

Appendix B

E-UTRA BAND 26 (814MHz-824MHz)



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1. Effective (Isotropic) Radiated Power

1.1. Test Result

BAND	Bandwidth	Modulation	Channel	RB Configuration	Result (dBm)	Verdict
Band26	1.4MHz	QPSK	26697	1RB#0	23.40	PASS
Band26	1.4MHz	QPSK	26697	1RB#2	23.31	PASS
Band26	1.4MHz	QPSK	26697	1RB#5	23.17	PASS
Band26	1.4MHz	QPSK	26697	3RB#0	23.38	PASS
Band26	1.4MHz	QPSK	26697	3RB#1	23.57	PASS
Band26	1.4MHz	QPSK	26697	3RB#3	23.58	PASS
Band26	1.4MHz	QPSK	26697	6RB#0	22.51	PASS
Band26	1.4MHz	QPSK	26740	1RB#0	23.57	PASS
Band26	1.4MHz	QPSK	26740	1RB#2	23.57	PASS
Band26	1.4MHz	QPSK	26740	1RB#5	23.59	PASS
Band26	1.4MHz	QPSK	26740	3RB#0	23.70	PASS
Band26	1.4MHz	QPSK	26740	3RB#1	23.73	PASS
Band26	1.4MHz	QPSK	26740	3RB#3	23.90	PASS
Band26	1.4MHz	QPSK	26740	6RB#0	22.72	PASS
Band26	1.4MHz	QPSK	26783	1RB#0	23.44	PASS
Band26	1.4MHz	QPSK	26783	1RB#2	23.65	PASS
Band26	1.4MHz	QPSK	26783	1RB#5	23.44	PASS
Band26	1.4MHz	QPSK	26783	3RB#0	23.66	PASS
Band26	1.4MHz	QPSK	26783	3RB#1	23.82	PASS
Band26	1.4MHz	QPSK	26783	3RB#3	23.83	PASS
Band26	1.4MHz	QPSK	26783	6RB#0	22.63	PASS
Band26	1.4MHz	16QAM	26697	1RB#0	22.19	PASS
Band26	1.4MHz	16QAM	26697	1RB#2	22.28	PASS
Band26	1.4MHz	16QAM	26697	1RB#5	22.24	PASS
Band26	1.4MHz	16QAM	26697	3RB#0	22.65	PASS
Band26	1.4MHz	16QAM	26697	3RB#1	22.59	PASS
Band26	1.4MHz	16QAM	26697	3RB#3	22.61	PASS
Band26	1.4MHz	16QAM	26697	6RB#0	21.51	PASS
Band26	1.4MHz	16QAM	26740	1RB#0	22.21	PASS
Band26	1.4MHz	16QAM	26740	1RB#2	22.23	PASS
Band26	1.4MHz	16QAM	26740	1RB#5	22.07	PASS
Band26	1.4MHz	16QAM	26740	3RB#0	22.91	PASS



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Band26	1.4MHz	16QAM	26740	3RB#1	22.95	PASS
Band26	1.4MHz	16QAM	26740	3RB#3	22.79	PASS
Band26	1.4MHz	16QAM	26740	6RB#0	21.68	PASS
Band26	1.4MHz	16QAM	26783	1RB#0	22.28	PASS
Band26	1.4MHz	16QAM	26783	1RB#2	22.36	PASS
Band26	1.4MHz	16QAM	26783	1RB#5	22.16	PASS
Band26	1.4MHz	16QAM	26783	3RB#0	22.87	PASS
Band26	1.4MHz	16QAM	26783	3RB#1	22.86	PASS
Band26	1.4MHz	16QAM	26783	3RB#3	22.78	PASS
Band26	1.4MHz	16QAM	26783	6RB#0	21.67	PASS
Band26	3MHz	QPSK	26705	1RB#0	23.54	PASS
Band26	3MHz	QPSK	26705	1RB#8	23.55	PASS
Band26	3MHz	QPSK	26705	1RB#14	23.53	PASS
Band26	3MHz	QPSK	26705	8RB#0	22.66	PASS
Band26	3MHz	QPSK	26705	8RB#4	22.53	PASS
Band26	3MHz	QPSK	26705	8RB#7	22.50	PASS
Band26	3MHz	QPSK	26705	15RB#0	22.58	PASS
Band26	3MHz	QPSK	26740	1RB#0	23.58	PASS
Band26	3MHz	QPSK	26740	1RB#8	23.75	PASS
Band26	3MHz	QPSK	26740	1RB#14	23.64	PASS
Band26	3MHz	QPSK	26740	8RB#0	22.79	PASS
Band26	3MHz	QPSK	26740	8RB#4	22.73	PASS
Band26	3MHz	QPSK	26740	8RB#7	22.69	PASS
Band26	3MHz	QPSK	26740	15RB#0	22.69	PASS
Band26	3MHz	QPSK	26775	1RB#0	23.62	PASS
Band26	3MHz	QPSK	26775	1RB#8	23.70	PASS
Band26	3MHz	QPSK	26775	1RB#14	23.22	PASS
Band26	3MHz	QPSK	26775	8RB#0	22.77	PASS
Band26	3MHz	QPSK	26775	8RB#4	22.76	PASS
Band26	3MHz	QPSK	26775	8RB#7	22.70	PASS
Band26	3MHz	QPSK	26775	15RB#0	22.72	PASS
Band26	3MHz	16QAM	26705	1RB#0	22.18	PASS
Band26	3MHz	16QAM	26705	1RB#8	22.16	PASS
Band26	3MHz	16QAM	26705	1RB#14	22.19	PASS
Band26	3MHz	16QAM	26705	8RB#0	21.45	PASS
Band26	3MHz	16QAM	26705	8RB#4	21.42	PASS
Band26	3MHz	16QAM	26705	8RB#7	21.39	PASS
Band26	3MHz	16QAM	26705	15RB#0	21.51	PASS
Band26	3MHz	16QAM	26740	1RB#0	22.36	PASS



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Band26	3MHz	16QAM	26740	1RB#8	22.29	PASS
Band26	3MHz	16QAM	26740	1RB#14	22.28	PASS
Band26	3MHz	16QAM	26740	8RB#0	21.89	PASS
Band26	3MHz	16QAM	26740	8RB#4	21.59	PASS
Band26	3MHz	16QAM	26740	8RB#7	21.58	PASS
Band26	3MHz	16QAM	26740	15RB#0	21.93	PASS
Band26	3MHz	16QAM	26775	1RB#0	22.10	PASS
Band26	3MHz	16QAM	26775	1RB#8	22.27	PASS
Band26	3MHz	16QAM	26775	1RB#14	22.06	PASS
Band26	3MHz	16QAM	26775	8RB#0	21.58	PASS
Band26	3MHz	16QAM	26775	8RB#4	21.62	PASS
Band26	3MHz	16QAM	26775	8RB#7	21.68	PASS
Band26	3MHz	16QAM	26775	15RB#0	21.84	PASS
Band26	5MHz	QPSK	26715	1RB#0	23.43	PASS
Band26	5MHz	QPSK	26715	1RB#12	23.71	PASS
Band26	5MHz	QPSK	26715	1RB#24	23.53	PASS
Band26	5MHz	QPSK	26715	12RB#0	22.64	PASS
Band26	5MHz	QPSK	26715	12RB#6	22.58	PASS
Band26	5MHz	QPSK	26715	12RB#13	22.68	PASS
Band26	5MHz	QPSK	26715	25RB#0	22.60	PASS
Band26	5MHz	QPSK	26740	1RB#0	23.42	PASS
Band26	5MHz	QPSK	26740	1RB#12	23.83	PASS
Band26	5MHz	QPSK	26740	1RB#24	23.29	PASS
Band26	5MHz	QPSK	26740	12RB#0	22.74	PASS
Band26	5MHz	QPSK	26740	12RB#6	22.83	PASS
Band26	5MHz	QPSK	26740	12RB#13	22.71	PASS
Band26	5MHz	QPSK	26740	25RB#0	22.65	PASS
Band26	5MHz	QPSK	26765	1RB#0	23.30	PASS
Band26	5MHz	QPSK	26765	1RB#12	23.67	PASS
Band26	5MHz	QPSK	26765	1RB#24	23.18	PASS
Band26	5MHz	QPSK	26765	12RB#0	22.70	PASS
Band26	5MHz	QPSK	26765	12RB#6	22.62	PASS
Band26	5MHz	QPSK	26765	12RB#13	22.65	PASS
Band26	5MHz	QPSK	26765	25RB#0	22.75	PASS
Band26	5MHz	16QAM	26715	1RB#0	22.11	PASS
Band26	5MHz	16QAM	26715	1RB#12	22.50	PASS
Band26	5MHz	16QAM	26715	1RB#24	22.05	PASS
Band26	5MHz	16QAM	26715	12RB#0	21.56	PASS
Band26	5MHz	16QAM	26715	12RB#6	21.52	PASS



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Band26	5MHz	16QAM	26715	12RB#13	21.42	PASS
Band26	5MHz	16QAM	26715	25RB#0	21.52	PASS
Band26	5MHz	16QAM	26740	1RB#0	22.25	PASS
Band26	5MHz	16QAM	26740	1RB#12	22.50	PASS
Band26	5MHz	16QAM	26740	1RB#24	22.25	PASS
Band26	5MHz	16QAM	26740	12RB#0	21.72	PASS
Band26	5MHz	16QAM	26740	12RB#6	21.70	PASS
Band26	5MHz	16QAM	26740	12RB#13	21.41	PASS
Band26	5MHz	16QAM	26740	25RB#0	21.61	PASS
Band26	5MHz	16QAM	26765	1RB#0	22.13	PASS
Band26	5MHz	16QAM	26765	1RB#12	22.67	PASS
Band26	5MHz	16QAM	26765	1RB#24	21.78	PASS
Band26	5MHz	16QAM	26765	12RB#0	21.51	PASS
Band26	5MHz	16QAM	26765	12RB#6	21.67	PASS
Band26	5MHz	16QAM	26765	12RB#13	21.61	PASS
Band26	5MHz	16QAM	26765	25RB#0	21.58	PASS
Band26	10MHz	QPSK	26740	1RB#0	23.42	PASS
Band26	10MHz	QPSK	26740	1RB#24	24.07	PASS
Band26	10MHz	QPSK	26740	1RB#49	23.27	PASS
Band26	10MHz	QPSK	26740	25RB#0	22.79	PASS
Band26	10MHz	QPSK	26740	25RB#12	22.85	PASS
Band26	10MHz	QPSK	26740	25RB#25	22.66	PASS
Band26	10MHz	QPSK	26740	50RB#0	22.64	PASS
Band26	10MHz	16QAM	26740	1RB#0	22.34	PASS
Band26	10MHz	16QAM	26740	1RB#24	22.40	PASS
Band26	10MHz	16QAM	26740	1RB#49	22.40	PASS
Band26	10MHz	16QAM	26740	25RB#0	21.57	PASS
Band26	10MHz	16QAM	26740	25RB#12	21.70	PASS
Band26	10MHz	16QAM	26740	25RB#25	21.66	PASS
Band26	10MHz	16QAM	26740	50RB#0	21.56	PASS

Remark:

