



FCC RADIO TEST REPORT

FCC ID : QYL8265BB
Equipment : Notebook
Brand Name : Getac
Model Name : B300
Applicant : Getac Technology Corporation.
5F., Building A, No. 209, Sec.1, Nangang
Rd., Nangang Dist., Taipei City 11568, Taiwan, R.O.C.
Standard : FCC Part 15 Subpart C §15.247

The product was received on Jun. 05, 2018 and testing was started from Jun. 14, 2018 and completed on Jul. 21, 2018. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample has been evaluated in accordance with the test procedures and has been in compliance with the applicable technical standards.

The report must not be used by the client to claim product certification, approval, or endorsement by TAF or any agency of government.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory, the test report shall not be reproduced except in full.

Approved by: Jones Tsai

SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory
No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)



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History of this test report

Report No.	Version	Description	Issued Date
FR372342-17C	01	Initial issue of report	Jul. 27, 2018



Summary of Test Result

Report Clause	Ref Std. Clause	Test Items	Result (PASS/FAIL)
3.1	15.247(a)(2)	6dB Bandwidth	Pass
3.1	2.1049	99% Occupied Bandwidth	Reporting only
3.2	15.247(b)	Power Output Measurement	Pass
3.3	15.247(e)	Power Spectral Density	Pass
3.4	15.247(d)	Conducted Band Edges	Pass
		Conducted Spurious Emission	Pass
3.5	15.247(d)	Radiated Band Edges and Radiated Spurious Emission	Pass
3.6	15.207	AC Conducted Emission	Pass
3.7	15.203 & 15.247(b)	Antenna Requirement	Pass

Reviewed by: Joseph Lin

Report Producer: Fish Liu

1 General Description

1.1 Product Feature of Equipment Under Test

Bluetooth, Wi-Fi 2.4GHz 802.11b/g/n, and Wi-Fi 5GHz 802.11a/n/ac.

Product Specification subjective to this standard	
Integrated WLAN Module	Brand Name: Intel Module Name: 8265NGW
Antenna Type	WLAN: PIFA Antenna Bluetooth: PIFA Antenna

1.2 Modification of EUT

No modifications are made to the EUT during all test items.

1.3 Testing Location

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code : 1190) and the FCC designation No. TW1190 and TW0007 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC Test.

Test Site	SPORTON INTERNATIONAL INC.	
Test Site Location	No.52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978	
Test Site No.	Sporton Site No.	
	TH05-HY	CO05-HY

Note: The test site complies with ANSI C63.4 2014 requirement.

Test Site	SPORTON INTERNATIONAL INC.	
Test Site Location	No.58, Aly. 75, Ln. 564, Wenhua 3rd, Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-0868 FAX: +886-3-327-0855	
Test Site No.	Sporton Site No.	
	03CH13-HY	

Note: The test site complies with ANSI C63.4 2014 requirement.



1.4 Applicable Standards

According to the specifications of the manufacturer, the EUT must comply with the requirements of the following standards:

- ♦ FCC Part 15 Subpart C §15.247
- ♦ FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v04
- ♦ FCC KDB 662911 D01 Multiple Transmitter Output v02r01.
- ♦ ANSI C63.10-2013

Remark:

1. All test items were verified and recorded according to the standards and without any deviation during the test.
2. This EUT has also been tested and complied with the requirements of FCC Part 15, Subpart B, recorded in a separate test report.

2 Test Configuration of Equipment Under Test

- a. The EUT has been associated with peripherals and configuration operated in a manner tended to maximize its emission characteristics in a typical application. Frequency range investigated: conduction emission (150 kHz to 30 MHz), radiation emission (9 kHz to the 10th harmonic of the highest fundamental frequency or to 40 GHz, whichever is lower).
- b. AC power line Conducted Emission was tested under maximum output power.

2.1 Carrier Frequency and Channel

Frequency Band	Channel	Freq. (MHz)	Channel	Freq. (MHz)
2400-2483.5 MHz	1	2412	8	2447
	2	2417	9	2452
	3	2422	10	2457
	4	2427	11	2462
	5	2432	12	2467
	6	2437	13	2472
	7	2442		

2.2 Test Mode

Final test modes are considering the modulation and worse data rates as below table.

Single Antenna

Modulation	Data Rate
802.11b	1 Mbps
802.11g	6 Mbps
802.11n HT20	MCS0
802.11n HT40	MCS0

MIMO Antenna

Modulation	Data Rate
802.11n HT20	MCS0
802.11n HT40	MCS0

Test Cases	
AC Conducted Emission	Mode 1 :Bluetooth Link + WLAN (2.4GHz) Link + TF + TC
Remark: - TF stands for test function, and consists of H-Pattern, Camera, and MPEG4 - TC stands for test configuration, and consists of SD Card, USB3.0 HD*3, Monitor (VGA Out), Monitor (HDMI Out), RS-232 Cable*2 (Load), PC Card, Earphone with Mic, RJ-45 Link, Battery, and AC Adapter (A10-090P3A)	

2.3 Connection Diagram of Test System



2.4 Support Unit used in test configuration and system

Item	Equipment	Trade Name	Model Name	FCC ID	Data Cable	Power Cord
1.	WLAN AP	ASUS	RT-AC66U	MSQ-RTAC66U	N/A	Unshielded, 1.8 m
2.	LCD Monitor	DELL	U2410	FCC DoC	Shielded, 1.6 m	Unshielded, 1.8 m
3.	LCD Monitor	Dell	P2715Q	FCC DoC	Shielded, 1.6m	Unshielded,1.8m
4.	USB HD	PQI	H568V	FCC DoC	Shielded, 0.5m	N/A
5.	USB HD	Sony	HD-EG5	FCC DoC	Shielded, 0.5m	N/A
6.	HD USB 3.0	lenovo	F310S	FCC DoC	Shielded, 0.5m	N/A
7.	Notebook	DELL	Latitude E6320	FCC DoC/ Contains FCC ID: QDS-BRCM1054	N/A	AC I/P: Unshielded, 1.2 m DC O/P: Shielded, 1.8 m
8.	ipad Earphone	aibo	IP-E1	N/A	Unshielded, 1.1m	N/A
9.	Bluetooth Earphone	Sony Ericsson	MW600	PY7DDA-2029	N/A	N/A
10.	Earphone + Mic	Ergotech	ET-E200	N/A	Unshielded 1.8m	N/A
11.	SD Card	SanDisk	MicroSD HC	FCC DoC	N/A	N/A
12.	PC Card	D-Link	DWL650	MXF-WL211F	N/A	N/A



2.5 EUT Operation Test Setup

The RF test items, utility “Tool” was installed in EUT which was programmed in order to make the EUT get into the engineering modes to provide channel selection, power level, data rate and the application type and for continuous transmitting signals.

2.6 Measurement Results Explanation Example

For all conducted test items:

The offset level is set in the spectrum analyzer to compensate the RF cable loss and attenuator factor between EUT conducted output port and spectrum analyzer. With the offset compensation, the spectrum analyzer reading level is exactly the EUT RF output level.

Example:

The spectrum analyzer offset is derived from RF cable loss and attenuator factor.

Offset = RF cable loss + attenuator factor.

Following shows an offset computation example with cable loss 4.2 dB and 10dB attenuator.

$$\begin{aligned}\text{Offset(dB)} &= \text{RF cable loss(dB)} + \text{attenuator factor(dB)} \\ &= 4.2 + 10 = 14.2 \text{ (dB)}\end{aligned}$$

3 Test Result

3.1 6dB and 99% Bandwidth Measurement

3.1.1 Limit of 6dB and 99% Bandwidth

The minimum 6 dB bandwidth shall be at least 500 kHz.

3.1.2 Measuring Instruments

See list of measuring equipment of this test report.

3.1.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 DTS D01 Meas. Guidance v04.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 100 kHz. Set the Video bandwidth (VBW) = 300 kHz. In order to make an accurate measurement. The 6 dB bandwidth must be greater than 500 kHz.
5. For 99% Bandwidth Measurement, the spectrum analyzer's resolution bandwidth (RBW) is set 1-5% of the emission bandwidth and set the Video bandwidth (VBW) $\geq 3 * RBW$.
6. Measure and record the results in the test report.

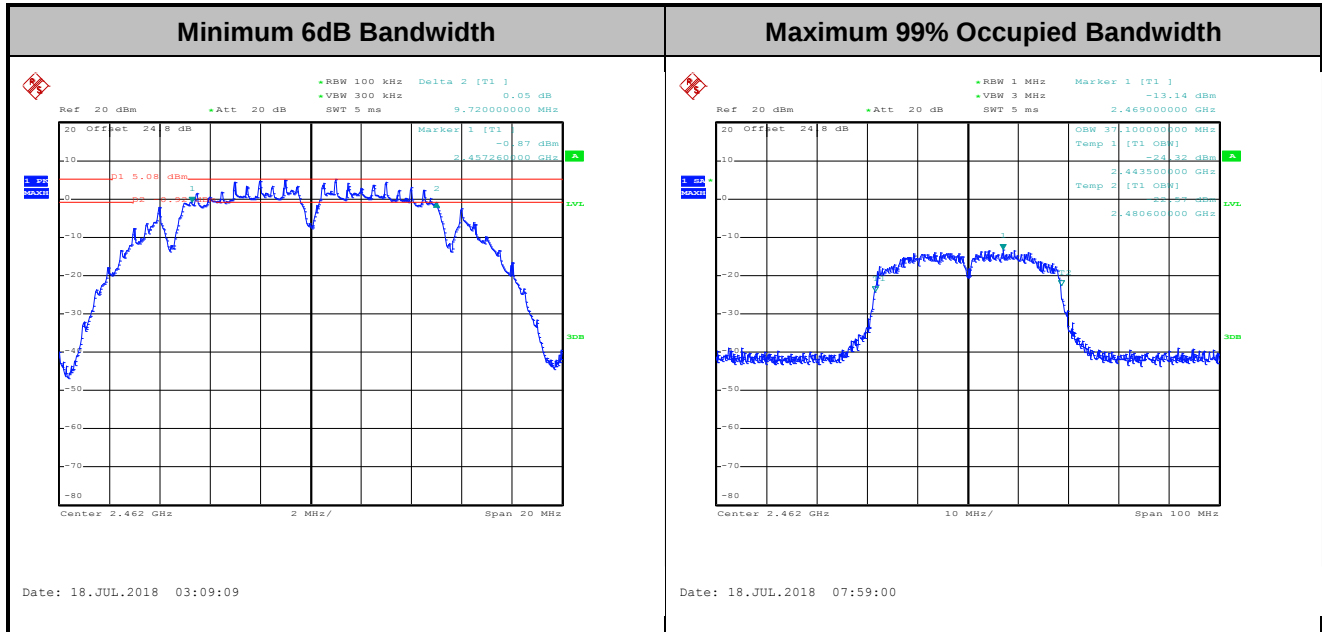
3.1.4 Test Setup





3.1.5 Test Result of 6dB and 99% Occupied Bandwidth

Please refer to Appendix A.



Note: The occupied channel bandwidth is maintained within the band of operation for all of the modulations.

3.2 Output Power Measurement

3.2.1 Limit of Output Power

For systems using digital modulation in the 2400-2483.5MHz, the limit for peak output power is 30dBm. If transmitting antenna with directional gain greater than 6dBi is used, the peak output power from the intentional radiator shall be reduced below the above stated value by the amount in dB that the directional gain of the antenna exceeds 6 dBi. In case of point-to-point operation, the limit has to be reduced by 1dB for every 3dB that the directional gain of the antenna exceeds 6dBi.

3.2.2 Measuring Instruments

See list of measuring equipment of this test report.

3.2.3 Test Procedures

1. For Peak Power, the testing follows the Measurement Procedure of FCC KDB No. 558074 DTS D01 Meas. Guidance v04 section 9.1.3 PKPM1 Peak power meter method.
2. For Average Power, the testing follows the Measurement Procedure of FCC KDB No. 558074 DTS D01 Meas. Guidance v04 section 9.2.3.1 Method AVGPM.
3. The RF output of EUT was connected to the power meter by RF cable and attenuator. The path loss was compensated to the results for each measurement.
4. Set to the maximum power setting and enable the EUT transmit continuously.
5. Measure the conducted output power and record the results in the test report.
6. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

3.2.4 Test Setup



3.2.5 Test Result of Peak Output Power

Please refer to Appendix A.

3.2.6 Test Result of Average output Power (Reporting Only)

Please refer to Appendix A.



3.3 Power Spectral Density Measurement

3.3.1 Limit of Power Spectral Density

The peak power spectral density shall not be greater than 8dBm in any 3kHz band at any time interval of continuous transmission.

3.3.2 Measuring Instruments

See list of measuring equipment of this test report.

3.3.3 Test Procedures

1. The testing follows Measurement Procedure 10.2 Method PKPSD of FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v04
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Make the measurement with the spectrum analyzer's resolution bandwidth (RBW) = 3 kHz. Video bandwidth VBW = 10 kHz In order to make an accurate measurement, set the span to 1.5 times DTS Channel Bandwidth. (6dB BW)
5. Detector = peak, Sweep time = auto couple, Trace mode = max hold, Allow trace to fully stabilize. Use the peak marker function to determine the maximum power level.
6. Measure and record the results in the test report.
7. For MIMO mode, calculation method follows FCC KDB 662911 D01 Multiple Transmitter Output v02r01.

If measurements performed using method (2) plus $10 \log(N)$ exceeds the emission limit, the test should choose method (1) before declaring that the device fails the emission limit.

Method (1): Measure and sum the spectra across the outputs.

The total final Power Spectral Density is from a device with 2 transmitter outputs. The spectrum measurements of the individual outputs are all performed with the same span and number of points, the spectrum value in the first spectral bin of output 1 is summed with that in the first spectral bin of output 2 to obtain the value for the first frequency bin of the summed spectrum.

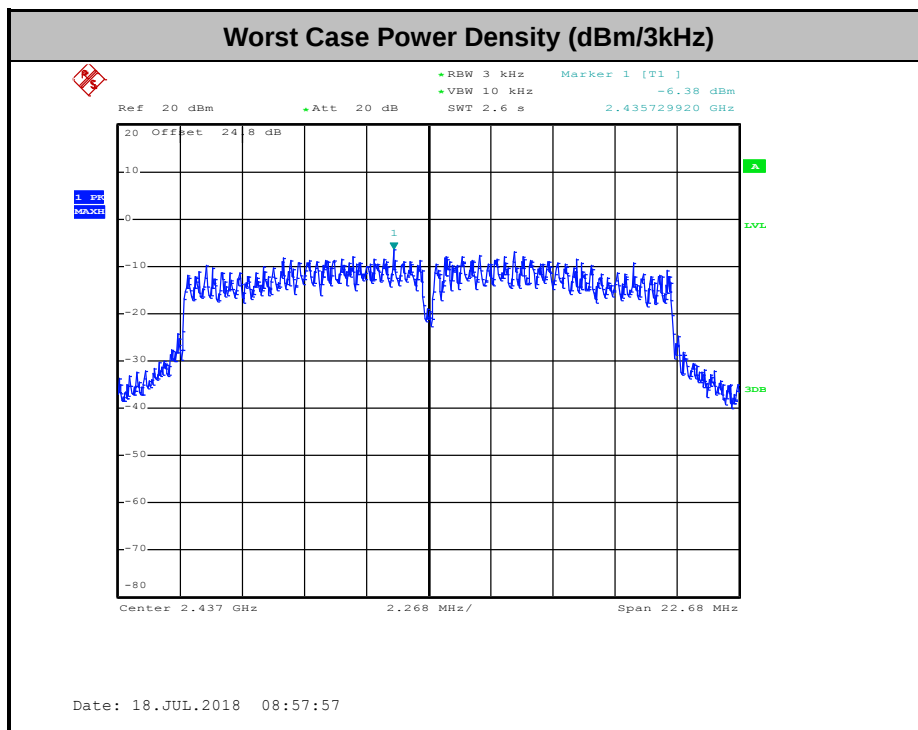
Method (2): Measure and add $10 \log(N)$ dB, where N is the number of outputs. (N=2)

3.3.4 Test Setup



3.3.5 Test Result of Power Spectral Density

Please refer to Appendix A.



3.4 Conducted Band Edges and Spurious Emission Measurement

3.4.1 Limit of Conducted Band Edges and Spurious Emission Measurement

In any 100 kHz bandwidth outside of the authorized frequency band, the emissions which fall in the non-restricted bands shall be attenuated at least 20 dB / 30dB relative to the maximum PSD level in 100 kHz by RF conducted measurement.

3.4.2 Measuring Instruments

See list of measuring equipment of this test report.

3.4.3 Test Procedures

1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v04.
2. The RF output of EUT was connected to the spectrum analyzer by RF cable and attenuator. The path loss was compensated to the results for each measurement.
3. Set to the maximum power setting and enable the EUT transmit continuously.
4. Set RBW = 100 kHz, VBW=300 kHz, Peak Detector. Unwanted Emissions measured in any 100 kHz bandwidth outside of the authorized frequency band shall be attenuated by at least 20 dB relative to the maximum in-band peak PSD level in 100 kHz when maximum peak conducted output power procedure is used. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval, the attenuation required under this paragraph shall be 30 dB instead of 20 dB per 15.247(d).
5. Measure and record the results in the test report.
6. The RF fundamental frequency should be excluded against the limit line in the operating frequency band.

3.4.4 Test Setup



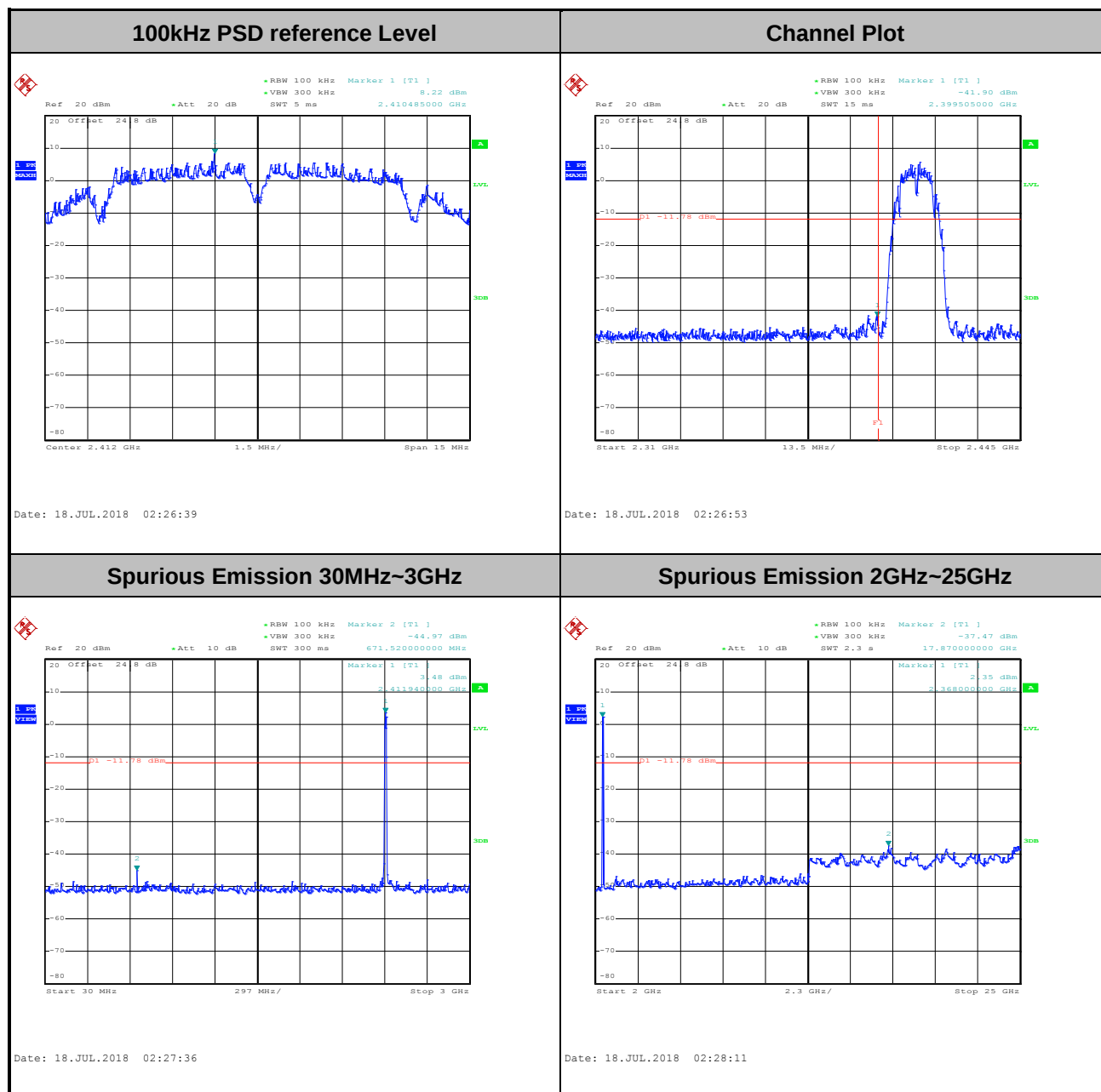


3.4.5 Test Result of Conducted Band Edges and Spurious Emission

Test Engineer :	Lena Lo and Shiang Wang	Temperature :	21~25°C
		Relative Humidity :	51~54%

Number of TX = 1, Ant. 1 (Measured)

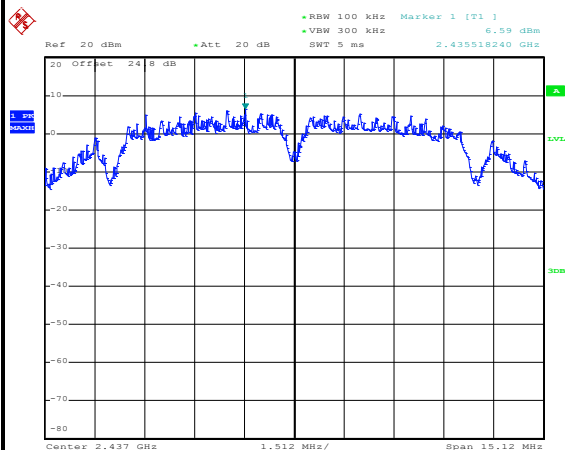
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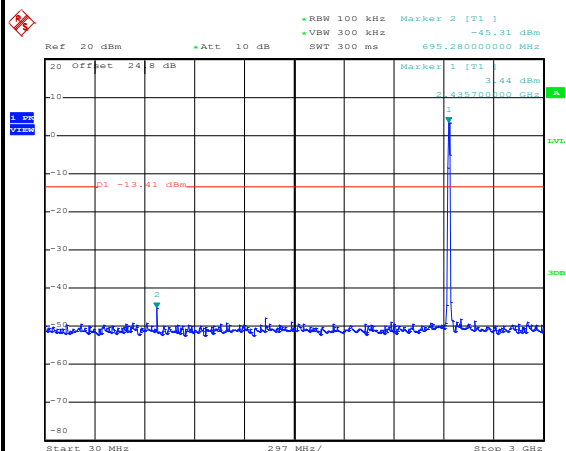
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100kHz PSD reference Level



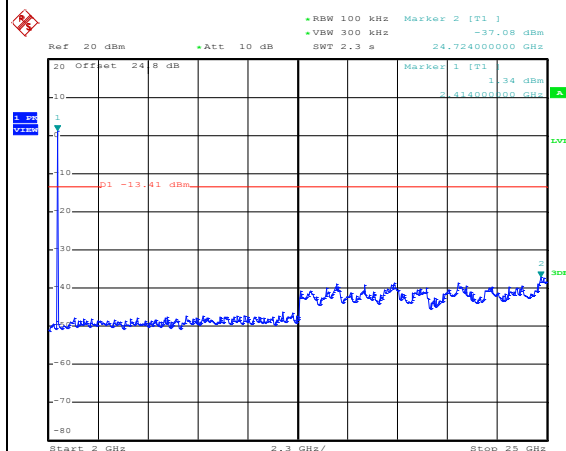
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Spurious Emission 30MHz~3GHz



Date: 18.JUL.2018 02:34:43

Spurious Emission 2GHz~25GHz

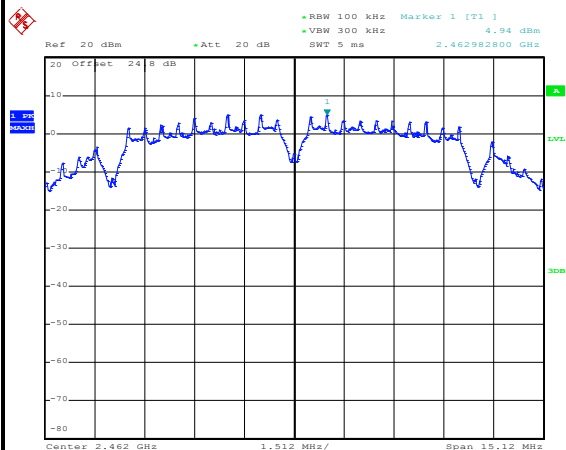


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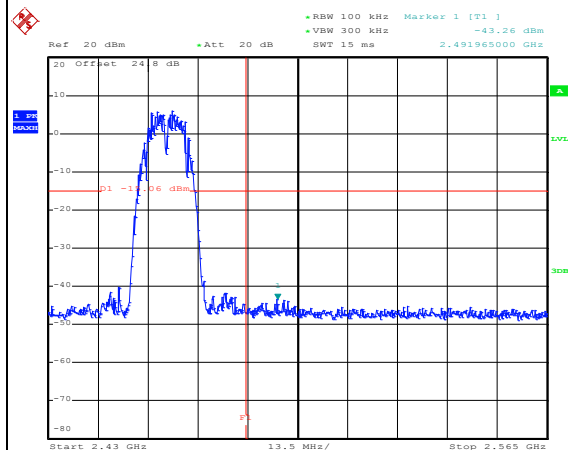
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100kHz PSD reference Level



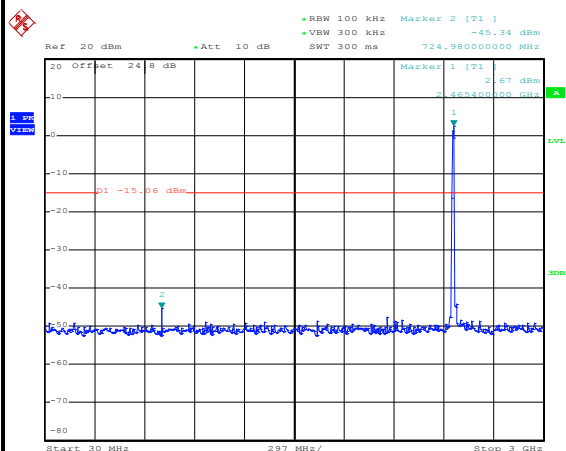
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Channel Plot



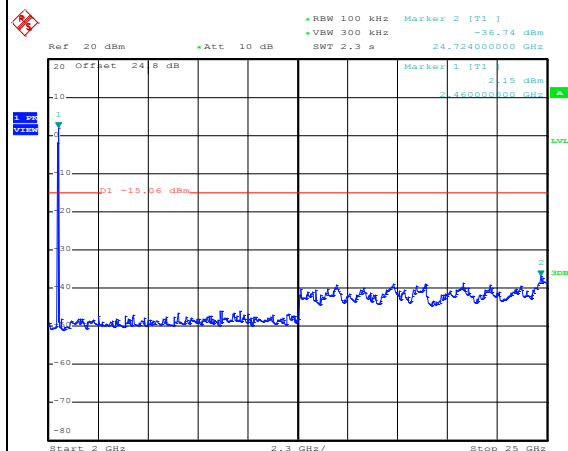
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Spurious Emission 30MHz~3GHz



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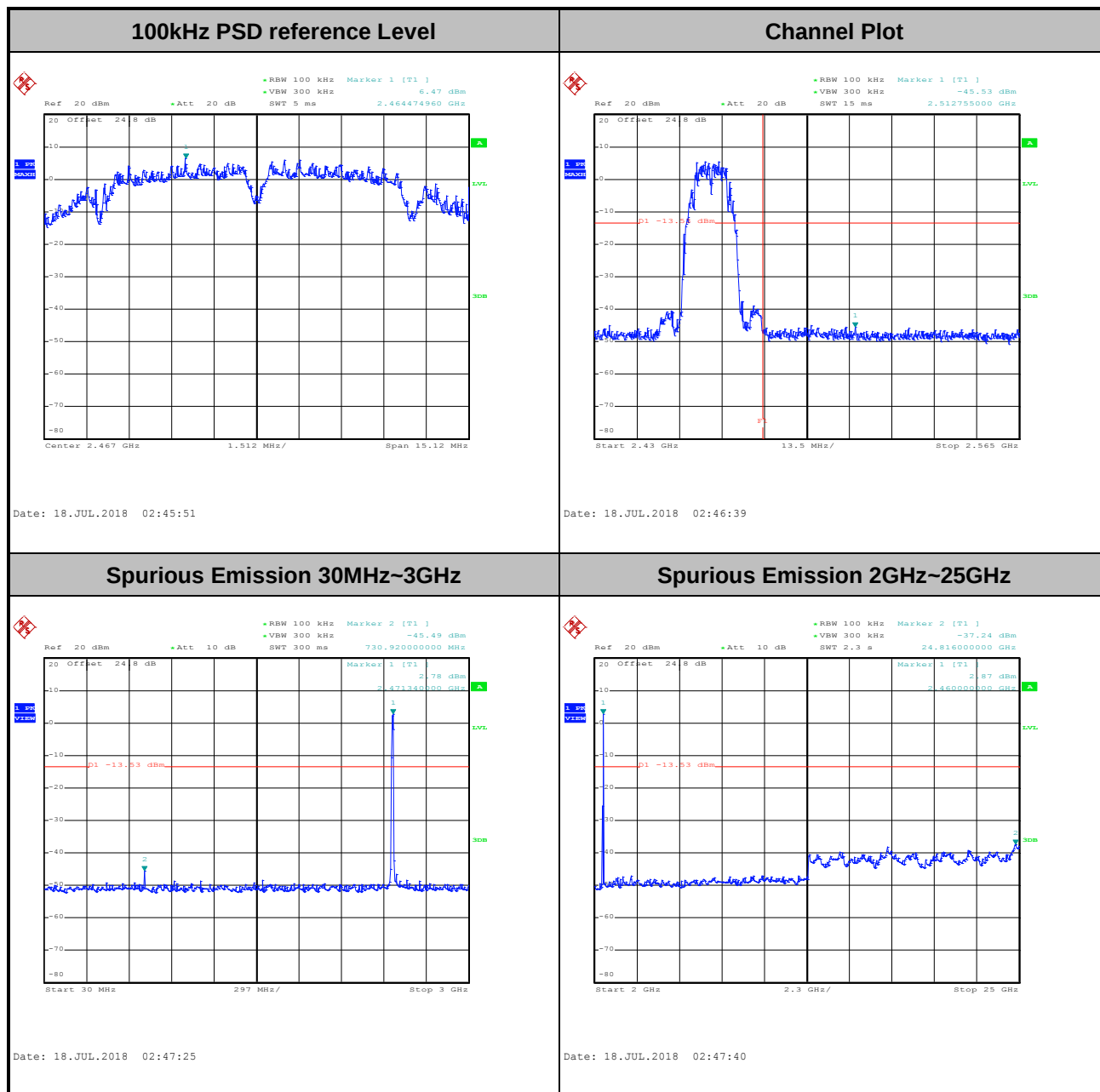
Spurious Emission 2GHz~25GHz



Date: 18.JUL.2018 02:40:21

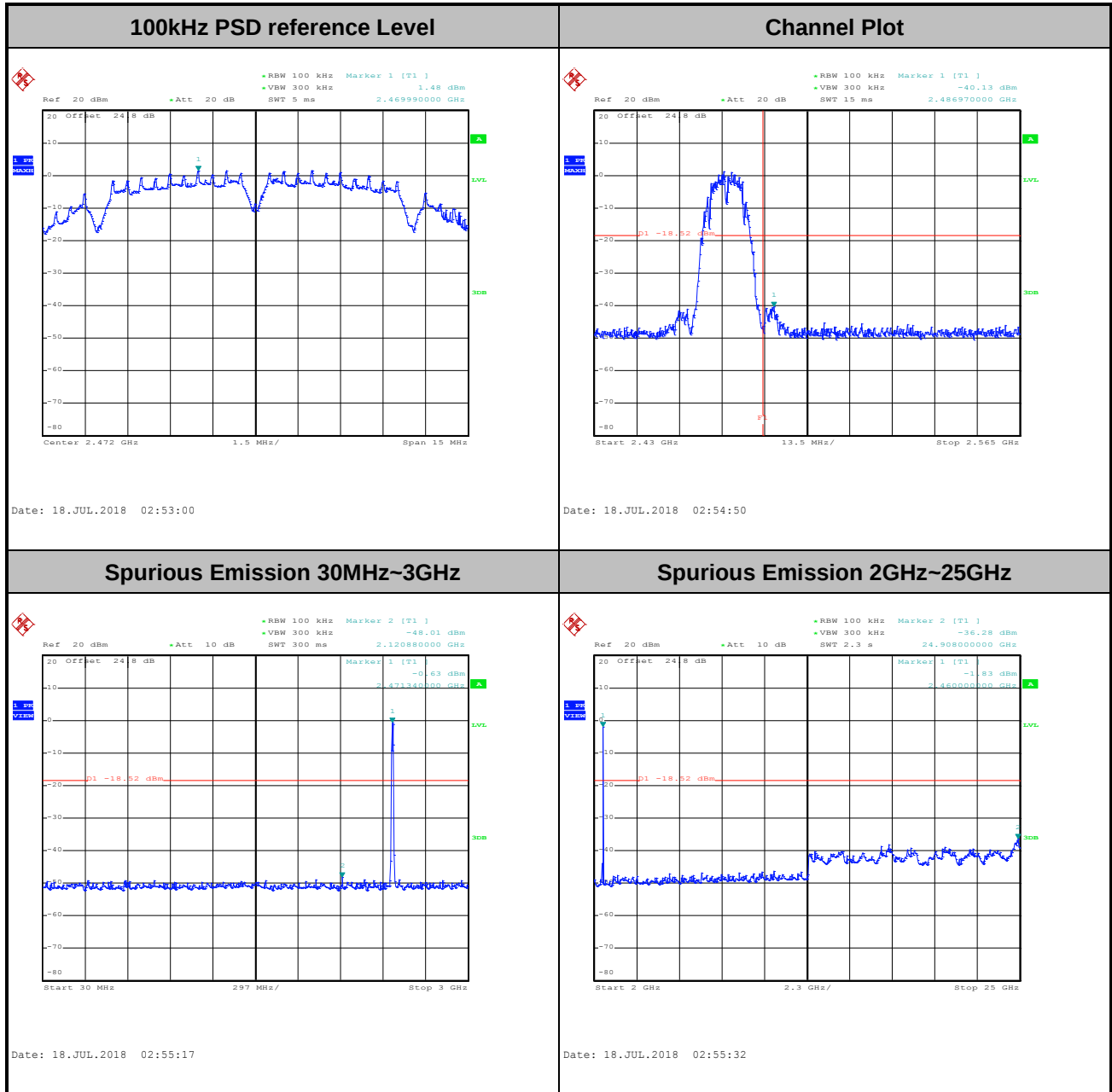


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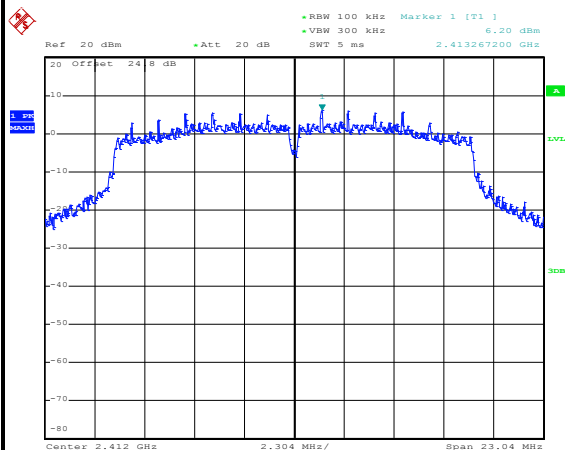
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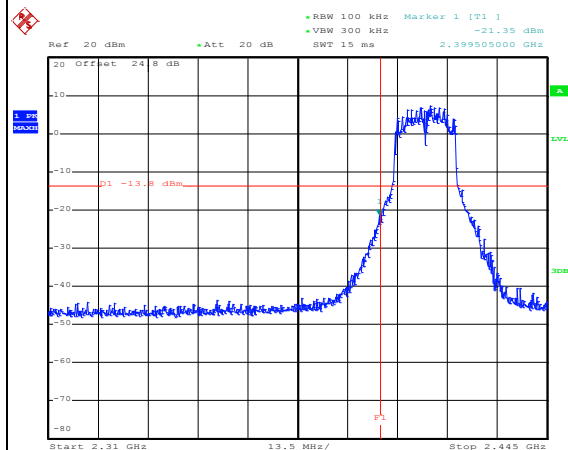
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100kHz PSD reference Level



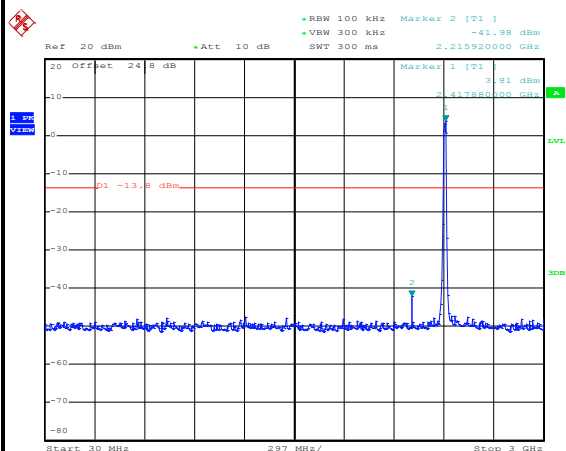
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Channel Plot



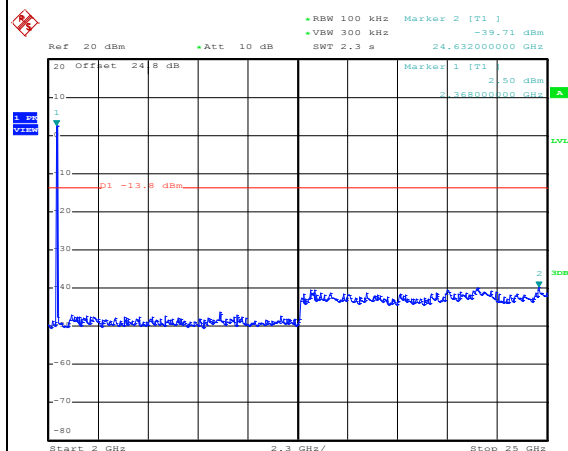
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Spurious Emission 30MHz~3GHz



Date: 21.JUL.2018 02:45:08

Spurious Emission 2GHz~25GHz

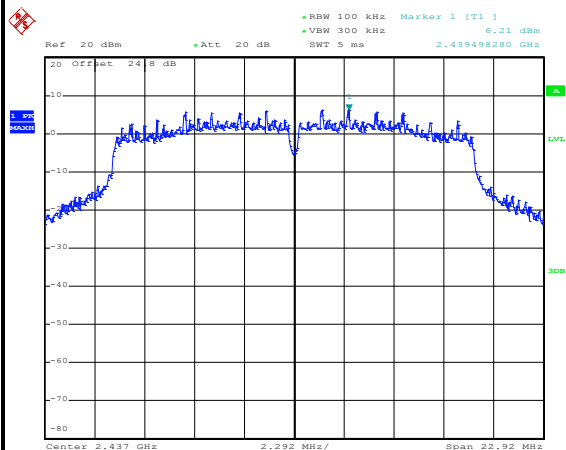


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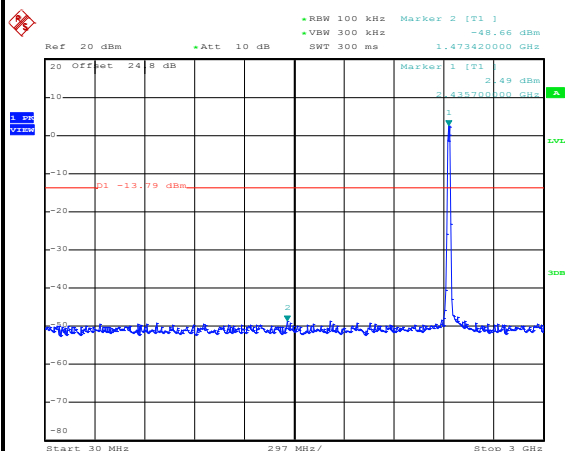
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100kHz PSD reference Level



