



Appendix B

E-UTRA BAND 5



SGS-CSTC Standards Technical Services Co., Ltd.
Shenzhen Branch (SGS-CSTC Laboratory)

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1. Effective (Isotropic) Radiated Power

1.1. Test Result

BAND	Bandwidth	Modulation	Channel	RB Configuration	Conducted (dBm)	ERP (dBm)	Limit (dBm)	Verdict
BAND5	1.4MHz	LTE/TM1	20407	1RB#0	22.63	23.48	38.45	PASS
				1RB#2	22.6	23.45	38.45	PASS
				1RB#5	22.54	23.39	38.45	PASS
				3RB#0	22.62	23.47	38.45	PASS
				3RB#1	22.61	23.46	38.45	PASS
				3RB#3	22.63	23.48	38.45	PASS
				6RB#0	21.63	22.48	38.45	PASS
			20525	1RB#0	22.57	23.42	38.45	PASS
				1RB#2	22.55	23.4	38.45	PASS
				1RB#5	22.58	23.43	38.45	PASS
				3RB#0	22.55	23.4	38.45	PASS
				3RB#1	22.53	23.38	38.45	PASS
				3RB#3	22.55	23.4	38.45	PASS
				6RB#0	21.56	22.41	38.45	PASS
			20643	1RB#0	22.59	23.44	38.45	PASS
				1RB#2	22.57	23.42	38.45	PASS
				1RB#5	22.56	23.41	38.45	PASS
				3RB#0	22.55	23.4	38.45	PASS
				3RB#1	22.54	23.39	38.45	PASS
				3RB#3	22.53	23.38	38.45	PASS
				6RB#0	21.55	22.4	38.45	PASS



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BAND	Bandwidth	Modulation	Channel	RB Configuration	Conducted (dBm)	ERP (dBm)	Limit (dBm)	Verdict
BAND5	1.4MHz	LTE/TM3	20407	1RB#0	20.68	21.53	38.45	PASS
				1RB#2	20.64	21.49	38.45	PASS
				1RB#5	20.64	21.49	38.45	PASS
				3RB#0	20.56	21.41	38.45	PASS
				3RB#1	20.6	21.45	38.45	PASS
				3RB#3	20.57	21.42	38.45	PASS
				6RB#0	19.5	20.35	38.45	PASS
			20525	1RB#0	20.69	21.54	38.45	PASS
				1RB#2	20.61	21.46	38.45	PASS
				1RB#5	20.66	21.51	38.45	PASS
				3RB#0	20.61	21.46	38.45	PASS
				3RB#1	20.53	21.38	38.45	PASS
				3RB#3	20.5	21.35	38.45	PASS
				6RB#0	19.48	20.33	38.45	PASS
			20643	1RB#0	20.64	21.49	38.45	PASS
				1RB#2	20.59	21.44	38.45	PASS
				1RB#5	20.61	21.46	38.45	PASS
				3RB#0	20.55	21.4	38.45	PASS
				3RB#1	20.49	21.34	38.45	PASS
				3RB#3	20.48	21.33	38.45	PASS
				6RB#0	19.37	20.22	38.45	PASS





BAND	Bandwidth	Modulation	Channel	RB Configuration	Conducted (dBm)	ERP (dBm)	Limit (dBm)	Verdict
BAND5	1.4MHz	LTE/TM2	20407	1RB#0	21.88	22.73	38.45	PASS
				1RB#2	21.68	22.53	38.45	PASS
				1RB#5	21.61	22.46	38.45	PASS
				3RB#0	21.71	22.56	38.45	PASS
				3RB#1	21.7	22.55	38.45	PASS
				3RB#3	21.66	22.51	38.45	PASS
				6RB#0	20.65	21.5	38.45	PASS
			20525	1RB#0	21.72	22.57	38.45	PASS
				1RB#2	21.71	22.56	38.45	PASS
				1RB#5	21.71	22.56	38.45	PASS
				3RB#0	21.64	22.49	38.45	PASS
				3RB#1	21.62	22.47	38.45	PASS
				3RB#3	21.63	22.48	38.45	PASS
				6RB#0	20.58	21.43	38.45	PASS
			20643	1RB#0	21.77	22.62	38.45	PASS
				1RB#2	21.67	22.52	38.45	PASS
				1RB#5	21.68	22.53	38.45	PASS
				3RB#0	21.6	22.45	38.45	PASS
				3RB#1	21.56	22.41	38.45	PASS
				3RB#3	21.52	22.37	38.45	PASS
				6RB#0	20.55	21.4	38.45	PASS





BAND	Bandwidth	Modulation	Channel	RB Configuration	Conducted (dBm)	ERP (dBm)	Limit (dBm)	Verdict
BAND5	3MHz	LTE/TM1	20415	1RB#0	22.6	23.45	38.45	PASS
				1RB#8	22.56	23.41	38.45	PASS
				1RB#14	22.56	23.41	38.45	PASS
				8RB#0	21.63	22.48	38.45	PASS
				8RB#4	21.52	22.37	38.45	PASS
				8RB#7	21.52	22.37	38.45	PASS
				15RB#0	21.55	22.4	38.45	PASS
			20525	1RB#0	22.52	23.37	38.45	PASS
				1RB#8	22.57	23.42	38.45	PASS
				1RB#14	22.5	23.35	38.45	PASS
				8RB#0	21.55	22.4	38.45	PASS
				8RB#4	21.55	22.4	38.45	PASS
				8RB#7	21.54	22.39	38.45	PASS
				15RB#0	21.54	22.39	38.45	PASS
			20635	1RB#0	22.58	23.43	38.45	PASS
				1RB#8	22.59	23.44	38.45	PASS
				1RB#14	22.5	23.35	38.45	PASS
				8RB#0	21.58	22.43	38.45	PASS
				8RB#4	21.56	22.41	38.45	PASS
				8RB#7	21.53	22.38	38.45	PASS
				15RB#0	21.57	22.42	38.45	PASS





BAND	Bandwidth	Modulation	Channel	RB Configuration	Conducted (dBm)	ERP (dBm)	Limit (dBm)	Verdict
BAND5	3MHz	LTE/TM3	20415	1RB#0	20.61	21.46	38.45	PASS
				1RB#8	20.58	21.43	38.45	PASS
				1RB#14	20.63	21.48	38.45	PASS
				8RB#0	19.51	20.36	38.45	PASS
				8RB#4	19.48	20.33	38.45	PASS
				8RB#7	19.45	20.3	38.45	PASS
				15RB#0	19.44	20.29	38.45	PASS
			20525	1RB#0	20.61	21.46	38.45	PASS
				1RB#8	20.68	21.53	38.45	PASS
				1RB#14	20.6	21.45	38.45	PASS
				8RB#0	19.5	20.35	38.45	PASS
				8RB#4	19.47	20.32	38.45	PASS
				8RB#7	19.45	20.3	38.45	PASS
				15RB#0	19.48	20.33	38.45	PASS
			20635	1RB#0	20.77	21.62	38.45	PASS
				1RB#8	20.74	21.59	38.45	PASS
				1RB#14	20.57	21.42	38.45	PASS
				8RB#0	19.49	20.34	38.45	PASS
				8RB#4	19.5	20.35	38.45	PASS
				8RB#7	19.44	20.29	38.45	PASS
				15RB#0	19.45	20.3	38.45	PASS





BAND	Bandwidth	Modulation	Channel	RB Configuration	Conducted (dBm)	ERP (dBm)	Limit (dBm)	Verdict
BAND5	3MHz	LTE/TM2	20415	1RB#0	21.58	22.43	38.45	PASS
				1RB#8	21.77	22.62	38.45	PASS
				1RB#14	21.77	22.62	38.45	PASS
				8RB#0	20.6	21.45	38.45	PASS
				8RB#4	20.54	21.39	38.45	PASS
				8RB#7	20.56	21.41	38.45	PASS
				15RB#0	20.53	21.38	38.45	PASS
			20525	1RB#0	21.65	22.5	38.45	PASS
				1RB#8	21.66	22.51	38.45	PASS
				1RB#14	21.65	22.5	38.45	PASS
				8RB#0	20.57	21.42	38.45	PASS
				8RB#4	20.54	21.39	38.45	PASS
				8RB#7	20.57	21.42	38.45	PASS
				15RB#0	20.56	21.41	38.45	PASS
			20635	1RB#0	21.76	22.61	38.45	PASS
				1RB#8	21.82	22.67	38.45	PASS
				1RB#14	21.61	22.46	38.45	PASS
				8RB#0	20.59	21.44	38.45	PASS
				8RB#4	20.59	21.44	38.45	PASS
				8RB#7	20.52	21.37	38.45	PASS
				15RB#0	20.56	21.41	38.45	PASS





BAND	Bandwidth	Modulation	Channel	RB Configuration	Conducted (dBm)	ERP (dBm)	Limit (dBm)	Verdict
BAND5	5MHz	LTE/TM1	20425	1RB#0	22.66	23.51	38.45	PASS
				1RB#12	22.59	23.44	38.45	PASS
				1RB#24	22.64	23.49	38.45	PASS
				12RB#0	21.63	22.48	38.45	PASS
				12RB#6	21.62	22.47	38.45	PASS
				12RB#13	21.69	22.54	38.45	PASS
				25RB#0	21.68	22.53	38.45	PASS
			20525	1RB#0	22.61	23.46	38.45	PASS
				1RB#12	22.58	23.43	38.45	PASS
				1RB#24	22.64	23.49	38.45	PASS
				12RB#0	21.65	22.5	38.45	PASS
				12RB#6	21.62	22.47	38.45	PASS
				12RB#13	21.63	22.48	38.45	PASS
				25RB#0	21.62	22.47	38.45	PASS
			20625	1RB#0	22.63	23.48	38.45	PASS
				1RB#12	22.65	23.5	38.45	PASS
				1RB#24	22.58	23.43	38.45	PASS
				12RB#0	21.73	22.58	38.45	PASS
				12RB#6	21.71	22.56	38.45	PASS
				12RB#13	21.66	22.51	38.45	PASS
				25RB#0	21.72	22.57	38.45	PASS





BAND	Bandwidth	Modulation	Channel	RB Configuration	Conducted (dBm)	ERP (dBm)	Limit (dBm)	Verdict
BAND5	5MHz	LTE/TM3	20425	1RB#0	20.7	21.55	38.45	PASS
				1RB#12	20.68	21.53	38.45	PASS
				1RB#24	20.71	21.56	38.45	PASS
				12RB#0	19.58	20.43	38.45	PASS
				12RB#6	19.58	20.43	38.45	PASS
				12RB#13	19.66	20.51	38.45	PASS
				25RB#0	19.73	20.58	38.45	PASS
			20525	1RB#0	20.72	21.57	38.45	PASS
				1RB#12	20.64	21.49	38.45	PASS
				1RB#24	20.71	21.56	38.45	PASS
				12RB#0	19.61	20.46	38.45	PASS
				12RB#6	19.57	20.42	38.45	PASS
				12RB#13	19.58	20.43	38.45	PASS
				25RB#0	19.59	20.44	38.45	PASS
			20625	1RB#0	20.69	21.54	38.45	PASS
				1RB#12	20.69	21.54	38.45	PASS
				1RB#24	20.61	21.46	38.45	PASS
				12RB#0	19.64	20.49	38.45	PASS
				12RB#6	19.63	20.48	38.45	PASS
				12RB#13	19.55	20.4	38.45	PASS
				25RB#0	19.63	20.48	38.45	PASS





BAND	Bandwidth	Modulation	Channel	RB Configuration	Conducted (dBm)	ERP (dBm)	Limit (dBm)	Verdict
BAND5	5MHz	LTE/TM2	20425	1RB#0	21.88	22.73	38.45	PASS
				1RB#12	21.83	22.68	38.45	PASS
				1RB#24	21.65	22.5	38.45	PASS
				12RB#0	20.68	21.53	38.45	PASS
				12RB#6	20.65	21.5	38.45	PASS
				12RB#13	20.76	21.61	38.45	PASS
				25RB#0	20.75	21.6	38.45	PASS
			20525	1RB#0	21.79	22.64	38.45	PASS
				1RB#12	21.77	22.62	38.45	PASS
				1RB#24	21.8	22.65	38.45	PASS
				12RB#0	20.73	21.58	38.45	PASS
				12RB#6	20.72	21.57	38.45	PASS
				12RB#13	20.73	21.58	38.45	PASS
				25RB#0	20.71	21.56	38.45	PASS
			20625	1RB#0	21.82	22.67	38.45	PASS
				1RB#12	21.75	22.6	38.45	PASS
				1RB#24	21.66	22.51	38.45	PASS
				12RB#0	20.77	21.62	38.45	PASS
				12RB#6	20.78	21.63	38.45	PASS
				12RB#13	20.74	21.59	38.45	PASS
				25RB#0	20.76	21.61	38.45	PASS





BAND	Bandwidth	Modulation	Channel	RB Configuration	Conducted (dBm)	ERP (dBm)	Limit (dBm)	Verdict
BAND5	10MHz	LTE/TM1	20450	1RB#0	22.79	23.64	38.45	PASS
				1RB#24	22.76	23.61	38.45	PASS
				1RB#49	22.67	23.52	38.45	PASS
				25RB#0	21.69	22.54	38.45	PASS
				25RB#12	21.71	22.56	38.45	PASS
				25RB#25	21.61	22.46	38.45	PASS
				50RB#0	21.7	22.55	38.45	PASS
			20525	1RB#0	22.68	23.53	38.45	PASS
				1RB#24	22.64	23.49	38.45	PASS
				1RB#49	22.72	23.57	38.45	PASS
				25RB#0	21.63	22.48	38.45	PASS
				25RB#12	21.59	22.44	38.45	PASS
				25RB#25	21.65	22.5	38.45	PASS
				50RB#0	21.6	22.45	38.45	PASS
			20600	1RB#0	22.68	23.53	38.45	PASS
				1RB#24	22.68	23.53	38.45	PASS
				1RB#49	22.67	23.52	38.45	PASS
				25RB#0	21.72	22.57	38.45	PASS
				25RB#12	21.79	22.64	38.45	PASS
				25RB#25	21.68	22.53	38.45	PASS
				50RB#0	21.65	22.5	38.45	PASS



BAND	Bandwidth	Modulation	Channel	RB Configuration	Conducted (dBm)	ERP (dBm)	Limit (dBm)	Verdict
BAND5	10MHz	LTE/TM3	20450	1RB#0	20.82	21.67	38.45	PASS
				1RB#24	20.83	21.68	38.45	PASS
				1RB#49	20.77	21.62	38.45	PASS
				25RB#0	19.64	20.49	38.45	PASS
				25RB#12	19.64	20.49	38.45	PASS
				25RB#25	19.58	20.43	38.45	PASS
				50RB#0	19.62	20.47	38.45	PASS
			20525	1RB#0	20.74	21.59	38.45	PASS
				1RB#24	20.67	21.52	38.45	PASS
				1RB#49	20.82	21.67	38.45	PASS
				25RB#0	19.57	20.42	38.45	PASS
				25RB#12	19.56	20.41	38.45	PASS
				25RB#25	19.6	20.45	38.45	PASS
				50RB#0	19.48	20.33	38.45	PASS
			20600	1RB#0	20.84	21.69	38.45	PASS
				1RB#24	20.71	21.56	38.45	PASS
				1RB#49	20.63	21.48	38.45	PASS
				25RB#0	19.62	20.47	38.45	PASS
				25RB#12	19.56	20.41	38.45	PASS
				25RB#25	19.62	20.47	38.45	PASS
				50RB#0	19.53	20.38	38.45	PASS





BAND	Bandwidth	Modulation	Channel	RB Configuration	Conducted (dBm)	ERP (dBm)	Limit (dBm)	Verdict
BAND5	10MHz	LTE/TM2	20450	1RB#0	21.91	22.76	38.45	PASS
				1RB#24	21.8	22.65	38.45	PASS
				1RB#49	21.83	22.68	38.45	PASS
				25RB#0	20.74	21.59	38.45	PASS
				25RB#12	20.78	21.63	38.45	PASS
				25RB#25	20.68	21.53	38.45	PASS
				50RB#0	20.76	21.61	38.45	PASS
			20525	1RB#0	21.89	22.74	38.45	PASS
				1RB#24	21.89	22.74	38.45	PASS
				1RB#49	22.01	22.86	38.45	PASS
				25RB#0	20.69	21.54	38.45	PASS
				25RB#12	20.66	21.51	38.45	PASS
				25RB#25	20.72	21.57	38.45	PASS
				50RB#0	20.63	21.48	38.45	PASS
			20600	1RB#0	21.77	22.62	38.45	PASS
				1RB#24	21.8	22.65	38.45	PASS
				1RB#49	21.84	22.69	38.45	PASS
				25RB#0	20.88	21.73	38.45	PASS
				25RB#12	20.7	21.55	38.45	PASS
				25RB#25	20.76	21.61	38.45	PASS
				50RB#0	20.68	21.53	38.45	PASS

Remark:

a: For getting the ERP (Efficient Radiated Power), the following formula should be taken to calculate it,

$$\text{ERP [dBm]} = \text{Conducted power[dBm]} + \text{Gain [dBd]}$$



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Shenzhen Branch Testing Services Laboratory

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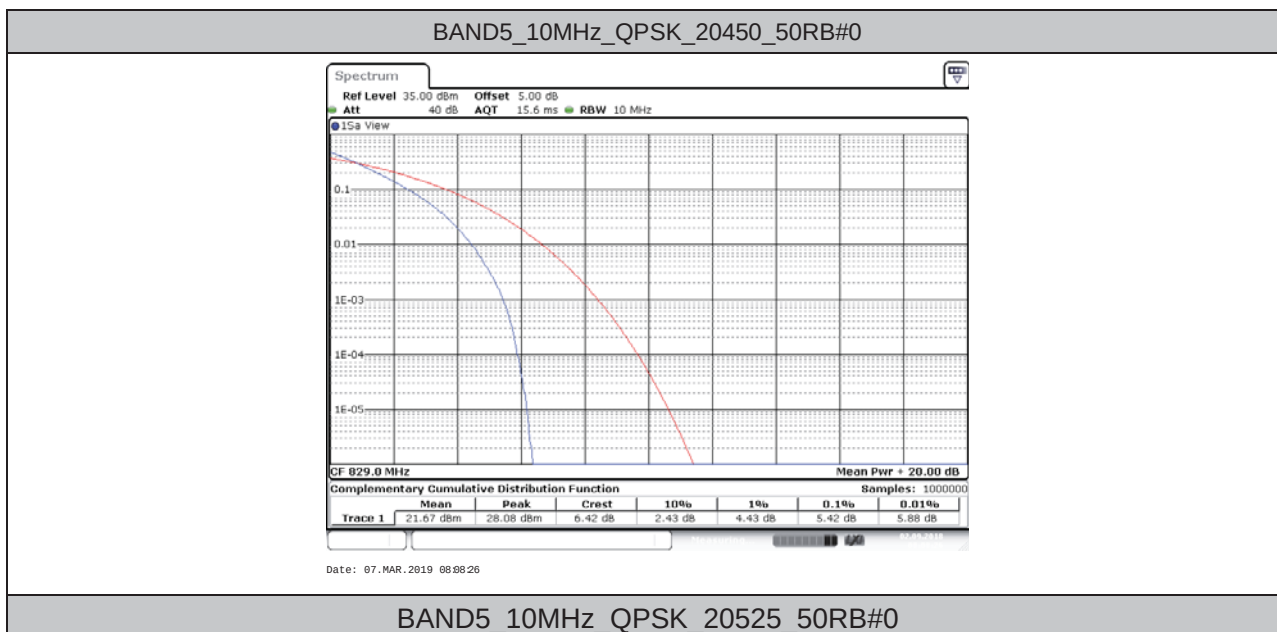
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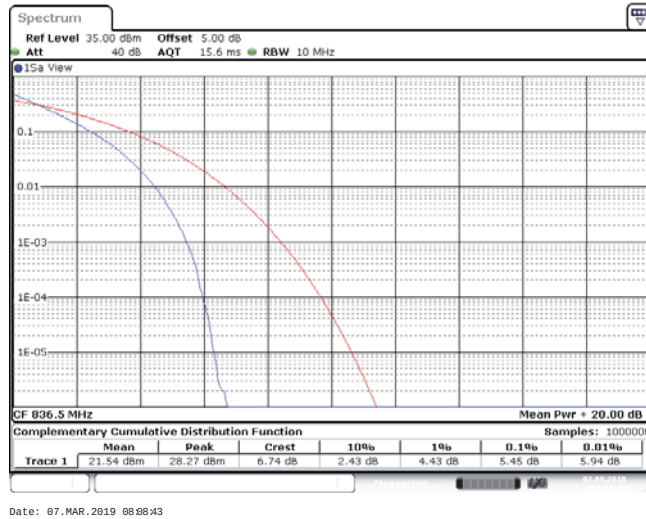
2. Peak-to-Average Ratio(CCDF)

