Mode: BLE_1 Mbps

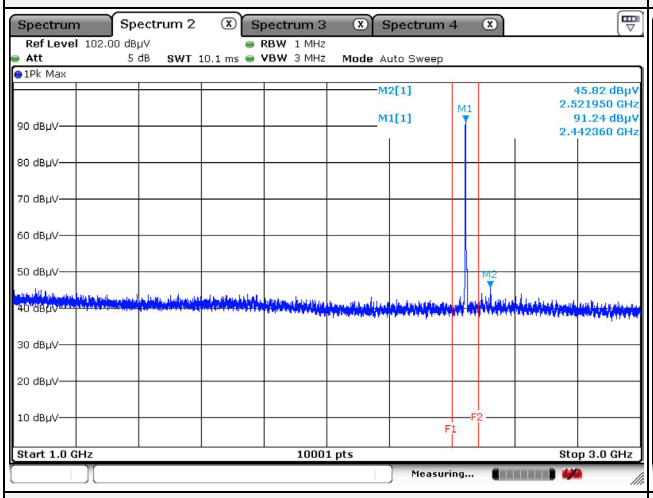
Channel 20

Distance of measurement: 3 meter

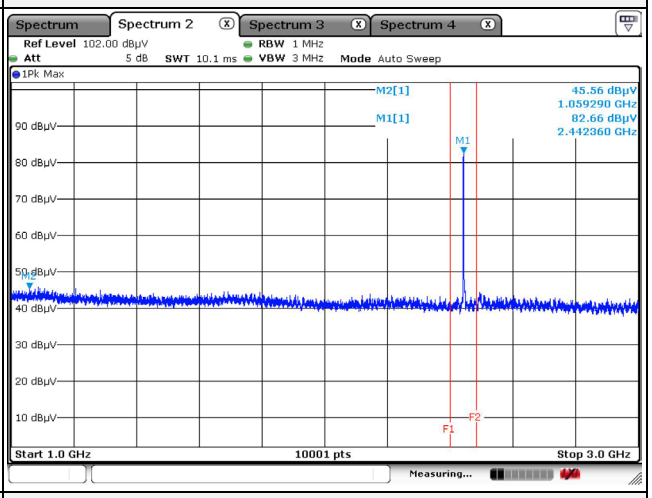
- **Spurious**

Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
1 059.29	45.56	Peak	V	-9.71	-	35.85	74.00	38.15
2 521.95	45.82	Peak	H	0.12	-	45.94	74.00	28.06

