RF TEST REPORT

For CE-RED

Report No.	:	SSP25120173-2R
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.

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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 (Bluetooth V5.0 BLE)	
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	BLE
Power spectrum density:	BLE
Occupied channel bandwidth	BLE
Transmitter unwanted emissions in the OOB domain	BLE
Transmitter unwanted emissions in the spurious domain	BLE
Receiver spurious emissions	BLE

f) Operating mode(antenna):	Single Antenna Equipment
g) In case of smart antenna systems:	No
h) Operating frequency range:	2402 MHz to 2480 MHz
i) Occupied channel bandwidth(s):	Min: 1.226Hz, Max: 1.027MHz
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:	Bluetooth
p) Receiver category:	Category 2
RF Power Level Setting	
Highest EIRP value:	0.18dBm
Conducted power:	0.18dBm
Listed as power setting:	Default
Additional Information	
Modulation:	GFSK
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	Transmitting	BLE 1Mbps 2402/2440/2480MHz
TM2	Receiving	BLE 1Mbps 2402/2440/2480MHz

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					
	Normal	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)	N/A
	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

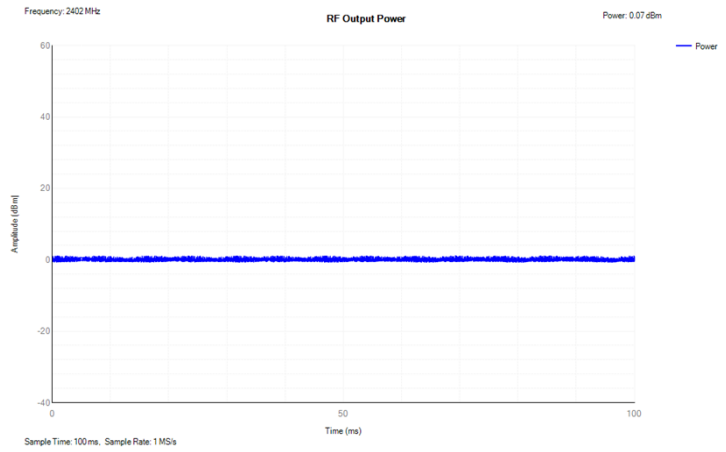
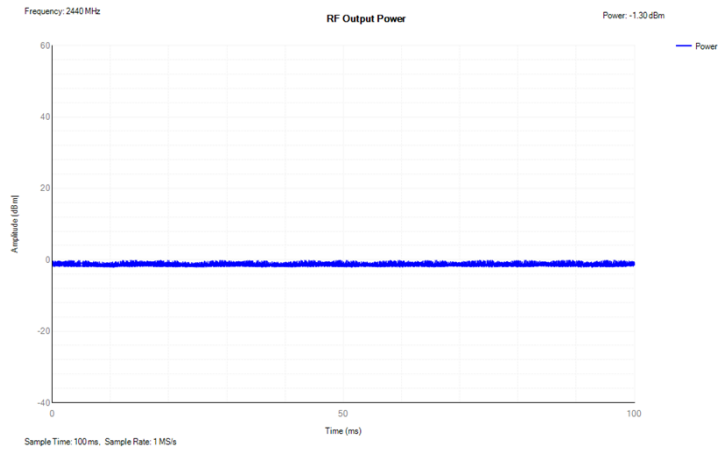
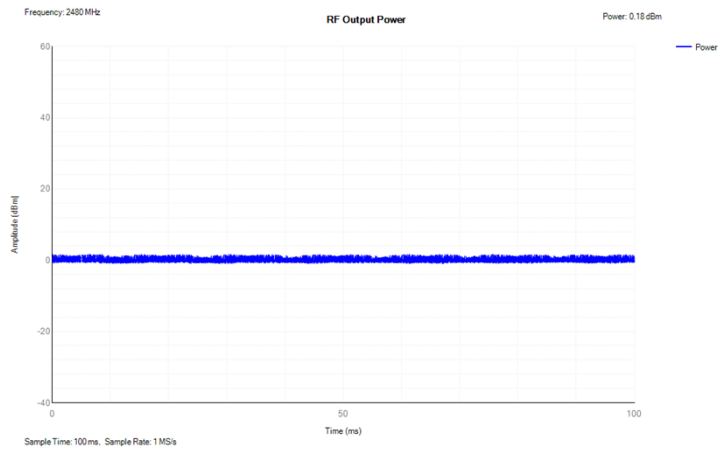
According to the standard EN 300328 section 4.3.2.2, The RF output power for non-FHSS equipment shall be equal to or less than 20 dBm. This limit shall apply for any combination of power level and intended antenna assembly.

