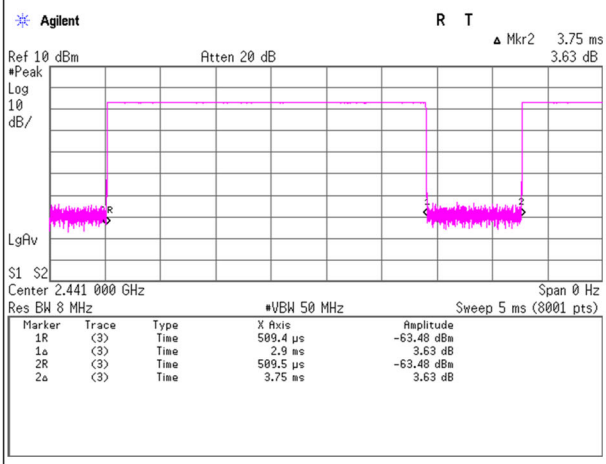
Burst Rate Confirmation

Test place	Shonan EMC Lab. No.1 Measurement Room
Date	October 9, 2024
Temperature / Humidity	23 deg. C / 52 % RH
Engineer	Miku Ikudome
Mode	Tx, Hopping Off

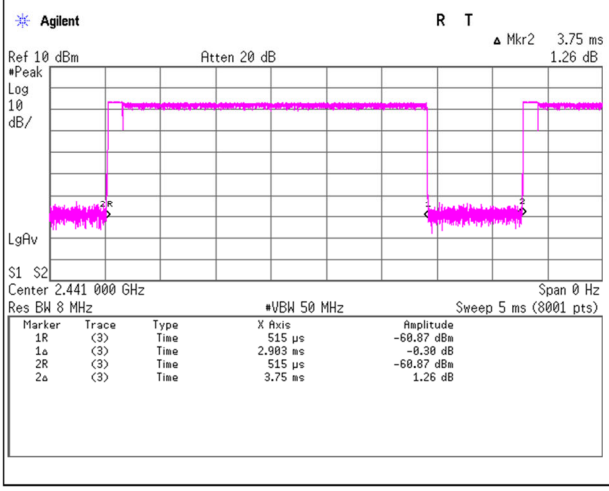
DH5

Tx on / (Tx on + Tx off) =	0.773
Tx on / (Tx on + Tx off) * 100 =	77.3 %
Duty factor = 10 * log (3.75 / 2.9) =	1.12 dB
VBW: 1 / on time = 341.76 Hz <	500 Hz



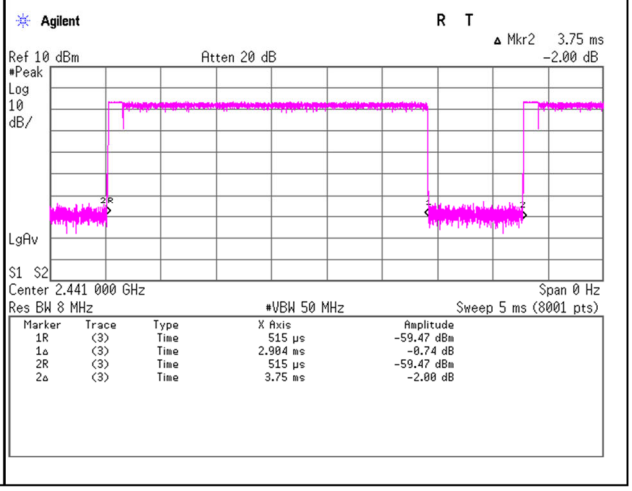
2DH5

Tx on / (Tx on + Tx off) =	0.774
Tx on / (Tx on + Tx off) * 100 =	77.4 %
Duty factor = 10 * log (3.75 / 2.903) =	1.11 dB
VBW: 1 / on time = 341.53 Hz <	500 Hz



3DH5

Tx on / (Tx on + Tx off) =	0.774
Tx on / (Tx on + Tx off) * 100 =	77.4 %
Duty factor = 10 * log (3.75 / 2.904) =	1.11 dB
VBW: 1 / on time = 341.3 Hz <	500 Hz

