



Test Report No.:
FCC2023-0044-RF

RF Test Report

EUT : Pulse Oximeter
MODEL : BM1000
BRAND NAME : BERRY
APPLICANT : Shenzhen D-Health Medical Technology
Co., Ltd.
Classification Of Test : N/A

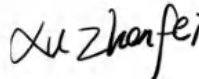
CVC Testing Technology Co., Ltd.



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Test Report No.: FCC2023-0044-RF

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Applicant		Name : Shenzhen D-Health Medical Technology Co., Ltd. Address : Unit 501, No. 1 Juyin Technology Industrial Plant, Jihua Street, Longgang District, Shenzhen, China 518112	
Manufacturer		Name : Shanghai Berry Electronic Tech Co.,Ltd. Address : Unit 104, 1st Floor, 7th building, No.1188 Lianhang Road, Minhang District, Shanghai,China 201112	
Equipment Under Test		Name : Pulse Oximeter Model/Type: BM1000 Brand : BERRY Serial NO.: N/A Sample NO.: 3-1	
Date of Receipt.	2023.07.19	Date of Testing	2023.07.19~2023.09.13
Test Specification		Test Result	
ANSI C63.26-2015, 47 CFR Part 2, 24(E), 27(L) ANSI/TIA-603-E		PASS	
Evaluation of Test Result		The equipment under test was found to comply with the requirements of the standards applied. Seal of CVC Issue Date: 2023.09.13	
Tested by:  Lu Wei Ji Name Signature		Reviewed by:  Xu Zhen Fei Name Signature	Approved by:  Chen Hua Wen Name Signature
Other Aspects: NONE.			
Abbreviations:OK, Pass= passed Fail = failed N/A= not applicable EUT= equipment, sample(s) under tested			

This test report relates only to the EUT, and shall not be reproduced except in full, without written approval of CVC.



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RELEASE CONTROL RECORD

ISSUE NO.	REASON FOR CHANGE	DATE ISSUED
FCC2023-0044-RF	Original release	2023.09.13



1 SUMMARY OF TEST RESULTS

STANDARD SECTION	TEST TYPE AND LIMIT	LIMIT	REPORT SECTION	RESULT
§2.1046	Conducted power output	---	Appendix A	Report Only
§27.50(b)(10) §27.50(c)(10)	Effective Radiated Power (LTE B12)	ERP < 3 Watt		PASS
§24.232(c) §27.50(h)(2)	Equivalent Isotropic Radiated Power(LTE B2)	EIRP < 2Watt		
§2.1049	Occupied Bandwidth	---	Appendix C	Report Only
§24.232(d)	Peak-to-Average Power Ratio	<13 dB	Appendix B	PASS
§24.235 §27.54	Frequency Stability	Within authorized bands of operation/frequency block.	Appendix F	PASS
§2.1051 §24.238(a)	Band Edge Compliance (LTE B2)	< 43+10log10(P[Watts])	Appendix D	PASS
§2.1051 §27.53(g)	Band Edge Compliance (LTE B12)			
§2.1051 §24.238(a)	Conducted Spurious Emission (LTE B2)	< 43+10log10(P[Watts])	Appendix E	PASS
§2.1051 §27.53(g)	Conducted Spurious Emission (LTE B12)			
§2.1051 §27.53(g)	Radiates Spurious Emission (LTE B12)	< 43+10log10(P[Watts])	3.6	PASS
§2.1051 §24.238(a)	Radiates Spurious Emission (LTE B2)			



1.1 LIST OF TEST AND MEASUREMENT INSTRUMENTS

Test Equipment	Type/Mode	SERIAL NO.	Equipment No.	Manufacturer	Cal. interval	Cal. Due
GSM/WCDMA/LTE/NB-IOT Test System						
Communication Shielded Room 1	4m*3m*3m	CRTDSWKS R44301	VGDS-0699	CRT	3 year	2024/04/24
Spectrum Analyzer	FSV30	104337	DZ-000235	R&S	1 year	2023/12/06
Comprehensive Test Instrument	CMW500	137779	DZ-000220	R&S	1 year	2024/07/04
Comprehensive Test Instrument	CMW500	169888	DZ-000342	R&S	1 year	2023/12/06
LTE Comprehensive Test Instrument	E7515A	MY58010639	DZ-000173	KEYSIGHT	1 year	2024/03/27
Analog Signal Generator	SMA100B	103663	DZ-000239-2	R&S	1 year	2024/08/17
Vector Signal Generator	SMBV100B	101757	DZ-000239-1	R&S	1 year	2024/05/29
Programmable DC Power Supply	E3642A	MY59108106	DZ-000242-2	KEYSIGHT	1 year	2024/08/03
Radiation Spurious Test System						
3m Semi-Anechoic Chamber	FACT-4	ST08035	WKNA-0024	ETS	3 year	2024/12/12
Spectrum Analyzer	N9010B	MY57470323	DZ-000174	KEYSIGHT	1 year	2024/02/22
EMI Test Receiver	N9038A-508	MY532290079	EM-000397	Agilent	1 year	2024/02/22
Broadband Antenna	VULB 9163	9163-530	EM-000342	SCHWARZBECK	1 year	2024/06/10
Waveguide Horn Antenna	HF906	360306/008	EM-000093	R&S	1 year	2024/02/24
Waveguide Horn Antenna	BBHA9170	00949	DZ-000209-2	SCHWARZBECK	1 year	2024/08/05
Preamplifier	BBV 9721	9721-050	DZ-000209-1	SCHWARZBECK	1 year	2024/06/04
5G Bandstop Filters	WRCJV12-4900-5100-5900-6100-50EE	851770	DZ-000186	WI	1 year	2023/12/06
Comprehensive tester	CMW500	159000	DZ-000240-2	R&S	1 year	2023/12/06



1.2 MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the EUT as specified in CISPR 16-4-2:

MEASUREMENT	UNCERTAINTY
Maximum Peak Output Power	$\pm 0.9\text{dB}$
Frequency Stability	$\pm 76.97\text{Hz}$
Radiated emissions (30MHz~1GHz)	$\pm 5.0\text{dB}$
Radiated emissions (1GHz ~18GHz)	$\pm 4.8\text{dB}$
Radiated emissions (18GHz ~40GHz)	$\pm 5.1\text{dB}$
Conducted emissions	$\pm 2.7\text{dB}$
Occupied Channel Bandwidth	$\pm 43.58\text{KHz}$
Band Edge Measurements	$\pm 2.7\text{dB}$
Peak to average ratio	$\pm 0.76\text{dB}$

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

1.3 TEST LOCATION

The tests and measurements refer to this report were performed by EMC testing Lab. of CVC Testing Technology Co., Ltd.

Address: No.3,TiantaiyiRoad,KaitaiAvenue,ScienceCity,Guangzhou,China
Post Code: 510663 Tel: 020-32293888
FAX: 020-32293889 E-mail
Test Firm Registration Number: 937273



2 GENERAL INFORMATION

2.1 GENERAL PRODUCT INFORMATION

PRODUCT	Pulse Oximeter		
BRAND	BERRY		
MODEL	BM1000		
FCC ID	2BD8CBM1000		
POWER SUPPLY	DC 3V(2*1.5V AAA battery)		
LTE CATEGORY	LTE Cat-M1		
MODULATION TYPE	LTE	QPSK, 16QAM	
OPERATING FREQUENCY	Band	TX(MHz)	RX(MHz)
	LTE B2	1850 ~ 1910	1930 ~ 1990
	LTE B12	699 ~ 716	729 ~ 746
MAXIMUM OUTPUT POWER	LTE B2	22.68 dBm	
	LTE B12	21.94 dBm	
ANTENNA TYPE AND GAIN (Remark 4)	LTE B2	FPC Antenna, with 1.9 dBi gain	
	LTE B12	FPC Antenna, with -3.74 dBi gain	
HARDWARE VERSION:	BM1000B V6.1		
SOFTWARE VERSION:	V1.05.02.00		
I/O PORTS	Refer to user's manual		
CABLE SUPPLIED	N/A		
Remark:			
1. For more detailed features description, please refer to the manufacturer's specifications or the User's Manual.			
2. For the test results, the EUT had been tested with all conditions. But only the worst case was shown in test report.			
3. Please refer to the EUT photo document (Reference No.: FCC2023-0044-EUT) for detailed product photo.			
4. Please refer to the antenna report.			

2.2 DESCRIPTION OF ACCESSORIES

N/A



2.3 TEST MODE APPLICABILITY AND TESTED CHANNEL DETAIL

Pre-scan has been conducted to determine the worst-case mode from all possible combinations between available modulations, data rates, XYZ axis and antenna ports.

EUT CONFIGURE MODE	DESCRIPTION
-	EUT + LTE Link

Test modes are chosen as the worst case configuration below for LTE

Test items	LTE Band	Bandwidth (MHz)						Modulation		RB			Test Channel		
		1.4	3	5	10	15	20	QPSK	16QAM	1%	50%	100%	L	M	H
RF power output	2	O	O	O	O	O	O	O	O	O	-	O	O	O	O
	12	O	O	O	O	-	-	O	O	O	-	O	O	O	O
Occupied Bandwidth	2	O	O	O	O	O	O	O	O	-	-	O	O	O	O
	12	O	O	O	O	-	-	O	O	-	-	O	O	O	O
Band Edge Compliance	2	O	O	O	O	O	O	O	-	O	-	O	O	-	O
	12	O	O	O	O	-	-	O	-	O	-	O	O	-	O
Peak-to-Average Power Ratio	2	O	O	O	O	O	O	O	O	-	-	O	O	O	O
	12	O	O	O	O	-	-	O	O	-	-	O	O	O	O
Frequency Stability	2	O	O	O	O	O	O	O	-	-	-	O	O	O	O
	12	O	O	O	O	-	-	O	-	-	-	O	O	O	O
Conducted Spurious Emission	2	O	O	O	O	O	O	O	-	O	-	-	O	O	O
	12	O	O	O	O	-	-	O	-	O	-	-	O	O	O
Radiates Spurious Emission (Note3)	2	O	O	O	O	O	O	O	O	O	-	-	O	O	O
	12	O	O	O	O	-	-	O	O	O	-	-	O	O	O
Note	1. The mark "O" means that this configuration is chosen for testing. 2. The mark "-" means that this configuration is not testing. 3. Only the worst case was shown in test report														

TEST CONDITION:

TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RF power output	23deg. C, 63%RH	DC 3V(2*1.5V AAA battery)	Li Jialing
Effective Radiated Power	23deg. C, 63%RH	DC 3V(2*1.5V AAA battery)	Li Jialing
Frequency Stability	23deg. C, 63%RH	DC 3V(2*1.5V AAA battery)	Li Jialing



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Occupied Bandwidth	23deg. C, 63%RH	DC 3V(2*1.5V AAA battery)	Li Jialing
Band Edge Compliance	23deg. C, 63%RH	DC 3V(2*1.5V AAA battery)	Li Jialing
Conducted Spurious Emission	23deg. C, 63%RH	DC 3V(2*1.5V AAA battery)	Li Jialing
Radiates Spurious Emission	22deg. C, 65%RH	DC 3V(2*1.5V AAA battery)	Li Jialing
Peak-to-Average Power Ratio	23deg. C, 63%RH	DC 3V(2*1.5V AAA battery)	Li Jialing



2.4 GENERAL DESCRIPTION OF APPLIED STANDARDS

The EUT is a RF product, according to the specifications of the manufacturers. It must comply with the requirements of the following standards:

FCC 47 CFR PART 2

FCC 47 CFR PART 24

FCC 47 CFR PART 27

KDB 971168 D01 POWER MEAS LICENSE DIGITAL SYSTEMS V03R01

ANSI/TIA-603-E

ANSI C63.26-2015

Note: All test items have been performed and recorded as per the above standards

2.5 DESCRIPTION OF SUPPORT UNITS

The EUT has been tested as an independent unit together with other necessary accessories or support units. The following support units or accessories were used to form a representative test configuration during the tests.

Support Equipment							
NO	Description	Brand		Model No.	Serial Number		Supplied by
1	N/A	N/A		N/A	N/A		N/A
Support Cable							
NO	Description	Quantity (Number)	Length (cm)	Detachable (Yes/ No)	Shielded (Yes/ No)	Cores (Number)	Supplied by
1	N/A	N/A	N/A	N/A	N/A	N/A	N/A



3 TEST TYPES AND RESULTS

3.1 OUT POWER MEASUREMENT

3.1.1 LIMITS OF OUTPUT POWER MEASUREMENT

Mobile / Portable station are limited to 3 watts E.R.P for LTE Band 12.

Mobile / Portable station are limited to 2 watts E.I.R.P for LTE Band 2

3.1.2 TEST PROCEDURES

Subclause 5.6 of Per KDB 971168 D01 Power Meas License Digital Systems v03r01 or subclause 5.2.5.5 of ANSI C63.26-2015, the relevant equation for determining the ERP or EIRP from the conducted RF output power measured using the guidance provided above is:

$ERP = PT + GT - LC$, $ERP = EIRP - 2.15\text{dBi}$, where

PT = transmitter output power dBm;

GT = gain of the transmitting antenna dBi;

LC = signal attenuation in the connecting cable between the transmitter and antenna, in dB.

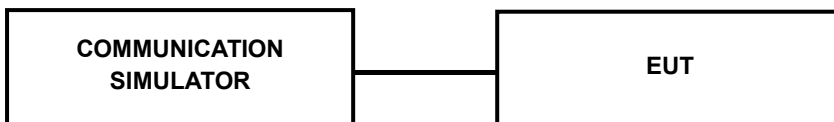
CONDUCTED POWER MEASUREMENT:

The EUT was set up for the maximum power with LTE link data modulation and link up with simulator. Set the EUT to transmit under low, middle and high channel and record the power level shown on simulator.

3.1.3 TEST SETUP

EIRP / ERP Measurement:

CONDUCTED POWER MEASUREMENT:



3.1.4 TEST RESULTS

Please refer Appendix A



3.2 FREQUENCY STABILITY MEASUREMENT

3.2.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

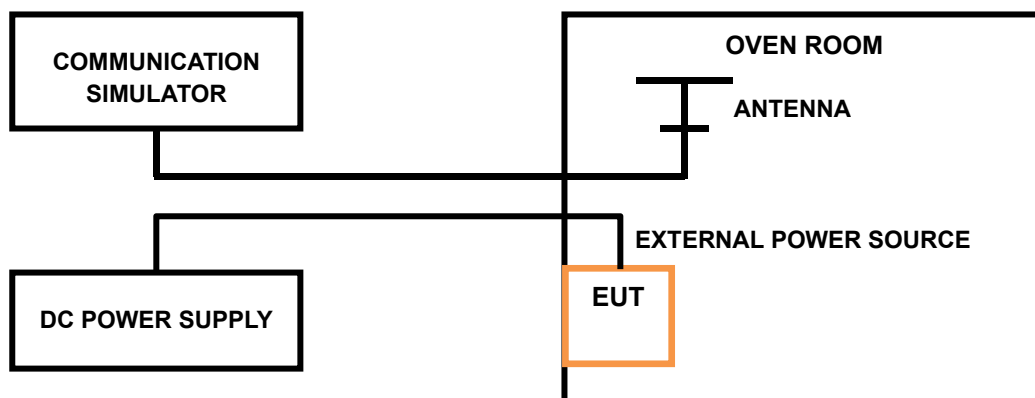
1.5 ppm is for base and fixed station. 2.5 ppm is for mobile station.

3.2.2 TEST PROCEDURE

- Device is placed at the oven room. The oven room could control the temperatures and humidity. Power warm up is at least 15 min and power applied should perform before recording frequency error.
- EUT is connected the external power supply to control the DC input power. The test voltage range is from minimum to maximum working voltage. Each step shall be record the frequency error rate.
- The temperature range step is 10 degrees in this test items. All temperature levels shall be hold the $\pm 0.5^{\circ}\text{C}$ during the measurement testing. The each temperature step shall be at least 0.5 hours, consider the EUT could be test under the stability condition.

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

3.2.3 TEST SETUP



3.2.4 TEST RESULTS

Please refer Appendix F

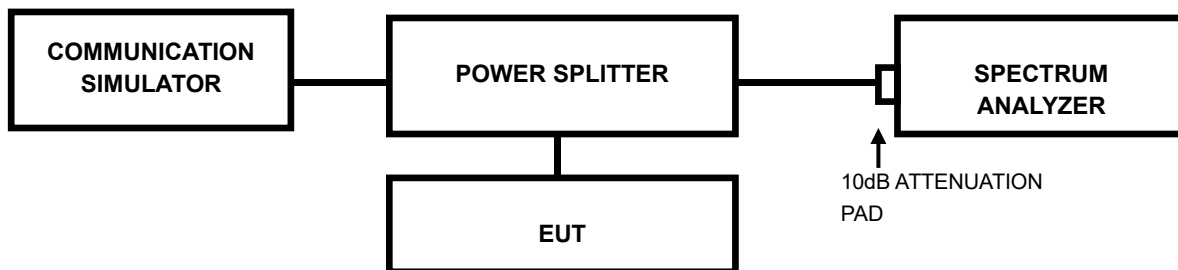


3.3 OCCUPIED BANDWIDTH MEASUREMENT

3.3.1 TEST PROCEDURES

The EUT makes a call to the communication simulator. All measurements were done at low, middle and high operational frequency range. The communication simulator station system controlled a EUT to export maximum output power under transmission mode and specific channel frequency. Use OBW measurement function of Spectrum analyzer to measure 99 % occupied bandwidth.

3.3.2 TEST SETUP



3.3.3 TEST RESULTS

Please refer Appendix C



3.4 BAND EDGE MEASUREMENT

3.4.1 LIMITS OF BAND EDGE MEASUREMENT

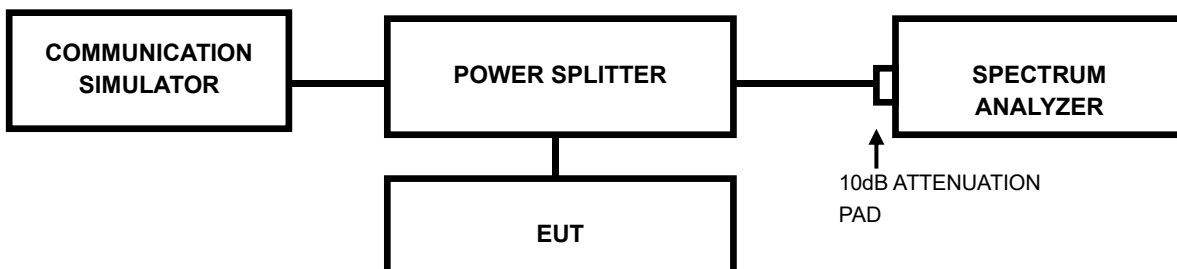
§24.238 (a) for LTE Band 2

The FCC limit is $43 + 10\log_{10}(P[\text{Watts}])$ dB below the transmitter power $P(\text{Watts})$ in a 1MHz bandwidth. However, in the 1 MHz bands immediately outside and adjacent to the frequency block a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

§27.53 (g) for LTE Band 12

The FCC limit is $43 + 10\log_{10}(P[\text{Watts}])$ dB below the transmitter power $P(\text{Watts})$ in a 100 kHz bandwidth. 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.

3.4.2 TEST SETUP



3.4.3 TEST PROCEDURES

- All measurements were done at low and high operational frequency range.
- The center frequency of spectrum is the band edge frequency and span is 1~10MHz. RBW of the spectrum is 50kHz and VBW of the spectrum is 200kHz.
- Set the spectrum with RMS detector.
- Record the max trace plot into the test report.