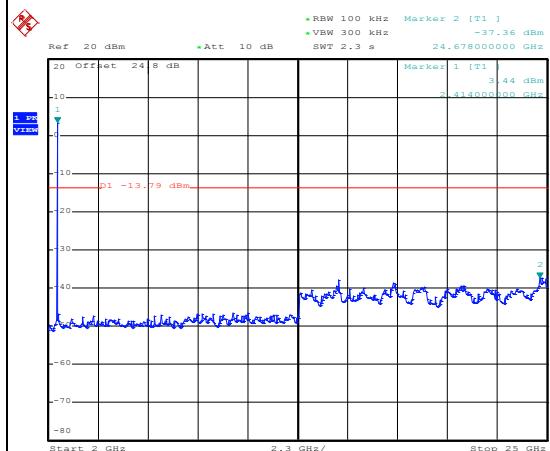
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Spurious Emission 30MHz~3GHz



Date: 18.JUL.2018 04:03:58

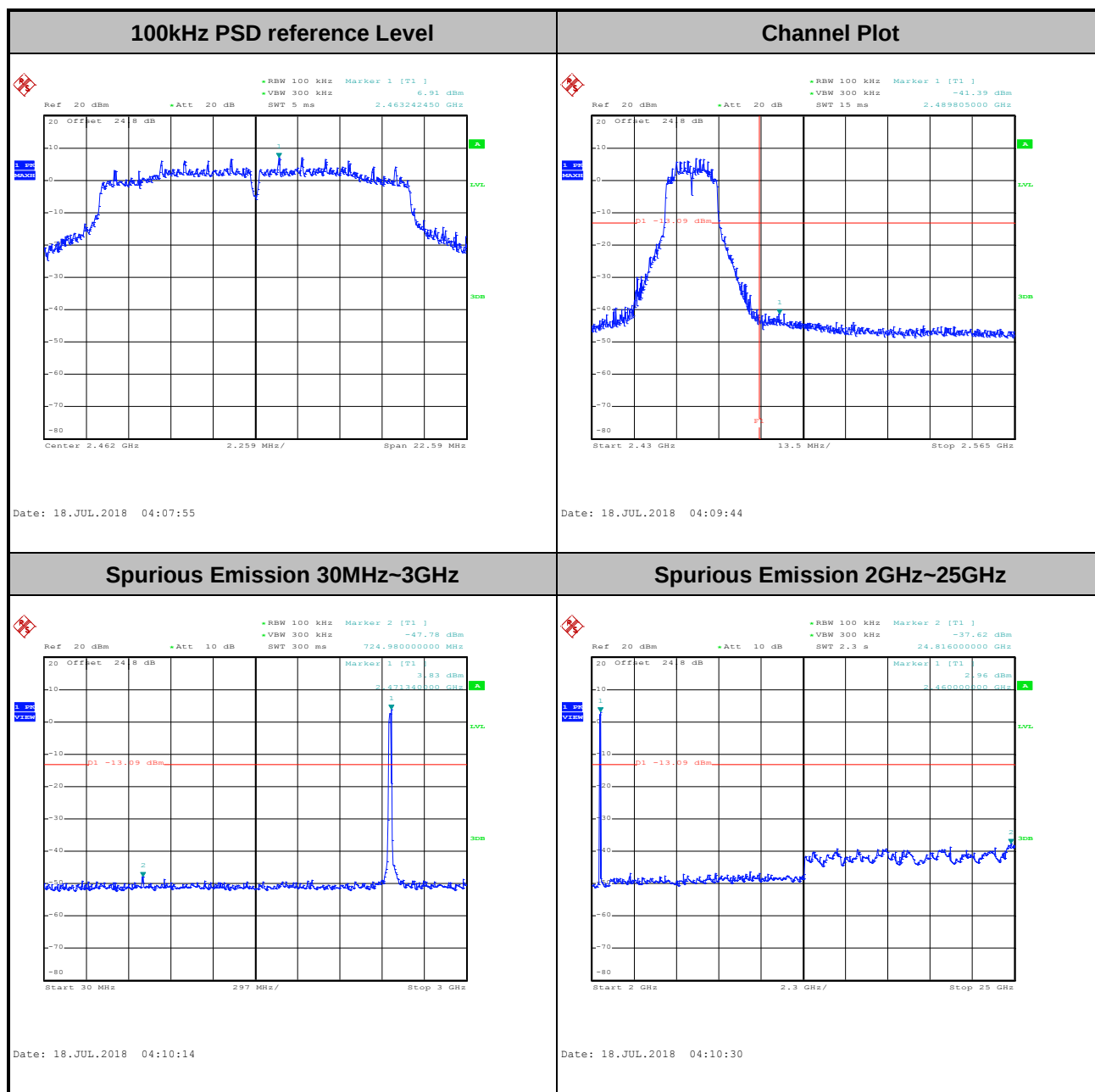
Spurious Emission 2GHz~25GHz



Date: 18.JUL.2018 04:04:12



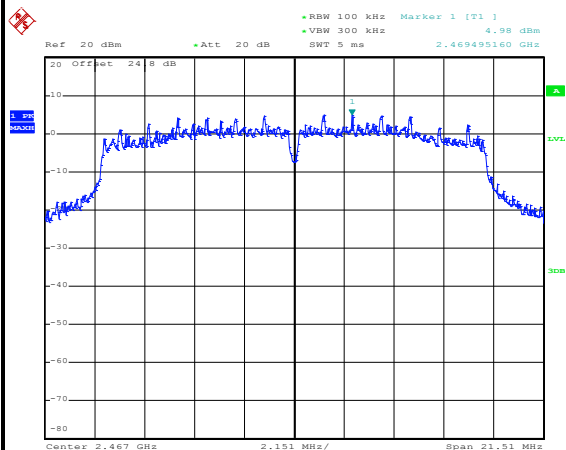
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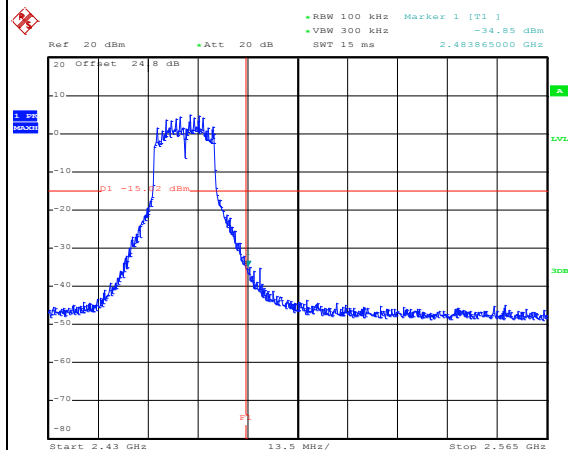
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100kHz PSD reference Level



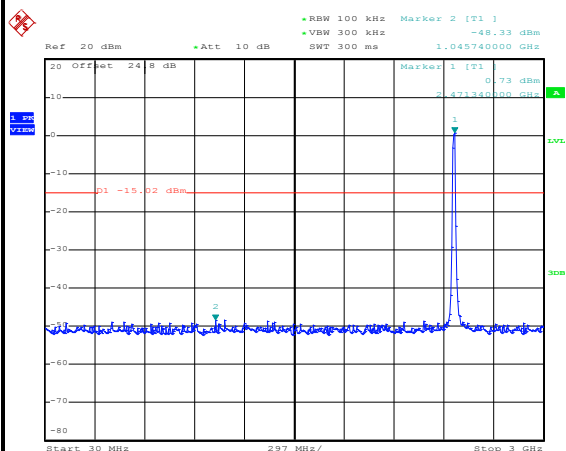
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Channel Plot



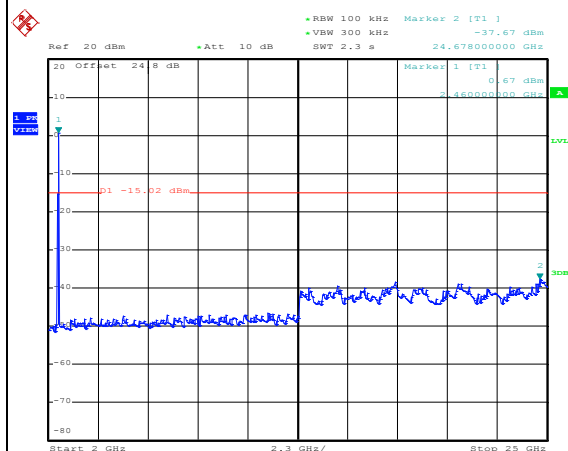
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Spurious Emission 30MHz~3GHz



Date: 18.JUL.2018 04:15:22

Spurious Emission 2GHz~25GHz

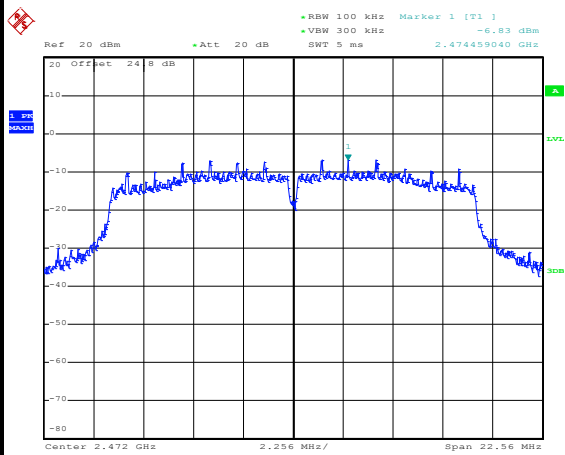


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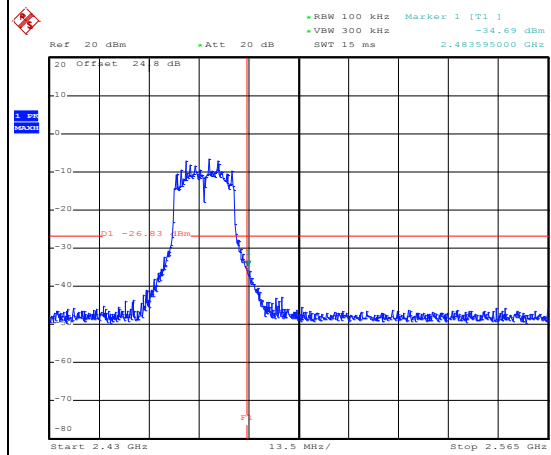
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100kHz PSD reference Level



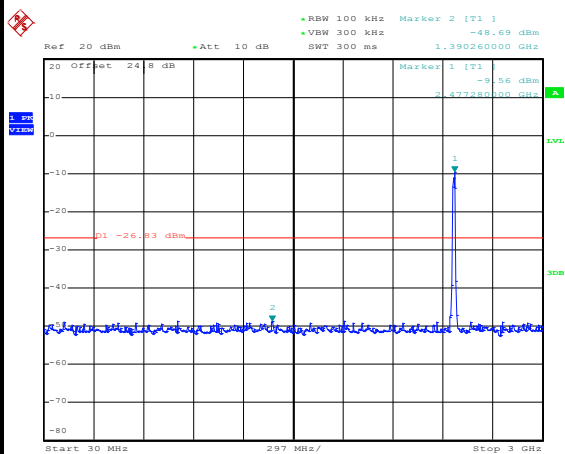
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Channel Plot



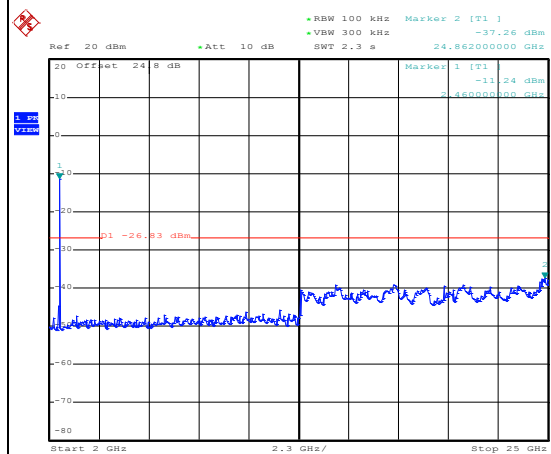
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Spurious Emission 30MHz~3GHz



Date: 18.JUL.2018 04:25:12

Spurious Emission 2GHz~25GHz

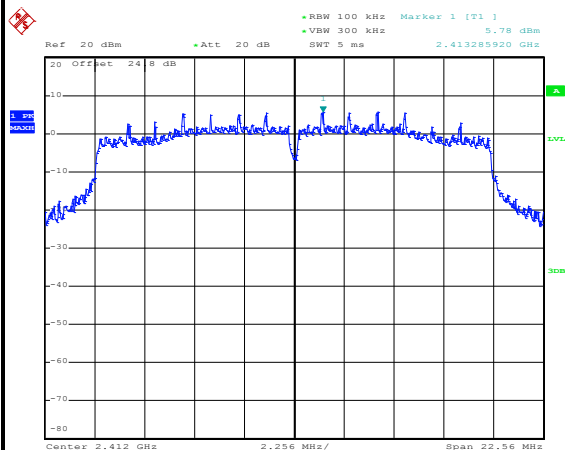


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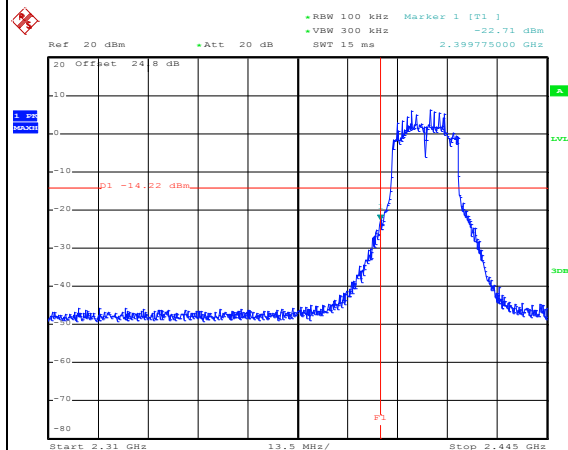
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100kHz PSD reference Level



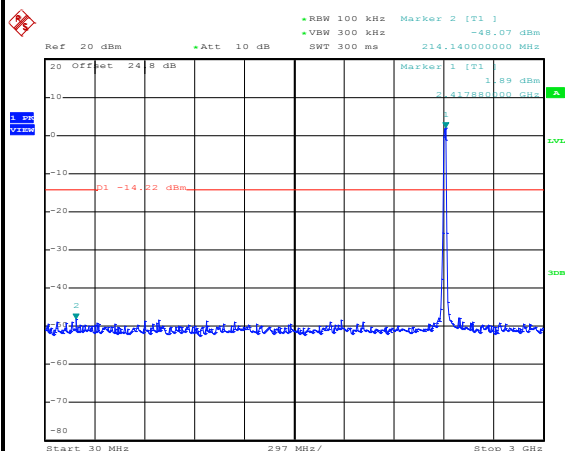
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Channel Plot



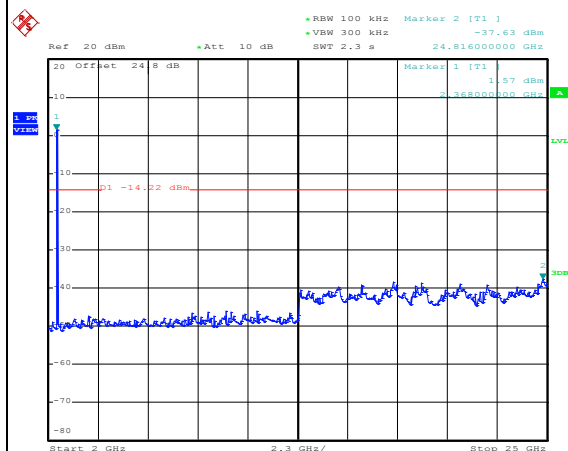
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Spurious Emission 30MHz~3GHz



Date: 18.JUL.2018 08:08:09

Spurious Emission 2GHz~25GHz

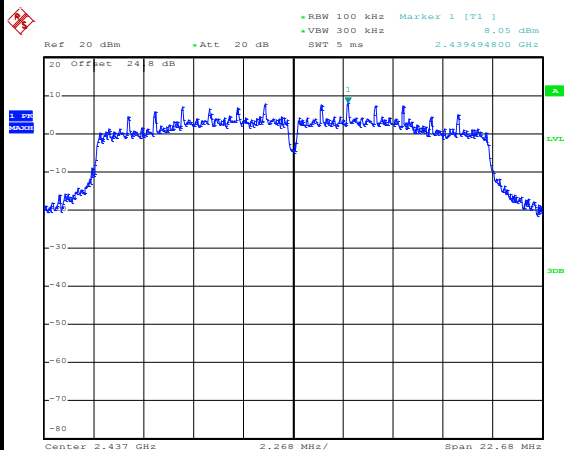


Date: 18.JUL.2018 08:08:24



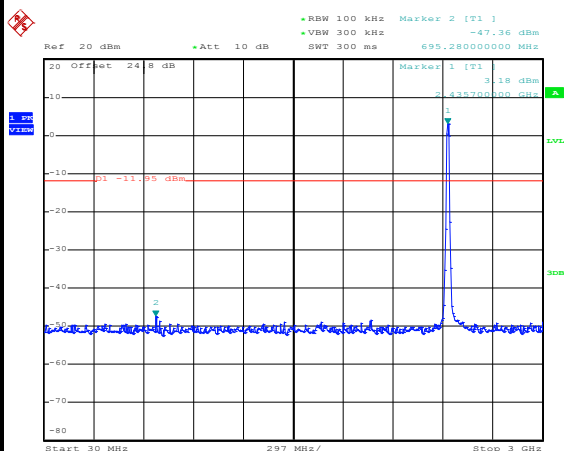
Test Mode :	802.11n HT20	Test Channel :	06
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100kHz PSD reference Level



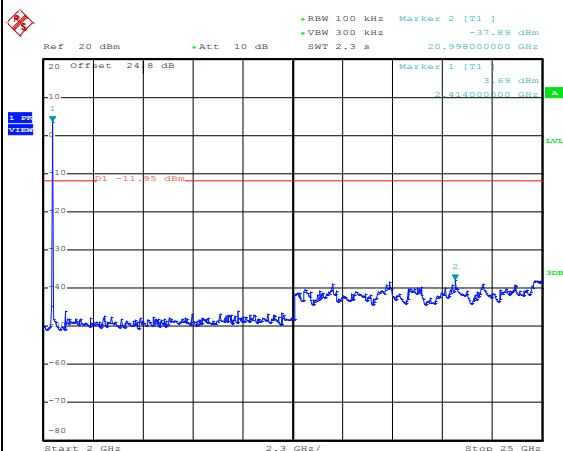
Date: 18.JUL.2018 08:58:15

Spurious Emission 30MHz~3GHz



Date: 18.JUL.2018 08:58:37

Spurious Emission 2GHz~25GHz

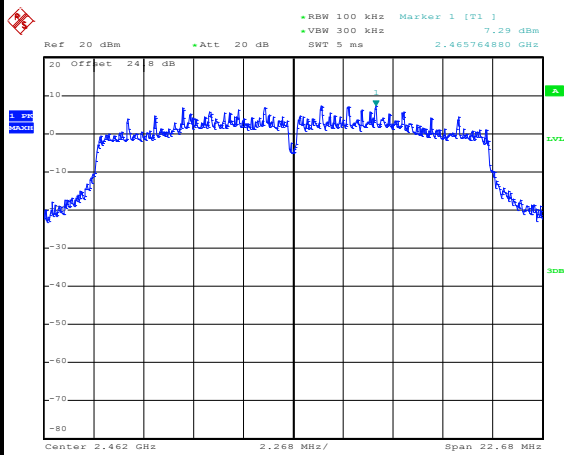


Date: 18.JUL.2018 08:58:52



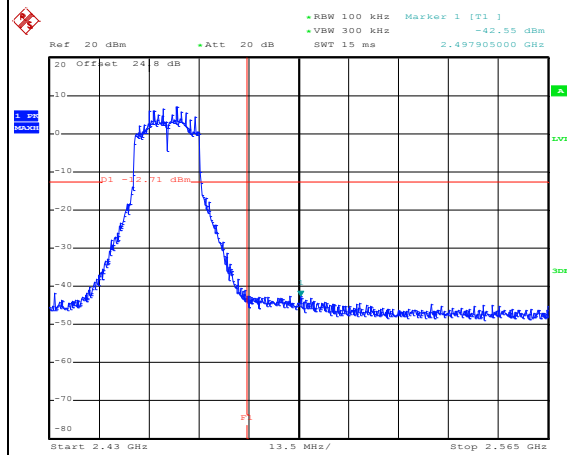
Test Mode :	802.11n HT20	Test Channel :	11
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100kHz PSD reference Level



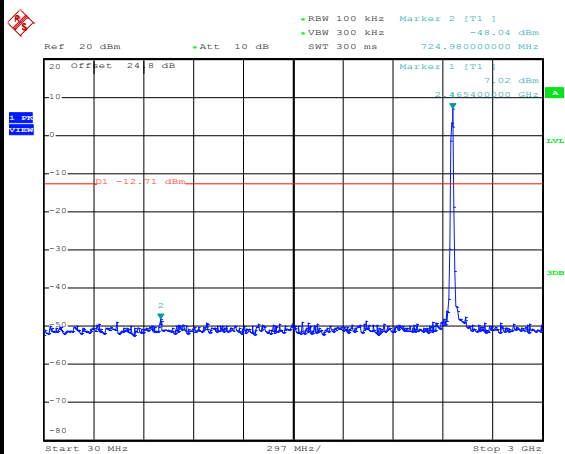
Date: 19.JUL.2018 02:06:17

Channel Plot



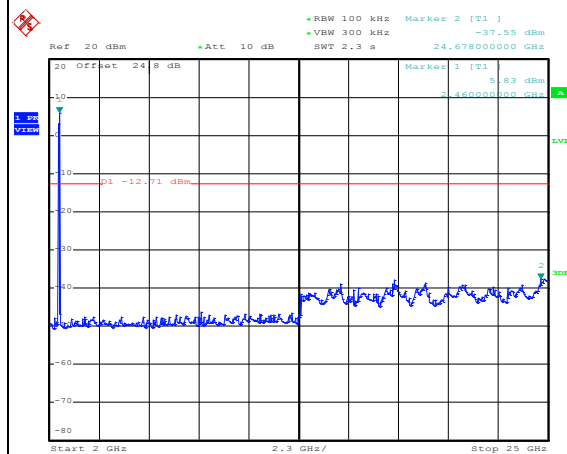
Date: 19.JUL.2018 02:07:00

Spurious Emission 30MHz~3GHz



Date: 19.JUL.2018 02:07:44

Spurious Emission 2GHz~25GHz

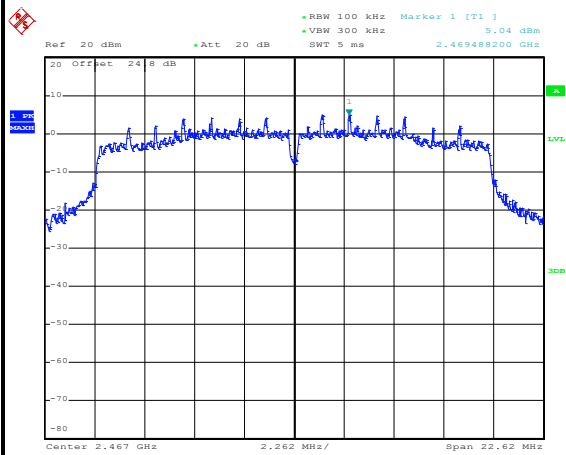


Date: 19.JUL.2018 02:08:02



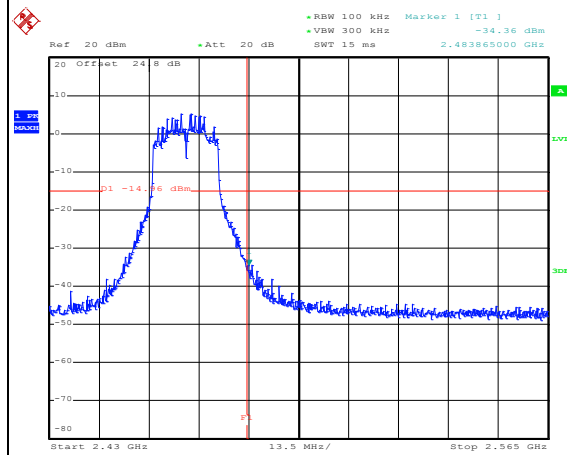
Test Mode :	802.11n HT20	Test Channel :	12
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100kHz PSD reference Level



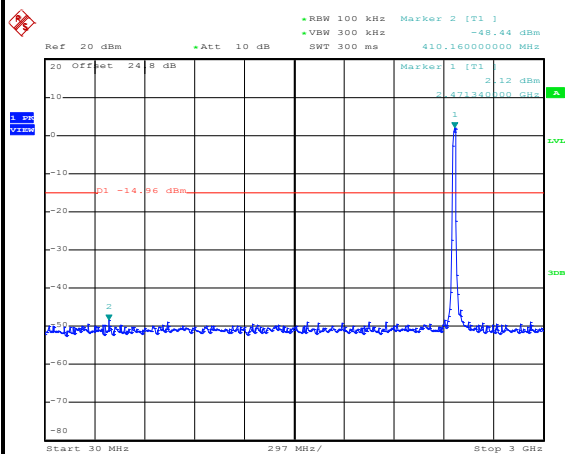
Date: 19.JUL.2018 02:15:46

Channel Plot



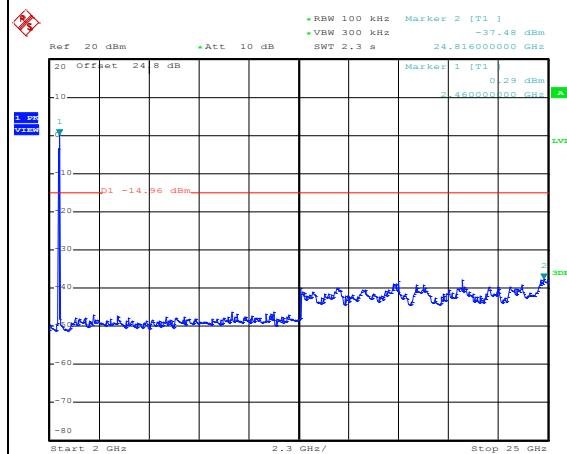
Date: 19.JUL.2018 02:16:15

Spurious Emission 30MHz~3GHz



Date: 19.JUL.2018 02:19:47

Spurious Emission 2GHz~25GHz

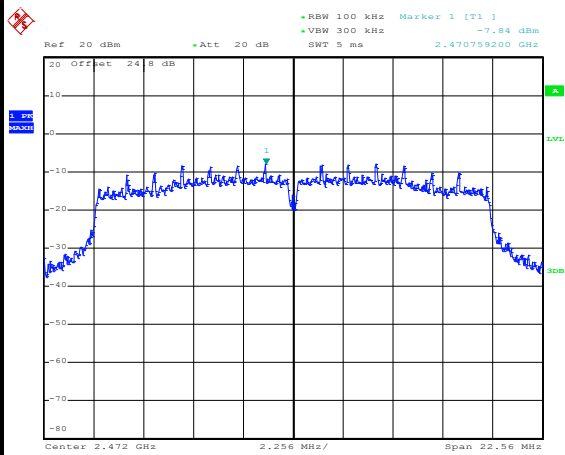


Date: 19.JUL.2018 02:20:02



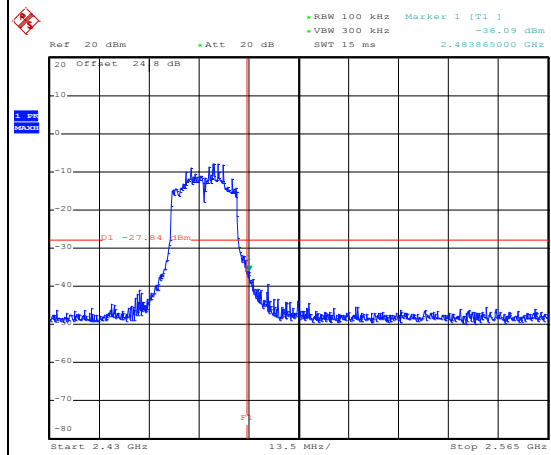
Test Mode :	802.11n HT20	Test Channel :	13
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100kHz PSD reference Level



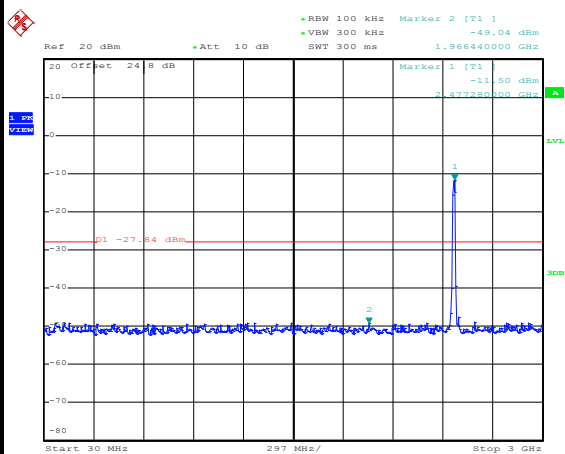
Date: 19.JUL.2018 02:24:25

Channel Plot



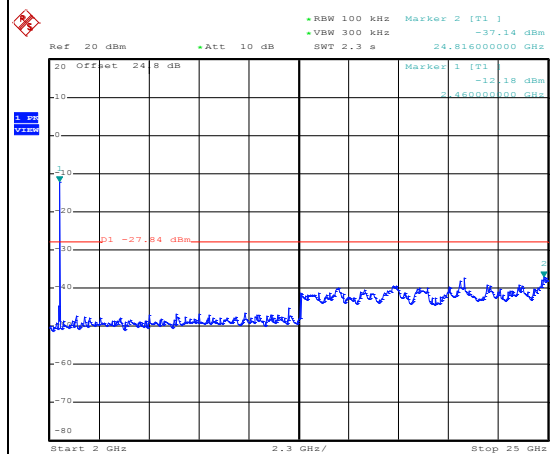
Date: 19.JUL.2018 02:24:46

Spurious Emission 30MHz~3GHz



Date: 19.JUL.2018 02:25:06

Spurious Emission 2GHz~25GHz



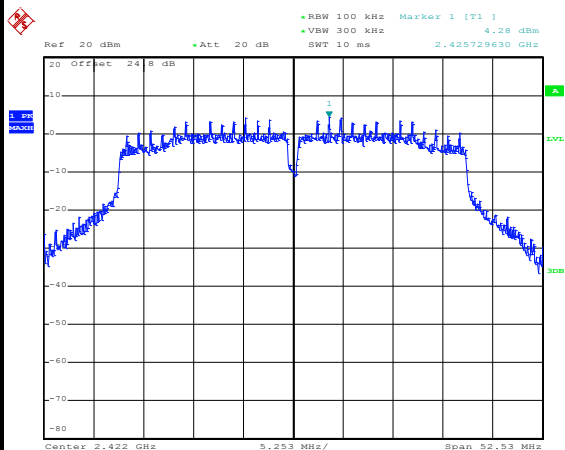
Date: 19.JUL.2018 02:25:22



Test Mode : 802.11n HT40

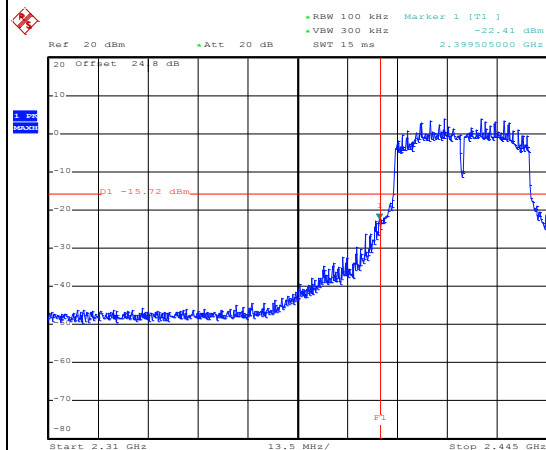
Test Channel : 03

100kHz PSD reference Level



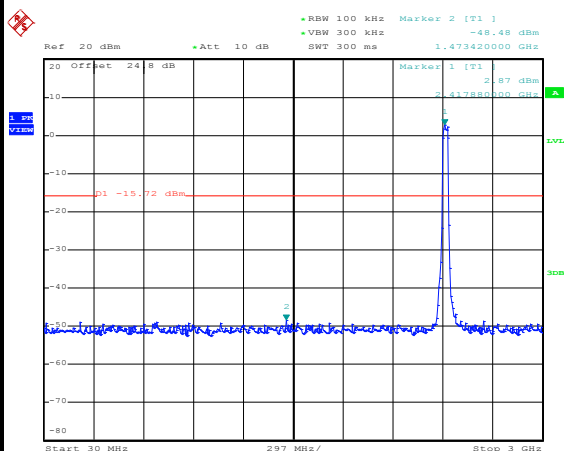
Date: 19.JUL.2018 03:25:11

Channel Plot



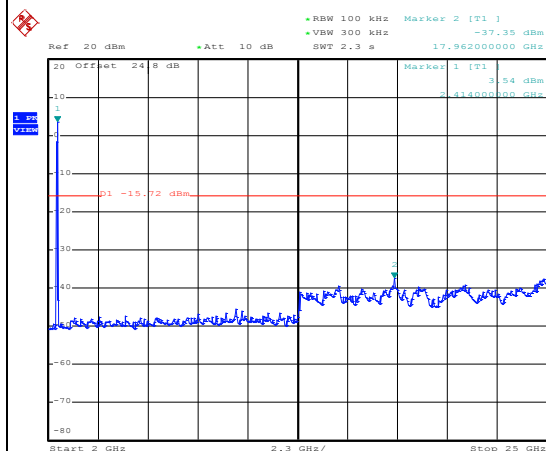
Date: 19.JUL.2018 03:25:32

Spurious Emission 30MHz~3GHz



Date: 19.JUL.2018 03:26:39

Spurious Emission 2GHz~25GHz

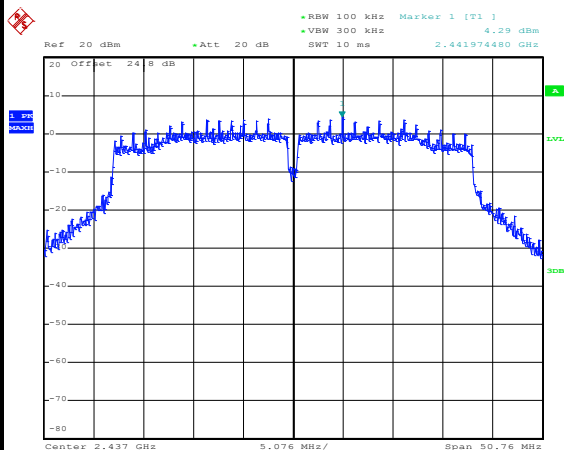


Date: 19.JUL.2018 03:26:56



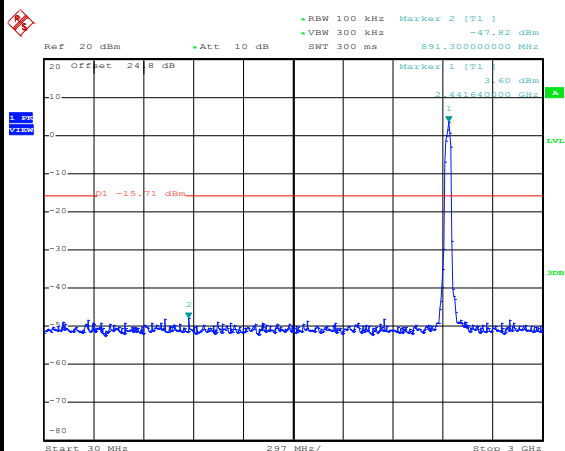
Test Mode :	802.11n HT40	Test Channel :	06
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100kHz PSD reference Level



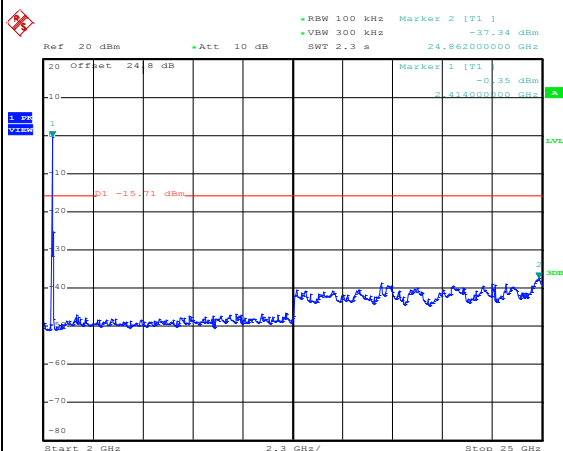
Date: 19.JUL.2018 03:29:31

Spurious Emission 30MHz~3GHz



Date: 19.JUL.2018 03:29:56

Spurious Emission 2GHz~25GHz

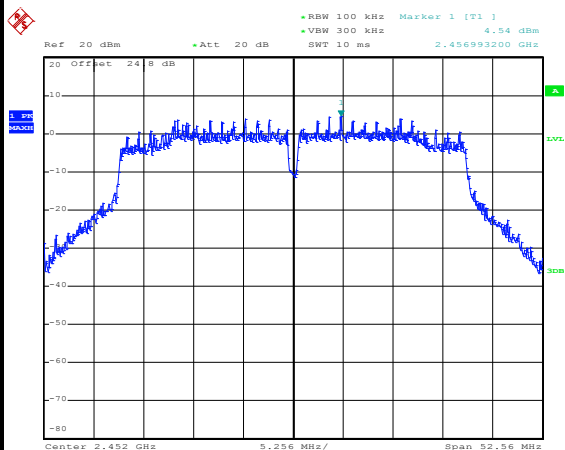


Date: 19.JUL.2018 03:30:11



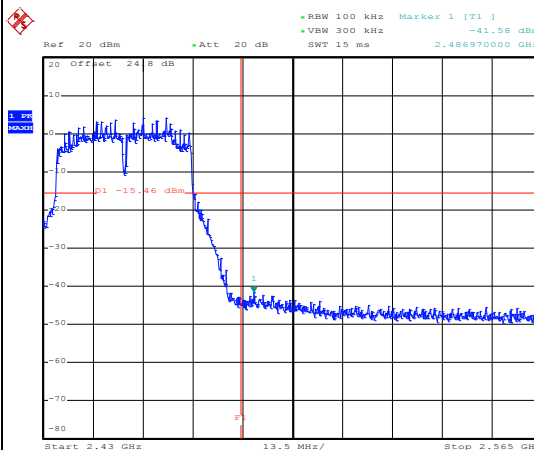
Test Mode :	802.11n HT40	Test Channel :	09
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100kHz PSD reference Level



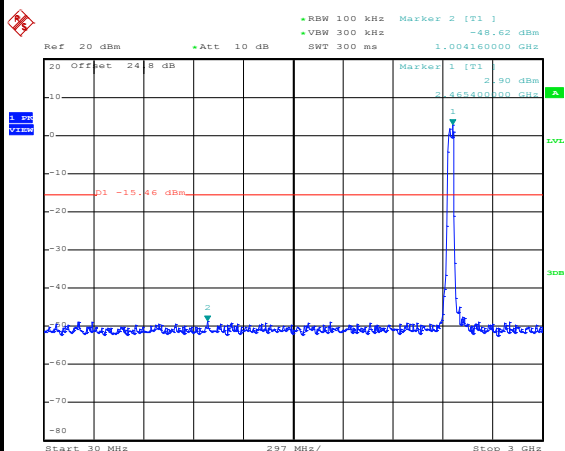
Date: 19.JUL.2018 03:32:36

Channel Plot



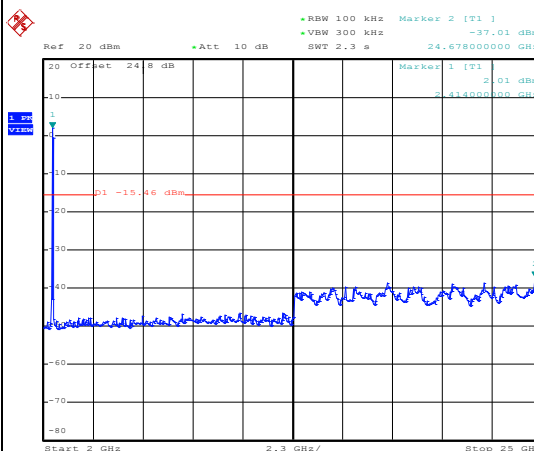
Date: 19.JUL.2018 03:33:05

Spurious Emission 30MHz~3GHz



Date: 19.JUL.2018 03:33:41

Spurious Emission 2GHz~25GHz

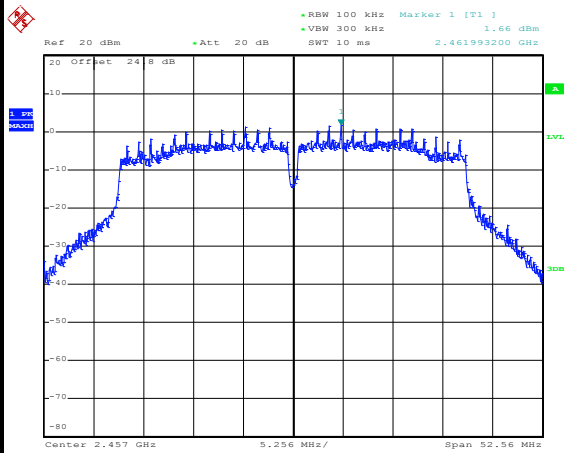


Date: 19.JUL.2018 03:33:56



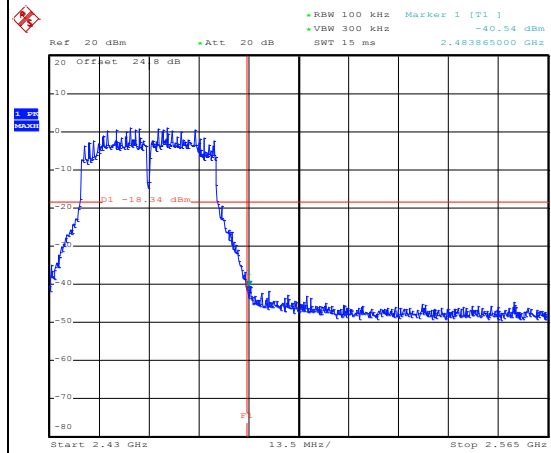
Test Mode :	802.11n HT40	Test Channel :	10
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100kHz PSD reference Level



