

FCC Test Report

Product Name : LE910C1-SV
Trade Name : 
Model No. : LE910C1-SV
FCC ID : RI7LE910C1SV

Applicant : Telit Wireless Solutions Co., LTD
Address : 13th FL. Shinyoung Securities Bld., 6, Gukjegeumyung-ro8-gil,
Yeongdeungpo-gu, Seoul, 150-884, Korea

Date of Receipt : Sep. 10, 2018
Issued Date : Oct. 12, 2018
Report No. : 1890124R-HPUSP43V00
Report Version : V1.0



The test results relate only to the samples tested.

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Test Report Certification

Issued Date : Oct. 12, 2018

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Applicant : Telit Wireless Solutions Co., LTD
Address : 13th FL. Shinyoung Securities Bld., 6, Gukjegeumyung-ro8-gil,
Yeongdeungpo-gu, Seoul, 150-884, Korea
Manufacturer : Telit Wireless Solutions Co., LTD
Trade name : 
Model No. : LE910C1-SV
FCC ID : RI7LE910C1SV
EUT Voltage : DC 3.4V~4.2V
Testing Voltage : DC 3.8V
Applicable Standard : FCC CFR Title 47 Part 27 Subpart L, Subpart F
ANSI/TIA-603
KDB 971168 D01 Power Meas License Digital Systems v03
Test Lab : Hsin Chu Laboratory
Address : No.372-2, Sec. 4, Zhongxing Rd., Zhudong Township, Hsinchu
County 310, Taiwan, R.O.C.
TEL: +886-3-582-8001 / FAX: +886-3-582-8958
Test Result : Complied

Documented By :



(Demi Chang / Senior Engineering Adm. Specialist)

Tested By :



(Andy Tsai / Senior Engineer)

Approved By :



(Roy Wang / Director)

Revision History

Report No.	Version	Description	Issued Date
1890124R-HPUSP43V00	V1.0	Initial issue of report	Oct. 12, 2018

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1. General Information

1.1. EUT Description

Product Name	LE910C1-SV
Trade Name	
Model No.	LE910C1-SV
Uplink Frequency Range (MHz)	LTE Band 4: 1710~1755 LTE Band 13: 777~787
Downlink Frequency Range (MHz)	LTE Band 4: 2110~2115 LTE Band 13: 746~756
Modulation	QPSK /16QAM
HW Version	1.0
SW Version	25.50.280-A003
IMEI No.	359698099997379

Antenna Information	
Product Name	Hankook Network Solution
Model No.	WE14-LF-07
Antenna Type	Dipole Antenna
Antenna Gain	Band 4: 3.5 dBi Band 13: 3 dBi

Accessories Information	
Antenna	3 Pcs

Note:

1. This LE910C1-SV support LTE Band 4/13.
2. Regards to the frequency band operation: the lowest, middle and highest frequency of channel were selected to perform the test, then shown on this report.

1.2. Mode of Operation

DEKRA has verified the construction and function in typical operation. All the test modes were carried out with the EUT in normal operation, which was shown in this test report and defined as:

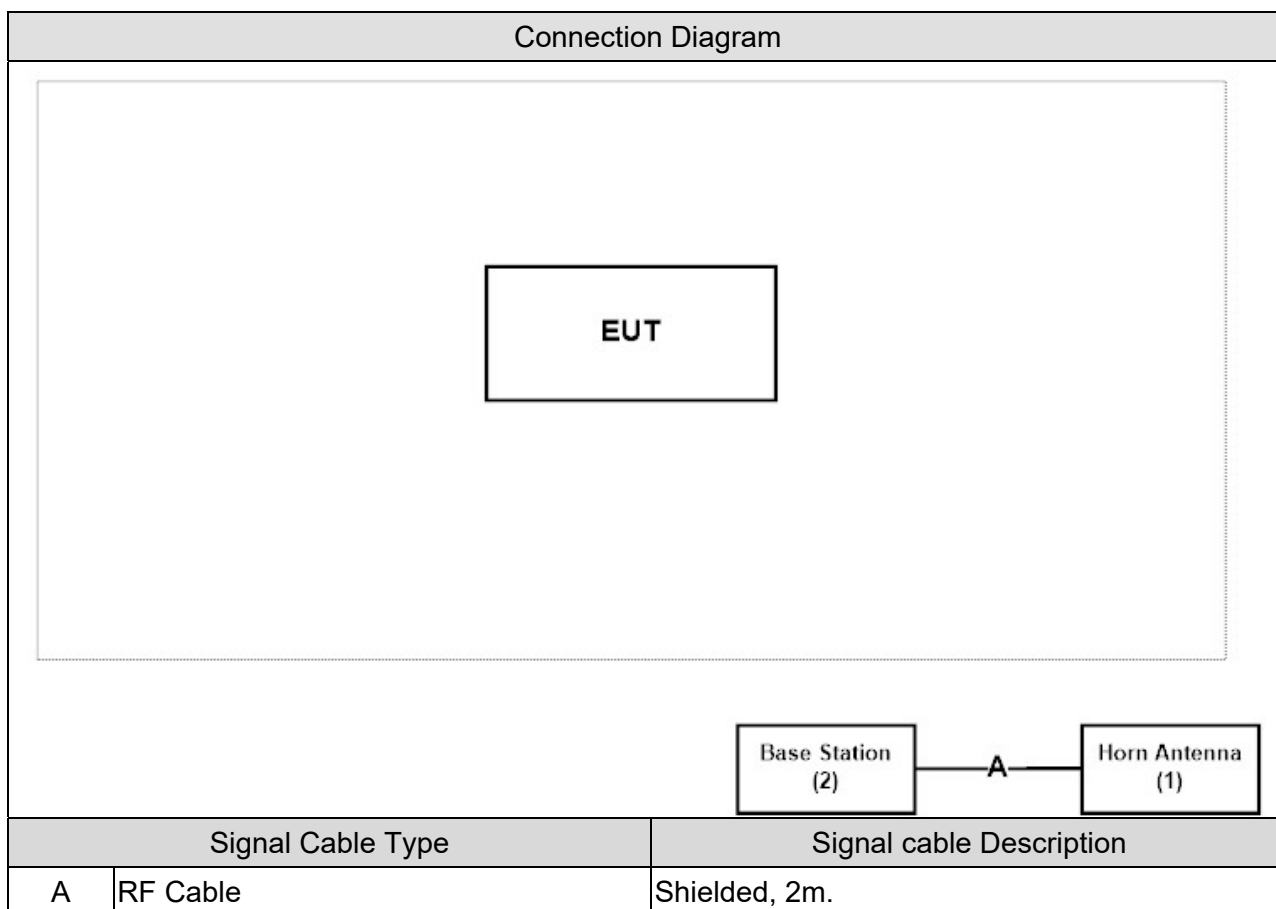
Test Mode
Mode 1: LTE Band 4
Mode 2: LTE Band 13

1.3. Tested System Details

The types for all equipment, plus descriptions of all cables used in the tested system (including inserted cards) are:

Product	Manufacturer	Model No.	Serial No.	FCC ID	Power Cord
1 Horn Antenna	ELECTRO METRICS	EM-6961	103326	DoC	--
2 Base Station	R&S	CMW500	106071	DoC	--

1.4. Configuration of Tested System



1.5. EUT Exercise Software

1	Setup the EUT and simulators as shown on 1.4.
2	Turn on the power of all equipment. Horn link with base station.
3	The EUT link with base station and it will continue receive the signal.
4	Repeat the above procedure.

2. Technical Test

2.1. Summary of Test Result

B4

Uplink: 1710-1755MHz

Downlink: 2100-2155MHz

LTE B4					
FCC Part 27 Subpart L					
Industry Canada RSS-139, issue 3, Industry Canada RSS-GEN					
Test item	FCC Reference section	FCC Limit	IC Reference section	IC Limit	Result
RF Output Power	§2.1033 §2.1046 §27.50	<1 Watt	§6.5	<1 Watt	Pass
Occupied Bandwidth	§2.1049	N/A	RSS-GEN §4.2	N/A	Pass
Peak-to-average power ratio	§27.50	<13 dB	§6.5	<13 dB	Pass
Spurious Emissions	§2.1053 §27.53	<-13dBm	§6.6	<-13dBm	Pass
Spurious Emissions at Antenna Terminals	§27.53	<-13dBm	§6.6	<-13dBm	Pass
Frequency Stability	§2.1055 §27.54	<2.5 ppm	§6.4	Within the frequency range	Pass

B13

Uplink: 777-787MHz

Downlink: 746-756MHz

LTE B13					
FCC Part 27 Subpart F					
Industry Canada RSS-130, issue 1, Industry Canada RSS-GEN					
Test item	FCC Reference section	FCC Limit	IC Reference section	IC Limit	Result
RF Output Power	§2.1055 §27.54	<3 Watts	§4.3	Within the frequency range	Pass
Occupied Bandwidth	§2.1033 §2.1046 §27.50	N/A	§4.4	<5 Watts	Pass
Peak-to-average power ratio	§2.1049	<-13 dB	RSS-GEN §4.2	N/A	Pass
Spurious Emissions	§27.50	<-13dBm	§4.4	<13 dB	Pass
Spurious Emissions at Antenna Terminals	§2.1053 §27.53	<-13dBm	§4.6	<-13dBm	Pass
Frequency Stability	§27.53	<±2.5 ppm	§4.6	<-13dBm	Pass

2.2. Test Environment

Items	Required (IEC 68-1)	Actual	Test Site
Temperature (°C)	15-35	23	2 & 3
Humidity (%RH)	25-75	52	
Barometric pressure (mbar)	860-1060	950-1000	

Note: Test site information refers to Laboratory Information.

Laboratory Information

USA	:	FCC Registration Number: TW3024
Canada	:	IC Registration Number: 22397-1 / 22397-2 / 22397-3

The related certificate for our laboratories about the test site and management system can be downloaded from DEKRA Testing and Certification Co., Ltd. Web Site:

<http://www.dekra.com.tw/english/about/certificates.aspx?bval=5>

The address and introduction of DEKRA Testing and Certification Co., Ltd. laboratories can be founded in our Web site: http://www.dekra.com.tw/index_en.aspx

If you have any comments, Please don't hesitate to contact us. Our test sites as below:

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TEL: +886-3-582-8001 / FAX: +886-3-582-8958 E-Mail : info.tw@dekra.com

2.3. List of Test Equipment

RF Output Power / SR10-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
High Speed Peak Power Meter Dual Input	Anritsu	ML2496A	1602004	2018/01/02	2019/01/01
Pulse Power Sensor	Anritsu	MA2411B	1531043	2018/01/02	2019/01/01
Pulse Power Sensor	Anritsu	MA2411B	1531044	2018/01/02	2019/01/01
Power Meter	Keysight	8990B	MY51000248	2018/06/07	2019/06/06
Power Sensor	Keysight	N1923A	MY57240005	2018/06/07	2019/06/06

Occupied Bandwidth / SR10-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Spectrum Analyzer	Keysight	N9030B	MY57140404	2018/06/26	2019/06/25
Spectrum Analyzer	Keysight	N9010B	MY57110159	2018/05/25	2019/05/24
Spectrum Analyzer	Agilent	N9010A	US47140172	2018/07/18	2019/07/17
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/01/10	2019/01/09

Peak To Average Ratio / SR10-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Spectrum Analyzer	Keysight	N9030B	MY57140404	2018/06/26	2019/06/25
Spectrum Analyzer	Keysight	N9010B	MY57110159	2018/05/25	2019/05/24
Spectrum Analyzer	Agilent	N9010A	US47140172	2018/07/18	2019/07/17
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/01/10	2019/01/09

Conducted Spurious Emissions / SR10-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Spectrum Analyzer	Keysight	N9030B	MY57140404	2018/06/26	2019/06/25
Spectrum Analyzer	Keysight	N9010B	MY57110159	2018/05/25	2019/05/24
Spectrum Analyzer	Agilent	N9010A	US47140172	2018/07/18	2019/07/17
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/01/10	2019/01/09

Radiated Spurious Emissions / CB4-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Signal Analyzer	R&S	FSVA40	101455	2017/11/21	2018/11/20
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/01/10	2019/01/09
EXA Signal Analyzer	Keysight	N9010A	MY51440132	2018/03/05	2019/03/04
Bilog Antenna	Teseq	CBL6112D	23191	2018/06/26	2019/06/25
Horn Antenna	Schwarzbeck	BBHA 9120D	312	2017/10/11	2018/10/10
Horn Antenna	Schwarzbeck	BBHA 9170	202	2018/01/31	2019/01/30
Pre-Amplifier	Dekra	AP-025C	201801236	2018/02/26	2019/02/25
Pre-Amplifier	EMCI	EMC11830I	980366	2018/01/08	2019/01/07
Pre-Amplifier	Dekra	AP-400C	201801231	2017/12/13	2018/12/12

Spurious Emissions at Antenna Terminals / SR10-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Spectrum Analyzer	Keysight	N9030B	MY57140404	2018/06/26	2019/06/25
Spectrum Analyzer	Keysight	N9010B	MY57110159	2018/05/25	2019/05/24
Spectrum Analyzer	Agilent	N9010A	US47140172	2018/07/18	2019/07/17
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/01/10	2019/01/09

Frequency Stability / SR10-H

Instrument	Manufacturer	Model No.	Serial No.	Cal. Date	Next Cal. Date
Spectrum Analyzer	Keysight	N9030B	MY57140404	2018/06/26	2019/06/25
Spectrum Analyzer	Keysight	N9010B	MY57110159	2018/05/25	2019/05/24
Spectrum Analyzer	Agilent	N9010A	US47140172	2018/07/18	2019/07/17
Signal & Spectrum Analyzer	R&S	FSV40	101049	2018/01/10	2019/01/09

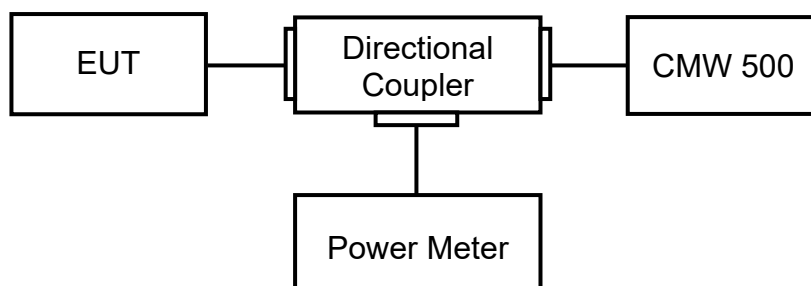
Note: All equipment upon which need to calibrated are with calibration period of 1 year.

2.4. Uncertainty

Test Item	Uncertainty
RF Output Power	± 1.27 dB
Occupied Bandwidth	± 10 Hz
Peak To Average Ratio	not exceed 13 dB.
Spurious Emissions	± 1.27 dB for Conducted Measurement. ± 3.2 dB for Radiated Measurement.
Spurious Emissions at Antenna Terminals	± 3.2 dB
Frequency Stability	± 10 Hz

3. RF Output Power

3.1. Test Setup



3.2. Test Procedure

- The RF output of the transmitter was connected to base station simulator.
- The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement..
- Set EUT at maximum average power by base station simulator.
- Measure lowest, middle, and highest channels for each bandwidth and different modulation.

Effective Isotropic Radiated Power = Conducted Power(dBm) + Antenna Gain(dBi)

Effective Radiated Power = Conducted Power(dBm) + Antenna Gain(dBi) - 2.15dB

3.3. Test Method

KDB 971168 D01 Power Meas License Digital Systems v03 sub-clause 5.2.4

ANSI C63.26: 2015 Sub-clause 5.2.4.2

3.4. Test Result

Product	LE910C1-SV		
Test Item	RF Output Power		
Test Mode	Mode 1: LTE Band 4		
Date of Test	2018/10/04	Test Site	SR10-H

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	MPR	Conducted Output Power (dBm)	RF Output Power (W) EIRP	Limit (W) EIRP
Band 4 / 1.4MHz	CH 19957 1710.7MHz	QPSK	1	0	0	23.18	0.522	1
				2		23.19	0.524	1
				5		23.17	0.521	1
			3	0	0	23.15	0.519	1
				1		23.13	0.516	1
				2		23.14	0.518	1
			6	0	1	21.62	0.365	1
		16-QAM	1	0	1	21.88	0.387	1
				2		22.03	0.401	1
				5		22.02	0.400	1
			3	0	1	21.65	0.367	1
				1		21.69	0.371	1
				2		21.64	0.366	1
			6	0	2	20.57	0.286	1

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	MPR	Conducted Output Power (dBm)	RF Output Power (W) EIRP	Limit (W) EIRP
Band 4 / 1.4MHz	CH 20175 1732.5MHz	QPSK	1	0	0	23.31	0.538	1
				2		23.28	0.535	1
				5		23.25	0.531	1
			3	0	0	23.21	0.526	1
				1		23.28	0.535	1
				2		23.24	0.530	1
			6	0	1	21.96	0.394	1
		16-QAM	1	0	1	21.91	0.390	1
				2		21.93	0.392	1
				5		21.84	0.384	1
			3	0	1	22.00	0.398	1
				1		22.08	0.406	1
				2		21.98	0.396	1
			6	0	2	21.06	0.321	1

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	MPR	Conducted Output Power (dBm)	RF Output Power (W) EIRP	Limit (W) EIRP
Band 4 / 1.4MHz	CH 20393 1754.3MHz	QPSK	1	0	0	22.53	0.450	1
				2		22.54	0.451	1
				5		22.37	0.434	1
			3	0	0	22.40	0.437	1
				1		22.41	0.438	1
				2		22.33	0.430	1
			6	0	1	21.04	0.319	1
		16-QAM	1	0	1	20.73	0.297	1
				2		20.82	0.303	1
				5		20.76	0.299	1
			3	0	1	20.78	0.301	1
				1		20.88	0.308	1
				2		20.87	0.307	1
			6	0	2	20.12	0.258	1

Product	LE910C1-SV		
Test Item	RF Output Power		
Test Mode	Mode 1: LTE Band 4		
Date of Test	2018/10/04	Test Site	SR10-H

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	MPR	Conducted Output Power (dBm)	RF Output Power (W) EIRP	Limit (W) EIRP
Band 4 / 3MHz	CH 19965 1711.5MHz	QPSK	1	0	0	23.21	0.526	1
				7		23.30	0.537	1
				14		23.21	0.526	1
			8	0	1	21.66	0.368	1
				4		21.70	0.372	1
				7		21.73	0.374	1
			15	0	1	21.82	0.382	1
		16-QAM	1	0	1	21.40	0.347	1
				7		21.51	0.356	1
				14		21.49	0.354	1
			8	0	2	21.03	0.318	1
				4		20.81	0.303	1
				7		20.85	0.305	1
			15	0	2	20.59	0.288	1

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	MPR	Conducted Output Power (dBm)	RF Output Power (W) EIRP	Limit (W) EIRP
Band 4 / 3MHz	CH 20175 1732.5MHz	QPSK	1	0	0	23.39	0.548	1
				7		23.36	0.545	1
				14		23.12	0.515	1
			8	0	1	21.87	0.386	1
				4		21.71	0.372	1
				7		21.68	0.370	1
			15	0	1	21.75	0.376	1
		16-QAM	1	0	1	21.41	0.348	1
				7		21.36	0.344	1
				14		21.38	0.345	1
			8	0	2	21.08	0.322	1
				4		20.83	0.304	1
				7		20.77	0.300	1
			15	0	2	20.70	0.295	1

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	MPR	Conducted Output Power (dBm)	RF Output Power (W) EIRP	Limit (W) EIRP
Band 4 / 3MHz	CH 20385 1753.5MHz	QPSK	1	0	0	22.39	0.436	1
				7		22.52	0.449	1
				14		22.34	0.431	1
			8	0	1	20.92	0.310	1
				4		21.04	0.319	1
				7		21.11	0.324	1
			15	0	1	21.00	0.316	1
		16-QAM	1	0	1	20.89	0.308	1
				7		21.19	0.330	1
				14		21.02	0.318	1
			8	0	2	20.12	0.258	1
				4		20.26	0.267	1
				7		20.07	0.255	1
			15	0	2	20.15	0.260	1

Product	LE910C1-SV		
Test Item	RF Output Power		
Test Mode	Mode 1: LTE Band 4		
Date of Test	2018/10/04	Test Site	SR10-H

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	MPR	Conducted Output Power (dBm)	RF Output Power (W) EIRP	Limit (W) EIRP
Band 4 / 5MHz	CH 19975 1712.5MHz	QPSK	1	0	0	23.55	0.569	1
				12		23.41	0.551	1
				24		23.32	0.540	1
			12	0	1	21.64	0.366	1
				6		21.76	0.377	1
				11		21.61	0.364	1
			25	0	1	21.70	0.372	1
		16-QAM	1	0	1	21.46	0.352	1
				12		21.56	0.360	1
				24		21.45	0.351	1
			12	0	2	20.54	0.284	1
				6		20.56	0.286	1
				11		20.59	0.288	1
			25	0	2	20.64	0.291	1

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	MPR	Conducted Output Power (dBm)	RF Output Power (W) EIRP	Limit (W) EIRP
Band 4 / 5MHz	CH 20175 1732.5MHz	QPSK	1	0	0	23.44	0.555	1
				12		23.31	0.538	1
				24		23.24	0.530	1
			12	0	1	21.90	0.389	1
				6		21.96	0.394	1
				11		21.94	0.393	1
			25	0	1	21.86	0.385	1
		16-QAM	1	0	1	21.34	0.342	1
				12		21.35	0.343	1
				24		21.37	0.344	1
			12	0	2	20.81	0.303	1
				6		20.78	0.301	1
				11		20.86	0.306	1
			25	0	2	20.90	0.309	1

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	MPR	Conducted Output Power (dBm)	RF Output Power (W) EIRP	Limit (W) EIRP
Band 4 / 5MHz	CH 20375 1752.5MHz	QPSK	1	0	0	22.49	0.446	1
				12		22.64	0.461	1
				24		22.39	0.436	1
			12	0	1	21.28	0.337	1
				6		21.18	0.330	1
				11		21.22	0.333	1
			25	0	1	21.19	0.330	1
		16-QAM	1	0	1	20.74	0.298	1
				12		20.81	0.303	1
				24		20.82	0.303	1
			12	0	2	20.16	0.261	1
				6		20.27	0.267	1
				11		20.29	0.269	1
			25	0	2	20.26	0.267	1

Product	LE910C1-SV		
Test Item	RF Output Power		
Test Mode	Mode 1: LTE Band 4		
Date of Test	2018/10/04	Test Site	SR10-H

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	MPR	Conducted Output Power (dBm)	RF Output Power (W) EIRP	Limit (W) EIRP
Band 4 / 10MHz	CH 20000 1715MHz	QPSK	1	0	0	23.36	0.545	1
				24		23.50	0.562	1
				49		23.40	0.550	1
			25	0	1	21.69	0.371	1
				12		21.71	0.372	1
				24		21.86	0.385	1
			50	0	1	21.92	0.391	1
		16-QAM	1	0	1	21.60	0.363	1
				24		22.21	0.418	1
				49		21.88	0.387	1
			27	0	2	20.82	0.303	1
				12		20.76	0.299	1
				23		20.95	0.313	1

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	MPR	Conducted Output Power (dBm)	RF Output Power (W) EIRP	Limit (W) EIRP
Band 4 / 10MHz	CH 20175 1732.5MHz	QPSK	1	0	0	23.90	0.617	1
				24		23.41	0.551	1
				49		23.46	0.557	1
			25	0	1	21.94	0.393	1
				12		21.80	0.380	1
				24		21.93	0.392	1
			50	0	1	22.11	0.408	1
		16-QAM	1	0	1	21.85	0.385	1
				24		22.21	0.418	1
				49		21.65	0.367	1
			27	0	2	21.15	0.327	1
				12		21.19	0.330	1
				23		21.17	0.329	1

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	MPR	Conducted Output Power (dBm)	RF Output Power (W) EIRP	Limit (W) EIRP
Band 4 / 10MHz	CH 20350 1750MHz	QPSK	1	0	0	23.19	0.524	1
				24		23.26	0.532	1
				49		23.06	0.508	1
			25	0	1	21.52	0.356	1
				12		21.39	0.346	1
				24		21.39	0.346	1
			50	0	1	21.63	0.366	1
		16-QAM	1	0	1	21.11	0.324	1
				24		21.73	0.374	1
				49		21.00	0.316	1
			27	0	2	20.25	0.266	1
				12		20.27	0.267	1
				23		20.19	0.262	1

Product	LE910C1-SV		
Test Item	RF Output Power		
Test Mode	Mode 1: LTE Band 4		
Date of Test	2018/10/04	Test Site	SR10-H

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	MPR	Conducted Output Power (dBm)	RF Output Power (W) EIRP	Limit (W) EIRP
Band 4 / 15MHz	CH 20025 1717.5MHz	QPSK	1	0	0	23.23	0.528	1
				37		23.36	0.545	1
				74		23.42	0.552	1
			36	0	1	21.76	0.377	1
				19		21.74	0.375	1
				38		21.88	0.387	1
			75	0	1	21.80	0.380	1
		16-QAM	1	0	1	21.75	0.376	1
				37		22.06	0.404	1
				74		21.80	0.380	1
			27	0	2	20.68	0.294	1
				24		20.57	0.286	1
				48		20.45	0.279	1

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	MPR	Conducted Output Power (dBm)	RF Output Power (W) EIRP	Limit (W) EIRP
Band 4 / 15MHz	CH 20175 1732.5MHz	QPSK	1	0	0	24.06	0.640	1
				37		23.90	0.617	1
				74		23.30	0.537	1
			36	0	1	22.05	0.403	1
				19		22.04	0.402	1
				38		21.96	0.394	1
			75	0	1	22.06	0.404	1
		16-QAM	1	0	1	21.96	0.394	1
				37		22.69	0.467	1
				74		21.76	0.377	1
			27	0	2	20.65	0.292	1
				24		20.58	0.287	1
				48		20.49	0.281	1

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	MPR	Conducted Output Power (dBm)	RF Output Power (W) EIRP	Limit (W) EIRP
Band 4 / 15MHz	CH 20325 1747.5MHz	QPSK	1	0	0	23.52	0.565	1
				37		23.58	0.573	1
				74		23.14	0.518	1
			36	0	1	21.76	0.377	1
				19		21.53	0.357	1
				38		21.52	0.356	1
			75	0	1	21.77	0.378	1
		16-QAM	1	0	1	21.72	0.373	1
				37		21.95	0.394	1
				74		21.04	0.319	1
			27	0	2	20.75	0.299	1
				24		20.56	0.286	1
				48		20.45	0.279	1

Product	LE910C1-SV		
Test Item	RF Output Power		
Test Mode	Mode 1: LTE Band 4		
Date of Test	2018/10/04	Test Site	SR10-H

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	MPR	Conducted Output Power (dBm)	RF Output Power (W) EIRP	Limit (W) EIRP
Band 4 / 20MHz	CH 20050 1720MHz	QPSK	1	0	0	23.69	0.587	1
				49		23.4	0.550	1
				99		23.53	0.566	1
			50	0	1	21.91	0.390	1
				25		21.84	0.384	1
				49		22.14	0.411	1
			100	0	1	21.86	0.385	1
		16-QAM	1	0	1	21.28	0.337	1
				49		21.48	0.353	1
				99		21.53	0.357	1
			27	0	2	21.13	0.326	1
				36		21.11	0.324	1
				73		21.09	0.323	1

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	MPR	Conducted Output Power (dBm)	RF Output Power (W) EIRP	Limit (W) EIRP
Band 4 / 20MHz	CH 20175 1732.5MHz	QPSK	1	0	0	23.55	0.569	1
				49		23.39	0.548	1
				99		22.91	0.491	1
			50	0	1	22.04	0.402	1
				25		21.98	0.396	1
				49		21.81	0.381	1
			100	0	1	21.86	0.385	1
		16-QAM	1	0	1	22.12	0.409	1
				49		22.14	0.411	1
				99		21.18	0.330	1
			27	0	2	21.09	0.323	1
				36		21.05	0.320	1
				73		21.01	0.317	1

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	MPR	Conducted Output Power (dBm)	RF Output Power (W) EIRP	Limit (W) EIRP
Band 4 / 20MHz	CH 20300 1745MHz	QPSK	1	0	0	23.21	0.526	1
				49		23.12	0.515	1
				99		22.43	0.440	1
			50	0	1	21.85	0.385	1
				25		21.60	0.363	1
				49		21.45	0.351	1
			100	0	1	21.72	0.373	1
		16-QAM	1	0	1	21.46	0.352	1
				49		21.45	0.351	1
				99		21.29	0.338	1
			27	0	2	21.22	0.333	1
				36		21.17	0.329	1
				73		21.11	0.324	1

Product	LE910C1-SV		
Test Item	RF Output Power		
Test Mode	Mode 2: LTE Band 13		
Date of Test	2018/10/04	Test Site	SR10-H

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	MPR	Conducted Output Power (dBm)	RF Output Power (W) EIRP	Limit (W) EIRP
Band 13 5MHz	CH 23205 779.5MHz	QPSK	1	0	0	23.73	0.287	3
				12		23.55	0.275	3
				24		23.56	0.276	3
			12	0	1	22.63	0.223	3
				6		22.52	0.217	3
				11		22.49	0.216	3
			25	0	1	22.59	0.221	3
		16-QAM	1	0	1	22.44	0.213	3
				12		22.08	0.196	3
				24		22.11	0.198	3
			12	0	2	21.55	0.174	3
				6		21.32	0.165	3
				11		21.28	0.163	3
			25	0	2	21.65	0.178	3

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	MPR	Conducted Output Power (dBm)	RF Output Power (W) EIRP	Limit (W) EIRP
Band 13 5MHz	CH 23230 782MHz	QPSK	1	0	0	23.42	0.267	3
				12		23.62	0.280	3
				24		23.61	0.279	3
			12	0	1	22.57	0.220	3
				6		22.68	0.225	3
				11		22.61	0.222	3
			25	0	1	22.50	0.216	3
		16-QAM	1	0	1	22.23	0.203	3
				12		22.33	0.208	3
				24		22.22	0.203	3
			12	0	2	21.33	0.165	3
				6		21.44	0.169	3
				11		21.40	0.168	3
			25	0	2	21.62	0.177	3

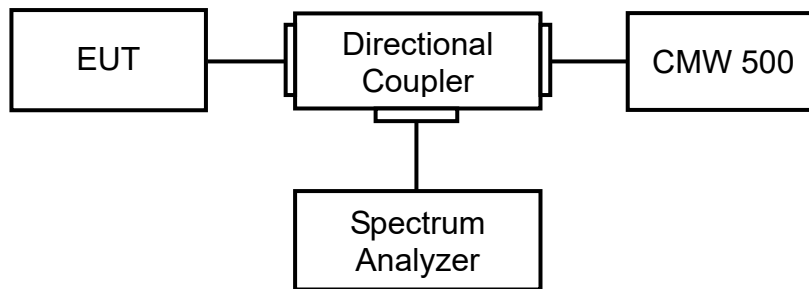
Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	MPR	Conducted Output Power (dBm)	RF Output Power (W) EIRP	Limit (W) EIRP
Band 13 5MHz	CH 23255 784.5MHz	QPSK	1	0	0	22.93	0.239	3
				12		23.44	0.269	3
				24		23.24	0.256	3
			12	0	1	22.47	0.215	3
				6		22.49	0.216	3
				11		22.42	0.212	3
			25	0	1	22.44	0.213	3
		16-QAM	1	0	1	23.52	0.274	3
				12		23.72	0.286	3
				24		23.45	0.269	3
			12	0	2	22.56	0.219	3
				6		22.45	0.214	3
				11		22.41	0.212	3
			25	0	2	22.43	0.213	3

Product	LE910C1-SV		
Test Item	RF Output Power		
Test Mode	Mode 2: LTE Band 13		
Date of Test	2018/10/04	Test Site	SR10-H

Band	Channel Freq. (MHz)	Modulation	RB No.	RB offset	MPR	Conducted Output Power (dBm)	RF Output Power (W) EIRP	Limit (W) EIRP
Band 13 10MHz	CH 23230 782MHz	QPSK	1	0	0	24.07	0.310	3
				7		23.66	0.282	3
				14		23.43	0.268	3
			25	0	1	22.46	0.214	3
				4		22.59	0.221	3
				7		22.47	0.215	3
			50	0	1	22.45	0.214	3
		16-QAM	1	0	1	22.94	0.239	3
				24		22.80	0.232	3
				49		22.22	0.203	3
			27	0	2	21.51	0.172	3
				12		21.53	0.173	3
				23		21.52	0.173	3

4. Occupied Bandwidth

4.1. Test Setup



4.2. Test Procedure

1. The EUT was connected to Spectrum Analyzer and Base Station via power divider.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. The 26 dB bandwidth and 99% occupied bandwidth of the low & middle & high channel for the highest RF powers were measured.

4.3. Test Method

KDB 971168 D01 Power Meas License Digital Systems v03 sub-clause 4.2 & 4.3

ANSI C63.26: 2015 Sub-clause 5.4.3 & 5.4.4

4.4. Test Result

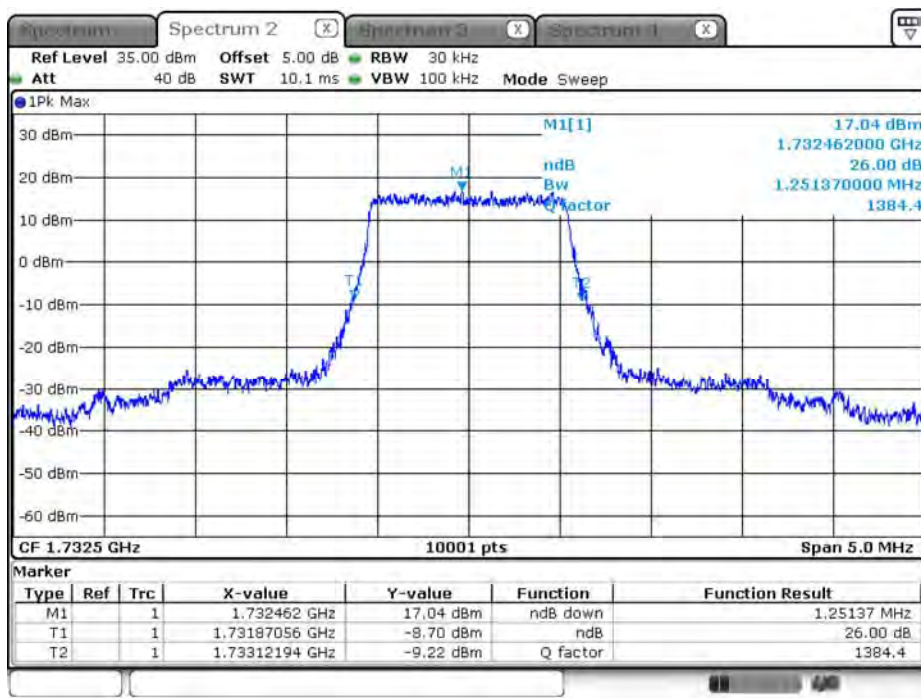
Product	LE910C1-SV		
Test Item	Occupied Bandwidth		
Test Mode	Mode 1: LTE Band 4		
Date of Test	2018/09/19	Test Site	SR10-H

1.4M_QPSK

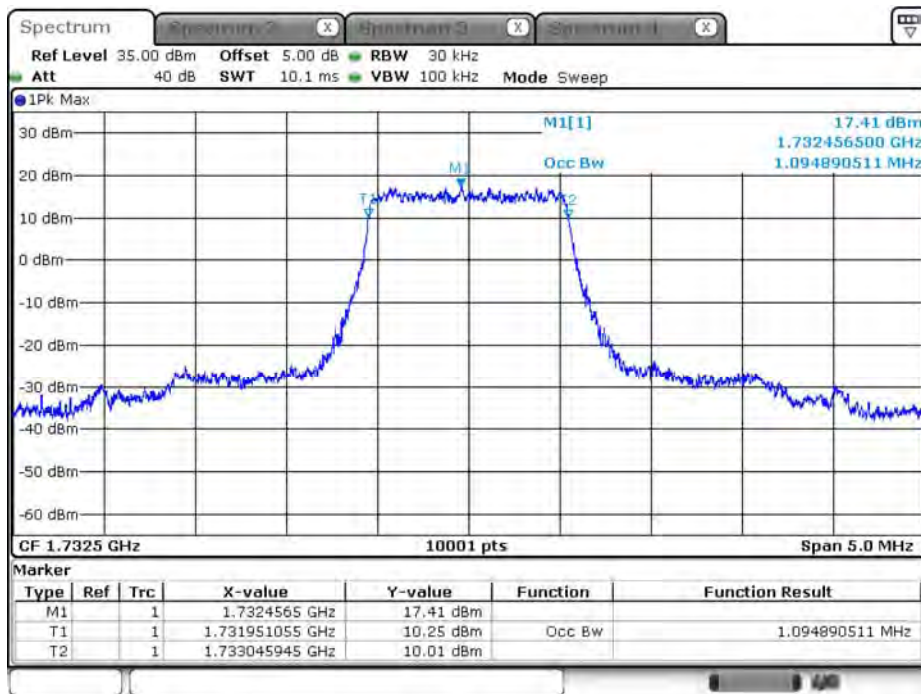
Frequency (MHz)	26dB BW Measure Level (MHz)	99% BW Measure Level (MHz)	Limit (MHz)
1732.5	1.2514	1.0949	N/A

1.4M_16-QAM

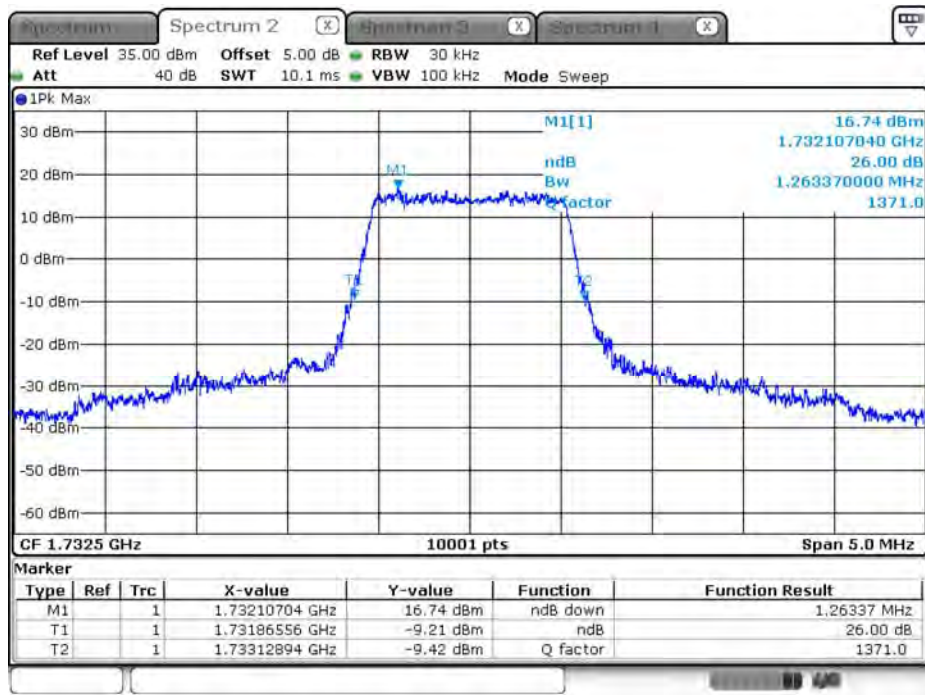
Frequency (MHz)	26dB BW Measure Level (MHz)	99% BW Measure Level (MHz)	Limit (MHz)
1732.5	1.2634	1.0954	N/A

