

EVALUATION REPORT

Applicant Name:

SAMSUNG Electronics Co., Ltd.

Date of Issue:

February 20, 2025

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, Republic of Korea**FCC ID:****A3LSMX520****APPLICANT:****SAMSUNG Electronics Co., Ltd.**

Equipment Class(es) : DSS, DTS, UNII, DCD

FCC Rule Part(s) : 15

Application's Statement : The applicant takes full responsibility that the test data referenced below

Represents compliance for this FCC ID.

Test Reference : KDB 484596 D01 Reference Test Data v02r03

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

Category	Spot Check	Verdict
Unlicensed EMC	Conducted output Power	Share
	Band Edge	Share
	Spurious Emissions	Share
	Field Strength	Share

The data from that application has been verified through appropriate spot checks to demonstrate compliance for this device as shown in the Cross Reference Table. The detail test data can be found in this documents, Appendix A.



Report prepared by : Jeong Ho Kim

Engineer of Telecommunication testing center



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	February 20, 2025	Initial Release

1. Cross Reference Table (Unlicensed EMC)

1) Data referencing

- [BT], [BT LE 5.3], [UNII], [UNII ax], [DTS], [DTS ax], [Digitizer], [DFS] Test Report

2) Full test

- [DTS] Test Report → 802.11b Ch.1~ Ch.13.

3) Additional test

- [DTS] Test Report → 802.11g, n Ch.12 ~ Ch.13.

- [DTS ax] Test Report → 802.11ax Ch.12~Ch.13.

Equipment Class	Rule Part	Test item	Data Referencing	Comments
DSS	15.247(a)(1)	20 dB Bandwidth	Y	-
	N/A	Occupied Bandwidth	Y	-
	15.247(b)(1)	Conducted Maximum Peak Output Power	Y	Spot-check
	15.247(a)(1)	Carrier Frequency Separation	Y	-
	15.247(a)(1)(iii)	Number of Hopping Frequencies	Y	-
	15.247(a)(1)(iii)	Time of Occupancy	Y	-
	15.247(d)	Conducted Spurious Emissions	Y	-
	15.247(d)	Band Edge (Out of Band Emissions)	Y	-
	15.207(a)	AC Power line Conducted Emissions	Y	Spot-check
	15.247(d), 15.205, 15.209	Radiated Spurious Emissions	Y	Spot-check
	15.247(d), 15.205, 15.209	Radiated Restricted Band Edge	Y	Spot-check

Equipment Class	Rule Part	Test item	Data Referencing	Comments
DTS	15.247(a)(2)	6 dB Bandwidth	Y	-
	15.247(b)(3)	Conducted Maximum output power	Y	Spot-check
	15.247(e).	Power Spectral Density	Y	-
	15.247(d)	Band Edge (Out of Band Emissions)	Y	-
	15.207	AC Power line conducted Emissions	Y	Spot-check
	15.247(d) 15.205 15.209	Radiated Spurious Emissions	Y	Spot-check
	15.247(d) 15.205 15.209	Radiated Restricted Band Edge	Y	Spot-check

Equipment Class	Rule Part	Test item	Data Referencing	Comments
DCD	2.1049	Emission bandwidth.	Y	-
	15.209	Radiated emission	Y	Spot-check
	15.207	AC Power Line Conducted Emission	Y	Spot-check

Equipment Class	Rule Part	Test item	Data Referencing	Comments
NII	§ 15.407 (for Power Measurement)	26 dB Bandwidth	Y	-
	15.407(e)	6 dB Bandwidth	Y	-
	§ 15.407(a)(1),(2),(3)	Maximum Conducted output power	Y	Spot-check
	§ 15.407(a)(3)(iii)	Maximum EIRP Output Power	Y	-
	§ 15.407(a)(1),(2),(3)	Maximum Power Spectral Density	Y	-
	15.207 15.407(b)(8)	AC conducted Emission	Y	Spot-check
	§ 15.407(g) § 2.1055	Frequency Stability	Y	-
	§ 15.407(b) (1),(2),(3),(4) § 15.407(b)(5)(ii),(iii) § 15.35(b)	Undesirable Emissions	Y	Spot-check
	15.205, 15.407(b)(9),(10)	General Field Strength (Restricted bands and Radiated emission)	Y	Spot-check
	15.407(h)	DFS	Y	-

