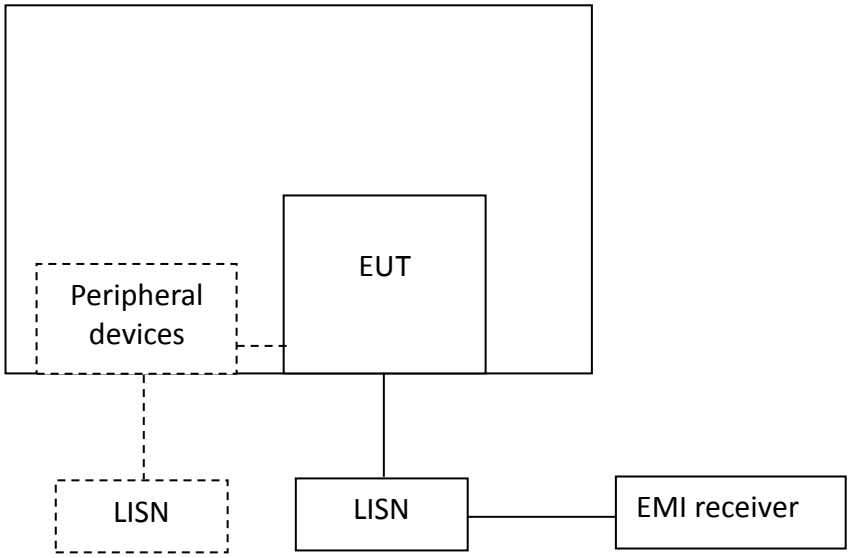
8 Power line conducted emission

Test result: **Pass**

8.1 Limit

Frequency of Emission (MHz)	Conducted Limit (dBuV)	
	QP	AV
0.15-0.5	66 to 56*	56 to 46 *
0.5-5	56	46
5-30	60	50
* Decreases with the logarithm of the frequency.		

8.2 Test configuration



☒ For table top equipment, wooden support is 0.8m height table

☐ For floor standing equipment, wooden support is 0.1m height rack.

8.3 Test procedure and test set up

Measured levels of ac power-line conducted emission shall be the emission voltages from the voltage probe, where permitted, or across the 50 Ω LISN port (to which the EUT is connected), where permitted, terminated into a 50 Ω measuring instrument. All emission voltage and current measurements shall be made on each current-carrying conductor at the plug end of the EUT power cord by the use of mating plugs and receptacles on the LISN, if used. Equipment shall be tested with power cords that are normally supplied or recommended by the manufacturer and that have electrical and shielding characteristics that are the same as those cords normally supplied or recommended by the manufacturer. For those measurements using a LISN, the 50 Ω measuring port is terminated by a measuring instrument having 50 Ω input impedance. All other ports are terminated in 50 Ω loads.

Tabletop devices shall be placed on a platform of nominal size 1 m by 1.5 m, raised 80 cm above the reference ground plane. The vertical conducting plane or wall of an RF-shielded (screened) room shall be located 40 cm to the rear of the EUT. Floor-standing devices shall be placed either directly on the reference ground-plane or on insulating material as described in ANSI C63.4. All other surfaces of tabletop or floor-standing EUTs shall be at least 80 cm from any other grounded conducting surface, including the case or cases of one or more LISNs.

