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TESTING
CNAS L0095



Test Report No.:
FCC2021-0035-RF1

RF Test Report

EUT : Quantum Access Q3
MODEL : Access Q3
BRAND NAME : N/A
CLIENT : QUANTUM CONNECTIVITY DE
MEXICO, S.A. DE C.V.
Classification Of Test : N/A

CVC Testing Technology Co., Ltd.



Client	Name	QUAMTUM CONNECTIVITY DE MEXICO, S.A. DE C.V.		
	Address	Torcuato Tasso 245, Despacho 403, Oficina 21Col. Polanco V Sección, C.P. 11560 Alcaldía Miguel Hidalgo, CDMX,México		
Manufacturer	Name	QUAMTUM CONNECTIVITY DE MEXICO, S.A. DE C.V.		
	Address	Torcuato Tasso 245, Despacho 403, Oficina 21Col. Polanco V Sección, C.P. 11560 Alcaldía Miguel Hidalgo, CDMX,México		
Equipment Under Test	Name	Quantum Access Q3		
	Model/Type	Access Q3		
	Trade mark	N/A		
	Serial NO.	N/A		
	Sample NO.	3-1		
Date of Receipt.	2021.11.18		Date of Testing	2021.11.18~2021.12.04
Test Specification			Test Result	
ANSI C63.26-2015,FCC PART 22, Subpart H FCC Part 2,ANSI/TIA-603-E			PASS	
Evaluation of Test Result		The equipment under test was found to comply with the requirements of the standards applied.		
		Issue Date: 2021.12.07		
Tested by:		Reviewed by:		Approved by:
				
Xu ZhenFei Name Signature		Liu YongHai Name Signature		Chen HuaWen 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
FCC2021-0035-RF1	Original release	2021.12.07



1 SUMMARY OF TEST RESULTS

The EUT has been tested according to the following specifications:

APPLIED STANDARD: FCC Part 22 & Part 2			
STANDARD SECTION	TEST TYPE AND LIMIT	RESULT	REMARK
2.1046	RF power output	PASS	Meet the requirement of limit.
22.913 (a)	Effective Radiated Power	PASS	Meet the requirement of limit.
2.1055 22.355	Frequency Stability	PASS	Meet the requirement of limit.
2.1049 22.917 (b)	Occupied Bandwidth	PASS	Meet the requirement of limit.
22.917 (a)	Band Edge Compliance	PASS	Meet the requirement of limit.
22.917	Conducted Spurious Emission	PASS	Meet the requirement of limit.
2.1051 22.917(a)	Radiates Spurious Emission	PASS	Meet the requirement of limit.
2.1053 22.917(a)	Peak-to-Average Power Ratio	PASS	Meet the requirement of limit.



2 GENERAL INFORMATION

2.1 GENERAL PRODUCT INFORMATION

PRODUCT	Quantum Access Q3		
BRAND	N/A		
MODEL	Access Q3		
ADDITIONAL MODEL	N/A		
FCC ID	2A3WD-ACCESS-Q3		
POWER SUPPLY	DC 12V From Adapter		
MODULATION TYPE	WCDMA	BPSK, QPSK	
	LTE	QPSK, 16QAM	
OPERATING FREQUENCY	Band	TX(MHz)	RX(MHz)
	WCDMA B5	824 ~ 849	869 ~ 894
	LTE B5	824 ~ 849	869 ~ 894
MAX POWER	WCDMA B5: 23.58dBm (Maximum) LTE B5: 23.73dBm (Maximum)		
ANTENNA TYPE	PCB Antenna with 0.5dBi gain for WCDMA B5/LTE Band 5		
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.: FCC2021-0035-E) for detailed product photo.
4. The EUT have SISO function, provides 1 completed transmitter and 1 receiver.

MODULATION MODE	TX FUNCTION
WCDMA	1TX/1RX diversity
LTE	1TX/1RX diversity



2.2 Description of Accessories

Adapter	
BRAND	Quantum
Model No.:	ZL-A012W1201000
Input:	100-240 V~50/60 Hz 0.5 A Max
Output:	12.0 V $\equiv$ 1 A
AC Cable:	N/A
DC Cable:	1.50 Meter, Unshielded without ferrite

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 + Adapter + with WCDMA or LTE link

WCDMA MODE

EUT CONFIGURE MODE	TEST ITEM	AVAILABLE CHANNEL	TESTED CHANNEL	MODE
-	RF power output	4132 to 4233	4132, 4182, 4233	WCDMA Band 5
-	Effective Radiated Power	4132 to 4233	4132, 4182, 4233	WCDMA Band 5
-	Frequency Stability	4132 to 4233	4132, 4233	WCDMA Band 5
-	Occupied Bandwidth	4132 to 4233	4132, 4182, 4233	WCDMA Band 5
-	Band Edge Compliance	4132 to 4233	4132, 4233	WCDMA Band 5
-	Conducted Spurious Emission	4132 to 4233	4132, 4182, 4233	WCDMA Band 5
-	Radiates Spurious Emission	4132 to 4233	4132, 4182, 4233	WCDMA Band 5
-	Peak-to-Average Power Ratio	4132 to 4233	4132, 4182, 4233	WCDMA Band 5



Test modes are chosen as the worst case configuration below for LTE Band 5/26

Test items	Modes	Bandwidth (MHz)					Modulation		RB			Test Channel		
		1.4	3	5	10	15	QP SK	16Q AM	1	50%	100%	L	M	H
RF power output	LTE 5	O	O	O	O	-	O	O	O	O	O	O	O	O
Effective Radiated Power	LTE 5	O	O	O	O	-	O	O	O	O	O	O	O	O
Occupied Bandwidth	LTE 5	O	O	O	O	-	O	O	-	-	O	O	O	O
Band Edge Compliance	LTE 5	O	O	O	O	-	O	O	O	-	O	O	-	O
Peak-to-Average Power Ratio	LTE 5	O	O	O	O	-	O	O	-	-	O	O	O	O
Frequency Stability	LTE 5	O	O	O	O	-	O	O	O	O	O	O	O	O
Conducted Spurious Emission	LTE 5	O	O	O	O	-	O	-	O	-	-	O	O	O
Radiates Spurious Emission	LTE 5	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.													

Test CONDITION:

TEST ITEM	ENVIRONMENTAL CONDITIONS	INPUT POWER	TESTED BY
RF power output	22deg. C, 65%RH	DC 12V from Adapter	LI JiaLin
Effective Radiated Power	22deg. C, 65%RH	DC 12V from Adapter	LI JiaLin
Frequency Stability	22deg. C, 65%RH	DC 12V from Adapter	LI JiaLin
Occupied Bandwidth	22deg. C, 65%RH	DC 12V from Adapter	LI JiaLin
Band Edge Compliance	22deg. C, 65%RH	DC 12V from Adapter	LI JiaLin
Conducted Spurious Emission	22deg. C, 65%RH	DC 12V from Adapter	LI JiaLin
Radiates Spurious Emission	23deg. C, 63%RH	DC 12V from Adapter	LI JiaLin
Peak-to-Average Power Ratio	22deg. C, 65%RH	DC 12V from Adapter	LI JiaLin



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 22

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		
N/A	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
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

2.6 LIST OF TEST AND MEASUREMENT INSTRUMENTS

Refer to Appendix B



2.7 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 $k=2$.

2.8 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: office@cvc.org.cn

Test Firm Registration Number: 937273

CN Number: 26239 Wireless Test Site Registration Number: CN0103

3 TEST TYPES AND RESULTS

3.1 OUT POWER MEASUREMENT

3.1.1 LIMITS OF OUTPUT POWER MEASUREMENT

Mobile / Portable station are limited to 7 watts e.r.p.

3.1.2 TEST PROCEDURES

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:

$EIRP = PT + GT - LC$, $ERP = EIRP - 2.15dBi$, 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.

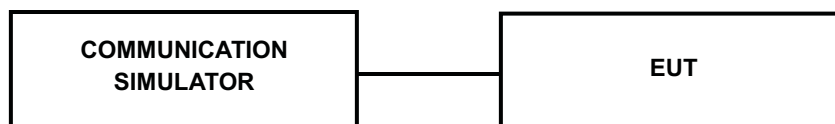
CONDUCTED POWER MEASUREMENT:

The EUT was set up for the maximum power with WCDMA/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 Annex A

3.2 FREQUENCY STABILITY

3.2.1 LIMITS OF FREQUENCY STABILITY MEASUREMENT

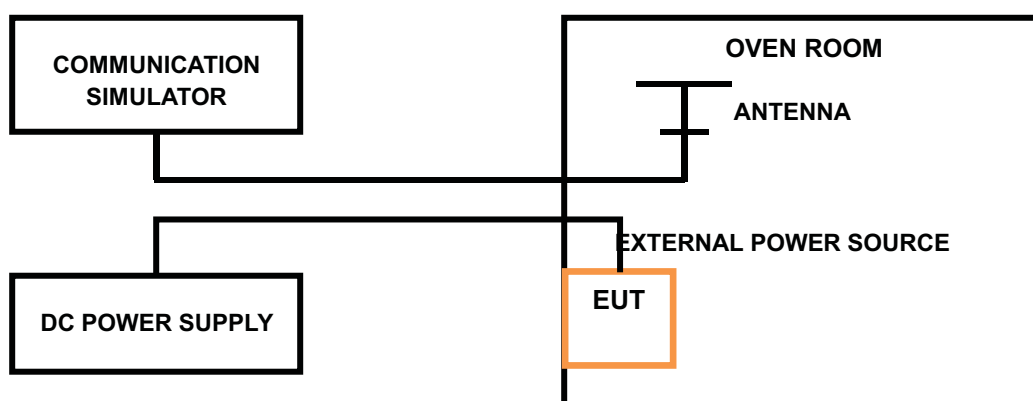
1.5 ppm is for base and fixed station. 2.5 ppm is for mobile station.

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

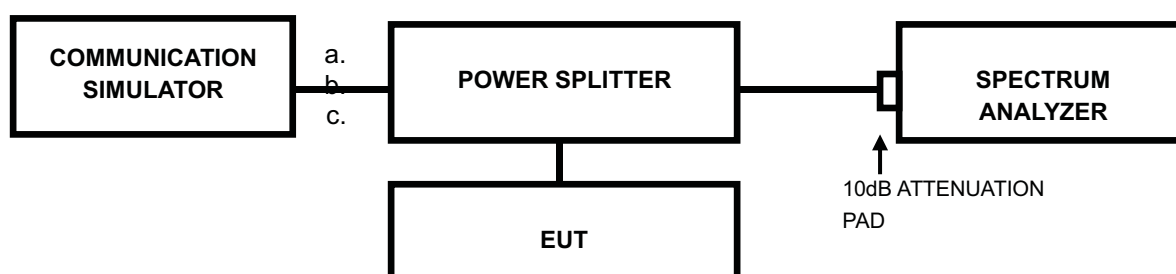
Please refer Annex A

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

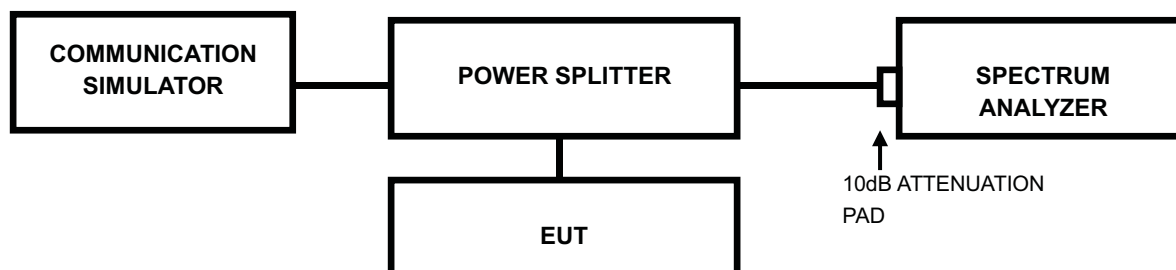
Please refer Annex A

3.4 BAND EDGE MEASUREMENT

3.4.1 LIMITS OF BAND EDGE MEASUREMENT

For operations in the 824 - 849 MHz band, the FCC limit is $43 + 10\log(P)$ dB below the transmitter power (P) in a 100kHz bandwidth. However, in the 1MHz bands immediately outside and adjacent to the licensee's frequency block, a resolution bandwidth of at least one percent of the emission bandwidth of the fundamental emission of the transmitter may be employed.

3.4.2 TEST SETUP





3.4.3 TEST PROCEDURES

- a. All measurements were done at low and high operational frequency range.
- b. The center frequency of spectrum is the band edge frequency and span is 10MHz.
RBW of the spectrum is 100kHz and VBW of the spectrum is 300kHz (WCDMA).
- c. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz.
RBW of the spectrum is 30kHz and VBW of the spectrum is 100 kHz. (LTE bandwidth 1.4MHz).
- d. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz.
RBW of the spectrum is 50kHz and VBW of the spectrum is 200kHz. (LTE bandwidth 3MHz).
- e. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz.
RBW of the spectrum is 100kHz and VBW of the spectrum is 300kHz. (LTE bandwidth 5MHz).
- f. The center frequency of spectrum is the band edge frequency and span is 1~5 MHz.
RBW of the spectrum is 200kHz and VBW of the spectrum is 500kHz. (LTE bandwidth 10MHz).
- g. Set the spectrum with RMS detector.
- h. Record the max trace plot into the test report.

3.4.4 TEST RESULTS

Please refer Annex A

3.5 CONDUCTED SPURIOUS EMISSIONS

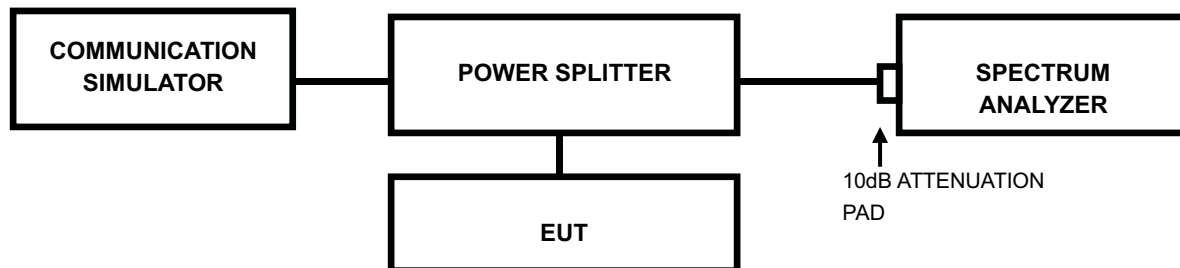
3.5.1 LIMITS OF CONDUCTED SPURIOUS EMISSIONS MEASUREMENT

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 emission limit equal to -13dBm .

3.5.2 TEST PROCEDURE

- a. The EUT makes a phone call to the communication simulator. All measurements were done at low, middle and high operational frequency range.
- b. 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 Annex A



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 emission limit equal to -13dBm .

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

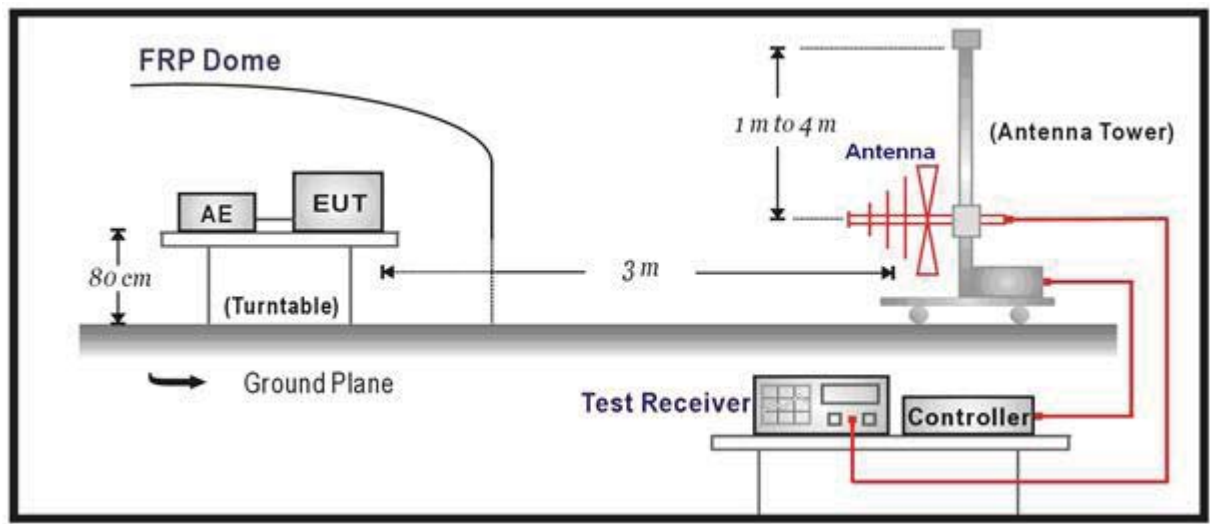
3.6.2 TEST PROCEDURES

- 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. $\text{EIRP(dBm)} = \text{S.G.POWER} - \text{TX cable loss} + \text{Antenna gain}.$
- d. $\text{E.R.P(dBm)} = \text{E.I.P.R} - 2.15\text{dBi}.$

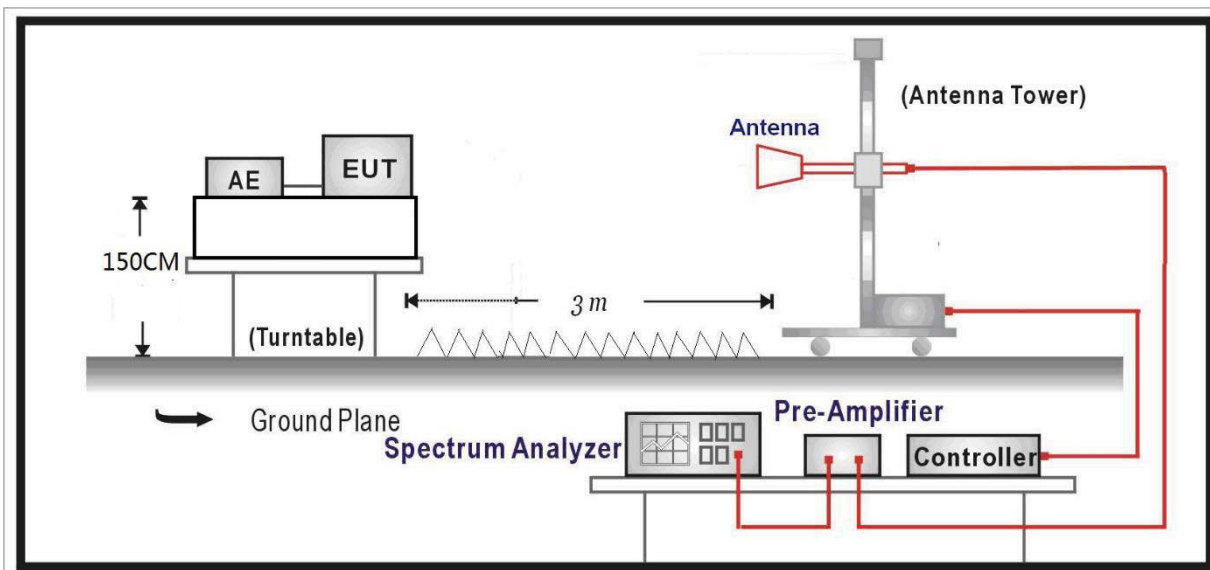
NOTE: The resolution bandwidth and video bandwidth of test receiver/spectrum analyzer is 1MHz/3MHz.

3.6.3 TEST SETUP

Below 1GHz Test Setup:



Above 1GHz Test Setup:

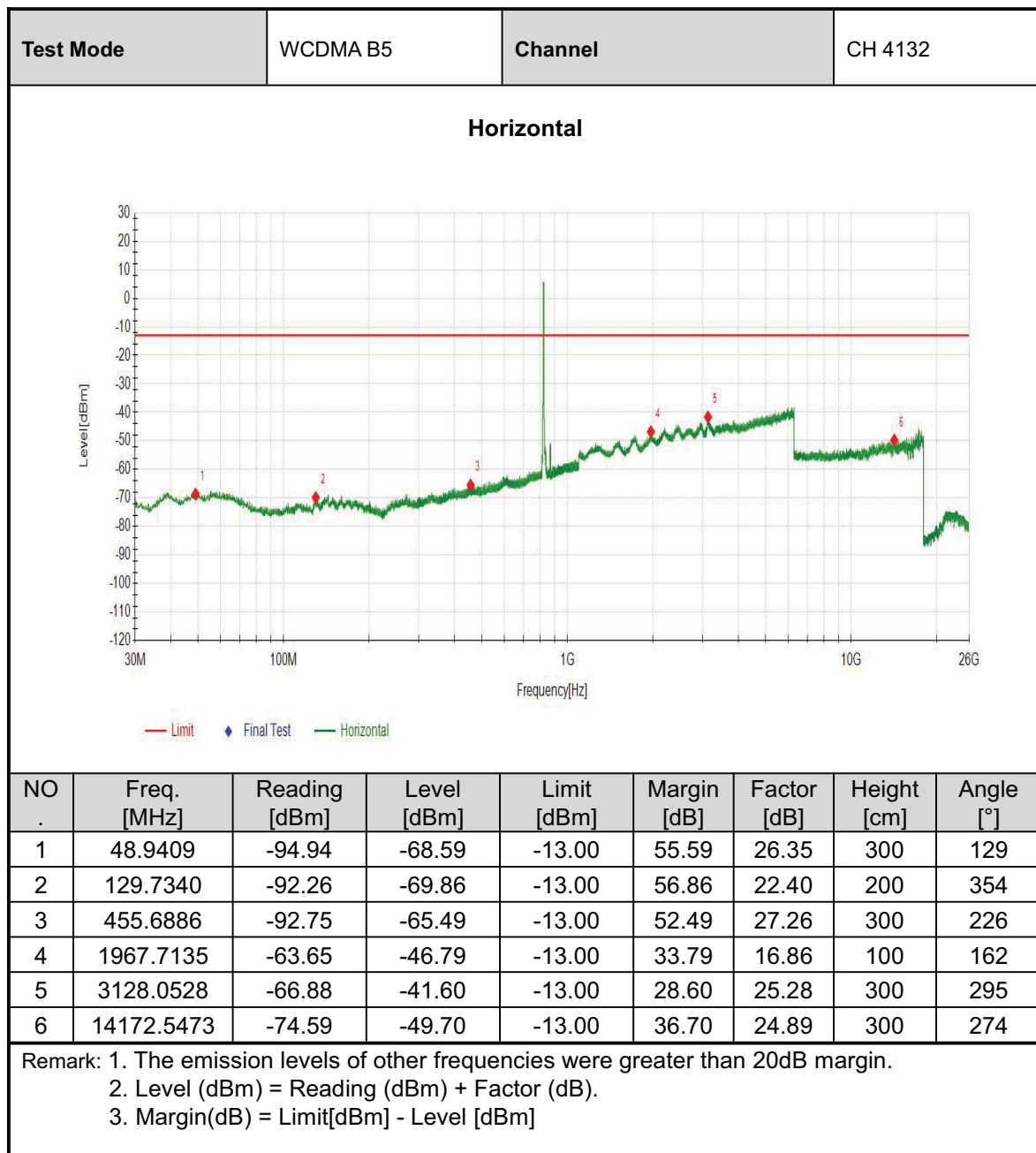


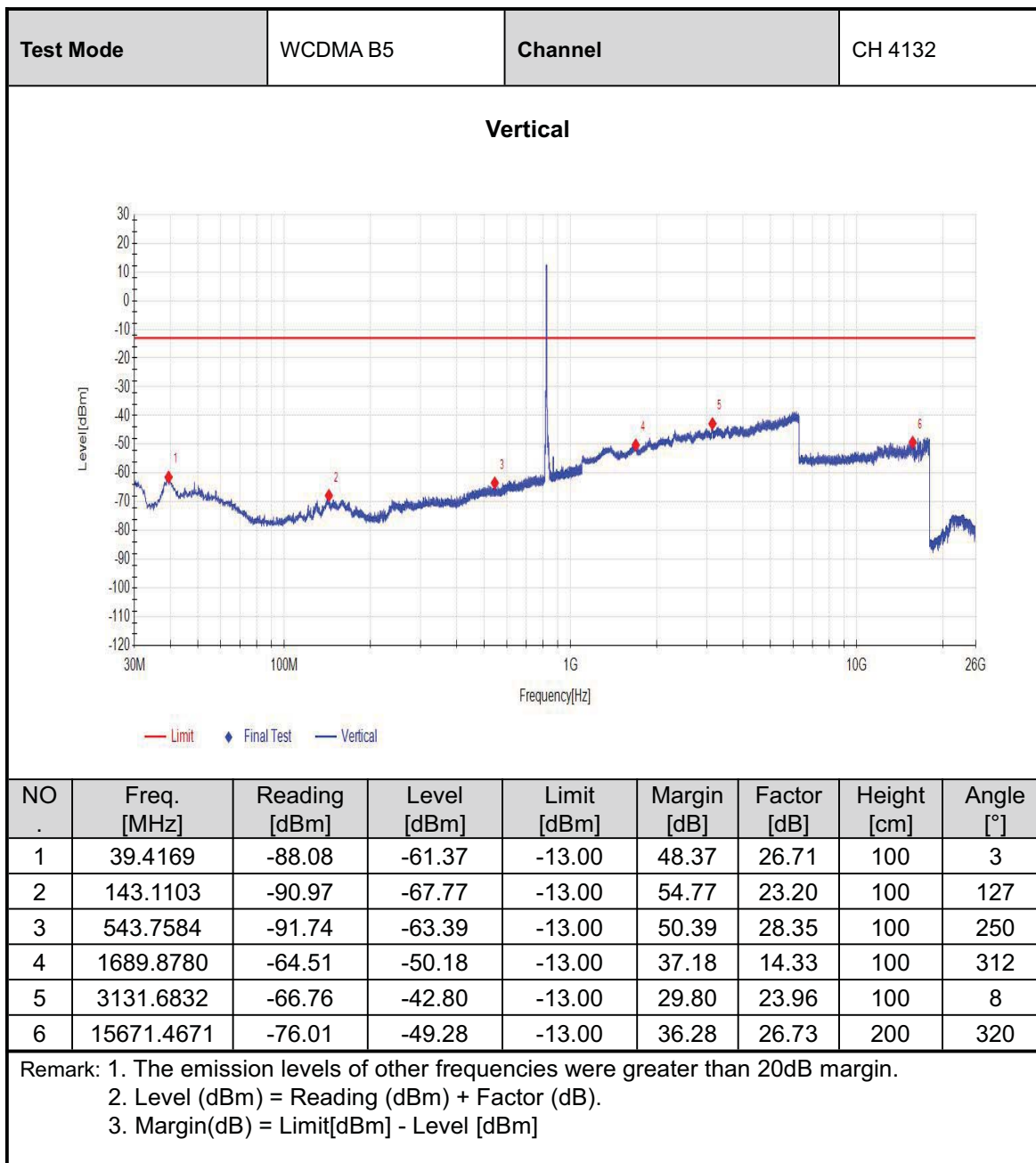
Note: Above 1G is a directional antenna

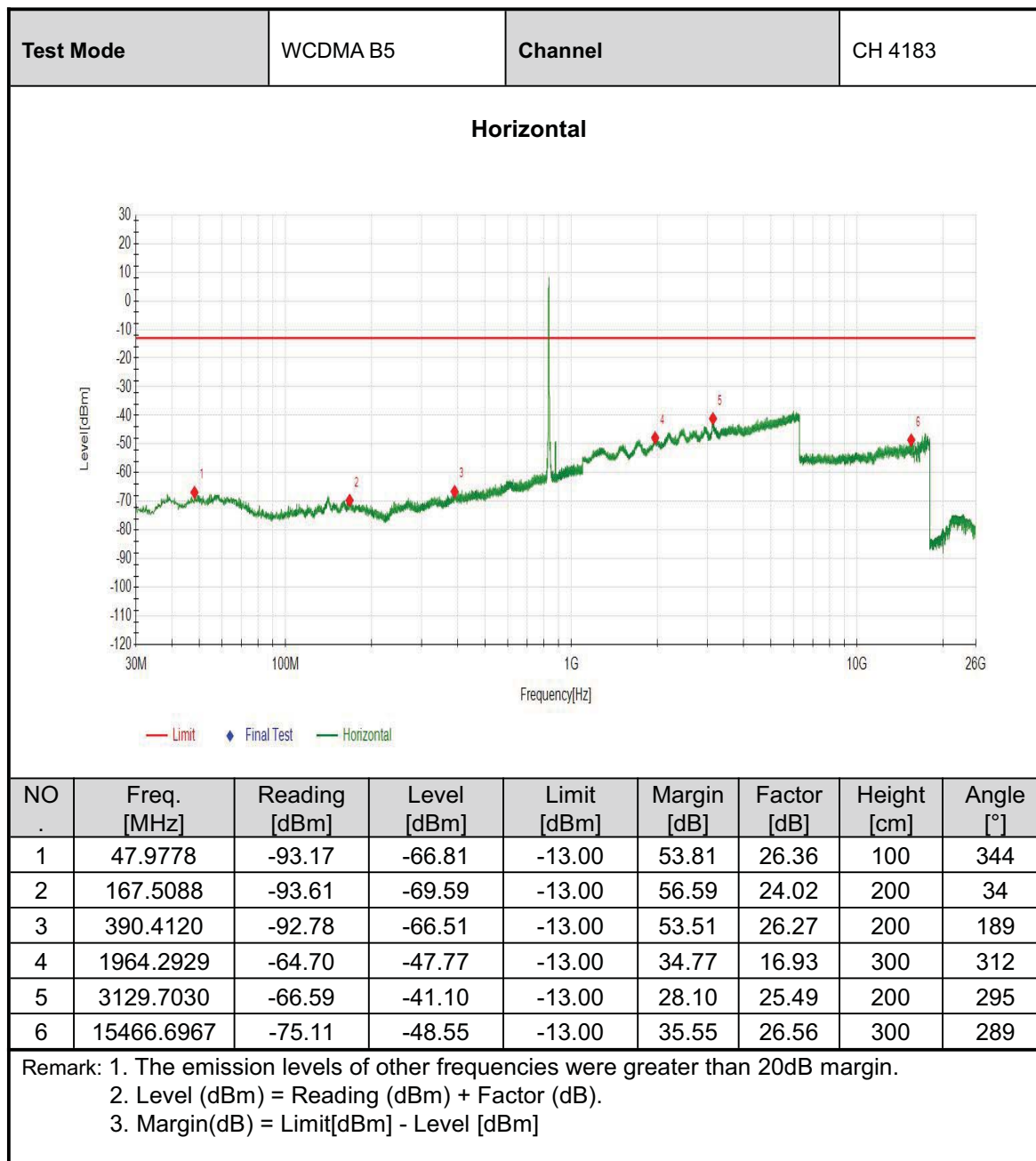
Depends on the EUT height and the antenna 3dB beamwidth both, refer to section 7.3 of CISPR 16-2-3.