-26dB BW_CH18900_1.4M_QPSK

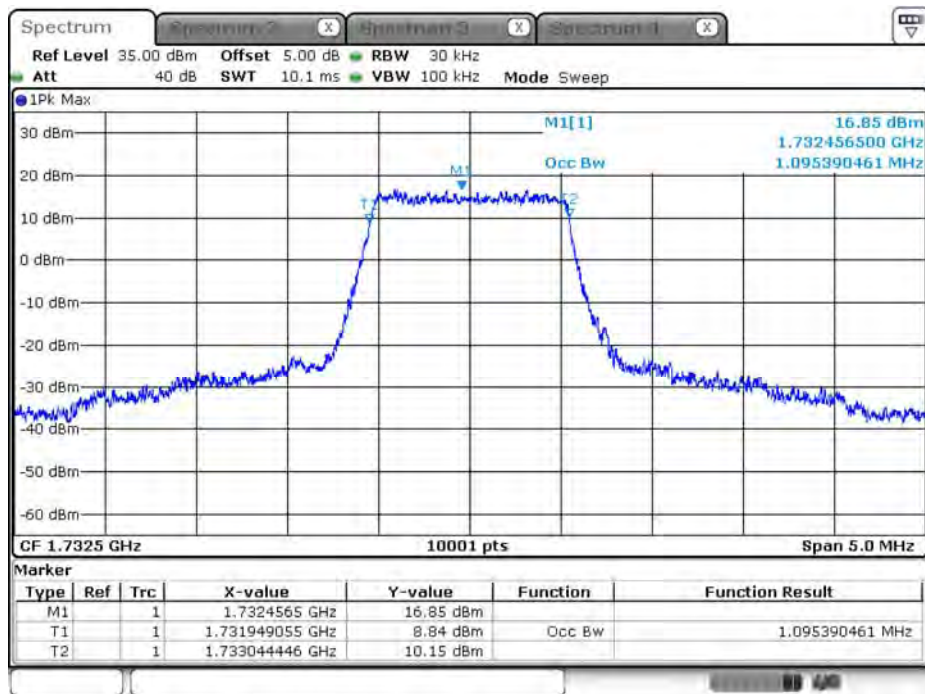
Date: 27.SEP.2018 16:44:38

99% BW_CH18900_1.4M_QPSK

Date: 27.SEP.2018 16:32:46

-26dB BW_CH18900_1.4M_16-QAM

Date: 27.SEP.2018 16:51:52

99% BW_CH18900_1.4M_16-QAM

Date: 27.SEP.2018 16:51:25

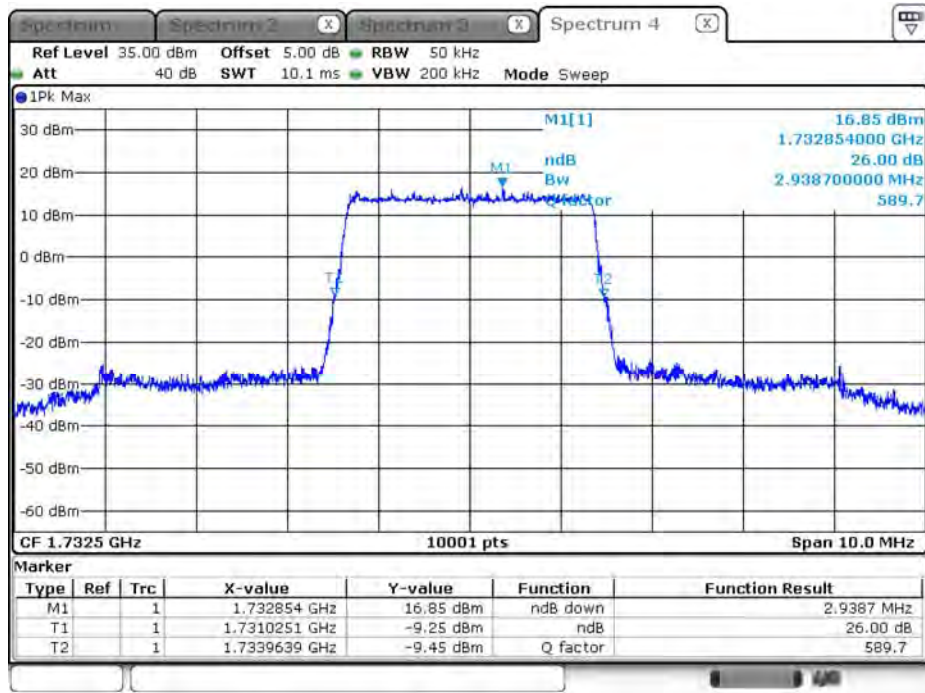
Product	LE910C1-SV		
Test Item	Occupied Bandwidth		
Test Mode	Mode 1: LTE Band 4		
Date of Test	2018/09/19	Test Site	SR10-H

3M_QPSK

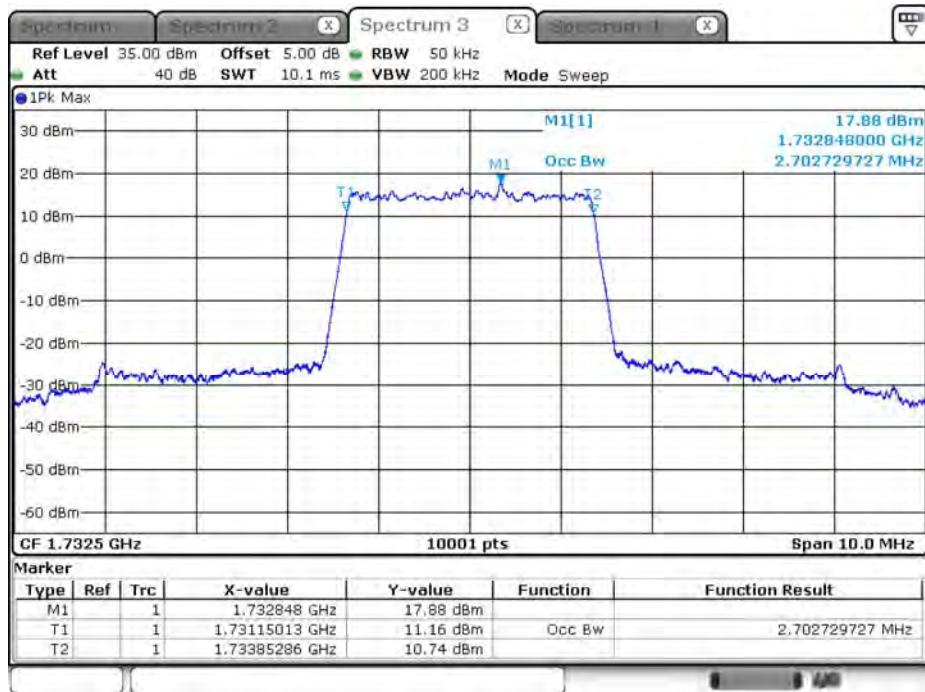
Frequency (MHz)	26dB BW Measure Level (MHz)	99% BW Measure Level (MHz)	Limit (MHz)
1732.5	2.9387	2.7027	N/A

3M_16-QAM

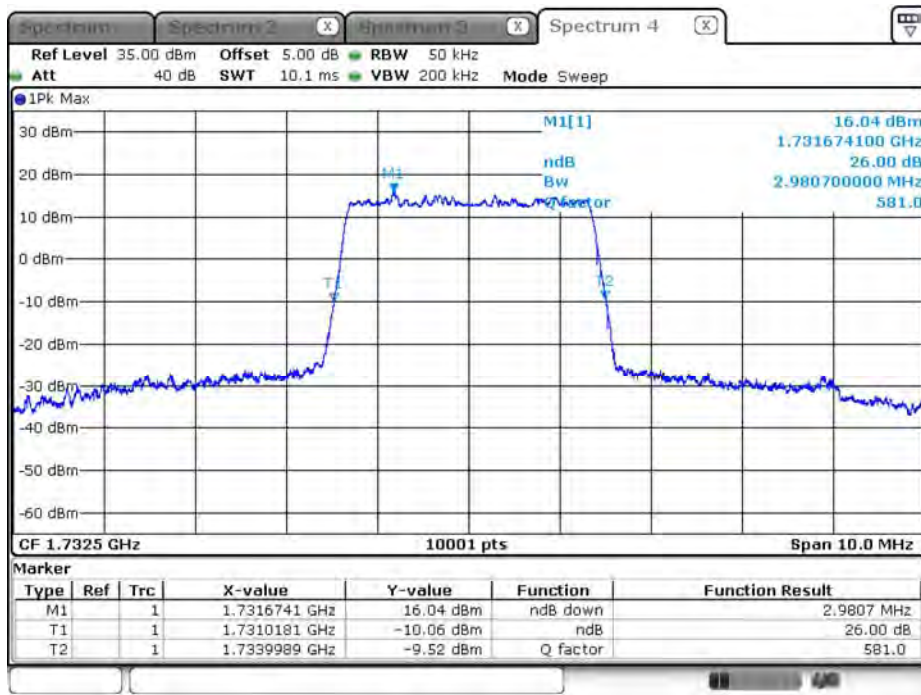
Frequency (MHz)	26dB BW Measure Level (MHz)	99% BW Measure Level (MHz)	Limit (MHz)
1732.5	2.9807	2.7067	N/A

-26dB BW_CH18900_3M_QPSK

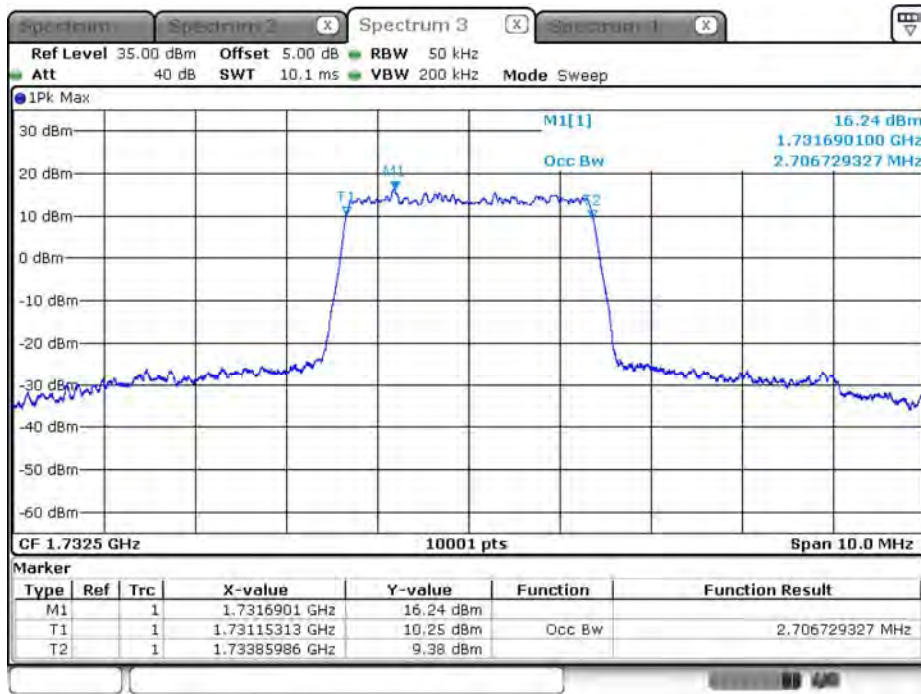
Date: 27.SEP.2018 17:05:23

99% BW_CH18900_3M_QPSK

Date: 27.SEP.2018 17:04:24

-26dB BW_CH18900_3M_16-QAM

Date: 27.SEP.2018 17:37:12

99% BW_CH18900_3M_16-QAM

Date: 27.SEP.2018 17:35:06

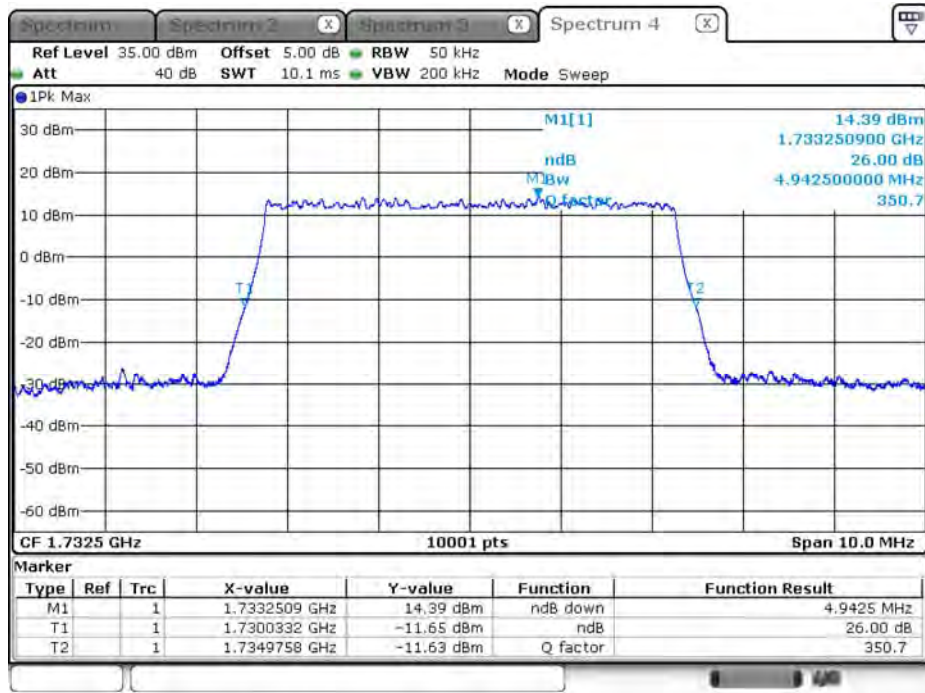
Product	LE910C1-SV		
Test Item	Occupied Bandwidth		
Test Mode	Mode 1: LTE Band 4		
Date of Test	2018/09/19	Test Site	SR10-H

5M_QPSK

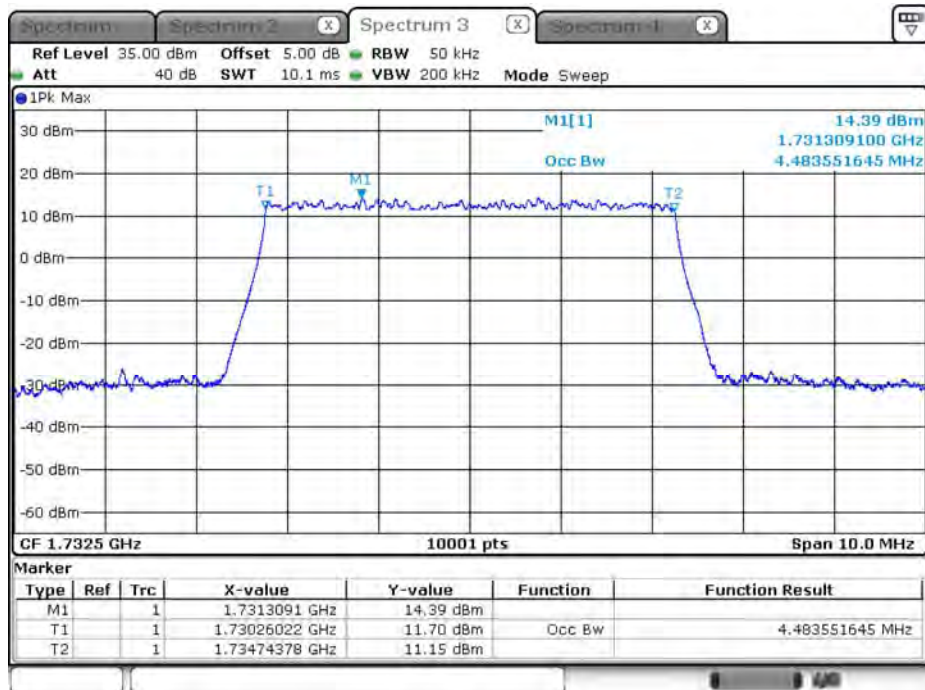
Frequency (MHz)	26dB BW Measure Level (MHz)	99% BW Measure Level (MHz)	Limit (MHz)
1732.5	4.9425	4.4836	N/A

5M_16-QAM

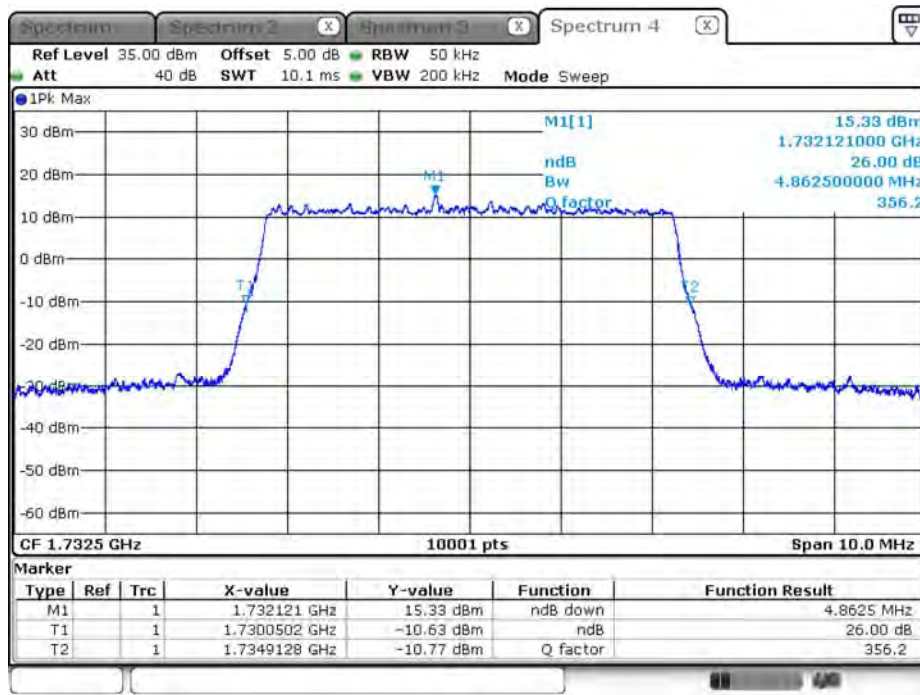
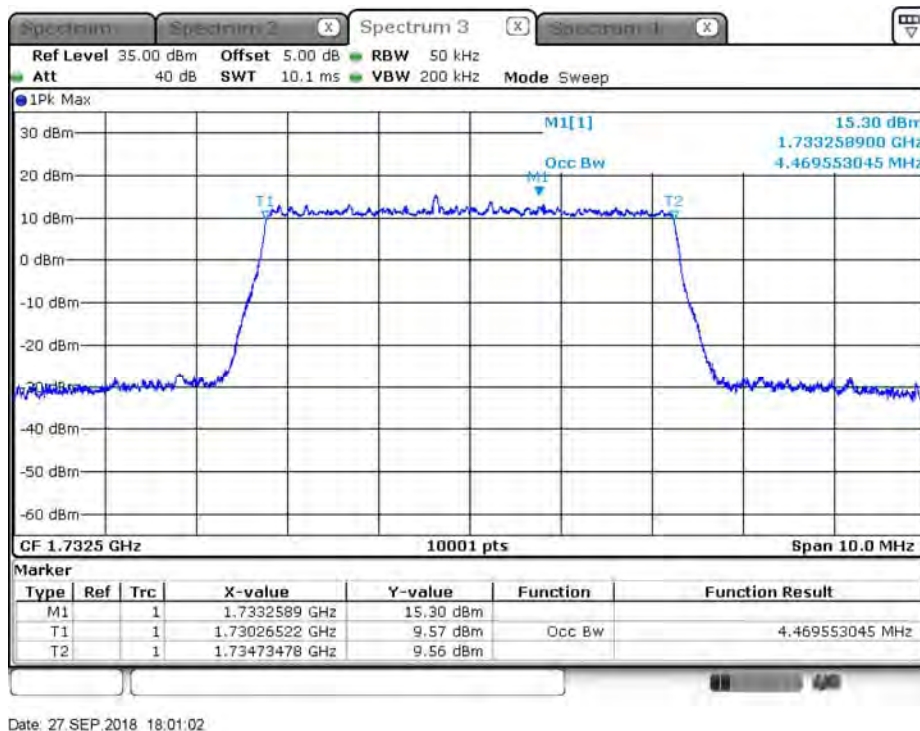
Frequency (MHz)	26dB BW Measure Level (MHz)	99% BW Measure Level (MHz)	Limit (MHz)
1732.5	4.8625	4.4696	N/A

-26dB BW_CH18900_5M_QPSK

Date: 27.SEP.2018 17:59:13

99% BW_CH18900_5M_QPSK

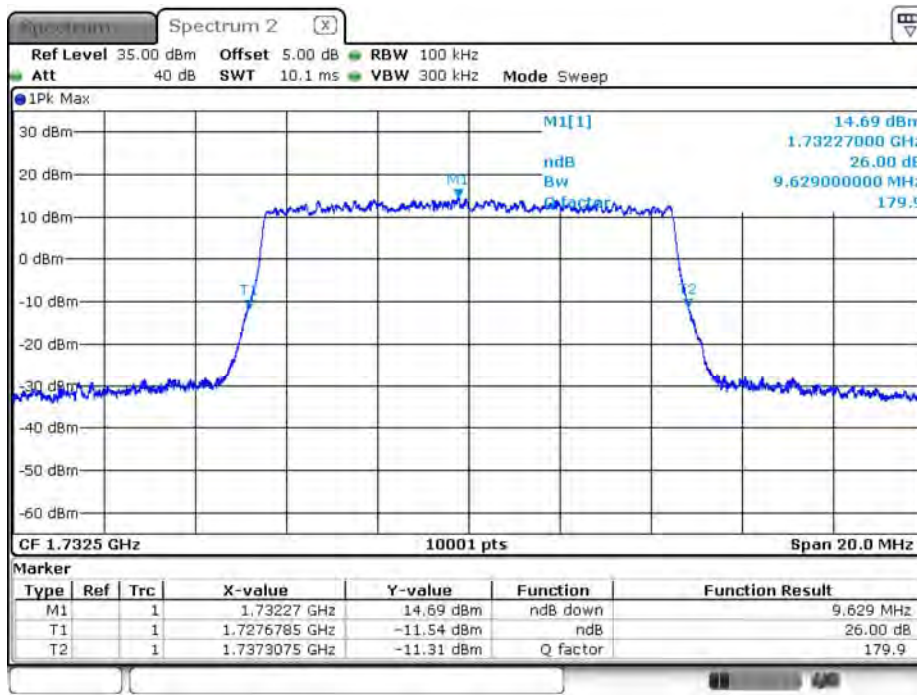
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-26dB BW_CH18900_5M_16-QAM**99% BW_CH18900_5M_16-QAM**

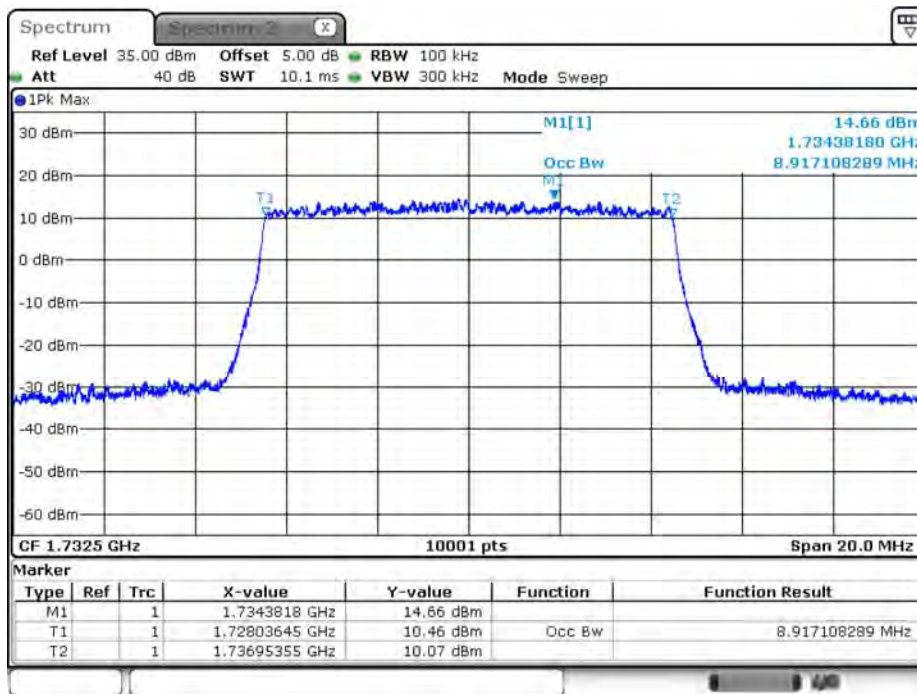
Product	LE910C1-SV		
Test Item	Occupied Bandwidth		
Test Mode	Mode 1: LTE Band 4		
Date of Test	2018/09/19	Test Site	SR10-H

10M_QPSK			
Frequency (MHz)	26dB BW Measure Level (MHz)	99% BW Measure Level (MHz)	Limit (MHz)
1732.5	9.629	8.9171	N/A

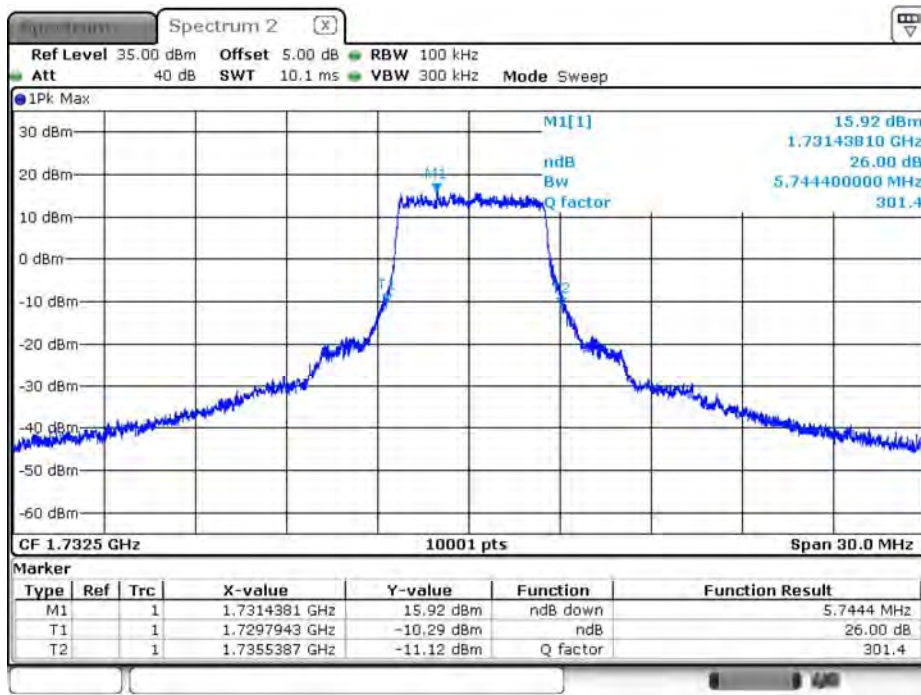
10M_16-QAM			
Frequency (MHz)	26dB BW Measure Level (MHz)	99% BW Measure Level (MHz)	Limit (MHz)
1732.5	5.7444	4.8955	N/A

-26dB BW_CH18900_10M_QPSK

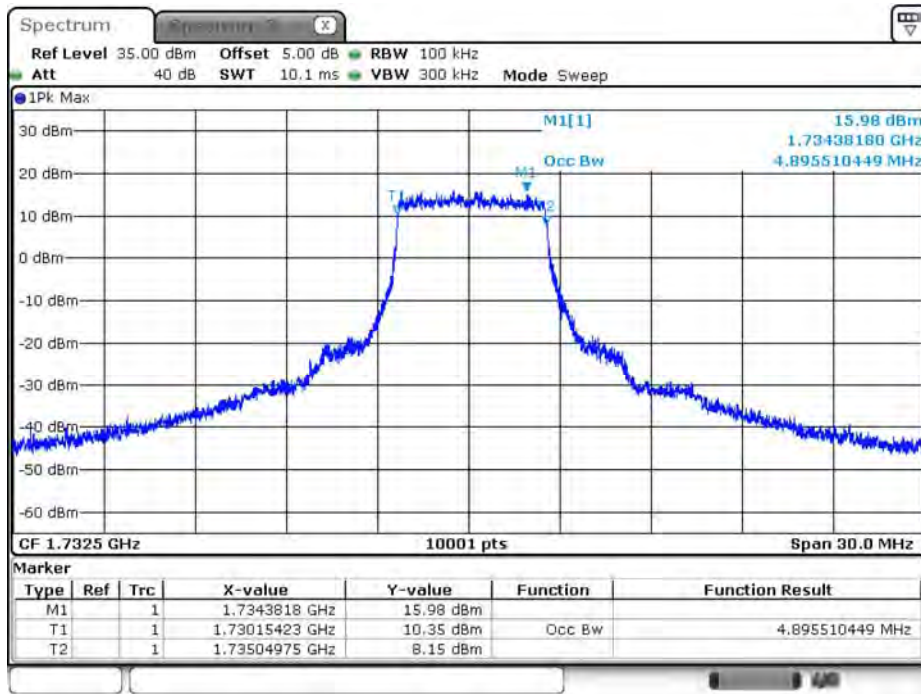
Date: 28 SEP.2018 02:10:49

99% BW_CH18900_10M_QPSK

Date: 28 SEP.2018 02:12:37

-26dB BW_CH18900_10M_16-QAM

Date: 28.SEP.2018 02:31:26

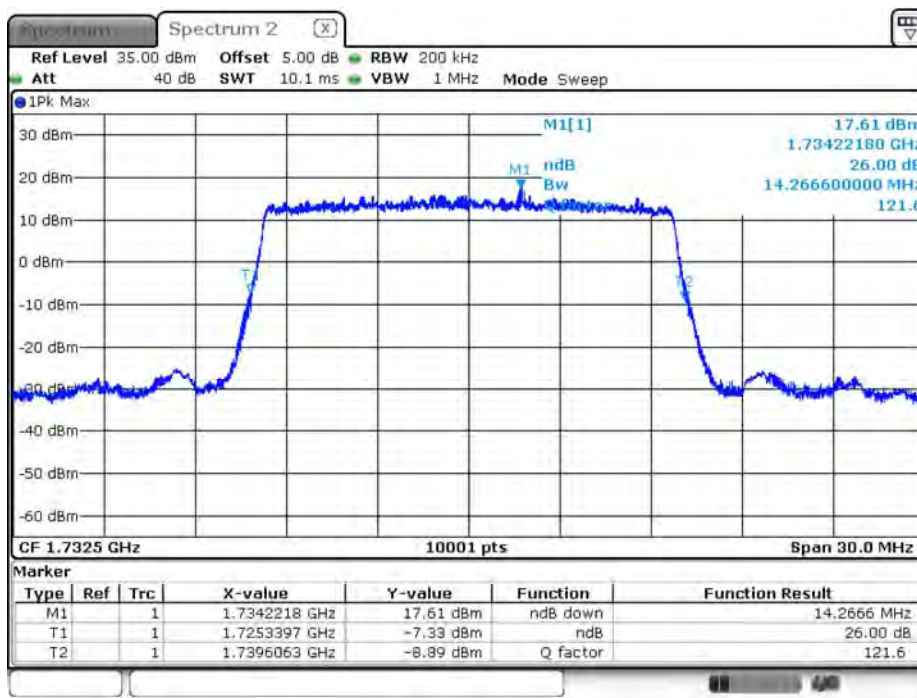
99% BW_CH18900_10M_16-QAM

Date: 28.SEP.2018 02:32:21

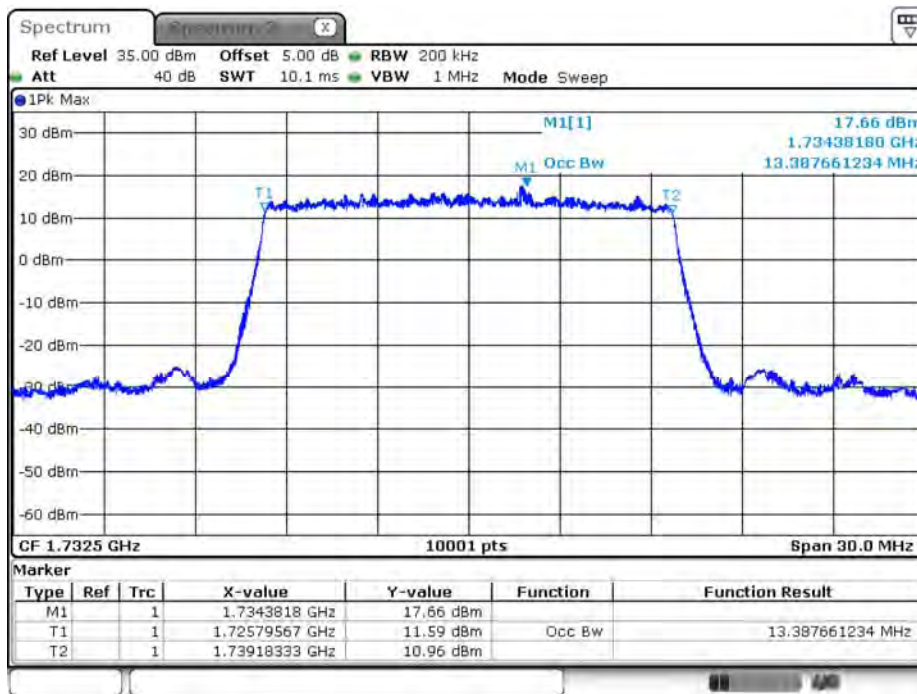
Product	LE910C1-SV		
Test Item	Occupied Bandwidth		
Test Mode	Mode 1: LTE Band 4		
Date of Test	2018/09/19	Test Site	SR10-H

15M_QPSK			
Frequency (MHz)	26dB BW Measure Level (MHz)	99% BW Measure Level (MHz)	Limit (MHz)
1732.5	14.2666	13.3877	N/A

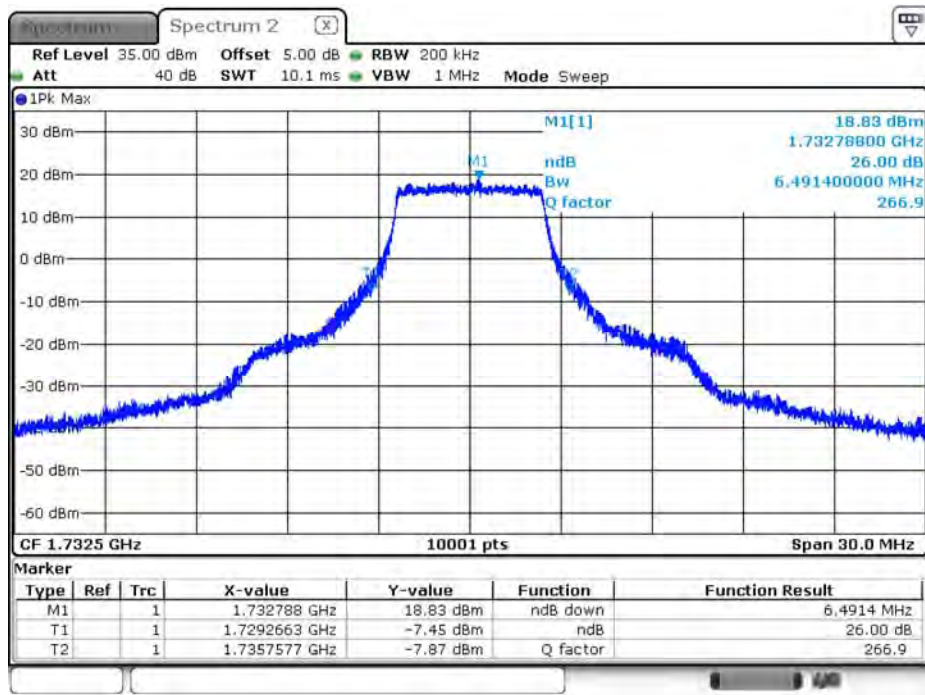
15M_16-QAM			
Frequency (MHz)	26dB BW Measure Level (MHz)	99% BW Measure Level (MHz)	Limit (MHz)
1732.5	6.4914	5.1385	N/A

-26dB BW_CH18900_15M_QPSK

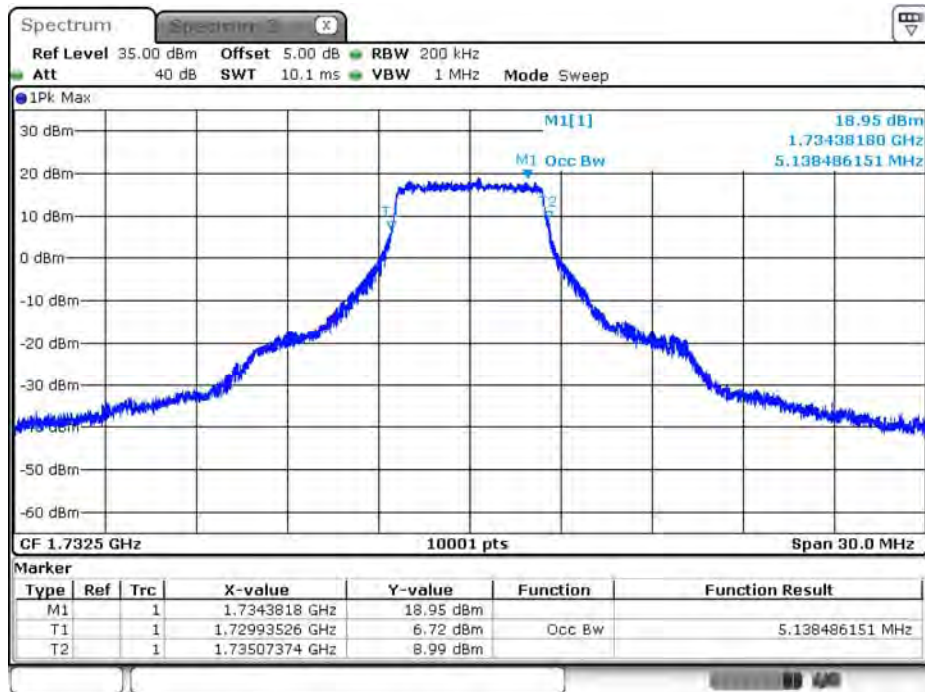
Date: 28.SEP.2018 02:44:26

99% BW_CH18900_15M_QPSK

Date: 28.SEP.2018 02:43:23

-26dB BW_CH18900_15M_16-QAM

Date: 28 SEP.2018 02:37:49

99% BW_CH18900_15M_16-QAM

Date: 28 SEP.2018 02:35:39

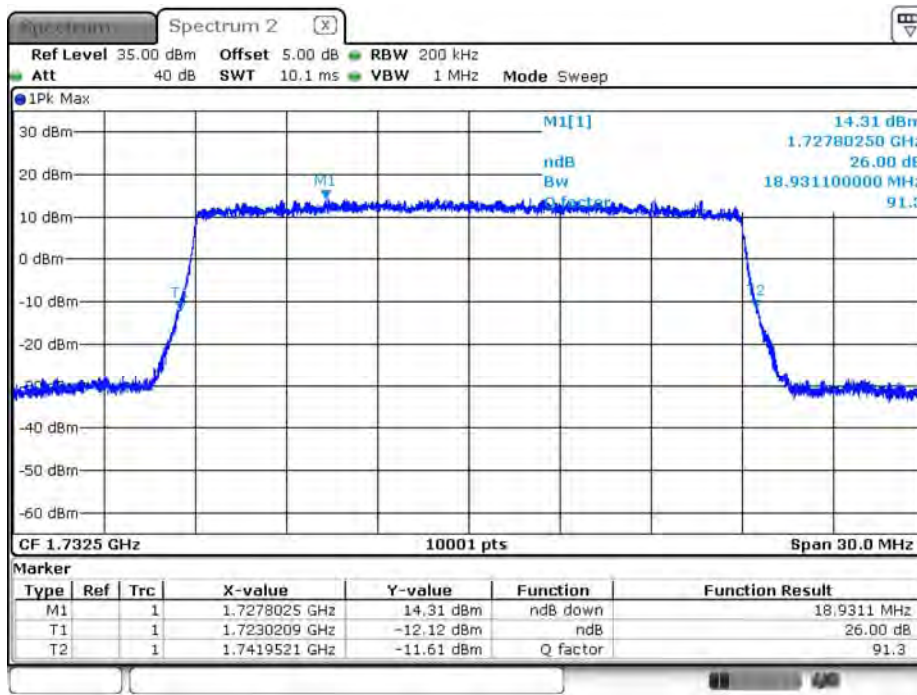
Product	LE910C1-SV		
Test Item	Occupied Bandwidth		
Test Mode	Mode 1: LTE Band 4		
Date of Test	2018/09/19	Test Site	SR10-H

20M_QPSK

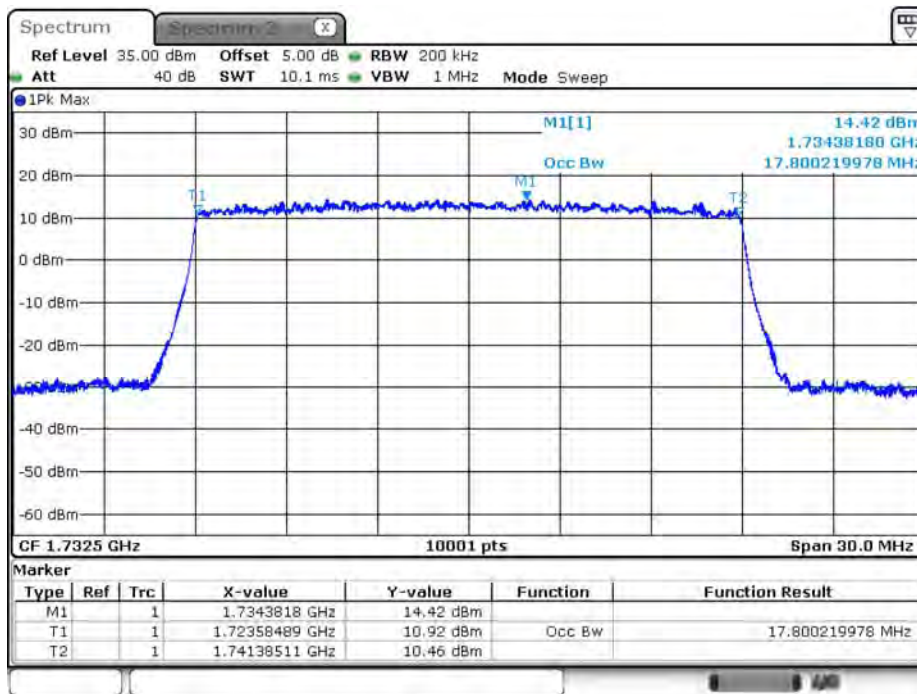
Frequency (MHz)	26dB BW Measure Level (MHz)	99% BW Measure Level (MHz)	Limit (MHz)
1732.5	18.9311	17.8002	N/A

