TEST REPORT

REPORT NUMBER: I21W00039-WLAN_2.4G _Rev1

ON

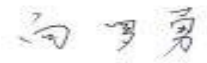
Type of Equipment:	Wireless communication module
Type of Designation:	SLM900
Brand Name:	MEIGLink
Manufacturer:	MeiG Smart Technology Co., Ltd
FCC ID:	2APJ4-SLM900

ACCORDING TO

FCC Part 15, Subpart C, 2020:
15.205 Restricted bands of operation,
15.209 Radiated emission limits; general requirements,
15.247 Operation within the bands 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz
ANSI C63.10-2013:American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices

Chongqing Academy of Information and Communications Technology

Month date, year
Jan,10, 2022
Signature



Xiang Luoyong
Director
Note:
The test results in this test report relate only to the devices specified in this report. This report shall not be reproduced except in full without the written approval of Chongqing Academy of Information and Communications Technology.

Revision Version

Report Number	Revision	Date	Memo
I21W00039-WLAN_2.4G	00	2021-11-29	Initial creation of test report
I21W00039-WLAN_2.4G_Rev1	01	2022-01-10	Second creation of test report

CONTENTS

1. Test Laboratory

1.1. Testing Location

Name:	Chongqing Academy of Information and Communications Technology
FCC Registration Number:	CN1239
Address:	Building C, Technology Innovation Center, No.8, Yuma Road, Chayuan New Area, Nan'an District, Chongqing, People's Republic of China
	No.19 East Road, Xiantao Big-data Valley, Yubei District, Chongqing, People's Republic of China
Postal Code:	401336
Telephone:	0086-23-88069965
Fax:	0086-23-88608777

1.2. Testing Environment

Normal Temperature:	15-35℃
Relative Humidity:	30-60%

1.3. Project data

Testing Start Date:	2021-11-09
Testing End Date:	2021-11-29

1.4. Signature

	2022-01-10
LiXu **(Prepared this test report)**	**Date**
	2022-01-10
ChenWen **(Reviewed this test report)**	**Date**
	2022-01-10
XiangLuoYong **Director of the laboratory** **(Approved this test report)**	**Date**

2. Client Information

2.1. Applicant Information

Company Name:	MeiG Smart Technology Co., Ltd
Address /Post:	Floor 2, No.5 Office Building, Lingxia Road, Fenghuang Community, Fuyong Street, Bao 'an District, Shenzhen
City:	Shenzhen
Country:	China
Telephone:	021-54278676
Fax:	--
Email:	louxinwei@meigsmart.com
Contact Person:	louxinwei

2.2. Manufacturer Information

Company Name:	--
Address /Post:	--
City:	--
Country:	--
Telephone:	--
Fax:	--
Email:	--
Contact Person:	--

3. Equipment under Test (EUT) and Ancillary Equipment (AE)

3.1. About EUT

EUT Description	Wireless communication module
Model name	SLM900
Brand name	MEIGLink
WLAN Frequency	2400MHz-2483.5MHz
Antenna description	External Antenna/PIFA Antenna
	Note:The antenna is used as an accessory for testing
Antenna Gain	5.84dBi/2.68dBi
Extreme Temperature	-40/+75℃
Nominal Voltage	3.8
Extreme High Voltage	4.2
Extreme Low Voltage	3.5

Note: Photographs of EUT are shown in ANNEX A of this test report.
Note: High and low voltage values in extreme condition test are given by manufacturer.

3.2. Internal Identification of EUT used during the test

EUT ID*	SN or IMEI	HW Version	SW Version	Date of receipt
S5	865171050693608	SLM900_MB_V1.01_PCB	SLM900A_EQ000_2774.1F29708.FDF14BA_210831_100_V01_T04	2021-10-27
S3	865171050693269	SLM900_MB_V1.01_PCB	SLM900A_EQ000_2774.1F29708.FDF14BA_210831_100_V01_T04	2021-10-27

*EUT ID: is used to identify the test sample in the lab internally.

3.3. Outline of Equipment under Test

The SLM900, referred to as “EUT” hereafter, is a a multi-Band Wireless communication module operating on the GSM/WCDMA/LTE/Wi-Fi/BLUETOOTH networks. The table below shows the supported bands for the EUT.

Technology	Band	UL Freq.(MHz)	DL Freq.(MHz)	Note

WLAN	2.4G	2400-2483.5	--

3.4. Internal Identification of AE used during the test

AE ID*	Description	dB*
AE1	RF cable	--
AE2	Antenna 1	5.84
AE3	Antenna 2	2.68

*AE ID: is used to identify the test sample in the lab internally.
dB*： is provided customer.

3.5. Antenna Requirement

Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203 , an intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device .

Refer to statement below for compliance .

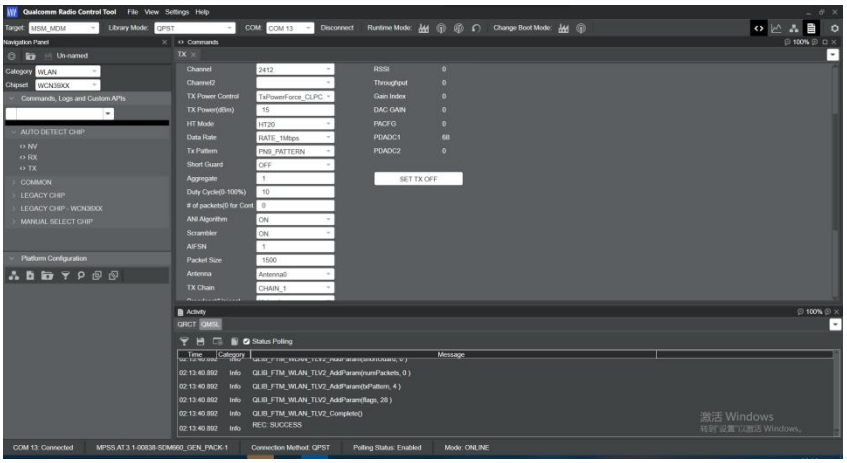
The manufacturer may design the unit so that the user can replace a broken antenna , but the use of a standard antenna jack or electrical connector is prohibited . Further , this requirement does not apply to intentional radiators that must be professionally installed.

Antenna Connected Construction

The antenna used in this product is a External Antenna and PIFA Antenna . It conforms to the standard requirements. The directional gains of External antenna used for transmitting is 5.84dBi,The directional gains of PIFA Antenna used for transmitting is 2.68dBi.

3.6. EUT Test RF Confagle Configuration

EUT uses tool to control emission measurement,Change power level, channel, rate and HT .11b transmitter power level set to 15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COM: COM 13
Disconnect
Runtime Mode:
Change Boot Mode:
Navigation Panel
Un-named
Category: WLAN
Chipset: WCN3990
Commands, Logs and Custom APIs
AUTO DETECT CHIP
NV
RX
TX
COMMON
LEGACY CHIP
LEGACY CHIP - WCN36XX
MANUAL SELECT CHIP
Platform Configuration
Commands
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Channel
2412
Channel2
TX Power Control
TxPowerForce_CLPC
TX Power(dBm)
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HT Mode
HT20
Data Rate
RATE_1Mbps
Tx Pattern
PN9_PATTERN
Short Guard
OFF
Aggregate
1
Duty Cycle(0-100%)
10
# of packets(0 for Cont
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Ani Algorithm
ON
Scrambler
ON
AIFSN
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Packet Size
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Antenna
Antenna0
TX Chain
CHAIN_1
RSSI
0
Throughput
0
Gain Index
0
DAC GAIN
0
PACFG
0
PDADC1
68
PDADC2
0
SET TX OFF
Activity
QRCT
QMSL
Status Polling
Time
Category
Message
02:13:40.892 Info QLIB_FTM_WLAN_TLV2_AddParam(numPackets, 0)
02:13:40.892 Info QLIB_FTM_WLAN_TLV2_AddParam(txPattern, 4)
02:13:40.892 Info QLIB_FTM_WLAN_TLV2_AddParam(flags, 28)
02:13:40.892 Info QLIB_FTM_WLAN_TLV2_Complete()
02:13:40.892 Info RECV: SUCCESS
激活 Windows
COM 13: Connected
MPSS.AT.3.1-00838-SDM660_GEN_PACK-1
Connection Method: QPST
Polling Status: Enabled
Mode: ONLINE

4. Reference Documents

4.1. Documents supplied by applicant

PICS/PIXIT, referring to Annex B for detailed information, is supplied by the client or manufacturer, which is the basis of testing.

4.2. Reference Documents for testing

The following documents listed in this section are referred for testing.

Reference	Title	Version
FCC Part 15, Subpart C, 2020 .15.205	Restricted bands of operation,	2020
FCC Part 15, Subpart C, 2020 .15.209	Radiated emission limits; general requirements,	2020
FCC Part 15, Subpart C, 2020 .15.247	Operation within the bands 902–928 MHz, 2400–2483.5 MHz, and 5725–5850 MHz	2020
ANSI C63.10-2013	American National Standard of Procedures for Compliance Testing of Unlicensed Wireless Devices	2013

5. Test Equipments Utilized

5.1. RF Test System

No.	Equipment	Model	SN	HW Version	SW Version	Manufacture	Cal.Due Date
1	spectrum analyzer	FSQ 26	201137/026	--	--	R&S	2022-06-11
2	DC Power Supply	N6705B	MY50000919	--	--	Agilent	2022-06-11

5.2. RSE Test System

No.	Equipment	Model	SN	HW Version	SW Version	Manufacture	Cal.Due Date
1	Test Receiver	ESU40	100350	01	4.43 SP3	R&S	2022-06-11
2	Ultra-wideband Log Periodic Antenna	VULB 9163	9163-586	--	--	Schwarzbeck	2022-11-11
3	Double Ridged Guide Antenna	9120D	9120D-1083	--	--	Schwarzbeck	2022-06-11
4	Test Receiver	ESW 26	101382	00	1.50 SP1	R&S	2022-06-11
5	Horn Antenna	DATE 1152	LM7127	--	--	ETS	2022-08-16
6	Test Receiver	ESR 3	102477	03	3.48 SP2	R&S	2022-06-11
7	Artificial Main Network	ENV 216	102368	--	--	R&S	2022-06-11

5.3. Climate Chamber

No.	Name	Type	SN	Manufacture	Cal.Due Date
1	Climate chamber	SH-241	92010759	ESPEC	2022-06-11
2	Fully anechoic chamber	FAC-5	--	TDK	2024-08-30
3	Semi-anechoic chamber	FAC-10	--	TDK	2024-08-28

5.4. Vibration table

No.	Name	Type	SN	Manufacture	Cal.Due Date
--	--	--	--	--	--

Anechoic chamber

Fully anechoic chamber by TDK.

5.5. Test software

No.	Name	version	SN	Manufacture
1	EMC32	V 9.26.01	--	R&S
2	EMC32	V10.20.10	--	R&S

6. Test Results

6.1. Summary of Test Results

A brief summary of the tests carried out is shown as following.

FCC Rules	Name of Test	Result
FCC Part 15.247(b)	Maximum Peak Output Power	Pass
FCC CFR Part 15.247(e)	Peak Power Spectral Density	Pass
FCC 47 CFR Part 15.247(a)	6dB Occupied Bandwidth	Pass
FCC 47 CFR Part 15.247(d)	Band Edges Compliance	Pass
FCC 47 CFR Part15.247 (d)	Transmitter Spurious Emission-Conducted	Pass
FCC 47 CFR Part 15.247, 15.205, 15.209	Transmitter Spurious Emission-Radiated	Pass
ANSI C63.10 voltage mains test	Power line Conducted Emissions	Pass
Note:--		

6.2. Maximum Peak Output Power

Specifications:	FCC Part 15.247(b)
DUT Serial Number:	865171050693608
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
Test Results:	Pass

Limit Level Construction:

The maximum peak output power of the intentional radiator shall not exceed the following:

1. For systems using digital modulation in the bands of 902 - 928 MHz, 2400 - 2483.5 MHz, and 5725 - 5850 MHz: 1 watt.

2. Except as shown in paragraphs (b)(3) (i), (ii) and (iii) of this section, if transmitting antennas of directional gain greater than 6 dBi are used the peak output power from the intentional radiator shall be reduced below the stated values in paragraphs (b)(1) or (b)(2) of this section, as appropriate, by the amount in dB that the directional gain of the antenna exceeds 6 dBi.

Measurement Uncertainty:

Measurement Uncertainty	±1.0dB

Test Method1:

1. The output power of EUT was connected to the spectrum analyzer. The path loss was compensated to the results for each measurement.
2. Enable EUT transmitter maximum power continuously.
3. Set the RBW ≥ DTS bandwidth
4. Set VBW ≥ [3 × RBW].
5. Set span ≥ [3 × RBW].
6. Sweep time = auto couple.
7. Detector = peak.
8. Trace mode = max hold.
9. Allow trace to fully stabilize.

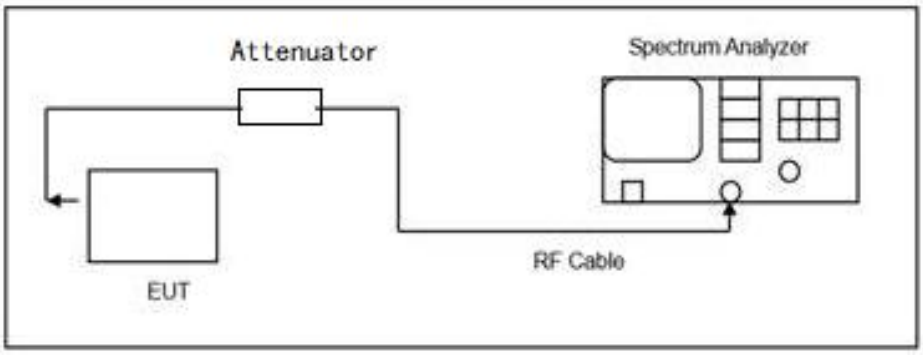
10. Use peak marker function to determine the peak amplitude level.

Test Method2:

1. The output power of EUT was connected to the spectrum analyzer. The path loss was compensated to the results for each measurement.
2. Enable EUT transmitter maximum power continuously.
3. Set the RBW = 1 MHz.
4. Set the VBW ≥ [3 × RBW].
5. Set the span ≥ [1.5 × DTS bandwidth].
6. Detector = peak.
7. Sweep time = auto couple.
8. Trace mode = max hold.
9. Allow trace to fully stabilize.
10. Use the instrument's band/channel power measurement function with the band limits set equal to the DTS bandwidth edges (for some instruments, this may require a manual override to select the peak detector). If the instrument does not have a band power function, then sum the spectrum levels (in linear power units) at intervals equal to the RBW extending across the DTS channel bandwidth.

Note: --

Test block diagram:



Measurement Results:

802.11b/g mode

Mode	Data Rate(Mbps)	Teat Result(dBm)			Conclusion
		Ch1	Ch6	Ch11	
802.11b	1	23.36	25.88	21.47	Pass
	2	21.45	25.66	21.58	Pass
	5.5	21.38	25.77	21.54	Pass
	11	21.30	25.61	21.65	Pass
802.11g	6	22.45	25.87	21.60	Pass
	9	22.20	25.64	21.51	Pass
	12	22.30	25.77	21.54	Pass
	18	22.77	25.51	21.62	Pass
	24	22.42	25.80	21.55	Pass
	36	22.35	25.79	21.46	Pass
	48	22.54	25.61	21.47	Pass
	54	22.42	25.83	21.52	Pass

802.11n mode

Mode	Data Rate(Mbps)	Teat Result(dBm)			Conclusion
		Ch1	Ch6	Ch11	
802.11n (20MHz)	MCS0	22.38	22.74	22.37	Pass
	MCS1	22.45	22.84	22.37	Pass
	MCS2	22.32	22.89	22.48	Pass
	MCS3	22.42	22.70	22.42	Pass
	MCS4	22.35	22.81	22.40	Pass
	MCS5	22.29	22.81	22.46	Pass
	MCS6	22.38	22.77	22.46	Pass
	MCS7	22.30	22.76	22.45	Pass

Mode	Data Rate(Mbps)	Teat Result(dBm)			Conclusion
		Ch3	Ch7	Ch11	
802.11n (40MHz)	MCS0	24.23	24.28	23.84	Pass
	MCS1	23.62	23.88	23.37	Pass
	MCS2	23.31	23.65	23.24	Pass
	MCS3	23.22	23.69	23.58	Pass
	MCS4	23.64	23.68	23.66	Pass
	MCS5	23.56	23.75	23.37	Pass
	MCS6	23.75	24.03	23.67	Pass
	MCS7	23.74	24.02	23.58	Pass

Conclusion: PASS

Test figure as below:

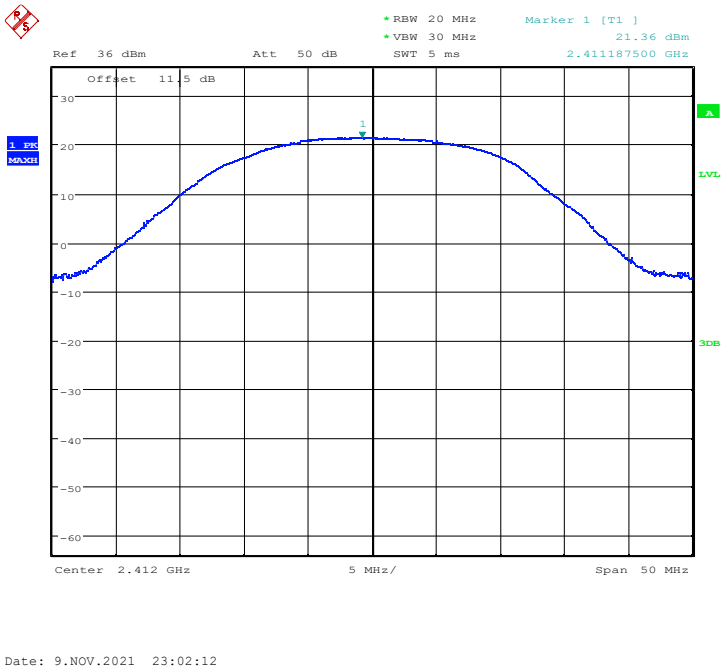


Fig.1 Peak Conducted Output Power CH1, 11b, Rate1

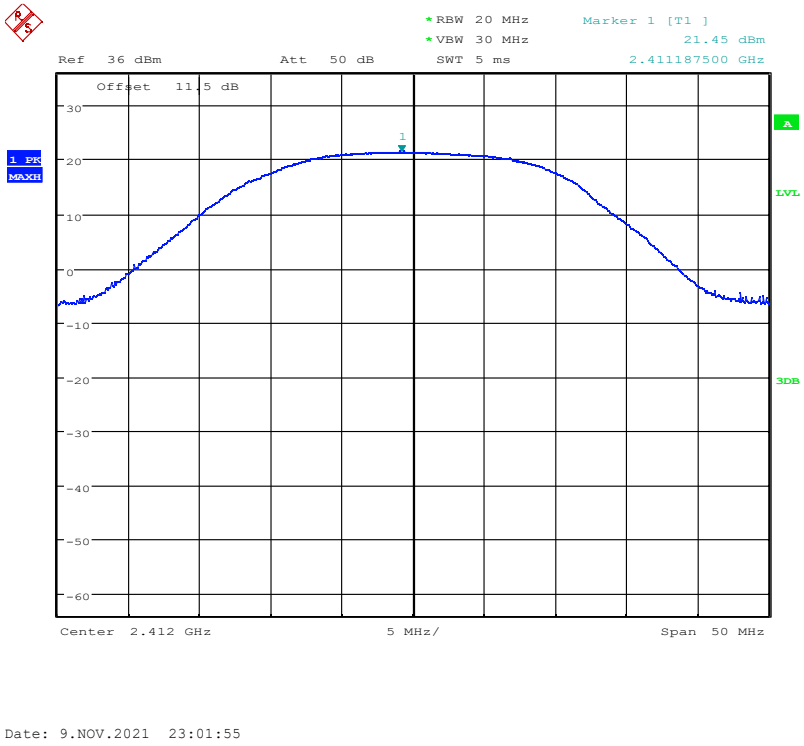


Fig.2 Peak Conducted Output Power CH1, 11b, Rate2

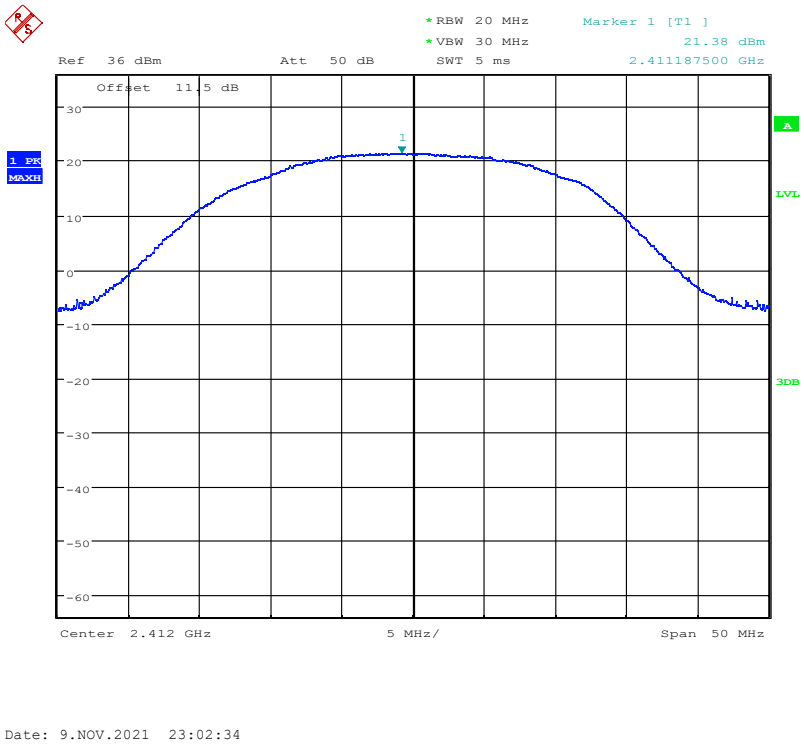


Fig.3 Peak Conducted Output Power CH1, 11b, Rate5.5

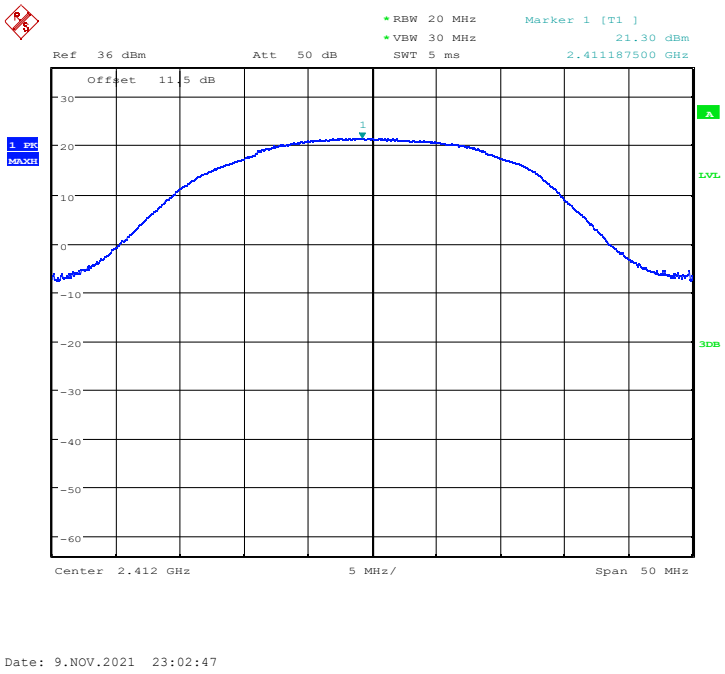


Fig.4 Peak Conducted Output Power CH1, 11b, Rate11

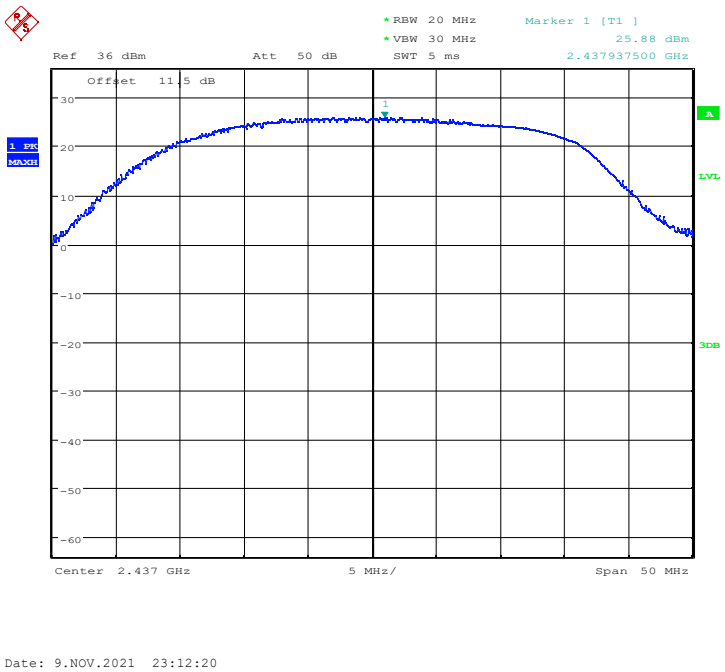


Fig.5 Peak Conducted Output Power CH6, 11b, Rate1

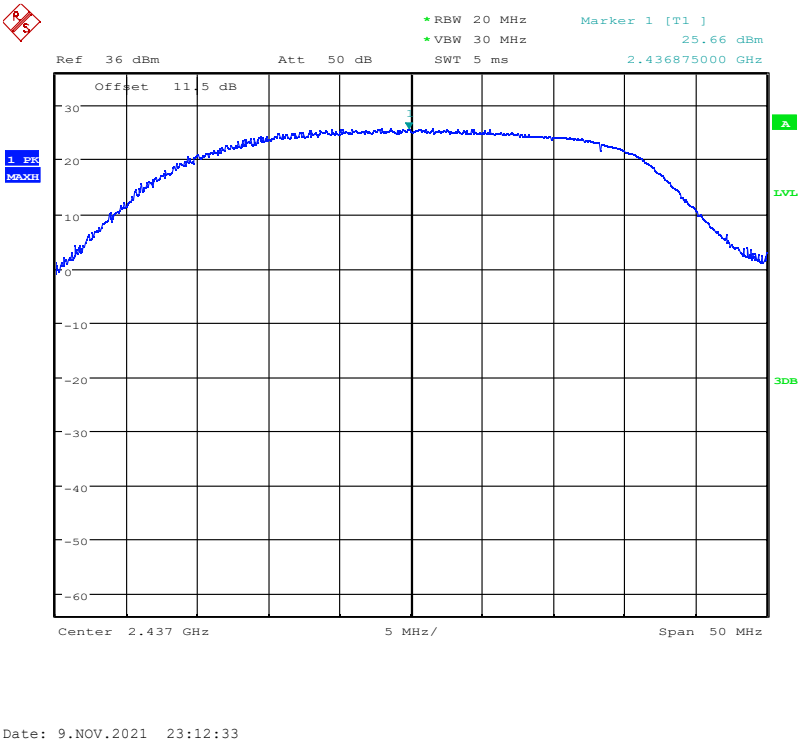


Fig.6 Peak Conducted Output Power CH6, 11b, Rate2

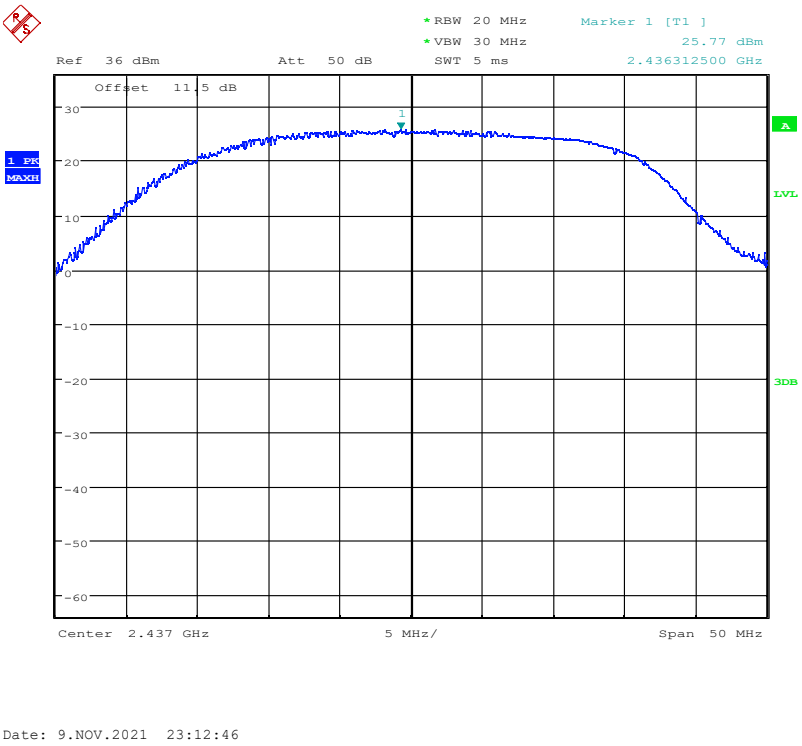


Fig.7 Peak Conducted Output Power CH6, 11b, Rate5.5

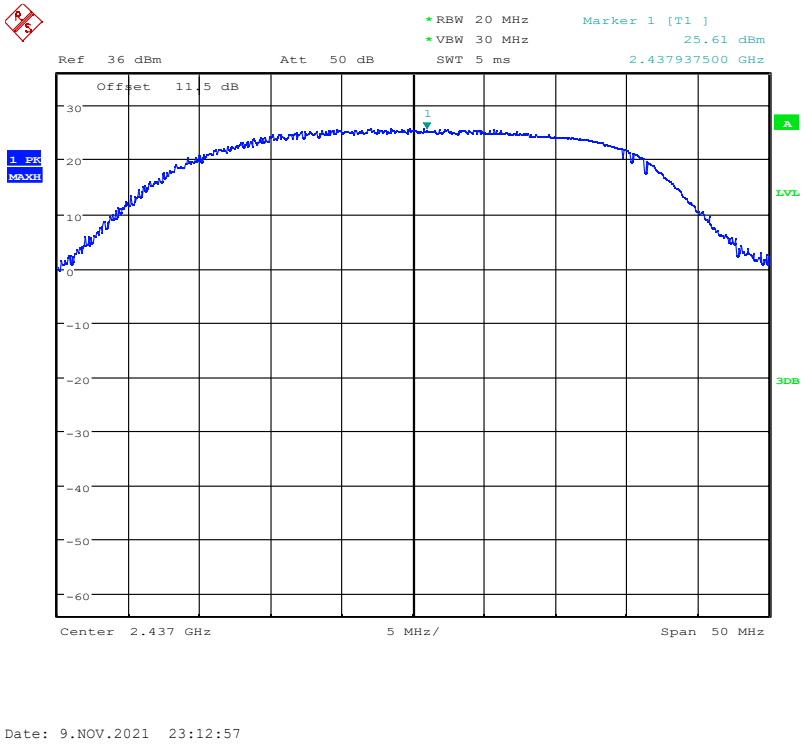


Fig.8 Peak Conducted Output Power CH6, 11b, Rate11

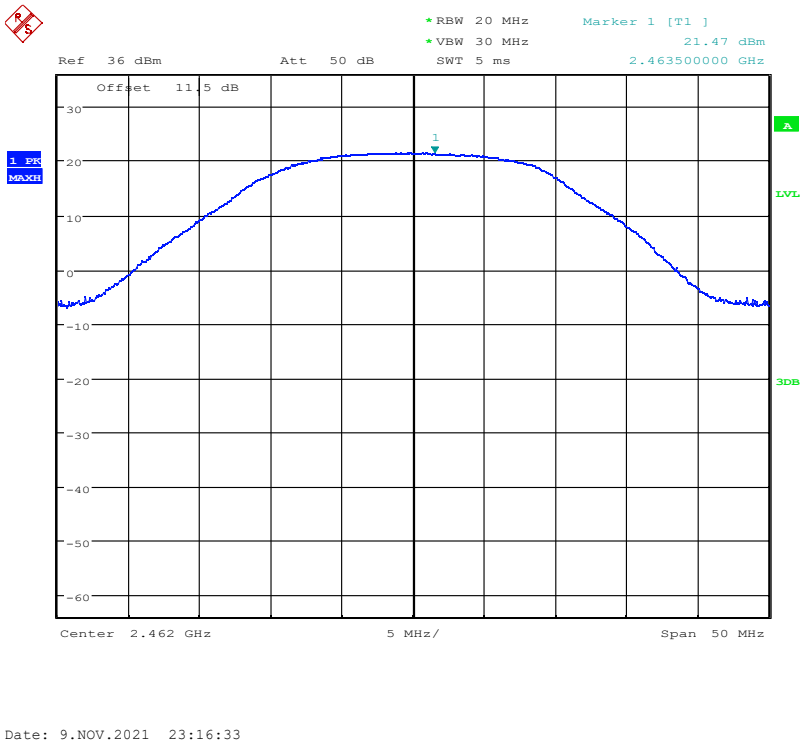


Fig.9 Peak Conducted Output Power CH11, 11b, Rate1

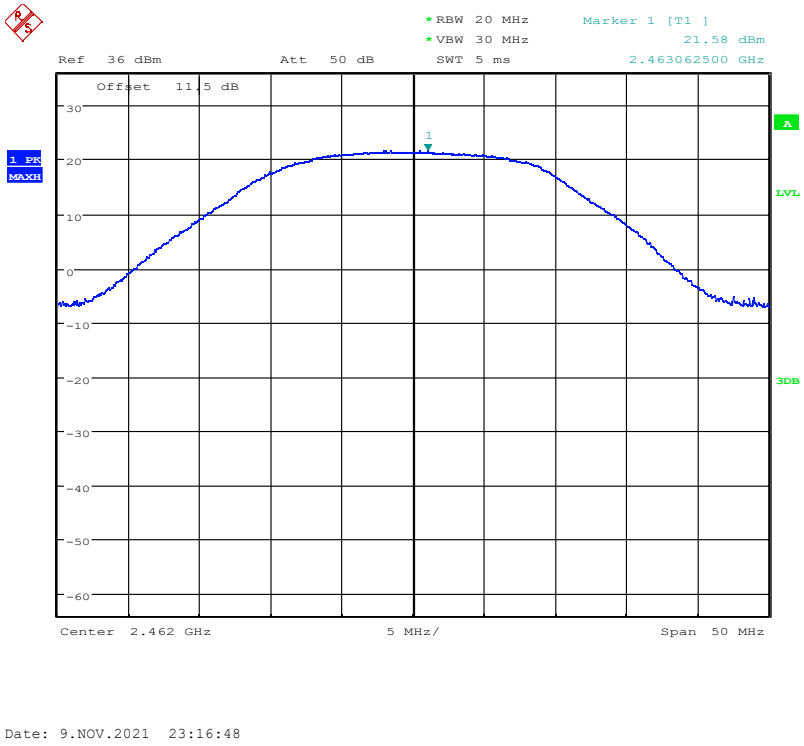


Fig.10 Peak Conducted Output Power CH11, 11b, Rate2

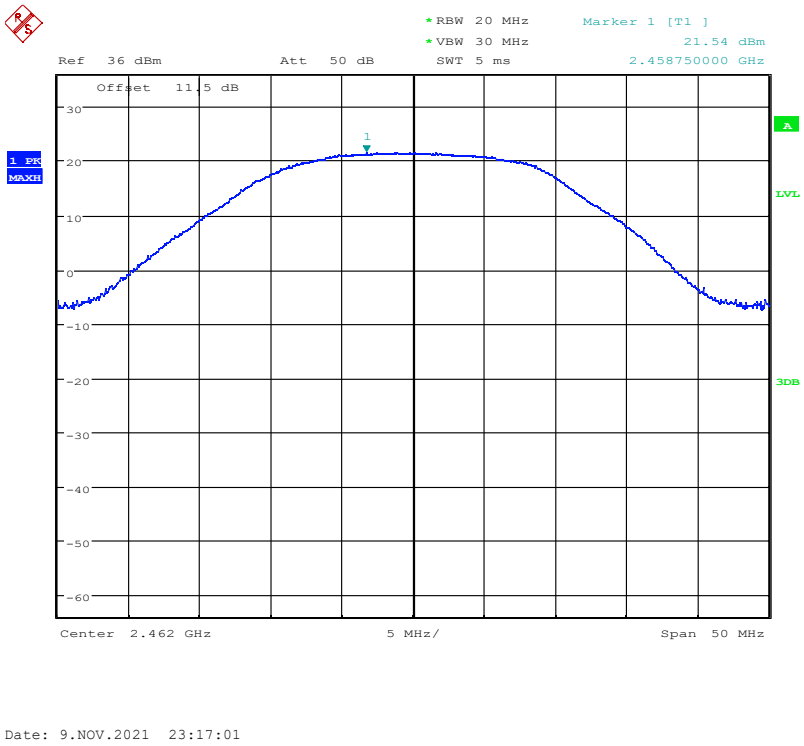


Fig.11 Peak Conducted Output Power CH11, 11b, Rate5.5

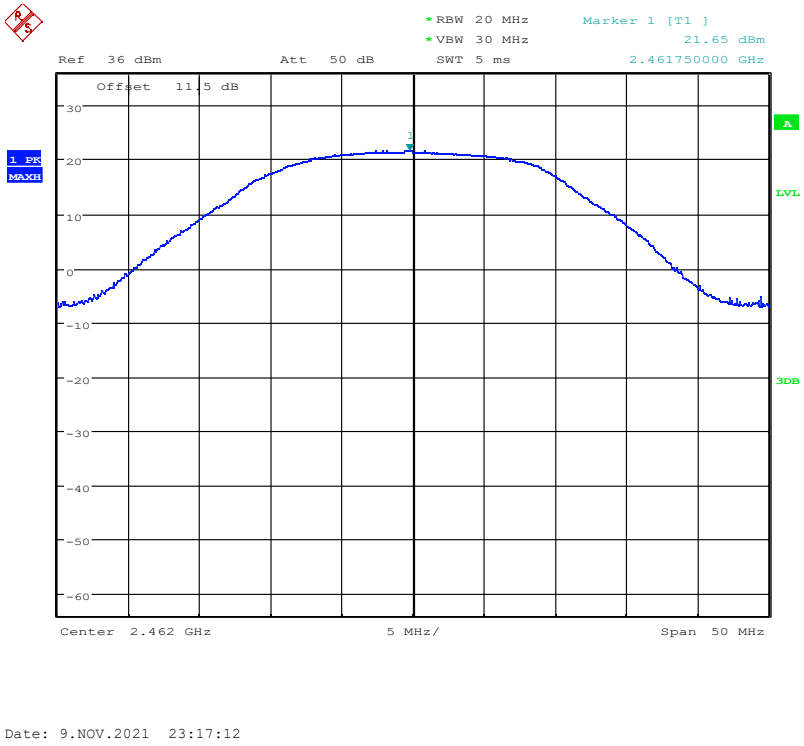


Fig.12 Peak Conducted Output Power CH11, 11b, Rate11

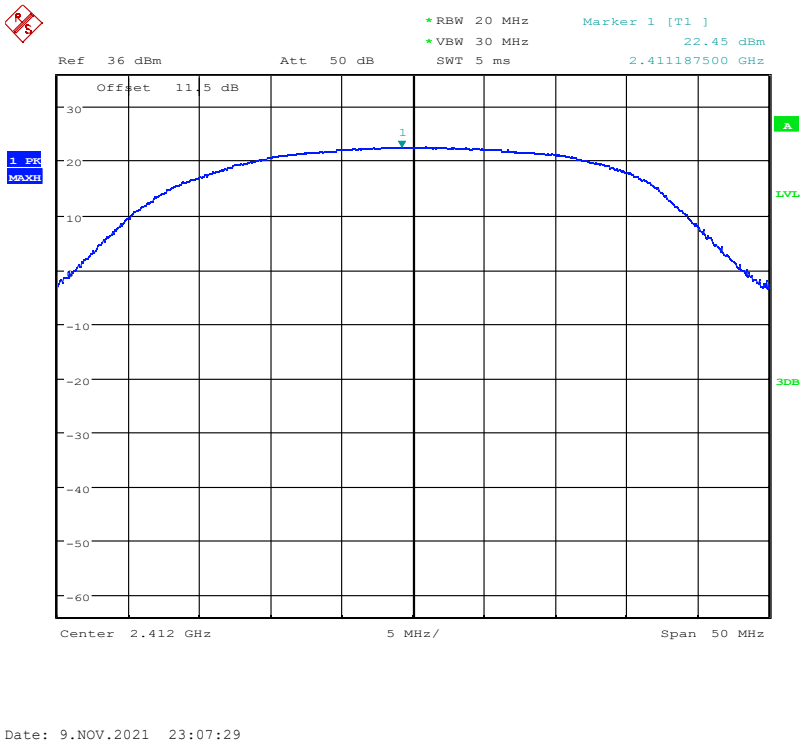


Fig.13 Peak Conducted Output Power CH1, 11g, Rate6

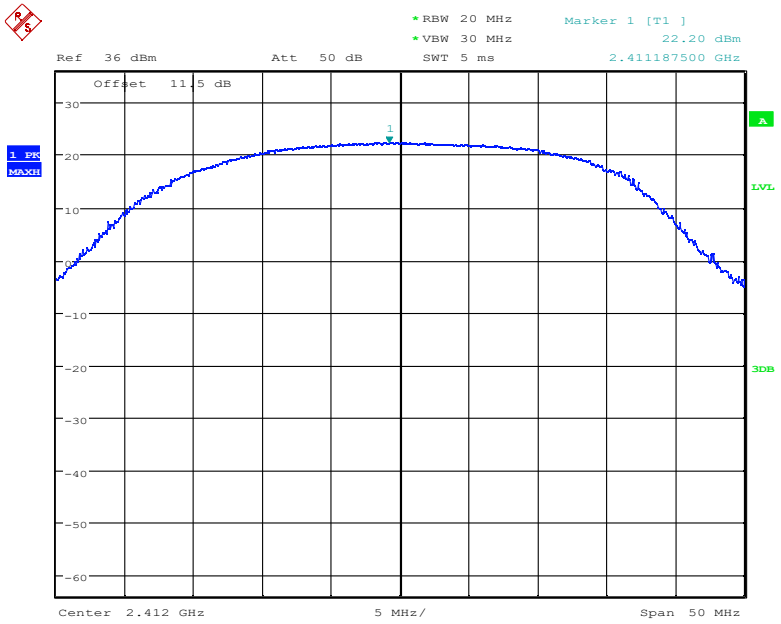


Fig.14 Peak Conducted Output Power CH1, 11g, Rate9

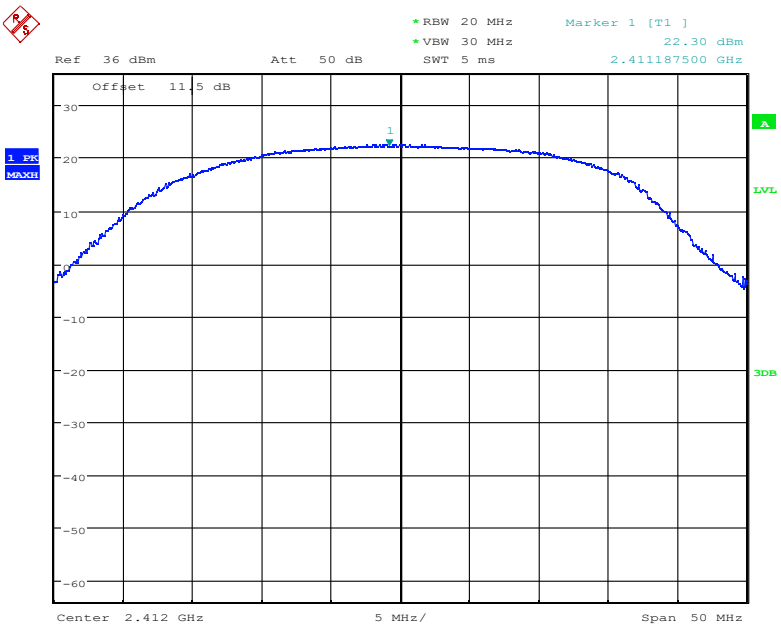


Fig.15 Peak Conducted Output Power CH1, 11g, Rate12

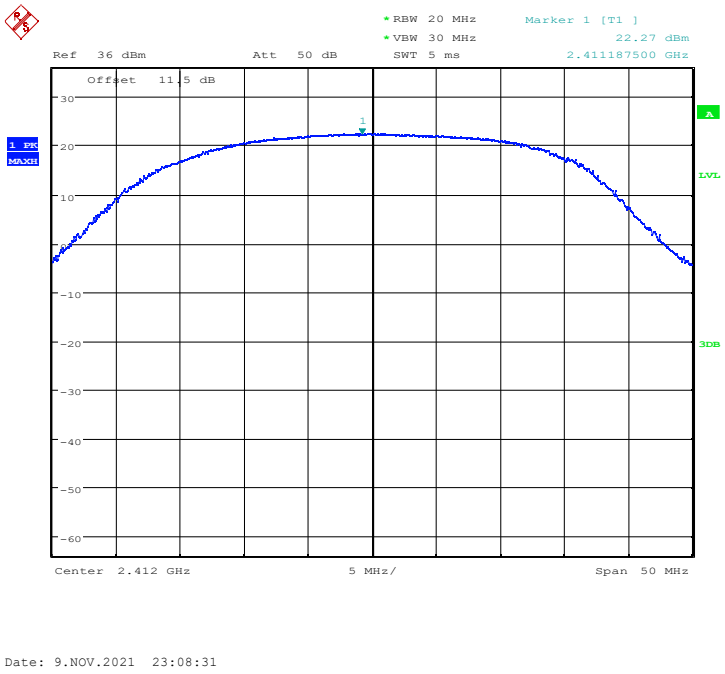


Fig.16 Peak Conducted Output Power CH1, 11g, Rate18

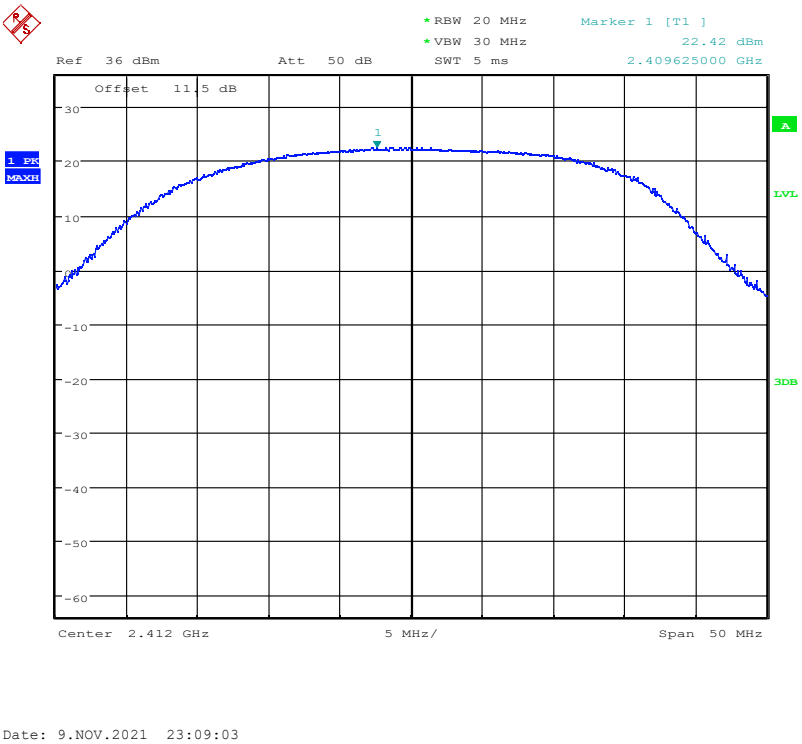


Fig.17 Peak Conducted Output Power CH1, 11g, Rate24

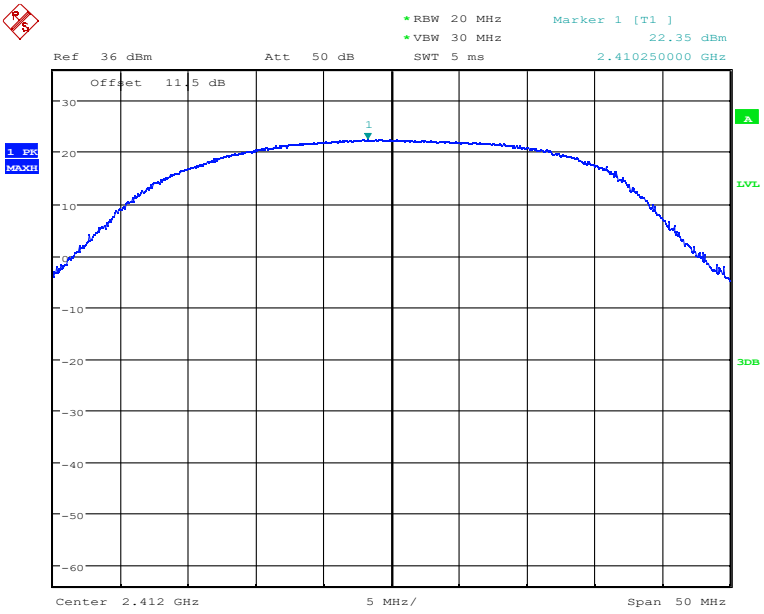


Fig.18 Peak Conducted Output Power CH1, 11g, Rate36

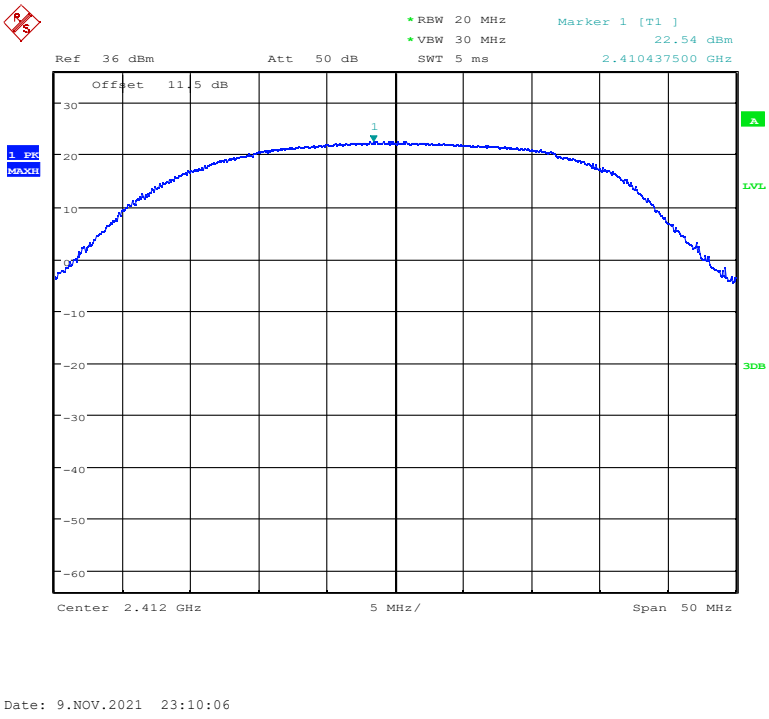


Fig.19 Peak Conducted Output Power CH1, 11g, Rate48

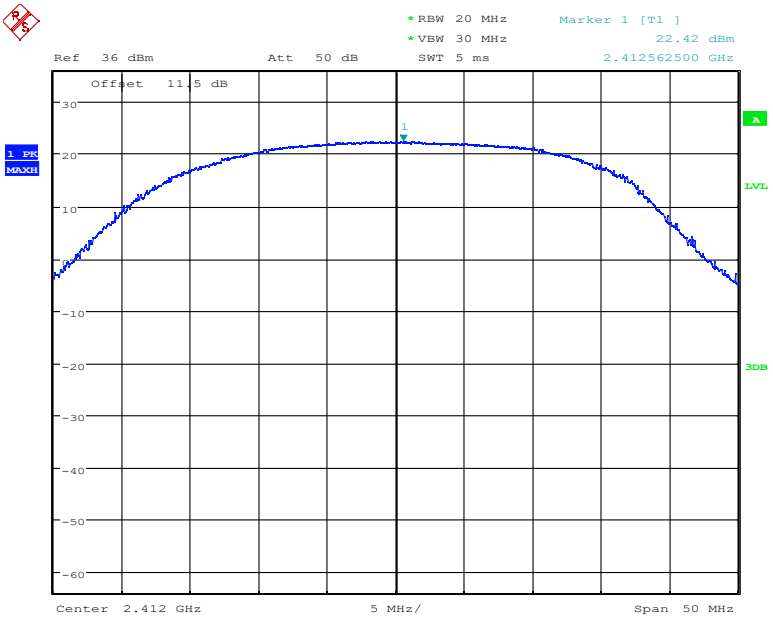


Fig.20 Peak Conducted Output Power CH1, 11g, Rate54

