

Appendix B

E-UTRA Band 5

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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)	ERP (dBm)	Limit (dBm)	Verdict
Band5	1.4MHz	QPSK	20407	1RB#0	23.81	21.16	38.45	PASS
Band5	1.4MHz	QPSK	20407	1RB#2	23.96	21.31	38.45	PASS
Band5	1.4MHz	QPSK	20407	1RB#5	23.93	21.28	38.45	PASS
Band5	1.4MHz	QPSK	20407	3RB#0	24.03	21.38	38.45	PASS
Band5	1.4MHz	QPSK	20407	3RB#1	24.04	21.39	38.45	PASS
Band5	1.4MHz	QPSK	20407	3RB#3	24.09	21.44	38.45	PASS
Band5	1.4MHz	QPSK	20407	6RB#0	23.04	20.39	38.45	PASS
Band5	1.4MHz	QPSK	20525	1RB#0	23.71	21.06	38.45	PASS
Band5	1.4MHz	QPSK	20525	1RB#2	23.87	21.22	38.45	PASS
Band5	1.4MHz	QPSK	20525	1RB#5	23.66	21.01	38.45	PASS
Band5	1.4MHz	QPSK	20525	3RB#0	23.86	21.21	38.45	PASS
Band5	1.4MHz	QPSK	20525	3RB#1	24.04	21.39	38.45	PASS
Band5	1.4MHz	QPSK	20525	3RB#3	24.09	21.44	38.45	PASS
Band5	1.4MHz	QPSK	20525	6RB#0	22.84	20.19	38.45	PASS
Band5	1.4MHz	QPSK	20643	1RB#0	23.72	21.07	38.45	PASS
Band5	1.4MHz	QPSK	20643	1RB#2	23.97	21.32	38.45	PASS
Band5	1.4MHz	QPSK	20643	1RB#5	23.98	21.33	38.45	PASS
Band5	1.4MHz	QPSK	20643	3RB#0	24.02	21.37	38.45	PASS
Band5	1.4MHz	QPSK	20643	3RB#1	24.05	21.40	38.45	PASS
Band5	1.4MHz	QPSK	20643	3RB#3	24.34	21.69	38.45	PASS
Band5	1.4MHz	QPSK	20643	6RB#0	22.91	20.26	38.45	PASS
Band5	1.4MHz	16QAM	20407	1RB#0	22.93	20.28	38.45	PASS
Band5	1.4MHz	16QAM	20407	1RB#2	22.87	20.22	38.45	PASS
Band5	1.4MHz	16QAM	20407	1RB#5	22.23	19.58	38.45	PASS
Band5	1.4MHz	16QAM	20407	3RB#0	22.73	20.08	38.45	PASS
Band5	1.4MHz	16QAM	20407	3RB#1	22.58	19.93	38.45	PASS
Band5	1.4MHz	16QAM	20407	3RB#3	22.81	20.16	38.45	PASS
Band5	1.4MHz	16QAM	20407	6RB#0	21.72	19.07	38.45	PASS
Band5	1.4MHz	16QAM	20525	1RB#0	22.23	19.58	38.45	PASS
Band5	1.4MHz	16QAM	20525	1RB#2	22.73	20.08	38.45	PASS
Band5	1.4MHz	16QAM	20525	1RB#5	22.51	19.86	38.45	PASS
Band5	1.4MHz	16QAM	20525	3RB#0	22.72	20.07	38.45	PASS
Band5	1.4MHz	16QAM	20525	3RB#1	22.79	20.14	38.45	PASS
Band5	1.4MHz	16QAM	20525	3RB#3	22.49	19.84	38.45	PASS
Band5	1.4MHz	16QAM	20525	6RB#0	21.64	18.99	38.45	PASS
Band5	1.4MHz	16QAM	20643	1RB#0	23.13	20.48	38.45	PASS

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Band5	1.4MHz	16QAM	20643	1RB#2	22.64	19.99	38.45	PASS
Band5	1.4MHz	16QAM	20643	1RB#5	22.65	20.00	38.45	PASS
Band5	1.4MHz	16QAM	20643	3RB#0	22.81	20.16	38.45	PASS
Band5	1.4MHz	16QAM	20643	3RB#1	22.72	20.07	38.45	PASS
Band5	1.4MHz	16QAM	20643	3RB#3	22.80	20.15	38.45	PASS
Band5	1.4MHz	16QAM	20643	6RB#0	21.69	19.04	38.45	PASS
Band5	3MHz	QPSK	20415	1RB#0	24.11	21.46	38.45	PASS
Band5	3MHz	QPSK	20415	1RB#8	23.90	21.25	38.45	PASS
Band5	3MHz	QPSK	20415	1RB#14	24.01	21.36	38.45	PASS
Band5	3MHz	QPSK	20415	8RB#0	23.11	20.46	38.45	PASS
Band5	3MHz	QPSK	20415	8RB#4	22.85	20.20	38.45	PASS
Band5	3MHz	QPSK	20415	8RB#7	22.93	20.28	38.45	PASS
Band5	3MHz	QPSK	20415	15RB#0	22.93	20.28	38.45	PASS
Band5	3MHz	QPSK	20525	1RB#0	24.29	21.64	38.45	PASS
Band5	3MHz	QPSK	20525	1RB#8	24.18	21.53	38.45	PASS
Band5	3MHz	QPSK	20525	1RB#14	23.91	21.26	38.45	PASS
Band5	3MHz	QPSK	20525	8RB#0	22.88	20.23	38.45	PASS
Band5	3MHz	QPSK	20525	8RB#4	22.96	20.31	38.45	PASS
Band5	3MHz	QPSK	20525	8RB#7	22.87	20.22	38.45	PASS
Band5	3MHz	QPSK	20525	15RB#0	22.95	20.30	38.45	PASS
Band5	3MHz	QPSK	20635	1RB#0	24.01	21.36	38.45	PASS
Band5	3MHz	QPSK	20635	1RB#8	24.00	21.35	38.45	PASS
Band5	3MHz	QPSK	20635	1RB#14	24.06	21.41	38.45	PASS
Band5	3MHz	QPSK	20635	8RB#0	23.02	20.37	38.45	PASS
Band5	3MHz	QPSK	20635	8RB#4	22.94	20.29	38.45	PASS
Band5	3MHz	QPSK	20635	8RB#7	22.83	20.18	38.45	PASS
Band5	3MHz	QPSK	20635	15RB#0	22.90	20.25	38.45	PASS
Band5	3MHz	16QAM	20415	1RB#0	22.89	20.24	38.45	PASS
Band5	3MHz	16QAM	20415	1RB#8	22.60	19.95	38.45	PASS
Band5	3MHz	16QAM	20415	1RB#14	22.12	19.47	38.45	PASS
Band5	3MHz	16QAM	20415	8RB#0	21.71	19.06	38.45	PASS
Band5	3MHz	16QAM	20415	8RB#4	21.94	19.29	38.45	PASS
Band5	3MHz	16QAM	20415	8RB#7	22.05	19.40	38.45	PASS
Band5	3MHz	16QAM	20415	15RB#0	21.74	19.09	38.45	PASS
Band5	3MHz	16QAM	20525	1RB#0	22.55	19.90	38.45	PASS
Band5	3MHz	16QAM	20525	1RB#8	22.65	20.00	38.45	PASS
Band5	3MHz	16QAM	20525	1RB#14	23.42	20.77	38.45	PASS
Band5	3MHz	16QAM	20525	8RB#0	21.88	19.23	38.45	PASS
Band5	3MHz	16QAM	20525	8RB#4	22.01	19.36	38.45	PASS
Band5	3MHz	16QAM	20525	8RB#7	22.02	19.37	38.45	PASS
Band5	3MHz	16QAM	20525	15RB#0	21.95	19.30	38.45	PASS
Band5	3MHz	16QAM	20635	1RB#0	22.46	19.81	38.45	PASS

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Band5	3MHz	16QAM	20635	1RB#8	22.81	20.16	38.45	PASS
Band5	3MHz	16QAM	20635	1RB#14	22.68	20.03	38.45	PASS
Band5	3MHz	16QAM	20635	8RB#0	21.73	19.08	38.45	PASS
Band5	3MHz	16QAM	20635	8RB#4	21.86	19.21	38.45	PASS
Band5	3MHz	16QAM	20635	8RB#7	21.84	19.19	38.45	PASS
Band5	3MHz	16QAM	20635	15RB#0	21.94	19.29	38.45	PASS
Band5	5MHz	QPSK	20425	1RB#0	23.87	21.22	38.45	PASS
Band5	5MHz	QPSK	20425	1RB#12	23.92	21.27	38.45	PASS
Band5	5MHz	QPSK	20425	1RB#24	23.64	20.99	38.45	PASS
Band5	5MHz	QPSK	20425	12RB#0	22.86	20.21	38.45	PASS
Band5	5MHz	QPSK	20425	12RB#6	22.95	20.30	38.45	PASS
Band5	5MHz	QPSK	20425	12RB#13	22.85	20.20	38.45	PASS
Band5	5MHz	QPSK	20425	25RB#0	22.82	20.17	38.45	PASS
Band5	5MHz	QPSK	20525	1RB#0	23.68	21.03	38.45	PASS
Band5	5MHz	QPSK	20525	1RB#12	23.87	21.22	38.45	PASS
Band5	5MHz	QPSK	20525	1RB#24	23.83	21.18	38.45	PASS
Band5	5MHz	QPSK	20525	12RB#0	22.89	20.24	38.45	PASS
Band5	5MHz	QPSK	20525	12RB#6	22.98	20.33	38.45	PASS
Band5	5MHz	QPSK	20525	12RB#13	22.88	20.23	38.45	PASS
Band5	5MHz	QPSK	20525	25RB#0	22.85	20.20	38.45	PASS
Band5	5MHz	QPSK	20625	1RB#0	23.56	20.91	38.45	PASS
Band5	5MHz	QPSK	20625	1RB#12	24.00	21.35	38.45	PASS
Band5	5MHz	QPSK	20625	1RB#24	23.67	21.02	38.45	PASS
Band5	5MHz	QPSK	20625	12RB#0	22.73	20.08	38.45	PASS
Band5	5MHz	QPSK	20625	12RB#6	22.96	20.31	38.45	PASS
Band5	5MHz	QPSK	20625	12RB#13	22.93	20.28	38.45	PASS
Band5	5MHz	QPSK	20625	25RB#0	22.81	20.16	38.45	PASS
Band5	5MHz	16QAM	20425	1RB#0	22.94	20.29	38.45	PASS
Band5	5MHz	16QAM	20425	1RB#12	23.21	20.56	38.45	PASS
Band5	5MHz	16QAM	20425	1RB#24	22.53	19.88	38.45	PASS
Band5	5MHz	16QAM	20425	12RB#0	21.80	19.15	38.45	PASS
Band5	5MHz	16QAM	20425	12RB#6	21.99	19.34	38.45	PASS
Band5	5MHz	16QAM	20425	12RB#13	21.96	19.31	38.45	PASS
Band5	5MHz	16QAM	20425	25RB#0	21.85	19.20	38.45	PASS
Band5	5MHz	16QAM	20525	1RB#0	22.20	19.55	38.45	PASS
Band5	5MHz	16QAM	20525	1RB#12	22.42	19.77	38.45	PASS
Band5	5MHz	16QAM	20525	1RB#24	22.10	19.45	38.45	PASS
Band5	5MHz	16QAM	20525	12RB#0	21.87	19.22	38.45	PASS
Band5	5MHz	16QAM	20525	12RB#6	22.13	19.48	38.45	PASS
Band5	5MHz	16QAM	20525	12RB#13	21.74	19.09	38.45	PASS
Band5	5MHz	16QAM	20525	25RB#0	21.86	19.21	38.45	PASS
Band5	5MHz	16QAM	20625	1RB#0	22.19	19.54	38.45	PASS

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Band5	5MHz	16QAM	20625	1RB#12	23.46	20.81	38.45	PASS
Band5	5MHz	16QAM	20625	1RB#24	22.81	20.16	38.45	PASS
Band5	5MHz	16QAM	20625	12RB#0	21.91	19.26	38.45	PASS
Band5	5MHz	16QAM	20625	12RB#6	22.10	19.45	38.45	PASS
Band5	5MHz	16QAM	20625	12RB#13	22.03	19.38	38.45	PASS
Band5	5MHz	16QAM	20625	25RB#0	21.85	19.20	38.45	PASS
Band5	10MHz	QPSK	20450	1RB#0	24.04	21.39	38.45	PASS
Band5	10MHz	QPSK	20450	1RB#24	23.91	21.26	38.45	PASS
Band5	10MHz	QPSK	20450	1RB#49	23.89	21.24	38.45	PASS
Band5	10MHz	QPSK	20450	25RB#0	22.85	20.20	38.45	PASS
Band5	10MHz	QPSK	20450	25RB#12	22.90	20.25	38.45	PASS
Band5	10MHz	QPSK	20450	25RB#25	22.86	20.21	38.45	PASS
Band5	10MHz	QPSK	20450	50RB#0	22.95	20.30	38.45	PASS
Band5	10MHz	QPSK	20525	1RB#0	23.64	20.99	38.45	PASS
Band5	10MHz	QPSK	20525	1RB#24	24.05	21.40	38.45	PASS
Band5	10MHz	QPSK	20525	1RB#49	23.83	21.18	38.45	PASS
Band5	10MHz	QPSK	20525	25RB#0	22.86	20.21	38.45	PASS
Band5	10MHz	QPSK	20525	25RB#12	22.87	20.22	38.45	PASS
Band5	10MHz	QPSK	20525	25RB#25	22.97	20.32	38.45	PASS
Band5	10MHz	QPSK	20525	50RB#0	23.13	20.48	38.45	PASS
Band5	10MHz	QPSK	20600	1RB#0	23.88	21.23	38.45	PASS
Band5	10MHz	QPSK	20600	1RB#24	23.89	21.24	38.45	PASS
Band5	10MHz	QPSK	20600	1RB#49	23.86	21.21	38.45	PASS
Band5	10MHz	QPSK	20600	25RB#0	22.91	20.26	38.45	PASS
Band5	10MHz	QPSK	20600	25RB#12	22.99	20.34	38.45	PASS
Band5	10MHz	QPSK	20600	25RB#25	22.73	20.08	38.45	PASS
Band5	10MHz	QPSK	20600	50RB#0	22.84	20.19	38.45	PASS
Band5	10MHz	16QAM	20450	1RB#0	22.68	20.03	38.45	PASS
Band5	10MHz	16QAM	20450	1RB#24	22.91	20.26	38.45	PASS
Band5	10MHz	16QAM	20450	1RB#49	22.45	19.80	38.45	PASS
Band5	10MHz	16QAM	20450	25RB#0	21.77	19.12	38.45	PASS
Band5	10MHz	16QAM	20450	25RB#12	22.01	19.36	38.45	PASS
Band5	10MHz	16QAM	20450	25RB#25	21.88	19.23	38.45	PASS
Band5	10MHz	16QAM	20450	50RB#0	21.92	19.27	38.45	PASS
Band5	10MHz	16QAM	20525	1RB#0	22.37	19.72	38.45	PASS
Band5	10MHz	16QAM	20525	1RB#24	22.57	19.92	38.45	PASS
Band5	10MHz	16QAM	20525	1RB#49	22.30	19.65	38.45	PASS
Band5	10MHz	16QAM	20525	25RB#0	22.07	19.42	38.45	PASS
Band5	10MHz	16QAM	20525	25RB#12	22.05	19.40	38.45	PASS
Band5	10MHz	16QAM	20525	25RB#25	22.16	19.51	38.45	PASS
Band5	10MHz	16QAM	20525	50RB#0	22.11	19.46	38.45	PASS
Band5	10MHz	16QAM	20600	1RB#0	22.77	20.12	38.45	PASS

Band5	10MHz	16QAM	20600	1RB#24	22.77	20.12	38.45	PASS
Band5	10MHz	16QAM	20600	1RB#49	22.39	19.74	38.45	PASS
Band5	10MHz	16QAM	20600	25RB#0	21.96	19.31	38.45	PASS
Band5	10MHz	16QAM	20600	25RB#12	22.03	19.38	38.45	PASS
Band5	10MHz	16QAM	20600	25RB#25	21.89	19.24	38.45	PASS
Band5	10MHz	16QAM	20600	50RB#0	21.93	19.28	38.45	PASS

