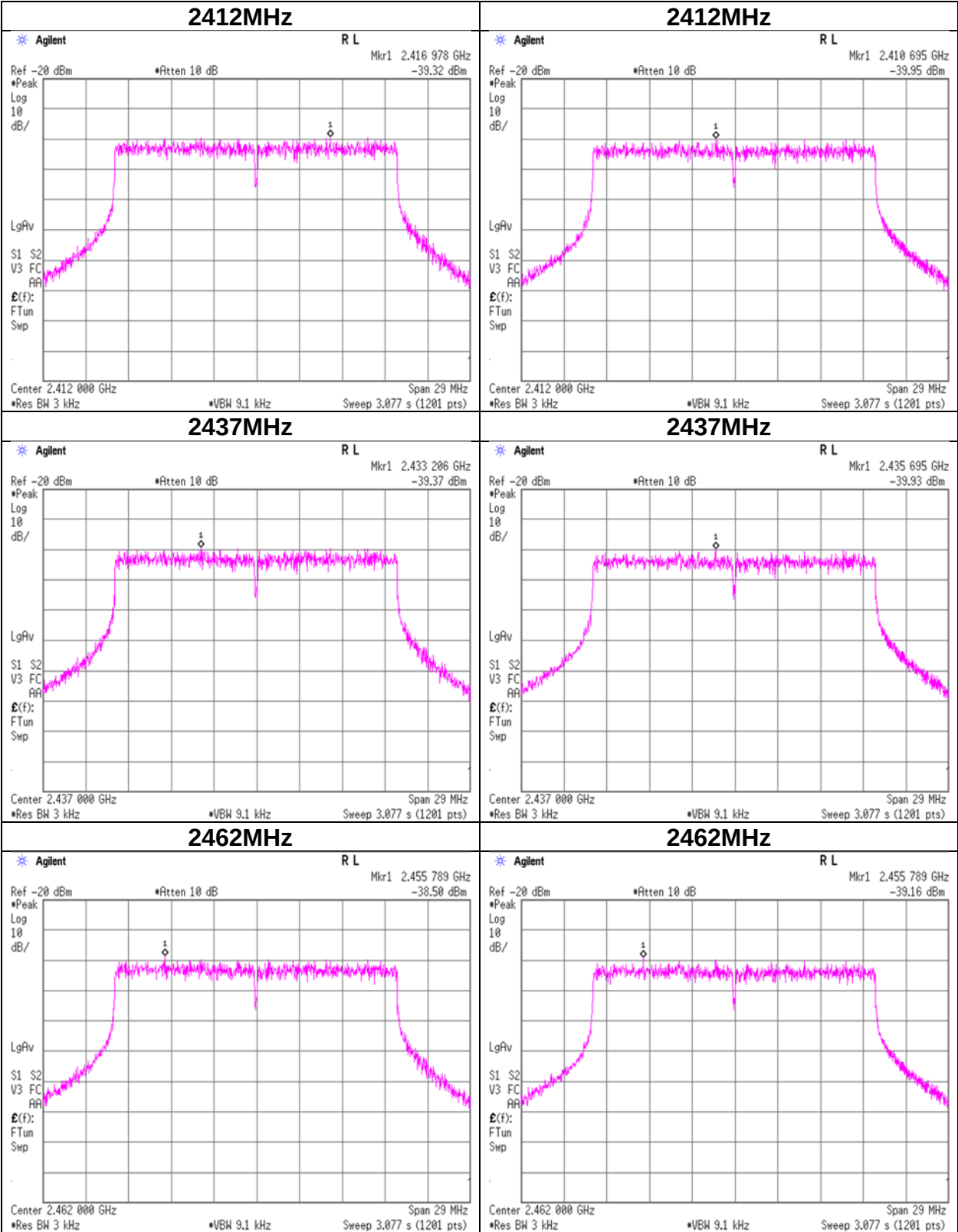


Power Density

11ax-20 (OFDMA)(CDD) 242-tone RU, Standard power mode
2G_CH0 2G_CH1



Power Density

Test place Shonan EMC Lab. No.5 Shielded Room
Date September 29, 2023
Temperature / Humidity 24 deg. C / 51 % RH
Engineer Miku Ikudome
Mode Tx 11ax-20(OFDMA)(SDM) 242-tone RU, High power mode

2G_CH0 + 2G_CH1

RU Type	Freq. [MHz]	RU Index	2G_CH0 Result [mW]	2G_CH1 Result [mW]	Result [dBm / 3 kHz] [mW / 3 kHz]		Limit [dBm / 3 kHz]	Margin [dB]
242-tone RU	2412	61	0.048	0.046	-10.27	0.094	8.00	18.27
	2437	61	0.046	0.045	-10.41	0.091	8.00	18.41
	2462	61	0.046	0.041	-10.60	0.087	8.00	18.60

Sample Calculation:

