

Appendix B.6

E-UTRA Band 7

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1. Main Test Instruments

RE in Chamber					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date	Cal.Due date
				(yyyy-mm-dd)	(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	2018/4/2	2019/4/1
BiConiLog Antenna (26-3000MHz)	ETS-Lindgren	3142C	SEM003-01	2017/6/27	2020/6/26
Horn Antenna (800MHz-18GHz)	Rohde & Schwarz	HF907	SEM003-07	2018/4/13	2021/4/12
Horn 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	2018/4/2	2019/4/1
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	2018/3/13	2019/3/12

RF conducted test					
Test Equipment	Manufacturer	Model No.	Inventory No.	Cal. date	Cal.Due date
				(yyyy-mm-dd)	(yyyy-mm-dd)
Dual Output Mobile Communication DC Source	Agilent Technologies Inc	66311B	W009-09	2018/9/15	2019/9/15
Signal Analyzer	Rohde & Schwarz	FSV	W025-05	2018/3/13	2019/3/12
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	2018/9/2	2019/9/2
Humidity/ Temperature Indicator	Shanghai Meteorological Industry Factory	HTC-1	W006-17	2018/9/10	2019/9/10
Temperature Chamber	GIANT FORCE	ICT-150-40-CP-AR	W027-03	2018/11/27	2019/11/27
Wideband Radio Communication Tester	Anritsu	MT8821C	6201462742	2018/5/2	2019/5/1
Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	W005-02	2018/3/13	2019/3/12

2. 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]	$U = \pm 0.24 \text{ ppm}$

3. Effective (Isotropic) Radiated Power

3.1. Test Result

BAND	Bandwidth	Modulation	Channel	RB Configuration	Result (dBm)	EIRP (dBm)	Result (dBm)	Verdict
Band7	5MHz	QPSK	20775	1RB#0	22.20	20.75	30.00	PASS
Band7	5MHz	QPSK	20775	1RB#12	22.75	21.30	30.00	PASS
Band7	5MHz	QPSK	20775	1RB#24	22.34	20.89	30.00	PASS
Band7	5MHz	QPSK	20775	12RB#0	21.79	20.34	30.00	PASS
Band7	5MHz	QPSK	20775	12RB#6	21.81	20.36	30.00	PASS
Band7	5MHz	QPSK	20775	12RB#13	21.75	20.30	30.00	PASS
Band7	5MHz	QPSK	20775	25RB#0	21.78	20.33	30.00	PASS
Band7	5MHz	QPSK	21100	1RB#0	22.44	20.99	30.00	PASS
Band7	5MHz	QPSK	21100	1RB#12	22.77	21.32	30.00	PASS
Band7	5MHz	QPSK	21100	1RB#24	22.62	21.17	30.00	PASS
Band7	5MHz	QPSK	21100	12RB#0	21.89	20.44	30.00	PASS
Band7	5MHz	QPSK	21100	12RB#6	21.94	20.49	30.00	PASS
Band7	5MHz	QPSK	21100	12RB#13	21.92	20.47	30.00	PASS
Band7	5MHz	QPSK	21100	25RB#0	21.98	20.53	30.00	PASS
Band7	5MHz	QPSK	21425	1RB#0	22.63	21.18	30.00	PASS
Band7	5MHz	QPSK	21425	1RB#12	22.86	21.41	30.00	PASS
Band7	5MHz	QPSK	21425	1RB#24	22.70	21.25	30.00	PASS
Band7	5MHz	QPSK	21425	12RB#0	21.80	20.35	30.00	PASS
Band7	5MHz	QPSK	21425	12RB#6	21.70	20.25	30.00	PASS
Band7	5MHz	QPSK	21425	12RB#13	21.69	20.24	30.00	PASS
Band7	5MHz	QPSK	21425	25RB#0	21.80	20.35	30.00	PASS
Band7	5MHz	16QAM	20775	1RB#0	21.39	19.94	30.00	PASS
Band7	5MHz	16QAM	20775	1RB#12	22.38	20.93	30.00	PASS
Band7	5MHz	16QAM	20775	1RB#24	21.77	20.32	30.00	PASS
Band7	5MHz	16QAM	20775	12RB#0	20.75	19.30	30.00	PASS
Band7	5MHz	16QAM	20775	12RB#6	20.72	19.27	30.00	PASS
Band7	5MHz	16QAM	20775	12RB#13	20.59	19.14	30.00	PASS
Band7	5MHz	16QAM	20775	25RB#0	20.78	19.33	30.00	PASS
Band7	5MHz	16QAM	21100	1RB#0	21.87	20.42	30.00	PASS
Band7	5MHz	16QAM	21100	1RB#12	22.02	20.57	30.00	PASS
Band7	5MHz	16QAM	21100	1RB#24	21.14	19.69	30.00	PASS
Band7	5MHz	16QAM	21100	12RB#0	20.93	19.48	30.00	PASS
Band7	5MHz	16QAM	21100	12RB#6	20.88	19.43	30.00	PASS
Band7	5MHz	16QAM	21100	12RB#13	20.81	19.36	30.00	PASS
Band7	5MHz	16QAM	21100	25RB#0	20.90	19.45	30.00	PASS
Band7	5MHz	16QAM	21425	1RB#0	21.24	19.79	30.00	PASS
Band7	5MHz	16QAM	21425	1RB#12	21.35	19.90	30.00	PASS
Band7	5MHz	16QAM	21425	1RB#24	21.03	19.58	30.00	PASS

Band7	5MHz	16QAM	21425	12RB#0	20.74	19.29	30.00	PASS
Band7	5MHz	16QAM	21425	12RB#6	20.88	19.43	30.00	PASS
Band7	5MHz	16QAM	21425	12RB#13	20.69	19.24	30.00	PASS
Band7	5MHz	16QAM	21425	25RB#0	20.89	19.44	30.00	PASS
Band7	10MHz	QPSK	20800	1RB#0	22.29	20.84	30.00	PASS
Band7	10MHz	QPSK	20800	1RB#24	22.78	21.33	30.00	PASS
Band7	10MHz	QPSK	20800	1RB#49	22.42	20.97	30.00	PASS
Band7	10MHz	QPSK	20800	25RB#0	21.88	20.43	30.00	PASS
Band7	10MHz	QPSK	20800	25RB#12	21.83	20.38	30.00	PASS
Band7	10MHz	QPSK	20800	25RB#25	21.90	20.45	30.00	PASS
Band7	10MHz	QPSK	20800	50RB#0	21.90	20.45	30.00	PASS
Band7	10MHz	QPSK	21100	1RB#0	22.59	21.14	30.00	PASS
Band7	10MHz	QPSK	21100	1RB#24	22.86	21.41	30.00	PASS
Band7	10MHz	QPSK	21100	1RB#49	22.63	21.18	30.00	PASS
Band7	10MHz	QPSK	21100	25RB#0	21.95	20.50	30.00	PASS
Band7	10MHz	QPSK	21100	25RB#12	22.00	20.55	30.00	PASS
Band7	10MHz	QPSK	21100	25RB#25	21.93	20.48	30.00	PASS
Band7	10MHz	QPSK	21100	50RB#0	22.00	20.55	30.00	PASS
Band7	10MHz	QPSK	21400	1RB#0	22.75	21.30	30.00	PASS
Band7	10MHz	QPSK	21400	1RB#24	22.95	21.50	30.00	PASS
Band7	10MHz	QPSK	21400	1RB#49	22.85	21.40	30.00	PASS
Band7	10MHz	QPSK	21400	25RB#0	21.81	20.36	30.00	PASS
Band7	10MHz	QPSK	21400	25RB#12	21.81	20.36	30.00	PASS
Band7	10MHz	QPSK	21400	25RB#25	21.76	20.31	30.00	PASS
Band7	10MHz	QPSK	21400	50RB#0	21.81	20.36	30.00	PASS
Band7	10MHz	16QAM	20800	1RB#0	21.46	20.01	30.00	PASS
Band7	10MHz	16QAM	20800	1RB#24	22.39	20.94	30.00	PASS
Band7	10MHz	16QAM	20800	1RB#49	21.85	20.40	30.00	PASS
Band7	10MHz	16QAM	20800	25RB#0	20.88	19.43	30.00	PASS
Band7	10MHz	16QAM	20800	25RB#12	20.76	19.31	30.00	PASS
Band7	10MHz	16QAM	20800	25RB#25	20.71	19.26	30.00	PASS
Band7	10MHz	16QAM	20800	50RB#0	20.82	19.37	30.00	PASS
Band7	10MHz	16QAM	21100	1RB#0	21.96	20.51	30.00	PASS
Band7	10MHz	16QAM	21100	1RB#24	22.17	20.72	30.00	PASS
Band7	10MHz	16QAM	21100	1RB#49	21.16	19.71	30.00	PASS
Band7	10MHz	16QAM	21100	25RB#0	20.95	19.50	30.00	PASS
Band7	10MHz	16QAM	21100	25RB#12	21.02	19.57	30.00	PASS
Band7	10MHz	16QAM	21100	25RB#25	20.89	19.44	30.00	PASS
Band7	10MHz	16QAM	21100	50RB#0	20.91	19.46	30.00	PASS
Band7	10MHz	16QAM	21400	1RB#0	21.30	19.85	30.00	PASS
Band7	10MHz	16QAM	21400	1RB#24	21.50	20.05	30.00	PASS
Band7	10MHz	16QAM	21400	1RB#49	21.12	19.67	30.00	PASS
Band7	10MHz	16QAM	21400	25RB#0	20.81	19.36	30.00	PASS
Band7	10MHz	16QAM	21400	25RB#12	21.01	19.56	30.00	PASS

Band7	10MHz	16QAM	21400	25RB#25	20.81	19.36	30.00	PASS
Band7	10MHz	16QAM	21400	50RB#0	20.96	19.51	30.00	PASS
Band7	15MHz	QPSK	20825	1RB#0	22.76	21.31	30.00	PASS
Band7	15MHz	QPSK	20825	1RB#38	22.72	21.27	30.00	PASS
Band7	15MHz	QPSK	20825	1RB#74	22.77	21.32	30.00	PASS
Band7	15MHz	QPSK	20825	36RB#0	21.87	20.42	30.00	PASS
Band7	15MHz	QPSK	20825	36RB#18	21.87	20.42	30.00	PASS
Band7	15MHz	QPSK	20825	36RB#39	21.80	20.35	30.00	PASS
Band7	15MHz	QPSK	20825	75RB#0	21.86	20.41	30.00	PASS
Band7	15MHz	QPSK	21100	1RB#0	22.86	21.41	30.00	PASS
Band7	15MHz	QPSK	21100	1RB#38	22.96	21.51	30.00	PASS
Band7	15MHz	QPSK	21100	1RB#74	22.88	21.43	30.00	PASS
Band7	15MHz	QPSK	21100	36RB#0	21.93	20.48	30.00	PASS
Band7	15MHz	QPSK	21100	36RB#18	21.90	20.45	30.00	PASS
Band7	15MHz	QPSK	21100	36RB#39	21.98	20.53	30.00	PASS
Band7	15MHz	QPSK	21100	75RB#0	22.01	20.56	30.00	PASS
Band7	15MHz	QPSK	21375	1RB#0	23.10	21.65	30.00	PASS
Band7	15MHz	QPSK	21375	1RB#38	22.96	21.51	30.00	PASS
Band7	15MHz	QPSK	21375	1RB#74	22.65	21.20	30.00	PASS
Band7	15MHz	QPSK	21375	36RB#0	22.05	20.60	30.00	PASS
Band7	15MHz	QPSK	21375	36RB#18	21.89	20.44	30.00	PASS
Band7	15MHz	QPSK	21375	36RB#39	21.76	20.31	30.00	PASS
Band7	15MHz	QPSK	21375	75RB#0	21.93	20.48	30.00	PASS
Band7	15MHz	16QAM	20825	1RB#0	21.09	19.64	30.00	PASS
Band7	15MHz	16QAM	20825	1RB#38	21.41	19.96	30.00	PASS
Band7	15MHz	16QAM	20825	1RB#74	21.27	19.82	30.00	PASS
Band7	15MHz	16QAM	20825	36RB#0	20.87	19.42	30.00	PASS
Band7	15MHz	16QAM	20825	36RB#18	20.97	19.52	30.00	PASS
Band7	15MHz	16QAM	20825	36RB#39	20.72	19.27	30.00	PASS
Band7	15MHz	16QAM	20825	75RB#0	20.90	19.45	30.00	PASS
Band7	15MHz	16QAM	21100	1RB#0	21.33	19.88	30.00	PASS
Band7	15MHz	16QAM	21100	1RB#38	21.68	20.23	30.00	PASS
Band7	15MHz	16QAM	21100	1RB#74	21.47	20.02	30.00	PASS
Band7	15MHz	16QAM	21100	36RB#0	21.07	19.62	30.00	PASS
Band7	15MHz	16QAM	21100	36RB#18	20.91	19.46	30.00	PASS
Band7	15MHz	16QAM	21100	36RB#39	20.88	19.43	30.00	PASS
Band7	15MHz	16QAM	21100	75RB#0	21.05	19.60	30.00	PASS
Band7	15MHz	16QAM	21375	1RB#0	22.31	20.86	30.00	PASS
Band7	15MHz	16QAM	21375	1RB#38	22.22	20.77	30.00	PASS
Band7	15MHz	16QAM	21375	1RB#74	21.39	19.94	30.00	PASS
Band7	15MHz	16QAM	21375	36RB#0	20.99	19.54	30.00	PASS
Band7	15MHz	16QAM	21375	36RB#18	20.91	19.46	30.00	PASS
Band7	15MHz	16QAM	21375	36RB#39	20.77	19.32	30.00	PASS
Band7	15MHz	16QAM	21375	75RB#0	20.86	19.41	30.00	PASS

