FCC / IC TEST REPORT

for

47 CFR Part 15 Subpart C and RSS-210

Equipment : 802.11a/b/g WLAN Radio Port-220

Trade Name : HP (Hewlett Packard) ProCurve

Model No. : RSVLC-0505

FCC ID : B94RSVLC-0505

IC ID : 466F-RSVLC505

Filing Type : Certification

Applicant : Hewlett-Packard ProCurve Networking
8000 Foothills Boulevard Roseville, CA 95747-5502
USA

- The test result refers exclusively to the test presented test model / sample.
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- **Certificate or Test Report must not be used by the applicant to claim the product in this test report endorsement by NVLAP or any agency of U.S. government.**
- The data shown in this test report were carried out on Nov. 18, 2005 at **Sporton International Inc. LAB.**
- Report No.: FR5O2016C-R1-B, Report Version: Rev. 01.

Dr. Daniel Lee

SAR / EMC Director

SPORTON International Inc.

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History of this test report

Report Issue Date: Nov. 25, 2005

Report No.	Description

1. General Description of Equipment under Test

1.1. Applicant

Hewlett-Packard ProCurve Networking
8000 Foothills Boulevard Roseville, CA 95747-5502 USA

1.2 Manufacturer

Universal Scientific Industrial Co., Ltd.
140, Lane 351, Taiping Road, Sec. 1, Tsao, Tuen, Nan_Tou, Taiwan

1.3 Basic Description of Equipment under Test

Equipment	: 802.11a/b/g WLAN Radio Port-220
Trade Name	: HP (Hewlett Packard) ProCurve
Model No.	: RSVLC-0505
FCC ID	: B94RSVLC-0505
IC ID	: 466F-RSVLC505
Power Supply Type	: PoE

1.4 Feature of Equipment under Test

Product Feature & Specification				
1. Host/Radio Interface	802.11a/b/g WLAN Radio Port-220			
2. Housing Type	Metallic housing for RSLVC-0505			
3. Modulation Type/Data Rate	OFDM:54/48/36/24/18/12/9/6Mbps CCK:11/5Mbps DQPSK:2Mbps DBPSK:1Mbps			
4. Freq.Range/Carrier Freqs.	2400~2483.5MHz; 5725~5850MHz (Band III)			
5. Number o f Channels	802.11g/b: 11 Ch 802.11a: 5Ch(5725~5850MHz)			
6. Carrier Frequency of each channel	802.11g/b: 2412+ (m-1)*5, m=1~11 802.11a: 5000+n*5 MHz, n=149,153,157,161,165			
7. Channel Spacing	802.11g/b: 5MHz 802.11a: 20MHz			
8. Maximum Output Power to Antenna (Normal condition)	Refer to power table 1.6			
9. Type of Antenna Connector	Refer to Antenna list 1.5			
10. Antenna Type				
11. Antenna Gain				
12. Function Type	Transmitter		Transceiver	V
13. Power Rating (DC/AC , Voltage)	Power Over Ethernet (48V)			
14. Duty Cycle	100%			

1.5 Antenna List

Antenna List	Antenna Type	Model Name	Net Gain (dBi)	Frequency Range (GHz)	Application	Housing Type	Connector Type
Antenna 1	Integral	Integral	2 / 3.8	2.4 ~ 2.5/ 5.15 ~ 5.825	11b/g; 11 a band I/II/III	Plastic	NA
Antenna 2	Dipole	J8441A	4.4	2.4 ~ 2.5	11 b/g	Metallic	RP-SMA MALE
Antenna 3	Dipole	J8444A	7.4	2.4 ~ 2.5	11 b/g	Metallic	RP-SMA MALE
Antenna 4	Yagi	J8448A	13.8	2.4 ~ 2.5	11 b/g	Metallic	N Type Female
Antenna 5	Panel	J8997A	3 / 4	2.4 ~ 2.5/ 5.15 ~ 5.825	11b/g; 11 a band I/II/III	Metallic	RP-SMA MALE
Antenna 6	Dipole	J8998A	6.3	5.15 ~ 5.875	11 a band I/II/III	Metallic	RP-SMA MALE
Antenna 7	Panel	J8999A	6.9 / 7.7	2.4 ~ 2.5/ 5.15 ~ 5.825	11b/g; 11 a band I/II/III	Metallic	RP-SMA MALE
Antenna 8	Panel	J9000A	13.3	5.15 ~ 5.875	11 a band I/II/III	Metallic	RP-SMA MALE
Antenna 9	Dipole	ML-2452-APA 2-01	3 / 4	2.4 ~ 2.5/ 5.15 ~ 5.825	11b/g; 11 a band I/II/III	Metallic	RP-SMA MALE

Remark:

Antenna types J8441A and J8997A were not tested as they are the same type, with similar radiated pattern and less gain than the J8444A and J8999A antennas respectively; this is in accordance with FCC Rules 15.204’

1.6 Power Table

Antenna List	802.11b	802.11g	802.11a/band 1	802.11a/band 2	802.11a/band 3
Antenna 2	14.03 dBm	16.41 dBm	N A	N A	N A
Antenna 3	14.03 dBm	16.41 dBm	N A	N A	N A
Antenna 4	15.4 dBm	19.5 dBm	N A	N A	N A
Antenna 5	17.63 dBm	19.76 dBm	15.08 dBm	21.67 dBm	19.01 dBm
Antenna 6	N A	N A	16.49 dBm	23.63 dBm	19.01 dBm
Antenna 7	17.63 dBm	19.76 dBm	15.08 dBm	21.67 dBm	19.01 dBm
Antenna 8	N A	N A	9.44 dBm	20.39 dBm	16.42 dBm
Antenna 9	18.58 dBm	19.05 dBm	16.66 dBm	21.52 dBm	19.01 dBm

2 Test Configuration of Equipment under Test

2.1 Test Manner

a. The EUT has been associated with peripherals pursuant to ANSI C63.4-2003 and configuration operated in a manner tended to maximize its emission characteristics in a typical application.

b. The complete test system refers to section 2.2 and EUT for EMI test.

c. The following test modes were tested for conduction test:

Mode 1: Ping mode

d. Radiation test refer to Test Matrix:

Mode Ref. No.	1	2	3	4	5	6	7	8	9
Mode Name / Antenna	802.11b Tx Ch1	802.11b Tx Ch6	802.11b Tx Ch11	802.11g Tx Ch1	802.11g Tx Ch6	802.11g Tx Ch11	802.11a Tx Ch149	802.11a Tx Ch157	802.11a Tx Ch165
Antenna 3	Y	Y	Y	Y	Y	Y			
Antenna 4	Y	Y	Y	Y	Y	Y			
Antenna 6							Y	Y	Y
Antenna 7	Y	Y	Y	Y	Y	Y	Y	Y	Y
Antenna 8							Y	Y	Y
Antenna 9	Y	Y	Y	Y	Y	Y	Y	Y	Y

e. Conducted test refer to Test Matrix:

Mode Ref. No.	1	2	3	4	5	6	7	8	9
Mode Name / Antenna	802.11b Tx Ch1	802.11b Tx Ch6	802.11b Tx Ch11	802.11g Tx Ch1	802.11g Tx Ch6	802.11g Tx Ch11	802.11a Tx Ch149	802.11a Tx Ch157	802.11a Tx Ch165
Antenna 3	Y	Y	Y	Y	Y	Y			
Antenna 4	Y	Y	Y	Y	Y	Y			
Antenna 6							Y	Y	Y
Antenna 7	Y	Y	Y	Y	Y	Y	Y	Y	Y
Antenna 8							Y	Y	Y
Antenna 9	Y	Y	Y	Y	Y	Y	Y	Y	Y

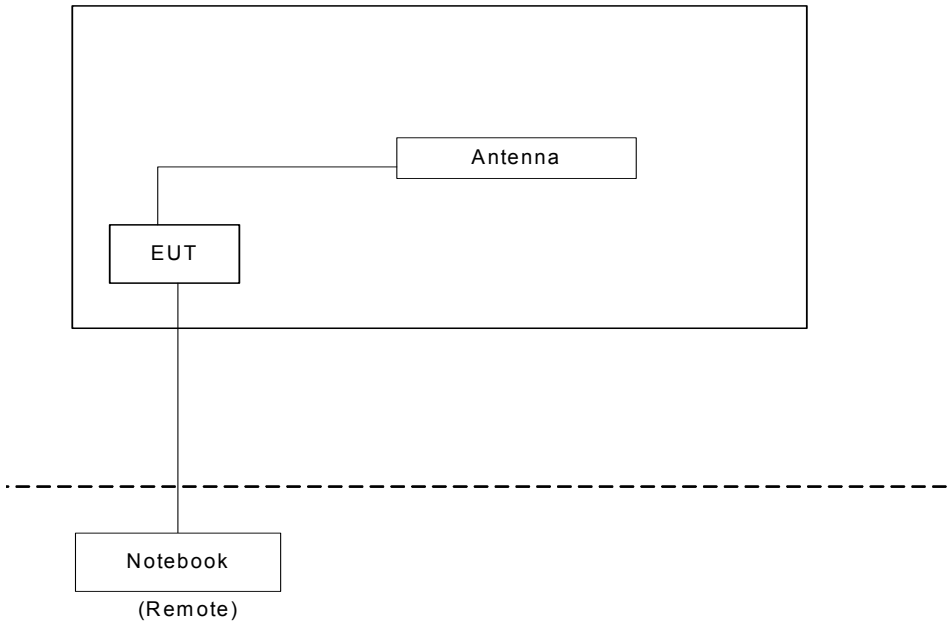
f. Frequency range investigated: conduction 150 kHz to 30 MHz, radiation 30 MHz to 25000MHz for 802.11b/g and 30MHz to 40GHz for 802.11a.

Remark: Antenna 2 shares the same conducted data with Antenna 3, Antenna 5 shares the same conducted data with Antenna 7.

2.2 Description of Test System

Item	Asset	Model Name	Power Cord
1.	Notebook (DELL)	D400	N/A
2.	UTP Cable	N/A	Non-shielded, 13m

2.3 Connection Diagram of Test System



3 Operation of Equipment under Test

During the test, the following programs on WINXP were executed:
one self test program ”WinLEO Version 00.33” to keep transmitting signals.

4 General Information of Test

Test Site Location	:	No. 52, Hwa Ya 1st Rd., Hwa Ya Technology Park, Kwei-Shan Hsiang, Tao Yuan Hsien, Taiwan, R.O.C. TEL : 886-3-327-3456 FAX : 886-3-318-0055
Test Site No	:	CO01-HY, 03CH06-HY

4.1 Test Voltage

110V/ 60Hz

4.2 Standard for Methods of Measurement

ANSI C63.4-2003

4.3 Test in Compliance with

47 CFR Part 15 Subpart C and RSS-210

4.4 Frequency Range Investigated

a. Conduction: from 150 kHz to 30 MHz
b. Radiation: from 30 MHz to 25000 MHz for 802.11b/g
c. Radiation: from 30MHz to 40000MHz for 802.11a/ band III.

4.5 Test Distance

The test distance of radiated emission from antenna to EUT is 3 m.

5 Report of Measurements and Examinations

5.1 List of Measurements and Examinations

FCC Rule	IC Rule	Description of Test	Result
15.207	6.6 & 7.4	Conducted Emission	Pass
15.247(a)(2)	Amendment 1	6dB Bandwidth	Pass
15.247(b)	6.2.2(o)(a3) & Amendment 1	Maximum Peak Output Power	Pass
15.209(a)	6.2.2 (o)(e1)	Radiated Emission	Pass
15.247 (c)	6.2.2 (o)(e1)	100kHz Bandwidth of Frequency Band Edges	Pass
15.247(d)	§ 6.2.2 (o) (b) & Amendment 1	Power Spectral Density	Pass
15.203 15.247(b)(4)	6.2.2 (o)(e2) & 6.2.2 (o)(a3)	Antenna Requirement	Pass

5.2 6dB Bandwidth

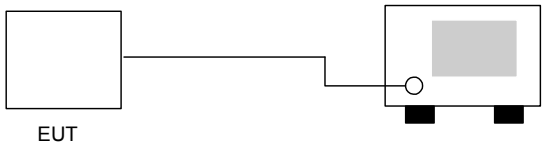
5.2.1 Measuring Instruments：

As described in chapter 9 of this test report.

5.2.2 Test Procedure：

1. The transmitter output was connected to the spectrum analyzer directly.
2. Set RBW of spectrum analyzer to 100kHz and VBW to 100kHz.
3. The 6 dB bandwidth is defined as the frequency range where the power is higher than the peak power minus 6dB.

5.2.3 Test Setup Layout：



5.2.4 Test Result：

- Temperature : 24℃
- Relative Humidity :52%

◆ Test Antenna: Antenna 3

➢ Application: 802.11b

Channel	Frequency (MHz)	6dB Emission bandwidth (MHz)	Limits (MHz)	Mode Ref. No.
01	2412	11.48	>0.5	3-1
06	2437	11.48	>0.5	3-2
11	2462	11.48	>0.5	3-3

➢ Application: 802.11g

Channel	Frequency (MHz)	6dB Emission bandwidth (MHz)	Limits (MHz)	Mode Ref. No.
01	2412	16.40	>0.5	3-4
06	2437	16.40	>0.5	3-5
11	2462	16.40	>0.5	3-6

◆ Test Antenna: Antenna 4

➢ Application: 802.11b

Channel	Frequency (MHz)	6dB Emission bandwidth (MHz)	Limits (MHz)	Mode Ref. No.
01	2412	12.56	>0.5	4-1
06	2437	11.48	>0.5	4-2
11	2462	11.48	>0.5	4-3

➢ Application: 802.11g

Channel	Frequency (MHz)	6dB Emission bandwidth (MHz)	Limits (MHz)	Mode Ref. No.
01	2412	16.40	>0.5	4-4
06	2437	16.40	>0.5	4-5
11	2462	16.40	>0.5	4-6

◆ Test Antenna: Antenna 6

➢ Application: 802.11a

Channel	Frequency (MHz)	6dB Emission bandwidth (MHz)	Limits (MHz)	Mode Ref. No.
149	5745	16.36	>0.5	6-7
157	5785	16.36	>0.5	6-8
165	5825	16.36	>0.5	6-9

◆ Test Antenna: Antenna 7

➢ Application: 802.11b

Channel	Frequency (MHz)	6dB Emission bandwidth (MHz)	Limits (MHz)	Mode Ref. No.
01	2412	11.52	>0.5	7-1
06	2437	11.52	>0.5	7-2
11	2462	11.52	>0.5	7-3

➢ Application: 802.11g

Channel	Frequency (MHz)	6dB Emission bandwidth (MHz)	Limits (MHz)	Mode Ref. No.
01	2412	16.40	>0.5	1-4
06	2437	16.36	>0.5	1-5
11	2462	16.36	>0.5	1-6

➢ Application: 802.11a

Channel	Frequency (MHz)	6dB Emission bandwidth (MHz)	Limits (MHz)	Mode Ref. No.
149	5745	16.36	>0.5	7-7
157	5785	16.36	>0.5	7-8
165	5825	16.36	>0.5	7-9

◆ Test Antenna: Antenna 8

➢ Application: 802.11a

Channel	Frequency (MHz)	6dB Emission bandwidth (MHz)	Limits (MHz)	Mode Ref. No.
149	5745	16.36	>0.5	8-7
157	5785	16.36	>0.5	8-8
165	5825	16.36	>0.5	8-9

◆ Test Antenna: Antenna 9

➢ Application: 802.11b

Channel	Frequency (MHz)	6dB Emission bandwidth (MHz)	Limits (MHz)	Mode Ref. No.
01	2412	11.52	>0.5	9-1
06	2437	11.08	>0.5	9-2
11	2462	11.08	>0.5	9-3

➢ Application: 802.11g

Channel	Frequency (MHz)	6dB Emission bandwidth (MHz)	Limits (MHz)	Mode Ref. No.
01	2412	16.36	>0.5	9-4
06	2437	16.36	>0.5	9-5
11	2462	16.40	>0.5	9-6

➢ Application: 802.11a

Channel	Frequency (MHz)	6dB Emission bandwidth (MHz)	Limits (MHz)	Mode Ref. No.
149	5745	16.36	>0.5	9-7
157	5785	16.36	>0.5	9-8
165	5825	16.36	>0.5	9-9

5.2.5 Test Data

Mode Ref. No.

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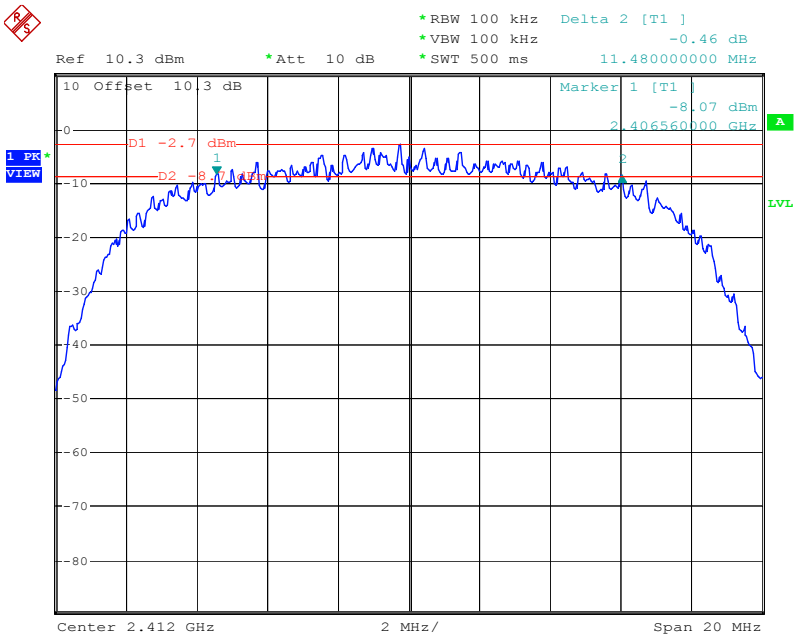

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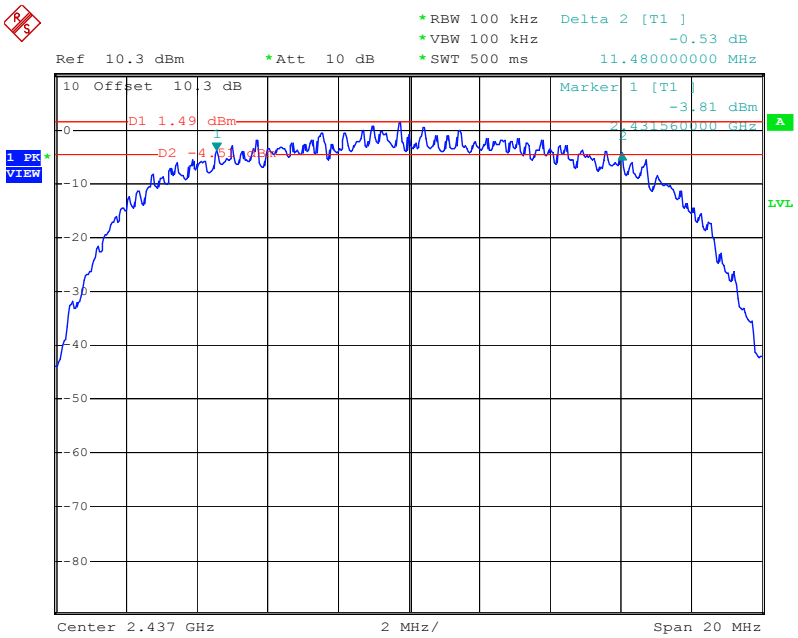

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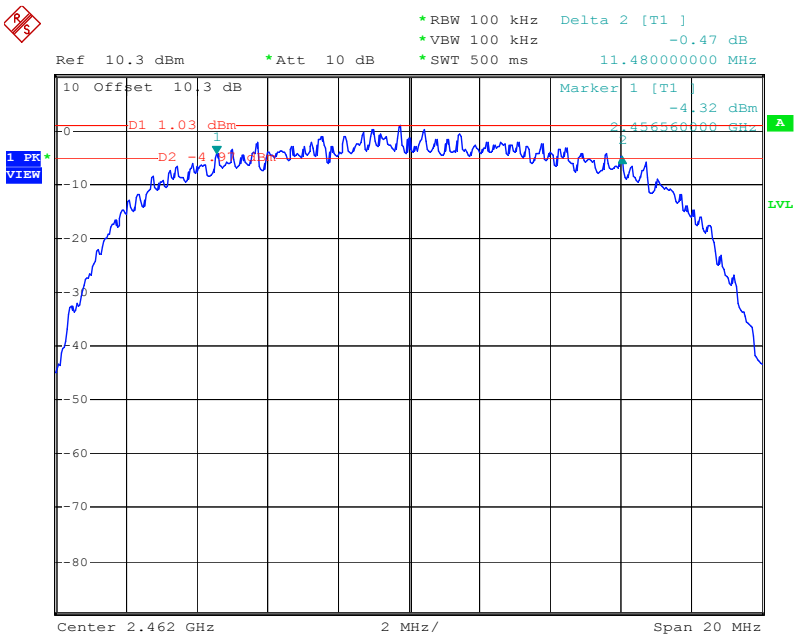

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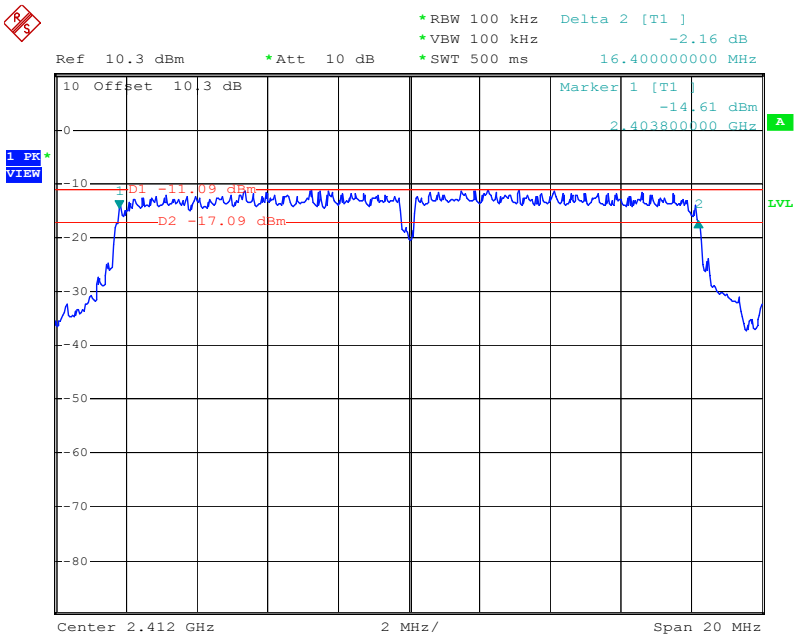

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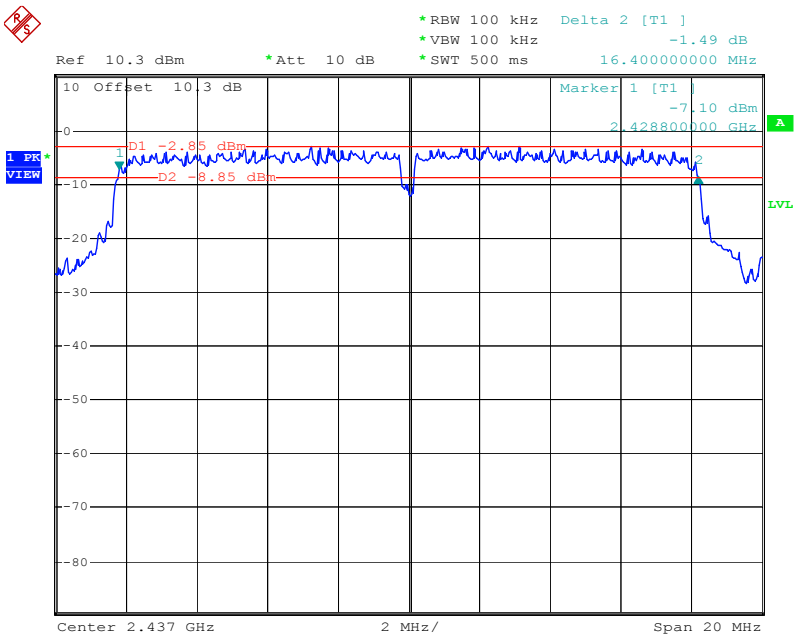

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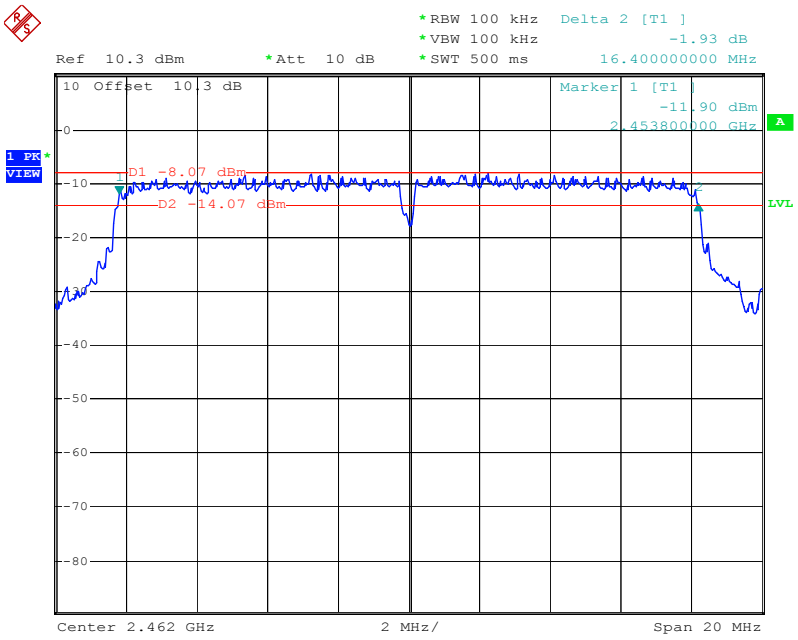

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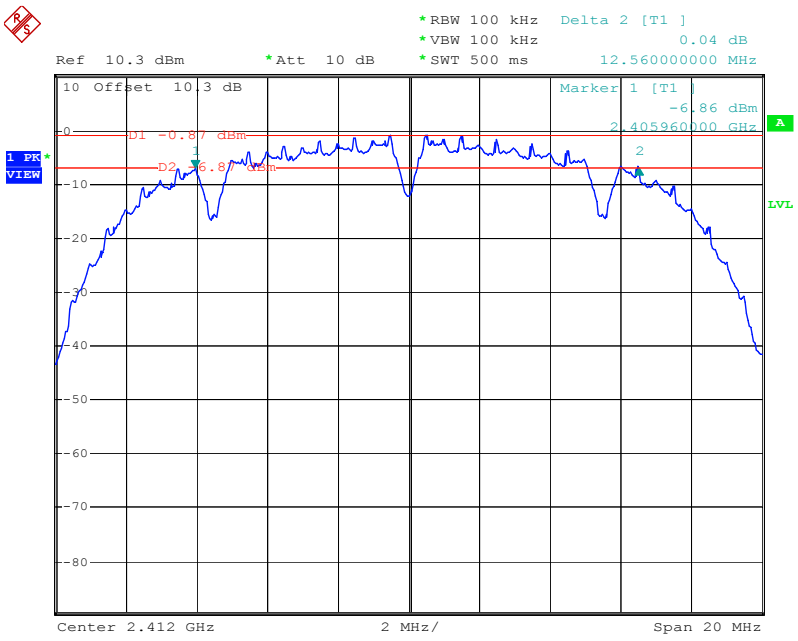

