

# EVALUATION REPORT

**Applicant Name:**  
SAMSUNG Electronics Co., Ltd.

**Date of Issue:**  
January 19, 2023

**Address:**  
129, Samsung-ro, Yeongtong-gu,  
Suwon-si, Gyeonggi-do, 16677, Rep. of Korea

**Location:**  
HCT CO., LTD.,  
74, Seoicheon-ro 578beon-gil, Majang-myeon,  
Icheon-si, Gyeonggi-do, 17383, Rep. of KOREA

<b>FCC ID:</b>	<b>A3LSMA546B</b>
<b>APPLICANT:</b>	<b>SAMSUNG Electronics Co., Ltd.</b>

Equipment Class(es) : DTS, NII, DSS

Rule Part(s) : FCC Part 15

Application's Statement : The applicant takes full responsibility that the test data referenced below represents compliance for this FCC ID.

Differences  
Brief Description : Hardware and software of this device are identical to the implementation in A3LSMA546E  
The operational description includes detailed information about the changes between the devices. The data from that application has been verified through appropriate spot checks to demonstrate compliance for this device as shown in the summary table below.

Test Reference : KDB 484596 D01 Reference Test Data v01

The detail test data can be found in this documents, Appendix A.

Category	Spot Check	Verdict
Unlicensed EMC	Band Edge	Share
	Spurious Emissions	Share

Reference Detail Section

Reference FCC ID	Equipment Class	Report Title	Section
A3LSMA546E	DSS	Bluetooth Report	All sections
	DTS	DTS Report , DTS ax Report	All sections
		DFS Test Report	All sections
	NII	UNII Test Report , UNII ax Report	All sections



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**Engineer of Telecommunication testing center**



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**Approved by : Jong Seok Lee**  
**Manager of Telecommunication testing center**

## REVISION HISTORY

The revision history for this test report is shown in table.

Revision No.	Date of Issue	Description
0	January 19, 2023	Initial Release

## Appendix A. The Spot check test data

### 1. Summary of the spot check for Unlicensed EMC

Mod	Test Item	Mod / Channel	Measured Frequency	SM-A546E/DS Result [dB $\mu$ V/m]		SM-A546B/DS Result [dB $\mu$ V/m]		Deviation (dB)	
				Average	Peak	Average	Peak	Average	Peak
BT	Band Edge	3-DH5 / ch.78	2 483.5 MHz~ 2 500 MHz	43.75	68.48	43.30	68.03	0.45	0.45
	RSE	DH5 / ch.78	4 960 MHz	37.71	47.25	37.22	46.84	0.49	0.41
WLAN	DTS_ax Band Edge	802.11ax / MIMO / 26T / RU 8 / ch.13 / MCS0	#2 483.5 MHz~ 2 484.5 MHz	51.77	65.76	41.82	58.08	9.95	7.68
	DTS RSE	802.11b / MIMO / ch.1 / 3rd / 1 Mbps	7 236 MHz	41.39	51.57	41.46	50.81	-0.07	0.76
	UNII_ax Band Edge	802.11ax20 / SISO / 26T / RU0 / ch.100 / MCS0	5 460 MHz ~ 5 470 MHz	-	66.10	-	56.36	-	9.74
	UNII_ax RSE	802.11ax20 / MIMO / SU / ch.100 / 2nd / MCS0	11 000 MHz	45.03	55.04	43.01	53.99	2.02	1.05

