RF TEST REPORT

For CE-RED

Report No.	:	SSP25120173-3R
Applicant	:	Zendure USA Inc.
Product Name	:	Zendure Smart Meter 3CT-S and Zendure Smart Meter 1CT-S
Model Name	:	ZDC2503
Test Standard	:	EN 300328 V2.2.2 (2019-07)
Date of Issue	:	2026-03-04

Shenzhen CCUT Quality Technology Co., Ltd.
1F, Building 35, Changxing Technology Industrial Park, Yutang Street, Guangming District, Shenzhen, Guangdong, China; (Tel.:+86-755-23406590 website: www.ccuttest.com)

This test report is limited to the above client company and the product model only. It may not be duplicated without prior permitted by Shenzhen CCUT Quality Technology Co., Ltd.

Test Report Basic Information

Applicant.....:	Zendure USA Inc.
Address of Applicant.....:	1765 E BAYSHORE RD # 201 EAST PALO ALTO, CA 94303-5501
Manufacturer.....:	ZENDURE TECHNOLOGY CO., LIMITED
Address of Manufacturer.....:	RM 77A 2/F BLK F TUEN MUN INDUSTRIAL CENTRE 2 SAN PING CIRCUIT TUEN MUNNT
Product Name.....:	Zendure Smart Meter 3CT-S and Zendure Smart Meter 1CT-S
Brand Name.....:	ZENDURE
Main Model.....:	ZDC2503
Series Models.....:	ZDC2502
Test Standard.....:	EN 300328 V2.2.2 (2019-07)
Date of Test .....:	2026-01-30 to 2026-03-02
Test Result.....:	PASS

Tested By .....: Colin Chen (Colin Chen)

Reviewed By.....: Lorzix Luo (Lorzix Luo)

Authorized Signatory.....: Lahm Peng (Lahm Peng)

Shenzhen CCUT Quality Technology Co., Ltd. APPROVED

Note : This test report is limited to the above client company and the product model only. It may not be duplicated without prior permitted by Shenzhen CCUT Quality Technology Co., Ltd.. All test data presented in this test report is only applicable to presented test sample.

CONTENTS

1. General Information 5
1.1 Product Information 5
1.2 Test Setup Information 7
1.3 Compliance Standard 8
1.4 Test Facilities 8
1.5 List of Measurement Instruments 9
1.6 Measurement Uncertainty 9
2. Summary of Test Results 10
3. RF Output Power 11
3.1 Standard and Limit 11
3.2 Test Procedure 11
3.3 Test Data and Results 11
4. Power Spectral Density 14
4.1 Standard and Limit 14
4.2 Test Procedure 14
4.3 Test Data and Results 14
5. Adaptivity 17
5.1 Standard and Limit 17
5.2 Test Procedure 18
5.3 Test Data and Results 19
6. Occupied Channel Bandwidth 20
6.1 Standard and Limit 20
6.2 Test Procedure 20
6.3 Test Data and Results 20
7. Transmitter Unwanted Emissions in the Out-of-band Domain 23
7.1 Standard and Limit 23
7.2 Test Procedure 23
7.3 Test Data and Results 23
8. Transmitter Unwanted Emissions in the Spurious Domain 27
8.1 Standard and Limit 27
8.2 Test Procedure 27
8.3 Test Data and Results 27
9. Receiver Spurious Emission 31
9.1 Standard and Limit 31
9.2 Test Procedure 31
9.3 Test Data and Results 31
10. Receiver Blocking 34
10.1 Standard and Limit 34
10.2 Test Procedure 35
10.3 Test Data and Results 35
Annex A. Test Photos 36
Annex B. EUT Photos 37

Revision History

Revision	Issue Date	Description	Revised By
V1.0	2026-03-04	Initial Release	Lahm Peng

1. General Information

1.1 Product Information

Product Name:	Zendure Smart Meter 3CT-S and Zendure Smart Meter 1CT-S
Trade Name:	ZENDURE
Test Model:	ZDC2503
Series Models:	ZDC2502
Rated Voltage:	Input: AC 230V/50Hz~, 50/60Hz Rated Power: 3W Max
Hardware Version:	V1.0
Software Version:	V1.0
Note 1: The test data is gathered from a production sample, provided by the manufacturer. Note 2: The color of appearance and model name of series models listed are different from the main model, but the circuit and the electronic construction are the same, declared by the manufacturer.	

RF Specification Information (Wi-Fi)	
a) Type of modulation:	☐ FHSS ☒ other forms of modulation
b) Adaptive / non-adaptive:	adaptive equipment without a non-adaptive mode
c) In case of adaptive equipment:	has implemented an LBT based DAA mechanism
d) In case of non-adaptive equipment:	No
e) The worst case operational mode for each of the following tests:	
RF output power	802.11b
Power spectrum density:	802.11b
Occupied channel bandwidth	802.11n-HT40
Transmitter unwanted emissions in the OOB domain	802.11b
Transmitter unwanted emissions in the spurious domain	802.11b
Receiver spurious emissions	802.11b

f) Operating mode(antenna):	Single Antenna Equipment
g) In case of smart antenna systems:	No
h) Operating frequency range:	2412 MHz to 2472 MHz
i) Occupied channel bandwidth(s):	Min: 12.976MHz, Max: 34.961MHz
j) Type of equipment:	☒Stand-alone ☐Combined device ☐Plug-in device
k) The extreme operating conditions	
Extreme voltage range:	DC 207V to 240V
Extreme temperature range:	-20℃ to 55℃
l) The intended combination(s) of the radio equipment power settings and one or more antenna assemblies and their corresponding e.i.r.p levels:	
Antenna type:	☒ Integral Antenna ☐ Dedicated Antennas
Antenna Gain:	0dBi
m) Nominal voltage:	AC 230V/50Hz
n) Test modes:	Please refer to Section 1.2
o) The equipment type:	Wi-Fi 802.11b/g/n
p) Receiver category:	Category 1
RF Power Level Setting	
Highest EIRP value:	12.59dBm
Conducted power:	12.59dBm
Listed as power setting:	Default
Additional Information	
Modulation:	DBPSK, BPSK, DQPSK, QPSK, 16QAM, 64QAM
Un-modulated modes:	No
Duty cycle:	Continuous operation possible for testing purposes
Type of the UUT:	Production models
Supporting equipment provided:	Please refer to Section 1.2

1.2 Test Setup Information

List of Test Modes		
Test Mode	Description	Remark
TM1	802.11b	2412/2437/2472MHz
TM2	802.11g	2412/2437/2472MHz
TM3	802.11n-HT20	2412/2437/2472MHz
TM4	802.11n-HT40	2422/2437/2462MHz
TM5	Receiving	802.11b/g/n

List and Details of Auxiliary Cable			
Description	Length (cm)	Shielded/Unshielded	With/Without Ferrite
-	-	-	-
-	-	-	-

List and Details of Auxiliary Equipment			
Description	Manufacturer	Model	Serial Number
-	-	-	-
-	-	-	-

The equipment under test (EUT) was configured to measure its highest possible emission and immunity level.
The test modes were adapted according to the operation manual for use.

Test Conditions					
	NTNV	LTLV	LTHV	HTHV	HTLV
Temperature (°C)	20	-20	-20	55	55
Voltage (V)	230	207	240	240	207

1.3 Compliance Standard

Compliance Standard	
EN 300328 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
All measurements contained in this report were conducted with all above standards	
According to standards for test methodology	
EN 300328 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
Maintenance of compliance is the responsibility of the manufacturer or applicant. Any modification of the product, which result is lowering the emission, should be checked to ensure compliance has been maintained.	

1.4 Test Facilities

Laboratory Name:	**Shenzhen CCUT Quality Technology Co., Ltd.** 1F, Building 35, Changxing Technology Industrial Park, Yutang Street, Guangming District, Shenzhen, Guangdong, China
CNAS Laboratory No.:	L18863
A2LA Certificate No.:	6983.01
FCC Registration No:	583813
ISED Registration No.:	CN0164

1.5 List of Measurement Instruments

Description	Manufacturer	Model	Serial Number	Cal. Date	Due. Date
Conducted RF Testing					
RF Test System	MWRFTest	MW100-RFCB	220418SQS-37	2025-07-16	2026-07-15
Spectrum Analyzer	KEYSIGHT	N9020A	ATO-90521	2025-07-16	2026-07-15
Signal Generator	Agilent	N5182A	MY47071192	2025-07-15	2026-07-14
Radio Tester	ROHDE&SCHWARZ	CMW500	2K50-126968	2025-07-15	2026-07-14
Radiated Spurious Emissions					
EMI Test Receiver	ROHDE&SCHWARZ	ESPI	100154	2025-07-15	2026-07-14
Spectrum Analyzer	KEYSIGHT	N9020A	MY48030972	2025-07-15	2026-07-14
Amplifier	SCHWARZBECK	BBV 9743B	00251	2025-07-15	2026-07-14
Amplifier	HUABO	YXL0518-2.5-45	--	2025-07-15	2026-07-14
Loop Antenna	DAZE	ZN30900C	21104	2025-07-12	2026-07-11
Broadband Antenna	SCHWARZBECK	VULB 9168	01320	2025-07-12	2026-07-11
Horn Antenna	SCHWARZBECK	BBHA 9120D	02553	2025-07-12	2026-07-11
Attenuator	QUANJUDA	6dB	220731	2025-07-15	2026-07-14

1.6 Measurement Uncertainty

Parameter	Conditions	Uncertainty
RF Output Power	Conducted	±0.50dB
Effective Radiated Power	Radiated	±3.32dB
	Conducted	±1.32dB
Occupied Bandwidth	Conducted	±4.0%
Carrier Frequency	Conducted	±0.16ppm
Power Spectral Density	Conducted	±0.50dB
Transmission Time	Conducted	±1.0%
Conducted Spurious Emissions	30MHz~1GHz	±1.32dB
	1GHz~18GHz	±1.32dB
Radiated Spurious Emissions	30MHz~1GHz	±3.32dB
	1GHz~18GHz	±3.50dB
Power Voltage	AC and DC	±0.2%
Temperature	--	±0.3℃