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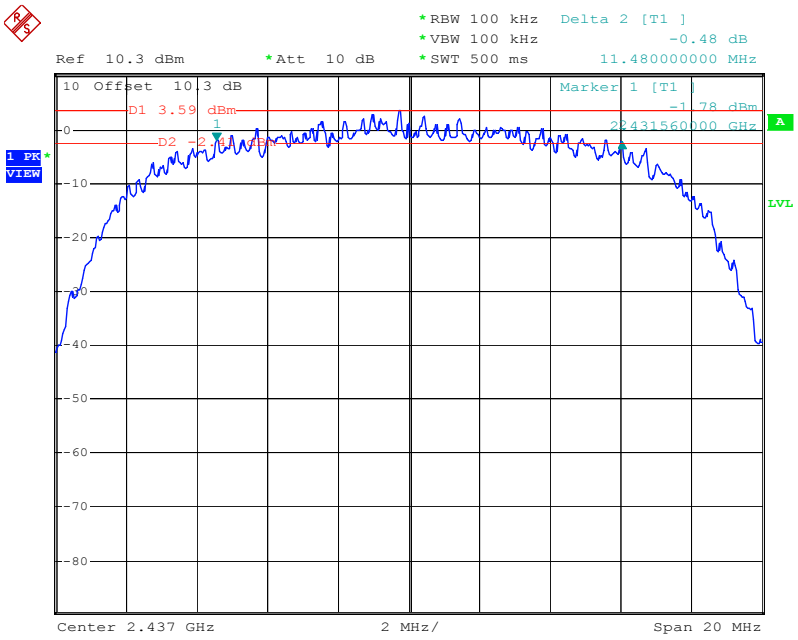

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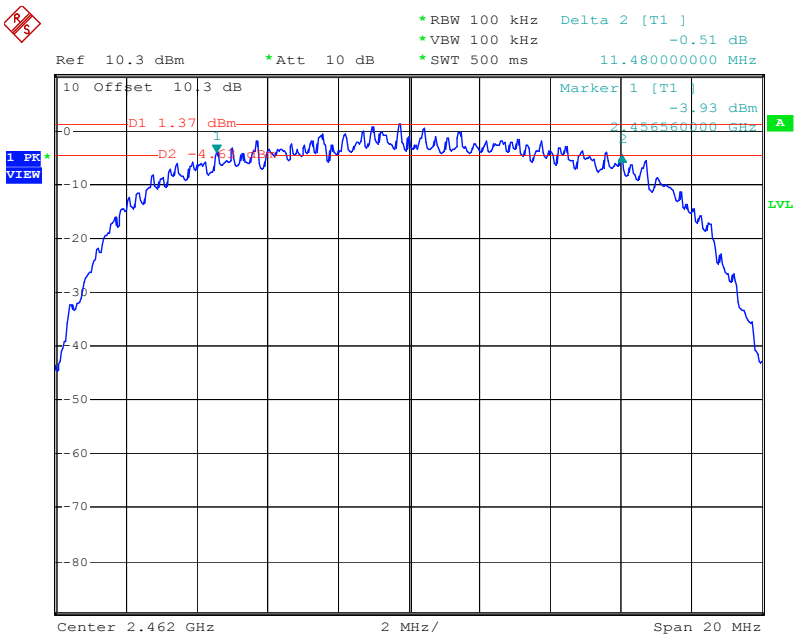

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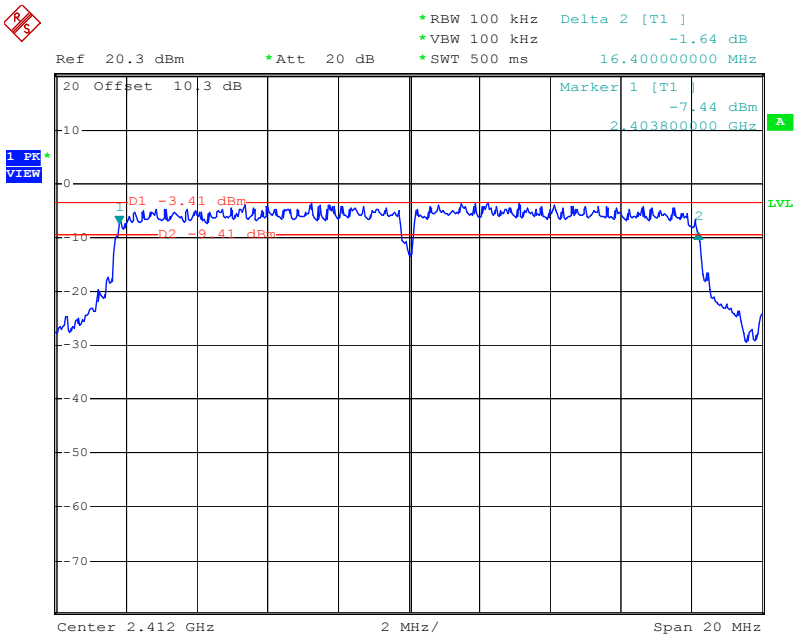

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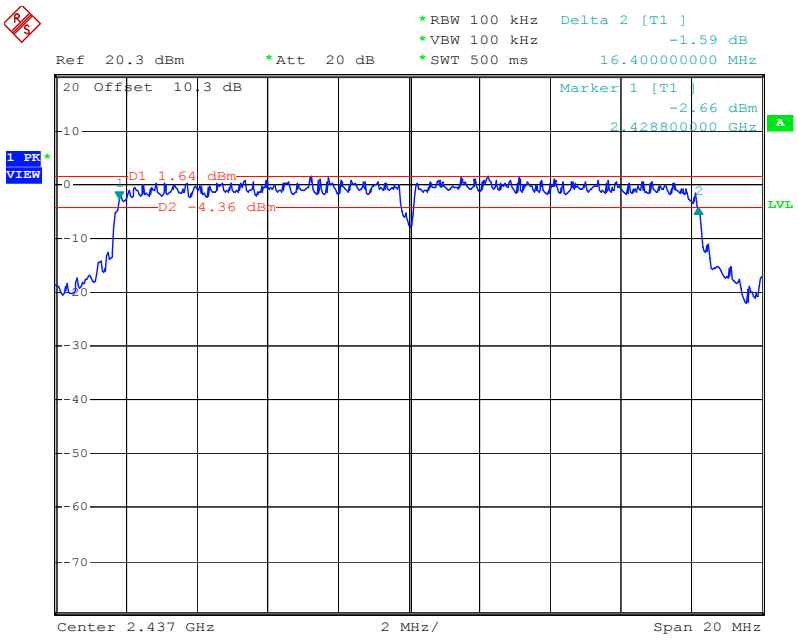

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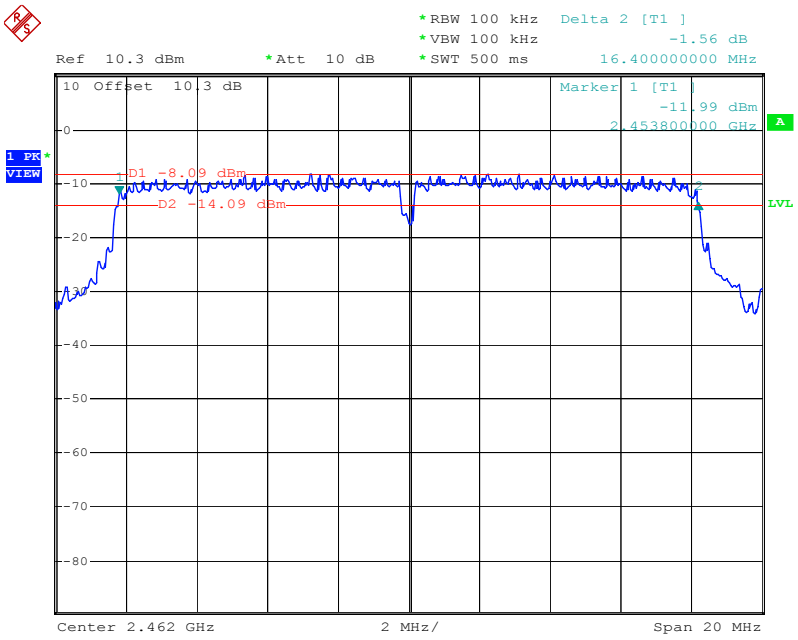

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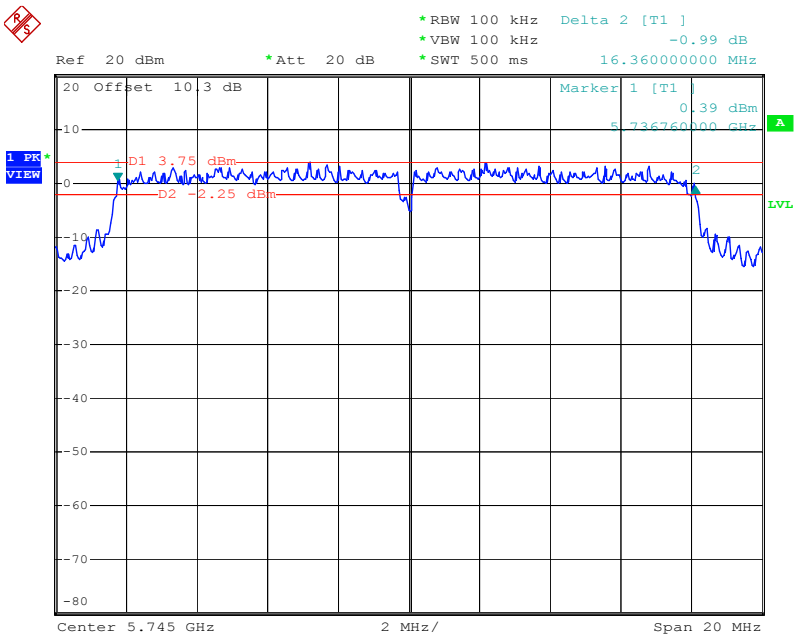

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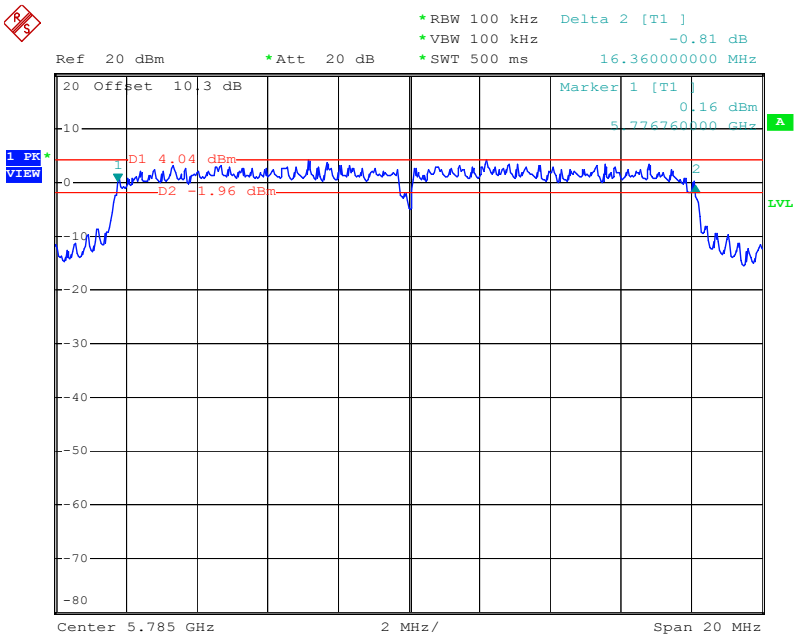

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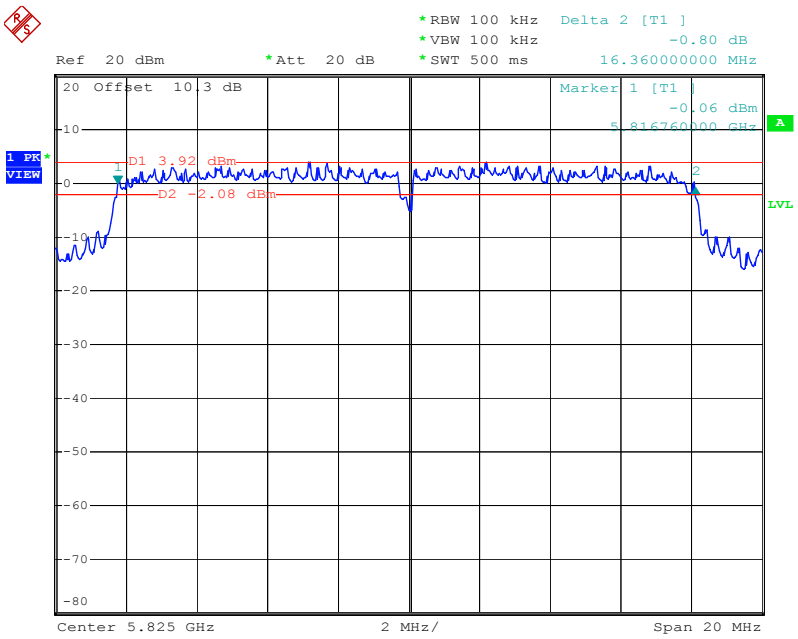

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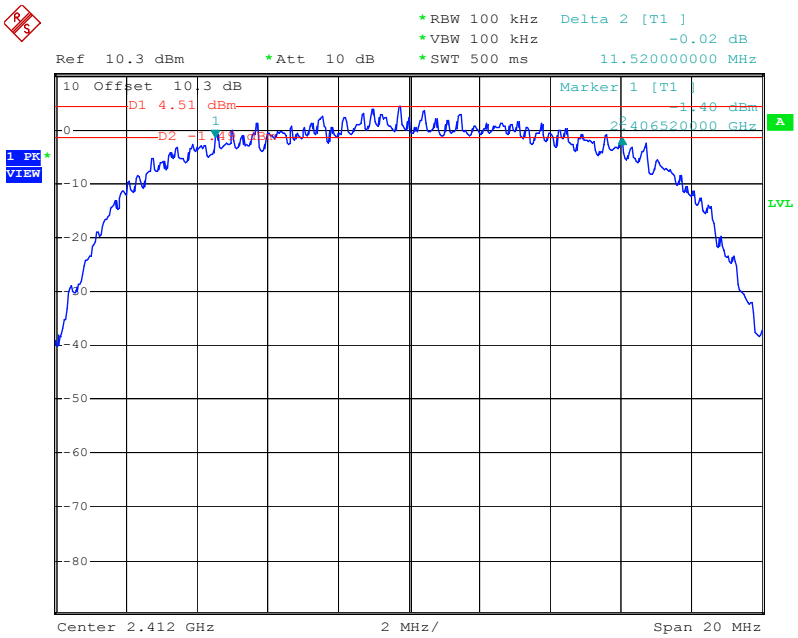

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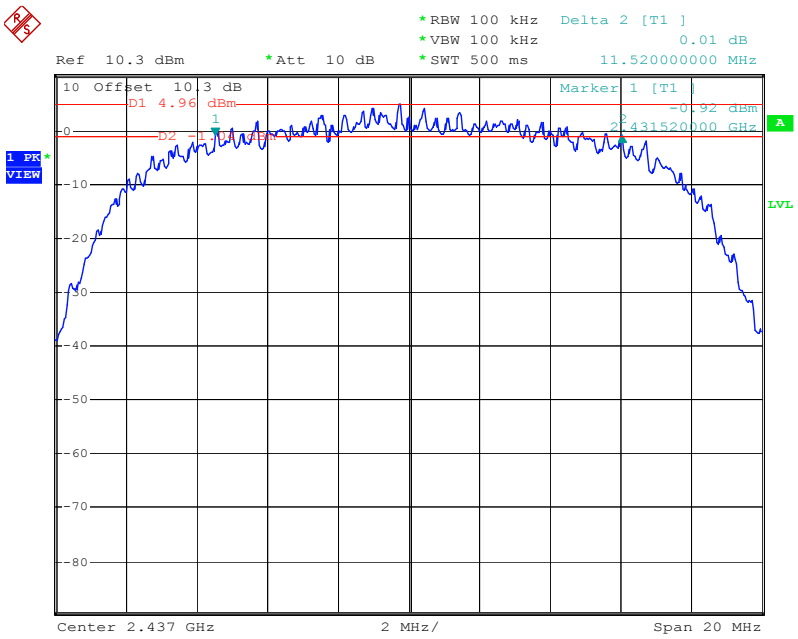

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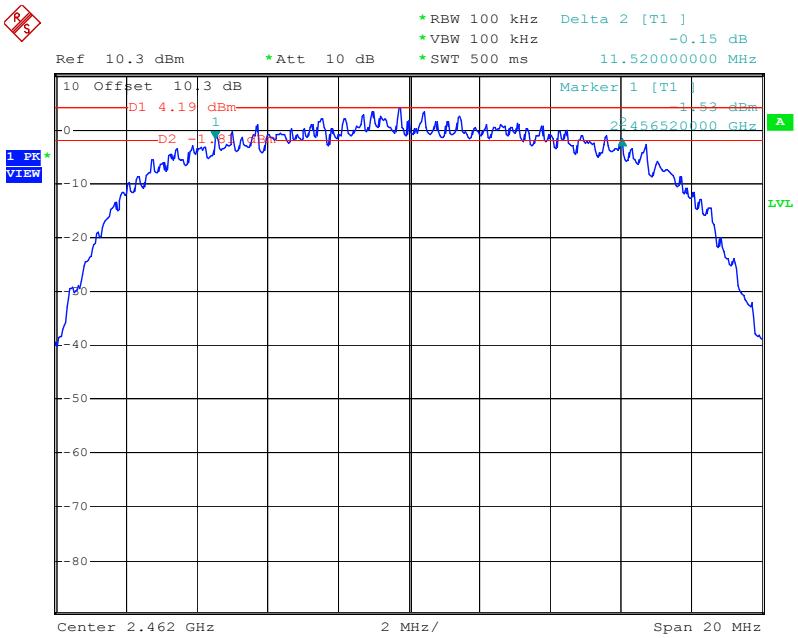

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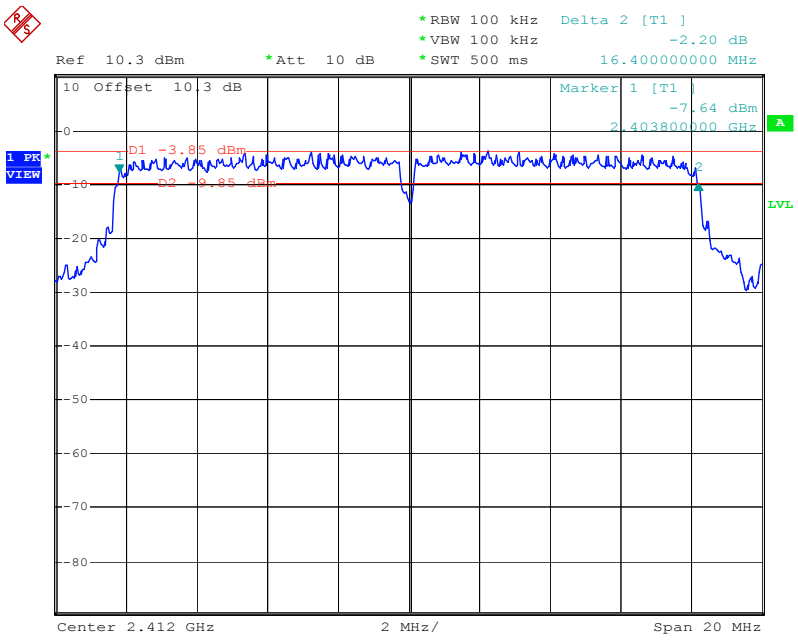

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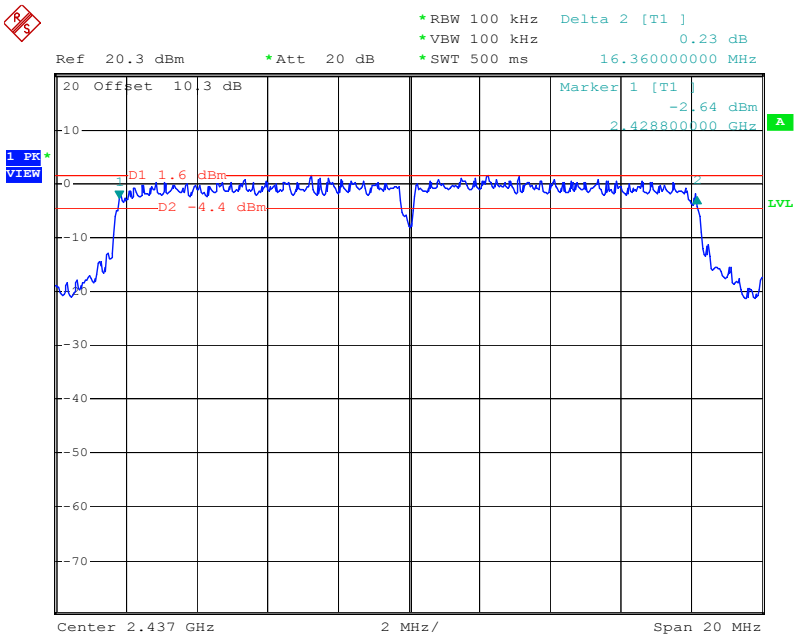

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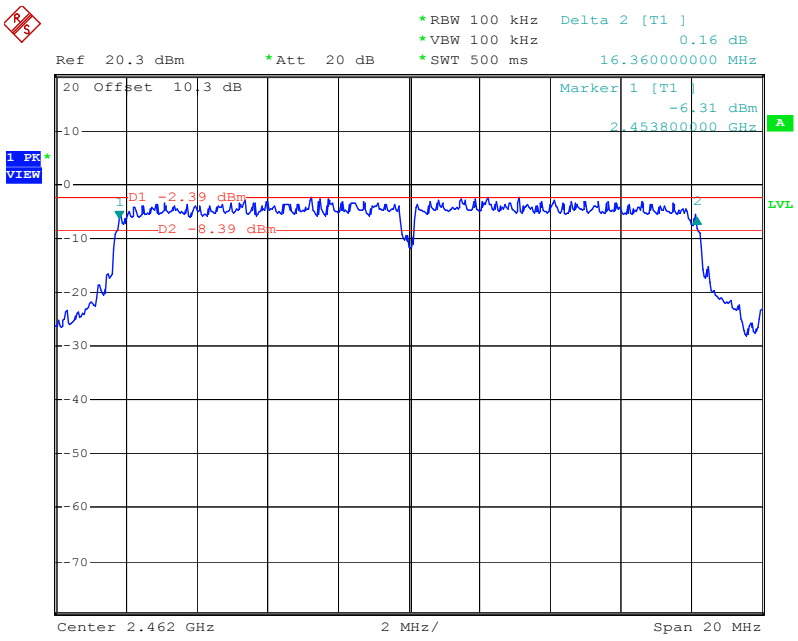

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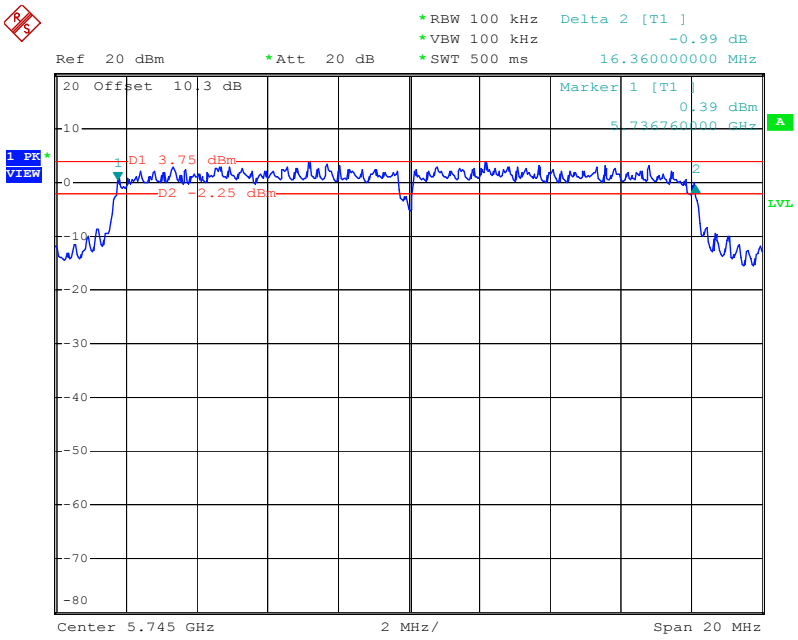

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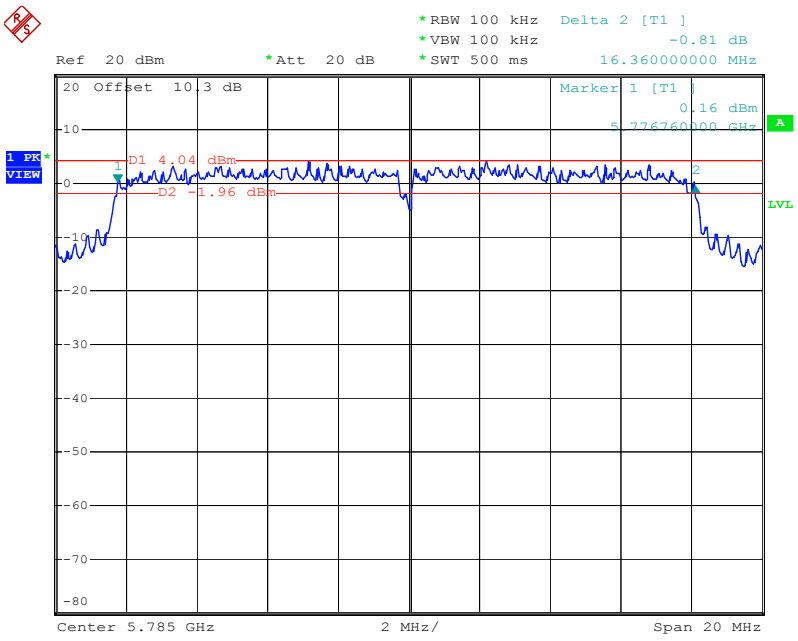

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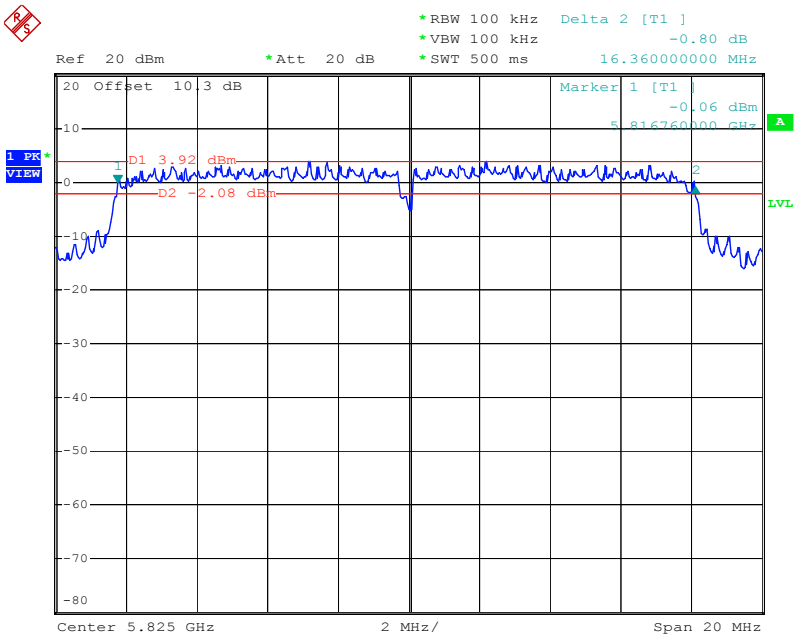