Note:

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

ERP [dBm] = SGP [dBm] - Cable Loss [dB] + Gain [dBd]

EIRP [dBm] = SGP [dBm] - Cable Loss [dB] + Gain [dBi]

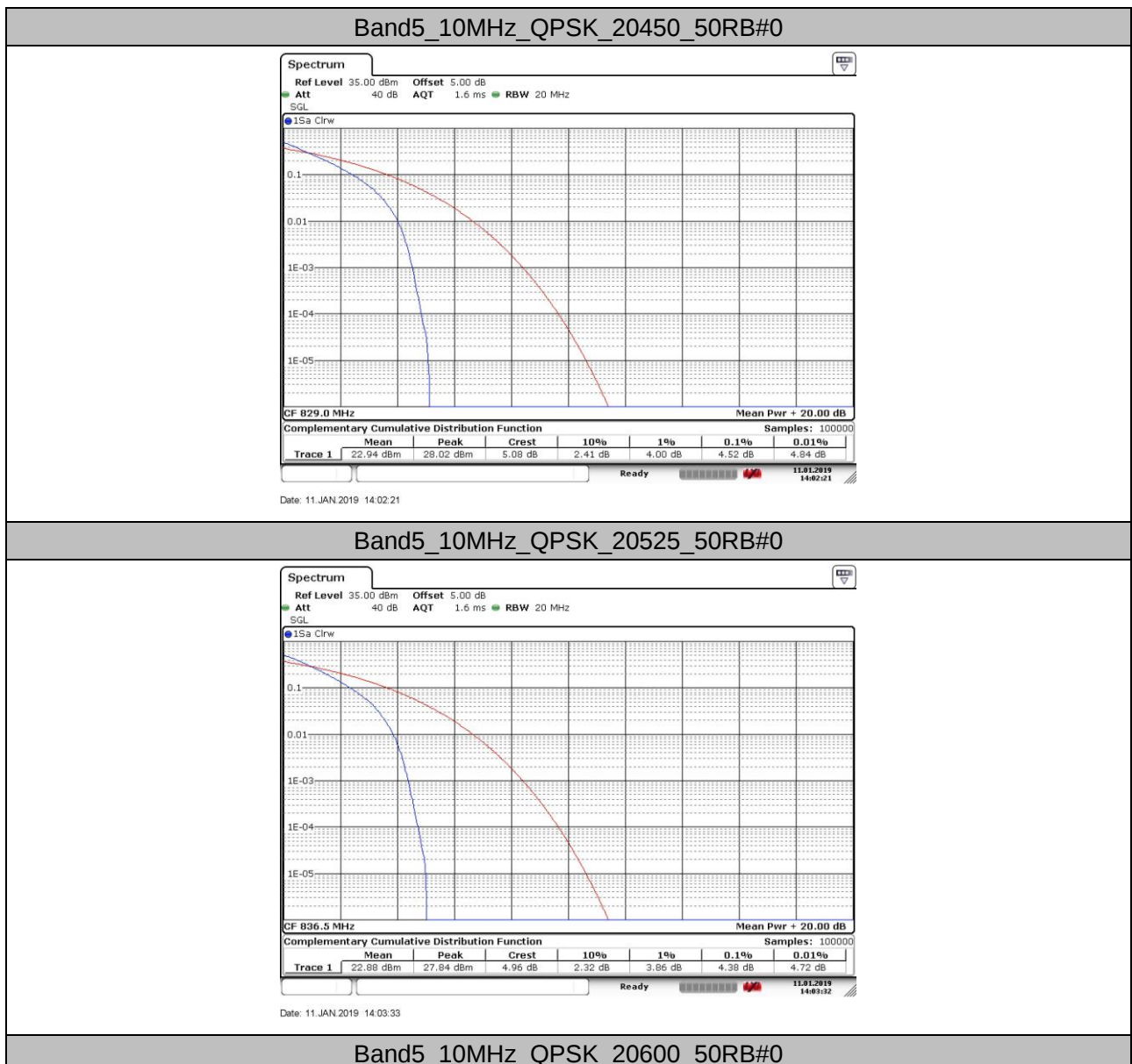
b: SGP=Signal Generator Level

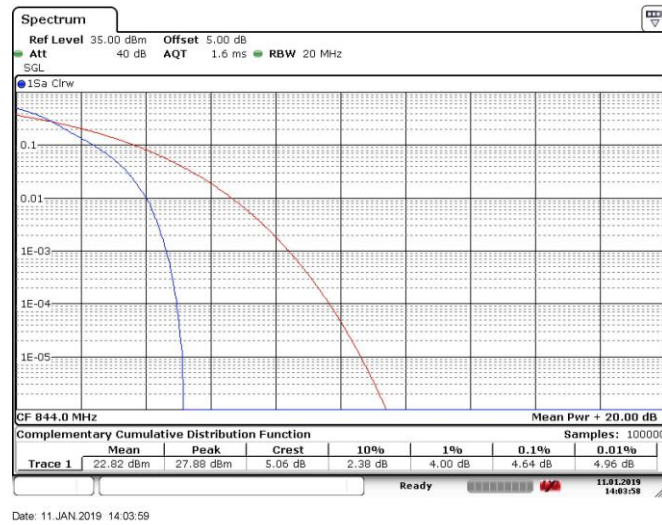
4. Peak-to-Average Ratio(CCDF)

4.1. Test Result

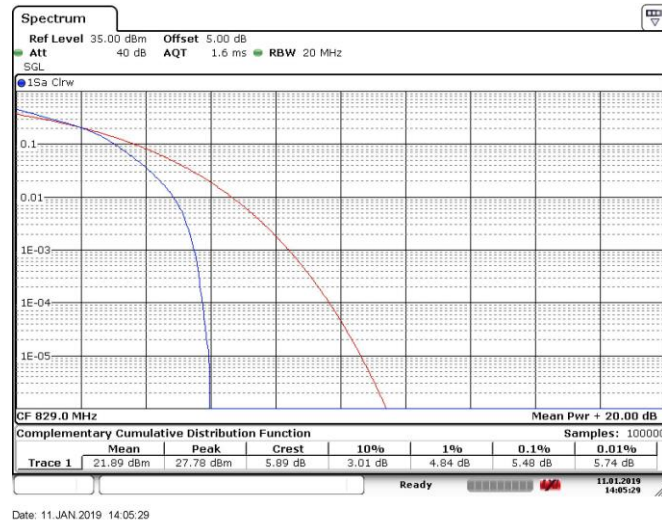
BAND	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band5	10MHz	QPSK	20450	50RB#0	4.52	13	PASS
Band5	10MHz	QPSK	20525	50RB#0	4.38	13	PASS
Band5	10MHz	QPSK	20600	50RB#0	4.64	13	PASS
Band5	10MHz	16QAM	20450	50RB#0	5.48	13	PASS
Band5	10MHz	16QAM	20525	50RB#0	5.28	13	PASS
Band5	10MHz	16QAM	20600	50RB#0	5.57	13	PASS

