RESOLUCION 737 - SUBTEL

Fecha de publicación: 13/3/2026

Información Comercial

Nombre comercial del equipo

Código	Descripción
929002626712	Wi-Fi BLE Portable Hero Type - C

Fabricante: Signify (China) Investment Co., Ltd.

Importador o representante en Chile: SIGNIFY CHILENA S.A.

Domicilio: *El Bosque Norte 0211, Las Condes - Santiago*

Correo electrónico de contacto: tomas.aragona@signify.com

Sitio Web: wizconnected.com/es-cl

Características técnicas

Tipo de equipo	Luminaria LED
Marca	WIZ
Modelo	Wi-Fi BLE Portable Hero Type - C
Módulo	ESP32-SOLO-1
Tecnología o modulación	DSSS, OFDM (WiFi); GFSK (BT)
Frecuencias	BT: 2402-2480; WiFi: 2412-2472 MHz.
Ganancia de antena (dBi)	3,71 dBi
P.I.R.E. (EIRP)	BT: 43,65 mW (16,4 dBm); WiFi 2,4G: 91,41 mW (19,61 dBm)

Declaración de conformidad

"El equipo previamente individualizado cumple con las disposiciones establecidas en la Norma Técnica de Equipos de alcance reducido, aprobada por la resolución exenta N° 1.985, de 2017, de la Subsecretaría de Telecomunicaciones."

Firma del Importador/Responsable:

Nombre de quien firma: Tomás Aragona

Cargo: Representante Legal

Oficio Nº 3670 / 2024
Santiago, 26 de marzo de 2024

Exp. 2024006162

/DO N° 105833/F60

ANT.: 1. Ingreso SUBTEL N° 35574 de 14.03.2024.
2. Resolución Exenta N° 1985 de 2017, y sus modificaciones, de la Subsecretaría de Telecomunicaciones
3. Resolución Exenta N° 3.103 de 2012, de la Subsecretaría de Telecomunicaciones.
4. Resolución Exenta N° 470 de fecha 13.02.2013, que faculta a los jefes de División y de Departamento para firmar "Por Orden del Subsecretario de Telecomunicaciones" y delega las facultades que indica.

MAT.: Certifica equipo de alcance reducido.

DE: SUBSECRETARÍA DE TELECOMUNICACIONES

A: MBSERVICES

1. De acuerdo a la información proporcionada por documento de ANT. 1), esta Subsecretaría de Estado extiende el presente certificado para operar dentro del país, condicionado al estricto cumplimiento de lo señalado en letra(s) j.1) del artículo 1° de la norma señalada en ANT. 2):

- Tipo de Equipo : LÁMPARA LED.
- Marca : WIZ.
- Modelo(s) : 9290026267
- Fabricante : Signify (China) Investment Co., Ltd.
- Frecuencias de operación : BT: 2402-2480; WiFi: 2412-2472 MHz.
- Potencia máxima radiada : BT: 43,65 mW (16,4 dBm); WiFi 2,4G: 91,41 mW (19,61 dBm).
- Restricciones : Estos equipos deben emplear técnicas de compartición de frecuencias.

2. El incumplimiento de lo dispuesto por el presente certificado, será sancionado de acuerdo a las disposiciones legales vigentes. Estos equipos no deberán provocar interferencias a servicios de concesionarias de telecomunicaciones y no estarán protegidos respecto de interferencias que eventualmente puedan recibir.

Saluda atentamente a Ud.,
Por orden del Subsecretario de Telecomunicaciones

DISTRIBUCIÓN:
- MBSERVICES: Laboratorio@mbservices.cl
- Oficina de Partes.

Francisco Javier Pizarro Sepulveda
Jefe División Fiscalización
26/03/2024 16:21

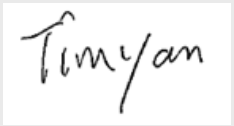
FIRMA ELECTRÓNICA SUBSECRETARÍA DE TELECOMUNICACIONES SUBTEL Ministerio de Transportes y Telecomunicaciones

AAAA MAVJ LTT

DEKRA Testing and Certification (Shanghai) Ltd. Guangzhou Branch
No.3, Qiyun Road, Huangpu District, Guangzhou, Guangdong, China
Tel +86 20 6661 2000 Fax +86 20 6661 2001 www.dekra-certification.com

Test report No: 4381704.53-RF

TEST REPORT
Radio Spectrum Matters (RF)

Identification of item tested	LED luminaire
Trademark	PHILIPS, WiZ
Model and /or type reference	9290026267, 9290026268, 9290031780, 9290026903, 9290026904, 9290026907
Features	100-240 Vac, 50/60 Hz, 9 W
Applicant´s name / address	Signify (China) Investment Co., Ltd. Building no.9, Lane 888, Tianlin Road, Minhang District, Shanghai 200233, China
Test method requested, standard	ETSI EN 300 328 V2.2.2 (2019-07)
Verdict Summary	COMPLIANCE
Tested by (name / position & signature)	Harry Deng Project Manager 
Approved by (name / position & signature)	Tim Yan Project Manager 
Date of issue	2021-11-10
Report template No	TRF_EMC 2017-06

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COMPETENCES AND GUARANTEES

DEKRA is a testing laboratory competent to carry out the tests described in this report.

In order to assure the traceability to other national and international laboratories, DEKRA has a calibration and maintenance program for its measurement equipment.

DEKRA guarantees the reliability of the data presented in this report, which is the result of the measurements and the tests performed to the item under test on the date and under the conditions stated in the report and it is based on the knowledge and technical facilities available at DEKRA at the time of performance of the test.

DEKRA is liable to the client for the maintenance of the confidentiality of all information related to the item under test and the results of the test.

The results presented in this Test Report apply only to the particular item under test established in this document.

IMPORTANT: No parts of this report may be reproduced or quoted out of context, in any form or by any means, except in full, without the previous written permission of DEKRA.

GENERAL CONDITIONS

1. This report is only referred to the item that has undergone the test.
2. This report does not constitute or imply on its own an approval of the product by the Certification Bodies or Competent Authorities.
3. This document is only valid if complete; no partial reproduction can be made without previous written permission of DEKRA.
4. This test report cannot be used partially or in full for publicity and/or promotional purposes without previous written permission of DEKRA.
5. This report will not be used for social proof function in China market.

UNCERTAINTY

For all measurements where guidance for the calculation of the instrumentation uncertainty of a measurement is specified in EN 55016-4-2 (CISPR 16-4-2), EN/IEC 61000-4 series or a product standard, the measurement instrumentation uncertainty has been calculated and applied in accordance with these standards.

Uncertainties have been calculated according to the DEKRA internal document. The reported expanded uncertainties are based on a standard uncertainty multiplied by a coverage factor of k=2, providing a level of confidence of approximately 95%.

ENVIRONMENTAL CONDITIONS

The climatic conditions during the tests are within the limits specified by the manufacturer for the operation of the EUT and the test equipment. The climatic conditions during the tests were within the following limits:

Ambient temperature	15 °C – 35 °C
Relative Humidity air	30% - 60%
Atmospheric pressure	86 kPa – 106 kPa

If explicitly required in the basic standard or applied product / product family standard the climatic values are recorded and documented separately in this test report.

POSSIBLE TEST CASE VERDICTS

Test case does not apply to test object	N/A
Test object does meet requirement	P (Pass) / PASS
Test object does not meet requirement	F (Fail) / FAIL
Not measured	N/M

DEFINITION OF SYMBOLS USED IN THIS TEST REPORT

☒ Indicates that the listed condition, standard or equipment is applicable for this report/test/EUT.				
☐ Indicates that the listed condition, standard or equipment is not applicable for this report/test/EUT.				
Decimal separator used in this report	☒	Comma (,)	☐	Point (.)

ABBREVIATIONS

For the purposes of the present document, the following abbreviations apply:

EUT	:	Equipment Under Test
QP	:	Quasi-Peak
CAV	:	CISPR Average
AV	:	Average
CDN	:	Coupling Decoupling Network
SAC	:	Semi-Anechoic Chamber
OATS	:	Open Area Test Site
BW	:	Bandwidth
AM	:	Amplitude Modulation
PM	:	Pulse Modulation
HCP	:	Horizontal Coupling Plane
VCP	:	Vertical Coupling Plane
U_N	:	Nominal voltage
*T*x	:	Transmitter
*R*x	:	Receiver
N/A	:	Not Applicable
N/M	:	Not Measured

DOCUMENT HISTORY

Report nr.	Date	Description
4381704.53-RF	2021-11-10	First release.

REMARKS AND COMMENTS

The equipment under test (EUT) does meet the essential requirements of the stated standard(s)/test(s).

This report is based on report 4375492.53. In this update, an alternative PCB of adaptor was added. It has similar electronic except for the component LF1. After technical review, no additional test was added.

1 GENERAL INFORMATION

1.1 General Description of the Item(s)

Description of the item ..... :	LED luminaire
Model / Type number ..... :	PHILIPS, WiZ
Trademark ..... :	9290026267, 9290026268, 9290031780, 9290026903, 9290026904, 9290026907
Ratings ..... :	100-240 Vac, 50/60 Hz, 9 W
Manufacturer/Factory ..... :	Signify (China) Investment Co., Ltd. Building no.9, Lane 888, Tianlin Road, Minhang District, Shanghai 200233, China

For WLAN

Operating frequency range(s) – Tx :	2412-2472 MHz (802.11 b/g/n HT20); 2422-2462 MHz (802.11 n HT40);
Operating frequency range(s) – Rx :	2412-2472 MHz (802.11 b/g/n HT20); 2422-2462 MHz (802.11 n HT40);
Type of Modulation ..... :	802.11b:DSSS(DBPSK/DQPSK/CCK); 802.11g/n:OFDM(BPSK/QPSK/16QAM/64QAM)
Maximum RF output power ..... :	Max. 20 dBm
Antenna type..... :	Integral Antenna
Antenna gain..... :	3,71 dBi
Number of channel..... :	13 (802.11 b/g/n HT20); 9 (802.11 n HT40);
Operating Temperature Range..... :	-20 – 40 ℃

For BLE

Operating frequency range(s) – Tx :	2402-2480 MHz
Operating frequency range(s) – Rx :	2402-2480 MHz
Type of Modulation ..... :	GFSK
Maximum RF output power ..... :	Max. 9 dBm
Antenna type..... :	Integral Antenna
Antenna gain..... :	3,71 dBi
Number of channel..... :	40
Operating Temperature Range..... :	-20 – 40 ℃

Rated power supply .....:	Voltage and Frequency		Reference poles				
			L1	L2	L3	N	PE
	☒	AC: 220 – 240 V, 50/60 Hz	☒	☐	☐	☒	☐
	☐	DC: 12 V, 24 V, 12 / 24 V					
	☐	Battery:					
Mounting position.....:	☒	Table top equipment					
	☐	Wall/Ceiling mounted equipment					
	☐	Floor standing equipment					
	☐	Hand-held equipment					
	☐	Other:					

Intended use of the Equipment Under Test (EUT)
The apparatus as supplied for the test is LED luminaire which intended for residential use, the product contains electronic control circuitry but without earth connection and no component susceptible to magnetic fields. According to manufacturer's declaration, models have same electronic circuit but with different appearance and plug. Hence, model 9290026903 was chosen for full test and the corresponding test data are also representative of the other models as well.

Copy of marking plate:
No provide.

1.2 Test data

Test Location	DEKRA Testing and Certification (Shanghai) Ltd. Guangzhou Branch No.3, Qiyun Road, Huangpu District, Guangzhou, Guangdong, China
Date of receipt of test item	2021-04-29
Date (s) of performance of tests	2021-04-29 to 2021-06-15

1.3 The environment(s) in which the EUT is intended to be used

The equipment under test (EUT) is intended to be used in the following environment(s):

☒	Residential (domestic) environment.
☒	Commercial and light-industrial environment.
☐	Industrial environment.

1.4 Classification of Receivers according to ETSI EN 300328

The receivers were subdivided into 3 categories according to ETSI EN 300 328. For each category, the specific immunity requirements are formulated.

	Receiver category	Definition
√	1	Adaptive equipment with a maximum RF output power greater than 10 dBm(e.i.r.p).
√	2	Non-adaptive equipment with a Medium Utilization (MU) factor greater than 1 % and less than or equal to 10 % or adaptive equipment with a maximum RF output power of 10 dBm(e.i.r.p).
	3	Non-adaptive equipment with a maximum Medium Utilization (MU) factor of 1 % or adaptive equipment with a maximum RF output power of 0 dBm(e.i.r.p).

Note:
Receiver category 1 is for WLAN mode and receiver category 2 is for BLE mode.

2 DESCRIPTION OF TEST SETUP

2.1 Operating mode(s) used for tests

During the tests the following operating mode(s) has(have) been used.

Operating mode	Operating mode description	Used for methos	
		Conducted	Radiated
1	Transmitting @WLAN mode	☒	☒
2	Receiving @WLAN mode	☒	☒
3		☐	☐
Supplemental information: ---			

2.2 Support / Auxiliary equipment / unit / software for the EUT

The EUT has been tested with the following auxiliary equipment / unit / software:

Auxiliary equipment / unit / software	Type / Version	Manufacturer	Supplied by
Laptop	Latitude 5488	DELL	DEKRA
Supplemental information: ---			

2.3 Test Configuration / Block diagram used for tests

Refer to Annex 3.

