



FCC ID: 2ATZ6-AT11-22-11
Report No.: T201116W03-RP3

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FCC 47 CFR PART 27 SUBPART H

TEST REPORT

For

ActiveTrack

Model No.: AT11-22-11

Trade Name: Upstream S.A

Issued to

UPSTREAM S.A

Rue de Gosselies 13/9 Jumet 6040 Belgium

Issued by

Compliance Certification Services Inc.

Wugu Laboratory

**No.11, Wugong 6th Rd., Wugu Dist.,
New Taipei City, Taiwan. (R.O.C.)**

Issued Date: May 5, 2021

Unless otherwise stated the results shown in this test report refer only to the sample(s) tested and such sample(s) are retained for 90 days only.

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Revision History

Rev.	Issue Date	Revisions	Effect Page	Revised By
00	April 13, 2021	Initial Issue	ALL	Allison Chen
01	May 5, 2021	See the following Note Rev.(01)	P.A-2	Allison Chen

Note:

Rev.(01)

1. Revised test setup photo above 1GHz.

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1. TEST RESULT CERTIFICATION

Applicant: UPSTREEM S.A
Rue de Gosselies 13/9 Jumet 6040 Belgium

Manufacturer: IMEC Taiwan Co.
4F. No.6-2, Dusing Rd., Hsinchu Science Park, Hsinchu,
Taiwan

Equipment Under Test: ActiveTrack

Trade Name: Upstream S.A

Model No.: AT11-22-11

Date of Test: January 25 ~ 29, 2021

APPLICABLE STANDARDS	
Standard	TEST RESULT
FCC Part 27, Subpart H, FCC Part 2	No non-compliance noted
Statements of Conformity	
Determination of compliance is based on the results of the compliance measurement, not taking into account measurement instrumentation uncertainty.	

The above equipment has been tested by Compliance Certification Services Inc., and found compliance with the requirements set forth in the technical standards mentioned above. The results of testing in this report apply only to the product/system, which was tested. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Approved by:



Kevin Tsai
Deputy Manager
Compliance Certification Services Inc.

2. EUT DESCRIPTION

Product	ActiveTrack	
Model No.	AT11-22-11	
Model Discrepancy	N/A	
Trade	Upstream S.A	
Received Date	November 16, 2020	
Power Supply	1. Power from Adapter. Microsoft Japan Co., Ltd / 1621 I/P: 100-240VAC, 50/60Hz, 0.18A O/P: 5.0VDC, 1.2A 2. Power from Battery. Rating: 3.7Vdc, 650mAh	
Modulation Technology	Cat-M1 LTE Band 12	QPSK, 16QAM
Frequency Range	Cat-M1 LTE Band 12 Channel Bandwidth: 1.4MHz	669.7MHz ~ 715.3MHz
	Cat-M1 LTE Band 12 Channel Bandwidth: 3MHz	700.5MHz ~ 714.5MHz
	Cat-M1 LTE Band 12 Channel Bandwidth: 5MHz	701.5MHz ~ 713.5MHz
	Cat-M1 LTE Band 12 Channel Bandwidth: 10MHz	704MHz ~ 711MHz
Antenna Specification	Antenna type: FPC Antenna Low CH Gain: -3.65 dBi Mid CH Gain: -3.62 dBi High CH Gain: -3.45 dBi	

Remark:

1. The sample selected for test was engineering sample that approximated to production product and was provided by manufacturer.
2. Disclaimer: Antenna information is provided by the applicant, test results of this report are applicable to the sample EUT received.



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3. TEST METHODOLOGY

3.1 DESCRIPTION OF TEST TYPE

The EUT (model: AT11-22-11) had been tested under operating condition.

Software used to control the EUT for staying in continuous transmitting mode was programmed.

LTE Band 12: 699 MHz ~ 716 MHz

Three channels had been tested for each channel bandwidth.

Channel Bandwidth	1.4MHz		3MHz		5MHz		10MHz	
	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)	Channel	Frequency (MHz)
Low CH	23017	699.7	23025	700.5	23035	701.5	23060	704
Middle CH	23095	707.5	23095	707.5	23095	707.5	23095	707.5
High CH	23173	715.3	23165	714.5	23155	713.5	23130	711



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3.2 THE WORST MODE OF MEASUREMENT

3.2.1 The worst mode of measurement

Radiated Emission Measurement Above 1G	
Test Condition	Radiated Emission Above 1G
Power supply Mode	Mode 1: EUT power by Adapter Mode 2: EUT power by Battery
Worst Mode	☒ Mode 1 ☐ Mode 2 ☐ Mode 3 ☐ Mode 4
Worst Position	☒ Placed in fixed position at X-Plane (E2-Plane)

Radiated Emission Measurement Below 1G	
Test Condition	Radiated Emission Below 1G
Power supply Mode	Mode 1: EUT power by Adapter Mode 2: EUT power by Battery
Worst Mode	☒ Mode 1 ☐ Mode 2 ☐ Mode 3 ☐ Mode 4

Remark:

1. The worst mode was record in this test report.
2. EUT pre-scanned in axis X and two polarity, for radiated measurement. The worst case(X-Plane) were recorded in this report



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4. TEST SUMMARY

FCC Standard Section	Report Section	Test Item	Result
-	2	Antenna Requirement	Pass
27.50(c)	8.1	ERP Measurement	Pass
2.1055, 27.54	8.2	Frequency Stability v.s. temperature measurement	Pass
2.1049	8.3	Occupied Bandwidth Measurement	Pass
27.50(b)	8.4	Peak to Average Ratio	Pass
27.53(g)	8.5	Conducted Band Edge	Pass
27.53(g)	8.6	Conducted Spurious Emission	Pass
27.53(g)	8.7	Spurious Radiation Measurement	Pass

5. INSTRUMENT CALIBRATION

5.1 MEASURING INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

5.2 MEASUREMENT EQUIPMENT USED

Equipment Used for Emissions Measurement

Remark: Each piece of equipment is scheduled for calibration once a year.

3M 966 Chamber Test Site					
Equipment	Manufacturer	Model	S/N	Cal Date	Cal Due
Band Reject Filters	MICRO TRONICS	BRM 50702	120	02/25/2020	02/24/2021
Bilog Antenna	Sunol Sciences	JB3	A030105	07/24/2020	07/23/2021
Coaxial Cable	HUBER SUHNER	SUCOFLEX 104PEA	20995	02/25/2020	02/24/2021
Coaxial Cable	EMCI	EMC105	190914+327109/4	09/19/2020	09/18/2021
Digital Thermo-Hygro Meter	WISEWIND	1206	D07	01/06/2021	01/05/2022
double Ridged Guide Horn Antenna	ETC	MCTD 1209	DRH13M02003	09/30/2020	09/29/2021
Loop Ant	COM-POWER	AL-130	121051	03/27/2020	03/26/2021
Pre-Amplifier	EMEC	EM330	060609	02/25/2020	02/24/2021
Pre-Amplifier	HP	8449B	3008A00965	02/25/2020	02/24/2021
PSA Series Spectrum Analyzer	Agilent	E4446A	MY46180323	07/24/2020	07/23/2021
Antenna Tower	CCS	CC-A-1F	N/A	N.C.R	N.C.R
Controller	CCS	CC-C-1F	N/A	N.C.R	N.C.R
Turn Table	CCS	CC-T-1F	N/A	N.C.R	N.C.R
Software	e3 6.11-20180413				

WWAN 4G					
Equipment	Manufacturer	Model	S/N	Cal Date	Cal Due
Radio Communication Analyzer	Anritsu	MT-8820C	6201240043	07/17/2020	07/16/2021
Signal Analyzer	R&S	FSV 40	101073	09/17/2020	09/16/2021
Wideband Radio Communication Tester	R&S	CMW 500	116875	07/19/2020	07/18/2021
Software	N/A				



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RF Conducted Test Site					
Equipment	Manufacturer	Model	S/N	Cal Date	Cal Due
Coaxial Cable	Woken	WC12	CC001	06/29/2020	06/28/2021
Coaxial Cable	Woken	WC12	CC003	06/29/2020	06/28/2021
Power Divider	Solvang Technology	STI08-0015	008	08/05/2020	08/04/2021
Signal Analyzer	R&S	FSV 40	101561	08/17/2020	08/16/2021
Thermostatic/Humidity Chamber	GWINSTEK	GTC-288MH-CC	TH160402	05/07/2020	05/06/2021
Radio Communication Analyzer	Anritsu	MT-8821C	6201300618	05/27/2020	05/26/2021
Software	N/A				

5.3 MEASUREMENT UNCERTAINTY

PARAMETER	UNCERTAINTY
AC Powerline Conducted Emission	+/- 1.2575
Emission bandwidth, 20dB bandwidth	+/- 0.0014
RF output power, conducted	+/- 1.14
Power density, conducted	+/- 1.40
3M Semi Anechoic Chamber / 30M~200M	+/- 4.12
3M Semi Anechoic Chamber / 200M~1000M	+/- 4.68
3M Semi Anechoic Chamber / 1G~8G	+/- 5.18
3M Semi Anechoic Chamber / 8G~18G	+/- 5.47
3M Semi Anechoic Chamber / 18G~26G	+/- 3.81
3M Semi Anechoic Chamber / 26G~40G	+/- 3.87

Remark: This uncertainty represents an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of k=2.

6. FACILITIES AND ACCREDITATIONS

6.1 FACILITIES

All measurement facilities used to collect the measurement data are located at

☐ No.199, Chunghsen Road, Hsintien City, Taipei Hsien, Taiwan, R.O.C.

Tel: 886-2-2217-0894 / Fax: 886-2-2217-1029

☒ No.11, Wugong 6th Rd., Wugu Dist., New Taipei City 24891, Taiwan. (R.O.C.)

Tel: 886-2-2299-9720 / Fax: 886-2-2299-9721

The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.10: 2013 and CISPR Publication 22.

6.2 EQUIPMENT

Radiated emissions are measured with one or more of the following types of linearly polarized antennas: tuned dipole, biconical, log periodic, bi-log, and/or ridged waveguide, horn. Spectrum analyzers with pre-selectors and quasi-peak detectors are used to perform radiated measurements.

Conducted emissions are measured with Line Impedance Stabilization Networks and EMI Test Receivers.

Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

All receiving equipment conforms to CISPR Publication 16-1, "Radio Interference Measuring Apparatus and Measurement Methods."



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7. SETUP OF EQUIPMENT UNDER TEST

7.1 SETUP CONFIGURATION OF EUT

See test photographs attached in Appendix I for the actual connections between EUT and support equipment.

7.2 SUPPORT EQUIPMENT

No	Equipment	Brand	Model	Series No.	FCC ID
1.	DC Power Source	Agilent	E3640A	N/A	N/A

Remark:

1. All the equipment/cables were placed in the worst-case configuration to maximize the emission during the test.
2. Grounding was established in accordance with the manufacturer's requirements and conditions for the intended use.

8. TEST PROCEDURE AND RESULT

8.1 ERP MEASUREMENT

LIMIT

According to FCC §2.1046

FCC 27.50 (c) (10): The portable stations (hand-held devices) in the 600MHz uplink band and the 698-746MHz band, and fixed and mobile stations in the 600MHz uplink band are limited to 3 Watts ERP.

TEST PROCEDURES

CONDUCTED POWER MEASUREMENT:

1. The transmitter output power was connected to the call box.
2. Set EUT at maximum output power via call box.
3. Set Call box at lowest, middle and highest channels for each band and modulation.

TEST RESULTS

No non-compliance noted.

TEST RESULTS

Temperature: 21.5°C

Humidity: 54% RH

Tested by: Dally Hong

Test Date: January 29, 2021

LTE Band 12

Band	BW (MHz)	Channel	Frequency (MHz)	Mode	UL RB Allocation	UL RB Start	MPR	Average power (dBm)	E.R.P. Power (dBm)
Band 12	1.4M	23017	699.7	QPSK	1	0	0	23.41	17.61
					1	2	0	23.09	17.29
					1	5	0	23.11	17.31
					3	0	1	22.55	16.75
					3	2	1	22.33	16.53
					3	3	1	22.19	16.39
					6	0	2	21.78	15.98
				16QAM	1	0	1	22.48	16.68
					1	2	1	22.26	16.46
					1	4	1	22.14	16.34
					3	0	2	21.46	15.66
					3	2	2	21.15	15.35
					3	3	2	21.16	15.36
					5	0	2	21.52	15.72
		23095	707.5	QPSK	1	0	0	23.59	17.82
					1	2	0	23.30	17.53
					1	5	0	22.91	17.14
					3	0	1	22.97	17.20
					3	2	1	22.40	16.63
					3	3	1	21.96	16.19
					6	0	2	21.86	16.09
				16QAM	1	0	1	22.70	16.93
					1	2	1	22.52	16.75
					1	4	1	22.14	16.37
					3	0	2	21.97	16.20
					3	2	2	21.40	15.63
					3	3	2	21.31	15.54
					5	0	2	21.76	15.99
		23173	715.3	QPSK	1	0	0	22.97	17.37
					1	2	0	22.91	17.31
					1	5	0	22.91	17.31
					3	0	1	22.25	16.65
					3	2	1	21.89	16.29
					3	3	1	21.96	16.36
					6	0	2	21.18	15.58
				16QAM	1	0	1	22.16	16.56
					1	2	1	21.98	16.38
					1	4	1	21.95	16.35
					3	0	2	21.05	15.45
					3	2	2	21.05	15.45
					3	3	2	20.95	15.35
					5	0	2	21.02	15.42

Band	BW (MHz)	Channel	Frequency (MHz)	Mode	UL RB Allocation	UL RB Start	MPR	Average power (dBm)	E.R.P. Power (dBm)
Band 12	3M	23025	700.5	QPSK	1	0	0	23.39	17.59
					1	2	0	23.07	17.27
					1	5	0	22.95	17.15
					3	0	1	22.41	16.61
					3	2	1	22.11	16.31
					3	3	1	22.02	16.22
					6	0	2	21.63	15.83
				16QAM	1	0	1	22.46	16.66
					1	2	1	22.23	16.43
					1	4	1	22.16	16.36
					3	0	2	21.49	15.69
					3	2	2	21.29	15.49
					3	3	2	21.10	15.30
					5	0	2	21.41	15.61
		23095	707.5	QPSK	1	0	0	23.68	17.91
					1	2	0	23.31	17.54
					1	5	0	23.16	17.39
					3	0	1	22.88	17.11
					3	2	1	22.35	16.58
					3	3	1	22.29	16.52
					6	0	2	21.71	15.94
				16QAM	1	0	1	22.91	17.14
					1	2	1	22.48	16.71
					1	4	1	22.30	16.53
					3	0	2	21.77	16.00
					3	2	2	21.39	15.62
					3	3	2	21.21	15.44
					5	0	2	21.87	16.10
		23165	714.5	QPSK	1	0	0	23.08	17.48
					1	2	0	23.02	17.42
					1	5	0	22.89	17.29
					3	0	1	22.16	16.56
					3	2	1	22.12	16.52
					3	3	1	22.07	16.47
					6	0	2	21.21	15.61
				16QAM	1	0	1	22.20	16.60
					1	2	1	22.15	16.55
					1	4	1	22.09	16.49
					3	0	2	21.18	15.58
					3	2	2	21.23	15.63
					3	3	2	20.99	15.39
					5	0	2	21.10	15.50

Band	BW (MHz)	Channel	Frequency (MHz)	Mode	UL RB Allocation	UL RB Start	MPR	Average power (dBm)	E.R.P. Power (dBm)
Band 12	5M	23035	701.5	QPSK	1	0	0	23.56	17.76
					1	2	0	23.21	17.41
					1	5	0	23.03	17.23
					3	0	1	22.77	16.97
					3	2	1	22.25	16.45
					3	3	1	22.27	16.47
					6	0	1	22.57	16.77
				16QAM	1	0	0	23.28	17.48
					1	2	0	23.00	17.20
					1	4	0	22.78	16.98
					3	0	1	22.62	16.82
					3	2	1	22.28	16.48
					3	3	1	22.24	16.44
					5	0	2	21.58	15.78
		23095	707.5	QPSK	1	0	0	23.62	17.85
					1	2	0	23.28	17.51
					1	5	0	22.99	17.22
					3	0	1	22.71	16.94
					3	2	1	22.35	16.58
					3	3	1	22.29	16.52
					6	0	1	22.65	16.88
				16QAM	1	0	0	23.50	17.73
					1	2	0	22.93	17.16
					1	4	0	22.78	17.01
					3	0	1	22.73	16.96
					3	2	1	22.47	16.70
					3	3	1	22.01	16.24
					5	0	2	21.84	16.07
		23155	713.5	QPSK	1	0	0	22.92	17.32
					1	2	0	22.99	17.39
					1	5	0	22.74	17.14
					3	0	1	22.16	16.56
					3	2	1	22.01	16.41
					3	3	1	22.10	16.50
					6	0	1	22.16	16.56
				16QAM	1	0	0	22.86	17.26
					1	2	0	22.84	17.24
					1	4	0	22.65	17.05
					3	0	1	22.18	16.58
					3	2	1	22.26	16.66
					3	3	1	21.94	16.34
					5	0	2	21.08	15.48

Band	BW (MHz)	Channel	Frequency (MHz)	Mode	UL RB Allocation	UL RB Start	MPR	Average power (dBm)	E.R.P. Power (dBm)
Band 12	10M	23060	704.0	QPSK	1	0	0	23.34	17.54
					1	2	0	23.28	17.48
					1	5	0	23.12	17.32
					3	0	0	23.08	17.28
					3	2	0	23.10	17.30
					3	3	0	22.84	17.04
					6	0	1	22.45	16.65
				16QAM	1	0	0	23.15	17.35
					1	2	0	23.02	17.22
					1	4	0	22.75	16.95
					3	0	0	23.25	17.45
					3	2	0	22.80	17.00
					3	3	0	22.87	17.07
					5	0	1	22.64	16.84
		23095	707.5	QPSK	1	0	0	23.82	18.05
					1	2	0	23.32	17.55
					1	5	0	23.13	17.36
					3	0	0	23.55	17.78
					3	2	0	23.00	17.23
					3	3	0	22.72	16.95
					6	0	1	22.94	17.17
				16QAM	1	0	0	23.64	17.87
					1	2	0	22.90	17.13
					1	4	0	22.99	17.22
					3	0	0	23.46	17.69
					3	2	0	22.83	17.06
					3	3	0	22.67	16.90
					5	0	1	22.90	17.13
		23130	711.0	QPSK	1	0	0	23.11	17.51
					1	2	0	23.11	17.51
					1	5	0	22.76	17.16
					3	0	0	22.78	17.18
					3	2	0	22.77	17.17
					3	3	0	22.78	17.18
					6	0	1	22.17	16.57
				16QAM	1	0	0	22.90	17.30
					1	2	0	22.64	17.04
					1	4	0	22.72	17.12
					3	0	0	22.82	17.22
					3	2	0	22.79	17.19
					3	3	0	22.74	17.14
					5	0	1	22.36	16.76

8.2 FREQUENCY STABILITY MEASUREMENT

LIMIT

According to the FCC part 27.54 shall be tested the frequency stability. The rule is defined that "The frequency stability shall be sufficient to ensure that the fundamental emissions stay within the authorized bands of operation."

TEST PROCEDURE

Use Anritsu 8821 with frequency Error measurement capability.

Temp = -20 to +50°C

Voltage= 85% to 115% of the nominal value for AC powered equipment.

NOTE: The frequency error was recorded frequency error from the communication simulator.

TEST RESULTS

Temperature: 22.3°C

Humidity: 57% RH

Tested by: Dally Hong

Test Date: January 28, 2021

FREQUENCY STABILITY V.S. TEMPERATURE MEASUREMENT:

Band2_10M_QPSK_Full RB																									
Channel	23060	23095	23130	23060	23095	23130	23060	23095	23130	23060	23095	23130	23060	23095	23130	23060	23095	23130	23060	23095	23130	23060	23095	23130	
Freq. (MHz)	704	707.5	711	704	707.5	711	704	707.5	711	704	707.5	711	704	707.5	711	704	707.5	711	704	707.5	711	704	707.5	711	
Test Time	0 Minutes			2 Minutes			5 Minutes			10 Minutes			0 Minutes			2 Minutes			5 Minutes			10 Minutes			
Temp.	Deviation																								Limit
(°C)	(Hz)												(ppm)												
-20	-1.7	-2.6	-2.2	-2.4	-1.5	-2.0	3.0	-2.4	-2.4	-2.9	2.0	-1.1	-0.002	-0.004	-0.003	-0.003	-0.002	-0.003	0.004	-0.003	-0.003	-0.004	0.003	-0.002	0.1
-10	-1.7	-1.4	-2.3	-2.6	-1.6	-3.1	-4.1	-2.2	-1.5	-2.0	-1.8	-2.9	-0.002	-0.002	-0.003	-0.004	-0.002	-0.004	-0.006	-0.003	-0.002	-0.003	-0.003	-0.004	0.1
0	-2.1	-1.9	-3.3	-2.9	-1.9	-2.2	-2.0	-3.2	-2.4	-1.9	-2.0	-2.4	-0.003	-0.003	-0.005	-0.004	-0.003	-0.003	-0.003	-0.004	-0.003	-0.003	-0.003	-0.003	0.1
10	-2.5	-2.3	-1.8	-2.7	-2.4	-3.3	-2.0	-1.9	-2.9	-1.5	-2.3	-1.5	-0.004	-0.003	-0.003	-0.004	-0.003	-0.005	-0.003	-0.003	-0.004	-0.002	-0.003	-0.002	0.1
20	-2.5	-2.8	-2.7	-1.7	-2.5	-1.5	-3.3	-2.5	-1.4	-3.8	-2.6	-2.3	-0.004	-0.004	-0.004	-0.002	-0.003	-0.002	-0.005	-0.003	-0.002	-0.005	-0.004	-0.003	0.1
30	-2.1	-2.4	-4.6	-2.7	-2.1	-2.1	-2.4	-1.5	-3.3	-2.8	-3.6	-3.1	-0.003	-0.003	-0.006	-0.004	-0.003	-0.003	-0.003	-0.002	-0.005	-0.004	-0.005	-0.004	0.1
40	-2.3	-3.2	5.0	-2.4	-2.5	-3.6	-3.1	-2.5	-2.8	-2.4	-2.8	-3.5	-0.003	-0.004	0.007	-0.003	-0.004	-0.005	-0.004	-0.004	-0.004	-0.003	-0.004	-0.005	0.1
50	-2.4	-2.8	-4.1	-1.9	-2.8	-4.4	-3.5	-2.2	4.1	-3.9	-2.4	-4.1	-0.003	-0.004	-0.006	-0.003	-0.004	-0.006	-0.005	-0.003	0.006	-0.006	-0.003	-0.006	0.1

FREQUENCY STABILITY V.S. VOLTAGE MEASUREMENT:

Band2_10M_QPSK_Full RB																									
Channel	23060	23095	23130	23060	23095	23130	23060	23095	23130	23060	23095	23130	23060	23095	23130	23060	23095	23130	23060	23095	23130	23060	23095	23130	
Freq. (MHz)	704	707.5	711	704	707.5	711	704	707.5	711	704	707.5	711	704	707.5	711	704	707.5	711	704	707.5	711	704	707.5	711	
Test Time	0 Minutes			2 Minutes			5 Minutes			10 Minutes			0 Minutes			2 Minutes			5 Minutes			10 Minutes			
Voltage	Deviation																							Limit	
[V]	(Hz)												(ppm)												
Low	-1.9	-2.1	-4.5	-2.6	-2.1	-1.8	-2.4	-1.4	-3.1	-2.6	-3.6	-2.9	-0.003	-0.003	-0.006	-0.004	-0.003	-0.003	-0.003	-0.002	-0.004	-0.004	-0.005	-0.004	0.1
Normal	-2.5	-2.8	-2.7	-1.7	-2.5	-1.5	-3.3	-2.5	-1.4	-3.8	-2.6	-2.3	-0.004	-0.004	-0.004	-0.002	-0.003	-0.002	-0.005	-0.003	-0.002	-0.005	-0.004	-0.003	0.1
High	-2.0	-2.4	-4.6	-2.5	-2.0	-1.9	-2.2	-1.4	-3.2	-2.7	-3.4	-3.0	-0.003	-0.003	-0.006	-0.004	-0.003	-0.003	-0.003	-0.002	-0.005	-0.004	-0.005	-0.004	0.1

8.3 OCCUPIED BANDWIDTH MEASUREMENT

LIMITS

The width of a frequency band such that, below the lower and above the upper frequency limits, the mean powers emitted are each equal to a specified percentage 0.5 % of the total mean power of a given emission.

TEST PROCEDURES

KDB 971168 D01 Power Meas License Digital Systems – Section 4.2

1. The occupied bandwidth was measured with the spectrum analyzer at the lowest, middle and highest channels in each band and different modulation. The 99% and -26dB bandwidth was measured and recorded.
2. RBW = 1-5% of the expected OBW
3. VBW $\geq 3 \times$ RBW
4. Detector = Peak
5. Trace mode = max. hold



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TEST RESULTS

Temperature: 22.3°C

Humidity: 57% RH

Tested by: Dally Hong

Test Date: January 28, 2021

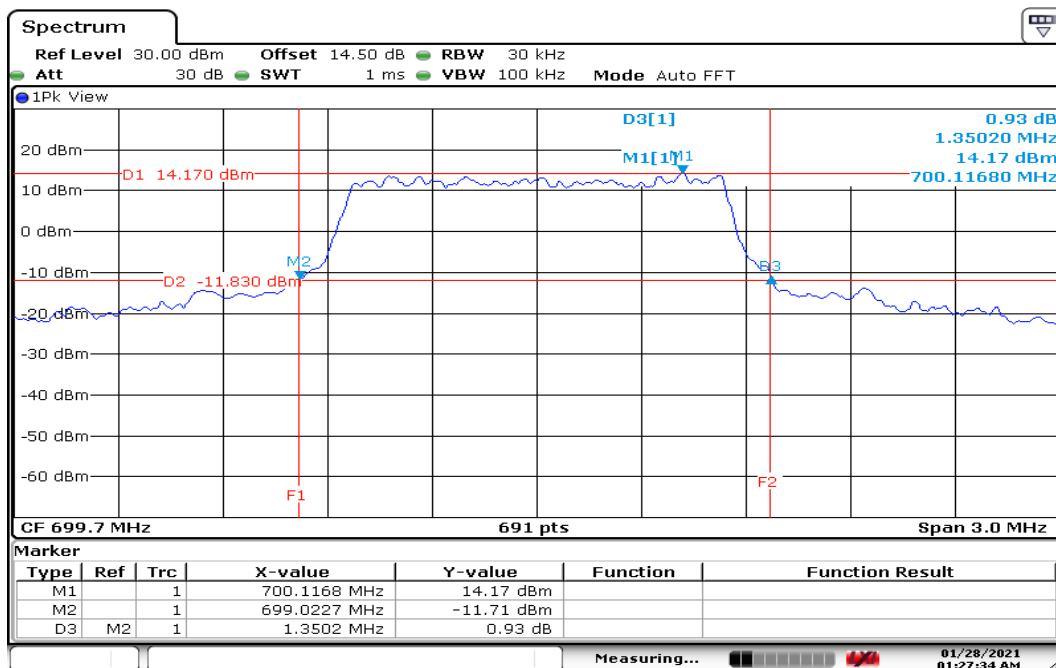
LTE Band 12

Frequency (MHz)	Channel	99%BW(MHz)		26dB BW(MHz)	
		QPSK	16QAM	QPSK	16QAM
Band 12 Channel Bandwidth 1.4MHz					
699.7	23017	1.10	0.94	1.35	1.24
707.5	23095	1.10	0.94	1.35	1.15
715.3	23173	1.10	0.93	1.35	1.14
Band 12 Channel Bandwidth 3MHz					
700.5	23025	1.21	1.05	1.52	1.42
707.5	23095	1.20	1.04	1.67	1.40
714.5	23165	1.19	1.04	1.68	1.39
Band 12 Channel Bandwidth 5MHz					
701.5	23035	1.22	1.06	1.74	1.78
707.5	23095	1.22	1.06	1.43	1.78
713.5	23155	1.20	1.06	1.62	1.38
Band 12 Channel Bandwidth 10MHz					
704	23060	1.36	1.22	2.17	2.23
707.5	23095	1.39	1.27	2.17	2.29
711	23130	1.48	1.24	2.08	2.20

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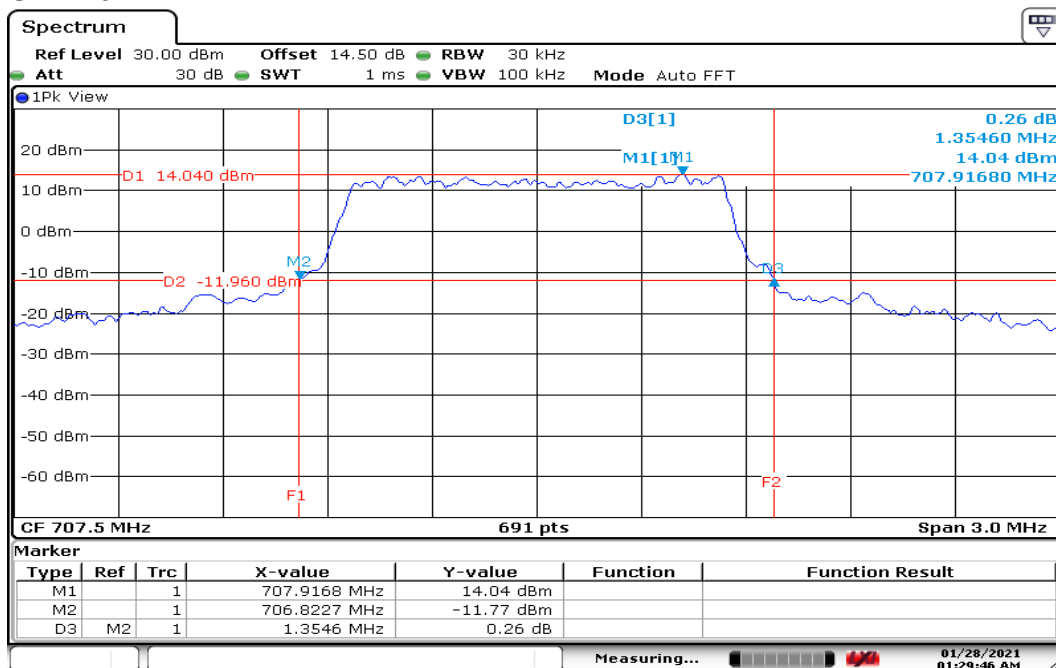
LTE Band 12 26dB / QPSK

