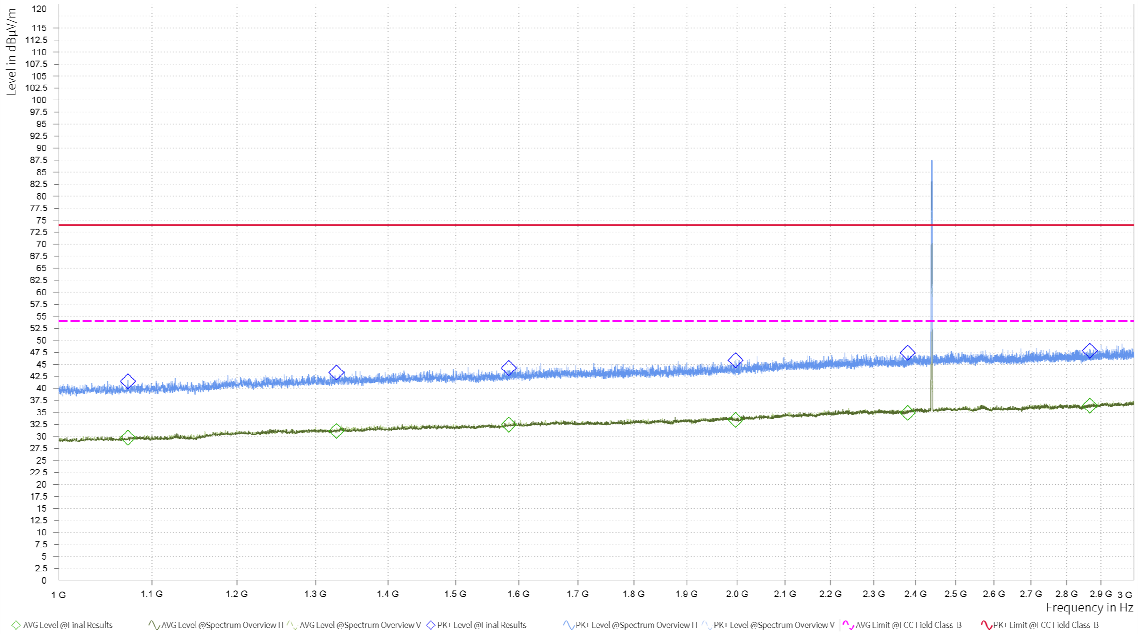
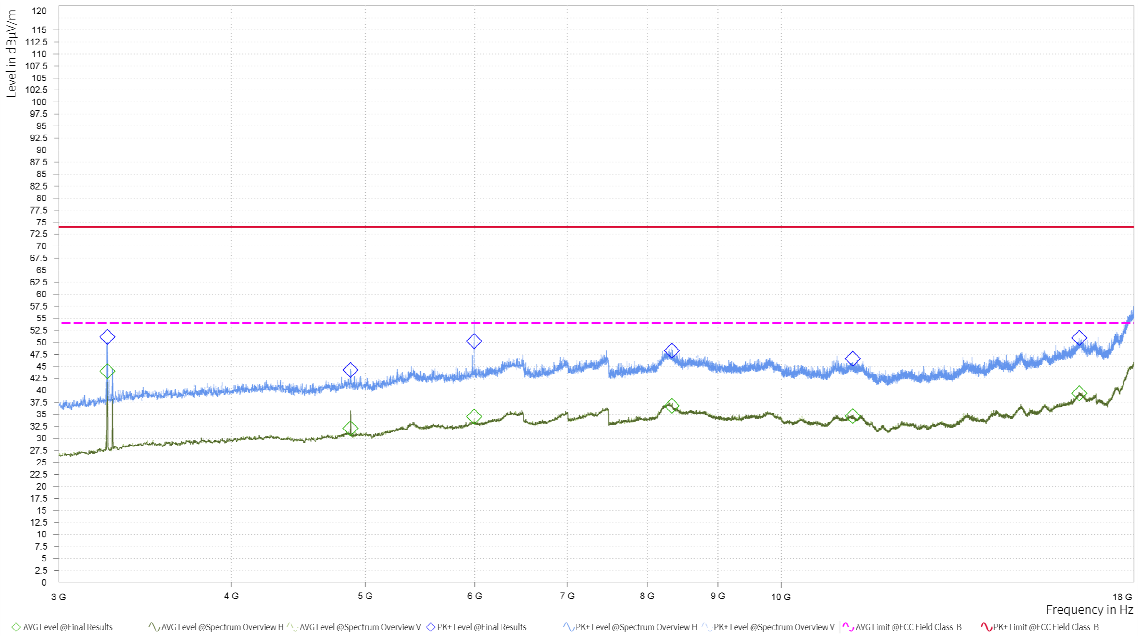
Bluetooth LE-Channel 19



