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Products

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<i>Test Report No.:</i>					
Auftraggeber: <i>Client:</i>			Fujitsu Kyushu Network Technologies Limited Fujitsu Kyushu R&D Center Bldg., 2-2-1 Momochihama, Sawara-ku, Fukuoka-shi, Fukuoka 814-8588, Japan		
Gegenstand der Prüfung: <i>Test Item:</i>			Relay Equipment and Concentrator		
Bezeichnung: <i>Identification:</i>		YA14A75-B310, YA14A75-B311 YA14A75-B312, YA14A75-B313		Serien-Nr.: <i>Serial No.:</i> Refer to section 4.3	
Wareneingangs-Nr.: <i>Receipt No.:</i> PT0214028517			Eingangsdatum: <i>Date of Receipt:</i> 2012-08-27		
Zustand des Prüfgegenstandes bei Anlieferung: <i>Condition of Test Item at Delivery:</i> Good					
Prüfort: <i>Testing Location:</i>			TÜV Rheinland Japan Ltd. – Global Technology Assessment Center 4-25-2 Kita-Yamata, Tsuzuki-ku, Yokohama 224-0021, Japan		
Prüfgrundlage: <i>Test Specification:</i>			FCC 47 CFR Part 15, Subpart C, Section 15.247 (October 1, 2011) ANSI C63.4-2003 KDB Publication No. 558074 D01: Guidance for Performing Compliance Measurements on Digital Transmission Systems (DTS) Operating Under §15.247 (v01) KDB Publication No. 662911 D01: Emissions Testing of Transmitters with Multiple Outputs in the Same Band (v01r01) RSS-210 (Issue 8): 2010 RSS-Gen (Issue 3): 2010 ANSI C63.4-2003		
Prüfergebnis: <i>Test Result:</i>			Der Prüfgegenstand entspricht oben genannter Prüfgrundlage(n). The test item passed the test specification(s).		
Prüflaboratorium: <i>Testing Laboratory:</i>			TÜV Rheinland Japan Ltd. – Global Technology Assessment Center 4-25-2 Kita-Yamata, Tsuzuki-ku, Yokohama 224-0021, Japan		
geprüft/ tested by:			kontrolliert/ reviewed by:		
 2012-11-22 T. Sauter / Inspector			 2012-11-22 T. Cheung / Reviewer		
Datum <i>Date</i>	Name/Stellung <i>Name/Position</i>	Unterschrift <i>Signature</i>	Datum <i>Date</i>	Name/Stellung <i>Name/Position</i>	Unterschrift <i>Signature</i>
Sonstiges / Other Aspects:					
The purpose of this test report is to demonstrate compliance of the Relay Equipment YA14A75-B310 and YA14A75-B312 and the Concentrator YA14A75-B311 and YA14A75-B313 with the above mentioned test specifications. Due to the similarities between these models, the Relay Equipment YA14A75-B310 and YA14A75-B312 were used as representative samples for testing purpose.					
Abkürzungen: P(ass) = entspricht Prüfgrundlage F(all) = entspricht nicht Prüfgrundlage N/A = nicht anwendbar N/T = nicht getestet			Abbreviations: P(ass) = passed F(all) = failed N/A = not applicable N/T = not tested		
Dieser Prüfbericht bezieht sich nur auf das o.g. Prüfmuster und darf ohne Genehmigung der Prüfstelle nicht auszugsweise vervielfältigt werden. Dieser Bericht berechtigt nicht zur Verwendung eines Prüfzeichens. This test report relates to the a. m. test sample. Without permission of the test center this test report is not permitted to be duplicated in extracts. This test report does not entitle to carry any safety mark on this or similar products.					

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TEST SUMMARY

5.1.1 SUPPLY VOLTAGE REQUIREMENTS

RESULT: PASS

5.1.2 ANTENNA REQUIREMENTS

RESULT: PASS

5.1.3 RESTRICTED BANDS OF OPERATION

RESULT: PASS

5.2.1 CONDUCTED OUTPUT POWER

RESULT: PASS

5.2.2 6dB BANDWIDTH

RESULT: PASS

5.2.3 99% BANDWIDTH

5.2.4 CONDUCTED SPURIOUS EMISSIONS

RESULT: PASS

5.2.5 PEAK POWER SPECTRAL DENSITY

RESULT: PASS

5.3.1 RADIATED SPURIOUS EMISSIONS OF TRANSMITTER

RESULT: PASS

5.4.1 AC POWER LINE CONDUCTED EMISSION OF TRANSMITTER

RESULT: PASS

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1. General Remarks

1.1 Complementary Materials

There is no attachment to this test report.

2. Test Sites

2.1 Test Facilities

TÜV Rheinland Japan Ltd. – Global Technology Assessment Center
4-25-2 Kita-Yamata, Tsuzuki-ku, Yokohama 224-0021, Japan

The used test equipment is in accordance with CISPR 16 for measurement of radio interference.

The Federal Communications Commission has reviewed the technical characteristics of the radiated and conducted emission facilities and has found these test sites to be in compliance with the requirements of section 2.948 of the FCC rules. The description of the test facility is listed under FCC registration number 299054.

The Industry Canada has reviewed the technical characteristics of the radiated and conducted emission facilities and has found these test sites to be in compliance with Canadian requirements. The description of the test facility is listed under OATS filing number 3466B-1.

The test facility is accredited by VLAC (member of ILAC) under number VLAC-017 according to ISO/IEC 17025:2005.



TÜV Rheinland Japan Ltd. is accredited by the Federal Communications Commission as a Conformity Assessment Body under Designation Number JP0017 and Test Firm Registration Number 386498.

2.2 List of Test and Measurement Instruments

Table 1: List of Test and Measurement Equipment

Kind of Equipment	Manufacturer	Model Name	Serial Number	Equipment ID	Calibrated until
For Antenna Port Conducted Emission					
Receiver	Rohde & Schwarz	ESU 40	100029	RF-0021	2013-01
For AC Power Line Conducted Emission					
Receiver	Rohde & Schwarz	ESU 8	100025	RF-0020	2013-02
LISN	Rohde & Schwarz	ENV216	100276	RF-0016	2013-06
For Radiated Emission					
Receiver	Rohde & Schwarz	ESU 8	100025	RF-0020	2013-02
Receiver	Rohde & Schwarz	ESU 40	100029	RF-0021	2013-01
RF Selector (10m Chamber)	Toyo Corporation	NS4900	0703-182	RF-0029	2013-05
Loop Antenna with Amplifier, 9kHz-30MHz	Rohde & Schwarz	HFH2-Z2	100139	RF-0048	2013-02
Trilog Antenna No. 2, 30-1000MHz	Schwarzbeck	VULB9168	9168-475	RF-0462	2013-01
Biconical Antenna, 30-300MHz	EMCO	3110B	9603-2379	RF-0207	2013-08
10dB Attenuator	Hewlett Packard	8491A 10dB	58354	RF-0314	2013-05
Low Noise Pre-Amplifier, 9kHz-1GHz	TSJ	MLA-10K01-B01-35	1370750	RF-0253	2012-11
Horn Antenna, 1-8GHz	Schwarzbeck	BBHA9120B	419	RF-0050	2013-05
Microwave Pre-Amplifier, 1-8GHz	Toyo Corporation	TPA0108-40	0634	RF-0052	2012-11
Band Reject Filter, 1-8GHz	Nitsuki	NF-49BT	027	RF-0131	2012-11
Horn Antenna with Pre-Amplifier, 8-18GHz	Toyo Corporation	HAP06-18W	00000025	RF-0065	2013-05
High Pass Filter, 8-18GHz	Micro-Tronics	HPM50107	006	RF-0334	2013-05
Horn Antenna with Pre-Amplifier, 18-26.5GHz	Toyo Corporation	HAP18-26N	00000010	RF-0070	2013-05
Constant Voltage Constant Frequency Stabilizers					
CVCF (Shielded Room)	NF Corporation	ESU2000S	9075612	RF-0210	N/A
CVCF Booster (Shielded Room)	NF Corporation	ESU2000B	9074403	RF-0211	N/A
CVCF (10m Chamber)	NF Corporation	ESU2000S	9067307	RF-0212	N/A
CVCF Booster (10m Chamber)	NF Corporation	ESU2000B	9074408	RF-0213	N/A
True RMS Multimeter	Fluke	87V	97680445	RF-0281	2013-01

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Conformance of the used measurement and test equipment with the requirements of ISO/IEC 17025:2005 has been confirmed before testing.

2.3 Measurement Uncertainty

Table 2: Emission Measurement Uncertainty

Measurement Type	Frequency	Uncertainty
AC Power Line Conducted Emission	150kHz - 30MHz	±3.0dB
Antenna Port Conducted Emission	20Hz - 40GHz	±1.5dB
Radiated Emission	< 30MHz	±4.7dB
	30MHz - 1GHz	±4.7dB
	> 1GHz	±4.7dB

3. General Product Information

3.1 Product Function and Intended Use

The EUT (Equipment Under Test) are composed of the four following devices: the Relay Equipment YA14A75-B310 and YA14A75-B312 and the Concentrator YA14A75-B311 and YA14A75-B313.

The Relay Equipment YA14A75-B310 and YA14A75-B312 are communication devices used to collect by wireless signals electricity consumption information provided by electric home power meters and from other Relay Equipment and to forward these signals to other Relay Equipment in the direction of a Concentrator.

The Concentrator YA14A75-B311 and YA14A75-B313 are communication devices used to collect wireless data provided by Relay Equipment and to forward this data by wireless signals to a router, which will forward the information to a power plant data center.

The aim of this system is to transfer by wireless signals electric consumption information from homes to a power plant data center.

The Relay Equipment and the Concentrator are identical, except for the input voltage and the internal software. All models have identical radio characteristics.

3.2 System Details

Rated voltage:	YA14A75-B310 and YA14A75-B311: AC 120V YA14A75-B312 and YA14A75-B313: AC 240V
Rated frequency:	50/60Hz
Rated power:	Max. 80W
Protection class:	I
Test voltage:	YA14A75-B310: AC 120V YA14A75-B312: AC 240V
Test frequency:	60Hz

Table 3: Radio Characteristics

Radio Standards:	IEEE 802.11b IEEE 802.11n (20MHz)
Frequency Range:	2412 – 2462MHz
Output Power:	Max. 36dBm EIRP
Antenna Type:	Omni mesh antenna (3 antennas)
Antenna Gain:	8dBi for one antenna, 12.77dBi (= 8dBi + 10*log(3)) for 3 antenna system, to take into account correlation effects
Modulation Type:	802.11b (DSSS): BPSK 802.11n (OFDM): BPSK, QPSK, 16 QAM, 64QAM
Modulation / Spreading:	DSSS and OFDM (coupled with modulation type above)
Transmit Speed:	802.11b: 1Mbps 802.11n (20MHz): 65/ 58.5/ 52/ 39/ 26/ 19.5/ 13/ 6.5Mbps
Number of Channels:	11
FCC Classification:	DTS
IC classification:	Spread Spectrum/Digital Device (2400-2483.5 MHz)
Emission designator:	G1D

3.3 Clock Frequencies

The highest frequency generated or used by the EUT is 400MHz for the digital interface.

3.4 Noise Suppressing Parts

Refer to schematics.

4. Test Set-up and Operation Modes

4.1 Test Methodology

The test methodology used is based on the requirements of 47 CFR Part 15, Sections 15.31, 15.33, 15.35, 15.205, 15.207, 15.209 and KDB Publication No. 558074 D01.

The test methods, which have been used, are based on ANSI C63.4-2003 and RSS-Gen (Issue 3).

For details, see under each test item.

4.2 Operation Modes

Testing was performed at the lowest operating frequency (2412MHz), at the operating frequency in the middle of the specified frequency band (2437MHz) and at the highest operating frequency (2462MHz).

The basic operation modes used for testing are:

- A. EUT transmits (TX mode), with full power, at lowest channel (2412MHz), a continuous modulated signal streaming.
- B. EUT transmits (TX mode), with full power, at middle channel (2437MHz), a continuous modulated signal streaming.
- C. EUT transmits (TX mode), with full power, at highest channel (2462MHz), a continuous modulated signal streaming.

These operation modes were coupled with the following radios:

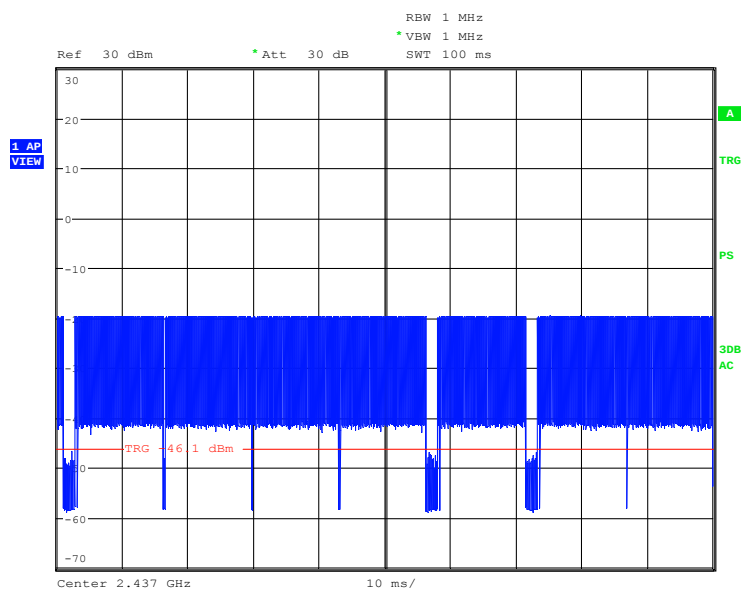
- 1. EUT operates with IEEE 802.11b radio
- 2. EUT operates with IEEE 802.11n radio

Note:

For testing purpose , the duty cycle (in a 100ms period) was approximately 94% for the 802.11b radio and 16.5% for the 802.11n radio (see figures here below).

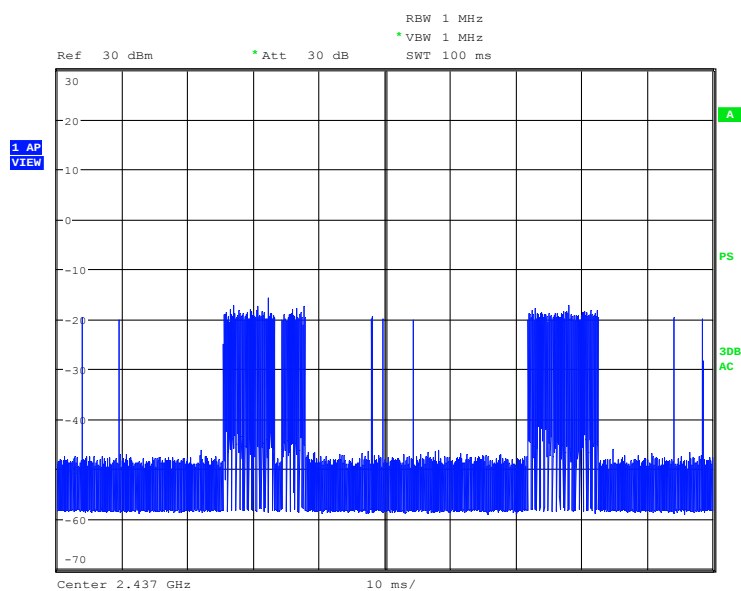
The maximum duty cycle per 100ms period in normal operation conditions (transfer of data) is 50% for IEEE 802.11b radio and 15% for IEEE 802.11n radio.

Figure 1: Duty Cycle for Testing, Configuration 1 (IEEE 802.11b)



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Figure 2: Duty Cycle for Testing, Configuration 2 (IEEE 802.11n)



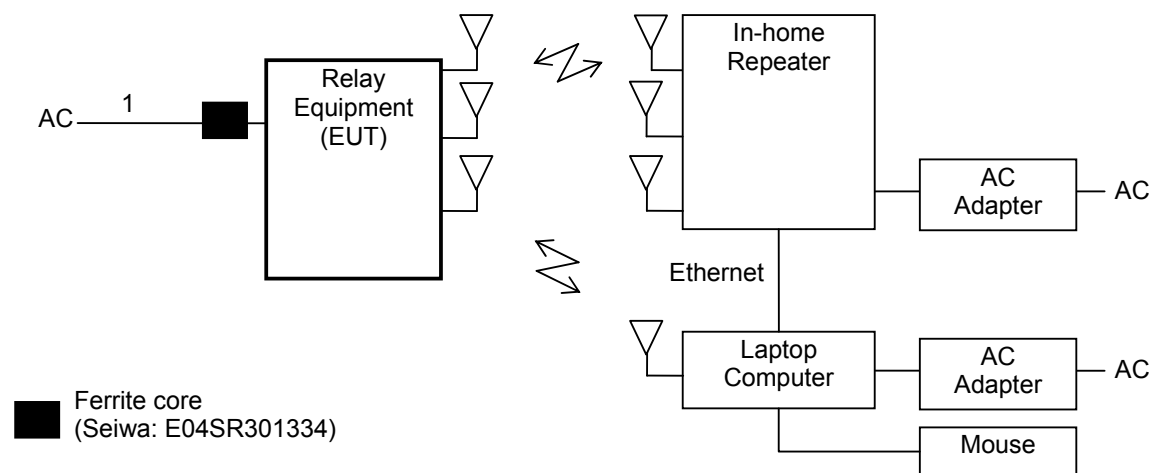
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4.3 Physical Configuration for Testing

The test system was configured in a typical fashion (as a customer would normally use it).

The justification and manipulation of cables and equipment in order to simulate a worst-case behavior of the test setup has been carried out as prescribed in ANSI C63.4:2003.

Figure 3: Block Diagram



Notes:

The ferrite core attached to the AC Input cable of the EUT was removed for radiated tests above 1GHz, for AC power line conducted tests and for antenna port conducted tests, which corresponds to worst case conditions. The EUT is specified to be operated only with the ferrite core attached to the AC Input cable.

The in-home repeater and the attached accessories were placed outside the test area for the radiated tests and for AC power line conducted tests.

Table 4: Samples used for Testing

Model	Serial Number	Rated Voltage
Relay Equipment YA14A75-B310	00021	AC 120V
Relay Equipment YA14A75-B312	00020	AC 240V

Table 5: Interfaces present on the EUT

No.	Interface	Cable Length for Testing, Shielding	Interface Classification
1.	AC Input	4.9m, un-shielded	AC input power port

For more details, refer to section: Photographs of the Test Set-Up.

4.4 Test Software

Softwares used for testing:

- (1) L20_GW_Rep_Radio.xls by Fujitsu Kyushu Network Technologies Limited.
- (2) Tera Term version 4.73 by Tera Term Project

These softwares were running on the laptop computer. They were used to enable the test operation modes listed in section 4.2 as appropriate.

4.5 Special Accessories and Auxiliary Equipment

The product has been tested together with the following additional accessories:

1. Product: Laptop Computer 1
Manufacturer: Fujitsu
Model: FMV-S8215
Rated Voltage: DC 19V
Input Current: 3.16A
Protection Class: III
Serial Number: R6100086
2. Product: AC Adapter for Laptop Computer 1
Manufacturer: Fujitsu
Model: SEC80N2-19.0 (CP23592-01)
Rated Voltage: AC 100-240V
Input Current: 1.4-0.7A
Frequency: 50/60Hz
Protection Class: II
Serial Number: 05X75448A
3. Product: In-home Repeater 1
Manufacturer: Fujitsu
Model: YA01A75-B213
Rated Voltage: 12V
Rated Power: 30W
Protection Class: III
Serial Number: 00007

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4. Product: AC Adapter for In-home Repeater 1
Manufacturer: V-Infinity
Model: ESTA120330UD
Rated Voltage: AC 100-240V
Input Current: 1.0A
Frequency: 50/60Hz
Protection Class: II
Serial Number: -
5. Product: Laptop Computer 2
Manufacturer: Fujitsu
Model: FMV-S8360
Rated Voltage: DC 19V
Input Current: 4.22A
Protection Class: III
Serial Number: R8901179
6. Product: AC Adapter for Laptop Computer 2
Manufacturer: Fujitsu
Model: SED100P2-19.0 (CP293664-01)
Rated Voltage: AC 100-240V
Input Current: 1.2-0.6A
Frequency: 50/60Hz
Protection Class: II
Serial Number: 08807748C
7. Product: In-home Repeater 2
Manufacturer: Fujitsu
Model: YA01A75-B213
Rated Voltage: 12V
Rated Power: 30W
Protection Class: III
Serial Number: 00008
8. Product: AC Adapter for In-home Repeater 2
Manufacturer: V-Infinity
Model: ESTA120330UD
Rated Voltage: AC 100-240V
Input Current: 1.0A
Frequency: 50/60Hz
Protection Class: II
Serial Number: -

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9. Product: Mouse
Manufacturer: Fujitsu
Model: M-UV69A (CP154022-01)
Rated Voltage: DC 5V
Protection Class: III
Serial Number: HCA41700351

These accessories were used for the following configurations:

Accessory	Configuration
1 to 4	Configuration with Relay Equipment YA14A75-B310 (AC 120V)
5 to 8	Configuration with Relay Equipment YA14A75-B312 (AC 240V)
9	All configurations

4.6 Countermeasures to achieve EMC Compliance

No additional measures were employed to achieve compliance.

5. Test Results RADIO

5.1 Technical Requirements

5.1.1 Supply Voltage Requirements

RESULT: **PASS**

Requirements:

FCC 15.31(e)

For intentional radiators, measurements of the variation of the input power or the radiated signal level of the fundamental frequency component of the emission, as appropriate, shall be performed with the supply voltage varied between 85% and 115% of the nominal rated supply voltage. For battery operated equipment, the equipment tests shall be performed using a new battery.

Verdict:

The EUT has an internal voltage regulator to supply the RF circuit. Hence it complies with the supply voltage requirements.

5.1.2 Antenna Requirements

RESULT: **PASS**

Requirements:

FCC 15.203

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device.

Verdict:

The EUT has three external antennas with N-type connector. The EUT is intended to be professionally installed on a pole about 5m above the ground. Hence it complies with the antenna requirements.

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5.1.3 Restricted Bands of Operation

RESULT:

PASS

Requirements:

FCC 15.205 and RSS-Gen 7.2.2

Only spurious emissions are permitted in any of the restricted frequency bands, unless otherwise specified.

Verdict:

The EUT operation frequency range is 2412-2462MHz. Therefore only spurious emissions may be found in the restricted bands of operation and the EUT complies with the restricted frequency band requirement.

5.2 Conducted Measurements at Antenna Port

5.2.1 Conducted Output Power

RESULT:

PASS

Date of testing: 2012-08-28 till 2012-09-04

Ambient temperature: 23 to 25°C

Relative humidity: 48 to 65%

Atmospheric pressure: 1009 to 1013hPa

Requirements:

FCC 15.247(b)(3) and RSS-210 A8.4(4)

For systems using digital modulation in the 2400-2483.5MHz band, the maximum peak output power is 1W (30dBm).

If transmitting antennas of directional gain greater than 6dBi are used, the conducted output power from the intentional radiator shall be reduced by the amount in dB that the directional gain of the antenna exceeds 6dBi.

Test procedure:

ANSI C63.4-2003, RSS-Gen 4.8, KDB Publication No. 558074 D01 and KDB Publication No. 662911 D01.

The maximum peak output power was measured at each antenna port with a spectrum analyzer using a peak detector. The resolution bandwidth was set to 1MHz and the video bandwidth to 3MHz. The measured power levels were integrated over the 6dB bandwidth of the carrier. The results for the three antenna ports were summed up to obtain the total output power.

Precheck measurements of the RF output power were performed at AC 120V and AC 240V input voltages (on models YA14A75-B310 and YA14A75-B312 respectively) in order to identify the voltage producing the highest RF output power. Worst case results were obtained with AC 120V, for both IEEE 802.11b and IEEE 802.11n radios.

Therefore all the antenna port conducted measurements were performed at AC 120V.

An additional precheck was performed to determine which data rate produces the highest RF output power for the IEEE 802.11n radio. Worst case results were obtained for a data rate of 26Mbps. Therefore all the measurements described in this test report for the IEEE 802.11n radio were performed with a data rate of 26Mbps.

The total antenna gain, taking into account correlation effects, is 12.77dBi. The maximum peak output power limit is therefore 30dBm – (12.77dBi – 6dBi) = 23.23dBm.

The readings of the measurements given here below take into account the loss generated by all the involved cables.

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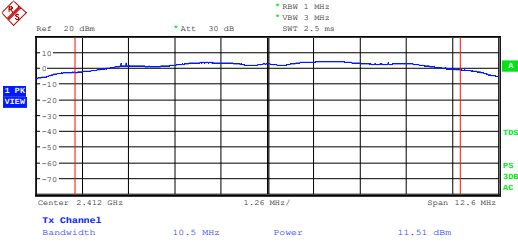
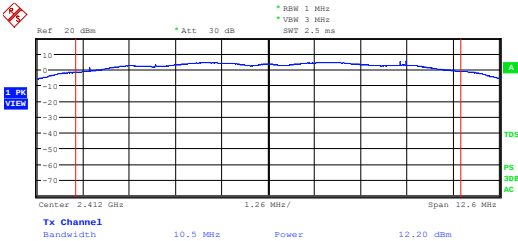
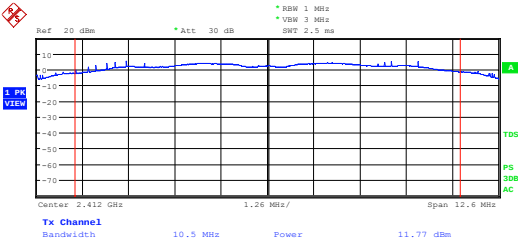
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Table 6: Conducted Output Power, Mode A (2412MHz), Configuration 1 (IEEE 802.11b)

Data Rate [Mbps]	Power Antenna 1 [dBm]	Power Antenna 2 [dBm]	Power Antenna 3 [dBm]	Total Power [dBm]	Limit [dBm]	Margin [dB]
1	11.77	12.20	11.51	16.61	23.23	6.62

Figure 4: Conducted Output Power, Mode A (2412MHz), Configuration 1 (IEEE 802.11b)



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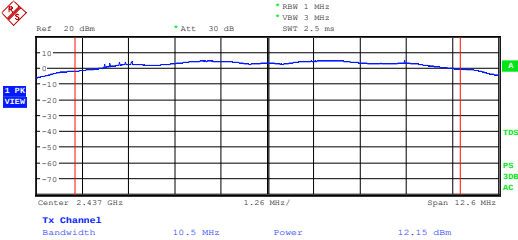
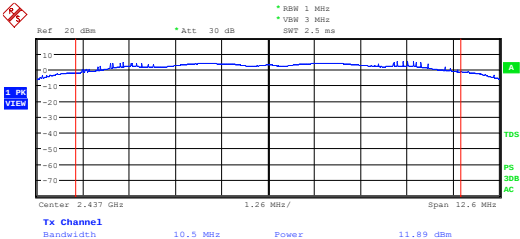
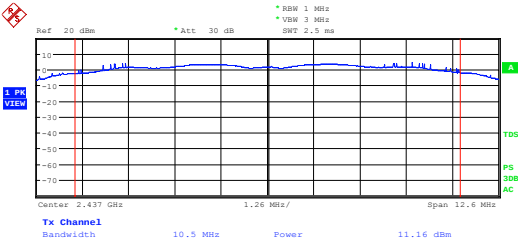
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Table 7: Conducted Output Power, Mode B (2437MHz), Configuration 1 (IEEE 802.11b)

Data Rate [Mbps]	Power Antenna 1 [dBm]	Power Antenna 2 [dBm]	Power Antenna 3 [dBm]	Total Power [dBm]	Limit [dBm]	Margin [dB]
1	11.16	11.89	12.15	16.52	23.23	6.70

Figure 5: Conducted Output Power, Mode B (2437MHz), Configuration 1 (IEEE 802.11b)



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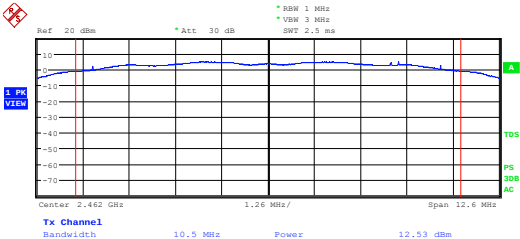
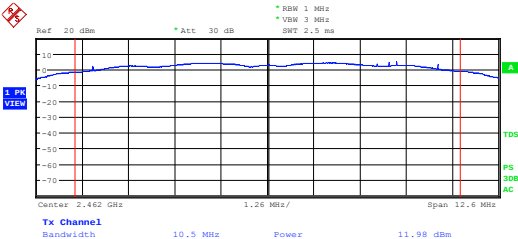
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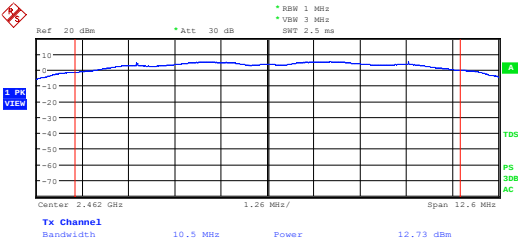
Table 8: Conducted Output Power, Mode C (2462MHz), Configuration 1 (IEEE 802.11b)

Data Rate [Mbps]	Power Antenna 1 [dBm]	Power Antenna 2 [dBm]	Power Antenna 3 [dBm]	Total Power [dBm]	Limit [dBm]	Margin [dB]
1	11.98	12.53	12.73	17.20	23.23	6.03

Figure 6: Conducted Output Power, Mode C (2462MHz), Configuration 1 (IEEE 802.11b)



Maximum peak conducted output power, mode C1, Ant1
Date: 30.AUG.2012 16:01:29



Maximum peak conducted output power, mode C1, Ant2
Date: 30.AUG.2012 16:03:40

Maximum peak conducted output power, mode C1, Ant3
Date: 30.AUG.2012 16:05:43

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Test Report No.:

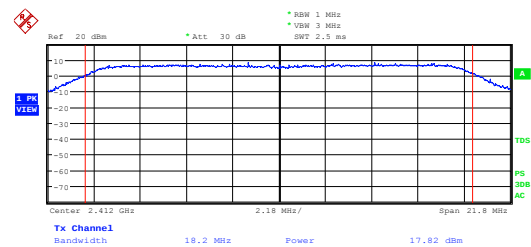
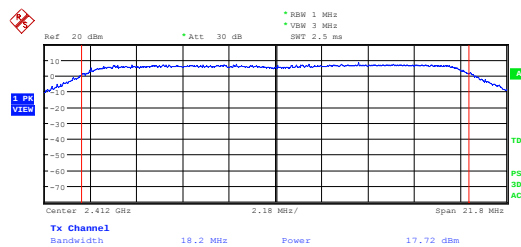
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Table 9: Conducted Output Power, Mode A (2412MHz), Configuration 2 (IEEE 802.11n)

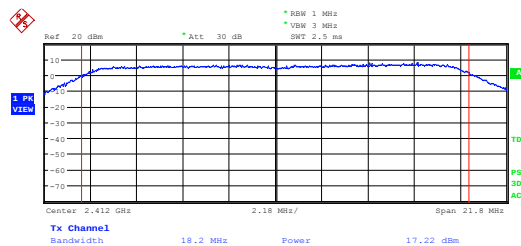
Data Rate [Mbps]	Power Antenna 1 [dBm]	Power Antenna 2 [dBm]	Power Antenna 3 [dBm]	Total Power [dBm]	Limit [dBm]	Margin [dB]
26	17.72	17.82	17.22	22.37	23.23	0.86 (*)

Note: (*) The measured result is below the specification limit by a margin less than the measurement uncertainty; it is therefore not possible to determine compliance at a level of confidence of 95%. However, the measured result indicates a high probability that the tested product complies with the specification limit.

Figure 7: Conducted Output Power, Mode A (2412MHz), Configuration 2 (IEEE 802.11n)



Maximum peak conducted output power, mode A2, 26Mbps, Ant1
Date: 29.AUG.2012 11:26:34



Maximum peak conducted output power, mode A2, 26Mbps, Ant2
Date: 29.AUG.2012 11:22:33

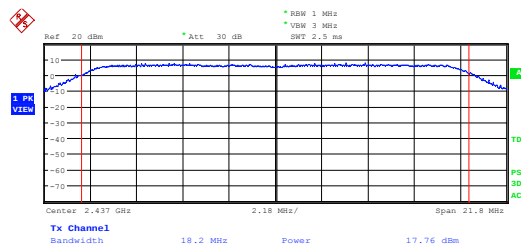
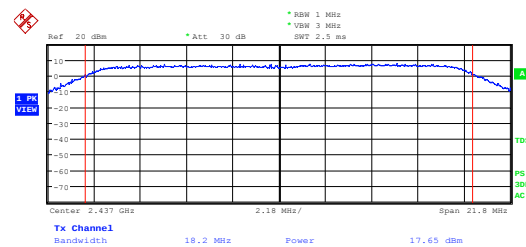
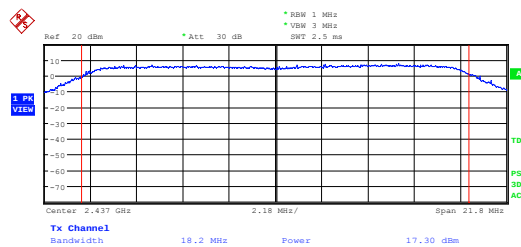
Maximum peak conducted output power, mode A2, 26Mbps, Ant3
Date: 29.AUG.2012 11:17:42

Table 10: Conducted Output Power, Mode B (2437MHz), Configuration 2 (IEEE 802.11n)

Data Rate [Mbps]	Power Antenna 1 [dBm]	Power Antenna 2 [dBm]	Power Antenna 3 [dBm]	Total Power [dBm]	Limit [dBm]	Margin [dB]
26	17.30	17.65	17.76	22.35	23.23	0.88 (*)

Note: (*) The measured result is below the specification limit by a margin less than the measurement uncertainty; it is therefore not possible to determine compliance at a level of confidence of 95%. However, the measured result indicates a high probability that the tested product complies with the specification limit.

Figure 8: Conducted Output Power, Mode B (2437MHz), Configuration 2 (IEEE 802.11n)



Produkte
Products

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Test Report No.:

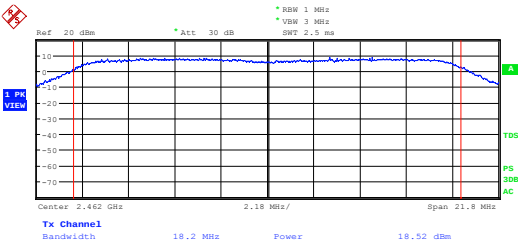
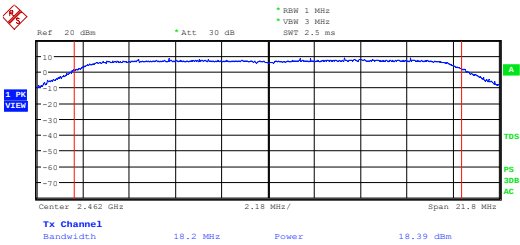
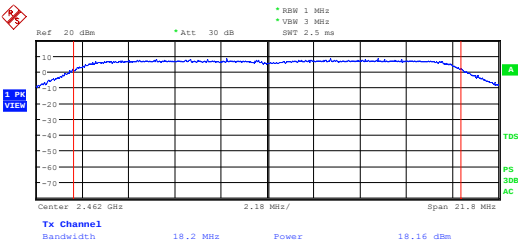
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Table 11: Conducted Output Power, Mode C (2462MHz), Configuration 2 (IEEE 802.11n)

Data Rate [Mbps]	Power Antenna 1 [dBm]	Power Antenna 2 [dBm]	Power Antenna 3 [dBm]	Total Power [dBm]	Limit [dBm]	Margin [dB]
26	18.16	18.39	18.52	23.13	23.23	0.10 (*)

Note: (*) The measured result is below the specification limit by a margin less than the measurement uncertainty; it is therefore not possible to determine compliance at a level of confidence of 95%. However, the measured result indicates a high probability that the tested product complies with the specification limit.

Figure 9: Conducted Output Power, Mode C (2462MHz), Configuration 2 (IEEE 802.11n)



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5.2.2 6dB Bandwidth

RESULT:

PASS

Date of testing: 2012-08-28, 2012-08-29, 2012-08-30

Ambient temperature: 25, 25, 25°C

Relative humidity: 49, 65, 58%

Atmospheric pressure: 1013, 1011, 1009hPa

Requirements:

FCC 15.247(a)(2) and RSS-210 A8.2(a)

For systems using digital modulation in the 2400-2483.5MHz band, the 6dB bandwidth shall be at least 500kHz.

Test procedure:

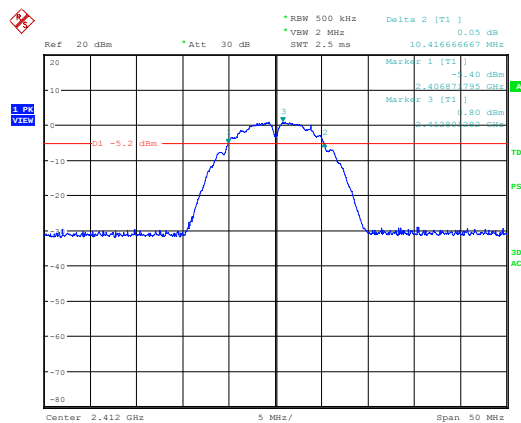
ANSI C63.4-2003, RSS-Gen 4.6.2 and KDB Publication No. 558074 D01.

The 6dB bandwidth was measured at the antenna port with a spectrum analyzer using a peak detector. The resolution bandwidth was set to 500kHz and the video bandwidth to 2MHz. Markers placed at the lowest and highest intersections of the trace with a 6dBc line were used to calculate the emission bandwidth.

