

FCC TEST REPORT

FCC 47 CFR Part 15C

Digital transmission systems operating within the 2400 - 2483.5 MHz band

Testing Laboratory Eurofins Product Service GmbH

Address..... Storkower Str. 38c

15526 Reichenwalde

Germany

Accreditation



A2LA Accredited Testing Laboratory, Certificate No.: 1983.01

FCC Filed Test Laboratory, Reg.-No.: 96970

IC OATS Filing assigned code: 3470A

Applicant's name..... tado° GmbH

Address...... Lindwurmstr. 76

80337 München

GERMANY

Test specification:

Standard 47 CFR Part 15C

RSS-247, Issue 1, 2015-05 RSS-Gen. Issue 4, 2014-11

ANSI C63.10:2013 ANSI C63.4:2014

Test scope..... partial Radio compliance test

Equipment under test (EUT):

Product description tado Smart AC Control

Model No. WR01
Additional Model(s) None
Brand Name(s) None
Hardware version WR0101

Firmware / Software version 21.0

FCC-ID: 2AE751 IC: 20406-1

Contains FCC-ID: VPYLBZY IC: 772C-LBZY

Test result Passed



POS	ceihi	A 1	teet	Casa	VARC	licts:

- neither assessed nor tested N/N

- required by standard but not appl. to test object......: N/A

- required by standard but not tested.....: N/T

- not required by standard for the test object N/R

- test object does meet the requirement...... P (Pass)

- test object does not meet the requirement..... F (Fail)

Testing:

Compiled by: Burkhard Pudell

(Responsible for Test)

(Head of Lab)

Date of issue 2015-08-31

Total number of pages: 78

General remarks:

The test results presented in this report relate only to the object tested.

The results contained in this report reflect the results for this particular model and serial number. It is the responsibility of the manufacturer to ensure that all production models meet the intent of the requirements detailed within this report.

This report shall not be reproduced, except in full, without the written approval of the Issuing testing laboratory.

Additional comments:



Version History

Version	Issue Date	Remarks	Revised by
01	2015-08-31	Initial Release	



REPORT INDEX

1	EQUIPMENT (TEST ITEM) DESCRIPTION	5
1.1	Photos – Equipment External	7
1.2	Photos – Equipment internal	10
1.3	Photos – Test setup	12
1.4	Supporting Equipment Used During Testing	13
1.5	Test Modes	14
1.6	Test Equipment Used During Testing	15
1.7	Sample emission level calculation	16
2	RESULT SUMMARY	17
3	TEST CONDITIONS AND RESULTS	18
3.1	Test Conditions and Results – Occupied Bandwidth	18
3.2	Test Conditions and Results – AC power line conducted emissions	22
3.4	Test Conditions and Results – Transmitter radiated emissions	25
3.5	Test Conditions and Results – Receiver radiated emissions	27
	NEX A Transmitter radiated spurious emissions NEX B Receiver radiated spurious emissions	29 69



1 Equipment (Test item) Description

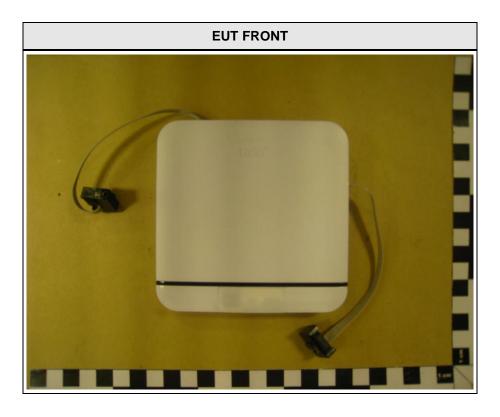
Description	tado Smart AC 0	Control	
Model	WR01		
Additional Model(s)	None		
Brand Name(s)	None		
Serial number	None		
Hardware version	WR0101		
Software / Firmware version	21.0		
FCC-ID	2AE751		
IC	20406-1		
Contains FCC-ID	VPYLBZY		
Contains IC	772C-LBZY		
Equipment type	End product		
Radio type	Transceiver		
Radio technology	Bluetooth 4.0 Low Energy		
Operating frequency range	2402 - 2480 MHz		
Assigned frequency band	2400 - 2483.5 MHz		
	F _{LOW}	2402 MHz	
Main test frequencies	F _{MID}	2440 MHz	
	F _{HIGH}	2480 MHz	
Spreading	Frequency Hopp	ping	
Modulations	GFSK		
Number of channels	40		
Channel spacing	2MHz		
Number of antennas	1		
	Туре	Bluetooth Module	
	Model	Murata ZY Module	
	Manufacturer	Murata	
Radio module	HW Version	unspecified	
	SW Version	unspecified	
	FCC-ID	VPYLBZY	
	IC	772CLBZY	
	Туре	integrated	
Antenna	Model	Monopole antenna	
Antellia	Manufacturer	Murata	
	Gain	-0.6 dBi (from Test Report)	

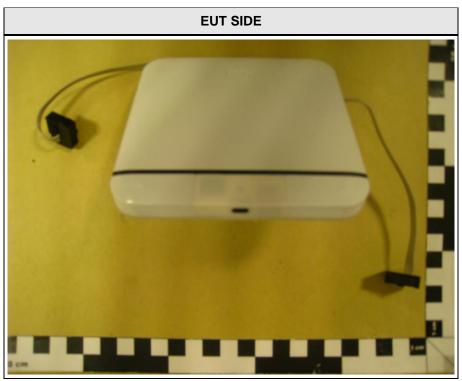


	Flextronics International Manufacturing Services Duty-Free Zone Limited Liability Company		
Manufacturer	Munkas utca 28		
	8660 Tab		
	Hungary		
	V _{NOM}	5.0 VDC	
Power supply	V _{MIN}	4.9 VDC	
	V _{MAX}	5.1 VDC	
	Model	SK12G0500100Z	
AC/DC-Adaptor	Vendor	Lin Shiung Enterprise	
ACIDO-Adaptor	Input	100 - 240 V AC	
	Output	5.0 V DC	



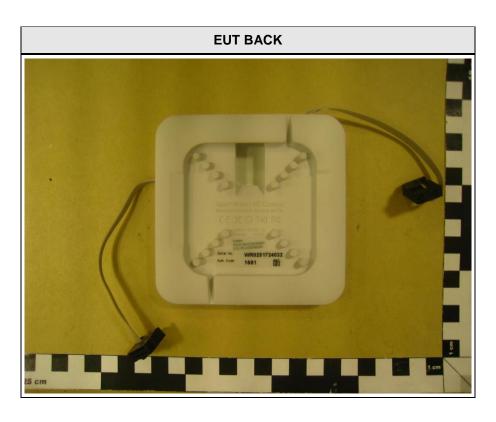
1.1 Photos – Equipment External







Product Service



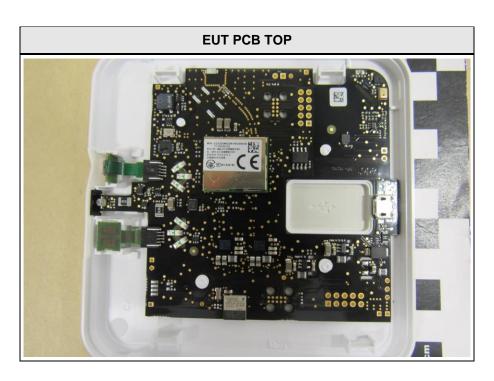


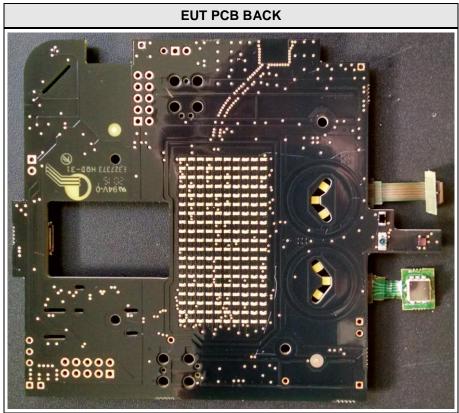




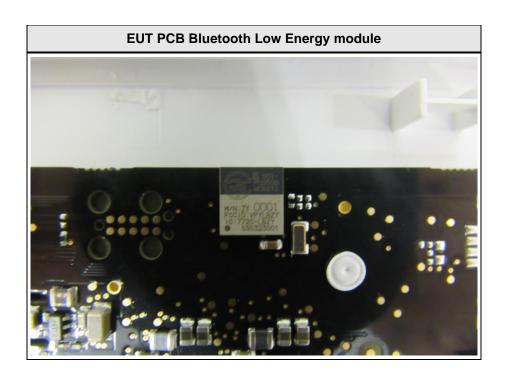


1.2 Photos – Equipment internal



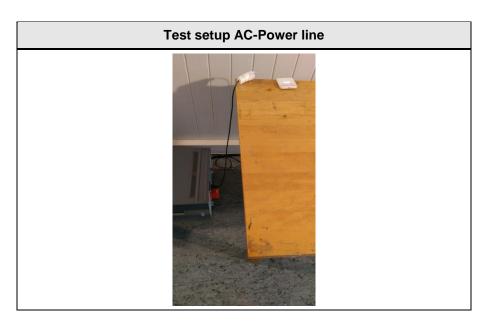


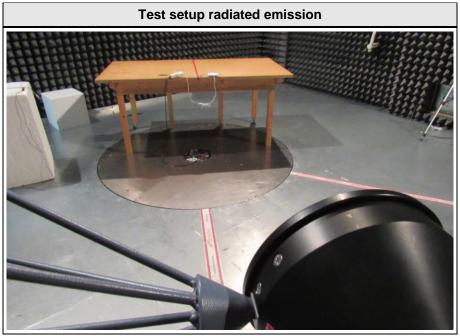






1.3 Photos – Test setup







1.4 Supporting Equipment Used During Testing

Product Type*	Device	Manufacturer	Model No.	Comments			
AE	Laptop	DELL	Latitude E5530				
AE:	AE : Auxiliary/Associated Equipment						



1.5 Test Modes

Mode #	Description			
	General conditions:	EUT powered by AC/DC-Adaptor, controlled by laptop.		
Transmit	Radio conditions: Mode = standalone transmit Spreading = None Modulation = GFSK Data rate = 1 Mbps Bandwidth = 2 MHz Duty cycle = 100 % Power level = Maximum			
	General conditions:	EUT powered by AC/DC-Adaptor, controlled by laptop.		
Receive	Radio conditions:	Mode = standalone receive Spreading = None Modulation = GFSK		
	General conditions:	EUT powered by AC/DC-Adaptor		
AC-Powerline	Radio conditions:	Mode = transmit Spreading = None		



1.6 Test Equipment Used During Testing

Measurement Software					
Description Manufacturer Name Version					
EMC Test Software Dare Instruments Radimation 2014.1.15					

Occupied Bandwidth						
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due	
Spectrum Analyzer R&S FSP 30 EF00312 2015-02 2016-02						

Radiated spurious emissions						
Description	Manufacturer	Model	Identifier	Cal. Date	Cal. Due	
Semi-anechoic chamber	Frankonia	AC 1	EF00062	-	-	
Spectrum Analyzer	R&S	FSIQ26	EF00242	2015-04	2016-04	
Biconical Antenna	R&S	HK 116	EF00012	2013-02	2016-02	
LPD Antenna	R&S	HL 223	EF00187	2014-03	2017-03	
LPD Antenna	R&S	HL 025	EF00327	2013-02	2016-02	

AC powerline conducted emissions							
Description	Description Manufacturer Model Identifier Cal. Date Cal. Due						
AMN	R&S	ESH2-Z5	EF00182	2014-11	2016-11		
EMI Test Receiver	R&S	ESCS 30	EF00295	2014-10	2015-10		



1.7 Sample emission level calculation

The following is a description of terms and a sample calculation, as appears in the radiated emissions data table. The numbers used in the calculation are for example only. There is no direct correlation to the specific data taken for the product described in this document:

Reading:

This is the reading obtained on the spectrum analyzer in $dB\mu V$. Any external preamplifiers used are taken into account through internal analyzer settings.