Result = 2G_CH0 Result + 2G_CH1 Result

2G_CH0

RU Type	Freq. [MHz]	RU Index	Reading [dBm/3 kHz]	Cable Loss [dB]	Atten. Loss [dB]	Result [dBm / 3 kHz] [mW / 3 kHz]	
242-tone RU	2412	61	-34.98	1.61	20.16	-13.21	0.048
	2437	61	-35.11	1.61	20.16	-13.34	0.046
	2462	61	-35.20	1.63	20.16	-13.41	0.046

2G_CH1

RU Type	Freq. [MHz]	RU Index	Reading [dBm/3 kHz]	Cable Loss [dB]	Atten. Loss [dB]	Result [dBm / 3 kHz] [mW / 3 kHz]	
242-tone RU	2412	61	-35.12	1.61	20.16	-13.35	0.046
	2437	61	-35.28	1.61	20.16	-13.51	0.045
	2462	61	-35.61	1.63	20.16	-13.82	0.041

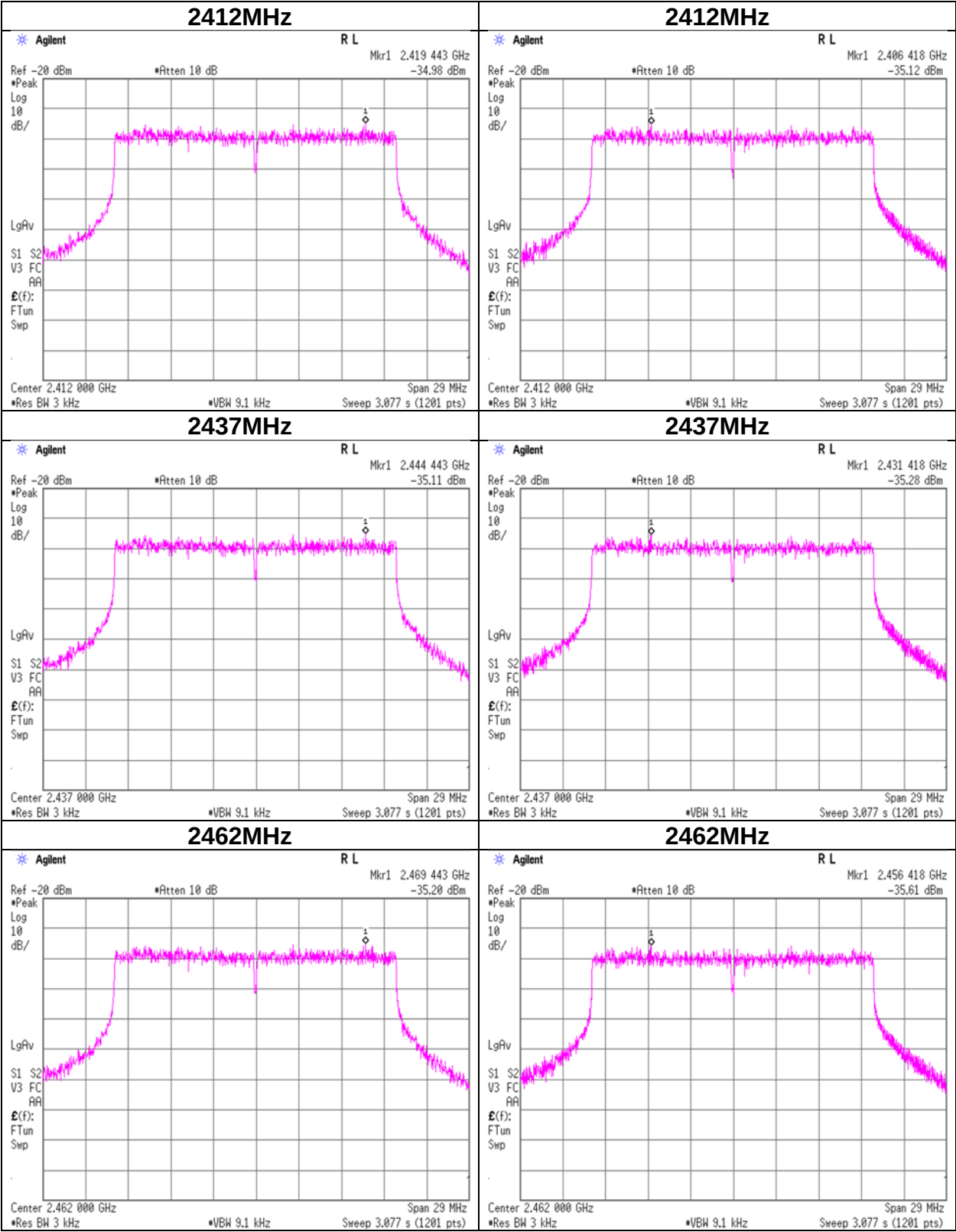
Sample Calculation:

Result = Reading + Cable Loss (including the cable(s) customer supplied) + Attenuator Loss

*The equipment and cables were not used for factor 0 dB of the data sheets.