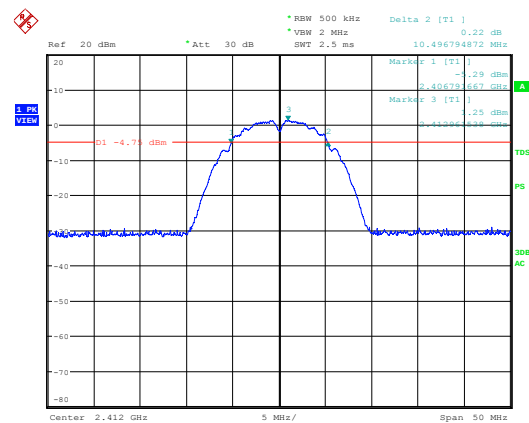
Table 12: 6dB Bandwidth, Configuration 1 (IEEE 802.11b)

Operating Frequency [MHz]	6dB Bandwidth Antenna 1 [MHz]	6dB Bandwidth Antenna 2 [MHz]	6dB Bandwidth Antenna 3 [MHz]	Limit [MHz]
2412	10.42	10.50	10.42	0.50
2437	10.50	10.50	10.42	0.50
2462	10.50	10.34	10.42	0.50

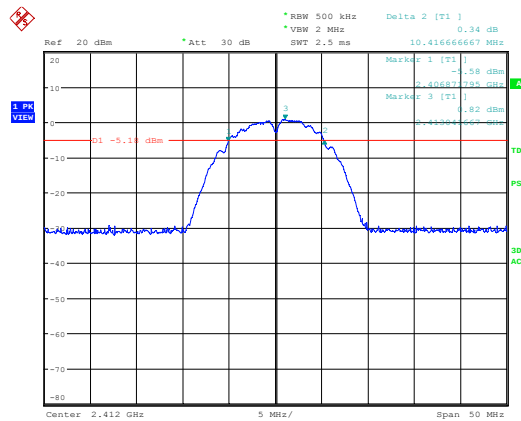
Figure 10: 6dB Bandwidth, Mode A (2412MHz), Configuration 1 (IEEE 802.11b)



6dB bandwidth, mode A1, Ant1
Date: 30.AUG.2012 14:13:10

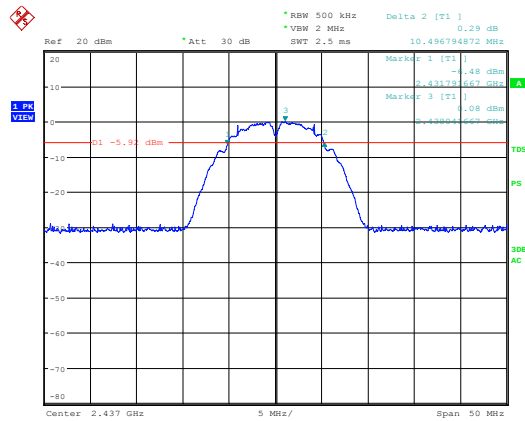


6dB bandwidth, mode A1, Ant2
Date: 30.AUG.2012 14:08:41

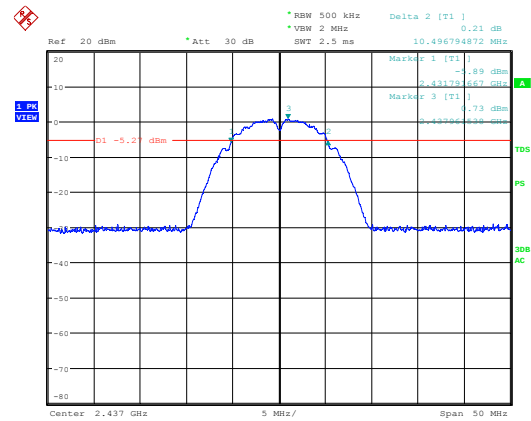


6dB bandwidth, mode A1, Ant3
Date: 30.AUG.2012 14:05:36

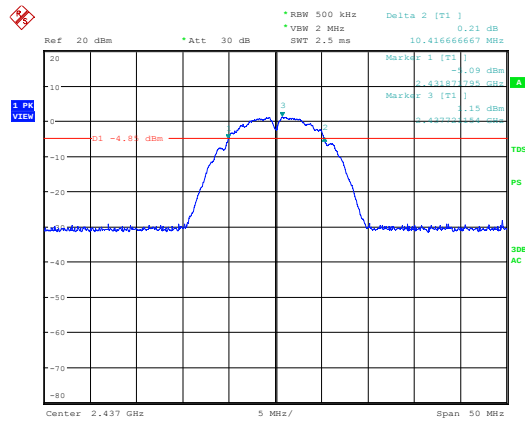
Figure 11: 6dB Bandwidth, Mode B (2437MHz), Configuration 1 (IEEE 802.11b)



6dB bandwidth, mode B1, Ant1
Date: 30.AUG.2012 14:59:02

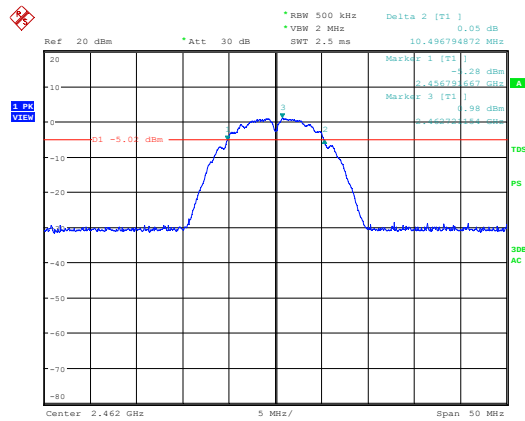


6dB bandwidth, mode B1, Ant2
Date: 30.AUG.2012 14:46:52

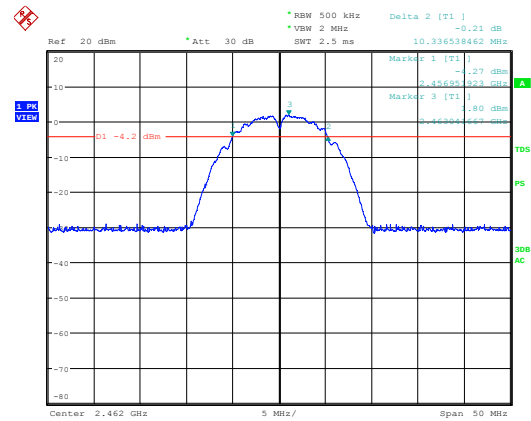


6dB bandwidth, mode B1, Ant3
Date: 30.AUG.2012 14:44:05

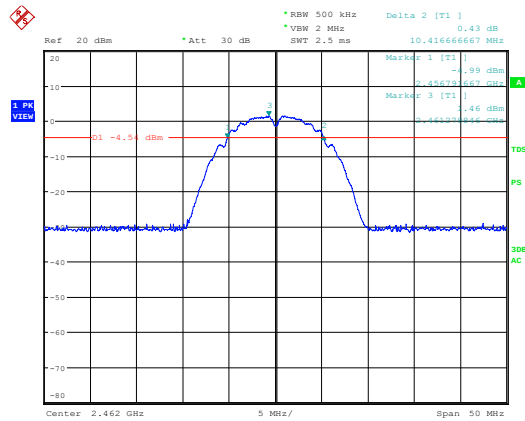
Figure 12: 6dB Bandwidth, Mode C (2462MHz), Configuration 1 (IEEE 802.11b)



6dB bandwidth, mode C1, Ant1
Date: 30.AUG.2012 15:35:34



6dB bandwidth, mode C1, Ant2
Date: 30.AUG.2012 15:29:26



6dB bandwidth, mode C1, Ant3
Date: 30.AUG.2012 15:32:00

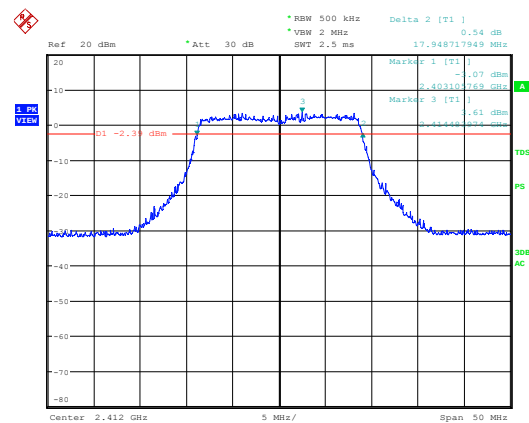
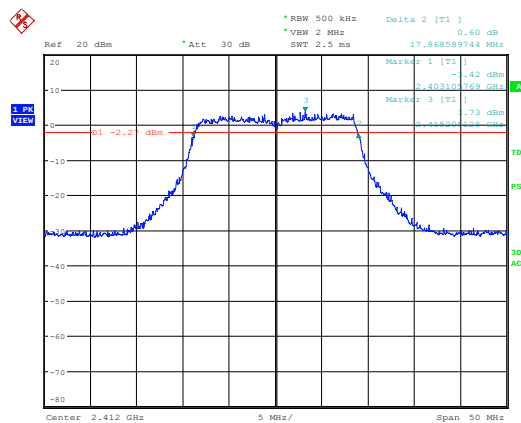
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Table 13: 6dB Bandwidth, Configuration 2 (IEEE 802.11n)

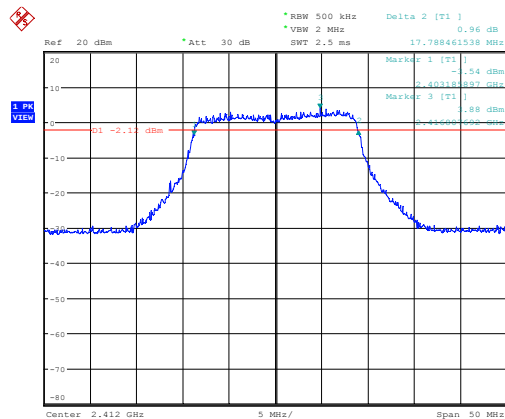
Operating Frequency [MHz]	6dB Bandwidth Antenna 1 [MHz]	6dB Bandwidth Antenna 2 [MHz]	6dB Bandwidth Antenna 3 [MHz]	Limit [MHz]
2412	17.87	17.95	17.79	0.50
2437	18.11	17.47	17.71	0.50
2462	17.79	17.63	17.87	0.50

Figure 13: 6dB Bandwidth, Mode A (2412MHz), Configuration 2 (IEEE 802.11n)



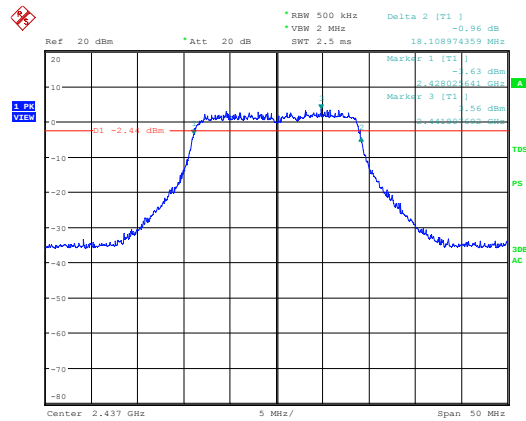
6dB bandwidth, mode A2, 26Mbps, Ant1
Date: 29.AUG.2012 11:07:57

6dB bandwidth, mode A2, 26Mbps, Ant2
Date: 29.AUG.2012 11:10:18

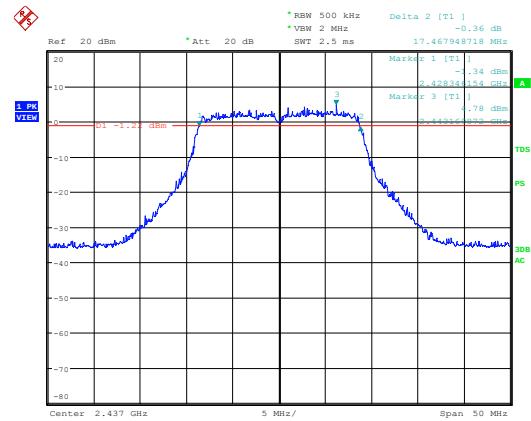


6dB bandwidth, mode A2, 26Mbps, Ant3
Date: 29.AUG.2012 11:12:40

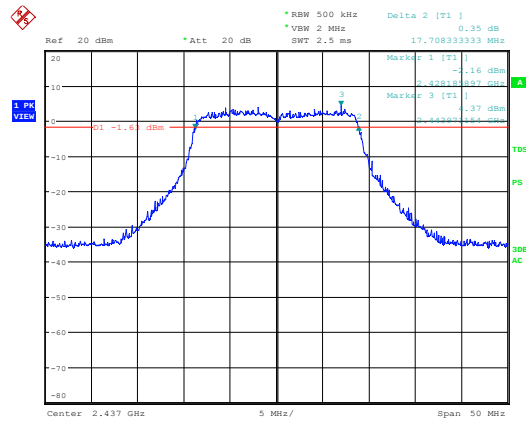
Figure 14: 6dB Bandwidth, Mode B (2437MHz), Configuration 2 (IEEE 802.11n)



6dB bandwidth, mode B2, 26Mbps, Ant1
Date: 28.AUG.2012 18:04:02

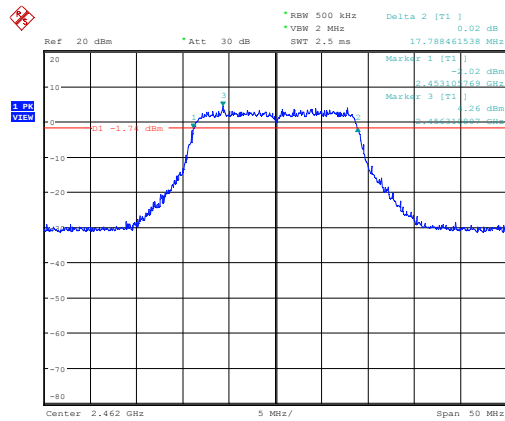


6dB bandwidth, mode B2, 26Mbps, Ant2
Date: 28.AUG.2012 17:53:49

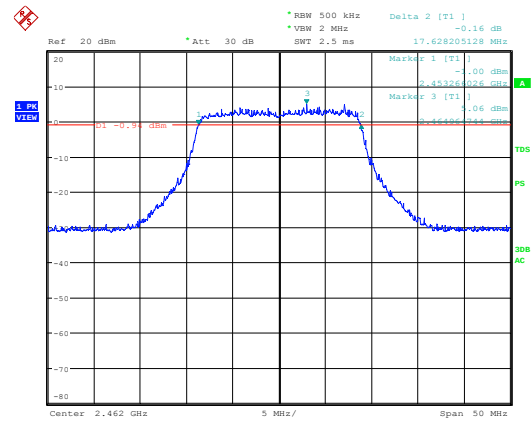


6dB bandwidth, mode B2, 26Mbps, Ant3
Date: 28.AUG.2012 17:44:34

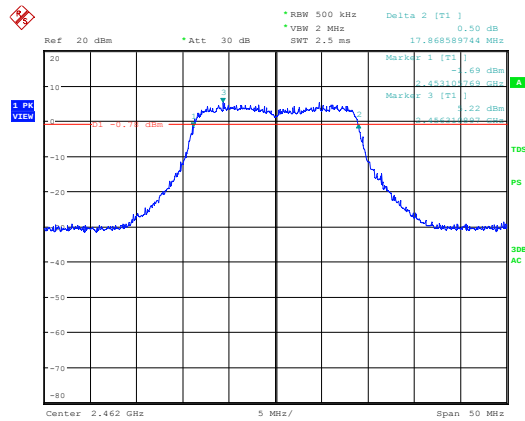
Figure 15: 6dB Bandwidth, Mode C (2462MHz), Configuration 2 (IEEE 802.11n)



6dB bandwidth, mode C2, 26Mbps, Ant1
Date: 29.AUG.2012 14:12:37



6dB bandwidth, mode C2, 26Mbps, Ant2
Date: 29.AUG.2012 14:10:13



6dB bandwidth, mode C2, 26Mbps, Ant3
Date: 29.AUG.2012 14:08:00

5.2.3 99% Bandwidth

Date of testing: 2012-08-30, 2012-09-11

Ambient temperature: 25, 24°C

Relative humidity: 58, 63%

Atmospheric pressure: 1009, 1008hPa

Requirements:

RSS-Gen 4.6.1

The 99% bandwidth shall be reported according to RSS-Gen 4.6.1.

Test procedure:

RSS-Gen 4.6.1.

The 99% bandwidth was measured at the antenna port with a spectrum analyzer using a sample detector. The resolution bandwidth was set to 1MHz (1% of the span) and the video bandwidth to 3MHz. The 99% bandwidth was measured by using the OBW function of the analyzer with a 99% coverage setting.

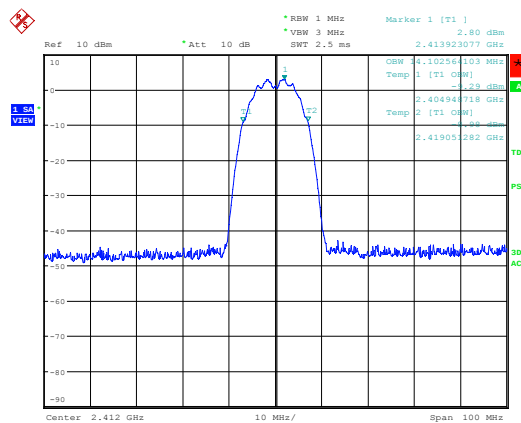
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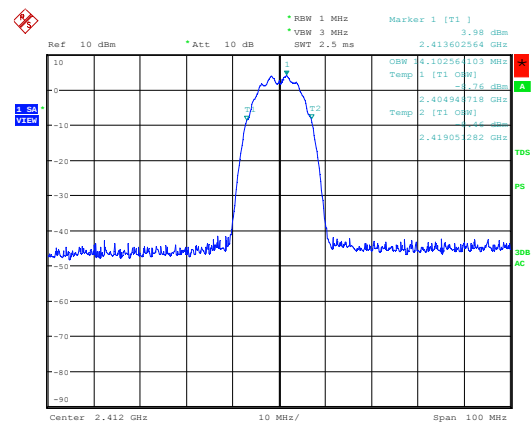
Table 14: 99% Bandwidth, Configuration 1 (IEEE 802.11b)

Operating Frequency [MHz]	99% Bandwidth Antenna 1 [MHz]	99% Bandwidth Antenna 2 [MHz]	99% Bandwidth Antenna 3 [MHz]
2412	14.10	14.10	13.94
2437	14.10	14.10	13.94
2462	14.10	14.10	14.10

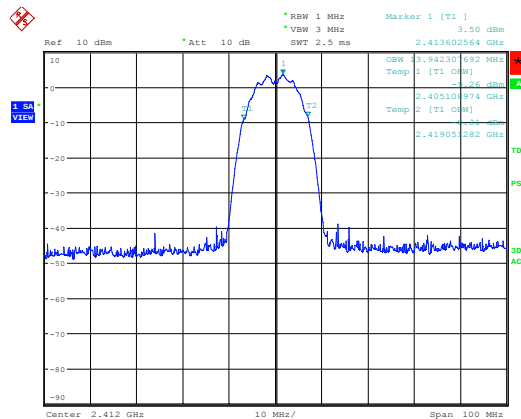
Figure 16: 99% Bandwidth, Mode A (2412MHz), Configuration 1 (IEEE 802.11b)



99% bandwidth, mode A1, Ant1
Date: 30.AUG.2012 18:21:03



99% bandwidth, mode A1, Ant2
Date: 30.AUG.2012 18:19:30

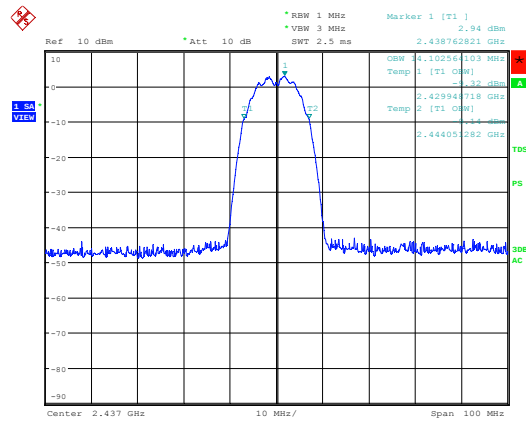


99% bandwidth, mode A1, Ant3
Date: 30.AUG.2012 18:17:46

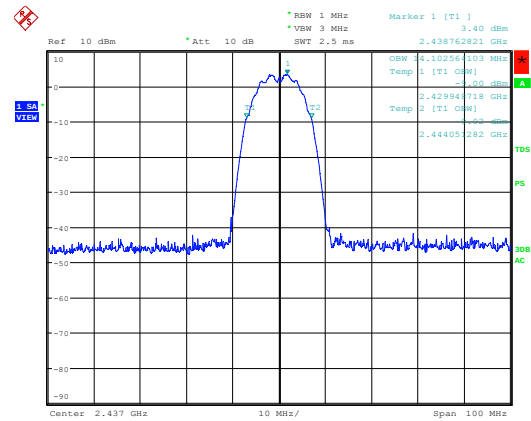
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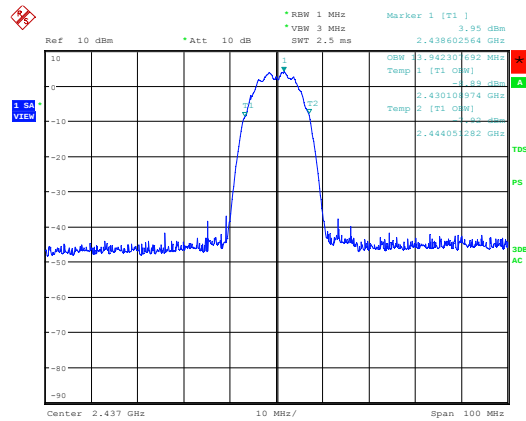
Figure 17: 99% Bandwidth, Mode B (2437MHz), Configuration 1 (IEEE 802.11b)



99% bandwidth, mode B1, Ant1
Date: 30.AUG.2012 18:04:19



99% bandwidth, mode B1, Ant2
Date: 30.AUG.2012 18:05:12



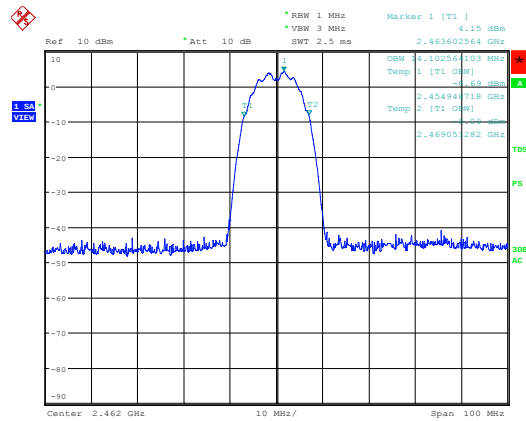
99% bandwidth, mode B1, Ant3
Date: 30.AUG.2012 18:06:12

Produkte
Products

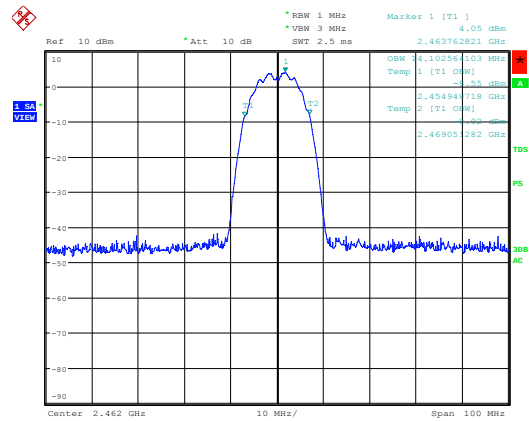
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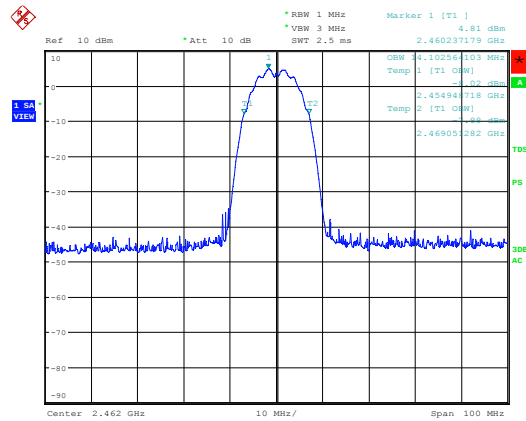
Figure 18: 99% Bandwidth, Mode C (2462MHz), Configuration 1 (IEEE 802.11b)



99% bandwidth, mode C1, Ant1
Date: 30.AUG.2012 18:31:15



99% bandwidth, mode C1, Ant2
Date: 30.AUG.2012 18:33:12



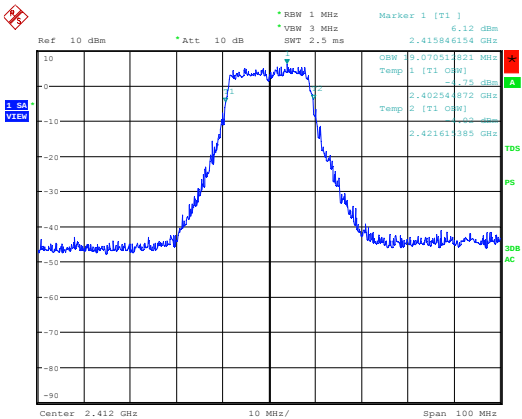
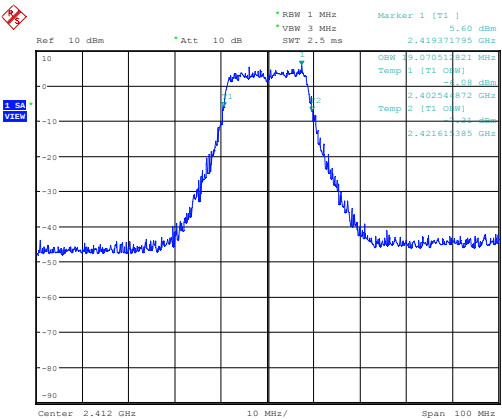
99% bandwidth, mode C1, Ant3
Date: 30.AUG.2012 18:34:30

Produkte
Products

Table 15: 99% Bandwidth, Configuration 2 (IEEE 802.11n)

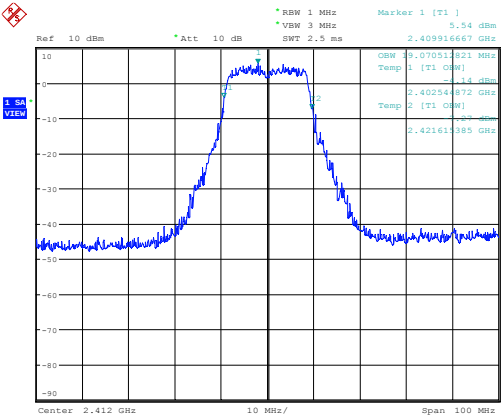
Operating Frequency [MHz]	99% Bandwidth Antenna 1 [MHz]	99% Bandwidth Antenna 2 [MHz]	99% Bandwidth Antenna 3 [MHz]
2412	19.07	19.07	19.07
2437	19.07	19.23	18.91
2462	19.07	19.23	19.07

Figure 19: 99% Bandwidth, Mode A (2412MHz), Configuration 2 (IEEE 802.11n)



99% bandwidth, mode A2, 26Mbps, Ant1
Date: 11.SEP.2012 09:57:43

99% bandwidth, mode A2, 26Mbps, Ant2
Date: 11.SEP.2012 09:56:30



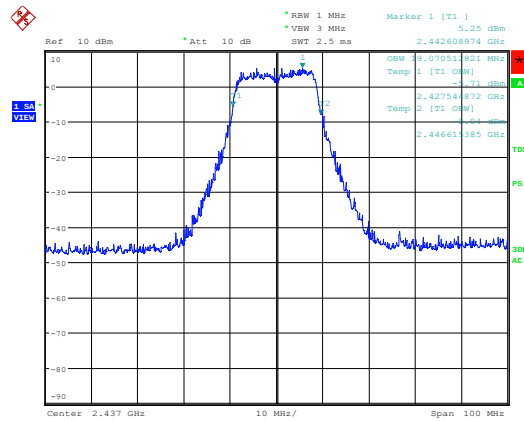
99% bandwidth, mode A2, 26Mbps, Ant3
Date: 11.SEP.2012 09:53:36

Produkte
Products

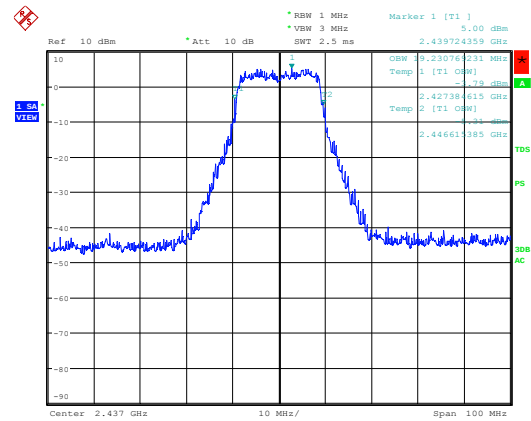
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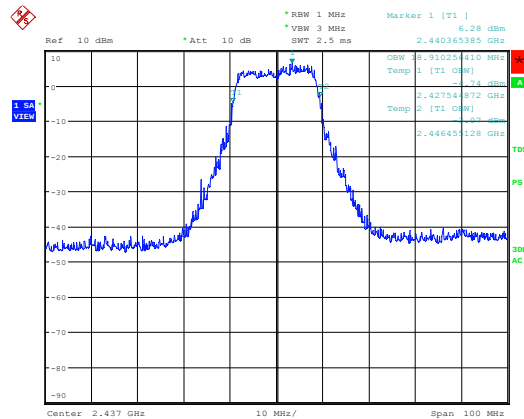
Figure 20: 99% Bandwidth, Mode B (2437MHz), Configuration 2 (IEEE 802.11n)



99% bandwidth, mode B2, 26Mbps, Ant1
Date: 11.SEP.2012 10:08:16

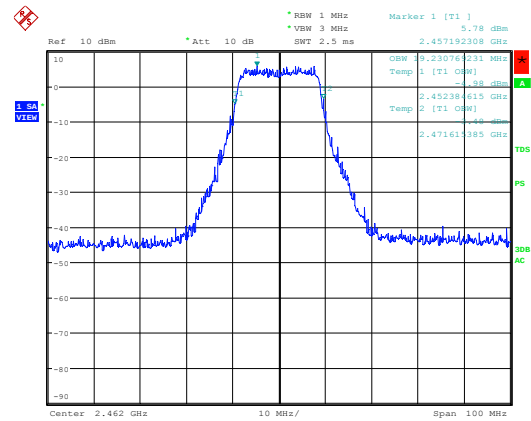
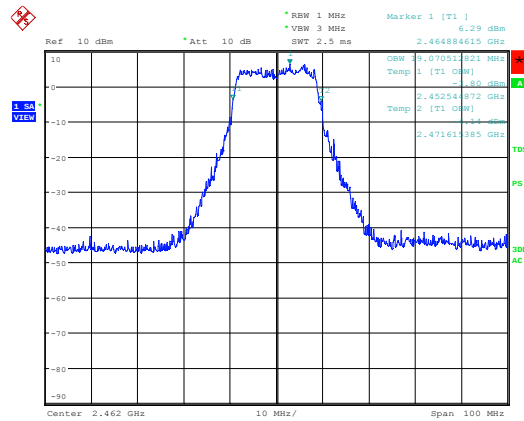


99% bandwidth, mode B2, 26Mbps, Ant2
Date: 11.SEP.2012 10:09:47



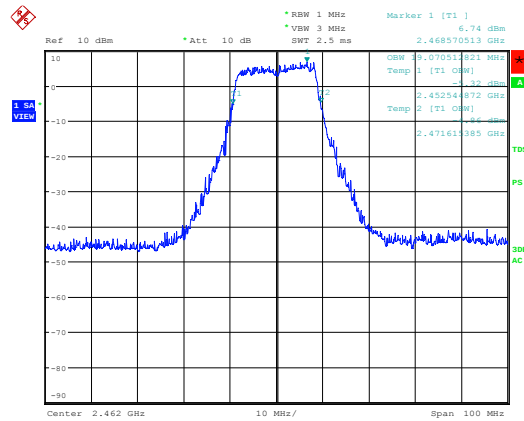
99% bandwidth, mode B2, 26Mbps, Ant3
Date: 11.SEP.2012 10:11:04

Figure 21: 99% Bandwidth, Mode C (2462MHz), Configuration 2 (IEEE 802.11n)



99% bandwidth, mode C2, 26Mbps, Ant1
Date: 11.SEP.2012 10:22:10

99% bandwidth, mode C2, 26Mbps, Ant2
Date: 11.SEP.2012 10:20:52



99% bandwidth, mode C2, 26Mbps, Ant3
Date: 11.SEP.2012 10:19:41

5.2.4 Conducted Spurious Emissions

RESULT:

PASS

Date of testing: 2012-08-29, 2012-08-30

Ambient temperature: 25, 25°C

Relative humidity: 65, 58%

Atmospheric pressure: 1011, 1009hPa

Requirements:

FCC 15.247(d) and RSS-210 A8.5

In any 100kHz bandwidth outside the frequency band in which the intentional radiator is operating, the RF power shall be at least 20dB below that of the maximum in-band 100kHz emission.

Test procedure:

ANSI C63.4-2003, RSS-Gen 4.9, KDB Publication No. 558074 D01 and KDB Publication No. 662911 D01.

The conducted spurious emissions were measured at the antenna port with a spectrum analyzer using a peak detector. The resolution bandwidth was set to 100kHz and the video bandwidth to 300kHz. Measurements were performed from 30MHz to 25GHz (10th harmonics).

The maximum in-band 100kHz emission was determined with the Peak Power Spectral Density test.

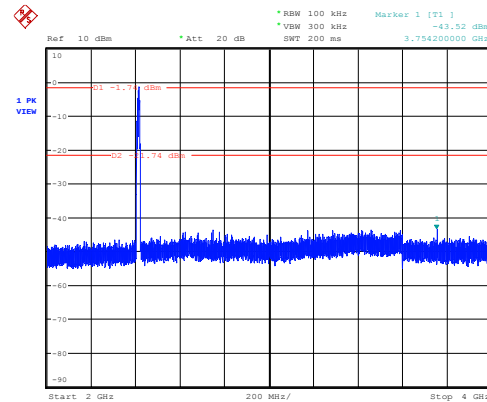
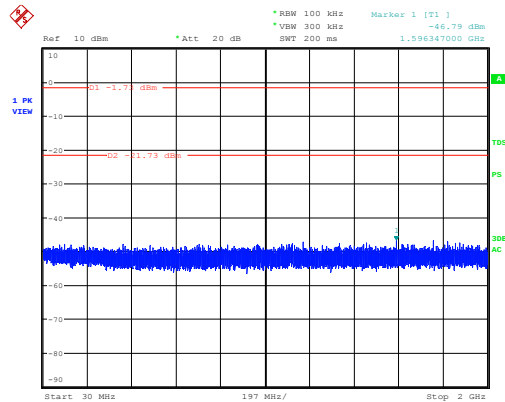
The readings of the measurements take into account the loss generated by all the involved cables.

Produkte
Products

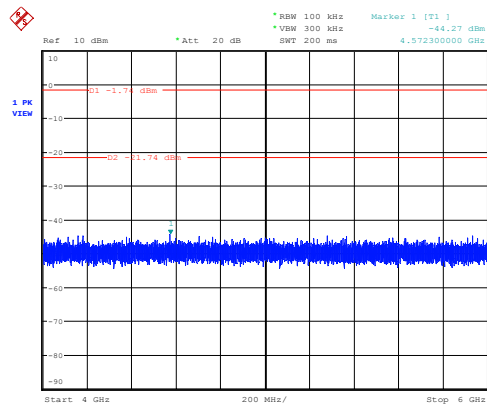
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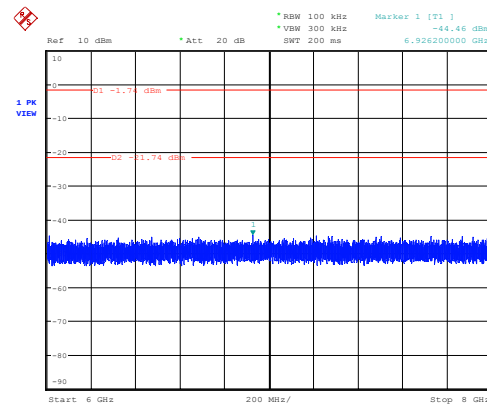
Figure 22: Conducted Spurious Emissions, 30MHz - 12GHz, Mode A (2412MHz), Configuration 1 (IEEE 802.11b), Antenna 1



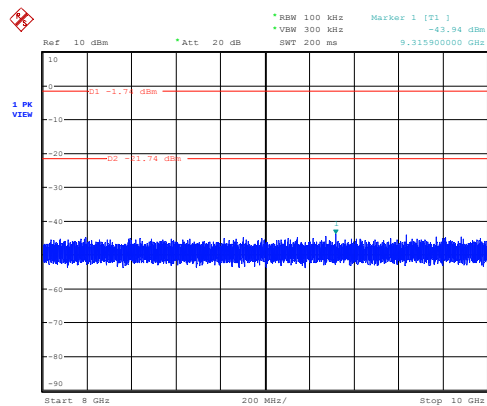
Conducted spurious emissions, mode A1, Ant1
Date: 30.AUG.2012 17:13:18



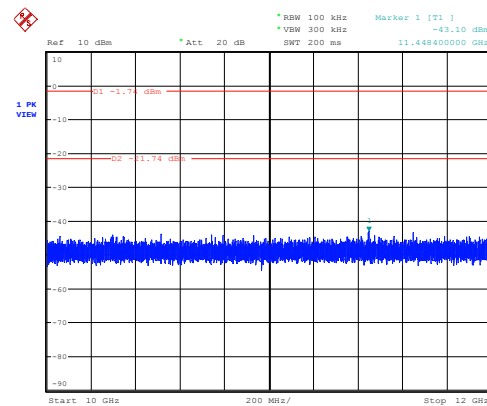
Conducted spurious emissions, mode A1, Ant1
Date: 30.AUG.2012 17:17:39



Conducted spurious emissions, mode A1, Ant1
Date: 30.AUG.2012 17:17:56



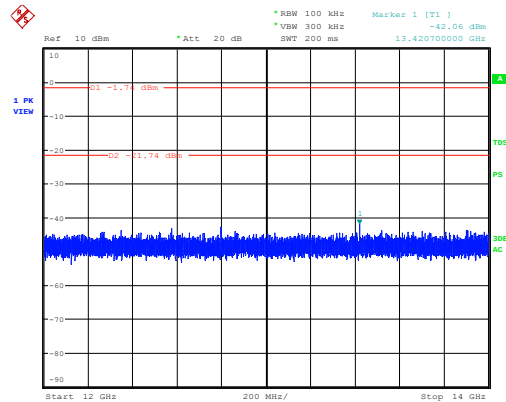
Conducted spurious emissions, mode A1, Ant1
Date: 30.AUG.2012 17:18:14



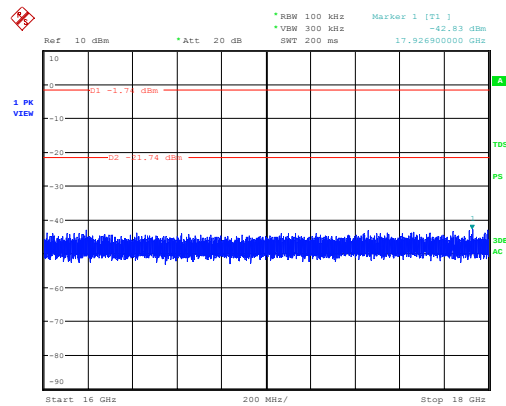
Conducted spurious emissions, mode A1, Ant1
Date: 30.AUG.2012 17:18:32

Conducted spurious emissions, mode A1, Ant1
Date: 30.AUG.2012 17:18:49

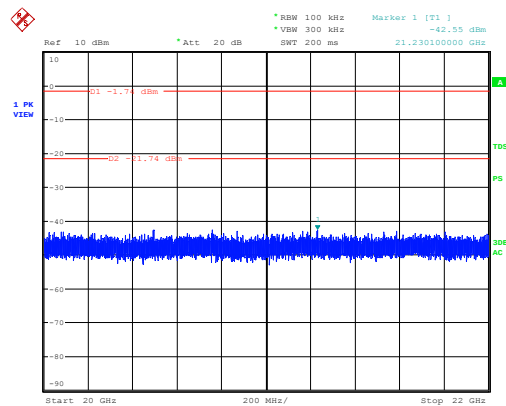
Figure 23: Conducted Spurious Emissions, 12 - 24GHz, Mode A (2412MHz), Configuration 1 (IEEE 802.11b), Antenna 1



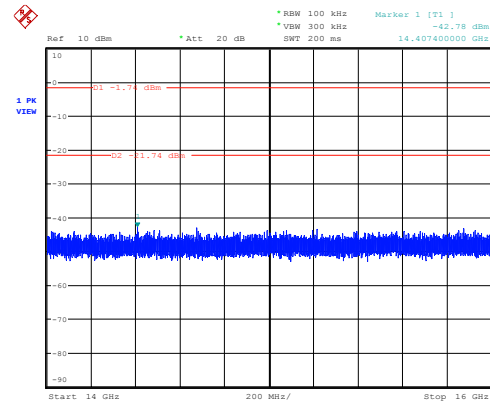
Conducted spurious emissions, mode A1, Ant1
Date: 30.AUG.2012 17:19:05



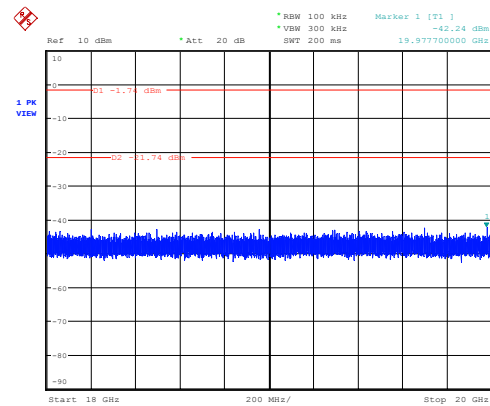
Conducted spurious emissions, mode A1, Ant1
Date: 30.AUG.2012 17:19:41



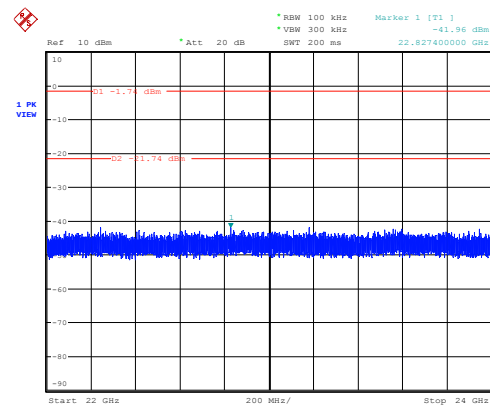
Conducted spurious emissions, mode A1, Ant1
Date: 30.AUG.2012 17:20:13



Conducted spurious emissions, mode A1, Ant1
Date: 30.AUG.2012 17:19:24

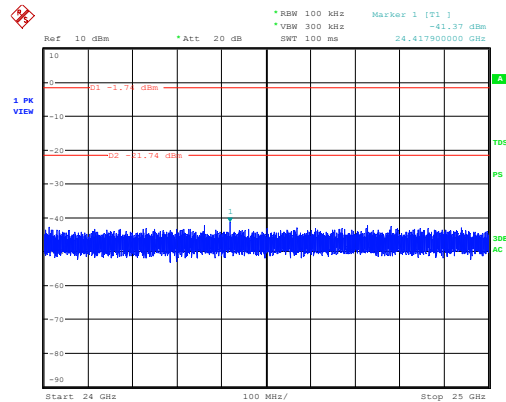


Conducted spurious emissions, mode A1, Ant1
Date: 30.AUG.2012 17:19:57



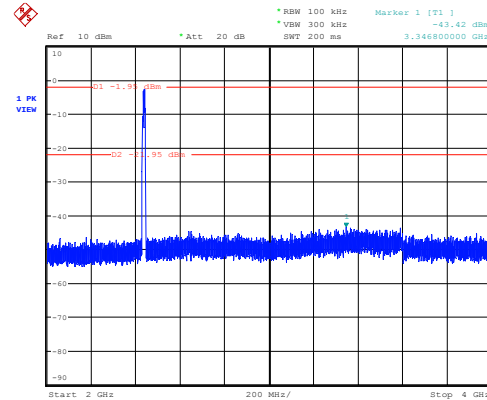
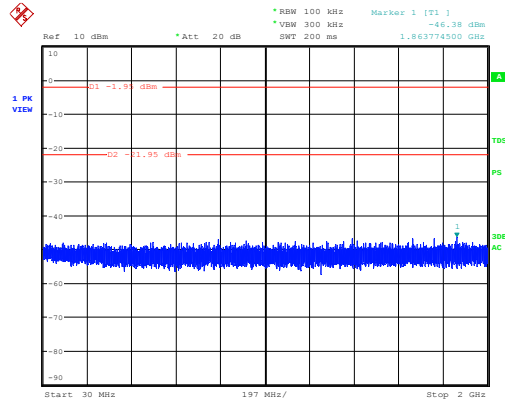
Conducted spurious emissions, mode A1, Ant1
Date: 30.AUG.2012 17:20:31

Figure 24: Conducted Spurious Emissions, 24 - 25GHz, Mode A (2412MHz), Configuration 1 (IEEE 802.11b), Antenna 1

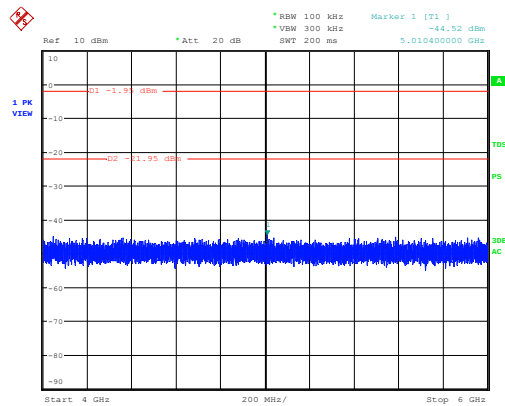


Conducted spurious emissions, mode A1, Ant1
Date: 30.AUG.2012 17:20:46

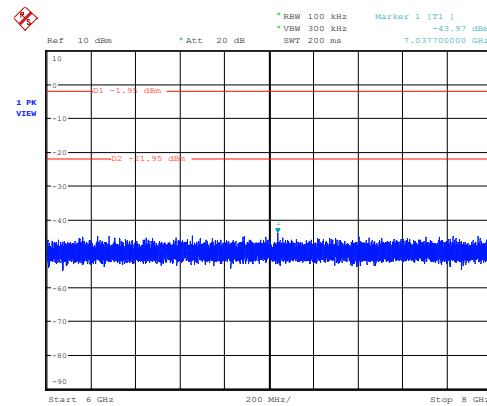
Figure 25: Conducted Spurious Emissions, 30MHz - 12GHz, Mode B (2437MHz), Configuration 1 (IEEE 802.11b), Antenna 1