BW: 1.4MHz
CH Low



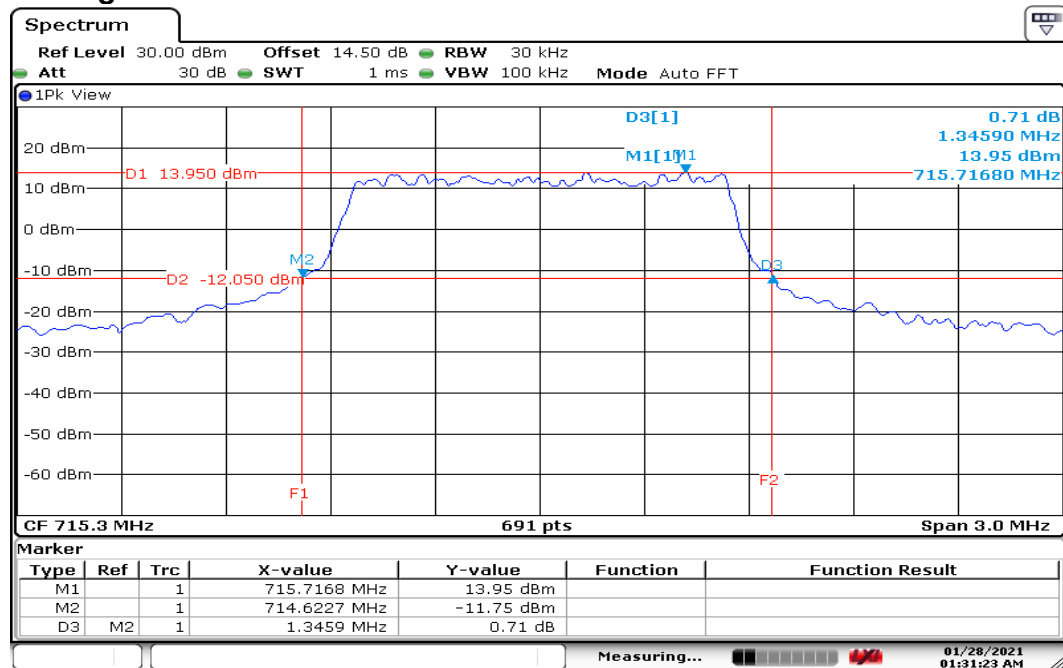
Date: 28 JAN 2021 01:27:34

CH Mid



Date: 28 JAN 2021 01:29:46

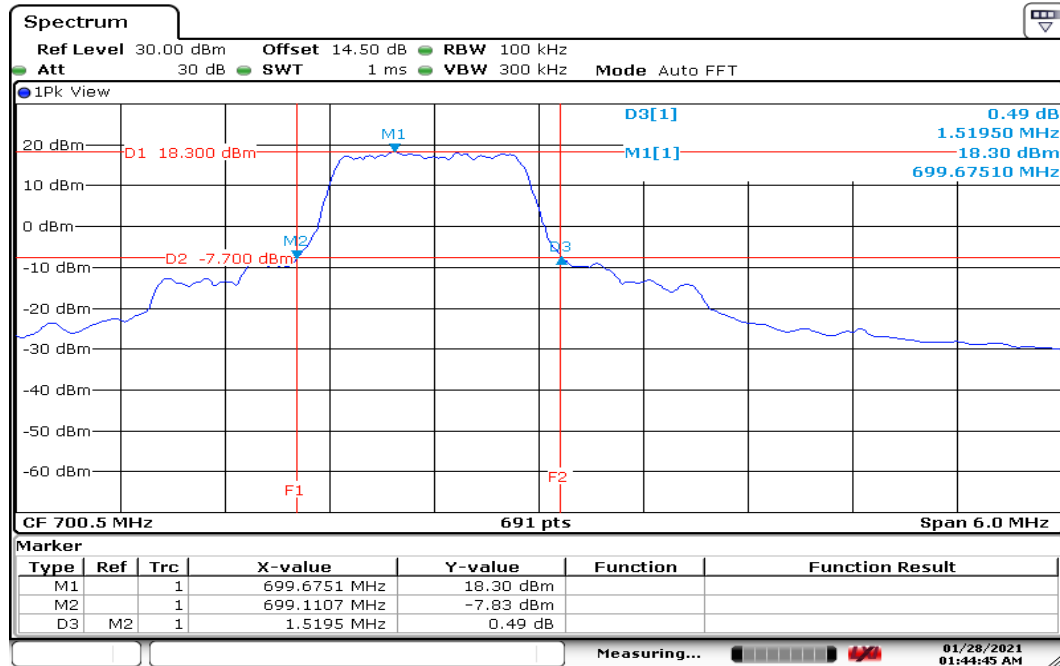
CH High



Date: 28 JAN 2021 01:31:23

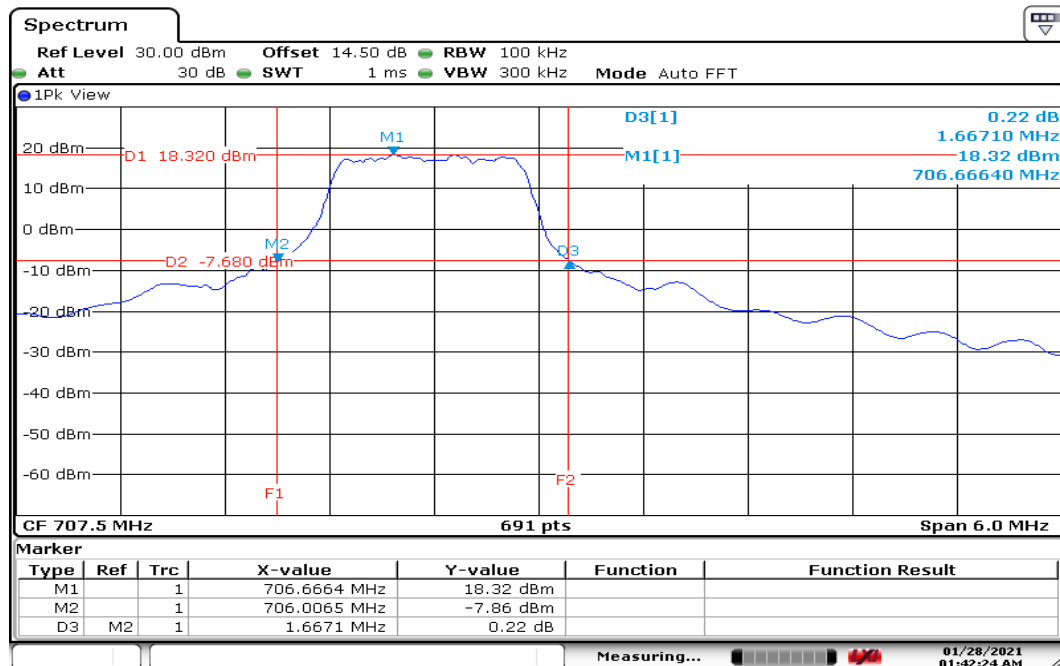
BW: 3MHz

CH Low



Date: 28 JAN 2021 01:44:46

CH Mid



Date: 28 JAN 2021 01:42:25

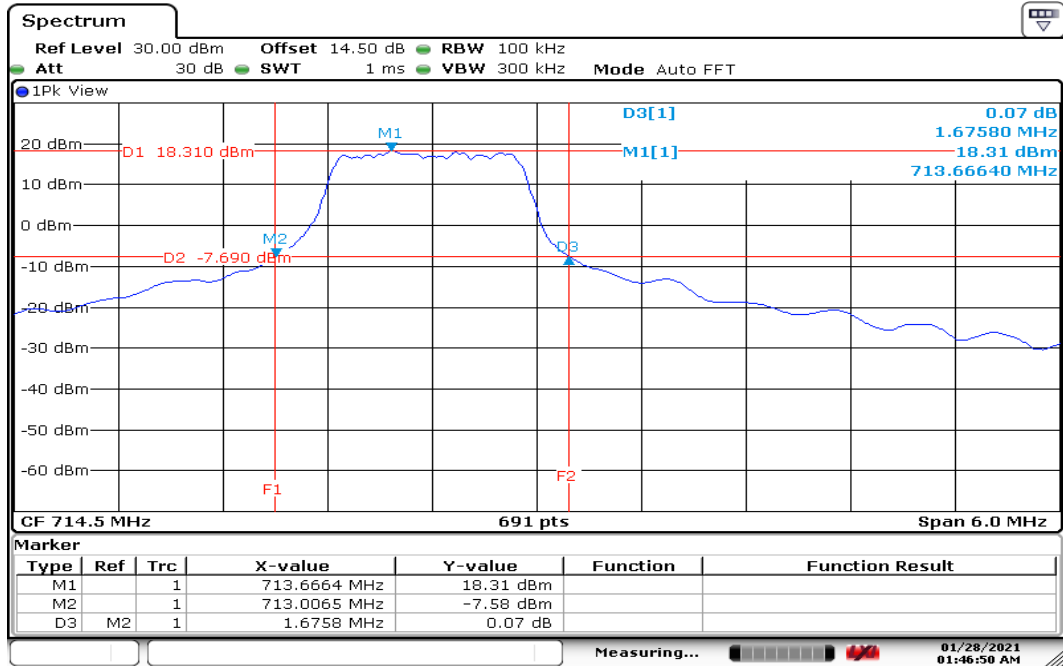


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CH High

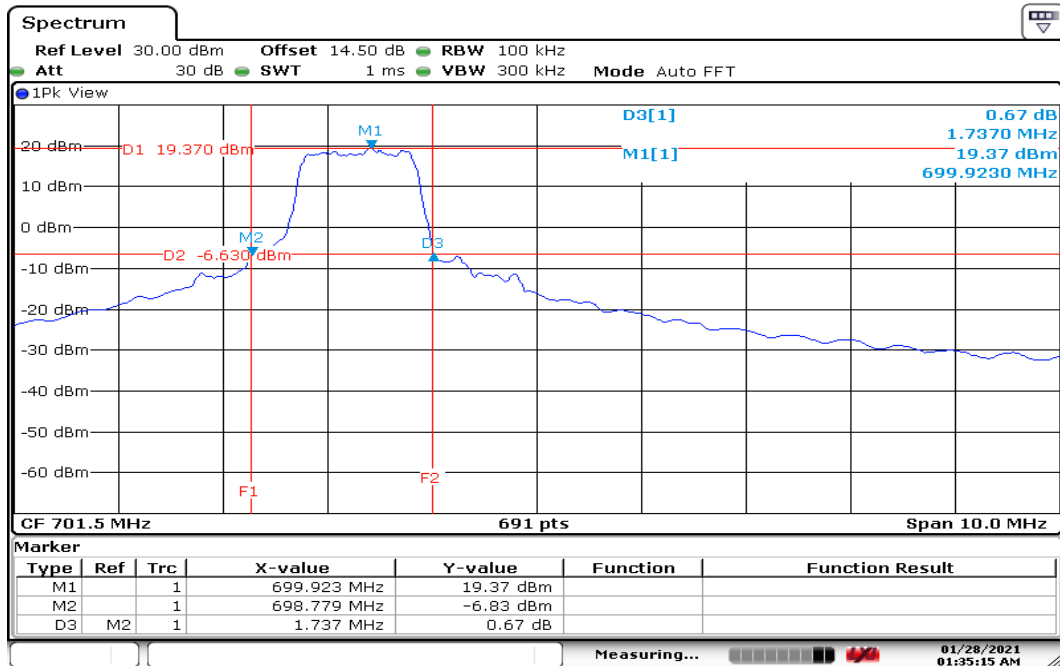


Date: 28 JAN 2021 01:46:50

Report No.: T201116W03-RP3

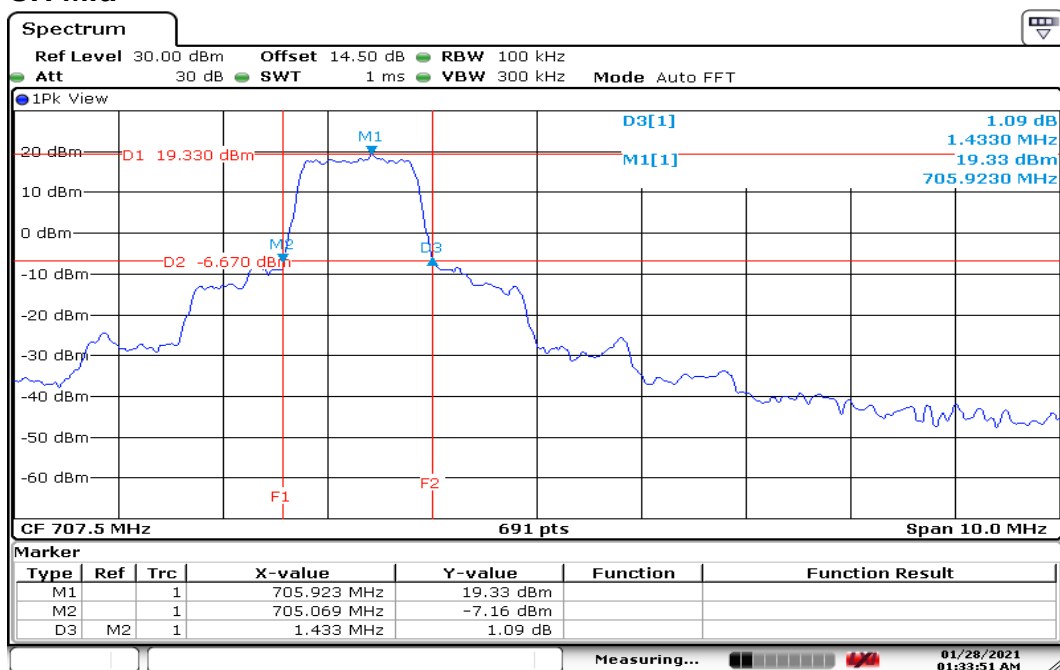
BW: 5MHz

CH Low



Date: 28 JAN 2021 01:35:15

CH Mid

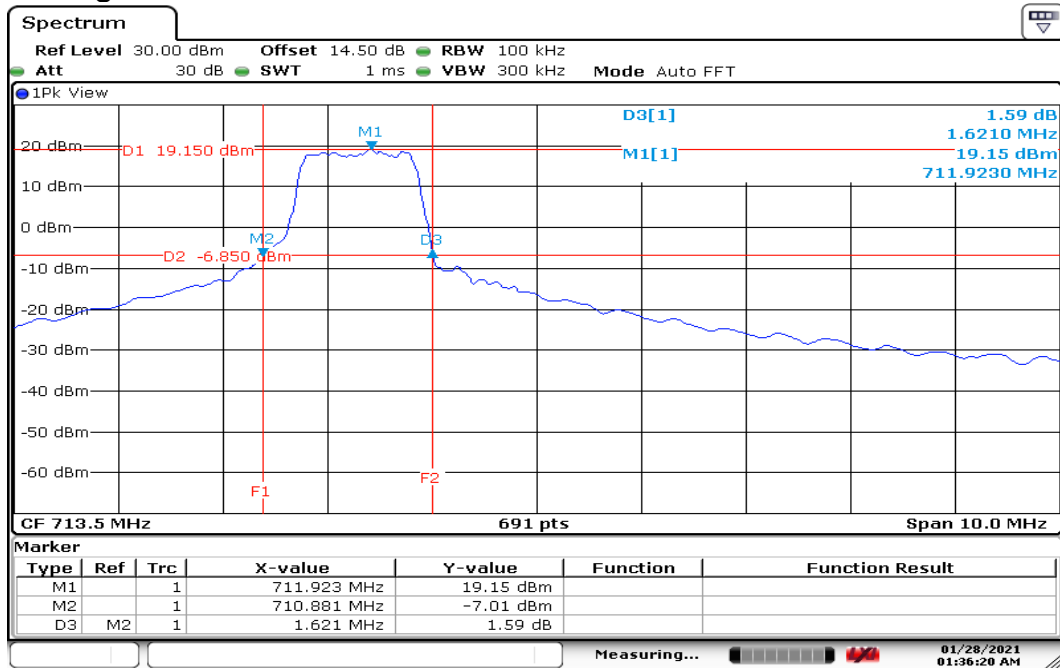


Date: 28 JAN 2021 01:35:51



Report No.: T201116W03-RP3

CH High

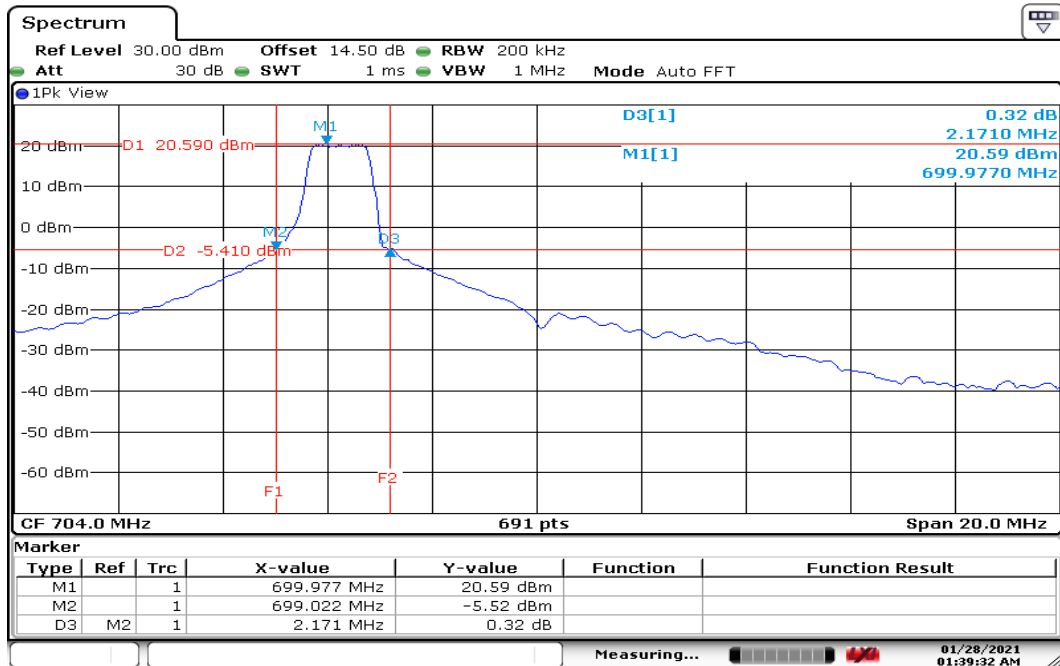


Date: 28 JAN 2021 01:36:21

Report No.: T201116W03-RP3

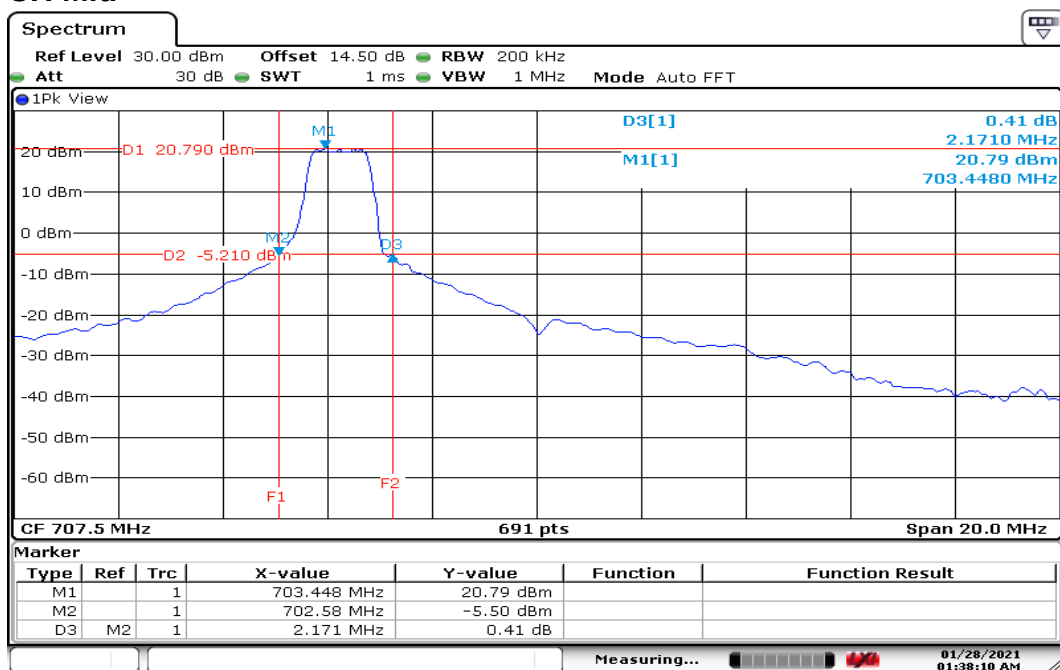
BW: 10MHz

CH Low



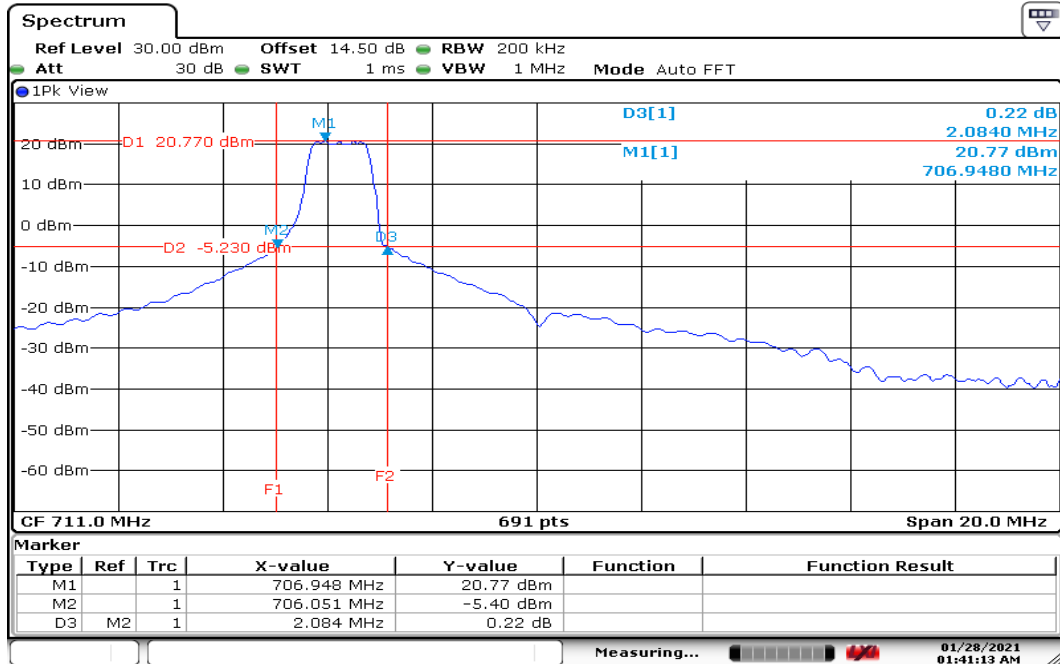
Date: 28 JAN 2021 01:39:32

CH Mid



Date: 28 JAN 2021 01:38:10

CH High

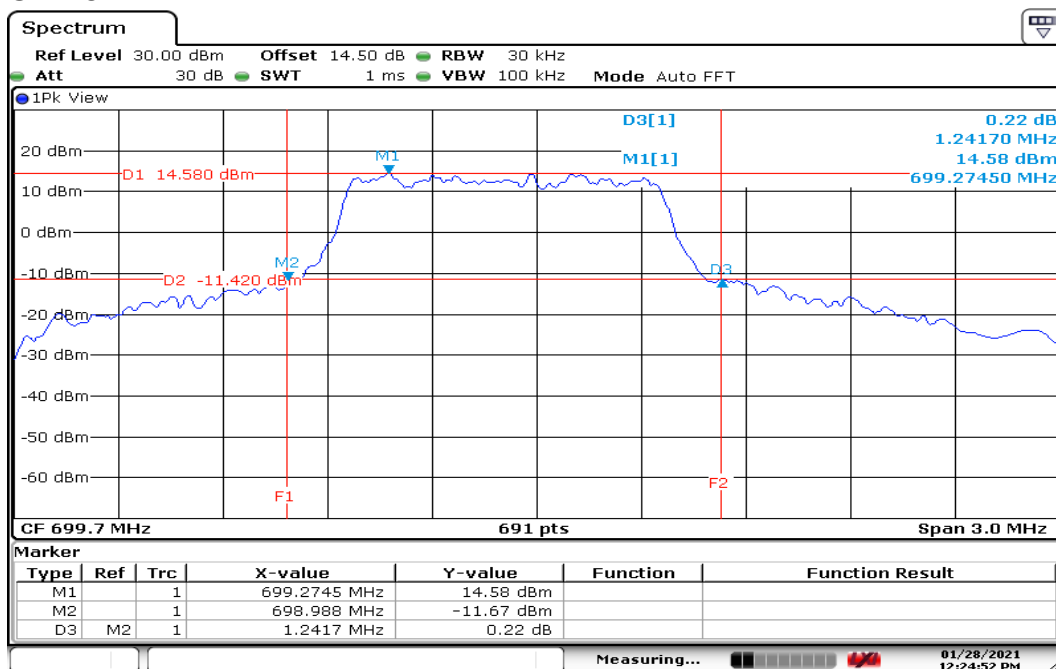


Date: 28 JAN 2021 01:41:13

26dB / 16QAM

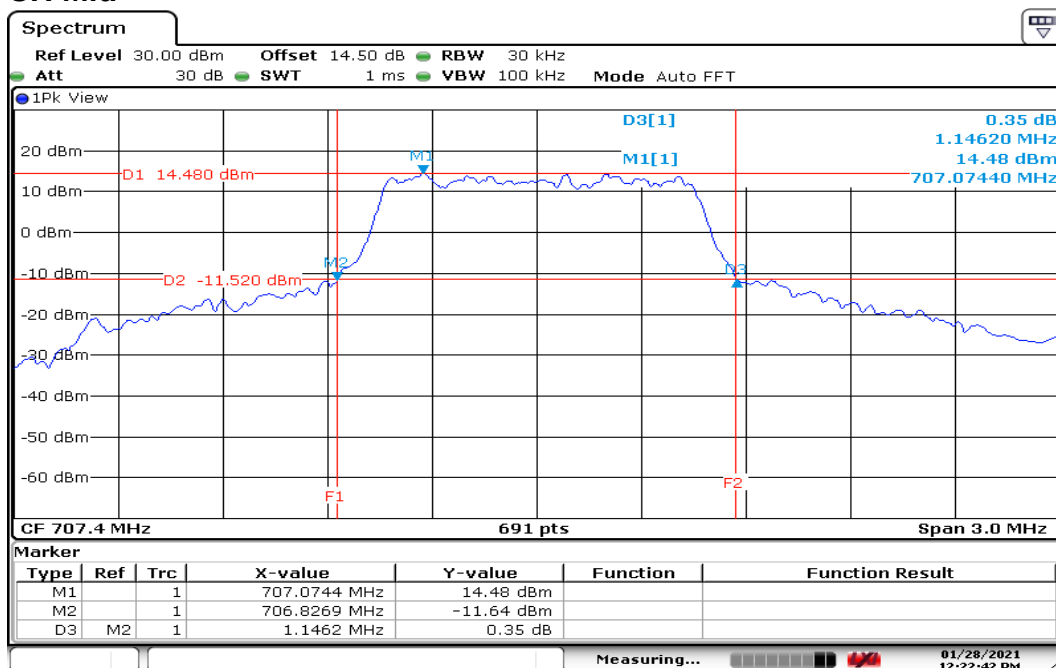
BW: 1.4MHz

CH Low



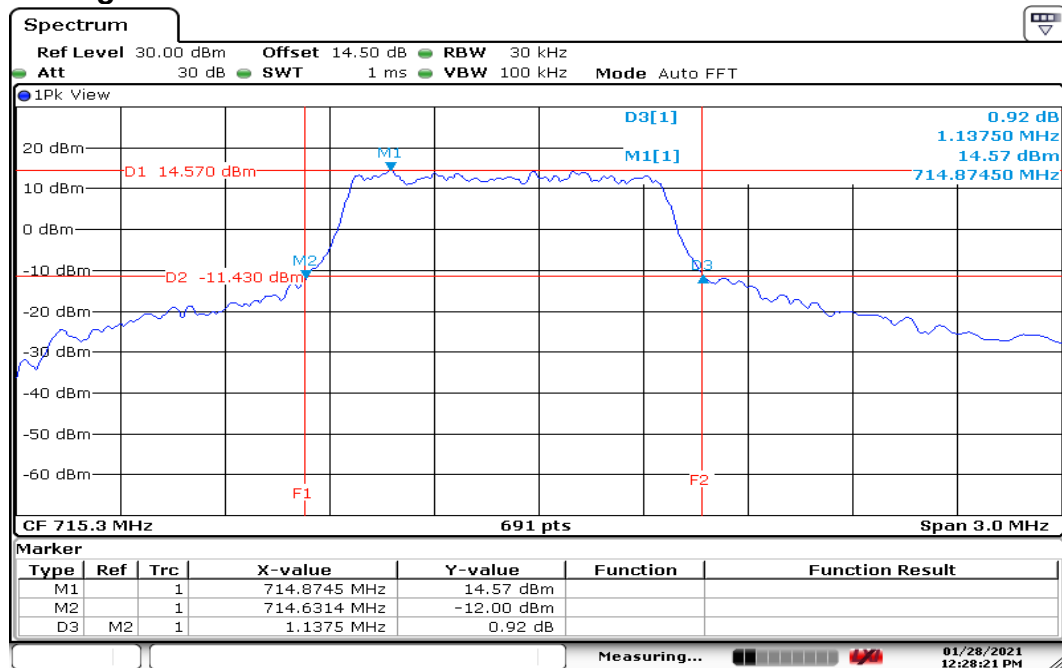
Date: 28 JAN 2021 12:24:53

CH Mid



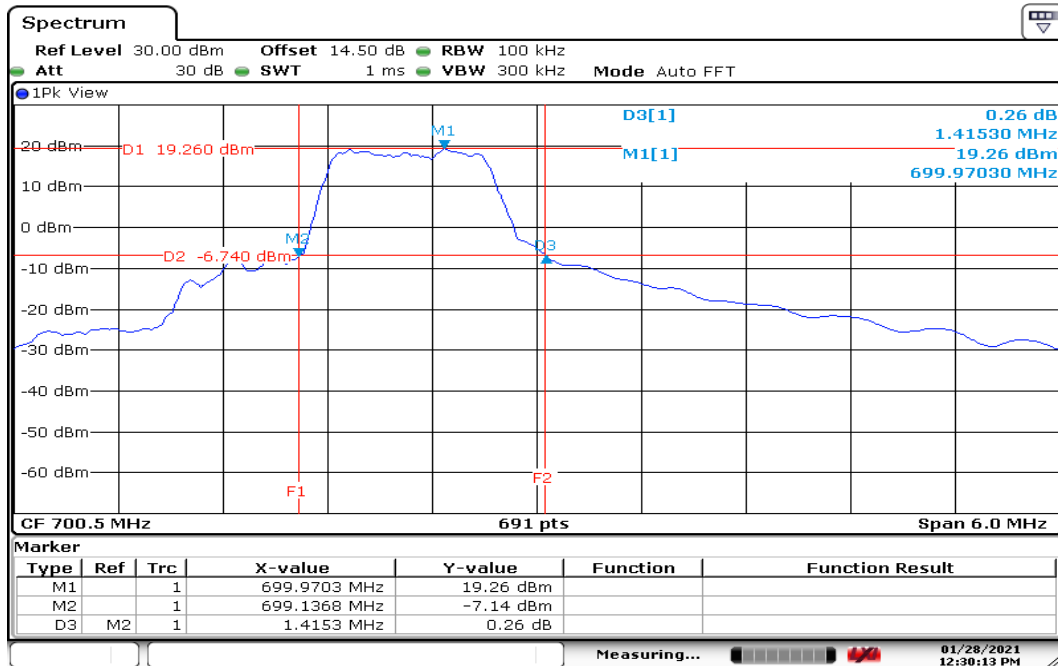
Date: 28 JAN 2021 12:22:42

CH High

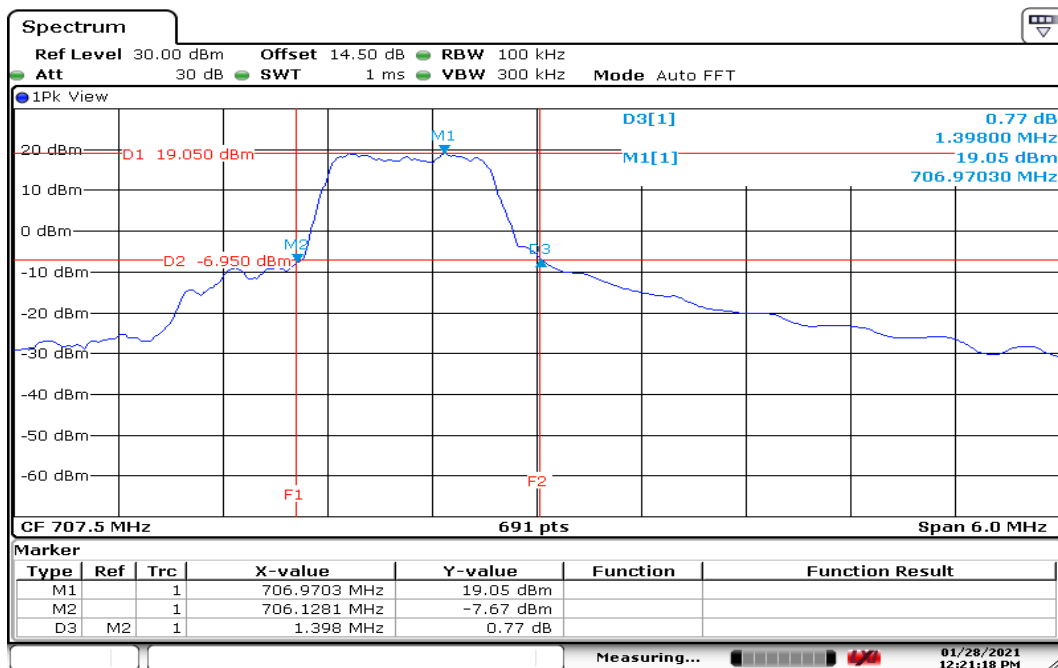


Date: 28 JAN 2021 12:28:21

Report No.: T201116W03-RP3

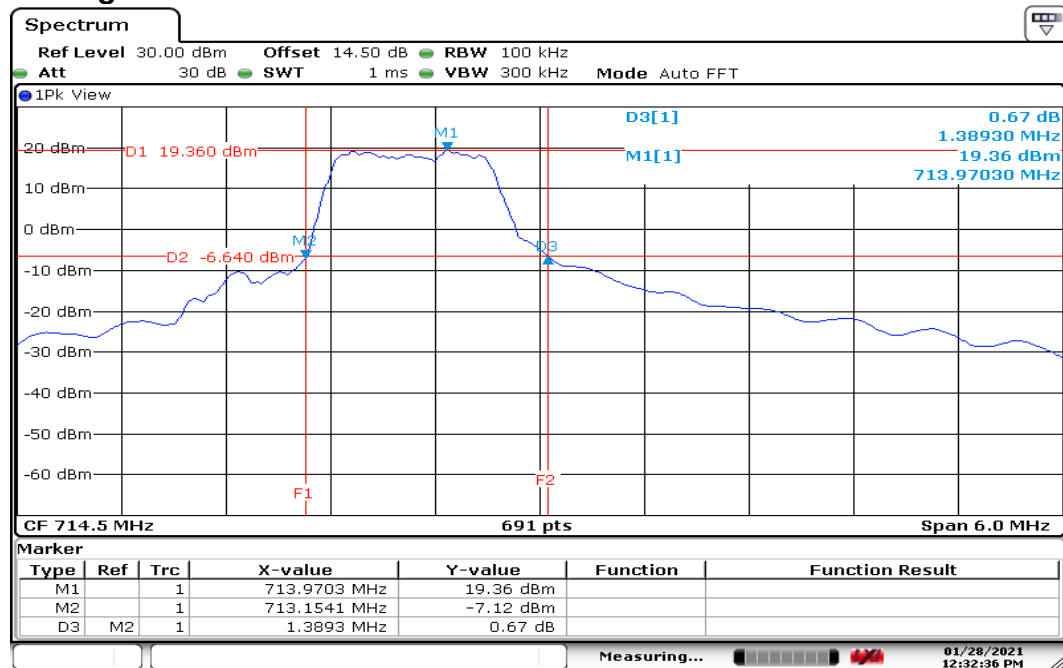
BW: 3MHz
CH Low


Date: 28 JAN 2021 12:30:14

CH Mid


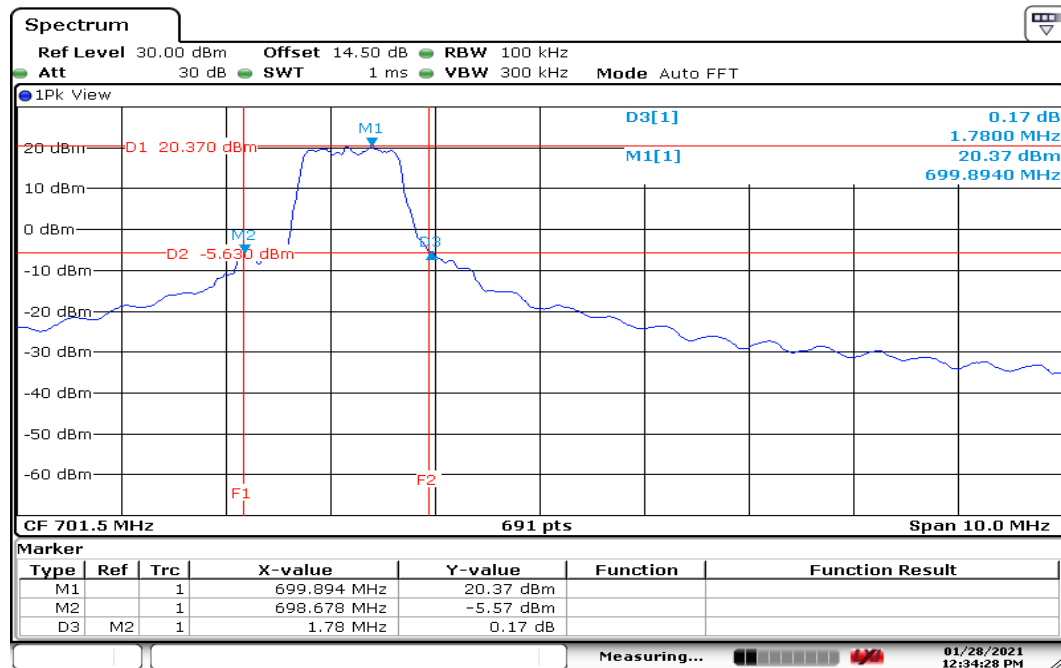
Date: 28 JAN 2021 12:21:18

CH High

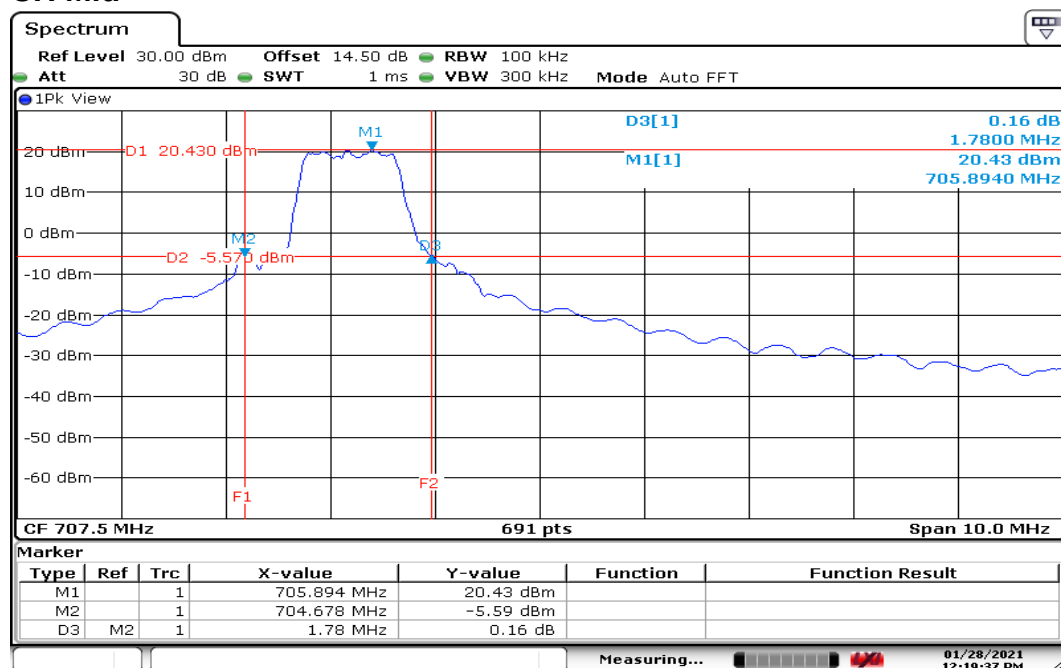