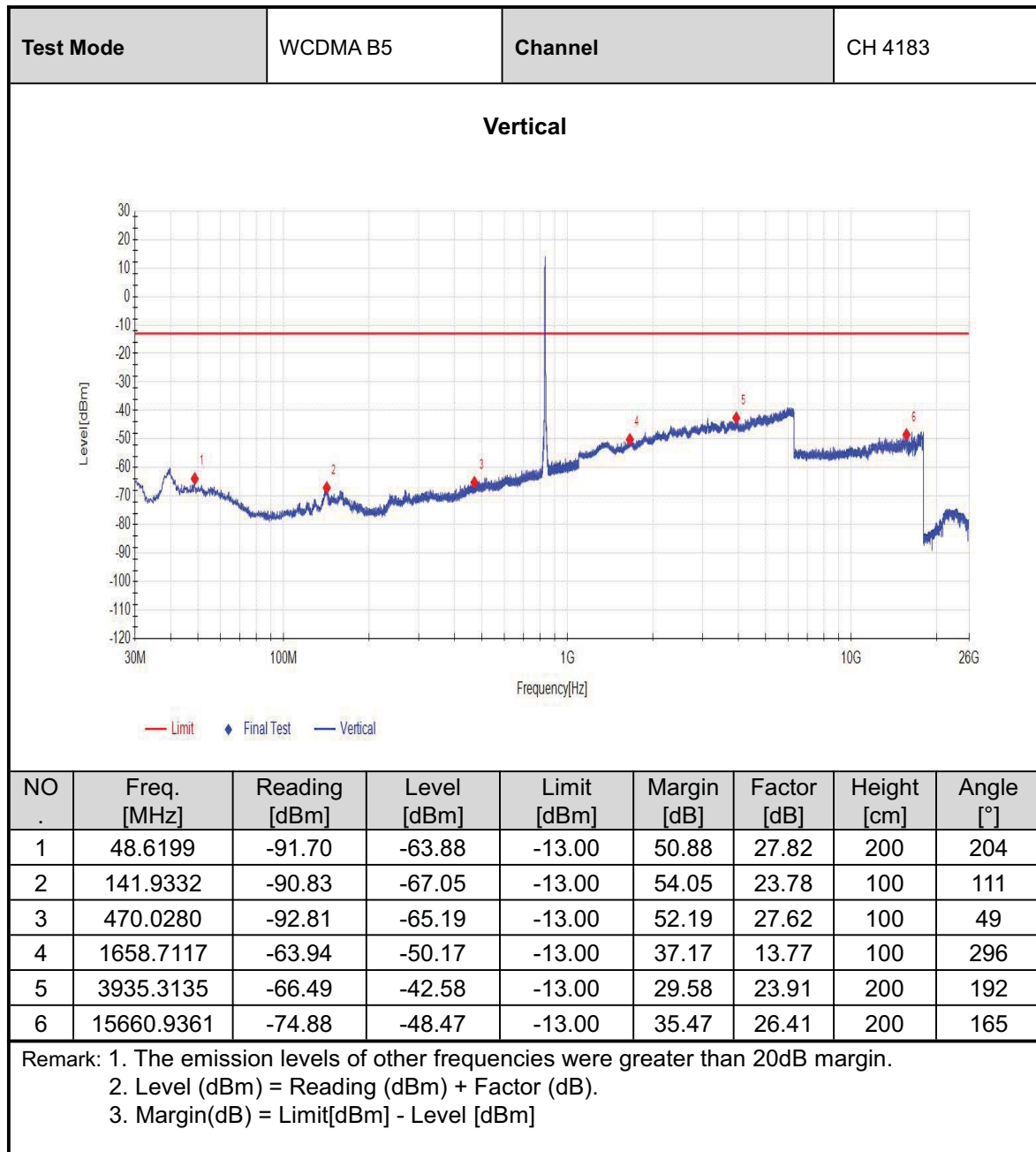
For the actual test configuration, please refer to the attached file (Test Setup Photo).