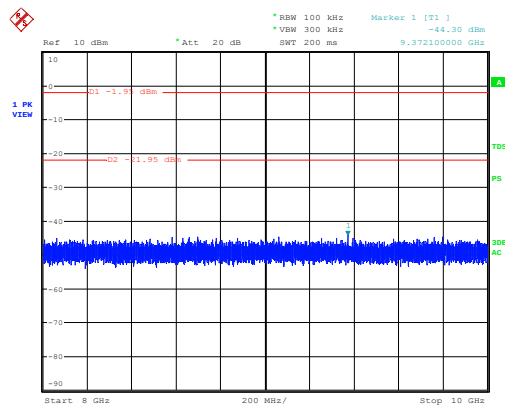
Conducted spurious emissions, mode B1, Ant1
Date: 30.AUG.2012 17:59:52



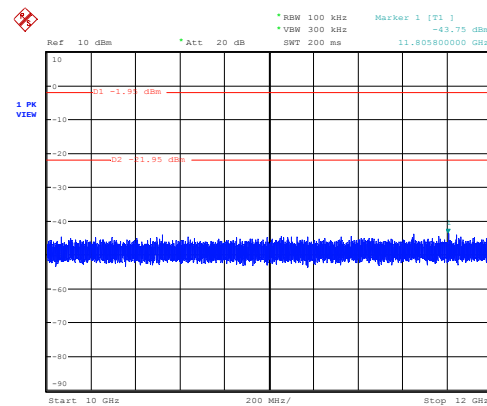
Conducted spurious emissions, mode B1, Ant1
Date: 30.AUG.2012 18:00:18



Conducted spurious emissions, mode B1, Ant1
Date: 30.AUG.2012 18:00:55



Conducted spurious emissions, mode B1, Ant1
Date: 30.AUG.2012 18:00:52



Conducted spurious emissions, mode B1, Ant1
Date: 30.AUG.2012 18:01:08

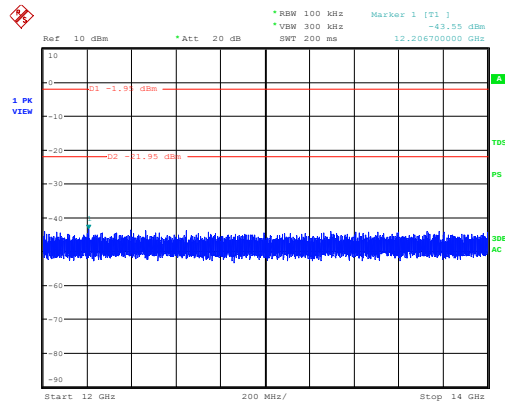
Conducted spurious emissions, mode B1, Ant1
Date: 30.AUG.2012 18:01:24

Produkte
Products

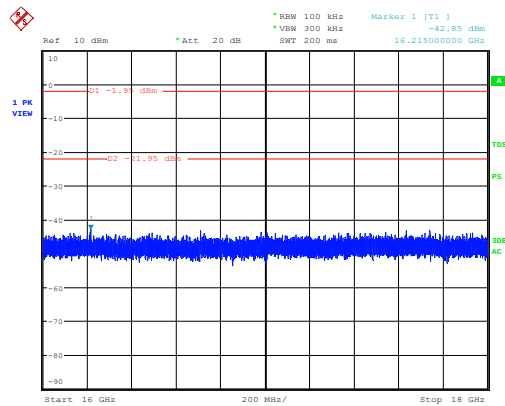
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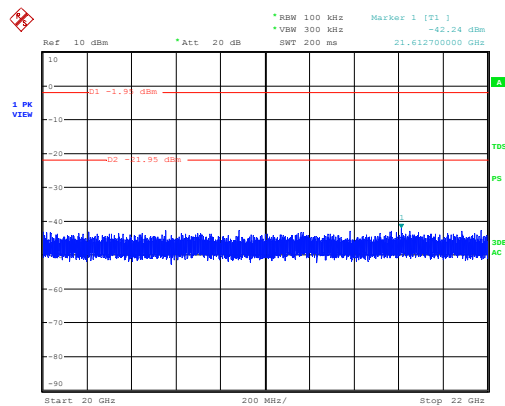
Figure 26: Conducted Spurious Emissions, 12 - 24GHz, Mode B (2437MHz), Configuration 1 (IEEE 802.11b), Antenna 1



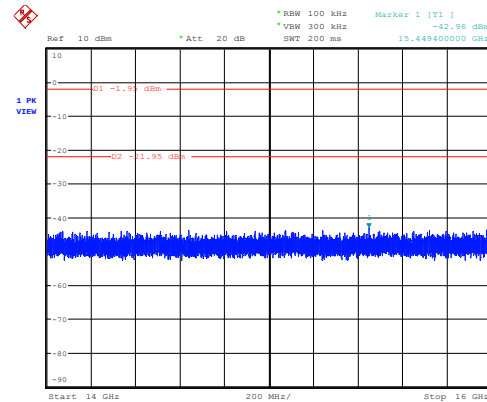
Conducted spurious emissions, mode B1, Ant1
Date: 30.AUG.2012 18:01:41



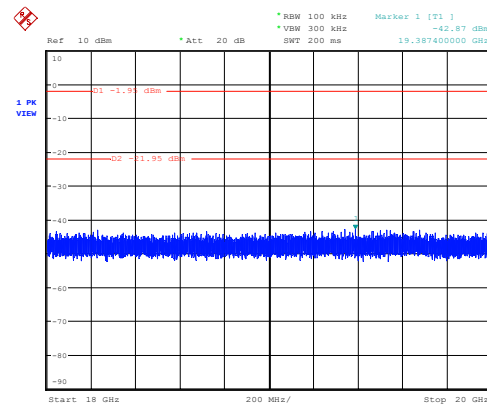
Conducted spurious emissions, mode B1, Ant1
Date: 30.AUG.2012 18:02:13



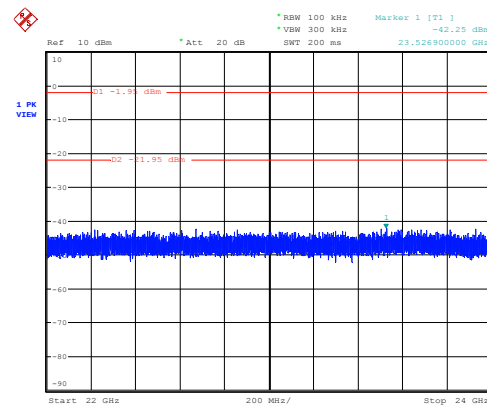
Conducted spurious emissions, mode B1, Ant1
Date: 30.AUG.2012 18:02:47



Conducted spurious emissions, mode B1, Ant1
Date: 30.AUG.2012 18:01:57



Conducted spurious emissions, mode B1, Ant1
Date: 30.AUG.2012 18:02:30



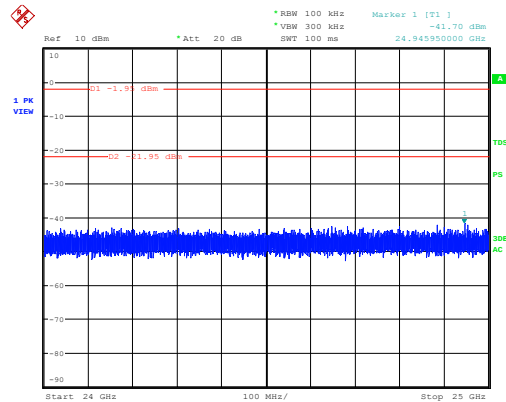
Conducted spurious emissions, mode B1, Ant1
Date: 30.AUG.2012 18:03:03

Produkte
Products

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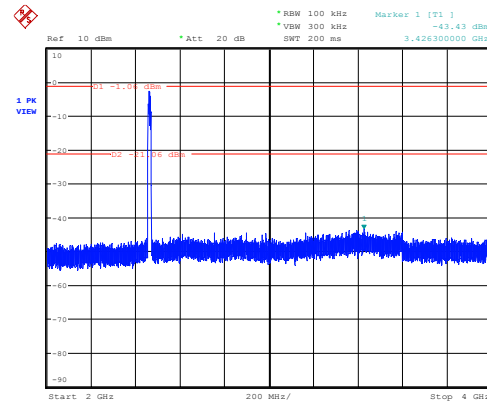
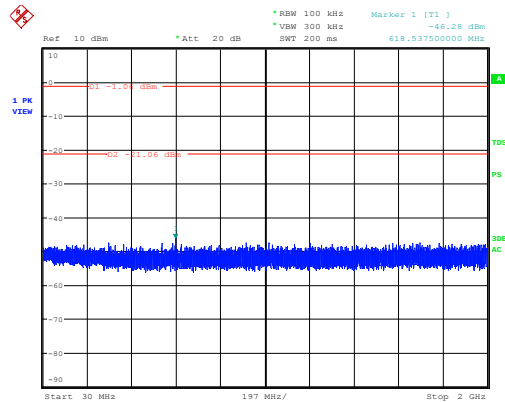
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Figure 27: Conducted Spurious Emissions, 24 - 25GHz, Mode B (2437MHz), Configuration 1 (IEEE 802.11b), Antenna 1

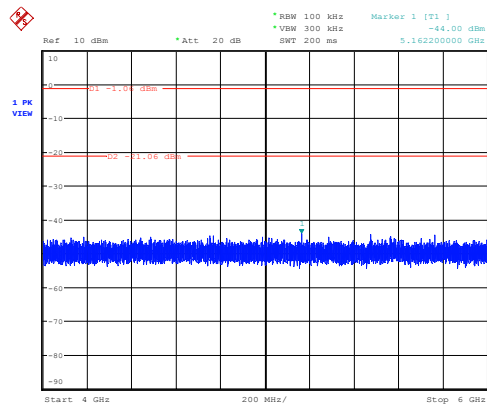


Conducted spurious emissions, mode B1, Ant1
Date: 30.AUG.2012 18:03:20

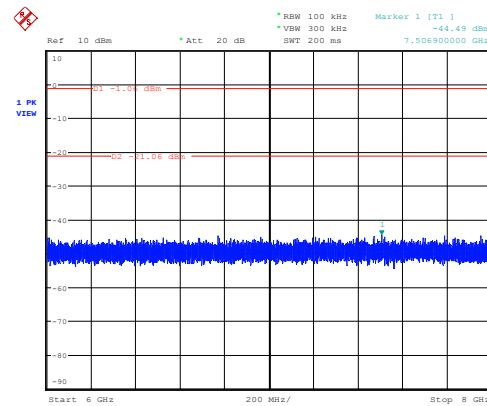
Figure 28: Conducted Spurious Emissions, 30MHz - 12GHz, Mode C (2462MHz), Configuration 1 (IEEE 802.11b), Antenna 1



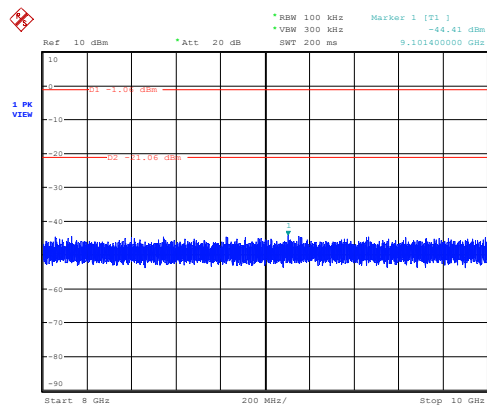
Conducted spurious emissions, mode C1, Ant1
Date: 30.AUG.2012 16:50:55



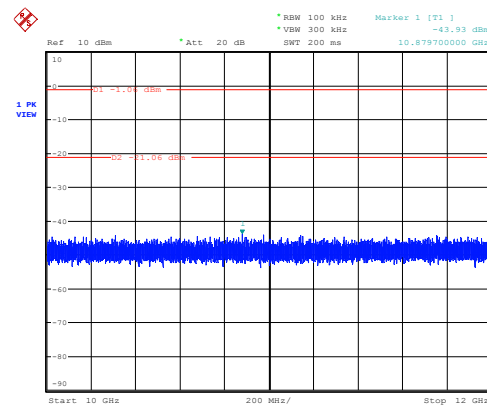
Conducted spurious emissions, mode C1, Ant1
Date: 30.AUG.2012 16:51:22



Conducted spurious emissions, mode C1, Ant1
Date: 30.AUG.2012 16:52:24



Conducted spurious emissions, mode C1, Ant1
Date: 30.AUG.2012 16:52:42



Conducted spurious emissions, mode C1, Ant1
Date: 30.AUG.2012 16:53:01

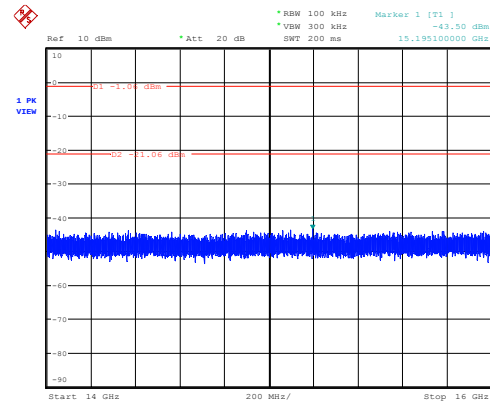
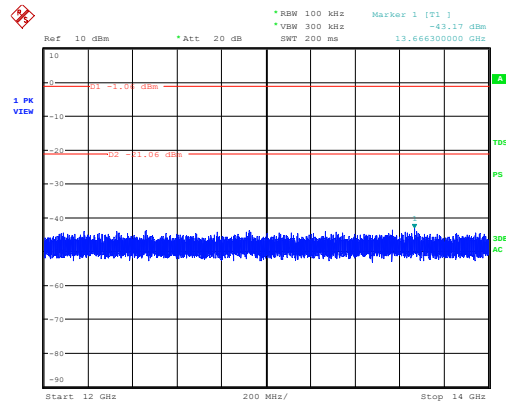
Conducted spurious emissions, mode C1, Ant1
Date: 30.AUG.2012 16:53:19

Produkte
Products

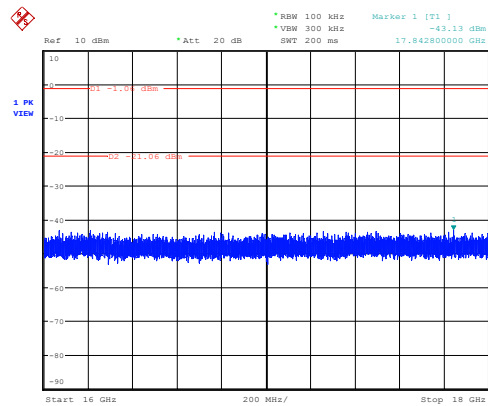
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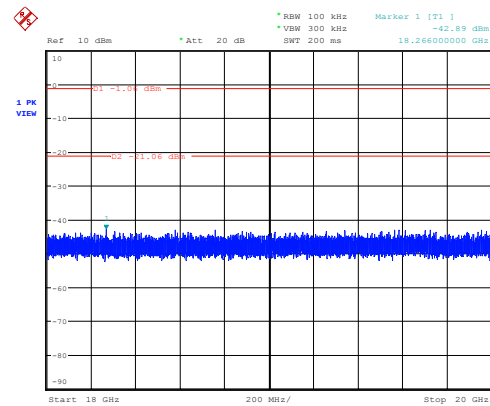
Figure 29: Conducted Spurious Emissions, 12 - 24GHz, Mode C (2462MHz), Configuration 1 (IEEE 802.11b), Antenna 1



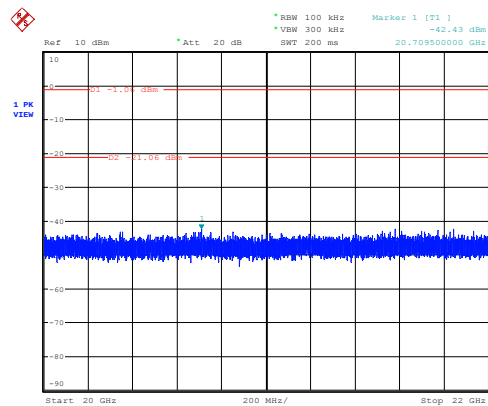
Conducted spurious emissions, mode C1, Ant1
Date: 30.AUG.2012 16:53:38



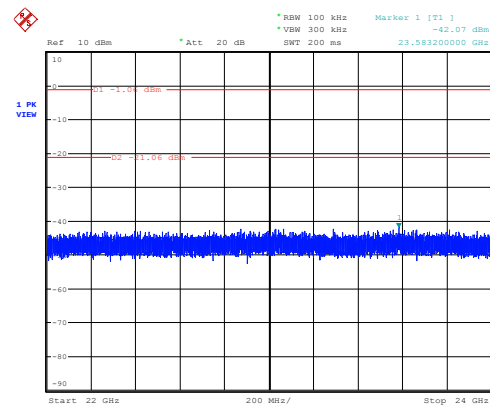
Conducted spurious emissions, mode C1, Ant1
Date: 30.AUG.2012 16:53:55



Conducted spurious emissions, mode C1, Ant1
Date: 30.AUG.2012 16:54:12



Conducted spurious emissions, mode C1, Ant1
Date: 30.AUG.2012 16:54:30



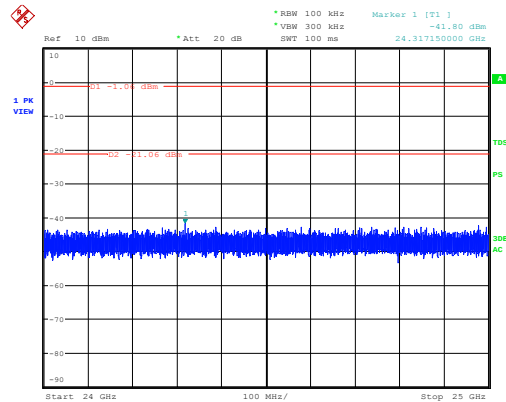
Conducted spurious emissions, mode C1, Ant1
Date: 30.AUG.2012 16:54:48

Conducted spurious emissions, mode C1, Ant1
Date: 30.AUG.2012 16:55:06

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Figure 30: Conducted Spurious Emissions, 24 - 25GHz, Mode C (2462MHz), Configuration 1 (IEEE 802.11b), Antenna 1



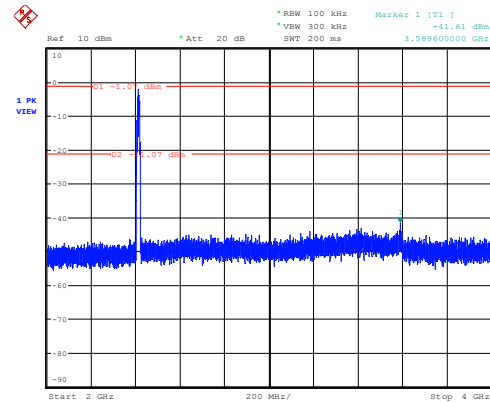
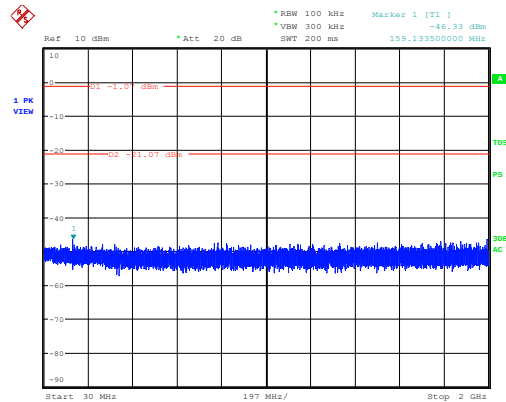
Conducted spurious emissions, mode C1, Ant1
Date: 30.AUG.2012 16:55:22

Produkte
Products

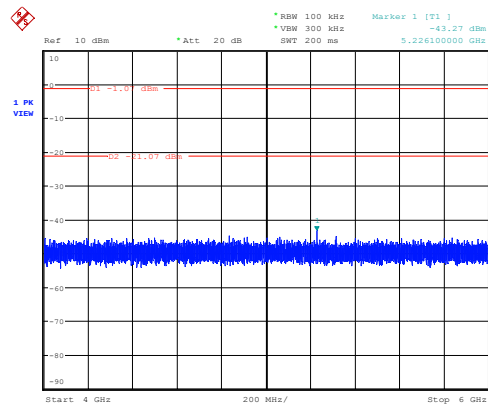
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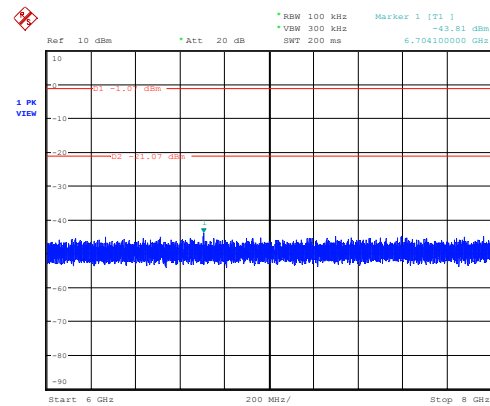
Figure 31: Conducted Spurious Emissions, 30MHz - 12GHz, Mode A (2412MHz), Configuration 1 (IEEE 802.11b), Antenna 2



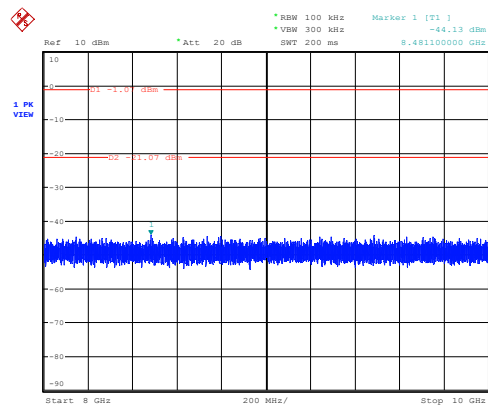
Conducted spurious emissions, mode A1, Ant2
Date: 30.AUG.2012 17:23:02



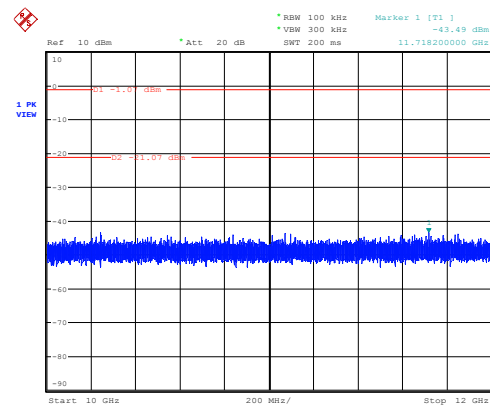
Conducted spurious emissions, mode A1, Ant2
Date: 30.AUG.2012 17:23:40



Conducted spurious emissions, mode A1, Ant2
Date: 30.AUG.2012 17:23:58



Conducted spurious emissions, mode A1, Ant2
Date: 30.AUG.2012 17:24:14



Conducted spurious emissions, mode A1, Ant2
Date: 30.AUG.2012 17:24:31

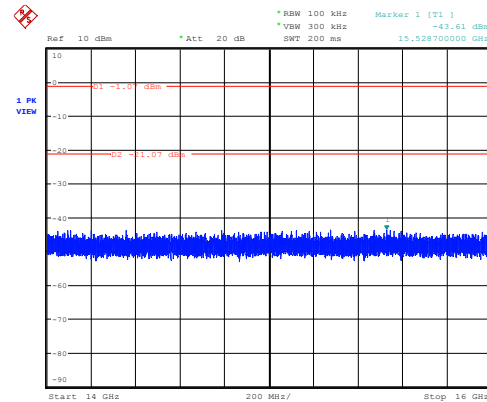
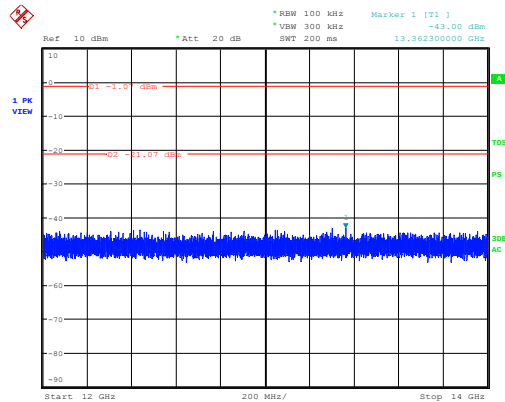
Conducted spurious emissions, mode A1, Ant2
Date: 30.AUG.2012 17:24:47

Produkte
Products

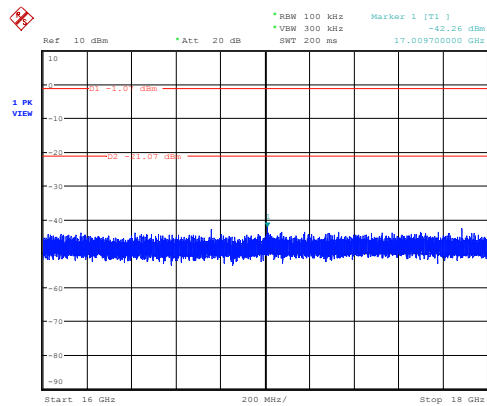
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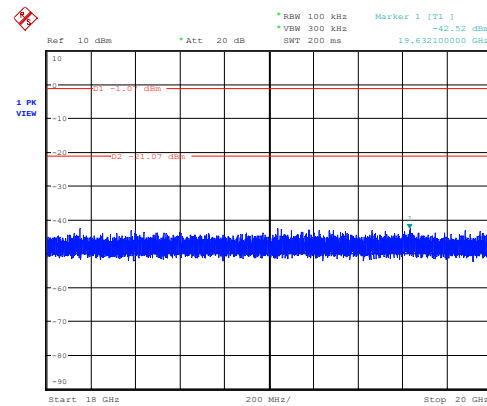
Figure 32: Conducted Spurious Emissions, 12 - 24GHz, Mode A (2412MHz), Configuration 1 (IEEE 802.11b), Antenna 2



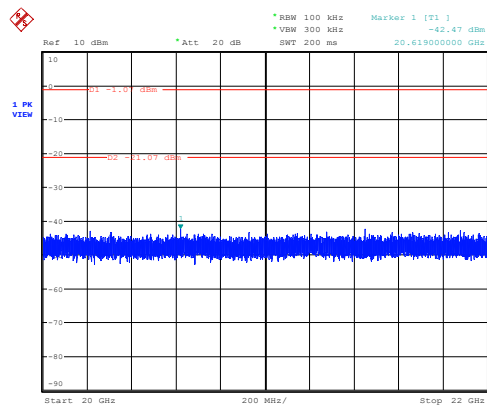
Conducted spurious emissions, mode A1, Ant2
Date: 30.AUG.2012 17:25:05



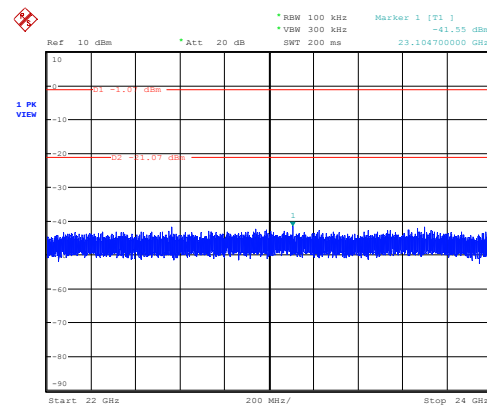
Conducted spurious emissions, mode A1, Ant2
Date: 30.AUG.2012 17:25:22



Conducted spurious emissions, mode A1, Ant2
Date: 30.AUG.2012 17:25:38



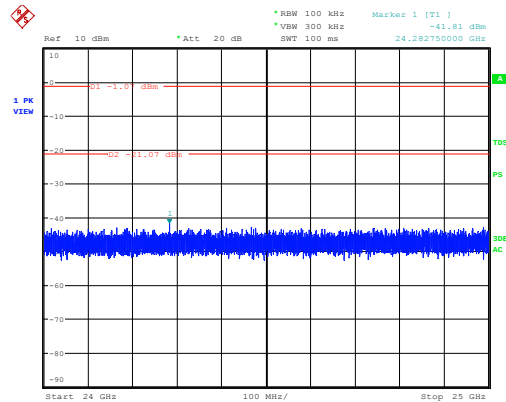
Conducted spurious emissions, mode A1, Ant2
Date: 30.AUG.2012 17:25:54



Conducted spurious emissions, mode A1, Ant2
Date: 30.AUG.2012 17:26:11

Conducted spurious emissions, mode A1, Ant2
Date: 30.AUG.2012 17:26:28

Figure 33: Conducted Spurious Emissions, 24 - 25GHz, Mode A (2412MHz), Configuration 1 (IEEE 802.11b), Antenna 2



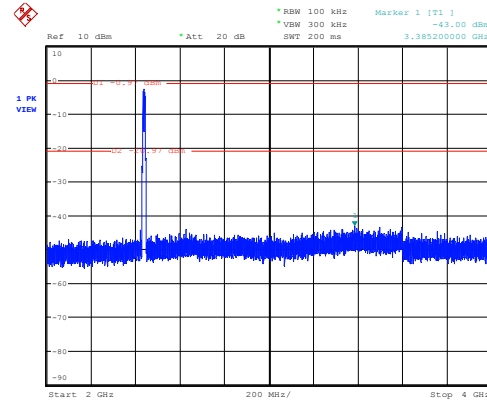
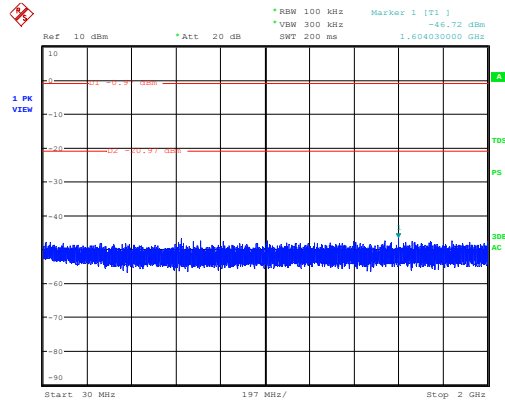
Conducted spurious emissions, mode A1, Ant2
Date: 30.AUG.2012 17:26:44

Produkte
Products

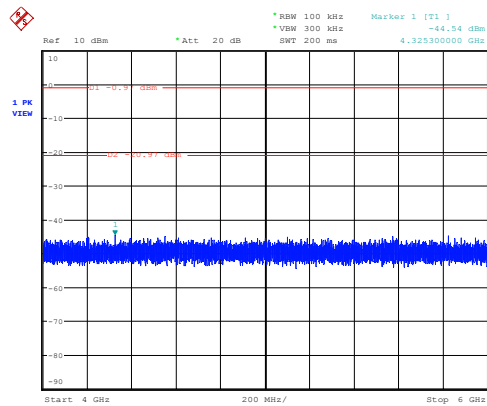
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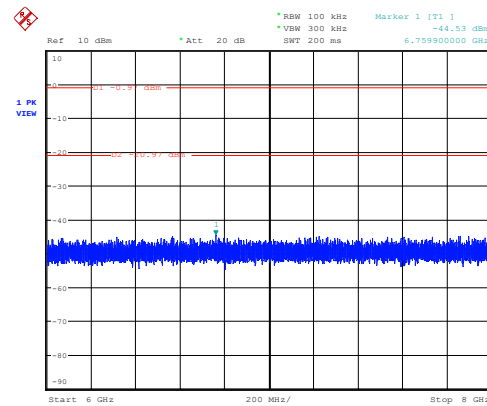
Figure 34: Conducted Spurious Emissions, 30MHz - 12GHz, Mode B (2437MHz), Configuration 1 (IEEE 802.11b), Antenna 2



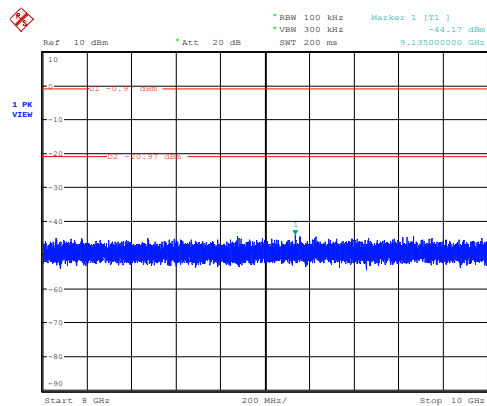
Conducted spurious emissions, mode B1, Ant2
Date: 30.AUG.2012 17:47:38



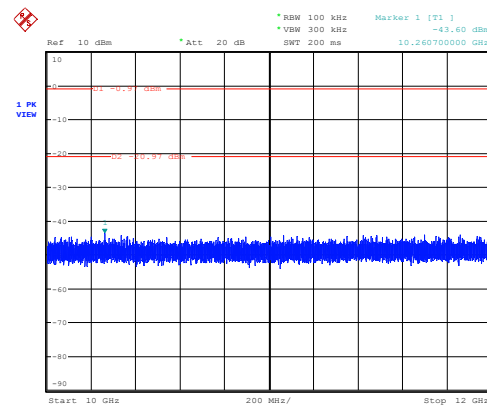
Conducted spurious emissions, mode B1, Ant2
Date: 30.AUG.2012 17:55:47



Conducted spurious emissions, mode B1, Ant2
Date: 30.AUG.2012 17:49:04



Conducted spurious emissions, mode B1, Ant2
Date: 30.AUG.2012 17:49:28



Conducted spurious emissions, mode B1, Ant2
Date: 30.AUG.2012 17:49:44

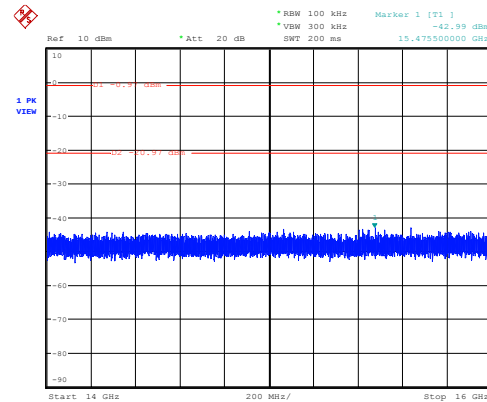
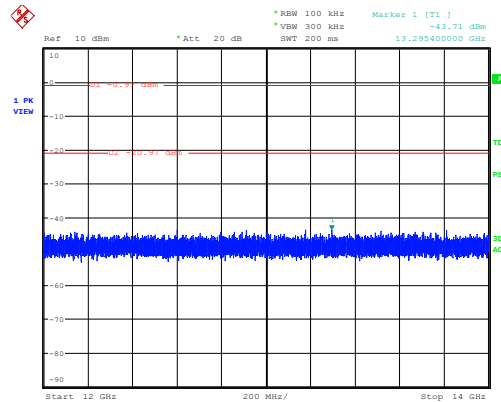
Conducted spurious emissions, mode B1, Ant2
Date: 30.AUG.2012 17:50:10

Produkte
Products

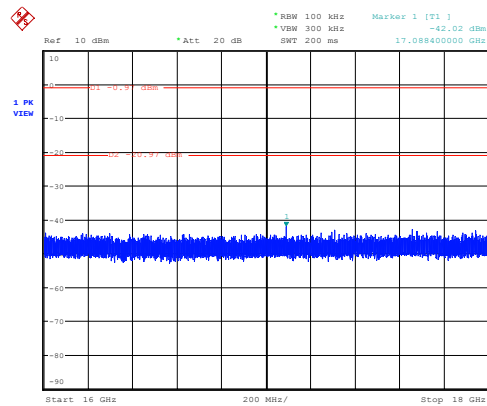
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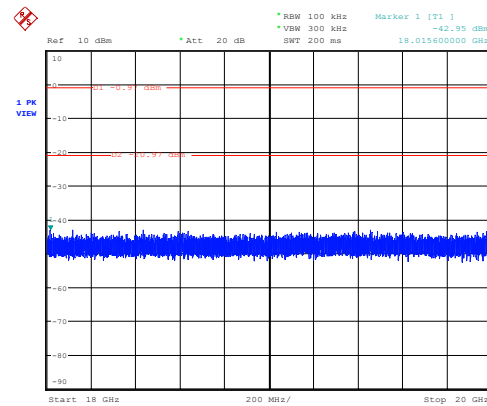
Figure 35: Conducted Spurious Emissions, 12 - 24GHz, Mode B (2437MHz), Configuration 1 (IEEE 802.11b), Antenna 2



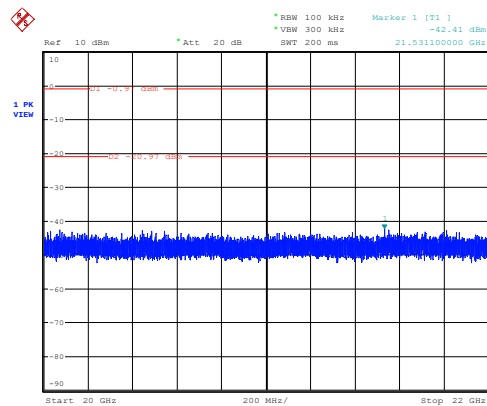
Conducted spurious emissions, mode B1, Ant2
Date: 30.AUG.2012 17:50:27



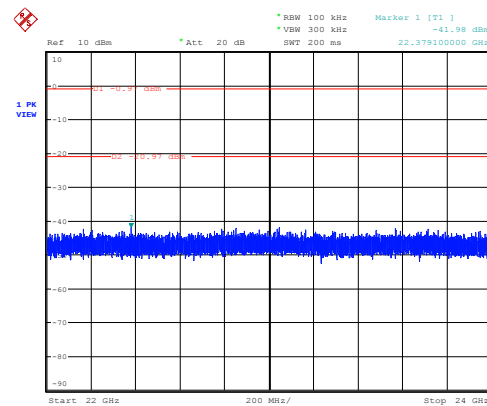
Conducted spurious emissions, mode B1, Ant2
Date: 30.AUG.2012 17:50:43



Conducted spurious emissions, mode B1, Ant2
Date: 30.AUG.2012 17:50:58



Conducted spurious emissions, mode B1, Ant2
Date: 30.AUG.2012 17:51:16



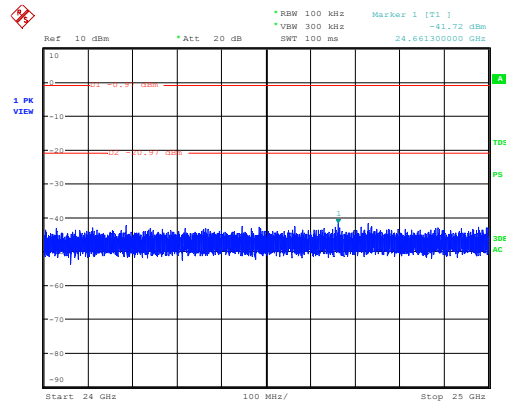
Conducted spurious emissions, mode B1, Ant2
Date: 30.AUG.2012 17:51:33

Conducted spurious emissions, mode B1, Ant2
Date: 30.AUG.2012 17:51:50

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Test Report No.:

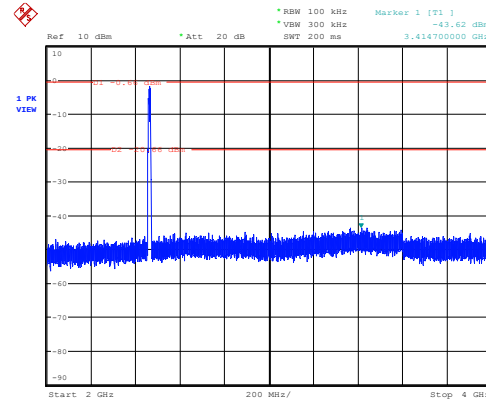
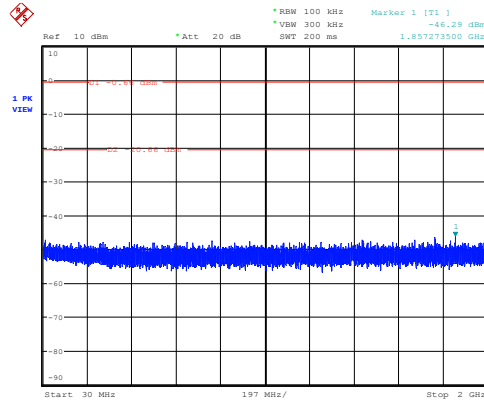
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Figure 36: Conducted Spurious Emissions, 24 - 25GHz, Mode B (2437MHz), Configuration 1 (IEEE 802.11b), Antenna 2

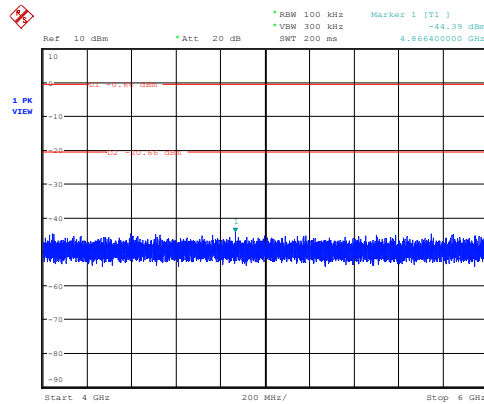


Conducted spurious emissions, mode B1, Ant2
Date: 30.AUG.2012 17:52:06

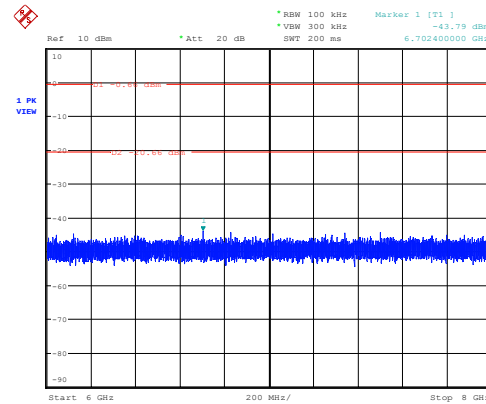
Figure 37: Conducted Spurious Emissions, 30MHz - 12GHz, Mode C (2462MHz), Configuration 1 (IEEE 802.11b), Antenna 2