Date: 28 JAN 2021 12:32:37

Report No.: T201116W03-RP3

BW: 5MHz
CH Low


Date: 28 JAN 2021 12:34:28

CH Mid


Date: 28 JAN 2021 12:19:37

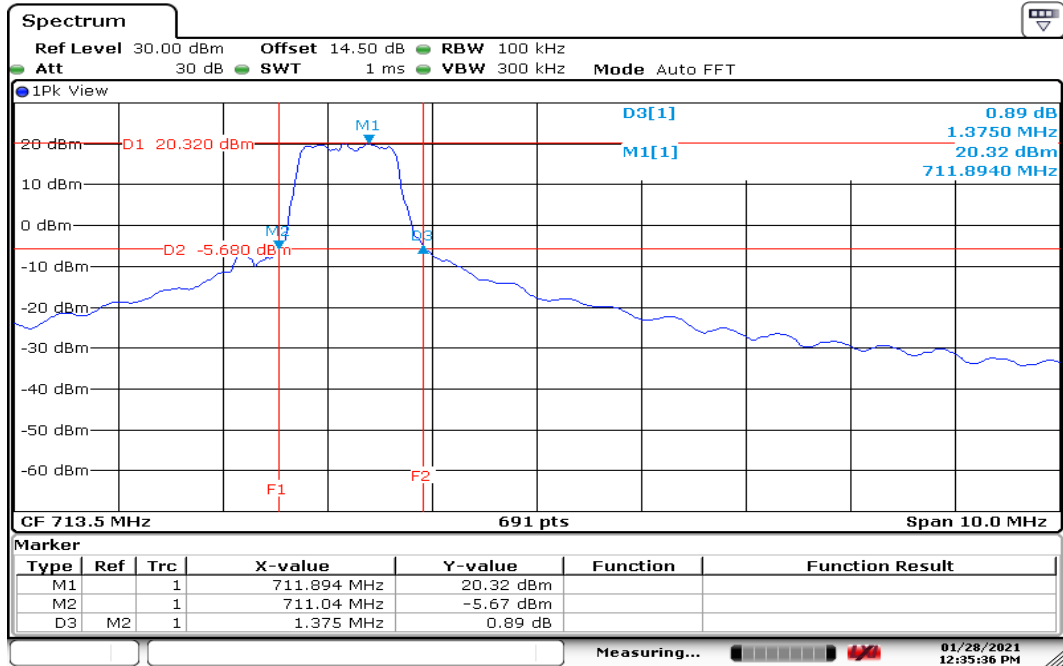


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CH High

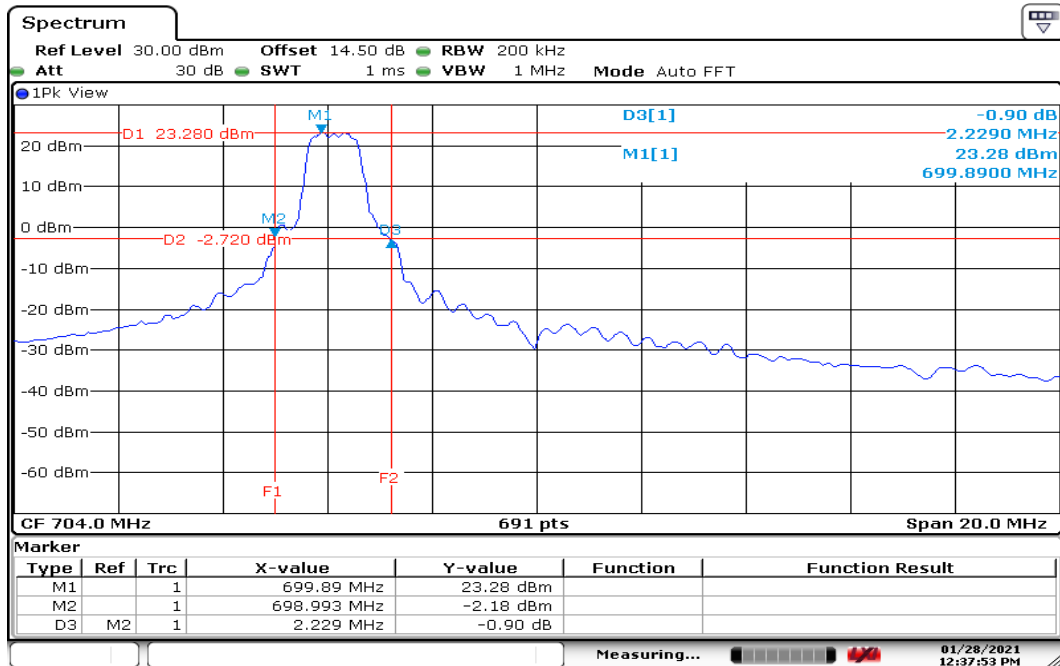


Date: 28 JAN 2021 12:35:36

Report No.: T201116W03-RP3

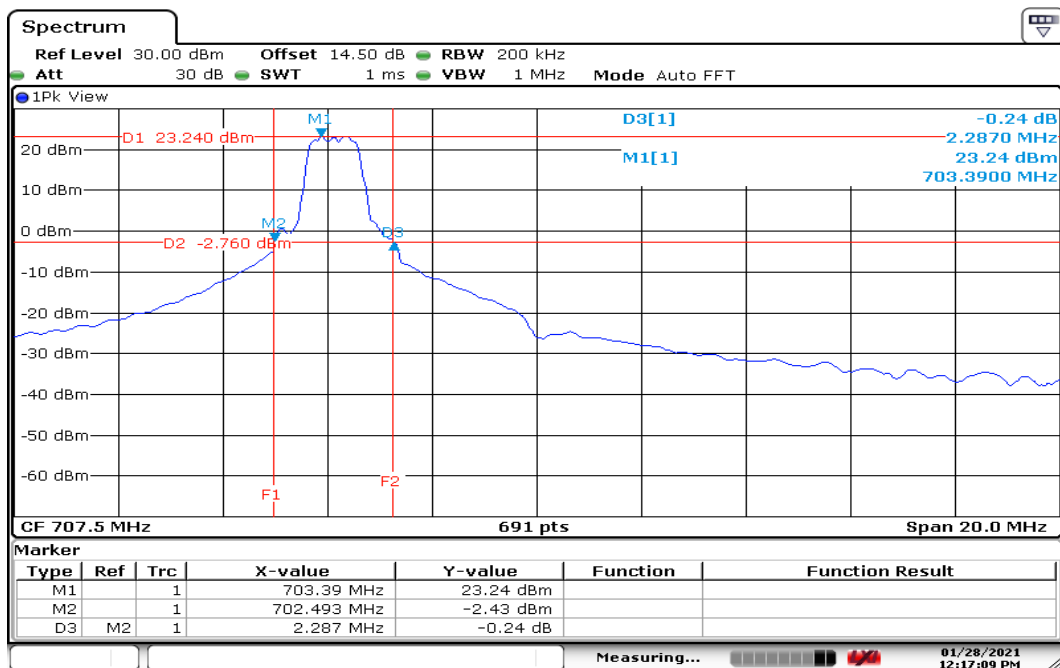
BW: 10MHz

CH Low



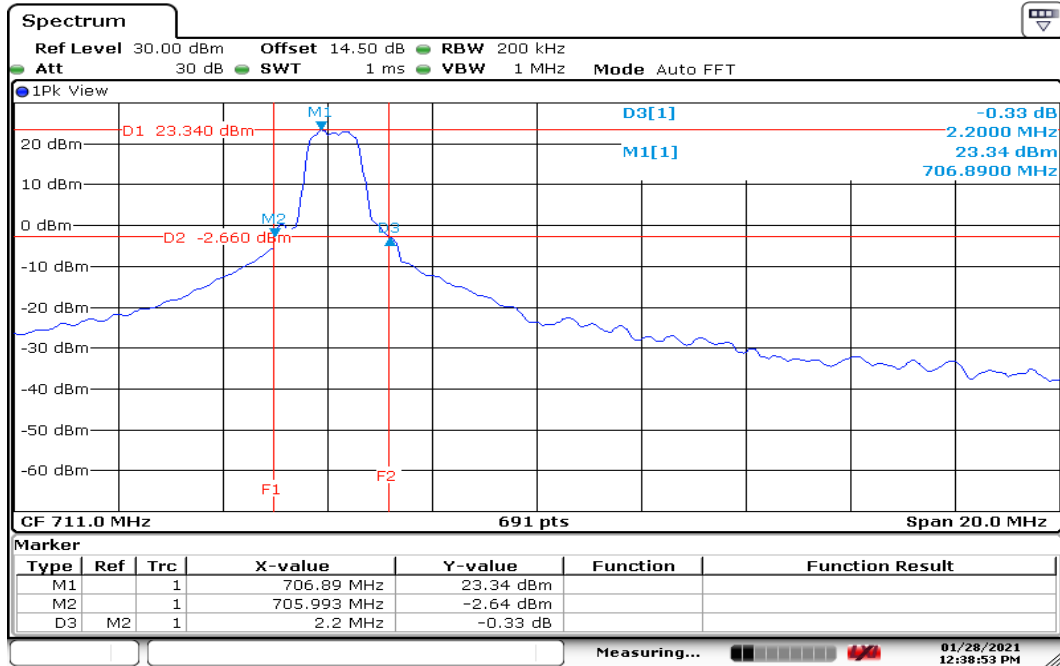
Date: 28 JAN 2021 12:37:53

CH Mid



Date: 28 JAN 2021 12:17:09

CH High

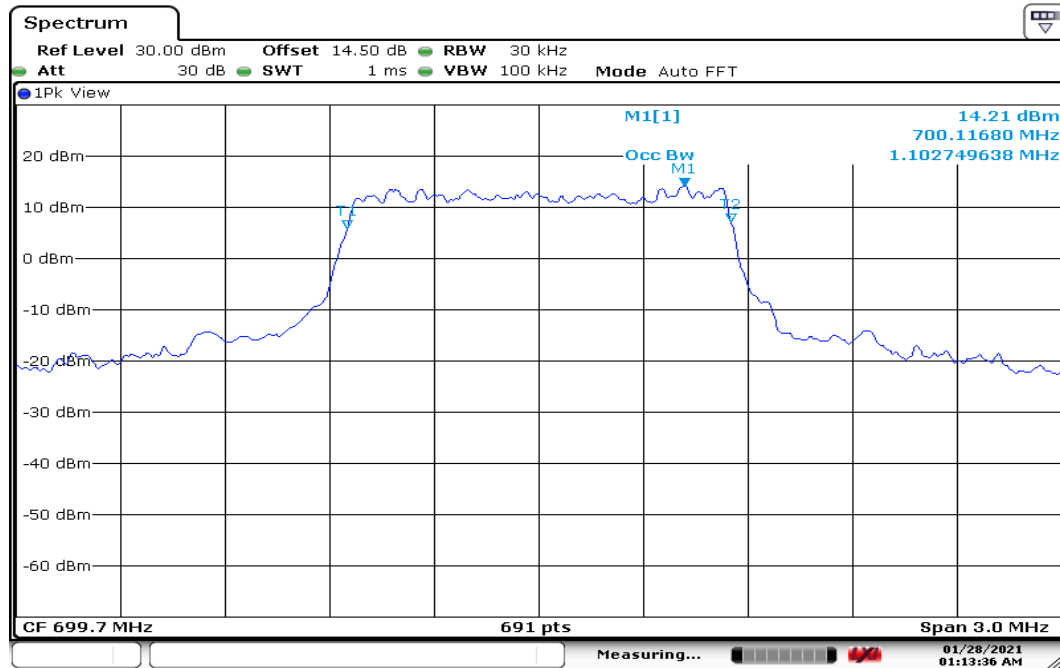


Date: 28 JAN 2021 12:38:53

OBW (99%) / QPSK

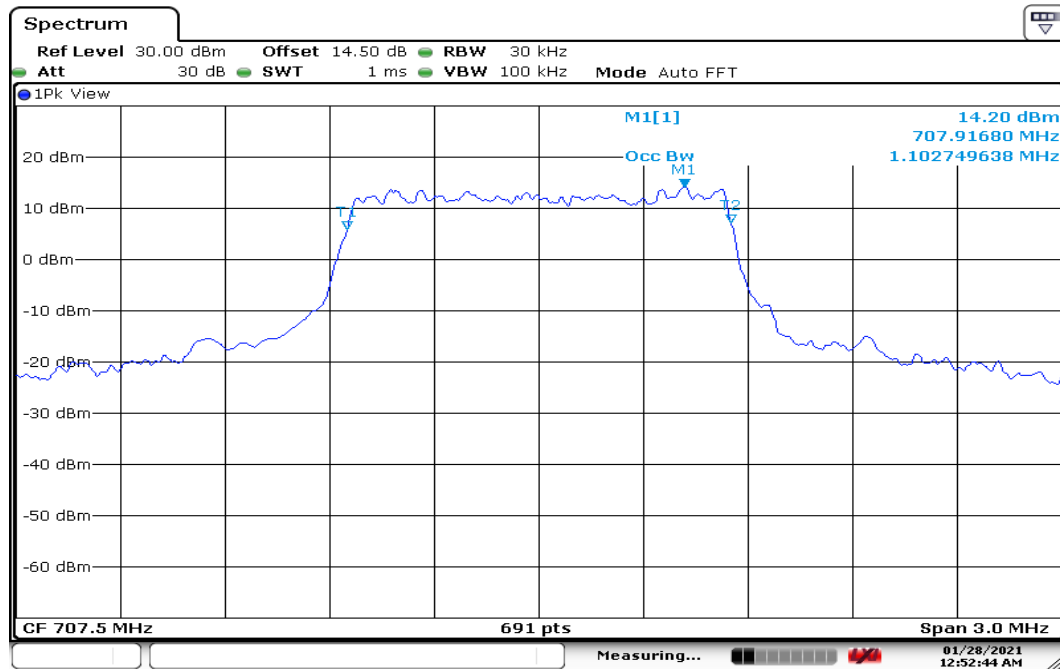
BW: 1.4MHz

CH Low



Date: 28 JAN 2021 01:13:37

CH Mid



Date: 28 JAN 2021 00:52:45

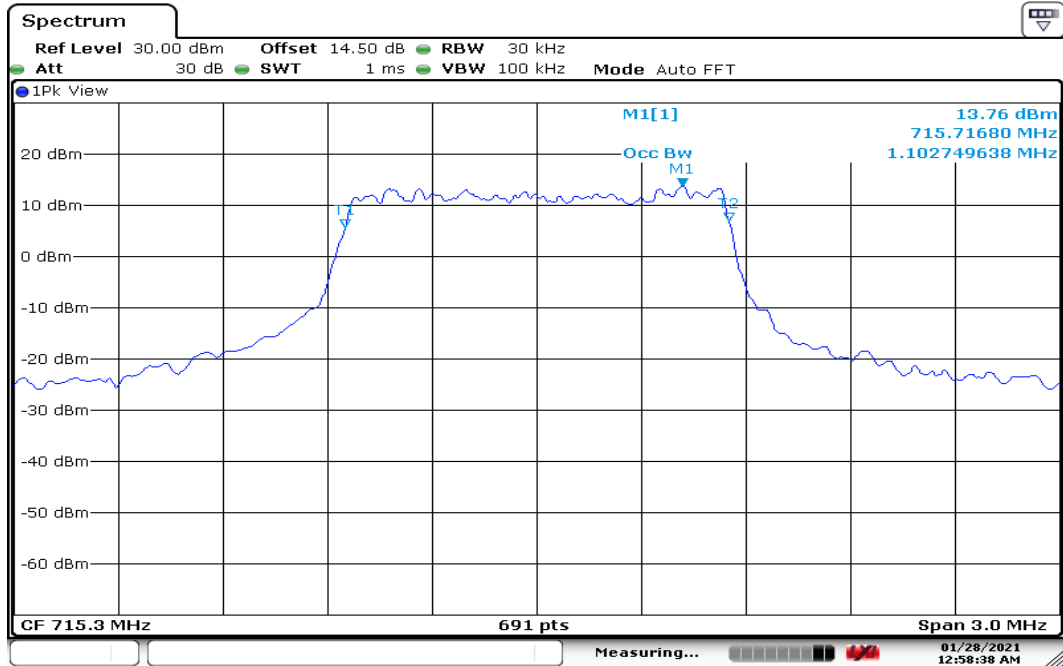


Report No.: T201116W03-RP3

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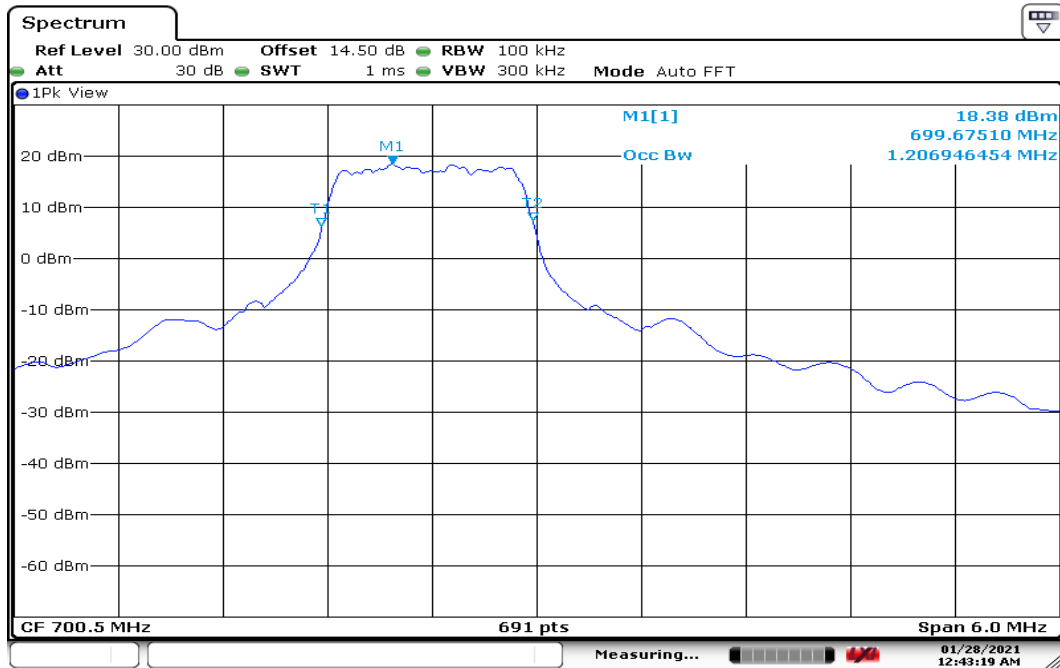
Rev.: 01

CH High

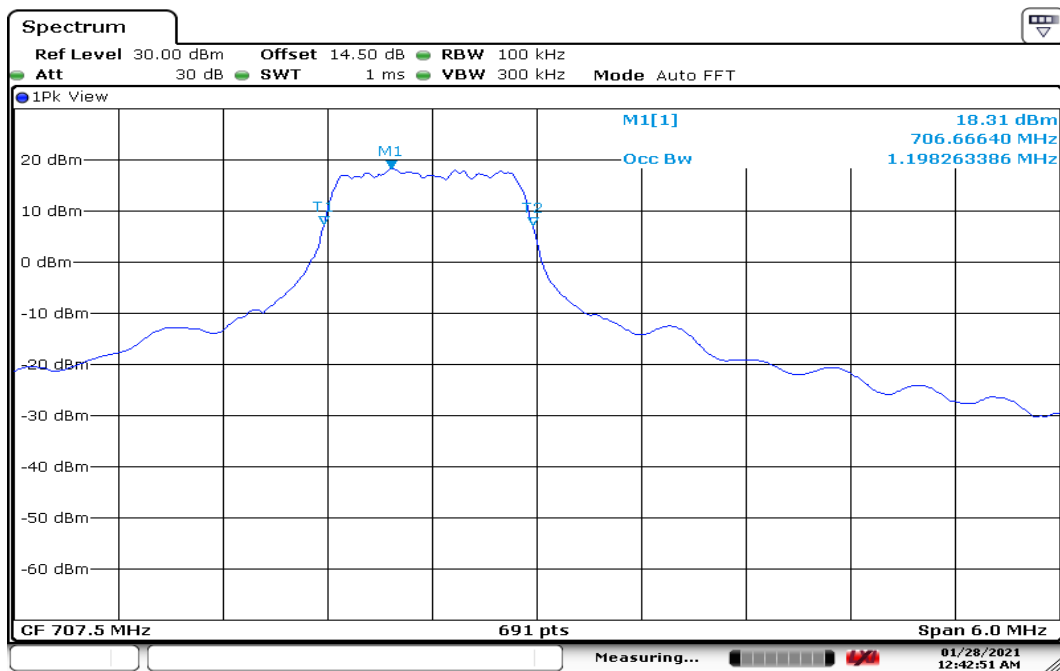


Date: 28 JAN 2021 00:58:38

Report No.: T201116W03-RP3

BW: 3MHz
CH Low


Date: 28 JAN 2021 00:43:19

CH Mid


Date: 28 JAN 2021 00:42:51

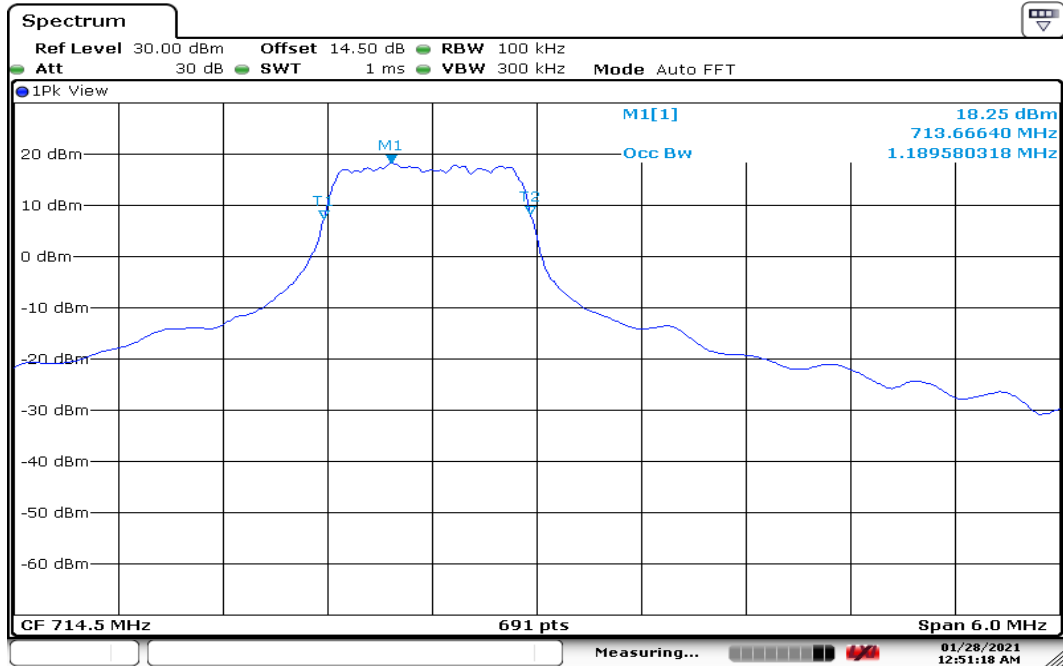


Report No.: T201116W03-RP3

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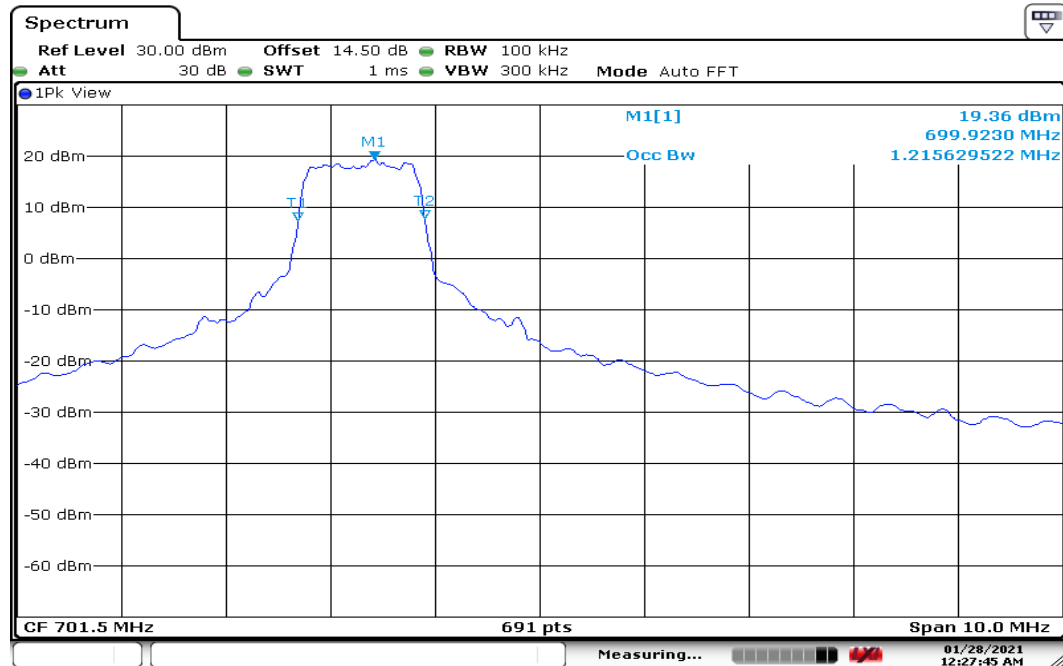
Rev.: 01

CH High

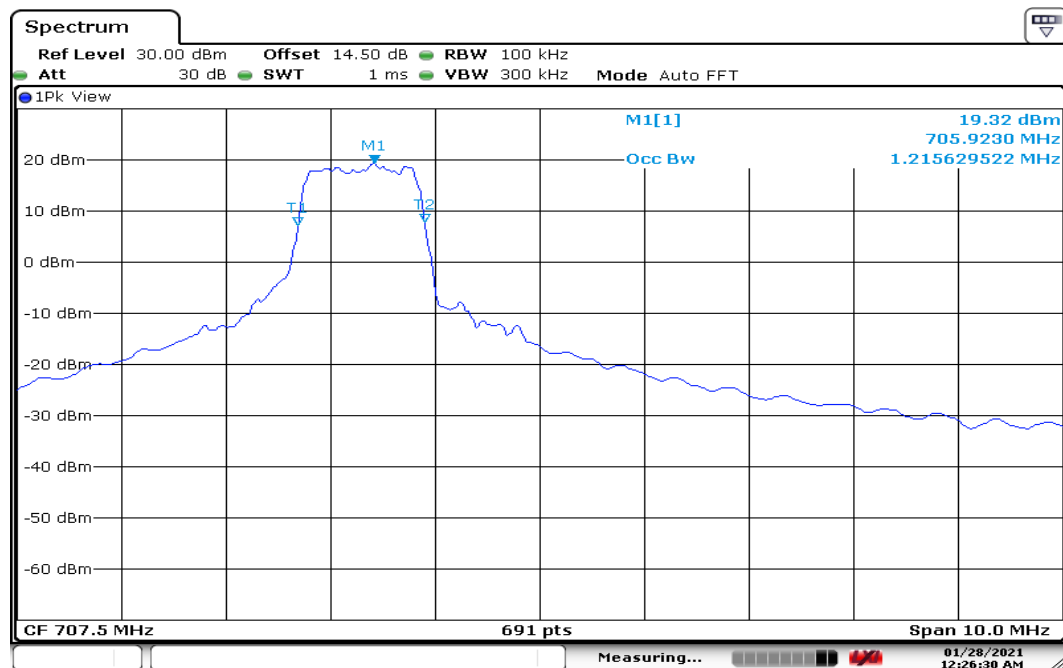


Date: 28 JAN 2021 00:51:18

Report No.: T201116W03-RP3

BW: 5MHz
CH Low


Date: 28 JAN 2021 00:27:45

CH Mid


Date: 28 JAN 2021 00:26:31

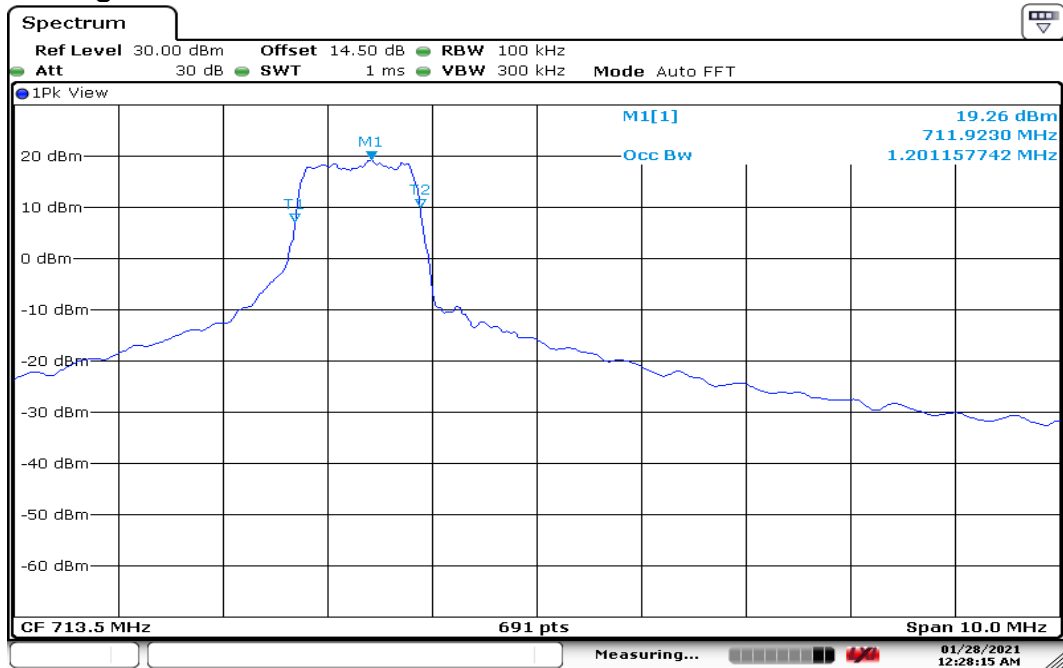


Report No.: T201116W03-RP3

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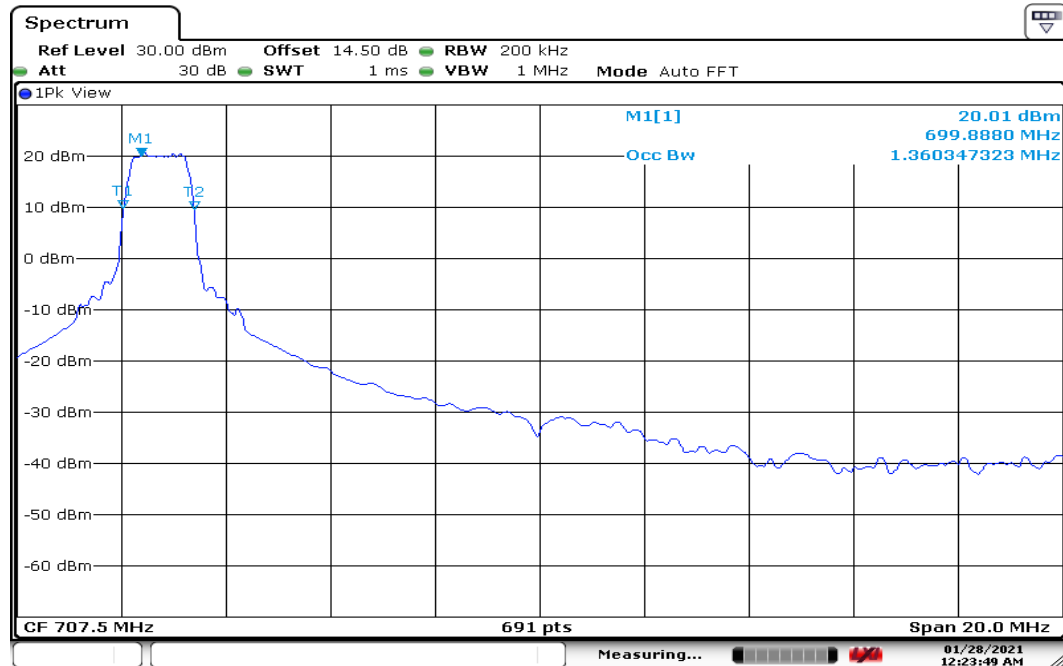
Rev.: 01