Power Density

11ax-20 (OFDMA)(SDM) 242-tone RU, High power mode
2G_CH0 2G_CH1



Power Density

Test place Shonan EMC Lab. No.5 Shielded Room
Date September 29, 2023
Temperature / Humidity 24 deg. C / 51 % RH
Engineer Miku Ikudome
Mode Tx 11ax-20(OFDMA)(SDM) 242-tone RU, Standard power mode

2G_CH0 + 2G_CH1

RU Type	Freq.	RU Index	2G_CH0 Result	2G_CH1 Result	Result		Limit	Margin
	[MHz]		[mW]	[mW]	[dBm / 3 kHz]	[mW / 3 kHz]		
242-tone RU	2412	61	0.021	0.016	-14.32	0.037	8.00	22.32
	2437	61	0.019	0.017	-14.47	0.036	8.00	22.47
	2462	61	0.019	0.017	-14.37	0.037	8.00	22.37

Sample Calculation:

Result = 2G_CH0 Result + 2G_CH1 Result

2G_CH0

RU Type	Freq.	RU Index	Reading	Cable Loss	Atten. Loss	Result	
	[MHz]		[dBm/3 kHz]	[dB]	[dB]	[dBm / 3 kHz]	[mW / 3 kHz]
242-tone RU	2412	61	-38.64	1.61	20.16	-16.87	0.021
	2437	61	-38.98	1.61	20.16	-17.21	0.019
	2462	61	-38.96	1.63	20.16	-17.17	0.019

2G_CH1

RU Type	Freq.	RU Index	Reading	Cable Loss	Atten. Loss	Result	
	[MHz]		[dBm/3 kHz]	[dB]	[dB]	[dBm / 3 kHz]	[mW / 3 kHz]
242-tone RU	2412	61	-39.62	1.61	20.16	-17.85	0.016
	2437	61	-39.54	1.61	20.16	-17.77	0.017
	2462	61	-39.39	1.63	20.16	-17.61	0.017

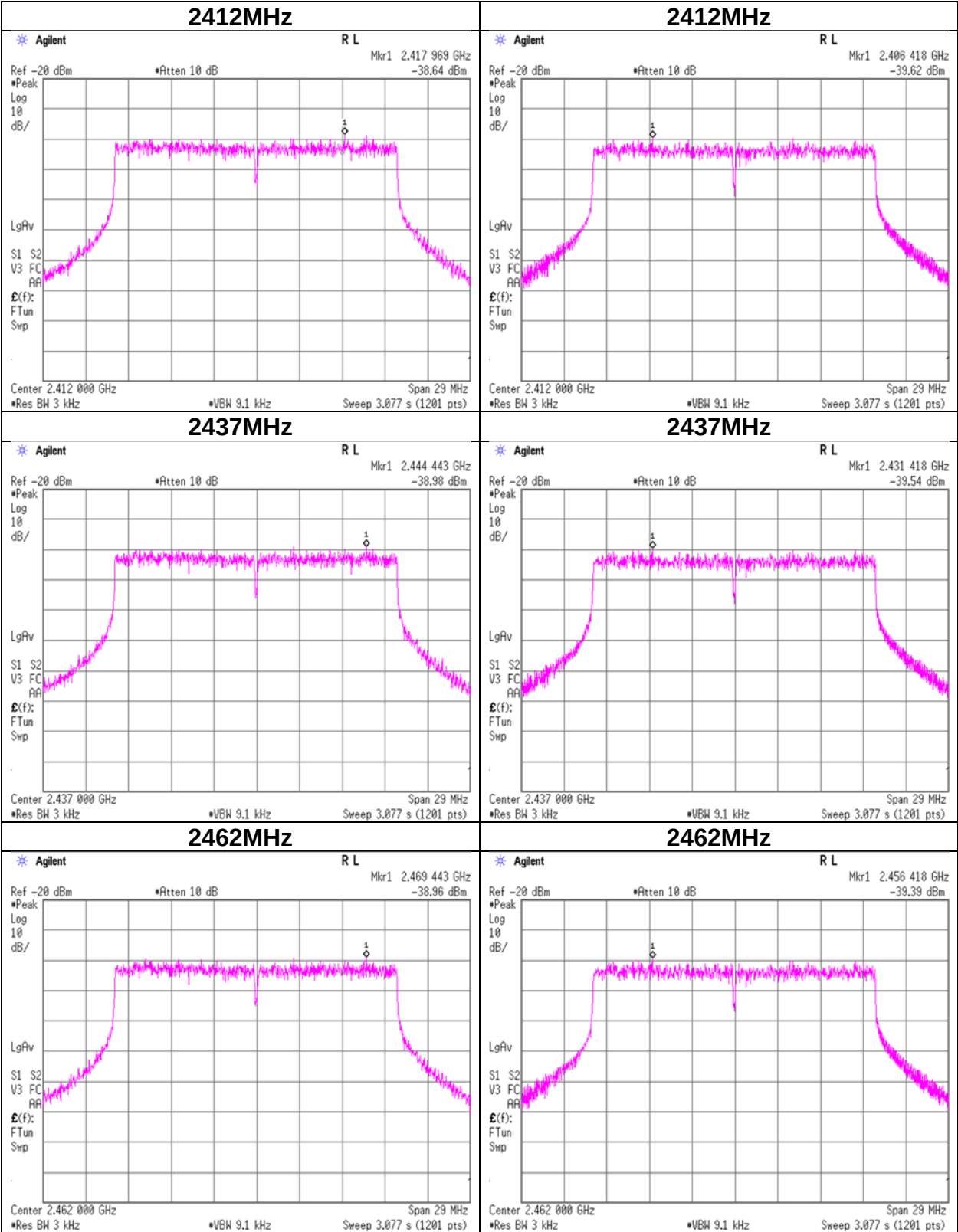
Sample Calculation:

Result = Reading + Cable Loss (including the cable(s) customer supplied) + Attenuator Loss

*The equipment and cables were not used for factor 0 dB of the data sheets.

Power Density

11ax-20 (OFDMA)(SDM) 242-tone RU, Standard power mode
2G_CH0 2G_CH1



Power Density

Test place Shonan EMC Lab. No.2 Measurement Room
Date September 16, 2023
Temperature / Humidity 26 deg. C / 45 % RH
Engineer Kenichi Adachi
Mode Tx BT LE

BT LE 1M-PHY

Frequency [MHz]	Measured Frequency [MHz]	Reading [dBm/3 kHz]	Cable Loss [dB]	Atten. Loss [dB]	Result [dBm/3 kHz]	Limit [dBm/3 kHz]	Margin [dB]
2402	2402.011	-17.31	1.62	9.88	-5.81	8.00	13.81
2440	2440.009	-17.49	1.63	9.88	-5.98	8.00	13.98
2480	2480.010	-18.02	1.66	9.89	-6.47	8.00	14.47

BT LE 2M-PHY

Frequency [MHz]	Measured Frequency [MHz]	Reading [dBm/3 kHz]	Cable Loss [dB]	Atten. Loss [dB]	Result [dBm/3 kHz]	Limit [dBm/3 kHz]	Margin [dB]
2402	2402.015	-20.20	1.62	9.88	-8.70	8.00	16.70
2440	2440.015	-20.44	1.63	9.88	-8.93	8.00	16.93
2480	2480.015	-20.94	1.66	9.89	-9.39	8.00	17.39

BT LE Coded S=8 (125 kbps)

Frequency [MHz]	Measured Frequency [MHz]	Reading [dBm/3 kHz]	Cable Loss [dB]	Atten. Loss [dB]	Result [dBm/3 kHz]	Limit [dBm/3 kHz]	Margin [dB]
2402	2401.739	-7.74	1.62	9.88	3.76	8.00	4.24
2440	2439.737	-7.95	1.63	9.88	3.56	8.00	4.44
2480	2480.239	-8.48	1.66	9.89	3.07	8.00	4.93

BT LE Coded S=2 (500 kbps)

Frequency [MHz]	Measured Frequency [MHz]	Reading [dBm/3 kHz]	Cable Loss [dB]	Atten. Loss [dB]	Result [dBm/3 kHz]	Limit [dBm/3 kHz]	Margin [dB]
2402	2401.739	-7.78	1.62	9.88	3.72	8.00	4.28
2440	2439.739	-7.97	1.63	9.88	3.54	8.00	4.46
2480	2479.738	-8.50	1.66	9.89	3.05	8.00	4.95

Sample Calculation:

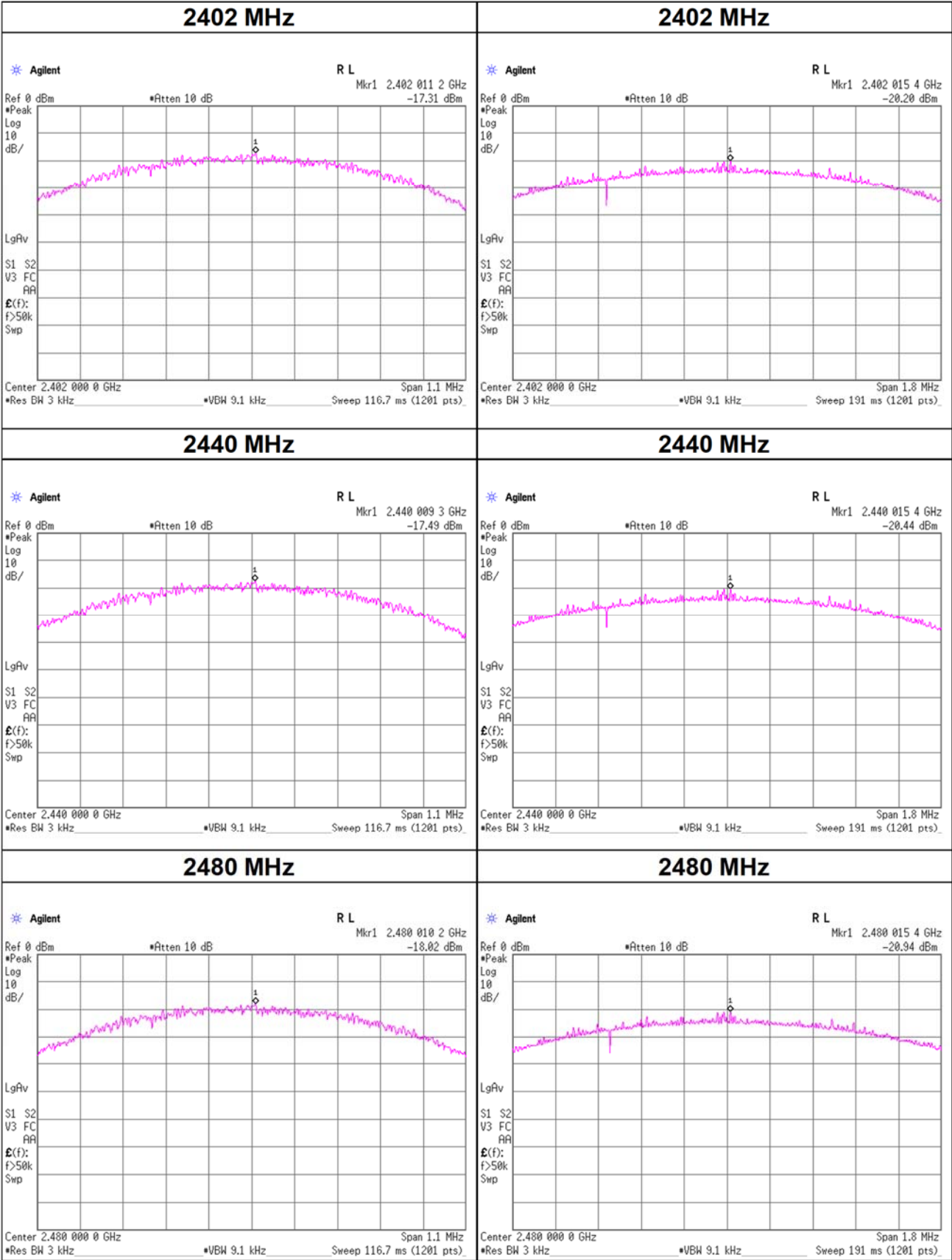
Result = Reading + Cable Loss (including the cable(s) customer supplied) + Attenuator Loss

*The equipment and cables were not used for factor 0 dB of the data sheets.