3 VERDICT SUMMARY SECTION

This chapter presents an overview of standards and results. Refer to the next chapters for details of measured test results and applied test levels.

3.1 Standards

Standard	Year	Description
ETSI EN 300 328 V2.2.2	2019-07	Wideband transmission systems; Data transmission equipment operating in the 2,4 GHz band; Harmonised Standard for access to radio spectrum

3.2 Deviation(s) from the Standard(s) / Test Specification(s)

The following deviation(s) was / were made from the published requirements of the listed standards: N/A.

3.3 Overview of results

TRANSMITTER TESTS		
Requirement – Test case for Wide band modulation other than FHSS	**Verdict**	**Remark**
RF output power	PASS	---
Power Spectral Density	PASS	---
Duty Cycle, Tx-sequence, Tx-gap	N/A	See 1)
Medium Utilization (MU) factor	N/A	See 2)
Adaptivity	PASS	---
Occupied Channel Bandwidth (BW)	PASS	---
Transmitter unwanted emissions in the out-of-band domain	PASS	---
Transmitter unwanted emissions in the spurious domain	PASS	---
Supplementary information: 1) These requirements apply to non-adaptive equipment or to adaptive equipment when operating in a non-adaptive mode. 2) This requirement does not apply to adaptive equipment unless operating in a non-adaptive mode.		

RECEIVER TESTS		
Requirement	**Verdict**	**Remark**
Receiver spurious emission	PASS	--
Receiver Blocking	PASS	---
Geo-location capability	N/A	See 1)
Supplementary information: 1) This requirement only applies to equipment with geo-location capability		

The measurement result is considered in conformance with the requirement if it is within the prescribed limit, It is not necessary to calculate the uncertainty associated with the measurement result.

3.4 Measurement procedure

The EUT was controlled by a serial PCB which provided by manufacturer which connected to laptop through the com port. After connected, run the software “ESP_RF_test_tool_v2.5” supplied by manufacturer to control the EUT work in required test mode as below table.

Mode	Frequency (MHz)	Power setting (attenuation level in software)
WLAN b	2412	14
	2442	14
	2472	14
WLAN g	2412	4
	2442	4
	2472	4
WLAN n HT20	2412	4
	2442	4
	2472	4
WLAN n HT40	2422	4
	2442	4
	2462	4

4 TRANSMITTER TEST RESULTS

4.1 **RF output power**	**VERDICT: PASS**

Standard	ETSI EN 300 328
Limits: For adaptive equipment using wide band modulation other than FHSS, the maximum RF output power shall be 20 dBm. The maximum RF output power for non-adaptive equipment shall be declared by the supplier and shall not exceed 20 dBm. For non-adaptive equipment using wide band modulations other than FHSS, the maximum RF output power shall be equal to or less than the value declared by the supplier. This limit shall apply for any combination of power level and intended antenna assembly.	

Performed measurements

Port under test	Antenna port	
Test method applied	☒	Conducted measurement
	☐	Radiated measurement
Test setup	Refer to the Annex 3 for test setup photo(s).	
Operating mode(s) used	Mode 1	
Remark	---	

Results

Temperature	Mode	Frequency (MHz)	Reading Level (dBm)	Antenna Gain (dBi)	RF output power (dBm)	Limit (dBm)
25 ℃	802.11 b	2412	14,70	3,71	18,41	20
		2442	15,00	3,71	18,71	20
		2472	14,40	3,71	18,11	20
-20 ℃	802.11 b	2412	14,54	3,71	18,25	20
		2442	14,82	3,71	18,53	20
		2472	14,32	3,71	18,03	20
40 ℃	802.11 b	2412	14,63	3,71	18,34	20
		2442	14,92	3,71	18,63	20
		2472	14,29	3,71	18,00	20

Temperature	Mode	Frequency (MHz)	Reading Level (dBm)	Antenna Gain (dBi)	RF output power (dBm)	Limit (dBm)
25 ℃	802.11 g	2412	15,60	3,71	19,31	20
		2442	15,90	3,71	19,61	20
		2472	15,30	3,71	19,01	20

-20 ℃	802.11 g	2412	15,52	3,71	19,23	20
		2442	15,75	3,71	19,46	20
		2472	15,28	3,71	18,99	20
40 ℃	802.11 g	2412	15,58	3,71	19,29	20
		2442	15,41	3,71	19,12	20
		2472	15,18	3,71	18,89	20

Temperature	Mode	Frequency (MHz)	Reading Level (dBm)	Antenna Gain (dBi)	RF output power (dBm)	Limit (dBm)
25 ℃	802.11 n HT20	2412	15,20	3,71	18,91	20
		2442	15,60	3,71	19,31	20
		2472	15,00	3,71	18,71	20
-20 ℃	802.11 n HT20	2412	15,10	3,71	18,81	20
		2442	15,45	3,71	19,16	20
		2472	14,92	3,71	18,63	20
40 ℃	802.11 n HT20	2412	15,11	3,71	18,82	20
		2442	15,29	3,71	19,00	20
		2472	14,82	3,71	18,53	20

Temperature	Mode	Frequency (MHz)	Reading Level (dBm)	Antenna Gain (dBi)	RF output power (dBm)	Limit (dBm)
25 ℃	802.11 n HT40	2422	15,60	3,71	19,31	20
		2442	15,60	3,71	19,31	20
		2462	15,40	3,71	19,11	20
-20 ℃	802.11 n HT40	2422	15,49	3,71	19,20	20
		2442	15,59	3,71	19,30	20
		2462	15,29	3,71	19,00	20
40 ℃	802.11 n HT40	2422	15,60	3,71	19,31	20
		2442	15,49	3,71	19,20	20
		2462	15,33	3,71	19,04	20

4.2 **Power Spectral Density**	**VERDICT: PASS**

Standard	ETSI EN 300 328
Limits: For equipment using wide band modulations other than FHSS, the maximum Power Spectral Density is limited to 10 dBm per MHz.	

Performed measurements

Port under test	Antenna port	
Test method applied	☒	Conducted measurement
	☐	Radiated measurement
Test setup	Refer to the Annex 3 for test setup photo(s).	
Operating mode(s) used	Mode 1	
Remark	---	

Results

Mode	Frequency (MHz)	Power Spectral Density (dBm)	Limit (dBm/ MHz)
802.11 b	2412	9,539	10
	2442	9,774	
	2472	9,219	
802.11 g	2412	7,801	
	2442	8,132	
	2472	7,454	
802.11 n HT20	2412	8,174	
	2442	7,601	
	2472	6,928	
802.11 n HT40	2422	4,481	
	2442	4,717	
	2462	4,518	

4.3 **Adaptivity**	**VERDICT: PASS**

Standard	ETSI EN 300 328

Adaptive equipment using modulation other than FHSS

Load Based Equipment shall comply with the following requirements:

1) Before a transmission or a burst of transmissions, the equipment shall perform a Clear Channel Assessment (CCA) check using energy detect. The equipment shall observe the operating channel for the duration of the CCA observation time which shall be not less than 18 µs. The channel shall be considered occupied if the energy level in the channel exceeds the threshold given in step 5) below. If the equipment finds the channel to be clear, it may transmit immediately.
2) If the equipment finds the channel occupied, it shall not transmit on this channel (see note 2). The equipment shall perform an Extended CCA check in which the channel is observed for a random duration in the range between 18 µs and at least 160 µs. If the extended CCA check has determined the channel to be no longer occupied, the equipment may resume transmissions on this channel. If the Extended CCA time has determined the channel still to be occupied, it shall perform new Extended CCA checks until the channel is no longer occupied.
3) The total time that an equipment makes use of a RF channel is defined as the Channel Occupancy Time. This Channel Occupancy Time shall be less than 13 ms, after which the device shall perform a new CCA as described in step 1) above.
4) The equipment, upon correct reception of a packet which was intended for this equipment can skip CCA and immediately (see note 3) proceed with the transmission of management and control frames (e.g. ACK and Block ACK frames are allowed but data frames are not allowed). A consecutive sequence of transmissions by the equipment without a new CCA shall not exceed the maximum channel occupancy time as defined in step 3) above.

The energy detection threshold for the CCA shall be proportional to the transmit power of the transmitter: for a 20 dBm e.i.r.p. transmitter the CCA threshold level (TL) shall be equal or less than -70 dBm/MHz at the input to the receiver (assuming a 0 dBi receive antenna). For power levels below 20 dBm e.i.r.p., the CCA threshold level may be relaxed to TL = -70 dBm/MHz + (20 dBm - Pout e.i.r.p.)/1 MHz (Pout in dBm).

Performed measurements

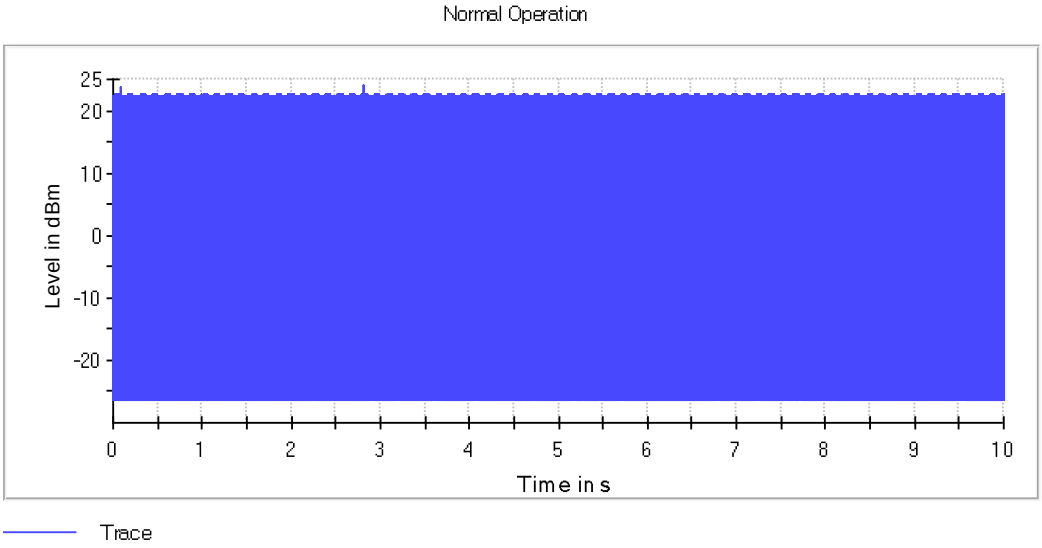
Port under test	Antenna port	
Test method applied	☒	Conducted measurement
	☐	Radiated measurement
Test setup	Refer to the Annex 3 for test setup photo(s).	
Operating mode(s) used	Mode 1	
Remark	---	

Results

Mode	Frequency (MHz)	CCA observation time (us)	Limit (us)	Channel Occupancy Time (COT) (ms)	Limit (ms)
802.11b	2412	47,00	≥18	0,252	≤13
	2472	7,00		0,252	
802.11g	2412	23,00		0,115	
	2472	23,00		0,115	
802.11 n HT20	2412	48,00		0,048	
	2472	48,00		0,048	
802.11 n HT40	2422	41,00		0,047	
	2462	41,00		0,047	

Mode	Frequency (MHz)	Short Signaling (%)	Limit (%)
802.11b	2412	0	≤10
	2472	0	
802.11g	2412	0	
	2472	0	
802.11 n HT20	2412	0	
	2472	0	
802.11 n HT40	2422	0	
	2462	0	