2. Summary of Test Results

Standards	Reference	Description of Test Items	Result
EN 300328 V2.2.2 (2019-07)	4.3.2.2	RF Output Power	Passed
	4.3.2.3	Power Spectral Density	Passed
	4.3.2.4	Duty Cycle, Tx-sequence, Tx-gap	N/A
	4.3.2.5	Medium Utilisation (MU) Factor	N/A
	4.3.2.6	Adaptivity (Adaptive Frequency Hopping)	Passed
	4.3.2.7	Occupied Channel Bandwidth	Passed
	4.3.2.8	Transmitter Unwanted Emissions in the OOB Domain	Passed
	4.3.2.9	Transmitter Unwanted Emissions in the Spurious Domain	Passed
	4.3.2.10	Receiver Spurious Emissions	Passed
	4.3.2.11	Receiver Blocking	Passed
Passed: The EUT complies with the essential requirements in the standard Failed: The EUT does not comply with the essential requirements in the standard N/A: not applicable			

3. RF Output Power

3.1 Standard and Limit

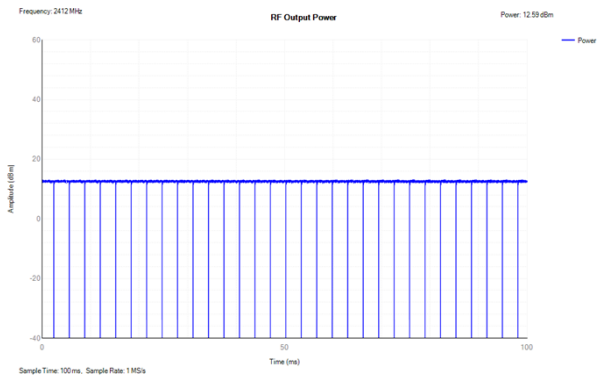
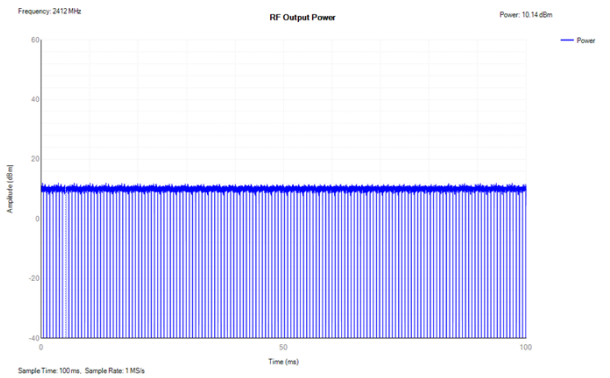
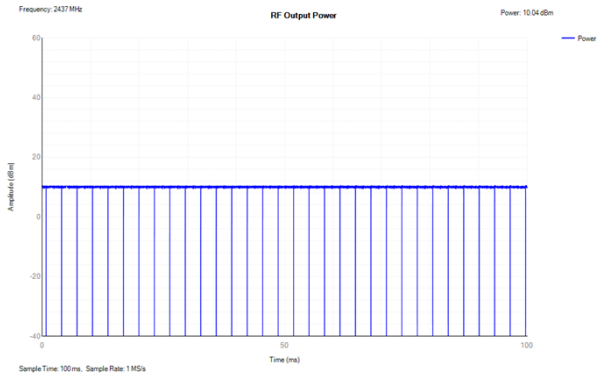
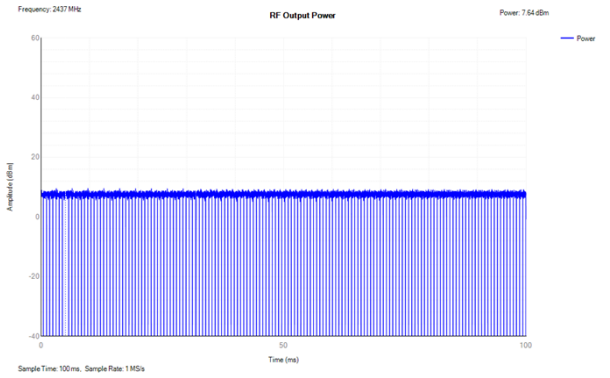
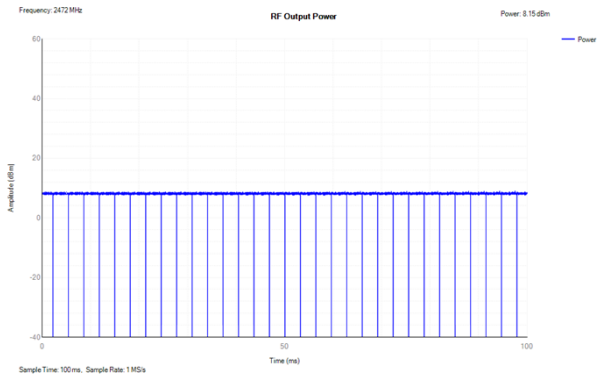
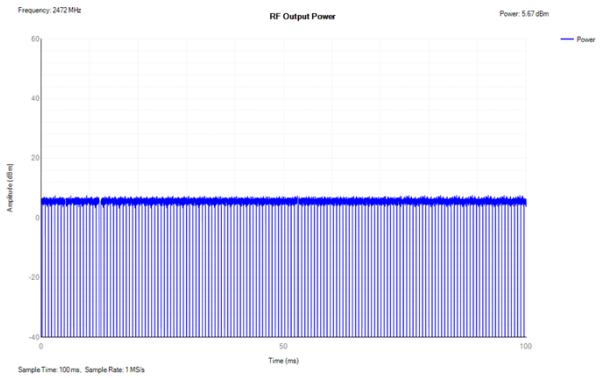
According to the standard EN 300328 section 4.3.2.2, The RF output power for non-FHSS equipment shall be equal to or less than 20 dBm. This limit shall apply for any combination of power level and intended antenna assembly.

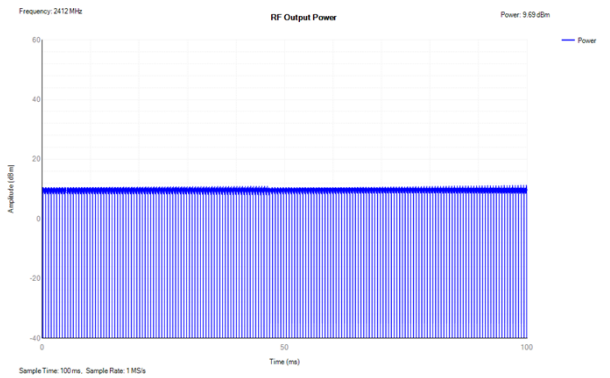
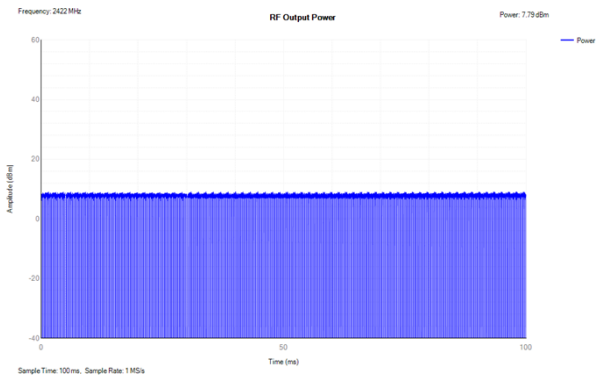
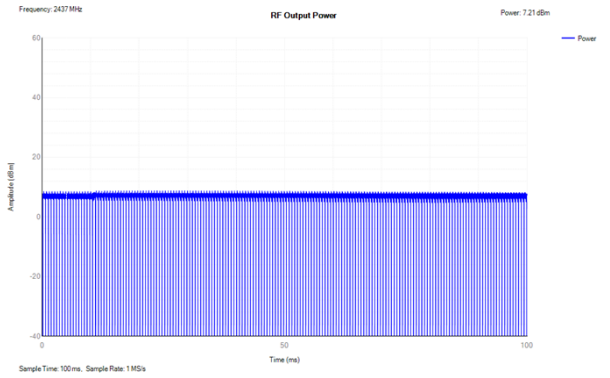
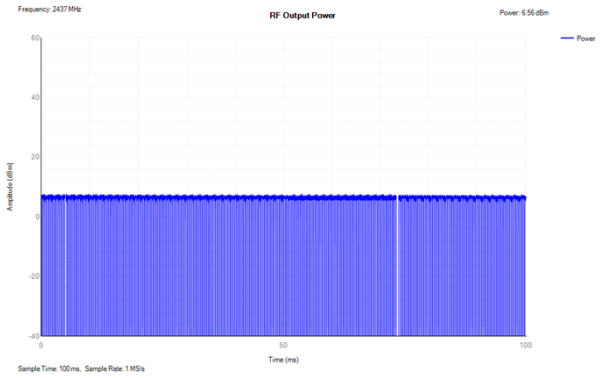
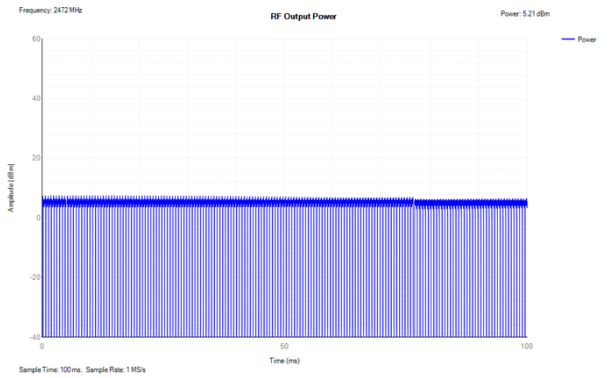
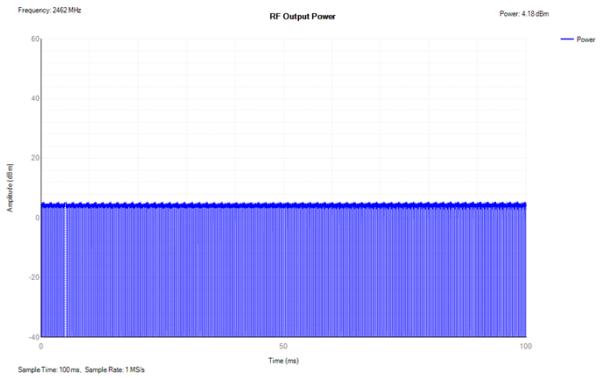
3.2 Test Procedure

Test is conducting under the description of EN 300328 section 5.4.2.2.1.2.