4.2. Test Plots

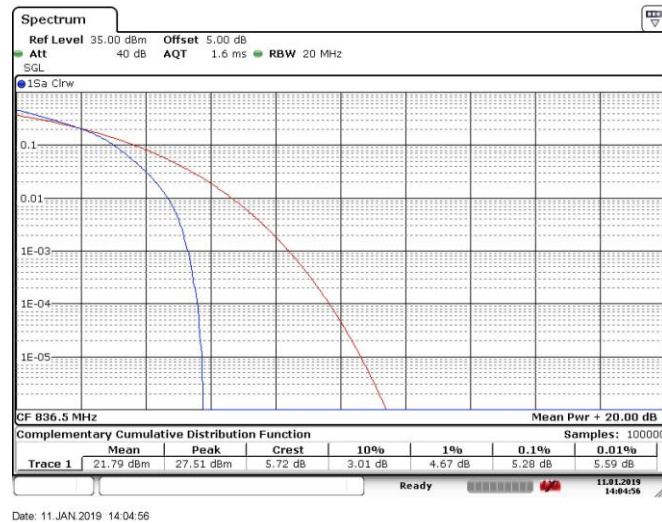


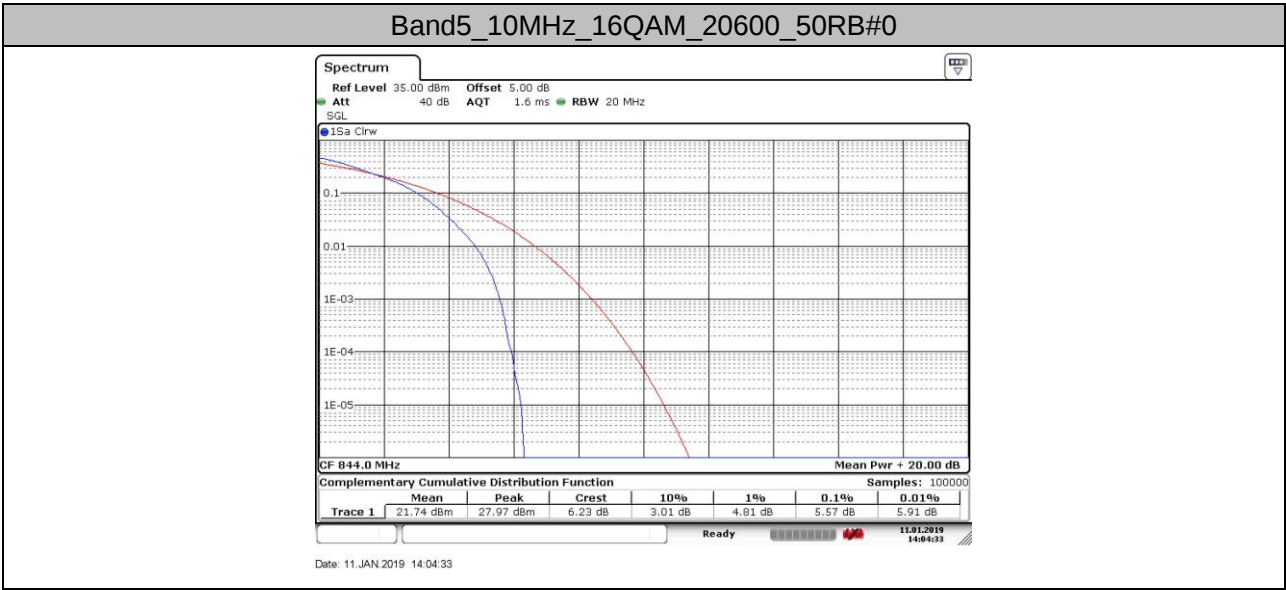


Band5_10MHz_16QAM_20450_50RB#0



Band5_10MHz_16QAM_20525_50RB#0



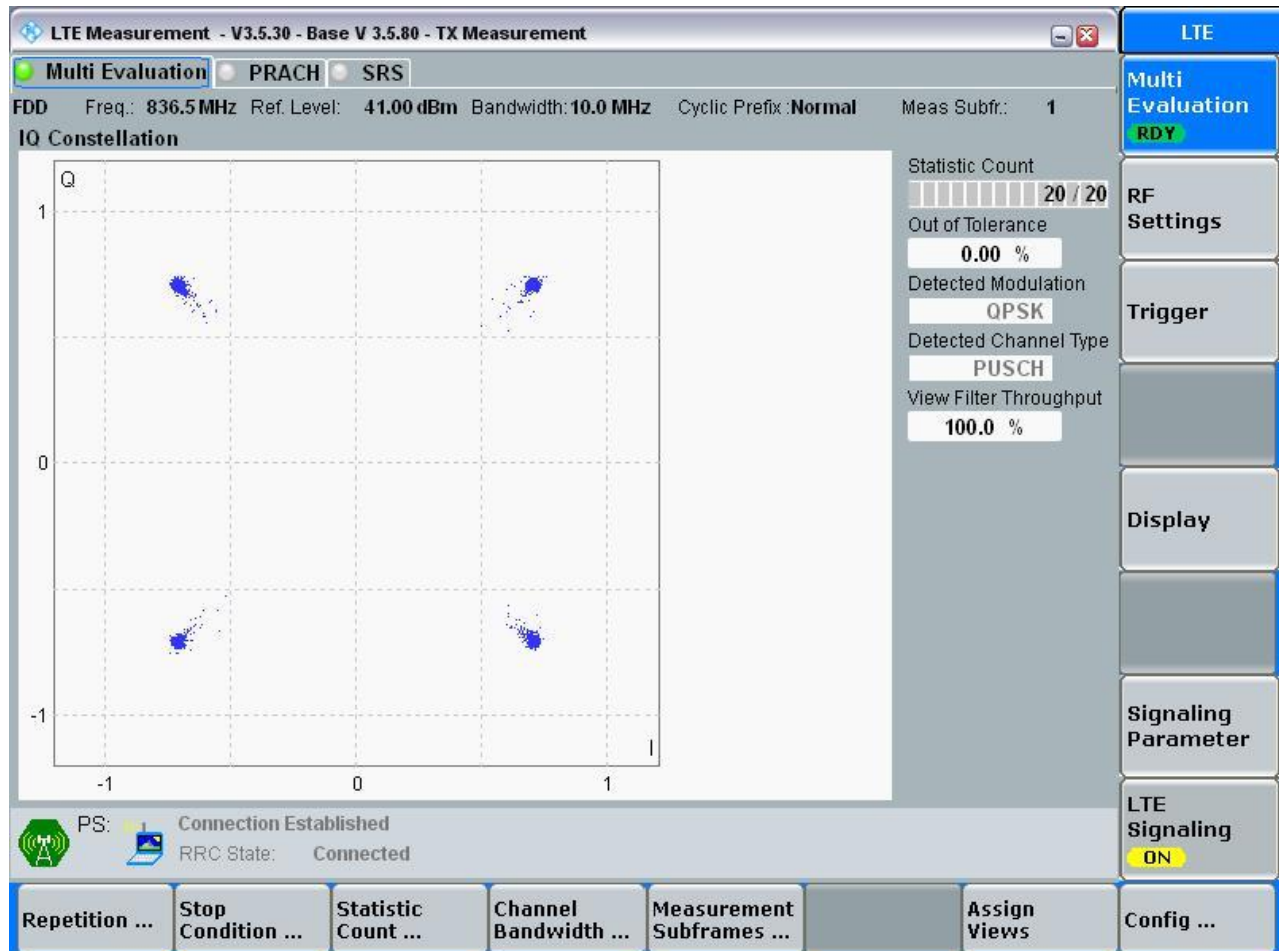


5. Modulation Characteristics

5.1. Test BAND = LTE Band 5

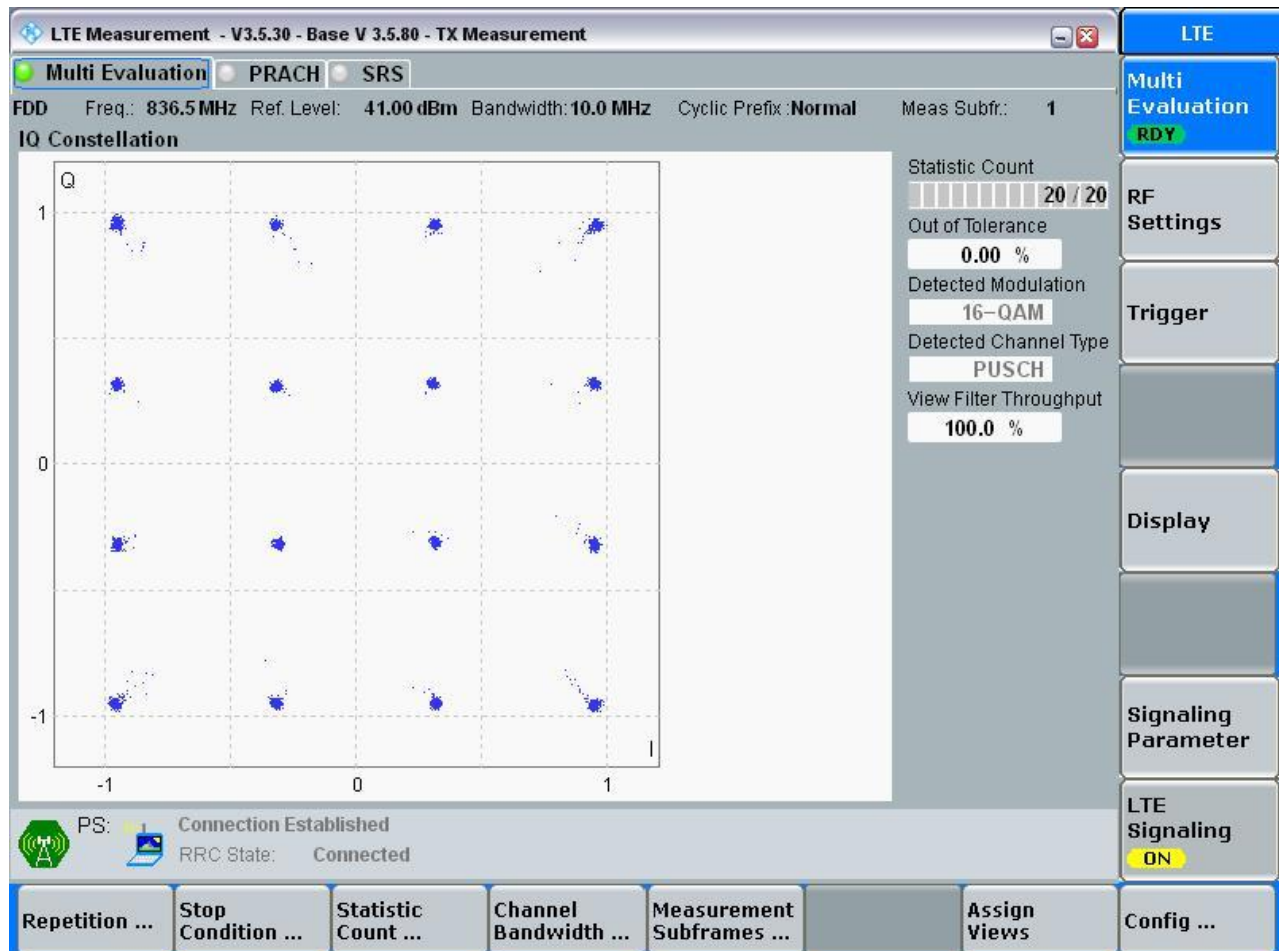
5.1.1. Test Mode = LTE /TM1 10MHz

5.1.1.1. Test Channel = MCH



5.1.2. Test Mode = LTE /TM2 10MHz

5.1.2.1. Test Channel = MCH

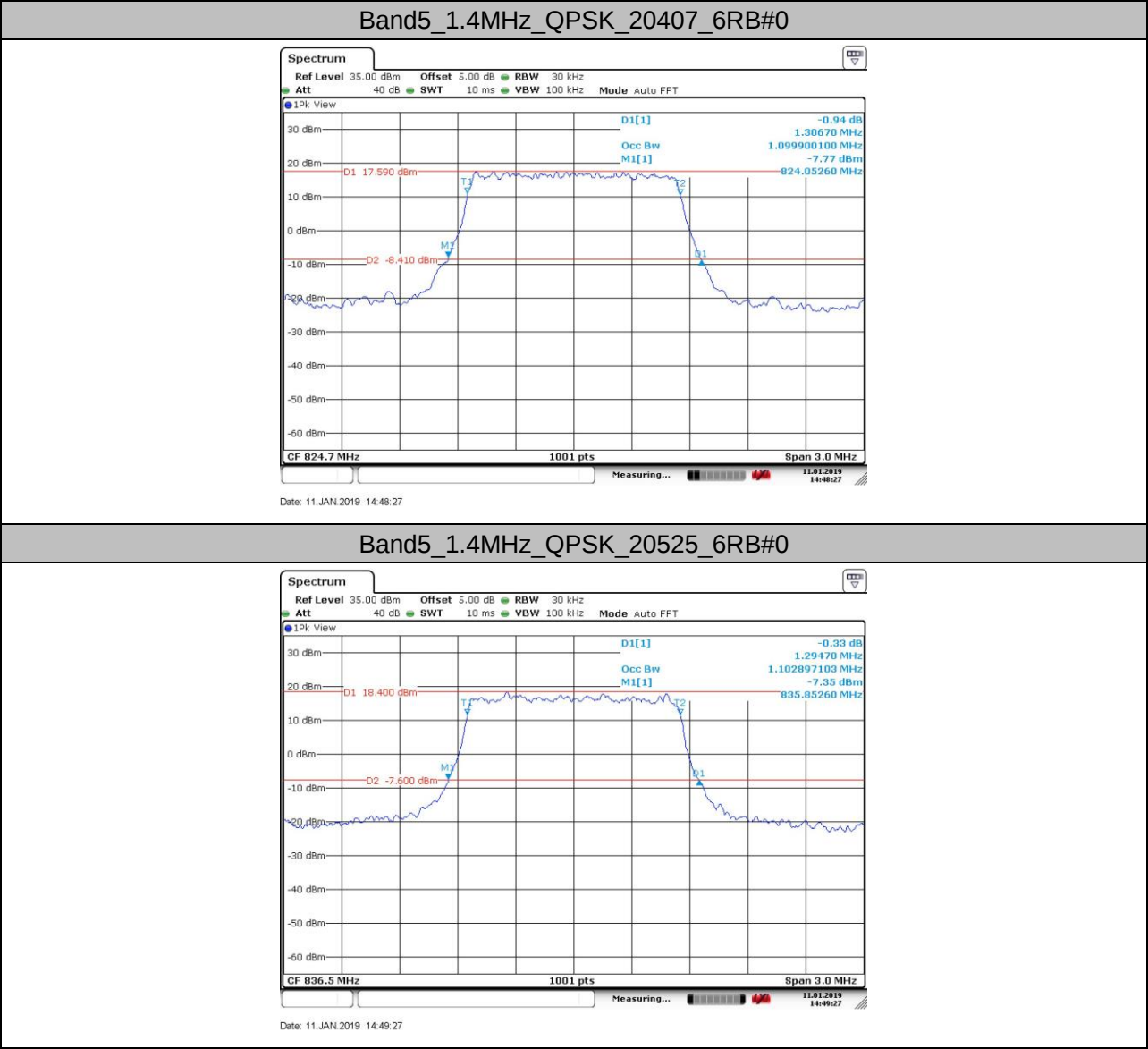


6. 26dB Bandwidth and Occupied Bandwidth

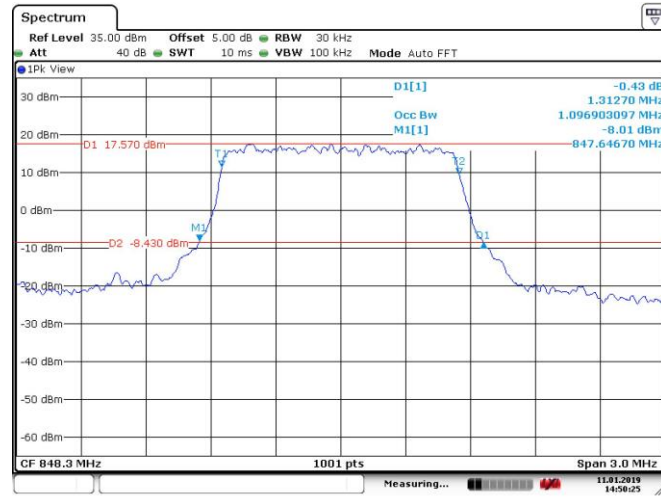
6.1. Test Result

BAND	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band5	1.4MHz	QPSK	20407	6RB#0	1.100	1.307	PASS
Band5	1.4MHz	QPSK	20525	6RB#0	1.103	1.298	PASS
Band5	1.4MHz	QPSK	20643	6RB#0	1.097	1.313	PASS
Band5	1.4MHz	16QAM	20407	6RB#0	1.097	1.298	PASS
Band5	1.4MHz	16QAM	20525	6RB#0	1.103	1.313	PASS
Band5	1.4MHz	16QAM	20643	6RB#0	1.100	1.307	PASS
Band5	3MHz	QPSK	20415	15RB#0	2.691	2.925	PASS
Band5	3MHz	QPSK	20525	15RB#0	2.685	2.943	PASS
Band5	3MHz	QPSK	20635	15RB#0	2.691	2.925	PASS
Band5	3MHz	16QAM	20415	15RB#0	2.679	2.937	PASS
Band5	3MHz	16QAM	20525	15RB#0	2.685	2.913	PASS
Band5	3MHz	16QAM	20635	15RB#0	2.685	2.943	PASS
Band5	5MHz	QPSK	20425	25RB#0	4.476	4.905	PASS
Band5	5MHz	QPSK	20525	25RB#0	4.486	4.935	PASS
Band5	5MHz	QPSK	20625	25RB#0	4.486	4.905	PASS
Band5	5MHz	16QAM	20425	25RB#0	4.486	4.935	PASS
Band5	5MHz	16QAM	20525	25RB#0	4.476	4.945	PASS
Band5	5MHz	16QAM	20625	25RB#0	4.466	4.845	PASS
Band5	10MHz	QPSK	20450	50RB#0	8.951	9.730	PASS
Band5	10MHz	QPSK	20525	50RB#0	8.911	9.650	PASS
Band5	10MHz	QPSK	20600	50RB#0	8.931	9.715	PASS
Band5	10MHz	16QAM	20450	50RB#0	8.951	9.690	PASS
Band5	10MHz	16QAM	20525	50RB#0	8.931	9.643	PASS
Band5	10MHz	16QAM	20600	50RB#0	8.911	9.635	PASS