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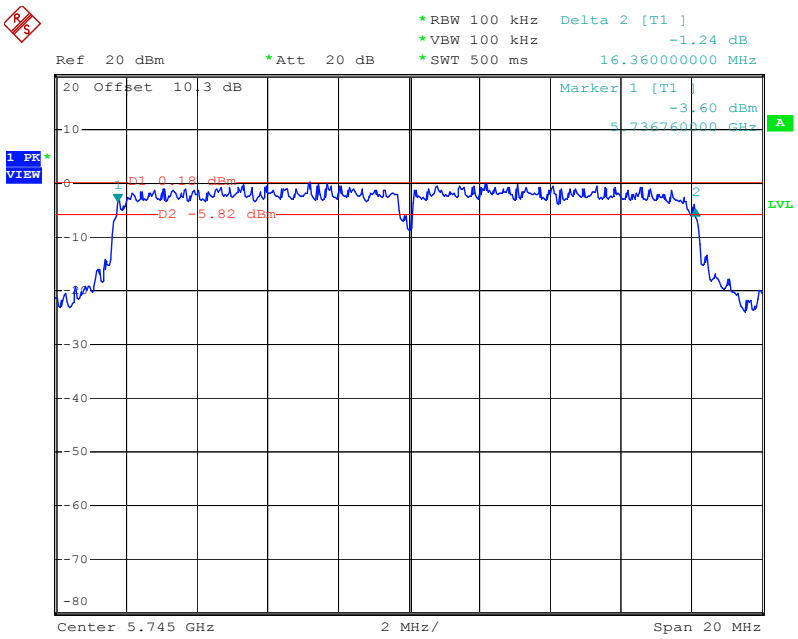

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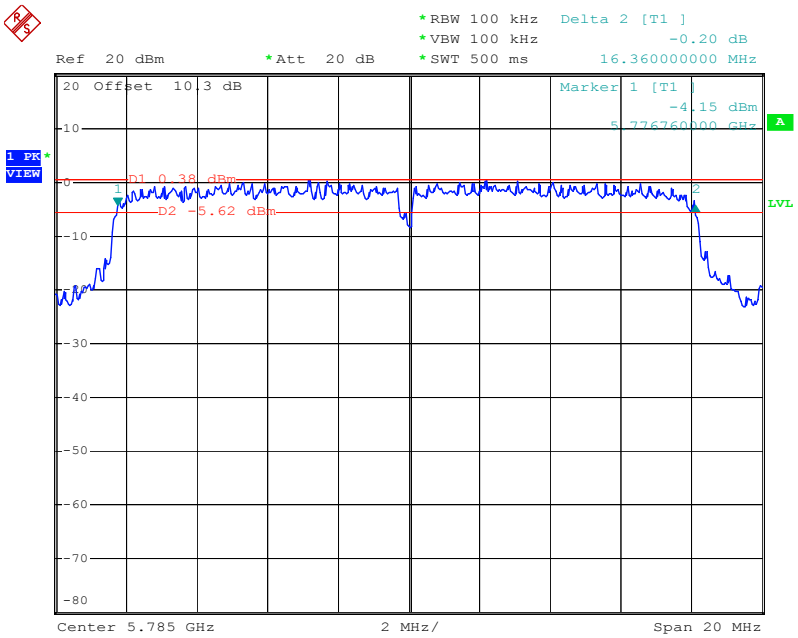

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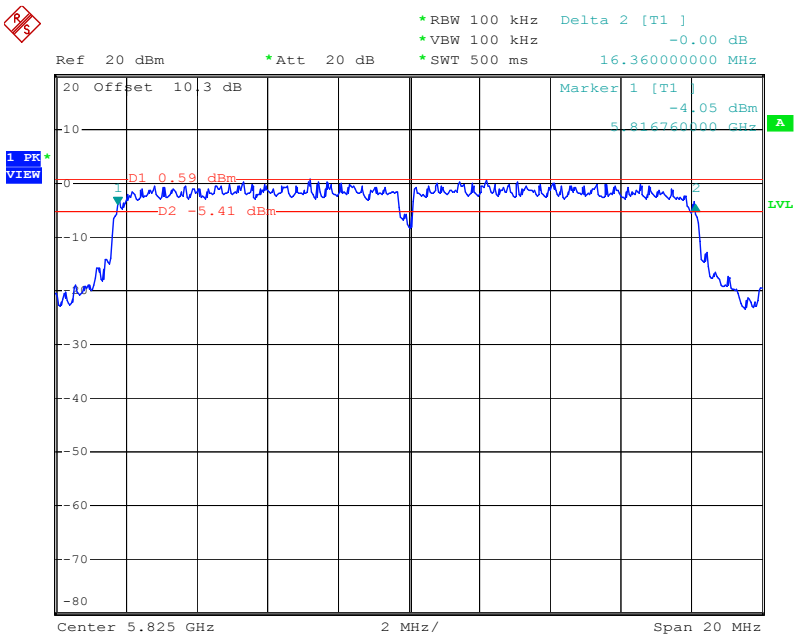

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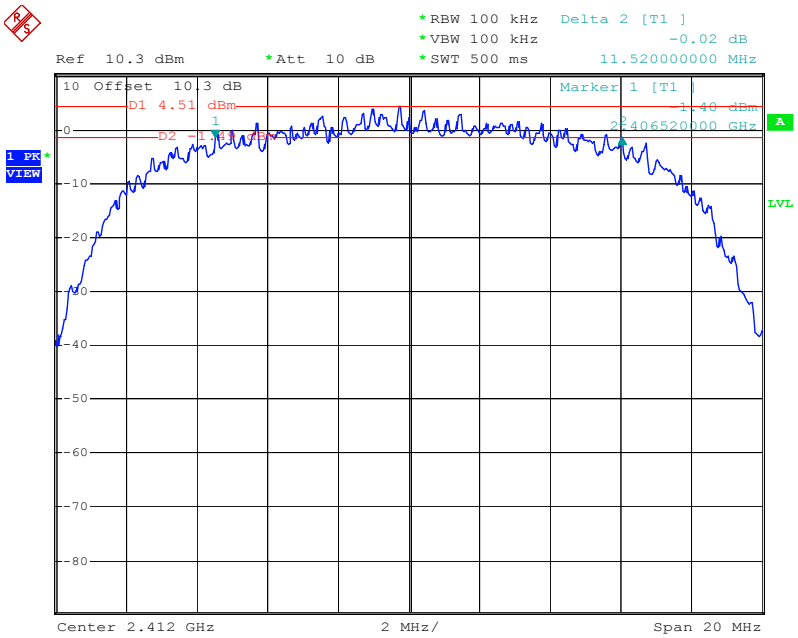

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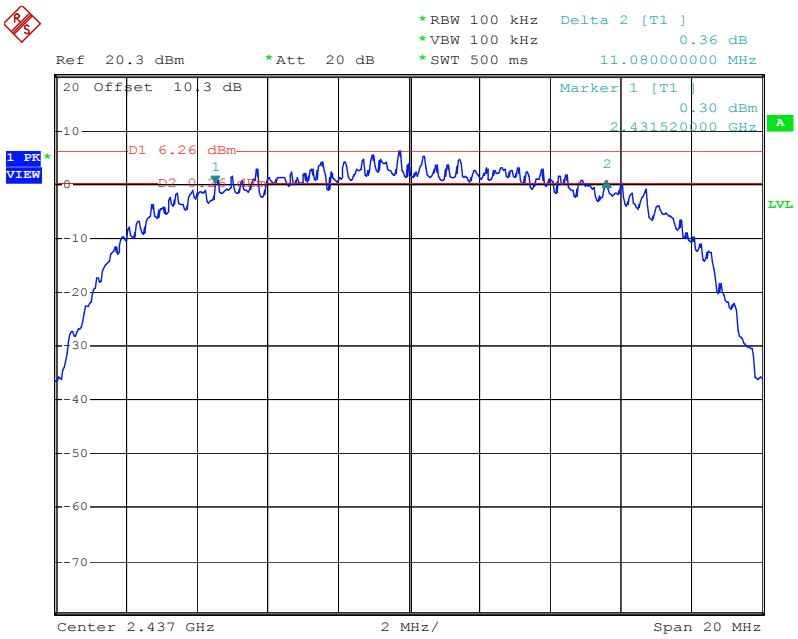

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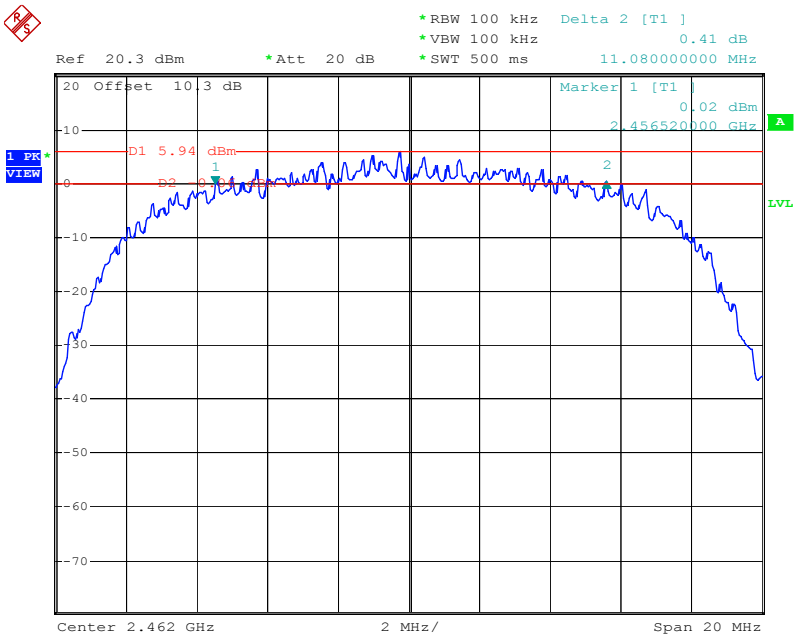

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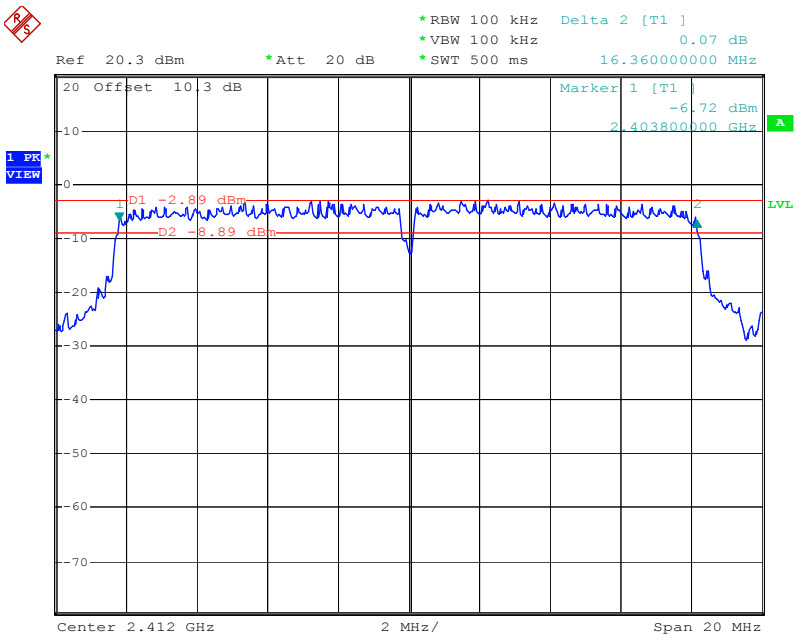

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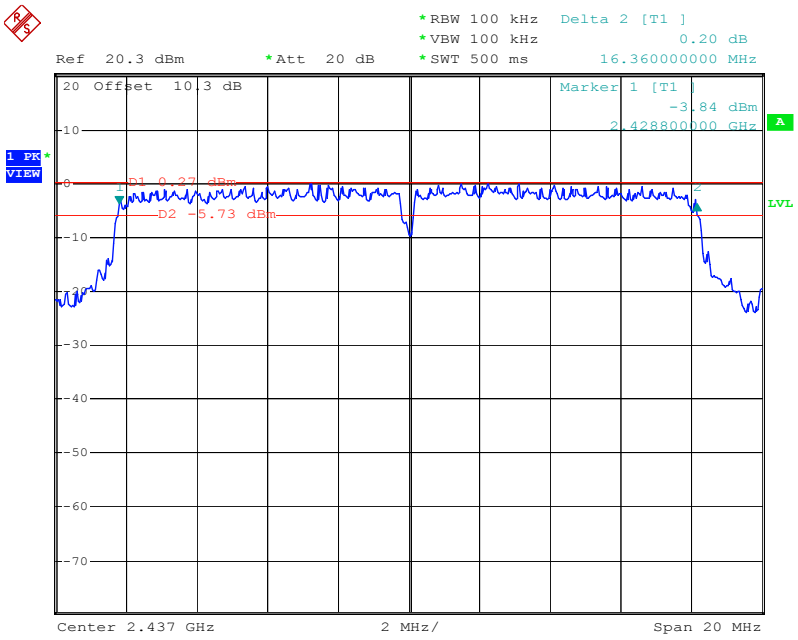

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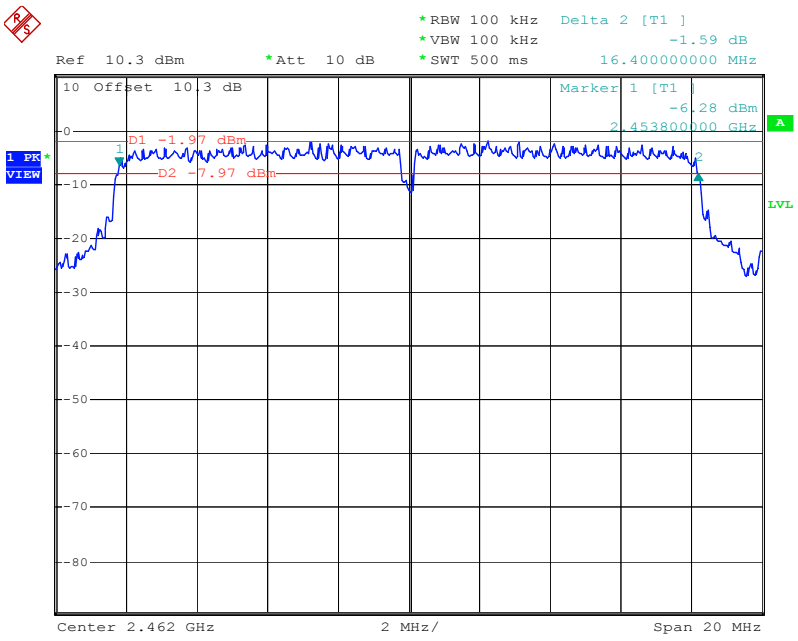

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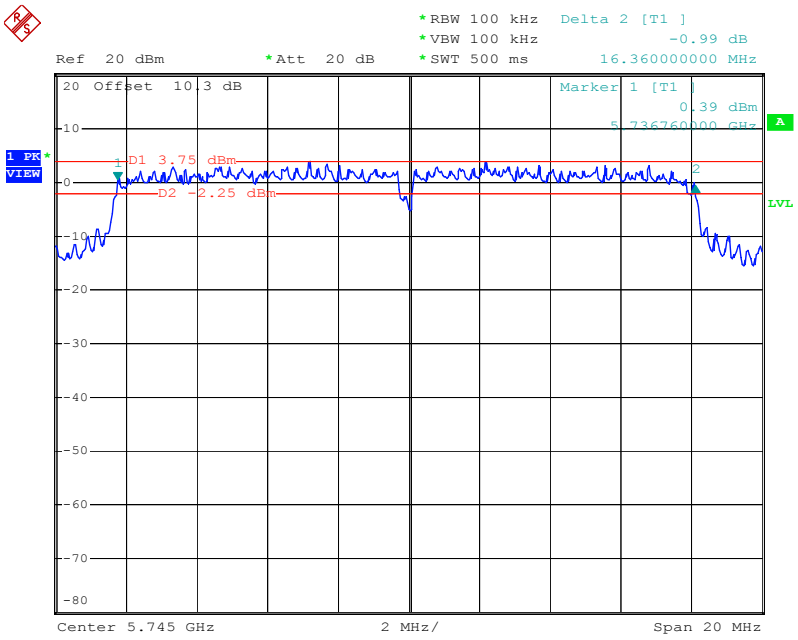

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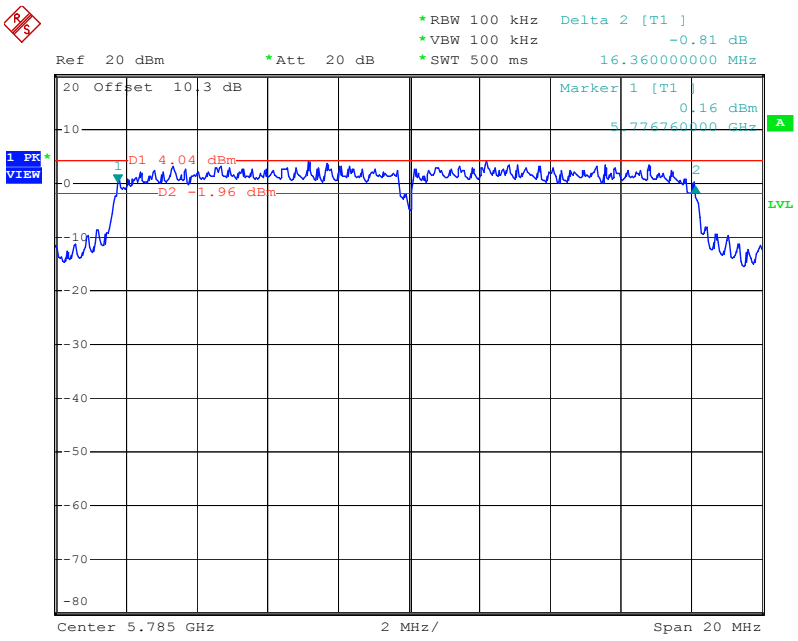

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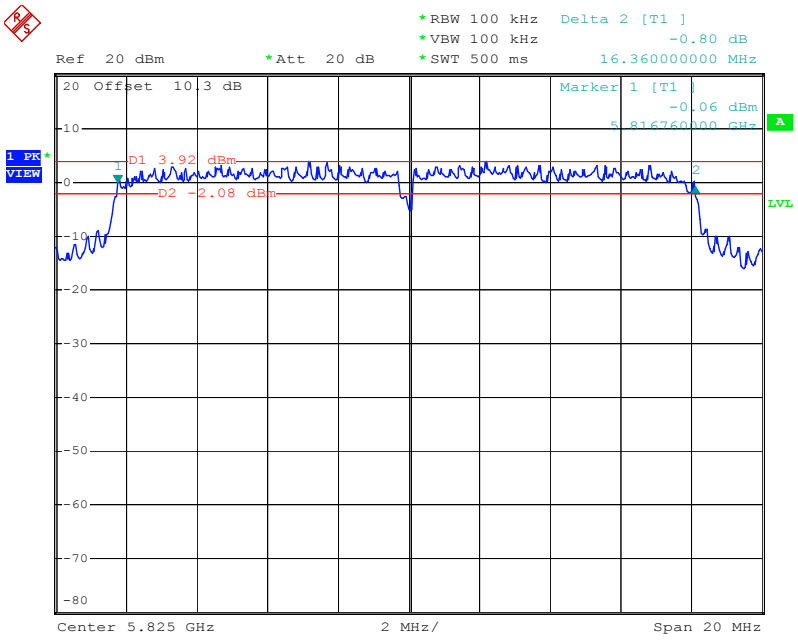

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5.3 Power Spectral Density

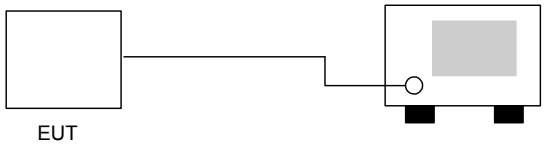
5.3.1 Measuring Instruments：

As described in chapter 9 of this test report.

5.3.2 Test Procedure：

1. The transmitter output was connected to spectrum analyzer directly.
2. The spectrum analyzer's resolution bandwidth was set at 3kHz RBW and 30kHz VBW as that of the fundamental frequency. Set the sweep time=span/3kHz.
3. The power spectral density was measured and recorded.
4. The sweep time is allowed to be longer than span/3kHz for a full response of the mixer in the spectrum analyzer.

5.3.3 Test Setup Layout：



5.3.4 Test Result：

- Temperature : 24℃
- Relative Humidity :52%

◆ Test Antenna: Antenna 3

➢ Application: 802.11b

Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limits (dBm)	Mode Ref. No.
01	2412	-16.54	8	3-1
06	2437	-12.31	8	3-2
11	2462	-12.92	8	3-3

➢ Application: 802.11g

Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limits (dBm)	Mode Ref. No.
01	2412	-26.19	8	3-4
06	2437	-17.97	8	3-5
11	2462	-23.00	8	3-6

◆ Test Antenna: Antenna 4

➢ Application: 802.11b

Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limits (dBm)	Mode Ref. No.
01	2412	-12.90	8	4-1
06	2437	-10.12	8	4-2
11	2462	-12.47	8	4-3

➢ Application: 802.11g

Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limits (dBm)	Mode Ref. No.
01	2412	-18.51	8	4-4
06	2437	13.35	8	4-5
11	2462	-23.16	8	4-6

◆ Test Antenna: Antenna 6

➢ Application: 802.11a

Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limits (dBm)	Mode Ref. No.
149	5745	-11.68	8	6-7
157	5785	-11.55	8	6-8
165	5825	-11.47	8	6-9

◆ Test Antenna: Antenna 7

➢ Application: 802.11b

Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limits (dBm)	Mode Ref. No.
01	2412	-9.22	8	7-1
06	2437	-8.86	8	7-2
11	2462	-9.59	8	7-3

➢ Application: 802.11g

Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limits (dBm)	Mode Ref. No.
01	2412	-18.77	8	7-4
06	2437	-13.71	8	7-5
11	2462	-17.30	8	7-6

➢ Application: 802.11a

Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limits (dBm)	Mode Ref. No.
149	5745	-11.68	8	7-7
157	5785	-11.55	8	7-8
165	5825	-11.47	8	7-9

◆ Test Antenna: Antenna 8

➢ Application: 802.11a

Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limits (dBm)	Mode Ref. No.
149	5745	-14.83	8	8-7
157	5785	-14.81	8	8-8
165	5825	-14.47	8	8-9

◆ Test Antenna: Antenna 9

➢ Application: 802.11b

Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limits (dBm)	Mode Ref. No.
01	2412	-9.22	8	9-1
06	2437	-7.52	8	9-2
11	2462	-7.80	8	9-3

➢ Application: 802.11g

Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limits (dBm)	Mode Ref. No.
01	2412	-17.83	8	9-4
06	2437	-14.81	8	9-5
11	2462	-16.99	8	9-6

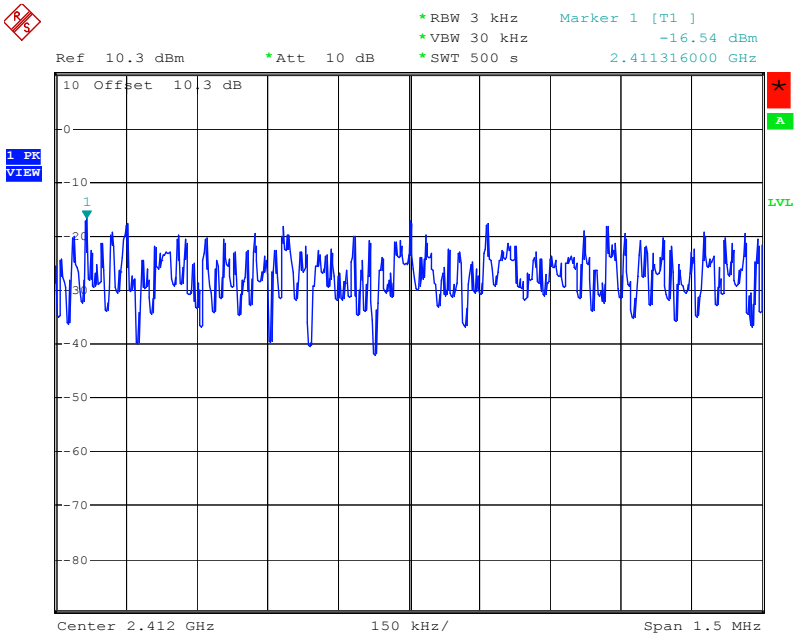
➢ Application: 802.11a

Channel	Frequency (MHz)	Power Spectral Density (dBm)	Limits (dBm)	Mode Ref. No.
149	5745	-11.68	8	9-7
157	5785	-11.55	8	9-8
165	5825	-11.47	8	9-9

5.3.5 Power Spectral Density

Mode Ref. No.