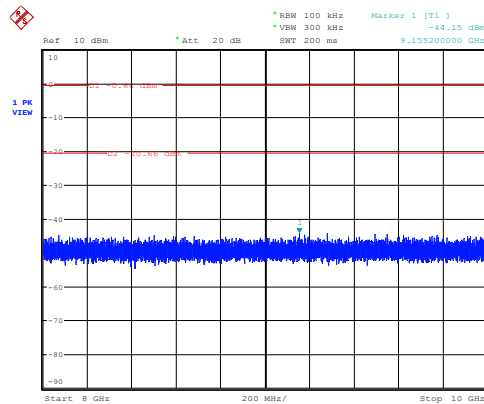
Conducted spurious emissions, mode C1, Ant2
Date: 30.AUG.2012 16:45:17



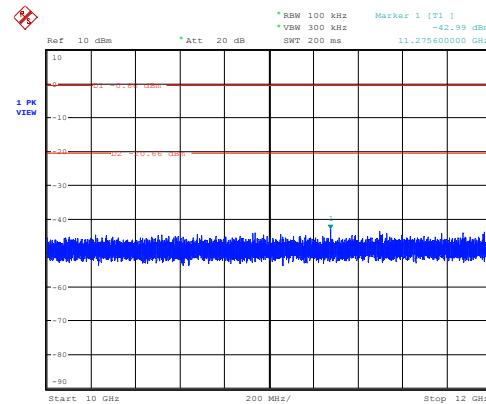
Conducted spurious emissions, mode C1, Ant2
Date: 30.AUG.2012 16:45:47



Conducted spurious emissions, mode C1, Ant2
Date: 30.AUG.2012 16:46:04



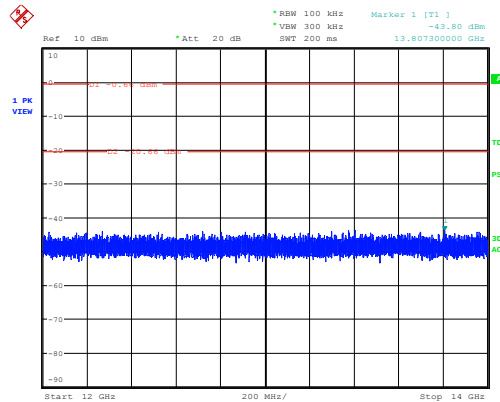
Conducted spurious emissions, mode C1, Ant2
Date: 30.AUG.2012 16:46:21



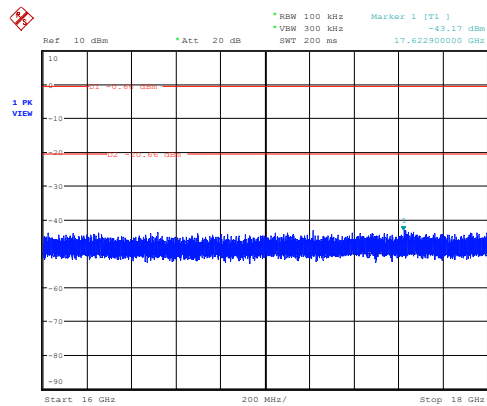
Conducted spurious emissions, mode C1, Ant2
Date: 30.AUG.2012 16:46:37

Conducted spurious emissions, mode C1, Ant2
Date: 30.AUG.2012 16:46:54

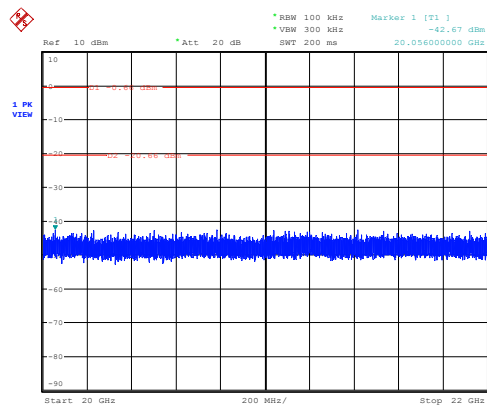
Figure 38: Conducted Spurious Emissions, 12 - 24GHz, Mode C (2462MHz), Configuration 1 (IEEE 802.11b), Antenna 2



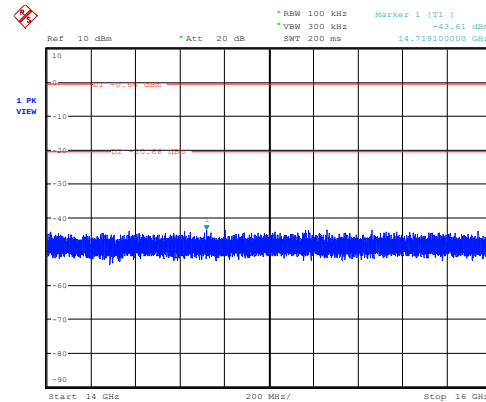
Conducted spurious emissions, mode C1, Ant2
Date: 30.AUG.2012 16:47:12



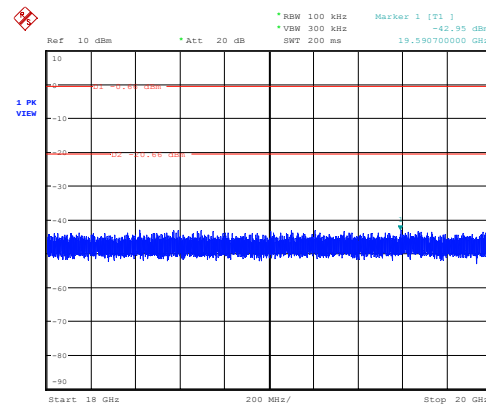
Conducted spurious emissions, mode C1, Ant2
Date: 30.AUG.2012 16:47:56



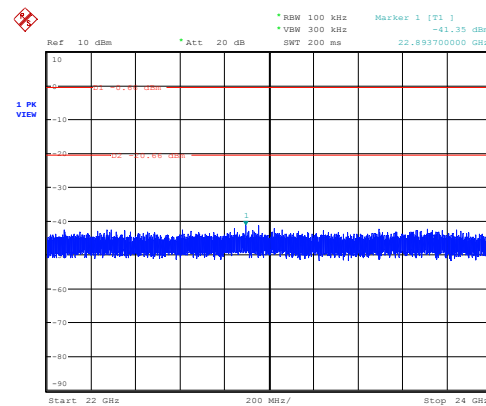
Conducted spurious emissions, mode C1, Ant2
Date: 30.AUG.2012 16:48:31



Conducted spurious emissions, mode C1, Ant2
Date: 30.AUG.2012 16:47:38



Conducted spurious emissions, mode C1, Ant2
Date: 30.AUG.2012 16:48:12

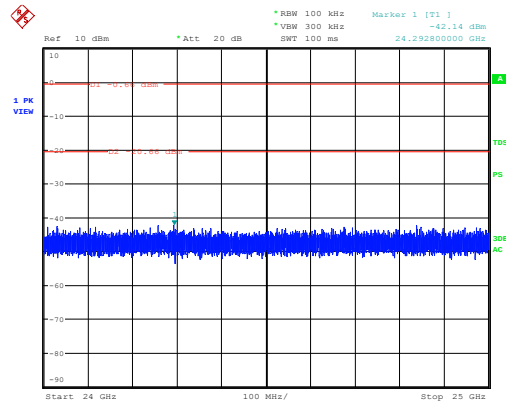


Conducted spurious emissions, mode C1, Ant2
Date: 30.AUG.2012 16:48:48

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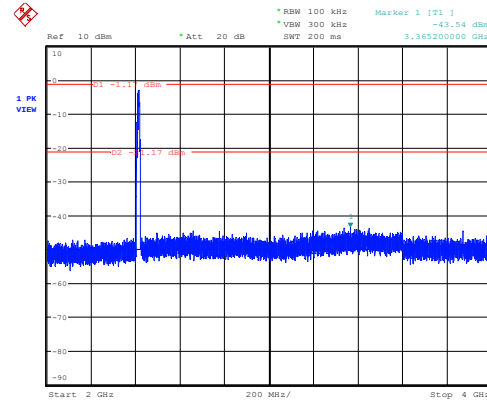
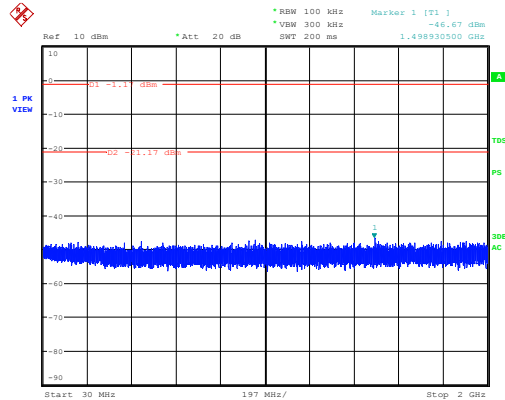
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Figure 39: Conducted Spurious Emissions, 24 - 25GHz, Mode C (2462MHz), Configuration 1 (IEEE 802.11b), Antenna 2

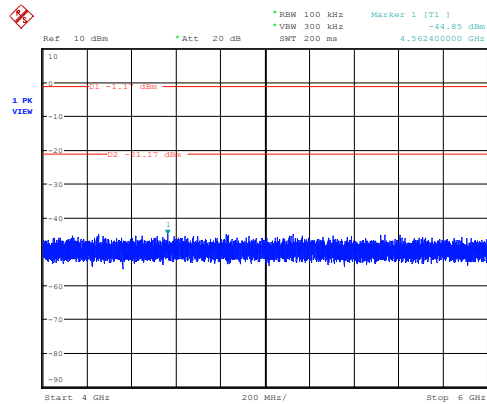


Conducted spurious emissions, mode C1, Ant2
Date: 30.AUG.2012 16:49:05

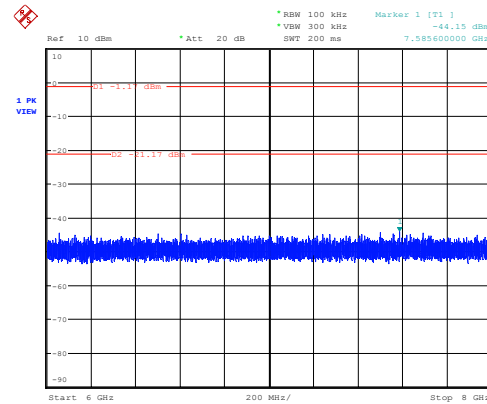
Figure 40: Conducted Spurious Emissions, 30MHz - 12GHz, Mode A (2412MHz), Configuration 1 (IEEE 802.11b), Antenna 3



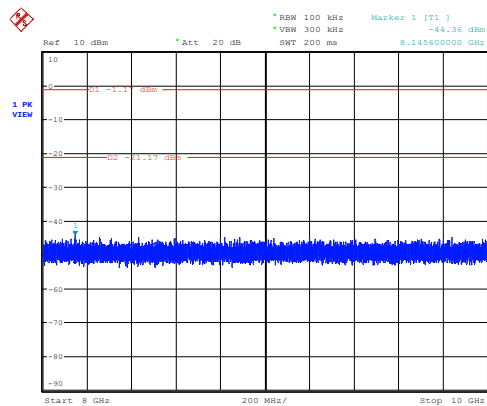
Conducted spurious emissions, mode A1, Ant3
Date: 30.AUG.2012 17:28:46



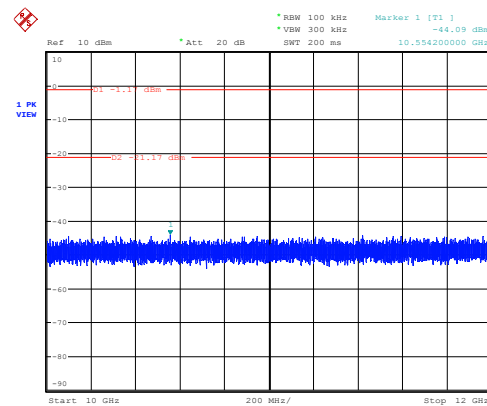
Conducted spurious emissions, mode A1, Ant3
Date: 30.AUG.2012 17:29:17



Conducted spurious emissions, mode A1, Ant3
Date: 30.AUG.2012 17:29:36



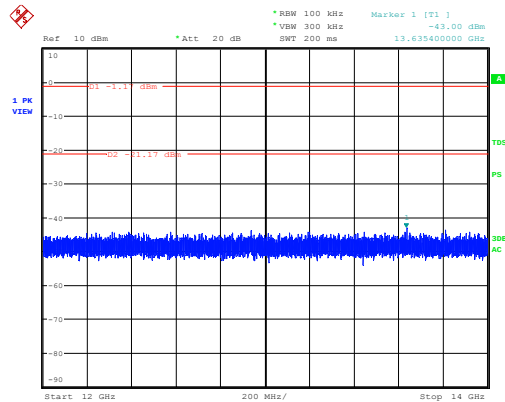
Conducted spurious emissions, mode A1, Ant3
Date: 30.AUG.2012 17:29:52



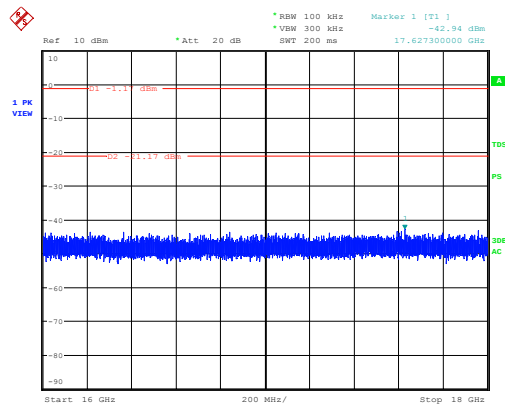
Conducted spurious emissions, mode A1, Ant3
Date: 30.AUG.2012 17:30:12

Conducted spurious emissions, mode A1, Ant3
Date: 30.AUG.2012 17:30:48

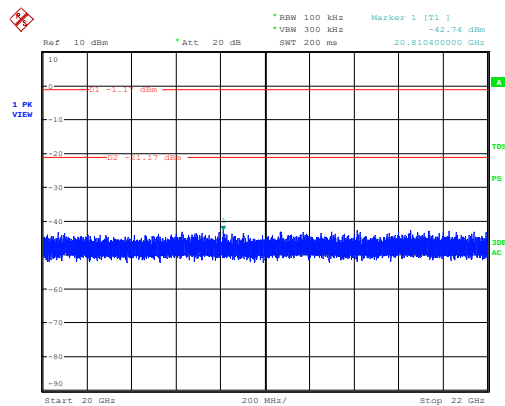
Figure 41: Conducted Spurious Emissions, 12 - 24GHz, Mode A (2412MHz), Configuration 1 (IEEE 802.11b), Antenna 3



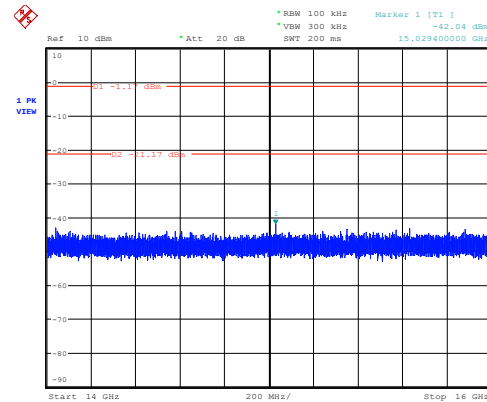
Conducted spurious emissions, mode A1, Ant3
Date: 30.AUG.2012 17:31:07



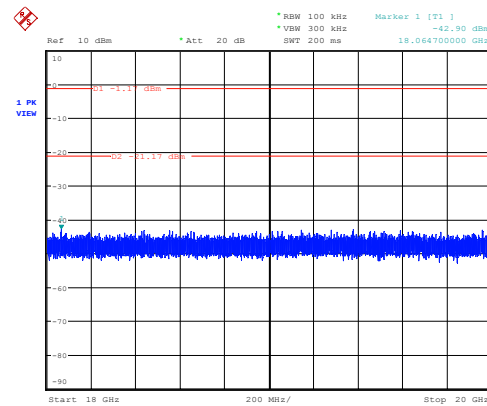
Conducted spurious emissions, mode A1, Ant3
Date: 30.AUG.2012 17:31:42



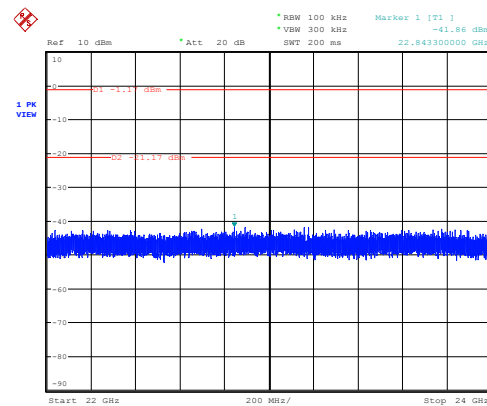
Conducted spurious emissions, mode A1, Ant3
Date: 30.AUG.2012 17:32:17



Conducted spurious emissions, mode A1, Ant3
Date: 30.AUG.2012 17:31:26



Conducted spurious emissions, mode A1, Ant3
Date: 30.AUG.2012 17:31:59



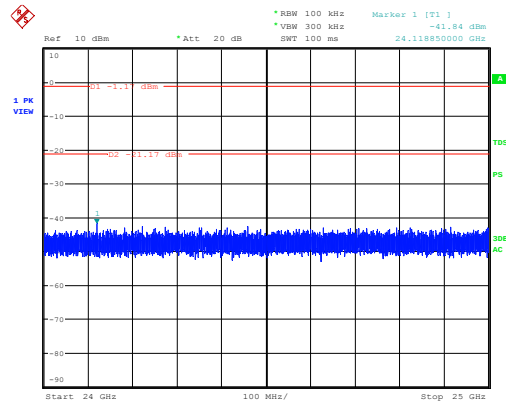
Conducted spurious emissions, mode A1, Ant3
Date: 30.AUG.2012 17:32:34

Produkte
Products

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Figure 42: Conducted Spurious Emissions, 24 - 25GHz, Mode A (2412MHz), Configuration 1 (IEEE 802.11b), Antenna 3



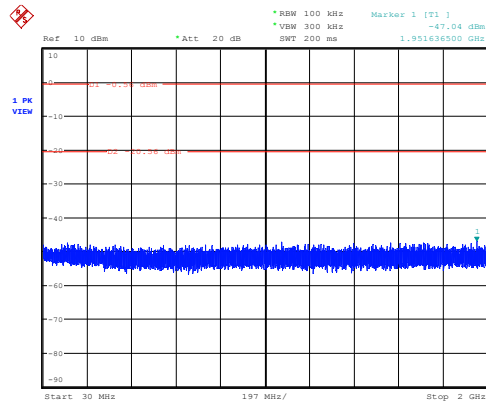
Conducted spurious emissions, mode A1, Ant3
Date: 30.AUG.2012 17:32:50

Produkte
Products

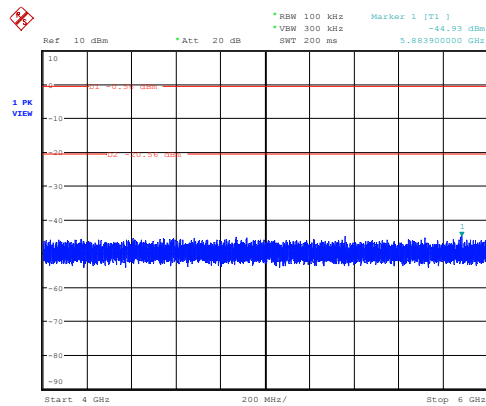
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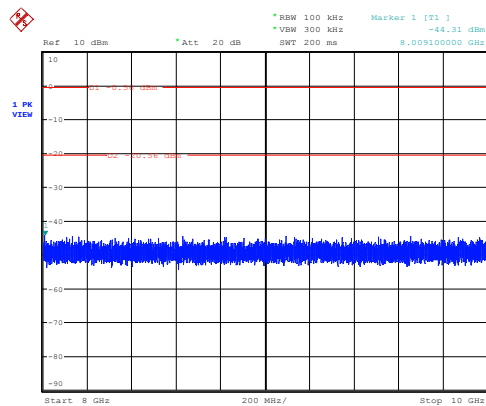
Figure 43: Conducted Spurious Emissions, 30MHz - 12GHz, Mode B (2437MHz), Configuration 1 (IEEE 802.11b), Antenna 3



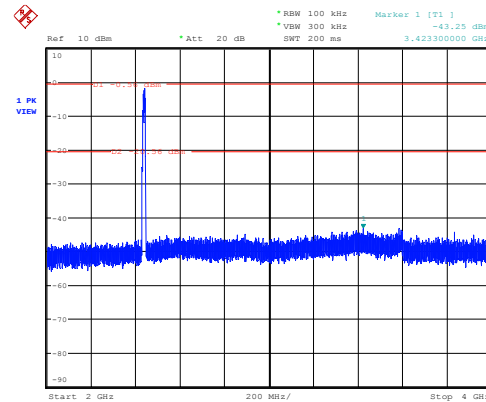
Conducted spurious emissions, mode B1, Ant3
Date: 30.AUG.2012 17:42:37



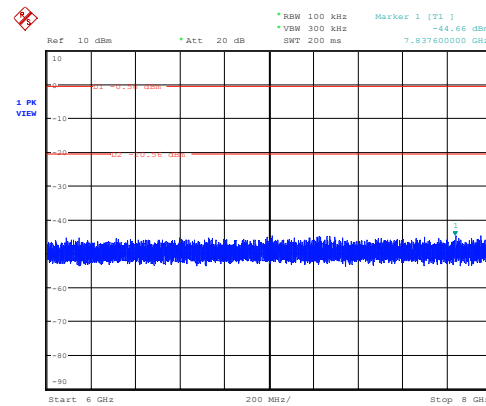
Conducted spurious emissions, mode B1, Ant3
Date: 30.AUG.2012 17:43:21



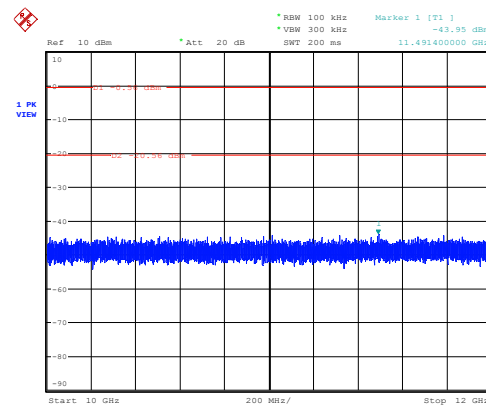
Conducted spurious emissions, mode B1, Ant3
Date: 30.AUG.2012 17:43:54



Conducted spurious emissions, mode B1, Ant3
Date: 30.AUG.2012 17:43:05

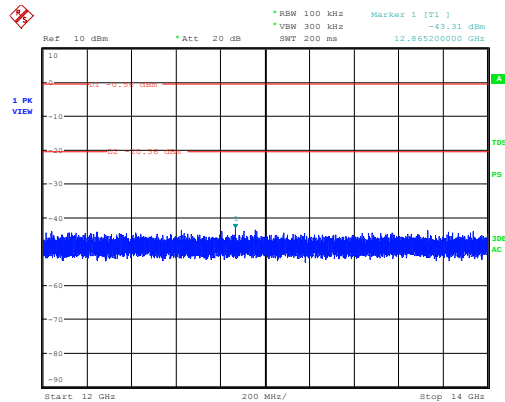


Conducted spurious emissions, mode B1, Ant3
Date: 30.AUG.2012 17:43:38

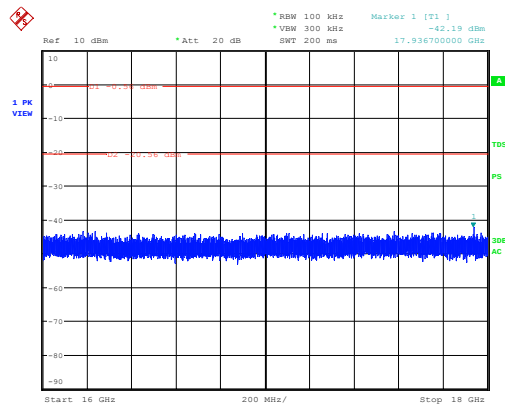


Conducted spurious emissions, mode B1, Ant3
Date: 30.AUG.2012 17:44:12

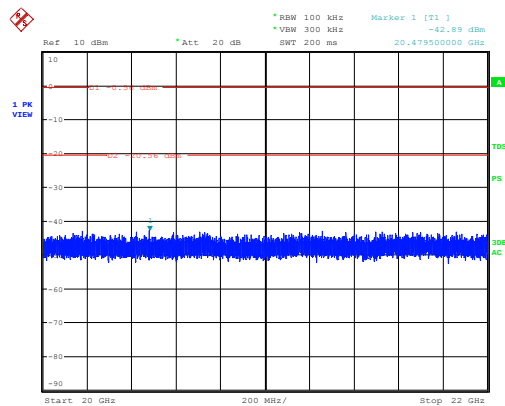
Figure 44: Conducted Spurious Emissions, 12 - 24GHz, Mode B (2437MHz), Configuration 1 (IEEE 802.11b), Antenna 3



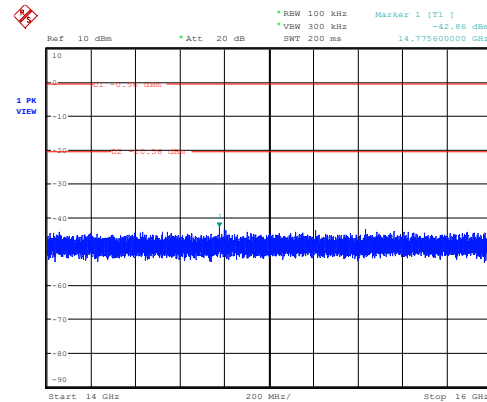
Conducted spurious emissions, mode B1, Ant3
Date: 30.AUG.2012 17:44:28



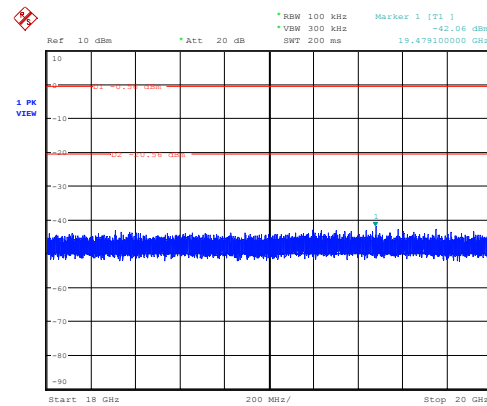
Conducted spurious emissions, mode B1, Ant3
Date: 30.AUG.2012 17:45:01



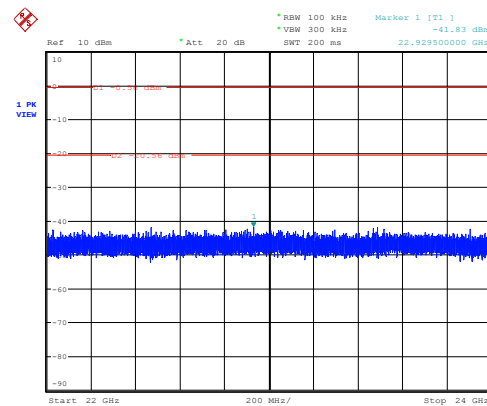
Conducted spurious emissions, mode B1, Ant3
Date: 30.AUG.2012 17:45:34



Conducted spurious emissions, mode B1, Ant3
Date: 30.AUG.2012 17:44:45



Conducted spurious emissions, mode B1, Ant3
Date: 30.AUG.2012 17:45:17



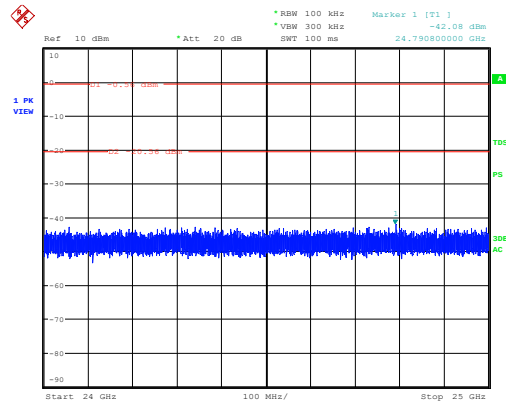
Conducted spurious emissions, mode B1, Ant3
Date: 30.AUG.2012 17:45:50

Produkte
Products

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Figure 45: Conducted Spurious Emissions, 24 - 25GHz, Mode B (2437MHz), Configuration 1 (IEEE 802.11b), Antenna 3



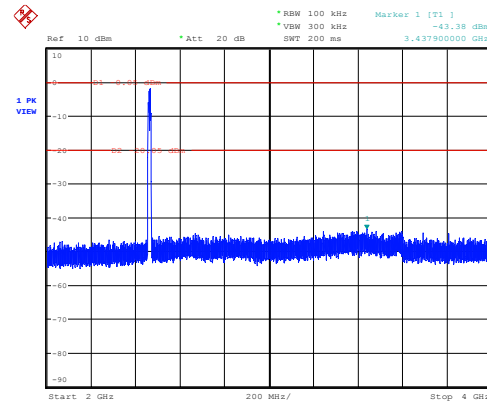
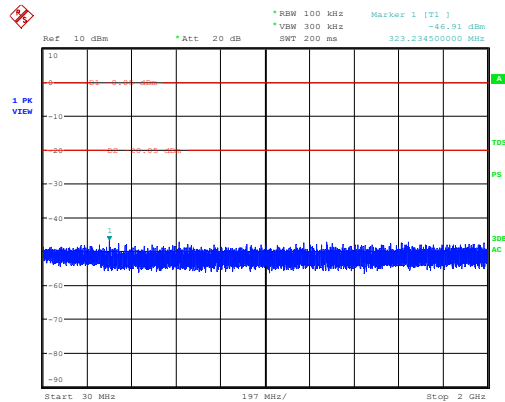
Conducted spurious emissions, mode B1, Ant3
Date: 30.AUG.2012 17:46:07

Produkte
Products

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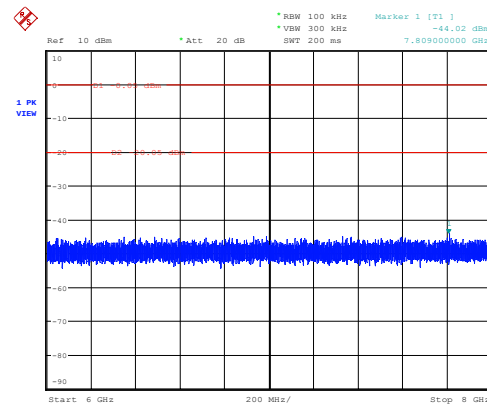
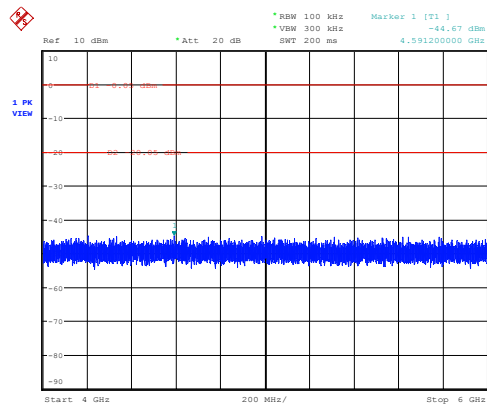
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Figure 46: Conducted Spurious Emissions, 30MHz - 12GHz, Mode C (2462MHz), Configuration 1 (IEEE 802.11b), Antenna 3



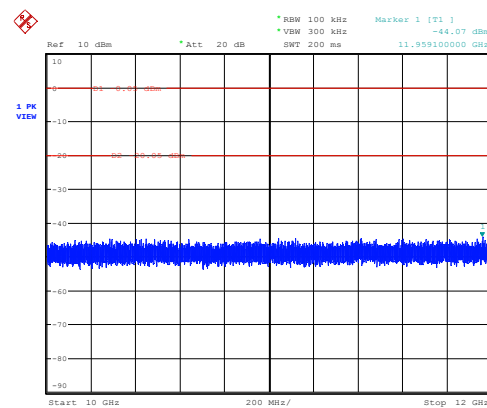
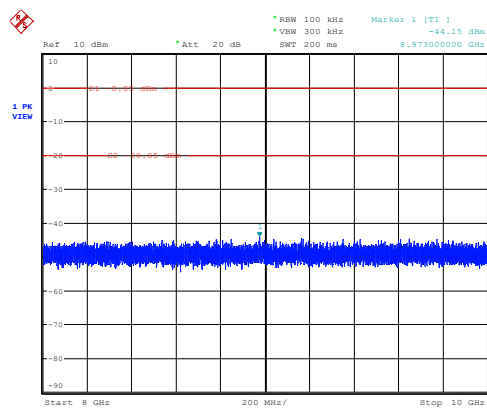
Conducted spurious emissions, mode C1, Ant3
Date: 30.AUG.2012 16:39:34

Conducted spurious emissions, mode C1, Ant3
Date: 30.AUG.2012 16:40:09



Conducted spurious emissions, mode C1, Ant3
Date: 30.AUG.2012 16:40:27

Conducted spurious emissions, mode C1, Ant3
Date: 30.AUG.2012 16:40:43



Conducted spurious emissions, mode C1, Ant3
Date: 30.AUG.2012 16:40:59

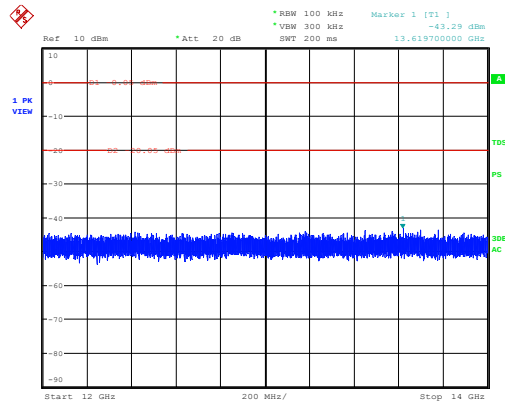
Conducted spurious emissions, mode C1, Ant3
Date: 30.AUG.2012 16:41:16

Produkte
Products

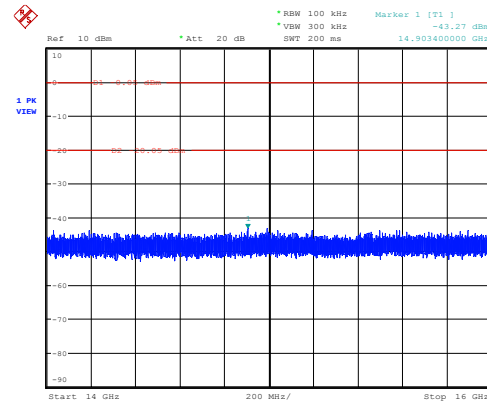
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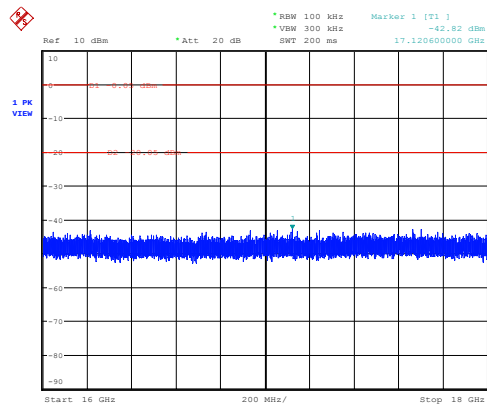
Figure 47: Conducted Spurious Emissions, 12 - 24GHz, Mode C (2462MHz), Configuration 1 (IEEE 802.11b), Antenna 3



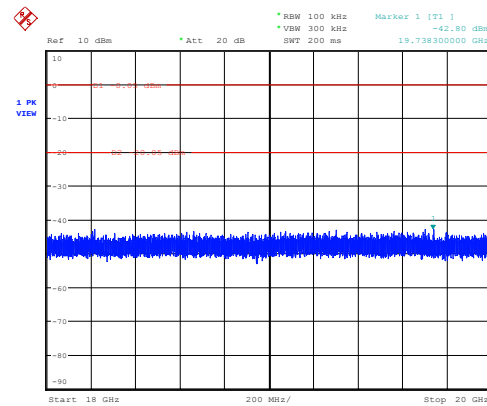
Conducted spurious emissions, mode C1, Ant3
Date: 30.AUG.2012 16:41:35



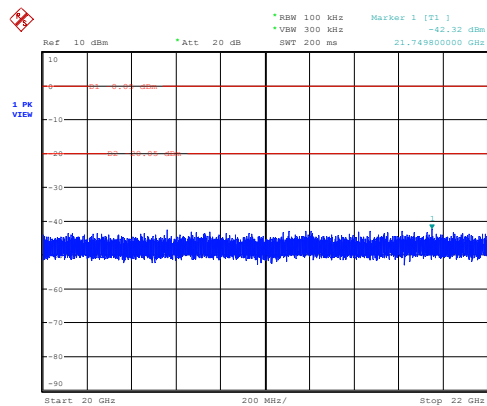
Conducted spurious emissions, mode C1, Ant3
Date: 30.AUG.2012 16:41:52



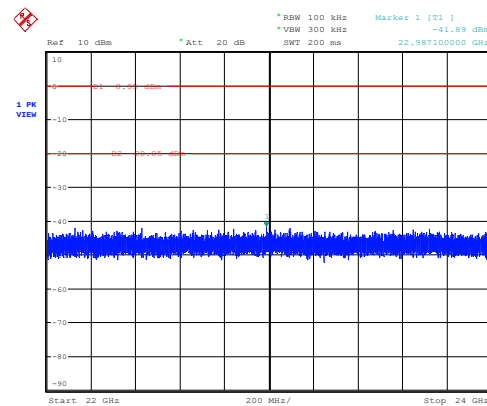
Conducted spurious emissions, mode C1, Ant3
Date: 30.AUG.2012 16:42:10



Conducted spurious emissions, mode C1, Ant3
Date: 30.AUG.2012 16:42:30



Conducted spurious emissions, mode C1, Ant3
Date: 30.AUG.2012 16:42:46

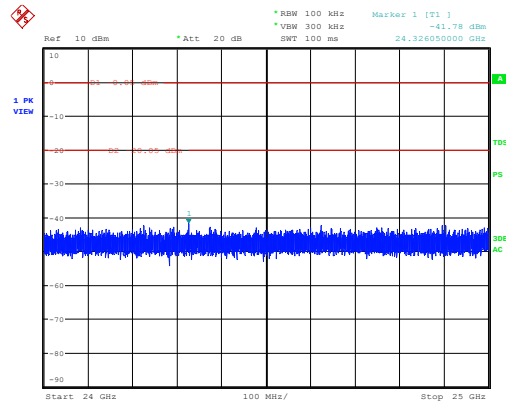


Conducted spurious emissions, mode C1, Ant3
Date: 30.AUG.2012 16:43:04

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Figure 48: Conducted Spurious Emissions, 24 - 25GHz, Mode C (2462MHz), Configuration 1 (IEEE 802.11b), Antenna 3



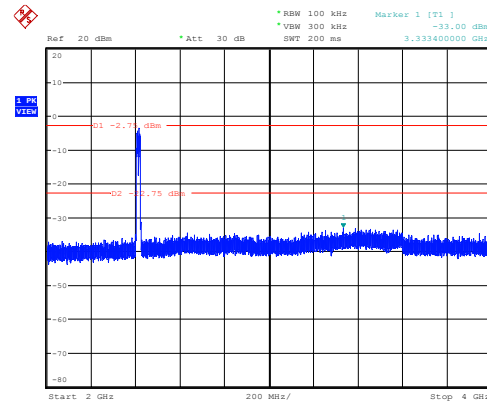
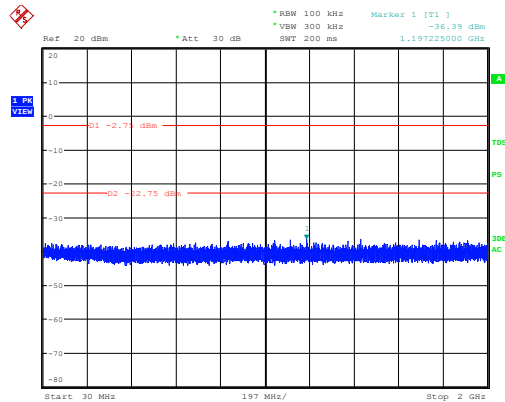
Conducted spurious emissions, mode C1, Ant3
Date: 30.AUG.2012 16:43:20

Produkte
Products

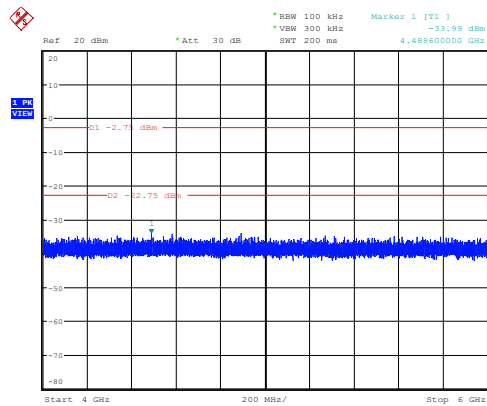
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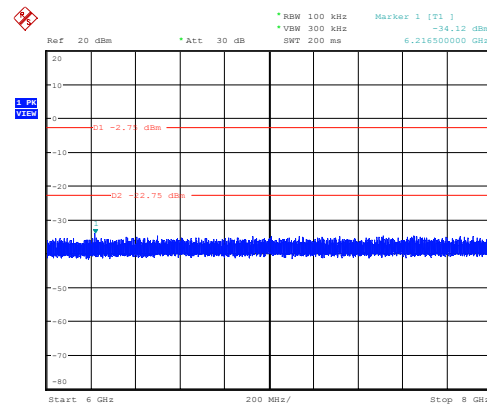
Figure 49: Conducted Spurious Emissions, 30MHz - 12GHz, Mode A (2412MHz), Configuration 2 (IEEE 802.11n), Antenna 1



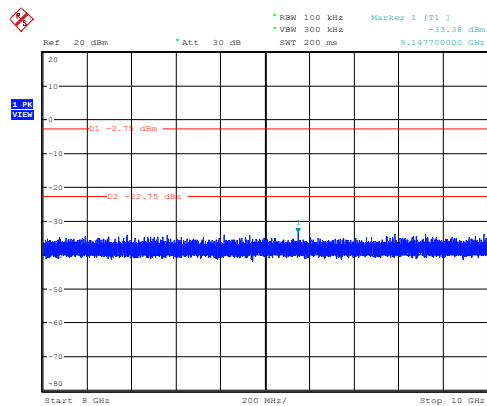
Conducted spurious emissions, mode A2, 26Mbps, Ant1
Date: 30.AUG.2012 09:59:26