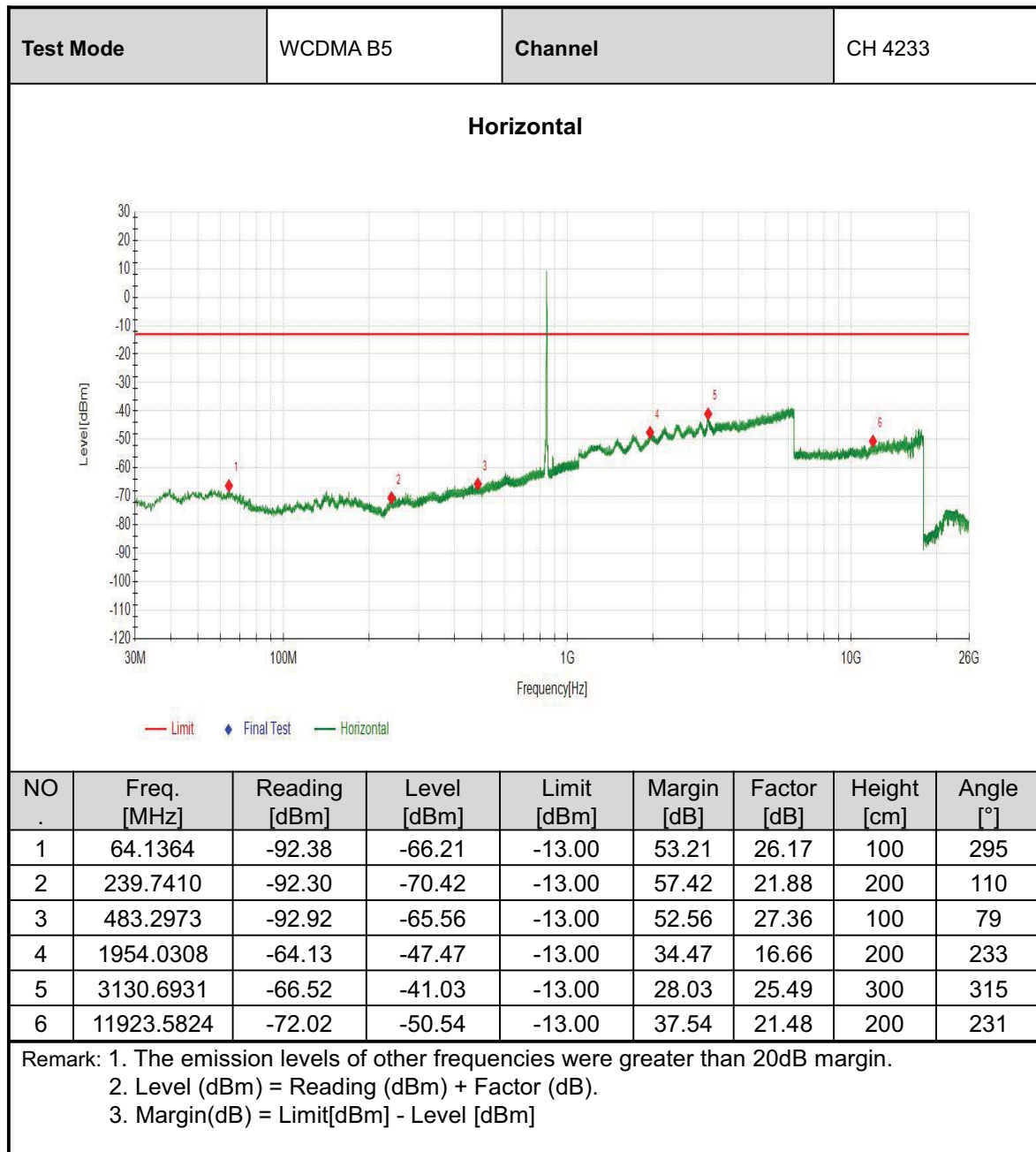
3.6.4 TEST RESULTS

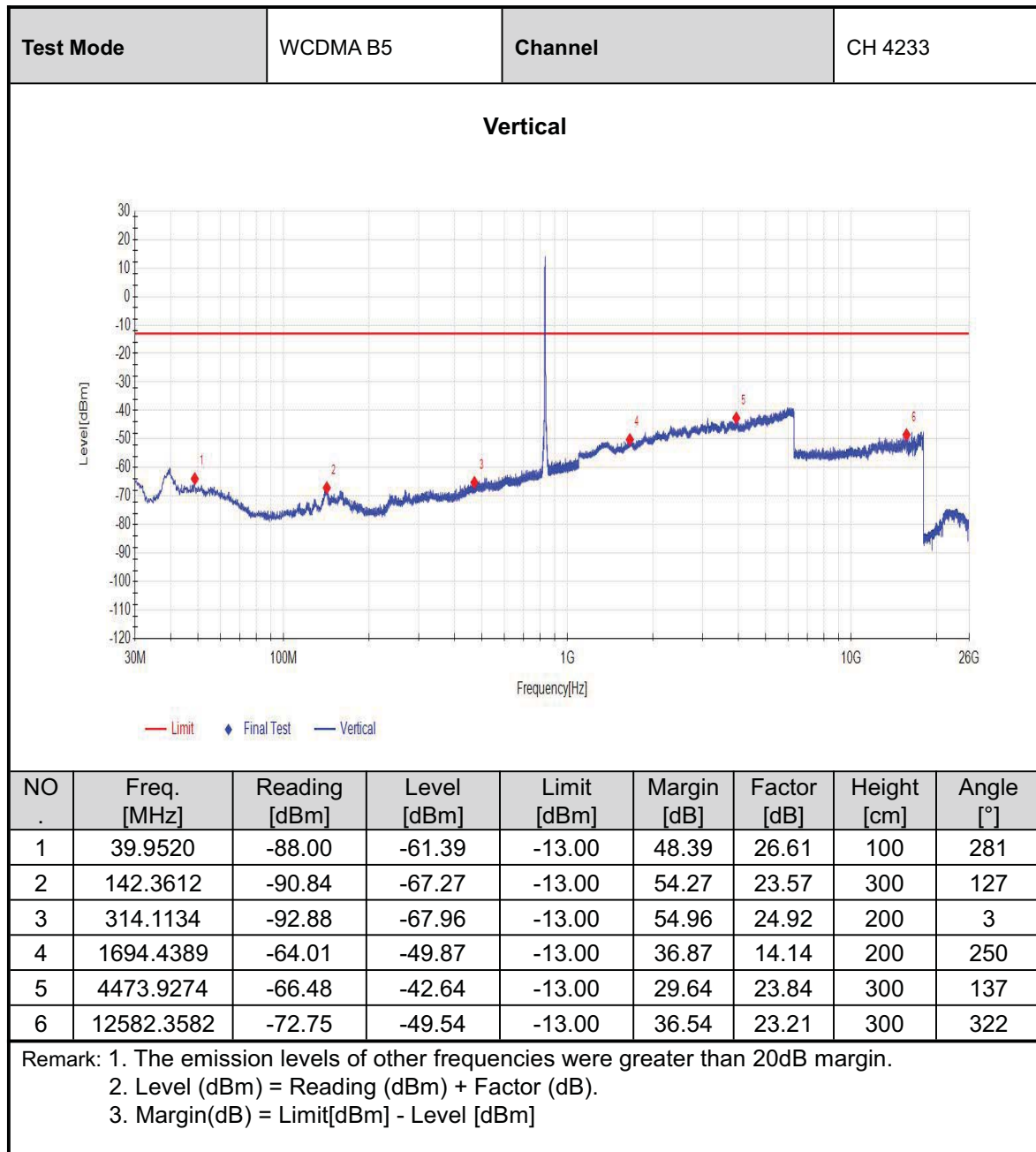


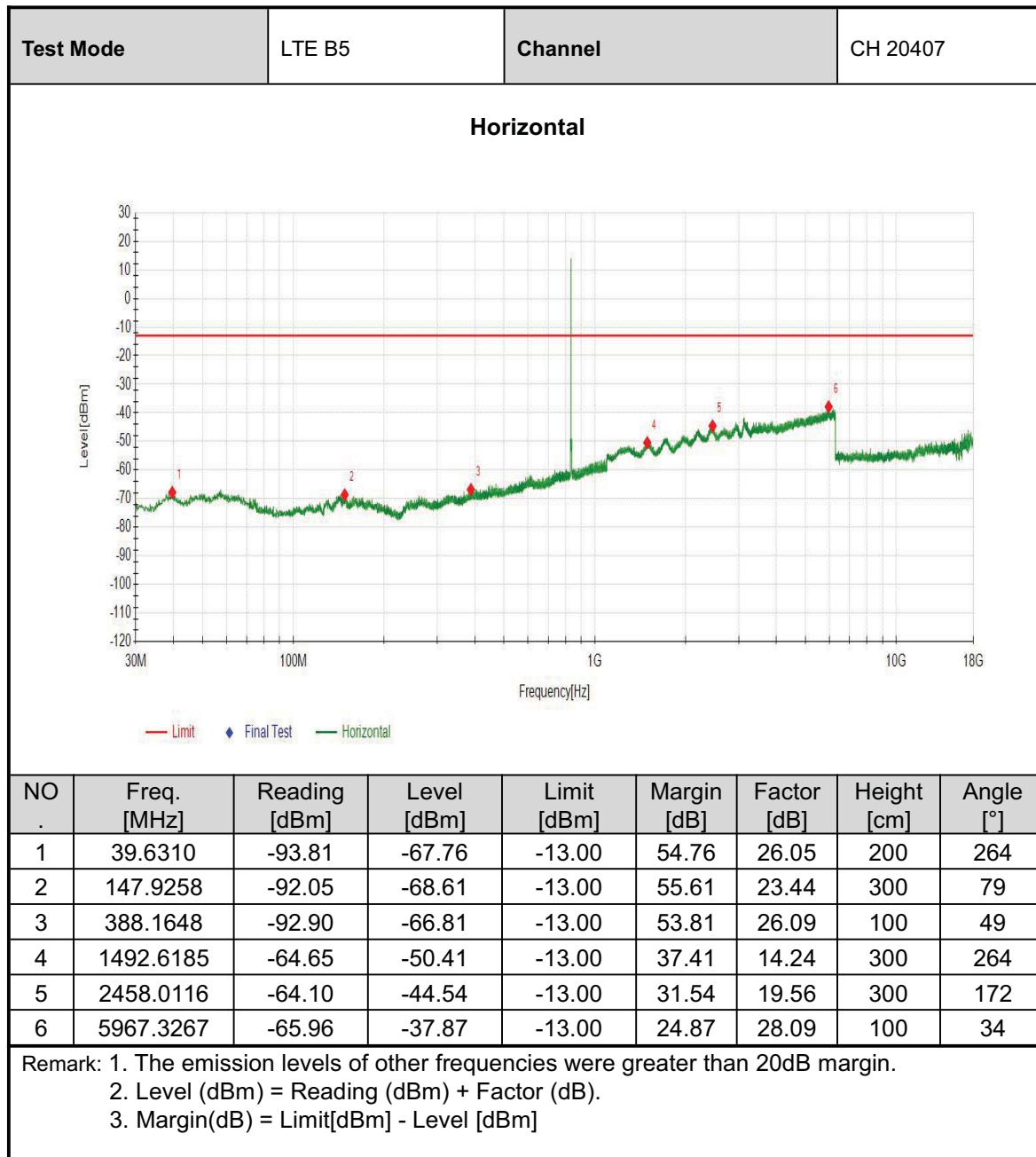


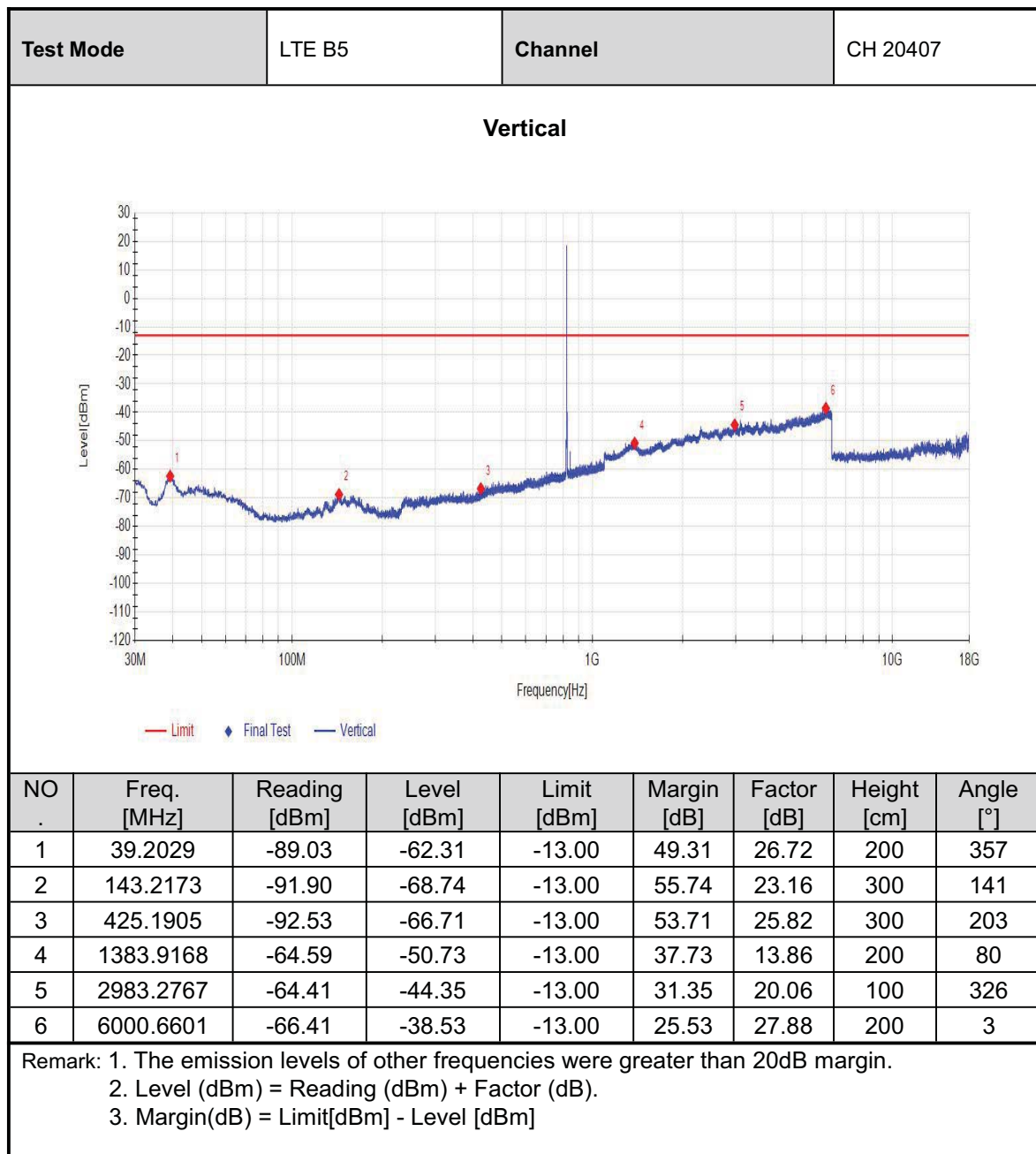


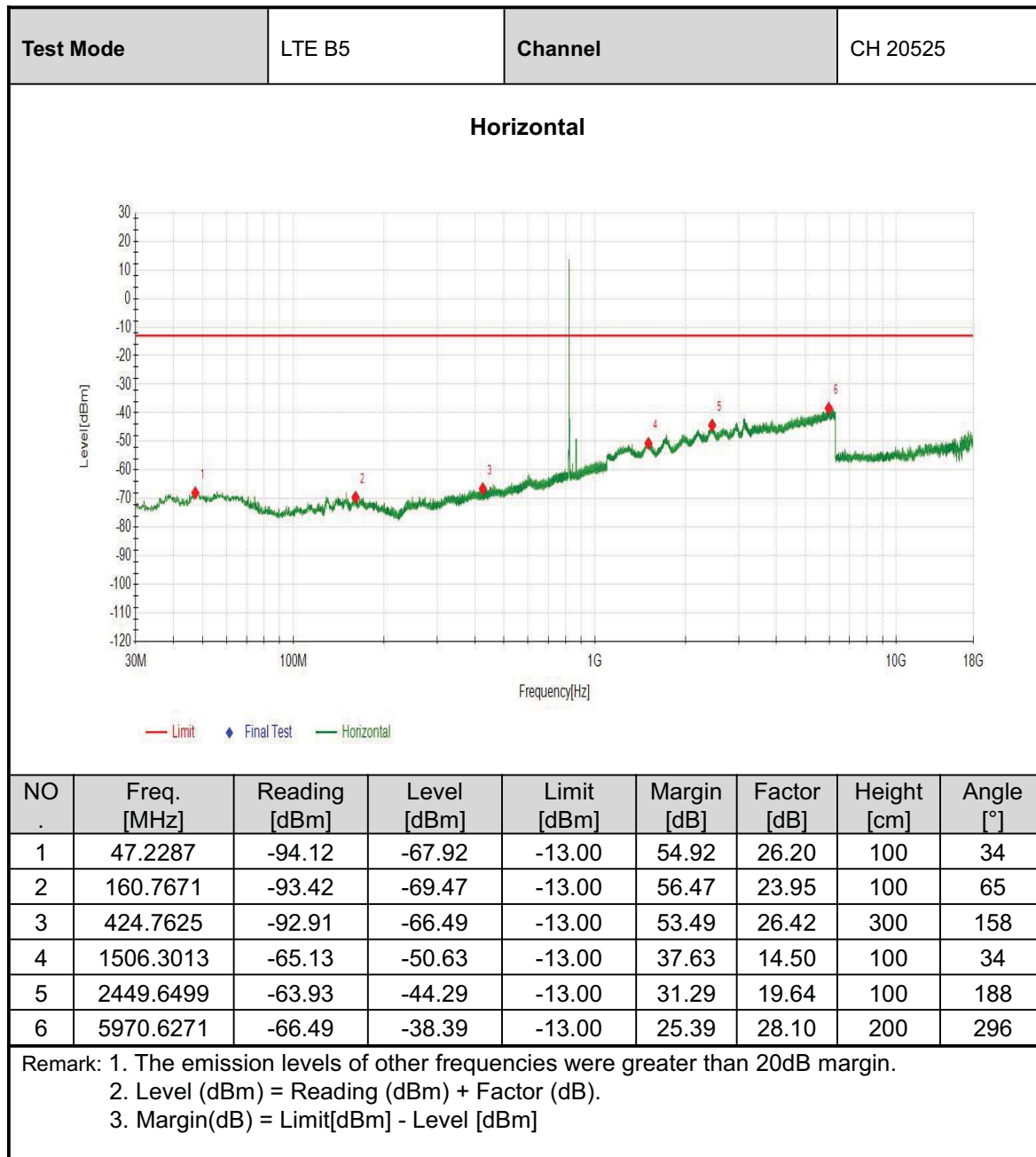


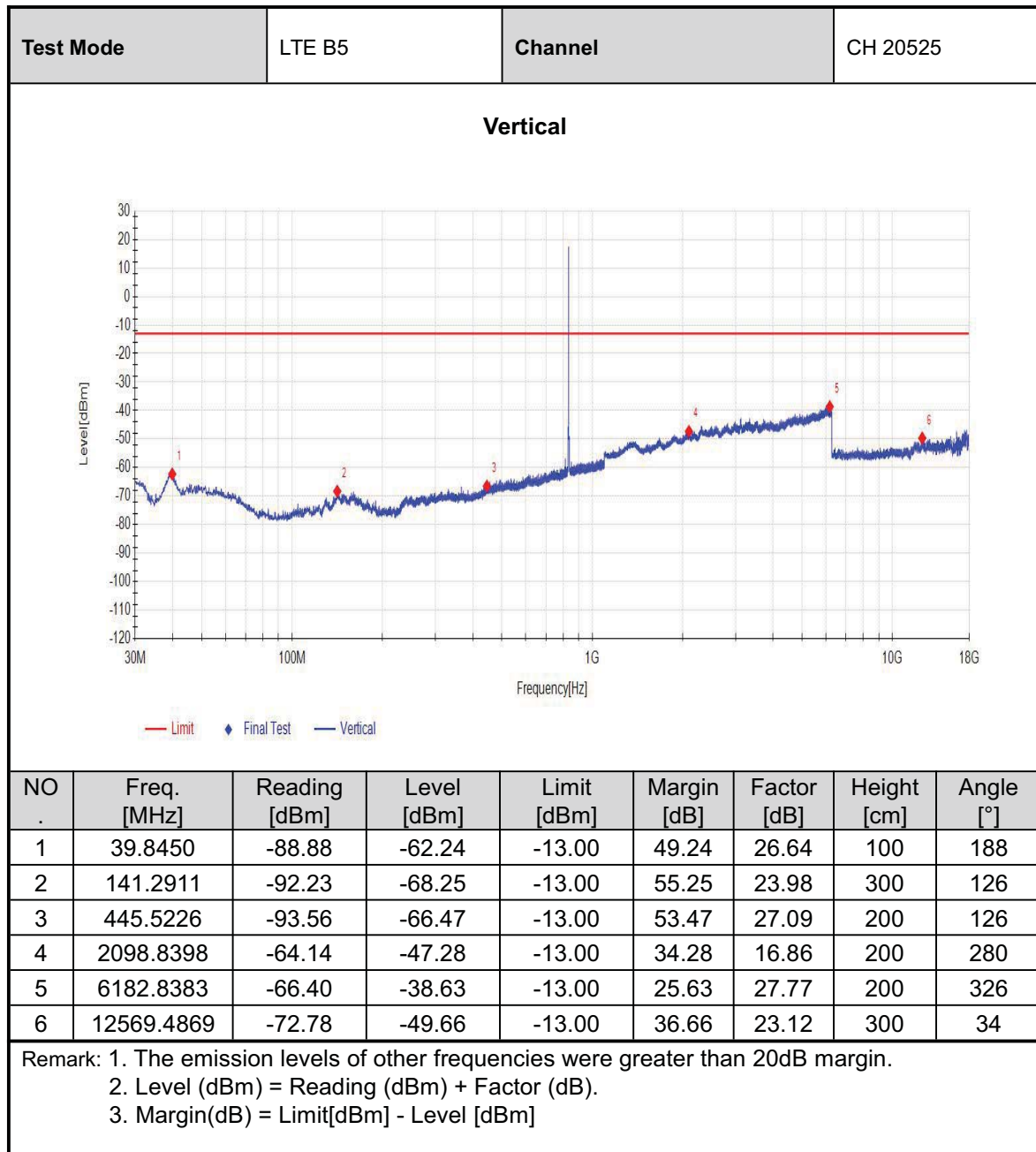


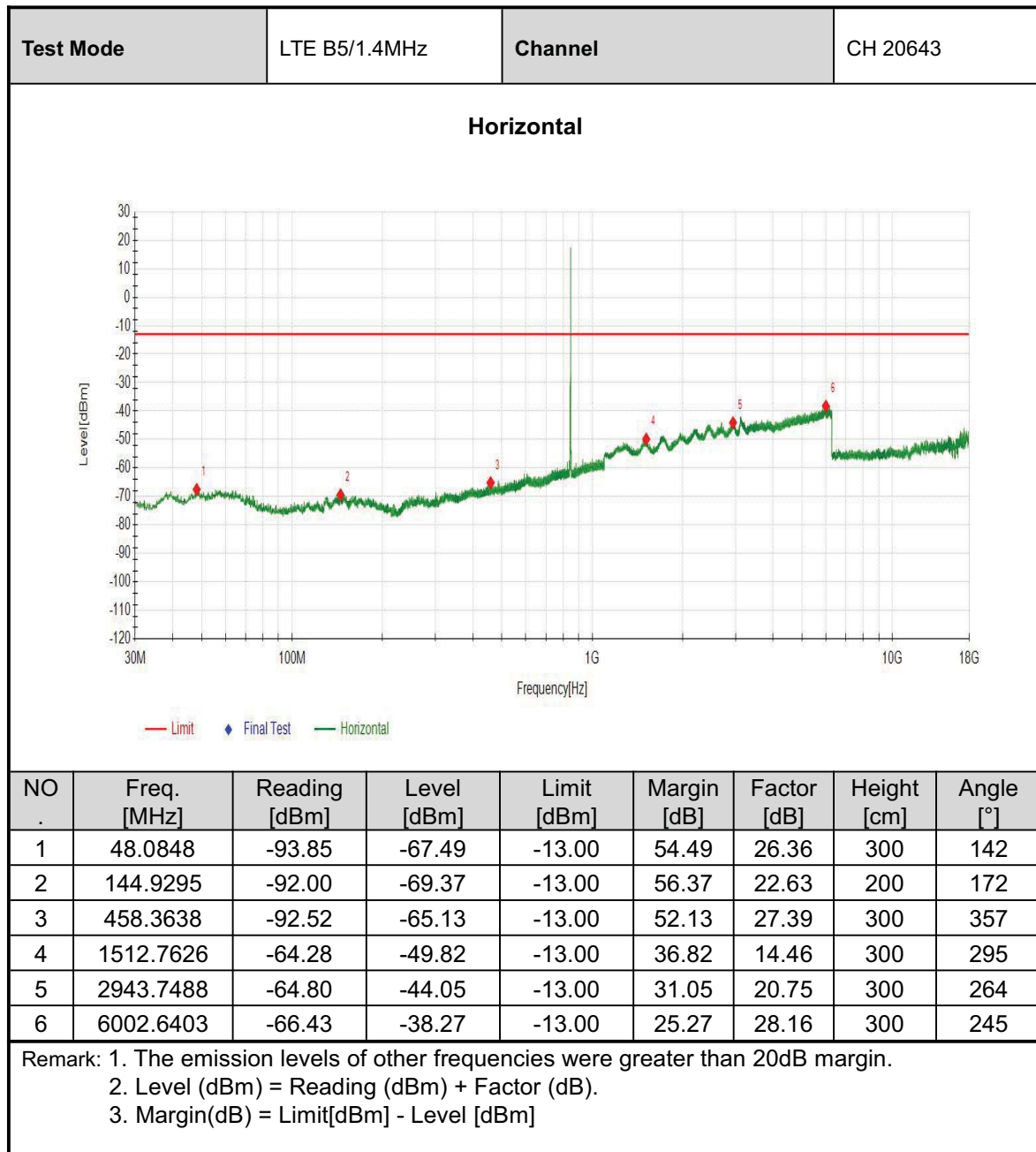


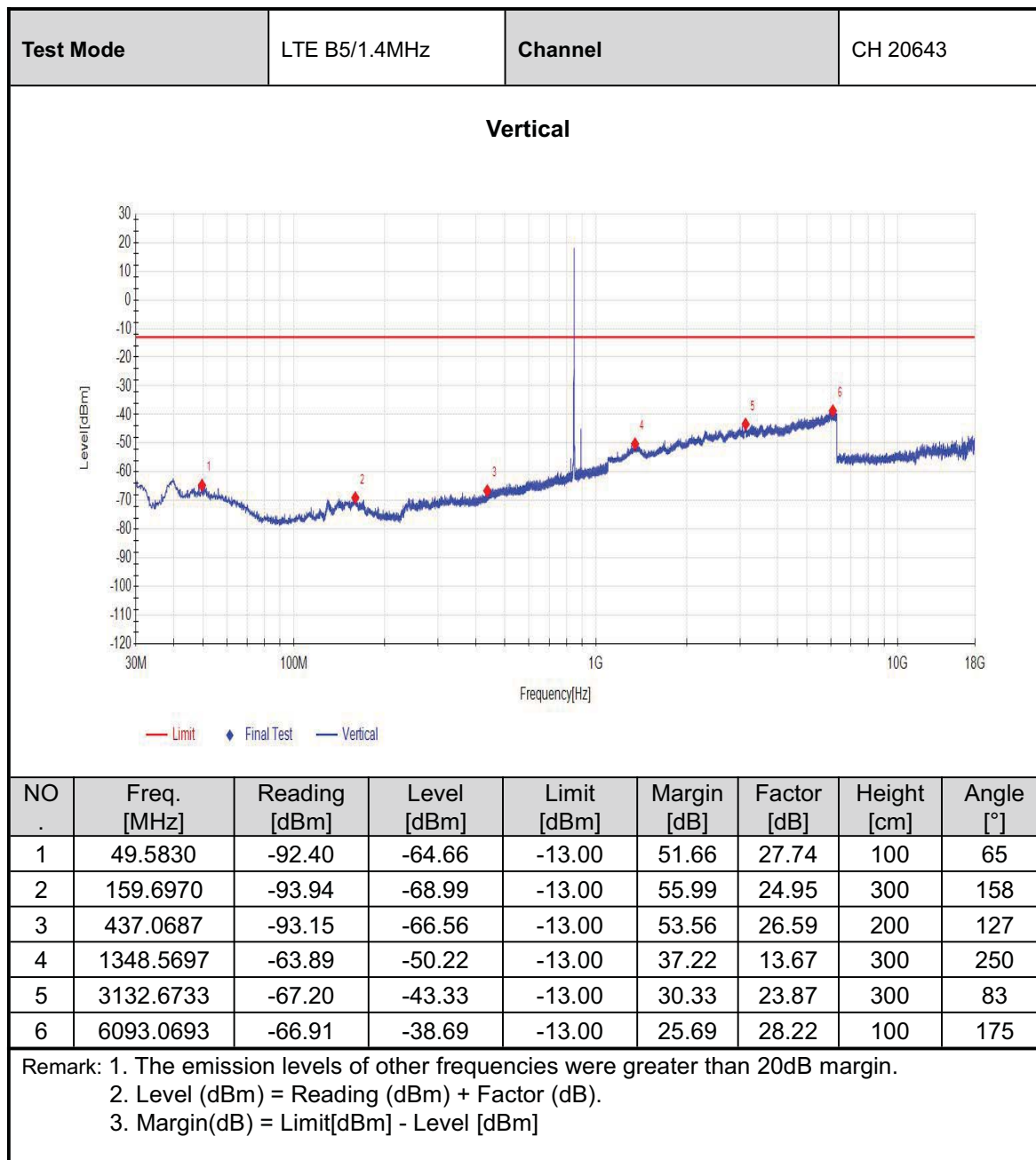


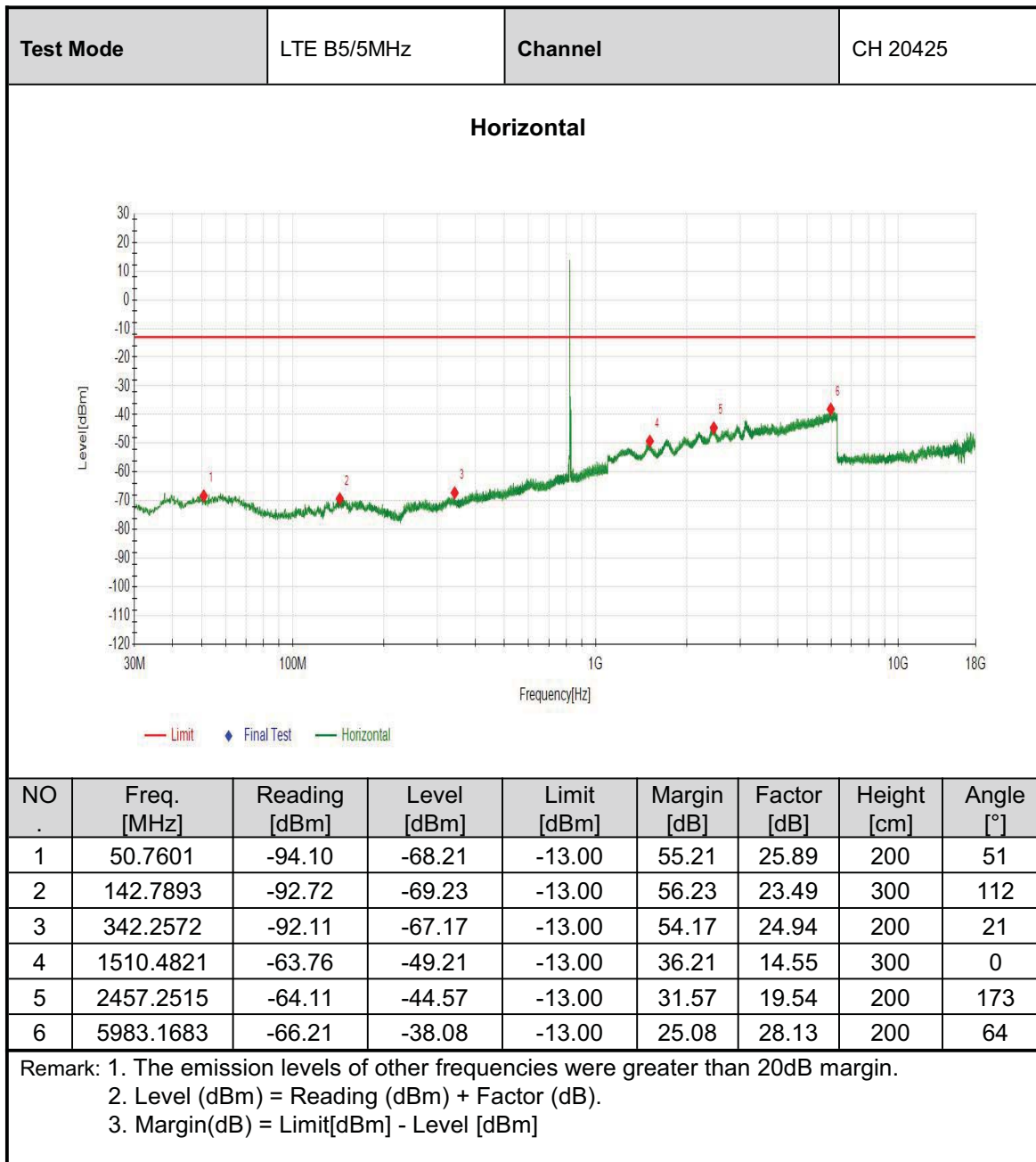


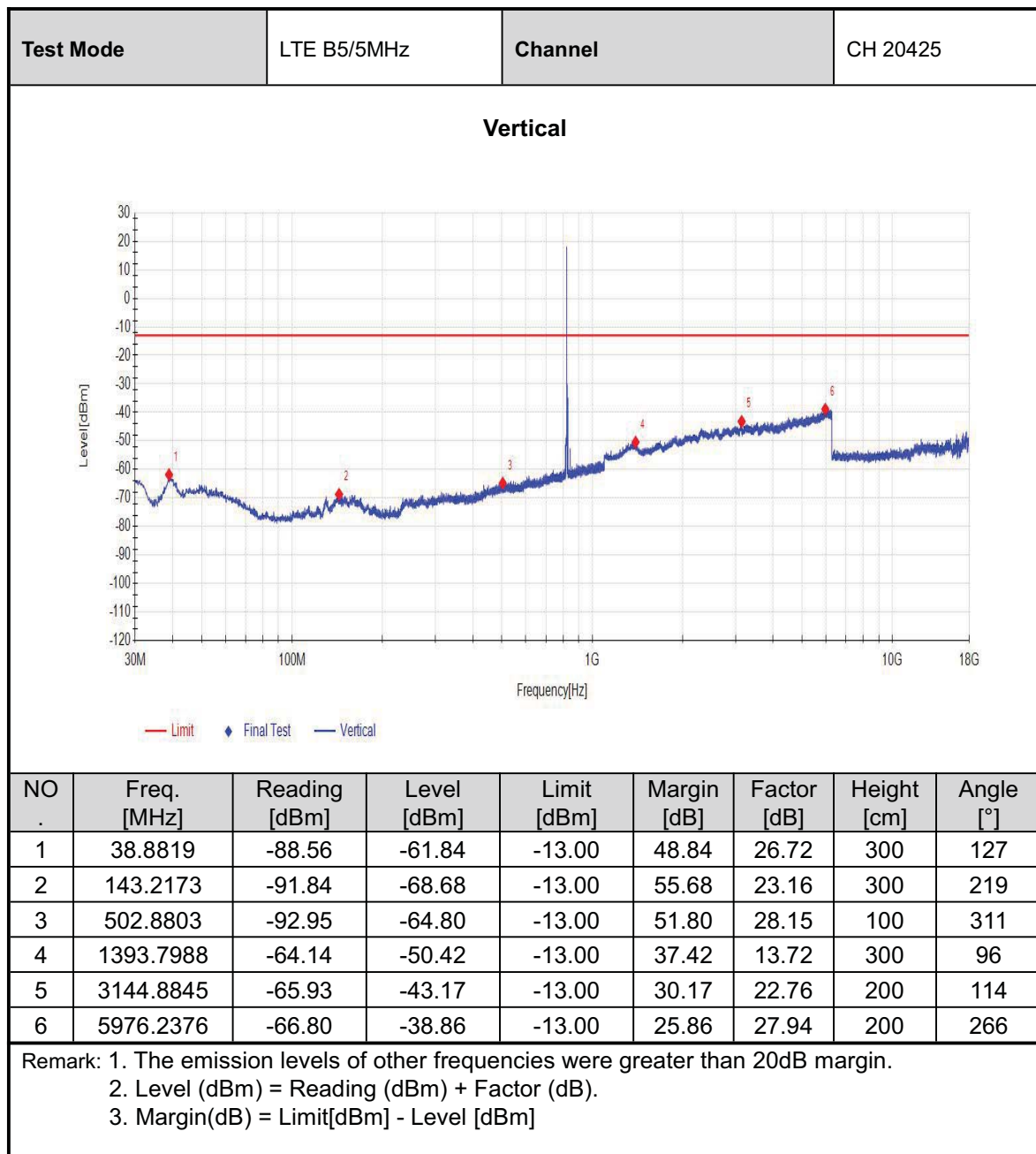


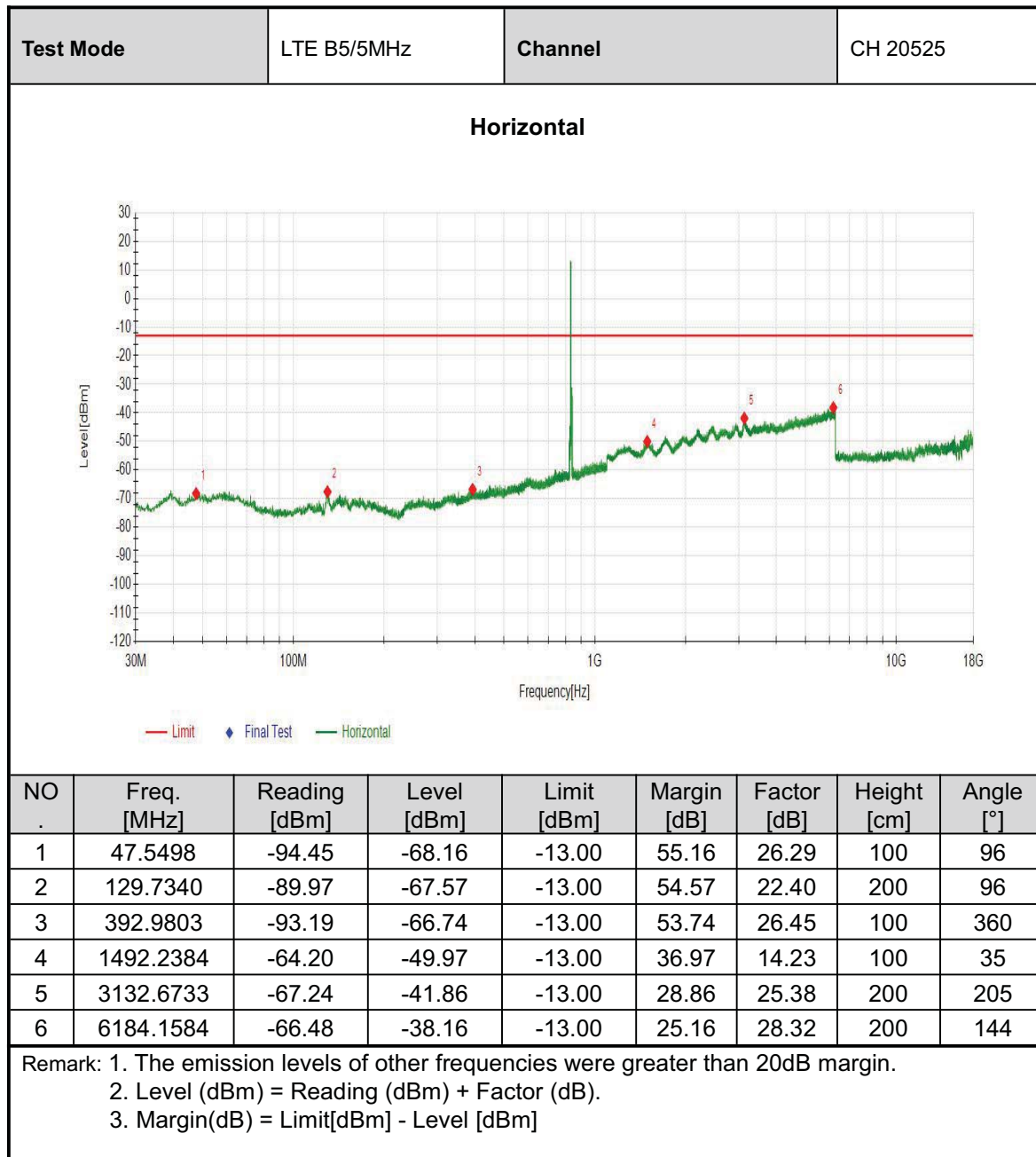


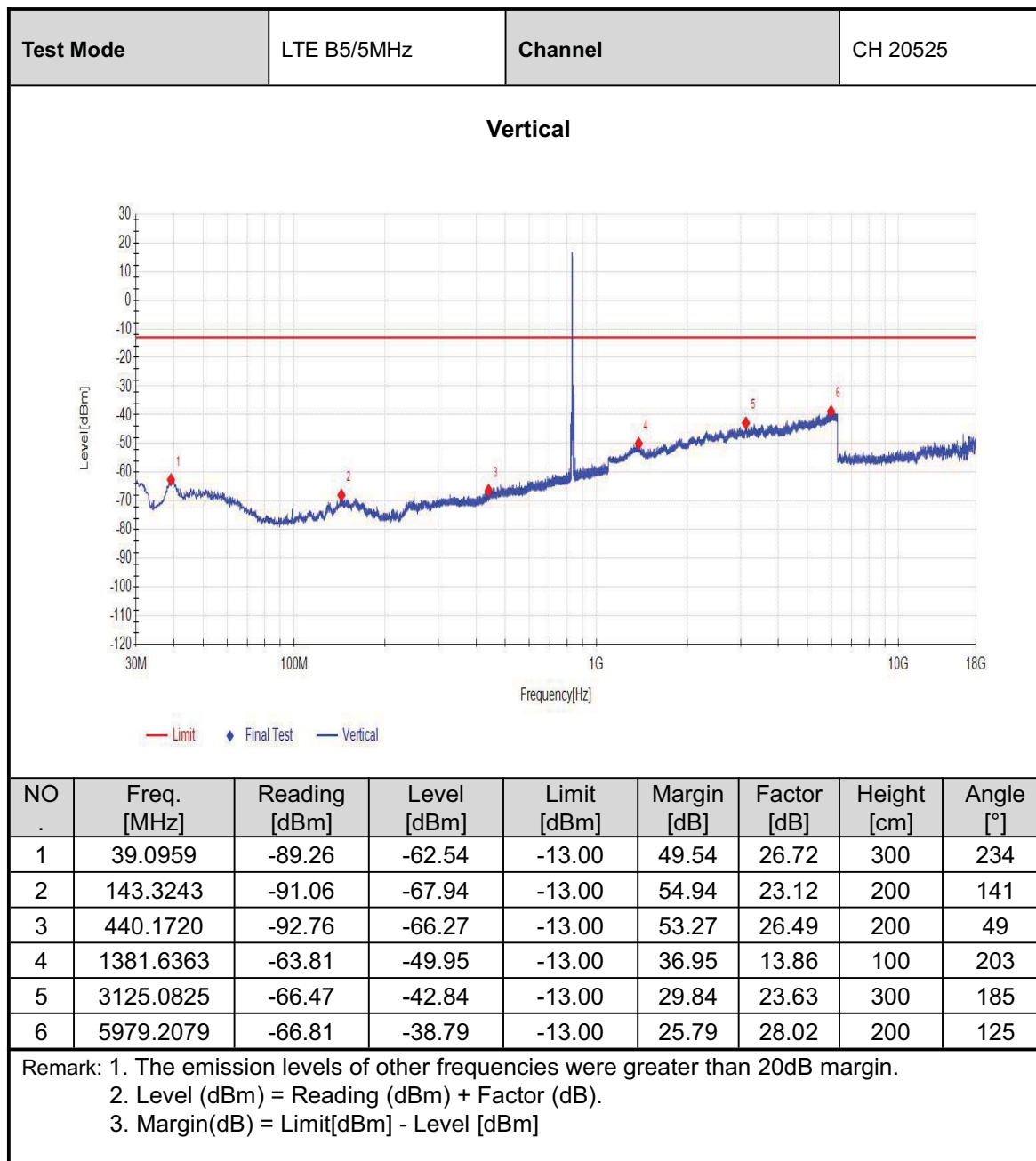


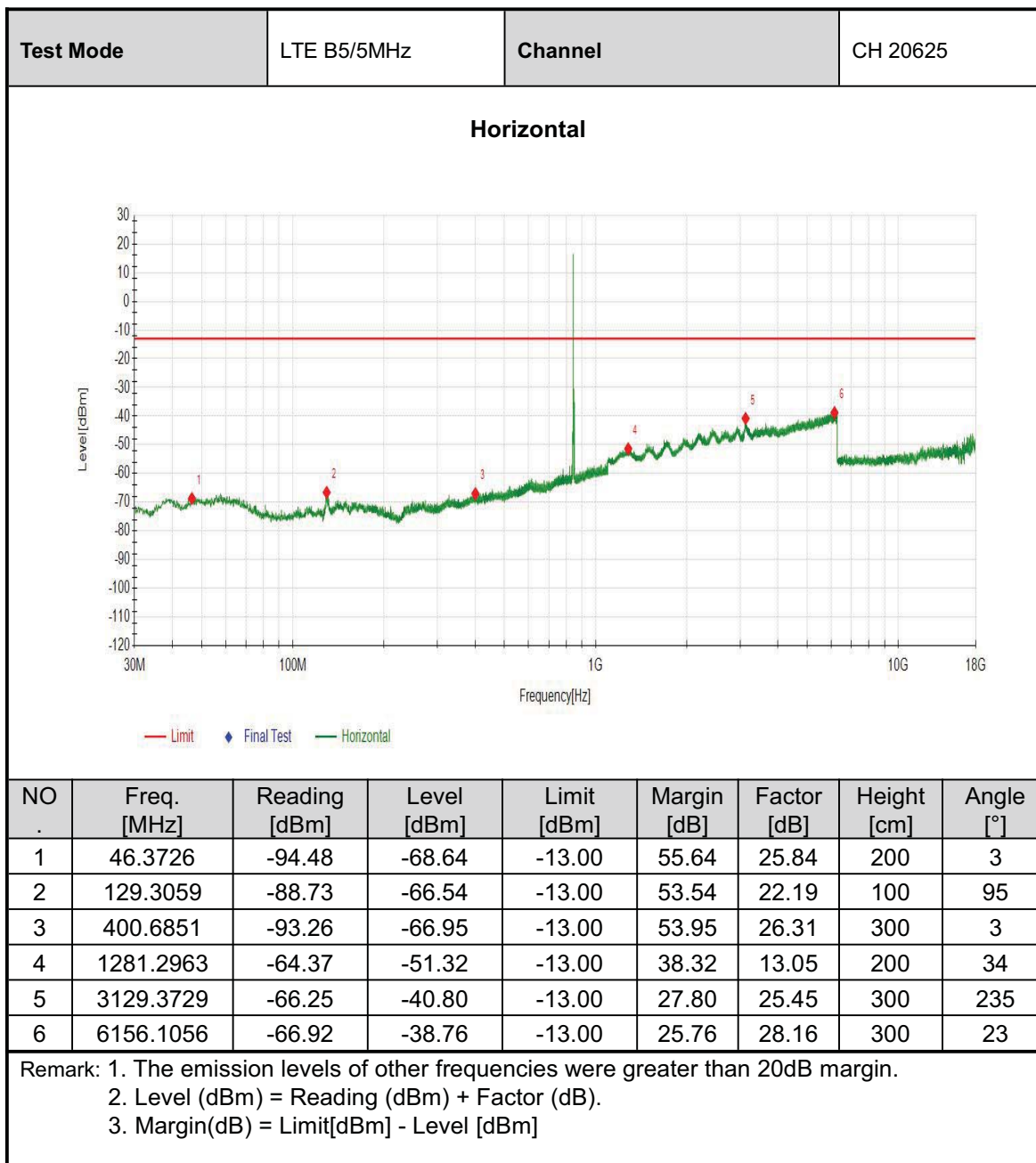


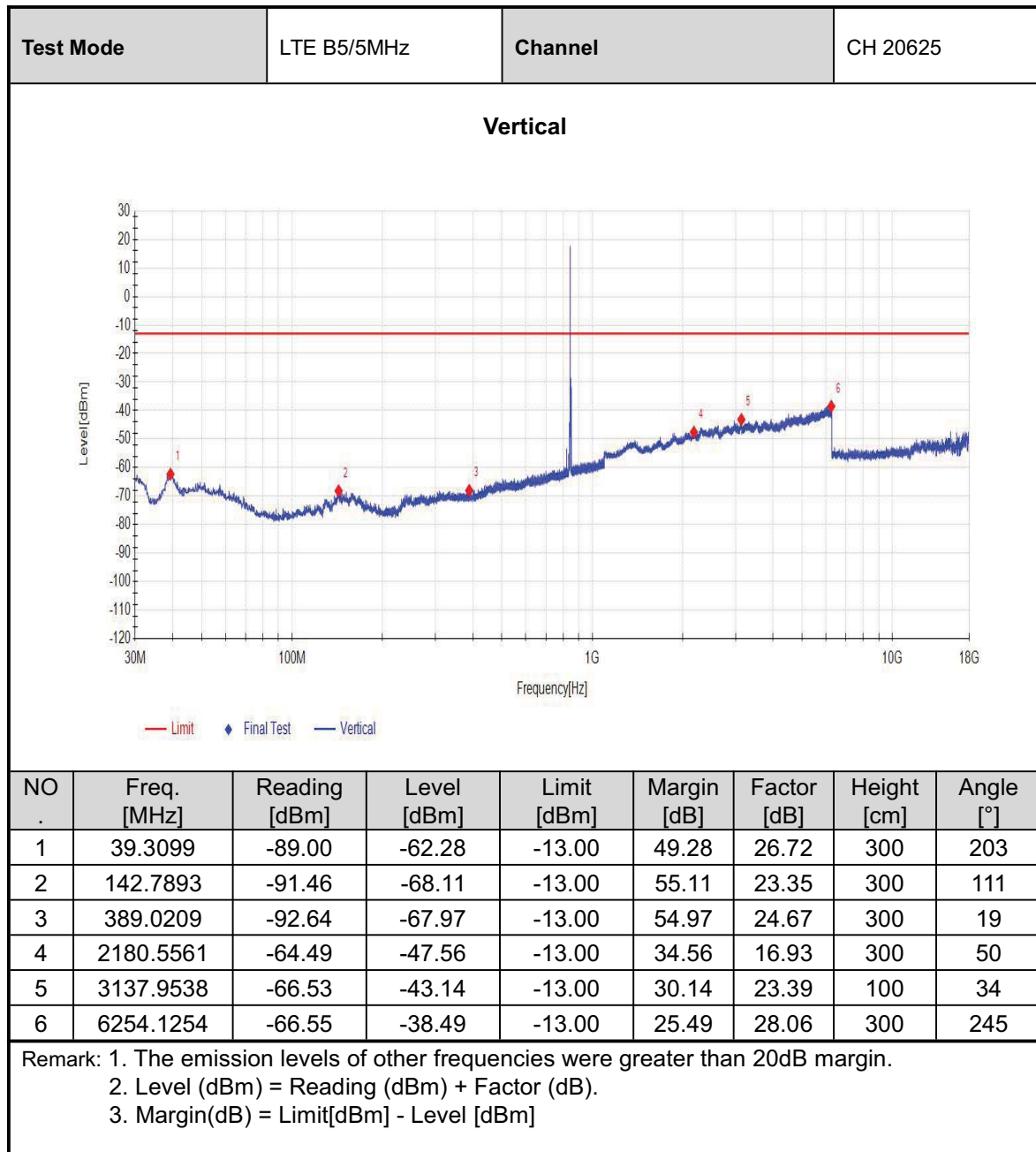


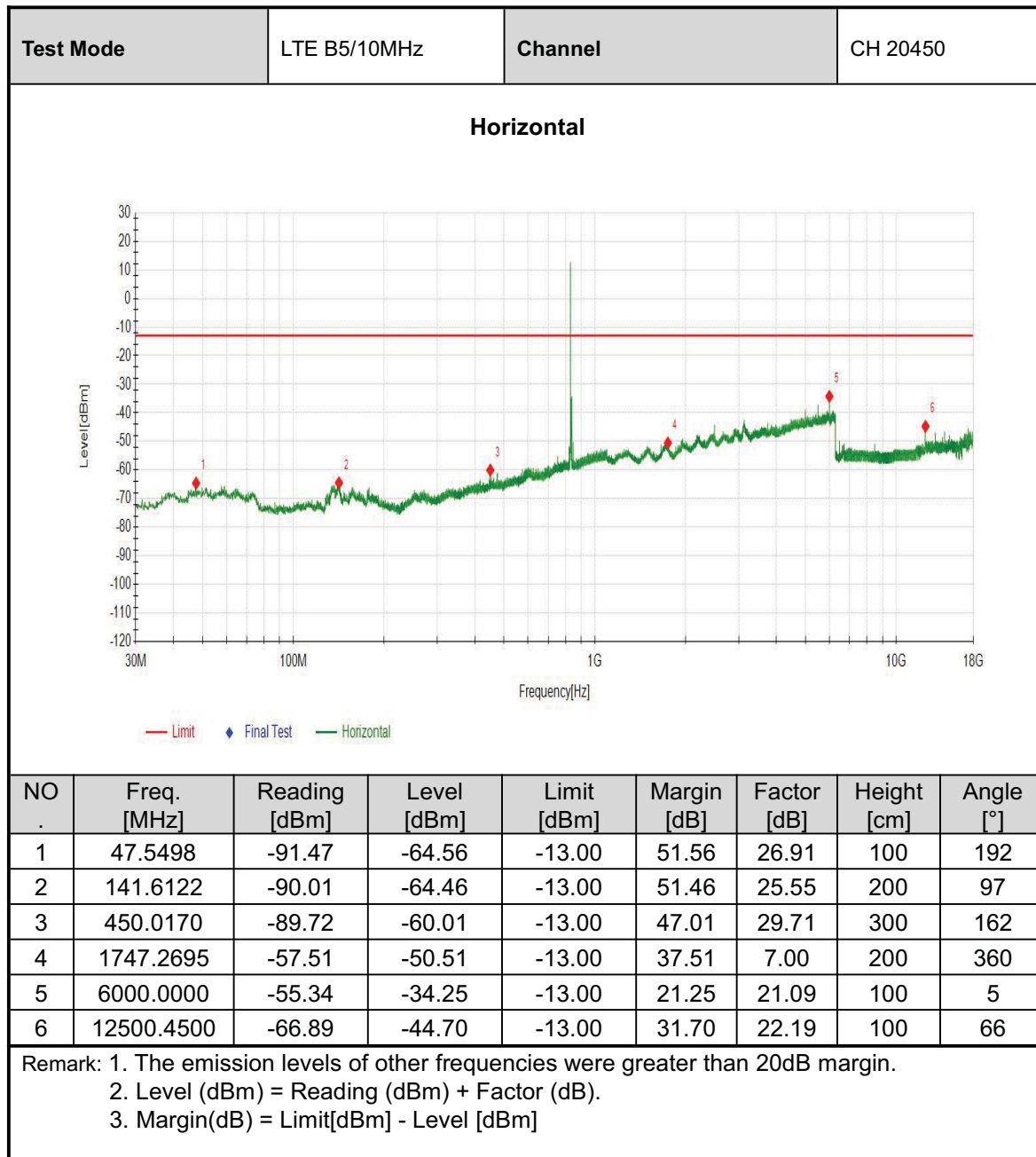


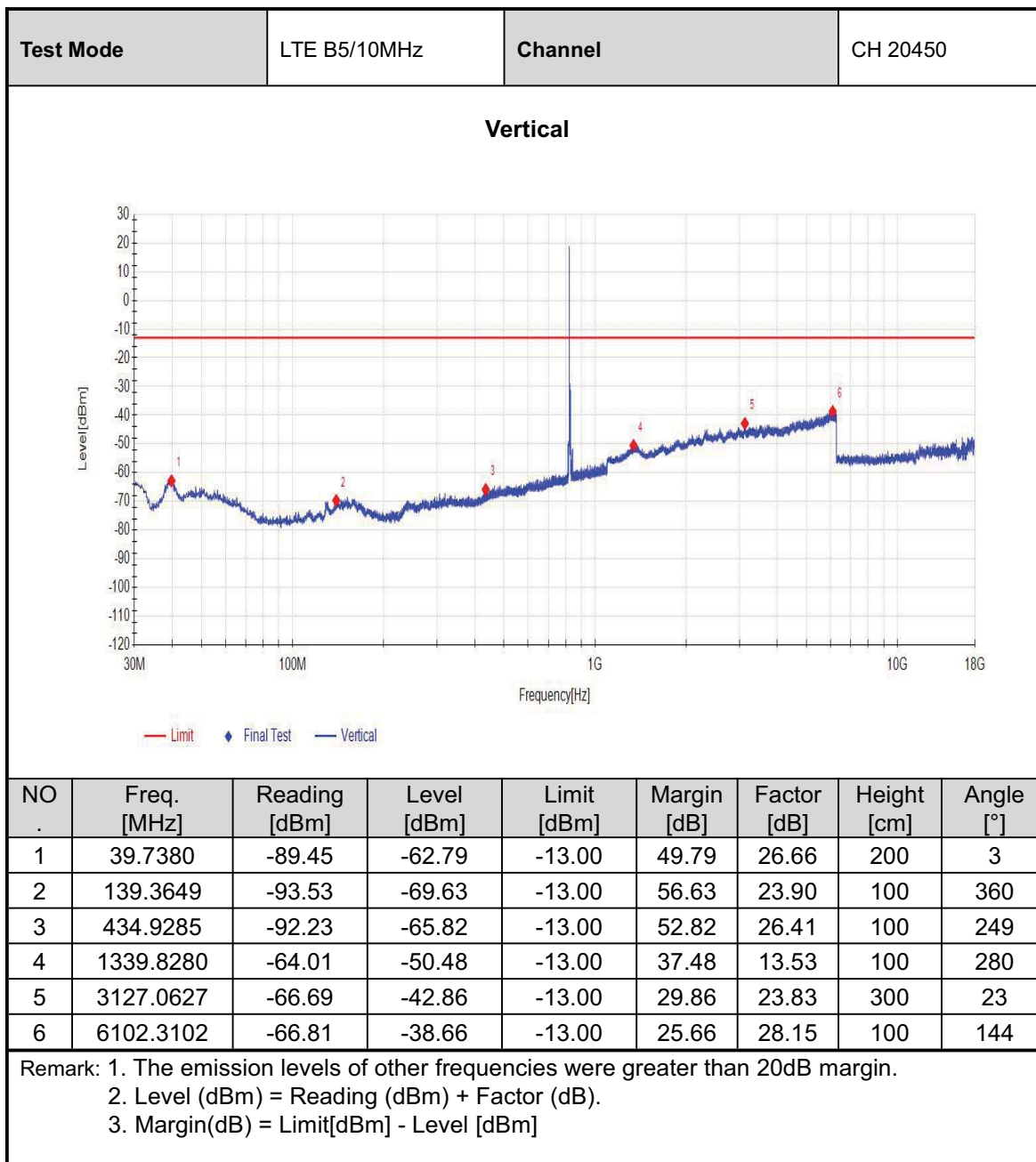


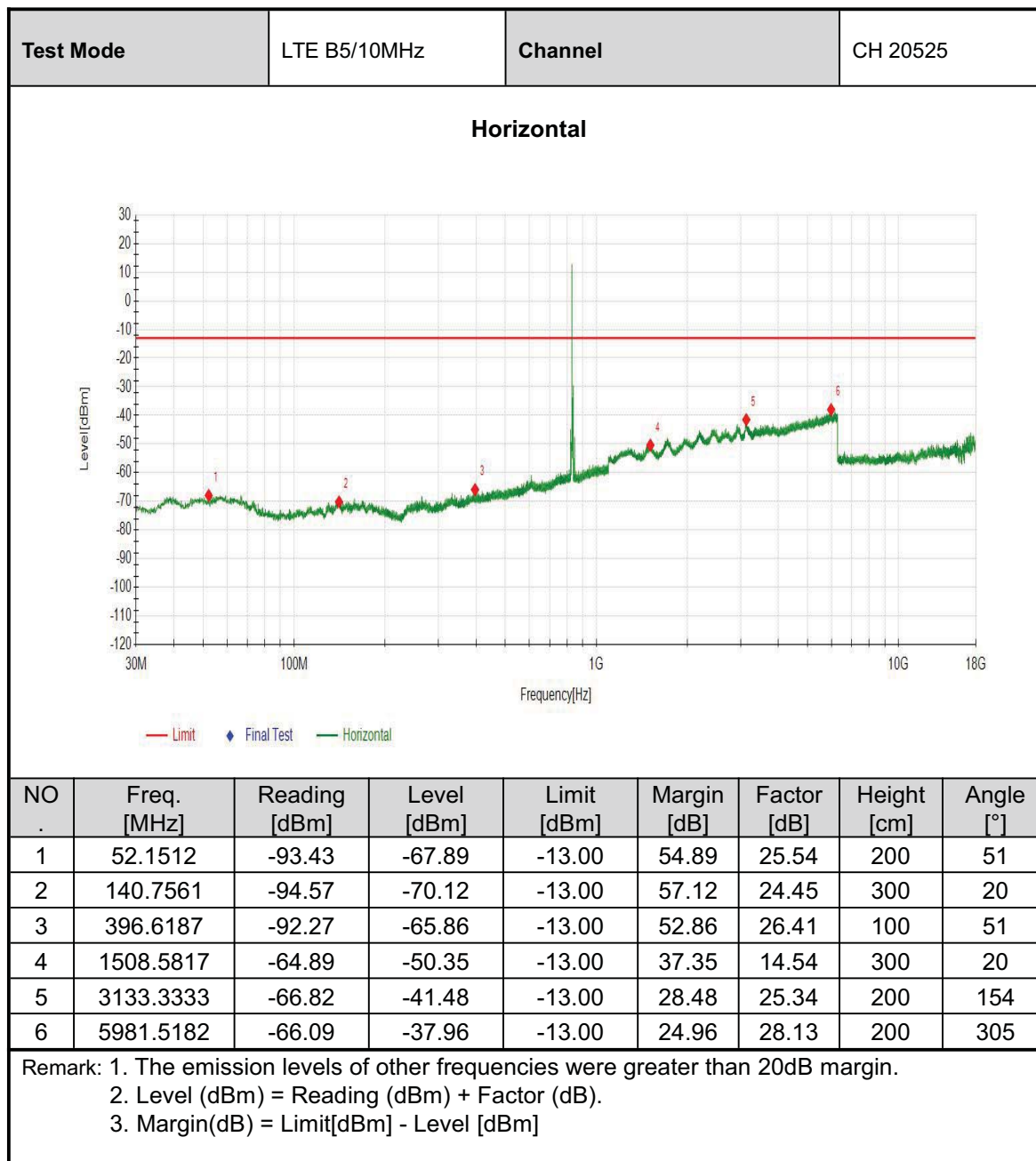


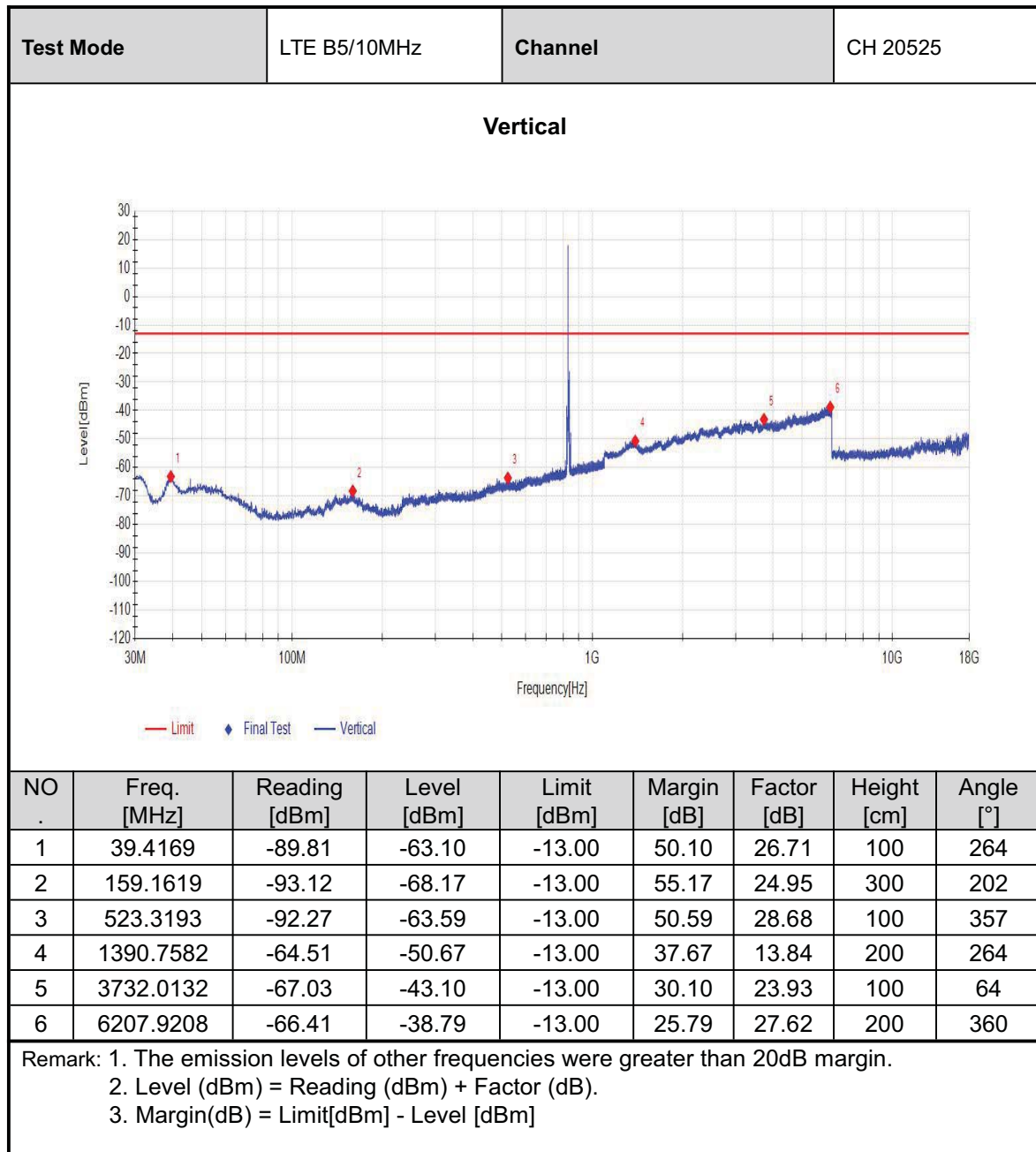


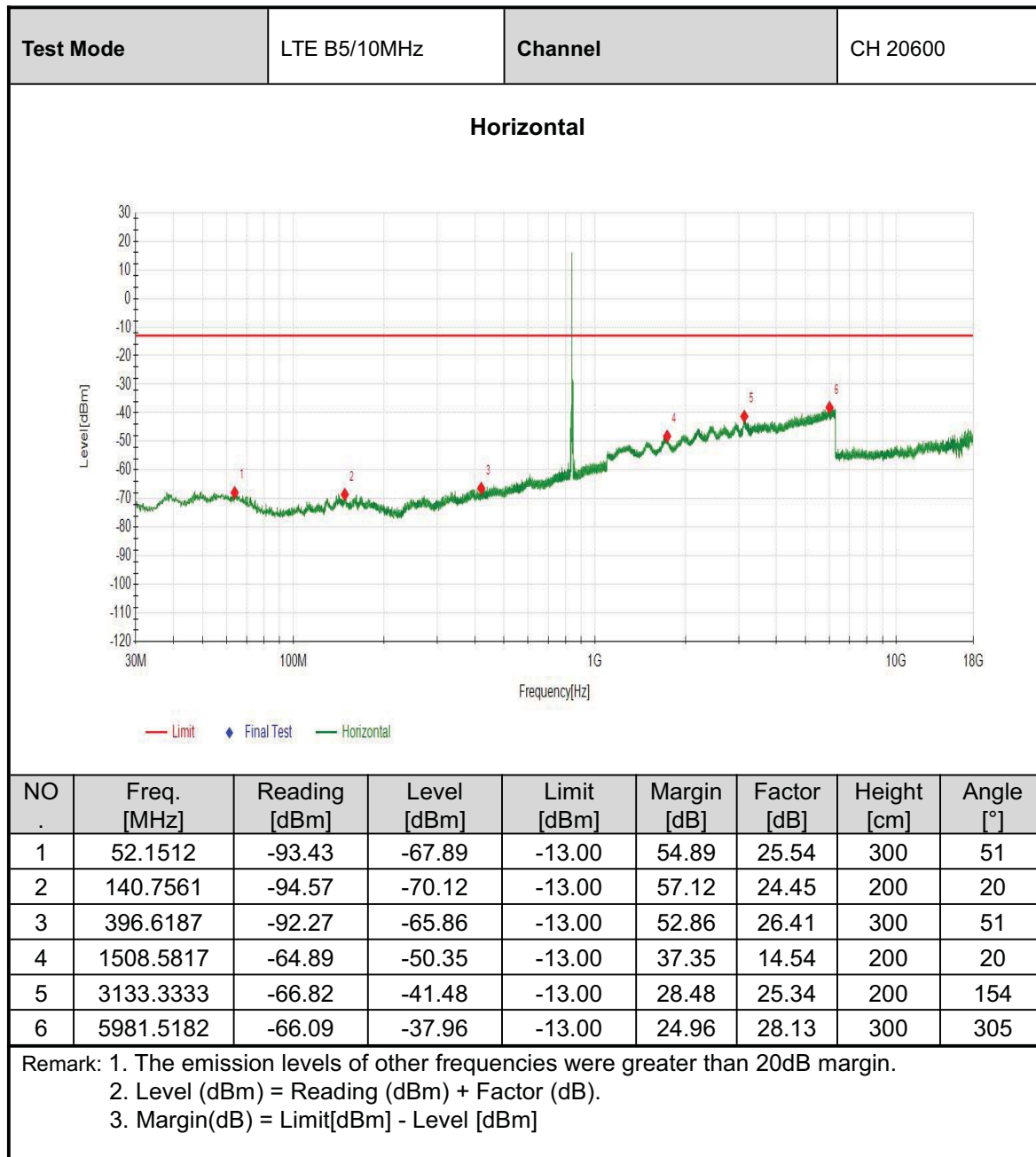


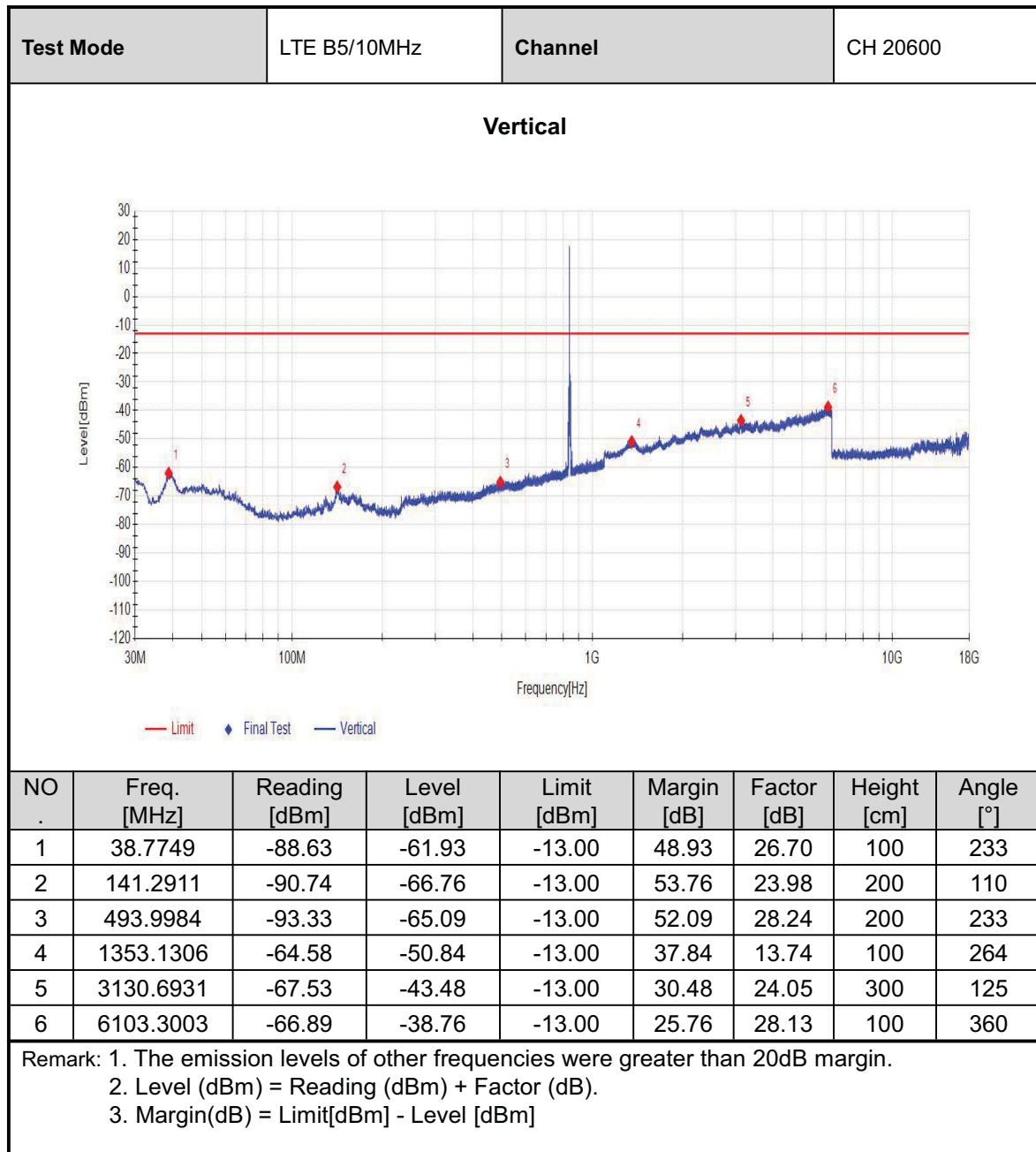










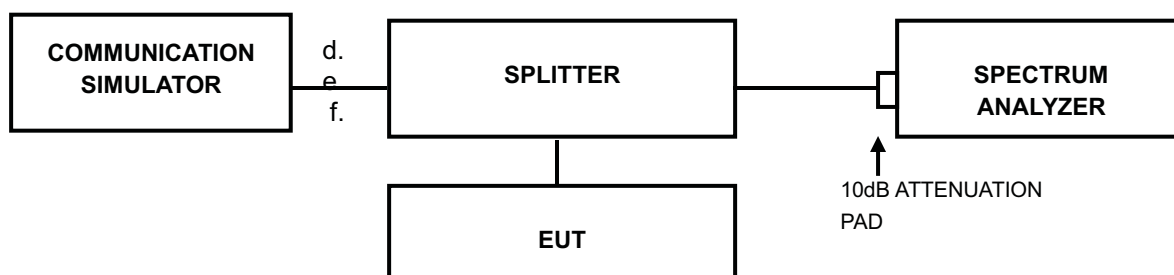


3.7 PEAK TO AVERAGE RATIO

3.7.1 LIMITS OF PEAK TO AVERAGE 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

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



3.7.4 TEST RESULTS

Please refer Annex A



4 PHOTOGRAPHS OF TEST SETUP

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

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5 Appendix A

5.1 OUT POWER MEASUREMENT

5.1.1 Test Result(WCDMA)

Band	Channel	Conducted Power (dBm)	ERP Power (mw)	Limit (W)	Verdict
Band5	4132	23.54	154.53	7	PASS
Band5	4182	23.41	149.97	7	PASS
Band5	4233	23.58	155.96	7	PASS

5.1.2 Test Result(HSDPA)

Band	Channel	SubTest	Conducted Power (dBm)	ERP/EIRP Power (mw)	Limit (W)	Verdict
Band5	4132	1	22.74	128.53	7	PASS
Band5	4132	2	22.42	119.40	7	PASS
Band5	4132	3	22.26	115.08	7	PASS
Band5	4132	4	22.35	117.49	7	PASS
Band5	4182	1	22.66	126.18	7	PASS
Band5	4182	2	22.30	116.14	7	PASS
Band5	4182	3	22.12	111.43	7	PASS
Band5	4182	4	22.22	114.02	7	PASS
Band5	4233	1	22.77	129.42	7	PASS
Band5	4233	2	22.42	119.40	7	PASS
Band5	4233	3	22.33	116.95	7	PASS
Band5	4233	4	22.33	116.95	7	PASS

5.1.3 Test Result(HSUPA)

Band	Channel	SubTest	Conducted Power (dBm)	ERP/EIRP Power (mw)	Limit (W)	Verdict
Band5	4132	1	22.56	123.31	7	PASS
Band5	4132	2	21.57	98.17	7	PASS
Band5	4132	3	20.86	83.37	7	PASS
Band5	4132	4	21.70	101.16	7	PASS
Band5	4132	5	22.47	120.78	7	PASS
Band5	4182	1	22.07	110.15	7	PASS
Band5	4182	2	21.62	99.31	7	PASS
Band5	4182	3	20.74	81.10	7	PASS
Band5	4182	4	21.57	98.17	7	PASS
Band5	4182	5	22.41	119.12	7	PASS
Band5	4233	1	22.08	110.41	7	PASS
Band5	4233	2	21.73	101.86	7	PASS
Band5	4233	3	21.51	96.83	7	PASS
Band5	4233	4	22.02	108.89	7	PASS
Band5	4233	5	22.51	121.90	7	PASS



5.1.4 Test Result(LTE)

Band	Bandwidth	Modulation	Channel	RB Configuration	Conducted Power (dB)	ERP/EIRP Power (mW)	Limit (W)	Verdict
Band5	1.4MHz	QPSK	20407	1RB#0	23.27	145.21	7	PASS
Band5	1.4MHz	QPSK	20407	1RB#2	23.31	146.55	7	PASS
Band5	1.4MHz	QPSK	20407	1RB#5	23.16	141.58	7	PASS
Band5	1.4MHz	QPSK	20407	3RB#0	23.15	141.25	7	PASS
Band5	1.4MHz	QPSK	20407	3RB#1	23.24	144.21	7	PASS
Band5	1.4MHz	QPSK	20407	3RB#3	23.22	143.55	7	PASS
Band5	1.4MHz	QPSK	20407	6RB#0	22.34	117.22	7	PASS
Band5	1.4MHz	QPSK	20525	1RB#0	23.15	141.25	7	PASS
Band5	1.4MHz	QPSK	20525	1RB#2	23.15	141.25	7	PASS
Band5	1.4MHz	QPSK	20525	1RB#5	23.28	145.55	7	PASS
Band5	1.4MHz	QPSK	20525	3RB#0	23.31	146.55	7	PASS
Band5	1.4MHz	QPSK	20525	3RB#1	23.39	149.28	7	PASS
Band5	1.4MHz	QPSK	20525	3RB#3	23.28	145.55	7	PASS
Band5	1.4MHz	QPSK	20525	6RB#0	22.36	117.76	7	PASS
Band5	1.4MHz	QPSK	20643	1RB#0	23.37	148.59	7	PASS
Band5	1.4MHz	QPSK	20643	1RB#2	23.62	157.40	7	PASS
Band5	1.4MHz	QPSK	20643	1RB#5	23.13	140.60	7	PASS
Band5	1.4MHz	QPSK	20643	3RB#0	23.35	147.91	7	PASS
Band5	1.4MHz	QPSK	20643	3RB#1	23.23	143.88	7	PASS
Band5	1.4MHz	QPSK	20643	3RB#3	23.21	143.22	7	PASS
Band5	1.4MHz	QPSK	20643	6RB#0	22.32	116.68	7	PASS
Band5	1.4MHz	16QAM	20407	1RB#0	22.32	116.68	7	PASS
Band5	1.4MHz	16QAM	20407	1RB#2	22.39	118.58	7	PASS
Band5	1.4MHz	16QAM	20407	1RB#5	22.16	112.46	7	PASS
Band5	1.4MHz	16QAM	20407	3RB#0	22.08	110.41	7	PASS
Band5	1.4MHz	16QAM	20407	3RB#1	22.29	115.88	7	PASS
Band5	1.4MHz	16QAM	20407	3RB#3	21.91	106.17	7	PASS
Band5	1.4MHz	16QAM	20407	6RB#0	21.33	92.90	7	PASS
Band5	1.4MHz	16QAM	20525	1RB#0	22.24	114.55	7	PASS
Band5	1.4MHz	16QAM	20525	1RB#2	22.58	123.88	7	PASS
Band5	1.4MHz	16QAM	20525	1RB#5	22.21	113.76	7	PASS
Band5	1.4MHz	16QAM	20525	3RB#0	22.21	113.76	7	PASS
Band5	1.4MHz	16QAM	20525	3RB#1	21.61	99.08	7	PASS
Band5	1.4MHz	16QAM	20525	3RB#3	22.00	108.39	7	PASS
Band5	1.4MHz	16QAM	20525	6RB#0	21.46	95.72	7	PASS
Band5	1.4MHz	16QAM	20643	1RB#0	22.41	119.12	7	PASS
Band5	1.4MHz	16QAM	20643	1RB#2	22.70	127.35	7	PASS
Band5	1.4MHz	16QAM	20643	1RB#5	22.52	122.18	7	PASS
Band5	1.4MHz	16QAM	20643	3RB#0	22.06	109.90	7	PASS
Band5	1.4MHz	16QAM	20643	3RB#1	22.17	112.72	7	PASS
Band5	1.4MHz	16QAM	20643	3RB#3	22.07	110.15	7	PASS
Band5	1.4MHz	16QAM	20643	6RB#0	21.44	95.28	7	PASS
Band5	3MHz	QPSK	20415	1RB#0	23.26	144.88	7	PASS
Band5	3MHz	QPSK	20415	1RB#8	23.45	151.36	7	PASS
Band5	3MHz	QPSK	20415	1RB#14	23.26	144.88	7	PASS
Band5	3MHz	QPSK	20415	8RB#0	22.42	119.40	7	PASS
Band5	3MHz	QPSK	20415	8RB#4	22.41	119.12	7	PASS
Band5	3MHz	QPSK	20415	8RB#7	22.44	119.95	7	PASS
Band5	3MHz	QPSK	20415	15RB#0	22.40	118.85	7	PASS



Band5	3MHz	QPSK	20525	1RB#0	23.50	153.11	7	PASS
Band5	3MHz	QPSK	20525	1RB#8	23.35	147.91	7	PASS
Band5	3MHz	QPSK	20525	1RB#14	23.54	154.53	7	PASS
Band5	3MHz	QPSK	20525	8RB#0	22.40	118.85	7	PASS
Band5	3MHz	QPSK	20525	8RB#4	22.40	118.85	7	PASS
Band5	3MHz	QPSK	20525	8RB#7	22.49	121.34	7	PASS
Band5	3MHz	QPSK	20525	15RB#0	22.37	118.03	7	PASS