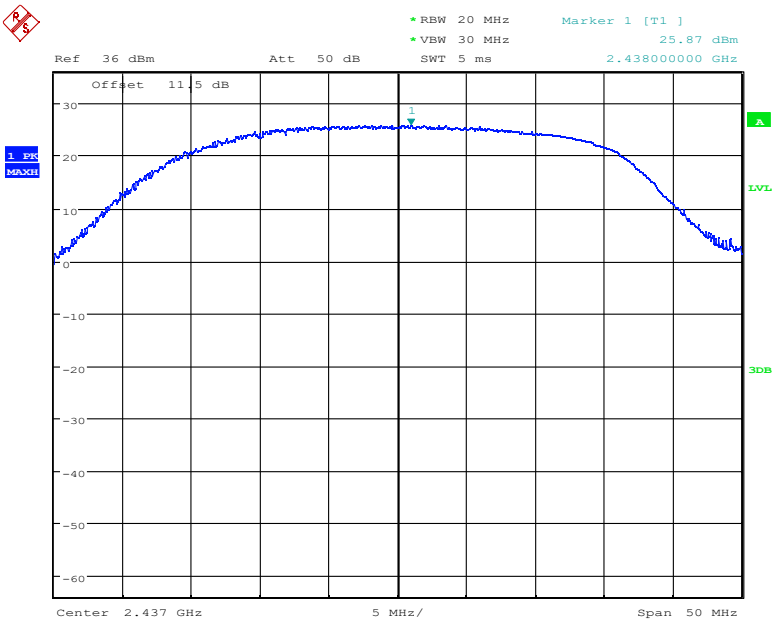


Fig.21 Peak Conducted Output Power CH6, 11g, Rate6

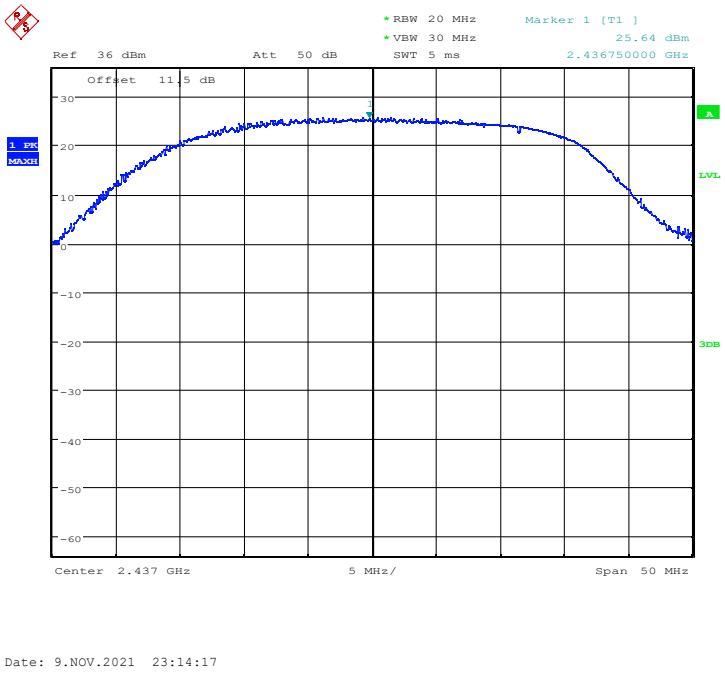


Fig.22 Peak Conducted Output Power CH6, 11g, Rate9

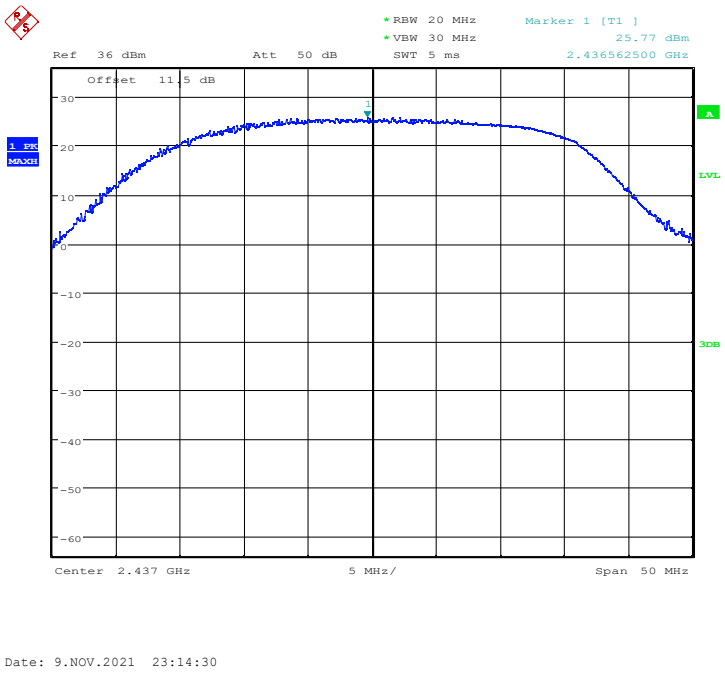


Fig.23 Peak Conducted Output Power CH6, 11g, Rate12

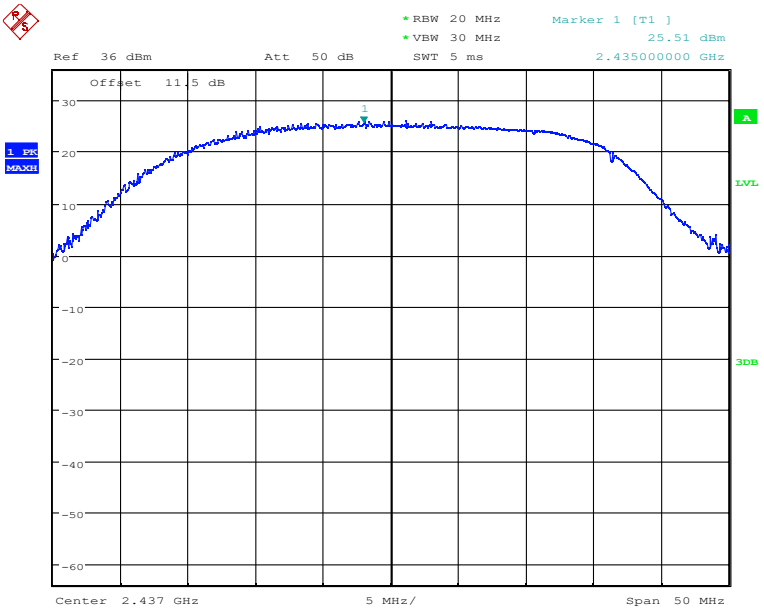


Fig.24 Peak Conducted Output Power CH6, 11g, Rate18

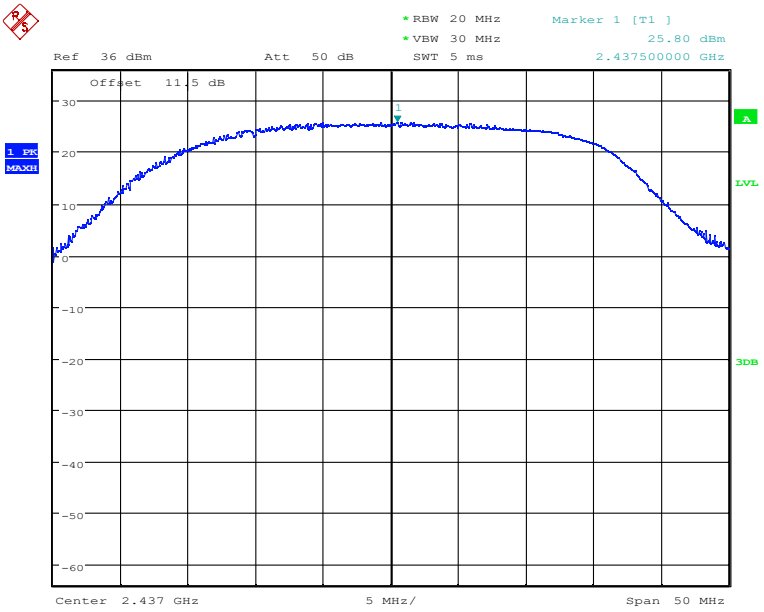


Fig.25 Peak Conducted Output Power CH6, 11g, Rate24

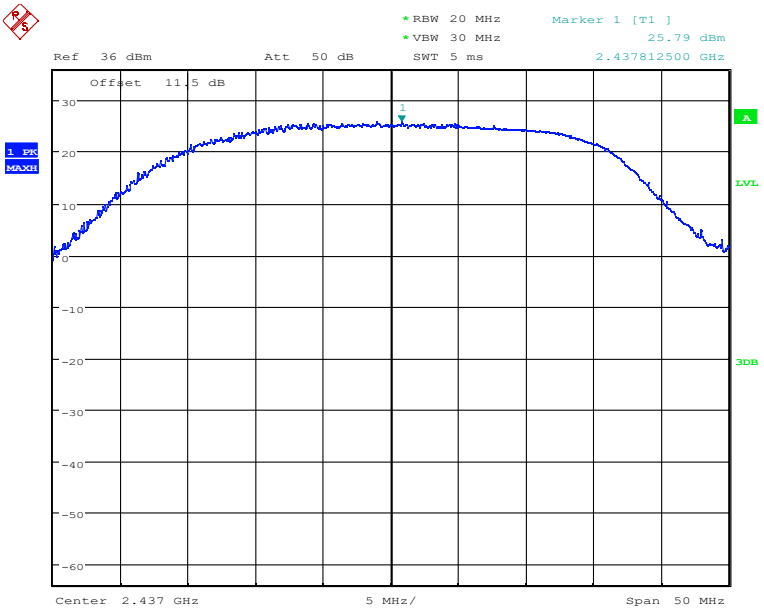


Fig.26 Peak Conducted Output Power CH6, 11g, Rate36

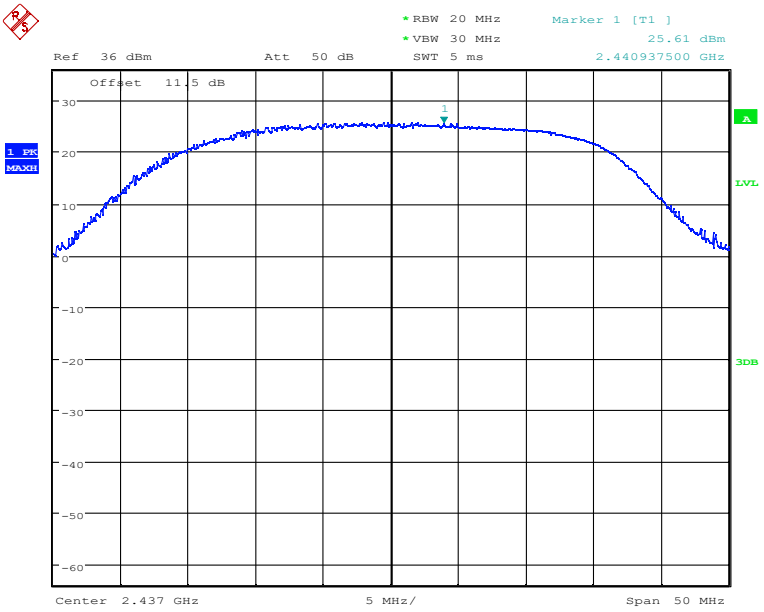


Fig.27 Peak Conducted Output Power CH6, 11g, Rate48

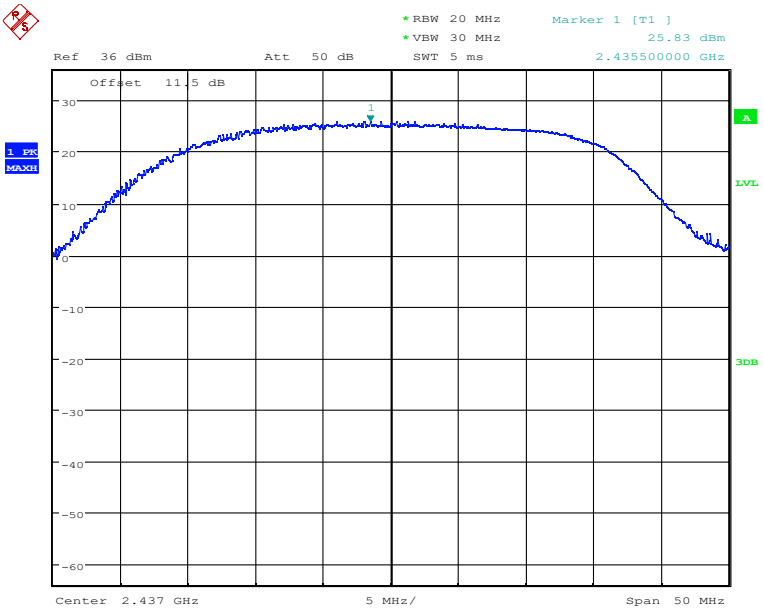


Fig.28 Peak Conducted Output Power CH6, 11g, Rate54

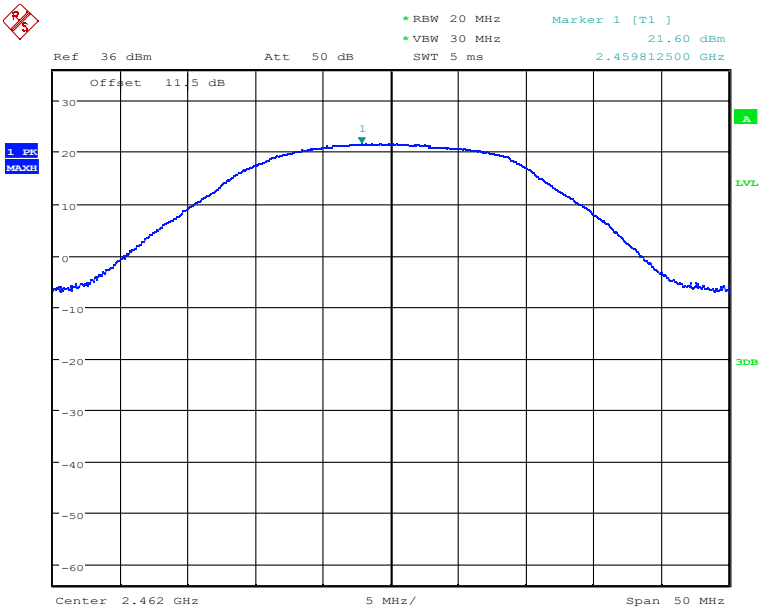


Fig.29 Peak Conducted Output Power CH11, 11g, Rate6

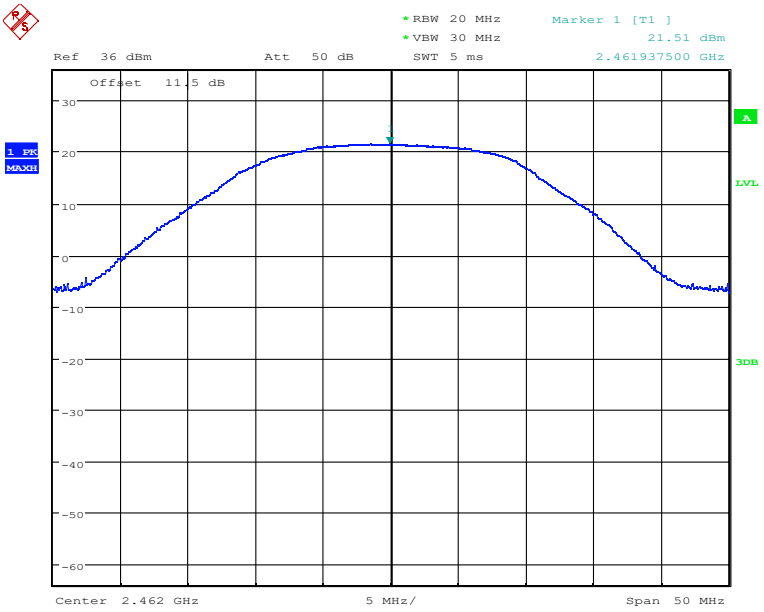


Fig.30 Peak Conducted Output Power CH11, 11g, Rate9

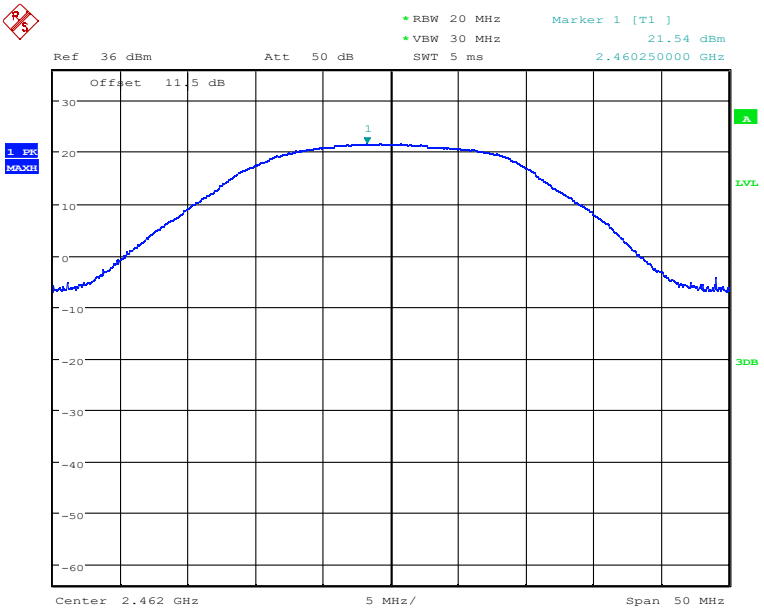


Fig.31 Peak Conducted Output Power CH11, 11g, Rate12

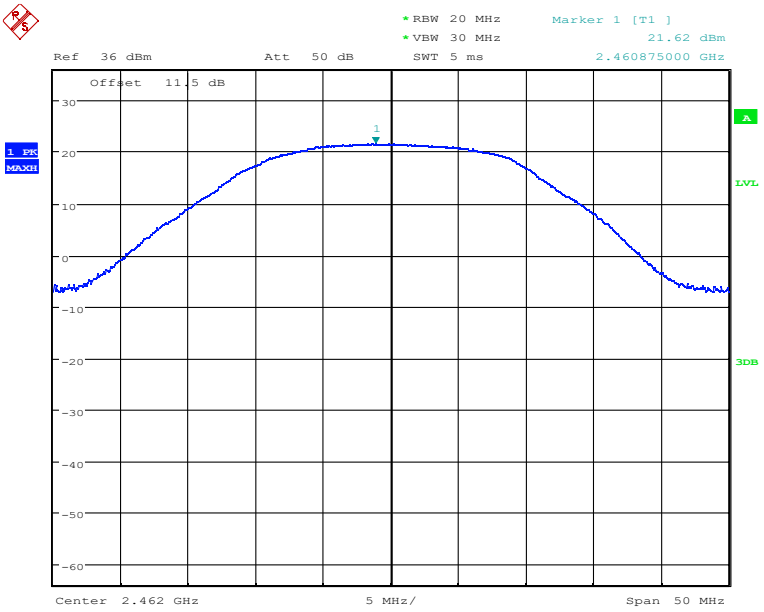


Fig.32 Peak Conducted Output Power CH11, 11g, Rate18

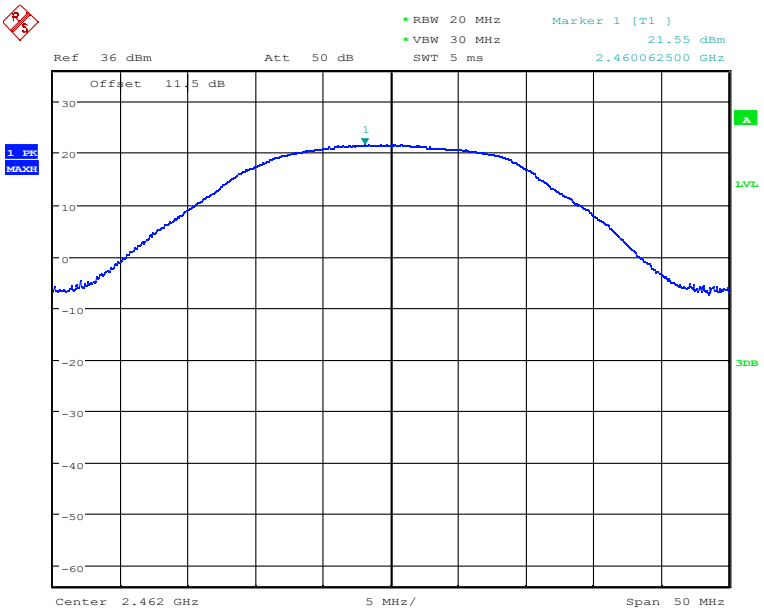


Fig.33 Peak Conducted Output Power CH11, 11g, Rate24

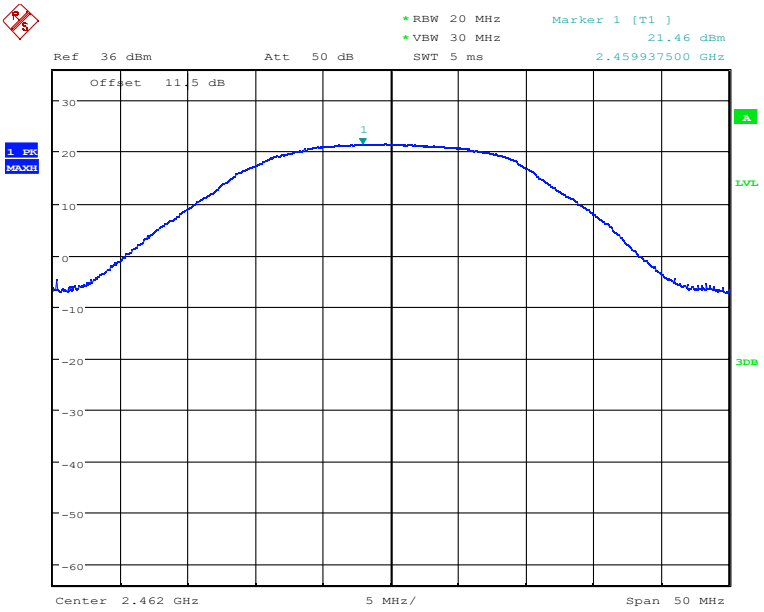


Fig.34 Peak Conducted Output Power CH11, 11g, Rate36

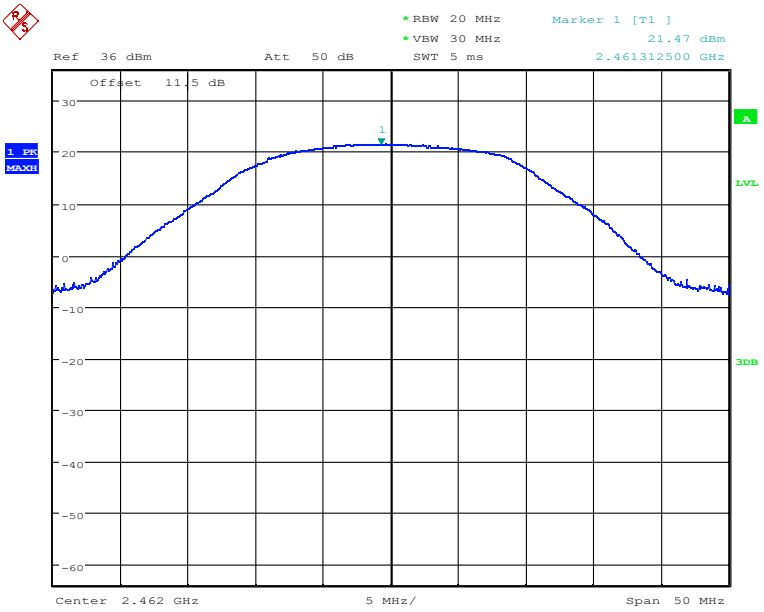


Fig.35 Peak Conducted Output Power CH11, 11g, Rate48

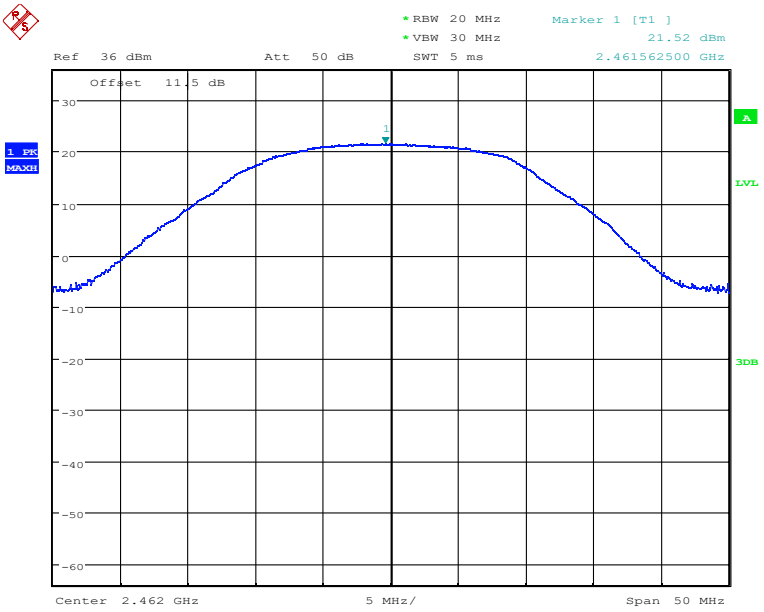


Fig.36 Peak Conducted Output Power CH11, 11g, Rate54

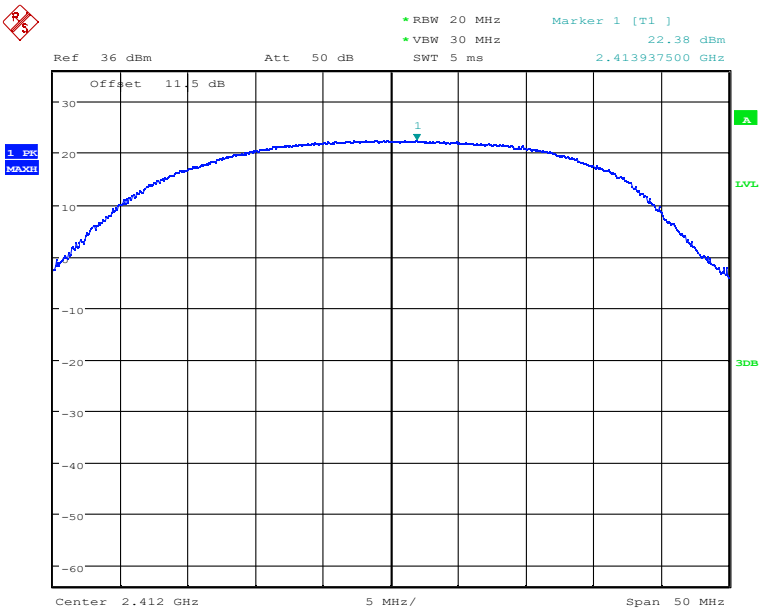


Fig.37 Peak Conducted Output Power CH1, 11n, MCS0

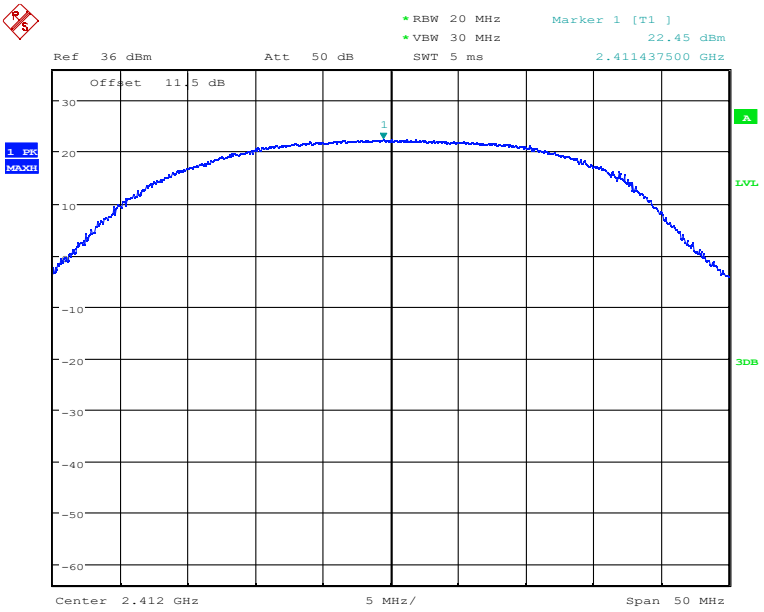


Fig.38 Peak Conducted Output Power CH1, 11n, MCS1

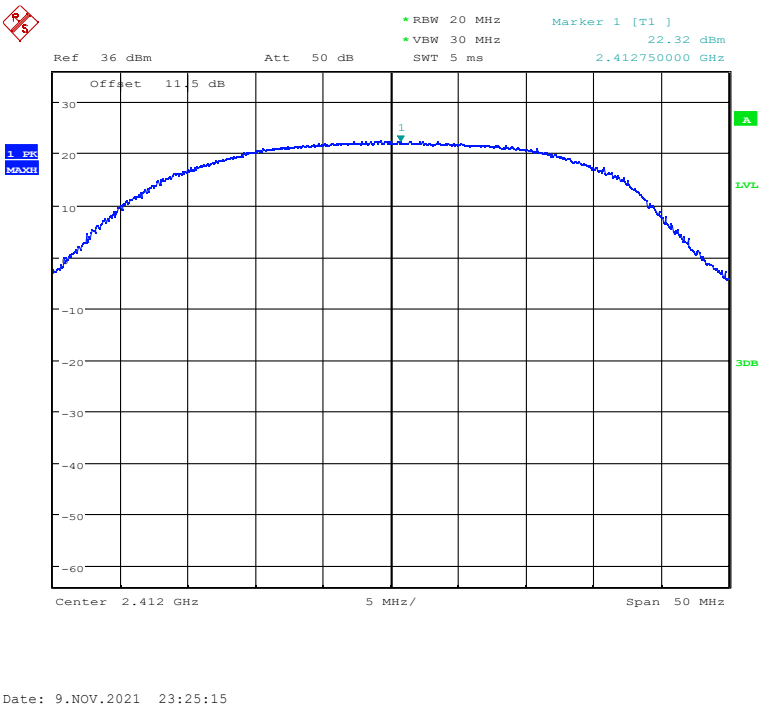


Fig.39 Peak Conducted Output Power CH1, 11n, MCS2

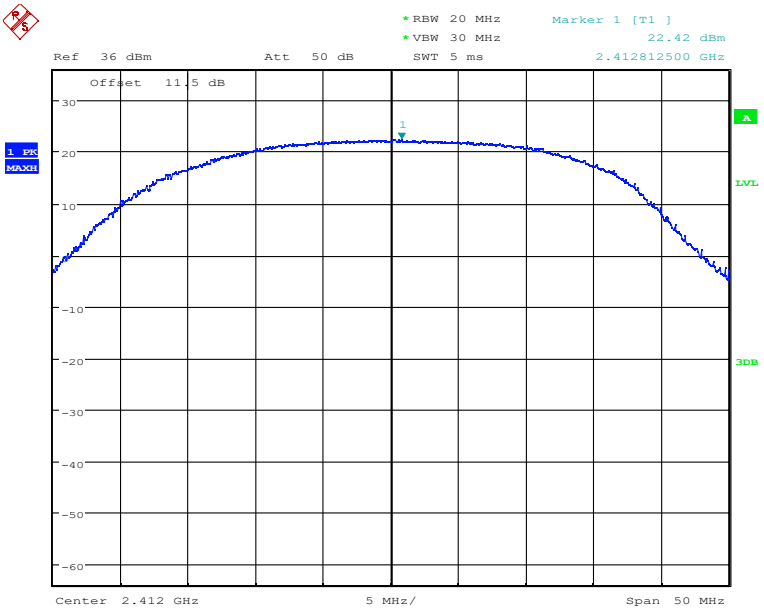