Appendix A. The Spot check test data

1. Summary of the spot check for Unlicensed EMC

1.1 Radiated Spot Check Result

Report	Test Item	Mod/Channel	Measured Frequency [MHz]	A3LSMX528U Result [dBμV/m]		A3LSMX520 Result [dBμV/m]		Deviation (dB)	
				Peak	Average	Peak	Average	Peak	Average
BT	Band Edge	3-DH5/Ch.78	2483.5 MHz~2500 MHz	65.25	40.52	63.92	39.19	-1.33	-1.33
	RSE	DH5/Ch.78	7440 MHz	52.10	27.37	51.69	26.96	-0.41	-0.41
DTS	Band Edge (ANT ALL)	802.11n(20M) MCS8/ch.1	#2380 MHz~2390 MHz	65.86	50.62	66.73	51.51	0.87	0.89
	RSE (ANT ALL)	802.11n(20M) MCS8/ch.11	7386 MHz	48.34	37.36	53.10	40.78	1.20	0.06
DTS(ax)	Band Edge (ANT ALL)	802.11ax(HE20) SU MCS0/Ch.11	#2483.5 MHz - 2500 MHz	65.92	51.77	67.40	53.01	1.48	1.24
	RSE (ANT ALL)	802.11ax(HE20) SU MCS0/Ch.6	7311 MHz	49.55	38.77	48.86	37.77	-0.69	-1.00
BT(LE)	Band Edge	125kBit/s 255Byte /Ch.39	2483.5 MHz~2500 MHz	58.67	45.57	58.47	43.71	-0.20	-1.86
	RSE	1MBit/s 37Byte /Ch.39	4960 MHz	50.03	39.70	49.05	37.81	-0.98	-1.89
UNII	Band Edge (ANT ALL) Avg	802.11n(20M) MCS8/ch.100	5350 MHz ~ 5460 MHz	66.04	51.93	65.13	51.95	-0.91	0.02
	Band Edge (ANT ALL) Pk	802.11ac(20M) MCS0/ch.104	#5460 ~ 5470 MHz	62.85	-	62.50	-	-0.35	-
	RSE (ANT ALL)	802.11a 6Mbps/ch.165	11650 MHz	53.21	42.22	53.35	41.70	0.14	-0.52
UNII(ax)	Band Edge (ANT ALL)	802.11ax(HE80) SU MCS0 / ch. 106	5350 MHz ~ 5460 MHz	63.92	51.80	63.06	51.64	-0.86	-0.16
			5460 MHz ~ 5470 MHz	64.20	-	63.62	-	-0.58	-
	RSE (ANT ALL)	802.11ax(HE20) 26T 4RU MCS0 / ch. 36	10360 MHz	60.68	-	59.72	-	-0.96	-
Digitizer	Field Strength	Fundamental (Keyboard cover detection)	510 kHz - 670 kHz	6.83		5.80		-1.03	
	RSE	Keyboard cover detection	670 kHz - 30 MHz	1.38		0.62		-0.76	
##AC Power Line Conducted Emissions			150 kHz ~ 30 MHz	57.74		51.63		-6.11	

: DTS integration method Used (ANSI C63.10 Section11.13.3), UNII integration method Used (KDB 789033 D02 v02r01 Section 3) d) (ii)

: All modes of operation were spot-checked and the worst result are reported.