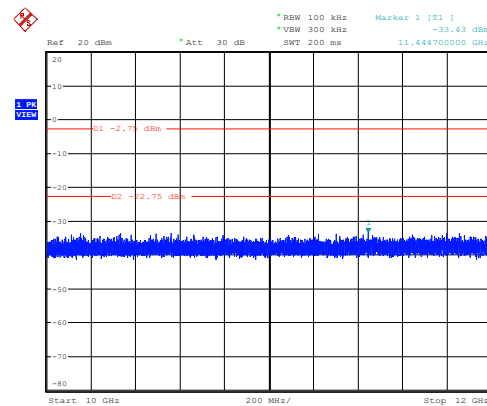
Conducted spurious emissions, mode A2, 26Mbps, Ant1
Date: 30.AUG.2012 10:00:36



Conducted spurious emissions, mode A2, 26Mbps, Ant1
Date: 30.AUG.2012 10:02:25



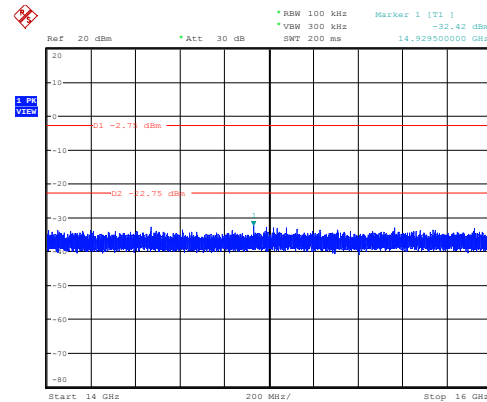
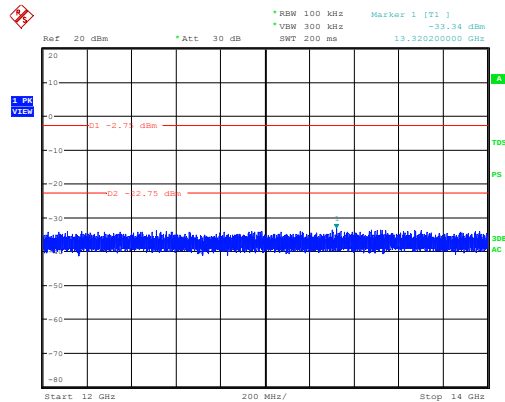
Conducted spurious emissions, mode A2, 26Mbps, Ant1
Date: 30.AUG.2012 10:02:02



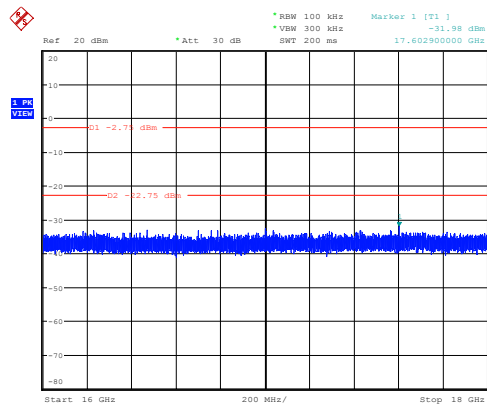
Conducted spurious emissions, mode A2, 26Mbps, Ant1
Date: 30.AUG.2012 10:02:42

Conducted spurious emissions, mode A2, 26Mbps, Ant1
Date: 30.AUG.2012 10:03:18

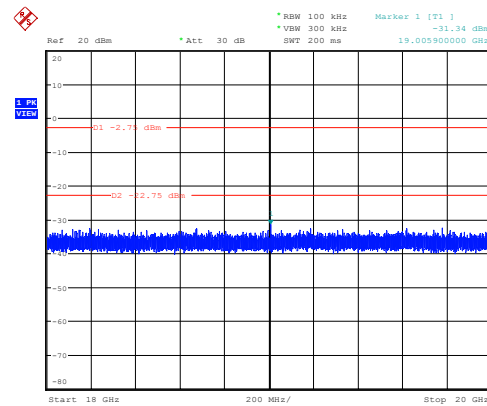
Figure 50: Conducted Spurious Emissions, 12 - 24GHz, Mode A (2412MHz), Configuration 2 (IEEE 802.11n), Antenna 1



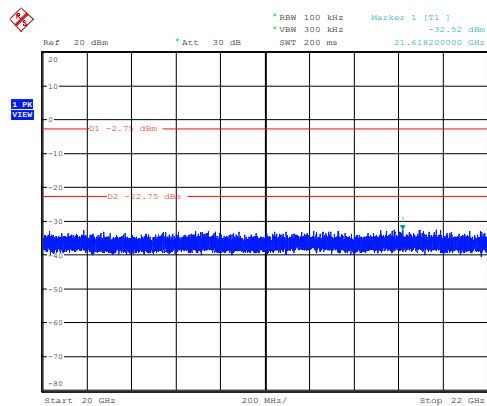
Conducted spurious emissions, mode A2, 26Mbps, Ant1
Date: 30.AUG.2012 10:03:58



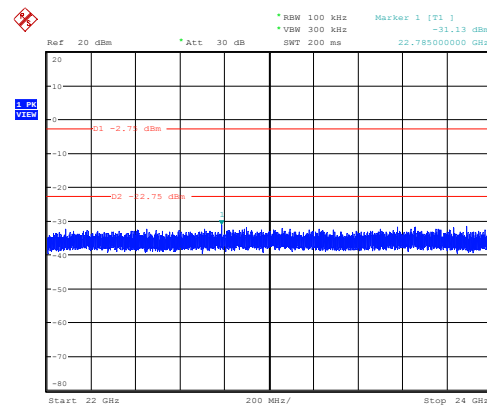
Conducted spurious emissions, mode A2, 26Mbps, Ant1
Date: 30.AUG.2012 10:04:36



Conducted spurious emissions, mode A2, 26Mbps, Ant1
Date: 30.AUG.2012 10:05:15



Conducted spurious emissions, mode A2, 26Mbps, Ant1
Date: 30.AUG.2012 10:05:53



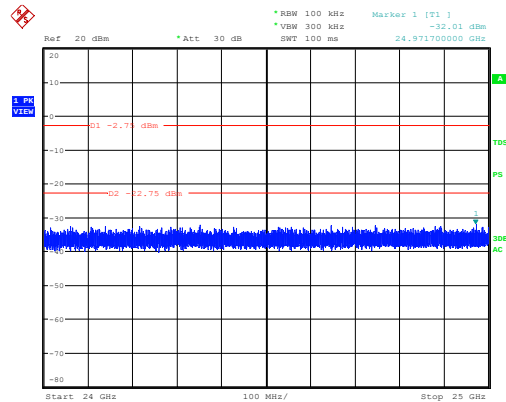
Conducted spurious emissions, mode A2, 26Mbps, Ant1
Date: 30.AUG.2012 10:06:31

Conducted spurious emissions, mode A2, 26Mbps, Ant1
Date: 30.AUG.2012 10:07:08

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Figure 51: Conducted Spurious Emissions, 24 - 25GHz, Mode A (2412MHz), Configuration 2 (IEEE 802.11n), Antenna 1

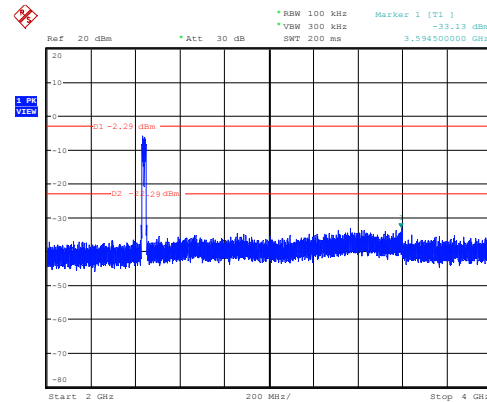
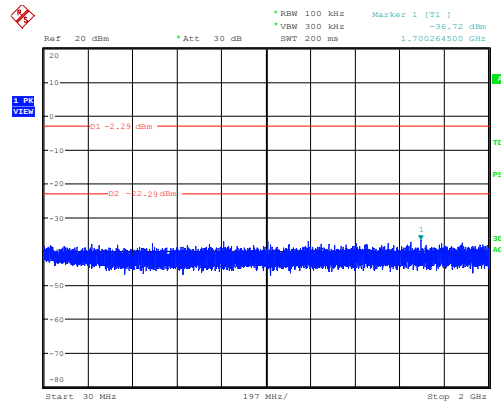


Conducted spurious emissions, mode A2, 26Mbps, Ant1
Date: 30.AUG.2012 10:08:03

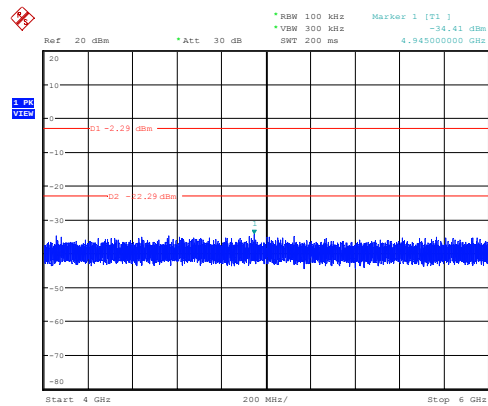
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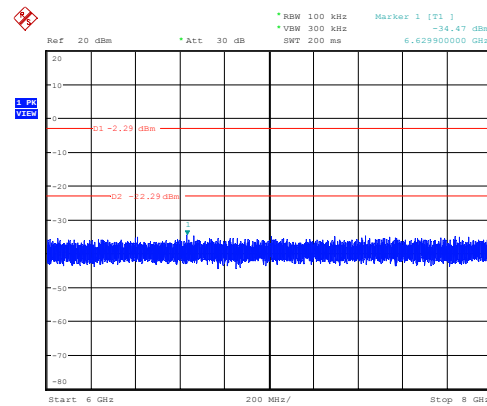
Figure 52: Conducted Spurious Emissions, 30MHz - 12GHz, Mode B (2437MHz), Configuration 2 (IEEE 802.11n), Antenna 1



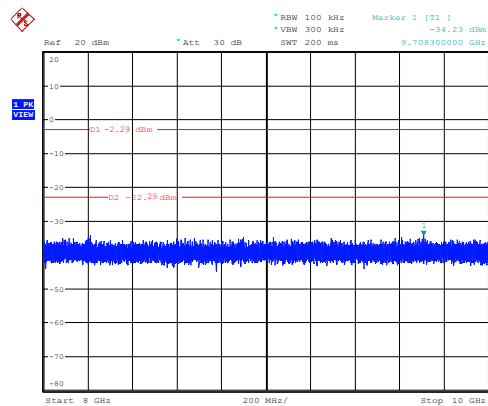
Conducted spurious emissions, mode B2, 26Mbps, Ant1
Date: 30.AUG.2012 11:40:43



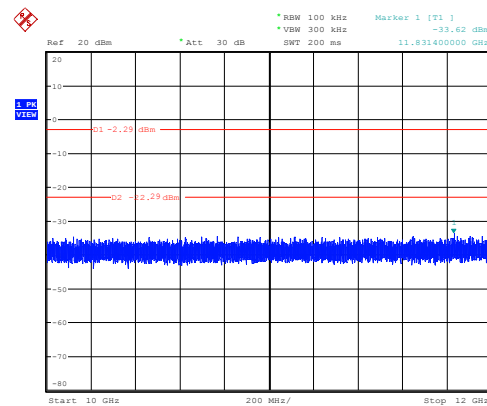
Conducted spurious emissions, mode B2, 26Mbps, Ant1
Date: 30.AUG.2012 11:41:15



Conducted spurious emissions, mode B2, 26Mbps, Ant1
Date: 30.AUG.2012 11:41:33



Conducted spurious emissions, mode B2, 26Mbps, Ant1
Date: 30.AUG.2012 11:41:48



Conducted spurious emissions, mode B2, 26Mbps, Ant1
Date: 30.AUG.2012 11:42:05

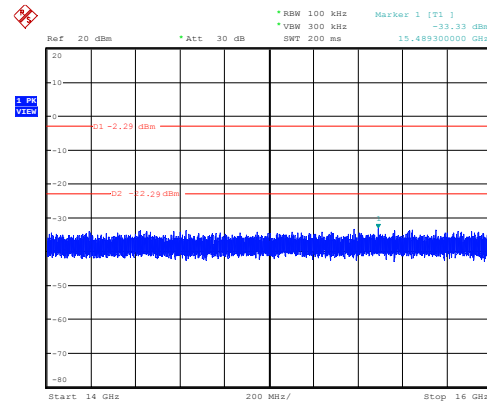
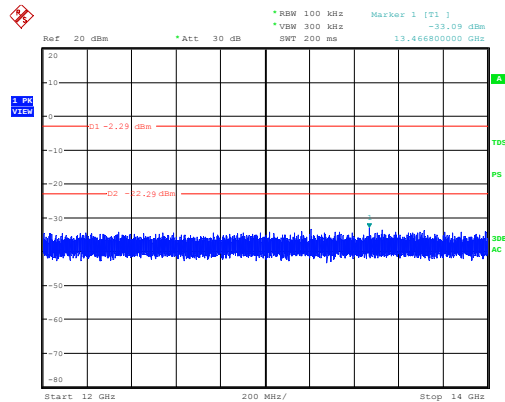
Conducted spurious emissions, mode B2, 26Mbps, Ant1
Date: 30.AUG.2012 11:42:21

Produkte
Products

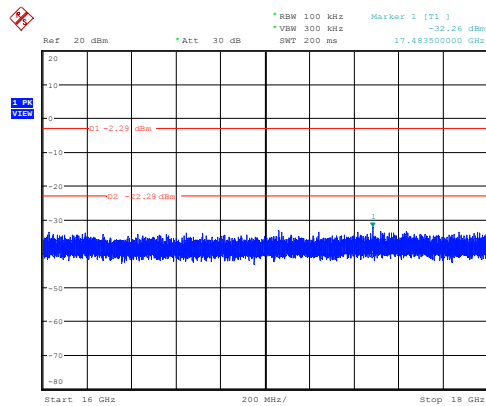
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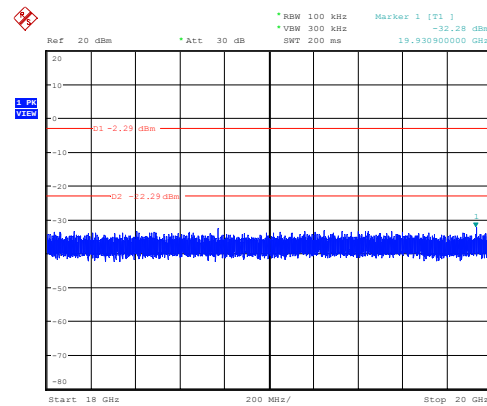
Figure 53: Conducted Spurious Emissions, 12 - 24GHz, Mode B (2437MHz), Configuration 2 (IEEE 802.11n), Antenna 1



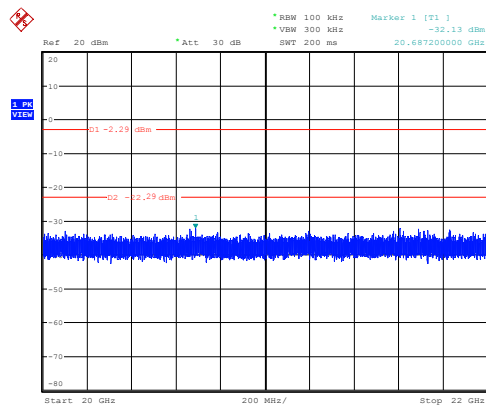
Conducted spurious emissions, mode B2, 26Mbps, Ant1
Date: 30.AUG.2012 11:42:37



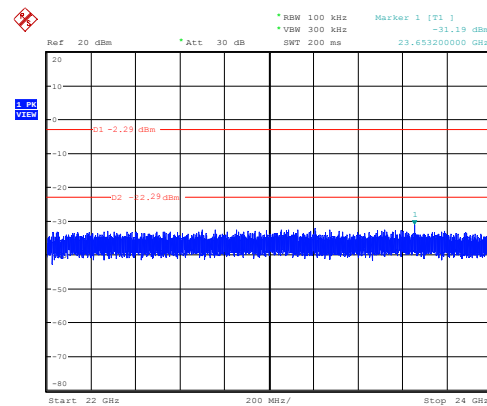
Conducted spurious emissions, mode B2, 26Mbps, Ant1
Date: 30.AUG.2012 11:42:55



Conducted spurious emissions, mode B2, 26Mbps, Ant1
Date: 30.AUG.2012 11:43:11



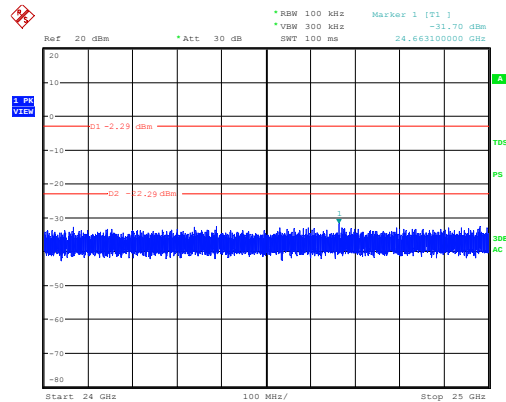
Conducted spurious emissions, mode B2, 26Mbps, Ant1
Date: 30.AUG.2012 11:43:28



Conducted spurious emissions, mode B2, 26Mbps, Ant1
Date: 30.AUG.2012 11:43:43

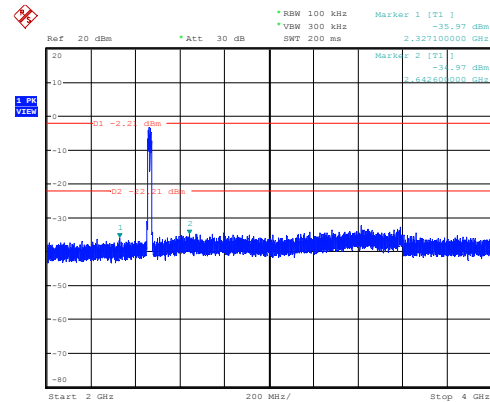
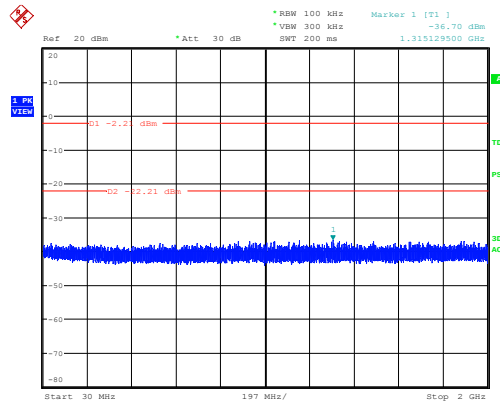
Conducted spurious emissions, mode B2, 26Mbps, Ant1
Date: 30.AUG.2012 11:44:00

Figure 54: Conducted Spurious Emissions, 24 - 25GHz, Mode B (2437MHz), Configuration 2 (IEEE 802.11n), Antenna 1

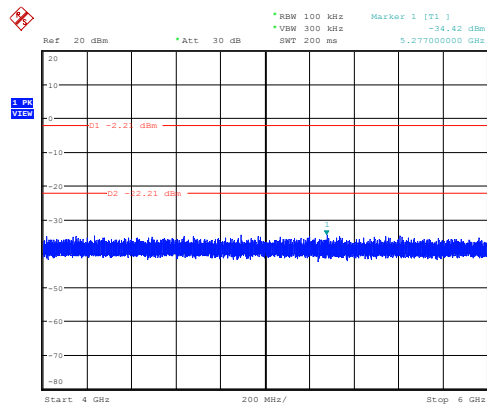


Conducted spurious emissions, mode B2, 26Mbps, Ant1
Date: 30.AUG.2012 11:44:16

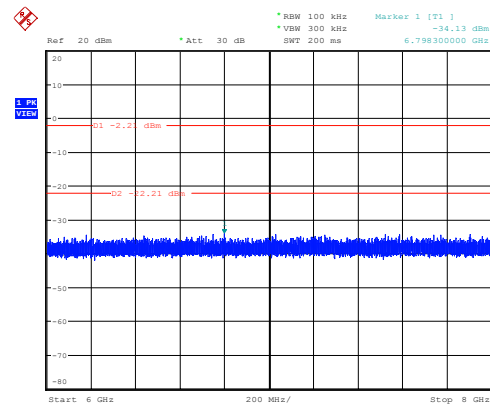
Figure 55: Conducted Spurious Emissions, 30MHz - 12GHz, Mode C (2462MHz), Configuration 2 (IEEE 802.11n), Antenna 1



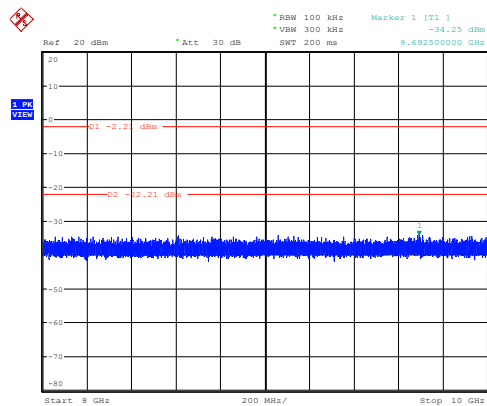
Conducted spurious emissions, mode C2, 26Mbps, Ant1
Date: 29.AUG.2012 18:53:12



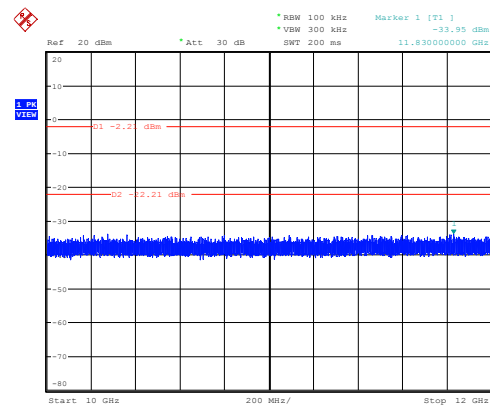
Conducted spurious emissions, mode C2, 26Mbps, Ant1
Date: 29.AUG.2012 18:54:27



Conducted spurious emissions, mode C2, 26Mbps, Ant1
Date: 29.AUG.2012 18:55:04



Conducted spurious emissions, mode C2, 26Mbps, Ant1
Date: 29.AUG.2012 18:55:47



Conducted spurious emissions, mode C2, 26Mbps, Ant1
Date: 29.AUG.2012 18:56:23

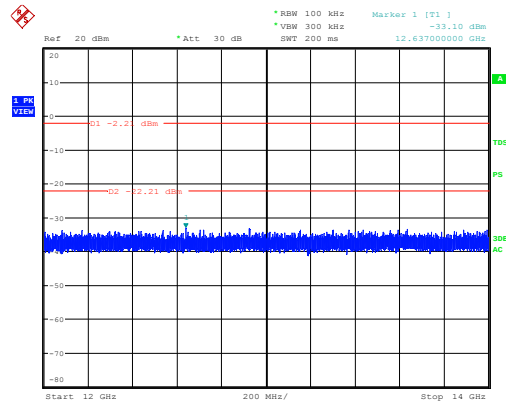
Conducted spurious emissions, mode C2, 26Mbps, Ant1
Date: 29.AUG.2012 18:56:59

Produkte
Products

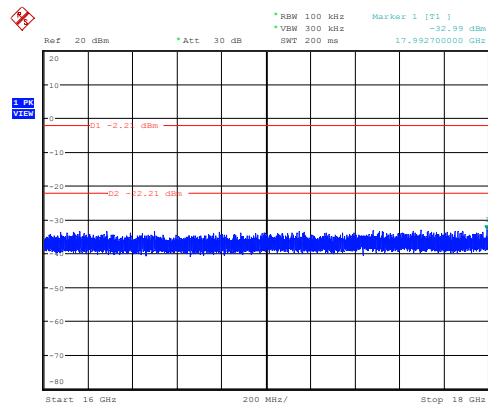
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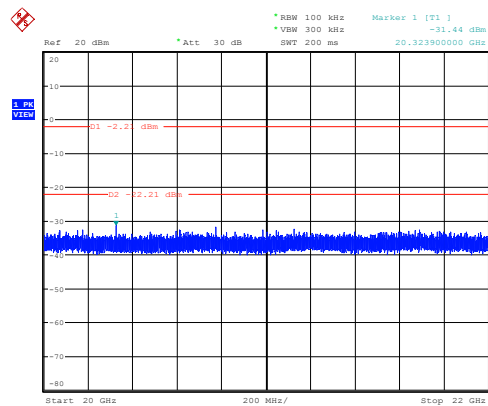
Figure 56: Conducted Spurious Emissions, 12 - 24GHz, Mode C (2462MHz), Configuration 2 (IEEE 802.11n), Antenna 1



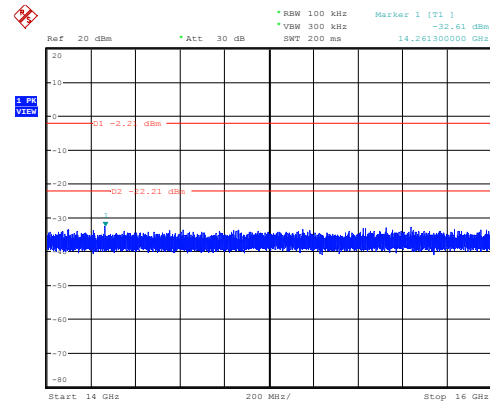
Conducted spurious emissions, mode C2, 26Mbps, Ant1
Date: 29.AUG.2012 18:57:42



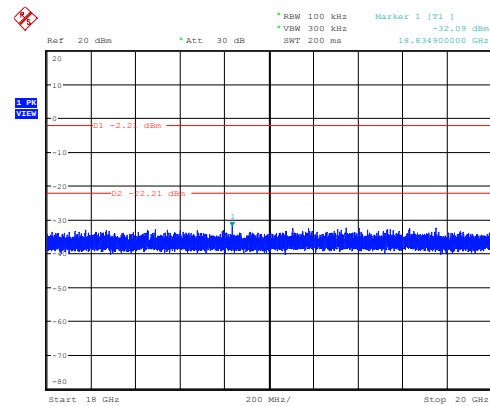
Conducted spurious emissions, mode C2, 26Mbps, Ant1
Date: 29.AUG.2012 18:58:55



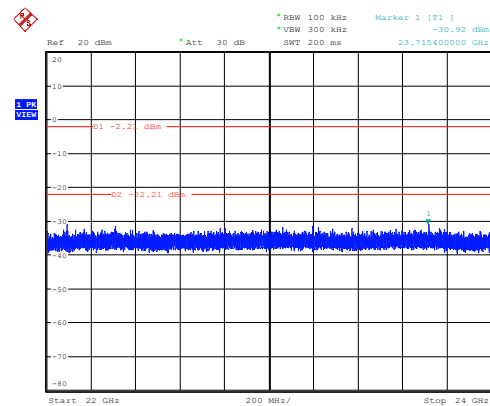
Conducted spurious emissions, mode C2, 26Mbps, Ant1
Date: 29.AUG.2012 19:00:08



Conducted spurious emissions, mode C2, 26Mbps, Ant1
Date: 29.AUG.2012 18:58:18



Conducted spurious emissions, mode C2, 26Mbps, Ant1
Date: 29.AUG.2012 18:59:32



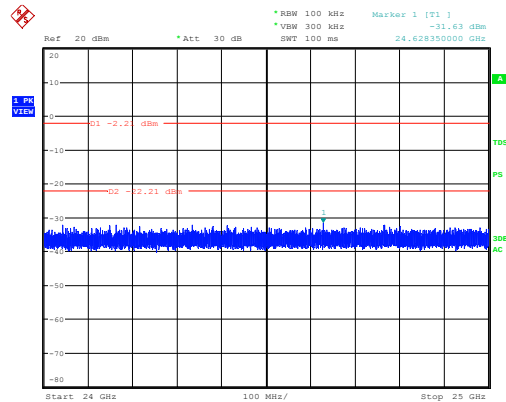
Conducted spurious emissions, mode C2, 26Mbps, Ant1
Date: 29.AUG.2012 19:00:45

Produkte
Products

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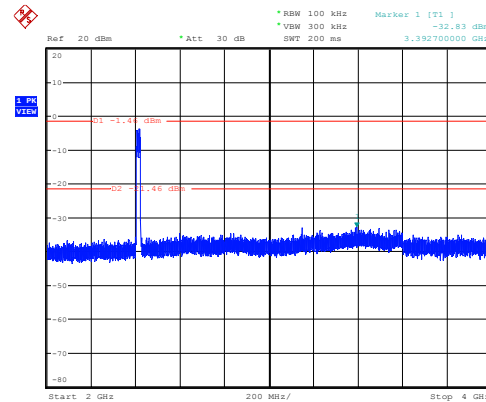
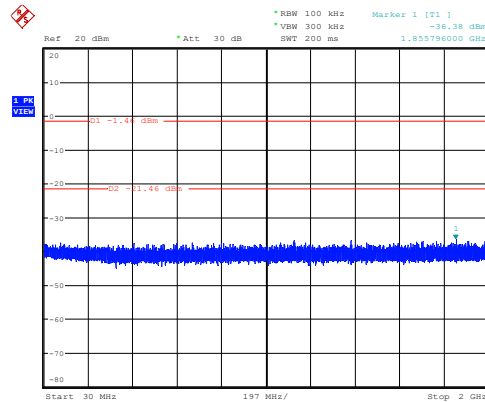
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Figure 57: Conducted Spurious Emissions, 24 - 25GHz, Mode C (2462MHz), Configuration 2 (IEEE 802.11n), Antenna 1

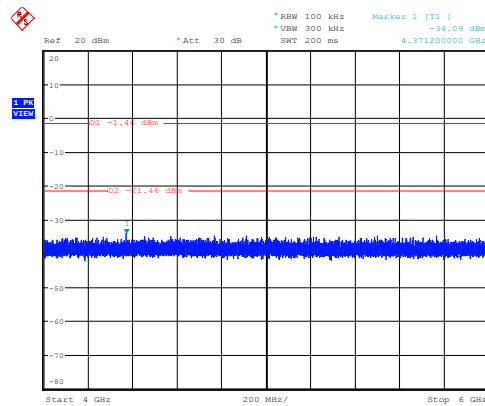


Conducted spurious emissions, mode C2, 26Mbps, Ant1
Date: 29.AUG.2012 19:01:27

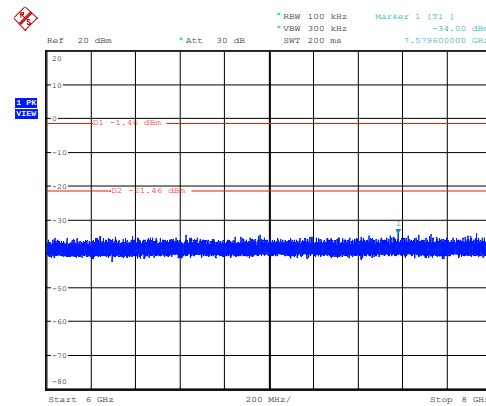
Figure 58: Conducted Spurious Emissions, 30MHz - 12GHz, Mode A (2412MHz), Configuration 2 (IEEE 802.11n), Antenna 2



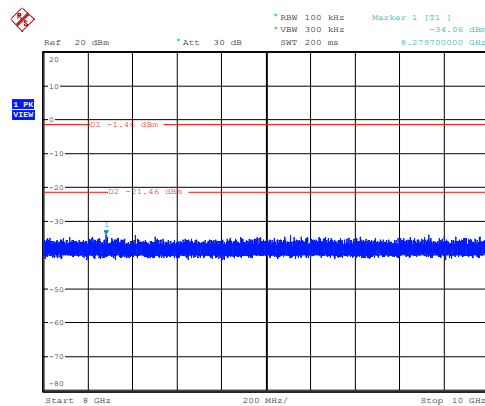
Conducted spurious emissions, mode A2, 26Mbps, Ant2
Date: 30.AUG.2012 09:45:41



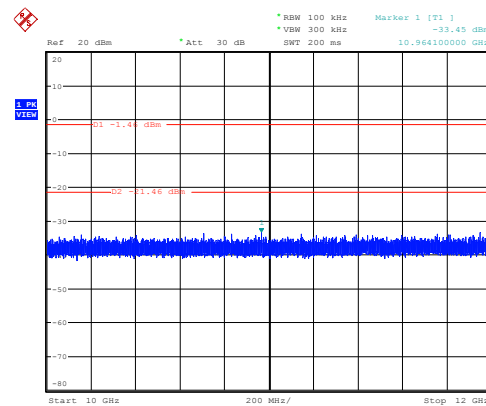
Conducted spurious emissions, mode A2, 26Mbps, Ant2
Date: 30.AUG.2012 09:49:08



Conducted spurious emissions, mode A2, 26Mbps, Ant2
Date: 30.AUG.2012 09:49:48



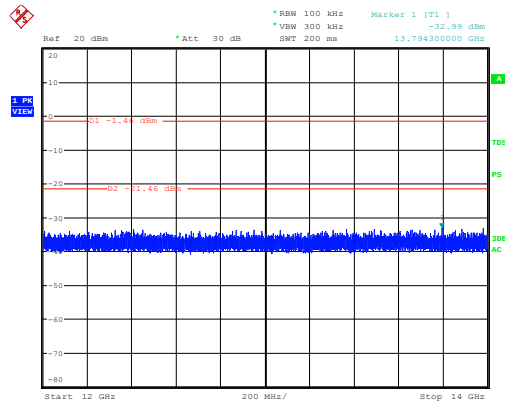
Conducted spurious emissions, mode A2, 26Mbps, Ant2
Date: 30.AUG.2012 09:50:26



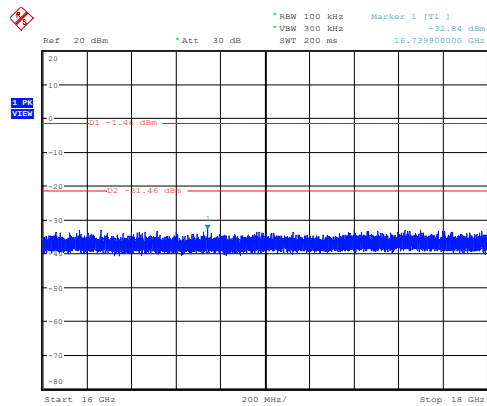
Conducted spurious emissions, mode A2, 26Mbps, Ant2
Date: 30.AUG.2012 09:51:03

Conducted spurious emissions, mode A2, 26Mbps, Ant2
Date: 30.AUG.2012 09:51:41

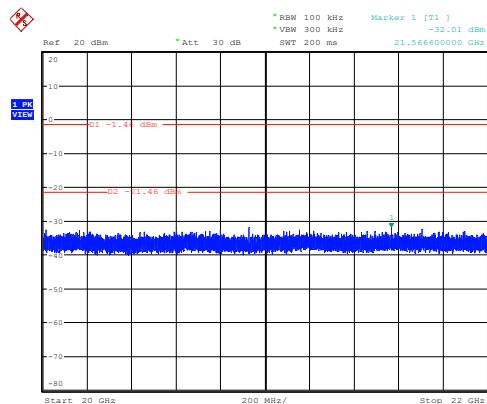
Figure 59: Conducted Spurious Emissions, 12 - 24GHz, Mode A (2412MHz), Configuration 2 (IEEE 802.11n), Antenna 2



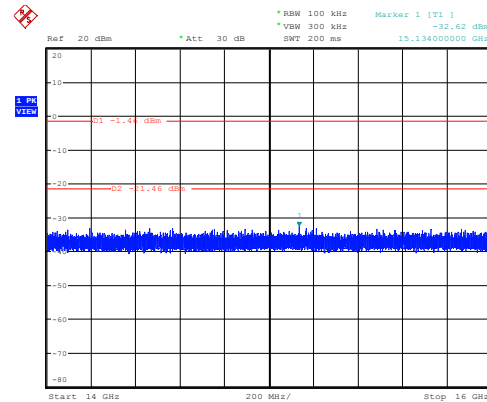
Conducted spurious emissions, mode A2, 26Mbps, Ant2
Date: 30.AUG.2012 09:52:17



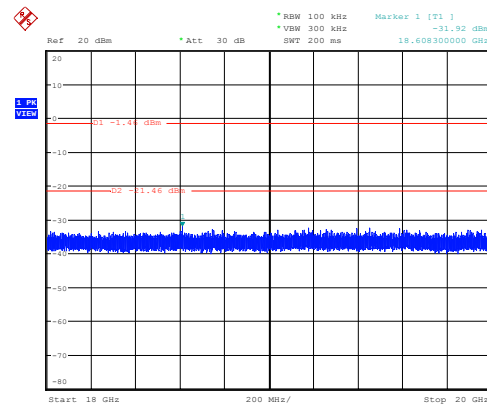
Conducted spurious emissions, mode A2, 26Mbps, Ant2
Date: 30.AUG.2012 09:53:56



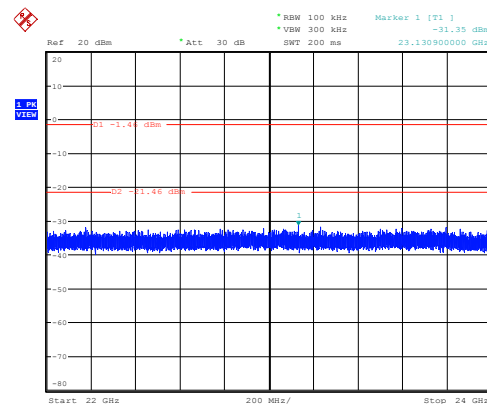
Conducted spurious emissions, mode A2, 26Mbps, Ant2
Date: 30.AUG.2012 09:55:11



Conducted spurious emissions, mode A2, 26Mbps, Ant2
Date: 30.AUG.2012 09:53:18



Conducted spurious emissions, mode A2, 26Mbps, Ant2
Date: 30.AUG.2012 09:54:33



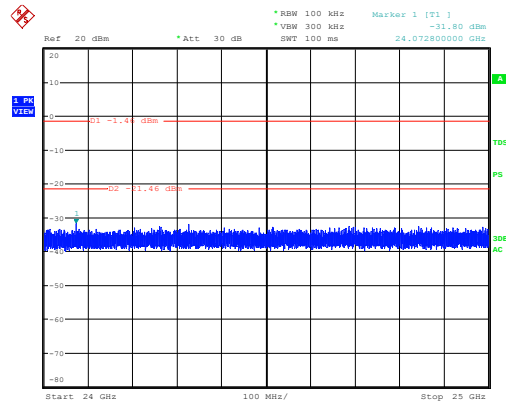
Conducted spurious emissions, mode A2, 26Mbps, Ant2
Date: 30.AUG.2012 09:55:47

Produkte
Products

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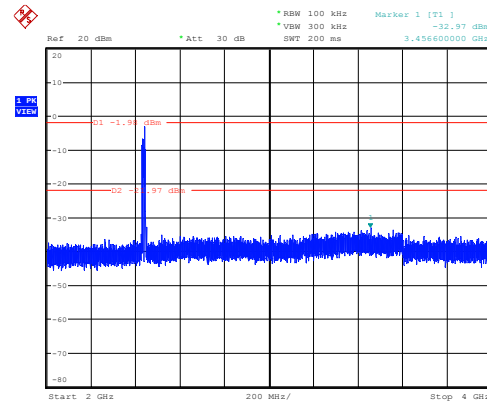
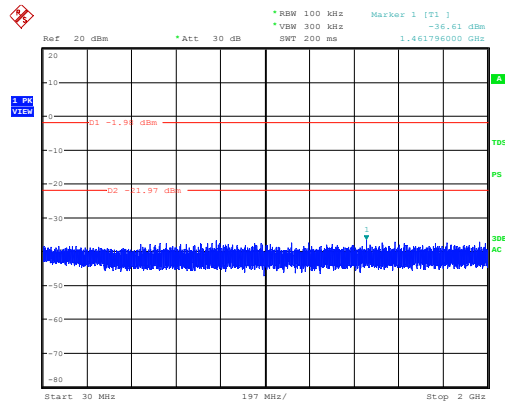
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Figure 60: Conducted Spurious Emissions, 24 - 25GHz, Mode A (2412MHz), Configuration 2 (IEEE 802.11n), Antenna 2

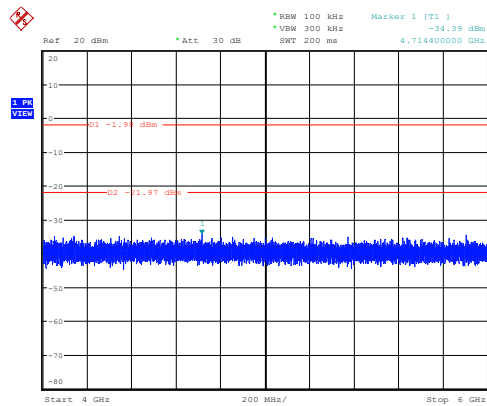


Conducted spurious emissions, mode A2, 26Mbps, Ant2
Date: 30.AUG.2012 09:56:25

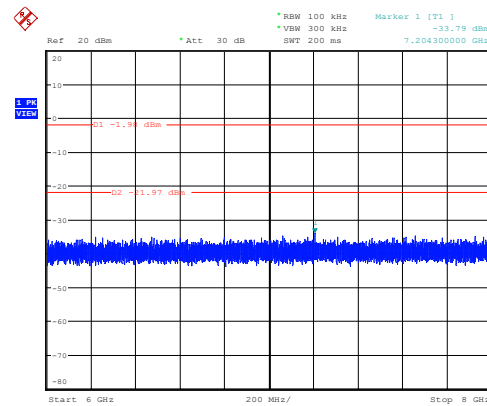
Figure 61: Conducted Spurious Emissions, 30MHz - 12GHz, Mode B (2437MHz), Configuration 2 (IEEE 802.11n), Antenna 2