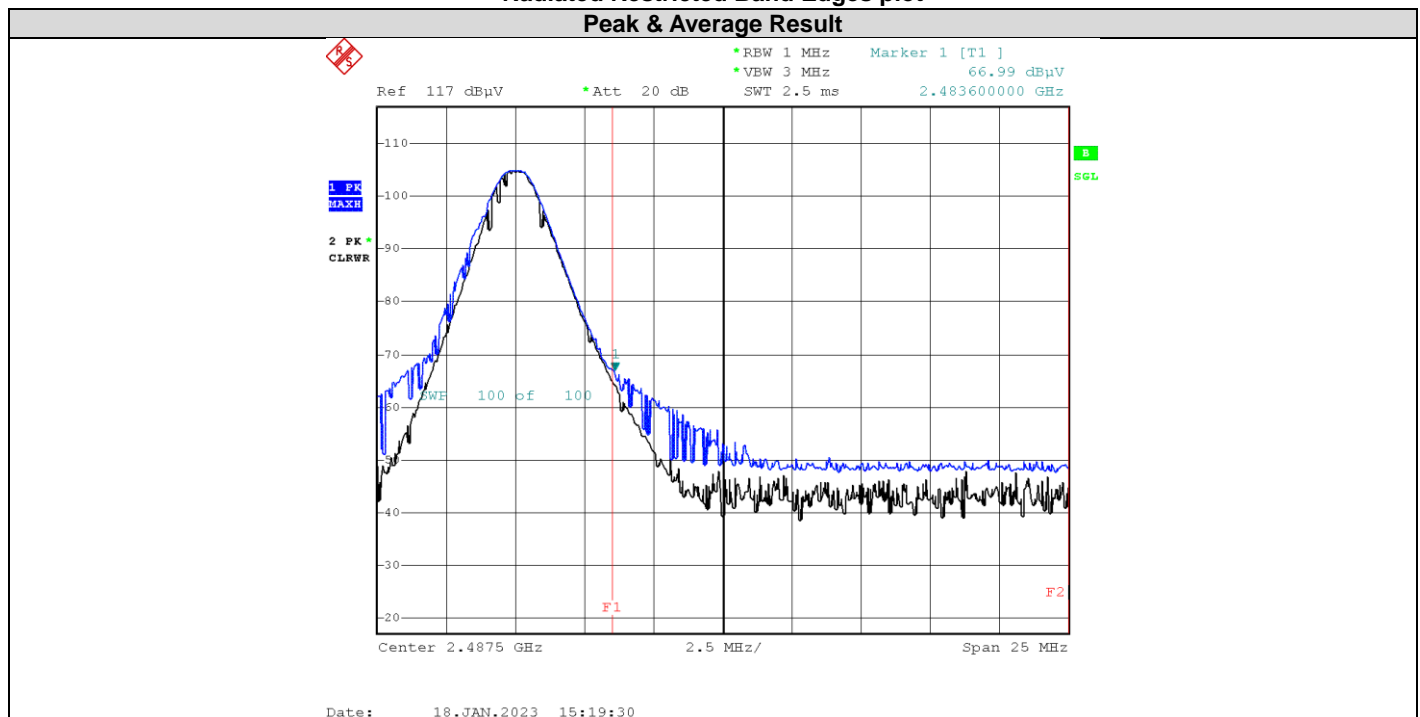
# Note : Integration method Used (ANSI C63.10 Section11.13.3)

## 2. Test Plots

**BT Band Edge (3-DH5 / ch. 78)**

Frequency [MHz]	Measured Level [dB $\mu$ V]	AF+CL+DF-AG [dB/m]	Pol. [H/V]	Duty Cycle Correction [dB]	Total [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]	Measurement Type
2 483.5~2 500.0	66.99	1.04	H	0	68.03	73.98	5.95	PK
2 483.5~2 500.0	66.99	1.04	H	-24.73	43.30	53.98	10.68	AV
2 483.5~2 500.0	66.50	1.04	V	0	67.54	73.98	6.44	PK
2 483.5~2 500.0	66.50	1.04	V	-24.73	42.81	53.98	11.17	AV