Power Density

BT LE 1M-PHY

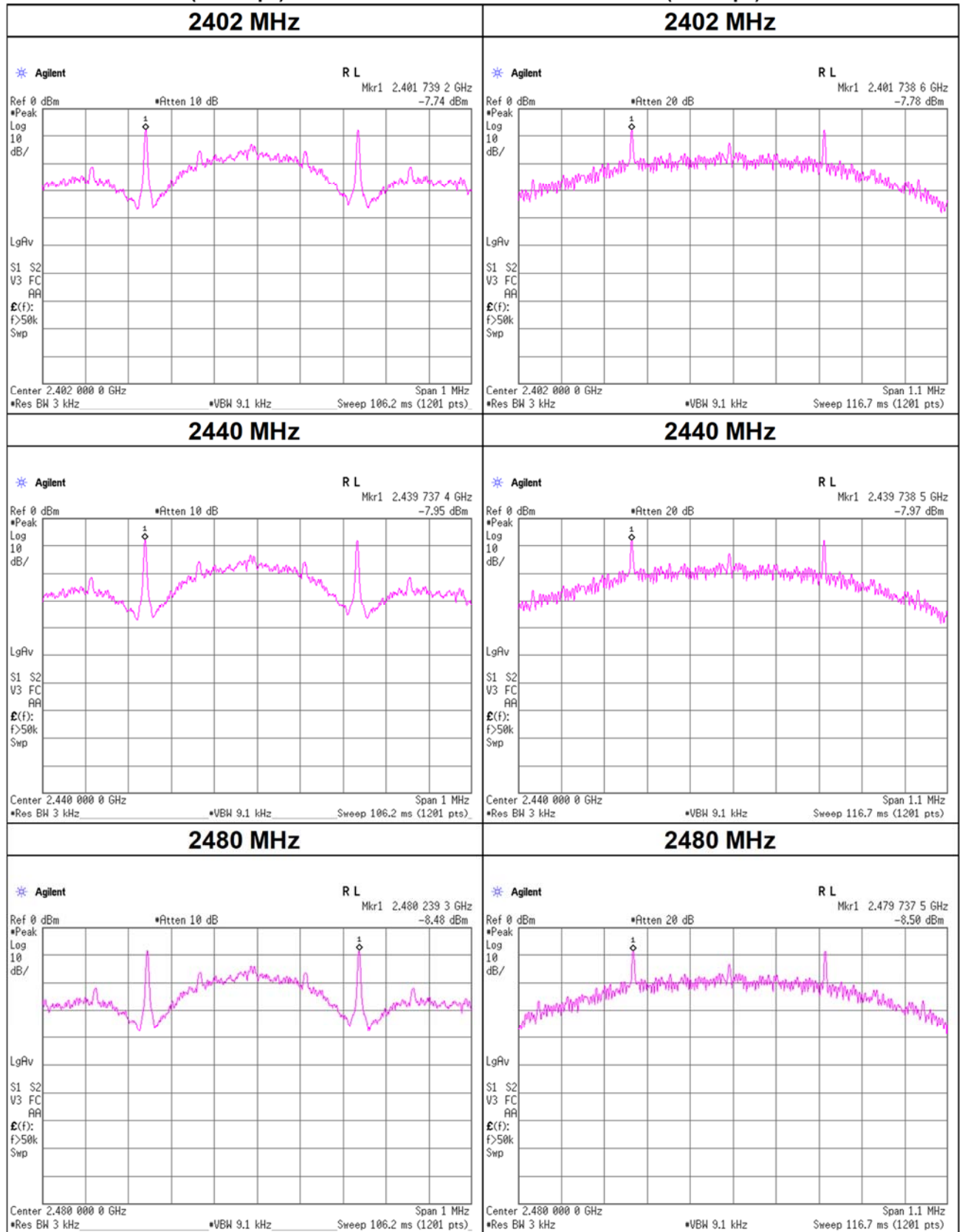
BT LE 2M-PHY



Power Density

BT LE Coded S=8 (125 kbps)

BT LE Coded S=2 (500 kbps)



APPENDIX 2: Test Instruments

Test Equipment (1/3)

Test Item	LIMS ID	Description	Manufacturer	Model	Serial	Last Calibration Date	Cal Int
AT	145095	Digital Tester	SANWA	PC500	7019224	2024/05/29	12
AT	145110	Digital Tester	SANWA	PC500	7019240	2024/05/29	12
AT	145132	Attenuator	Weinschel Corp.	54A-10	W5692	2023/10/13	12
AT	146190	Terminator	TME	CT-01 BP	-	2023/12/08	12
AT	146198	Terminator	TME	CT-01 BP	-	2024/02/16	12
AT	146207	Terminator	JFW	50T-128	-	2023/11/22	12
AT	146212	Digital Hitester	HIOKI E.E. CORPORATION	3805-50	80997828	2023/09/25	12
AT	146247	Power Meter	Keysight Technologies Inc	8990B	MY51000272	2024/05/14	12
AT	146310	Power sensor	Keysight Technologies Inc	N1923A	MY5326009	2024/05/14	12
AT	146311	Power sensor	Keysight Technologies Inc	N1923A	MY5349008	2024/05/14	12
AT	146362	Thermo-Hygrometer	CUSTOM. Inc	CTH-190	K-07	2023/08/03	12
AT	150461	Spectrum Analyzer	Keysight Technologies Inc	E4440A	MY46186392	2023/05/02	12
AT	160494	Attenuator	Weinschel Corp.	54A-10	83420	2023/12/12	12
AT	160495	Attenuator	Weinschel Corp.	54A-20	86752	2023/12/08	12
AT	160496	Attenuator	Weinschel Corp.	54A-20	87636	2023/12/08	12
AT	169910	Power Meter	Keysight Technologies Inc	8990B	MY51000448	2023/09/28	12
AT	169911	Power sensor	Keysight Technologies Inc	N1923A	MY57270004	2023/09/28	12
AT	169912	Power sensor	Keysight Technologies Inc	N1923A	MY57290005	2023/09/28	12
AT	171614	Terminator	Weinschel - API Technologies Corp	M1459A	88995	2024/05/10	12
AT	171615	Terminator	Weinschel - API Technologies Corp	M1459A	88997	2024/05/09	12
AT	171616	Terminator	Weinschel - API Technologies Corp	M1459A	89025	2024/05/09	12
AT	179106	Coaxial Cable	Junkosha	MWX241-01000KMSKMS/B	1901Q061-R	2024/04/10	12
AT	179107	Coaxial Cable	Junkosha	MWX241-01000KMSKMS/B	1901Q062-R	2024/04/10	12
AT	191845	Thermo-Hygrometer	CUSTOM. Inc	CTH-201	-	2023/08/07	12
AT	196937	Coaxial Cable	Huber+Suhner	SUCOFLEX 102	803605/2	2024/03/07	12
AT	196941	Coaxial Cable	Huber+Suhner	SUCOFLEX 102	803093/2	2024/03/07	12
AT,RE	145801	Spectrum Analyzer	Keysight Technologies Inc	E4448A	MY48250152	2024/02/27	12