Band7	20MHz	QPSK	20850	1RB#0	22.53	21.08	30.00	PASS
Band7	20MHz	QPSK	20850	1RB#49	22.69	21.24	30.00	PASS
Band7	20MHz	QPSK	20850	1RB#99	22.50	21.05	30.00	PASS
Band7	20MHz	QPSK	20850	50RB#0	21.93	20.48	30.00	PASS
Band7	20MHz	QPSK	20850	50RB#25	21.81	20.36	30.00	PASS
Band7	20MHz	QPSK	20850	50RB#50	21.80	20.35	30.00	PASS
Band7	20MHz	QPSK	20850	100RB#0	21.82	20.37	30.00	PASS
Band7	20MHz	QPSK	21100	1RB#0	22.64	21.19	30.00	PASS
Band7	20MHz	QPSK	21100	1RB#49	23.17	21.72	30.00	PASS
Band7	20MHz	QPSK	21100	1RB#99	22.72	21.27	30.00	PASS
Band7	20MHz	QPSK	21100	50RB#0	22.12	20.67	30.00	PASS
Band7	20MHz	QPSK	21100	50RB#25	21.90	20.45	30.00	PASS
Band7	20MHz	QPSK	21100	50RB#50	21.82	20.37	30.00	PASS
Band7	20MHz	QPSK	21100	100RB#0	21.96	20.51	30.00	PASS
Band7	20MHz	QPSK	21350	1RB#0	22.88	21.43	30.00	PASS
Band7	20MHz	QPSK	21350	1RB#49	22.91	21.46	30.00	PASS
Band7	20MHz	QPSK	21350	1RB#99	22.79	21.34	30.00	PASS
Band7	20MHz	QPSK	21350	50RB#0	21.91	20.46	30.00	PASS
Band7	20MHz	QPSK	21350	50RB#25	22.03	20.58	30.00	PASS
Band7	20MHz	QPSK	21350	50RB#50	21.67	20.22	30.00	PASS
Band7	20MHz	QPSK	21350	100RB#0	21.82	20.37	30.00	PASS
Band7	20MHz	16QAM	20850	1RB#0	21.62	20.17	30.00	PASS
Band7	20MHz	16QAM	20850	1RB#49	22.01	20.56	30.00	PASS
Band7	20MHz	16QAM	20850	1RB#99	21.76	20.31	30.00	PASS
Band7	20MHz	16QAM	20850	50RB#0	20.88	19.43	30.00	PASS
Band7	20MHz	16QAM	20850	50RB#25	20.85	19.40	30.00	PASS
Band7	20MHz	16QAM	20850	50RB#50	20.88	19.43	30.00	PASS
Band7	20MHz	16QAM	20850	100RB#0	20.77	19.32	30.00	PASS
Band7	20MHz	16QAM	21100	1RB#0	21.81	20.36	30.00	PASS
Band7	20MHz	16QAM	21100	1RB#49	22.19	20.74	30.00	PASS
Band7	20MHz	16QAM	21100	1RB#99	21.59	20.14	30.00	PASS
Band7	20MHz	16QAM	21100	50RB#0	20.85	19.40	30.00	PASS
Band7	20MHz	16QAM	21100	50RB#25	20.90	19.45	30.00	PASS
Band7	20MHz	16QAM	21100	50RB#50	20.80	19.35	30.00	PASS
Band7	20MHz	16QAM	21100	100RB#0	20.91	19.46	30.00	PASS
Band7	20MHz	16QAM	21350	1RB#0	21.47	20.02	30.00	PASS
Band7	20MHz	16QAM	21350	1RB#49	21.50	20.05	30.00	PASS
Band7	20MHz	16QAM	21350	1RB#99	21.37	19.92	30.00	PASS
Band7	20MHz	16QAM	21350	50RB#0	21.23	19.78	30.00	PASS
Band7	20MHz	16QAM	21350	50RB#25	21.03	19.58	30.00	PASS
Band7	20MHz	16QAM	21350	50RB#50	20.71	19.26	30.00	PASS
Band7	20MHz	16QAM	21350	100RB#0	20.90	19.45	30.00	PASS

Remark:

a: For getting the EIRP (Efficient Isotropic Radiated Power) in substitution method, the following formula

should be taken to calculate it,

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

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

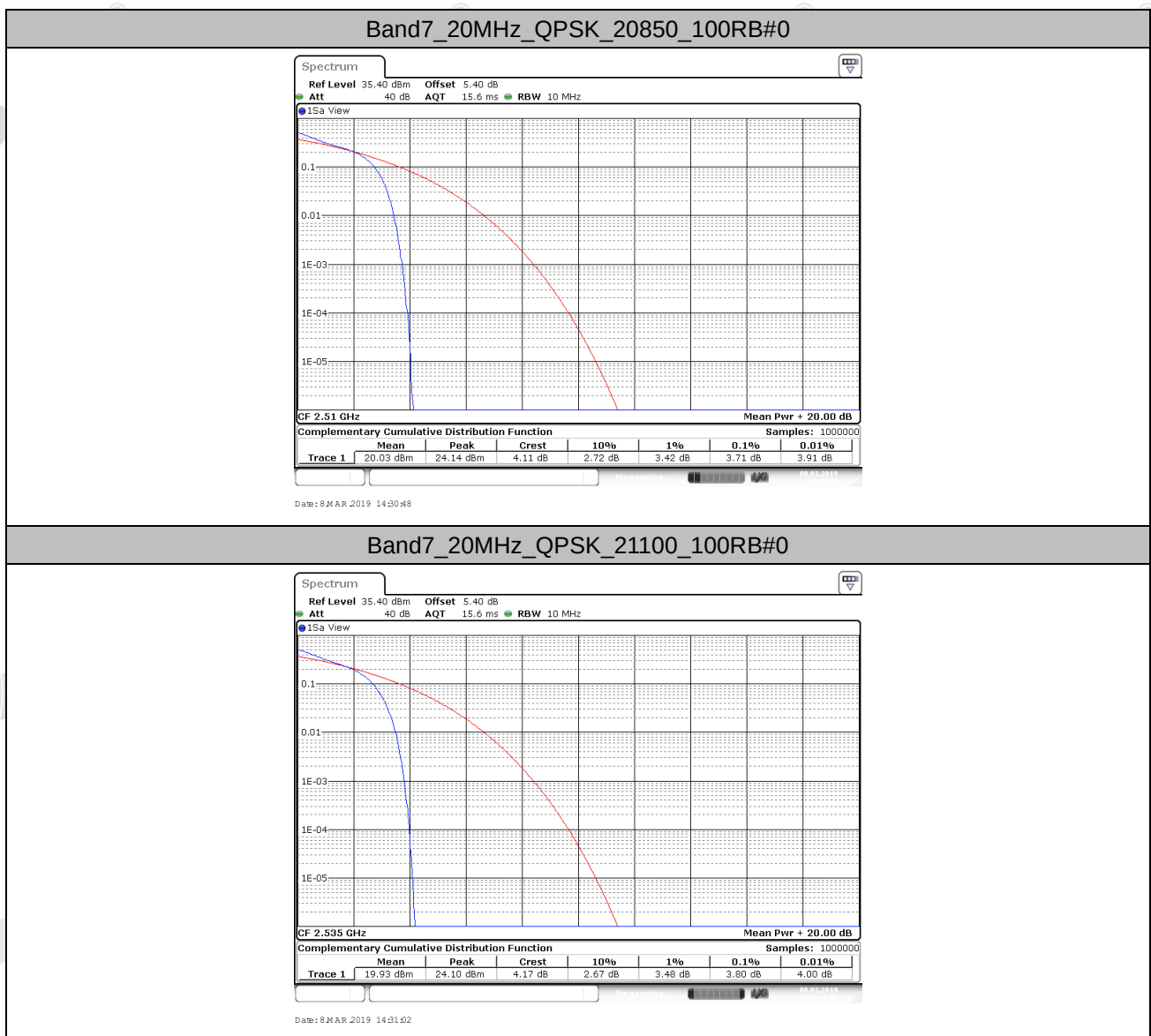
b: SGP=Signal Generator Level

4. Peak-to-Average Ratio(CCDF)

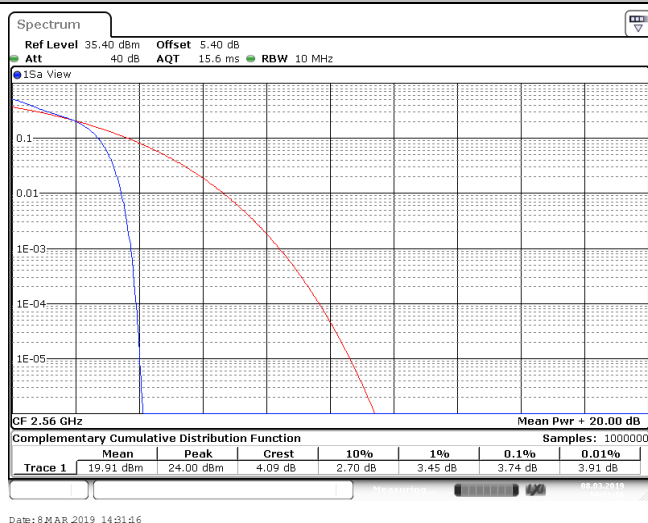
4.1. Test Result

BAND	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band7	20MHz	QPSK	20850	100RB#0	3.71	13	PASS
Band7	20MHz	QPSK	21100	100RB#0	3.80	13	PASS
Band7	20MHz	QPSK	21350	100RB#0	3.74	13	PASS
Band7	20MHz	16QAM	20850	100RB#0	5.51	13	PASS
Band7	20MHz	16QAM	21100	100RB#0	5.54	13	PASS
Band7	20MHz	16QAM	21350	100RB#0	5.45	13	PASS

4.2. Test Plots



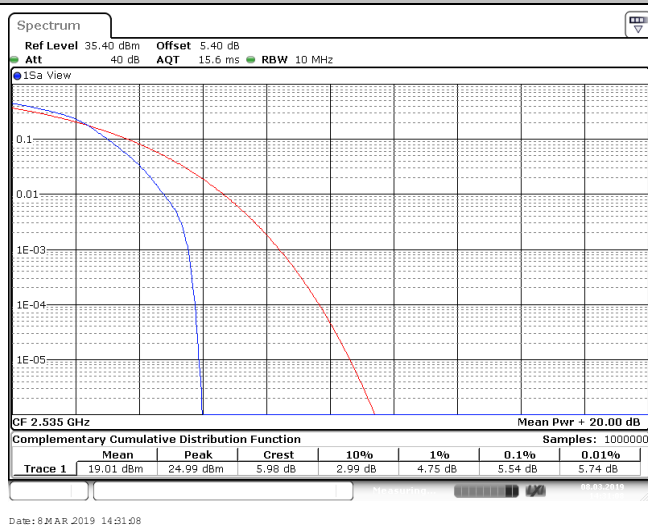
Band7_20MHz_QPSK_21350_100RB#0



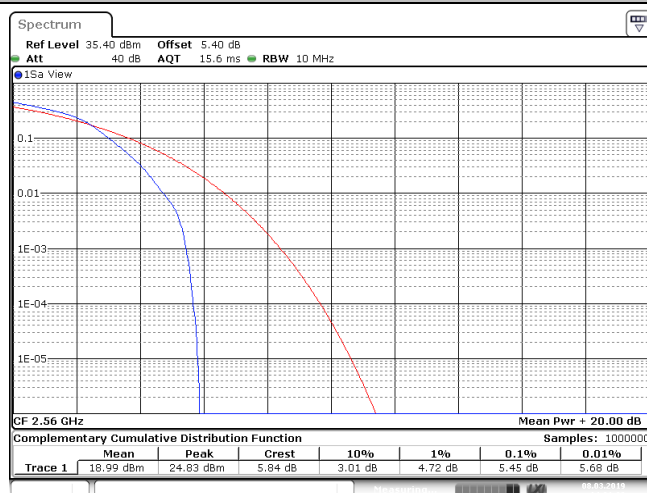
Band7_20MHz_16QAM_20850_100RB#0



Band7_20MHz_16QAM_21100_100RB#0



Band7_20MHz_16QAM_21350_100RB#0



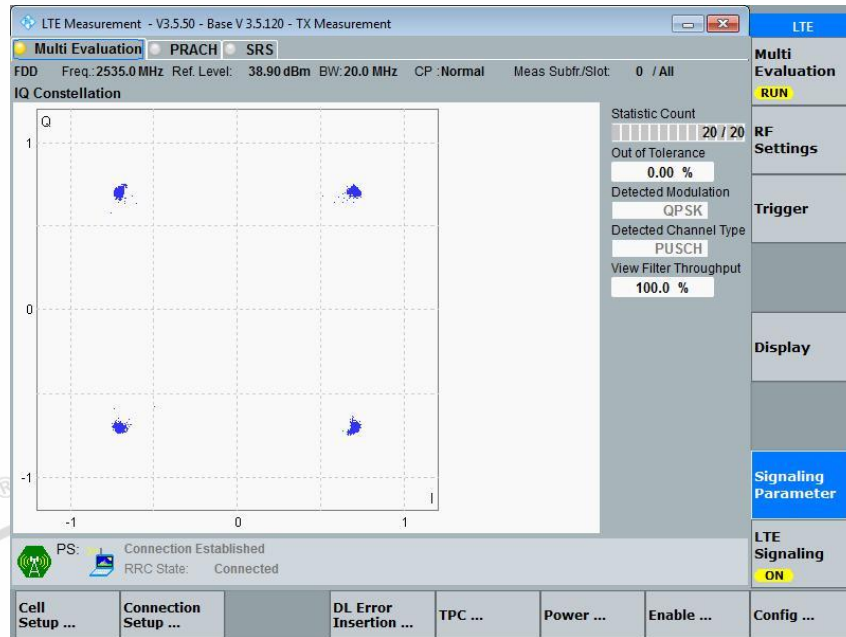
Date: 8 MAR 2019 14:31:22

5. Modulation Characteristics

5.1. Test BAND = LTE Band 7

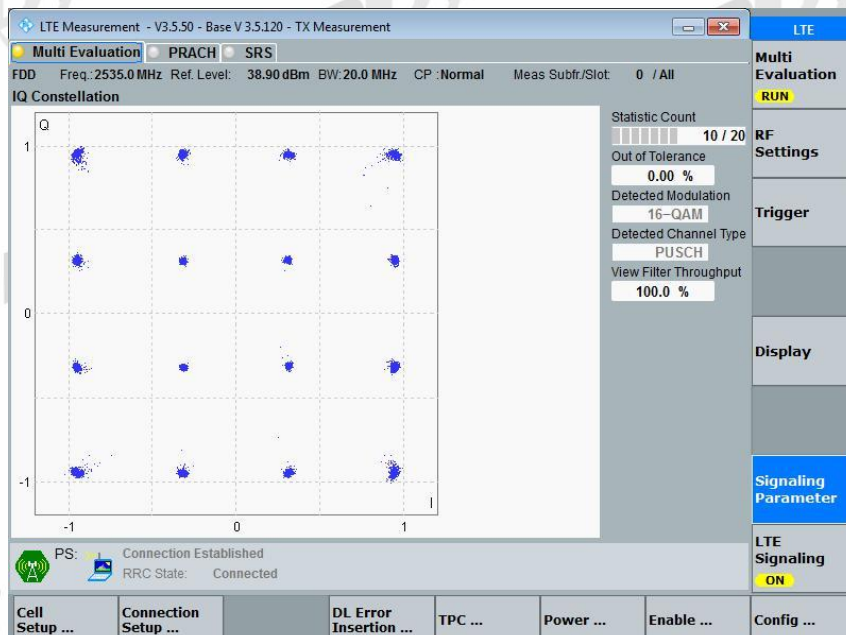
5.2. Test Mode = LTE /TM1 20MHz

5.2.1. Test Channel = MCH



5.3. Test Mode = LTE /TM2 20MHz

5.3.1. Test Channel = MCH



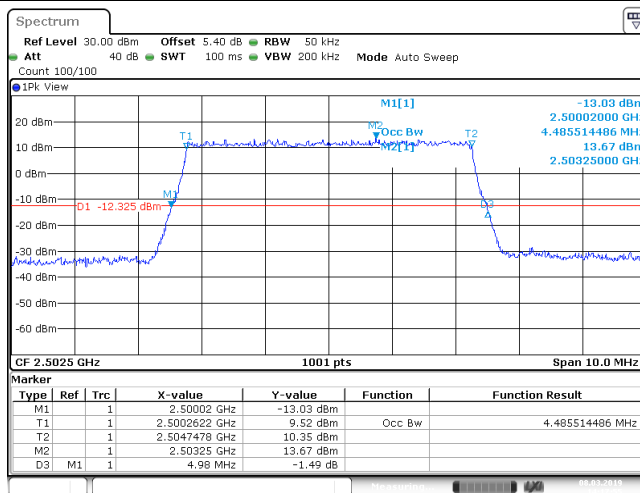
6. 26dB Bandwidth and Occupied Bandwidth