Test figure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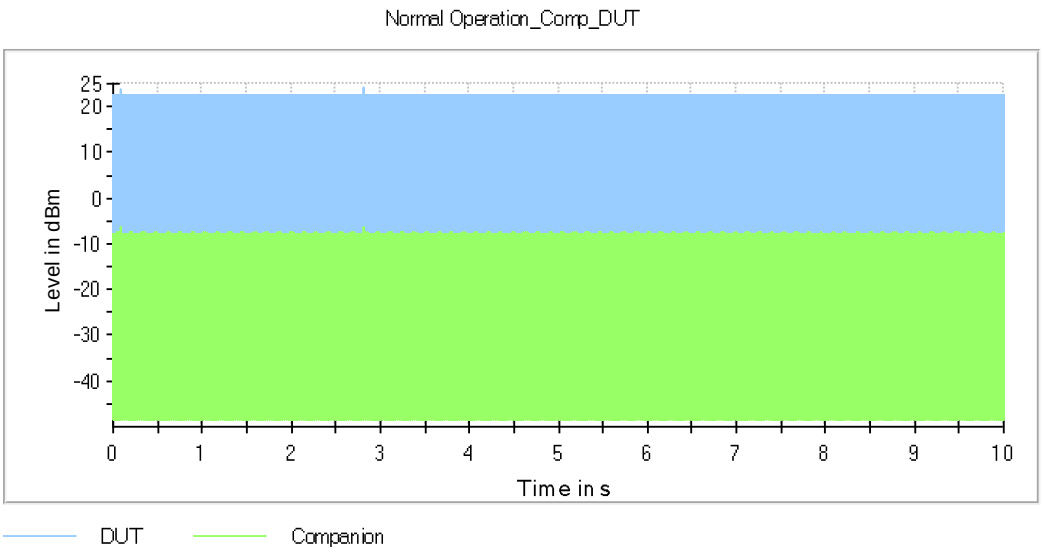
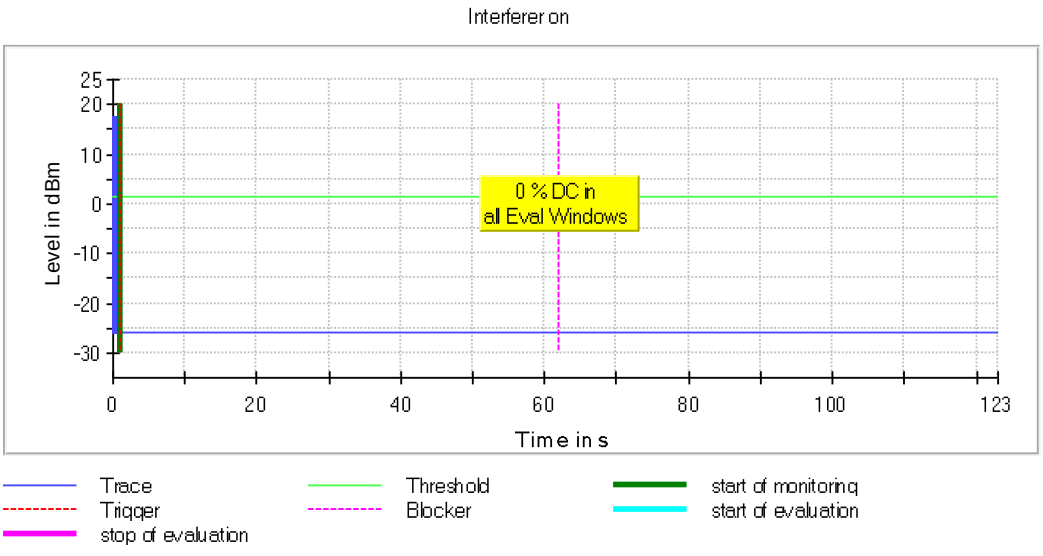
Level in dBm
Time in s
Trace


Normal Operation_Comp_DUT
Level in dBm
Time in s
DUT
Companion


Interferer on
0 % DC in
all Eval Windows
Level in dBm
Time in s
Trace
Trigger
stop of evaluation
Threshold
Blocker
start of monitoring
start of evaluation

4.4 **Occupied Channel Bandwidth**	**VERDICT: PASS**

Standard	ETSI EN 300 328
Limits: The Occupied Channel Bandwidth shall fall completely within the band given in Clause 1 (2,4 GHz to 2,4835 GHz). In addition, for non-adaptive systems using wide band modulations other than FHSS and with e.i.r.p greater than 10 dBm, the occupied channel bandwidth shall be less than 20 MHz.	

Performed measurements

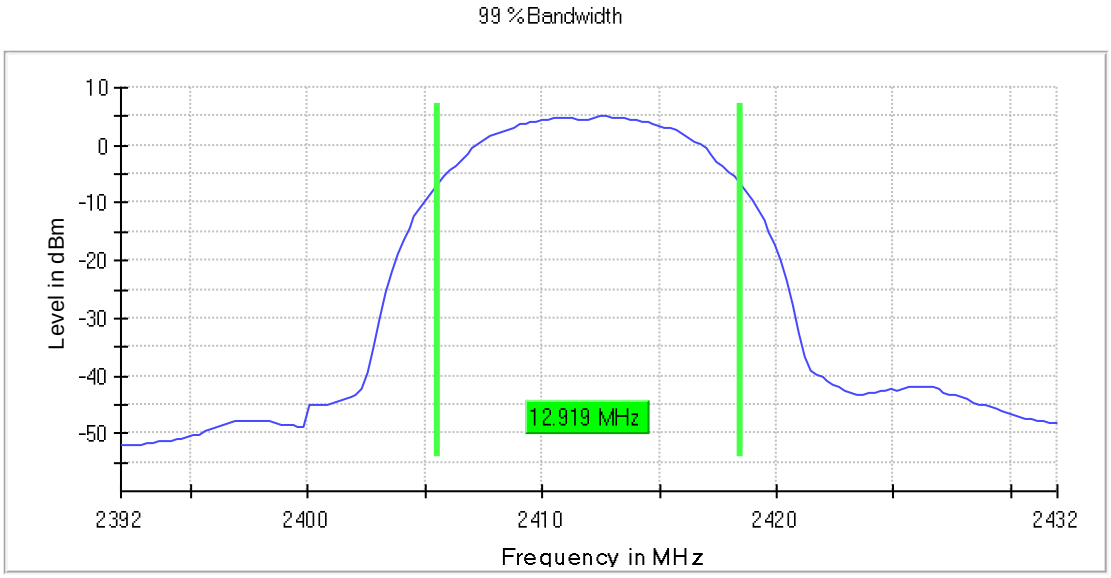
Port under test	Antenna port	
Test method applied	☒	Conducted measurement
	☐	Radiated measurement
Test setup	Refer to the Annex 3 for test setup photo(s).	
Operating mode(s) used	Mode 1	
Remark	---	

Results

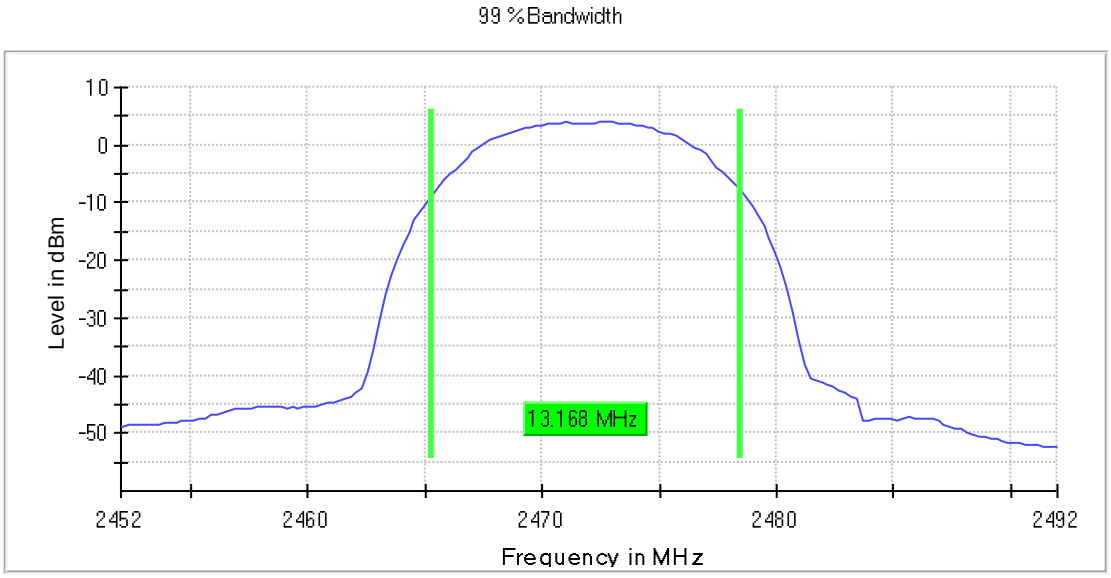
Mode	Frequency (MHz)	Bandwidth 99%(MHz)	FL (MHz) or FH (MHz)	Lower Limit (MHz)	Higher Limit
802.11 b	2412	12,919	2405,540	> 2400,0	N/A
	2472	13,167	2478,459	N/A	< 2483,5
802.11 g	2412	16,645	2403,552	> 2400,0	N/A
	2472	16,645	2480,198	N/A	< 2483,5
802.11 n HT20	2412	17,639	2403,055	> 2400,0	N/A
	2472	17,639	2480,695	N/A	< 2483,5
802.11 n HT40	2422	36,770	2403,614	> 2400,0	N/A
	2462	36,770	2480,385	N/A	< 2483,5

Test figure of 802.11 b mode

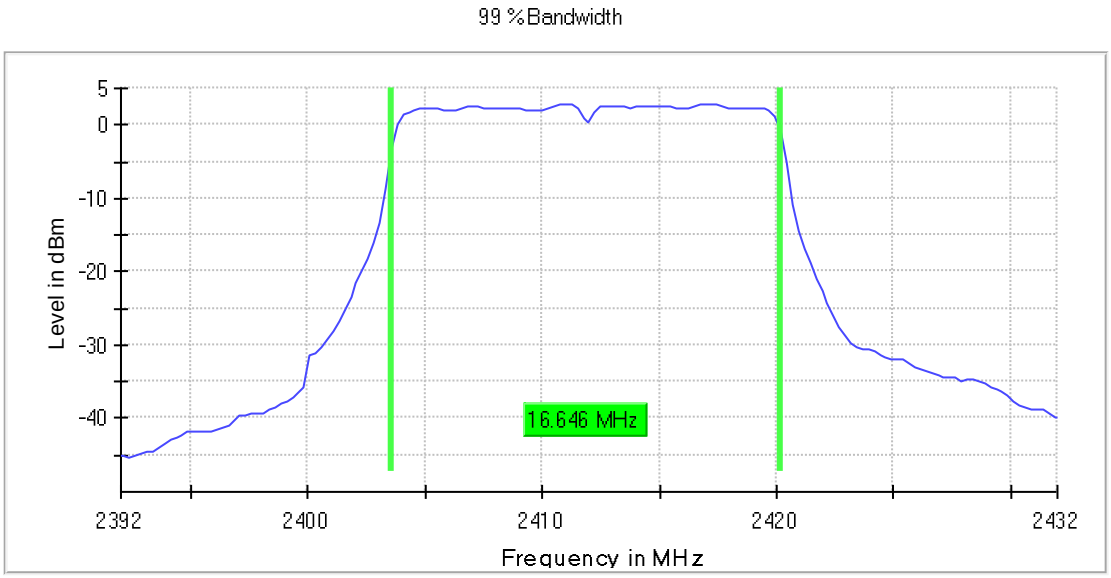
Channel 2412 MHz



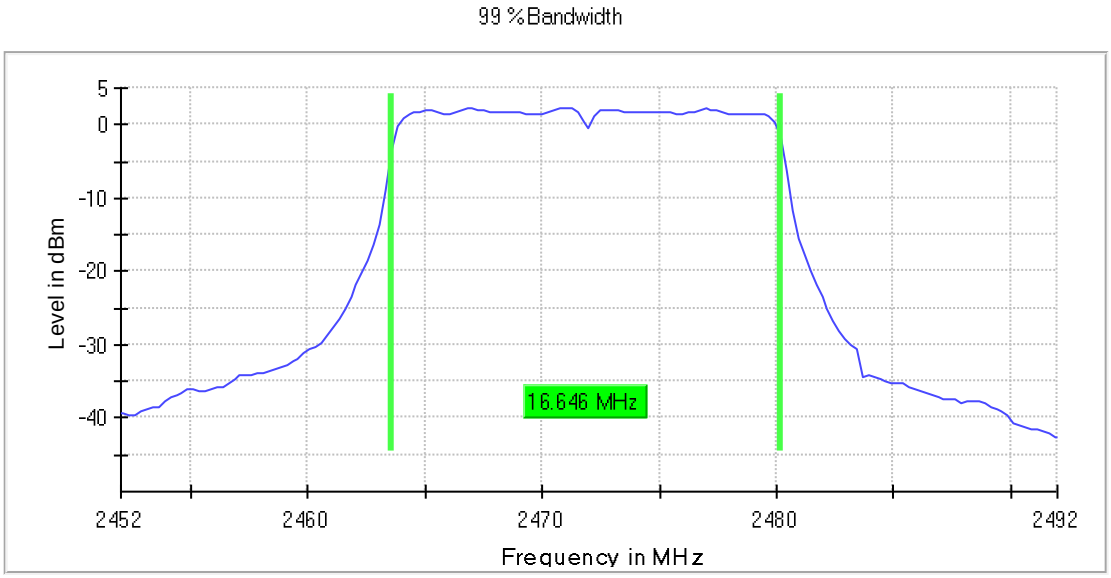
Channel 2472 MHz



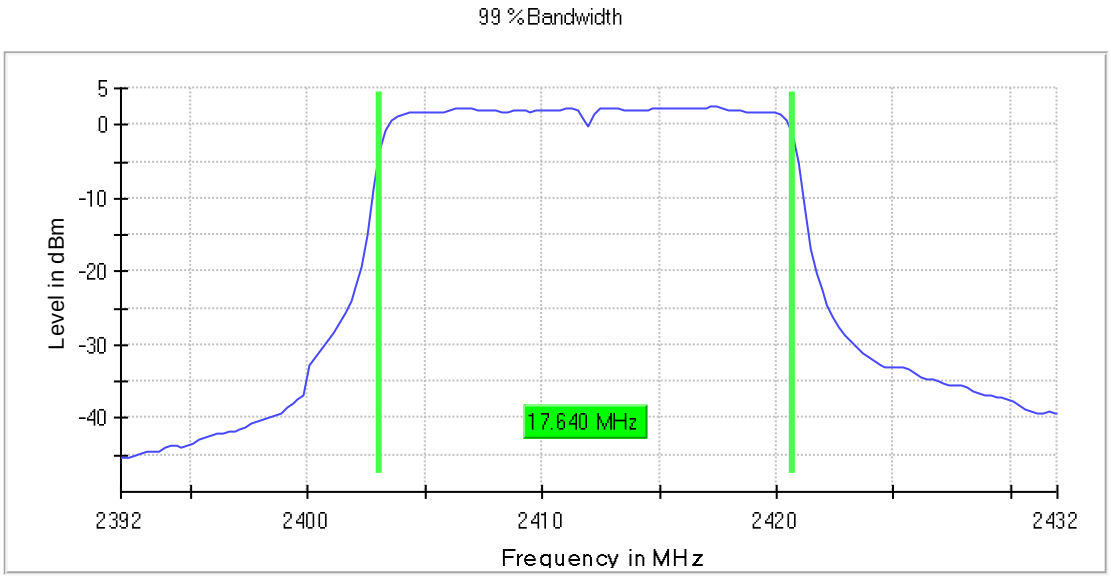
Test figure of 802.11 g mode
Channel 2412 MHz