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

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



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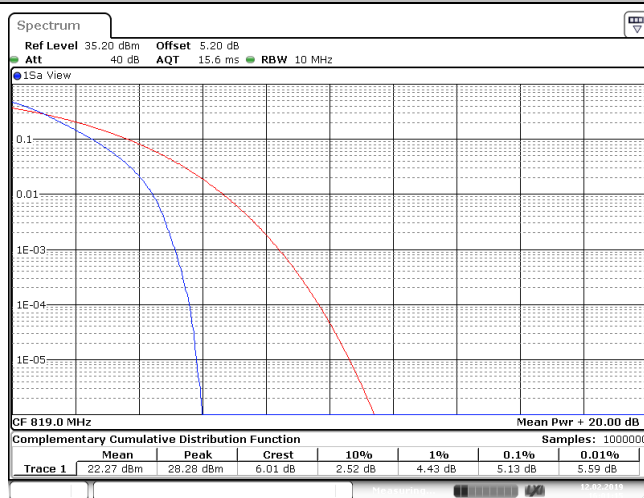
2. Peak-to-Average Ratio(CCDF)

2.1. Test Result

BAND	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band26	10MHz	QPSK	26740	50RB#0	5.13	13	PASS
Band26	10MHz	16QAM	26740	50RB#0	6.06	13	PASS

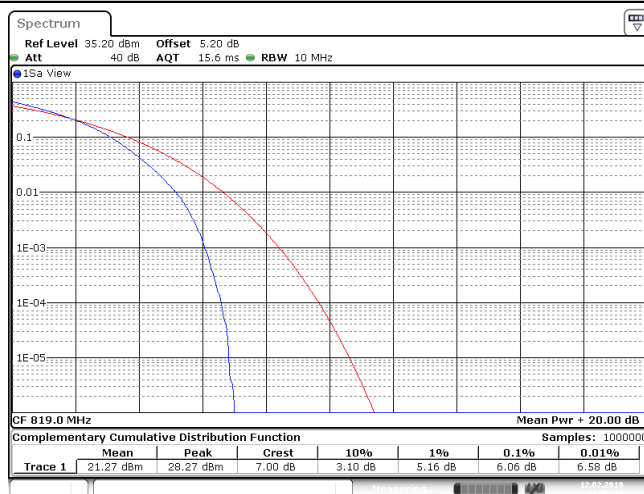
2.2. Test Plots

Band26_10MHz_QPSK_26740_50RB#0



Date: 12 FEB 2019 16:01:15

Band26_10MHz_16QAM_26740_50RB#0



Date: 12 FEB 2019 16:01:28

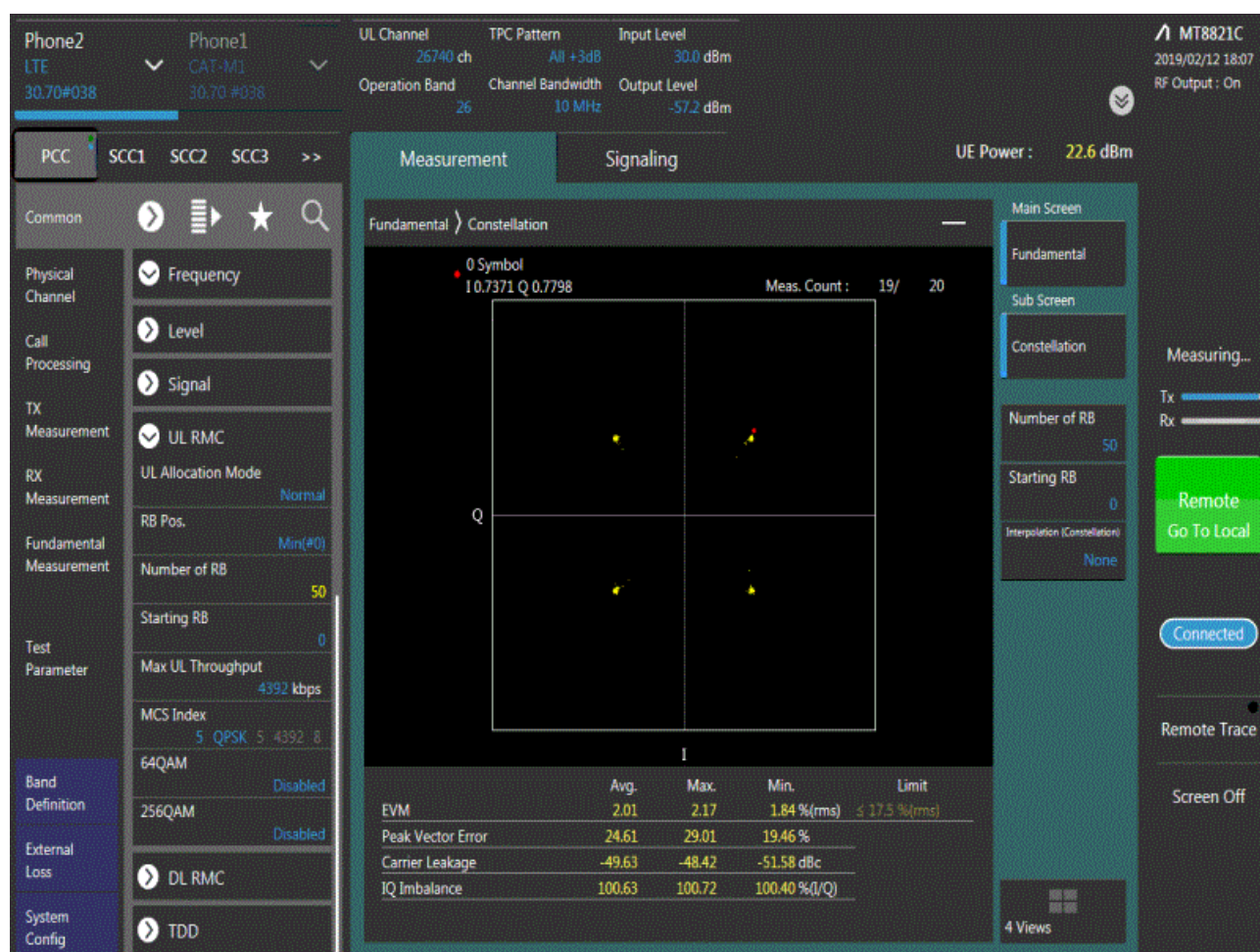


3. Modulation Characteristics

3.1. Test BAND = LTE BAND26

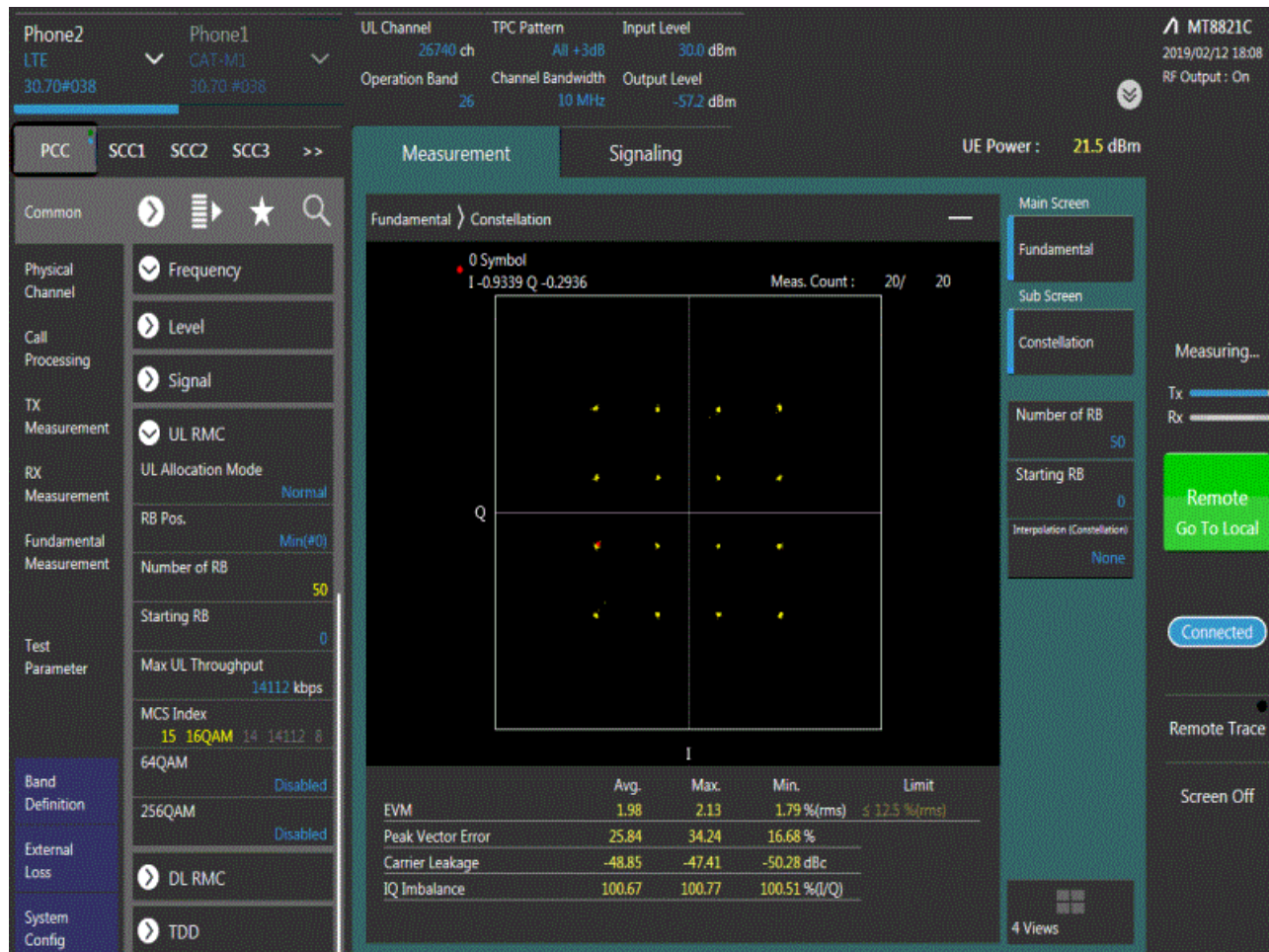
3.1.1. Test Mode = LTE /TM1 10MHz

3.1.1.1. Test Channel = MCH



3.1.2. Test Mode = LTE /TM2 10MHz

3.1.2.1. Test Channel = MCH



4. 26dB Bandwidth and Occupied Bandwidth

4.1. Test Result

BAND	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band26	1.4MHz	QPSK	26697	6RB#0	1.091	1.287	PASS
Band26	1.4MHz	QPSK	26740	6RB#0	1.091	1.284	PASS
Band26	1.4MHz	QPSK	26783	6RB#0	1.094	1.290	PASS
Band26	1.4MHz	16QAM	26697	6RB#0	1.091	1.284	PASS
Band26	1.4MHz	16QAM	26740	6RB#0	1.091	1.287	PASS
Band26	1.4MHz	16QAM	26783	6RB#0	1.091	1.284	PASS
Band26	3MHz	QPSK	26705	15RB#0	2.691	2.988	PASS
Band26	3MHz	QPSK	26740	15RB#0	2.703	2.994	PASS
Band26	3MHz	QPSK	26775	15RB#0	2.697	2.994	PASS
Band26	3MHz	16QAM	26705	15RB#0	2.685	2.976	PASS
Band26	3MHz	16QAM	26740	15RB#0	2.685	2.976	PASS
Band26	3MHz	16QAM	26775	15RB#0	2.685	2.976	PASS
Band26	5MHz	QPSK	26715	25RB#0	4.476	4.910	PASS
Band26	5MHz	QPSK	26740	25RB#0	4.476	4.930	PASS
Band26	5MHz	QPSK	26765	25RB#0	4.476	4.960	PASS
Band26	5MHz	16QAM	26715	25RB#0	4.486	4.940	PASS
Band26	5MHz	16QAM	26740	25RB#0	4.496	4.950	PASS
Band26	5MHz	16QAM	26765	25RB#0	4.486	4.940	PASS
Band26	10MHz	QPSK	26740	50RB#0	8.911	9.720	PASS
Band26	10MHz	16QAM	26740	50RB#0	8.911	9.700	PASS