6.1. Test Result

BAND	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band7	5MHz	QPSK	20775	25RB#0	4.486	4.980	PASS
Band7	5MHz	QPSK	21100	25RB#0	4.466	4.950	PASS
Band7	5MHz	QPSK	21425	25RB#0	4.476	4.970	PASS
Band7	5MHz	16QAM	20775	25RB#0	4.476	4.960	PASS
Band7	5MHz	16QAM	21100	25RB#0	4.486	4.960	PASS
Band7	5MHz	16QAM	21425	25RB#0	4.486	4.960	PASS
Band7	10MHz	QPSK	20800	50RB#0	8.931	9.780	PASS
Band7	10MHz	QPSK	21100	50RB#0	8.931	9.760	PASS
Band7	10MHz	QPSK	21400	50RB#0	8.911	9.680	PASS
Band7	10MHz	16QAM	20800	50RB#0	8.931	9.620	PASS
Band7	10MHz	16QAM	21100	50RB#0	8.931	9.680	PASS
Band7	10MHz	16QAM	21400	50RB#0	8.951	9.720	PASS
Band7	15MHz	QPSK	20825	75RB#0	13.457	14.910	PASS
Band7	15MHz	QPSK	21100	75RB#0	13.457	14.880	PASS
Band7	15MHz	QPSK	21375	75RB#0	13.397	14.760	PASS
Band7	15MHz	16QAM	20825	75RB#0	13.457	14.790	PASS
Band7	15MHz	16QAM	21100	75RB#0	13.487	14.850	PASS
Band7	15MHz	16QAM	21375	75RB#0	13.457	14.790	PASS
Band7	20MHz	QPSK	20850	100RB#0	17.862	19.320	PASS
Band7	20MHz	QPSK	21100	100RB#0	17.902	19.560	PASS
Band7	20MHz	QPSK	21350	100RB#0	17.822	19.280	PASS
Band7	20MHz	16QAM	20850	100RB#0	17.782	19.240	PASS
Band7	20MHz	16QAM	21100	100RB#0	17.862	19.360	PASS
Band7	20MHz	16QAM	21350	100RB#0	17.862	19.560	PASS