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	
BLE_1Mbps	2402	0.07	0.03	0.01	20
	2440	-1.3	-1.7	-1.5	20
	2480	0.18	0.12	0.11	20

BLE 1Mbps
2402MHz 
2440MHz 
2480MHz 

4. Power Spectral Density

4.1 Standard and Limit

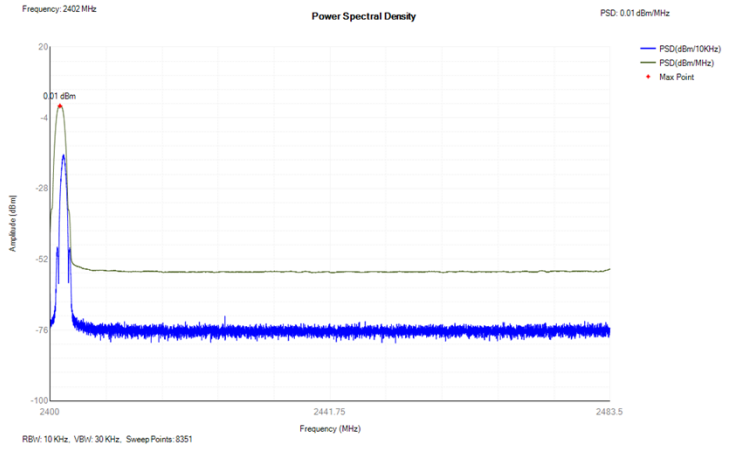
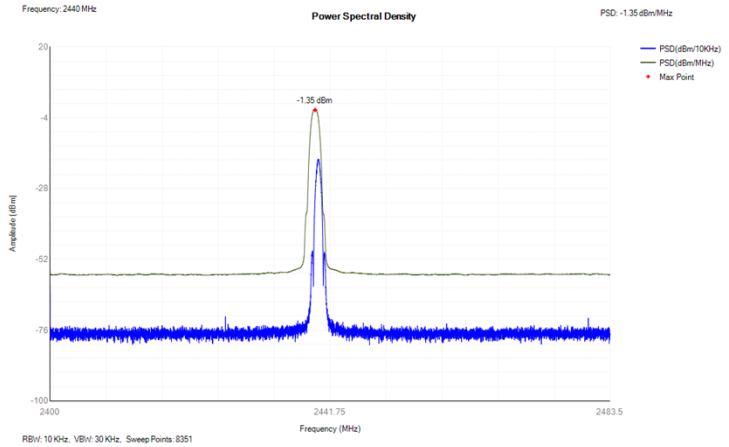
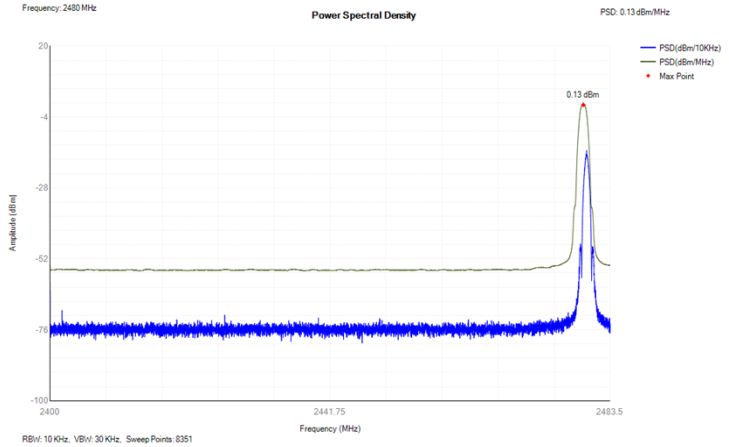
According to the standard EN 300328 section 4.3.2.3, The maximum Power Spectral Density for non-FHSS equipment is 10 dBm per MHz.