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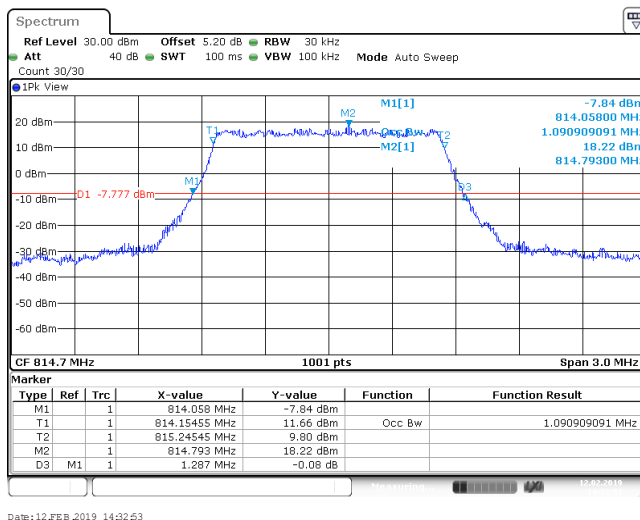
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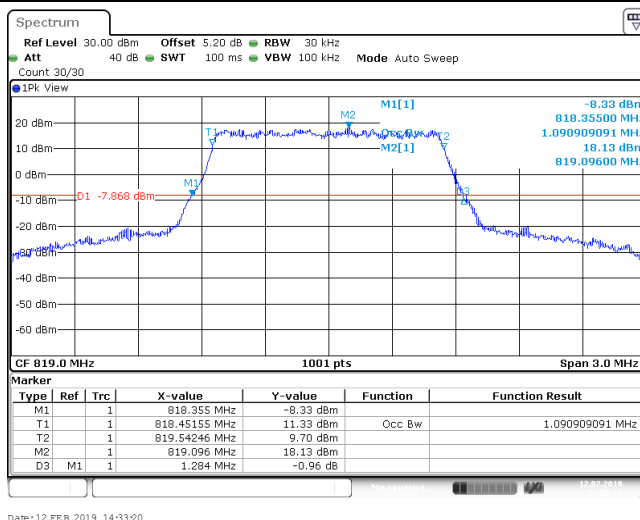
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4.2. Test Plots

Band26_1.4MHz_QPSK_26697_6RB#0

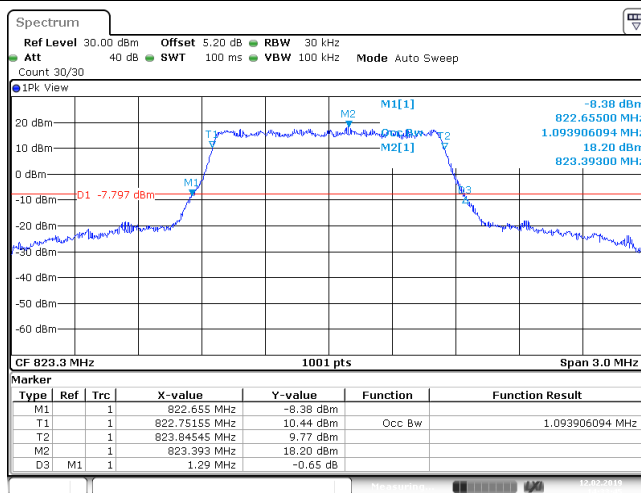


Band26_1.4MHz_QPSK_26740_6RB#0



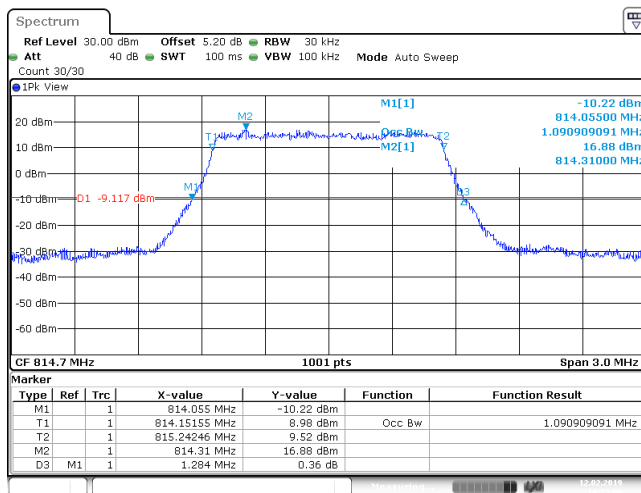
Band26_1.4MHz_QPSK_26783_6RB#0





Date: 12 FEB 2019 14:33:46

Band26_1.4MHz_16QAM_26697_6RB#0



Date: 12 FEB 2019 14:33:06

Band26_1.4MHz_16QAM_26740_6RB#0

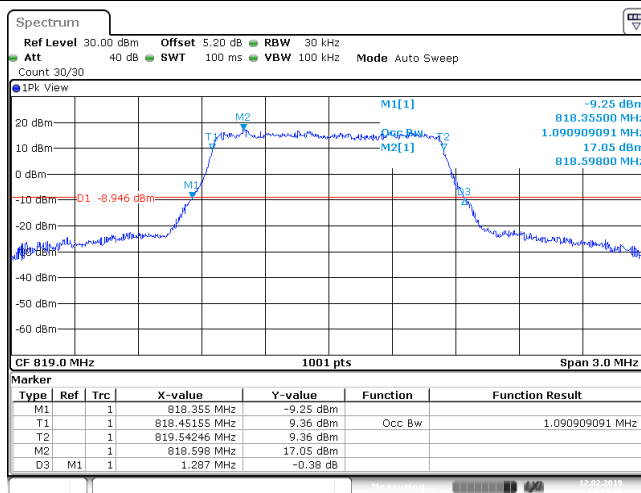


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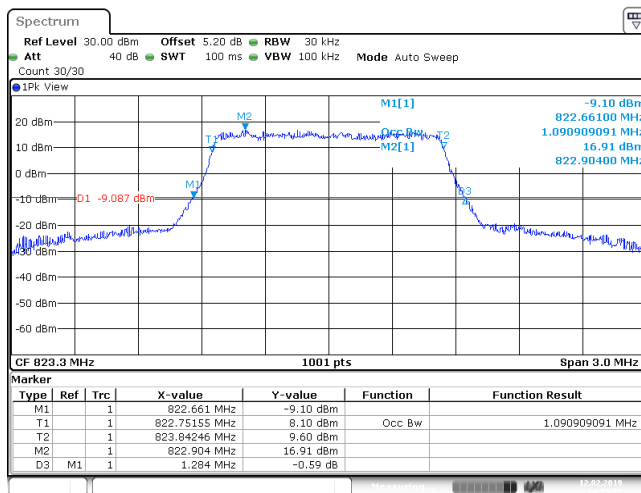
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Date: 12 FEB 2019 14:33:32