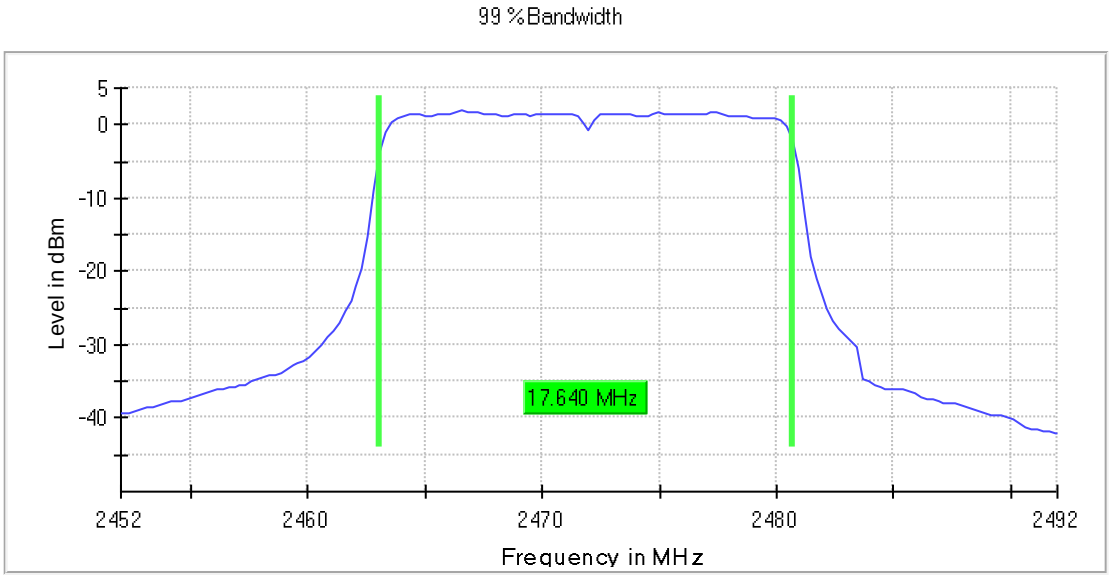
Channel 2472 MHz



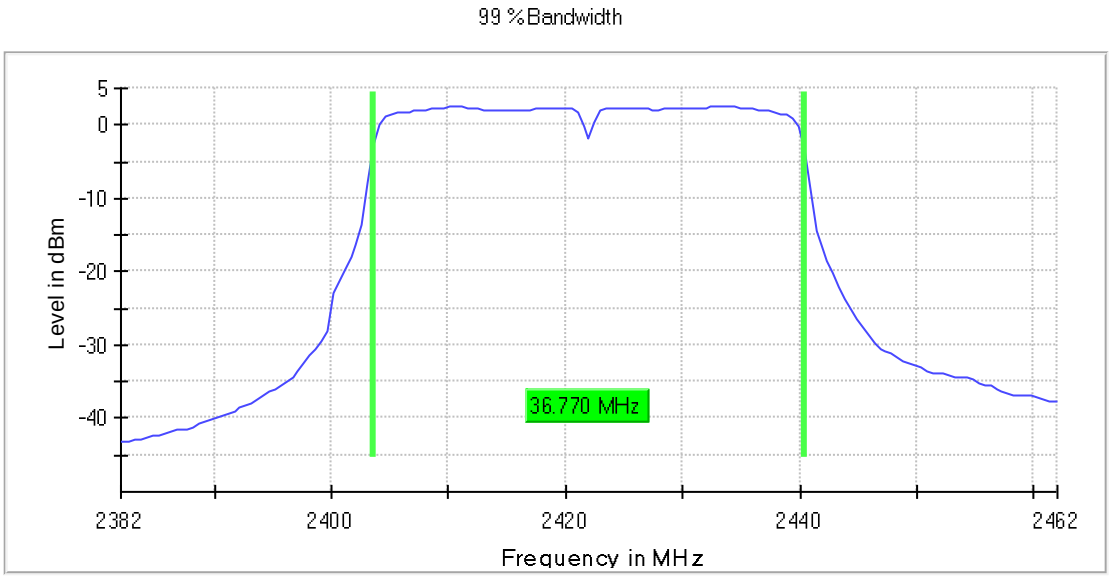
Test figure of 802.11 n HT20 mode
Channel 2412 MHz



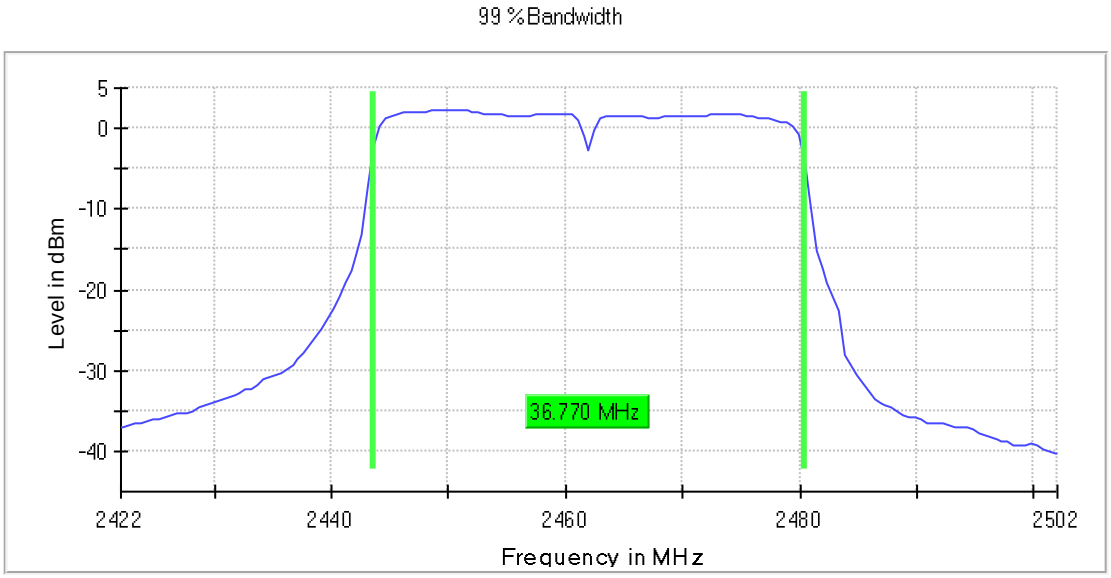
Channel 2472 MHz



Test figure of 802.11 n HT40 mode
Channel 2422 MHz



Channel 2462 MHz



4.5	**Transmitter unwanted emissions in the out-of-band domain**	**VERDICT: PASS**

Standard	ETSI EN 300 328

Limits:

The transmitter unwanted emissions in the out-of-band domain but outside the allocated band, shall not exceed the values provided by the mask in figure 3.

NOTE: Within the 2 400 MHz to 2 483,5 MHz band, the Out-of-band emissions are fulfilled by compliance with the Occupied Channel Bandwidth requirement in clause 4.3.2.6.

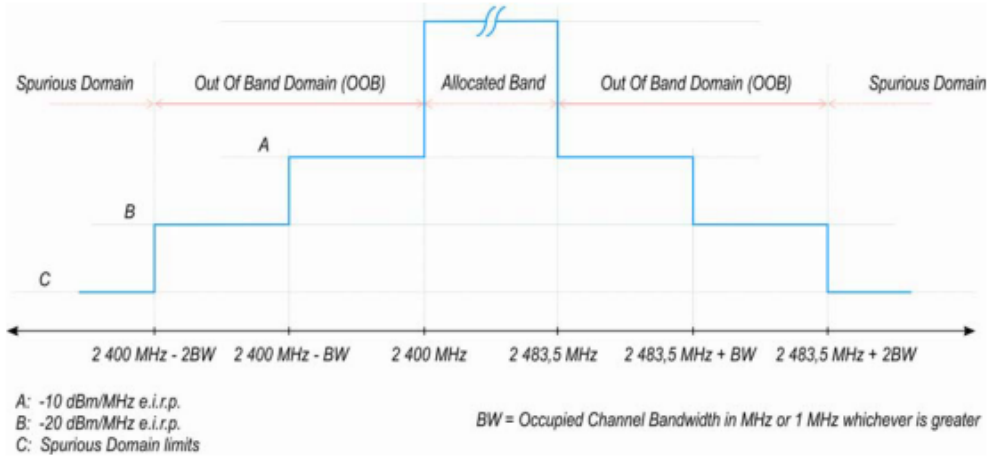


Figure 3: Transmit mask

Performed measurements

Port under test	Antenna port	
Test method applied	☒	Conducted measurement
	☐	Radiated measurement
Test setup	Refer to the Annex 3 for test setup photo(s).	
Operating mode(s) used	Mode 1	
Remark	---	

Results
802.11 b, 2412 MHz

Frequency (MHz)	Level (dBm)	Limit (dBm)	Result
2374.661492	-50.3	-20.0	PASS
2375.580746	-50.3	-20.0	PASS
2376.580746	-50.4	-20.0	PASS
2377.580746	-50.4	-20.0	PASS
2378.580746	-50.4	-20.0	PASS
2379.580746	-50.4	-20.0	PASS
2380.580746	-50.4	-20.0	PASS
2381.580746	-50.4	-20.0	PASS
2382.580746	-50.3	-20.0	PASS
2383.580746	-50.1	-20.0	PASS
2384.580746	-50.0	-20.0	PASS
2385.580746	-49.8	-20.0	PASS
2386.580746	-49.9	-20.0	PASS
2387.580746	-50.0	-10.0	PASS
2388.500000	-50.1	-10.0	PASS
2389.500000	-50.2	-10.0	PASS
2390.500000	-50.1	-10.0	PASS
2391.500000	-50.1	-10.0	PASS
2392.500000	-49.9	-10.0	PASS
2393.500000	-49.4	-10.0	PASS
2394.500000	-48.7	-10.0	PASS
2395.500000	-47.6	-10.0	PASS
2396.500000	-45.9	-10.0	PASS
2397.500000	-45.4	-10.0	PASS
2398.500000	-45.7	-10.0	PASS
2399.500000	-46.4	-10.0	PASS
2484.000000	-50.6	-10.0	PASS
2485.000000	-50.6	-10.0	PASS
2486.000000	-50.5	-10.0	PASS
2487.000000	-50.6	-10.0	PASS
2488.000000	-50.6	-10.0	PASS
2489.000000	-50.6	-10.0	PASS
2490.000000	-50.6	-10.0	PASS
2491.000000	-50.6	-10.0	PASS
2492.000000	-50.6	-10.0	PASS
2493.000000	-50.6	-10.0	PASS
2494.000000	-50.6	-10.0	PASS
2495.000000	-50.7	-10.0	PASS
2495.919254	-50.7	-10.0	PASS
2496.919254	-50.7	-20.0	PASS
2497.919254	-50.6	-20.0	PASS
2498.919254	-50.6	-20.0	PASS
2499.919254	-50.6	-20.0	PASS

2500.919254	-50.6	-20.0	PASS
2501.919254	-50.6	-20.0	PASS
2502.919254	-50.6	-20.0	PASS
2503.919254	-50.6	-20.0	PASS
2504.919254	-50.6	-20.0	PASS
2505.919254	-50.6	-20.0	PASS
2506.919254	-50.6	-20.0	PASS
2507.919254	-49.3	-20.0	PASS
2508.838508	-50.6	-20.0	PASS