Fig.40 Peak Conducted Output Power CH1, 11n, MCS3

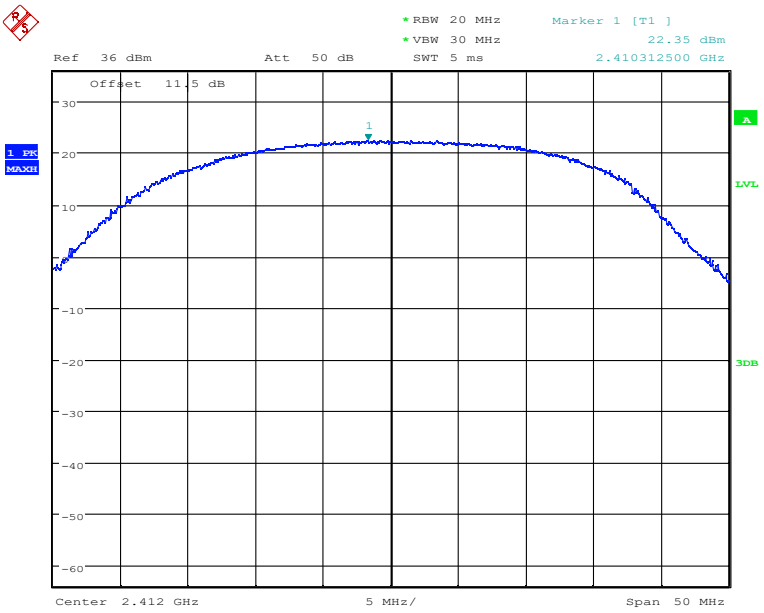


Fig.41 Peak Conducted Output Power CH1, 11n, MCS4

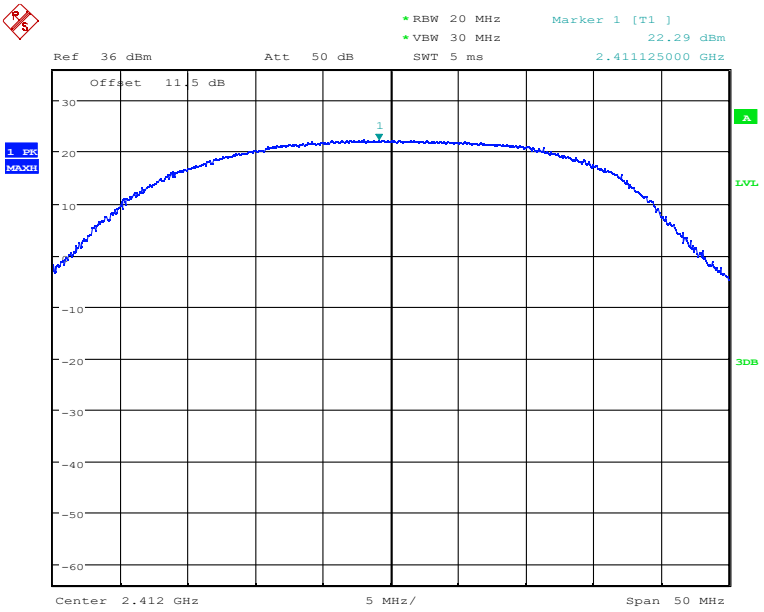


Fig.42 Peak Conducted Output Power CH1, 11n, MCS5

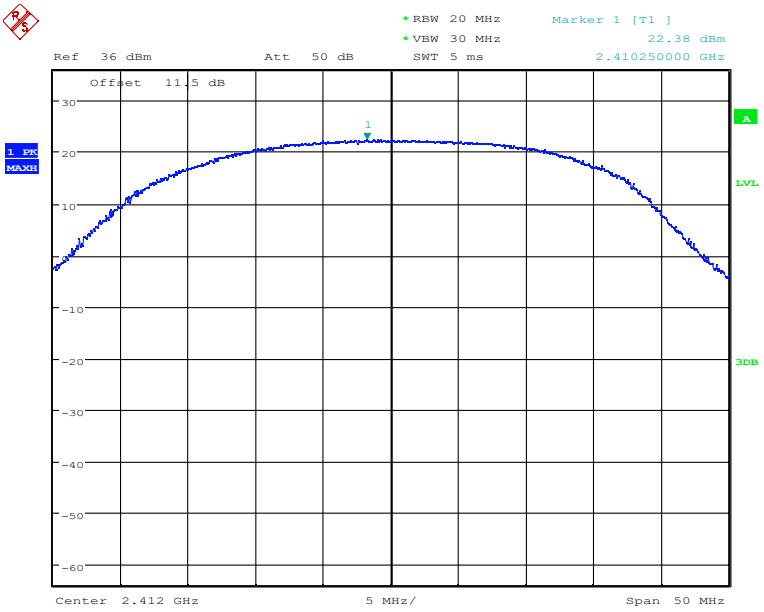


Fig.43 Peak Conducted Output Power CH1, 11n, MCS6

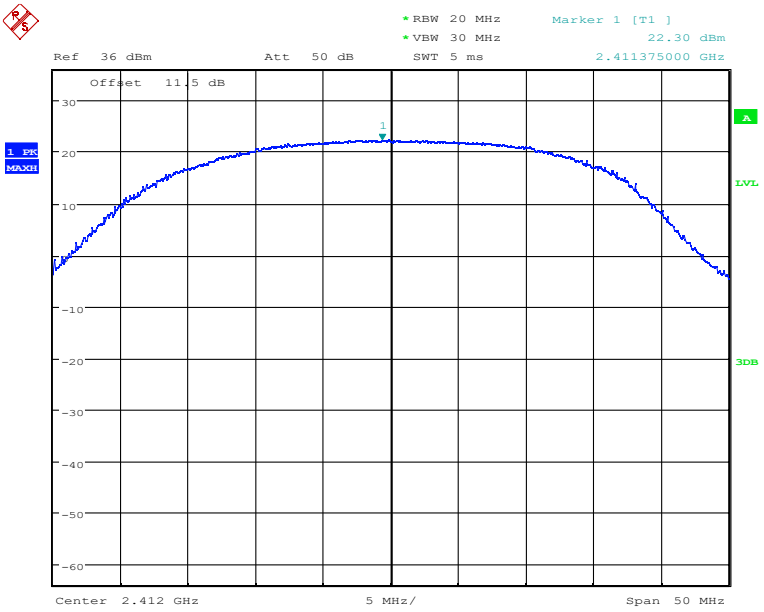


Fig.44 Peak Conducted Output Power CH1, 11n, MCS7

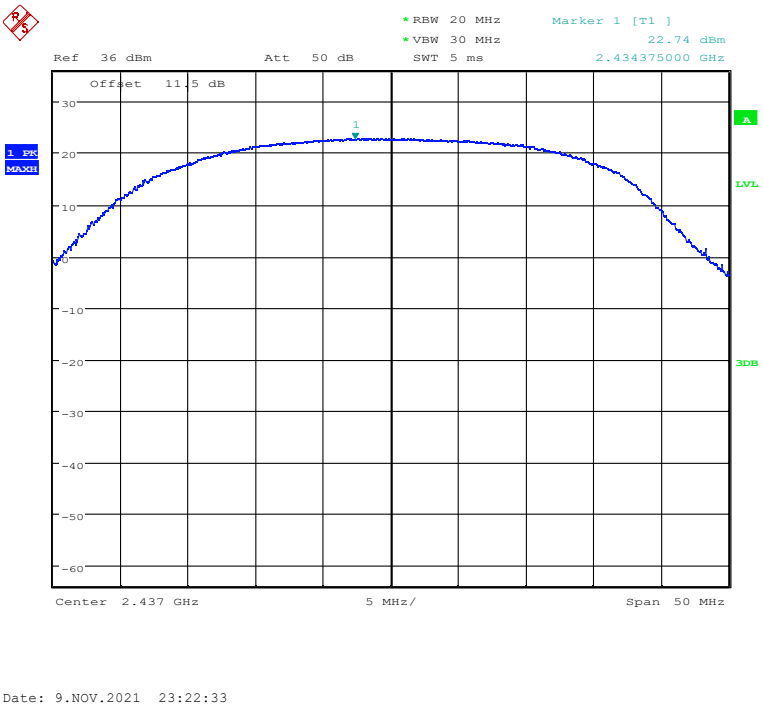


Fig.45 Peak Conducted Output Power CH6, 11n, MCS0

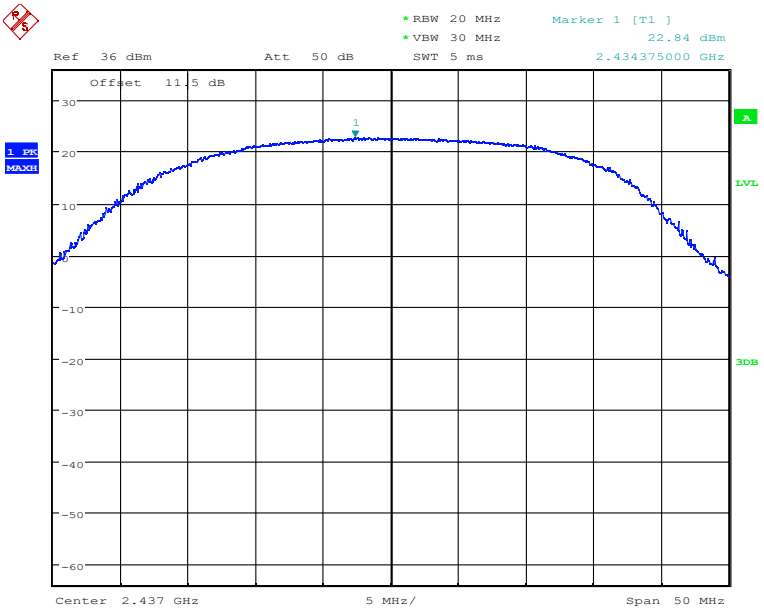


Fig.46 Peak Conducted Output Power CH6, 11n, MCS1

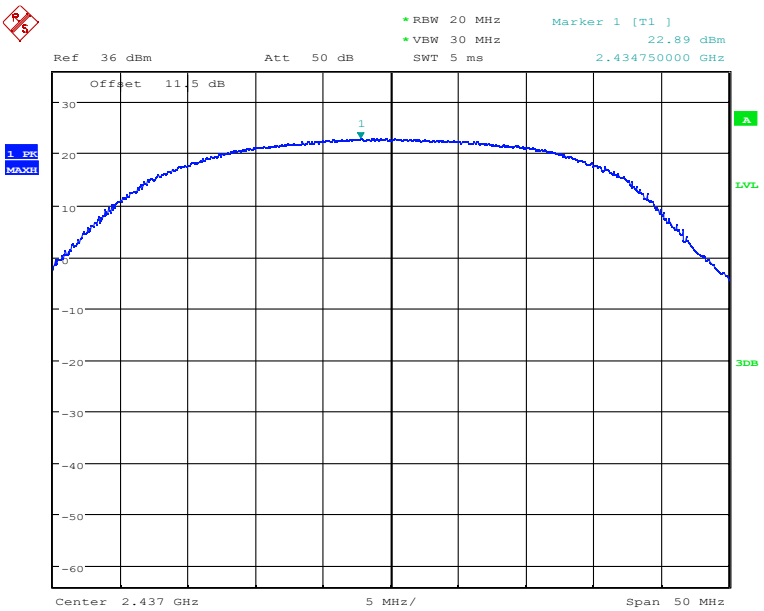


Fig.47 Peak Conducted Output Power CH6, 11n, MCS2

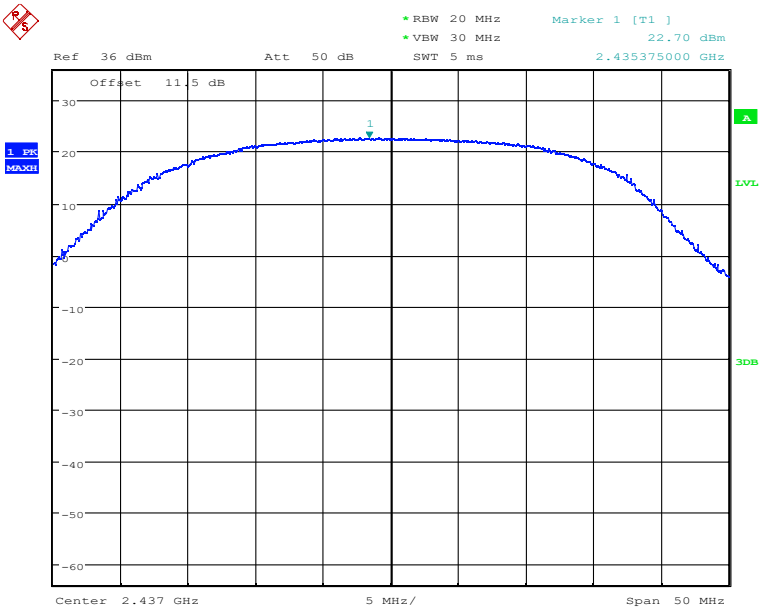


Fig.48 Peak Conducted Output Power CH6, 11n, MCS3

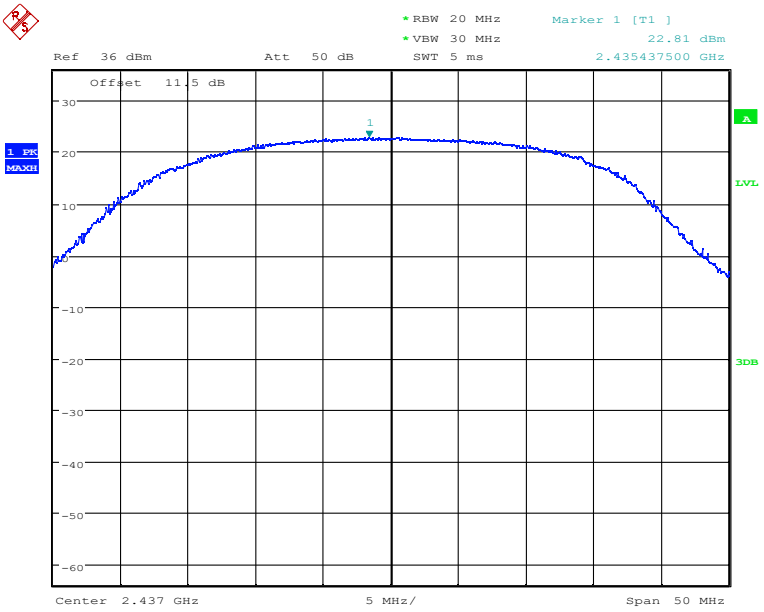


Fig.49 Peak Conducted Output Power CH6, 11n, MCS4

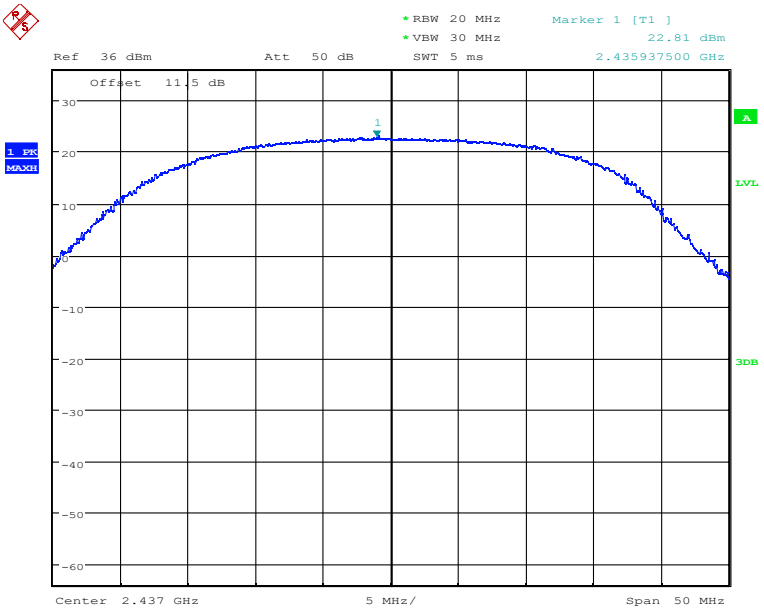


Fig.50 Peak Conducted Output Power CH6, 11n, MCS5

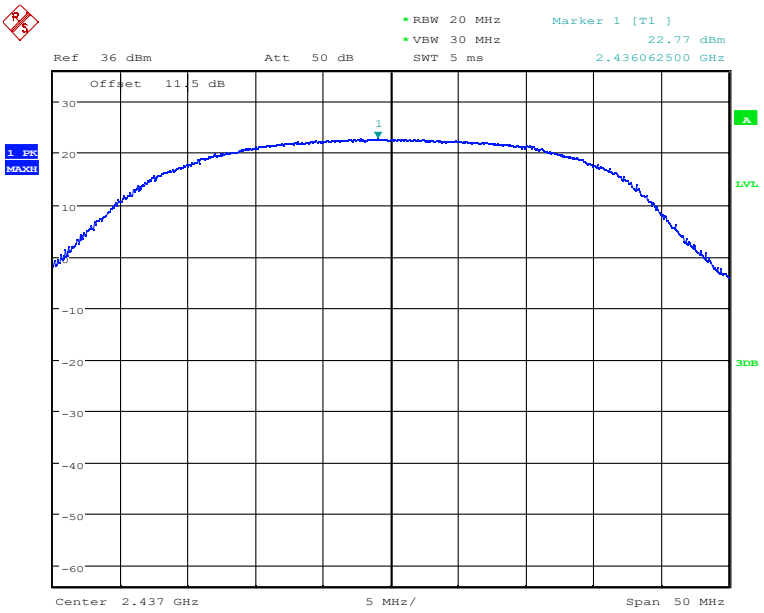


Fig.51 Peak Conducted Output Power CH6, 11n, MCS6

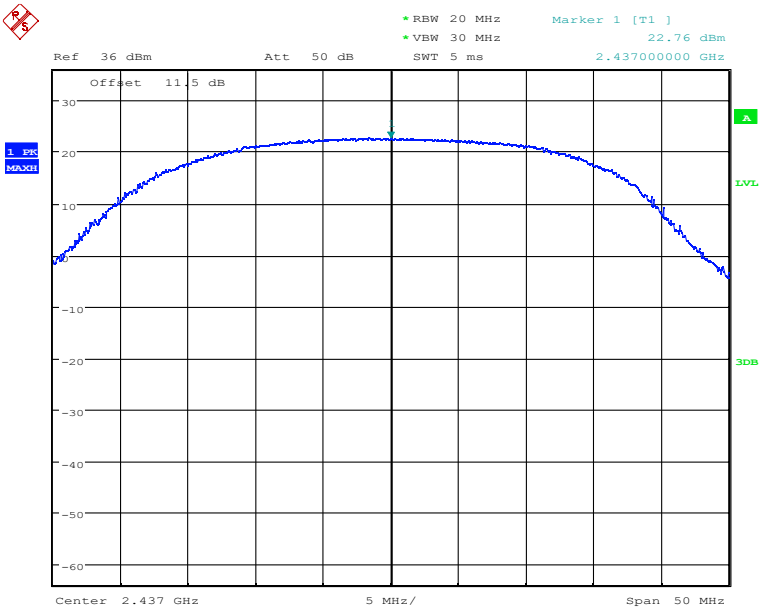


Fig.52 Peak Conducted Output Power CH6, 11n, MCS7

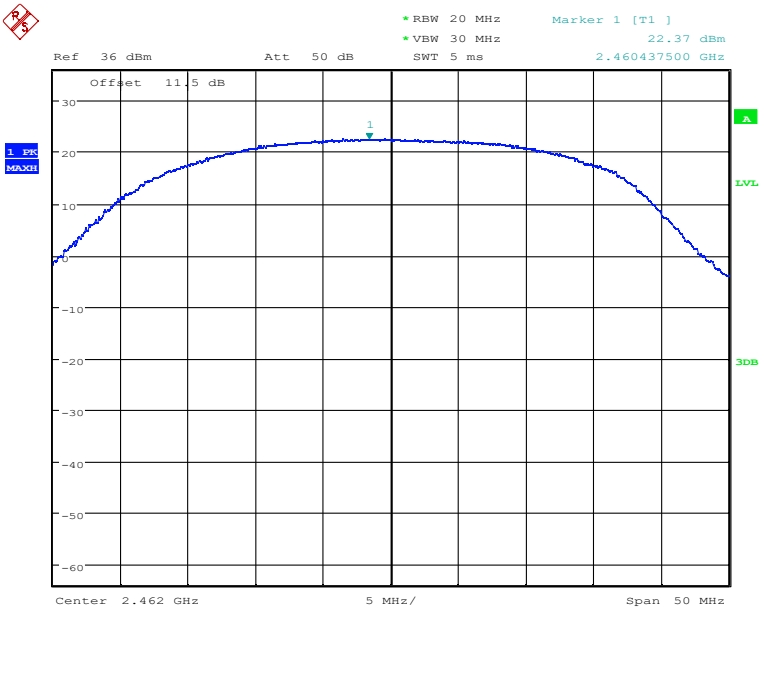


Fig.53 Peak Conducted Output Power CH11, 11n, MCS0

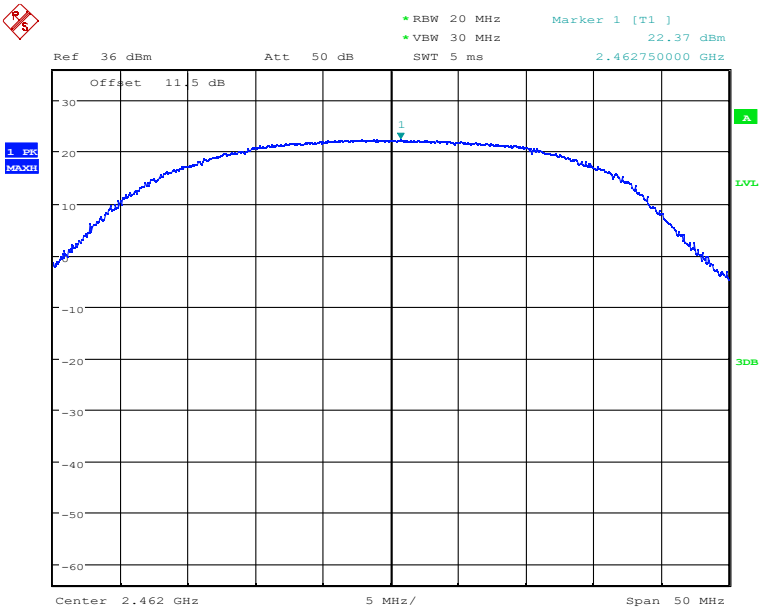


Fig.54 Peak Conducted Output Power CH11, 11n, MCS1

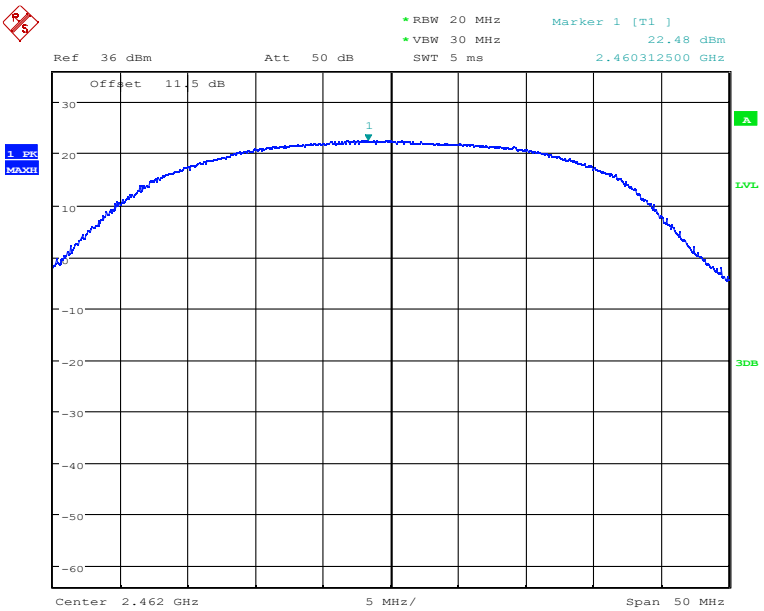


Fig.55 Peak Conducted Output Power CH11, 11n, MCS2

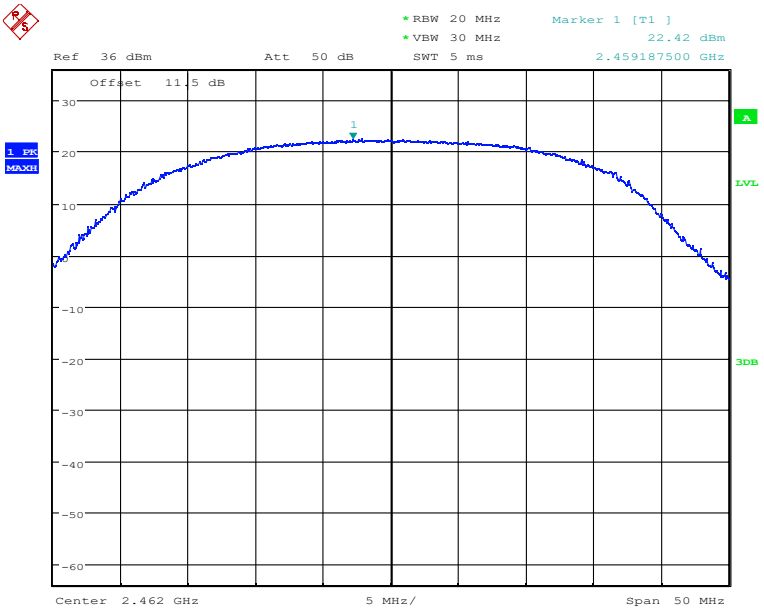


Fig.56 Peak Conducted Output Power CH11, 11n, MCS3

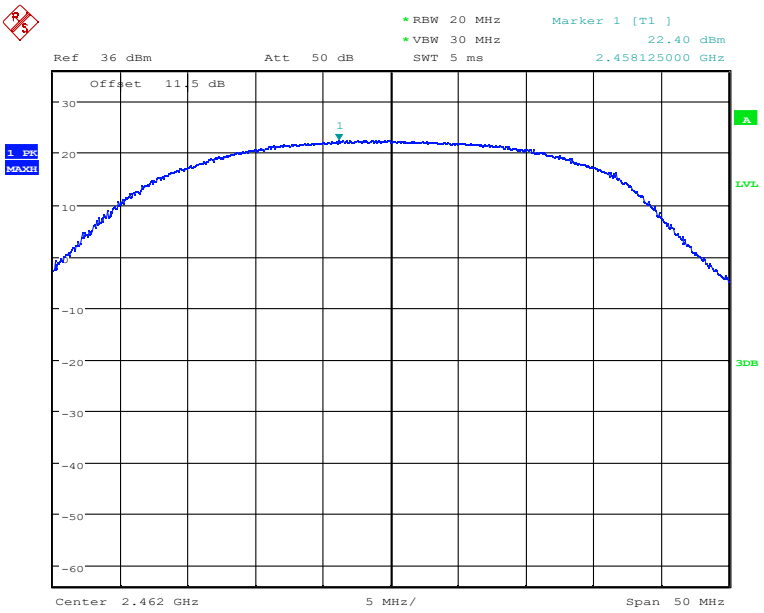


Fig.57 Peak Conducted Output Power CH11, 11n, MCS4

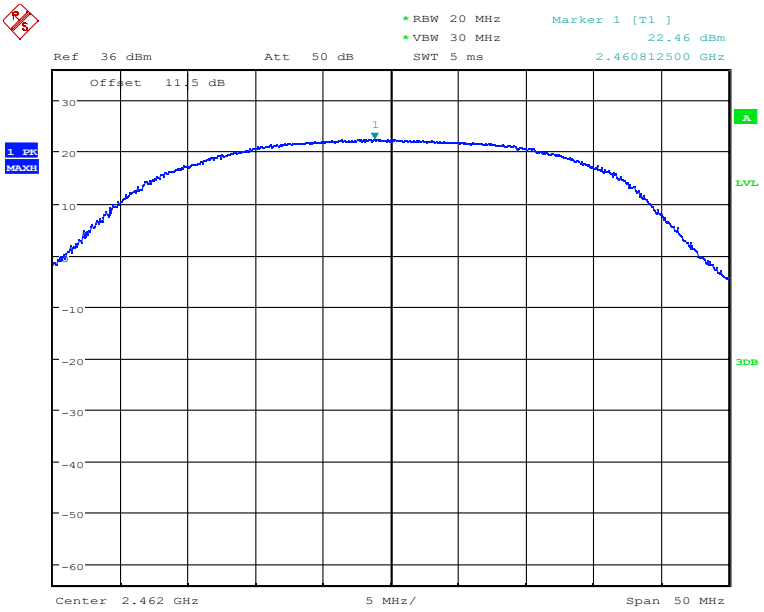


Fig.58 Peak Conducted Output Power CH11, 11n, MCS5

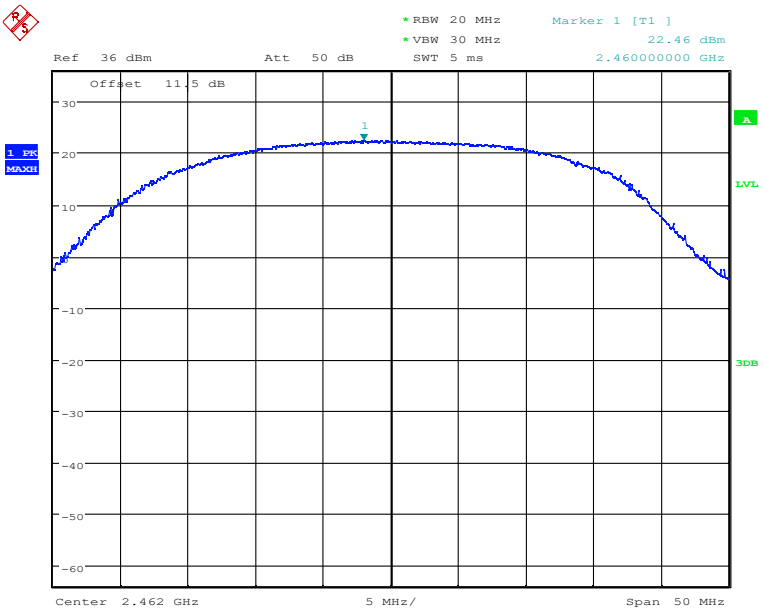


Fig.59 Peak Conducted Output Power CH11, 11n, MCS6

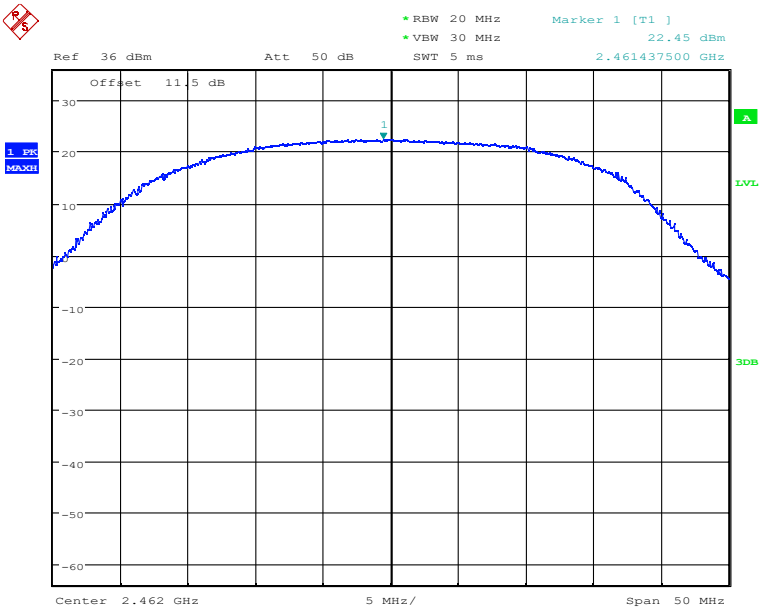