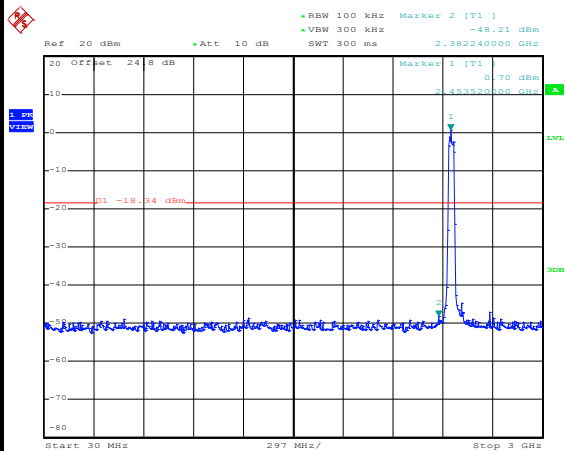
Date: 19.JUL.2018 03:37:35

Channel Plot



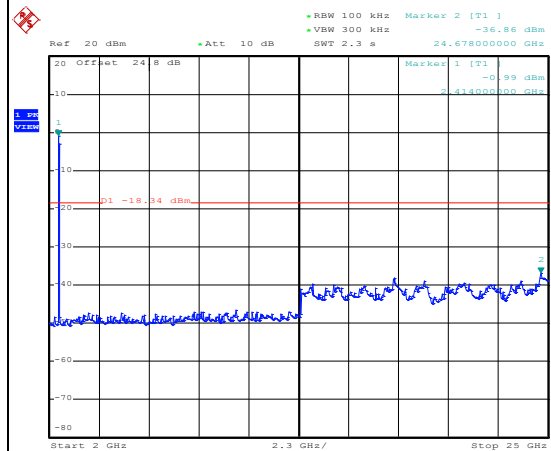
Date: 19.JUL.2018 03:38:41

Spurious Emission 30MHz~3GHz



Date: 19.JUL.2018 03:39:16

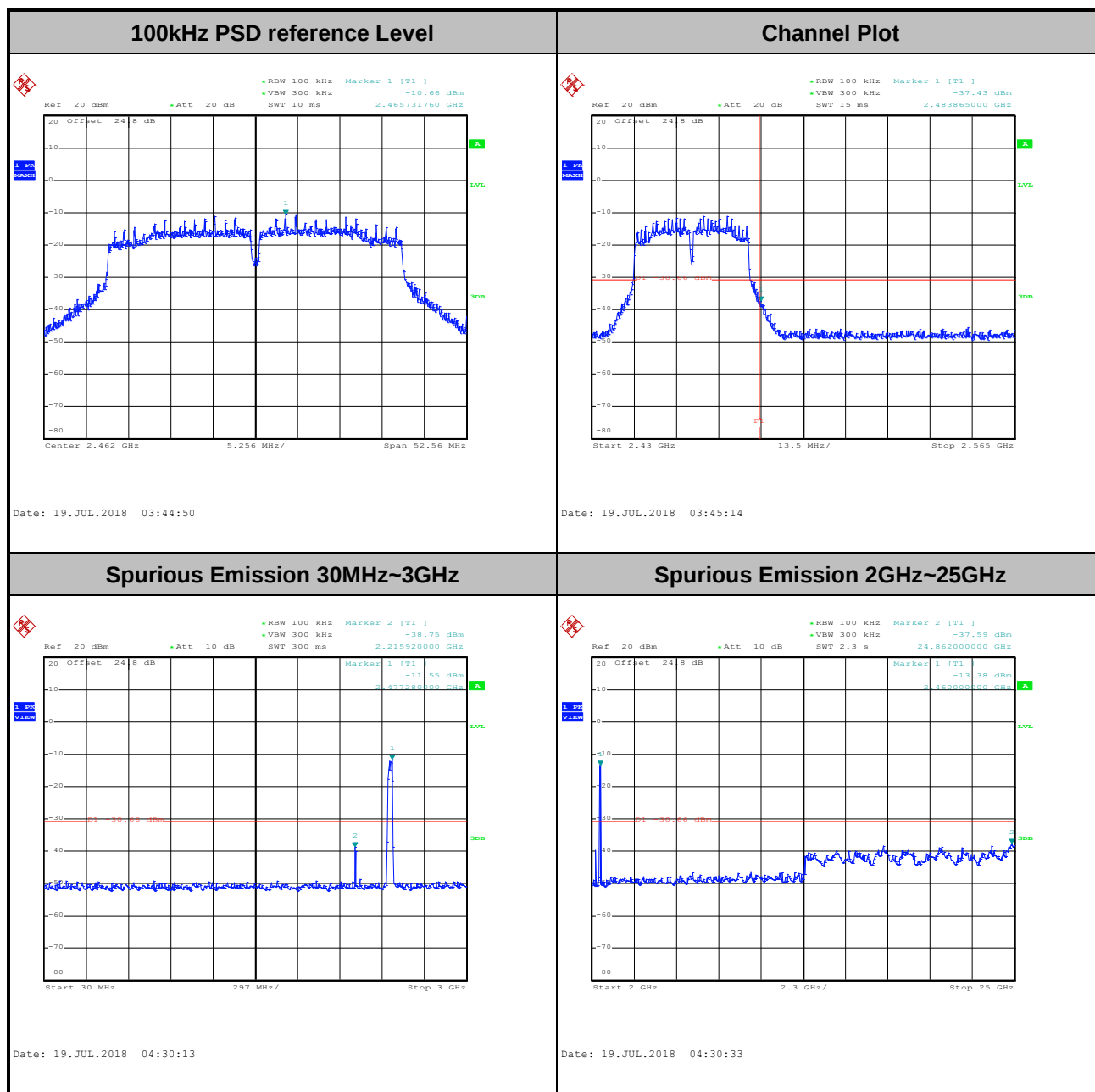
Spurious Emission 2GHz~25GHz



Date: 19.JUL.2018 03:39:36



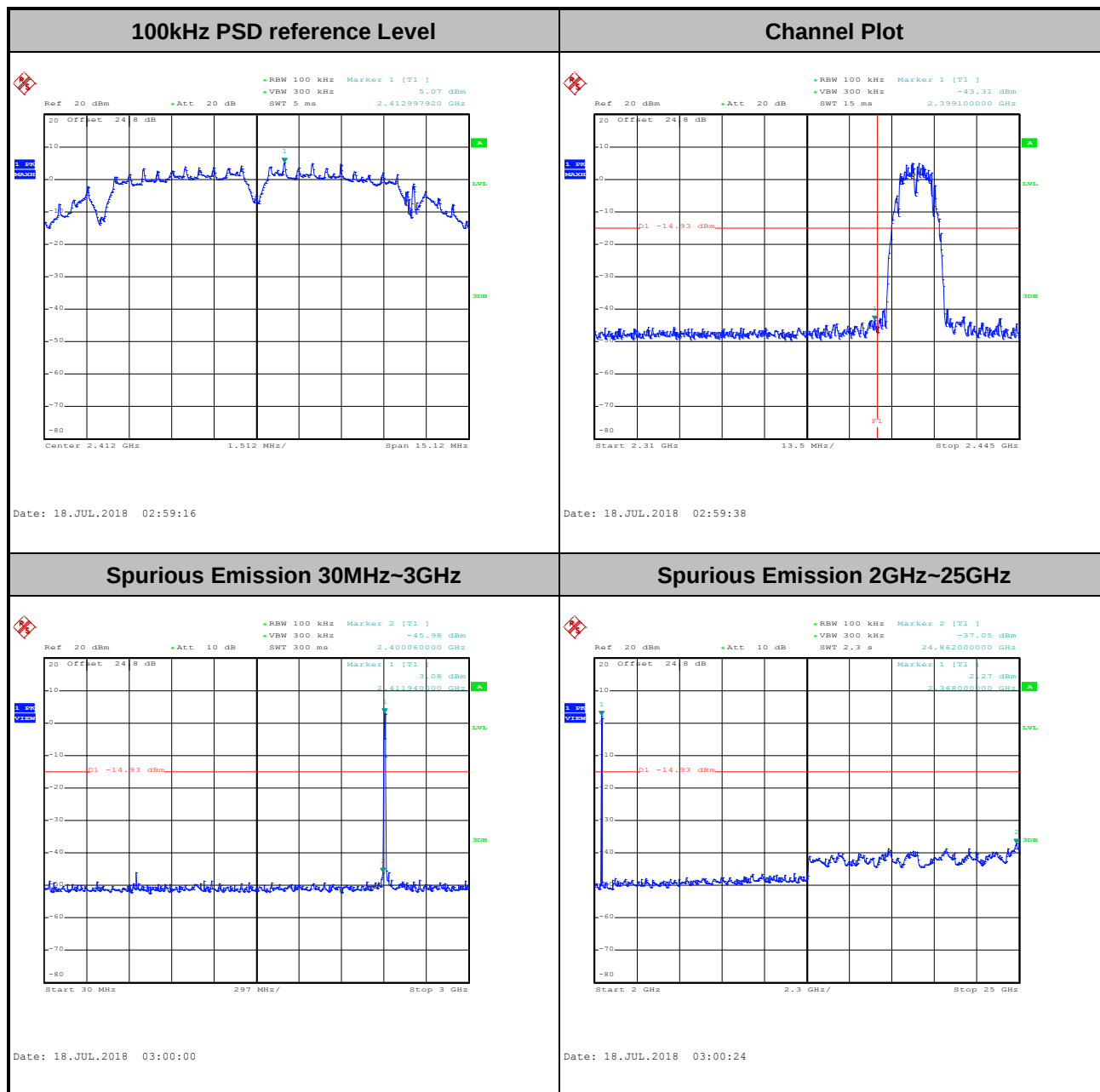
Test Mode :	802.11n HT40	Test Channel :	11
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Number of TX = 1, Ant. 2 (Measured)

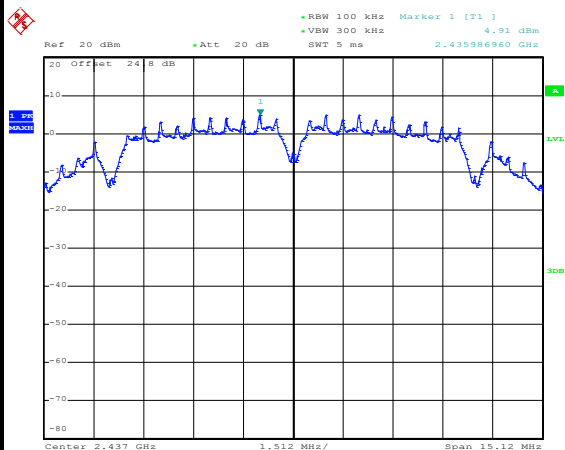
Test Mode :	802.11b	Test Channel :	01
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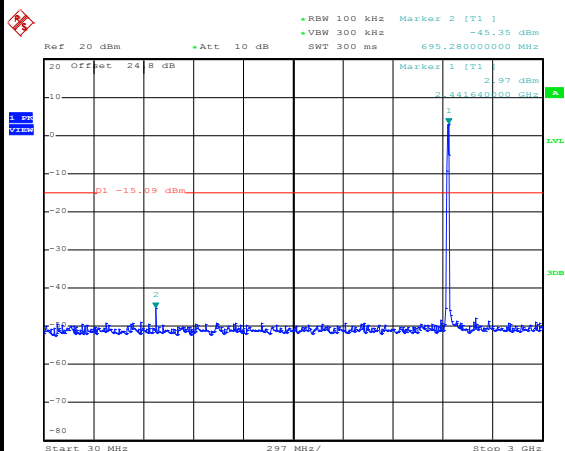
Test Mode :	802.11b	Test Channel :	06
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100kHz PSD reference Level



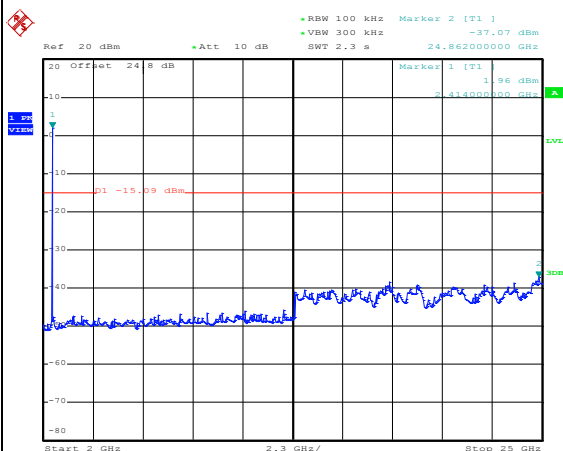
Date: 18.JUL.2018 03:04:57

Spurious Emission 30MHz~3GHz



Date: 18.JUL.2018 03:05:59

Spurious Emission 2GHz~25GHz

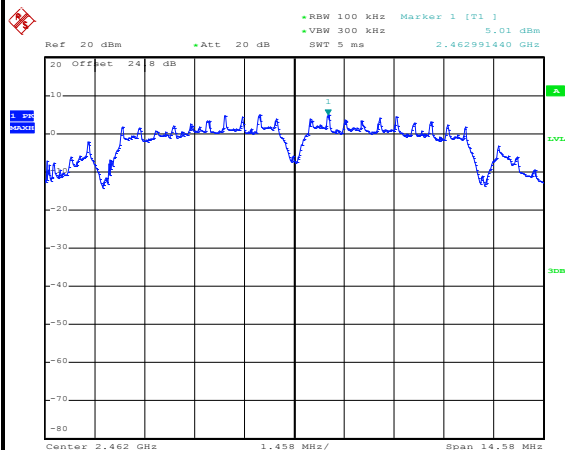


Date: 18.JUL.2018 03:06:15



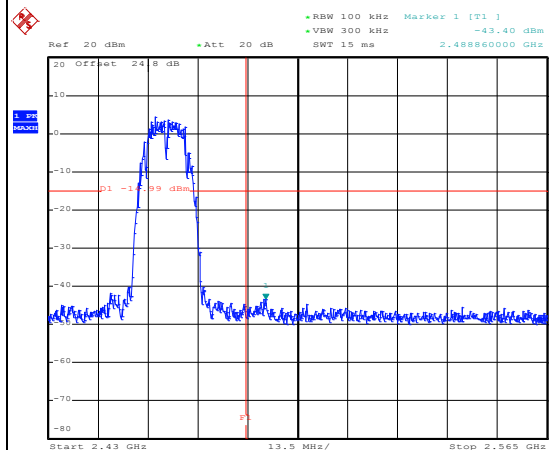
Test Mode :	802.11b	Test Channel :	11
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100kHz PSD reference Level



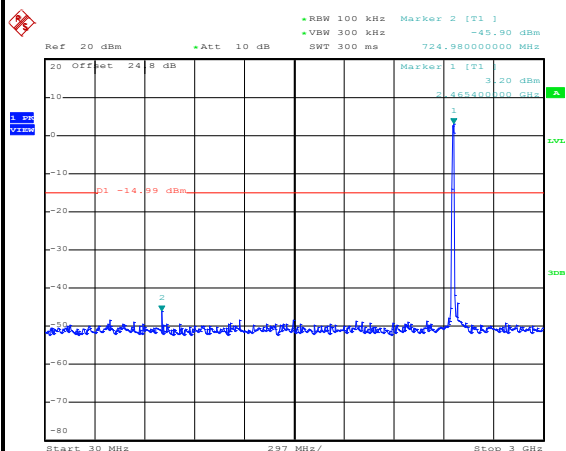
Date: 18.JUL.2018 03:10:16

Channel Plot



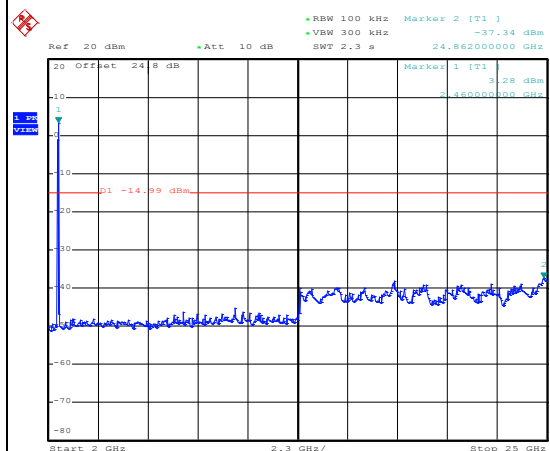
Date: 18.JUL.2018 03:10:46

Spurious Emission 30MHz~3GHz



Date: 18.JUL.2018 03:13:29

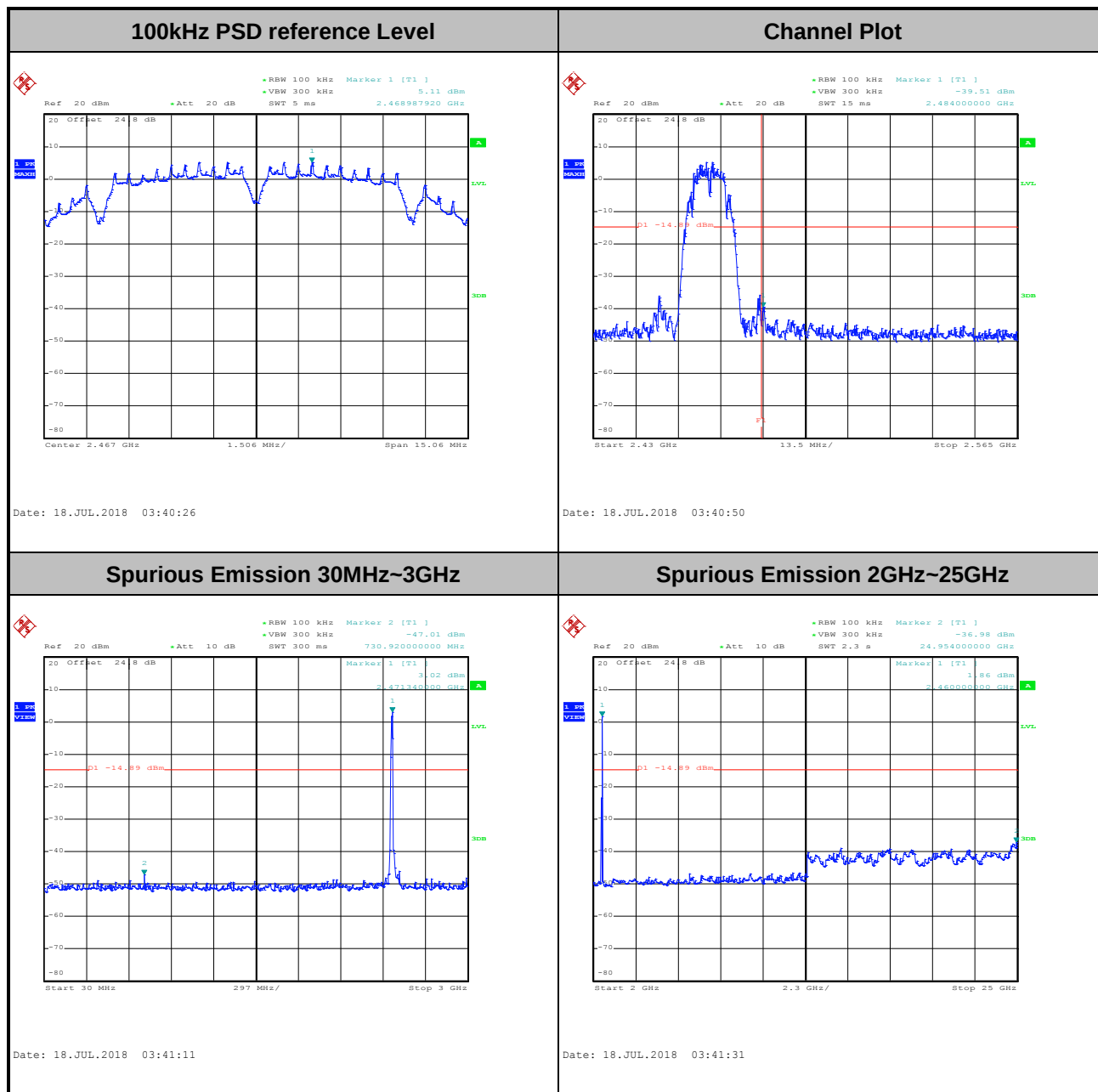
Spurious Emission 2GHz~25GHz



Date: 18.JUL.2018 03:13:48

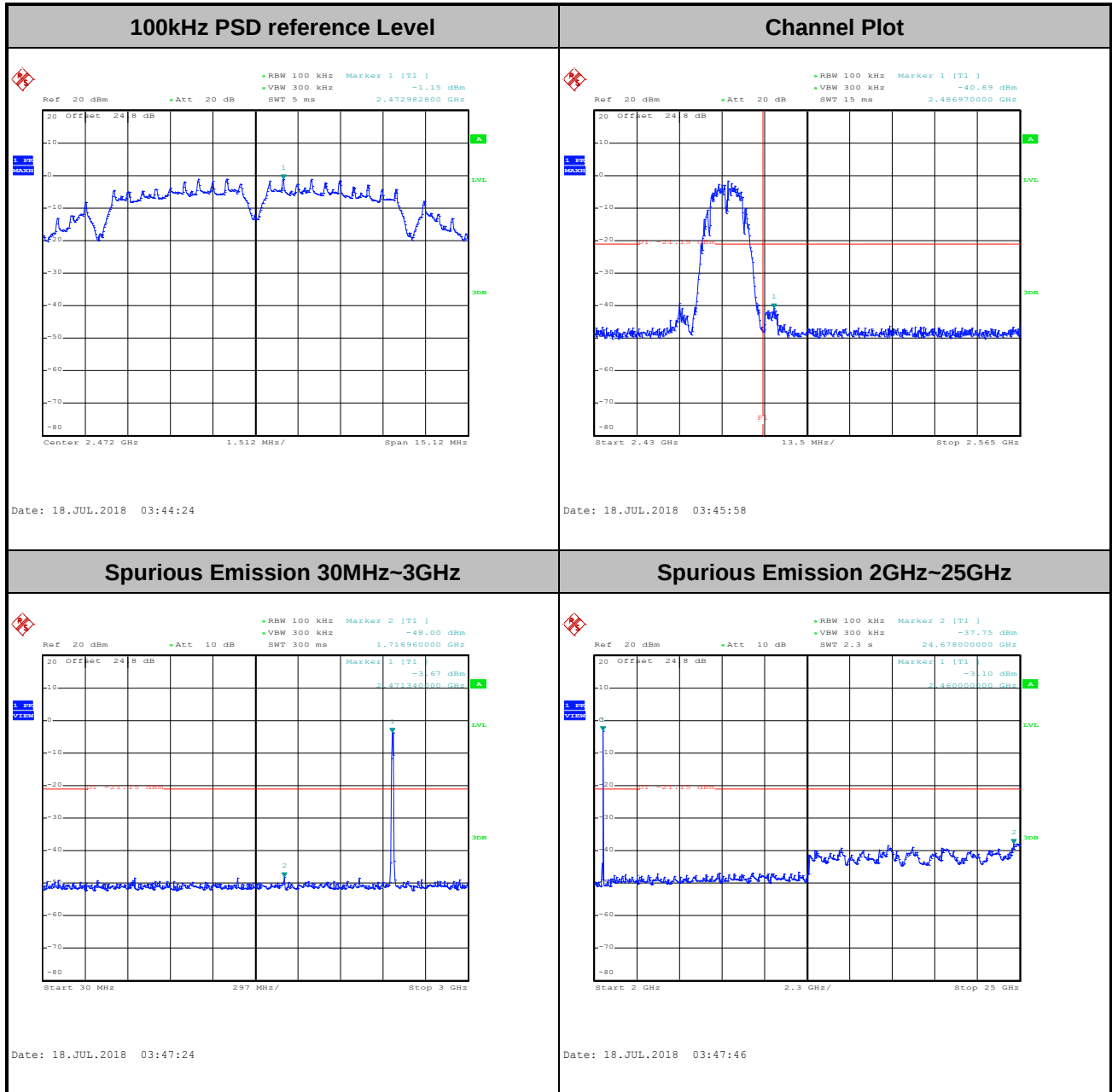


Test Mode :	802.11b	Test Channel :	12
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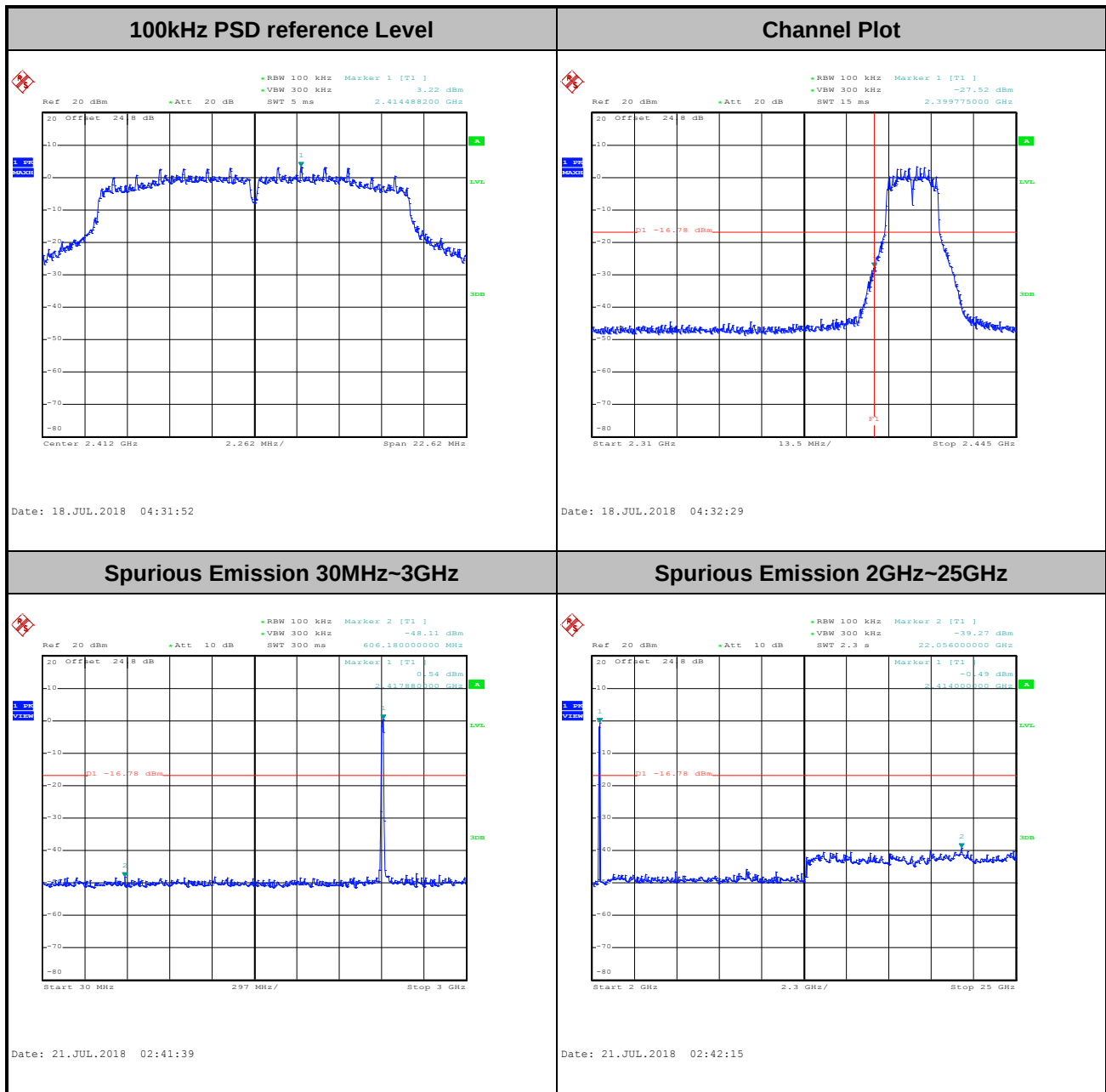


Test Mode :	802.11b	Test Channel :	13
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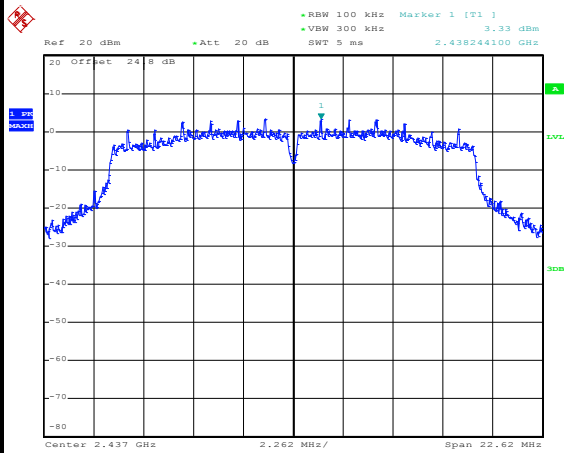
Test Mode :	802.11g	Test Channel :	01
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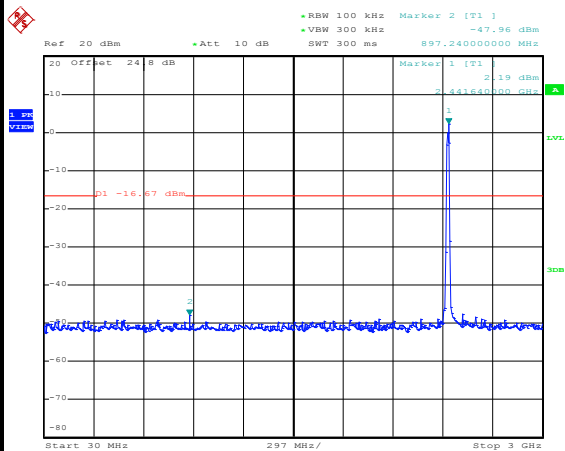
Test Mode :	802.11g	Test Channel :	06
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100kHz PSD reference Level



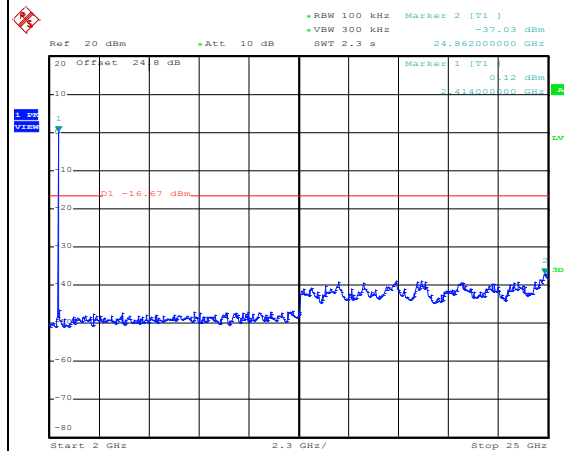
Date: 18.JUL.2018 04:39:55

Spurious Emission 30MHz~3GHz



Date: 18.JUL.2018 04:46:08

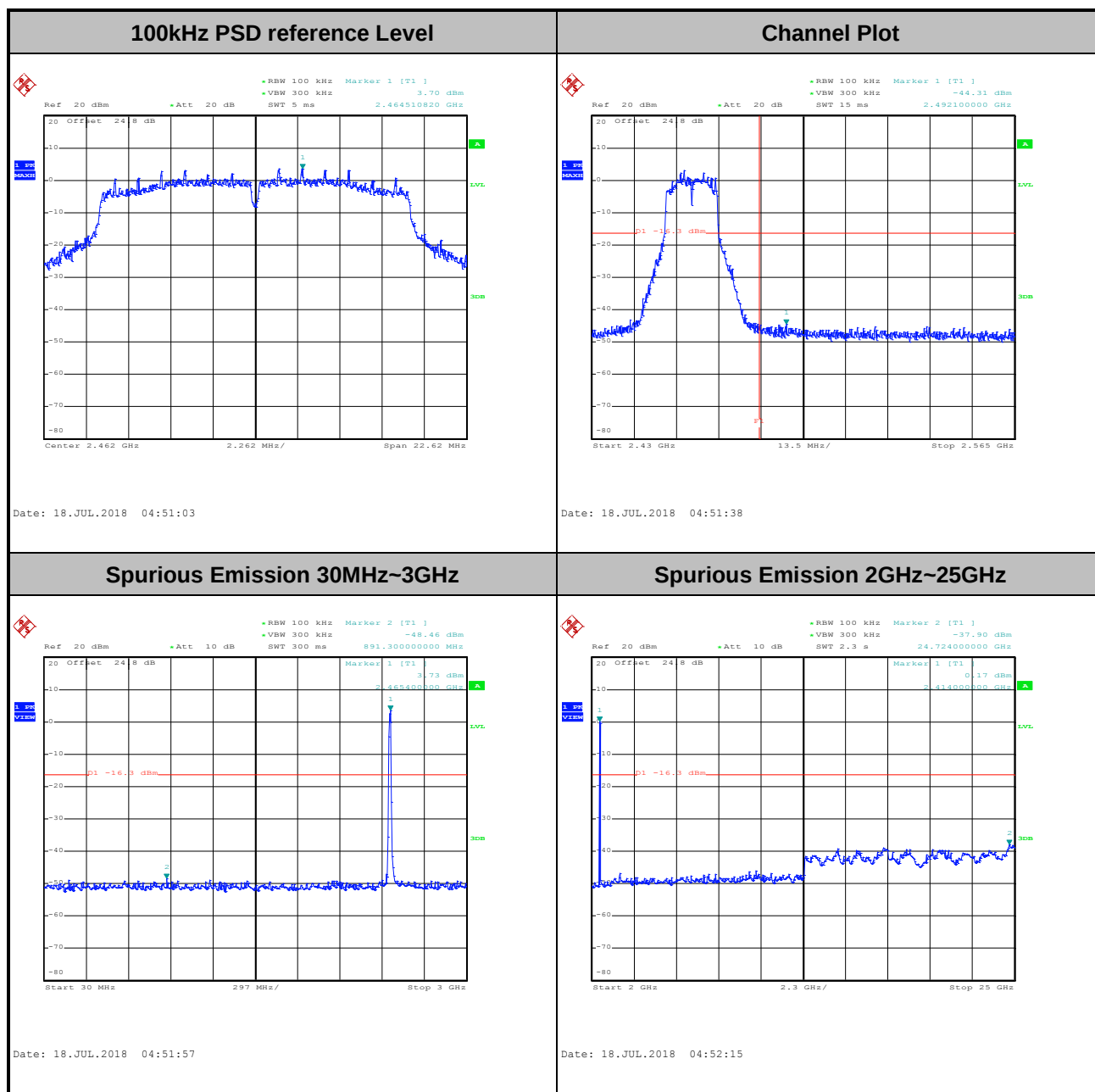
Spurious Emission 2GHz~25GHz



Date: 18.JUL.2018 04:46:22



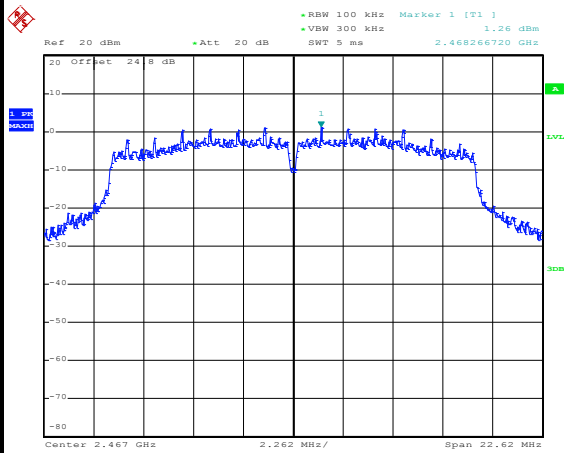
Test Mode :	802.11g	Test Channel :	11
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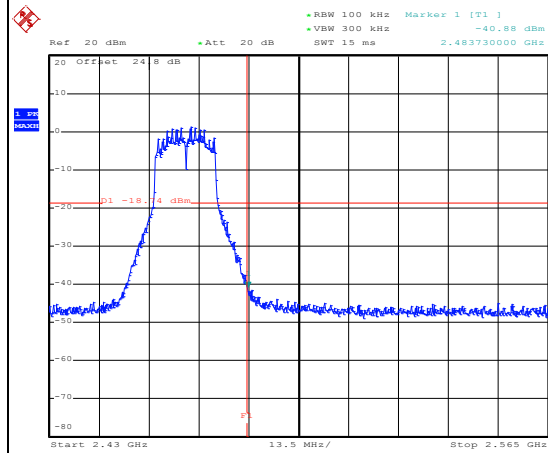
Test Mode :	802.11g	Test Channel :	12
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100kHz PSD reference Level