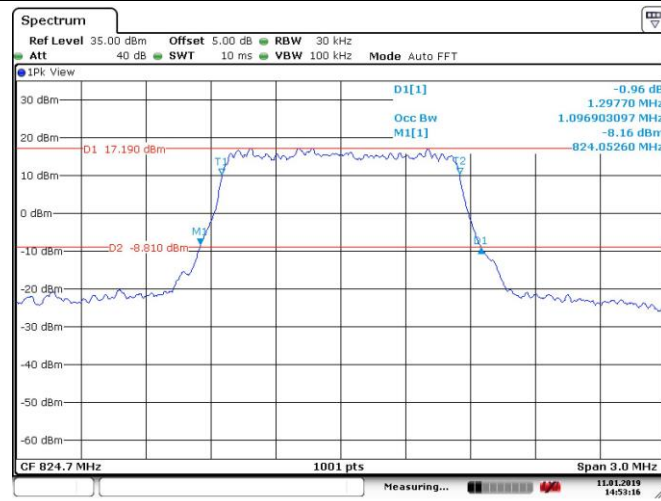
6.2. Test Plots



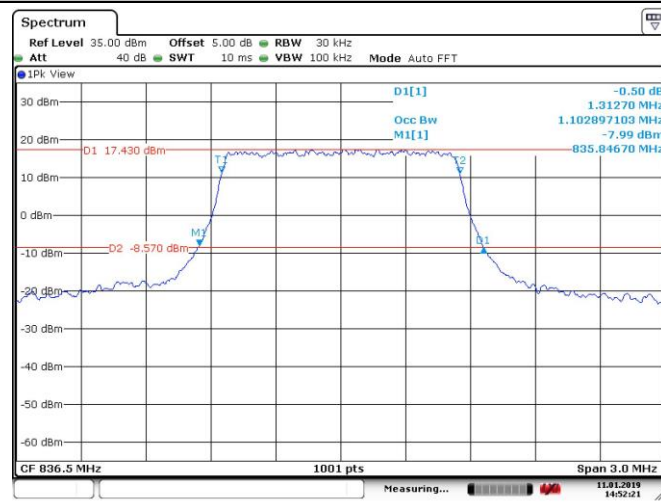
Band5_1.4MHz_QPSK_20643_6RB#0



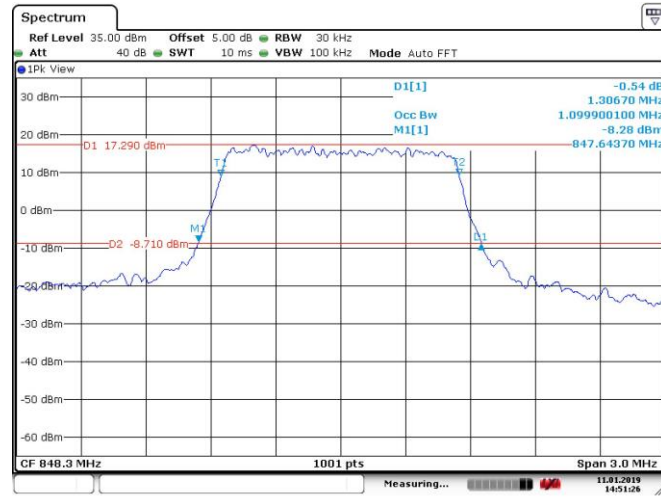
Band5_1.4MHz_16QAM_20407_6RB#0



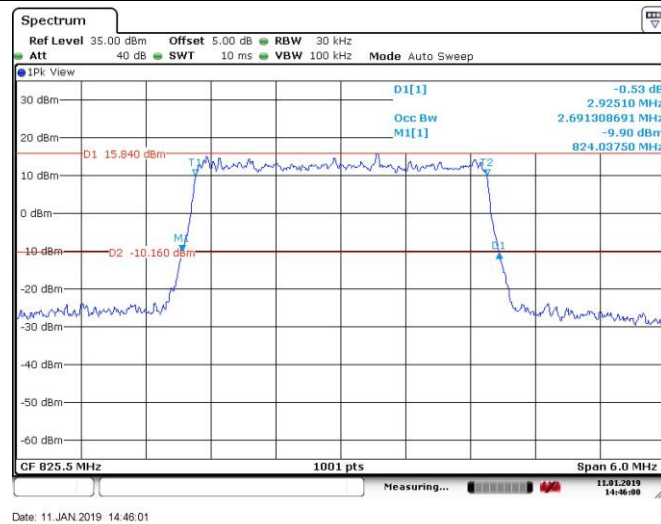
Band5_1.4MHz_16QAM_20525_6RB#0



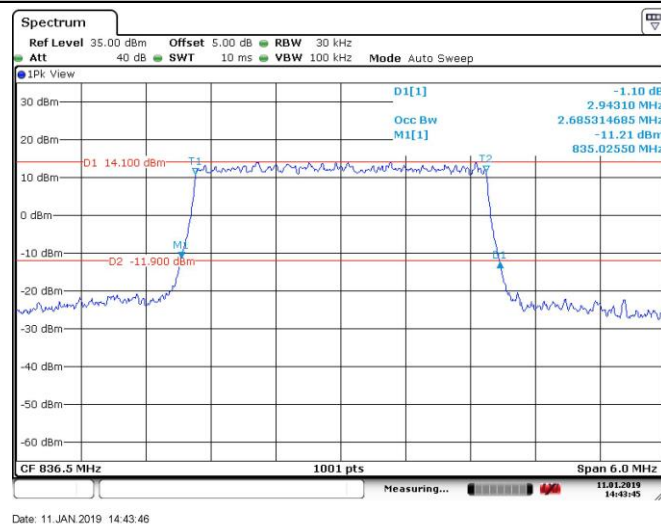
Band5_1.4MHz_16QAM_20643_6RB#0



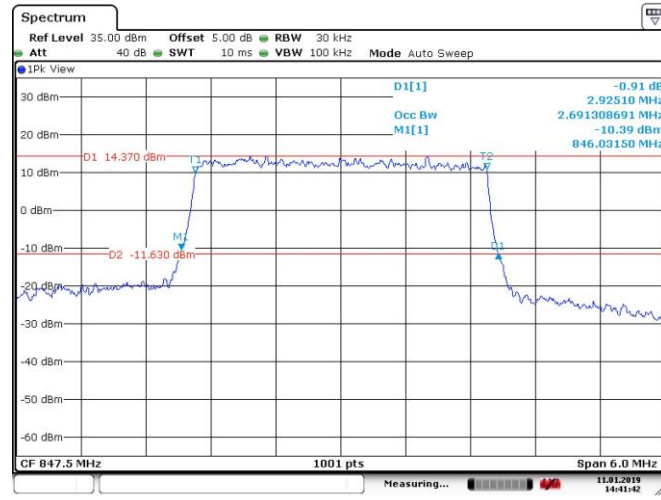
Band5_3MHz_QPSK_20415_15RB#0



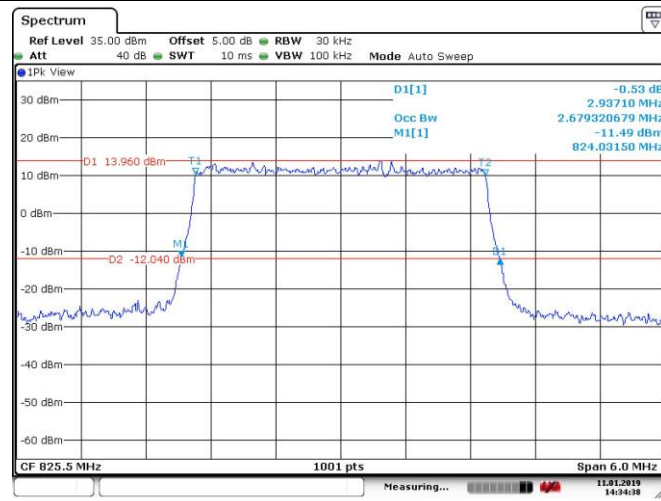
Band5_3MHz_QPSK_20525_15RB#0



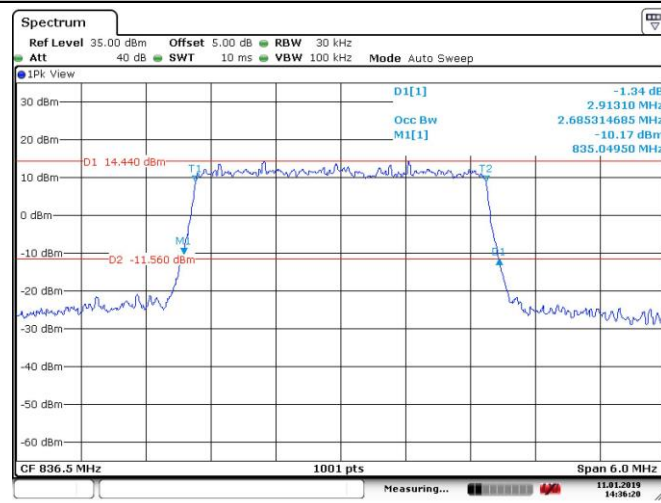
Band5_3MHz_QPSK_20635_15RB#0



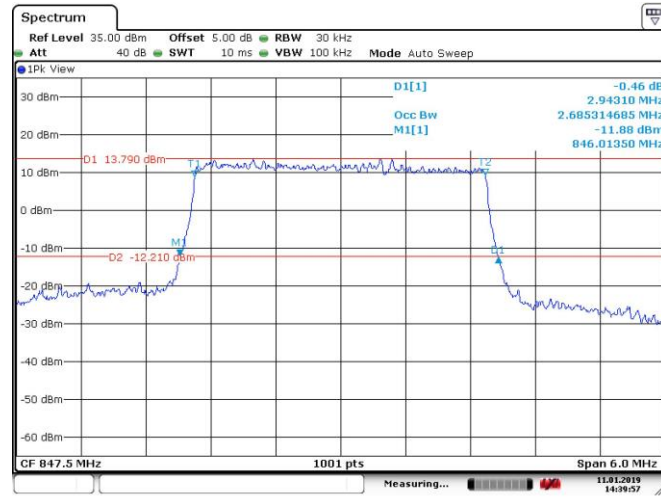
Band5_3MHz_16QAM_20415_15RB#0



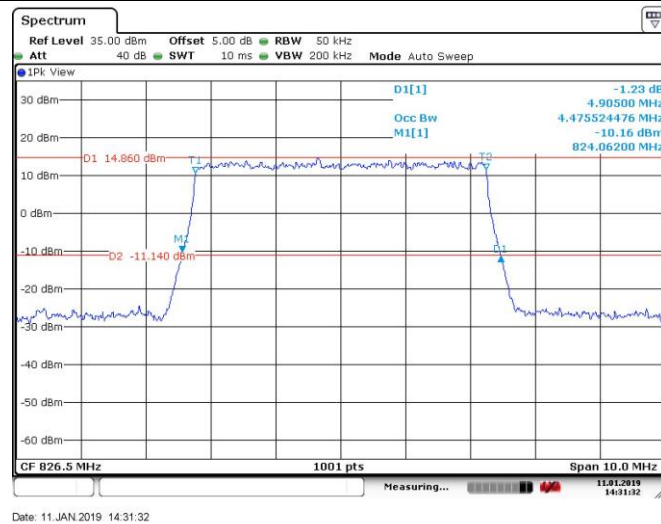
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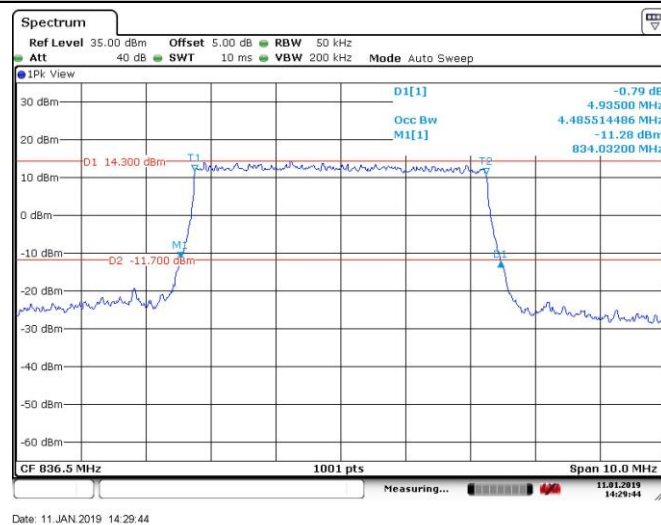
Band5_3MHz_16QAM_20635_15RB#0