802.11 b, 2472 MHz

Frequency (MHz)	Level (dBm)	Limit (dBm)	Result
2374.164596	-50.6	-20.0	PASS
2374.332298	-50.6	-20.0	PASS
2375.332298	-50.6	-20.0	PASS
2376.332298	-50.7	-20.0	PASS
2377.332298	-50.6	-20.0	PASS
2378.332298	-50.6	-20.0	PASS
2379.332298	-50.6	-20.0	PASS
2380.332298	-50.7	-20.0	PASS
2381.332298	-50.5	-20.0	PASS
2382.332298	-50.6	-20.0	PASS
2383.332298	-50.6	-20.0	PASS
2384.332298	-50.6	-20.0	PASS
2385.332298	-50.6	-20.0	PASS
2386.332298	-50.6	-20.0	PASS
2387.332298	-50.6	-10.0	PASS
2387.500000	-50.6	-10.0	PASS
2388.500000	-50.6	-10.0	PASS
2389.500000	-50.6	-10.0	PASS
2390.500000	-50.6	-10.0	PASS
2391.500000	-50.6	-10.0	PASS
2392.500000	-50.6	-10.0	PASS
2393.500000	-50.6	-10.0	PASS
2394.500000	-50.5	-10.0	PASS
2395.500000	-50.6	-10.0	PASS
2396.500000	-50.6	-10.0	PASS
2397.500000	-50.6	-10.0	PASS
2398.500000	-50.6	-10.0	PASS
2399.500000	-50.4	-10.0	PASS
2484.000000	-45.4	-10.0	PASS
2485.000000	-45.3	-10.0	PASS
2486.000000	-45.1	-10.0	PASS
2487.000000	-45.9	-10.0	PASS
2488.000000	-47.4	-10.0	PASS
2489.000000	-48.5	-10.0	PASS
2490.000000	-49.4	-10.0	PASS
2491.000000	-49.9	-10.0	PASS
2492.000000	-50.2	-10.0	PASS
2493.000000	-50.2	-10.0	PASS
2494.000000	-50.3	-10.0	PASS
2495.000000	-50.2	-10.0	PASS
2496.000000	-50.2	-10.0	PASS
2496.167702	-50.0	-10.0	PASS
2497.167702	-49.9	-20.0	PASS

2498.167702	-49.9	-20.0	PASS
2499.167702	-50.0	-20.0	PASS
2500.167702	-50.1	-20.0	PASS
2501.167702	-50.3	-20.0	PASS
2502.167702	-50.3	-20.0	PASS
2503.167702	-50.4	-20.0	PASS
2504.167702	-50.3	-20.0	PASS
2505.167702	-50.4	-20.0	PASS
2506.167702	-50.4	-20.0	PASS
2507.167702	-50.4	-20.0	PASS
2508.167702	-50.2	-20.0	PASS
2509.167702	-50.1	-20.0	PASS
2509.335404	-50.3	-20.0	PASS

802.11 g, 2412 MHz

Frequency (MHz)	Level (dBm)	Limit (dBm)	Result
2367.208074	-50.5	-20.0	PASS
2367.854037	-50.5	-20.0	PASS
2368.854037	-50.5	-20.0	PASS
2369.854037	-50.4	-20.0	PASS
2370.854037	-50.4	-20.0	PASS
2371.854037	-50.4	-20.0	PASS
2372.854037	-50.4	-20.0	PASS
2373.854037	-50.4	-20.0	PASS
2374.854037	-50.4	-20.0	PASS
2375.854037	-50.3	-20.0	PASS
2376.854037	-50.3	-20.0	PASS
2377.854037	-50.3	-20.0	PASS
2378.854037	-50.3	-20.0	PASS
2379.854037	-50.2	-20.0	PASS
2380.854037	-50.2	-20.0	PASS
2381.854037	-50.1	-20.0	PASS
2382.854037	-50.1	-20.0	PASS
2383.854037	-50.1	-10.0	PASS
2384.500000	-50.1	-10.0	PASS
2385.500000	-50.0	-10.0	PASS
2386.500000	-50.0	-10.0	PASS
2387.500000	-49.8	-10.0	PASS
2388.500000	-48.8	-10.0	PASS
2389.500000	-47.0	-10.0	PASS
2390.500000	-45.6	-10.0	PASS
2391.500000	-43.5	-10.0	PASS
2392.500000	-42.5	-10.0	PASS
2393.500000	-41.7	-10.0	PASS
2394.500000	-39.8	-10.0	PASS
2395.500000	-39.1	-10.0	PASS
2396.500000	-38.1	-10.0	PASS
2397.500000	-36.9	-10.0	PASS
2398.500000	-35.9	-10.0	PASS
2399.500000	-34.1	-10.0	PASS
2484.000000	-50.6	-10.0	PASS
2485.000000	-50.6	-10.0	PASS
2486.000000	-50.6	-10.0	PASS
2487.000000	-50.6	-10.0	PASS
2488.000000	-50.7	-10.0	PASS
2489.000000	-50.6	-10.0	PASS
2490.000000	-50.6	-10.0	PASS
2491.000000	-50.7	-10.0	PASS
2492.000000	-50.6	-10.0	PASS

2493.000000	-50.6	-10.0	PASS
2494.000000	-50.7	-10.0	PASS
2495.000000	-50.6	-10.0	PASS
2496.000000	-50.6	-10.0	PASS
2497.000000	-50.6	-10.0	PASS
2498.000000	-50.6	-10.0	PASS
2499.000000	-50.7	-10.0	PASS
2499.645963	-50.6	-10.0	PASS
2500.645963	-50.6	-20.0	PASS
2501.645963	-50.6	-20.0	PASS
2502.645963	-50.6	-20.0	PASS
2503.645963	-50.7	-20.0	PASS
2504.645963	-50.6	-20.0	PASS
2505.645963	-50.7	-20.0	PASS
2506.645963	-50.6	-20.0	PASS
2507.645963	-50.7	-20.0	PASS
2508.645963	-50.6	-20.0	PASS
2509.645963	-50.7	-20.0	PASS
2510.645963	-49.2	-20.0	PASS
2511.645963	-50.6	-20.0	PASS
2512.645963	-50.6	-20.0	PASS
2513.645963	-50.6	-20.0	PASS
2514.645963	-50.6	-20.0	PASS
2515.645963	-50.7	-20.0	PASS
2516.291926	-50.6	-20.0	PASS

802.11 g, 2472 MHz

Frequency (MHz)	Level (dBm)	Limit (dBm)	Result
2367.208074	-50.7	-20.0	PASS
2367.854037	-50.6	-20.0	PASS
2368.854037	-50.6	-20.0	PASS
2369.854037	-50.7	-20.0	PASS
2370.854037	-50.7	-20.0	PASS
2371.854037	-50.7	-20.0	PASS
2372.854037	-50.7	-20.0	PASS
2373.854037	-50.6	-20.0	PASS
2374.854037	-50.7	-20.0	PASS
2375.854037	-50.7	-20.0	PASS
2376.854037	-50.6	-20.0	PASS
2377.854037	-50.6	-20.0	PASS
2378.854037	-50.6	-20.0	PASS
2379.854037	-50.7	-20.0	PASS
2380.854037	-50.6	-20.0	PASS
2381.854037	-50.6	-20.0	PASS
2382.854037	-50.6	-20.0	PASS
2383.854037	-50.6	-10.0	PASS
2384.500000	-50.6	-10.0	PASS
2385.500000	-50.6	-10.0	PASS
2386.500000	-50.6	-10.0	PASS
2387.500000	-50.6	-10.0	PASS
2388.500000	-50.6	-10.0	PASS
2389.500000	-50.6	-10.0	PASS
2390.500000	-50.6	-10.0	PASS
2391.500000	-50.6	-10.0	PASS
2392.500000	-50.6	-10.0	PASS
2393.500000	-50.6	-10.0	PASS
2394.500000	-50.6	-10.0	PASS
2395.500000	-50.6	-10.0	PASS
2396.500000	-50.6	-10.0	PASS
2397.500000	-50.5	-10.0	PASS
2398.500000	-50.6	-10.0	PASS
2399.500000	-50.4	-10.0	PASS
2484.000000	-32.0	-10.0	PASS
2485.000000	-32.8	-10.0	PASS
2486.000000	-34.1	-10.0	PASS
2487.000000	-35.0	-10.0	PASS
2488.000000	-35.2	-10.0	PASS
2489.000000	-36.0	-10.0	PASS
2490.000000	-37.8	-10.0	PASS
2491.000000	-39.2	-10.0	PASS
2492.000000	-40.7	-10.0	PASS

2493.000000	-42.0	-10.0	PASS
2494.000000	-44.4	-10.0	PASS
2495.000000	-46.6	-10.0	PASS
2496.000000	-49.0	-10.0	PASS
2497.000000	-49.8	-10.0	PASS
2498.000000	-49.8	-10.0	PASS
2499.000000	-49.8	-10.0	PASS
2499.645963	-49.9	-10.0	PASS
2500.645963	-49.9	-20.0	PASS
2501.645963	-50.0	-20.0	PASS
2502.645963	-50.0	-20.0	PASS
2503.645963	-50.1	-20.0	PASS
2504.645963	-50.2	-20.0	PASS
2505.645963	-50.3	-20.0	PASS
2506.645963	-50.3	-20.0	PASS
2507.645963	-50.3	-20.0	PASS
2508.645963	-50.4	-20.0	PASS
2509.645963	-50.4	-20.0	PASS
2510.645963	-49.1	-20.0	PASS
2511.645963	-50.4	-20.0	PASS
2512.645963	-50.3	-20.0	PASS
2513.645963	-50.5	-20.0	PASS
2514.645963	-50.4	-20.0	PASS
2515.645963	-50.5	-20.0	PASS
2516.291926	-50.4	-20.0	PASS

802.11 n HT20, 2412 MHz

Frequency (MHz)	Level (dBm)	Limit (dBm)	Result
2365.220498	-50.5	-20.0	PASS
2365.860249	-50.5	-20.0	PASS
2366.860249	-50.5	-20.0	PASS
2367.860249	-50.5	-20.0	PASS
2368.860249	-50.5	-20.0	PASS
2369.860249	-50.4	-20.0	PASS
2370.860249	-50.4	-20.0	PASS
2371.860249	-50.4	-20.0	PASS
2372.860249	-50.4	-20.0	PASS
2373.860249	-50.3	-20.0	PASS
2374.860249	-50.3	-20.0	PASS
2375.860249	-50.3	-20.0	PASS
2376.860249	-50.2	-20.0	PASS
2377.860249	-50.1	-20.0	PASS
2378.860249	-50.1	-20.0	PASS
2379.860249	-50.0	-20.0	PASS
2380.860249	-49.9	-20.0	PASS
2381.860249	-49.8	-20.0	PASS
2382.860249	-49.8	-10.0	PASS
2383.500000	-49.7	-10.0	PASS
2384.500000	-49.7	-10.0	PASS
2385.500000	-49.6	-10.0	PASS
2386.500000	-48.9	-10.0	PASS
2387.500000	-47.3	-10.0	PASS
2388.500000	-45.0	-10.0	PASS
2389.500000	-43.0	-10.0	PASS
2390.500000	-41.5	-10.0	PASS
2391.500000	-40.2	-10.0	PASS
2392.500000	-39.3	-10.0	PASS
2393.500000	-38.4	-10.0	PASS
2394.500000	-37.7	-10.0	PASS
2395.500000	-36.6	-10.0	PASS
2396.500000	-35.7	-10.0	PASS
2397.500000	-35.0	-10.0	PASS
2398.500000	-34.1	-10.0	PASS
2399.500000	-32.3	-10.0	PASS
2484.000000	-50.6	-10.0	PASS
2485.000000	-50.6	-10.0	PASS
2486.000000	-50.6	-10.0	PASS
2487.000000	-50.6	-10.0	PASS
2488.000000	-50.6	-10.0	PASS
2489.000000	-50.6	-10.0	PASS
2490.000000	-50.6	-10.0	PASS

2491.000000	-50.6	-10.0	PASS
2492.000000	-50.6	-10.0	PASS
2493.000000	-50.6	-10.0	PASS
2494.000000	-50.7	-10.0	PASS
2495.000000	-50.6	-10.0	PASS
2496.000000	-50.6	-10.0	PASS
2497.000000	-50.6	-10.0	PASS
2498.000000	-50.6	-10.0	PASS
2499.000000	-50.7	-10.0	PASS
2500.000000	-50.6	-10.0	PASS
2500.639751	-50.7	-10.0	PASS
2501.639751	-50.6	-20.0	PASS
2502.639751	-50.6	-20.0	PASS
2503.639751	-50.6	-20.0	PASS
2504.639751	-50.6	-20.0	PASS
2505.639751	-50.6	-20.0	PASS
2506.639751	-50.6	-20.0	PASS
2507.639751	-50.7	-20.0	PASS
2508.639751	-50.6	-20.0	PASS
2509.639751	-50.7	-20.0	PASS
2510.639751	-49.3	-20.0	PASS
2511.639751	-50.6	-20.0	PASS
2512.639751	-50.6	-20.0	PASS
2513.639751	-50.7	-20.0	PASS
2514.639751	-50.6	-20.0	PASS
2515.639751	-50.6	-20.0	PASS
2516.639751	-50.7	-20.0	PASS
2517.639751	-50.6	-20.0	PASS
2518.279502	-50.6	-20.0	PASS