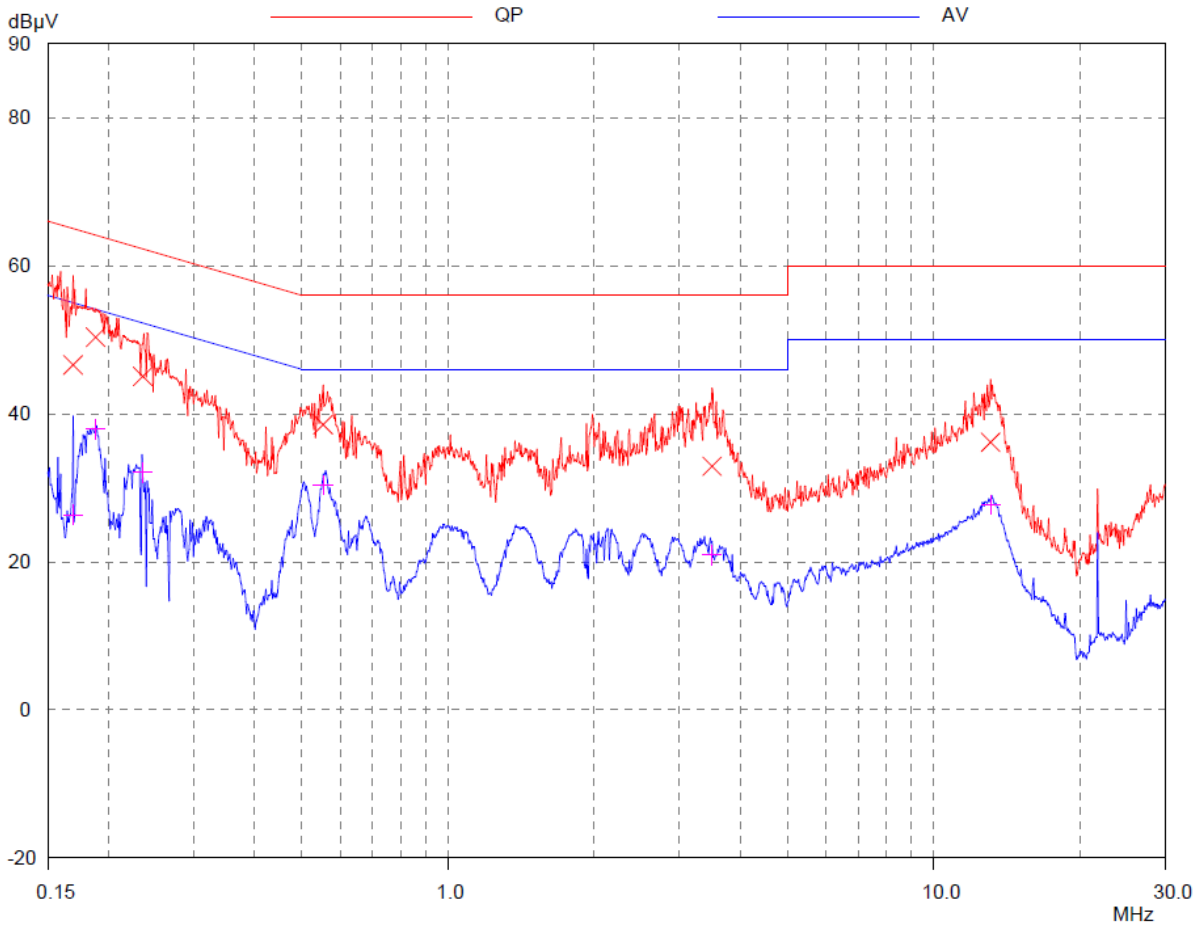
The bandwidth of the test receiver is set at 9 kHz.

