

Test report

according to ISO/IEC 17025:2017

FCC (Federal Communications Commission) Test Firm Registration Number: 768032 Designation Number DE0022

ISED (Inovation, Science and Economic Development) CAB identifier: DE0012 ISED#: 6155A

Electromagnetic compatibility

Intentional Radiators





STC Germany GmbH Ohmstrasse 1 84160 Frontenhausen, Germany Tel.: + 49 (0) 8732 6381 Fax: + 49 (0) 8732 2345 E-mail: grstc@stc.group

Test report no .:

20/01-0031

Page 1 of 359 pages



Table of contents

Client information	3
Equipment under test (EUT)	3
Description of the Equipment under test and test conditions	4
Performed measurements and results	6
Antenna requirement	7
AC Mains conducted emissions	8
Radiated emission measurements	14
Operation within the band 902-928 MHz, 2400-2483,5 MHz and 5725-5850 MHz	28
Test equipment	350
Test setups	352
Measurement uncertainty	356
Photos setup	357
Conclusions	358
Photos of tested sample	359
	Client information Equipment under test (EUT) Description of the Equipment under test and test conditions Performed measurements and results Antenna requirement AC Mains conducted emissions Radiated emission measurements Operation within the band 902-928 MHz, 2400-2483,5 MHz and 5725-5850 MHz Test equipment Test equipment Test setups Measurement uncertainty Photos setup Conclusions Photos of tested sample

Location of test facility:



STC Germany GmbH Ohmstrasse 1 84160 Frontenhausen Germany

1. Client information

Name:	Vestel Elektronik Sanayi ve Ticaret A.Ş.	
Address:	Organize Sanayi Bolgesi 45030, Yunusemre/MANISA/Turkey	
Name of contact:	Mr. Andac Pamuk	
Telephone:	+90 236 2332582	
Fax:	+90 236 2332584	
E-mail:	Andac.pamuk@vestel.com.tr	

2. Equipment under test (EUT)

2.1 Identification of the EUT

Equipment:	WIFI+BT Combo Module
Model:	17WFM25
Brand name:	-/-
Serial no.:	-/-
Manufacturer:	Vestel Elektronik San ve Tic. A.S., Organize Sanayi Bölgesi, Vestel City, High-End, 45030 MANISA, TURKEY
Country of origin:	TURKEY
Power rating:	4.75 V – 5.25 V nominal 5 V – via USB
Highest frequency generated or used in the device or on which the device operates or tunes (MHz):	5.825 GHz
Date Sample Received:	16.01.2020
Tests were performed:	05.03.2020 – 27.09.2021

2.2 Additional information about the EUT:

The EUT can also operate as 5 GHz Wifi module, but not simultaneously to the 2.4 GHz RF-function. The 5 GHz is not documented in this Report.

To duplicate parts of this test report needs the written confirmation of the test laboratory.

The test results relate only to the above mentioned test sample(s).

ELETE TESTED	Test report no.:	Page 4 of 359 pages
ESTC IN GERMANY	20/01-0031	Fage 4 01 359 pages

3. Description of the Equipment under test and test conditions

FCC-ID:					
IC:		2AVQS-17WFM25			
HVIN:	25888-17WFM25				
Firmware version:		080419R4			
Software to control EUT:	V0.5.0.0, Wi-Fi Component: V1.1.0 MT7662 QA tool (V1.0.3.24)				
Power:	nominal 5 V, +/-				
Cables:	USB cable 100 cm Cable to test adaptor 30 cm				
Anney Cine (Lywyshi)					
Approx. Size (I x w x h):	(70 x 25 x 4.5) mm				
Test conditions:	The "WIFI+BT Combo Module – 17WFM25" (= equipment under test – EUT) had been tested, where applicable, in the following modes: (1) 802.11b: Tx mode BW 20MHz CCK 1MBps 2412 MHz (2) 802.11b: Tx mode BW 20MHz CCK 1MBps 2437 MHz				
	(3) 802.11b: Tx mode BW 20MHz CCK 1MBps 2462 MHz				
		(4) 802.11g: Tx mode BW 20MHz OFDM 6MBps 2412 MHz			
		 (5) 802.11g: Tx mode BW 20MHz OFDM 6MBps 2437 MHz (6) 802.11g: Tx mode BW 20MHz OFDM 6MBps 2462 MHz 			
			T MixMode 6.5MB		
			TT MixMode 6.5MB		
			TT MixMode 6.5MB		
			T MixMode 6.5MB		
			T MixMode 6.5MB		
			HT MixMode 6.5MB		
	with an active WLAN connection as well as controlled by a test software with maximum RF-output power and different data rate in order to find the				
	worst case.	output portor and c			
RF Module Model Number:	17WFM25				
Frequency range:	2.400 GHz – 2.483	8 5 GHz			
Type of modulation:	802.11 b	802.11 g	802.11 n [20]	802.11 n [40]	
Operating frequencies [MHz]:	2412 - 2462	2412 - 2462	2412 - 2462	2422 - 2452	
6 dB Bandwidth [MHz]:	9.55	15.15	16.30	35.13	
Emission classification:	14M1G1D	16M5D1D	17M6D1D	36M3D1D	
Transmission protocol:	CCK	OFDM	OFDM	OFDM	
	001	OI DIM	(HT Greenfield)	(HT Greenfield)	
Number of channels:	1 - 11	1 - 11	1 - 11	3 - 9	
Spurious Emissions:	52.79 dBµV/m	50.03 dBµV/m	47.91 dBµV/m	48.20 dBµV/m	
	@ 3m	@ 3m	@ 3m	@ 3m	
Max. conducted RF output	17.37 dBm	14.98 dBm	16.94 dBm	14.38 dBm	
Power (both ant.) [dBm / mW]:	54.58 mW	31.48 mW	49.38 mW	27.43 mW	
TX Power setting:	1C	1C	10	19	
Duty Cycle:	≥98%	≥ 98%	≥ 98%	≥ 98%	
Module Tranmission Type:		/ WLAN (2TX, 2RX			
Transmission protocol	CCK	•		CS = 11; 11 MBps	
Specification:	OFDM		S=0; 6 MBps - M S=0; 6 MBps - M		
	-				
	OFDM (HT Greenf		S=0; 6.5 MBps - M	CO - 9, ZO MBPS	
Environmental conditions during	Ambient temperatu				
tests:	Relative humitity	40 %			
	Atmospheric press		mbar		
Antenna specification:	Model: Printed PC Antenna 0 Gain: m				
	Antenna 1 Gain: m				
		al (with accessible a	antenna socket)		
			-		
	☐ Internal (integrated, PCB antenna)				
		i (integrated, i ob t	,		
			,		
		i (integrated, i eb t	,		
		i (integrated, i eb t	,		

ESTC RESTED	Test report no.: 20/01-0031	Page 5 of 359 pages
-------------	---------------------------------------	---------------------

M	odel: External Antennas instead of PCB Antenna 0
Ar	ntenna type 1: Jinchan JCW601, Gain: max. 3.0 dBi
Ar	ntenna type 2: Taoglas WS.01.B.305151,Gain: max 4.12 dBi
Ту	/pe: 🛛 External (with accessible antenna socket)
	Internal (integrated, PCB antenna)

Test standard:	 e-CFR Title 47 Chapter I Subchapter A Part 15 Subpart C §15.247: Operation within the bands 902-928 MHz, 2400-2483.5 MHz, and 5725-5850 MHz
	 RSS-247 issue 02 February 2017 Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices

Channel List

2.4 GHz Band

Channel	Frequency (MHz)	Channel	Frequency (MHz
1	2412	7	2442
2	2417	8	2447
3	2422	9	2452
4	2427	10	2457
5	2432	11	2462
6	2437		

The EUT has two antennas which can be used for transmitting and receiving simultaneously as 2TX and 2RX

The EUT can also operate as 5 GHz Wifi module, but not simultaneously to the 2.4 GHz RF-function.

4. Performed measurements and results

The complete list of measurements required in e-CFR Title 47 Chapter I Subchapter A Part 15 Subpart C §15.247 is given below.

Standard:	Standard:	Test Method:		Tes	st requi applic fulfil	able:	its:
§ 15.203	RSS-Gen issue 5	ANSI 63.10 Section 14	Antenna requirement	\boxtimes		\boxtimes	
§ 15.207	RSS-Gen issue 5	ANSI 63.10 Section 6.2	AC Mains Conducted Emissions				
§ 15.209	RSS-Gen issue 5	ANSI 63.10 Section 6.3 - 6.6	Radiated Emissions	\boxtimes		\boxtimes	
§ 15.247	RSS-247 issue 2	ANSI 63.10 Section 11.8.1	6 dB DTS Bandwidth				
§ 15.247	RSS-247 issue 2	ANSI 63.10 Section 11.9.2	Output Power of Fundamental Emissions				
§ 15.247	RSS-247 issue 2	ANSI 63.10 Section 11.10.3	Maximum Power Spectral Density	\boxtimes			
§ 15.247	RSS-247 issue 2	ANSI 63.10 Section 11.13.2	Band Edges Measurement Out-of-Band Emission	\boxtimes			
	RSS-Gen issue 5	ANSI 63.10 Section 6.9.3	99% Power Bandwidth	\boxtimes		\boxtimes	

All required / applicable tests according to the following standards were performed under Ref-No. 20/01-0031.

- e-CFR Title 47 Chapter I Subchapter A Part 15 Subpart C §15.247 with test Method according to ANSI C63.10-2013

-RSS-247 issue 02 February 2017 Digital Transmission Systems (DTSs), Frequency Hopping Systems (FHSs) and Licence-Exempt Local Area Network (LE-LAN) Devices

- e-CFR data is current as of February 06, 2020

Remark: -/-



5. Antenna requirement

Applied standards

-e-CFR Title 47 Chapter I Subchapter A Part 15 Subpart B, § 15.203 Conducted limits

Test conditions and configuration of EUT

The EUT was configured and operated with conditions as mentioned under "Test conditions" in clause 3 above.

Module has on board printed antennas with the given gain values below. It can support also external antenna option with UF.L micro coax RF socket (with BOM option). So, there are three possible configuration for the antennas.

- 1) Onboard PCB Antennas Ant 0 + Ant 1
- 2) Antenna port 0 use external Antenna type 1, Antenna port 1 use onboard Antenna 1

3) Antenna port 0 use external Antenna type 2, Antenna port 1 use onboard Antenna 1

External and oboard Antennas:

Antenna	Туре	Gain (2.4 GHz) (dBi)
PCB Onboard	Ant 0	3.4
PCB Onboard	Ant 1	2.12
JC-JCW601	Type 1	3
Taoglas_WS.01.B.305151	Type 2	4.12

Requirements:

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. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section. The manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

Usage with PCB antennas There is no external antenna, the antenna gain max =3.4dBi User is unable to remove or change the Antenna

Usage with external antennas Only Antennas which are provided by the manufacturer are allowed to install. The antenna gain max =4.12dBi

User is not alowed to change the Antenna

However, the installer shall be responsible for ensuring that the proper antenna is employed so that the limits in this part are not exceeded.



6. AC Mains conducted emissions

Applied standards

-e-CFR Title 47 Chapter I Subchapter A Part 15 Subpart C, § 15.207 Conducted limits -RSS-Gen issue 05 section 7.2

Test site

Measurements of conducted emission from EUT was made in the shielded chamber (DC - 10GHz) located in the test facility.

Test equipment and test set up

Test equipment used for conducted measurements on Mains as given in clause Test equipment of this report. Test setup used for conducted measurements on Mains as given in clause Test setups of this report.

Detector function selection and bandwidth

In conducted emissions measurement CISPR quasi-peak- and average-detector were used. The bandwidth of the detector of instrument is 10 kHz over the frequency range of 150 kHz to 30 MHz.

Frequency range to be scanned

For conducted emission measurements, the spectrum in the range of 150 kHz to 30 MHz was investigated.

Test conditions and configuration of EUT

The EUT was configured and operated with conditions as mentioned under "Test conditions" in clause 3 above.

All modes are investigated by operating the EUT in a range of typical modes of operation, with typical cable positions, and with a typical system equipment configuration and arrangement. For each mode of operation and for each ac power current-carrying conductor, cable manipulation are performed within the range of likely configurations. The highest values measured are shown in the table below. The corresponding configuration is shown in the "Photo(s) of test setup".

The EUT was placed on a 80 cm high non metallic table. Measurements were performed on the AC terminals of the Host AC-Adaptor, on neutral (N)- and live (L1)-wire had been performed.

Requirements

Frequency Range	Quasi-Peak Limits	Average Limits	
[MHz]	[dBµV]	[dBµV]	
0.15 - 0.5	66 to 56 ^{Note 1}	56 to 46 ^{Note 1}	
0.5 - 5.0	56	46	
5.0 - 30.0	60	50	
Note 1: The level decreases linearly with the logarithm of the frequency			

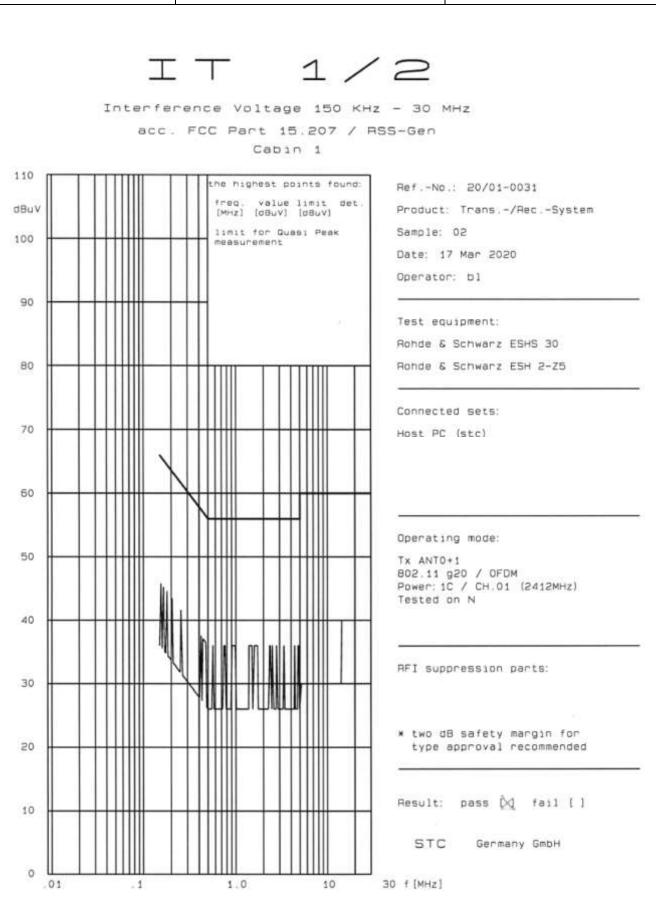
Measurement

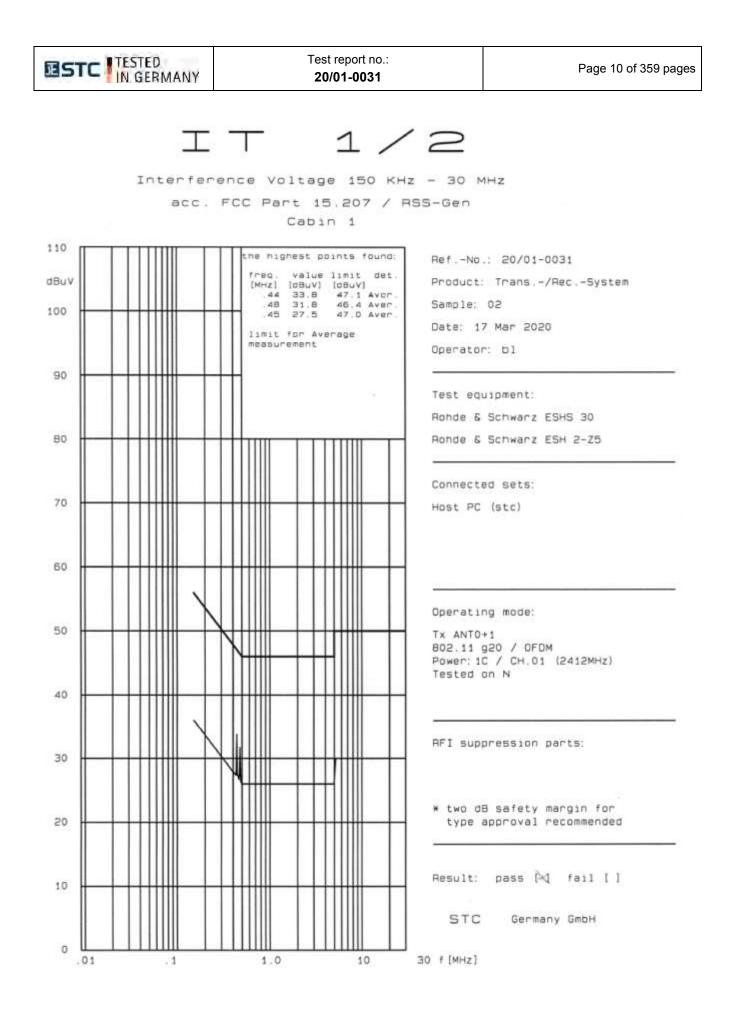
Measruement performened on 17.03.2020

As worst cases the mode No.: 4 with conditions as mentioned under "Test conditions" in clause 3 was found and documented in this report.

TESTED IN GERMANY

Page 9 of 359 pages

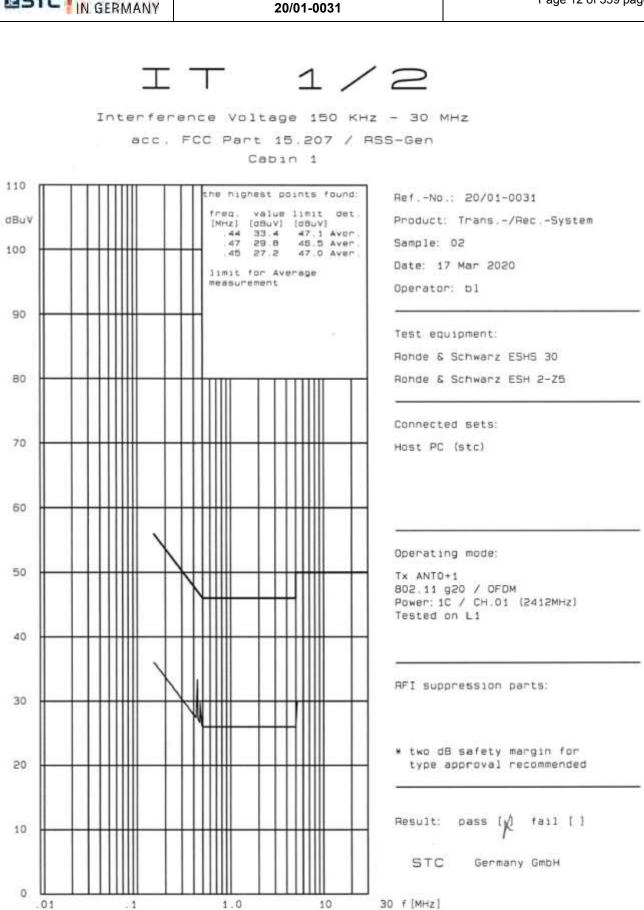




	Test report no.: 20/01-0031	Page 11 of 359 pages
Interfer	ence Voltage 150 KHz - 30 FCC Part 15.207 / RSS-Gen Cabin 1	
110 dBuV 100	freq. value limit det. [MHz] [dBuV] [dBuV] Product limit for Quasi Peak Sample measurement Date:	ю.: 20/01-0031 t: Trans/RecSystem : 02 17 Mar 2020 ог: D1
90	Ronde Ronde	quipment: & Schwarz ESHS 30 & Schwarz ESH 2-25
70 60		ted sets: °C (stc)
40	Tx AN B02.1 Power:	ing mode: 0+1 920 / OFDM 1C / CH.01 (2412MHz) 1 on L1
30		ppression parts:
20	typ:	dB safety margin for approval recommended :: pass []4 fail []
0.01.1	1.0 10 30 f [MHz	C Germany GmbH

I TESTED

Page 12 of 359 pages





Remarks:

Composition of the measurement value:

$M_{Value} = M_{Rec} + C_{Loss} + LISN_{cor}$

 $\begin{array}{ll} M_{Value} & = \mbox{ Measurement Value} \\ M_{Rec} & = \mbox{ Reading value of test receiver} \\ C_{Loss} & = \mbox{ Cable loss between Receiver and LISN} \\ LISN_{cor} & = \mbox{ LISN correction factor.} \end{array}$

Sample calculation:

40.8 dBµV = 40.1 dBµV + 0.3 dB + 0.4 dB

Results

From the measurement data obtained, the tested sample was considered to have **COMPLIED** with the requirements for the **Conducted Emission**.



7. Radiated emission measurements

Test site

Measurement of radiated emissions from EUT was made in the semi-anechoic chamber SAC3 (DC to 40 GHz) located in the test facility.

Test equipment and test set up

Test equipment used for radiated measurements as given in clause Test equipment of this report. Test setup used for radiated measurements as given in clause Test setups of this report.

Detector function selection and bandwidth

In radiated emissions measurement, an EMI test receiver that have CISPR detectors was used.

Frequency range	Resolution Bandwidth
9KHz – 150kHz (Quasi Peak & Average* Detector)	200Hz
150KHz – 30MHz (Quasi Peak & Average* Detector)	9kHz
30MHz – 1GHz (Quasi Peak Detector)	120kHz
Above 1GHz (Peak & Average Detector)	1MHz

*Average Detector only in specify frequency range.

Antennas

Measurements were made using a calibrated loop antenna in the range 9 kHz – 30 MHz, as well as a calibrated bilog antenna in the range of 30 to 1000 MHz to determine the emission characteristics of the EUT. Measurements were also made for both horizontal and vertical polarization.

The horizontal distance between the receiving antenna and the EUT was 3 meters.

In the range of 1 GHz to 26 GHz measurements were made using a calibrated horn antenna to determine the emission characteristics of the EUT. Measurements were also made for both horizontal and vertical polarization. The horizontal distance between the receiving antenna and the EUT was 3 meters.

Frequency range to be scanned

For radiated emissions measurements, the spectrum in the range of 9kHz MHz to 40GHz was investigated as the highest frequency generated in the EUT is 5.825 GHz.

Test conditions and configuration of EUT

The EUT was configured and operated with conditions as mentioned under "Test conditions" in clause 3 above.

During test the EUT was operated as specified in the user manual of the EUT. For frequencies below 1000 MHz the EUT was placed on a 80 cm and for frequencies above 1000 MHz the RF Transmitter modul was placed on a 150 cm high non metallic table placed on the turntable. The EUT was rotated and the antenna height was varied between 1 m to 4 m to find the maximum RF energy generated from EUT. The procedure according to ANSI C63.10:2013 is used and all modes are investigated by operating the EUT in a range of typical modes of operation, with typical cable positions, and with a typical system equipment configuration and arrangement. For each mode of operation, cable manipulation are performed within the range of likely configurations. The highest values measured are shown in the table below.

As worst cases the mode No. 3 and 4 with conditions as mentioned under "Test conditions" in clause 3 were found and documented in this report

Remarks:

-Correction factor included antenna factor and cable attenuation.

-In the frequency range 1 GHz – 7 GHz the Band Reject Filter 2,4 GHz (ID11243) was used to attenuate the fundamental emission.



Applied standards

-e-CFR Title 47 Chapter I Subchapter A Part 15 Subpart C, § 15.209 Radiated emission limits -RSS-Gen issue 05 section 8.9

Requirements

acc. e-CFR Title 47 Cha	oter I Subchapter A Pa	rt 15 Subpart C. § 15	.209 Radiated emission limits

Frequency MHz	Limits [µV/m] Quasi-peak	Limits [dBµV/m] Quasi-peak	Limits [µV/m] Average	Limits [dBµV/m] Average	Test distance [m]
0.009 – 0.090	-/-	-/-	2400/F (kHz)	48.5 – 28.5	300
0.090 - 0.110	2400/F (kHz)	28.5 – 26.8	-/-	-/-	300
0.110 – 0.490	-/-	-/-	2400/F (kHz)	26.8 – 13.8	300
0.490 - 1.705	24000/F (kHz)	33.8 – 23.0	-/-	-/-	30
1.705 - 30.0	30	29.5	-/-	-/-	30

acc. RSS-Gen issue 05 section 8.9

Frequency MHz	Limits [µA/m] Quasi-peak	Limits [dBµA/m] Quasi-peak	Limits [µA/m] Average	Limits [dBµA/m] Average	Test distance [m]
0.009 - 0.090	-/-	-/-	6.37/F (kHz)	-3 – -23.0	300
0.090 - 0.110	6.37/F (kHz)	-23.0 – -24.7	-/-	-/-	300
0.110 – 0.490	-/-	-/-	6.37/F (kHz)	-24.7 – -37.7	300
0.490 - 1.705	63.7/F (kHz)	-17.7 – -28.5	-/-	-/-	30
1.705 - 30.0	0.08	-22	-/-	-/-	30

acc. e-CFR Title 47 Chapter I Subchapter A Part 15 Subpart C, § 15.209 Radiated emission limits and RSS-Gen issue 05 section 8.9

Frequency MHz	Limits [µV/m] Quasi-peak	Limits [dBµV/m] Quasi-peak	Limits [µV/m] Average	Limits [dBµV/m] Average	Test distance [m]
30 - 88	100	40	-/-	-/-	3
88 - 216	150	43.5	-/-	-/-	3
216 - 960	200	46	-/-	-/-	3
960 - 1000	500	54	-/-	-/-	3
Above 1000	-/-	-/-	500	54	3

Measurements

The Measurement was performed on: 16.03.2020 and 17.09.2021

Result 9 kHz – 30 MHz

In the frequency range 9 kHz – 30 MHz the EUT had been scanned in a distance of 3 m and the Limit were corrected to the test distance of 3 m using a factor with 40 dB/decade acc. to § 15.31 (f)(2).

ESTC IN GERMANY

Result 9 kHz – 30 MHz

Operation Mode: Mode No.: 3 with 802.11b 20MHz CH11

TESTED		IT 3/4 Interference radiation (9kHz – 30MHz) acc.FCC Subpart C § 15.209	ESTC
RefNo.:	20/01-00	31	
Product	Transmitt	ing/Receiving System	
Sample:	02		
Date:	16.03.202	20	

 Operator:
 BI
 pass
 fail

 Remarks:
 Result:
 Image: CCK; Power 1C; CH11 (2462MHz)
 Image: CCK; Power 1C; CH11 (2462MHz)

Position X (9kHz - 150kHz)

Receiver	G
RBW (QPK) 200 Hz MT 1 s EMCO-6502 Input 1 DC Att 10 dB Preamp OFF Step TD Scan	P-E-Feld, TDF
Scan D1QP Max	
10 KHanit Check PASE Line FCC-9KHZ - 30MHz, 3m PASS	100 KHz
130 dBµV/m	5
CC-9KHZ - 3DMHz_3m.LIN	
120 dBµV/m	
110 dBµV/m	
100 dBµV/m	
90 dBµV/m	
30 dBµV/m	
70 dBµV/m	
50 dBuV/m	
50 dBpV/m	
Start 9.0 kHz	Stop 150.0 kH;

	Position: X								
	Detector QP								
Frequ. [MHz]	Level [dBµV/m]	Margin to Limit [dB]	Limit [dBµV/m]	Result					
9kHz - 150kHz	-/-	>20	-/-	pass					
						1			
	(b) is seen the		1.00		10000	100	C Dallance I	li berne	1

IT 3/4

IN GERMANY

TESTED

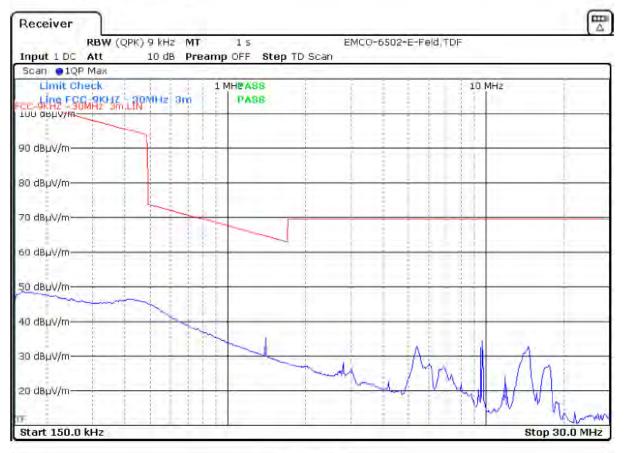
Interference radiation (9kHz – 30MHz) acc.FCC Subpart C § 15.209



Ref.-No.: 20/01-0031

Operation mode: Tx ANT0+1; 802.11 b20; CCK; Power 1C; CH11 (2462MHz)

Position X (150kHz - 30MHz)



		100 B		Position: X			
-		Detector QP	-	 			
Frequ. [MHz]	Level [dBµV/m]	Margin to Limit [dB]	Limit [dBµV/m]	Result			
150kHz- 30MHz	-1-	>20	-1-	pass		1	
							*
1				· · · · · · · · · · · · · · · · · · ·	 		

FRETE TESTED	Test report no.:	Page 18 of 359 pages
ESTC IN GERMANY	20/01-0031	Fage to 01 559 pages

Summery result for frequency range 9 kHz - 30 MHz to show combliance with RSS-Gen limits:

Function	Freq.	Measured Value @ 3m		rsion to c field ^{Note 1}	Lin @:		Margin	Result
	[MHz]	[dBµV/m]	[dBµA/m]	[µA/m]	[dBµA/m]	[µA/m]	[dB]	
	0.009 – 0.490	< 50.0	<- 1.5	-/-	77 - 42.3	-/-	>20	Pass
Transmitting	0.490 – 1.705	< 47.0	< -4.5	-/-	22.3 - 11.5	-/-	>20	Pass
	1.705 - 30	< 38.0	< -13.5	-/-	18	-/-	>20	Pass

Note 1: Converstion E-field to H-Field: $x [dB\mu V/m] - 51.5 = y [dB\mu A/m]$

> Converstion [dB μ A/m] in [μ A/m] 10 ^ (y [dB μ A/m] / 20) = z [μ A/m]

Remarks: Composition of the measurement value (Freq.-range < 30 MHz):

$M_{Value} = M_{Rec} + C_{Loss} + AF_{Rec}$

M_{Value}	= Measurement Value
M_{Rec}	= Reading value of test receiver
C_{Loss}	= Cable loss between Receiver and Antenna
AF_{Rec}	= Antenna factor.

Sample calculation:

 $38.2 \text{ dB}\mu\text{V} = 18.3 \text{ dB}\mu\text{V} + 0.1 \text{ dB} + 19.8 \text{ dB}$

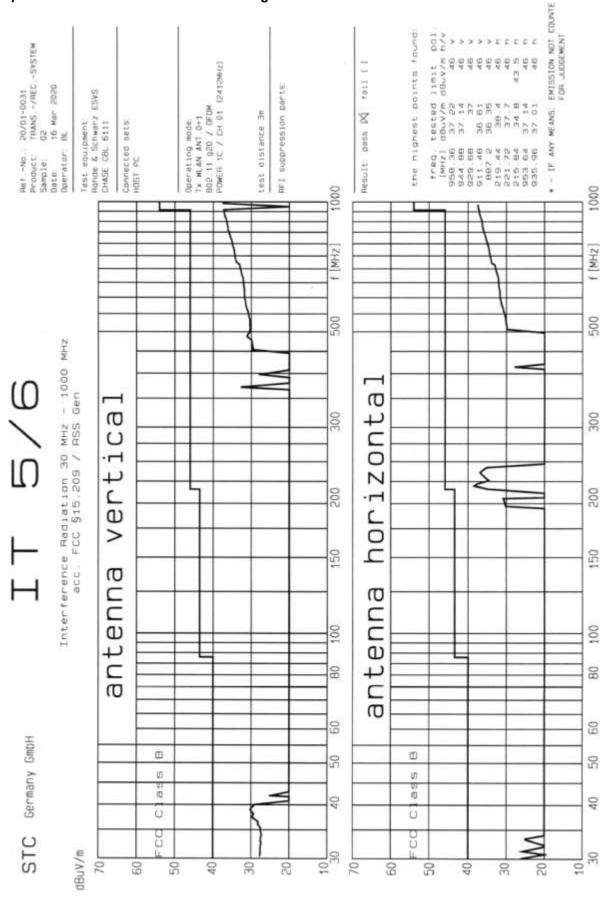
All emissions in the frequency range 9 kHz – 30 MHz are at least 20 dB below the relevant limit.