2.1. Test Result

BAND	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
BAND5	10MHz	QPSK	20450	50RB#0	5.42	13	PASS
			20525	50RB#0	5.45	13	PASS
			20600	50RB#0	5.30	13	PASS
		64QAM	20450	50RB#0	5.88	13	PASS
			20525	50RB#0	5.88	13	PASS
			20600	50RB#0	5.62	13	PASS
		16QAM	20450	50RB#0	6.12	13	PASS
			20525	50RB#0	6.09	13	PASS
			20600	50RB#0	5.86	13	PASS

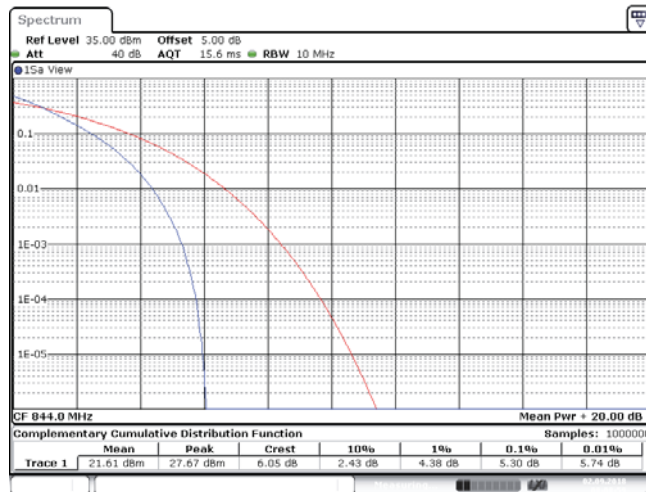
2.2. Test Plots





Date: 07.MAR.2019 08:08:43

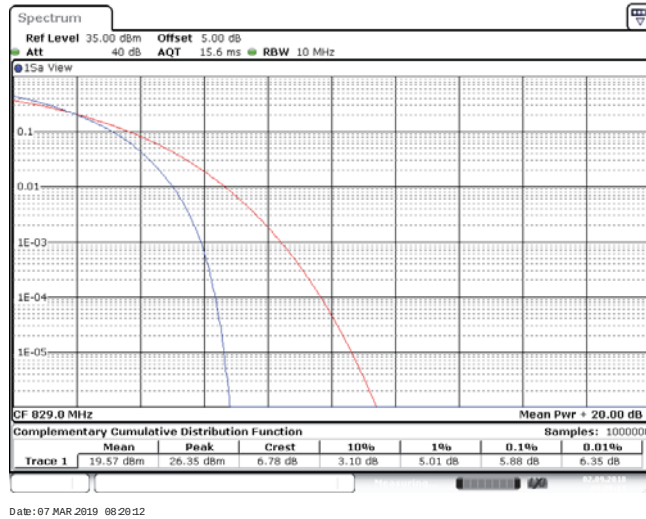
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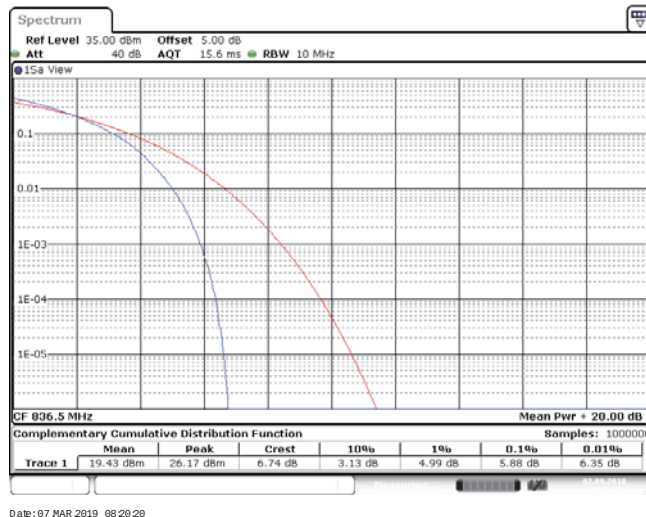
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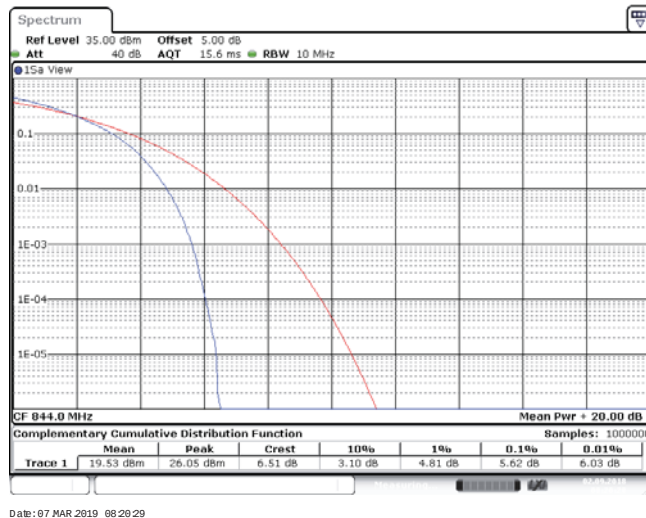
BAND5_10MHz_64QAM_20525_50RB#0



Date: 07 MAR 2019 08:20:20

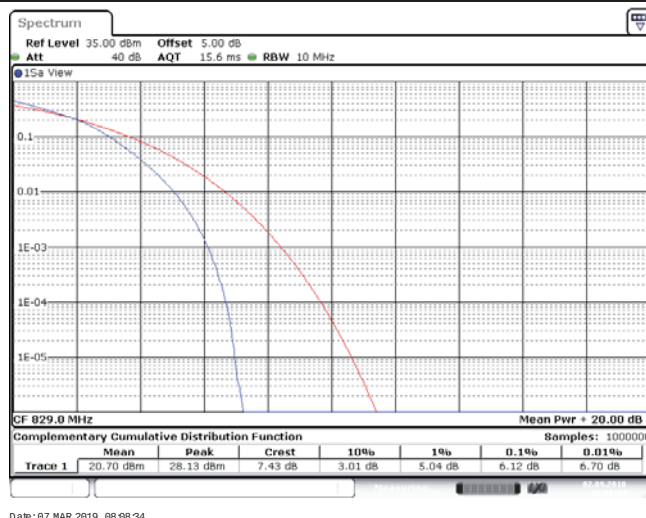
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Date: 07 MAR 2019 08:20:29

BAND5_10MHz_16QAM_20450_50RB#0



Date: 07 MAR 2019 08:08:34

BAND5 10MHz 16QAM 20525 50RB#0

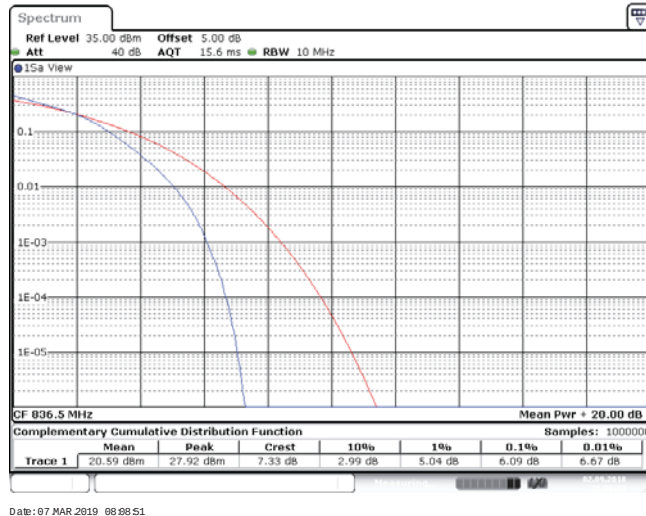


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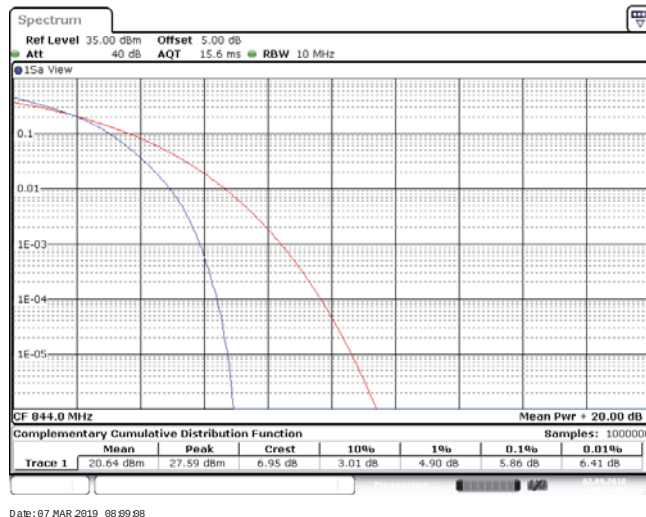
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BAND5_10MHz_16QAM_20600_50RB#0