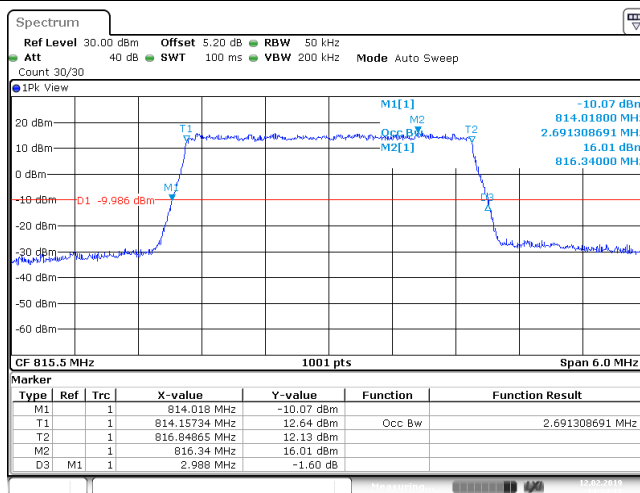
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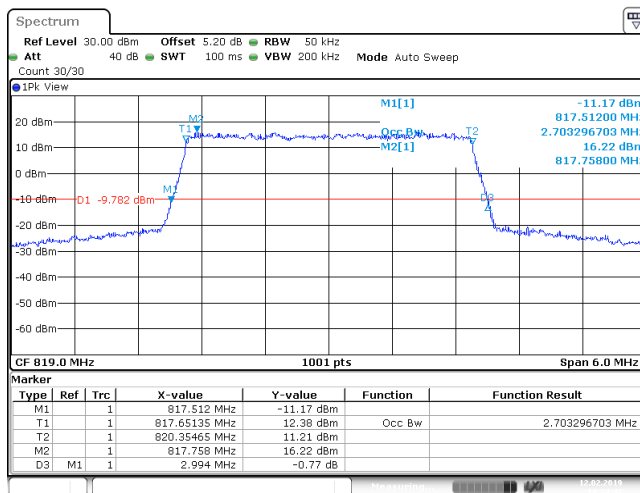
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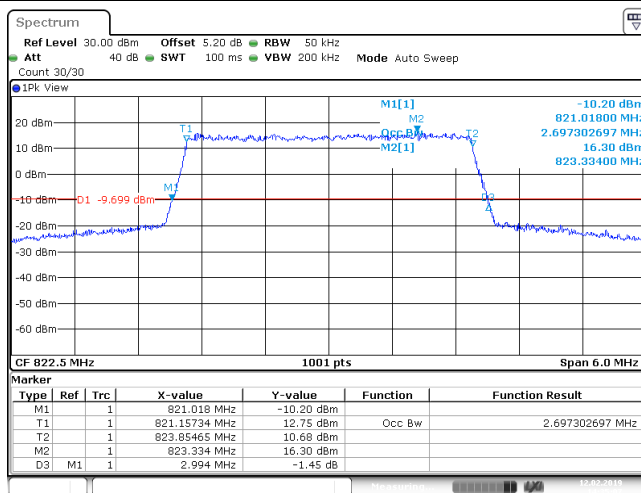
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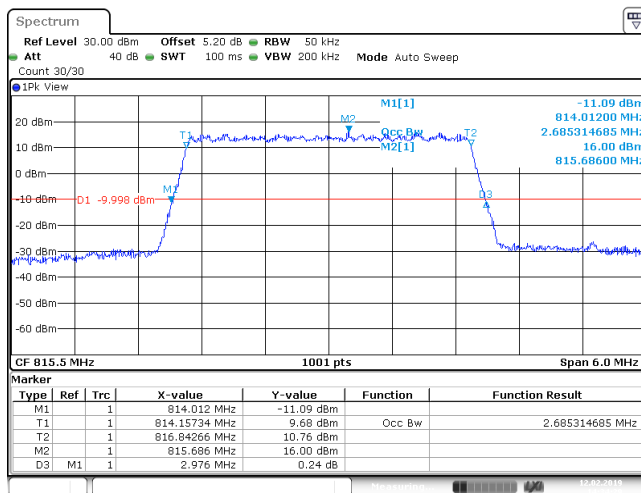
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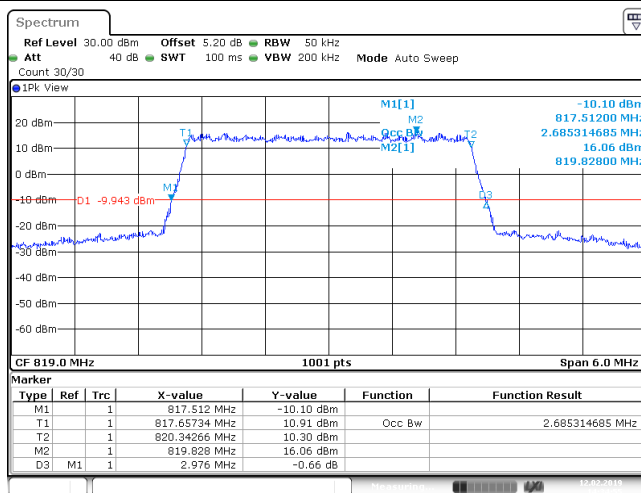
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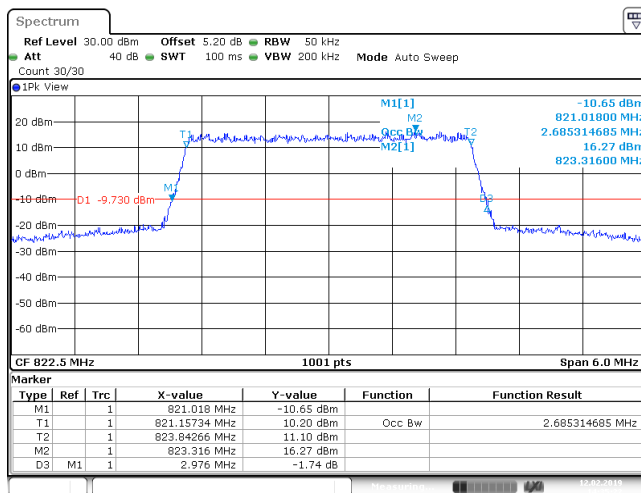
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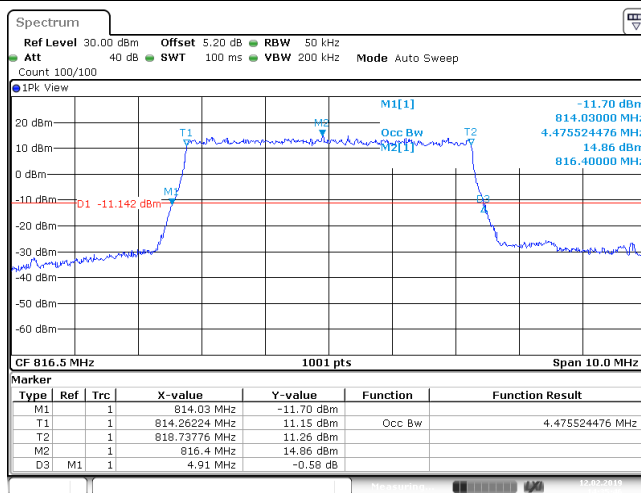
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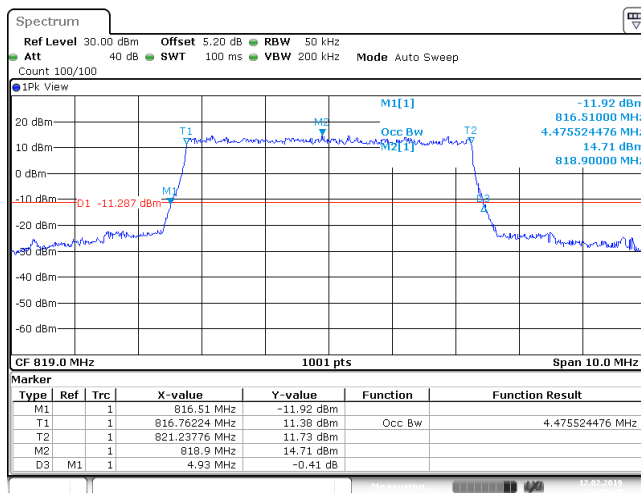
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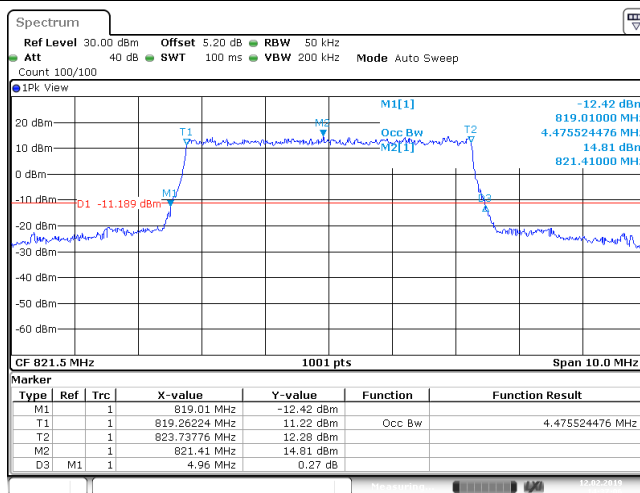
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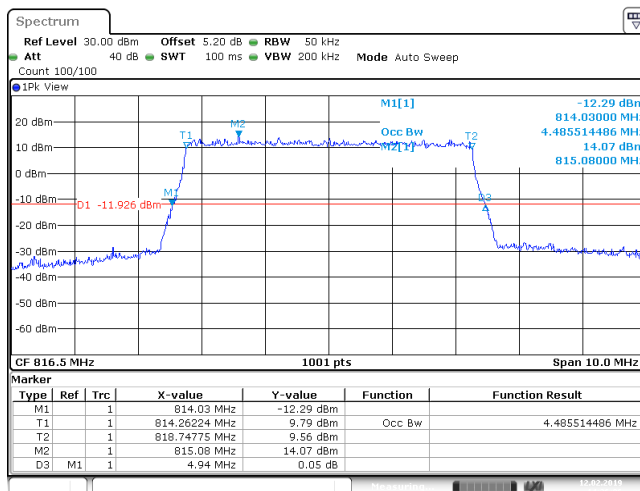
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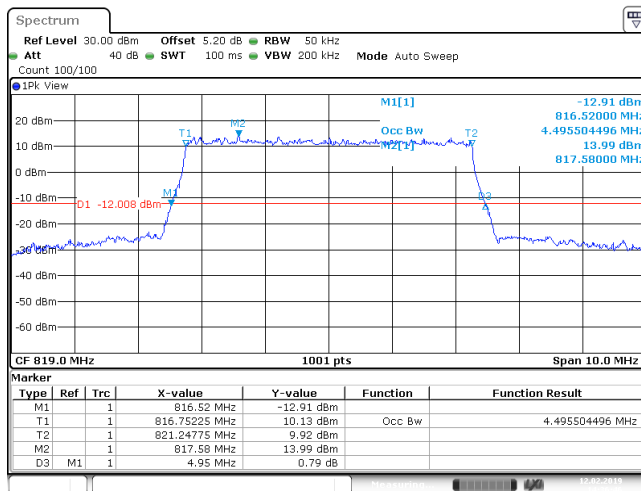
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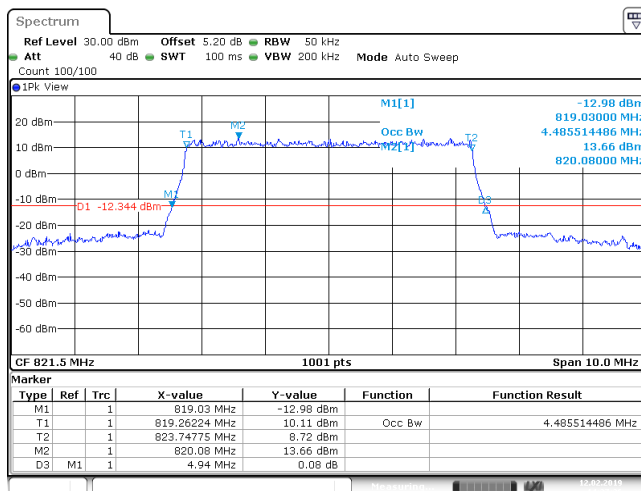
Band26_5MHz_16QAM_26740_25RB#0





Date: 12 FEB 2019 14:36:47

Band26_5MHz_16QAM_26765_25RB#0



Date: 12 FEB 2019 14:37:27

Band26_10MHz_QPSK_26740_50RB#0

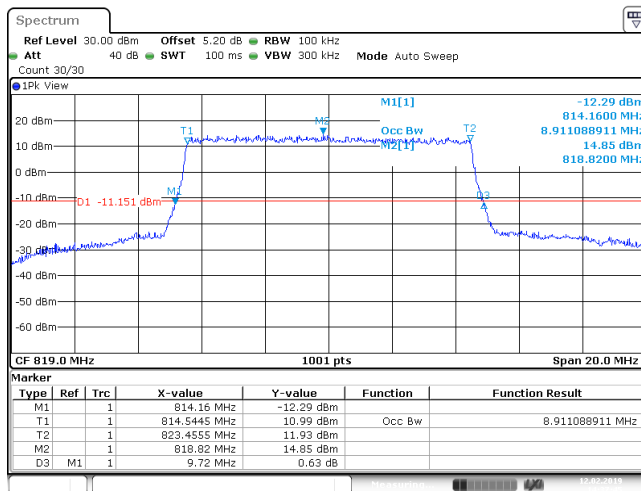


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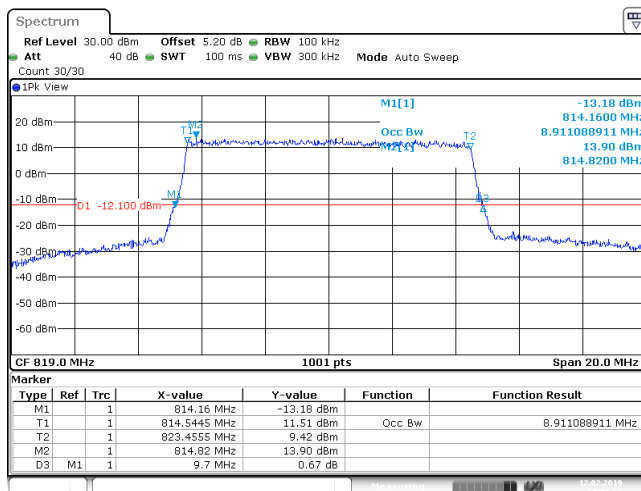
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Date: 12 FEB 2019 14:37:45