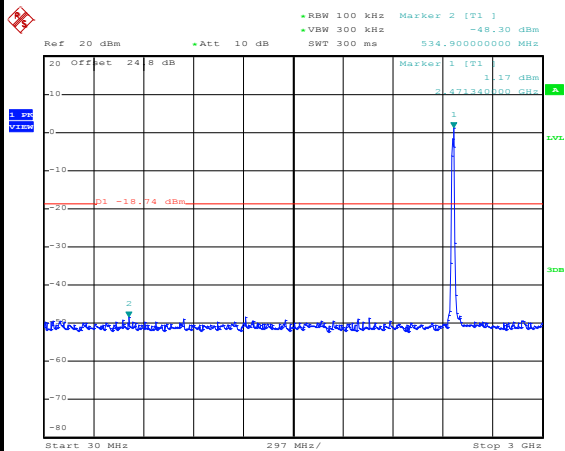
Date: 18.JUL.2018 04:59:55

Channel Plot



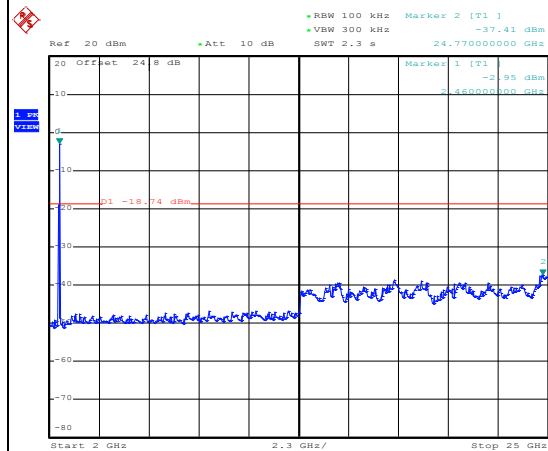
Date: 18.JUL.2018 05:01:48

Spurious Emission 30MHz~3GHz



Date: 18.JUL.2018 05:02:13

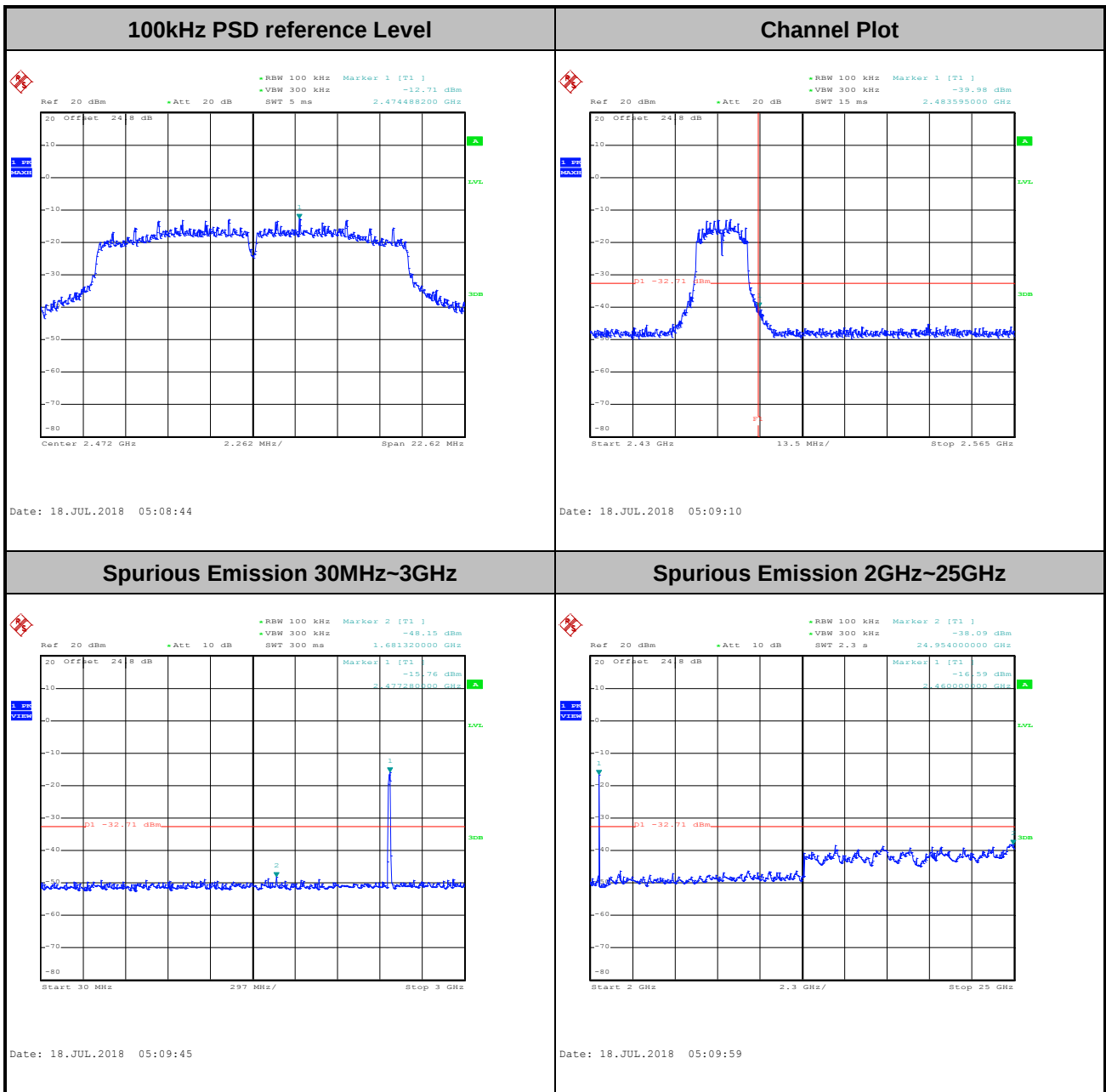
Spurious Emission 2GHz~25GHz



Date: 18.JUL.2018 05:02:38



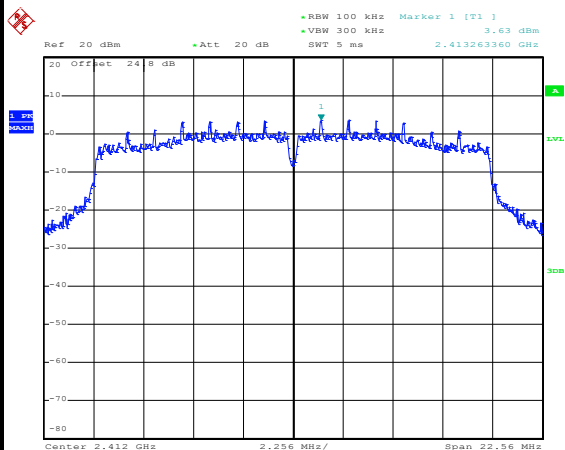
Test Mode :	802.11g	Test Channel :	13
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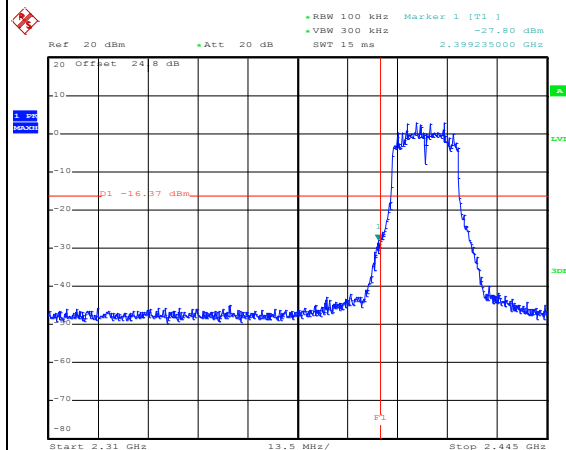
Test Mode :	802.11n HT20	Test Channel :	01
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100kHz PSD reference Level



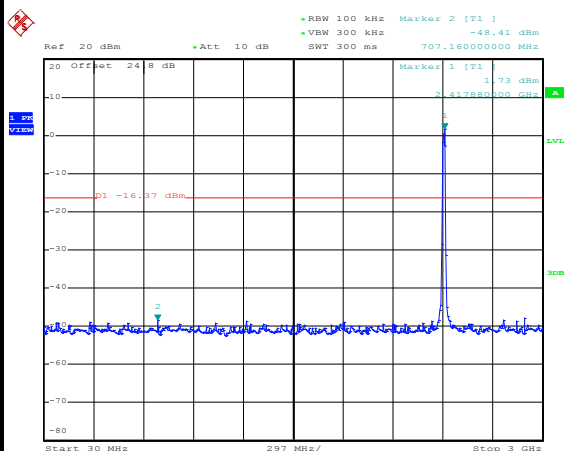
Date: 19.JUL.2018 02:33:55

Channel Plot



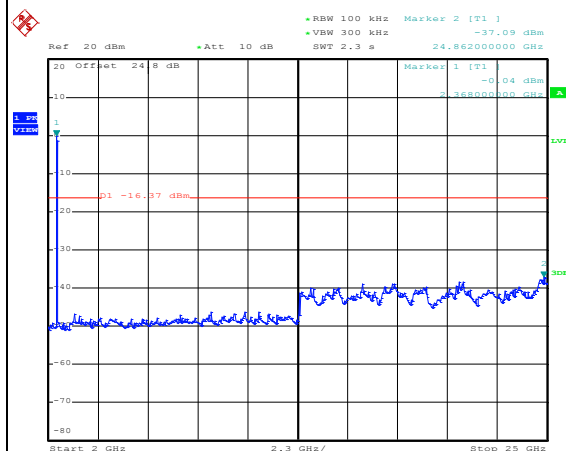
Date: 19.JUL.2018 02:34:20

Spurious Emission 30MHz~3GHz



Date: 19.JUL.2018 02:34:51

Spurious Emission 2GHz~25GHz

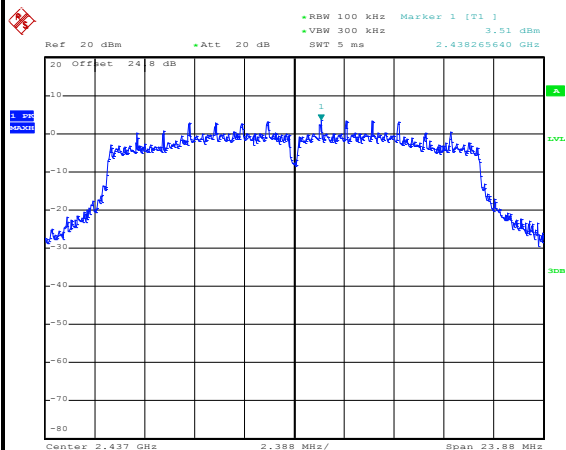


Date: 19.JUL.2018 02:36:12



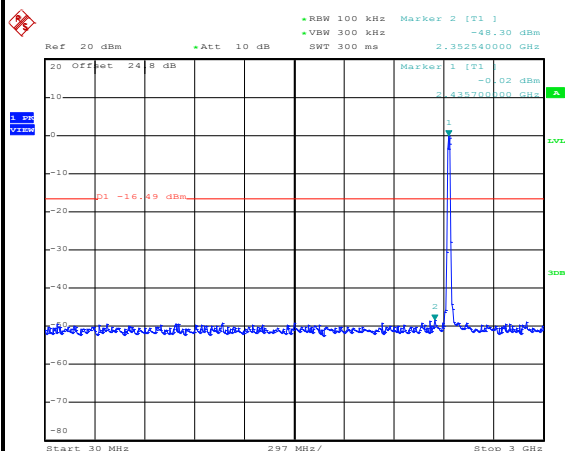
Test Mode :	802.11n HT20	Test Channel :	06
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100kHz PSD reference Level



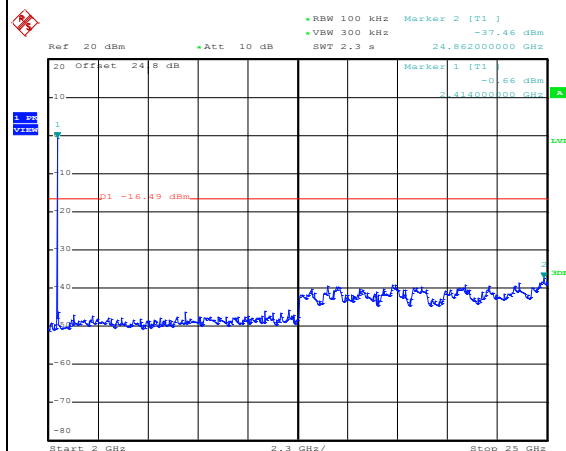
Date: 19.JUL.2018 02:39:11

Spurious Emission 30MHz~3GHz



Date: 19.JUL.2018 02:39:49

Spurious Emission 2GHz~25GHz

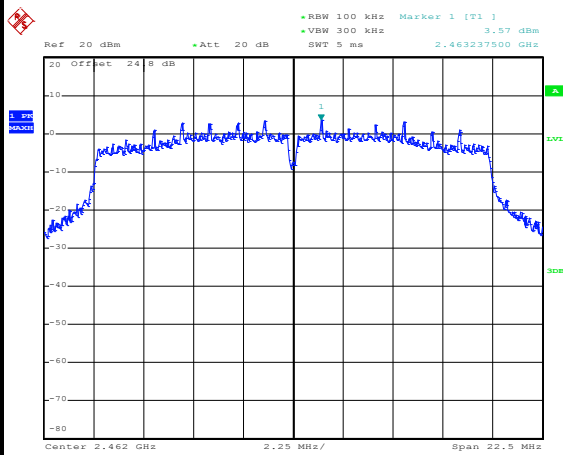


Date: 19.JUL.2018 02:40:04



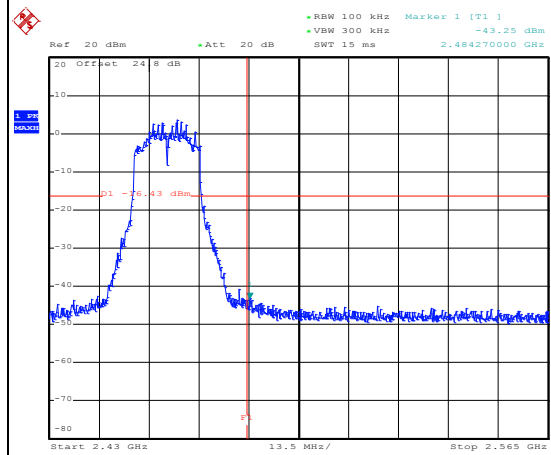
Test Mode :	802.11n HT20	Test Channel :	11
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100kHz PSD reference Level



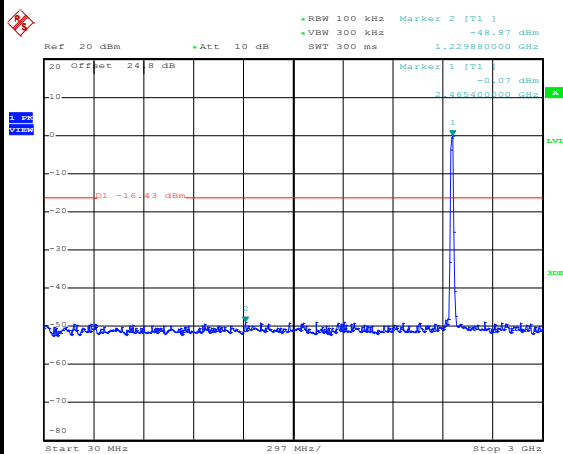
Date: 19.JUL.2018 02:42:58

Channel Plot



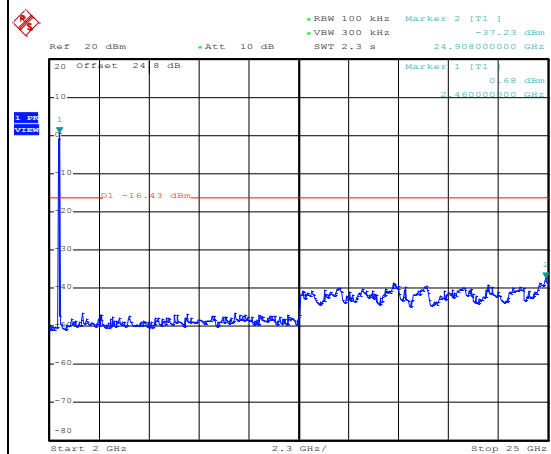
Date: 19.JUL.2018 02:43:22

Spurious Emission 30MHz~3GHz



Date: 19.JUL.2018 02:43:43

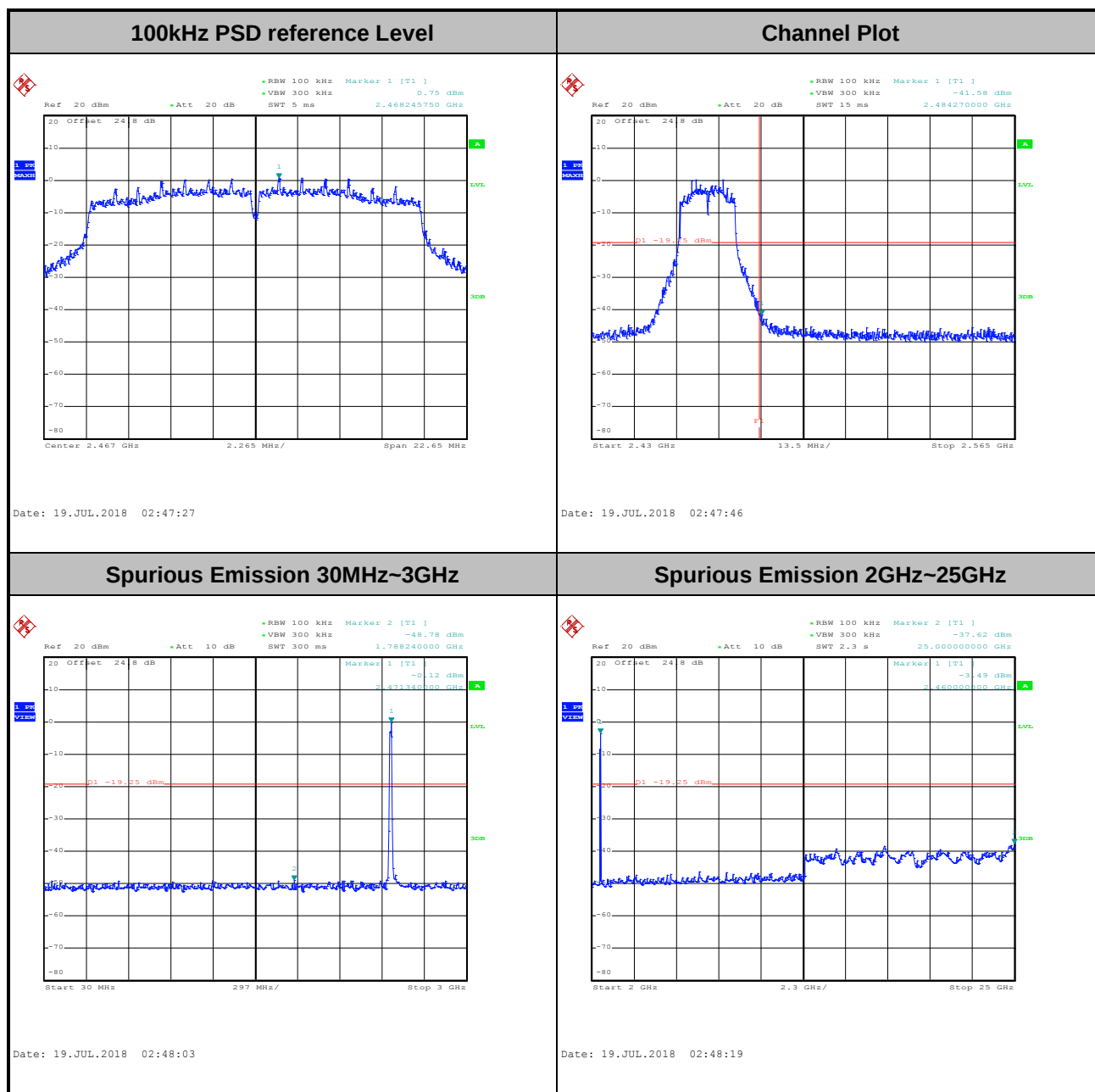
Spurious Emission 2GHz~25GHz



Date: 19.JUL.2018 02:43:57

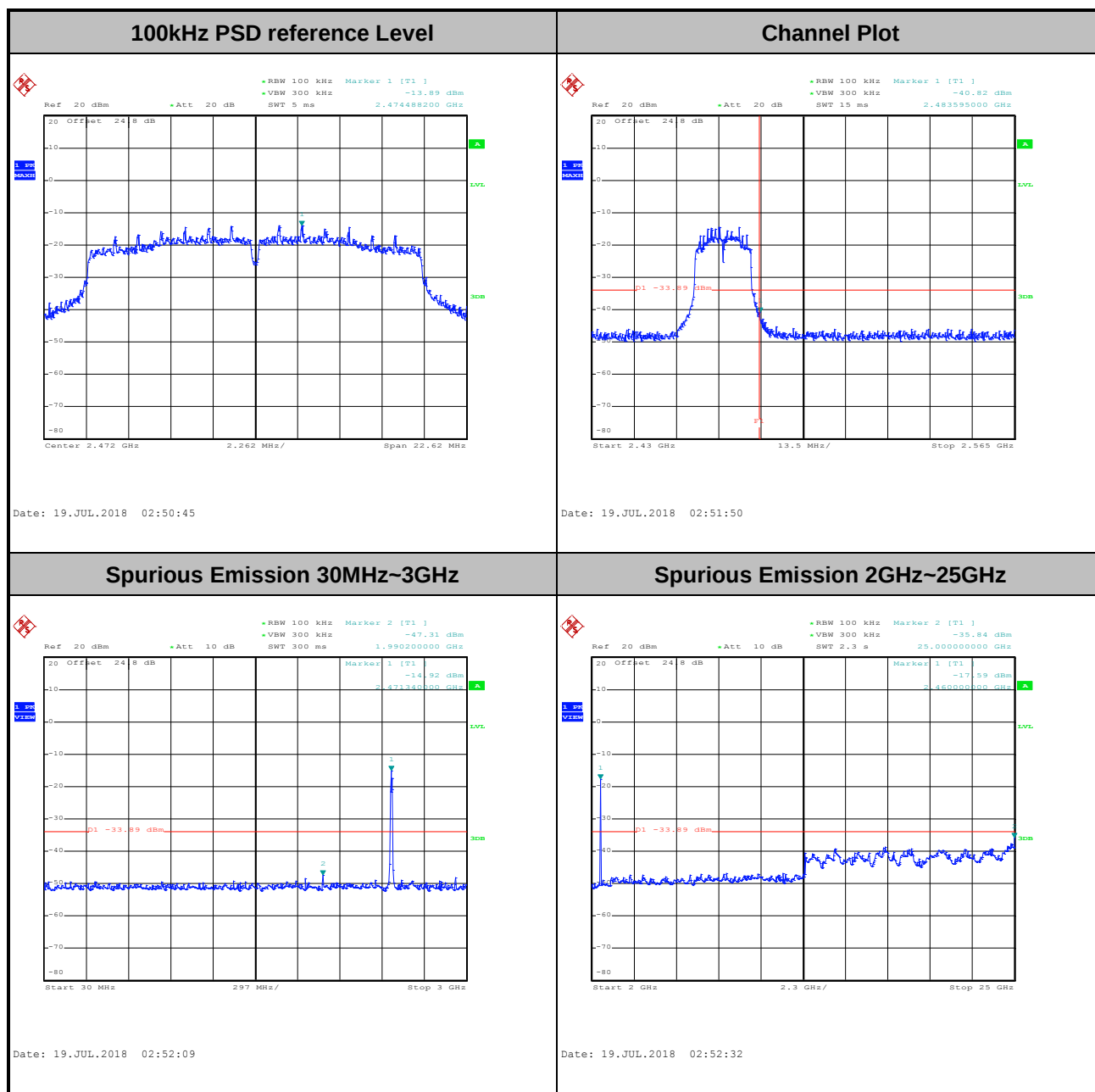


Test Mode :	802.11n HT20	Test Channel :	12
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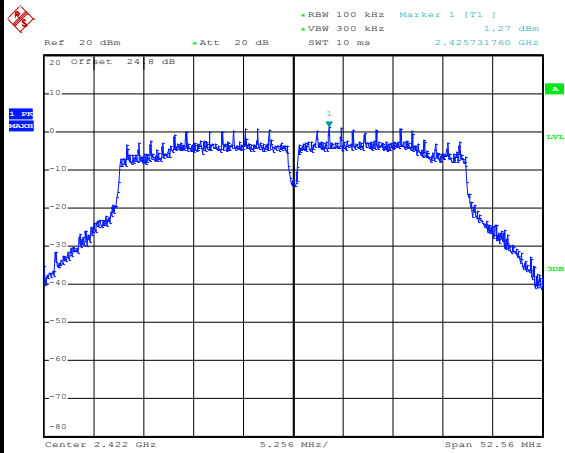
Test Mode :	802.11n HT20	Test Channel :	13
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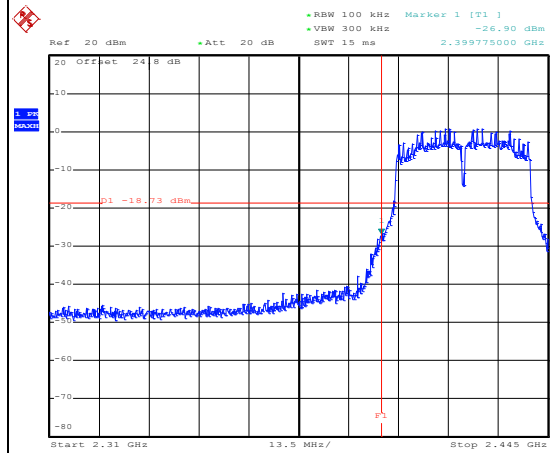
Test Mode :	802.11n HT40	Test Channel :	03
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100kHz PSD reference Level



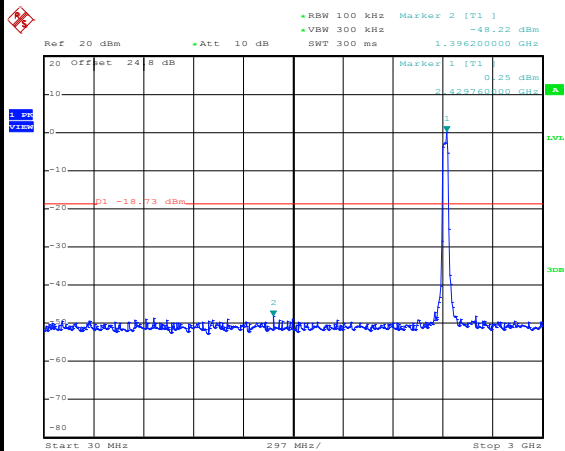
Date: 19.JUL.2018 03:50:32

Channel Plot



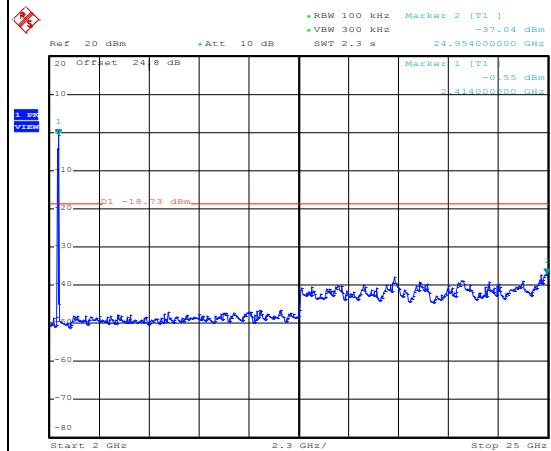
Date: 19.JUL.2018 03:50:49

Spurious Emission 30MHz~3GHz



Date: 19.JUL.2018 03:51:14

Spurious Emission 2GHz~25GHz

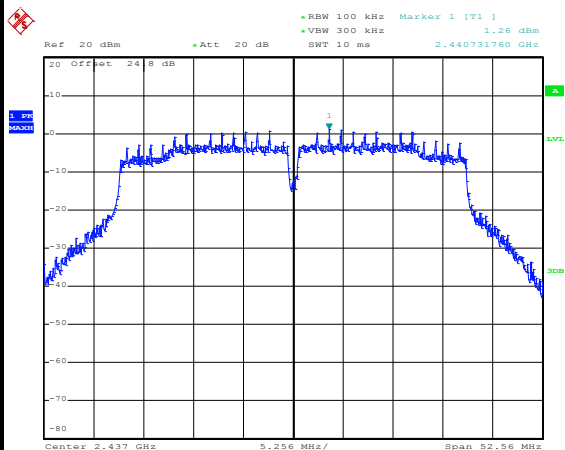


Date: 19.JUL.2018 03:51:28



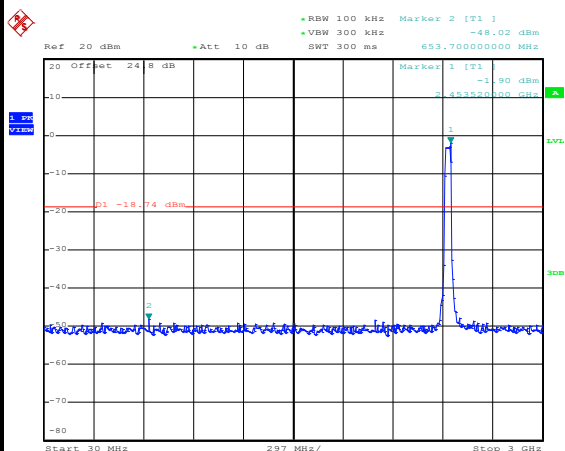
Test Mode :	802.11n HT40	Test Channel :	06
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100kHz PSD reference Level



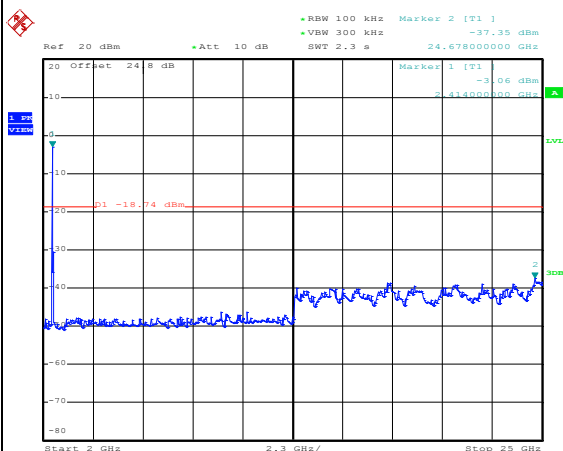
Date: 19.JUL.2018 03:53:57

Spurious Emission 30MHz~3GHz



Date: 19.JUL.2018 03:56:47

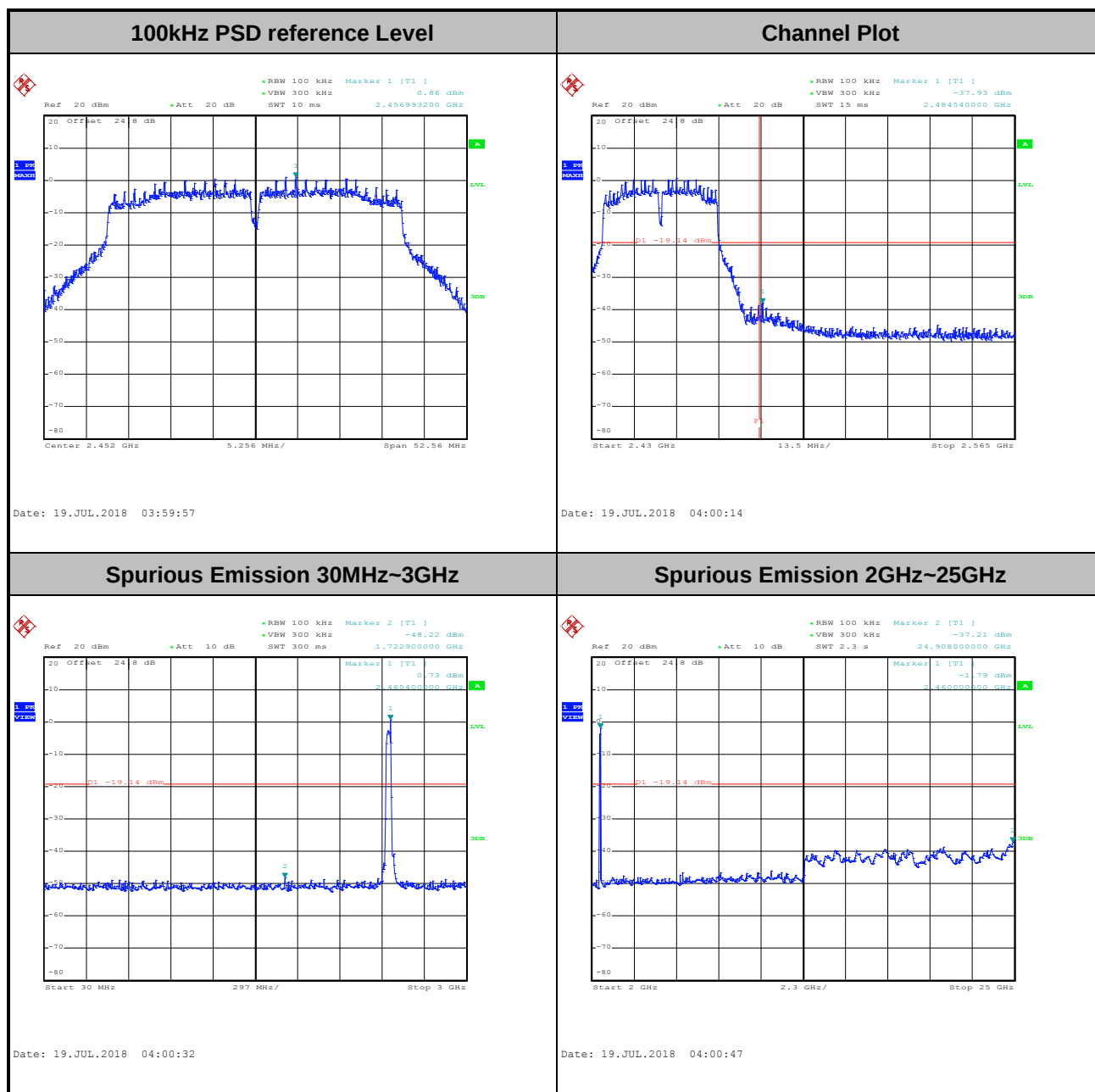
Spurious Emission 2GHz~25GHz



Date: 19.JUL.2018 03:57:02



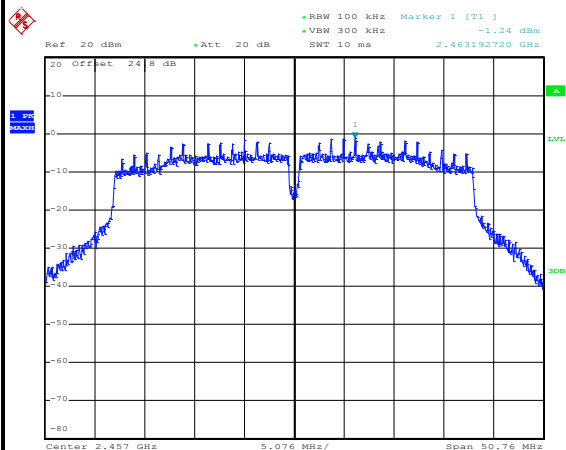
Test Mode :	802.11n HT40	Test Channel :	09
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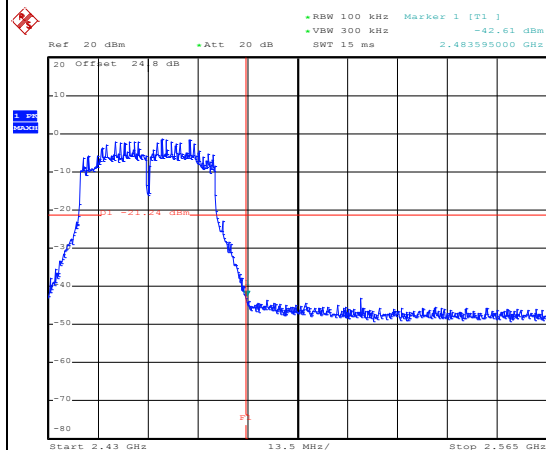
Test Mode :	802.11n HT40	Test Channel :	10
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100kHz PSD reference Level



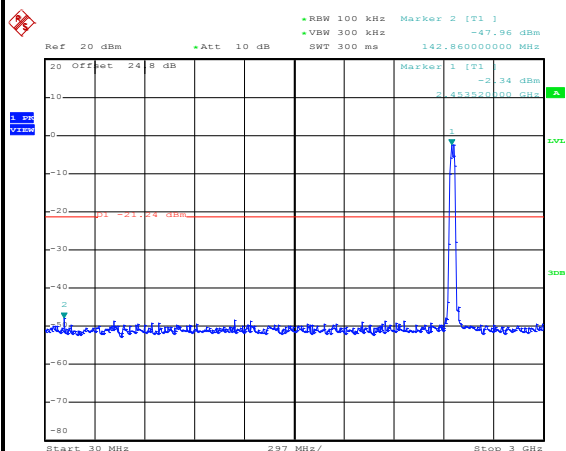
Date: 19.JUL.2018 04:03:39

Channel Plot



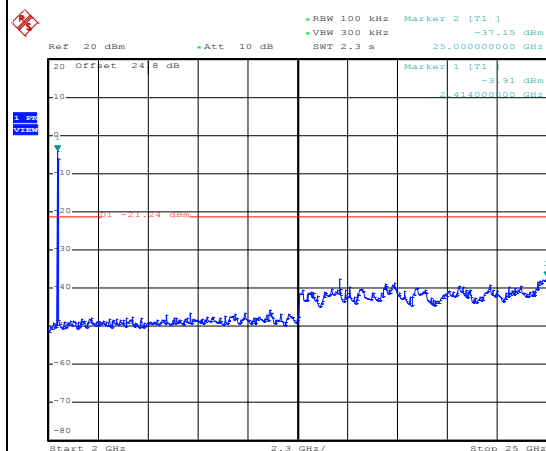
Date: 19.JUL.2018 04:04:18

Spurious Emission 30MHz~3GHz



Date: 19.JUL.2018 04:05:33

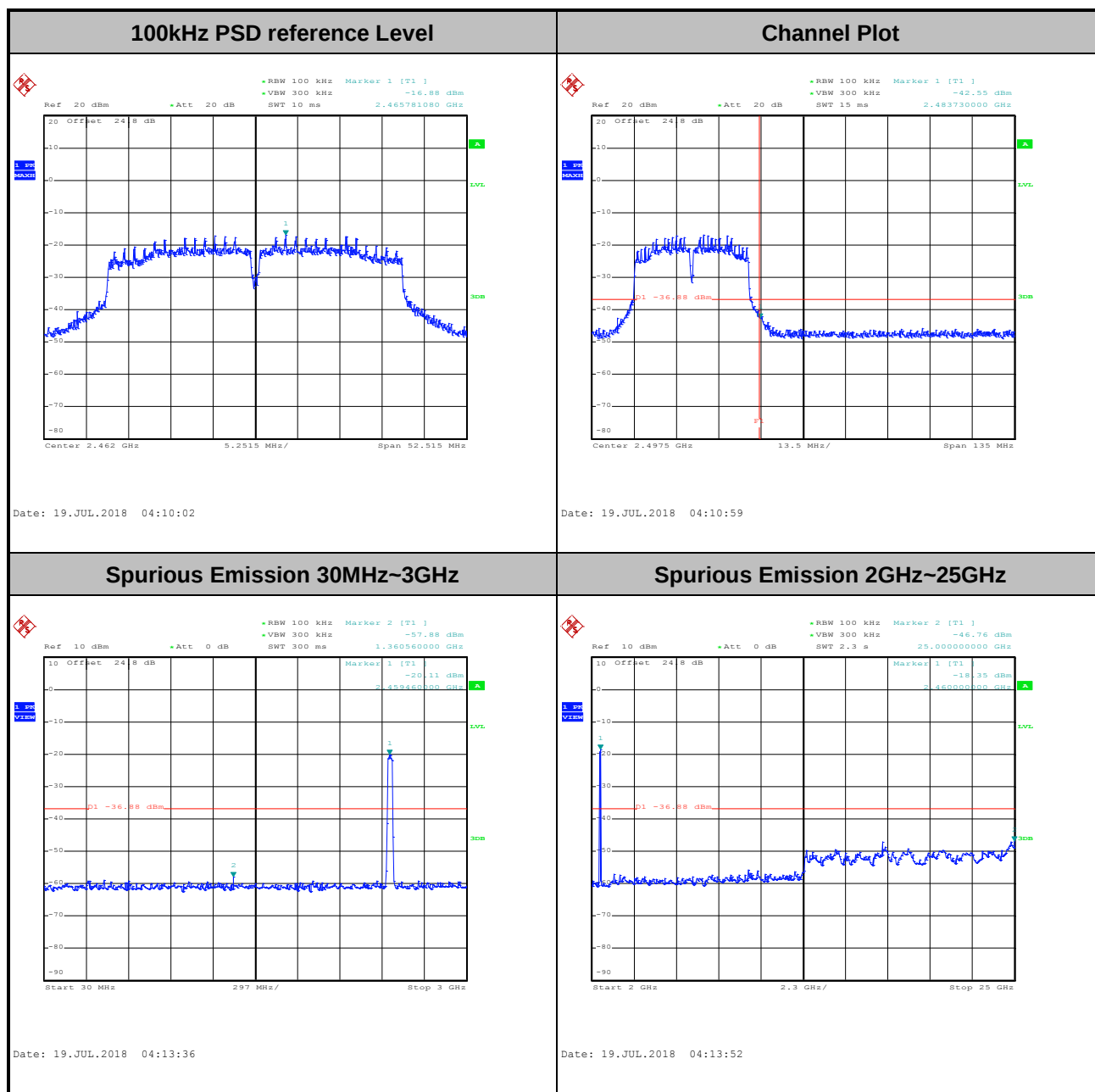
Spurious Emission 2GHz~25GHz



Date: 19.JUL.2018 04:05:47



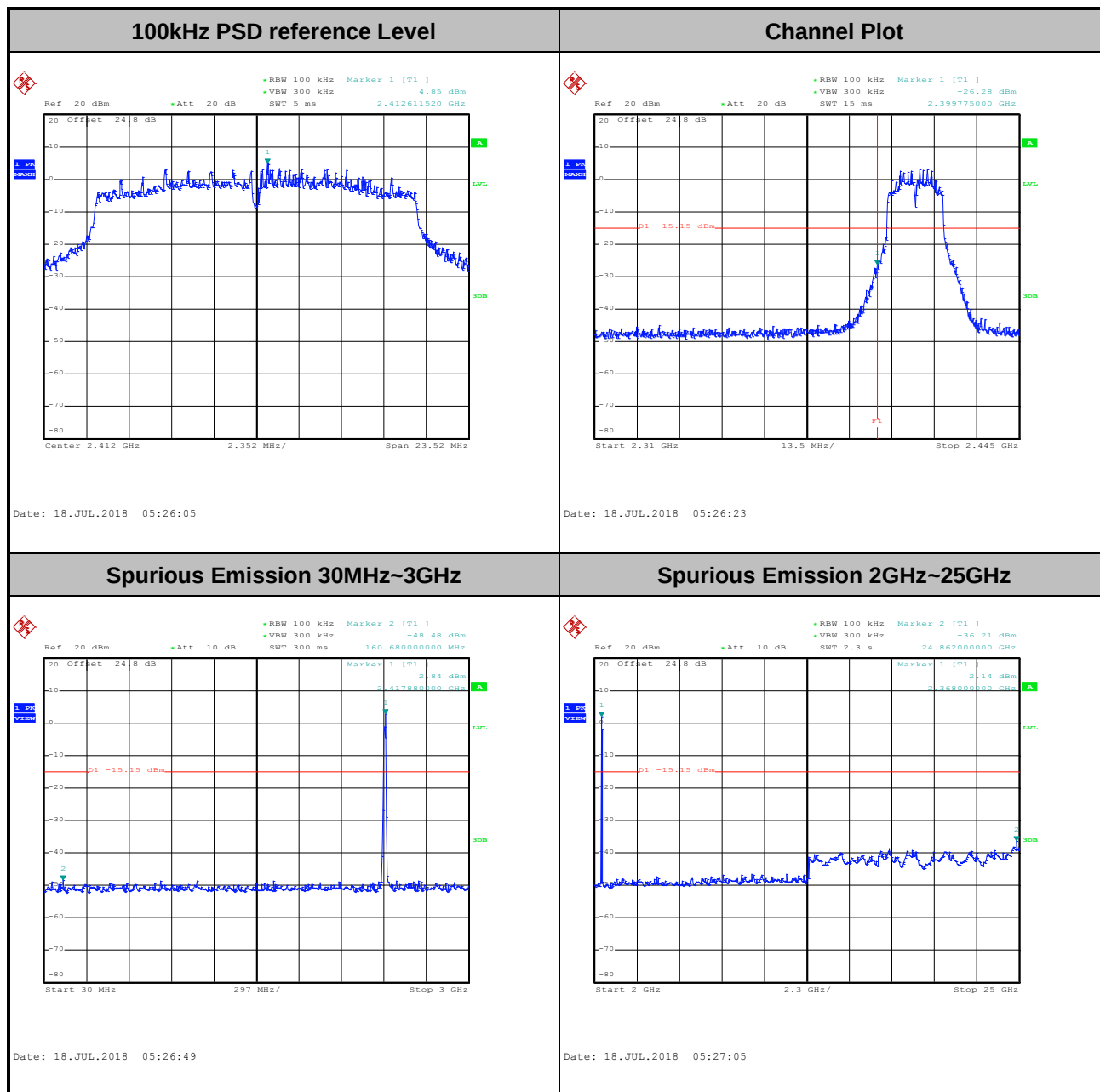
Test Mode :	802.11n HT40	Test Channel :	11
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Number of TX = 2, Ant. 1 (Measured)