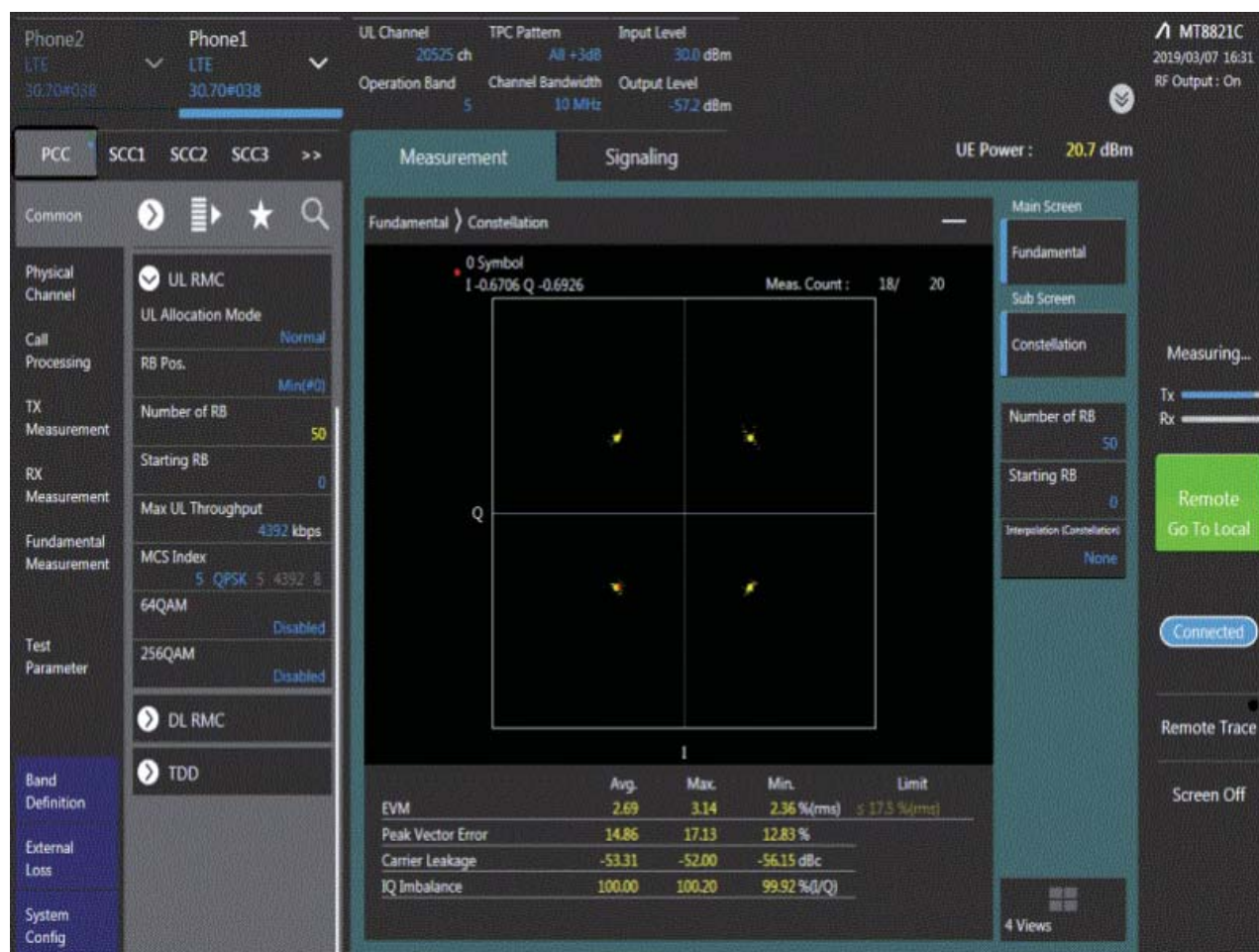


3. Modulation Characteristics

3.1. Test BAND = LTE BAND5

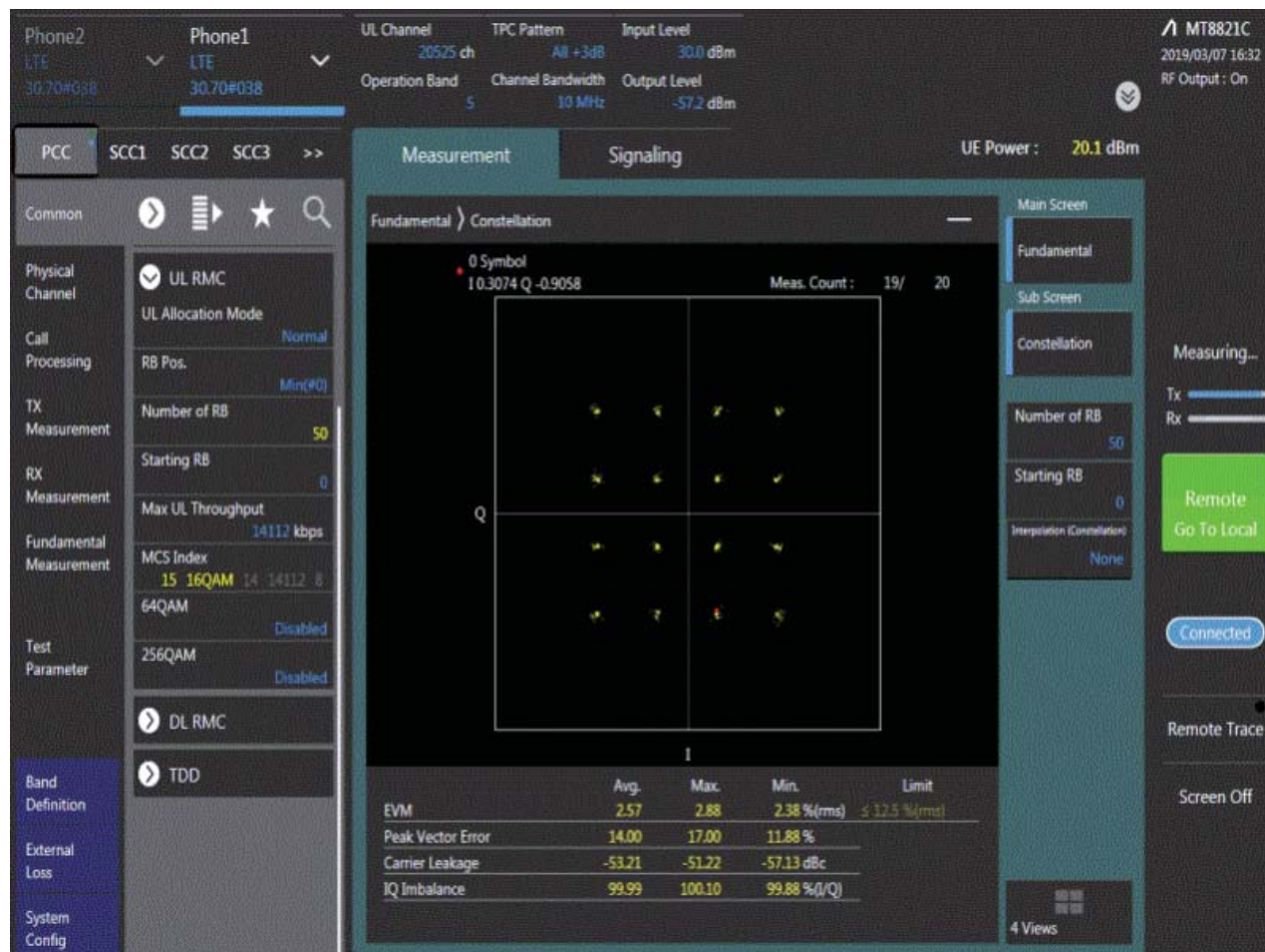
3.1.1. Test Mode = LTE /TM1 10MHz

3.1.1.1. Test Channel = MCH



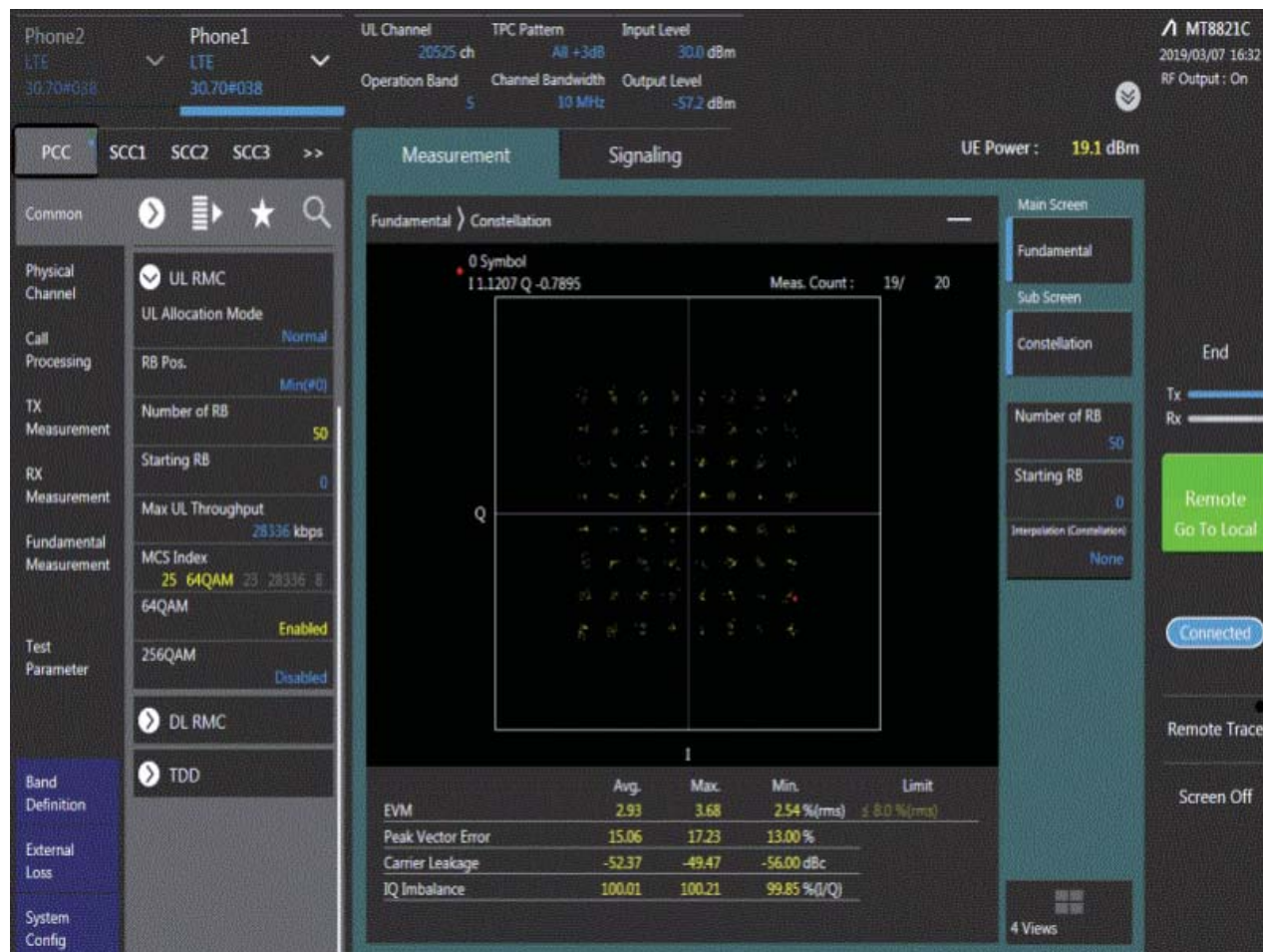
3.1.2. Test Mode = LTE /TM2 10MHz

3.1.2.1. Test Channel = MCH



3.1.1. Test Mode = LTE /TM3 10MHz

3.1.1.1. 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
BAND5	1.4MHz	QPSK	20407	6RB#0	1.085	1.254	PASS
			20525	6RB#0	1.085	1.251	PASS
			20643	6RB#0	1.085	1.245	PASS
		64QAM	20407	6RB#0	1.085	1.242	PASS
			20525	6RB#0	1.085	1.254	PASS
			20643	6RB#0	1.088	1.260	PASS
		16QAM	20407	6RB#0	1.085	1.248	PASS
			20525	6RB#0	1.085	1.248	PASS
			20643	6RB#0	1.088	1.251	PASS
	3MHz	QPSK	20415	15RB#0	2.685	2.976	PASS
			20525	15RB#0	2.685	2.994	PASS
			20635	15RB#0	2.685	2.988	PASS
		64QAM	20415	15RB#0	2.685	2.982	PASS
			20525	15RB#0	2.685	2.970	PASS
			20635	15RB#0	2.691	2.994	PASS
		16QAM	20415	15RB#0	2.685	2.976	PASS
			20525	15RB#0	2.685	2.976	PASS
			20635	15RB#0	2.685	2.982	PASS
	5MHz	QPSK	20425	25RB#0	4.456	4.870	PASS
			20525	25RB#0	4.456	4.860	PASS
			20625	25RB#0	4.456	4.860	PASS
		64QAM	20425	25RB#0	4.456	4.850	PASS
			20525	25RB#0	4.456	4.870	PASS
			20625	25RB#0	4.456	4.870	PASS
		16QAM	20425	25RB#0	4.456	4.840	PASS
			20525	25RB#0	4.456	4.840	PASS
			20625	25RB#0	4.456	4.830	PASS
	10MHz	QPSK	20450	50RB#0	8.911	10.160	PASS
			20525	50RB#0	8.951	10.160	PASS
			20600	50RB#0	8.911	10.160	PASS



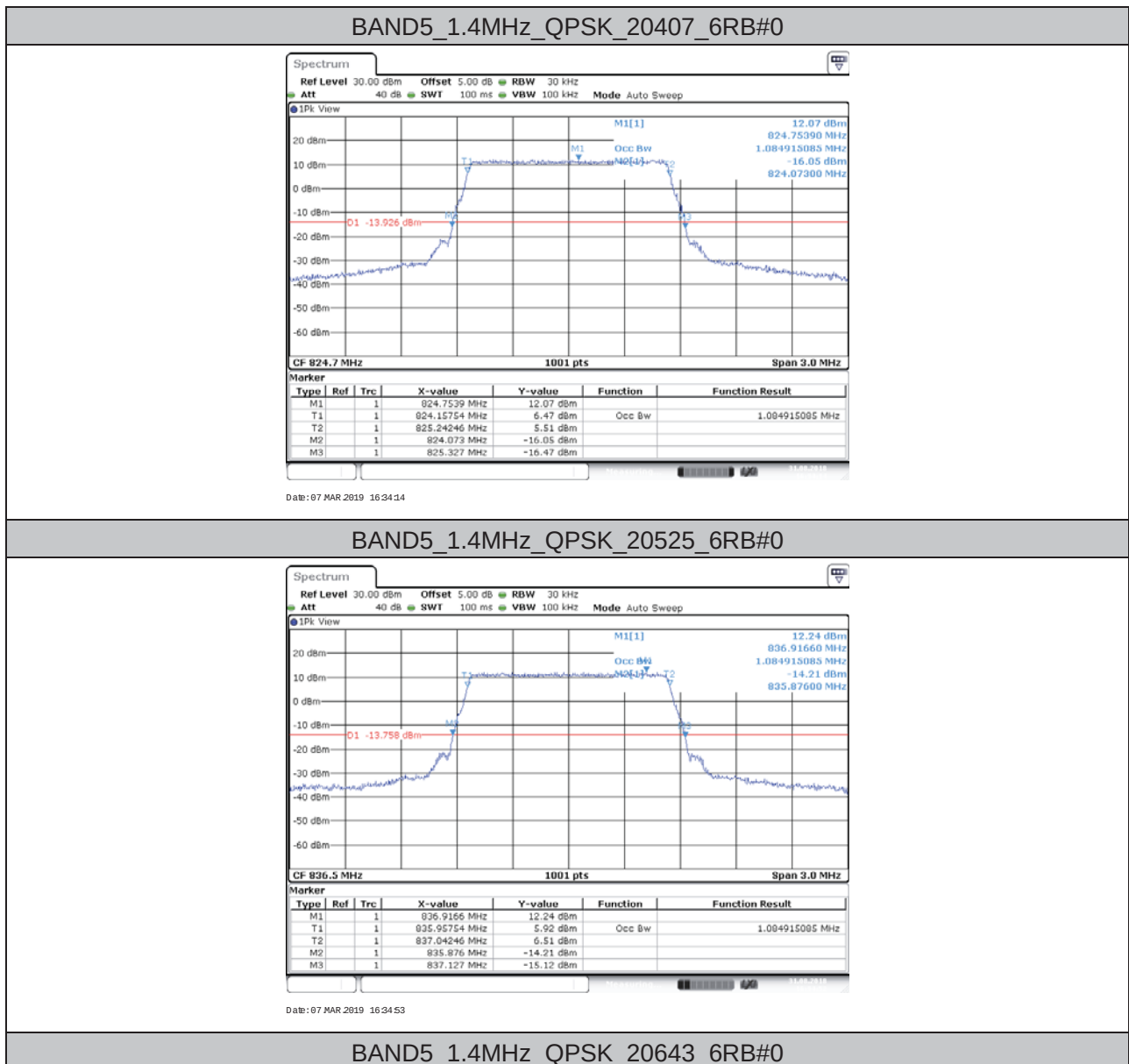
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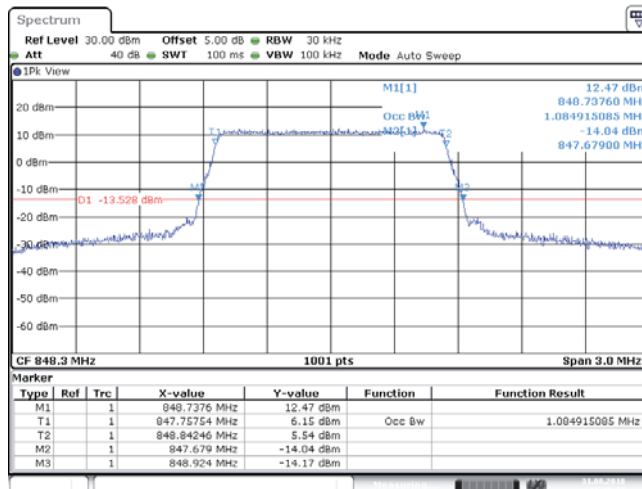
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	64QAM	20450	50RB#0	8.911	10.120	PASS
		20525	50RB#0	8.931	10.220	PASS
		20600	50RB#0	8.911	10.220	PASS
	16QAM	20450	50RB#0	8.931	10.240	PASS
		20525	50RB#0	8.931	10.180	PASS
		20600	50RB#0	8.911	10.140	PASS

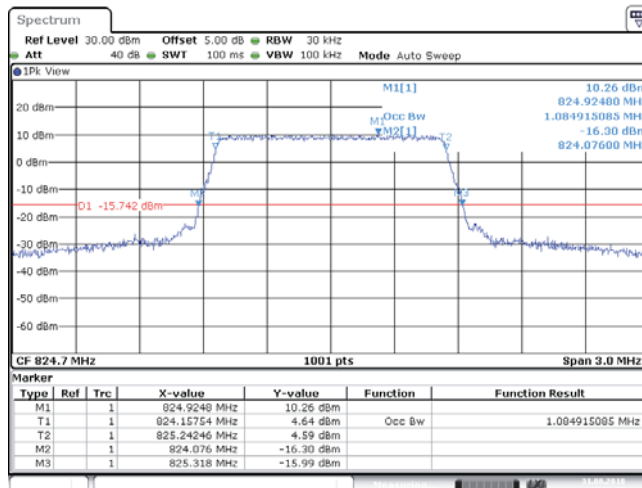
4.2. Test Plots





Date: 07 MAR 2019 16:25:31

BAND5_1.4MHz_64QAM_20407_6RB#0



Date: 07 MAR 2019 16:24:40

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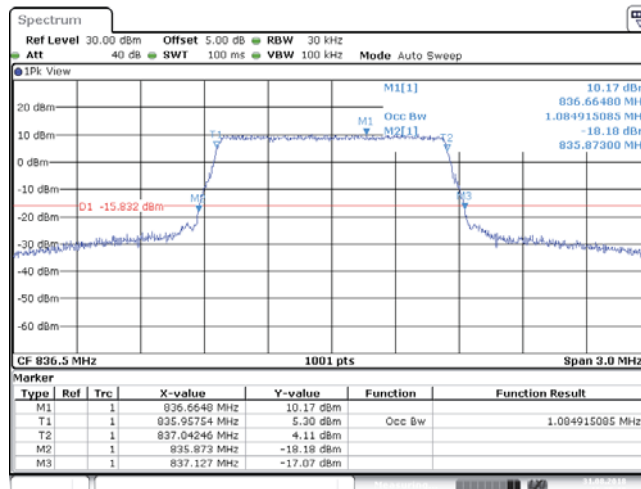


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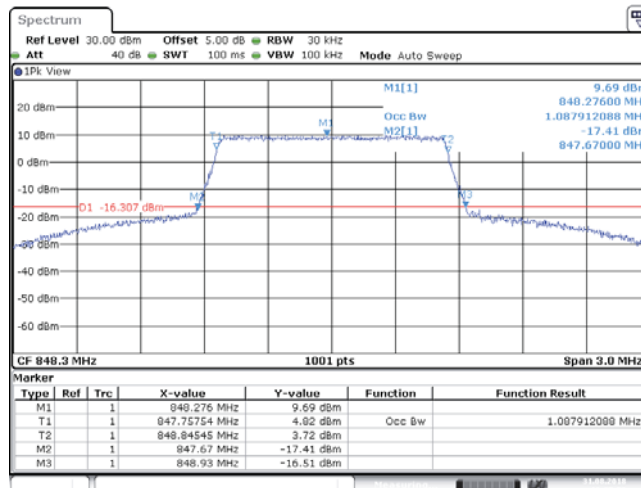
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Date: 07 MAR 2019 16:25:18

BAND5_1.4MHz_64QAM_20643_6RB#0



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BAND5_1.4MHz_16QAM_20407_6RB#0



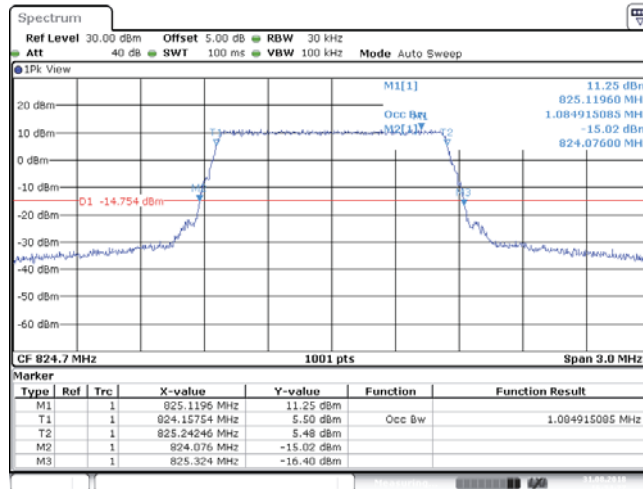
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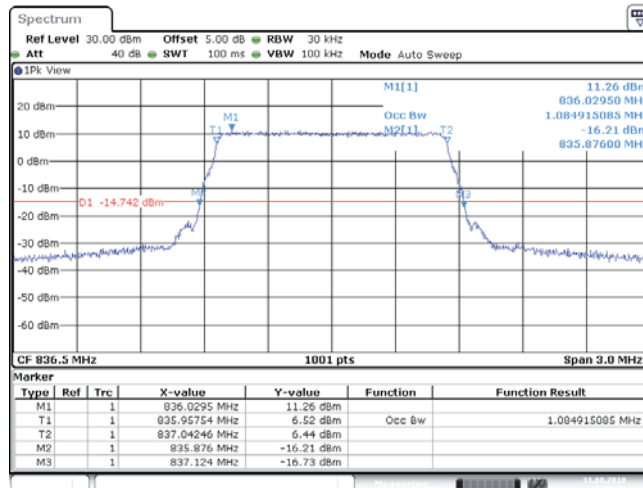
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BAND5_1.4MHz_16QAM_20525_6RB#0



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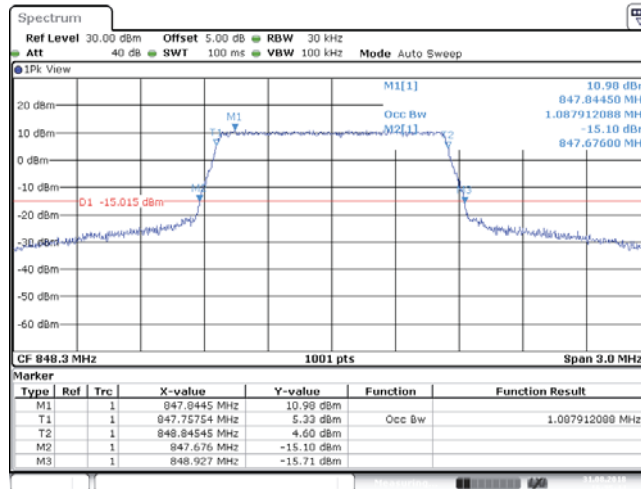
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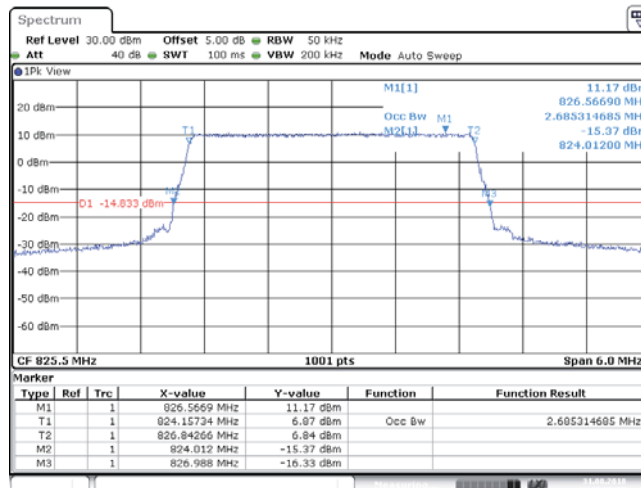
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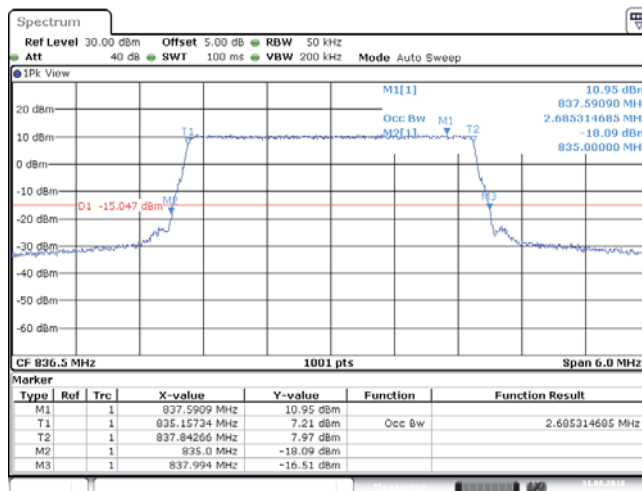


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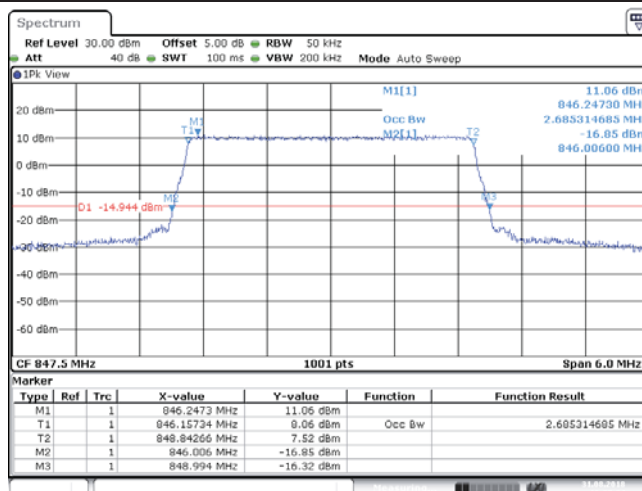
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Date: 07 MAR 2019 16:26:55