3.4.4 TEST RESULTS

Please refer Appendix D



3.5 CONDUCTED SPURIOUS EMISSIONS

3.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

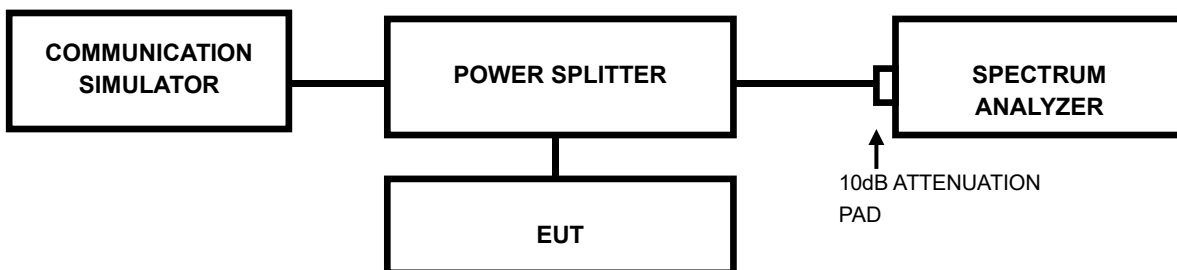
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

The spectrum is scanned from 30MHz up to a frequency including its 10th harmonic.

3.5.2 TEST PROCEDURE

- The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range.
- Measuring frequency range is from 30 MHz up to a frequency including its 10th harmonic. 10dB attenuation pad is connected with spectrum. RBW=1MHz and VBW=3MHz is used for conducted emission measurement.

3.5.3 TEST SETUP



3.5.4 TEST RESULTS

Please refer Appendix E



3.6 RADIATED EMISSION MEASUREMENT

3.6.1 LIMITS OF RADIATED EMISSION MEASUREMENT

The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43 + 10 \log(P)$ dB.

The spectrum is scanned from 30MHz up to a frequency including its 10th harmonic.

3.6.2 TEST PROCEDURES

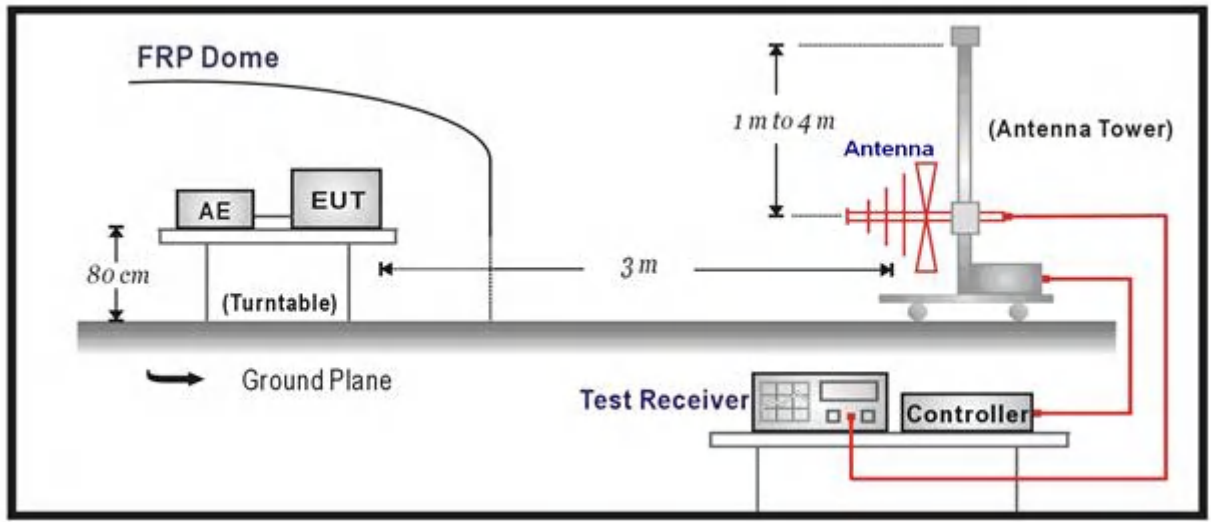
- a. Substitution method is used for E.I.R.P measurement. In the semi-anechoic chamber, EUT placed on the 0.8m height of Turn Table, rotated the table around 360 degrees to search the maximum radiation power and receiver antenna shall be rotated vertical and horizontal polarization and moved height from 1m to 4m to find the maximum polar radiated power. The “Read Value” is the spectrum reading the maximum power value.
- b. The substitution horn antenna is substituted for EUT at the same position and signals generator export the CW signal to the substitution antenna via a TX cable. Rotated the Turn Table and moved receiving antenna to find the maximum radiation power. Adjust output power level of S.G to get a Value of spectrum reading equal to “Read Value” of step a. Record the power level of S.G
- c. $EIRP(dBm) = S.G.POWER - TX \text{ cable loss} + \text{Antenna gain}.$
- d. $E.R.P(dBm) = E.I.P.R - 2.15dBi.$

NOTE:

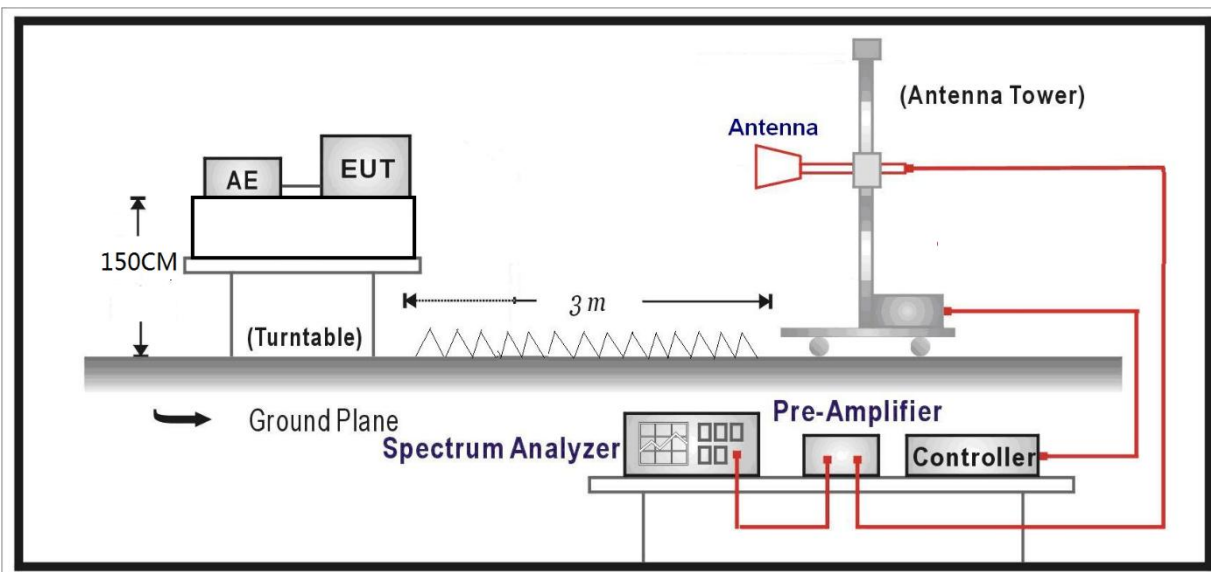
1. The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.
2. Only the worst case was shown in test report

3.6.3 TEST SETUP

Below 1GHz Test Setup:



Above 1GHz Test Setup:



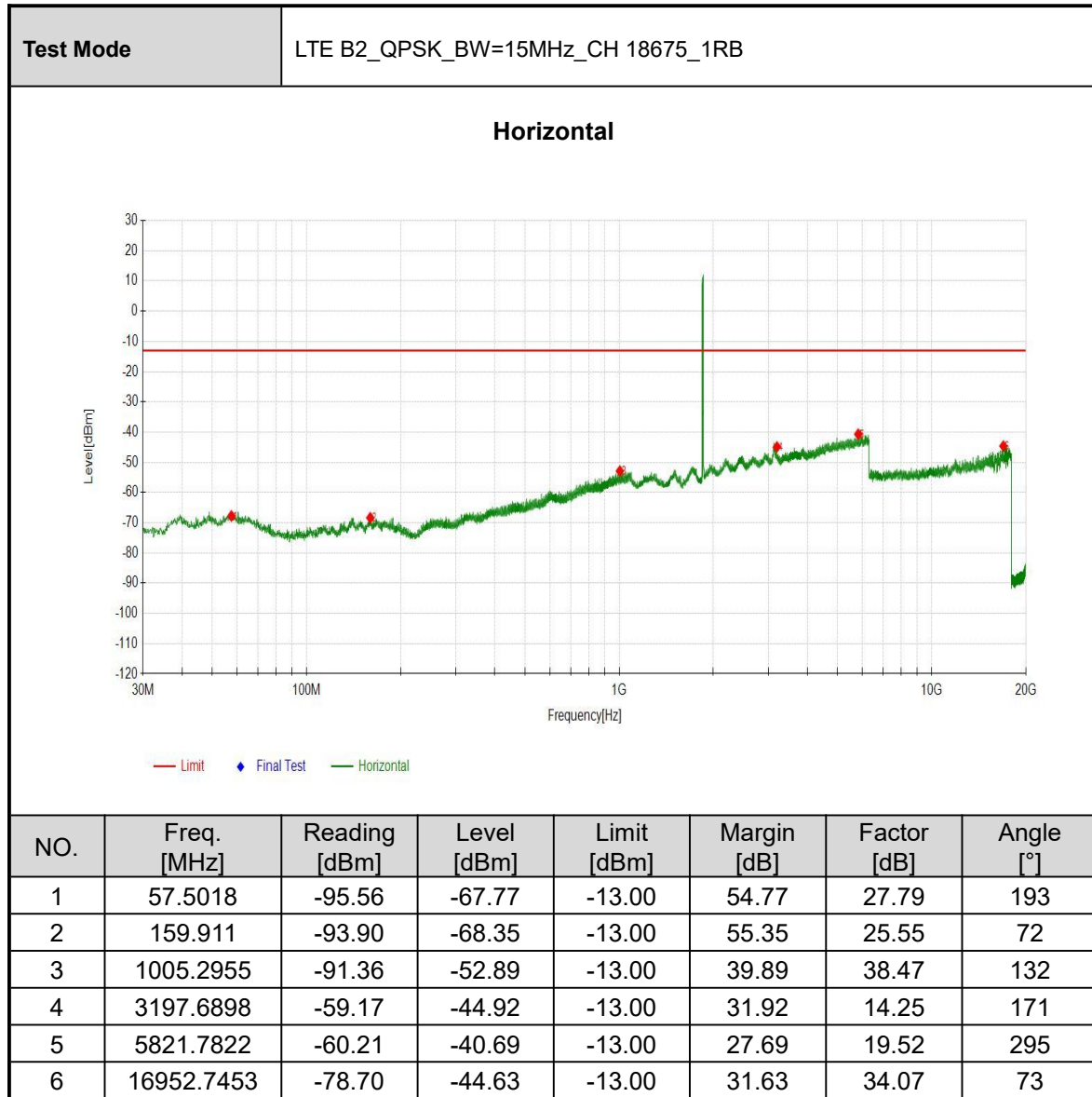
Note: Above 1G is a directional antenna

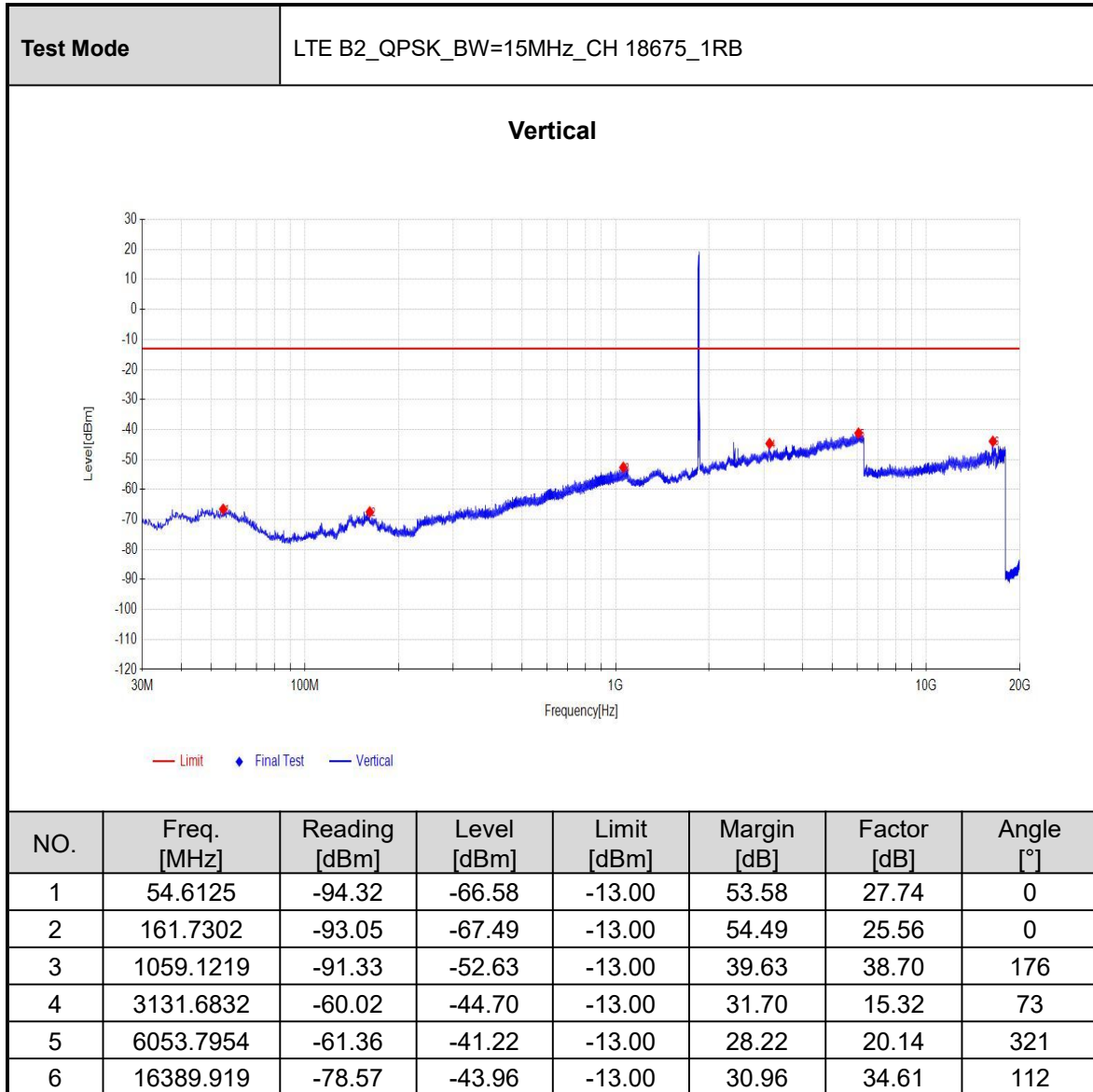
Depends on the EUT height and the antenna 3dB beamwidth both, refer to section 7.3 of CISPR 16-2-3.

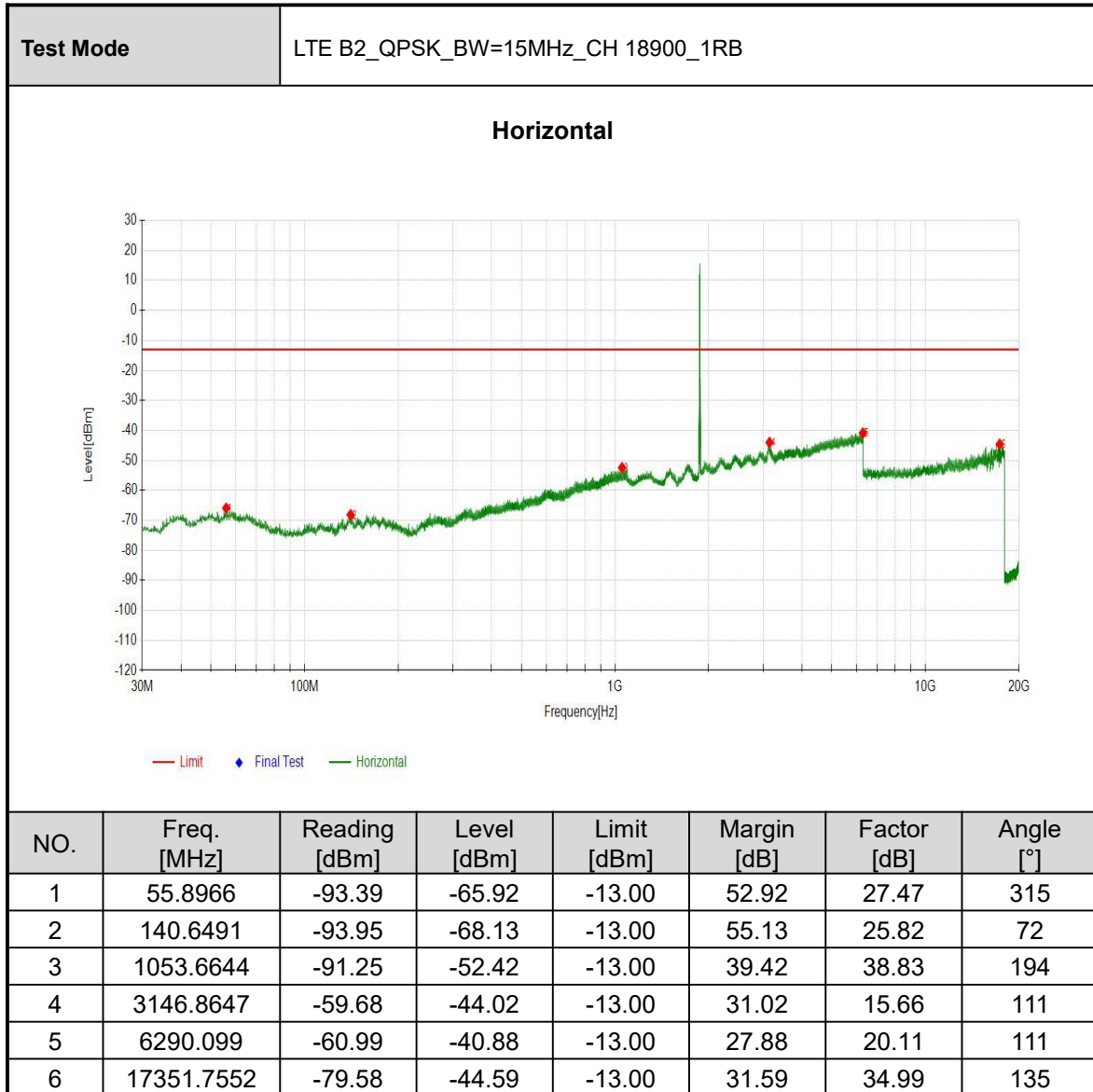
For the actual test configuration, please refer to the attached file (Test Setup Photo).