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

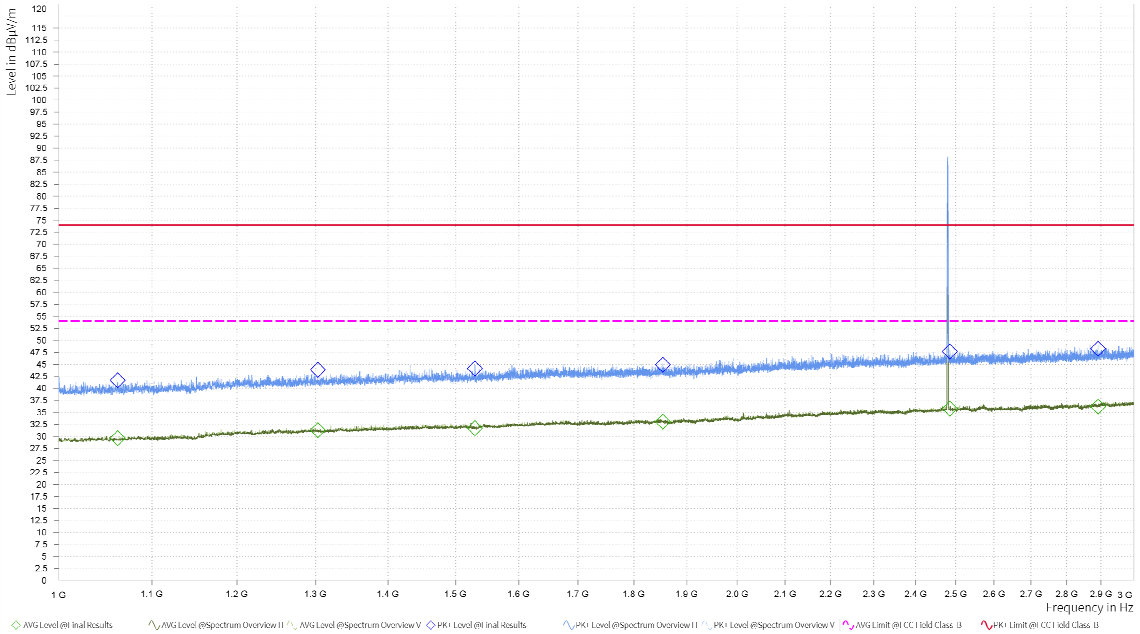


Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	MaxPeak (dBµV/m)	Peak Limit (dBµV/m)	Peak Margin (dB)	Average (dBµV/m)	Average Limit (dBµV/m)	Average Margin (dB)	Meas. Time (s)	Height (m)	Pol	Azimuth (deg)	Corr. (dB/m)
1,073.250	41.43	74.00	32.57	29.67	54.00	24.33	1.000	2.00	H	0	-6.29
1,328.000	43.23	74.00	30.77	31.08	54.00	22.92	1.000	2.00	H	114.5	-3.65
1,583.750	44.21	74.00	29.79	32.42	54.00	21.58	1.000	1.00	V	287.2	-1.82
1,997.000	45.83	74.00	28.17	33.37	54.00	20.63	1.000	2.00	V	196.4	0.49
2,381.000	47.39	74.00	26.61	34.84	54.00	19.16	1.000	1.00	H	319.3	2.28
2,868.000	47.81	74.00	26.19	36.38	54.00	17.62	1.000	2.00	H	63.4	3.75