20M_16-QAM

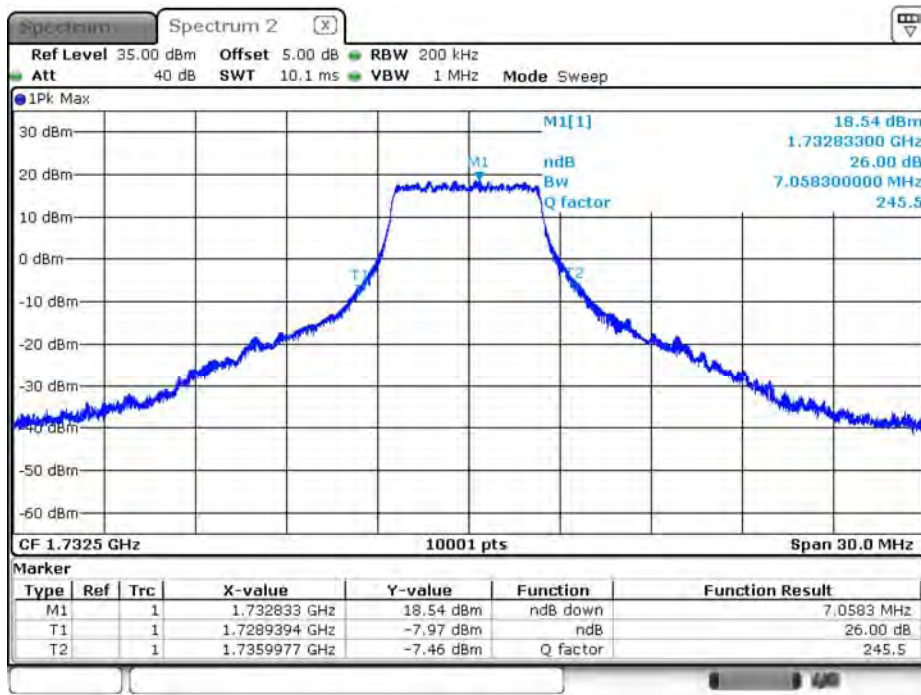
Frequency (MHz)	26dB BW Measure Level (MHz)	99% BW Measure Level (MHz)	Limit (MHz)
1732.5	7.0583	5.2014	N/A

-26dB BW_CH18900_20M_QPSK

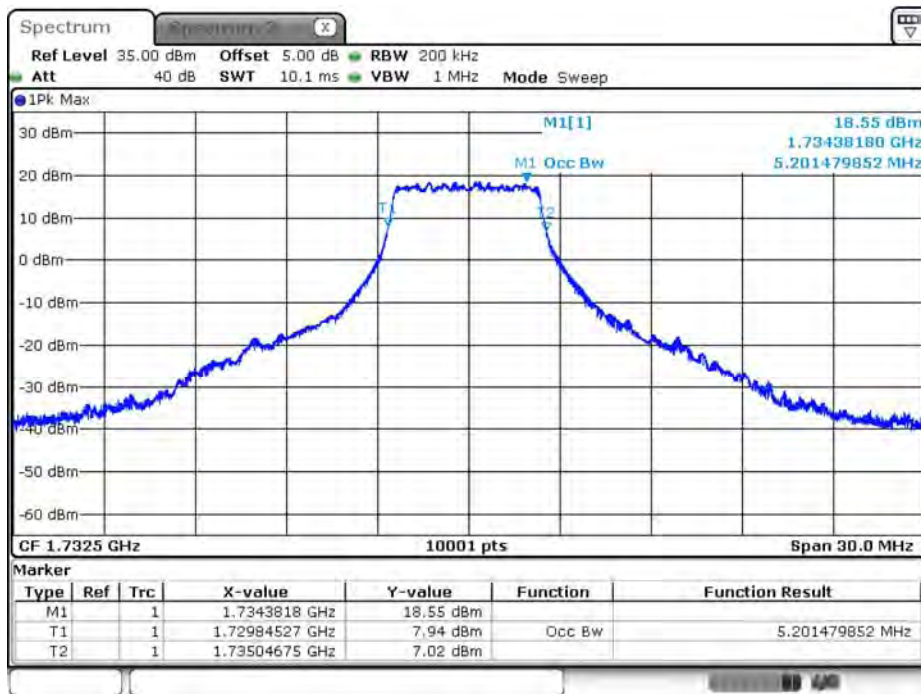
Date: 28.SEP.2018 02:45:32

99% BW_CH18900_20M_QPSK

Date: 28.SEP.2018 02:48:01

-26dB BW_CH18900_20M_16-QAM

Date: 28.SEP.2018 02:53:52

99% BW_CH18900_20M_16-QAM

Date: 28.SEP.2018 02:56:52

Product	LE910C1-SV		
Test Item	Occupied Bandwidth		
Test Mode	Mode 2: LTE Band 13		
Date of Test	2018/09/19	Test Site	SR10-H

5M_QPSK

Frequency (MHz)	26dB BW Measure Level (MHz)	99% BW Measure Level (MHz)	Limit (MHz)
782	4.9245	4.4746	N/A

5M_16-QAM

Frequency (MHz)	26dB BW Measure Level (MHz)	99% BW Measure Level (MHz)	Limit (MHz)
782	4.8895	4.4656	N/A

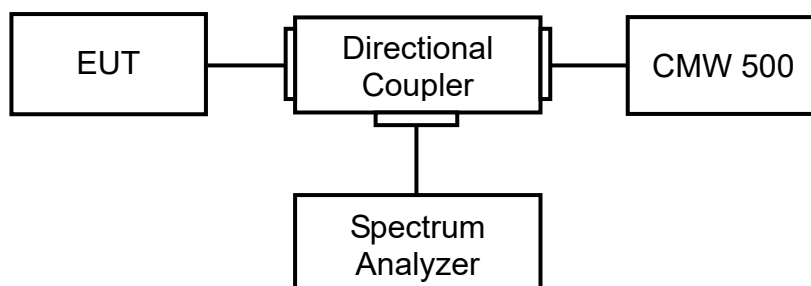
Product	LE910C1-SV		
Test Item	Occupied Bandwidth		
Test Mode	Mode 2: LTE Band 13		
Date of Test	2018/09/19	Test Site	SR10-H

10M_QPSK			
Frequency (MHz)	26dB BW Measure Level (MHz)	99% BW Measure Level (MHz)	Limit (MHz)
782	9.529	8.8771	N/A

10M_16-QAM			
Frequency (MHz)	26dB BW Measure Level (MHz)	99% BW Measure Level (MHz)	Limit (MHz)
782	5.6434	4.8695	N/A

5. Peak To Average Ratio

5.1. Test Setup



5.2. Test Procedure

1. Set resolution/measurement bandwidth $\geq$ signal's occupied bandwidth.
2. Set the number of counts to a value that stabilizes the measured CCDF curve.
3. Record the maximum PAPR level associated with a probability of 0.1 %.

5.3. Test Method

KDB 971168 D01 Power Meas License Digital Systems v03 sub-clause 5.7.2
ANSI C63.26: 2015 Sub-clause 5.2.3.4

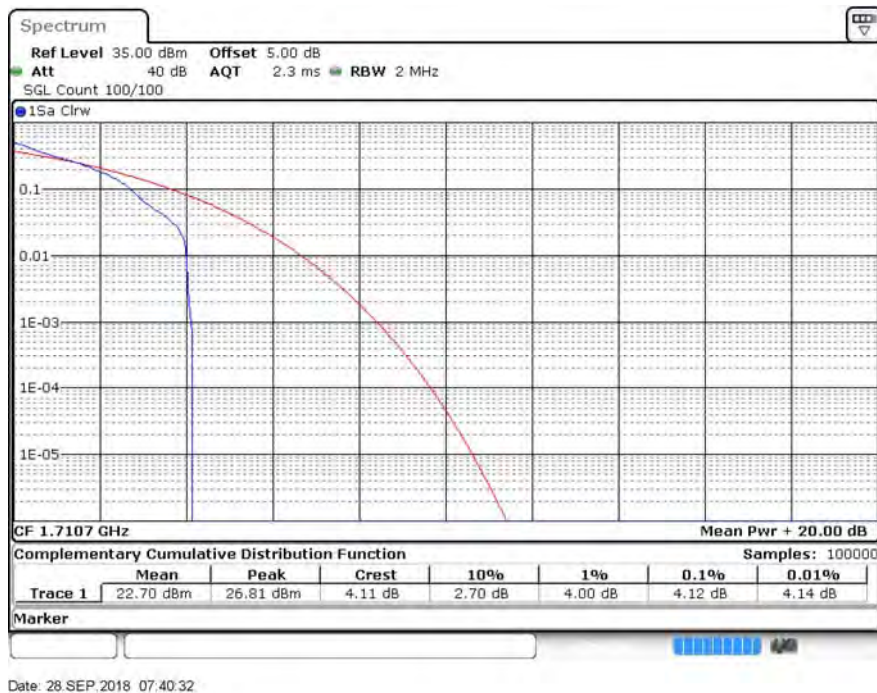
5.4. Limit

In measuring transmissions in this band using an average power technique, the peak to-average ratio (PAR) of the transmission may not exceed 13dB.

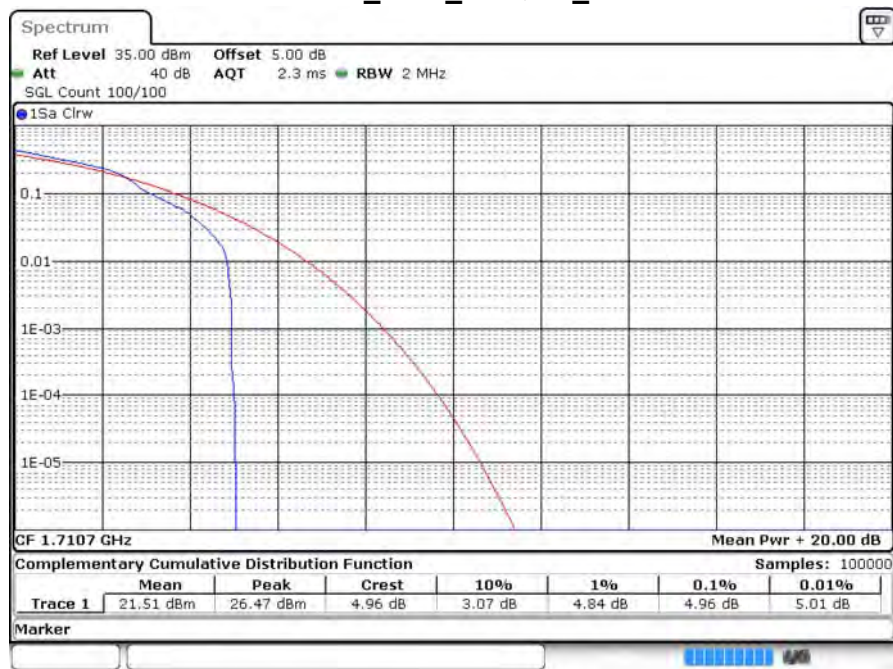
5.5. Test Result

Product	LE910C1-SV		
Test Item	Peak To Average Ratio		
Test Mode	Mode 1: LTE Band 4		
Date of Test	2018/09/28	Test Site	SR10-H

CH19957_1.4M_QPSK_1RB0



CH19957_1.4M_16-QAM_1RB0



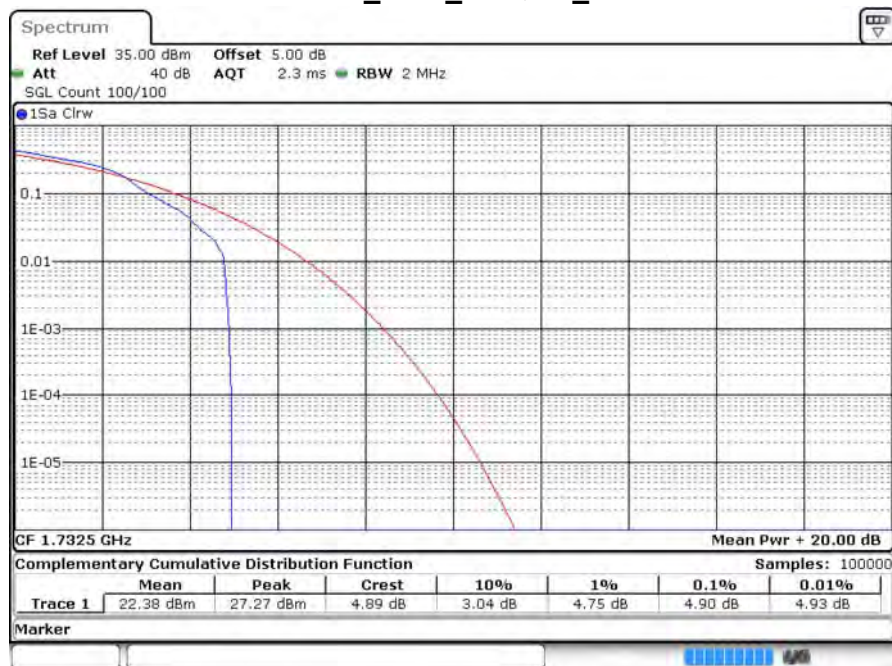
Date: 28 SEP.2018 06:26:11

CH20175_1.4M_QPSK_1RB0



Date: 28 SEP.2018 06:21:01

CH20175_1.4M_16-QAM_1RB0



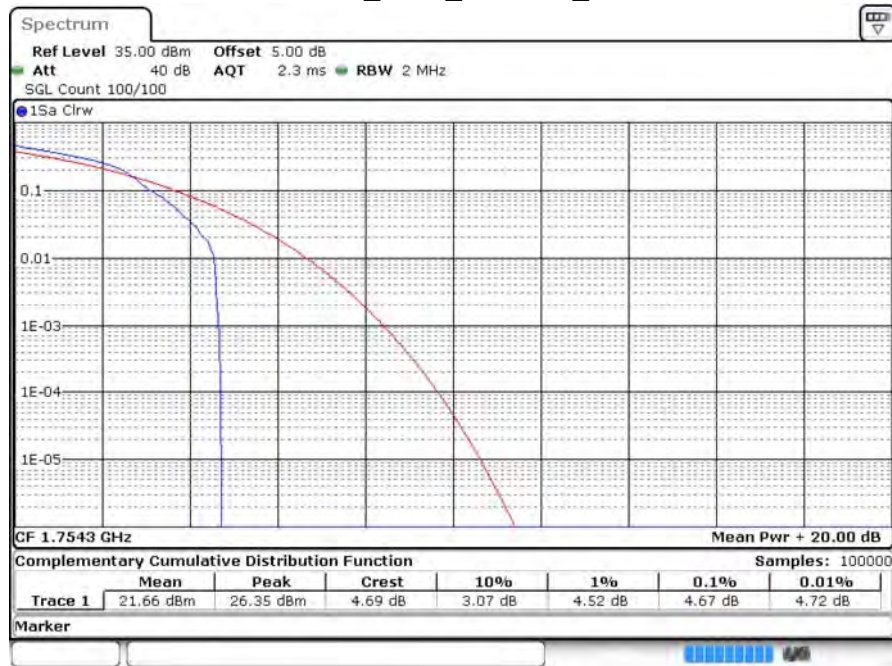
Date: 28 SEP.2018 07:42:11

CH20393_1.4M_QPSK_1RB0



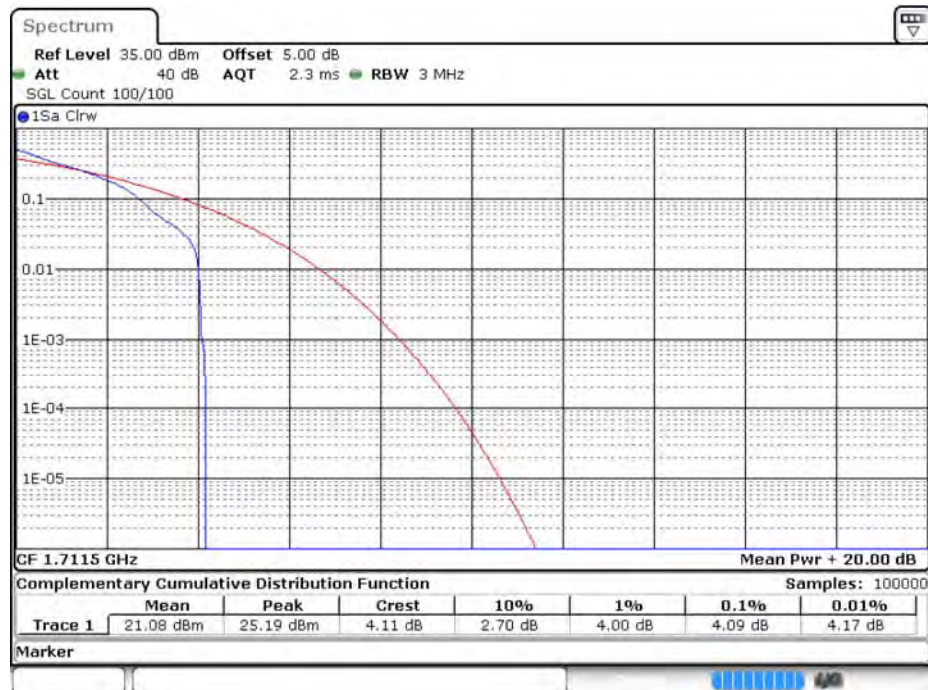
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CH20393_1.4M_16-QAM_1RB0



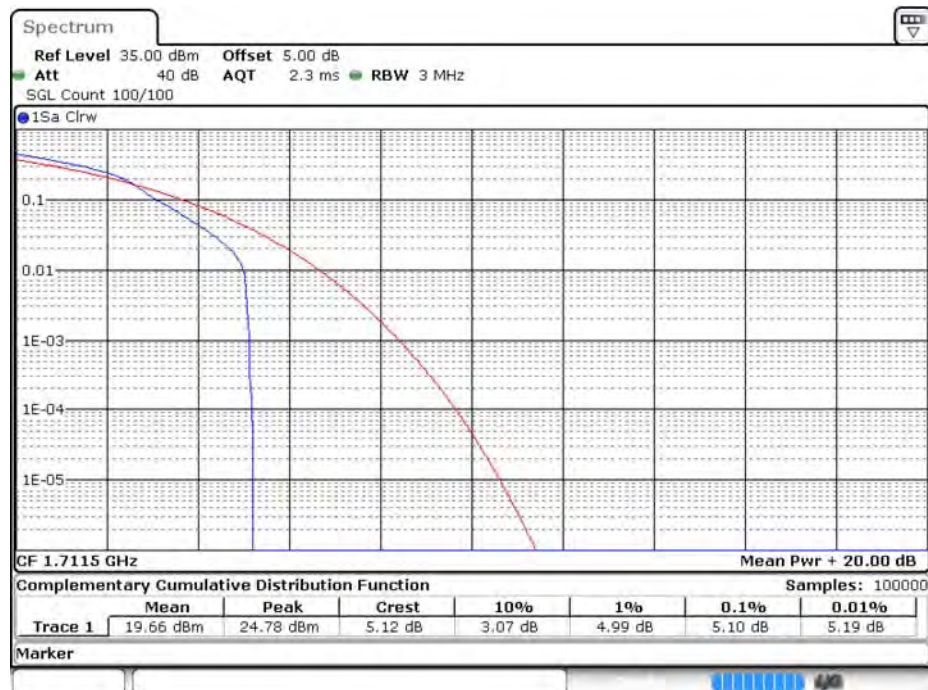
Date: 28 SEP.2018 07:41:30

CH19965_3M_QPSK_1RB0



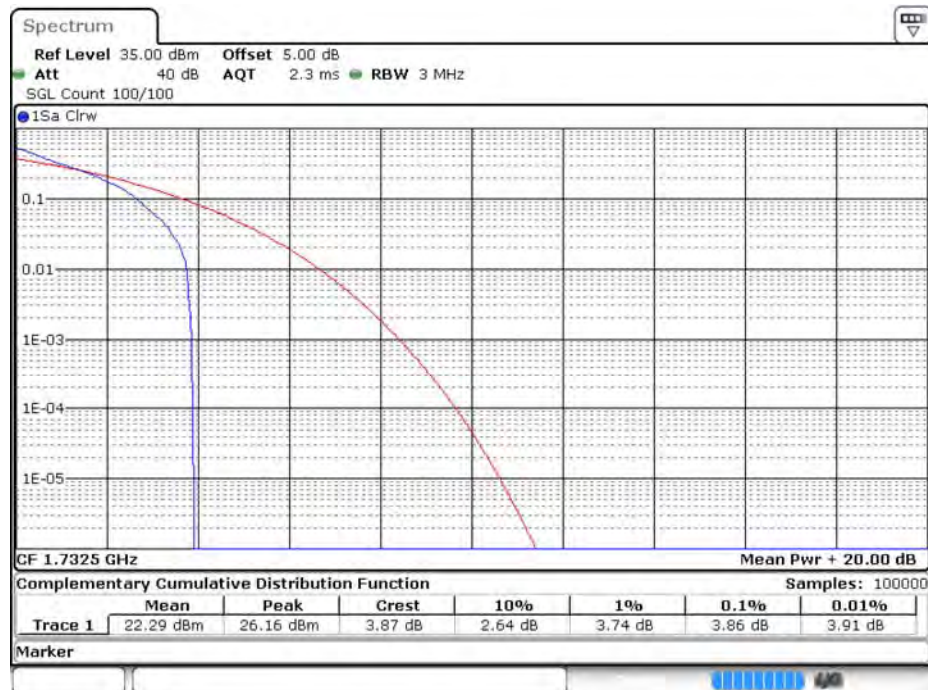
Date: 28.SEP.2018 07:01:47

CH19965_3M_16-QAM_1RB0

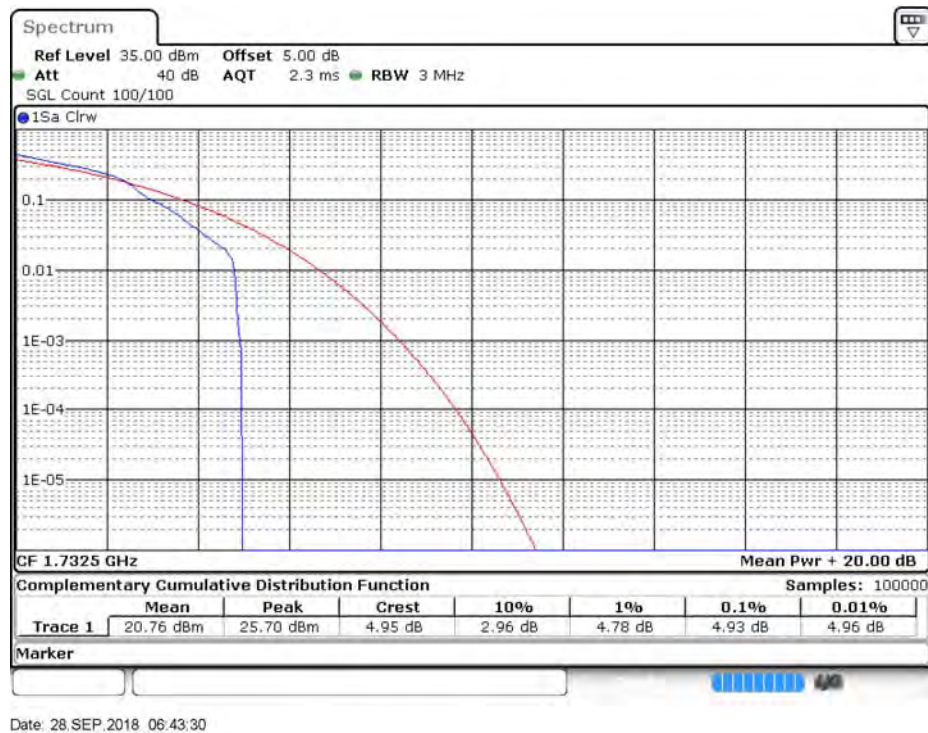


Date: 28.SEP.2018 07:34:45

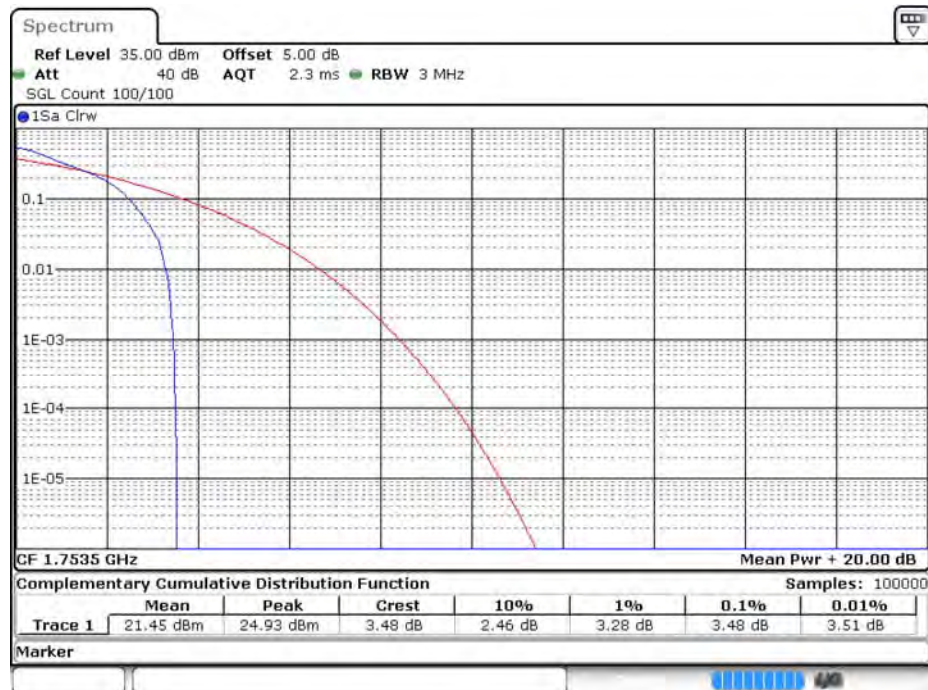
CH20175_3M_QPSK_1RB0



CH20175_3M_16-QAM_1RB0

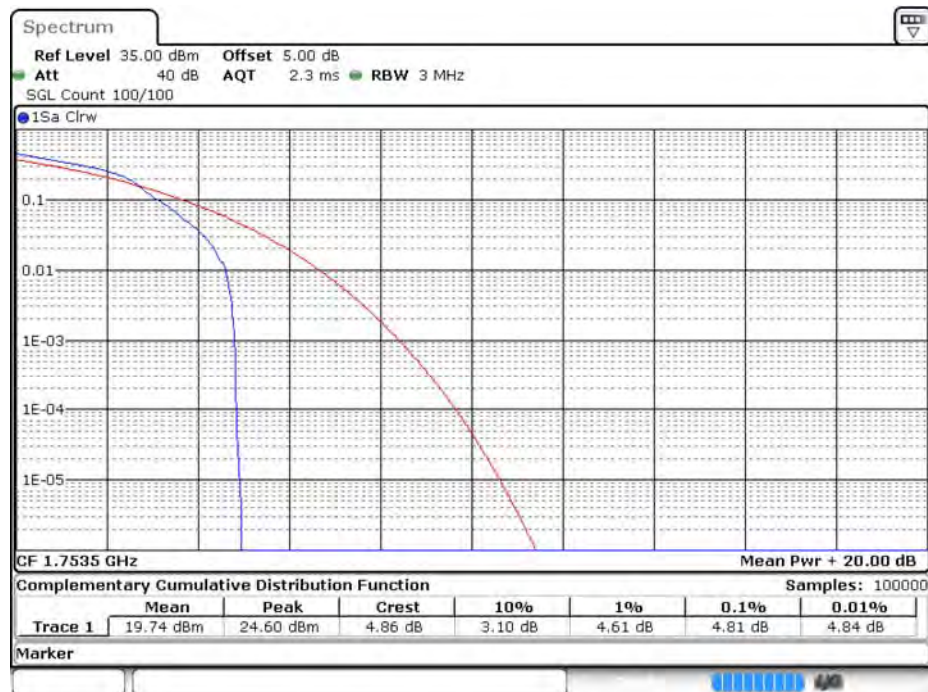


CH20385_3M_QPSK_1RB0



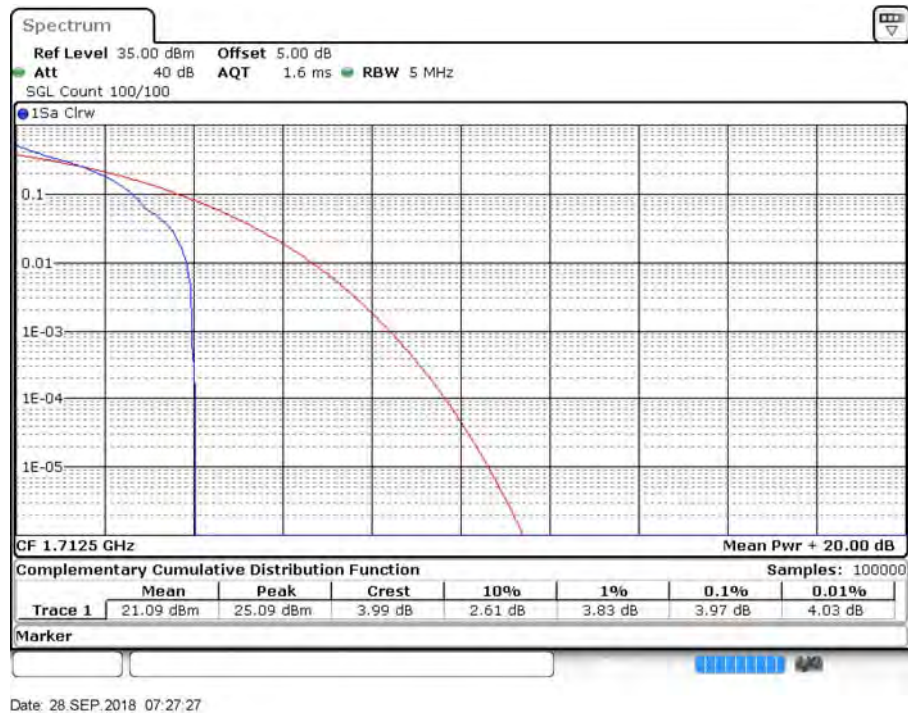
Date: 28.SEP.2018 07:33:55

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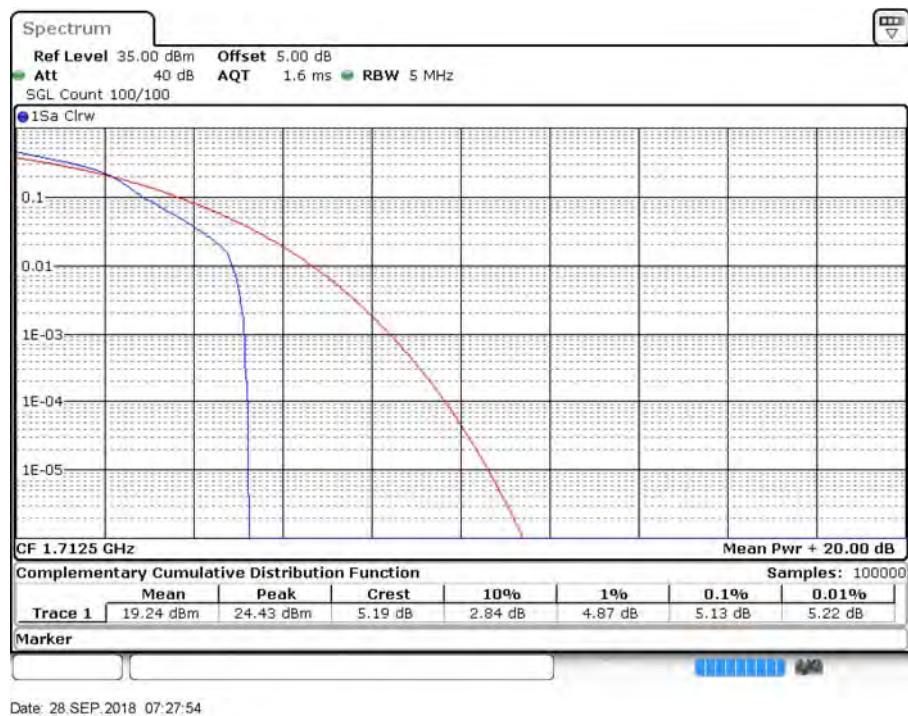


Date: 28.SEP.2018 07:04:12

CH19975_5M_QPSK_1RB0



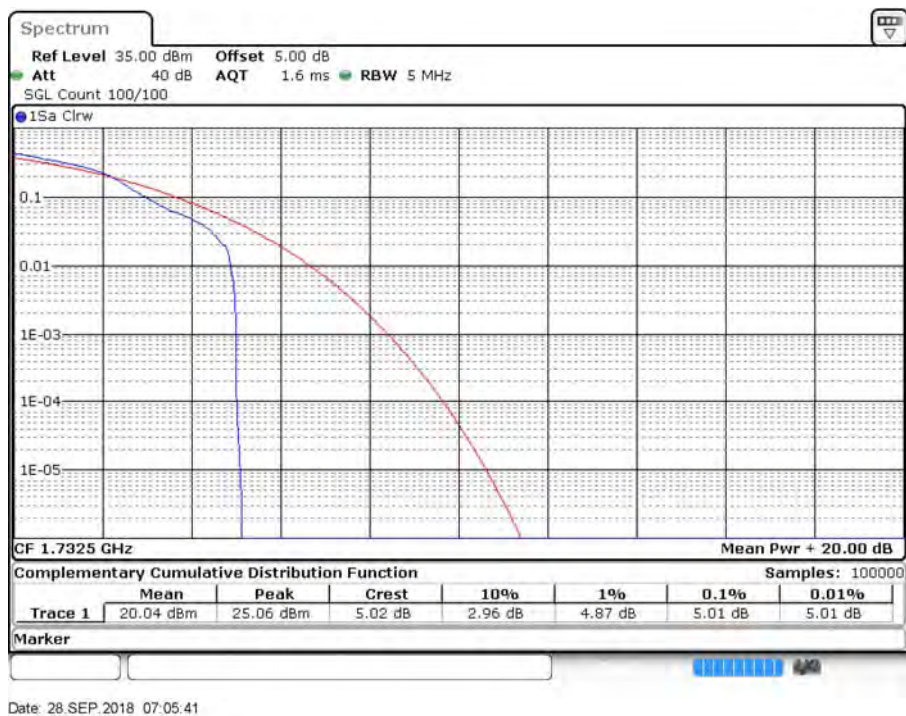
CH19975_5M_16-QAM_1RB0



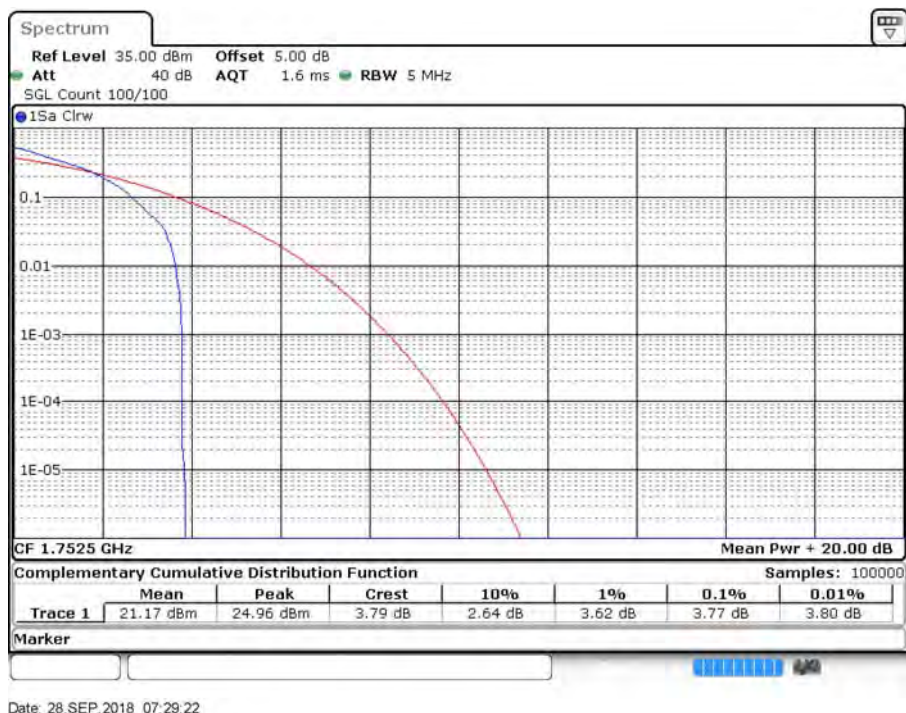
CH20175_5M_QPSK_1RB0



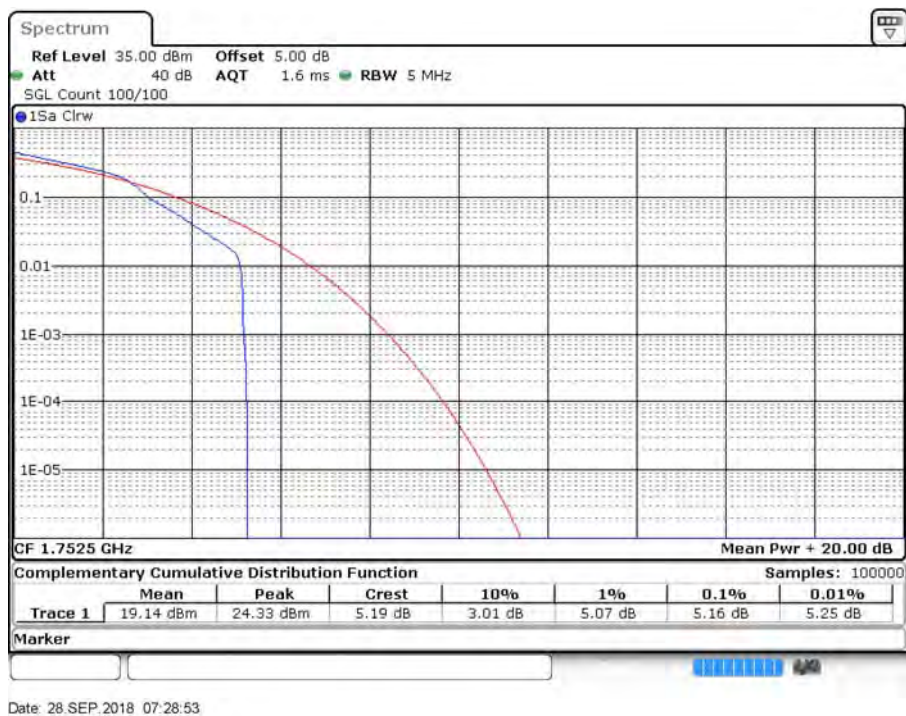
CH20175_5M_16-QAM_1RB0



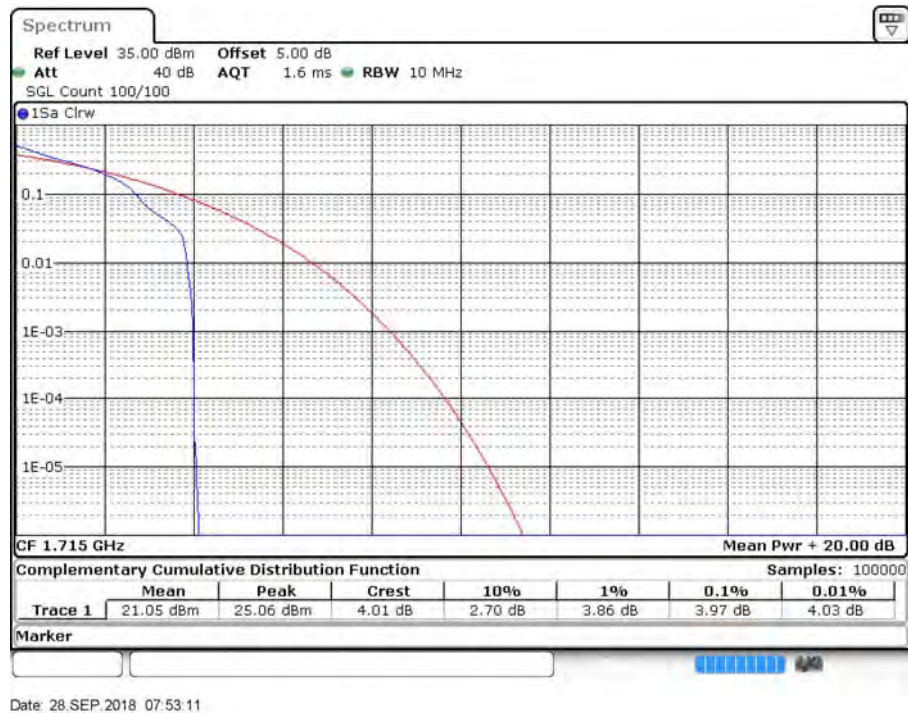
CH20375_5M_QPSK_1RB0



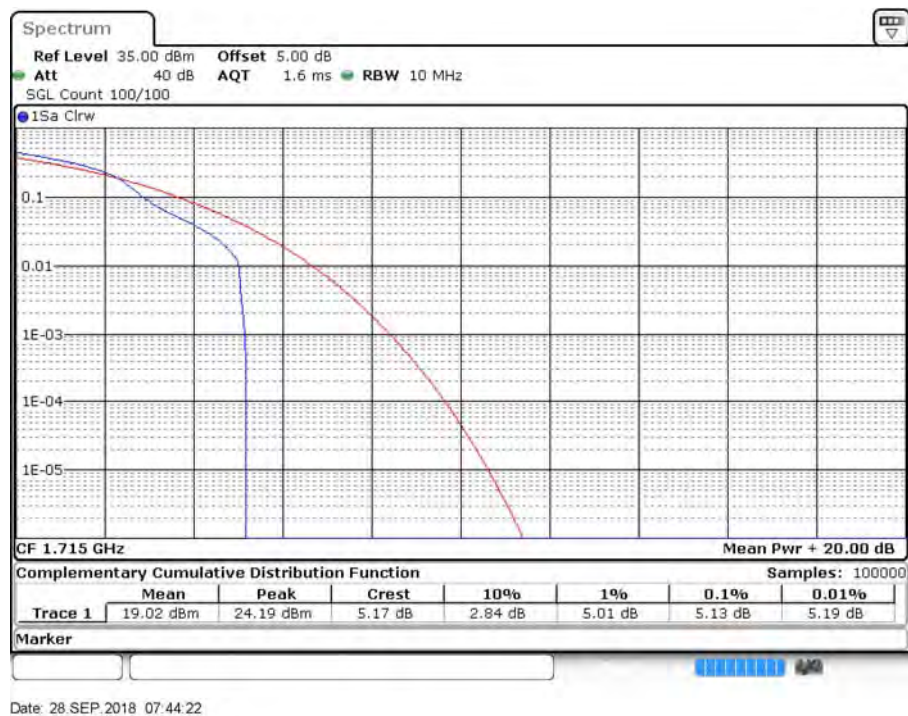
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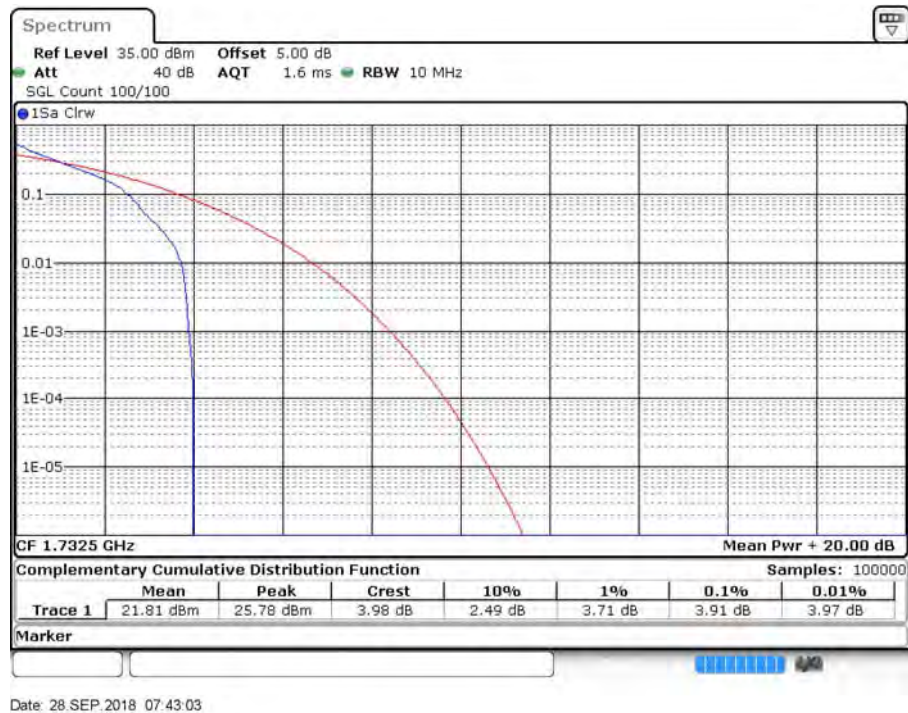
CH20000_10M_QPSK_1RB0