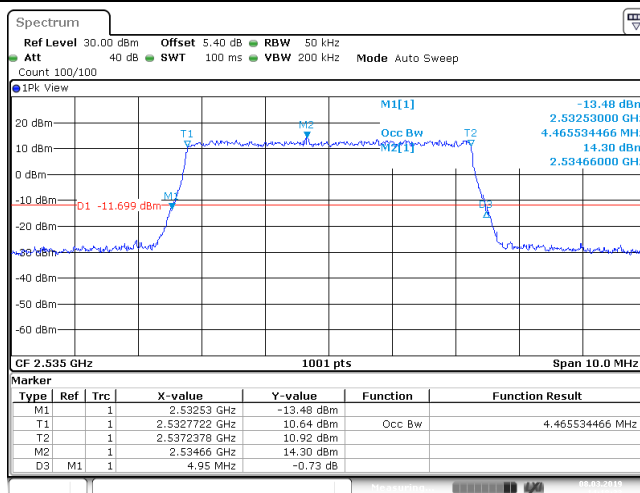
6.2. Test Plots

Band7_5MHz_QPSK_20775_25RB#0



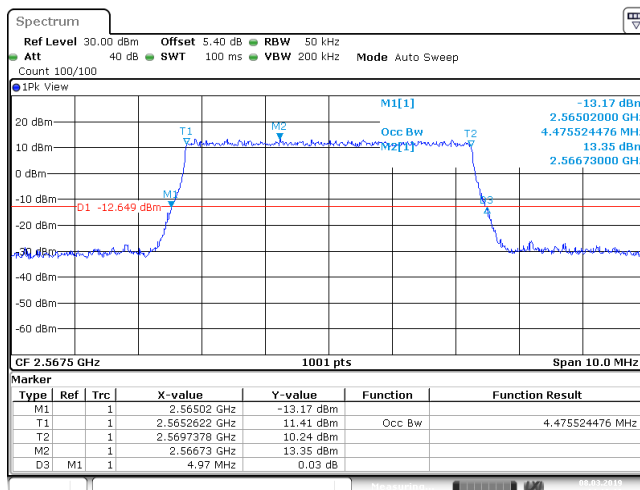
Date: 8 MAR 2019 14:17:55

Band7_5MHz_QPSK_21100_25RB#0



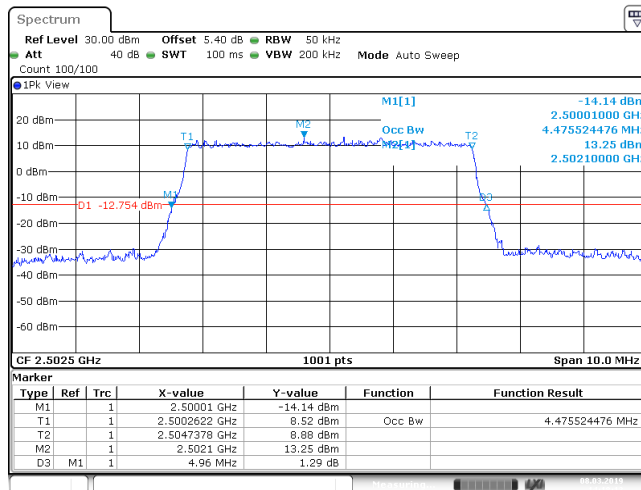
Date: 8 MAR 2019 14:18:33

Band7_5MHz_QPSK_21425_25RB#0



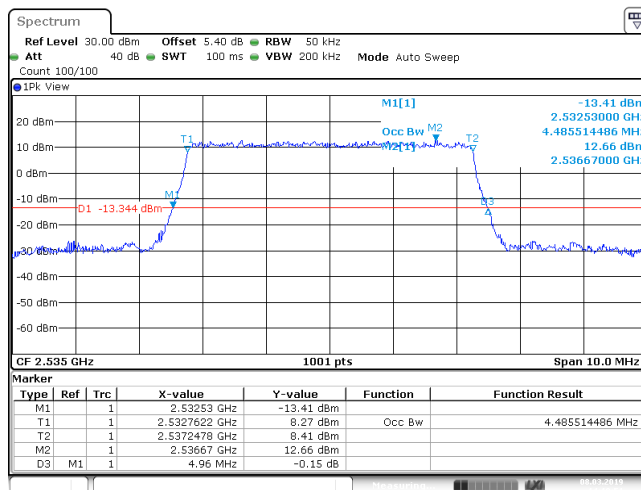
Date: 8 MAR 2019 14:19:10

Band7_5MHz_16QAM_20775_25RB#0



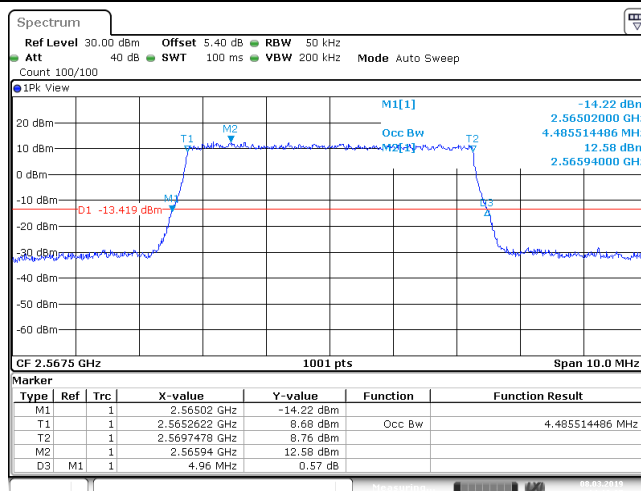
Date: 8 MAR 2019 14:18:13

Band7_5MHz_16QAM_21100_25RB#0



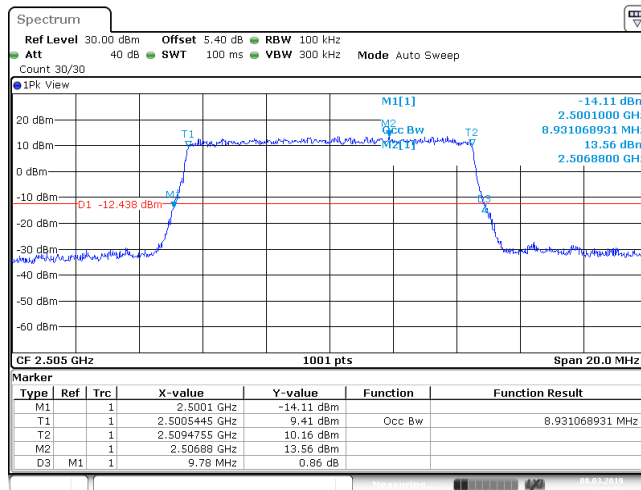
Date: 8 MAR 2019 14:18:51

Band7_5MHz_16QAM_21425_25RB#0

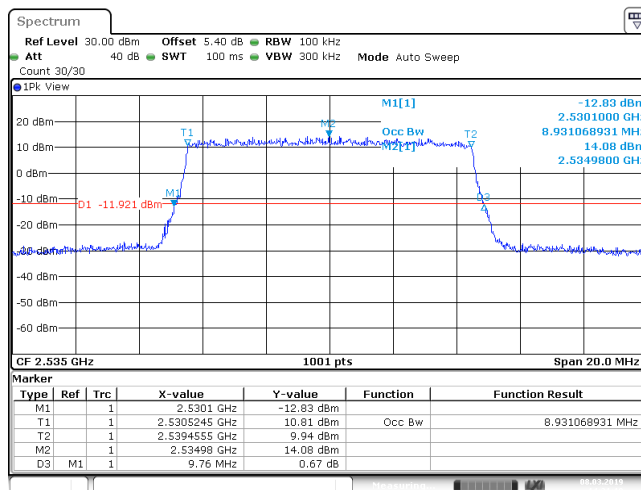


Date: 8 MAR 2019 14:19:28

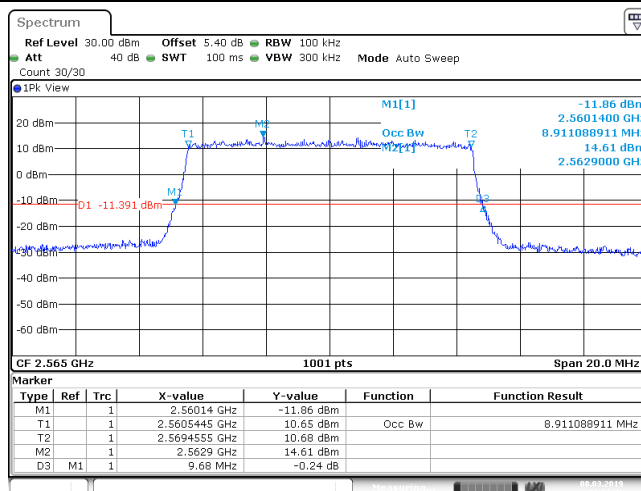
Band7_10MHz_QPSK_20800_50RB#0



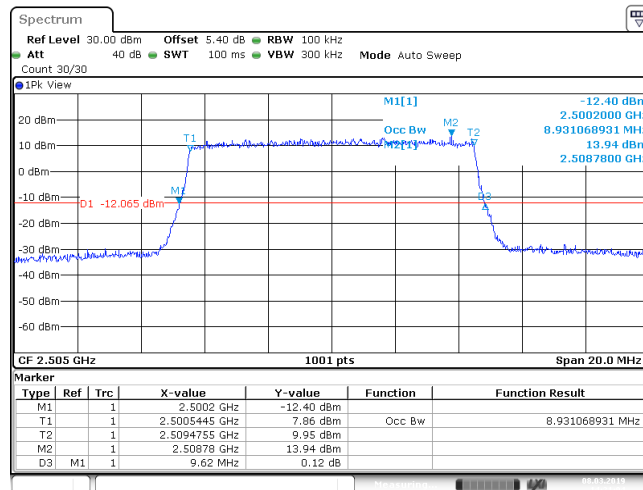
Band7_10MHz_QPSK_21100_50RB#0



Band7_10MHz_QPSK_21400_50RB#0

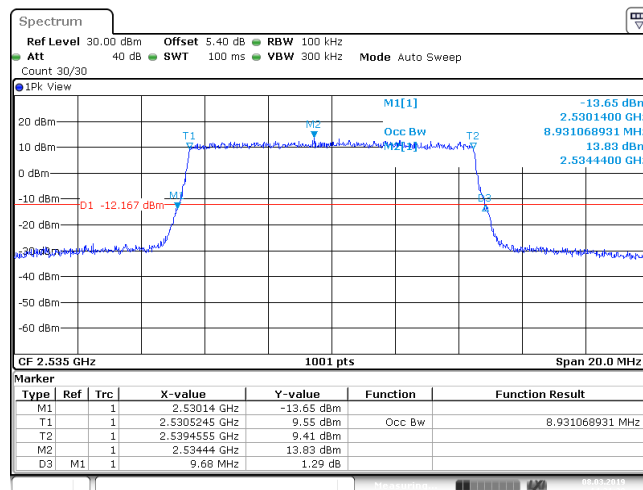


Band7_10MHz_16QAM_20800_50RB#0



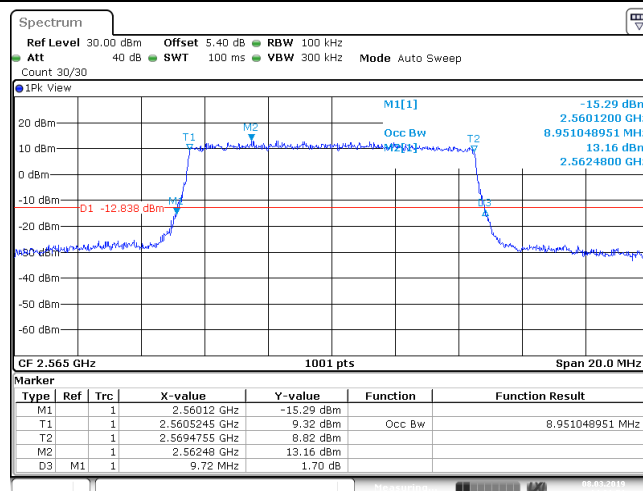
Date: 8 MAR 2019 14:21:05

Band7_10MHz_16QAM_21100_50RB#0



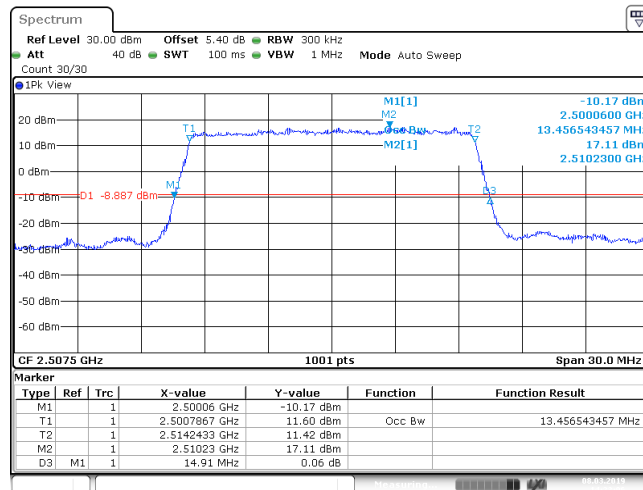
Date: 8 MAR 2019 14:21:29

Band7_10MHz_16QAM_21400_50RB#0



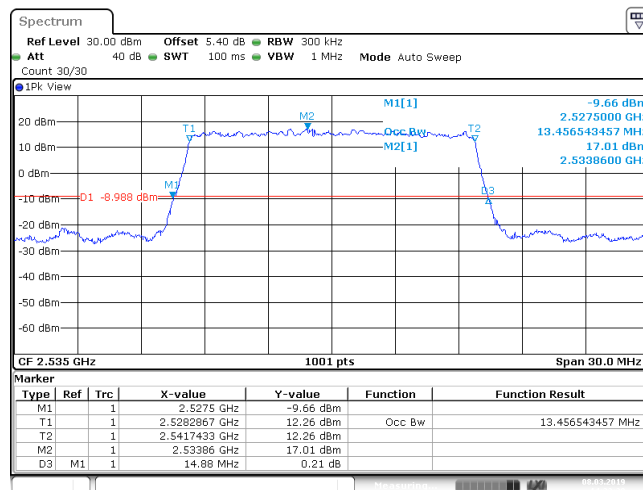
Date: 8 MAR 2019 14:21:52

Band7_15MHz_QPSK_20825_75RB#0



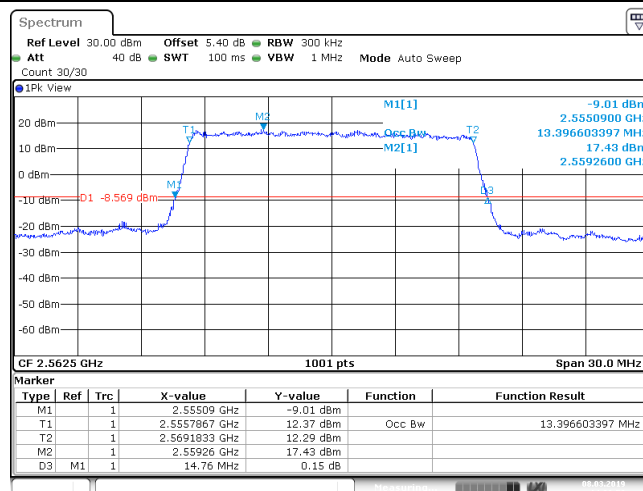
Date: 8 MAR 2019 14:23:07

Band7_15MHz_QPSK_21100_75RB#0



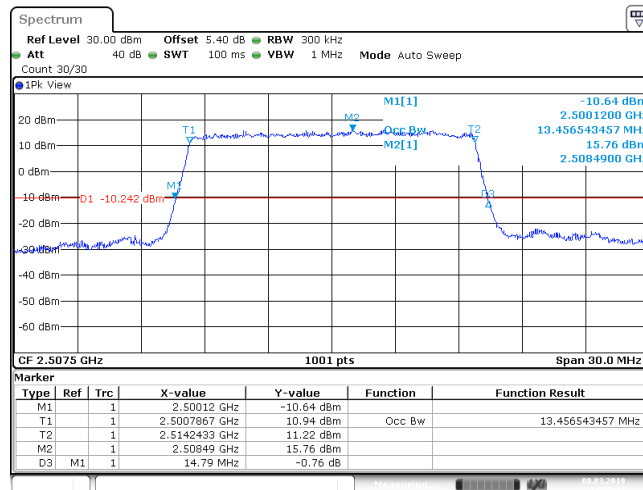
Date: 8 MAR 2019 14:23:29

Band7_15MHz_QPSK_21375_75RB#0



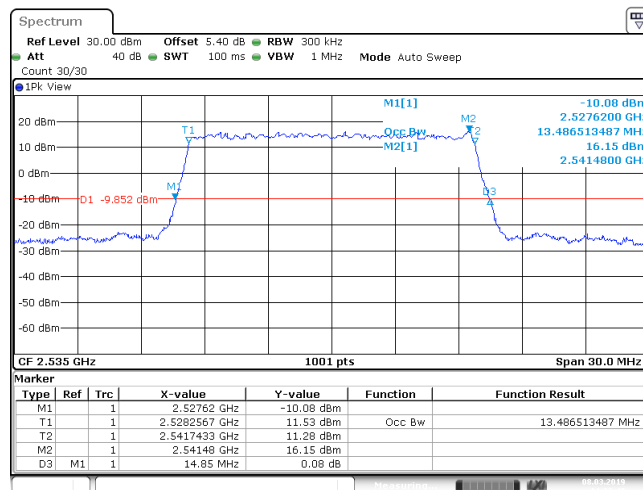
Date: 8 MAR 2019 14:23:53