BAND5_3MHz_QPSK_20635_15RB#0



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BAND5_3MHz_64QAM_20415_15RB#0



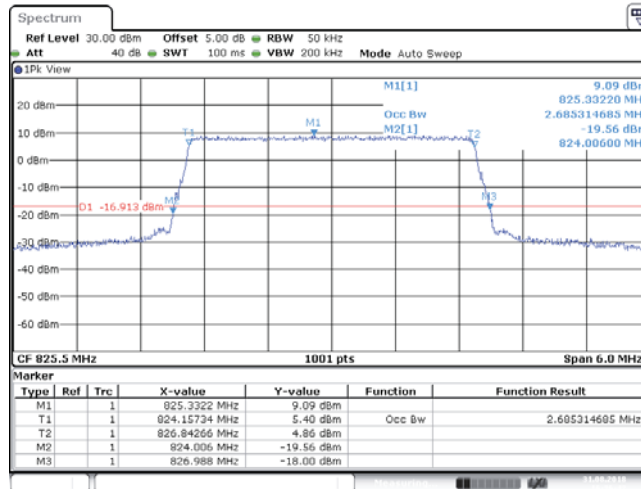
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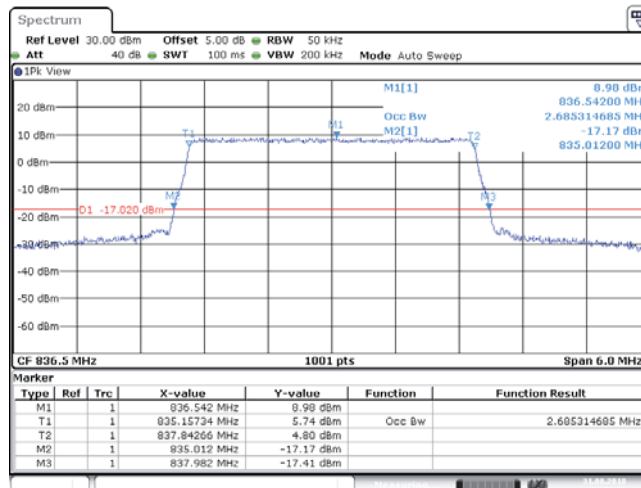
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BAND5_3MHz_64QAM_20525_15RB#0



Date: 07 MAR 2019 16:37:21

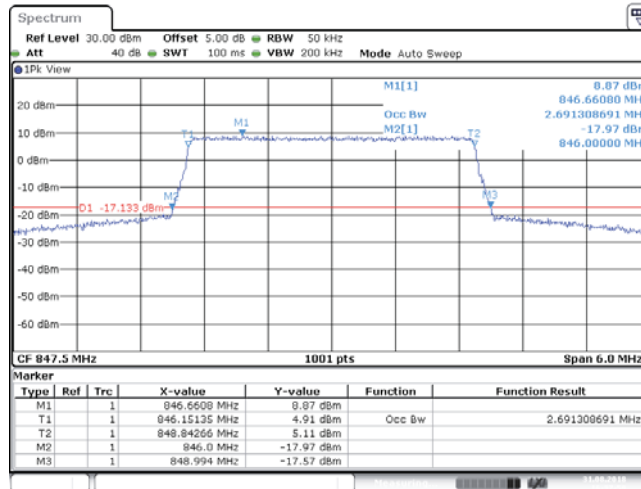
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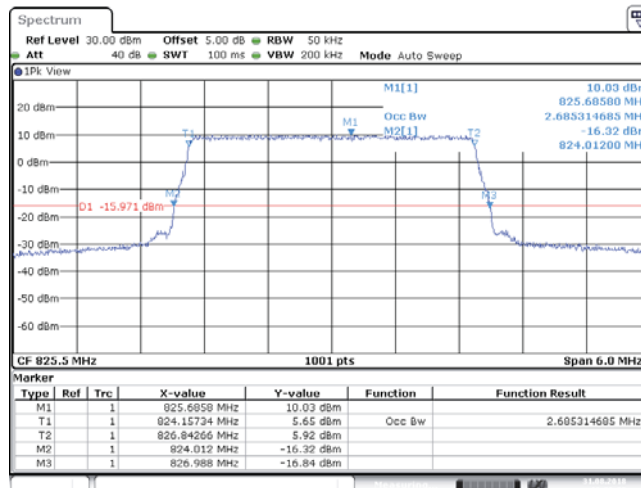
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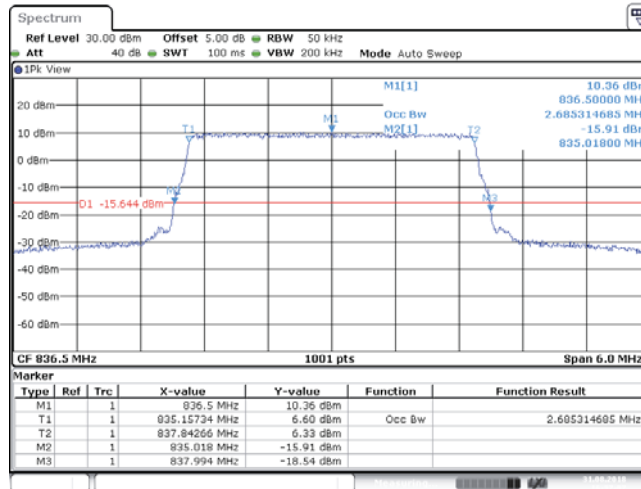
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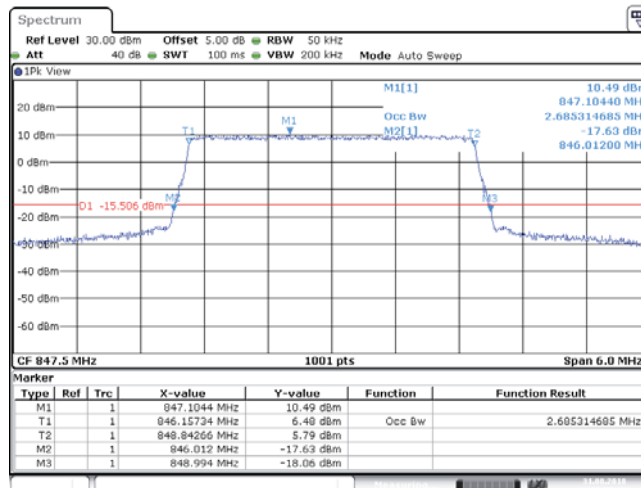
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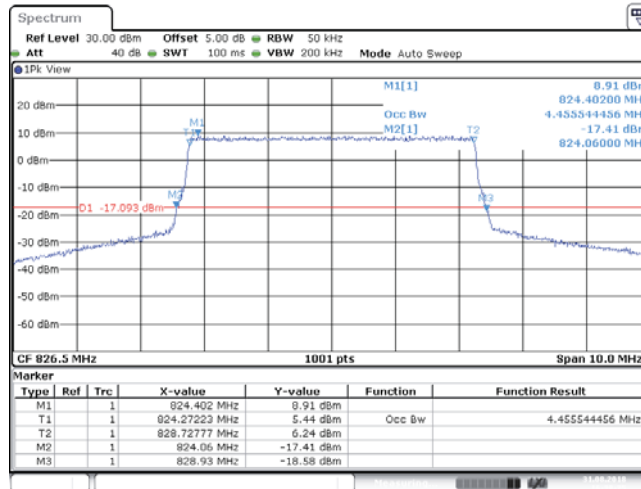
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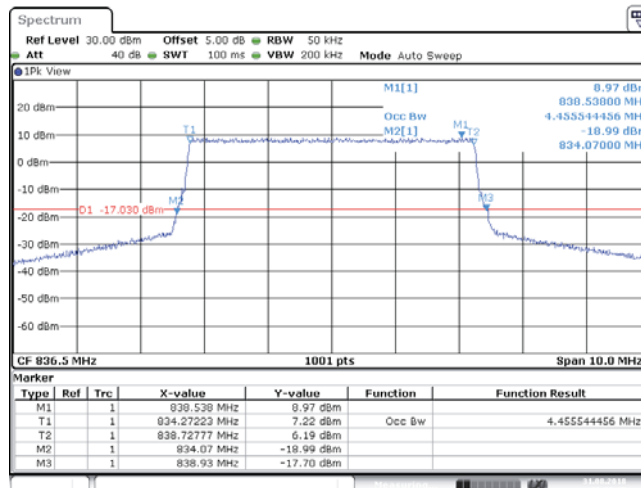
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Date: 07 MAR 2019 16:28:26

BAND5_5MHz_QPSK_20525_25RB#0



Date: 07 MAR 2019 16:29:26

BAND5_5MHz_QPSK_20625_25RB#0

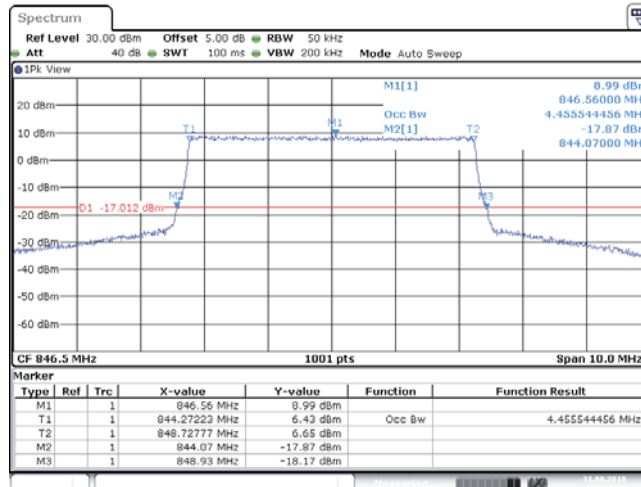


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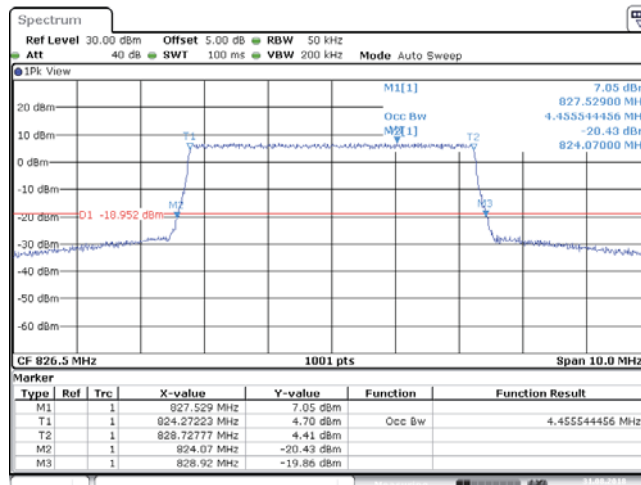
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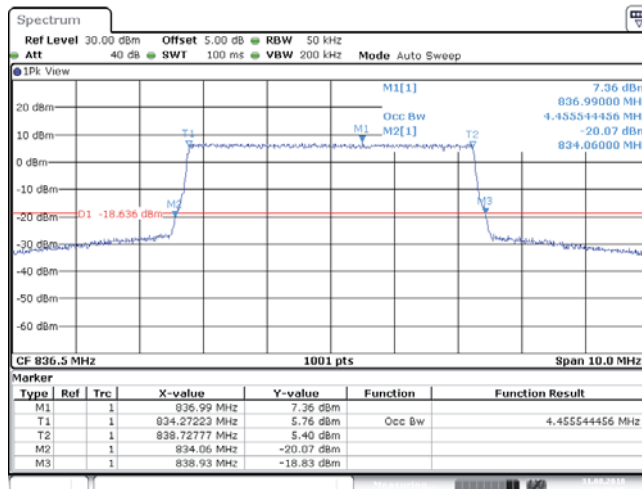
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BAND5_5MHz_64QAM_20425_25RB#0



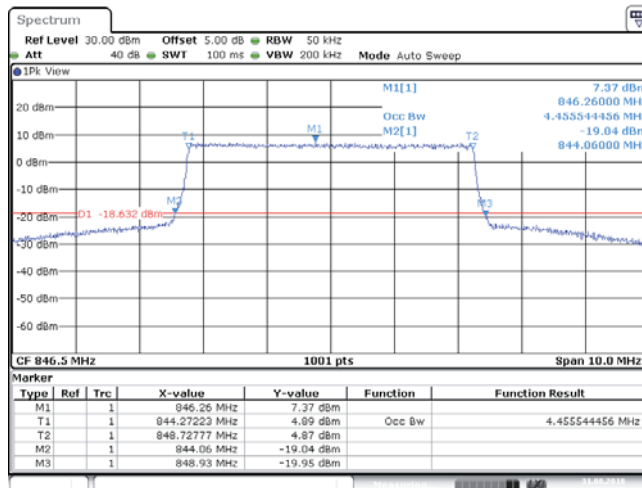
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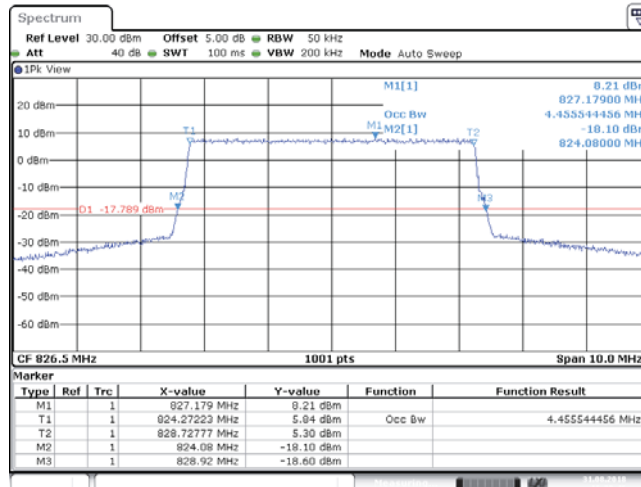
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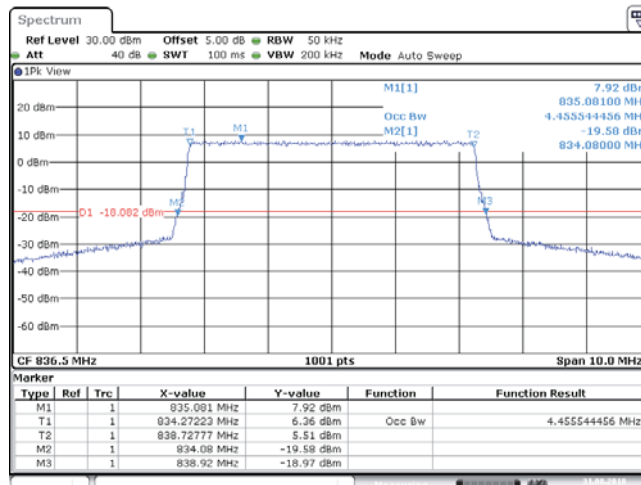
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Date: 07 MAR 2019 16:28:46

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Date: 07 MAR 2019 16:29:45

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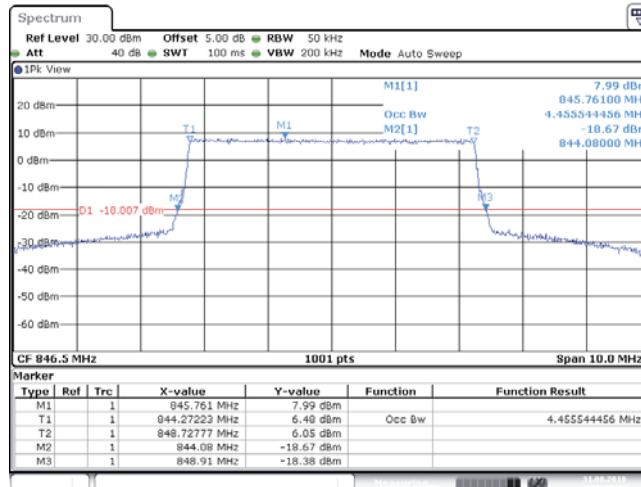


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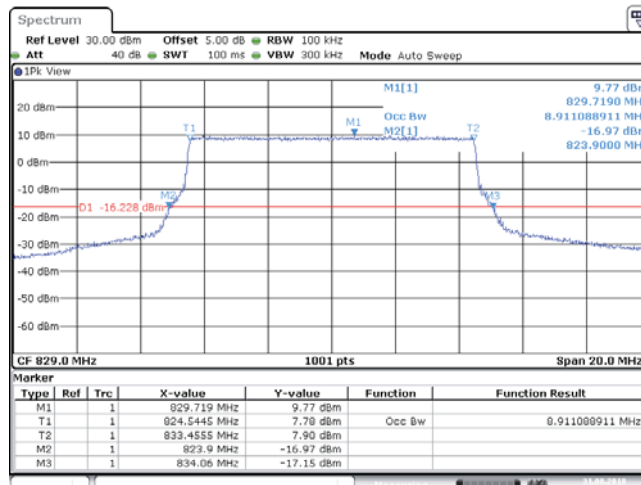
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Date: 07 MAR 2019 16:40:45

BAND5_10MHz_QPSK_20450_50RB#0



Date: 07 MAR 2019 16:41:24

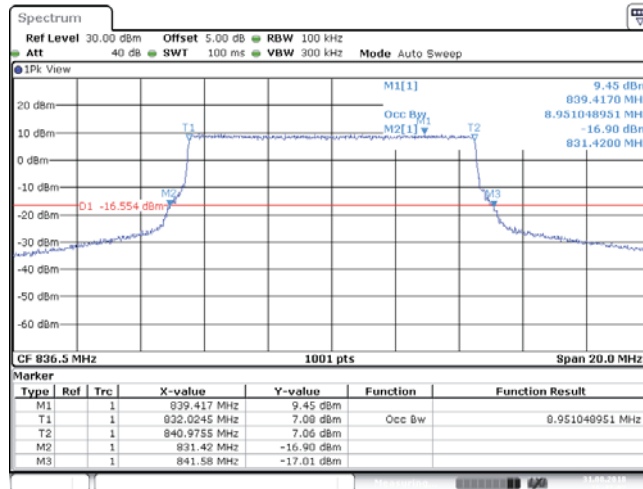
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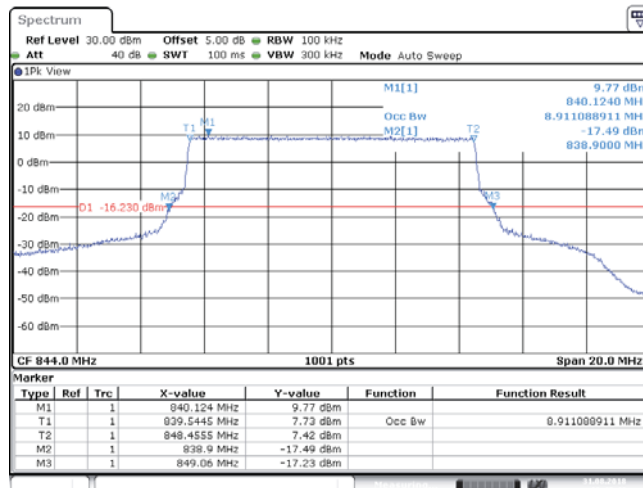
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Date: 07 MAR 2019 16:42:03