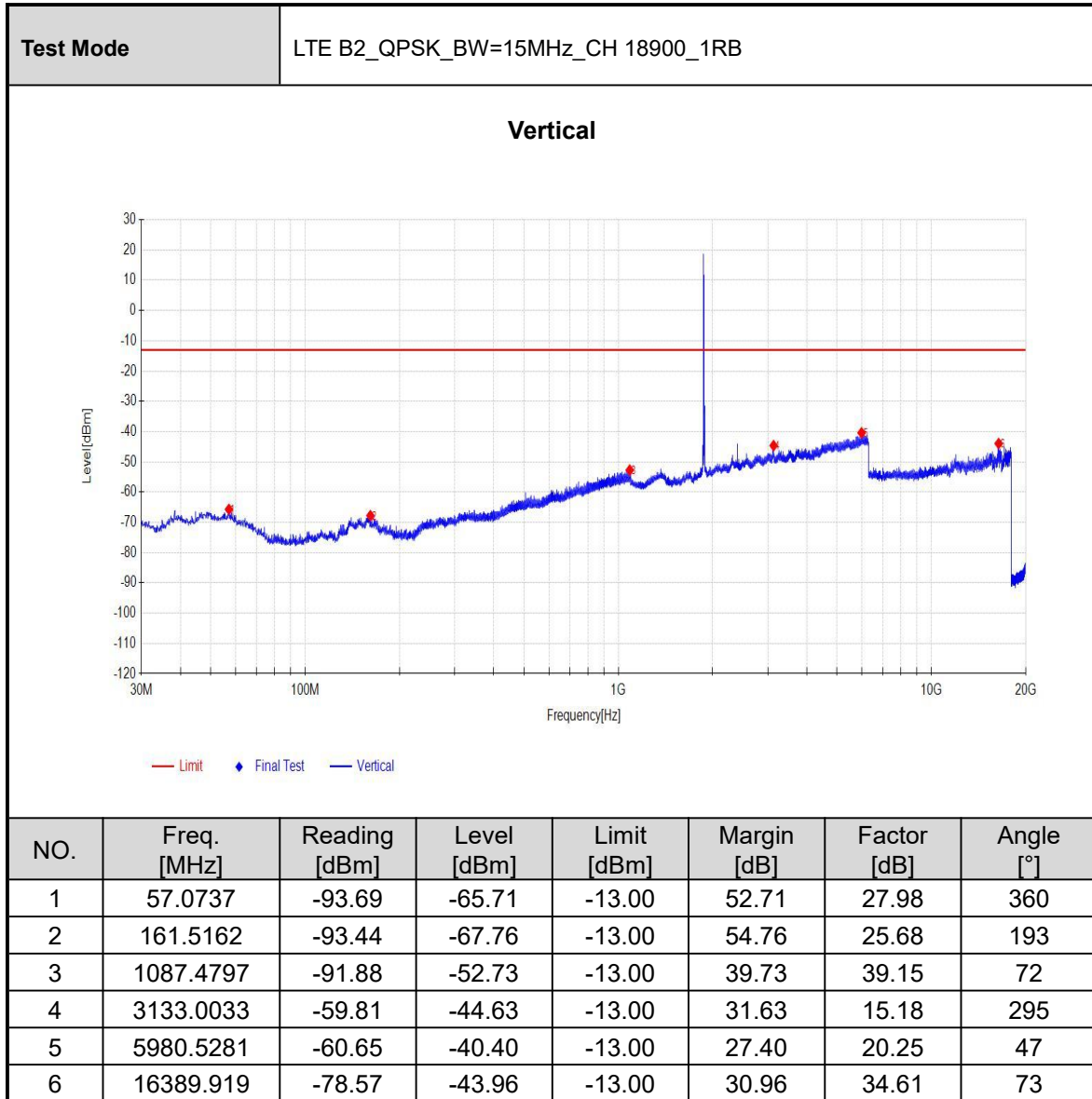


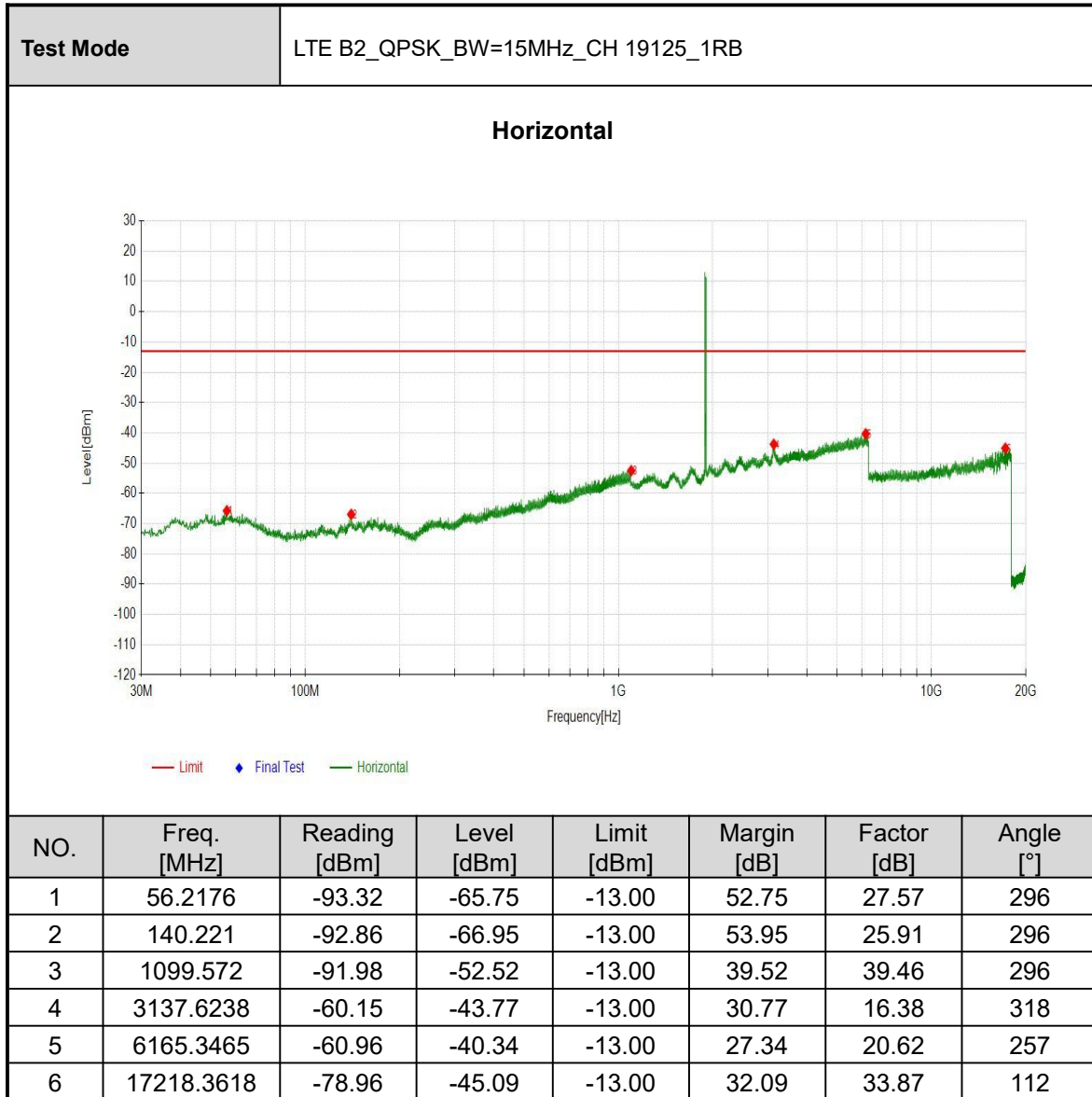
3.6.4 TEST RESULTS

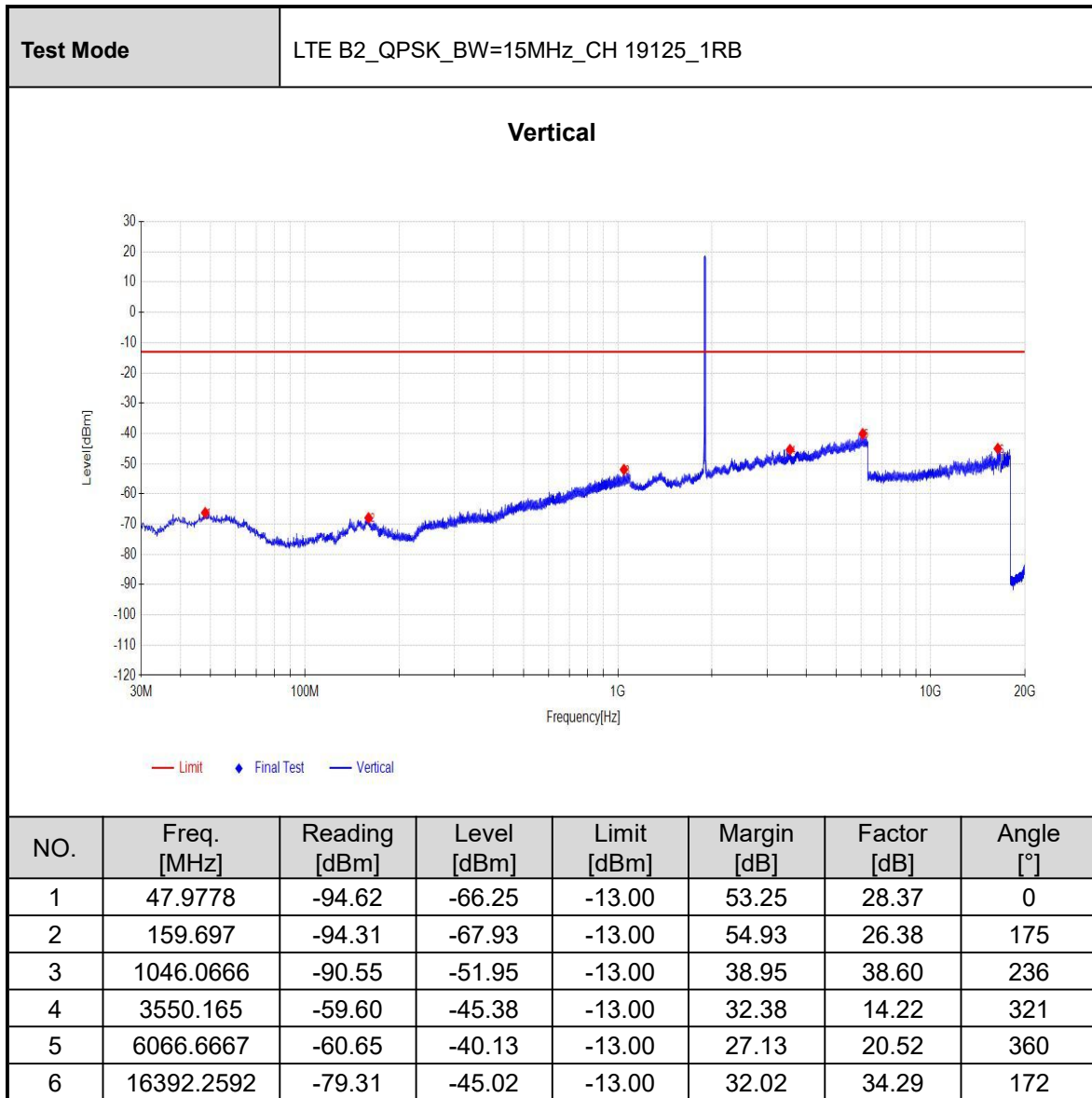


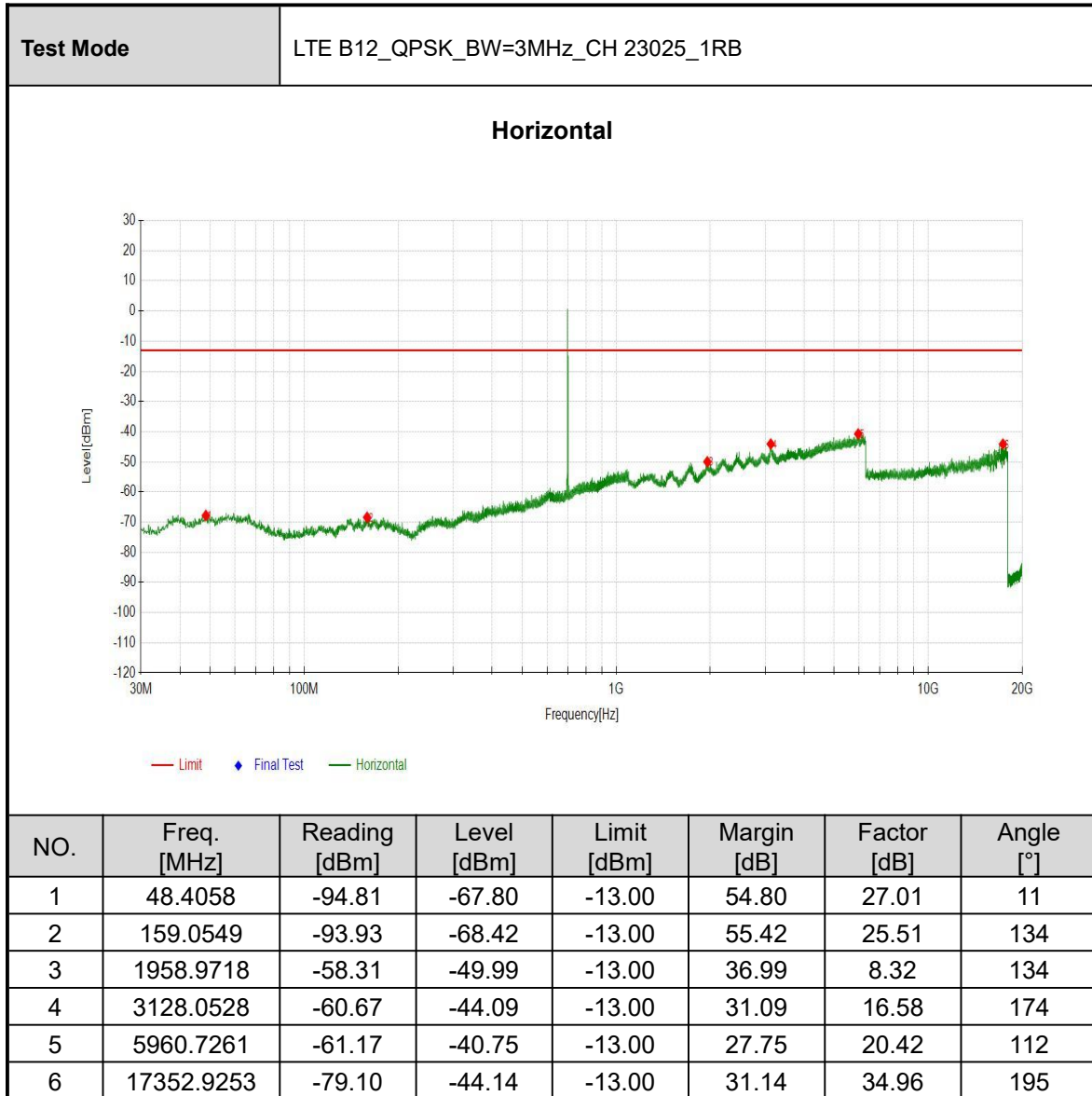


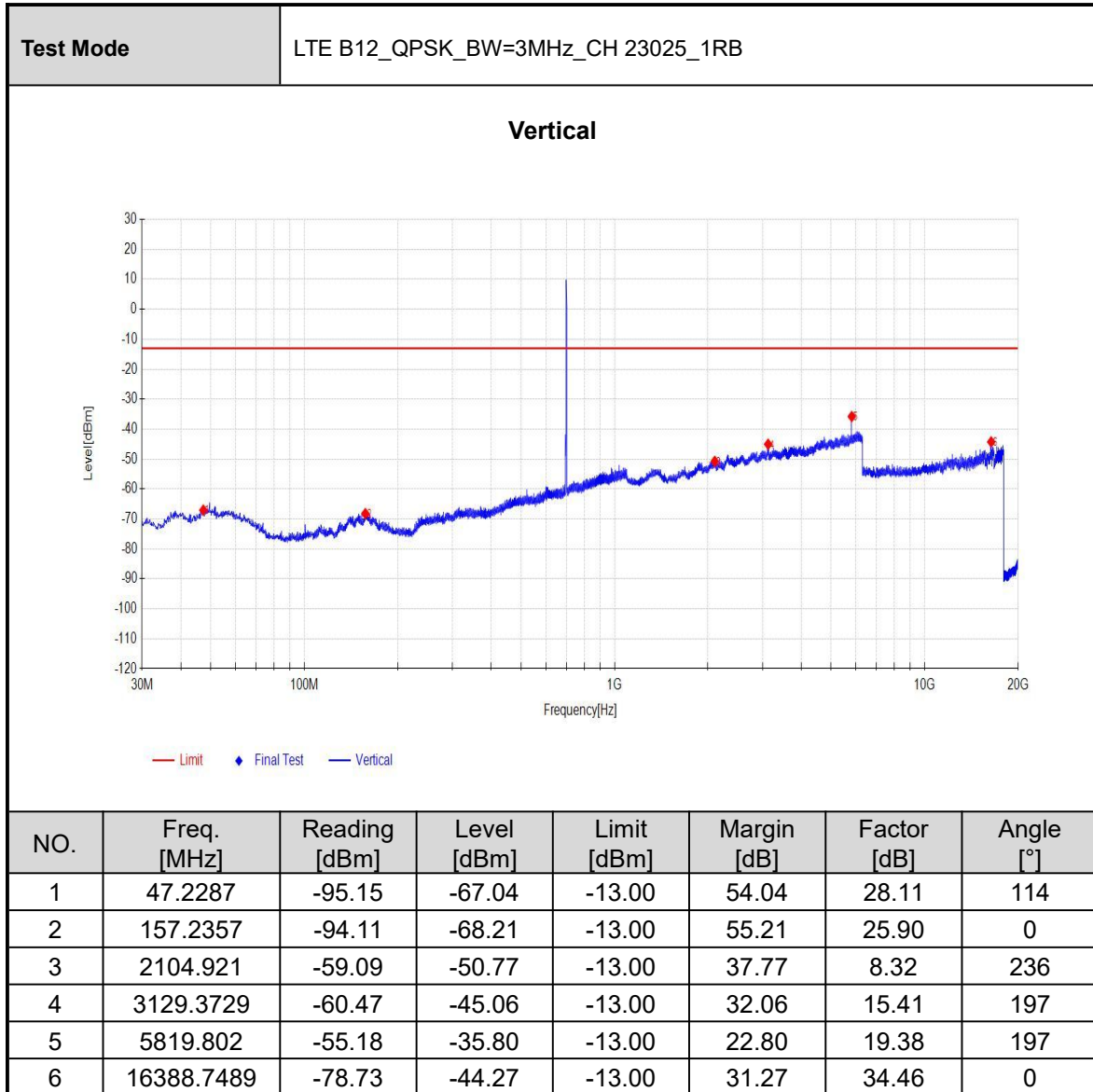


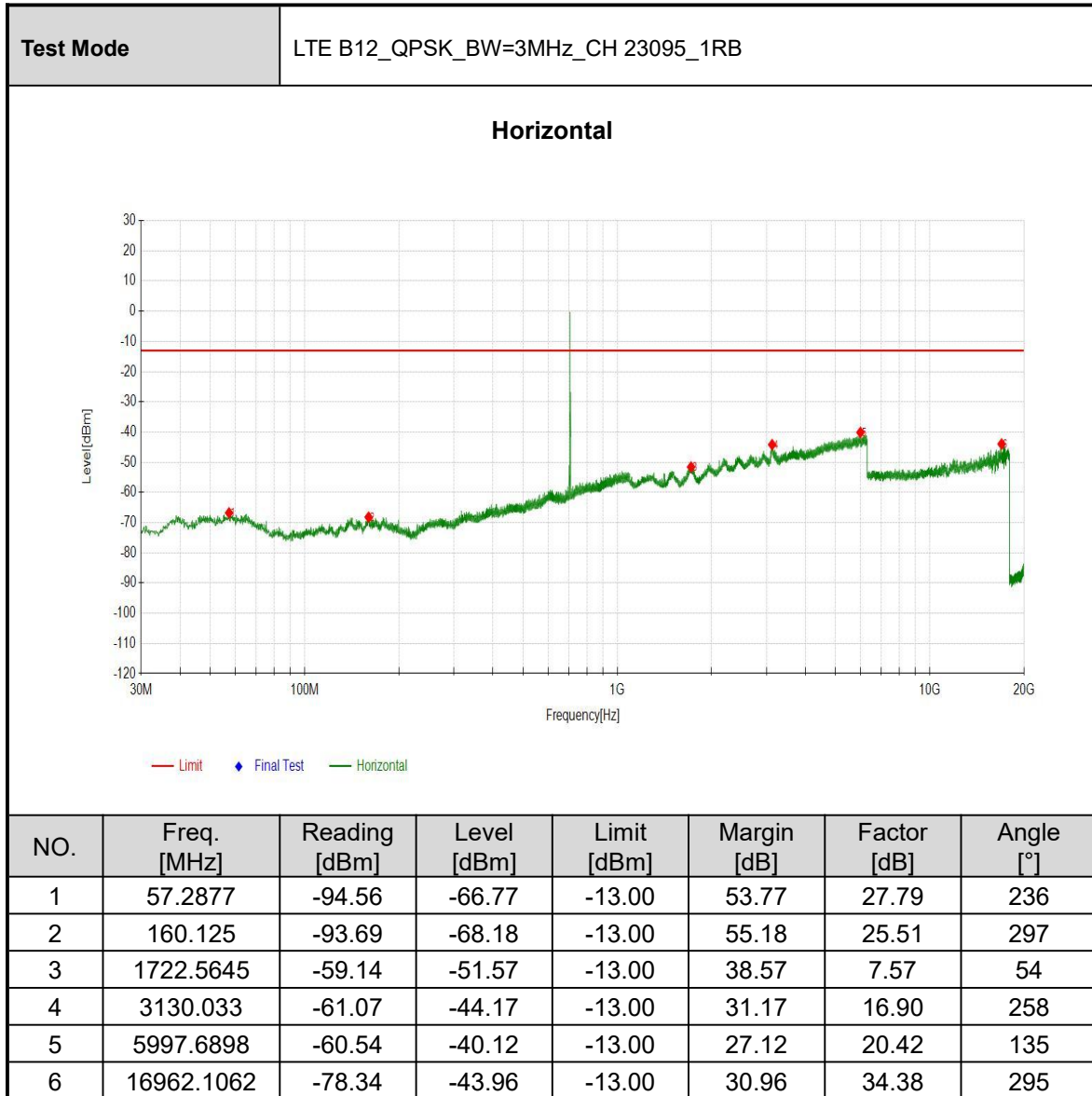


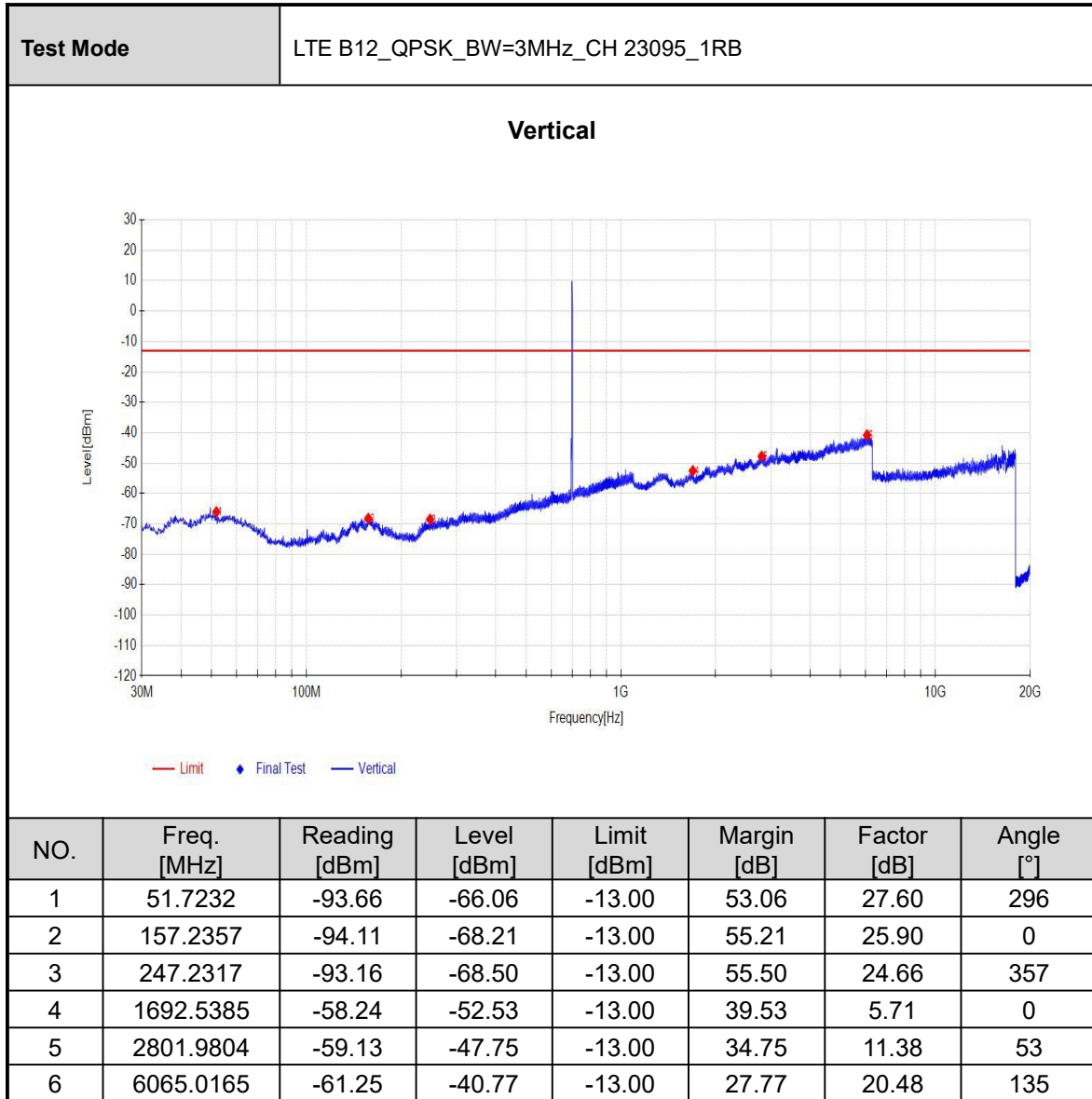


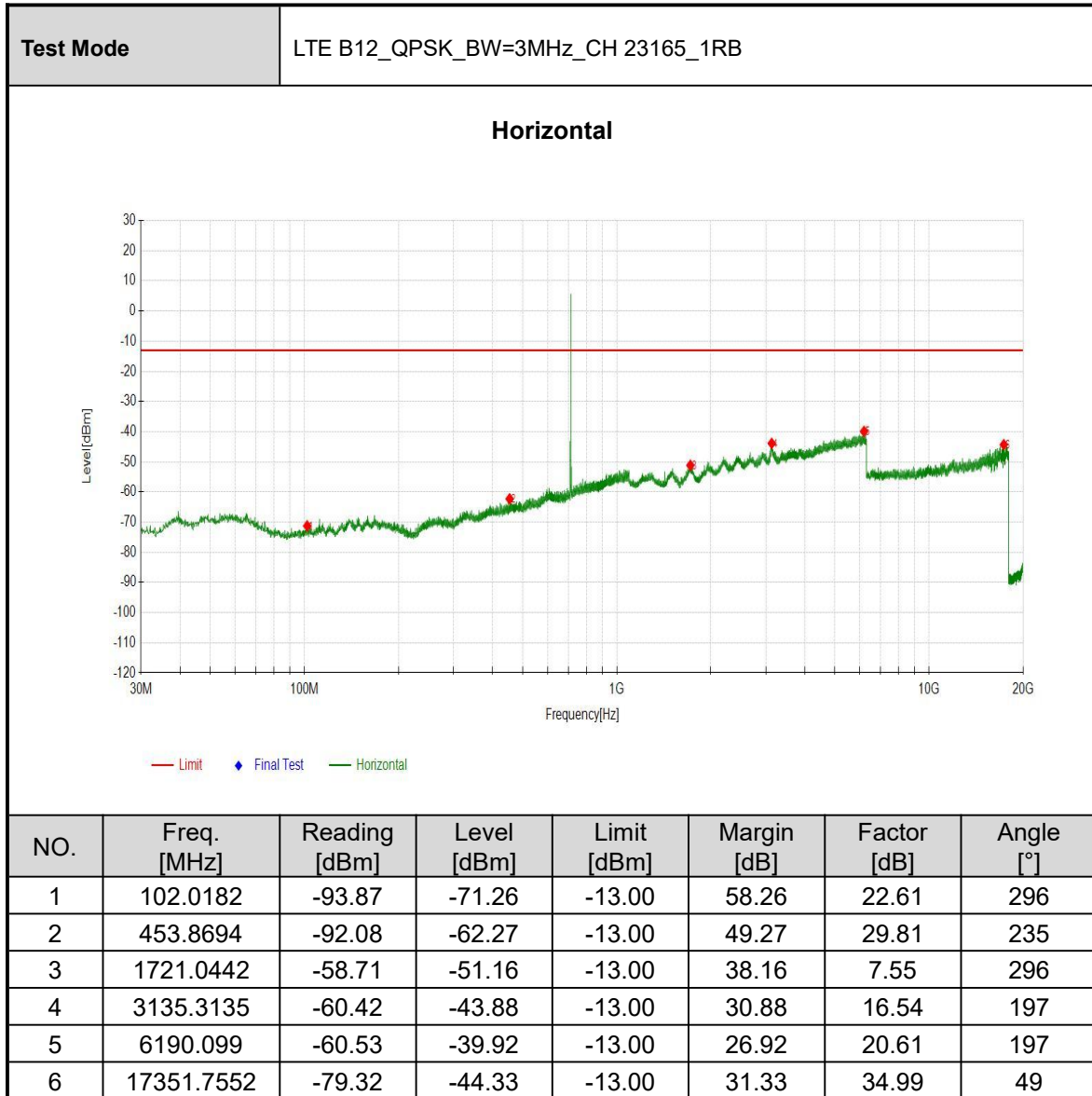


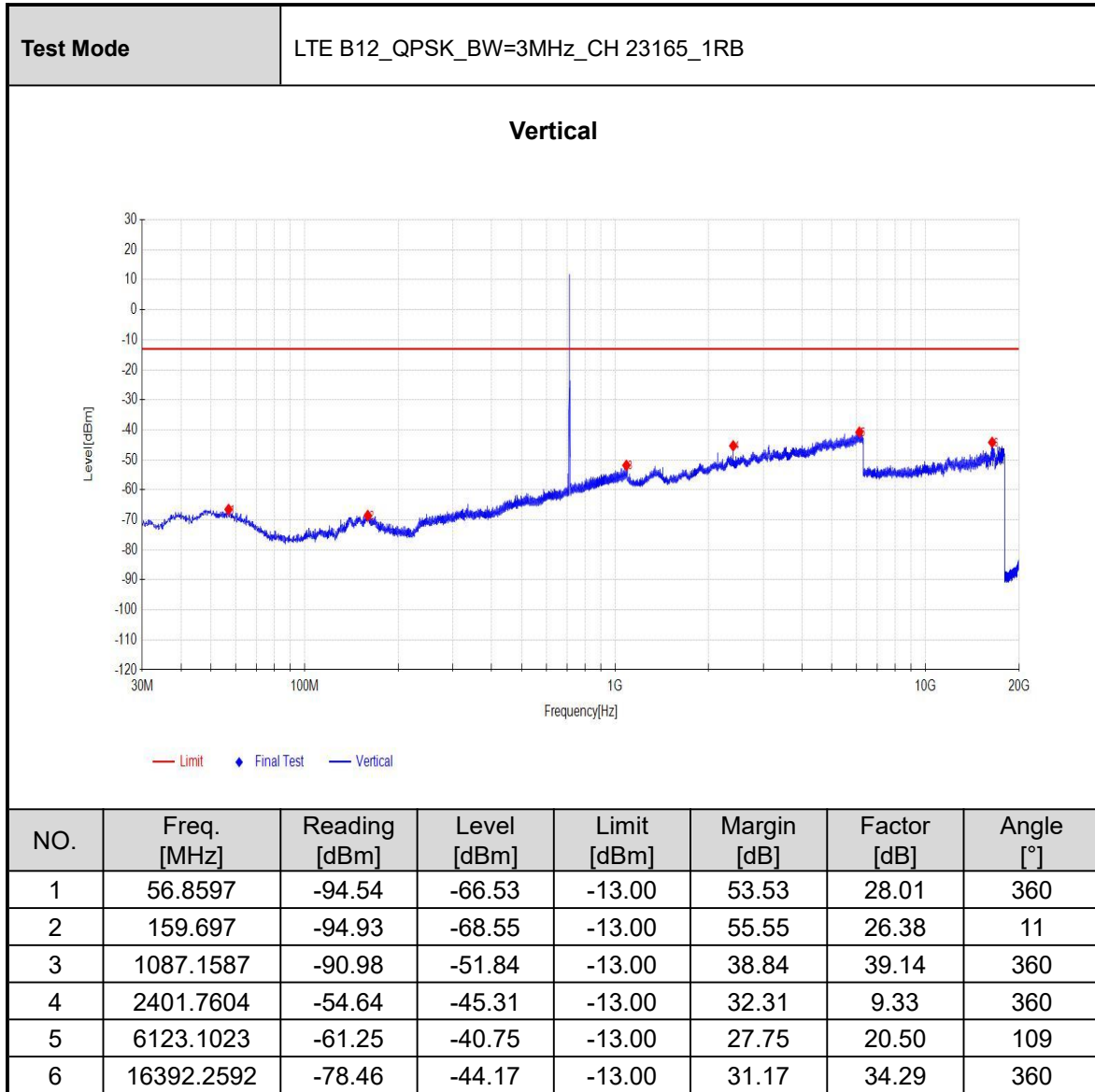












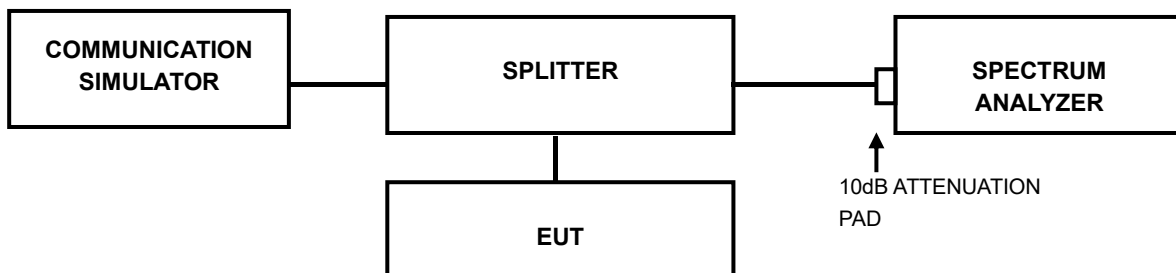


3.7 PEAK TO AVERAGE POWER RATIO

3.7.1 LIMITS OF PEAK TO AVERAGE POWER RATIO MEASUREMENT

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

3.7.2 TEST SETUP



3.7.3 TEST PROCEDURES

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

3.7.4 TEST RESULTS

Please refer Appendix B



3.8 PHOTOGRAPHS OF TEST SETUP

Please refer to the attached file (Test Setup Photo).



Appendix A: Effective (Isotropic) Radiated Power Output Data Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	EIRP	Verdict
Band2	1.4MHz	QPSK	18607	1RB#0	21.88	23.78	PASS
Band2	1.4MHz	QPSK	18607	6RB#0	21.00	22.90	PASS
Band2	1.4MHz	QPSK	18900	1RB#0	21.90	23.80	PASS
Band2	1.4MHz	QPSK	18900	6RB#0	20.86	22.76	PASS
Band2	1.4MHz	QPSK	19193	1RB#0	22.28	24.18	PASS
Band2	1.4MHz	QPSK	19193	6RB#0	21.23	23.13	PASS