Band7_15MHz_16QAM_20825_75RB#0



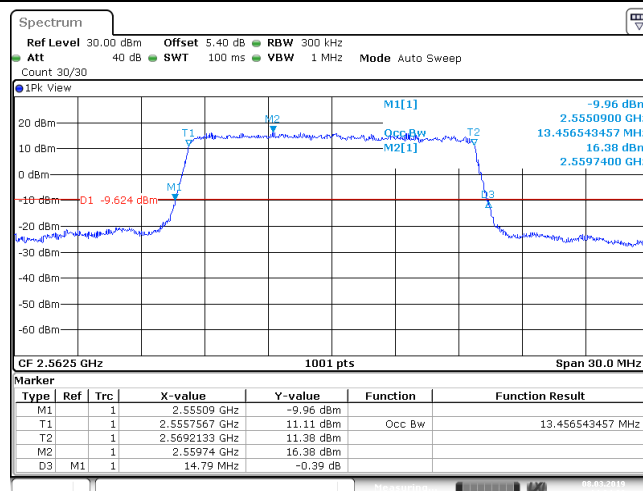
Date: 8 MAR 2019 14:23:17

Band7_15MHz_16QAM_21100_75RB#0



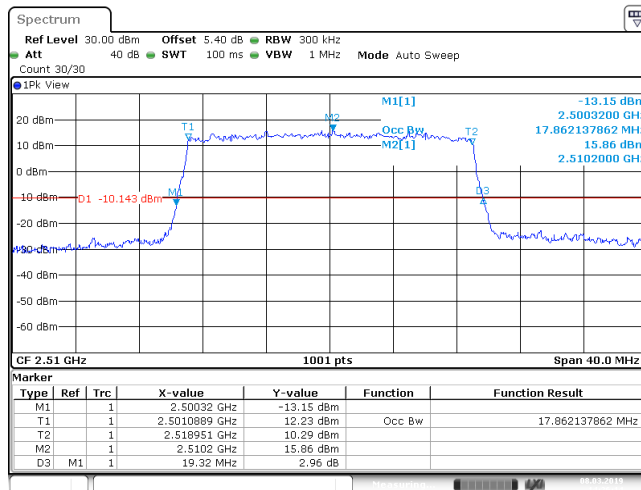
Date: 8 MAR 2019 14:23:40

Band7_15MHz_16QAM_21375_75RB#0



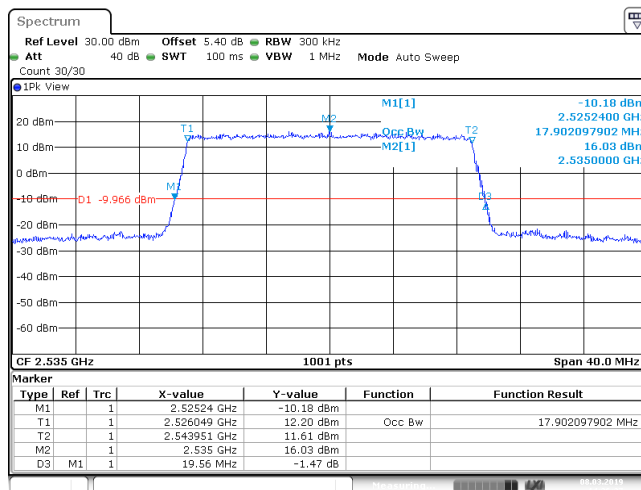
Date: 8 MAR 2019 14:24:03

Band7_20MHz_QPSK_20850_100RB#0



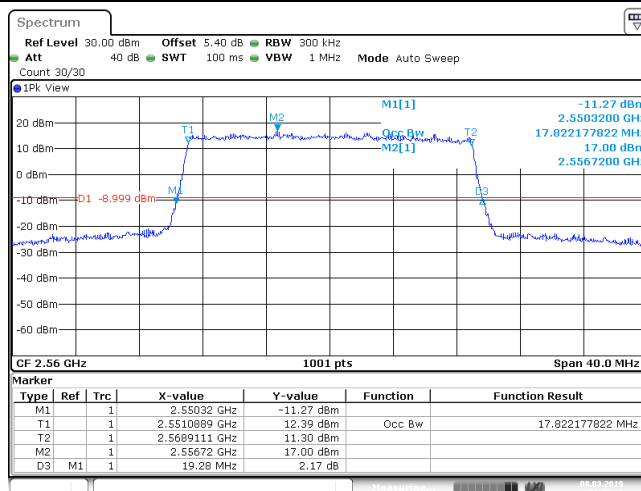
Date: 8 MAR 2019 14:26:14

Band7_20MHz_QPSK_21100_100RB#0



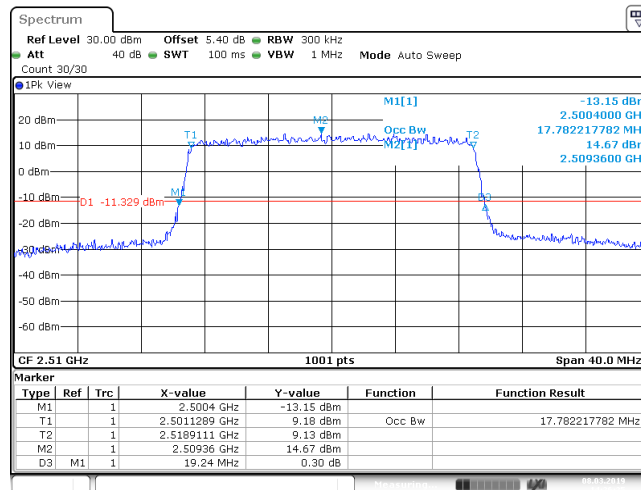
Date: 8 MAR 2019 14:26:38

Band7_20MHz_QPSK_21350_100RB#0



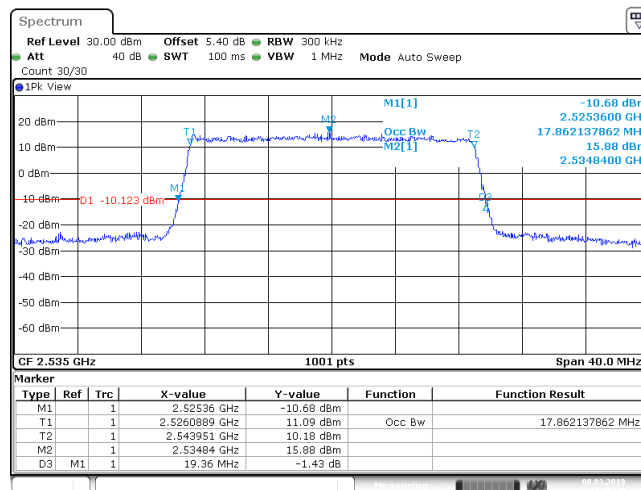
Date: 8 MAR 2019 14:27:01

Band7_20MHz_16QAM_20850_100RB#0



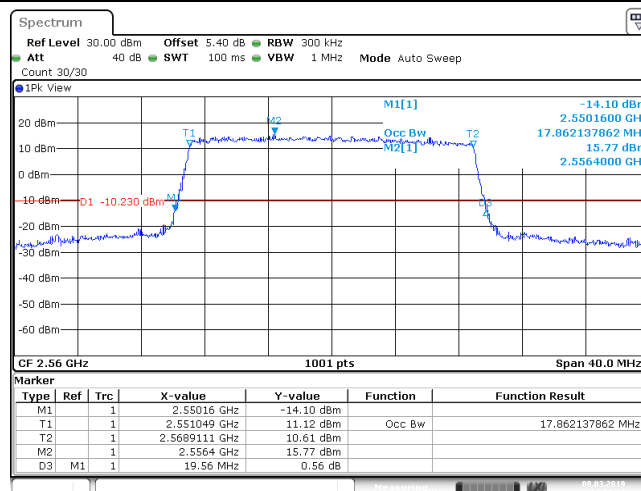
Date: 8 MAR 2019 14:26:25

Band7_20MHz_16QAM_21100_100RB#0



Date: 8 MAR 2019 14:26:48

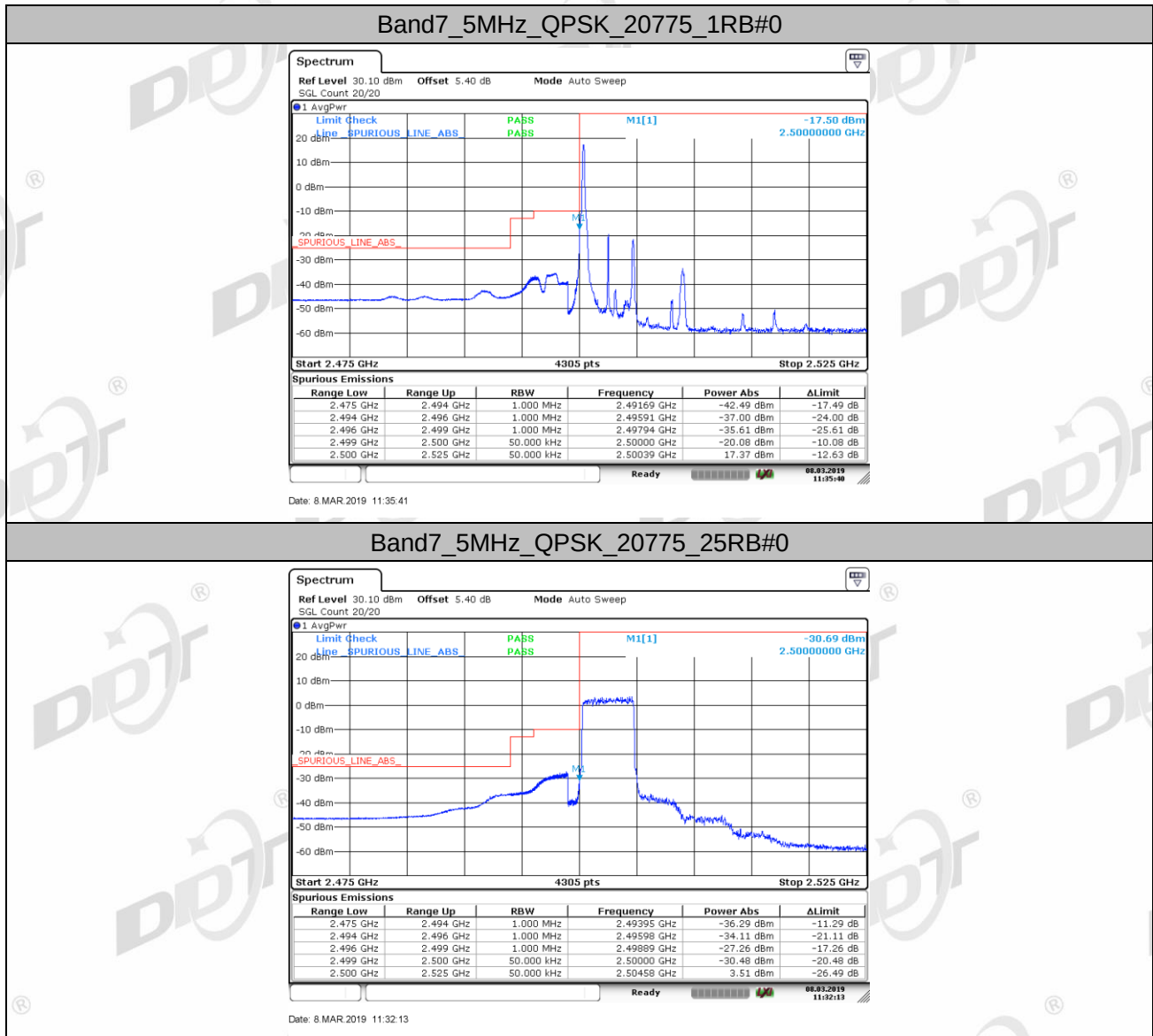
Band7_20MHz_16QAM_21350_100RB#0



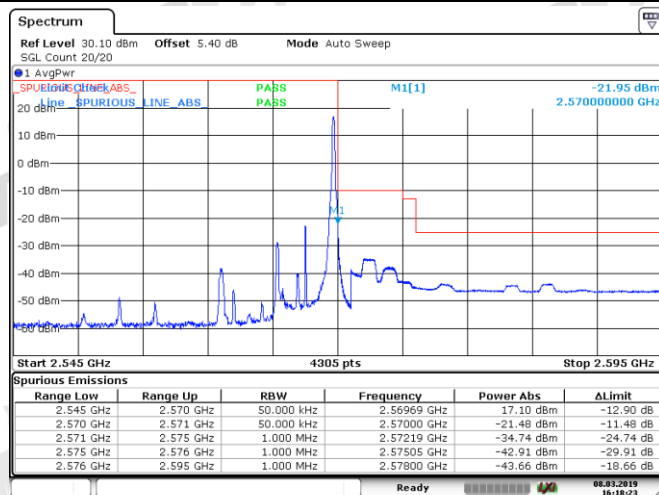
Date: 8 MAR 2019 14:27:11

7. Band Edge Compliance

7.1. Test Plots

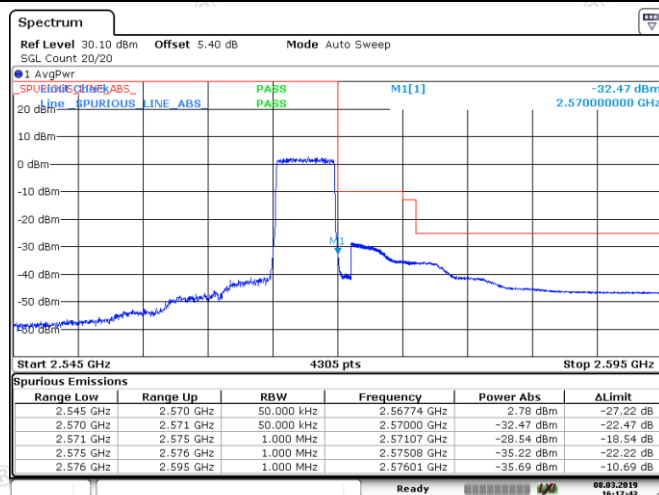


Band7_5MHz_QPSK_21425_1RB#24



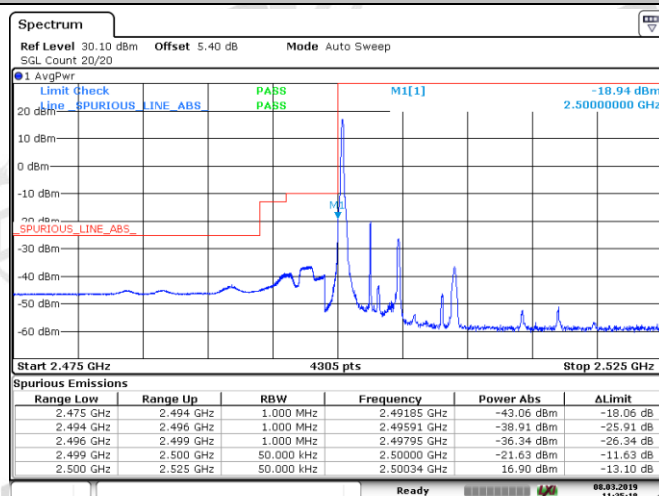
Date: 8 MAR 2019 16:18:23

Band7_5MHz_QPSK_21425_25RB#0



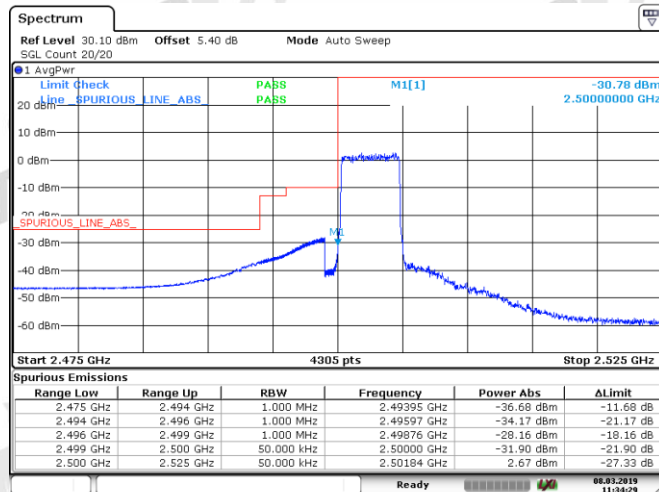
Date: 8 MAR 2019 16:17:43

Band7_5MHz_16QAM_20775_1RB#0



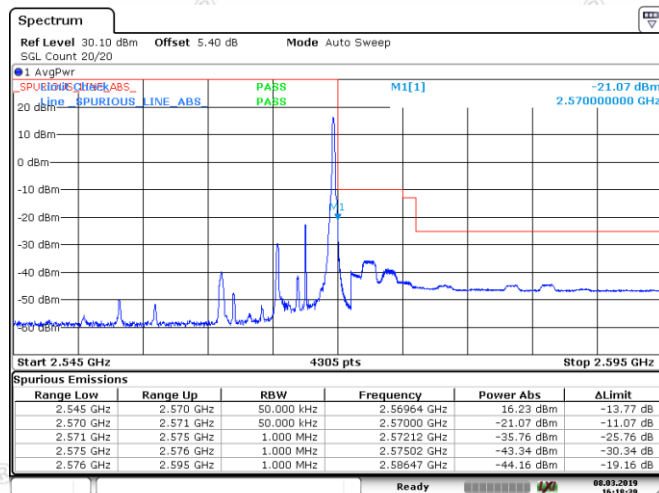
Date: 8 MAR 2019 11:05:18

Band7_5MHz_16QAM_20775_25RB#0



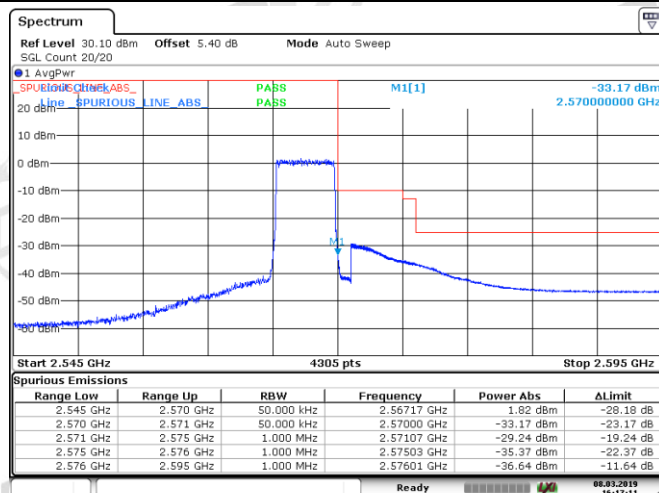
Date: 8 MAR 2019 11:34:30

Band7_5MHz_16QAM_21425_1RB#24



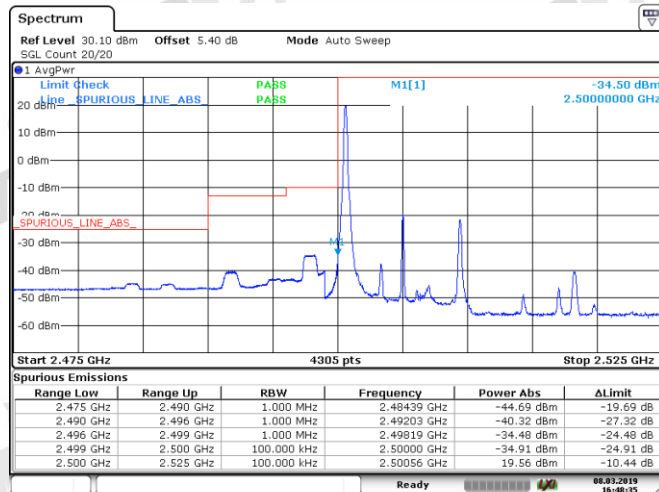