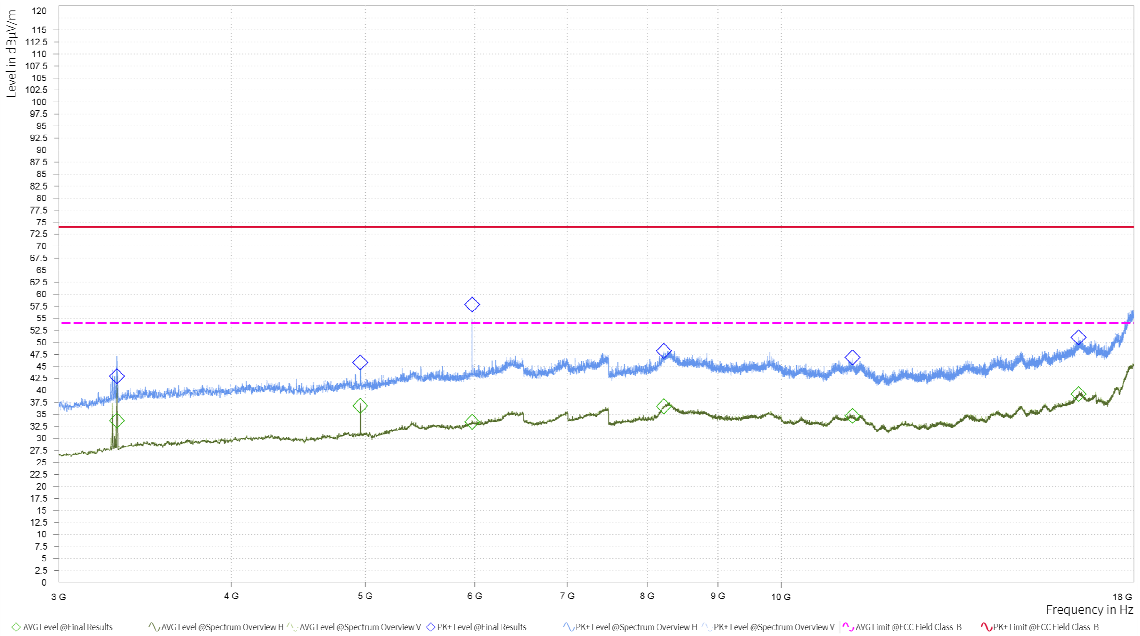
Remark: 1. Correction Factor = Antenna factor + Insertion loss (cable loss + amplifier gain)
2. Margin = Limit –MAX Peak/ Average

Bluetooth LE-Channel 39



Note: The signal beyond the limit is carrier.