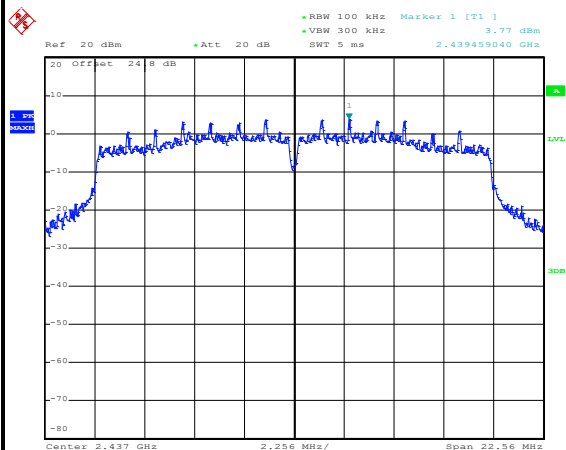
Test Mode :	802.11n HT20	Test Channel :	01
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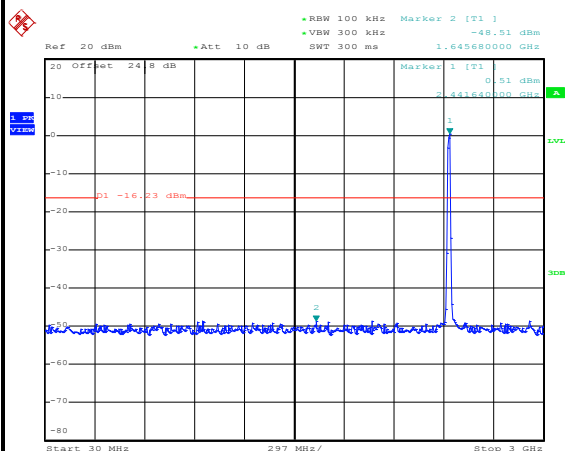
Test Mode :	802.11n HT20	Test Channel :	06
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100kHz PSD reference Level



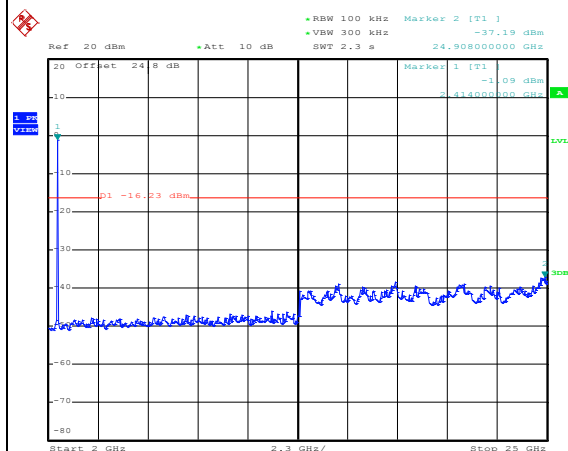
Date: 18.JUL.2018 05:35:13

Spurious Emission 30MHz~3GHz



Date: 18.JUL.2018 05:36:20

Spurious Emission 2GHz~25GHz

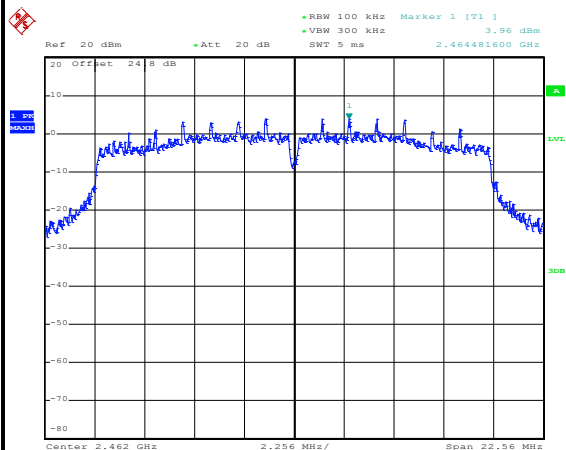


Date: 18.JUL.2018 05:36:35



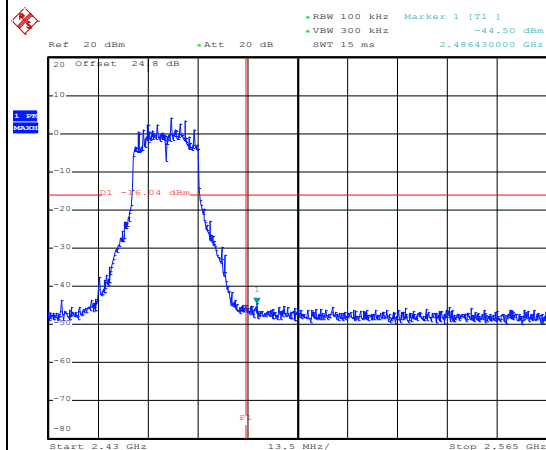
Test Mode :	802.11n HT20	Test Channel :	11
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100kHz PSD reference Level



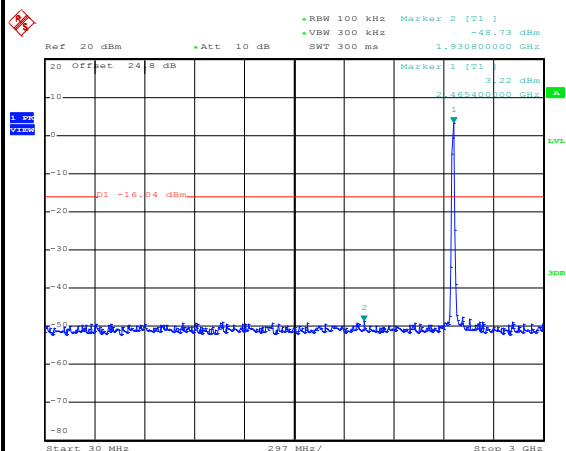
Date: 18.JUL.2018 05:54:26

Channel Plot



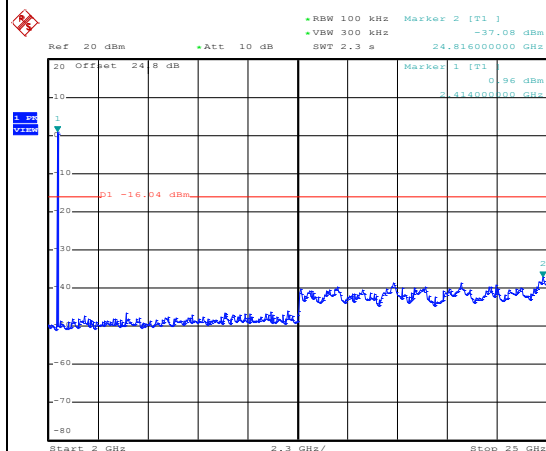
Date: 18.JUL.2018 05:54:48

Spurious Emission 30MHz~3GHz



Date: 18.JUL.2018 05:55:06

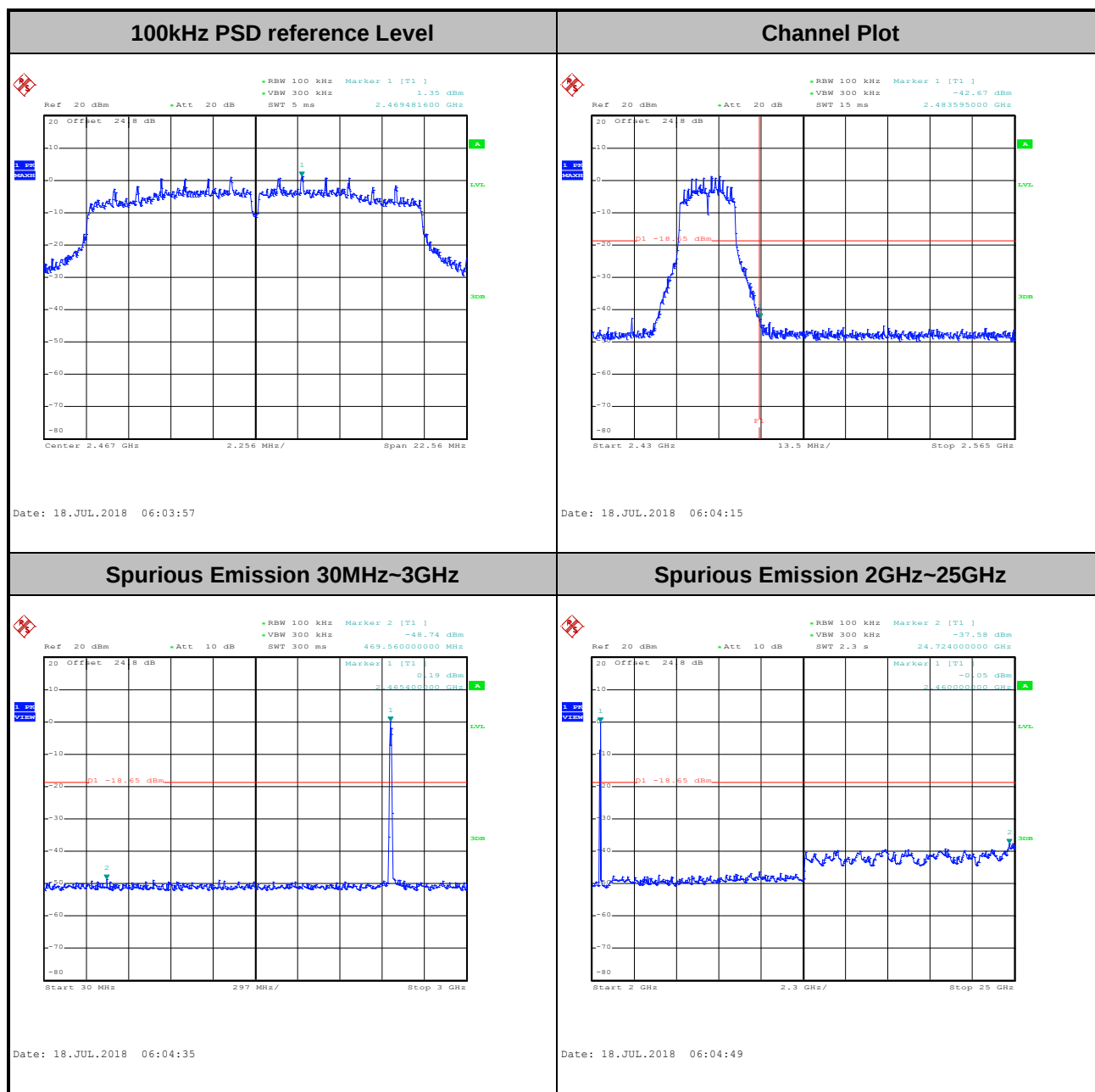
Spurious Emission 2GHz~25GHz

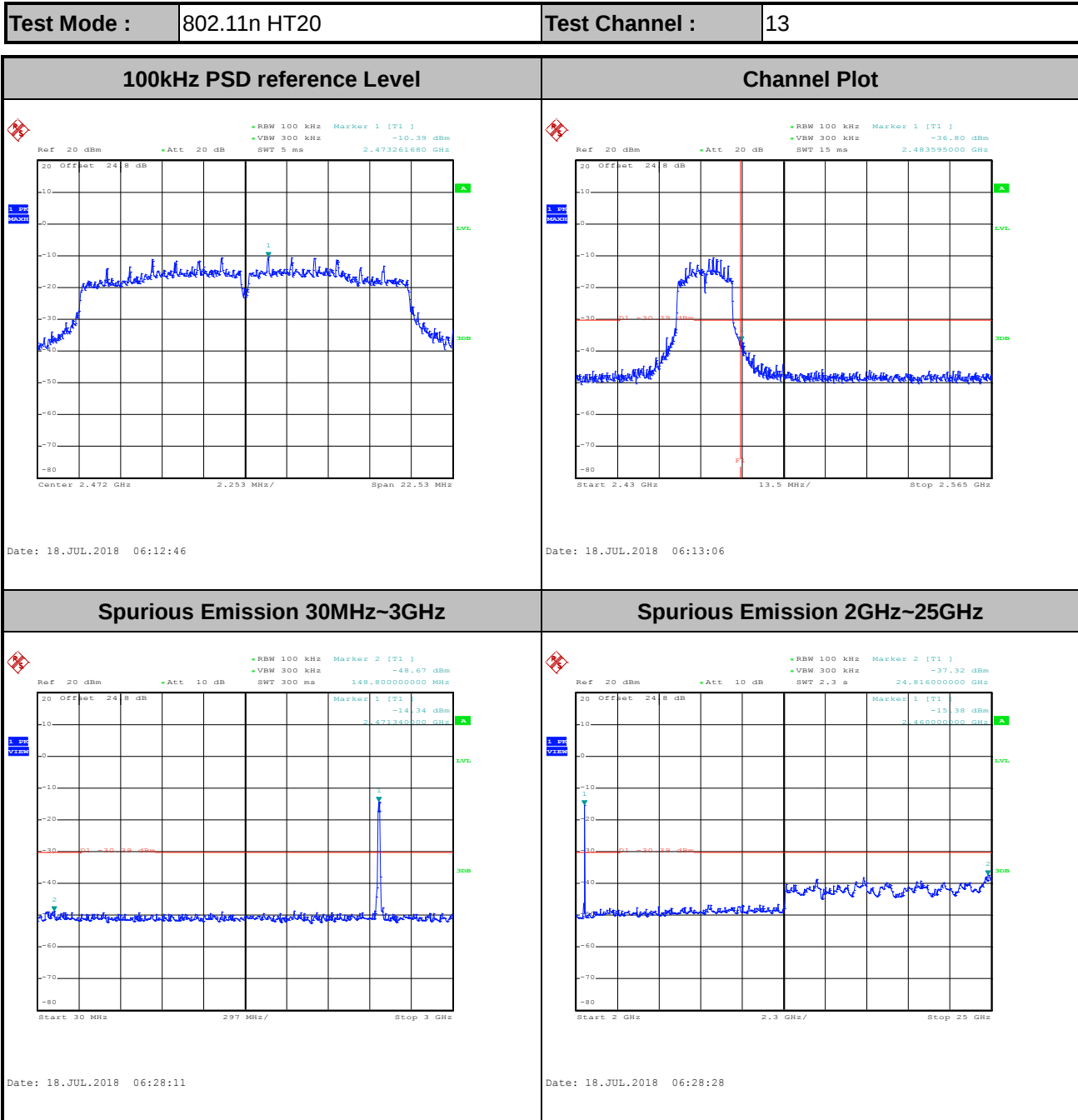


Date: 18.JUL.2018 05:55:21



Test Mode :	802.11n HT20	Test Channel :	12
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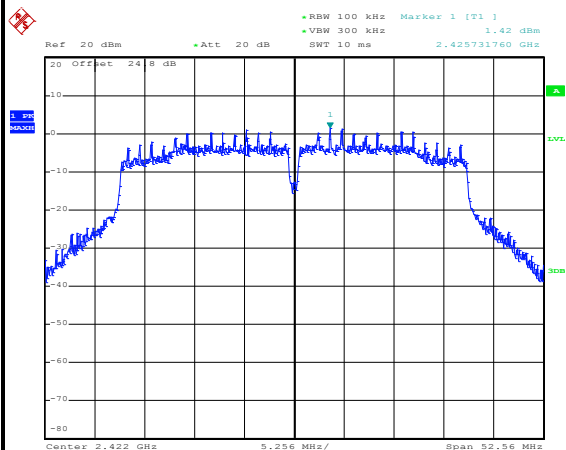






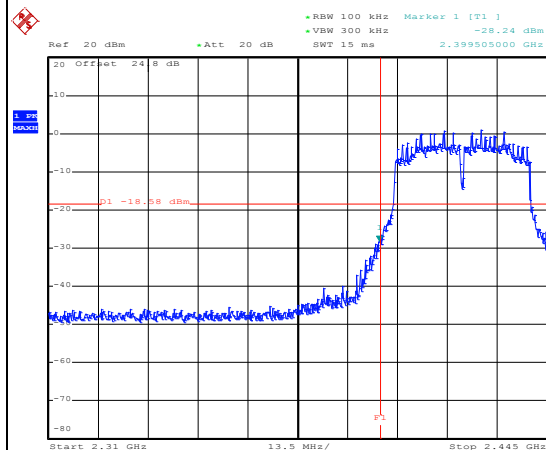
Test Mode :	802.11n HT40	Test Channel :	03
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100kHz PSD reference Level



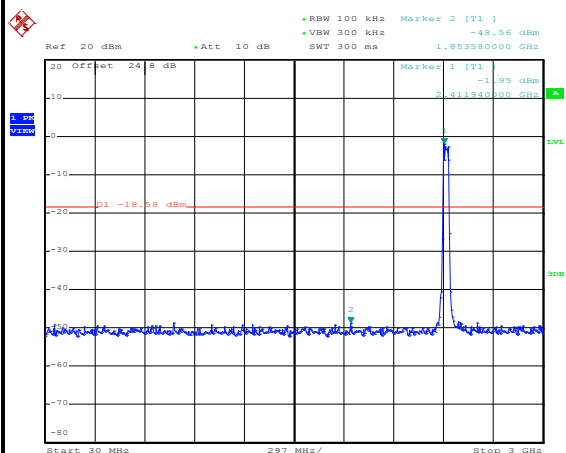
Date: 18.JUL.2018 06:34:26

Channel Plot



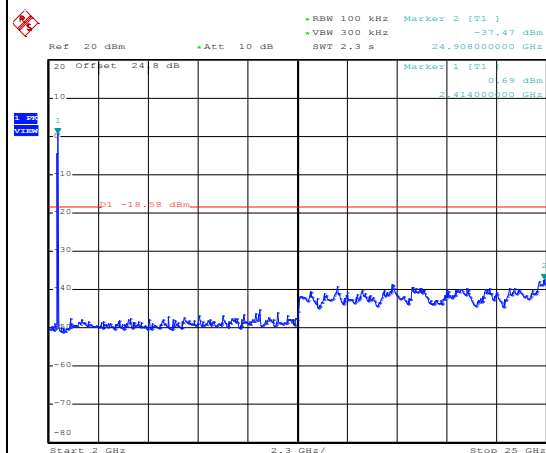
Date: 18.JUL.2018 06:34:49

Spurious Emission 30MHz~3GHz



Date: 18.JUL.2018 06:35:52

Spurious Emission 2GHz~25GHz



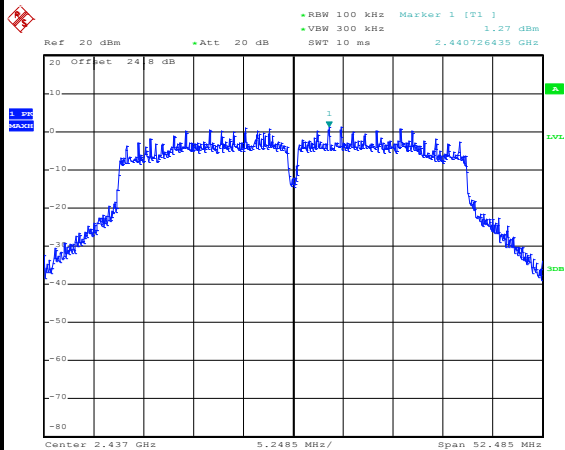
Date: 18.JUL.2018 06:36:07



Test Mode : 802.11n HT40

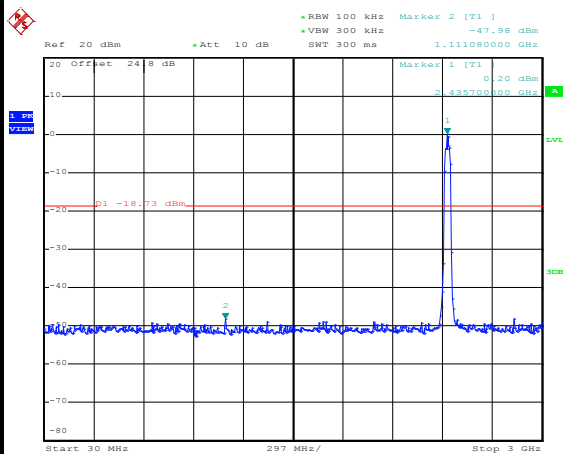
Test Channel : 06

100kHz PSD reference Level



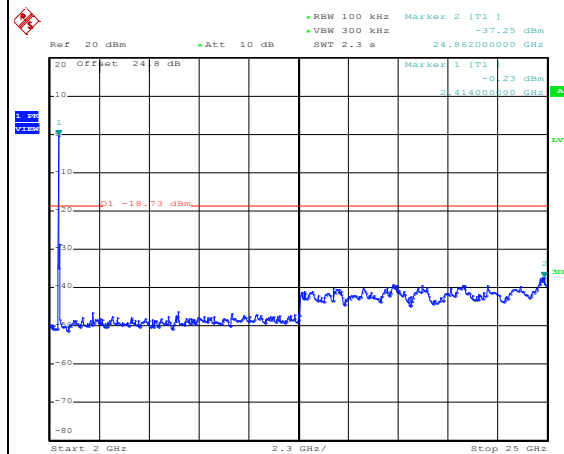
Date: 18.JUL.2018 06:45:26

Spurious Emission 30MHz~3GHz



Date: 18.JUL.2018 06:46:57

Spurious Emission 2GHz~25GHz

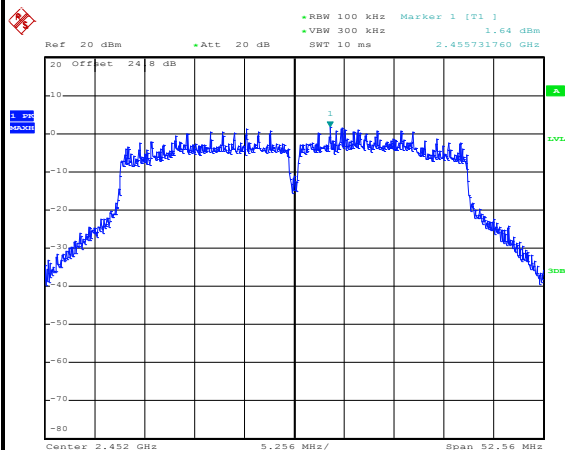


Date: 18.JUL.2018 06:47:12



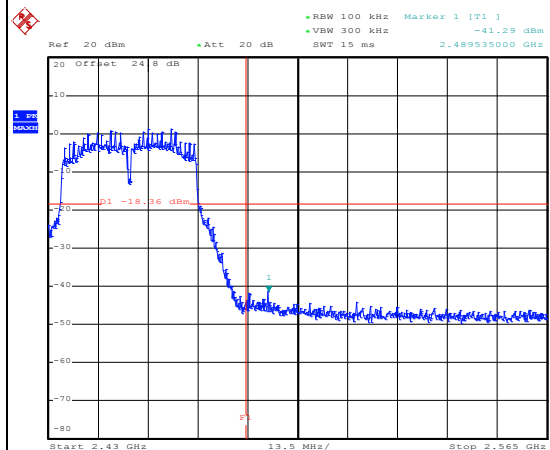
Test Mode :	802.11n HT40	Test Channel :	09
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100kHz PSD reference Level



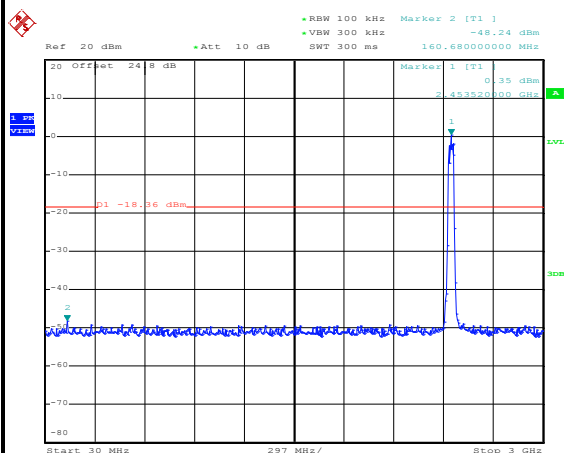
Date: 18.JUL.2018 06:54:17

Channel Plot



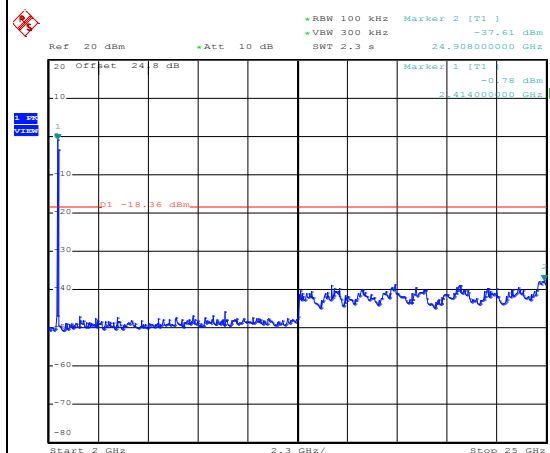
Date: 18.JUL.2018 06:54:54

Spurious Emission 30MHz~3GHz



Date: 18.JUL.2018 06:55:15

Spurious Emission 2GHz~25GHz

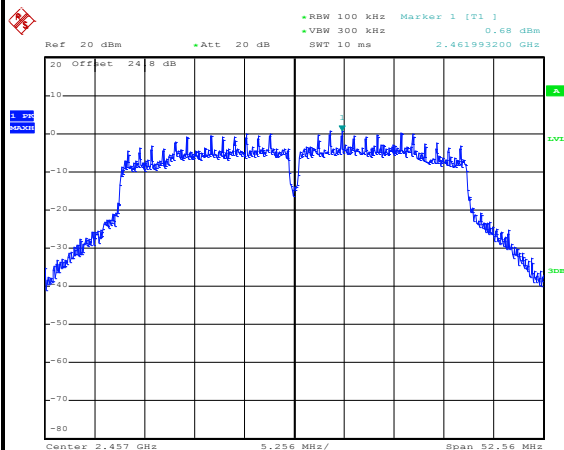


Date: 18.JUL.2018 06:55:32



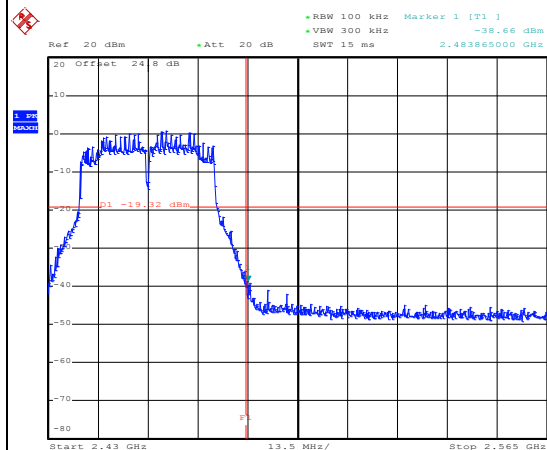
Test Mode :	802.11n HT40	Test Channel :	10
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100kHz PSD reference Level



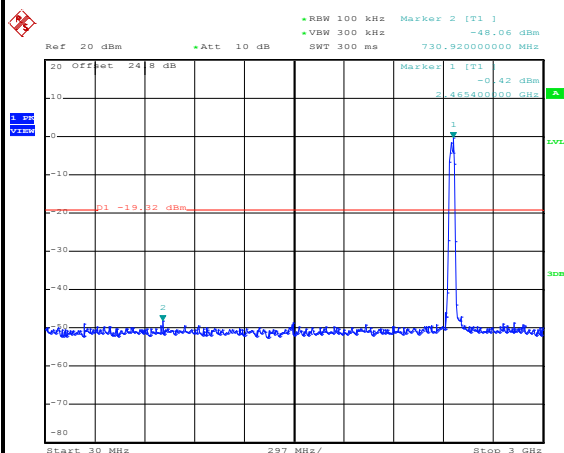
Date: 18.JUL.2018 07:06:21

Channel Plot



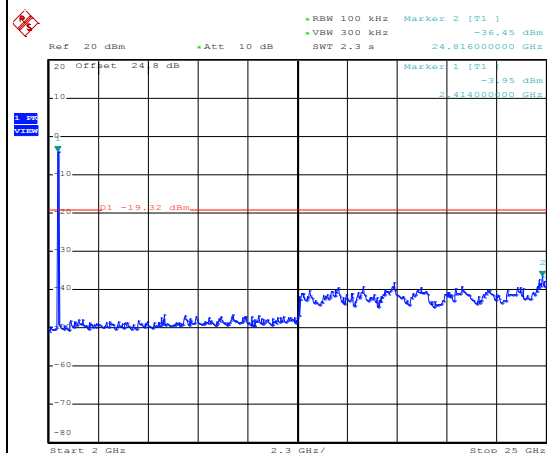
Date: 18.JUL.2018 07:06:45

Spurious Emission 30MHz~3GHz



Date: 18.JUL.2018 07:07:03

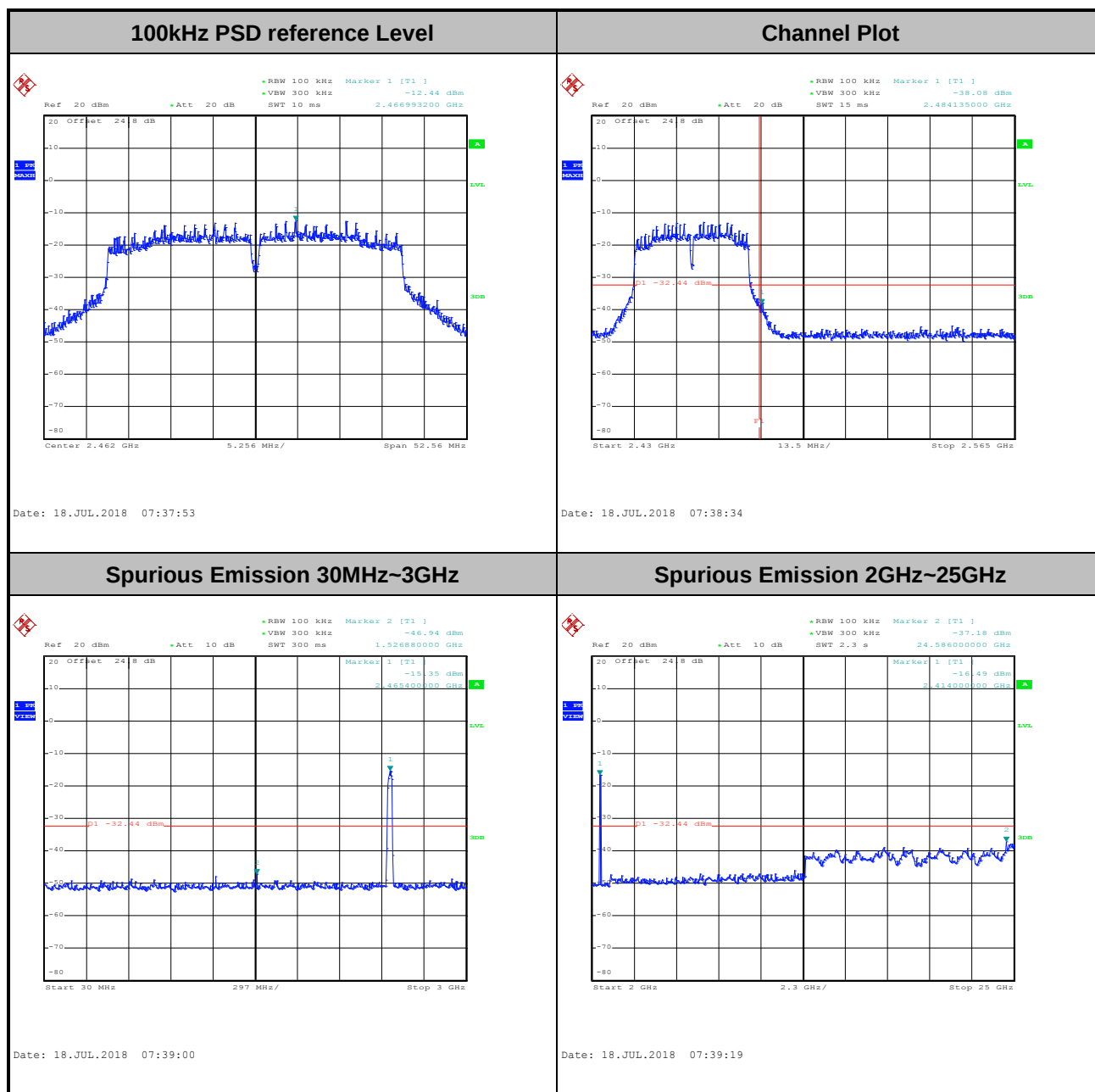
Spurious Emission 2GHz~25GHz



Date: 18.JUL.2018 07:07:17



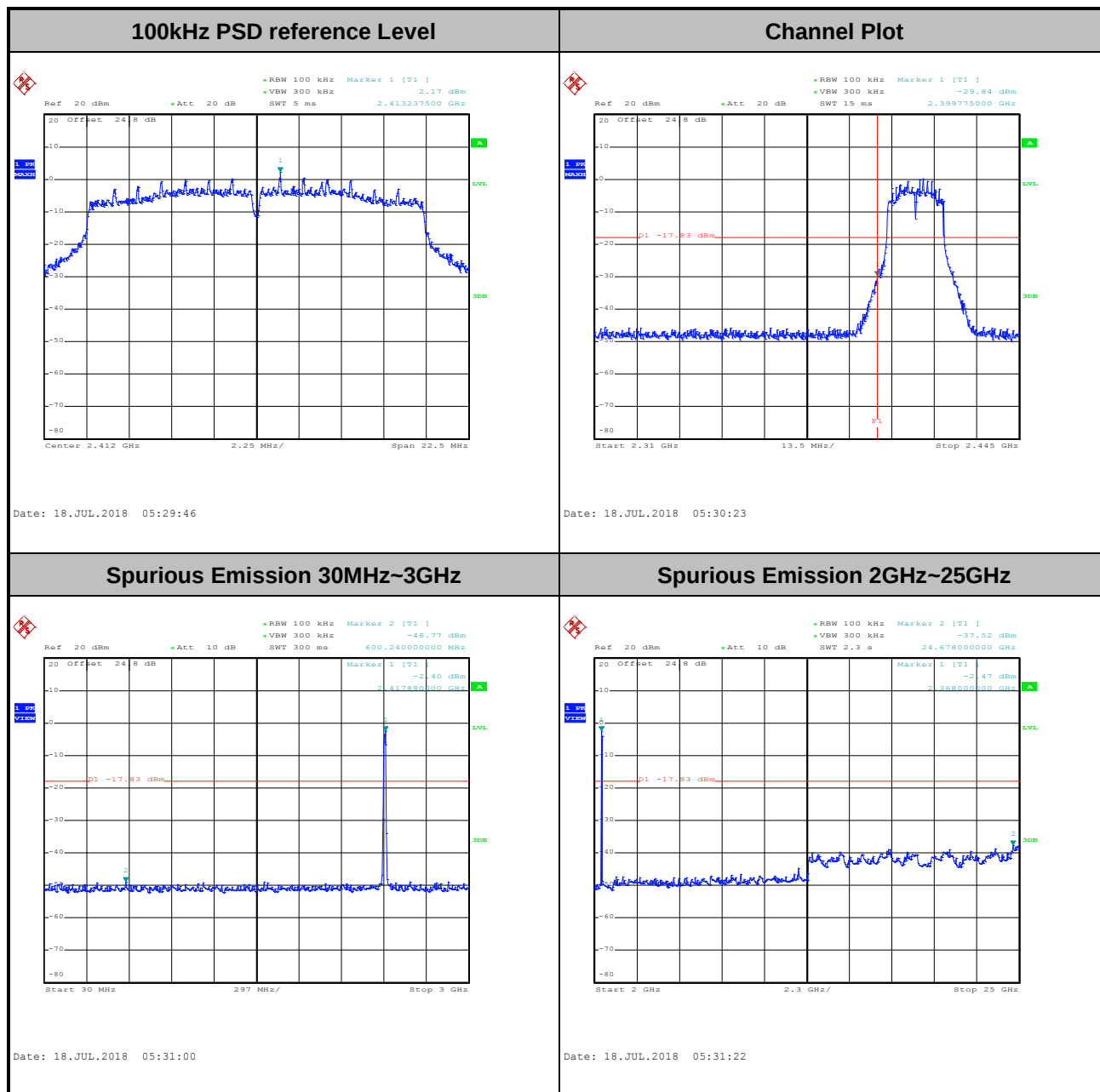
Test Mode :	802.11n HT40	Test Channel :	11
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Number of TX = 2, Ant. 2 (Measured)

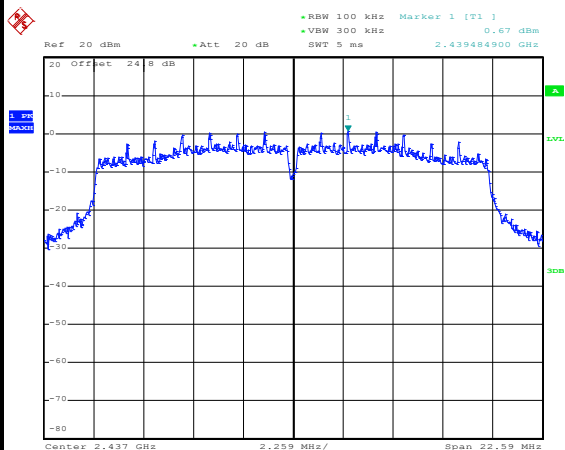
Test Mode :	802.11n HT20	Test Channel :	01
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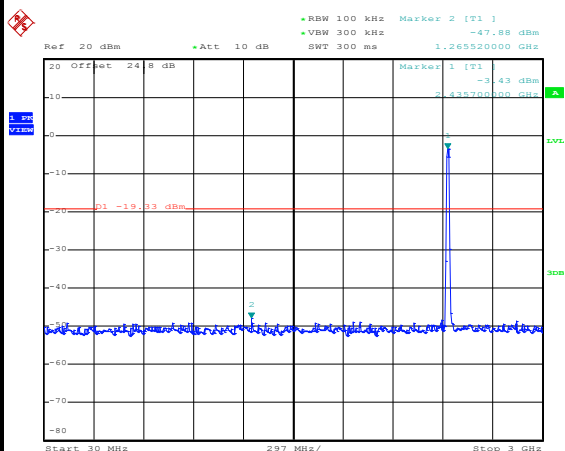
Test Mode :	802.11n HT20	Test Channel :	06
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100kHz PSD reference Level