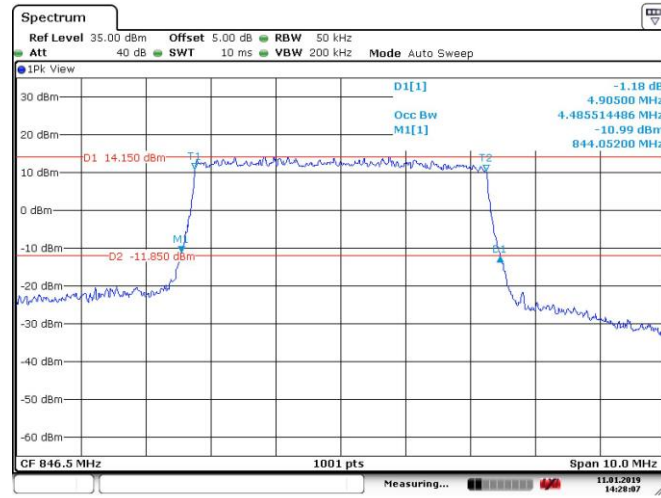
Band5_5MHz_QPSK_20425_25RB#0



Band5_5MHz_QPSK_20525_25RB#0

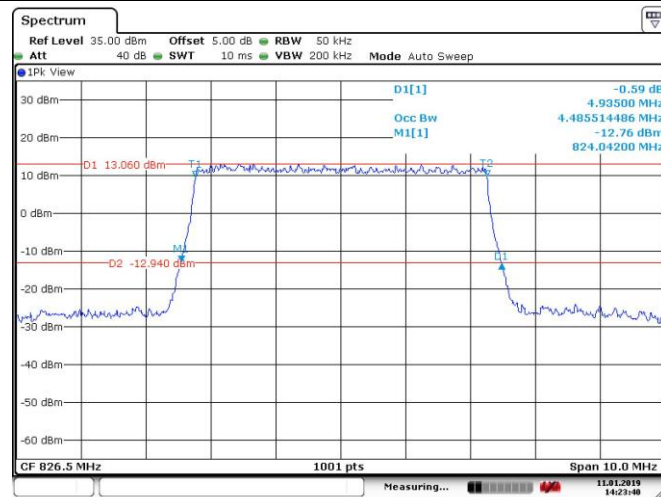


Band5_5MHz_QPSK_20625_25RB#0



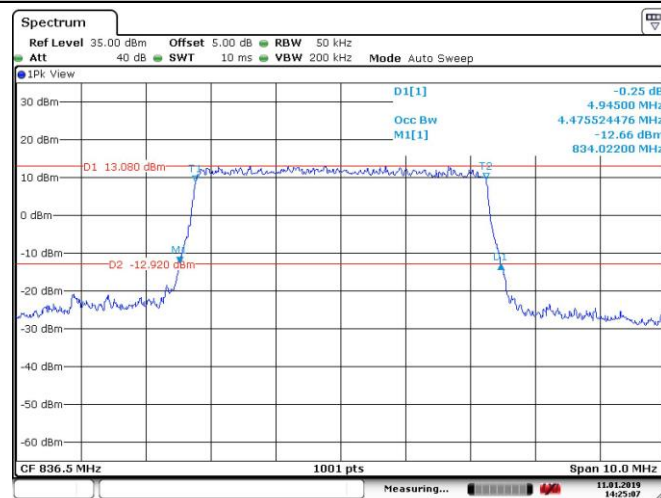
Date: 11 JAN 2019 14:28:08

Band5_5MHz_16QAM_20425_25RB#0



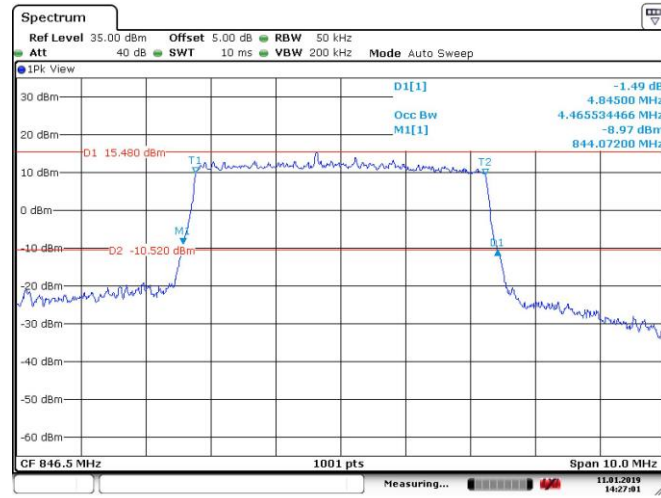
Date: 11 JAN 2019 14:23:40

Band5_5MHz_16QAM_20525_25RB#0

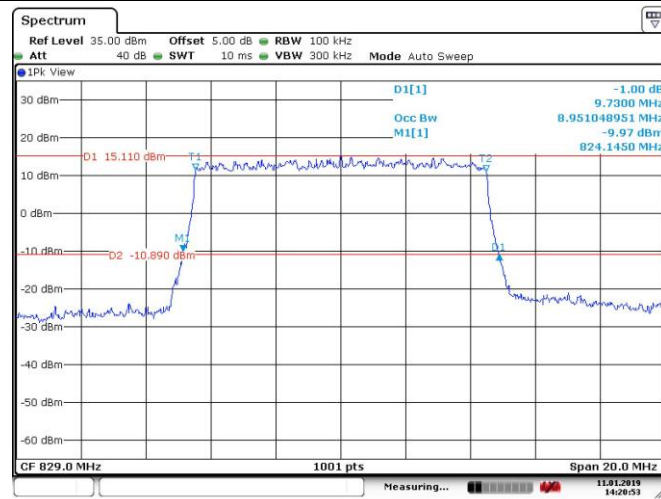


Date: 11 JAN 2019 14:25:08

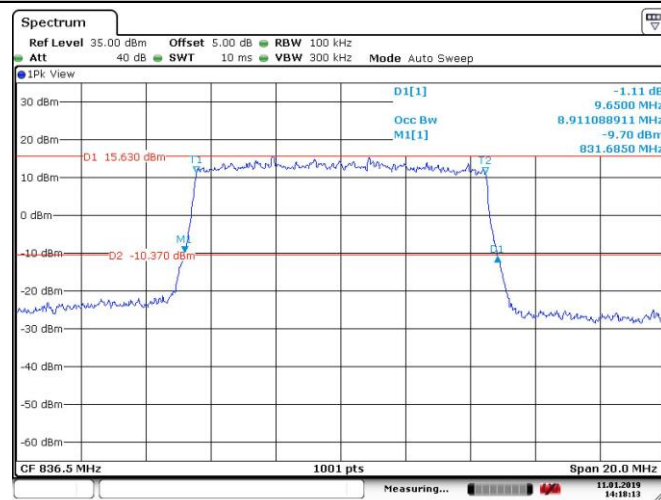
Band5_5MHz_16QAM_20625_25RB#0



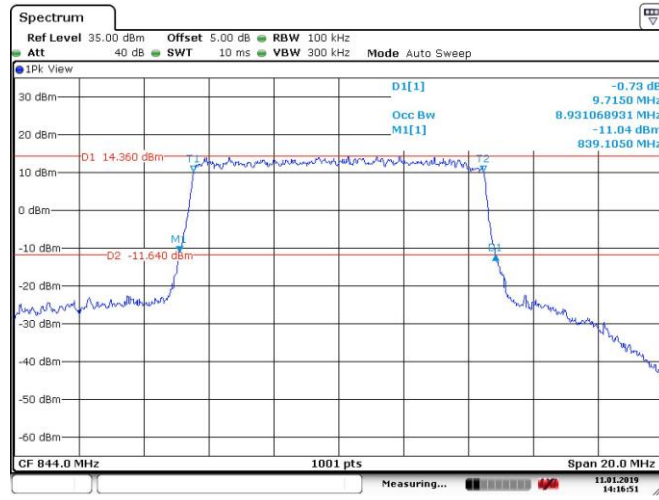
Band5_10MHz_QPSK_20450_50RB#0



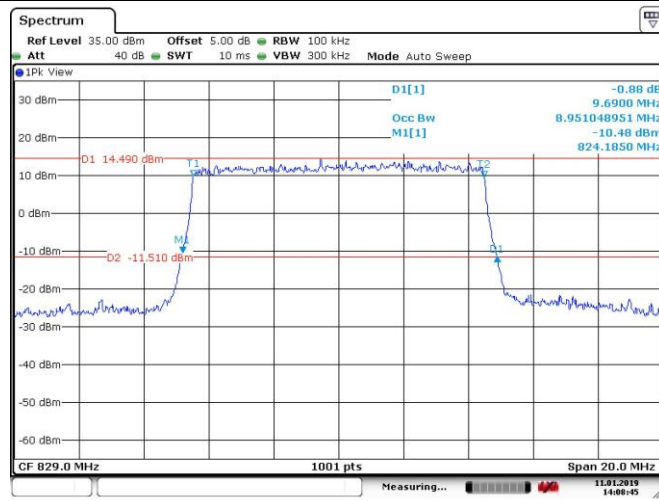
Band5_10MHz_QPSK_20525_50RB#0



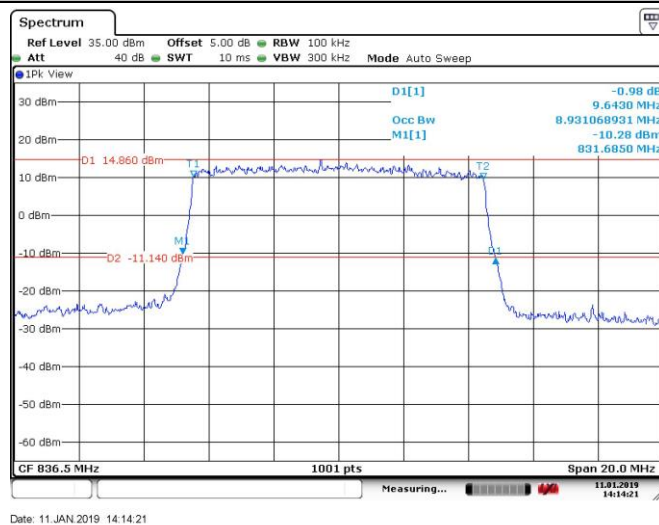
Band5_10MHz_QPSK_20600_50RB#0

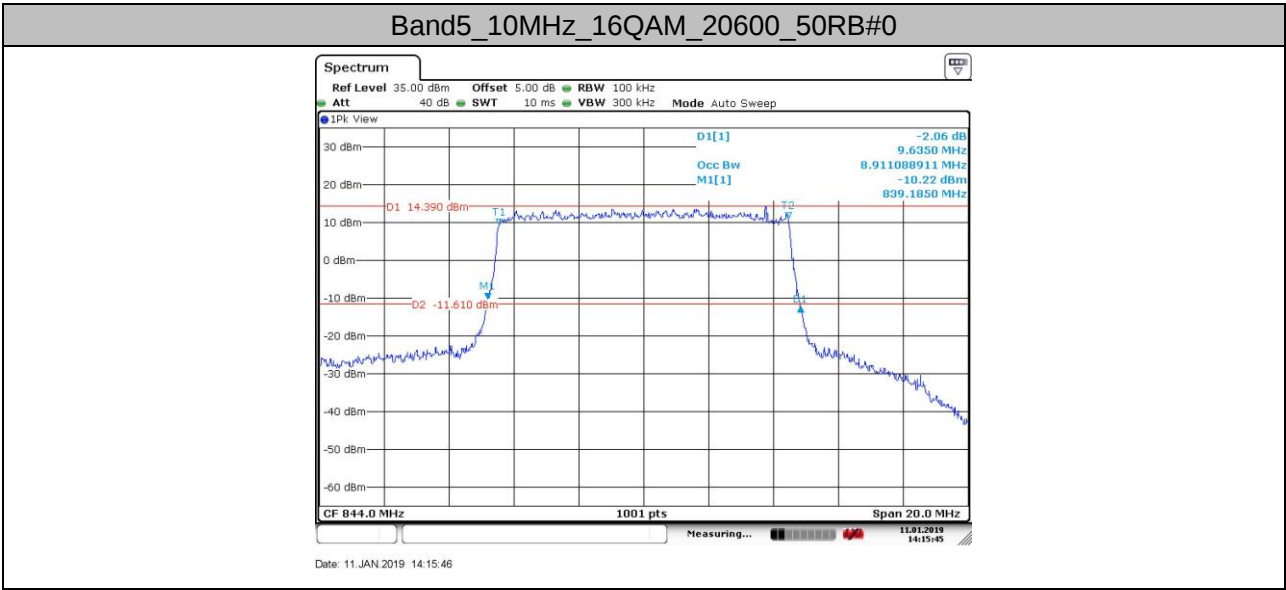


Band5_10MHz_16QAM_20450_50RB#0



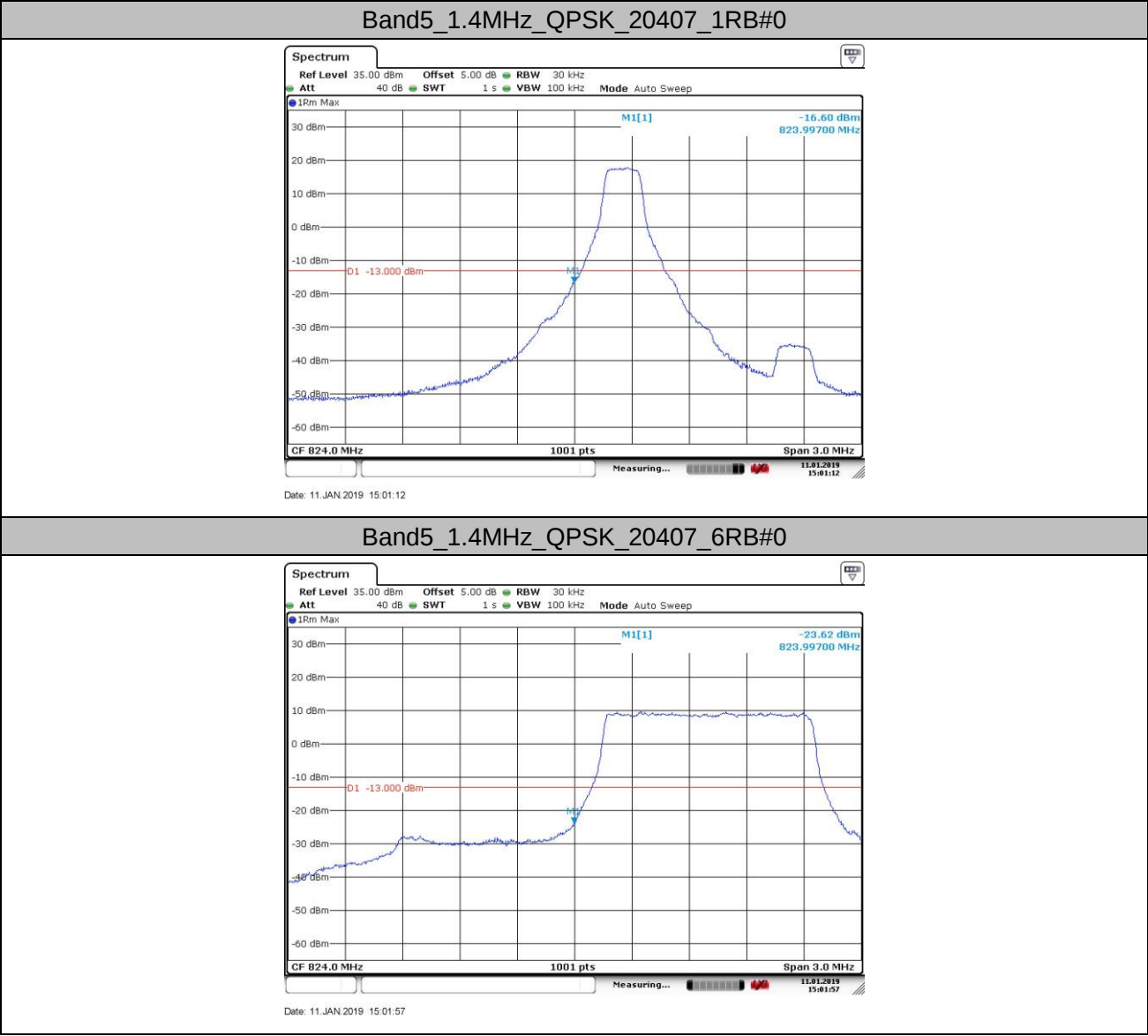
Band5_10MHz_16QAM_20525_50RB#0



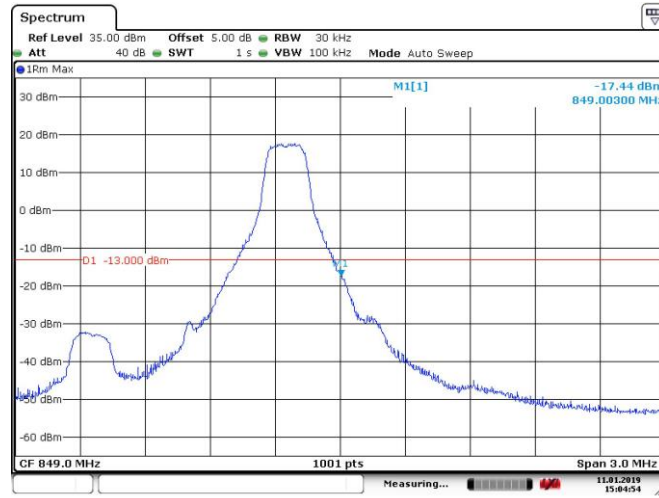


7. Band Edge Compliance

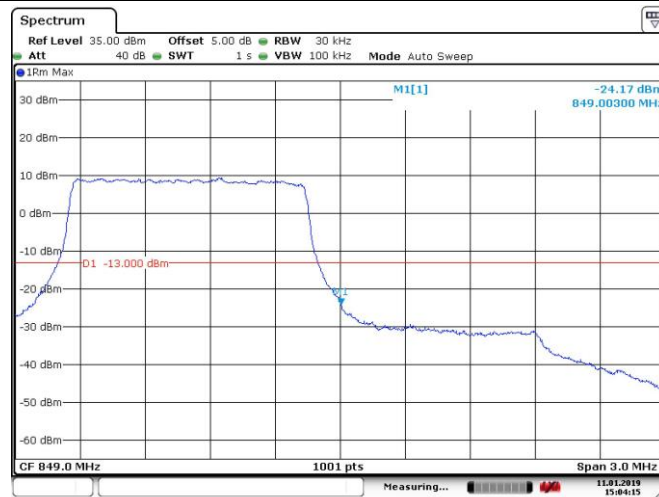
7.1. Test Plots



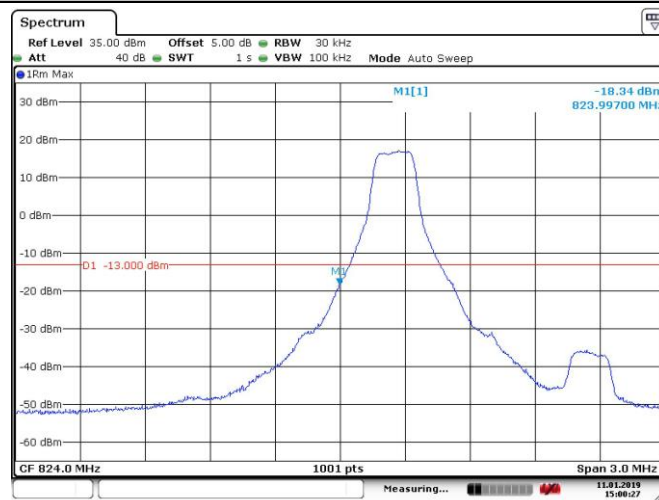
Band5_1.4MHz_QPSK_20643_1RB#5



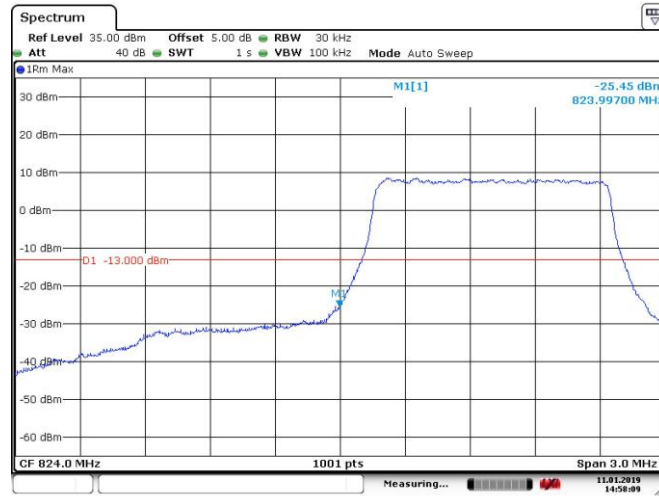
Band5_1.4MHz_QPSK_20643_6RB#0



Band5_1.4MHz_16QAM_20407_1RB#0

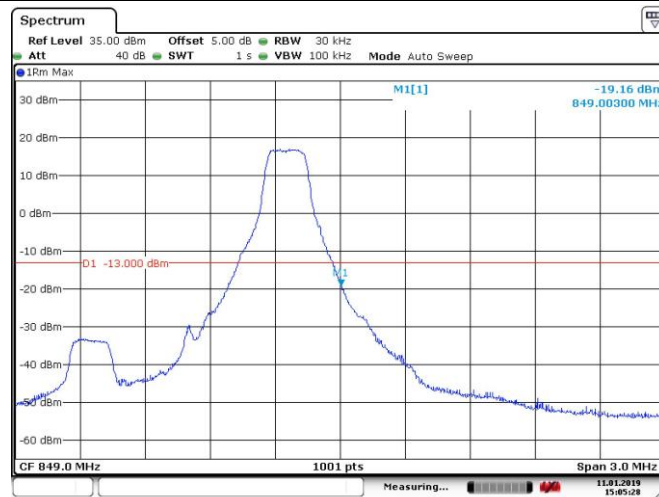


Band5_1.4MHz_16QAM_20407_6RB#0



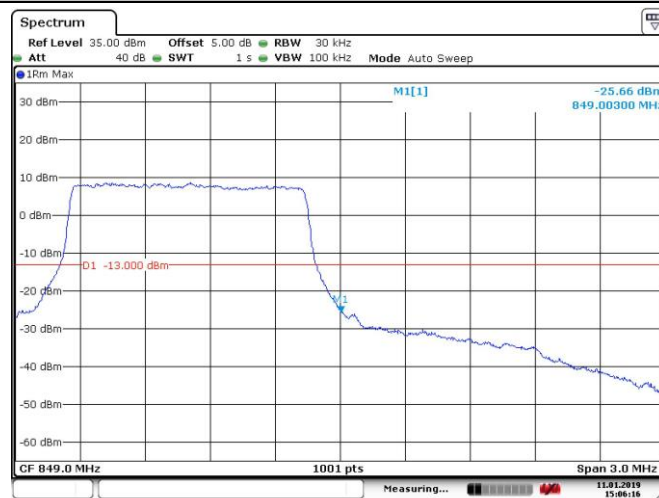
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Band5_1.4MHz_16QAM_20643_1RB#5



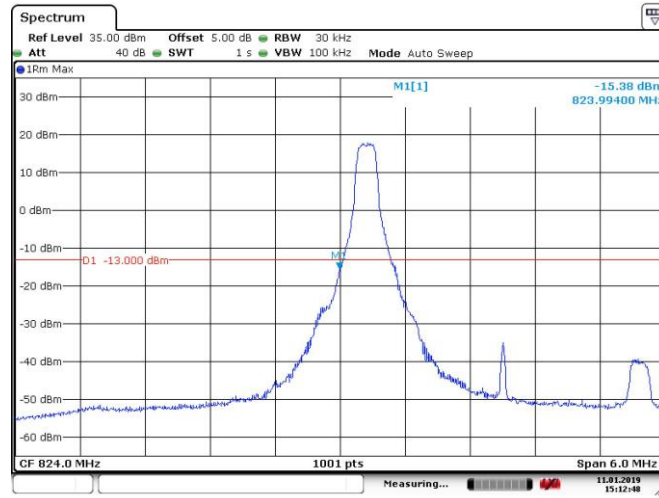
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Band5_1.4MHz_16QAM_20643_6RB#0



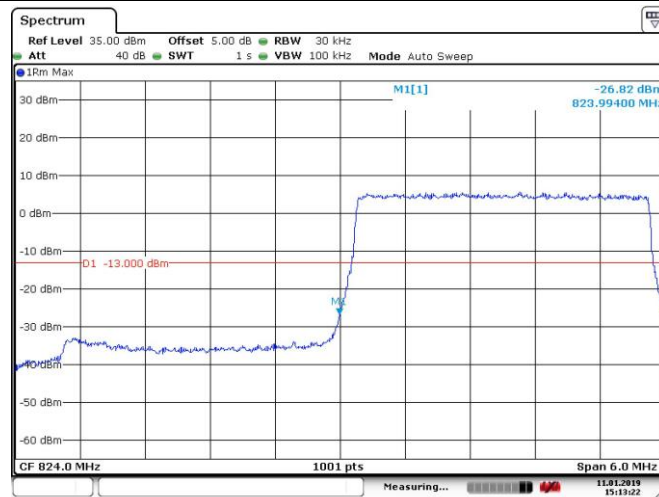
Date: 11 JAN 2019 15:06:16

Band5_3MHz_QPSK_20415_1RB#0



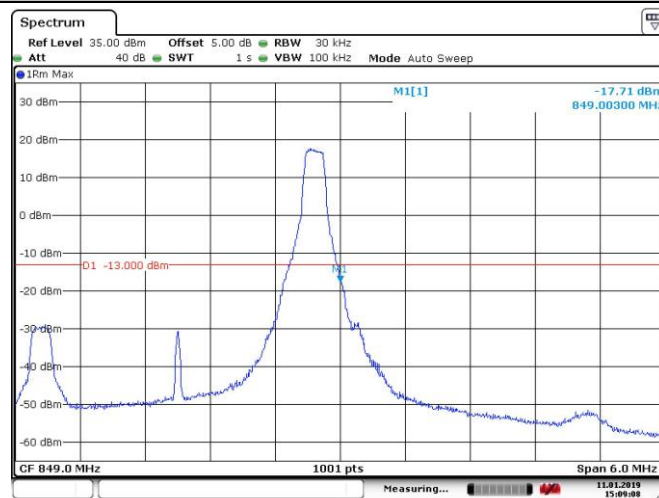
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Band5_3MHz_QPSK_20415_15RB#0