A.F.:

This is the antenna factor for the receiving antenna. It is a conversion factor, which converts electric fields strengths to voltages, which can be measured directly on the spectrum analyzer. It is treated as a loss in dB. Cable losses have been included with the A.F. to simplify the calculations. The antenna factor is used in calculations as follows:

Reading on Analyzer (dB μ V) + A.F. (dB) = Net field strength (dB μ V/m)

Net:

This is the net field strength measurement (as shown above).

Limit:

This is the FCC Class B radiated emission limit (in units of $dB\mu V/m$). The FCC limits are given in units of $\mu V/m$. The following formula is used to convert the units of $\mu V/m$ to $dB\mu V/m$:

Limit (dB μ V/m) = 20*log (μ V/m)

Margin:

This is the margin of compliance below the FCC limit. The units are given in dB. A negative margin indicates the emission was below the limit. A positive margin indicates that the emission exceeds the limit.

Example only:

Reading + AF = Net Reading : Net reading - FCC limit = Margin 21.5 dB μ V + 26 dB = 47.5 dB μ V/m : 47.5 dB μ V/m - 57.0 dB μ V/m = -9.5 dB



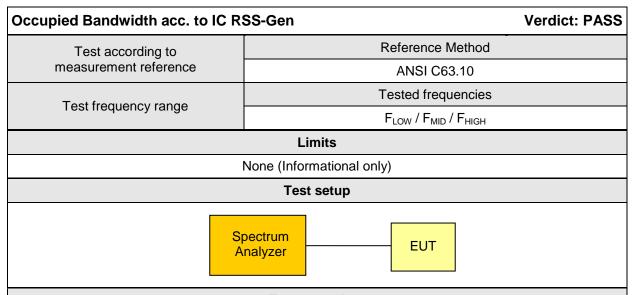
2 Result Summary

FCC 47 CFR Part 15C						
Product Specific Standard Section	Requirement – Test	Reference Method	Result	Remarks		
RSS-Gen 6.6	Occupied Bandwidth	ANSI C63.10	N/R	Informational only		
FCC § 15.247(a)(2) IC RSS-247 § 5.2	6dB Bandwidth	ANSI C63.10	N/R			
FCC § 15.247(b)(3) IC RSS-247 § 5.4	Maximum peak conducted power	ANSI C63.10	N/R			
FCC § 15.247(e) IC RSS-247 § 5.2	Power spectral density	ANSI C63.10	N/R			
47 CFR 15.207 IC RSS-247 § 3.1	AC power line conducted emissions	ANSI C63.4	PASS			
FCC § 15.247(d) IC RSS-247 § 5.5	Band edge compliance	ANSI C63.10	N/R			
FCC § 15.247(d) IC RSS-247 § 5.5	Conducted spurious emissions	ANSI C63.10	N/R			
FCC § 15.247(d) FCC § 15.209 IC RSS-247 § 5.5	Transmitter radiated spurious emissions	ANSI C63.10	PASS			
IC RSS-247 § 3.1	Receiver radiated spurious emissions	ANSI C63.10	PASS			
Remarks:	•	•				



3 Test Conditions and Results

3.1 Test Conditions and Results - Occupied Bandwidth



Test procedure

- 1. EUT set to test mode (Communication tester is used if needed)
- 2. Span set to at least twice the emission spectrum
- 3. Resolution bandwidth set to 1 % of span
- 4. Occupied Bandwidth (99 %) measurement with spectrum analyzer built in measurement function

Test results						
Channel	Frequency [MHz]	Mode	Occupied Bandwidth [kHz]			
F _{LOW}	2402	Transmit	1074.148			
F _{MID}	2442	Transmit	1089.196			
F _{HIGH}	2480	Transmit	1114.229			
Comments:						



Occupied Bandwidth - FLOW

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Handrik
Test Conditions: Tnom / Vnom

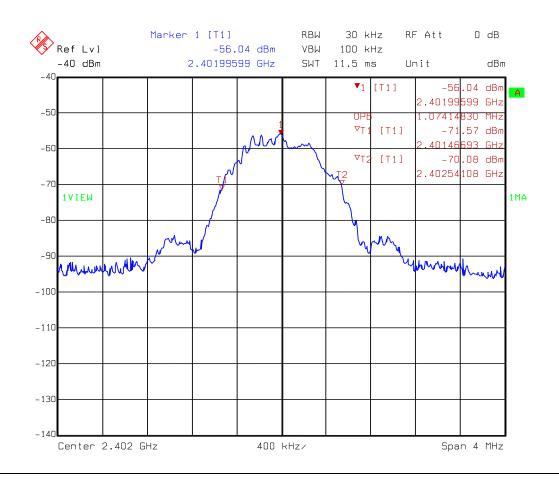
Mode: Bluetooth Low Energy, 2402 MHz

Test Date: 2015-08-28

Verdict: NONE (INFORMATION ONLY)

Note 1: A spectrum analyzer with an integrated 99% power bandwidth function is used

Note 2:





Occupied Bandwidth - F_{MID}

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Handrik
Test Conditions: Tnom / Vnom

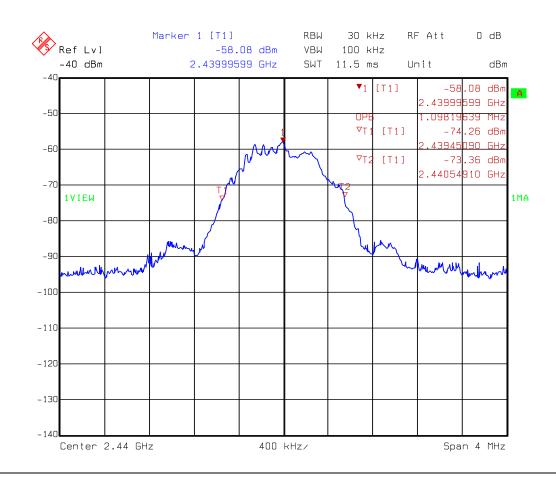
Mode: Bluetooth Low Energy, 2440 MHz

Test Date: 2015-08-28

Verdict: NONE (INFORMATION ONLY)

Note 1: A spectrum analyzer with an integrated 99% power bandwidth function is used

Note 2:





Occupied Bandwidth - FHIGH

Occupied Bandwidth acc. to RSS-Gen

Project Number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Handrik
Test Conditions: Tnom / Vnom

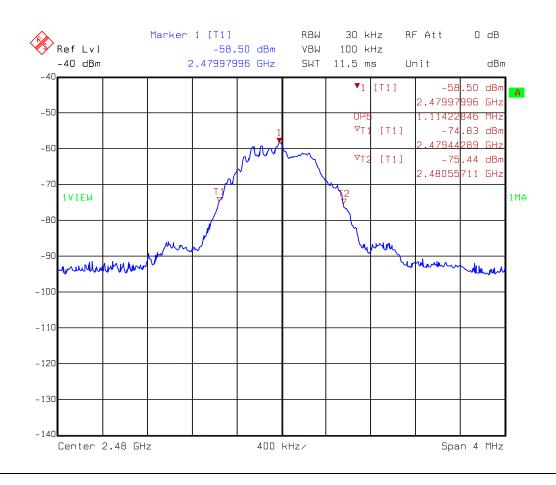
Mode: Bluetooth Low Energy, 2480 MHz

Test Date: 2015-08-28

Verdict: NONE (INFORMATION ONLY)

Note 1: A spectrum analyzer with an integrated 99% power bandwidth function is used

Note 2:





3.2 Test Conditions and Results – AC power line conducted emissions

Power line conducte	Verdict: PASS						
Test according referenced standards			Reference Method				
				ANSI C63.4			
Fully configured sample	e scanned over		F	requency range			
the following frequency range			0.15 MHz to 30 MHz				
Points of Appli		Ap	plication Interface				
AC Mains		LISN					
EUT test mode		AC power line					
		Limits	s and results				
Frequency [MHz]	Quasi-Peak [dBµV]	Result	Average [dBµV]	Result		
0.15 to 5	66 to 56	*	PASS	56 to 46*	PASS		
0.5 to 5	56		PASS	46	PASS		
5 to 30 60			PASS	50	PASS		
Comments: * Limit decreases linearly with the logarithm of the frequency.							



Conducted Emissions

EMI voltage test in the ac-mains according to FCC PART 15B

Project number: G0M-1505-4759

Applicant: Tado° GmbH

EUT Name: tado Smart AC Control

Model: WR01

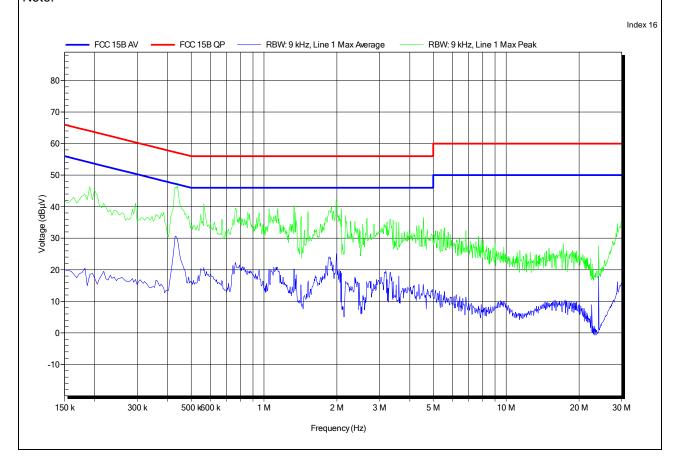
Test Site: Eurofins Product Service GmbH

Operator: Mr. Yu

Test Conditions: Tnom: 26°C, Unom: 5VDC via 120VAC AC/DC Adapter

LISN: ESH2-Z5 L Mode: AC Power line Test Date: 2015-08-18

Note:





Conducted Emissions

EMI voltage test in the ac-mains according to FCC PART 15B

Project number: G0M-1505-4759

Applicant: Tado° GmbH

EUT Name: tado Smart AC Control

Model: WR01

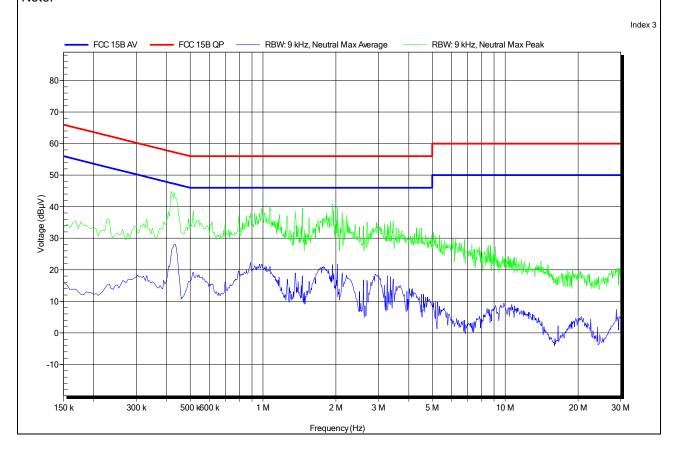
Test Site: Eurofins Product Service GmbH

Operator: Mr. Yu

Test Conditions: Tnom: 26°C, Unom: 5VDC via 120VAC AC/DC Adapter

LISN: ESH2-Z5 N Mode: AC Power line Test Date: 2015-08-17

Note:



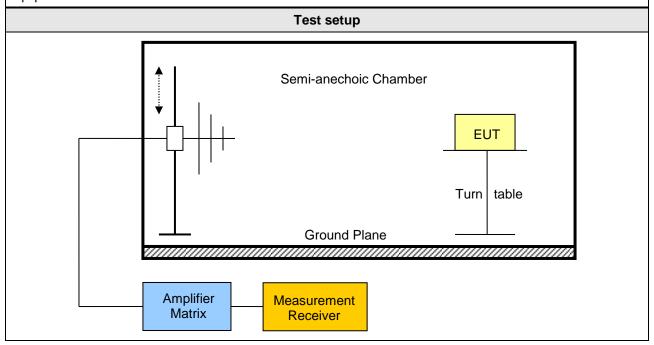


3.4 Test Conditions and Results - Transmitter radiated emissions

Transmitter radiated em	Verdict: PASS					
Test according refe	Reference Method					
standards		FCC 15.2	47(d) / IC R	SS-247 5.5		
Test according	Test according to			thod		
measurement refe	rence		ANSI C63.1	10		
Toot fraguancy re	Te	sted frequer	ncies			
Test frequency ra	ange	30 MHz – 10 th Harmonic				
Frequency range [MHz]	Detector	Limit [µV/m]	Limit [dBµV/m]	Limit Distance [m]		
30 – 88	Quasi-Peak	100	40	3		
88 – 216	Quasi-Peak	150	43.5	3		
216 – 960	Quasi-Peak	200	46	3		
960 – 1000	Quasi-Peak	500	54	3		
> 1000	Average	500	54	3		

Radiated emissions which fall in the restricted bands, as defined in Section 15.205(a), must also comply with the radiated emission limits specified in Section 15.209(a) (see Section 15.205(c)).