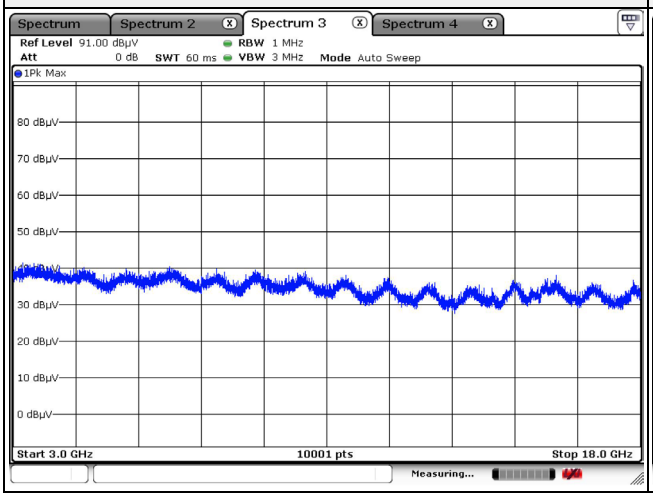
Horizontal // Peak for 1 ㎓ to 3 ㎓



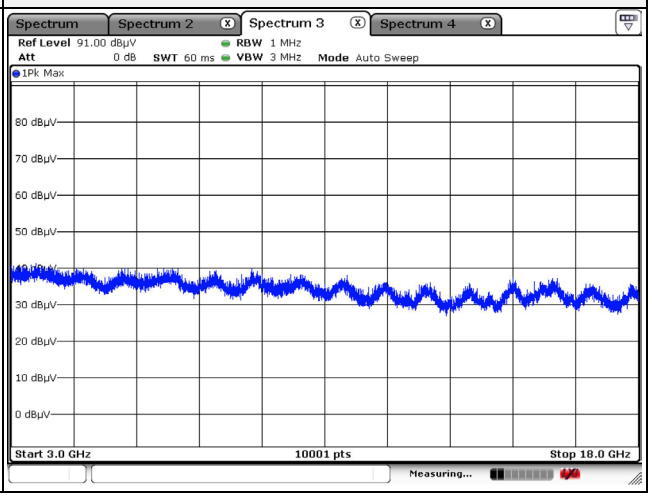
Vertical // Peak for 1 ㎓ to 3 ㎓



Horizontal // Peak for 3 ㎓ to 18 ㎓



Vertical // Peak for 3 ㎓ to 18 ㎓



Note.
1. Average test would be performed if the peak result were greater than the average limit.
2. No spurious emission were detected above 3 ㎓.

Mode: BLE_1 Mbps

Channel 39

Distance of measurement: 3 meter

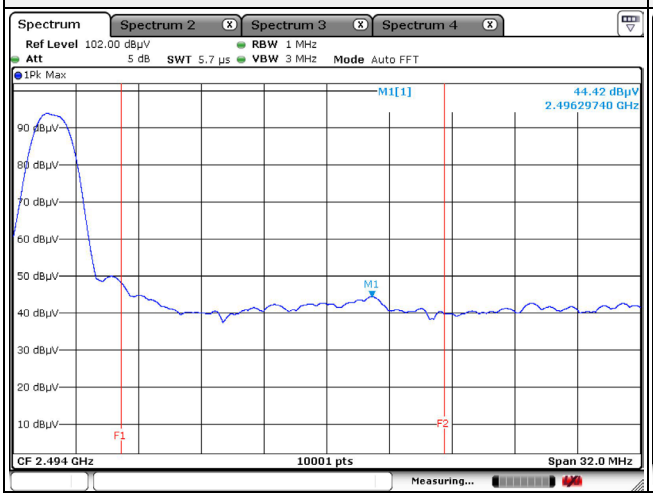
- **Spurious**

Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
1 081.09	45.83	Peak	V	-9.55	-	36.28	74.00	37.72
2 559.74	45.53	Peak	H	0.25	-	45.78	74.00	28.22

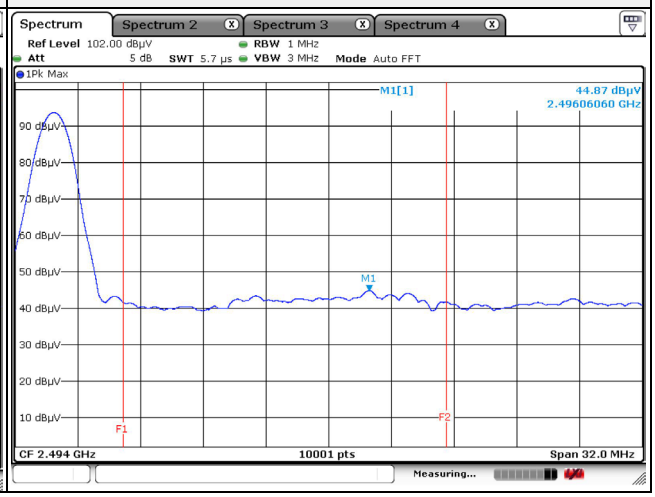
- **Band edge**

Frequency (㎒)	Level (dB㎶)	Detect mode	Ant. Pol. (H/V)	CF (dB)	DCF (dB)	Field strength (dB㎶/m)	Limit (dB㎶/m)	Margin (dB)
2 496.06	44.87	Peak	V	0.02	-	44.44	74.00	29.56
2 496.30	44.42	Peak	H	0.02	-	44.89	74.00	29.11