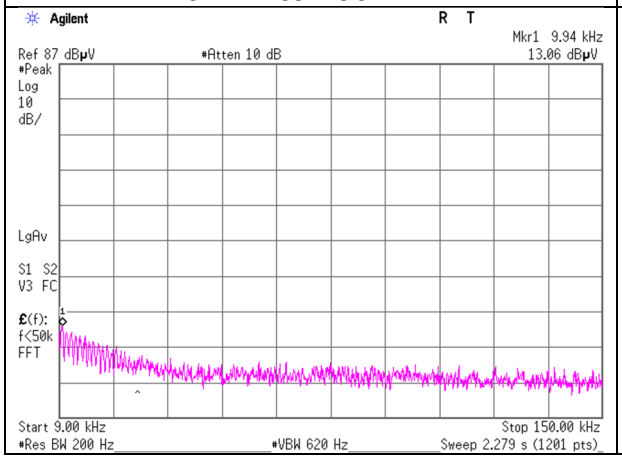


Conducted Spurious Emission

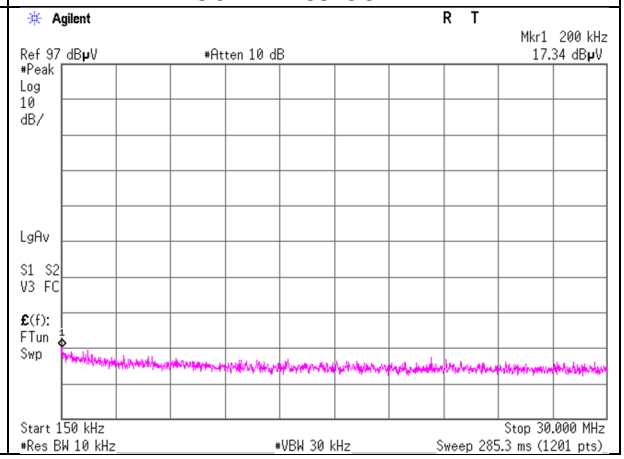
Test place	Shonan EMC Lab. No.2 Measurement Room
Date	October 11, 2024
Temperature / Humidity	24 deg. C / 46 % RH
Engineer	Yosuke Murakami
Mode	Tx, Hopping Off, DH5

2402 MHz

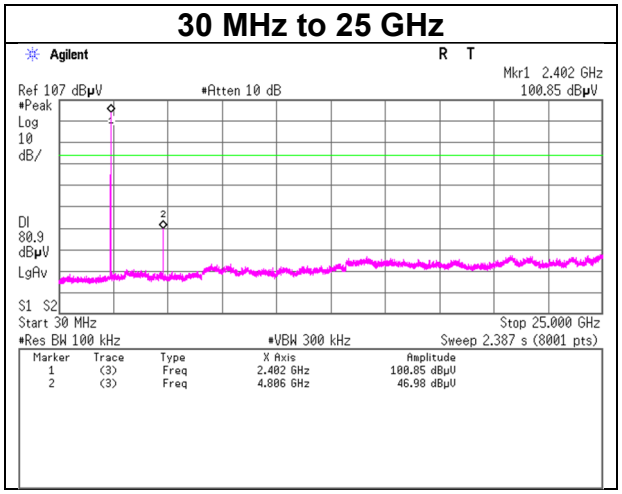
9 kHz to 150 kHz



150 kHz to 30 MHz



30 MHz to 25 GHz

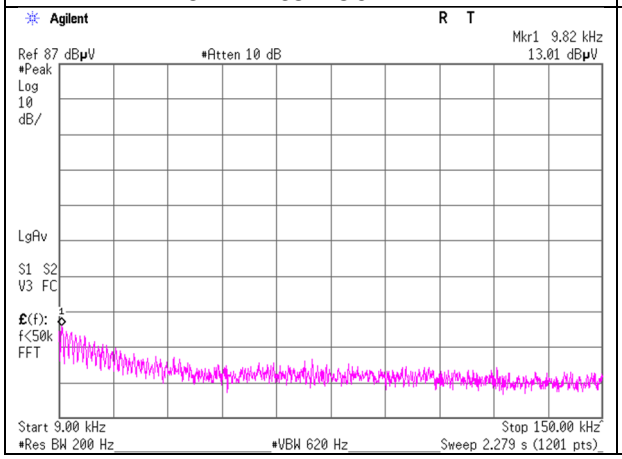


Conducted Spurious Emission

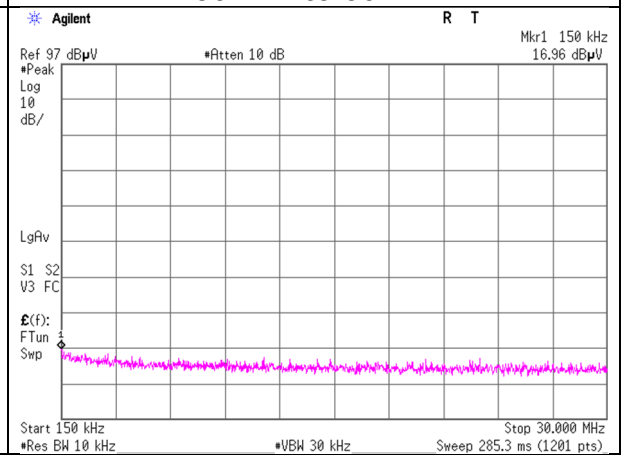
Test place	Shonan EMC Lab. No.2 Measurement Room
Date	October 11, 2024
Temperature / Humidity	24 deg. C / 46 % RH
Engineer	Yosuke Murakami
Mode	Tx, Hopping Off, DH5