When average radiated emission measurements are specified, including average emission measurements below 1000 MHz, there also is a limit on the peak level of the radio frequency emissions. The limit on peak radio frequency emissions is 20 dB above the maximum permitted average emission limit applicable to the equipment under test.





Test procedure

- 1. EUT set to test mode (Communication tester is used if needed)
- 2. Span it set according to measurement range
- 3. Resolution bandwidth below 1 GHz is set according to CISPR 16 with peak/quasi-peak detector and RBW of 1 MHz with peak/average detector is used above 1 GHz
- 4. Markers are set to peak emission levels within restricted bands

Test results									
Channel	Frequency [MHz]	Mode	Emission [MHz]	Level [dbµV/m]	Det.	Pol.	Limit [dbµV/m]	Limit dist. [m]*	Margin [dB]
F_{LOW}	2402	Transmit	273.6	41.30	pk	hor	46.00	3	-04.70
F_{LOW}	2402	Transmit	281.6	40.01	pk	hor	46.00	3	-05.99
F _{LOW}	2402	Transmit	407.7	38.67	pk	ver	46.00	3	-07.33
F _{LOW}	2402	Transmit	409.6	37.22	pk	hor	46.00	3	-08.78
F _{MID}	2440	Transmit	273.6	36.60	pk	ver	46.00	3	-09.40
F _{MID}	2440	Transmit	275.2	39.44	pk	hor	46.00	3	-06.56
F _{MID}	2440	Transmit	281.6	36.59	pk	ver	46.00	3	-09.41
F _{MID}	2440	Transmit	406.4	38.64	pk	ver	46.00	3	-07.36
F _{MID}	2440	Transmit	409.6	37.96	pk	hor	46.00	3	-08.04
F _{MID}	2440	Transmit	2389	51.08	pk	ver	74.00	3	-22.92
F _{HIGH}	2480	Transmit	283.2	35.18	pk	ver	46.00	3	-10.82
F _{HIGH}	2480	Transmit	2484	51.40	pk	ver	74.00	3	-22.60
F _{HIGH}	2480	Transmit	2484	28.98	RMS	ver	54.00	3	-25.02
F _{HIGH}	2480	Transmit	2484	59.57	pk	hor	74.00	3	-14.43
F _{HIGH}	2480	Transmit	2484	34.94	RMS	hor	54.00	3	-19.06

Comments: * Physical distance between EUT and measurement antenna.



3.5 Test Conditions and Results - Receiver radiated emissions

eceiver radiated emis	sions acc. to	IC RSS-247		Verdict: PASS	
Test according refere	enced	Reference Method			
standards			IC RSS-247 3.1		
Test according to	0		Reference Method		
measurement refere			ANSI C63.10		
T			Tested frequencies		
Test frequency rar	nge —	30) MHz – 5 th Harmoni	С	
EUT test mode			Receive		
		Limits			
requency range [MHz]	Detector	Limit [µV/m]	Limit [dBµV/m]	Limit Distance [m]	
30 – 88	Quasi-Peak	100	40	3	
88 – 216	Quasi-Peak	150	43.5	3	
216 – 960	Quasi-Peak	200	46	3	
960 – 1000 Quasi-Pea		500	54	3	
> 1000 Average		500	54	3	
		Test setup			
	-	Semi-anechoic Ch	EUT	ble	
""""					
	plifier atrix	Measurement Receiver			



Test procedure

- 1. EUT set to receive mode (Communication tester is used if needed)
- 2. Span it set according to measurement range
- 3. Resolution bandwidth below 1 GHz is set according to CISPR 16 with peak/quasi-peak detector and RBW of 1 MHz with peak/average detector is used above 1 GHz
- 4. Markers are set to peak emission levels

Test results								
Channel	Frequency [MHz]	Emission [MHz]	Emission Level [dbµV/m]	Polarisation	Det.	Limit [dbµV/m]	Margin [dbµV/m]	
F _{MID}	2440	182.66	34.84	ver	pk	43.50	-8.66 dB	
F _{MID}	2440	188.78	33.66	hor	pk	43.50	-9.84 dB	
F _{MID}	2440	284.8	35.82	ver	pk	46.00	-10.18 dB	
F _{MID}	2440	286.4	33.74	hor	pk	46.00	-12.26 dB	
F _{MID}	2440	374.4	33.07	hor	pk	46.00	-12.93 dB	
F _{MID}	2440	444.8	37.87	ver	pk	46.00	-8.13 dB	
F _{MID}	2440	3904	38.94	ver	pk	53.98	-15.04 dB	
F _{MID}	2440	3982	39.14	hor	pk	53.98	-14.84 dB	
F _{MID}	2440	7960	48.67	hor	pk	53.98	-5.31 dB	
F _{MID}	2440	7968	49.14	ver	pk	53.98	-4.84 dB	
F _{MID}	2440	11154	43.29	ver	pk	53.98	-10.69 dB	
F _{MID}	2440	11420	43.33	hor	pk	53.98	-10.65 dB	
Comments:								



ANNEX A Transmitter radiated spurious emissions

Spurious emissions according to FCC part 15 Subpart C § 15.247

Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Mr. Pudell

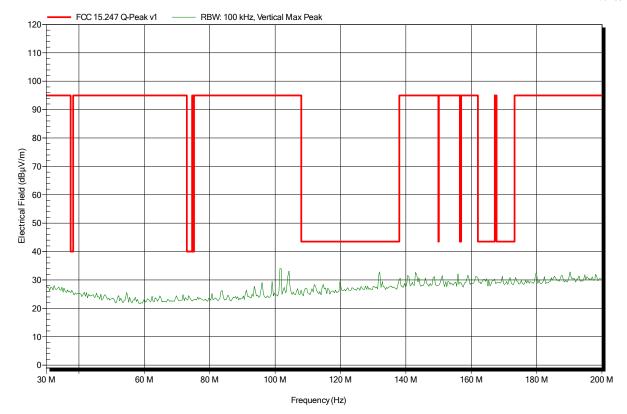
Test Conditions: Tnom: 24°C, Vnom: 5.0 V DC (USB-power)

Antenna: Rohde & Schwarz HK 116, Vertical

Measurement distance: 3 m

Mode: TX; BLE; CH. 1; 2402 MHz; TX-mode

Test Date: 2015-06-05 Note: EUT horizontal





Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Mr. Pudell

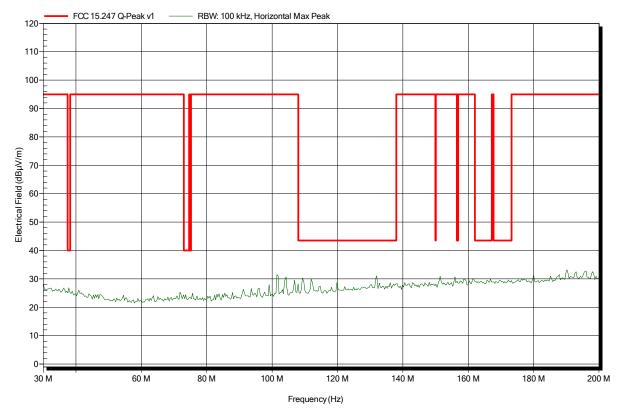
Test Conditions: Tnom: 24°C, Vnom: 5.0 V DC (USB-power)

Antenna: Rohde & Schwarz HK 116, Horizontal

Measurement distance: 3 m

Mode: TX; BLE; CH. 1; 2402 MHz; TX-mode

Test Date: 2015-06-05 Note: EUT horizontal





Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Mr. Pudell

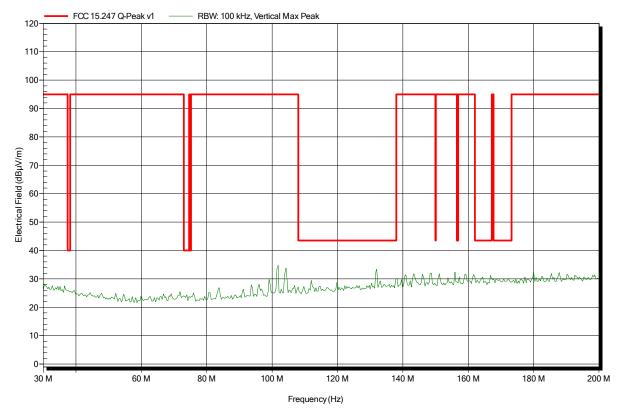
Test Conditions: Tnom: 24°C, Vnom: 5.0 V DC (USB-power)

Antenna: Rohde & Schwarz HK 116, Vertical

Measurement distance: 3 m

Mode: TX; BLE; CH. 19; 2440 MHz; TX-mode

Test Date: 2015-06-05 Note: EUT horizontal





Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Mr. Pudell

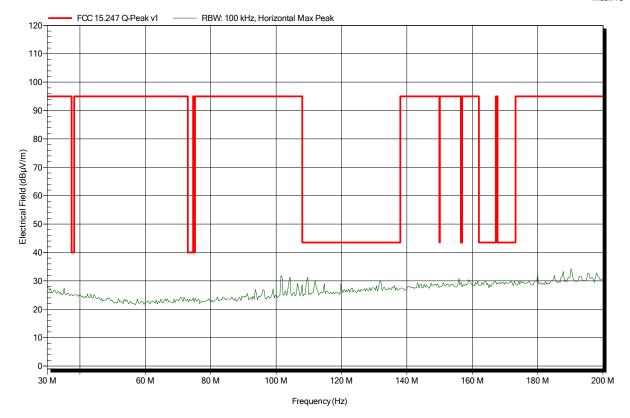
Test Conditions: Tnom: 24°C, Vnom: 5.0 V DC (USB-power)

