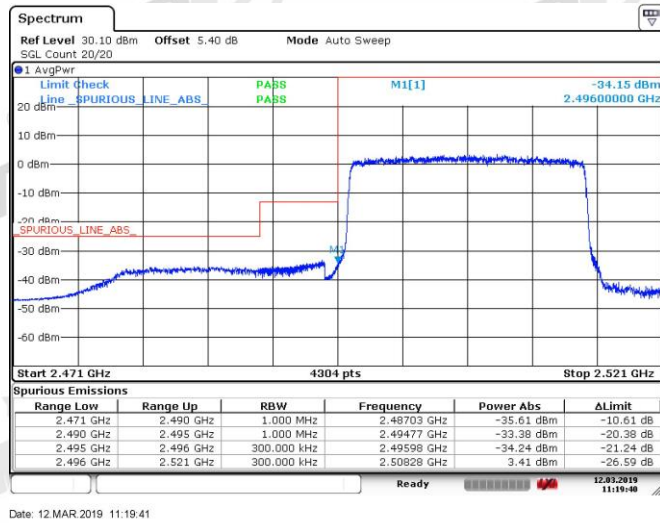
Date: 12 MAR 2019 11:36:09

BAND 41_20MHz_16QAM_39750_1RB#0

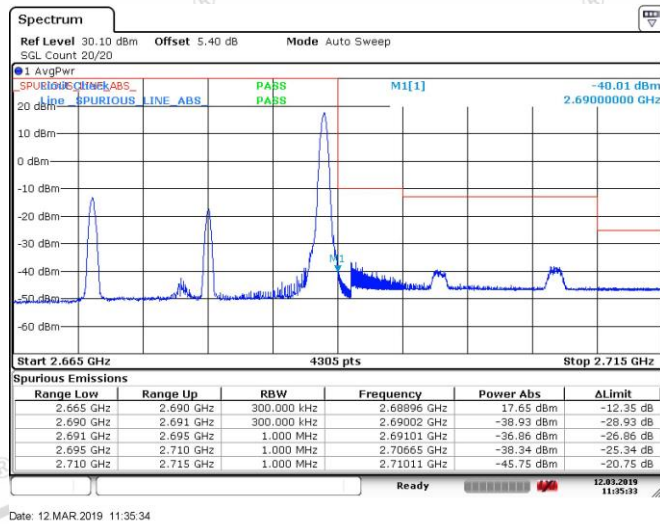


Date: 12 MAR 2019 11:20:11

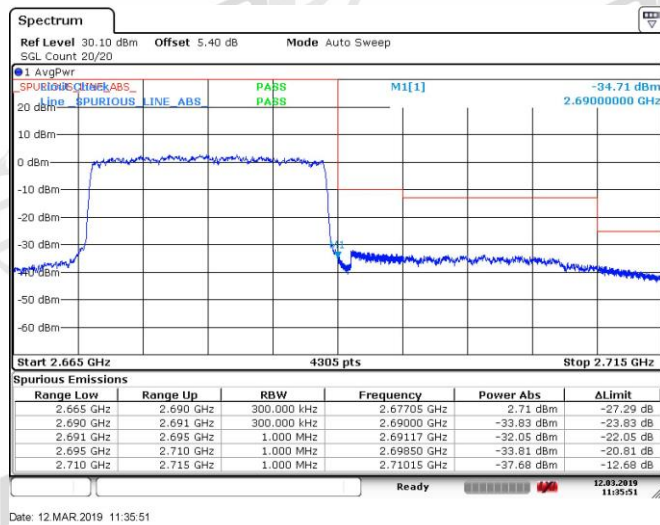
BAND 41_20MHz_16QAM_39750_100RB#0



BAND 41_20MHz_16QAM_41490_1RB#99



BAND 41_20MHz_16QAM_41490_100RB#0

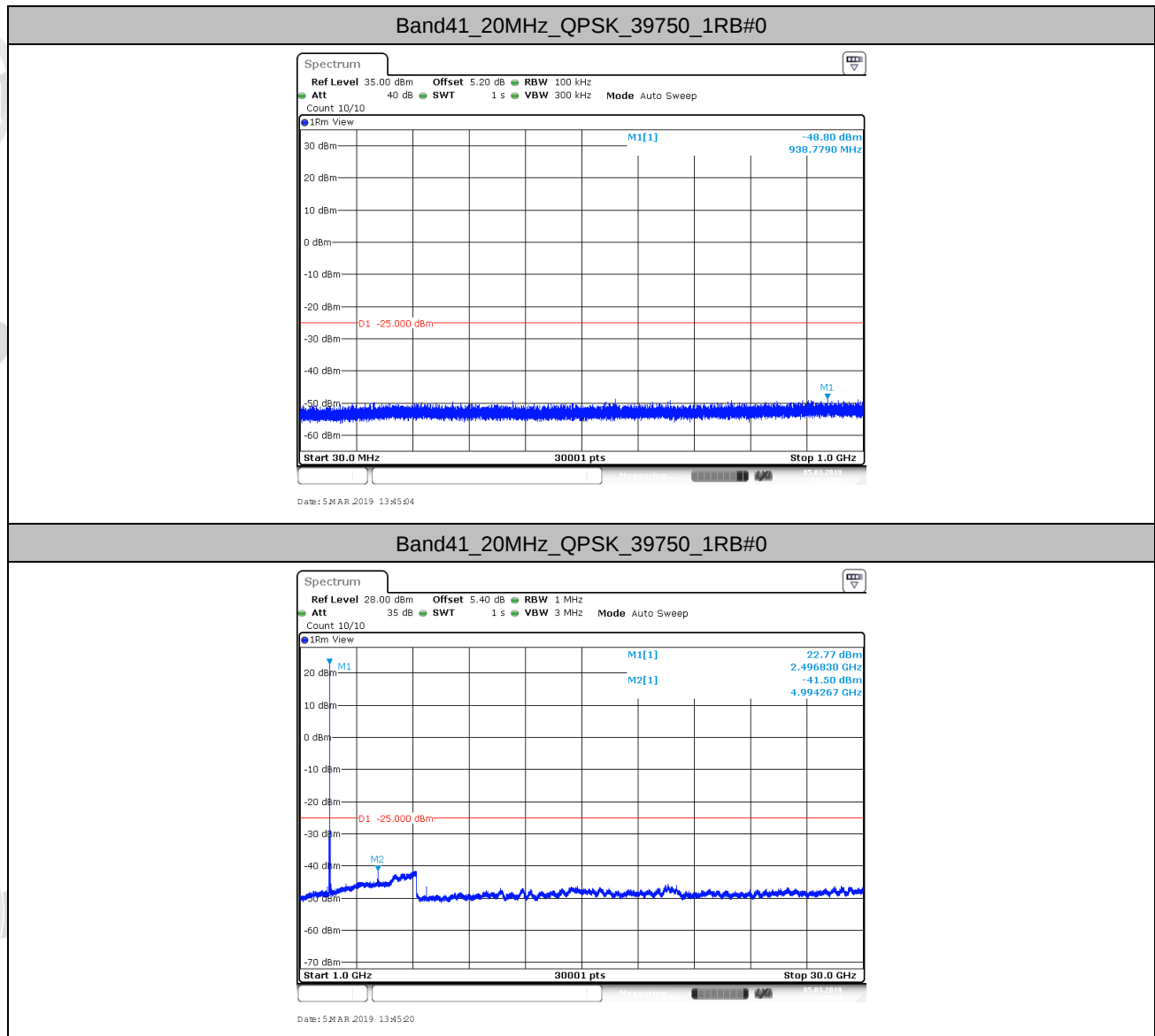


6. Spurious Emission at Antenna Terminal

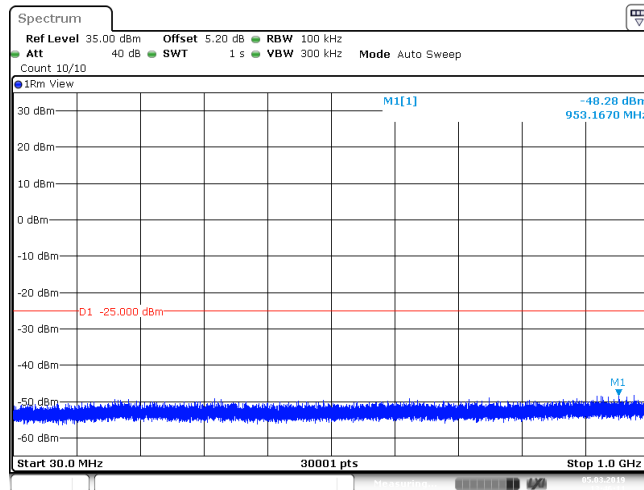
Remark1: For the averaged unwanted emissions measurements, the measurement points in each sweep is greater than twice the Span/RBW in order to ensure bin-to-bin spacing of $< RBW/2$ so that narrowband signals are not lost between frequency bins. As to the present test item, the "Measurement Points = $k * (\text{Span} / RBW)$ " with k between 4 and 5, which results in an acceptable level error of less than 0.5 dB.

Remark2: only the worst case data displayed in this report.