2441 MHz

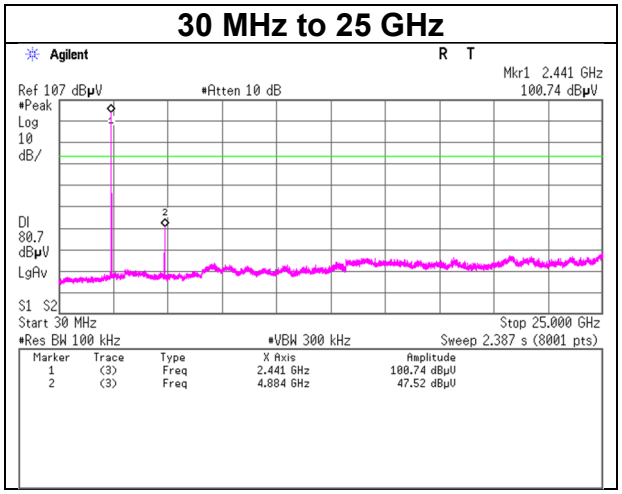
9 kHz to 150 kHz



150 kHz to 30 MHz



30 MHz to 25 GHz

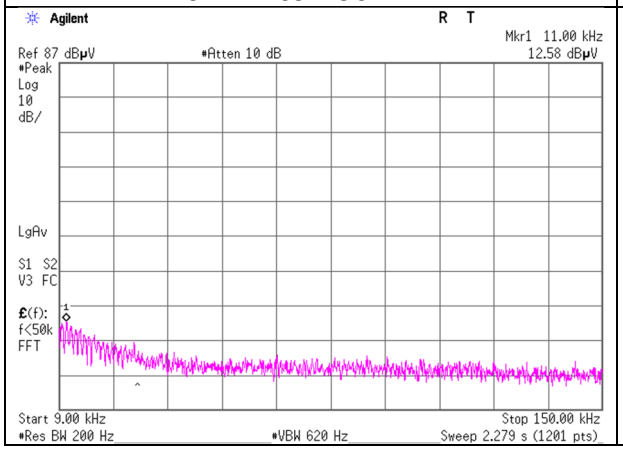


Conducted Spurious Emission

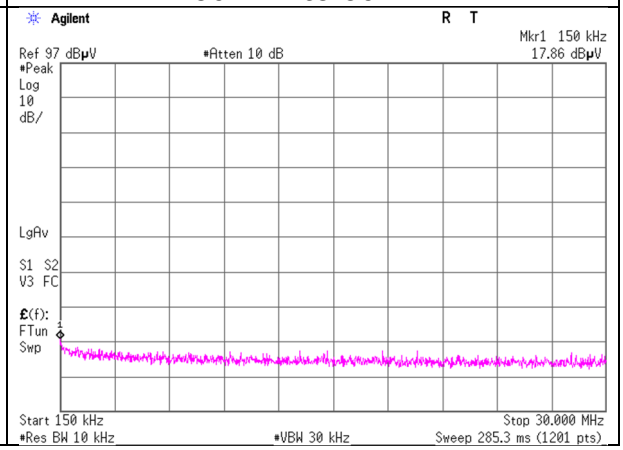
Test place	Shonan EMC Lab. No.2 Measurement Room
Date	October 11, 2024
Temperature / Humidity	24 deg. C / 46 % RH
Engineer	Yosuke Murakami
Mode	Tx, Hopping Off, DH5