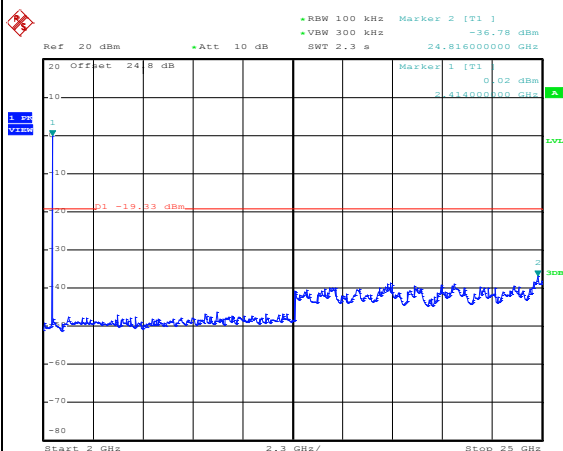
Date: 18.JUL.2018 05:39:09

Spurious Emission 30MHz~3GHz



Date: 18.JUL.2018 05:39:28

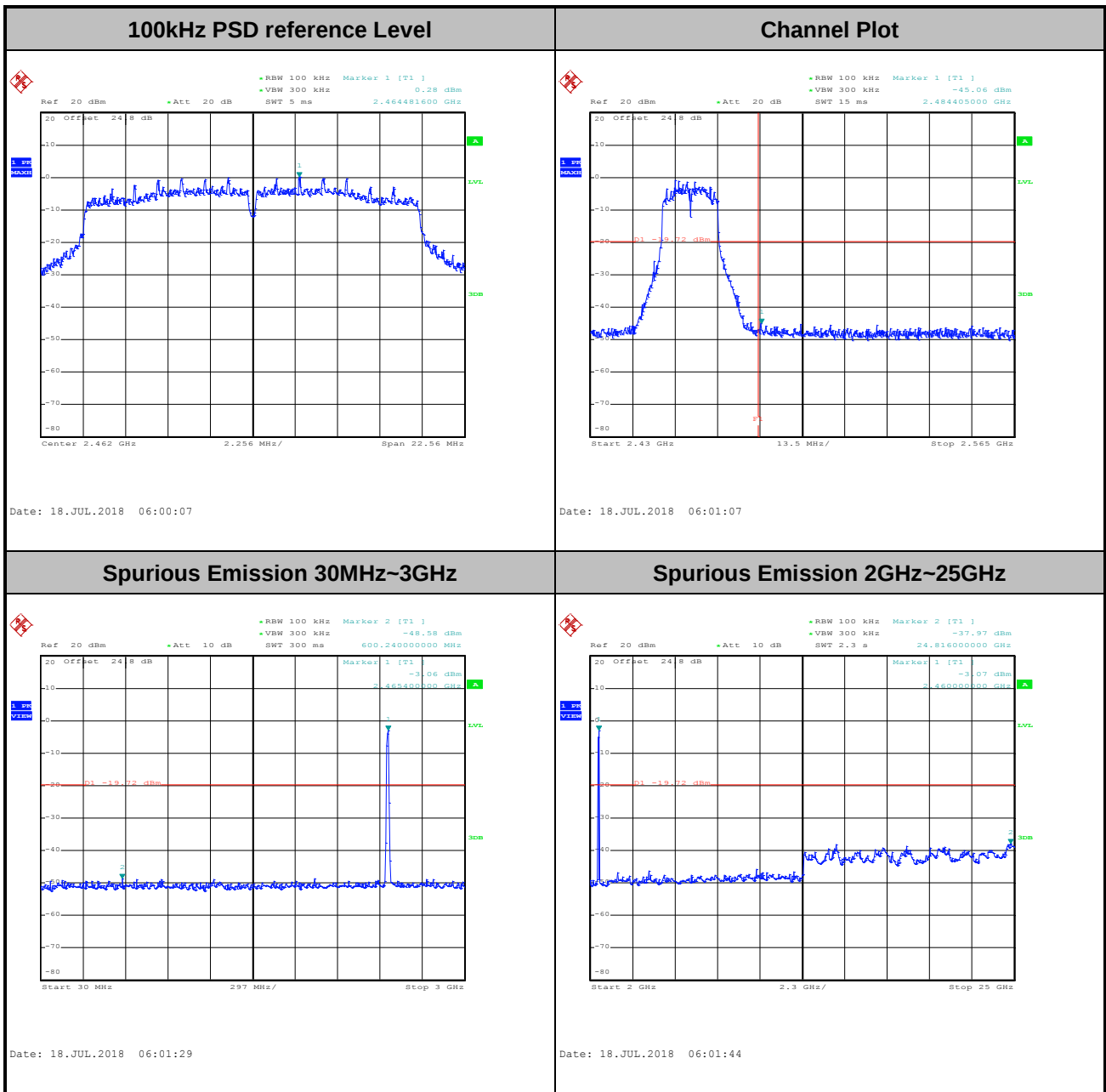
Spurious Emission 2GHz~25GHz



Date: 18.JUL.2018 05:39:43



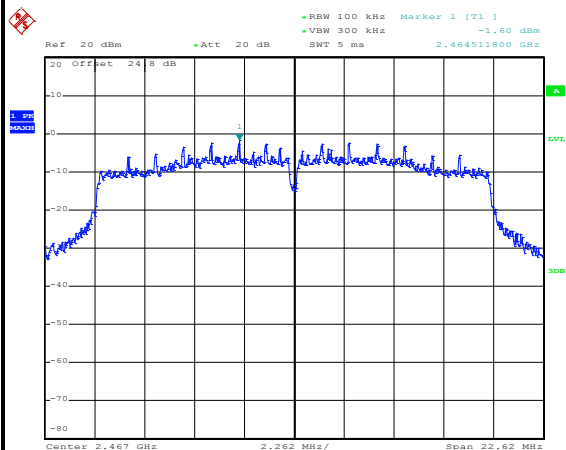
Test Mode :	802.11n HT20	Test Channel :	11
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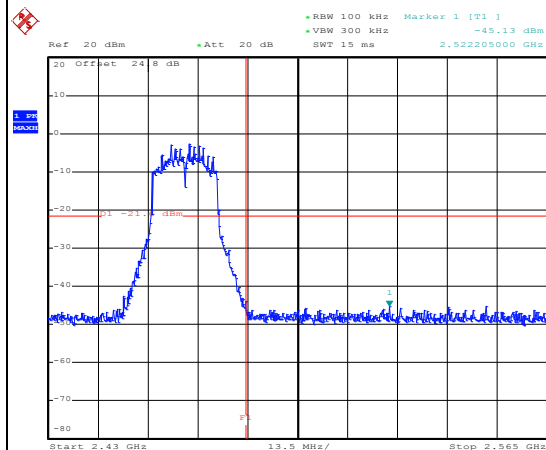
Test Mode :	802.11n HT20	Test Channel :	12
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100kHz PSD reference Level



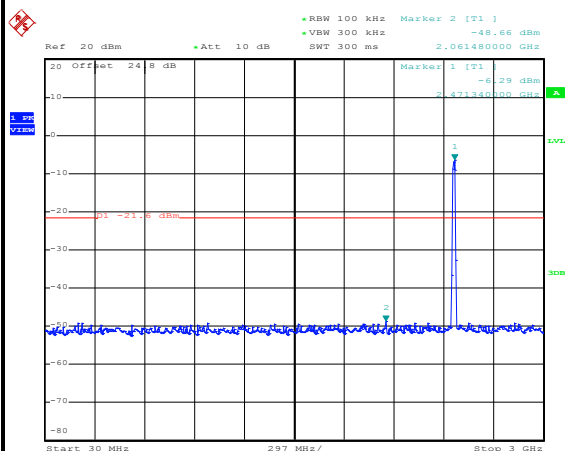
Date: 18.JUL.2018 06:06:37

Channel Plot



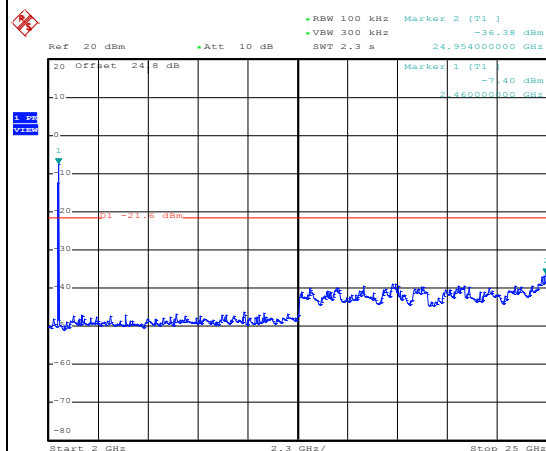
Date: 18.JUL.2018 06:07:10

Spurious Emission 30MHz~3GHz



Date: 18.JUL.2018 06:07:31

Spurious Emission 2GHz~25GHz

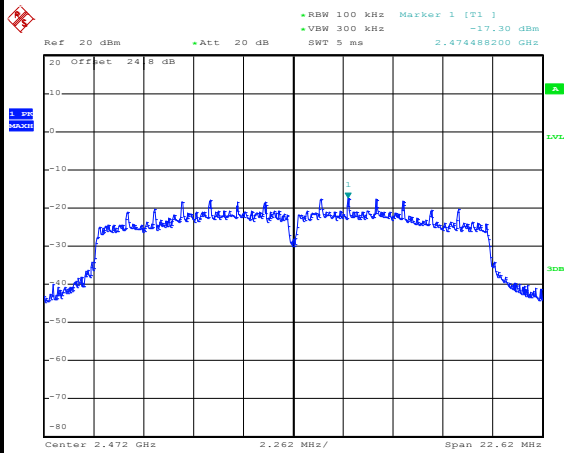


Date: 18.JUL.2018 06:07:48



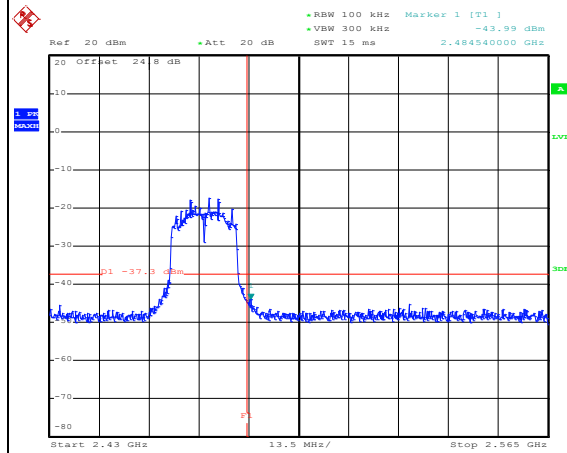
Test Mode :	802.11n HT20	Test Channel :	13
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100kHz PSD reference Level



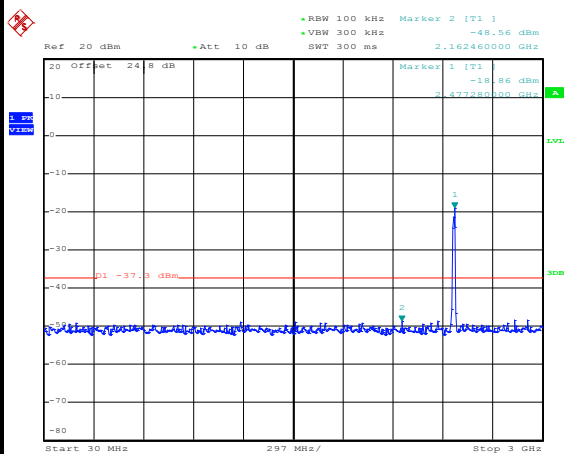
Date: 18.JUL.2018 06:15:54

Channel Plot



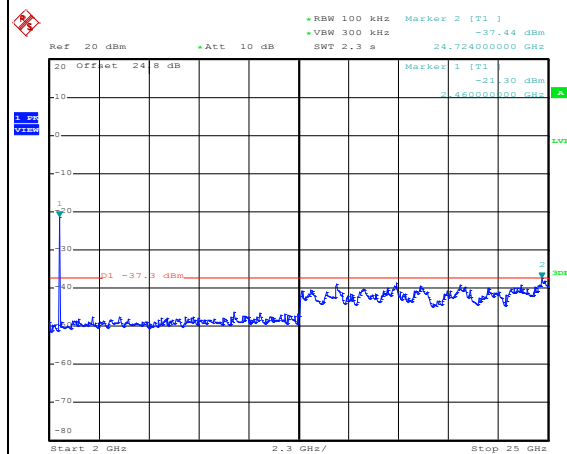
Date: 18.JUL.2018 06:16:38

Spurious Emission 30MHz~3GHz



Date: 18.JUL.2018 06:30:21

Spurious Emission 2GHz~25GHz

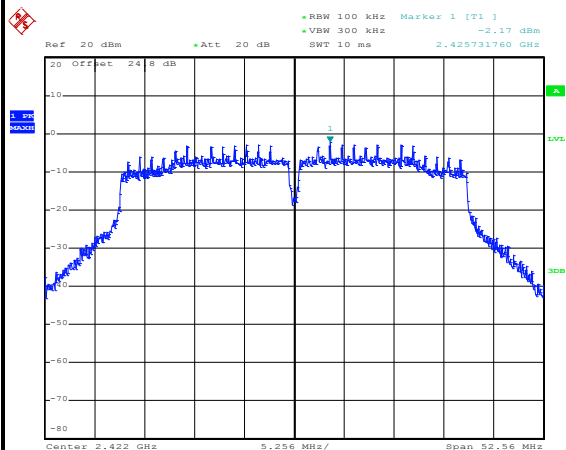


Date: 18.JUL.2018 06:30:44



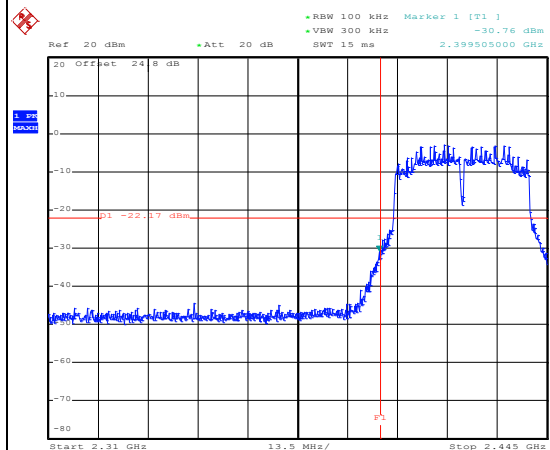
Test Mode :	802.11n HT40	Test Channel :	03
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100kHz PSD reference Level



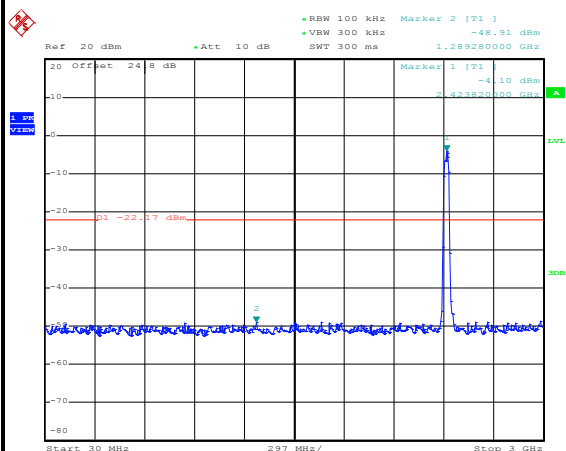
Date: 18.JUL.2018 06:39:19

Channel Plot



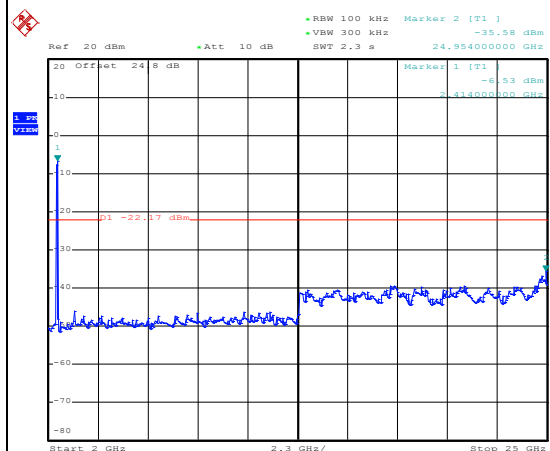
Date: 18.JUL.2018 06:39:49

Spurious Emission 30MHz~3GHz



Date: 18.JUL.2018 06:40:23

Spurious Emission 2GHz~25GHz

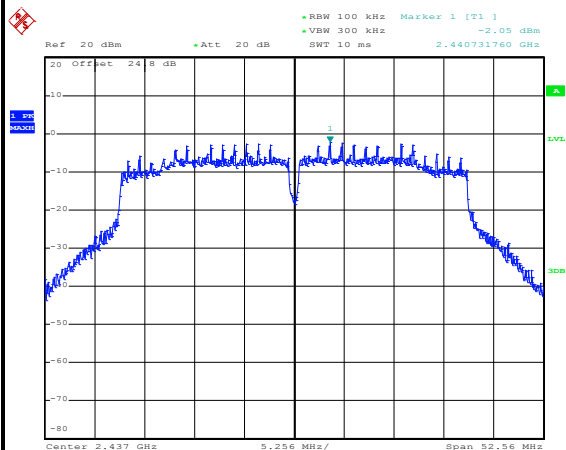


Date: 18.JUL.2018 06:41:13



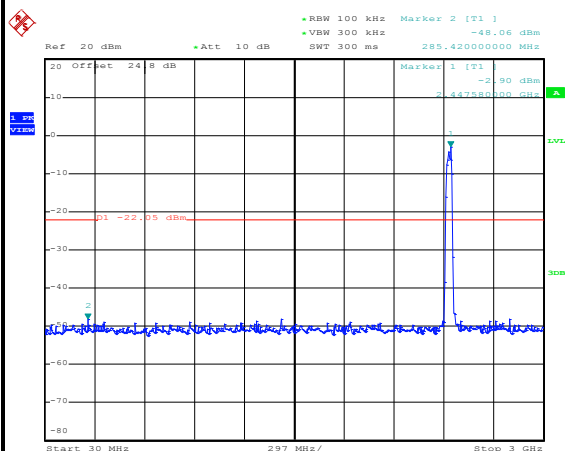
Test Mode :	802.11n HT40	Test Channel :	06
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100kHz PSD reference Level



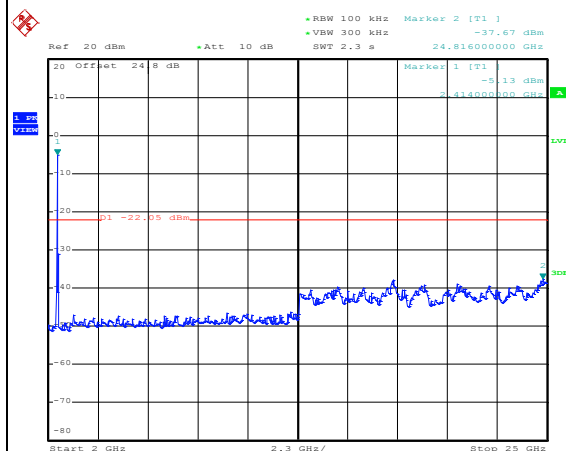
Date: 18.JUL.2018 06:49:32

Spurious Emission 30MHz~3GHz



Date: 18.JUL.2018 06:50:18

Spurious Emission 2GHz~25GHz

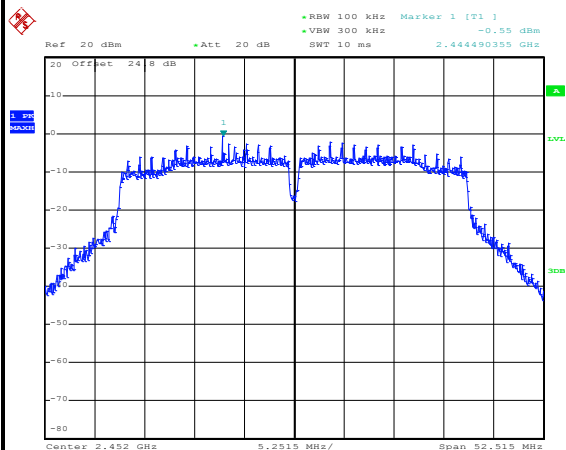


Date: 18.JUL.2018 06:50:40



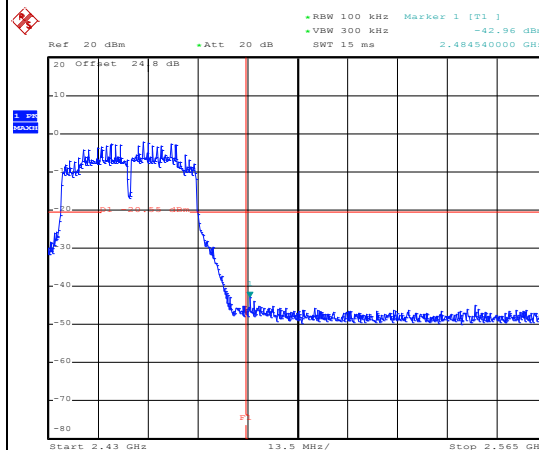
Test Mode :	802.11n HT40	Test Channel :	09
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100kHz PSD reference Level



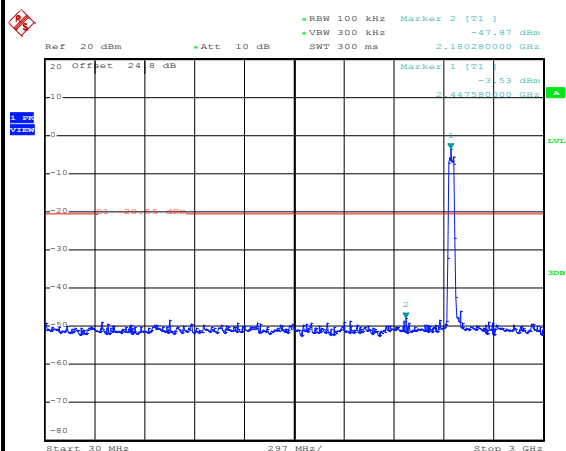
Date: 18.JUL.2018 07:01:27

Channel Plot



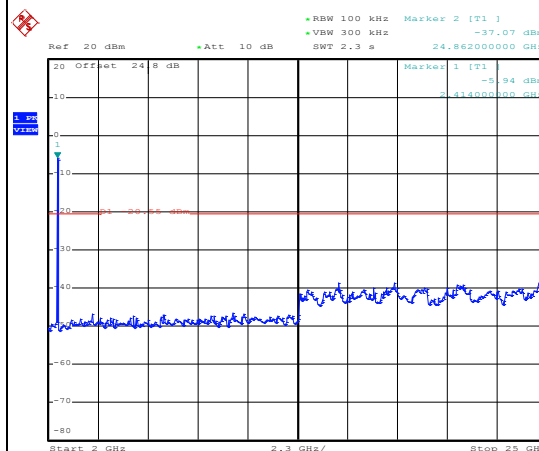
Date: 18.JUL.2018 07:02:34

Spurious Emission 30MHz~3GHz



Date: 18.JUL.2018 07:02:52

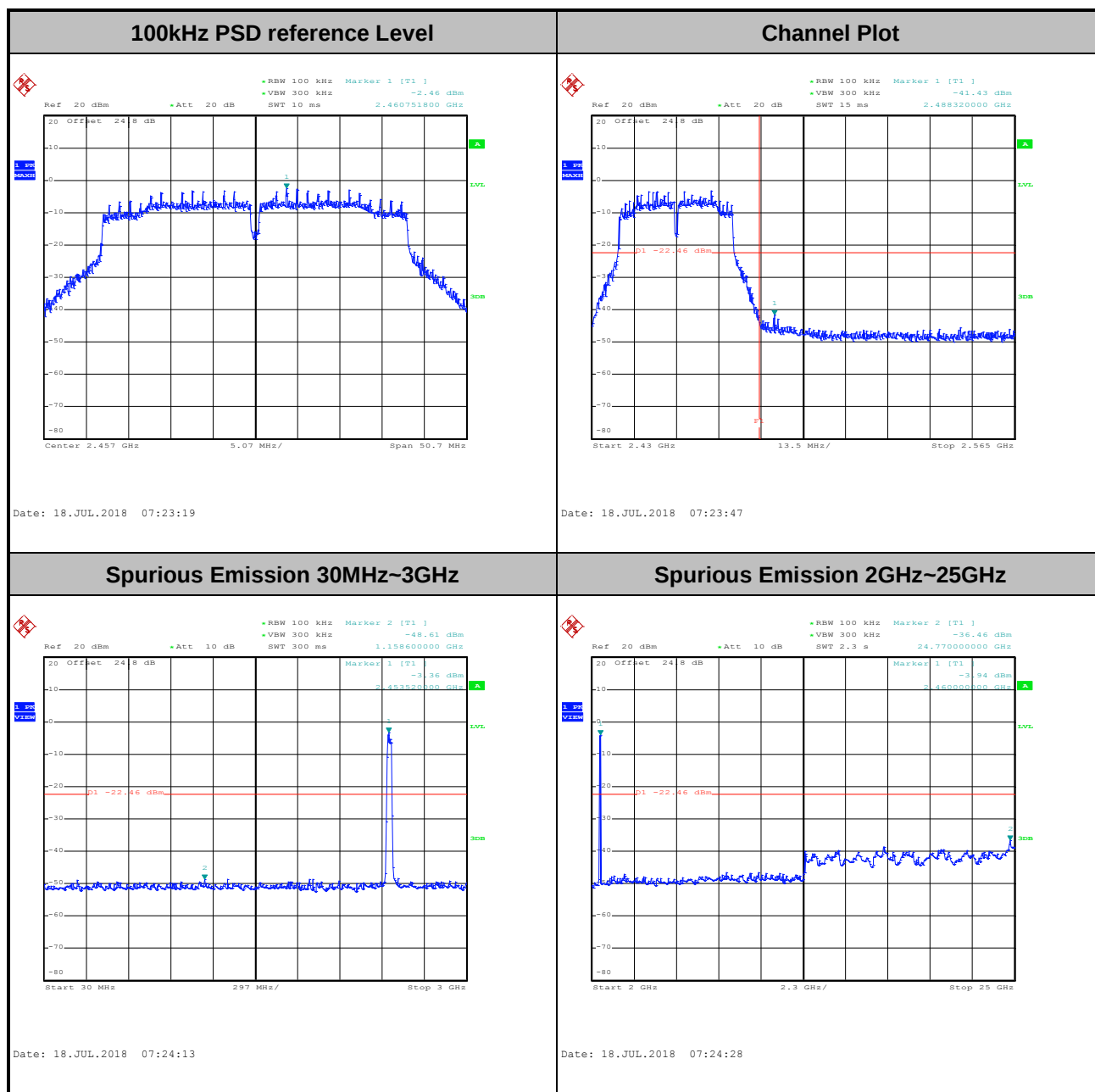
Spurious Emission 2GHz~25GHz



Date: 18.JUL.2018 07:03:08

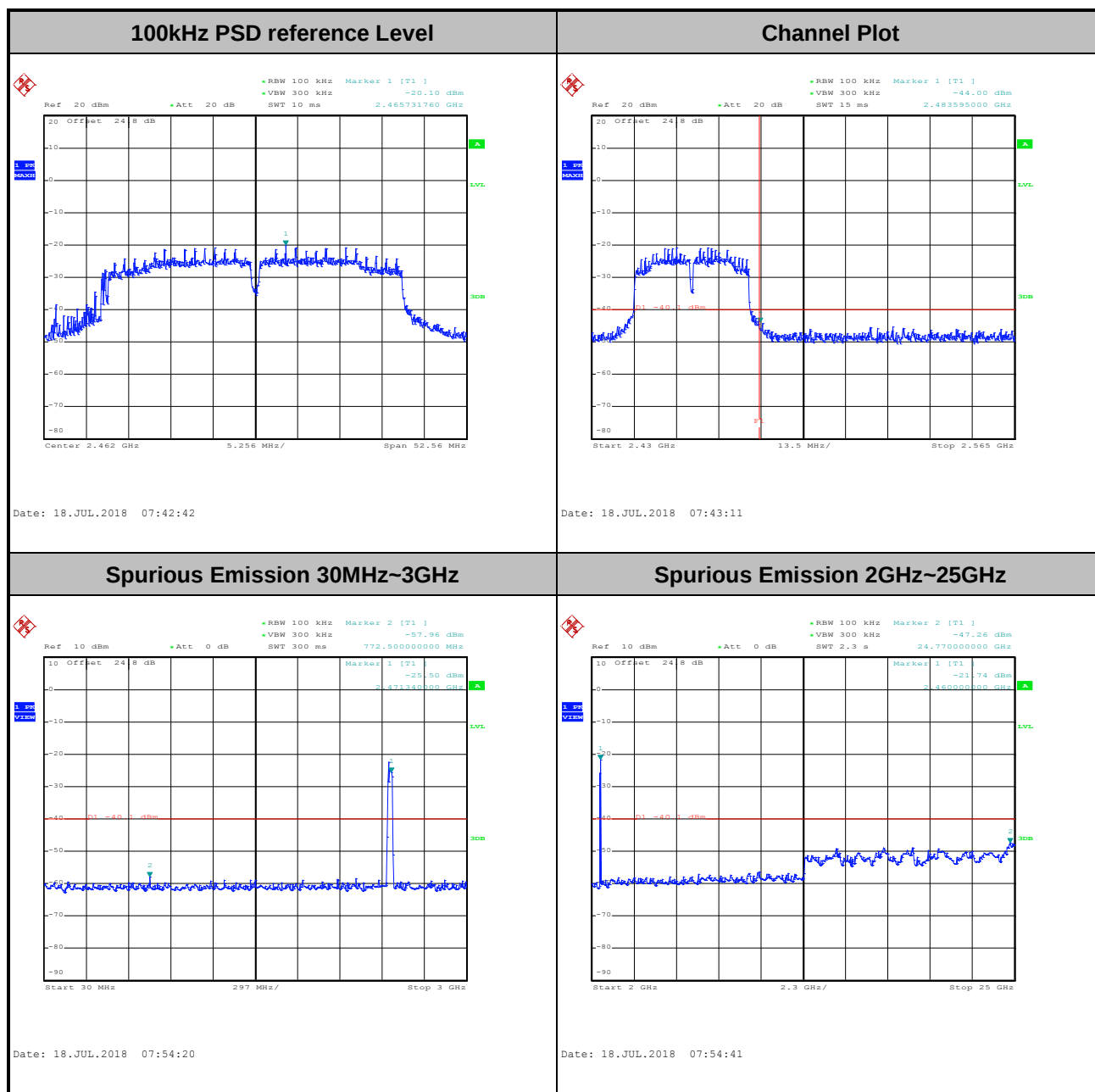


Test Mode :	802.11n HT40	Test Channel :	10
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Test Mode :	802.11n HT40	Test Channel :	11
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3.5 Radiated Band Edges and Spurious Emission Measurement

3.5.1 Limit of Radiated band edge and Spurious Emission Measurement

In any 100 kHz bandwidth outside the intentional radiator frequency band, all harmonics/spurious must be at least 20 dB below the highest emission level within the authorized band. If the output power of this device was measured by spectrum analyzer, the attenuation under this paragraph shall be 30 dB instead of 20 dB. In addition, radiated emissions which fall in the restricted bands must also comply with the limits as below.

Frequency (MHz)	Field Strength (microvolts/meter)	Measurement Distance (meters)
0.009 – 0.490	2400/F(kHz)	300
0.490 – 1.705	24000/F(kHz)	30
1.705 – 30.0	30	30
30 – 88	100	3
88 – 216	150	3
216 - 960	200	3
Above 960	500	3

3.5.2 Measuring Instruments

See list of measuring equipment of this test report.

3.5.3 Test Procedures

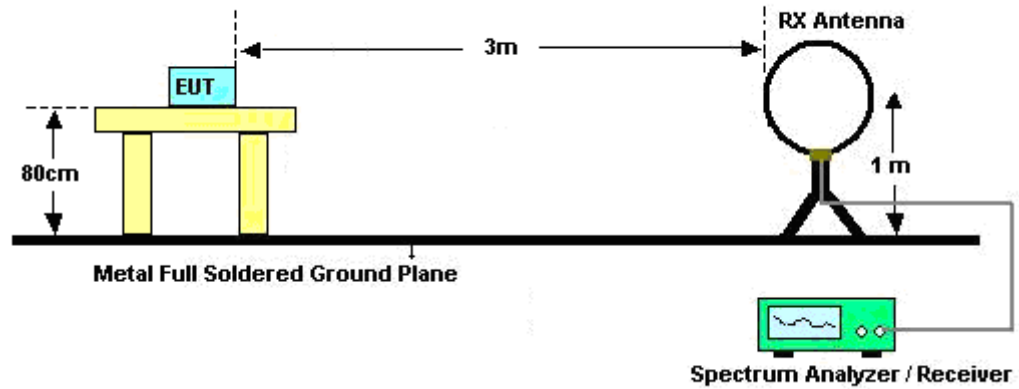
1. The testing follows FCC KDB Publication No. 558074 D01 DTS Meas. Guidance v04.
2. The EUT was arranged to its worst case and then tune the antenna tower (from 1 m to 4 m) and turntable (from 0 degree to 360 degrees) to find the maximum reading. A pre-amp and a high pass filter are used for the test in order to get better signal level.
3. The EUT was placed on a turntable with 0.8 meter for frequency below 1GHz and 1.5 meter for frequency above 1GHz respectively above ground.
4. The EUT was set 3 meters from the interference receiving antenna, which was mounted on the top of a variable height antenna tower.
5. Corrected Reading: Antenna Factor + Cable Loss + Read Level - Preamp Factor = Level
6. For testing below 1GHz, if the emission level of the EUT in peak mode was 3 dB lower than the limit specified, then peak values of EUT will be reported, otherwise, the emissions will be repeated one by one using the CISPR quasi-peak method and reported.
7. 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 peak values of EUT will be reported, otherwise, the emissions will be measured in average mode again and reported.
8. Use the following spectrum analyzer settings:
 - (1) Span shall wide enough to fully capture the emission being measured;
 - (2) Set RBW=100 kHz for $f < 1$ GHz; VBW $\geq$ RBW; Sweep = auto; Detector function = peak; Trace = max hold;
 - (3) Set RBW = 1 MHz, VBW= 3MHz for $f \geq 1$ GHz for peak measurement.

For average measurement:

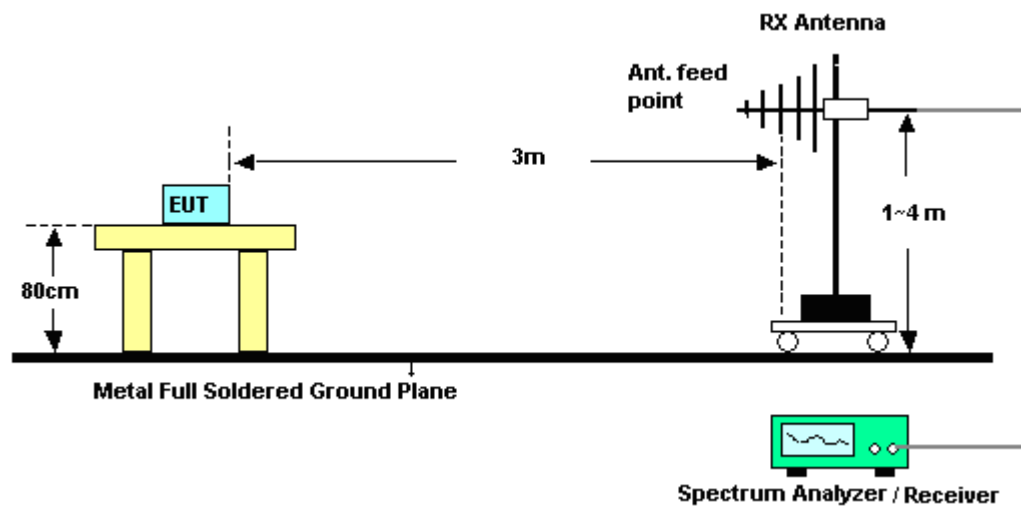
 - VBW = 10 Hz, when duty cycle is no less than 98 percent.
 - VBW $\geq 1/T$, when duty cycle is less than 98 percent where T is the minimum transmission duration over which the transmitter is on and is transmitting at its maximum power control level for the tested mode of operation.

3.5.4 Test Setup

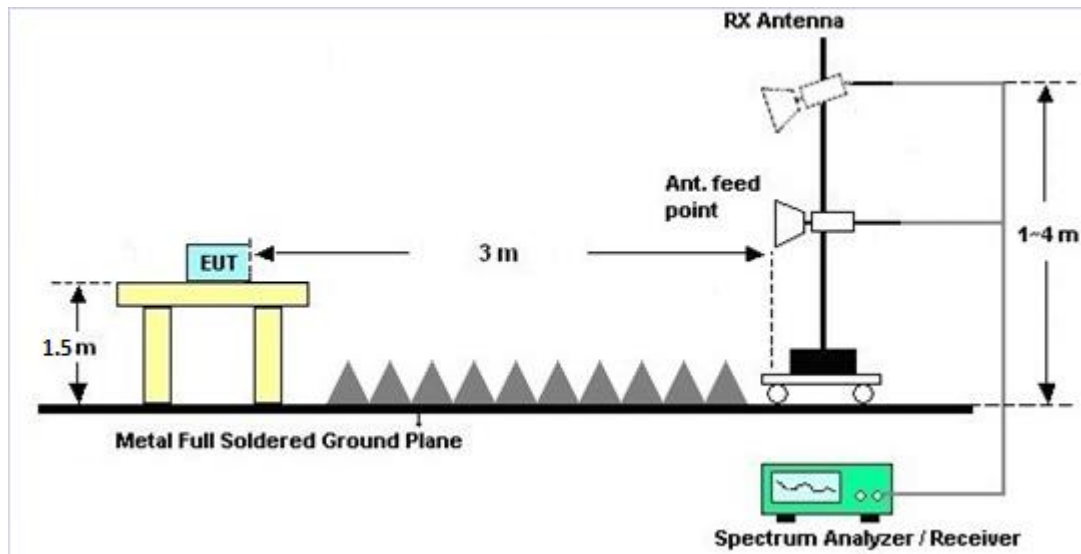
For radiated emissions below 30MHz



For radiated emissions from 30MHz to 1GHz



For radiated emissions above 1GHz



3.5.5 Test Results of Radiated Spurious Emissions (9kHz ~ 30MHz)

The low frequency, which started from 9 kHz to 30MHz, was pre-scanned and the result which was 20dB lower than the limit line was not reported.

There is a comparison data of both open-field test site and semi-Anechoic chamber, and the result came out very similar.

3.5.6 Test Result of Radiated Spurious at Band Edges

Please refer to Appendix C and D.

3.5.7 Duty Cycle

Please refer to Appendix E.

3.5.8 Test Result of Radiated Spurious Emission (30MHz ~ 10th Harmonic)

Please refer to Appendix C and D.

3.6 AC Conducted Emission Measurement

3.6.1 Limit of AC Conducted Emission

For equipment that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies within the band 150 kHz to 30 MHz shall not exceed the limits in the following table.

Frequency of Emission (MHz)	Conducted Limit (dB μ V)	
	Quasi-Peak	Average
0.15-0.5	66 to 56*	56 to 46*
0.5-5	56	46
5-30	60	50

*Decreases with the logarithm of the frequency.

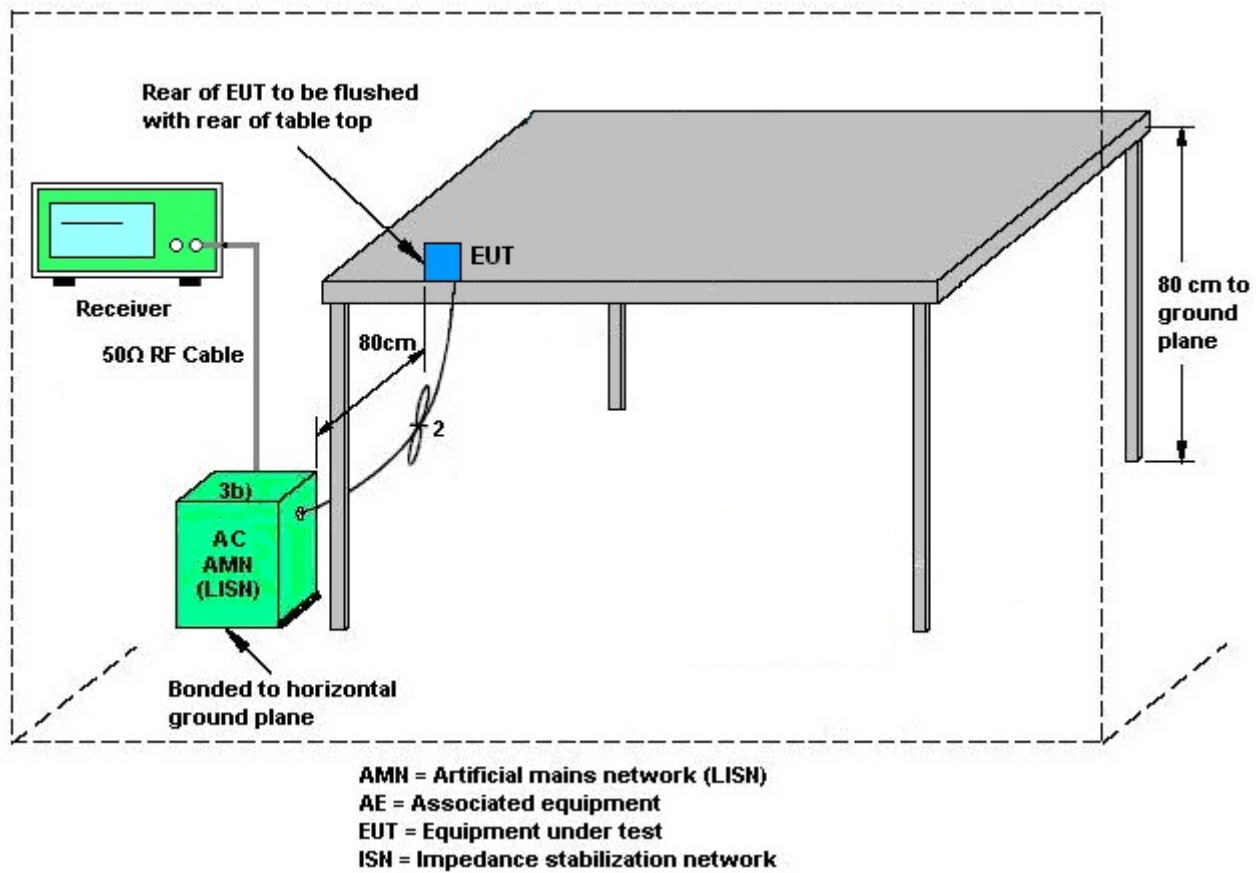
3.6.2 Measuring Instruments

See list of measuring equipment of this test report.