Mode 3 (Channel 11) is worst case (represents also other modes and channels)



Result 30 MHz – 1000 MHz

Operation Mode: Mode No.: 4 with 802.11g 20MHz CH1





Remarks:

Composition of the measurement value (Freq.-range 30 MHz - 1000 MHz):

$M_{Value} = M_{Rec} + C_{Loss} + AF_{Rec}$

- M_{Value} = Measurement Value
- M_{Rec} = Reading value of test receiver
- C_{Loss} = Cable loss between Receiver and Antenna
- AF_{Rec} = Antenna factor.

Sample calculation:

 $38.7 \text{ dB}\mu\text{V} = 18.3 \text{ dB}\mu\text{V} + 0.6 \text{ dB} + 19.8 \text{ dB}$

TESTED		/Hz CH11 interna	l antenna 0+1				
Product: Transmitting/F			5/6 ce radiation 5.209 / RSS-Gen	n	ESTC		
RefNo.:	20/01-0031						
Product:	Transmitting/R	eceiving System					
		a sana ang pang pangana					
	16.03.2020						
	BI				pass	fail	
Remarks:					Result:		
Input 1 AC Att Scan @1Av Mar Limit Check	e@2Pk Mas	Preamp OFF Step 1	ID Scan	1 7			
	7GHZ-AV-FGC						
80 dBµV/m							
П56-1-7GH2-РЕАК 70 иврууш-	-FCC-WLAN.LIN			D T	1	0	
60 dBµV/m					1		
IT56-1-7GHZ-AV-P(50 UBDV/III-	C-WLAN.LIN		Ac	wanthank	and and a start	an prover stand	
40 dBµV/m-	to Munaulan	- would all a day	and the stand of the	min	munon	mound	
30 dBµV/m-	Julia	minimum	thrange and an				
20 dBµV/m						1	
10 dBµV/m							
Start 1.0 GHz				TF.	Otor	7.0 GHz	

	Polarisation: V										
Detector Average							a contraction				
Frequ. [GHz]	Level [dBµV/m]	Margin to Limit [dB]	Limit [dBµV/m]	Result	Frequ. [GHz]	Level [dBµV/m]	Margin to Limit [dB]	Limit [dBµV/m]	Result		
4,9240	50,96	-3,04	54,00	pass	4,9240	54,15	-19,85	74,00	pass		
4,9210	42,17	-11,83	54,00	pass							
4,9270	41,73	-12,27	54,00	pass	() =	3			1		
6,9990	39,98	-14,02	54,00	pass							
4,9130	39,16	-14,84	54,00	pass		1					
4,9160	38,80	-15,20	54,00	pass							

ESTC	TESTED IN GERMANY
-------------	----------------------

TESTED IN GERMANY	IT 5. Interference acc. to FCC § 15.2	radiation	BSTC
RefNo.: 20/01-0031			
peration mode: Tx CH.11 (2	2462MHz); Mode: 802.	11 b20; CCK; Powe	r: 1C; ANT.0+1
Receiver			P
RBW (EMI) 1 MHz	MT 1s	IT56-1-6GHz.TDF	
	Preamp OFF Step TD	Scan	
Scan 💿1Av Max 2Pk Max	6.000		
Limit Check Line IT56-1-7GHZ-AV-FCC	-WLAN PASS		
0 dBuwm156-1-7CHZ-PEAK-F			
			1 I
10 dBµV/m			
56-1-7GHZ-PEAK-FCC-WLAN.LIN TO UBUV/III-			E E
50 dBuV/m			
T56-1-7GH7-AV-ECC-WLANTIN			
		- mart	with the state of
40 dBµV/m	N pm	a suboradule and	
when and a north prove that have	approximation and a second		in all and the start where the
90 dBuV/m-	Ala	- and a farmer of the	
houten	manna V		1
20 dBUV/m-			
ALCONDUCT DE LA CONTRACTORIO DE LA			1 1 1
10 dBµV/m			
		Ť.	
Start 1.0 GHz			Stop 7.0 GH

			1	Polarisat	ion: H		-		
Detector Average				Detector Peak				* 4. t *	
Frequ. [GHz]	Level [dBµV/m]	Margin to Limit [dB]	Limit [dBµV/m]	Result	Frequ. [GHz]	Level [dBµV/m]	Margin to Limit [dB]	Limit [dBµV/m]	Result
4,9240	52,79	-1,21	54,00	pass	4,9240	55,45	-18,55	74,00	pass
4,9210	42,51	-11,49	54,00	pass		1.01			
4,9270	40,56	-13,44	54,00	pass					
6,9998	39,74	-14,26	54,00	pass		1			
4,9350	38,86	-15,14	54,00	pass	-				
6,1448	38,56	-15,44	54,00	pass		1			-

|--|--|

Result 1 GHz – 7 GHz

Mode No.: 12 with 802.11n 40MHz CH09 external antenna typ 1 (Jinchan JCW601)

IN GER		IT 5/6 Interference radiation acc. FCC Subpart C § 15.209 / RSS-247	ESTC			
RefNo.:	20/01-003	1				
Product:	Transmitti	ng / Receiving System				
Sample:	01					
Date:	02.08.202	1				
Operator:	Ro			pass	fail	
Remarks:	Antenna 1	(Jinchan JCW601), Power setting 1C	Result:	\boxtimes		
Operation mo	ode: WLAN 8	02.11n, CH.09, HT: Greenfield, BW= 40 MHz				
	RBW (EMI) 1 N					
the second second second	Att D Max@2PF Max	dB Preamp OFF Step TD Scan				
	eck 5-1-7CHZ-AV -1-7CHZ-PEA					

		8		11.00
80 dBµV/m	E		9	1
1756-1-7GHZ-PEAK-FCC-Class B.L	IN .			
60 dBµV/m	-			-
1756-1-7GHZ-AV-FCO-Class B.LIN		1	i should man get men	and the second designed
40 dBµV/m-	and for the second of the			unment t
30 dBµV/m		mandeman		-
20 dBpV/m				1
10 dBµV/m		1		1
Start 1.0 GHz			St	op 7.0 GHz

				Polaris	sation: V	_			
		Detector Average	117						
Frequ. [GHz]	Level [dBµV/m]	Margin to Limit [dB]	Limit [dBµV/m]	Result	Frequ. [GHz]	Level [dBµV/m]	Margin to Limit [dB]	Limit [dBµV/m]	Result
2,4983	47,96	-6,04	54,00	pass	2,4980	63,27	-10,73	74,00	pass
2,5185	40,81	-13,19	54,00	pass	2,5143	57,61	-16,39	74,00	pass
6,9583	39,32	-14,68	54,00	pass	2,4020	52,41	-17,59	70,00	pass
2,4048	39,00	-15,00	54,00	pass	h			1.1.1	1
2,3890	38,34	-15,66	54.00	pass	· · · · · · · · · · · · · · · · · · ·				

STC ITESTED	Test report no.: 20/01-0031	Page 24 of 359 pag
TESTED IN GERMANY	IT 5/6 Interference radiation acc. FCC Subpart C § 15.209 / RSS-2	ESTC
RefNo.: 20/01-0031 Operation mode: WLAN 802	.11n, CH.09, HT: Greenfield, BW= 40	MHz
Spectrum Receiver RBW (EMI) 1 MHz	(8)	
Input 1 AC Att 0 dB	Preamp OFF Step TD Scan	A2.1DF
Scan OlAv MaxO2Pk Max Limit Check Line IT56-1-7GHZ-AV-FC 90 dBµV/m 80 dBµV/m 1756-1-7GHZ-PEAK-FCC-Class B,LI 70 uaµV/m	CC-CLAS PARE	
60 dBµV/m- T56-1-7GHZ-AV-FCC-Class B.LIN Su uBµV/m-		and the stand of the
40 dBµV/m 30 dBµV/m		and the second and th
20 dBuV/m-		
Start 1.0 GHz		Stop 7.0 GHz

			Polarisat	ion: H				
	Detector Average	2.1				Detector Peak	-	- 1.4
Level [dBµV/m]	Margin to Limit [dB]	Limit [dBµV/m]	Result	Frequ. [GHz]	Level [dBµV/m]	Margin to Limit [dB]	Limit [dBµV/m]	Result
47,96	-6,04	54,00	pass	2,4983	59,07	-14,93	74,00	pass
45,69	-8,31	54,00	pass	2,5070	57,78	-16,22	74,00	pass
39,49	-14,51	54,00	pass	2,4020	52,41	-17,59	70,00	pass
37,34	-16,66	54,00	pass	2,5148	56,25	-17,75	74,00	pass
37,11	-16,89	54,00	pass	2,5095	55,14	-18,86	74,00	pass
36,55	-17,45	54,00	pass		1.000	10000	100 million (100 million)	10000
	[dBµV/m] 47,96 45,69 39,49 37,34 37,11	Average Level [dBμV/m] Margin to Limit [dB] 47,96 -6,04 45,69 -8,31 39,49 -14,51 37,34 -16,66 37,11 -16,89	Average Level [dBμV/m] Margin to Limit [dB] Limit [dBμV/m] 47,96 -6,04 54,00 45,69 -8,31 54,00 39,49 -14,51 54,00 37,34 -16,66 54,00 37,11 -16,89 54,00	Detector Average Level [dBµV/m] Margin to Limit [dB] Limit [dBµV/m] Result 47,96 -6,04 54,00 pass 45,69 -8,31 54,00 pass 39,49 -14,51 54,00 pass 37,34 -16,66 54,00 pass 37,11 -16,89 54,00 pass	Average Kesult Frequ. [dBμV/m] Margin to Limit [dB] Limit [dBμV/m] Result [dBμV/m] Frequ. [GHz] 47,96 -6,04 54,00 pass 2,4983 45,69 -8,31 54,00 pass 2,5070 39,49 -14,51 54,00 pass 2,5148 37,34 -16,66 54,00 pass 2,5095	Detector Average Limit [dBμV/m] Result to Limit [dB] Frequ. [dBμV/m] Level [dBμV/m] 47,96 -6,04 54,00 pass 2,4983 59,07 45,69 -8,31 54,00 pass 2,5070 57,78 39,49 -14,51 54,00 pass 2,4020 52,41 37,34 -16,66 54,00 pass 2,5148 56,25 37,11 -16,89 54,00 pass 2,5095 55,14	Detector Average Detector Peak Level [dBμV/m] Margin to Limit [dB] Limit [dBμV/m] Result [dBμV/m] Frequ. [GHz] Level [dBμV/m] Margin to Limit [dB] 47,96 -6,04 54,00 pass 2,4983 59,07 -14,93 45,69 -8,31 54,00 pass 2,5070 57,78 -16,22 39,49 -14,51 54,00 pass 2,4020 52,41 -17,59 37,34 -16,66 54,00 pass 2,5148 56,25 -17,75 37,11 -16,89 54,00 pass 2,5095 55,14 -18,86	Detector Average Limit [dBμV/m] Limit [dBμV/m] Result [dBμV/m] Frequ. [dBμV/m] Level [dBμV/m] Margin to Limit [dBμV/m] Limit [dBμV/m] 47,96 -6,04 54,00 pass 2,4983 59,07 -14,93 74,00 45,69 -8,31 54,00 pass 2,5070 57,78 -16,22 74,00 39,49 -14,51 54,00 pass 2,4020 52,41 -17,59 70,00 37,34 -16,66 54,00 pass 2,5148 56,25 -17,75 74,00 37,11 -16,89 54,00 pass 2,5095 55,14 -18,86 74,00

	Test report no.: 20/01-0031	Page 25 of 359 pages
--	---------------------------------------	----------------------

Result 1 GHz – 7 GHz

Mode No.: 12 with 802.11n 40MHz CH09 external antenna typ 2 (Taoglas WS.01.B.305151)

TESTED		正	51	ГС
RefNo.:	20/01-0031			
Product:	Transmitting / Receiving System			
Sample:	01			
Date:	02.08.2021			
Operator:	Ro		pass	fail
Remarks:	Antenna 2 (Taoglas WS.01.B.305151), Power setting 1C	Result:	\boxtimes	

Operation mode: WLAN 802.11n, CH.09, HT: Greenfield, BW= 40 MHz

Spectrum	Receiver	×		
		MT 1.5		IT56-1-6GHz,TDF
Input 1 AC Att		Preamp OFF	Step TD Scan	
Scan 🕤 1Av Max	2Pk Max			
Limit Check		PAS		8 T I T I
	7GHZ-AV-FCC			2
90 dBUV/m125-1-	POHZ-PEAK-FO	S-GLAS 146	8	0
		3		3
80 dBµV/m				
		-		
TT56-1-7GHZ-PEAK-	FCC-Class B.LIN			E E E
vo uspv/m				
60 dBµV/m				
100000				1
IT56-1-7GHZ-AV-FC	C-Class B.LIN		1	1 1 1
о ивру/m-			1	and the second sec
1. 1. 1.	10		1.16	and the second s
40 dBµV/m		M	and a floor at the	A second s
All man alm	MMm mml - v	Mary and a start	t	the second and the second and the second sec
30 dBµV/m		-		alementaria
SU UBDV/III		- the second	my anne	
in men un alle	and mentioner			
20 dBµV/m				
1. S.				
10 dBµV/m-				
TO HOP YIM				
Start 1.0 GHz				Stop 7.0 GHz
				stup no ane

		1.1		Polaris	sation: V		1000		
-		Detector Average		- 4 - 1	Detector Peak				
Frequ. [GHz]	Level [dBµV/m]	Margin to Limit [dB]	Limit [dBµV/m]	Result	Frequ. [GHz]	Level [dBµV/m]	Margin to Limit [dB]	Limit [dBµV/m]	Result
2,4983	47,96	-6,04	54,00	pass	2,4980	54,20	-19,80	74,00	pass
2,4980	45,69	-8,31	54,00	pass	a substance	5 m 10 1	10.000	F 100 - 10	141
6,9583	39,49	-14,51	54,00	pass		1			-
2,5148	37,34	-16,66	54,00	pass		1		1	
2,3888	37,11	-16,89	54.00	pass	1.1				-

ED ERMANY	ESTC
--------------	-------------

Test report no.: 20/01-0031

Page 26 of 359 pages

TESTED IN GERMANY

IT 5/6



Interference radiation acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

Operation mode: WLAN 802.11n, CH.09, HT: Greenfield, BW= 40 MHz

Spectrum	Receiver	x				
R Input 1 AC A	BW (EMI) 1 MHz tt 0 dB		ton TD Sean	IT56-1-6GHz,TDF		
Scan @1Av M		Preamp OFF a	tep ib scan			1
		PASS I-Class B PASS GG-GLAS PASS				
60 dBµV/m				-		
1756-1-76HZ-PEA	AK-ECC-Class B.L.IN	(1	
60 dBµV/m			*		4	
1756-1-7GHZ-A//- SU UBDV/III-	FCC-Class B.LIN		11		- martineter	- marine mar
40 dBµV/m	h.	manante	A Man	have book work		manun
30 dBµV/m	- martine Marin		Alm		the second s	
20 dBµV/m	menantime		2		1	
10 dBuV/m						
Start 1.0 GHz	-	1		8		Stop 7.0 GHz

				Polarisat	ion: H		-		
			Detector Peak						
Frequ. [GHz]	Level [dBµV/m]	Margin to Limit [dB]	Limit [dBµV/m]	Result	Frequ. [GHz]	Level [dBµV/m]	Margin to Limit [dB]	Limit [dBµV/m]	Result
2,4980	45,91	-8,09	54,00	pass	2,4980	63,96	-10,04	74,00	pass
2,4040	40,08	-13,92	54,00	pass	2,4058	57,22	-16,78	74,00	pass
6,9688	39,16	-14,84	54,00	pass	1.2.2.2.				1
3,9233	34,44	-19,56	54,00	pass				· +	
						12 11	1		1



Remarks:

Composition of the measurement value (Freq.-range 1 GHz – 7 GHz):

$M_{Value} = M_{Rec} + C_{Loss} + AF_{Rec} - G_{Amp}$

M _{Value}	= Measurement Value
M_{Rec}	= Reading value of test receiver
C_{Loss}	= Cable loss between Receiver and Antenna
AF_{Rec}	= Antenna factor.
G_{Amp}	= Gain Amplifier

Sample calculation:

 $39.7 \text{ dB}\mu\text{V} = 53.01 \text{ dB}\mu\text{V} + 0.9 \text{ dB} + 24.19 \text{ dB} - 38.4 \text{ dB}$

Result 7GHz – 40GHz

All emissions in the frequency range 7 GHz – 40 GHz are at least 20 dB below the relevant limit

Mode 12 (Channel 09) is worst case (represents also other modes and channels)

From the measurement data obtained, the tested sample was considered to have COMPLIED with the requirements for the Radiated Emissions.



8. Operation within the band 902-928 MHz, 2400-2483,5 MHz and 5725-5850 MHz

Applied standards

-e-CFR Title 47 Chapter I Subchapter A Part 15 Subpart C §15.247 -RSS-247 issue 2

8.1. 6 dB DTS Bandwidth Measurement

Applied standards

-e-CFR Title 47 Chapter I Subchapter A Part 15 Subpart C §15.247 (a) (2) -RSS-247 issue 2 Section 5.2 (a)

Limit

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

Test equipment and test set up

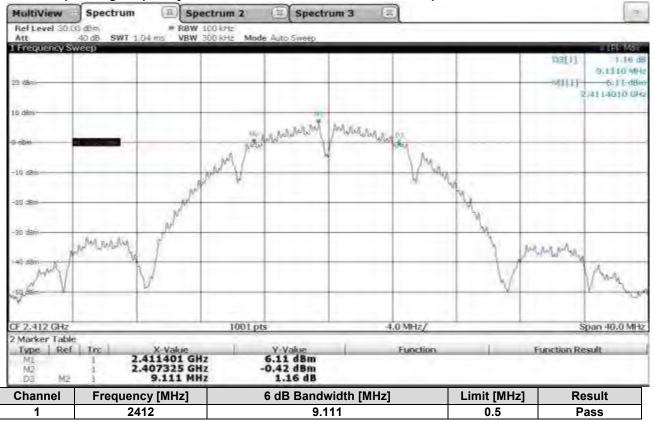
Test equipment used for conducted measurements as given in clause Test equipment of this report. Test setup used for conducted measurements as given in clause Test setups of this report.

Description

Measure the maximum width of the emission that is constrained by the frequencies associated with the two outermost amplitude points (upper and lower frequencies) that are attenuated by 6 dB relative to the maximum level measured in the fundamental emission.

The Measurement was performed on: 06.03.2020 and 09.03.2020

Lowest operating frequency - 802.11b 20MHz / CCK - MCS=0; 1 MBps / Antenna 0



Middle Operating Frequency - 802.11b 20MHz / CCK - MCS=0; 1 MBps / Antenna 0

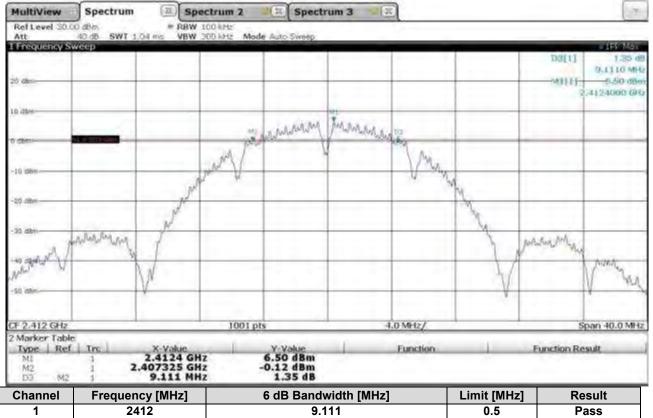
MultiView	Spectrum	Spectru	im 2	Spect	rum 3 🔅				i i
Ref Level 30.00		* RBW 100 k							
Att Frequency Sw	40 dB SWT 1.04	ms VBW 300 R	Hz Mode	Auto Sweep					IFK Max
Triednench 2m	(ab)	1						M1(1)	6.16 dB
							1		2.4364010 Gh
29 dBm						-	-	MIRET	0.17 dB
									2,1323247 0
10 dêni-				1.					
to citing-				1	The second second				
			.40	ANDANIA	performation	No.	1.1.1		
0 gBm				1	1	when			
· · · · ·			AL		1	1 Asr			
-10 18%		To Par	V			1 Van	-		
1		with				4 1	1		
-20 38m		N	-				N.		
53.00		pl .					Te .	1	
1000		to	_				10		
-30 dam-	MARINE MARINE	P					1	and the second	
791	W W W							manaphan	
40 =800 AM	K	1	-				+	-	1.5.
N	177						141		11 mg
SU ritem	X				-		V V		N
We .									Y
7 2.437 GHz			1001 pts	2	4	1.0 MHz/			Span 40.0 MH
Marker Table	1400	M Mathema	1	M. Mathie	-1	Provention	1	Parameters Pr	
Type Ref ML	Trc 2.4	X-Value 36401 GHz	-	V-Value 6.16 dBm	_	Function		Function R	esutt
M2 D3 M2	2.43	23247 GHz .1109 MHz		0.17 dBm 1.00 dB					
Channel	Frequency	/ [MHz]	(6 dB Band	width [MHz]		Limit [MHz	2] R	esult
6	2437		9.1109			0.5		ass	

ESTC RESTED	Test report no.: 20/01-0031	Page 30 of 359 pages
-------------	---------------------------------------	----------------------

Highest Operating Frequency - 802.11b 20MHz / CCK – MCS=0; 1 MBps / Antenna 0

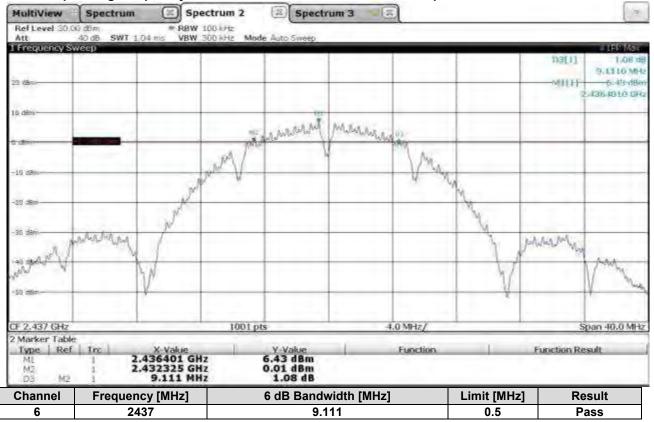
MultiView	Spectrum	S Sp	ectrum 2	E Spect	rum 3	9			i.
Ref Level 30. Att	00 dBm 40 dB SWT 1.04		100 kHz 300 kHz Mod	he Auto Susan		-			
1 Frequency S		10 404	SUD NIL MOU	e watoosweep					IFK Mox
					-			1136(1)	0,53 48
								-	9,5500 MHz
23 dBm-								MILE	6.75 dBm
									2,4614010 UR
10 dilimi-				80					
			1487	- a sur him	Mithensteinstein				
0 dBm	10		Kin	and an and an	1 annually	THE .	-		
			with 1		4	Ai.			
-10 d8m-			In Mark			1/26			
and accent			Nº W			1 1	1		
and the second		, J				1	Ma	·	
-20 38m		N					1		
	and the second sec	No					Nr.		
-30 dam-	when we try	1º	-		-		1	(and the	
1	ma man 1	1						principality	
40 #80 Call		1					+ + /	-	Ann
XV	1. 1.						1		Vinh
sd aba	N		-				V		N N
			1		-	1			
CF 2.462 GHz			1001 p	15	4	1.0 MHz/	·	9	pan 40.0 MHz
2 Marker Tabl Type Ref		X-Value	1	Y-Value	1	Function	1	Function Re	in alt
ML	2.4	61401 G	Hz	6.25 dBm		T UNICIUM I		Tubcaomike	SURL
M2 D3 M2	1 2.4	56885 G 9.55 M	Hz	0.38 dBm 0.53 dB					
Channel	Frequency [N	IHz]	e	dB Bandwid	dth [MHz]		Limit [MHz	:] Re	esult
11	2462		9.55			0.5	P	ass	

Lowest operating frequency - 802.11b 20MHz / CCK - MCS=0; 1 MBps / Antenna 1

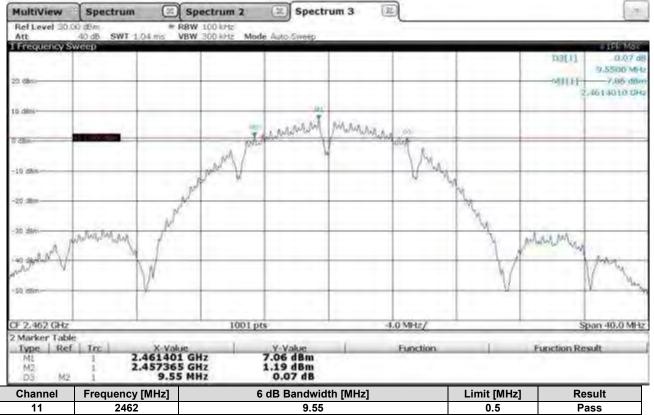


ESTC	TESTED
	IN GERMANY

Middle Operating Frequency - 802.11b 20MHz / CCK - MCS=0; 1 MBps / Antenna 1



Highest Operating Frequency - 802.11b 20MHz / CCK – MCS=0; 1 MBps / Antenna 1



RSTC	TESTED
COL	IN GERMANY

Lowest operating frequency - 802.11g 20MHz / OFDM - MCS=0; 6 MBps / Antenna 0

MultiView	Spectru	im 🖾 Spe	actrum 2	E Spect	rum 3 [2
Ref Level 30.0		= RBW		a de la consta		-			
Att I Frequency Sv		T 1.04 ms VBW	300 kHz Mod	e Auto-Sweep					IFIC MAR
								[1]80	-0.81 di
C									15,1450 MH
20 dām-				1				M1133	3,45 dBn
1. The second second						1	1.		2 4106 410 666
10 dEm		-				-			
				Ins.					
6 dBm		-	NU A R	4 Amerilan	And A	1.4 4 10			
			Thomas to the	CaseMendan	Server ashin (a/W)?	and mentante		-	
-10 03m		1			4		1		
-10 0290							1		
		J.					h		
-00 dBm		N.					1		
		14					N		
30 ::201	- No. PA	and the					ment	Numericken	
- astro	WAY AN .							- Marthan	N. Mar
30 zen Gradenje MM		-			-	-		Manninanana	1 Marilla
Nu.				1.1	1				1.144
-50 0801-					_				
, por wante									
				-		10000			
CF 2,412 GHz	_		1001 pt	s		t.0 MHz/	1	1.0	Span 40.0 MHz
2 Marker Table			1	Second St.		e de la compañía		-	
Type Ref	Tre	2.410641 GH	7	Y-Value 3.45 dBm		Function		Function R	esult
M2	i	2.410641 GH 2.404328 GH	z .	-2,12 dBm					
D3 M2	1	15.145 MH	Z	-0.81 dB					
Channel	Frequ	ency [MHz]		6 dB Bandy	width [MHz]		Limit [MH	z] R	esult
1		2412		15.	145		0.5	F	Pass

Middle Operating Frequency - 802.11g / OFDM – MCS=0; 6 MBps / Antenna 0

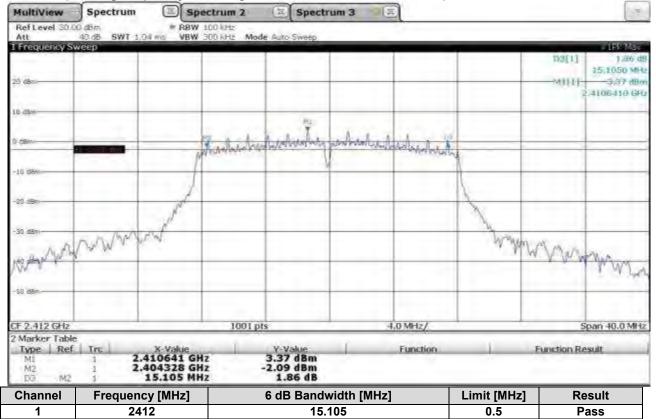
MultiView	Spectrum	Spectrum 2	E Spectr	um 3 🔄				i.
Ref Level 30.00		# RBW 100-kHz						
Att I Frequency Sw	40.dB SWT 1.04	ns VBW 300 kHz Me	ode Auto Sweep				_	LER Mar
I Trequency Sw	Gen			-			139[1]	-0.65 d
						1	HOL . I	15,1-150 MH
20 dBm-							WILLI	3,48 dB
						1		4356410 GH
10 daw			_					
TO CHEM			10. ¥					
				1 7 1	- 1			
8-dBm		Mary mark	and support when	and topolounity	malinelacat		_	-
-		Maria	1		U-P/A	4		
-10 dam		1	-			1		
A		1				1		
-20 dBm		J.	-			2		
- De CLEMAN		J				11		
45.555	a state	fr.				Vinning		
-sa asn massa	MULTIN W 100				-	and the	intraction of the second	
A WWW W	1.11		1.1		1 1		c. half	angrun.
the althout								1 Town
-SQ dam-								
1.1.1		and the second sec	1 · · · · · · · · · ·					
CF 2.437 GHz		1001	pts	4	0 MHz/	-	5	ipan 40.0 MHz
2 Marker Table Type Ref	Tral	A Mahia	Y-Value	1	Function	1	Function Re	and the
Mi	1 2.43	K-Value 5641 GHz	3.48 dBm		FUENCIORA		FUNCTION RA	sun
M2 D3 M2	2.42	9328 GHz 145 MHz	-2.14 dBm -0.65 dB					
Channel	Frequency	[MHz]	6 dB Bandwidth [MHz]			Limit [MHz] Re	esult
6	2437		15.145			0.5		ass

ESTC	TESTED
	IN GERMANY

Highest Operating Frequency - 802.11g 20MHz / OFDM - MCS=0; 6 MBps / Antenna 0

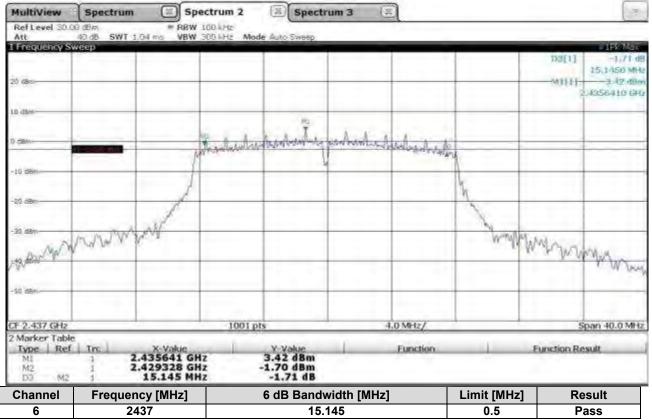
MultiView	Spectrum (Spectrum	2 🖾 Spectru	im 3 💷		3
Ref Level 30.0 Att	40 dB SWT 1.04 ms	 RBW 100 kHz VBW 300 kHz 	Mode Auto-Sweep			
1 Frequency S		VB4 500-9712	моне матоложеер			IFK Mar
						133[1] -0.93 dB
A						15,1450 MHz
20 dBm-						MILE 3.34 dBm
						2,1605-110 UR
10 dim-			-			
		-	- 101	and the second s		
D dBm		MI A	1 M. Amartin	And A A		
		and wanter	a manufacture and the a	where to all will you have	L.,	
-10 d8m		1	Y Y		1	
-10 090-						
August 1		1			N.	
-20 dBm-		N			M	
-	1	6			Maria	
- 30 dan Gaalaan	A NAN WAY ON				Ser The	MARK
ANT WWW	A MAN					und when when have the
A BALLAND					-	Agroca
Ŷ						
- 50 (181)-						
CF 2.462 GHz		1	001 pts	4.0 MHz/	1. A	Span 40.0 MHz
2 Marker Table		tation 1	M. Walter	Function	1	Function Result
Type Ref		Alue	V-Value 3.34 dBm	Function		Publicherri Kesult
M2 D3 M2	2.4543	45 MHz	-1.97 dBm -0.93 dB			
Channel	Frequency [MHz		6 dB Bandwidtl	n [MHz]	Limit [MHz]	Result
11	2462		15.145		0.5	Pass