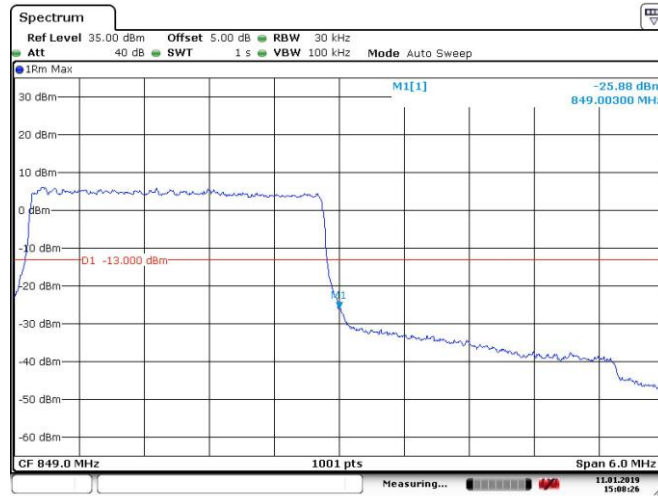
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Band5_3MHz_QPSK_20635_1RB#14



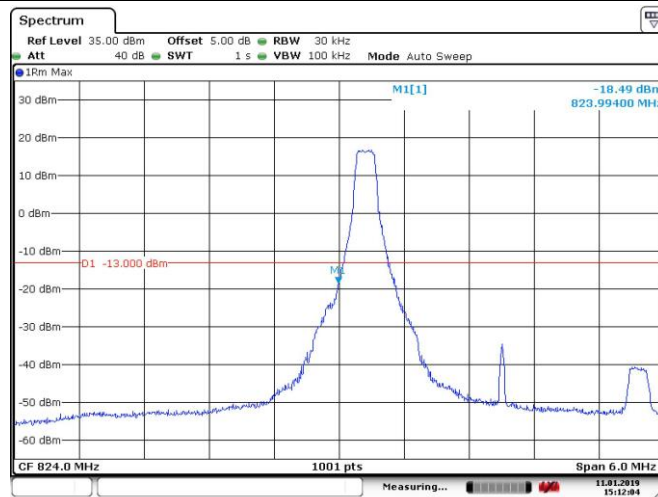
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Band5_3MHz_QPSK_20635_15RB#0



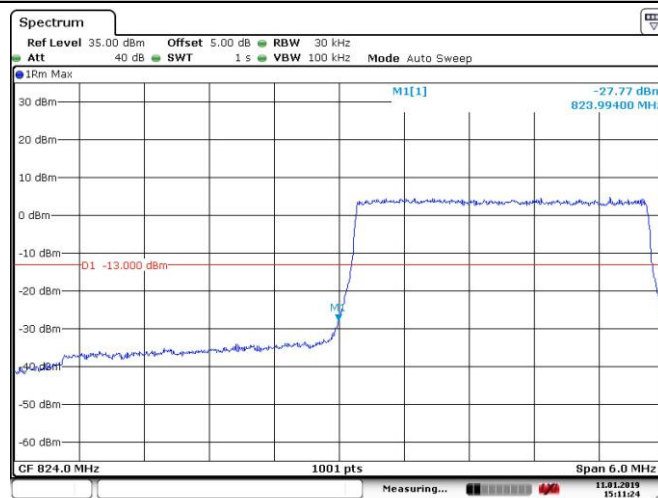
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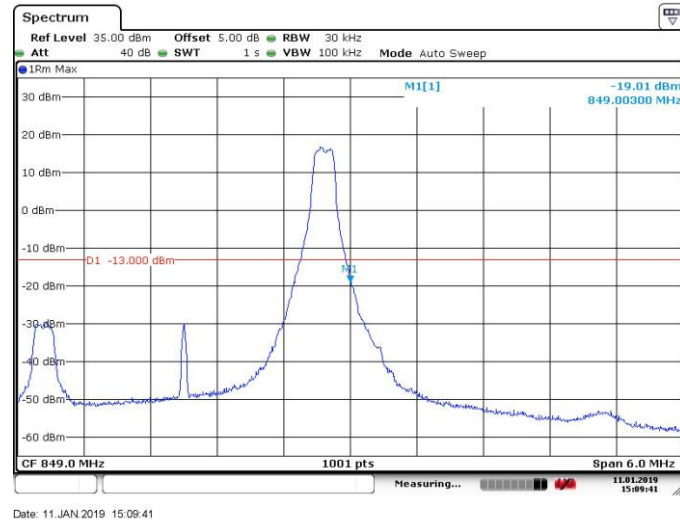
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Band5_3MHz_16QAM_20415_15RB#0

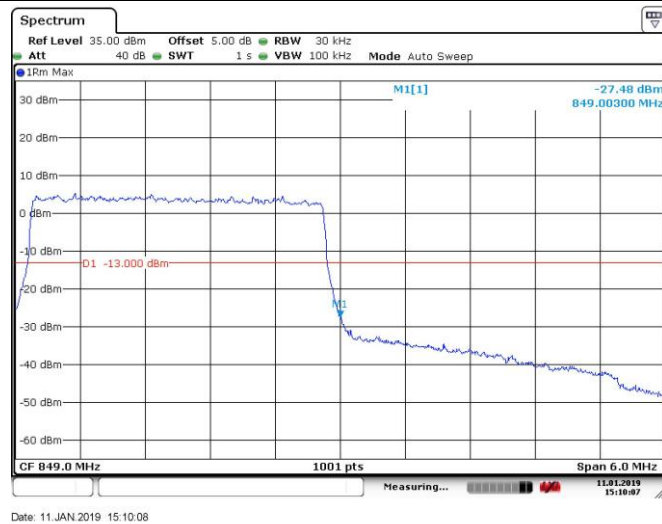


Date: 11.JAN.2019 15:11:25

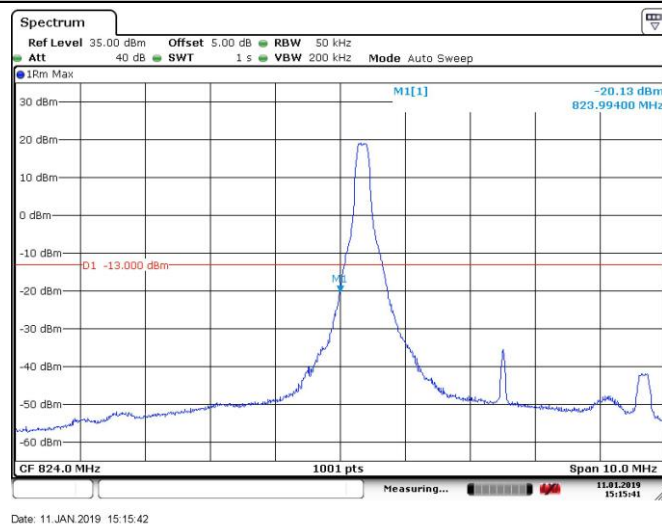
Band5_3MHz_16QAM_20635_1RB#14



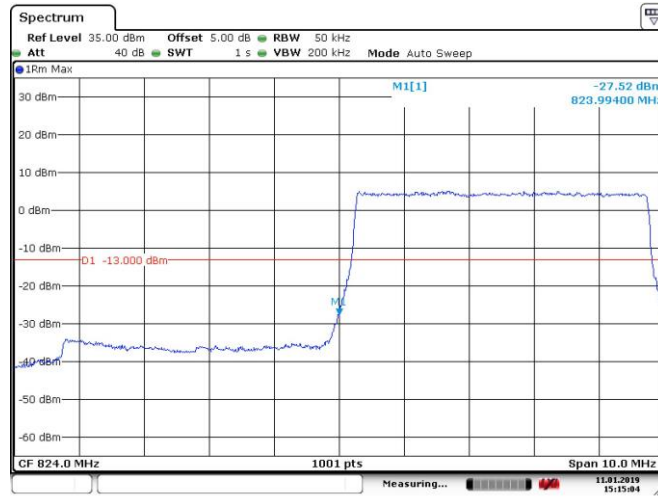
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Band5_5MHz_QPSK_20425_1RB#0

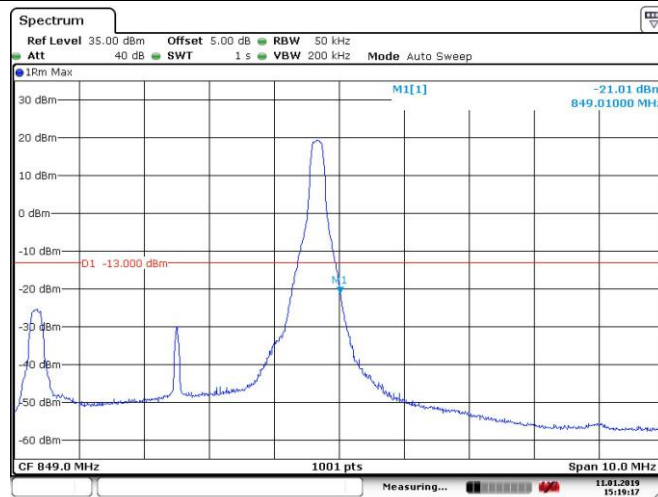


Band5_5MHz_QPSK_20425_25RB#0



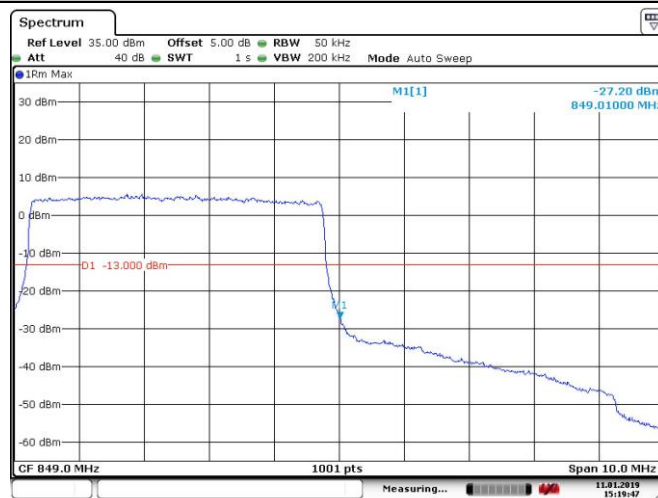
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Band5_5MHz_QPSK_20625_1RB#24



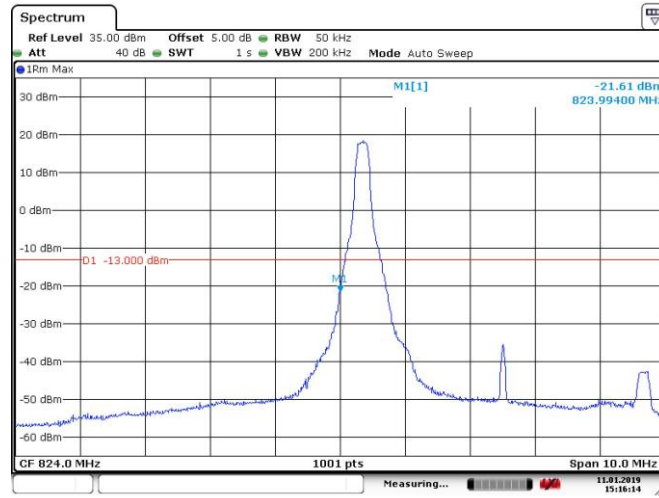
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Band5_5MHz_QPSK_20625_25RB#0



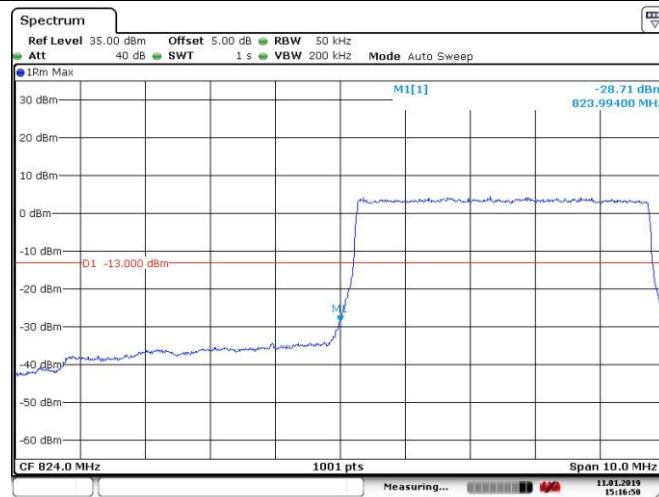
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Band5_5MHz_16QAM_20425_1RB#0



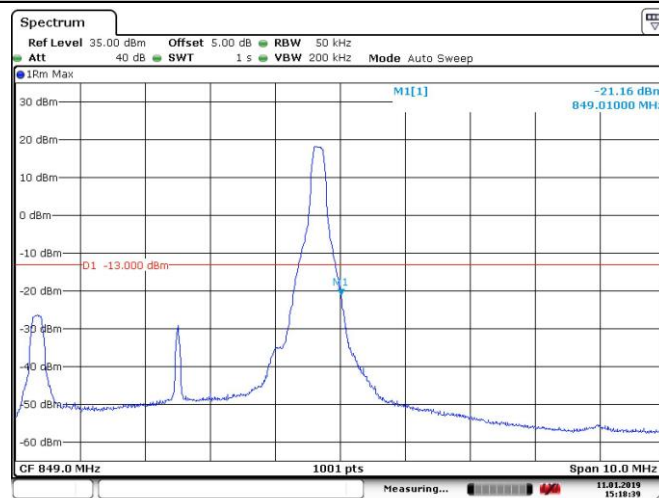
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Band5_5MHz_16QAM_20425_25RB#0



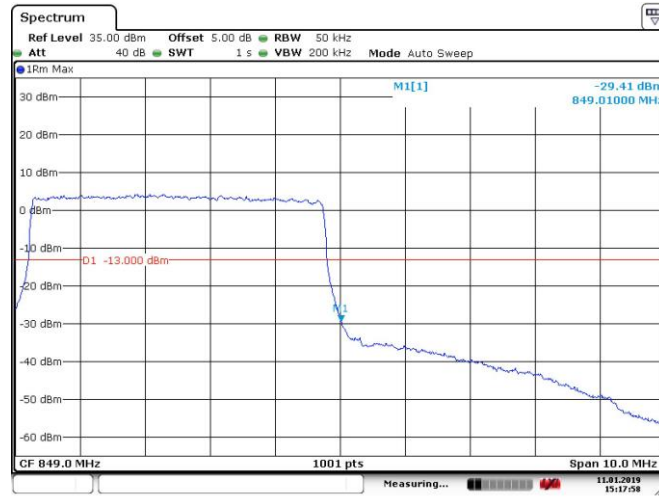
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Band5_5MHz_16QAM_20625_1RB#24