6.1. Test Plots

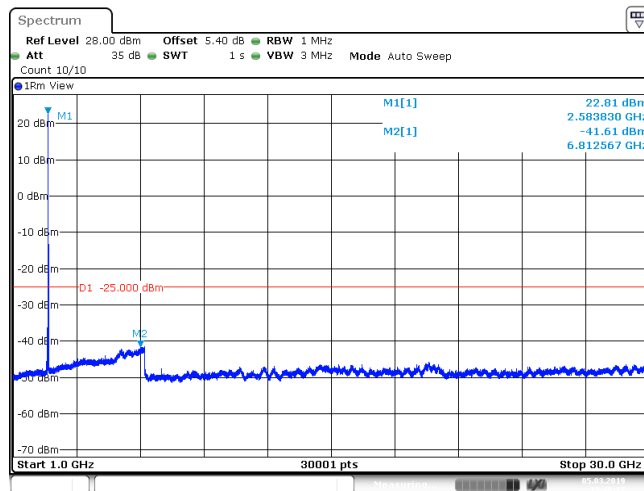


Band41_20MHz_QPSK_40620_1RB#0



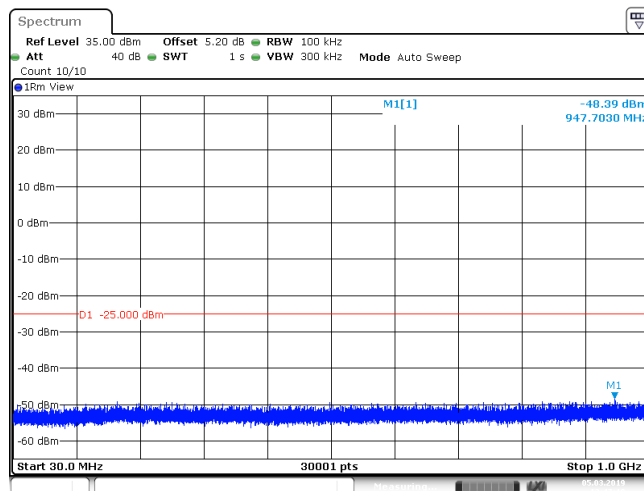
Date: 5 MAR 2019 13:46:11

Band41_20MHz_QPSK_40620_1RB#0



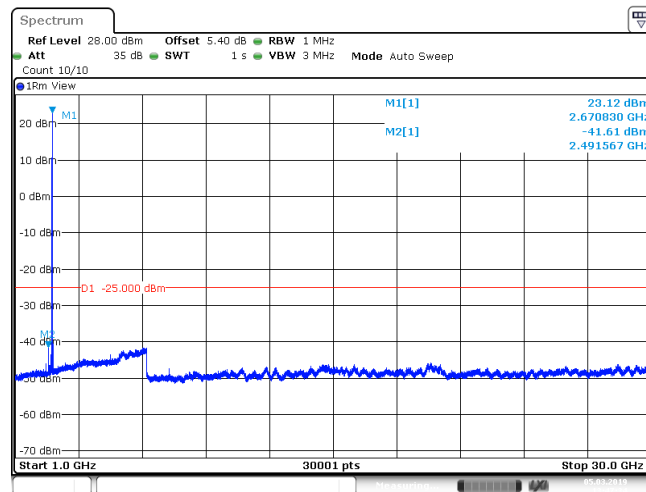
Date: 5 MAR 2019 13:46:27

Band41_20MHz_QPSK_41490_1RB#0



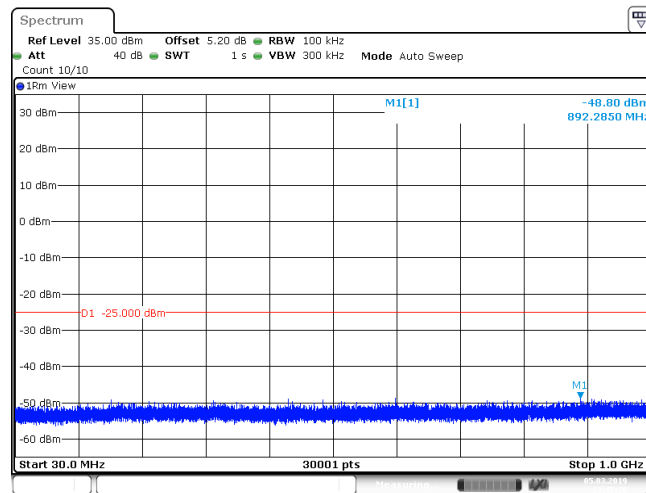
Date: 5 MAR 2019 13:47:18

Band41_20MHz_QPSK_41490_1RB#0



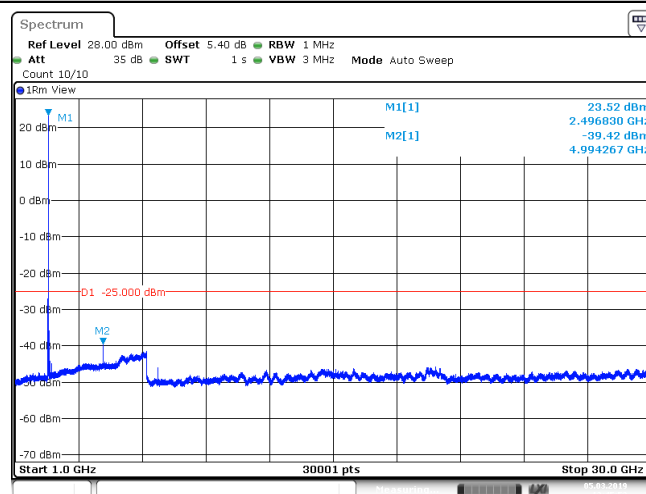
Date: 5 MAR 2019 13:47:34

Band41_20MHz_16QAM_39750_1RB#0



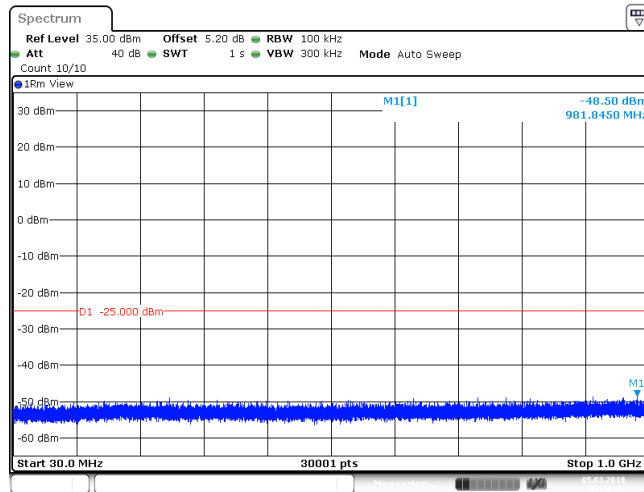
Date: 5 MAR 2019 13:45:36

Band41_20MHz_16QAM_39750_1RB#0



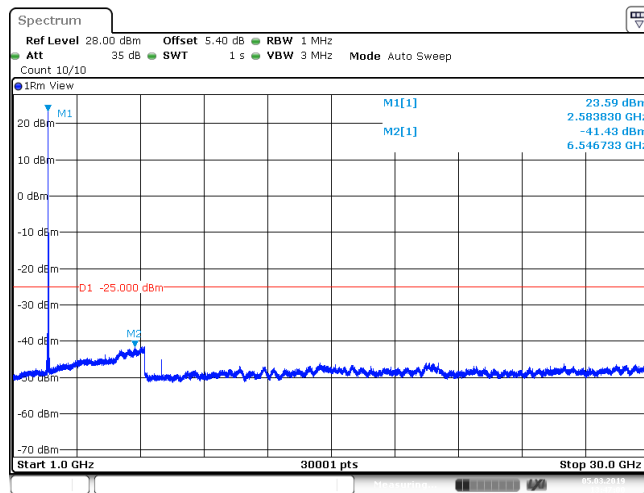
Date: 5 MAR 2019 13:45:53

Band41_20MHz_16QAM_40620_1RB#0



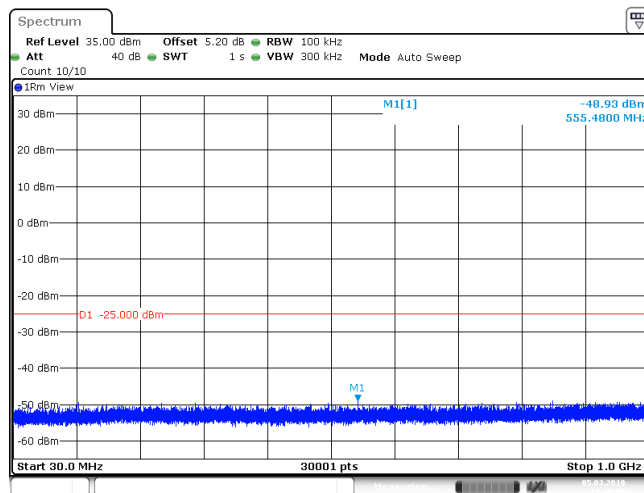
Date: 5 MAR 2019 13:16:44

Band41_20MHz_16QAM_40620_1RB#0

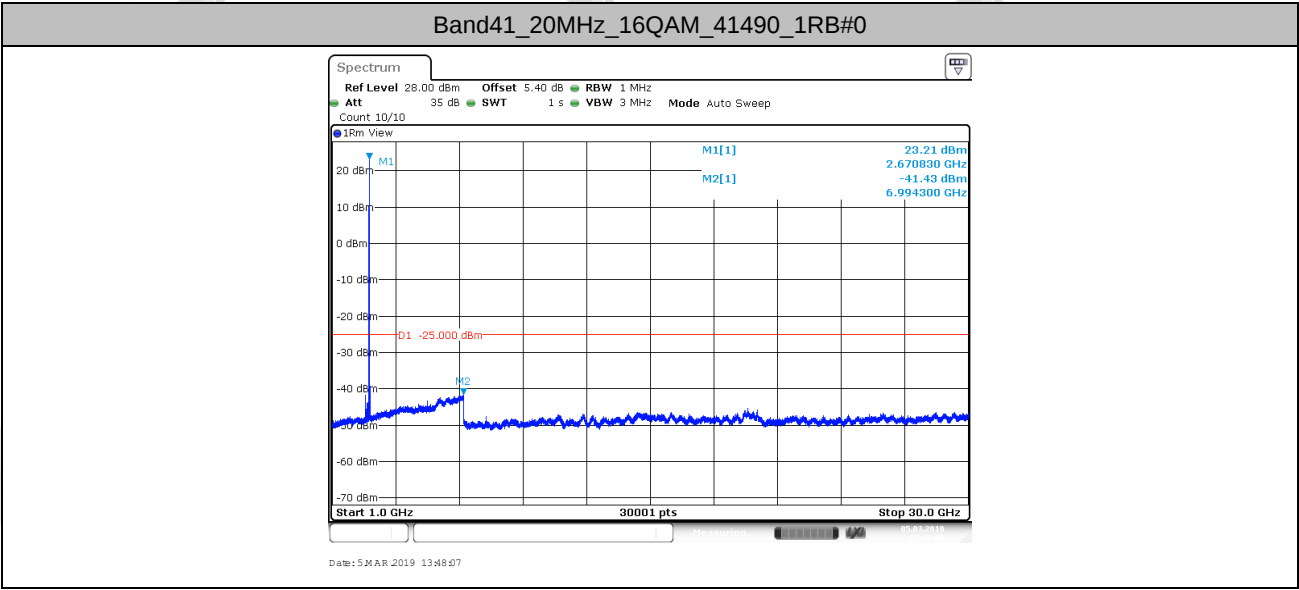


Date: 5 MAR 2019 13:17:00

Band41_20MHz_16QAM_41490_1RB#0