Lowest operating frequency - 802.11g 20MHz / OFDM - MCS=0; 6 MBps / Antenna 1

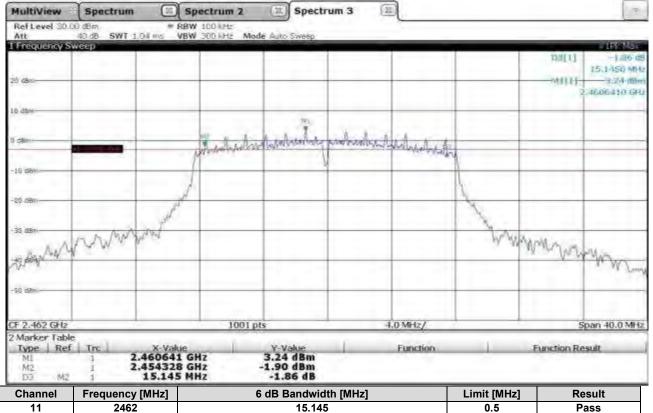


RSTC	TESTED IN GERMANY
COL	IN GERMANY

Middle Operating Frequency - 802.11g / OFDM - MCS=0; 6 MBps / Antenna 1



Highest Operating Frequency - 802.11g 20MHz / OFDM – MCS=0; 6 MBps / Antenna 1



RSTC	TESTED IN GERMANY			
COL	IN GERMANY			

Lowest operating frequency - 802.11n 20MHz / HT MixMode – MCS=0; 6.5 MBps / Antenna 0

MultiView -	Spectrum 🖾 Spe		pectrum 2	ctrum 2 🖾 Spectrum 3 🚍					ä.	
Ref Level 30.0	40 dB SWT 1		W 100 kHz	Mode Auto Sweep						
1 Frequency Sv		Col 1125 VD	W 300 RAZ 1	моне мато-ожеер					JEK Max	
		-	-					D8[1]	-0.96 dB	
			1	-				Contra la	15.1-ISU MH2	
29 dBm			-		-			MILLE	2:10 d8m	
								1	1.4106410 GRz	
10 dilm-										
10 chiny				701						
1					1 2 1					
D-dBm			In A	1. Musiliante	ve harder when	with the of	6			
-			WAS DEPONDENT	Just martine las	V	what has been been been been been been been bee	many			
-10 d8m-		1	-		4		1.1			
10.000		k		-		and the second second	1	1.		
-20 38m		5					1			
eu aem		1					1	· · · · · · · · ·		
		1					1			
-30 dam		and the		-	-		11			
40 AMANANANA	manner	NAN .					NW	anappanay		
40 stan non lov	40. 46 4							*A ha his con	Montera	
Muman.									1. How AN	
-50 mm-										
a transmission of the			1.							
CF 2.412 GHz			.100	1 pts	-	4.0 MHz/	2		pan 40.0 MHz	
2 Marker Table		-			-			and the second second second		
	Trc	X Value .410641 (.404328 (eu.	2.10 dBm		Function		Function R	esult	
ML M2	2	.404328	GHZ	-3.35 dBm						
D3 M2	1	15.145 M	tHz	-0.96 dB	le -					
Channel	Frequency [MHz]			6 dB Bandwidth [MHz]			Limit [MH:	z] R	Result	
1	2412			15.145			0.5	P	ass	

Middle Operating Frequency - 802.11n 20MHz / HT MixMode – MCS=0; 6.5 MBps / Antenna 0

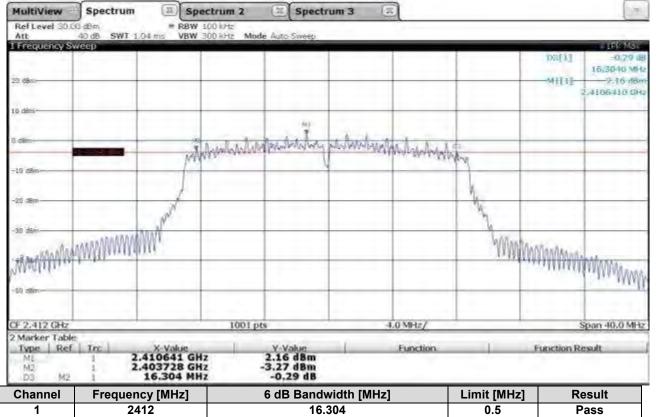
		ectrum 2	Z Spect	um o	E.			ä	
) dBm	= RBW								
40.dB SWT 1.04	ING ARM	JUURHZ MIN	le Auto Sweep	_	_		_	LEK Mar	
							138[1]	-1.11 d	
								15,1-150 MH	
		-	-	-			MILLE	2.05 dB	
						1		4356-110 GH	
								-	
			THE.						
_		_	T	- h 1 -					
		n Auchor	Alizan ranking	hannun	hales A. A.				
	NAM.	Manufacture and	1	1	m - mant - water	14			
	- F	_	-	-					
	1								
	1					1			
	1					1			
	t								
in and	N					Tular	A and		
MAN WALK						- WW	WWWWWWWWW	1	
					-		- 4	Weren West	
							1		
7 2.437 GHz Marker Table		1001 p	1001 pts 4.0 MHz/		1.0 MHz/	<u></u>	5	ipan 40.0 MH	
1.001		1		1	-	1			
1 2.4	35641 GH	7	2.03 dBm		Function		Function Re	sult	
1 2.4	29328 GH	z	-3.15 dBm						
				width [MHz]		Limit [MHz	1 Re	Result	
6 2437			15.145			0.5	-	Pass	
	сер Милимини Ттс 1 2.4 1 2.4 1 1 Frequency	CEP MMMMMMM MMMMMMM MMMMMMM MMMMMMM MMMMMM	1001 p 1001 p	Image: September 2 Image:	Image: September 2 Image:	Image: Sep Image:	Note Y Y 1 2.435641 GHz -3.15 dBm 1 2.435641 GHz -3.15 dBm 1 15.145 MHz -1.11 dB	Cep Definition Image: Constraint of the state	

FRETE	TESTED	Test report no.:		
BAL	IN GERMANY	20/01-0031		

Highest Operating Frequency - 802.11n 20MHz / HT MixMode – MCS=0; 6.5 MBps / Antenna 0

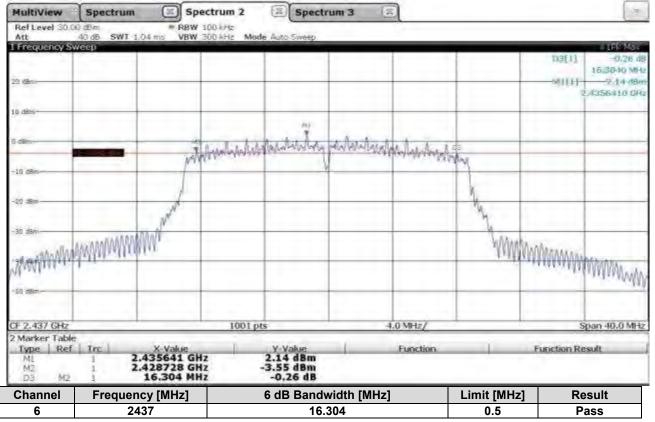
MultiView	Spectrum	Spectrum 2	Spectrum 3	3 (22)		ä
Ref Level 30.0	40 dB SWT 1.04 ms	RBW 100 kHz	de Aliza Suinza	-		
1 Frequency S		APR 200 MUS 1440	sue mato sweep			IFK Max
						133[1] -1.2.4 d8
						15,1-150 MHz
20 dBm					+ +	M111-2.95 dBm
						2.4606410 GHz
10 dbw	1					
A G GAPTI			MI			
10 million			Ť .	The second second		
0 dBm		In A to	undervalues from the	hadhirle the A 1		
		with the second second	1	north and some from the sal	1954	
-10 dam		1	4		11	
A		1				
-20 dBm-		5				
50 SIGN	A.	6			1	
100000						
-30 dām-	wanter water and an				Winsh	ANNEW MANY MANY
-150/	WYWWWWWWWWWWW				. ante	WWWWWWWWWWW
S-Preprint NEW Y						TYNYWWWWWW
1 vu						
-50 dam-					_	
1.00		1000				
CF 2.462 GHz	-	1001	pts	4.0 MHz/	2	Span 40.0 MHz
2 Marker Table			Lugarent V			
Type Ref	1 2.46064	Aue .	Y-Value 2.06 dBm	Function		Function Result
MI M2	2.45432	8 GHz	-3.07 dBm			
D3 M2	1 15.14	5 MHz	-1.24 dB			
Channel	Frequency [MHz]		6 dB Bandwidth [MHz]		Limit [MHz]	Result
11	2462	15.145			0.5	Pass

Lowest operating frequency - 802.11n 20MHz / HT MixMode - MCS=0; 6.5 MBps / Antenna 1



ESTC RESTED	Test report no.: 20/01-0031	Page 37 of 359 pages
-------------	---------------------------------------	----------------------

Middle Operating Frequency - 802.11n 20MHz / HT MixMode – MCS=0; 6.5 MBps / Antenna 1

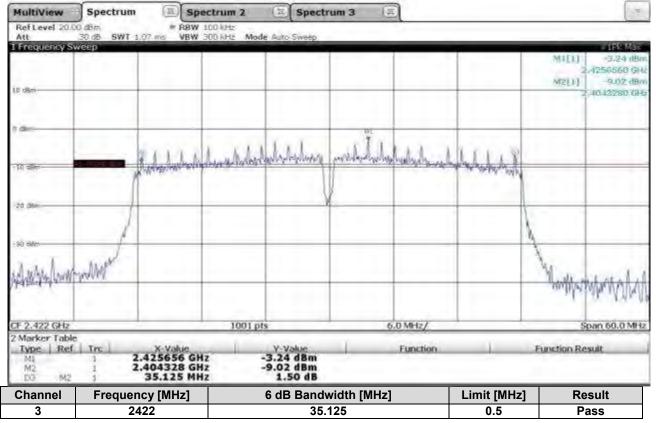


Highest Operating Frequency - 802.11n 20MHz / HT MixMode – MCS=0; 6.5 MBps / Antenna 1

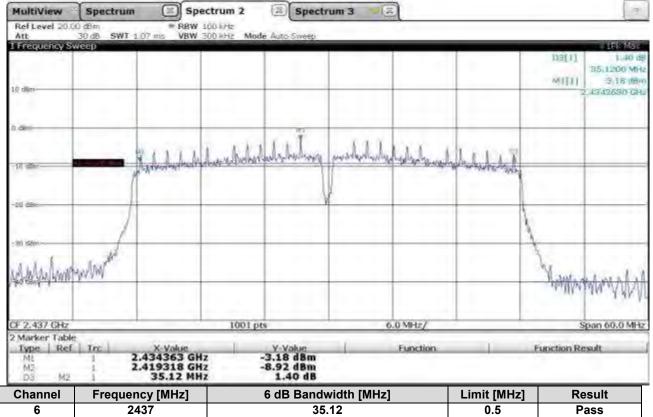
MultiView	Spectrum	🖂 St	pectrum 2	E Spect	rum 3				2
Ref Level 30.0	00 dBm 40 dB SWT 1		100 kHz 300 kHz Mo	de Ante Sunte					
I Frequency S		COMPANY ADM	SUDARE MO	de Autosaneep					IFR Max
								[1]ect	-9.35 d 16.30-10 MH 2.05 dB
23 dBro-							1.00	MILLE	2,4605410 0
10 dilmi-		-	-						-
0 dBm		3	1. Republicher And	Manthalway	whilehelper	Manhalminh	¢		_
-10 d8m		M	NAME OF TAXABLE		-	1.	Min	1	-
-20 dem-		A				-	N.		
-30 dam-		twon				-	1 hours		
an analy and	WWWWWWWWW	1111.					WW	Mannahan	CASA
Mankeyter								Sector (A)	AND AND AND AND
50 dBm-									
CF 2.462 GHz			1001 g	ots		4.0 MHz/			pan 40.0 MH
2 Marker Table Type Ref ML M2 D3 M2		X Vakue .460641 G .453728 G 16.304 M	Hz	Y-Value 2.05 dBm -3.59 dBm -0.35 dB	I.	Function		Function R	
Channel	Frequency			6 dB Bandwid			Limit [MHz		esult
11	2462	2		16.304	4		0.5	P	ass

	Test report no.: 20/01-0031	Page 38 of 359 pages
--	---------------------------------------	----------------------

Lowest operating frequency - 802.11n 40MHz / HT MixMode - MCS=0; 6.5 MBps / Antenna 0

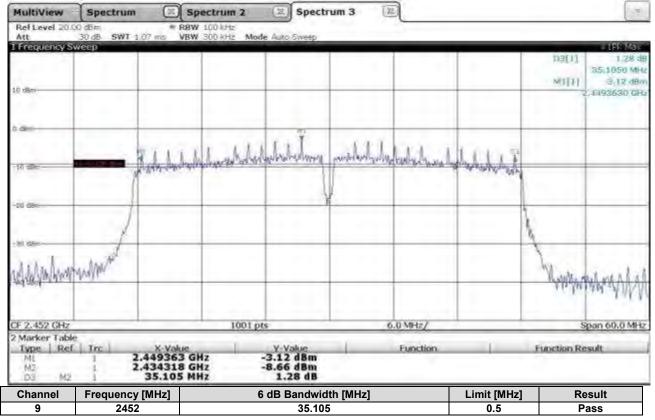


Middle Operating Frequency - 802.11n 40MHz / HT MixMode – MCS=0; 6.5 MBps / Antenna 0

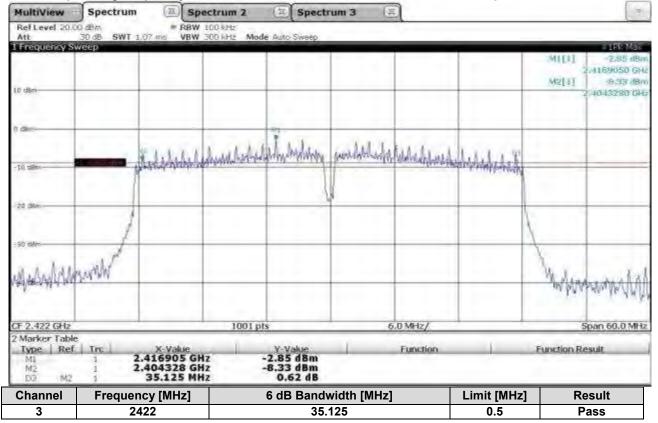


	Test report no.: 20/01-0031	Page 39 of 359 pages
--	---------------------------------------	----------------------

Highest Operating Frequency - 802.11n 40MHz / HT MixMode - MCS=0; 6.5 MBps / Antenna 0

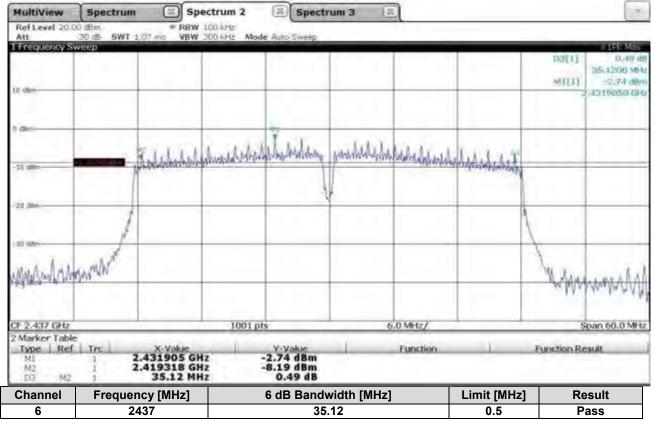


Lowest operating frequency - 802.11n 40MHz / HT MixMode – MCS=0; 6.5 MBps / Antenna 1

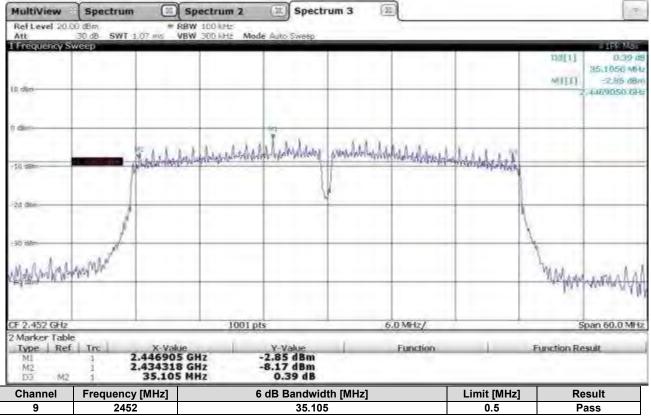


	Test report no.: 20/01-0031	Page 40 of 359 pages
--	---------------------------------------	----------------------

Middle Operating Frequency - 802.11n 40MHz / HT MixMode - MCS=0; 6.5 MBps / Antenna 1



Highest Operating Frequency - 802.11n 40MHz / HT MixMode – MCS=0; 6.5 MBps / Antenna 1



Results

From the measurement data obtained, the tested sample was considered to have **COMPLIED** with the requirements for the **6 dB Bandwidth**.



8.2. Output Power of Fundamental Emissions Maximum conducted/radiated Output Power

Applied standards

-e-CFR Title 47 Chapter I Subchapter A Part 15 Subpart C §15.247 (b) (3) -RSS-247 Issue 2 section 5.4 (d)

Limits for Peak Output Power of Fundamental (EIRP)

The maximum peak conducted/radiated output power of the intentional radiator shall not exceeded: 1 Watt As an alternative to the maximum peak conducted/radiated output power the average output power is measured to show compliance to the limit.

Test equipment and test set up

Test equipment used for conducted/radiated measurements as given in clause Test equipment of this report. Test setup used for conducted/radiated measurements as given in clause Test setups of this report.

Description

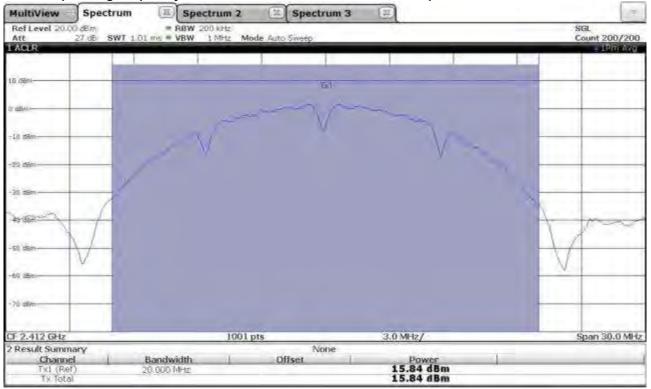
For the conducted/radiated measurement, the RF output of the EUT was connected/radiated to the Analyzer. All the attenuation or cable loss will be added to the measured maximum output power. The results are recorded in Watt.

The Measurement was performed on: 06.03.2020 and 09.03.2020 and 17.09.2021

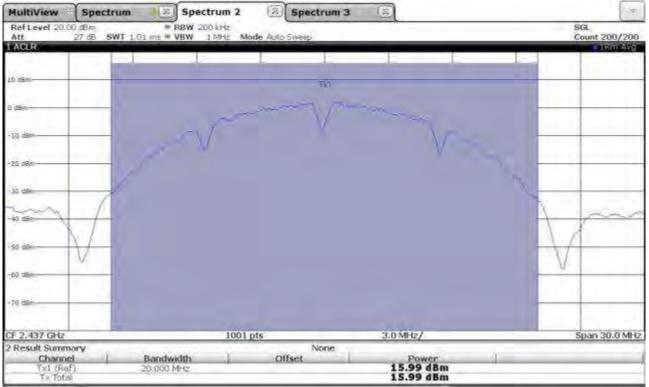
Conducted measurement data

	Test report no.: 20/01-0031	Page 42 of 359 pages
IN GENVIANT	20/01-0031	

Lowest operating frequency - 802.11b 20MHz / CCK - MCS=0; 1 MBps / Antenna 0

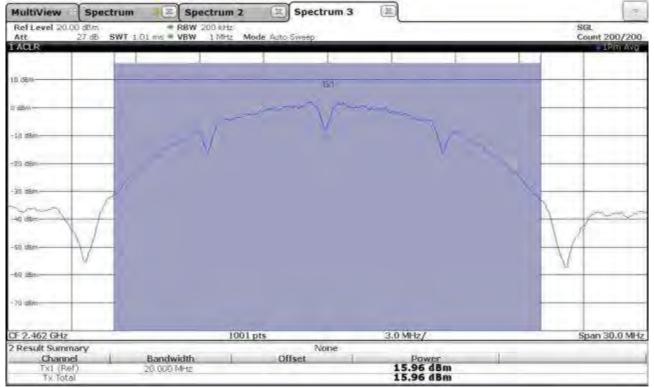


Middle Operating Frequency - 802.11b 20MHz / CCK - MCS=0; 1 MBps / Antenna 0



ESTC IN GERMANY	Test report no.: 20/01-0031	Page 43 of 359 pages
-----------------	---------------------------------------	----------------------

Highest Operating Frequency - 802.11b 20MHz / CCK – MCS=0; 1 MBps / Antenna 0



Maximum output power conducted measurement: 802.11b 20MHz / CCK – MCS=0; 1 MBps / Antenna 0

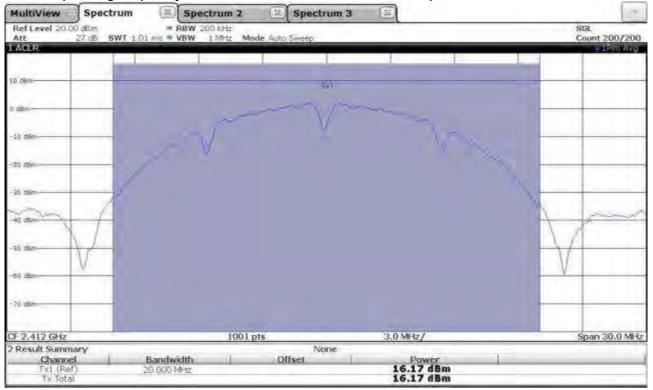
Channel	nnel Frequency Reading of IMHz1 Analyzer		Cable Loss	Output	Power	Li	mit	Result
		[dBm]	[dB]	[dBm]	[mW]	[dBm]	[mW]	
1	2412	15.84	1.2	17.04	50.58	30	1000	Pass
6	2437	15.99	1.2	17.19	52.36	30	1000	Pass
11	2462	15.96	1.2	17.16	52.00	30	1000	Pass

Calculated EIRP:

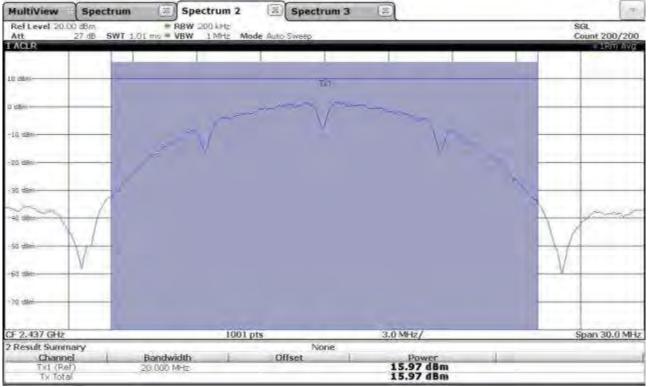
802.11b 20MHz / CCK – MCS=0; 1 MBps / Antenna 0									
Channel	el Frequency Output Power		ower	Output EIF	Limit		Result		
	[MHz]	[dBm]	[mW]	[dBm]	[mW]	[dBm]	[mW]		
1	2412	17.04	50.58	21.16	130.62	36	4000	Pass	
6	2437	17.19	52.36	21.31	135.21	36	4000	Pass	
11	2462	17.16	52.00	21.28	134.28	36	4000	Pass	
	Formula: [Conducted RF power] + [Antenna gain] = [EIRP] Antenna Gain: max. 4.12dBi (Taoglas_WS.01.B.305151)								

	Test report no.:	Page 44 of 359 pages
IN GERMANY	20/01-0031	r uge ++ or ooo puges

Lowest operating frequency - 802.11b 20MHz / CCK - MCS=0; 1 MBps / Antenna 1

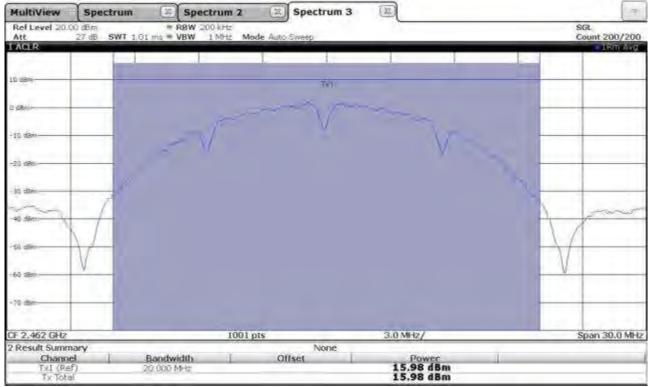


Middle Operating Frequency - 802.11b 20MHz / CCK – MCS=0; 1 MBps / Antenna 1



ESTC IN GERMANY	Test report no.: 20/01-0031	Page 45 of 359 pages
-----------------	---------------------------------------	----------------------

Highest Operating Frequency - 802.11b 20MHz / CCK – MCS=0; 1 MBps / Antenna 1



Maximum output power conducted measurement: 802.11b 20MHz / CCK – MCS=0; 1 MBps / Antenna 1

Channel	Frequency	Reading of Analyzer	Cable Loss	Output Power		Liı	nit	Result
	[MHz]	[dBm]	[dB]	[dBm]	[mW]	[dBm]	[mW]	
1	2412	16.17	1.2	17.37	54.58	30	1000	Pass
6	2437	15.97	1.2	17.17	52.12	30	1000	Pass
11	2462	15.98	1.2	17.18	52.24	30	1000	Pass

Result

Pass

Pass

Pass

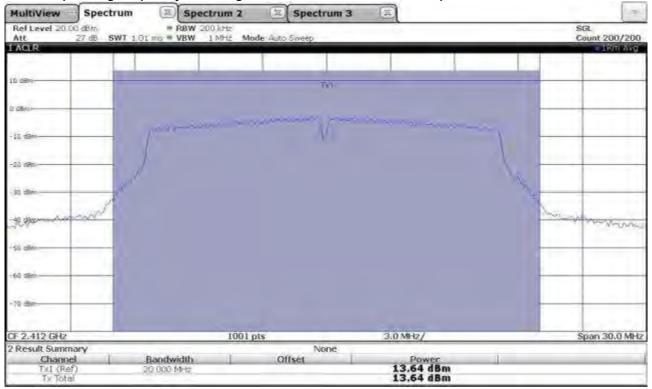
Calculated EIRP:

	802.11b 20MHz / CCK – MCS=0; 1 MBps / Antenna 1								
Channel	Frequency	Frequency Output Powe		Output F EIRI		Lir	nit		
	[MHz]	[dBm]	[mW]	[dBm]	[mW]	[dBm]	[mW]		
1	2412	17.37	54.58	21.49	140.93	36	4000		
6	2437	17.17	52.12	21.29	134.59	36	4000		
11	2462	17.18	52.24	21.30	134.90	36	4000		

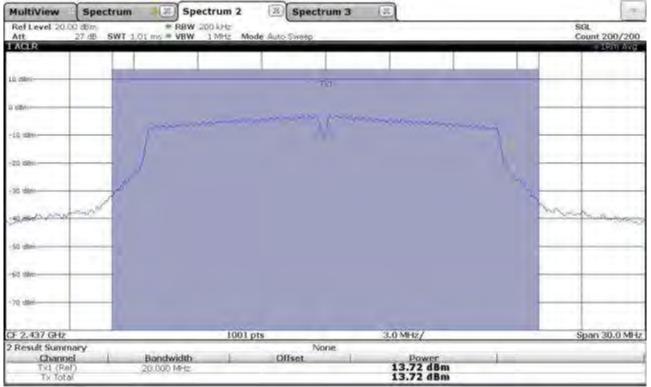
Formula: [Conducted RF power] + [Antenna gain] = [EIRP] Antenna Gain: max. 4.12dBi (Taoglas_WS.01.B.305151)

ESTC TESTED	Test report no.: 20/01-0031	Page 46 of 359 pages
-------------	---------------------------------------	----------------------

Lowest operating frequency - 802.11g 20MHz / OFDM - MCS=0; 6 MBps / Antenna 0

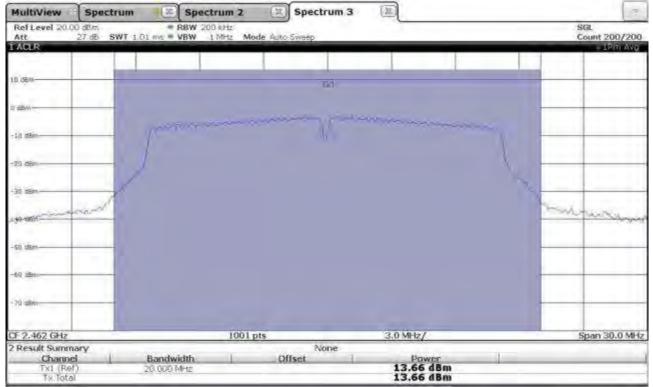


Middle Operating Frequency - 802.11g 20MHz / OFDM – MCS=0; 6 MBps / Antenna 0



	Test report no.: 20/01-0031	Page 47 of 359 pages
--	---------------------------------------	----------------------

Highest Operating Frequency - 802.11g 20MHz / OFDM – MCS=0; 6 MBps / Antenna 0



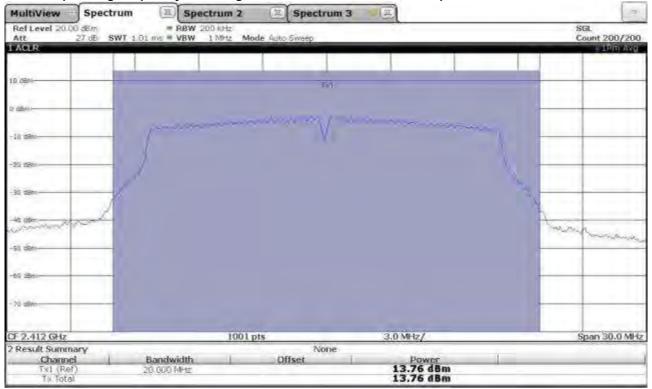
Maximum output power conducted measurement: 802.11g 20MHz / OFDM – MCS=0; 6 MBps / Antenna 0 Reading of Cable Frequency **Output Power** Limit Channel Analyzer Result Loss [MHz] [dBm] [dBm] [dB] [mW] [dBm] [mW] 1 2412 13.64 1.2 14.84 30.48 30 1000 Pass 2437 13.72 1.2 14.92 1000 6 31.05 30 Pass 30.62 11 2462 13.66 1.2 14.86 30 1000 Pass

Calculated EIRP:

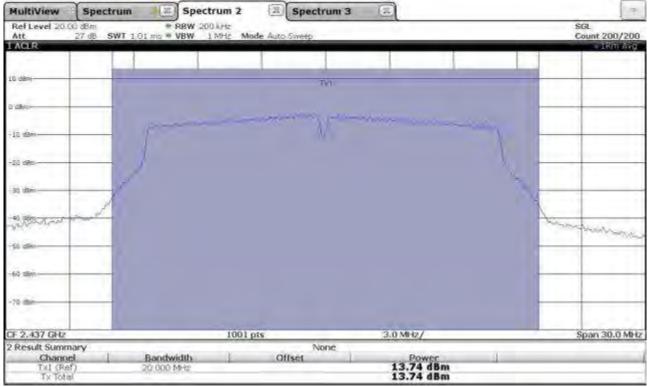
Channel	Frequency	Output F	Output Power		Output Power EIRP			Result
	[MHz]	[dBm]	[mW]	[dBm]	[mW]	[dBm]	[mW]	
1	2412	14.84	30.48	18.96	78.70	36	4000	Pass
6	2437	14.92	31.05	19.04	80.17	36	4000	Pass
11	2462	14.86	30.62	18.98	79.07	36	4000	Pass
Formula: [Conducted RF power] + [Antenna gain] = [EIRP] Antenna Gain: max. 4.12dBi (Taoglas WS.01.B.305151)								

	Test report no.: 20/01-0031	Page 48 of 359 pages
--	---------------------------------------	----------------------