2480 MHz

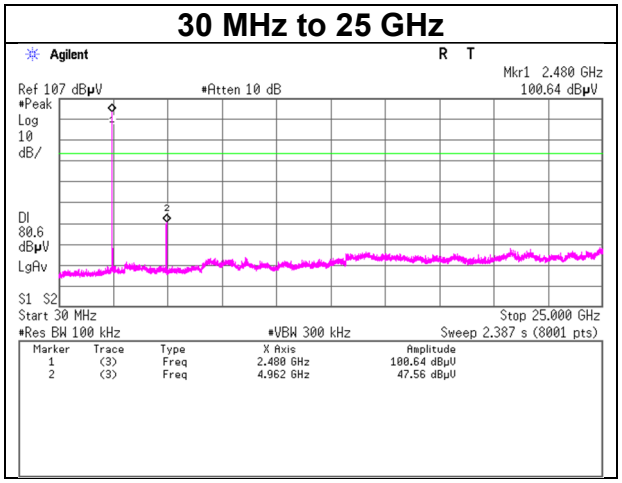
9 kHz to 150 kHz



150 kHz to 30 MHz



30 MHz to 25 GHz

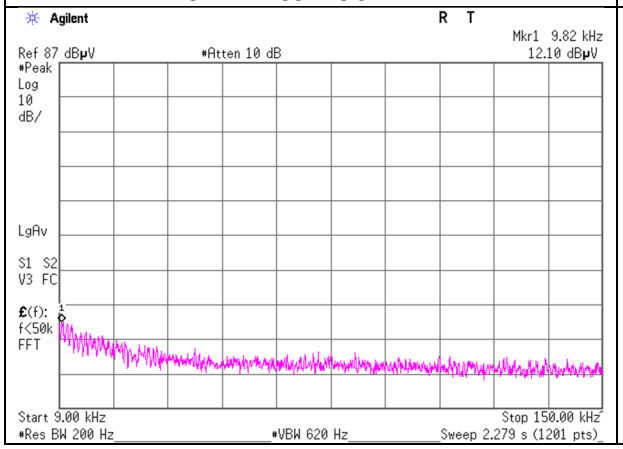


Conducted Spurious Emission

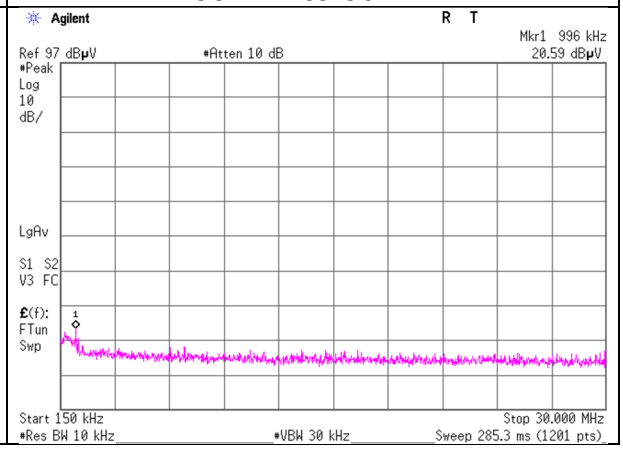
Test place	Shonan EMC Lab. No.2 Measurement Room
Date	October 11, 2024
Temperature / Humidity	24 deg. C / 46 % RH
Engineer	Yosuke Murakami
Mode	Tx, Hopping Off, 3DH5