AT,RE	160899	Spectrum Analyzer	Keysight Technologies Inc	E4440A	MY46185516	2023/12/29	12
AT,RE	235604	Spectrum Analyzer	Keysight Technologies Inc	E4440A	MY45300743	2024/05/23	12
CE	145035	Coaxial Cable	Suhner	RG223U	-	2024/04/01	12
CE	145541	LISN	Rohde & Schwarz	ENV216	100514	2024/02/06	12
CE	145542	LISN	Rohde & Schwarz	ENV216	100516	2024/02/06	12
CE	145746	Terminator	TME	CT-01 BP	-	2023/12/08	12
CE	146209	Test Receiver	Rohde & Schwarz	ESU26	100484	2023/09/22	12
CE	199786	Attenuator	JFW	50HF-006N	-	2024/06/14	12
CE	213530	Test Receiver	Rohde & Schwarz	ESW44	103068	2024/02/22	12
CE,RE	146210	Digital Hitester	HIOKI E.E. CORPORATION	3805-50	80997823	2023/09/25	12
CE,RE	146432	Tape Measure	TAJIMA	GL19-55	-	-	-
CE,RE	170932	EMI Software	TSJ (Techno Science Japan)	TEPTO-DV3(RE,CE,ME,PE)	Ver 3.1.0546	-	-
RE	144878	Pre Amplifier	Hewlett Packard	8449B	3008A01268	2024/04/04	12
RE	144892	Attenuator	Keysight Technologies Inc	8490D 010	6036	2023/10/12	12
RE	144938	Highpass Filter	Micro-Tronics	HPM50112	7	2023/10/11	12
RE	144941	Horn Antenna	Schwarzbeck Mess-Elektronik OHG	BBHA9120D	230	2024/05/13	12
RE	145005	Pre Amplifier	Toyo Corporation	TPA0118-36	2046104	2024/02/16	12
RE	145007	Pre Amplifier	Toyo Corporation	HAP18-26W	19	2024/03/05	12
RE	145039	Coaxial Cable	Junkosha	J12J102207-00	APR-30-15-037	2023/01/12	12
RE	145127	Pre Amplifier	Toyo Corporation	TPA0118-36	2072554	2024/05/08	12
RE	145128	Pre Amplifier	Toyo Corporation	TPA0118-36	1440490	2024/05/08	12
RE	145136	Attenuator	Keysight Technologies Inc	8493C-010	74864	2023/10/12	12
RE	145137	Attenuator	Keysight Technologies Inc	8493C-010	74865	2023/10/11	12
RE	145167	Coaxial Cable	Junkosha	J12J102518-00	APR-15-15-003	2023/08/23	12
RE	145176	Coaxial Cable	Suhner	SUCOFLEX 102	32703/2	2023/08/23	12
RE	145178	Coaxial Cable	Suhner	SUCOFLEX 102A	1188/2A	2023/08/23	12
RE	145301	Highpass Filter	Micro-Tronics	HPM50111	51	2023/10/13	12
RE	145305	Highpass Filter	Micro-Tronics	HPM50111	119	2024/03/05	12
RE	145383	Horn Antenna	Schwarzbeck Mess-Elektronik OHG	BBHA9120D	9120D-725	2024/03/04	12
RE	145384	Horn Antenna	Schwarzbeck Mess-Elektronik OHG	BBHA9120D	9120D-726	2024/03/11	12
RE	145501	Horn Antenna	Schwarzbeck Mess-Elektronik OHG	BBHA9120D	9120D-739	2024/03/20	12
RE	145512	Horn Antenna	ETS-Lindgren	3160-09	00094868	2023/06/12	12