Lowest operating frequency - 802.11g 20MHz / OFDM - MCS=0; 6 MBps / Antenna 1

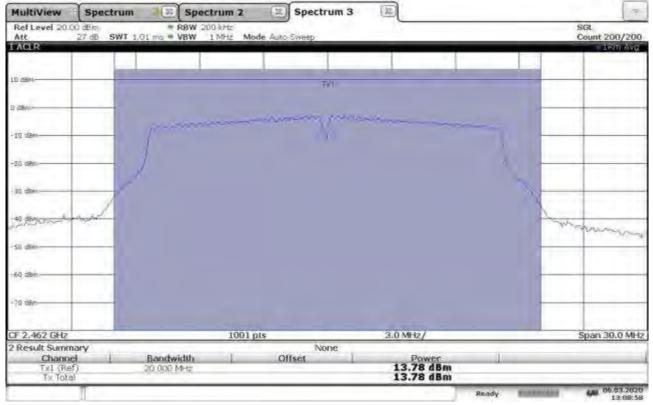


Middle Operating Frequency - 802.11g 20MHz / OFDM – MCS=0; 6 MBps / Antenna 1



	Test report no.: 20/01-0031	Page 49 of 359 pages
--	---------------------------------------	----------------------

Highest Operating Frequency - 802.11g 20MHz / OFDM – MCS=0; 6 MBps / Antenna 1



Maximum output power conducted measurement: 802.11g 20MHz / OFDM – MCS=0; 6 MBps / Antenna 1								
Channel Frequency		Reading of Analyzer	Cable Loss	Output Power		Limit		Result
	[MHz]	[dBm]	[dB]	[dBm]	[mW]	[dBm]	[mW]	
1	2412	13.76	1.2	14.96	31.33	30	1000	Pass
6	2437	13.74	1.2	14.94	31.19	30	1000	Pass
11	2462	13.78	1.2	14.98	31.48	30	1000	Pass

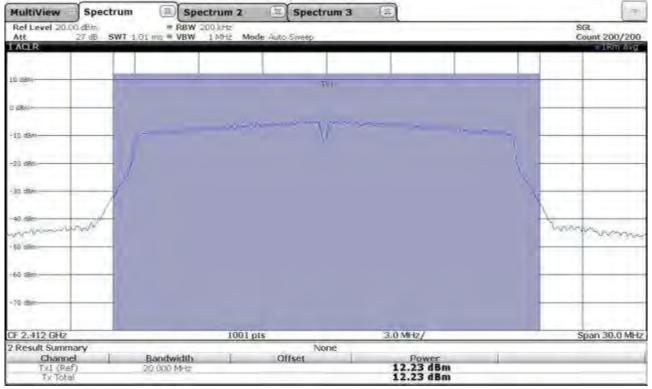
Calculated EIRP:

802.11g 20MHz / OFDM – MCS=0; 6 MBps / Antenna 1

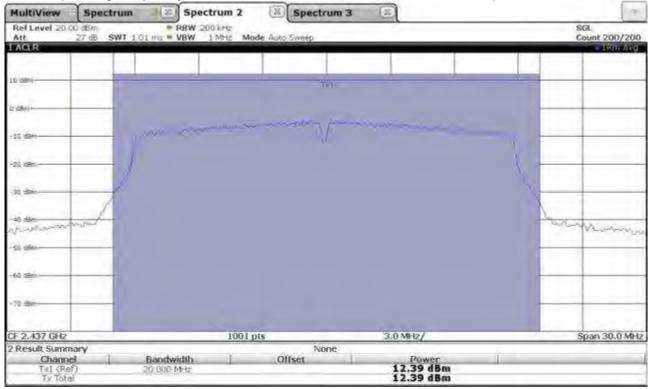
Channel	Frequency	Output Power		Output Power EIRP		Limit		Result
	[MHz]	[dBm]	[mW]	[dBm]	[mW]	[dBm]	[mW]	
1	2412	14.96	31.33	19.08	80.91	36	4000	Pass
6	2437	14.94	31.19	19.06	80.54	36	4000	Pass
11	2462	14.98	31.48	19.10	81.28	36	4000	Pass
Formula: [Conducted RF power] + [Antenna gain] = [EIRP]								
Antenna (Antenna Gain: max. 4.12dBi (Taoglas_WS.01.B.305151)							

ESTC IN GERMANY	Test report no.: 20/01-0031	Page 50 of 359 pages
-----------------	---------------------------------------	----------------------

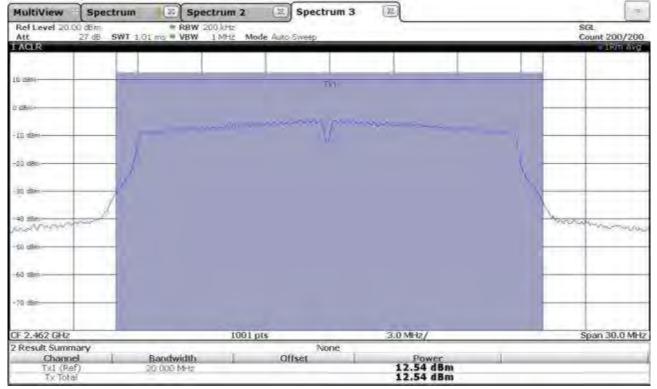
Lowest operating frequency - 802.11n 20MHz / HT MixMode - MCS=0; 6.5 MBps / Antenna 0



Middle Operating Frequency - 802.11n 20MHz / HT MixMode - MCS=0; 6.5 MBps / Antenna 0



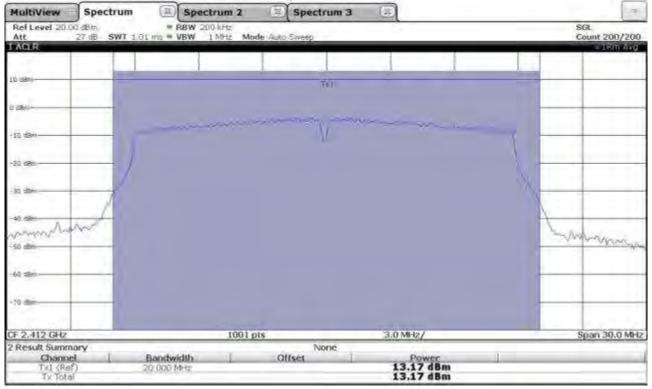
Highest Operating Frequency - 802.11n 20MHz / HT MixMode – MCS=0; 6.5 MBps / Antenna 0



Maximum output power conducted measurement: 802.11n 20MHz / HT MixMode – MCS=0; 6.5 MBps / Antenna 0								
Channel	el Frequency [MHz] Reading of Analyzer Loss Output Power		Power	Limit		Result		
	נועורובן	[dBm]	[dB]	[dBm]	[mW]	[dBm]	[mW]	
1	2412	12.23	1.2	13.43	22.03	30	1000	Pass
6	2437	12.39	1.2	13.59	22.86	30	1000	Pass
11	2462	12.54	1.2	13.74	23.66	30	1000	Pass

	Test report no.: 20/01-0031	Page 52 of 359 pages
--	---------------------------------------	----------------------

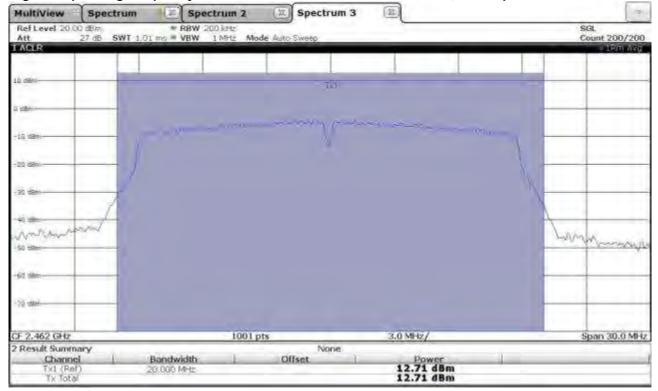
Lowest operating frequency - 802.11n 20MHz / HT MixMode - MCS=0; 6.5 MBps / Antenna 1



Middle Operating Frequency - 802.11n 20MHz / HT MixMode - MCS=0; 6.5 MBps / Antenna 1



Highest Operating Frequency - 802.11n 20MHz / HT MixMode - MCS=0; 6.5 MBps / Antenna 1



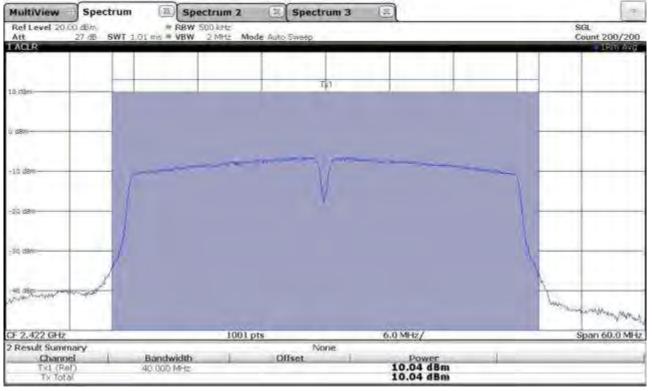
Maximum output power conducted measurement: 802.11n 20MHz / HT MixMode - MCS=0; 6.5 MBps / Antenna 1 Reading of Cable Frequency **Output Power** Limit Channel Result Analyzer Loss [MHz] [dBm] [dBm] [mW] [dBm] [dB] [mW] 2412 1000 1 13.17 1.2 14.37 27.35 30 Pass 2437 1.2 30 1000 6 12.87 14.07 25.53 Pass 11 2462 1.2 30 1000 12.71 13.91 24.60 Pass

			d measurem CS=0; 6.5 MB		na 0 + Antei	nna 1		
Channel	Channel Frequency	Output Antenna 0	Output Total Output Power		Lii	mit	Result	
[MHz]	[mW]	[mW]	[dBm]	[mW]	[dBm]	[mW]		
1	2412	22.03	27.35	16.94	49.38	30	1000	Pass
6	2437	22.86	25.53	16.85	48.39	30	1000	Pass
11	2462	23.66	24.60	16.84	48.26	30	1000	Pass
According	to KDB 6629	11 D01						

Calculate 802.11n 2		lixMode – M	CS=0; 6.5 M	IBps / Antenna	a 0 + Antenna	1	
Channel	Frequency	Output A Ell	ntenna 0 RP	Output A Ell	ntenna 1 RP		put Power RP
	[MHz]	[dBm]	[mW]	[dBm]	[mW]	[dBm]	[mW]
1	2412	17.55	56.89	18.49	70.63	21.06	127.52
6	2437	17.71	59.02	18.19	65.92	20.97	124.94
11	2462	17.86	61.09	18.03	63.53	20.96	124.62
Antenna G	Conducted R ain: max. 4.12 to KDB 6629	2dBi (Taoglas					

	Test report no.:	Dage 54 of 250 pages
IN GERMANY	20/01-0031	Page 54 of 359 pages

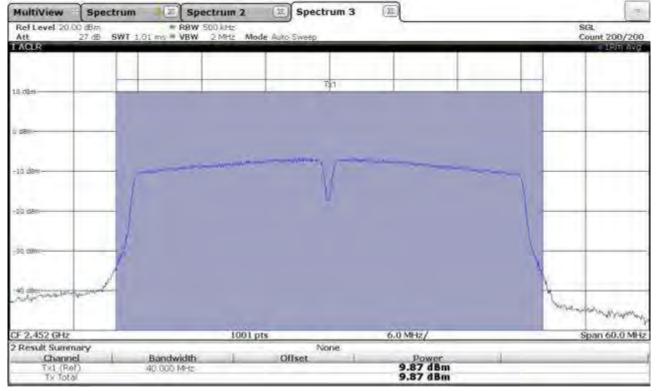
Lowest operating frequency - 802.11n 40MHz / HT MixMode - MCS=0; 6.5 MBps / Antenna 0



Middle Operating Frequency - 802.11n 40MHz / HT MixMode – MCS=0; 6.5 MBps / Antenna 0



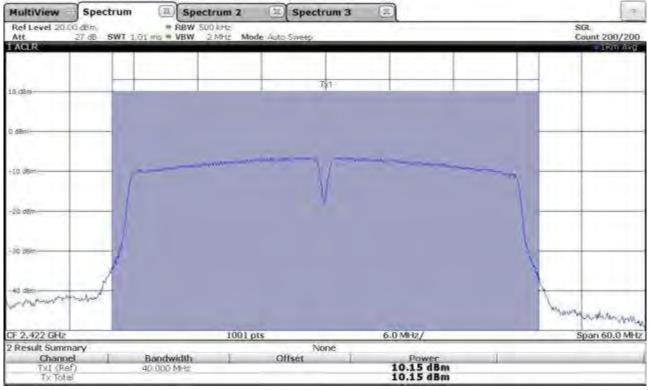
Highest Operating Frequency - 802.11n 40MHz / HT MixMode – MCS=0; 6.5 MBps / Antenna 0



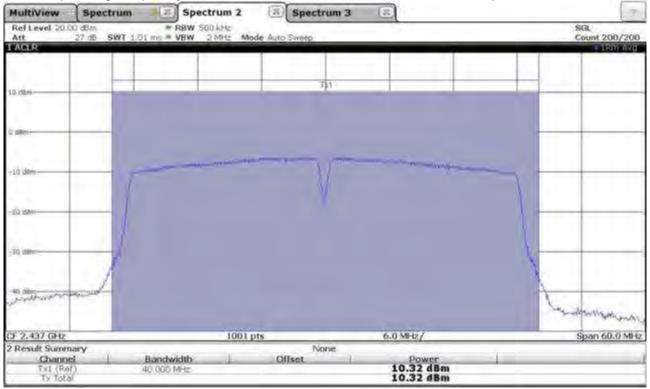
		/er conducte /lixMode – M			na O			
Channel	Frequency	Reading of Analyzer	Cable Loss	Output	Power	Liı	Result	
[MHz]	[dBm] [dl	[dB]	[dBm]	[mW]	[dBm]	[mW]		
3	2422	10.04	1.2	11.24	13.30	30	1000	Pass
6	2437	10.02	1.2	11.22	13.24	30	1000	Pass
9	2452	9.87	1.2	11.07	12.79	30	1000	Pass

Test report no.: 20/01-0031	Page 56 of 359 pages
	I

Lowest operating frequency - 802.11n 40MHz / HT MixMode - MCS=0; 6.5 MBps / Antenna 1

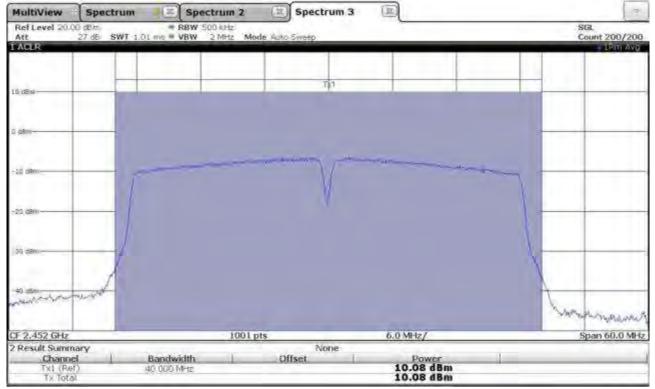


Middle Operating Frequency - 802.11n 40MHz / HT MixMode - MCS=0; 6.5 MBps / Antenna 1



ESTC ITESTED	Test report no.: 20/01-0031	Page 57 of 359 pages
--------------	---------------------------------------	----------------------

Highest Operating Frequency - 802.11n 40MHz / HT MixMode - MCS=0; 6.5 MBps / Antenna 1



		/er conducte /ixMode – M(na 1			
Channel	Frequency	Reading of Analyzer	Cable Output Power			Li	Result	
[MHz]	[dBm]	[dB]	[dBm]	[mW]	[dBm]	[mW]		
3	2422	10.15	1.2	11.35	13.65	30	1000	Pass
6	2437	10.32	1.2	11.52	14.19	30	1000	Pass
9	2452	10.08	1.2	11.28	13.43	30	1000	Pass

			d measurem CS=0; 6.5 MB		na 0 + Antei	nna 1		
Channel	Channel Frequency	Output Output Antenna 0 Antenna 1		Total Output Power		Lir	nit	Result
[MHz]	[mW]	[mW]	[dBm]	[mW]	[dBm]	[mW]		
3	2422	13.30	13.65	14.31	26.95	30	1000	Pass
6	2437	13.24	14.19	14.38	27.43	30	1000	Pass
9	2452	12.79	13.43	14.19	26.22	30	1000	Pass
According	to KDB 6629	11 D01	•				•	•

Channel Hequency [MHz] EIRP EIRP EIRP 1 2422 15.36 34.36 15.47 35.24 18.43 6 2437 15.34 34.20 15.64 36.64 18.50	01	Frequency	Output Antenna 0		Output Antenna 1		Total Output Powe	
1 2422 15.36 34.36 15.47 35.24 18.43	nannei							<u>RP</u> [mW]
6 2437 15.34 34.20 15.64 36.64 18.50	1	2422						69.60
	6	2437	15.34	34.20	15.64	36.64	18.50	70.84
11 2452 15.19 33.04 15.40 34.67 18.31	11	2452	15.19	33.04	15.40	34.67	18.31	67.71

Results

From the measurement data obtained, the tested sample was considered to have **COMPLIED** with the requirements of **Output Power of Fundamental Emissions**.

	ESTED N GERMANY		Test report no.: 20/01-0031			Page 58	of 359 page
Radiated mea	asurement da	ta					
owest opera	ating frequend	y - 802.11b 20N	IHz / CCK – MCS=	0; 1 MBps / T)	(/RX1 / ext.	Antenna	a typ 1
TESTED			FCC 1			CT	-
IN GER	MANY		r of fundamental bpart C § 15.209 /		36	ST	L
RefNo.:	20/01-003	1					
Product:	Transmittin	g / Receiving Sy	/stem				
Sample:	01						
Date:	02.08.2021						
Operator:	Ro					pass	fail
Remarks:	Antenna 1	(Jinchan JCW60	1), Power setting	1C	Result:	\boxtimes	
Operating M	ode: WLAN 8	02.11b, CH.01, (CCK, BW = 20 MH	z			
Spectrum	<u> </u>						
Ref Level 2 Att PS TDF	and a second	■ RBW 1.1 ms ■ VBW	100 kHz 300 kHz Mode Aut	to Sweep Inpu	t 1.AC		
1Rm Max		- 1	- T	Ť. Ť.	-A. 1	- 1-	2
Local I							

15 dBm	TXI	
0 dBm -5 dBm -10 dBm -10 dBm -15 dBm	many and the sheet the states	and warrow war war war war war war war war war wa
-20 dBm-	691 pts	Span 40.7 MHz

	16	Position: X / Polarisation:	V	
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit (dBm)	Result
	and the second sec	and the second sec	in the second se	

	Test report no.: 20/01-0031	Page 59 of 359 pages
TESTED	FCC 1	

IN GERMANY

1 01 Г١

JE S

Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

Operating Mode: WLAN 802.11b, CH.01, CCK, BW = 20 MHz

Ref Level 25.00 dBm Att 40 dB SWT 1 PS TDF 30 dB SWT 1	■ RBW 100 kHz 1 ms ■ VBW 300 kHz Mode Auto Sweep	Input 1 AC
IRm Max		
20 dBm		
15 dBm	TXI	
10 dBm		
5 dBm	-	
0 dBm	power berly prover why	
-5.dBm-	the here we	
-10 dBm	Market V	
-5 dBm -10 dBm -10 dBm -15 dBm -20 dBm	10000 C	"The above the remainship public weather
-20 dBm		
		Span 40.7 MHz

	F	Position: X / Polarisation:	H	
Frequ. (MHz)	Level (dBm)	Margin to Limit [dB]	Limit [dBm]	Result

ESTC TESTED

Test report no.: 20/01-0031

Page 60 of 359 pages



FCC 1

Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247



Ref.-No.: 20/01-0031

Operating Mode: WLAN 802.11b, CH.01, CCK, BW = 20 MHz

and the second	RBW 100 kHz VBW 300 kHz Mode Auto SV	weep Input 1 AC	
1Rm Max			
20 dBm			
15 dBm	TML		
10 dBm-			
5 dBm	willight Fileway		
0 dBm	pyper V white	L.	
5 dBm		Min	
5 dBm 0 dBm -5 dBm -10 dBm -10 dBm -15 dBm -20 dBm		May Mon an North	Mataphan Manahatana
-20 dBm			
CF 2.412 GHz	691 pts		Span 40.7 MHz

Position: Y / Polarisation: V						
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit (dBm)	Result		

Image: Property of the power of fundamental emission acc. FCC Subpart C § 15.209 / RSS-247 Property of the power of fundamental emission acc. FCC Subpart C § 15.209 / RSS-247 Property of the power of fundamental emission acc. FCC Subpart C § 15.209 / RSS-247 Property of the power of fundamental emission acc. FCC Subpart C § 15.209 / RSS-247 Property of the power of fundamental emission acc. FCC Subpart C § 15.209 / RSS-247 Property of the power of fundamental emission acc. FCC Subpart C § 15.209 / RSS-247 Property of the power of fundamental emission acc. FCC Subpart C § 15.209 / RSS-247 Property of the power of fundamental emission acc. FCC Subpart C § 15.209 / RSS-247 Property of the power of fundamental emission acc. FCC Subpart C § 15.209 / RSS-247 Property of the power of fundamental emission acc. FCC Subpart C § 15.209 / RSS-247 Property of the power of fundamental emission acc. FCC Subpart C § 15.209 / RSS-247 Property of the power of fundamental emission acc. FCC Subpart C § 15.209 / RSS-247 Property of the power of the power of fundamental emission acc. FCC Subpart C § 15.209 / RSS-247 Property of the power of the pow	59 pag	Page 61 of 3				Test repo 20/01-0		Y	STED GERMAN	TES	STO
Operating Mode: WLAN 802.11b, CH.01, CCK, BW = 20 MHz Ref Level 25.00 dBm • RBW 100 kHz Att • 0 dB SWT 1.1 ms • VBW 300 kHz Mode Auto Sweep Input 1 AC PS TDF • • VBW • VBW • VBW • • VBW • • VBW • 0 dBm • • VBW • • VBW • • VBW • • VBW • • • VBW • 0 dBm • • • VBW • • VBW • • VBW • • • VBW • • • VBW • 0 dBm • • • • VBW • • VBW • • • VBW • • • VBW • • • • VBW • 0 dBm • • • • VBW • • • VBW • • • • • VBW • • • • • • • • • • • • • • • • • • •	202	ISTO	5		damental o	er of fun		ac		BERN	IN
20 dBm 15 dBm 5 dBm 5 dBm -20 dBm			nput 1 AC			100 kHz	· RBW	802.111	le: WLAI	g Mod um	peratir Spectr Ref Lev Att
15 dBm 10 dBm 5 dBm 5 dBm 10 dBm			1.1		1				1	8	
15 dBm 10 dBm 5 dBm 5 dBm 10 dBm 5 dBm 10 dBm 1											dam-
10 dBm- 5 dBm- 5 dBm- 10 dBm- 10 dBm- 10 dBm- 20 dB											
5 dBm 0 dBm					X1	1					S dBm-
O dBm S dBm Multiplicity Multiplicity Multiplicity S dBm S dBm Multiplicity Multiplicity Multiplicity 10 dBm Multiplicity Multiplicity Multiplicity Multiplicity 20 dBm CE 2.412 GHz 691 pts Span 40.7 Multiplicity	-		-								o dam-
20 dBm								-		-	s dBm-
-20 dBm CF 2.412 GHz 691 pts Span 40.7 M					Million	malada		_		_	dBm-
20 dBm				leg .	1 mile	(Deland	. Joh				5 dBm-
20 dBm CF 2.412 GHz 691 pts Span 40.7 M				W.	6		M				
20 dBm CF 2.412 GHz 691 pts Span 40.7 M	u. Ala	and from to the back of	-a. Lute Later dates	1.1 whythe			and b	on Arrial Marin	martin	. Rubia	
20 dBm CF 2.412 GHz 691 pts Span 40.7 M	1.1.1.1	the second second							1	MH - M	15 dBm
								-		-	20 dBm
hannel Power	1Hz	Span 40.7			pts	69				2 GHz	CF 2.41
			5.65			1.1.1.					
Bandwidth 20.00 MHz Power 19.19 dBm Tx Total 19.19 dBm		1 19.19 dBm	Tx Tota	1	19.19 dB	Power		MHz	th 20.00	idwidt	Ba

Position: Y / Polarisation: H						
Frequ. [MHz]	Level (dBm)	Margin to Limit [dB]	Limit [dBm]	Result		
2412	19.19	10.81	30.00	pass		

Image: Store Strep Test report no.: 20/01-0031	Page 62 of 359 pages
--	----------------------

TESTED	
IN GERMANY	

FCC 1

Output power of fundamental emissions



acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

Operating Mode: WLAN 802.11b, CH.01, CCK, BW = 20 MHz

Ref Level 25.00 dBm Att 40 dB SWT 1 PS TDF	 RBW 100 kHz 1 ms WBW 300 kHz Mode Auto Sweep 	Input 1 AC
1Rm Max	1 I I I	
20 dBm		
15 dBm	THI	
10.dBm		
5 dBm		
3 dBm	alout back particular	
5 dBm	at other the formation of the	
10 dBm	were here here	wh.
dittle nous Alldring and spiller he	We a second	all have he and the stand have been and the second stand and the second
-20 dBm	menter of the official for a second and the	

_		Position: Z / Polarisation:	V	
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit (dBm)	Result

	Test report no.: 20/01-0031	Page 63 of 359 pages
■ TESTED	FCC 1	

IN GERM	MANY Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247					ES	TC	
RefNo.: Operating Mod	20/01-003 e: WLAN 80		1.01, CCK, E	3W = 20 Mł	Ηz			
Spectrum Ref Level 25.0 Att PS TDF		A 10 10 10 10 10 10 10 10 10 10 10 10 10	RBW 100 kH2 VBW 300 kH2		to Sweep	Input I AG	2	
o 1Rm Max			1.	1	-	i e e î e	ir -	
20 dBm-	_					-		-
15 dBm		_		TX1	_	-		
10 dBm						-	-	-
5 dBm						-	-	-
0 dBm			patric halfeld.	M Mahales	1	-	-	· · · · · · · · ·
-5 dBm	_		yatun	1	why .	-	-	-
-10 dBm		- whole	V.	×	MA	_		
Pon Kundershi miljen	ule 4 march 10 filler	presell (MARC	×.		A and	hit said front of a	washer had	wherealistic
-5 dBm -10 dBm -15 dBm -20 dBm						-		

Span 40.7 MHz CF 2.412 GHz 691 pts **Channel Power** Tx Total 19.10 dBm Bandwidth 20.00 MHz Power 19.10 dBm

Position: Z / Polarisation: H					
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit [dBm]	Result	

-/ А



FCC 1

BSTC

Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref -No.: 20/01-0031

Summery of the findings

Test conditions	Polarization of receiving antenna	Tested frequency [MHz]	Meas value [dBm]	Limit [dBm]	Result
Position: X	V	2412	18,37	30,00	pass
Position: X	н –	2412	19,33	30,00	pass
Position: Y	v	2412	21,79	30,00	pass
Position: Y	н	2412	19,19	-30,00	pass
Position: Z	v	2412	19,41	30,00	pass
Position: Z	н	2412	19,10	30,00	pass

RETE	TESTED	Test report no.:
BUL	TESTED IN GERMANY	20/01-0031

Middle operating frequency - 802.11b 20MHz / CCK - MCS=0; 1 MBps / TX/RX1 / ext. Antenna typ 1



FCC 1 Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247



Ref.-No.: 20/01-0031

Operating Mode: WLAN 802.11b, CH.06, CCK, BW = 20 MHz

	 RBW 100 kHz 1 ms WBW 300 kHz Mode Auto Sweep 	Input 1 AC
PS TDF 1Rm Max		
20 dBm		
15 dBm	TX1	
10 dBm		
5 dBm		
0 dBm	whether place	
-5 dBm	by some of any in	
-10 dBm	W31 1/2	
0 dBm -5 dBm -10 dBm -10 dBm -15 dBm -20 dBm	WALL K	"be der under ander an in the house
-20 dBm		
CF 2,437 GHz	691 pts	Span 40.7 MHz
Channel Power Bandwidth 20.00 MHz	Power 17.79 dBm	Tx Total 17,79 dBm

_	F	Position: X / Polarisation:	V	
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit (dBm)	Result
2437	17,79	12.21	30.00	pass

STC RESTED	Test report no.: 20/01-0031	Page 66 of 359 pag
TESTED IN GERMANY	FCC 1 Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247	BSTC
Spectrum Ref Level 25.00 dBm	2.11b, CH.06, CCK, BW = 20 MHz RBW 100 kHz 1.1 ms VBW 300 kHz Mode Auto Sweep Input	
PS TDF	TIT IS - VOW SOUTHE HOLE RULE SWEEP INPUT	- ~~ -
		· · · · · · · · · · · · · · · · · · ·
20 dBm		
15 dBm	TX1	
10 dBm		
5 dBm-		
7 dBitt	, deller philips.	farment in and
0 dBm	Western () and the	
5 dBm	while I the	
10 dBm	LAND WALL	
hub man hold have he have have	providence and the philips which have and the philips which have not set of the philips which have been and the philips and the philips are provided by the philips are philips are provided by the ph	treatment of personal second
20 dBm		
CF 2.437 GHz	691 pts	Span 40.7 MHz
hannel Power		
Bandwidth 20.00 MH	Hz Power 20.86 dBm 1	fx Total 20.86 dBm

	F	Position: X / Polarisation:	н	
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit [dBm]	Result
2437	20.86	9.14	30.00	pass

STC TESTED	Test report no.: 20/01-0031	Page 67 of 359 pa
	FCC 1 power of fundamental emissio CC Subpart C § 15.209 / RSS-24	
Spectrum Ref Level 25.00 dBm	RBW 100 kHz VBW 300 kHz Mode Auto Sweep	Input 1 AC
PS TDF	Ton Storing mode Asto Sweep	input 2 No.
20 dBm		
S dBm	TX1	
LO dBm	11.25	
i dBm		
20 dBm 5 dBm 10 dBm 10 dBm 15 dBm 20 dBm 20 dBm	LIM MAN	
5 dbm	plather have	
J UBIN	1 Y 1/3	
10 dBm	N N	My the wind whind we wilder buy see much and my
15 dBm		
20 dBm		
CF 2.437 GHz	691 pts	Span 40.7 MHz
hannel Power		 1.7.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.2.
Bandwidth 20.00 MHz	Power 19.77 dBm	Tx Total 19.77 dBm
	Position: Y / Polarisation: V	

requ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit (dBm)	Result

STC ITESTED	Test report no.: 20/01-0031	Page 68 of 359 p
	FCC 1 t power of fundamental emission CC Subpart C § 15.209 / RSS-247	
Spectrum Ref Level 25.00 d8m	RBW 100 kHz VBW 300 kHz Mode Auto Sweep	Input 1 AC
PS TOP		
20 dBm		
15 dBm	TX1	
10 dBm		
5 dBm-		
0 dBm-	what the	
-5 dBm-	Million (Marting)	
-10 dBm	MI TAN	
0 dBm -S dBm- -10 dBm -10 dBm -15 dBm -20 dBm	A Deve	when the and the stand of the s
-20 dBm		
CF 2.437 GHz	691 pts	Span 40.7 MHz
Shannel Power Bandwidth 20.00 MHz	Power 18.28 dBm	Tx Total 18,28 dBm
Channel Power	and the sector of	7.5 5.6.6.8

	F	Position: Y / Polarisation:	н	
Frequ. [MHz]	Level (dBm)	Margin to Limit [dB]	Limit (dBm)	Result
2437	18,28	11,72	30,00	pass

ESTC IN GERMANY	Test report no.: 20/01-0031	Page 69 of 359 pa
	FCC 1 tput power of fundamental emissions c. FCC Subpart C § 15.209 / RSS-247	
Spectrum Ref Level 25.00 dBm Att 40 dB SWT 1.1 m PS TDF	🖷 RBW 100 kHz	Input 1 AC
1Rm Max		
		T. M. 1999
20 dBm		
15 dBm	1%1	
10 dBm		
5 dBm -5 dBm -5 dBm -10 dBm -10 dBm -15 dBm -20 dBm	LITE M. March 1.	
) dBm	which are a first and which are	
-5 dBm		
	and the	
10 08m		a manufacture and an and a second and and
15 dBm		Allen a sholle new search (Channell's a stree
20 dBm		· · · · · · · · · · · · · · · · · · ·
CF 2.437 GHz	691 pts	Span 40.7 MHz
hannel Power	1	5 5 5 5 5 5 5 m
Bandwidth 20.00 MHz	Power 21,24 dBm	Tx Total 21.24 dBm