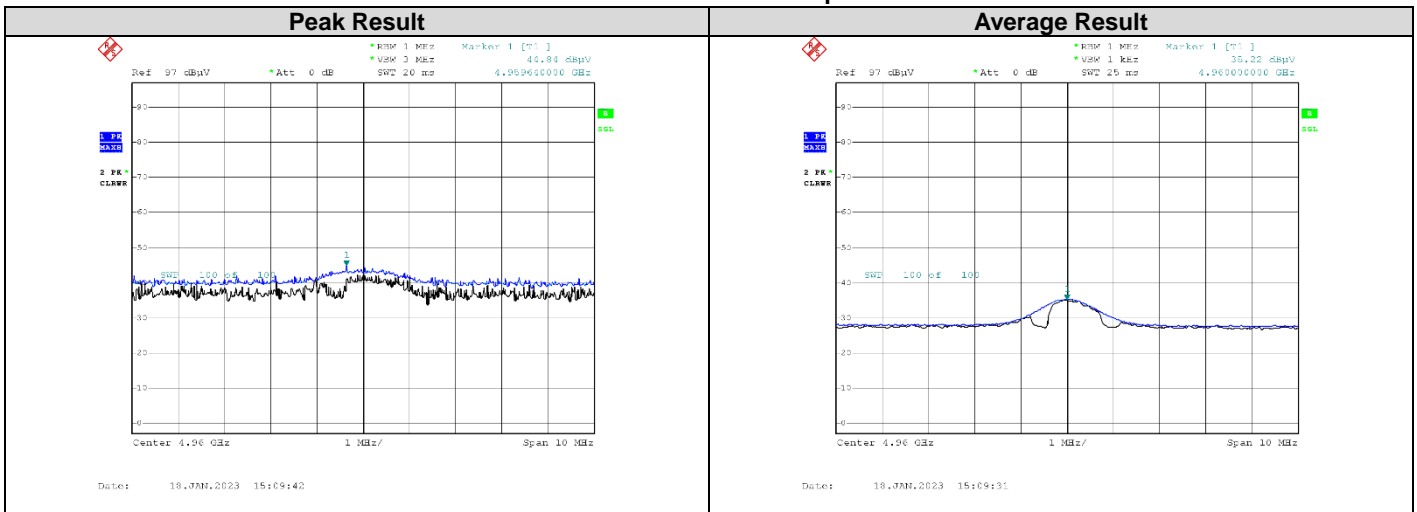
**Radiated Restricted Band Edges plot**



**BT RSE (DH5 / ch. 78)**

Frequency [MHz]	Measured Value [dB $\mu$ V]	AF+CL+DF-AG [dB/m]	Pol. [H/V]	Total [dB $\mu$ V/m]	Limit [dB $\mu$ V/m]	Margin [dB]	Measurement Type
4 960	43.80	2.00	V	45.80	73.98	28.18	PK
4 960	34.21	2.00	V	36.21	53.98	17.77	AV
4 960	44.84	2.00	H	46.84	73.98	27.14	PK
4 960	35.22	2.00	H	37.22	53.98	16.76	AV