2402 MHz

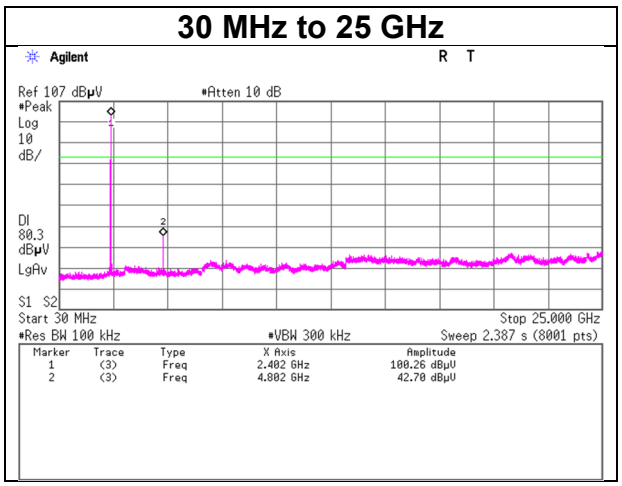
9 kHz to 150 kHz



150 kHz to 30 MHz



30 MHz to 25 GHz

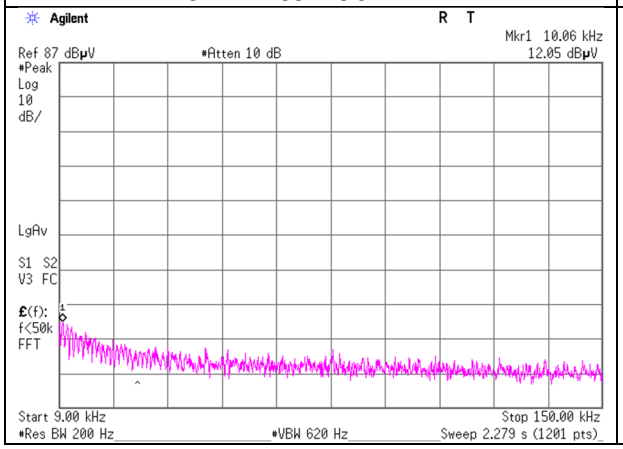


Conducted Spurious Emission

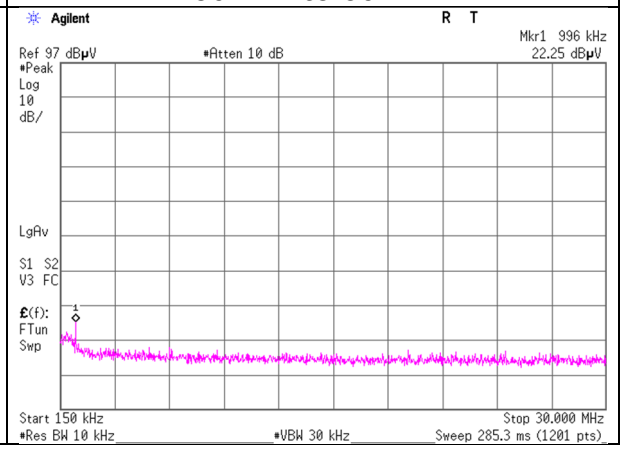
Test place	Shonan EMC Lab. No.2 Measurement Room
Date	October 11, 2024
Temperature / Humidity	24 deg. C / 46 % RH
Engineer	Yosuke Murakami
Mode	Tx, Hopping Off, 3DH5

2441 MHz

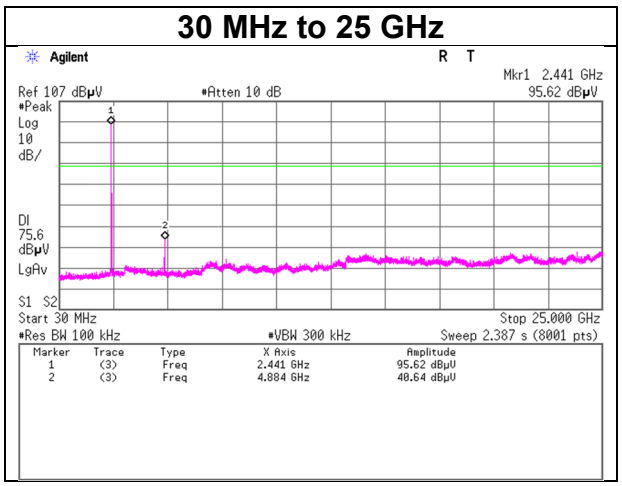
9 kHz to 150 kHz



150 kHz to 30 MHz



30 MHz to 25 GHz

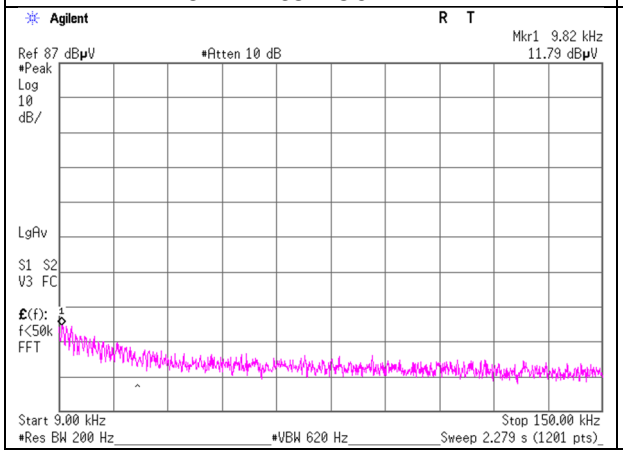


Conducted Spurious Emission

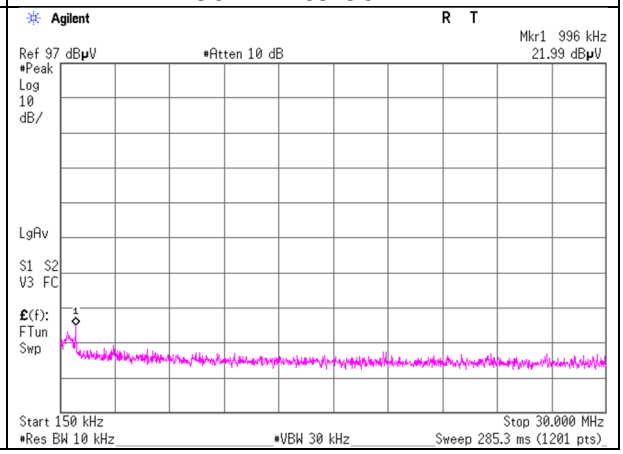
Test place	Shonan EMC Lab. No.2 Measurement Room
Date	October 11, 2024
Temperature / Humidity	24 deg. C / 46 % RH
Engineer	Yosuke Murakami
Mode	Tx, Hopping Off, 3DH5