_	F	Position: Z / Polarisation:	V	
Frequ. [MHz]	Level (dBm)	Margin to Limit [dB]	Limit [dBm]	Result
2437	21,24	8,76	30.00	pass

ESTC TESTED	Test report no.: 20/01-0031	Page 70 of 359 pages
TESTED IN GERMANY	FCC 1 Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247	ESTC
RefNo.: 20/01-003	1 02.11b, CH.06, CCK, BW = 20 MHz	
Spectrum		(T)
Ref Level 25.00 dBm	RBW 100 kHz 1.1 ms • VBW 300 kHz Mode Auto Sweep Input	1.40

691 pts		Span	40.7 MHz
		1	
	a manufation of the second	an sea ann an Arr	len hiller
" V TA	hole and the second	10.00	i d and
Brack Way and I wanted Way at			
AND MARKED			
	production and produces within the	production and product water and	production of the second states and the second seco

TNI

20 dBm-

15 dBm-

		Position: Z / Polarisation:	н	
Frequ. (MHz)	Level (dBm)	Margin to Limit [dB]	Limit (dBm)	Result
	17.16	12.84	30.00	



Test report no.: 20/01-0031



FCC 1

DISTC

Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

Summery of the findings

Test conditions	Polarization of receiving antenna	Tested frequency [MHz]	Meas value [dBm]	Limit [dBm]	Result
Position: X	v	2437	17,79	30,00	pass
Position: X	н	2437	20,86	30,00	pass
Position: Y	v	2437	19,77	30,00	pass
Position: Y	н	2437	18,28	30,00	pass
Position: Z	v	2437	21,24	30,00	pass
Position: 2	н	2437	17,16	30,00	pass

FRETC	TESTED	Tes
BAL	TESTED IN GERMANY	20

Highest operating frequency - 802.11b 20MHz / CCK – MCS=0; 1 MBps / TX/RX1 / ext. Antenna typ 1

TESTED IN GERMANY

FCC 1



Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref -No.: 20/01-0031

Operating Mode: WLAN 802.11b, CH.11, CCK, BW = 20 MHz

Spectrum RefLevel 25.00 dBm Att 40.dB SWT 1.1 m	RBW 100 kHz SWEEP 300 kHz Mode Auto Sweep	Input t AC
PS TOF PRm Max		
20 dBm		
15 dBm	TXL	
10 dBm		
5 dBm	and the second	
0 dBm	recentland paper where	
-5 dBm		
-10 dBm	to A .	all the set of the set
-5 dBm -10 dBm -10 dBm -15 dBm -15 dBm		the of my permities stylles was seen to be
-20 dBm		
CF 2.462 GHz	691 pts	Span 40.7 MHz
hannel Power Bandwidth 20.00 MHz	Power 20.97 dBm	Tx Total 20.97 dBm

	F	Position: X / Polarisation:	V	
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit (dBm)	Result

ESTC ITESTED	Test report no.: 20/01-0031	Page 73 of 359 pages
TESTED IN GERMANY	FCC 1 Output power of fundamental emissions	ESTC

acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

Operating Mode: WLAN 802.11b, CH.11, CCK, BW = 20 MHz

Spectrum Ref Level 25.00 dBm Att 40 dB SWT 1,3 PS TDF	■ RBW 100 kHz 1 ms ■ VBW 300 kHz Mode Auto Sweep	Input 1 AC.
1Rm Max		
20 dBm-		
15 dBm	TX1	
10 d8m		
5 dBm		
0 dBm+	and Hilling	
-5. dBm	and and the production of the state of the s	
-10 dBm	went the Was	Martin Michael Michael
-15 dBm		and and sally with the second man the
-20 dBm		
CF 2.462 GHz	691 pts	Span 40.7 MHz
Channel Power Bandwidth 20.00 MHz	Power 16.71 dBm	Tx Total 16.71 dBm

	F	Position: X / Polarisation:	H)	
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit [dBm]	Result

STC RESTED	Test report no.: 20/01-0031	Page 74 of 359 p
acc.1 RefNo.: 20/01-0031	FCC 1 t power of fundamental emission FCC Subpart C § 15.209 / RSS-247	
perating Mode: WLAN 802.11b, 0	CH.11, CCK, BW = 20 MHz	
Ref Level 25.00 dBm	RBW 100 kHz VBW 300 kHz Mode Auto Sweep	Input I AC
1Rm Max	0	
20 dBm		
5 dBm-	TN 1	
LO dBm-		
i dBm i dBm 5 dBm 10 dBm 10 dBm 10 dBm 20 dBm 20 dBm	The second	
dBm	the first and the state of the	
) dBm	where a starting	
	1 L L	
S dBm	M	
10 dBm-	4 1 4	
Wy midel My Mush where was more word W		have durante and ministration of the reason
15/dBm		
20 dBm		
CF 2.462 GHz	691 pts	Span 40.7 MHz
hannel Power		
Bandwidth 20.00 MHz	Power 22.80 dBm	Tx Total 22.80 dBm
	Position: Y / Polarisation: V	

requ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit (dBm)	Result
2462	22,80	7,20	30.00	pass

	Test report no.: 20/01-0031	Page 75 of 359 pages
--	------------------------------------	----------------------

BSTC

TESTED IN GERMANY

FCC 1

Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

Operating Mode: WLAN 802.11b, CH.11, CCK, BW = 20 MHz

PS TDF	■ RBW 100 kH WT 1.1 ms ■ VBW 300 kH		Input i AC	Į A
1Rm Max				- T
20 dBm				
L5 dBm		TX1		
IO dBm			2	
ā dBm	-			
) dBm	all produce work of the second s	al mar		
5 dBm	- William	T Proved & Adde		
10 dBm	- At	Y TA		
Mar Marthur Muture	all heading and heading and	W	work own broken th	hyponstrikulleriskullerisk
20 dBm-	-			
		591 pts		Span 40.7 MHz

Position: Y / Polarisation: H				
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit (dBm)	Result
Lieda: Imitel	cever foond	margin to Linni [ub]	Fuur Topul	Result

ESTC TESTED	Test report no.: 20/01-0031	Page 76 of 359 pa
	FCC 1 ut power of fundamental emissi FCC Subpart C § 15.209 / RSS-2	
Spectrum Ref Level 25.00 dBm Att 40 dB SWT 1.1 ms	CH.11, CCK, BW = 20 MHz RBW 100 kHz VBW 300 kHz Mode Auto Sweep	Input 1 AC
PS TDF 1Rm Max		
20. dBm-		
15 dBm	TX1	
10 dBm		
5.dBm	100	
3 dBm	a file of Addies	
5 dBm	Marken V William	
-10 dBm		huy
LANNAMAR WALLAND		When we were the south at a solution of the souther
3 dBm		
CF 2.462 GHz	691 pts	Span 40.7 MHz
hannel Power Bandwidth 20.00 MHz	Power 18.81 dBm	Tx Total 18.81 dBm
	Position: Z / Polarisation: V	

Position: Z / Polarisation: V				
Frequ. [MHz]	Level (dBm)	Margin to Limit [dB]	Limit [dBm]	Result

STC I TESTED	Test report no.: 20/01-0031	Page 77 of 359 pa
	FCC 1 put power of fundamental emission 5. FCC Subpart C § 15.209 / RSS-247	
RefNo.: 20/01-0031 perating Mode: WLAN 802.11b	, CH.11, CCK, BW = 20 MHz	
Spectrum	a pow rooku	
Ref Level 25.00 dBm Att 40 dB SWT 1.1 ms PS TDF 30 dB SWT 1.1 ms	RBW 100 kHz s VBW 300 kHz Mode Auto Sweep	Input 1 AC
1Rm Max		
20 dBm		
15 dBm-	TX1	
10 dBm		
5 dBm-	a facilitation of the	
9 dBm	per would be a prostate the bedrucke	
-5 dBm		
10 dBm	LM (146	
5 dBm 10 dBm -10 dBm -15 dBm -20 dBm -20 dBm	ne ne se	har new harder bude at which the hard while
20 dBm		
CF 2.462 GHz	691 pts	Span 40.7 MHz
hannel Power Bandwidth 20.00 MHz	Power 20.03 dBm	Tx Total 20.03 dBm

Position: Z / Polarisation: H				
Frequ. (MHz)	Level (dBm)	Margin to Limit [dB]	Limit (dBm)	Result
2462	20.03	9.97	30.00	pass



FCC 1



Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

Summery of the findings

Test conditions	Polarization of receiving antenna	Tested frequency [MHz]	Meas value [dBm]	Limit [dBm]	Result
Position: X	v	2462	20,97	30,00	pass
Position: X	н	2462	16,71	30,00	pass
Position: Y	v	2462	22,80	30,00	pass
Position: Y	н	2462	16,13	30,00	pass
Position: Z	v	2462	18,81	30,00	pass
Position: Z	н	2462	20,03	30,00	pass

		ver radiated mea – MCS=0; 1 ME	asurement: 3ps / TX/RX1 / ex	ternal Antenna	typ 1	
Channel	Frequency	Outpu	Output Power		mit	Result
	[MHz]	[dBm]	[mW]	[dBm]	[mW]	
1	2412	21.79	151.01	30	1000	Pass
6	2437	21.24	133.05	30	1000	Pass
11	2462	22,80	190.55	30	1000	Pass

	and the second
--	----------------

Lowest operating frequency - 802.11b 20MHz / CCK – MCS=0; 1 MBps / TX/RX0 / ext. Antenna typ 1

TESTED	MANY	FCC 1 Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247	Æ	ST	C	
RefNo.:	20/01-003	31				
Product:	Transmitti	ng / Receiving System				
Sample:	01					
Date:	02.08.202	1				
Operator:	Ro			pass	fail	
Remarks:	Antenna 1	(Jinchan JCW601), Power setting 1C, Tx/Rx0	Result	\boxtimes		

Operating Mode: WLAN 802.11b, CH.01, CCK, BW = 20 MHz

Spectrum Receiver Ref Level 30.00 dBm Att 45 dB SWT 1 PS TDF	RBW 100 kHz 1 ms VBW 300 kHz Mode Auto Sweep	Input 1 AC
• 1Rm Max	I II II I	
25 dBm		
20 dBm-	TX2	
15 dBm		
10 dBm		
5 dBm		
0 dBm	were the second shall be and the second s	
-5 dBm	And A state	
Automatic and and the second	Weine the mark	"When a stalled for the source of the share of the stall of the stall
-15 d8m		
CF 2.412 GHz	691 pts	Span 40.7 MHz
Channel Power Bandwidth 20.00 MHz	Power 19.27 dBm	Tx Total 19.27 dBm

	Po	sition: X/Y/Z / Polarisation	n: V	_
Frequ. [MHz]	Levei (dBm)	Margin to Limit (dB)	Limit [dBm]	Result
2412	19,27	10.73	30.00	pass

	Test report no.: 20/01-0031	Page 80 of 359 pages
TESTED IN GERMANY	FCC 1 Output power of fundamental emissions	ESTC

Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

Operating Mode: WLAN 802.11b, CH.01, CCK, BW = 20 MHz

	RBW 100 kHz VBW 300 kHz Mode Auto Sweep	Input 1 AC
1Rm Max		
20 dBm		
15 dBm	TX2	
10 dBm		
5 dBm		
D dBm		
-5 dBm -10 dBm -10 dBm -15 dBm	wither and Middlehan	
-10 d8m	t from the state	
15 08m	U W	in a provide approximation of the providence of
-20 d8m		
CF 2,412 GHz	691 pts	Span 40.7 MHz
		Tx Total 15.38 dBm
hannel Power Bandwidth 20.00 MHz	Power 15.38 dBm	

Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit [dBm]	Result
2412	15,38	14.62	30.00	pass

N GERMANY	ESTC
-----------	------

Middle operating frequency - 802.11b 20MHz / CCK - MCS=0; 1 MBps / TX/RX0 / ext. Antenna typ 1

TESTED

FCC 1



Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

Spectrum Receiver (8)		
Ref Level 30,00 dBm Att 45 dB SWT 1,1 ms 45 dB 55 dB 55 dB 55 dB 56 dB	RBW 100 kHz VBW 300 kHz Mode Auto Sweep	Input 1 AC
1Rm Max		
25 dBm		
20 dBm	TX1	
15 dBm		
10 dBm		
5 dBm		
0 dBm	adjourney and here burgers and the second	
-5 dBm	L pur province V and the Carlo	
Lalarylova. Allova Jardeval - Jardeval Allova	and the second	to we be equilated where the production
-10 dBm		
CF 2.437 GHz	691 pts	Span 40.7 MHz
Channel Power		

	Po	sition: X/Y/Z / Polarisation	n: V	
Frequ. [MHz]	Level (dBm)	Margin to Limit [dB]	Limit (dBm)	Result
2437	19,10	10,90	30,00	pass

ESTC IN GERMANY	Test report no.: 20/01-0031	Page 82 of 359 pages

TESTED IN GERMANY Output FCC 1

Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247



Ref.-No.: 20/01-0031

Operating Mode: WLAN 802 11b, CH.06, CCK, BW = 20 MHz

Spectrum Receiver X Ref Level 25.00 dBm Att 40 dB SWT 1.1 ms PS TDF	 RBW 100 kHz VBW 300 kHz Mode Auto Sweep 	Input 1 AC
1Rm Max		
20 dBm		
15 dBm	TV1	
10 dBm-		
5 dBm		
0 dBm	10.000	
-5 dBm	water of the production of the	
-10 dBm	JE V YA	
wyther and March and March Ma	and surprised by her price and the	and the second in the second in the second states and
-20 dBm		
GF 2.437 GHz	691 pts	Span 40.7 MHz
hannel Power Bandwidth 20.00 MHz	Power 15.20 dBm	Tx Total 15.20 dBm

Po	sition: X/Y/Z / Polarisatior	n: H	
Level (dBm)	Margin to Limit [dB]	Limit (dBm)	Result
15,20	14,80	30,00	pass
	Level (dBm)	Level [dBm] Margin to Limit [dB]	Level [dBm] Margin to Limit [dB] Limit [dBm]

ESTC	TESTED IN GERMANY
-------------	----------------------

Highest operating frequency - 802.11b 20MHz / CCK – MCS=0; 1 MBps / TX/RX0 / ext. Antenna typ 1

TESTED

FCC 1



Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

Operating Mode: WLAN 802.11b, CH.11, CCK, BW = 20 MHz

RefLevel 30.00 dBm Att 45 dB SWT PS TDF	 RBW 100 kHz 1.1 ms VBW 300 kHz Mode Auto Sweep 	Input 1 AC
1Rm Max	1 T 1 1	
25 dBm		1. +
20 dBm-	TX1	
15 dBm		
10 dBm		-
5 dBm		
0 dBm	wellight parments	
-5 dBm	interment we have been been and the second	
Hayalth Markupak Markalet Mark	allyalana and	superior and the performance and
10 dBm 5 dBm -5 dBm -5 dBm -10 dBm -15 dBm		
CF 2.462 GHz	691 pts	Span 40.7 MHz
Channel Power Bandwidth 20.00 MH	z Power 19.32 dBm	Tx Total 19.32 dBm

_	Po	sition: X/Y/Z / Polarisation	n: V	
Frequ. [MHz]	Level (dBm)	Margin to Limit [dB]	Limit [dBm]	Result
2462	19,32	10,68	30,00	pass

STC TESTED	Test report no.: 20/01-0031	Page 84 of 359 p
	FCC 1 put power of fundamental e c. FCC Subpart C § 15.209 /	
RefNo.: 20/01-0031 perating Mode: WLAN 802.111	o, CH.11, CCK, BW = 20 MHz	2
	8	
RefLevel 30,00 dBm Att 45 dB SWT 1,1 m PS TDF	BBW 100 kHz BW 300 kHz Mode Auto	Sweep Input LAC
IRm Max	1 1	
25 dBm-		
20 dBm-	TX1	
5 dBm		
.0 dBm		
i dBm		
) dBm	in a local.	
5 dBm	when the Wester Vander	the second se
5 dBm- 	wanter t	man have an a through a construction of the
15 dBm		
CF 2,462 GHz	691 pts	Span 40.7 MHz
hannel Power		
THE R. LEWIS CO., LANSING MICH.		m Tx Total 17.59 dBm

	Po	sition: X/Y/Z / Polarisation	n: H	
Frequ. [MHz]	Level (dBm)	Margin to Limit [dB]	Limit [dBm]	Result
2462	17,59	12,41	30,00	pass

Maximum output power radiated measurement: 802.11b 20MHz / CCK – MCS=0; 1 MBps / TX/RX0 / external Antenna typ 1						
Channel	Frequency	Outpu	Output Power		Limit	
	[MHz]	[dBm]	[mW]	[dBm]	[mW]	
1	2412	19.27	84.53	30	1000	Pass
6	2437	19.10	81.28	30	1000	Pass
11	2462	19.32	85.51	30	1000	Pass

Maximum output power conducted measurement: 802.11b 20MHz / CCK – MCS=0; 1 MBps / TX/RX0 + TX/RX1 / external Antenna typ 1								
Channel	Frequency	Output TX/RX0	Output TX/RX1	Total Out	put Power	Liı	nit	Result
	[MHz]	[mW]	[mW]	[dBm]	[mW]	[dBm]	[mW]	
1	2412	84.53	151.01	23.72	235.54	30	1000	Pass
6	2437	81.28	133.05	23.31	214.33	30	1000	Pass
11	2462	85.51	190.55	24.41	276.06	30	1000	Pass
According	According to KDB 662911 D01							

ESTC ITESTED	
--------------	--

Lowest operating frequency - 802.11g 20MHz / OFDM - MCS=0; 6 MBps / TX/RX1 / ext. Antenna typ 1

TESTED IN GERMANY

FCC 1



Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

Spectrum Ref Level 25.00 dBm Att 40 dB SWT : PS TDF	 RBW 100 kHz .1 ms VBW 300 kHz Mode Auto Sweet 	ep Input 1 AC
• 1Rm Max		
20 dBm-		
15 dBm	ТХ1	
10 dBm		
5 dBm		
ữ dềm	Lorenza antes	
-5 dBm	petrolander to the particular produced and	happland
-10 dBm		
15 Jew Manuthon Manuthon	w"	mand protection attached and the
-20 dBm		
GF 2.412 GHz Channel Power	691 pts	Span 40.7 MHz
Bandwidth 20.00 MHz	Power 17.60 dBm	Tx Total 17.60 dBm

Position: X / Polarisation: V					
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit [dBm]	Result	
2412	17.60	12,40	30.00	pass	

ESTC IN GERMANY	Test report no.: 20/01-0031	Page 87 of 359 pages
TESTED IN GERMANY	FCC 1 Output power of fundamental emissions	BSTC

Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247



Ref.-No.: 20/01-0031

PS TDF	 RBW 100 kHz 1.1 ms VBW 300 kHz Mode Auto Sweep Inpu 	t 1 AC
1Rm Max		
20 dBm-		
15 dBm	TX1	
10 dBm-		
5 dBm-		
0 dBm	and a half of the second	
-5 dBm	polosilise brodes alouding and outraile scheroliged by	
10 dBm JunyyMartybolityamild 15 dBH		aller on we for a structure where the second where the
15 dBm		and the contract of the section of the section of the
-20 dBm		
the set of	691 pts	Span 40.7 MHz

Position: X / Polarisation: V					
Frequ. [MHz]	Level (dBm)	Margin to Limit [dB]	Limit (dBm)	Result	
			30.00		

ESTC TESTED	Test report no.: 20/01-0031	Page 88 of 359 page
aco RefNo.: 20/01-0031	FCC 1 put power of fundamental emission c. FCC Subpart C § 15.209 / RSS-247	
perating Mode: WLAN 802.11g Spectrum Ref Level 25.00 dBm	RBW 100 kHz	
	s WBW 300 kHz Mode Auto Sweep	Input 1 AC
1Rm Max		i i i i i i i
20 dBm-		
15 dBm-		
	TX1	
IO dBm		
5 dBm-		
) dBm	1 hours by the first	
5 dBm	gal how many polations have been a series of the series of	
10 dBm		
Man represent Man place		Value backbarre Monumentoner representation
20 dBm-		
CF 2.412 GHz	691 pts	Span 40.7 MHz
hannel Power Bandwidth 20.00 MHz	Power 17.58 dBm	Tx Total 17.58 dBm
	Position: X / Polarisation: H	

	10 March 10			
requ. [MHz]	evel [dBm]	Margin to Limit [dB]	Limit (dBm)	Result

STC RESTED	Test report no.: 20/01-0031	Page 89 of 359 pag
TESTED IN GERMANY	FCC 1 Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247	BSTC
RefNo.: 20/01-00		
Spectrum	802.11g, CH_1, OFDM, BW = 20 MHz	(m)
Ref Level 25.00 dBm	RBW 100 kHz WT 1.1 ms VBW 300 kHz Mode Auto Sweep Input	1 AC.
IKM Max		
20 dBm		
15 dBm-	TX1	
10 dBm	10+	
5 dBm		
) dBm-	polandra was wellow shy parta spontanda where the	
5 dBm	- Vebrue a contract	
10 dBm	wind here	and the phase and the
20 dBm		
GF 2.412 GHz	691 pts	Span 40,7 MHz
hannel Power		

Position: Y / Polarisation: V					
Frequ. [MHz]	Level [dBm]	Margin to Limit (dB)	Limit (dBm)	Result	

ESTC IN GERMANY	Test repo 20/01-0			Page 90 of 359 pa
TESTED IN GERMANY	FCC Output power of func- acc. FCC Subpart C	amental emissio		ESTC
RefNo.: 20/01-0031				
perating Mode: WLAN 80	2.11g, CH.1, OFDM, BV	V = 20 MHz		
Spectrum				
Ref Level 25.00 dBm	 RBW 100 kHz 1.1 ms VBW 300 kHz 	Mode Auto Sweep	Input 1 AC	[
IRm Max				
20 dBm				
15 dBm		×1		
10 dBm				
1 dBm-				1.000
5 dBm	Propring by stars working	- tuph when have		
10 dBm		1		2 2 2 2 2 2 3
Bunderer Hauser Anderson Anderson Anderson	in the		a la hallallad	makenselywherelinelane
20 dBm			_	
CF 2.412 GHz	691	pts		Span 40.7 MHz
hannel Power		15.04.15		
Bandwidth 20.00 MH	lz Power	15.94 dBm	Tx Tota	al 15.94 dBm

Position: Y / Polarisation: H					
Frequ. [MHz]	Level (dBm)	Margin to Limit [d8]	Limit [dBm]	Result	
2412	15,94	14,06	30.00	pass	

ESTC IN GERMANY	Test report no.: 20/01-0031	Page 91 of 359 pa
TESTED IN GERMANY RefNo.: 20/01-0031	FCC 1 Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247	ESTC
Spectrum Ref Level 25.00 dBm Att 40 dB SWT	2.11g, CH.1, OFDM, BW = 20 MHz	put 1 AC
PS TDF 1Rm Max		
20 dBm-		
15 dBm 10 dBm 5 dBm 0 dBm -5 dBm -10 dBm -10 dBm -15 dBm -20 dBm	TX2	Manufanta and and and and and and and and and an
CF 2.412 GHz	691 pts	Span 40.7 MHz
Channel Power Bandwidth 20.00 MH	lz Power 17.80 dBm	Tx Total 17.80 dBm

	F	Position: Z / Polarisation:	V	
Frequ. [MHz]	Level (dBm)	Margin to Limit [dB]	Limit [dBm]	Result
2412	17,80	12.20	30,00	pass

Image: STC Instruction Test report no.: Page 92 of 359 pages 20/01-0031 Page 92 of 359 pages	20/01-0031
--	------------

TESTED	and the second sec	FC power of fur CC Subpart C			JE	STC
RefNo.: 20/01 Operating Mode: WLA	-0031 AN 802.11g, Cl	1.1, OFDM, B	W = 20 MH	Iz		
Spectrum						
RefLevel 25.00 dBm Att 40 dB PS TDF	SWT 1.1 ms	RBW 100 kHz VBW 300 kHz	Mode Aut	o Sweep Inj	aut 1 AC	
1Rm Max						
20 dBm						
15 dBm			T%1		_	
10 dBm						
0 dBm		.)				
-10 dBm		e-hyperomorphi	ny positive and	kind holdership		202334
-15 dBm	M-Mruson			a da	- Manual March	have been been build
-20 dBm-					-	
CF 2.412 GHz		69	1 pts			Span 40.7 MHz
Channel Power Bandwidth 20.0	00 MHz	Power	14.86 dB	m	Tx Total	14.86 dBm

	F	osition: Z / Polarisation:	н	
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit [dBm]	Result
2412	14,86	5,14	30,00	pass

ESTC	TESTED IN GERMANY
------	----------------------

Page 93 of 359 pages



FCC 1



Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

Summery of the findings

Test conditions	Polarization of receiving antenna	Tested frequency [MHz]	Meas value [dBm]	Limit [dBm]	Result
Position: X	V	2412	17,60	30,00	pass
Position: X	н	2412	17,58	30,00	pass
Position: Y	v	2412	19,61	30,00	pass
Position: Y	н	2412	15,94	30,00	pass
Position: Z	v	2412	17,80	30,00	pass
Position: Z	н	2412	14,86	30,00	pass

FRETE ITESTED	Test report no.:	Page 04 of 250 pages
ESTC IN GERMAN	20/01-0031	Page 94 of 359 pages

Middle operating frequency - 802.11g 20MHz / OFDM – MCS=0; 6 MBps / TX/RX1 / ext. Antenna typ 1

	TE	SI	ED	E.,		
I	IN	G	ER	M	AN	١

FCC 1



Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

Spectrum	RBW 100 kHz	(m) A
The management of the state of	T 1,1 ms - VBW 300 kHz Mode Auto Sweep Input	1 AC
1Rm Max		
20 dBm		
15 dBm-	TX1.	
10 dBm	-	
5 dBm	-	
dBm-		
-5 dBm	phones by her building probabilities between the	
~10 dBm-		
hadden and hadden allow the state	all and a second se	the Magazolion and to historical in
-20 dBm		
CF 2.437 GHz Channel Power	691 pts	Span 40.7 MHz
Bandwidth 20.00 N	1Hz Power 16.23 dBm T	x Total 16.23 dBm

	F	Position: X / Polarisation:	V	
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Līmīt (dBm)	Result
2437	16,23	13,77	30,00	pass

Image: Store Strep Test report no.: 20/01-0031	Page 95 of 359 pages
--	----------------------

BSTC

TE	STED
IN	GERMANY

FCC 1

Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

Ref Level 25.00 dBm Att 40 dB SWT PS TDF	■ RBW 100 kHz 1.1 ms ■ VBW 300 kHz Mode Auto Sweep I	nput 1 AC
1Rm Max		
20 dBm		
15 dBm-	TX1	
10 dBm		
5 dBm		
3 dBm	planter ber der ber ber ber ber ber ber ber ber ber b	
5 dBm		1
-10 dBm Layel H. M. Marson Law Apple and Abbar -15 dBm	A.A.	Minuted upon distributed in the
-15 dBm-		
20 dBm		
	691 pts	Span 40.7 MHz

	F	Position: X / Polarisation:	н	
Frequ. [MHz]	Level (dBm)	Margin to Limit [dB]	Limit [dBm]	Result

STC RESTED	Test report no.: 20/01-0031	Page 96 of 359 page
TESTED IN GERMANY	FCC 1 Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247	ESTC
Spectrum Ref Level 25.00 dBm Att 40 dB SWT	2.11g, CH.6, OFDM, BW = 20 MHz RBW 100 kHz 1.1 ms = VBW 300 kHz Mode Auto Sweep Imp	ut 1 AC
PS TDF 1Rm Max		
20 dBm		
15 dBm	781	
10 dBm		
) dBm	were bookers alone of produced and a state of	
5 dBm-	How we wanted the second of th	
Wharming million and the mould be made	with	when and the product of an and for the second second
20 dBm		
CF 2.437 GHz	691 pts	Span 40.7 MHz
hannel Power Bandwidth 20.00 MH	lz Power 19.45 dBm	Tx Total 19.45 dBm
	Position: Y / Polarisation: V	

	F	Position: Y / Polarisation:	V	
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit (dBm)	Result
2437	19.45	10.55	30.00	pass

STC RESTED	Test report no.: 20/01-0031	Page 97 of 359 pag
	FCC 1 power of fundamental em CC Subpart C § 15.209 / RS	
Perating Mode: WLAN 802.11g, Cl Spectrum Ref Level 25.00 dBm Att 40 dB SWT 1.1 ms	RBW 100 kHz	weep Input 1 AC
1Rm Max	1 1 1	
20 dBm-		
20 UBIN-		
.5 dBm	TX1	
l0 dBm		
5 dBm		
J dBm		
	and shirts	
5 dBm	an Inclusion bin fring produced outloand	and and a
1. Marin Marin Jaka to the and the second second		Lachiderought any school and shaked
20 49 20		
20 dBm		
CF 2.437 GHz	691 pts	Span 40.7 MHz
hannel Power Bandwidth 20.00 MHz	Power 16.00 dBm	Tx Total 16.00 dBm
	Position: Y / Polarisation: ł	

		osition: Y / Polarisation:	H	
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit [dBm]	Result
2437	16,00	14,00	30,00	pass

Page 98 of 359 pages

BSTC



FCC 1

Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

Spectrum Ref Level 25.00 dBm Att 40 dB SW PS TDF	RBW 100 kHz 1.1 ms VBW 300 kHz Mode Auto Sweep Input 1 AC
1Rm Max	
20 dBm	
15 dBm-	TX1
10 dBm	
S dBm	
0 dBm	alarchereby material sty particular strends when the other
~5 dBm	where we are a second a second as fully the
-10 dBm-	
-15 dBm	war" "
-20 dBm-	
CF 2.437 GHz	691 pts Span 40.7 MHz
Channel Power Bandwidth 20.00 M	Hz Power 19.42 dBm Tx Total 19.42 dBm

	F	Position: Z / Polarisation:	2-	
Frequ. [MHz]	Level (dBm)	Margin to Limit [dB]	Limit (dBm)	Result
2437	19.42	10.58	30.00	pass

FRETE TESTED	Test report no.:	Da
ESTC IN GERMANY	20/01-0031	Га

Page 99 of 359 pages

1	TESTED	
J	IN GERMANY	

FCC 1



Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

TXI		
TXI		
TXI	_	
	-	
	-	
	-	
aspectary and an operation of the	West about	
	Col De a Man	murthistraymanticant
	-	
691 pts		Span 40.7 MHz

	F	Position: Z / Polarisation:	н	
Frequ. [MHz]	Level [dBm]	Margin to Limit (dB)	Limit (dBm)	Result

STC	TESTED IN GERMANY
-----	----------------------



FCC 1



Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

Summery of th	ne findings
---------------	-------------

Test conditions	Polarization of receiving antenna	Tested frequency [MHz]	Meas value [dBm]	Limit [dBm]	Result
Position: X	V.	2437	16,23	30,00	pass
Position: X	Ĥ	2437	19,47	30,00	pass
Position: Y	v	2437	19,45	30,00	pass
Position: Y	H	2437	16,00	30,00	pass
Position: Z	v	2437	19,42	30,00	pass
Position: Z	н	2437	17,30	30,00	pass

STC TESTED

Highest operating frequency - 802.11g 20MHz / OFDM - MCS=0; 6 MBps / TX/RX1 / ext. Antenna typ 1

TESTED IN GERMANY

FCC 1



Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

Spectrum Ref Level 25.00 dBm Att 40 dB SWT 1.1 ms = PS TOF		Input I AC
e1Rm Max		
20 dBm		
15 dBm	TX1	
10 dBm		
5 dBm		
0 dBm		
-5 dBm-	re-harbora with pertublic harder by	
-10 dBm	II	
150 dBm		and be real programmer and the second
-20 dBm		
CF 2.462 GHz	691 pts	Span 40.7 MHz
Channel Power Bandwidth 20.00 MHz	Power 16.50 dBm	Tx Total 16.50 dBm
	Position: X / Polarisation: V	
a design of the second		

Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit (dBm)	Result
2462	16,50	13,50	30,00	pass