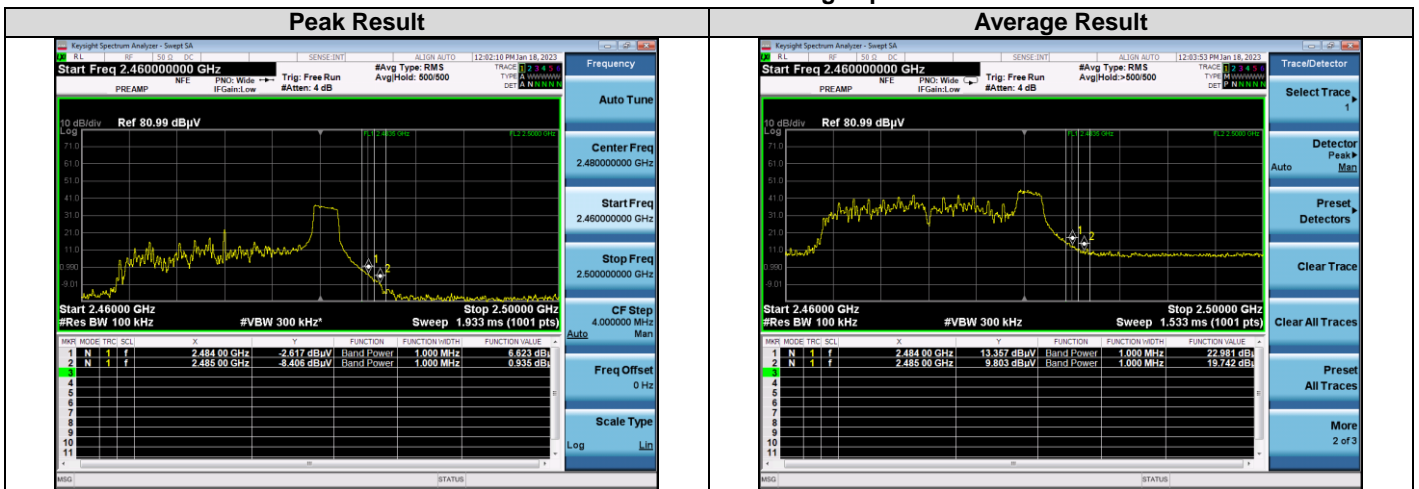
**Radiated Restricted RSE plots**



**WLAN DTS\_ax Band Edge (802.11ax / MIMO / 26T / RU 8 / ch. 13 / MCS 0)**

Frequency [MHz]	Measured Value [dBμV]	Duty Cycle Factor [dB]	A.F+C.L+ D.F [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
#2 483.5~2 484.5	22.981	0.00	35.10	H	58.08	73.98	15.90	PK
#2 484.5~2 485.5	19.742	0.00	35.10	H	54.84	73.98	19.14	PK
2 485.5~2 500	23.309	0.00	35.10	H	58.41	73.98	15.57	PK
#2 483.5~2 484.5	6.623	0.10	35.10	H	41.82	53.98	12.16	AV
#2 484.5~2 485.5	0.935	0.10	35.10	H	36.13	53.98	17.85	AV
2 485.5~2 500.0	-2.486	0.10	35.10	H	32.71	53.98	21.27	AV
#2 483.5~2 484.5	22.689	0.00	35.10	V	57.79	73.98	16.19	PK
#2 484.5~2 485.5	19.674	0.00	35.10	V	54.77	73.98	19.21	PK
2 485.5~2 500	22.993	0.00	35.10	V	58.09	73.98	15.89	PK
#2 483.5~2 484.5	6.593	0.10	35.10	V	41.79	53.98	12.19	AV
#2 484.5~2 485.5	0.896	0.10	35.10	V	36.09	53.98	17.89	AV
2 485.5~2 500.0	-2.562	0.10	35.10	V	32.63	53.98	21.35	AV

