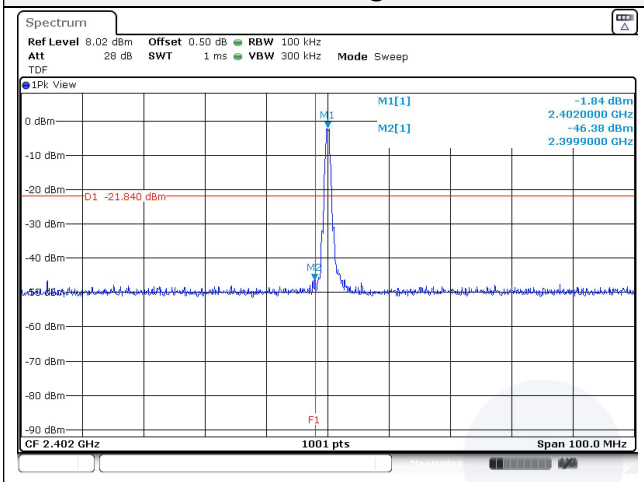
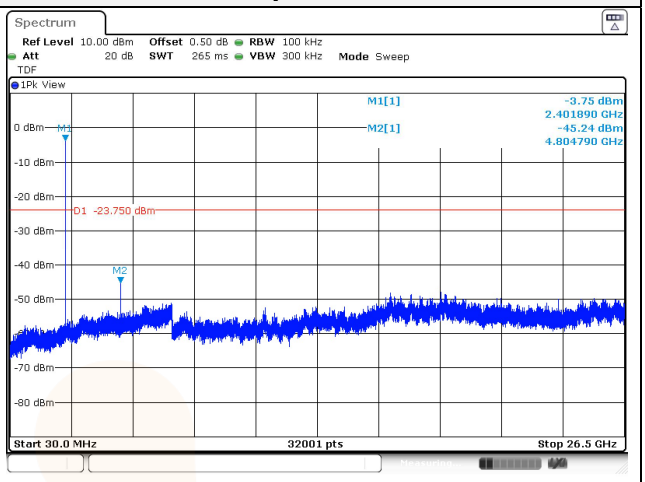
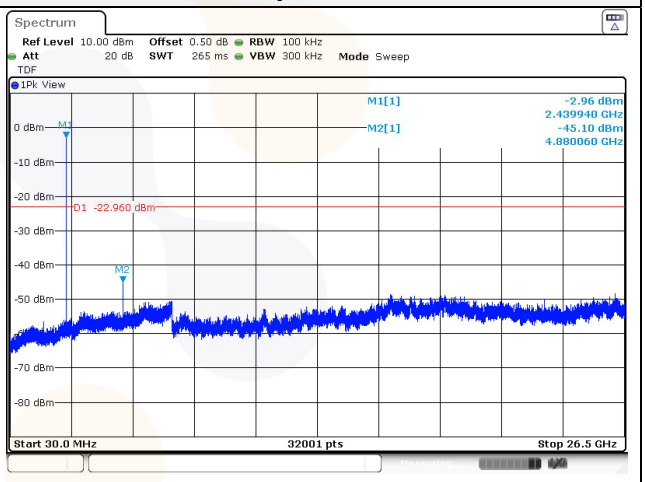
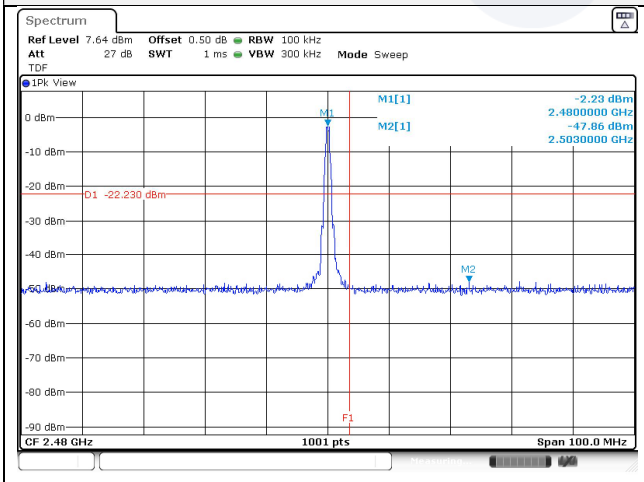
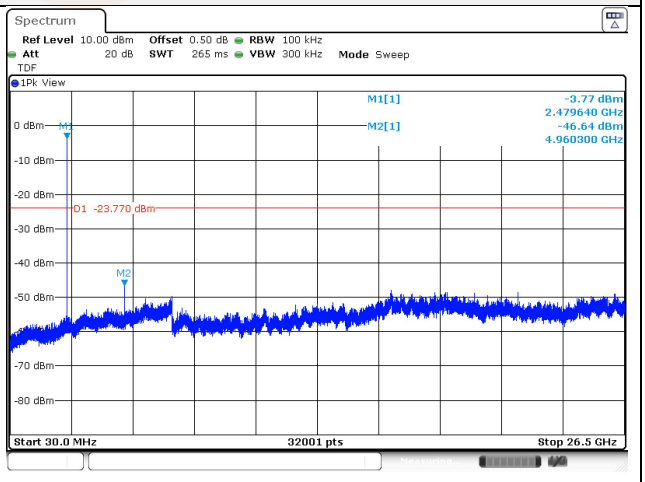
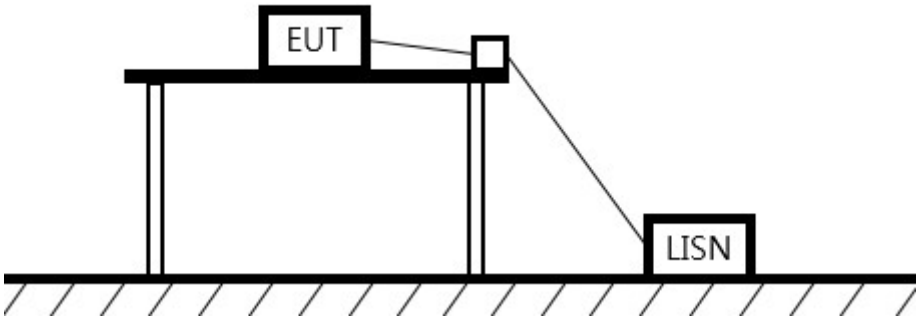
Test results