ESTC TESTED

Page 102 of 359 pages



FCC 1



Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

RefLevel 25.00 dBm Att 40 dB S PS TDF	 RBW 100 kHz WT 1.1 ms WBW 300 kHz 	Mode Auto Swe	ep Input i	AC.	
1Rm Max	1.1.	-T			
20 dBm-					
.5 dBm		TX1		-	
0 dBm	-		-		
i dBm	-		-		_
i dBm	-		-		_
5 dBm	Joseph and the opposite	by - ridenter britter britter	blog ATRA		-
10 dBm	- Martin Martine	1	- 1		a suble
anglither and All March and March 15 dBm	w tringfil		The Alt	Marthan and the second	informat human
20 dBm	-				
CF 2.462 GHz		91 pts		Sr	an 40.7 MHz

	F	Position: X / Polarisation:	н	
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit (dBm)	Result

STC IN GERMANY	Test report no.: 20/01-0031	Page 103 of 359 pa
TESTED IN GERMANY RefNo.: 20/01-0031	FCC 1 Output power of fundamental emissi acc. FCC Subpart C § 15.209 / RSS-2	
Spectrum Ref Level 25.00 dBm	RBW 100 kHz WBW 300 kHz Mode Auto Sweep	p Input 1 AC
1Rm Max		A
20 dBm		
15 dBm	TXL	
0 dBm	phere and a short participation for the participation of the sector of t	wl,
-10 dBm Williacy/www.hullinullia.hu -15 dBm	ay t	how when a particular many called the
-20 dBm	601 skr	Span 40.7 MHz
CF 2.462 GHz Channel Power	691 pts	Span 40.7 MHZ
Bandwidth 20.00 MH,	z Power 19.29 dBm	Tx Total 19.29 dBm
	Position: Y / Polarisation: V	

		Position: Y / Polarisation:	v	
Frequ. [MHz]	Level (dBm)	Margin to Limit [dB]	Limit [dBm]	Result
2462	19.29	10.71	30.00	pass

|--|--|

Page 104 of 359 pages



FCC 1

Output power of fundamental emissions



acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

Ref Level 25.00 dBm Att 40 dB SWT 1. PS TDF 10 dB 10 dB	RBW 100 kHz 1 ms VBW 300 kHz Mode Auto Sweep	Input 1 AC
1Rm Max		
20 dBm-		
15 dBm-	TK1	
10 dBm		
5 dBm		
0 dBm	C. Constant of the	
-5 dBm	pendectracolorling personale atress	46
-10 dBm		
-15/dBm		and the second and the
-20 dBm		

	F	Position: Y / Polarisation:	н	
2.111.111.1	Lovel (dDm)	Manufa ta Linut con		Decul
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit [dBm]	Result

ESTC IN GERMANY	Test report no.: 20/01-0031	Page 105 of 359 pa
TESTED IN GERMANY	FCC 1 Output power of fundamental emissio acc. FCC Subpart C § 15.209 / RSS-24	
Spectrum Ref Level 25.00 dBm	2.11g, CH.11, OFDM, BW = 20 MHz RBW 100 kH2 1.1 ms VBW 300 kH2 Mode Auto Sweep	Input 1 AC
IRm Max		
20 d8m-		
15 dBm IU dBm 5 dBm -5 dBm -10 dBm -10 dBm -20 dBm -20 dBm	TX2	My minilal photogrammary allatterarment
CF 2.462 GHz	691 pts	Span 40.7 MHz
Channel Power Bandwidth 20.00 Mi	2	Tx Total 17.37 dBm

	F	Position: Z / Polarisation:	V	
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit [dBm]	Result
2462	17,37	12.63	30.00	pass

STC IN GERMANY	Test report no.: 20/01-0031	Page 106 of 359 pa
	FCC 1 ut power of fundamental emission: FCC Subpart C § 15.209 / RSS-247	
perating Mode: WLAN 802.11g,	CH 11, OFDM, BW = 20 MHz	
Ref Level 25,00 d8m Att 40 dB SWT 1.1 ms PS TDF 40 dB SWT 1.1 ms	 RBW 100 kHz VBW 300 kHz Mode Auto Sweep 	Input I AC
IRm Max		
20 dBm-		
10 dBm		
0 dBm	and the second	
-10 dam walk gluth Aldeland and and and and all the	and the statement of the particulation of the statement	Menter Martin Martin Martin
20 dBm		
CF 2.462 GHz	691 pts	Span 40.7 MHz
hannel Power Bandwidth 20.00 MHz	Power 13,71 dBm	Tx Total 13.71 dBm
	Position: Z / Polarisation: H	

Margin to Limit [dB]

16,29

Limit [dBm]

30,00

Result

pass

Frequ. [MHz]

2462

Level [dBm]

13,71





FCC 1

BSTC

Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

Summery of the findings

Test conditions	Polarization of receiving antenna	Tested frequency [MHz]	Meas value [dBm]	Limit [dBm]	Result
Position: X	V	2462	16,50	30,00	pass
Position: X	н	2462	15,60	30,00	pass
Position: Y	v	2462	19,29	30,00	pass
Position: Y	н	2462	16,94	30,00	pass
Position: Z	v	2462	17,37	30,00	pass
Position: Z	н	2462	13,71	30,00	pass

		ver radiated mea M – MCS=0; 6 M	asurement: /IBps / TX/RX1 / (external Antenn	a typ 1	
Channel	Channel Frequency	Output Power		Limit		Result
[MHz]	[dBm]	[mW]	[dBm]	[mW]		
1	2412	19.61	91.41	30	1000	Pass
6	2437	19.47	88.51	30	1000	Pass
11	2462	19.29	84,92	30	1000	Pass

ESTC TESTED

Lowest operating frequency - 802.11g 20MHz / OFDM - MCS=0; 6 MBps / TX/RX0 / ext. Antenna typ1

TESTED IN GERMANY

FCC 1



Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

Spectrum Ref Level 25.00 dBr Att 40 d PS TDF	1. Sec. 1. Sec	8	RBW 100 kHz VBW 300 kHz	Mode Aut	o Sweep	Input 1 A	1	
1Rm Max				-	-	1 1	-	1
20 dBm		_				_		
15 dBm-	-	_	_	TX1		-	-	
10 dBm								
-5 dBm -10 dBm -10 dBm -15 dBm -15 dBm	industriate	sand alwald	ud man the strength	of Vandynyk sol	en (Mar)	hay	un der an and	Haramonaha
-20 dBm								
CF 2.412 GHz			69	1 pts			Spar	1 40.7 MHz
CF 2.412 GHz Channel Power Bandwidth 20	D.00 MH	Ηz		01 pts • 15.42 dBi	m	Tx Te	Spar Spar	18.27

	Po	sition: X/Y/Z / Polarisation	n: V	
Frequ. [MHz]	Level (dBm)	Margin to Limit [dB]	Limit [dBm]	Result
2412	15,42	14,58	30,00	pass

ESTC TESTED	
-------------	--

Test report no.: 20/01-0031

Page 109 of 359 pages



FCC 1

Output power of fundamental emissions



acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

Operating Mode: WLAN 802.11g, CH.01, OFDM, BW = 20 MHz

Spectrum Receiver S Ref Level 25.00 dBm Att 40 dB SWT 1.1 ms PS TDF	RBW 100 kHz VBW 300 kHz Mode Auto Sweep	Input LAC
1Rm Max		3 1 1 1 1
20 dBm-		
15 dBm	T%1	
10 dBm		
5 dBm		
D dBm-		
-5 dBm	- Heteraration	
-5 dBm -10 dBm -11 dBm -15 dBm	performing the owner of the production of the other	why
Mille Hundred Anim December 19		Turned human have been and hav
-20 dBm		
CF 2.412 GHz	691 pts	Span 40.7 MHz
Channel Power Bandwidth 20.00 MHz	Power 13,24 dBm	Tx Total 13.24 dBm

	Po	sition: X/Y/Z / Polarisation	n: H			
Frequ. [MHz] Level [dBm] Margin to Limit [dB] Limit [dBm] Result						
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit (dBm)	Result		

STC	TESTED
-----	--------

Middle operating frequency - 802.11g 20MHz / OFDM – MCS=0; 6 MBps / TX/RX0 / ext. Antenna typ 1

TESTED IN GERMANY

FCC 1



Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

Operating Mode: WLAN 802.11g, CH.06, OFDM, BW = 20 MHz

Spectrum Receiver &			Em A
Ref Level 25.00 dBm Att 40 dB SWT 1.1 m PS TDF 30 dB SWT 1.1 m	 RBW 100 kHz VBW 300 kHz Mode Au 	ta Sweep Input 1 /	4C
1Rm Max			
20 dBm			
15 dBm	T%1		
10 dBm		-	
5.dBm		-	
o dBm		-	
-5 dBm	humber than the third bar production	Manghandrichter	
-10 dBm /M	Meet Land		
-15 dBm		liter bus	Murphindulation
-20 dBm		-	
CF 2.437 GHz	691 pts		Span 40.7 MHz
Channel Power Bandwidth 20.00 MHz	Power 15,33 dE	3m Tx 1	Total 15.33 dBm

Position: X/Y/Z / Polarisation: V					
Frequ. [MHz]	Level (dBm)	Margin to Limit [dB]	Limit [dBm]	Result	
2437	15,33	14,67	30,00	pass	

ESTC ITESTED	Test report no.: 20/01-0031	Page 111 of 359 pages
--------------	--------------------------------	-----------------------

TE:	STED	
IN	GERMANY	

FCC 1

Output power of fundamental emissions



acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

Operating Mode: WLAN 802.11g, CH.06, OFDM, BW = 20 MHz

Ref Level 25.00 dBm Att 40 dB PS TDF	■ RBW 100 kH SWT 1.1 ms ■ VBW 300 kH		Input 1 AC	
1Rm Max		1		
20 dBm				
15 dBm-		TX1		
10 dBm	-			
5 dBm-	-			
0 dBm	<u></u>		-	
-5 dBm-	-			
-10 dBm	while investable building the other	and manufacture a faith of	White the second	1.5.1.1.1.1.1.1
-15 dBm			annin tradition	allow-hours and hours
-20 dBm				
Contraction of the second s		691 pts		Span 40.7 MHz

Position: X/Y/Z / Polarisation: H						
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit [dBm]	Result		

|--|--|

Highest operating frequency - 802.11g 20MHz / OFDM - MCS=0; 6 MBps / TX/RX0 / ext. Antenna typ 1

TESTED IN GERMANY

FCC 1



Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

Operating Mode: WLAN 802.11g, CH.11, OFDM, BW = 20 MHz.

Spectrum Receiver X	1					(m) A
Ref Level 25.00 dBm Att 40 dB SWT 1.1 ms PS TDF 30 dB SWT 1.1 ms	 RBW 100 kHz VBW 300 kHz 	Mode Auto	Sweep Int	out 1 AC		
IRm Max						
20 dBm						
15. dBm	17	Xi				
10 dBm					-	
5 dBm				-		
0 dBm		11		-		
-5 dBm	1 huspal who shall	Mandalah	entre-hardine			
-10 dBm	harris	V			1	10.2.1.2
a dBm			ų.	Multertonda	per fortune or y	arterior and when
-20 dBm+				-		
CF 2.462 GHz	691	pts			Span	40.7 MHz
Shannel Power Bandwidth 20.00 MHz	Power	15.95 dBn	1	Tx Tota	al 15,95	dBm
	Position: X/Y/Z	/ Polarisatio	on: V			

requ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit [dBm]	Result
0.100	10.05	11.75		34.053
2462	15.95	14.05	30.00	pass

ESTC ITESTED		Test report no.: 20/01-0031		Page	113 of 359 pag
TESTED IN GERMANY		FCC 1 of fundamenta bpart C § 15.209		ΞS	тс
RefNo.: 20/01-003 perating Mode: WLAN 80) FDM, BW = 20	MHz		
Spectrum Receive Ref Level 25.00 dBm Att 40 dB SW1	RBW 1		uto Sweep Input	1 AC	
PS TDF 1Rm Max					1
20 dBm					
15 dBm		TX1			
10 dBm 5 dBm 0 dBm 5 dBm 	anne an	erhading publicate	allis I on a support	www.com.sugurantf	mantreader
CF 2.462 GHz		691 pts		Spa	n 40.7 MHz
Channel Power Bandwidth 20.00 M	Hz	Power 13.76 d	Bm 1	fx Total 13.76	dBm

_	Po	sition: X/Y/Z / Polarisatior	n: H	
		1		
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit (dBm)	Result

ESTC	TESTED IN GERMANY
-------------	----------------------

		ver radiated mea M – MCS=0; 6 M		external Antenna	a typ 1	
Channel	Frequency	Output	Output Power		nit	Result
	[MHz]	[dBm]	[mW]	[dBm]	[mW]	
1	2412	15.95	39.36	30	1000	Pass
6	2437	15.33	34.12	30	1000	Pass
11	2462	15.42	34.83	30	1000	Pass

			d measurem 6 MBps / TX		X1 / externa	al Antenna t	typ 1	
Channel	Frequency	Output TX/RX0	Output TX/RX1	Total Output Power		Liı	nit	Result
	[MHz]	[mW]	[mW]	[dBm]	[mW]	[dBm]	[mW]	
1	2412	39.36	91.41	21.17	130.77	30	1000	Pass
6	2437	34.12	88.51	20.89	122.63	30	1000	Pass
11	2462	34.83	84,92	20.78	119,75	30	1000	Pass
According	to KDB 6629	11 D01						

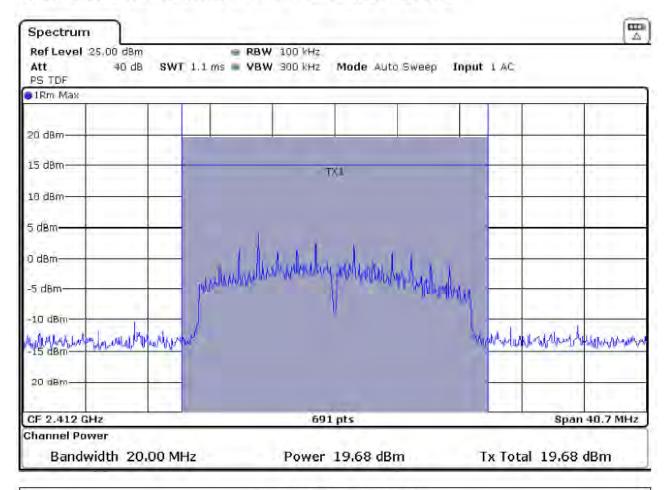
STC TESTED

Lowest operating frequency - 802.11n 20MHz / HT MixMode – MCS=0; 6.5 MBps / TX/RX1 / ext. Antenna typ 1



FCC 1 Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031



	F	Position: X / Polarisation:	v	
Frequ. [MHz]	Level (dBm)	Margin to Limit [dB]	Limit [dBm]	Result
2412	19,68	10,32	30,00	pass

STC IN GERMANY	Test report no.: 20/01-0031	Page 116 of 359 page
TESTED IN GERMANY	FCC 1 Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247	BSTC
RefNo.: 20/01-0031 Operating Mode: WLAN 802	.11n, CH.1, HT: Greenfield, BW = 20 MHz	
PS TDF	■ RBW 100 kHz 1.1 ms ■ VBW 300 kHz Mode Auto Sweep In	nput 1 AC
1Rm Max	T	
20 dBm-		
15 dBm	TX1	
10 dBm		
5 dBm		
0 dBm	1 1 1 1 al abarah 1 1 1 1	
-S dBm	perhapsion where produced and a standard and	W
-10 dBm		
-25 BBm-		Man mar aller and and
-20 dBm		
		the second se

	P	Position: X / Polarisation:	H	
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit (dBm)	Result

ESTC RESTED	Test report no.: 20/01-0031	Page 117 of 359 pages
TESTED	FCC 1	MISTC

Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

Ref Level 25.00 dBm Att 40 dB PS TDF	SWT 1.1	s RBW		Mode Auto	o Sweep 1	input i	AC.		
1Rm Max				1	-	<u> </u>	1	1	
20 dBm		_			-				
15 dBm	-		Ţ	TX:1	_		-	-	-
10 dBm						-			
5 dBm				1					
0 dBm		n. h.	a data	1 Selved rol	1.11	-	-		
		The second se	1 2 M R 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	A DESCRIPTION AND	AND DO DO DO DO				
-5 dBm	pla	e Maria	a Mana	L'atelinshind	man hardly	UNI -	7		-
-10 dBm		-Manaka	a. Photosa a	A	erente seille	1-	Lynnorth	M. hill Machine	16. Both
-5 dBm -10 dBm -10 dBm -15 dBm -15 dBm		and here here		1 and the second	erron (kola ja li),	1-	-Lumaning	6 Martin briege	ul-Ju ^{tu}
-10 dBm		and the second	n. Photoson	1 Constraints		1-	Marin	W. Hullow	ri - Brin

	F	Position: Y / Polarisation:	V	
Frequ. [MHz]	Level [dBm]	Margin to Limit (dB)	Limit [dBm]	Result

ESTC TESTED

Test report no.: 20/01-0031

Page 118 of 359 pages

TESTED	
IN GERMANY	•

FCC 1

Output power of fundamental emissions



acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

RefLevel 25.00 dBm Att 40 dB SWT PS TDF	RBW 100 kHz 1.1 ms VBW 300 kHz Mode Auto Sweep 1	Input 1 AC
1Rm Max	1 1 1	
20 dBm-		
L5 dBm	TX1	
10 dBm		
i dBm	1 1	
0 dBm	pollendershared present got a survey of the	
10 dBm	la la call	
15 obidula olytical director of the		the analytic brack and a solution of the solut
-20 dBm		

	F	Position: Y / Polarisation:	н	
attend attender T	Laural Lip-1	Manufa de la Serie Mars		
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit [dBm]	Result

Image: STC In GERMANY Test report no.: Page 119 of 359 pages
--

BSTC

TESTED IN GERMANY

FCC 1

Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

	RBW 100 kHz VBW 300 kHz Mode Auto Sweep	Input i AC
1Rm Max		
20 dBm-		
15 dBm	LXT	
10 dBm		
5 dBm	E E C	
0 dBm	beelershowberry pulsindering helder	
-5 dBm ////////	Part Real and a Marthall	Yilay -
-10 dBm		
All all and the set of a set o		Toplack of the top the address of the
-20 dBm		
-20 dBm CF 2.412 GHz Channel Power	691 pts	Span 40.7 MHz

_	F	Position: Z / Polarisation:	V	
Frequ. [MHz]	Level (dBm)	Margin to Limit [dB]	Limit (dBm)	Result
2412	20,16	9,84	30,00	pass

	Test report no.: 20/01-0031	Page 120 of 359 pages
--	--------------------------------	-----------------------

TESTED IN GERMANY FCC 1

Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247 BSTC

Ref.-No.: 20/01-0031

Ref Level 25,00 dBm Att 40 dB SWT 1 PS TDF 40 dB SWT 1	RBW 100 kHz 1 ms VBW 300 kHz Mode Auto Sweep	Input 1 AC
1Rm Max	1 1 1 1	
20 d8m-		
15 dBm	TX1	
10 dBm		-
5 dBm		-
0 dBm-	1 1 1	
-5 dBm	oversal when the barrier of perturbation of the second	
-10 dBm	als when a produce out to another when all	hun
unandharadanaturanthalana		200 month and an and
-20 dBm		
CF 2.412 GHz	691 pts	Span 40.7 MHz

	F	Position: Z / Polarisation:	н	
Frequ. [MHz]	Level [d8m]	Margin to Limit [dB]	Limit (dBm)	Result



Test report no.: 20/01-0031



FCC 1

IN GERMANY Output power of fundamental emissions



acc. FCC Subpart C § 15.209 / RSS-247

20/01-0031 Ref -No.

Summery	of	the	findings	

Test conditions	Polarization of receiving antenna	Tested frequency [MHz]	Meas value [dBm]	Limit [dBm]	Result
Position: X	V	2412	19,68	30,00	pass
Position: X	н	2412	19,91	30,00	pass
Position: Y	v	2412	19,18	30,00	pass
Position: Y	н	2412	18,36	30,00	pass
Position: Z	V	2412	20,16	30,00	pass
Position: Z	H	2412	15,86	30,00	pass

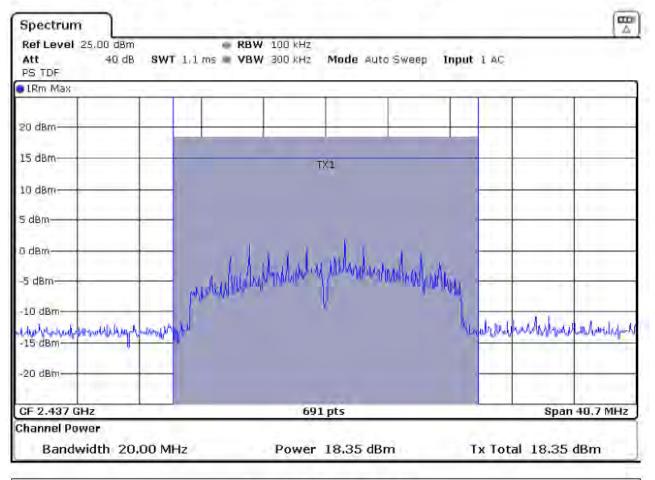
8	ESTC TESTED	Test report no.: 20/01-0031	Page 122 of 359 pages	
	THE OFFICIAL	20/01-0001		

Middle operating frequency - 802.11n 20MHz / HT MixMode – MCS=0; 6.5 MBps / TX/RX1 / ext. Antenna typ 1



FCC 1 Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031



	F	Position: X / Polarisation:	V	
Frequ. [MHz]	Level (dBm)	Margin to Limit [dB]	Limit [dBm]	Result
2437	18,35	11,65	30,00	pass

	MANY	Test report no.: 20/01-0031		Page 123 of 359 pag
TESTED IN GERMAN	acc. FC	FCC 1 ower of fundamental em C Subpart C § 15.209 / RS		ESTC
	1-0031 _AN 802.11n, CH	6, HT: Greenfield, BW = 2	0 MHz	
Ref Level 25.00 dBm Att 40 dB PS TDF	the second se	RBW 100 kHz VBW 300 kHz Mode Auto Si	weep Input I AC	(4)
1Rm Max				
	-			*
20 dBm-				· · · · · · · · · · · · · · · · · · ·
Sec. 11				
15 dBm-	1	TXI	1	
10 dBm				
5 dBm				
) dBm	1.0	Annuschedry roteshiphy	11	
J'UDIII-	6.1.	Jahren heading partition which	Malan	
-5 dBm-	MASTERAN	allow a la service de	M. M. M.	
Martin termina				1 mm
10 dBm	1.11		51.00	WILL SHARE AND AND AND AND A
-15 dBm-	And Million		and the server	williamphiniphini
-20 dBm			-	
	A Provide State			
CF 2.437 GHz		691 pts		Span 40.7 MHz
hannel Power Bandwidth 20	.00 MHz	Power 20.35 dBm	Tx Tota	al 20,35 dBm
		Position: X / Polarisation: I	4	
		1		1
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit [dBm]	Result

9,65

30,00

pass

2437

20,35

STC RESTED	Test report no.: 20/01-0031	Page 124 of 359 pa
TESTED IN GERMANY	FCC 1 Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247	BSTC
RefNo.: 20/01-0031 Operating Mode: WLAN 80	2.11n, CH.6, HT: Greenfield, BW = 20 MHz	
Spectrum		
Ref Level 25.00 dBm Att 40 dB SWT PS.TDF 30 dB SWT	RBW 100 kHz 1.1 ms VBW 300 kHz Mode Auto Sweep Ing	aut 1 AC
1Rm Max		
20 dBm		
15 dBm	TX1	
10 dBm		C
5 dBm	and the first	
0 dBm	we had out when had and and and and and had had had	
-5 dBm	wild the many and the solution	
-10 dBm Muji Mupp bakker was wroth -15 dBm	r de la companya de la	Halinen ageographic a hage of the sound has
-20 dBm-		
GF 2.437 GHz	691 pts	Span 40.7 MHz
Channel Power Bandwidth 20.00 MH	lz Power 21.09 dBm	Tx Total 21.09 dBm
banuwiutii 20.00 MF	12 POWEI 21.09 0011	

	1	Position: Y / Polarisation:	V	
Frequ. [MHz]	Level (dBm)	Margin to Limit (dB)	Limit (dBm)	Result
2437			30.00	

ESTC IN GERMANY	Test report no.: 20/01-0031	Page 125 of 359 pages
TESTED IN GERMANY	FCC 1 Output power of fundamental emissions	ESTC

. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

Ref Level 25.00 dBm Att 40 dB SWT 1.1 r PS TDF	RBW 100 kHz Swee VBW 300 kHz Mode Auto Swee	p Input 1 AC	[Δ
1Rm Max			
20 dBm			
15 dBm-	TX1		
10 dBm		-	
5 dBm			
0 dBm	1 Hundder		
-5 dBm	Anderstanding production have	the floor	
angelighter with hyperdonan and		"My A had	Mithianahilintulman
-20 dBm		-	

	F	Position: Y / Polarisation:		
Francisco de la companya de la compa	Level (dBm)	Margin to Limit [dB]	Limit (dBm)	Result
Frequ. [MHz]	Fease, Ignuil	margin to cinic [ub]	Ennix (donij	Result

STC ITESTED	Test report no.: 20/01-0031	Page 126 of 359 pa
TESTED IN GERMANY	FCC 1 Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247	BSTC
RefNo.: 20/01-0031 perating Mode: WLAN 802	11n, CH.6, HT: Greenfield, BW = 20 MHz	
Spectrum RefLevel 25,00 dBm Att 40 dB SWT 1 PS TDF	● RBW 100 kHz .1 ms ■ VBW 300 kHz Mode Auto Sweep Input	t 1 AC
1Rm Max		
20 dBm		
15 dBm	TX1	
LO dBm		
i dBm		
i dBm	- III - III - I	
5.dBm	perturbation of alcular history	
10 dBm		
the white and a surplice with the with		and a high a pathollathan and the home
20 dBm-		
	691 pts	Span 40.7 MHz

	F	Position: Z / Polarisation:	V	
		1		_
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit (dBm)	Result

ESTC TESTED

Test report no.: 20/01-0031

Page 127 of 359 pages



FCC 1

Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247



Ref.-No.: 20/01-0031

Ref Level 25.00 dBm Att 40 dB SWT 1.1 r PS TDF	 RBW 100 kHz ns VBW 300 kHz Mode Aut 	a Sweep Input	1 AC
1Rm Max	- I	ī ī	· · · · · ·
20 d8m			
15 dBm	1//2	<u> </u>	
10 dBm			
5 dBm			
0 dBm	and de	M	
-5 dBm	applew by his alway with water	hulphantan	
-10 dBm		and the second second	
-15 dBm-		ante ante	hele grade and a strategic of the state of t
-20 dBm			
CF 2.437 GHz	691 pts		Span 40.7 MHz
hannel Power Bandwidth 20.00 MHz	Power 17.24 dB		x Total 17.24 dBm

	F	Position: Z / Polarisation:	н	
-		Í.		_
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit [dBm]	Result

STC	TESTED IN GERMANY
-----	----------------------

Test report no.: 20/01-0031



FCC 1



Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

Summery of the findings

Test conditions	Polarization of receiving antenna	Tested frequency [MHz]	Meas value [dBm]	Limit [dBm]	Result
Position: X	v	2437	18,35	30,00	pass
Position: X	H -	2437	20,35	30,00	pass
Position: Y	v	2437	21,09	30,00	pass
Position: Y	н	2437	17,72	30,00	pass
Position: Z	v	2437	19,95	30,00	pass
Position: Z	н	2437	17,24	30,00	pass

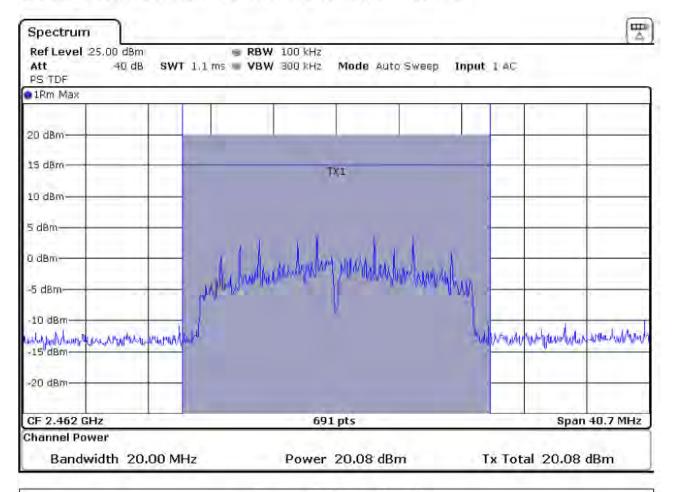
	NY
--	----

Highest operating frequency - 802.11n 20MHz / HT MixMode – MCS=0; 6.5 MBps / TX/RX1 / ext. Antenna typ 1



FCC 1 Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031



Position: X / Polarisation: V				
Frequ. [MHz]	Level (dBm)	Margin to Limit [dB]	Limit [dBm]	Result
2462	20,08	9,92	30,00	pass

RefNo: 20/01-0031 perating Mode: WLAN 802.11n, CH.11, HT: Greenfield, BW = 20 MHz Spectrum Ref Level 25.00 dBm RBW 100 KH2 Att 40 dB SWT 1.1 ms YBW 300 kH2 Mode Auto Sweep Input 1 AC PS TDF IPm Max 7X1 10 dBm 0 dBm 0 dBm 0 dBm 10 dBm 0 dBm 0 dBm 0 dBm 0 dBm 10 dBm 0 dBm 0 dBm 0 dBm 0 dBm 10 dBm 0 dBm 0 dBm 0 dBm 0 dBm 10 dBm 0 dBm 0 dBm 0 dBm 0 dBm 10 dBm 0 dBm 0 dBm 0 dBm 0 dBm	Auturul 0.7 MHz
perating Mode: WLAN 802.11n, CH.11, HT: Greenfield, BW = 20 MHz Spectrum Ref Level 25.00 dBm RBW 100 kHz Att 40 dB SWT 1.1 ms VBW 300 kHz Mode Auto Sweep Input 1 AC PS TDF IRm Max 20 dBm	
Spectrum Ref Level 25.00 dBm RBW 100 kHz Att 40 dB SWT 1.1 ms VBW 300 kHz Mode Auto Sweep Input 1 AC PS TDF 1Rm Max	
perating Mode: WLAN 802.11n, CH.11, HT: Greenfield, BW = 20 MHz Spectrum Ref Level 25.00 dBm RBW 100 kHz Att 40 dB SWT 1.1 ms VBW 300 kHz Mode Auto Sweep Input 1 AC PS TDF	_
Perating Mode: WLAN 802.11n, CH.11, HT: Greenfield, BW = 20 MHz Spectrum Ref Level 25.00 dBm	
perating Mode: WLAN 802.11n, CH.11, HT: Greenfield, BW = 20 MHz	
perating Mode: WLAN 802.11n, CH.11, HT: Greenfield, BW = 20 MHz	
	m
IN GERMANY Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247	-
TESTED FCC 1	r c
STC IN GERMANY 20/01-0031 Page 130	

	F	Position: X / Polarisation:	н	
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit (dBm)	Result
		Contraction of the second second second	Control Control	

|--|

Test report no.: 20/01-0031

Page 131 of 359 pages

TE:	STED
IN	GERMANY

FCC 1

Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247



Ref.-No.: 20/01-0031

Att 40 dB SWT 1. PS TDF	1 ms 🖷 VBW 300 kHz Mode Auto Sweep Inpu	at 1 AC
1Rm Max		1 1
0 dBm		
5 dBm	TV1	
0 dBm		* <u></u>
dBm	A COLLECTION OF A COLLECTION O	
dBm	why he budget adapted by perturbudget bedress	
5 dBm		
10 dBm myler maner tylkarlange allered at 15 dBm		the manufacture where a sub-
20 dBm		
F 2.462 GHz	691 pts	Span 40.7 MHz

	F	Position: Y / Polarisation:	V	
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit (dBm)	Result

ESTC IN GERMANY	Test report no.: 20/01-0031	Page 132 of 359 pages

 Itested IN GERMANY
 FCC 1 Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247
 Image: State

 Ref.-No.:
 20/01-0031

 Operating Mode: WLAN 802.11n, CH.11, HT: Greenfield, BW = 20 MHz

Spectrum				
Ref Level 25,00 dBr Att 40 d PS TDF		RBW 100 kHz VBW 300 kHz Mode Auto	Sweep Input 1 AC	
1Rm Max		11 A. 11	x 5.	
	e i el le e			
20 d8m				
15 dBm		T¥1		
10 dBm				
5 dBm				
0 dBm		and the		
-5 dBm	to the	and a line put and a day	A Aller -	
-10 dBm-	horawwa -		2.000	
Mallowurd Shuph bar	when the W		Tark phate whe	regardin Allian tradition
-20 dBm				
CF 2,462 GHz		691 pts		Span 48.7 MHz
Channel Power	1.		2.21	200 D 1 1
Bandwidth 2	0.00 MHz	Power 16.72 dBm	ı Tx Tot	al 16.72 dBm
		Position: Y / Polarisation	н	
Frequ. (MHz)	Level [dBm]	Margin to Limit [dB]	Limit (dBm)	Result