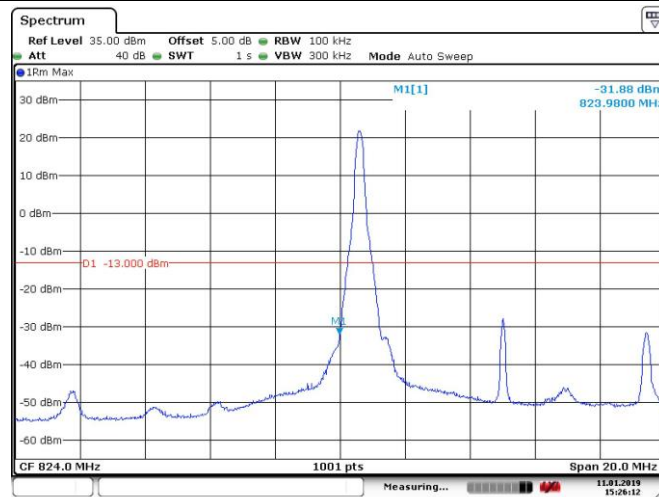


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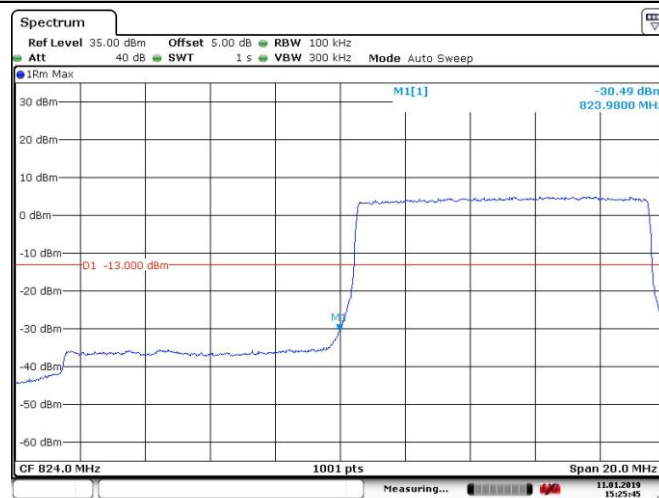
Band5_5MHz_16QAM_20625_25RB#0



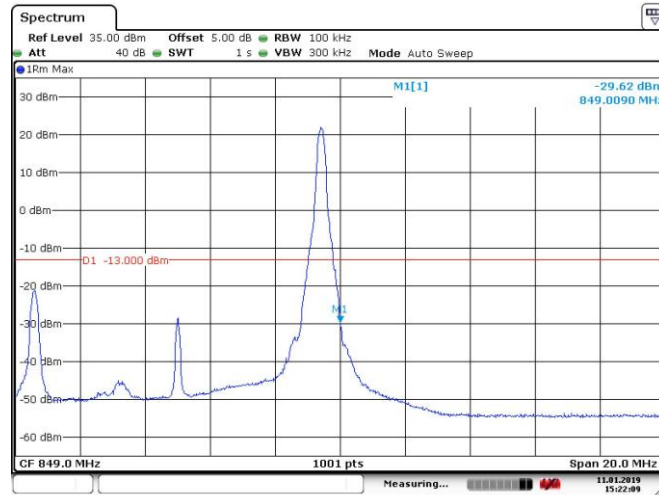
Band5_10MHz_QPSK_20450_1RB#0



Band5_10MHz_QPSK_20450_50RB#0

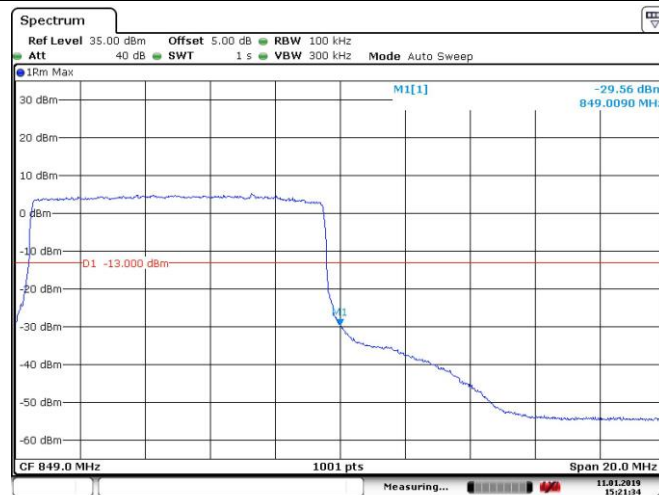


Band5_10MHz_QPSK_20600_1RB#49



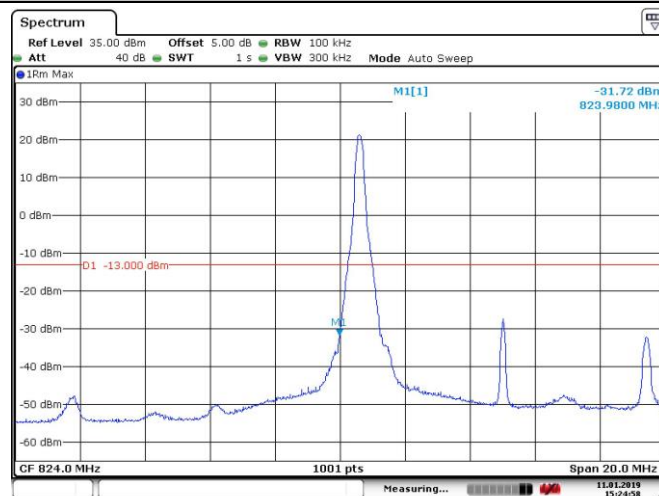
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Band5_10MHz_QPSK_20600_50RB#0



Date: 11.JAN.2019 15:21:34

Band5_10MHz_16QAM_20450_1RB#0



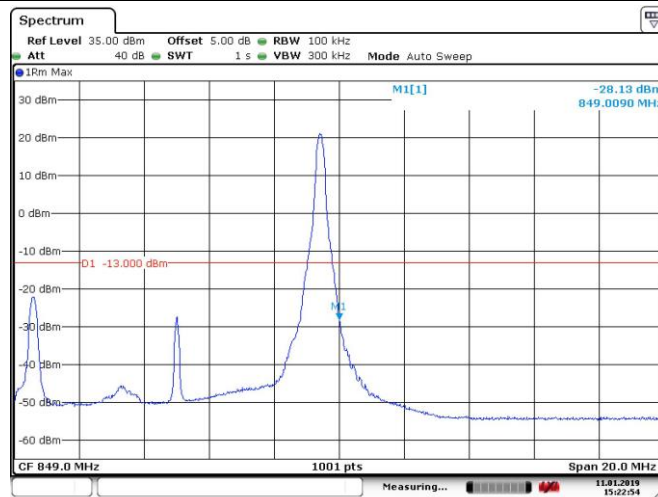
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Band5_10MHz_16QAM_20450_50RB#0



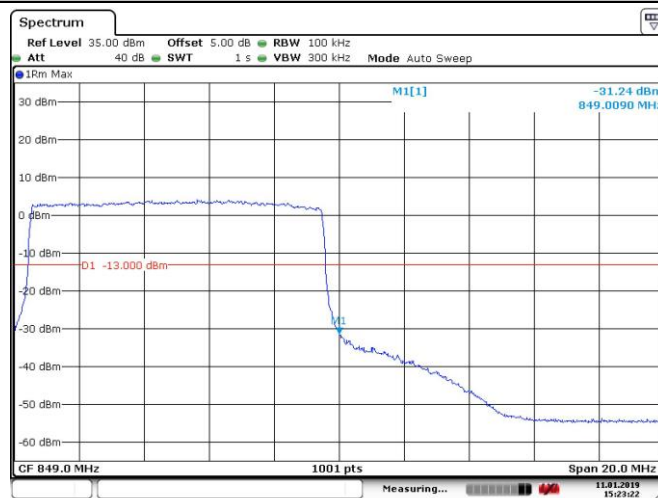
Date: 11.JAN.2019 15:25:21

Band5_10MHz_16QAM_20600_1RB#49



Date: 11.JAN.2019 15:22:54

Band5_10MHz_16QAM_20600_50RB#0

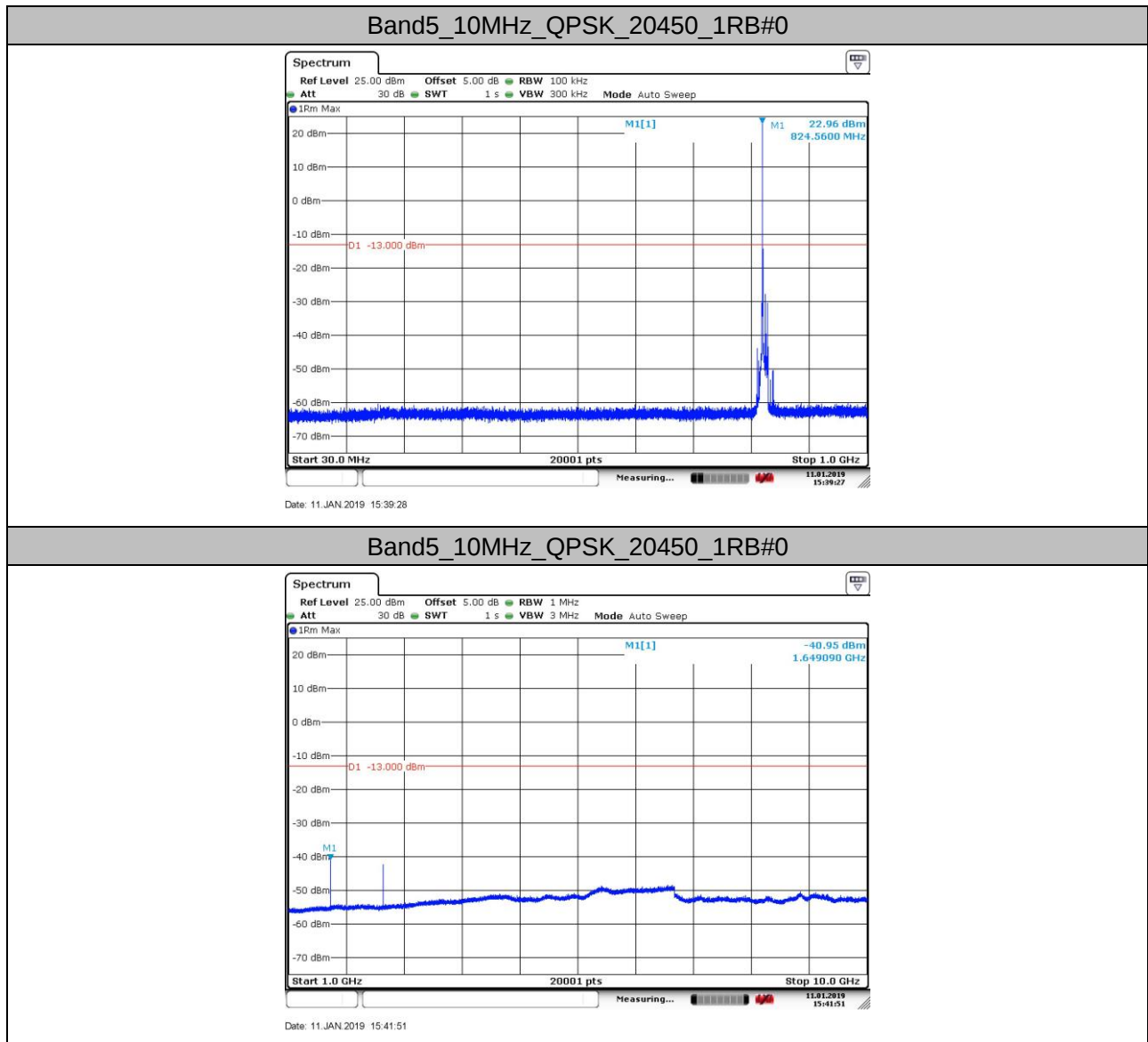


Date: 11.JAN.2019 15:23:23

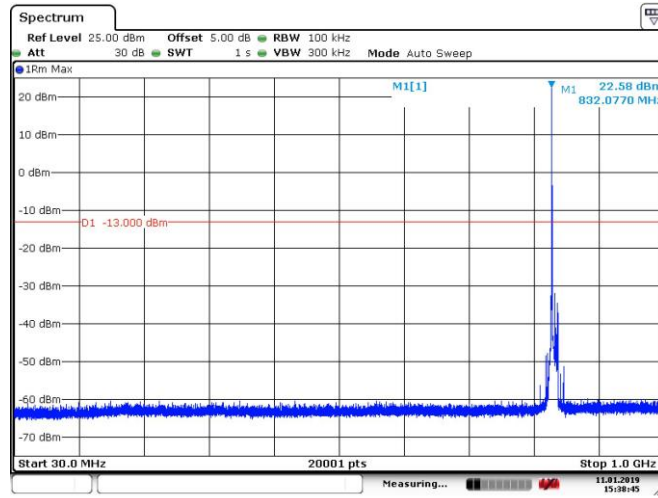
8. Spurious Emission at Antenna Terminal

NOTE: 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 = $k * (Span / RBW)$ " with k between 4 and 5, which results in an acceptable level error of less than 0.5 dB.

8.1. Test Plots

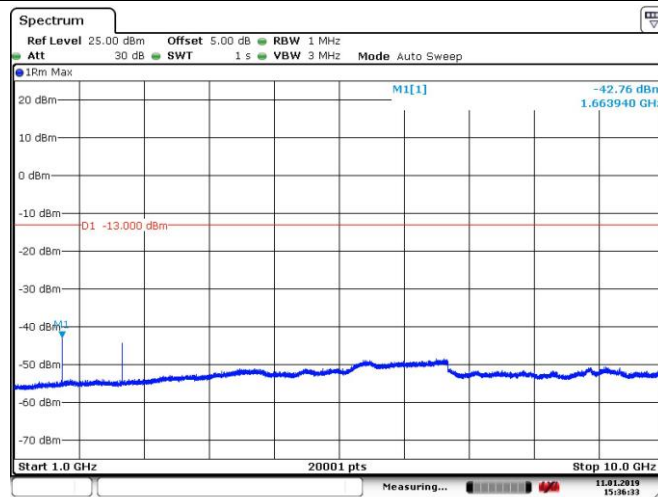


Band5_10MHz_QPSK_20525_1RB#0



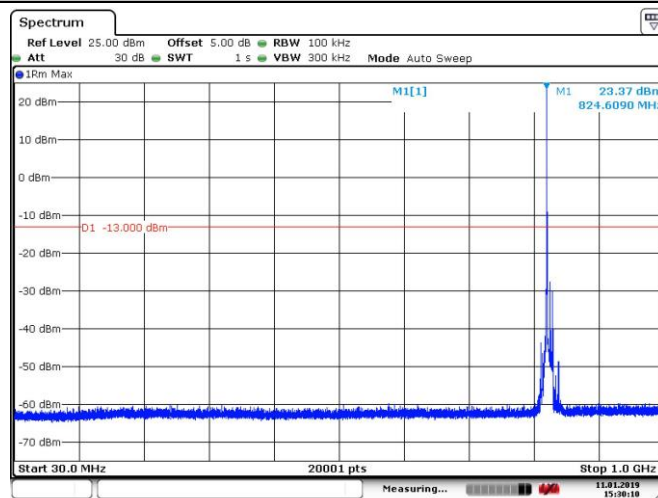
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Band5_10MHz_QPSK_20525_1RB#0



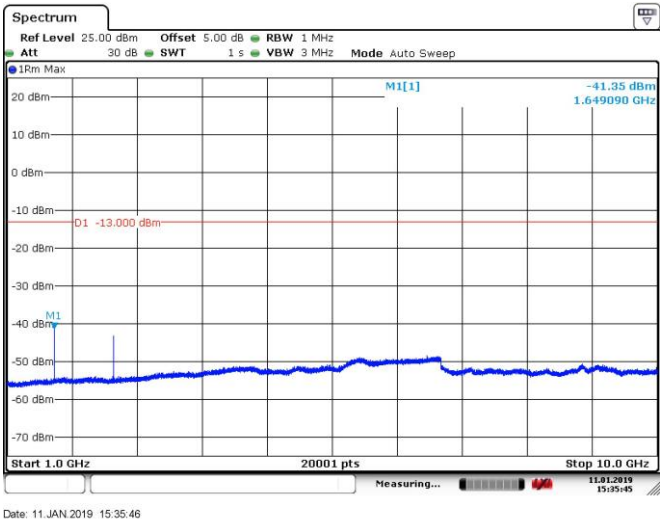
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Band5_10MHz_QPSK_20600_1RB#0