CH High

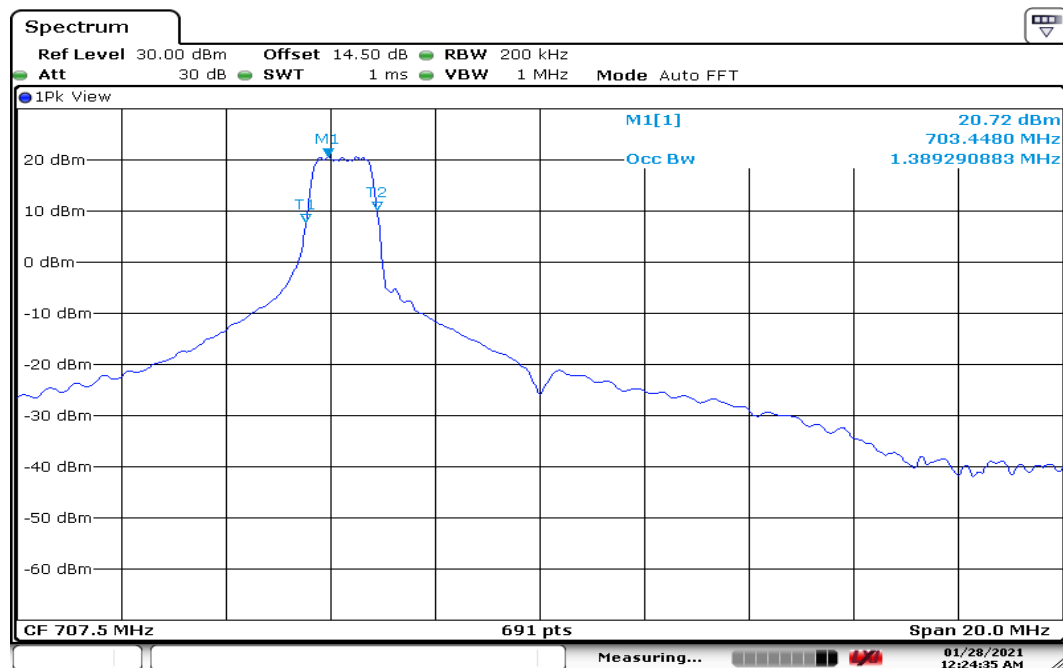


Date: 28 JAN 2021 00:28:15

Report No.: T201116W03-RP3

BW: 10MHz
CH Low


Date: 28 JAN 2021 00:23:50

CH Mid


Date: 28 JAN 2021 00:24:35

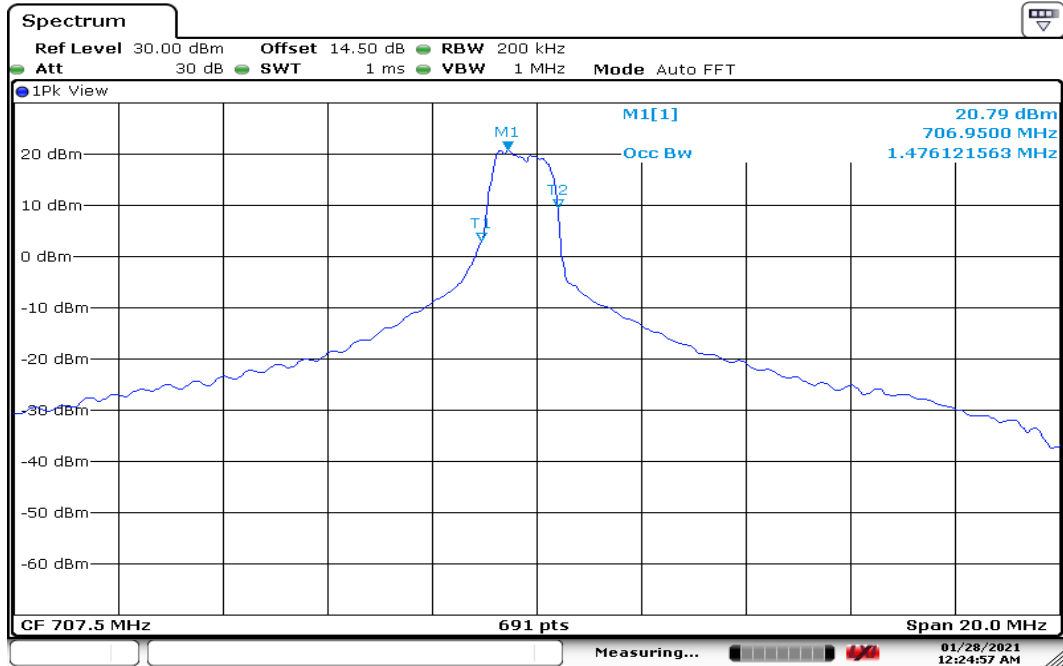


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CH High

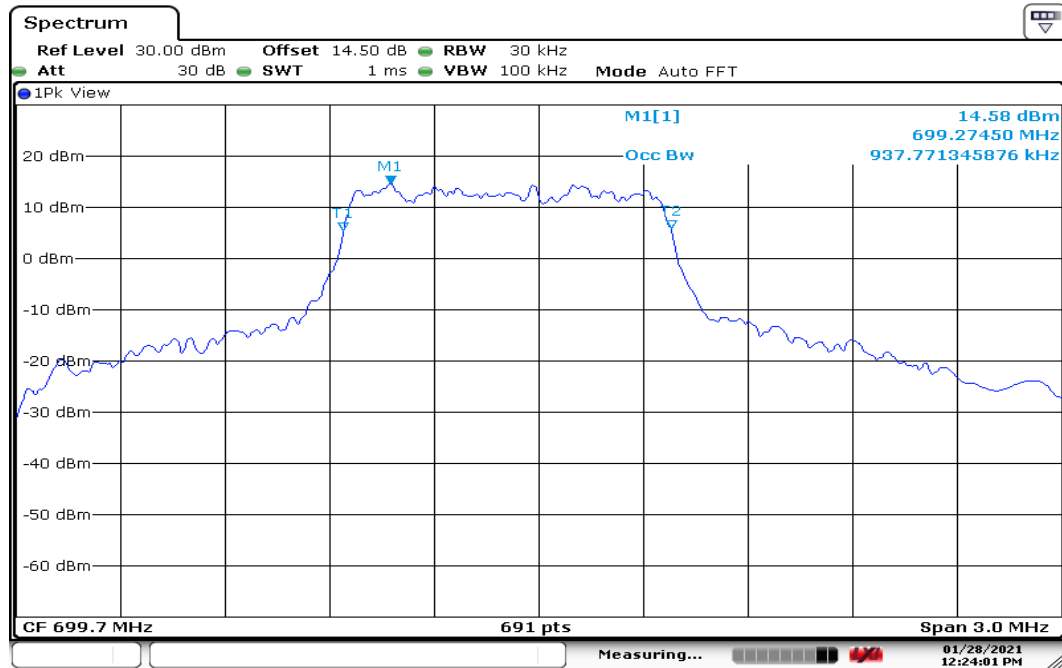


Date: 28 JAN 2021 00:24:57

OBW (99%) / 16QAM

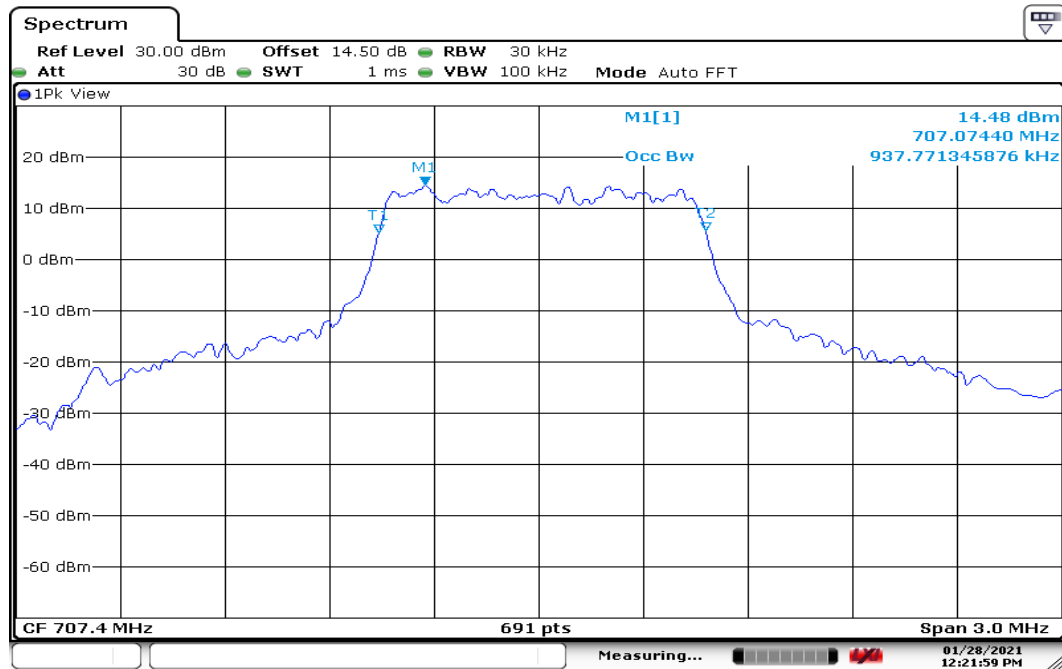
BW: 1.4MHz

CH Low



Date: 28 JAN 2021 12:24:02

CH Mid



Date: 28 JAN 2021 12:21:59

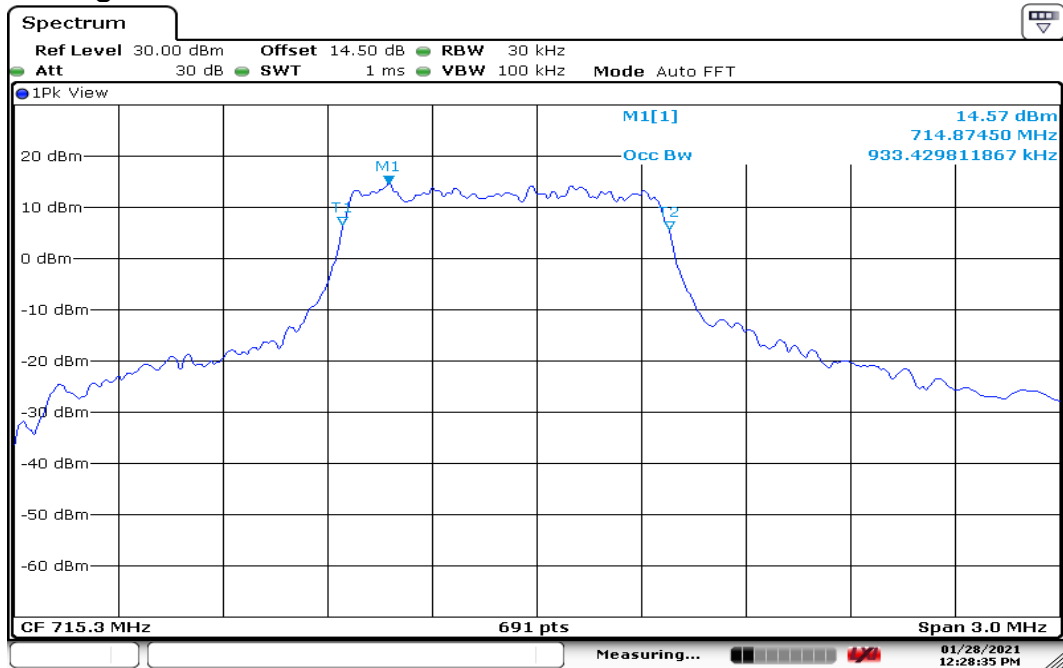


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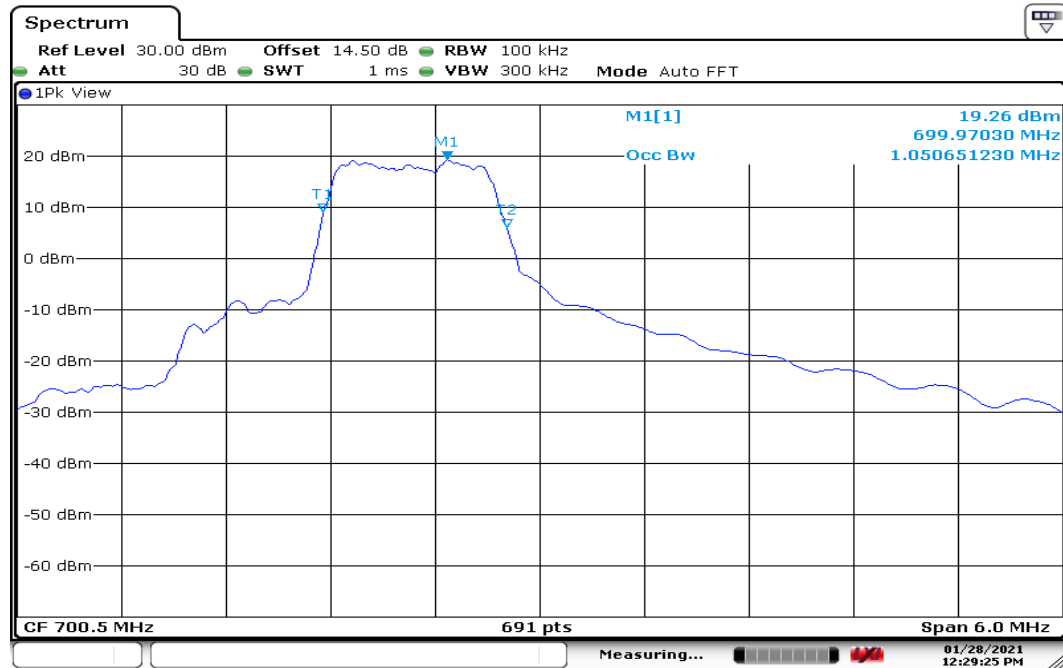
Rev.: 01

CH High

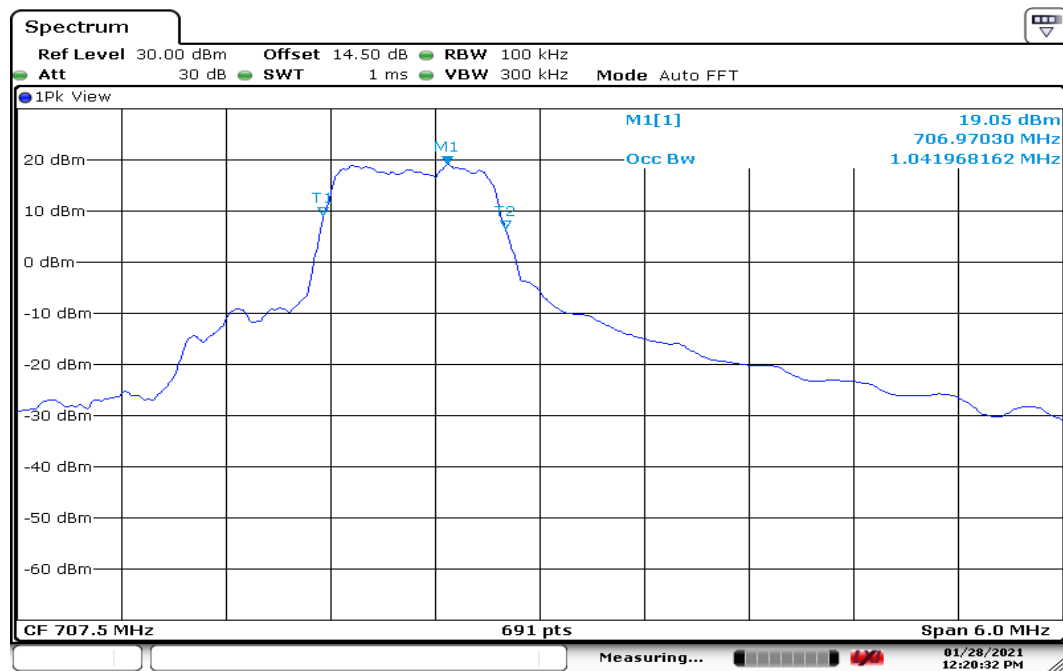


Date: 28 JAN 2021 12:28:35

Report No.: T201116W03-RP3

BW: 3MHz
CH Low


Date: 28 JAN 2021 12:29:25

CH Mid


Date: 28 JAN 2021 12:20:33

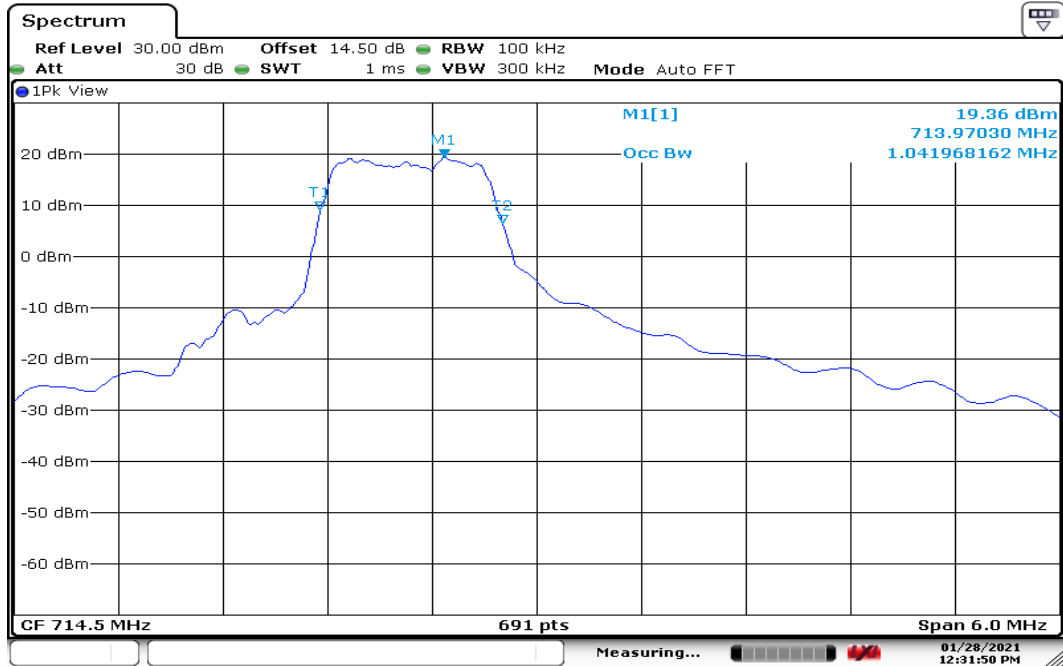


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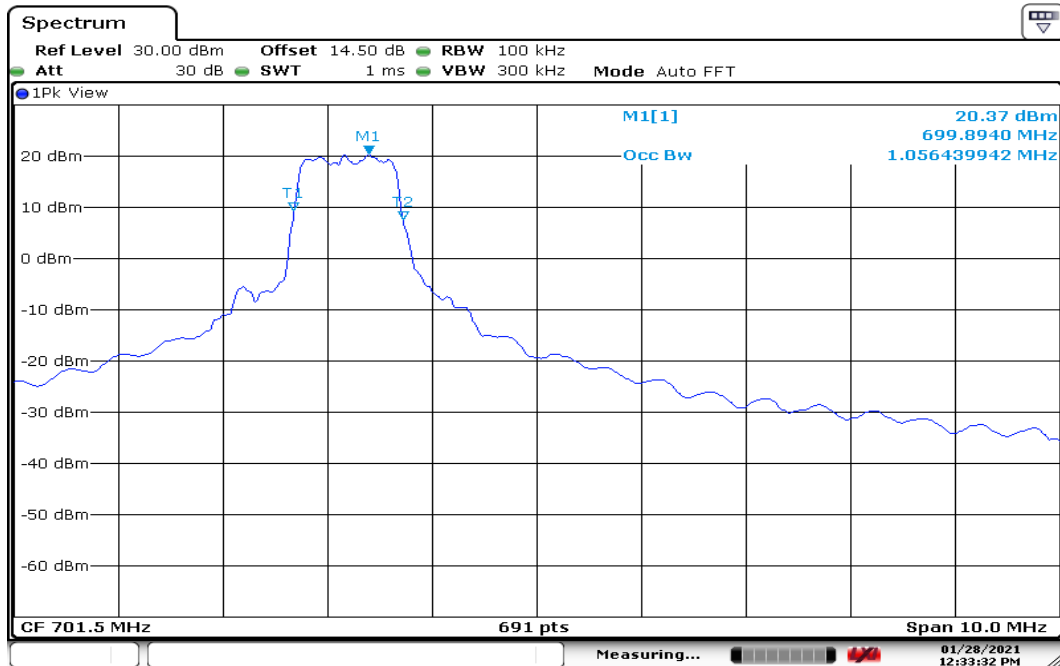
CH High



Date: 28 JAN 2021 12:31:50

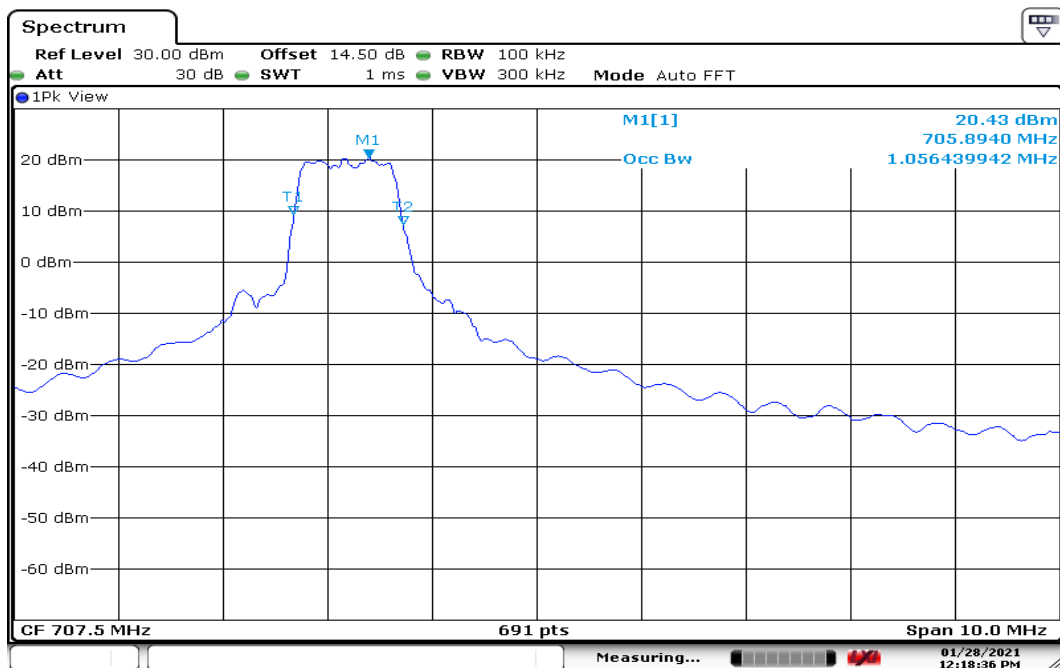
BW: 5MHz

CH Low



Date: 28 JAN 2021 12:33:33

CH Mid



Date: 28 JAN 2021 12:18:36

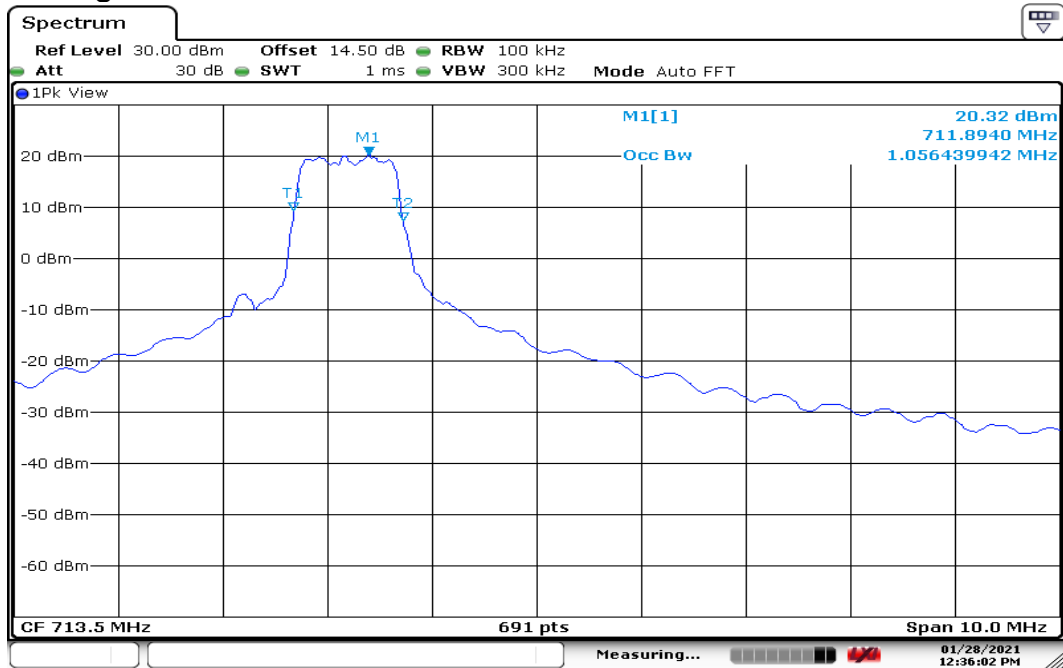


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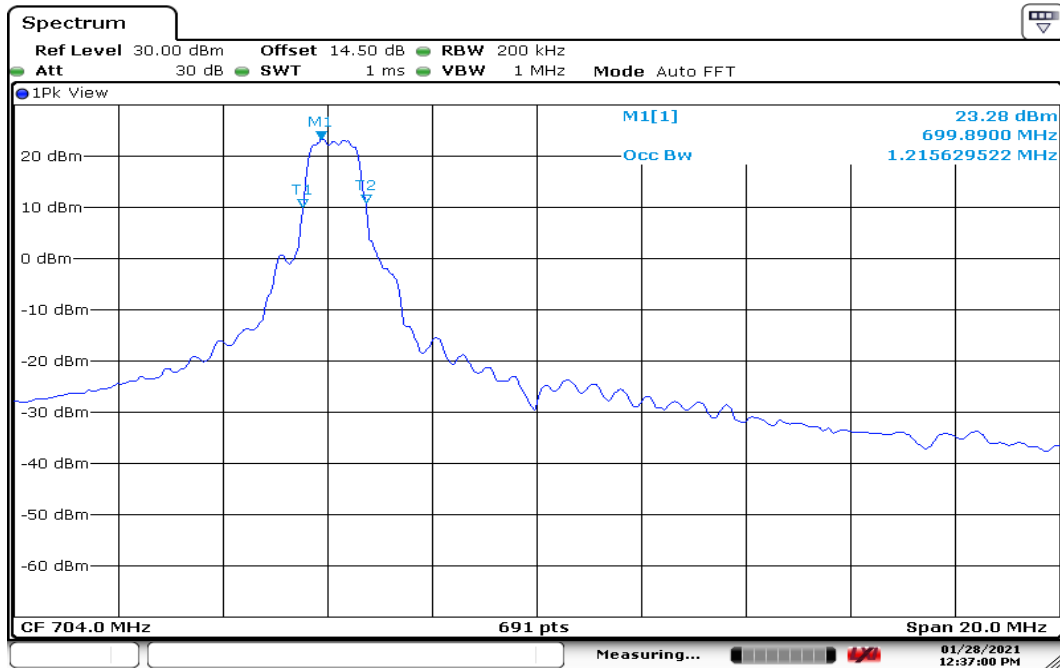
Rev.: 01

CH High

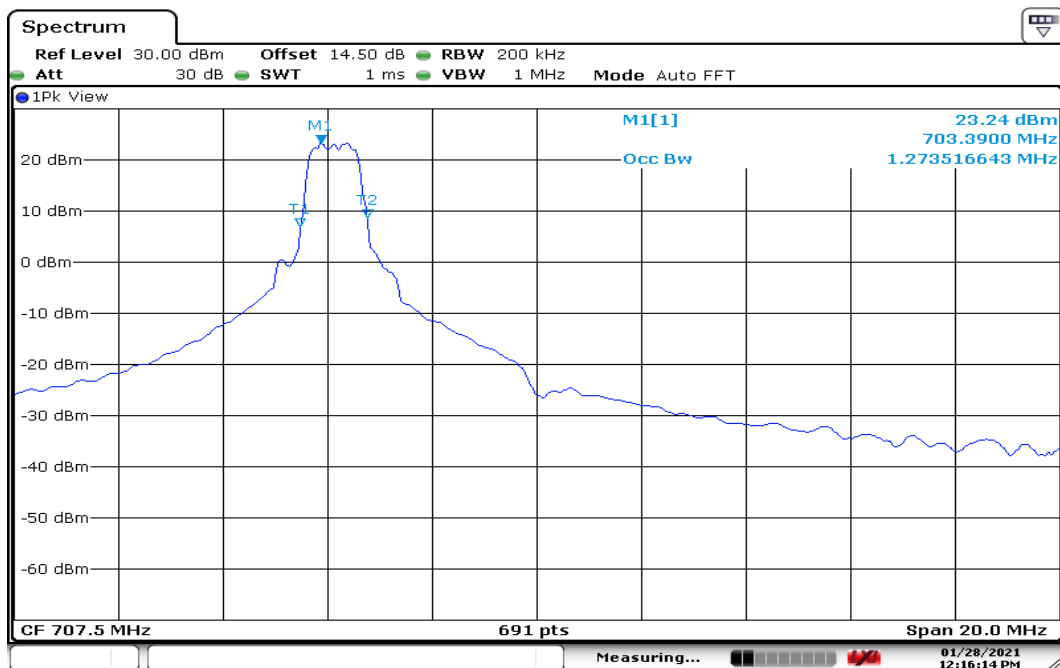


Date: 28 JAN 2021 12:36:03

Report No.: T201116W03-RP3

BW: 10MHz
CH Low


Date: 28 JAN 2021 12:37:00

CH Mid


Date: 28 JAN 2021 12:16:14

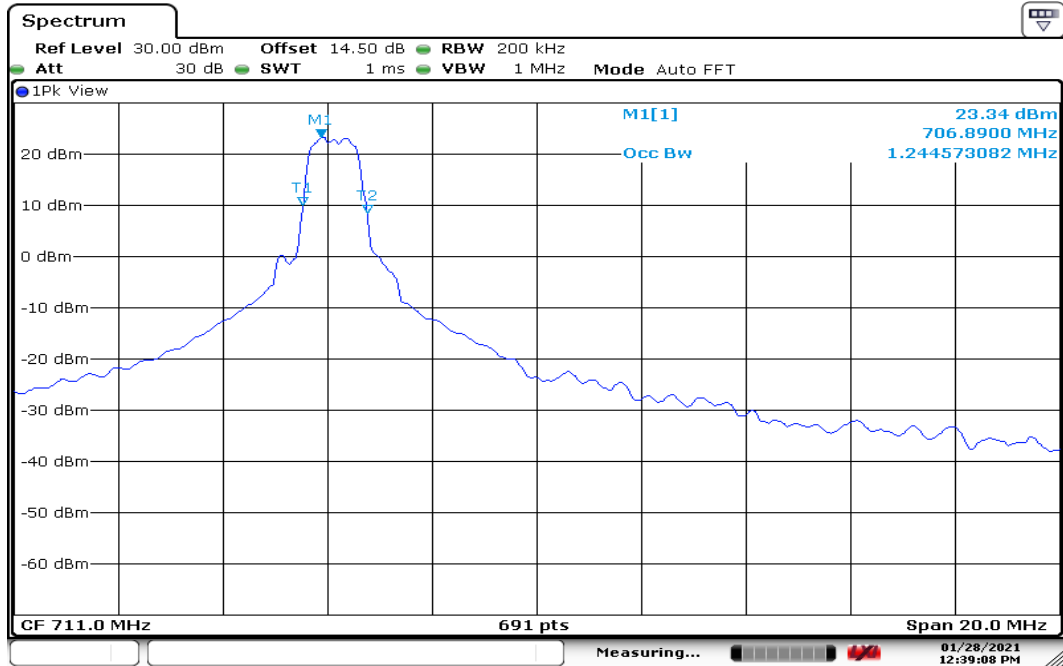


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CH High



Date: 28 JAN 2021 12:39:08

8.4 PEAK TO AVERAGE POWER RATIO

LIMIT

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

TEST PROCEDURES

1. According to KDB 971168D01.
2. The EUT was connect to spectrum analyzer and call box.
3. Set the CCDF function in spectrum analyzer.
4. The highest RF output power were measured and recorded the maximum PAPR level associated with a probability of 0.1%.
5. Record the Peak to Average Power Ratio.