Radiates Emission from 1GHz to 3GHz

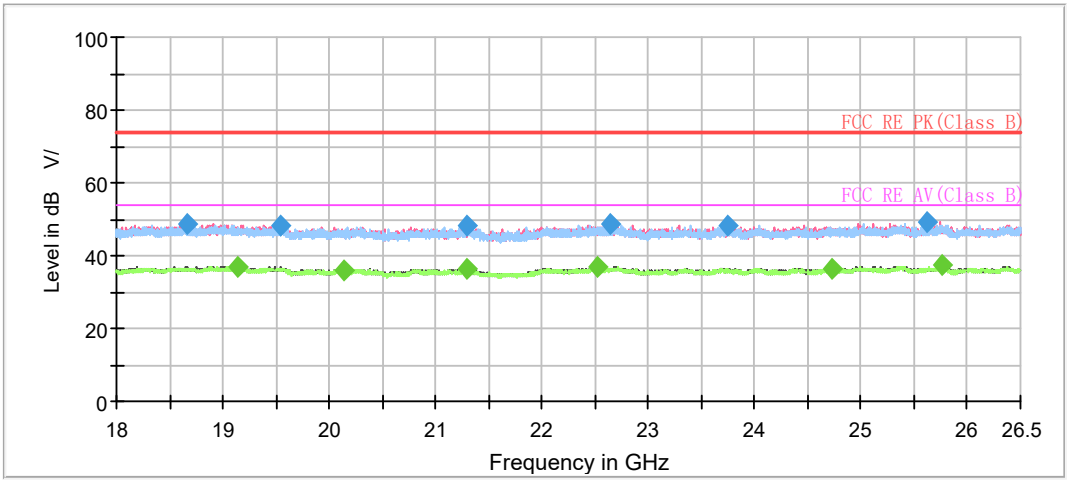


Radiates Emission from 3GHz to 18GHz

Frequency (MHz)	MaxPeak (dBµV/m)	Peak Limit (dBµV/m)	Peak Margin (dB)	Average (dBµV/m)	Average Limit (dBµV/m)	Average Margin (dB)	Meas. Time (s)	Height (m)	Pol	Azimuth (deg)	Corr. (dB/m)
1,062.000	41.65	74.00	32.35	29.57	54.00	24.43	1.000	2.00	H	0.1	-6.38
1,303.000	43.80	74.00	30.20	31.26	54.00	22.74	1.000	2.00	V	332.3	-3.84
1,530.000	44.08	74.00	29.92	31.65	54.00	22.35	1.000	2.00	H	265.6	-2.41
1,854.000	44.89	74.00	29.11	33.01	54.00	20.99	1.000	1.00	V	223.1	-0.26
2,485.250	47.64	74.00	26.36	35.72	54.00	18.28	1.000	1.00	V	244.4	2.81
2,892.000	48.20	74.00	25.80	36.17	54.00	17.83	1.000	2.00	V	159	4.02

Remark: 1. Correction Factor = Antenna factor + Insertion loss (cable loss + amplifier gain)
2. Margin = Limit –MAX Peak/ Average

During the test, the Radiates Emission from 18GHz to 26.5GHz was performed in all modes with all channels, Bluetooth LE-Channel 19 are selected as the worst condition. The test data of the worst-case condition was recorded in this report.



Radiates Emission from 18GHz to 26.5GHz

Frequency (MHz)	MaxPeak (dBµV/m)	Average (dBµV/m)	Limit (dBµV/m)	Margin (dB)	Meas. Time (ms)	Height (cm)	Pol	Azimuth (deg)	Corr. (dB/m)
18657.687500	48.76	---	74.00	25.24	500.0	200.0	H	0.0	-4.5
19144.312500	---	37.00	54.00	17.00	500.0	200.0	V	127.0	-4.5
19550.187500	48.26	---	74.00	25.74	500.0	200.0	V	236.0	-4.7
20145.187500	---	35.84	54.00	18.16	500.0	200.0	V	208.0	-4.4
21300.125000	48.03	---	74.00	25.97	500.0	200.0	V	187.0	-4.1
21302.250000	---	36.45	54.00	17.55	500.0	200.0	V	71.0	-4.1
22520.937500	---	36.98	54.00	17.02	500.0	200.0	V	247.0	-3.0
22651.625000	48.81	---	74.00	25.19	500.0	200.0	H	322.0	-2.9
23748.125000	48.40	---	74.00	25.60	500.0	200.0	V	7.0	-2.5
24721.375000	---	36.58	54.00	17.42	500.0	200.0	V	293.0	-2.2
25631.937500	49.24	---	74.00	24.76	500.0	200.0	V	110.0	-1.5
25767.937500	---	37.37	54.00	16.63	500.0	200.0	V	169.0	-1.3

Remark: 1. Correction Factor = Antenna factor + Insertion loss (cable loss + amplifier gain)
2. Margin = Limit –MAX Peak/ Average