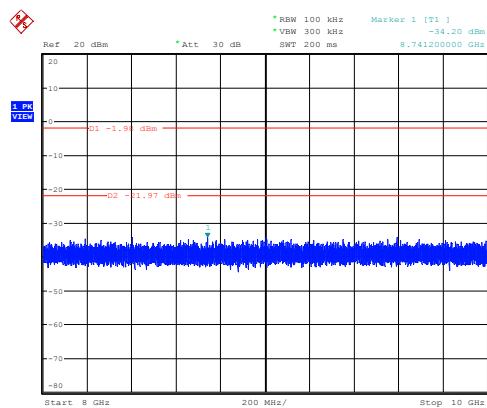
Conducted spurious emissions, mode B2, 26Mbps, Ant2
Date: 30.AUG.2012 11:27:13



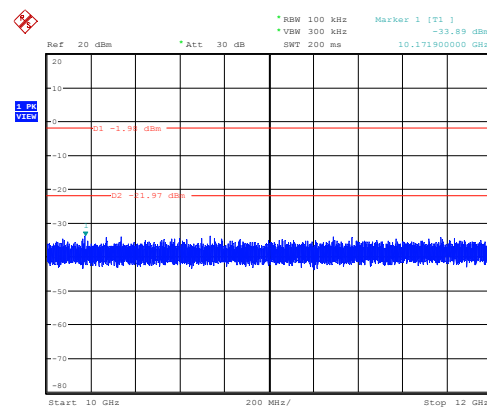
Conducted spurious emissions, mode B2, 26Mbps, Ant2
Date: 30.AUG.2012 11:27:41



Conducted spurious emissions, mode B2, 26Mbps, Ant2
Date: 30.AUG.2012 11:27:58



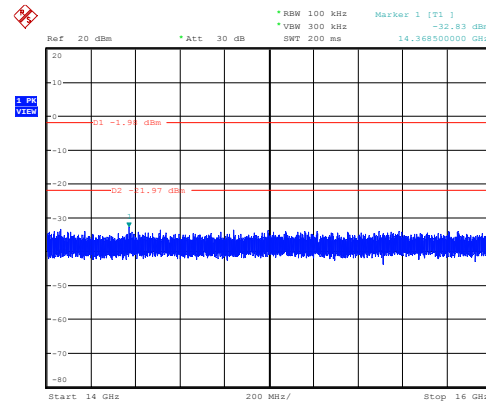
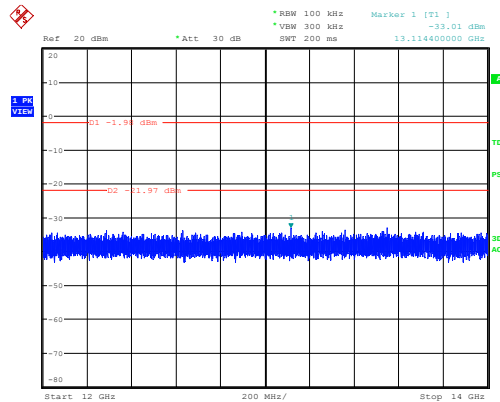
Conducted spurious emissions, mode B2, 26Mbps, Ant2
Date: 30.AUG.2012 11:28:14



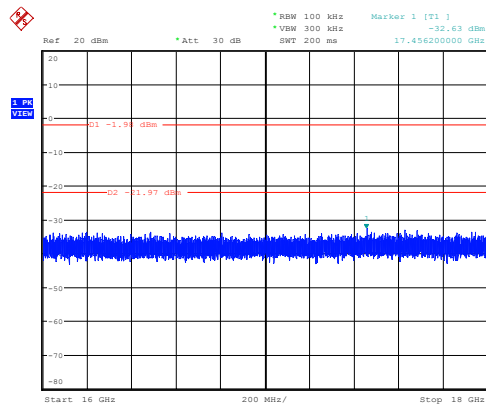
Conducted spurious emissions, mode B2, 26Mbps, Ant2
Date: 30.AUG.2012 11:28:30

Conducted spurious emissions, mode B2, 26Mbps, Ant2
Date: 30.AUG.2012 11:28:46

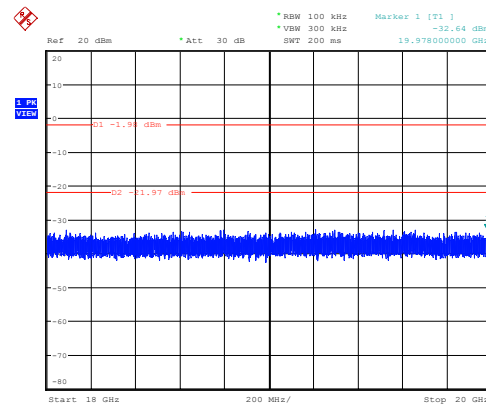
Figure 62: Conducted Spurious Emissions, 12 - 24GHz, Mode B (2437MHz), Configuration 2 (IEEE 802.11n), Antenna 2



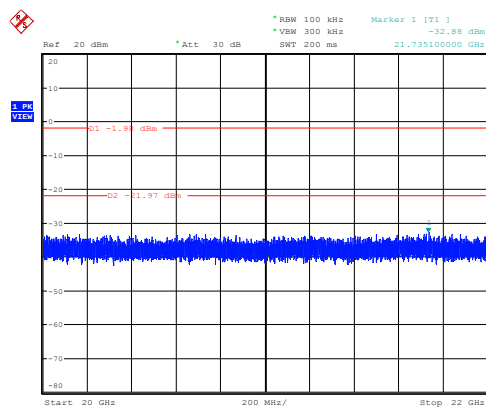
Conducted spurious emissions, mode B2, 26Mbps, Ant2
Date: 30.AUG.2012 11:29:03



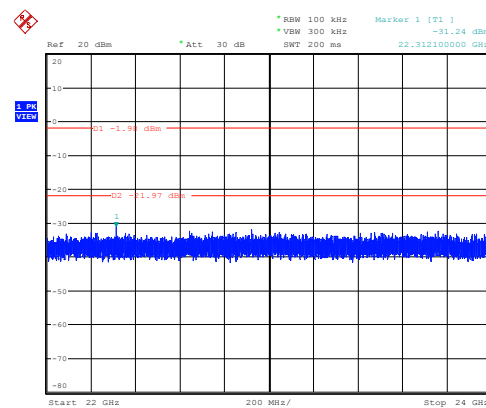
Conducted spurious emissions, mode B2, 26Mbps, Ant2
Date: 30.AUG.2012 11:29:19



Conducted spurious emissions, mode B2, 26Mbps, Ant2
Date: 30.AUG.2012 11:29:36



Conducted spurious emissions, mode B2, 26Mbps, Ant2
Date: 30.AUG.2012 11:29:53



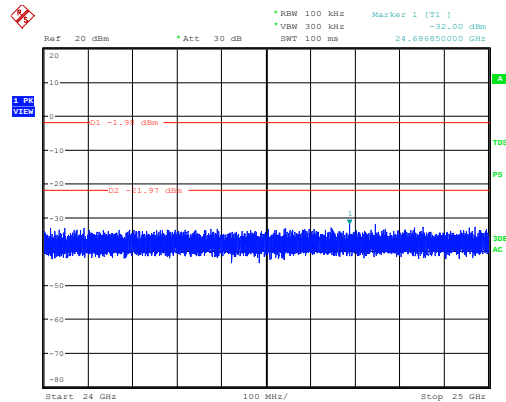
Conducted spurious emissions, mode B2, 26Mbps, Ant2
Date: 30.AUG.2012 11:30:10

Conducted spurious emissions, mode B2, 26Mbps, Ant2
Date: 30.AUG.2012 11:30:27

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Figure 63: Conducted Spurious Emissions, 24 - 25GHz, Mode B (2437MHz), Configuration 2 (IEEE 802.11n), Antenna 2

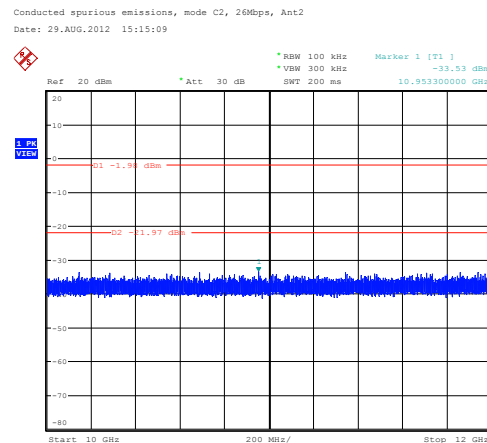
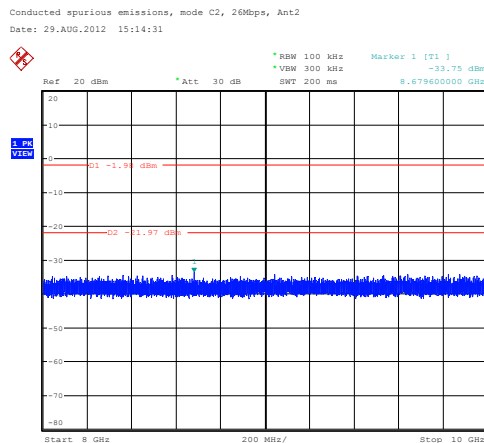
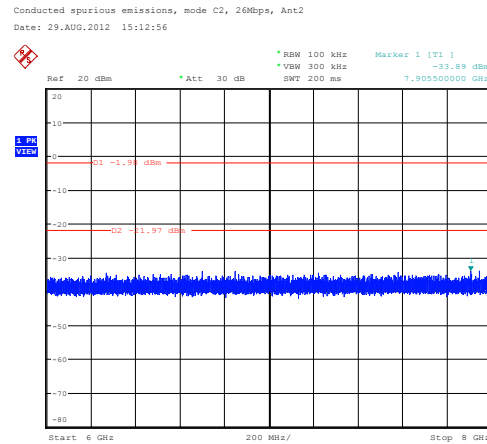
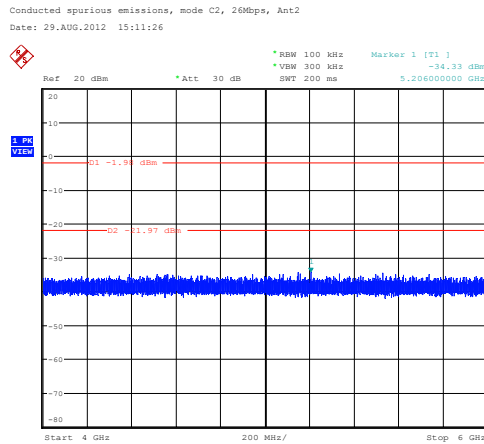
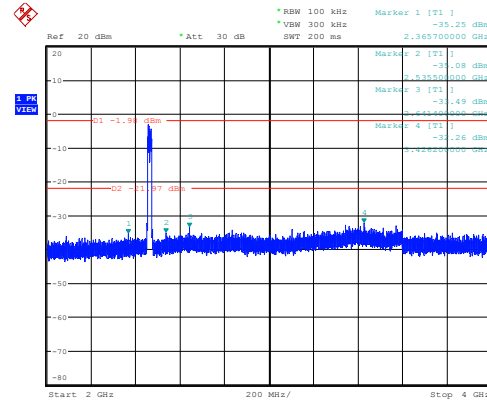
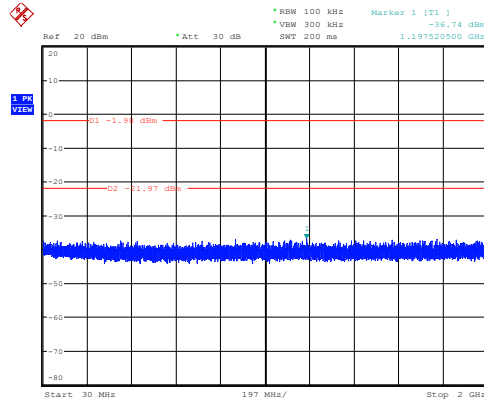


Conducted spurious emissions, mode B2, 26Mbps, Ant2
Date: 30.AUG.2012 11:30:42

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Figure 64: Conducted Spurious Emissions, 30MHz - 12GHz, Mode C (2462MHz), Configuration 2 (IEEE 802.11n), Antenna 2

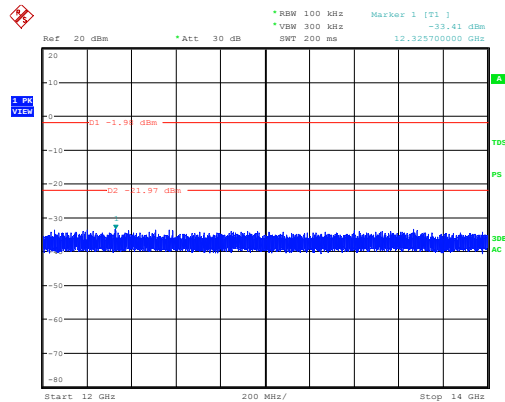


Produkte
Products

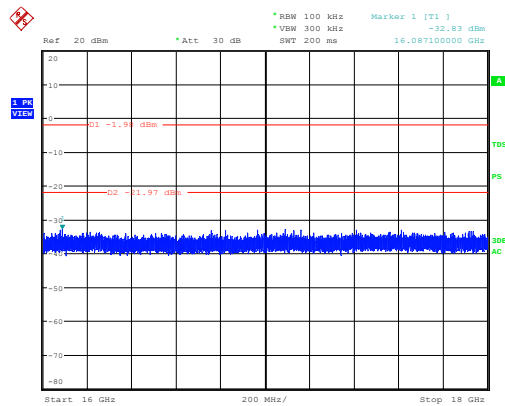
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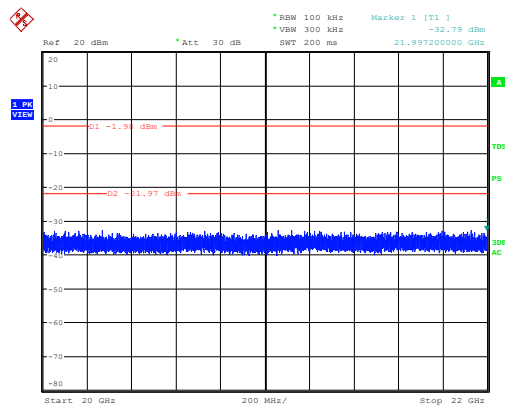
Figure 65: Conducted Spurious Emissions, 12 - 24GHz, Mode C (2462MHz), Configuration 2 (IEEE 802.11n), Antenna 2



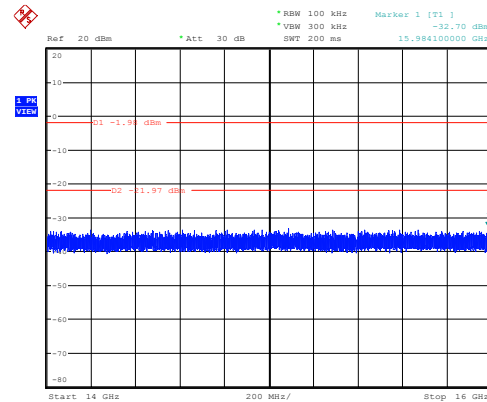
Conducted spurious emissions, mode C2, 26Mbps, Ant2
Date: 29.AUG.2012 15:17:02



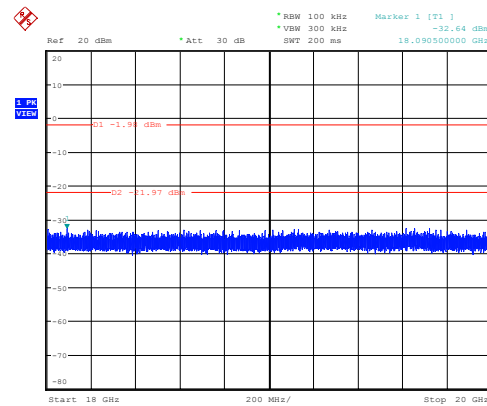
Conducted spurious emissions, mode C2, 26Mbps, Ant2
Date: 29.AUG.2012 15:18:16



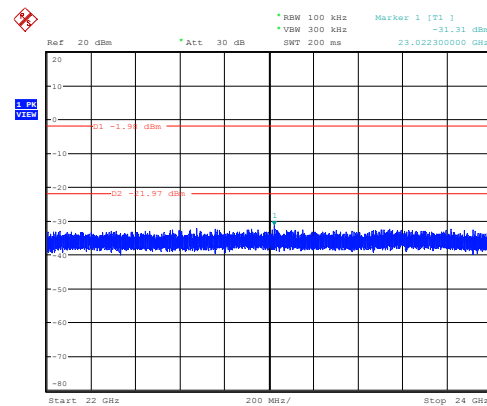
Conducted spurious emissions, mode C2, 26Mbps, Ant2
Date: 29.AUG.2012 15:19:35



Conducted spurious emissions, mode C2, 26Mbps, Ant2
Date: 29.AUG.2012 15:17:39



Conducted spurious emissions, mode C2, 26Mbps, Ant2
Date: 29.AUG.2012 15:18:55

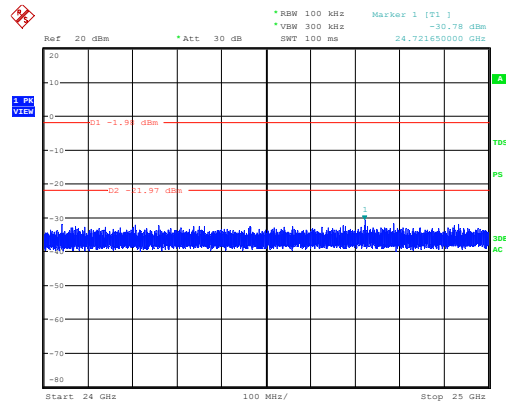


Conducted spurious emissions, mode C2, 26Mbps, Ant2
Date: 29.AUG.2012 15:20:21

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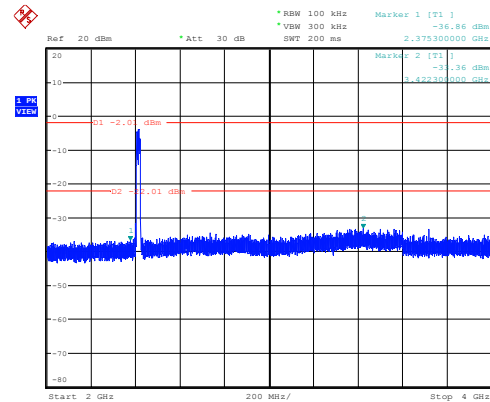
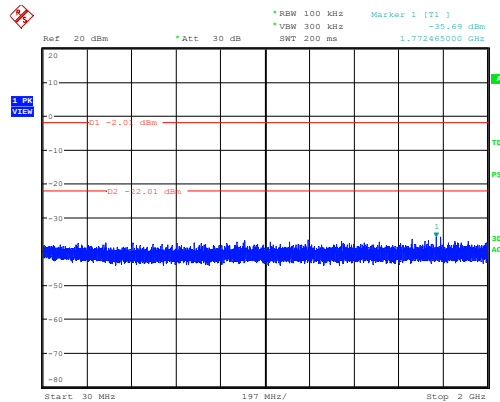
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Figure 66: Conducted Spurious Emissions, 24 - 25GHz, Mode C (2462MHz), Configuration 2 (IEEE 802.11n), Antenna 2

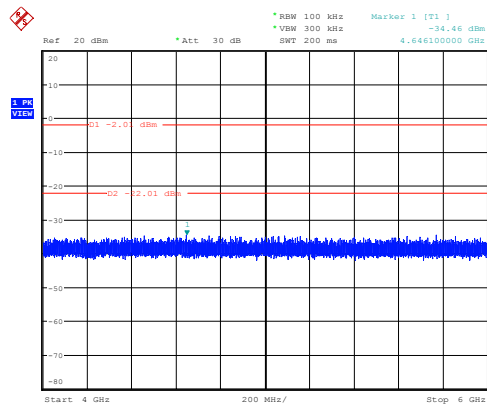


Conducted spurious emissions, mode C2, 2462bps, Ant2
Date: 29.AUG.2012 15:21:00

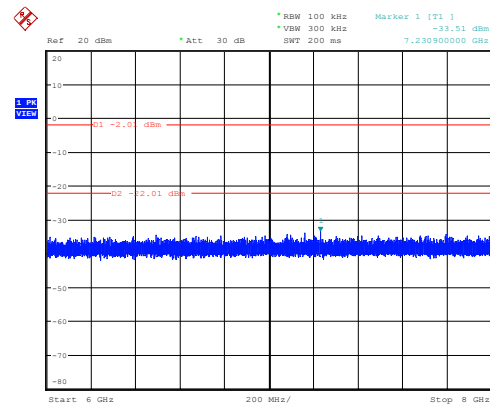
Figure 67: Conducted Spurious Emissions, 30MHz - 12GHz, Mode A (2412MHz), Configuration 2 (IEEE 802.11n), Antenna 3



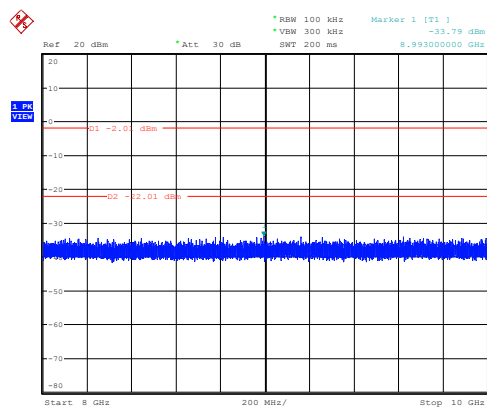
Conducted spurious emissions, mode A2, 26Mbps, Ant3
Date: 30.AUG.2012 09:34:27



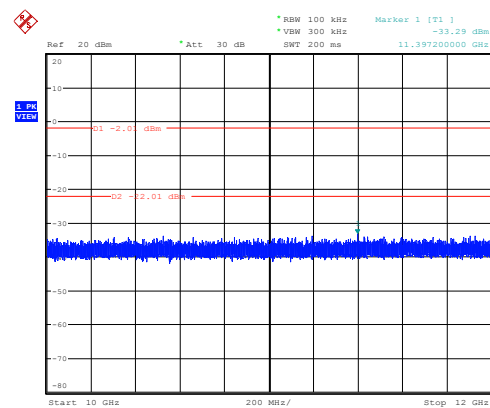
Conducted spurious emissions, mode A2, 26Mbps, Ant3
Date: 30.AUG.2012 09:36:01



Conducted spurious emissions, mode A2, 26Mbps, Ant3
Date: 30.AUG.2012 09:37:40



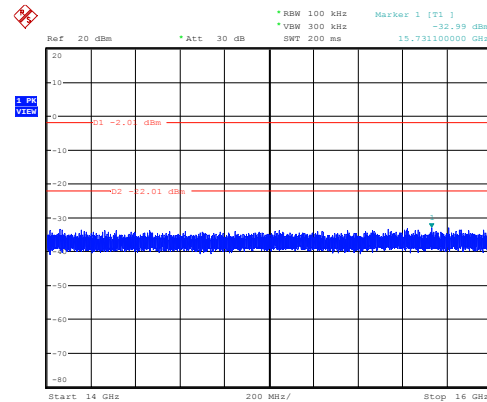
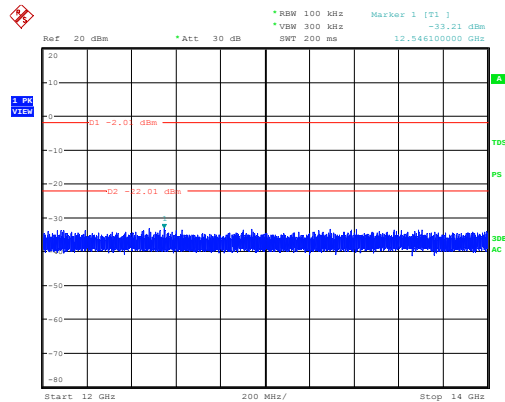
Conducted spurious emissions, mode A2, 26Mbps, Ant3
Date: 30.AUG.2012 09:37:18



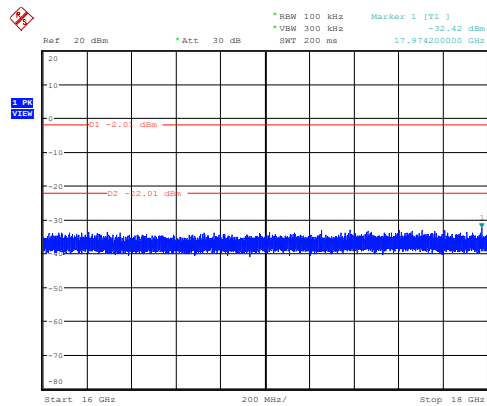
Conducted spurious emissions, mode A2, 26Mbps, Ant3
Date: 30.AUG.2012 09:37:55

Conducted spurious emissions, mode A2, 26Mbps, Ant3
Date: 30.AUG.2012 09:38:32

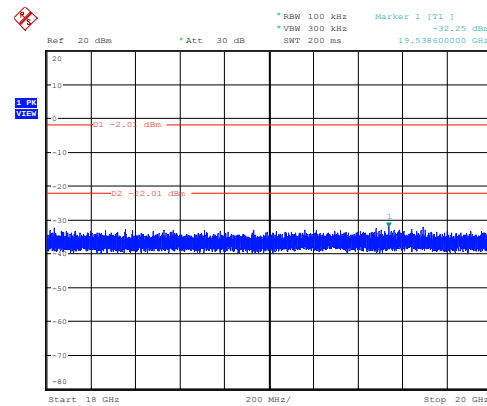
Figure 68: Conducted Spurious Emissions, 12 - 24GHz, Mode A (2412MHz), Configuration 2 (IEEE 802.11n), Antenna 3



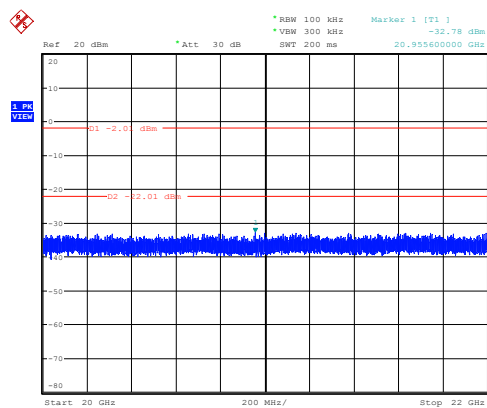
Conducted spurious emissions, mode A2, 26Mbps, Ant3
Date: 30.AUG.2012 09:39:09



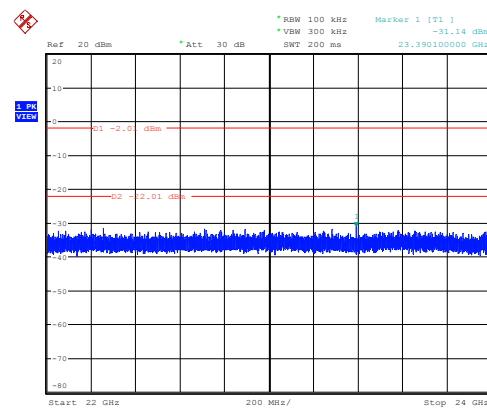
Conducted spurious emissions, mode A2, 26Mbps, Ant3
Date: 30.AUG.2012 09:39:48



Conducted spurious emissions, mode A2, 26Mbps, Ant3
Date: 30.AUG.2012 09:40:44



Conducted spurious emissions, mode A2, 26Mbps, Ant3
Date: 30.AUG.2012 09:41:21



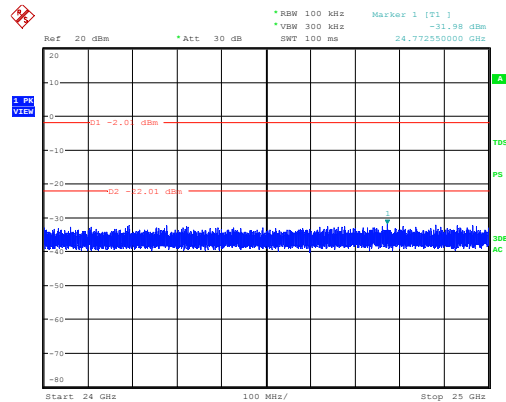
Conducted spurious emissions, mode A2, 26Mbps, Ant3
Date: 30.AUG.2012 09:41:57

Conducted spurious emissions, mode A2, 26Mbps, Ant3
Date: 30.AUG.2012 09:42:35

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Figure 69: Conducted Spurious Emissions, 24 - 25GHz, Mode A (2412MHz), Configuration 2 (IEEE 802.11n), Antenna 3



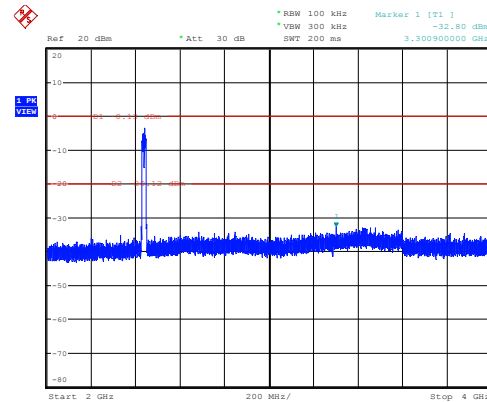
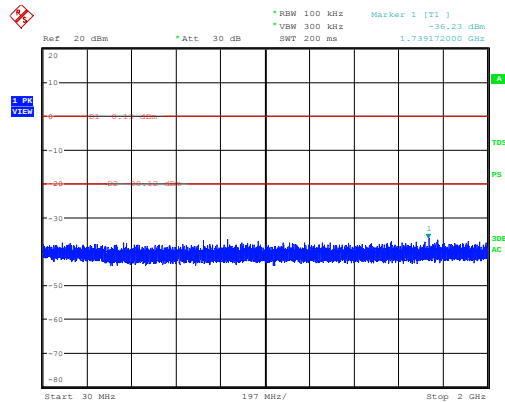
Conducted spurious emissions, mode A2, 26Mbps, Ant3
Date: 30.AUG.2012 09:43:11

Produkte
Products

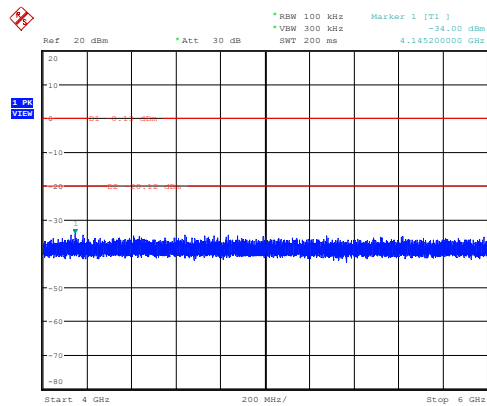
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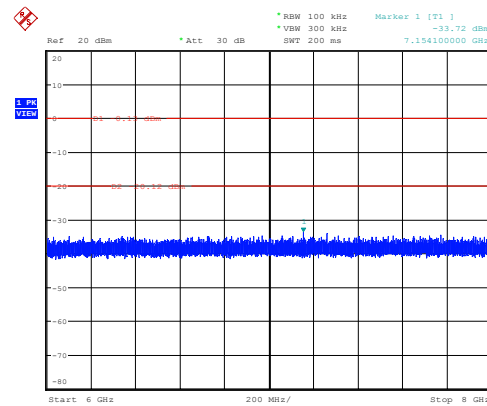
Figure 70: Conducted Spurious Emissions, 30MHz - 12GHz, Mode B (2437MHz), Configuration 2 (IEEE 802.11n), Antenna 3



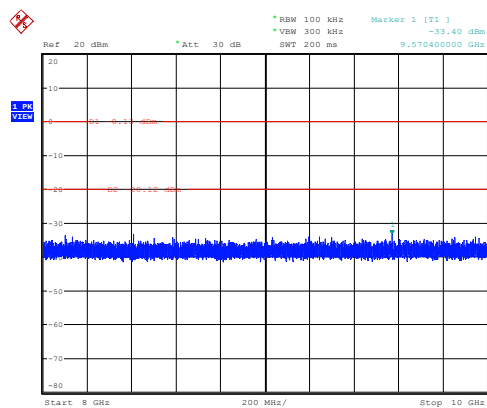
Conducted spurious emissions, mode B2, 26Mbps, Ant3
Date: 30.AUG.2012 11:13:33



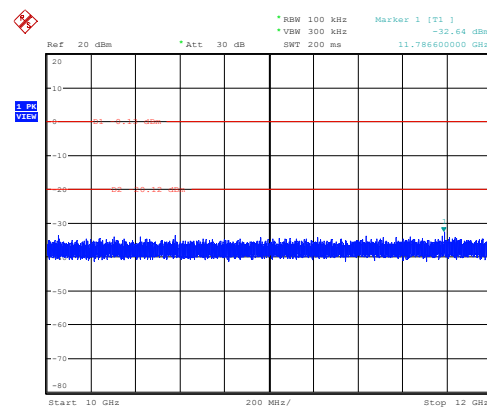
Conducted spurious emissions, mode B2, 26Mbps, Ant3
Date: 30.AUG.2012 11:14:35



Conducted spurious emissions, mode B2, 26Mbps, Ant3
Date: 30.AUG.2012 11:15:12



Conducted spurious emissions, mode B2, 26Mbps, Ant3
Date: 30.AUG.2012 11:16:04



Conducted spurious emissions, mode B2, 26Mbps, Ant3
Date: 30.AUG.2012 11:16:41

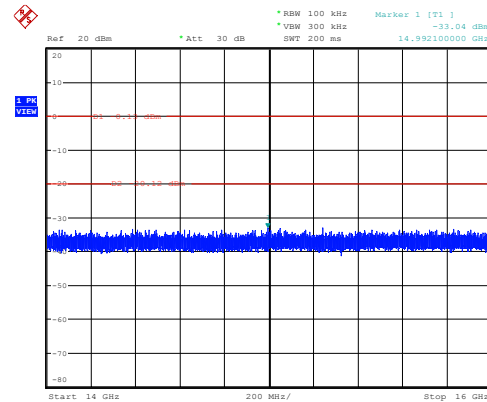
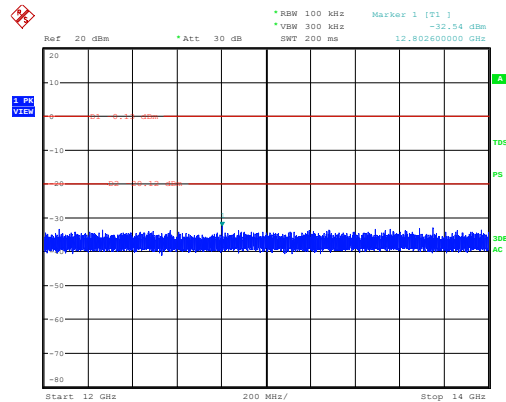
Conducted spurious emissions, mode B2, 26Mbps, Ant3
Date: 30.AUG.2012 11:17:17

Produkte
Products

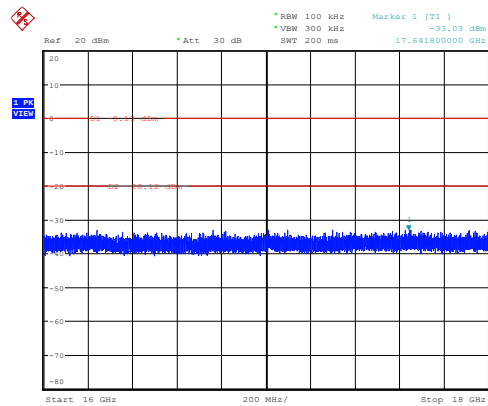
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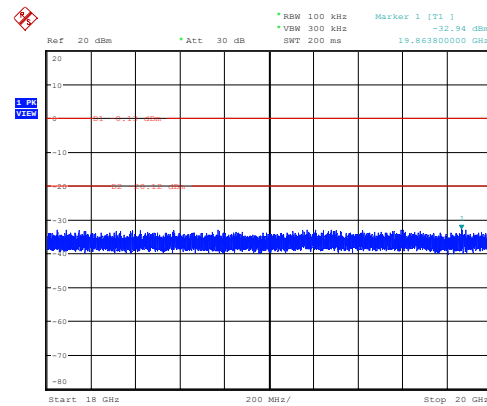
Figure 71: Conducted Spurious Emissions, 12 - 24GHz, Mode B (2437MHz), Configuration 2 (IEEE 802.11n), Antenna 3



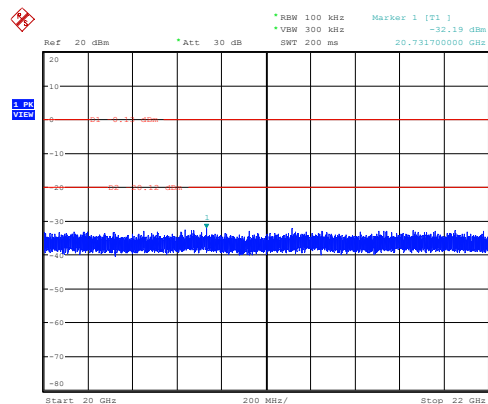
Conducted spurious emissions, mode B2, 26Mbps, Ant3
Date: 30.AUG.2012 11:17:53



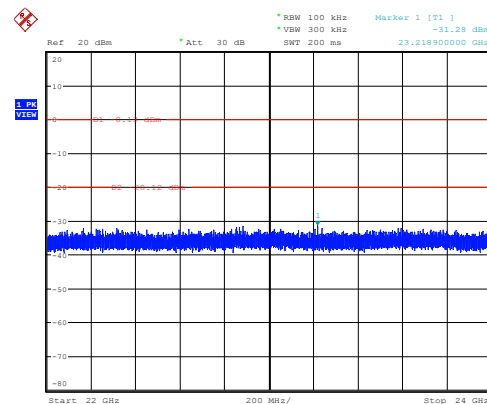
Conducted spurious emissions, mode B2, 26Mbps, Ant3
Date: 30.AUG.2012 11:18:29



Conducted spurious emissions, mode B2, 26Mbps, Ant3
Date: 30.AUG.2012 11:19:04



Conducted spurious emissions, mode B2, 26Mbps, Ant3
Date: 30.AUG.2012 11:19:40



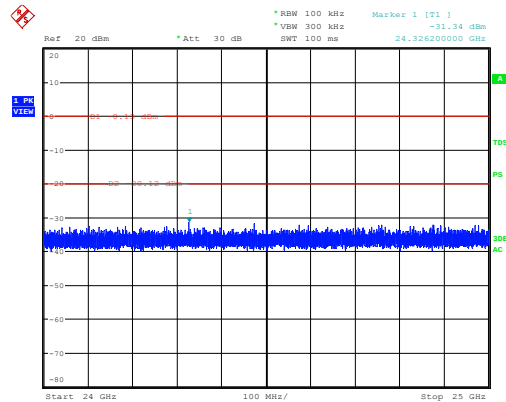
Conducted spurious emissions, mode B2, 26Mbps, Ant3
Date: 30.AUG.2012 11:20:22

Conducted spurious emissions, mode B2, 26Mbps, Ant3
Date: 30.AUG.2012 11:20:58

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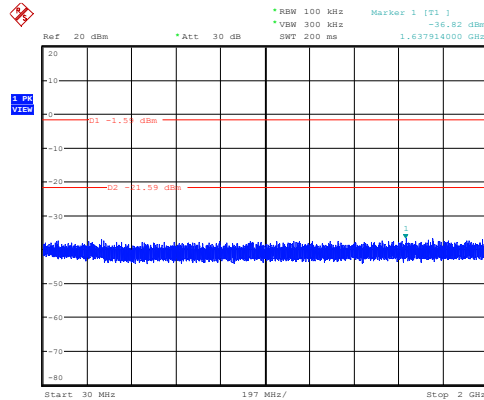
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Figure 72: Conducted Spurious Emissions, 24 - 25GHz, Mode B (2437MHz), Configuration 2 (IEEE 802.11n), Antenna 3

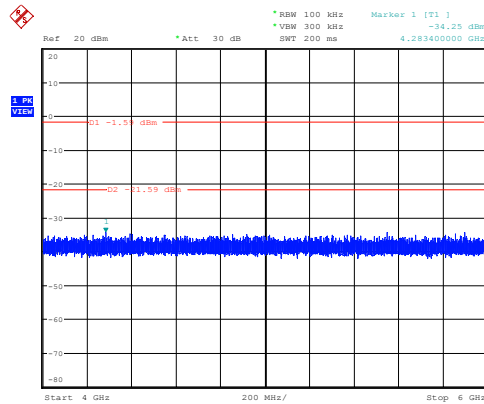


Conducted spurious emissions, mode B2, 26Mbps, Ant3
Date: 30.AUG.2012 11:21:34

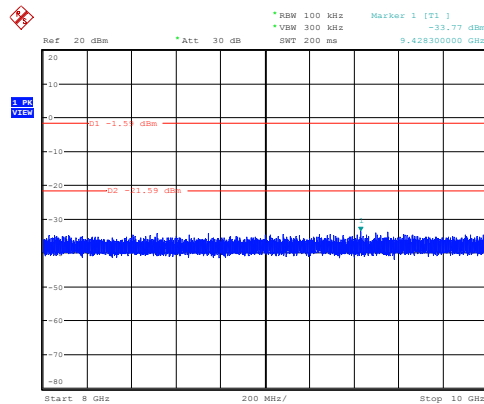
Figure 73: Conducted Spurious Emissions, 30MHz - 12GHz, Mode C (2462MHz), Configuration 2 (IEEE 802.11n), Antenna 3



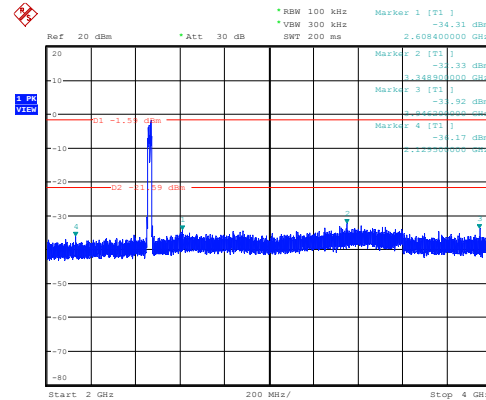
Conducted spurious emissions, mode C2, 26Mbps, Ant3
Date: 29.AUG.2012 14:37:56