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TEST RESULTS

LTE Band 12

Temperature: 23.8°C

Humidity: 55.7% RH

Tested by: Dally Hong

Test Date: January 26, 2021

CHANNEL BANDWIDTH: 1.4MHz / QPSK / Full RB

Frequency (MHz)	Channel	PEAK TO AVERAGE RATIO (dB)
699.7	23017	7.39
707.5	23095	5.10
715.3	23173	4.17

CHANNEL BANDWIDTH: 3MHz / QPSK / Full RB

Frequency (MHz)	Channel	PEAK TO AVERAGE RATIO (dB)
700.5	23025	6.93
707.5	23095	6.17
714.5	23165	6.67

CHANNEL BANDWIDTH: 5MHz / QPSK / Full RB

Frequency (MHz)	Channel	PEAK TO AVERAGE RATIO (dB)
701.5	23035	5.19
707.5	23095	4.29
713.5	23155	6.26

CHANNEL BANDWIDTH: 10MHz / QPSK / Full RB

Frequency (MHz)	Channel	PEAK TO AVERAGE RATIO (dB)
704	23060	4.75
707.5	23095	4.52
711	23130	2.90

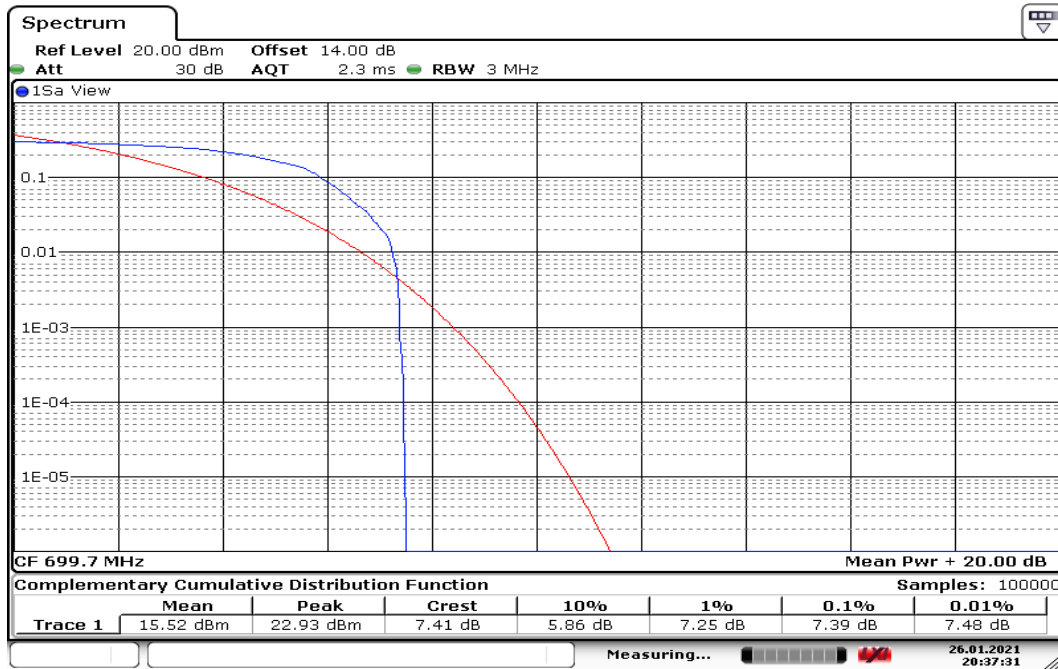
Report No.: T201116W03-RP3

LTE Band 12

QPSK / RB =6, RB Offset = 0

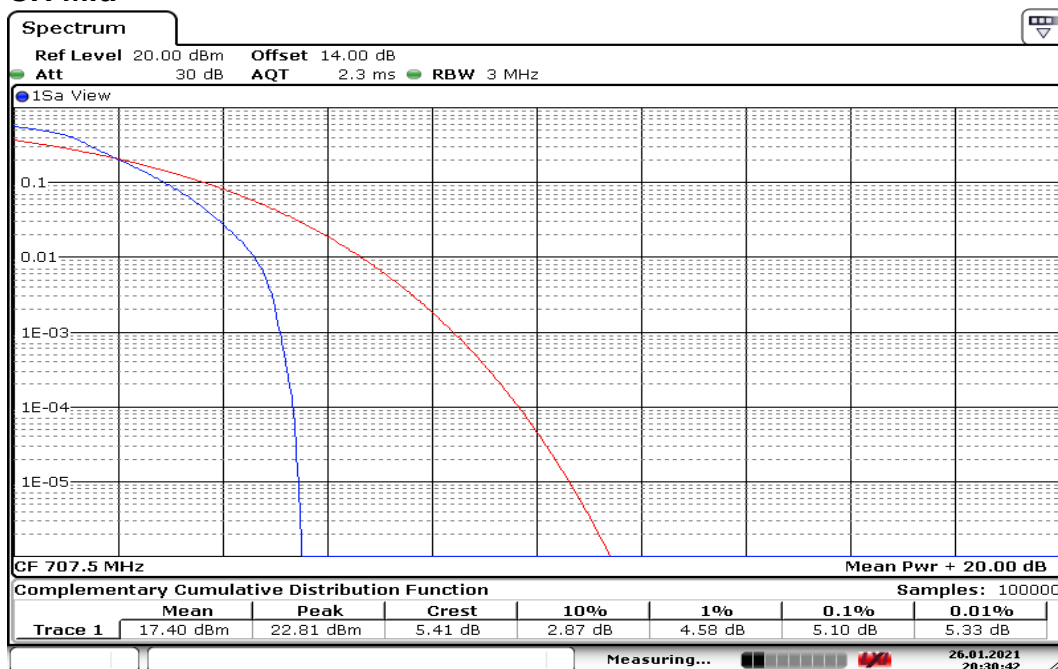
BW: 1.4MHz

CH Low



Date: 26 JAN 2021 20:37:31

CH Mid



Date: 26 JAN 2021 20:38:42

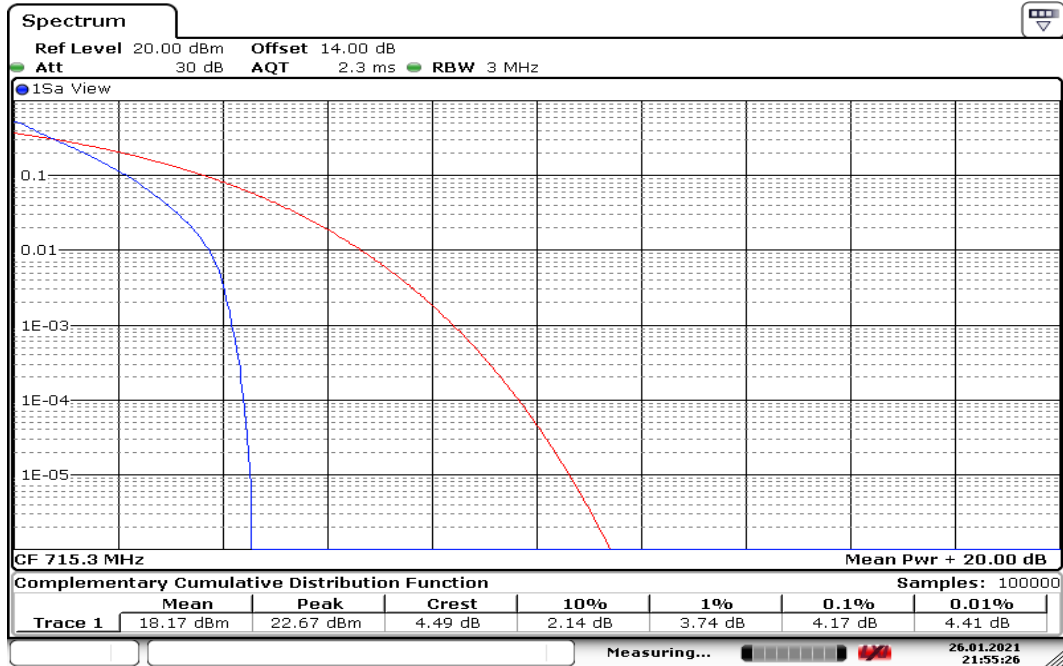


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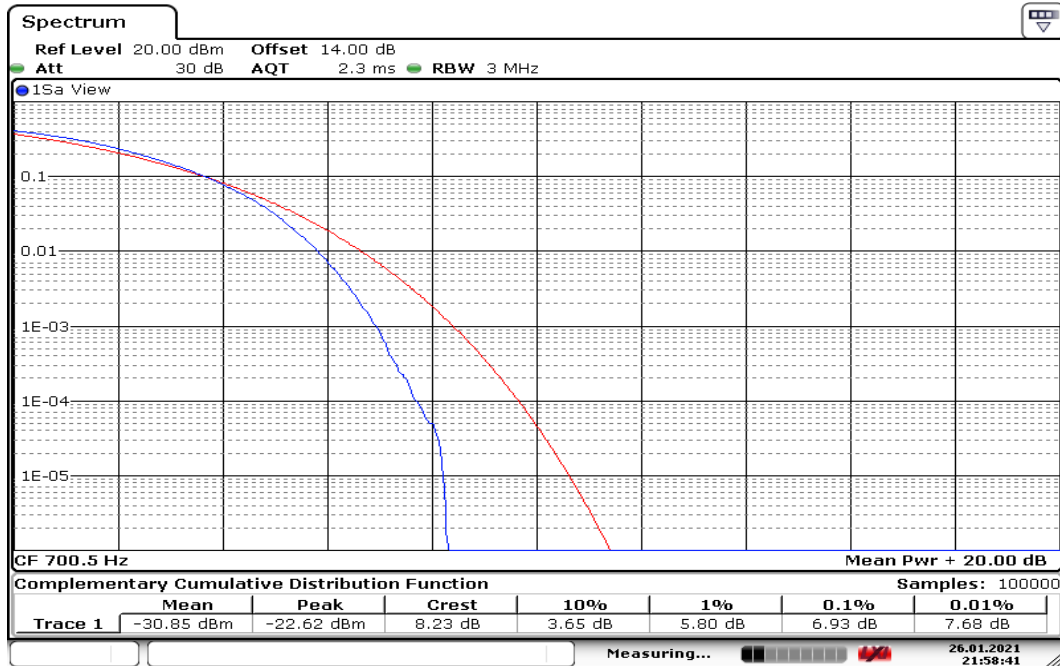
CH High



Date: 26 JAN 2021 21:55:27

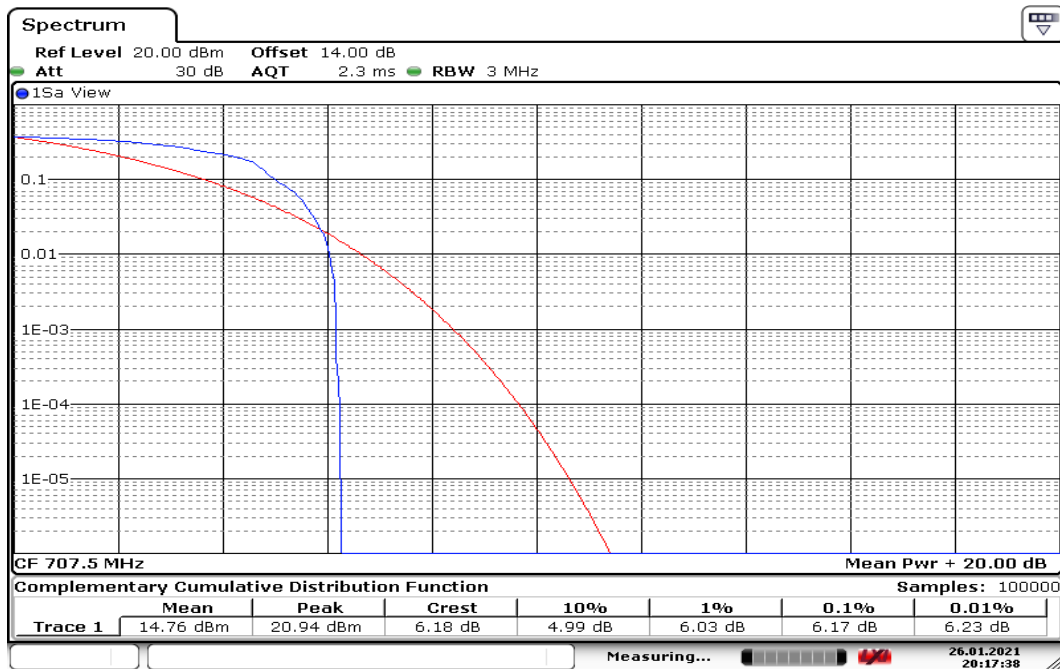
BW: 3MHz

CH Low



Date: 26 JAN 2021 21:58:42

CH Mid



Date: 26 JAN 2021 20:17:39

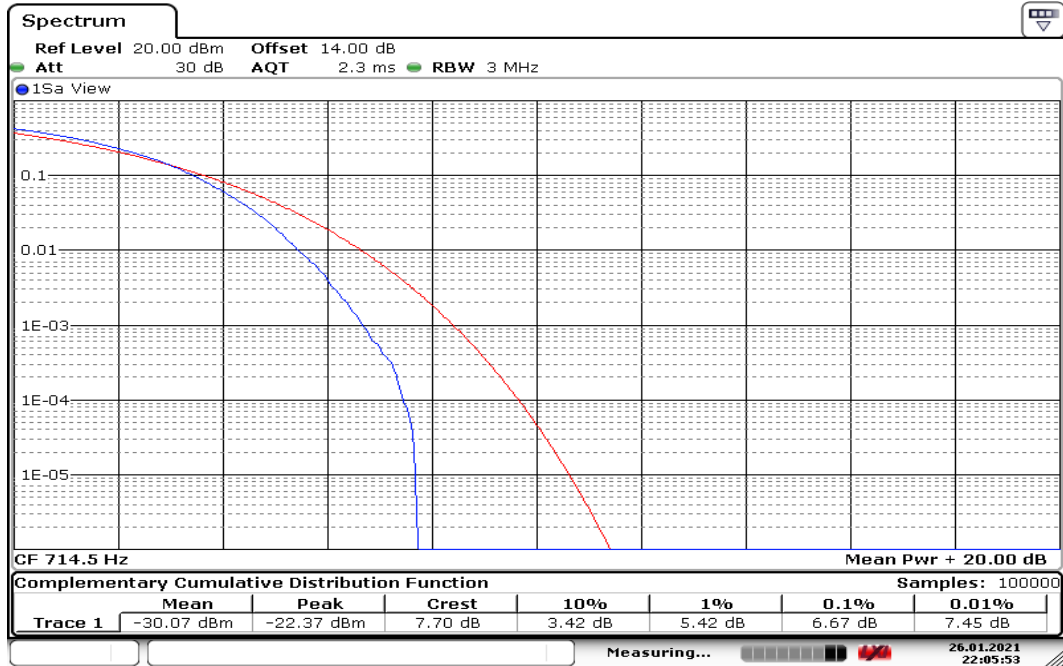


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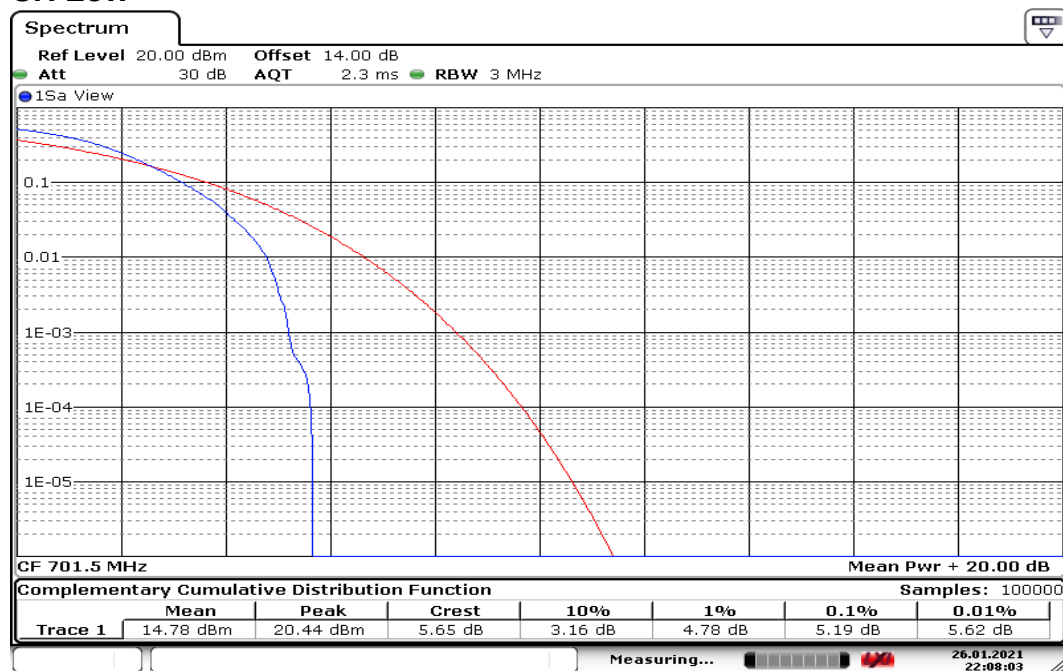
CH High



Date: 26 JAN 2021 22:05:53

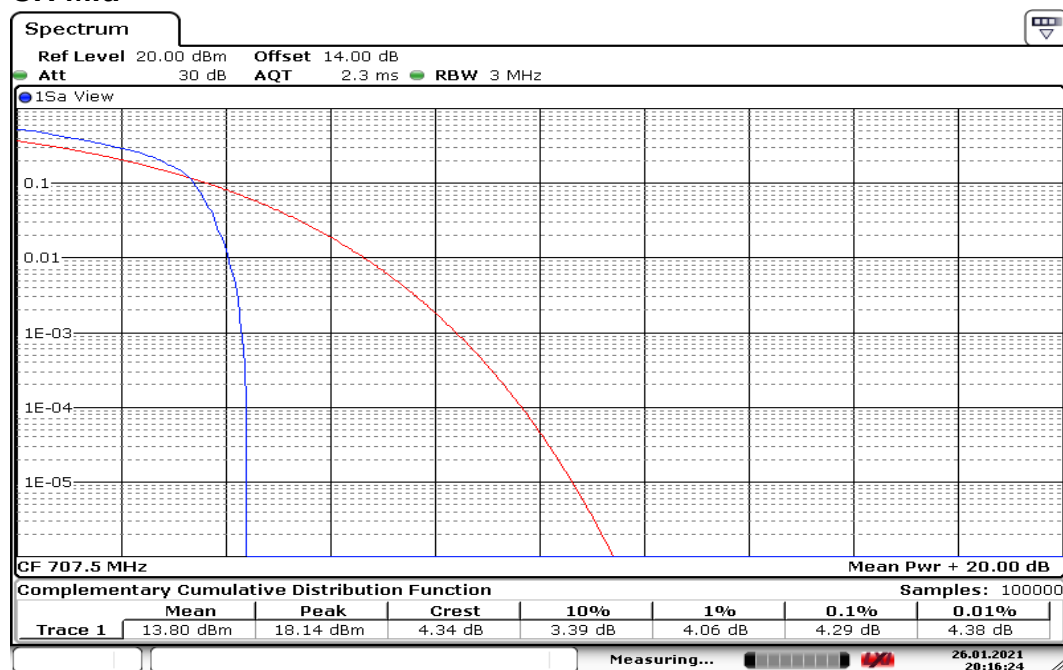
BW: 5MHz

CH Low



Date: 26 JAN 2021 22:08:03

CH Mid



Date: 26 JAN 2021 20:16:25

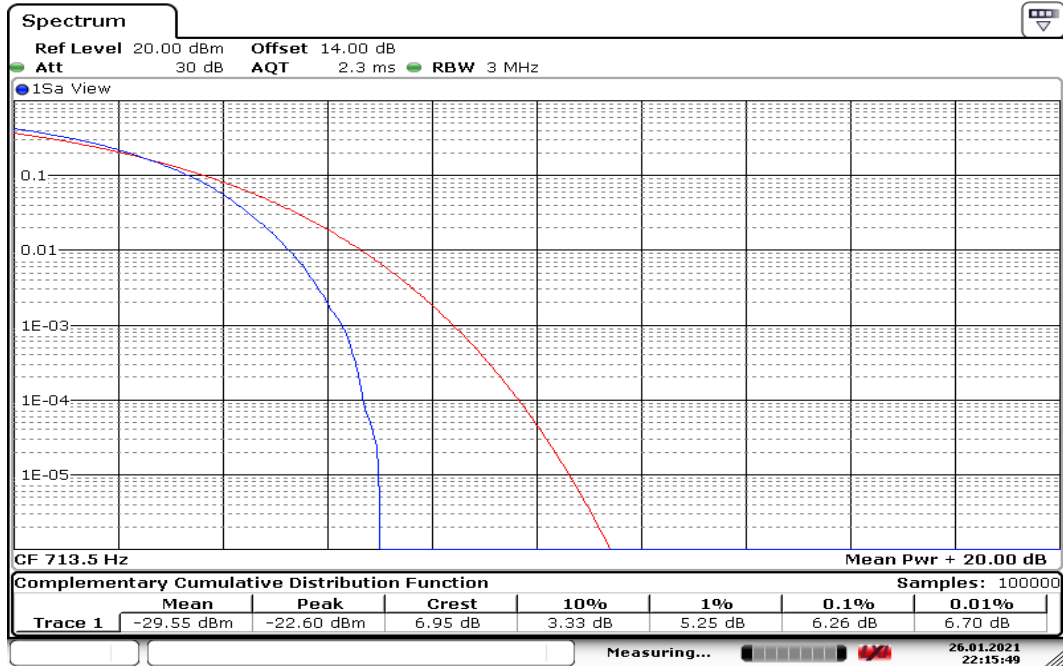


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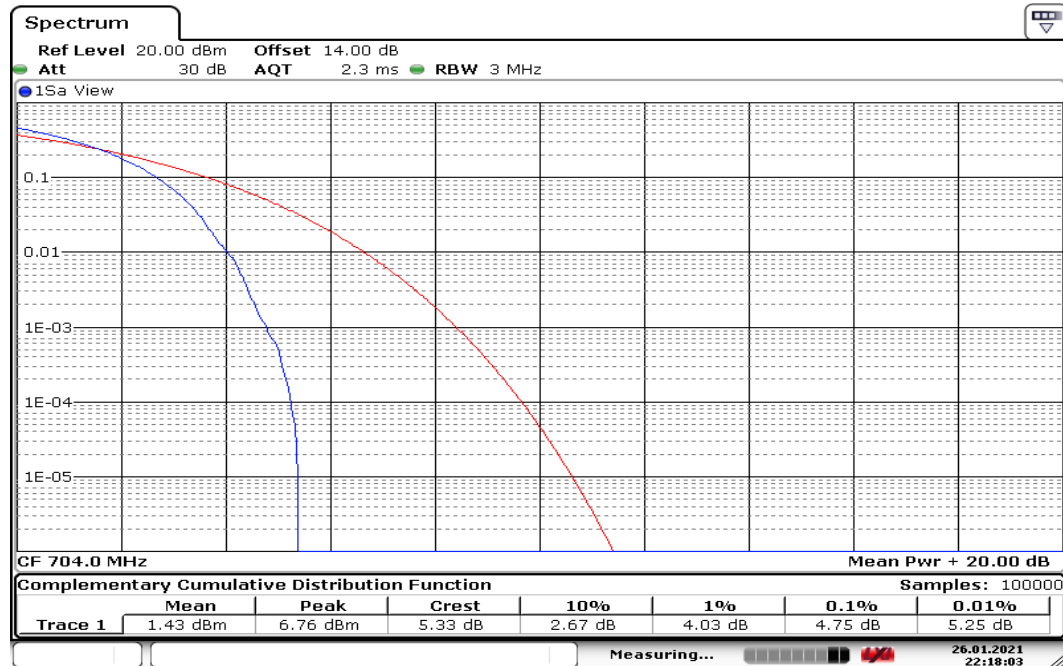
CH High



Date: 26 JAN 2021 22:15:50

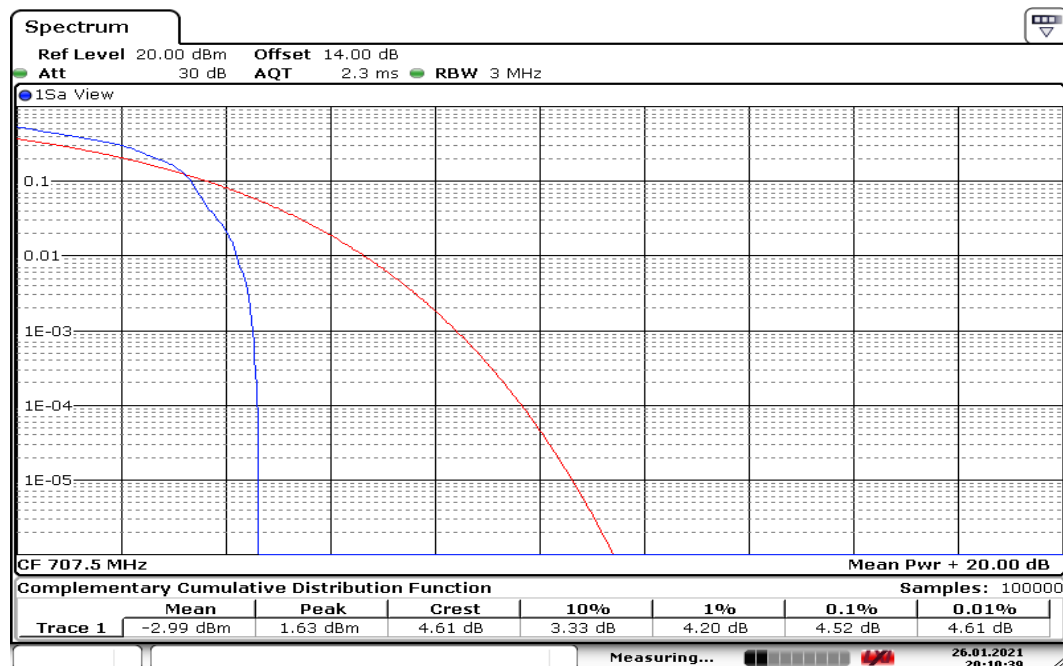
BW: 10MHz

CH Low



Date: 26 JAN 2021 22:18:04

CH Mid



Date: 26 JAN 2021 20:10:39

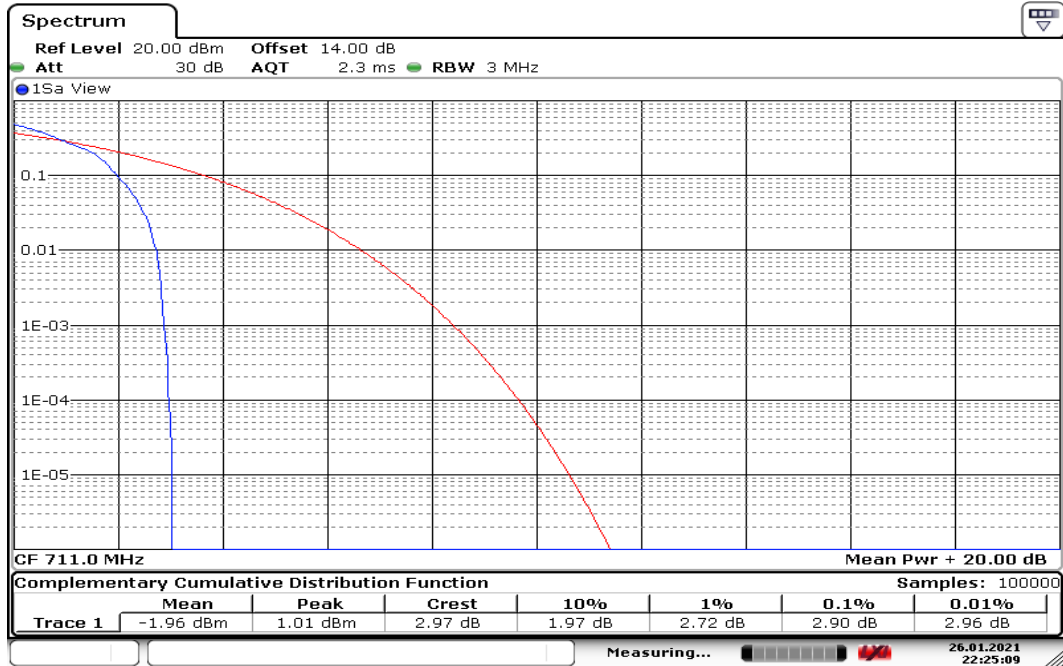


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CH High



Date: 26 JAN 2021 22:25:10

8.5 CONDUCTED BAND EDGE MEASUREMENT

LIMIT

Part 27.53 (g), Band 12

For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log (P)$ dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

TEST PROCEDURES

KDB 971168 D01 Power Meas License Digital Systems – Section 6.0

1. RBW $\geq$ 1% of the emission bandwidth
2. VBW $\geq$ 3 x RBW
3. Span was set large enough so as to capture all out of emissions near the band edge.

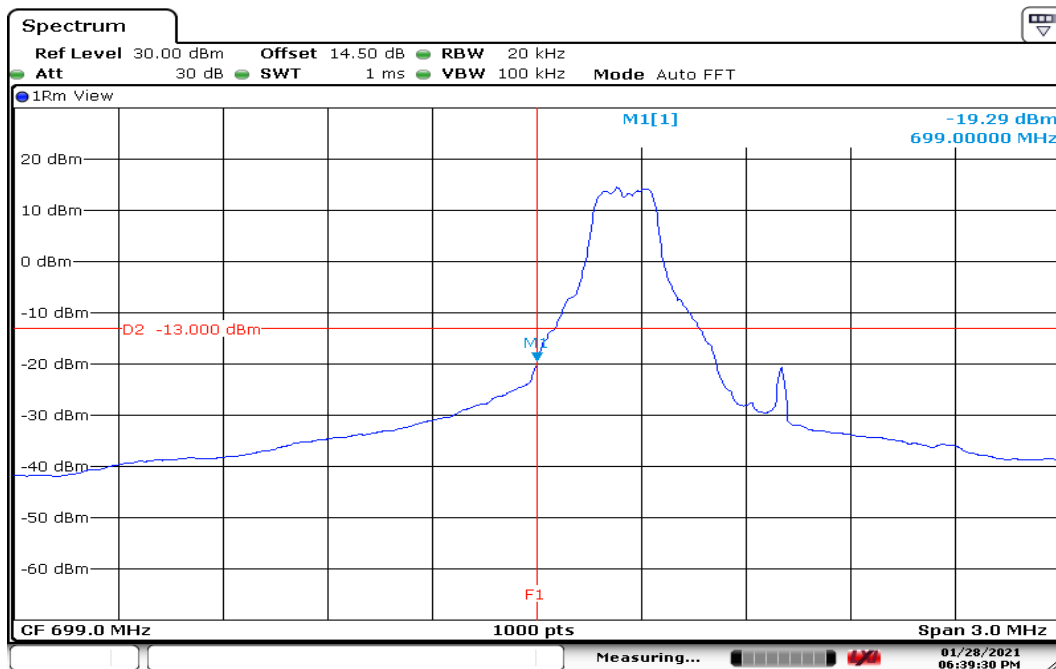
TEST RESULTS:

Temperature: 22.3°C

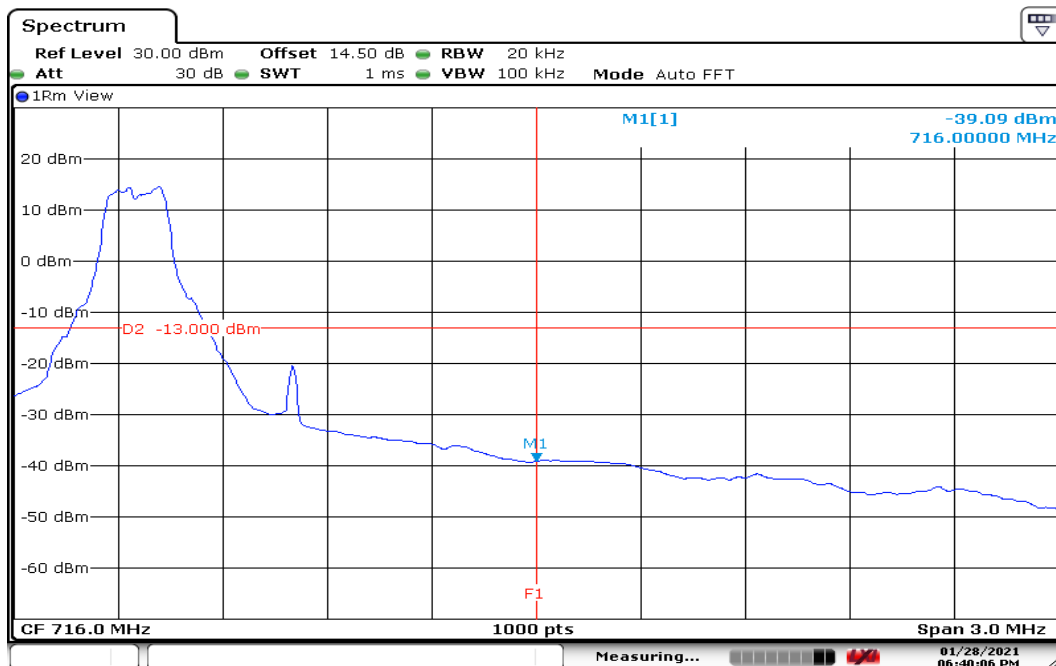
Humidity: 57% RH

Tested by: Dally Hong

Test Date: January 28, 2021

LTE Band 12**CHANNEL BANDWIDTH: 1.4MHz / QPSK / 1RB ALLOCATED****LOWER BAND EDGE**

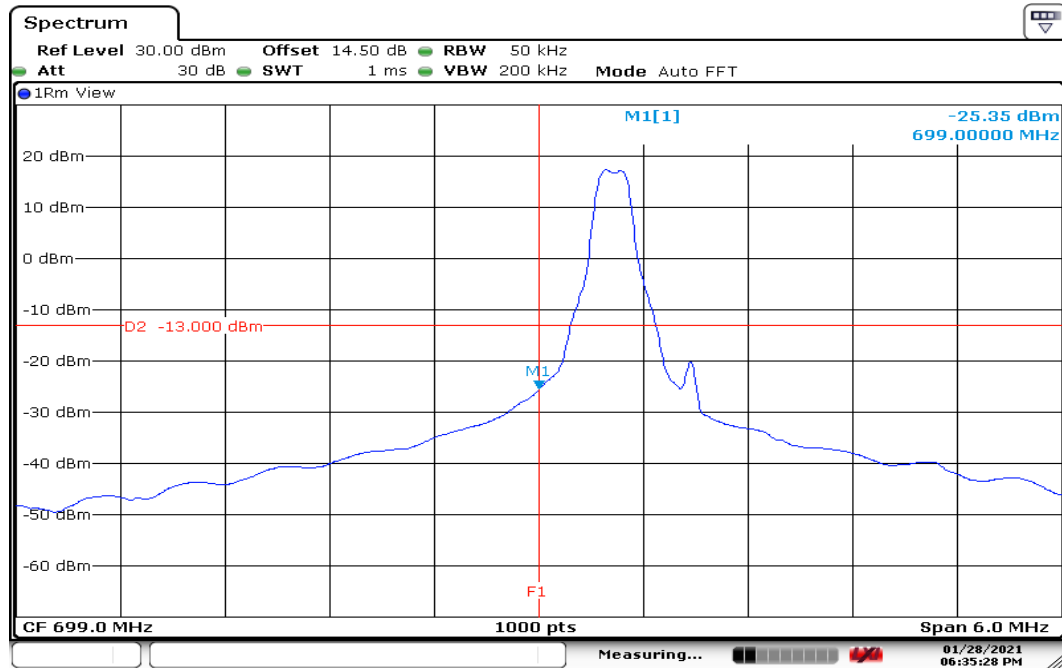
Date: 28 JAN 2021 18:39:31

HIGHER BAND EDGE

Date: 28 JAN 2021 18:40:06

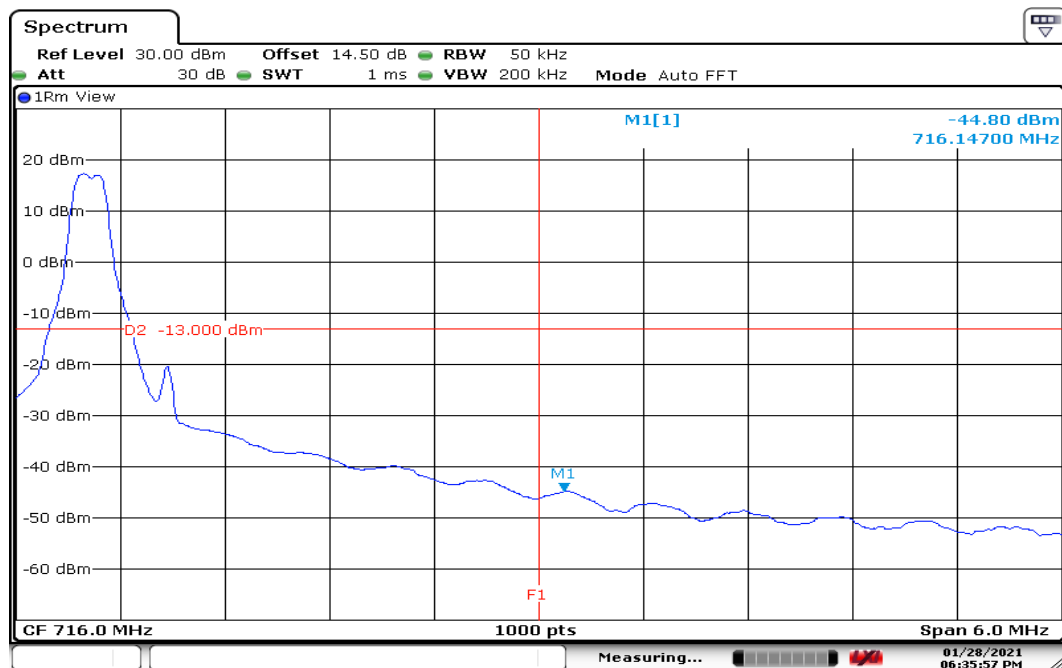
Report No.: T201116W03-RP3

CHANNEL BANDWIDTH: 3MHz / QPSK / 1RB ALLOCATED LOWER BAND EDGE



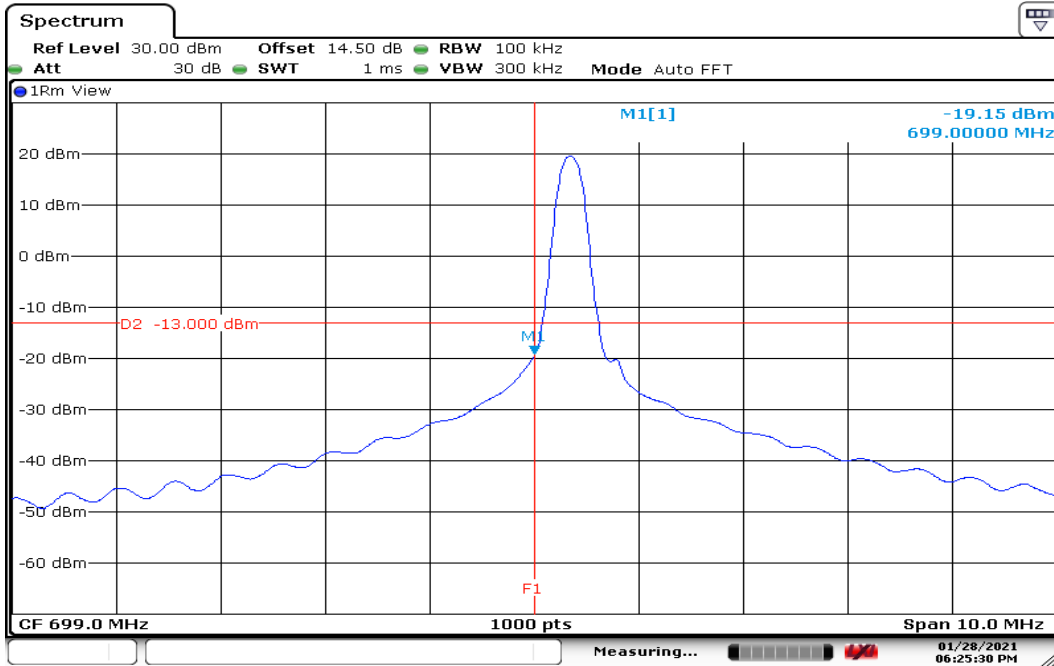
Date: 28 JAN 2021 18:35:29

HIGHER BAND EDGE



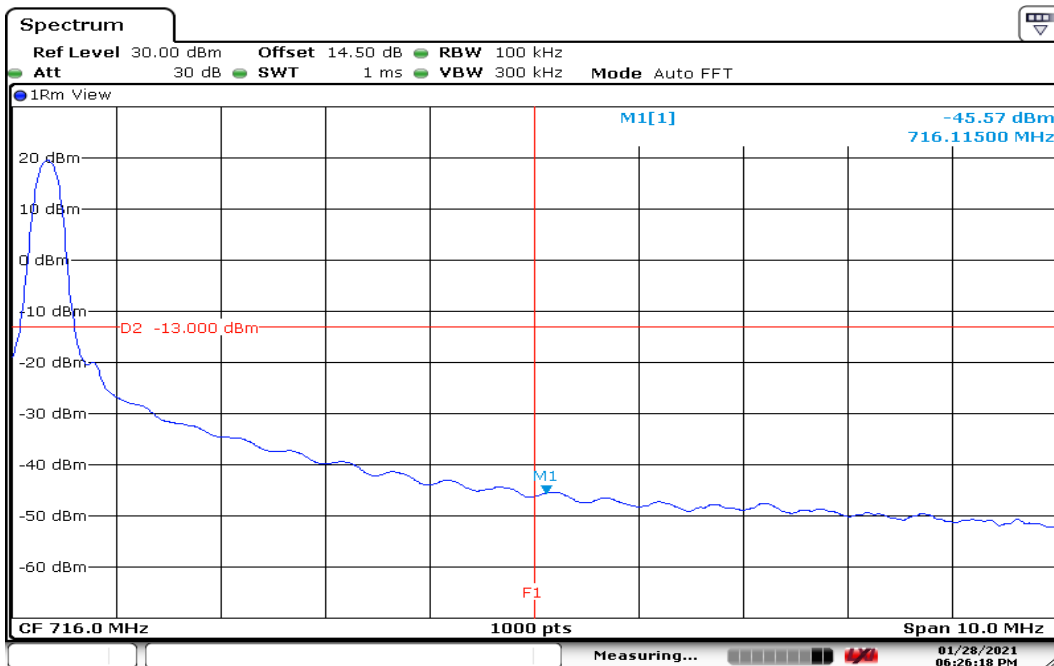
Date: 28 JAN 2021 18:35:57

CHANNEL BANDWIDTH: 5MHz / QPSK / 1RB ALLOCATED LOWER BAND EDGE



Date: 28 JAN 2021 18:25:30

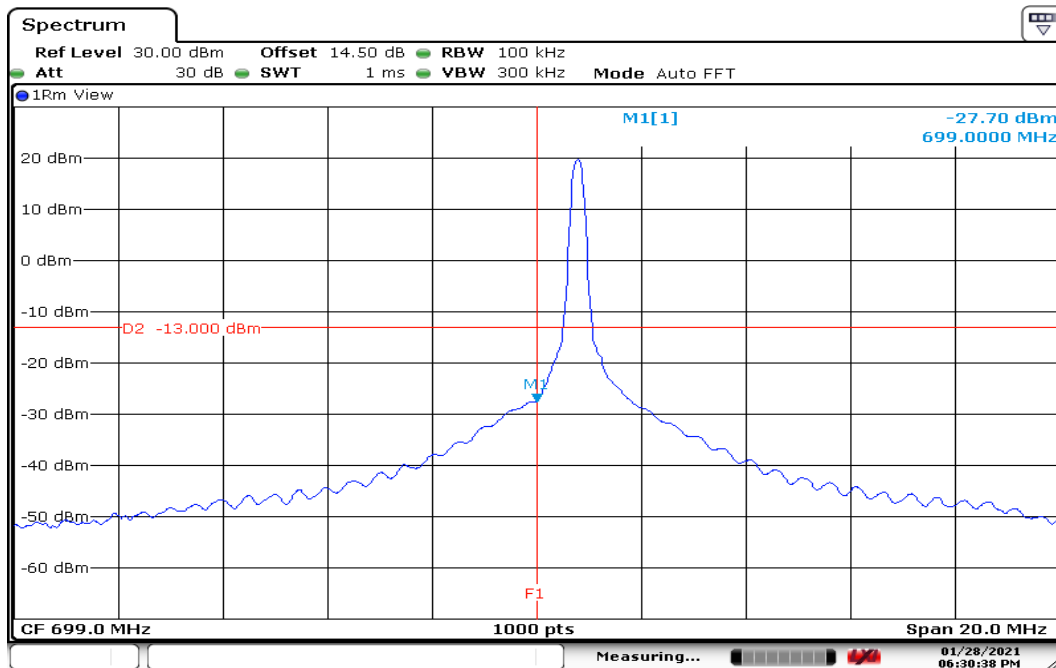
HIGHER BAND EDGE



Date: 28 JAN 2021 18:26:19

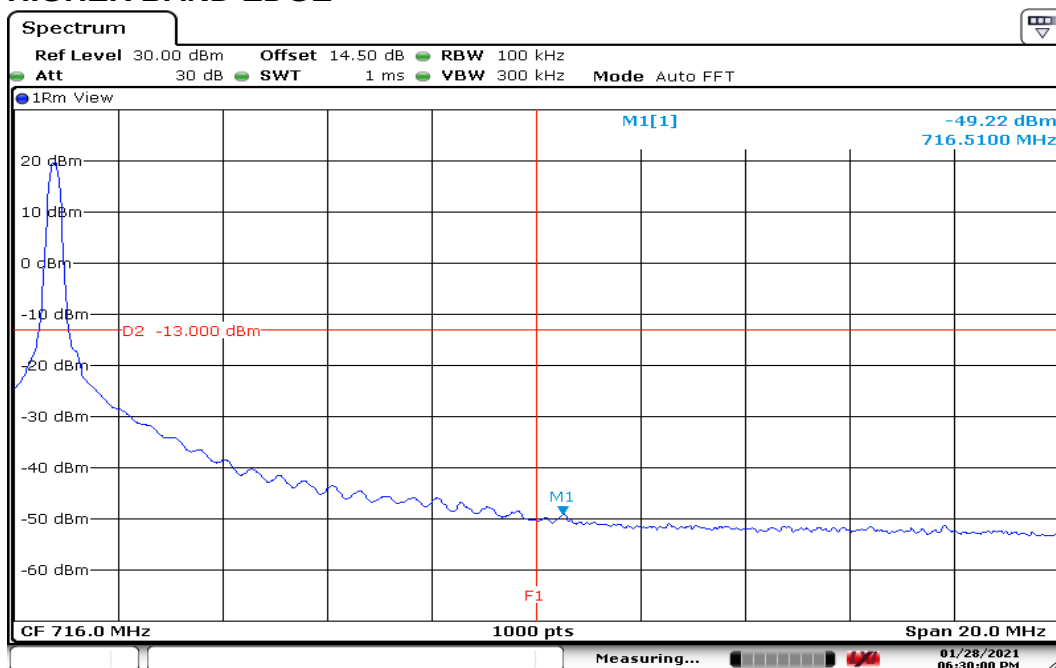
Report No.: T201116W03-RP3

CHANNEL BANDWIDTH: 10MHz / QPSK / 1RB ALLOCATED LOWER BAND EDGE



Date: 28 JAN 2021 18:30:38

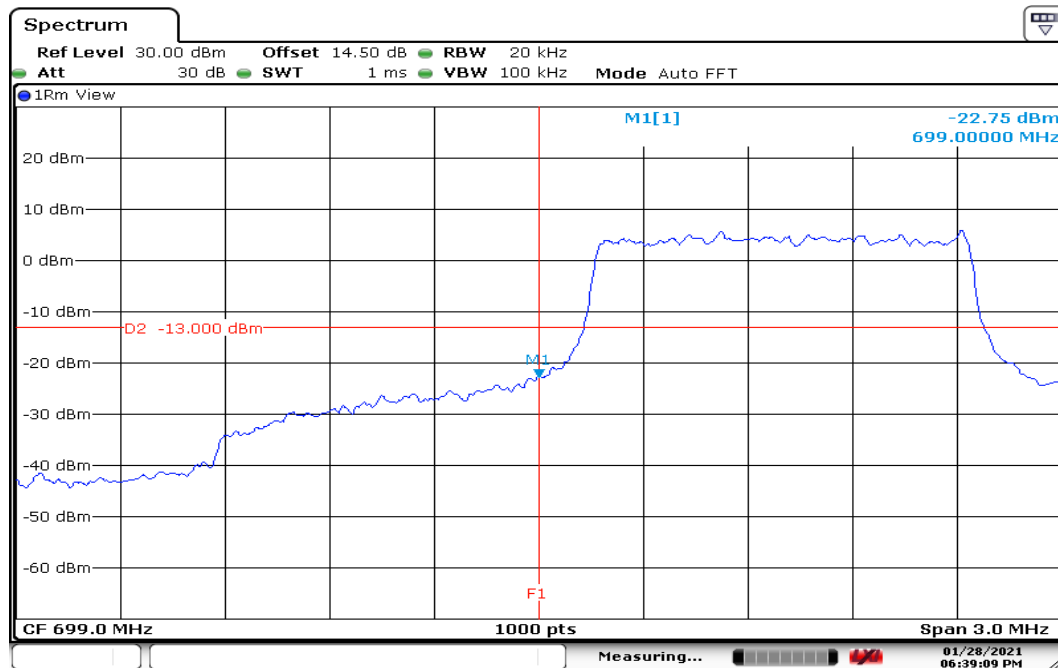
HIGHER BAND EDGE



Date: 28 JAN 2021 18:30:01

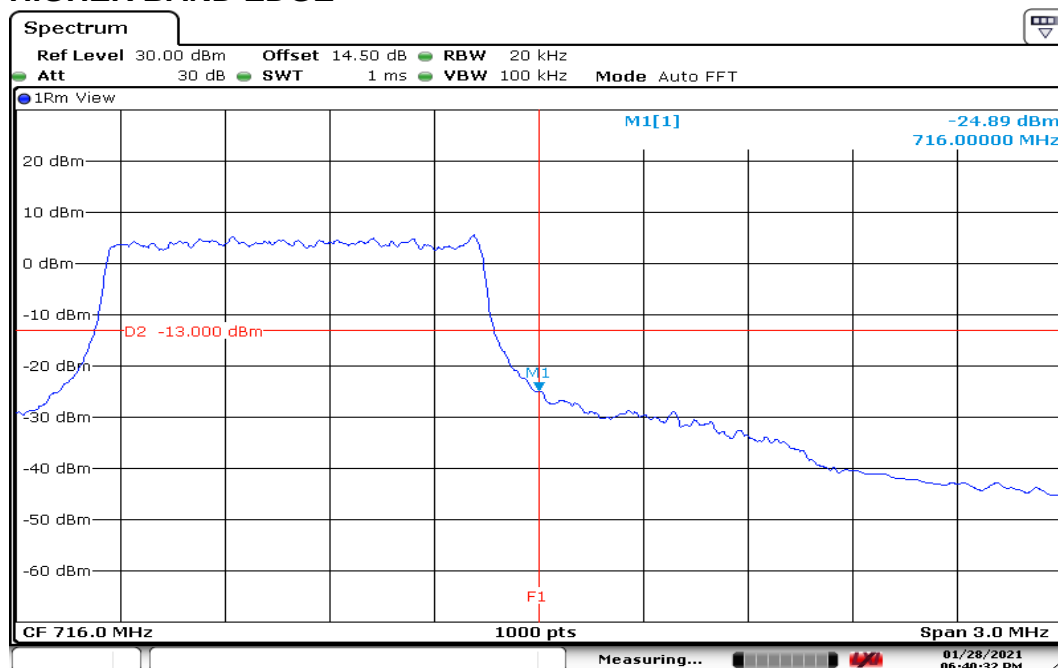
Report No.: T201116W03-RP3

CHANNEL BANDWIDTH: 1.4MHz / QPSK / 100%RB ALLOCATED LOWER BAND EDGE



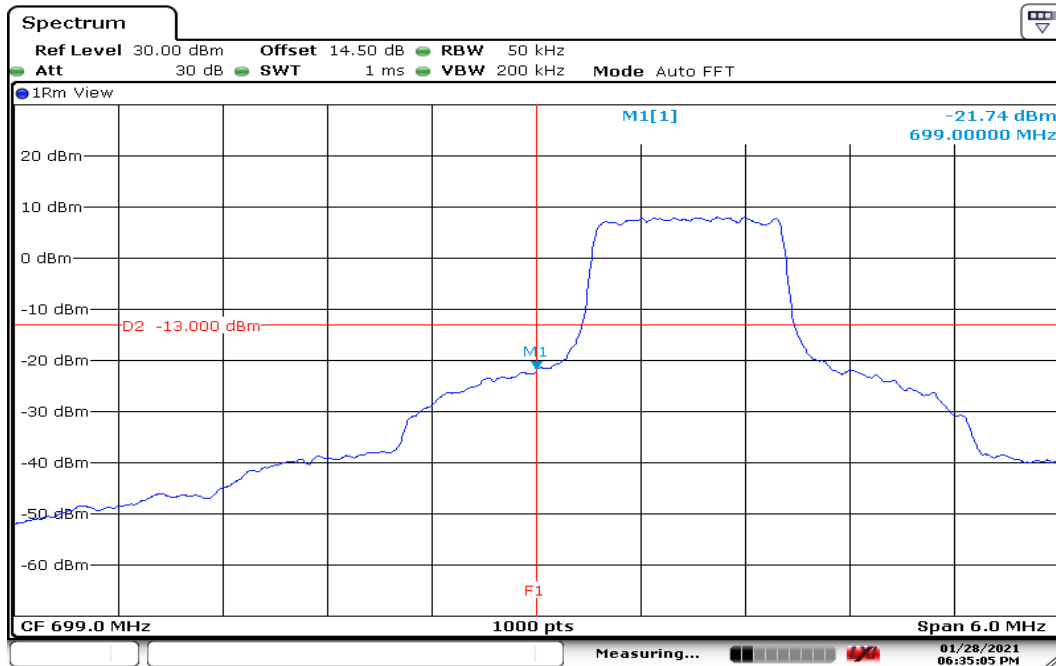
Date: 28 JAN 2021 18:39:09

HIGHER BAND EDGE



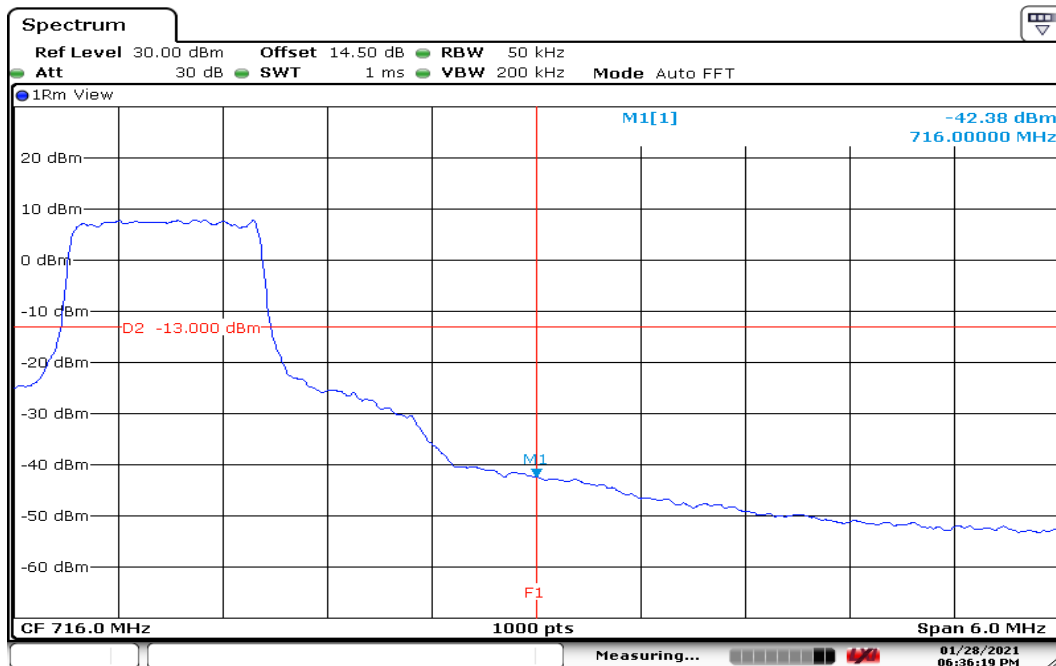
Date: 28 JAN 2021 18:40:32

CHANNEL BANDWIDTH: 3MHz / QPSK / 100%RB ALLOCATED LOWER BAND EDGE



Date: 28 JAN 2021 18:35:05

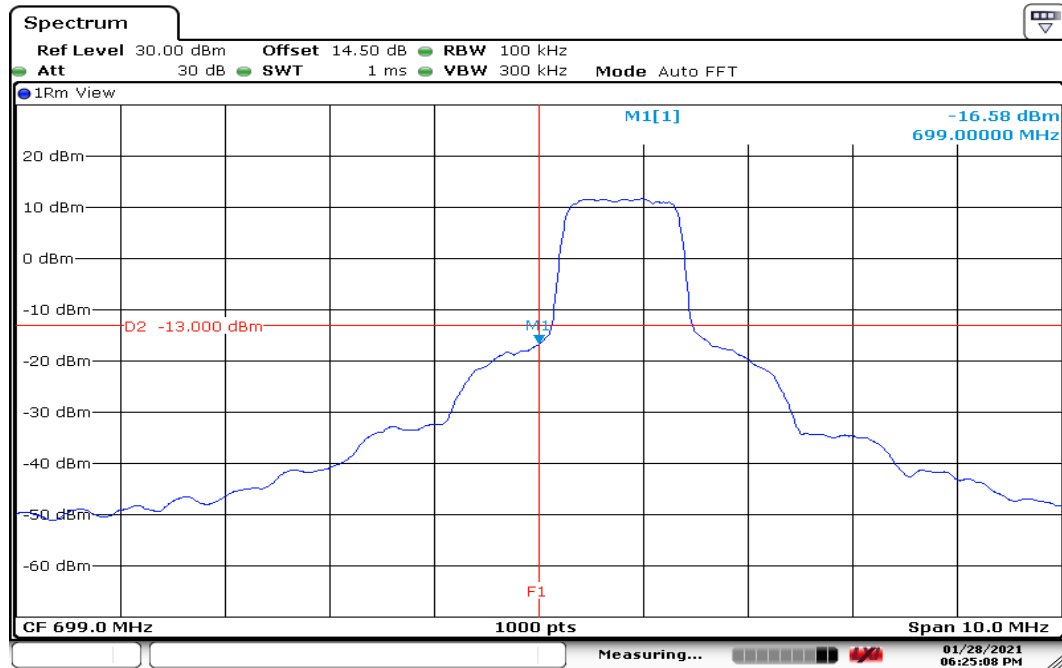
HIGHER BAND EDGE



Date: 28 JAN 2021 18:36:20

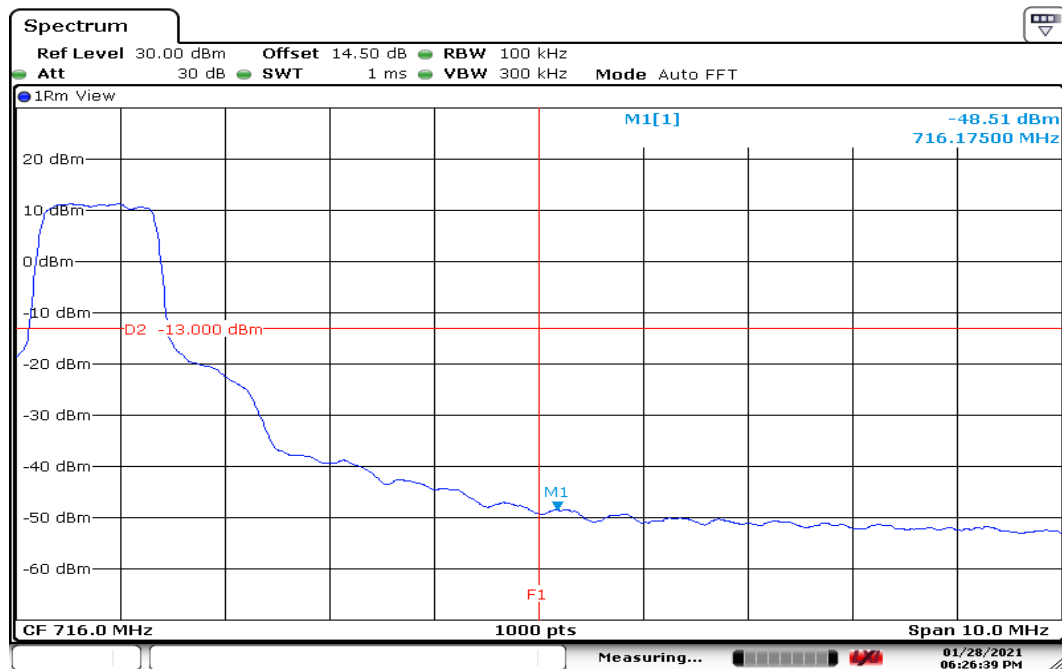
Report No.: T201116W03-RP3

CHANNEL BANDWIDTH: 5MHz / QPSK / 100%RB ALLOCATED LOWER BAND EDGE



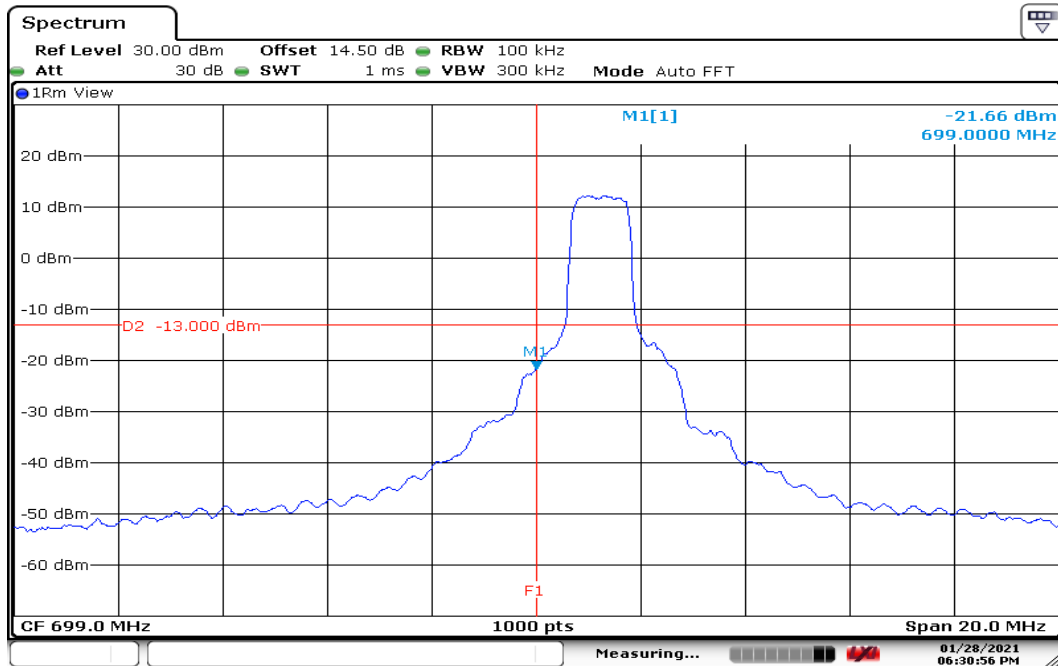
Date: 28 JAN 2021 18:25:09

HIGHER BAND EDGE



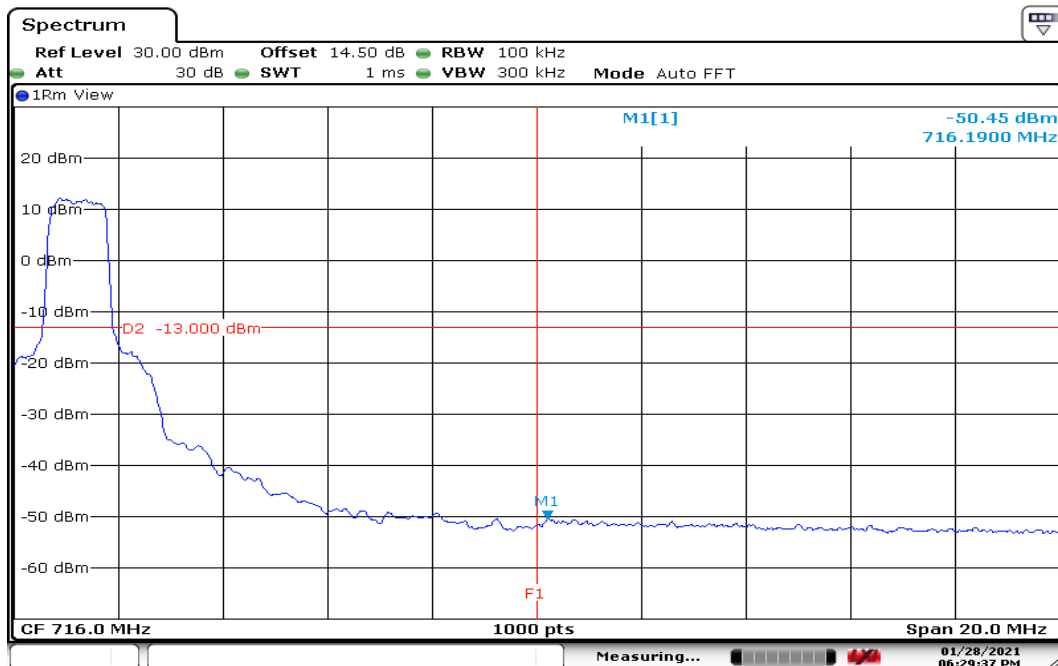
Date: 28 JAN 2021 18:26:40

CHANNEL BANDWIDTH: 10MHz / QPSK / 100%RB ALLOCATED LOWER BAND EDGE



Date: 28 JAN 2021 18:30:56

HIGHER BAND EDGE



Date: 28 JAN 2021 18:29:38

8.6 CONDUCTED SPURIOUS EMISSIONS

LIMITS

The power of any emission outside a licensee's frequency block shall be attenuated below the transmitter power (P) by at least $43 + 10 \log_{10}(P)$ dB. The limit of emission equal to -13dBm

TEST PROCEDURES

1. According to KDB 971168D01, photograph 6.0
2. The EUT was connect to spectrum analyzer and call box.
3. The RF output of EUT was connected to the spectrum analyzer.
4. Set the spectrum analyzer , RBW=1MHz, VBW=3MHz.
5. Record the maximum spurious emission.
6. The fundamental frequency should be excluded against the limit in operating band.

TEST RESULTS

Temperature: 23.4°C

Humidity: 55.2% RH

Tested by: Dally Hong

Test Date: January 27, 2021

Temperature: 22.3°C

Humidity: 57% RH

Tested by: Dally Hong

Test Date: January 28, 2021



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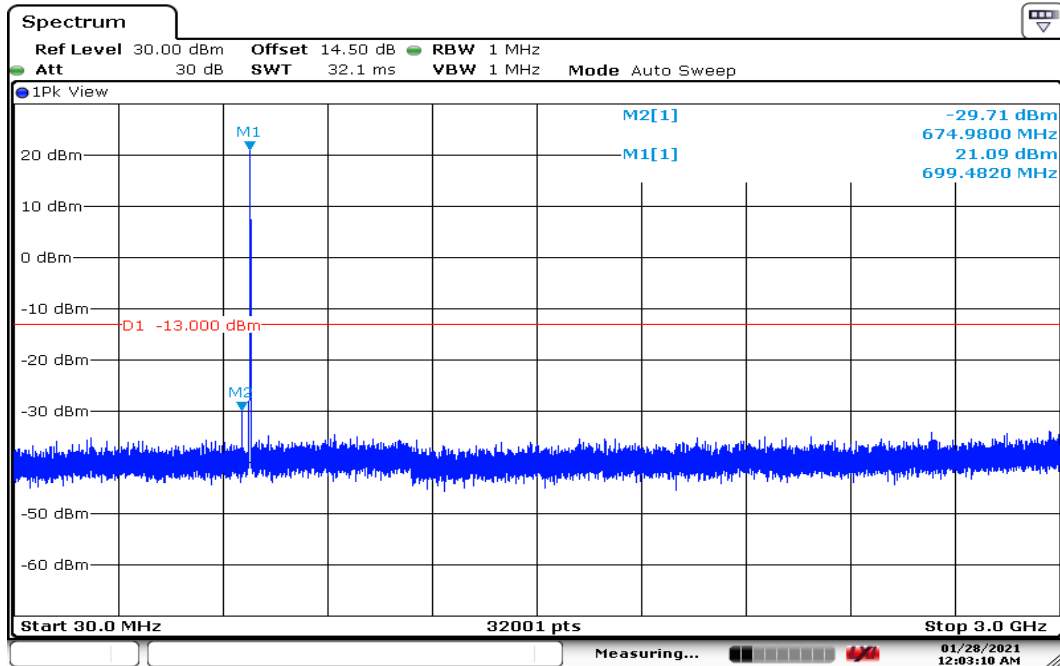
Rev.: 01

LTE Band 12

QPSK / 1RB

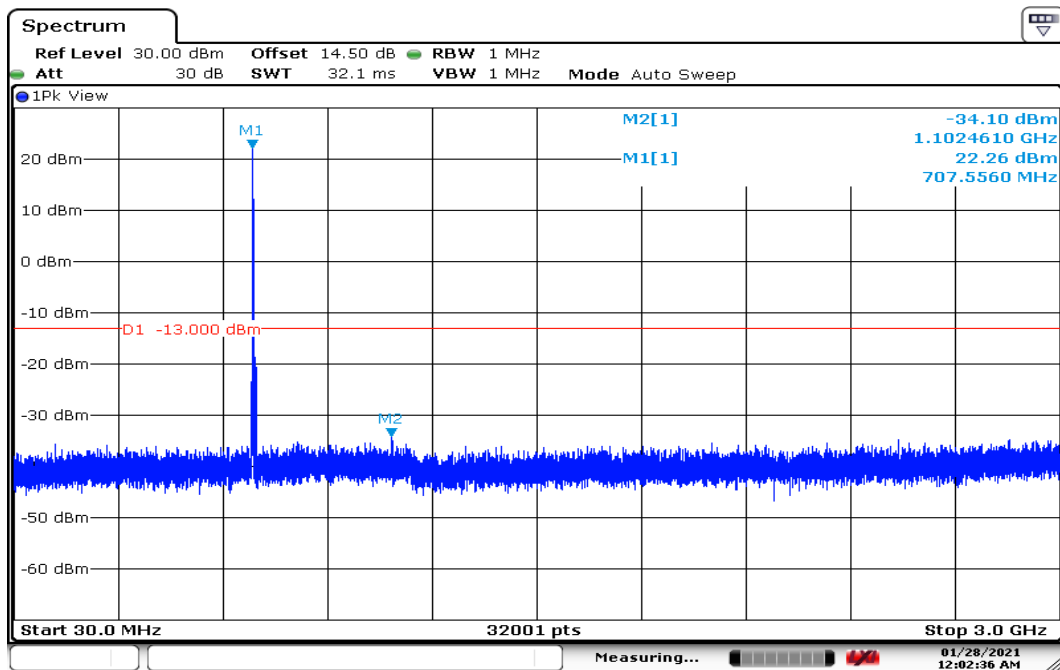
CHANNEL BANDWIDTH: 1.4MHz / 30MHz-3GHz

CH Low



Date: 28 JAN 2021 00:03:11

CH Mid



Date: 28 JAN 2021 00:02:36

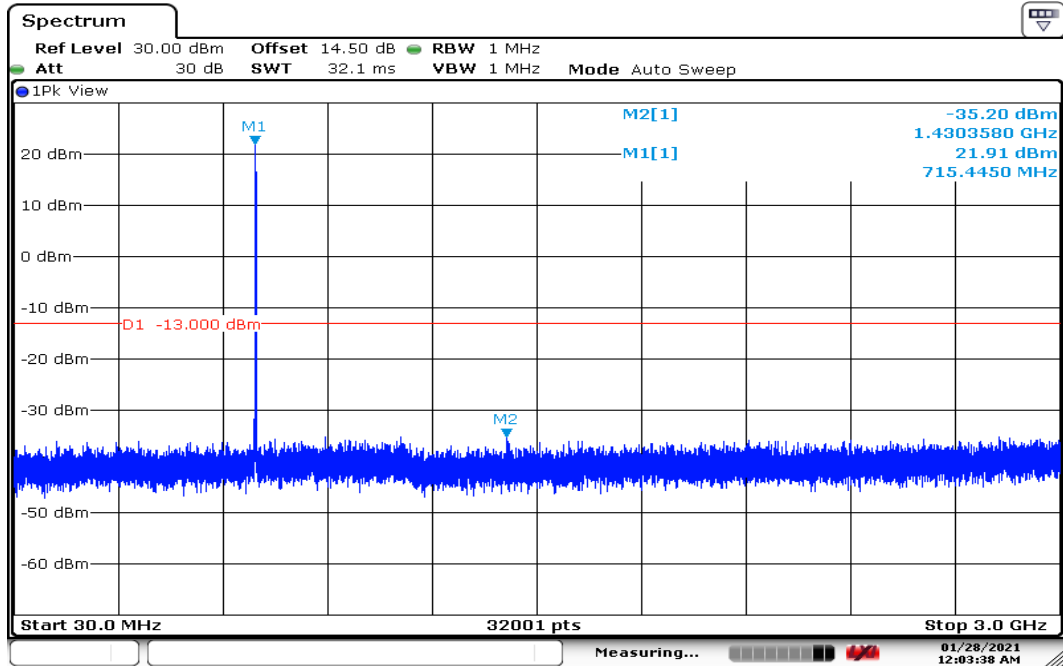


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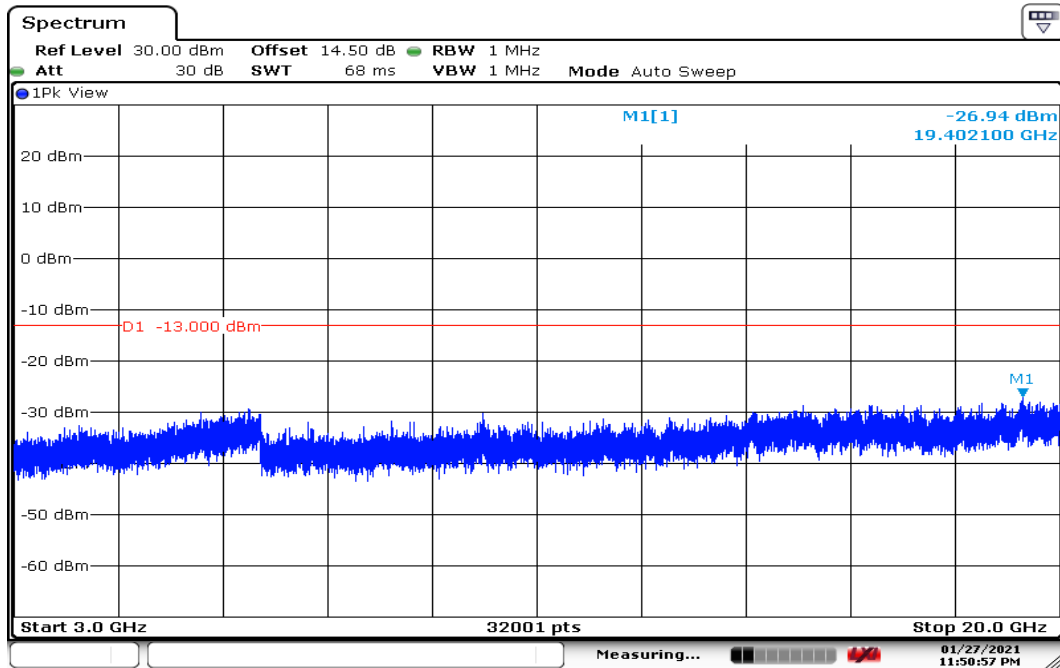
CH High