13,28

30,00

pass

2462

16,72

STC ITESTED	Test report no.: 20/01-0031			Page 133 of 359 pa
TESTED IN GERMANY RefNo.: 20/01-0031	Output power of f acc. FCC Subpar	CC 1 undamental emiss t C § 15.209 / RSS-	247	BSTC
Spectrum Ref Level 25.00 dBm Att 40 dB SWT PS TDF	2.11n, CH.11, HT: G RBW 100 ki 1.1 ms VBW 300 ki	Hz		(B)
1Rm Max				-
20 d8m				
15 dBm		TX1		
10 dBm				
5 dBm		Looper ()		
J dBm	publisheduchados	ital particular and put at	Liden	
-5 dBm	MAPAN		ANKIA -	
10 dBm				
My with the and Morelauter	P.		"when you	anyphonisthelighterman
20 dBm				
CF 2.462 GHz		691 pts		Span 40.7 MHz
Channel Power				

	F	Position: Z / Polarisation:	V	
Frequ. [MHz]	Level (dBm)	Margin to Limit [dB]	Limit (dBm)	Result
2462	21.26	8,74	30.00	pass

STC IN GERMANY	Test report no.: 20/01-0031	Page 134 of 359 pa
TESTED IN GERMANY RefNo.: 20/01-0031	FCC 1 Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247	BSTC
Spectrum Ref Level 25,00 dBm	2.11n, CH.11, HT: Greenfield, BW = 20 MHz RBW 100 kHz 1.1 ms = VBW 300 kHz Mode Auto Sweep Inpu	t 1 AC
1Rm Max		
20 dBm-		
LS dBm		
10 dBm	TX1	
I dBm	poly all a development of the land of the start of the st	
5 d8m	- Angrand a many and a many and the first	
10 dBm Asylin ywww. Juliu MyAylin Winner 15 dBm	ud l	have deriver watch and a world
20 d8m		
CF 2.462 GHz	691 pts	Span 40.7 MHz
hannel Power		

	F	Position: Z / Polarisation:	н	
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit (dBm)	Result
2462	18.29	11.71	30.00	pass



Test report no.: 20/01-0031



FCC 1



Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

Summery of the findings

Test conditions	Polarization of receiving antenna	Tested frequency [MHz]	Meas value [dBm]	Limit [dBm]	Result
Position: X	V	2462	20,08	30,00	pass
Position: X	н	2462	19,91	30,00	pass
Position: Y	v	2462	21,39	30,00	pass
Position: Y	н	2462	16,72	30,00	pass
Position: Z	v	2462	21,26	30,00	pass
Position: Z	A .	2462	18,29	30,00	pass

		ver radiated mea lixMode – MCS	asurement: =0; 6.5 MBps / T	X/RX1 / ext. Ante	enna typ 1	
Channel	Frequency	Output Power		Limit		Result
	[MHz]	[dBm]	[mW]	[dBm]	[mW]	
1	2412	20.16	103.75	30	1000	Pass
6	2437	21.09	128.53	30	1000	Pass
11	2462	21.39	137,72	30	1000	Pass

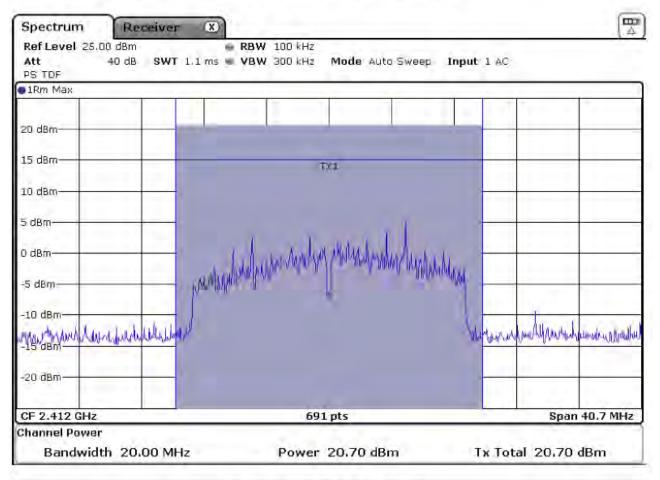
ESTC TESTED	
-------------	--

Lowest operating frequency - 802.11n 20MHz / HT MixMode – MCS=0; 6.5 MBps / TX/RX0 / ext. Antenna typ 1



FCC 1 Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031



	Po	sition: X/Y/Z / Polarisation	n: V	
Frequ. [MHz]	Level (dBm)	Margin to Limit [dB]	Limit [dBm]	Result
2412	20,70	9,30	30,00	pass

ESTC IN GERMANY	ESTC TESTED Test report no.: 20/01-0031	

ESTC

4

FCC 1

Output power of fundamental emissions

acc. FCC Subpart C § 15.209 / RSS-247 Ref.-No.: 20/01-0031 Operating Mode: WLAN 802.11n, CH.01, HT:Greenfield , BW = 20 MHz Spectrum X Receiver Ref Level 25.00 d8m RBW 100 kHz 40 dB SWT 1.1 ms 🔹 VBW 300 kHz Mode Auto Sweep Input 1 AC PS TDF 1Rm Max

TESTED

Att

IN GERMANY

hannel Power Bandwidth 20.00 MHz	Power	16,13 dBm	Tx Tot	al 16.13	dBm
CF 2.412 GHz	691	pts		Span	40.7 MHz
ւ/ չուս՝՝՝՝՝՝սեստույն է ուրենին է հետուցին։ -15 dBm -20 dBm				4	and the second sec
-10 dBm	. Orac		last. 1	1. 31 h 11	and the
-5 dBm	clubelicationstations	putur had been and	hu		
Sector Se	and the				
5 dBm					
10 dBm					
15 dBm-	Т	1	-		
20 dBm					

	Po	sition: X/Y/Z / Polarisation	n: H	
Frequ. [MHz]	Level (dBm)	Margin to Limit [dB]	Limit (dBm)	Result
2412	16,13	13,87	30,00	pass

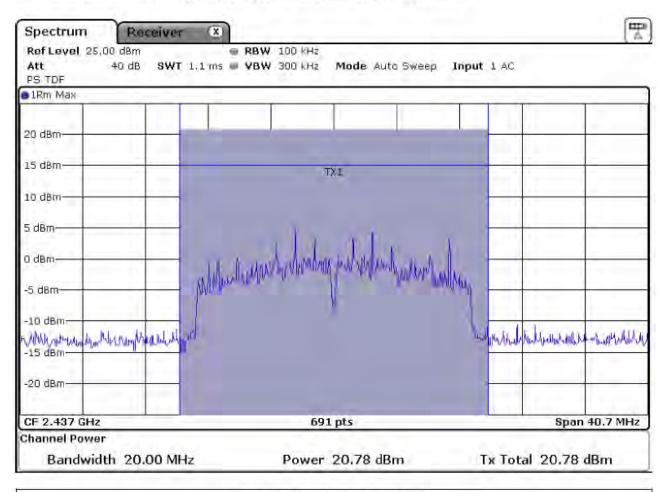
ESTC TESTED	
-------------	--

Middle operating frequency - 802.11n 20MHz / HT MixMode – MCS=0; 6.5 MBps / TX/RX0 / ext. Antenna typ 1



FCC 1 Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031



	Po	sition: X/Y/Z / Polarisation	n: V	
Frequ. [MHz]	Level (dBm)	Margin to Limit [d8]	Limit [dBm]	Result
2437	20,78	9,22	30,00	pass

ESTC N GERMA	ANY		Test repo 20/01-0				Page 139 of 359 page		
TESTED IN GERMANY		i tput power cc. FCC Sul		amental			K	35	тс
RefNo.: 20/01	6777								
perating Mode: WLA	AN 802.11	in, CH.06, H	II:Green	ntield , BW	7 = 20 MH	Z			0
Spectrum Rec Ref Level 25.00 dBm Att 40 dB	swr 1.1	RBW 1		Mode Aut	o Sweep	Input	LAC		
PS TDF 1Rm Max	911 Q/4					1.1.4.107			
						11			*
20 dBm			_						
15 dBm			T	1		-			
10 dBm	_								
5 dBm									
5 dBm			1.1	11.	16				
5 dBm		Interfect	in history	malinalizat	and was been	Ma			
5 dBm	M·	Industry	ian kito kinan j	milinalizat	androchyst	What	11.11		and at a
	andound	Interfectiv	antiputany	million	andrealized	the year	dehadalar	mantemp	qualitypopen
5 dBm 0 dBm -5 dBm -10 dBm -10 dBm	Article your M	ulne tadqueb	ian hipulany	pratriction	northeast by sol	the he	delateria	mar white agen	qualitistingun

	Po	sition: X/Y/Z / Polarisation	n: H	
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit (dBm)	Result

Power 16,13 dBm

Tx Total 16.13 dBm

Bandwidth 20.00 MHz

ESTC ITESTED	
--------------	--

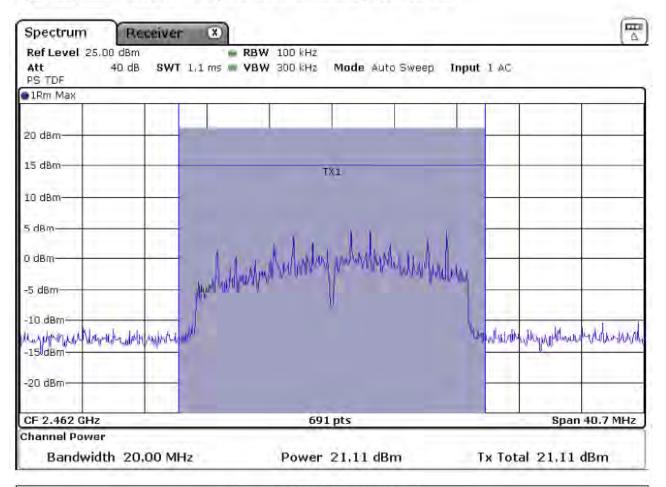
Highest operating frequency - 802.11n 20MHz / HT MixMode – MCS=0; 6.5 MBps / TX/RX0 / ext. Antenna typ 1



FCC 1 Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247



Ref.-No.: 20/01-0031



	Po	sition: X/Y/Z / Polarisation	n: V	
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit [dBm]	Result
2462	21,11	8,89	30,00	pass

ESTC IN GERMANY	Test report no.: 20/01-0031	Page 141 of 359 pages

TESTED IN GERMANY

FCC 1

Output power of fundamental emissions

BSTC

acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

Ref Level 25.00 dBm Att 40 dB PS TDF 40 dB	SWT 1.1 ms VBW 300 kHz Mode Auto Swee	ap Input 1 AC
IRm Max		
20 dBm		
15 dBm	TX1	
10 dBm	-	
5 dBm	<u> </u>	
0 dBm	- Interday I	
-5 dBm	produced to chester along produced and	A shall have a
-10 dBm		The second first of the
Wayn rol War n shart hari - - 15 ¹ dBm	and the second sec	have de margel for significante and and
-20 dBm	-	
		Span 40.7 MHz

	Po	sition: X/Y/Z / Polarisatior	n: H	
		from a starter		
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit (dBm)	Result

Maximum output power radiated measurement: 802.11n 20MHz / HT MixMode – MCS=0; 6.5 MBps / TX/RX0 / ext. Antenna typ 1								
Channel	Frequency	Outpu	Power Limit		mit	Result		
	[MHz]	[dBm]	[mW]	[dBm]	[mW]			
1	2412	20.70	117.49	30	1000	Pass		
6	2437	20.78	119.67	30	1000	Pass		
11	2462	21.11	129.12	30	1000	Pass		

Maximum	Maximum output power conducted measurement:									
802.11n 20MHz / HT MixMode – MCS=0; 6.5 MBps / TX/RX0 + TX/RX1 / external Antenna typ 1										
Channel	Frequency	Output TX/RX0	Output TX/RX1	Total Output Power Limit		nit	Result			
	[MHz]	[mW]	[mW]	[dBm]	[mW]	[dBm]	[mW]			
1	2412	117.49	103.75	23.45	221.24	30	1000	Pass		
6	2437	119.67	128.53	23.95	248.20	30	1000	Pass		
11	2462	129.12	137,72	24.26	266,84	30	1000	Pass		
According	to KDB 6629	11 D01								

	TESTED
--	--------

Lowest operating frequency - 802.11n 40MHz / HT MixMode – MCS=0; 6.5 MBps / TX/RX1 / ext. Antenna typ 1



Ref.-No.: 20/01-0031

Spectrum Ref Level 25.00 dBm Att 40 dB SWT 1,1 ms PS TDF	RBW 100 kHz VBW 300 kHz Mode Auto Sweep	Input 1 AC
IRm Max		
20 dBm-		
15 dBm	T%1	
10 d8m		
5 dBm		
0 dBm	II. Bull. Ital. Is	-11
	daharay laberate lang paladitahakan mulati	
-15 dBm		hard of a physical and a physical state of the state of t
-20 dBm		
CF 2.422 GHz	691 pts	Span 81.3 MHz
Channel Power Bandwidth 40.00 MHz	Power 20.30 dBm	Tx Total 20.30 dBm

	F	Position: X / Polarisation:	V	
Frequ. [MHz]	Level (dBm)	Margin to Limit [dB]	Limit [dBm]	Result
2422	20,30	9,70	30.00	pass

STC RESTED	Test report no.: 20/01-0031	Page 144 of 359 pag
TESTED IN GERMANY	FCC 1 Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247	BSTC
RefNo.: 20/01-0031 Operating Mode: WLAN 80	2.11n, CH.3, HT: Greenfield, BW = 40 MHz	
Spectrum		
PS TDF	RBW 100 kHz 1,1 ms = VBW 300 kHz Mode Auto Sweep Input	I AC
e 1Rm Max		
20 dBm		
15 dBm-	TXI	
10 dBm		
5 dBm-		
0 dBm		
0 dBm	And had a particular particular produced and and and and	
	Miles hat all all all and produced by about the had all all all all all all all all all a	
-5 dBm	Malah halfang par half before produced and a half and a half a	an san indugun Martingan standing aduka
-5 dBm	Miles Andrew Jose hall be from produced and a surface half and for a second produced for the second produced foret for the second produced for the sec	an sealthe for his strand tenderal address

	F	Position: X / Polarisation:	Н	
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit [dBm]	Result

Power 20.83 dBm

Tx Total 20.83 dBm

Bandwidth 40.00 MHz

l

STC RESTED	Test report no.: 20/01-0031	Page 145 of 359 pag
RefNo.: 20/01-003		ESTC
Spectrum Ref Level 25.00 dBm	 2.11n, CH.3, HT: Greenfield, BW = 40 MHz RBW 100 kHz 1.1 ms VBW 300 kHz Mode Auto Sweep Input 	ut 1 AC
1Rm Max		
20 dBm-		
15 dBm	TXIZ	
10 dBm-		1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1
5 dBm		
-5 dBm	philipping production production of the standard and and and and and and and and and an	
-10 dBm		
millite all in the all and you where		how was here the flat in which have
-20 dBm		
CF 2.422 GHz	691 pts	Span 81.3 MHz
Channel Power Bandwidth 40.00 Mł		Tx Total 20.71 dBm

	F	osition: Y / Polarisation:	v	
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit (dBm)	Result
2422	20,71	9,29	30,00	pass

	Test report no.:	
BSIC IN GERMANY	20/01-0031	

Page 146 of 359 pages

ESTC



FCC 1

Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

RefLevel 25.00 dBm Att 40 dB SWT 3 PS TDF	■ RBW 100 kHz 1,1 ms ■ VBW 300 kHz	Mode Auto St	weep Inpu	t I AC		
1Rm Max			- 1-	1	- ii	(
20 dBm-						
15 dBm	7	×1	_	-		
10 dBm						
5 dBm-				-		
0 dBm				-		
5 dBm	And Antohoper that had a day	relieffite	abland	-		
10 dBm	W. W		and the second second second		Achieven	la de ca
ninfalman mining her and the second				Ludrers, A-MA-	internetation	Ladornal (Corrand)
20 dBm-						
CF 2.422 GHz	691	pts			Span	81.3 MHz
Channel Power Bandwidth 40.00 MHz		17.95 dBm			il 17.95 (

Position: Y / Polarisation: H				
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit [dBm]	Result

Image: Street	Page 147 of 359 pages
---	-----------------------

TESTED	
IN GERMANY	6

FCC 1

Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247 围STC

Ref.-No.: 20/01-0031

Charles and the second s	RBW 100 kHz VBW 300 kHz Mode Auto Sweep	Input & AC
91Rm Max		
20 dBm		
15 dBm	TX1	
10 dBm		
5 dBm		
0 dBm	o will think h	00
-5 dBm	ababashi later any partic to the property	Lolad of a
-10 dBm -10 dBm -15 dBm	V	hallahuskohumanapadakan
-20 dBm		
-20 dBm	691 pts	Span 81.3 MHz

	F	Position: Z / Polarisation:	v	
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit [dBm]	Result

STC RESTED	Test report no.: 20/01-0031	Page 148 of 359 pag
TESTED IN GERMANY	FCC 1 Output power of fundamental emission acc. FCC Subpart C § 15.209 / RSS-2	
RefNo.: 20/01-0031 Operating Mode: WLAN 80	2.11n, CH.3, HT: Greenfield, BW = 40 MI	_
Ref Level 25.00 dBm	RBW 100 kHz	
Att 40 dB SWT PS TDF	1.1 ms - VBW 300 kHz Mode Auto Sweep	Input 1 AC
●1Rm Max	1 1 1	
20 dBm		
15 dBm	TX1	
10 dBm		
5 dBm-		
D dBm		
-5.dBm	physes with the standard and and and a standard and the standard and a standard and a standard and a standard a	Lakt -
-10 dBm	helt the advantage of the second seco	And the second s
-15 dBm-	¥ t	Walter and a subject of the subject
-20 dBm		
GF 2.422 GHz	691 pts	Span 81.3 MHz
Channel Power Bandwidth 40.00 MH	lz Power 18.62 dBm	Tx Total 18.62 dBm

	F	Position: Z / Polarisation:	н	
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit [dBm]	Result
2422	18.62	11.38	30.00	pass



FCC 1

Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247



Ref.-No.: 20/01-0031

Summery of the findings

Test conditions	Polarization of receiving antenna	Tested frequency [MHz]	Meas value [dBm]	Limit [dBm]	Result
Position: X	V	2422	20,30	30,00	pass
Position: X	н	2422	20,83	30,00	pass
Position: Y	v	2422	20,71	30,00	pass
Position: Y	н	2422	17,95	30,00	pass
Position: Z	v	2422	21,39	30,00	pass
Position: Z	н	2422	18,62	30,00	pass

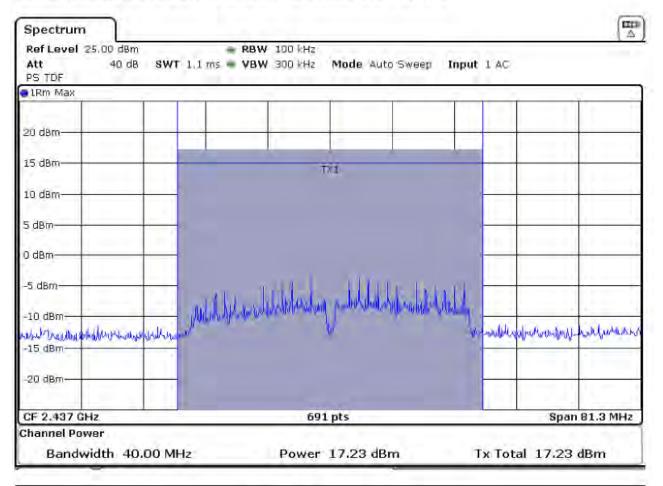
Middle operating frequency - 802.11n 40MHz / HT MixMode – MCS=0; 6.5 MBps / TX/RX1 / ext. Antenna typ 1



FCC 1 Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

11

Ref.-No.: 20/01-0031



	F	osition: X / Polarisation:	V	
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit [dBm]	Result
2437	17,23	12,77	30,00	pass

	Test report no.: 20/01-0031	Page 151 of 359 pages
--	--------------------------------	-----------------------

ESTC

1	TE	STED
5	IN	GERMANY

FCC 1

Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

Ref Level 25.00 dBm Att 40 dB SWT 1 PS TDF 300 dB 300 dB	 RBW 100 kHz 1 ms VBW 300 kHz Mod 	e Auto Sweep Input	1 AC
1Rm Max			
20 dBm			
15 dBm	TX1		
10 dBm			
5 dBm			
0 dBm	mar allele de	libraha	
5 dBm	all bould find by here have not	Conduction of the state of the	
-10 dBm		10	
Linutty Malauton should be	· · ·	N	and the state of the second
-20 dBm			
CF 2.437 GHz	691 pts	-	Span 81.3 MHz
Channel Power Bandwidth 40.00 MHz			x Total 21.52 dBm

	F	Position: X / Polarisation:		
		discussion fr		
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit (dBm)	Result

Test report no.: 20/01-0031	Page 152 of 359 pages

TESTED IN GERMANY

FCC 1



Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

PS TDF	■ RBW 100 kHz .1 ms ■ VBW 300 kHz Mode Auto Sweep Inp	out 1 AC
1Rm Max		- 1 - I
20 dBm		
15 dBm	TX1	
10 dBm		2
5 dBm		
0 dBm	a talk all tak	
-5 dBm	mahali hat a sa da hala hayay pubalah da a sa hati hala da	
-10 dBm		and and and a first
unique mander d'autor alle address of the second		- man hull a man and the rank the real
-20 dBm		
terra and the second se	691 pts	Span 81.3 MHz

	F	Position: Y / Polarisation:	V	
		1		
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit (dBm)	Result

ESTC IN GERMANY	Test report no.: 20/01-0031	Page 153 of 359 pages

Æ

TE:	STED
IN	GERMANY

FCC 1

Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

acc. FCC Subpar

Ref.-No.: 20/01-0031

PS TDF	RBW 100 kHz 1.1 ms VBW 300 kHz Mode Auto Sweep	Input i AC
1Rm Max		1 1 1 1
20 d8m-		
15 dBm	TXL	
10 dBm		
5 dBm		
D dBm	in the second	
5 dBm	Hilphylaphylaphylaphylaphylaphylaphylaphyl	bally the second s
10 dBm	Web Manual and a second second	2000kAV
hryllingliller Hawl-nite air land	r v	man ward full of prestant a part at the second
-20 dBm		
		Span 81.3 MHz

	9	Position: Y / Polarisation:		
Frequ. [MHz]	Level [dBm]	Margin to Limit (dB)	Limit (dBm)	Result

STC IN GERMANY	Test report no.: 20/01-0031	Page 154 of 359 page
TESTED IN GERMANY	FCC 1 Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247	ESTC
RefNo.: 20/01-0031		
Spectrum	2.11n, CH.6, HT: Greenfield, BW = 40 MHz	Ē
Ref Level 25.00 dBm	 RBW 100 kHz 1.1 ms VBW 300 kHz Mode Auto Sweep Input 	ut 1 AC
1Rm Max		
23 Card 10		
0 dBm-		
5 dBm		
- Marth	IXI	
0 dBm		
i dBm		
) dBm	and the Helle head	
5 dBm	Aught delander to be any producted and a filled and the	
	ARA	
10 dBm		1
- Judan have black have been and the	4 X	nonander white the states
20 dBm		
CF 2.437 GHz	691 pts	Span 81.3 MHz
hannel Power	A 10775 E.C	10.00 m 2 m
Bandwidth 40.00 MH	z Power 21.60 dBm	Tx Total 21.60 dBm

	3	Position: Z / Polarisation:	V	
Frequ. (MHz)	Level (dBm)	Margin to Limit [dB]	Limit [dBm]	Result
2437	21.60	8.40	30.00	pass

	Test report no.: 20/01-0031	Page 155 of 359 pages
TESTED	ECC 1	

IN GERMANY

FCC 1

Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

HSTC

Ref.-No.: 20/01-0031

Operating Mode: WLAN 802.11n, CH.6, HT: Greenfield, BW = 40 MHz

Spectrum Ref Level 25.00 dBr Att 40 dl PS TDF		3W 100 kH2 3W 300 kH2 Mode Auto S	weep Input 1 AC	
• 1Rm Max				
20 dBm				
15 dBm		TXI		
10 dBm				
5 dBm				
© dBm-	+			
+5 dBm-	- ilala	he water and the second	added at 1	
-10 dBm-	Jan	, which had been produced and a dealer	entertation of the second	e month and the month
-10 dBm	194 and have a fland grand and hides	which hydrobiology producted and	entertational de la constance	and the second
-10 dBm-	Marchine Marchidos	adet hjøledding probabilisted det	entertational de la containe	en marchige en march
-10 dBm - wroad wynaddd ywar y -15 dBm -20 dBm	philippin diphilas	mathapphone in probability of the	entre la construction	Span 81.3 MHz
-10 dBm 				
-10 dBm - Lorbor Juget (U.A. John -15 dBm -20 dBm - CF 2.437 GHz Channel Power	0.00 MHz	691 pts	Tx Tota	
-10 dBm - wroath, www.ll.M. wrg -15 dBm -20 dBm CF 2.437 GHz Channel Power	0.00 MHz	691 pts Power 18,44 dBm	Tx Tota	Span 81.3 MHz

ESTC	TESTED IN GERMANY
------	----------------------

Test report no.: 20/01-0031



FCC 1



Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

Summery of the findings

Test conditions	Polarization of receiving antenna	Tested frequency [MHz]	Meas value [dBm]	Limit [dBm]	Result
Position: X	V	2437	17,23	30,00	pass
Position: X	- H	2437	21,52	30,00	pass
Position: Y	v	2437	20,28	30,00	pass
Position: Y	н	2437	18,54	30,00	pass
Position: Z	v	2437	21,60	30,00	pass
Position: Z	н	2437	18,44	30,00	pass

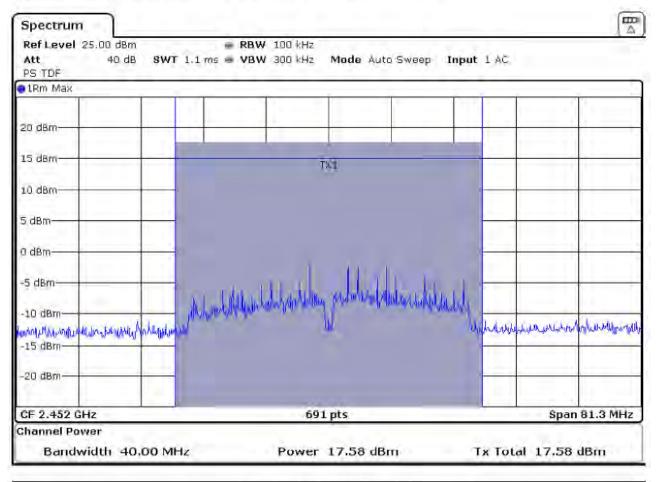
FRETE TESTED	Test report no.:	Dage 157 of 250 pages
ESTC IN GERMANY	20/01-0031	Page 157 of 359 pages

Highest operating frequency - 802.11n 40MHz / HT MixMode – MCS=0; 6.5 MBps / TX/RX1 / ext. Antenna typ 1



FCC 1 Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031



Position: X / Polarisation: V				
Frequ. [MHz] Level [dBm] Margin to Limit [dB] Limit [dBm] Result				
2452	17,58	12,42	30,00	pass

STC IN GERMANY	Test report no.: 20/01-0031	Page 158 of 359 p
RefNo.: 20/01-0031	FCC 1 Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247 2.11n, CH.9, HT: Greenfield, BW = 40 MHz	ESTC
Spectrum Ref Level 25.00 dBm	RBW 100 kHz	1 AC
IRm Max		· · · · ·
20 dBm		
15 dBm	TYI	
10 dBm		
0 dBm	populated operated by hidry probablished and had been and had by	
-10 dBm	The second secon	
ukoWhowershanking hally palled. -15 dBm-	4 4 5	na generalise her and a stand a
-20 d8m		
	691 pts	Span 81.3 MHz

	1	Position: X / Polarisation:	н	
Frequ. (MHz)	Level (dBm)	Margin to Limit [dB]	Limit [dBm]	Result
			and a second s	and the second se

	Test report no.: 20/01-0031
--	--------------------------------

Page 159 of 359 pages

TE:	STED
IN	GERMANY

FCC 1

Output power of fundamental emissions



acc. FCC Subpart C § 15.209 / RSS-247

Ref_-No.: 20/01-0031

Ref Level 25.00 dBm Att - 40 dB SWT 1,1 ms PS TDF	 RBW 100 kHz VBW 300 kHz Mode Auto 	Sweep Input 1	ACI
1Rm Max			1
20 dBm-			
15 dBm-	T×1		
10 dBm		- 1	
5 dBm		-	_
) dBm	and the	1	
5 dBm	with call hill have provided by	V - understall when had -	
10 dBm			California Inc. Los
under under Under Lalits and Lalits		1 martin	-for Marker Adaption in the second second
20 dBm		-	
CF 2.452 GHz	691 pts		Span 81.3 MHz
hannel Power		m Tx I	Total 20.34 dBm

	F	Position: Y / Polarisation:	V	
Frequ. [MHz]	Level (dBm)	Margin to Limit [dB]	Limit [dBm]	Result

STC IN GERMANY	Test report no.: 20/01-0031	Page 160 of 359 pa
TESTED IN GERMANY RefNo.: 20/01-0031	FCC 1 Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247	DISTC
perating Mode: WLAN 802. Spectrum Ref Level 25.00 dBm	11n, CH.9, HT: Greenfield, BW = 40 MHz RBW 100 kHz 1 ms = VBW 300 kHz Mode Auto Sweep In	put 1 AC
PS TDF	and the second these bases of	
20 dBm		
15 dBm	TX1	
10 dBm		
5 dBm	the house of the second s	he have been a served and a served a se
annows of a contraction of the second of the		AAA. and a true high a set the free
20 dBm		
CF 2.452 GHz	691 pts	Span 81.3 MHz

		Position: Y / Polarisation:	H	
-		1		_
Frequ. [MHz]	Level [dBm]	Margin to Limit (dB)	Limit (dBm)	Result

STC IN GERMANY	Test report no.: 20/01-0031	Page 161 of 359 pag
TESTED IN GERMANY	FCC 1 Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247	BSTC
	l 2.11n, CH.9, HT: Greenfield, BW = 40 MHz	
Spectrum Ref Level 25.00 dBm Att 40 dB SWT PS TDF	■ RBW 100 kHz 1,1 ms ■ VBW 300 kHz Mode Auto Sweep Input	1 AC
•1Rm Max		
20 dBm		
15 dBm	TXL	
10 dBm		
5 dBm		
0 dBm	and all the	
-5 dBm	Martin deland a sale and a sale a ball and a ball and a ball	
-10 dBm		La la condata de
Juli de Million Mart Landitar Holder	end the	the difference in the second second
-20 dBm		
		1

	1	Position: Z / Polarisation:	V	
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit (dBm)	Result

STC IN GERMANY	Test report no.: 20/01-0031	Page 162 of 359 pa
TESTED IN GERMANY	FCC 1 Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247	BSTC
RefNo.: 20/01-0031 perating Mode: WLAN 80	2.11n, CH.9, HT: Greenfield, BW = 40 MHz	
Spectrum	and the second of the second	(IIII)
RefLevel 25,00 dBm Att 40 dB SWT PS TDF	RBW 100 kHz 1.1 ms VBW 300 kHz Mode Auto Sweep Inp	out i ac
1Rm Max		
20 dBm		
5 dBm-	791	
.0 dBm		a
i dBm		
) dBm		
5 dBm	the life of the second se	
10 dBm	and she she will be she of a bol at a particular and the	
May million which we wanted	with the production of the second states and the second states of the second states of the second states of the	manushinghound have
20 dBm		
CF 2.452 GHz	691 pts	Span 81.3 MHz
hannel Power		And and the second
Bandwidth 40.00 MH	z Power 16,87 dBm	Tx Total 16.87 dBm