3.3 Test Data and Results

Mode	Channel (MHz)	EIRP (dBm)			Limit (dBm)
		Test Conditions			
		NTNV	LTNV	HTNV	
802.11b	2412	12.59	12.52	12.53	20
	2437	10.04	10.02	10.01	20
	2472	8.15	8.11	8.13	20
802.11g	2412	10.14	10.12	10.11	20
	2437	7.64	7.62	7.63	20
	2472	5.67	5.63	5.65	20
802.11n HT20	2412	9.69	9.62	9.66	20
	2437	7.21	7.11	7.15	20
	2472	5.21	5.16	5.13	20
802.11n HT40	2422	7.79	7.73	7.71	20
	2437	6.56	6.52	6.53	20
	2462	4.18	4.16	4.17	20

802.11b	802.11g
2412MHz	2412MHz
	
2437MHz	2437MHz
	
2472MHz	2472MHz
	

802.11n HT20	802.11n HT40
2412MHz	2422MHz
	
2437MHz	2437MHz
	
2472MHz	2462MHz
	

4. Power Spectral Density

4.1 Standard and Limit

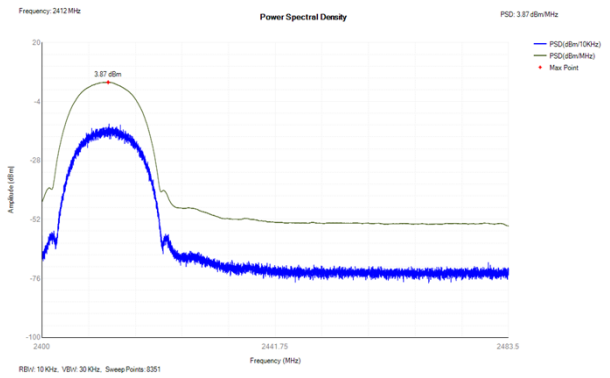
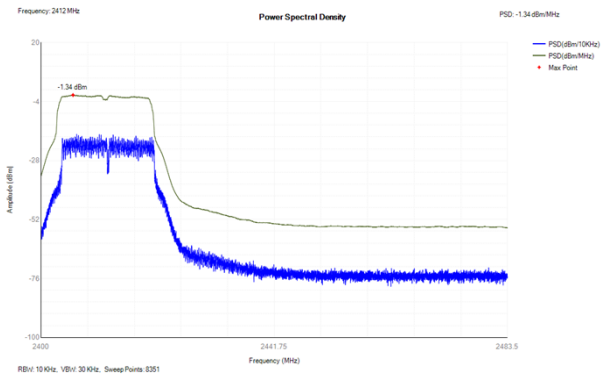
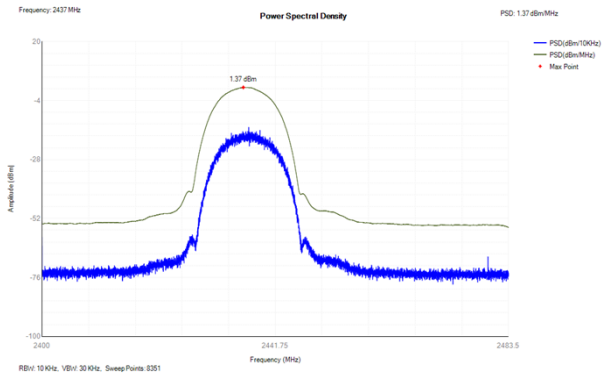
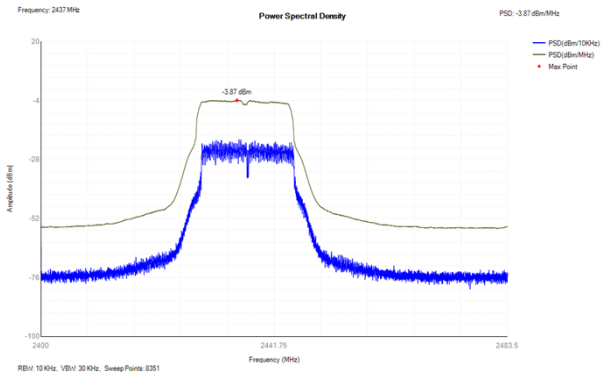
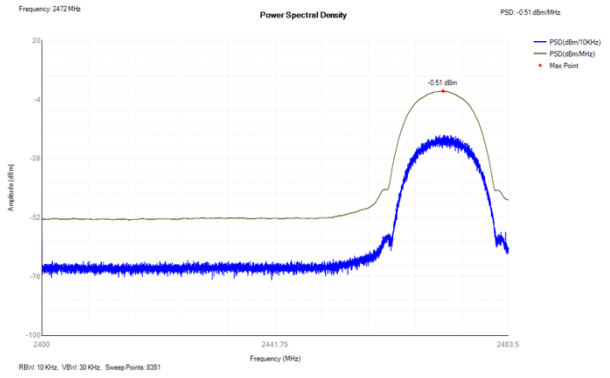
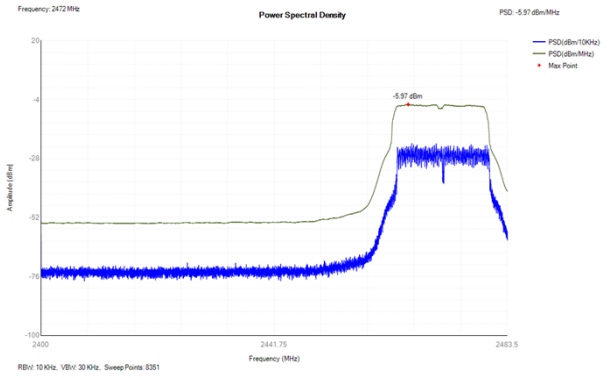
According to the standard EN 300328 section 4.3.2.3, The maximum Power Spectral Density for non-FHSS equipment is 10 dBm per MHz.

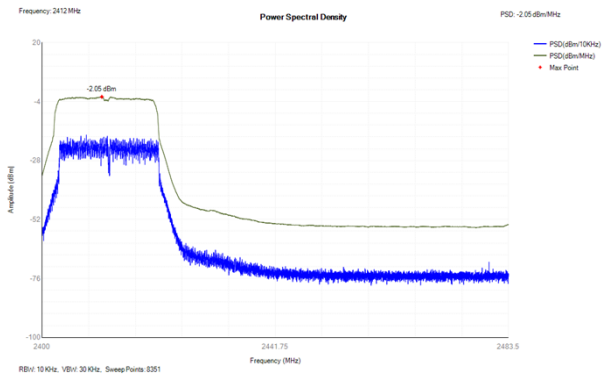
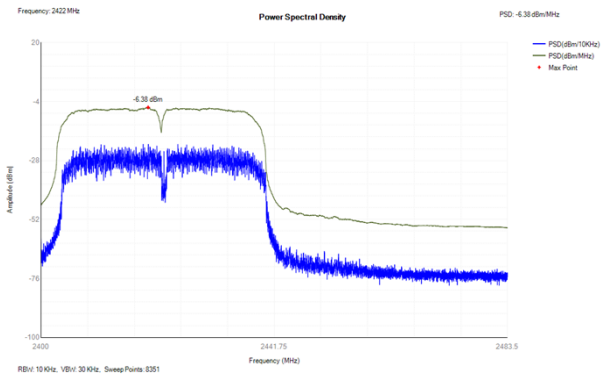
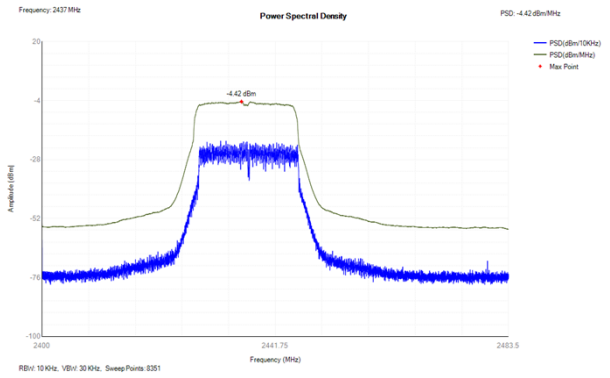
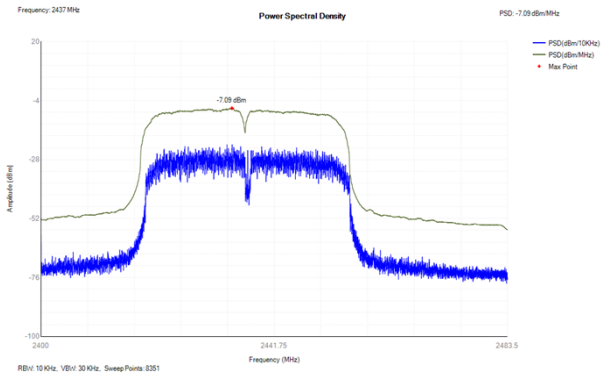
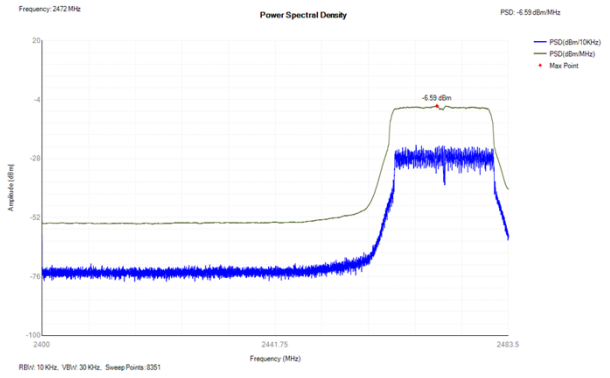
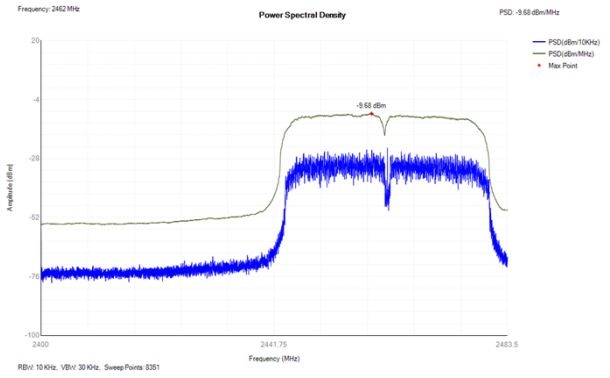
4.2 Test Procedure

Test is conducting under the description of EN 300328 section 5.4.3.2.1.