Date: 5 MAR 2019 13:17:51



7. Frequency Stability

7.1. Frequency Vs Voltage

Voltage										
BAND	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band41	20MHz	QPSK	39750	100RB#0	VL	NT	4.70	0.001875	±2.5	PASS
Band41	20MHz	QPSK	39750	100RB#0	VN	NT	-0.80	-0.000319	±2.5	PASS
Band41	20MHz	QPSK	39750	100RB#0	VH	NT	3.60	0.001437	±2.5	PASS
Band41	20MHz	QPSK	40620	100RB#0	VL	NT	4.40	0.001697	±2.5	PASS
Band41	20MHz	QPSK	40620	100RB#0	VN	NT	-0.80	-0.000309	±2.5	PASS
Band41	20MHz	QPSK	40620	100RB#0	VH	NT	5.80	0.002237	±2.5	PASS
Band41	20MHz	QPSK	41490	100RB#0	VL	NT	-2.30	-0.000858	±2.5	PASS
Band41	20MHz	QPSK	41490	100RB#0	VN	NT	2.20	0.000821	±2.5	PASS
Band41	20MHz	QPSK	41490	100RB#0	VH	NT	-1.30	-0.000485	±2.5	PASS
Band41	20MHz	16QAM	39750	100RB#0	VL	NT	0.40	0.000160	±2.5	PASS
Band41	20MHz	16QAM	39750	100RB#0	VN	NT	0.40	0.000160	±2.5	PASS
Band41	20MHz	16QAM	39750	100RB#0	VH	NT	2.90	0.001157	±2.5	PASS