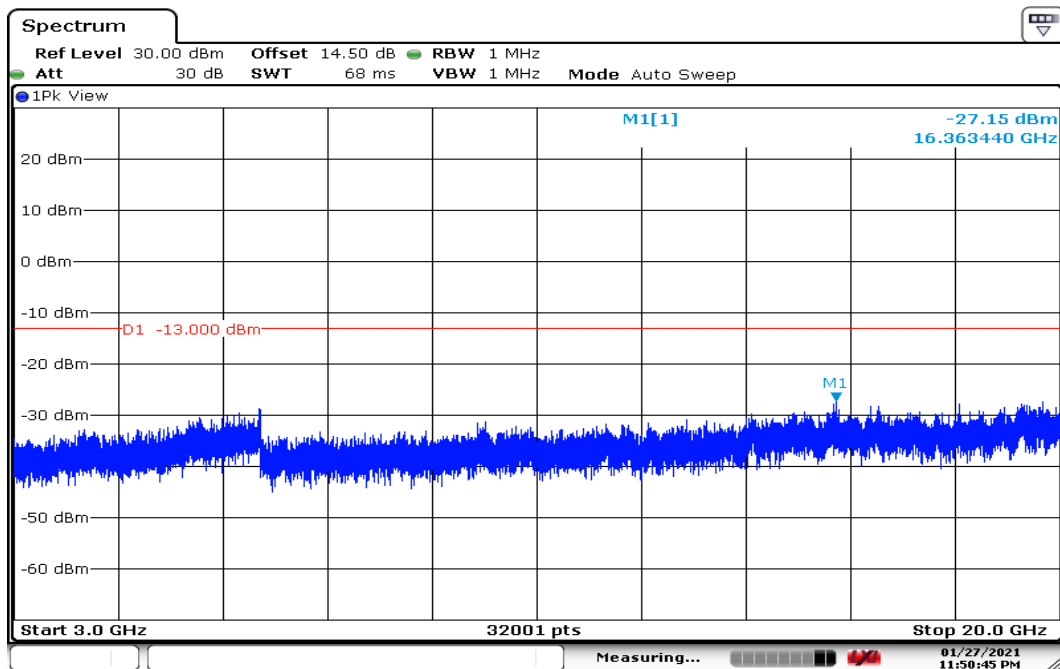
Date: 28 JAN 2021 00:03:39



Report No.: T201116W03-RP3

CHANNEL BANDWIDTH: 1.4MHz / 3GHz-20GHz**CH Low**

Date: 27 JAN 2021 23:50:57

CH Mid

Date: 27 JAN 2021 23:50:45

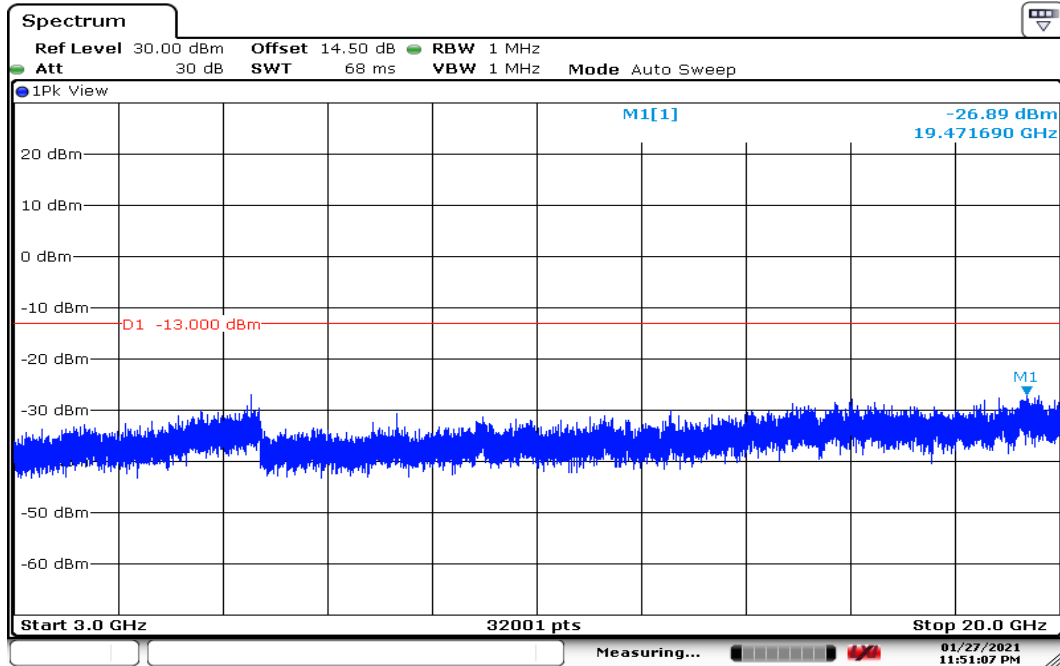


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CH High

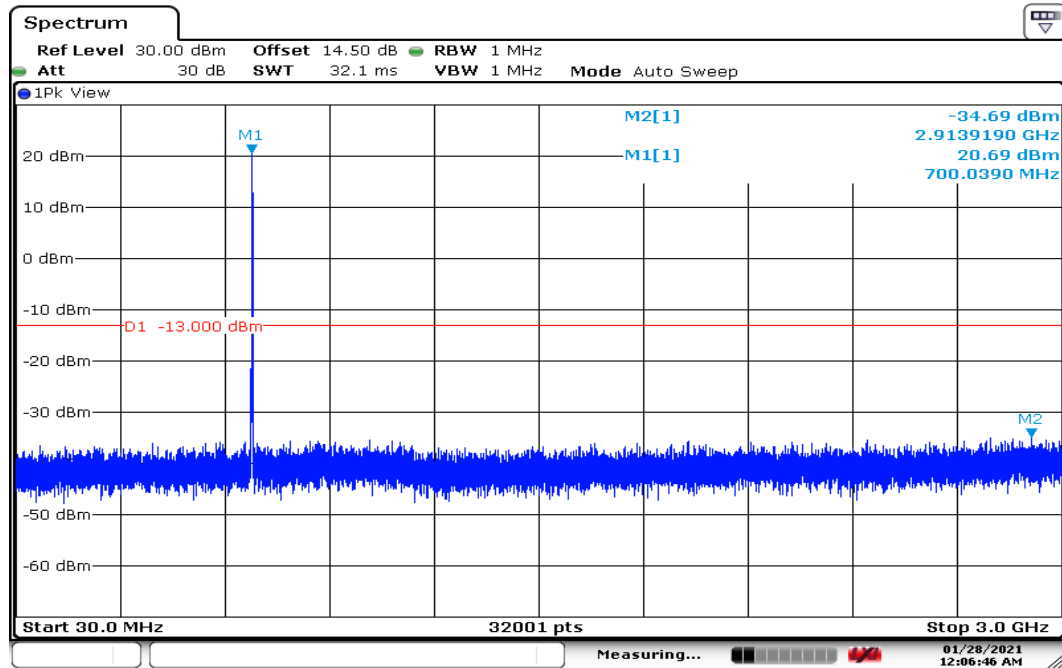


Date: 27 JAN 2021 23:51:07

Report No.: T201116W03-RP3

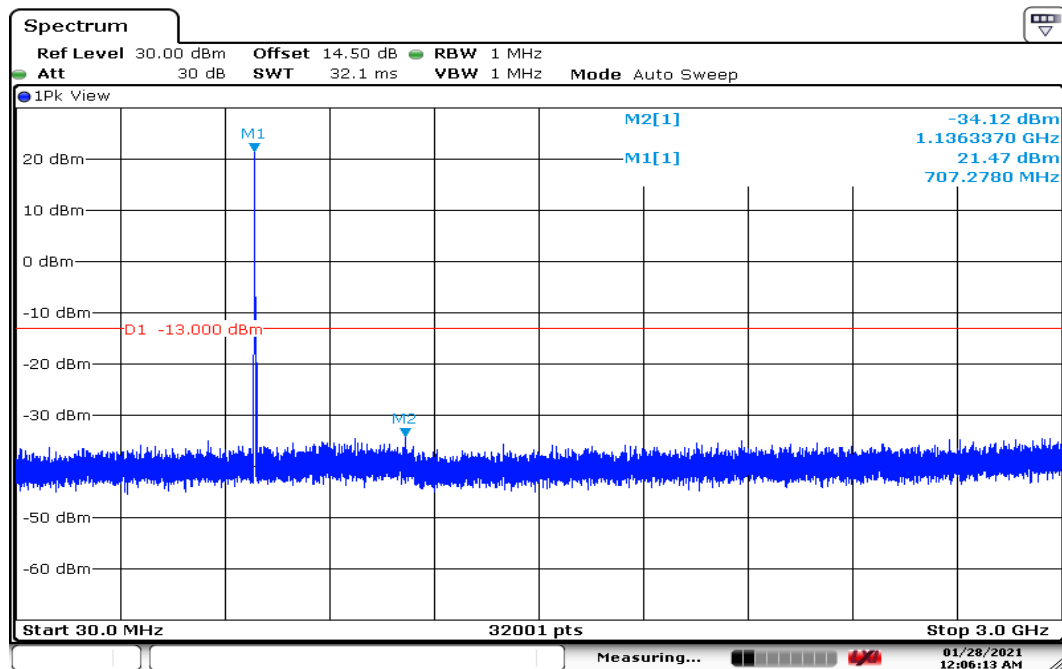
CHANNEL BANDWIDTH: 3MHz / 30MHz-3GHz

CH Low



Date: 28 JAN 2021 00:06:46

CH Mid



Date: 28 JAN 2021 00:06:13

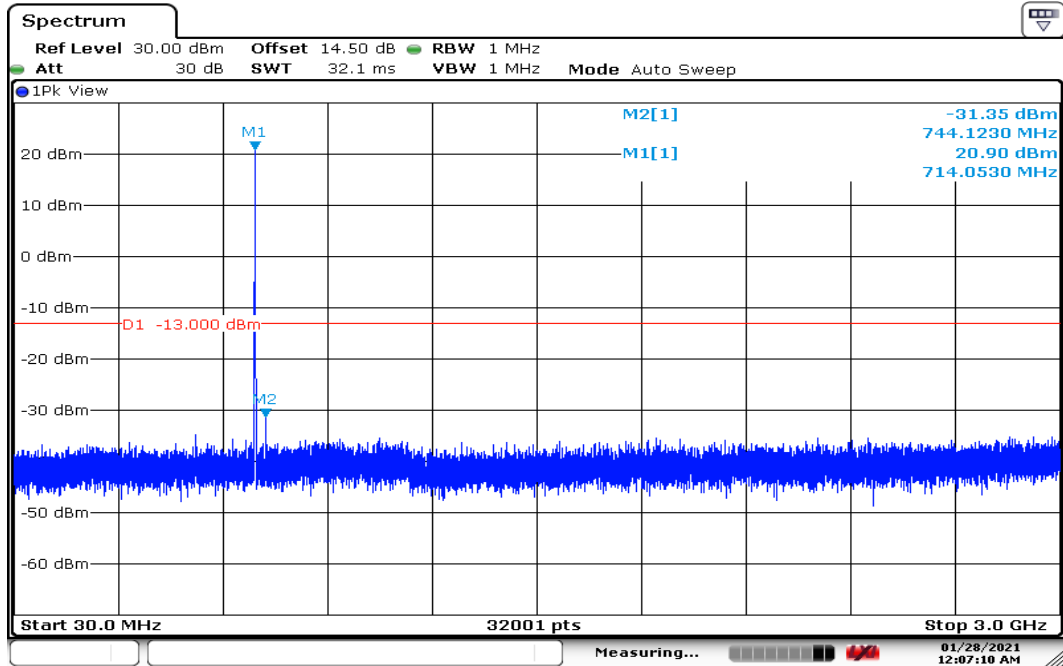


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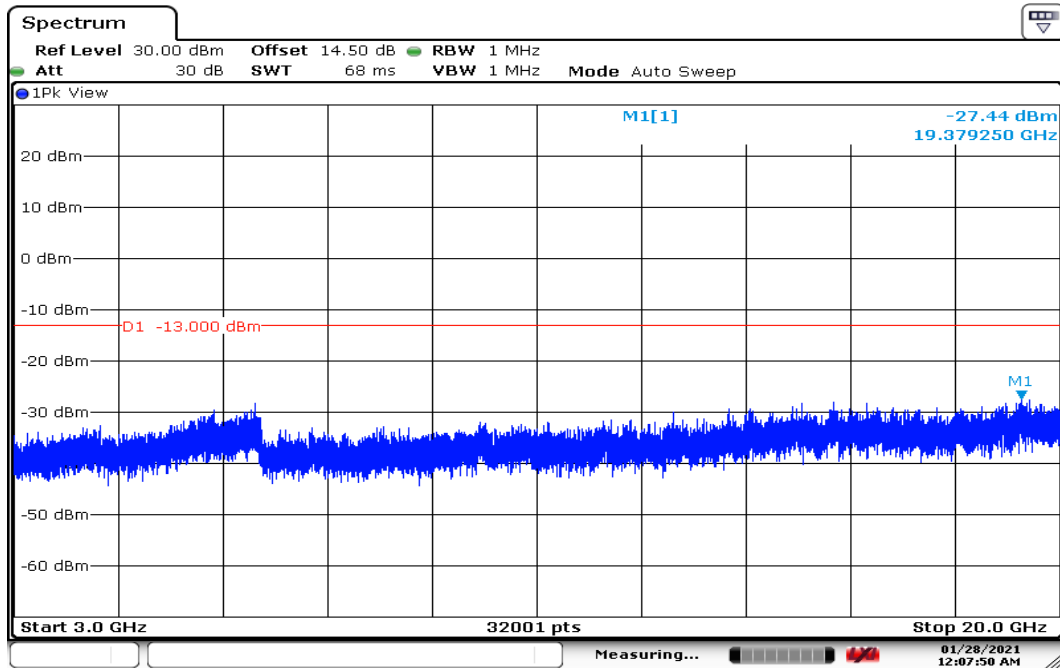
CH High



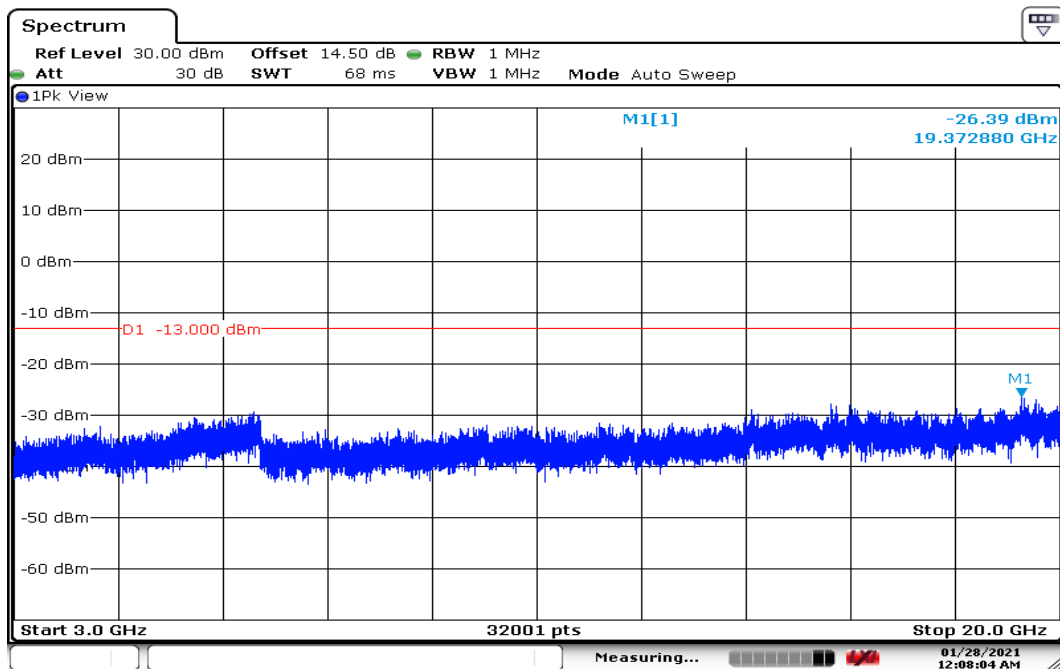
Date: 28 JAN 2021 00:07:11



Report No.: T201116W03-RP3

CHANNEL BANDWIDTH: 3MHz / 3GHz-20GHz**CH Low**

Date: 28 JAN 2021 00:07:50

CH Mid

Date: 28 JAN 2021 00:08:04

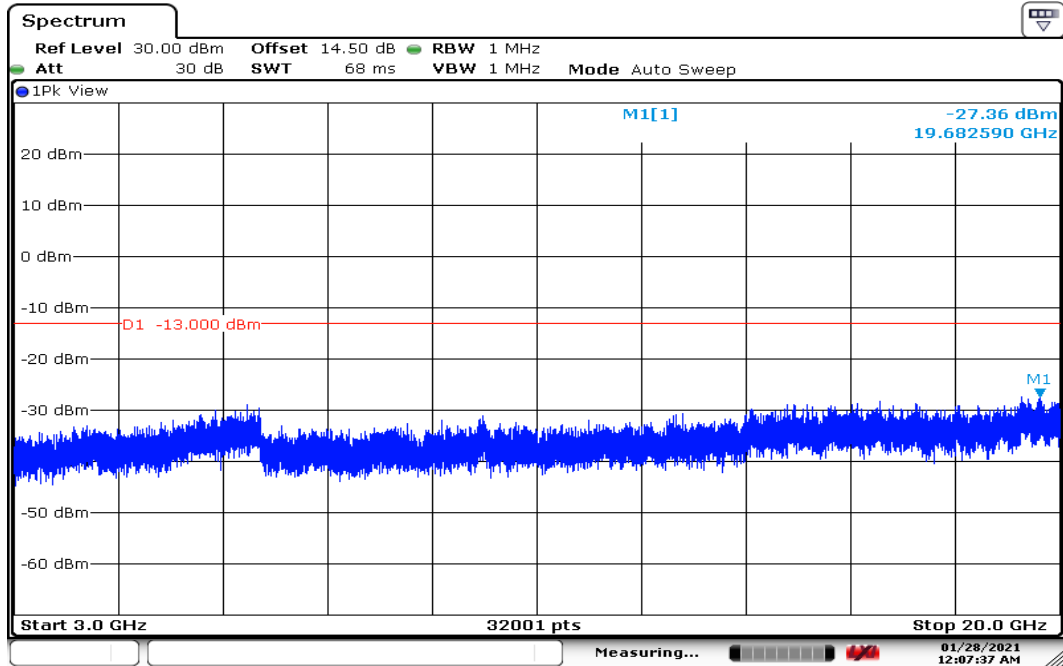


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CH High

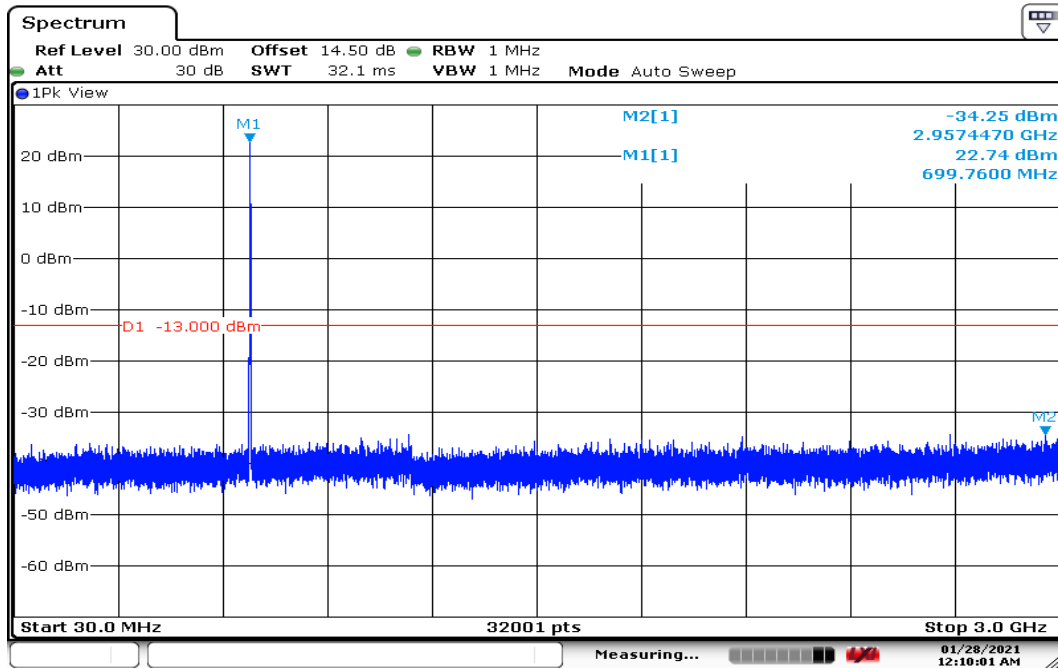


Date: 28 JAN 2021 00:07:37

Report No.: T201116W03-RP3

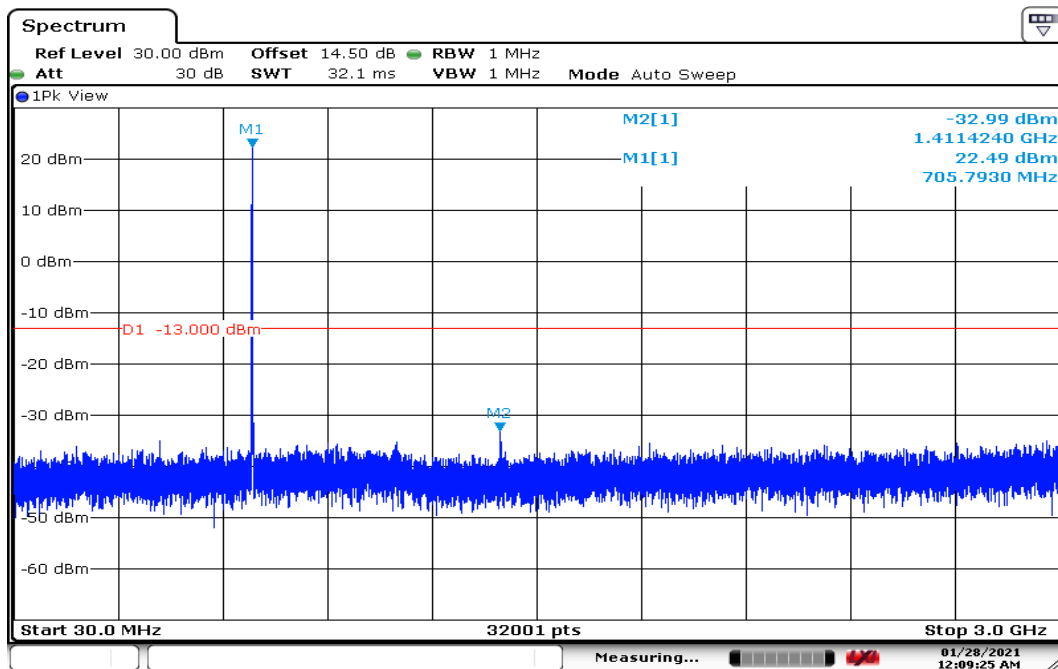
CHANNEL BANDWIDTH: 5MHz / 30MHz-3GHz

CH Low



Date: 28 JAN 2021 00:10:01

CH Mid



Date: 28 JAN 2021 00:09:25

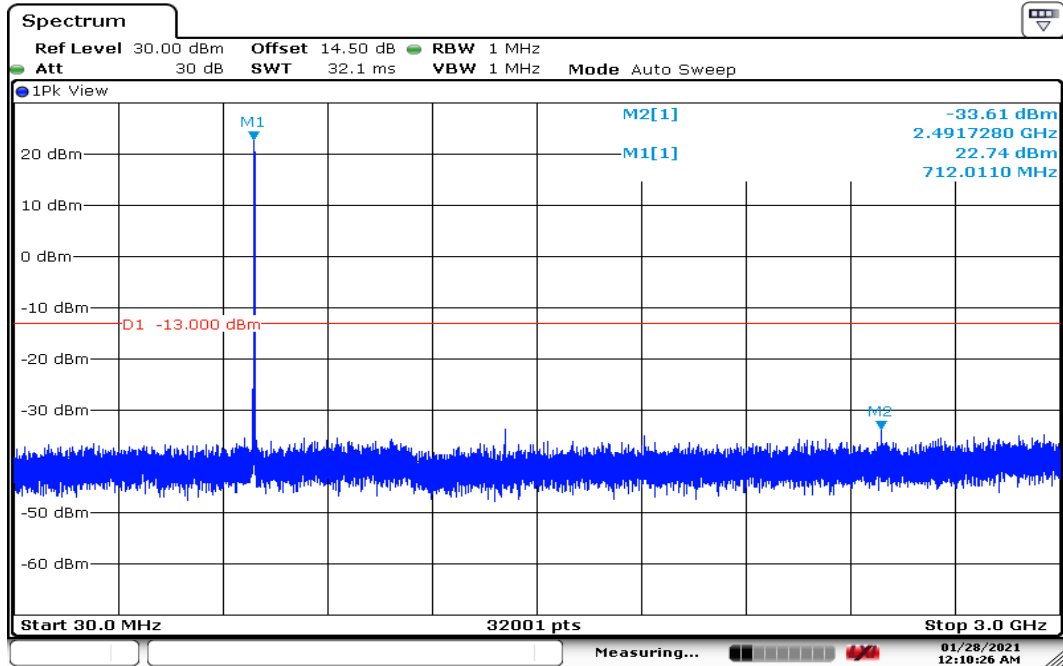


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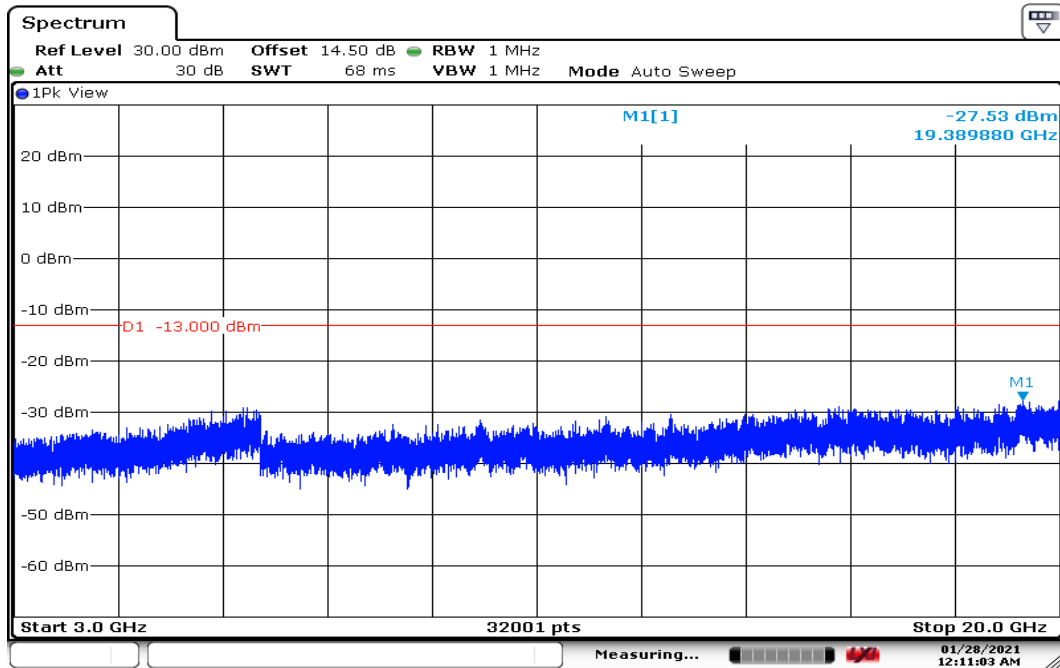
CH High



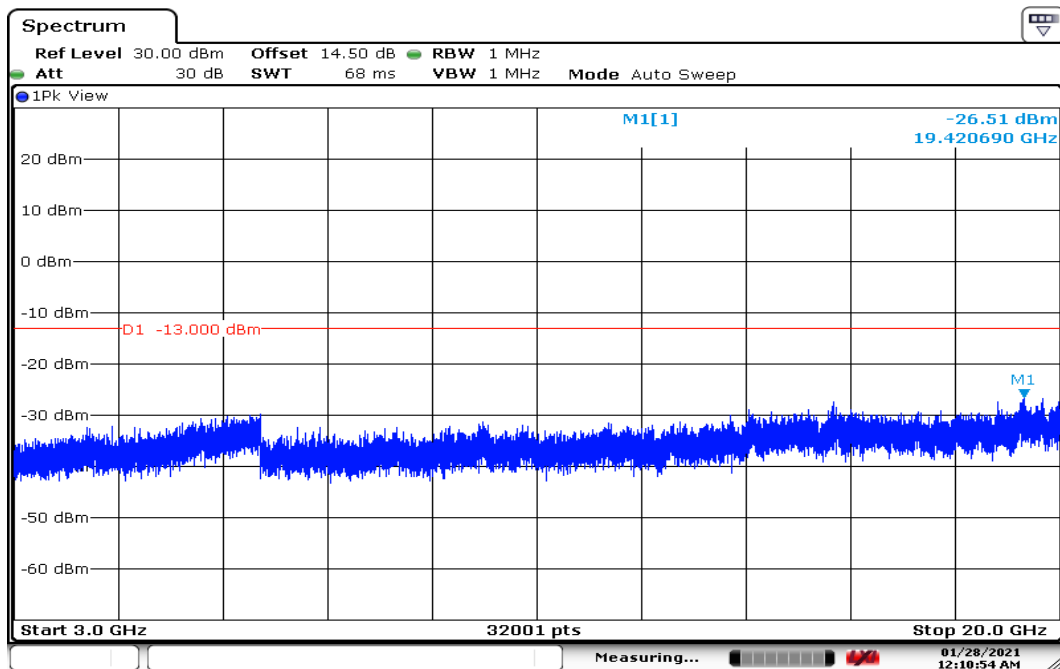
Date: 28 JAN 2021 00:10:26



Report No.: T201116W03-RP3

CHANNEL BANDWIDTH: 5MHz / 3GHz-20GHz**CH Low**

Date: 28 JAN 2021 00:11:03

CH Mid

Date: 28 JAN 2021 00:10:54

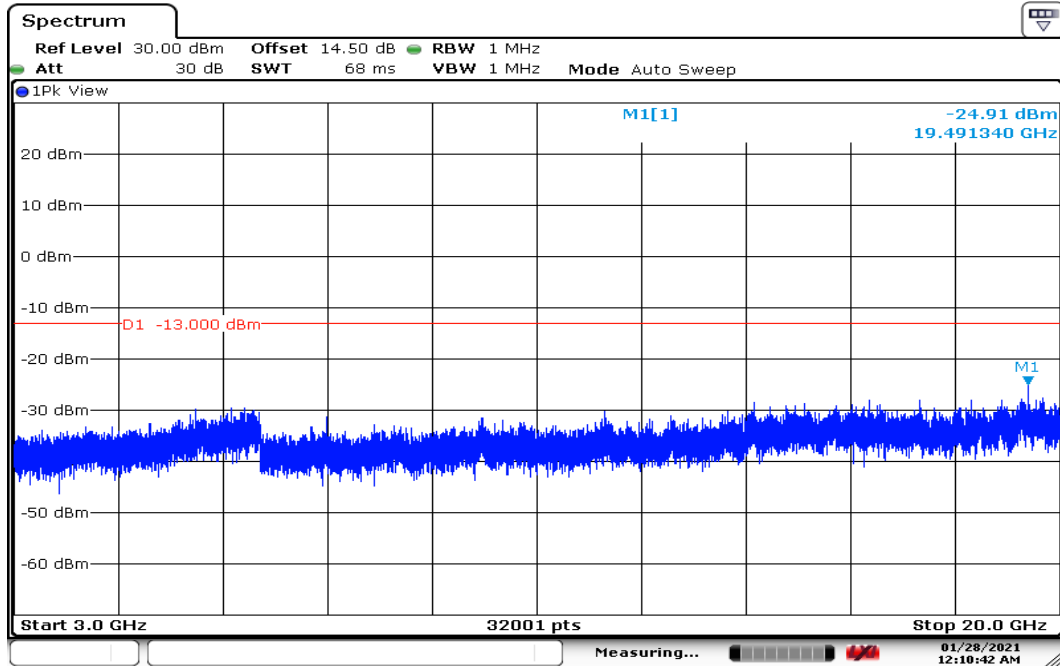


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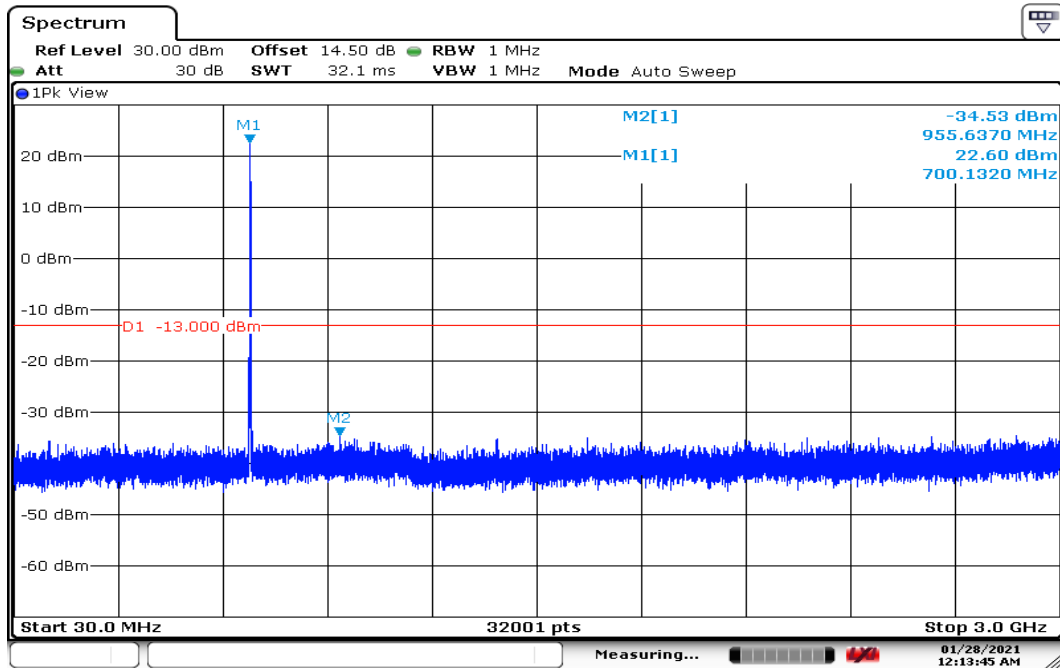
CH High