4.3 Test Data and Results

Mode	Channel (MHz)	Max PSD (dBm/MHz)	Limit (dBm/MHz)	Result
802.11b	2412	3.87	10	Pass
	2437	1.37	10	Pass
	2472	-0.51	10	Pass
802.11g	2412	-1.34	10	Pass
	2437	-3.87	10	Pass
	2472	-5.97	10	Pass
802.11n HT20	2412	-2.05	10	Pass
	2437	-4.42	10	Pass
	2472	-6.59	10	Pass
802.11n HT40	2422	-6.38	10	Pass
	2437	-7.09	10	Pass
	2462	-9.68	10	Pass

802.11b	802.11g
2412MHz	2412MHz
	
2437MHz	2437MHz
	
2472MHz	2472MHz
	

802.11n HT20	802.11n HT40
2412MHz	2422MHz
	
2437MHz	2437MHz
	
2472MHz	2462MHz
	

5. Adaptivity

5.1 Standard and Limit

According to the standard EN 300328 section 4.3.2.6.3.2.3, Load Based Equipment may implement an LBT based spectrum sharing mechanism based on the Clear Channel Assessment (CCA) mode using energy detect as described in IEEE 802.11™ [i.3], clause 10 clause 11, clause 15, clause 16, clause 18 and clause 19, or in IEEE 802.15.4™ [i.4], clause 5, clause 6 and clause 10 providing the equipment complies with the conformance requirements referred to in clause 4.3.2.6.3.4. Load Based Equipment not using any of the mechanisms referenced above shall comply with the following minimum set of 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 also the next paragraph).
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.

The equipment is allowed to switch to a non-adaptive mode and to continue transmissions on this channel providing it complies with the requirements applicable to non-adaptive equipment. Alternatively, the equipment is also allowed to continue Short Control Signalling Transmissions on this channel providing it complies with the requirements given in clause 4.3.2.6.4.

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 transmission which was intended for this equipment can skip CCA and immediately (see also next paragraph) proceed with the transmission of management and control frames. 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.

For the purpose of multi-cast, the ACK transmissions (associated with the same data packet) of the individual devices are allowed to take place in a sequence.

5) 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 to or less than -70 dBm/MHz at the input to the receiver assuming a 0 dBi (receive) antenna assembly. This threshold level (TL) may be corrected for the (receive) antenna assembly gain (G); however, beamforming gain (Y) shall not be taken into account. For power levels less than 20 dBm e.i.r.p., the CCA threshold level may be relaxed to:

TL = -70 dBm/MHz + 10 × log10 (100 mW / Pout) (Pout in mW e.i.r.p.)

6) The equipment shall comply with the requirements defined in step 1 to step 4 of the present clause in the presence of an unwanted CW signal as defined in table 11.

Table 11: Unwanted Signal parameters

Wanted signal mean power from companion device	Unwanted signal frequency (MHz)	Unwanted signal power (dBm)
sufficient to maintain the link (see note 2)	2 395 or 2 488,5 (see note 1)	-35 (see note 3)
NOTE 1: The highest frequency shall be used for testing operating channels within the range 2 400 MHz to 2 442 MHz, while the lowest frequency shall be used for testing operating channels within the range 2 442 MHz to 2 483,5 MHz. See clause 5.4.6.1.		
NOTE 2: A typical conducted value which can be used in most cases is -50 dBm/MHz.		
NOTE 3: 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.		

5.2 Test Procedure

Test is conducting under the description of EN 300328 section 5.4.6.2.1.

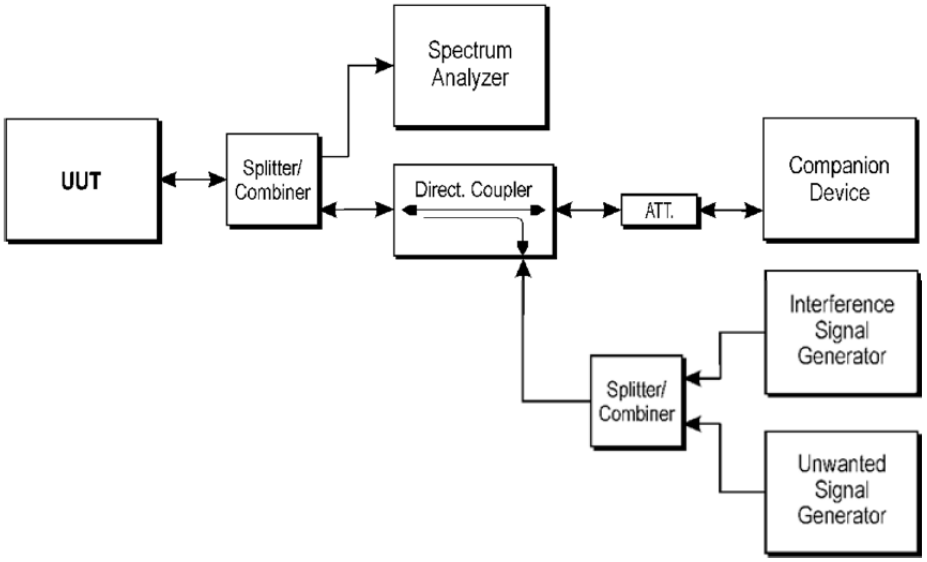


Figure 5: Test set-up for verifying the adaptivity of an equipment

5.3 Test Data and Results

Mode	Test Parameters	Test Values	
		2412MHz	2472MHz
802.11b	AWGN Interference Level (dBm)	-62.59	-58.15
	Block Signal Level (dBm)	-35.00	-35.00
	Max COT Time (ms)	0.05	0.05
	Interference Start Time (ms)	10000	10000
	Duty Cycle (%)	0	0
	Pulse Width (ms)	0.00	0.00
	Block Signal Inject time(ms)	70000	70000
802.11g	AWGN Interference Level (dBm)	-60.14	-55.67
	Block Signal Level (dBm)	-35.00	-35.00
	Max COT Time (ms)	0.04	0.04
	Interference Start Time (ms)	10000	10000
	Duty Cycle (%)	0	0
	Pulse Width (ms)	0.00	0.00
	Block Signal Inject time(ms)	70000	70000
802.11n HT20	AWGN Interference Level (dBm)	-59.69	-55.21
	Block Signal Level (dBm)	-35.00	-35.00
	Max COT Time (ms)	0.04	0.04
	Interference Start Time (ms)	10000	10000
	Duty Cycle (%)	0	0
	Pulse Width (ms)	0.00	0.00
	Block Signal Inject time(ms)	70000	70000

AWGN Interference Level (dBm) = -70 dBm/MHz + 10 × log10 (100 mW / Pout) (Pout in mWe.i.r.p.)

6. Occupied Channel Bandwidth

6.1 Standard and Limit

According to the standard EN 300328 section 4.3.2.7, The Occupied Channel Bandwidth shall be within the band (2400MHz-2483.5MHz).