Band5	3MHz	QPSK	20635	1RB#0	23.50	153.11	7	PASS
Band5	3MHz	QPSK	20635	1RB#8	23.15	141.25	7	PASS
Band5	3MHz	QPSK	20635	1RB#14	23.29	145.88	7	PASS
Band5	3MHz	QPSK	20635	8RB#0	22.36	117.76	7	PASS
Band5	3MHz	QPSK	20635	8RB#4	22.36	117.76	7	PASS
Band5	3MHz	QPSK	20635	8RB#7	22.46	120.50	7	PASS
Band5	3MHz	QPSK	20635	15RB#0	22.41	119.12	7	PASS
Band5	3MHz	16QAM	20415	1RB#0	22.26	115.08	7	PASS
Band5	3MHz	16QAM	20415	1RB#8	22.22	114.02	7	PASS
Band5	3MHz	16QAM	20415	1RB#14	22.25	114.82	7	PASS
Band5	3MHz	16QAM	20415	8RB#0	21.47	95.94	7	PASS
Band5	3MHz	16QAM	20415	8RB#4	21.52	97.05	7	PASS
Band5	3MHz	16QAM	20415	8RB#7	21.46	95.72	7	PASS
Band5	3MHz	16QAM	20415	15RB#0	21.30	92.26	7	PASS
Band5	3MHz	16QAM	20525	1RB#0	22.39	118.58	7	PASS
Band5	3MHz	16QAM	20525	1RB#8	22.46	120.50	7	PASS
Band5	3MHz	16QAM	20525	1RB#14	22.36	117.76	7	PASS
Band5	3MHz	16QAM	20525	8RB#0	21.39	94.19	7	PASS
Band5	3MHz	16QAM	20525	8RB#4	21.71	101.39	7	PASS
Band5	3MHz	16QAM	20525	8RB#7	21.49	96.38	7	PASS
Band5	3MHz	16QAM	20525	15RB#0	21.16	89.33	7	PASS
Band5	3MHz	16QAM	20635	1RB#0	22.28	115.61	7	PASS
Band5	3MHz	16QAM	20635	1RB#8	22.32	116.68	7	PASS
Band5	3MHz	16QAM	20635	1RB#14	22.32	116.68	7	PASS
Band5	3MHz	16QAM	20635	8RB#0	21.48	96.16	7	PASS
Band5	3MHz	16QAM	20635	8RB#4	21.54	97.50	7	PASS
Band5	3MHz	16QAM	20635	8RB#7	21.52	97.05	7	PASS
Band5	3MHz	16QAM	20635	15RB#0	21.34	93.11	7	PASS
Band5	5MHz	QPSK	20425	1RB#0	23.41	149.97	7	PASS
Band5	5MHz	QPSK	20425	1RB#12	23.56	155.24	7	PASS
Band5	5MHz	QPSK	20425	1RB#24	23.37	148.59	7	PASS
Band5	5MHz	QPSK	20425	12RB#0	22.38	118.30	7	PASS
Band5	5MHz	QPSK	20425	12RB#6	22.38	118.30	7	PASS
Band5	5MHz	QPSK	20425	12RB#13	22.42	119.40	7	PASS
Band5	5MHz	QPSK	20425	25RB#0	22.31	116.41	7	PASS
Band5	5MHz	QPSK	20525	1RB#0	23.27	145.21	7	PASS
Band5	5MHz	QPSK	20525	1RB#12	23.58	155.96	7	PASS
Band5	5MHz	QPSK	20525	1RB#24	23.06	138.36	7	PASS
Band5	5MHz	QPSK	20525	12RB#0	22.38	118.30	7	PASS
Band5	5MHz	QPSK	20525	12RB#6	22.29	115.88	7	PASS
Band5	5MHz	QPSK	20525	12RB#13	22.30	116.14	7	PASS
Band5	5MHz	QPSK	20525	25RB#0	22.41	119.12	7	PASS
Band5	5MHz	QPSK	20625	1RB#0	23.40	149.62	7	PASS
Band5	5MHz	QPSK	20625	1RB#12	23.46	151.71	7	PASS
Band5	5MHz	QPSK	20625	1RB#24	23.37	148.59	7	PASS
Band5	5MHz	QPSK	20625	12RB#0	22.33	116.95	7	PASS
Band5	5MHz	QPSK	20625	12RB#6	22.34	117.22	7	PASS



Band5	5MHz	QPSK	20625	12RB#13	22.38	118.30	7	PASS
Band5	5MHz	QPSK	20625	25RB#0	22.38	118.30	7	PASS
Band5	5MHz	16QAM	20425	1RB#0	22.21	113.76	7	PASS
Band5	5MHz	16QAM	20425	1RB#12	22.00	108.39	7	PASS
Band5	5MHz	16QAM	20425	1RB#24	22.27	115.35	7	PASS
Band5	5MHz	16QAM	20425	12RB#0	21.27	91.62	7	PASS
Band5	5MHz	16QAM	20425	12RB#6	21.26	91.41	7	PASS
Band5	5MHz	16QAM	20425	12RB#13	21.39	94.19	7	PASS
Band5	5MHz	16QAM	20425	25RB#0	21.32	92.68	7	PASS
Band5	5MHz	16QAM	20525	1RB#0	22.39	118.58	7	PASS
Band5	5MHz	16QAM	20525	1RB#12	22.55	123.03	7	PASS
Band5	5MHz	16QAM	20525	1RB#24	22.14	111.94	7	PASS
Band5	5MHz	16QAM	20525	12RB#0	21.44	95.28	7	PASS
Band5	5MHz	16QAM	20525	12RB#6	21.43	95.06	7	PASS
Band5	5MHz	16QAM	20525	12RB#13	21.46	95.72	7	PASS
Band5	5MHz	16QAM	20525	25RB#0	21.38	93.97	7	PASS
Band5	5MHz	16QAM	20625	1RB#0	22.09	110.66	7	PASS
Band5	5MHz	16QAM	20625	1RB#12	22.24	114.55	7	PASS
Band5	5MHz	16QAM	20625	1RB#24	22.33	116.95	7	PASS
Band5	5MHz	16QAM	20625	12RB#0	21.34	93.11	7	PASS
Band5	5MHz	16QAM	20625	12RB#6	21.34	93.11	7	PASS
Band5	5MHz	16QAM	20625	12RB#13	21.28	91.83	7	PASS
Band5	5MHz	16QAM	20625	25RB#0	21.40	94.41	7	PASS
Band5	10MHz	QPSK	20450	1RB#0	23.07	138.68	7	PASS
Band5	10MHz	QPSK	20450	1RB#24	23.59	156.31	7	PASS
Band5	10MHz	QPSK	20450	1RB#49	23.40	149.62	7	PASS
Band5	10MHz	QPSK	20450	25RB#0	22.41	119.12	7	PASS
Band5	10MHz	QPSK	20450	25RB#12	22.50	121.62	7	PASS
Band5	10MHz	QPSK	20450	25RB#25	22.62	125.03	7	PASS
Band5	10MHz	QPSK	20450	50RB#0	22.44	119.95	7	PASS
Band5	10MHz	QPSK	20525	1RB#0	23.21	143.22	7	PASS
Band5	10MHz	QPSK	20525	1RB#24	23.73	161.44	7	PASS
Band5	10MHz	QPSK	20525	1RB#49	23.16	141.58	7	PASS
Band5	10MHz	QPSK	20525	25RB#0	22.63	125.31	7	PASS
Band5	10MHz	QPSK	20525	25RB#12	22.62	125.03	7	PASS
Band5	10MHz	QPSK	20525	25RB#25	22.41	119.12	7	PASS
Band5	10MHz	QPSK	20525	50RB#0	22.53	122.46	7	PASS
Band5	10MHz	QPSK	20600	1RB#0	23.35	147.91	7	PASS
Band5	10MHz	QPSK	20600	1RB#24	23.59	156.31	7	PASS
Band5	10MHz	QPSK	20600	1RB#49	23.21	143.22	7	PASS
Band5	10MHz	QPSK	20600	25RB#0	22.60	124.45	7	PASS
Band5	10MHz	QPSK	20600	25RB#12	22.51	121.90	7	PASS
Band5	10MHz	QPSK	20600	25RB#25	22.41	119.12	7	PASS
Band5	10MHz	QPSK	20600	50RB#0	22.51	121.90	7	PASS
Band5	10MHz	16QAM	20450	1RB#0	22.30	116.14	7	PASS
Band5	10MHz	16QAM	20450	1RB#24	22.92	133.97	7	PASS
Band5	10MHz	16QAM	20450	1RB#49	22.52	122.18	7	PASS
Band5	10MHz	16QAM	20450	25RB#0	21.29	92.04	7	PASS
Band5	10MHz	16QAM	20450	25RB#12	21.29	92.04	7	PASS
Band5	10MHz	16QAM	20450	25RB#25	21.60	98.86	7	PASS
Band5	10MHz	16QAM	20450	50RB#0	21.43	95.06	7	PASS
Band5	10MHz	16QAM	20525	1RB#0	22.25	114.82	7	PASS
Band5	10MHz	16QAM	20525	1RB#24	22.89	133.05	7	PASS
Band5	10MHz	16QAM	20525	1RB#49	22.20	113.50	7	PASS



Band5	10MHz	16QAM	20525	25RB#0	21.54	97.50	7	PASS
Band5	10MHz	16QAM	20525	25RB#12	21.64	99.77	7	PASS
Band5	10MHz	16QAM	20525	25RB#25	21.45	95.50	7	PASS
Band5	10MHz	16QAM	20525	50RB#0	21.55	97.72	7	PASS
Band5	10MHz	16QAM	20600	1RB#0	22.38	118.30	7	PASS
Band5	10MHz	16QAM	20600	1RB#24	22.69	127.06	7	PASS
Band5	10MHz	16QAM	20600	1RB#49	22.36	117.76	7	PASS
Band5	10MHz	16QAM	20600	25RB#0	21.48	96.16	7	PASS
Band5	10MHz	16QAM	20600	25RB#12	21.49	96.38	7	PASS
Band5	10MHz	16QAM	20600	25RB#25	21.48	96.16	7	PASS
Band5	10MHz	16QAM	20600	50RB#0	21.50	96.61	7	PASS