5.7. Conducted Emission

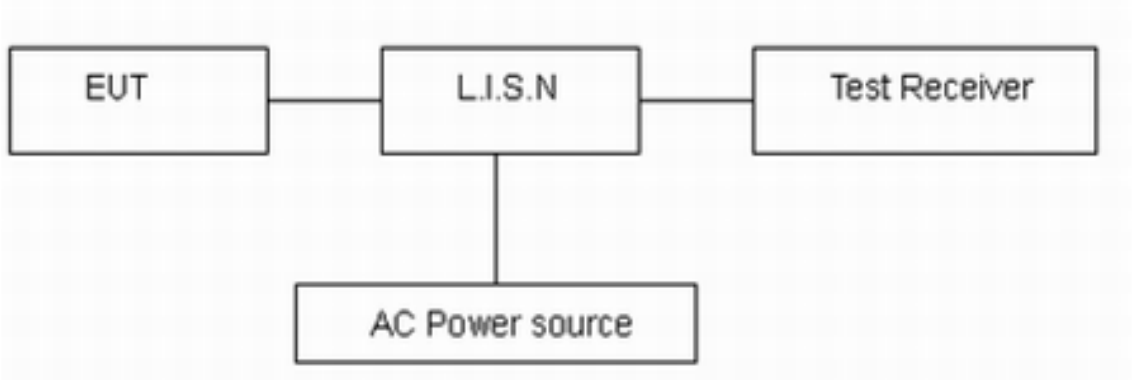
Ambient Condition

Temperature	Relative humidity
15°C ~ 35°C	20% ~ 80%

Methods of Measurement

The EUT is placed on a non-metallic table of 80cm height above the horizontal metal reference ground plane. During the test, the EUT was operating in its typical mode. The test method is according to ANSI C63.10. Connect the AC power line of the EUT to the L.I.S.N. Use EMI receiver to detect the average and Quasi-peak value. RBW is set to 9 kHz, VBW is set to 30kHz.
The measurement result should include both L line and N line.
The test is in transmitting mode.

Test Setup



Note: AC Power source is used to change the voltage 110V/60Hz.

Limits

Frequency (MHz)	Conducted Limits(dBμV)	
	Quasi-peak	Average
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.		

Measurement Uncertainty

The assessed measurement uncertainty to ensure 95% confidence level for the normal distribution is with the coverage factor k = 1.96, U= 2.69 dB.

Test Results:

The equipment doesn't connected to public network, therefore this requirement do not apply.

6. Main Test Instruments

Name	Manufacturer	Type	Serial Number	Calibration Date	Expiration Date
Power sensor	R&S	NRP18S	101954	2023-05-12	2024-05-11
				2024-05-07	2025-05-06
Spectrum Analyzer	KEYSIGHT	N9020A	MY51330870	2023-05-12	2024-05-11
				2024-05-07	2025-05-06
Unwanted Emission					
EMI Test Receiver	R&S	ESR	102389	2023-05-12	2024-05-11
				2024-05-07	2025-05-06
Signal Analyzer	R&S	FSV40	101186	2023-05-12	2024-05-11
				2024-05-07	2025-05-06
EMI Test Receiver	R&S	ESR	102720	2023-09-19	2024-09-18
				2024-05-07	2025-05-06
EMI Test Receiver	R&S	ESR	102721	2023-09-19	2024-09-18
				2024-05-07	2025-05-06
Signal Analyzer	R&S	FSV3044	103495	2023-09-19	2024-09-18
				2024-05-07	2025-05-06
Loop Antenna	SCHWARZBECK	FMZB1519	1519-047	2023-04-16	2026-04-15
Horn Antenna	R&S	HF907	102723	2021-07-24	2024-07-23
Horn Antenna	ETS-Lindgren	3160-09	00102643	2021-10-10	2024-10-09
Amplifier	MicroWave	KLNA-1804 0050	220826001	2023-05-12	2024-05-11
				2024-05-08	2025-05-07
TRILOG Broadband Antenna	SCHWARZBECK	VULB 9163	01614	2023-09-13	2026-09-12
TRILOG Broadband Antenna	SCHWARZBECK	VULB 9163	01615	2023-10-19	2026-10-18
Software	R&S	EMC32	9.26.01	/	/
Software	R&S	ELEKTRA	5.00.2	/	/

ANNEX A: The EUT Appearance

The EUT Appearance are submitted separately.

ANNEX B: Test Setup Photos

The Test Setup Photos are submitted separately.

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