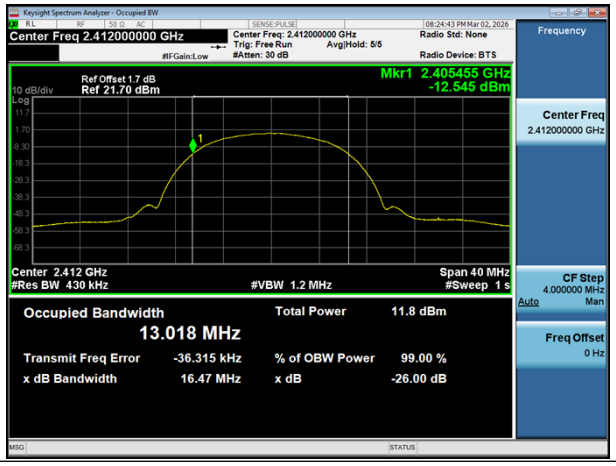
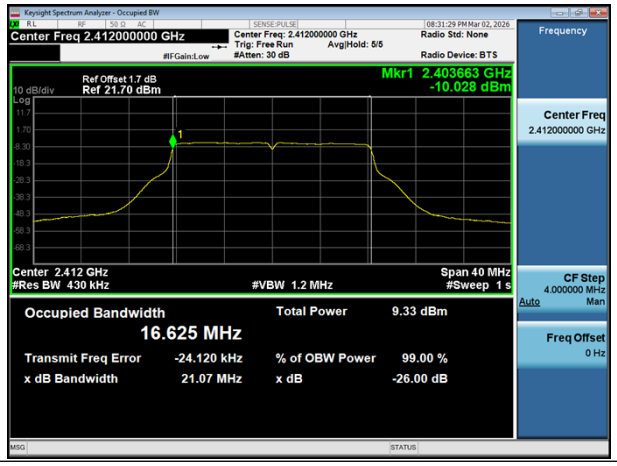
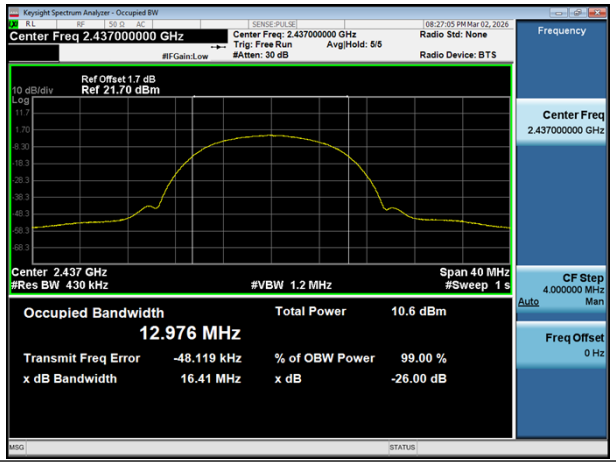
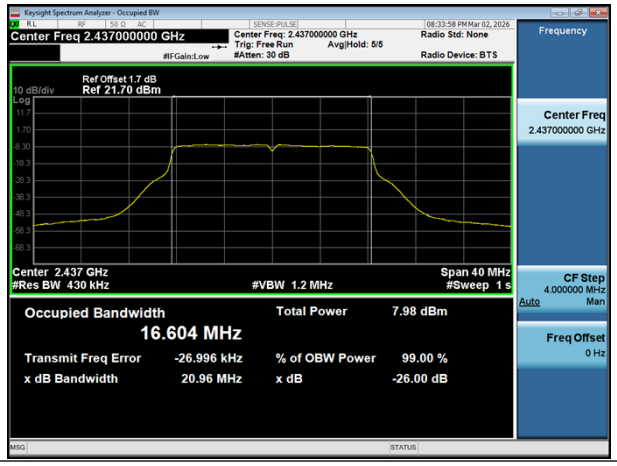
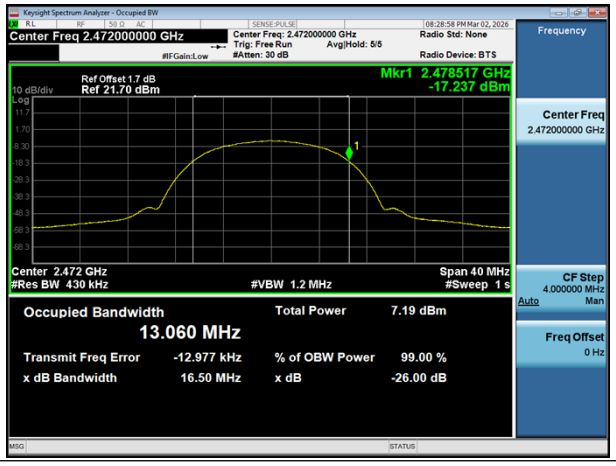
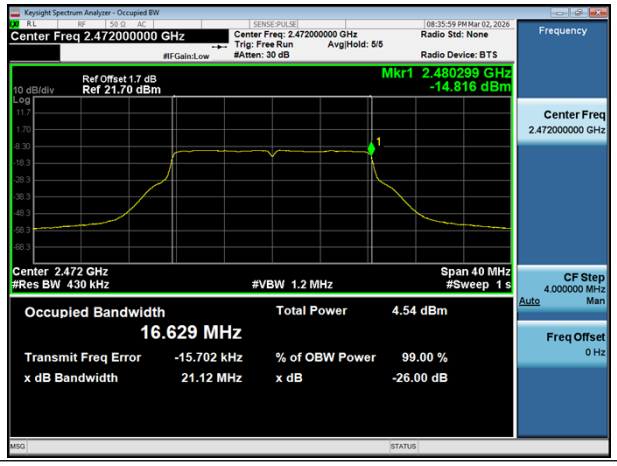
6.2 Test Procedure

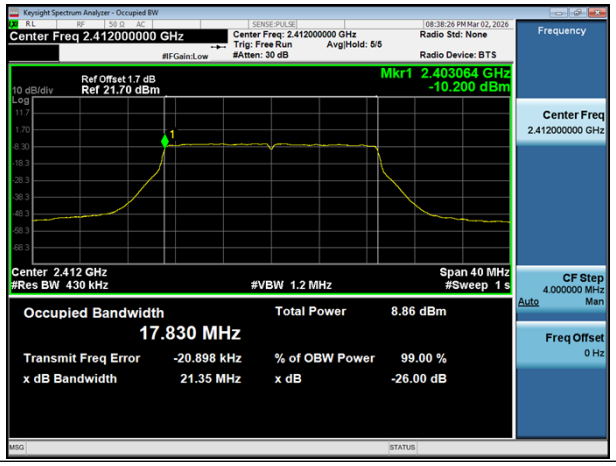
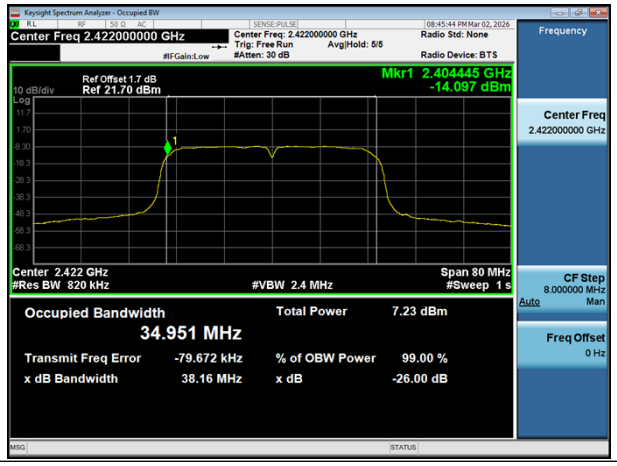
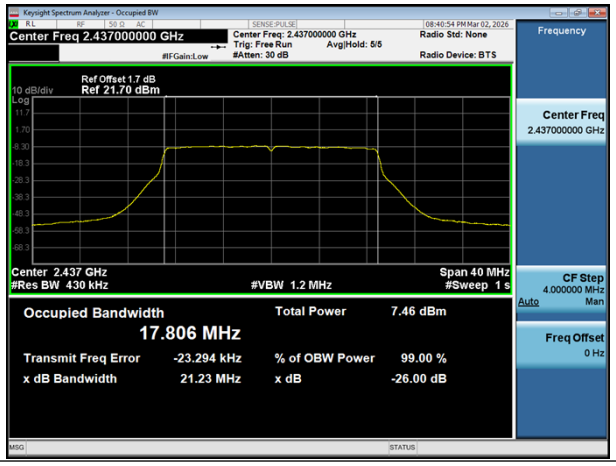
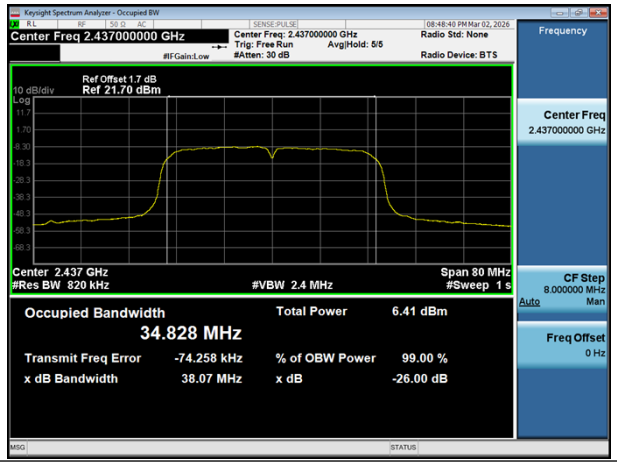
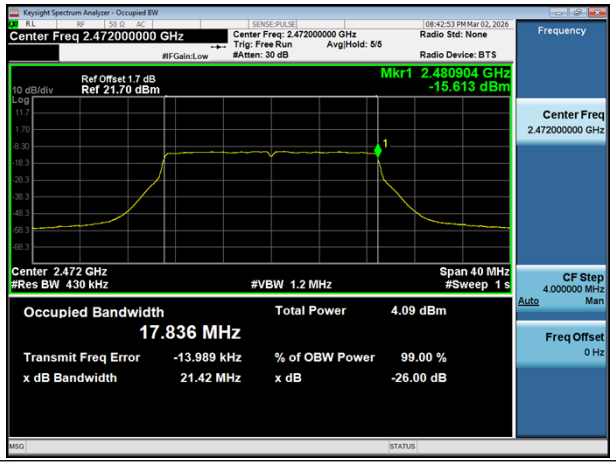
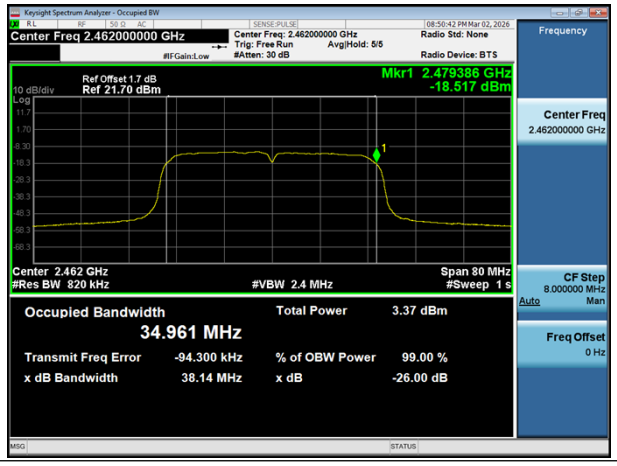
Test is conducting under the description of EN 300328 section 5.4.7.2.1.

6.3 Test Data and Results

Mode	Channel (MHz)	Center Frequency (MHz)	OBW (MHz)	Limit (MHz)	Result
802.11b	2412	2411.964	13.018	83.5	Pass
	2437	2436.952	12.976	83.5	Pass
	2472	2471.987	13.06	83.5	Pass
802.11g	2412	2411.976	16.625	83.5	Pass
	2437	2436.973	16.604	83.5	Pass
	2472	2471.984	16.629	83.5	Pass
802.11n HT20	2412	2411.979	17.83	83.5	Pass
	2437	2436.977	17.806	83.5	Pass
	2472	2471.986	17.836	83.5	Pass
802.11n HT40	2422	2421.92	34.951	83.5	Pass
	2437	2436.926	34.828	83.5	Pass
	2462	2461.906	34.961	83.5	Pass

Note: the limit 83.5MHz is from 2400MHz to 2483.5MHz.