5.2 Peak to average ratio

5.2.1 Test Result(WCDMA)

Band	Channel	Peak-to-Average Ratio(dB)	Limit(dB)	Verdict
Band5	4132	8.48	13	PASS
Band5	4182	8.46	13	PASS
Band5	4233	8.44	13	PASS

5.2.2 Test Result(HSDPA)

Band	Channel	SubTest	Peak-to-Average Ratio(dB)	Limit(dB)	Verdict
Band5	4132	1	3.24	13	PASS
Band5	4132	2	3.76	13	PASS
Band5	4132	3	3.78	13	PASS
Band5	4132	4	3.8	13	PASS
Band5	4182	1	3.32	13	PASS
Band5	4182	2	3.54	13	PASS
Band5	4182	3	3.7	13	PASS
Band5	4182	4	3.74	13	PASS
Band5	4233	1	3.16	13	PASS
Band5	4233	2	3.54	13	PASS
Band5	4233	3	3.76	13	PASS
Band5	4233	4	3.84	13	PASS

5.2.3 Test Result(HSUPA)

Band	Channel	SubTest	Peak-to-Average Ratio(dB)	Limit(dB)	Verdict
Band5	4132	1	4.34	13	PASS
Band5	4132	2	5.3	13	PASS
Band5	4132	3	5.48	13	PASS
Band5	4132	4	5.24	13	PASS
Band5	4132	5	4.32	13	PASS
Band5	4182	1	4.44	13	PASS
Band5	4182	2	3.24	13	PASS
Band5	4182	3	3.7	13	PASS
Band5	4182	4	3.34	13	PASS
Band5	4182	5	4.3	13	PASS
Band5	4233	1	4.32	13	PASS
Band5	4233	2	5.42	13	PASS
Band5	4233	3	4.98	13	PASS
Band5	4233	4	5.48	13	PASS
Band5	4233	5	4.14	13	PASS



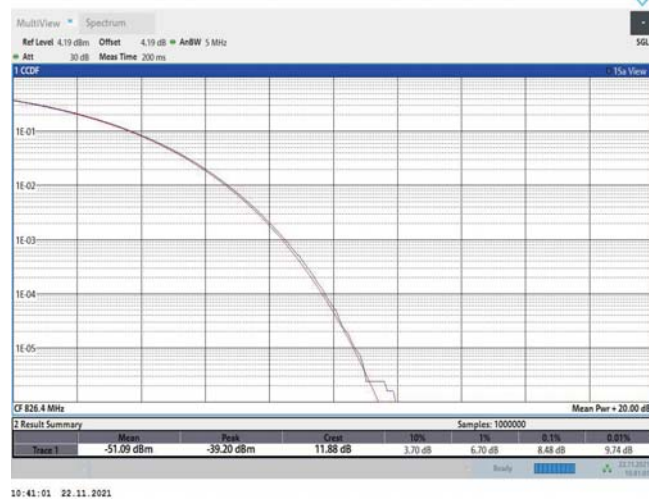
5.2.4 Test Result(LTE)

Band	Bandwidth	Modulation	Channel	RB Configuration	Result(dB)	Limit(dB)	Verdict
Band5	1.4MHz	QPSK	20407	1RB#0	3.96	13	PASS
Band5	1.4MHz	QPSK	20407	6RB#0	4.74	13	PASS
Band5	1.4MHz	QPSK	20525	1RB#0	4.48	13	PASS
Band5	1.4MHz	QPSK	20525	6RB#0	5.24	13	PASS
Band5	1.4MHz	QPSK	20643	1RB#0	4.66	13	PASS
Band5	1.4MHz	QPSK	20643	6RB#0	5.28	13	PASS
Band5	1.4MHz	16QAM	20407	1RB#0	4.94	13	PASS
Band5	1.4MHz	16QAM	20407	6RB#0	5.56	13	PASS
Band5	1.4MHz	16QAM	20525	1RB#0	5.58	13	PASS
Band5	1.4MHz	16QAM	20525	6RB#0	6.20	13	PASS
Band5	1.4MHz	16QAM	20643	1RB#0	5.50	13	PASS
Band5	1.4MHz	16QAM	20643	6RB#0	6.12	13	PASS
Band5	3MHz	QPSK	20415	1RB#0	4.02	13	PASS
Band5	3MHz	QPSK	20415	15RB#0	5.08	13	PASS
Band5	3MHz	QPSK	20525	1RB#0	4.50	13	PASS
Band5	3MHz	QPSK	20525	15RB#0	5.24	13	PASS
Band5	3MHz	QPSK	20635	1RB#0	4.32	13	PASS
Band5	3MHz	QPSK	20635	15RB#0	5.24	13	PASS
Band5	3MHz	16QAM	20415	1RB#0	4.74	13	PASS
Band5	3MHz	16QAM	20415	15RB#0	5.96	13	PASS
Band5	3MHz	16QAM	20525	1RB#0	5.42	13	PASS
Band5	3MHz	16QAM	20525	15RB#0	6.08	13	PASS
Band5	3MHz	16QAM	20635	1RB#0	5.24	13	PASS
Band5	3MHz	16QAM	20635	15RB#0	6.12	13	PASS
Band5	5MHz	QPSK	20425	1RB#0	3.92	13	PASS
Band5	5MHz	QPSK	20425	25RB#0	5.10	13	PASS
Band5	5MHz	QPSK	20525	1RB#0	4.32	13	PASS
Band5	5MHz	QPSK	20525	25RB#0	5.12	13	PASS
Band5	5MHz	QPSK	20625	1RB#0	3.74	13	PASS
Band5	5MHz	QPSK	20625	25RB#0	4.94	13	PASS
Band5	5MHz	16QAM	20425	1RB#0	4.90	13	PASS
Band5	5MHz	16QAM	20425	25RB#0	6.06	13	PASS
Band5	5MHz	16QAM	20525	1RB#0	5.06	13	PASS
Band5	5MHz	16QAM	20525	25RB#0	5.96	13	PASS
Band5	5MHz	16QAM	20625	1RB#0	4.52	13	PASS
Band5	5MHz	16QAM	20625	25RB#0	5.90	13	PASS
Band5	10MHz	QPSK	20450	1RB#0	4.02	13	PASS
Band5	10MHz	QPSK	20450	50RB#0	5.12	13	PASS
Band5	10MHz	QPSK	20525	1RB#0	4.24	13	PASS
Band5	10MHz	QPSK	20525	50RB#0	4.86	13	PASS
Band5	10MHz	QPSK	20600	1RB#0	4.48	13	PASS
Band5	10MHz	QPSK	20600	50RB#0	5.00	13	PASS
Band5	10MHz	16QAM	20450	1RB#0	4.78	13	PASS
Band5	10MHz	16QAM	20450	50RB#0	6.06	13	PASS
Band5	10MHz	16QAM	20525	1RB#0	5.22	13	PASS
Band5	10MHz	16QAM	20525	50RB#0	5.90	13	PASS
Band5	10MHz	16QAM	20600	1RB#0	5.36	13	PASS
Band5	10MHz	16QAM	20600	50RB#0	5.82	13	PASS