3.6.3 Test Procedures

1. The EUT was placed 0.4 meter from the conducting wall of the shielding room, and it was kept at least 80 centimeters from any other grounded conducting surface.
2. Connect EUT to the power mains through a line impedance stabilization network (LISN).
3. All the support units are connecting to the other LISN.
4. The LISN provides 50 ohm coupling impedance for the measuring instrument.
5. The FCC states that a 50 ohm, 50 microhenry LISN should be used.
6. Both sides of AC line were checked for maximum conducted interference.
7. The frequency range from 150 kHz to 30 MHz was searched.
8. Set the test-receiver system to Peak Detect Function and specified bandwidth (IF bandwidth = 9kHz) with Maximum Hold Mode.

3.6.4 Test Setup



3.6.5 Test Result of AC Conducted Emission

Please refer to Appendix B.

3.7 Antenna Requirements

3.7.1 Standard Applicable

If directional gain of transmitting Antennas is greater than 6dBi, the power shall be reduced by the same level in dB comparing to gain minus 6dBi. The use of a permanently attached Antenna or of an Antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the rule.

3.7.2 Antenna Anti-Replacement Construction

An embedded-in antenna design is used.

3.7.3 Antenna Gain

<CDD Modes >

FCC KDB 662911 D01 Multiple Transmitter Output v02r01

For CDD transmissions, directional gain is calculated as

Directional gain = G_{ANT} + Array Gain, where Array Gain is as follows.

For power spectral density (PSD) measurements on all devices,

Array Gain = $10 \log(N_{ANT}/N_{SS}=1)$ dB.

For power measurements on IEEE 802.11 devices,

Array Gain = 0 dB (i.e., no array gain) for $N_{ANT} \leq 4$.

Directional gain may be calculated by using the formulas applicable to equal gain antennas with G_{ANT} set equal to the gain of the antenna having the highest gain;

The EUT supports CDD mode.

For power, the directional gain G_{ANT} is set equal to the antenna having the highest gain, i.e., F)2)f)i).

For PSD, the directional gain calculation is following F)2)f)ii) of KDB 662911 D01 v02r01.

The power and PSD limit should be modified if the directional gain of EUT is over 6 dBi,

The directional gain "DG" is calculated as following table.

<CDD Modes>						
			DG for Power (dBi)	DG for PSD (dBi)	Power Limit Reduction (dB)	PSD Limit Reduction (dB)
	Ant. 1 (dBi)	Ant. 2 (dBi)				
2.4 GHz	2.75	2.54	2.75	5.66	0.00	0.00

Power Limit Reduction = $DG(\text{Power}) - 6\text{dBi}$, (min = 0)

PSD Limit Reduction = $DG(\text{PSD}) - 6\text{dBi}$, (min = 0)



4 List of Measuring Equipment

Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
Power Meter	Anritsu	ML2495A	1240001	N/A	Sep. 07, 2017	Jun. 14, 2018 ~ Jul. 21, 2018	Sep. 06, 2018	Conducted (TH05-HY)
Power Sensor	Anritsu	MA2411B	1207349	300MHz~40GHz	Sep. 07, 2017	Jun. 14, 2018 ~ Jul. 21, 2018	Sep. 06, 2018	Conducted (TH05-HY)
Spectrum Analyzer	Rohde & Schwarz	FSP40	100057	9kHz-40GHz	Nov. 21, 2017	Jun. 14, 2018 ~ Jul. 21, 2018	Nov. 20, 2018	Conducted (TH05-HY)
Switch Box & RF Cable	Burgeon	ETF-058	EC1300484	N/A	Mar. 01, 2018	Jun. 14, 2018 ~ Jul. 21, 2018	Feb. 28, 2019	Conducted (TH05-HY)
AC Power Source	ChainTek	APC-1000W	N/A	N/A	N/A	Jun. 27, 2018	N/A	Conduction (CO05-HY)
EMI Test Receiver	Rohde & Schwarz	ESR3	102388	3.6GHz	Dec. 08, 2017	Jun. 27, 2018	Dec. 07, 2018	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100080	9kHz~30MHz	Nov. 30, 2017	Jun. 27, 2018	Nov. 29, 2018	Conduction (CO05-HY)
LISN	Rohde & Schwarz	ENV216	100081	9kHz~30MHz	Dec. 08, 2017	Jun. 27, 2018	Dec. 07, 2018	Conduction (CO05-HY)
Software	Rohde & Schwarz	EMC32 V10.30	N/A	N/A	N/A	Jun. 27, 2018	N/A	Conduction (CO05-HY)
LF Cable	HUBER + SUHNER	RG-214/U	LF01	N/A	Jan. 03, 2018	Jun. 27, 2018	Jan. 02, 2019	Conduction (CO05-HY)
Pulse Limiter	Rohde & Schwarz	ESH3-Z2	100851	N/A	Jan. 03, 2018	Jun. 27, 2018	Jan. 02, 2019	Conduction (CO05-HY)
Loop Antenna	Rohde & Schwarz	HFH2-Z2	100488	9 kHz~30 MHz	Nov. 23, 2017	Jun. 24, 2018 ~ Jul. 18, 2018	Nov. 22, 2018	Radiation (03CH13-HY)
Bilog Antenna	TESEQ	CBL 6111D&00800 N1D01N-06	40103&07	30MHz to 1GHz	Jan. 10, 2018	Jun. 24, 2018 ~ Jul. 18, 2018	Jan. 09, 2019	Radiation (03CH13-HY)
Horn Antenna	SCHWARZBECK	BBHA 9120 D	9120D-1212	1GHz ~ 18GHz	May 10, 2018	Jun. 24, 2018 ~ Jul. 18, 2018	May 09, 2019	Radiation (03CH13-HY)
SHF-EHF Horn Antenna	SCHWARZBECK	BBHA 9170	BBHA9170251	18GHz- 40GHz	Nov. 10, 2017	Jun. 24, 2018 ~ Jul. 18, 2018	Nov. 09, 2018	Radiation (03CH13-HY)
Amplifier	Sonoma-Instrument	310 N	187282	9KHz~1GHz	Jan. 19, 2018	Jun. 24, 2018 ~ Jul. 18, 2018	Jan. 18, 2020	Radiation (03CH13-HY)
Preamplifier	Jet-Power	JPA0118-55-303	1710001800054001	1GHz~18GHz	Apr. 16, 2018	Jun. 24, 2018 ~ Jul. 18, 2018	Apr. 15, 2019	Radiation (03CH13-HY)
Preamplifier	Keysight	83017A	MY53270147	1GHz~26.5GHz	Feb. 02, 2018	Jun. 24, 2018 ~ Jul. 18, 2018	Feb. 01, 2019	Radiation (03CH13-HY)
Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz, VSWR : 2.5:1 max	Jul. 18, 2017	Jun. 24, 2018 ~ Jul. 16, 2018	Jul. 17, 2018	Radiation (03CH13-HY)
Amplifier	MITEQ	TTA1840-35-HG	1871923	18GHz~40GHz, VSWR : 2.5:1 max	Jul. 16, 2018	Jul. 16, 2018 ~ Jul. 18, 2018	Jul. 15, 2019	Radiation (03CH13-HY)
EMI Test Receiver	Agilent	N9038A(MXE)	MY53290053	20Hz to 26.5GHz	Jan. 16, 2018	Jun. 24, 2018 ~ Jul. 18, 2018	Jan. 15, 2019	Radiation (03CH13-HY)
Spectrum Analyzer	Keysight	N9010A	MY55370526	10Hz~44GHz	Mar. 15, 2018	Jun. 24, 2018 ~ Jul. 18, 2018	Mar. 14, 2019	Radiation (03CH13-HY)
Antenna Mast	EMEC	AM-BS-4500-B	N/A	1m~4m	N/A	Jun. 24, 2018 ~ Jul. 18, 2018	N/A	Radiation (03CH13-HY)
Turn Table	EMEC	TT2000	N/A	0~360 Degree	N/A	Jun. 24, 2018 ~ Jul. 18, 2018	N/A	Radiation (03CH13-HY)
Filter	Wainwright	WLK4-1000-1530-8000-40SS	SN12	1GHz Low Pass Filter	Oct. 18, 2017	Jun. 24, 2018 ~ Jul. 18, 2018	Oct. 17, 2018	Radiation (03CH13-HY)
Filter	Wainwright	WHKX12-2700-3000-18000-60SS	SN2	3G High Pass	Sep. 18, 2017	Jun. 24, 2018 ~ Jul. 18, 2018	Sep. 17, 2018	Radiation (03CH13-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 126E	0030/126E	30M-18G	Jan. 22, 2018	Jun. 24, 2018 ~ Jul. 18, 2018	Jan. 21, 2019	Radiation (03CH13-HY)



Instrument	Manufacturer	Model No.	Serial No.	Characteristics	Calibration Date	Test Date	Due Date	Remark
RF Cable	HUBER + SUHNER	SUCOFLEX 104	335041/4	30M-18G	Jan. 22, 2018	Jun. 24, 2018 ~ Jul. 18, 2018	Jan. 21, 2019	Radiation (03CH13-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 104	MY24961/4	30M~18GHz	Jan. 22, 2018	Jun. 24, 2018 ~ Jul. 18, 2018	Jan. 21, 2019	Radiation (03CH13-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	505134/2	30M~40GHz	Oct. 17, 2017	Jun. 24, 2018 ~ Jul. 18, 2018	Oct. 16, 2018	Radiation (03CH13-HY)
RF Cable	HUBER + SUHNER	SUCOFLEX 102	800740/2	30M~40GHz	Oct. 17, 2017	Jun. 24, 2018 ~ Jul. 18, 2018	Oct. 16, 2018	Radiation (03CH13-HY)
Software	AUDIX	E3 6.2009-8-24c	RK-001124	N/A	N/A	Jun. 24, 2018 ~ Jul. 18, 2018	N/A	Radiation (03CH13-HY)

5 Uncertainty of Evaluation

Uncertainty of Conducted Emission Measurement (150 kHz ~ 30 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	2.7
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Uncertainty of Radiated Emission Measurement (30 MHz ~ 1000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.9
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Uncertainty of Radiated Emission Measurement (1000 MHz ~ 18000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	5.4
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Uncertainty of Radiated Emission Measurement (18000 MHz ~ 40000 MHz)

Measuring Uncertainty for a Level of Confidence of 95% ($U = 2Uc(y)$)	4.3
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Appendix A. Test Result of Conducted Test Items

Test Engineer:	Lena Lo/Shiang Wang	Temperature:	21~25	°C
Test Date:	2018/6/14~2018/07/19	Relative Humidity:	51~54	%

TEST RESULTS DATA
6dB and 99% Occupied Bandwidth

2.4GHz Band										
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	99% Occupied BW (MHz)		6dB BW (MHz)		6dB BW Limit (MHz)	Pass/Fail
					Ant 1	Ant 2	Ant 1	Ant 2		
11b	1Mbps	1	1	2412	13.65	13.50	10.00	10.08	0.50	Pass
11b	1Mbps	1	6	2437	13.75	13.60	10.08	10.08	0.50	Pass
11b	1Mbps	1	11	2462	13.70	13.55	10.08	9.72	0.50	Pass
11b	1Mbps	1	12	2467	13.55	13.75	10.08	10.04	0.50	Pass
11b	1Mbps	1	13	2472	13.85	13.90	10.00	10.08	0.50	Pass
11g	6Mbps	1	1	2412	16.65	16.70	15.36	15.08	0.50	Pass
11g	6Mbps	1	6	2437	16.70	16.60	15.28	15.08	0.50	Pass
11g	6Mbps	1	11	2462	16.60	16.65	15.06	15.08	0.50	Pass
11g	6Mbps	1	12	2467	16.75	16.70	14.34	15.08	0.50	Pass
11g	6Mbps	1	13	2472	16.65	16.75	15.04	15.08	0.50	Pass
HT20	MCS0	1	1	2412	17.85	17.75	15.04	15.04	0.50	Pass
HT20	MCS0	1	6	2437	17.80	17.80	15.12	15.92	0.50	Pass
HT20	MCS0	1	11	2462	17.85	17.85	15.12	15.00	0.50	Pass
HT20	MCS0	1	12	2467	17.85	17.80	15.08	15.10	0.50	Pass
HT20	MCS0	1	13	2472	18.00	17.90	15.04	15.08	0.50	Pass
HT40	MCS0	1	3	2422	36.40	36.40	35.02	35.04	0.50	Pass
HT40	MCS0	1	6	2437	36.40	36.30	33.84	35.04	0.50	Pass
HT40	MCS0	1	9	2452	36.40	36.30	35.04	35.04	0.50	Pass
HT40	MCS0	1	10	2457	36.40	36.30	35.04	33.84	0.50	Pass
HT40	MCS0	1	11	2462	36.40	36.70	35.04	35.01	0.50	Pass
HT20	MCS0	2	1	2412	17.80	17.80	15.68	15.00	0.50	Pass
HT20	MCS0	2	6	2437	17.85	17.75	15.04	15.06	0.50	Pass
HT20	MCS0	2	11	2462	17.75	17.80	15.04	15.04	0.50	Pass
HT20	MCS0	2	12	2467	17.80	17.80	15.04	15.08	0.50	Pass
HT20	MCS0	2	13	2472	18.00	18.10	15.02	15.08	0.50	Pass
HT40	MCS0	2	3	2422	36.40	36.30	35.04	35.04	0.50	Pass
HT40	MCS0	2	6	2437	36.50	36.50	34.99	35.04	0.50	Pass
HT40	MCS0	2	9	2452	36.40	36.50	35.04	35.01	0.50	Pass
HT40	MCS0	2	10	2457	36.40	36.40	35.04	33.80	0.50	Pass
HT40	MCS0	2	11	2462	36.40	37.10	35.04	35.04	0.50	Pass

TEST RESULTS DATA
Peak Output Power

2.4GHz Band																
Mod.	Data Rate	Ntx	CH.	Freq. (MHz)	Peak Conducted Power (dBm)			Conducted Power Limit (dBm)		DG (dBi)		EIRP Power (dBm)		EIRP Power Limit (dBm)		Pass /Fail
					Ant 1	Ant 2	SUM	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	Ant 1	Ant 2	
11b	1Mbps	1	1	2412	18.54	17.71	-	30.00	30.00	2.75	2.54	21.29	20.25	36.00	36.00	Pass
11b	1Mbps	1	6	2437	18.52	17.54	-	30.00	30.00	2.75	2.54	21.27	20.08	36.00	36.00	Pass
11b	1Mbps	1	11	2462	18.48	17.62	-	30.00	30.00	2.75	2.54	21.23	20.16	36.00	36.00	Pass
11b	1Mbps	1	12	2467	18.26	17.06	-	30.00	30.00	2.75	2.54	21.01	19.60	36.00	36.00	Pass
11b	1Mbps	1	13	2472	14.99	11.17	-	30.00	30.00	2.75	2.54	17.74	13.71	36.00	36.00	Pass
11g	6Mbps	1	1	2412	22.13	19.85	-	30.00	30.00	2.75	2.54	24.88	22.39	36.00	36.00	Pass
11g	6Mbps	1	6	2437	22.29	20.20	-	30.00	30.00	2.75	2.54	25.04	22.74	36.00	36.00	Pass
11g	6Mbps	1	11	2462	22.97	20.27	-	30.00	30.00	2.75	2.54	25.72	22.81	36.00	36.00	Pass
11g	6Mbps	1	12	2467	20.61	17.28	-	30.00	30.00	2.75	2.54	23.36	19.82	36.00	36.00	Pass
11g	6Mbps	1	13	2472	9.38	5.55	-	30.00	30.00	2.75	2.54	12.13	8.09	36.00	36.00	Pass
HT20	MCS0	1	1	2412	22.15	20.30	-	30.00	30.00	2.75	2.54	24.90	22.84	36.00	36.00	Pass
HT20	MCS0	1	6	2437	22.82	20.22	-	30.00	30.00	2.75	2.54	25.57	22.76	36.00	36.00	Pass
HT20	MCS0	1	11	2462	22.99	20.32	-	30.00	30.00	2.75	2.54	25.74	22.86	36.00	36.00	Pass
HT20	MCS0	1	12	2467	20.55	16.95	-	30.00	30.00	2.75	2.54	23.30	19.49	36.00	36.00	Pass
HT20	MCS0	1	13	2472	8.70	5.52	-	30.00	30.00	2.75	2.54	11.45	8.06	36.00	36.00	Pass
HT40	MCS0	1	3	2422	21.81	19.53	-	30.00	30.00	2.75	2.54	24.56	22.07	36.00	36.00	Pass
HT40	MCS0	1	6	2437	21.95	19.49	-	30.00	30.00	2.75	2.54	24.70	22.03	36.00	36.00	Pass
HT40	MCS0	1	9	2452	22.33	19.21	-	30.00	30.00	2.75	2.54	25.08	21.75	36.00	36.00	Pass
HT40	MCS0	1	10	2457	19.42	15.15	-	30.00	30.00	2.75	2.54	22.17	17.69	36.00	36.00	Pass
HT40	MCS0	1	11	2462	7.24	3.83	-	30.00	30.00	2.75	2.54	9.99	6.37	36.00	36.00	Pass
HT20	MCS0	2	1	2412	19.55	16.28	21.23	30.00		2.75		23.98		36.00		Pass
HT20	MCS0	2	6	2437	20.16	16.93	21.85	30.00		2.75		24.60		36.00		Pass
HT20	MCS0	2	11	2462	20.32	16.39	21.80	30.00		2.75		24.55		36.00		Pass
HT20	MCS0	2	12	2467	17.56	13.50	19.00	30.00		2.75		21.75		36.00		Pass
HT20	MCS0	2	13	2472	6.95	3.87	8.69	30.00		2.75		11.44		36.00		Pass
HT40	MCS0	2	3	2422	19.12	15.33	20.64	30.00		2.75		23.39		36.00		Pass
HT40	MCS0	2	6	2437	19.32	15.44	20.81	30.00		2.75		23.56		36.00		Pass
HT40	MCS0	2	9	2452	19.56	15.42	20.98	30.00		2.75		23.73		36.00		Pass
HT40	MCS0	2	10	2457	18.42	13.95	19.75	30.00		2.75		22.50		36.00		Pass
HT40	MCS0	2	11	2462	6.48	2.80	8.03	30.00		2.75		10.78		36.00		Pass

Note: Measured power (dBm) has offset with cable loss.

TEST RESULTS DATA
Average Output Power
(Reporting Only)

2.4GHz Band									
Mod.	Data Rate	N _{TX}	CH.	Freq. (MHz)	Duty Factor (dB)		Average Conducted Power (dBm)		
					Ant 1	Ant 2	Ant 1	Ant 2	SUM
11b	1Mbps	1	1	2412	0.04	0.05	15.18	14.92	
11b	1Mbps	1	6	2437	0.04	0.05	14.85	14.69	
11b	1Mbps	1	11	2462	0.04	0.05	14.62	14.81	
11b	1Mbps	1	12	2467	0.04	0.05	14.50	14.72	
11b	1Mbps	1	13	2472	0.04	0.05	11.32	8.06	
11g	6Mbps	1	1	2412	0.04	0.06	16.92	14.51	
11g	6Mbps	1	6	2437	0.04	0.06	17.24	14.58	
11g	6Mbps	1	11	2462	0.04	0.06	17.85	14.69	
11g	6Mbps	1	12	2467	0.04	0.06	15.54	12.01	
11g	6Mbps	1	13	2472	0.04	0.06	3.28	-2.58	
HT20	MCS0	1	1	2412	0.07	0.07	16.94	14.81	
HT20	MCS0	1	6	2437	0.07	0.07	17.60	14.59	
HT20	MCS0	1	11	2462	0.07	0.07	17.86	14.70	
HT20	MCS0	1	12	2467	0.07	0.07	15.42	11.71	
HT20	MCS0	1	13	2472	0.07	0.07	2.48	-3.42	
HT40	MCS0	1	3	2422	0.14	0.14	17.59	14.95	
HT40	MCS0	1	6	2437	0.14	0.14	17.69	14.99	
HT40	MCS0	1	9	2452	0.14	0.14	17.99	14.68	
HT40	MCS0	1	10	2457	0.14	0.14	15.33	11.82	
HT40	MCS0	1	11	2462	0.14	0.14	2.24	-3.97	
HT20	MCS0	2	1	2412	0.07	0.07	14.17	11.44	16.03
HT20	MCS0	2	6	2437	0.07	0.07	14.81	11.67	16.53
HT20	MCS0	2	11	2462	0.07	0.07	14.93	10.98	16.40
HT20	MCS0	2	12	2467	0.07	0.07	11.96	7.98	13.42
HT20	MCS0	2	13	2472	0.07	0.07	0.64	-6.54	1.40
HT40	MCS0	2	3	2422	0.18	0.18	14.91	11.53	16.55
HT40	MCS0	2	6	2437	0.18	0.18	14.99	11.66	16.65
HT40	MCS0	2	9	2452	0.18	0.18	15.15	11.67	16.76
HT40	MCS0	2	10	2457	0.18	0.18	13.71	10.35	15.36
HT40	MCS0	2	11	2462	0.18	0.18	1.29	-6.59	1.95

Note: Measured power (dBm) has offset with cable loss.

TEST RESULTS DATA
Peak Power Spectral Density

2.4GHz Band												
Mod.	Data Rate	NTx	CH.	Freq. (MHz)	Peak PSD (dBm/3kHz)			DG (dBi)		Peak PSD Limit (dBm/3kHz)		Pass/Fail
					Ant 1	Ant 2	Worse + 3.01	Ant 1	Ant 2	Ant 1	Ant 2	
11b	1Mbps	1	1	2412	-8.43	-9.20	-	2.75	2.54	8.00	8.00	Pass
11b	1Mbps	1	6	2437	-8.42	-8.98	-	2.75	2.54	8.00	8.00	Pass
11b	1Mbps	1	11	2462	-9.89	-8.77	-	2.75	2.54	8.00	8.00	Pass
11b	1Mbps	1	12	2467	-8.60	-8.90	-	2.75	2.54	8.00	8.00	Pass
11b	1Mbps	1	13	2472	-12.25	-15.45	-	2.75	2.54	8.00	8.00	Pass
11g	6Mbps	1	1	2412	-8.73	-10.44	-	2.75	2.54	8.00	8.00	Pass
11g	6Mbps	1	6	2437	-9.36	-11.18	-	2.75	2.54	8.00	8.00	Pass
11g	6Mbps	1	11	2462	-7.40	-10.84	-	2.75	2.54	8.00	8.00	Pass
11g	6Mbps	1	12	2467	-10.41	-13.42	-	2.75	2.54	8.00	8.00	Pass
11g	6Mbps	1	13	2472	-21.72	-26.56	-	2.75	2.54	8.00	8.00	Pass
HT20	MCS0	1	1	2412	-9.00	-11.07	-	2.75	2.54	8.00	8.00	Pass
HT20	MCS0	1	6	2437	-6.38	-9.50	-	2.75	2.54	8.00	8.00	Pass
HT20	MCS0	1	11	2462	-6.56	-11.82	-	2.75	2.54	8.00	8.00	Pass
HT20	MCS0	1	12	2467	-9.98	-13.61	-	2.75	2.54	8.00	8.00	Pass
HT20	MCS0	1	13	2472	-21.69	-28.85	-	2.75	2.54	8.00	8.00	Pass
HT40	MCS0	1	3	2422	-11.19	-14.36	-	2.75	2.54	8.00	8.00	Pass
HT40	MCS0	1	6	2437	-11.57	-14.30	-	2.75	2.54	8.00	8.00	Pass
HT40	MCS0	1	9	2452	-11.12	-14.05	-	2.75	2.54	8.00	8.00	Pass
HT40	MCS0	1	10	2457	-13.64	-17.27	-	2.75	2.54	8.00	8.00	Pass
HT40	MCS0	1	11	2462	-25.59	-31.78	-	2.75	2.54	8.00	8.00	Pass
HT20	MCS0	2	1	2412	-11.59	-13.67	-8.58	5.66		8.00		Pass
HT20	MCS0	2	6	2437	-10.55	-13.27	-7.54	5.66		8.00		Pass
HT20	MCS0	2	11	2462	-10.83	-14.10	-7.82	5.66		8.00		Pass
HT20	MCS0	2	12	2467	-11.98	-18.02	-8.97	5.66		8.00		Pass
HT20	MCS0	2	13	2472	-25.89	-31.98	-22.88	5.66		8.00		Pass
HT40	MCS0	2	3	2422	-12.84	-17.77	-9.83	5.66		8.00		Pass
HT40	MCS0	2	6	2437	-12.90	-17.24	-9.89	5.66		8.00		Pass
HT40	MCS0	2	9	2452	-13.51	-16.97	-10.50	5.66		8.00		Pass
HT40	MCS0	2	10	2457	-14.30	-16.97	-11.29	5.66		8.00		Pass
HT40	MCS0	2	11	2462	-28.59	-35.43	-25.58	5.66		8.00		Pass

Measured power density (dBm) has offset with cable loss.



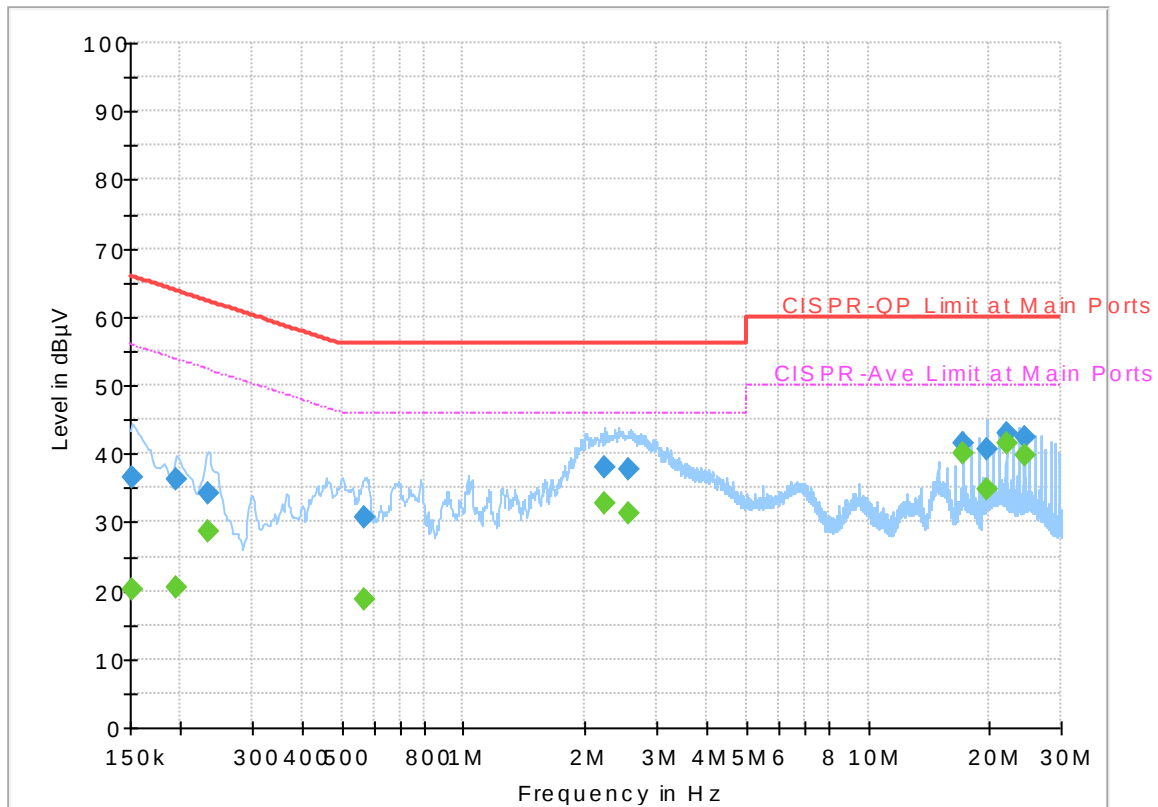
Appendix B. AC Conducted Emission Test Results

Test Engineer :	Arthur Hsieh	Temperature :	21~25℃
		Relative Humidity :	51~55%

EUT Information

Report NO : 372342-17
 Test Mode : Mode 1
 Test Voltage : 120Vac/60Hz
 Phase : Line

Full Spectrum



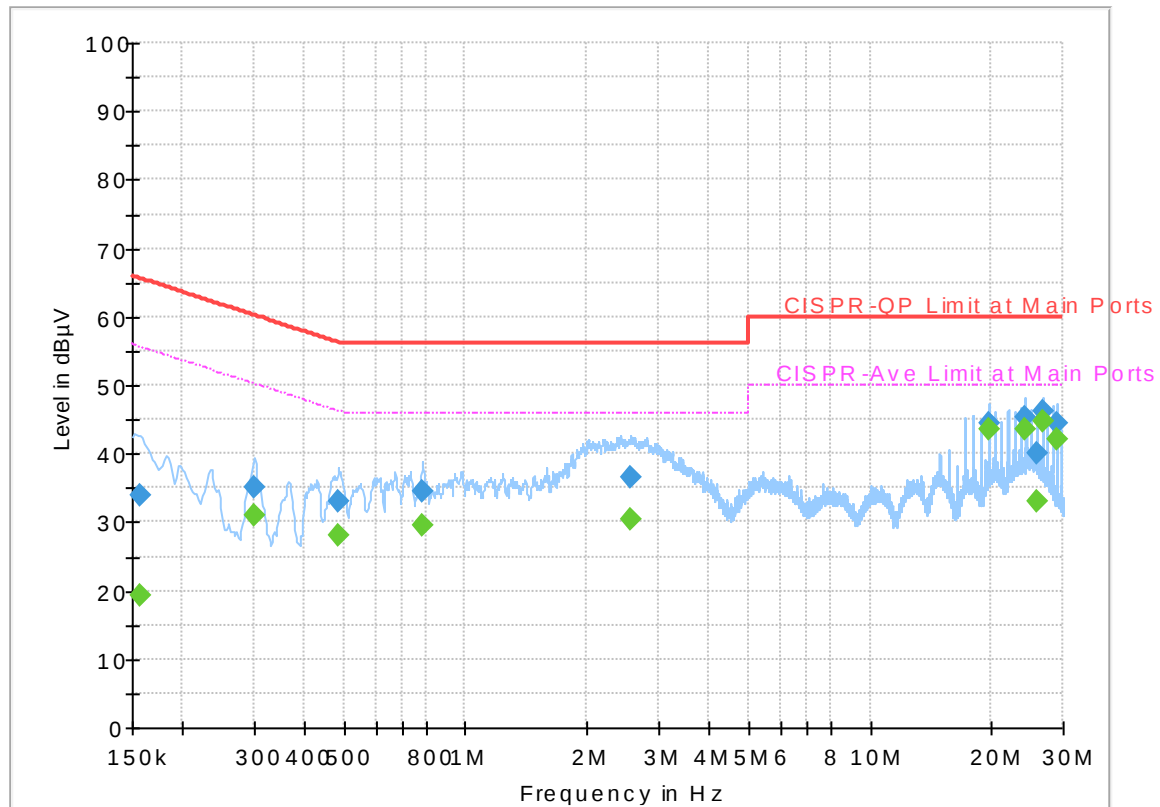
Final_Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Line	Filter	Corr. (dB)
0.152250	---	20.12	55.88	35.76	L1	OFF	19.5
0.152250	36.43	---	65.88	29.45	L1	OFF	19.5
0.195000	---	20.41	53.82	33.41	L1	OFF	19.5
0.195000	36.22	---	63.82	27.60	L1	OFF	19.5
0.233250	---	28.61	52.33	23.72	L1	OFF	19.5
0.233250	34.23	---	62.33	28.10	L1	OFF	19.5
0.568500	---	18.68	46.00	27.32	L1	OFF	19.5
0.568500	30.69	---	56.00	25.31	L1	OFF	19.5
2.242500	---	32.60	46.00	13.40	L1	OFF	19.4
2.242500	37.95	---	56.00	18.05	L1	OFF	19.4
2.564250	---	31.41	46.00	14.59	L1	OFF	19.5
2.564250	37.67	---	56.00	18.33	L1	OFF	19.5
17.238750	---	40.10	50.00	9.90	L1	OFF	19.8
17.238750	41.53	---	60.00	18.47	L1	OFF	19.8
19.596750	---	34.91	50.00	15.09	L1	OFF	19.8
19.596750	40.50	---	60.00	19.50	L1	OFF	19.8
21.943500	---	41.39	50.00	8.61	L1	OFF	19.8
21.943500	42.93	---	60.00	17.07	L1	OFF	19.8
24.299250	---	39.75	50.00	10.25	L1	OFF	19.8
24.299250	42.40	---	60.00	17.60	L1	OFF	19.8

EUT Information

Report NO : 372342-17
 Test Mode : Mode 1
 Test Voltage : 120Vac/60Hz
 Phase : Neutral

Full Spectrum



Final_Result

Frequency (MHz)	QuasiPeak (dBμV)	CAverage (dBμV)	Limit (dBμV)	Margin (dB)	Line	Filter	Corr. (dB)
0.156750	---	19.26	55.63	36.37	N	OFF	19.5
0.156750	34.00	---	65.63	31.63	N	OFF	19.5
0.300750	---	31.01	50.22	19.21	N	OFF	19.5
0.300750	35.04	---	60.22	25.18	N	OFF	19.5
0.485250	---	27.93	46.25	18.32	N	OFF	19.5
0.485250	33.09	---	56.25	23.16	N	OFF	19.5
0.782250	---	29.61	46.00	16.39	N	OFF	19.5
0.782250	34.54	---	56.00	21.46	N	OFF	19.5
2.557500	---	30.38	46.00	15.62	N	OFF	19.5
2.557500	36.50	---	56.00	19.50	N	OFF	19.5
19.583250	---	43.46	50.00	6.54	N	OFF	19.9
19.583250	44.50	---	60.00	15.50	N	OFF	19.9
24.285750	---	43.42	50.00	6.58	N	OFF	20.0
24.285750	45.43	---	60.00	14.57	N	OFF	20.0
25.858500	---	32.93	50.00	17.07	N	OFF	20.0
25.858500	40.00	---	60.00	20.00	N	OFF	20.0
26.630250	---	44.67	50.00	5.33	N	OFF	20.0
26.630250	46.27	---	60.00	13.73	N	OFF	20.0
28.988250	---	42.22	50.00	7.78	N	OFF	20.1
28.988250	44.42	---	60.00	15.58	N	OFF	20.1



Appendix C. Radiated Spurious Emission

Test Engineer :	Alex Jheng, Fu Chen, and Wilson Wu	Temperature :	24.5~25°C
		Relative Humidity :	48~50%

2.4GHz 2400~2483.5MHz

WIFI 802.11b (Band Edge @ 3m)

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b CH 01 2412MHz		2365.65	54.4	-19.6	74	41.76	27.07	15.47	29.9	328	124	P	H
		2389.38	42.38	-11.62	54	29.64	27.15	15.49	29.9	328	124	A	H
	*	2412	90.57	-	-	77.74	27.19	15.53	29.89	328	124	P	H
	*	2412	66.66	-	-	53.83	27.19	15.53	29.89	328	124	A	H
													H
													H
		2370.9	54.5	-19.5	74	41.82	27.11	15.47	29.9	316	186	P	V
		2389.38	42.67	-11.33	54	29.93	27.15	15.49	29.9	316	186	A	V
	*	2412	89.29	-	-	76.46	27.19	15.53	29.89	316	186	P	V
	*	2412	73.33	-	-	60.5	27.19	15.53	29.89	316	186	A	V
													V
													V
802.11b CH 06 2437MHz		2365.44	54.32	-19.68	74	41.68	27.07	15.47	29.9	321	125	P	H
		2385.74	42.35	-11.65	54	29.61	27.15	15.49	29.9	321	125	A	H
	*	2437	95.28	-	-	82.34	27.28	15.55	29.89	321	125	P	H
	*	2437	76.47	-	-	63.53	27.28	15.55	29.89	321	125	A	H
		2492.51	54.63	-19.37	74	41.49	27.4	15.61	29.87	321	125	P	H
		2491.18	42.81	-11.19	54	29.68	27.4	15.61	29.88	321	125	A	H
		2330.02	54.64	-19.36	74	42.13	26.99	15.43	29.91	338	189	P	V
		2388.4	42.49	-11.51	54	29.75	27.15	15.49	29.9	338	189	A	V
	*	2437	87.62	-	-	74.68	27.28	15.55	29.89	338	189	P	V
	*	2437	73.46	-	-	60.52	27.28	15.55	29.89	338	189	A	V
		2496.92	54.72	-19.28	74	41.58	27.4	15.61	29.87	338	189	P	V
		2499.86	42.84	-11.16	54	29.7	27.4	15.61	29.87	338	189	A	V



802.11b CH 11 2462MHz	*	2462	94.66	-	-	81.65	27.32	15.57	29.88	354	129	P	H
	*	2462	65.93	-	-	52.92	27.32	15.57	29.88	354	129	A	H
		2488	54.87	-19.13	74	41.74	27.4	15.61	29.88	354	129	P	H
		2485.92	42.74	-11.26	54	29.65	27.36	15.61	29.88	354	129	A	H
													H
													H
	*	2462	85.13	-	-	72.12	27.32	15.57	29.88	345	189	P	V
	*	2462	72.72	-	-	59.71	27.32	15.57	29.88	345	189	A	V
		2499.36	54.29	-19.71	74	41.15	27.4	15.61	29.87	345	189	P	V
		2490.04	42.85	-11.15	54	29.72	27.4	15.61	29.88	345	189	A	V
													V
													V
802.11b CH 12 2467MHz	*	2467	99.37	-	-	86.25	27.41	15.59	29.88	400	192	P	H
	*	2467	67.38	-	-	54.26	27.41	15.59	29.88	400	192	A	H
		2484.12	60.59	-13.41	74	47.4	27.46	15.61	29.88	400	192	P	H
		2485.96	43.99	-10.01	54	30.8	27.46	15.61	29.88	400	192	A	H
													H
													H
	*	2467	85.93	-	-	72.81	27.41	15.59	29.88	323	192	P	V
	*	2467	71.56	-	-	58.44	27.41	15.59	29.88	323	192	A	V
		2487.88	55.11	-18.89	74	41.88	27.5	15.61	29.88	323	192	P	V
		2484.44	42.82	-11.18	54	29.63	27.46	15.61	29.88	323	192	A	V
													V
													V