3-1



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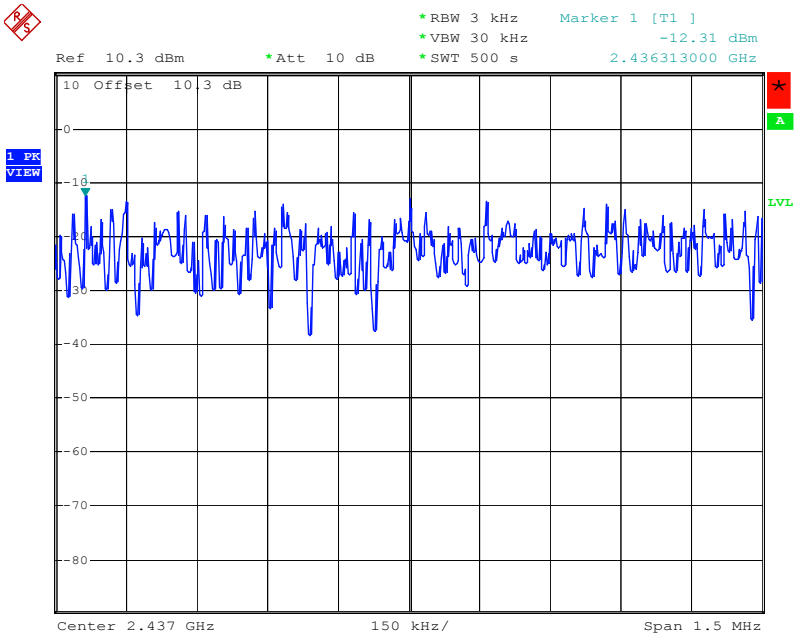

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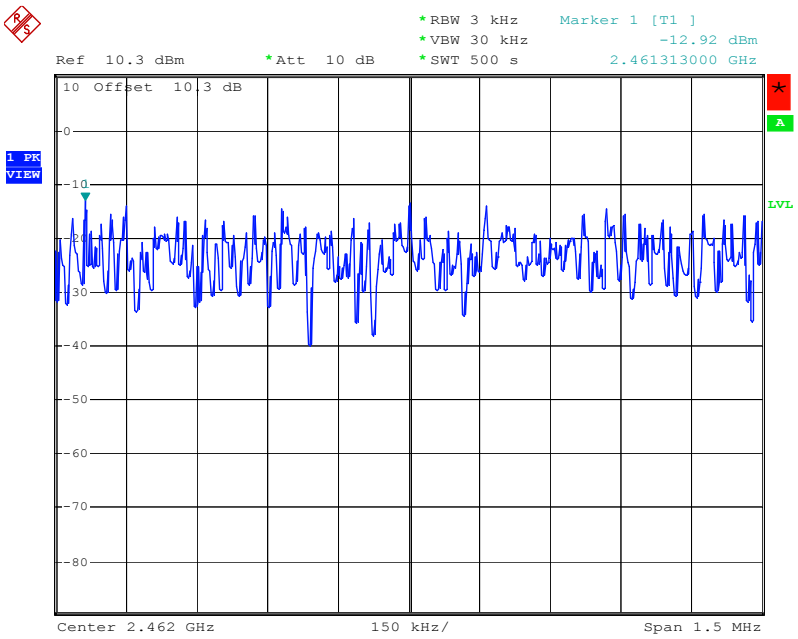

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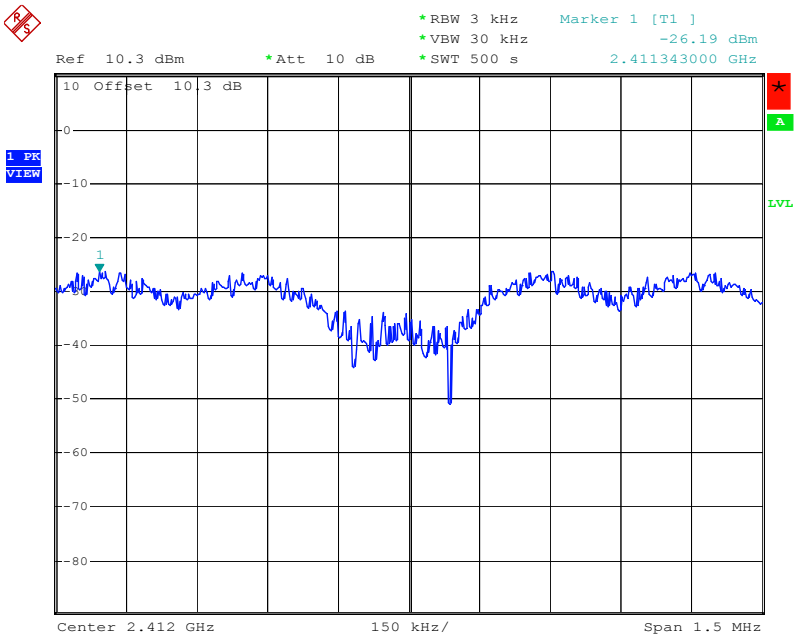

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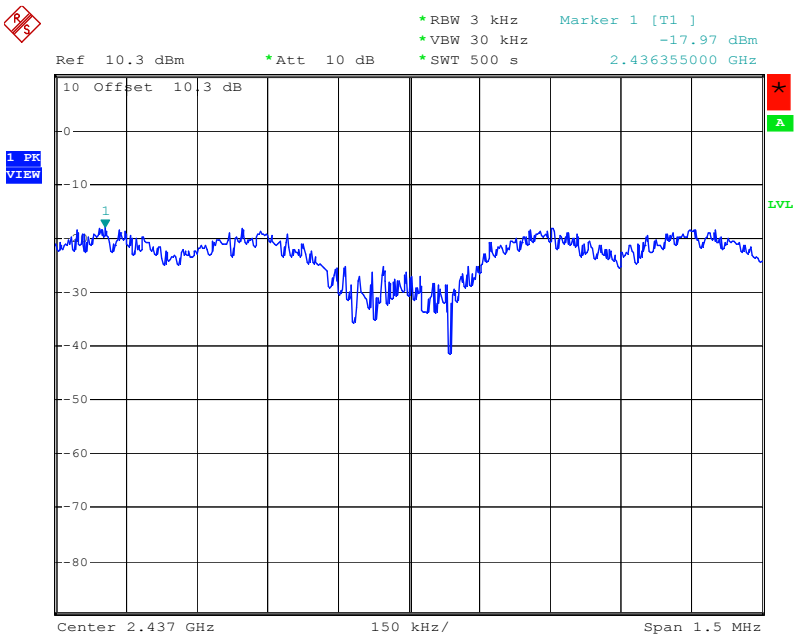

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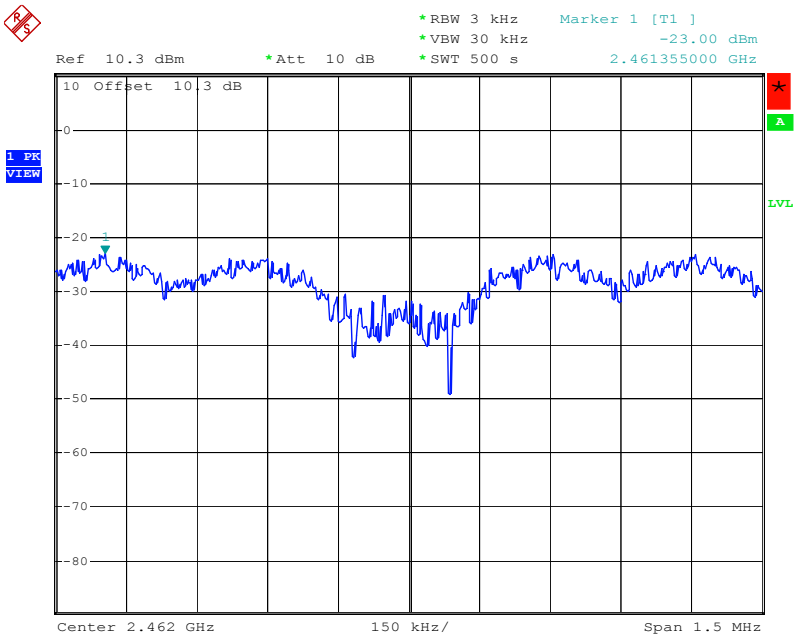

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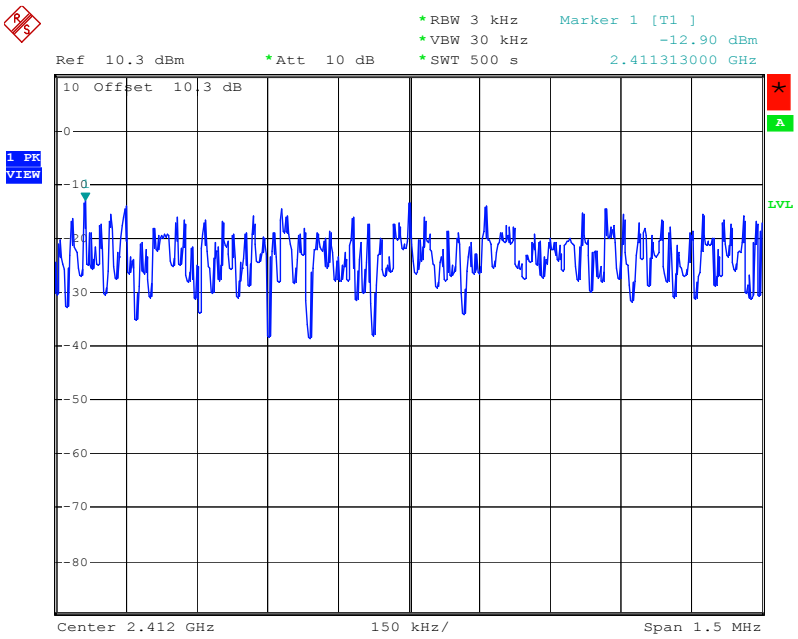

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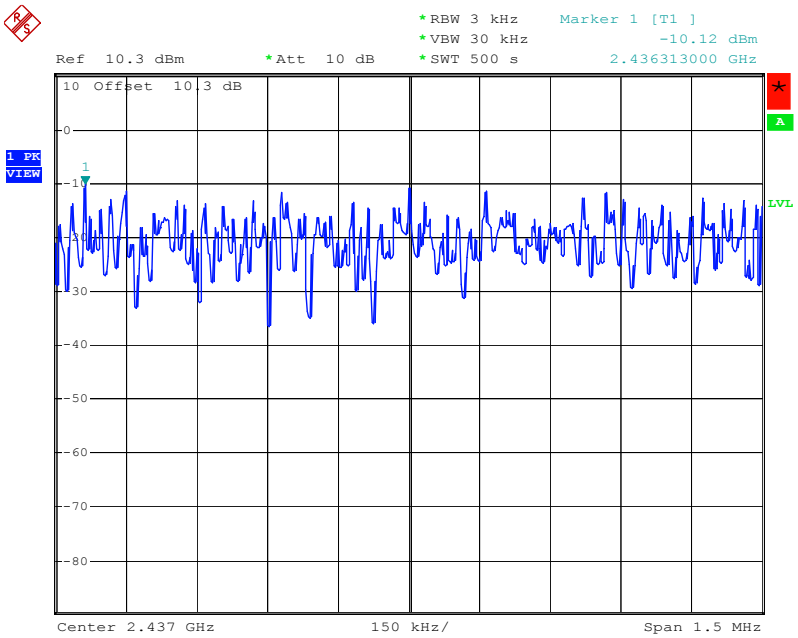

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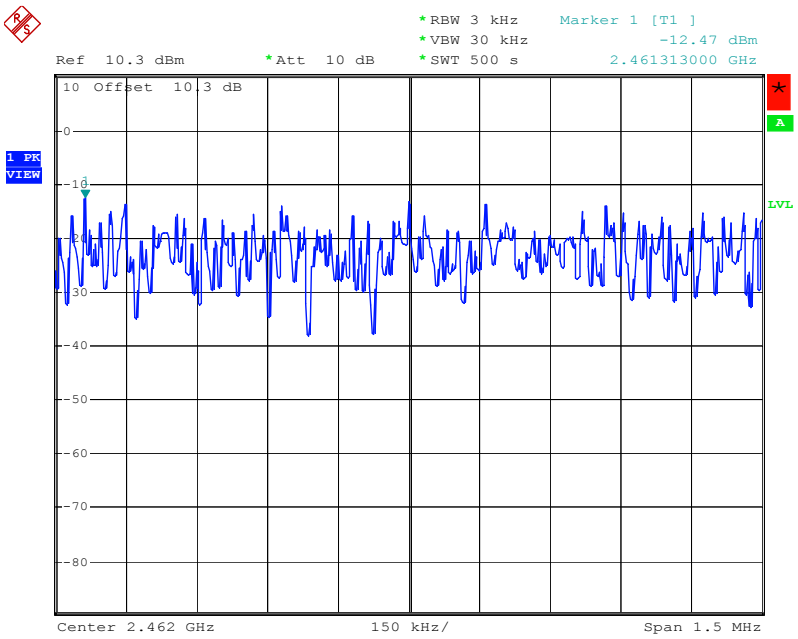

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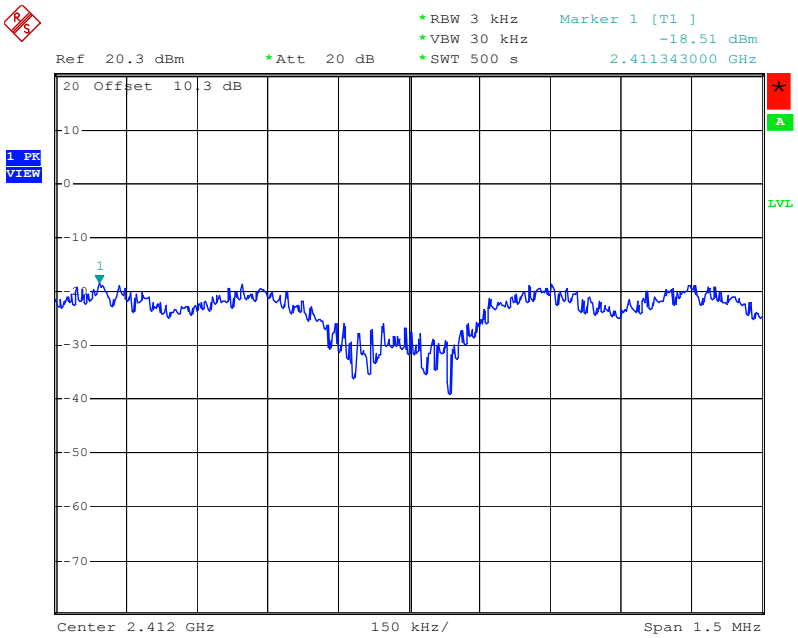

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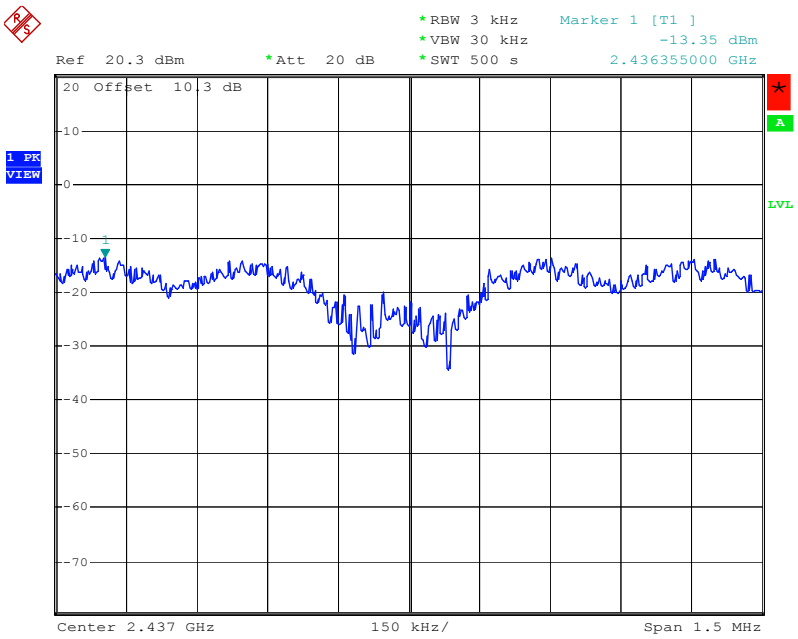

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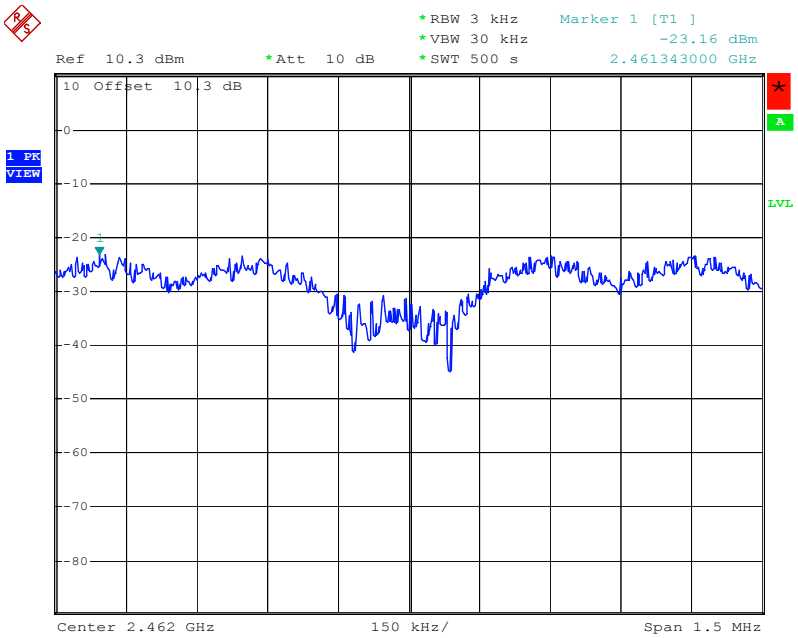

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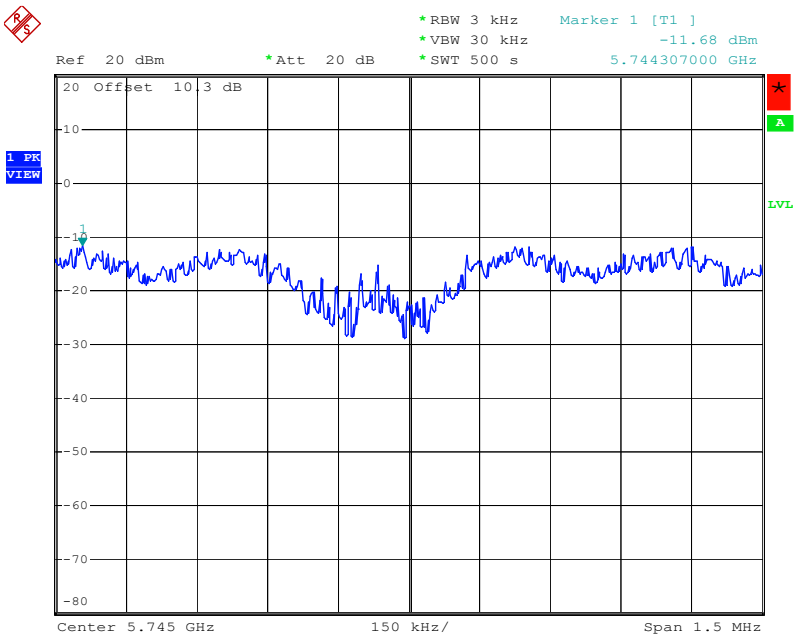

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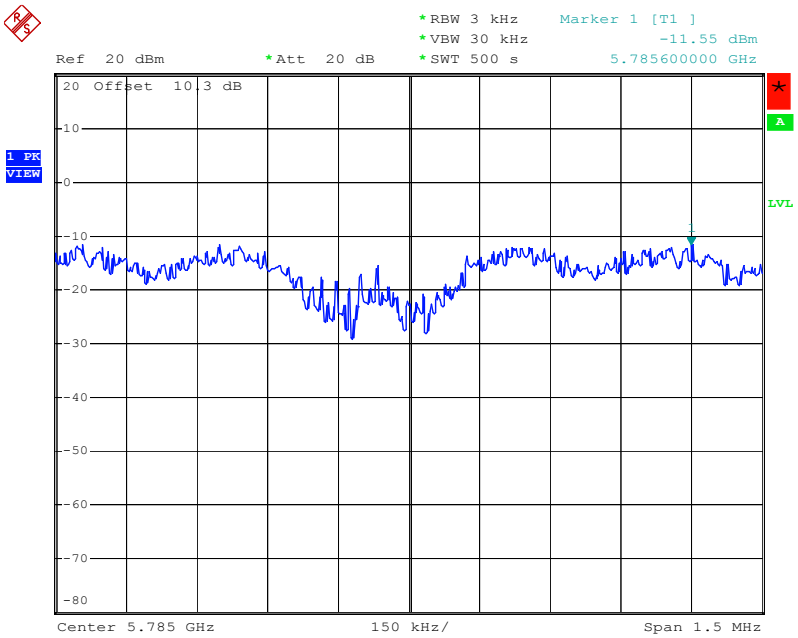

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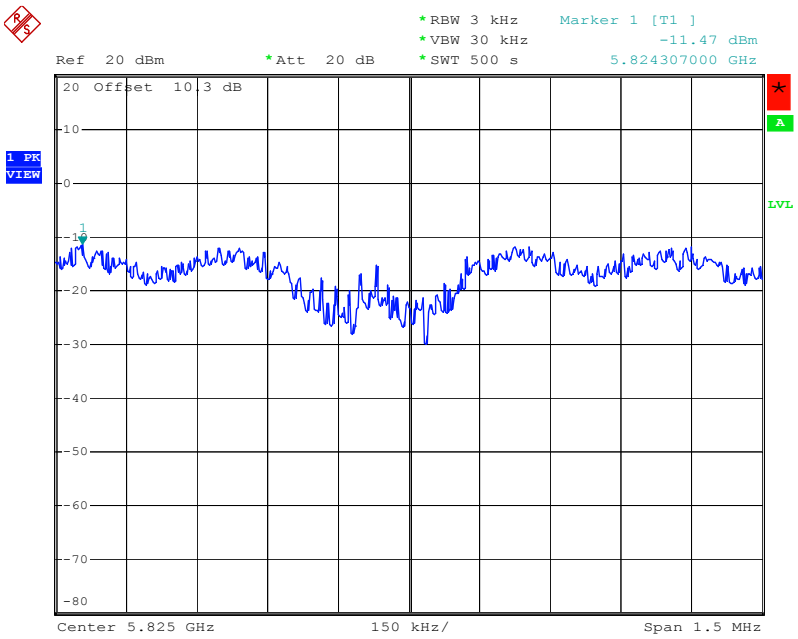

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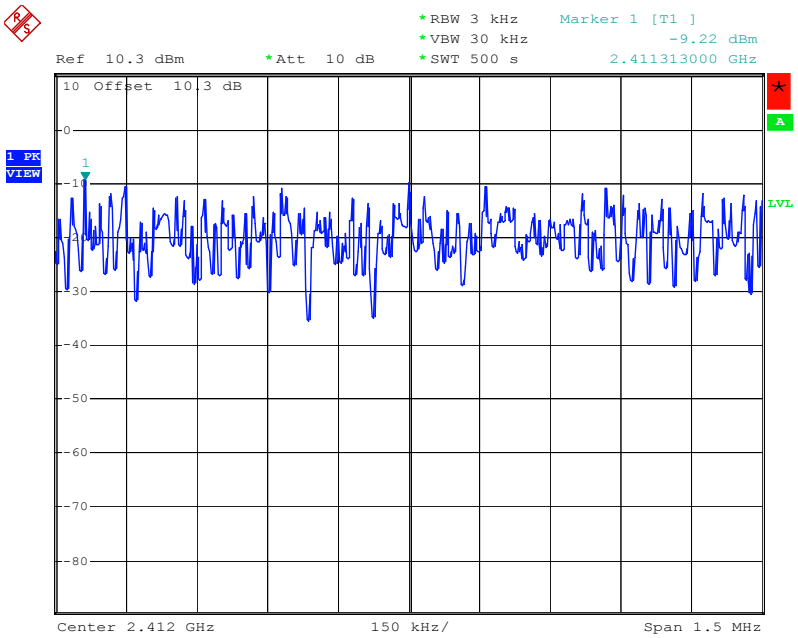

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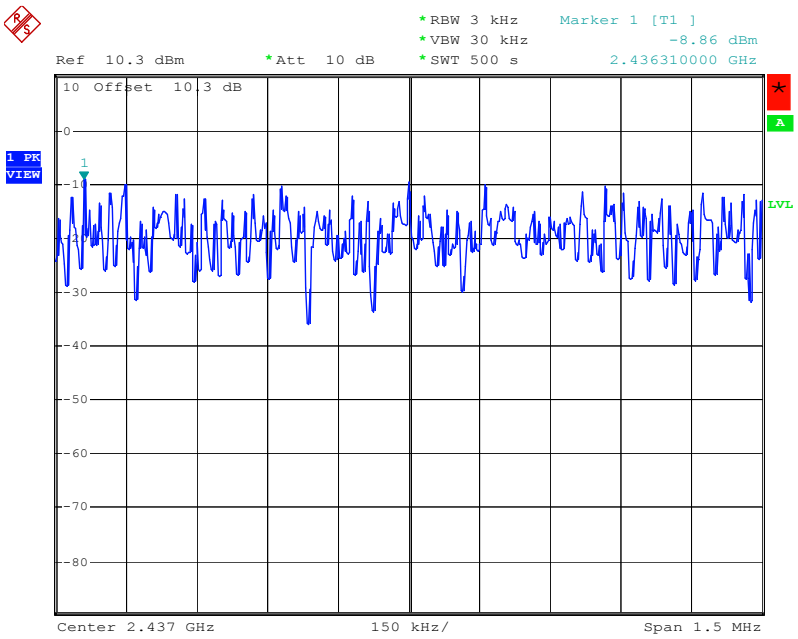

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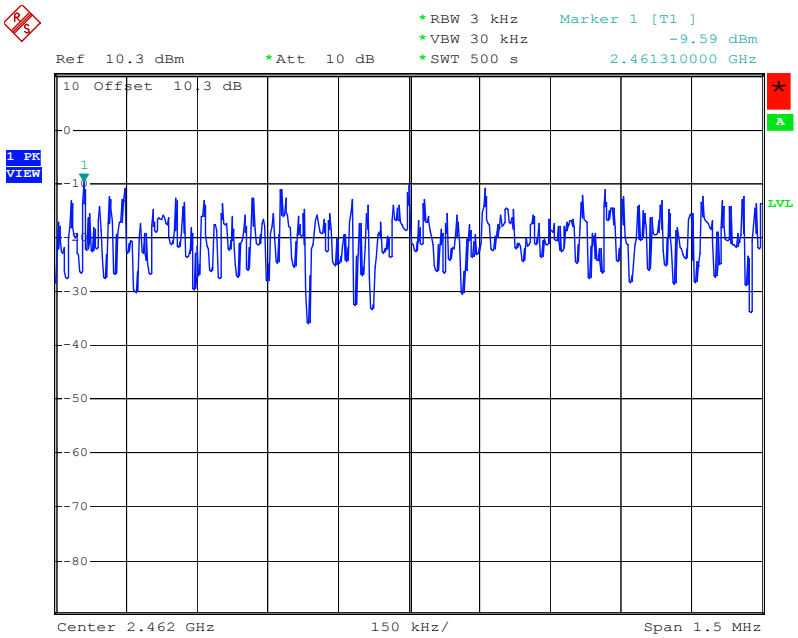

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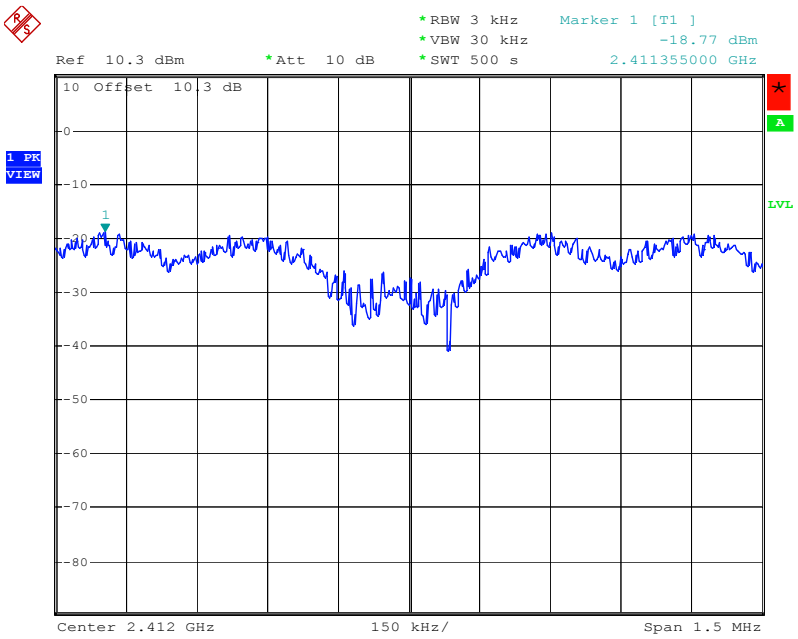