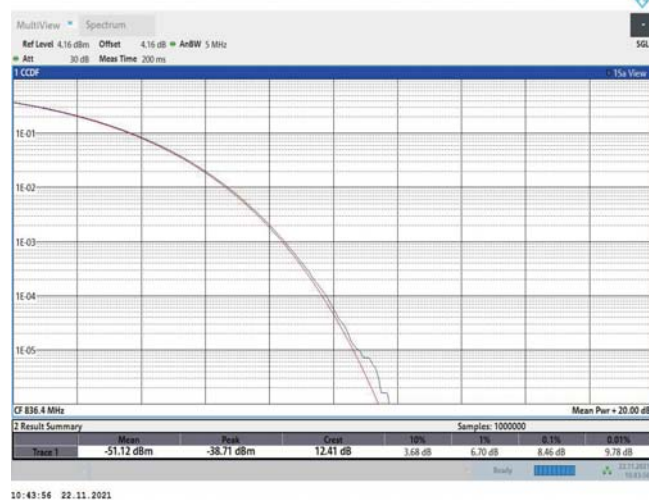


5.2.5 Test Graphs(WCDMA)

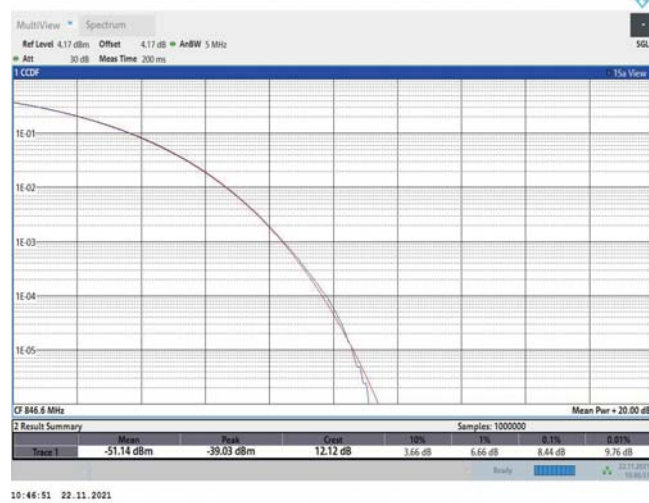
Band5-4132



Band5-4182

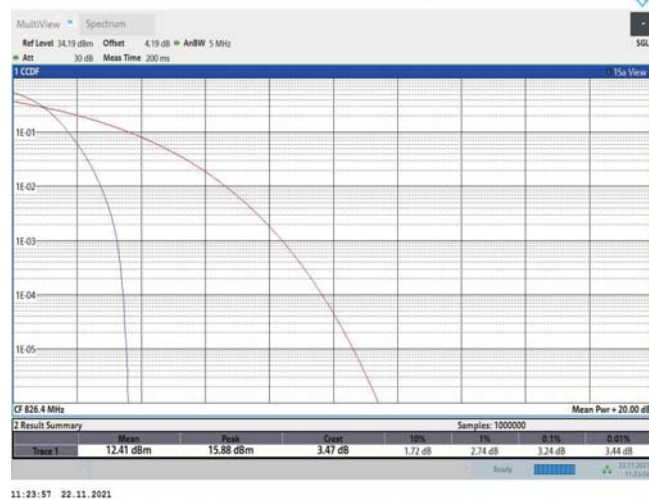


Band5-4233

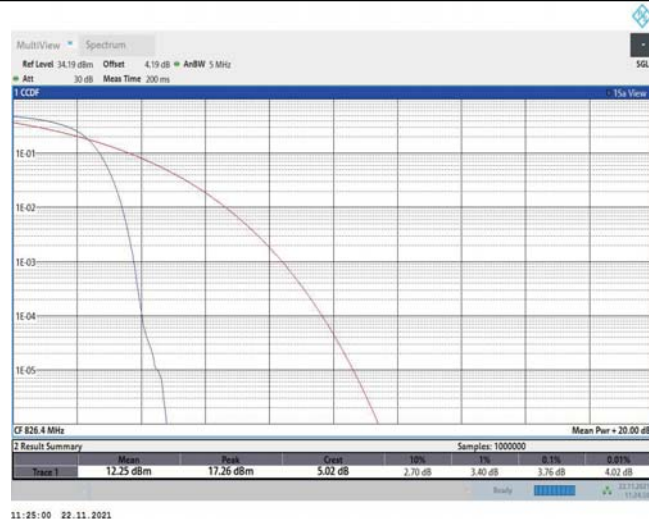


5.2.6 Test Graphs(HSDPA)

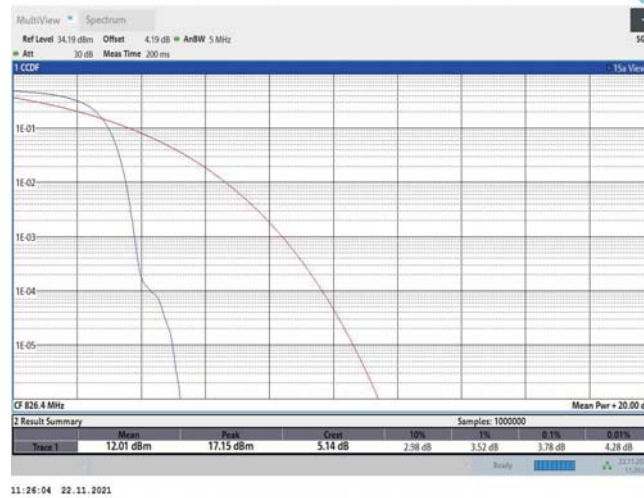
Band5-4132-1



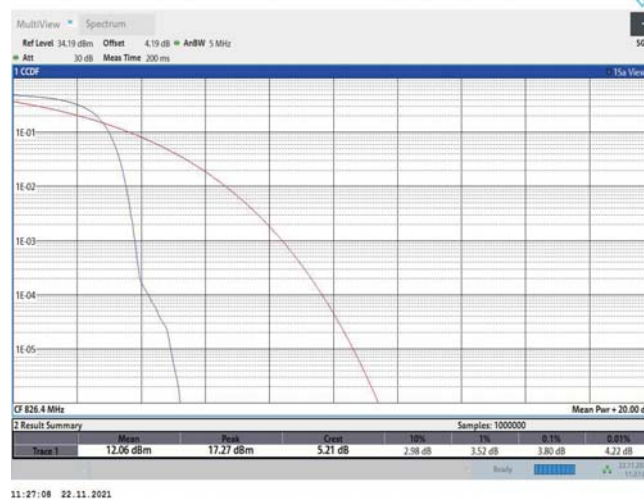
Band5-4132-2



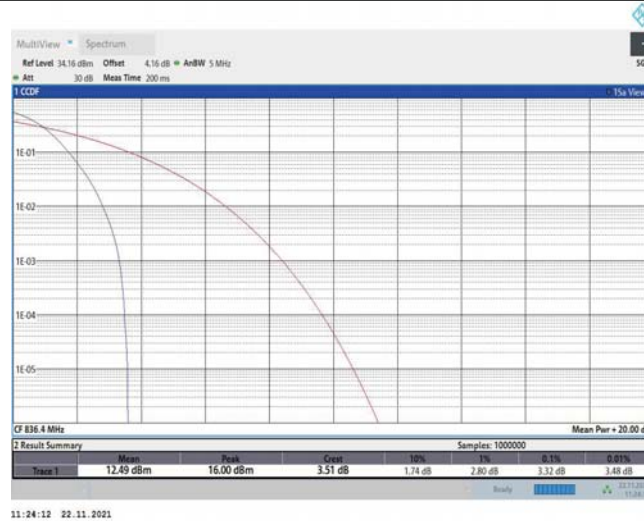
Band5-4132-3



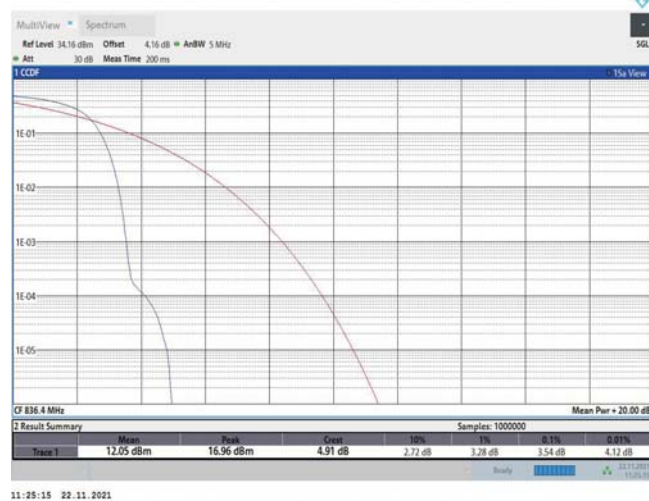
Band5-4132-4



Band5-4182-1

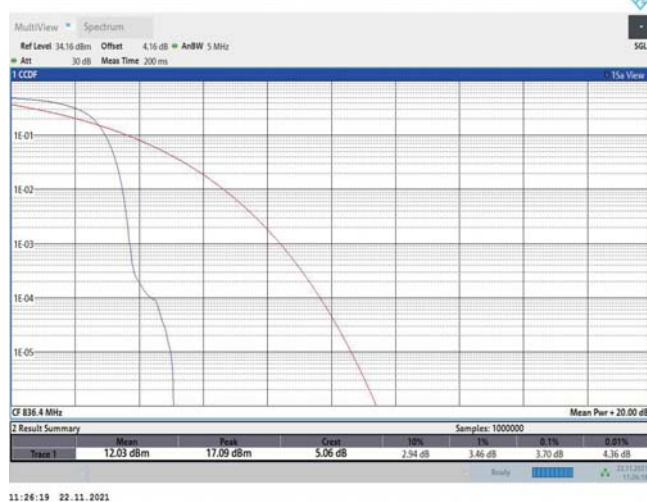


Band5-4182-2

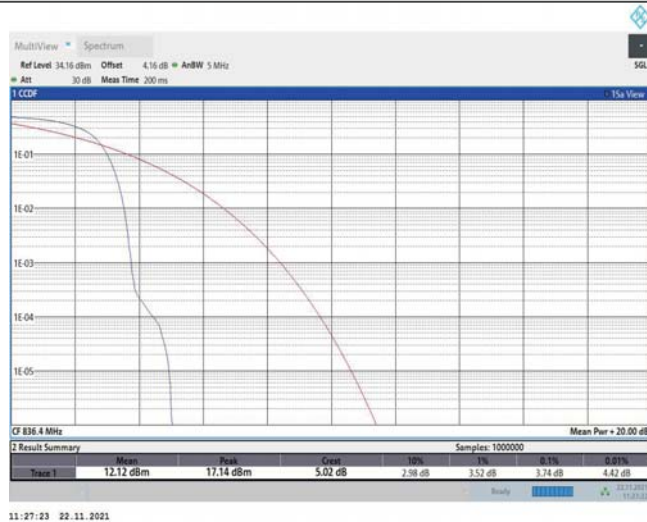




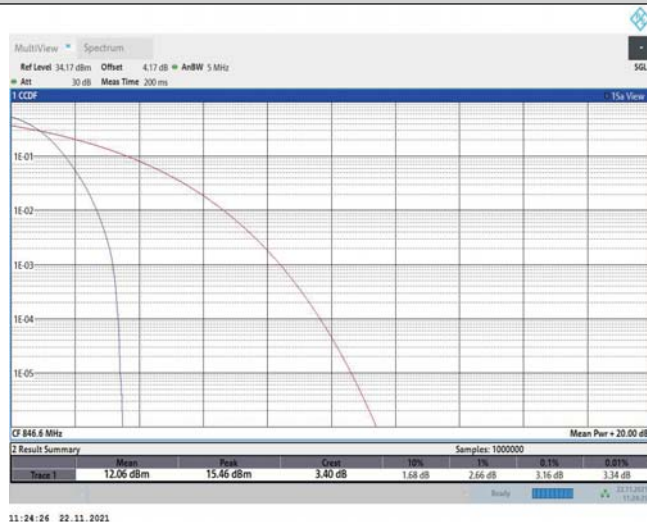
Band5-4182-3



Band5-4182-4

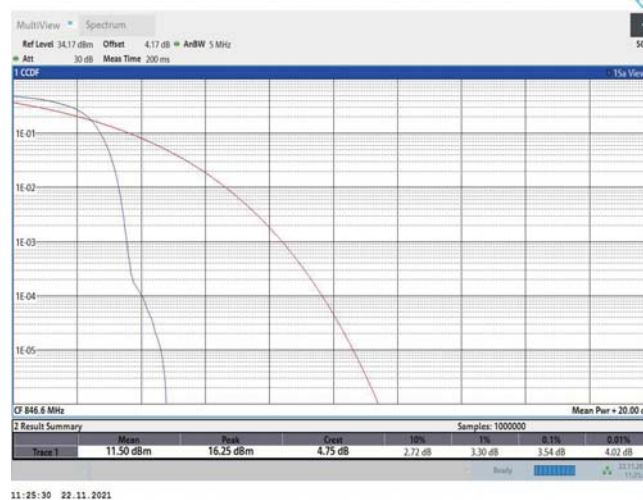


Band5-4233-1

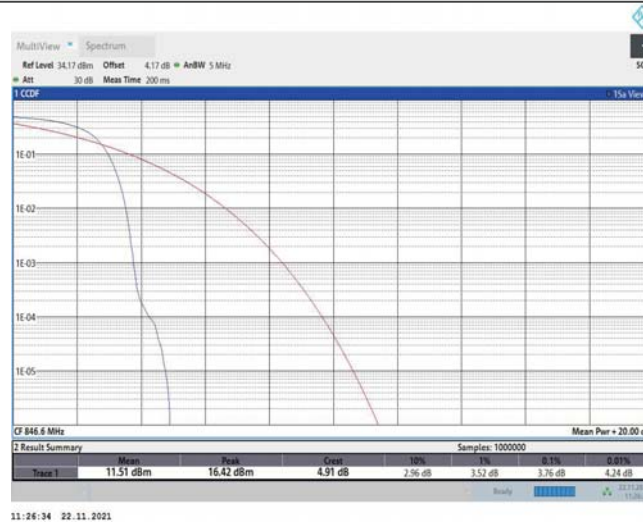




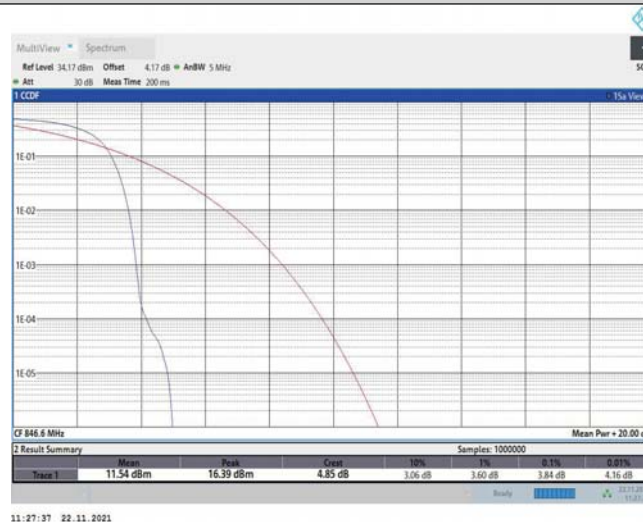
Band5-4233-2



Band5-4233-3



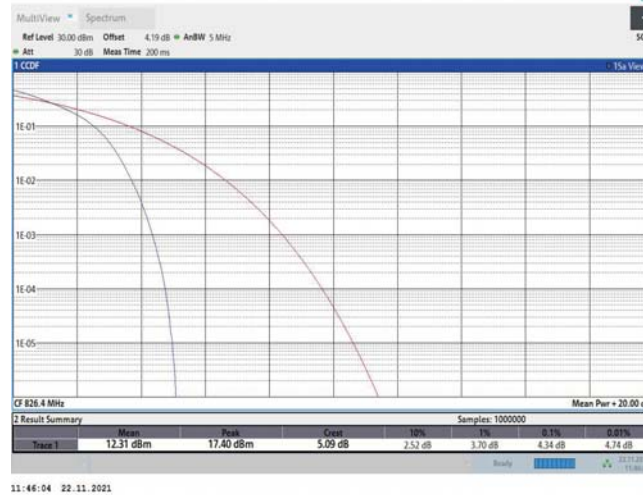
Band5-4233-4



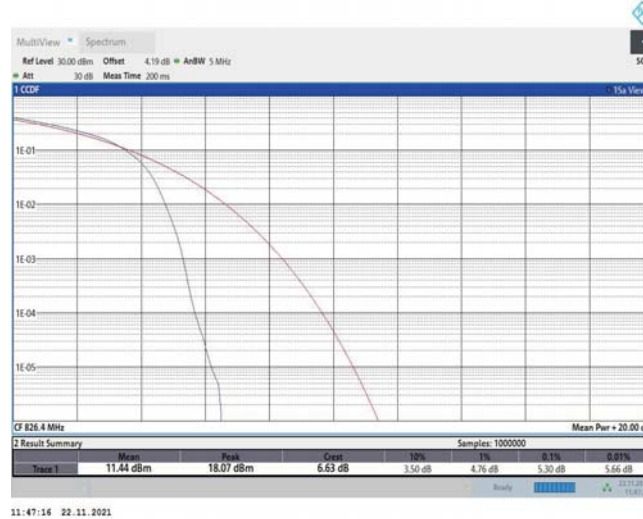


5.2.7 Test Graphs(HSUPA)

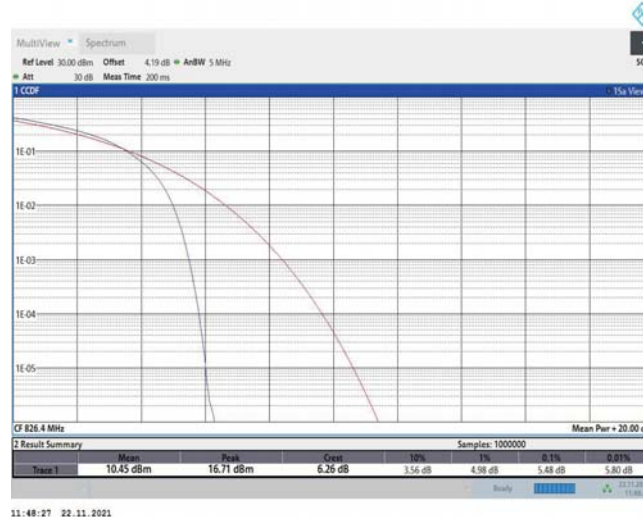
Band5-4132-1



Band5-4132-2

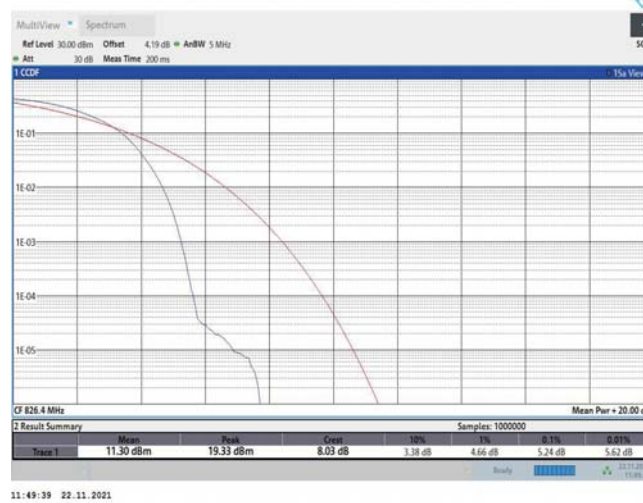


Band5-4132-3

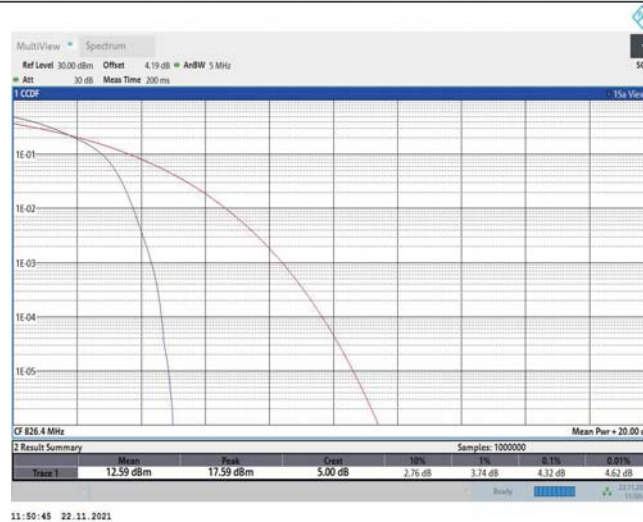




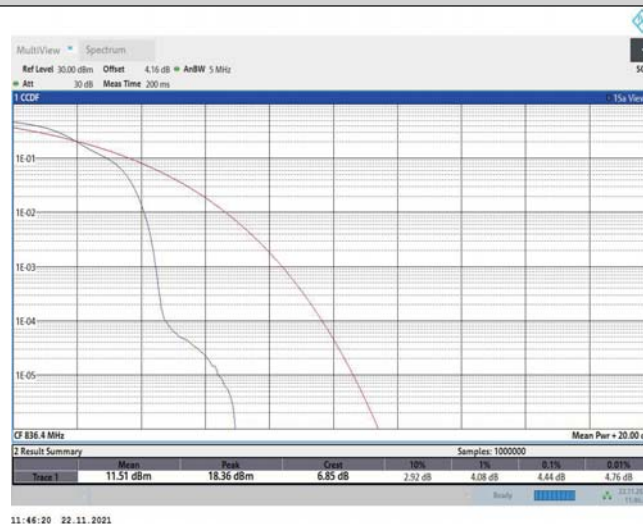
Band5-4132-4



Band5-4132-5

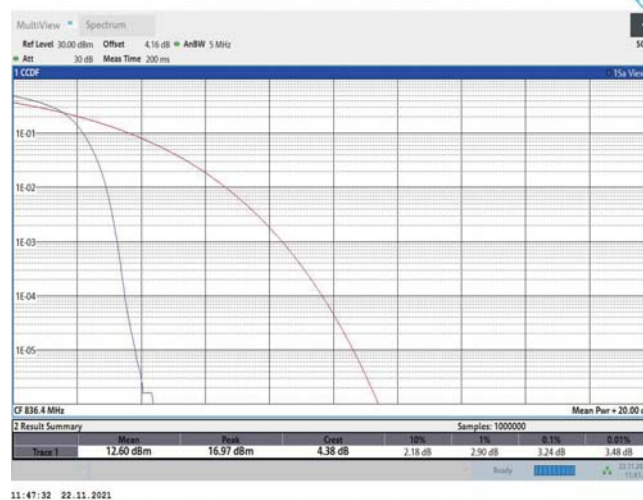


Band5-4182-1

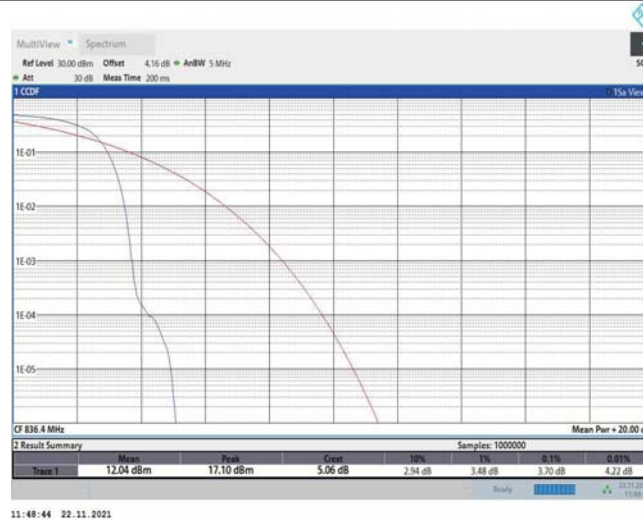




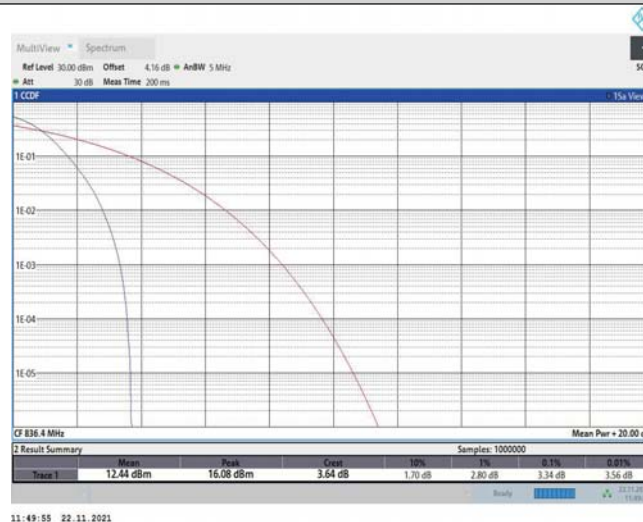
Band5-4182-2



Band5-4182-3

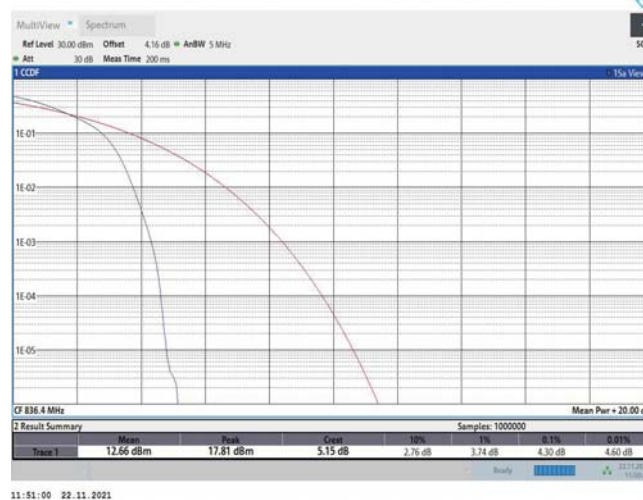


Band5-4182-4

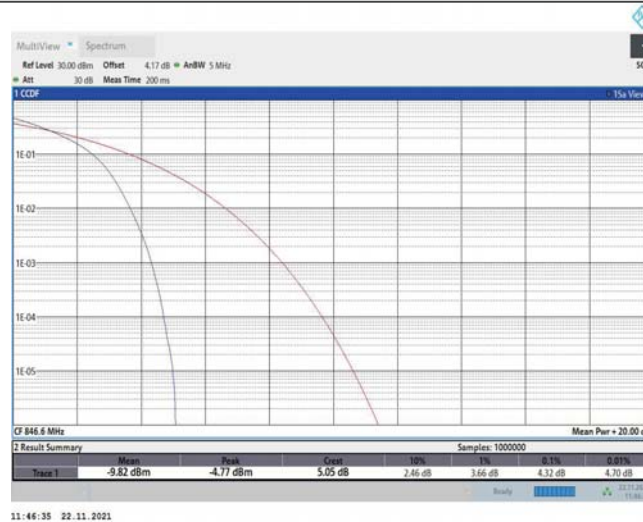




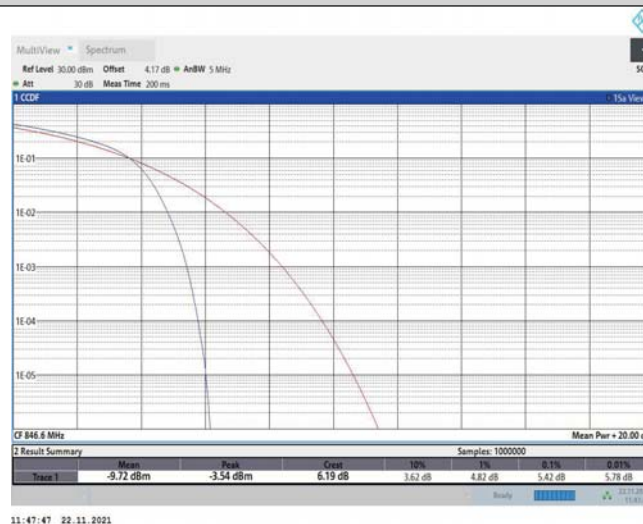
Band5-4182-5



Band5-4233-1

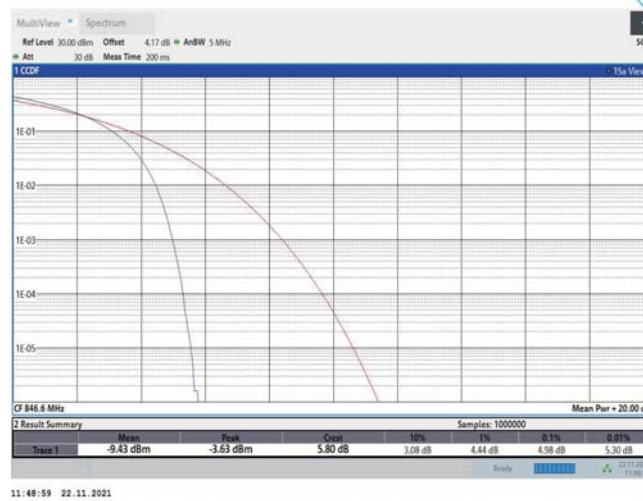


Band5-4233-2

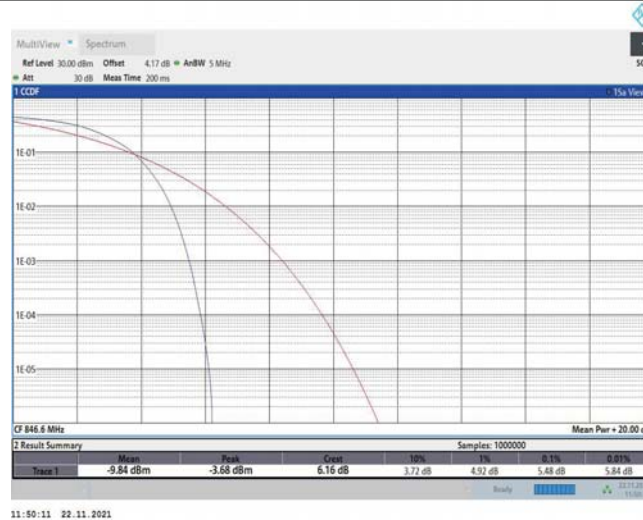




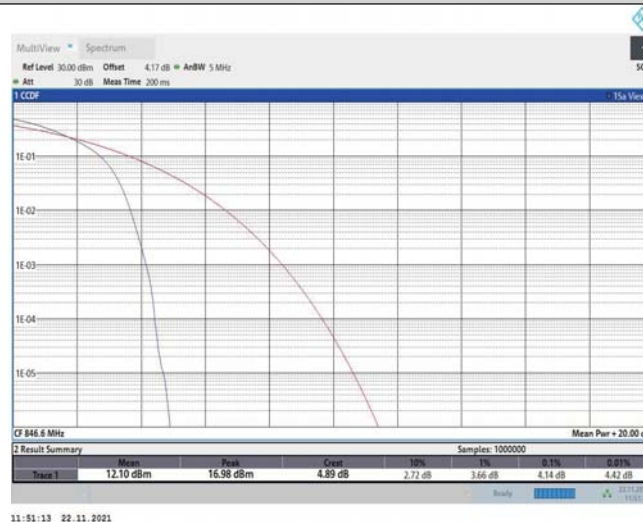
Band5-4233-3



Band5-4233-4



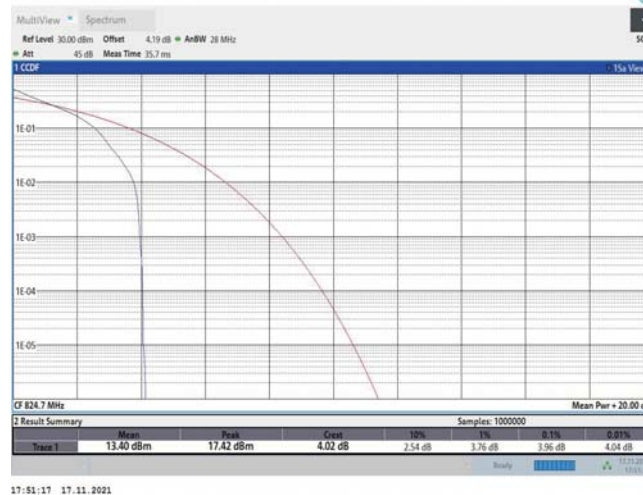
Band5-4233-5



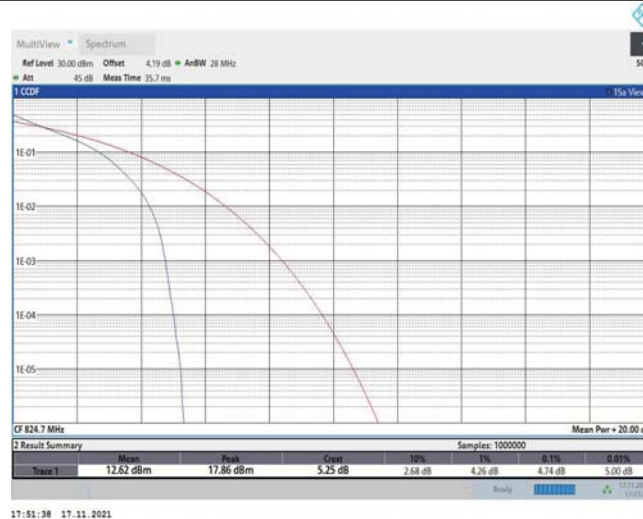


5.2.8 Test Graphs(LTE)

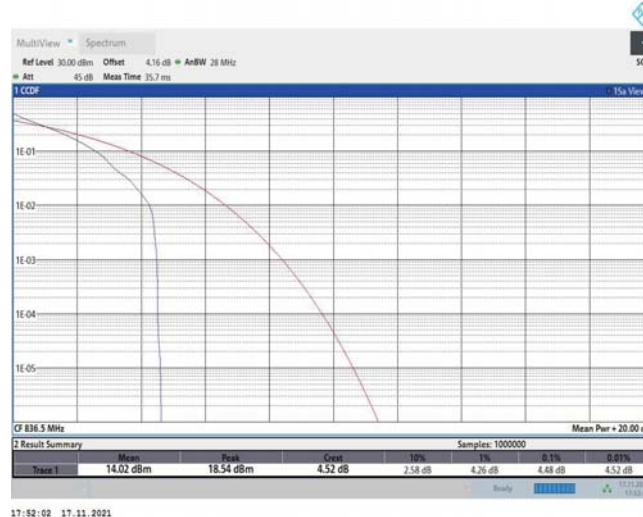
Band5-1.4MHz-QPSK-20407-1RB#0



Band5-1.4MHz-QPSK-20407-6RB#0

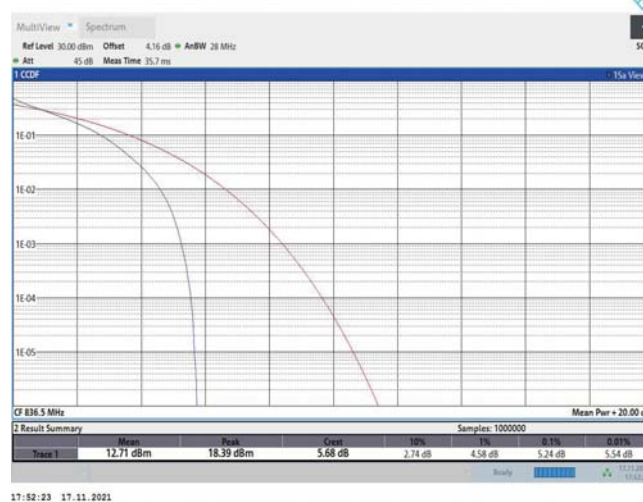


Band5-1.4MHz-QPSK-20525-1RB#0

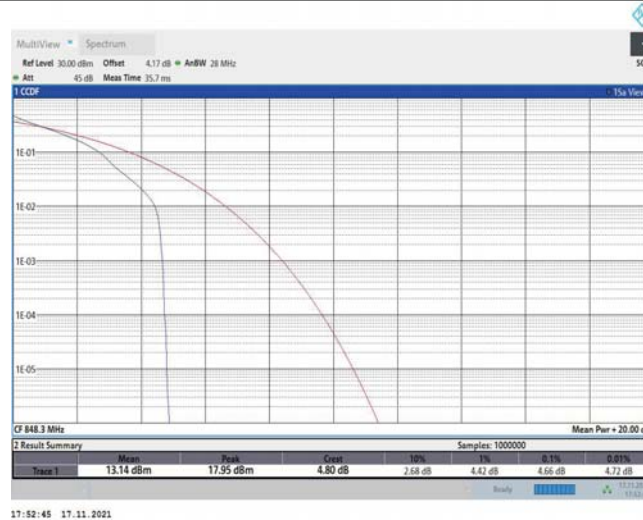




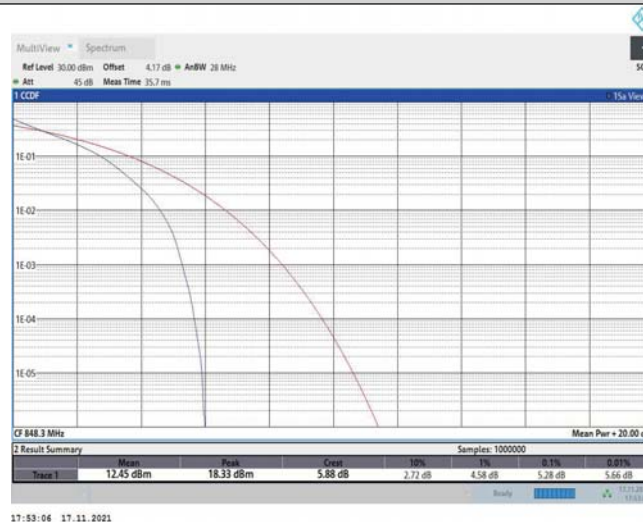
Band5-1.4MHz-QPSK-20525-6RB#0



Band5-1.4MHz-QPSK-20643-1RB#0

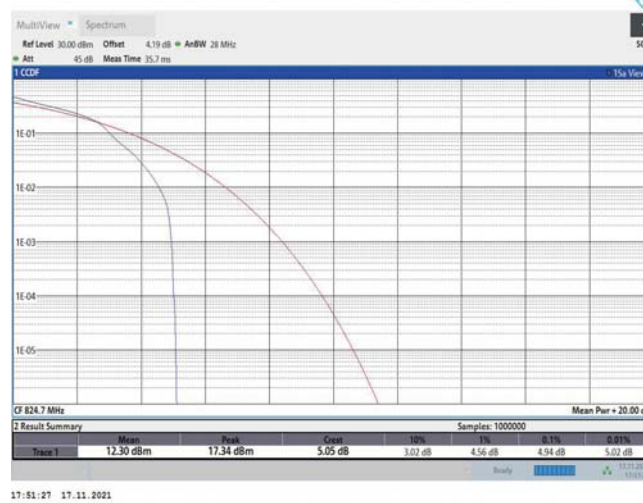


Band5-1.4MHz-QPSK-20643-6RB#0

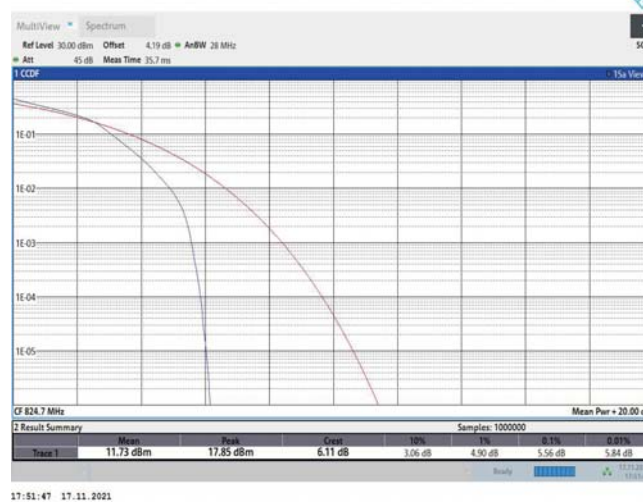




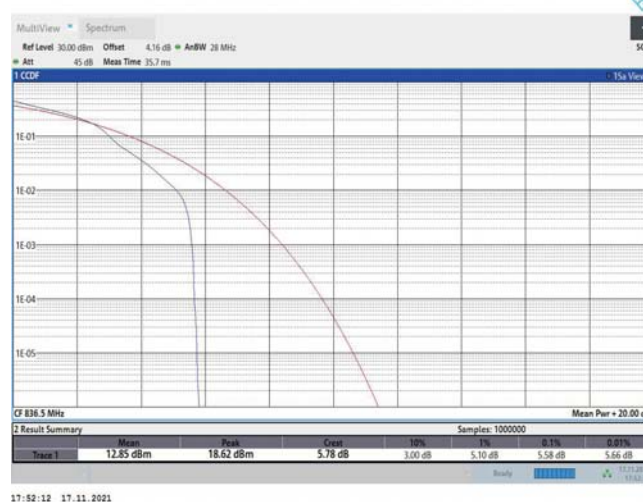
Band5-1.4MHz-16QAM-20407-1RB#0



Band5-1.4MHz-16QAM-20407-6RB#0

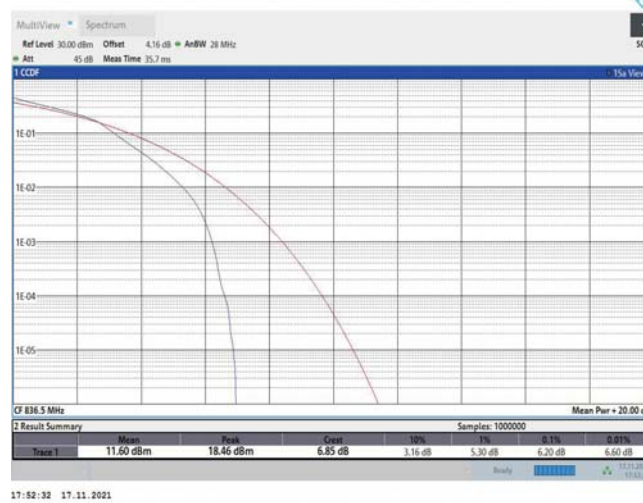


Band5-1.4MHz-16QAM-20525-1RB#0

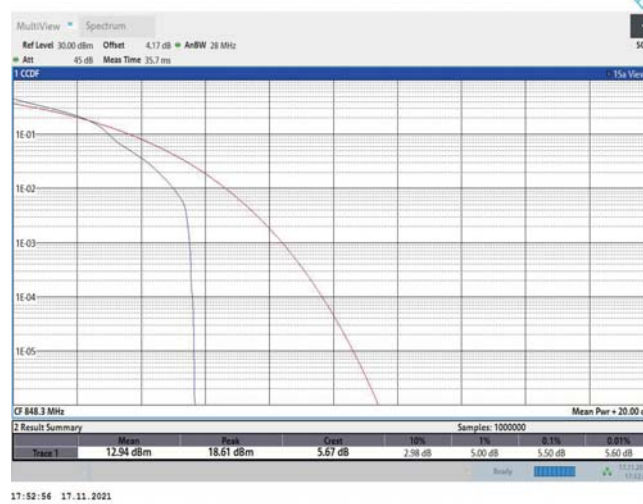




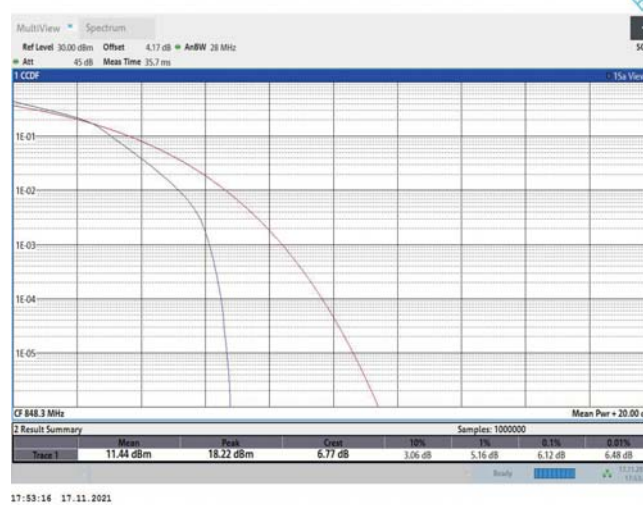
Band5-1.4MHz-16QAM-20525-6RB#0



Band5-1.4MHz-16QAM-20643-1RB#0

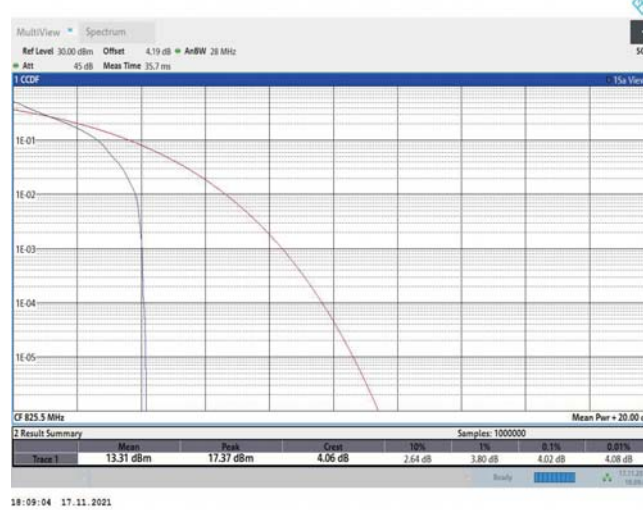


Band5-1.4MHz-16QAM-20643-6RB#0

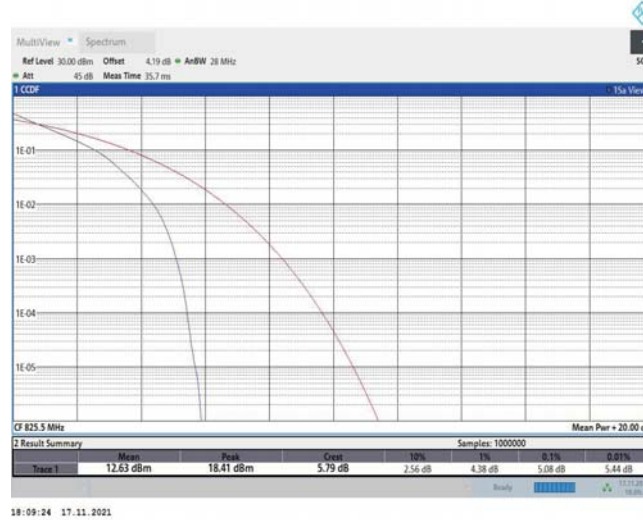




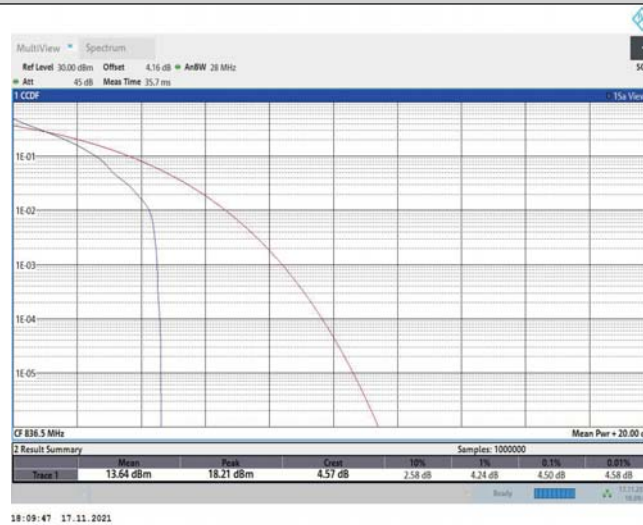
Band5-3MHz-QPSK-20415-1RB#0



Band5-3MHz-QPSK-20415-15RB#0

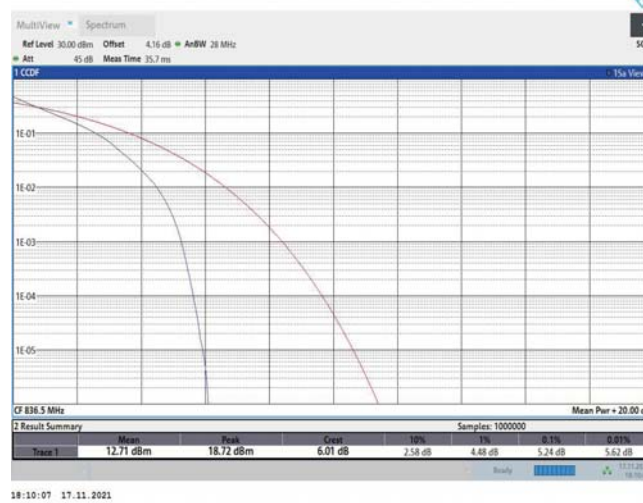


Band5-3MHz-QPSK-20525-1RB#0

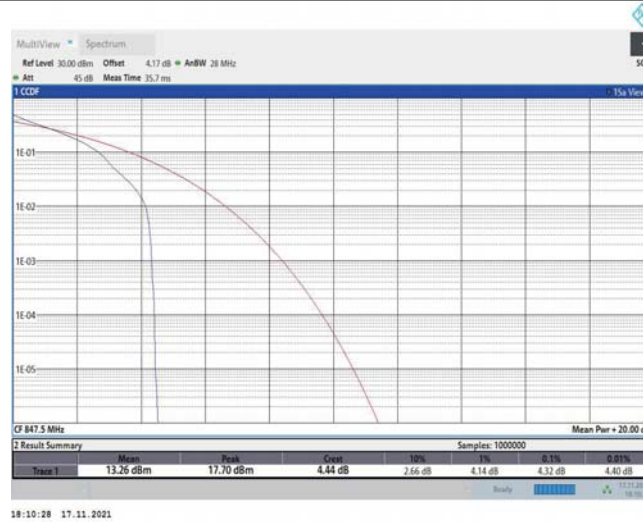




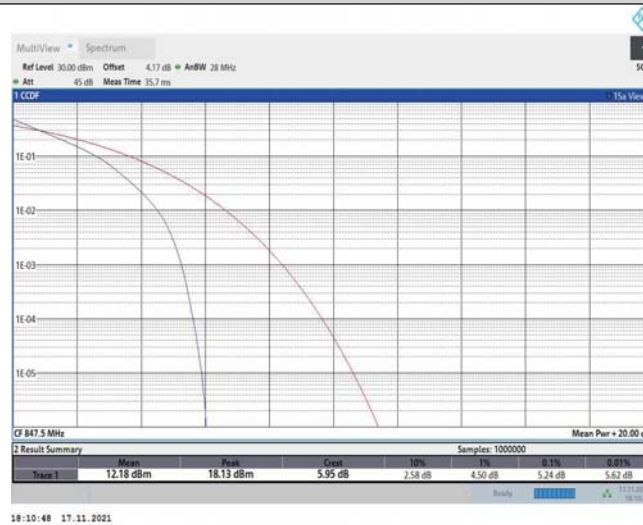
Band5-3MHz-QPSK-20525-15RB#0



Band5-3MHz-QPSK-20635-1RB#0

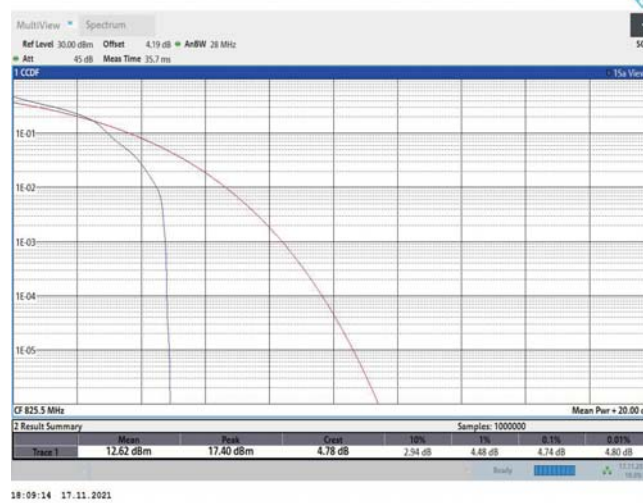


Band5-3MHz-QPSK-20635-15RB#0

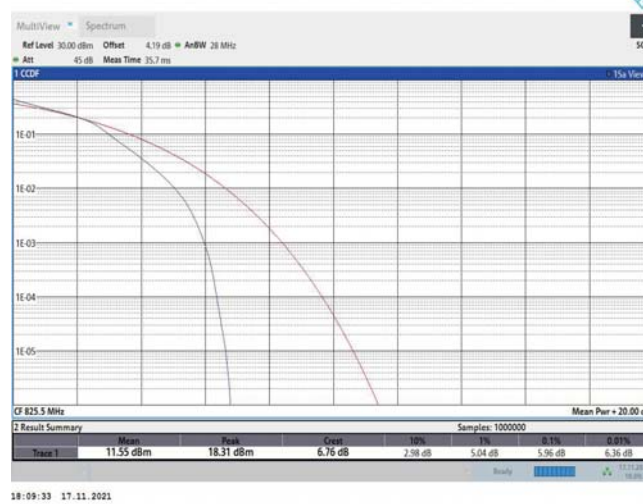




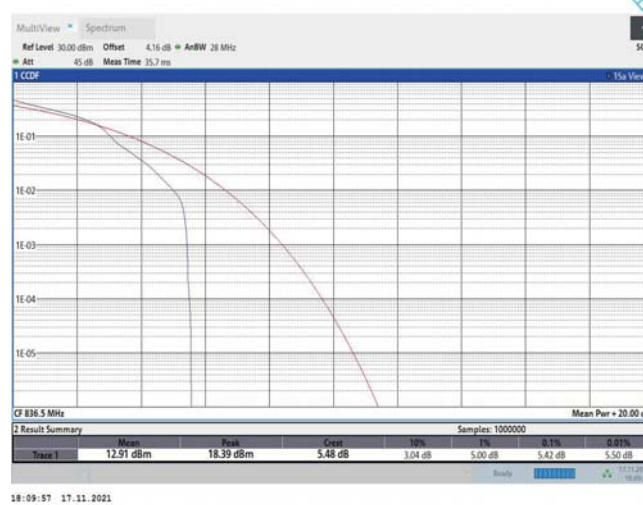
Band5-3MHz-16QAM-20415-1RB#0



Band5-3MHz-16QAM-20415-15RB#0

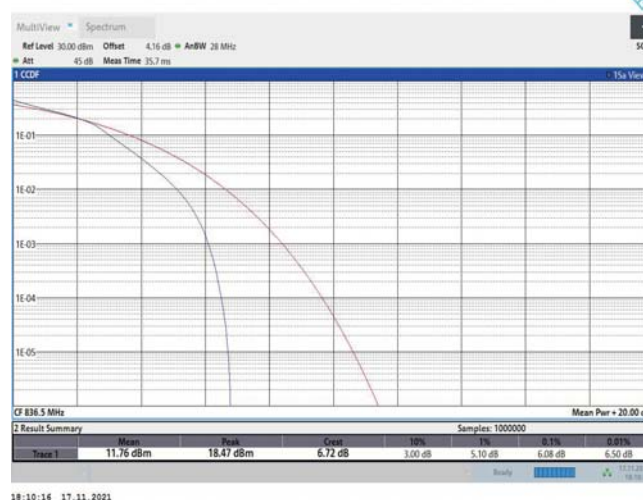


Band5-3MHz-16QAM-20525-1RB#0

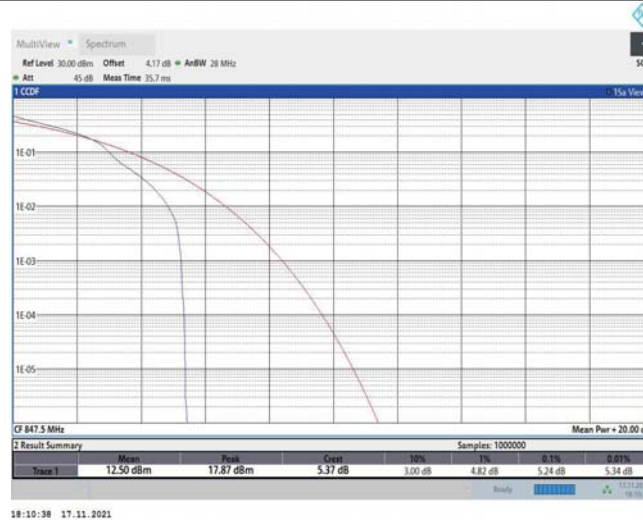




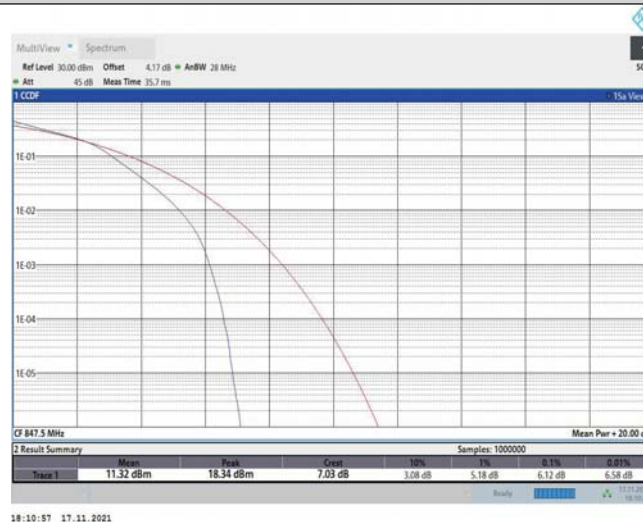
Band5-3MHz-16QAM-20525-15RB#0



Band5-3MHz-16QAM-20635-1RB#0

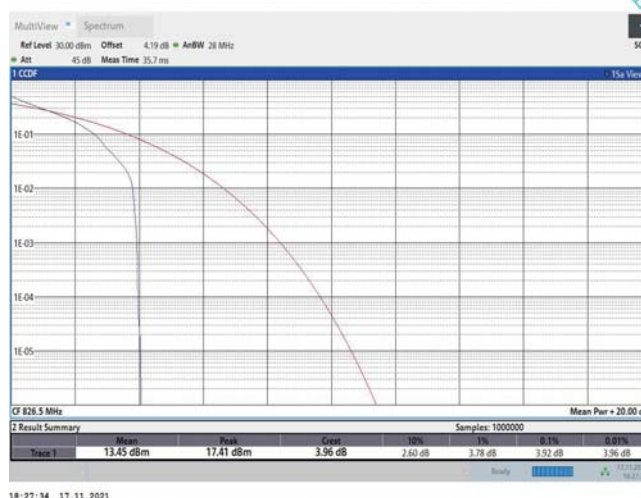


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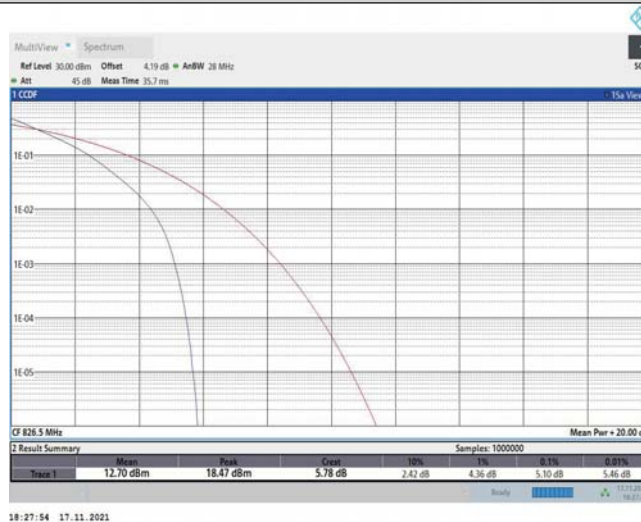