Band26_10MHz_16QAM_26740_50RB#0



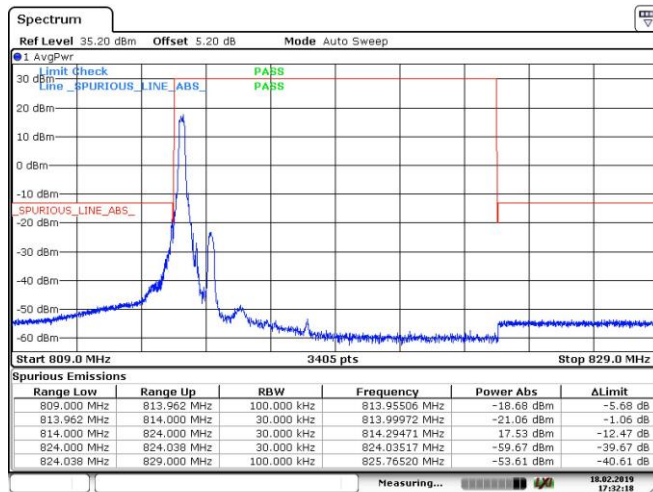
Date: 12 FEB 2019 14:37:58



5. Band Edge Compliance

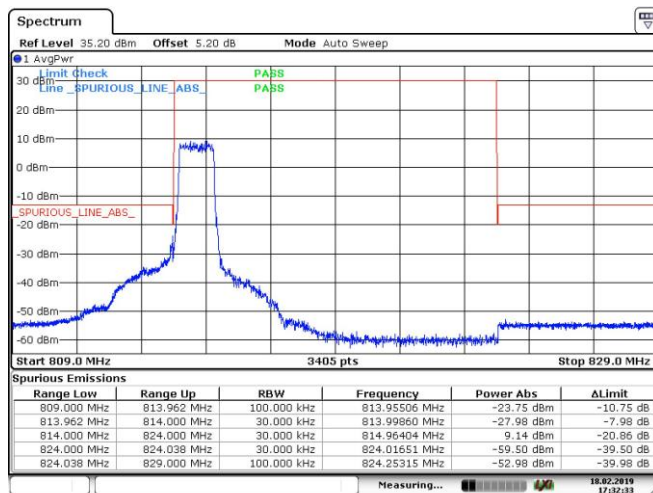
5.1. Test Plots

Band26_1.4MHz_QPSK_26697_1RB#0



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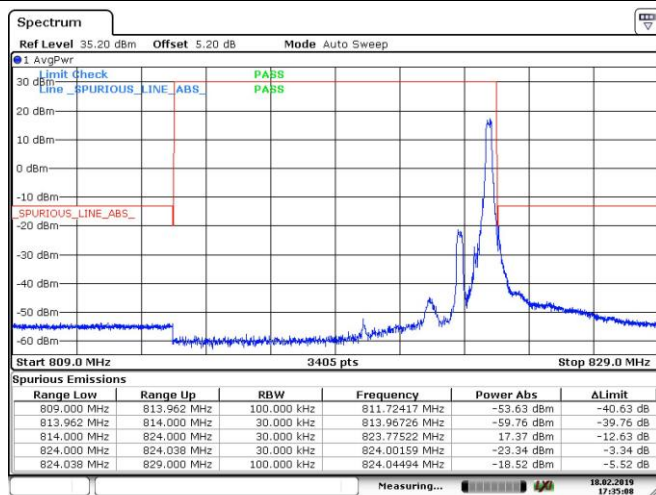
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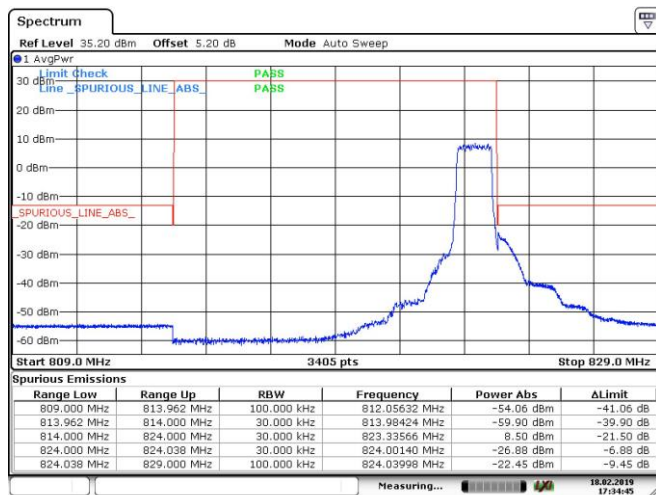
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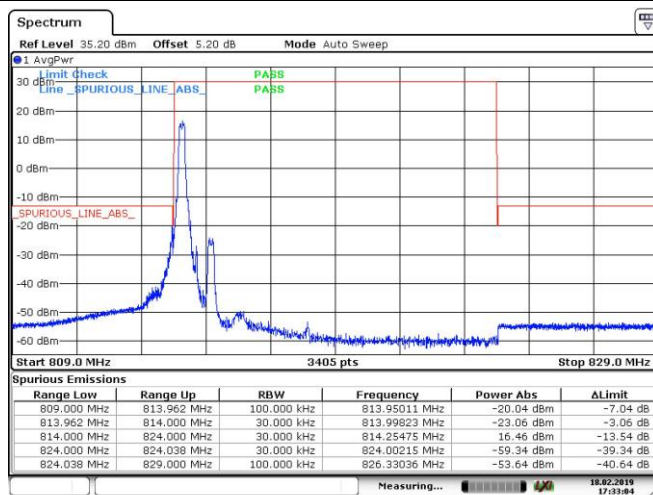
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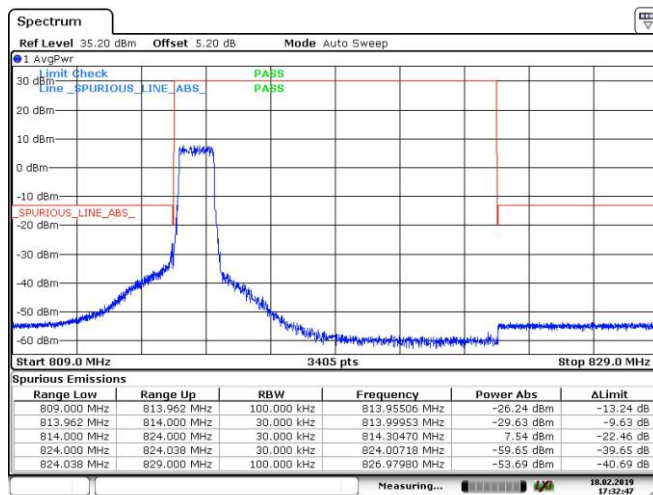
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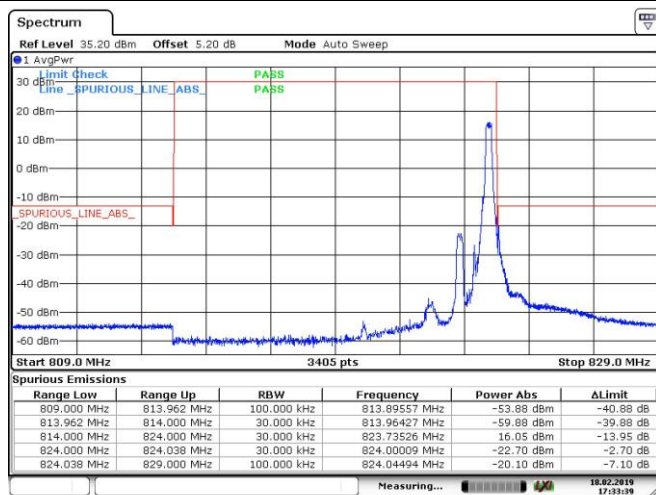
Band26_1.4MHz_16QAM_26697_6RB#0



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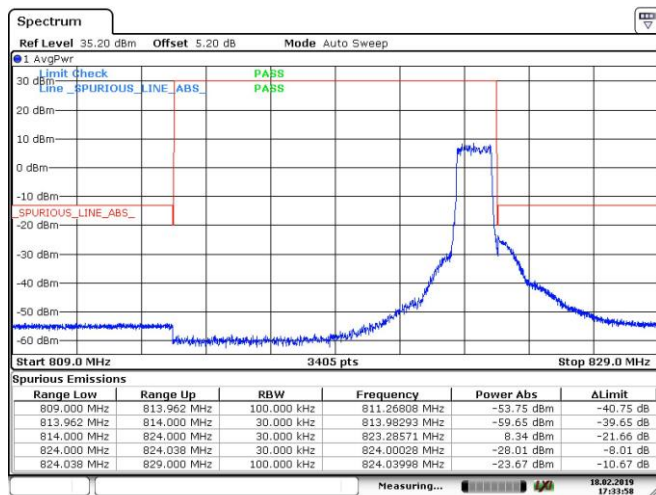
Band26_1.4MHz_16QAM_26783_1RB#5





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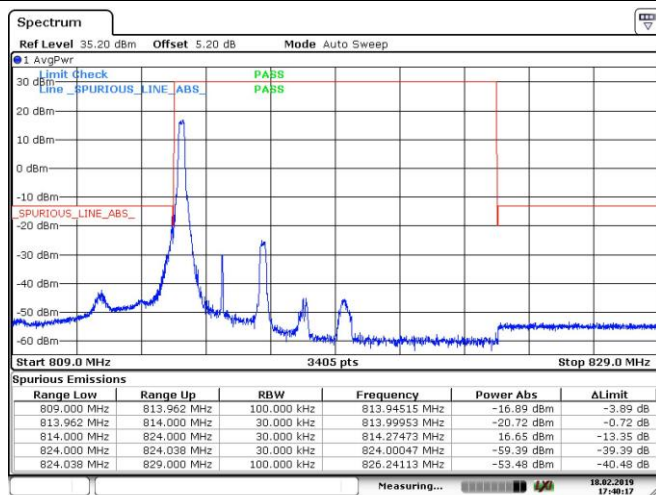
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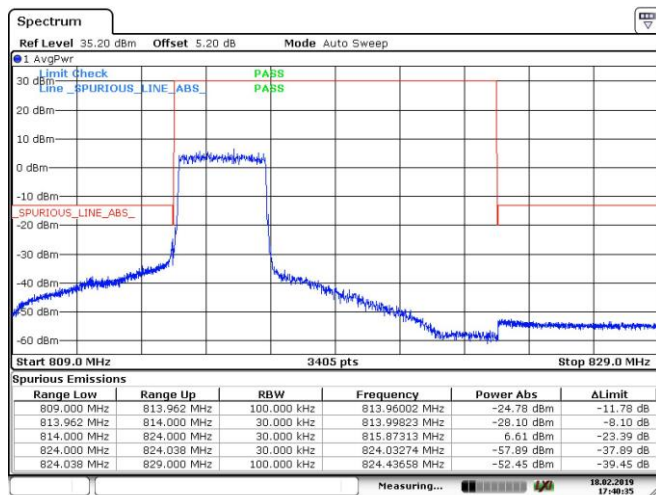
Band26_3MHz_QPSK_26705_1RB#0