Date: 8 MAR 2019 16:18:40

Band7_5MHz_16QAM_21425_25RB#0



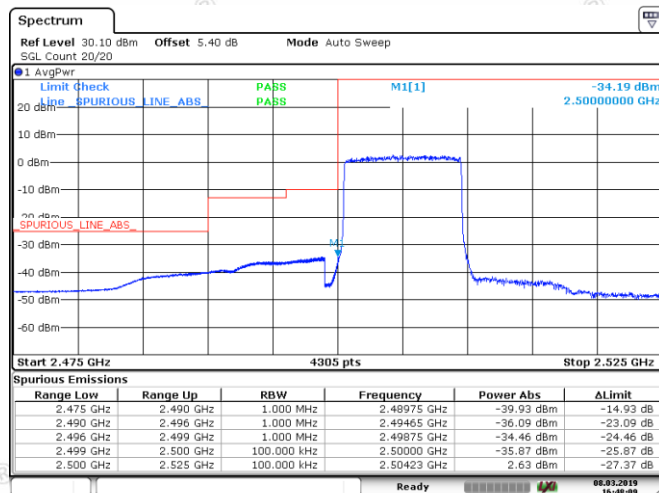
Date: 8 MAR 2019 16:17:11

Band7_10MHz_QPSK_20800_1RB#0



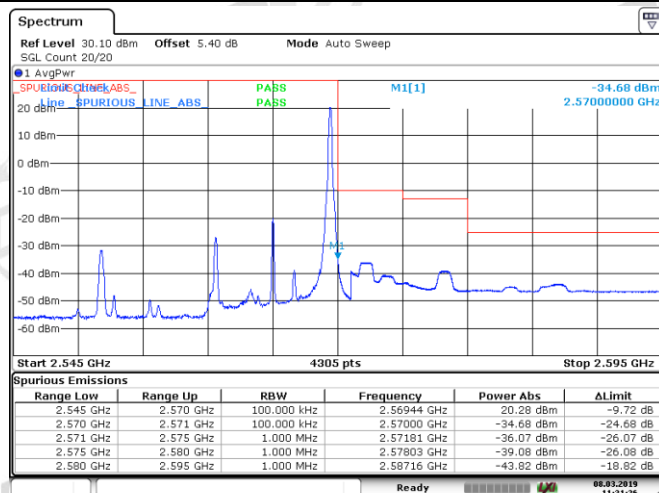
Date: 8 MAR 2019 16:48:36

Band7_10MHz_QPSK_20800_50RB#0



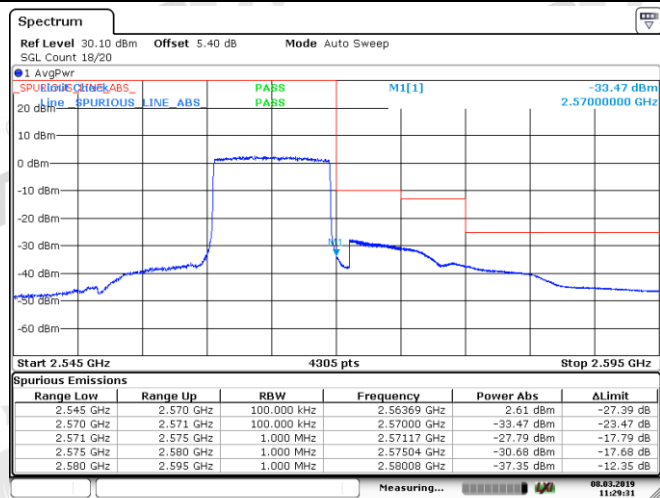
Date: 8 MAR 2019 16:48:10

Band7_10MHz_QPSK_21400_1RB#49



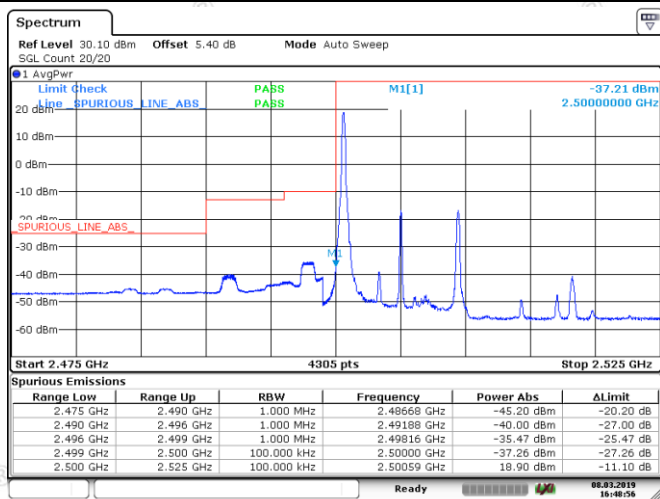
Date: 8 MAR 2019 11:31:26

Band7_10MHz_QPSK_21400_50RB#0



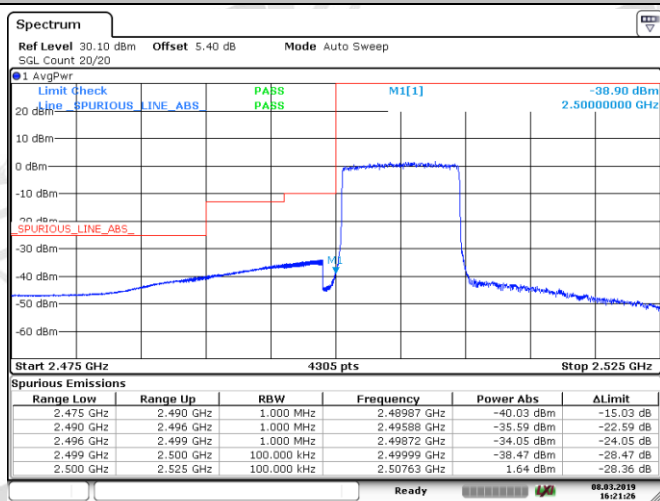
Date: 8 MAR 2019 11:29:32

Band7_10MHz_16QAM_20800_1RB#0



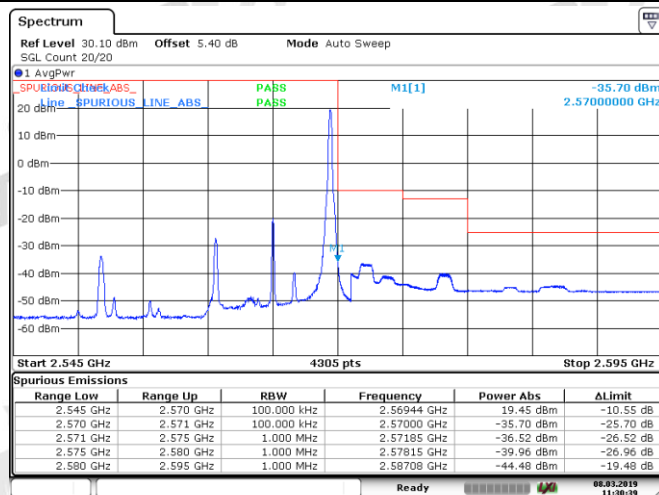
Date: 8 MAR 2019 16:48:56

Band7_10MHz_16QAM_20800_50RB#0



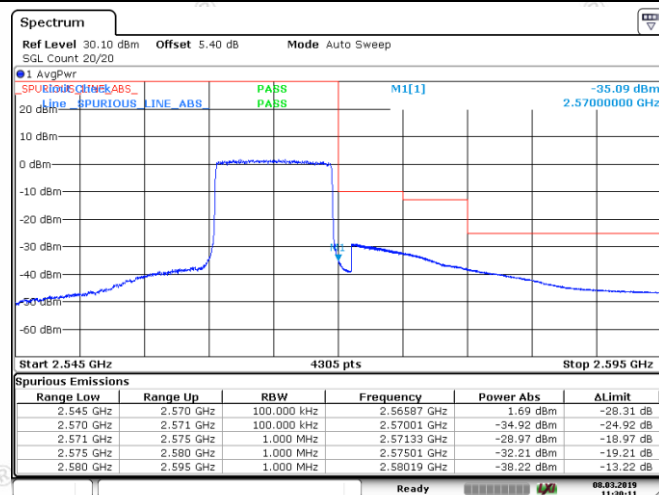
Date: 8 MAR 2019 16:21:27

Band7_10MHz_16QAM_21400_1RB#49



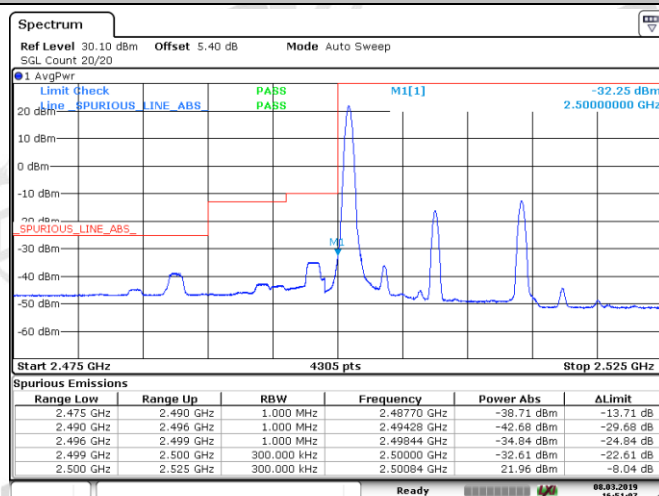
Date: 8 MAR 2019 11:30:39

Band7_10MHz_16QAM_21400_50RB#0



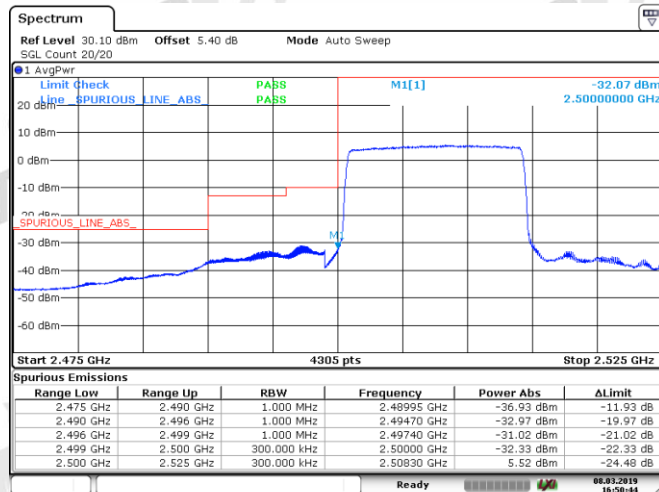
Date: 8 MAR 2019 11:30:11

Band7_15MHz_QPSK_20825_1RB#0



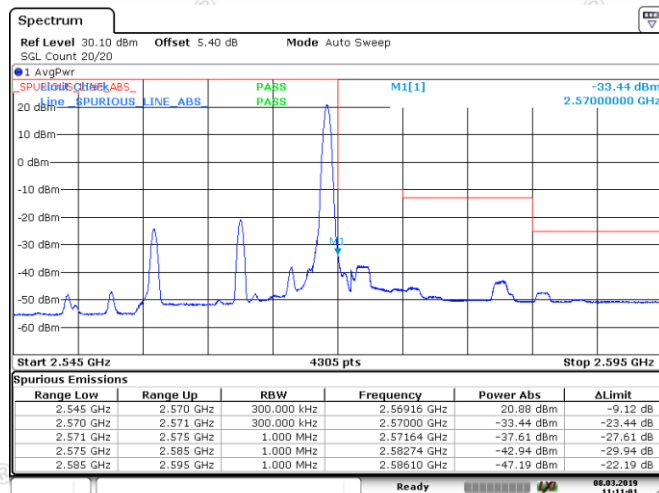
Date: 8 MAR 2019 16:51:08

Band7_15MHz_QPSK_20825_75RB#0



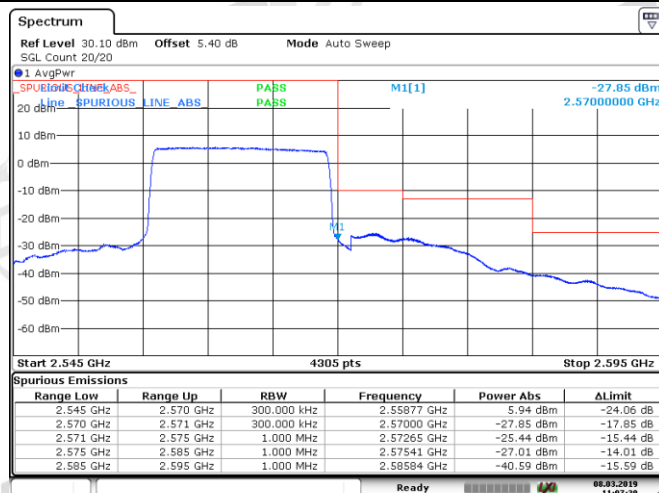
Date: 8 MAR 2019 16:50:44

Band7_15MHz_QPSK_21375_1RB#74



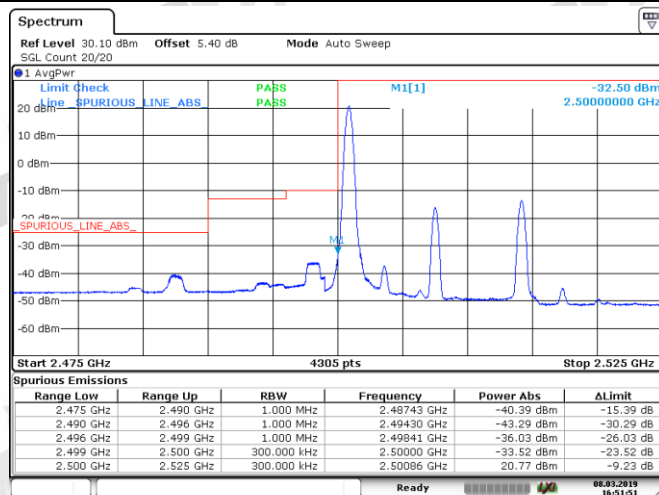
Date: 8 MAR 2019 11:11:02

Band7_15MHz_QPSK_21375_75RB#0



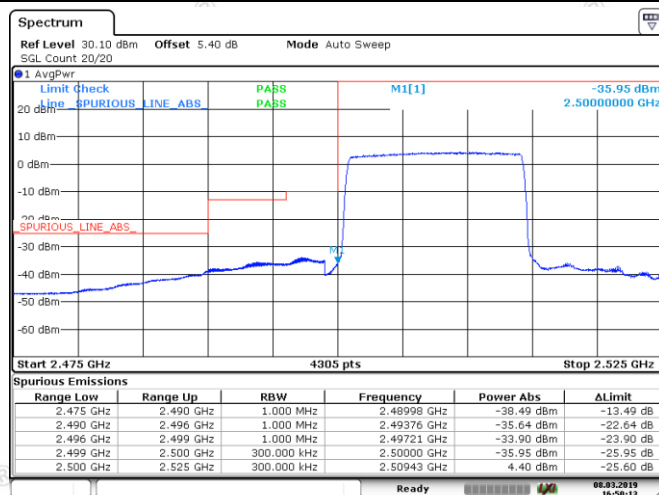
Date: 8 MAR 2019 11:07:09

Band7_15MHz_16QAM_20825_1RB#0



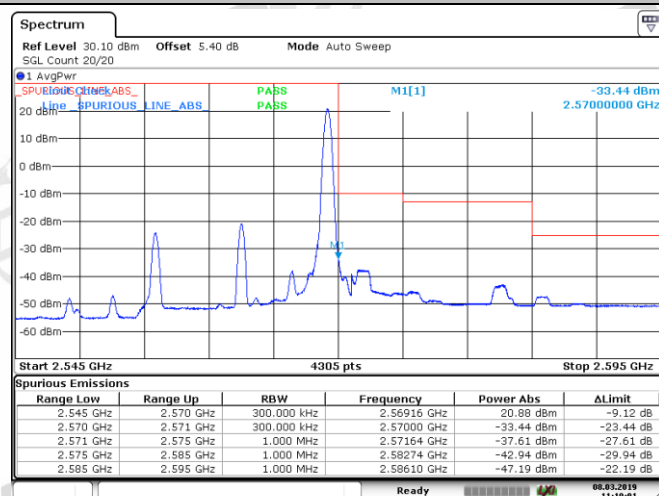
Date: 8 MAR 2019 16:51:51

Band7_15MHz_16QAM_20825_75RB#0