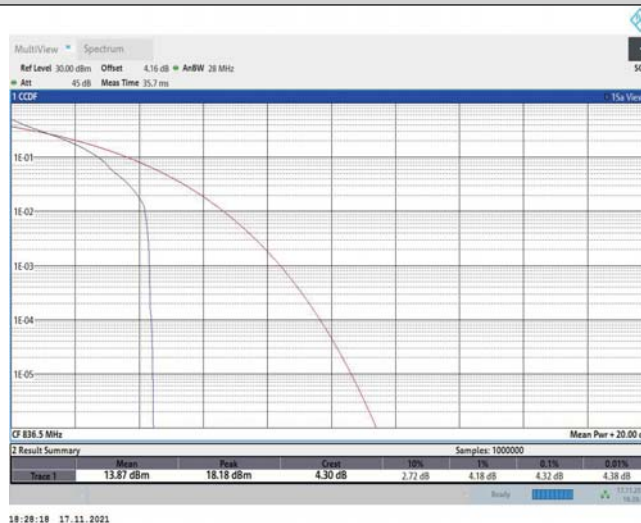
Band5-5MHz-QPSK-20425-1RB#0



Band5-5MHz-QPSK-20425-25RB#0

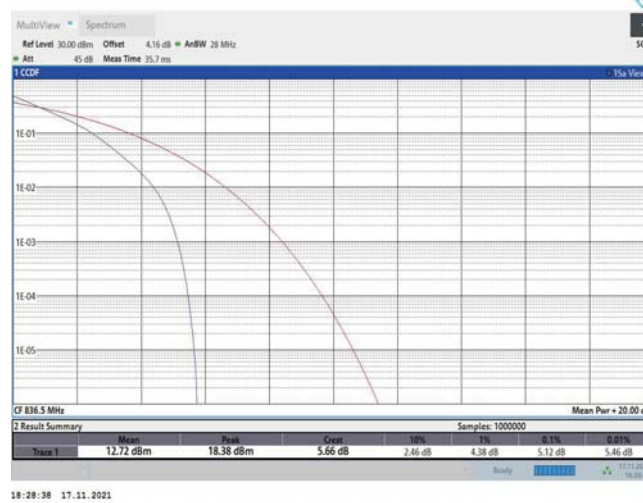


Band5-5MHz-QPSK-20525-1RB#0

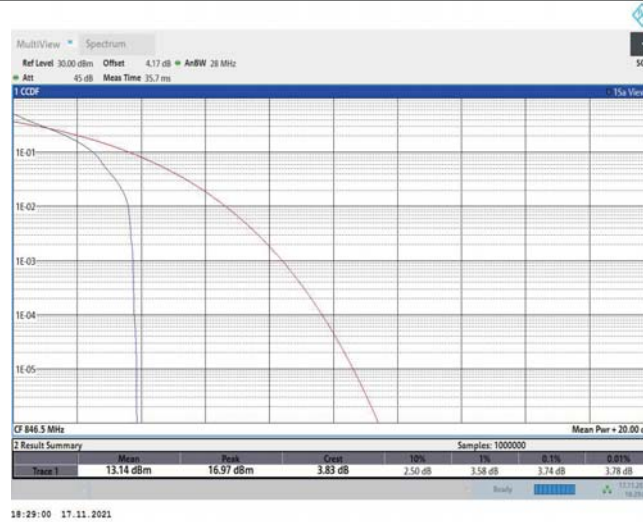




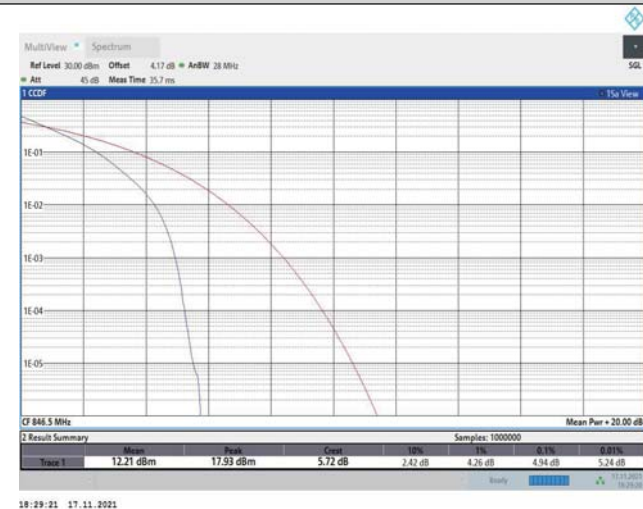
Band5-5MHz-QPSK-20525-25RB#0



Band5-5MHz-QPSK-20625-1RB#0

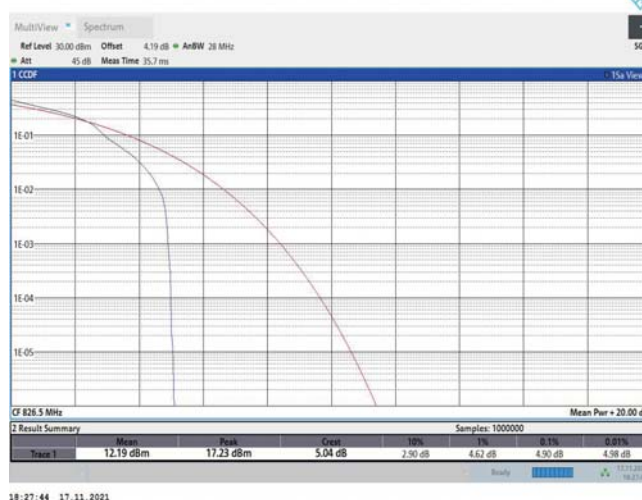


Band5-5MHz-QPSK-20625-25RB#0

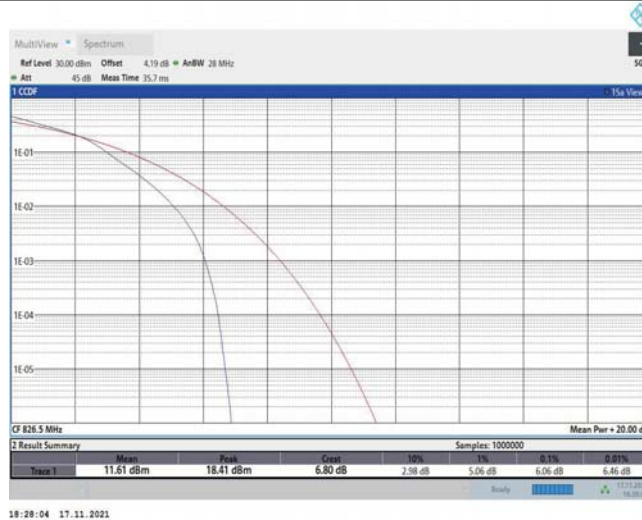




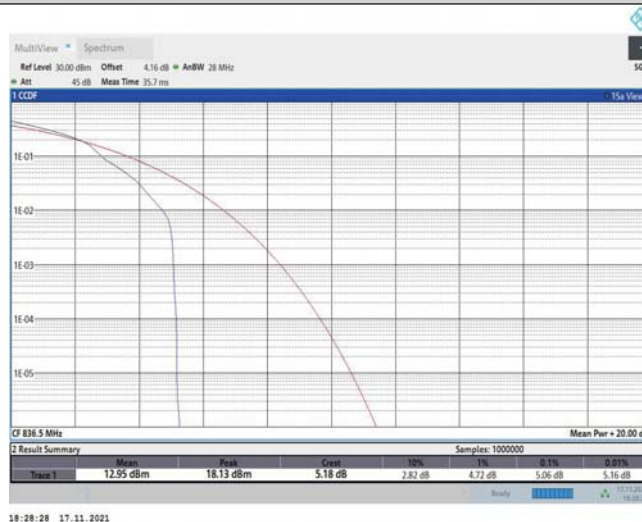
Band5-5MHz-16QAM-20425-1RB#0



Band5-5MHz-16QAM-20425-25RB#0

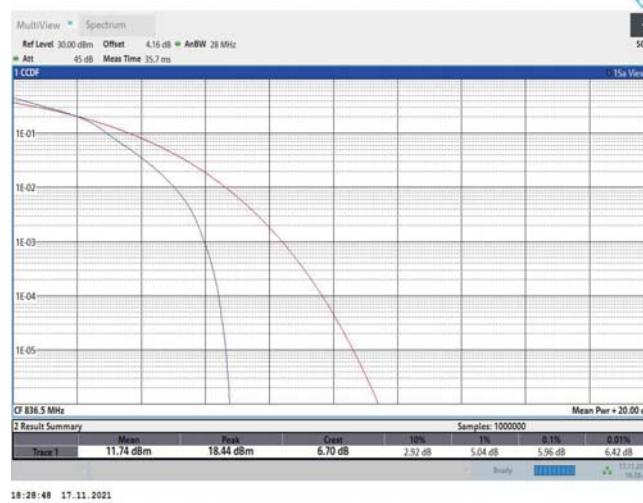


Band5-5MHz-16QAM-20525-1RB#0

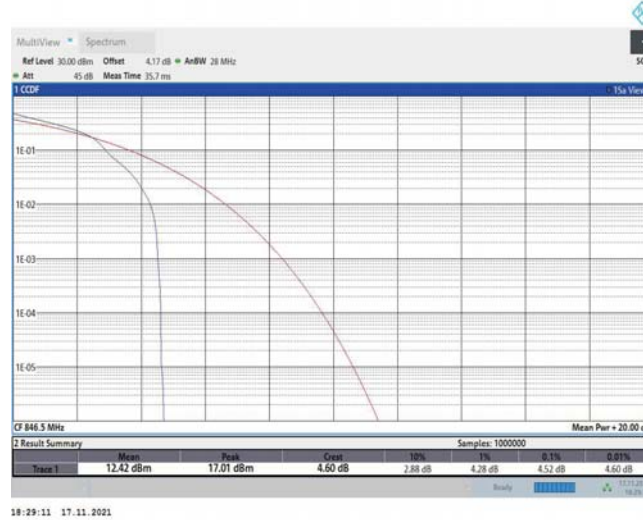




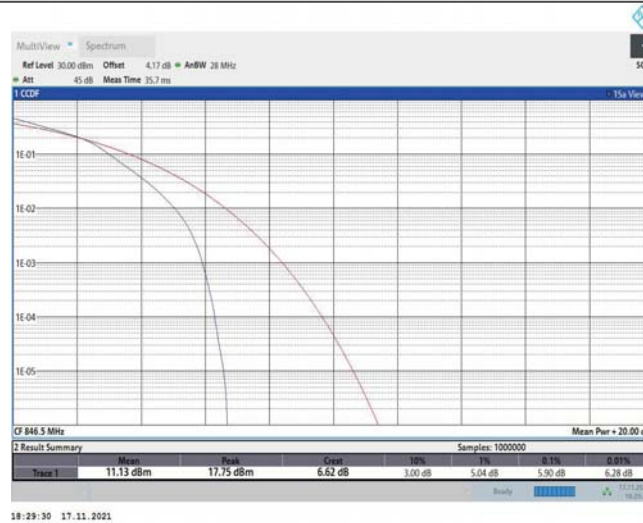
Band5-5MHz-16QAM-20525-25RB#0



Band5-5MHz-16QAM-20625-1RB#0

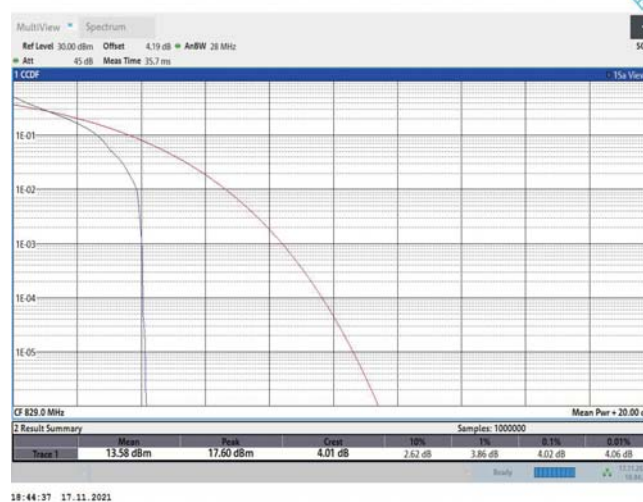


Band5-5MHz-16QAM-20625-25RB#0

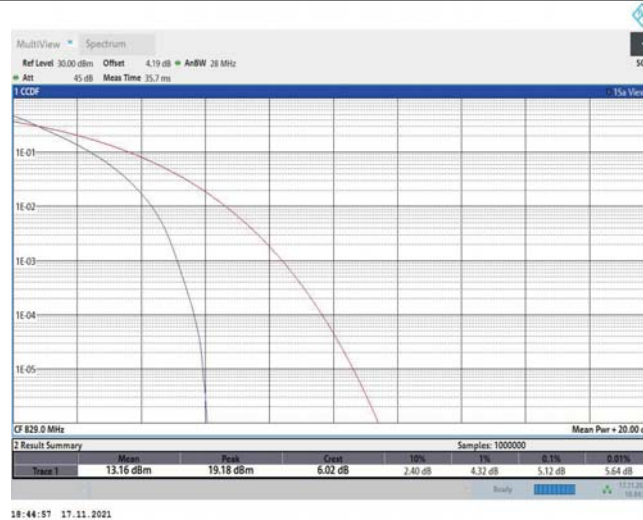




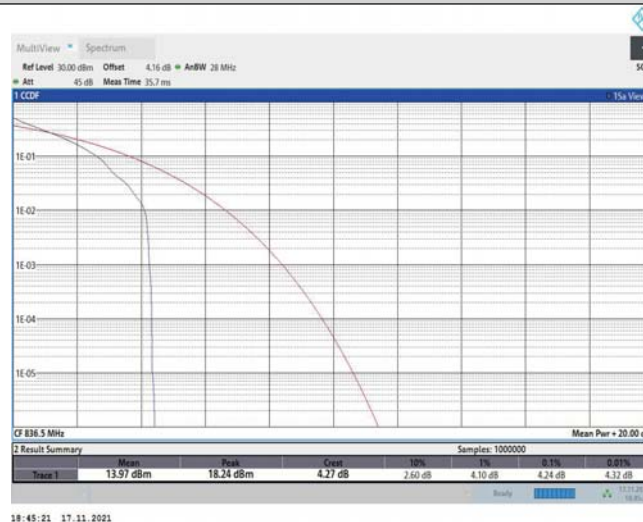
Band5-10MHz-QPSK-20450-1RB#0



Band5-10MHz-QPSK-20450-50RB#0

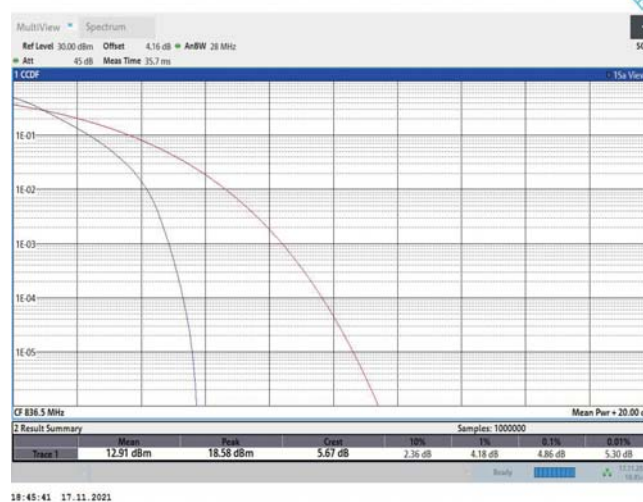


Band5-10MHz-QPSK-20525-1RB#0

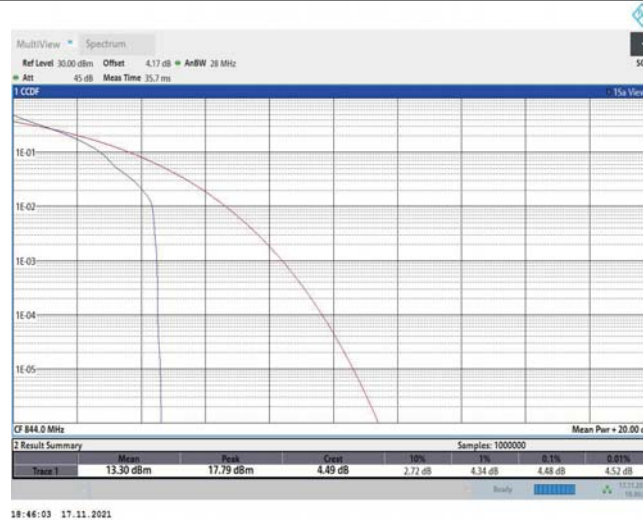




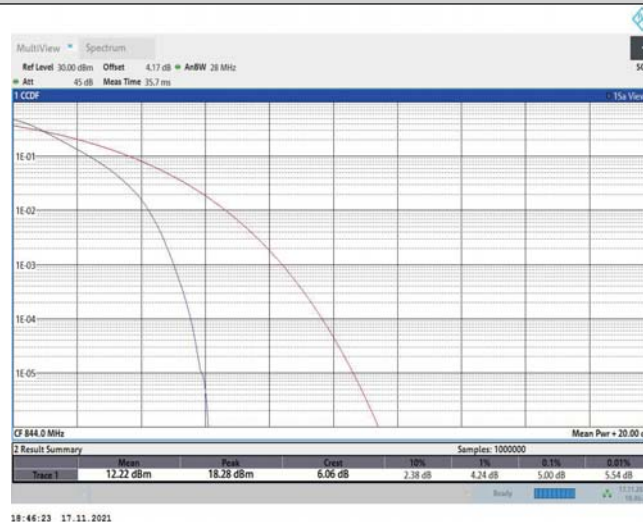
Band5-10MHz-QPSK-20525-50RB#0



Band5-10MHz-QPSK-20600-1RB#0

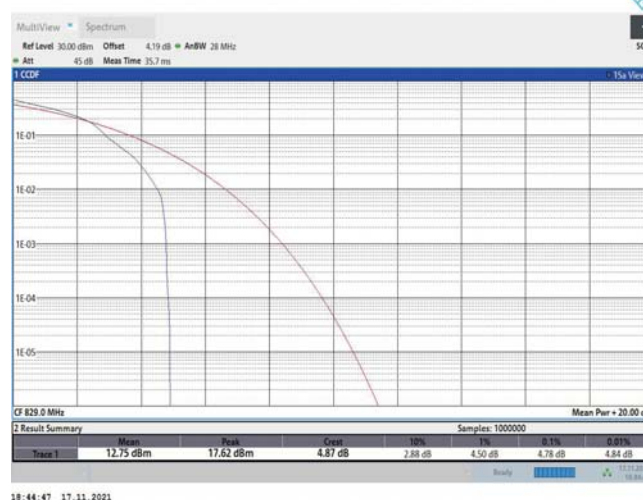


Band5-10MHz-QPSK-20600-50RB#0

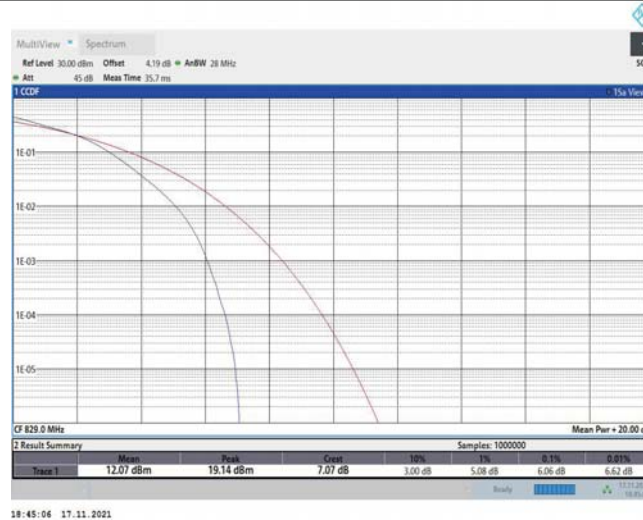




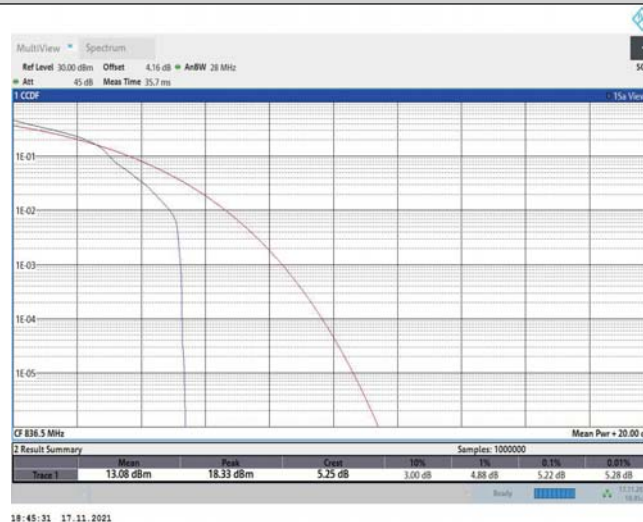
Band5-10MHz-16QAM-20450-1RB#0



Band5-10MHz-16QAM-20450-50RB#0

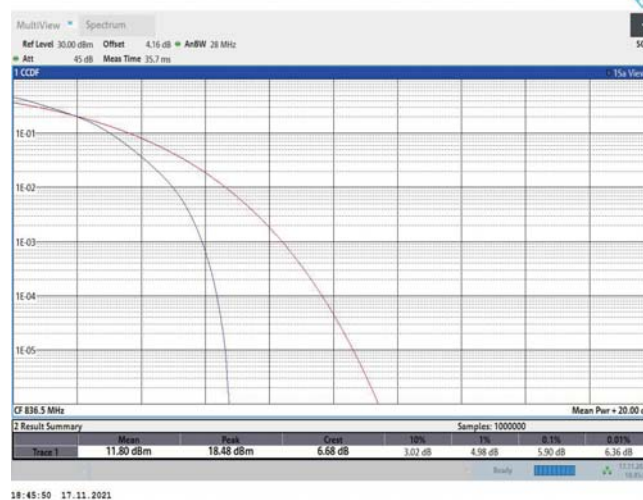


Band5-10MHz-16QAM-20525-1RB#0

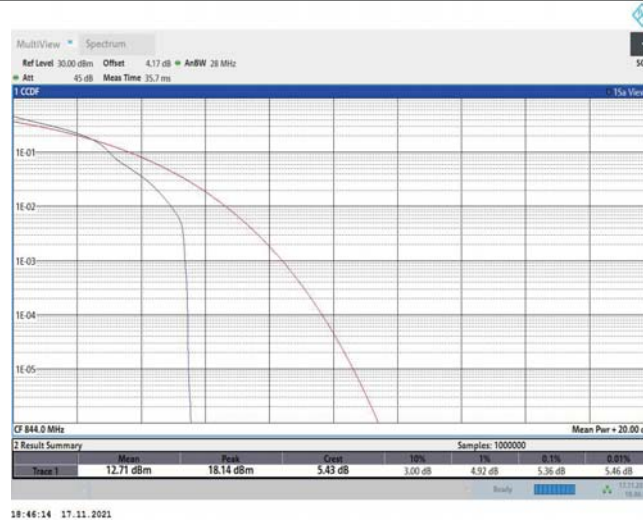




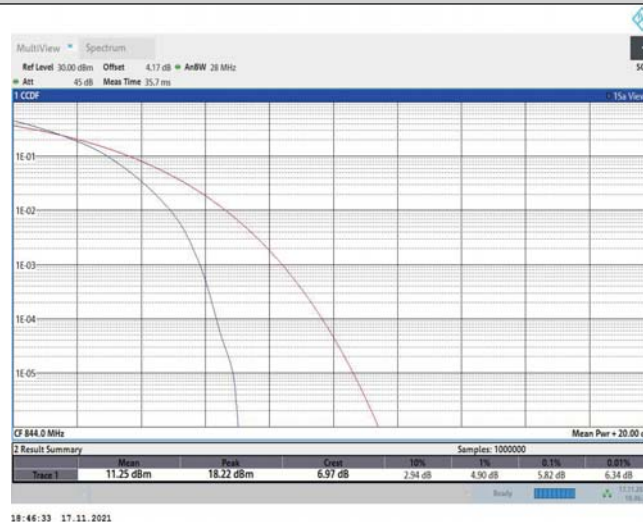
Band5-10MHz-16QAM-20525-50RB#0



Band5-10MHz-16QAM-20600-1RB#0



Band5-10MHz-16QAM-20600-50RB#0





5.3 Occupied Bandwidth

5.3.1 Test Result(WCDMA)

Band	Channel	Occupied Bandwidth (kHz)	26dB Bandwidth (kHz)	Limit(kHz)	Verdict
Band5	4132	4.136	4.700	---	PASS
Band5	4182	4.119	4.710	---	PASS
Band5	4233	4.142	4.730	---	PASS

5.3.2 Test Result(HSDPA)

Band	Channel	SubTest	Occupied Bandwidth (kHz)	26dB Bandwidth (kHz)	Limit(kHz)	Verdict
Band5	4132	1	4.16	4.690	---	PASS
Band5	4132	2	4.114	4.710	---	PASS
Band5	4132	3	4.116	4.730	---	PASS
Band5	4132	4	4.114	4.720	---	PASS
Band5	4182	1	4.119	4.720	---	PASS
Band5	4182	2	4.12	4.730	---	PASS
Band5	4182	3	4.118	4.730	---	PASS
Band5	4182	4	4.126	4.720	---	PASS
Band5	4233	1	4.139	4.730	---	PASS
Band5	4233	2	4.143	4.730	---	PASS
Band5	4233	3	4.136	4.730	---	PASS
Band5	4233	4	4.134	4.720	---	PASS

5.3.3 Test Result(HSUPA)

Band	Channel	SubTest	Occupied Bandwidth (kHz)	26dB Bandwidth (kHz)	Limit(kHz)	Verdict
Band5	4132	1	4.148	4.740	---	PASS
Band5	4132	2	4.125	4.730	---	PASS
Band5	4132	3	4.127	4.730	---	PASS
Band5	4132	4	4.127	4.730	---	PASS
Band5	4132	5	4.119	4.720	---	PASS
Band5	4182	1	4.119	4.720	---	PASS
Band5	4182	2	4.12	4.730	---	PASS
Band5	4182	3	4.126	4.730	---	PASS
Band5	4182	4	4.115	4.710	---	PASS
Band5	4182	5	4.119	4.730	---	PASS
Band5	4233	1	4.142	4.740	---	PASS
Band5	4233	2	4.153	4.740	---	PASS
Band5	4233	3	4.147	4.740	---	PASS
Band5	4233	4	4.144	4.750	---	PASS
Band5	4233	5	4.12	4.730	---	PASS



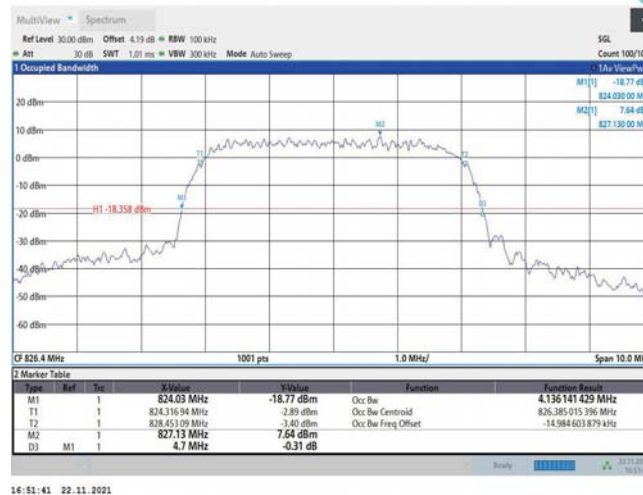
5.3.4 Test Result(LTE)

Band	Bandwidth	Modulation	Channel	RB Configuration	Occupied Bandwidth (MHz)	26dB Bandwidth (MHz)	Verdict
Band5	1.4MHz	QPSK	20407	6RB#0	1.093	1.280	PASS
Band5	1.4MHz	QPSK	20525	6RB#0	1.086	1.230	PASS
Band5	1.4MHz	QPSK	20643	6RB#0	1.085	1.230	PASS
Band5	1.4MHz	16QAM	20407	6RB#0	1.082	1.220	PASS
Band5	1.4MHz	16QAM	20525	6RB#0	1.082	1.230	PASS
Band5	1.4MHz	16QAM	20643	6RB#0	1.084	1.220	PASS
Band5	3MHz	QPSK	20415	15RB#0	2.689	2.860	PASS
Band5	3MHz	QPSK	20525	15RB#0	2.697	2.870	PASS
Band5	3MHz	QPSK	20635	15RB#0	2.693	2.890	PASS
Band5	3MHz	16QAM	20415	15RB#0	2.687	2.850	PASS
Band5	3MHz	16QAM	20525	15RB#0	2.694	2.860	PASS
Band5	3MHz	16QAM	20635	15RB#0	2.693	2.850	PASS
Band5	5MHz	QPSK	20425	25RB#0	4.489	4.790	PASS
Band5	5MHz	QPSK	20525	25RB#0	4.492	4.780	PASS
Band5	5MHz	QPSK	20625	25RB#0	4.489	4.790	PASS
Band5	5MHz	16QAM	20425	25RB#0	4.497	4.780	PASS
Band5	5MHz	16QAM	20525	25RB#0	4.489	4.770	PASS
Band5	5MHz	16QAM	20625	25RB#0	4.501	4.770	PASS
Band5	10MHz	QPSK	20450	50RB#0	8.979	9.533	PASS
Band5	10MHz	QPSK	20525	50RB#0	8.937	9.533	PASS
Band5	10MHz	QPSK	20600	50RB#0	8.937	9.533	PASS
Band5	10MHz	16QAM	20450	50RB#0	8.966	9.533	PASS
Band5	10MHz	16QAM	20525	50RB#0	8.932	9.533	PASS
Band5	10MHz	16QAM	20600	50RB#0	8.939	9.533	PASS