	F	Position: Z / Polarisation:	H	
Frequ. [MHz]	Level (dBm)	Margin to Limit [dB]	Limit [dBm]	Result



FCC 1



Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

Summery of the findings

Test conditions	Polarization of receiving antenna	Tested frequency [MHz]	Meas value [dBm]	Limit [dBm]	Result
Position: X	v	2452	17,58	30,00	pass
Position: X	н	2452	20,55	30,00	pass
Position: Y	v	2452	20,34	30,00	pass
Position: Y	н	2452	17,70	30,00	pass
Position: Z	v	2452	20,08	30,00	pass
Position: Z	н	2452	16,87	30,00	pass

Maximum output power radiated measurement: 802.11n 40MHz / HT MixMode – MCS=0; 6.5 MBps / TX/RX1 / ext. Antenna typ 1						
Channel	Frequency	Output Power [dBm] [mW]		Limit		Result
	[MHz]			[dBm]	[mW]	
1	2422	21.39	137.72	30	1000	Pass
6	2437	21.60	144.54	30	1000	Pass
9	2452	20.55	113.50	30	1000	Pass

STC IN GERMANY

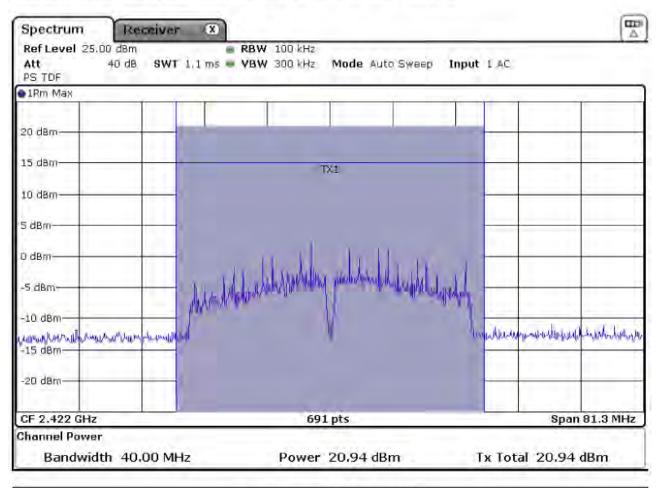
Lowest operating frequency - 802.11n 40MHz / HT MixMode – MCS=0; 6.5 MBps / TX/RX0 / ext. Antenna typ 1



FCC 1 Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247



Ref.-No.: 20/01-0031



	Po	sition: X/Y/Z / Polarisation	n: V	
Frequ. [MHz]	Level (dBm)	Margin to Limit [dB]	Limit (dBm)	Result
2422	20,94	9,06	30,00	pass

	Test report no.: 20/01-0031	Page 165 of 359 pages
--	--------------------------------	-----------------------

1	TE	STED
ļ	IN	GERMANY

FCC 1

BSTC

Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

RefLevel 25.00 dBm Att 40 dB SWT PS TDF	■ RBW 100 kHz 1.1 ms ● YBW 300 kHz Mode Auto Sweep	Input i AC
1Rm Max		
20 dBm		
15 dBm	TX1	
10 dBm		
5 dBm		
0 dBm		
-5 dBm	- The Analytic Hellinger	
-10 dBm	فالمسط فالملخلوس وفلا فالمناط المفط فالمحدق	hlefully
4 yelder vallen han al hen aller haller 15 dBm	¥ ¥	Hallimine Answer marked Million 1
-20 dBm		
GF 2.422 GHz	691 pts	Span 01.3 MHz

	Po	sition: X/Y/Z / Polarisatior	n: H	
Frequ. [MHz]	Level [dBm]	Margin to Limit (dB)	Limit [dBm]	Result

	Test report no.:	Page 166 of 359 pages
IN GERMANY	20/01-0031	Fage 100 01 359 pages

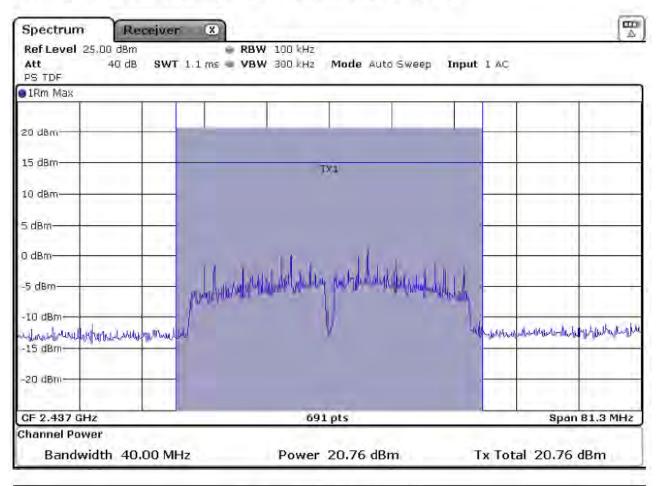
Middle operating frequency - 802.11n 40MHz / HT MixMode – MCS=0; 6.5 MBps / TX/RX0 / ext. Antenna typ 1



FCC 1 Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247



Ref.-No.: 20/01-0031



		sition: X/Y/Z / Polarisation	Caula.	
Frequ. [MHz]	Level (dBm)	Margin to Limit [dB]	Limit [dBm]	Result
2437	20,76	9,24	30,00	pass

STC ITESTED	Test report no.: 20/01-0031	Page 167 of 359 pages

 TESTED
 FCC 1

 IN GERMANY
 Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247



Ref.-No.: 20/01-0031

Spectrum Receive RefLevel 25.00 dBm Att 40 dB SW	RBW 100 kHz T 1.1 ms VBW 300 kHz	Mode Auto Swe	ep Input 1	AC	
PS TDF			2.1.2.2		
1Rm Max		1	1 1	1 1	1
20 dBm-					
15 dBm		TX1	-		
10 dBm					
-5 dBm	Waladadadada da kababada da kababada kababa	y sadal dalahing (ahilatal heave	alyloreneo (hanshe	mus willebo
-20 dBm	69	1 pts		Spa	n 81,3 MHz
hannel Power		10.00	Тх		

Po	sition: X/Y/Z / Polarisation	n: H	
Level (dBm)	Margin to Limit [dB]	Limit [dBm]	Result
17,03	12,97	30,00	pass
	Level [dBm]	Level [dBm] Margin to Limit [dB]	

FICTC TESTED	Test report no.:	
ESTC IN GERMANY	20/01-0031	

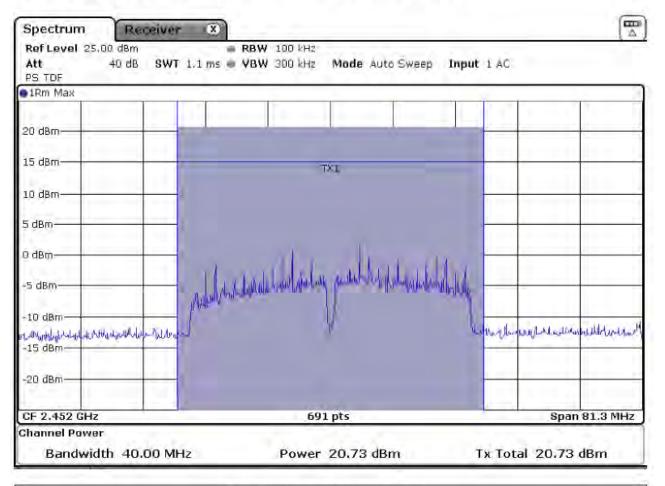
SE

Highest operating frequency - 802.11n 40MHz / HT MixMode – MCS=0; 6.5 MBps / TX/RX0 / ext. Antenna typ 1



FCC 1 Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031



	Po	sition: X/Y/Z / Polarisation	n: V	
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit (dBm)	Result
2452	20,73	9,27	30,00	pass

STC ITESTED	Test report no.: 20/01-0031	Page 169 of 359 pages

 TESTED
 FCC 1

 IN GERMANY
 Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247



Ref.-No.: 20/01-0031

Spectrum Recei Ref Level 25,00 dBm Att 40 dB 5 PS TDF	BW 100 kHz BW 300 kHz	Mode Auto	o Sweep	Input 1 AC		
1Rm Max						
20 dBm						
15 dBm-		TXI		-	-9-	
10 dBm 5 dBm -5 dBm -5 dBm -10 dBm -15 dBm -20 dBm	 n, likeraharahar	n subdivid	ook yetakabay	phal with restance	differ to sub-the bor	y et i Historije
CF 2.452 GHz	69	1 pts			Spar	81.3 MHz
Channel Power						

Po	sition: X/Y/Z / Polarisation	1: H	
Level (dBm)	Margin to Limit [dB]	Limit (dBm)	Result
17,47	12,53	30,00	pass
	Level [dBm]	Level [dBm] Margin to Limit [dB]	

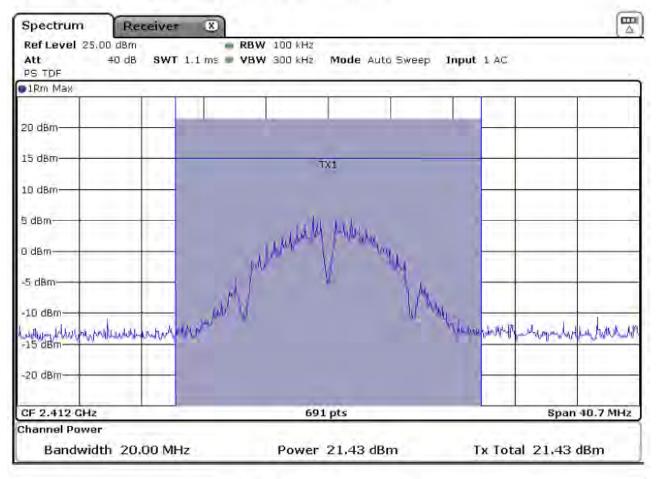
		ver radiated me lixMode – MCS	asurement: =0; 6.5 MBps / T	X/RX0 / ext. Ante	enna typ 1	
Channel	Frequency	Outpu	t Power	Lir	nit	Result
	[MHz]	[dBm]	[mW]	[dBm]	[mW]	
1	2422	20.94	124.17	30	1000	Pass
6	2437	20.76	119.12	30	1000	Pass
9	2452	20.73	118.30	30	1000	Pass

	n output pow							
802.11n 4	OMHz / HT N	lixMode – M	CS=0; 6.5 MI	3ps / TX/RX	0 + TX/RX1	/ external A	ntenna typ	1
Channel	Frequency	Output TX/RX0	Output TX/RX1	Total Out	put Power	Lii	mit	Result
	[MHz]	[mW]	[mW]	[dBm]	[mW]	[dBm]	[mW]	
1	2422	124.17	137.72	24.18	261.89	30	1000	Pass
6	2437	119.12	144.54	24.21	263.66	30	1000	Pass
9	2452	118.30	113.50	23.65	231.80	30	1000	Pass
According	to KDB 6629	11 D01						

FICTC ITESTED	Test report no.:	Dage 171 of 250 pages
ESTC IN GERMANY	20/01-0031	Page 171 of 359 pages

Lowest operating frequency - 802.11b 20MHz / CCK - MCS=0; 1 MBps / TX/RX0 / ext. Antenna typ 2

TESTED	MANY	FCC 1 Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247	Æ	ST	C
RefNo.:	20/01-003	31			
Product:	Transmitti	ng / Receiving System			
Sample:	01				
Date:	02.08.202	1			
Operator:	Ro			pass	fail
Remarks:	Antenna 2 Tx/Rx0	(Taoglas WS.01.B.305151), Power setting 1C,	Result:	\boxtimes	



	Po	sition: X/Y/Z / Polarisation	n: V	
Frequ. [MHz]	Level (dBm)	Margin to Limit [dB]	Limit (dBm)	Result
2412	21,43	8,57	30,00	pass

ESTC ITESTED	Test report no.: 20/01-0031	Page 172 of 359 pages
--------------	--------------------------------	-----------------------

TESTED	
IN GERMANY	

FCC 1

ESTC

Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

Spectrum Receiver Ref Level 25.00 dBm Att 40 dB SWT 1. PS TDF	RBW 100 kHz 1 ms VBW 300 kHz Mode	Auto Sweep Input	1 AC
IRm Max	1 1 1	1.	1
20 dBm		_	
15 dBm-	TXI	_	
10 dBm			
5 dBm			
0 dBm	p.L. Markellin My 169140	Male 1	
-5. dBm -10 dBm 	- M M	W4	
-10 dBm	und V	V Anna	
right Mining and Mining and	at the second	A MILLYN	nutration of the trained to be
-20 dBm			
CF 2.412 GHz Channel Power	691 pts		Span 40.7 MHz
nomer Power			

	Po	sition: X/Y/Z / Polarisation	n: H	
Frequ. (MHz)	Level (dBm)	Margin to Limit [dB]	Limit [dBm]	Result

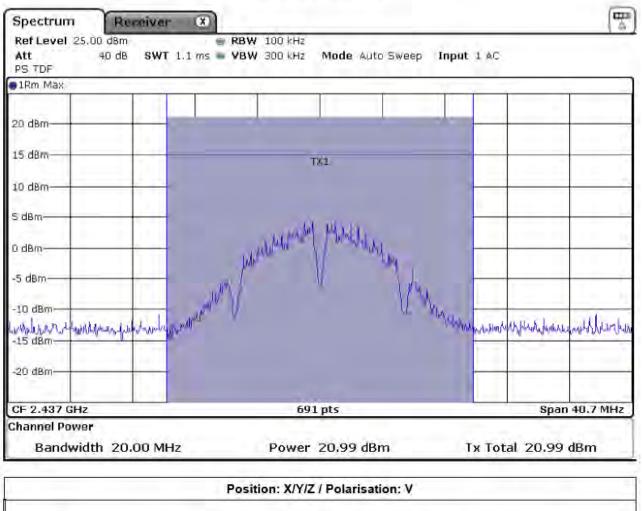
ESTC IN GERMANY	
-----------------	--

ТГ

Middle operating frequency - 802.11b 20MHz / CCK - MCS=0; 1 MBps / TX/RX0 / ext. Antenna typ 2

TESTED IN GERMANY FCC 1 Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031



requ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit [dBm]	Result
2437	20,99	9.99	30.00	pass

ESTC TESTED

Test report no.: 20/01-0031

Page 174 of 359 pages

TE	STED
IN	GERMANY

FCC 1

Output power of fundamental emissions



acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

Spectrum Receiver (3) Ref Level 25.00 dBm Att 40 dB SWT 1.1 ms PS TDF	■ RBW 100 kHz ● VBW 300 kHz Mode Auto	Sweep Input 1 A	
1Rm Max		T. T	1
20 dBm-		-	
15 dBm	TXI	_	
10 dBm			
5 dBm	200.000		
0 dBm	and the faith of the first of the stand of the	-	
-5 dBm	where the second	h.	
-10 dBm	r M	W MALE -	
-5 dBm		and Algerts	in paymon and provide an
-20 dBm		_	
CF 2.437 GHz	691 pts		Span 40.7 MHz
hannel Power Bandwidth 20.00 MHz	Power 20.23 dBn	n Tx Te	otal 20.23 dBm

	Po	sition: X/Y/Z / Polarisation	u H	
Frequ. [MHz]	Level (dBm)	Margin to Limit [dB]	Limit (dBm)	Result
2437	20,23	9.77	30.00	pass

Highest operating frequency - 802.11b 20MHz / CCK – MCS=0; 1 MBps / TX/RX0 / ext. Antenna typ 2

TESTED IN GERMANY FCC 1



Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

Spectrum Receiver Ref Level 25.00 dBm	8 RBW 100 kHz		
Att 40 dB SWT 1. PS TDF	1 ms 🖷 VBW 300 kHz Mode A	uto Sweep Inp	ut 1 AC
1Rm Max			
Land Hill Control Park	1		
20 dBm	1 1 1		····
15 -10			
15 dBm	T%1		
10. dBm			
5 dBm			
5 UBIN	A State Madde		and the second in second
0 dBm	, What was a first of the second seco	M.	
-5 dBm		m L	
	121	114	
-10 dBm	N. Y	11 796 (2001)	mannerstreamated
and a particular manufactory		-11	and an the hour dependence
-13 (10))			
-20 dBm	Mar Mar Mar Market Market as		
GF 2.462 GHz	691 pts		Span 40.7 MHz
Channel Power	D	10-	
Bandwidth 20.00 MHz	Power 21.10 c	IBW	Tx Total 21.10 dBm

	Po	sition: X/Y/Z / Polarisation	1: V	
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit [dBm]	Result
2462	21,10	8,90	30,00	pass

|--|

Test report no.: 20/01-0031

Page 176 of 359 pages

TE:	STED
IN	GERMANY

FCC 1



Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

Spectrum Receiver Ref Level 25.00 dBm Att 40 dB SWT 1	RBW 100 kHz 1 ms VBW 300 kHz Mode Auto Sweep	
PS TDF	THE STOR SECTOR HOLE AND SWEEP	input 1 ×C
1Rm Max	F 1 1	
20 dBm		
15 dBm-	TX1	
10 dBm		
5 dBm	with the second	
0 dBm	plate that had been presented by and the same	
5 dBm	A NA	
-20 dBm -10 dBm -10 dBm -15 dBm	udwyp ^{erwa} w	"When myshine we perform a worker to
20 dBm-		
CF 2,462 GHz	691 pts	Span 40.7 MHz
hannel Power Bandwidth 20.00 MHz	Power 20.08 dBm	Tx Total 20.08 dBm

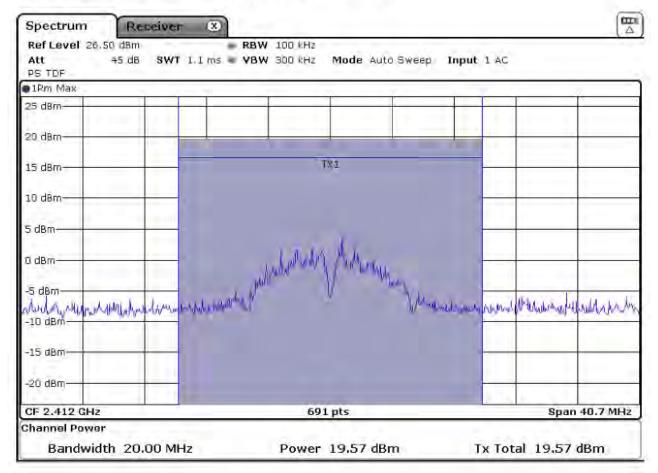
_	Po	sition: X/Y/Z / Polarisation	n: H	
Frequ. [MHz]	Level (dBm)	Margin to Limit [dB]	Limit (dBm)	Result
Lieda Imusi	manual famili	the gut to minut facil	and the function	

Maximum output power radiated measurement: 802.11b 20MHz / CCK – MCS=0; 1 MBps / TX/RX0 / external Antenna typ 2						
Channel Frequency	Outpu	t Power	Limit		Result	
	[MHz]	[dBm]	[mW]	[dBm]	[mW]	
1	2412	21.43	139.00	30	1000	Pass
6	2437	20.99	125.60	30	1000	Pass
11	2462	21.10	128,82	30	1000	Pass

FICTC TESTED	Test report no.:	
ESTC IN GERMANY	20/01-0031	

Lowest operating frequency - 802.11b 20MHz / CCK – MCS=0; 1 MBps / TX/RX1 / ext. Antenna typ 2

TESTED		FCC 1 Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247	Æ	ST	C
RefNo.:	20/01-003	31			
Product:	Transmitti	ng / Receiving System			
Sample:	01				
Date:	02.08.202	1			
Operator:	Ro			pass	fail
Remarks:	Antenna 2	(Taoglas WS.01.B.305151), Power setting 1C	Result:	\boxtimes	



Position: X / Polarisation: V				
		1		
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit (dBm)	Result

	Test report no.: 20/01-0031	Page 179 of 359 pages
TESTED	FCC 1 Output power of fundamental emissions	MSTC

acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

Spectrum Receiver Ref Level 26,50 d8m Att 45 dB SWT 1 PS TDF	RBW 100 kHz 1 ms VBW 300 kHz Mode Auto Swe	eep Input I AC.
1Rm Max		x
25 dBm-		
20 dBm		
15 dBm	TX1	
10 dBm		
5 dBm	Judgestry Authorem	
0 dBm	ate potential Authority Authority Mary	
-5 dBm	with the h	
5 dBm	stort to 10	and make the produced and the second
-15 dBm		
-20 dBm		
CF 2.412 GHz	691 pts	Span 40.7 MHz
Channel Power Bandwidth 20.00 MHz	Power 23.14 dBm	Tx Total 23.14 dBm

Position: X / Polarisation: H				
Frequ. [MHz]	Level (dBm)	Margin to Limit [dB]	Limit (dBm)	Result

ESTC ITESTED	
--------------	--

Test report no.: 20/01-0031

Page 180 of 359 pages

TESTED IN GERMANY

FCC 1

Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247



Ref.-No.: 20/01-0031

Att 45 dB SWT 1.1 m PS TDF	RBW 100 kHz VBW 300 kHz Mode Auto 1	Sweep Input	t 1 AC
1Rm Max	- 2	2	
25 dBm			
20 dBm		_	-
15 dBm	TX1	_	
10 d8m			
3 dBm			·
, dbin-	6 1		
) dBm	astrontheling Arrower		
) dBm	a pollerbolling forturale	he	
2 dBm 2 dBm 5 dBm 5 dBm 5 dBm 10 dBm 10 dBm	up of public bollowing for a surface	1. Anderson of	A man har a fear and the and the second
2 dBm	aport public bulleder for the surface	Vitrainan	Anoral phan and a stranger and an
20 dBm 5 dBm 5 dBm 10 dBm -15 dBm -20 dBm	up of public bollowing for the southe	Yohnson and	hortorshiphlachallerlauthjaardrear
D dBm S dBm Multuryh and Arthon Market and Arthon 10 dBm 15 dBm	April Marker Marker Jackor and a	Network and	Antorial Antoria Span 40.7 MH

	F	Position: Y / Polarisation:	V	
Francis (BAUla)	Laural Million			-
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit [dBm]	Result

ESTC TESTED	Test report no.: 20/01-0031	Page
-------------	---------------------------------------	------

e 181 of 359 pages

TE	STED
11	GERMANY

FCC 1

Output power of fundamental emissions



acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

Ref Level 26,50 dBm Att 45 dB SWT 1. PS TDF 1 1	RBW 100 kHz 1 ms VBW 300 kHz Mode Auto	Sweep Input 1 A	2
1Rm Max			
25 dBm			
20 dBm			
15 dBm	TX1		
10 dBm			-
5 dBm	1	_	
n anu-	Historical Martinday		
и dBm	and posticitude of Martinday	4	
u dBm	Wand or Stational and Martinday	M Undermannighter	miter a the horizon of the second sec
บ dBm -5 dBm -10 dBm -15 dBm	wander Joshi and when the local	M Unit man might in	miter which we are a set in the set
บ dBm -5 dBm -10 dBm -15 dBm -20 dBm	Warden States and and Martin Lang	M Under Andrean Marington and	mountantication

	P	Position: Y / Polarisation:	н	
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit (dBm)	Result

ESTC IN GERMANY	Test report no.: 20/01-0031	Page 182 of 359 pages
TESTED IN GERMANY	FCC 1 Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247	BSTC
RefNo.: 20/01-003	1	
Operating Mode: WLAN 80	02.11b, CH.01, CCK, BW = 20 MHz	

Spectrum Receiver (X) Ref Level 26.50 dBm Att 45 dB SWT 1.1 ms PS TDF	RBW 100 kHz VBW 300 kHz Mode Auto Sweep	Input 1 AC
1Rm Max		
25 dBm-		
20 dBm		
15 d8m	. TX1	
10 dBm		
5 dBm	a performance the first of	
0 dBm	and the second	
-5 dBm	h May	
Hidry Hallow James adding an weiter being the provident	M A.	What is an a second a start of the start and a start
-10 dBm		
5 dBm		
-10' dBm		
and a second sec	691 pts	Span 40.7 MHz

	I F	Position: Z / Polarisation:	V	
Fregu. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit (dBm)	Result
a se den fromel				

STC IN GERMANY	Test rep 20/01 -			Page 183 of 359 p
TESTED IN GERMANY	FC Output power of fur acc. FCC Subpart C			BSTC
RefNo.: 20/01-0031				
perating Mode: WLAN 802	2.11b, CH.01, CCK, B	W = 20 MHz		
Spectrum Receiver	X			
RefLevel 26.50 dBm Att 45 dB SWT PS TDF	■ RBW 100 kHz 1.1 ms ■ VBW 300 kHz	Mode Auto Sweep	Input 1 AC	2
IRm Max		1	T T	T T
25 dBm-				
20 dBm			-	+ +
15 dBm		TX1		
23,0011				
		2	-	
10 dBm				
	11. L	a dd i		
	and the	g Share.		in which a the appropriate will der be

	1	Position: Z / Polarisation:	H	
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit [dBm]	Result

691 pts

Power 22.28 dBm

Span 40.7 MHz

Tx Total 22.28 dBm

-15 dBm

-20 dBm-

CF 2.412 GHz Channel Power

Bandwidth 20.00 MHz

Test report no.: 20/01-0031



FCC 1



Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

Summery of the findings

Test conditions	Polarization of receiving antenna	Tested frequency [MHz]	Meas value [dBm]	Limit [dBm]	Result
Position: X	V	2412	19,57	30,00	pass
Position: X	н	2412	23,14	30,00	pass
Position: Y	v	2412	20,19	30,00	pass
Position: Y	Н	2412	20,88	30,00	pass
Position: Z	Ŷ	2412	23,65	30,00	pass
Position: Z	н	2412	22.28	30,00	pass

ANY	
-----	--

Middle operating frequency - 802.11b 20MHz / CCK - MCS=0; 1 MBps / TX/RX1 / ext. Antenna typ 2

TESTED IN GERMANY FCC 1



Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

Spectrum Re	ceiver	x							
Ref Level 26.50 dBm Att 45 dB PS TDF	SWT	# RBW 1.1 ms # VBW	100 kHz 1 300 kHz	Mode Auto	sweep	Input	t AC		
1Rm Max	x = 0		2						
25 dBm			-						
20 dBm	-		-		-		-		
15 dBm		-		IXI		7	-		
10 dBm							-		
5 dBm				4.		2		1	-
0 dBm		di.	what Ar	y south had		3		()	
-5 dBm		when the part		l –	Vinter			2.0.0	
5 dBm 0 dBm -5 dBm վակչությունություն -10 dBm	awally	and an all the			Min -oo	All a ship	thatp	at man way and	whipphablipha
-15 dBm							-		
-20 dBm									1
GF. 2.437 GHz			69	1 pts		_		Span	40.7 MHz
Channel Power Bandwidth 20	.00 MH	Iz	Power	20,89 dBi	m	т	x Tot	al 20.89	dBm

	F	Position: X / Polarisation:	V	
Frequ. (MHz)	Level (dBm)	Margin to Limit [dB]	Limit (dBm)	Result
2437	20.89	9,11	30.00	pass

Test report no.: 20/01-0031	Page 186 of 359 pages
	•

ES

TESTED IN GERMANY Output pow FCC 1

Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

2437

Operating Mode: WLAN 802.11b, CH.06, CCK, BW = 20 MHz

24,64

Spectrum	Receiver 🛞				(mm A
Ref Level 26.50 dB Att 45 d PS TDF	m el	RBW 100 kHz VBW 300 kHz Mode Au	ito Sweep	Input LAC	
• 1Rm Max					
25 dBm			1		
20 dBm				_	
15 dBm		TXL			
10 dBm-		X A		-	
5 dBm	_	, withdrawy the body	ak		
0 dBm	1	June with lang the body	M.	_	
-5 dBm	and the state	l ,		AND A STATE	The second second
-10 dBm	and the start and the start			and and the standy	www.washabaatunfaring
-15 dBm-					
-20 dBm-				-	11
CF 2.437 GHz		691 pts			Span 40.7 MHz
Channel Power	S. C. Ker	1.1.1.1.1.1.M		- 2000	2.044.242
Bandwidth 2	0.00 MHz	Power 24.64 d	Bm	Tx Tota	al 24.64 dBm
1		Position: X / Polarisati	on: H		
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]		imit (dBm)	Result

5,36

30,00

pass

	Test report no.: 20/01-0031	Page 187 of 359 pag
	FCC 1 at power of fundamental emissions FCC Subpart C § 15.209 / RSS-247 CH.06, CCK, BW = 20 MHz	BSTC
Spectrum Receiver 🛞		
	 RBW 100 kHz VBW 300 kHz Mode Auto Sweep In 	nput 1 AC
IRm Max		
25 dBm-		
20 dBm		
15 dBm	TX1	
10 dBm		
5 dBm		
	, hen the	
n anu	in relation to be a sub-	
-5 dBm	MI Jum	ALL SALES
-10 dBm	A and	en malan mpa shina shina nya nya antar
-15 dBm		
-20 dBm		
CF 2.437 GHz	691 pts	Span 40.7 MHz
Channel Power		

Position: Y / Polarisation: V				
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit [dBm]	Result
2437	20,33	9,67	30,00	pass

STC TESTED	Test report no.: 20/01-0031	Page 188 of 359 pag
acc. RefNo.: 20/01-0031	FCC 1 ut power of fundamental emissions FCC Subpart C § 15.209 / RSS-247	BSTC
Spectrum Receiver (X) Ref Level 26.50 dBm Att 45 dB SWT 1.1 ms PS TDF	 RBW 100 kHz 	mput 1 AC
1Rm Max		
25 dBm		
20 48-		
20 dBm-		
15 dBm	TX1	
10 dBm		
5 dBm	1 1 1 2	
	any and its and a first it is a second of the second of th	
D dBm	All and a second	
-5 dBm	the first	
presented builden for all for a long and a for the	w p h	the should see we have should be the seles the head a
10'd8m		
-15 dBm		
20 dBm		
CF 2.437 GHz	691 pts	Span 40.7 MHz
hannel Power		
Bandwidth 20.00 MHz	Power 21.24 dBm	Tx Total 21.24 dBm

	F	Position: Y / Polarisation:	н	
Frequ. [MHz]	Level [dBm]	Margin to Limit (dB)	Limit (dBm)	Result

ESTC ITESTED	Test report no.: 20/01-0031	Page 189 of 359 pages
--------------	---------------------------------------	-----------------------

TE:	STED
IN	GERMANY

FCC 1

Output power of fundamental emissions



acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

Ref Level 26,50 dBm Att 45 dB SWT 1 PS TDF 5 5 5 5	RBW 100 kHz 1 ms VBW 300 kHz	Mode Auto Sweep	Input 1 AC	
1Rm Max				
25 dBm-				
20 dBm				
15 dBm	TX.	ı.	-	
10 dBm	-	1.	-	
5 dBm	1 Sudant 19	Add the I	-	
u dBm	, Phillipping	M.		
-5 dBm	- Marine -	Urz,	-	
10 dBm 5 dBm -5 dBm -5 dBm -10 dBm -15 dBm	www.	0	where a prover and	where a that where the growthese
-15 dBm			-	
-20 dBm				
GF 2.437 GHz	691 p			Span 40.7 MHz

	1	Position: Z / Polarisation:	V	
	and the second s			
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit (dBm)	Result

FRETE TESTED	Test report no.:
ESTC IN GERMANY	20/01-0031

Page 190 of 359 pages

TESTED IN GERMANY

FCC 1



Output power of fundamental emissions acc. FCC Subpart C § 15.209 / RSS-247

Ref.-No.: 20/01-0031

Spectrum Receiver Ref Level 26.50 dBm Att 45 dB SWT 1 PS TDF	 RBW 100 kHz ,1 ms VBW 300 kHz Mode A 	uto Sweep Input 1	AC
1Rm Max		10 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	X
25 dBm			
20 dBm		_	-
15 dBm	TV2	-	
10 dBm	-		-
ī dBm	adree wood of the stand and and a stand of the	u	
) dBm	Marine V	MM -	
-5 dBm	. note	1 Ton	1
10 0Bm	aller and the	V Junice allow	unduration and a section of a
-15 dBm			
-20 dBm		-	
CF 2.437 GHz	691 pts		Span 40.7 MHz
hannel Power Bandwidth 20.00 MHz	Power 22.88 c	iBm Tx1	fotal 22.88 dBm

	F	Position: Z / Polarisation:	н	
	-	1	_	
Frequ. [MHz]	Level [dBm]	Margin to Limit [dB]	Limit [dBm]	Result