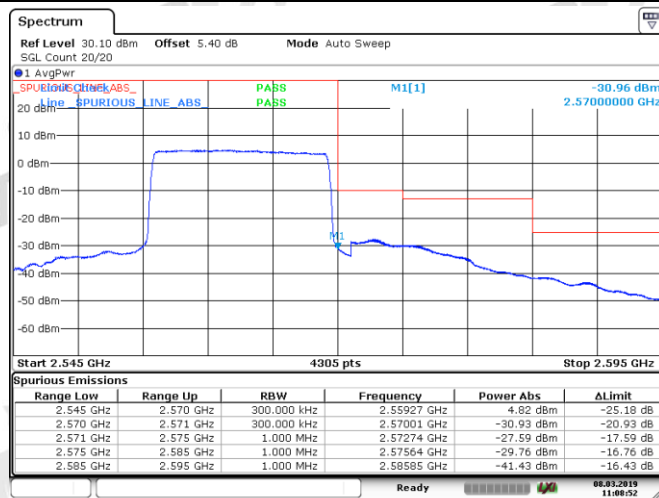
Date: 8 MAR 2019 16:56:13

Band7_15MHz_16QAM_21375_1RB#74



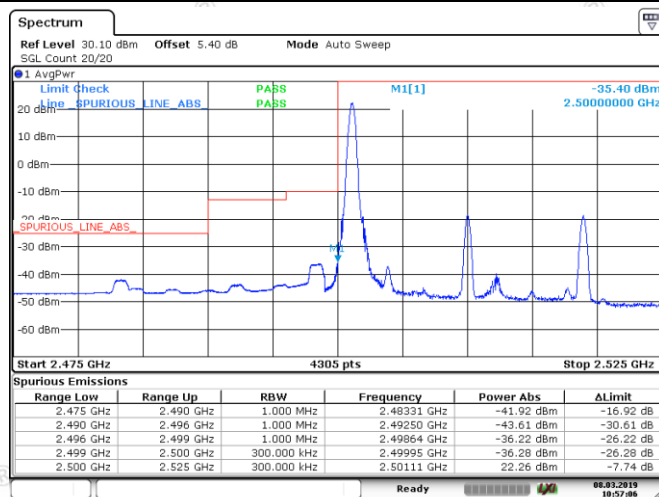
Date: 8 MAR 2019 11:10:01

Band7_15MHz_16QAM_21375_75RB#0



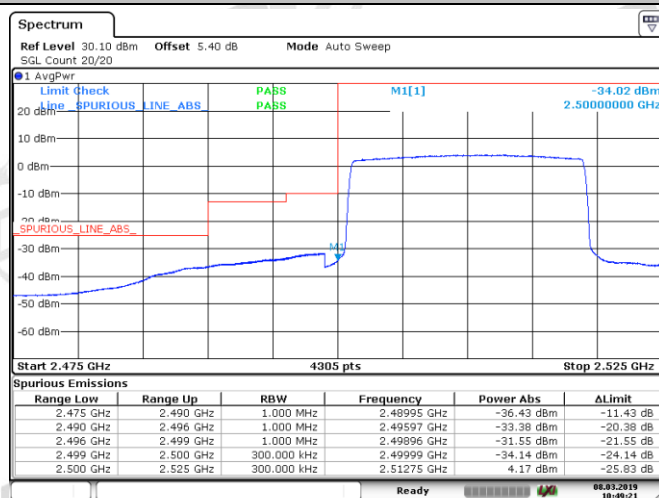
Date: 8 MAR 2019 11:08:52

Band7_20MHz_QPSK_20850_1RB#0



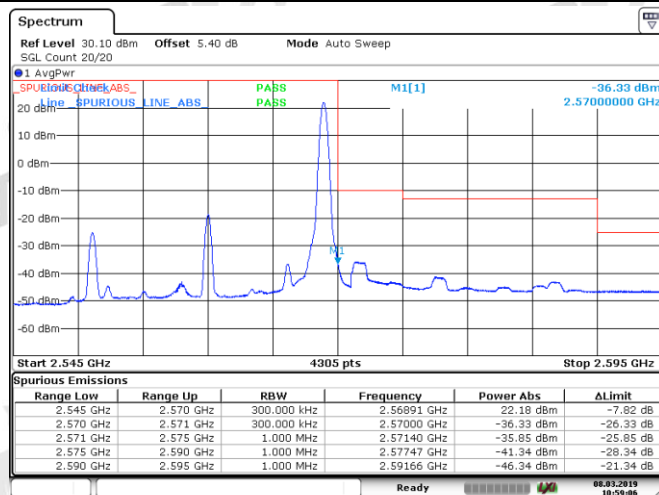
Date: 8 MAR 2019 10:57:07

Band7_20MHz_QPSK_20850_100RB#0



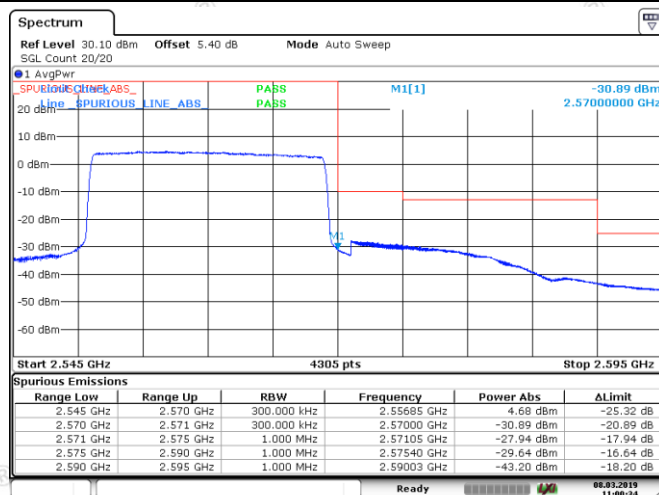
Date: 8 MAR 2019 10:49:21

Band7_20MHz_QPSK_21350_1RB#99



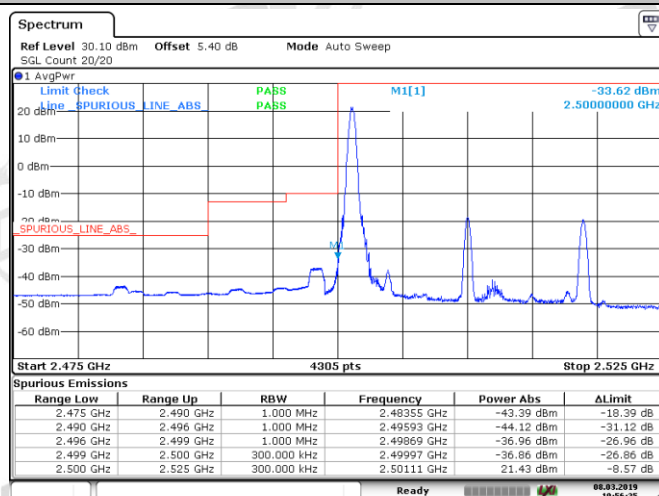
Date: 8 MAR 2019 10:59:06

Band7_20MHz_QPSK_21350_100RB#0



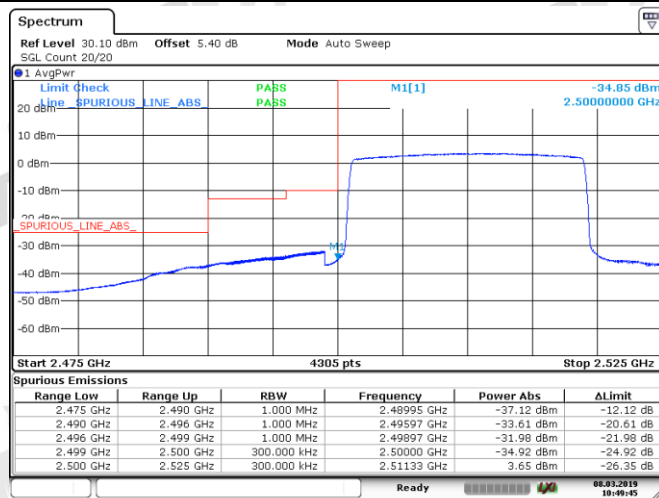
Date: 8 MAR 2019 11:00:34

Band7_20MHz_16QAM_20850_1RB#0



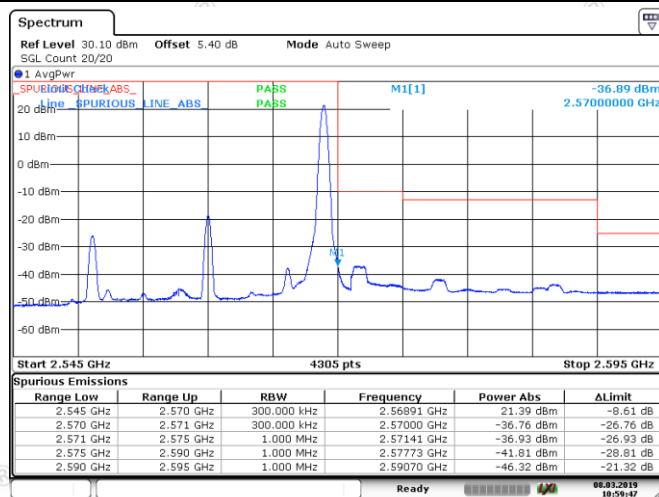
Date: 8 MAR 2019 10:56:36

Band7_20MHz_16QAM_20850_100RB#0



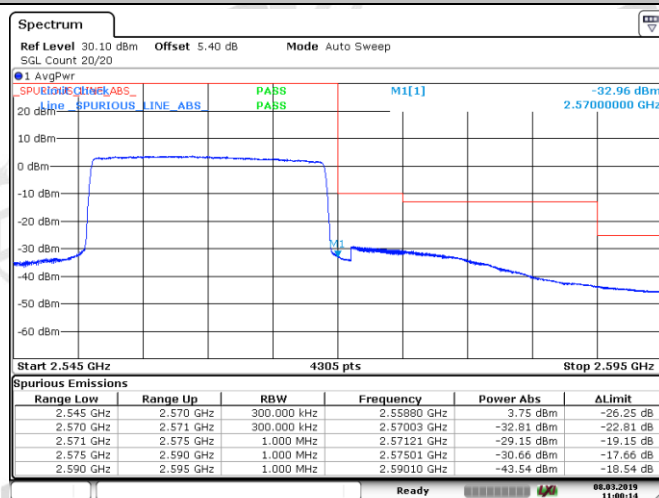
Date: 8 MAR 2019 10:49:46

Band7_20MHz_16QAM_21350_1RB#99



Date: 8 MAR 2019 10:50:47

Band7_20MHz_16QAM_21350_100RB#0



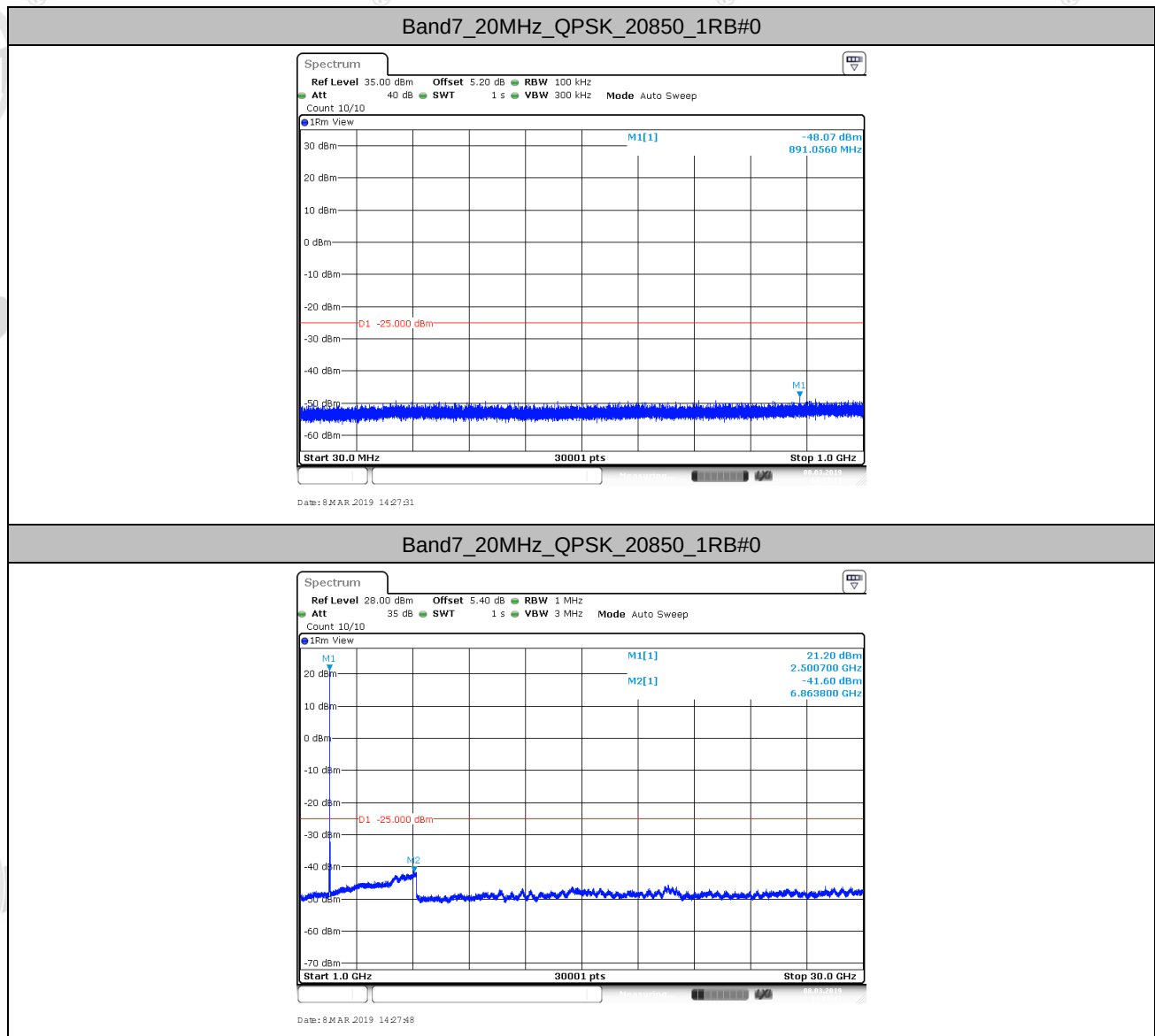
Date: 8 MAR 2019 11:00:14

8. Spurious Emission at Antenna Terminal

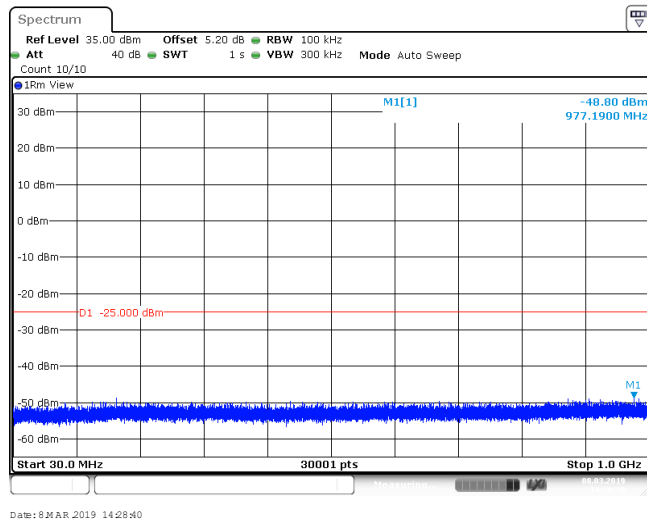
Remark1: For the averaged unwanted emissions measurements, the measurement points in each sweep is greater than twice the Span/RBW in order to ensure bin-to-bin spacing of $< RBW/2$ so that narrowband signals are not lost between frequency bins. As to the present test item, the "Measurement Points =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