Fig.60 Peak Conducted Output Power CH11, 11n, MCS7

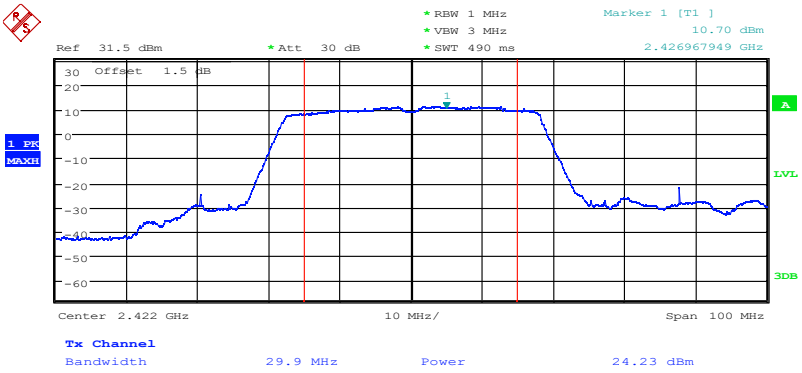


Fig.61 Peak Conducted Output Power CH3, 11n(40M), MCS0

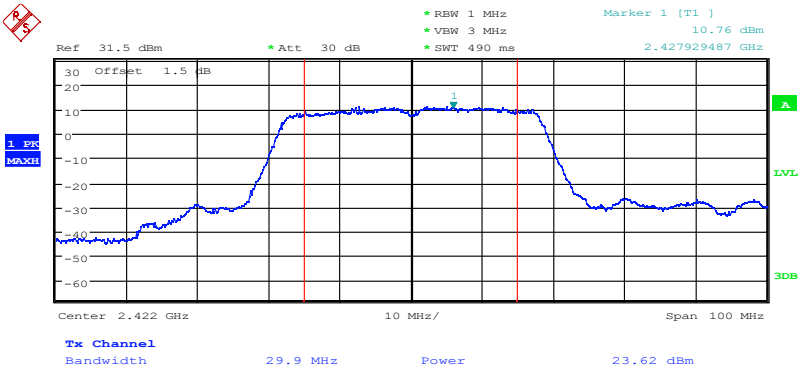


Fig.62 Peak Conducted Output Power CH3, 11n(40M), MCS1

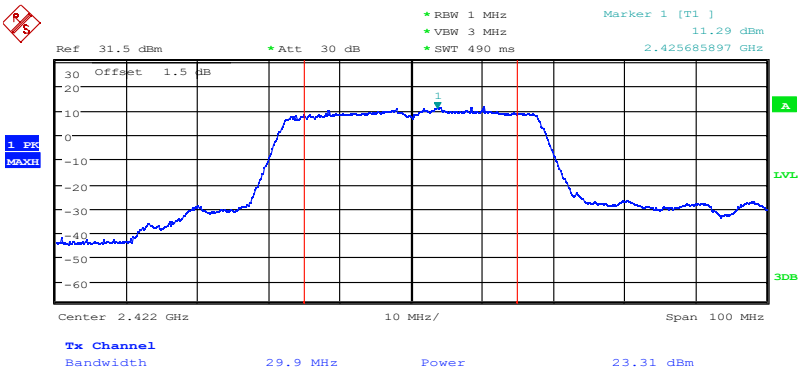


Fig.63 Peak Conducted Output Power CH3, 11n(40M), MCS2

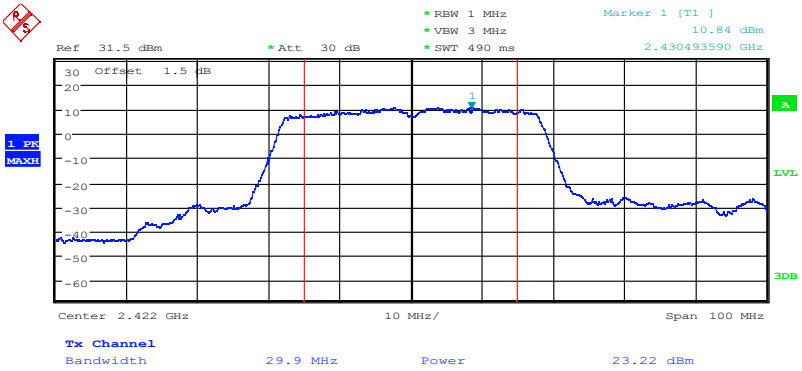


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Fig.64 Peak Conducted Output Power CH3, 11n(40M), MCS3

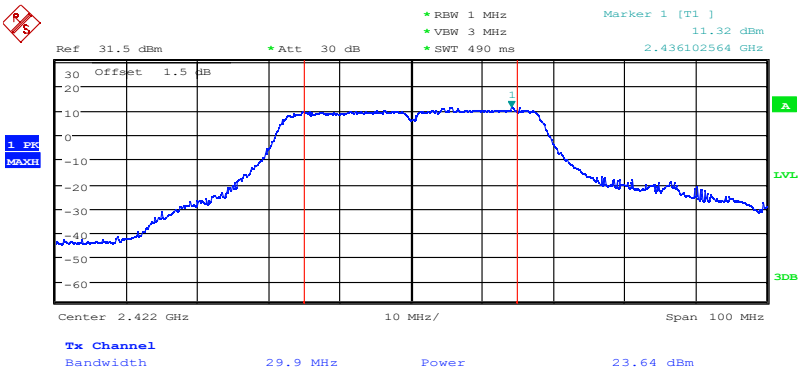

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Fig.65 Peak Conducted Output Power CH3, 11n(40M), MCS4

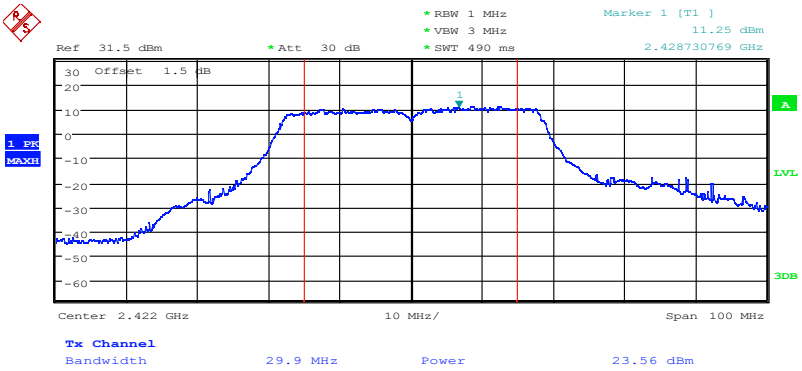

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Fig.66 Peak Conducted Output Power CH3, 11n(40M), MCS5

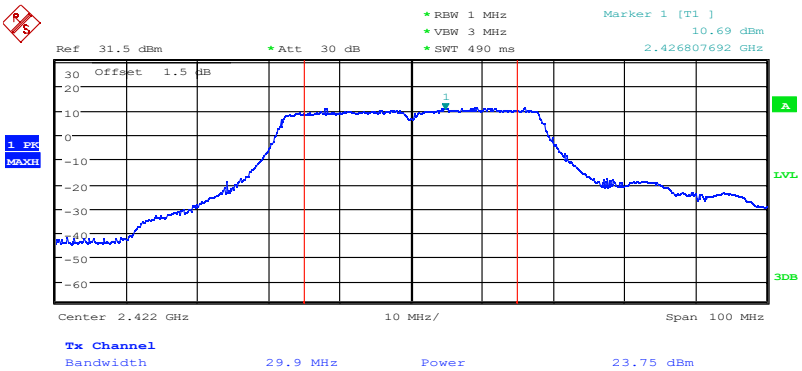

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Fig.67 Peak Conducted Output Power CH3, 11n(40M), MCS6

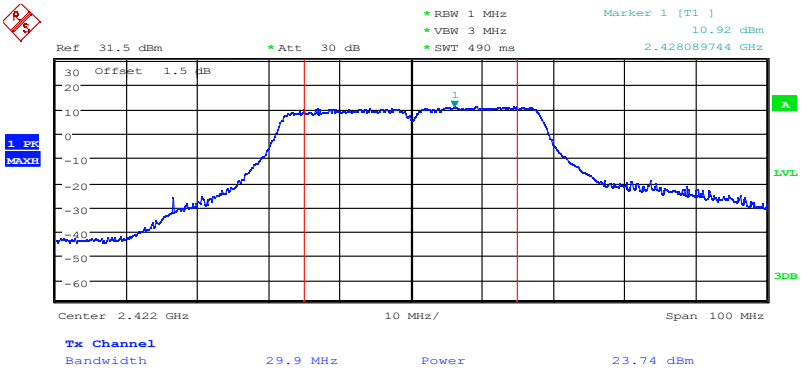

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Fig.68 Peak Conducted Output Power CH3, 11n(40M), MCS7

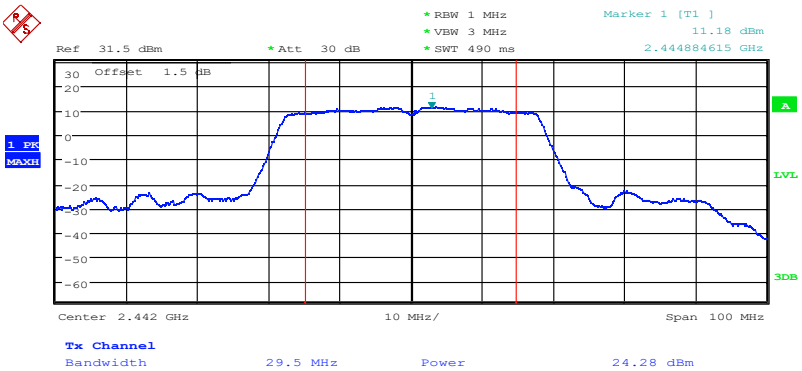

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Fig.69 Peak Conducted Output Power CH7, 11n(40M), MCS0

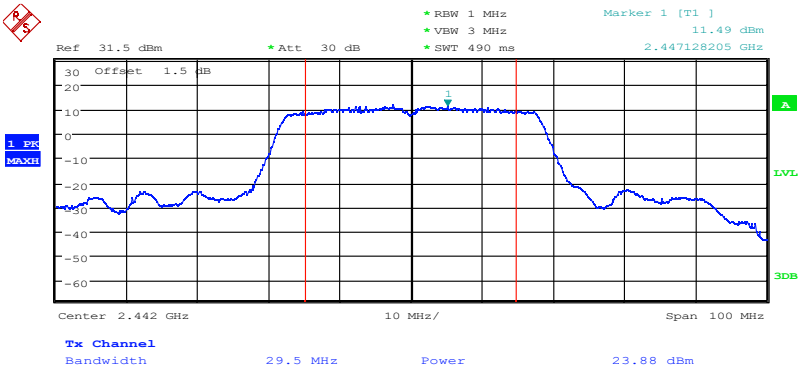


Fig.70 Peak Conducted Output Power CH7, 11n(40M), MCS1

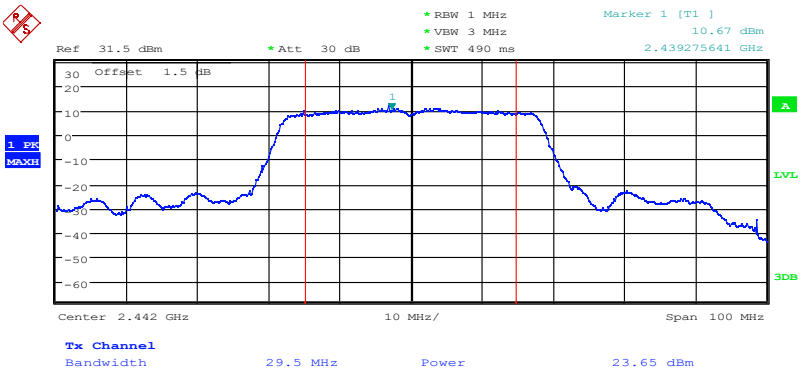


Fig.71 Peak Conducted Output Power CH7, 11n(40M), MCS2

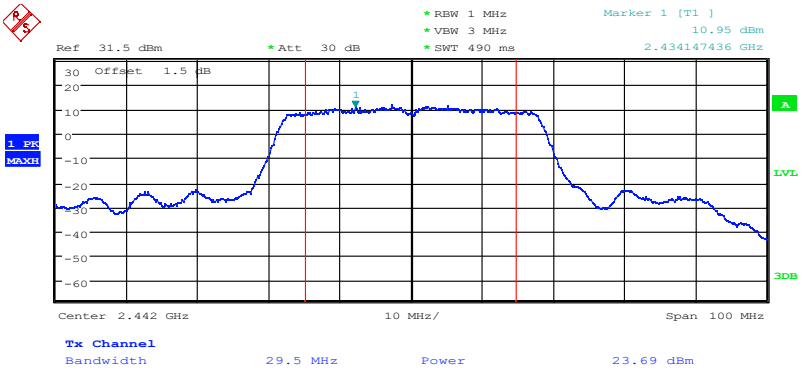


Fig.72 Peak Conducted Output Power CH7, 11n(40M), MCS3

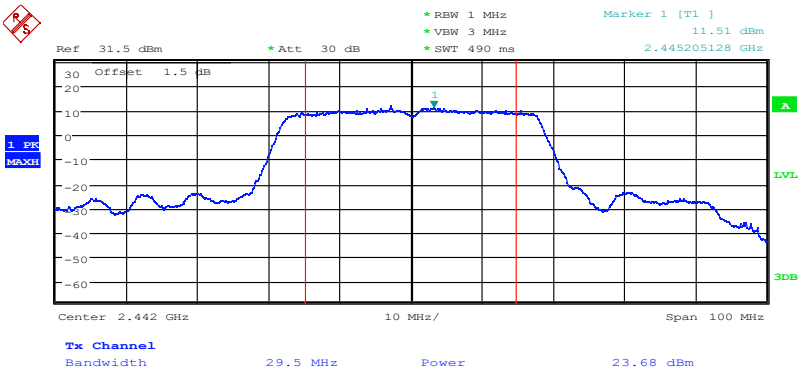


Fig.73 Peak Conducted Output Power CH7, 11n(40M), MCS4

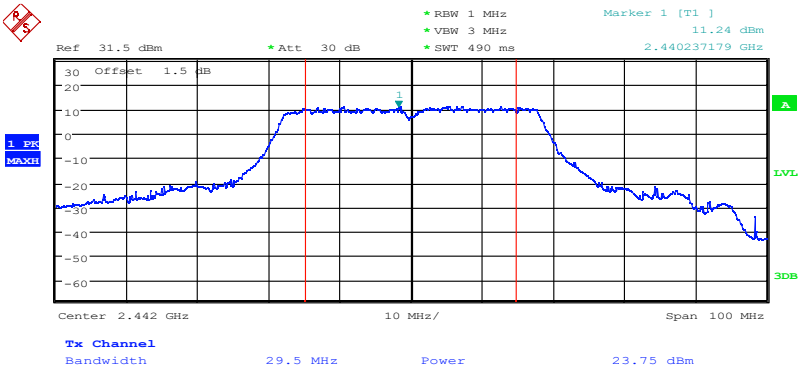


Fig.74 Peak Conducted Output Power CH7, 11n(40M), MCS5

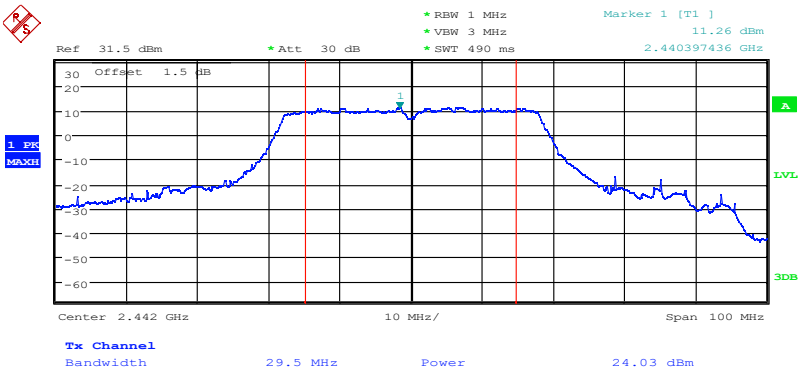
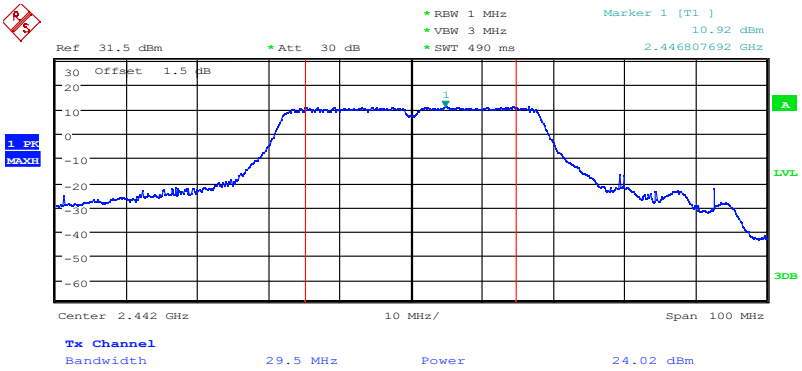
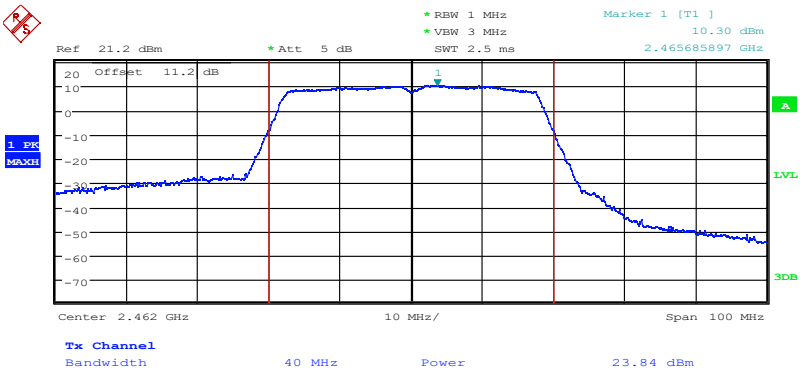