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
BLE_1Mbps	2402	0.01	10	Pass
	2440	-1.35	10	Pass
	2480	0.13	10	Pass

BLE 1Mbps
2402MHz 
2440MHz 
2480MHz 

5. Occupied Channel Bandwidth

5.1 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).

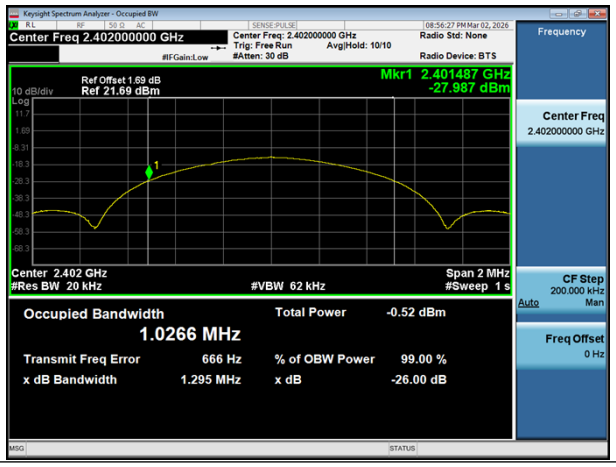
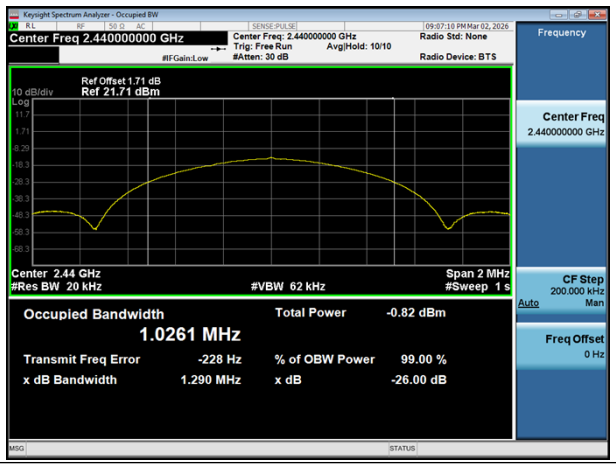
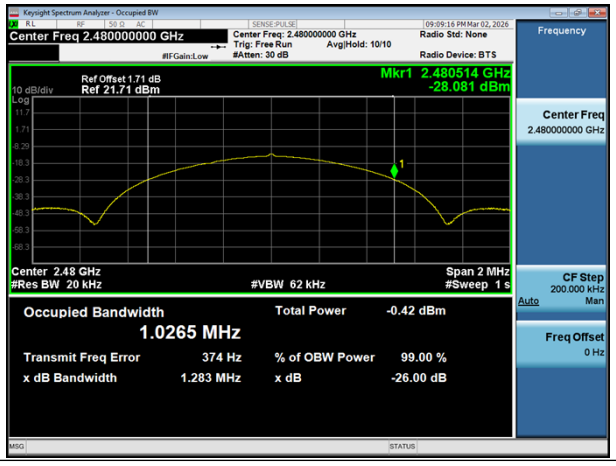
5.2 Test Procedure

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

5.3 Test Data and Results

Mode	Channel (MHz)	Center Frequency (MHz)	OBW (MHz)	Limit (MHz)	Result
BLE_1Mbps	2402	2402.001	1.027	83.5	Pass
	2440	2440	1.026	83.5	Pass
	2480	2480	1.027	83.5	Pass