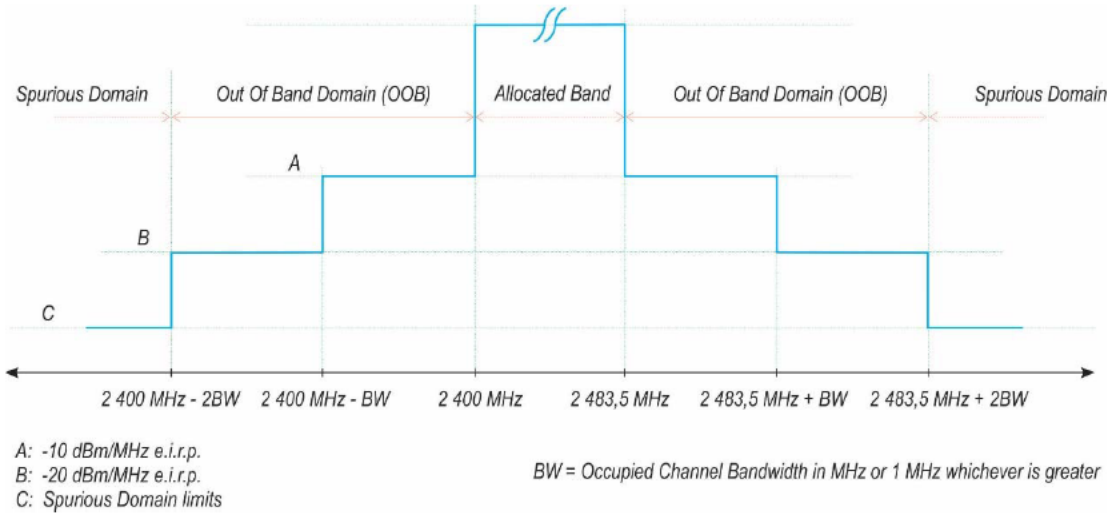
802.11b	802.11g
2412MHz	2412MHz
	
2437MHz	2437MHz
	
2472MHz	2472MHz
	

802.11n HT20	802.11n HT40
2412MHz	2422MHz
	
2437MHz	2437MHz
	
2472MHz	2462MHz
	

7. Transmitter Unwanted Emissions in the Out-of-band Domain

7.1 Standard and Limit

According to the standard EN 300328 section 4.3.2.8, The transmitter unwanted emissions in the out-of-band domain shall not exceed the values provided by the following mask.



7.2 Test Procedure

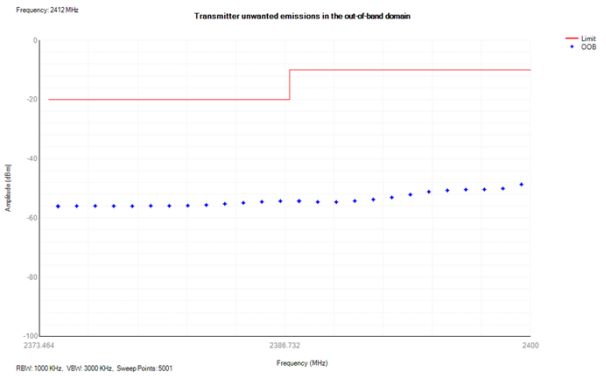
Test is conducting under the description of EN 300328 section 5.4.8.2.1.

7.3 Test Data and Results

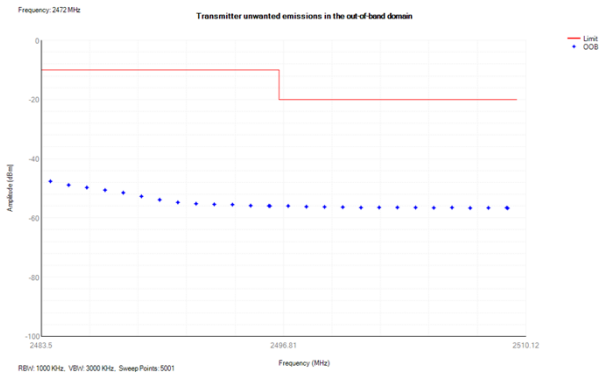
Mode	Channel	OOB Frequency (MHz)	Level (dBm/MHz)	Limit (dBm/MHz)	Result
802.11b	Lowest CH	2399.5	-48.67	-10	Pass
		2398.5	-50.06	-10	Pass
		2397.5	-50.37	-10	Pass
		2396.5	-50.41	-10	Pass
	Highest CH	2395.5	-50.68	-10	Pass
		2394.5	-51.15	-10	Pass
		2393.5	-52.11	-10	Pass
		2392.5	-53.06	-10	Pass
802.11g	Lowest CH	2399.5	-40.22	-10	Pass
		2398.5	-43.84	-10	Pass
		2397.5	-45.36	-10	Pass
		2396.5	-45.74	-10	Pass
	Highest CH	2395.5	-46.39	-10	Pass
		2394.5	-47.21	-10	Pass
		2393.5	-48.25	-10	Pass
		2392.5	-48.97	-10	Pass
802.11n HT20	Lowest CH	2399.5	-40.09	-10	Pass
		2398.5	-43.98	-10	Pass
		2397.5	-45.5	-10	Pass
		2396.5	-46.19	-10	Pass
	Highest CH	2395.5	-46.82	-10	Pass
		2394.5	-47.16	-10	Pass
		2393.5	-48.3	-10	Pass
		2392.5	-48.78	-10	Pass
802.11n HT40	Lowest CH	2399.5	-47.29	-10	Pass
		2398.5	-48.53	-10	Pass
		2397.5	-48.8	-10	Pass
		2396.5	-49.15	-10	Pass
	Highest CH	2395.5	-49.53	-10	Pass
		2394.5	-50.19	-10	Pass
		2393.5	-50.09	-10	Pass
		2392.5	-50.97	-10	Pass

802.11b

Lowest CH

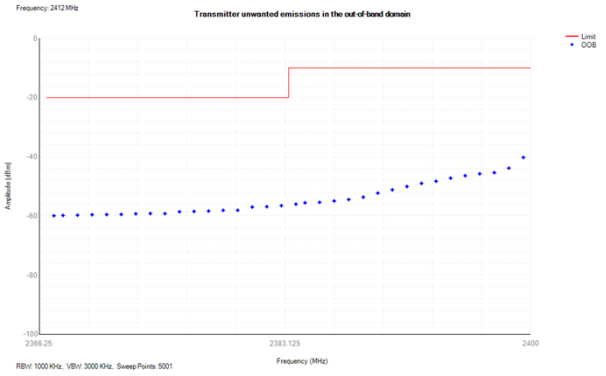


Highest CH

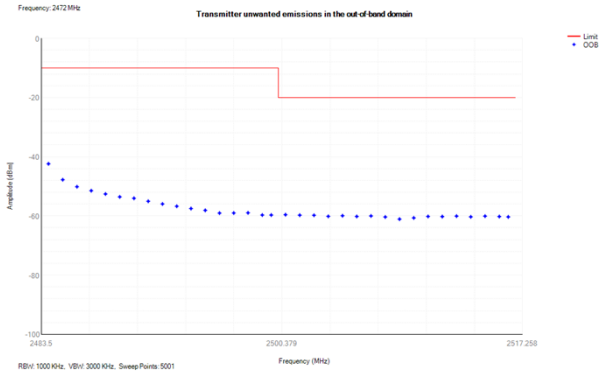


802.11g

Lowest CH

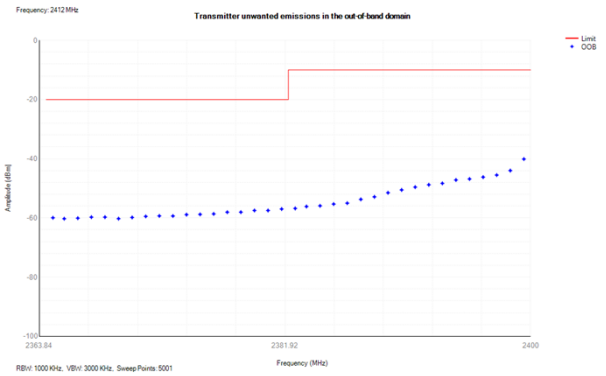


Highest CH

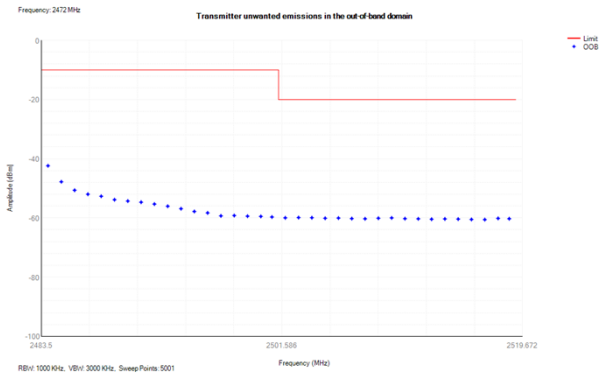


802.11n HT20

Lowest CH

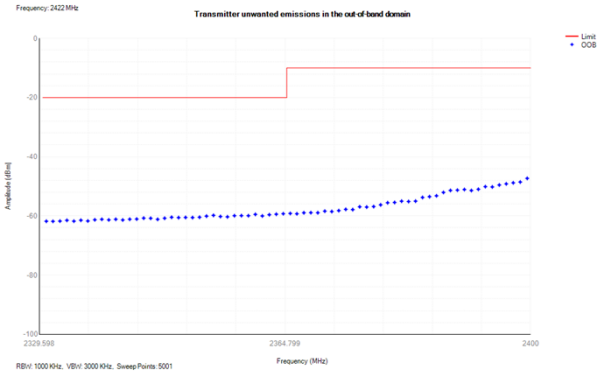


Highest CH

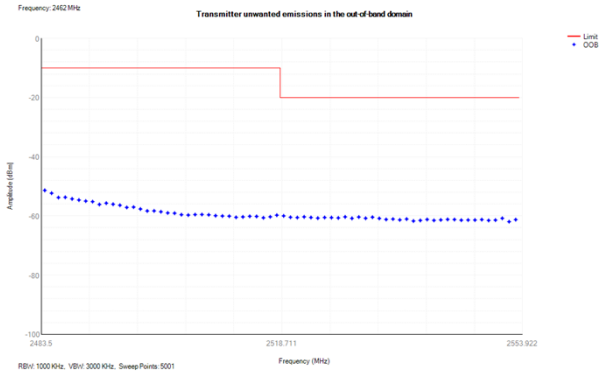


802.11n HT40

Lowest CH



Highest CH



8. Transmitter Unwanted Emissions in the Spurious Domain

8.1 Standard and Limit

According to the standard EN 300328 section 4.3.2.9, The transmitter unwanted emissions in the spurious domain shall not exceed the values given in the following table.