BLE_1 MBit/s(37 Bytes)

Conducted band-edge / Low ch.	Conducted spurious / Low ch.
	
Conducted band-edge / Mid ch.	**Conducted spurious / Mid ch.**
Blank	
Conducted band-edge / High ch.	**Conducted spurious / High ch.**
	

7.6. AC Conducted emission

Test setup



Limit

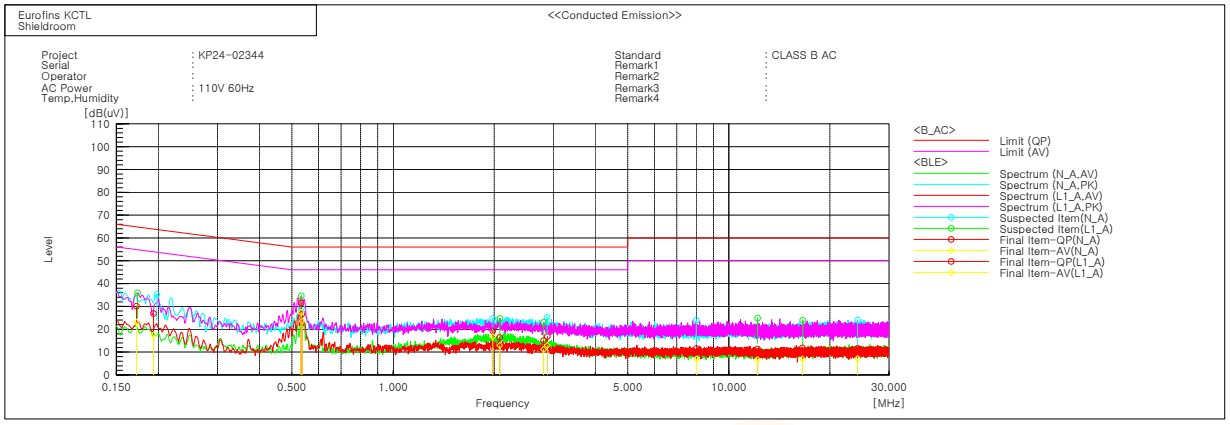
According to 15.207(a) and RSS-Gen(8.8), for an intentional radiator that is designed to be connected to the public utility (AC) power line, the radio frequency voltage that is conducted back onto the AC power line on any frequency or frequencies, within the band 150 ㎑ to 30 ㎒, shall not exceed the limits in the following table, as measured using a 50uH/50 ohm line impedance stabilization network (LISN). Compliance with the provision of this paragraph shall on the measurement of the radio frequency voltage between each power line and ground at the power terminal. The lower applies at the boundary between the frequencies ranges.

Frequency of Emission (㎒)	Conducted limit (㏈㎶/m)	
	Quasi-peak	Average
0.15 – 0.50	66 - 56*	56 - 46*
0.50 – 5.00	56	46
5.00 – 30.0	60	50

Measurement procedure

1. The EUT was placed on a wooden table of size, 1 m by 1.5 m, raised 80 ㎝ in which is located 40 ㎝ away from the vertical wall and 1.5m away from the side wall of the shielded room.
2. Each current-carrying conductor of the EUT power cord was individually connected through a 50Ω/50μH LISN, which is an input transducer to a spectrum analyzer or an EMI/Field Intensity Meter, to the input power source.
3. Exploratory measurements were made to identify the frequency of the emission that had the highest amplitude relative to the limit by operating the EUT in a range of typical modes of operation, cable position, and with a typical system equipment configuration and arrangement. Based on the exploratory tests of the EUT, the one EUT cable configuration and arrangement and mode of operation that had produced the emission with the highest amplitude relative to the limit was selected for the final measurement.
4. The final test on all current-carrying conductors of all of the power cords to the equipment that comprises the EUT (but not the cords associated with other non-EUT equipment is the system) was then performed over the frequency range of 0.15 ㎒ to 30 ㎒.
5. The measurements were made with the detector set to peak amplitude within a bandwidth of 10 ㎑ or to quasi-peak and average within a bandwidth of 9 ㎑. The EUT was in transmitting mode during the measurements.