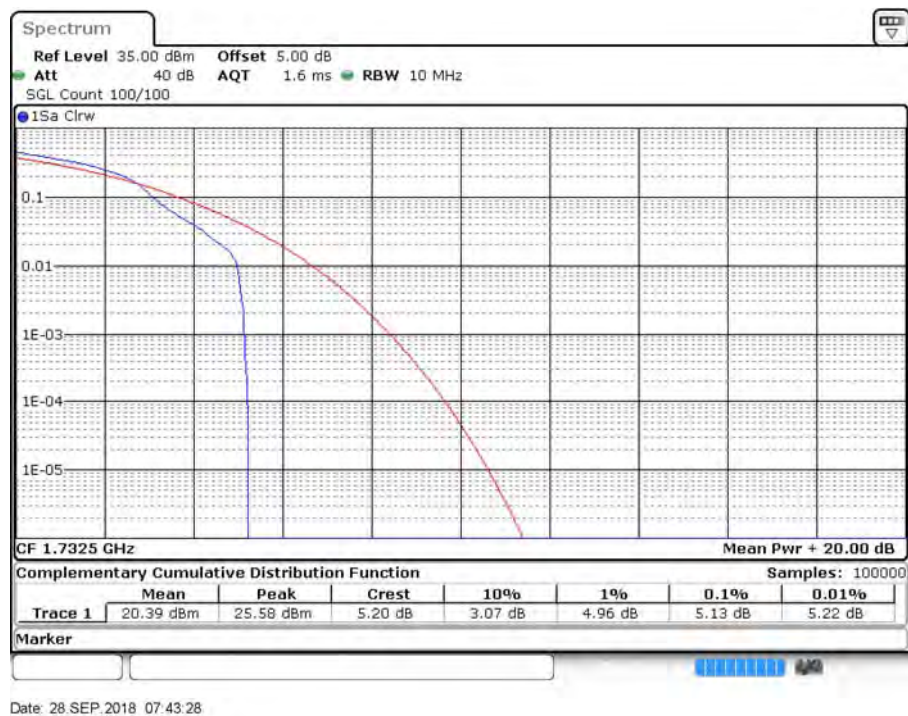
CH20000_10M_16-QAM_1RB0



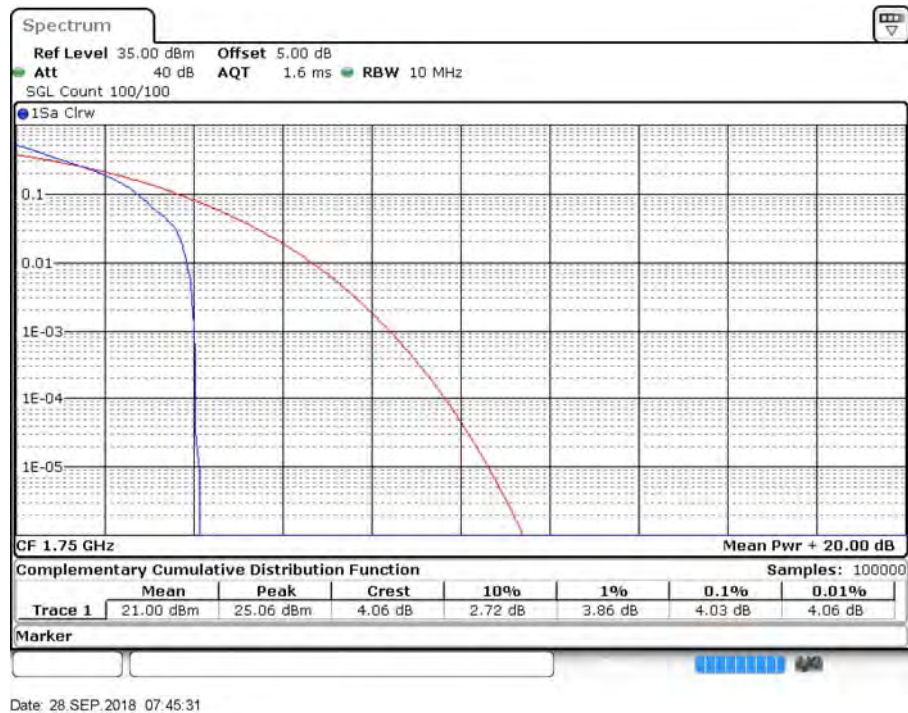
CH20175_10M_QPSK_1RB0



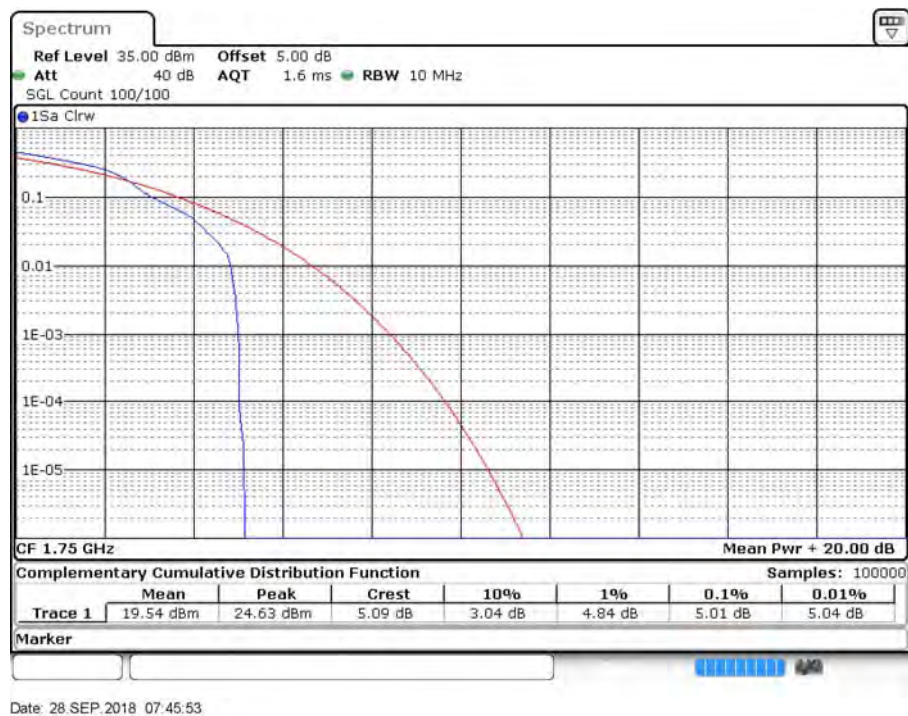
CH20175_10M_16-QAM_1RB0



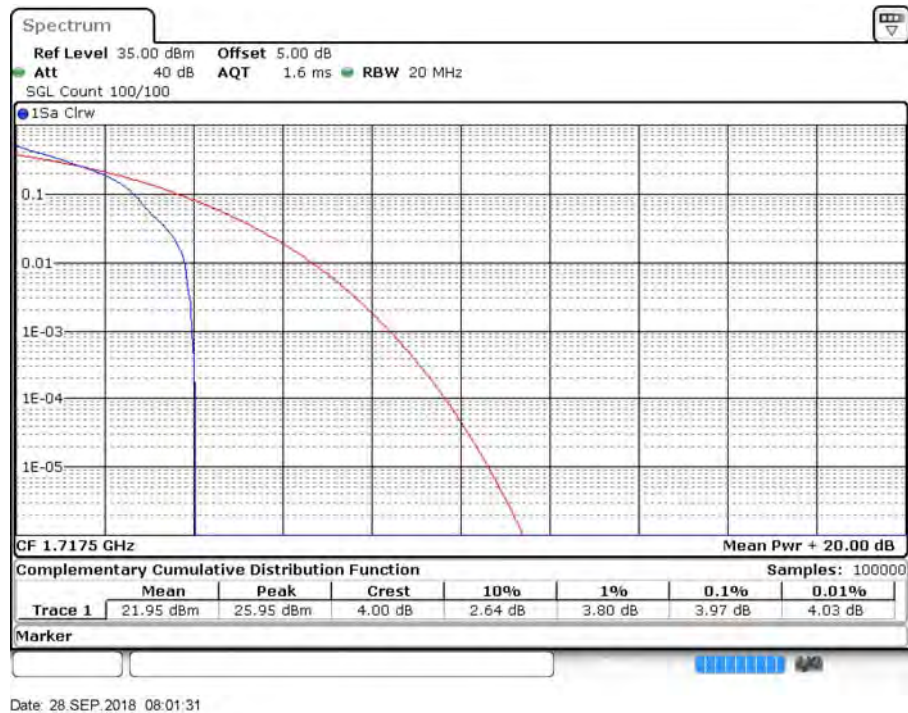
CH20350_10M_QPSK_1RB0



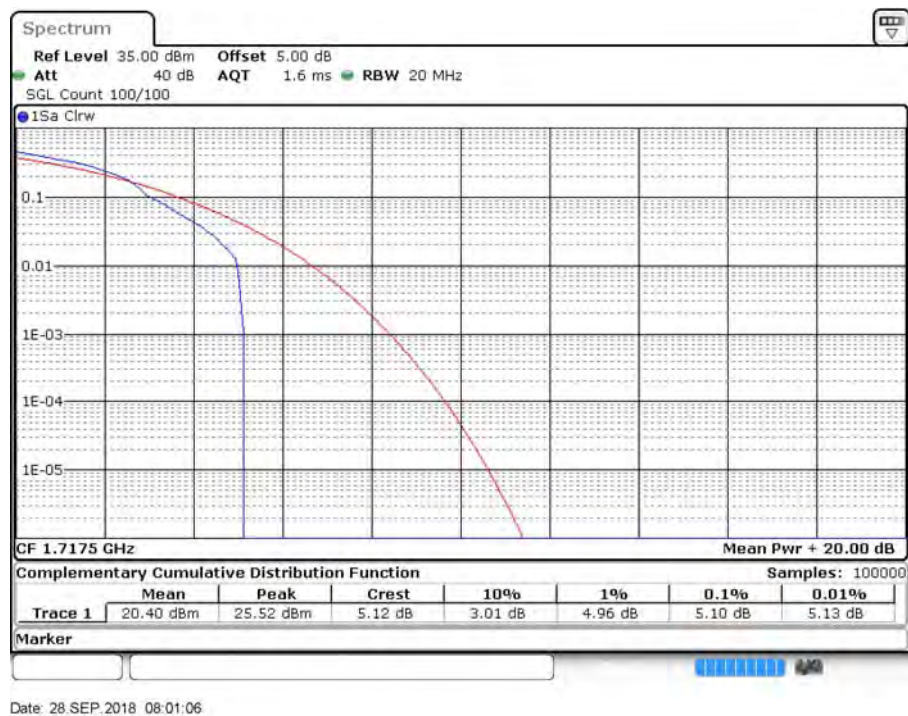
CH20350_10M_16-QAM_1RB0



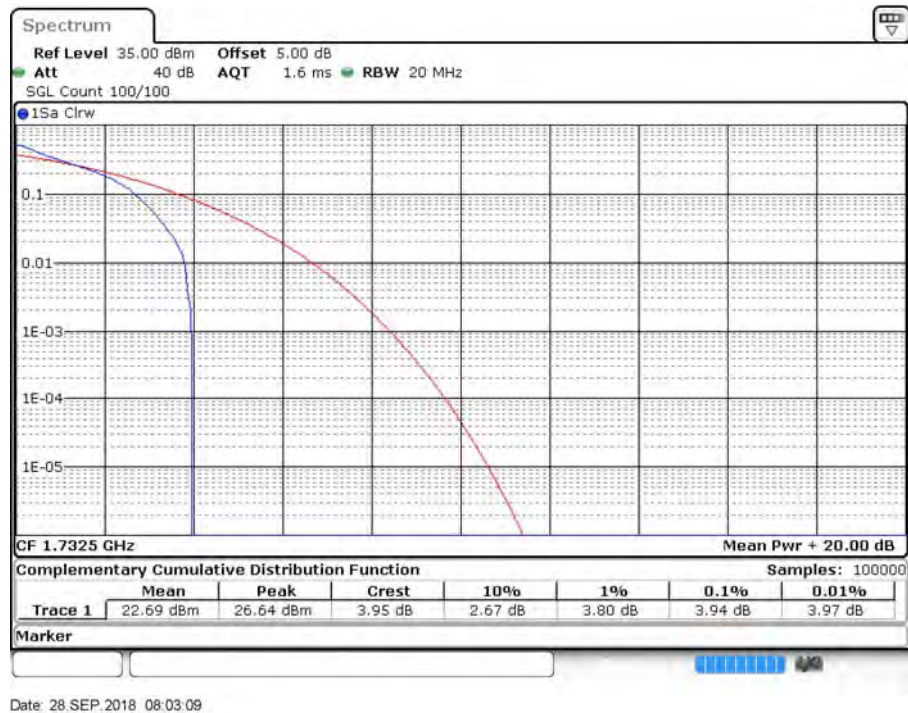
CH20025_15M_QPSK_1RB0



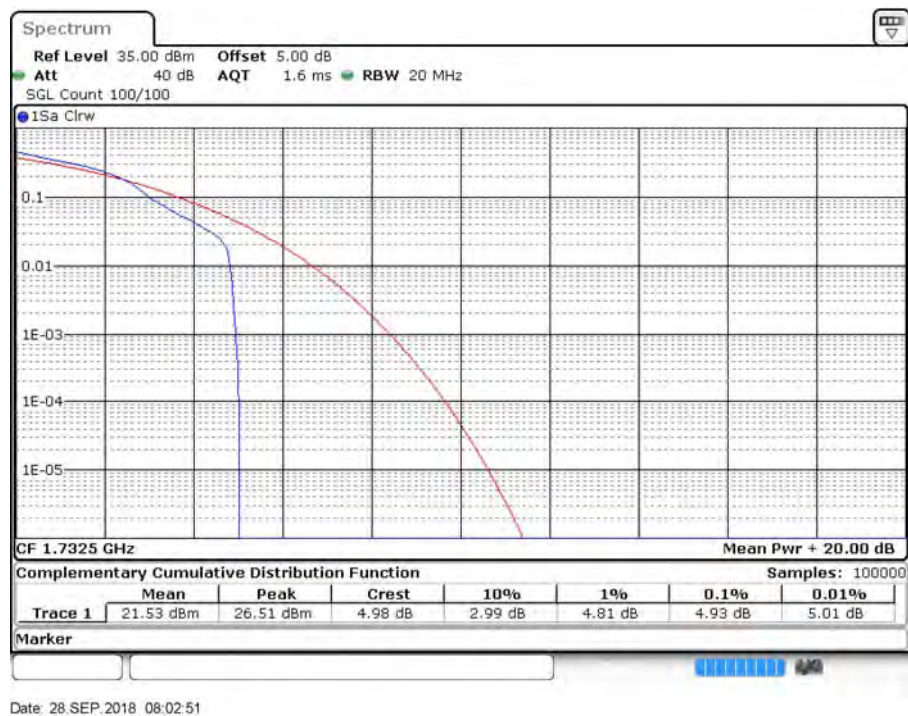
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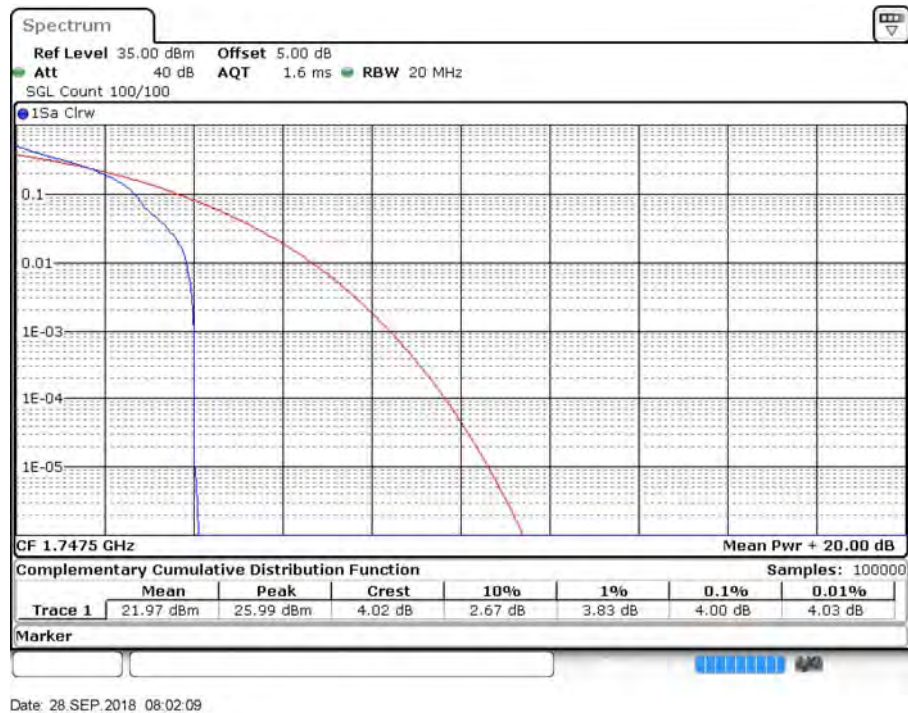
CH20175_15M_QPSK_1RB0



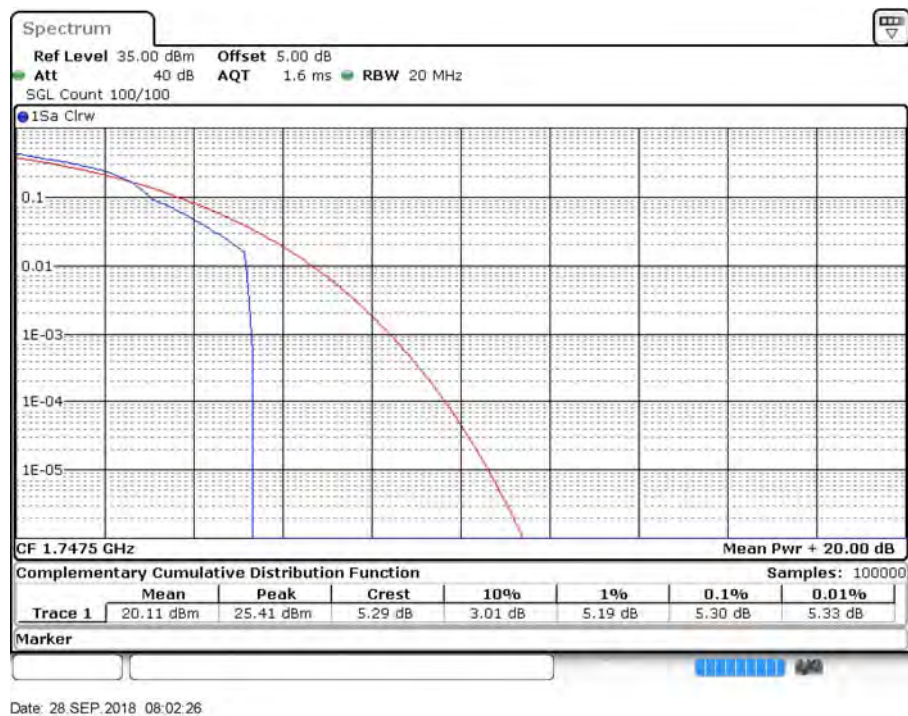
CH20175_15M_16-QAM_1RB0



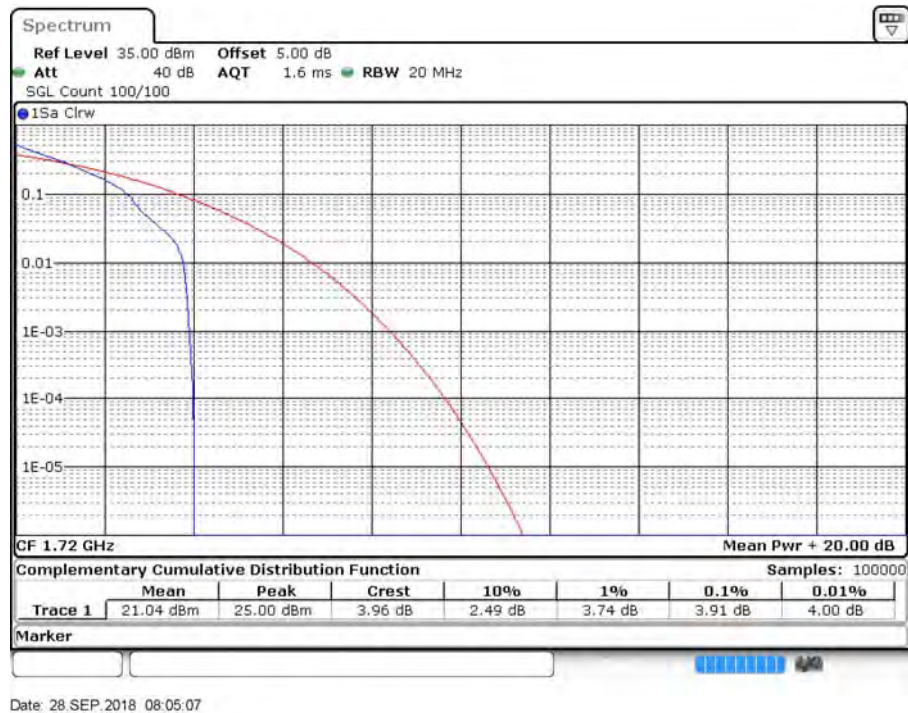
CH20325_15M_QPSK_1RB0



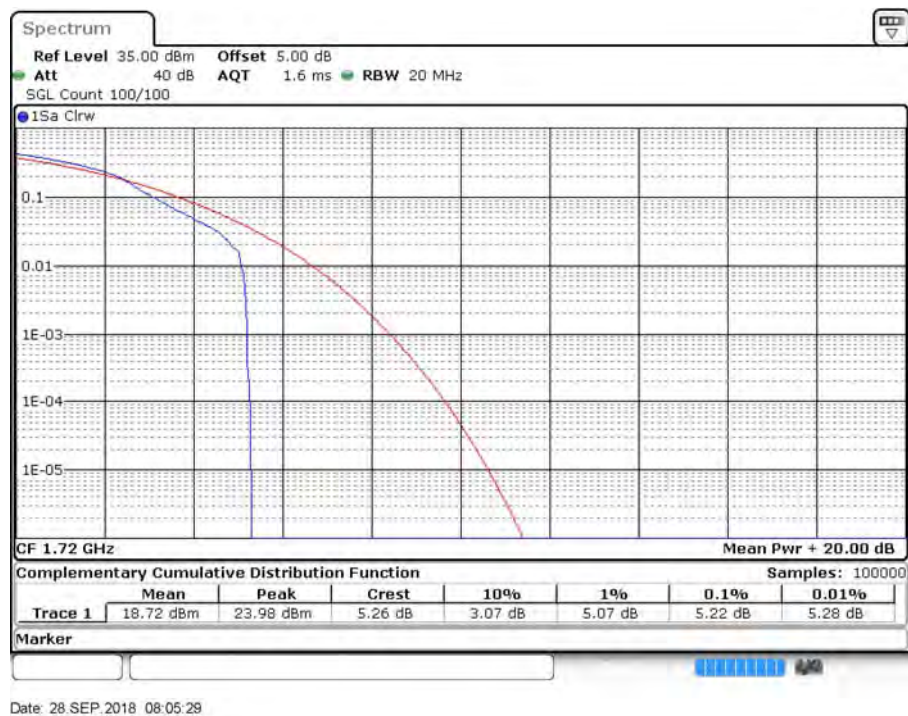
CH20325_15M_16-QAM_1RB0



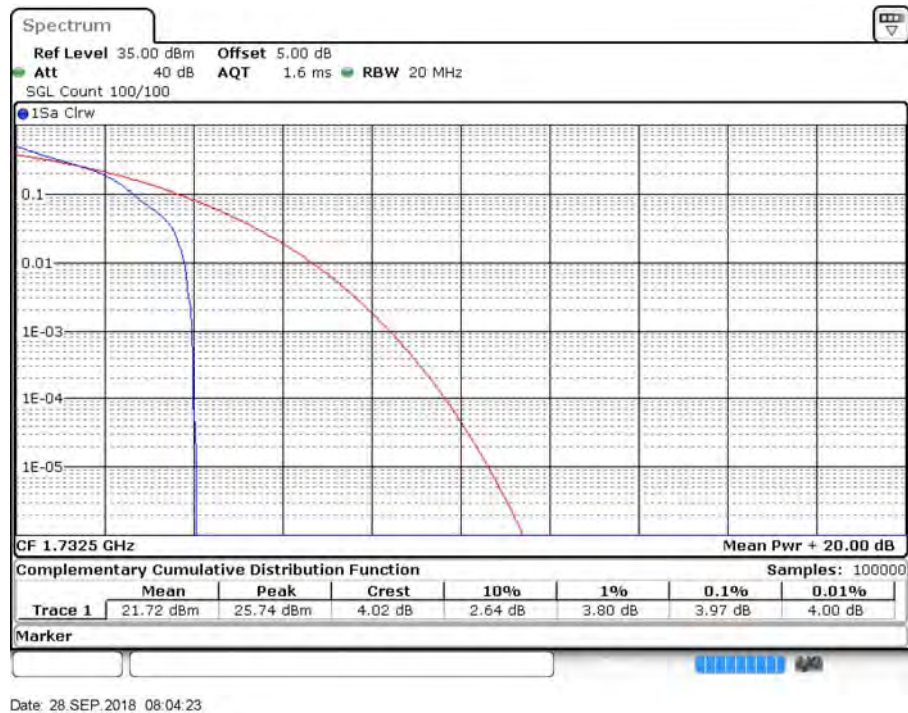
CH20050_20M_QPSK_1RB0



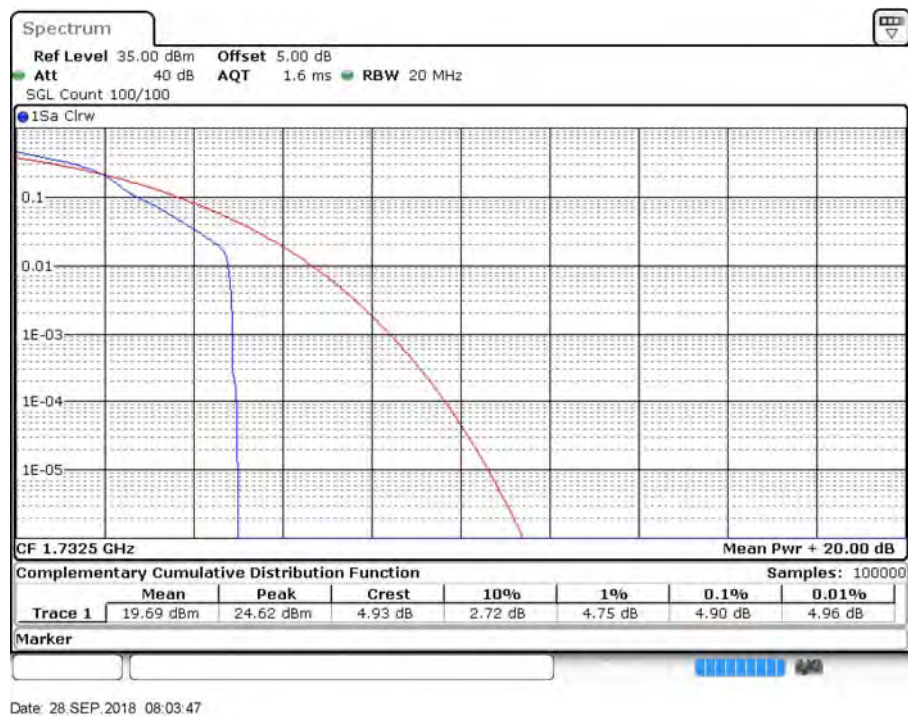
CH20050_20M_16-QAM_1RB0



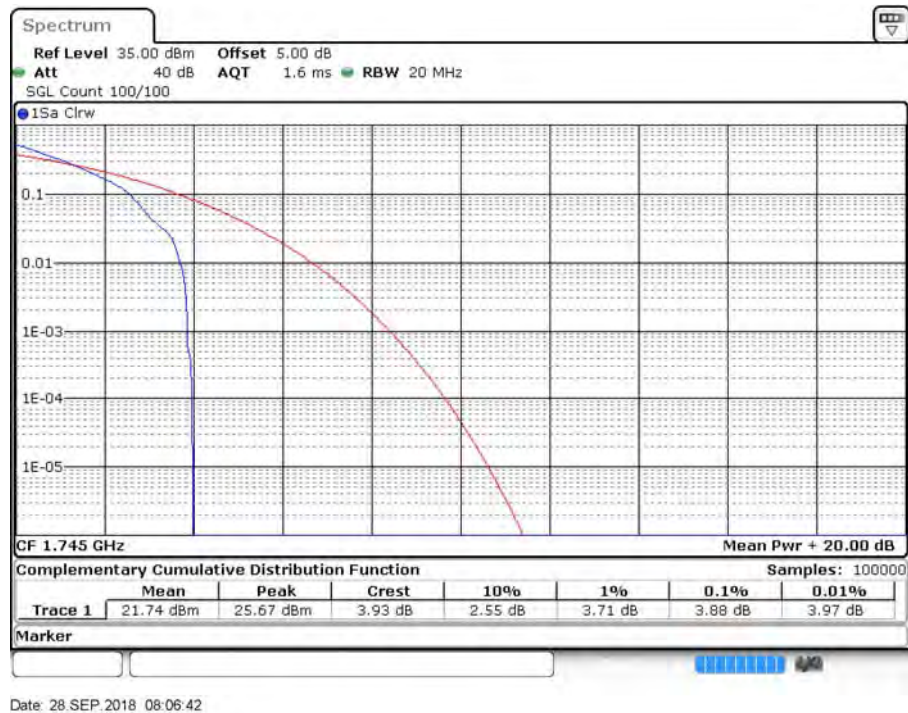
CH20175_20M_QPSK_1RB0



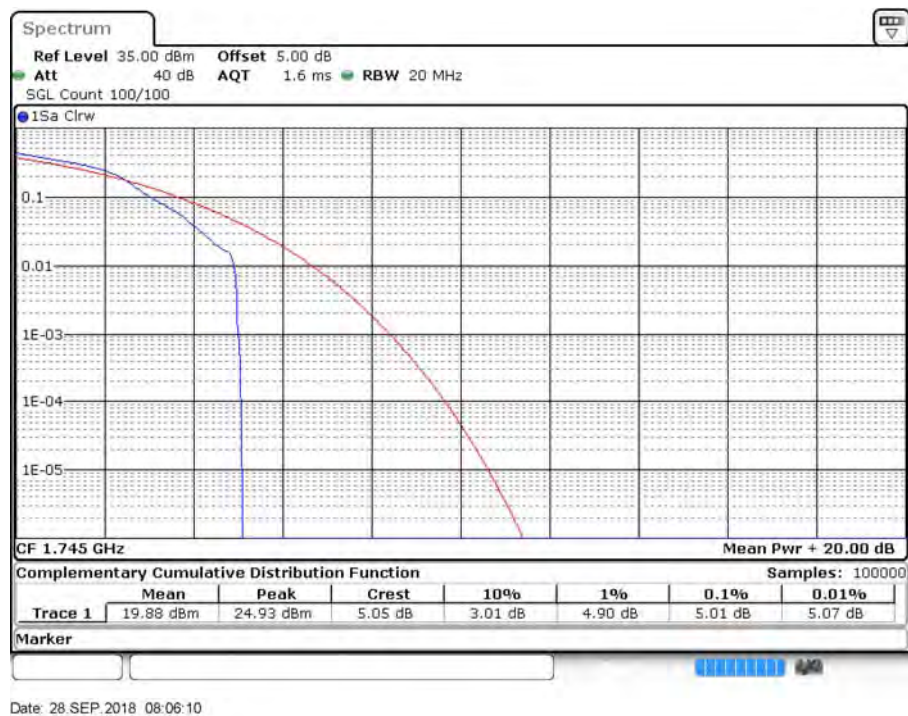
CH20175_20M_16-QAM_1RB0



CH20300_20M_QPSK_1RB0



CH20300_20M_16-QAM_1RB0



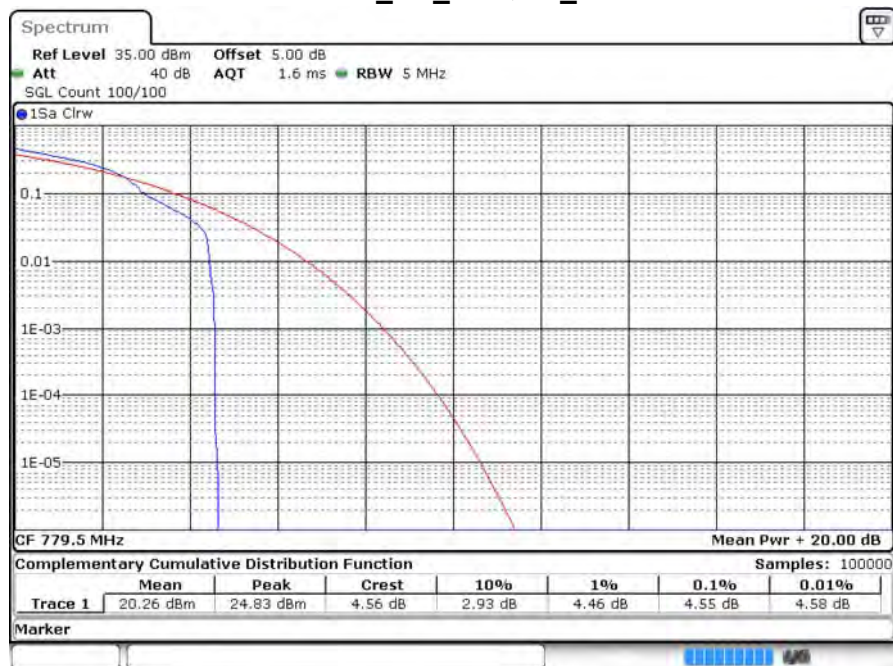
Product	LE910C1-SV		
Test Item	Peak To Average Ratio		
Test Mode	Mode 2: LTE Band 13		
Date of Test	2018/09/28	Test Site	SR10-H