Frequency range	Maximum power	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

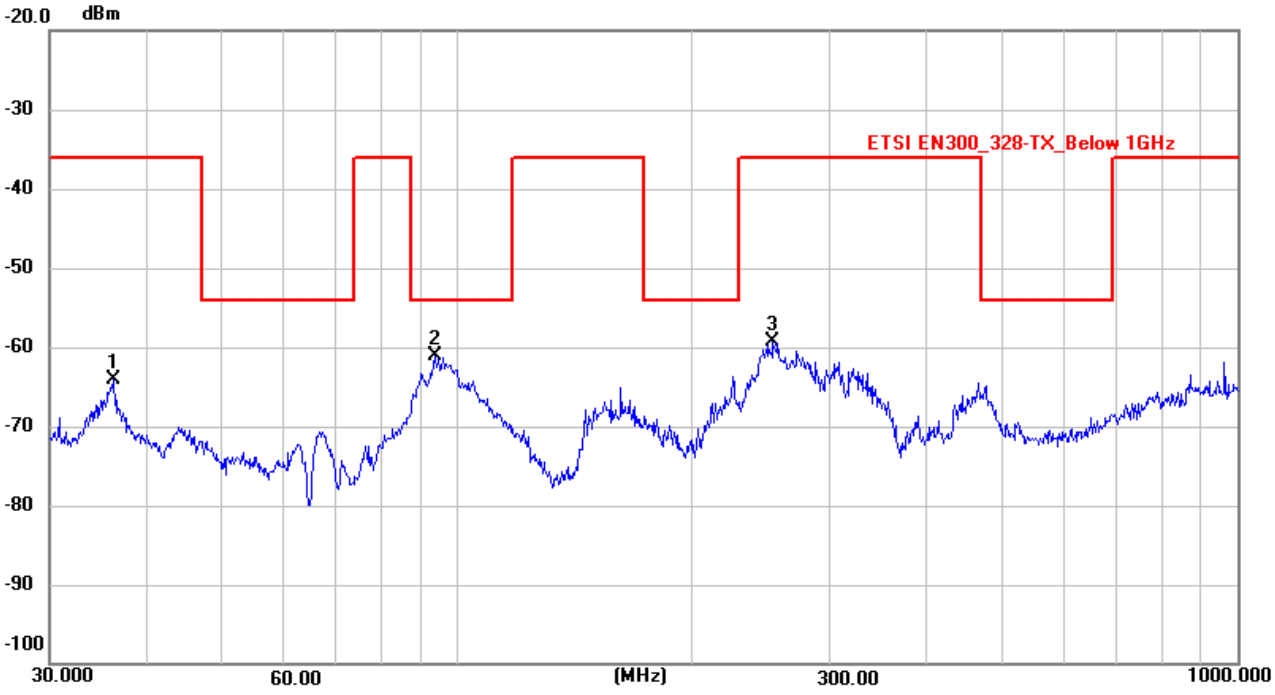
8.2 Test Procedure

Test is conducting under the description of EN 300328 section 5.4.9.2.2 and annex C.

8.3 Test Data and Results

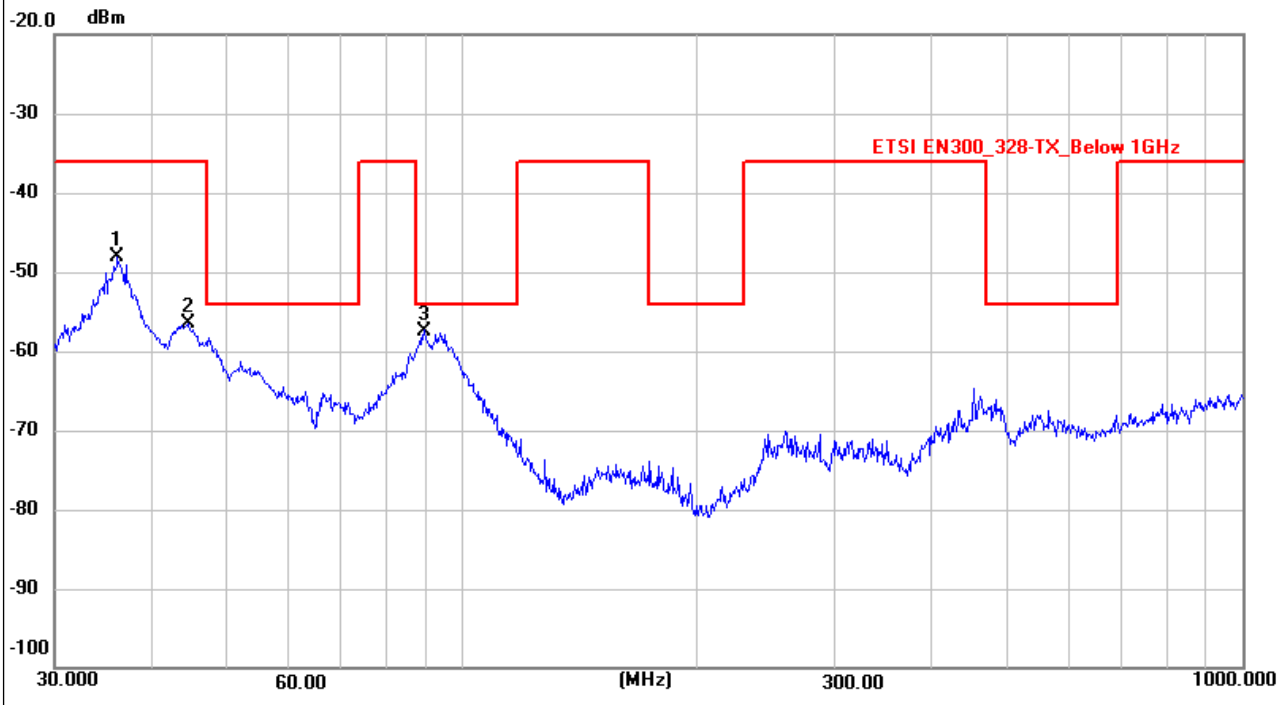
According to the data, the EUT complied with the EN 300328 standard, and had the worst cases:

Test Plots and Data of Radiated Spurious Emission Below 1GHz	
Test Mode:	TM1
Test Antenna Polarization:	Horizontal
Remark:	



No.	Frequency (MHz)	Reading (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	36.2541	-66.75	2.75	-64.00	-36.00	-28.00	peak	150	133	P	
2 *	93.4402	-59.98	-1.10	-61.08	-54.00	-7.08	peak	150	11	P	
3	253.8367	-61.04	1.80	-59.24	-36.00	-23.24	peak	150	41	P	

Test Plots and Data of Radiated Spurious Emission Below 1GHz	
Test Mode:	TM1
Test Antenna Polarization:	Vertical
Remark:	



No.	Frequency (MHz)	Reading (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	36.1272	-50.81	2.72	-48.09	-36.00	-12.09	peak	150	22	P	
2	44.4308	-59.97	3.41	-56.56	-36.00	-20.56	peak	150	135	P	
3 *	89.2764	-56.03	-1.37	-57.40	-54.00	-3.40	peak	150	43	P	

Test Data of Radiated Spurious Emission Above 1GHz						
Test Mode: TM1						
Frequency	Reading	Correct	Result	Limit	Margin	Polar
(MHz)	(dBm)	dB	(dBm)	(dBm)	(dB)	H/V
Lowest Channel (2412MHz)						
4824	-44.61	-2.9	-47.51	-30.00	-17.51	H
7236	-50.45	3.43	-47.02	-30.00	-17.02	H
4824	-45.23	-2.9	-48.13	-30.00	-18.13	V
7236	-45.90	3.43	-42.47	-30.00	-12.47	V
Highest Channel (2472MHz)						
4944	-45.06	-2.75	-47.81	-30.00	-17.81	H
7416	-49.59	3.63	-45.96	-30.00	-15.96	H
4944	-44.30	-2.75	-47.05	-30.00	-17.05	V
7416	-51.37	3.63	-47.74	-30.00	-17.74	V

Note 1: Testing is carried out with frequency rang 30MHz to 12.75GHz, which above 4th Harmonics are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.
Note 2: this EUT was tested in 3 orthogonal positions and the worst case position data was reported. And the worst case is 802.11b.

9. Receiver Spurious Emission

9.1 Standard and Limit

According to the standard EN 300328 section 4.3.2.10, The receiver spurious emissions shall not exceed the values given in the following table.