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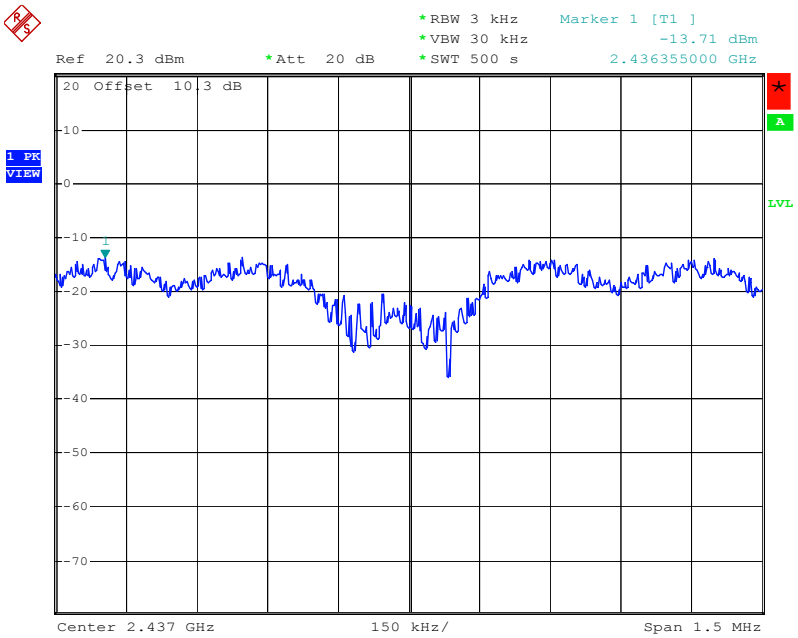

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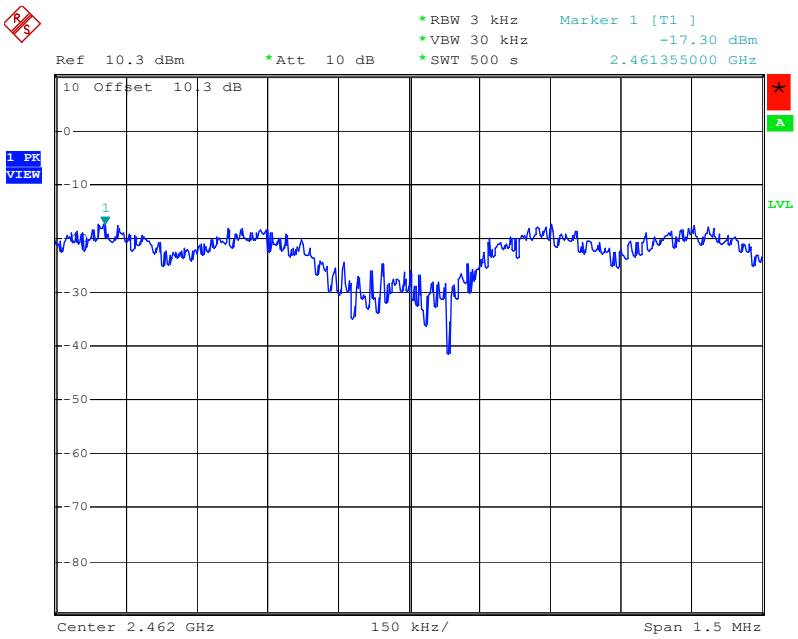

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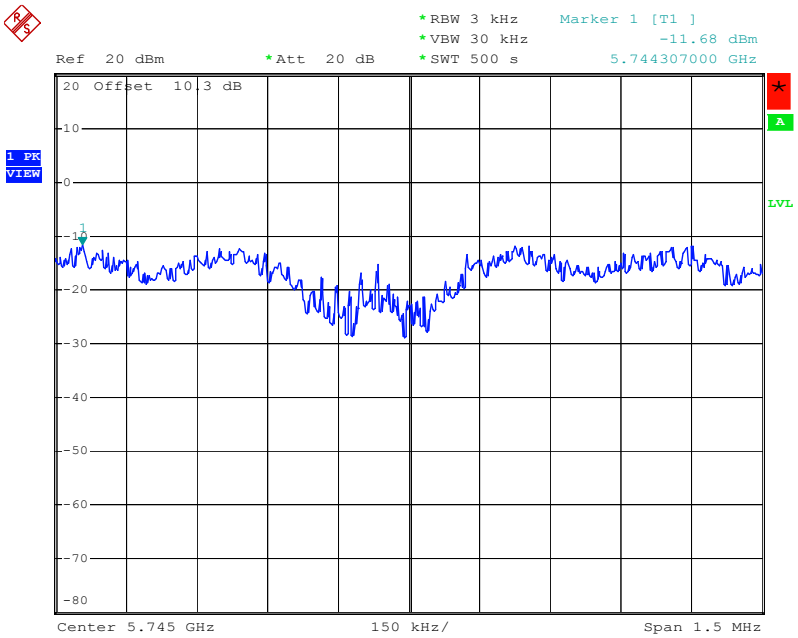

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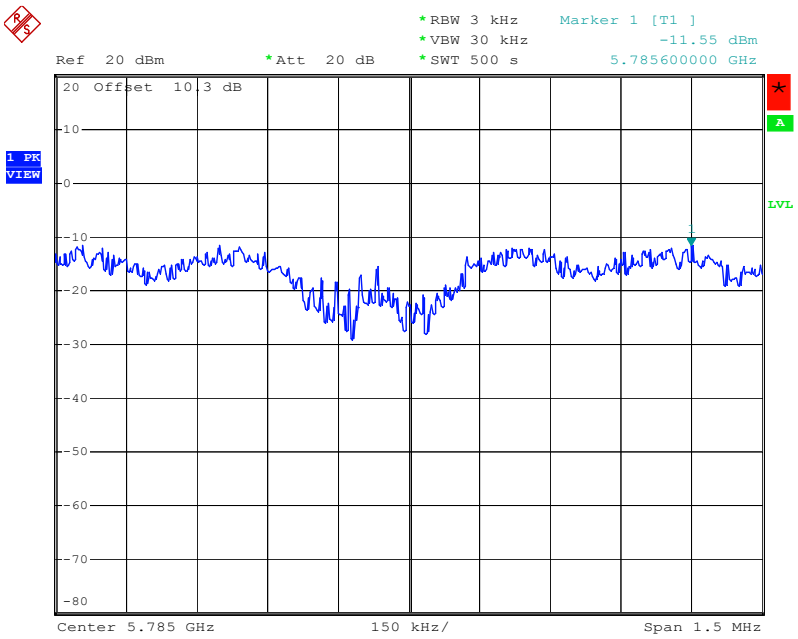

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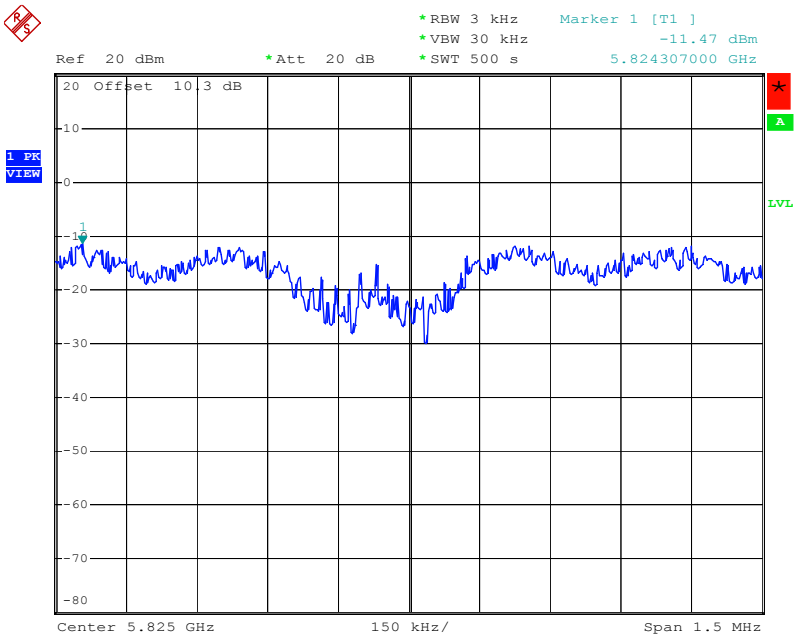

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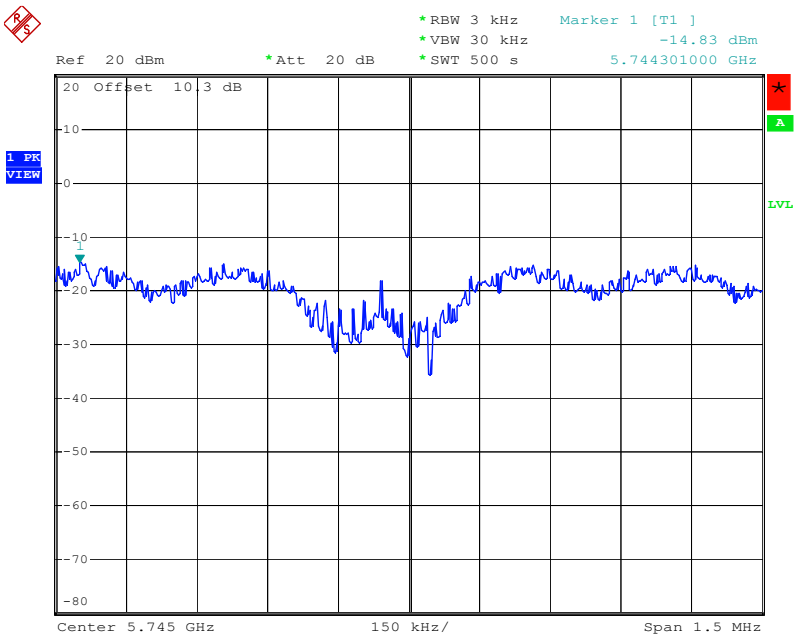

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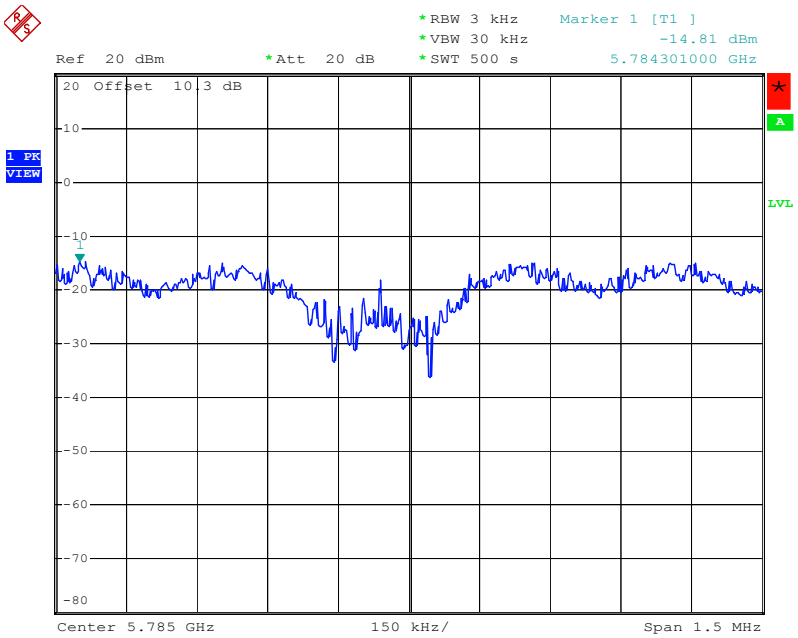

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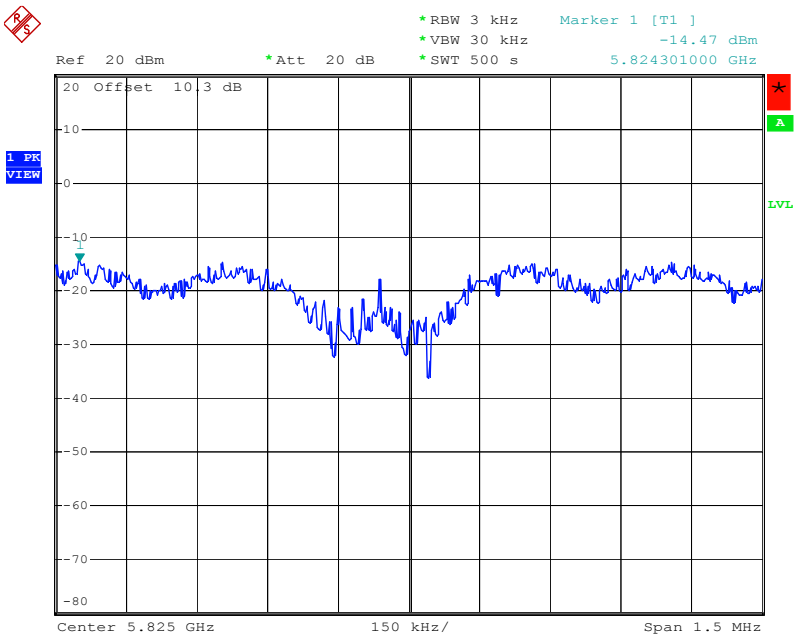

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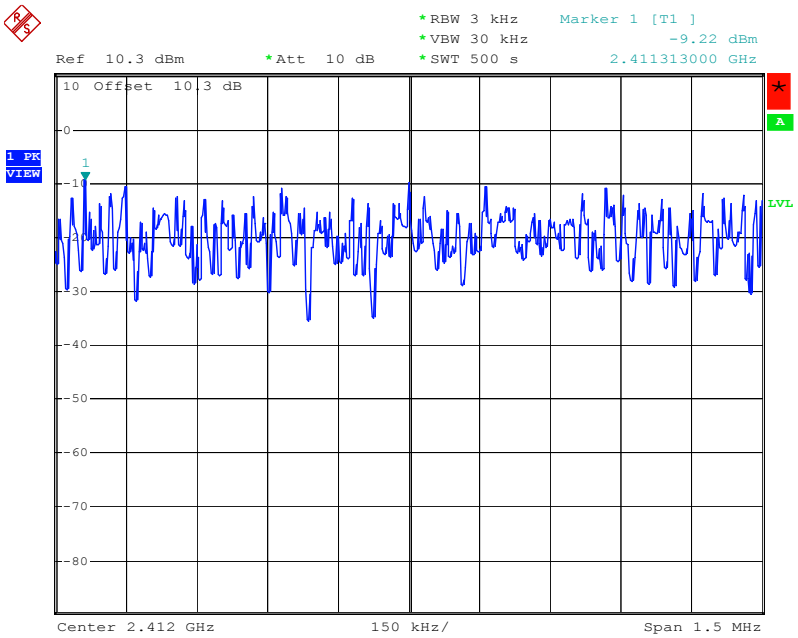

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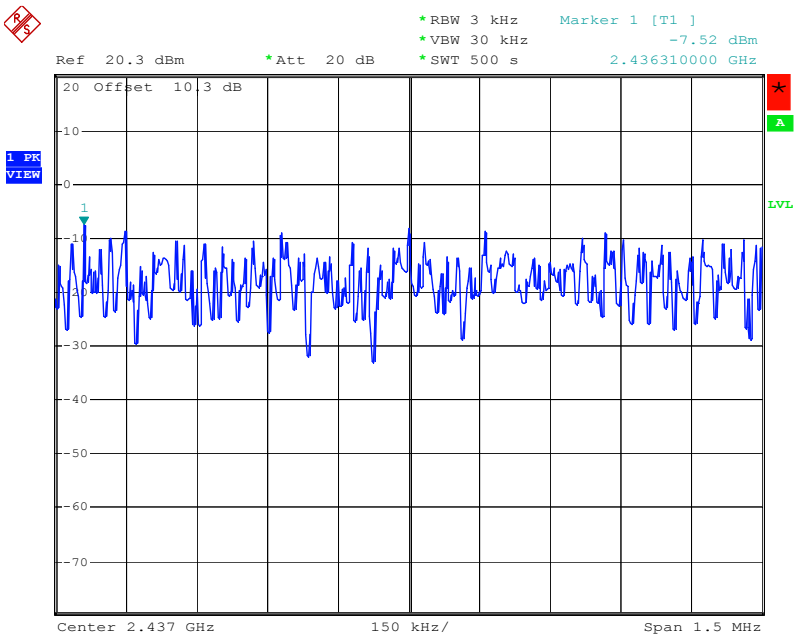

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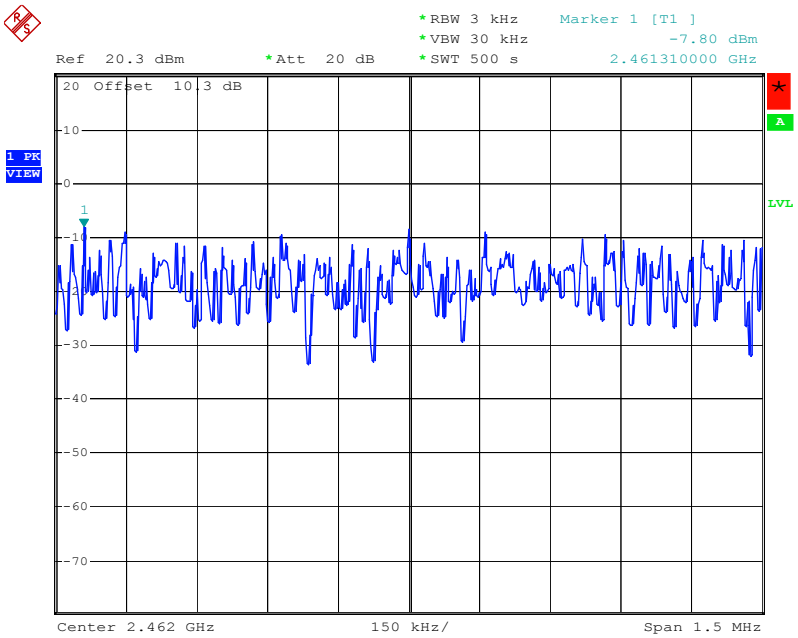

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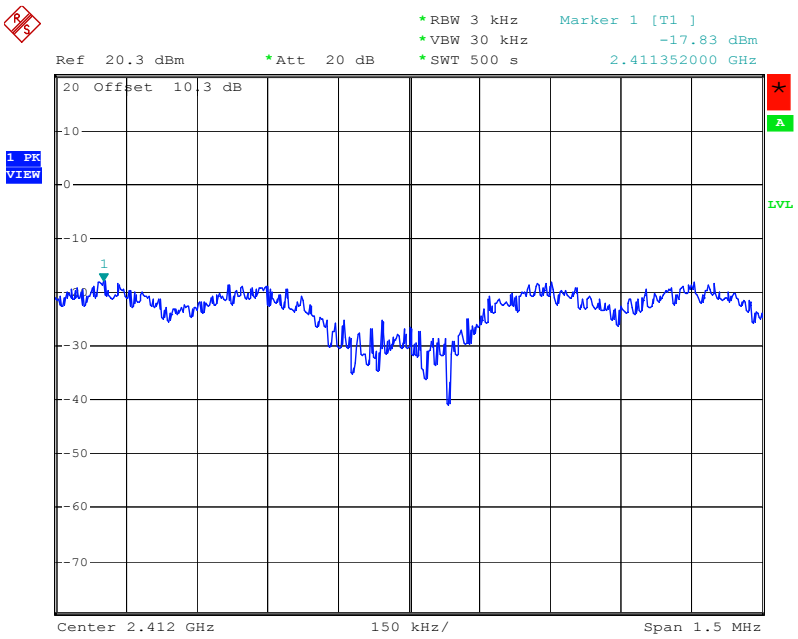
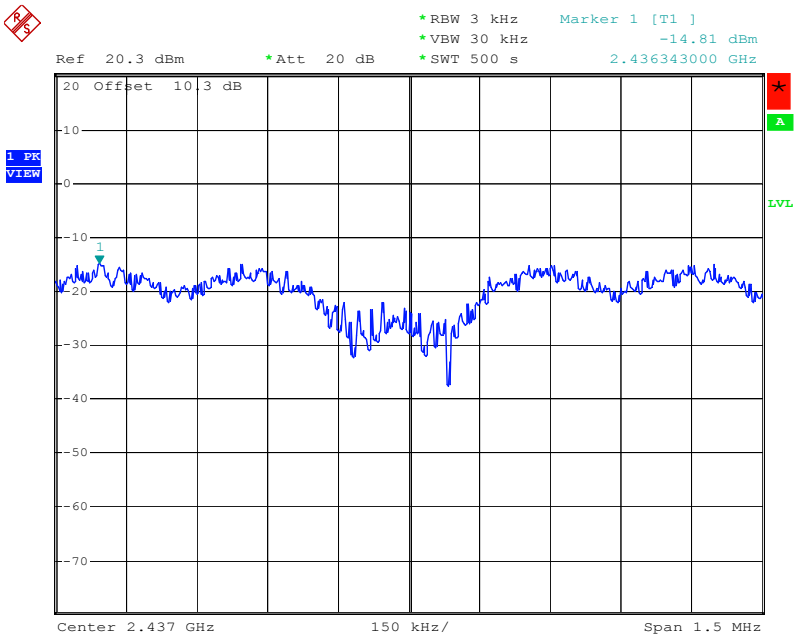


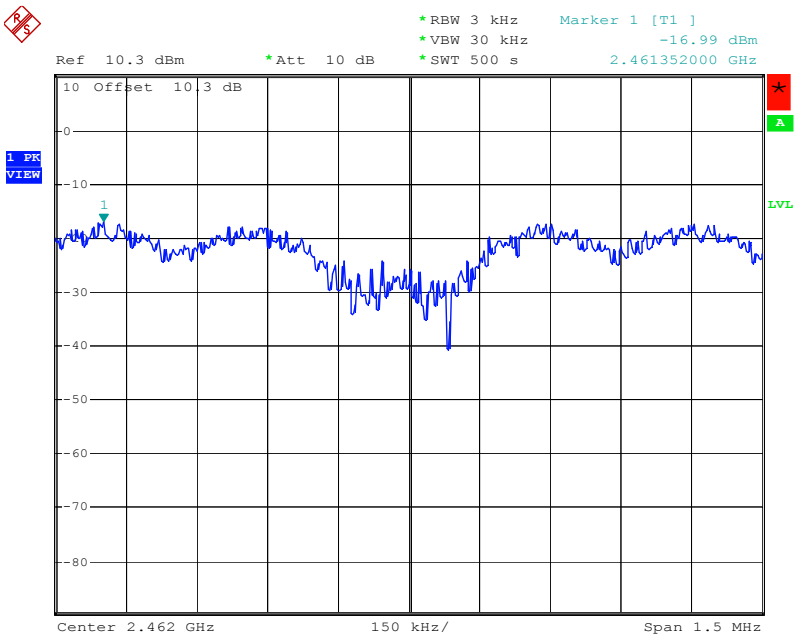
Date: 17.NOV.2005 13:48:03

9-5



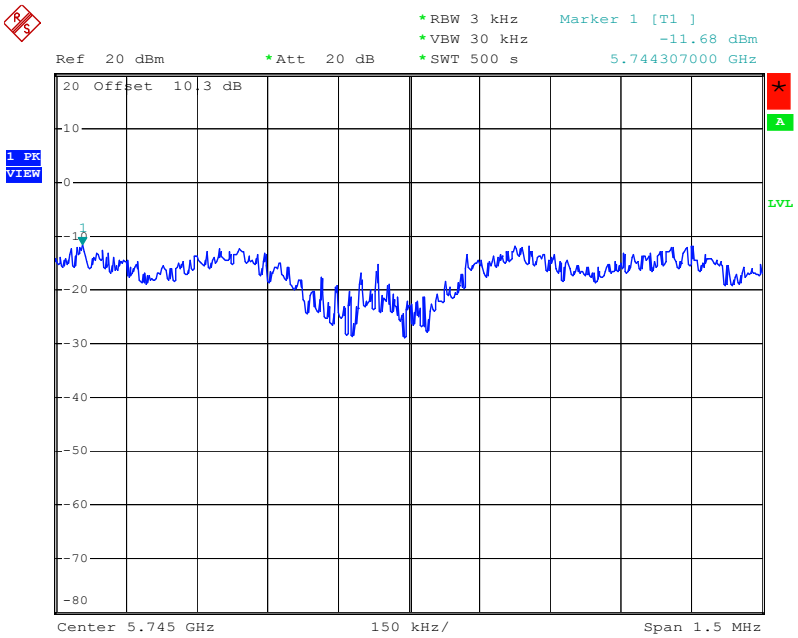
Date: 17.NOV.2005 13:44:57

9-6



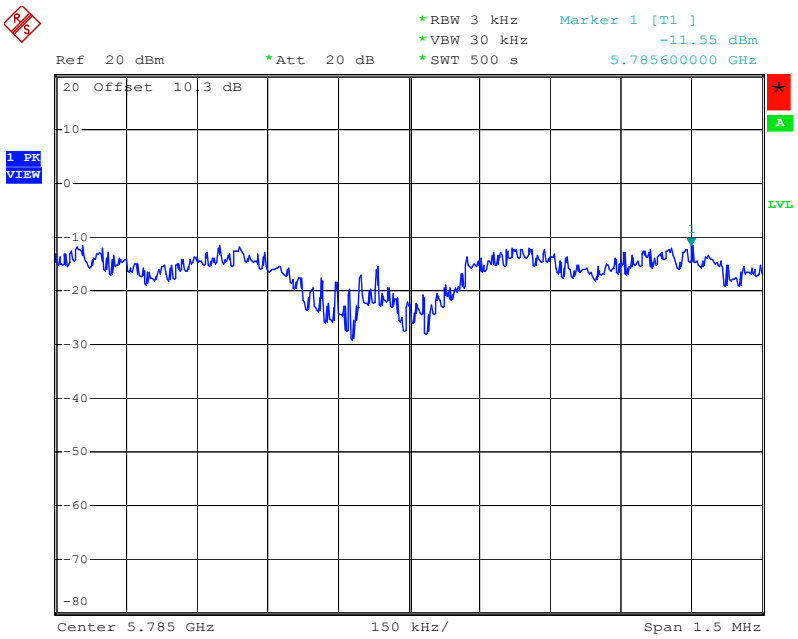
Date: 17.NOV.2005 13:42:31

9-7



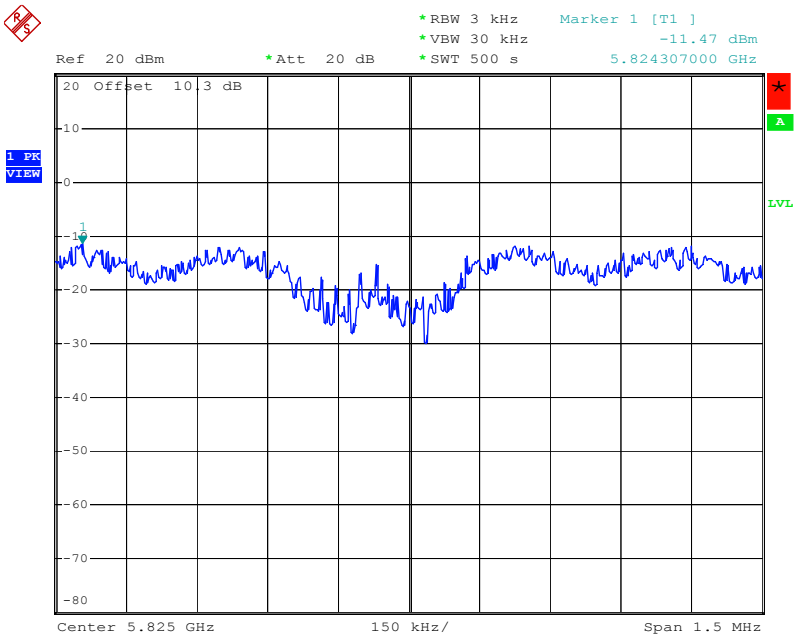
Date: 17.NOV.2005 21:40:54

9-8



Date: 17.NOV.2005 21:41:46

9-9



Date: 17.NOV.2005 21:45:32

5.4 Band Edges Measurement

5.4.1 Measuring Instruments：

As described in chapter 9 of this test report.