Band2	1.4MHz	16QAM	18607	1RB#0	21.19	23.09	PASS
Band2	1.4MHz	16QAM	18607	5RB#0	20.99	22.89	PASS
Band2	1.4MHz	16QAM	18900	1RB#0	20.98	22.88	PASS
Band2	1.4MHz	16QAM	18900	5RB#0	20.77	22.67	PASS
Band2	1.4MHz	16QAM	19193	1RB#0	21.52	23.42	PASS
Band2	1.4MHz	16QAM	19193	5RB#0	21.23	23.13	PASS
Band2	3MHz	QPSK	18615	1RB#0	21.77	23.67	PASS
Band2	3MHz	QPSK	18615	6RB#0	20.98	22.88	PASS
Band2	3MHz	QPSK	18900	1RB#0	21.90	23.80	PASS
Band2	3MHz	QPSK	18900	6RB#0	20.93	22.83	PASS
Band2	3MHz	QPSK	19185	1RB#0	22.27	24.17	PASS
Band2	3MHz	QPSK	19185	6RB#0	21.34	23.24	PASS
Band2	3MHz	16QAM	18615	1RB#0	21.13	23.03	PASS
Band2	3MHz	16QAM	18615	5RB#0	20.46	22.36	PASS
Band2	3MHz	16QAM	18900	1RB#0	21.08	22.98	PASS
Band2	3MHz	16QAM	18900	5RB#0	20.47	22.37	PASS
Band2	3MHz	16QAM	19185	1RB#0	21.19	23.09	PASS
Band2	3MHz	16QAM	19185	5RB#0	20.43	22.33	PASS
Band2	5MHz	QPSK	18625	1RB#0	22.01	23.91	PASS
Band2	5MHz	QPSK	18625	6RB#0	21.68	23.58	PASS
Band2	5MHz	QPSK	18900	1RB#0	22.10	24.00	PASS
Band2	5MHz	QPSK	18900	6RB#0	21.84	23.74	PASS
Band2	5MHz	QPSK	19175	1RB#0	22.31	24.21	PASS
Band2	5MHz	QPSK	19175	6RB#0	22.08	23.98	PASS
Band2	5MHz	16QAM	18625	1RB#0	21.10	23.00	PASS
Band2	5MHz	16QAM	18625	5RB#0	20.90	22.80	PASS
Band2	5MHz	16QAM	18900	1RB#0	21.41	23.31	PASS