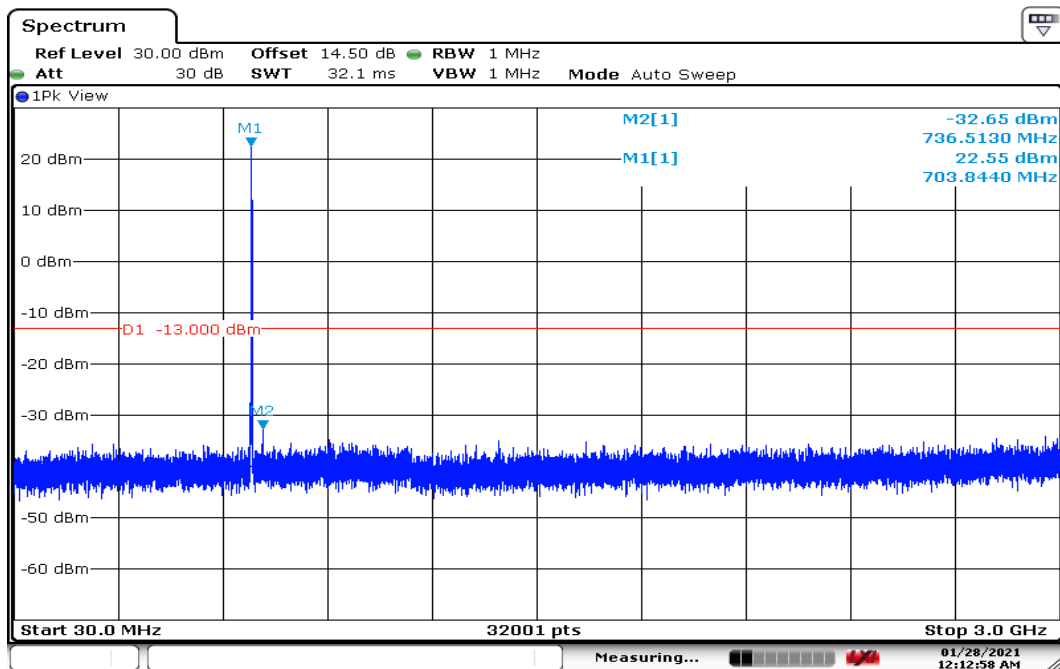
Date: 28 JAN 2021 00:10:42



Report No.: T201116W03-RP3

CHANNEL BANDWIDTH: 10MHz / 30MHz-3GHz**CH Low**

Date: 28 JAN 2021 00:13:45

CH Mid

Date: 28 JAN 2021 00:12:58

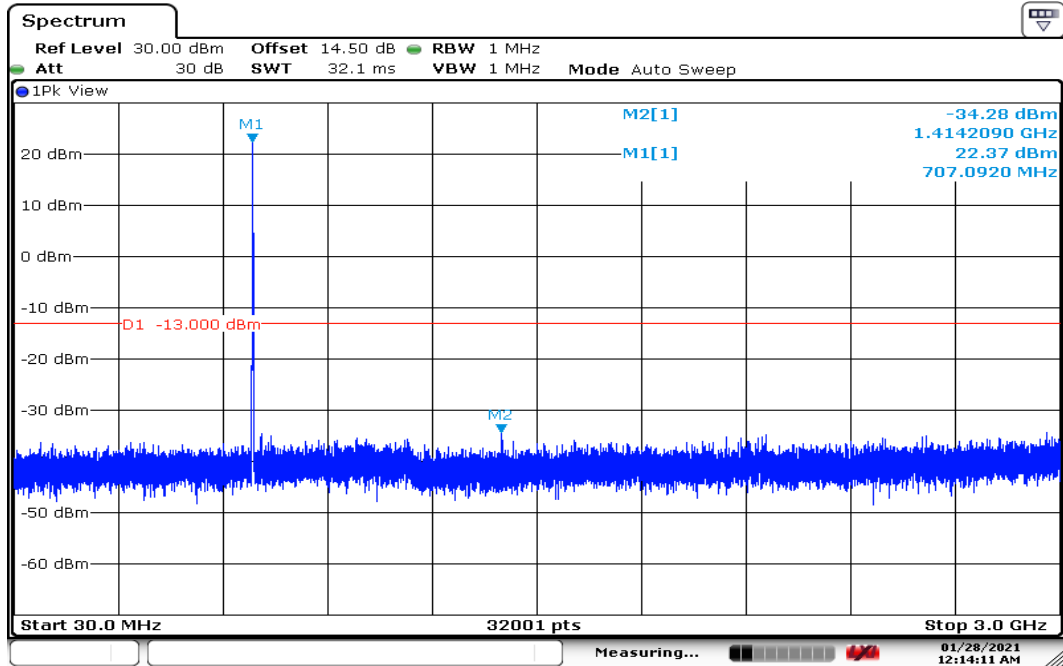


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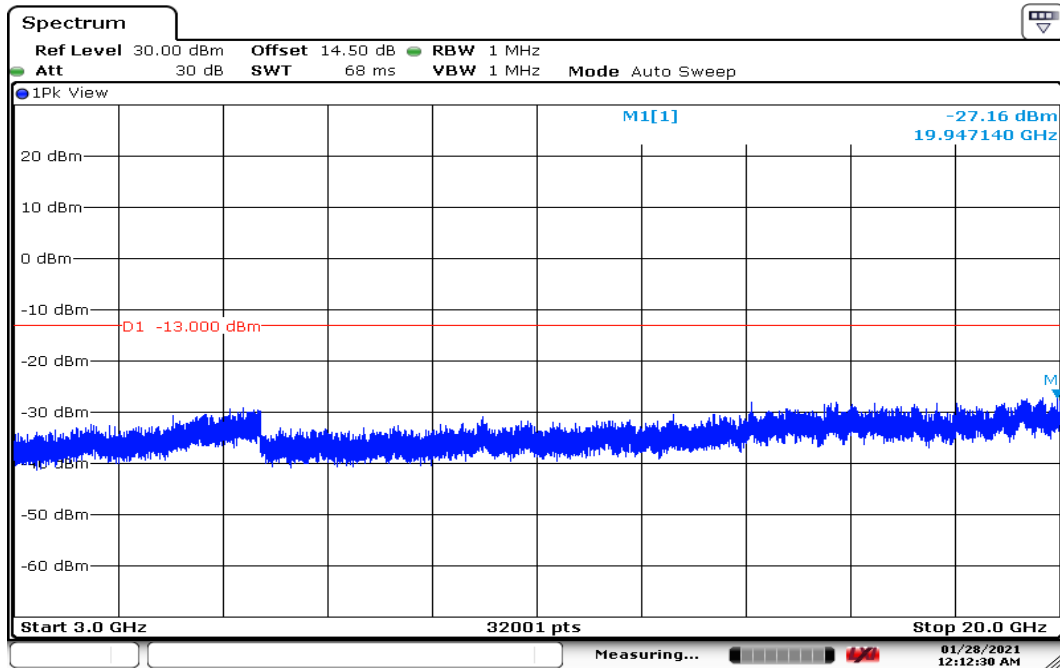
CH High



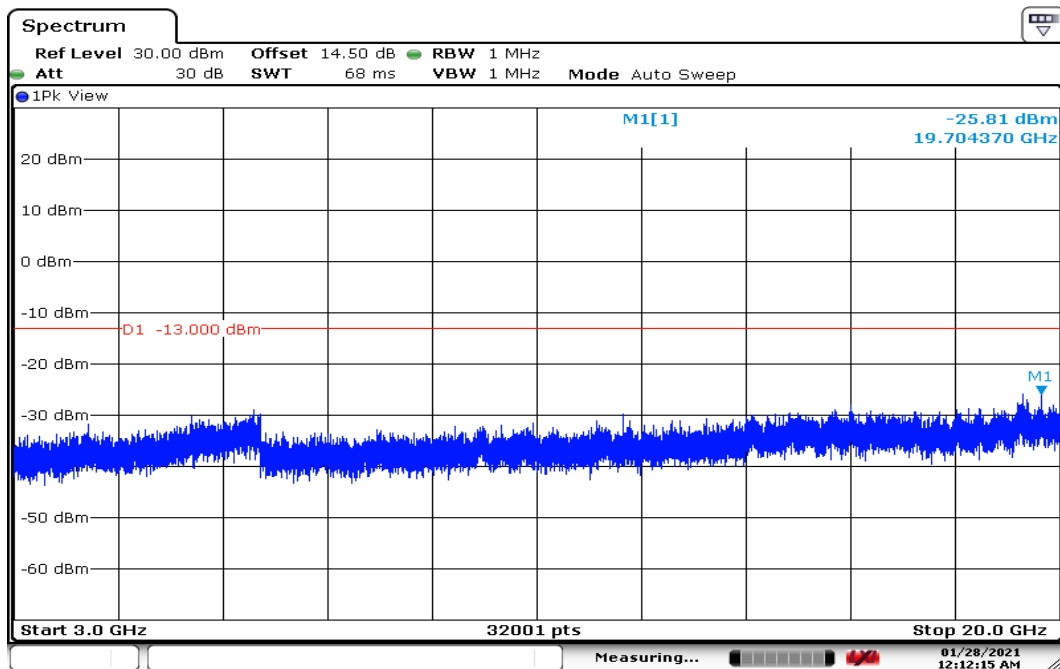
Date: 28 JAN 2021 00:14:11



Report No.: T201116W03-RP3

CHANNEL BANDWIDTH: 10MHz / 3GHz-20GHz**CH Low**

Date: 28 JAN 2021 00:12:30

CH Mid

Date: 28 JAN 2021 00:12:16

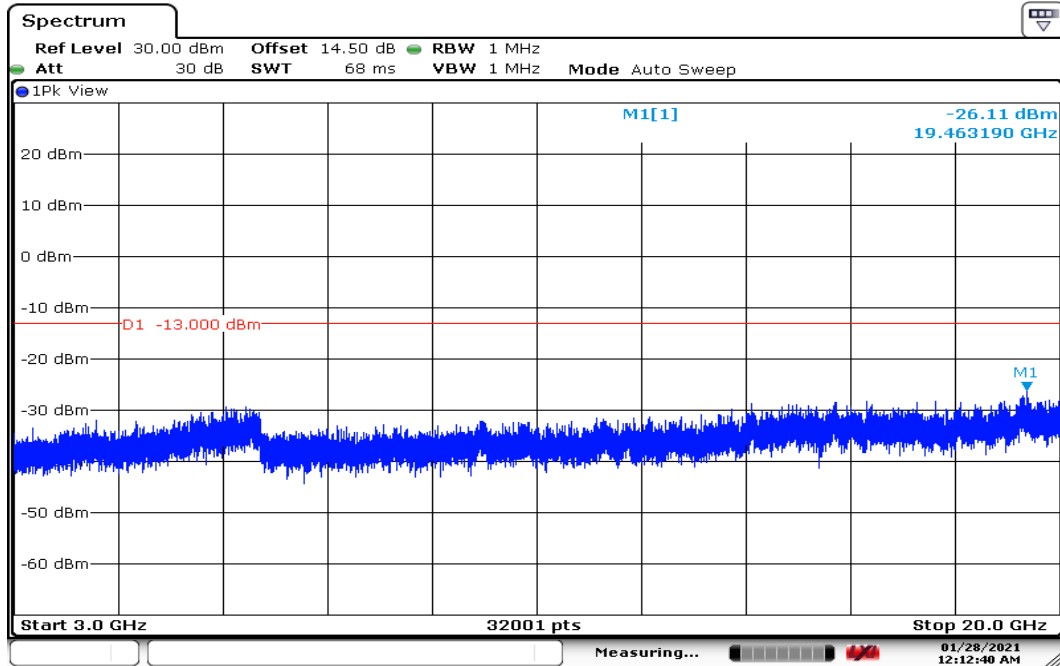


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CH High



Date: 28 JAN 2021 00:12:40

8.7 RADIATED EMISSION MEASUREMENT

LIMITS

FCC §27.53(g), Band 12

(g) For operations in the 600 MHz band and the 698-746 MHz band, the power of any emission outside a licensee's frequency band(s) of operation shall be attenuated below the transmitter power (P) within the licensed band(s) of operation, measured in watts, by at least $43 + 10 \log (P)$ dB. Compliance with this provision is based on the use of measurement instrumentation employing a resolution bandwidth of 100 kilohertz or greater. However, in the 100 kilohertz bands immediately outside and adjacent to a licensee's frequency block, a resolution bandwidth of at least 30 kHz may be employed.

TEST PROCEDURES

1. According to KDB 971168 D01 and TIA-603-E.
2. The EUT was placed on a turntable
 - (1) Below 1G : 0.8m
 - (2) Above 1G : 1.5m
 - (3) EUT set 3m from the receiving antenna
 - (4) The table was rotated 360 degrees of the highest spurious emission to determine the position.
3. Set the spectrum analyzer , RBW=1MHz, VBW=3MHz.
4. A horn antenna was driven by a signal generator.
5. Tune the output power of signal generator to the same emission level with EUT maximum spurious emission.

Test Results**LTE Band 12 / BW: 20MHz / QPSK / RB =6, RB Offset = 0****Operation Mode:** Tx / Low CH**Test Date:**

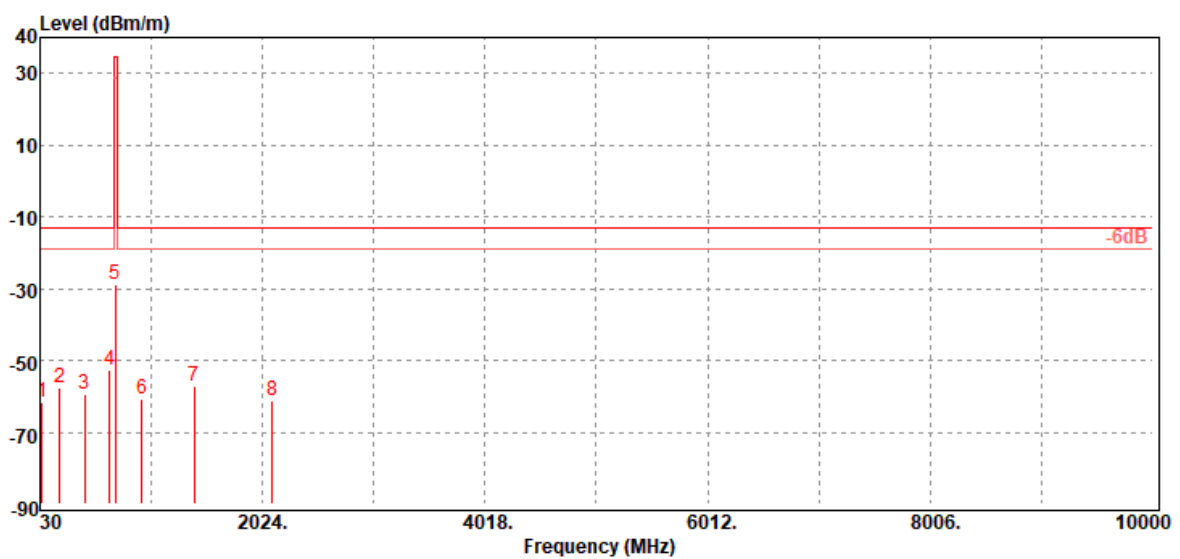
January 25, 2021

Temperature: 22.4°C**Tested by:**

Ray Li

Humidity: 64% RH**Polarity:**

Ver.



Freq. MHz	ERP/EIRP dBm	SG Output Level dBm	Antenna Gain dBd/dBi	Cable Loss dB	Limit dBm	Margin dB	Antenna Polarization (V/H)
49.40	-61.49	-48.62	-12.30	-0.57	-13.00	-48.49	V
209.45	-57.72	-54.35	-2.18	-1.19	-13.00	-44.72	V
430.61	-59.42	-55.79	-1.91	-1.72	-13.00	-46.42	V
657.59	-52.54	-48.88	-1.50	-2.16	-13.00	-39.54	V
701.24	-29.05	-25.40	-1.42	-2.23	34.77	-63.82	V
939.86	-60.84	-56.94	-1.30	-2.60	-13.00	-47.84	V
1408.00	-57.07	-61.87	8.05	-3.25	-13.00	-44.07	V
2112.00	-61.05	-66.64	9.70	-4.11	-13.00	-48.05	V

Operation Mode: Tx / Low CH

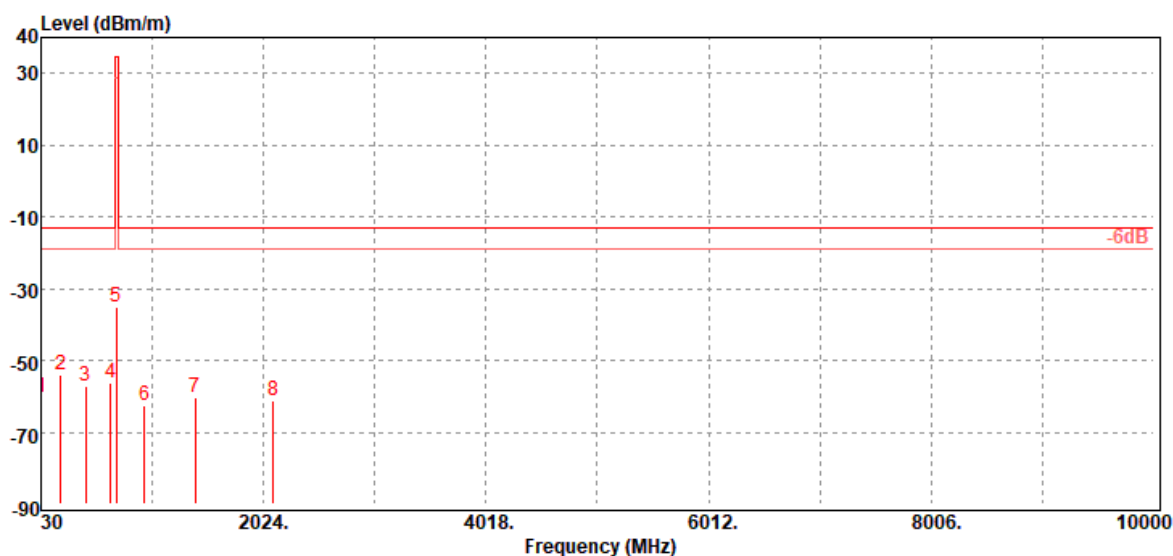
Test Date: January 25, 2021

Temperature: 22.4°C

Tested by: Ray Li

Humidity: 64% RH

Polarity: Hor.



Freq. MHz	ERP/EIRP dBm	SG Output Level dBm	Antenna Gain dBd/dBi	Cable Loss dB	Limit dBm	Margin dB	Antenna Polarization (V/H)
34.85	-60.33	-34.53	-25.32	-0.48	-13.00	-47.33	H
209.45	-54.10	-50.73	-2.18	-1.19	-13.00	-41.10	H
430.61	-57.15	-53.52	-1.91	-1.72	-13.00	-44.15	H
655.65	-56.43	-52.70	-1.57	-2.16	-13.00	-43.43	H
701.24	-35.00	-31.35	-1.42	-2.23	34.77	-69.77	H
956.35	-62.35	-58.50	-1.23	-2.62	-13.00	-49.35	H
1408.00	-60.20	-65.00	8.05	-3.25	-13.00	-47.20	H
2112.00	-61.00	-66.59	9.70	-4.11	-13.00	-48.00	H

Operation Mode: Tx / Mid CH

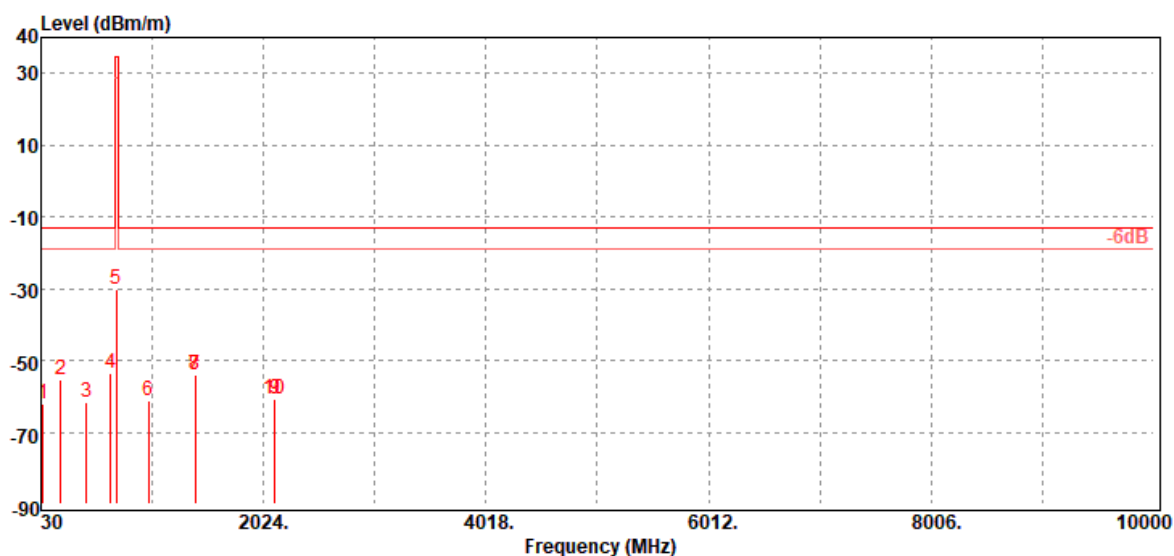
Test Date: January 25, 2021

Temperature: 22.4°C

Tested by: Ray Li

Humidity: 64% RH

Polarity: Ver.



Freq. MHz	ERP/EIRP dBm	SG Output Level dBm	Antenna Gain dBd/dBi	Cable Loss dB	Limit dBm	Margin dB	Antenna Polarization (V/H)
47.46	-62.22	-48.13	-13.53	-0.56	-13.00	-49.22	V
207.51	-55.29	-51.66	-2.45	-1.18	-13.00	-42.29	V
435.46	-61.58	-57.84	-2.01	-1.73	-13.00	-48.58	V
650.80	-53.57	-49.74	-1.68	-2.15	-13.00	-40.57	V
704.15	-30.06	-26.35	-1.48	-2.23	34.77	-64.83	V
993.21	-61.17	-57.10	-1.40	-2.67	-13.00	-48.17	V
1415.00	-53.88	-58.72	8.09	-3.25	-13.00	-40.88	V
1415.00	-53.88	-58.72	8.09	-3.25	-13.00	-40.88	V
2122.50	-60.86	-66.36	9.62	-4.12	-13.00	-47.86	V
2122.50	-60.86	-66.36	9.62	-4.12	-13.00	-47.86	V

Operation Mode: Tx / Mid CH

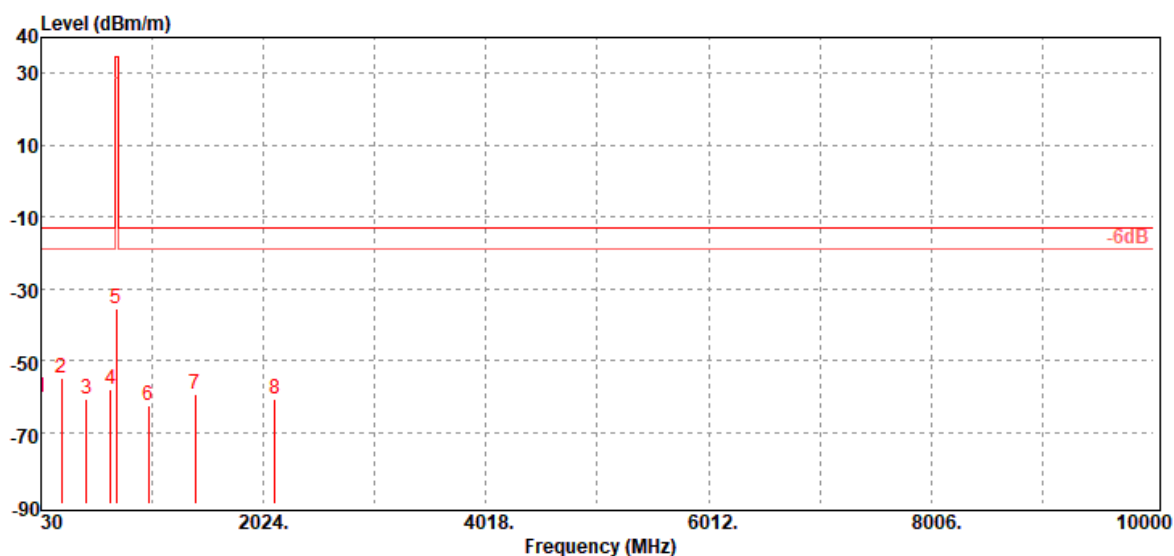
Test Date: January 25, 2021

Temperature: 22.4°C

Tested by: Ray Li

Humidity: 64% RH

Polarity: Hor.



Freq. MHz	ERP/EIRP dBm	SG Output Level dBm	Antenna Gain dBd/dBi	Cable Loss dB	Limit dBm	Margin dB	Antenna Polarization (V/H)
34.85	-60.46	-34.66	-25.32	-0.48	-13.00	-47.46	H
211.39	-54.79	-51.50	-2.10	-1.19	-13.00	-41.79	H
434.49	-60.94	-57.22	-1.99	-1.73	-13.00	-47.94	H
655.65	-57.88	-54.15	-1.57	-2.16	-13.00	-44.88	H
704.15	-35.68	-31.97	-1.48	-2.23	34.77	-70.45	H
990.30	-62.53	-58.47	-1.40	-2.66	-13.00	-49.53	H
1415.00	-59.43	-64.27	8.09	-3.25	-13.00	-46.43	H
2122.50	-60.71	-66.21	9.62	-4.12	-13.00	-47.71	H

Operation Mode: Tx / High CH

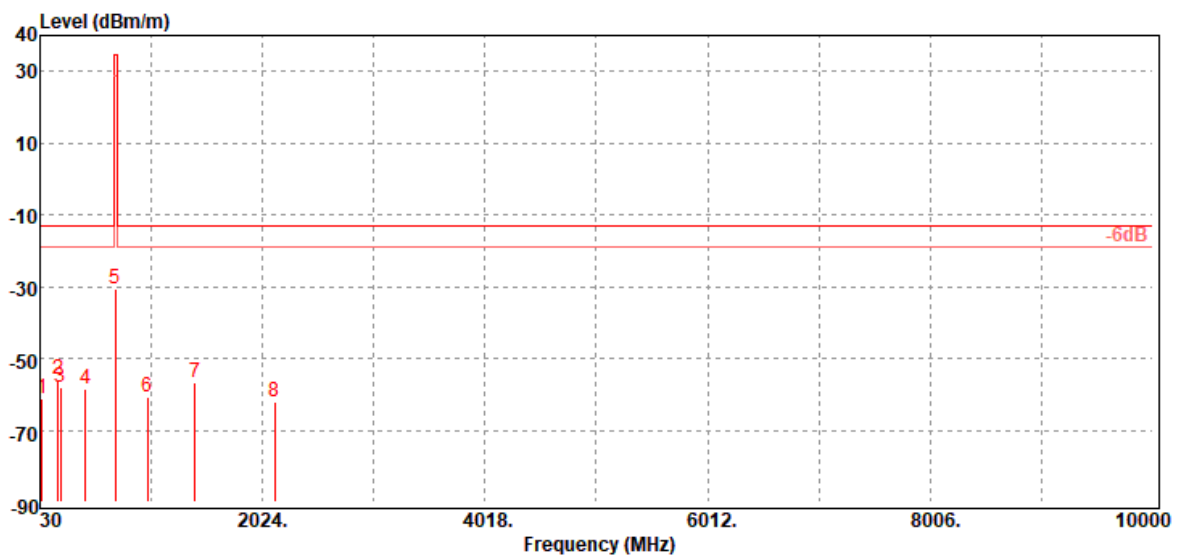
Test Date: January 25, 2021

Temperature: 22.4°C

Tested by: Ray Li

Humidity: 64% RH

Polarity: Ver.



Freq. MHz	ERP/EIRP dBm	SG Output Level dBm	Antenna Gain dBd/dBi	Cable Loss dB	Limit dBm	Margin dB	Antenna Polarization (V/H)
49.40	-61.37	-48.50	-12.30	-0.57	-13.00	-48.37	V
191.99	-56.00	-50.76	-4.10	-1.14	-13.00	-43.00	V
212.36	-57.96	-54.66	-2.10	-1.20	-13.00	-44.96	V
439.34	-58.32	-54.49	-2.09	-1.74	-13.00	-45.32	V
707.06	-30.63	-26.93	-1.46	-2.24	34.77	-65.40	V
992.24	-60.76	-56.69	-1.40	-2.67	-13.00	-47.76	V
1422.00	-56.90	-61.77	8.13	-3.26	-13.00	-43.90	V
2133.00	-62.17	-67.57	9.54	-4.14	-13.00	-49.17	V

Report No.: T201116W03-RP3

Operation Mode: Tx / High CH

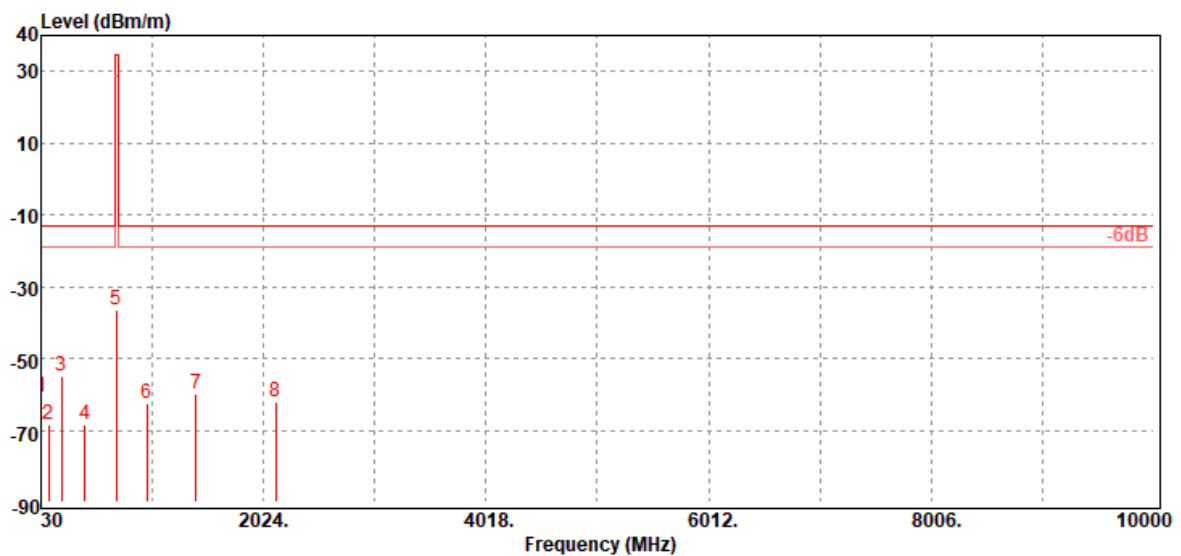
Test Date: January 25, 2021

Temperature: 22.4°C

Tested by: Ray Li

Humidity: 64% RH

Polarity: Hor.



Freq. MHz	ERP/EIRP dBm	SG Output Level dBm	Antenna Gain dBd/dBi	Cable Loss dB	Limit dBm	Margin dB	Antenna Polarization (V/H)
33.88	-60.70	-34.09	-26.13	-0.48	-13.00	-47.70	H
95.96	-68.31	-60.11	-7.40	-0.80	-13.00	-55.31	H
212.36	-54.75	-51.45	-2.10	-1.20	-13.00	-41.75	H
419.94	-68.34	-64.74	-1.90	-1.70	-13.00	-55.34	H
707.06	-36.48	-32.78	-1.46	-2.24	34.77	-71.25	H
978.66	-62.51	-58.53	-1.33	-2.65	-13.00	-49.51	H
1422.00	-59.81	-64.68	8.13	-3.26	-13.00	-46.81	H
2133.00	-62.24	-67.64	9.54	-4.14	-13.00	-49.24	H

- End of Test Report -