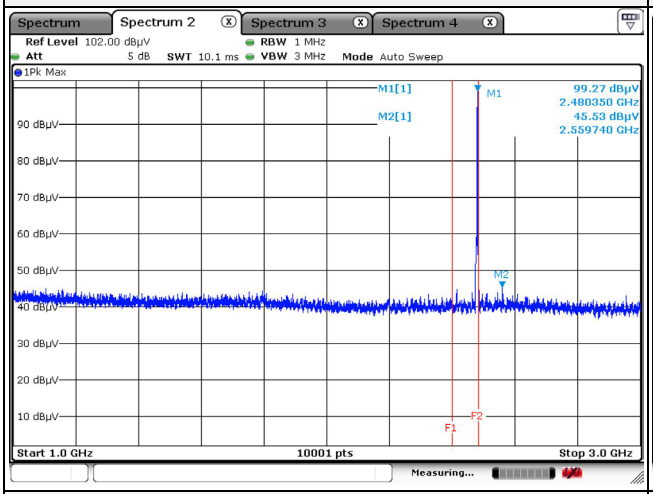
Restricted band // Horizontal // Peak



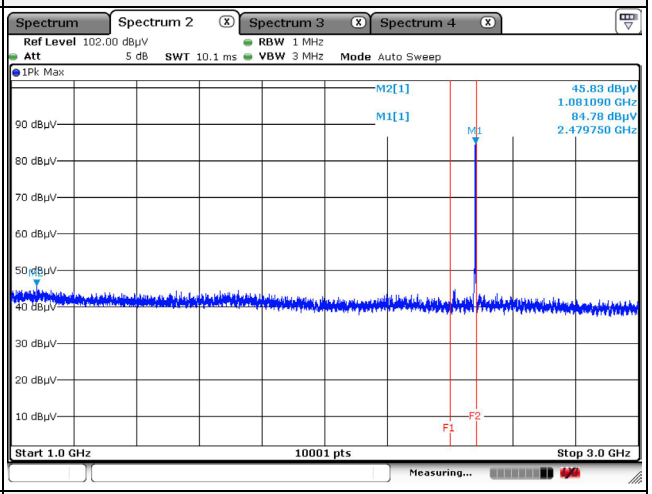
Restricted band // Vertical // Peak



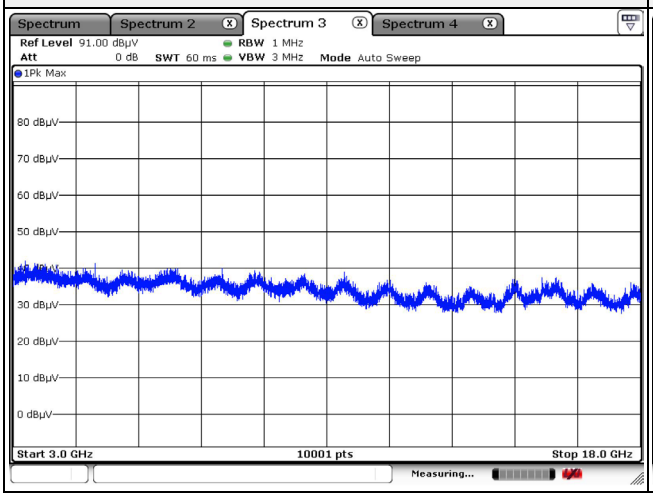
Horizontal // Peak for 1 ㎓ to 3 ㎓



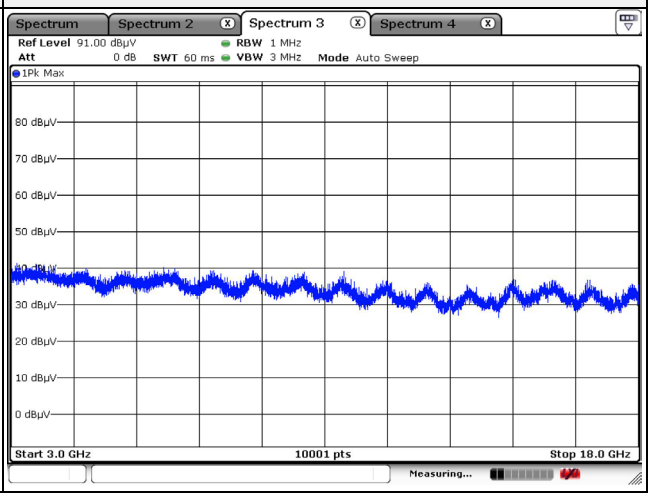
Vertical // Peak for 1 ㎓ to 3 ㎓



Horizontal // Peak for 3 ㎓ to 18 ㎓



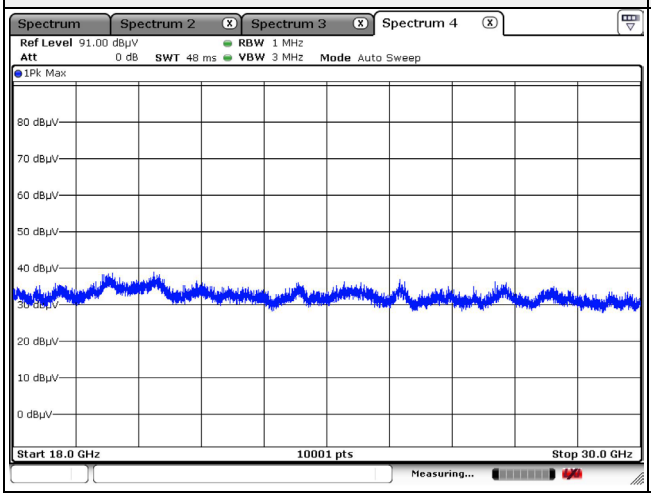
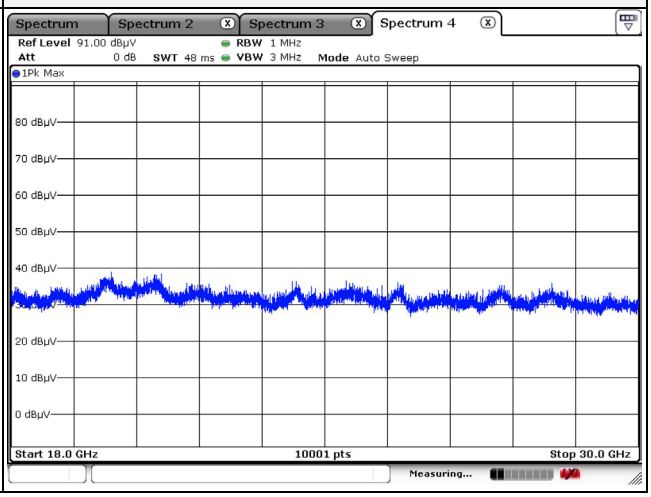
Vrtical // Peak for 3 ㎓ to 18 ㎓



Note.
1. Average test would be performed if the peak result were greater than the average limit.
2. No spurious emission were detected above 3 ㎓.

Test results (18 ㎓ to 30 ㎓) – Worst case