Antenna: Rohde & Schwarz HK 116, Horizontal

Measurement distance: 3 m

Mode: TX; BLE; CH. 19; 2440 MHz; TX-mode

Test Date: 2015-06-05 Note: EUT horizontal





Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Mr. Pudell

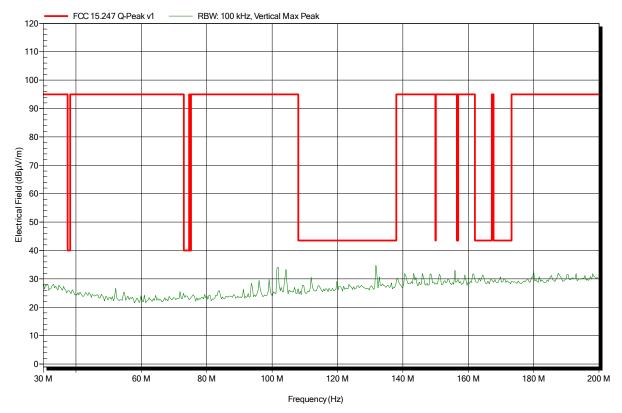
Test Conditions: Tnom: 24°C, Vnom: 5.0 V DC (USB-power)

Antenna: Rohde & Schwarz HK 116, Vertical

Measurement distance: 3 m

Mode: TX; BLE; CH. 39; 2480 MHz; TX-mode

Test Date: 2015-06-05 Note: EUT horizontal





Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Mr. Pudell

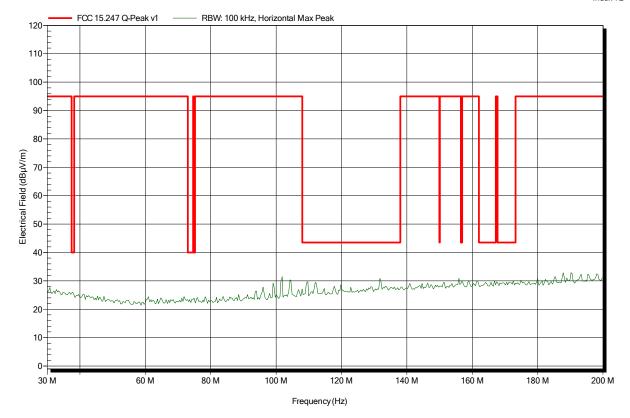
Test Conditions: Tnom: 24°C, Vnom: 5.0 V DC (USB-power)

Antenna: Rohde & Schwarz HK 116, Horizontal

Measurement distance: 3 m

Mode: TX; BLE; CH. 39; 2480 MHz; TX-mode

Test Date: 2015-06-05 Note: EUT horizontal





Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Mr. Pudell

Test Conditions: Tnom: 24°C, Vnom: 5.0 V DC (USB-power)

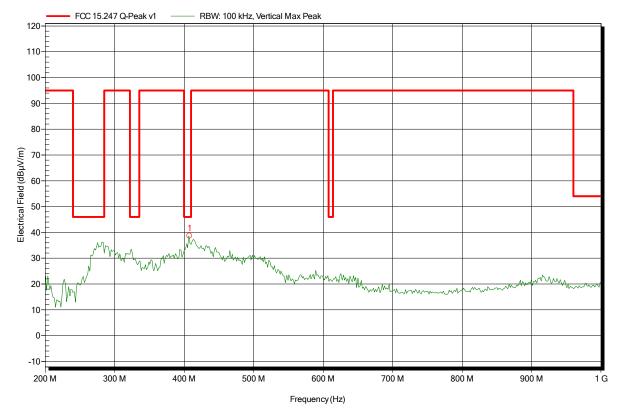
Antenna: Rohde & Schwarz HL 223, Vertical

Measurement distance: 3 m

Mode: TX; BLE; CH. 1; 2402 MHz; TX-mode

Test Date: 2015-06-05 Note: EUT horizontal

Index 63



Frequency 407.752 MHz Peak 38.67 dBµV/m Peak Limit 46 dBµV/m Peak Difference -7.33 dB Peak Status Pass



Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Mr. Pudell

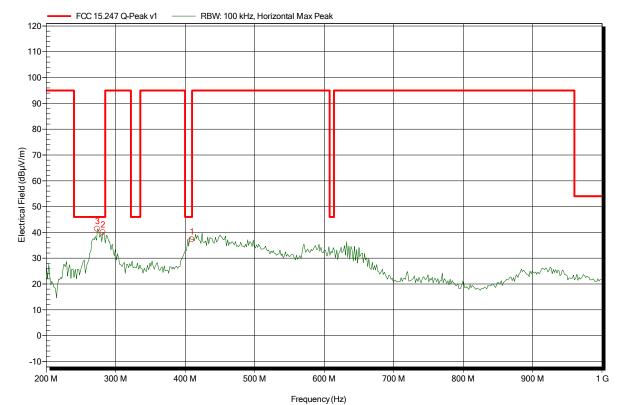
Test Conditions: Tnom: 24°C, Vnom: 5.0 V DC (USB-power)

Antenna: Rohde & Schwarz HL 223, Horizontal

Measurement distance: 3 m

Mode: TX; BLE; CH. 1; 2402 MHz; TX-mode

Test Date: 2015-06-05 Note: EUT horizontal



Frequency	Peak	Peak Limit	Peak Difference	Peak Status
273.6 MHz	41.3 dBµV/m	46 dBµV/m	-4.7 dB	Pass
281.6 MHz	40.01 dBµV/m	46 dBµV/m	-5.99 dB	Pass
409.6 MHz	37.22 dBµV/m	46 dBµV/m	-8.78 dB	Pass



Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Mr. Pudell

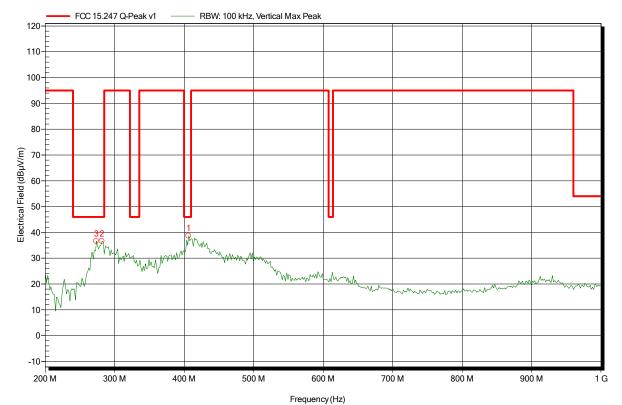
Test Conditions: Tnom: 24°C, Vnom: 5.0 V DC (USB-power)

Antenna: Rohde & Schwarz HL 223, Vertical

Measurement distance: 3 m

Mode: TX; BLE; CH. 19; 2440 MHz; TX-mode

Test Date: 2015-06-05 Note: EUT horizontal



Frequency	Peak	Peak Limit	Peak Difference	Peak Status
273.6 MHz	36.6 dBµV/m	46 dBµV/m	-9.4 dB	Pass
281.6 MHz	36.59 dBµV/m	46 dBµV/m	-9.41 dB	Pass
406.4 MHz	38.64 dBµV/m	46 dBµV/m	-7.36 dB	Pass



Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Mr. Pudell

Test Conditions: Tnom: 24°C, Vnom: 5.0 V DC (USB-power)

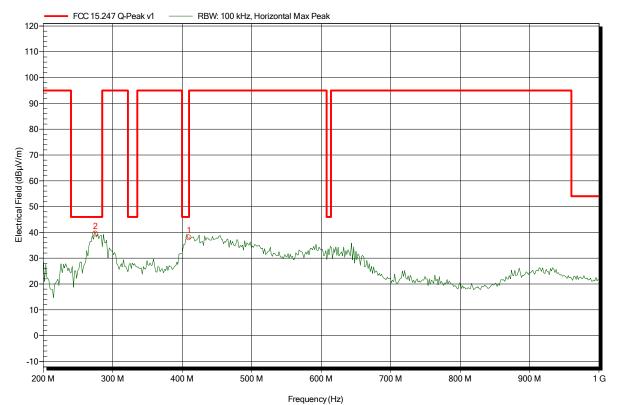
Antenna: Rohde & Schwarz HL 223, Horizontal

Measurement distance: 3 m

Mode: TX; BLE; CH. 19; 2440 MHz; TX-mode

Test Date: 2015-06-05 Note: EUT horizontal

Index 67



Frequency Peak

275.2 MHz 39.44 dBμV/m 409.6 MHz 37.96 dBμV/m

 Peak
 Peak Limit

 39.44 dBμV/m
 46 dBμV/m

 37.96 dBμV/m
 46 dBμV/m

Peak Difference -6.56 dB -8.04 dB Peak Status Pass Pass



Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Mr. Pudell

Test Conditions: Tnom: 24°C, Vnom: 5.0 V DC (USB-power)

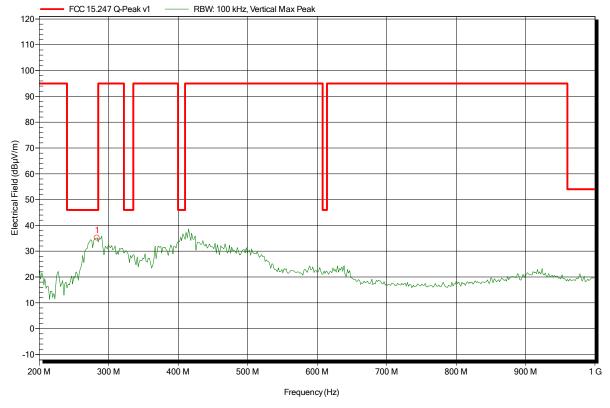
Antenna: Rohde & Schwarz HL 223, Vertical

Measurement distance: 3 m

Mode: TX; BLE; CH. 39; 2480 MHz; TX-mode

Test Date: 2015-06-05
Note: EUT horizontal

Index 66



Frequency 283.2 MHz Peak 35.18 dBµV/m Peak Limit 46 dBµV/m Peak Difference -10.82 dB Peak Status Pass



Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Mr. Pudell

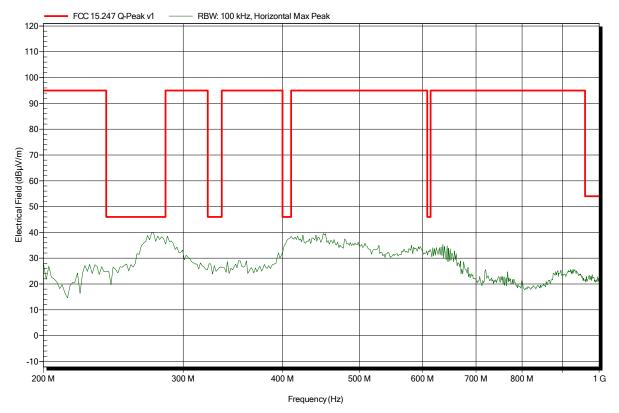
Test Conditions: Tnom: 24°C, Vnom: 5.0 V DC (USB-power)

Antenna: Rohde & Schwarz HL 223, Horizontal

Measurement distance: 3 m

Mode: TX; BLE; CH. 39; 2480 MHz; TX-mode

Test Date: 2015-06-05 Note: EUT horizontal





Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Mr. Pudell

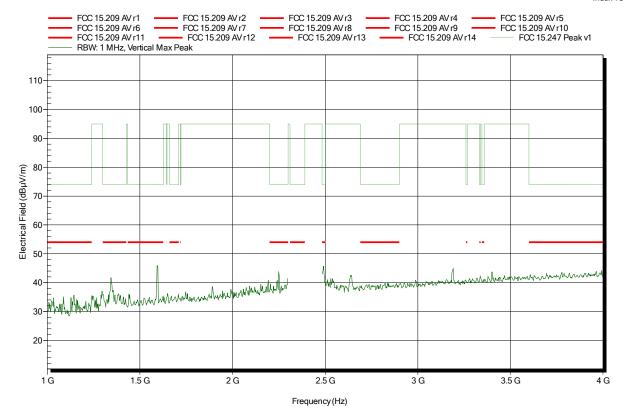
Test Conditions: Tnom: 24°C, Vnom: 5.0 V DC (USB-power)