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Band2	5MHz	16QAM	18900	5RB#0	20.92	22.82	PASS
Band2	5MHz	16QAM	19175	1RB#0	21.33	23.23	PASS
Band2	5MHz	16QAM	19175	5RB#0	21.22	23.12	PASS
Band2	10MHz	QPSK	18650	1RB#0	21.83	23.73	PASS
Band2	10MHz	QPSK	18650	6RB#0	21.54	23.44	PASS
Band2	10MHz	QPSK	18900	1RB#0	22.18	24.08	PASS
Band2	10MHz	QPSK	18900	6RB#0	21.95	23.85	PASS
Band2	10MHz	QPSK	19150	1RB#0	22.21	24.11	PASS
Band2	10MHz	QPSK	19150	6RB#0	21.84	23.74	PASS
Band2	10MHz	16QAM	18650	1RB#0	20.80	22.70	PASS
Band2	10MHz	16QAM	18650	5RB#0	20.59	22.49	PASS
Band2	10MHz	16QAM	18900	1RB#0	21.18	23.08	PASS
Band2	10MHz	16QAM	18900	5RB#0	20.98	22.88	PASS
Band2	10MHz	16QAM	19150	1RB#0	20.99	22.89	PASS
Band2	10MHz	16QAM	19150	5RB#0	21.02	22.92	PASS
Band2	15MHz	QPSK	18675	1RB#0	22.68	24.58	PASS
Band2	15MHz	QPSK	18675	6RB#0	21.45	23.35	PASS
Band2	15MHz	QPSK	18900	1RB#0	22.47	24.37	PASS
Band2	15MHz	QPSK	18900	6RB#0	22.31	24.21	PASS
Band2	15MHz	QPSK	19125	1RB#0	22.65	24.55	PASS
Band2	15MHz	QPSK	19125	6RB#0	22.17	24.07	PASS
Band2	15MHz	16QAM	18675	1RB#0	21.70	23.60	PASS
Band2	15MHz	16QAM	18675	5RB#0	20.65	22.55	PASS
Band2	15MHz	16QAM	18900	1RB#0	21.75	23.65	PASS
Band2	15MHz	16QAM	18900	5RB#0	21.42	23.32	PASS
Band2	15MHz	16QAM	19125	1RB#0	21.40	23.30	PASS
Band2	15MHz	16QAM	19125	5RB#0	21.27	23.17	PASS
Band2	20MHz	QPSK	18700	1RB#0	21.83	23.73	PASS
Band2	20MHz	QPSK	18700	6RB#0	21.39	23.29	PASS
Band2	20MHz	QPSK	18900	1RB#0	22.47	24.37	PASS
Band2	20MHz	QPSK	18900	6RB#0	22.61	24.51	PASS
Band2	20MHz	QPSK	19100	1RB#0	22.15	24.05	PASS
Band2	20MHz	QPSK	19100	6RB#0	21.89	23.79	PASS
Band2	20MHz	16QAM	18700	1RB#0	20.85	22.75	PASS
Band2	20MHz	16QAM	18700	5RB#0	20.59	22.49	PASS
Band2	20MHz	16QAM	18900	1RB#0	22.14	24.04	PASS



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Band2	20MHz	16QAM	18900	5RB#0	21.74	23.64	PASS
Band2	20MHz	16QAM	19100	1RB#0	21.25	23.15	PASS
Band2	20MHz	16QAM	19100	5RB#0	21.20	23.10	PASS
Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dBm)	ERP	Verdict
Band12	1.4MHz	QPSK	23017	1RB#0	21.65	15.76	PASS
Band12	1.4MHz	QPSK	23017	6RB#0	20.61	14.72	PASS
Band12	1.4MHz	QPSK	23095	1RB#0	21.71	15.82	PASS
Band12	1.4MHz	QPSK	23095	6RB#0	21.01	15.12	PASS
Band12	1.4MHz	QPSK	23173	1RB#0	20.71	14.82	PASS
Band12	1.4MHz	QPSK	23173	6RB#0	20.44	14.55	PASS
Band12	1.4MHz	16QAM	23017	1RB#0	20.90	15.01	PASS
Band12	1.4MHz	16QAM	23017	5RB#0	20.57	14.68	PASS
Band12	1.4MHz	16QAM	23095	1RB#0	20.97	15.08	PASS
Band12	1.4MHz	16QAM	23095	5RB#0	20.97	15.08	PASS
Band12	1.4MHz	16QAM	23173	1RB#0	20.69	14.80	PASS
Band12	1.4MHz	16QAM	23173	5RB#0	20.49	14.60	PASS
Band12	3MHz	QPSK	23025	1RB#0	21.73	15.84	PASS
Band12	3MHz	QPSK	23025	6RB#0	20.60	14.71	PASS
Band12	3MHz	QPSK	23095	1RB#0	21.94	16.05	PASS
Band12	3MHz	QPSK	23095	6RB#0	20.75	14.86	PASS
Band12	3MHz	QPSK	23165	1RB#0	21.81	15.92	PASS
Band12	3MHz	QPSK	23165	6RB#0	20.33	14.44	PASS
Band12	3MHz	16QAM	23025	1RB#0	21.80	15.91	PASS
Band12	3MHz	16QAM	23025	5RB#0	20.55	14.66	PASS
Band12	3MHz	16QAM	23095	1RB#0	21.34	15.45	PASS
Band12	3MHz	16QAM	23095	5RB#0	20.44	14.55	PASS
Band12	3MHz	16QAM	23165	1RB#0	21.20	15.31	PASS
Band12	3MHz	16QAM	23165	5RB#0	20.44	14.55	PASS
Band12	5MHz	QPSK	23035	1RB#0	21.65	15.76	PASS
Band12	5MHz	QPSK	23035	6RB#0	21.30	15.41	PASS
Band12	5MHz	QPSK	23095	1RB#0	21.40	15.51	PASS
Band12	5MHz	QPSK	23095	6RB#0	21.31	15.42	PASS
Band12	5MHz	QPSK	23155	1RB#0	21.59	15.70	PASS
Band12	5MHz	QPSK	23155	6RB#0	21.09	15.20	PASS
Band12	5MHz	16QAM	23035	1RB#0	20.71	14.82	PASS
Band12	5MHz	16QAM	23035	5RB#0	20.48	14.59	PASS



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Band12	5MHz	16QAM	23095	1RB#0	20.63	14.74	PASS
Band12	5MHz	16QAM	23095	5RB#0	20.36	14.47	PASS
Band12	5MHz	16QAM	23155	1RB#0	20.63	14.74	PASS
Band12	5MHz	16QAM	23155	5RB#0	20.34	14.45	PASS
Band12	10MHz	QPSK	23060	1RB#0	21.58	15.69	PASS
Band12	10MHz	QPSK	23060	6RB#0	21.22	15.33	PASS
Band12	10MHz	QPSK	23095	1RB#0	20.90	15.01	PASS
Band12	10MHz	QPSK	23095	6RB#0	20.75	14.86	PASS
Band12	10MHz	QPSK	23130	1RB#0	21.61	15.72	PASS
Band12	10MHz	QPSK	23130	6RB#0	21.59	15.70	PASS
Band12	10MHz	16QAM	23060	1RB#0	20.58	14.69	PASS
Band12	10MHz	16QAM	23060	5RB#0	20.36	14.47	PASS
Band12	10MHz	16QAM	23095	1RB#0	21.02	15.13	PASS
Band12	10MHz	16QAM	23095	5RB#0	20.69	14.80	PASS
Band12	10MHz	16QAM	23130	1RB#0	20.51	14.62	PASS
Band12	10MHz	16QAM	23130	5RB#0	20.66	14.77	PASS



Appendix B: Peak-to-Average Power Ratio(CCDF) Test Result

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band2	1.4MHz	QPSK	18607	6RB#0	6.08	13	PASS
Band2	1.4MHz	QPSK	18900	6RB#0	6.18	13	PASS
Band2	1.4MHz	QPSK	19193	6RB#0	6.00	13	PASS
Band2	1.4MHz	16QAM	18607	5RB#0	6.78	13	PASS
Band2	1.4MHz	16QAM	18900	5RB#0	6.92	13	PASS
Band2	1.4MHz	16QAM	19193	5RB#0	6.88	13	PASS
Band2	3MHz	QPSK	18615	6RB#0	6.18	13	PASS
Band2	3MHz	QPSK	18900	6RB#0	6.30	13	PASS
Band2	3MHz	QPSK	19185	6RB#0	6.04	13	PASS
Band2	3MHz	16QAM	18615	5RB#0	6.86	13	PASS
Band2	3MHz	16QAM	18900	5RB#0	6.96	13	PASS
Band2	3MHz	16QAM	19185	5RB#0	6.88	13	PASS
Band2	5MHz	QPSK	18625	6RB#0	5.92	13	PASS
Band2	5MHz	QPSK	18900	6RB#0	6.16	13	PASS
Band2	5MHz	QPSK	19175	6RB#0	6.08	13	PASS
Band2	5MHz	16QAM	18625	5RB#0	6.46	13	PASS
Band2	5MHz	16QAM	18900	5RB#0	6.94	13	PASS
Band2	5MHz	16QAM	19175	5RB#0	6.54	13	PASS
Band2	10MHz	QPSK	18650	6RB#0	6.00	13	PASS
Band2	10MHz	QPSK	18900	6RB#0	6.10	13	PASS
Band2	10MHz	QPSK	19150	6RB#0	5.92	13	PASS
Band2	10MHz	16QAM	18650	5RB#0	6.70	13	PASS
Band2	10MHz	16QAM	18900	5RB#0	6.82	13	PASS
Band2	10MHz	16QAM	19150	5RB#0	6.64	13	PASS
Band2	15MHz	QPSK	18675	6RB#0	6.06	13	PASS
Band2	15MHz	QPSK	18900	6RB#0	5.96	13	PASS
Band2	15MHz	QPSK	19125	6RB#0	5.78	13	PASS
Band2	15MHz	16QAM	18675	5RB#0	6.68	13	PASS
Band2	15MHz	16QAM	18900	5RB#0	6.84	13	PASS
Band2	15MHz	16QAM	19125	5RB#0	6.62	13	PASS
Band2	20MHz	QPSK	18700	6RB#0	6.22	13	PASS
Band2	20MHz	QPSK	18900	6RB#0	5.94	13	PASS
Band2	20MHz	QPSK	19100	6RB#0	6.06	13	PASS
Band2	20MHz	16QAM	18700	5RB#0	6.64	13	PASS
Band2	20MHz	16QAM	18900	5RB#0	6.70	13	PASS
Band2	20MHz	16QAM	19100	5RB#0	6.70	13	PASS
Band12	1.4MHz	QPSK	23017	6RB#0	5.80	13	PASS
Band12	1.4MHz	QPSK	23095	6RB#0	5.60	13	PASS
Band12	1.4MHz	QPSK	23173	6RB#0	5.64	13	PASS
Band12	1.4MHz	16QAM	23017	5RB#0	6.36	13	PASS
Band12	1.4MHz	16QAM	23095	5RB#0	6.24	13	PASS
Band12	1.4MHz	16QAM	23173	5RB#0	6.38	13	PASS
Band12	3MHz	QPSK	23025	6RB#0	5.74	13	PASS
Band12	3MHz	QPSK	23095	6RB#0	5.62	13	PASS
Band12	3MHz	QPSK	23165	6RB#0	5.82	13	PASS
Band12	3MHz	16QAM	23025	5RB#0	6.52	13	PASS
Band12	3MHz	16QAM	23095	5RB#0	6.34	13	PASS
Band12	3MHz	16QAM	23165	5RB#0	6.44	13	PASS
Band12	5MHz	QPSK	23035	6RB#0	5.80	13	PASS
Band12	5MHz	QPSK	23095	6RB#0	5.80	13	PASS
Band12	5MHz	QPSK	23155	6RB#0	5.76	13	PASS
Band12	5MHz	16QAM	23035	5RB#0	6.28	13	PASS



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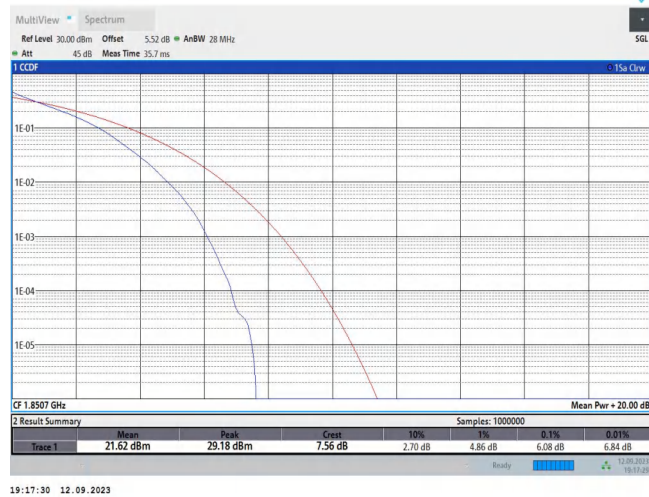
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Band12	5MHz	16QAM	23095	5RB#0	6.22	13	PASS
Band12	5MHz	16QAM	23155	5RB#0	6.48	13	PASS
Band12	10MHz	QPSK	23060	6RB#0	5.70	13	PASS
Band12	10MHz	QPSK	23095	6RB#0	5.98	13	PASS
Band12	10MHz	QPSK	23130	6RB#0	5.58	13	PASS
Band12	10MHz	16QAM	23060	5RB#0	6.54	13	PASS
Band12	10MHz	16QAM	23095	5RB#0	6.50	13	PASS
Band12	10MHz	16QAM	23130	5RB#0	6.28	13	PASS

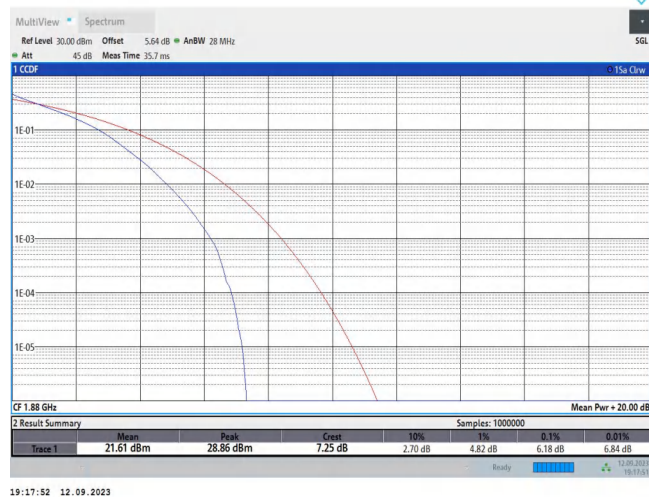


Test Graphs

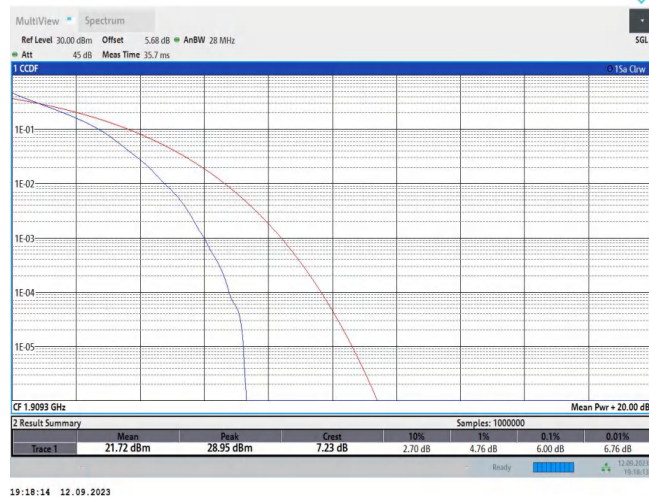
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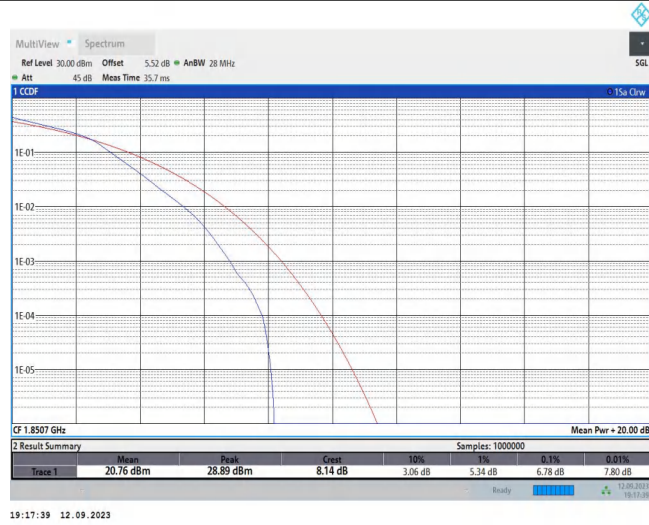
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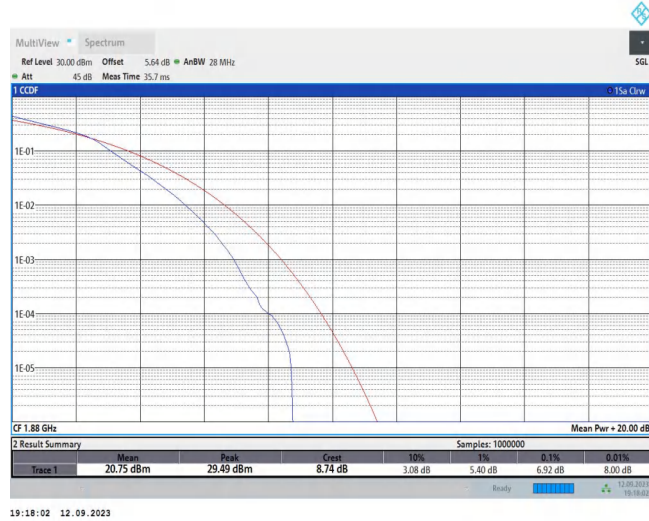
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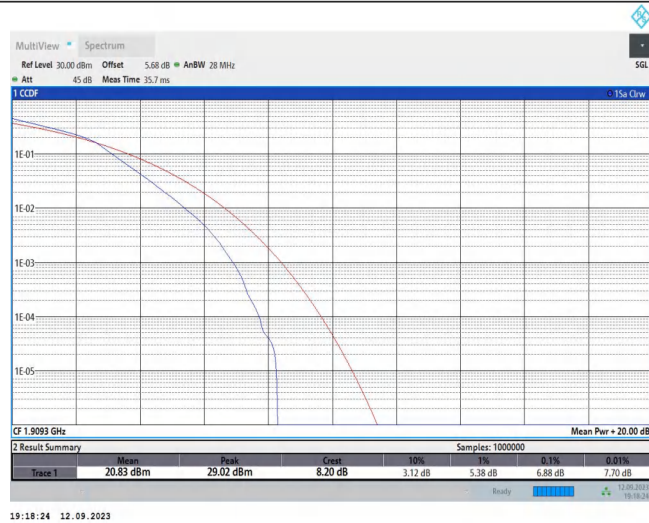
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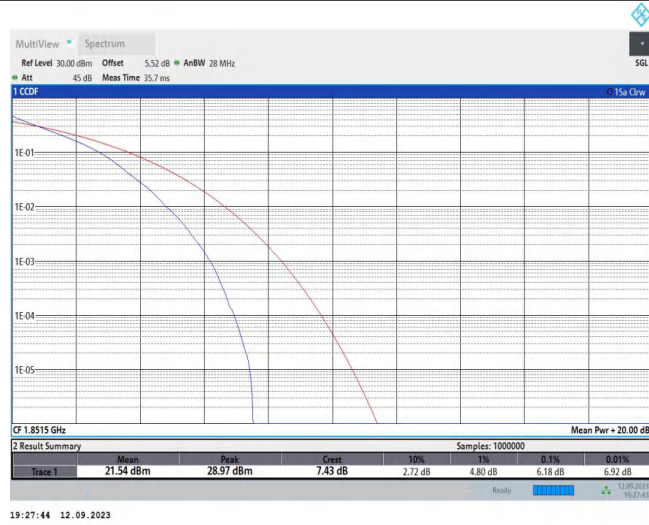
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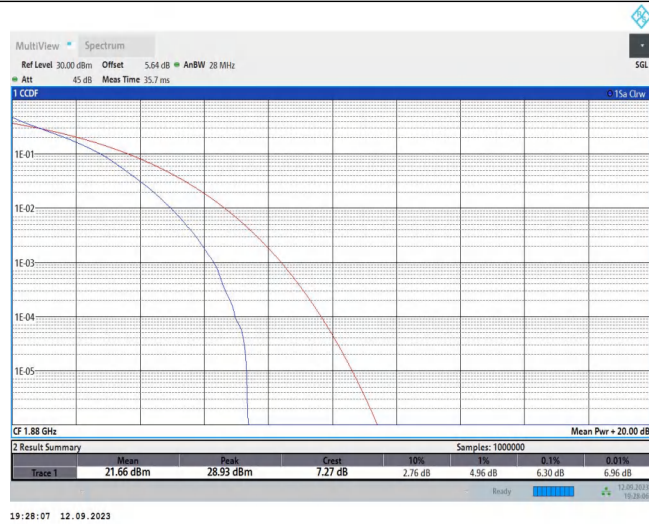
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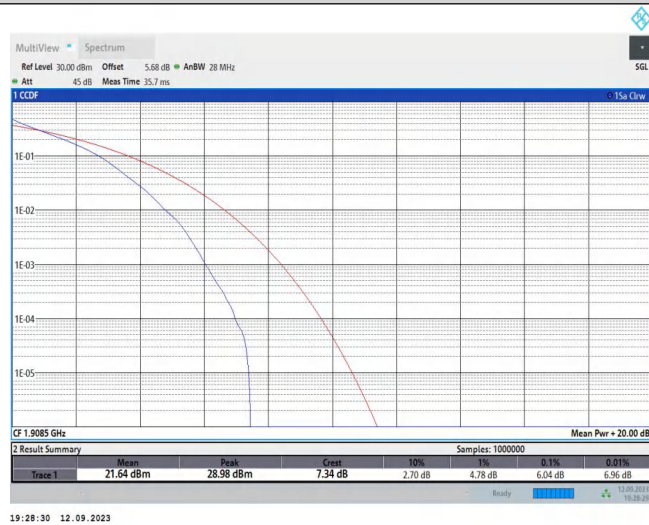
Band2-3MHz-QPSK-18615-6RB#0