Test Equipment (2/3)

Test Item	LIMS ID	Description	Manufacturer	Model	Serial	Last Calibration Date	Cal Int
RE	145533	Logperiodic Antenna	Schwarzbeck Mess-Elektronik OHG	UHALP9108A	UHALP 9108-A 0901	2024/05/10	12
RE	145561	Semi-Anechoic Chamber	TDK	SAEC-01(SVSWR)	1	2024/05/18	12
RE	145565	Semi-Anechoic Chamber	TDK	SAEC-03(NSA)	3	2024/04/03	12
RE	145566	Semi-Anechoic Chamber	TDK	SAEC-03(SVSWR)	3	2024/05/23	12
RE	145598	Semi-Anechoic Chamber	TDK	SAEC-02(SVSWR)	2	2024/05/22	12
RE	145792	Digital Hitester	HIOKI E.E. CORPORATION	3805-50	80997812	2023/09/25	12
RE	145793	Digital Hitester	HIOKI E.E. CORPORATION	3805-50	80997819	2024/05/29	12
RE	145800	Spectrum Analyzer	Keysight Technologies Inc	E4448A	MY48250106	2024/03/25	12
RE	146104	Antenna Tilt Jig	Intelligent System Engineering Co., Ltd	Antenna Tilt Jig	T-S002	-	-
RE	151617	Coaxial Cable	Junkosha	MWX221-0100NFSNMS/B	1612S006	2023/01/12	12
RE	151788	Antenna Tilt Jig	Intelligent System Engineering Co., Ltd	ETi-5	1512004-006-052	-	-
RE	156380	Coaxial Cable	Huber+Suhner	SUCOFLEX 104 E	SN MY 13406/4E	2024/05/09	12
RE	166491	Coaxial Cable	Junkosha	MWX221-0100NFSNMS/B	1612S005	2024/01/10	12
RE	168300	Coaxial Cable	Huber+Suhner	SUCOFLEX 104	800375/4A	2022/11/30	12
RE	175396	Pre Amplifier	Erzia Technologies S.L.	ERZ-LNA-0100-2700-45-4	16A2001702003	2023/06/13	12
RE	178573	Coaxial Cable	Huber+Suhner	SUCOFLEX 104 E	MY13407/4E	2024/03/05	12
RE	179540	Coaxial Cable	Huber+Suhner	SUCOFLEX 102	802815/2	2024/03/05	12
RE	191837	Thermo-Hygrometer	CUSTOM. Inc	CTH-201	-	2023/08/03	12
RE	191838	Thermo-Hygrometer	CUSTOM. Inc	CTH-201	-	2023/08/03	12
RE	191840	Thermo-Hygrometer	CUSTOM. Inc	CTH-201	-	2023/08/03	12
RE	194684	Horn Antenna	Schwarzbeck Mess-Elektronik OHG	BBHA 9120 C	695	2024/03/11	12
RE	194685	Horn Antenna	Schwarzbeck Mess-Elektronik OHG	BBHA 9120 C	711	2024/03/20	12
RE	196985	Coaxial Cable	Huber+Suhner	SUCOFLEX 102	803650/2	2024/03/05	12
RE	199784	Attenuator	JFW	50HF-006N	-	2024/06/14	12
RE	200009	Coaxial Cable	Huber+Suhner	SUCOFLEX 104	575617/4	2024/06/05	12
RE	200010	Coaxial Cable	Huber+Suhner	SUCOFLEX 104	575618/4	2024/06/05	12
RE	207277	Measuring	ASKUL	-	-	-	-
RE	207279	Tape Measure	ASKUL	-	-	-	-
RE	207280	Tape Measure	ASKUL	-	-	-	-
RE	235267	Test Receiver	Rohde & Schwarz	ESW44	103018	2024/03/05	12
RE	235268	Test Receiver	Rohde & Schwarz	ESW44	103212	2023/12/26	12
RE	235639	DIGITAL MULTIMETER	HIOKI E.E. CORPORATION	DT4261	230313156	2024/05/29	12
RE	235640	DIGITAL MULTIMETER	HIOKI E.E. CORPORATION	DT4261	230313157	2024/05/29	12
RE	235735	Thermo-Hygrometer	CUSTOM. Inc	CTH-230	-	2024/04/28	12
RE	235738	Thermo-Hygrometer	CUSTOM. Inc	CTH-230	-	2024/04/28	12
RE	236212	Semi-Anechoic Chamber	TDK	SWAC-01(NSA)	1	2024/05/09	12
RE	236616	Semi-Anechoic Chamber	TDK	SWAC-01(SVSWR)	1	2024/06/04	12
RE	236617	Semi-Anechoic Chamber	TDK	SWAC-02(SVSWR)	2	2024/06/06	12

Test Equipment (3/3)

Test Item	LIMS ID	Description	Manufacturer	Model	Serial	Last Calibration Date	Cal Int
RE	236686	Horn Antenna	Schwarzbeck Mess-Elektronik OHG	BBHA 9120 C	787	2024/04/19	12
RE	236687	Horn Antenna	Schwarzbeck Mess-Elektronik OHG	BBHA 9120 C	788	2024/04/04	12
RE	236708	Coaxial Cable	Hayashi-Repic co., Ltd.	NMS079B-GL310C-SMS117B-2m	47256-02-03	2024/05/09	12
RE	236709	Coaxial Cable	Hayashi-Repic co., Ltd.	NMS079B-GL310C-SMS117B-2m	47256-02-04	2024/05/09	12
RE	236723	Coaxial Cable	Hayashi-Repic co., Ltd.	SF106(HUBER+SUHNER)/LMR400UF/GL310 C/GL310C	2000429/47753-1/47256-01-03/47256-01-01	2024/05/09	12
RE	236755	Coaxial Cable	Huber+Suhner	SF106/11N/11N/6000	2001166	2023/05/23	12
RE	236756	Coaxial Cable	Huber+Suhner	SF106/11N/11N/6000	2001167	2024/05/10	12
RE	236869	Coaxial Cable	Huber+Suhner	SUCOFLEX 104	200084/4A	2023/06/06	12
RE	236966	Pre Amplifier	TSJ (Techno Science Japan)	MLA-9K01-L01	23050009	2024/06/14	12
RE	239643	Coaxial Cable	Junkosha	MWX221-01000NFSNMS/B	2306S021	2023/08/22	12
RE	239644	Coaxial Cable	Junkosha	MWX221-01000NFSNMS/B	2306S022	2023/08/22	12
RE	239786	Biconical Antenna	Schwarzbeck Mess-Elektronik OHG	VHBB 9124+BBA9106	01895	2023/09/21	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