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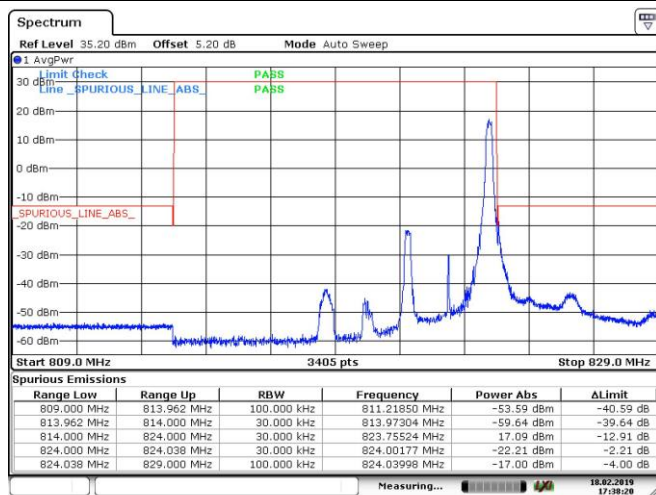
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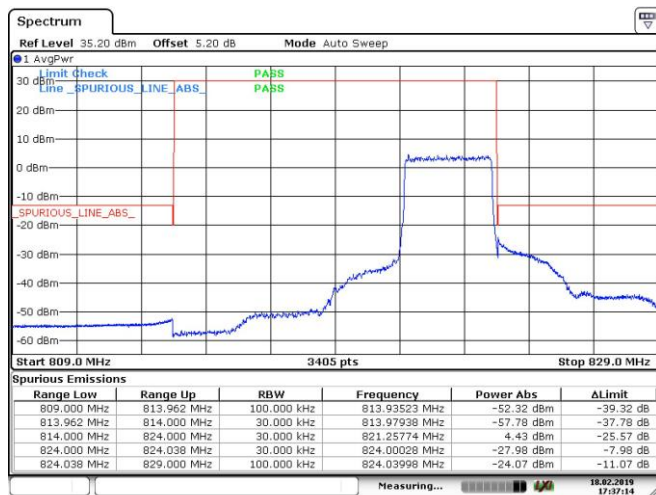
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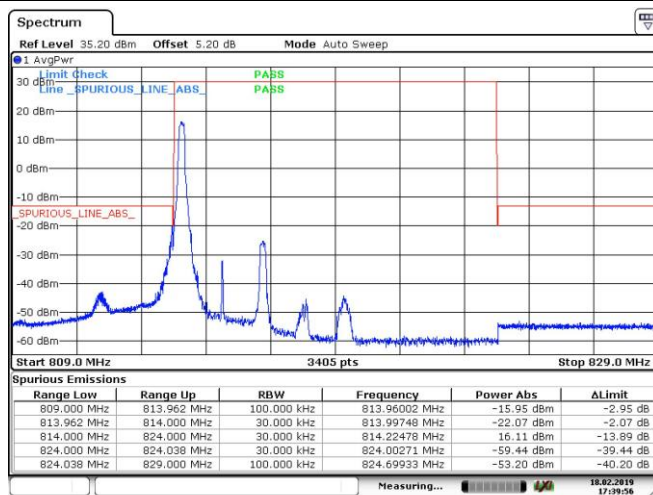
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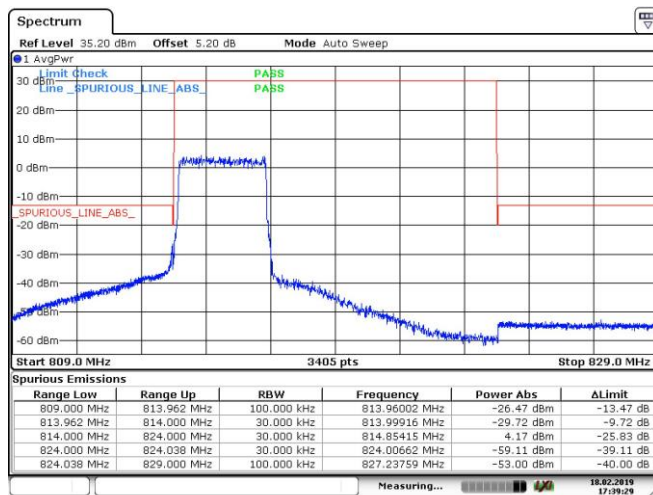
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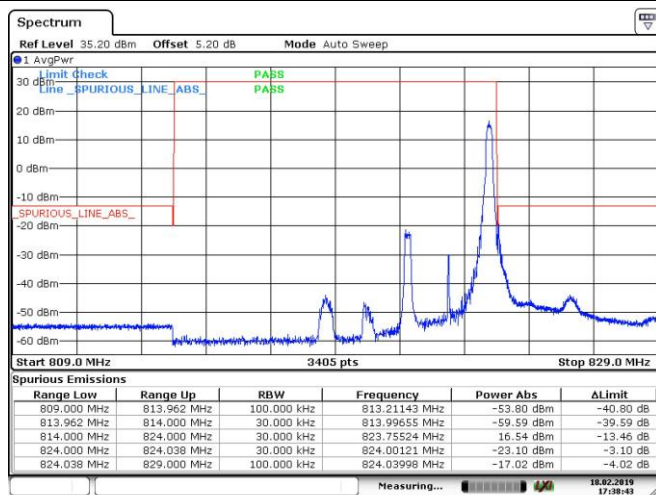
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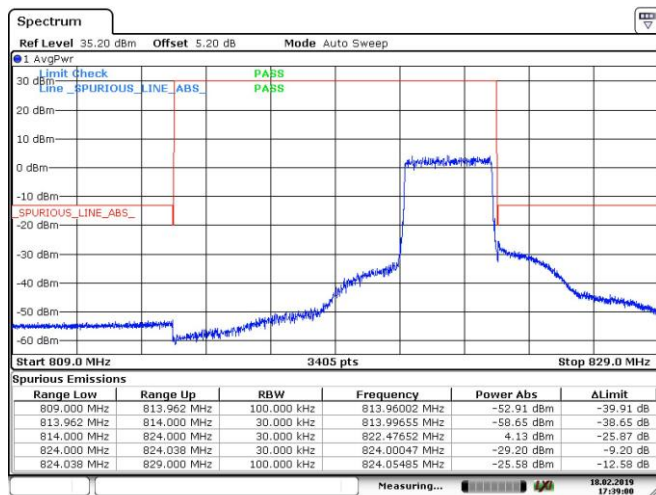
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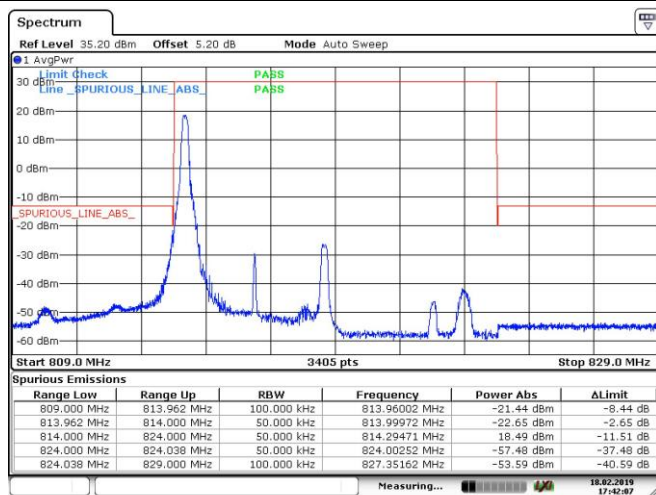
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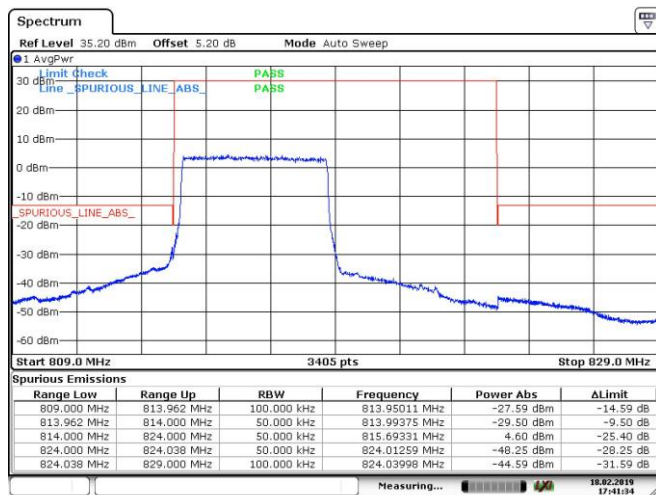
Band26_5MHz_QPSK_26715_1RB#0