BAND5_10MHz_QPSK_20600_50RB#0



Date: 07 MAR 2019 16:42:41

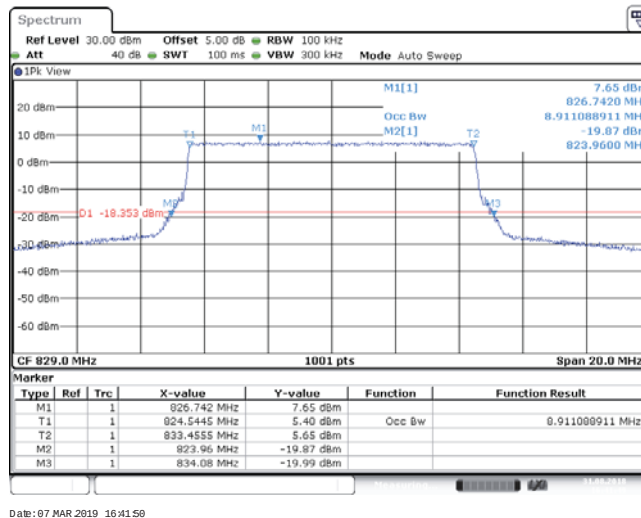
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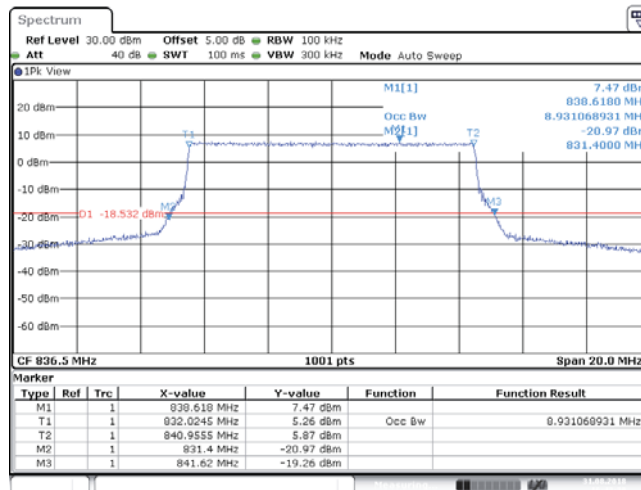
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Date: 07 MAR 2019 16:41:50

BAND5_10MHz_64QAM_20525_50RB#0



Date: 07 MAR 2019 16:42:28

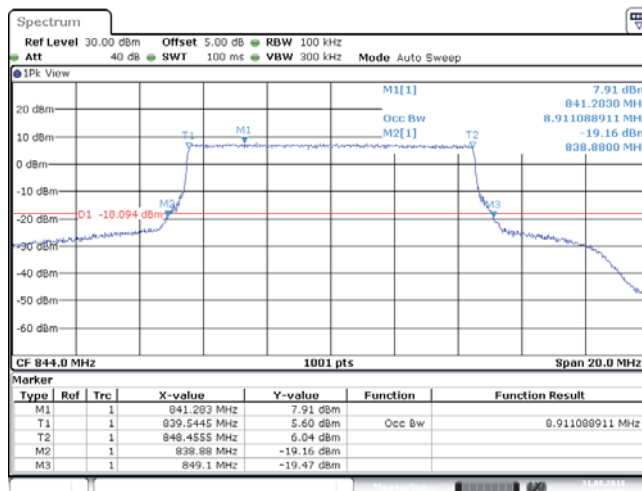
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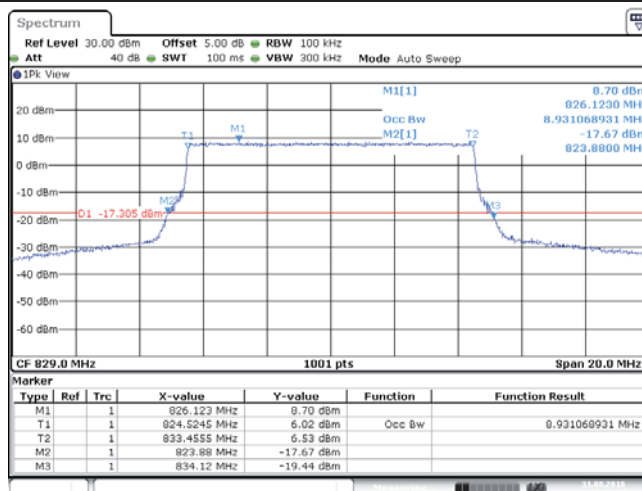
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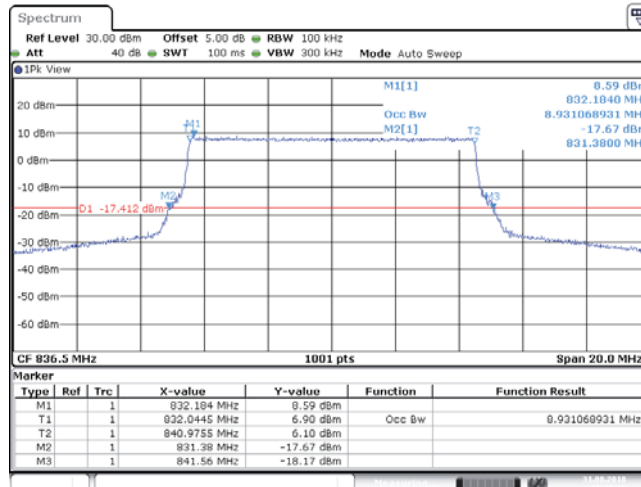
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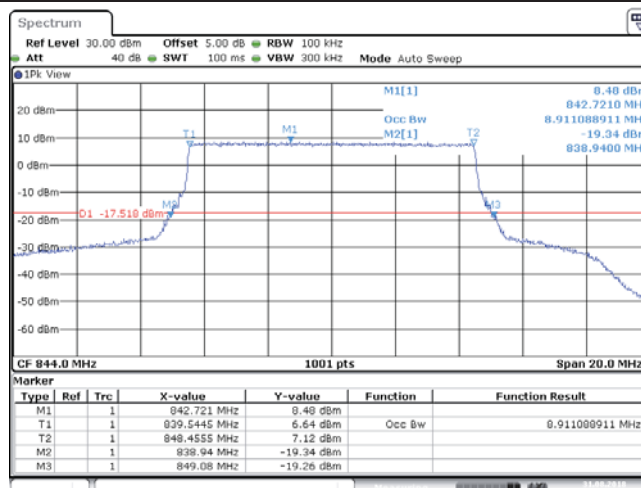
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BAND5_10MHz_16QAM_20525_50RB#0



Date: 07 MAR 2019 16:42:16

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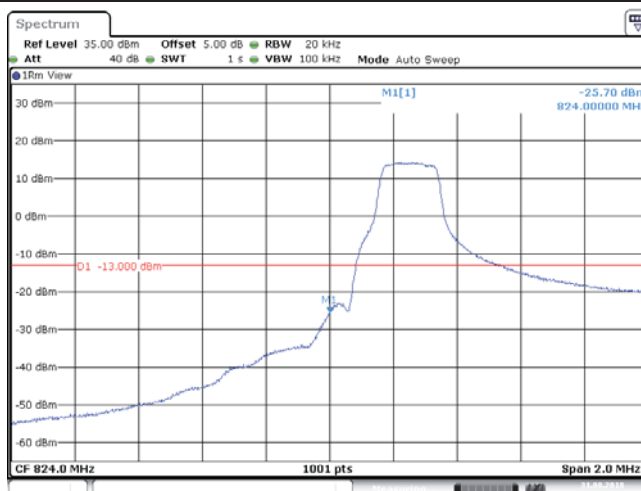
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5. Band Edge Compliance

5.1. Test Plots

BAND5_1.4MHz_QPSK_20407_1RB#0



Date: 07 MAR 2019 14:26:04

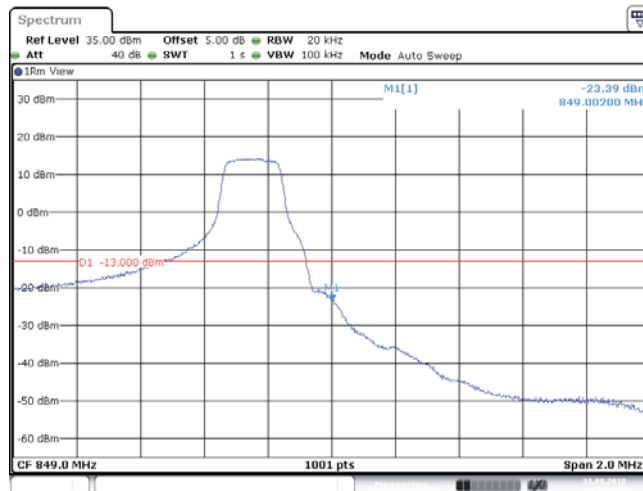
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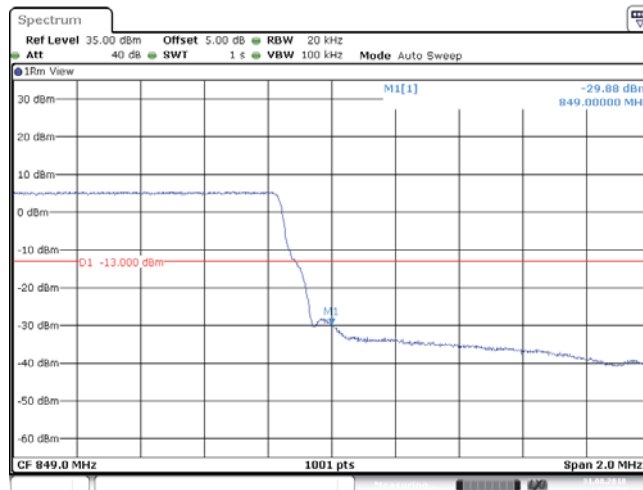
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Date: 07 MAR 2019 14:31:13

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Date: 07 MAR 2019 14:35:54

BAND5_1.4MHz_64QAM_20407_1RB#0

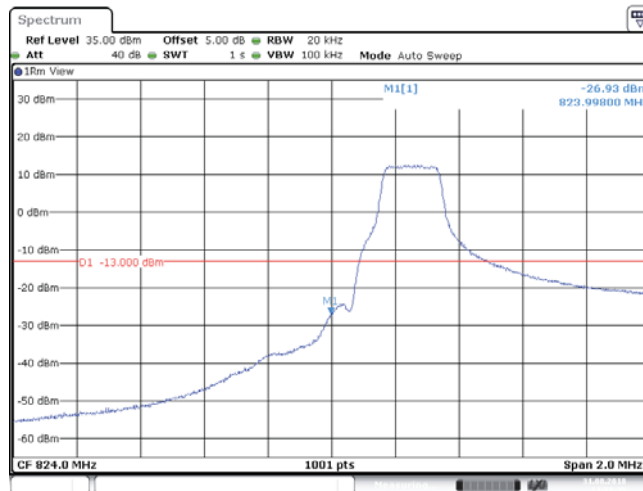


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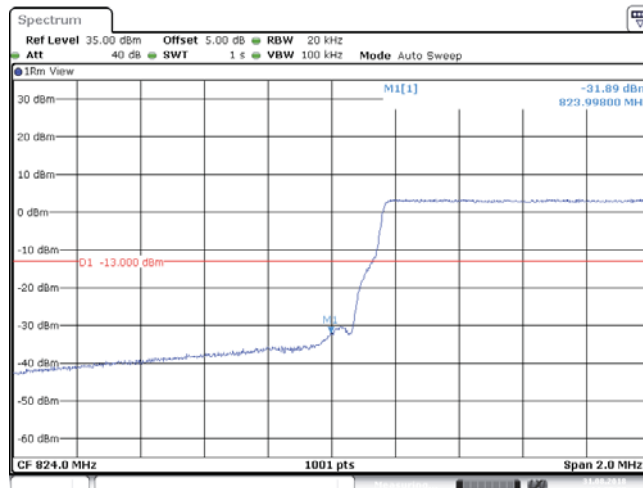
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Date: 07 MAR 2019 14:27:36

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Date: 07 MAR 2019 14:35:08

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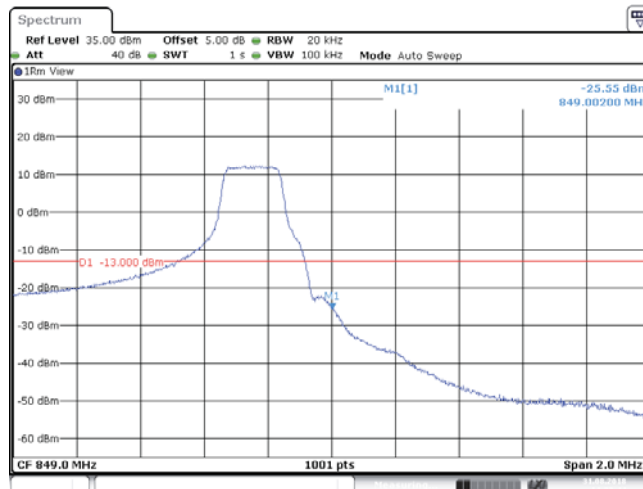


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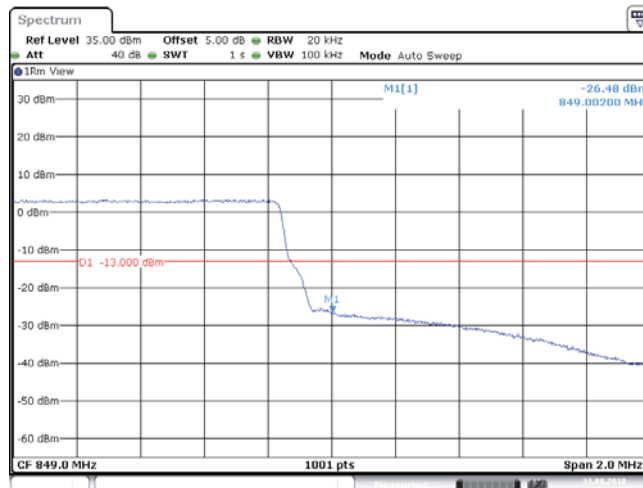
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Date: 07 MAR 2019 14:32:45

BAND5_1.4MHz_64QAM_20643_6RB#0



Date: 07 MAR 2019 14:37:26

BAND5_1.4MHz_16QAM_20407_1RB#0

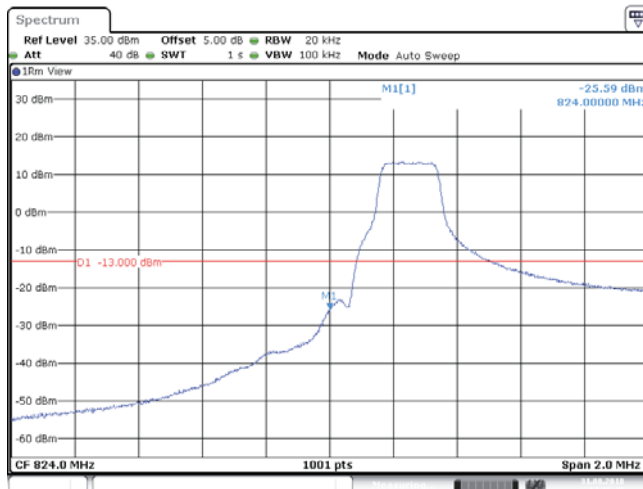


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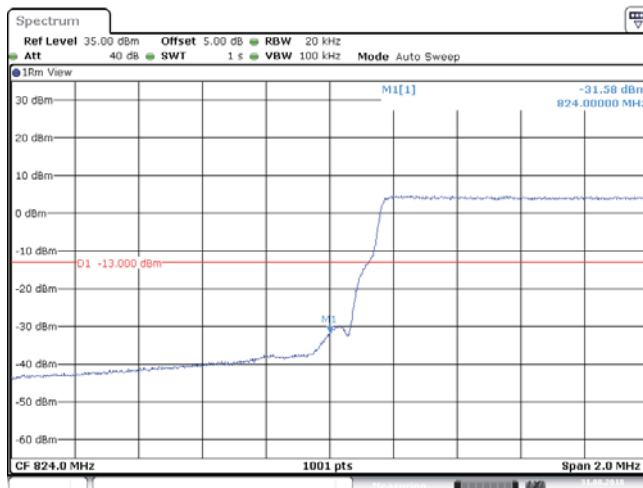
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Date: 07 MAR 2019 14:26:59

BAND5_1.4MHz_16QAM_20407_6RB#0



Date: 07 MAR 2019 14:34:22

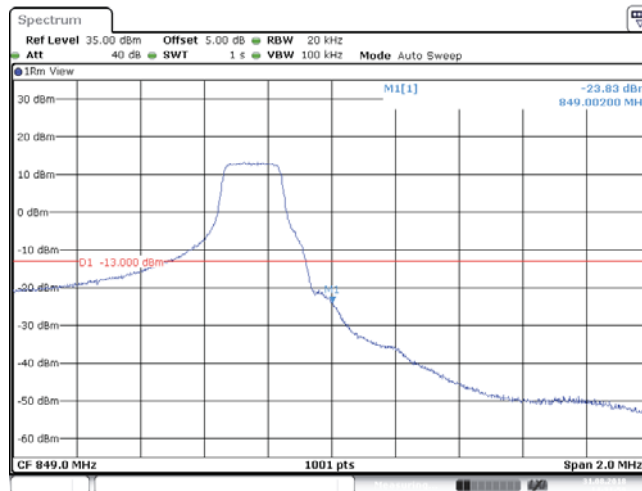
BAND5_1.4MHz_16QAM_20643_1RB#5



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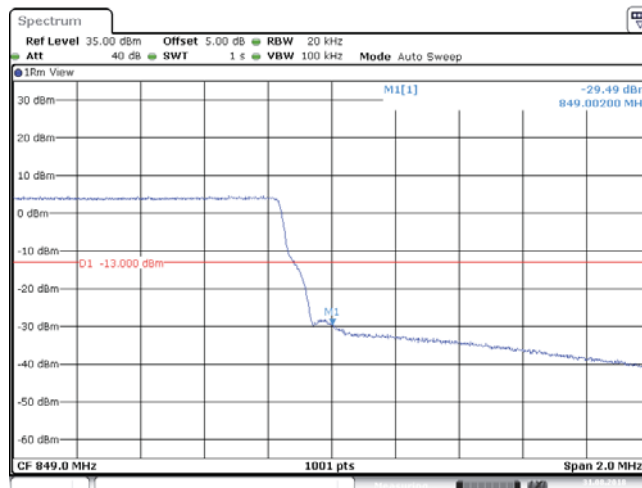
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Date: 07 MAR 2019 14:31:59