**Radiated Restricted Band Edges plots**

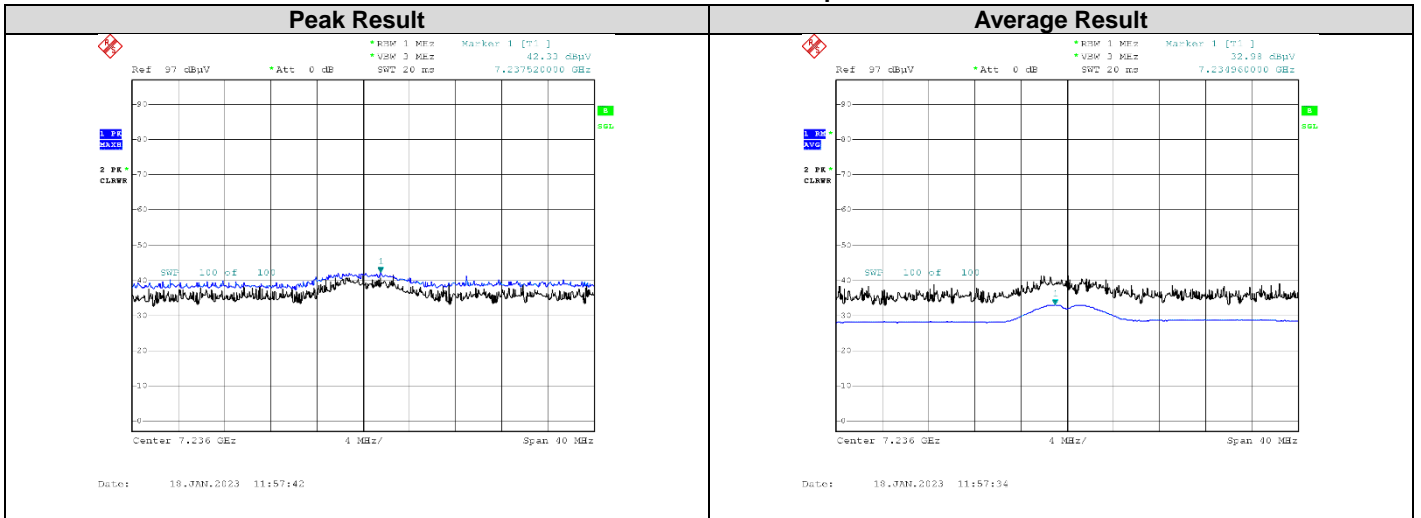


# Note : Integration method Used (ANSI C63.10 Section11.13.3)

**WLAN DTS RSE (802.11b / MIMO / ch.1 / 3rd Harmonic / 1 Mbps)**

Frequency [MHz]	Measured Value [dBμV/m]	AF+CL+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
7236	41.67	8.48	V	50.15	73.98	23.83	PK
7236	31.95	8.48	V	40.43	53.98	13.55	AV
7236	42.33	8.48	H	50.81	73.98	23.17	PK
7236	32.98	8.48	H	41.46	53.98	12.52	AV