5.4.2 Test Procedure：

1. The transmitter output was connected to the spectrum analyzer via a low lose cable.
2. Set both RBW and VBW of spectrum analyzer to 100kHz with suitable frequency span including 100 kHz bandwidth from band edge.
3. The band edges was measured and recorded.

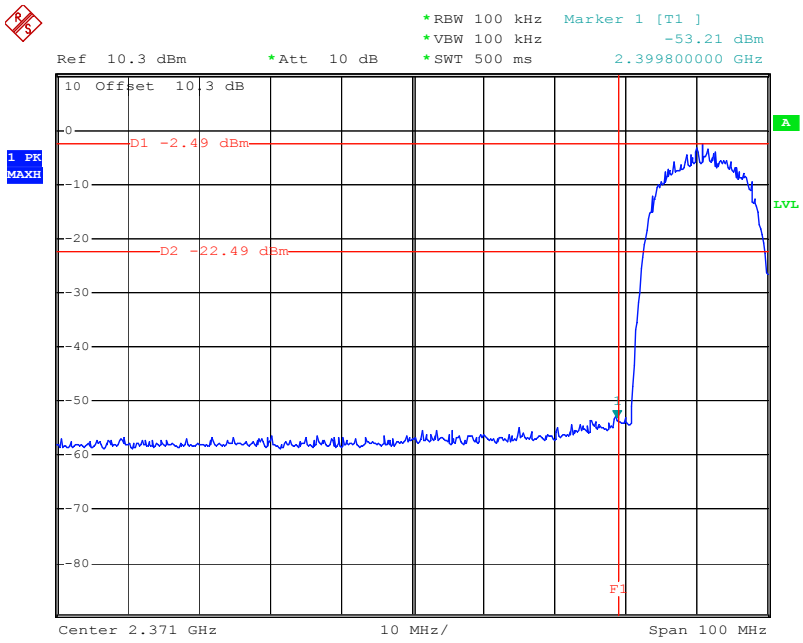
5.4.3 Test Result for Restricted Band

- Temperature : 24℃
- Relative Humidity :52%

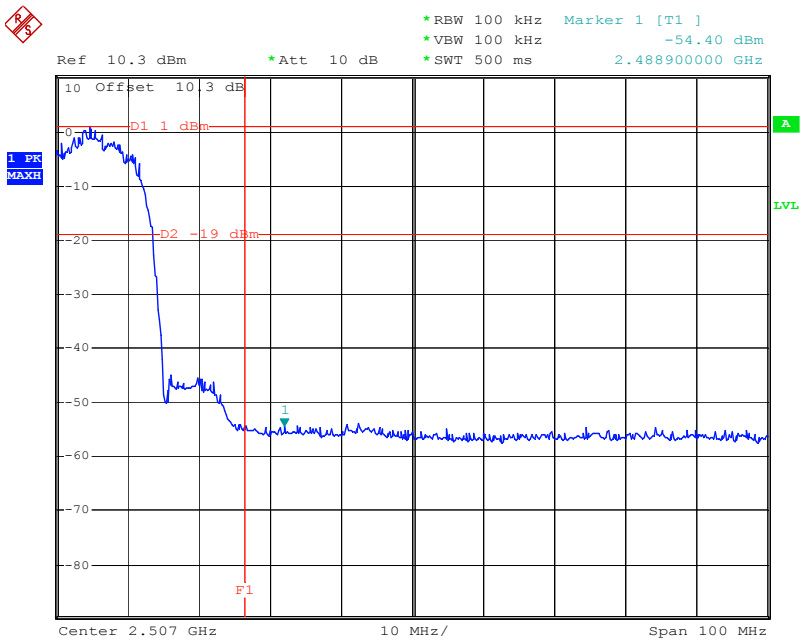
Test Result Mode		Verdict
▪ Test Result in 802.11b	:	PASS
▪ Test Result in 802.11g	:	PASS
▪ Test Result in 802.11a	:	PASS