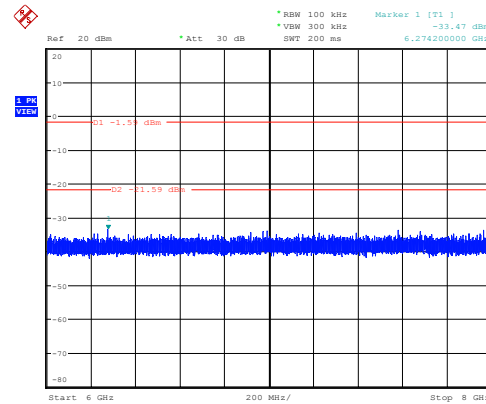
Conducted spurious emissions, mode C2, 26Mbps, Ant3
Date: 29.AUG.2012 14:40:42



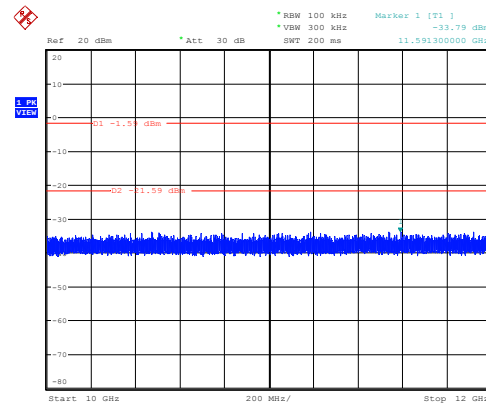
Conducted spurious emissions, mode C2, 26Mbps, Ant3
Date: 29.AUG.2012 14:42:03



Conducted spurious emissions, mode C2, 26Mbps, Ant3
Date: 29.AUG.2012 14:40:01



Conducted spurious emissions, mode C2, 26Mbps, Ant3
Date: 29.AUG.2012 14:41:24



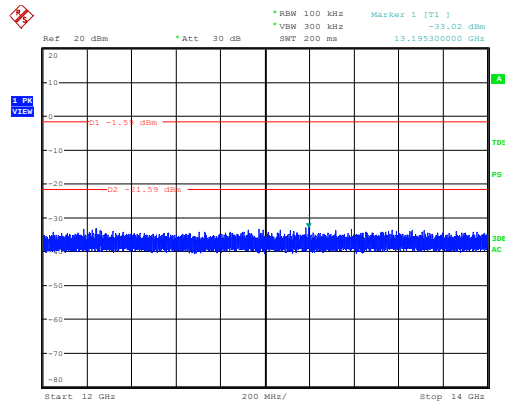
Conducted spurious emissions, mode C2, 26Mbps, Ant3
Date: 29.AUG.2012 14:42:41

Produkte
Products

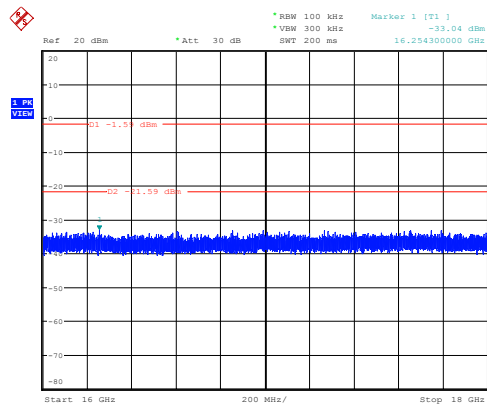
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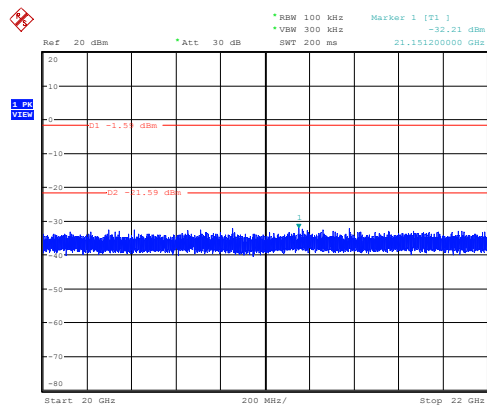
Figure 74: Conducted Spurious Emissions, 12 - 24GHz, Mode C (2462MHz), Configuration 2 (IEEE 802.11n), Antenna 3



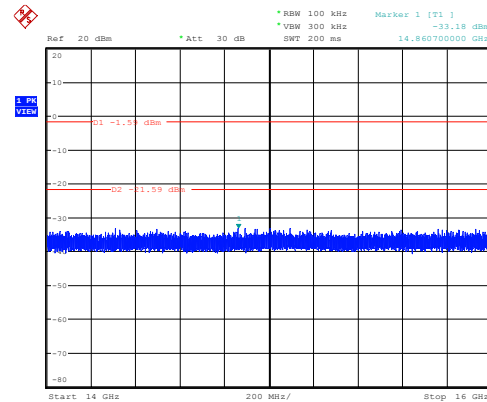
Conducted spurious emissions, mode C2, 26Mbps, Ant3
Date: 29.AUG.2012 14:43:22



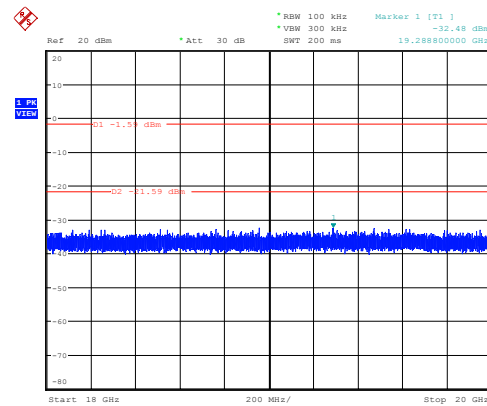
Conducted spurious emissions, mode C2, 26Mbps, Ant3
Date: 29.AUG.2012 14:43:38



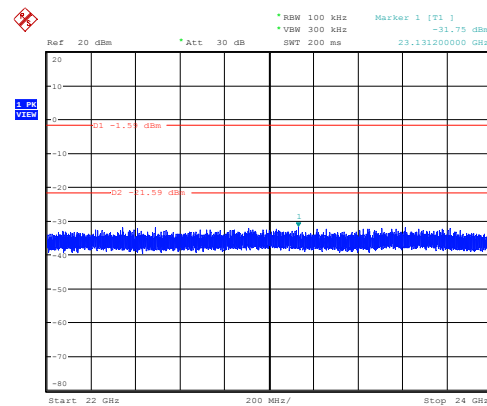
Conducted spurious emissions, mode C2, 26Mbps, Ant3
Date: 29.AUG.2012 14:45:55



Conducted spurious emissions, mode C2, 26Mbps, Ant3
Date: 29.AUG.2012 14:44:01



Conducted spurious emissions, mode C2, 26Mbps, Ant3
Date: 29.AUG.2012 14:45:17

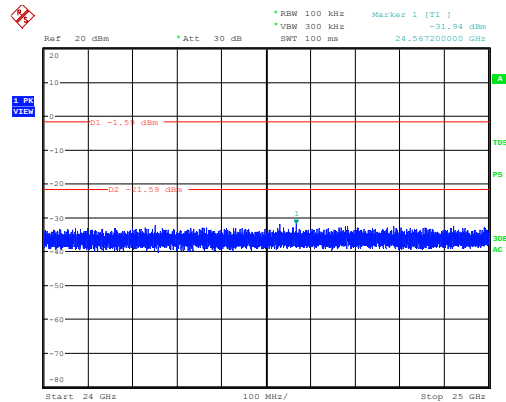


Conducted spurious emissions, mode C2, 26Mbps, Ant3
Date: 29.AUG.2012 14:46:34

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Figure 75: Conducted Spurious Emissions, 24 - 25GHz, Mode C (2462MHz), Configuration 2 (IEEE 802.11n), Antenna 3



Conducted spurious emissions, mode C2, 26Mbps, Ant3
Date: 29.AUG.2012 14:47:11

5.2.5 Peak Power Spectral Density

RESULT:

PASS

Date of testing: 2012-08-29, 2012-08-30

Ambient temperature: 25, 25°C

Relative humidity: 65, 58%

Atmospheric pressure: 1011, 1009hPa

Requirements:

FCC 15.247(e) and RSS-210 A8.2(b)

For digitally modulated systems, the power spectral density (PSD) conducted from the intentional radiator to the antenna shall not be greater than 8dBm in any 3kHz band during any time interval of continuous transmission.

Test procedure:

ANSI C63.4-2003, KDB Publication No. 558074 D01 and KDB Publication No. 662911 D01.

The peak power spectral density was measured at the antenna port with a spectrum analyzer using a peak detector with a resolution bandwidth of 100kHz and a video bandwidth of 300kHz. The observed highest power level in a 100kHz band was scaled to an equivalent value in a 3kHz band by adjusting the measured power by a bandwidth correction factor. A further antenna correction factor of was applied, to take into account the fact that three antennas are operating simultaneously.

The readings of the measurements take into account the loss generated by all the involved cables.

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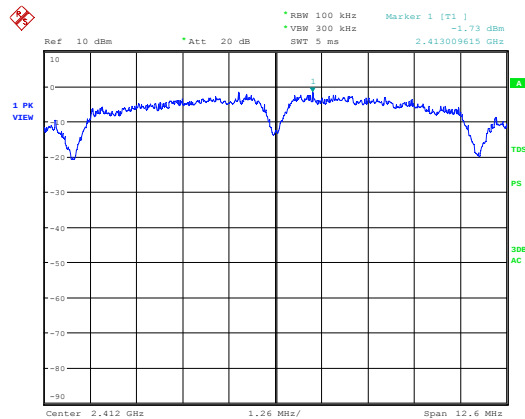
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Table 16: Peak Power Spectral Density, Mode A (2412MHz), Configuration 1 (IEEE 802.11b)

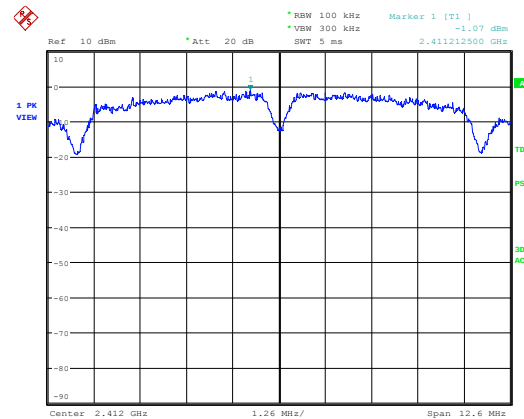
Antenna Port	Max PSD Frequency [MHz]	Max PSD in 100kHz Band [dBm]	Bandwidth & Antenna Factor [dB]	Max PSD in 3kHz Band [dBm]	Limit [dBm]	Margin [dB]
1	2413.0	-1.73	-10.4	-12.2	8.0	20.2
2	2411.2	-1.07	-10.4	-11.5	8.0	19.5
3	2414.0	-1.17	-10.4	-11.6	8.0	19.6

Notes: Max PSD in 3kHz band = Max PSD in 100kHz band + BW & antenna correction factor
Bandwidth & antenna factor = [100kHz to 3kHz bandwidth conversion factor] + [3 antenna system correction factor] = [10 x log(3kHz / 100kHz)] + [10 x log(3)]

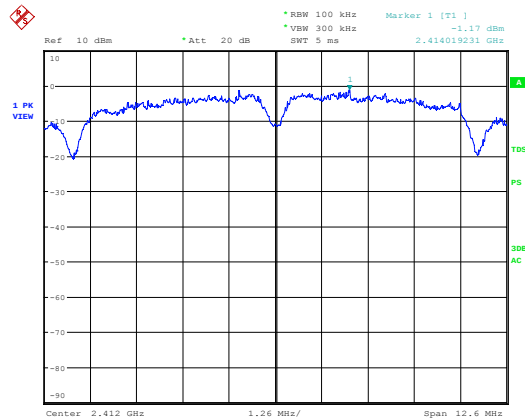
Figure 76: Power Spectral Density, Mode A (2412MHz), Configuration 1 (IEEE 802.11b)



Peak power spectral density, mode A1, Ant1
Date: 30.AUG.2012 17:12:54



Peak power spectral density, mode A1, Ant2
Date: 30.AUG.2012 17:22:12



Peak power spectral density, mode A1, Ant3
Date: 30.AUG.2012 17:27:57

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Test Report No.:

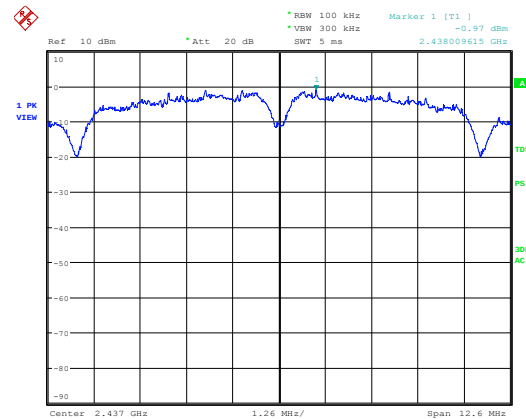
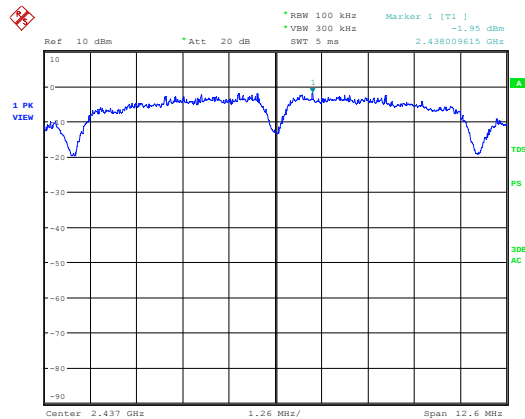
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Table 17: Peak Power Spectral Density, Mode B (2437MHz), Configuration 1 (IEEE 802.11b)

Antenna Port	Max PSD Frequency [MHz]	Max PSD in 100kHz Band [dBm]	Bandwidth & Antenna Factor [dB]	Max PSD in 3kHz Band [dBm]	Limit [dBm]	Margin [dB]
1	2438.0	-1.95	-10.4	-12.4	8.0	20.4
2	2438.0	-0.97	-10.4	-11.4	8.0	19.4
3	2435.0	-0.56	-10.4	-11.0	8.0	19.0

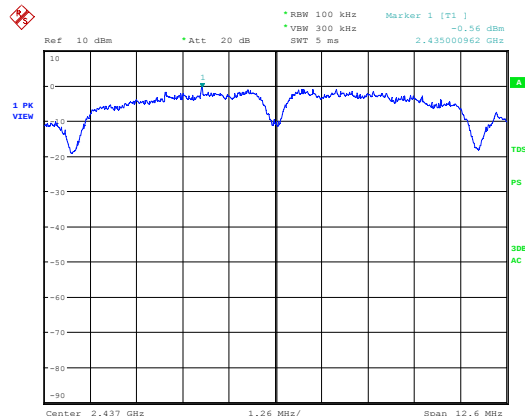
Notes: Max PSD in 3kHz band = Max PSD in 100kHz band + BW & antenna correction factor
Bandwidth & antenna factor = [100kHz to 3kHz bandwidth conversion factor] + [3 antenna system correction factor] = [10 x log(3kHz / 100kHz)] + [10 x log(3)]

Figure 77: Power Spectral Density, Mode B (2437MHz), Configuration 1 (IEEE 802.11b)



Peak power spectral density, mode B1, Ant1
Date: 30.AUG.2012 17:59:05

Peak power spectral density, mode B1, Ant2
Date: 30.AUG.2012 17:47:08



Peak power spectral density, mode B1, Ant3
Date: 30.AUG.2012 17:42:13

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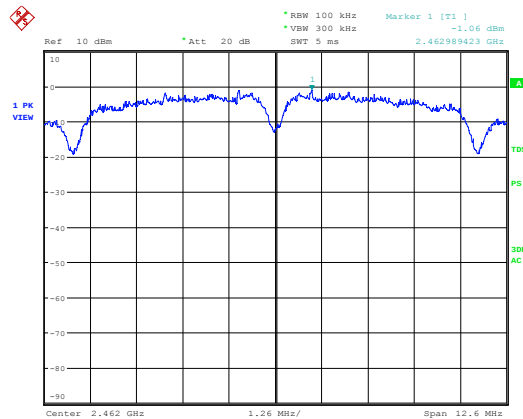
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Table 18: Peak Power Spectral Density, Mode C (2462MHz), Configuration 1 (IEEE 802.11b)

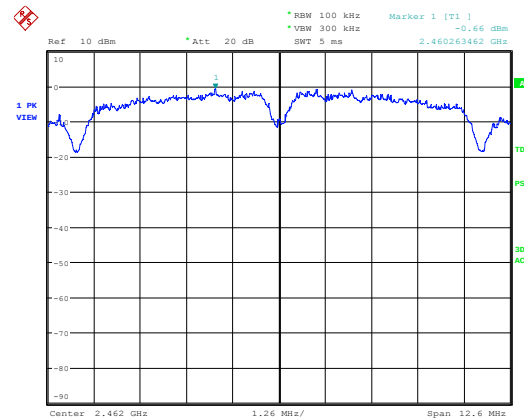
Antenna Port	Max PSD Frequency [MHz]	Max PSD in 100kHz Band [dBm]	Bandwidth & Antenna Factor [dB]	Max PSD in 3kHz Band [dBm]	Limit [dBm]	Margin [dB]
1	2463.0	-1.06	-10.4	-11.5	8.0	19.5
2	2460.3	-0.66	-10.4	-11.1	8.0	19.1
3	2461.0	-0.05	-10.4	-10.5	8.0	18.5

Notes: Max PSD in 3kHz band = Max PSD in 100kHz band + BW & antenna correction factor
Bandwidth & antenna factor = [100kHz to 3kHz bandwidth conversion factor] + [3 antenna system correction factor] = [10 x log(3kHz / 100kHz)] + [10 x log(3)]

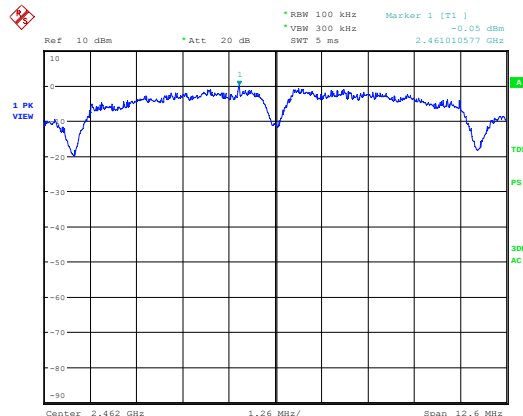
Figure 78: Power Spectral Density, Mode C (2462MHz), Configuration 1 (IEEE 802.11b)



Peak power spectral density, mode C1, Ant1
Date: 30.AUG.2012 16:50:28



Peak power spectral density, mode C1, Ant2
Date: 30.AUG.2012 16:44:21



Peak power spectral density, mode C1, Ant3
Date: 30.AUG.2012 16:38:56

Prüfbericht - Nr.: 12701745 001
Test Report No.:

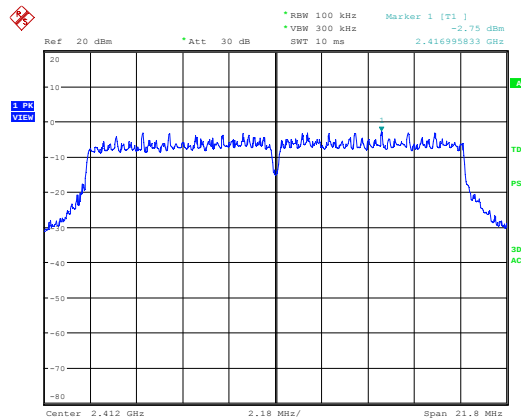
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Table 19: Peak Power Spectral Density, Mode A (2412MHz), Configuration 2 (IEEE 802.11n)

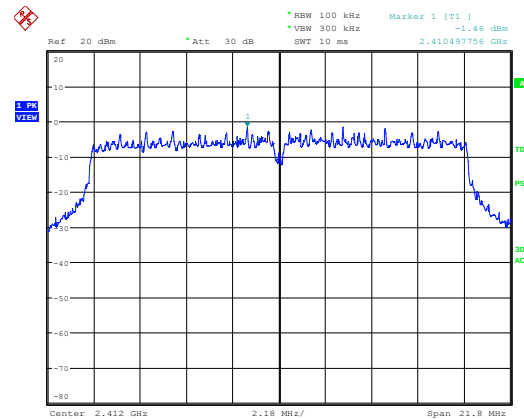
Antenna Port	Max PSD Frequency [MHz]	Max PSD in 100kHz Band [dBm]	Bandwidth & Antenna Factor [dB]	Max PSD in 3kHz Band [dBm]	Limit [dBm]	Margin [dB]
1	2417.0	-2.75	-10.4	-13.2	8.0	21.2
2	2410.5	-1.46	-10.4	-11.9	8.0	19.9
3	2413.0	-2.01	-10.4	-12.4	8.0	20.4

Notes: Max PSD in 3kHz band = Max PSD in 100kHz band + BW & antenna correction factor
Bandwidth & antenna factor = [100kHz to 3kHz bandwidth conversion factor] + [3 antenna system correction factor] = [10 x log(3kHz / 100kHz)] + [10 x log(3)]

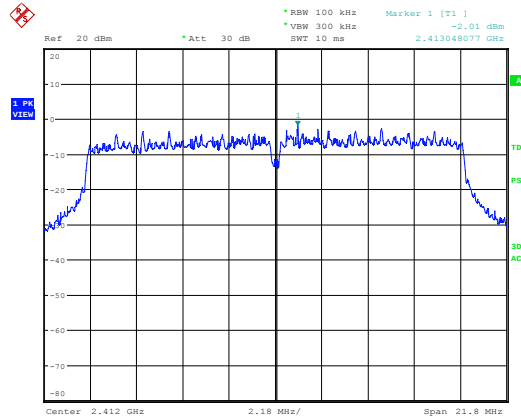
Figure 79: Power Spectral Density, Mode A (2412MHz), Configuration 2 (IEEE 802.11n)



Peak power spectral density, mode A2, 26Mbps, Ant1
Date: 30.AUG.2012 09:58:41



Peak power spectral density, mode A2, 26Mbps, Ant2
Date: 30.AUG.2012 09:44:58



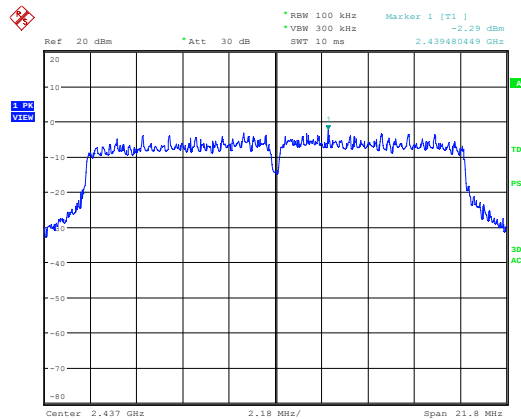
Peak power spectral density, mode A2, 26Mbps, Ant3
Date: 30.AUG.2012 09:33:38

Table 20: Peak Power Spectral Density, Mode B (2437MHz), Configuration 2 (IEEE 802.11n)

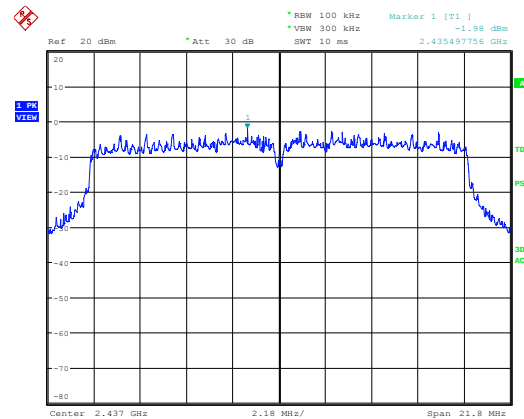
Antenna Port	Max PSD Frequency [MHz]	Max PSD in 100kHz Band [dBm]	Bandwidth & Antenna Factor [dB]	Max PSD in 3kHz Band [dBm]	Limit [dBm]	Margin [dB]
1	2439.5	-2.29	-10.4	-12.7	8.0	20.7
2	2435.5	-1.98	-10.4	-12.4	8.0	20.4
3	2438.0	-0.13	-10.4	-10.6	8.0	18.6

Notes: Max PSD in 3kHz band = Max PSD in 100kHz band + BW & antenna correction factor
Bandwidth & antenna factor = [100kHz to 3kHz bandwidth conversion factor] + [3 antenna system correction factor] = [10 x log(3kHz / 100kHz)] + [10 x log(3)]

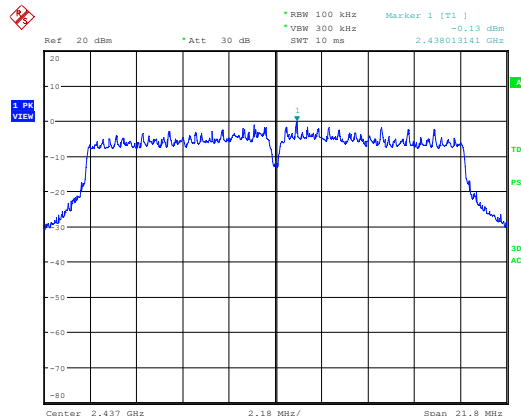
Figure 80: Power Spectral Density, Mode B (2437MHz), Configuration 2 (IEEE 802.11n)



Peak power spectral density, mode B2, 26Mbps, Ant1
Date: 30.AUG.2012 11:36:17



Peak power spectral density, mode B2, 26Mbps, Ant2
Date: 30.AUG.2012 11:26:51



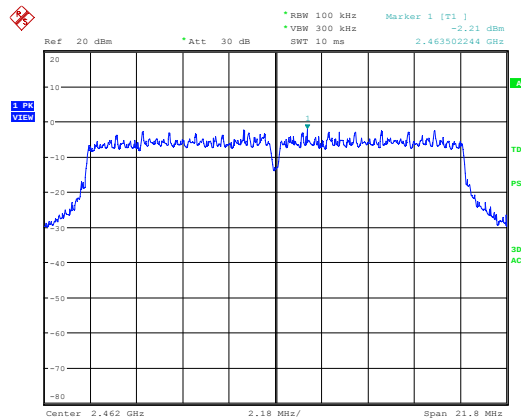
Peak power spectral density, mode B2, 26Mbps, Ant3
Date: 30.AUG.2012 11:12:49

Table 21: Peak Power Spectral Density, Mode C (2462MHz), Configuration 2 (IEEE 802.11n)

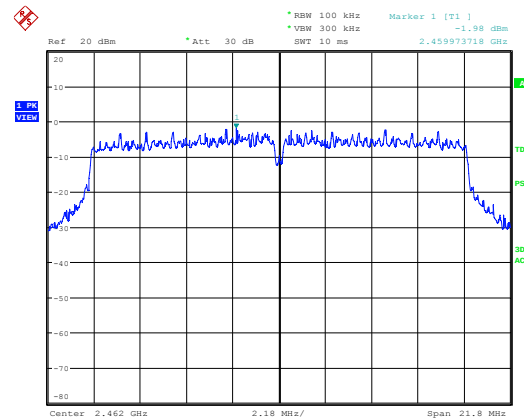
Antenna Port	Max PSD Frequency [MHz]	Max PSD in 100kHz Band [dBm]	Bandwidth & Antenna Factor [dB]	Max PSD in 3kHz Band [dBm]	Limit [dBm]	Margin [dB]
1	2463.5	-2.21	-10.4	-12.6	8.0	20.6
2	2460.0	-1.98	-10.4	-12.4	8.0	20.4
3	2463.0	-1.59	-10.4	-12.0	8.0	20.0

Notes: Max PSD in 3kHz band = Max PSD in 100kHz band + BW & antenna correction factor
Bandwidth & antenna factor = [100kHz to 3kHz bandwidth conversion factor] + [3 antenna system correction factor] = [10 x log(3kHz / 100kHz)] + [10 x log(3)]

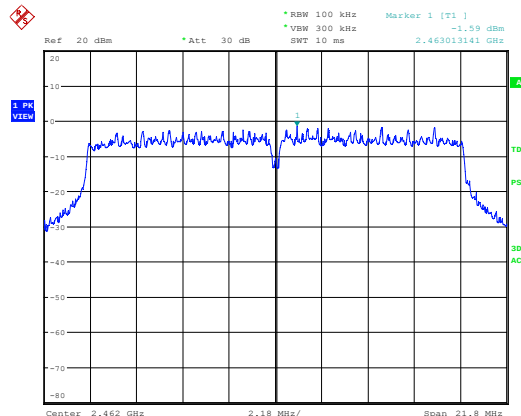
Figure 81: Power Spectral Density, Mode C (2462MHz), Configuration 2 (IEEE 802.11n)



Peak power spectral density, mode C2, 26Mbps, Ant1
Date: 29.AUG.2012 18:52:01



Peak power spectral density, mode C2, 26Mbps, Ant2
Date: 29.AUG.2012 15:10:33



Peak power spectral density, mode C2, 26Mbps, Ant3
Date: 29.AUG.2012 14:36:58

5.3 Radiated Measurements

5.3.1 Radiated Spurious Emissions of Transmitter

RESULT:

PASS

Date of testing: 2012-08-31 till 2012-09-16

Ambient temperature: 21 to 25°C

Relative humidity: 47 to 70%

Atmospheric pressure: 1006 to 1017hPa

Frequency range: 9kHz - 25GHz

Measurement distance: 3m

Kind of test site: Semi Anechoic Chamber

Requirements:

FCC 15.205, FCC 15.209, FCC 15.247(d), RSS-Gen 7.2.2 and 7.2.5 and RSS-210 2.1, 2.2, 2.5 and A8.5

Radiated emissions which fall in the restricted bands, as defined in FCC 15.205(a) and RSS-Gen 7.2.2 (table 3), must comply with the radiated emission limits specified in FCC 15.209(a) and RSS-Gen 7.2.5 (tables 5 and 6).

Radiated emissions which fall outside the operation frequency band and outside restricted bands shall either meet the limit specified in FCC 15.209(a) and RSS-Gen 7.2.5 or be attenuated at least 20dB below the power level in the 100kHz bandwidth within the band that contains the highest level of the desired power (the less severe limit applies).

Test procedure:

ANSI C63.4-2003, RSS-Gen 4.9 and 7.2 and KDB Publication No. 558074 D01.

The EUT was placed on a nonconductive turntable 0.8m above the ground plane. Before final measurements of radiated emissions were performed, the EUT was scanned to determine its emission spectrum profile. The physical arrangement of the test system and the associated cabling were varied in order to ensure that maximum emission amplitudes were attained.

The spectrum was examined from 9kHz to the 10th harmonic of the highest fundamental transmitter frequency (25GHz). Final radiated emission measurements were made at 3m distance.

At each frequency where a spurious emission was found, the EUT was rotated 360° and the antenna was raised and lowered from 1 to 4m in order to determine the emission's maximum level. Measurements were taken using both horizontal and vertical antenna polarizations.

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For emissions between 30MHz and 1GHz, measurements were performed with a test receiver operating in the CISPR quasi-peak detection mode. The receiver's 6dB bandwidth was set to 120kHz. For emissions above 1GHz, measurements were performed with a spectrum analyzer using the following settings: for peak field strength: RBW = 1MHz & VBW = 1MHz; for average field strength: RBW = 1MHz & VBW = 10Hz.

Precheck measurements were performed at AC 120V and AC 240V input voltages (on models YA14A75-B310 and YA14A75-B312 respectively) in order to identify the voltage producing the highest emission level. Worst case results were obtained with AC 120V, for both IEEE 802.11b and IEEE 802.11n radios. Therefore all final measurements were performed at AC 120V.

The highest emission amplitudes relative to the appropriate limit were recorded in this report. Emissions other than those mentioned are small or not detectable.

No spurious emission was found in the range 9kHz - 30MHz.

Note:

Some spurious emissions above 1GHz were measured with an average level exceeding the average limit. For these cases, a duty cycle correction factor was applied to reduce the average level, as permitted by FCC 15.35(c).

The duty cycle correction factor (in dB) is given by the following formula:

$$F = 20 \times \log(\text{maximum duty cycle per 100ms in normal use} / \text{duty cycle per 100ms used for testing})$$

For IEEE 802.11b, the duty cycle correction factor is:

$$F = 20 \times \log(50\%/94\%) = -5.5\text{dB}$$

For IEEE 802.11n, no duty cycle correction factor was needed.

Unless otherwise specified in the test result tables given here below, no duty cycle correction factor was applied.

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Table 22: Radiated Emissions, Quasi Peak Data, 30MHz - 1GHz, Horizontal and Vertical Antenna Orientations, Mode A (2412MHz), Configuration 1 (IEEE 802.11b)

Freq. [MHz]	Antenna Orientation	Reading QP [dBμV]	Factor [dB(1/m)]	Level QP [dBμV/m]	Limit [dBμV/m]	Margin QP [dB]	Height [cm]	Angle [°]
66.665	H	45.6	-16.7	28.9	40.0	11.1	101	353
78.687	V	51.8	-19.8	32.0	40.0	8.0	105	155
78.755	H	46.1	-20.1	26.0	40.0	14.0	206	136
111.449	H	54.2	-17.7	36.5	43.5	7.0	162	246
112.369	V	58.2	-17.4	40.8	43.5	2.7 (*)	106	153
129.061	H	44.8	-16.2	28.6	43.5	14.9	141	241
366.669	V	50.2	-10.0	40.2	46.0	5.8	128	257
374.999	V	50.5	-9.7	40.8	46.0	5.2	133	251

Note: Level QP = Reading QP + Factor

(*) The measured result is below the specification limit by a margin less than the measurement uncertainty; it is therefore not possible to determine compliance at a level of confidence of 95%. However, the measured result indicates a high probability that the tested product complies with the specification limit.

Table 23: Radiated Emissions, Average Data, 1 - 25GHz, Horizontal and Vertical Antenna Orientations, Mode A (2412MHz), Configuration 1 (IEEE 802.11b)

Freq. [MHz]	Antenna Orientation	Reading AV [dBμV]	Factor [dB(1/m)]	Level AV [dBμV/m]	Limit [dBμV/m]	Margin AV [dB]	Height [cm]	Angle [°]
2319.934	V	56.9	-13.5	43.4	54.0	10.6	147	194
2495.821	V	63.9	-13.6	50.3	54.0	3.7 (*)	103	195
2571.056	V	62.5	-13.4	49.1	54.0	4.9	101	151
2639.938	V	67.7	-13.1	54.6/49.1 (**)	54.0	-0.6/4.9 (**)	118	134
2702.420	V	52.4	-12.8	39.6	54.0	14.4	100	319

Note: Level AV = Reading AV + Factor

(*) The measured result is below the specification limit by a margin less than the measurement uncertainty; it is therefore not possible to determine compliance at a level of confidence of 95%. However, the measured result indicates a high probability that the tested product complies with the specification limit.

(**) Result without/with duty cycle correction factor. Result with duty cycle correction factor is relevant.

Table 24: Radiated Emissions, Peak Data, 1 - 25GHz, Horizontal and Vertical Antenna Orientations, Mode A (2412MHz), Configuration 1 (IEEE 802.11b)

Freq. [MHz]	Antenna Orientation	Reading PK [dBμV]	Factor [dB(1/m)]	Level PK [dBμV/m]	Limit [dBμV/m]	Margin PK [dB]	Height [cm]	Angle [°]
2319.934	V	69.5	-13.5	56.0	74.0	18.0	147	194
2495.821	V	78.0	-13.6	64.4	74.0	9.6	103	195
2571.056	V	76.9	-13.4	63.5	74.0	10.5	101	151
2639.938	V	76.6	-13.1	63.5	74.0	10.5	118	134
2702.420	V	66.0	-12.8	53.2	74.0	20.8	100	319

Note: Level PK = Reading PK + Factor

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Table 25: Radiated Emissions, Quasi Peak Data, 30MHz - 1GHz, Horizontal and Vertical Antenna Orientations, Mode B (2437MHz), Configuration 1 (IEEE 802.11b)

Freq. [MHz]	Antenna Orientation	Reading QP [dBμV]	Factor [dB(1/m)]	Level QP [dBμV/m]	Limit [dBμV/m]	Margin QP [dB]	Height [cm]	Angle [°]
66.664	V	45.2	-16.9	28.3	40.0	11.7	101	1
110.761	H	54.4	-17.7	36.7	43.5	6.8	314	276
112.861	V	52.7	-17.7	35.0	43.5	8.5	101	91
128.941	V	43.7	-16.5	27.2	43.5	16.3	101	13
197.802	H	42.9	-16.9	26.0	43.5	17.5	107	140
223.878	V	41.2	-16.5	24.7	46.0	21.3	195	159
374.998	V	47.5	-9.7	37.8	46.0	8.2	199	1

Note: Level QP = Reading QP + Factor

Table 26: Radiated Emissions, Average Data, 1 - 25GHz, Horizontal and Vertical Antenna Orientations, Mode B (2437MHz), Configuration 1 (IEEE 802.11b)

Freq. [MHz]	Antenna Orientation	Reading AV [dBμV]	Factor [dB(1/m)]	Level AV [dBμV/m]	Limit [dBμV/m]	Margin AV [dB]	Height [cm]	Angle [°]
2119.936	V	50.3	-13.4	36.9	54.0	17.1	149	115
2160.057	V	53.4	-13.4	40.0	54.0	14.0	140	351
2353.477	V	57.3	-13.6	43.7	54.0	10.3	139	168
2524.237	V	64.2	-13.6	50.6	54.0	3.4 (*)	111	178
2569.607	V	61.1	-13.4	47.7	54.0	6.3	100	149
2640.022	V	66.9	-13.1	53.8	54.0	0.2 (*)	100	104
2719.935	V	56.7	-12.6	44.1	54.0	9.9	101	312

Note: Level AV = Reading AV + Factor

(*) The measured result is below the specification limit by a margin less than the measurement uncertainty; it is therefore not possible to determine compliance at a level of confidence of 95%. However, the measured result indicates a high probability that the tested product complies with the specification limit.

Table 27: Radiated Emissions, Peak Data, 1 - 25GHz, Horizontal and Vertical Antenna Orientations, Mode B (2437MHz), Configuration 1 (IEEE 802.11b)

Freq. [MHz]	Antenna Orientation	Reading PK [dBμV]	Factor [dB(1/m)]	Level PK [dBμV/m]	Limit [dBμV/m]	Margin PK [dB]	Height [cm]	Angle [°]
2119.936	V	64.2	-13.4	50.8	74.0	23.2	149	115
2160.057	V	66.4	-13.4	53.0	74.0	21.0	140	351
2353.477	V	69.6	-13.6	56.0	74.0	18.0	139	168
2524.237	V	76.9	-13.6	63.3	74.0	10.7	111	178
2569.607	V	75.8	-13.4	62.4	74.0	11.6	100	149
2640.022	V	75.3	-13.1	62.2	74.0	11.8	100	104
2719.935	V	67.0	-12.6	54.4	74.0	19.6	101	312

Note: Level PK = Reading PK + Factor

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Table 28: Radiated Emissions, Quasi Peak Data, 30MHz - 1GHz, Horizontal and Vertical Antenna Orientations, Mode C (2462MHz), Configuration 1 (IEEE 802.11b)

Freq. [MHz]	Antenna Orientation	Reading QP [dBμV]	Factor [dB(1/m)]	Level QP [dBμV/m]	Limit [dBμV/m]	Margin QP [dB]	Height [cm]	Angle [°]
66.662	H	45.1	-16.7	28.4	40.0	11.6	199	353
81.097	V	47.9	-19.1	28.8	40.0	11.2	105	186
110.820	H	54.4	-17.7	36.7	43.5	6.8	298	268
112.356	V	54.0	-17.8	36.2	43.5	7.3	100	62
212.149	V	47.1	-17.1	30.0	43.5	13.5	100	295
233.854	V	42.4	-16.0	26.4	46.0	19.6	188	8
366.667	H	45.6	-10.3	35.3	46.0	10.7	101	224
375.000	H	47.0	-10.1	36.9	46.0	9.1	101	223

Note: Level QP = Reading QP + Factor

Table 29: Radiated Emissions, Average Data, 1 - 25GHz, Horizontal and Vertical Antenna Orientations, Mode C (2462MHz), Configuration 1 (IEEE 802.11b)

Freq. [MHz]	Antenna Orientation	Reading AV [dBμV]	Factor [dB(1/m)]	Level AV [dBμV/m]	Limit [dBμV/m]	Margin AV [dB]	Height [cm]	Angle [°]
2111.979	V	57.1	-13.4	43.7	54.0	10.3	149	339
2399.836	V	58.9	-13.7	45.2	54.0	8.8	117	26
2559.961	V	63.2	-13.5	49.7	54.0	4.3 (*)	111	196
2639.965	V	66.1	-13.1	53.0	54.0	1.0 (*)	126	121
2719.989	V	59.0	-12.6	46.4	54.0	7.6	101	317

Note: Level AV = Reading AV + Factor

(*) The measured result is below the specification limit by a margin less than the measurement uncertainty; it is therefore not possible to determine compliance at a level of confidence of 95%. However, the measured result indicates a high probability that the tested product complies with the specification limit.