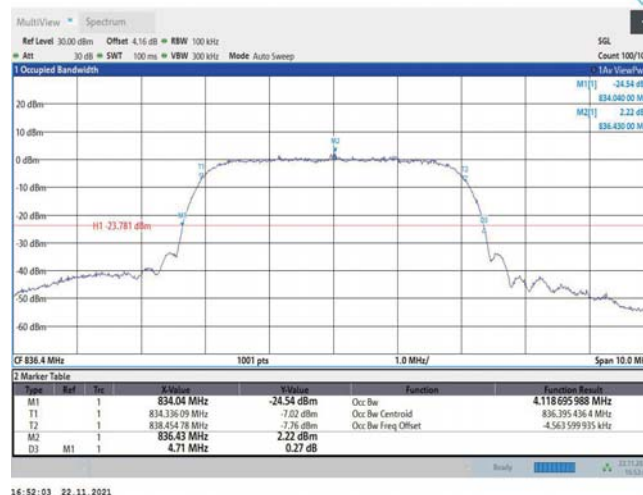
5.3.5 Test Graphs(WCDMA)

Band5-4132-4.700



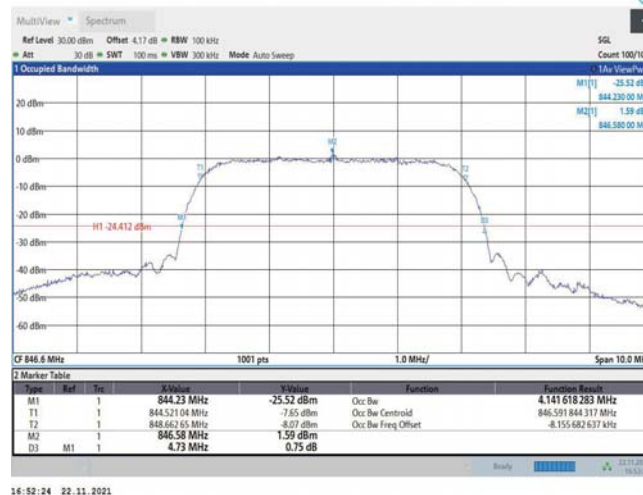
16:51:41 22.11.2021

Band5-4182-4.710



16:52:03 22.11.2021

Band5-4233-4.730

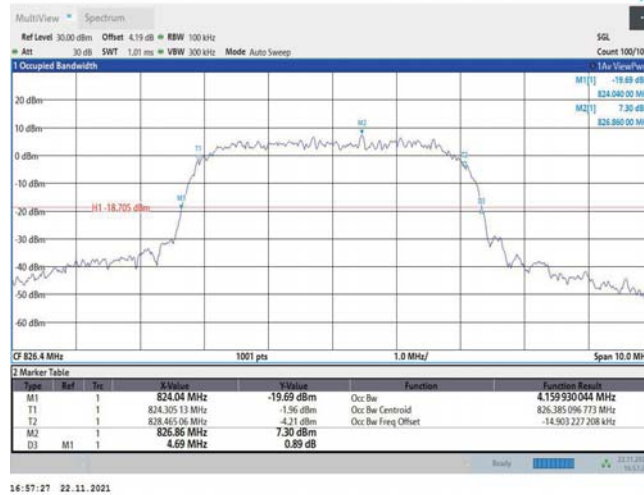


16:52:24 22.11.2021

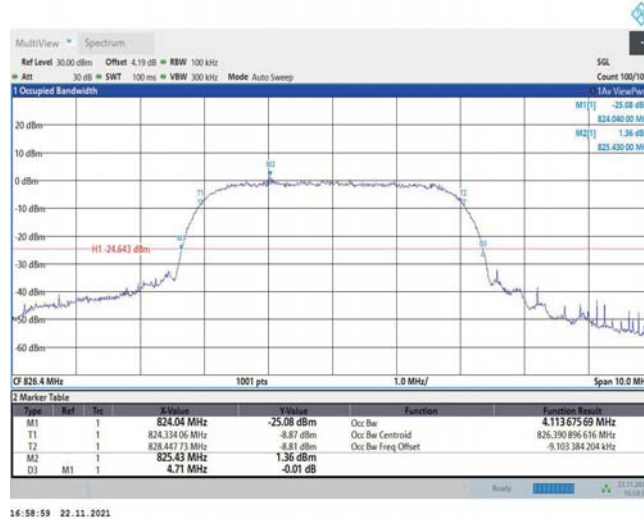


5.3.6 Test Graphs(HSDPA)

Band5-4132-1-4.690



Band5-4132-2-4.710

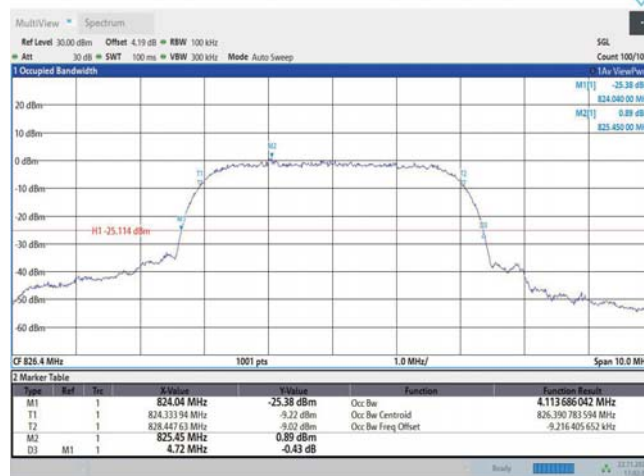


Band5-4132-3-4.730





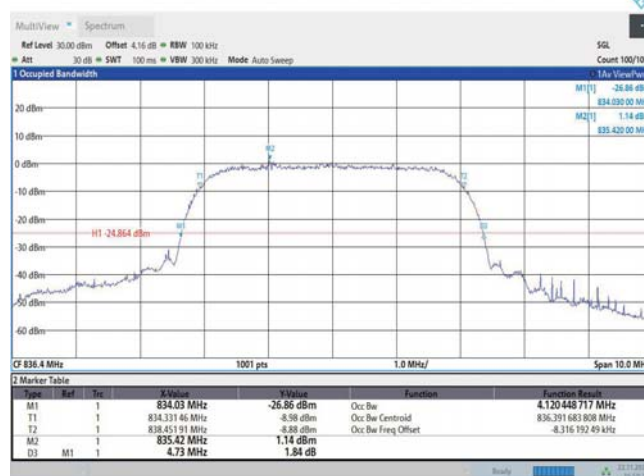
Band5-4132-4-4.720



Band5-4182-1-4.720

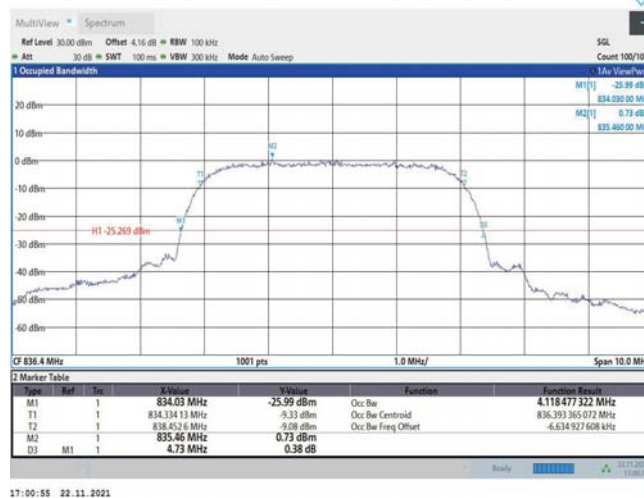


Band5-4182-2-4.730





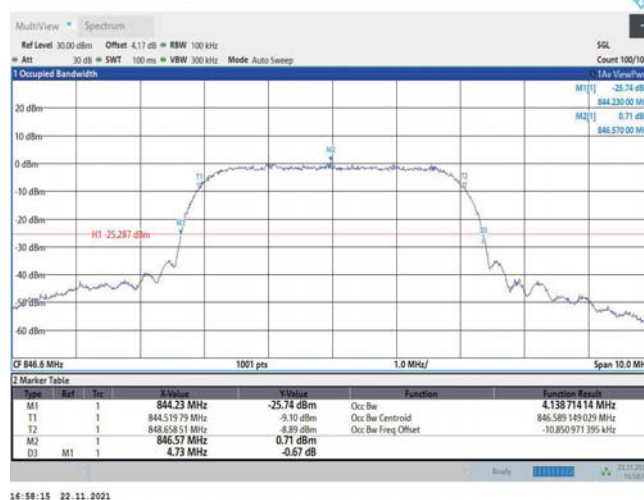
Band5-4182-3-4.730



Band5-4182-4-4.720

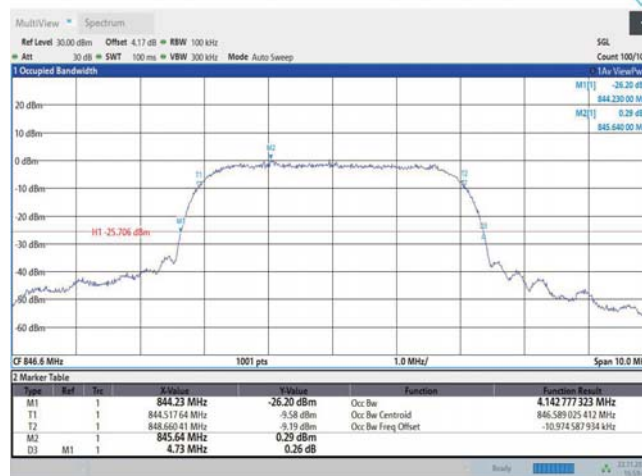


Band5-4233-1-4.730





Band5-4233-2-4.730



Band5-4233-3-4.730



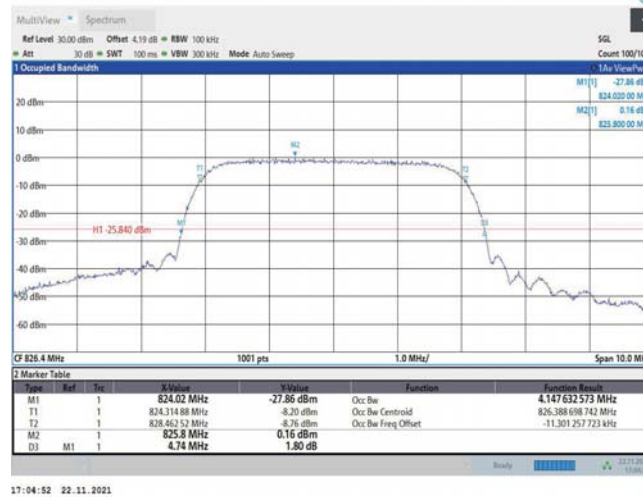
Band5-4233-4-4.720





5.3.7 Test Graphs(HSUPA)

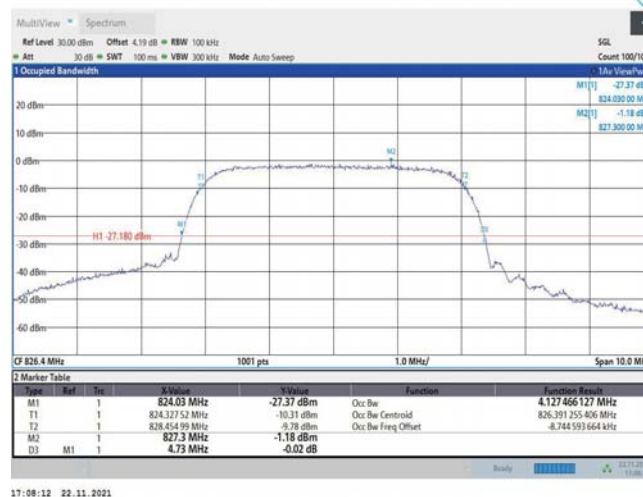
Band5-4132-1-4.740



Band5-4132-2-4.730

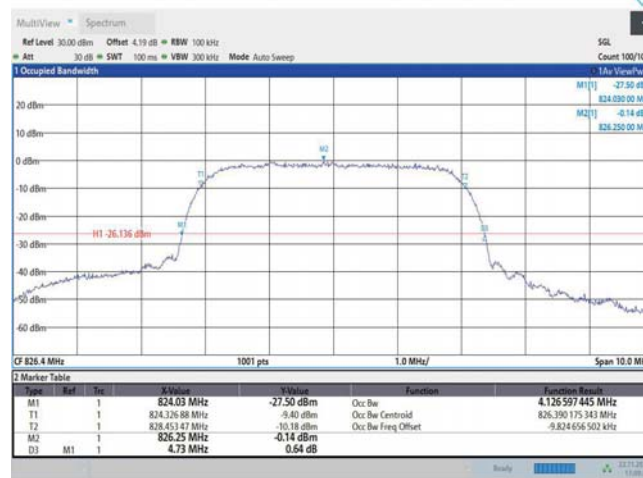


Band5-4132-3-4.730

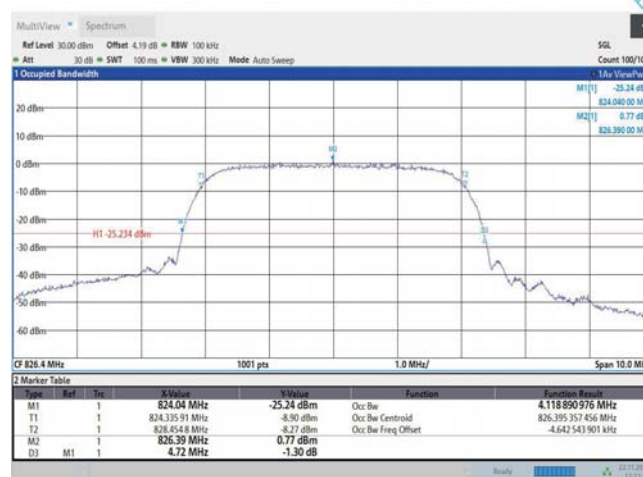




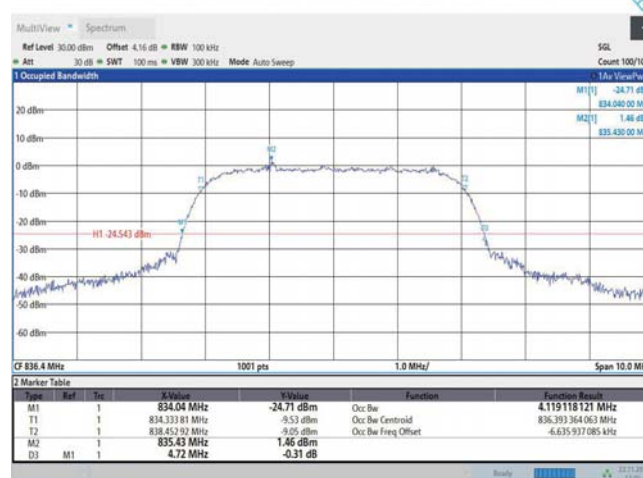
Band5-4132-4-4.730



Band5-4132-5-4.720

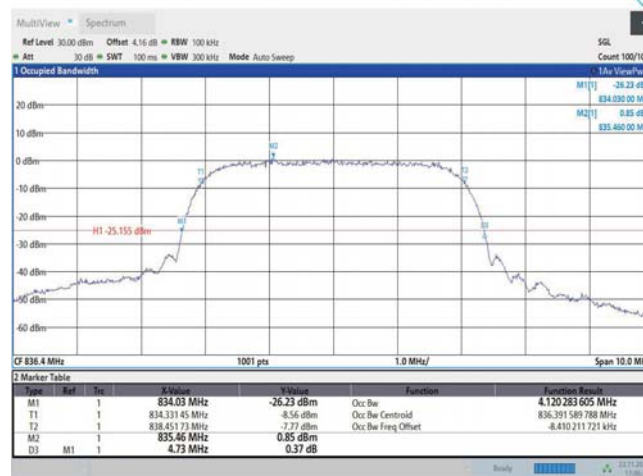


Band5-4182-1-4.720

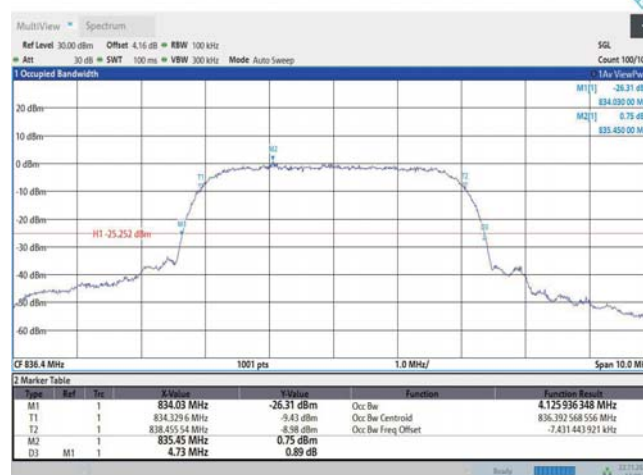




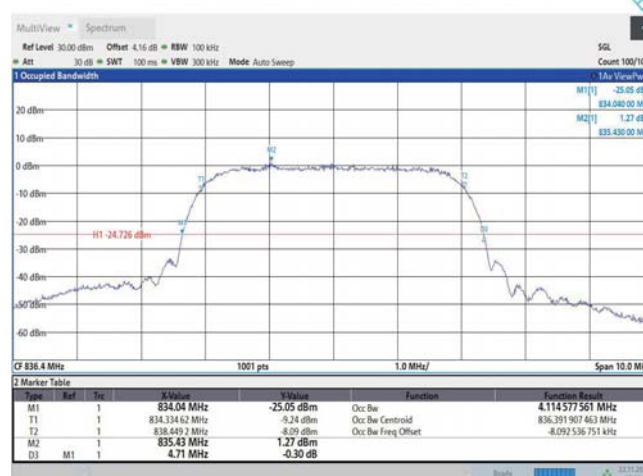
Band5-4182-2-4.730



Band5-4182-3-4.730

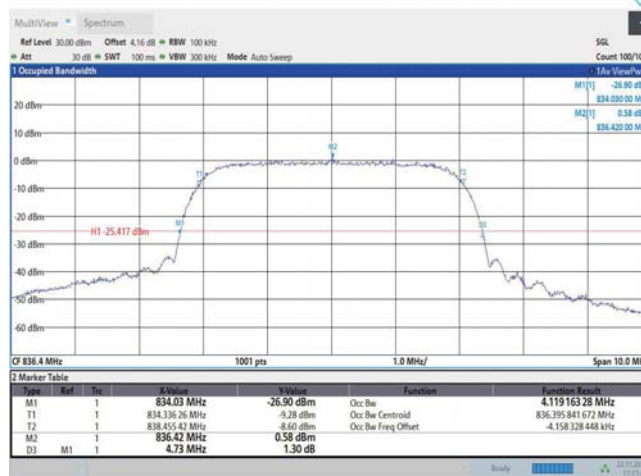


Band5-4182-4-4.710



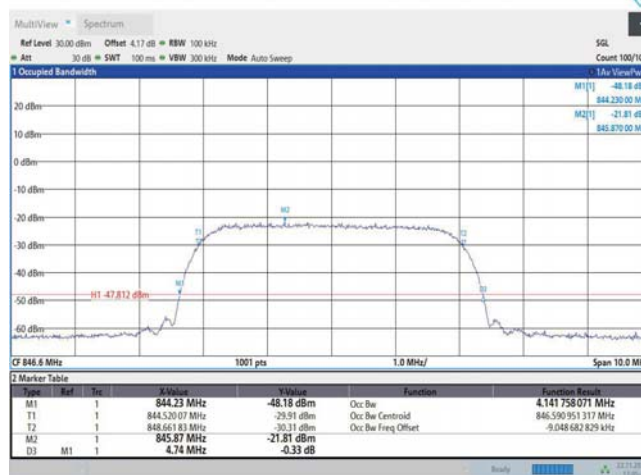


Band5-4182-5-4.730



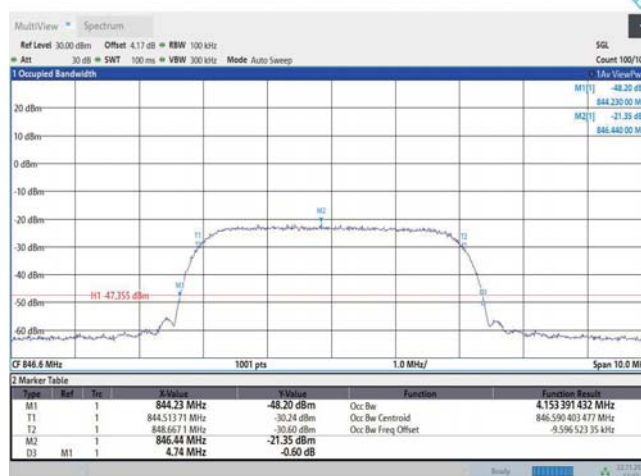
17:11:48 22.11.2021

Band5-4233-1-4.740



17:05:41 22.11.2021

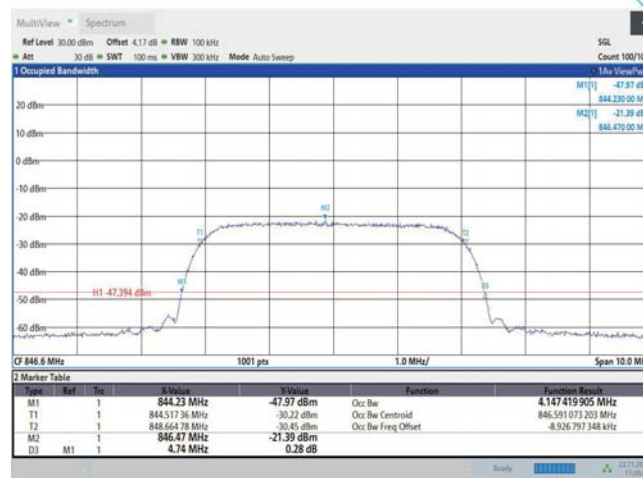
Band5-4233-2-4.740



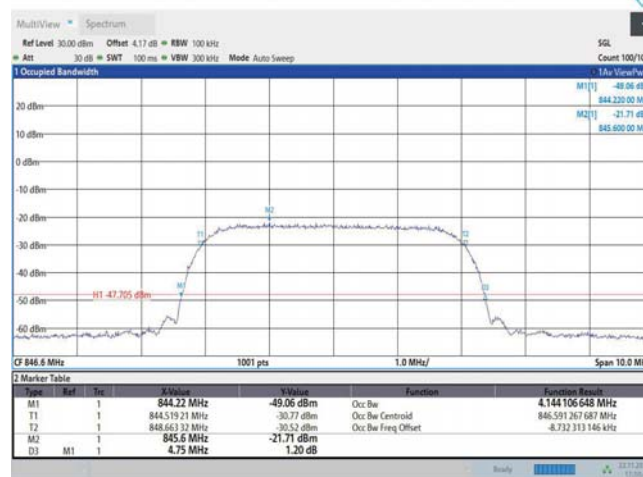
17:07:21 22.11.2021



Band5-4233-3-4.740



Band5-4233-4-4.750



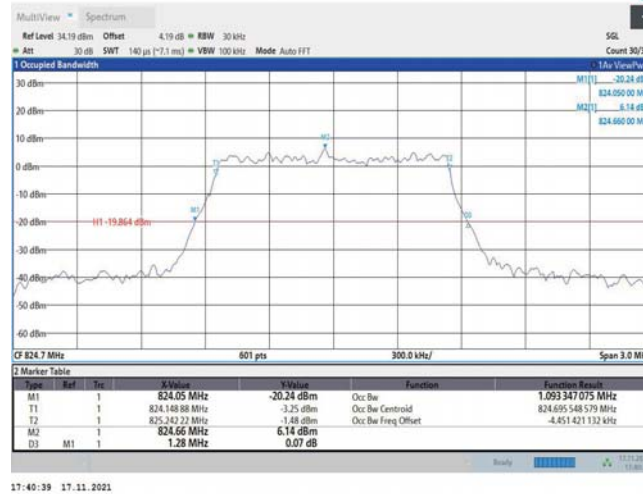
Band5-4233-5-4.730





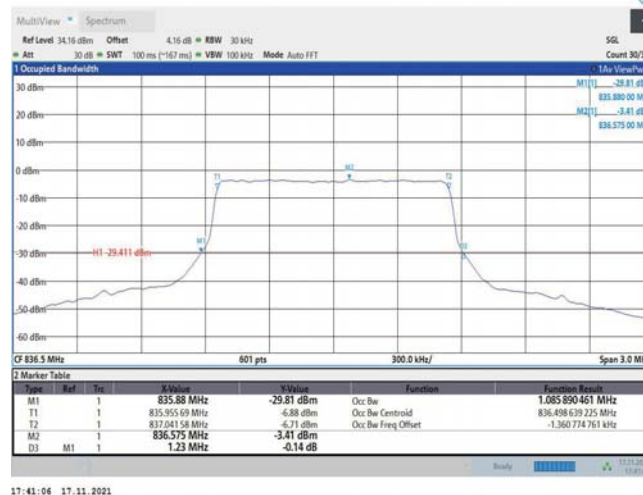
5.3.8 Test Graphs(LTE)

Band5-1.4MHz-QPSK-20407-6RB#0



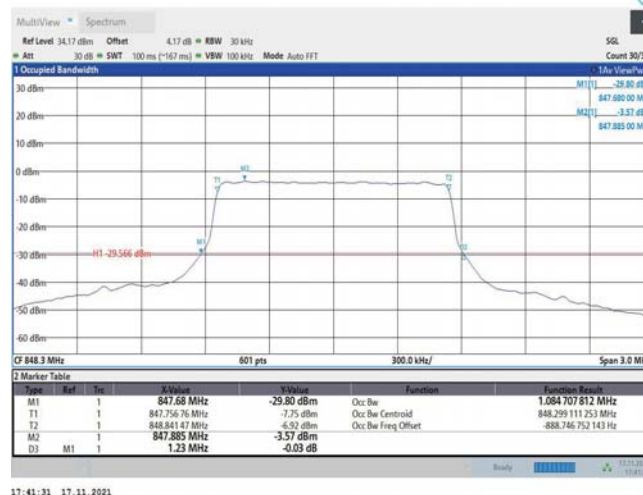
17:40:39 17.11.2021

Band5-1.4MHz-QPSK-20525-6RB#0



17:41:04 17.11.2021

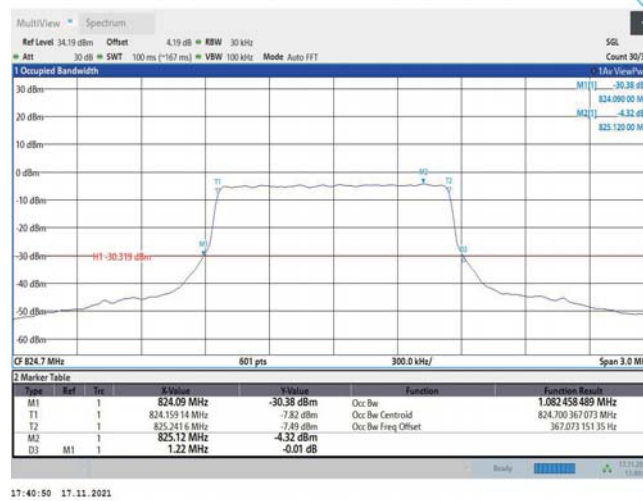
Band5-1.4MHz-QPSK-20643-6RB#0



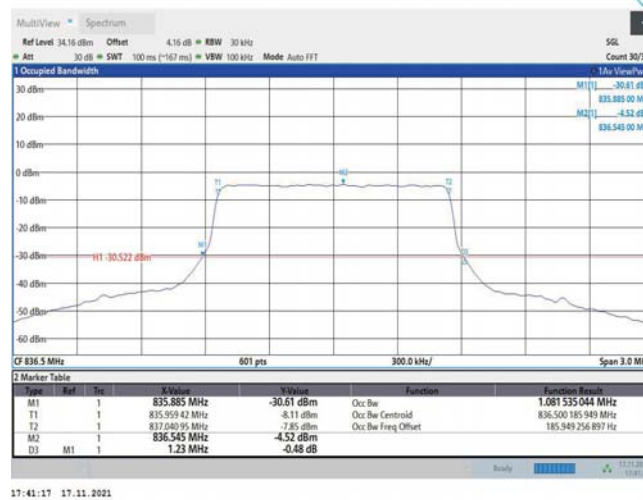
17:41:31 17.11.2021



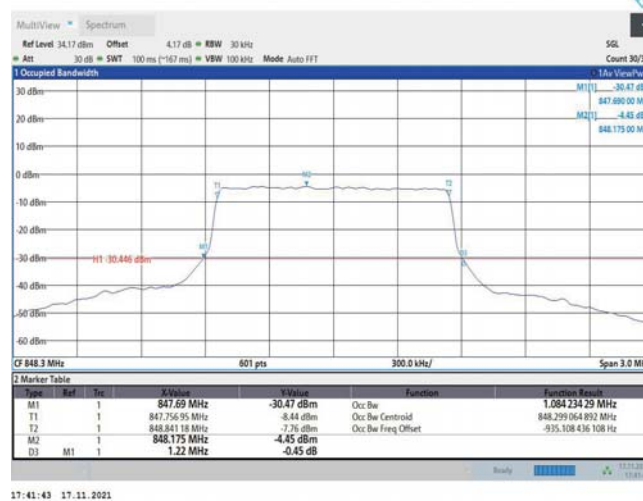
Band5-1.4MHz-16QAM-20407-6RB#0



Band5-1.4MHz-16QAM-20525-6RB#0

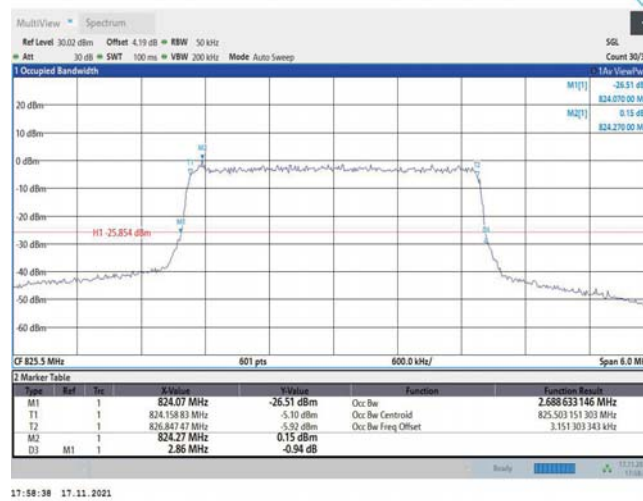


Band5-1.4MHz-16QAM-20643-6RB#0

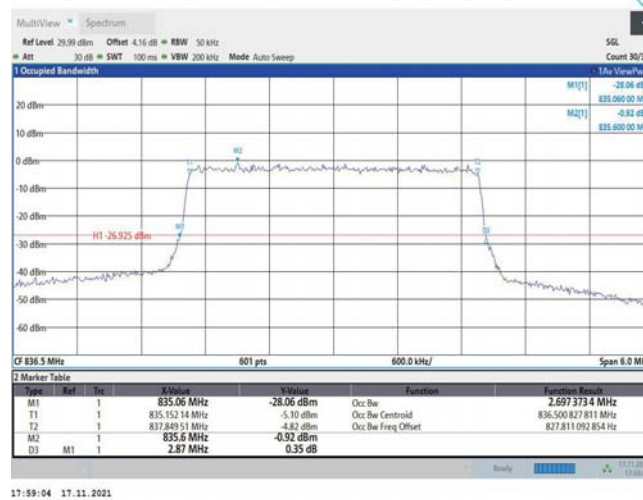




Band5-3MHz-QPSK-20415-15RB#0



Band5-3MHz-QPSK-20525-15RB#0



Band5-3MHz-QPSK-20635-15RB#0