5.4.4 Test Data

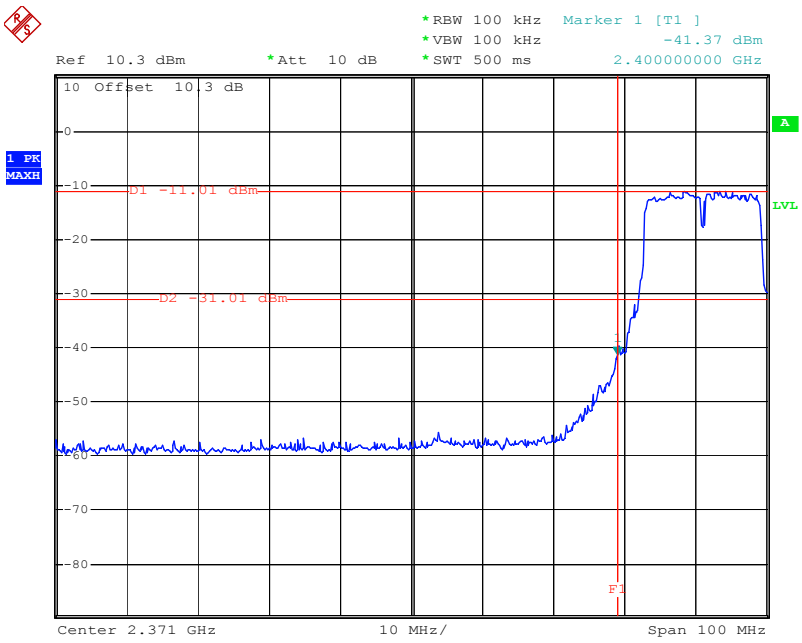
Antenna 3



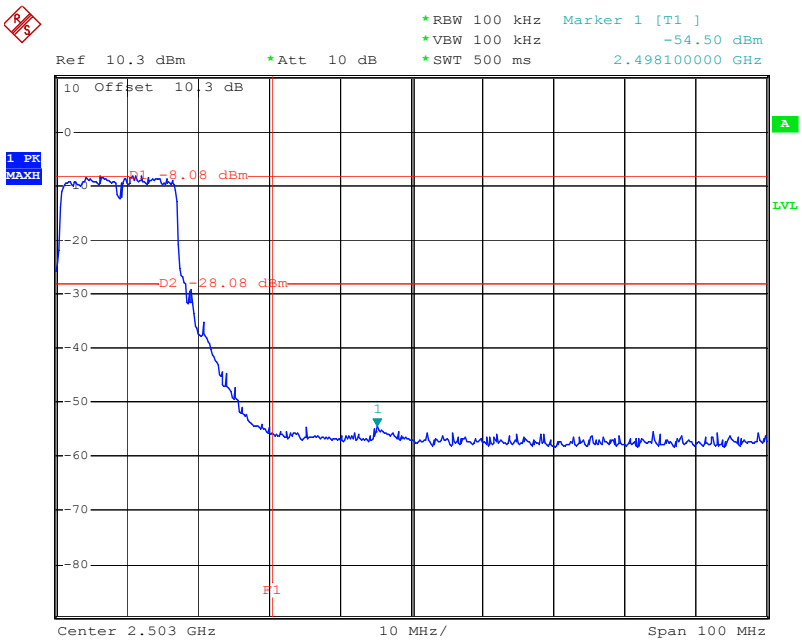
802.11b CH01



802.11b CH11

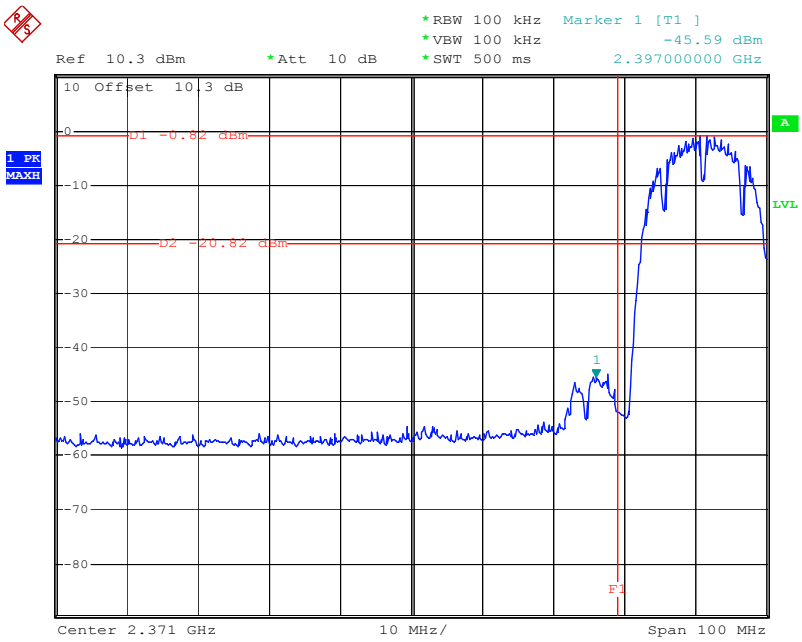


802.11g CH01

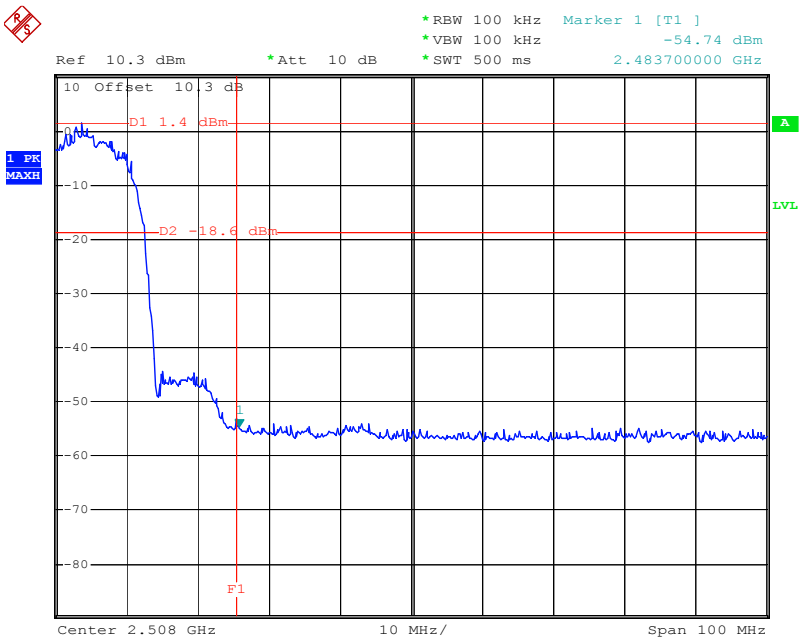


802.11g CH11

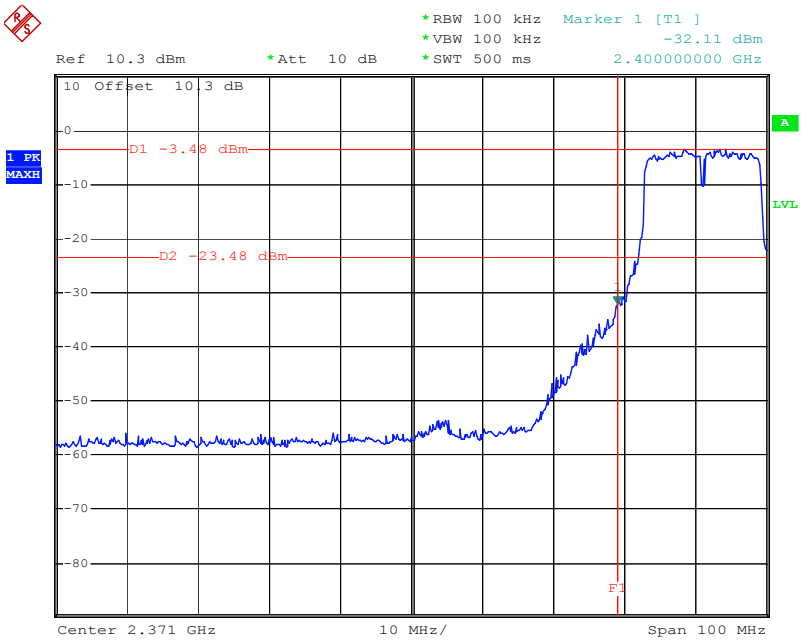
Antenna 4



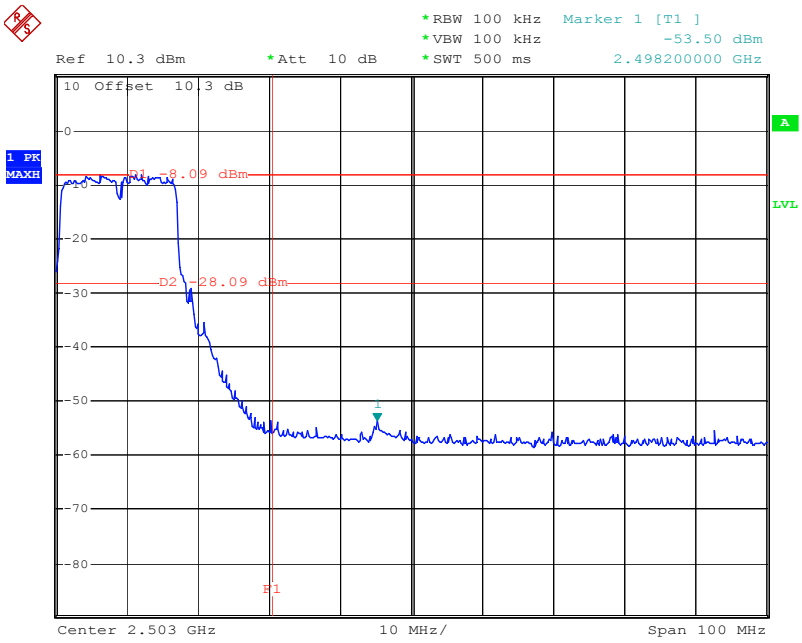
802.11b CH01



802.11b CH11

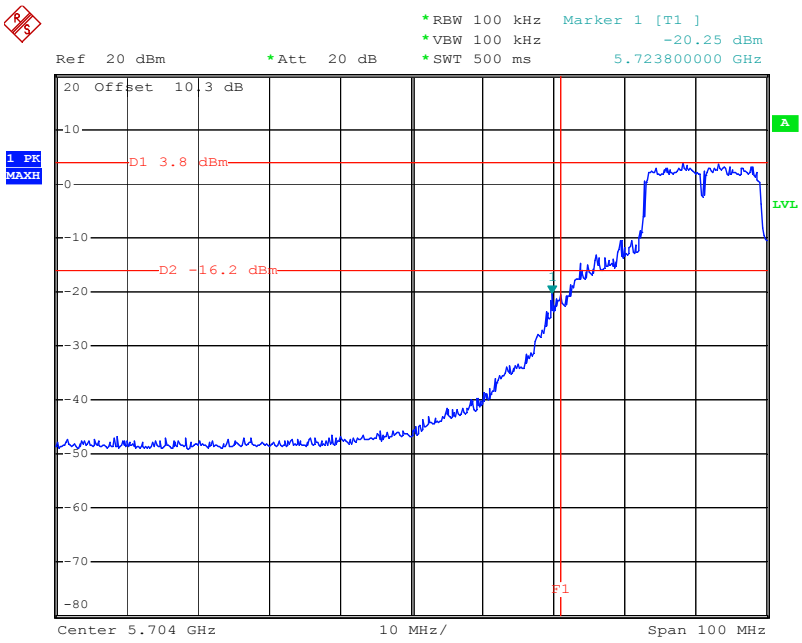


802.11g CH01

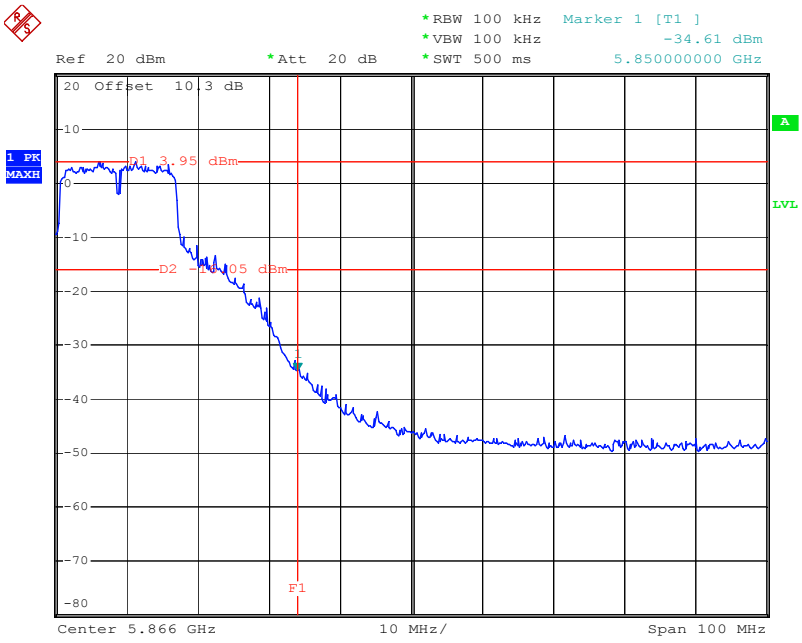


802.11g CH11

Antenna 6

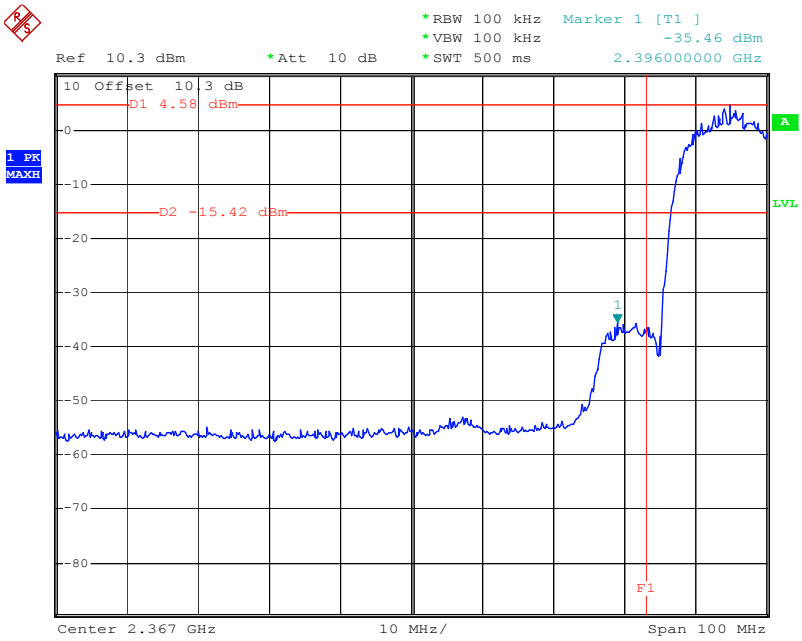


802.11a CH149

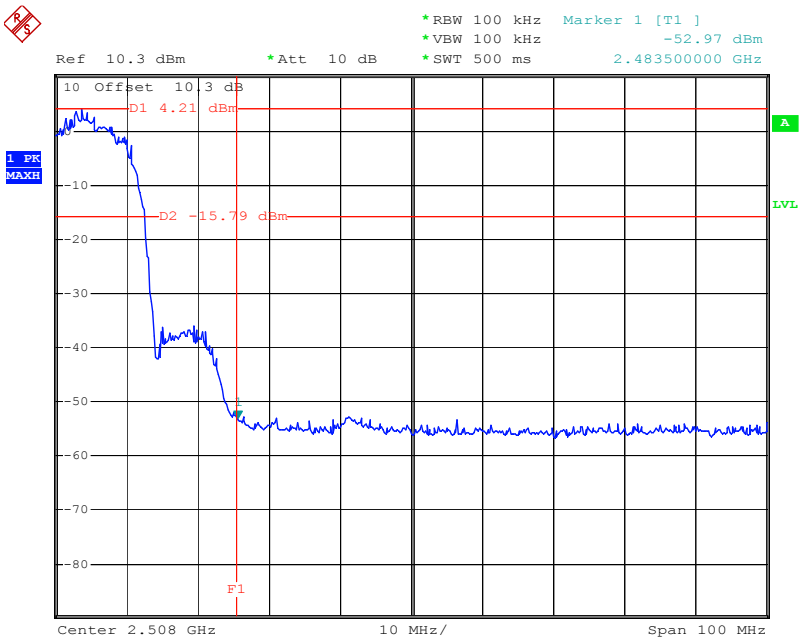


802.11a CH165

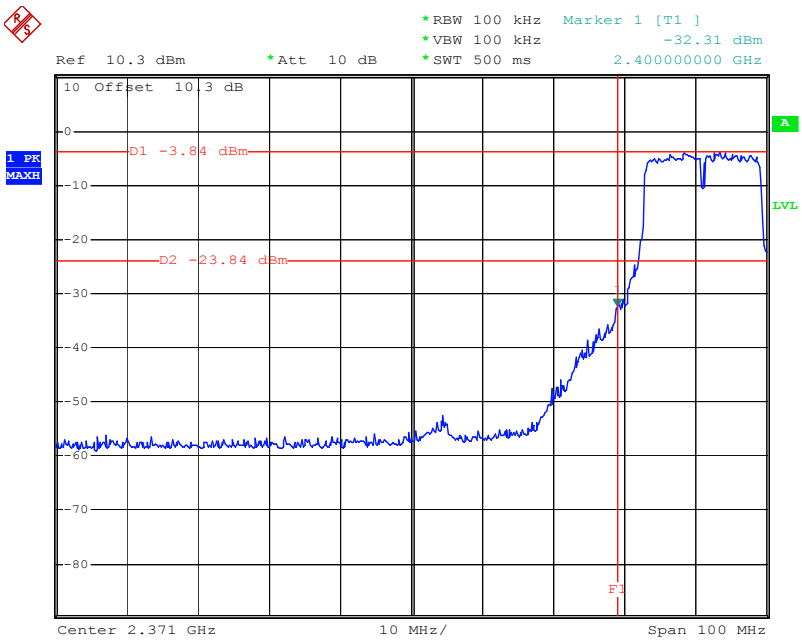
Antenna 7



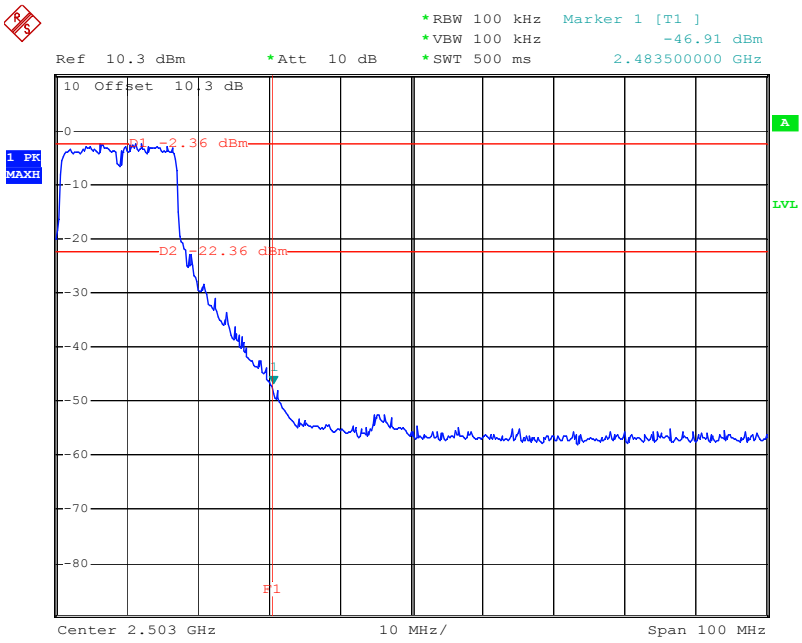
802.11b CH01



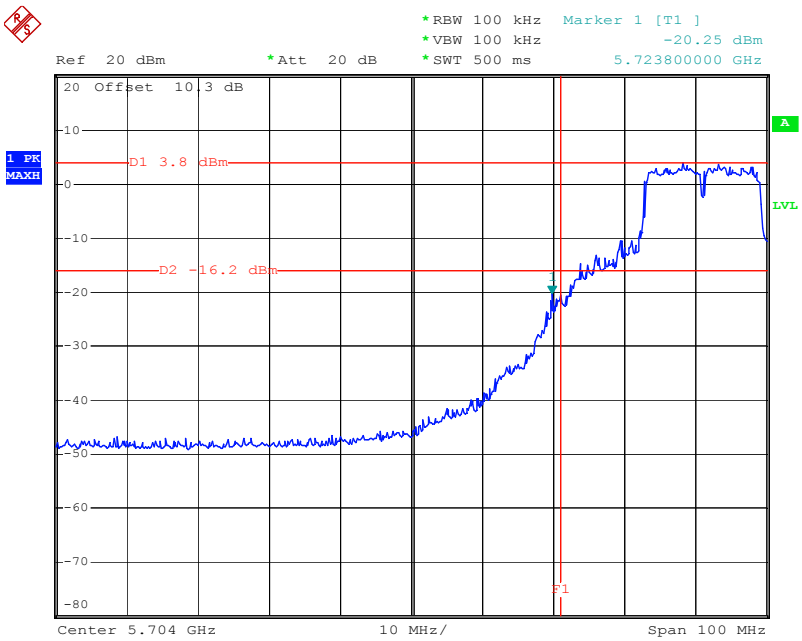
802.11b CH11



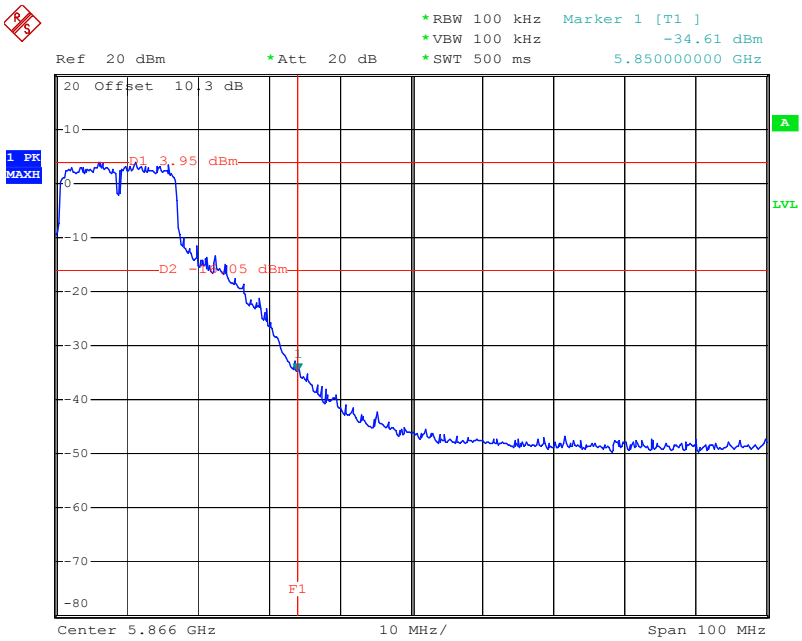
802.11g CH01



802.11g CH11

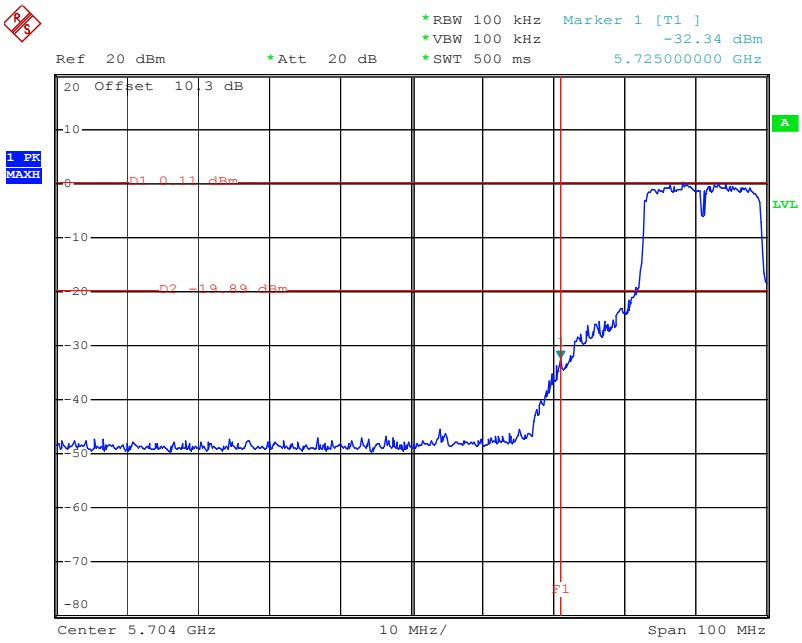


802.11a CH149

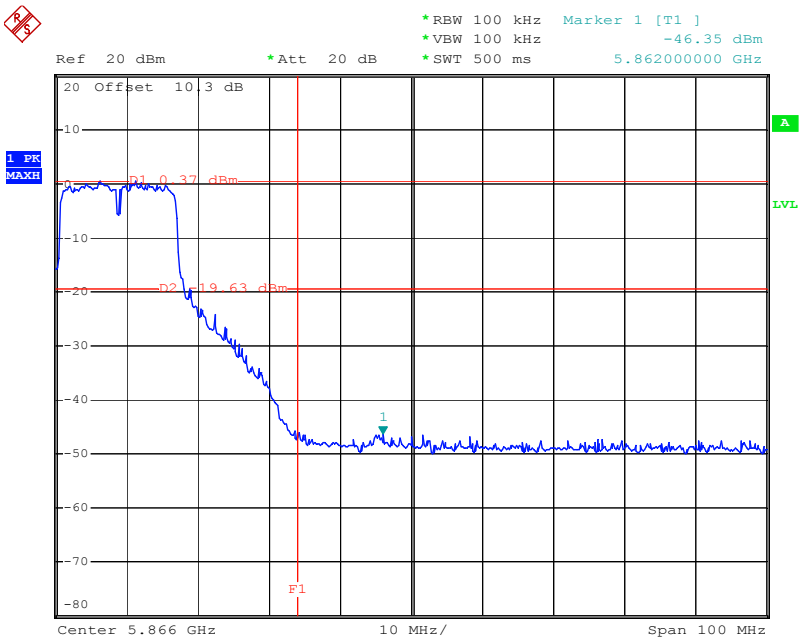


802.11a CH165

Antenna 8

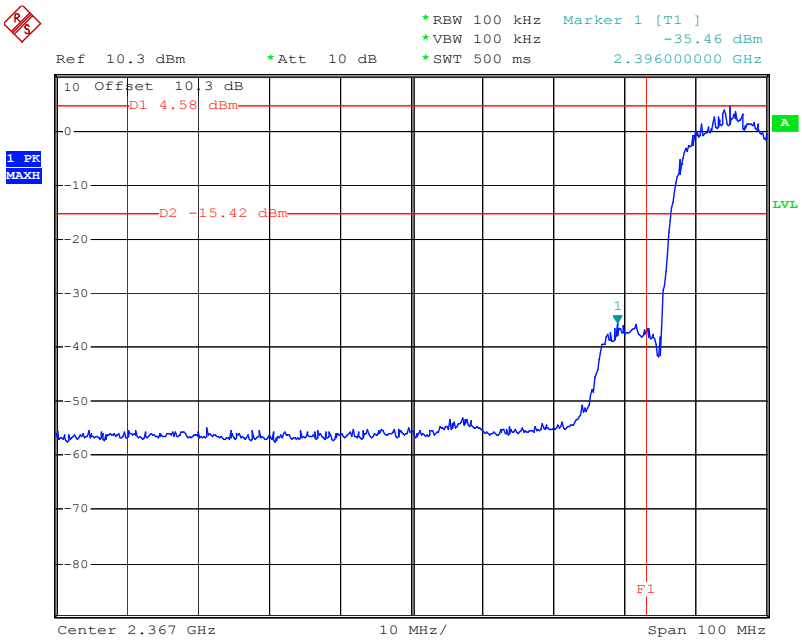


802.11a CH149

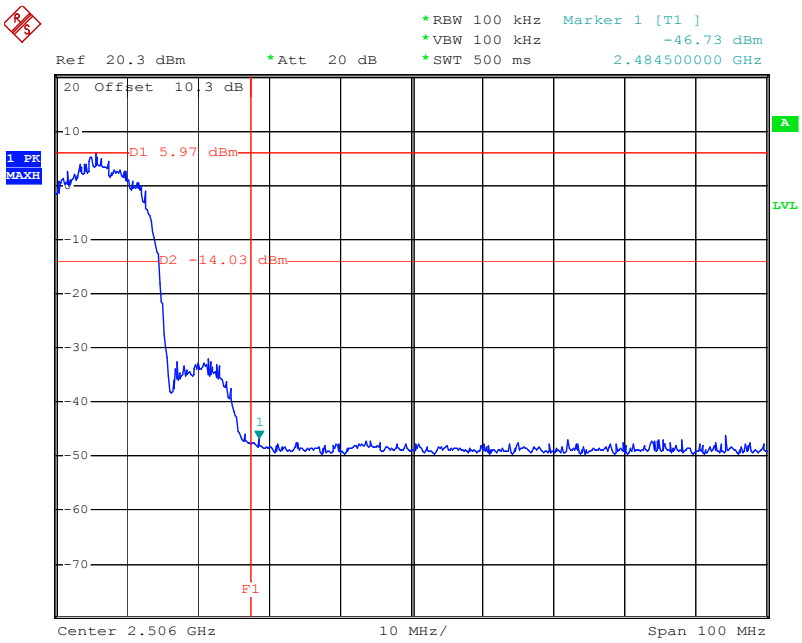


802.11a CH165

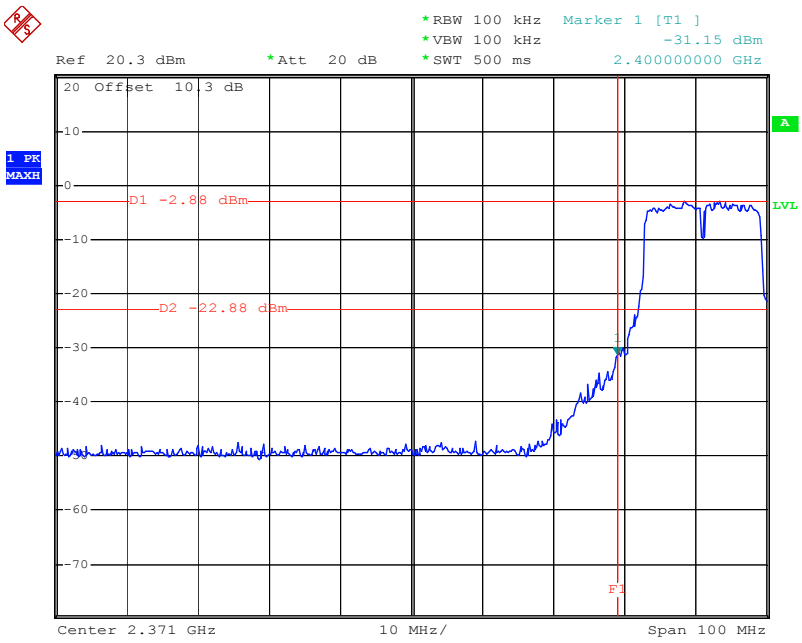
Antenna 9



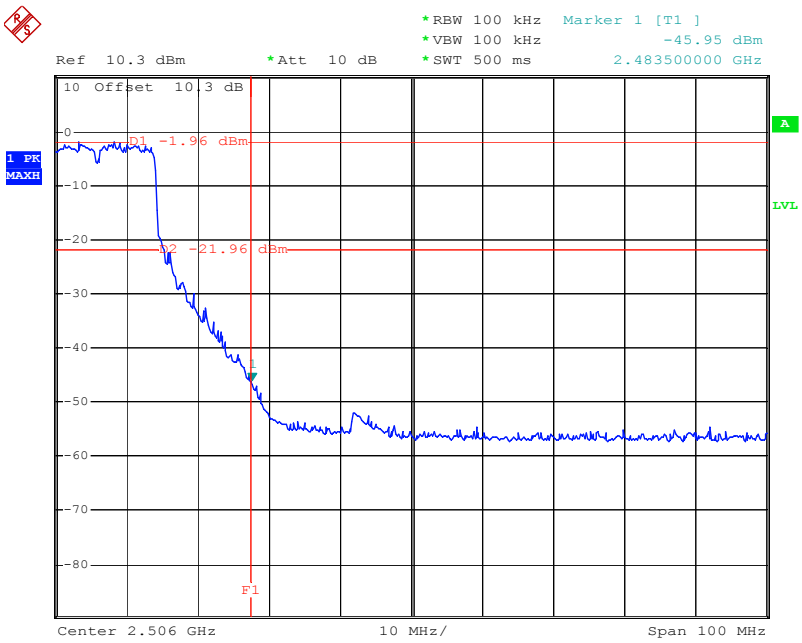
802.11b CH01



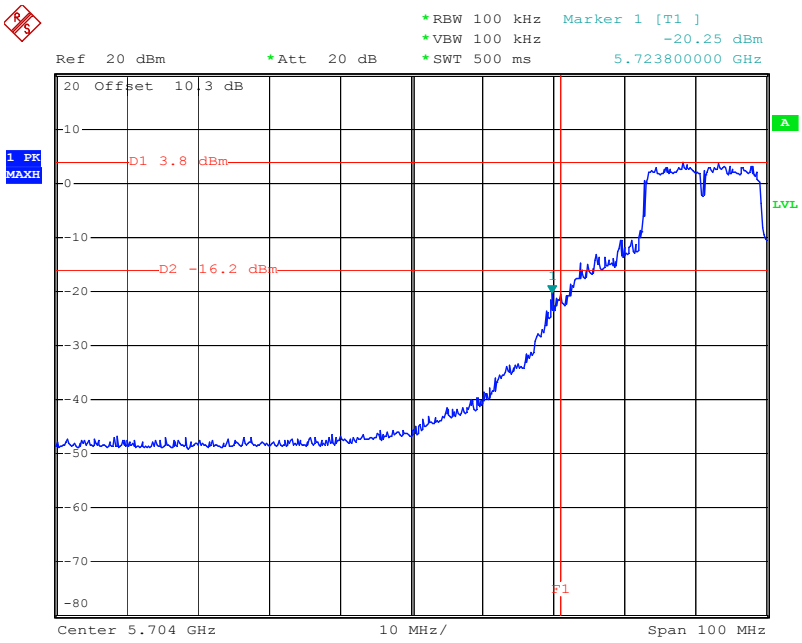
802.11b CH11



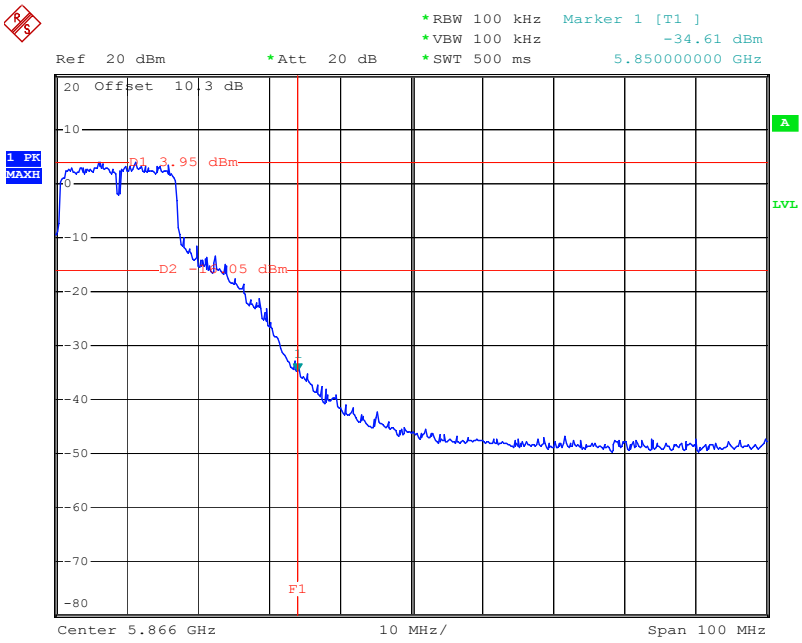
802.11g CH01



802.11g CH11



802.11a CH149



802.11a CH165

5.5 Peak Output Power

5.5.1 Measuring Instruments：

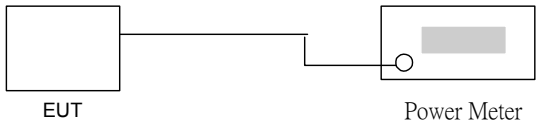
As described in chapter 9 of this test report.

5.5.2 Test Procedure：

The antenna port（RF output）of the EUT was connected to the input（RF input）of a power meter.

The power is equal to the reading level on power meter plus cable loss at the EUT antenna terminal.

5.5.3 Test Setup Layout：



5.5.4 Test Result：

- Temperature : 24℃
- Relative Humidity :52%

◆ Test Antenna: Antenna 3

➢ Application: 802.11b

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (dBm)
01	2412	10.06	28.6 dBm
06	2437	14.03	28.6 dBm
11	2462	13.8	28.6 dBm

➢ Application: 802.11g

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (dBm)
01	2412	7.64	28.6 dBm
06	2437	13.42	28.6 dBm
11	2462	16.41	28.6 dBm

◆ Test Antenna: Antenna 4

➢ Application: 802.11b

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (dBm)
01	2412	14.19	27 dBm
06	2437	15.4	27 dBm
11	2462	14.28	27 dBm

➢ Application: 802.11g

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (dBm)
01	2412	14.21	27 dBm
06	2437	19.5	27 dBm
11	2462	13.84	27 dBm

◆ Test Antenna: Antenna 6

➢ Application: 802.11a

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (dBm)
149	5745	18.92	29.7 dBm
157	5785	19.01	29.7 dBm
165	5825	18.91	29.7 dBm

◆ Test Antenna: Antenna 7

➢ Application: 802.11b

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (dBm)
01	2412	17.39	29.1 dBm
06	2437	17.63	29.1 dBm
11	2462	17.11	29.1 dBm

➢ Application: 802.11g

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (dBm)
01	2412	15.63	29.1 dBm
06	2437	19.76	29.1 dBm
11	2462	16.98	29.1 dBm

➢ Application: 802.11a

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (dBm)
149	5745	18.92	28.3 dBm
157	5785	19.01	28.3 dBm
165	5825	19.01	28.3 dBm

◆ Test Antenna: Antenna 8

➢ Application: 802.11a

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (dBm)
149	5745	16.31	22.7 dBm
157	5785	16.42	22.7 dBm
165	5825	16.25	22.7 dBm

◆ Test Antenna: Antenna 9

➢ Application: 802.11b

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (dBm)
01	2412	17.39	30 dBm
06	2437	18.58	30 dBm
11	2462	18.54	30 dBm

➢ Application: 802.11g

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (dBm)
01	2412	16.53	30 dBm
06	2437	19.05	30 dBm
11	2462	16.81	30 dBm

➢ Application: 802.11a

Channel	Frequency (MHz)	Measured Output Power (dBm)	Limits (dBm)
149	5745	18.92	30 dBm
157	5785	19.01	30 dBm
165	5825	18.91	30 dBm

6. Test of Conducted Emission

As described in chapter 9 of this test report.

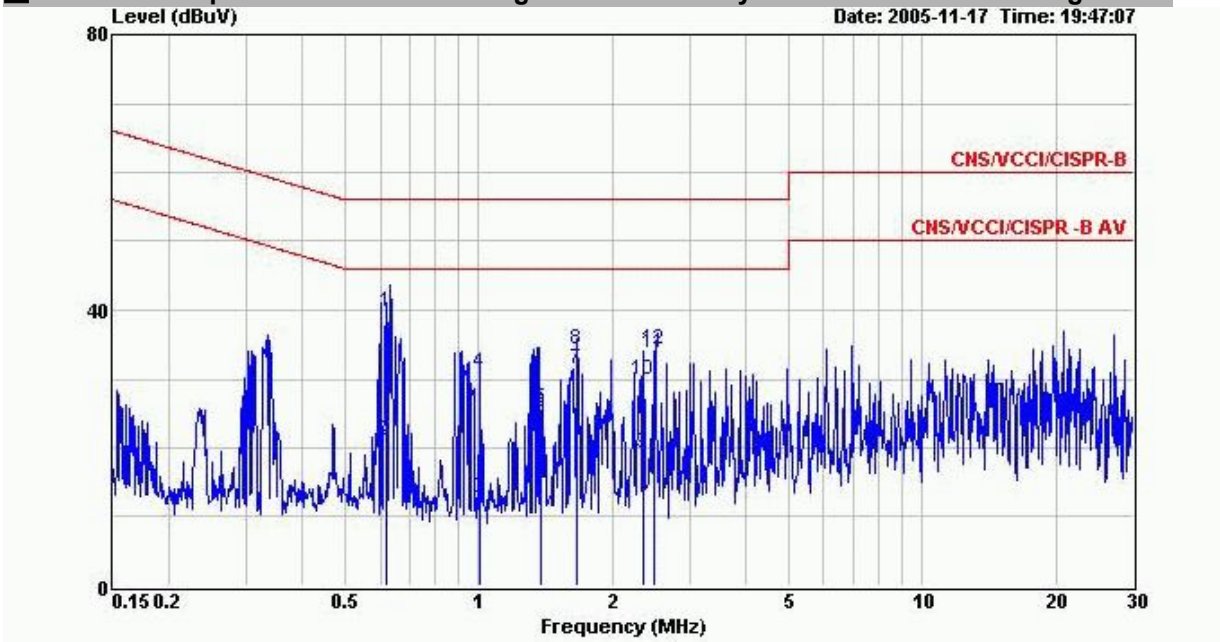
6.1. Test Procedures

a. The EUT was placed 0.4 meter from the conducting wall of the shielding room was kept at least 80 centimeters from any other grounded conducting surface.
b. Connect EUT to the power port of a line impedance stabilization network (LISN).
c. All the support units are connected to the other LISN.
d. The LISN provides 50 ohm coupling impedance for the measuring instrument.
e. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
f. Both sides of AC line were checked for maximum conducted interference.
g. The frequency range from 150 kHz to 30 MHz was searched.
h. Set the test-receiver system to Peak Detect Function and specified bandwidth with Maximum Hold Mode.

6.2. Test Data

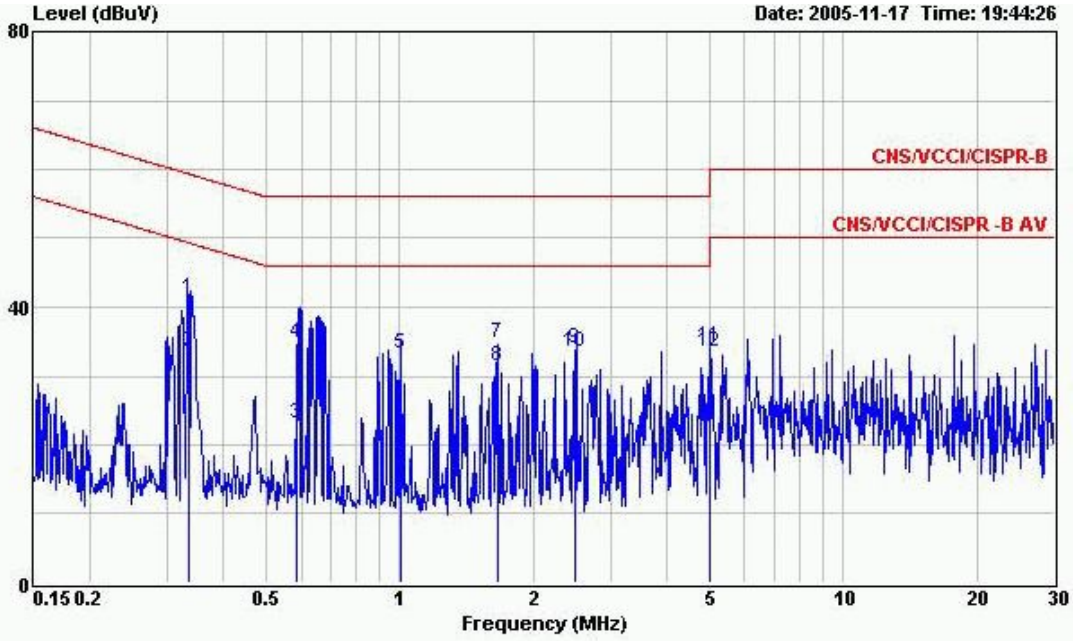
- Frequency Range of Test : 150kHz to 30 MHz
- Test Mode : Mode 1
- Temperature : 24℃
- Relative Humidity : 52%
- Test Enginner : Jay

■ The test that passed at minimum margin was marked by the frame in the following table.



Site : CO01-HY
Condition : CNS/VCCI/CISPR-B 2001/004 200505 LINE
EUT : 802.11a/b/g WLAN Radio Port-220/230
Power : 120V/60Hz
Model : FD5O2016
Memo : PING MODE
Memo : RSVLC-0505
Memo :

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.617	39.84	-16.16	56.00	39.71	0.08	0.05	QP
2	0.617	21.02	-24.98	46.00	20.89	0.08	0.05	Average
3	1.010	12.64	-33.36	46.00	12.47	0.11	0.06	Average
4	1.010	30.90	-25.10	56.00	30.73	0.11	0.06	QP
5	1.386	25.64	-20.36	46.00	25.46	0.11	0.07	Average
6	1.386	25.32	-30.68	56.00	25.14	0.11	0.07	QP
7	1.661	31.33	-14.67	46.00	31.15	0.11	0.07	Average
8	1.661	34.30	-21.70	56.00	34.12	0.11	0.07	QP
9	2.350	19.28	-26.72	46.00	19.05	0.13	0.10	Average
10	2.350	29.97	-26.03	56.00	29.74	0.13	0.10	QP
11	2.494	33.75	-22.25	56.00	33.50	0.14	0.11	QP
12	2.494	34.39	-11.61	46.00	34.14	0.14	0.11	Average



Site : CO01-HV
Condition : CNS/VCCI/CISPR-B 2001/004 200505 NEUTRAL
EUT : 802.11a/b/g WLAN Radio Port-220/230
Power : 120V/60Hz
Model : FD5O2016
Memo : PING MODE
Memo : RSVLC-0505
Memo :

	Freq	Level	Over Limit	Limit Line	Read Level	Probe Factor	Cable Loss	Remark
	MHz	dBuV	dB	dBuV	dBuV	dB	dB	
1	0.333	41.35	-18.02	59.37	41.20	0.11	0.04	QP
2	0.333	33.38	-15.99	49.37	33.23	0.11	0.04	Average
3	0.587	23.09	-22.91	46.00	22.88	0.16	0.05	Average
4	0.587	34.86	-21.14	56.00	34.65	0.16	0.05	QP
5	1.009	33.18	-22.82	56.00	32.89	0.23	0.06	QP
6	1.009	15.54	-30.46	46.00	15.25	0.23	0.06	Average
7	1.662	34.72	-21.28	56.00	34.42	0.23	0.07	QP
8	1.662	31.45	-14.55	46.00	31.15	0.23	0.07	Average
9	2.496	34.03	-11.97	46.00	33.69	0.23	0.11	Average
10	2.496	33.60	-22.40	56.00	33.26	0.23	0.11	QP
11	4.990	34.38	-21.62	56.00	33.95	0.25	0.18	QP
12	4.990	33.48	-12.52	46.00	33.05	0.25	0.18	Average

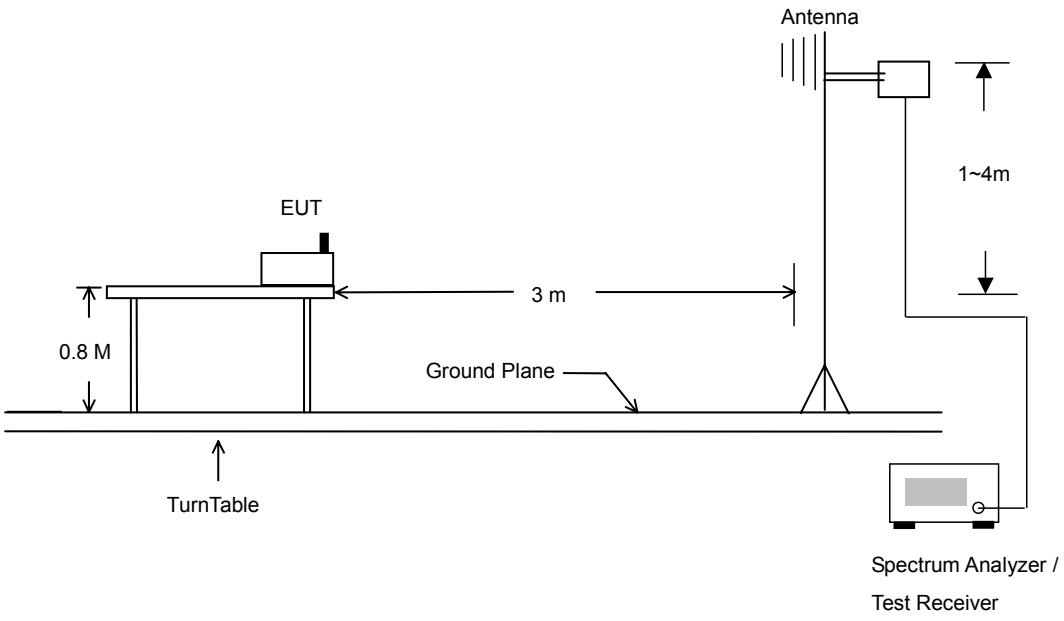
7. Test of Radiated Emission

As described in chapter 9 of this test report.