CH23205_5M_QPSK_1RB0



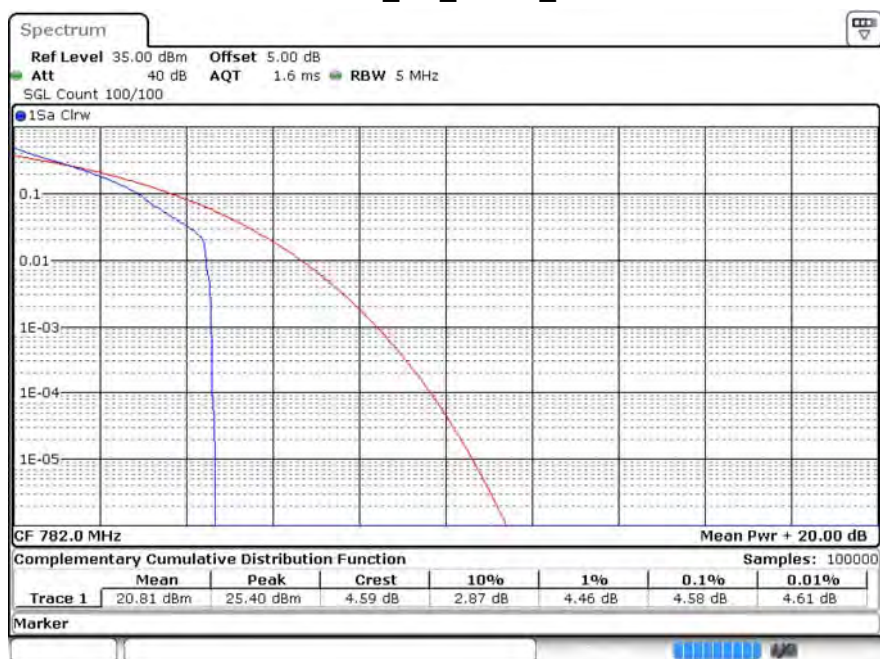
Date: 28.SEP.2018 08:22:45

CH23205_5M_16-QAM_1RB0



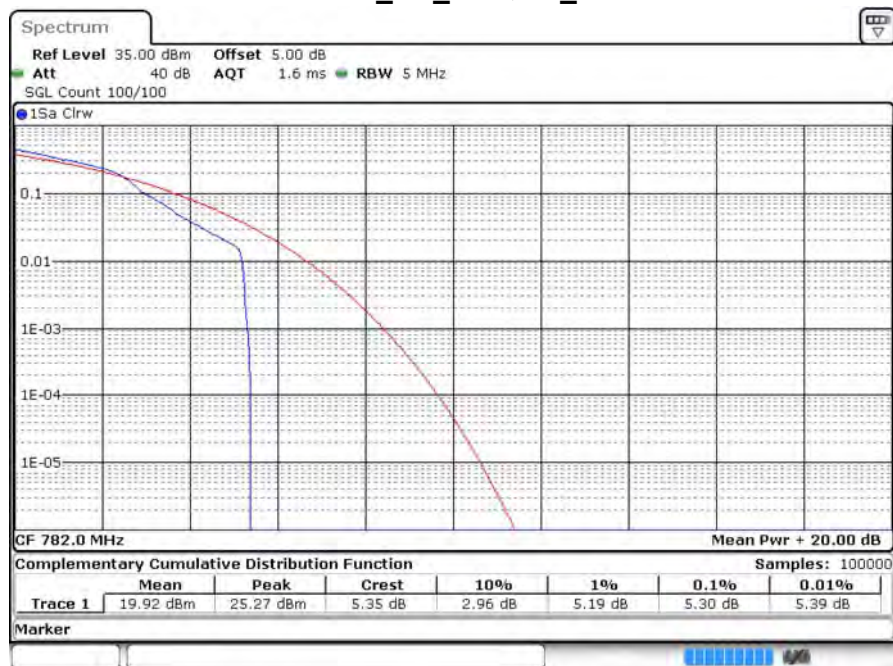
Date: 28 SEP.2018 08:22:09

CH23230_5M_QPSK_1RB0



Date: 28 SEP.2018 08:21:21

CH23230_5M_16-QAM_1RB0



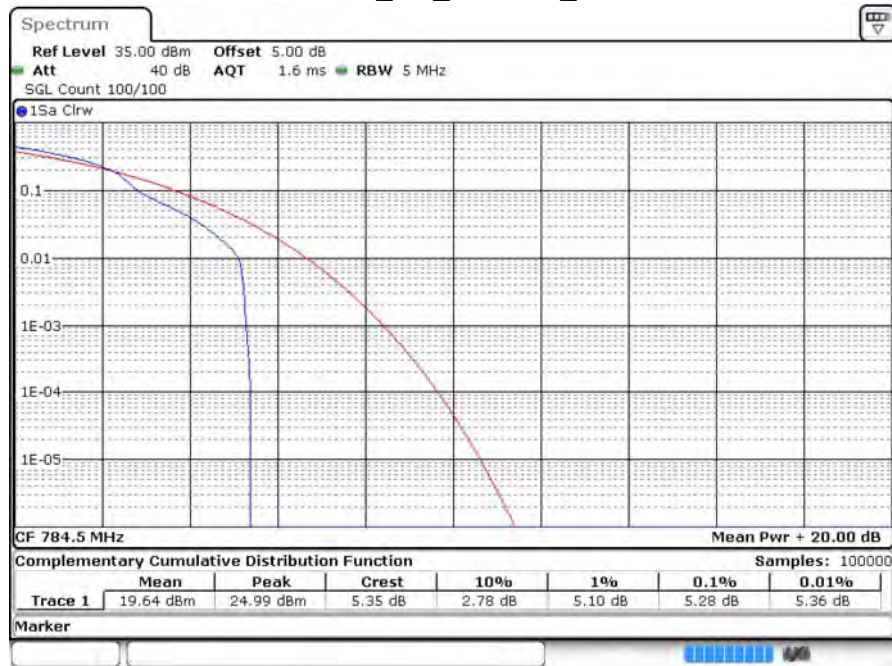
Date: 28 SEP.2018 08:21:38

CH23255_5M_QPSK_1RB0

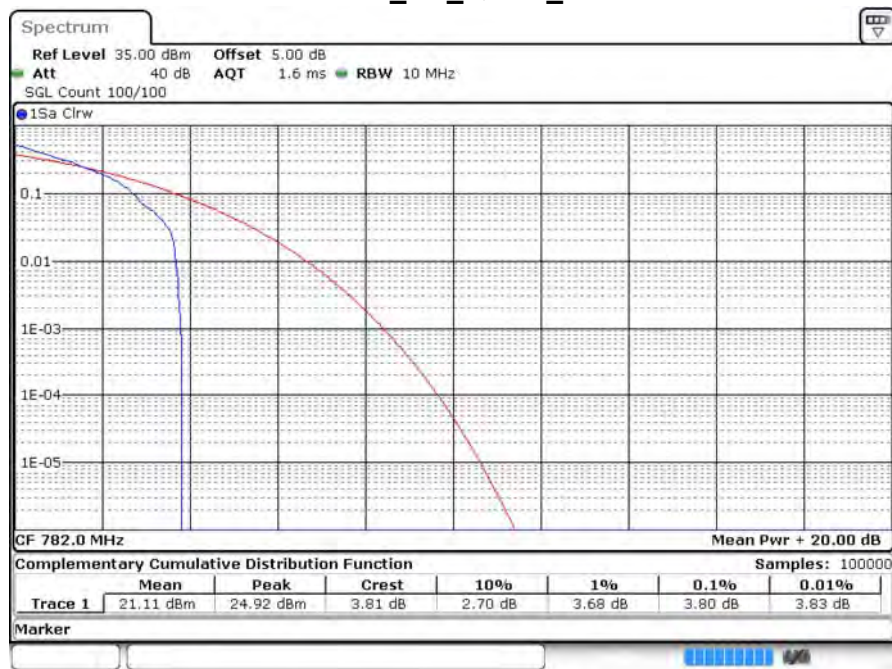


Date: 28 SEP.2018 08:23:49

CH23255_5M_16-QAM_1RB0

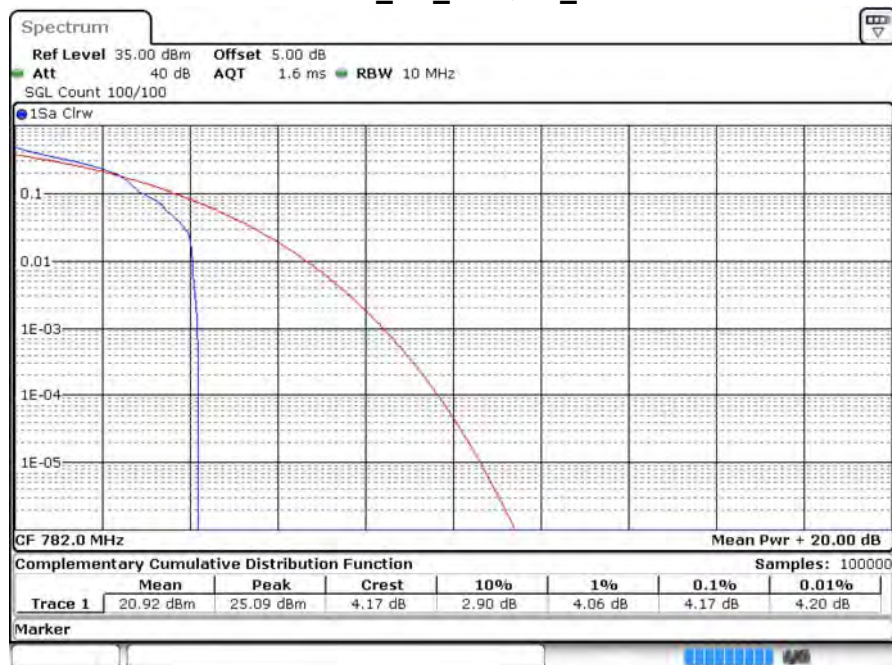


CH23230_5M_QPSK_1RB0



Date: 28 SEP.2018 08:31:19

CH23230_5M_16-QAM_1RB0

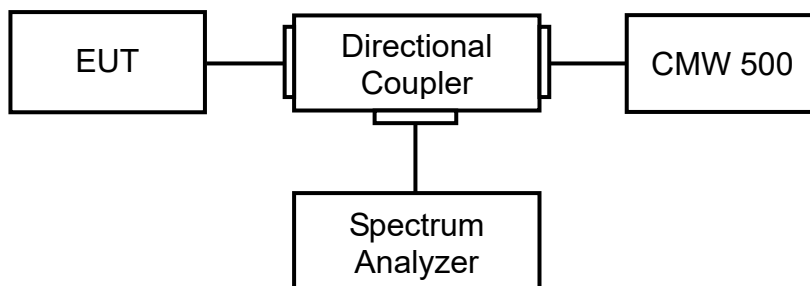


Date: 28 SEP.2018 08:31:38

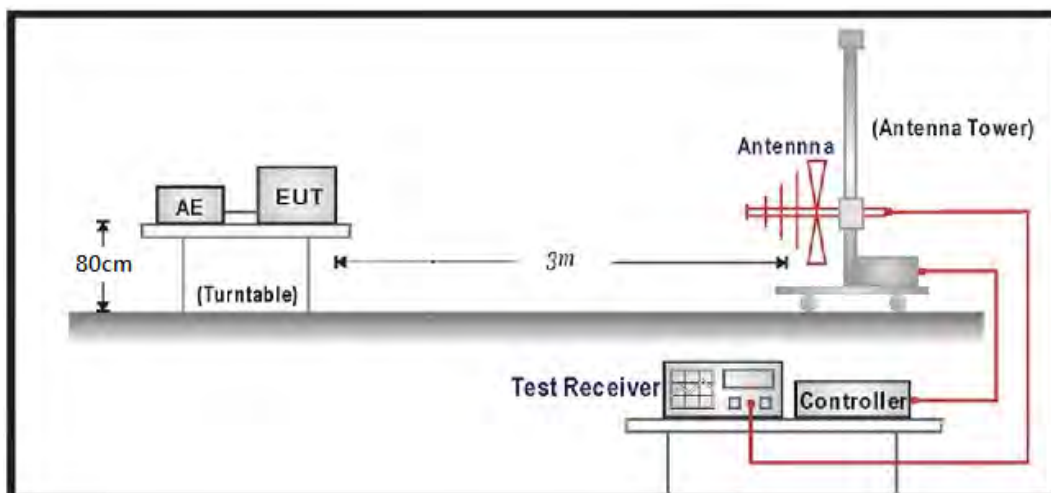
6. Spurious Emissions

6.1. Test Setup

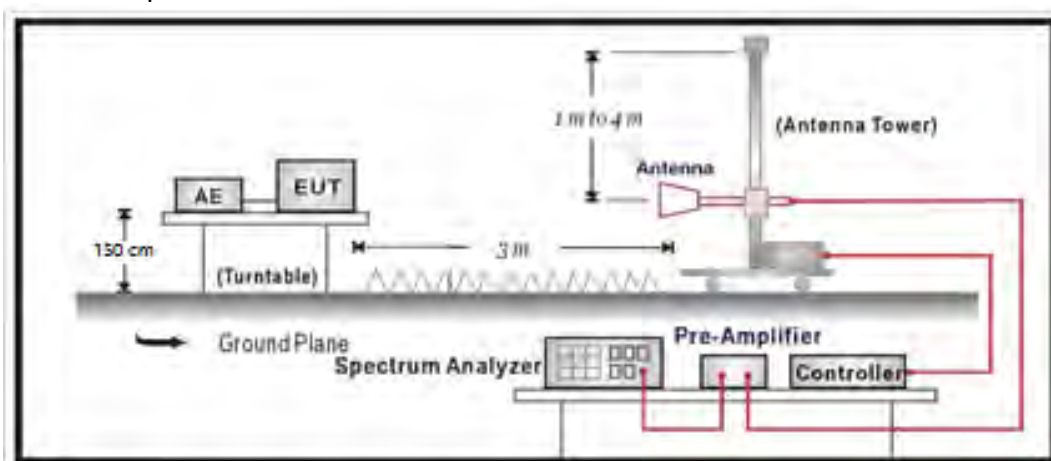
Conducted Spurious Measurement:



Radiated Spurious Measurement: below 1GHz



Radiated Spurious Measurement: above 1GHz



6.2. Test Procedure

Conducted Spurious Measurement:

- a) Place the EUT on a bench and set it in transmitting mode.
- b) Connect a low loss RF cable from the antenna port to a spectrum analyzer and CMW500 by a Directional Couple.
- c) EUT Communicate with CMW500, then select a channel for testing.
- d) Add a correction factor to the display of spectrum, and then test.
- e) The resolution bandwidth of the spectrum analyzer was set at 1 MHz, sufficient scans were taken to show the out of band Emission if any up to 10th harmonic.

Radiated Spurious Measurement:

- a) The EUT was placed on a rotatable wooden table with 1.5 meter above ground.
- b) The EUT was set 3 meters from the receiving antenna, which was mounted on the antenna tower.
- c) The table was rotated 360 degrees to determine the position of the highest spurious emission.
- d) The height of the receiving antenna is varied between one meter and four meters to search the maximum spurious emission for both horizontal and vertical polarizations.
- e) Make the measurement with the spectrum analyzer's RBW = 1MHz, VBW = 1MHz, Sweep 500ms, Taking the record of maximum spurious emission.
- f) A horn antenna was substituted in place of the EUT and was driven by a signal generator.
- g) Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.
- h) Taking the record of output power at antenna port
- i) Repeat step 7 to step 8 for another polarization.
- j) $EIRP = SG - \text{Cable loss} + \text{Antenna Gain}$

6.3. Test Method

Conducted Spurious Measurement:

KDB 971168 D01 Power Meas License Digital Systems v03 sub-clause 6.1
ANSI C63.26: 2015 Sub-clause 5.7

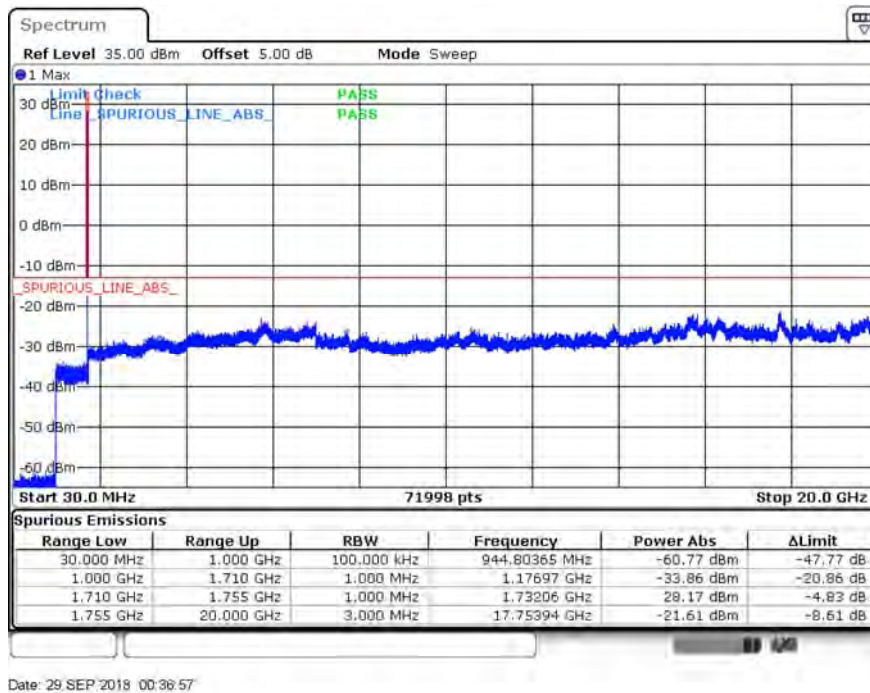
Radiated Spurious Measurement:

KDB 971168 D01 Power Meas License Digital Systems v03 sub-clause 5.8
ANSI C63.26: 2015 Sub-clause 5.5.3.2

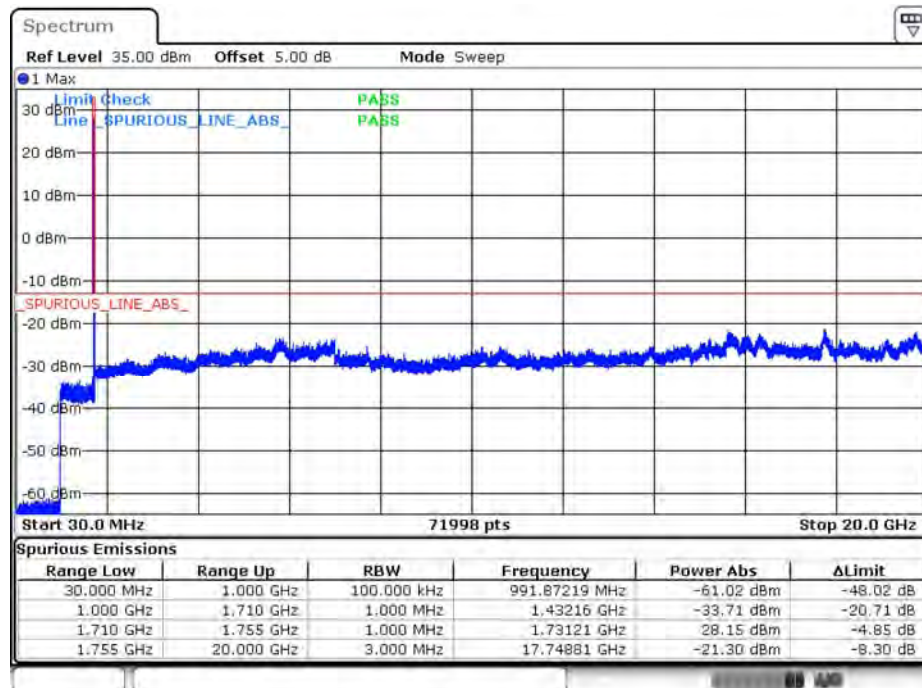
6.4. Test Result

Product	LE910C1-SV		
Test Item	Conducted Spurious Emissions		
Test Mode	Mode 1: LTE Band 4		
Date of Test	2018/09/29	Test Site	SR10-H

1.4M_CH20175_QPSK_1RB0

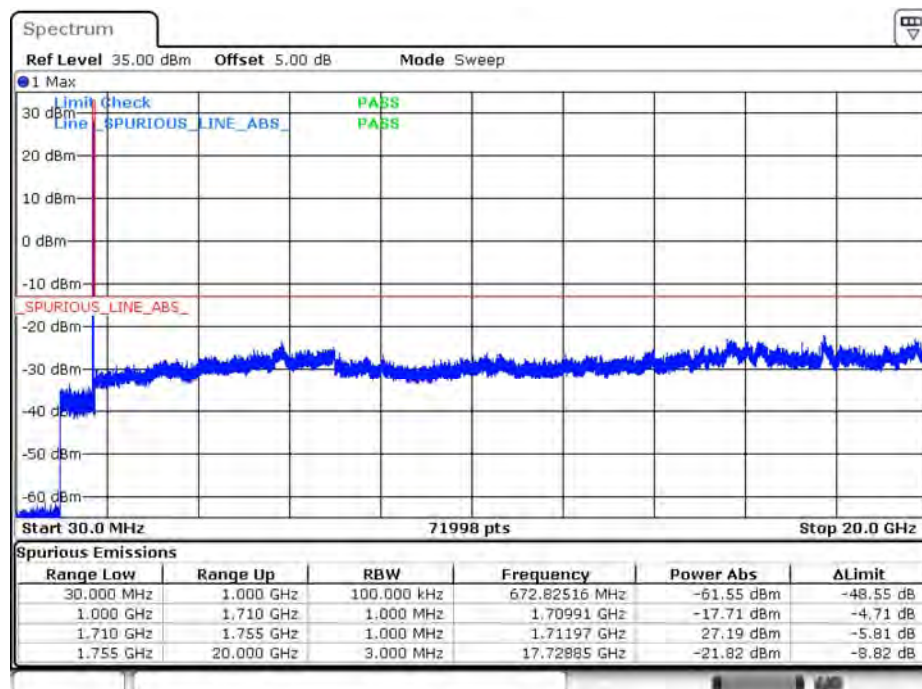


3M_CH20175_QPSK_1RB0



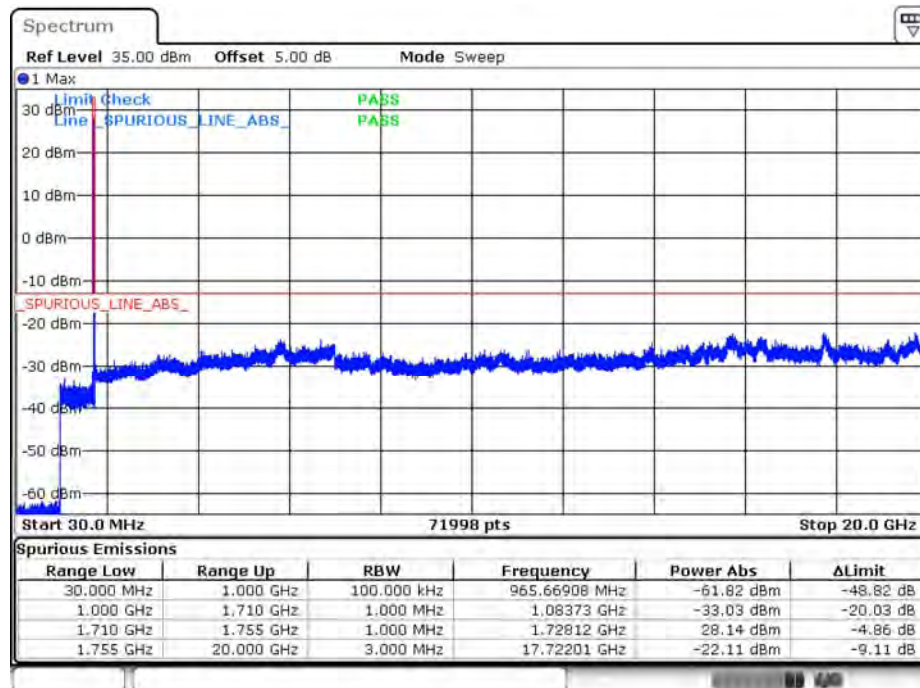
Date: 29 SEP.2018 00:39:49

5M_CH19975_QPSK_1RB0



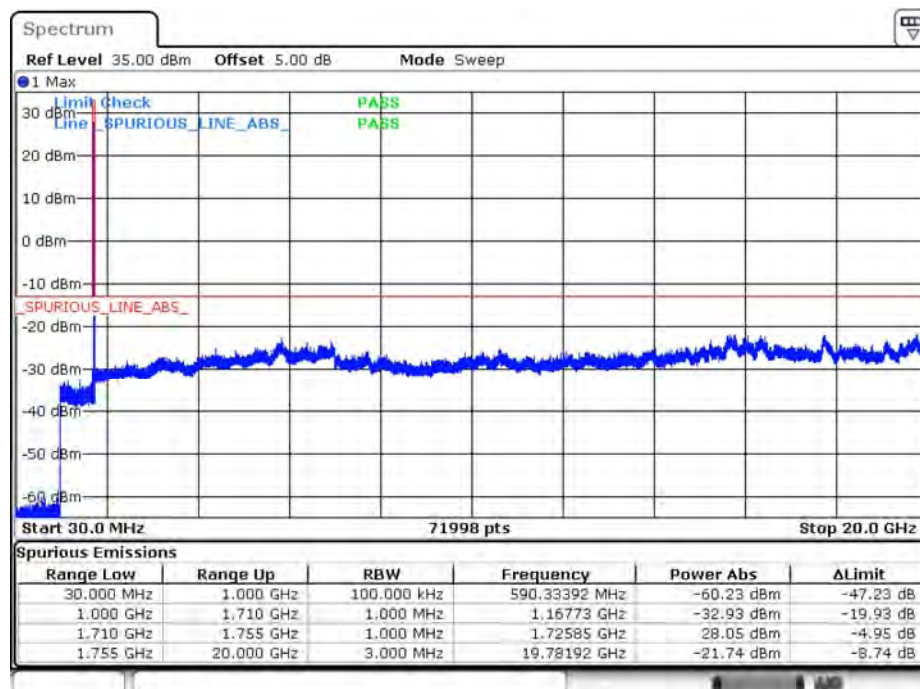
Date: 29 SEP.2018 00:54:19

10M_CH20175_QPSK_1RB0



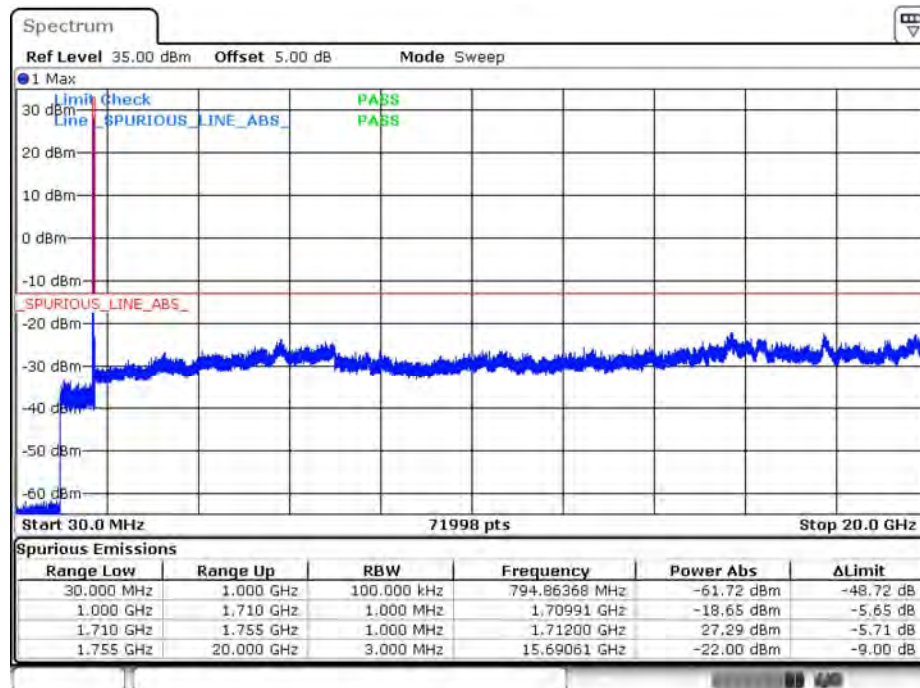
Date: 29 SEP.2018 00:34:40

15M_CH20175_QPSK_1RB0



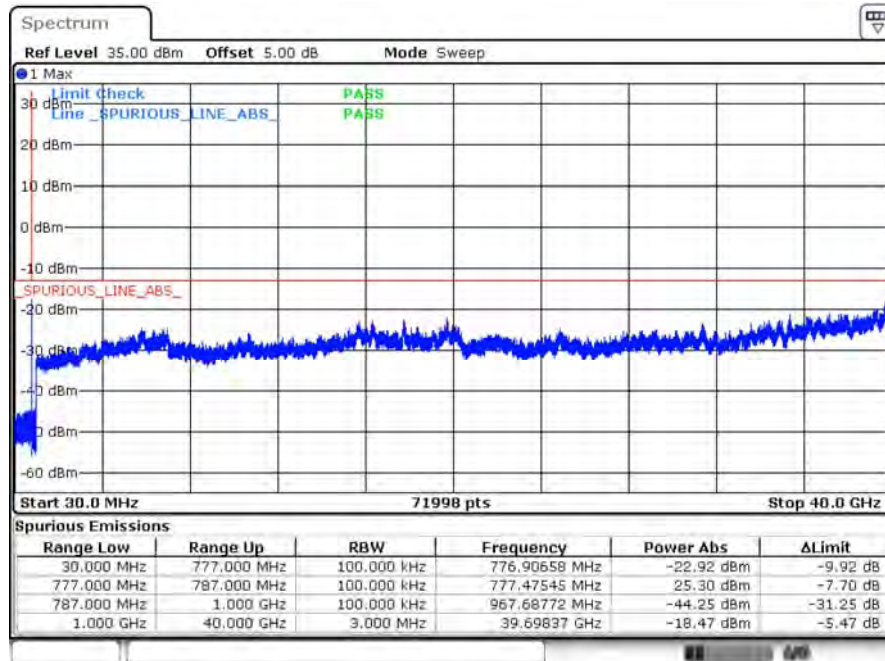
Date: 29 SEP.2018 00:42:59

20M_CH20050_QPSK_1RB0



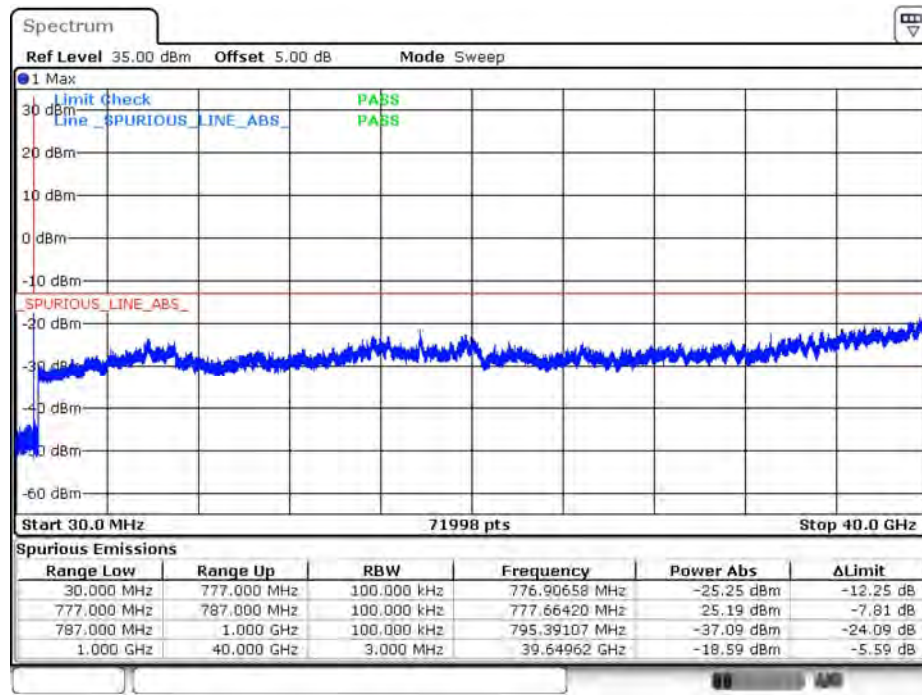
Date: 29 SEP 2018 00:49:29

Product	LE910C1-SV		
Test Item	Conducted Spurious Emissions		
Test Mode	Mode 2: LTE Band 13		
Date of Test	2018/09/29	Test Site	SR10-H

5M_CH23205_QPSK_1RB0

Date: 29.SEP.2018 01:08:17

10M_CH23230_QPSK_1RB0



Date: 29 SEP, 2018 01:05:45

Product	LE910C1-SV		
Test Item	Radiated Spurious Emissions		
Test Mode	Mode 1: LTE Band 4		
Date of Test	2018/09/29	Test Site	CB4-H

LTE_Band4_1.4M_CH20175_QPSK_1RB0

Frequency (MHz)	SA Reading (dBm)	Ant.Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)
3465.00	-74.830	H	-71.679	4.090	12.209	-63.560	-13	-50.560
5197.50	-72.860	H	-65.312	5.094	12.356	-58.050	-13	-45.050
3465.00	-74.990	V	-71.059	4.090	12.209	-62.940	-13	-49.940
5197.50	-73.640	V	-66.372	5.094	12.356	-59.110	-13	-46.110

Test Result (EIRP) = SG Level - Cable Loss + Antenna Gain.

LTE_Band4_3M_CH20175_QPSK_1RB0

Frequency (MHz)	SA Reading (dBm)	Ant.Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)
3465.00	-75.180	H	-72.029	4.090	12.209	-63.910	-13	-50.910
5197.50	-73.520	H	-65.972	5.094	12.356	-58.710	-13	-45.710
3465.00	-75.200	V	-71.269	4.090	12.209	-63.150	-13	-50.150
5197.50	-73.120	V	-65.852	5.094	12.356	-58.590	-13	-45.590

Test Result (EIRP) = SG Level - Cable Loss + Antenna Gain.

LTE_Band4_5M_CH19975_QPSK_1RB0

Frequency (MHz)	SA Reading (dBm)	Ant.Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)
3425.00	-74.270	H	-71.109	4.066	12.105	-63.070	-13	-50.070
5137.50	-73.750	H	-66.121	5.077	12.248	-58.950	-13	-45.950
3425.00	-75.810	V	-71.919	4.066	12.105	-63.880	-13	-50.880
5137.00	-73.950	V	-66.630	5.076	12.247	-59.460	-13	-46.460

Test Result (EIRP) = SG Level - Cable Loss + Antenna Gain.

LTE_Band4_10M_CH20175_QPSK_1RB0

Frequency (MHz)	SA Reading (dBm)	Ant.Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)
3465.00	-74.630	H	-71.479	4.090	12.209	-63.360	-13	-50.360
5197.50	-72.750	H	-65.202	5.094	12.356	-57.940	-13	-44.940
3465.00	-75.210	V	-71.279	4.090	12.209	-63.160	-13	-50.160
5197.50	-72.990	V	-65.722	5.094	12.356	-58.460	-13	-45.460

Test Result (EIRP) = SG Level - Cable Loss + Antenna Gain.

LTE_Band4_15M_CH20175_QPSK_1RB0

Frequency (MHz)	SA Reading (dBm)	Ant.Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)
3465.00	-75.550	H	-72.399	4.090	12.209	-64.280	-13	-51.280
5197.50	-73.670	H	-66.122	5.094	12.356	-58.860	-13	-45.860
3465.00	-74.860	V	-70.929	4.090	12.209	-62.810	-13	-49.810
5197.50	-73.210	V	-65.942	5.094	12.356	-58.680	-13	-45.680

Test Result (EIRP) = SG Level - Cable Loss + Antenna Gain.

LTE_Band4_20M_CH20050_QPSK_1RB0

Frequency (MHz)	SA Reading (dBm)	Ant.Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)
3440.00	-74.690	H	-71.539	4.075	12.144	-63.470	-13	-50.470
5160.00	-73.470	H	-65.825	5.083	12.288	-58.620	-13	-45.620
3440.00	-74.730	V	-70.819	4.075	12.144	-62.750	-13	-49.750
5160.00	-73.280	V	-65.935	5.083	12.288	-58.730	-13	-45.730

Test Result (EIRP) = SG Level - Cable Loss + Antenna Gain.

Product	LE910C1-SV		
Test Item	Radiated Spurious Emissions		
Test Mode	Mode 2: LTE Band 13		
Date of Test	2018/09/29	Test Site	CB4-H

LTE_Band13_5M_CH23205_QPSK_1RB0

Frequency (MHz)	SA Reading (dBm)	Ant.Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1559.00	-46.790	H	-49.478	2.709	8.477	-43.710	-13	-30.710
2338.50	-64.660	H	-63.267	3.344	10.342	-56.270	-13	-43.270
1559.00	-47.320	V	-49.648	2.709	8.477	-43.880	-13	-30.880
2338.50	-64.750	V	-63.307	3.344	10.342	-56.310	-13	-43.310

Test Result (EIRP) = SG Level - Cable Loss + Antenna Gain.

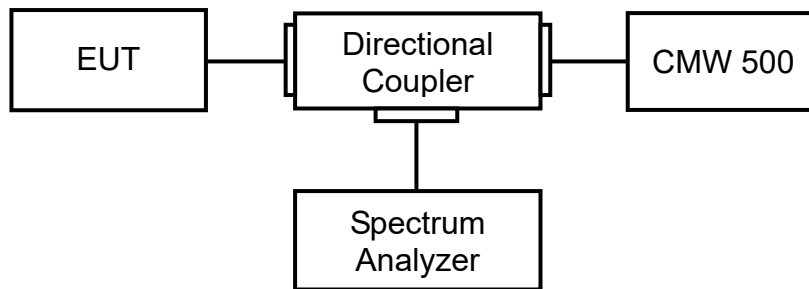
LTE_Band13_10M_CH23230_QPSK_1RB0

Frequency (MHz)	SA Reading (dBm)	Ant.Pol. (H/V)	SG Reading (dBm)	Cable Loss (dB)	Gain (dBi)	EIRP (dBm)	Limit (dBm)	Margin (dB)
1564.00	-45.740	H	-48.439	2.713	8.492	-42.660	-13	-29.660
2346.00	-63.280	H	-61.914	3.349	10.354	-54.910	-13	-41.910
1564.00	-45.880	V	-48.219	2.713	8.492	-42.440	-13	-29.440
2346.00	-63.160	V	-61.734	3.349	10.354	-54.730	-13	-41.730

Test Result (EIRP) = SG Level - Cable Loss + Antenna Gain.

7. Spurious Emissions at Antenna Terminals

7.1. Test Setup



7.2. Test Procedure

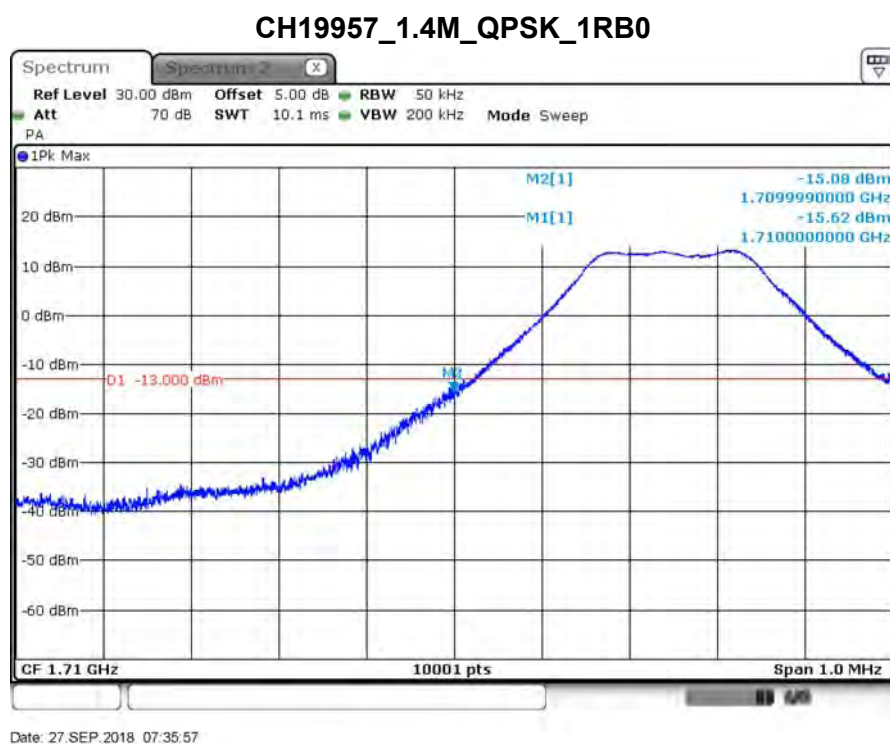
- Place the EUT on a bench and set it in transmitting mode.
- Connect a low loss RF cable from the antenna port to a spectrum analyzer and CMW500 by a Directional Couple.
- EUT Communicate with CMW500, then select a channel for testing.
- Add a correction factor to the display of spectrum, and then test.
- The resolution bandwidth of the spectrum analyzer was set at 1 MHz, sufficient scans were taken to show the out of band Emission if any up to 10th harmonic.