Band41	20MHz	16QAM	40620	100RB#0	VL	NT	-0.40	-0.000154	±2.5	PASS
Band41	20MHz	16QAM	40620	100RB#0	VN	NT	6.70	0.002584	±2.5	PASS
Band41	20MHz	16QAM	40620	100RB#0	VH	NT	0.90	0.000347	±2.5	PASS
Band41	20MHz	16QAM	41490	100RB#0	VL	NT	3.80	0.001418	±2.5	PASS
Band41	20MHz	16QAM	41490	100RB#0	VN	NT	0.50	0.000187	±2.5	PASS
Band41	20MHz	16QAM	41490	100RB#0	VH	NT	-0.70	-0.000261	±2.5	PASS

7.2. Frequency Vs Temperature

Temperature										
BAND	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band41	20MHz	QPSK	39750	100RB#0	NV	-30	-0.10	-0.000040	±2.5	PASS
Band41	20MHz	QPSK	39750	100RB#0	NV	-20	4.60	0.001836	±2.5	PASS
Band41	20MHz	QPSK	39750	100RB#0	NV	0	5.50	0.002195	±2.5	PASS
Band41	20MHz	QPSK	39750	100RB#0	NV	10	1.90	0.000758	±2.5	PASS
Band41	20MHz	QPSK	39750	100RB#0	NV	20	-0.90	-0.000359	±2.5	PASS
Band41	20MHz	QPSK	39750	100RB#0	NV	30	3.10	0.001237	±2.5	PASS
Band41	20MHz	QPSK	39750	100RB#0	NV	40	-0.60	-0.000239	±2.5	PASS