BAND5_1.4MHz_16QAM_20643_6RB#0



Date: 07 MAR 2019 14:36:40

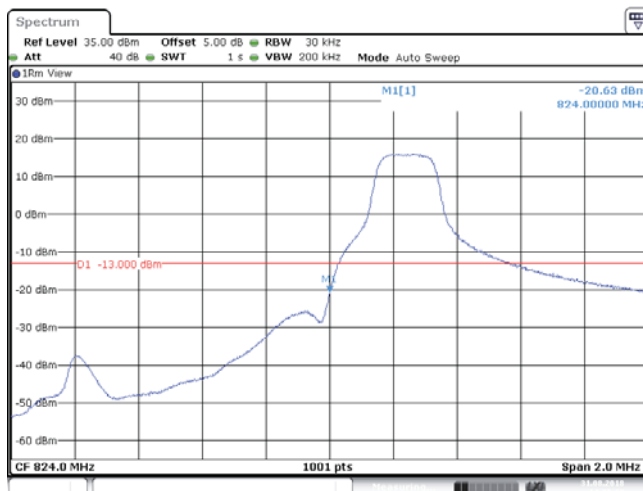
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Date: 07 MAR 2019 14:38:19

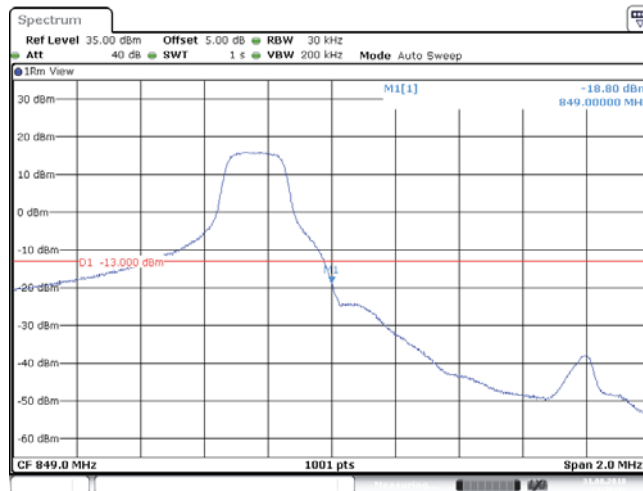
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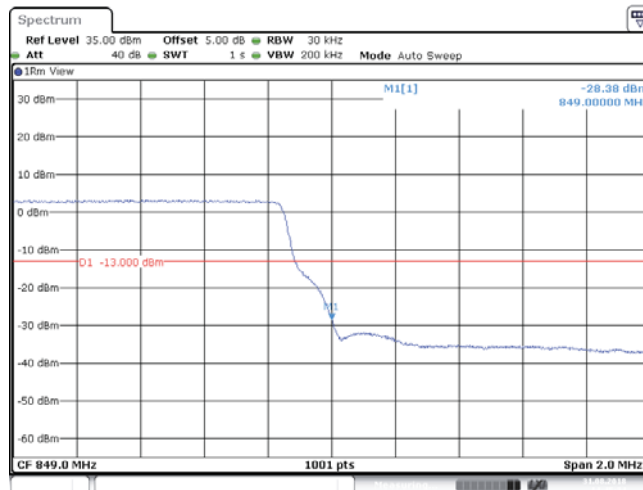
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Date: 07 MAR 2019 14:40:42

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Date: 07 MAR 2019 14:45:24

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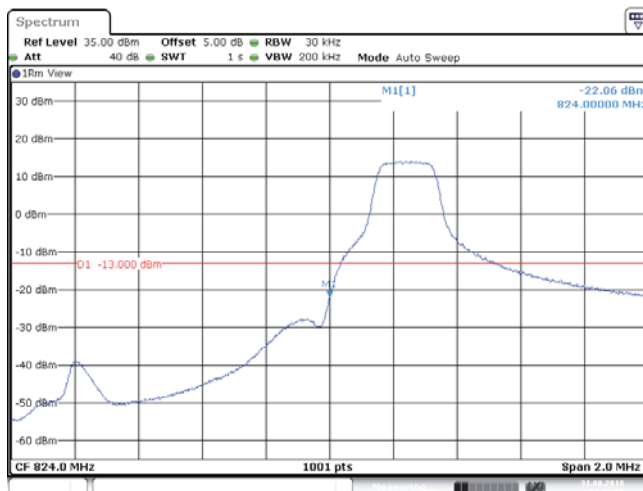


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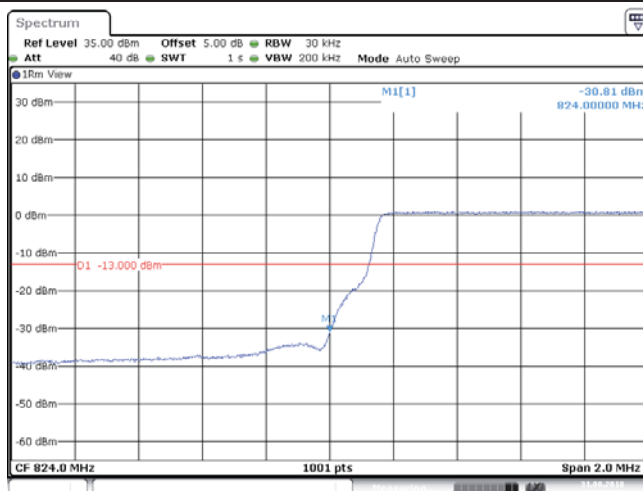
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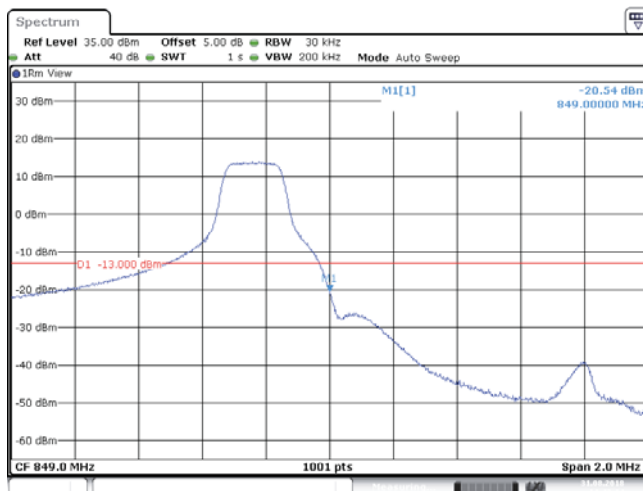
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Date: 07 MAR 2019 14:44:38

BAND5_3MHz_64QAM_20635_1RB#14



Date: 07 MAR 2019 14:42:14

BAND5_3MHz_64QAM_20635_15RB#0



Date: 07 MAR 2019 14:46:56

BAND5_3MHz_16QAM_20415_1RB#0

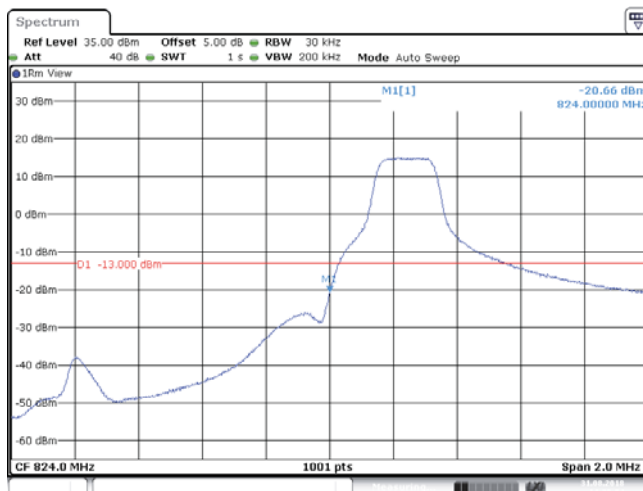


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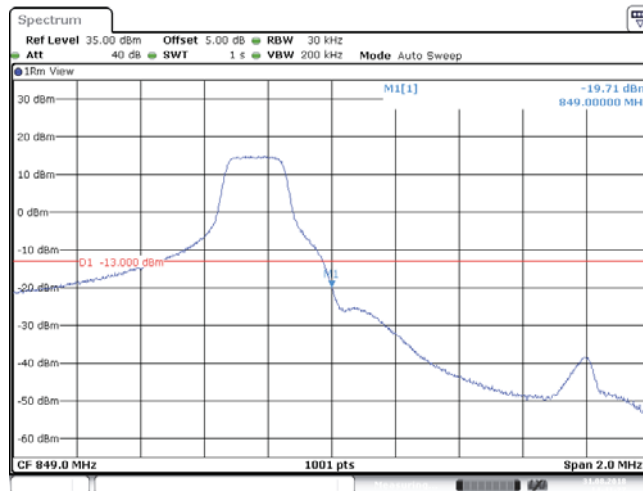
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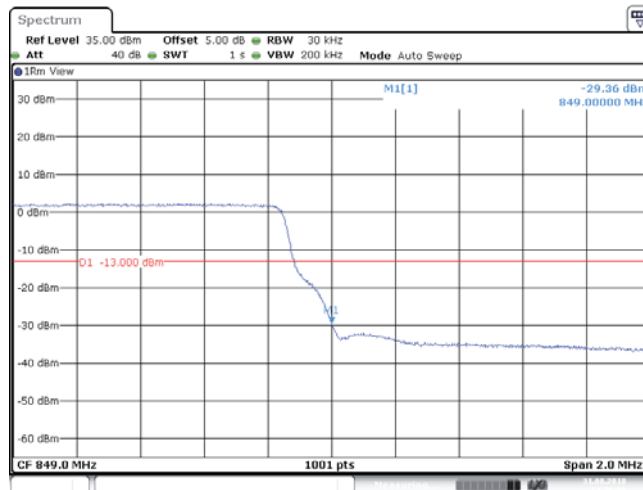
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BAND5_3MHz_16QAM_20635_1RB#14



Date: 07 MAR 2019 14:41:28

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Date: 07 MAR 2019 14:46:18

BAND5_5MHz_QPSK_20425_1RB#0

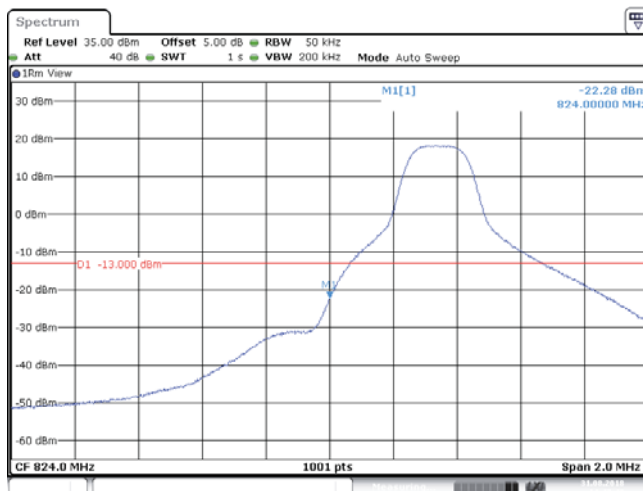


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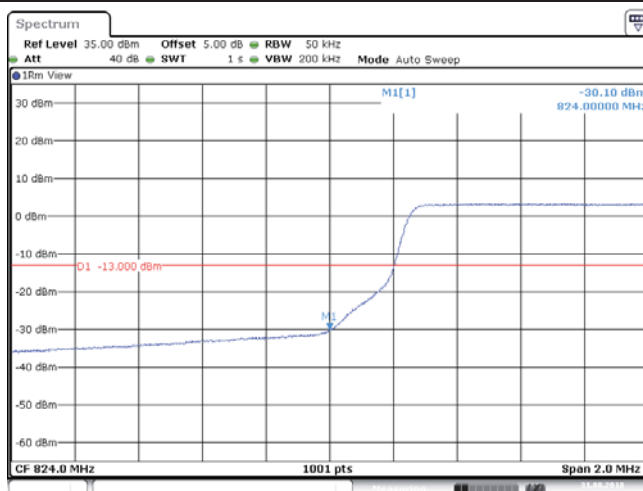
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Date: 07 MAR 2019 14:17:48

BAND5_5MHz_QPSK_20425_25RB#0



Date: 07 MAR 2019 14:52:35

BAND5_5MHz_QPSK_20625_1RB#24

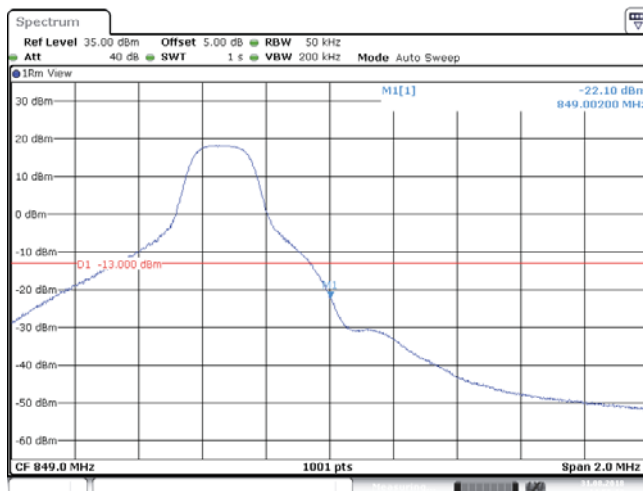


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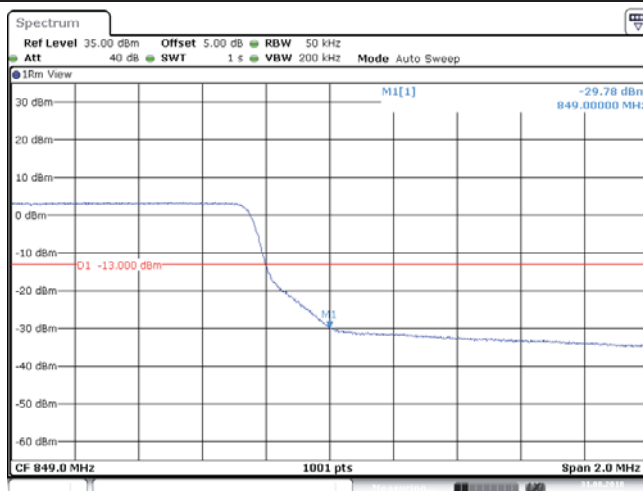
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Date: 07 MAR 2019 14:50:12

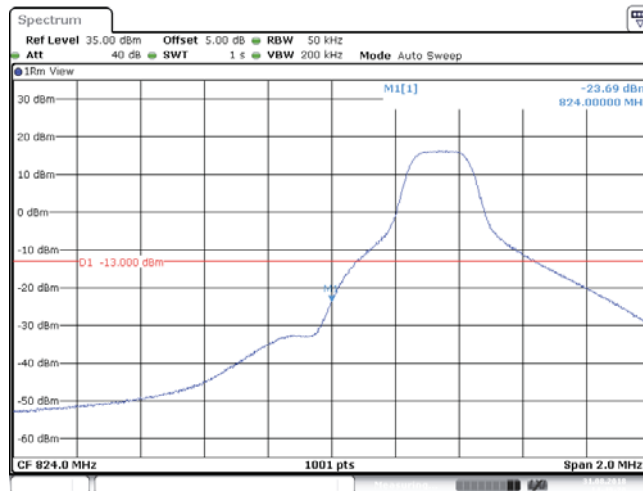
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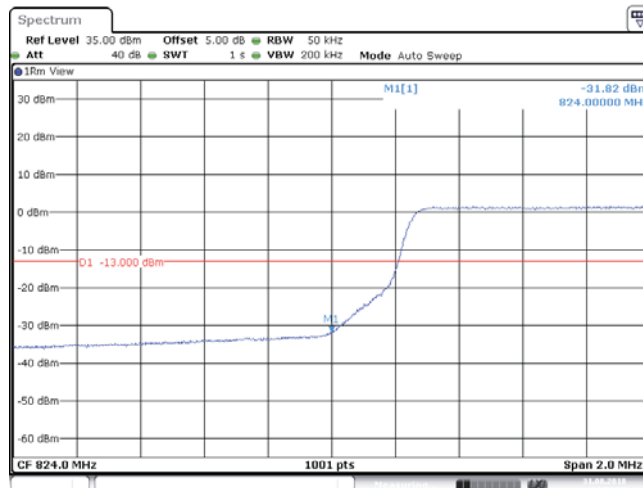
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Date: 07 MAR 2019 14:49:20

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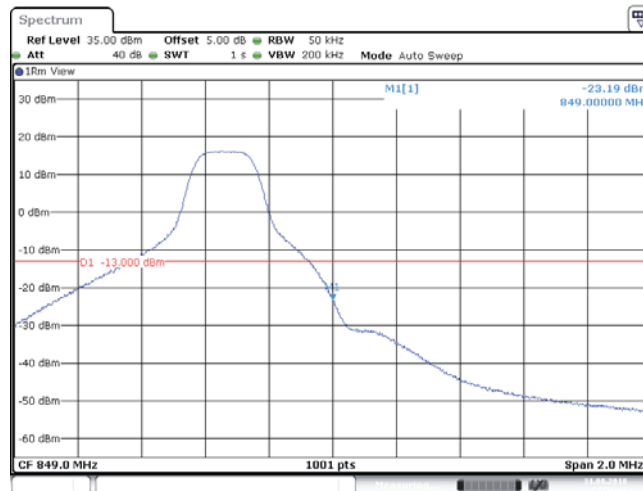
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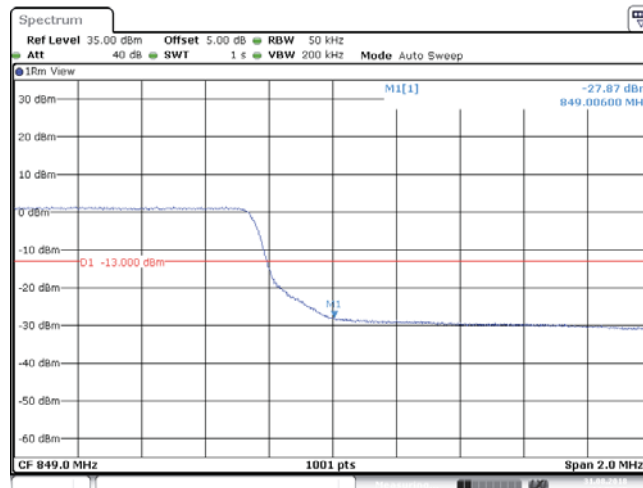
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Date: 07 MAR 2019 14:51:44