Table 30: Radiated Emissions, Peak Data, 1 - 25GHz, Horizontal and Vertical Antenna Orientations, Mode C (2462MHz), Configuration 1 (IEEE 802.11b)

Freq. [MHz]	Antenna Orientation	Reading PK [dBμV]	Factor [dB(1/m)]	Level PK [dBμV/m]	Limit [dBμV/m]	Margin PK [dB]	Height [cm]	Angle [°]
2111.979	V	66.6	-13.4	53.2	74.0	20.8	149	339
2399.836	V	70.6	-13.7	56.9	74.0	17.1	117	26
2559.961	V	75.9	-13.5	62.4	74.0	11.6	111	196
2639.965	V	75.2	-13.1	62.1	74.0	11.9	126	121
2719.989	V	66.7	-12.6	54.1	74.0	19.9	101	317

Note: Level PK = Reading PK + Factor

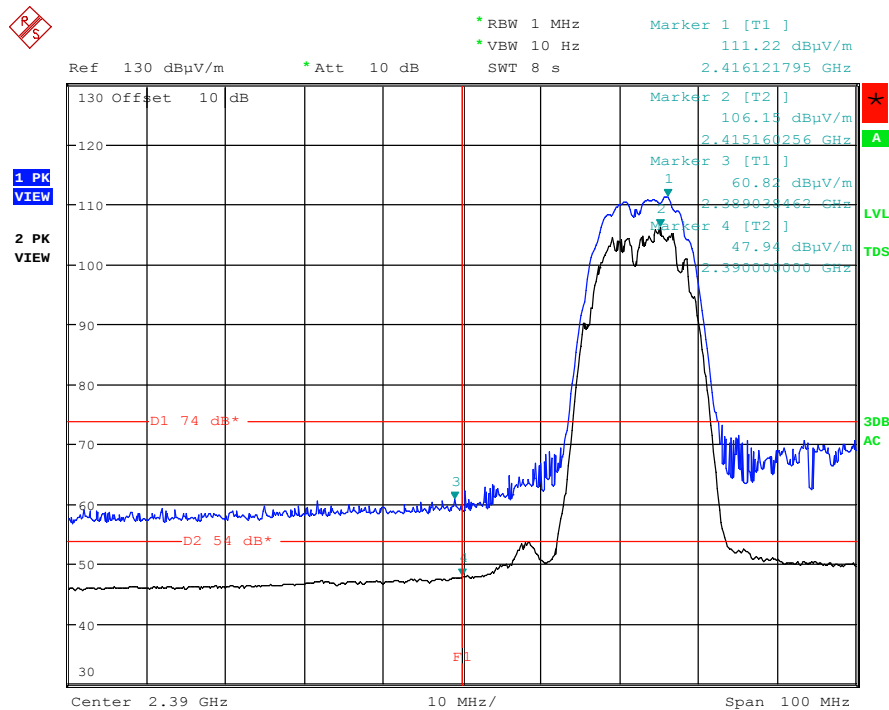
(*) The measured result is below the specification limit by a margin less than the measurement uncertainty; it is therefore not possible to determine compliance at a level of confidence of 95%. However, the measured result indicates a high probability that the tested product complies with the specification limit

Table 31: Radiated Emissions at Band Edge, Average and Peak Data, Horizontal and Vertical Antenna Orientations, Mode A (2412MHz), Configuration 1 (IEEE 802.11b)

Frequency [MHz]	Antenna Orientation	Level AV [dBμV/m]	Level PK [dBμV/m]	Limit AV [dBμV/m]	Limit PK [dBμV/m]	Margin AV [dB]	Margin PK [dB]
2390.000	V	47.94	60.82	54.00	74.00	6.06	13.18

Notes: All correction factors (antenna, cable, pre-amplifier) are included in the measurement values.
Average limit in dBμV/m is calculated as follows: Average limit = 20 x log(500μV/m).
Peak limit in dBμV/m is calculated as follows: Peak limit = Average limit + 20dB.

Figure 82: Radiated Emissions at Band Edge, Spectral Diagram, Mode A (2412MHz), Configuration 1 (IEEE 802.11b)



Mode A1, V

Date: 7.SEP.2012 15:25:36

Note: The upper trace shows the peak value and the lower trace shows the average value.

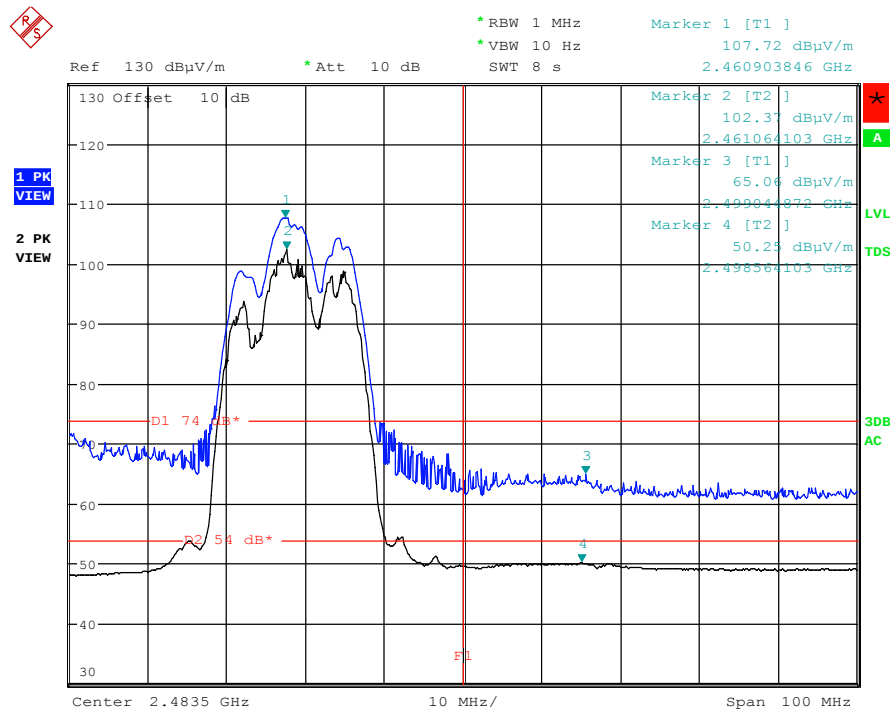
Table 32: Radiated Emissions at Band Edge, Average and Peak Data, Horizontal and Vertical Antenna Orientations, Mode C (2462MHz), Configuration 1 (IEEE 802.11b)

Frequency [MHz]	Antenna Orientation	Level AV [dBµV/m]	Level PK [dBµV/m]	Limit AV [dBµV/m]	Limit PK [dBµV/m]	Margin AV [dB]	Margin PK [dB]
2498.564	V	50.25	65.06	54.00	74.00	3.75 (*)	8.94

Notes: All correction factors (antenna, cable, pre-amplifier) are included in the measurement values.
Average limit in dBµV/m is calculated as follows: Average limit = $20 \times \log(500\mu\text{V/m})$.
Peak limit in dBµV/m is calculated as follows: Peak limit = Average limit + 20dB.

(*) The measured result is below the specification limit by a margin less than the measurement uncertainty; it is therefore not possible to determine compliance at a level of confidence of 95%. However, the measured result indicates a high probability that the tested product complies with the specification limit.

Figure 83: Radiated Emissions at Band Edge, Spectral Diagram, Mode C (2462MHz), Configuration 1 (IEEE 802.11b)



Mode C1, V

Date: 7.SEP.2012 14:22:45

Note: The upper trace shows the peak value and the lower trace shows the average value.

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Table 33: Radiated Emissions, Quasi Peak Data, 30MHz - 1GHz, Horizontal and Vertical Antenna Orientations, Mode A (2412MHz), Configuration 2 (IEEE 802.11n)

Freq. [MHz]	Antenna Orientation	Reading QP [dBμV]	Factor [dB(1/m)]	Level QP [dBμV/m]	Limit [dBμV/m]	Margin QP [dB]	Height [cm]	Angle [°]
77.817	V	45.2	-19.8	25.4	40.0	14.6	199	353
79.188	H	50.7	-20.1	30.6	40.0	9.4	168	147
80.116	V	49.1	-19.8	29.3	40.0	10.7	100	154
109.988	H	54.8	-17.8	37.0	43.5	6.5	166	138
112.234	V	58.0	-17.4	40.6	43.5	2.9 (*)	112	169
114.243	V	56.0	-17.4	38.6	43.5	4.9	104	161
117.048	H	49.1	-17.1	32.0	43.5	11.5	145	245
122.629	V	46.9	-17.1	29.8	43.5	13.7	103	165
127.249	H	45.3	-16.5	28.8	43.5	14.7	151	206
201.962	H	42.7	-12.3	30.4	43.5	13.1	193	247
210.561	H	42.5	-11.7	30.8	43.5	12.7	106	146

Note: Level QP = Reading QP + Factor

(*) The measured result is below the specification limit by a margin less than the measurement uncertainty; it is therefore not possible to determine compliance at a level of confidence of 95%. However, the measured result indicates a high probability that the tested product complies with the specification limit.

Table 34: Radiated Emissions, Average Data, 1 - 25GHz, Horizontal and Vertical Antenna Orientations, Mode A (2412MHz), Configuration 2 (IEEE 802.11n)

Freq. [MHz]	Antenna Orientation	Reading AV [dBμV]	Factor [dB(1/m)]	Level AV [dBμV/m]	Limit [dBμV/m]	Margin AV [dB]	Height [cm]	Angle [°]
2318.667	V	50.1	-13.5	36.6	54.0	17.4	150	191
2528.188	V	56.7	-13.6	43.1	54.0	10.9	142	323
2549.877	V	57.1	-13.5	43.6	54.0	10.4	139	206
2613.784	V	57.3	-13.2	44.1	54.0	9.9	106	196
2644.660	V	56.3	-13.1	43.2	54.0	10.8	103	196
2704.613	V	50.0	-12.8	37.2	54.0	16.8	121	129

Note: Level AV = Reading AV + Factor

Table 35: Radiated Emissions, Peak Data, 1 - 25GHz, Horizontal and Vertical Antenna Orientations, Mode A (2412MHz), Configuration 2 (IEEE 802.11n)

Freq. [MHz]	Antenna Orientation	Reading PK [dBμV]	Factor [dB(1/m)]	Level PK [dBμV/m]	Limit [dBμV/m]	Margin PK [dB]	Height [cm]	Angle [°]
2318.667	V	74.0	-13.5	60.5	74.0	13.5	150	191
2528.188	V	78.9	-13.6	65.3	74.0	8.7	142	323
2549.877	V	79.0	-13.5	65.5	74.0	8.5	139	206
2613.784	V	78.7	-13.2	65.5	74.0	8.5	106	196
2644.660	V	79.6	-13.1	66.5	74.0	7.5	103	196
2704.613	V	68.2	-12.8	55.4	74.0	18.6	121	129

Note: Level PK = Reading PK + Factor

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Table 36: Radiated Emissions, Quasi Peak Data, 30MHz - 1GHz, Horizontal and Vertical Antenna Orientations, Mode B (2437MHz), Configuration 2 (IEEE 802.11n)

Freq. [MHz]	Antenna Orientation	Reading QP [dBμV]	Factor [dB(1/m)]	Level QP [dBμV/m]	Limit [dBμV/m]	Margin QP [dB]	Height [cm]	Angle [°]
32.057	H	45.1	-16.9	28.2	40.0	11.8	101	359
54.078	H	43.5	-15.6	27.9	40.0	12.1	373	139
66.663	H	45.1	-16.7	28.4	40.0	11.6	101	353
77.608	V	51.6	-19.9	31.7	40.0	8.3	105	215
112.767	H	54.4	-17.3	37.1	43.5	6.4	276	264
118.068	V	48.6	-17.2	31.4	43.5	12.1	100	99
131.499	V	43.8	-16.5	27.3	43.5	16.2	100	16
203.211	V	45.2	-11.6	33.6	43.5	9.9	103	354
209.324	H	43.5	-11.8	31.7	43.5	11.8	100	89
232.467	H	39.6	-10.7	28.9	46.0	17.1	104	136
235.934	V	39.1	-9.4	29.7	46.0	16.3	190	359
299.999	H	45.9	-12.4	33.5	46.0	12.5	110	237
366.666	V	47.0	-10.0	37.0	46.0	9.0	140	253
375.000	V	47.4	-9.7	37.7	46.0	8.3	140	244

Note: Level QP = Reading QP + Factor

Table 37: Radiated Emissions, Average Data, 1 - 25GHz, Horizontal and Vertical Antenna Orientations, Mode B (2437MHz), Configuration 2 (IEEE 802.11n)

Freq. [MHz]	Antenna Orientation	Reading AV [dBμV]	Factor [dB(1/m)]	Level AV [dBμV/m]	Limit [dBμV/m]	Margin AV [dB]	Height [cm]	Angle [°]
2112.060	V	55.2	-13.4	41.8	54.0	12.2	147	349
2159.450	V	53.1	-13.4	39.7	54.0	14.3	189	199
2524.061	V	59.9	-13.6	46.3	54.0	7.7	117	155
2561.888	V	57.7	-13.4	44.3	54.0	9.7	105	142
2640.004	V	61.8	-13.1	48.7	54.0	5.3	129	16
7857.462	V	37.5	-3.2	34.3	54.0	19.7	134	101
7896.678	H	37.4	-3.1	34.3	54.0	19.7	140	346

Note: Level AV = Reading AV + Factor

Table 38: Radiated Emissions, Peak Data, 1 - 25GHz, Horizontal and Vertical Antenna Orientations, Mode B (2437MHz), Configuration 2 (IEEE 802.11n)

Freq. [MHz]	Antenna Orientation	Reading PK [dBμV]	Factor [dB(1/m)]	Level PK [dBμV/m]	Limit [dBμV/m]	Margin PK [dB]	Height [cm]	Angle [°]
2112.060	V	69.2	-13.4	55.8	74.0	18.2	147	349
2159.450	V	70.7	-13.4	57.3	74.0	16.7	189	199
2524.061	V	80.8	-13.6	67.2	74.0	6.8	117	155
2561.888	V	79.3	-13.4	65.9	74.0	8.1	105	142
2640.004	V	78.3	-13.1	65.2	74.0	8.8	129	16
7857.462	V	52.0	-3.2	48.8	74.0	25.2	134	101
7896.678	H	51.7	-3.1	48.6	74.0	25.4	140	346

Note: Level PK = Reading PK + Factor

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Table 39: Radiated Emissions, Quasi Peak Data, 30MHz - 1GHz, Horizontal and Vertical Antenna Orientations, Mode C (2462MHz), Configuration 2 (IEEE 802.11n)

Freq. [MHz]	Antenna Orientation	Reading QP [dBμV]	Factor [dB(1/m)]	Level QP [dBμV/m]	Limit [dBμV/m]	Margin QP [dB]	Height [cm]	Angle [°]
79.722	V	49.7	-19.8	29.9	40.0	10.1	126	142
112.026	H	54.0	-17.6	36.4	43.5	7.1	169	99
115.770	H	50.1	-17.2	32.9	43.5	10.6	167	254
117.248	V	48.7	-17.3	31.4	43.5	12.1	110	97
197.610	V	44.2	-12.0	32.2	43.5	11.3	100	349
204.547	V	44.8	-11.6	33.2	43.5	10.3	100	335
211.019	H	44.0	-11.7	32.3	43.5	11.2	176	96
230.535	H	39.5	-10.8	28.7	46.0	17.3	103	122
233.815	V	39.2	-9.6	29.6	46.0	16.4	195	353
375.000	V	45.6	-9.7	35.9	46.0	10.1	100	229

Note: Level QP = Reading QP + Factor

Table 40: Radiated Emissions, Average Data, 1 - 25GHz, Horizontal and Vertical Antenna Orientations, Mode C (2462MHz), Configuration 2 (IEEE 802.11n)

Freq. [MHz]	Antenna Orientation	Reading AV [dBμV]	Factor [dB(1/m)]	Level AV [dBμV/m]	Limit [dBμV/m]	Margin AV [dB]	Height [cm]	Angle [°]
2107.223	V	50.7	-13.4	37.3	54.0	16.7	199	341
2384.219	V	51.0	-13.7	37.3	54.0	16.8	119	143
2553.255	V	57.8	-13.5	44.3	54.0	9.7	139	306
2641.991	V	54.5	-13.1	41.4	54.0	12.6	103	321
2719.827	V	54.5	-12.6	41.9	54.0	12.1	101	310

Note: Level AV = Reading AV + Factor

Table 41: Radiated Emissions, Peak Data, 1 - 25GHz, Horizontal and Vertical Antenna Orientations, Mode C (2462MHz), Configuration 2 (IEEE 802.11n)

Freq. [MHz]	Antenna Orientation	Reading PK [dBμV]	Factor [dB(1/m)]	Level PK [dBμV/m]	Limit [dBμV/m]	Margin PK [dB]	Height [cm]	Angle [°]
2107.223	V	72.0	-13.4	58.6	74.0	15.4	199	341
2384.219	V	68.6	-13.7	54.9	74.0	19.1	119	143
2553.255	V	78.5	-13.5	65.0	74.0	9.0	139	306
2641.991	V	76.7	-13.1	63.6	74.0	10.4	103	321
2719.827	V	69.5	-12.6	56.9	74.0	17.1	101	310

Note: Level PK = Reading PK + Factor

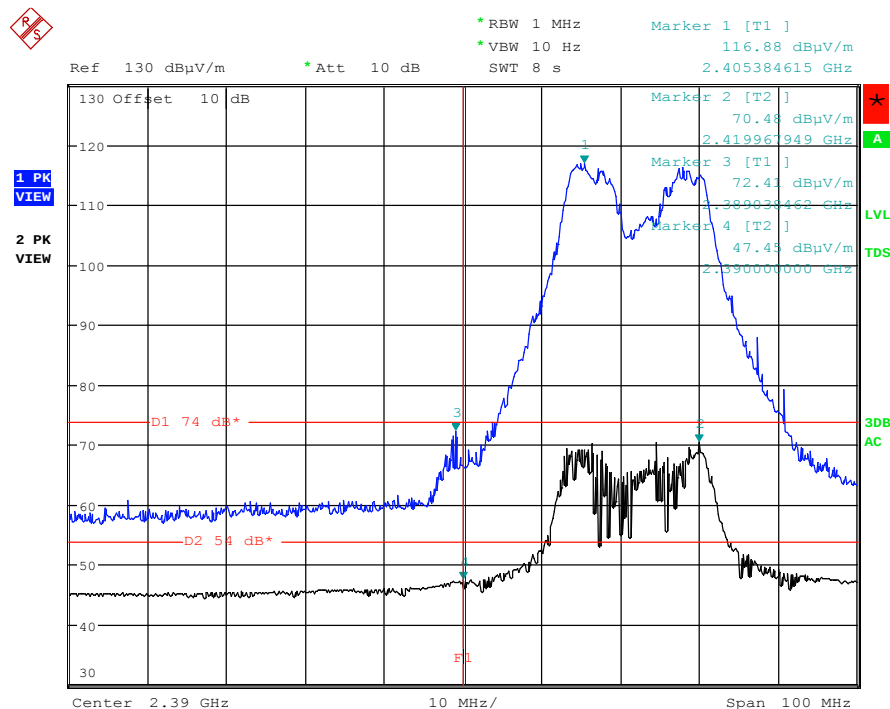
Table 42: Radiated Emissions at Band Edge, Average and Peak Data, Horizontal and Vertical Antenna Orientations, Mode A (2412MHz), Configuration 2 (IEEE 802.11n)

Operating Frequency [MHz]	Antenna Orientation	Level AV [dBμV/m]	Level PK [dBμV/m]	Limit AV [dBμV/m]	Limit PK [dBμV/m]	Margin AV [dB]	Margin PK [dB]
2390.000	V	47.45	72.41	54.00	74.00	6.55	1.59 (*)

Notes: All correction factors (antenna, cable, pre-amplifier) are included in the measurement values.
Average limit in dBμV/m is calculated as follows: Average limit = 20 x log(500μV/m).
Peak limit in dBμV/m is calculated as follows: Peak limit = Average limit + 20dB.

(*) The measured result is below the specification limit by a margin less than the measurement uncertainty; it is therefore not possible to determine compliance at a level of confidence of 95%. However, the measured result indicates a high probability that the tested product complies with the specification limit.

Figure 84: Radiated Emissions at Band Edge, Spectral Diagram, Mode A (2412MHz), Configuration 2 (IEEE 802.11n)



Mode A2, V

Date: 7.SEP.2012 15:16:04

Note: The upper trace shows the peak value and the lower trace shows the average value.

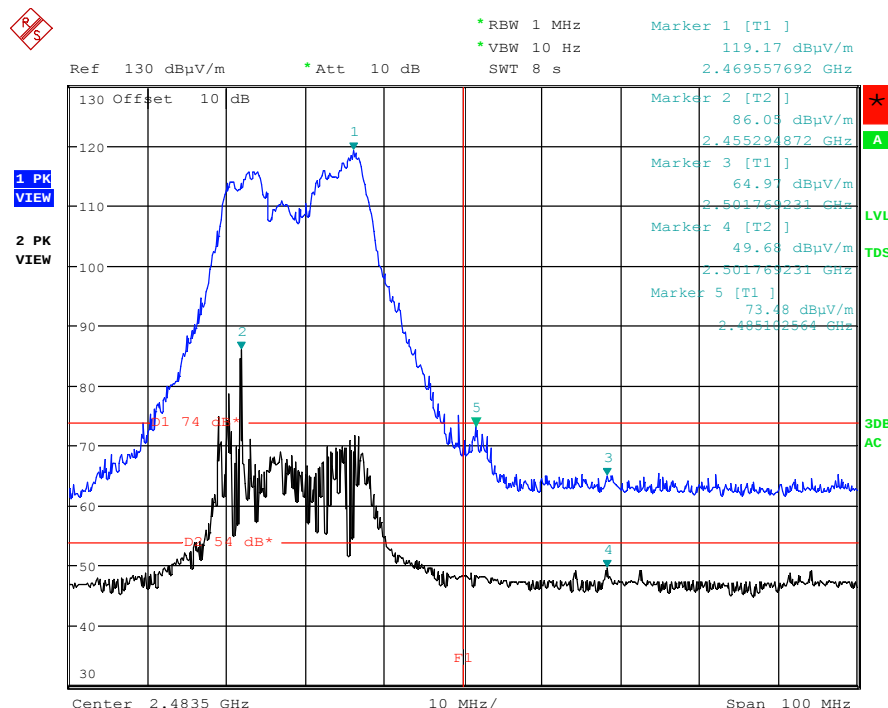
Table 43: Radiated Emissions at Band Edge, Average and Peak Data, Horizontal and Vertical Antenna Orientations, Mode C (2462MHz), Configuration 2 (IEEE 802.11n)

Operating Frequency [MHz]	Antenna Orientation	Level AV [dBµV/m]	Level PK [dBµV/m]	Limit AV [dBµV/m]	Limit PK [dBµV/m]	Margin AV [dB]	Margin PK [dB]
2485.103	V	-	73.48	54.00	74.00	-	0.52 (*)
2501.769	V	49.68	64.97	54.00	74.00	4.32 (*)	9.03

Notes: All correction factors (antenna, cable, pre-amplifier) are included in the measurement values.
Average limit in dBµV/m is calculated as follows: Average limit = $20 \times \log(500\mu\text{V/m})$.
Peak limit in dBµV/m is calculated as follows: Peak limit = Average limit + 20dB.

(*) The measured result is below the specification limit by a margin less than the measurement uncertainty; it is therefore not possible to determine compliance at a level of confidence of 95%. However, the measured result indicates a high probability that the tested product complies with the specification limit.

Figure 85: Radiated Emissions at Band Edge, Spectral Diagram, Mode C (2462MHz), Configuration 2 (IEEE 802.11n)



Mode C2, V
Date: 7.SEP.2012 15:00:30

Note: The upper trace shows the peak value and the lower trace shows the average value.

5.4 AC Power Line Conducted Measurements

5.4.1 AC Power Line Conducted Emission of Transmitter

RESULT:

PASS

Date of testing: 2012-09-06, 2012-09-07

Ambient temperature: 24, 24°C

Relative humidity: 65, 61%

Atmospheric pressure: 1013, 1016hPa

Frequency range: 0.15 - 30MHz

Kind of test site: Shielded Room

Requirements:

FCC 15.207 and RSS-Gen 7.2.4

The AC power line conducted emission on any frequency within the band 150kHz to 30MHz shall not exceed the limits specified in FCC 15.207 and RSS-Gen 7.2.4 (table 4).

Test procedure:

ANSI C63.4-2003 and RSS-Gen 7.2

The EUT was placed on a wooden table raised 80cm above the reference ground plane. A vertical conducting plane of the screened room was located 40cm to the rear of the EUT. The EUT was connected to a Line Impedance Stabilization Network (LISN).

The physical arrangement of the test system and associated cabling was varied to determine the effect on the EUT's emissions in amplitude and frequency in order to ensure that maximum emission amplitudes were attained.

The measurements were performed with a test receiver operating in the CISPR quasi-peak and average detection modes. The receiver's 6dB bandwidth was set to 9kHz.

Precheck measurements were performed at AC 120V and AC 240V input voltages (on models YA14A75-B310 and YA14A75-B312 respectively) in order to identify the voltage producing the highest emission level. Worst case results were obtained with AC 240V, for both IEEE 802.11b and IEEE 802.11n radios. Therefore all final measurements were performed at AC 240V.

Disturbances other than those mentioned are small or not detectable.

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Table 44: AC Power Line Conducted Emission, Quasi Peak and Average Data, 0.15 - 30MHz, Phase N (N) and L1 (L), Mode A (2412MHz), Configuration 1 (IEEE 802.11b)

Freq. [MHz]	Phase	Reading QP [dBμV]	Reading AV [dBμV]	Factor [dB]	Level QP [dBμV]	Level AV [dBμV]	Limit QP [dBμV]	Limit AV [dBμV]	Margin QP [dB]	Margin AV [dB]
0.15024	N	31.3	19.0	9.6	40.9	28.6	66.0	56.0	25.1	27.4
0.15204	N	30.0	16.2	9.6	39.6	25.8	65.9	55.9	26.3	30.1
0.19960	L1	25.5	14.4	9.6	35.1	24.0	63.6	53.6	28.5	29.6
0.55582	L1	26.1	16.5	9.6	35.7	26.1	56.0	46.0	20.3	19.9
0.55871	N	33.3	23.1	9.7	43.0	32.8	56.0	46.0	13.0	13.2
0.71512	N	30.0	19.2	9.7	39.7	28.9	56.0	46.0	16.3	17.1
0.77932	L1	22.1	17.3	9.7	31.8	27.0	56.0	46.0	24.2	19.0
1.00648	N	27.5	21.7	9.7	37.2	31.4	56.0	46.0	18.8	14.6
1.62591	N	28.2	18.3	9.7	37.9	28.0	56.0	46.0	18.1	18.0
25.0867	L1	18.2	12.3	10.3	28.5	22.6	60.0	50.0	31.5	27.4
25.1838	N	18.1	11.8	10.4	28.5	22.2	60.0	50.0	31.5	27.8

Note: Level QP = Reading QP + Factor, Level AV = Reading AV + Factor

Table 45: AC Power Line Conducted Emission, Quasi Peak and Average Data, 0.15 - 30MHz, Phase N (N) and L1 (L), Mode B (2437MHz), Configuration 1 (IEEE 802.11b)

Freq. [MHz]	Phase	Reading QP [dBμV]	Reading AV [dBμV]	Factor [dB]	Level QP [dBμV]	Level AV [dBμV]	Limit QP [dBμV]	Limit AV [dBμV]	Margin QP [dB]	Margin AV [dB]
0.15000	N	35.5	23.1	9.6	45.1	32.7	66.0	56.0	20.9	23.3
0.15024	L1	30.6	18.3	9.6	40.2	27.9	66.0	56.0	25.8	28.1
0.55680	L1	25.7	16.6	9.6	35.3	26.2	56.0	46.0	20.7	19.8
0.55764	N	32.9	23.1	9.7	42.6	32.8	56.0	46.0	13.4	13.2
0.71798	N	29.1	19.1	9.7	38.8	28.8	56.0	46.0	17.2	17.2
0.78124	N	29.0	21.2	9.7	38.7	30.9	56.0	46.0	17.3	15.1
1.00552	N	27.1	21.2	9.7	36.8	30.9	56.0	46.0	19.2	15.1
1.67175	N	28.2	19.1	9.7	37.9	28.8	56.0	46.0	18.1	17.2
25.0774	L1	18.5	12.6	10.3	28.8	22.9	60.0	50.0	31.2	27.1
25.2567	N	17.6	11.6	10.4	28.0	22.0	60.0	50.0	32.0	28.0

Note: Level QP = Reading QP + Factor, Level AV = Reading AV + Factor

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Table 46: AC Power Line Conducted Emission, Quasi Peak and Average Data, 0.15 - 30MHz, Phase N (N) and L1 (L), Mode C (2462MHz), Configuration 1 (IEEE 802.11b)

Freq. [MHz]	Phase	Reading QP [dBμV]	Reading AV [dBμV]	Factor [dB]	Level QP [dBμV]	Level AV [dBμV]	Limit QP [dBμV]	Limit AV [dBμV]	Margin QP [dB]	Margin AV [dB]
0.15136	L1	29.5	17.0	9.6	39.1	26.6	65.9	55.9	26.8	29.3
0.15192	N	33.7	19.7	9.6	43.3	29.3	65.9	55.9	22.6	26.6
0.43553	N	21.0	11.1	9.6	30.6	20.7	57.1	47.1	26.5	26.4
0.55394	N	32.5	22.2	9.7	42.2	31.9	56.0	46.0	13.8	14.1
0.55801	L1	25.7	16.5	9.6	35.3	26.1	56.0	46.0	20.7	19.9
0.70474	N	29.2	19.2	9.7	38.9	28.9	56.0	46.0	17.1	17.1
0.77944	L1	22.4	17.4	9.7	32.1	27.1	56.0	46.0	23.9	18.9
1.00582	N	26.9	20.9	9.7	36.6	30.6	56.0	46.0	19.4	15.4
1.85990	N	27.0	19.0	9.8	36.8	28.8	56.0	46.0	19.2	17.2
25.1619	N	18.0	12.2	10.4	28.4	22.6	60.0	50.0	31.6	27.4
25.1822	L1	18.4	12.5	10.3	28.7	22.8	60.0	50.0	31.3	27.2

Note: Level QP = Reading QP + Factor, Level AV = Reading AV + Factor

Table 47: AC Power Line Conducted Emission, Quasi Peak and Average Data, 0.15 - 30MHz, Phase N (N) and L1 (L), Mode A (2412MHz), Configuration 2 (IEEE 802.11n)

Freq. [MHz]	Phase	Reading QP [dBμV]	Reading AV [dBμV]	Factor [dB]	Level QP [dBμV]	Level AV [dBμV]	Limit QP [dBμV]	Limit AV [dBμV]	Margin QP [dB]	Margin AV [dB]
0.15000	N	35.5	27.4	9.6	45.1	37.0	66.0	56.0	20.9	19.0
0.15361	L1	30.1	23.2	9.6	39.7	32.8	65.8	55.8	26.1	23.0
0.52204	L1	19.8	10.6	9.6	29.4	20.2	56.0	46.0	26.6	25.8
0.54742	N	27.3	16.2	9.7	37.0	25.9	56.0	46.0	19.0	20.1
0.59942	N	28.5	21.8	9.7	38.2	31.5	56.0	46.0	17.8	14.5
0.82940	N	26.2	18.0	9.7	35.9	27.7	56.0	46.0	20.1	18.3
1.50734	N	22.5	11.4	9.7	32.2	21.1	56.0	46.0	23.8	24.9
2.09814	N	23.4	16.6	9.8	33.2	26.4	56.0	46.0	22.8	19.6
25.0532	L1	16.7	9.0	10.3	27.0	19.3	60.0	50.0	33.0	30.7
25.2918	N	16.4	7.2	10.4	26.8	17.6	60.0	50.0	33.2	32.4

Note: Level QP = Reading QP + Factor, Level AV = Reading AV + Factor

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Table 48: AC Power Line Conducted Emission, Quasi Peak and Average Data, 0.15 - 30MHz, Phase N (N) and L1 (L), Mode B (2437MHz), Configuration 2 (IEEE 802.11n)

Freq. [MHz]	Phase	Reading QP [dBμV]	Reading AV [dBμV]	Factor [dB]	Level QP [dBμV]	Level AV [dBμV]	Limit QP [dBμV]	Limit AV [dBμV]	Margin QP [dB]	Margin AV [dB]
0.15000	N	37.1	28.9	9.6	46.7	38.5	66.0	56.0	19.3	17.5
0.15056	L1	32.1	24.4	9.6	41.7	34.0	66.0	56.0	24.3	22.0
0.48754	N	24.3	17.3	9.7	34.0	27.0	56.2	46.2	22.2	19.2
0.55792	N	27.2	17.9	9.7	36.9	27.6	56.0	46.0	19.1	18.4
0.56612	L1	19.7	11.5	9.7	29.4	21.2	56.0	46.0	26.6	24.8
0.59600	N	28.3	21.5	9.7	38.0	31.2	56.0	46.0	18.0	14.8
0.93416	N	26.4	18.4	9.7	36.1	28.1	56.0	46.0	19.9	17.9
1.74667	N	24.4	16.1	9.8	34.2	25.9	56.0	46.0	21.8	20.1
24.8844	N	15.5	7.8	10.4	25.9	18.2	60.0	50.0	34.1	31.8
25.1381	L1	17.4	9.2	10.3	27.7	19.5	60.0	50.0	32.3	30.5

Note: Level QP = Reading QP + Factor, Level AV = Reading AV + Factor

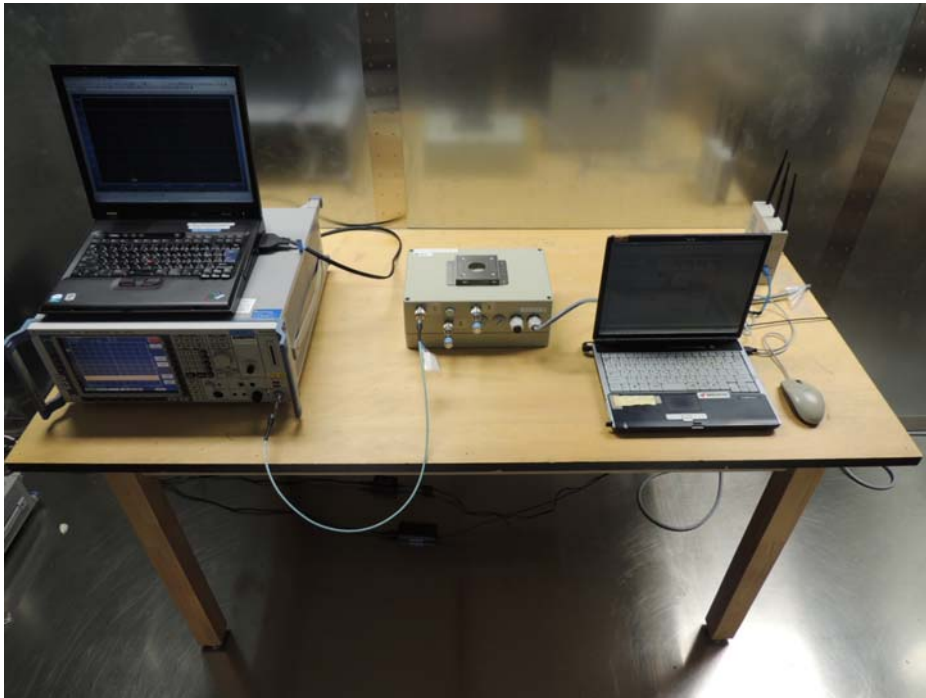
Table 49: AC Power Line Conducted Emission, Quasi Peak and Average Data, 0.15 - 30MHz, Phase N (N) and L1 (L), Mode C (2462MHz), Configuration 2 (IEEE 802.11n)

Freq. [MHz]	Phase	Reading QP [dBμV]	Reading AV [dBμV]	Factor [dB]	Level QP [dBμV]	Level AV [dBμV]	Limit QP [dBμV]	Limit AV [dBμV]	Margin QP [dB]	Margin AV [dB]
0.15000	L1	32.5	24.1	9.6	42.1	33.7	66.0	56.0	23.9	22.3
0.15064	N	37.0	29.2	9.6	46.6	38.8	66.0	56.0	19.4	17.2
0.54459	L1	20.5	11.4	9.6	30.1	21.0	56.0	46.0	25.9	25.0
0.60204	N	28.6	19.7	9.7	38.3	29.4	56.0	46.0	17.7	16.6
0.97470	N	26.3	17.6	9.7	36.0	27.3	56.0	46.0	20.0	18.7
1.55340	N	23.3	12.5	9.7	33.0	22.2	56.0	46.0	23.0	23.8
1.75412	N	24.2	15.9	9.8	34.0	25.7	56.0	46.0	22.0	20.3
25.1862	N	17.1	8.3	10.4	27.5	18.7	60.0	50.0	32.5	31.3
25.2361	L1	17.3	9.0	10.3	27.6	19.3	60.0	50.0	32.4	30.7

Note: Level QP = Reading QP + Factor, Level AV = Reading AV + Factor

6. Photographs of the Test Setup

Photograph 1: Set-up for Conducted Emissions at Antenna Port



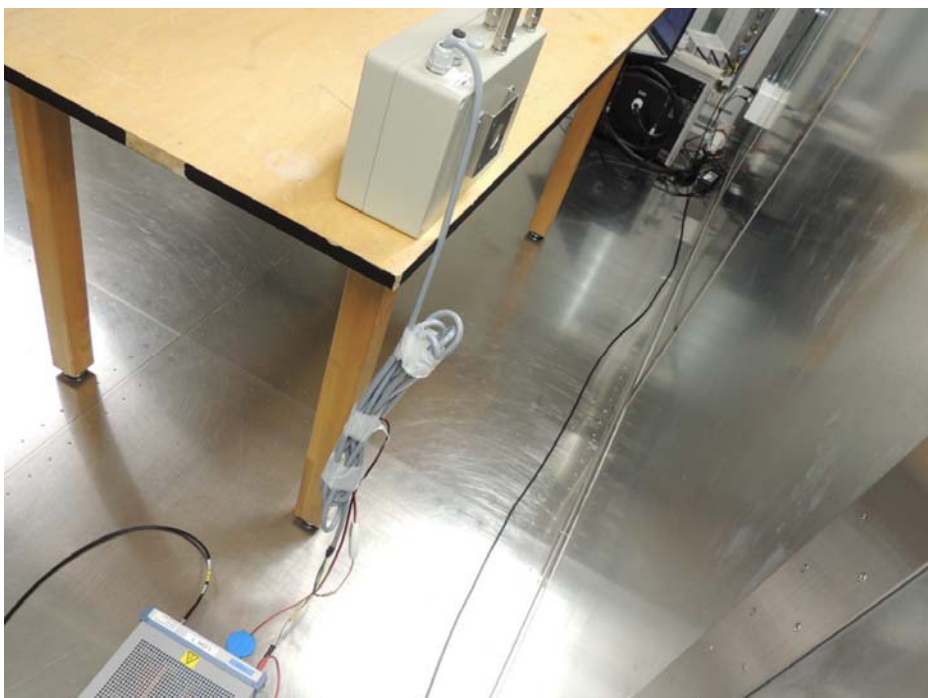
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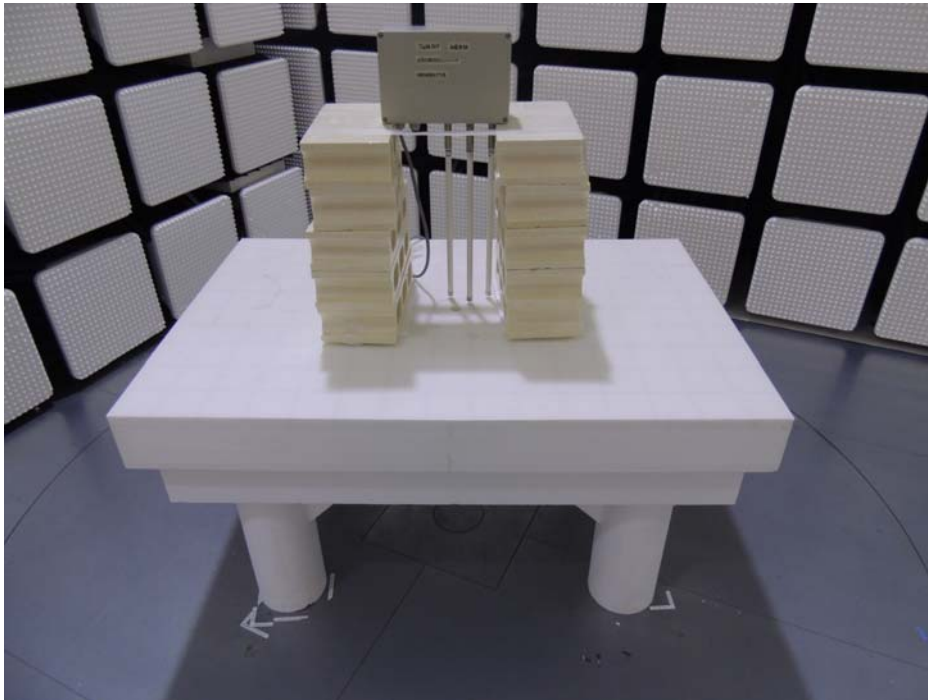
Photograph 2: Set-up for AC Power Line Conducted Emission of Transmitter, Front View



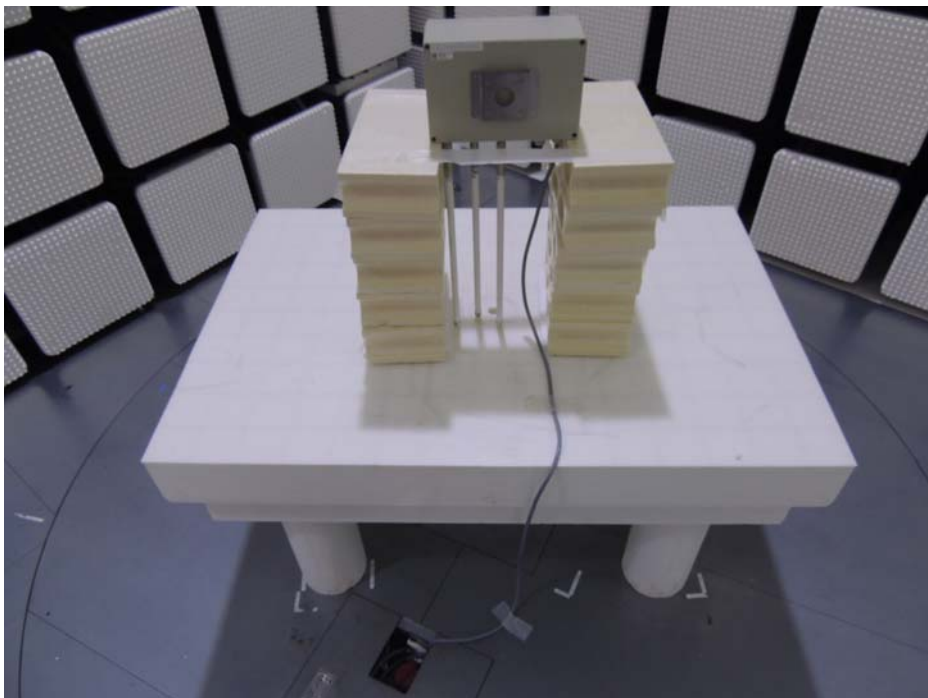
Photograph 3: Set-up for AC Power Line Conducted Emission of Transmitter, Rear View



Photograph 4: Set-up for Radiated Emission of Transmitter, Front View



Photograph 5: Set-up for Radiated Emission of Transmitter, Rear View



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