Antenna: Rohde & Schwarz HL 025, Vertical

Measurement distance: 3 m

Mode: TX; BLE; CH. 1; 2402 MHz; TX-mode

Test Date: 2015-06-05 Note: EUT horizontal





Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Mr. Pudell

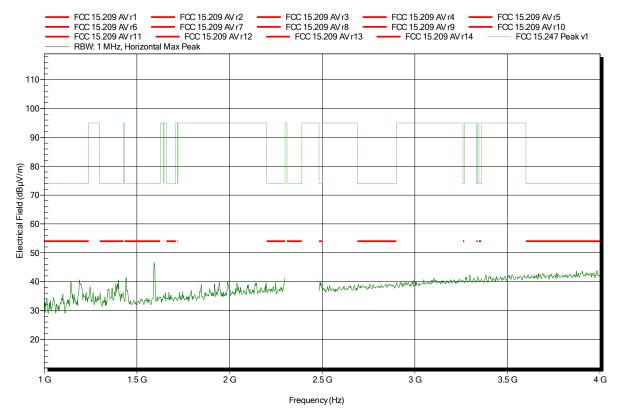
Test Conditions: Tnom: 24°C, Vnom: 5.0 V DC (USB-power)

Antenna: Rohde & Schwarz HL 025, Horizontal

Measurement distance: 3 m

Mode: TX; BLE; CH. 1; 2402 MHz; TX-mode

Test Date: 2015-06-09
Note: EUT horizontal





Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Mr. Pudell

Test Conditions: Tnom: 24°C, Vnom: 5.0 V DC (USB-power)

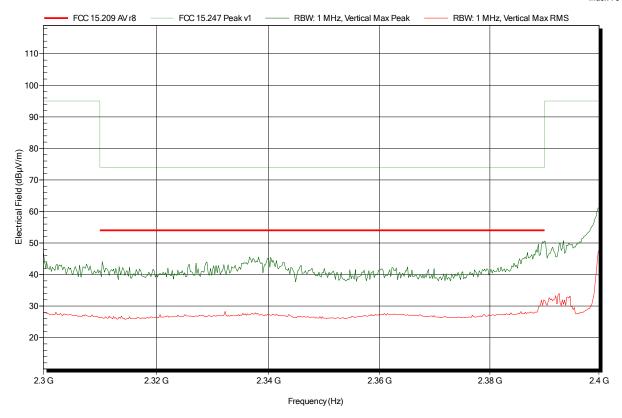
Antenna: Rohde & Schwarz HL 025, Vertical

Measurement distance: 3 m

Mode: TX; BLE; CH. 1; 2402 MHz; TX-mode

Test Date: 2015-06-09

Note: EUT horizontal; lower bandedge





Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Mr. Pudell

Test Conditions: Tnom: 24°C, Vnom: 5.0 V DC (USB-power)

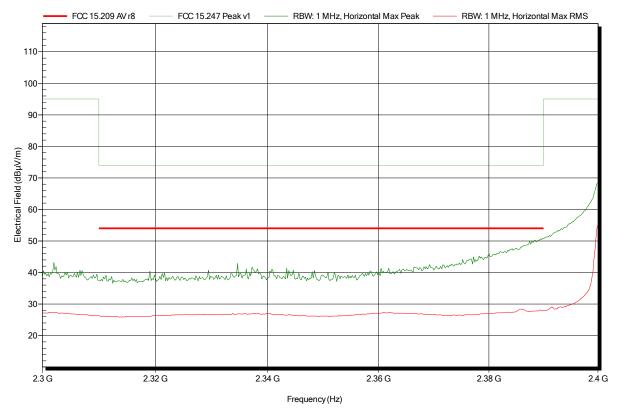
Antenna: Rohde & Schwarz HL 025, Horizontal

Measurement distance: 3 m

Mode: TX; BLE; CH. 1; 2402 MHz; TX-mode

Test Date: 2015-06-09

Note: EUT horizontal; lower bandedge





Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Mr. Pudell

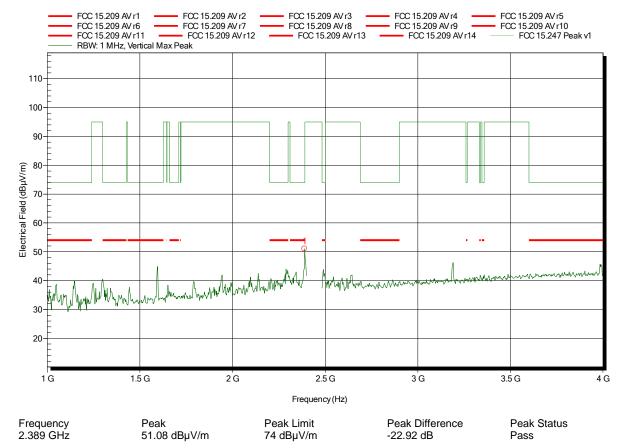
Test Conditions: Tnom: 24°C, Vnom: 5.0 V DC (USB-power)

Antenna: Rohde & Schwarz HL 025, Vertical

Measurement distance: 3 m

Mode: TX; BLE; CH. 19; 2440 MHz; TX-mode

Test Date: 2015-06-09
Note: EUT horizontal





Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Mr. Pudell

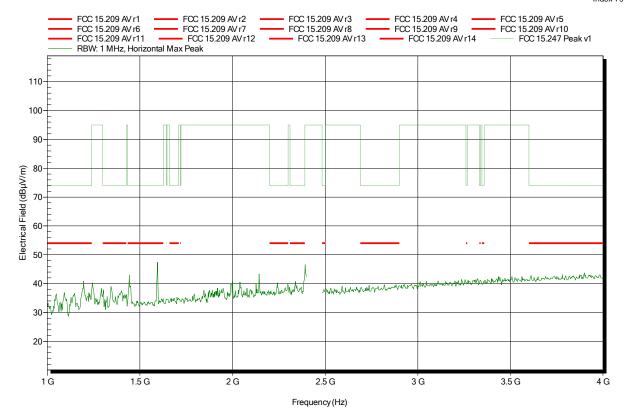
Test Conditions: Tnom: 24°C, Vnom: 5.0 V DC (USB-power)

Antenna: Rohde & Schwarz HL 025, Horizontal

Measurement distance: 3 m

Mode: TX; BLE; CH. 19; 2440 MHz; TX-mode

Test Date: 2015-06-09
Note: EUT horizontal





Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Mr. Pudell

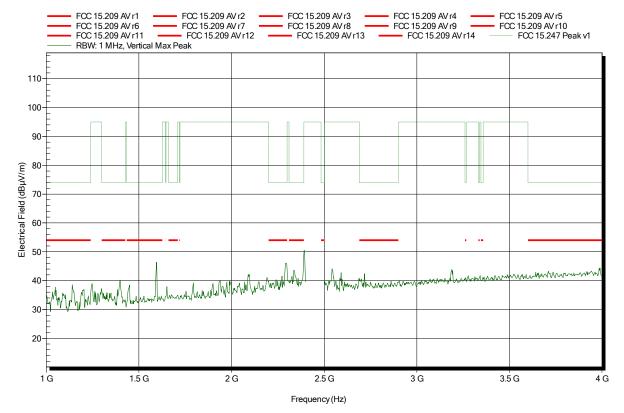
Test Conditions: Tnom: 24°C, Vnom: 5.0 V DC (USB-power)

Antenna: Rohde & Schwarz HL 025, Vertical

Measurement distance: 3 m

Mode: TX; BLE; CH. 39; 2480 MHz; TX-mode

Test Date: 2015-06-09
Note: EUT horizontal





Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Mr. Pudell

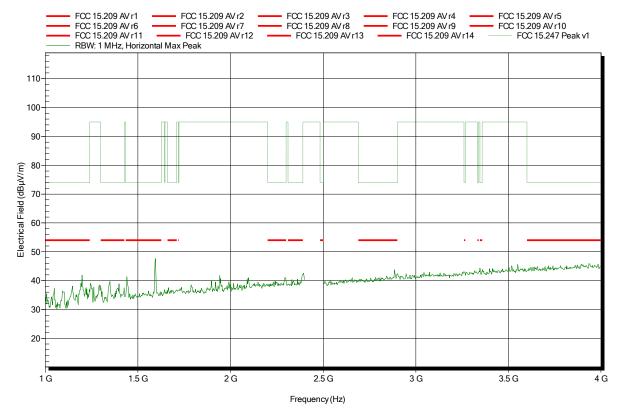
Test Conditions: Tnom: 24°C, Vnom: 5.0 V DC (USB-power)

Antenna: Rohde & Schwarz HL 025, Horizontal

Measurement distance: 3 m

Mode: TX; BLE; CH. 39; 2480 MHz; TX-mode

Test Date: 2015-06-09
Note: EUT horizontal





Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Mr. Pudell

Test Conditions: Tnom: 24°C, Vnom: 5.0 V DC (USB-power)

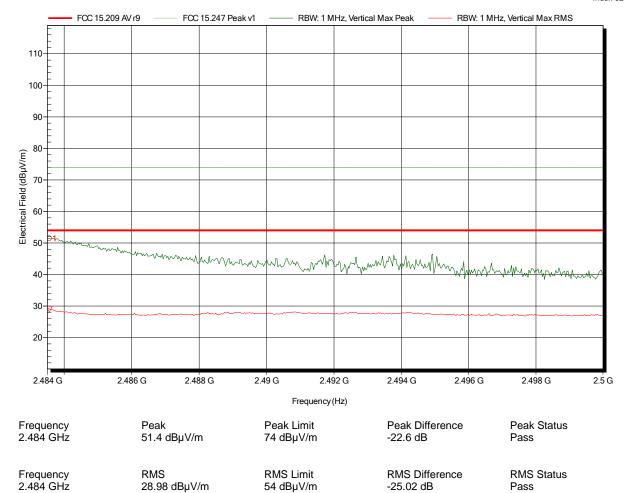
Antenna: Rohde & Schwarz HL 025, Vertical

Measurement distance: 3 m

Mode: TX; BLE; CH. 39; 2480 MHz; TX-mode

Test Date: 2015-06-09

Note: EUT horizontal; higher bandedge





Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Mr. Pudell

Test Conditions: Tnom: 24°C, Vnom: 5.0 V DC (USB-power)

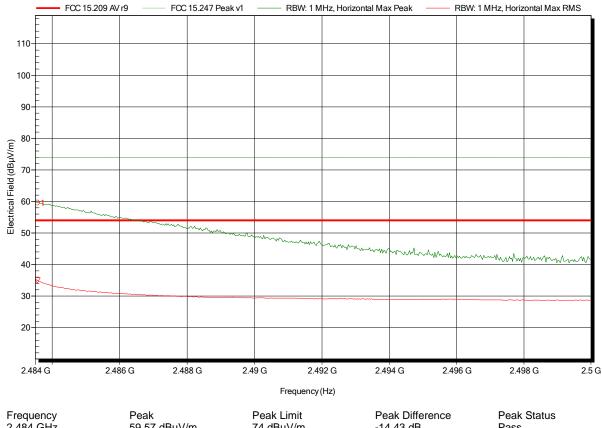
Antenna: Rohde & Schwarz HL 025, Horizontal

Measurement distance: 3 m

Mode: TX; BLE; CH. 39; 2480 MHz; TX-mode

Test Date: 2015-06-09

Note: EUT horizontal; higher bandedge



Frequency	Peak	Peak Limit	Peak Difference	Peak Status
2.484 GHz	59.57 dBμV/m	74 dBµV/m	-14.43 dB	Pass
Frequency	RMS	RMS Limit	RMS Difference	RMS Status
2.484 GHz	34.94 dBµV/m	54 dBµV/m	-19.06 dB	Pass



Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Mr. Pudell

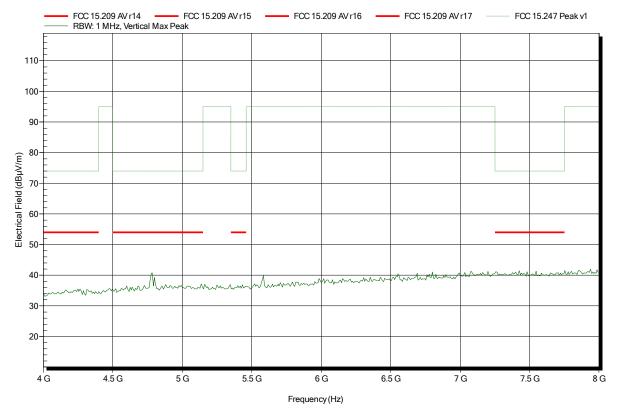
Test Conditions: Tnom: 24°C, Vnom: 5.0 V DC (USB-power)

Antenna: Rohde & Schwarz HL 025, Vertical

Measurement distance: 1 m converted to 3m

Mode: TX; BLE; CH. 1; 2402 MHz; TX-mode

Test Date: 2015-06-09
Note: EUT horizontal





Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Mr. Pudell

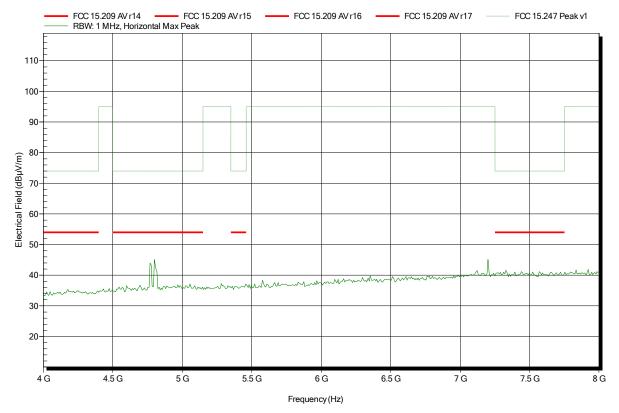
Test Conditions: Tnom: 24°C, Vnom: 5.0 V DC (USB-power)

Antenna: Rohde & Schwarz HL 025, Horizontal

Measurement distance: 1 m converted to 3m

Mode: TX; BLE; CH. 1; 2402 MHz; TX-mode

Test Date: 2015-06-09
Note: EUT horizontal





Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Mr. Pudell

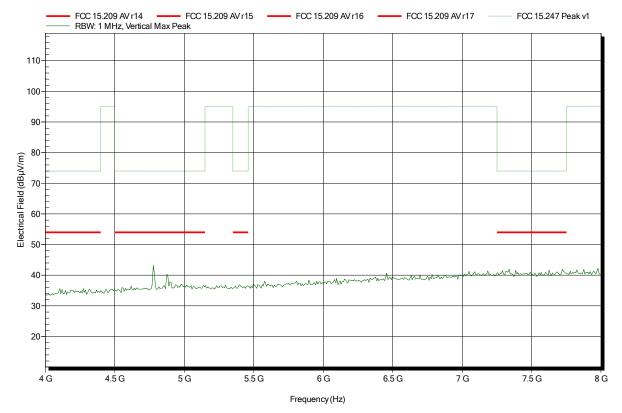
Test Conditions: Tnom: 24°C, Vnom: 5.0 V DC (USB-power)

Antenna: Rohde & Schwarz HL 025, Vertical

Measurement distance: 1 m converted to 3m

Mode: TX; BLE; CH. 19; 2440 MHz; TX-mode

Test Date: 2015-06-09
Note: EUT horizontal





Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Mr. Pudell

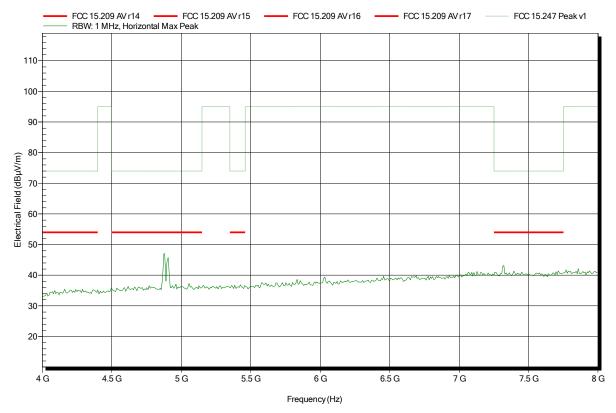
Test Conditions: Tnom: 24°C, Vnom: 5.0 V DC (USB-power)

Antenna: Rohde & Schwarz HL 025, Horizontal

Measurement distance: 1 m converted to 3m

Mode: TX; BLE; CH. 19; 2440 MHz; TX-mode

Test Date: 2015-06-09
Note: EUT horizontal





Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Mr. Pudell

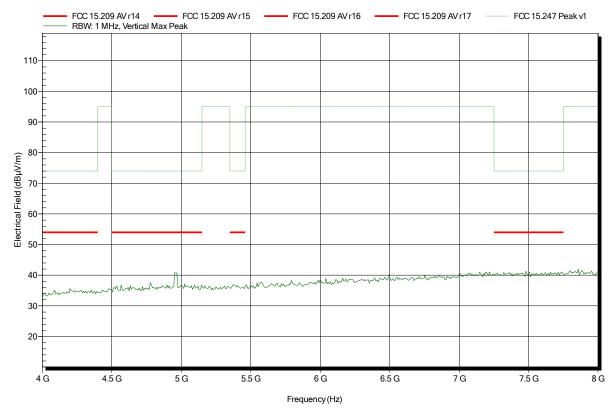
Test Conditions: Tnom: 24°C, Vnom: 5.0 V DC (USB-power)

Antenna: Rohde & Schwarz HL 025, Vertical

Measurement distance: 1 m converted to 3m

Mode: TX; BLE; CH. 39; 2480 MHz; TX-mode

Test Date: 2015-06-09
Note: EUT horizontal





Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

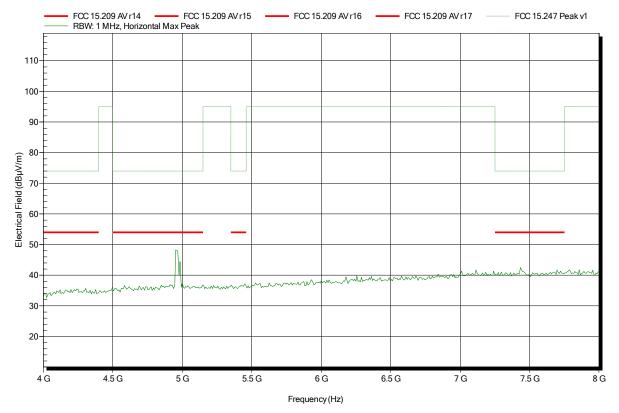
Operator: Mr. Pudell

Test Conditions: Tnom: 24°C, Vnom: 5.0 V DC (USB-power)

Antenna: Rohde & Schwarz HL 025, Horizontal Measurement distance: 1 m converted to 3m

Mode: TX; BLE; CH. 39; 2480 MHz; TX-mode

Test Date: 2015-06-09
Note: EUT horizontal





Project number: G0M-1505-4759

50

40

30

8 G

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Mr. Pudell

Test Conditions: Tnom: 24°C, Vnom: 5.0 V DC (USB-power)

Antenna: Rohde & Schwarz HL 025, Vertical

Measurement distance: 1 m converted to 3m

Mode: TX; BLE; CH. 1; 2402 MHz; TX-mode

Test Date: 2015-06-04
Note: EUT horizontal

10 G

FCC 15.209 AV r18 FCC 15.209 AV r29 FCC 15.209 AV r20 FCC 15.209 AV r21 FCC 15.209 AV r22 FCC 15.209 AV r23 FCC 15.209 AV r24 FCC 15.209 AV r25 FCC 15.209 A

Frequency (Hz)

14 G

12 G

18 G

16 G



Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Mr. Pudell

Test Conditions: Tnom: 24°C, Vnom: 5.0 V DC (USB-power)

Antenna: Rohde & Schwarz HL 025, Horizontal

Measurement distance: 1 m converted to 3m

Mode: TX; BLE; CH. 1; 2402 MHz; TX-mode

Test Date: 2015-06-04
Note: EUT horizontal

FCC 15.209 AV r19 FCC 15.209 AV r22 FCC 15 209 AV r18 FCC 15 209 AV r20 FCC 15 209 AV r21 FCC 15.209 AV r23 FCC RBW: 1 MHz, Horizontal Max Peak FCC 15.209 AV r24 FCC 15.209 AV r25 FCC 15.247 Peak v1 110 100 90 Electrical Field (dBµV/m) 80 60 50 30 10 G 12 G 16 G 8 G 14 G 18 G

Frequency (Hz)



Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Mr. Pudell

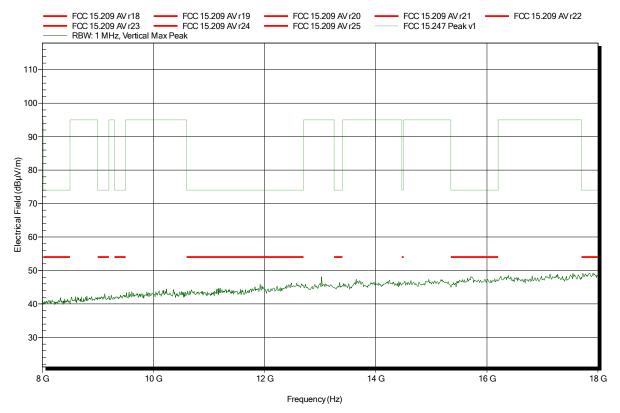
Test Conditions: Tnom: 24°C, Vnom: 5.0 V DC (USB-power)

Antenna: Rohde & Schwarz HL 025, Vertical

Measurement distance: 1 m converted to 3m

Mode: TX; BLE; CH. 19; 2440 MHz; TX-mode

Test Date: 2015-06-04
Note: EUT horizontal





Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

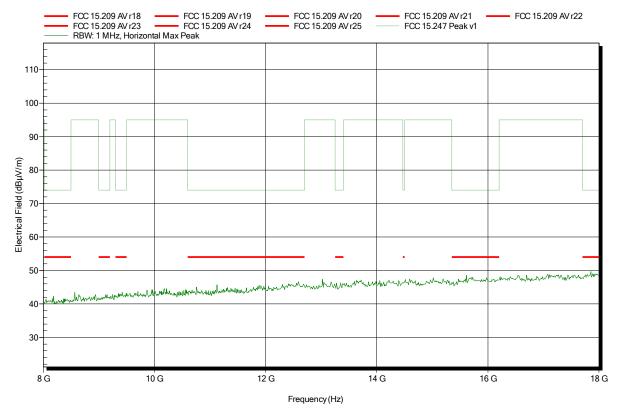
Operator: Mr. Pudell

Test Conditions: Tnom: 24°C, Vnom: 5.0 V DC (USB-power)

Antenna: Rohde & Schwarz HL 025, Horizontal Measurement distance: 1 m converted to 3m

Mode: TX; BLE; CH. 19; 2440 MHz; TX-mode

Test Date: 2015-06-04
Note: EUT horizontal





Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Mr. Pudell

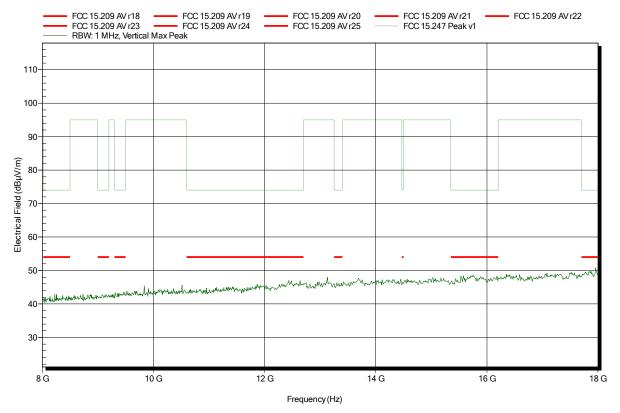
Test Conditions: Tnom: 24°C, Vnom: 5.0 V DC (USB-power)