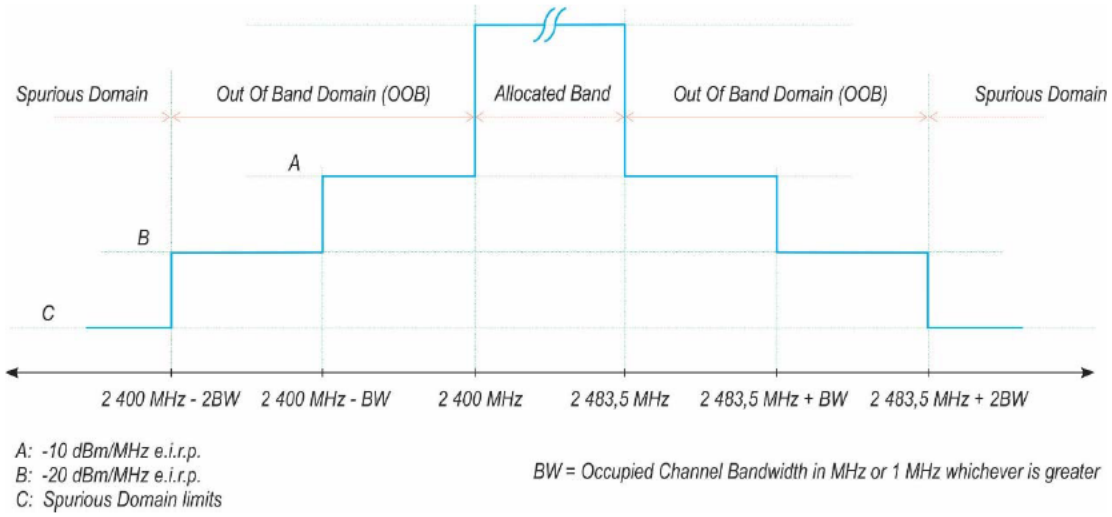
Note: the limit 83.5MHz is from 2400MHz to 2483.5MHz.

BLE 1Mbps
2402MHz 
2440MHz 
2480MHz 

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

6.1 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.

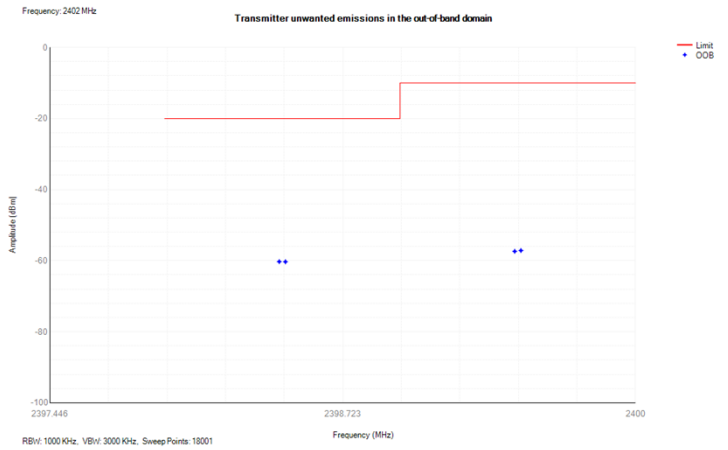
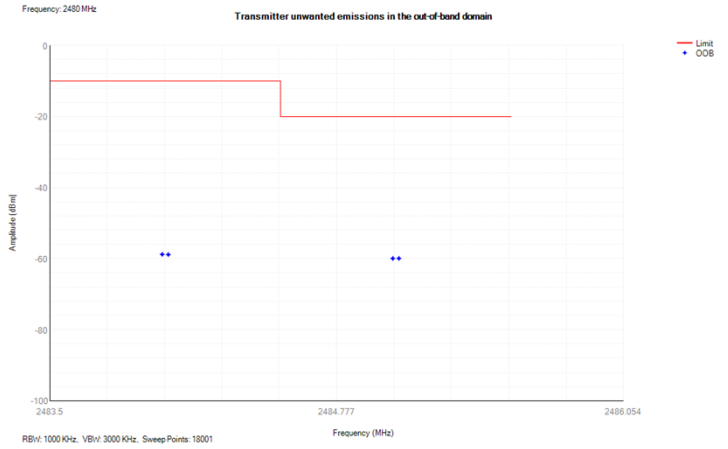


6.2 Test Procedure

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

6.3 Test Data and Results

Mode	Channel	OOB Frequency (MHz)	Level (dBm/MHz)	Limit (dBm/MHz)	Result
BLE_1Mbps	Lowest CH	2399.5	-57.14	-10	Pass
		2399.473	-57.36	-10	Pass
		2398.473	-60.3	-20	Pass
		2398.446	-60.26	-20	Pass
	Highest CH	2484	-58.78	-10	Pass
		2484.027	-58.84	-10	Pass
		2485.027	-59.93	-20	Pass
		2485.054	-59.92	-20	Pass