8.4 Test protocol

Temperature: 22 °C

Relative Humidity: 52 %

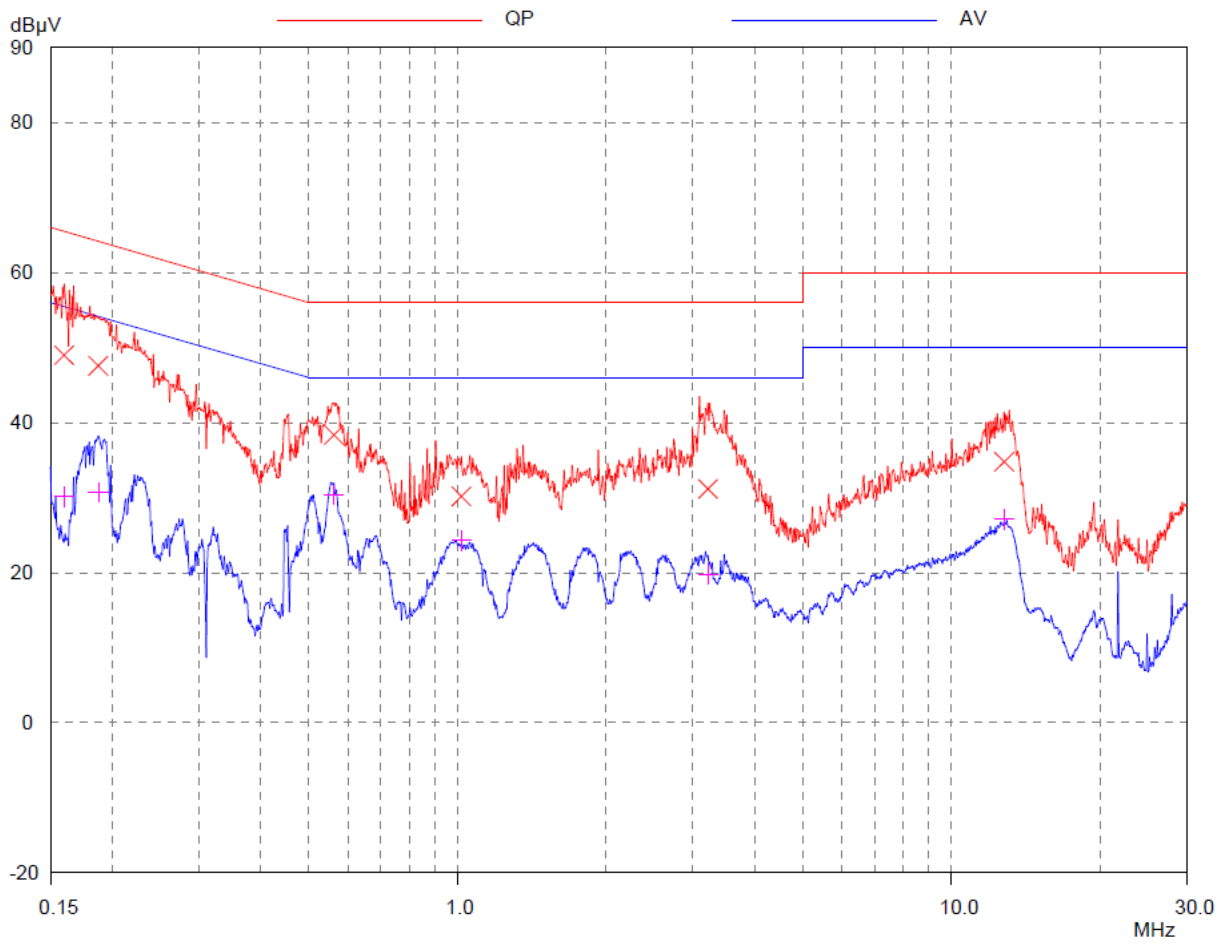
L Line



Test Data:

Frequency (MHz)	Quasi-peak			Average		
	level dB(µV)	Limit dB(µV)	Margin (dB)	level dB(µV)	limit dB(µV)	Margin (dB)
0.169	46.59	65.01	18.42	26.35	55.01	28.66
0.188	50.33	64.11	13.78	37.90	54.11	16.21
0.236	45.04	62.25	17.21	32.04	52.25	20.21
0.553	38.53	56.00	17.47	30.35	46.00	15.65
3.499	32.92	56.00	23.08	20.88	46.00	25.12
13.117	36.14	60.00	23.86	27.67	50.00	22.33

N Line



Test Data:

Frequency (MHz)	Quasi-peak			Average		
	level dB(µV)	Limit dB(µV)	Margin (dB)	level dB(µV)	limit dB(µV)	Margin (dB)
0.160	48.98	65.47	16.49	30.09	55.47	25.38
0.188	47.57	64.14	16.57	30.70	54.14	23.44
0.562	38.35	56.00	17.65	30.41	46.00	15.59
1.019	30.18	56.00	25.82	24.26	46.00	21.74
3.218	31.16	56.00	24.84	19.82	46.00	26.18
12.807	34.77	60.00	25.23	27.12	50.00	22.88

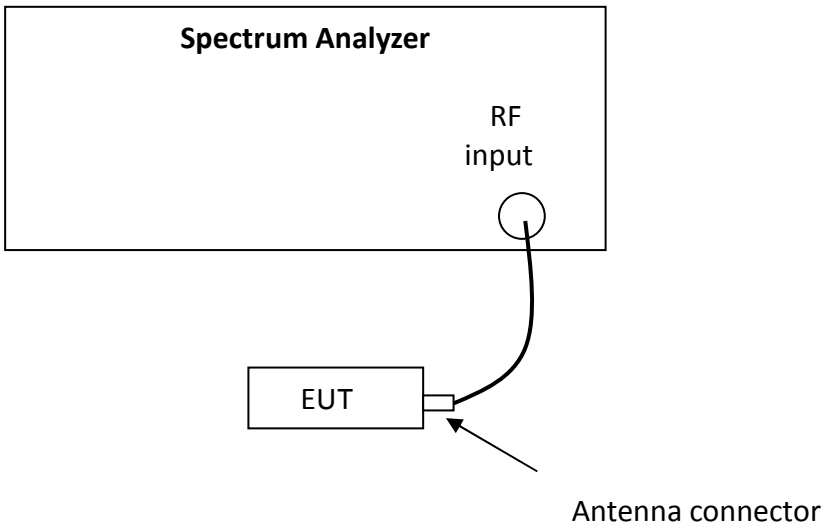
9 Occupy Bandwidth

Test result: Pass

9.1 Limit

No Limit

9.2 Test Configuration



9.3 Test Procedure and test setup

The 99% Occupy Bandwidth is measured using the Spectrum Analyzer according to RSS-Gen Issue 4, General Requirements for Compliance of Radio Apparatus clause 6.6.

- The transmitter shall be operated at its maximum carrier power measured under normal test conditions.
- The span of the analyzer shall be set to capture all products of the modulation process, including the emission skirts.
- The resolution bandwidth (RBW) shall be in the range of 1% to 5% of the occupied bandwidth (OBW) and video bandwidth (VBW) shall be approximately 3x RBW.

9.4 Test Protocol

Temperature: 25 °C

Relative Humidity: 55 %

Mode	Channel	99% Occupy Bandwidth (MHz)	Limits (MHz)
802.11b	L	14.040	-
	M	14.063	-
	H	14.017	-
802.11g	L	16.450	-
	M	16.454	-
	H	16.442	-
802.11n (HT20)	L	17.578	-
	M	17.606	-
	H	17.544	-

Test Plots:

802.11b-2412MHz

802.11b-2437MHz

802.11b-2462MHz

802.11g-2412MHz

802.11g-2437MHz

802.11g-2462MHz

802.11n20-2412MHz

802.11n20-2437MHz

802.11n20-2462MHz