**Radiated Restricted RSE plots**

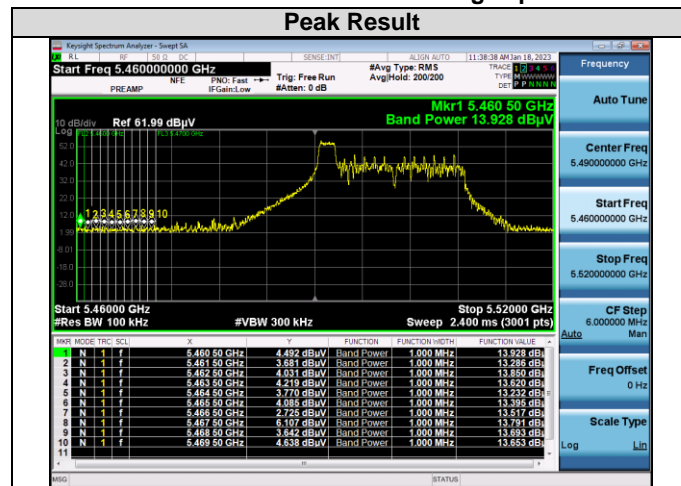




**WLAN UNII\_ax Band Edge (802.11ax20 / SISO / 26T / RU0 / ch.100 / MCS0)**

Frequency [MHz]	Measured Level [dBμV]	Duty Cycle Factor [dB]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
#5460~5461	12.43	0.00	42.43	H	54.87	68.20	13.33	PK
#5461~5462	13.04	0.00	42.43	H	55.48	68.20	12.72	PK
#5462~5463	12.88	0.00	42.43	H	55.31	68.20	12.89	PK
#5463~5464	12.93	0.00	42.43	H	55.36	68.20	12.84	PK
#5464~5465	13.80	0.00	42.43	H	56.24	68.20	11.96	PK
#5465~5466	13.00	0.00	42.43	H	55.43	68.20	12.77	PK
#5466~5467	12.49	0.00	42.43	H	54.92	68.20	13.28	PK
#5467~5468	12.41	0.00	42.43	H	54.85	68.20	13.35	PK
#5468~5469	13.10	0.00	42.43	H	55.53	68.20	12.67	PK
#5469~5470	12.84	0.00	42.43	H	55.27	68.20	12.93	PK
#5460~5461	13.93	0.00	42.43	V	56.36	68.20	11.84	PK
#5461~5462	13.29	0.00	42.43	V	55.72	68.20	12.48	PK
#5462~5463	13.85	0.00	42.43	V	56.28	68.20	11.92	PK
#5463~5464	13.62	0.00	42.43	V	56.05	68.20	12.15	PK
#5464~5465	13.23	0.00	42.43	V	55.67	68.20	12.53	PK
#5465~5466	13.40	0.00	42.43	V	55.83	68.20	12.37	PK
#5466~5467	13.52	0.00	42.43	V	55.95	68.20	12.25	PK
#5467~5468	13.79	0.00	42.43	V	56.22	68.20	11.98	PK
#5468~5469	13.69	0.00	42.43	V	56.13	68.20	12.07	PK
#5469~5470	13.65	0.00	42.43	V	56.09	68.20	12.11	PK

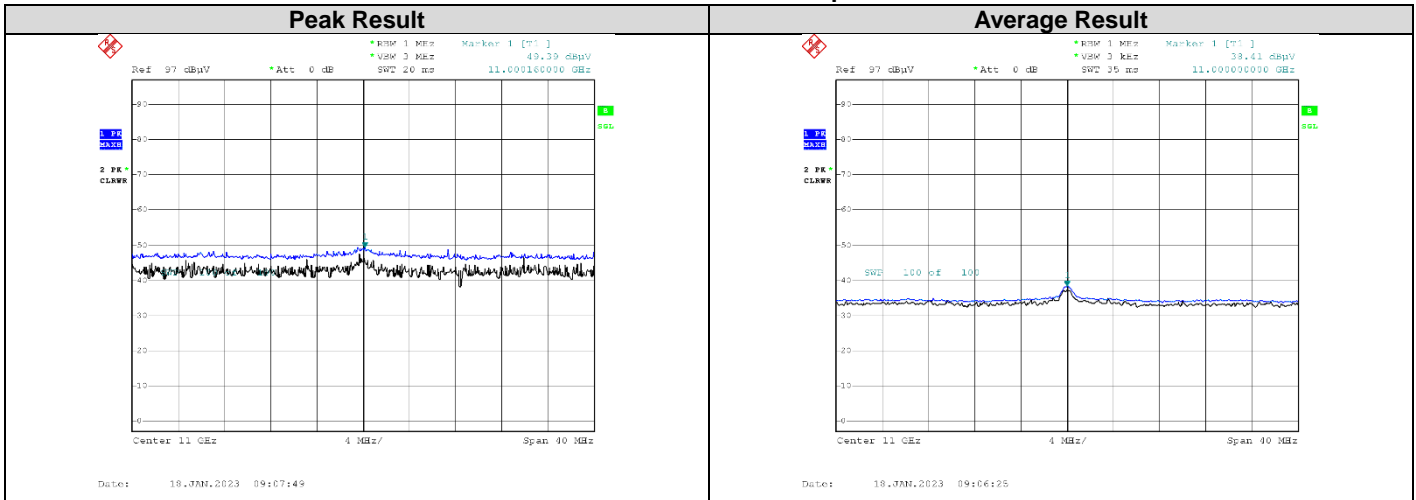
**Radiated Restricted Band Edges plot**



**WLAN UNII\_ax RSE (802.11ax20 / MIMO / SU / ch.100 / 2nd / MCS0)**

Frequency [MHz]	Measured Level [dBμV]	CL+AF+DF-AG [dB/m]	ANT. POL [H/V]	Total [dBμV/m]	Limit [dBμV/m]	Margin [dB]	Measurement Type
11000	49.14	4.60	V	53.74	73.98	20.24	PK
11000	37.80	4.60	V	42.40	53.98	11.58	AV
11000	49.39	4.60	H	53.99	73.98	19.99	PK
11000	38.41	4.60	H	43.01	53.98	10.97	AV