BLE 1Mbps
Lowest CH 
Highest CH 

7. Transmitter Unwanted Emissions in the Spurious Domain

7.1 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

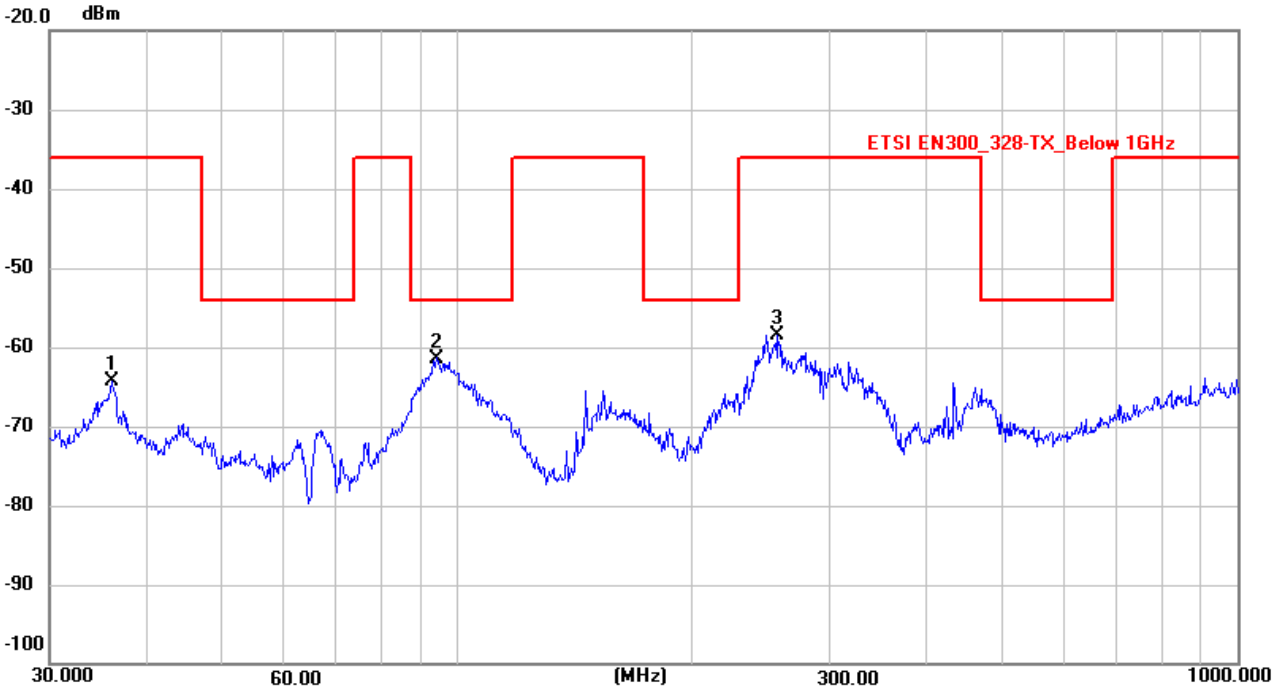
7.2 Test Procedure

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

7.3 Test Data and Results

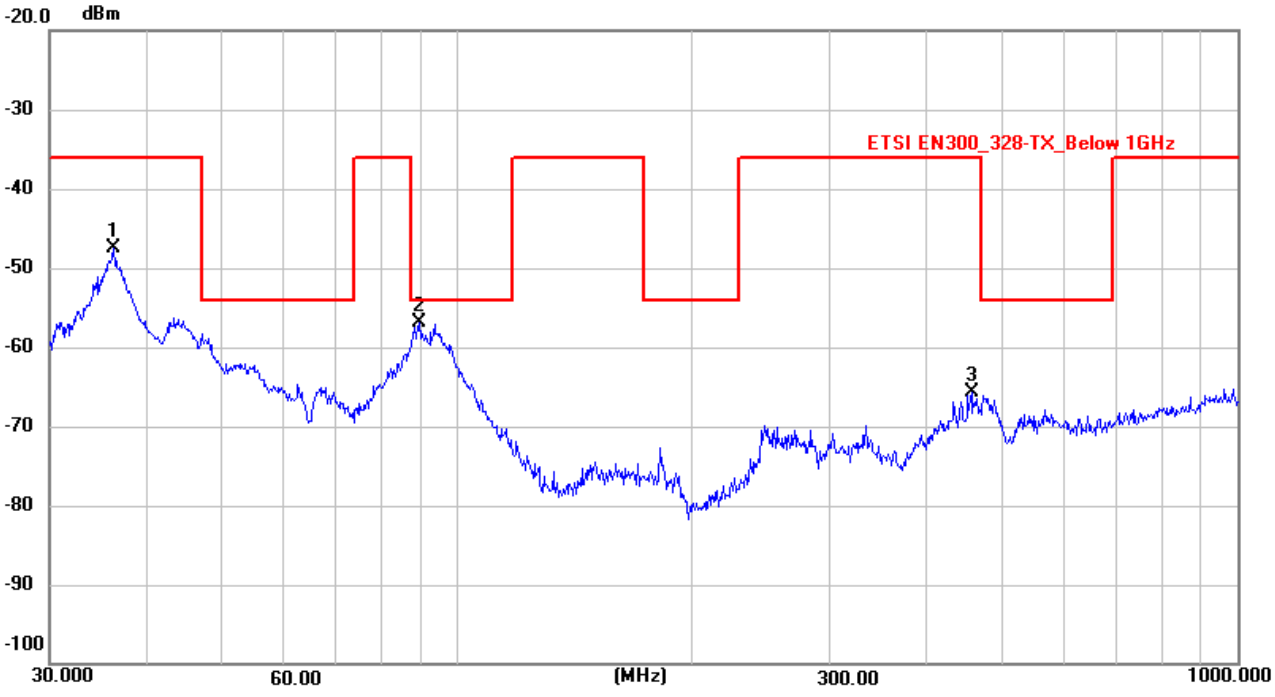
According to the data, the EUT complied with the EN 300328 standard, and had the worst cases:

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	36.0007	-66.93	2.71	-64.22	-36.00	-28.22	peak	150	134	P	
2 *	94.0979	-60.35	-1.05	-61.40	-54.00	-7.40	peak	150	10	P	
3	257.4222	-60.50	1.96	-58.54	-36.00	-22.54	peak	150	52	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	36.2541	-50.32	2.75	-47.57	-36.00	-11.57	peak	150	63	P	
2 *	89.2764	-55.59	-1.37	-56.96	-54.00	-2.96	peak	150	33	P	
3	455.9058	-73.05	7.34	-65.71	-36.00	-29.71	peak	150	348	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 (2402MHz)						
4804	-44.70	-2.92	-47.62	-30.00	-17.62	H
7206	-47.27	3.39	-43.88	-30.00	-13.88	H
4804	-40.43	-2.92	-43.35	-30.00	-13.35	V
7206	-49.14	3.39	-45.75	-30.00	-15.75	V
Highest Channel (2480MHz)						
4960	-43.60	-2.73	-46.33	-30.00	-16.33	H
7440	-47.60	3.67	-43.93	-30.00	-13.93	H
4960	-41.30	-2.73	-44.03	-30.00	-14.03	V
7440	-47.56	3.67	-43.89	-30.00	-13.89	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 of BLE mode is 1Mbps.