Date: 18 FEB 2019 17:42:07

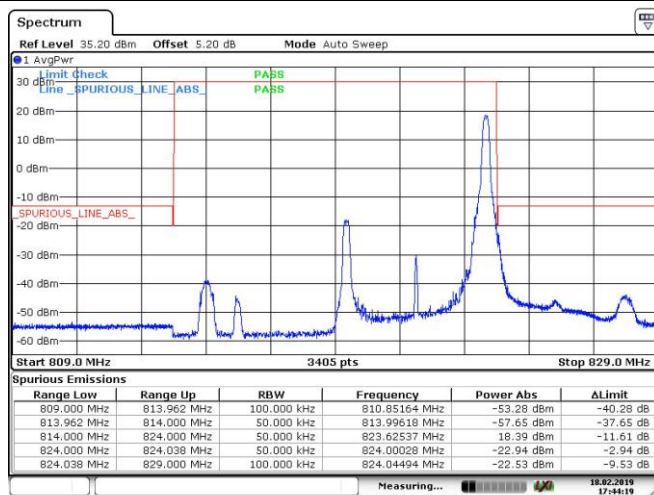
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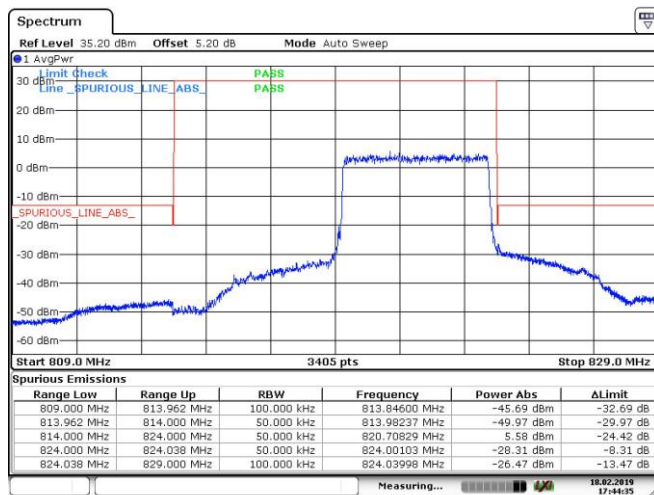
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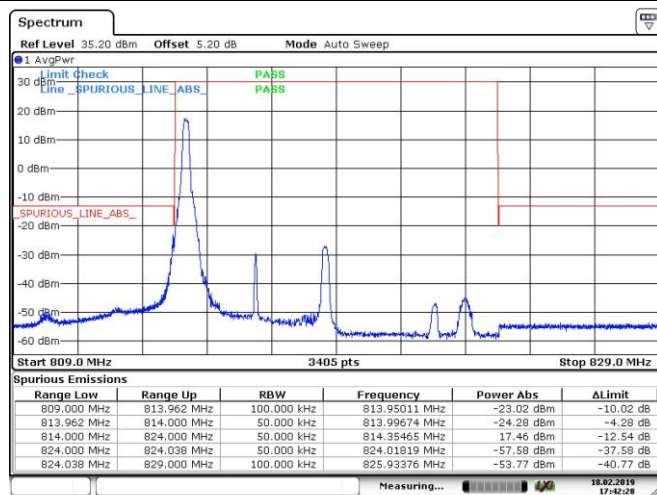
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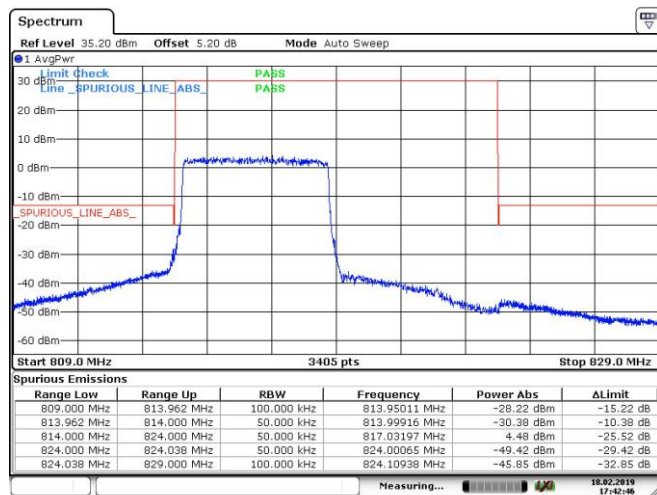
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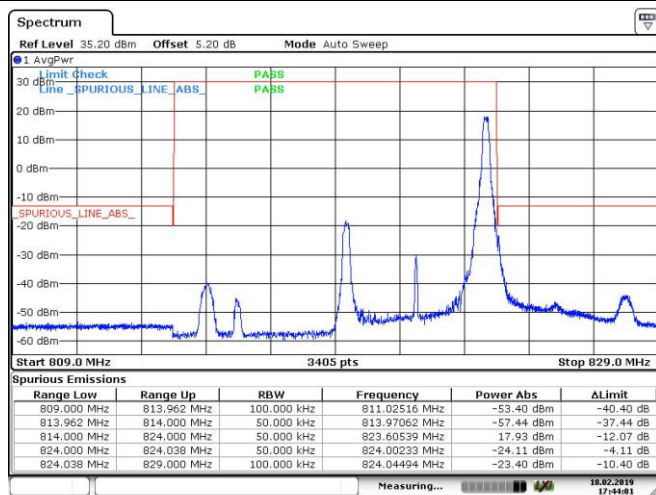
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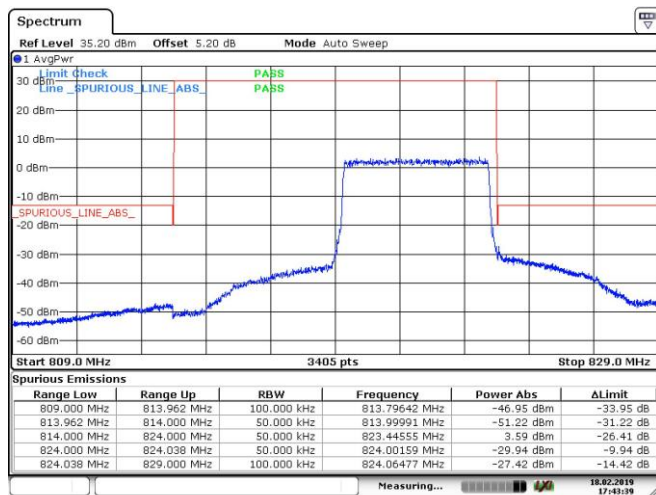
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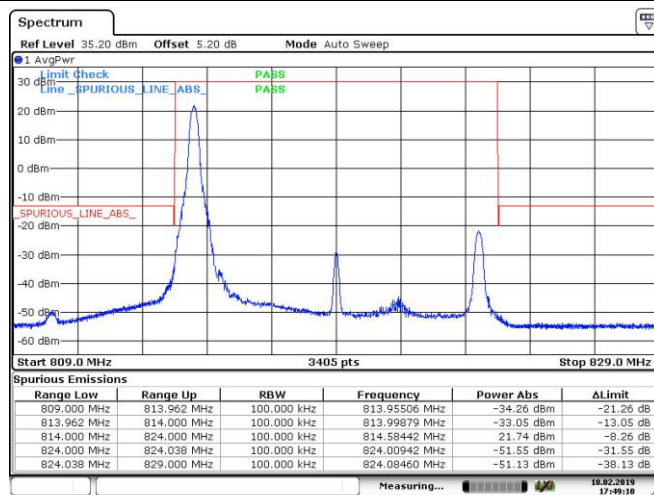
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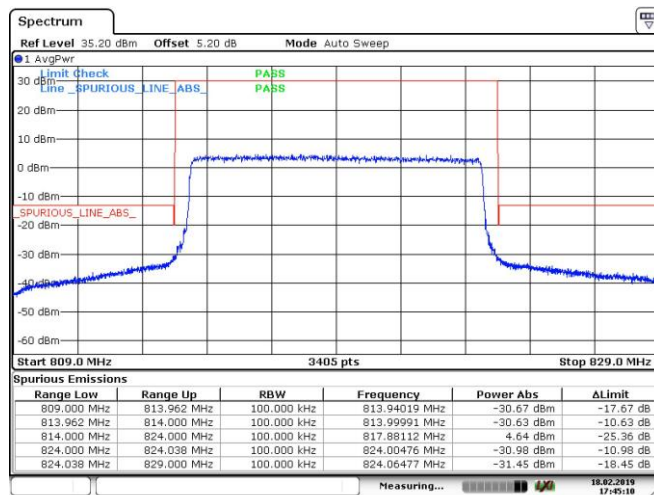
Band26_10MHz_QPSK_26740_1RB#0





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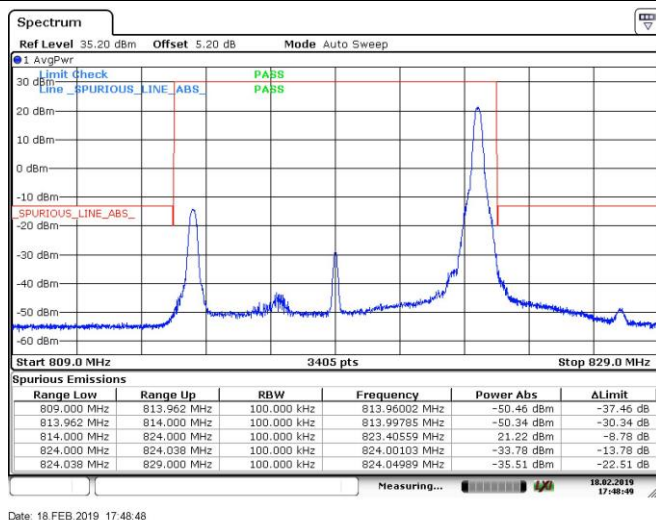
Band26_10MHz_QPSK_26740_50RB#0



Date: 18 FEB 2019 17:45:09

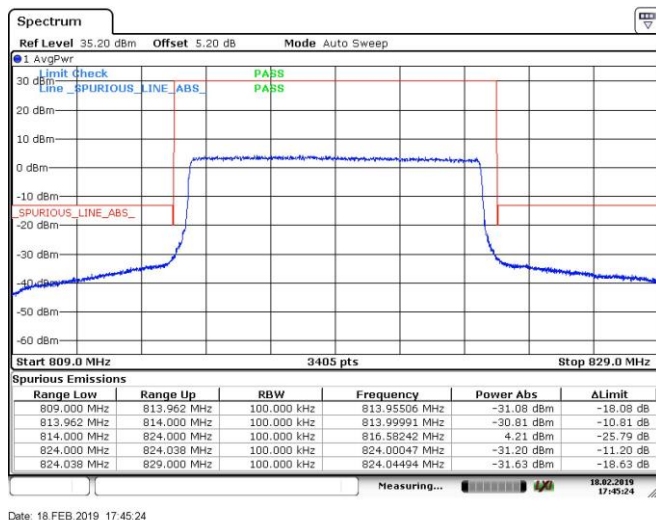
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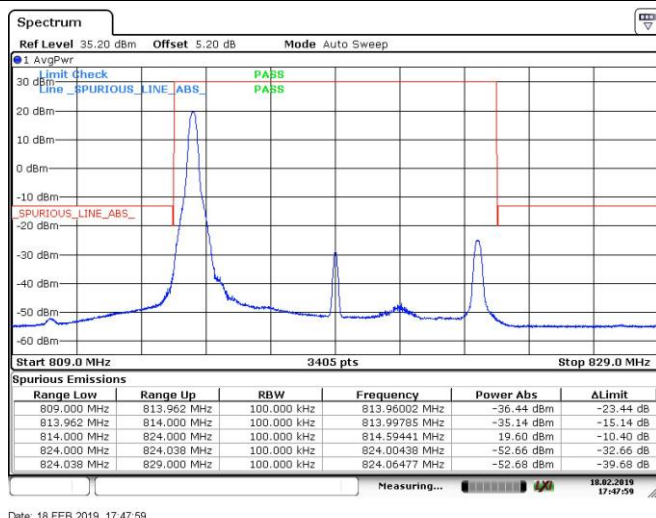
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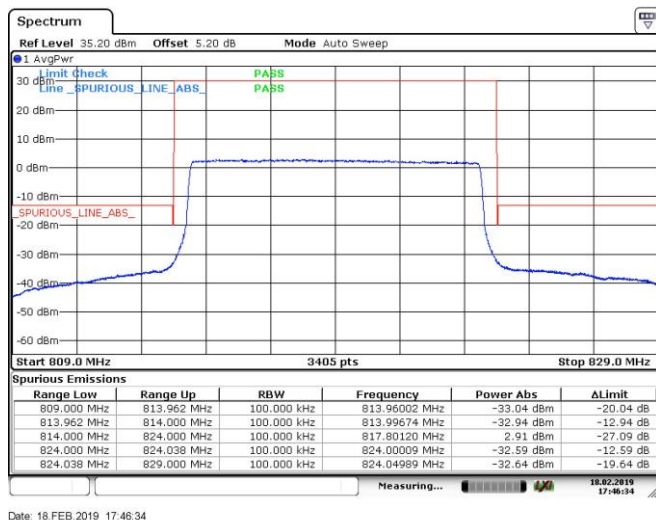
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Band26_10MHz_16QAM_26740_1RB#0