2480 MHz

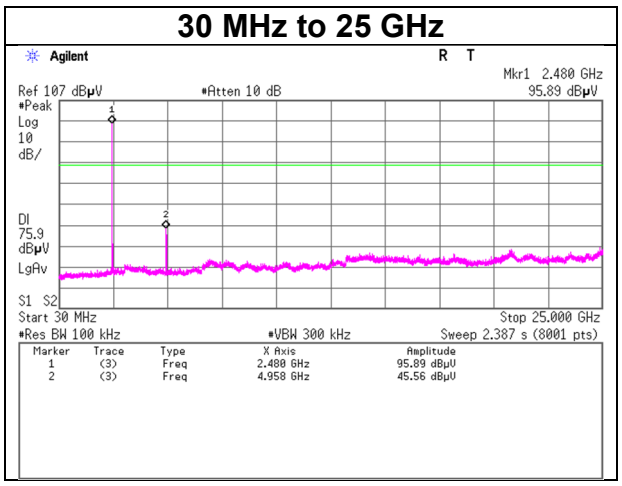
9 kHz to 150 kHz



150 kHz to 30 MHz



30 MHz to 25 GHz

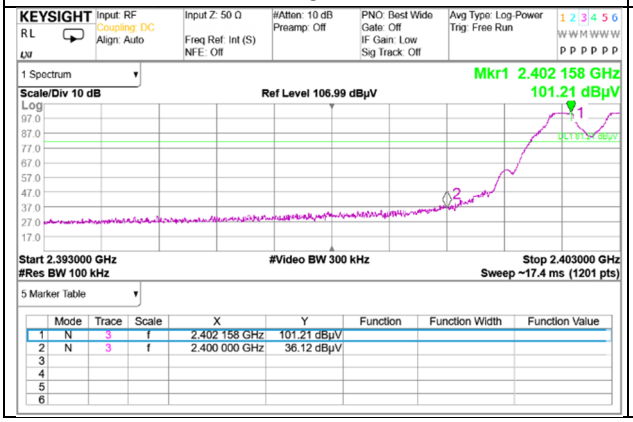


Conducted Emission Band Edge compliance

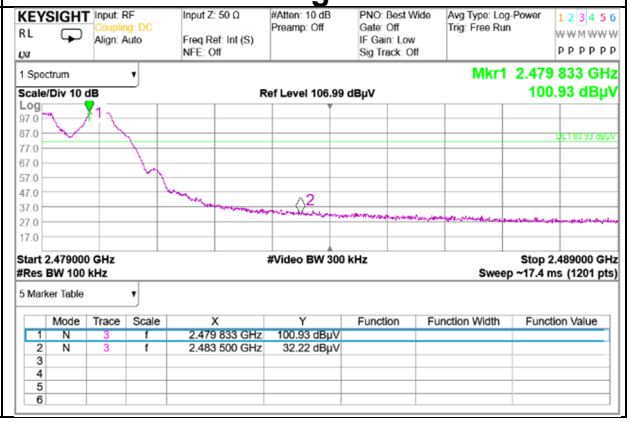
Test place	Shonan EMC Lab. No.2 Measurement Room
Date	October 10, 2024
Temperature / Humidity	25 deg. C / 51 % RH
Engineer	Yosuke Murakami
Mode	Tx DH5