Antenna: Rohde & Schwarz HL 025, Vertical

Measurement distance: 1 m converted to 3m

Mode: TX; BLE; CH. 39; 2480 MHz; TX-mode

Test Date: 2015-06-05 Note: EUT horizontal





Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: **WR01**

Test Site: Eurofins Product Service GmbH

Operator: Mr. Pudell

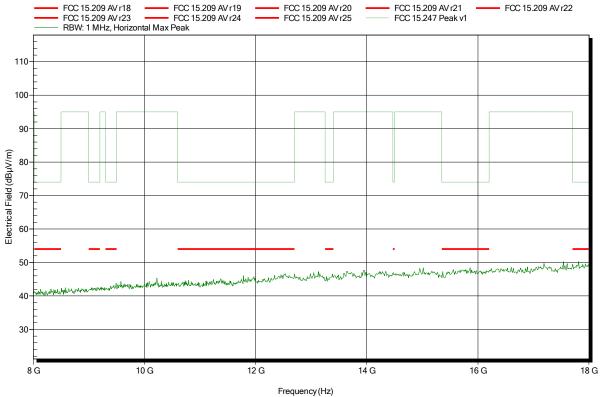
Test Conditions: Tnom: 24°C, Vnom: 5.0 V DC (USB-power)

Rohde & Schwarz HL 025, Horizontal Antenna:

Measurement distance: 1 m converted to 3m

TX; BLE; CH. 39; 2480 MHz; TX-mode Mode:

Test Date: 2015-06-05 **EUT** horizontal Note:





Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Mr. Pudell

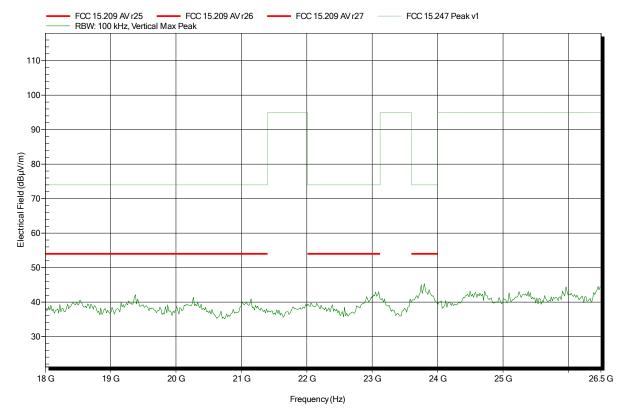
Test Conditions: Tnom: 24°C, Vnom: 5.0 V DC (USB-power)

Antenna: Rohde & Schwarz HL 025, Vertical

Measurement distance: 1 m converted to 3m

Mode: TX; BLE; CH. 1; 2402 MHz; TX-mode

Test Date: 2015-06-04
Note: EUT horizontal





Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Mr. Pudell

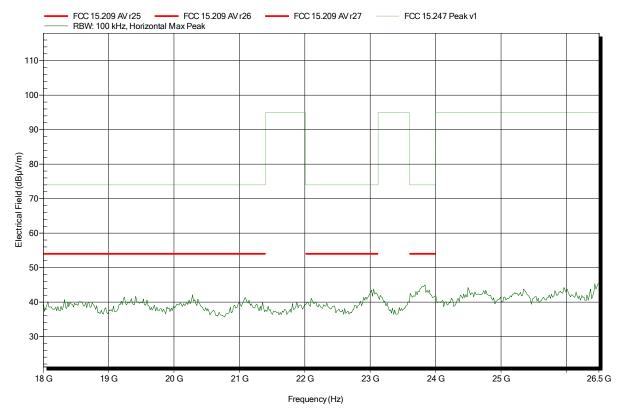
Test Conditions: Tnom: 24°C, Vnom: 5.0 V DC (USB-power)

Antenna: Rohde & Schwarz HL 025, Horizontal

Measurement distance: 1 m converted to 3m

Mode: TX; BLE; CH. 1; 2402 MHz; TX-mode

Test Date: 2015-06-04
Note: EUT horizontal





Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Mr. Pudell

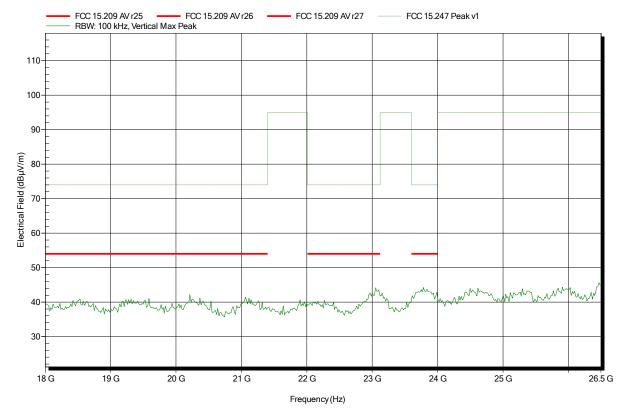
Test Conditions: Tnom: 24°C, Vnom: 5.0 V DC (USB-power)

Antenna: Rohde & Schwarz HL 025, Vertical

Measurement distance: 1 m converted to 3m

Mode: TX; BLE; CH. 19; 2440 MHz; TX-mode

Test Date: 2015-06-04
Note: EUT horizontal





Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

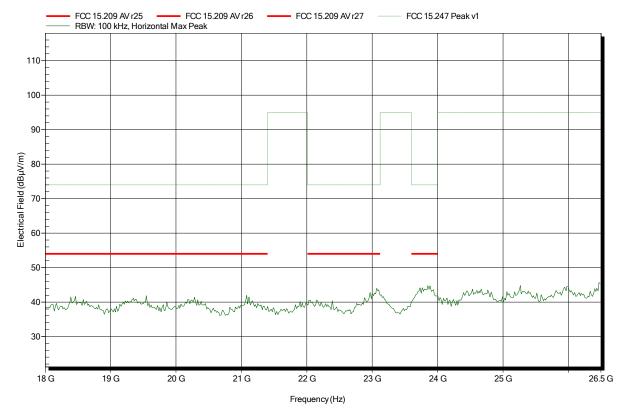
Operator: Mr. Pudell

Test Conditions: Tnom: 24°C, Vnom: 5.0 V DC (USB-power) Antenna: Rohde & Schwarz HL 025, Horizontal

Measurement distance: 1 m converted to 3m

Mode: TX; BLE; CH. 19; 2440 MHz; TX-mode

Test Date: 2015-06-04
Note: EUT horizontal





Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Mr. Pudell

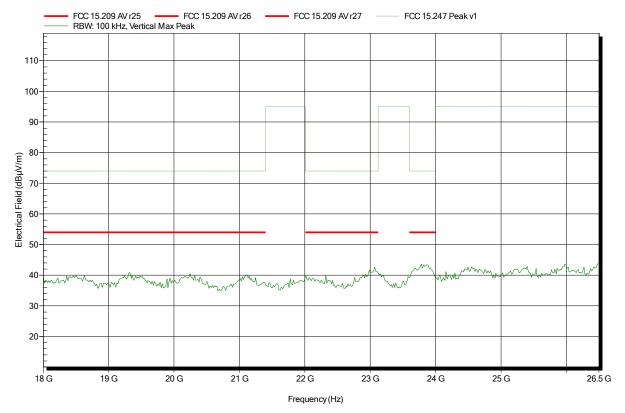
Test Conditions: Tnom: 24°C, Vnom: 5.0 V DC (USB-power)

Antenna: Rohde & Schwarz HL 025, Vertical

Measurement distance: 1 m converted to 3m

Mode: TX; BLE; CH. 39; 2480 MHz; TX-mode

Test Date: 2015-06-05 Note: EUT horizontal





Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

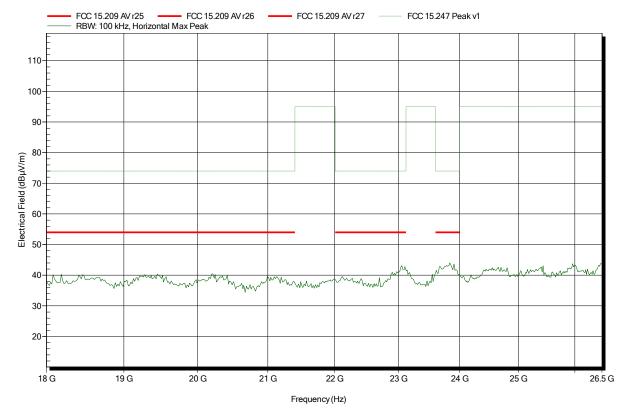
Operator: Mr. Pudell

Test Conditions: Tnom: 24°C, Vnom: 5.0 V DC (USB-power)

Antenna: Rohde & Schwarz HL 025, Horizontal Measurement distance: 1 m converted to 3m

Mode: TX; BLE; CH. 39; 2480 MHz; TX-mode

Test Date: 2015-06-05 Note: EUT horizontal





ANNEX B Receiver radiated spurious emissions

Spurious emissions according to RSS-Gen Issue 4

Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model:

Test Site: Eurofins Product Service GmbH

Operator: Mr. Handrik

Test Conditions: Tnom: 22°C, Vnom: 5.0 V DC (USB-power)

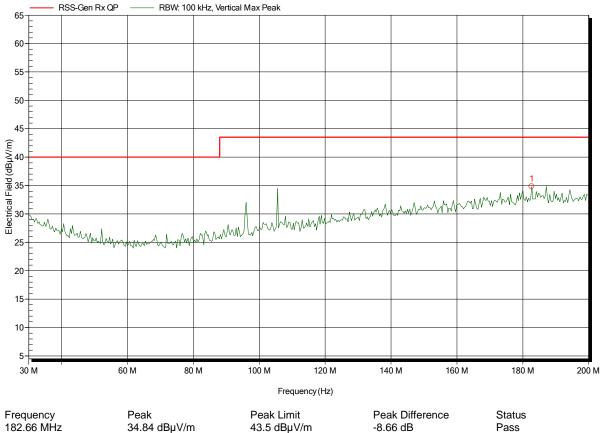
Antenna: Rohde & Schwarz HK 116, Vertical

Measurement distance:

Mode: RX; BLE; 2440 MHz

Test Date: 2015-08-28 Note: **EUT** horizontal

Index 99



182.66 MHz

34.84 dBµV/m



Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Mr. Handrik

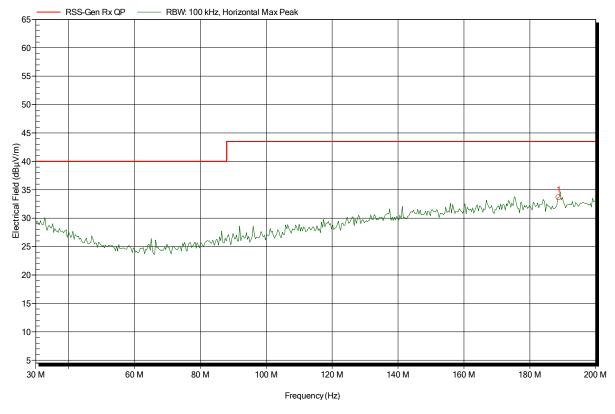
Test Conditions: Tnom: 22°C, Vnom: 5.0 V DC (USB-power) Antenna: Rohde & Schwarz HK 116, Horizontal