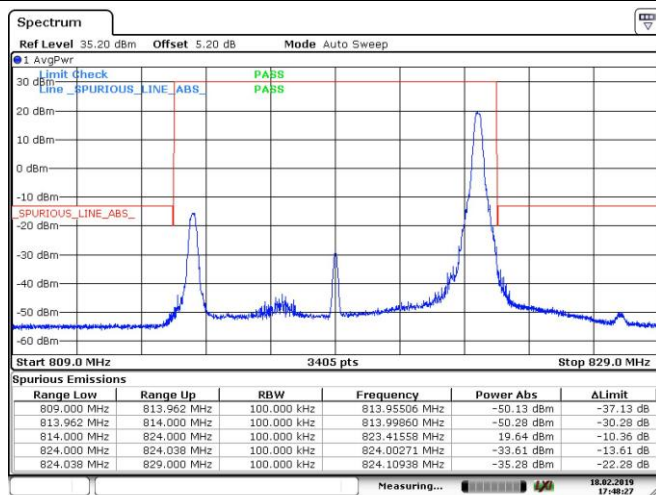


Band26_10MHz_16QAM_26740_50RB#0



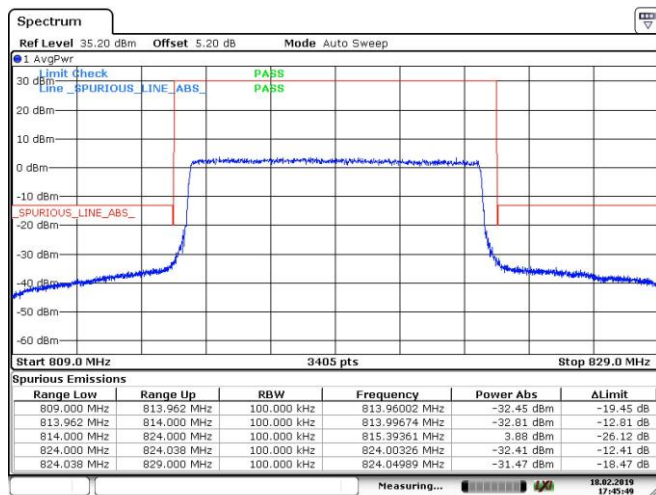
Band26_10MHz_16QAM_26740_1RB#49





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Band26_10MHz_16QAM_26740_50RB#0



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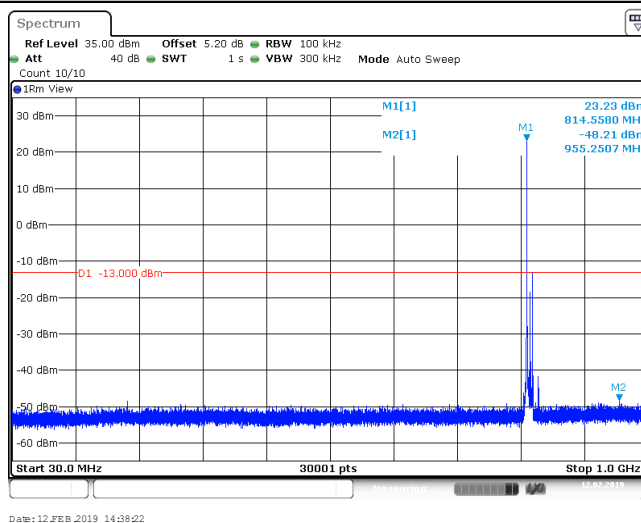
6. Spurious Emission at Antenna Terminal

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

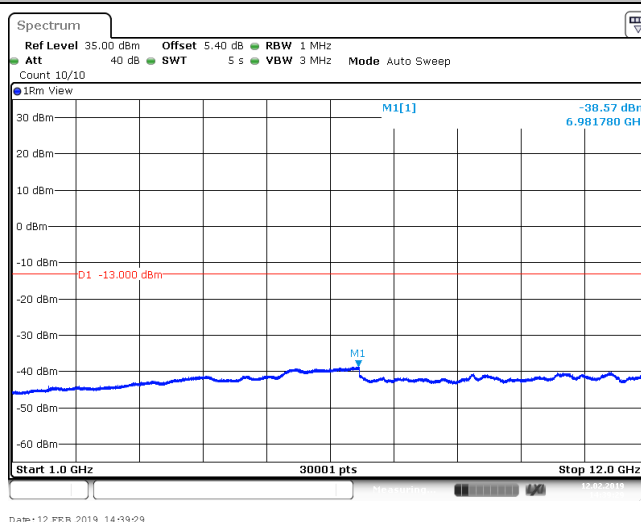
Remark2: only the worst case data displayed in this report.

6.1. Test Plots

Band26_10MHz_QPSK_26740_1RB#0

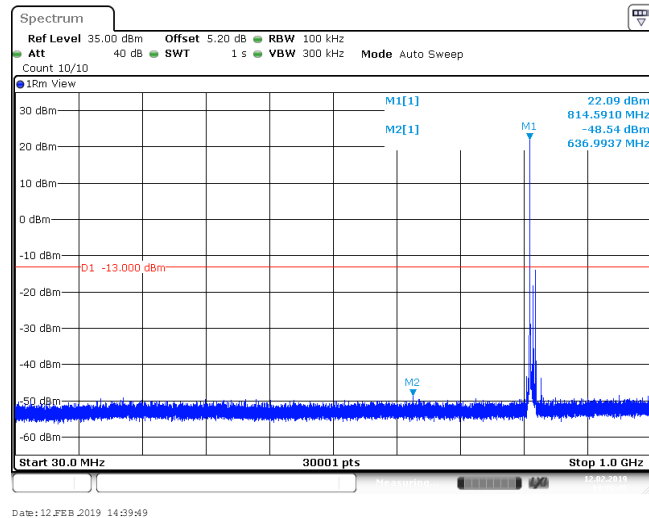


Band26_10MHz_QPSK_26740_1RB#0

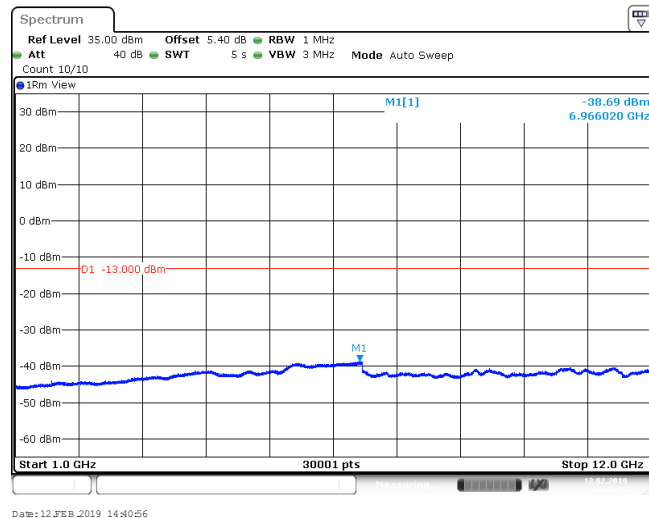


Band26_10MHz_16QAM_26740_1RB#0





Band26_10MHz_16QAM_26740_1RB#0



7. Field Strength of Spurious Radiation

7.1. Test BAND = LTE Band26

7.1.1. Test Mode = LTE/TM1 10MHz RB1#0

7.1.1.1. Test Channel = MCH

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
50.4680	-71.36	-13.00	58.36	Vertical
109.2530	-64.26	-13.00	51.26	Vertical
503.7232	-64.88	-13.00	51.88	Vertical
1629.7259	-52.90	-13.00	39.90	Vertical
3259.4086	-55.75	-13.00	42.75	Vertical
8947.1982	-51.16	-13.00	38.16	Vertical
43.9687	-63.73	-13.00	50.73	Horizontal
237.2024	-67.46	-13.00	54.46	Horizontal
587.9234	-62.99	-13.00	49.99	Horizontal
1629.7259	-58.05	-13.00	45.05	Horizontal
2444.6889	-56.26	-13.00	43.26	Horizontal
7941.1647	-53.01	-13.00	40.01	Horizontal

7.1.1.2. Spot check worse mode

Frequency (MHz)	Level (dBm)	Limit Line (dBm)	Margin (dB)	Polarization
69.8205	-66.88	-13.00	53.88	Vertical
105.3728	-63.64	-13.00	50.64	Vertical
248.9884	-67.18	-13.00	54.18	Vertical
1649.7299	-51.36	-13.00	38.36	Vertical
2474.6949	-52.03	-13.00	39.03	Vertical
3299.2100	-51.74	-13.00	38.74	Vertical
41.6406	-61.23	-13.00	48.23	Horizontal
151.3046	-67.97	-13.00	54.97	Horizontal
237.2994	-66.42	-13.00	53.42	Horizontal



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1649.7299	-56.57	-13.00	43.57	Horizontal
2462.2925	-43.03	-13.00	30.03	Horizontal
3299.2100	-54.27	-13.00	41.27	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.





8. Frequency Stability

8.1. Frequency Vs Voltage

Voltage										
BAND	Bandwidth	Modulation	Channel	RB Configure	Voltage [Vdc]	Temperature (°C)	Deviation (Hz)	Deviation (ppm)	Limit (ppm)	Verdict
Band26	10MHz	QPSK	26740	50RB#0	VL	NT	-1.30	-0.001587	±2.5	PASS
Band26	10MHz	QPSK	26740	50RB#0	VN	NT	-1.40	-0.001709	±2.5	PASS
Band26	10MHz	QPSK	26740	50RB#0	VH	NT	-2.00	-0.002442	±2.5	PASS
Band26	10MHz	16QAM	26740	50RB#0	VL	NT	0.10	0.000122	±2.5	PASS
Band26	10MHz	16QAM	26740	50RB#0	VN	NT	-0.60	-0.000733	±2.5	PASS
Band26	10MHz	16QAM	26740	50RB#0	VH	NT	-1.70	-0.002076	±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
Band26	10MHz	QPSK	26740	50RB#0	NV	-30	-1.90	-0.002320	±2.5	PASS
Band26	10MHz	QPSK	26740	50RB#0	NV	-20	-3.50	-0.004274	±2.5	PASS
Band26	10MHz	QPSK	26740	50RB#0	NV	0	-1.60	-0.001954	±2.5	PASS
Band26	10MHz	QPSK	26740	50RB#0	NV	10	-0.70	-0.000855	±2.5	PASS
Band26	10MHz	QPSK	26740	50RB#0	NV	20	-2.40	-0.002930	±2.5	PASS
Band26	10MHz	QPSK	26740	50RB#0	NV	30	-1.20	-0.001465	±2.5	PASS
Band26	10MHz	QPSK	26740	50RB#0	NV	40	-0.80	-0.000977	±2.5	PASS
Band26	10MHz	QPSK	26740	50RB#0	NV	50	-1.20	-0.001465	±2.5	PASS
Band26	10MHz	16QAM	26740	50RB#0	NV	-30	-2.10	-0.002564	±2.5	PASS
Band26	10MHz	16QAM	26740	50RB#0	NV	-20	-1.60	-0.001954	±2.5	PASS
Band26	10MHz	16QAM	26740	50RB#0	NV	0	-2.50	-0.003053	±2.5	PASS
Band26	10MHz	16QAM	26740	50RB#0	NV	10	-1.50	-0.001832	±2.5	PASS
Band26	10MHz	16QAM	26740	50RB#0	NV	20	-1.90	-0.002320	±2.5	PASS
Band26	10MHz	16QAM	26740	50RB#0	NV	30	-0.30	-0.000366	±2.5	PASS
Band26	10MHz	16QAM	26740	50RB#0	NV	40	-1.30	-0.001587	±2.5	PASS
Band26	10MHz	16QAM	26740	50RB#0	NV	50	-1.10	-0.001343	±2.5	PASS

The End



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