Hopping On

Low

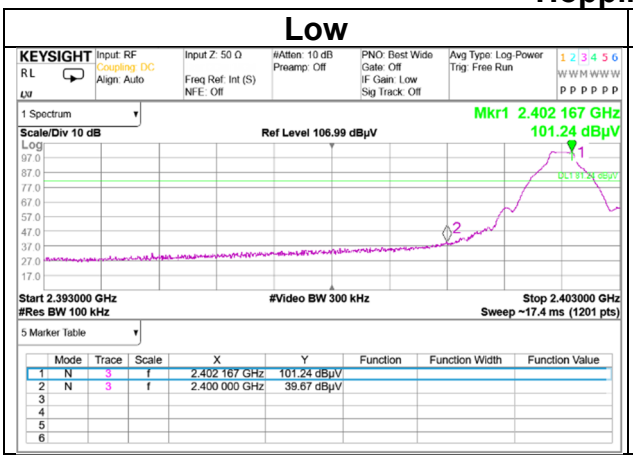


High

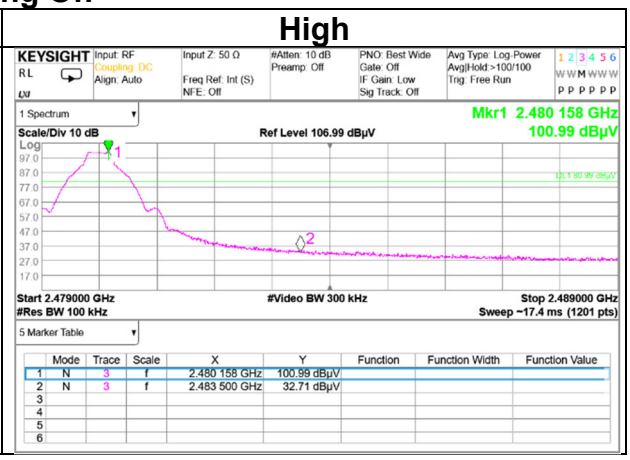


Hopping Off

Low



High

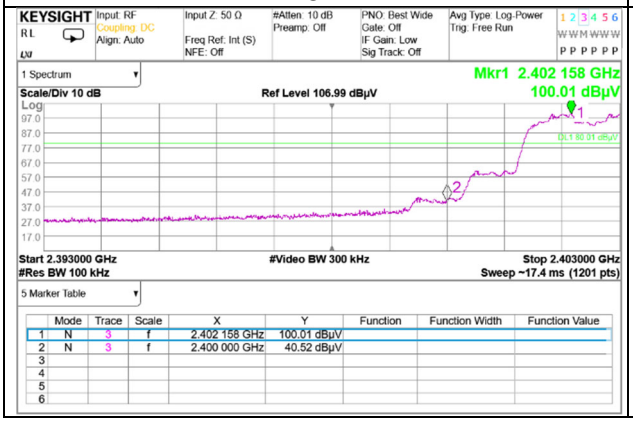


Conducted Emission Band Edge compliance

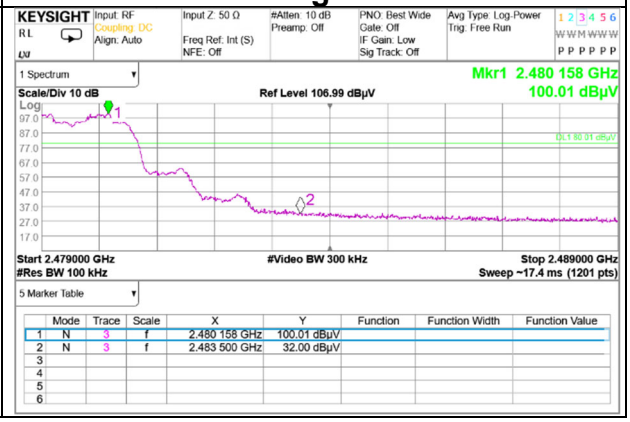
Test place	Shonan EMC Lab. No.2 Measurement Room
Date	October 10, 2024
Temperature / Humidity	25 deg. C / 51 % RH
Engineer	Yosuke Murakami
Mode	Tx 3DH5