802.11b CH 13 2472MHz		2472	66.84	-7.16	74	53.77	27.36	15.59	29.88	332	126	P	H
	*	2472	62.07	-	-	49	27.36	15.59	29.88	332	126	A	H
		2491.96	55.21	-18.79	74	42.07	27.4	15.61	29.87	332	126	P	H
		2489.64	42.66	-11.34	54	29.53	27.4	15.61	29.88	332	126	A	H
													H
													H
		2472	72.24	-1.76	74	59.17	27.36	15.59	29.88	318	189	P	V
	*	2472	68.45	-	-	55.38	27.36	15.59	29.88	318	189	A	V
		2499.92	53.67	-20.33	74	40.53	27.4	15.61	29.87	318	189	P	V
		2497.96	42.66	-11.34	54	29.52	27.4	15.61	29.87	318	189	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11b (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11b CH 01 2412MHz		4824	49.59	-24.41	74	68.63	31.26	8.27	58.57	100	0	P	H
													H
													H
													H
		4824	54.83	-19.17	74	73.87	31.26	8.27	58.57	310	169	P	V
		4824	53.96	-0.04	54	73	31.26	8.27	58.57	310	169	A	V
													V
													V
802.11b CH 06 2437MHz		4874	52.05	-21.95	74	70.75	31.36	8.49	58.55	304	164	P	H
		4874	51.06	-2.94	54	69.76	31.36	8.49	58.55	304	164	A	H
		7311	45.03	-28.97	74	57	36.18	10.68	58.83	100	0	P	H
													H
		4874	54.01	-19.99	74	72.71	31.36	8.49	58.55	310	171	P	V
		4874	53.01	-0.99	54	71.71	31.36	8.49	58.55	310	171	A	V
		7311	49.83	-24.17	74	61.8	36.18	10.68	58.83	100	0	P	V
													V
802.11b CH 11 2462MHz		4924	53.05	-20.95	74	71.48	31.46	8.64	58.53	301	162	P	H
		4924	51.82	-2.18	54	70.25	31.46	8.64	58.53	301	162	A	H
		7386	47.37	-26.63	74	59.05	36.37	10.67	58.72	100	0	P	H
													H
		4924	54.01	-19.99	74	72.44	31.46	8.64	58.53	317	169	P	V
		4924	53	-1	54	71.43	31.46	8.64	58.53	317	169	A	V
		7386	48.98	-25.02	74	60.66	36.37	10.67	58.72	100	0	P	V
													V



802.11b CH 12 2467MHz		4934	53.14	-20.86	74	71.5	31.46	8.71	58.53	302	163	P	H
		4934	52.16	-1.84	54	70.52	31.46	8.71	58.53	302	163	A	H
		7401	48.99	-25.01	74	60.61	36.41	10.67	58.7	100	0	P	H
													H
		4934	54.67	-19.33	74	73.03	31.46	8.71	58.53	324	167	P	V
		4934	53.26	-0.74	54	71.62	31.46	8.71	58.53	324	167	A	V
		7401	49.85	-24.15	74	61.47	36.41	10.67	58.7	100	0	P	V
													V
802.11b CH 13 2472MHz		4944	39.26	-34.74	74	57.57	31.5	8.71	58.52	100	0	P	H
		7416	42.41	-31.59	74	54	36.41	10.7	58.7	100	0	P	H
													H
													H
		4944	39.53	-34.47	74	57.84	31.5	8.71	58.52	100	0	P	V
		7416	41.77	-32.23	74	53.36	36.41	10.7	58.7	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11g (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 01 2412MHz		2382.345	54.23	-19.77	74	41.53	27.11	15.49	29.9	400	197	P	H
		2388.855	42.75	-11.25	54	30.01	27.15	15.49	29.9	400	197	A	H
	*	2412	98.83	-	-	86	27.19	15.53	29.89	400	197	P	H
	*	2412	65.52	-	-	52.69	27.19	15.53	29.89	400	197	A	H
													H
													H
		2369.535	54.53	-19.47	74	41.85	27.11	15.47	29.9	355	184	P	V
		2389.695	42.6	-11.4	54	29.86	27.15	15.49	29.9	355	184	A	V
	*	2412	89.01	-	-	76.18	27.19	15.53	29.89	355	184	P	V
	*	2412	72.47	-	-	59.64	27.19	15.53	29.89	355	184	A	V
													V
													V
802.11g CH 06 2437MHz		2367.82	54.21	-19.79	74	41.57	27.07	15.47	29.9	317	125	P	H
		2388.54	42.48	-11.52	54	29.74	27.15	15.49	29.9	317	125	A	H
	*	2437	94.4	-	-	81.46	27.28	15.55	29.89	317	125	P	H
	*	2437	64.89	-	-	51.95	27.28	15.55	29.89	317	125	A	H
		2494.19	54.6	-19.4	74	41.46	27.4	15.61	29.87	317	125	P	H
		2499.72	42.84	-11.16	54	29.7	27.4	15.61	29.87	317	125	A	H
		2325.96	54.19	-19.81	74	41.68	26.99	15.43	29.91	302	190	P	V
		2389.38	42.47	-11.53	54	29.73	27.15	15.49	29.9	302	190	A	V
	*	2437	88.75	-	-	75.81	27.28	15.55	29.89	302	190	P	V
	*	2437	72.2	-	-	59.26	27.28	15.55	29.89	302	190	A	V
		2483.48	54.81	-95.19	150	41.72	27.36	15.61	29.88	302	190	P	V
		2495.24	42.82	-11.18	54	29.68	27.4	15.61	29.87	302	190	A	V



802.11g CH 11 2462MHz	*	2462	88.85	-	-	75.84	27.32	15.57	29.88	344	126	P	H
	*	2462	74.8	-	-	61.79	27.32	15.57	29.88	344	126	A	H
		2496.6	55	-19	74	41.86	27.4	15.61	29.87	344	126	P	H
		2483.52	42.96	-11.04	54	29.87	27.36	15.61	29.88	344	126	A	H
													H
													H
	*	2462	86.86	-	-	73.85	27.32	15.57	29.88	339	192	P	V
	*	2462	72.71	-	-	59.7	27.32	15.57	29.88	339	192	A	V
		2492.76	54.75	-19.25	74	41.61	27.4	15.61	29.87	339	192	P	V
		2499.6	42.82	-11.18	54	29.68	27.4	15.61	29.87	339	192	A	V
													V
													V
802.11g CH 12 2467MHz	*	2467	90.39	-	-	77.36	27.32	15.59	29.88	346	126	P	H
	*	2467	64.67	-	-	51.64	27.32	15.59	29.88	346	126	A	H
		2486.36	54.33	-19.67	74	41.24	27.36	15.61	29.88	346	126	P	H
		2483.6	43.11	-10.89	54	30.02	27.36	15.61	29.88	346	126	A	H
													H
													H
	*	2467	81.97	-	-	68.94	27.32	15.59	29.88	324	190	P	V
	*	2467	71.3	-	-	58.27	27.32	15.59	29.88	324	190	A	V
		2489.44	55.25	-18.75	74	42.12	27.4	15.61	29.88	324	190	P	V
		2483.52	43.32	-10.68	54	30.23	27.36	15.61	29.88	324	190	A	V
													V
													V



802.11g CH 13 2472MHz	*	2472	62.05	-	-	48.98	27.36	15.59	29.88	342	127	P	H
	*	2472	53.59	-	-	40.52	27.36	15.59	29.88	342	127	A	H
		2492.04	54.79	-19.21	74	41.65	27.4	15.61	29.87	342	127	P	H
		2495.4	42.81	-11.19	54	29.67	27.4	15.61	29.87	342	127	A	H
													H
													H
	*	2472	68.55	-	-	55.48	27.36	15.59	29.88	324	190	P	V
	*	2472	60.33	-	-	47.26	27.36	15.59	29.88	324	190	A	V
		2486.88	54.64	-19.36	74	41.55	27.36	15.61	29.88	324	190	P	V
		2483.52	42.92	-11.08	54	29.83	27.36	15.61	29.88	324	190	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

**2.4GHz 2400~2483.5MHz****WIFI 802.11g (Harmonic @ 3m)**

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11g CH 01 2412MHz		4824	59.89	-14.11	74	78.93	31.26	8.27	58.57	292	162	P	H
		4824	48.74	-5.26	54	67.78	31.26	8.27	58.57	292	162	A	H
													H
													H
		4824	63.98	-10.02	74	83.02	31.26	8.27	58.57	303	172	P	V
		4824	52.25	-1.75	54	71.29	31.26	8.27	58.57	303	172	A	V
													V
													V
802.11g CH 06 2437MHz		4874	60.14	-13.86	74	78.84	31.36	8.49	58.55	294	163	P	H
		4874	48.75	-5.25	54	67.45	31.36	8.49	58.55	294	163	A	H
		7311	49.86	-24.14	74	61.83	36.18	10.68	58.83	100	0	P	H
													H
		4874	62.09	-11.91	74	80.79	31.36	8.49	58.55	301	170	P	V
		4874	49.95	-4.05	54	68.65	31.36	8.49	58.55	301	170	A	V
		7311	59.7	-14.3	74	71.67	36.18	10.68	58.83	202	122	P	V
		7311	47.51	-6.49	54	59.48	36.18	10.68	58.83	202	122	A	V
802.11g CH 11 2462MHz		4924	62.3	-11.7	74	80.73	31.46	8.64	58.53	296	164	P	H
		4924	50.23	-3.77	54	68.66	31.46	8.64	58.53	296	164	A	H
		7386	58.33	-15.67	74	70.01	36.37	10.67	58.72	286	122	P	H
		7386	46.82	-7.18	54	58.5	36.37	10.67	58.72	286	122	A	H
		4924	61.47	-12.53	74	79.9	31.46	8.64	58.53	309	123	P	V
		4924	50.37	-3.63	54	68.8	31.46	8.64	58.53	309	123	A	V
		7386	61.48	-12.52	74	73.16	36.37	10.67	58.72	201	141	P	V
		7386	50.48	-3.52	54	62.16	36.37	10.67	58.72	201	141	A	V



802.11g CH 12 2467MHz		4934	56.96	-17.04	74	75.32	31.46	8.71	58.53	296	163	P	H
		4934	44.88	-9.12	54	63.24	31.46	8.71	58.53	296	163	A	H
		7401	54.1	-19.9	74	65.72	36.41	10.67	58.7	303	213	P	H
		7401	42.08	-11.92	54	53.7	36.41	10.67	58.7	303	213	A	H
		4934	56.03	-17.97	74	74.39	31.46	8.71	58.53	294	187	P	V
		4934	44.09	-9.91	54	62.45	31.46	8.71	58.53	294	187	A	V
		7401	58.21	-15.79	74	69.83	36.41	10.67	58.7	201	142	P	V
		7401	45.88	-8.12	54	57.5	36.41	10.67	58.7	201	142	A	V
802.11g CH 13 2472MHz		4944	38.37	-35.63	74	56.68	31.5	8.71	58.52	100	0	P	H
		7416	42.26	-31.74	74	53.85	36.41	10.7	58.7	100	0	P	H
													H
													H
		4944	35.71	-38.29	74	54.02	31.5	8.71	58.52	100	0	P	V
		7416	41.84	-32.16	74	53.43	36.41	10.7	58.7	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 01 2412MHz		2381.19	55.12	-18.88	74	42.42	27.11	15.49	29.9	391	235	P	H
		2390	42.7	-11.3	54	29.95	27.15	15.49	29.89	391	235	A	H
	*	2412	84.96	-	-	72.13	27.19	15.53	29.89	391	235	P	H
	*	2412	66.02	-	-	53.19	27.19	15.53	29.89	391	235	A	H
													H
													H
		2381.085	55.32	-18.68	74	42.62	27.11	15.49	29.9	317	186	P	V
		2389.905	42.87	-11.13	54	30.12	27.15	15.49	29.89	317	186	A	V
	*	2412	91.09	-	-	78.26	27.19	15.53	29.89	317	186	P	V
	*	2412	74.31	-	-	61.48	27.19	15.53	29.89	317	186	A	V
													V
													V
802.11n HT20 CH 06 2437MHz		2364.46	54.37	-19.63	74	41.73	27.07	15.47	29.9	398	236	P	H
		2389.24	42.58	-11.42	54	29.84	27.15	15.49	29.9	398	236	A	H
	*	2437	91.95	-	-	79.01	27.28	15.55	29.89	398	236	P	H
	*	2437	64.83	-	-	51.89	27.28	15.55	29.89	398	236	A	H
		2483.76	54.76	-19.24	74	41.67	27.36	15.61	29.88	398	236	P	H
		2499.09	43.03	-10.97	54	29.89	27.4	15.61	29.87	398	236	A	H
		2375.94	54.17	-19.83	74	41.47	27.11	15.49	29.9	331	189	P	V
		2388.26	42.52	-11.48	54	29.78	27.15	15.49	29.9	331	189	A	V
	*	2437	88.89	-	-	75.95	27.28	15.55	29.89	331	189	P	V
	*	2437	74.26	-	-	61.32	27.28	15.55	29.89	331	189	A	V
		2496.29	54.36	-19.64	74	41.22	27.4	15.61	29.87	331	189	P	V
		2498.11	42.86	-11.14	54	29.72	27.4	15.61	29.87	331	189	A	V



802.11n HT20 CH 11 2462MHz	*	2462	97.38	-	-	84.37	27.32	15.57	29.88	377	177	P	H
	*	2462	66.86	-	-	53.85	27.32	15.57	29.88	377	177	A	H
		2483.8	56.78	-17.22	74	43.69	27.36	15.61	29.88	377	177	P	H
		2483.52	43.72	-10.28	54	30.63	27.36	15.61	29.88	377	177	A	H
													H
													H
	*	2462	84.75	-	-	71.74	27.32	15.57	29.88	343	190	P	V
	*	2462	72.8	-	-	59.79	27.32	15.57	29.88	343	190	A	V
		2487.88	54.29	-19.71	74	41.16	27.4	15.61	29.88	343	190	P	V
		2495.52	42.69	-11.31	54	29.55	27.4	15.61	29.87	343	190	A	V
													V
													V
802.11n HT20 CH 12 2467MHz	*	2467	89.8	-	-	76.77	27.32	15.59	29.88	357	181	P	H
	*	2467	63.69	-	-	50.66	27.32	15.59	29.88	357	181	A	H
		2485.2	56.77	-17.23	74	43.68	27.36	15.61	29.88	357	181	P	H
		2483.56	43.56	-10.44	54	30.47	27.36	15.61	29.88	357	181	A	H
													H
													H
	*	2467	82.73	-	-	69.7	27.32	15.59	29.88	316	188	P	V
	*	2467	70.76	-	-	57.73	27.32	15.59	29.88	316	188	A	V
		2484.4	55.19	-18.81	74	42.1	27.36	15.61	29.88	316	188	P	V
		2483.56	43.24	-10.76	54	30.15	27.36	15.61	29.88	316	188	A	V
													V
													V



802.11n HT20 CH 13 2472MHz	*	2472	62.11	-	-	49.04	27.36	15.59	29.88	359	179	P	H
	*	2472	53.44	-	-	40.37	27.36	15.59	29.88	359	179	A	H
		2499	54.34	-19.66	74	41.2	27.4	15.61	29.87	359	179	P	H
		2484.24	42.66	-11.34	54	29.57	27.36	15.61	29.88	359	179	A	H
													H
													H
	*	2472	68.63	-	-	55.56	27.36	15.59	29.88	323	188	P	V
	*	2472	60.24	-	-	47.17	27.36	15.59	29.88	323	188	A	V
		2499.96	54.59	-19.41	74	41.45	27.4	15.61	29.87	323	188	P	V
		2483.52	42.75	-11.25	54	29.66	27.36	15.61	29.88	323	188	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 01 2412MHz		4824	61.48	-12.52	74	80.52	31.26	8.27	58.57	299	163	P	H
		4824	49.15	-4.85	54	68.19	31.26	8.27	58.57	299	163	A	H
													H
													H
		4824	64.47	-9.53	74	83.51	31.26	8.27	58.57	304	170	P	V
		4824	51.32	-2.68	54	70.36	31.26	8.27	58.57	304	170	A	V
													V
													V
802.11n HT20 CH 06 2437MHz		4874	62.24	-11.76	74	80.94	31.36	8.49	58.55	309	164	P	H
		4874	48.73	-5.27	54	67.43	31.36	8.49	58.55	309	164	A	H
		7311	54.74	-19.26	74	66.71	36.18	10.68	58.83	233	289	P	H
		7311	43.29	-10.71	54	55.26	36.18	10.68	58.83	233	289	A	H
		4874	63.34	-10.66	74	82.04	31.36	8.49	58.55	313	169	P	V
		4874	50.57	-3.43	54	69.27	31.36	8.49	58.55	313	169	A	V
		7311	58.09	-15.91	74	70.06	36.18	10.68	58.83	177	133	P	V
		7311	46.53	-7.47	54	58.5	36.18	10.68	58.83	177	133	A	V
802.11n HT20 CH 11 2462MHz		4924	61.53	-12.47	74	79.96	31.46	8.64	58.53	303	164	P	H
		4924	50.12	-3.88	54	68.55	31.46	8.64	58.53	303	164	A	H
		7386	58.84	-15.16	74	70.52	36.37	10.67	58.72	223	294	P	H
		7386	47.33	-6.67	54	59.01	36.37	10.67	58.72	223	294	A	H
		4924	61.94	-12.06	74	80.37	31.46	8.64	58.53	310	170	P	V
		4924	50.85	-3.15	54	69.28	31.46	8.64	58.53	310	170	A	V
		7386	62.06	-11.94	74	73.74	36.37	10.67	58.72	184	196	P	V
		7386	50.38	-3.62	54	62.06	36.37	10.67	58.72	184	196	A	V



802.11n HT20 CH 12 2467MHz		4934	54.75	-19.25	74	73.11	31.46	8.71	58.53	299	164	P	H
		4934	43.13	-10.87	54	61.49	31.46	8.71	58.53	299	164	A	H
		7401	49.92	-24.08	74	61.54	36.41	10.67	58.7	100	0	P	H
													H
		4934	54.96	-19.04	74	73.32	31.46	8.71	58.53	310	168	P	V
		4934	43.06	-10.94	54	61.42	31.46	8.71	58.53	310	168	A	V
		7401	57.7	-16.3	74	69.32	36.41	10.67	58.7	181	194	P	V
		7401	43.58	-10.42	54	55.2	36.41	10.67	58.7	181	194	A	V
802.11n HT20 CH 13 2472MHz		4944	40.06	-33.94	74	58.37	31.5	8.71	58.52	100	0	P	H
		7416	42.24	-31.76	74	53.83	36.41	10.7	58.7	100	0	P	H
													H
													H
		4944	45.1	-28.9	74	63.41	31.5	8.71	58.52	100	0	P	V
		7416	41.22	-32.78	74	52.81	36.41	10.7	58.7	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 03 2422MHz		2346.54	54.02	-19.98	74	41.45	27.03	15.45	29.91	313	125	P	H
		2389.24	45.11	-8.89	54	32.37	27.15	15.49	29.9	313	125	A	H
	*	2422	95.3	-	-	82.43	27.23	15.53	29.89	313	125	P	H
	*	2422	64.86	-	-	51.99	27.23	15.53	29.89	313	125	A	H
		2499.23	54.32	-19.68	74	41.18	27.4	15.61	29.87	313	125	P	H
		2489.57	44.62	-9.38	54	31.49	27.4	15.61	29.88	313	125	A	H
		2389.24	54.51	-19.49	74	41.77	27.15	15.49	29.9	329	190	P	V
		2389.66	45.31	-8.69	54	32.57	27.15	15.49	29.9	329	190	A	V
	*	2422	86.42	-	-	73.55	27.23	15.53	29.89	329	190	P	V
	*	2422	71.81	-	-	58.94	27.23	15.53	29.89	329	190	A	V
		2495.03	54.98	-19.02	74	41.84	27.4	15.61	29.87	329	190	P	V
		2489.5	44.64	-9.36	54	31.51	27.4	15.61	29.88	329	190	A	V
802.11n HT40 CH 06 2437MHz		2353.68	54.74	-19.26	74	42.13	27.07	15.45	29.91	308	126	P	H
		2388.96	44.31	-9.69	54	31.57	27.15	15.49	29.9	308	126	A	H
	*	2437	96.84	-	-	83.9	27.28	15.55	29.89	308	126	P	H
	*	2437	89.93	-	-	76.99	27.28	15.55	29.89	308	126	A	H
		2488.8	54.56	-19.44	74	41.43	27.4	15.61	29.88	308	126	P	H
		2485.3	44.8	-9.2	54	31.71	27.36	15.61	29.88	308	126	A	H
		2317.7	54.18	-19.82	74	41.69	26.99	15.41	29.91	331	189	P	V
		2382.52	44.33	-9.67	54	31.63	27.11	15.49	29.9	331	189	A	V
	*	2437	89.19	-	-	76.25	27.28	15.55	29.89	331	189	P	V
	*	2437	70.83	-	-	57.89	27.28	15.55	29.89	331	189	A	V
		2492.37	54.44	-19.56	74	41.3	27.4	15.61	29.87	331	189	P	V
		2488.03	44.86	-9.14	54	31.73	27.4	15.61	29.88	331	189	A	V



802.11n HT40 CH 09 2452MHz		2369.78	53.79	-20.21	74	41.11	27.11	15.47	29.9	337	129	P	H
		2387.42	44.36	-9.64	54	31.62	27.15	15.49	29.9	337	129	A	H
	*	2452	95.33	-	-	82.36	27.28	15.57	29.88	337	129	P	H
	*	2452	64.34	-	-	51.37	27.28	15.57	29.88	337	129	A	H
		2484.46	56.09	-17.91	74	43	27.36	15.61	29.88	337	129	P	H
		2484.46	46.52	-7.48	54	33.43	27.36	15.61	29.88	337	129	A	H
		2371.74	54.07	-19.93	74	41.39	27.11	15.47	29.9	340	190	P	V
		2380	44.28	-9.72	54	31.58	27.11	15.49	29.9	340	190	A	V
	*	2452	90.73	-	-	77.76	27.28	15.57	29.88	340	190	P	V
	*	2452	70.82	-	-	57.85	27.28	15.57	29.88	340	190	A	V
		2497.83	54.98	-19.02	74	41.84	27.4	15.61	29.87	340	190	P	V
		2484.04	44.9	-9.1	54	31.81	27.36	15.61	29.88	340	190	A	V
802.11n HT40 CH 10 2457MHz		2360.54	54.07	-19.93	74	41.44	27.07	15.47	29.91	337	127	P	H
		2383.36	44.45	-9.55	54	31.75	27.11	15.49	29.9	337	127	A	H
	*	2457	92.16	-	-	79.15	27.32	15.57	29.88	337	127	P	H
	*	2457	86.83	-	-	73.82	27.32	15.57	29.88	337	127	A	H
		2491.6	54.34	-19.66	74	41.21	27.4	15.61	29.88	337	127	P	H
		2490.06	44.84	-9.16	54	31.71	27.4	15.61	29.88	337	127	A	H
		2389.94	54.11	-19.89	74	41.36	27.15	15.49	29.89	343	189	P	V
		2372.72	44.25	-9.75	54	31.57	27.11	15.47	29.9	343	189	A	V
	*	2457	87.54	-	-	74.53	27.32	15.57	29.88	343	189	P	V
	*	2457	82.43	-	-	69.42	27.32	15.57	29.88	343	189	A	V
		2492.79	55.3	-18.7	74	42.16	27.4	15.61	29.87	343	189	P	V
		2483.62	44.82	-9.18	54	31.73	27.36	15.61	29.88	343	189	A	V



802.11n HT40 CH 11 2462MHz		2313.5	54	-20	74	41.56	26.94	15.41	29.91	325	127	P	H
		2365.44	44.39	-9.61	54	31.75	27.07	15.47	29.9	325	127	A	H
	*	2462	91.62	-	-	78.61	27.32	15.57	29.88	325	127	P	H
	*	2462	87.13	-	-	74.12	27.32	15.57	29.88	325	127	A	H
		2497.13	54.27	-19.73	74	41.13	27.4	15.61	29.87	325	127	P	H
		2486.21	44.81	-9.19	54	31.72	27.36	15.61	29.88	325	127	A	H
		2380.14	54.34	-19.66	74	41.64	27.11	15.49	29.9	322	189	P	V
		2389.94	44.36	-9.64	54	31.61	27.15	15.49	29.89	322	189	A	V
	*	2462	82.32	-	-	69.31	27.32	15.57	29.88	322	189	P	V
	*	2462	57.61	-	-	44.6	27.32	15.57	29.88	322	189	A	V
		2497.48	54.7	-19.3	74	41.56	27.4	15.61	29.87	322	189	P	V
		2484.74	44.59	-9.41	54	31.5	27.36	15.61	29.88	322	189	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												

Emission below 1GHz

2.4GHz WIFI 802.11b (LF)

WIFI Ant. 1	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
2.4GHz 802.11b LF		192	27.98	-15.52	43.5	43.51	15.01	1.73	32.27	-	-	P	H
		243.3	30.75	-15.25	46	43.21	17.8	1.95	32.21	-	-	P	H
		286.5	32.66	-13.34	46	43.81	18.96	2.04	32.15	-	-	P	H
		300.7	36.6	-9.4	46	47.32	19.31	2.1	32.13	100	0	P	H
		329.4	28.64	-17.36	46	38.75	19.81	2.22	32.14	-	-	P	H
		768.3	32.54	-13.46	46	33.12	28.18	3.29	32.05	-	-	P	H
													H
													H
													H
													H
													H
													H
		31.08	28.73	-11.27	40	36.32	23.96	0.79	32.34	100	0	P	V
		60.78	27.73	-12.27	40	46.95	12.05	1.04	32.31	-	-	P	V
		192	29.78	-13.72	43.5	45.31	15.01	1.73	32.27	-	-	P	V
		300.7	30.58	-15.42	46	41.3	19.31	2.1	32.13	-	-	P	V
		528.2	28.24	-17.76	46	33.51	24.13	2.8	32.2	-	-	P	V
		720	33.5	-12.5	46	35.4	27.06	3.17	32.13	-	-	P	V
													V
													V
												V	
												V	
												V	
												V	
												V	
Remark	1. No other spurious found. 2. All results are PASS against limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 01 2412MHz		2348.22	53.58	-20.42	74	41.01	27.03	15.45	29.91	400	175	P	H
		2390	43.37	-10.63	54	30.62	27.15	15.49	29.89	400	175	A	H
	*	2412	100.42	-	-	87.59	27.19	15.53	29.89	400	175	P	H
	*	2412	92.73	-	-	79.9	27.19	15.53	29.89	400	175	A	H
													H
													H
		2372.79	54.17	-19.83	74	41.49	27.11	15.47	29.9	189	88	P	V
		2389.695	42.82	-11.18	54	30.08	27.15	15.49	29.9	189	88	A	V
	*	2412	97.37	-	-	84.54	27.19	15.53	29.89	189	88	P	V
	*	2412	90.34	-	-	77.51	27.19	15.53	29.89	189	88	A	V
													V
													V
802.11n HT20 CH 06 2437MHz		2358.02	53.69	-20.31	74	41.06	27.07	15.47	29.91	395	186	P	H
		2389.8	42.21	-11.79	54	29.46	27.15	15.49	29.89	395	186	A	H
	*	2437	99.95	-	-	87.01	27.28	15.55	29.89	395	186	P	H
	*	2437	91.77	-	-	78.83	27.28	15.55	29.89	395	186	A	H
		2486.35	54.32	-19.68	74	41.23	27.36	15.61	29.88	395	186	P	H
		2485.65	42.92	-11.08	54	29.83	27.36	15.61	29.88	395	186	A	H
		2353.26	53.04	-20.96	74	40.43	27.07	15.45	29.91	189	91	P	V
		2389.38	42.3	-11.7	54	29.56	27.15	15.49	29.9	189	91	A	V
	*	2437	98.29	-	-	85.35	27.28	15.55	29.89	189	91	P	V
	*	2437	89.89	-	-	76.95	27.28	15.55	29.89	189	91	A	V
		2492.65	53.62	-20.38	74	40.48	27.4	15.61	29.87	189	91	P	V
		2489.15	42.72	-11.28	54	29.59	27.4	15.61	29.88	189	91	A	V



802.11n HT20 CH 11 2462MHz	*	2462	98.82	-	-	85.81	27.32	15.57	29.88	386	189	P	H
	*	2462	91.24	-	-	78.23	27.32	15.57	29.88	386	189	A	H
		2487.28	53.84	-20.16	74	40.75	27.36	15.61	29.88	386	189	P	H
		2483.56	43.67	-10.33	54	30.58	27.36	15.61	29.88	386	189	A	H
													H
													H
	*	2462	98.37	-	-	85.36	27.32	15.57	29.88	181	97	P	V
	*	2462	89.43	-	-	76.42	27.32	15.57	29.88	181	97	A	V
		2487.6	54.26	-19.74	74	41.13	27.4	15.61	29.88	181	97	P	V
		2483.56	43.13	-10.87	54	30.04	27.36	15.61	29.88	181	97	A	V
													V
													V
802.11n HT20 CH 12 2467MHz	*	2467	98.09	-	-	85.06	27.32	15.59	29.88	389	187	P	H
	*	2467	89.94	-	-	76.91	27.32	15.59	29.88	389	187	A	H
		2483.64	58.25	-15.75	74	45.16	27.36	15.61	29.88	389	187	P	H
		2483.52	45.06	-8.94	54	31.97	27.36	15.61	29.88	389	187	A	H
													H
													H
	*	2467	95.08	-	-	82.05	27.32	15.59	29.88	345	98	P	V
	*	2467	86.77	-	-	73.74	27.32	15.59	29.88	345	98	A	V
		2483.88	54.44	-19.56	74	41.35	27.36	15.61	29.88	345	98	P	V
		2483.52	43.85	-10.15	54	30.76	27.36	15.61	29.88	345	98	A	V
													V
													V



802.11n HT20 CH 13 2472MHz	*	2472	88.17	-	-	75.1	27.36	15.59	29.88	400	358	P	H
	*	2472	80.21	-	-	67.14	27.36	15.59	29.88	400	358	A	H
		2483.92	64.61	-9.39	74	51.52	27.36	15.61	29.88	400	358	P	H
		2483.52	49.76	-4.24	54	36.67	27.36	15.61	29.88	400	358	A	H
													H
													H
	*	2472	85.77	-	-	72.7	27.36	15.59	29.88	203	85	P	V
	*	2472	78.08	-	-	65.01	27.36	15.59	29.88	203	85	A	V
		2483.6	62.51	-11.49	74	49.42	27.36	15.61	29.88	203	85	P	V
		2483.52	48.42	-5.58	54	35.33	27.36	15.61	29.88	203	85	A	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11n HT20 (Harmonic @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT20 CH 01 2412MHz		4824	47.65	-26.35	74	66.69	31.26	8.27	58.57	100	0	P	H
													H
													H
													H
		4824	46.43	-27.57	74	65.47	31.26	8.27	58.57	100	0	P	V
													V
													V
													V
802.11n HT20 CH 06 2437MHz		4874	48.65	-25.35	74	67.35	31.36	8.49	58.55	100	0	P	H
		7311	43.61	-30.39	74	55.58	36.18	10.68	58.83	100	0	P	H
													H
													H
		4874	48.93	-25.07	74	67.63	31.36	8.49	58.55	100	0	P	V
		7311	53.13	-20.87	74	65.1	36.18	10.68	58.83	177	133	P	V
		7311	38.27	-15.73	54	50.24	36.18	10.68	58.83	177	133	A	V
													V
802.11n HT20 CH 11 2462MHz		4924	54.22	-19.78	74	72.65	31.46	8.64	58.53	304	162	P	H
		4924	40.54	-13.46	54	58.97	31.46	8.64	58.53	304	162	A	H
		7386	47.31	-26.69	74	58.99	36.37	10.67	58.72	100	0	P	H
													H
		4924	48.06	-25.94	74	66.49	31.46	8.64	58.53	100	0	P	V
		7386	54.73	-19.27	74	66.41	36.37	10.67	58.72	180	195	P	V
		7386	42.1	-11.9	54	53.78	36.37	10.67	58.72	180	195	A	V
													V



802.11n HT20 CH 12 2467MHz		4934	39.86	-34.14	74	58.22	31.46	8.71	58.53	100	0	P	H
		7401	41.6	-32.4	74	53.22	36.41	10.67	58.7	100	0	P	H
													H
													H
		4934	39.3	-34.7	74	57.66	31.46	8.71	58.53	100	0	P	V
		7401	41.7	-32.3	74	53.32	36.41	10.67	58.7	100	0	P	V
													V
													V
802.11n HT20 CH 13 2472MHz		4944	40.66	-33.34	74	58.97	31.5	8.71	58.52	100	0	P	H
		7416	41.46	-32.54	74	53.05	36.41	10.7	58.7	100	0	P	H
													H
													H
		4944	46.03	-27.97	74	64.34	31.5	8.71	58.52	100	0	P	V
		7416	41.97	-32.03	74	53.56	36.41	10.7	58.7	100	0	P	V
													V
													V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



2.4GHz 2400~2483.5MHz

WIFI 802.11n HT40 (Band Edge @ 3m)

WIFI Ant. 1+2	Note	Frequency (MHz)	Level (dBμV/m)	Over Limit (dB)	Limit Line (dBμV/m)	Read Level (dBμV)	Antenna Factor (dB/m)	Path Loss (dB)	Preamp Factor (dB)	Ant Pos (cm)	Table Pos (deg)	Peak Avg. (P/A)	Pol. (H/V)
802.11n HT40 CH 03 2422MHz		2386.3	55.25	-18.75	74	42.51	27.15	15.49	29.9	397	180	P	H
		2388.54	45.18	-8.82	54	32.44	27.15	15.49	29.9	397	180	A	H
	*	2422	96.84	-	-	83.97	27.23	15.53	29.89	397	180	P	H
	*	2422	88.89	-	-	76.02	27.23	15.53	29.89	397	180	A	H
		2488.87	54.19	-19.81	74	41.06	27.4	15.61	29.88	397	180	P	H
		2490.2	44.65	-9.35	54	31.52	27.4	15.61	29.88	397	180	A	H
		2337.72	54.29	-19.71	74	41.74	27.03	15.43	29.91	201	91	P	V
		2386.72	45.11	-8.89	54	32.37	27.15	15.49	29.9	201	91	A	V
	*	2422	96.74	-	-	83.87	27.23	15.53	29.89	201	91	P	V
	*	2422	87.62	-	-	74.75	27.23	15.53	29.89	201	91	A	V
		2491.74	53.7	-20.3	74	40.57	27.4	15.61	29.88	201	91	P	V
		2498.53	44.95	-9.05	54	31.81	27.4	15.61	29.87	201	91	P	V
802.11n HT40 CH 06 2437MHz		2382.38	54.13	-19.87	74	41.43	27.11	15.49	29.9	397	190	P	H
		2386.44	44.41	-9.59	54	31.67	27.15	15.49	29.9	397	190	A	H
	*	2437	98.96	-	-	86.02	27.28	15.55	29.89	397	190	P	H
	*	2437	89.87	-	-	76.93	27.28	15.55	29.89	397	190	A	H
		2484.95	55.5	-18.5	74	42.41	27.36	15.61	29.88	397	190	P	H
		2484.04	45.97	-8.03	54	32.88	27.36	15.61	29.88	397	190	A	H
		2342.2	54.2	-19.8	74	41.63	27.03	15.45	29.91	190	91	P	V
		2380.42	44.48	-9.52	54	31.78	27.11	15.49	29.9	190	91	A	V
	*	2437	95.77	-	-	82.83	27.28	15.55	29.89	190	91	P	V
	*	2437	87.75	-	-	74.81	27.28	15.55	29.89	190	91	A	V
		2490.69	54.51	-19.49	74	41.38	27.4	15.61	29.88	190	91	P	V
		2493	45.12	-8.88	54	31.98	27.4	15.61	29.87	190	91	A	V



802.11n HT40 CH 09 2452MHz		2364.04	53.99	-20.01	74	41.29	27.14	15.47	29.91	399	187	P	H
		2370.2	44.31	-9.69	54	31.55	27.19	15.47	29.9	399	187	A	H
	*	2452	98.08	-	-	85.02	27.37	15.57	29.88	399	187	P	H
	*	2452	90.28	-	-	77.22	27.37	15.57	29.88	399	187	A	H
		2484.39	58.99	-15.01	74	45.8	27.46	15.61	29.88	399	187	P	H
		2484.46	50.91	-3.09	54	37.72	27.46	15.61	29.88	399	187	A	H
		2355.78	54.51	-19.49	74	41.83	27.14	15.45	29.91	182	93	P	V
		2384.2	44.22	-9.78	54	31.44	27.19	15.49	29.9	182	93	A	V
	*	2452	95.74	-	-	82.68	27.37	15.57	29.88	182	93	P	V
	*	2452	87.31	-	-	74.25	27.37	15.57	29.88	182	93	A	V
		2489.36	56.02	-17.98	74	42.79	27.5	15.61	29.88	182	93	P	V
		2483.5	46.67	-7.33	54	33.48	27.46	15.61	29.88	182	93	A	V
802.11n HT40 CH 10 2457MHz		2368.94	54.11	-19.89	74	41.43	27.11	15.47	29.9	399	188	P	H
		2387.56	44.26	-9.74	54	31.52	27.15	15.49	29.9	399	188	A	H
	*	2457	100.44	-	-	87.43	27.32	15.57	29.88	399	188	P	H
	*	2457	90.08	-	-	77.07	27.32	15.57	29.88	399	188	A	H
		2483.5	60.22	-13.78	74	47.13	27.36	15.61	29.88	399	188	P	H
		2483.5	49.31	-4.69	54	36.22	27.36	15.61	29.88	399	188	A	H
		2377.9	54.55	-19.45	74	41.85	27.11	15.49	29.9	181	92	P	V
		2340.52	44.21	-9.79	54	31.64	27.03	15.45	29.91	181	92	A	V
	*	2457	96.21	-	-	83.2	27.32	15.57	29.88	181	92	P	V
	*	2457	86.33	-	-	73.32	27.32	15.57	29.88	181	92	A	V
		2483.5	55.94	-18.06	74	42.85	27.36	15.61	29.88	181	92	P	V
		2483.5	46.07	-7.93	54	32.98	27.36	15.61	29.88	181	92	A	V



802.11n HT40 CH 11 2462MHz		2331.98	54.72	-19.28	74	42.21	26.99	15.43	29.91	400	185	P	H
		2372.02	44.34	-9.66	54	31.66	27.11	15.47	29.9	400	185	A	H
	*	2462	99.25	-	-	86.24	27.32	15.57	29.88	400	185	P	H
	*	2462	77.55	-	-	64.54	27.32	15.57	29.88	400	185	A	H
		2483.64	61.71	-12.29	74	48.62	27.36	15.61	29.88	400	185	P	H
		2483.52	51.96	-2.04	54	38.87	27.36	15.61	29.88	400	185	A	H
		2356.2	54.63	-19.37	74	42.02	27.07	15.45	29.91	201	90	P	V
		2331.28	44.33	-9.67	54	31.82	26.99	15.43	29.91	201	90	A	V
	*	2462	90.65	-	-	77.64	27.32	15.57	29.88	183	90	P	V
	*	2462	84.51	-	-	71.5	27.32	15.61	29.88	183	90	A	V
		2483.56	58.55	-15.45	74	45.46	27.36	15.61	29.88	183	90	P	V
		2483.52	48.94	-5.06	54	35.85	27.36	15.61	29.88	183	90	A	V
Remark	1. No other spurious found. 2. All results are PASS against Peak and Average limit line.												



Note symbol

*	Fundamental Frequency which can be ignored. However, the level of any unwanted emissions shall not exceed the level of the fundamental frequency.
!	Test result is over limit line.
P/A	Peak or Average
H/V	Horizontal or Vertical



A calculation example for radiated spurious emission is shown as below:

WIFI	Note	Frequency	Level	Over	Limit	Read	Antenna	Path	Preamp	Ant	Table	Peak	Pol.
Ant.				Limit	Line	Level	Factor	Loss	Factor	Pos	Pos	Avg.	
1+2		(MHz)	(dBμV/m)	(dB)	(dBμV/m)	(dBμV)	(dB/m)	(dB)	(dB)	(cm)	(deg)	(P/A)	(H/V)
802.11b		2390	55.45	-18.55	74	54.51	32.22	4.58	35.86	103	308	P	H
CH 01													
2412MHz		2390	43.54	-10.46	54	42.6	32.22	4.58	35.86	103	308	A	H

1. Path Loss(dB) = Cable loss(dB) + Filter loss(dB) + Attenuator loss(dB)
2. Level(dBμV/m) =
Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
3. Over Limit(dB) = Level(dBμV/m) – Limit Line(dBμV/m)

For Peak Limit @ 2390MHz:

1. Level(dBμV/m)
= Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
= 32.22(dB/m) + 4.58(dB) + 54.51(dBμV) – 35.86 (dB)
= 55.45 (dBμV/m)
2. Over Limit(dB)
= Level(dBμV/m) – Limit Line(dBμV/m)
= 55.45(dBμV/m) – 74(dBμV/m)
= -18.55(dB)

For Average Limit @ 2390MHz:

1. Level(dBμV/m)
= Antenna Factor(dB/m) + Path Loss(dB) + Read Level(dBμV) - Preamp Factor(dB)
= 32.22(dB/m) + 4.58(dB) + 42.6(dBμV) – 35.86 (dB)
= 43.54 (dBμV/m)
2. Over Limit(dB)
= Level(dBμV/m) – Limit Line(dBμV/m)
= 43.54(dBμV/m) – 54(dBμV/m)
= -10.46(dB)

Both peak and average measured complies with the limit line, so test result is “PASS”.