Fig.75 Peak Conducted Output Power CH7, 11n(40M), MCS6



Date: 10.NOV.2021 22:43:15

Fig.76 Peak Conducted Output Power CH7, 11n(40M), MCS7



Date: 28.NOV.2021 07:59:39

Fig.77 Peak Conducted Output Power CH11, 11n(40M), MCS0

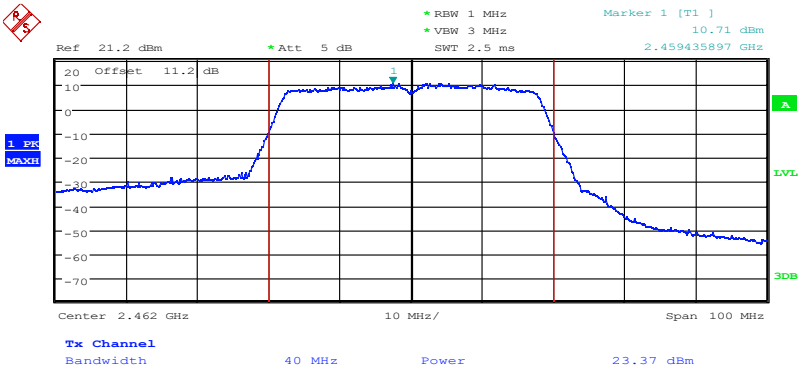


Fig.78 Peak Conducted Output Power CH11, 11n(40M), MCS1

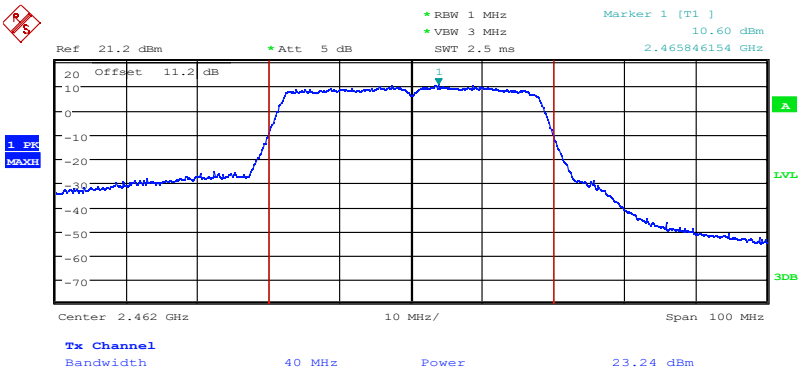
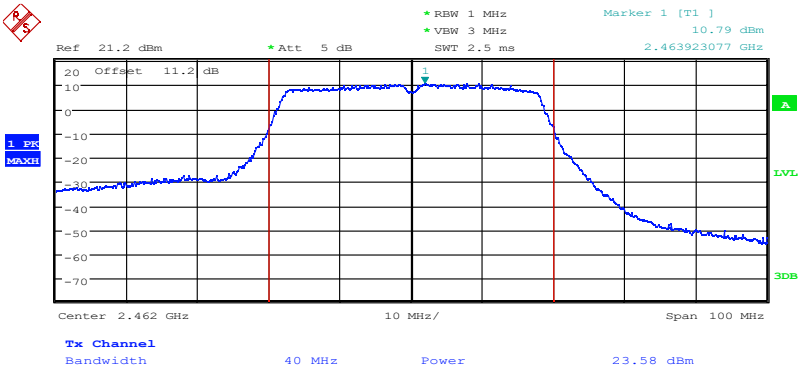
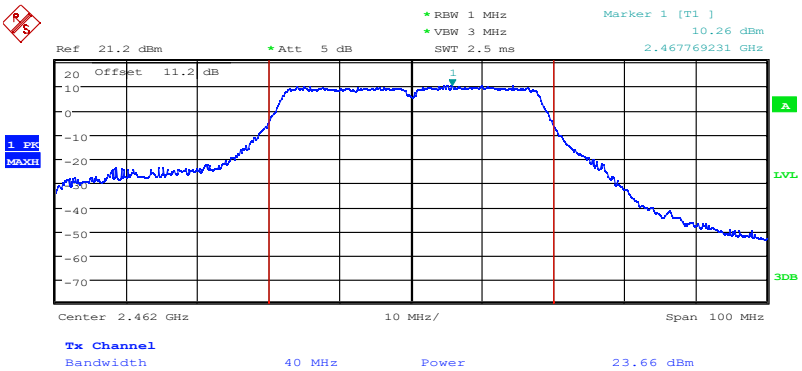


Fig.79 Peak Conducted Output Power CH11, 11n(40M), MCS2



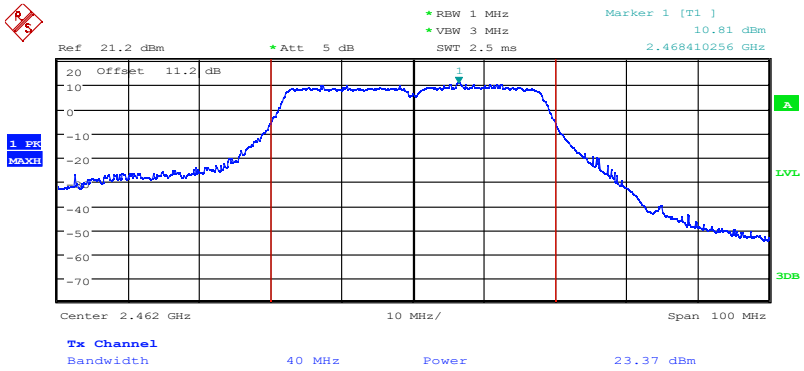
Date: 28.NOV.2021 08:02:41

Fig.80 Peak Conducted Output Power CH11, 11n(40M), MCS3



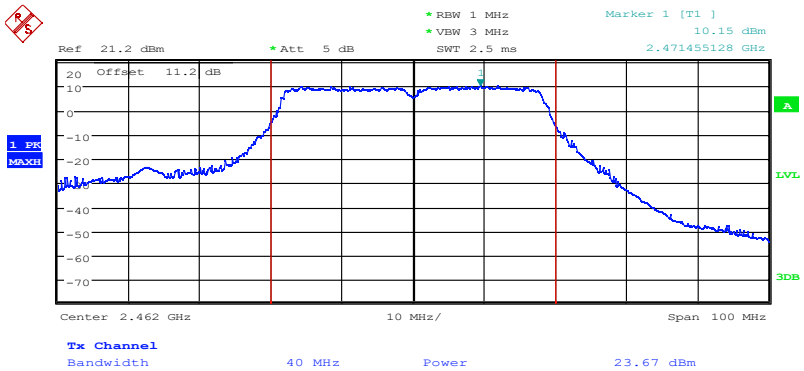
Date: 28.NOV.2021 08:03:36

Fig.81 Peak Conducted Output Power CH11, 11n(40M), MCS4



Date: 28.NOV.2021 08:04:30

Fig.82 Peak Conducted Output Power CH11, 11n(40M), MCS5



Date: 28.NOV.2021 08:05:19

Fig.83 Peak Conducted Output Power CH11, 11n(40M), MCS6

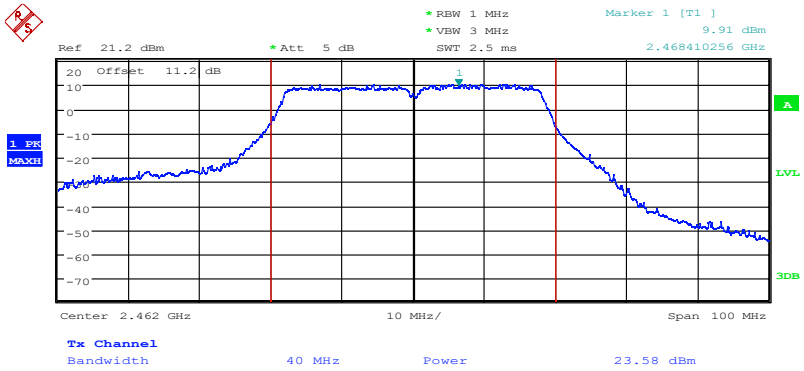


Fig.84 Peak Conducted Output Power CH11, 11n(40M), MCS7

6.3. Peak Power Spectral Density

Specifications:	FCC CFR Part 15.247(e)
DUT Serial Number:	865171050693608
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
Test Results:	Pass

Limit Level Construction:

Standard	Limit
FCC CFR Part 15.247(e)	< 8dBm/3 KHz

Measurement Uncertainty:

Measurement Uncertainty	±0.82dBm/KHz

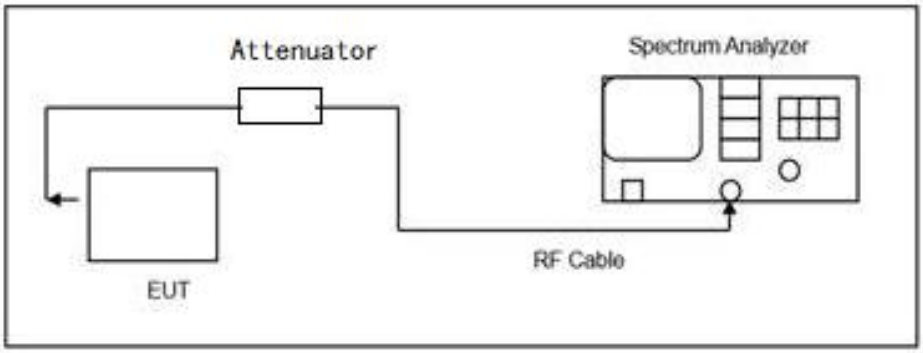
Test procedure:

The measurement is according to ANSI C63.10 clause 11.10.

1. The output power of EUT was connected to the spectrum analyzer. The path loss was compensated to the results for each measurement.
2. Enable EUT transmitter maximum power continuously.
3. Set analyzer center frequency to DTS channel center frequency.
4. Set the span to 1.5 times the DTS bandwidth.
5. Set the RBW to 3 kHz ≤ RBW ≤ 100 kHz.
6. Set the VBW ≥ [3 × RBW].
7. Detector = peak.
8. Sweep time = auto couple.
9. Trace mode = max hold.
10. Allow trace to fully stabilize.
11. Use the peak marker function to determine the maximum amplitude level within the RBW.
12. If measured value exceeds requirement, then reduce RBW (but no less than 3 kHz) and repeat.

Note: --

Test block diagram:



Test Results:

802.11b/g/n mode

Mode	Power Spectral Density(dBm/3kHz)			Conclusion
	Ch1	Ch6	Ch11	
802.11b	-6.59	-7.20	-7.10	Pass
802.11g	-11.11	-10.45	-11.07	Pass
802.11n(20MHz)	-9.71	-10.20	-11.49	Pass

Mode	Power Spectral Density(dBm/3kHz)			Conclusion
	Ch3	Ch7	Ch11	
802.11n(40MHz)	-13.65	-13.52	-14.97	Pass

Conclusion: PASS

Test figure as below:

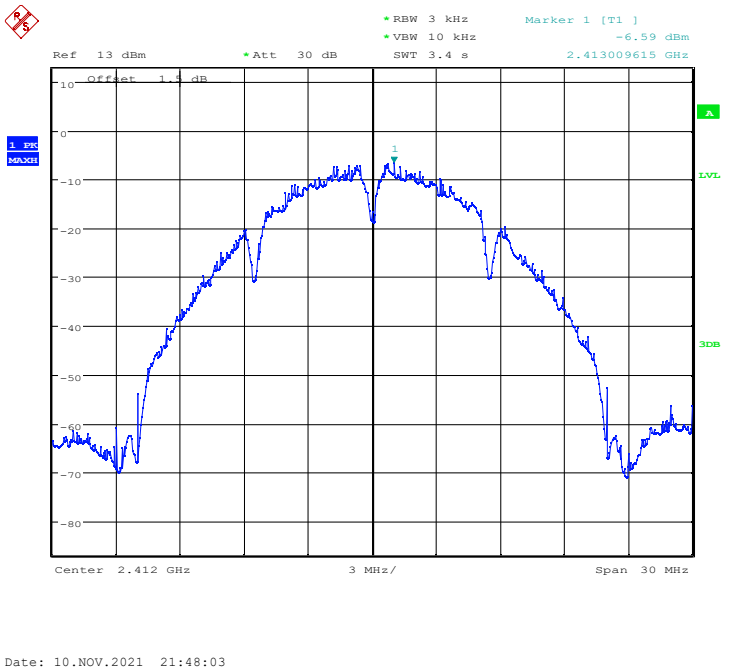


Fig.85 Power spectral density: CH1,11b

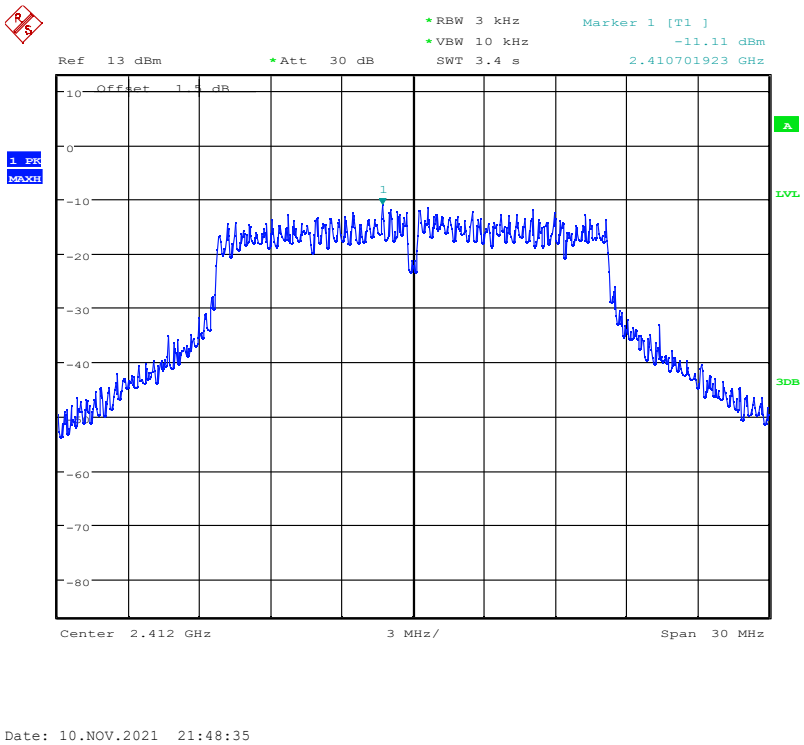


Fig.86 Power spectral density: CH1,11g

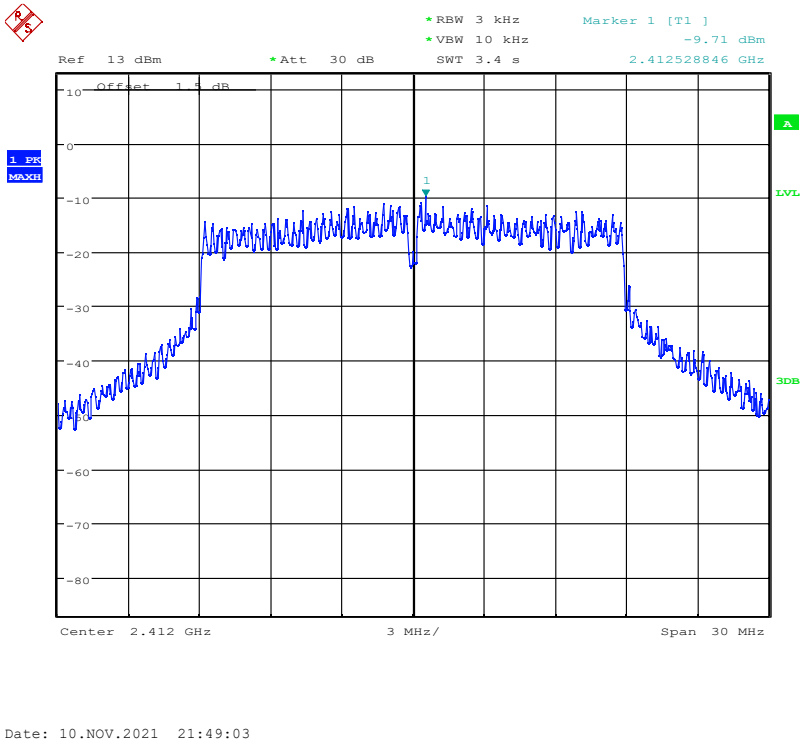


Fig.87 Power spectral density: CH1,11n

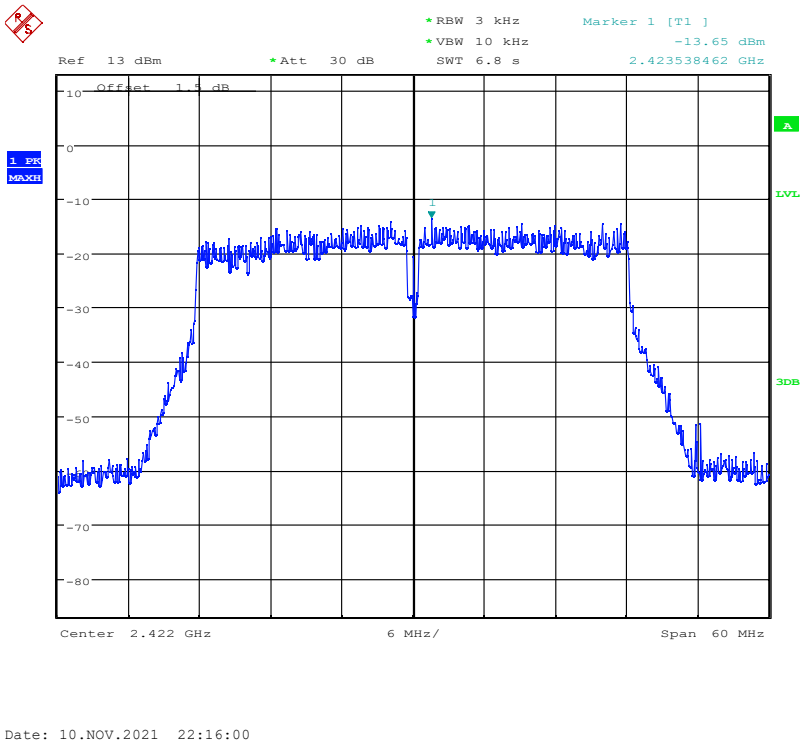


Fig.88 Power spectral density: CH3,11n(40M)

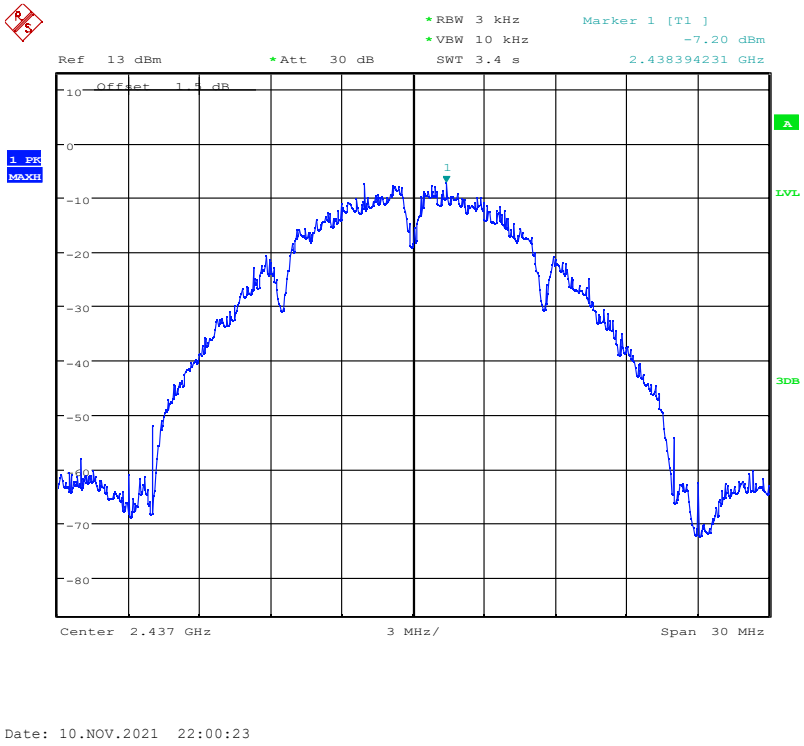


Fig.89 Power spectral density: CH6,11b

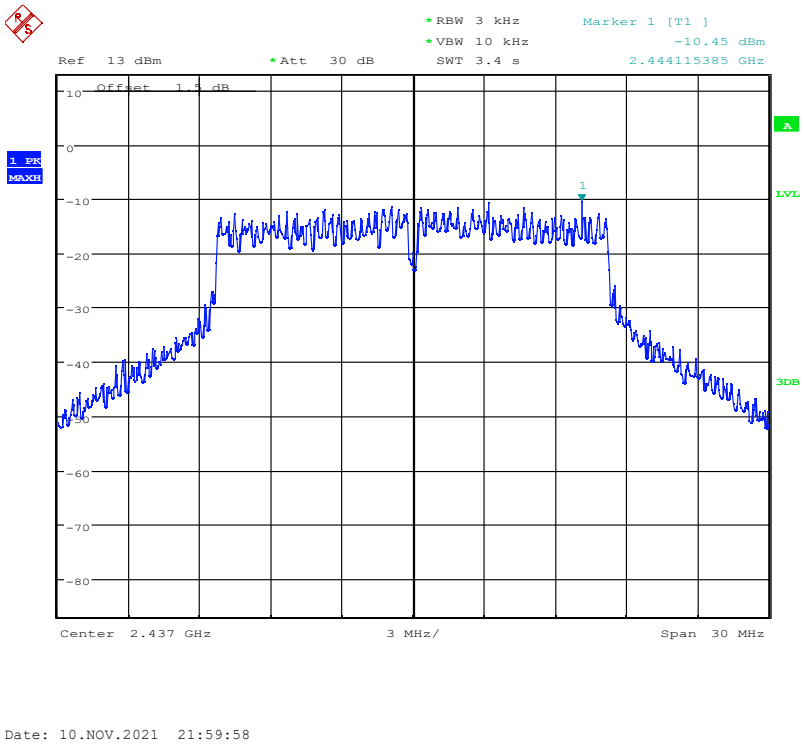


Fig.90 Fig.66 Power spectral density: CH6,11g

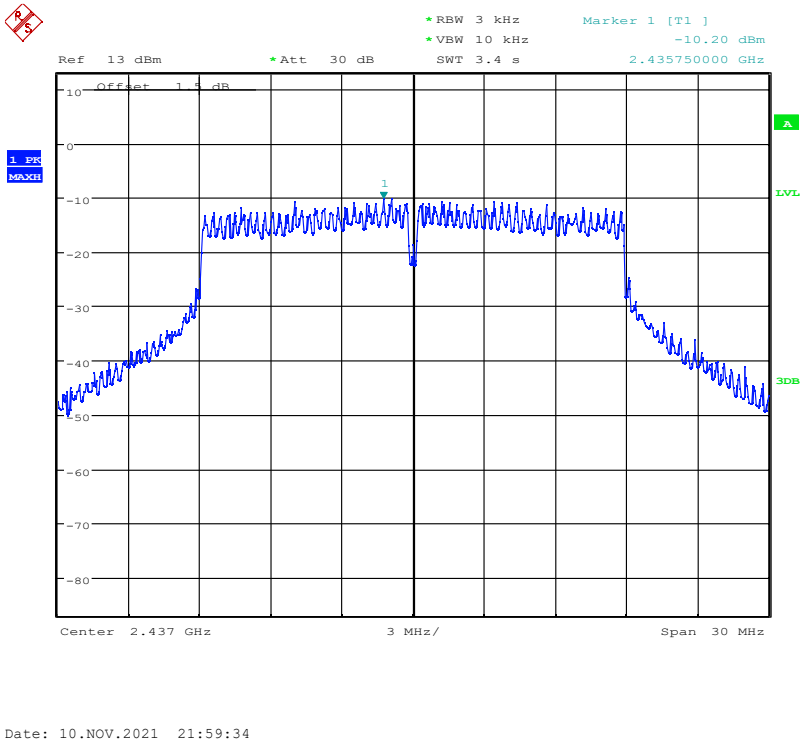


Fig.91 Power spectral density: CH6,11n

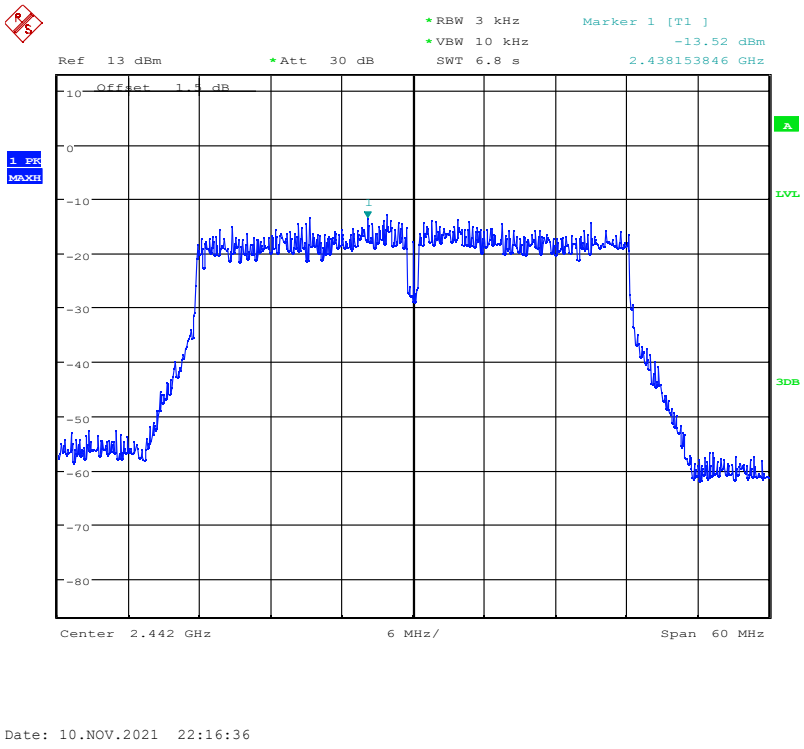


Fig.92 Power spectral density: CH7,11n(40M)