7.1. Test Procedures

a. The EUT was placed on a rotatable table top 0.8 meter above ground.
b. The EUT was set 3 meters from the interference receiving antenna which was mounted on the top of a variable height antenna tower.
c. The table was rotated 360 degrees to determine the position of the highest radiation.
d. The antenna is a broadband antenna and its height is varied between one meter and four meters above ground to find the maximum value of the field strength for both horizontal polarization and vertical polarization of the antenna.
e. For each suspected emission, the EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading.
f. Set the test-receiver system to Peak or CISPR quasi-peak Detect Function and specified bandwidth with Maximum Hold Mode.
g. For testing below 1GHz, If the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the quasi-peak method and reported.
h. For testing above 1GHz, the emission level of the EUT in peak mode was 20dB lower than average limit (that means the emission level in average mode also complies with the limit in average mode), then testing will be stopped and peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.

7.2. Typical Test Setup Layout of Radiated Emission



7.3. Test Data

◆ Test Mode : Antenna 3_Mode 1

- Temperature : 26℃
- Relative Humidity :53%
- Test Enginner : Jay
- Polarization : Horizontal

■ The test that passed at minimum margin was marked by the frame in the following table.

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	2390.00	53.09	-0.91	54.00	53.80	30.48	4.26	35.46	100	177	Average
2 @	2390.00	71.60	-2.40	74.00	72.31	30.48	4.26	35.46	100	360	Peak
3 @	2412.00	116.33			117.05	30.47	4.26	35.46	100	360	Peak
4 @	2412.00	108.28			109.00	30.47	4.26	35.46	100	177	Average
5 @	2483.50	45.41	-8.59	54.00	46.15	30.41	4.36	35.51	100	177	Average
6 @	2483.58	57.42	-16.58	74.00	58.16	30.41	4.36	35.51	100	360	Peak

Remark: #3 and #4 Fundamental Signal

- Polarization : Vertical

■ The test that passed at minimum margin was marked by the frame in the following table.

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	2390.00	50.49	-23.51	74.00	51.20	30.48	4.26	35.46	200	0	Peak
2 @	2390.00	40.49	-13.51	54.00	41.20	30.48	4.26	35.46	165	102	Average
3 @	2412.00	97.94			98.66	30.47	4.26	35.46	200	0	Peak
4 @	2412.00	91.17			91.89	30.47	4.26	35.46	165	102	Average
5 @	2483.50	49.54	-24.46	74.00	50.28	30.41	4.36	35.51	200	0	Peak
6 @	2483.50	39.14	-14.86	54.00	39.88	30.41	4.36	35.51	165	102	Average

Remark: #3 and #4 Fundamental Signal

◆ Test Mode : Antenna 3_Mode 2

- Temperature : 26℃
- Relative Humidity :53%
- Test Enginner : Jay
- Polarization : Horizontal

■ The test that passed at minimum margin was marked by the frame in the following table.

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	160.14	33.47	-10.03	43.50	51.65	10.37	3.11	31.66	400	0	Peak
2 @	175.53	35.09	-8.41	43.50	53.88	9.29	3.28	31.37	400	0	Peak
3 @	199.83	31.65	-11.85	43.50	49.55	9.93	3.51	31.34	400	0	Peak

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	320.30	28.35	-17.65	46.00	41.25	13.54	4.53	30.97	100	0	Peak
2 @	708.80	30.63	-15.37	46.00	34.89	19.29	6.96	30.51	100	0	Peak
3 @	850.90	32.67	-13.33	46.00	34.12	20.91	7.74	30.10	100	0	Peak

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	2390.00	46.95	-7.05	54.00	47.66	30.48	4.26	35.46	100	359	Average
2 @	2390.00	58.25	-15.75	74.00	58.96	30.48	4.26	35.46	100	0	Peak
3 @	2438.00	116.96			117.70	30.44	4.29	35.47	100	0	Peak
4 @	2438.00	109.76			110.50	30.44	4.29	35.47	100	359	Average
5 @	2483.50	59.66	-14.34	74.00	60.40	30.41	4.36	35.51	100	0	Peak
6 @	2483.50	48.33	-5.67	54.00	49.07	30.41	4.36	35.51	100	359	Average

Remark: #3 and #4 Fundamental Signal

- Polarization : Vertical

■ The test that passed at minimum margin was marked by the frame in the following table.

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	143.13	26.41	-17.09	43.50	44.76	10.24	2.92	31.50	400	0	Peak
2 @	175.53	26.47	-17.03	43.50	45.27	9.29	3.28	31.37	400	0	Peak
3 @	200.64	25.48	-18.02	43.50	43.40	9.91	3.51	31.34	400	0	Peak

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	479.90	27.95	-18.05	46.00	36.18	16.93	5.61	30.78	100	0	Peak
2 @	708.80	34.07	-11.93	46.00	38.33	19.29	6.96	30.51	100	0	Peak
3 @	731.90	34.00	-12.00	46.00	37.52	19.96	7.06	30.55	100	0	Peak

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	2354.00	50.69	-23.31	74.00	51.40	30.51	4.20	35.42	100	95	Peak
2 @	2354.00	39.44	-14.56	54.00	40.15	30.51	4.20	35.42	100	95	Average
3 @	2438.00	99.14			99.88	30.44	4.29	35.47	100	95	Peak
4 @	2438.00	91.79			92.53	30.44	4.29	35.47	100	95	Average
5 @	2483.50	51.83	-22.17	74.00	52.56	30.41	4.36	35.51	100	95	Peak
6 @	2483.50	39.75	-14.25	54.00	40.49	30.41	4.36	35.51	100	95	Average

Remark: #3 and #4 Fundamental Signal

◆ Test Mode : Antenna 3_Mode 3

- Temperature : 26℃
- Relative Humidity :53%
- Test Enginner : Jay
- Polarization : Horizontal

■ The test that passed at minimum margin was marked by the frame in the following table.

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	2390.00	58.07	-15.93	74.00	58.78	30.48	4.26	35.46	200	360	Peak
2 @	2390.00	47.10	-6.90	54.00	47.81	30.48	4.26	35.46	100	0	Average
3 @	2462.00	115.06			115.80	30.43	4.33	35.49	200	360	Peak
4 @	2462.00	107.36			108.10	30.43	4.33	35.49	100	0	Average
5 @	2483.50	53.63	-0.37	54.00	54.37	30.41	4.36	35.51	100	0	Average
6 @	2483.50	66.65	-7.35	74.00	67.39	30.41	4.36	35.51	200	360	Peak

Remark: #3 and #4 Fundamental Signal

- Polarization : Vertical

■ The test that passed at minimum margin was marked by the frame in the following table.

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	2390.00	49.78	-24.22	74.00	50.49	30.48	4.26	35.46	200	0	Peak
2 @	2390.00	39.68	-14.32	54.00	40.39	30.48	4.26	35.46	105	104	Average
3 @	2462.00	98.17			98.91	30.43	4.33	35.49	200	0	Peak
4 @	2462.00	91.59			92.33	30.43	4.33	35.49	105	104	Average
5 @	2483.50	50.28	-23.72	74.00	51.02	30.41	4.36	35.51	200	0	Peak
6 @	2483.50	40.49	-13.51	54.00	41.23	30.41	4.36	35.51	105	104	Average

Remark: #3 and #4 Fundamental Signal

◆ Test Mode : Antenna 3_Mode 4

- Temperature : 26℃
- Relative Humidity :53%
- Test Enginner : Jay
- Polarization : Horizontal

■ The test that passed at minimum margin was marked by the frame in the following table.

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	2390.00	53.14	-0.86	54.00	53.85	30.48	4.26	35.46	100	177	Average
2 @	2390.00	72.23	-1.77	74.00	72.94	30.48	4.26	35.46	200	0	Peak
3 @	2412.00	109.75			110.48	30.47	4.26	35.46	200	0	Peak
4 @	2412.00	100.88			101.60	30.47	4.26	35.46	100	177	Average
5 @	2483.50	54.79	-19.21	74.00	55.53	30.41	4.36	35.51	200	0	Peak
6 @	2483.50	44.07	-9.93	54.00	44.81	30.41	4.36	35.51	100	177	Average

Remark: #3 and #4 Fundamental Signal

- Polarization : Vertical

■ The test that passed at minimum margin was marked by the frame in the following table.

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	2390.00	52.08	-21.92	74.00	52.79	30.48	4.26	35.46	200	0	Peak
2 @	2390.00	40.15	-13.85	54.00	40.86	30.48	4.26	35.46	133	101	Average
3 @	2412.00	93.63			94.35	30.47	4.26	35.46	200	0	Peak
4 @	2412.00	85.10			85.82	30.47	4.26	35.46	133	101	Average
5 @	2483.50	50.14	-23.86	74.00	50.88	30.41	4.36	35.51	200	0	Peak
6 @	2483.50	39.31	-14.69	54.00	40.05	30.41	4.36	35.51	133	101	Average

Remark: #3 and #4 Fundamental Signal

◆ Test Mode : Antenna 3_Mode 5

- Temperature : 26℃
- Relative Humidity :53%
- Test Enginner : Jay
- Polarization : Horizontal

■ The test that passed at minimum margin was marked by the frame in the following table.

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	1694.00	49.66	-24.34	74.00	53.41	28.22	3.53	35.51	100	0	Peak
2 @	1694.00	39.17	-14.83	54.00	42.92	28.22	3.53	35.51	100	359	Average
3 @	2390.00	45.97	-8.03	54.00	46.68	30.48	4.26	35.46	100	359	Average
4 @	2390.00	57.79	-16.21	74.00	58.51	30.48	4.26	35.46	100	0	Peak
5 @	2438.00	105.06			105.80	30.44	4.29	35.47	100	359	Average
6 @	2438.00	114.80			115.54	30.44	4.29	35.47	100	0	Peak
7 @	2483.50	58.79	-15.21	74.00	59.53	30.41	4.36	35.51	100	0	Peak
8 @	2483.50	47.94	-6.06	54.00	48.68	30.41	4.36	35.51	100	359	Average

Remark: #5 and #6 Fundamental Signal

- Polarization : Vertical

■ The test that passed at minimum margin was marked by the frame in the following table.

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	2334.00	50.80	-23.20	74.00	51.49	30.54	4.17	35.40	100	14	Peak
2 @	2334.00	39.22	-14.78	54.00	39.92	30.54	4.17	35.40	100	117	Average
3 @	2438.00	99.24			99.98	30.44	4.29	35.47	100	14	Peak
4 @	2438.00	91.26			92.00	30.44	4.29	35.47	100	117	Average
5 @	2483.50	50.05	-23.95	74.00	50.79	30.41	4.36	35.51	100	14	Peak
6 @	2483.50	39.54	-14.46	54.00	40.28	30.41	4.36	35.51	100	117	Average

Remark: #3 and #4 Fundamental Signal

◆ Test Mode : Antenna 3_Mode 6

- Temperature : 26℃
- Relative Humidity :53%
- Test Enginner : Jay
- Polarization : Horizontal

■ The test that passed at minimum margin was marked by the frame in the following table.

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	2390.00	55.47	-18.53	74.00	56.18	30.48	4.26	35.46	200	360	Peak
2 @	2390.00	44.93	-9.07	54.00	45.64	30.48	4.26	35.46	100	360	Average
3 @	2462.00	108.80			109.53	30.43	4.33	35.49	200	360	Peak
4 @	2462.00	100.06			100.80	30.43	4.33	35.49	100	360	Average
5 @	2483.50	53.45	-0.55	54.00	54.19	30.41	4.36	35.51	100	360	Average
6 @	2483.50	68.56	-5.44	74.00	69.30	30.41	4.36	35.51	200	360	Peak

Remark: #3 and #4 Fundamental Signal

- Polarization : Vertical

■ The test that passed at minimum margin was marked by the frame in the following table.

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	2390.00	49.79	-24.21	74.00	50.50	30.48	4.26	35.46	200	0	Peak
2 @	2390.00	39.48	-14.52	54.00	40.19	30.48	4.26	35.46	106	91	Average
3 @	2462.00	92.71			93.45	30.43	4.33	35.49	200	0	Peak
4 @	2462.00	84.04			84.78	30.43	4.33	35.49	106	91	Average
5 @	2483.50	50.94	-23.06	74.00	51.68	30.41	4.36	35.51	200	0	Peak
6 @	2483.50	39.84	-14.16	54.00	40.58	30.41	4.36	35.51	106	91	Average

Remark: #3 and #4 Fundamental Signal

◆ Test Mode : Antenna 4_Mode 1

- Temperature : 26℃
- Relative Humidity :53%
- Test Enginner : Jay
- Polarization : Horizontal

■ The test that passed at minimum margin was marked by the frame in the following table.

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	2390.00	51.52	-2.48	54.00	52.23	30.48	4.26	35.46	125	274	Average
2 @	2390.00	70.97	-3.03	74.00	71.68	30.48	4.26	35.46	200	0	Peak
3 @	2412.00	107.88			108.60	30.47	4.26	35.46	125	274	Average
4 @	2412.00	114.34			115.06	30.47	4.26	35.46	200	0	Peak
5 @	2483.50	47.15	-6.85	54.00	47.89	30.41	4.36	35.51	125	274	Average
6 @	2483.50	59.01	-14.99	74.00	59.75	30.41	4.36	35.51	200	0	Peak

Remark: #3 and #4 Fundamental Signal

- Polarization : Vertical

■ The test that passed at minimum margin was marked by the frame in the following table.

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	2390.00	53.31	-20.69	74.00	54.02	30.48	4.26	35.46	100	0	Peak
2 @	2390.00	40.22	-13.78	54.00	40.93	30.48	4.26	35.46	118	281	Average
3 @	2412.00	101.37			102.10	30.47	4.26	35.46	100	0	Peak
4 @	2412.00	94.14			94.86	30.47	4.26	35.46	118	281	Average
5 @	2483.50	49.41	-24.59	74.00	50.15	30.41	4.36	35.51	100	0	Peak
6 @	2483.50	39.44	-14.56	54.00	40.18	30.41	4.36	35.51	118	281	Average

Remark: #3 and #4 Fundamental Signal

◆ Test Mode : Antenna 4_Mode 2

- Temperature : 26℃
- Relative Humidity :53%
- Test Enginner : Jay
- Polarization : Horizontal

■ The test that passed at minimum margin was marked by the frame in the following table.

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	143.13	27.41	-16.09	43.50	45.75	10.24	2.92	31.50	400	0	Peak
2 @	199.83	29.64	-13.86	43.50	47.54	9.93	3.51	31.34	400	0	Peak
3 @	228.99	26.12	-19.88	46.00	43.48	10.15	3.75	31.25	400	0	Peak

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	708.80	32.44	-13.56	46.00	36.70	19.29	6.96	30.51	100	0	Peak
2 @	836.90	36.25	-9.75	46.00	37.69	21.18	7.66	30.28	100	0	Peak
3 @	850.90	32.89	-13.11	46.00	34.34	20.91	7.74	30.10	100	0	Peak

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	2390.00	45.64	-8.36	54.00	46.35	30.48	4.26	35.46	100	277	Average
2 @	2390.00	57.80	-16.20	74.00	58.51	30.48	4.26	35.46	100	2	Peak
3 @	2438.00	107.66			108.40	30.44	4.29	35.47	100	277	Average
4 @	2438.00	115.46			116.20	30.44	4.29	35.47	100	2	Peak
5 @	2483.50	47.64	-6.36	54.00	48.38	30.41	4.36	35.51	100	277	Average
6 @	2483.50	60.31	-13.69	74.00	61.05	30.41	4.36	35.51	100	2	Peak

Remark: #3 and #4 Fundamental Signal

- Polarization : Vertical

■ The test that passed at minimum margin was marked by the frame in the following table.

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	151.23	24.55	-18.95	43.50	43.96	9.05	3.02	31.48	400	0	Peak
2 @	166.08	24.92	-18.58	43.50	43.26	9.95	3.18	31.47	400	0	Peak
3 @	199.83	28.32	-15.18	43.50	46.22	9.93	3.51	31.34	400	0	Peak

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	731.90	33.90	-12.10	46.00	37.42	19.96	7.06	30.55	100	0	Peak
2 @	771.80	33.15	-12.85	46.00	35.04	21.09	7.37	30.35	100	0	Peak
3 @	934.90	33.05	-12.95	46.00	33.98	21.00	8.22	30.14	100	0	Peak

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	2310.00	50.73	-23.27	74.00	51.43	30.55	4.14	35.39	100	0	Peak
2 @	2310.00	39.40	-14.60	54.00	40.10	30.55	4.14	35.39	100	275	Average
3 @	2438.00	98.56			99.30	30.44	4.29	35.47	100	0	Peak
4 @	2438.00	94.05			94.79	30.44	4.29	35.47	100	275	Average
5 @	2488.00	50.23	-23.77	74.00	50.99	30.40	4.36	35.51	100	0	Peak
6 @	2488.00	39.42	-14.58	54.00	40.17	30.40	4.36	35.51	100	275	Average

Remark: #3 and #4 Fundamental Signal

◆ Test Mode : Antenna 4_Mode 3

- Temperature : 26℃
- Relative Humidity :53%
- Test Enginner : Jay
- Polarization : Horizontal

■ The test that passed at minimum margin was marked by the frame in the following table.

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	2390.00	56.17	-17.83	74.00	56.88	30.48	4.26	35.46	200	0	Peak
2 @	2390.00	45.30	-8.70	54.00	46.01	30.48	4.26	35.46	124	272	Average
3 @	2462.00	113.95			114.68	30.43	4.33	35.49	200	0	Peak
4 @	2462.00	107.26			108.00	30.43	4.33	35.49	124	272	Average
5 @	2483.50	52.71	-1.29	54.00	53.45	30.41	4.36	35.51	124	272	Average
6 @	2483.50	65.82	-8.18	74.00	66.56	30.41	4.36	35.51	200	0	Peak

Remark: #3 and #4 Fundamental Signal

- Polarization : Vertical

■ The test that passed at minimum margin was marked by the frame in the following table.

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	2390.00	49.98	-24.02	74.00	50.69	30.48	4.26	35.46	100	0	Peak
2 @	2390.00	39.41	-14.59	54.00	40.12	30.48	4.26	35.46	181	275	Average
3 @	2462.00	99.36			100.10	30.43	4.33	35.49	100	0	Peak
4 @	2462.00	92.37			93.11	30.43	4.33	35.49	181	275	Average
5 @	2483.50	50.66	-23.34	74.00	51.40	30.41	4.36	35.51	100	0	Peak
6 @	2483.50	39.87	-14.13	54.00	40.61	30.41	4.36	35.51	181	275	Average

Remark: #3 and #4 Fundamental Signal

◆ Test Mode : Antenna 4_Mode 4

- Temperature : 26℃
- Relative Humidity :53%
- Test Enginner : Jay
- Polarization : Horizontal

■ The test that passed at minimum margin was marked by the frame in the following table.

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	2390.00	71.79	-2.21	74.00	72.50	30.48	4.26	35.46	200	0	Peak
2 @	2390.00	52.67	-1.33	54.00	53.38	30.48	4.26	35.46	100	275	Average
3 @	2412.00	108.82			109.55	30.47	4.26	35.46	200	0	Peak
4 @	2412.00	100.28			101.00	30.47	4.26	35.46	100	275	Average
5 @	2483.50	56.65	-17.35	74.00	57.39	30.41	4.36	35.51	200	0	Peak
6 @	2483.50	45.73	-8.27	54.00	46.47	30.41	4.36	35.51	100	275	Average

Remark: #3 and #4 Fundamental Signal

- Polarization : Vertical

■ The test that passed at minimum margin was marked by the frame in the following table.

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	2390.00	54.47	-19.53	74.00	55.18	30.48	4.26	35.46	100	0	Peak
2 @	2390.00	40.43	-13.57	54.00	41.14	30.48	4.26	35.46	120	269	Average
3 @	2412.00	96.80			97.52	30.47	4.26	35.46	100	0	Peak
4 @	2412.00	88.20			88.92	30.47	4.26	35.46	120	269	Average
5 @	2483.50	49.96	-24.04	74.00	50.70	30.41	4.36	35.51	100	0	Peak
6 @	2483.50	39.34	-14.66	54.00	40.08	30.41	4.36	35.51	120	269	Average

Remark: #3 and #4 Fundamental Signal

◆ Test Mode : Antenna 4_Mode 5

- Temperature : 26℃
- Relative Humidity :53%
- Test Enginner : Jay
- Polarization : Horizontal

■ The test that passed at minimum margin was marked by the frame in the following table.

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	145.29	27.20	-16.30	43.50	45.89	9.85	2.94	31.49	400	0	Peak
2 @	200.64	29.07	-14.43	43.50	46.99	9.91	3.51	31.34	400	0	Peak
3 @	219.54	25.78	-20.22	46.00	43.82	9.52	3.67	31.23	400	0	Peak

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	721.40	32.36	-13.64	46.00	36.21	19.65	7.00	30.51	100	0	Peak
2 @	868.40	31.78	-14.22	46.00	33.82	20.57	7.80	30.41	100	0	Peak
3 @	934.90	32.22	-13.78	46.00	33.14	21.00	8.22	30.14	100	0	Peak

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	1694.00	51.17	-22.83	74.00	54.92	28.22	3.53	35.51	123	274	Peak
2 @	1694.00	39.64	-14.36	54.00	43.39	28.22	3.53	35.51	100	272	Average
3 @	2390.00	58.79	-15.21	74.00	59.50	30.48	4.26	35.46	123	274	Peak
4 @	2390.00	46.37	-7.63	54.00	47.08	30.48	4.26	35.46	123	274	Average
5 @	2434.00	115.86			116.59	30.46	4.29	35.47	123	274	Peak
6 @	2437.00	108.26			109.00	30.44	4.29	35.47	123	274	Average
7 @	2483.50	59.87	-14.13	74.00	60.61	30.41	4.36	35.51	123	274	Peak
8 @	2483.50	47.84	-6.16	54.00	48.58	30.41	4.36	35.51	123	274	Average

Remark: #5 and #6 Fundamental Signal

- Polarization : Vertical

■ The test that passed at minimum margin was marked by the frame in the following table.

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	143.13	25.30	-18.20	43.50	43.64	10.24	2.92	31.50	400	0	Peak
2 @	166.08	24.68	-18.82	43.50	43.02	9.95	3.18	31.47	400	0	Peak
3 @	199.83	26.90	-16.60	43.50	44.80	9.93	3.51	31.34	400	0	Peak

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	479.90	31.72	-14.28	46.00	39.96	16.93	5.61	30.78	100	0	Peak
2 @	722.80	33.68	-12.32	46.00	37.50	19.68	7.00	30.51	100	0	Peak
3 @	771.80	33.27	-12.73	46.00	35.16	21.09	7.37	30.35	100	0	Peak

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	2390.00	49.99	-24.01	74.00	50.70	30.48	4.26	35.46	200	0	Peak
2 @	2390.00	40.03	-13.97	54.00	40.74	30.48	4.26	35.46	137	295	Average
3 @	2437.00	103.24			103.98	30.44	4.29	35.47	200	0	Peak
4 @	2437.00	95.03			95.77	30.44	4.29	35.47	137	295	Average
5 @	2483.50	49.33	-24.67	74.00	50.06	30.41	4.36	35.51	200	0	Peak
6 @	2483.50	39.65	-14.35	54.00	40.39	30.41	4.36	35.51	137	295	Average

Remark: #3 and #4 Fundamental Signal

◆ Test Mode : Antenna 4_Mode 6

- Temperature : 26℃
- Relative Humidity :53%
- Test Enginner : Jay
- Polarization : Horizontal

■ The test that passed at minimum margin was marked by the frame in the following table.

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	2390.00	43.41	-10.59	54.00	44.12	30.48	4.26	35.46	123	273	Average
2 @	2390.00	54.59	-19.41	74.00	55.30	30.48	4.26	35.46	200	0	Peak
3 @	2462.00	108.17			108.91	30.43	4.33	35.49	200	0	Peak
4 @	2462.00	99.66			100.40	30.43	4.33	35.49	123	273	Average
5 @	2483.50	68.40	-5.60	74.00	69.14	30.41	4.36	35.51	200	0	Peak
6 @	2483.50	52.23	-1.77	54.00	52.97	30.41	4.36	35.51	123	273	Average

Remark: #3 and #4 Fundamental Signal

- Polarization : Vertical

■ The test that passed at minimum margin was marked by the frame in the following table.

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	2390.00	49.74	-24.26	74.00	50.45	30.48	4.26	35.46	100	0	Peak
2 @	2390.00	39.20	-14.80	54.00	39.91	30.48	4.26	35.46	177	276	Average
3 @	2462.00	94.27			95.01	30.43	4.33	35.49	100	0	Peak
4 @	2462.00	85.63			86.37	30.43	4.33	35.49	177	276	Average
5 @	2483.50	50.37	-23.63	74.00	51.11	30.41	4.36	35.51	100	0	Peak
6 @	2483.50	39.70	-14.30	54.00	40.44	30.41	4.36	35.51	177	276	Average

Remark: #3 and #4 Fundamental Signal

◆ Test Mode : Antenna 6_Mode 7

- Temperature : 26℃
- Relative Humidity :53%
- Test Enginner : Jay
- Polarization : Horizontal

■ The test that passed at minimum margin was marked by the frame in the following table.

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	5745.00	110.70			105.77	34.14	6.64	35.85	100	0	Peak
2 @	5745.00	102.38			97.45	34.14	6.64	35.85	194	356	Average

Remark: #1 and #2 Fundamental Signal

- Polarization : Vertical

■ The test that passed at minimum margin was marked by the frame in the following table.

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	5745.00	99.39			94.46	34.14	6.64	35.85	200	0	Peak
2 @	5745.00	91.06			86.13	34.14	6.64	35.85	100	90	Average

Remark: #1 and #2 Fundamental Signal

◆ Test Mode : Antenna 6_Mode 8

- Temperature : 26℃
- Relative Humidity :53%
- Test Enginner : Jay
- Polarization : Horizontal

■ The test that passed at minimum margin was marked by the frame in the following table.

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	143.13	26.59	-16.91	43.50	44.93	10.24	2.92	31.50	400	0	Peak
2 @	199.83	32.06	-11.44	43.50	49.96	9.93	3.51	31.34	400	0	Peak
3 @	211.98	26.49	-17.01	43.50	44.55	9.66	3.61	31.34	400	0	Peak

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	479.90	28.40	-17.60	46.00	36.63	16.93	5.61	30.78	100	0	Peak
2 @	731.90	32.40	-13.60	46.00	35.92	19.96	7.06	30.55	100	0	Peak
3 @	987.40	32.53	-21.47	54.00	31.86	22.59	8.38	30.29	100	0	Peak

	Freq	Level	Over Limit	Limit Line	Read Level	Antenna Factor	Cable Loss	Preamp Factor	Ant Pos	Table Pos	Remark
	MHz	dBuV/m	dB	dBuV/m	dBuV	dB/m	dB	dB	cm	deg	
1 @	5785.00	110.72			105.70	34.19	6.64	35.81	200	0	Peak
2 @	5785.00	102.73			97.72	34.18	6.64	35.81	101	180	Average

Remark: #1 and #2 Fundamental Signal