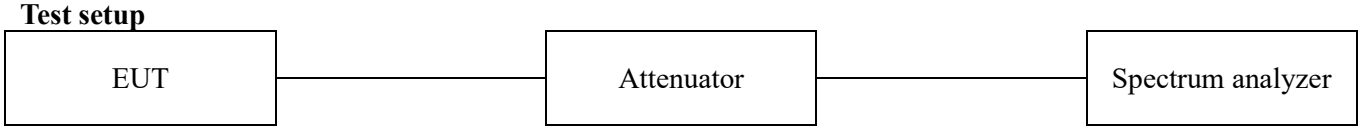
Mode:	BLE_1 Mbps
Channel:	39 (Worst case)
Distance of easurement :	3 meter

Horizontal Peak	Vertical Peak
	

Note.
No spurious emission were detected above 18 ㎓.

3.5 Conducted spurious emissions & band edge

Test setup



Test procedure

Band edge

ANSI C63.10 – Section 11.11

1. Start and stop frequency were set such that the band edge would be placed in the center of the plot
2. Span was set large enough so as to capture all out of band emissions near the band edge
3. RBW = 100 ㎑
4. VBW = 300 ㎑
5. Detector = Peak
6. Trace mode = max hold
7. Sweep time = auto
8. The trace was allowed to stabilize