**Radiated Restricted RSE plot**



### 3. List of test equipment

#### Radiated Test

Equipment	Model	Manufacturer	Serial No.	Due to Calibration	Calibration Interval
Controller(Antenna mast)	CO3000	Innco system	CO3000-4p	N/A	N/A
Antenna Position Tower	MA4640/800-XP-EP	Innco system	N/A	N/A	N/A
Controller	EM2090	Emco	060520	N/A	N/A
Turn Table	N/A	Ets	N/A	N/A	N/A
Loop Antenna	FMZB 1513	Rohde & Schwarz	1513-333	03/17/2024	Biennial
Hybrid Antenna	VULB 9168	Schwarzbeck	9168-0895	08/16/2024	Biennial
Horn Antenna	BBHA 9120D	Schwarzbeck	9120D-1191	11/18/2023	Biennial
Horn Antenna(15 GHz ~ 40 GHz)	BBHA9170	Schwarzbeck	BBHA9170124	04/12/2023	Biennial
Amp & Filter Bank Switch Controller	FBSM-01A	TNM system	0	N/A	N/A
Band Reject Filter	WRCJV2400/2483.5-2370/2520-60/12SS	Wainwright Instruments	2	01/05/2024	Annual
Band Reject Filter	WRCJV12-4900-5100-5900-6100-50SS	Wainwright Instruments	5	06/13/2023	Annual
Band Reject Filter	WRCJV12-4900-5100-5900-6100-50SS	Wainwright Instruments	6	06/13/2023	Annual
Band Reject Filter	WRCJV5100/5850-40/50-8EEK	Wainwright Instruments	1	02/07/2023	Annual
ATT(3 dB) + LNA2(6~18 GHz)	18B-03, CBL06185030	WEINSCHEL CERNEX	N/A	12/05/2023	Annual
ATT(10 dB) + LNA1(0.1~18 GHz)	56-10, CBLU1183540B-01	Api tech, CERNEX	N/A	12/05/2023	Annual
High Pass Filter	WHKX10-2700-3000-18000-40SS	Wainwright Instruments	N/A	12/05/2023	Annual
High Pass Filter	WHKX8-6090-7000-18000-40SS	Wainwright Instruments	N/A	12/05/2023	Annual
Thru	COAXIAL ATTENUATOR	T&M SYSTEM	N/A	12/05/2023	Annual
Power Amplifier	CBL18265035	CERNEX	22966	12/01/2023	Annual
Power Amplifier	CBL26405040	CERNEX	25956	03/11/2023	Annual
Bluetooth Tester	TC-3000C	TESCOM	3000C000175	04/05/2023	Annual
Spectrum Analyzer	FSP(9 kHz ~ 30 GHz)	Rohde & Schwarz	836650/016	09/06/2023	Annual
Spectrum Analyzer	FSV40-N(9 kHz ~ 30 GHz)	Rohde & Schwarz	101068-SZ	09/07/2023	Annual
Signal Analyzer	N9030A	Keysight	MY55410508	09/06/2023	Annual
Signal Analyzer	N9030A	Keysight	MY49431210	12/29/2023	Annual
Signal Analyzer	N9030A	Keysight	MY52350879	01/02/2024	Annual

#### Note:

1. Equipment listed above that calibrated during the testing period was set for test after the calibration.
2. Equipment listed above that has a calibration due date during the testing period, the testing is completed before equipment expiration date.
3. Especially, all antenna for measurement is calibrated in accordance with the requirements of C63.5(Version : 2017).