Hopping On

Low

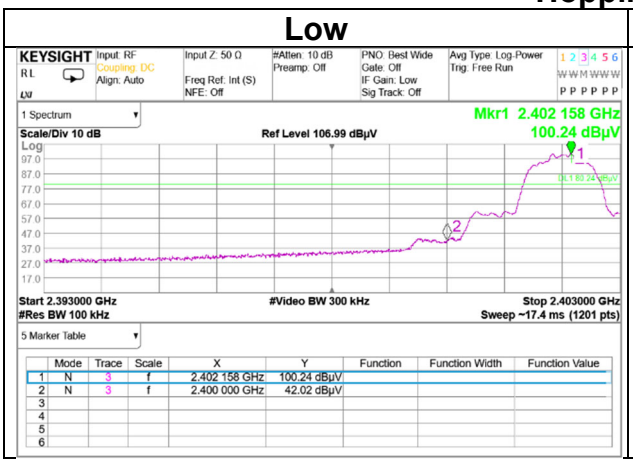


High

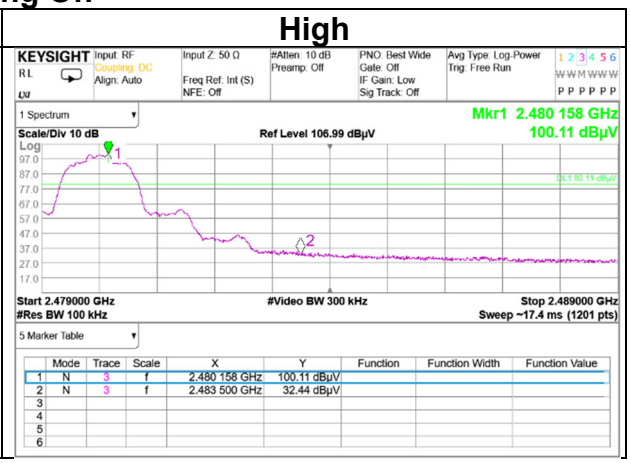


Hopping Off

Low



High



APPENDIX 2: Test Instruments

Test Equipment

Test Item	LIMS ID	Description	Manufacturer	Model	Serial	Last Calibration Date	Cal Int
AT	145111	Digital Tester	SANWA	PC500	7019232	2024/09/24	12
AT	146362	Thermo-Hygrometer	CUSTOM. Inc	CTH-190	K-07	2024/08/11	12
AT	196946	Coaxial Cable	Huber+Suhner	SUCOFLEX 102	803411/2	2024/03/07	12
AT	204927	Attenuator	Weinschel Corp.	54A-10	109972	2024/02/09	12
AT	236410	Spectrum Analyzer	Keysight Technologies Inc	N9030B	MY63050151	2024/04/26	12
AT	145800	Spectrum Analyzer	Keysight Technologies Inc	E4448A	MY48250106	2024/03/25	12
CE	145035	Coaxial Cable	Suhner	RG223U	-	2024/04/01	12
CE	145063	Thermo-Hygrometer	CUSTOM. Inc	CTH-202	Q.C.13	2024/08/11	12
CE	145539	LISN	Rohde & Schwarz	ENV216	100512	2024/02/06	12
CE	146209	Test Receiver	Rohde & Schwarz	ESU26	100484	2024/09/26	12
CE	146211	Digital Hitester	HIOKI E.E. CORPORATION	3805-50	80997827	2024/05/29	12
CE	150923	Attenuator	JFW	50HF-003N	-	2024/02/13	12
CE	207276	Measure	ASKUL	-	-	-	-
CE,RE	170932	EMI Software	TSJ (Techno Science Japan)	TEPTO-DV3(RE,CE,ME,PE)	Ver 3.1.0546	-	-
RE	145007	Pre Amplifier	Toyo Corporation	HAP18-26W	19	2024/08/21	12
RE	145512	Horn Antenna	ETS-Lindgren	3160-09	00094868	2024/06/20	12
RE	145528	Logperiodic Antenna	Schwarzbeck Mess-Elektronik OHG	VUSLP9111B	195	2024/04/10	12
RE	199783	Attenuator	JFW	50HF-006N	-	2024/06/14	12
RE	200010	Coaxial Cable	Huber+Suhner	SUCOFLEX 104	575618/4	2024/06/05	12
RE	207281	Tape Measure	ASKUL	-	-	-	-
RE	235268	Test Receiver	Rohde & Schwarz	ESW44	103212	2023/12/26	12
RE	235640	DIGITAL MULTIMETER	HIOKI E.E. CORPORATION	DT4261	230313157	2024/05/29	12
RE	235738	Thermo-Hygrometer	CUSTOM. Inc	CTH-230	-	2024/04/28	12
RE	236584	Horn Antenna	AINFO Inc.	LB-8180-NF	2030013000112	2024/04/04	12
RE	236615	Semi-Anechoic Chamber	TDK	SWAC-02(NSA)	2	2024/05/10	12
RE	236617	Semi-Anechoic Chamber	TDK	SWAC-02(SVSWR)	2	2024/06/06	12
RE	236687	Horn Antenna	Schwarzbeck Mess-Elektronik OHG	BBHA 9120 C	788	2024/04/04	12
RE	236709	Coaxial Cable	Hayashi-Repic co., Ltd.	NMS079B-GL310C-SMS117B-2m	47256-02-04	2024/05/09	12
RE	236711	Coaxial Cable	Hayashi-Repic co., Ltd.	KMS020B-GL140sE-KMS020B-7.0m	47256-03-02	2024/05/09	12
RE	236720	Coaxial Cable	Huber+Suhner	SF106/SF106/SF106	2001167/2001168/2001161	2024/05/10	12
RE	236724	Coaxial Cable	Hayashi-Repic co., Ltd.	SF106(HUBER+SUHNER)/LMR400UF/GL310C/GL310C	2000430/47753-2/47256-01-04/47256-01-02	2024/05/10	12
RE	236756	Coaxial Cable	Huber+Suhner	SF106/11N/11N/6000	2001167	2024/05/10	12
RE	236967	Pre Amplifier	TSJ (Techno Science Japan)	MLA-9K01-L01	23050010	2024/06/14	12
RE	237786	RF RELAY MATRIX with preamplifier	TSJ (Techno Science Japan)	RFM-E221261R	07796	2023/11/01	12
RE	239644	Coaxial Cable	Junkosha	MWX221-01000NFSNMS/B	2306S022	2024/08/21	12
RE	239787	Biconical Antenna	Schwarzbeck Mess-Elektronik OHG	VHBB 9124+BBA9106	01908	2024/08/10	12

***Hyphens for Last Calibration Date and Cal Int (month) are instruments that Calibration is not required (e.g. software), or instruments checked in advance before use.**

The expiration date of the calibration is the end of the expired month.
As for some calibrations performed after the tested dates, those test equipment have been controlled by means of an unbroken chains of calibrations.

All equipment is calibrated with valid calibrations. Each measurement data is traceable to the national or international standards.

Test item:

AT: Antenna Terminal Conducted test
CE: Conducted Emission
RE: Radiated Emission