Out of band emissions

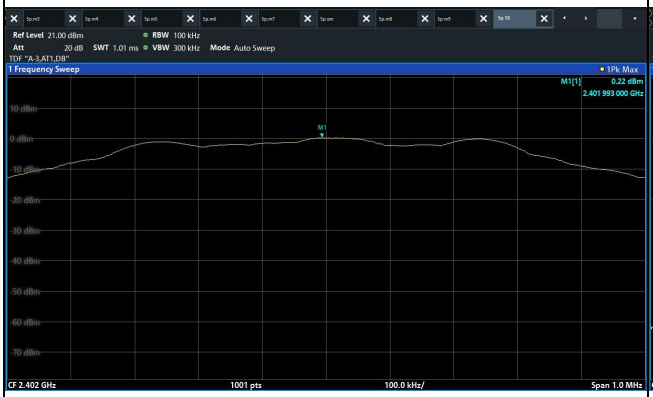
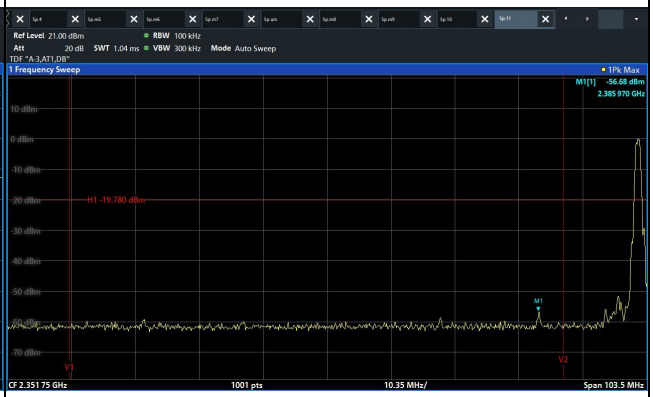
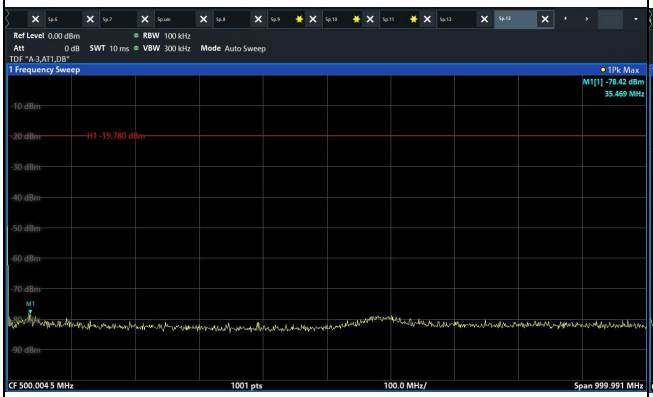
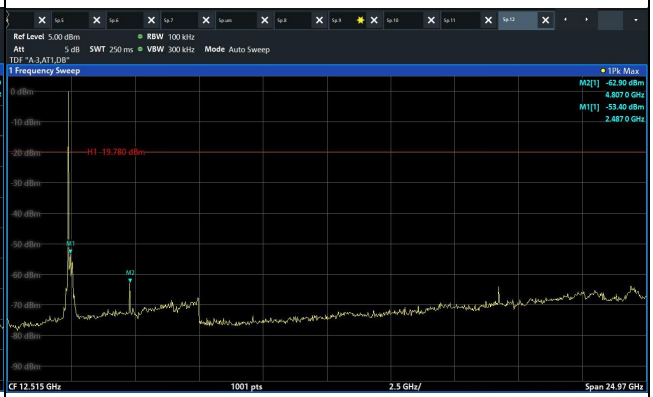
ANSI C63.10 – Section 11.11