802.11 n HT20, 2472 MHz

Frequency (MHz)	Level (dBm)	Limit (dBm)	Result
2365.220498	-50.7	-20.0	PASS
2365.860249	-50.6	-20.0	PASS
2366.860249	-50.6	-20.0	PASS
2367.860249	-50.6	-20.0	PASS
2368.860249	-50.7	-20.0	PASS
2369.860249	-50.6	-20.0	PASS
2370.860249	-50.7	-20.0	PASS
2371.860249	-50.7	-20.0	PASS
2372.860249	-50.7	-20.0	PASS
2373.860249	-50.6	-20.0	PASS
2374.860249	-50.7	-20.0	PASS
2375.860249	-50.6	-20.0	PASS
2376.860249	-50.6	-20.0	PASS
2377.860249	-50.6	-20.0	PASS
2378.860249	-50.6	-20.0	PASS
2379.860249	-50.6	-20.0	PASS
2380.860249	-50.6	-20.0	PASS
2381.860249	-50.6	-20.0	PASS
2382.860249	-50.6	-10.0	PASS
2383.500000	-50.6	-10.0	PASS
2384.500000	-50.6	-10.0	PASS
2385.500000	-50.6	-10.0	PASS
2386.500000	-50.6	-10.0	PASS
2387.500000	-50.6	-10.0	PASS
2388.500000	-50.5	-10.0	PASS
2389.500000	-50.6	-10.0	PASS
2390.500000	-50.6	-10.0	PASS
2391.500000	-50.6	-10.0	PASS
2392.500000	-50.6	-10.0	PASS
2393.500000	-50.6	-10.0	PASS
2394.500000	-50.5	-10.0	PASS
2395.500000	-50.6	-10.0	PASS
2396.500000	-50.5	-10.0	PASS
2397.500000	-50.6	-10.0	PASS
2398.500000	-50.6	-10.0	PASS
2399.500000	-50.4	-10.0	PASS
2484.000000	-32.8	-10.0	PASS
2485.000000	-33.8	-10.0	PASS
2486.000000	-34.6	-10.0	PASS
2487.000000	-35.5	-10.0	PASS
2488.000000	-36.0	-10.0	PASS
2489.000000	-37.1	-10.0	PASS
2490.000000	-37.7	-10.0	PASS

2491.000000	-39.4	-10.0	PASS
2492.000000	-39.9	-10.0	PASS
2493.000000	-41.2	-10.0	PASS
2494.000000	-42.3	-10.0	PASS
2495.000000	-44.3	-10.0	PASS
2496.000000	-46.4	-10.0	PASS
2497.000000	-48.4	-10.0	PASS
2498.000000	-49.6	-10.0	PASS
2499.000000	-49.8	-10.0	PASS
2500.000000	-49.8	-10.0	PASS
2500.639751	-49.8	-10.0	PASS
2501.639751	-49.9	-20.0	PASS
2502.639751	-50.0	-20.0	PASS
2503.639751	-50.0	-20.0	PASS
2504.639751	-50.1	-20.0	PASS
2505.639751	-50.1	-20.0	PASS
2506.639751	-50.2	-20.0	PASS
2507.639751	-50.2	-20.0	PASS
2508.639751	-50.3	-20.0	PASS
2509.639751	-50.3	-20.0	PASS
2510.639751	-49.1	-20.0	PASS
2511.639751	-50.4	-20.0	PASS
2512.639751	-50.4	-20.0	PASS
2513.639751	-50.4	-20.0	PASS
2514.639751	-50.4	-20.0	PASS
2515.639751	-50.5	-20.0	PASS
2516.639751	-50.4	-20.0	PASS
2517.639751	-50.4	-20.0	PASS
2518.279502	-50.5	-20.0	PASS

802.11 n HT40, 2422 MHz

Frequency (MHz)	Level (dBm)	Limit (dBm)	Result
2326.959628	-50.6	-20.0	PASS
2327.729814	-50.6	-20.0	PASS
2328.729814	-50.5	-20.0	PASS
2329.729814	-50.6	-20.0	PASS
2330.729814	-50.6	-20.0	PASS
2331.729814	-50.5	-20.0	PASS
2332.729814	-50.6	-20.0	PASS
2333.729814	-50.5	-20.0	PASS
2334.729814	-50.5	-20.0	PASS
2335.729814	-50.5	-20.0	PASS
2336.729814	-50.5	-20.0	PASS
2337.729814	-50.5	-20.0	PASS
2338.729814	-50.5	-20.0	PASS
2339.729814	-50.5	-20.0	PASS
2340.729814	-50.5	-20.0	PASS
2341.729814	-50.5	-20.0	PASS
2342.729814	-50.4	-20.0	PASS
2343.729814	-50.5	-20.0	PASS
2344.729814	-50.5	-20.0	PASS
2345.729814	-50.4	-20.0	PASS
2346.729814	-50.4	-20.0	PASS
2347.729814	-50.4	-20.0	PASS
2348.729814	-50.4	-20.0	PASS
2349.729814	-50.3	-20.0	PASS
2350.729814	-50.3	-20.0	PASS
2351.729814	-50.3	-20.0	PASS
2352.729814	-50.3	-20.0	PASS
2353.729814	-50.2	-20.0	PASS
2354.729814	-50.2	-20.0	PASS
2355.729814	-50.2	-20.0	PASS
2356.729814	-50.2	-20.0	PASS
2357.729814	-50.2	-20.0	PASS
2358.729814	-50.1	-20.0	PASS
2359.729814	-50.1	-20.0	PASS
2360.729814	-50.1	-20.0	PASS
2361.729814	-50.1	-20.0	PASS
2362.729814	-50.0	-20.0	PASS
2363.729814	-50.0	-10.0	PASS
2364.500000	-50.0	-10.0	PASS
2365.500000	-50.0	-10.0	PASS
2366.500000	-50.0	-10.0	PASS
2367.500000	-50.0	-10.0	PASS
2368.500000	-49.9	-10.0	PASS

2369.500000	-49.7	-10.0	PASS
2370.500000	-49.4	-10.0	PASS
2371.500000	-48.9	-10.0	PASS
2372.500000	-48.6	-10.0	PASS
2373.500000	-47.9	-10.0	PASS
2374.500000	-47.6	-10.0	PASS
2375.500000	-46.9	-10.0	PASS
2376.500000	-46.4	-10.0	PASS
2377.500000	-46.0	-10.0	PASS
2378.500000	-45.6	-10.0	PASS
2379.500000	-45.1	-10.0	PASS
2380.500000	-44.6	-10.0	PASS
2381.500000	-44.1	-10.0	PASS
2382.500000	-43.9	-10.0	PASS
2383.500000	-43.4	-10.0	PASS
2384.500000	-43.0	-10.0	PASS
2385.500000	-42.6	-10.0	PASS
2386.500000	-42.1	-10.0	PASS
2387.500000	-42.0	-10.0	PASS
2388.500000	-41.5	-10.0	PASS
2389.500000	-40.9	-10.0	PASS
2390.500000	-40.2	-10.0	PASS
2391.500000	-39.6	-10.0	PASS
2392.500000	-38.7	-10.0	PASS
2393.500000	-38.3	-10.0	PASS
2394.500000	-36.8	-10.0	PASS
2395.500000	-36.0	-10.0	PASS
2396.500000	-35.0	-10.0	PASS
2397.500000	-33.2	-10.0	PASS
2398.500000	-31.3	-10.0	PASS
2399.500000	-28.9	-10.0	PASS
2484.000000	-50.3	-10.0	PASS
2485.000000	-50.3	-10.0	PASS
2486.000000	-50.4	-10.0	PASS
2487.000000	-50.3	-10.0	PASS
2488.000000	-50.3	-10.0	PASS
2489.000000	-50.3	-10.0	PASS
2490.000000	-50.4	-10.0	PASS
2491.000000	-50.3	-10.0	PASS
2492.000000	-50.3	-10.0	PASS
2493.000000	-50.3	-10.0	PASS
2494.000000	-50.4	-10.0	PASS
2495.000000	-50.4	-10.0	PASS
2496.000000	-50.4	-10.0	PASS
2497.000000	-50.4	-10.0	PASS
2498.000000	-50.4	-10.0	PASS

2499.000000	-50.5	-10.0	PASS
2500.000000	-50.4	-10.0	PASS
2501.000000	-50.4	-10.0	PASS
2502.000000	-50.5	-10.0	PASS
2503.000000	-50.5	-10.0	PASS
2504.000000	-50.5	-10.0	PASS
2505.000000	-50.5	-10.0	PASS
2506.000000	-50.5	-10.0	PASS
2507.000000	-50.5	-10.0	PASS
2508.000000	-49.2	-10.0	PASS
2509.000000	-50.4	-10.0	PASS
2510.000000	-49.1	-10.0	PASS
2511.000000	-50.4	-10.0	PASS
2512.000000	-50.5	-10.0	PASS
2513.000000	-50.5	-10.0	PASS
2514.000000	-50.5	-10.0	PASS
2515.000000	-50.5	-10.0	PASS
2516.000000	-50.5	-10.0	PASS
2517.000000	-50.5	-10.0	PASS
2518.000000	-50.5	-10.0	PASS
2519.000000	-50.5	-10.0	PASS
2519.770186	-50.5	-10.0	PASS
2520.770186	-50.5	-20.0	PASS
2521.770186	-50.5	-20.0	PASS
2522.770186	-50.5	-20.0	PASS
2523.770186	-50.5	-20.0	PASS
2524.770186	-50.5	-20.0	PASS
2525.770186	-50.5	-20.0	PASS
2526.770186	-50.5	-20.0	PASS
2527.770186	-50.5	-20.0	PASS
2528.770186	-50.5	-20.0	PASS
2529.770186	-50.5	-20.0	PASS
2530.770186	-50.5	-20.0	PASS
2531.770186	-50.5	-20.0	PASS
2532.770186	-50.5	-20.0	PASS
2533.770186	-50.5	-20.0	PASS
2534.770186	-50.5	-20.0	PASS
2535.770186	-50.5	-20.0	PASS
2536.770186	-50.5	-20.0	PASS
2537.770186	-50.5	-20.0	PASS
2538.770186	-50.5	-20.0	PASS
2539.770186	-50.5	-20.0	PASS
2540.770186	-50.5	-20.0	PASS
2541.770186	-50.5	-20.0	PASS
2542.770186	-50.5	-20.0	PASS
2543.770186	-50.5	-20.0	PASS

2544.770186	-50.5	-20.0	PASS
2545.770186	-50.5	-20.0	PASS
2546.770186	-50.5	-20.0	PASS
2547.770186	-50.5	-20.0	PASS
2548.770186	-50.5	-20.0	PASS
2549.770186	-50.5	-20.0	PASS
2550.770186	-50.5	-20.0	PASS
2551.770186	-50.5	-20.0	PASS
2552.770186	-50.5	-20.0	PASS
2553.770186	-50.5	-20.0	PASS
2554.770186	-50.5	-20.0	PASS
2555.770186	-50.5	-20.0	PASS
2556.540372	-50.5	-20.0	PASS

802.11 n HT40, 2462 MHz

Frequency (MHz)	Level (dBm)	Limit (dBm)	Result
2326.959628	-50.6	-20.0	PASS
2327.729814	-50.6	-20.0	PASS
2328.729814	-50.6	-20.0	PASS
2329.729814	-50.6	-20.0	PASS
2330.729814	-50.6	-20.0	PASS
2331.729814	-50.6	-20.0	PASS
2332.729814	-50.6	-20.0	PASS
2333.729814	-50.6	-20.0	PASS
2334.729814	-50.5	-20.0	PASS
2335.729814	-50.5	-20.0	PASS
2336.729814	-50.6	-20.0	PASS
2337.729814	-50.6	-20.0	PASS
2338.729814	-50.6	-20.0	PASS
2339.729814	-50.6	-20.0	PASS
2340.729814	-50.6	-20.0	PASS
2341.729814	-50.6	-20.0	PASS
2342.729814	-50.6	-20.0	PASS
2343.729814	-50.6	-20.0	PASS
2344.729814	-50.6	-20.0	PASS
2345.729814	-50.6	-20.0	PASS
2346.729814	-50.5	-20.0	PASS
2347.729814	-50.6	-20.0	PASS
2348.729814	-50.6	-20.0	PASS
2349.729814	-50.6	-20.0	PASS
2350.729814	-50.6	-20.0	PASS
2351.729814	-50.5	-20.0	PASS
2352.729814	-50.5	-20.0	PASS
2353.729814	-50.6	-20.0	PASS
2354.729814	-50.6	-20.0	PASS
2355.729814	-50.6	-20.0	PASS
2356.729814	-50.6	-20.0	PASS
2357.729814	-50.5	-20.0	PASS
2358.729814	-50.5	-20.0	PASS
2359.729814	-50.5	-20.0	PASS
2360.729814	-50.6	-20.0	PASS
2361.729814	-50.6	-20.0	PASS
2362.729814	-50.6	-20.0	PASS
2363.729814	-50.6	-10.0	PASS
2364.500000	-50.6	-10.0	PASS
2365.500000	-50.6	-10.0	PASS
2366.500000	-50.6	-10.0	PASS
2367.500000	-50.5	-10.0	PASS
2368.500000	-50.6	-10.0	PASS