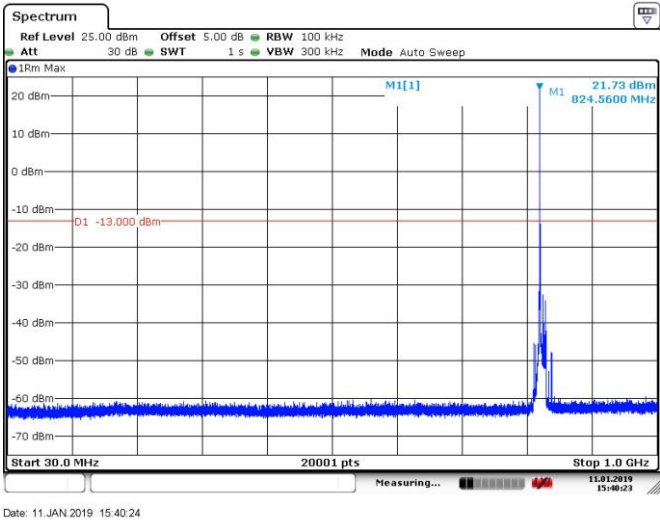


Date: 11 JAN 2019 15:30:11

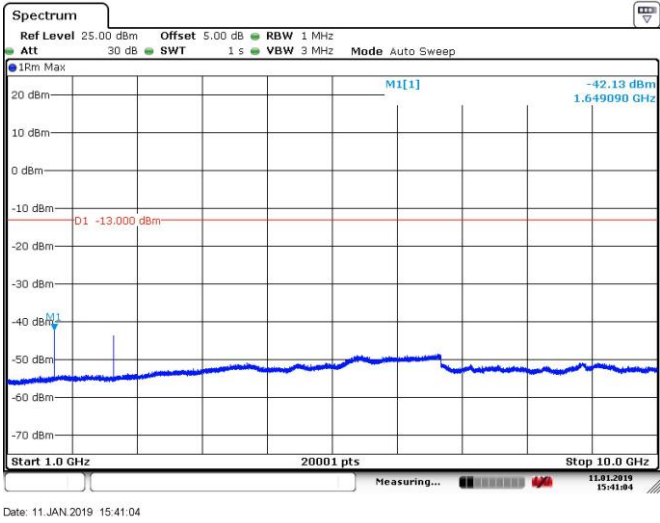
Band5_10MHz_QPSK_20600_1RB#0



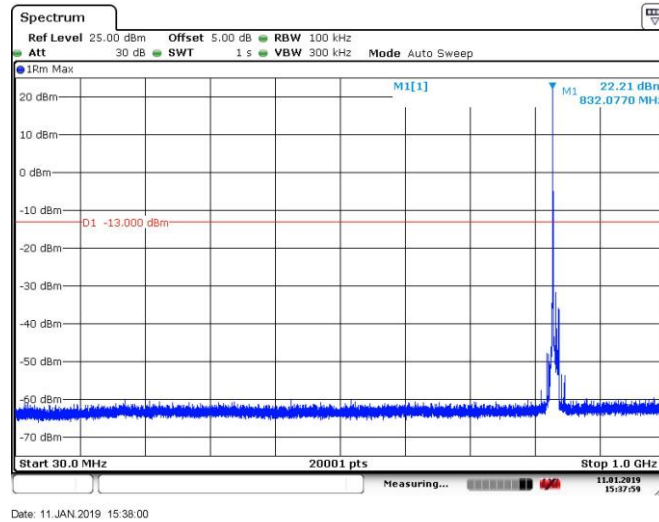
Band5_10MHz_16QAM_20450_1RB#0



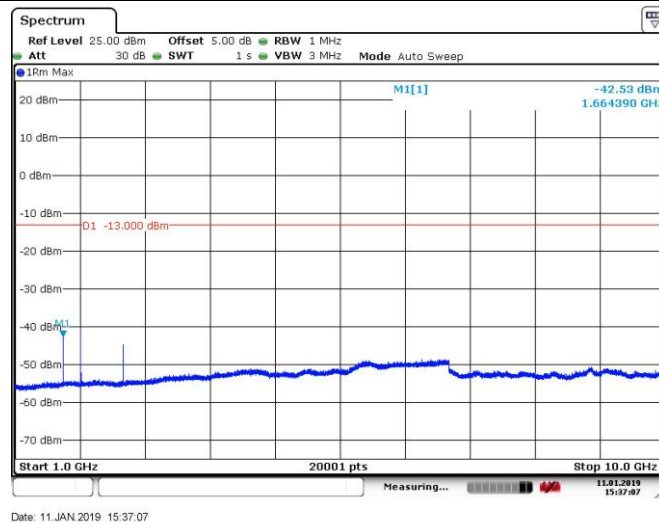
Band5_10MHz_16QAM_20450_1RB#0



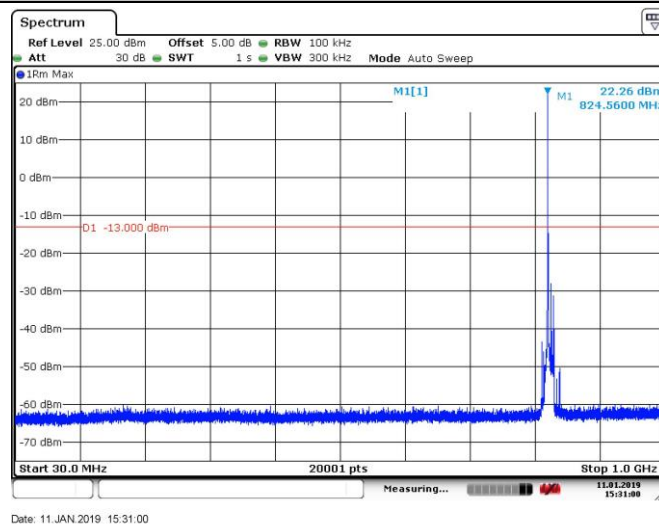
Band5_10MHz_16QAM_20525_1RB#0

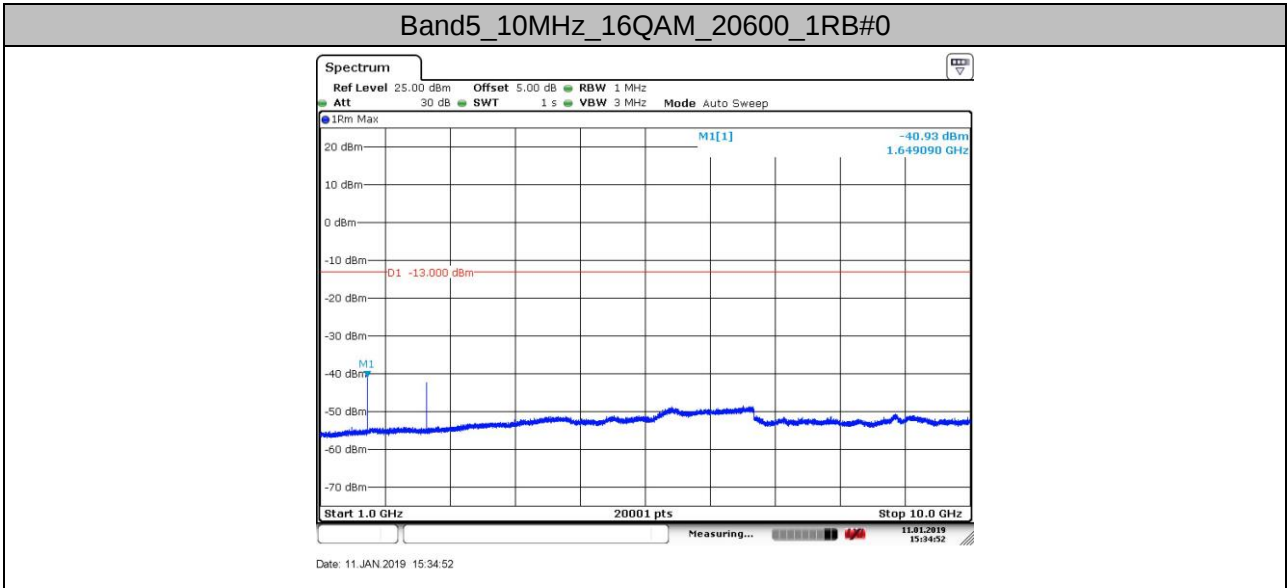


Band5_10MHz_16QAM_20525_1RB#0



Band5_10MHz_16QAM_20600_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
Band5	10MHz	QPSK	20450	50RB#0	VL	NT	-2.56	-0.003094	±2.5	PASS
Band5	10MHz	QPSK	20450	50RB#0	VN	NT	1.78	0.002150	±2.5	PASS
Band5	10MHz	QPSK	20450	50RB#0	VH	NT	3.32	0.004003	±2.5	PASS
Band5	10MHz	QPSK	20525	50RB#0	VL	NT	-12.68	-0.015156	±2.5	PASS
Band5	10MHz	QPSK	20525	50RB#0	VN	NT	-0.85	-0.001020	±2.5	PASS
Band5	10MHz	QPSK	20525	50RB#0	VH	NT	-11.23	-0.013427	±2.5	PASS
Band5	10MHz	QPSK	20600	50RB#0	VL	NT	-6.77	-0.008020	±2.5	PASS
Band5	10MHz	QPSK	20600	50RB#0	VN	NT	10.92	0.012941	±2.5	PASS
Band5	10MHz	QPSK	20600	50RB#0	VH	NT	12.75	0.015108	±2.5	PASS
Band5	10MHz	16QAM	20450	50RB#0	VL	NT	-8.05	-0.009713	±2.5	PASS
Band5	10MHz	16QAM	20450	50RB#0	VN	NT	7.19	0.008675	±2.5	PASS
Band5	10MHz	16QAM	20450	50RB#0	VH	NT	-1.21	-0.001460	±2.5	PASS
Band5	10MHz	16QAM	20525	50RB#0	VL	NT	-2.92	-0.003493	±2.5	PASS
Band5	10MHz	16QAM	20525	50RB#0	VN	NT	11.49	0.013736	±2.5	PASS
Band5	10MHz	16QAM	20525	50RB#0	VH	NT	-6.54	-0.007817	±2.5	PASS
Band5	10MHz	16QAM	20600	50RB#0	VL	NT	6.85	0.008113	±2.5	PASS
Band5	10MHz	16QAM	20600	50RB#0	VN	NT	-13.65	-0.016171	±2.5	PASS
Band5	10MHz	16QAM	20600	50RB#0	VH	NT	-14.17	-0.016794	±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
Band5	10MHz	QPSK	20450	50RB#0	NV	-30	12.62	0.015228	±2.5	PASS
Band5	10MHz	QPSK	20450	50RB#0	NV	-20	5.81	0.007011	±2.5	PASS
Band5	10MHz	QPSK	20450	50RB#0	NV	0	-0.79	-0.000952	±2.5	PASS
Band5	10MHz	QPSK	20450	50RB#0	NV	10	-11.76	-0.014192	±2.5	PASS
Band5	10MHz	QPSK	20450	50RB#0	NV	20	10.78	0.012998	±2.5	PASS
Band5	10MHz	QPSK	20450	50RB#0	NV	30	14.49	0.017484	±2.5	PASS
Band5	10MHz	QPSK	20450	50RB#0	NV	40	-8.68	-0.010472	±2.5	PASS
Band5	10MHz	QPSK	20450	50RB#0	NV	50	5.98	0.007215	±2.5	PASS
Band5	10MHz	QPSK	20525	50RB#0	NV	-30	2.59	0.003094	±2.5	PASS
Band5	10MHz	QPSK	20525	50RB#0	NV	-20	2.58	0.003089	±2.5	PASS
Band5	10MHz	QPSK	20525	50RB#0	NV	0	-12.93	-0.015452	±2.5	PASS
Band5	10MHz	QPSK	20525	50RB#0	NV	10	4.55	0.005436	±2.5	PASS
Band5	10MHz	QPSK	20525	50RB#0	NV	20	6.83	0.008163	±2.5	PASS
Band5	10MHz	QPSK	20525	50RB#0	NV	30	0.99	0.001188	±2.5	PASS
Band5	10MHz	QPSK	20525	50RB#0	NV	40	-13.19	-0.015765	±2.5	PASS
Band5	10MHz	QPSK	20525	50RB#0	NV	50	-8.40	-0.010046	±2.5	PASS
Band5	10MHz	QPSK	20600	50RB#0	NV	-30	-11.36	-0.013457	±2.5	PASS
Band5	10MHz	QPSK	20600	50RB#0	NV	-20	-7.33	-0.008683	±2.5	PASS

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Band5	10MHz	QPSK	20600	50RB#0	NV	0	-6.74	-0.007992	±2.5	PASS
Band5	10MHz	QPSK	20600	50RB#0	NV	10	-14.71	-0.017435	±2.5	PASS
Band5	10MHz	QPSK	20600	50RB#0	NV	20	8.98	0.010634	±2.5	PASS
Band5	10MHz	QPSK	20600	50RB#0	NV	30	-1.03	-0.001223	±2.5	PASS
Band5	10MHz	QPSK	20600	50RB#0	NV	40	11.13	0.013193	±2.5	PASS
Band5	10MHz	QPSK	20600	50RB#0	NV	50	-4.51	-0.005339	±2.5	PASS
Band5	10MHz	16QAM	20450	50RB#0	NV	-30	3.59	0.004328	±2.5	PASS
Band5	10MHz	16QAM	20450	50RB#0	NV	-20	-5.13	-0.006184	±2.5	PASS
Band5	10MHz	16QAM	20450	50RB#0	NV	0	-10.98	-0.013239	±2.5	PASS
Band5	10MHz	16QAM	20450	50RB#0	NV	10	-11.30	-0.013628	±2.5	PASS
Band5	10MHz	16QAM	20450	50RB#0	NV	20	-13.72	-0.016554	±2.5	PASS
Band5	10MHz	16QAM	20450	50RB#0	NV	30	4.24	0.005109	±2.5	PASS
Band5	10MHz	16QAM	20450	50RB#0	NV	40	5.73	0.006907	±2.5	PASS
Band5	10MHz	16QAM	20450	50RB#0	NV	50	2.72	0.003284	±2.5	PASS
Band5	10MHz	16QAM	20525	50RB#0	NV	-30	7.24	0.008657	±2.5	PASS
Band5	10MHz	16QAM	20525	50RB#0	NV	-20	-10.92	-0.013052	±2.5	PASS
Band5	10MHz	16QAM	20525	50RB#0	NV	0	-4.14	-0.004950	±2.5	PASS
Band5	10MHz	16QAM	20525	50RB#0	NV	10	-11.20	-0.013392	±2.5	PASS
Band5	10MHz	16QAM	20525	50RB#0	NV	20	-13.62	-0.016280	±2.5	PASS
Band5	10MHz	16QAM	20525	50RB#0	NV	30	-3.18	-0.003798	±2.5	PASS
Band5	10MHz	16QAM	20525	50RB#0	NV	40	6.29	0.007521	±2.5	PASS
Band5	10MHz	16QAM	20525	50RB#0	NV	50	-6.02	-0.007193	±2.5	PASS
Band5	10MHz	16QAM	20600	50RB#0	NV	-30	-10.87	-0.012876	±2.5	PASS
Band5	10MHz	16QAM	20600	50RB#0	NV	-20	8.34	0.009878	±2.5	PASS
Band5	10MHz	16QAM	20600	50RB#0	NV	0	5.42	0.006425	±2.5	PASS
Band5	10MHz	16QAM	20600	50RB#0	NV	10	-11.98	-0.014196	±2.5	PASS
Band5	10MHz	16QAM	20600	50RB#0	NV	20	-12.11	-0.014348	±2.5	PASS
Band5	10MHz	16QAM	20600	50RB#0	NV	30	1.32	0.001570	±2.5	PASS
Band5	10MHz	16QAM	20600	50RB#0	NV	40	5.79	0.006862	±2.5	PASS
Band5	10MHz	16QAM	20600	50RB#0	NV	50	7.73	0.009155	±2.5	PASS

The End