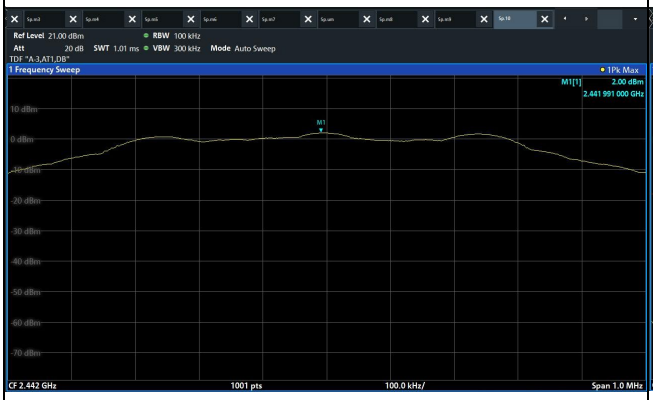
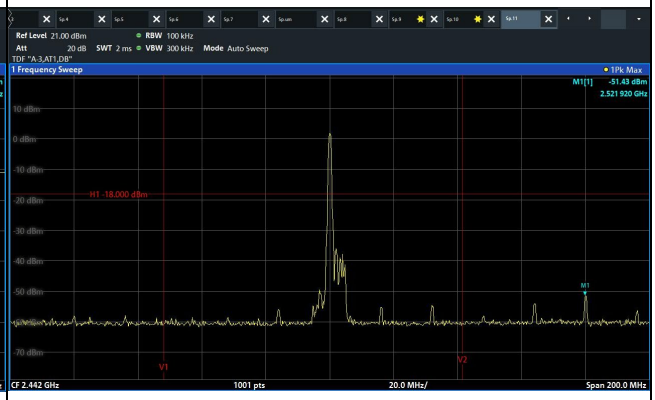
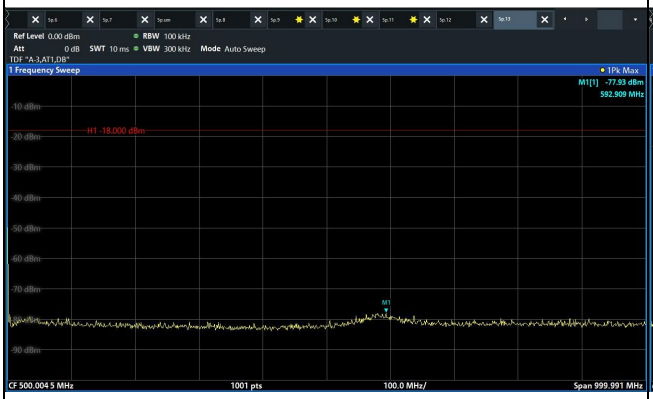
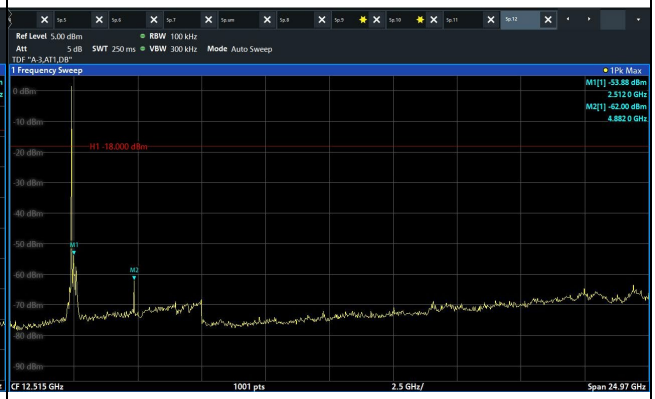
1. Start frequency was set to 30 ㎒ and stop frequency was set to 25 ㎓ for 2.4 ㎓ frequencies and 40 ㎓ for 5 ㎓ frequencies
2. RBW = 100 ㎑
3. VBW = 300 ㎑
4. Detector = Peak
5. Trace mode = max hold
6. Sweep time = auto couple
7. The trace was allowed to stabilize

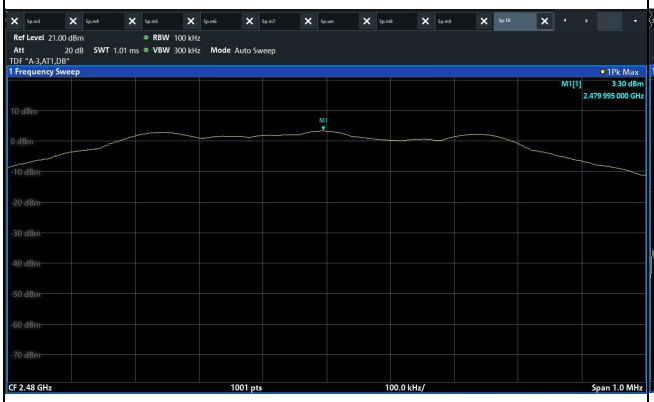
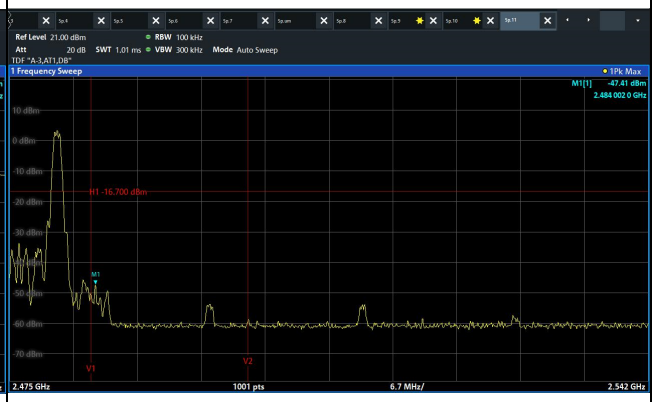
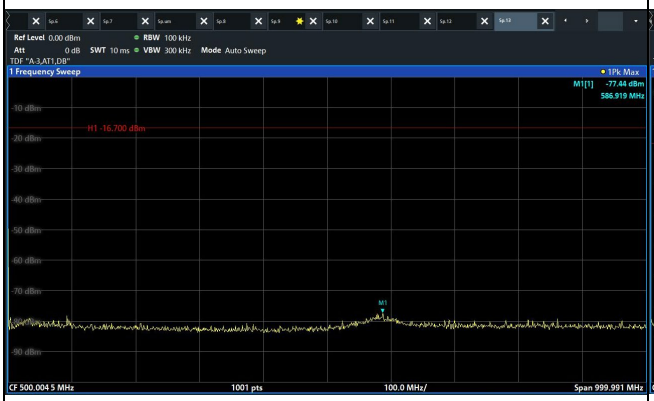
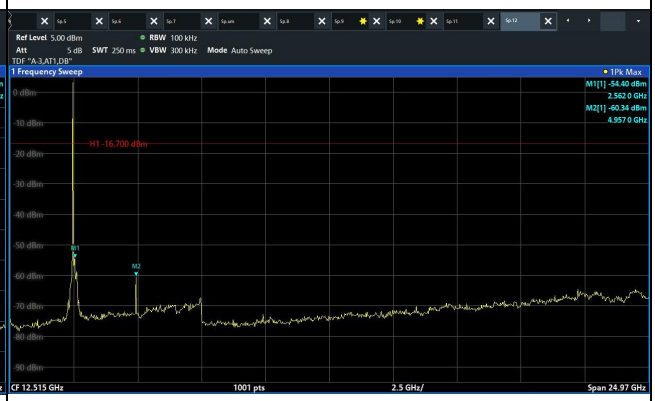
Limit