7.3. Test Method

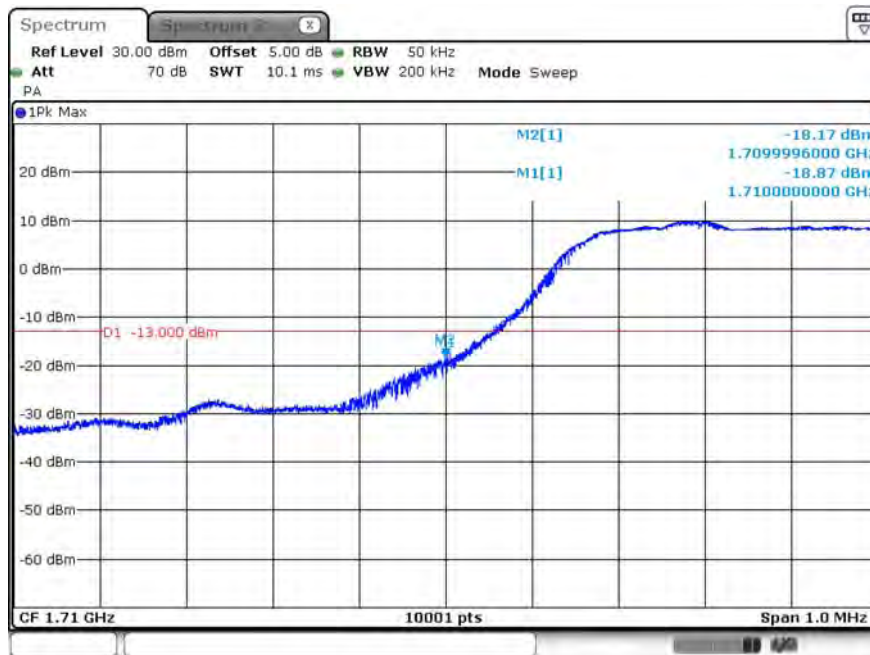
KDB 971168 D01 Power Meas License Digital Systems v03 sub-clause 6.1
ANSI C63.26: 2015 Sub-clause 5.7

7.4. Test Result

Product	LE910C1-SV		
Test Item	Spurious Emissions at Antenna Terminals		
Test Mode	Mode 1: LTE Band 4		
Date of Test	2018/10/08	Test Site	SR10-H

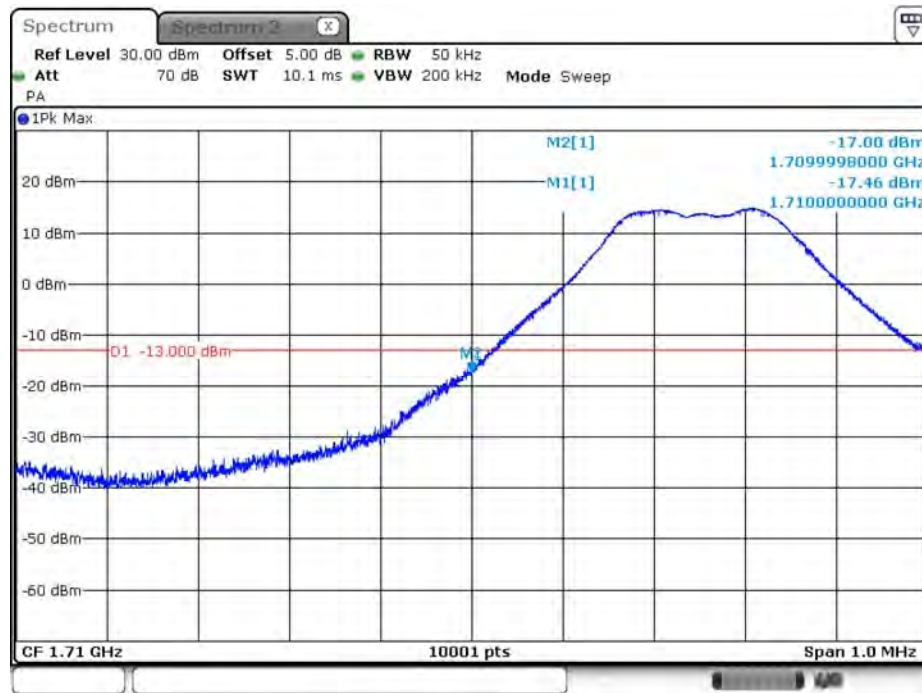


CH19957_1.4M_QPSK_1RB0



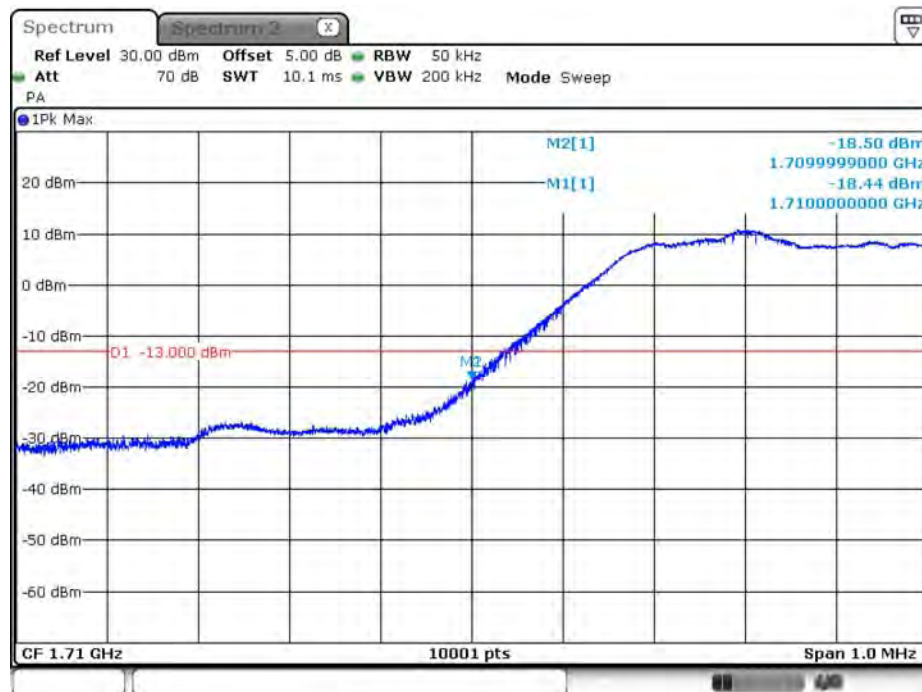
Date: 27.SEP.2018 07:27:27

CH19957_1.4M_16-QAM_1RB0



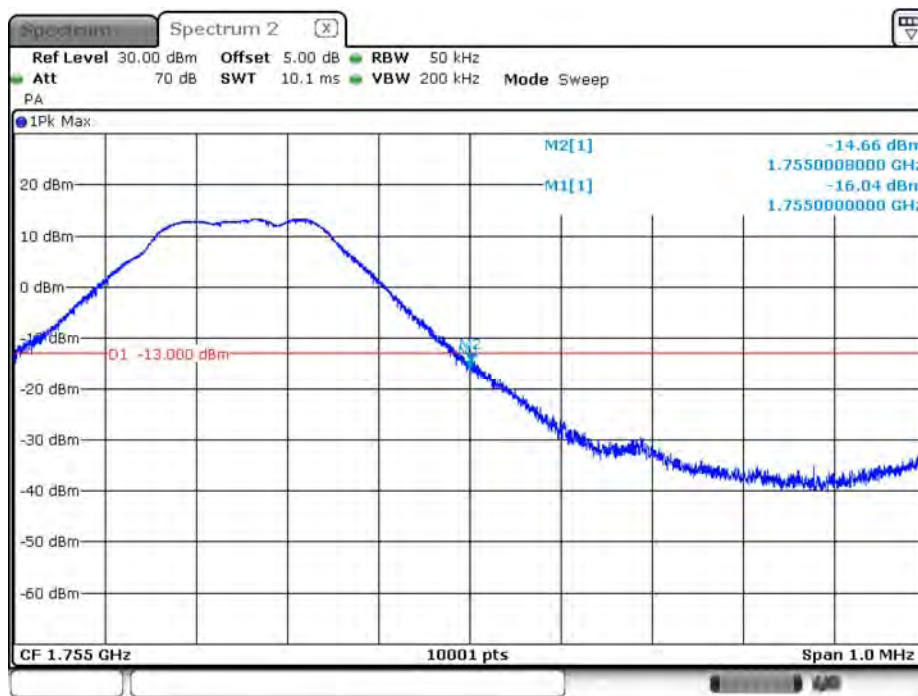
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CH19957_1.4M_16-QAM_6RB0



Date: 27.SEP.2018 07:29:13

CH20393_1.4M_QPSK_1RB5



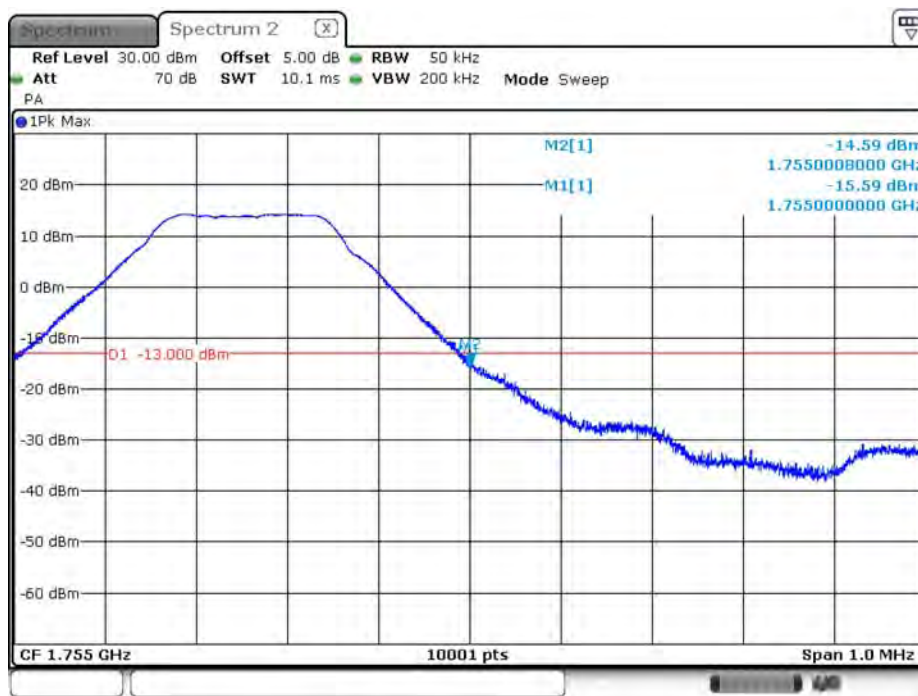
Date: 27.SEP.2018 07:37:09

CH20393_1.4M_QPSK_6RB0



Date: 27.SEP.2018 07:44:35

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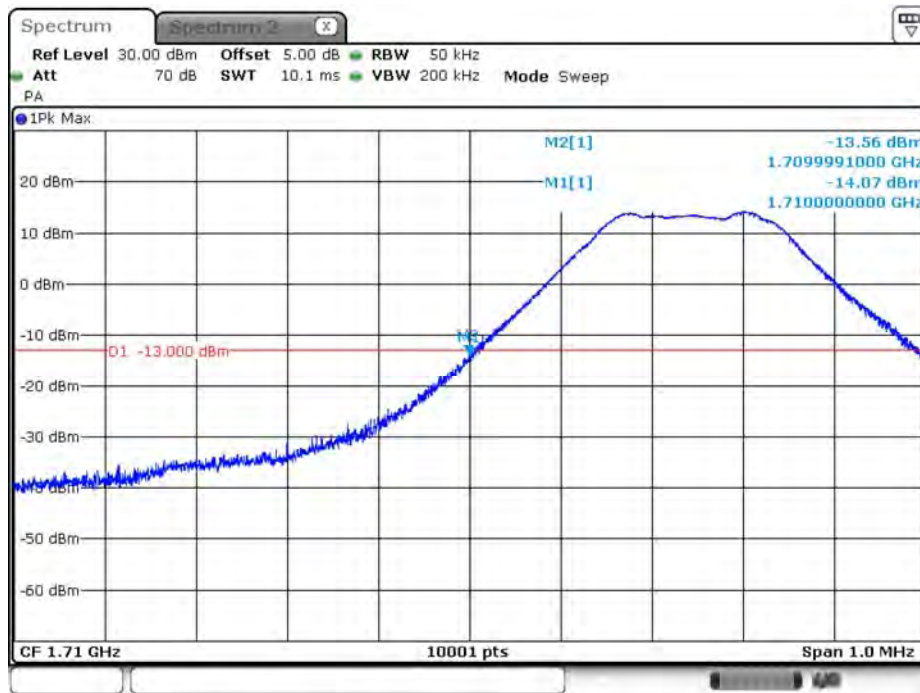
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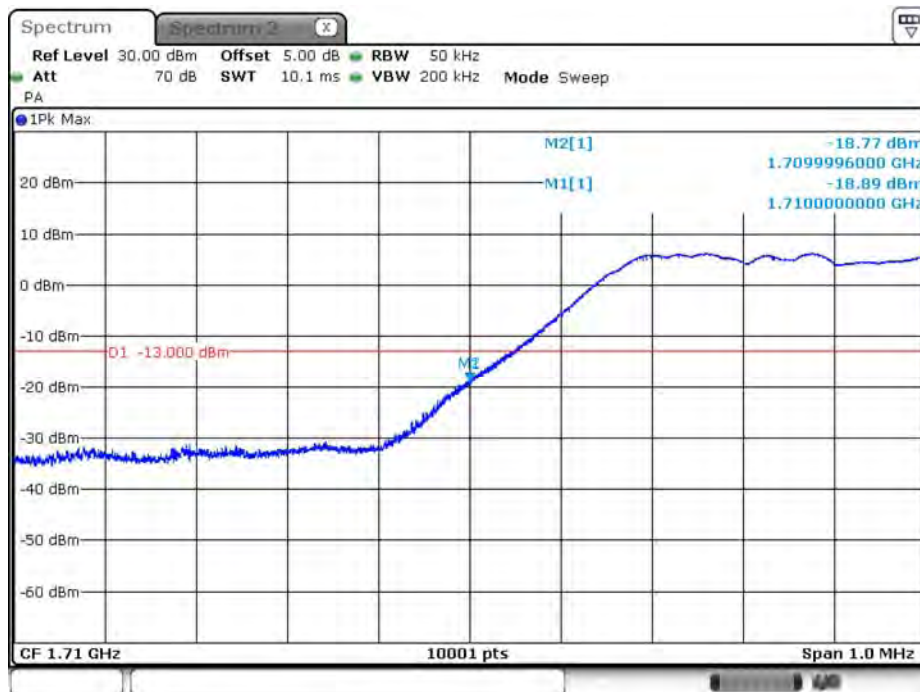
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CH19965_3M_QPSK_1RB0



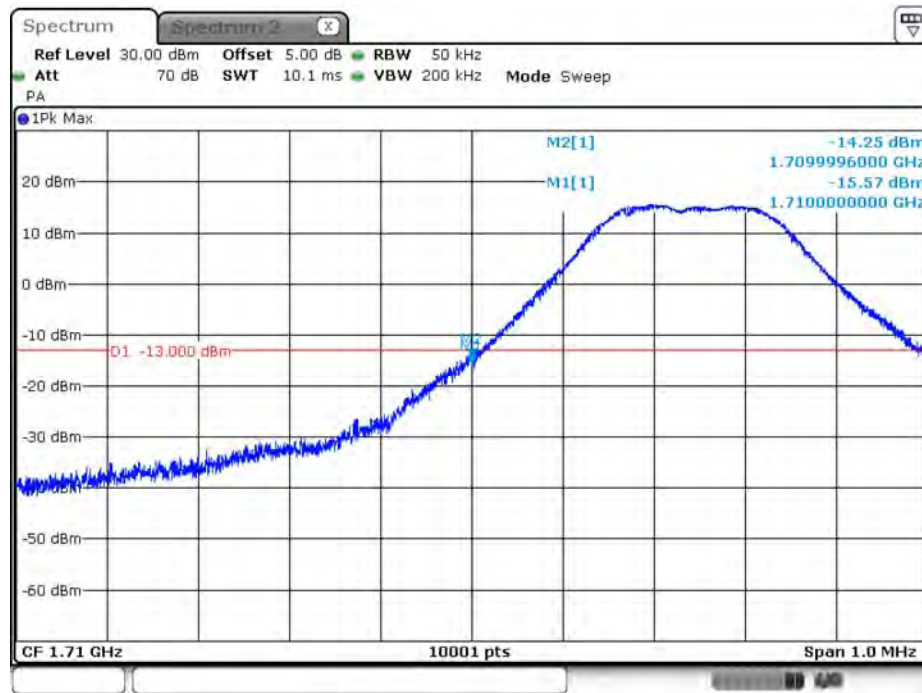
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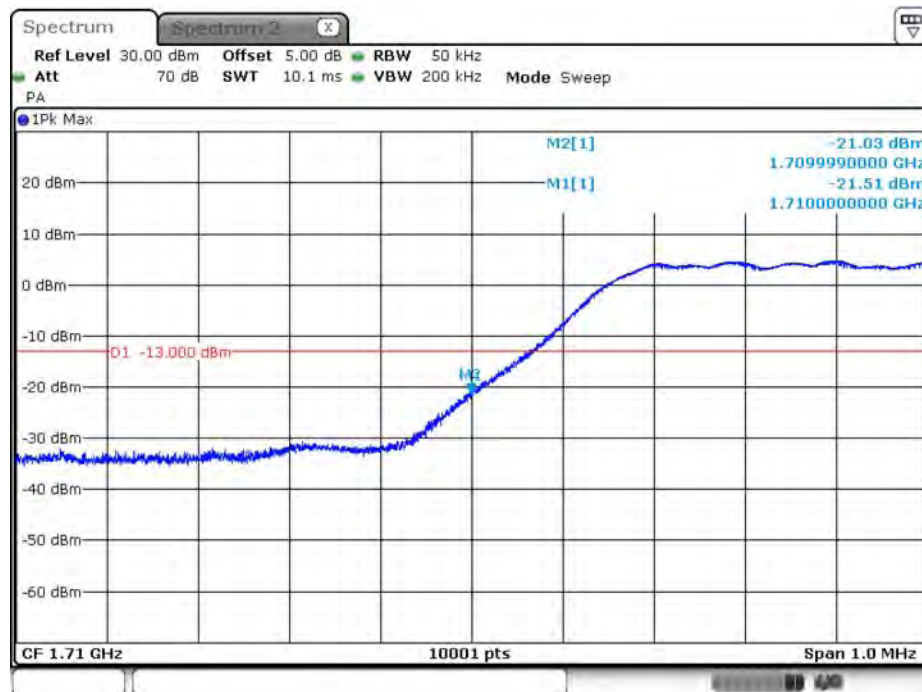
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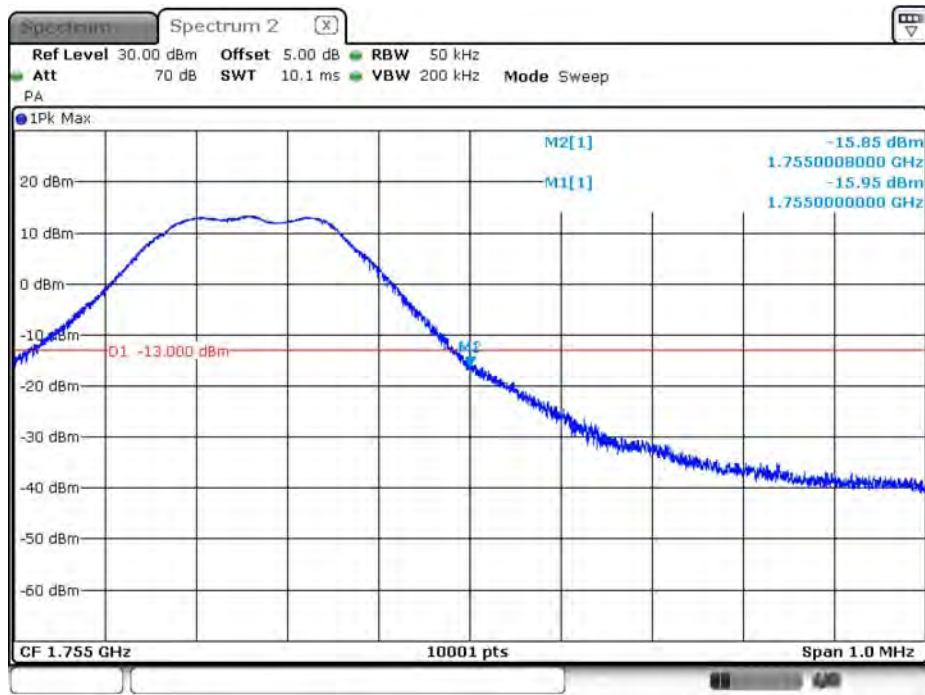
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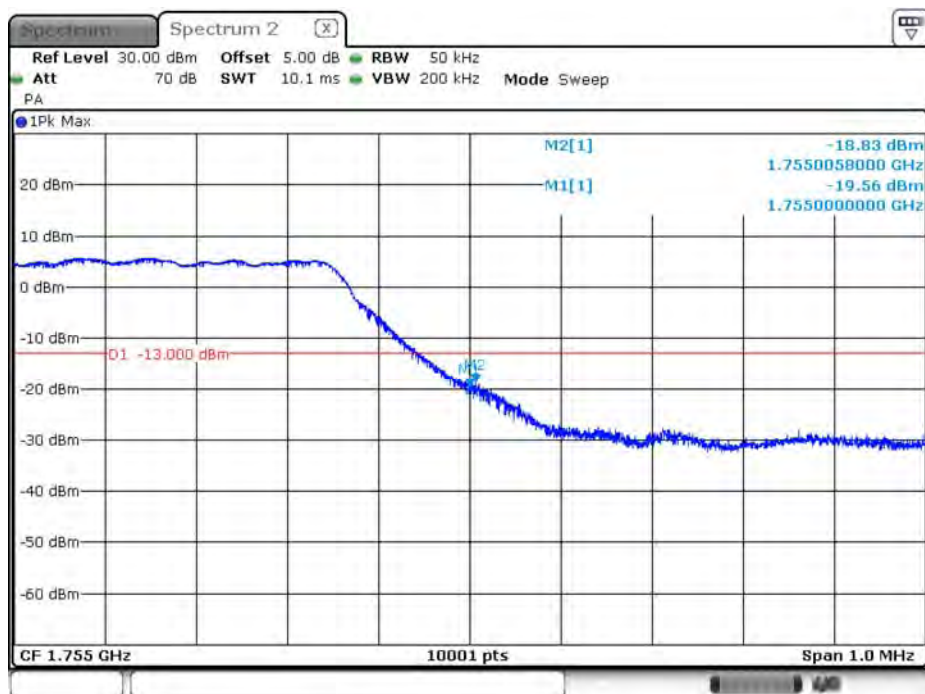
Date: 27.SEP.2018 07:17:13

CH20385_3M_QPSK_1RB14



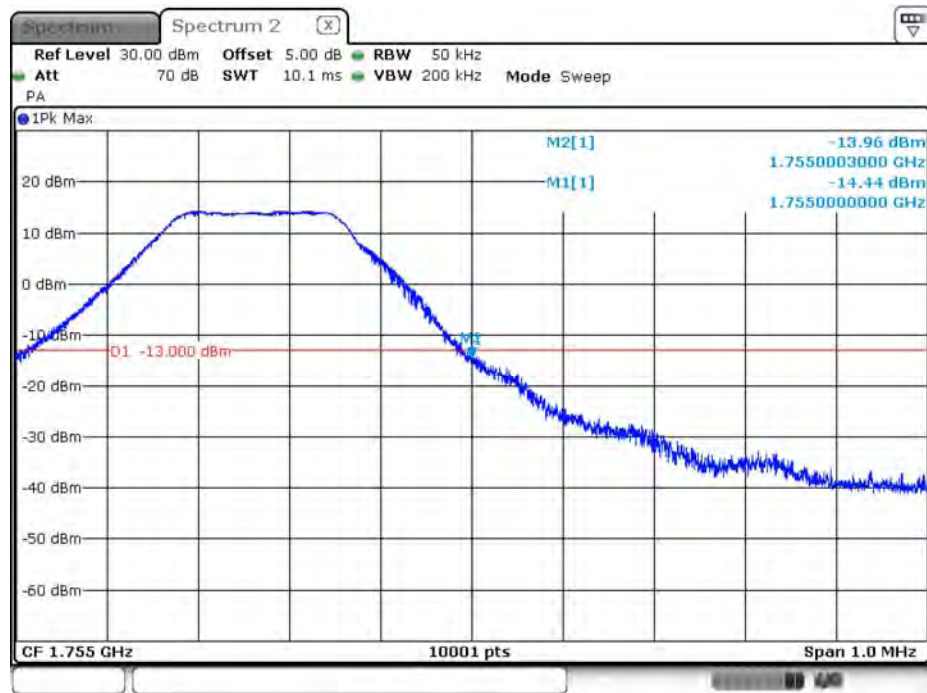
Date: 27.SEP.2018 07:21:38

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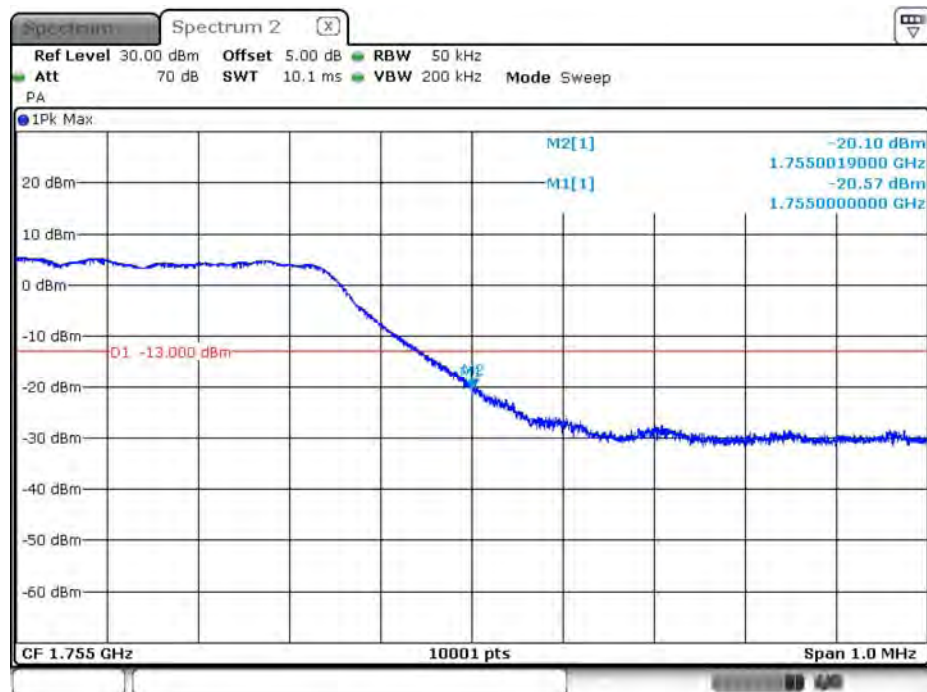
Date: 27.SEP.2018 07:25:23

CH20385_3M_16-QAM_1RB14



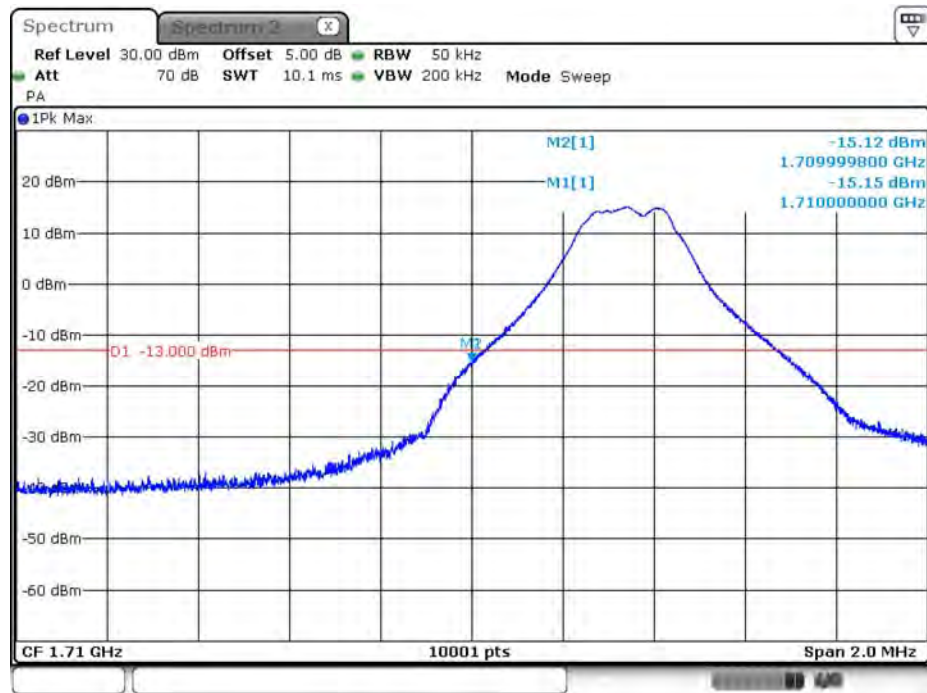
Date: 27.SEP.2018 07:22:45

CH20385_3M_16-QAM_15RB0



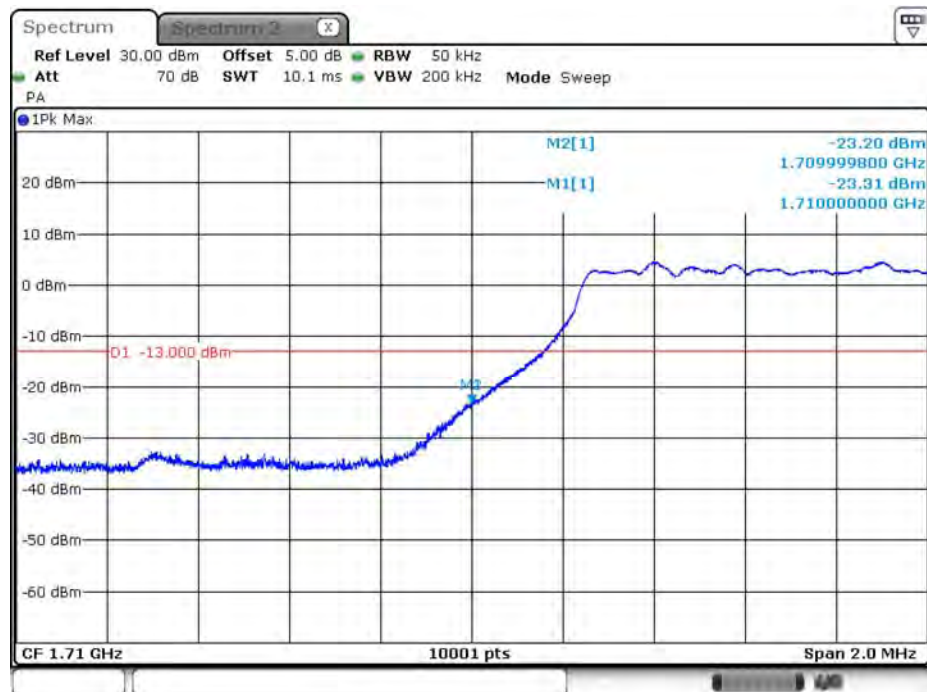
Date: 27.SEP.2018 07:24:07

CH19975_5M_QPSK_1RB0



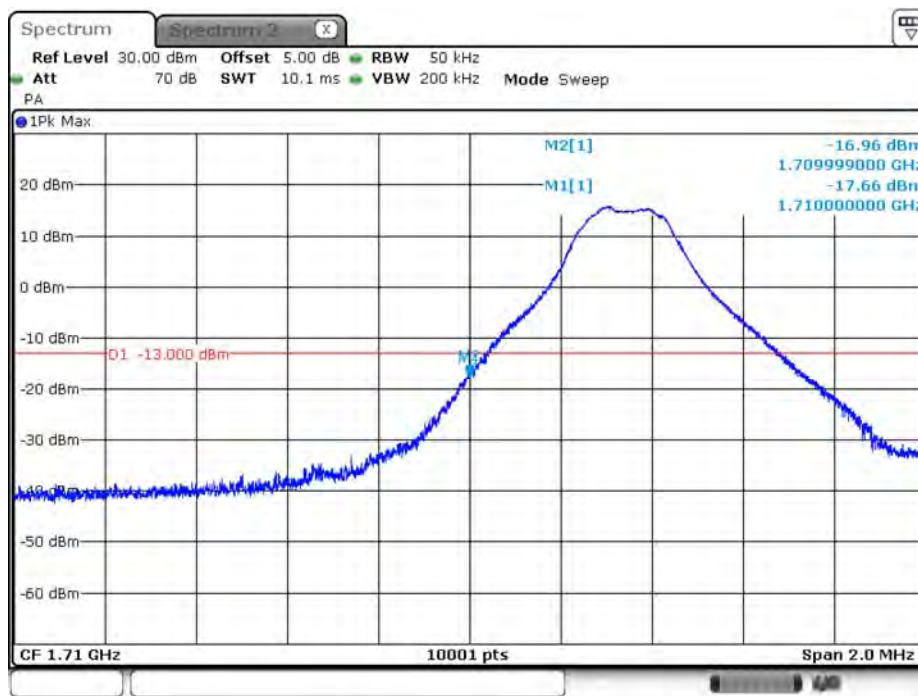
Date: 27.SEP.2018 07:05:04

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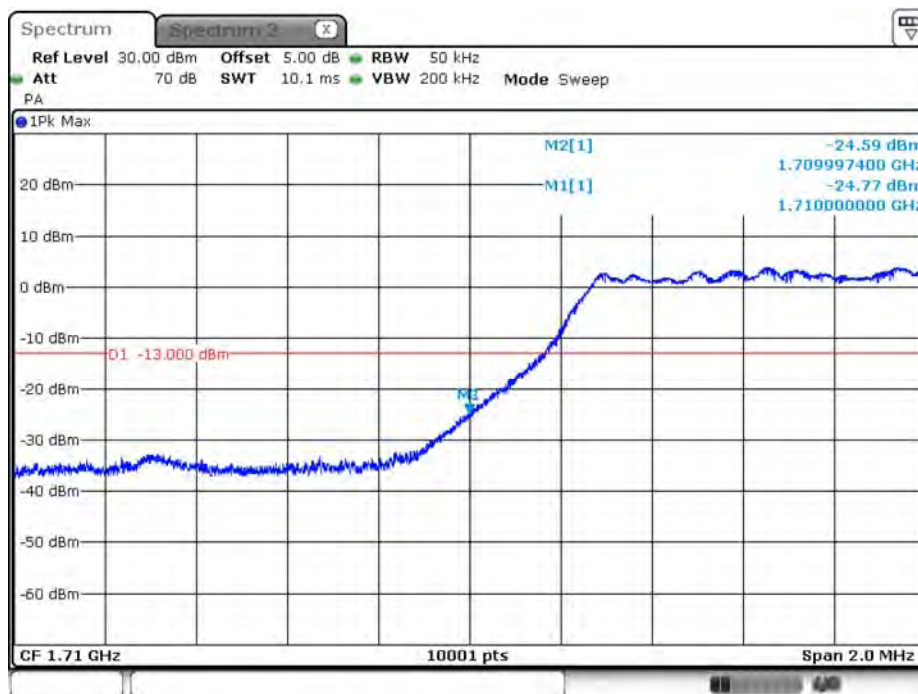
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CH19975_5M_16-QAM_1RB0



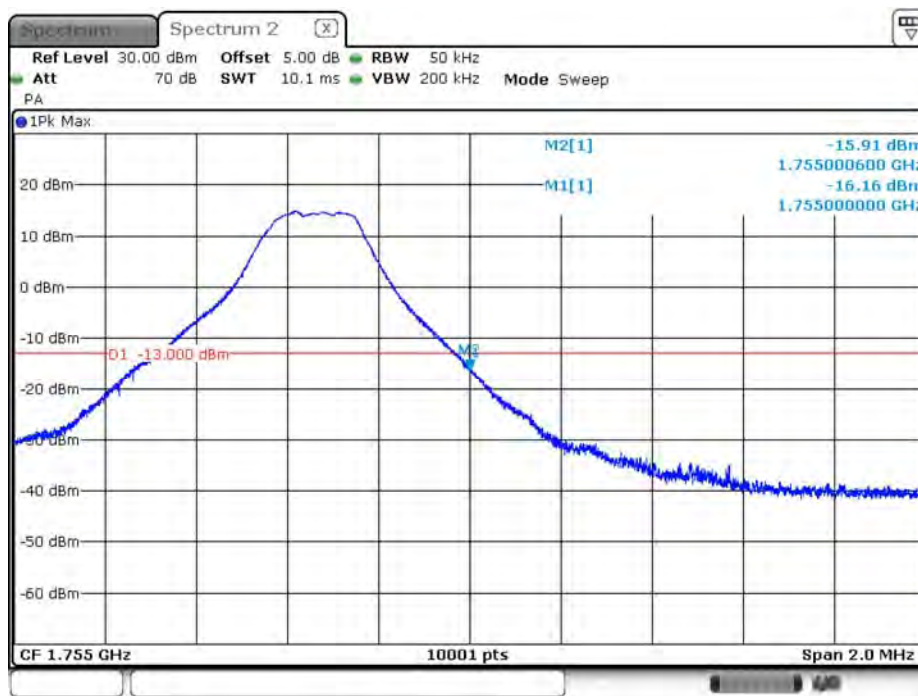
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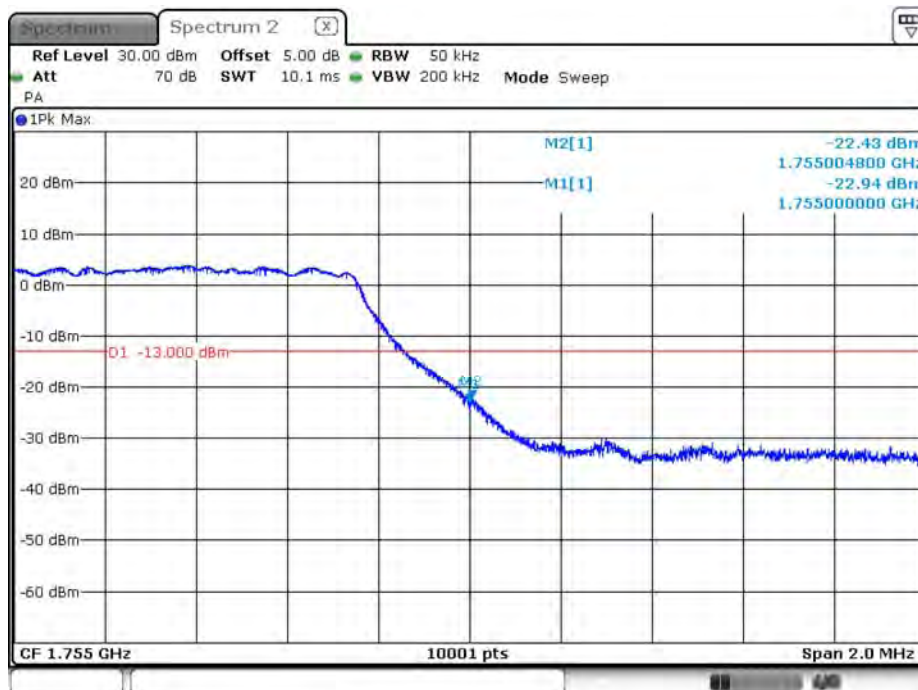
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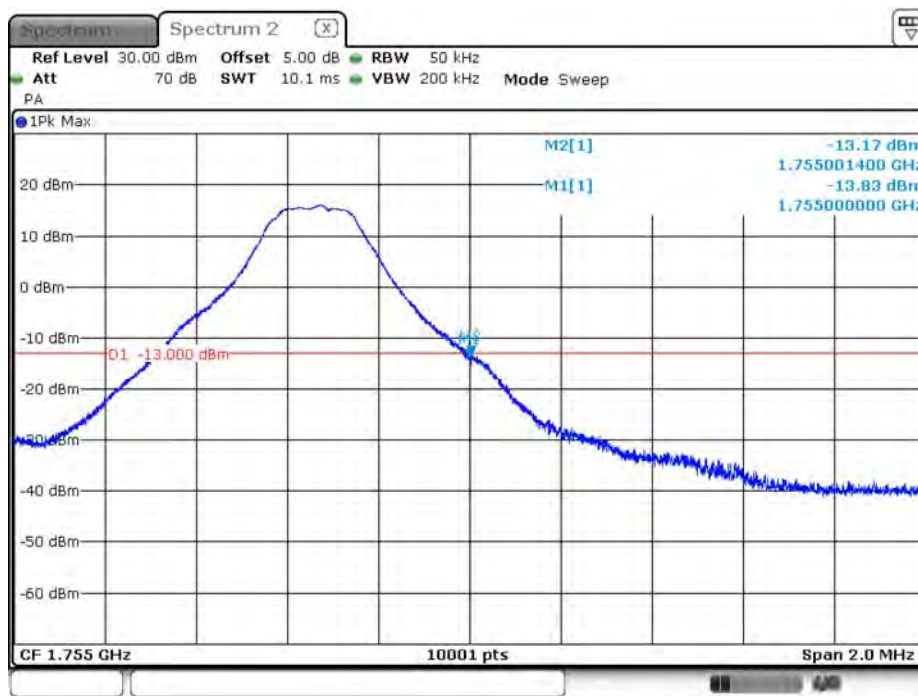
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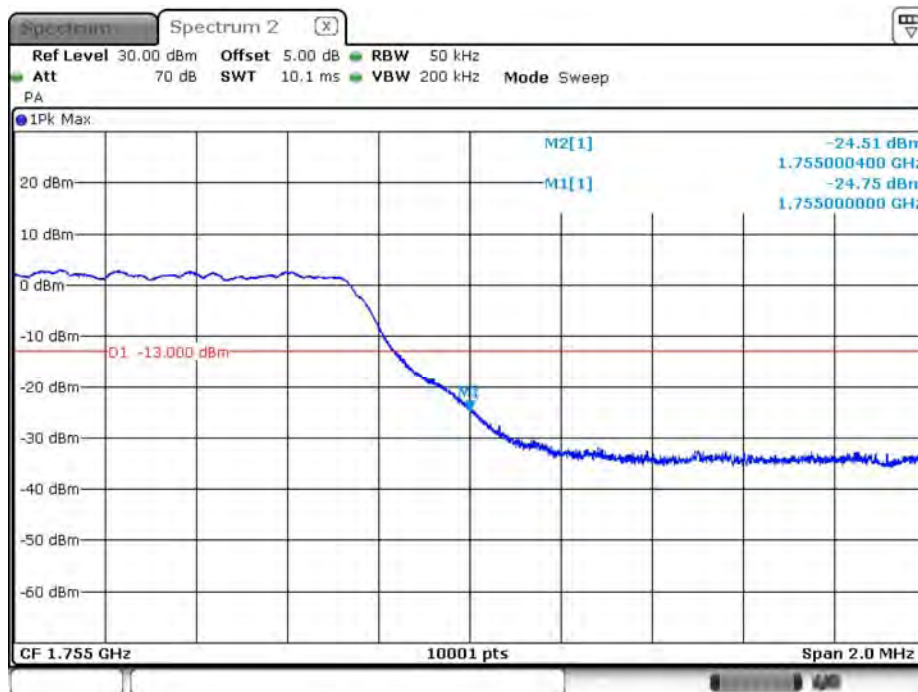
Date: 27.SEP.2018 06:43:01