BAND5_5MHz_64QAM_20625_25RB#0



Date: 07 MAR 2019 14:56:25

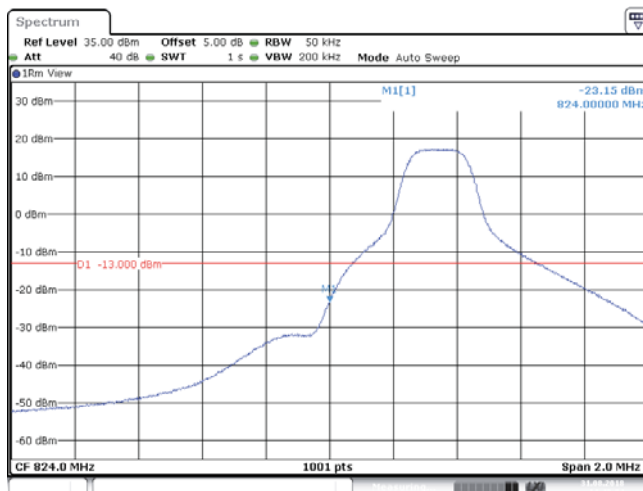
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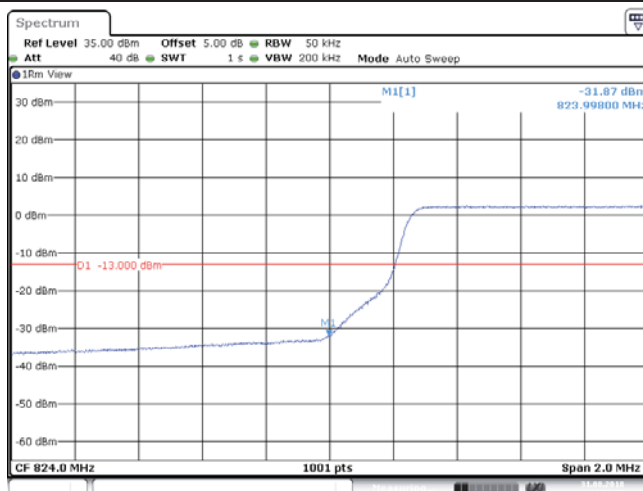
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Date: 07 MAR 2019 14:48:34

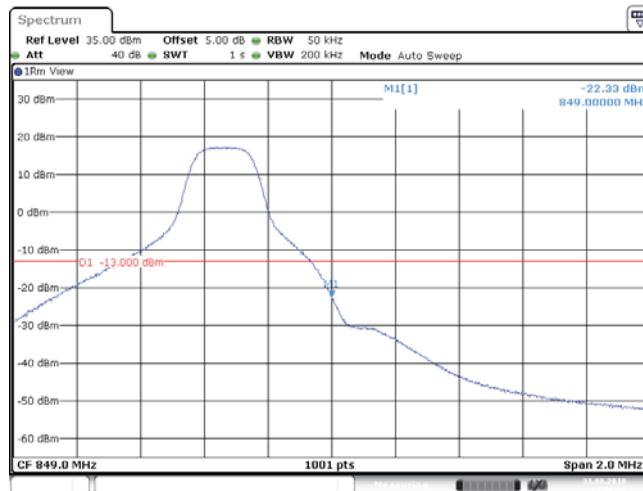
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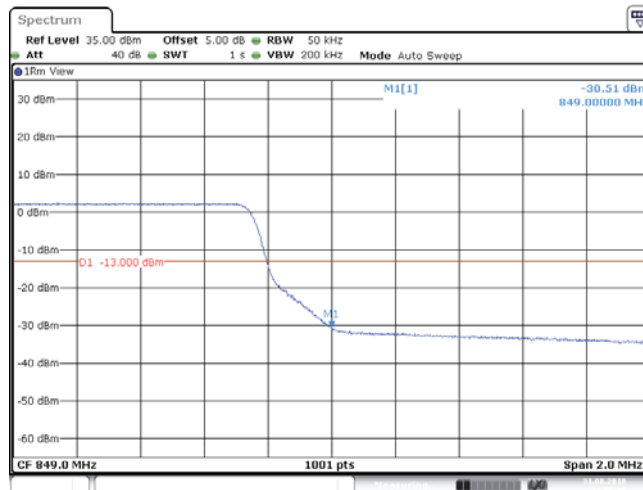
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Date: 07 MAR 2019 14:56:58

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BAND5_10MHz_QPSK_20450_1RB#0

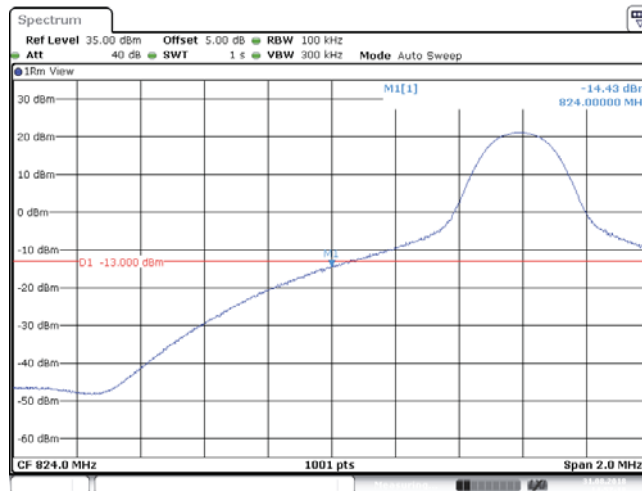


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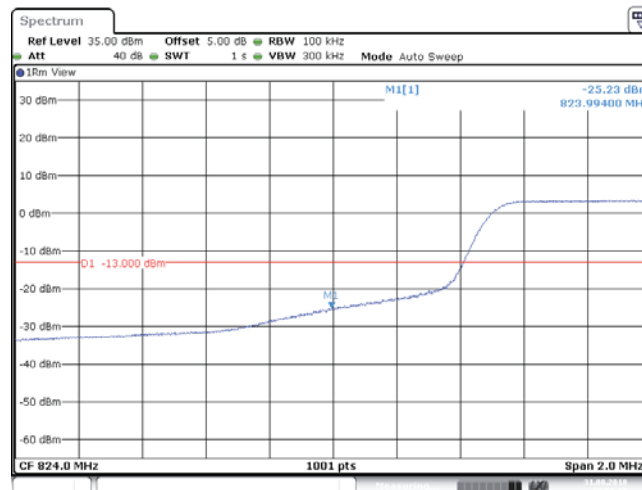
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Date: 07 MAR 2019 14:57:18

BAND5_10MHz_QPSK_20450_50RB#0



Date: 07 MAR 2019 15:02:05

BAND5_10MHz_QPSK_20600_1RB#49

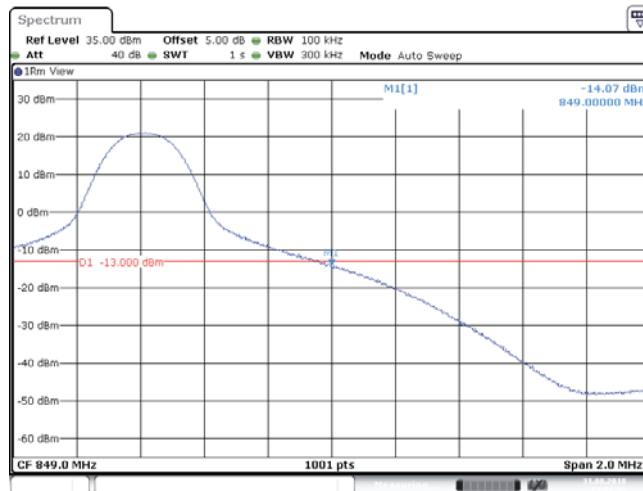


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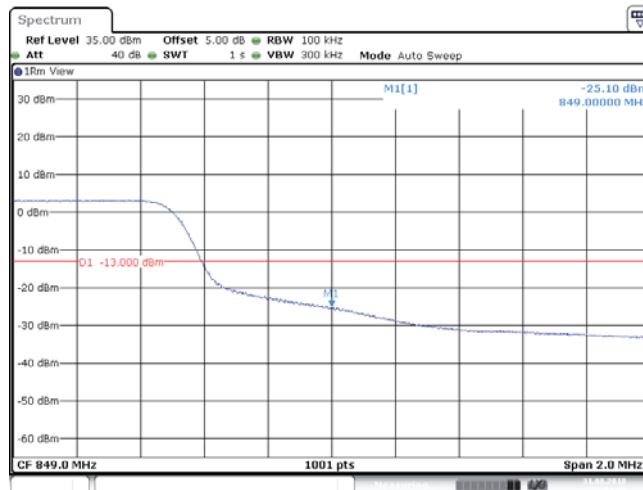
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Date: 07 MAR 2019 14:59:41

BAND5_10MHz_QPSK_20600_50RB#0



Date: 07 MAR 2019 15:54:23

BAND5_10MHz_64QAM_20450_1RB#0

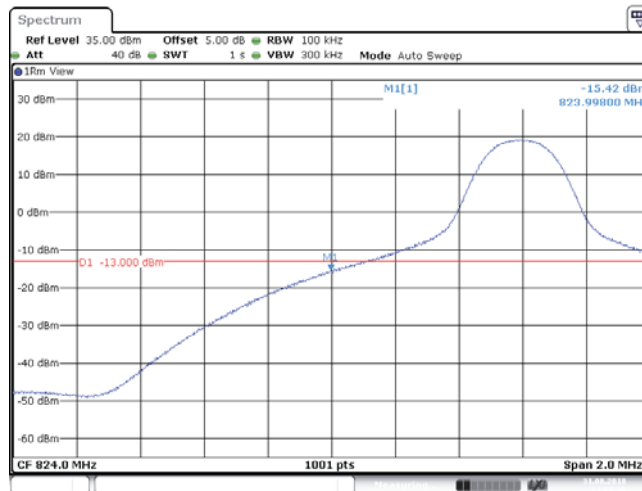


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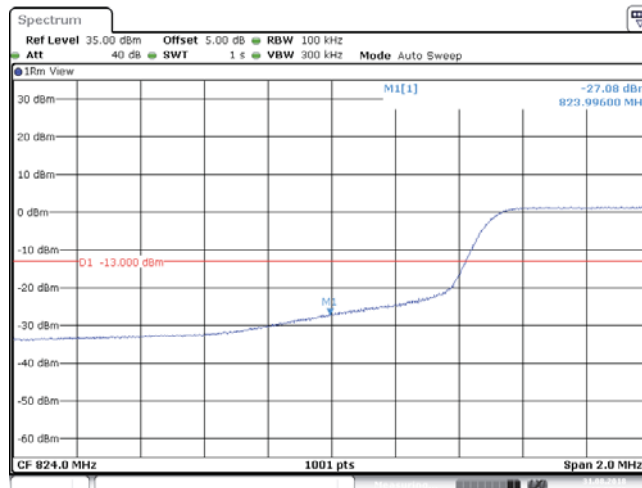
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Date: 07 MAR 2019 14:58:59

BAND5_10MHz_64QAM_20450_50RB#0



Date: 07 MAR 2019 15:03:36

BAND5_10MHz_64QAM_20600_1RB#49

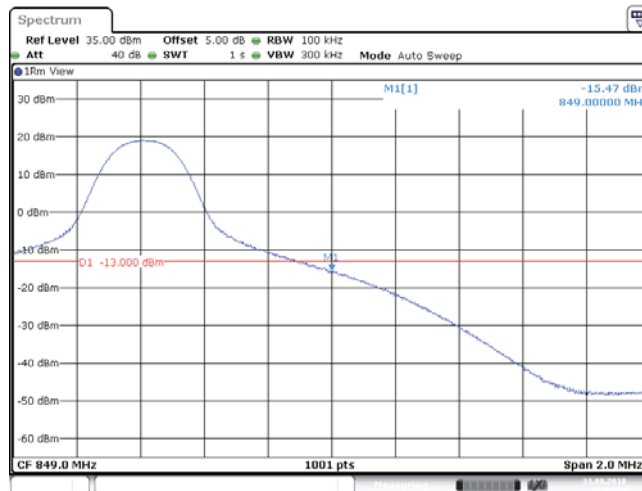


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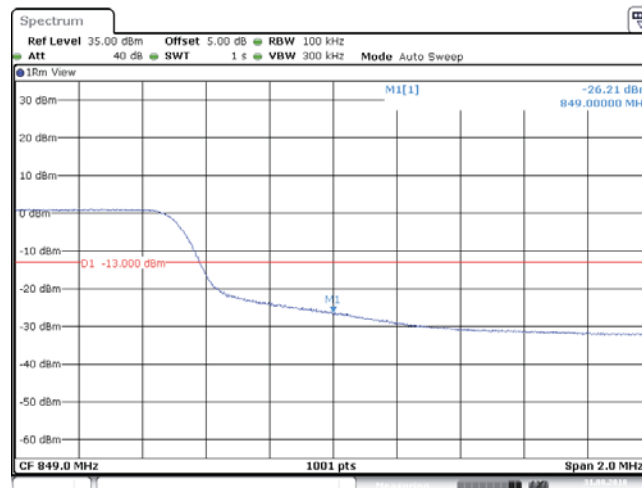
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Date: 07 MAR 2019 15:01:13

BAND5_10MHz_64QAM_20600_50RB#0



Date: 07 MAR 2019 15:05:54

BAND5_10MHz_16QAM_20450_1RB#0

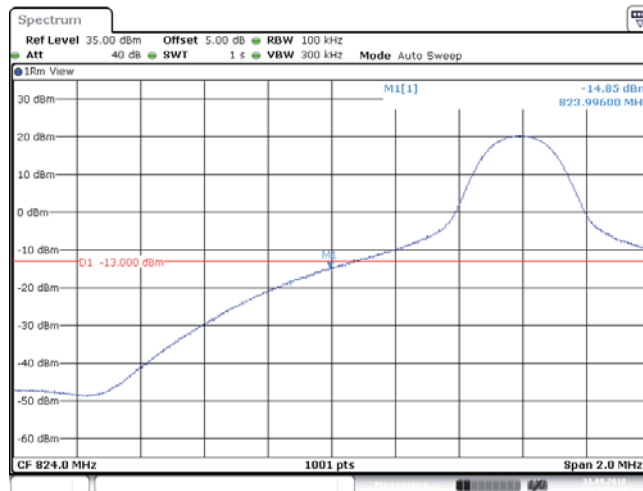


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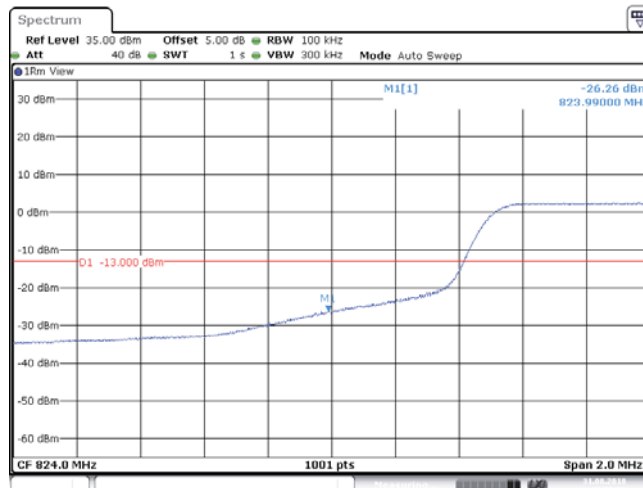
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Date: 07 MAR 2019 14:58:04

BAND5_10MHz_16QAM_20450_50RB#0



Date: 07 MAR 2019 15:02:51

BAND5_10MHz_16QAM_20600_1RB#49



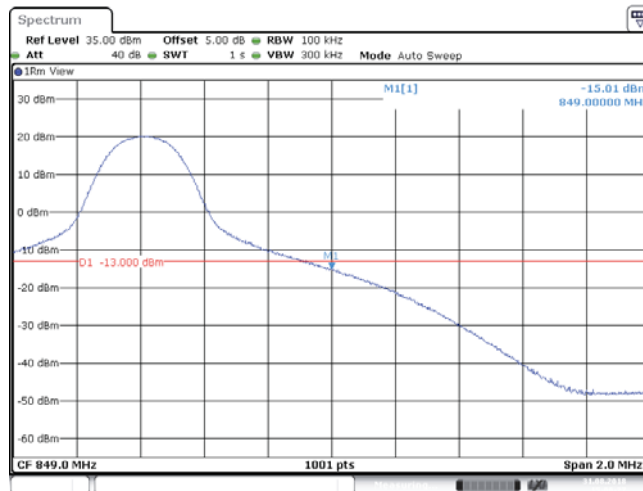
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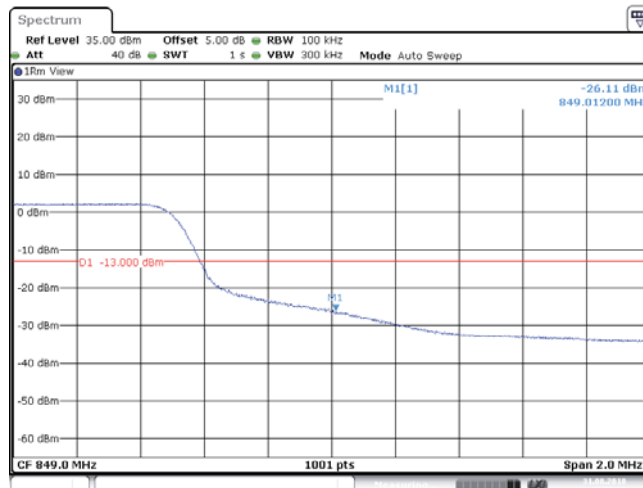
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Date: 07 MAR 2019 15:00:27