8. Receiver Spurious Emission

8.1 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

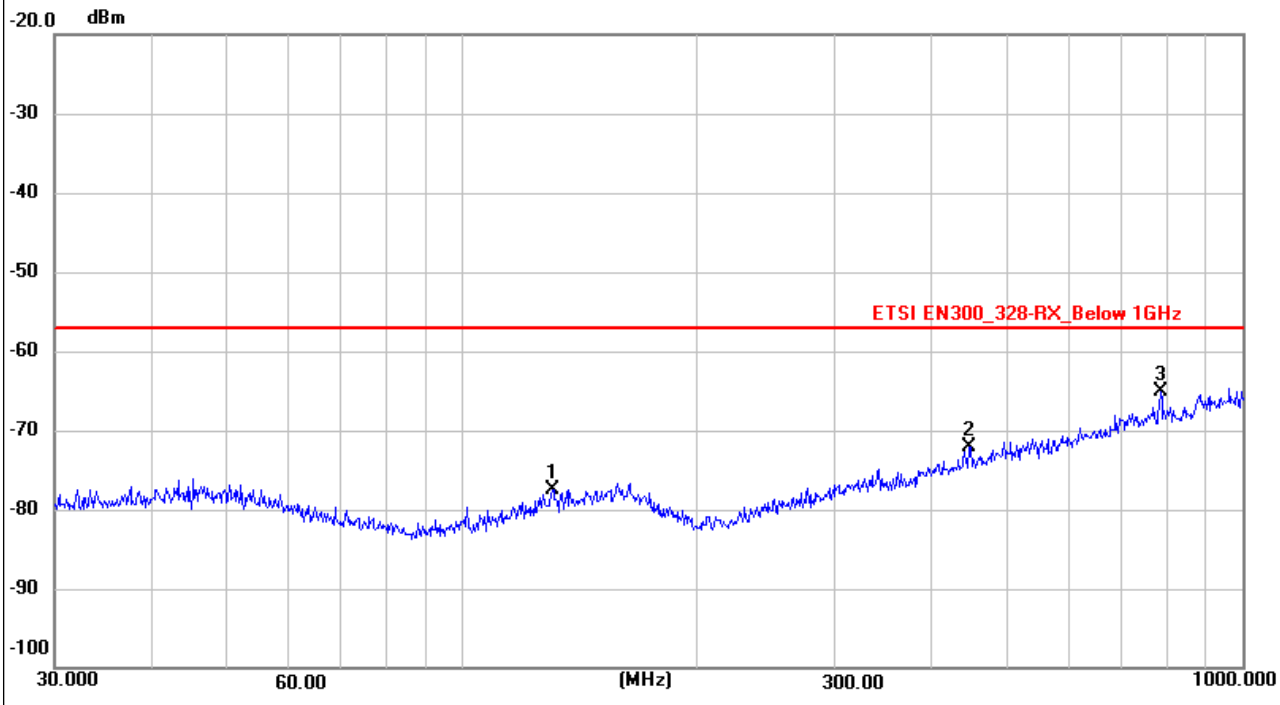
8.2 Test Procedure

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

8.3 Test Data and Results

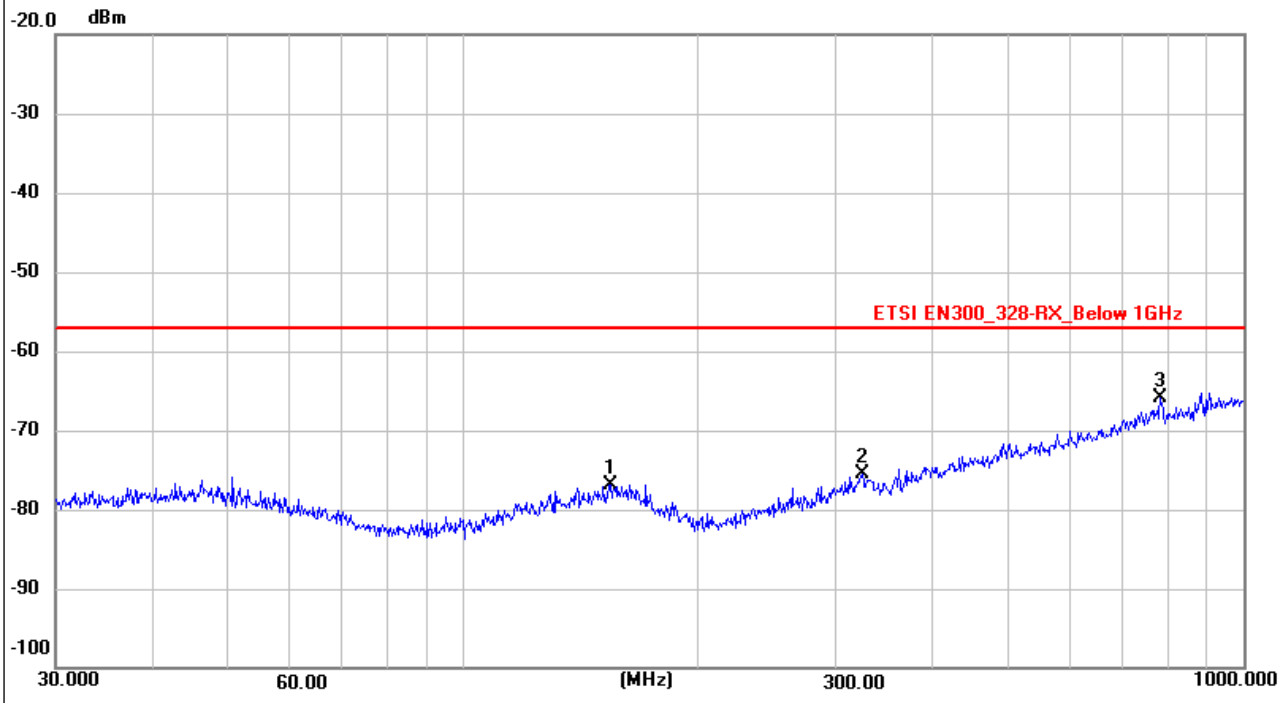
According to the data, the EUT complied with the EN 300328 standard, and had the worst cases:

Test Plots and Data of Receiver Spurious Emission	
Test Mode:	TM2
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	130.8369	-80.35	2.85	-77.50	-57.00	-20.50	peak	150	318	P	
2	446.4141	-79.18	7.12	-72.06	-57.00	-15.06	peak	150	286	P	
3 *	785.0935	-78.02	12.97	-65.05	-57.00	-8.05	peak	150	93	P	

Test Plots and Data of Receiver Spurious Emission	
Test Mode:	TM2
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	154.2786	-80.66	3.85	-76.81	-57.00	-19.81	peak	150	83	P	
2	324.4561	-80.07	4.58	-75.49	-57.00	-18.49	peak	150	349	P	
3 *	782.3453	-78.85	12.94	-65.91	-57.00	-8.91	peak	150	2	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.

9. Receiver Blocking

9.1 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 2 and category 3 provided in following table.

The Receiver Blocking parameters for Receiver Category 2 equipment.

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

The Receiver Blocking parameters for Receiver Category 3 equipment.

Wanted signal mean power from companion device (dBm) (see notes 1 and 3)	Blocking signal frequency (MHz)	Blocking signal power (dBm) (see note 3)	Type of blocking signal
(-139 dBm + 10 × $\log_{10}$(OCBW) + 20 dB) or (-74 dBm + 20 dB) whichever is less (see note 2)	2 380 2 504 2 300 2 584	-34	CW
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} + 30 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: 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.			

9.2 Test Procedure

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

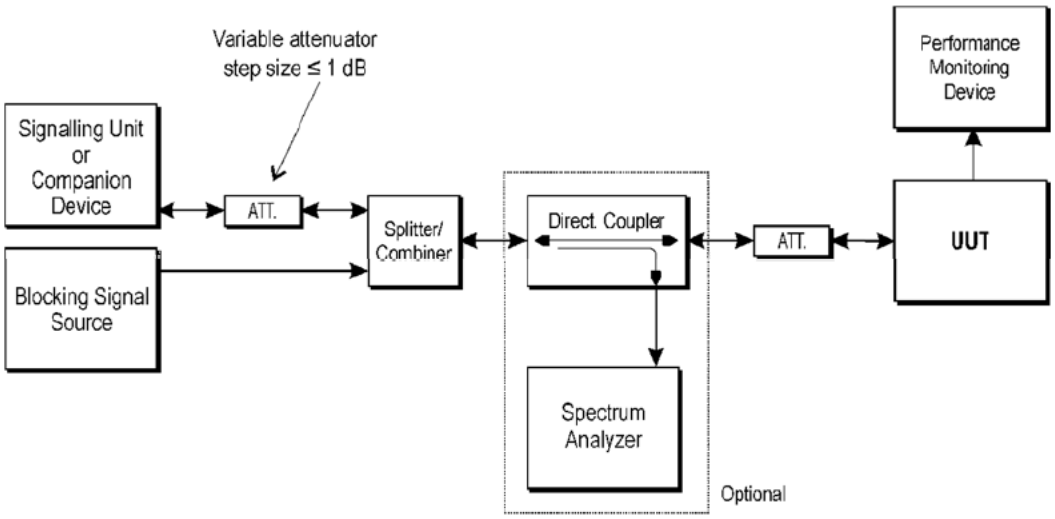


Figure 6: Test Set-up for receiver blocking

9.3 Test Data and Results

Receiver Categories: Category 2 Equipment					
Test Mode: GFSK					
Wanted signal mean power (dBm)	Blocking signal frequency (MHz)	Blocking signal power (dBm, CW)	PER	Limit	Results
-69	2380	-34	1.26%	10%	PASS
	2504	-34	1.24%	10%	PASS
	2300	-34	1.27%	10%	PASS
	2584	-34	1.28%	10%	PASS
Note: OCBW = 1MHz.					

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 *******