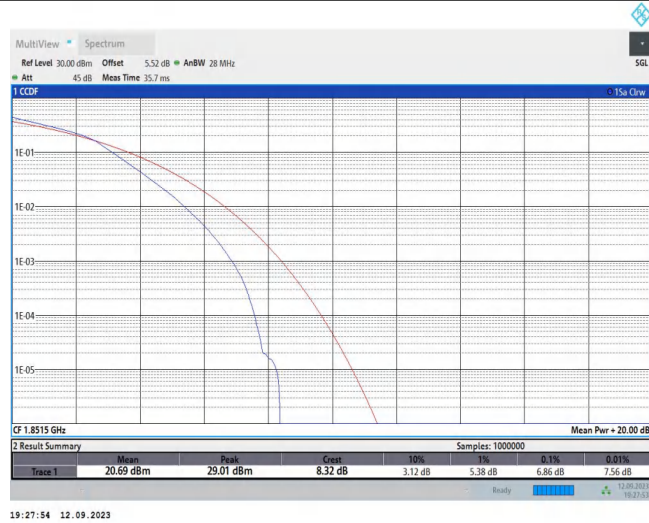
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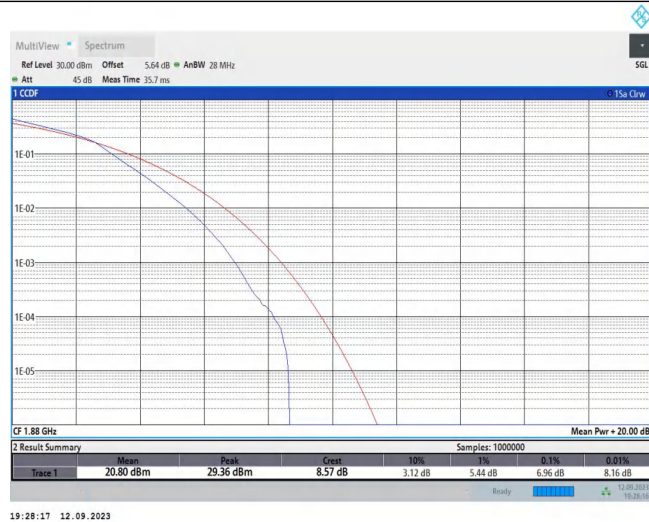
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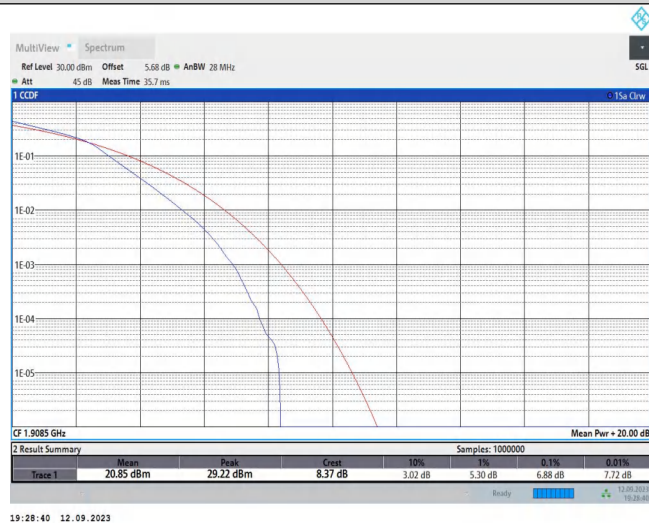
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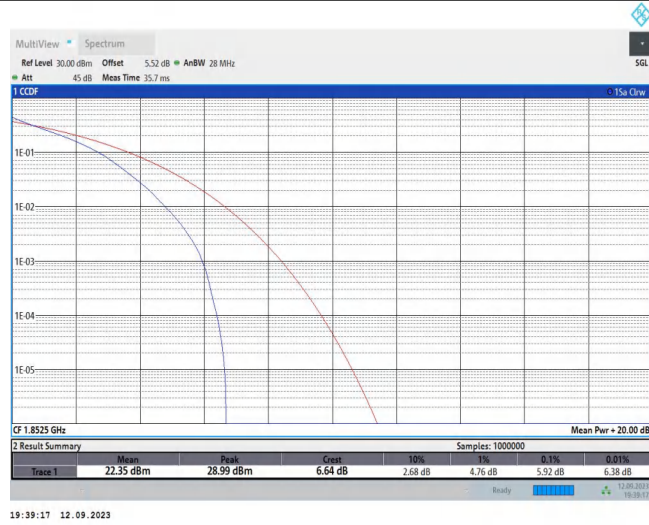
Band2-3MHz-16QAM-18900-5RB#0



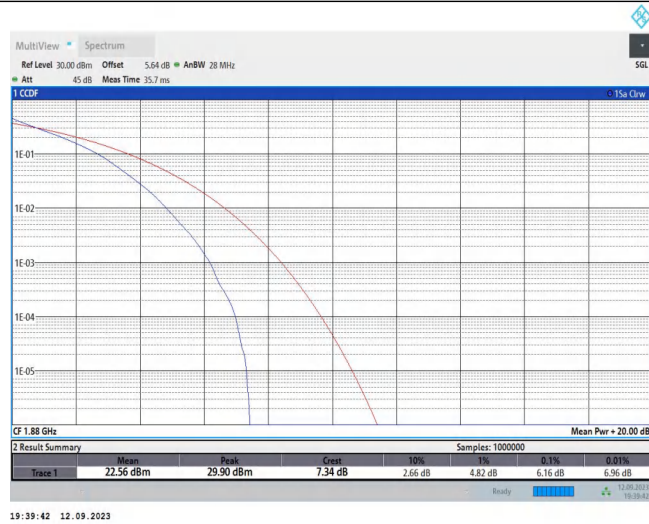
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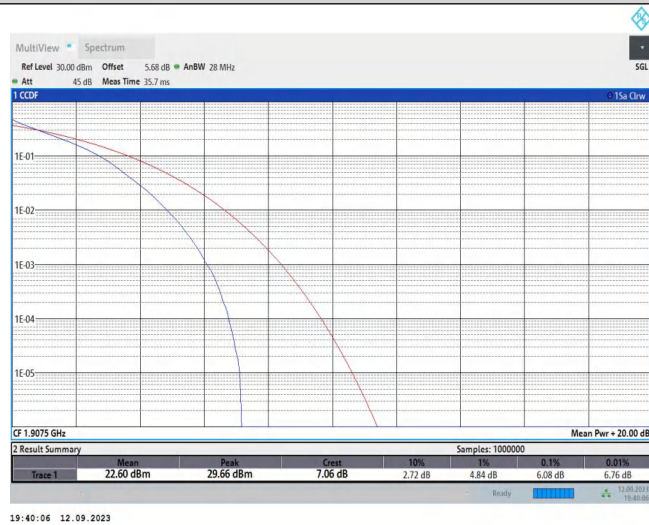
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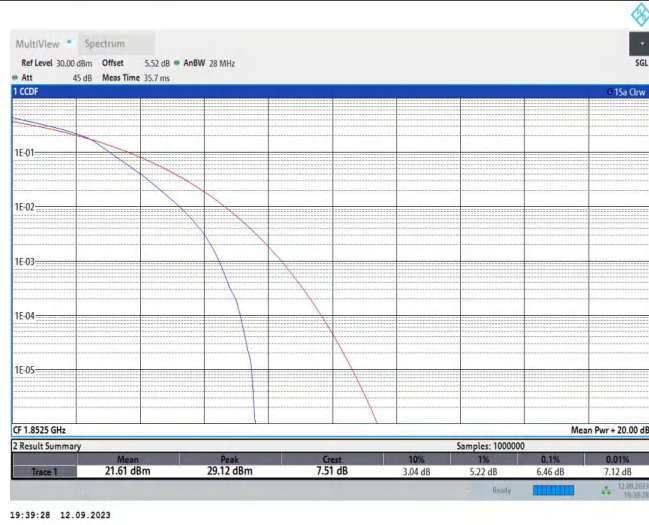
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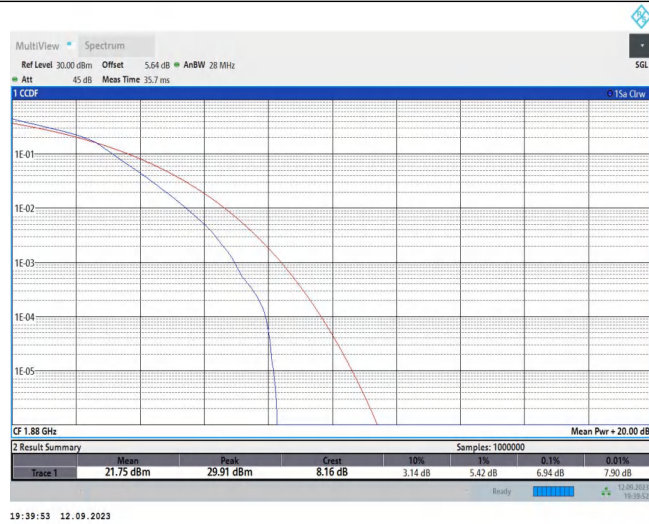
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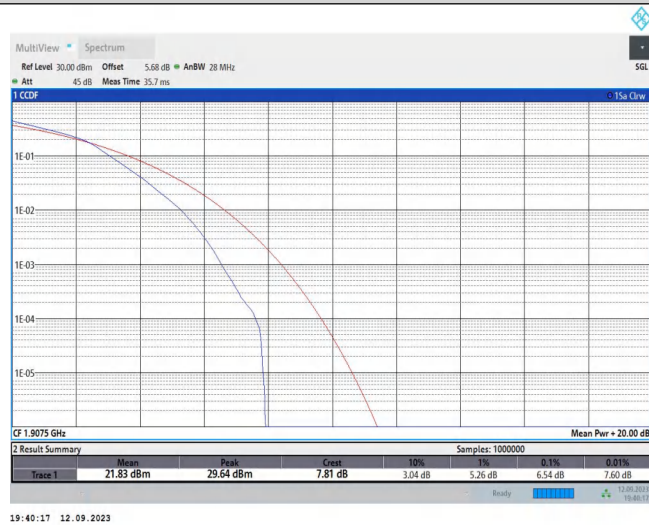
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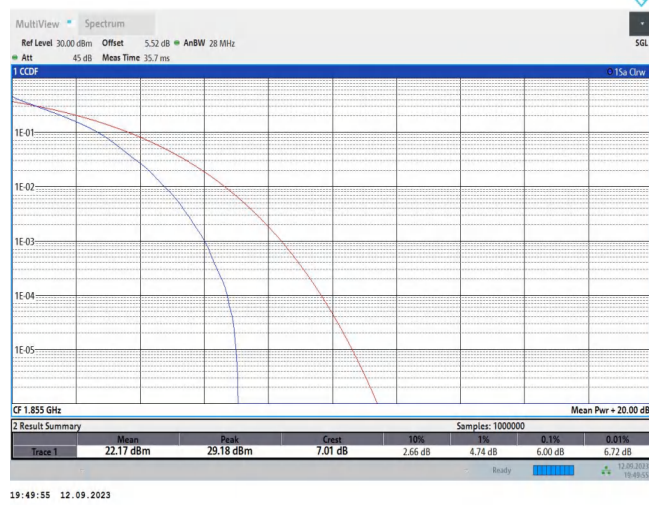
Band2-5MHz-16QAM-18900-5RB#0