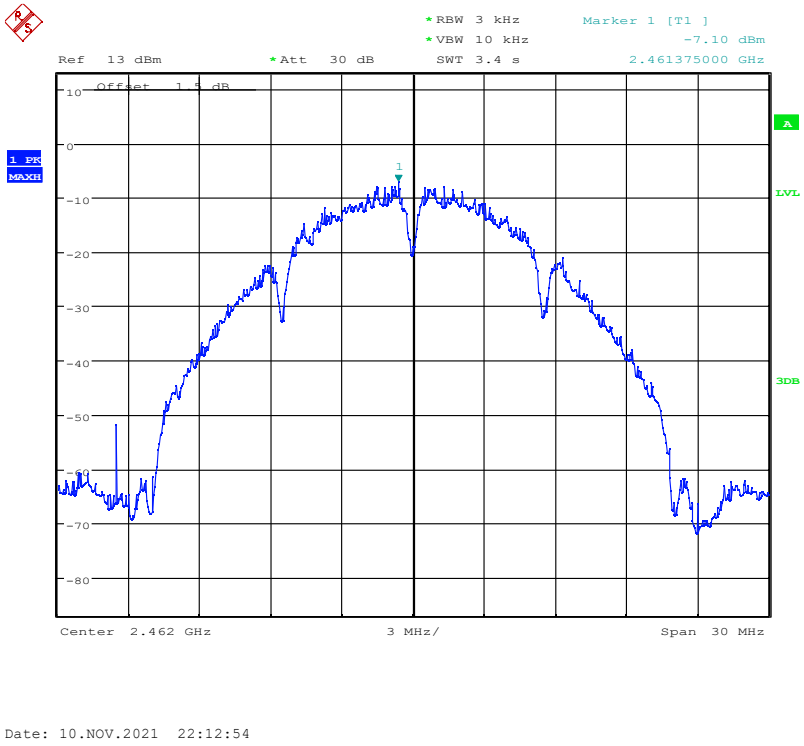


Fig.93 Power spectral density: CH11,11b

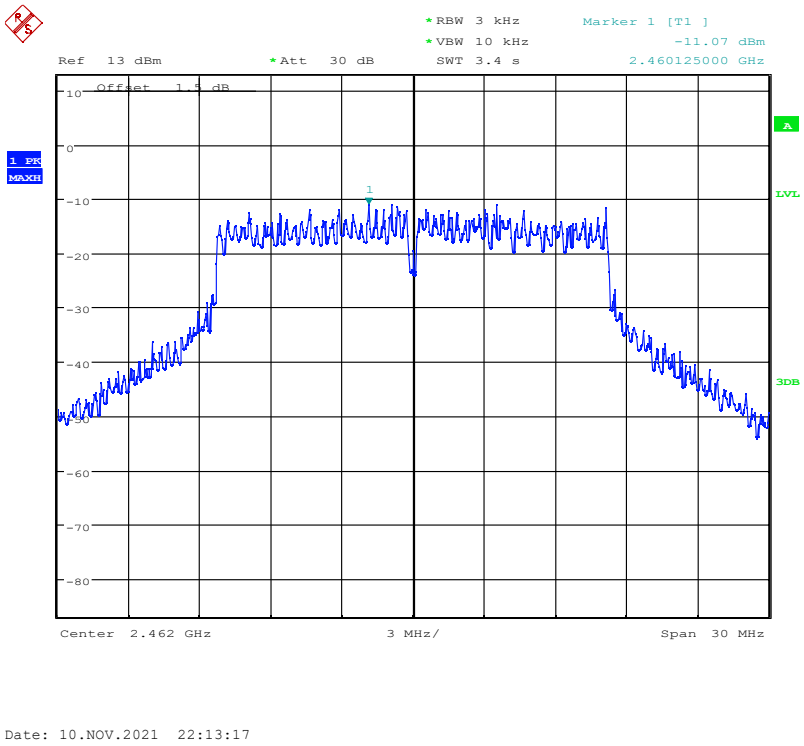


Fig.94 Power spectral density: CH11,11g

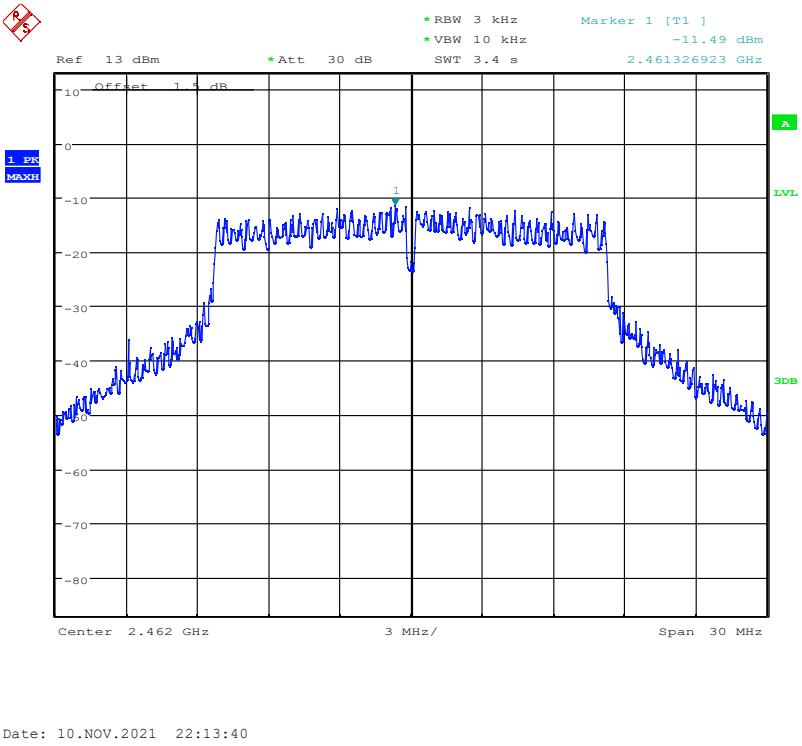


Fig.95 Power spectral density: CH11,11n

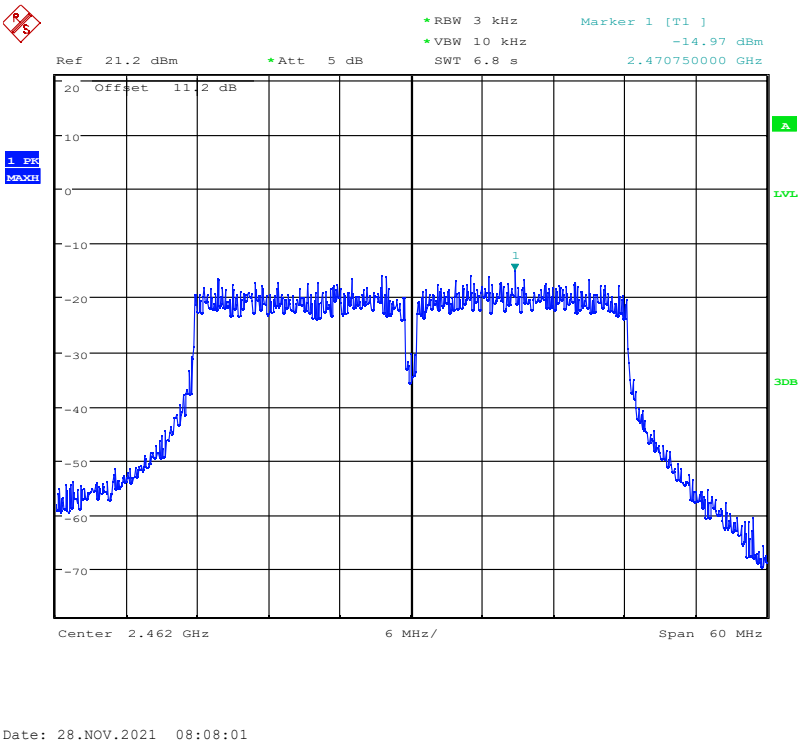


Fig.96 Power spectral density: CH11,11n(40M)

6.4. 6dB Occupied Bandwidth

Specifications:	FCC 47 CFR Part 15.247(a)
DUT Serial Number:	865171050693608
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
Test Results:	Pass

Limit Level Construction:

Standard	Limit(KHz)
FCC 47 CFR Part 15.247(a)	≥500

Measurement Uncertainty:

Measurement Uncertainty	±1.1KHz

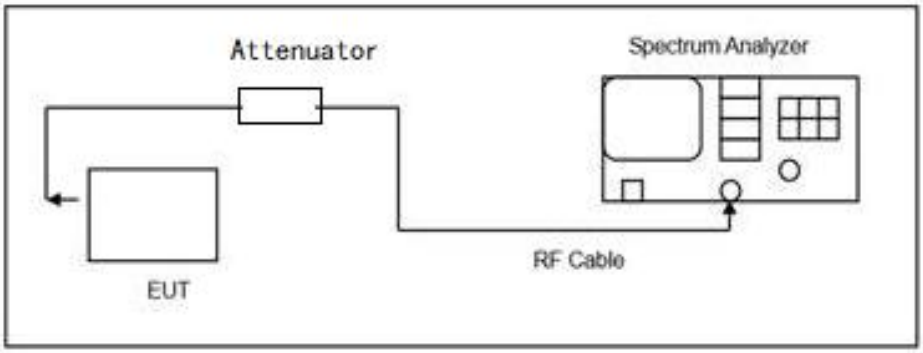
Test Procedure

The measurement is according to ANSI C63.10 clause 11.8.

1. The output power of EUT was connected to the spectrum analyzer. The path loss was compensated to the results for each measurement.
2. Enable EUT transmitter maximum power continuously.
3. Set RBW = 100 kHz.
4. Set the VBW ≥ [3 × RBW].
5. Detector = peak.
6. Trace mode = max hold.
7. Sweep = auto couple.
8. Allow the trace to stabilize.
9. Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

Note: --

Test block diagram:



Test Result:

802.11b/g/n mode

Mode	Occupied 6dB Bandwidth(MHz)			Conclusion
	Ch1	Ch6	Ch11	
802.11b	10.0	10.3	10.3	Pass
802.11g	16.7	16.8	16.6	Pass
802.11n(20MHz)	18.0	18.2	17.8	Pass

Mode	Occupied 6dB Bandwidth(MHz)			Conclusion
	Ch3	Ch7	Ch11	
802.11n(40MHz)	36.8	36.8	36.8	Pass

Conclusion: PASS

Test figure as below:

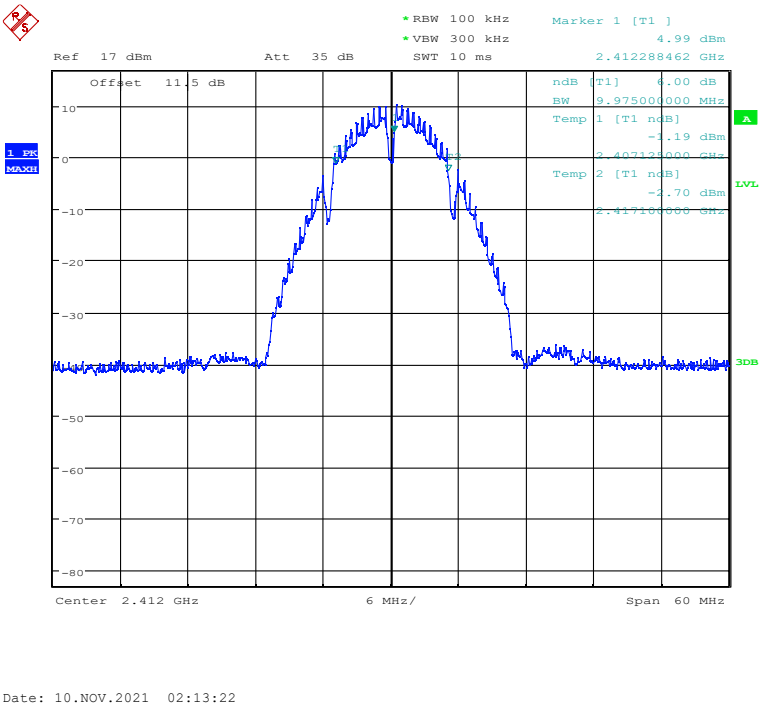


Fig.97 6dB Bandwidth: Ch1,11b

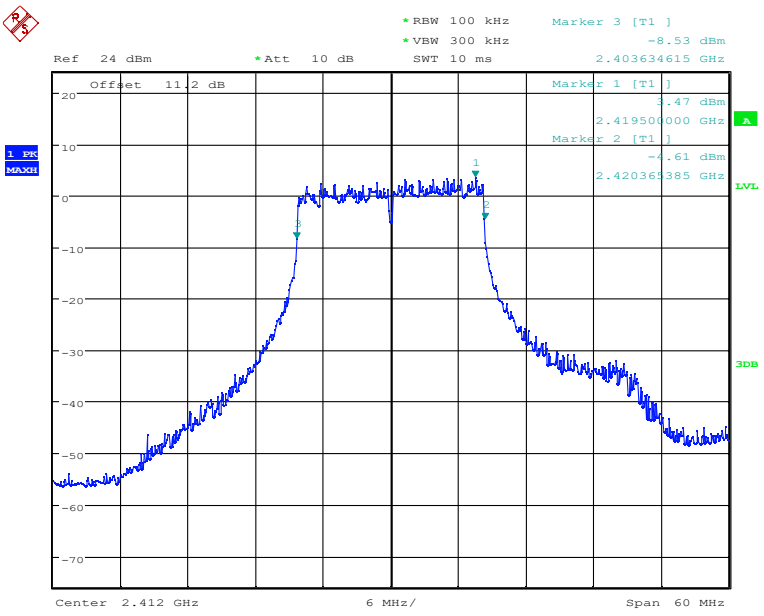


Fig.98 6dB Bandwidth: Ch1,11g

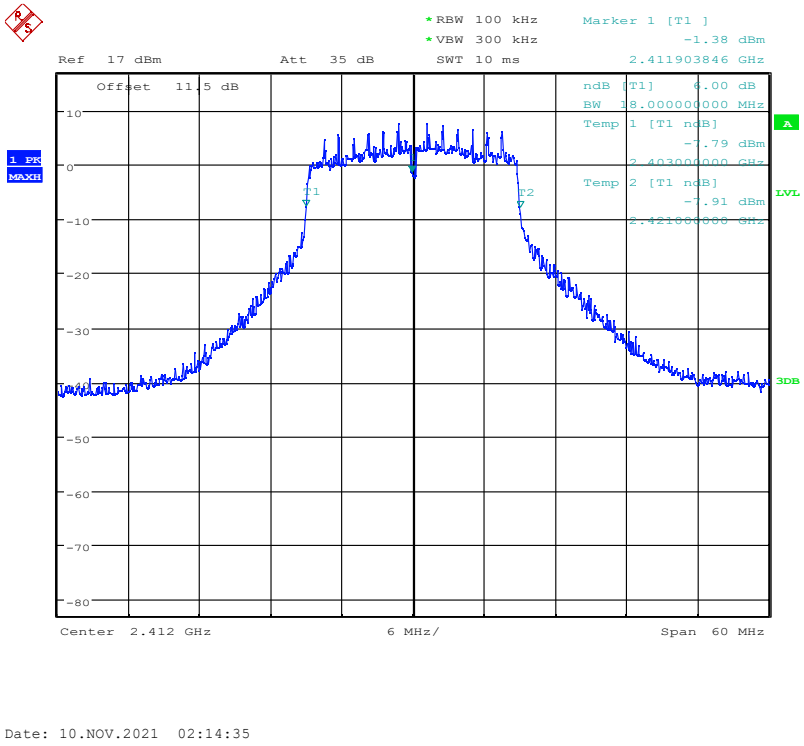


Fig.99 6dB Bandwidth: Ch1,11n

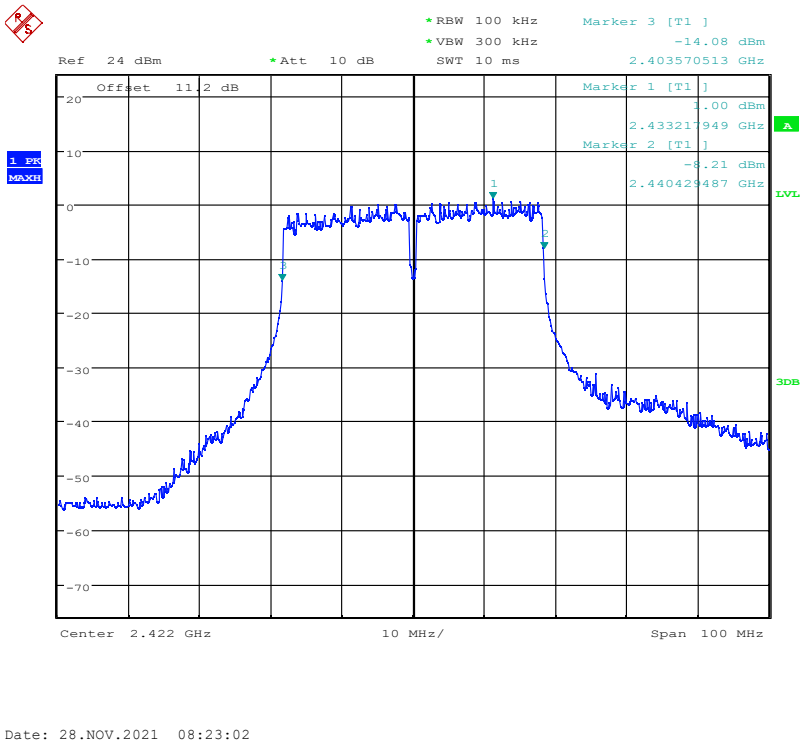


Fig.100 6dB Bandwidth: Ch3,11n(40M)

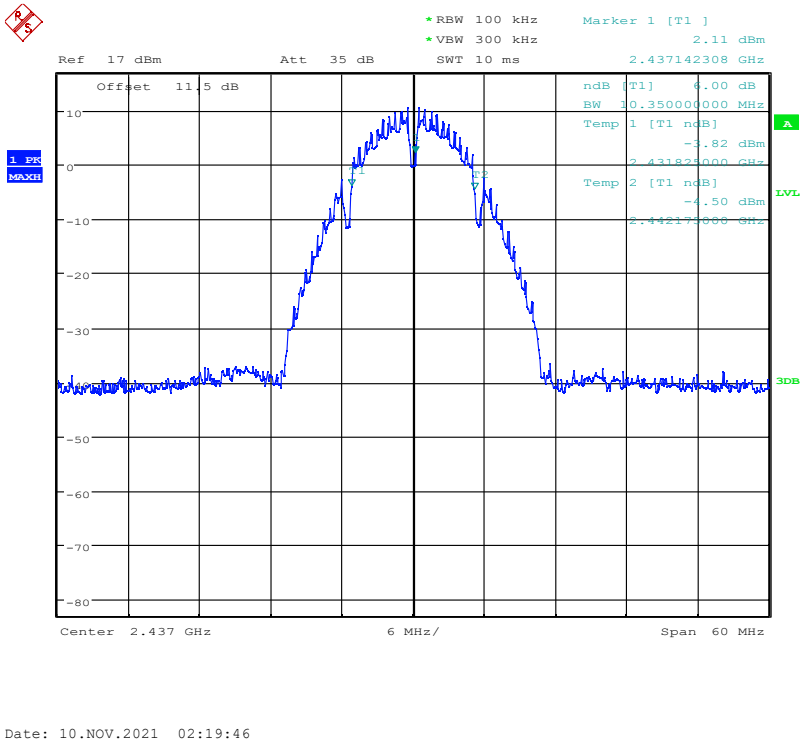


Fig.101 6dB Bandwidth: Ch6,11b

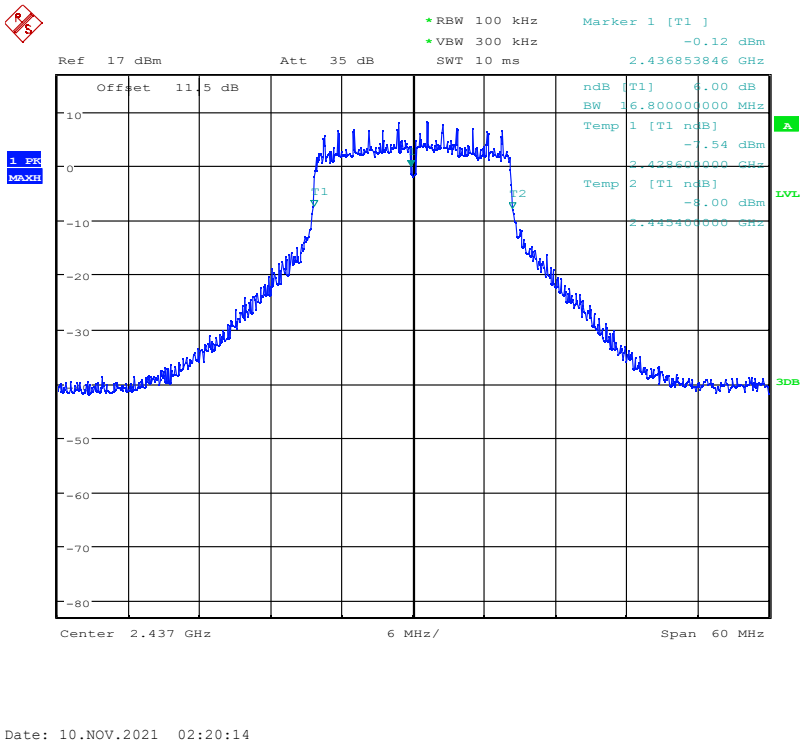


Fig.102 6dB Bandwidth: Ch6,11g

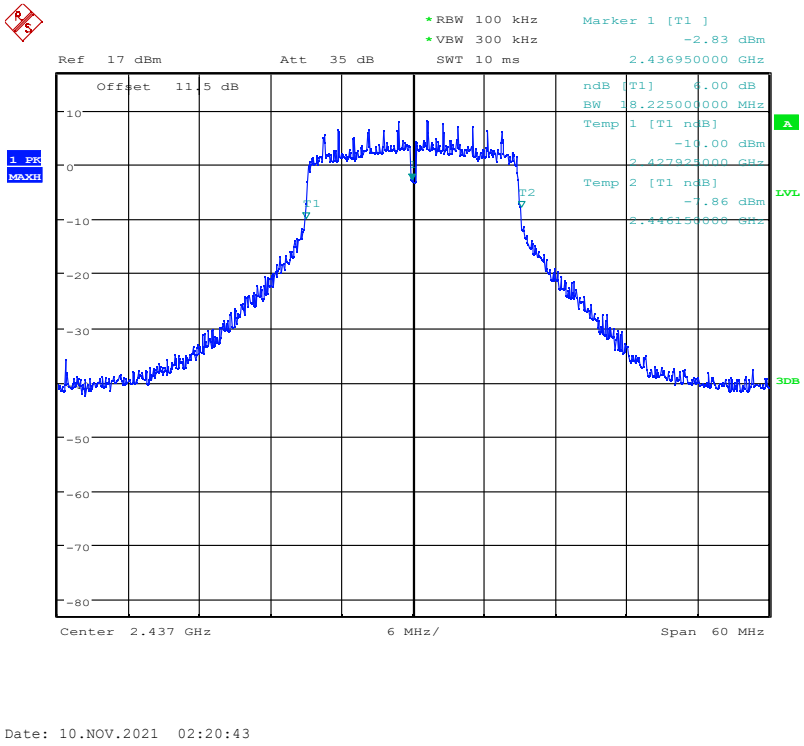


Fig.103 6dB Bandwidth: Ch6,11n

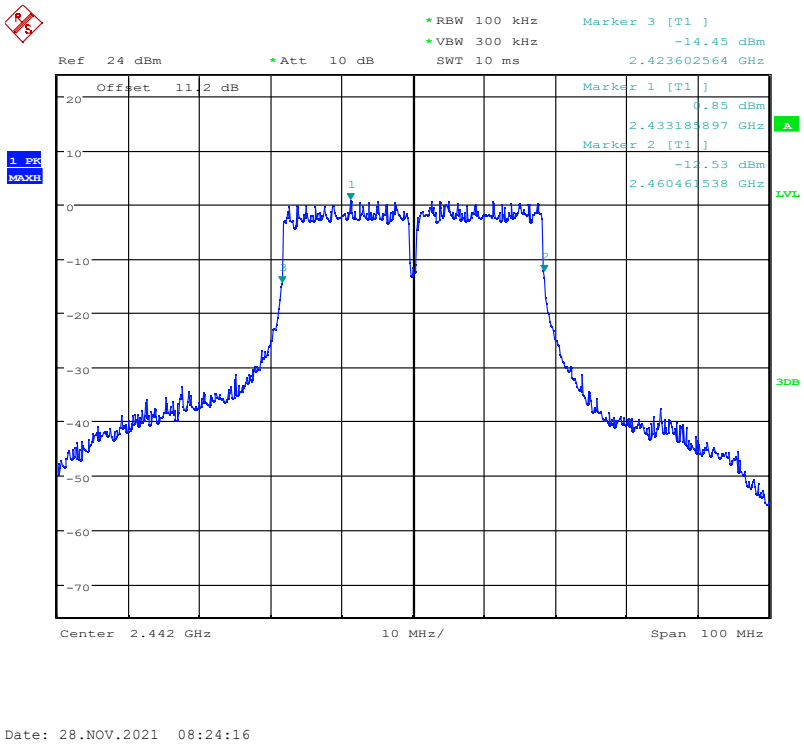


Fig.104 6dB Bandwidth: Ch6,11n(40M)

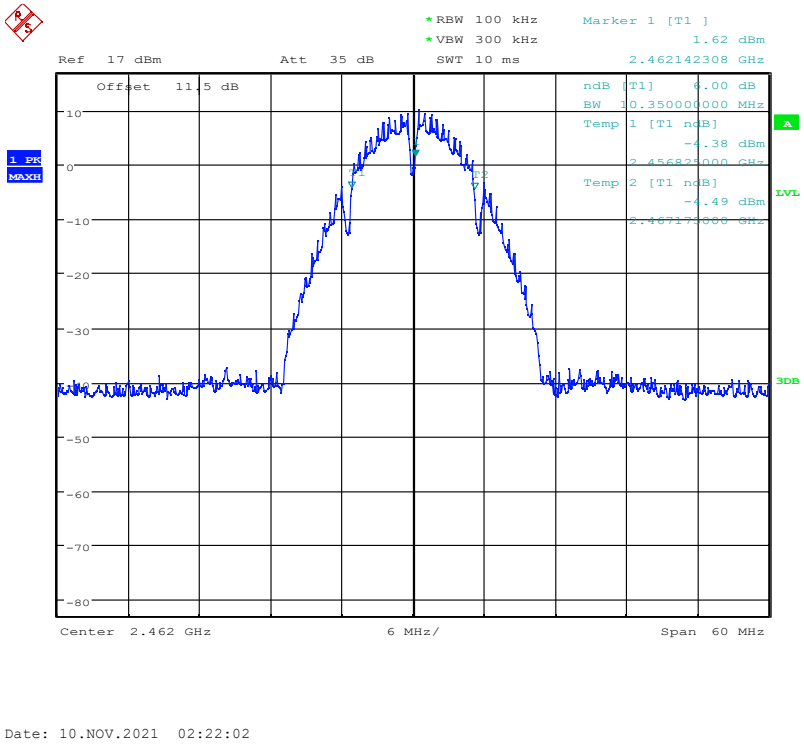


Fig.105 6dB Bandwidth: Ch11,11b

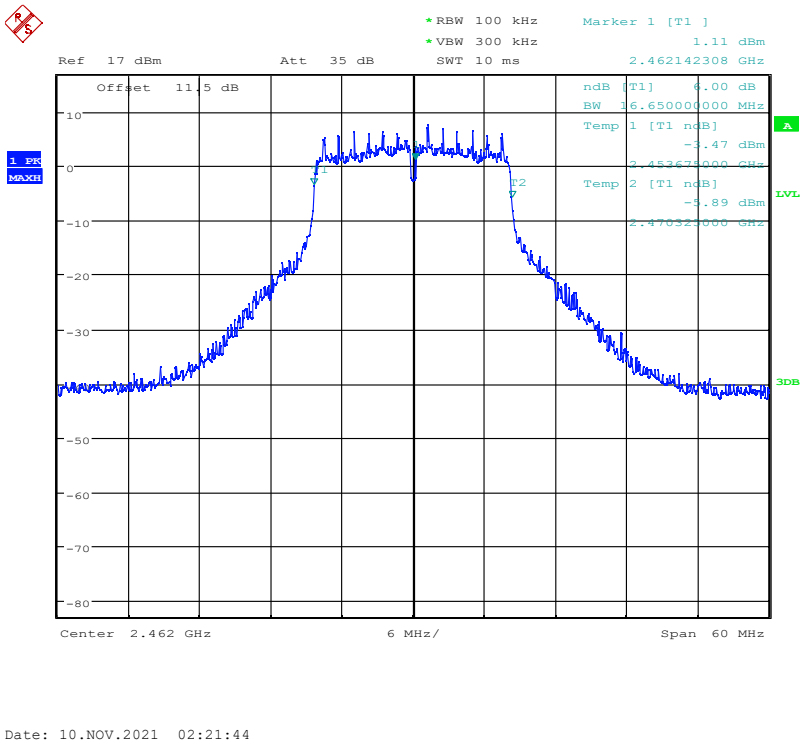


Fig.106 6dB Bandwidth: Ch11,11g

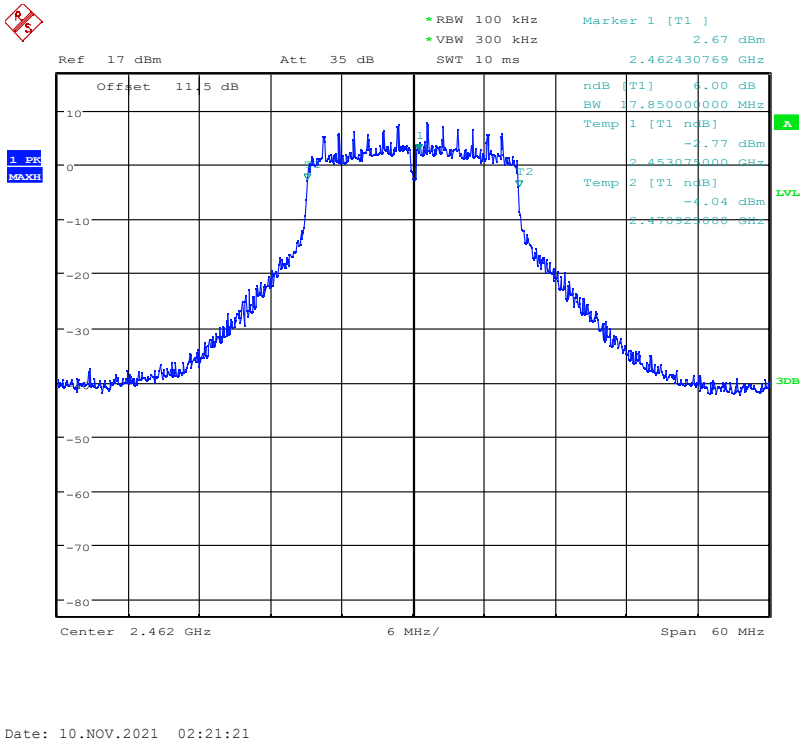


Fig.107 6dB Bandwidth: Ch11,11n

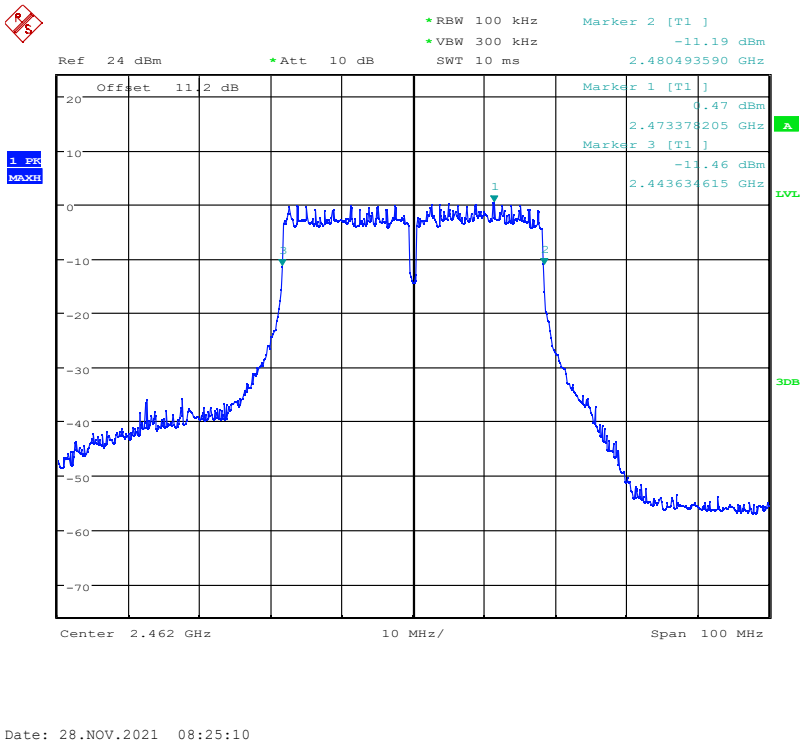


Fig.108 6dB Bandwidth: Ch11,11n(40M)

6.5. Band Edges Compliance

Specifications:	FCC 47 CFR Part 15.247(d)
DUT Serial Number:	865171050693269
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
Test Results:	Pass

Limit Level Construction:

Standard	**Limited**(dBuV/m)	
FCC 47 CFR Part 15.247(d)	Peak	74
	Average	54

Measurement Uncertainty:

Frequency Range	**Uncertainty**
1 GHz to 6 GHz	4.84

Test Procedure

The measurement is according to ANSI C63.10 clause11.13.