Band41	20MHz	QPSK	39750	100RB#0	NV	50	0.00	0.000000	±2.5	PASS
Band41	20MHz	QPSK	40620	100RB#0	NV	-30	0.10	0.000039	±2.5	PASS
Band41	20MHz	QPSK	40620	100RB#0	NV	-20	5.30	0.002044	±2.5	PASS
Band41	20MHz	QPSK	40620	100RB#0	NV	0	0.80	0.000309	±2.5	PASS
Band41	20MHz	QPSK	40620	100RB#0	NV	10	-0.30	-0.000116	±2.5	PASS
Band41	20MHz	QPSK	40620	100RB#0	NV	20	3.90	0.001504	±2.5	PASS
Band41	20MHz	QPSK	40620	100RB#0	NV	30	4.70	0.001813	±2.5	PASS
Band41	20MHz	QPSK	40620	100RB#0	NV	40	0.40	0.000154	±2.5	PASS
Band41	20MHz	QPSK	40620	100RB#0	NV	50	0.30	0.000116	±2.5	PASS
Band41	20MHz	QPSK	41490	100RB#0	NV	-30	-0.90	-0.000336	±2.5	PASS
Band41	20MHz	QPSK	41490	100RB#0	NV	-20	-1.10	-0.000410	±2.5	PASS
Band41	20MHz	QPSK	41490	100RB#0	NV	0	-0.20	-0.000075	±2.5	PASS
Band41	20MHz	QPSK	41490	100RB#0	NV	10	2.00	0.000746	±2.5	PASS
Band41	20MHz	QPSK	41490	100RB#0	NV	20	3.70	0.001381	±2.5	PASS