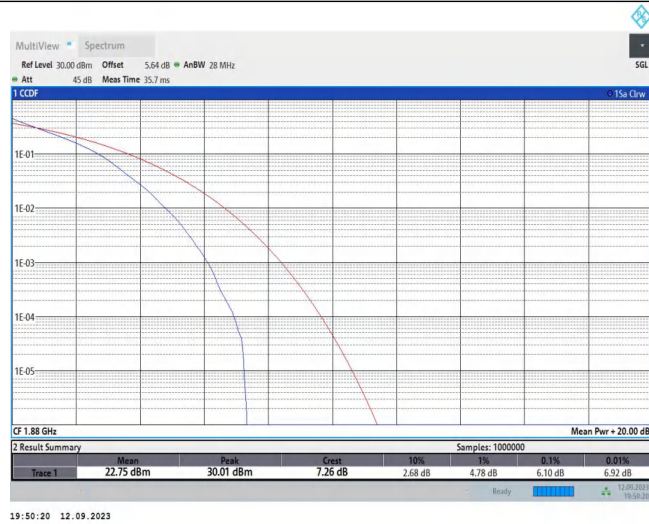
Band2-5MHz-16QAM-19175-5RB#0



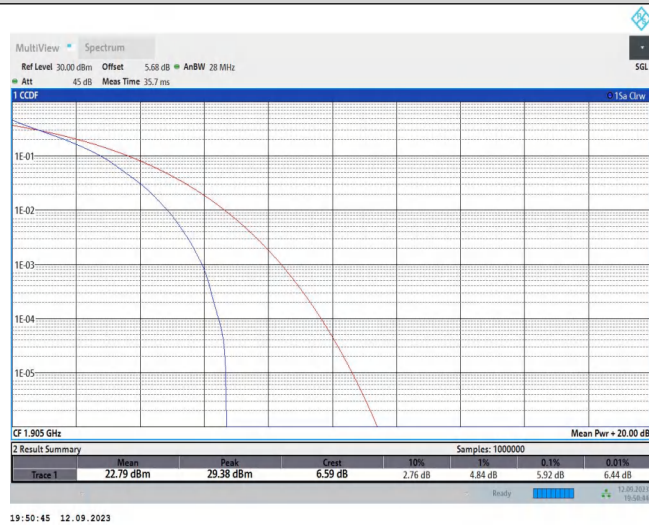
Band2-10MHz-QPSK-18650-6RB#0



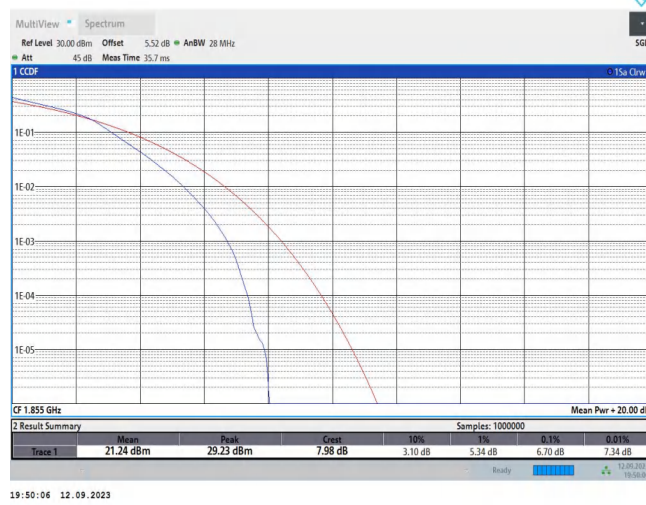
Band2-10MHz-QPSK-18900-6RB#0



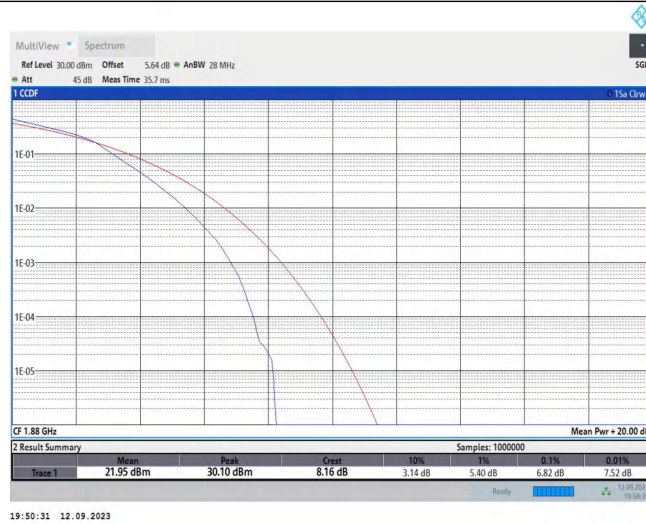
Band2-10MHz-QPSK-19150-6RB#0



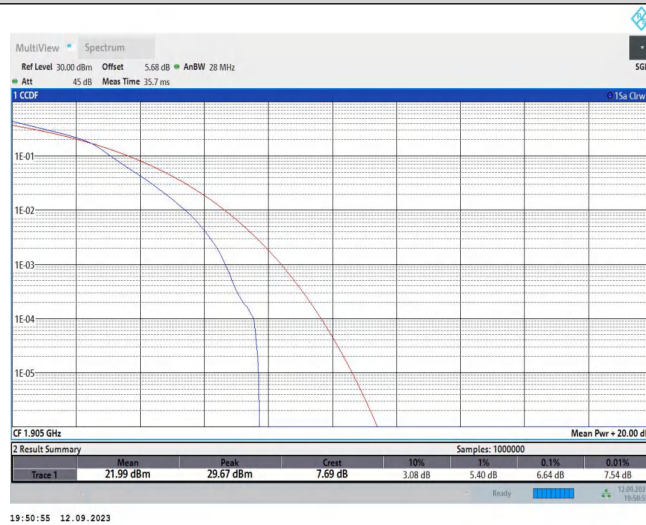
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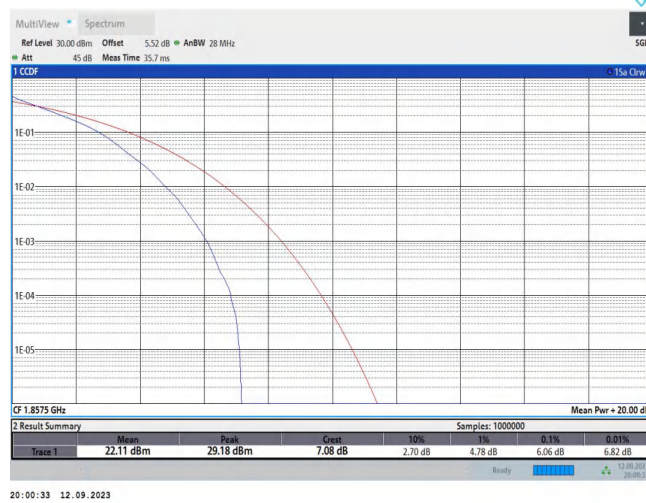
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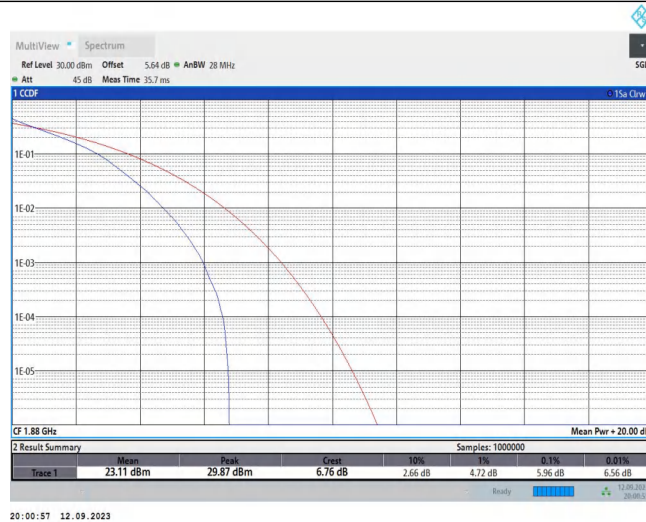
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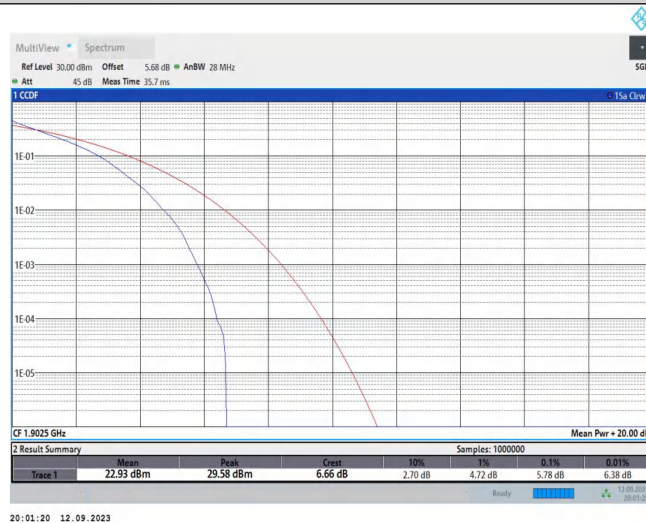
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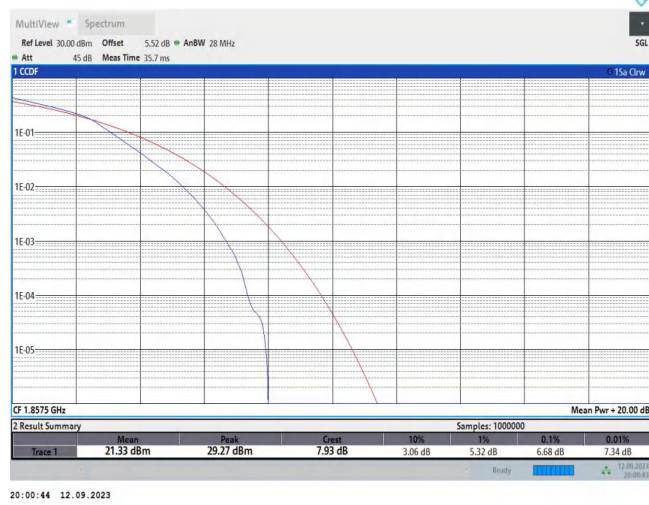
Band2-15MHz-QPSK-18900-6RB#0