1. Span: Wide enough to capture the peak level of the emission operating on the channel closest to the band edge, as well as any modulation products that fall outside of the authorized band of operation.

2. Reference level offset: Corrected for gains and losses of test antenna factor, preamp gain and cable loss, so as to indicate field strength, in units of dBμV/m at 3 m, directly on the instrument display. Alternatively, the reference level offset may be set to zero and calculations shall be provided showing the conversion of raw measured data to thefield strength in dBμV/m at 3 m.

3. Reference level: As required to keep the signal from exceeding the maximum spectrum analyzer input mixer level for linear operation. In general, the peak of the spectral envelope shall be more than [10 log (OBW/RBW)] below the reference level. Specific guidance is given in 4.1.5.2..

4. Attenuation: Auto (at least 10 dB preferred).

5. Sweep time: Coupled.

6. Resolution bandwidth: Above 1 GHz: 1 MHz

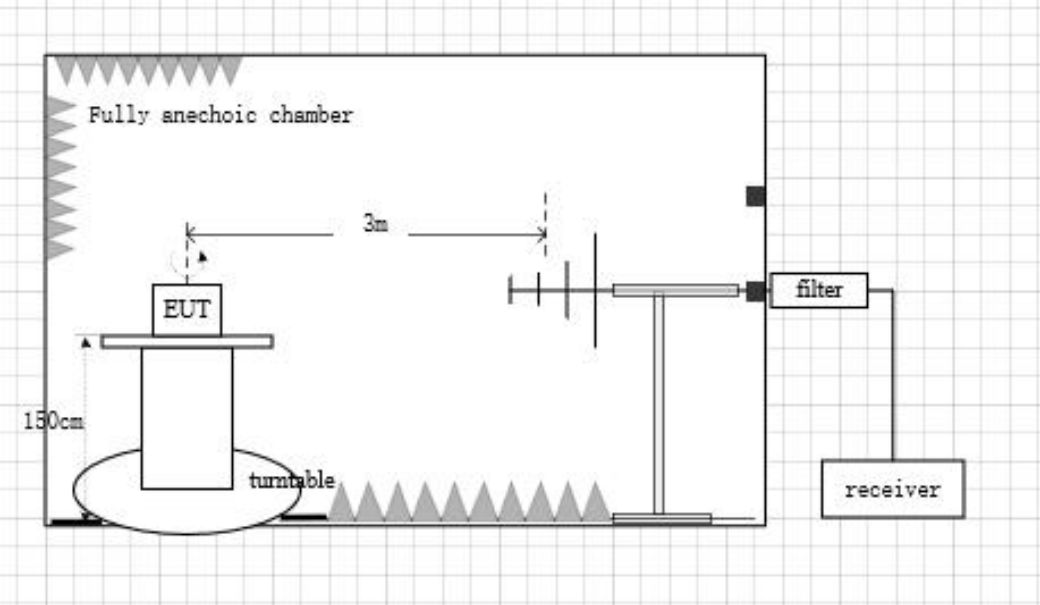
7. Video bandwidth: VBW for Peak, Quasi-peak, or Average Detector Function: 3×RBW

8. Detector (unless specified otherwise): Peak and average above 1 GHz

9. Trace: Max hold for final measurement; a combination of two traces, clear-write and max hold, is recommended for maximizing the emission.

Note: --

Test block diagram:



Test Result:

802.11b/g mode

mode	Channel	Test Results(dBuV/m)	Conclusion
802.11b	1	Fig.109	Pass
	11	Fig.110	Pass
802.11g	1	Fig.111	Pass
	11	Fig.112	Pass

802.11n mode

mode	Channel	Test Results(dBuV/m)	Conclusion
802.11n (20MHz)	1	Fig.113	Pass
	11	Fig.114	Pass
802.11n (40MHz)	3	Fig.115	Pass
	9	Fig.116	Pass

Conclusion: PASS

Test figure as below:

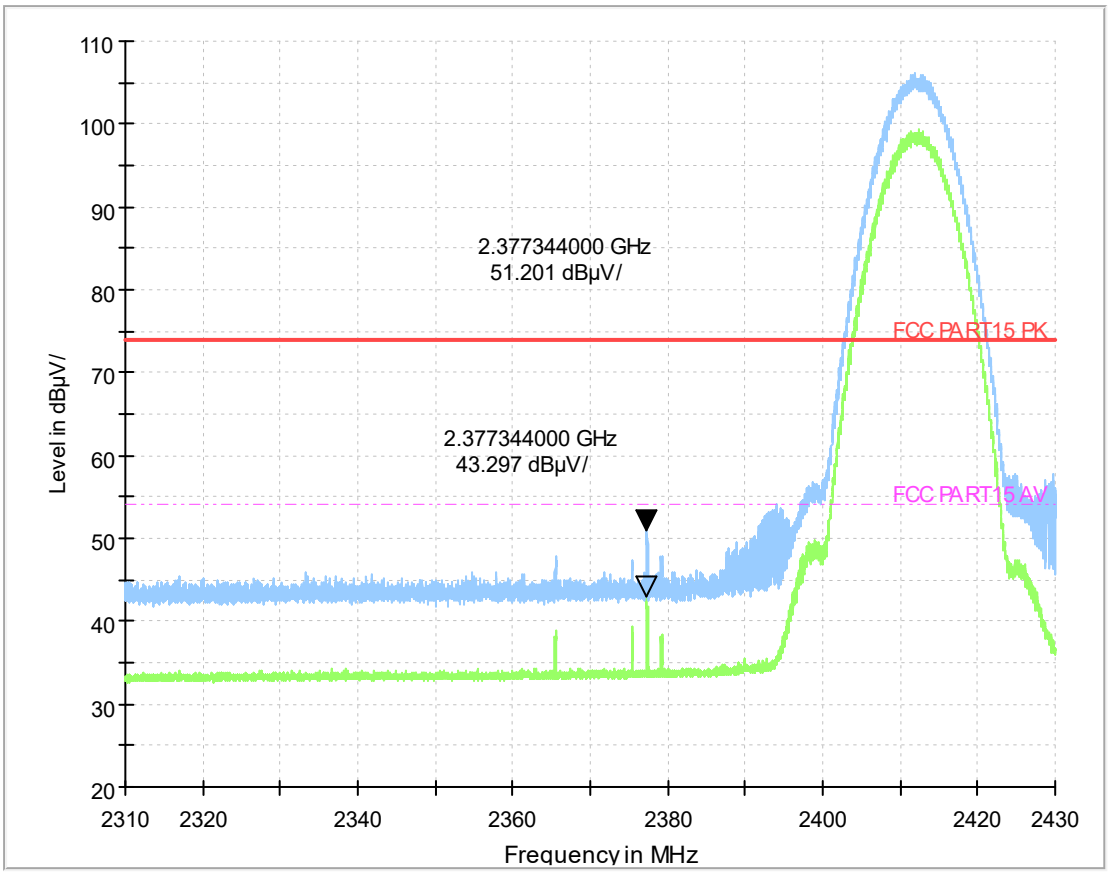


Fig.109 Frequency Band Edge: Ch1,11b

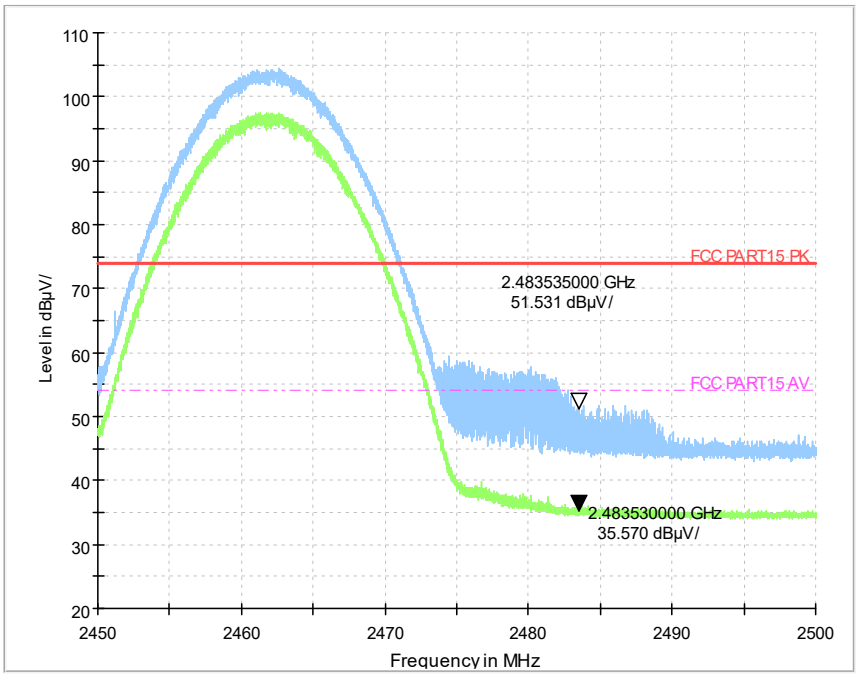


Fig.110 Frequency Band Edge: Ch11,11b

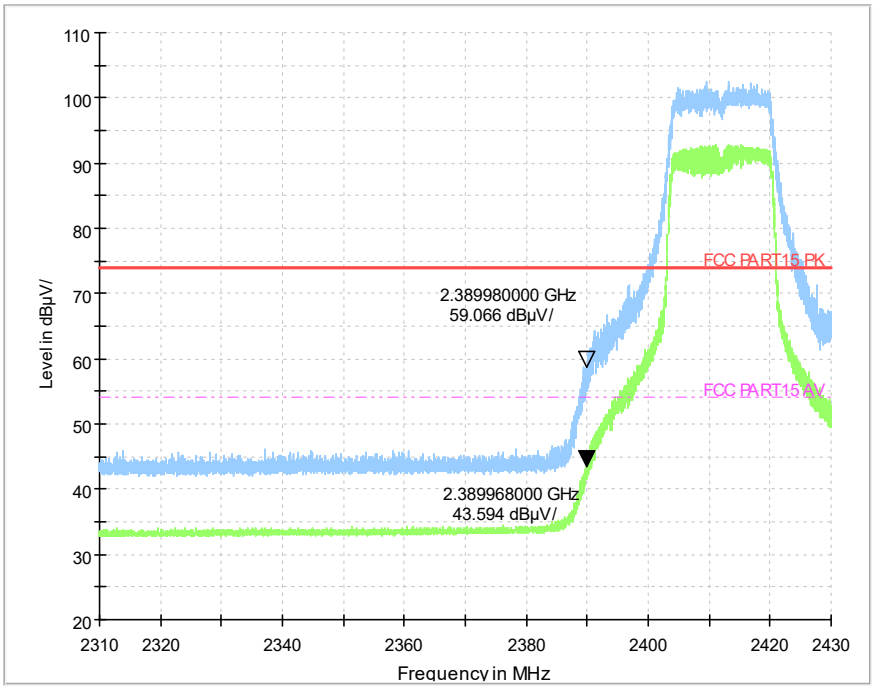


Fig.111 Frequency Band Edge: Ch1,11g

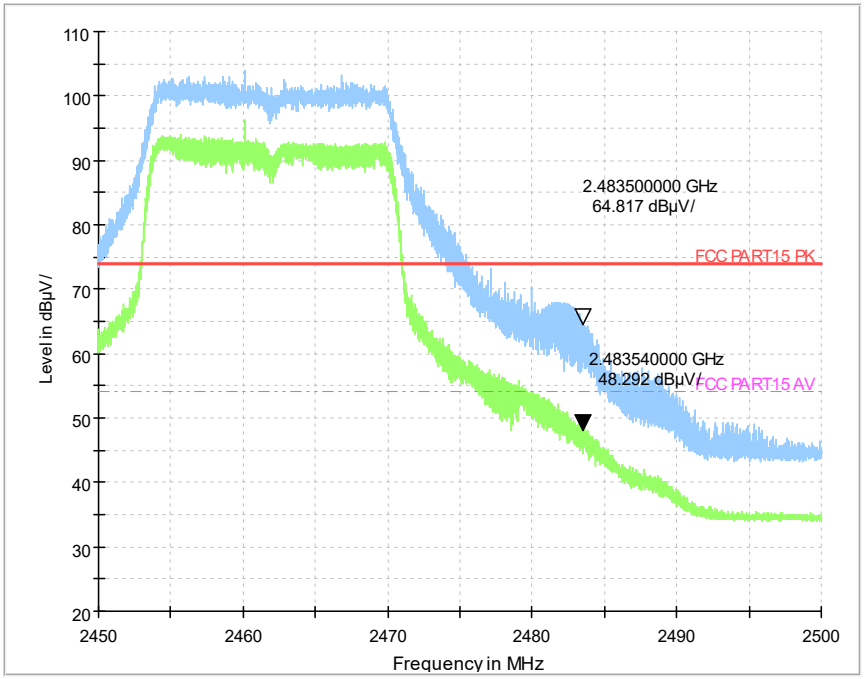


Fig.112 Frequency Band Edge: Ch11,11g

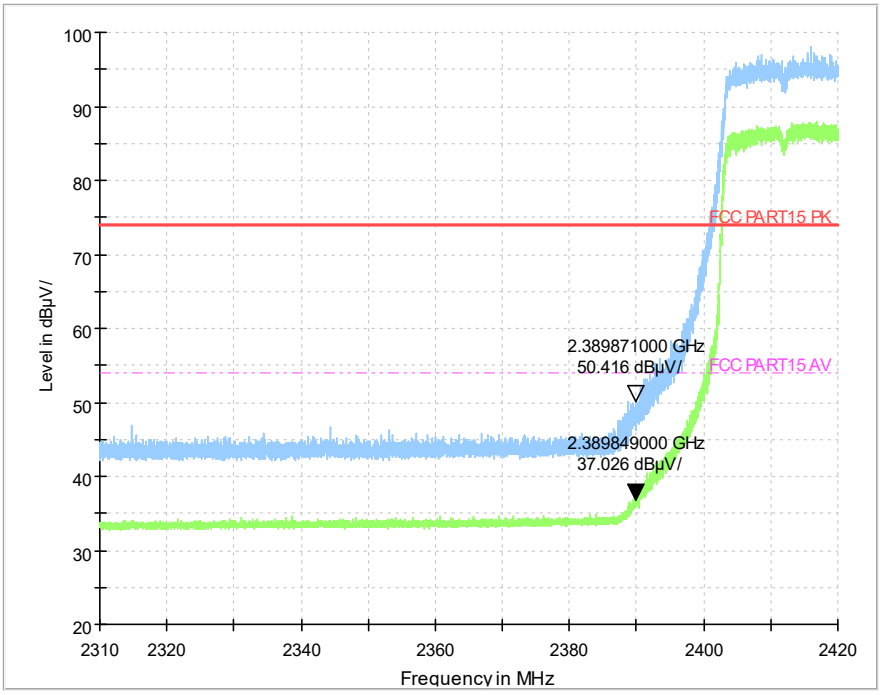


Fig.113 Frequency Band Edge: Ch1,11n(20M)

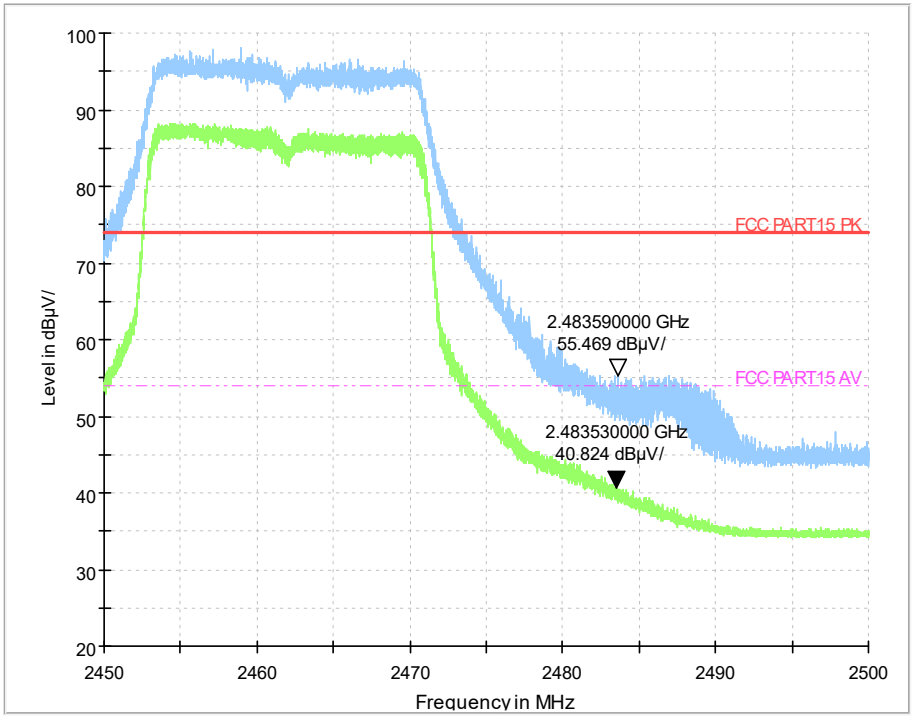


Fig.114 Frequency Band Edge: Ch11,11n(20M)

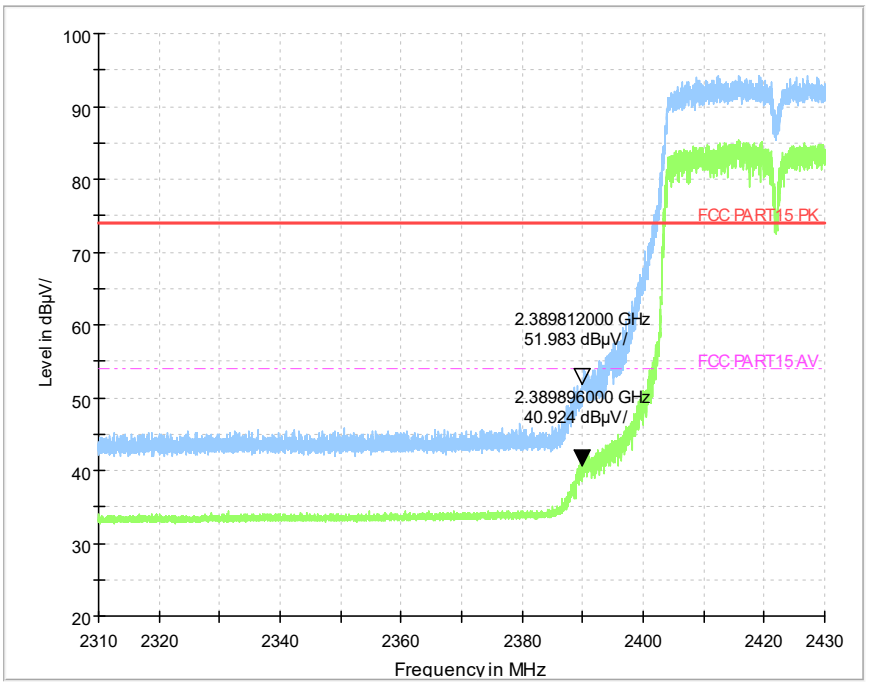


Fig.115 Frequency Band Edge: Ch3,11n(40M)

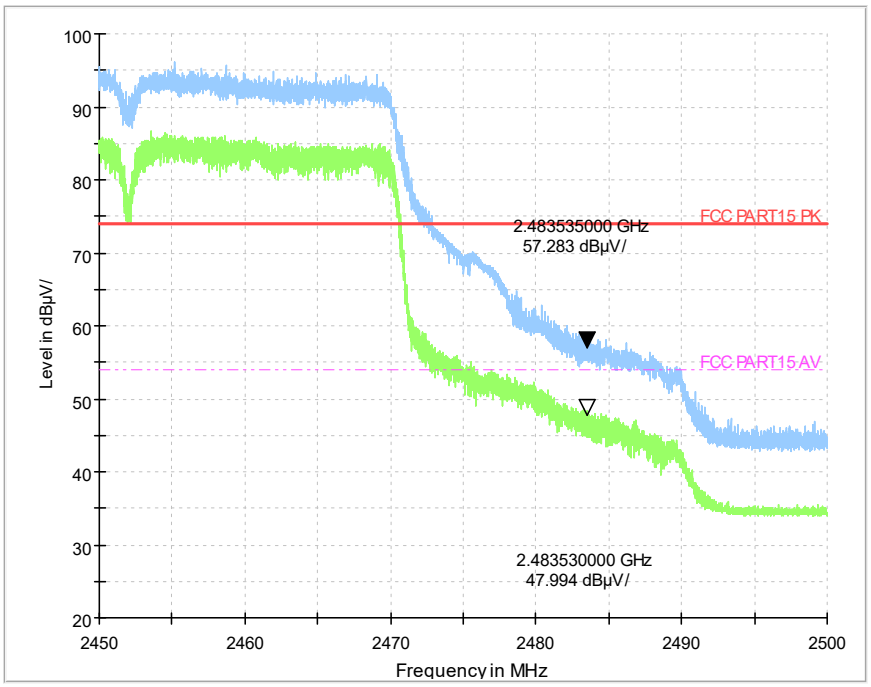


Fig.116 Frequency Band Edge: Ch9,11n(40M)

6.6. Transmitter Spurious Emission-Conducted

Specifications:	FCC 47 CFR Part15.247 (d)
DUT Serial Number:	865171050693608
Test conditions:	Ambient Temperature:15℃-35℃ Relative Humidity:30%-60% Air pressure: 86-106kPa
Test Results:	Pass

Limit

Standard	Limit
FCC 47 CFR Part15.247 (d)	20dB below peak output power in 100KHz bandwidth

Measurement Uncertainty:

Frequency Range	Uncertainty
30MHz ≤ f ≤ 26GHz	±2.7

Test Procedure

This measurement is according to ANSI C63.10 clause 11.11.

1. The output power of EUT was connected to the spectrum analyzer. The path loss was compensated to the results for each measurement.

2. Enable EUT transmitter maximum power continuously.

Reference level measurement

3. Set instrument center frequency to DTS channel center frequency.

4. Set the span to ≥ 1.5 times the DTS bandwidth.

5. Set the RBW = 100 kHz.

6. Set the VBW ≥ [3 × RBW].

7. Detector = peak.

8. Sweep time = auto couple.

9. Trace mode = max hold.

10. Allow trace to fully stabilize.

11. Use the peak marker function to determine the maximum PSD level.

Emission level measurement

12. Set the center frequency and span to encompass frequency range to be measured.

13. Set the RBW = 100 kHz.

14. Set the VBW ≥ [3 × RBW].

15. Detector = peak.

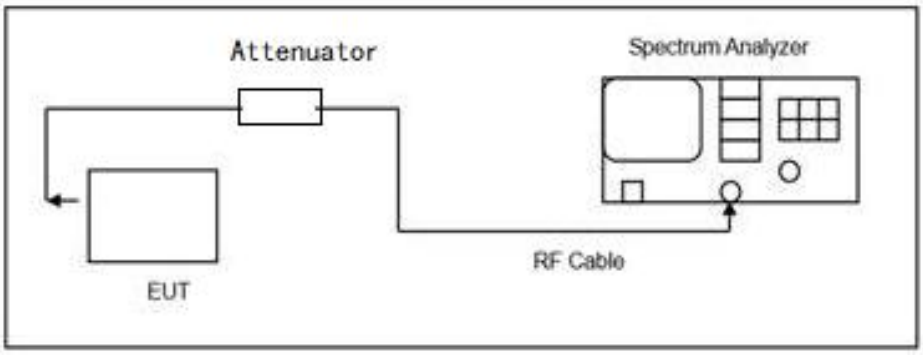
16. Sweep time = auto couple.

17. Trace mode = max hold.

18. Allow trace to fully stabilize.

19. Use the peak marker function to determine the maximum amplitude level.

Test block diagram:



Test Result:

802.11b/g mode

Mode	Channel	Frequency Range	Test Results	Conclusion
802.11b	1	2.412GHz	Fig.117	Pass
		30MHz~26GHz	Fig.118	Pass
	6	2.437GHz	Fig.119	Pass
		30MHz~26GHz	Fig.120	Pass
	11	2.462GHz	Fig.121	Pass
		30MHz~26GHz	Fig.122	Pass
802.11g	1	2.412GHz	Fig.123	Pass
		30MHz~26GHz	Fig.124	Pass
	6	2.437GHz	Fig.125	Pass
		30MHz~26GHz	Fig.126	Pass
	11	2.462GHz	Fig.127	Pass
		30MHz~26GHz	Fig.128	Pass