2369.500000	-50.5	-10.0	PASS
2370.500000	-50.5	-10.0	PASS
2371.500000	-50.5	-10.0	PASS
2372.500000	-50.5	-10.0	PASS
2373.500000	-50.5	-10.0	PASS
2374.500000	-50.5	-10.0	PASS
2375.500000	-50.5	-10.0	PASS
2376.500000	-50.5	-10.0	PASS
2377.500000	-50.5	-10.0	PASS
2378.500000	-50.5	-10.0	PASS
2379.500000	-50.5	-10.0	PASS
2380.500000	-50.4	-10.0	PASS
2381.500000	-50.5	-10.0	PASS
2382.500000	-50.4	-10.0	PASS
2383.500000	-50.4	-10.0	PASS
2384.500000	-50.4	-10.0	PASS
2385.500000	-50.4	-10.0	PASS
2386.500000	-50.3	-10.0	PASS
2387.500000	-50.3	-10.0	PASS
2388.500000	-50.3	-10.0	PASS
2389.500000	-50.3	-10.0	PASS
2390.500000	-50.2	-10.0	PASS
2391.500000	-50.1	-10.0	PASS
2392.500000	-50.1	-10.0	PASS
2393.500000	-50.1	-10.0	PASS
2394.500000	-50.0	-10.0	PASS
2395.500000	-50.0	-10.0	PASS
2396.500000	-49.8	-10.0	PASS
2397.500000	-49.9	-10.0	PASS
2398.500000	-49.8	-10.0	PASS
2399.500000	-49.6	-10.0	PASS
2484.000000	-29.0	-10.0	PASS
2485.000000	-31.6	-10.0	PASS
2486.000000	-33.5	-10.0	PASS
2487.000000	-34.9	-10.0	PASS
2488.000000	-35.0	-10.0	PASS
2489.000000	-36.2	-10.0	PASS
2490.000000	-36.4	-10.0	PASS
2491.000000	-37.4	-10.0	PASS
2492.000000	-37.2	-10.0	PASS
2493.000000	-37.5	-10.0	PASS
2494.000000	-37.6	-10.0	PASS
2495.000000	-38.2	-10.0	PASS
2496.000000	-38.8	-10.0	PASS
2497.000000	-39.2	-10.0	PASS
2498.000000	-39.7	-10.0	PASS

2499.000000	-40.0	-10.0	PASS
2500.000000	-39.8	-10.0	PASS
2501.000000	-40.7	-10.0	PASS
2502.000000	-41.0	-10.0	PASS
2503.000000	-41.3	-10.0	PASS
2504.000000	-42.1	-10.0	PASS
2505.000000	-42.5	-10.0	PASS
2506.000000	-43.0	-10.0	PASS
2507.000000	-43.9	-10.0	PASS
2508.000000	-43.7	-10.0	PASS
2509.000000	-44.7	-10.0	PASS
2510.000000	-45.1	-10.0	PASS
2511.000000	-46.5	-10.0	PASS
2512.000000	-47.4	-10.0	PASS
2513.000000	-48.2	-10.0	PASS
2514.000000	-49.0	-10.0	PASS
2515.000000	-49.6	-10.0	PASS
2516.000000	-49.9	-10.0	PASS
2517.000000	-50.1	-10.0	PASS
2518.000000	-50.0	-10.0	PASS
2519.000000	-50.1	-10.0	PASS
2519.770186	-50.0	-10.0	PASS
2520.770186	-50.0	-20.0	PASS
2521.770186	-50.0	-20.0	PASS
2522.770186	-50.0	-20.0	PASS
2523.770186	-50.0	-20.0	PASS
2524.770186	-50.1	-20.0	PASS
2525.770186	-50.2	-20.0	PASS
2526.770186	-50.2	-20.0	PASS
2527.770186	-50.2	-20.0	PASS
2528.770186	-50.2	-20.0	PASS
2529.770186	-50.2	-20.0	PASS
2530.770186	-50.2	-20.0	PASS
2531.770186	-50.2	-20.0	PASS
2532.770186	-50.2	-20.0	PASS
2533.770186	-50.3	-20.0	PASS
2534.770186	-50.3	-20.0	PASS
2535.770186	-50.3	-20.0	PASS
2536.770186	-50.3	-20.0	PASS
2537.770186	-50.3	-20.0	PASS
2538.770186	-50.3	-20.0	PASS
2539.770186	-50.4	-20.0	PASS
2540.770186	-50.3	-20.0	PASS
2541.770186	-50.4	-20.0	PASS
2542.770186	-50.4	-20.0	PASS
2543.770186	-50.4	-20.0	PASS

2544.770186	-50.4	-20.0	PASS
2545.770186	-50.4	-20.0	PASS
2546.770186	-50.4	-20.0	PASS
2547.770186	-50.4	-20.0	PASS
2548.770186	-50.5	-20.0	PASS
2549.770186	-50.5	-20.0	PASS
2550.770186	-50.4	-20.0	PASS
2551.770186	-50.4	-20.0	PASS
2552.770186	-50.3	-20.0	PASS
2553.770186	-50.4	-20.0	PASS
2554.770186	-50.4	-20.0	PASS
2555.770186	-50.4	-20.0	PASS
2556.540372	-50.4	-20.0	PASS

4.6	**Transmitter unwanted emissions in the spurious domain**	**VERDICT: PASS**

Standard	ETSI EN 300 328

Limits:

Frequency range	**Maximum power e.r.p. (≤1 GHz) e.i.r.p. (>1 GHz)**	**Bandwidth**
30 MHz to 47 MHz	-36 dBm	100 kHz
47 MHz to 74 MHz	-54 dBm	100 kHz
74 MHz to 87,5 MHz	-36 dBm	100 kHz
87,5 MHz to 118 MHz	-54 dBm	100 kHz
118 MHz to 174 MHz	-36 dBm	100 kHz
174 MHz to 230 MHz	-54 dBm	100 kHz
230 MHz to 470 MHz	-36 dBm	100 kHz
470 MHz to 694 MHz	-54 dBm	100 kHz
694 MHz to 1 GHz	-36 dBm	100 kHz
1 GHz to 12,75 GHz	-30 dBm	1 MHz

Performed measurements

Port under test	Enclosure port	
Test method applied	☐	Conducted measurement
	☒	Radiated measurement
Test setup	Refer to the Annex 3 for test setup photo(s).	
Operating mode(s) used	Mode 1 (802.11 b) the worst case	
Remark	---	

Results

Channel (MHz)	Polarity	Frequency (MHz)	Reading (dBm)	Attenuation (dB)	Result (dBm)	Limit (dBm)	Verdict
2412	H	4824,32	-49,14	7,54	-41,60	-30,00	PASS
	V	4824,32	-56,20	7,83	-48,37	-30,00	PASS
2472	H	4944,76	-53,84	8,05	-45,79	-30,00	PASS
	V	4944,76	-55,55	8,19	-47,36	-30,00	PASS

5 RECEIVER TEST RESULTS

5.1	**Receiver spurious emissions**	**VERDICT: PASS**

Standard	ETSI EN 300 328

Limits:

Frequency range	**Maximum power e.r.p. (≤1 GHz) e.i.r.p. (>1 GHz)**	**Measurement bandwidth**
30 MHz to 1 GHz	-57 dBm	100 kHz
1 GHz to 12,75 GHz	-47 dBm	1 MHz

Performed measurements

Port under test	Enclosure port	
Test method applied	☐	Conducted measurement
	☒	Radiated measurement
Test setup	Refer to the Annex 3 for test setup photo(s).	
Operating mode(s) used	Mode 2	
Remark	---	

Results

Channel (MHz)	Polarity	Frequency (MHz)	Reading (dBm)	Attenuation (dB)	Result (dBm)	Limit (dBm)	Verdict
2412	H	No significant emissions were measured at the frequency range of interest employing the PK detectors (more than 20 dB below limits).					PASS
	V						PASS
2472	H	No significant emissions were measured at the frequency range of interest employing the PK detectors (more than 20 dB below limits).					PASS
	V						PASS

5.2 **Receiver Blocking**	**VERDICT: PASS**

Standard	ETSI EN 300 328

Limits:

Table 6: Receiver Blocking parameters for Receiver Category 1 equipment

Wanted signal mean power from companion device (dBm) (see notes 1 and 4)	Blocking signal frequency (MHz)	Blocking signal power (dBm) (see note 4)	Type of blocking signal
(-133 dBm + 10 × $\log_{10}$(OCBW)) or -68 dBm whichever is less (see note 2)	2 380 2 504	-34	CW
(-139 dBm + 10 × $\log_{10}$(OCBW)) or -74 dBm whichever is less (see note 3)	2 300 2 330 2 360 2 524 2 584 2 674		

NOTE 1: OCBW is in Hz.
NOTE 2: In case of radiated measurements using a companion device and the level of the wanted signal from the companion device cannot be determined, a relative test may be performed using a wanted signal up to P_{min} + 26 dB where P_{min} is the minimum level of wanted signal required to meet the minimum performance criteria as defined in clause 4.3.1.12.3 in the absence of any blocking signal.
NOTE 3: In case of radiated measurements using a companion device and the level of the wanted signal from the companion device cannot be determined, a relative test may be performed using a wanted signal up to P_{min} + 20 dB where P_{min} is the minimum level of wanted signal required to meet the minimum performance criteria as defined in clause 4.3.1.12.3 in the absence of any blocking signal.
NOTE 4: The level specified is the level at the UUT receiver input assuming a 0 dBi antenna assembly gain. In case of conducted measurements, this level has to be corrected for the (in-band) antenna assembly gain (G). In case of radiated measurements, this level is equivalent to a power flux density (PFD) in front of the UUT antenna with the UUT being configured/positioned as recorded in clause 5.4.3.2.2.

Performed measurements

Port under test	Antenna port	
Test method applied	☒	Conducted measurement
	☐	Radiated measurement
Test setup	Refer to the Annex 3 for test setup photo(s).	
Operating mode(s) used	Mode 2	
Remark	---	

Results

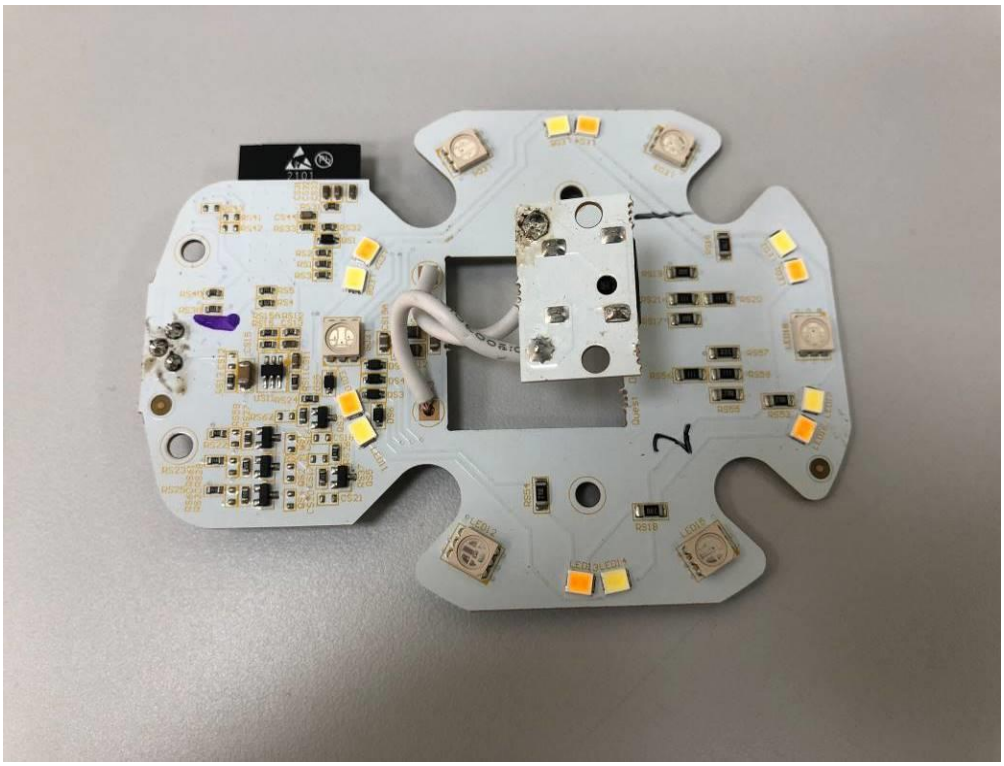
Test mode	Test Channel	Freq [MHz]	Wanted Signal Level [dBm]	CW Level [dBm]	PER [%]	Limit [%]	Verdict
802.11 b	2412	2380.000000	-68	-34	0.00	<=10	PASS
	2412	2300.000000	-74	-34	0.00	<=10	PASS
	2412	2330.000000	-74	-34	0.00	<=10	PASS
	2412	2360.000000	-74	-34	0.00	<=10	PASS
	2472	2504.000000	-68	-34	0.00	<=10	PASS
	2472	2524.000000	-74	-34	0.00	<=10	PASS
	2472	2584.000000	-74	-34	0.00	<=10	PASS
	2472	2674.000000	-74	-34	0.00	<=10	PASS