Measurement distance: 3 m

Mode: RX; BLE; 2440 MHz

Test Date: 2015-08-28
Note: EUT horizontal

Index 100



Frequency Peak Peak Limit Peak Difference Status 188.78 MHz 33.66 dB μ V/m 43.5 dB μ V/m -9.84 dB Pass



Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: **WR01**

Test Site: Eurofins Product Service GmbH

Operator: Mr. Handrik

Test Conditions: Tnom: 22°C, Vnom: 5.0 V DC (USB-power)

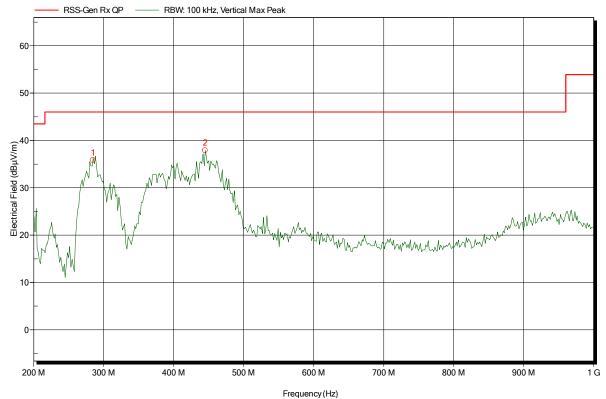
Rohde & Schwarz HL 223, Vertical Antenna:

Measurement distance:

RX; BLE; 2440 MHz Mode:

2015-08-28 Test Date: **EUT** horizontal Note:

Index 97



Peak

Frequency

284.8 MHz 35.82 dBµV/m -10.18 dB 46 dBµV/m Pass $37.87~dB\mu V/m$ 444.8 MHz $46 \; dB\mu V/m$ -8.13 dB Pass

Peak Limit

Peak Difference

Status



Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: **WR01**

Test Site: Eurofins Product Service GmbH

Operator: Mr. Handrik

Test Conditions: Tnom: 22°C, Vnom: 5.0 V DC (USB-power)

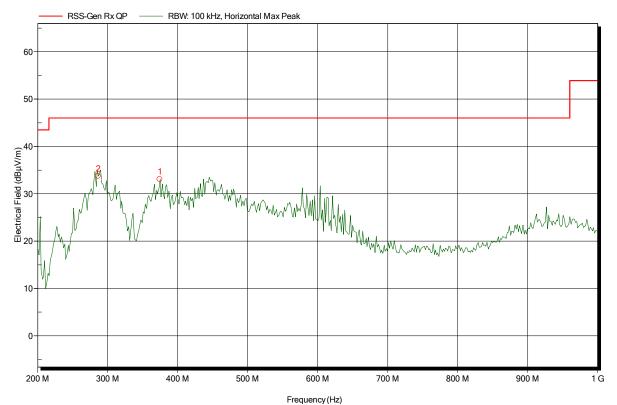
Rohde & Schwarz HL 223, Horizontal Antenna:

Measurement distance:

RX; BLE; 2440 MHz Mode:

2015-08-28 Test Date: **EUT** horizontal Note:

Index 98



Peak Limit Frequency Peak

Peak Difference Status 286.4 MHz 33.74 dBµV/m Pass 46 dBµV/m -12.26 dB

374.4 MHz $33.07 \ dB\mu V/m$ $46 \; dB\mu V/m$ -12.93 dB Pass



Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Mr. Handrik

Test Conditions: Tnom: 22°C, Vnom: 5.0 V DC (USB-power)

Antenna: Schwarzbeck BBHA 9120D, Vertical

Measurement distance: 3 m

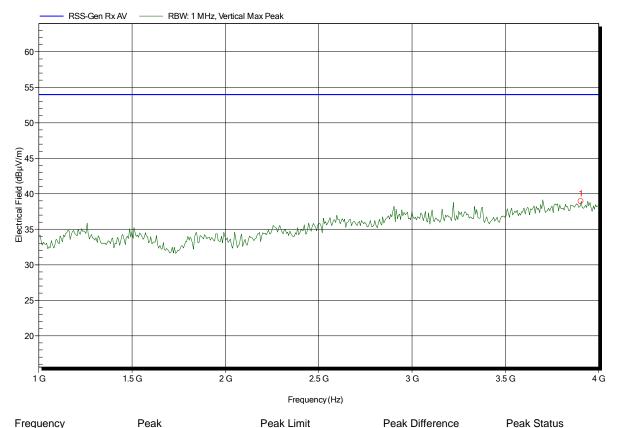
3.904 GHz

Mode: RX; BLE; 2440 MHz

38.94 dBµV/m

Test Date: 2015-08-28
Note: EUT horizontal

Index 94



53.98 dBµV/m

-15.04 dB



Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Mr. Handrik

Test Conditions: Tnom: 22°C, Vnom: 5.0 V DC (USB-power) Antenna: Schwarzbeck BBHA 9120D, Horizontal

Measurement distance: 3 m

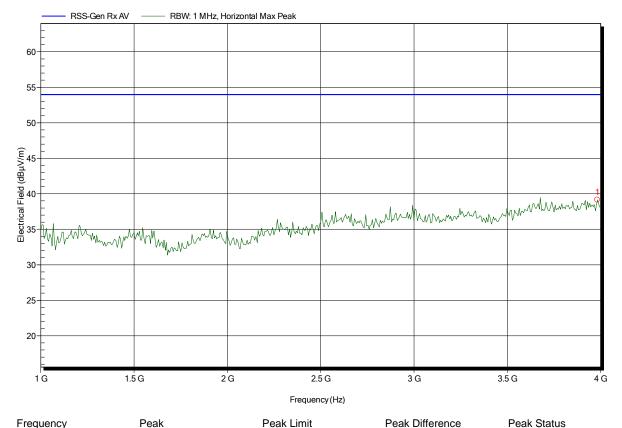
3.982 GHz

Mode: RX; BLE; 2440 MHz

39.14 dBµV/m

Test Date: 2015-08-28
Note: EUT horizontal

Index 95



53.98 dBµV/m

-14.84 dB

Test Report No.: G0M-1505-4759-TFC247BL-V01



Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Mr. Handrik

Test Conditions: Tnom: 22°C, Vnom: 5.0 V DC (USB-power)

Antenna: Schwarzbeck BBHA 9120D, Vertical

Measurement distance: 3 m

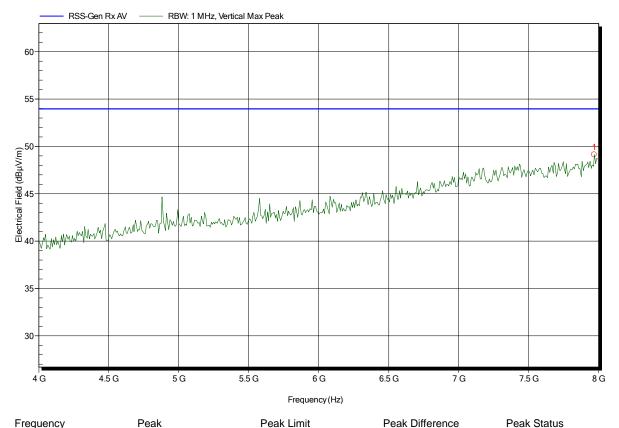
7.968 GHz

Mode: RX; BLE; 2440 MHz

49.14 dBµV/m

Test Date: 2015-08-28
Note: EUT horizontal

Index 93



53.98 dBµV/m

-4.84 dB



Project number: G0M-1505-4759

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Mr. Handrik

Test Conditions: Tnom: 22°C, Vnom: 5.0 V DC (USB-power) Antenna: Schwarzbeck BBHA 9120D, Horizontal

Measurement distance: 3 m

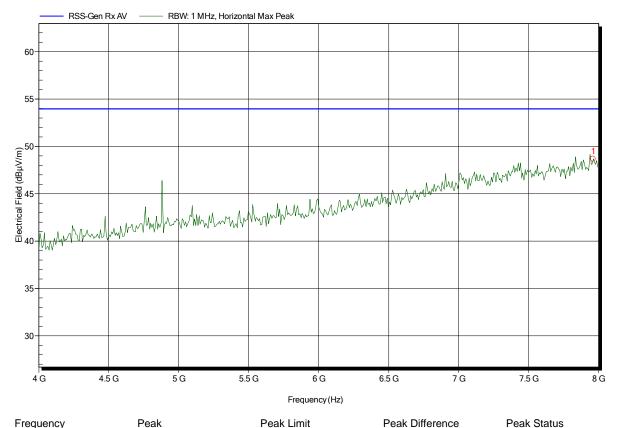
7.96 GHz

Mode: RX; BLE; 2440 MHz

48.67 dBµV/m

Test Date: 2015-08-28
Note: EUT horizontal

Index 96



53.98 dBµV/m

-5.31 dB



Project number: G0M-1505-4759

11.154 GHz

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Mr. Handrik

Test Conditions: Tnom: 22°C, Vnom: 5.0 V DC (USB-power)

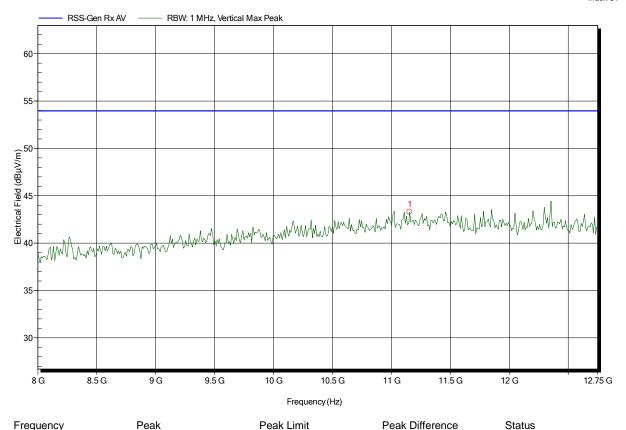
Antenna: Schwarzbeck BBHA 9120D, Vertical

Measurement distance: 1 m converted to 3m Mode: RX; BLE; 2440 MHz

43.29 dBµV/m

Test Date: 2015-08-28
Note: EUT horizontal

Index 91



53.98 dBµV/m

-10.69 dB



Project number: G0M-1505-4759

11.42 GHz

Applicant: tado GmbH

EUT Name: tado Smart AC Control

Model: WR01

Test Site: Eurofins Product Service GmbH

Operator: Mr. Handrik

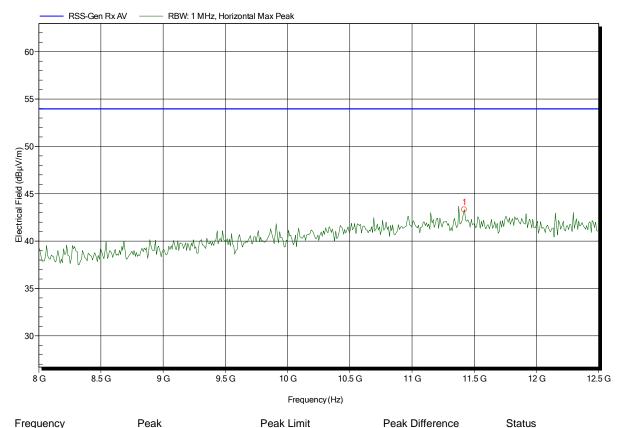
Test Conditions: Tnom: 22°C, Vnom: 5.0 V DC (USB-power)
Antenna: Schwarzbeck BBHA 9120D, Horizontal

Measurement distance: 1 m converted to 3m Mode: RX; BLE; 2440 MHz

43.33 dBµV/m

Test Date: 2015-08-28
Note: EUT horizontal

Index 92



53.98 dBµV/m

-10.65 dB