Test results-Worst case: 1 MBits/s(37 Bytes) 2 402 ㎒



Final Result

--- N_A Phase ---

No.	Frequency [MHz]	Reading QP [dB(uV)]	Reading CAV [dB(uV)]	c.f [dB]	Result QP [dB(uV)]	Result CAV [dB(uV)]	Limit QP [dB(uV)]	Limit AV [dB(uV)]	Margin QP [dB]	Margin CAV [dB]
1	0.19352	16.6	7.2	10.3	26.9	17.5	63.9	53.9	37.0	36.4
2	0.53594	16.6	13.3	10.2	26.8	23.5	56.0	46.0	29.2	22.5
3	1.98242	9.4	6.9	9.9	19.3	16.8	56.0	46.0	36.7	29.2
4	2.881	6.9	3.0	9.9	16.8	12.9	56.0	46.0	39.2	33.1
5	8.0076	1.2	-3.5	10.4	11.6	6.9	60.0	50.0	48.4	43.1
6	24.18994	0.2	-4.4	11.5	11.7	7.1	60.0	50.0	48.3	42.9

--- L1_A Phase ---

No.	Frequency [MHz]	Reading QP [dB(uV)]	Reading CAV [dB(uV)]	c.f [dB]	Result QP [dB(uV)]	Result CAV [dB(uV)]	Limit QP [dB(uV)]	Limit AV [dB(uV)]	Margin QP [dB]	Margin CAV [dB]
1	0.1721	19.7	12.6	10.4	30.1	23.0	64.9	54.9	34.8	31.9
2	0.53243	21.3	17.2	10.2	31.5	27.4	56.0	46.0	24.5	18.6
3	2.07784	6.5	3.0	9.9	16.4	12.9	56.0	46.0	39.6	33.1
4	2.80652	5.1	1.3	9.9	15.0	11.2	56.0	46.0	41.0	34.8
5	12.18413	0.5	-4.1	10.8	11.3	6.7	60.0	50.0	48.7	43.3
6	16.58494	0.8	-4.0	11.0	11.8	7.0	60.0	50.0	48.2	43.0

8. Measurement equipment

Equipment Name	Manufacturer	Model No.	Serial No.	Next Cal. Date
Spectrum Analyzer	R&S	FSV30	100732	24.07.03
Attenuator	HUBER+ SUHNER	6610_SK-50-1/199_NE	ATT01	24.10.16
Power Sensor	R&S	NRP-Z81	1137.9009.02-106223-bB	25.04.24
Attenuator	HP	8491A	18591	25.01.18
Spectrum Analyzer	R&S	FSW26	101353	24.10.13
DC Power Supply	AGILENT	E3632A	KR75304571	25.04.24
Antenna Mast	Innco Systems	MA4640-XP-ET	MA4000/396/30810213/L	-
Controller	Innco Systems	CO3000	1175/45850319/P	-
Spectrum Analyzer	R&S	FSV40	100989	24.10.12
Horn antenna	ETS.lindgren	3117	00251528	25.01.26
Horn antenna	ETS.lindgren	3116	00086635	25.01.25
AMPLIFIER	B&Z Technologies	BZRT-00504000-481055-382525	26299-27735	24.07.04
AMPLIFIER	B&Z Technologies	BZR-0050400-551028-252525	27736	24.07.04
Attenuator	API Inmet	40AH2W-10	12	25.04.30
High pass Filter	WT	WT-A1698-HS	WT160411001	25.04.25
High pass Filter	Qotana	DBHF058004000A	20070100016	24.07.04
Signal Generator	R&S	SMB100A	176206	25.01.18
Controller	INNCO SYSTEMS	CO3000	1442/54370322/P	-
Antenna Mast	INNCO SYSTEMS	MA4640-XP-ET	AM002	-
Turn Device	INNCO SYSTEMS	DS1200-S-1t	0002	-
Spectrum Analyzer	R&S	FSV40	100988	24.07.03
PSA Spectrum Analyzer	Agilent	E4440A	MY44303500	24.07.04
Amplifier	SONOMA INSTRUMENT	310N	421910	24.10.12
Bilog Antenna	Teseq GmbH	CBL 6112D	61521	24.11.17
Loop Antenna	R&S	HFH2-Z2	100355	24.08.10
DC Power Supply	POWERCOM	DCP-50100A	20220610-01	25.01.19
Signal Generator	R&S	SMB100A	176206	25.01.18
TWO-LINE V - NETWORK	R&S	ENV216	101358	24.09.27
EMI TEST RECEIVER	R&S	ESCI3	100001	24.08.18

End of test report