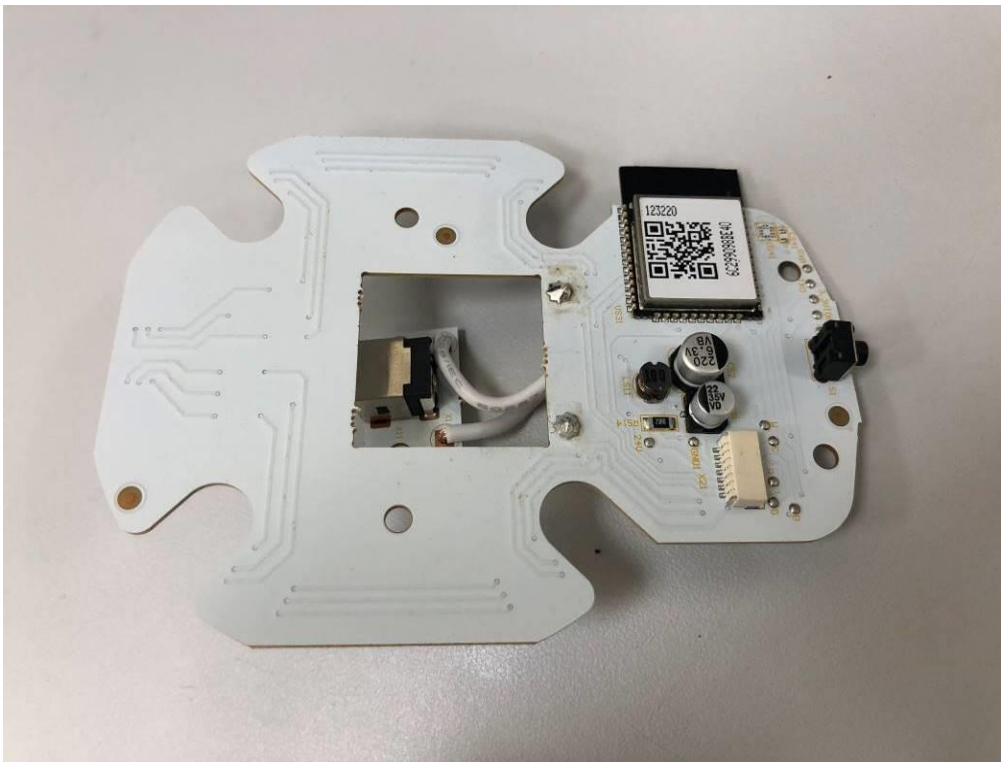
6 IDENTIFICATION OF THE EQUIPMENT UNDER TEST

The photographs show the tested device.

Model 9290026903

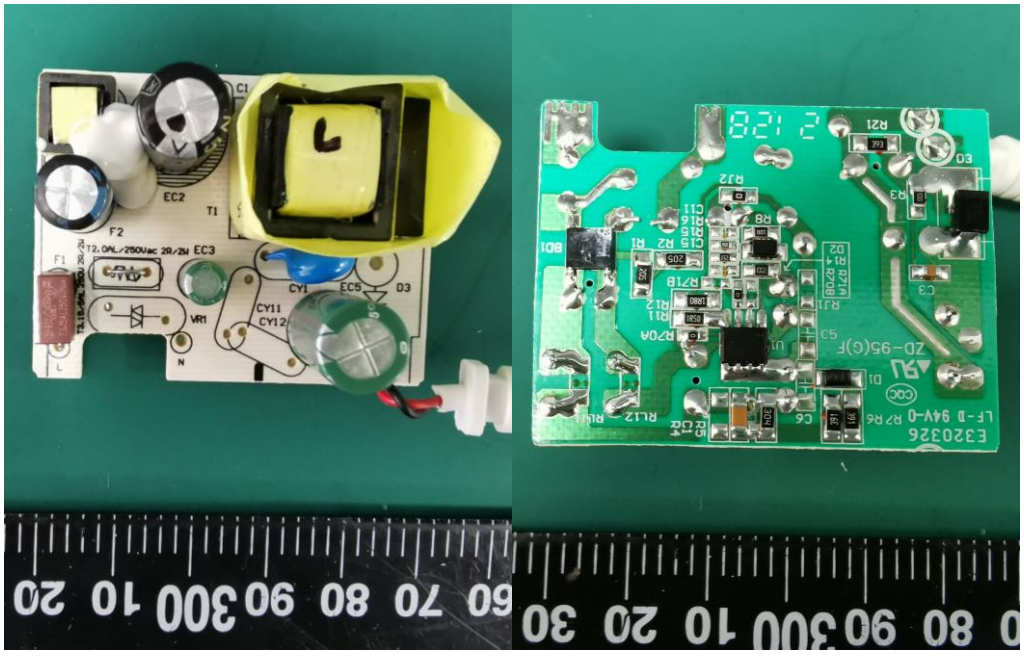
PCB





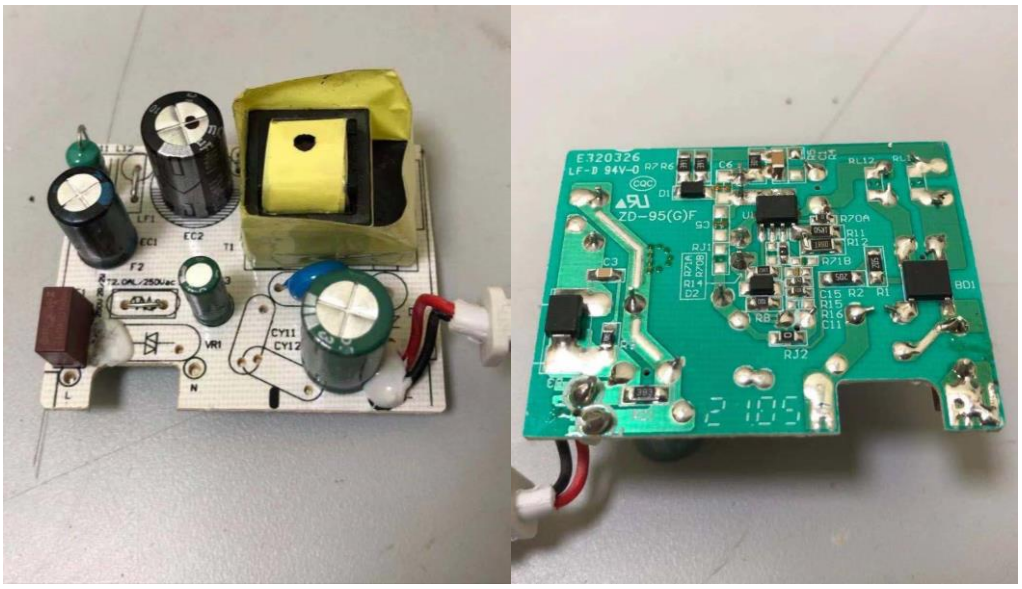
PCB

Adaptor



Alternative PCB of adaptor

Revised on 2021-10-15



PCB of adaptor

ANNEX 1 – MEASUREMENT UNCERTAINTY

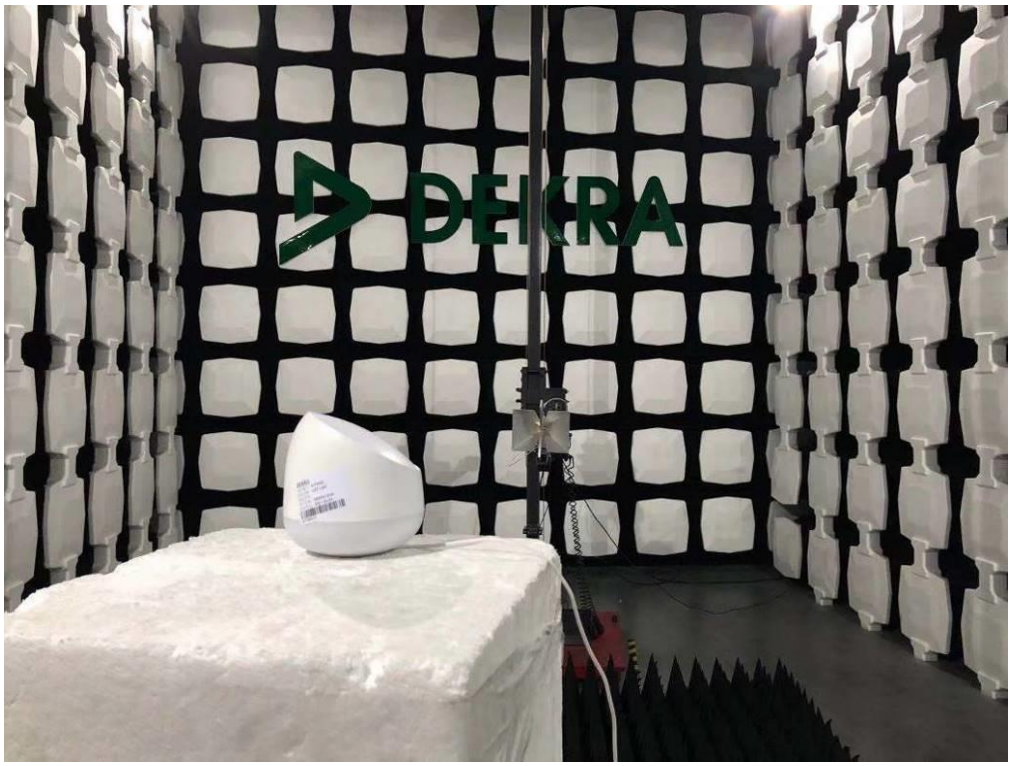
Test Item	Uncertainty
Occupied Channel Bandwidth	±0,7%
RF Output power, conducted	±0,6dB
Power Spectral Density, Conducted	±0,6dB
Unwanted Emissions, Conducted	±0.7dB
Spurious (30-1000MHz)	±4,4dB
Spurious (1-12,75GHz)	±4,4dB

ANNEX 2 - USED EQUIPMENT

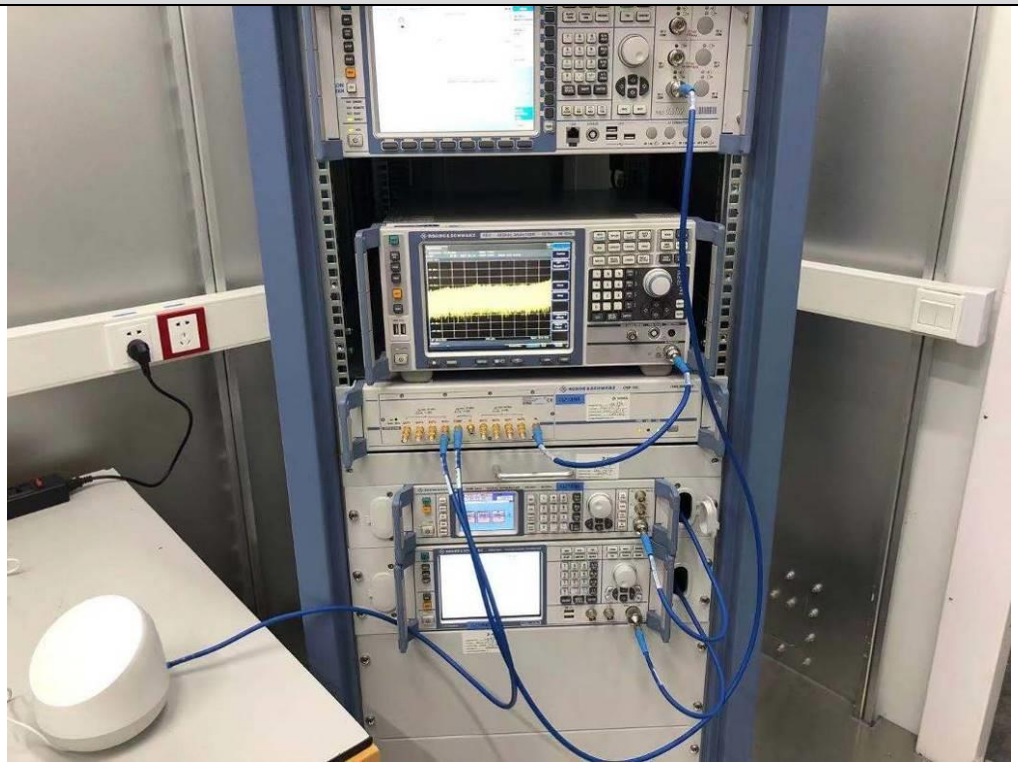
Item	Instrumentation	Manufacturer	Model	Serial no.	DEKRA No.	Cal Due date
1	EMI receiver	R&S	ESCI	101205	G/L857	2021/08/21
2	Antenna (30MHz-3GHz)	SCHWARZBECK	VULB9163	506	G/L864	2021/11/02
3	Antenna (1GHz-18GHz)	R&S	HF907	102306	G/L1236	2022/02/23
4	Horn antenna preamplifier	Schwarzbeek	SCU-18	102234	G/L1236-1	2022/02/21
5	Spectrum analyzer	R&S	FSV	SN101012	G/L1235	2022/02/04
6	Chamber	ETS	/	/	G/L856	2021/06/19
7	OSP	R&S	OSP 150	101907	GZ1893	2022/05/19
8	Signal generator	R&S	SMB 100A	181317	GZ1895	2022/05/19
9	Vector signal generator	R&S	SMBV100A	263671	GZ1896	2022/05/19
10	Wireless connectivity tester	R&S	CMW 270	100990	GZ1894	2022/05/19
11	Programmable Temperature & Humidity Chamber	ESPEC	EL-10KA	08107561	G/L466	2021/10/19

ANNEX 3 - TEST PHOTOS

Radiated measurements



Conducted measurements



Normal temperature

Extreme temperature

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