Frequency range	Maximum power	Bandwidth
30 MHz to 1 GHz	-57 dBm	100 kHz
1 GHz to 12,75 GHz	-47 dBm	1 MHz

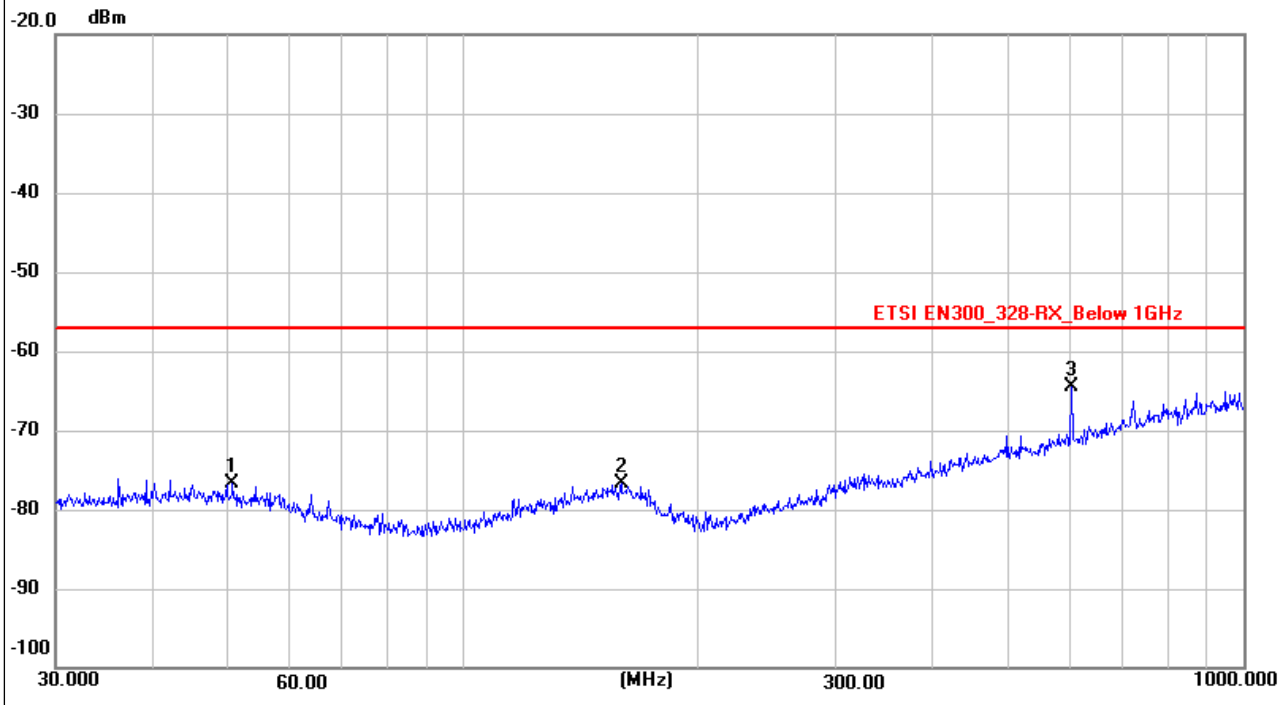
9.2 Test Procedure

Test is conducting under the description of EN 300328 section 5.4.10.2.2 and annex C.

9.3 Test Data and Results

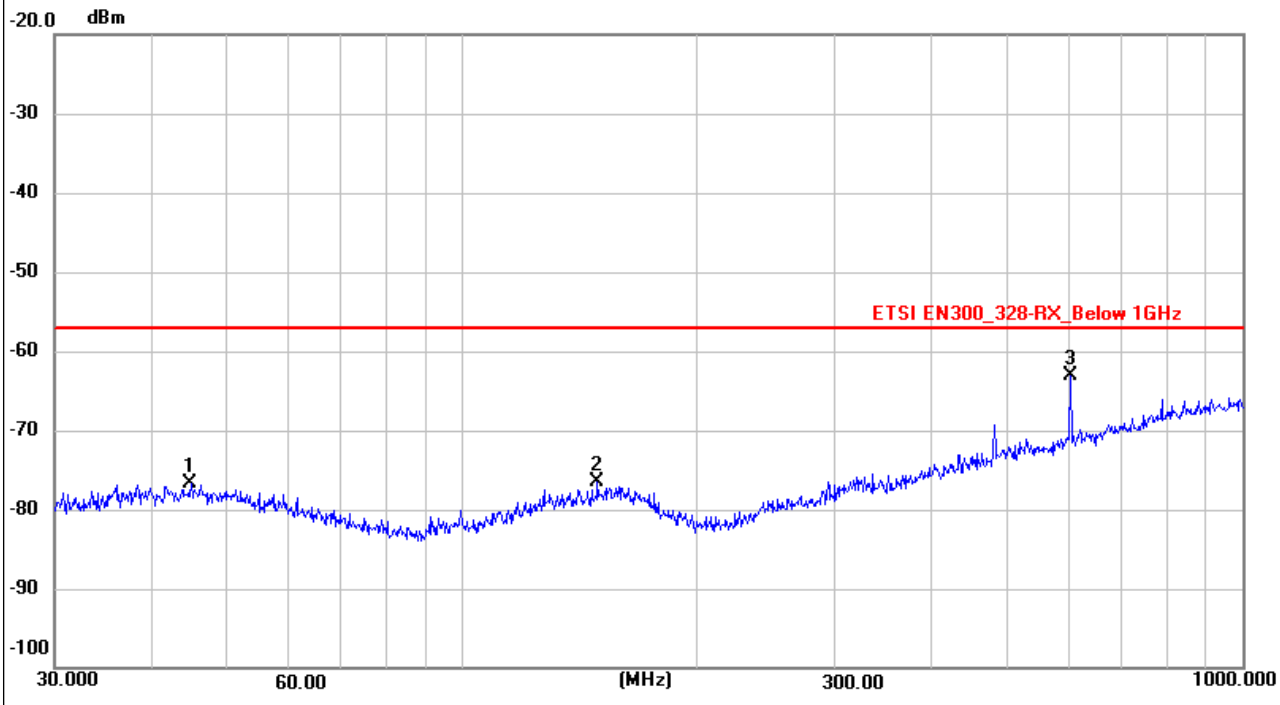
According to the data, the EUT complied with the EN 300328 standard, and had the worst cases:

Test Plots and Data of Receiver Spurious Emission	
Test Mode:	TM5
Test Antenna Polarization:	Horizontal
Remark:	



No.	Frequency (MHz)	Reading (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	50.5860	-79.85	3.20	-76.65	-57.00	-19.65	peak	149	322	P	
2	159.2250	-80.45	3.80	-76.65	-57.00	-19.65	peak	149	22	P	
3 *	601.4265	-74.57	10.09	-64.48	-57.00	-7.48	peak	149	11	P	

Test Plots and Data of Receiver Spurious Emission	
Test Mode:	TM5
Test Antenna Polarization:	Vertical
Remark:	



No.	Frequency (MHz)	Reading (dBm)	Factor (dB)	Level (dBm)	Limit (dBm)	Margin (dB)	Detector	Height (cm)	Azimuth (deg.)	P/F	Remark
1	44.9004	-80.07	3.42	-76.65	-57.00	-19.65	peak	149	339	P	
2	148.9625	-80.31	3.84	-76.47	-57.00	-19.47	peak	149	124	P	
3 *	601.4265	-73.13	10.09	-63.04	-57.00	-6.04	peak	149	242	P	

Note: Testing is carried out with frequency rang 30MHz to 12.75GHz, which above 1GHz are attenuated more than 20dB below the permissible limits or the field strength is too small to be measured.

10. Receiver Blocking

10.1 Standard and Limit

According to the standard EN 300328 section 4.3.2.11. Receiver blocking is a measure of the ability of the equipment to receive a wanted signal on its operating channel without exceeding a given degradation due to the presence of an unwanted input signal (blocking signal) on frequencies other than those of the operating band and spurious responses.

Performance Criteria
For equipment that supports a PER or FER test to be performed, the minimum performance criterion shall be a PER or FER less than or equal to 10 %.
For equipment that does not support a PER or a FER test to be performed, the minimum performance criterion shall be no loss of the wireless transmission function needed for the intended use of the equipment.

While maintaining the minimum performance criteria as defined above information, the blocking levels at specified frequency offsets shall be equal to or greater than the limits defined for the receiver category 1provided in following table.

The 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.

10.2 Test Procedure

Test is conducting under the description of EN 300328 section 5.4.11.2.1. The test setup block diagram as below.

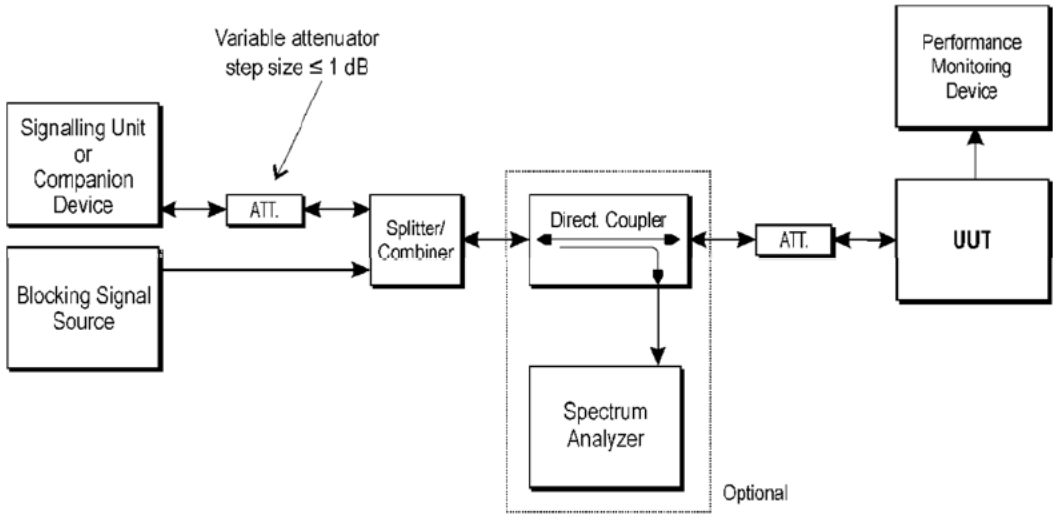


Figure 6: Test Set-up for receiver blocking

10.3 Test Data and Results

Receiver Categories: Category 1 Equipment					
Test Mode: TM1(2412MHz)					
Wanted signal mean power (dBm)	Blocking signal frequency (MHz)	Blocking signal power (dBm, CW)	PER	Limit	Results
-68	2380	-34	1.26%	10%	PASS
	2504	-34	1.27%	10%	PASS
-74	2300	-34	1.24%	10%	PASS
	2330	-34	1.27%	10%	PASS
	2360	-34	1.29%	10%	PASS
	2524	-34	1.28%	10%	PASS
	2584	-34	1.25%	10%	PASS
	2674	-34	1.27%	10%	PASS

Annex A. Test Photos

Spurious Emission Test View Below 1GHz



Spurious Emission Test View Above 1GHz



Annex B. EUT Photos

Please refer to annex B of the test report No: SSP25120173-1E.

******* END OF REPORT *******