According to 15.247(d), in any 100 ㎑ bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 ㏈ below that in the 100 ㎑ bandwidth within the band that contains the highest level of the desired power, based on either an RF conducted or a radiated measurement, provided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter complies with the conducted power limits based on the use of RMS averaging over a time interval , as permitted under paragraph(b)(3) of this section , the attenuation required under this paragraph shall be 30 ㏈ instead of 20 ㏈. Attenuation below the general limits specified in section 15.209(a) is not required. In addition, radiated emission which in the restricted band, as define in section 15.205(a), must also comply the radiated emission limits specified in section 15.209(a) (see section 15.205(c))

Test results

BLE_1 Mbps_F1	
	
	

BLE_1 Mbps_F2	
	
	

BLE_1 Mbps_F3	
	
	

Appendix A. Measurement equipment

Equipment	Manufacturer	Model	Serial No.	Calibration interval	Calibration due.
EMI Test Receiver	R&S	ESU26	100552	1 year	2023.08.01
Spectrum Analyzer	R&S	FSV3030	101800	1 year	2024.02.02
Spectrum analyzer	R&S	FSV40-N	102194	1 year	2023.08.11
ATTENUATOR	Mini-Circuits	BW-S10-2W263+	1	1 year	2024.01.13
Power Meter	Anritsu	ML2495A	1438001	1 year	2024.01.13
Pulse Power Sensor	Anritsu	MA2411B	1339205	1 year	2024.01.13
SIGNAL GENERATOR	KEYSIGHT	N5182B	MY59100115	1 year	2024.05.26
SIGNAL GENERATOR	Anritsu	68369B	002118	1 year	2024.05.12
Attenuator	HUBER+SHHNER	6806.17.A	NONE	1 year	2024.03.21
Loop Antenna	Schwarzbeck	FMZB1513	1513-257	2 years	2025.03.22
Horn Antenna	A.H	SAS-571	414	1 year	2024.01.16
Horn Antenna	SCHWARZBECK	BBHA9170	BBHA 9170550	1 year	2024.01.16
TRILOG-BROADBAND ANTENNA	VULB9163	Schwarzbeck	714	2 years	2024.04.19
Amplifier	SONOMA INSTRUMENT	310N	186549	1 year	2024.03.21
PREAMPLIFIER	HP	8449B	3008A00538	1 year	2024.05.31
BROADBAND AMPLIFIER	SCHWARZBECK	BBV9721	PS9721-003	1 year	2024.01.16

Peripheral devices

Device	Manufacturer	Model No.	Serial No.
Notebook computer	LG Electronics Inc.,	LG15N54	504NZJV027828
Jig board	-	-	-