BAND5_10MHz_16QAM_20600_50RB#0



Date: 07 MAR 2019 15:05:09



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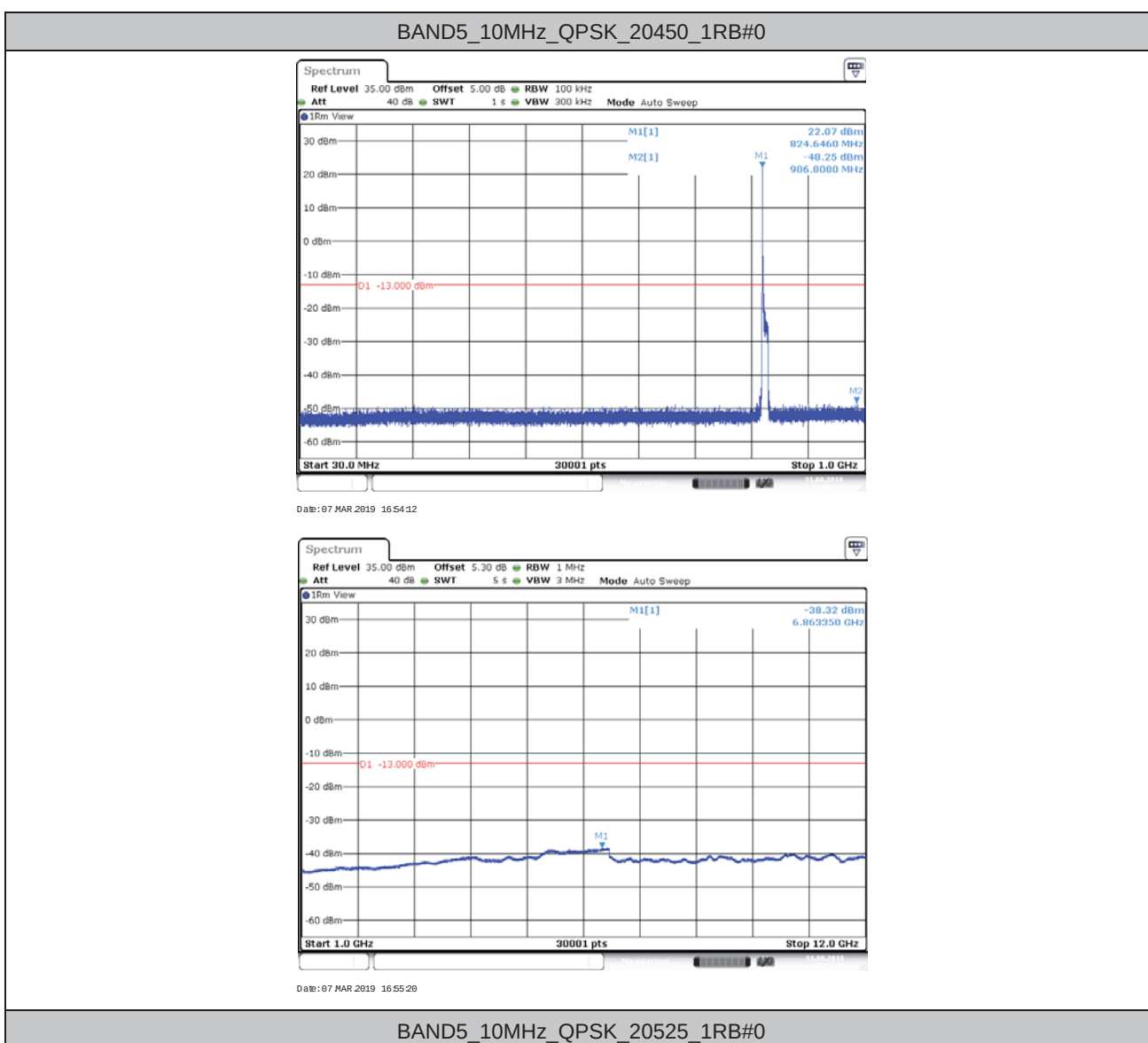
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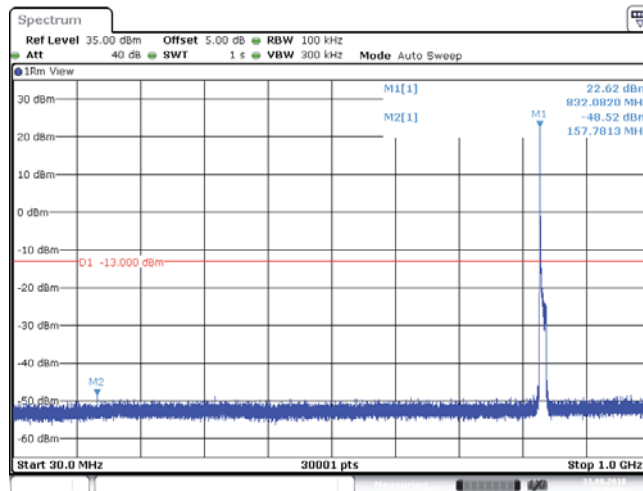
6. Spurious Emission at Antenna Terminal

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

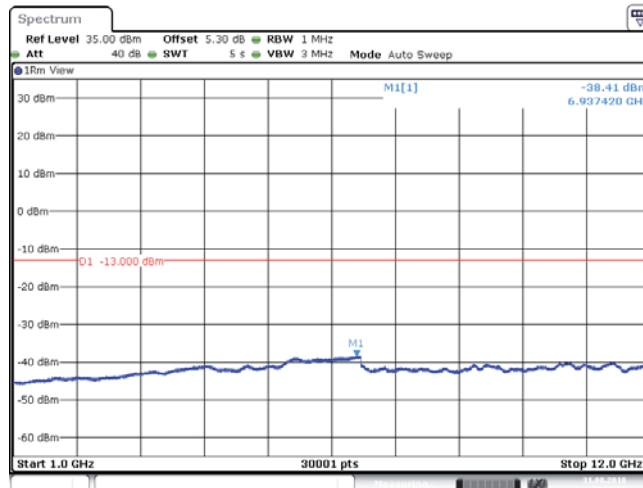
Remark2: only the worst case data displayed in this report.

6.1. Test Plots





Date: 07 MAR 2019 16:58:33



Date: 07 MAR 2019 16:59:40

BAND5_10MHz_64QAM_20450_1RB#0



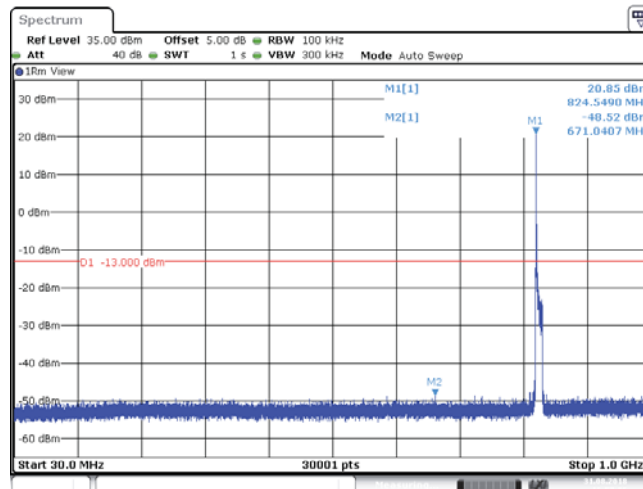
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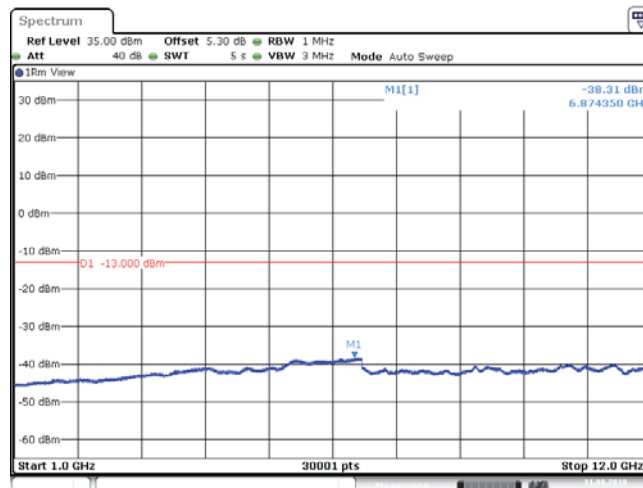
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Date: 07 MAR 2019 16:57:06



Date: 07 MAR 2019 16:58:13

BAND5_10MHz_16QAM_20450_1RB#0



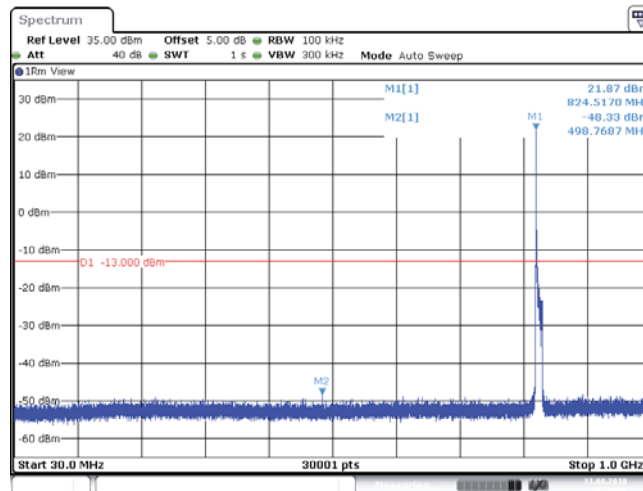
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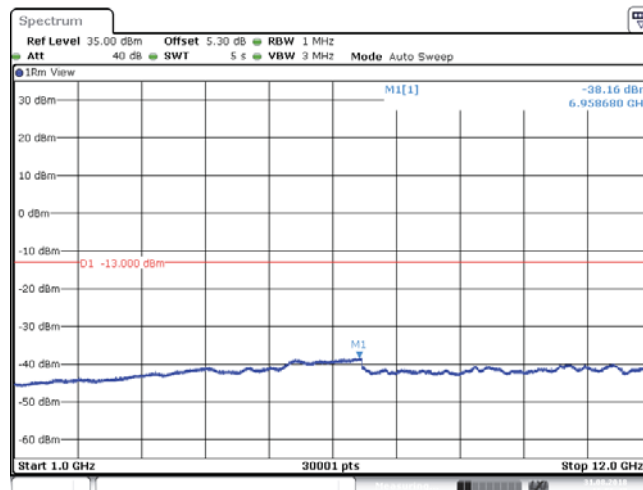
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Date: 07 MAR 2019 16:55:39



Date: 07 MAR 2019 16:56:47



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7. Field Strength of Spurious Radiation

7.1. Test BAND = LTE BAND 5

7.1.1. Test Mode = LTE/TM1 10MHz

7.1.1.1. Test Channel = LCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
65.046667	-82.42	-13.00	69.42	Vertical
104.293333	-65.07	-13.00	52.07	Vertical
1648.500000	-65.40	-13.00	52.40	Vertical
4298.700000	-67.04	-13.00	54.04	Vertical
6048.337500	-65.14	-13.00	52.14	Vertical
7990.537500	-63.90	-13.00	50.90	Vertical
62.666667	-77.93	-13.00	64.93	Horizontal
104.293333	-81.09	-13.00	68.09	Horizontal
1645.000000	-65.55	-13.00	52.55	Horizontal
3520.650000	-69.15	-13.00	56.15	Horizontal
6028.837500	-65.50	-13.00	52.50	Horizontal
9265.350000	-63.68	-13.00	50.68	Horizontal

7.1.1.2. Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
64.813333	-81.82	-13.00	68.82	Vertical
104.293333	-64.93	-13.00	51.93	Vertical
1663.500000	-65.10	-13.00	52.10	Vertical
3287.625000	-68.79	-13.00	55.79	Vertical
4267.012500	-67.14	-13.00	54.14	Vertical
7938.375000	-63.81	-13.00	50.81	Vertical
62.900000	-77.75	-13.00	64.75	Horizontal
104.293333	-80.32	-13.00	67.32	Horizontal



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1657.000000	-65.12	-13.00	52.12	Horizontal
4338.187500	-67.10	-13.00	54.10	Horizontal
6169.237500	-65.47	-13.00	52.47	Horizontal
8501.925000	-64.83	-13.00	51.83	Horizontal

7.1.1.3. Test Channel = HCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
64.160000	-81.63	-13.00	68.63	Vertical
104.246667	-65.13	-13.00	52.13	Vertical
1684.000000	-64.77	-13.00	51.77	Vertical
4378.650000	-67.45	-13.00	54.45	Vertical
6057.112500	-65.09	-13.00	52.09	Vertical
9248.775000	-63.50	-13.00	50.50	Vertical
62.946667	-77.69	-13.00	64.69	Horizontal
104.293333	-81.07	-13.00	68.07	Horizontal
1679.000000	-64.99	-13.00	51.99	Horizontal
4249.462500	-67.16	-13.00	54.16	Horizontal
6053.212500	-65.48	-13.00	52.48	Horizontal
7953.487500	-63.81	-13.00	50.81	Horizontal

Remark:

- 1) The disturbance below 30MHz was very low, and the above harmonics were the highest point could be found when testing, so only the worst case data had been displayed.
- 2) We have tested all modulation and all Bandwidth , but only the worst case data presented in this report.



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8. Frequency Stability

8.1. Frequency Vs Voltage

BAND	Bandwidth	Modulation	Channel	Voltage						
				RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
BAND5	10MHz	QPSK	20450	50RB#0	VL	NT	1.20	0.001448	±2.5	PASS
				50RB#0	VN	NT	5.00	0.006031	±2.5	PASS
				50RB#0	VH	NT	2.40	0.002895	±2.5	PASS
			20525	50RB#0	VL	NT	5.80	0.006934	±2.5	PASS
				50RB#0	VN	NT	5.80	0.006934	±2.5	PASS
				50RB#0	VH	NT	2.50	0.002989	±2.5	PASS
			20600	50RB#0	VL	NT	1.50	0.001777	±2.5	PASS
				50RB#0	VN	NT	7.50	0.008886	±2.5	PASS
				50RB#0	VH	NT	4.20	0.004976	±2.5	PASS
		64QAM	20450	50RB#0	VL	NT	2.20	0.002654	±2.5	PASS
				50RB#0	VN	NT	0.40	0.000483	±2.5	PASS
				50RB#0	VH	NT	1.40	0.001689	±2.5	PASS
			20525	50RB#0	VL	NT	3.10	0.003706	±2.5	PASS
				50RB#0	VN	NT	5.50	0.006575	±2.5	PASS
				50RB#0	VH	NT	1.40	0.001674	±2.5	PASS
			20600	50RB#0	VL	NT	2.30	0.002725	±2.5	PASS
				50RB#0	VN	NT	1.50	0.001777	±2.5	PASS
				50RB#0	VH	NT	1.00	0.001185	±2.5	PASS
		16QAM	20450	50RB#0	VL	NT	2.40	0.002895	±2.5	PASS
				50RB#0	VN	NT	2.80	0.003378	±2.5	PASS
				50RB#0	VH	NT	3.90	0.004704	±2.5	PASS
			20525	50RB#0	VL	NT	4.90	0.005858	±2.5	PASS
				50RB#0	VN	NT	3.30	0.003945	±2.5	PASS
				50RB#0	VH	NT	4.30	0.005140	±2.5	PASS
			20600	50RB#0	VL	NT	8.40	0.009953	±2.5	PASS
				50RB#0	VN	NT	3.90	0.004621	±2.5	PASS
				50RB#0	VH	NT	5.70	0.006754	±2.5	PASS





8.2.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	4.90	0.005911	±2.5	PASS
				50RB#0	NV	-20	3.60	0.004343	±2.5	PASS
				50RB#0	NV	-10	4.80	0.005790	±2.5	PASS
				50RB#0	NV	0	2.70	0.003257	±2.5	PASS
				50RB#0	NV	10	2.30	0.002774	±2.5	PASS
				50RB#0	NV	20	-0.30	-0.000362	±2.5	PASS
				50RB#0	NV	30	7.80	0.009409	±2.5	PASS
				50RB#0	NV	40	4.60	0.005549	±2.5	PASS
				50RB#0	NV	50	6.00	0.007238	±2.5	PASS
			20525	50RB#0	NV	-30	2.30	0.002750	±2.5	PASS
				50RB#0	NV	-20	2.70	0.003228	±2.5	PASS
				50RB#0	NV	-10	6.70	0.008010	±2.5	PASS
				50RB#0	NV	0	2.20	0.002630	±2.5	PASS
				50RB#0	NV	10	1.60	0.001913	±2.5	PASS
				50RB#0	NV	20	3.00	0.003586	±2.5	PASS
				50RB#0	NV	30	6.50	0.007770	±2.5	PASS
				50RB#0	NV	40	4.20	0.005021	±2.5	PASS
				50RB#0	NV	50	3.60	0.004304	±2.5	PASS
			20600	50RB#0	NV	-30	2.30	0.002725	±2.5	PASS
				50RB#0	NV	-20	8.70	0.010308	±2.5	PASS
				50RB#0	NV	-10	6.80	0.008057	±2.5	PASS
				50RB#0	NV	0	6.40	0.007583	±2.5	PASS
				50RB#0	NV	10	3.50	0.004147	±2.5	PASS
				50RB#0	NV	20	2.50	0.002962	±2.5	PASS
				50RB#0	NV	30	2.60	0.003081	±2.5	PASS
				50RB#0	NV	40	3.80	0.004502	±2.5	PASS
				50RB#0	NV	50	6.40	0.007583	±2.5	PASS
		64QAM	20450	50RB#0	NV	-30	2.40	0.002895	±2.5	PASS
				50RB#0	NV	-20	2.60	0.003136	±2.5	PASS
				50RB#0	NV	-10	2.70	0.003257	±2.5	PASS
				50RB#0	NV	0	2.70	0.003257	±2.5	PASS
				50RB#0	NV	10	1.50	0.001809	±2.5	PASS
				50RB#0	NV	20	3.70	0.004463	±2.5	PASS
				50RB#0	NV	30	0.20	0.000241	±2.5	PASS
				50RB#0	NV	40	4.50	0.005428	±2.5	PASS
				50RB#0	NV	50	3.40	0.004101	±2.5	PASS
			20525	50RB#0	NV	-30	2.70	0.003228	±2.5	PASS
				50RB#0	NV	-20	2.70	0.003228	±2.5	PASS



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				50RB#0	NV	-10	6.70	0.008010	±2.5	PASS
				50RB#0	NV	0	3.40	0.004065	±2.5	PASS
				50RB#0	NV	10	2.30	0.002750	±2.5	PASS
				50RB#0	NV	20	3.90	0.004662	±2.5	PASS
				50RB#0	NV	30	2.70	0.003228	±2.5	PASS
				50RB#0	NV	40	6.40	0.007651	±2.5	PASS
				50RB#0	NV	50	2.10	0.002510	±2.5	PASS
			20600	50RB#0	NV	-30	5.30	0.006280	±2.5	PASS
				50RB#0	NV	-20	4.80	0.005687	±2.5	PASS
				50RB#0	NV	-10	2.20	0.002607	±2.5	PASS
				50RB#0	NV	0	3.80	0.004502	±2.5	PASS
				50RB#0	NV	10	3.10	0.003673	±2.5	PASS
				50RB#0	NV	20	5.80	0.006872	±2.5	PASS
				50RB#0	NV	30	4.10	0.004858	±2.5	PASS
				50RB#0	NV	40	2.70	0.003199	±2.5	PASS
				50RB#0	NV	50	2.60	0.003081	±2.5	PASS
		16QAM	20450	50RB#0	NV	-30	2.00	0.002413	±2.5	PASS
				50RB#0	NV	-20	6.90	0.008323	±2.5	PASS
				50RB#0	NV	-10	3.00	0.003619	±2.5	PASS
				50RB#0	NV	0	0.80	0.000965	±2.5	PASS
				50RB#0	NV	10	2.10	0.002533	±2.5	PASS
				50RB#0	NV	20	3.70	0.004463	±2.5	PASS
				50RB#0	NV	30	2.60	0.003136	±2.5	PASS
				50RB#0	NV	40	2.90	0.003498	±2.5	PASS
				50RB#0	NV	50	1.90	0.002292	±2.5	PASS
			20525	50RB#0	NV	-30	7.00	0.008368	±2.5	PASS
				50RB#0	NV	-20	4.50	0.005380	±2.5	PASS
				50RB#0	NV	-10	1.60	0.001913	±2.5	PASS
				50RB#0	NV	0	3.50	0.004184	±2.5	PASS
				50RB#0	NV	10	3.30	0.003945	±2.5	PASS
				50RB#0	NV	20	2.00	0.002391	±2.5	PASS
				50RB#0	NV	30	3.00	0.003586	±2.5	PASS
				50RB#0	NV	40	5.00	0.005977	±2.5	PASS
				50RB#0	NV	50	3.30	0.003945	±2.5	PASS
			20600	50RB#0	NV	-30	3.50	0.004147	±2.5	PASS
				50RB#0	NV	-20	4.70	0.005569	±2.5	PASS
				50RB#0	NV	-10	1.70	0.002014	±2.5	PASS
				50RB#0	NV	0	3.50	0.004147	±2.5	PASS
				50RB#0	NV	10	3.20	0.003791	±2.5	PASS
				50RB#0	NV	20	0.30	0.000355	±2.5	PASS
				50RB#0	NV	30	5.90	0.006991	±2.5	PASS
				50RB#0	NV	40	7.30	0.008649	±2.5	PASS
				50RB#0	NV	50	2.50	0.002962	±2.5	PASS

The End



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