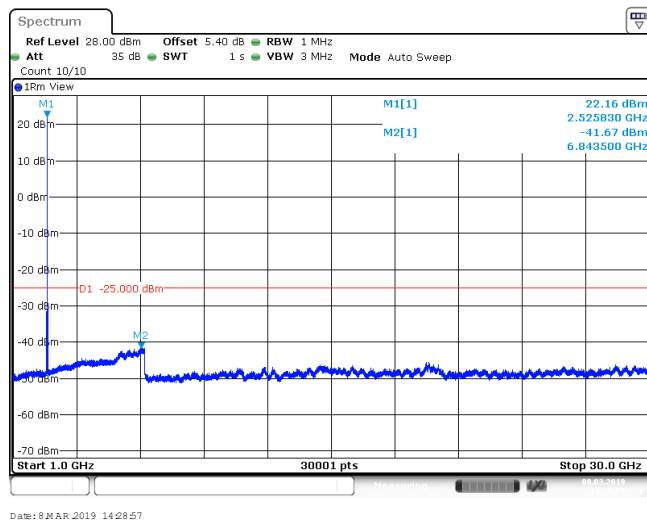
8.1. Test Plots



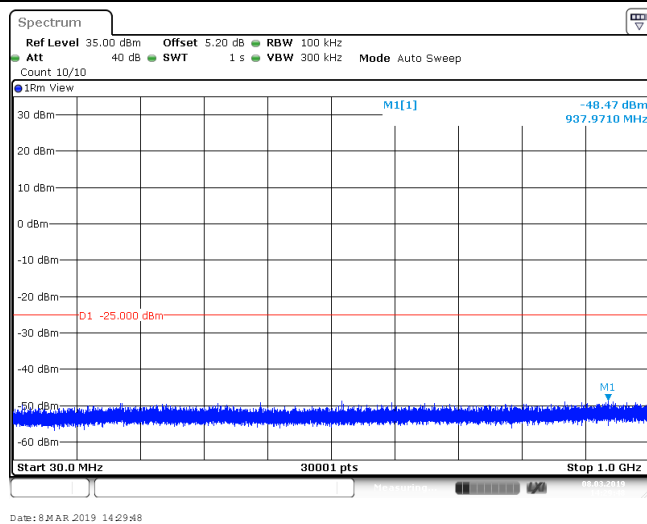
Band7_20MHz_QPSK_21100_1RB#0



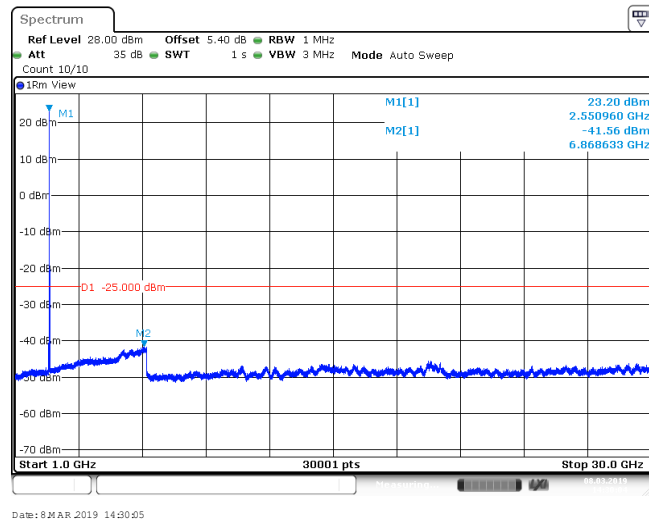
Band7_20MHz_QPSK_21100_1RB#0



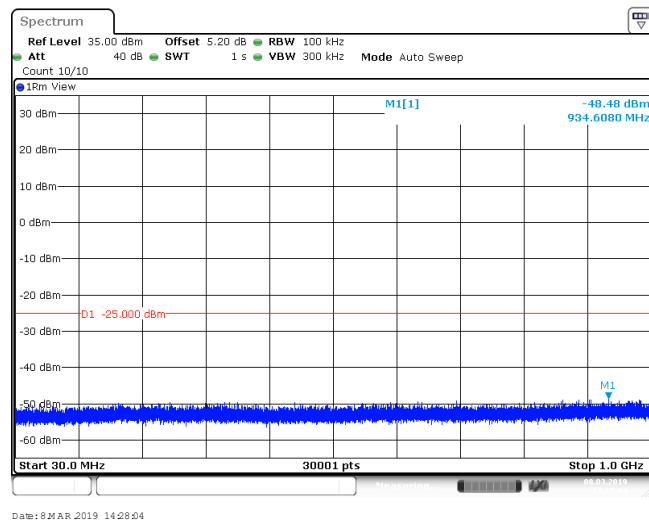
Band7_20MHz_QPSK_21350_1RB#0



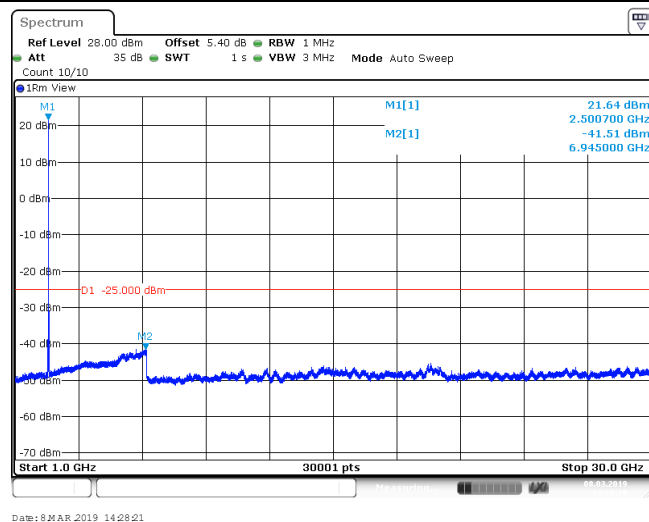
Band7_20MHz_QPSK_21350_1RB#0



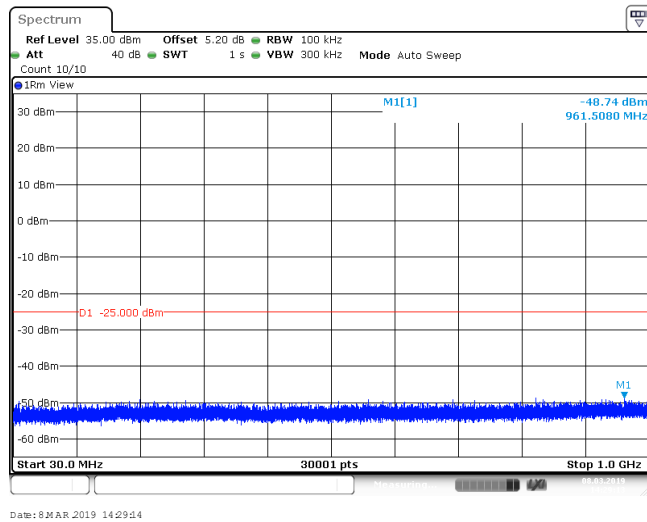
Band7_20MHz_16QAM_20850_1RB#0



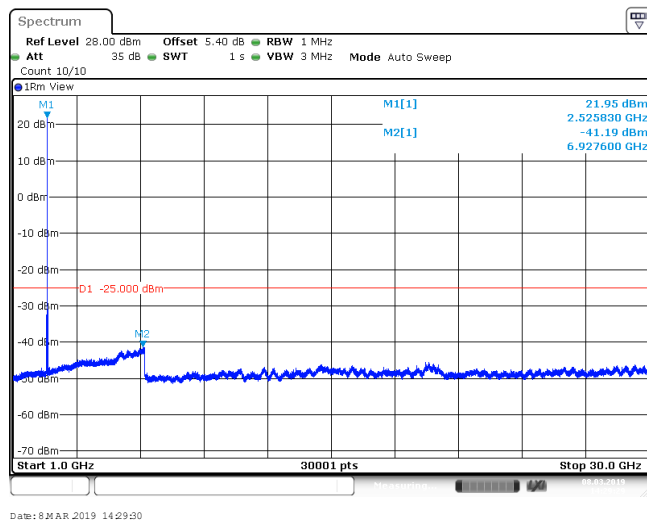
Band7_20MHz_16QAM_20850_1RB#0



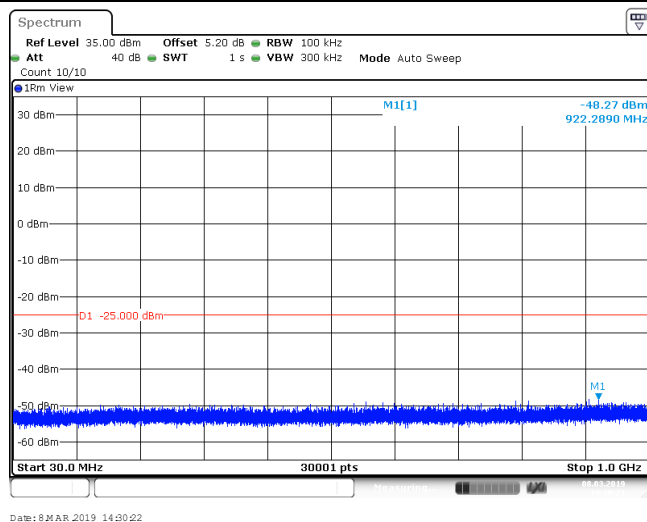
Band7_20MHz_16QAM_21100_1RB#0

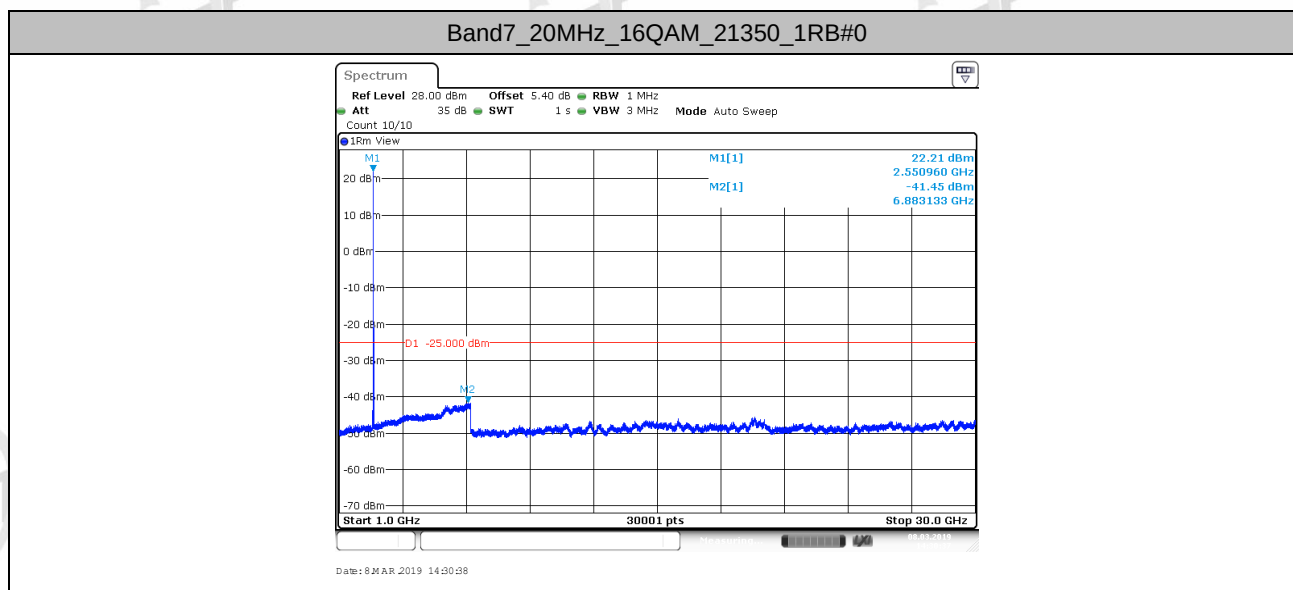


Band7_20MHz_16QAM_21100_1RB#0



Band7_20MHz_16QAM_21350_1RB#0





9. Frequency Stability

9.1. Frequency Vs Voltage

Voltage										
BAND	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band7	20MHz	QPSK	20850	100RB#0	VL	NT	6.57	0.002618	±2.5	PASS
Band7	20MHz	QPSK	20850	100RB#0	VN	NT	7.40	0.002948	±2.5	PASS
Band7	20MHz	QPSK	20850	100RB#0	VH	NT	6.65	0.002649	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	VL	NT	-8.33	-0.003286	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	VN	NT	-9.38	-0.003700	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	VH	NT	-8.93	-0.003523	±2.5	PASS
Band7	20MHz	QPSK	21350	100RB#0	VL	NT	6.07	0.002371	±2.5	PASS
Band7	20MHz	QPSK	21350	100RB#0	VN	NT	6.47	0.002527	±2.5	PASS
Band7	20MHz	QPSK	21350	100RB#0	VH	NT	4.92	0.001922	±2.5	PASS
Band7	20MHz	16QAM	20850	100RB#0	VL	NT	5.15	0.002052	±2.5	PASS
Band7	20MHz	16QAM	20850	100RB#0	VN	NT	6.75	0.002689	±2.5	PASS
Band7	20MHz	16QAM	20850	100RB#0	VH	NT	6.18	0.002462	±2.5	PASS
Band7	20MHz	16QAM	21100	100RB#0	VL	NT	-11.76	-0.004639	±2.5	PASS
Band7	20MHz	16QAM	21100	100RB#0	VN	NT	-8.77	-0.003460	±2.5	PASS
Band7	20MHz	16QAM	21100	100RB#0	VH	NT	-8.57	-0.003381	±2.5	PASS
Band7	20MHz	16QAM	21350	100RB#0	VL	NT	-4.92	-0.001922	±2.5	PASS
Band7	20MHz	16QAM	21350	100RB#0	VN	NT	-7.68	-0.003000	±2.5	PASS
Band7	20MHz	16QAM	21350	100RB#0	VH	NT	-4.81	-0.001879	±2.5	PASS

9.2. Frequency Vs Temperature

Temperature										
BAND	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band7	20MHz	QPSK	20850	100RB#0	NV	-30	-5.97	-0.002378	±2.5	PASS
Band7	20MHz	QPSK	20850	100RB#0	NV	-20	7.30	0.002908	±2.5	PASS
Band7	20MHz	QPSK	20850	100RB#0	NV	0	6.39	0.002546	±2.5	PASS
Band7	20MHz	QPSK	20850	100RB#0	NV	10	7.14	0.002845	±2.5	PASS
Band7	20MHz	QPSK	20850	100RB#0	NV	20	5.21	0.002076	±2.5	PASS
Band7	20MHz	QPSK	20850	100RB#0	NV	30	5.38	0.002143	±2.5	PASS
Band7	20MHz	QPSK	20850	100RB#0	NV	40	5.26	0.002096	±2.5	PASS
Band7	20MHz	QPSK	20850	100RB#0	NV	50	7.04	0.002805	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	NV	-30	-7.68	-0.003030	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	NV	-20	-8.85	-0.003491	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	NV	0	-9.17	-0.003617	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	NV	10	-7.80	-0.003077	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	NV	20	-9.03	-0.003562	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	NV	30	-8.88	-0.003503	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	NV	40	-10.29	-0.004059	±2.5	PASS
Band7	20MHz	QPSK	21100	100RB#0	NV	50	-7.18	-0.002832	±2.5	PASS
Band7	20MHz	QPSK	21350	100RB#0	NV	-30	-5.65	-0.002207	±2.5	PASS
Band7	20MHz	QPSK	21350	100RB#0	NV	-20	4.31	0.001684	±2.5	PASS
Band7	20MHz	QPSK	21350	100RB#0	NV	0	6.52	0.002547	±2.5	PASS
Band7	20MHz	QPSK	21350	100RB#0	NV	10	-6.94	-0.002711	±2.5	PASS
Band7	20MHz	QPSK	21350	100RB#0	NV	20	5.75	0.002246	±2.5	PASS
Band7	20MHz	QPSK	21350	100RB#0	NV	30	6.28	0.002453	±2.5	PASS
Band7	20MHz	QPSK	21350	100RB#0	NV	40	4.52	0.001766	±2.5	PASS
Band7	20MHz	QPSK	21350	100RB#0	NV	50	-5.25	-0.002051	±2.5	PASS
Band7	20MHz	16QAM	20850	100RB#0	NV	-30	7.72	0.003076	±2.5	PASS
Band7	20MHz	16QAM	20850	100RB#0	NV	-20	8.07	0.003215	±2.5	PASS
Band7	20MHz	16QAM	20850	100RB#0	NV	0	6.51	0.002594	±2.5	PASS
Band7	20MHz	16QAM	20850	100RB#0	NV	10	7.12	0.002837	±2.5	PASS
Band7	20MHz	16QAM	20850	100RB#0	NV	20	7.85	0.003127	±2.5	PASS
Band7	20MHz	16QAM	20850	100RB#0	NV	30	7.42	0.002956	±2.5	PASS
Band7	20MHz	16QAM	20850	100RB#0	NV	40	8.81	0.003510	±2.5	PASS
Band7	20MHz	16QAM	20850	100RB#0	NV	50	4.68	0.001865	±2.5	PASS
Band7	20MHz	16QAM	21100	100RB#0	NV	-30	-5.89	-0.002323	±2.5	PASS
Band7	20MHz	16QAM	21100	100RB#0	NV	-20	-7.75	-0.003057	±2.5	PASS
Band7	20MHz	16QAM	21100	100RB#0	NV	0	-8.01	-0.003160	±2.5	PASS
Band7	20MHz	16QAM	21100	100RB#0	NV	10	-9.40	-0.003708	±2.5	PASS
Band7	20MHz	16QAM	21100	100RB#0	NV	20	-7.70	-0.003037	±2.5	PASS
Band7	20MHz	16QAM	21100	100RB#0	NV	30	-8.74	-0.003448	±2.5	PASS
Band7	20MHz	16QAM	21100	100RB#0	NV	40	-8.47	-0.003341	±2.5	PASS

Band7	20MHz	16QAM	21100	100RB#0	NV	50	-9.01	-0.003554	±2.5	PASS
Band7	20MHz	16QAM	21350	100RB#0	NV	-30	5.06	0.001977	±2.5	PASS
Band7	20MHz	16QAM	21350	100RB#0	NV	-20	-6.15	-0.002402	±2.5	PASS
Band7	20MHz	16QAM	21350	100RB#0	NV	0	6.17	0.002410	±2.5	PASS
Band7	20MHz	16QAM	21350	100RB#0	NV	10	5.38	0.002102	±2.5	PASS
Band7	20MHz	16QAM	21350	100RB#0	NV	20	6.90	0.002695	±2.5	PASS
Band7	20MHz	16QAM	21350	100RB#0	NV	30	6.45	0.002520	±2.5	PASS
Band7	20MHz	16QAM	21350	100RB#0	NV	40	6.51	0.002543	±2.5	PASS
Band7	20MHz	16QAM	21350	100RB#0	NV	50	5.94	0.002320	±2.5	PASS

The End