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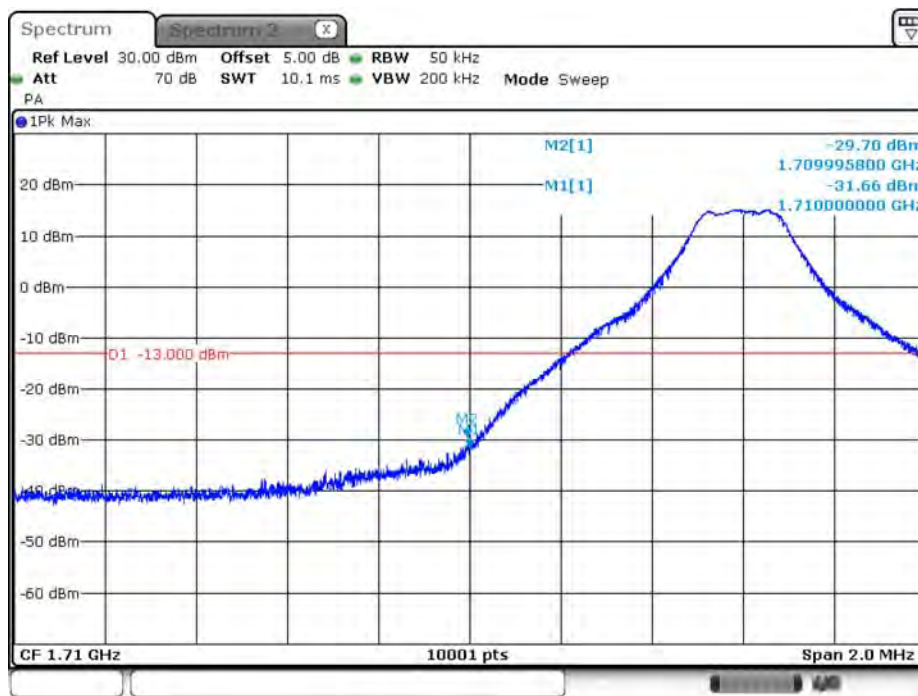
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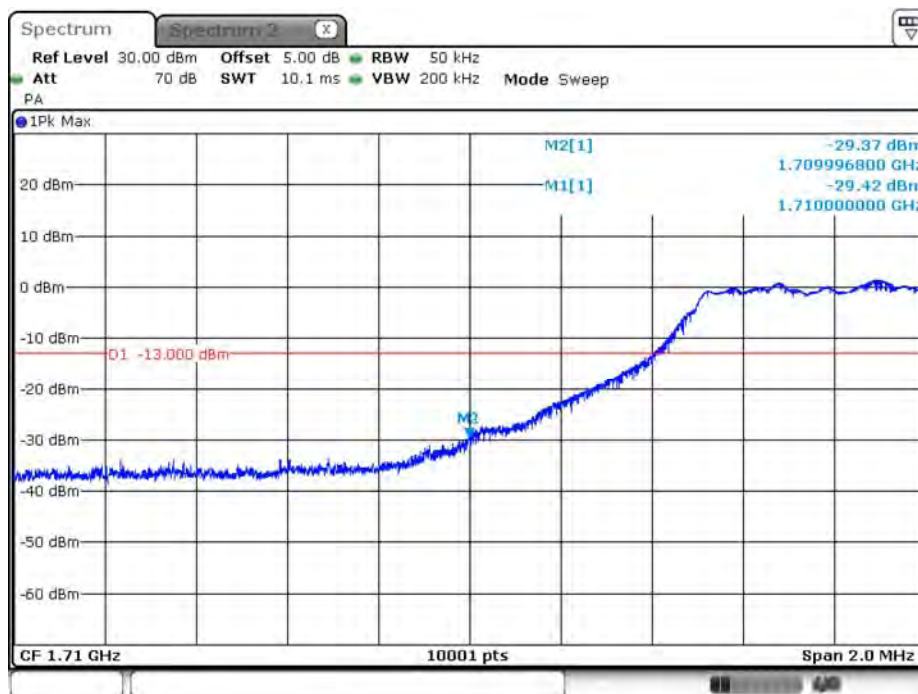
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CH20000_10M_QPSK_1RB0



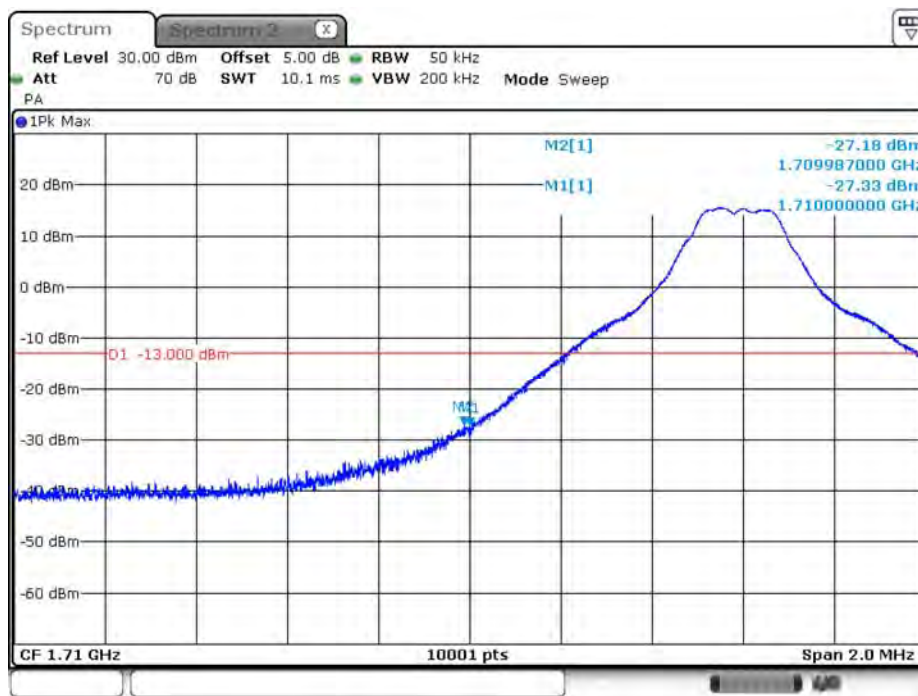
Date: 27.SEP.2018 06:27:16

CH20000_10M_QPSK_50RB0



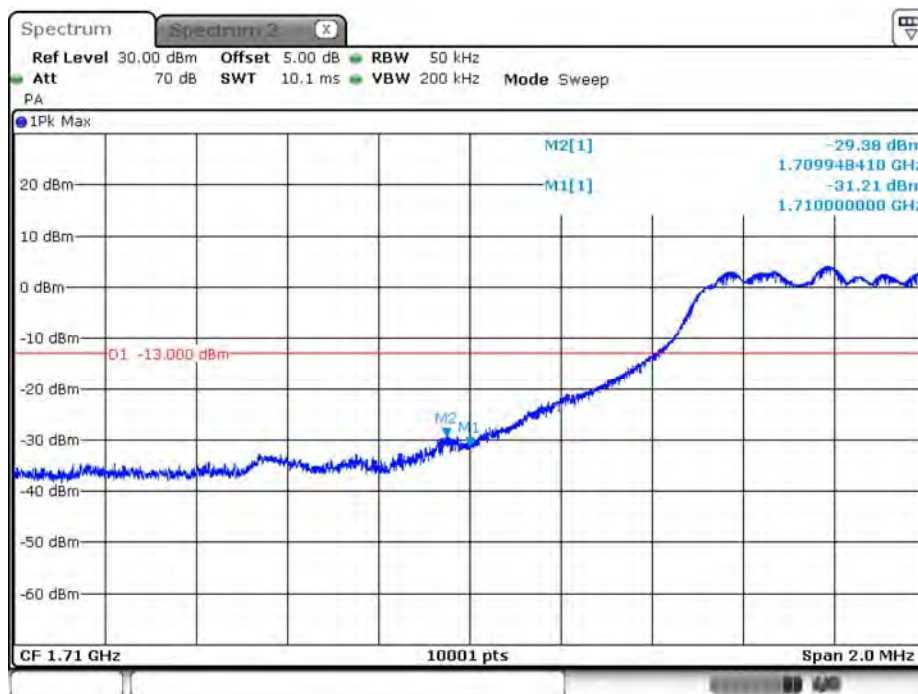
Date: 27.SEP.2018 06:32:06

CH20000_10M_16-QAM_1RB0



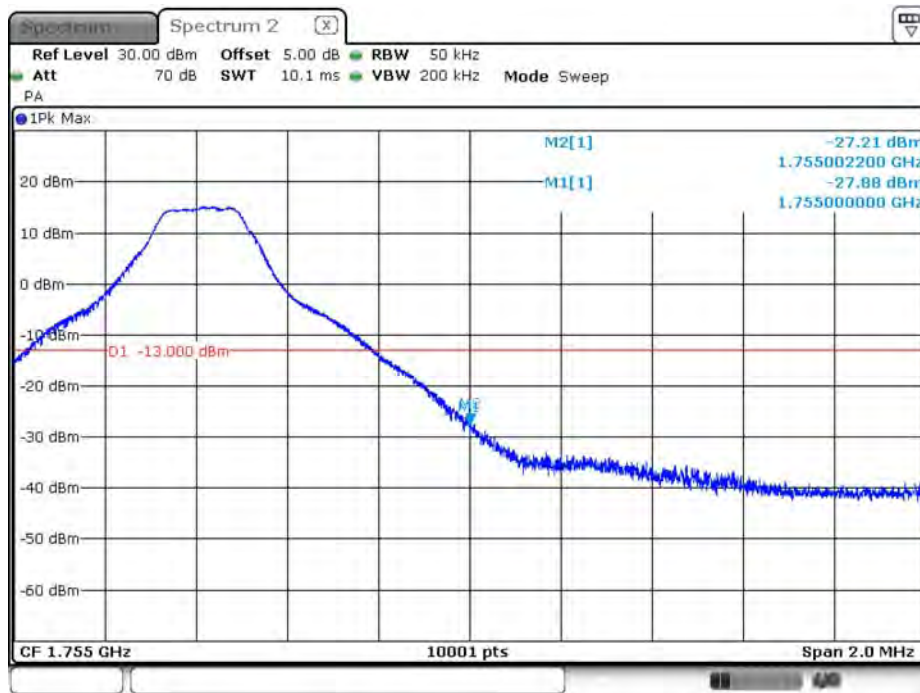
Date: 27.SEP.2018 06:30:05

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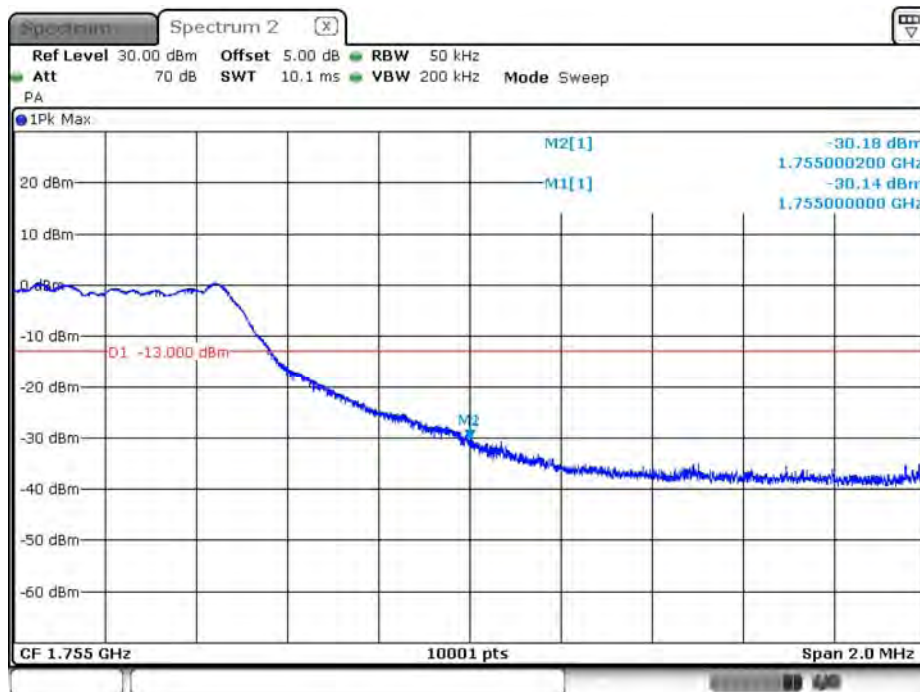
Date: 27.SEP.2018 06:30:59

CH20350_10M_QPSK_1RB49



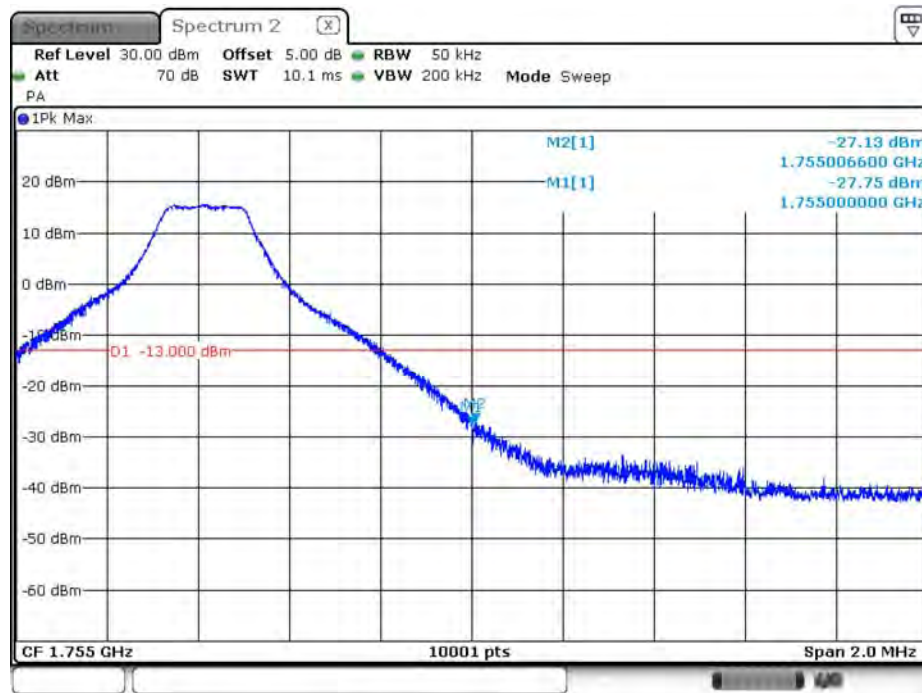
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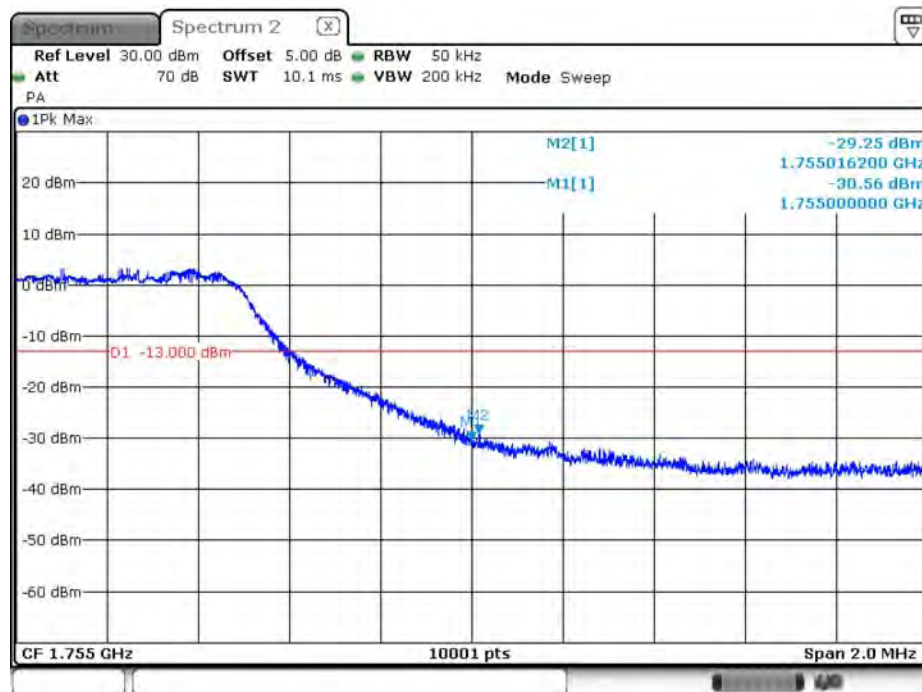
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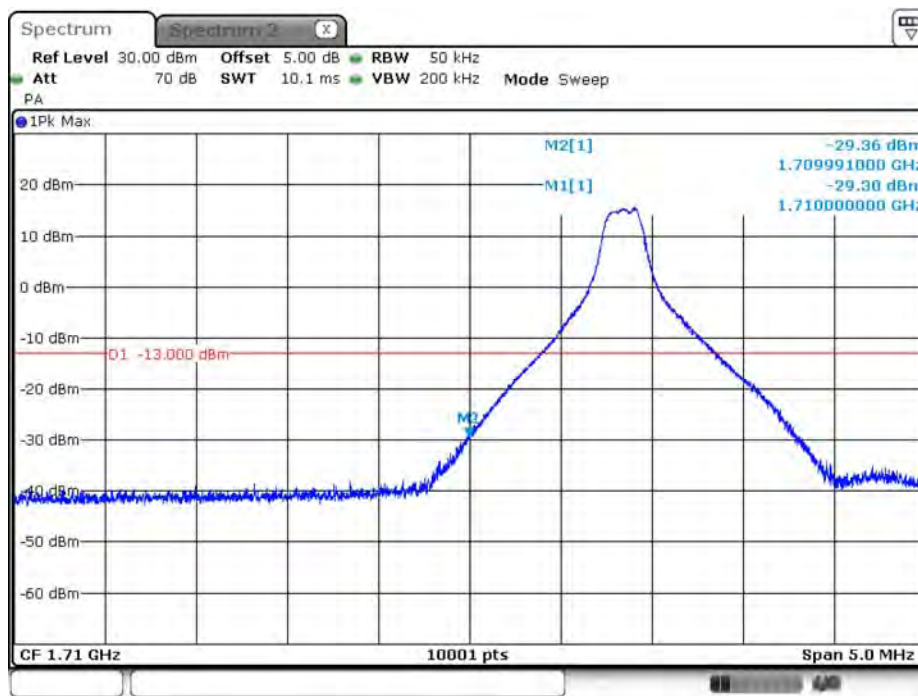
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CH20350_10M_16-QAM_27RB23



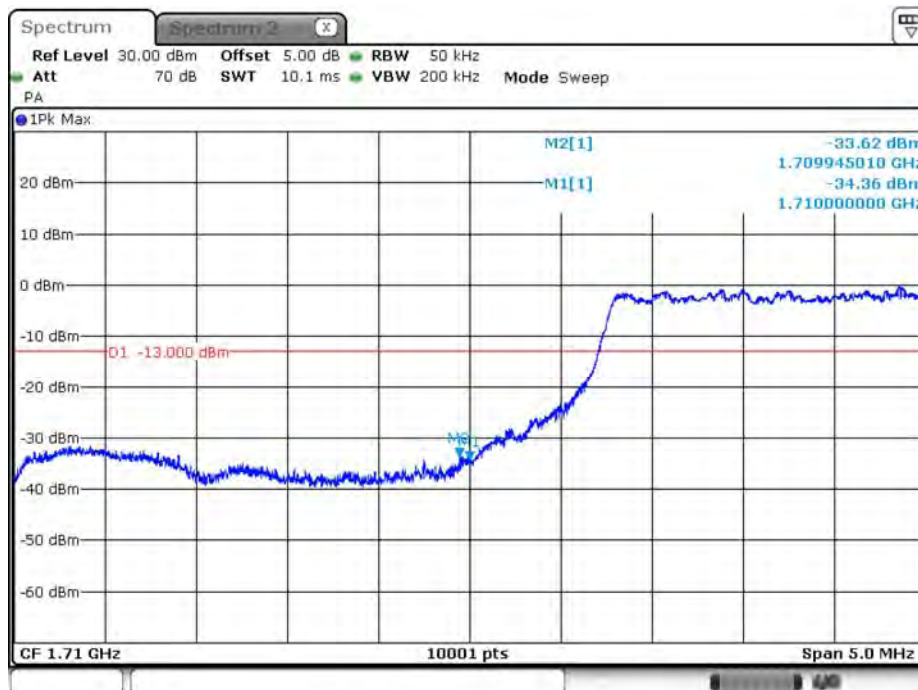
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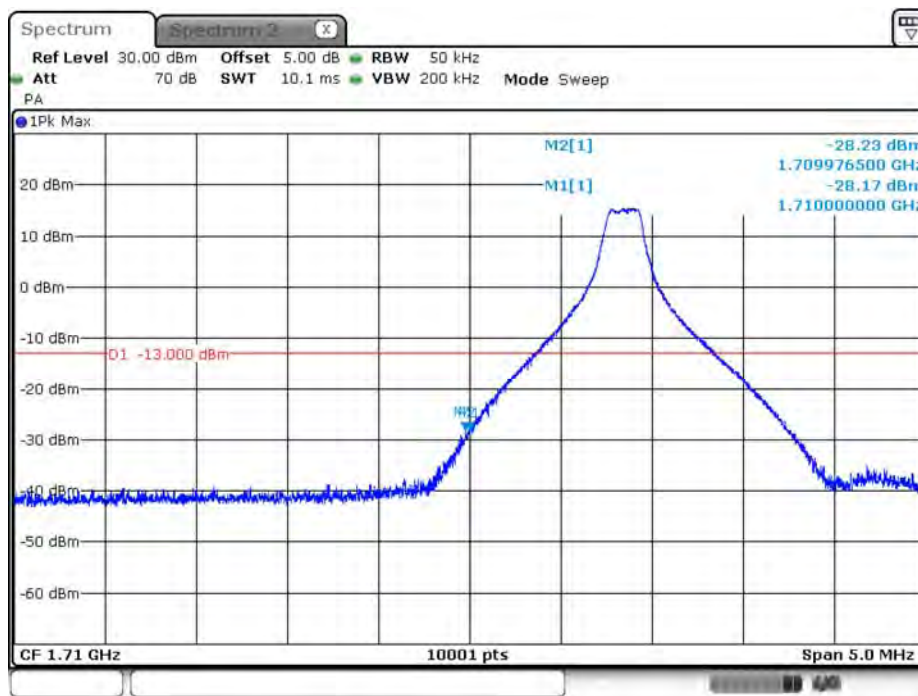
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CH20025_15M_QPSK_75RB0



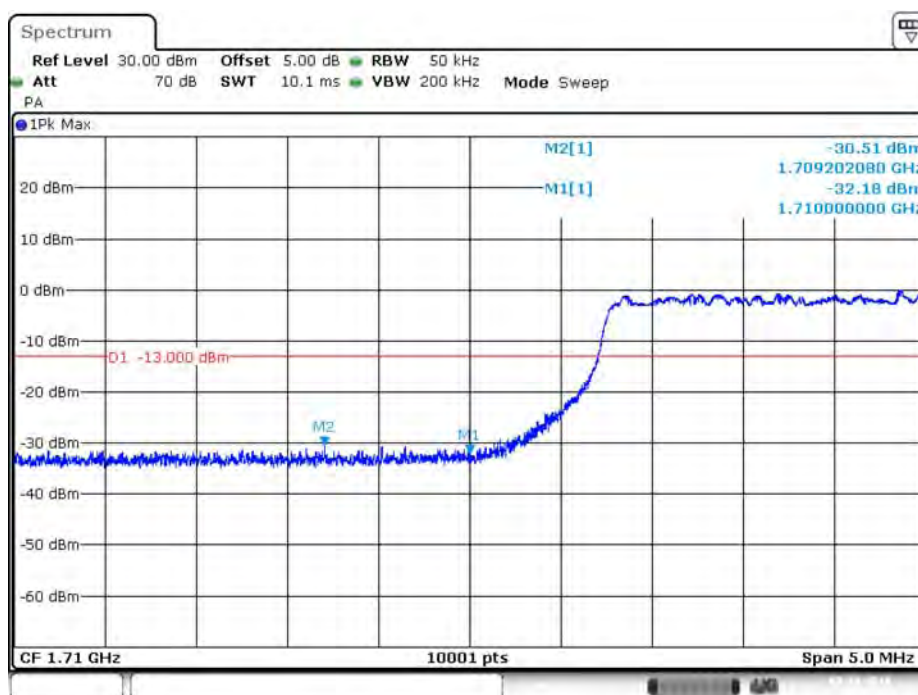
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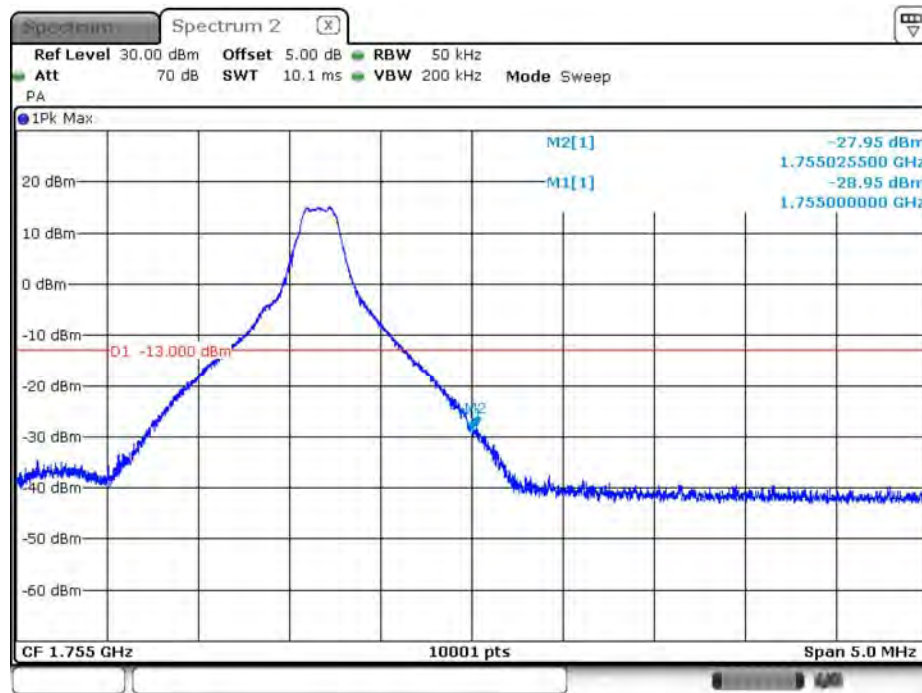
Date: 27.SEP.2018 06:18:45

CH20025_15M_16-QAM_27RB0



Date: 8.OCT.2018 16:30:02

CH20325_15M_QPSK_1RB74



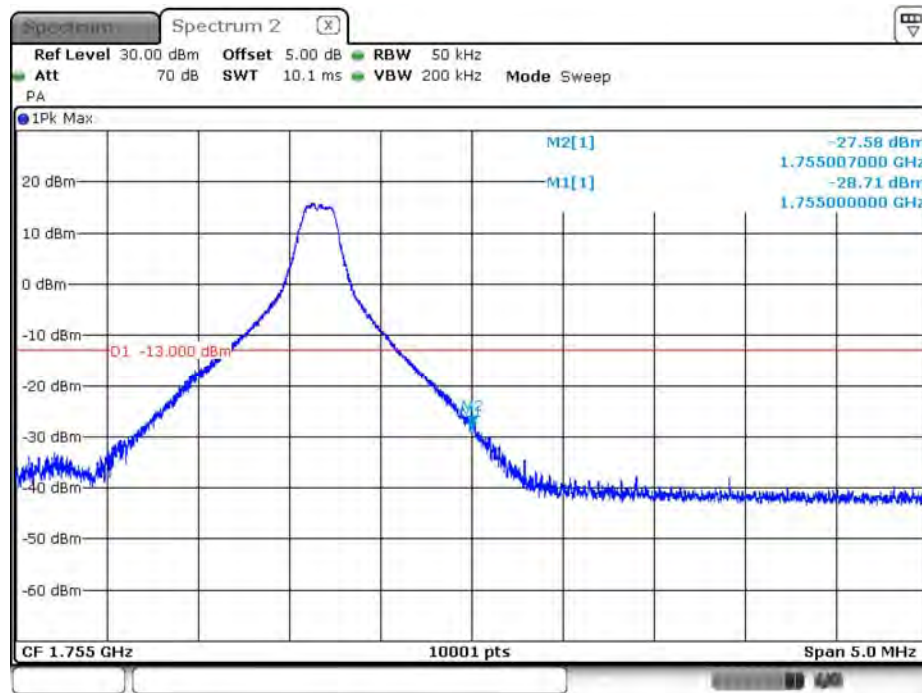
Date: 27.SEP.2018 06:15:53

CH20325_15M_QPSK_75RB0

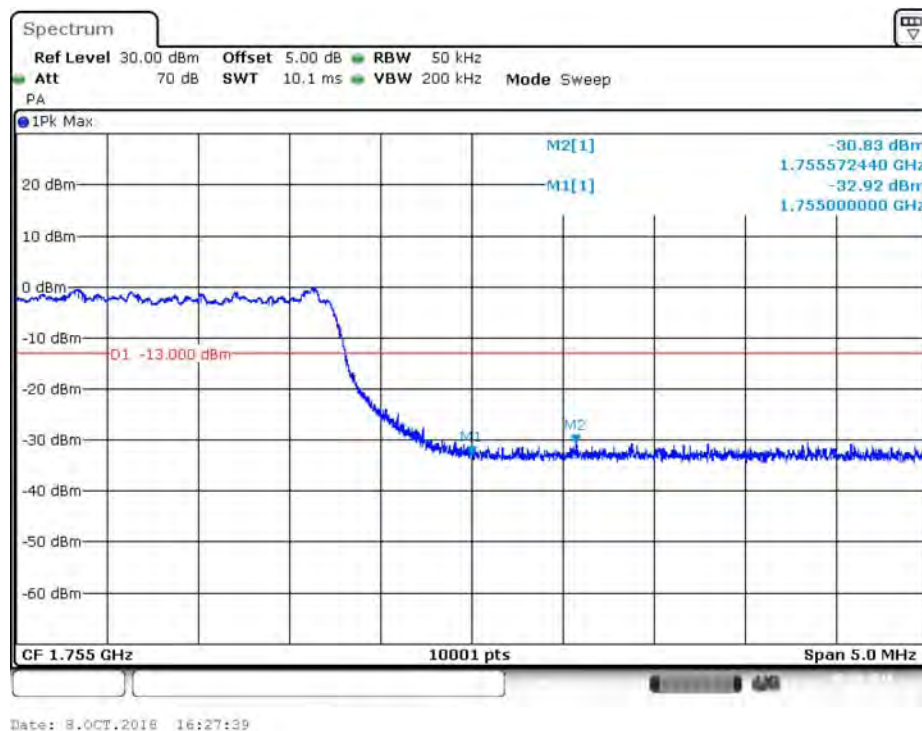


Date: 27.SEP.2018 06:14:21

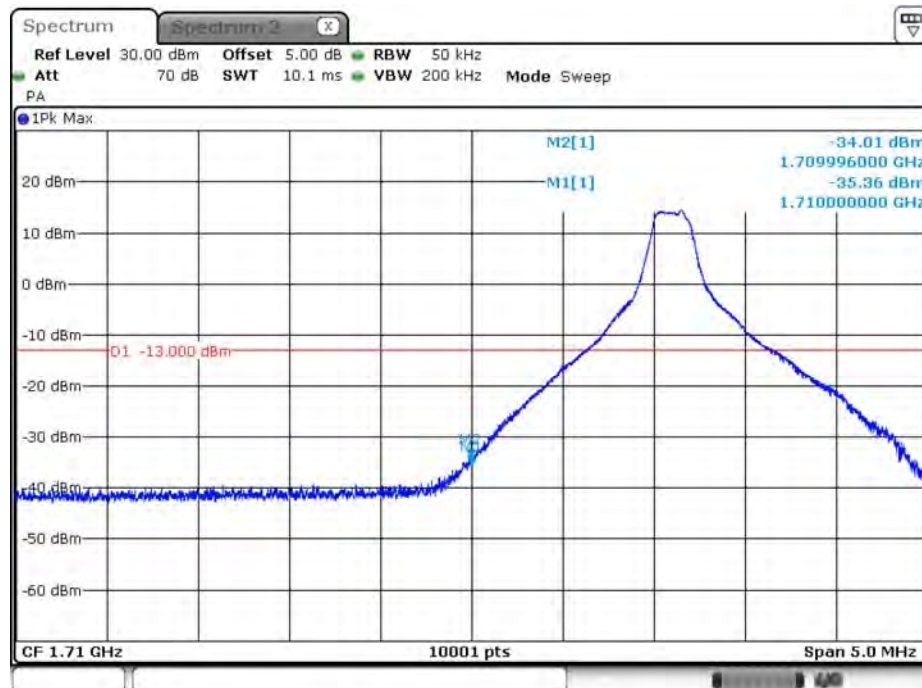
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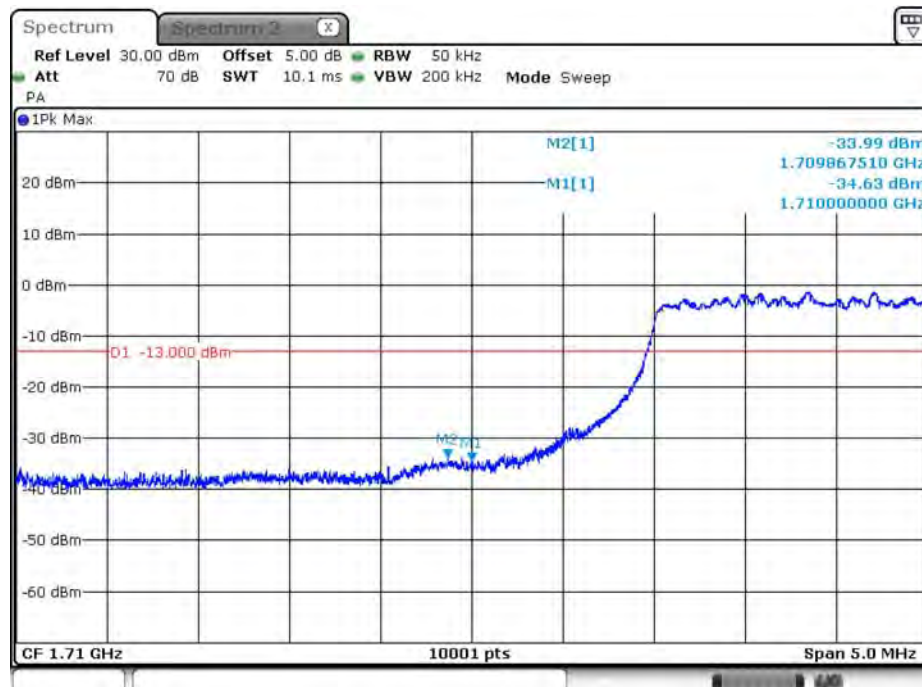