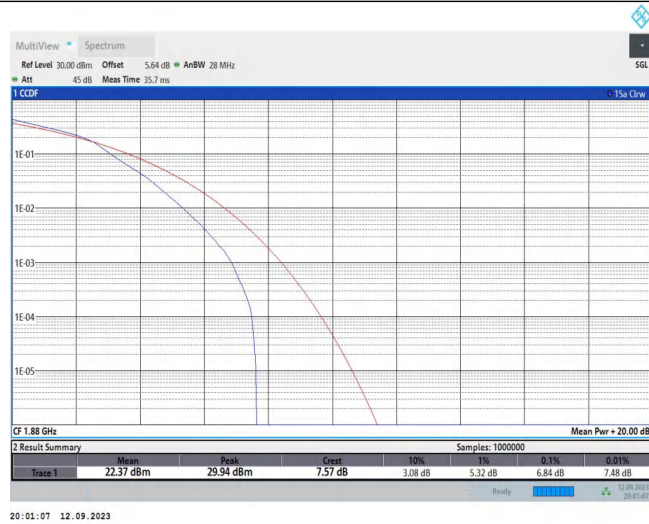
Band2-15MHz-QPSK-19125-6RB#0



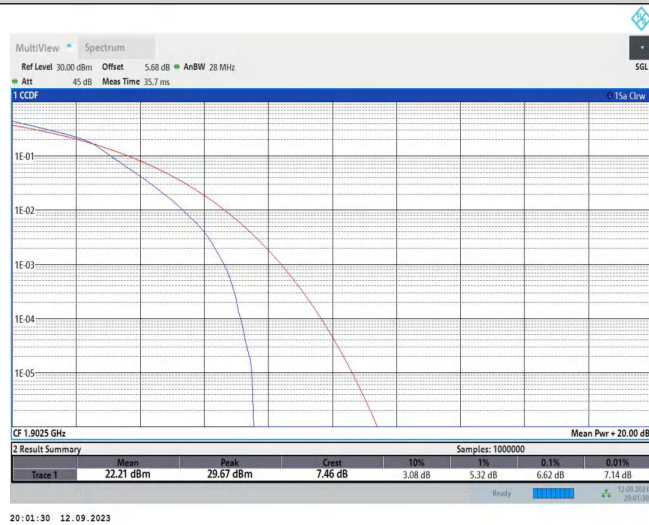
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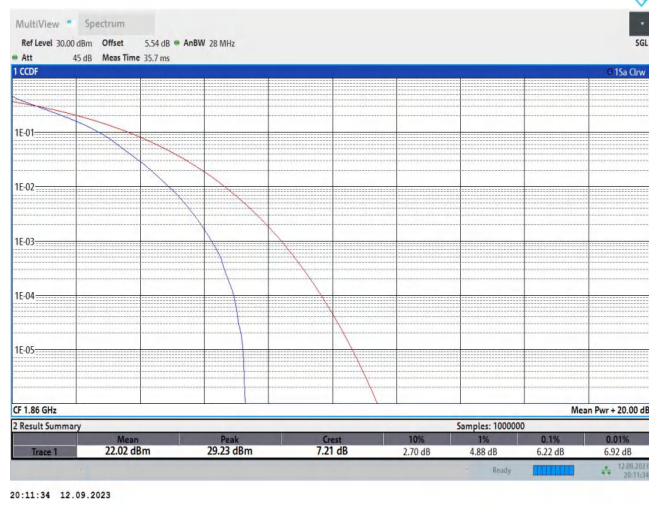
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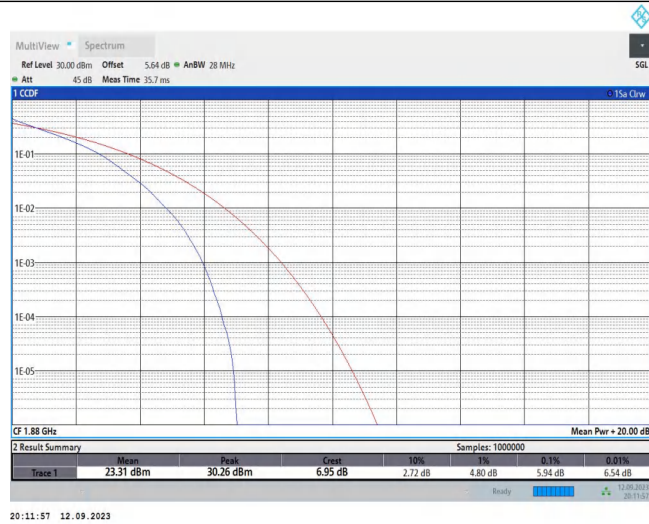
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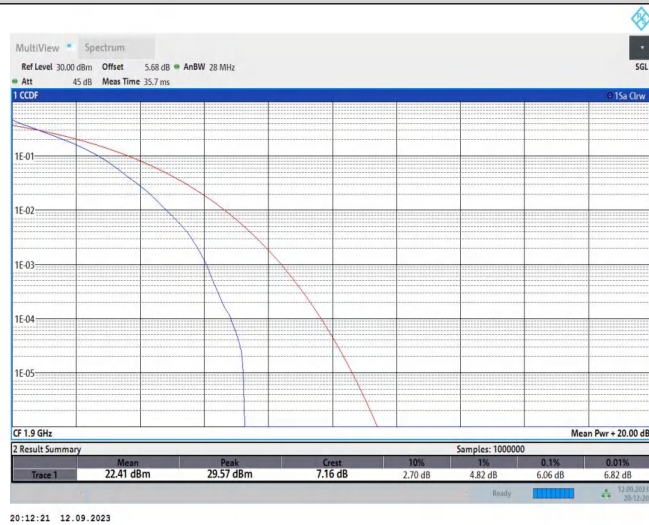
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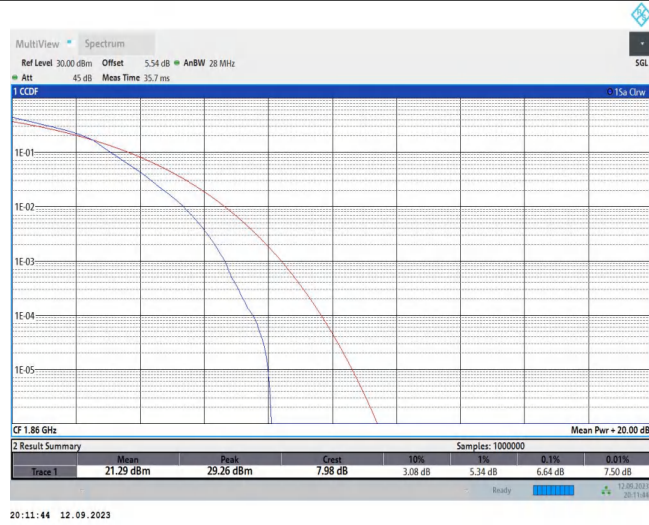
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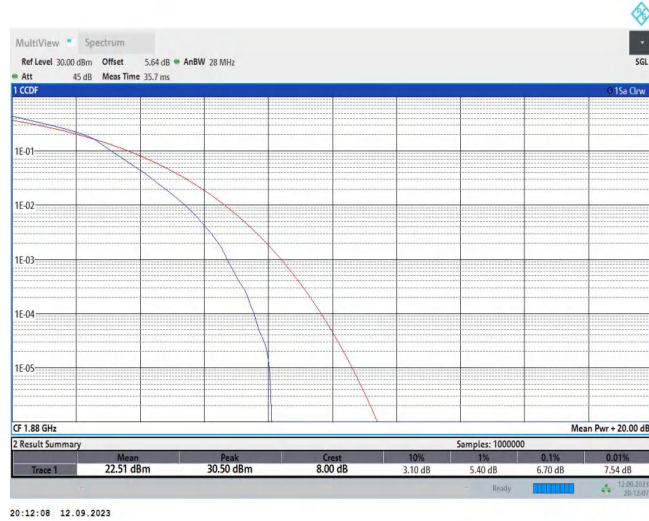
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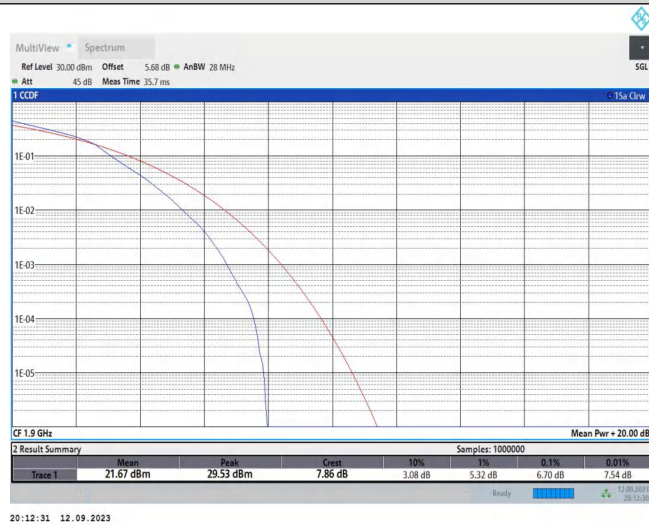
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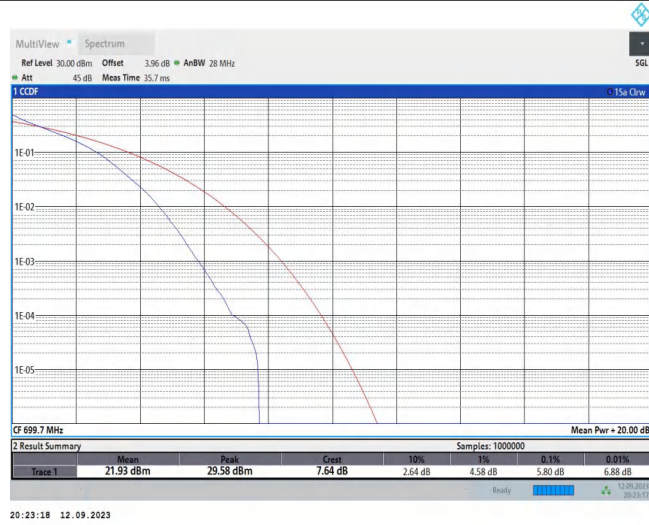
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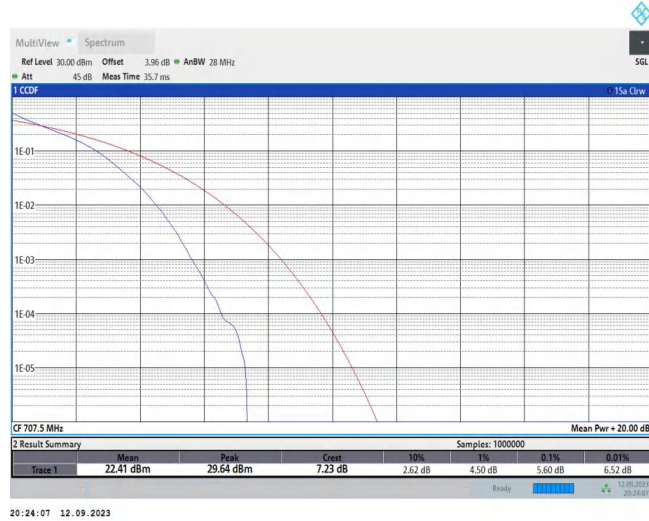
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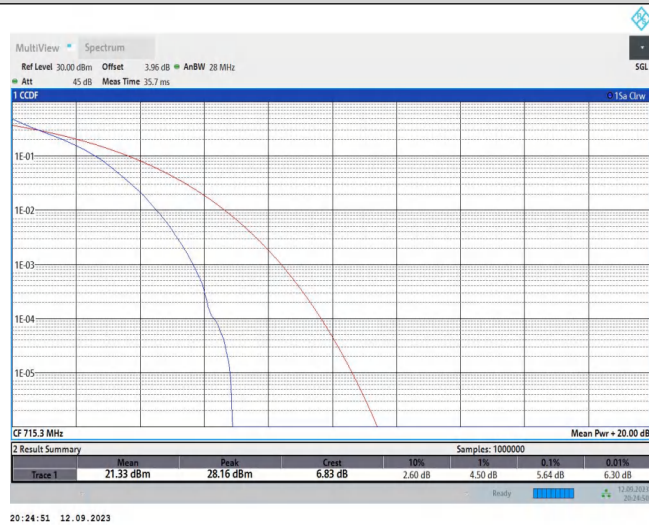
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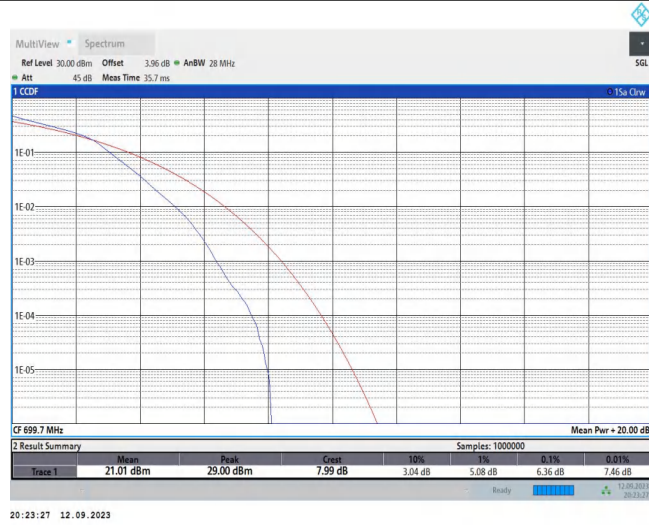
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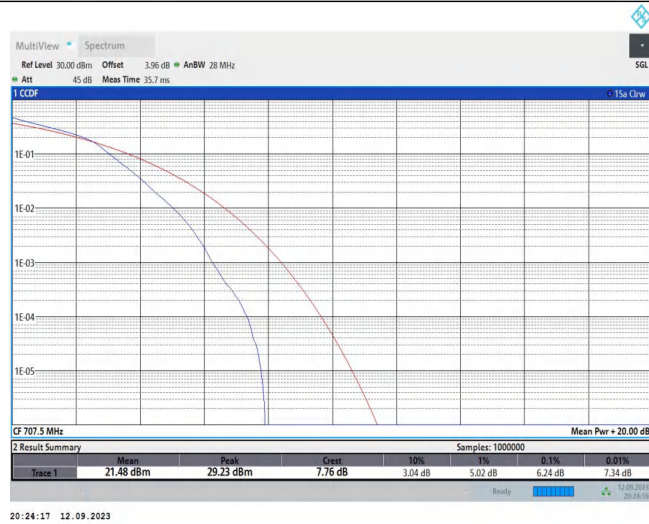
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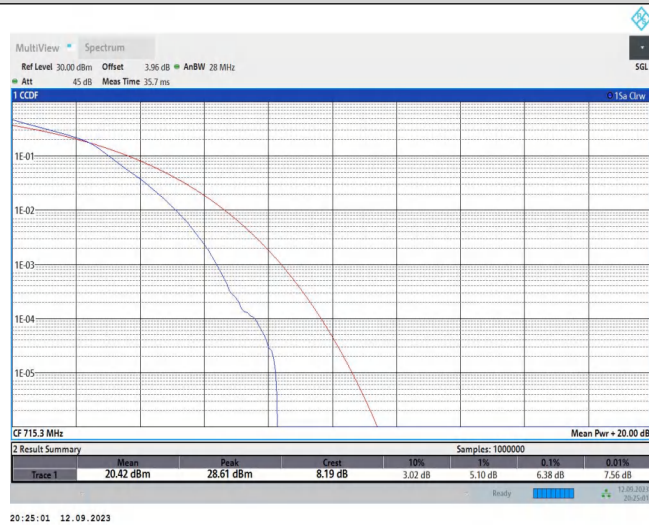
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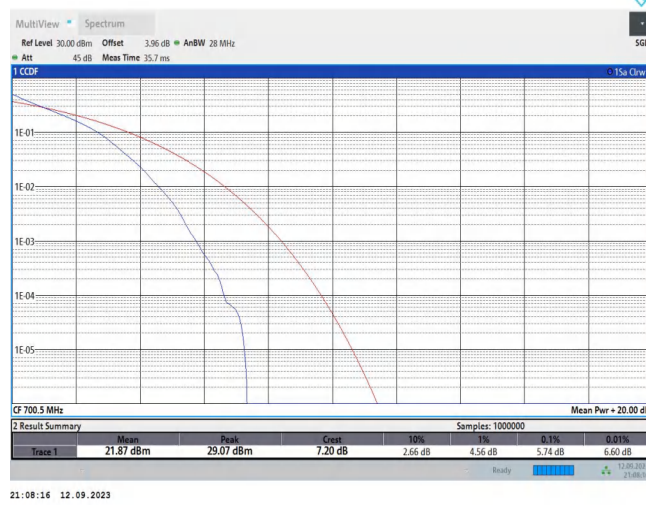
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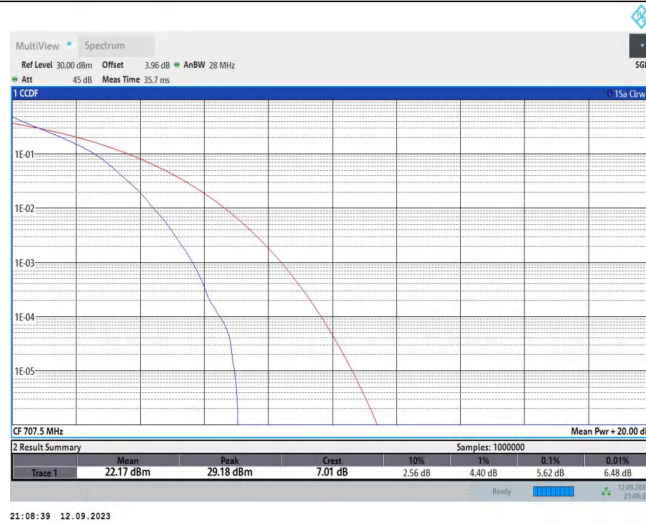
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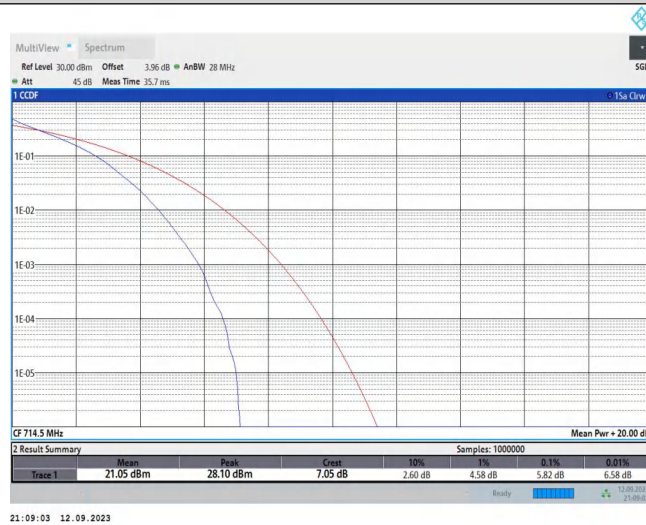
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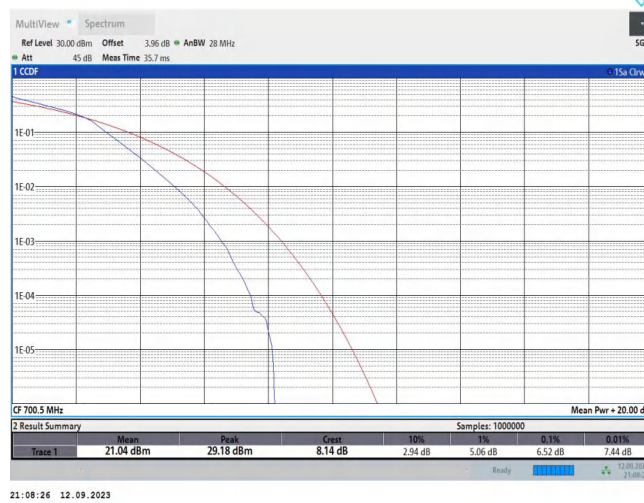
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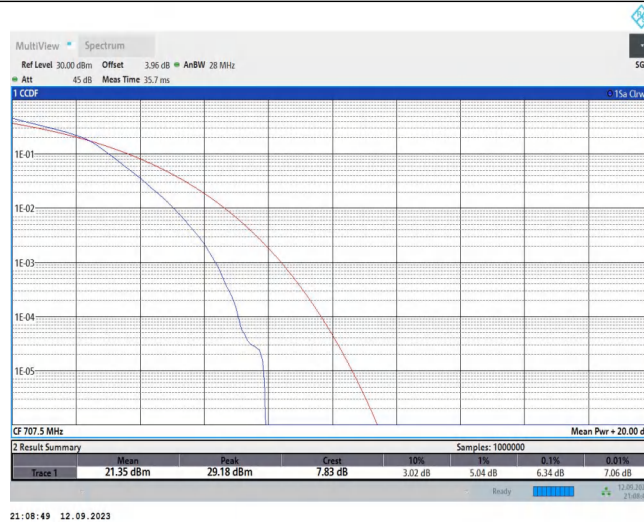
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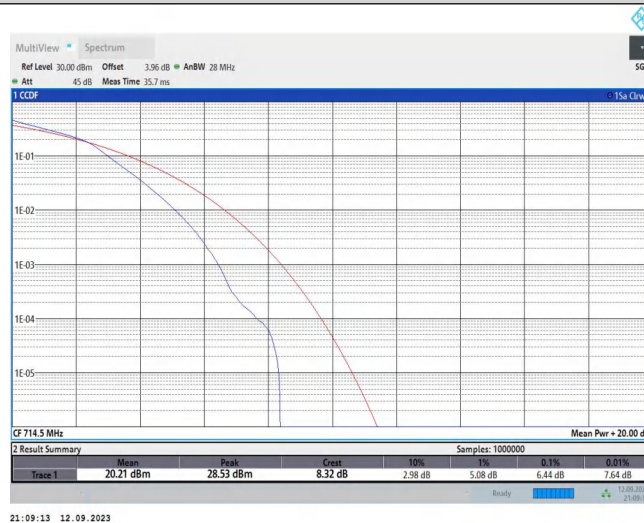
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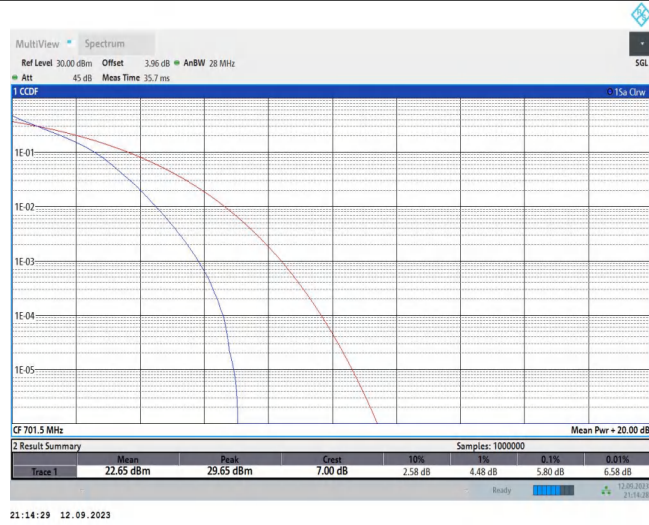
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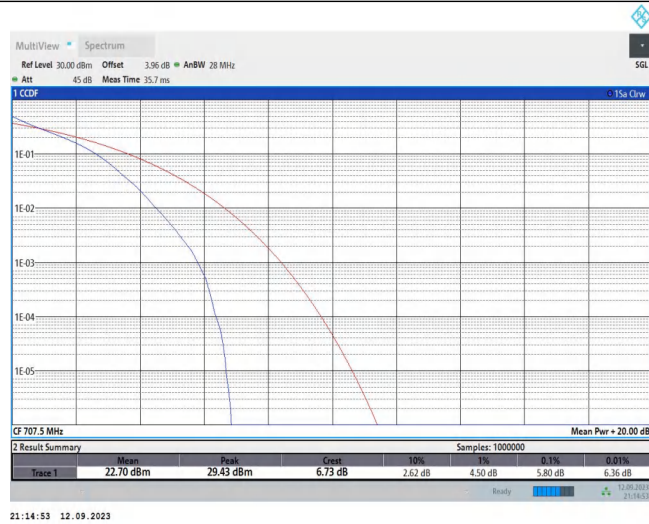
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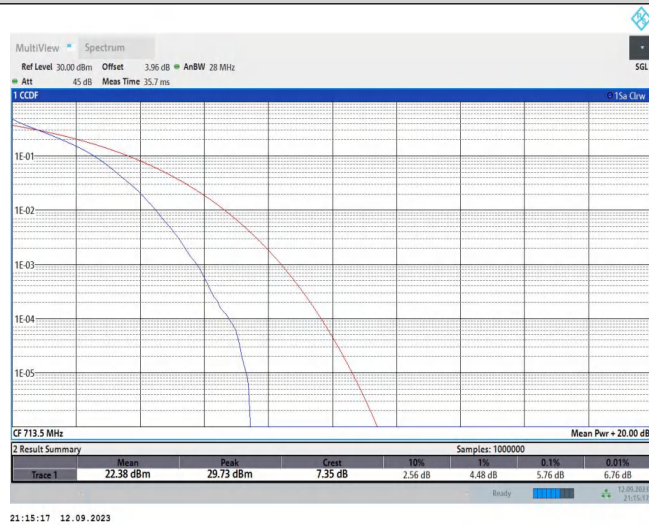
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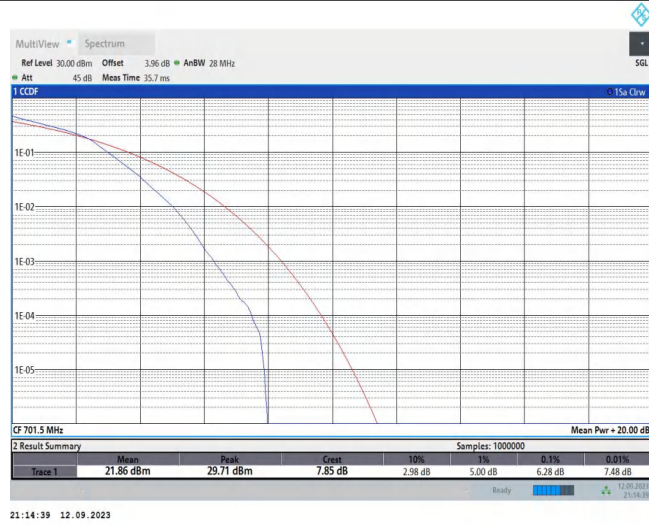
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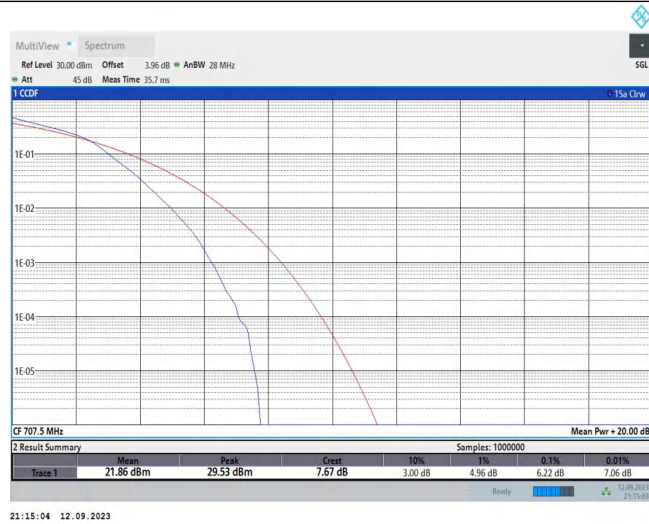
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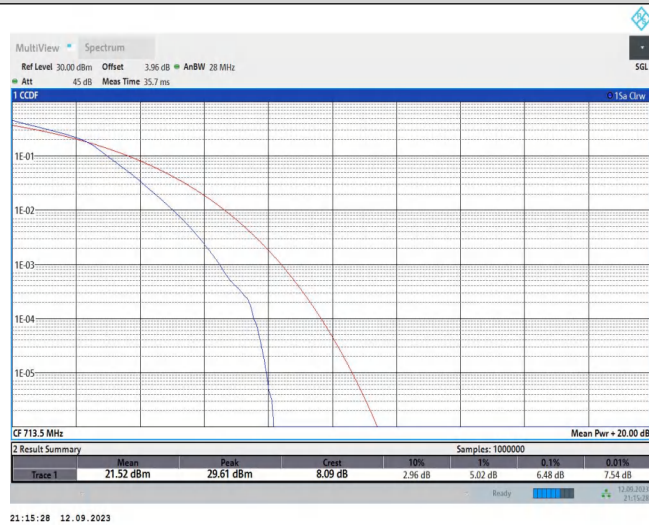
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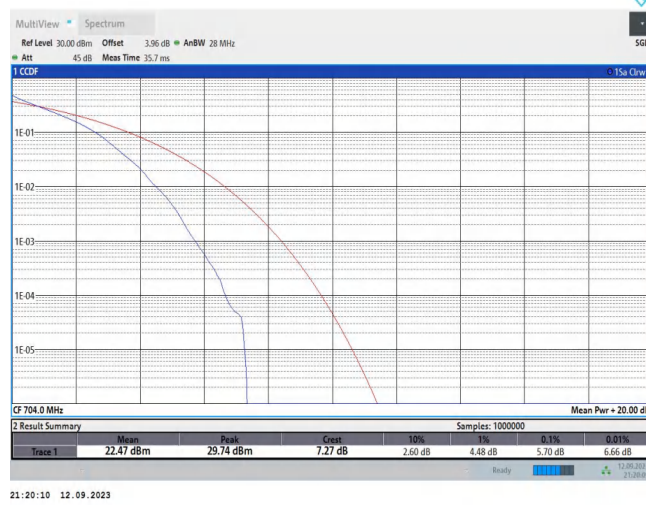
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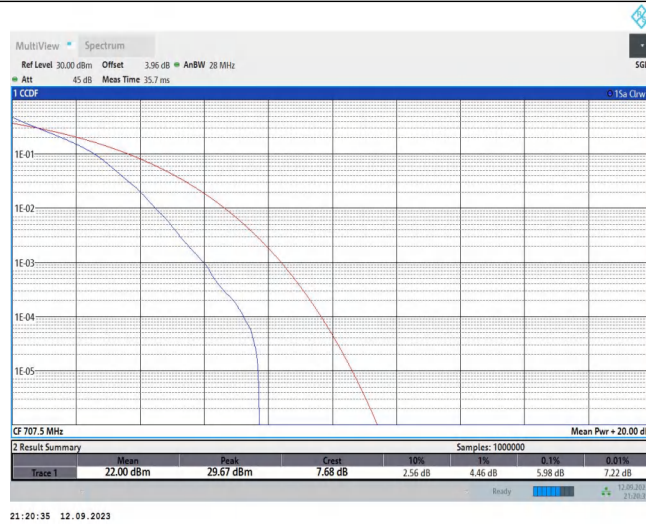
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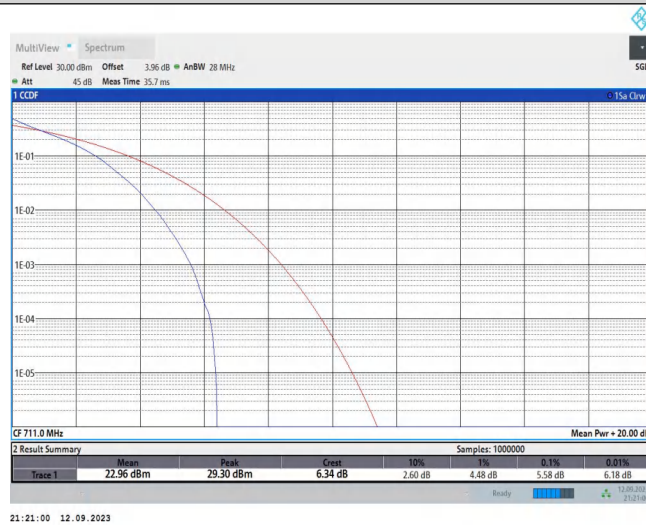
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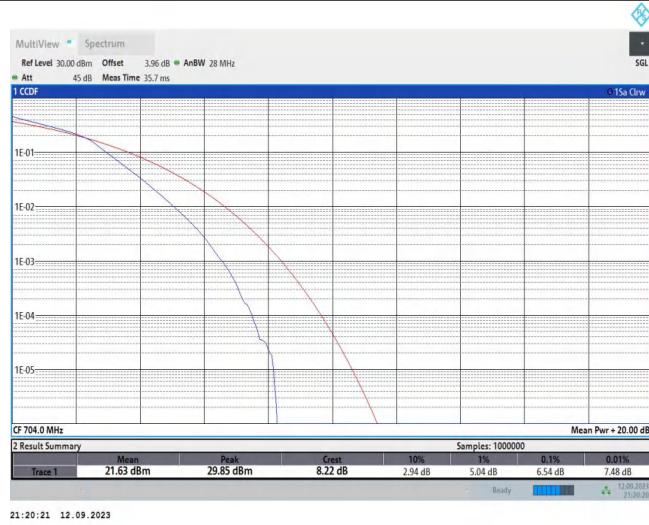
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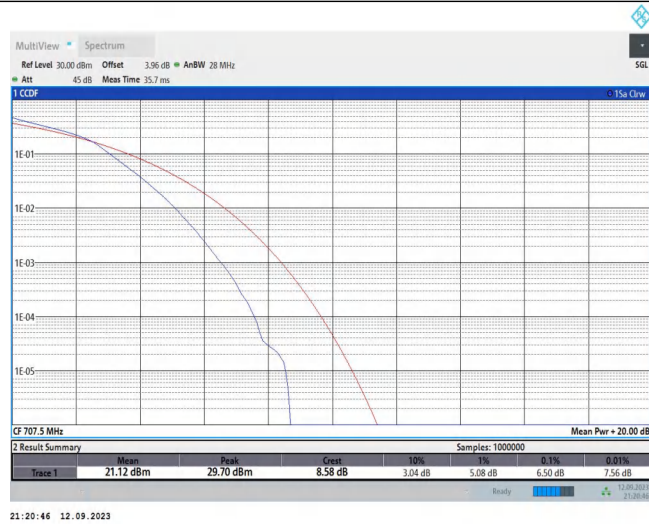
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Band12-10MHz-16QAM-23060-5RB#0



Band12-10MHz-16QAM-23095-5RB#0



Band12-10MHz-16QAM-23130-5RB#0