Band41	20MHz	QPSK	41490	100RB#0	NV	30	1.50	0.000560	±2.5	PASS
Band41	20MHz	QPSK	41490	100RB#0	NV	40	-2.50	-0.000933	±2.5	PASS
Band41	20MHz	QPSK	41490	100RB#0	NV	50	4.40	0.001642	±2.5	PASS
Band41	20MHz	16QAM	39750	100RB#0	NV	-30	5.00	0.001995	±2.5	PASS
Band41	20MHz	16QAM	39750	100RB#0	NV	-20	3.20	0.001277	±2.5	PASS
Band41	20MHz	16QAM	39750	100RB#0	NV	0	1.20	0.000479	±2.5	PASS
Band41	20MHz	16QAM	39750	100RB#0	NV	10	4.10	0.001636	±2.5	PASS
Band41	20MHz	16QAM	39750	100RB#0	NV	20	4.50	0.001796	±2.5	PASS
Band41	20MHz	16QAM	39750	100RB#0	NV	30	1.20	0.000479	±2.5	PASS
Band41	20MHz	16QAM	39750	100RB#0	NV	40	3.00	0.001197	±2.5	PASS
Band41	20MHz	16QAM	39750	100RB#0	NV	50	0.20	0.000080	±2.5	PASS
Band41	20MHz	16QAM	40620	100RB#0	NV	-30	-1.30	-0.000501	±2.5	PASS
Band41	20MHz	16QAM	40620	100RB#0	NV	-20	-0.70	-0.000270	±2.5	PASS
Band41	20MHz	16QAM	40620	100RB#0	NV	0	-0.80	-0.000309	±2.5	PASS
Band41	20MHz	16QAM	40620	100RB#0	NV	10	3.40	0.001311	±2.5	PASS
Band41	20MHz	16QAM	40620	100RB#0	NV	20	-0.10	-0.000039	±2.5	PASS
Band41	20MHz	16QAM	40620	100RB#0	NV	30	4.30	0.001658	±2.5	PASS
Band41	20MHz	16QAM	40620	100RB#0	NV	40	0.20	0.000077	±2.5	PASS
Band41	20MHz	16QAM	40620	100RB#0	NV	50	2.30	0.000887	±2.5	PASS
Band41	20MHz	16QAM	41490	100RB#0	NV	-30	-1.10	-0.000410	±2.5	PASS
Band41	20MHz	16QAM	41490	100RB#0	NV	-20	0.60	0.000224	±2.5	PASS
Band41	20MHz	16QAM	41490	100RB#0	NV	0	3.50	0.001306	±2.5	PASS
Band41	20MHz	16QAM	41490	100RB#0	NV	10	4.80	0.001791	±2.5	PASS
Band41	20MHz	16QAM	41490	100RB#0	NV	20	3.30	0.001231	±2.5	PASS
Band41	20MHz	16QAM	41490	100RB#0	NV	30	0.70	0.000261	±2.5	PASS
Band41	20MHz	16QAM	41490	100RB#0	NV	40	5.30	0.001978	±2.5	PASS
Band41	20MHz	16QAM	41490	100RB#0	NV	50	3.90	0.001455	±2.5	PASS

The End