CH20050_20M_QPSK_1RB0



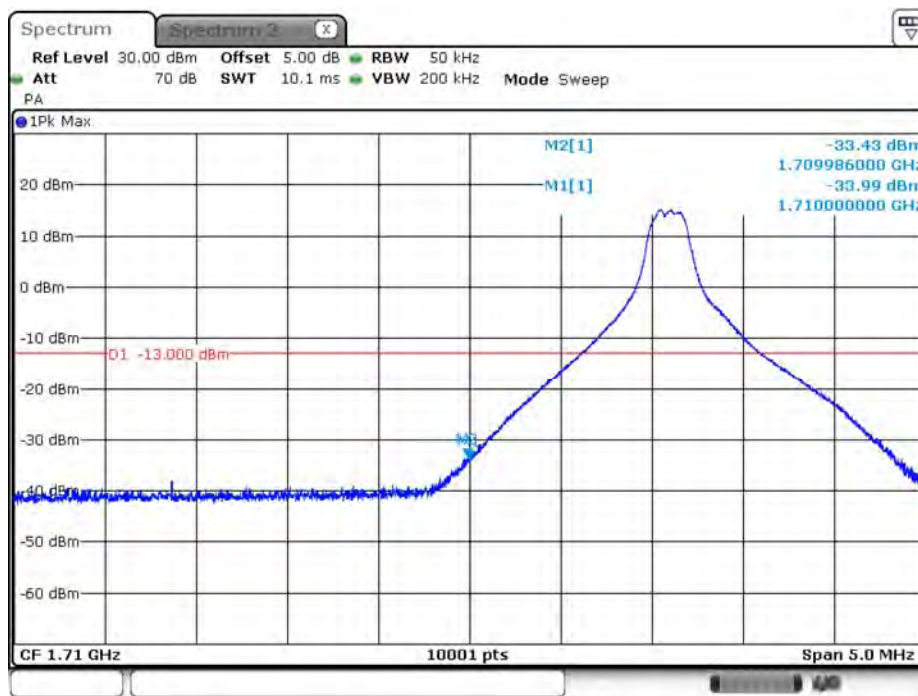
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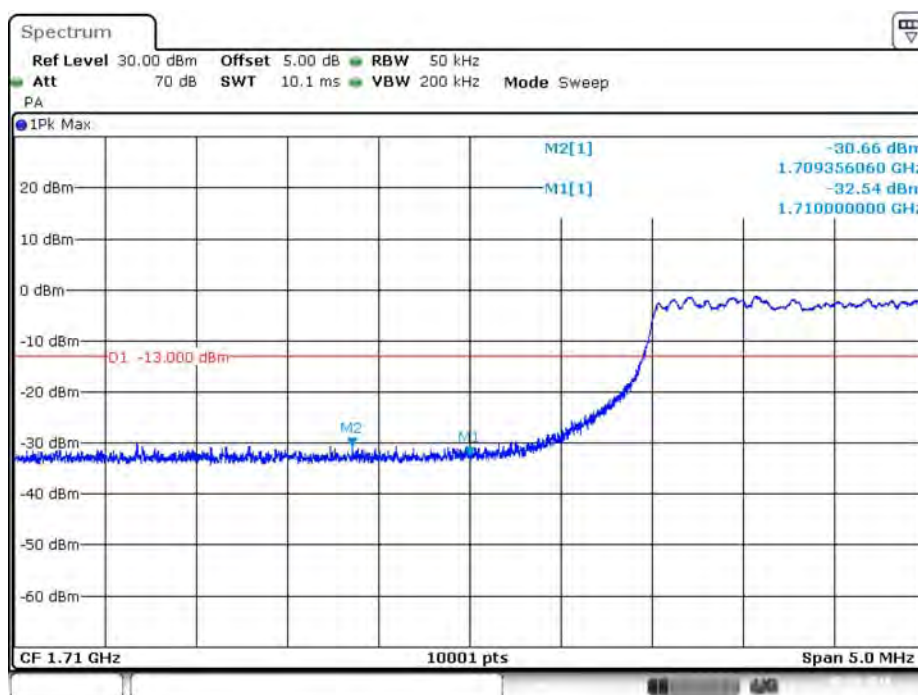
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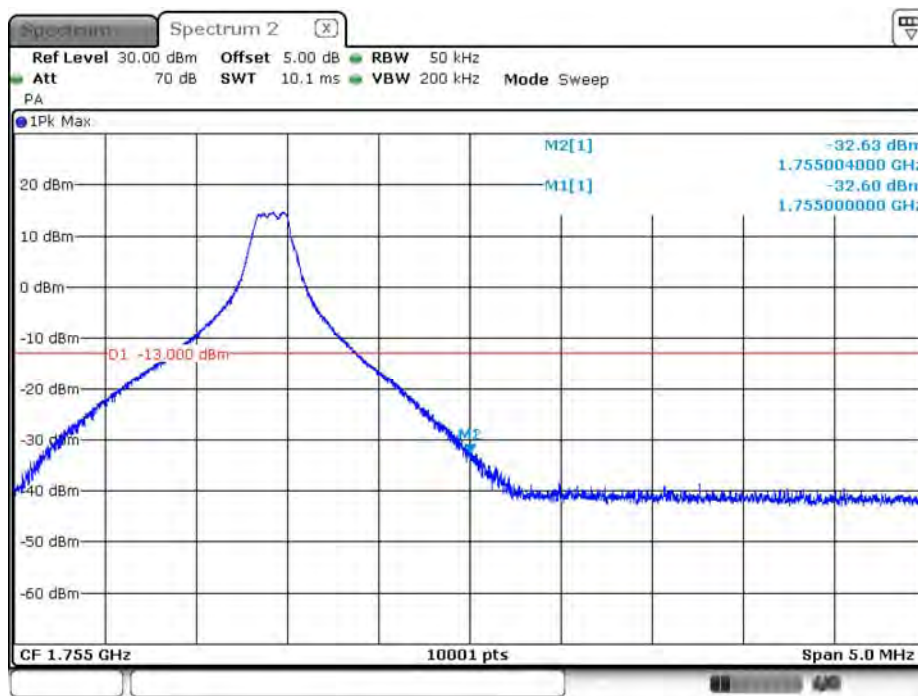
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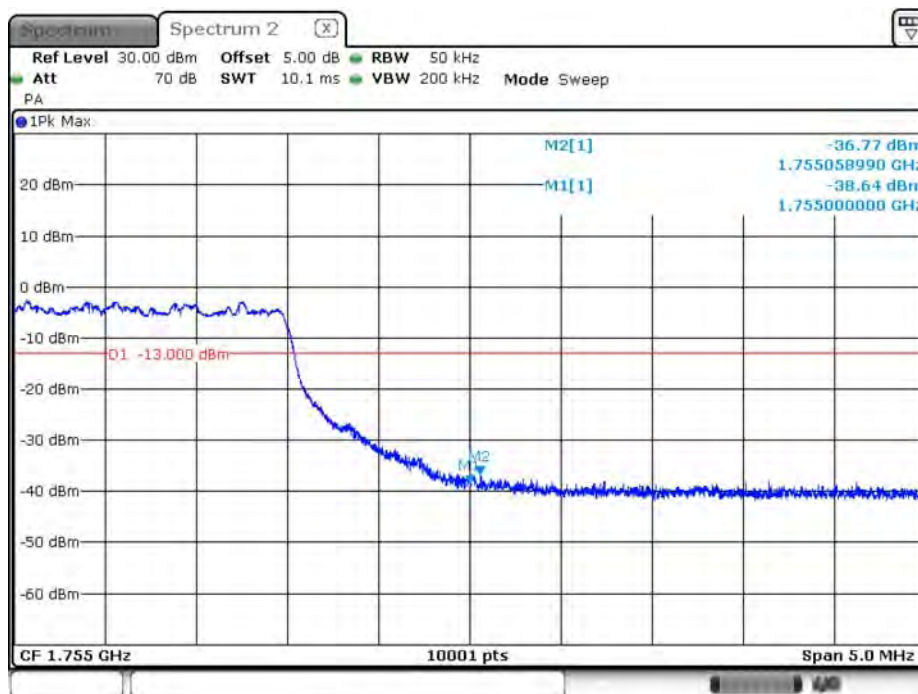
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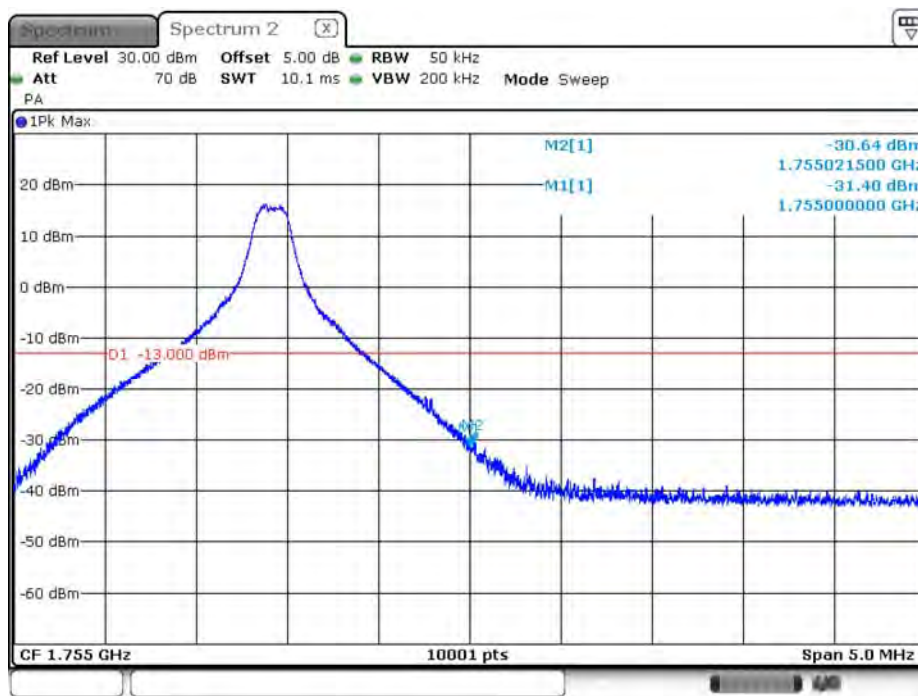
Date: 27.SEP.2018 06:09:49

CH20300_20M_QPSK_100RB0



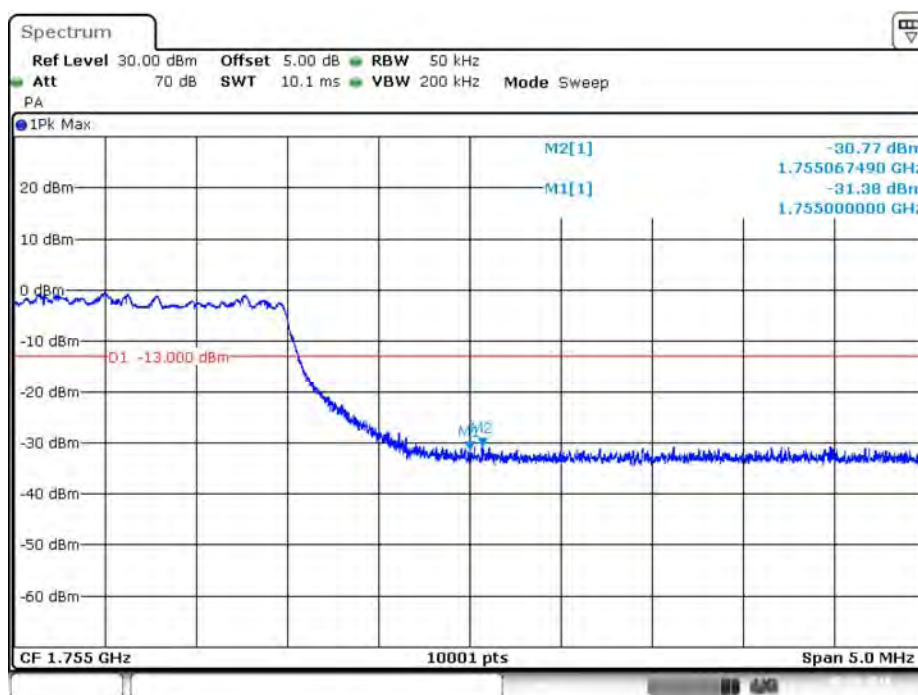
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CH20300_20M_16-QAM_1RB99



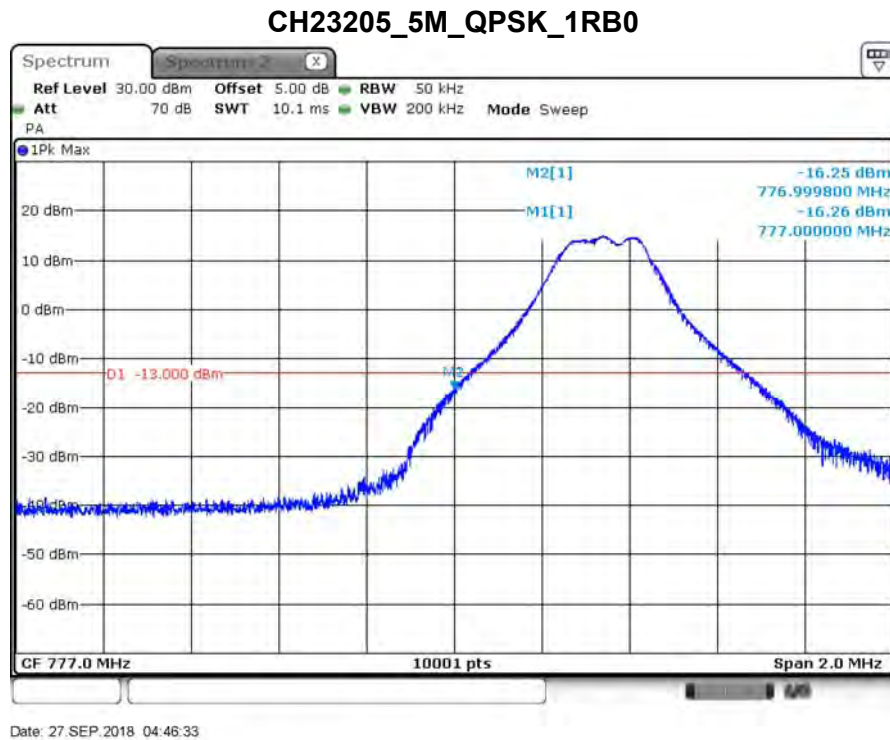
Date: 27.SEP.2018 06:11:15

CH20300_20M_16-QAM_27RB73



Date: 8.OCT.2018 16:37:37

Product	LE910C1-SV		
Test Item	Spurious Emissions at Antenna Terminals		
Test Mode	Mode 2: LTE Band 13		
Date of Test	2018/09/27	Test Site	SR10-H

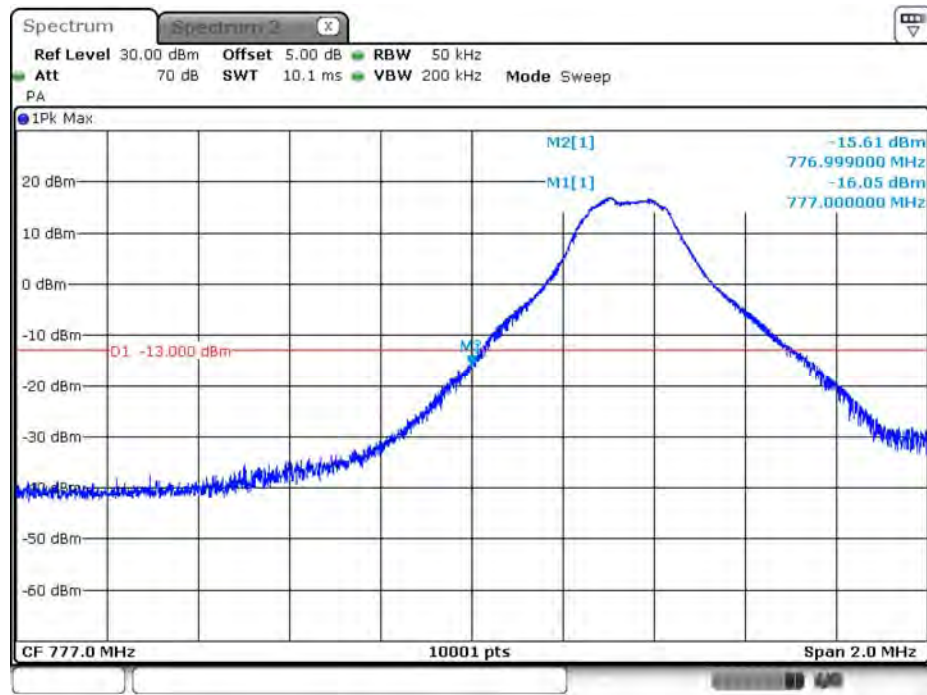


CH23205_5M_QPSK_25RB0



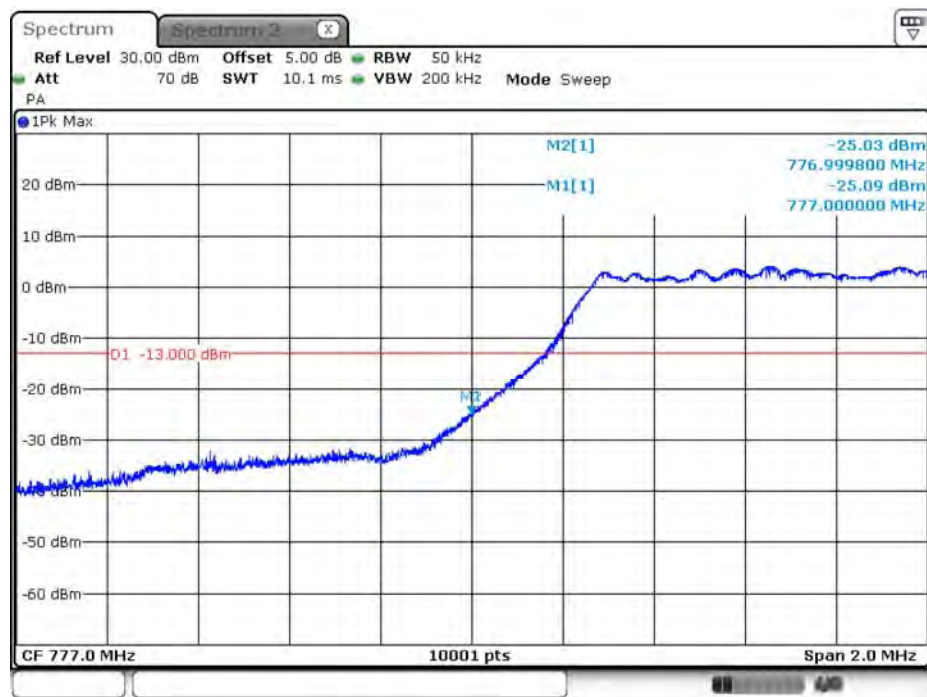
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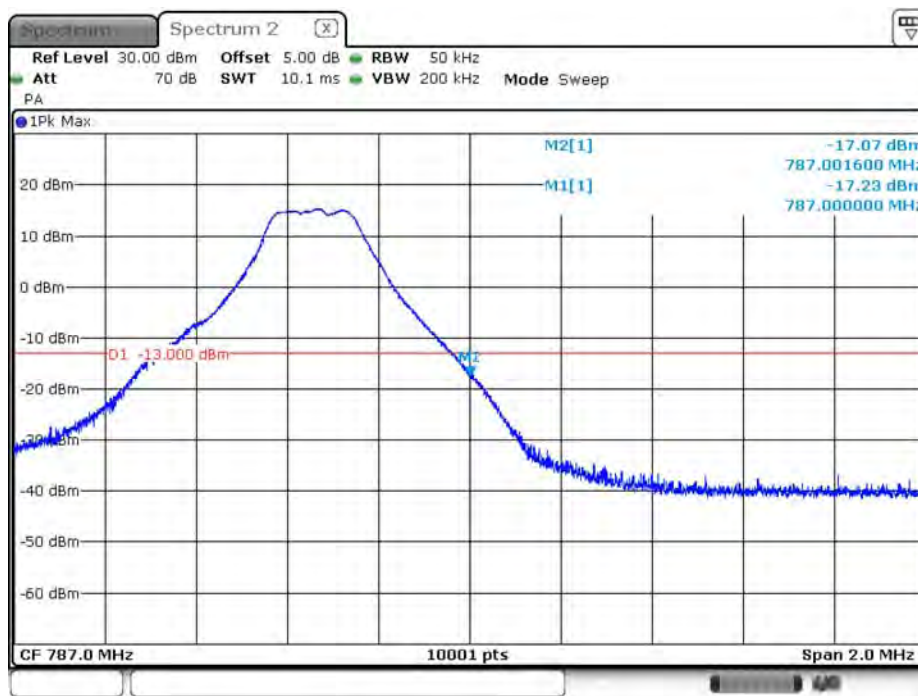
Date: 27.SEP.2018 04:43:48

CH23205_5M_16-QAM_25RB0



Date: 27.SEP.2018 04:42:44

CH23255_5M_QPSK_1RB24



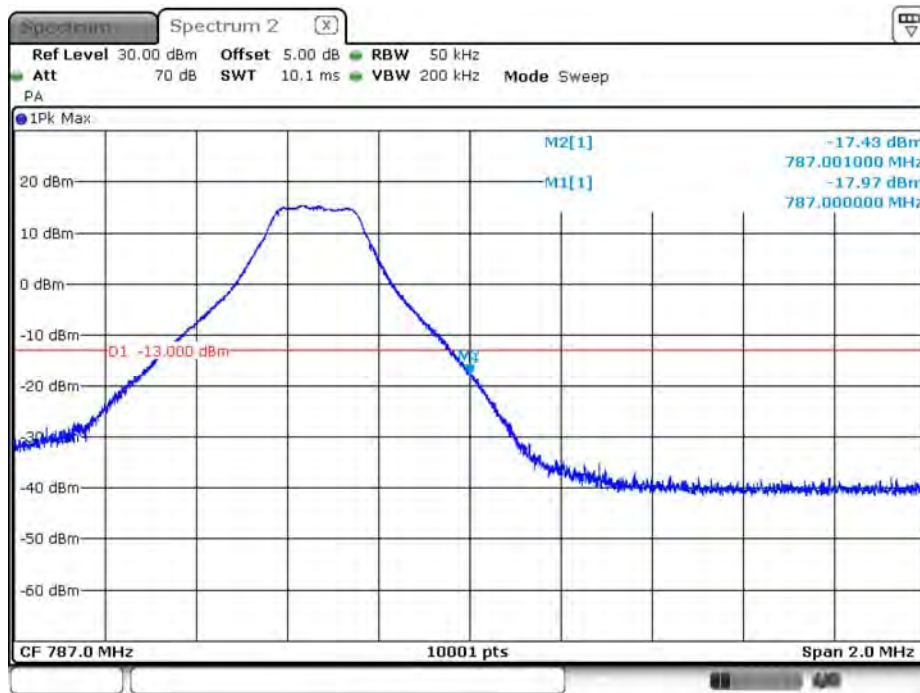
Date: 27.SEP.2018 04:57:44

CH23255_5M_QPSK_25RB0



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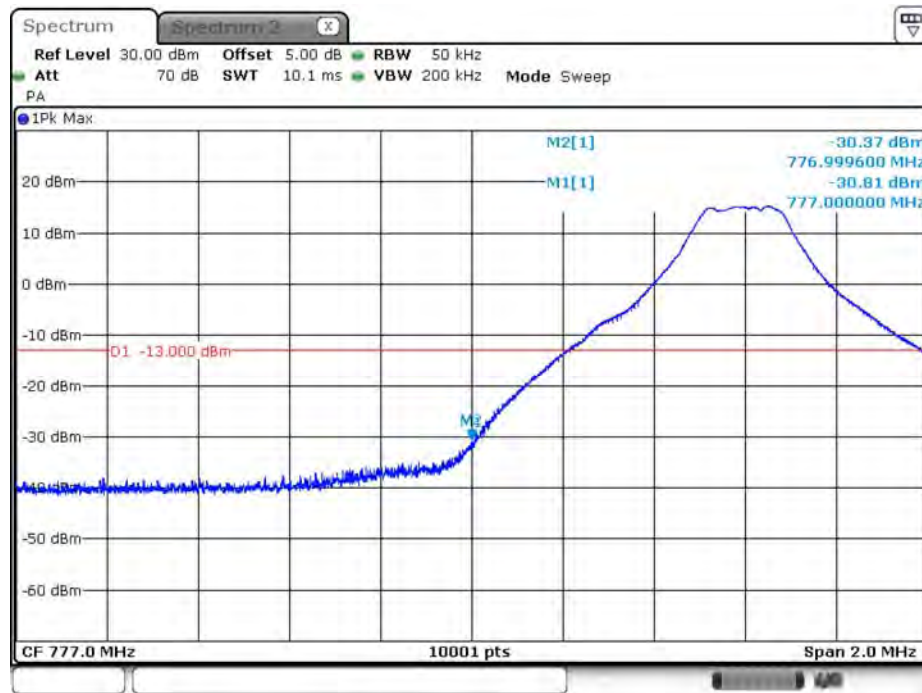
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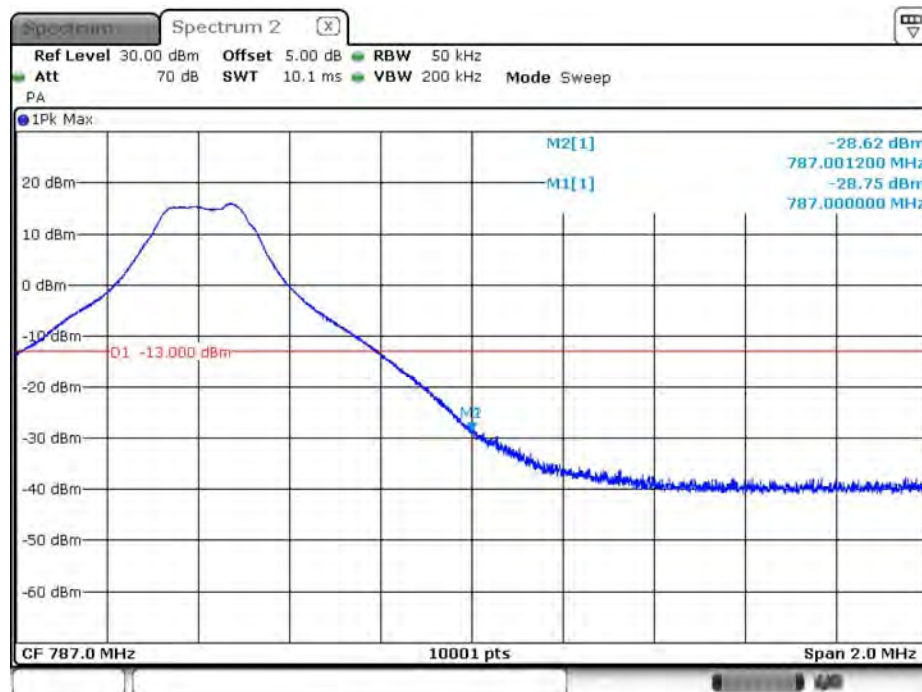


CH23230_10M_QPSK_1RB0



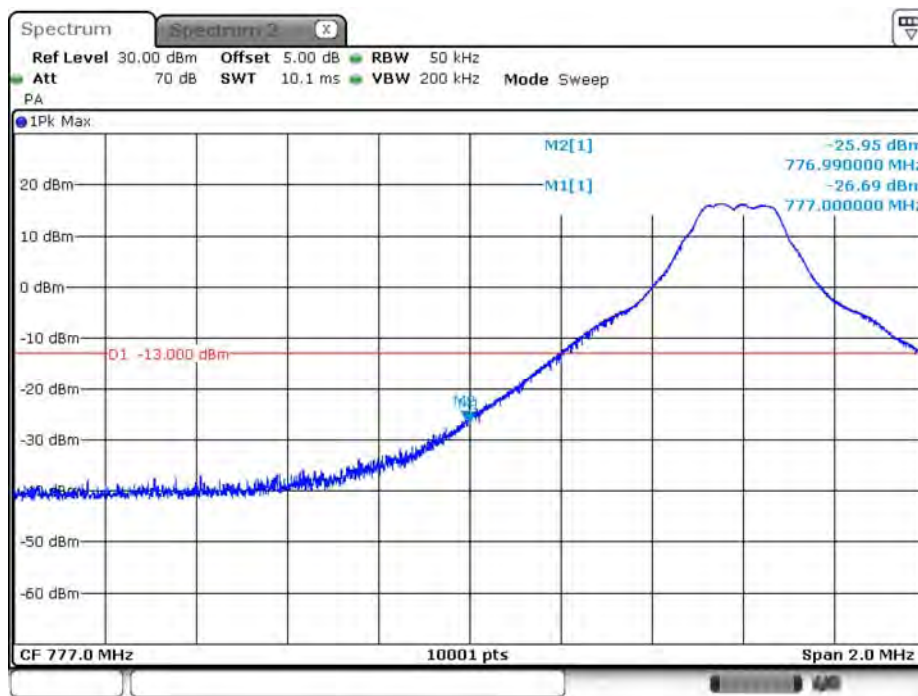
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CH23230_10M_QPSK_1RB49



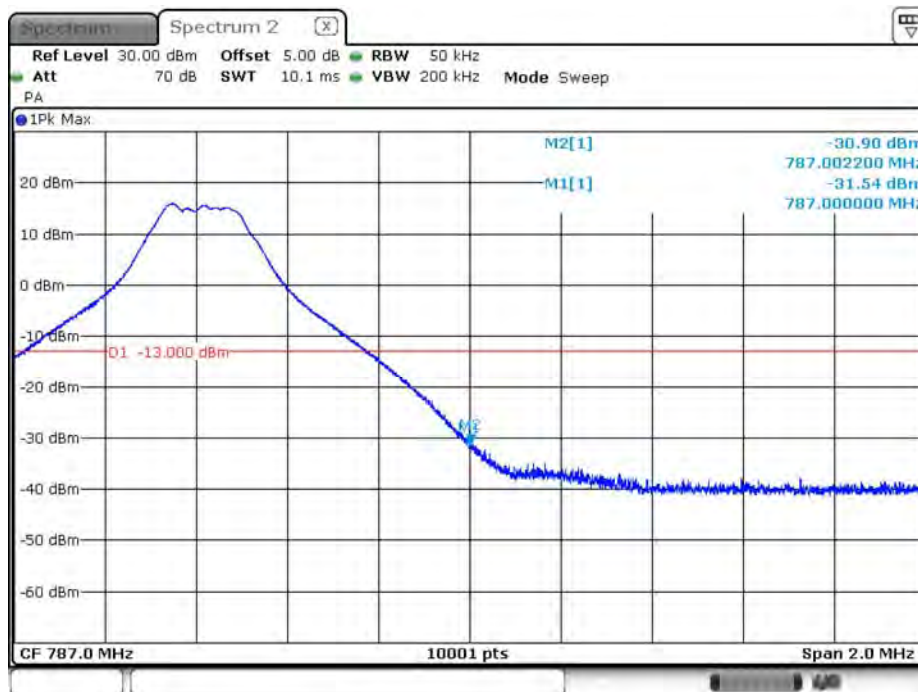
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CH23230_10M_16-QAM_1RB0



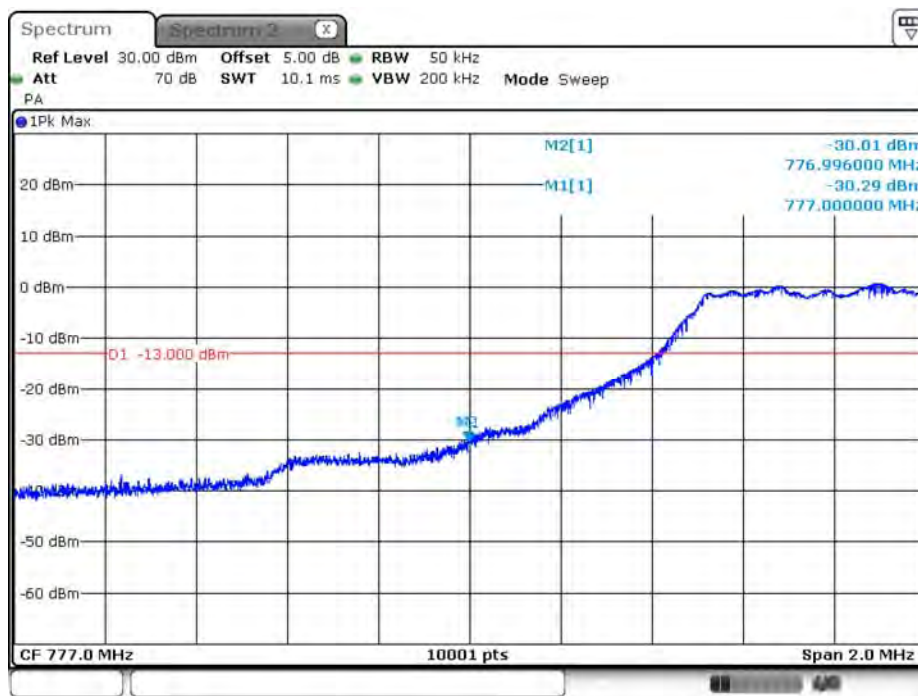
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CH23230_10M_16-QAM_1RB49



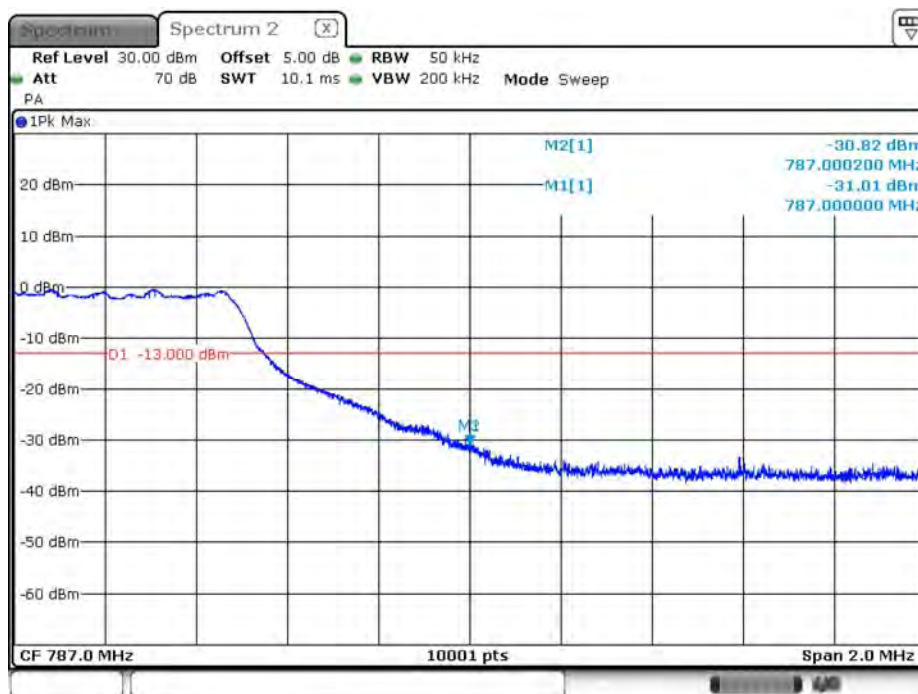
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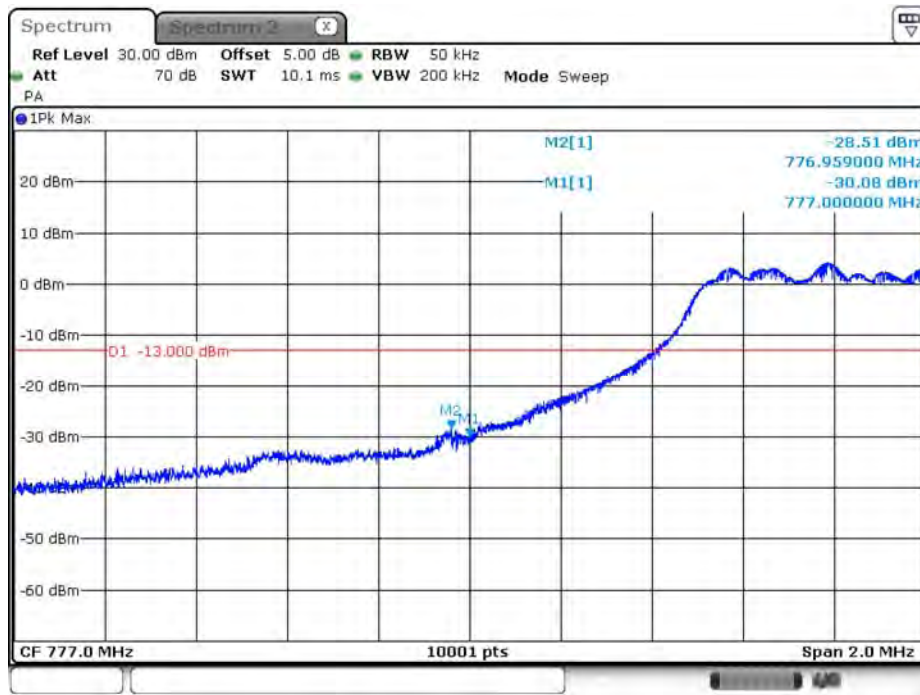
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CH23230_10M_QPSK_50RB0



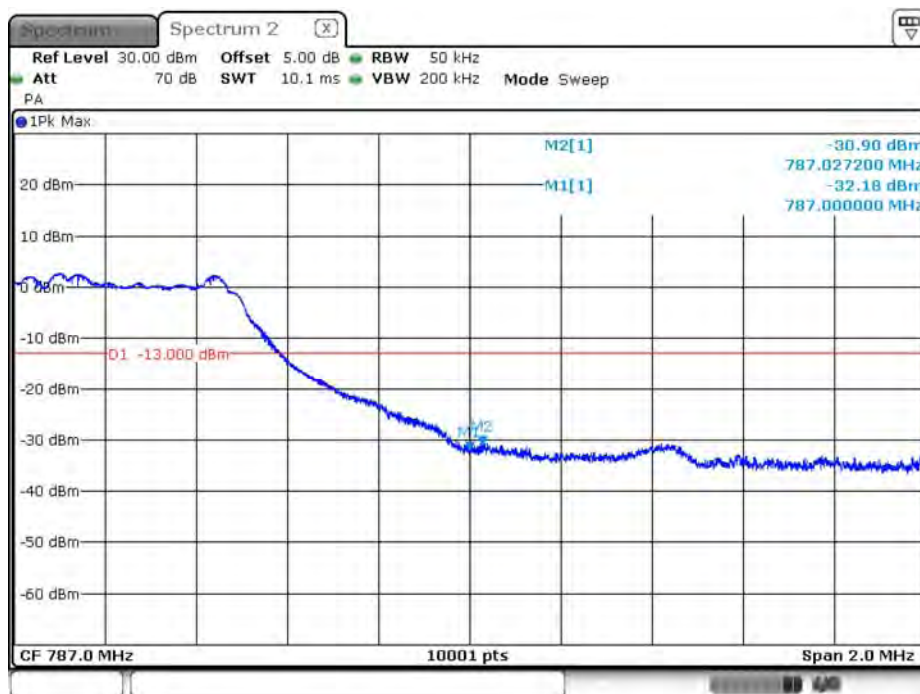
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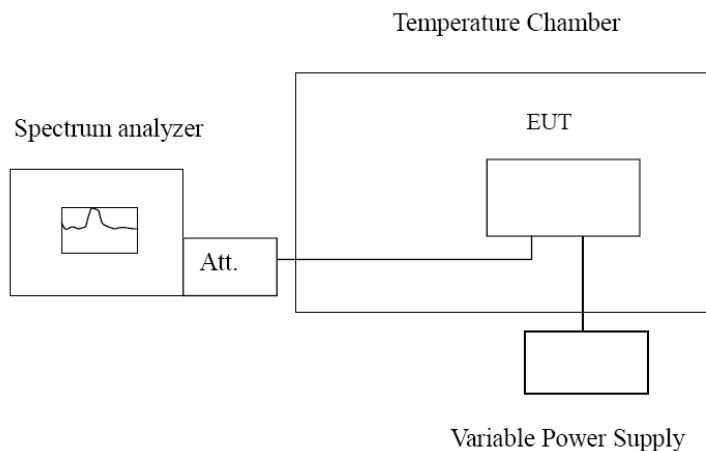
CH23230_10M_16-QAM_27RB23



Date: 27.SEP.2018 05:20:56

8. Frequency Stability

8.1. Test Setup



8.2. Test Procedure

Frequency Stability Under Temperature Variations:

The equipment under test was connected to an external AC or DC power supply and input rated voltage. RF output was connected to a frequency counter or spectrum analyzer via feed through attenuators. The EUT was placed inside the temperature chamber. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and measure EUT 20°C operating frequency as reference frequency. Turn EUT off and set the chamber temperature to -30°C. After the temperature stabilized for approximately 30 minutes recorded the frequency. Repeat step measure with 10°C increased per stage until the highest temperature of +50°C reached.

Frequency Stability Under Voltage Variations:

Set chamber temperature to 20°C. Use a variable AC power supply / DC power source to power the EUT and set the voltage to rated voltage. Set the spectrum analyzer RBW low enough to obtain the desired frequency resolution and recorded the frequency. Reduce the input voltage to specify extreme voltage variation ($\pm 15\%$) and endpoint, record the maximum frequency change.

8.3. Test Method

KDB 971168 D01 Power Meas License Digital Systems v03 sub-clause 9
ANSI C63.26: 2015 Sub-clause 5.6

8.4. Test Result

Product	LE910C1-SV		
Test Item	Frequency Stability Under Temperature & Voltage Variations		
Test Mode	Mode 1: LTE Band 4		
Date of Test	2018/09/19	Test Site	SR10-H

1720MHz

Voltage (VDC)	Frequency Error(Hz)	Frequency Error(ppm)
4.2	-5	0.0029
3.8	-2	0.0012
3.4	-6	0.0035

Temperature	Frequency Error (Hz)	Frequency Error (ppm)
-20	-2	0.0012
-10	-9	0.0052
0	-7	0.0041
+10	-2	0.0012
+20	7	-0.0041
+30	-2	0.0012
+40	-8	0.0047
+55	1	-0.0006

Product	LE910C1-SV		
Test Item	Frequency Stability Under Temperature & Voltage Variations		
Test Mode	Mode 1: LTE Band 4		
Date of Test	2018/09/19	Test Site	SR10-H

1732.5MHz

Voltage (VDC)	Frequency Error(Hz)	Frequency Error(ppm)
4.2	-7	0.0040
3.8	-1	0.0006
3.4	-3	0.0017

Temperature	Frequency Error (Hz)	Frequency Error (ppm)
-20	-8	0.0046
-10	-9	0.0052
0	-2	0.0012
+10	-4	0.0023
+20	3	-0.0017
+30	-7	0.0040
+40	-5	0.0029
+55	2	-0.0012

Product	LE910C1-SV		
Test Item	Frequency Stability Under Temperature & Voltage Variations		
Test Mode	Mode 1: LTE Band 4		
Date of Test	2018/09/19	Test Site	SR10-H

1745MHz

Voltage (VDC)	Frequency Error(Hz)	Frequency Error(ppm)
4.2	-2	0.0011
3.8	-2	0.0011
3.4	-7	0.0040

Temperature	Frequency Error (Hz)	Frequency Error (ppm)
-20	-3	0.0017
-10	-4	0.0023
0	-5	0.0029
+10	-7	0.0040
+20	9	-0.0052
+30	-8	0.0046
+40	-5	0.0029
+55	2	-0.0011

Product	LE910C1-SV		
Test Item	Frequency Stability Under Temperature & Voltage Variations		
Test Mode	Mode 2: LTE Band 13		
Date of Test	2018/09/19	Test Site	SR10-H

782MHz

Voltage (VDC)	Frequency Error(Hz)	Frequency Error(ppm)
4.2	-7	0.0090
3.8	-3	0.0038
3.4	-4	0.0051

Temperature	Frequency Error (Hz)	Frequency Error (ppm)
-20	-9	0.0115
-10	-2	0.0026
0	-1	0.0013
+10	-4	0.0051
+20	2	-0.0026
+30	-7	0.0090
+40	-6	0.0077
+55	2	-0.0026