1.2 Conducted Spot Check Result

Report	Test Item	Mod/Channel	Measured Frequency [MHz]	A3LSMX528U Result [dBμV/m]		A3LSMX520 Result [dBμV/m]		Deviation (dB)	
				Peak	Average	Peak	Average	Peak	Average
BT	Conducted Output Power	DH5/Ch.39	2441 MHz	14.88	-	14.52	-	-0.36	-
DTS		MIMO(CDD) / 802.11g 6Mbps / ch.6	2437 MHz	-	19.78	-	20.59	-	0.81
DTS(ax)		MIMO(SDM) / 802.11ax_HE20(SU)_MCS0/ch.6	2437 MHz	-	18.08	-	18.03	-	-0.05
BT(LE)		2M37/Ch.19	2440 MHz	-	14.99	-	14.60	-	-0.39
UNII		MIMO(CDD) / 802.11a 6 Mbps / ch.100	5500 MHz	-	14.65	-	14.92	-	0.27
UNII(ax)		MIMO(SDM) / 802.11ax(HE20)_SU MCS0 / ch. 100	5500 MHz	-	14.27	-	14.01	-	-0.26

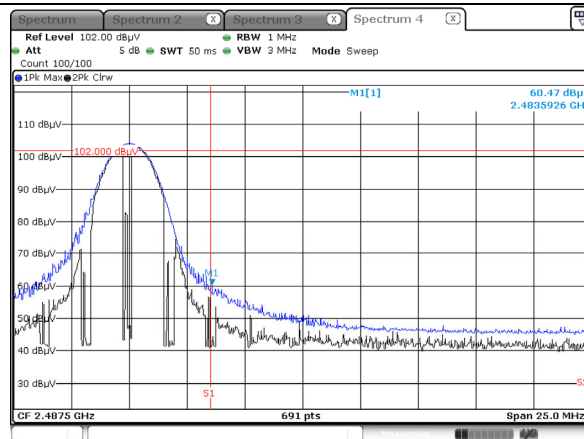
2. TEST RESULT

BT Band Edge (3-DH5/Ch.78)

Frequency	Measured Value	A.F+C.L- A.G+ATT+D.F	ANT. POL	Duty Cycle Correction	Total	Limit	Margin	Measurement Type
[MHz]	[dBμV]	[dB]	[H/V]	[dB]	[dBμV/m]	[dBμV/m]	[dB]	
2483.5	60.47	3.45	H	0	63.92	73.98	10.06	PK
2483.5	60.47	3.45	H	-24.73	39.19	53.98	14.79	AV

■ Test Plot

[Peak & Average Result]

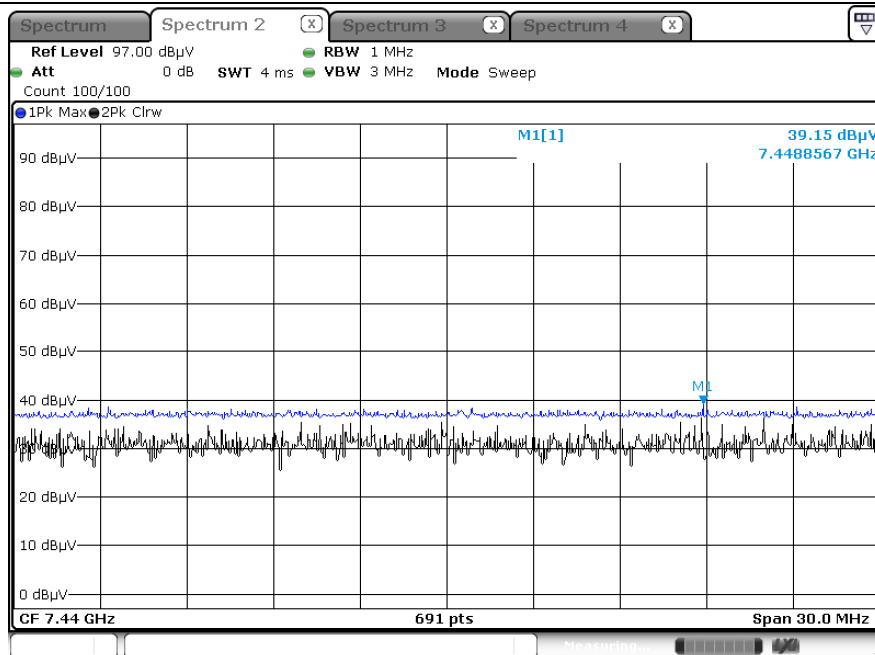


BT R.S.E Harmonic(DH5/Ch.78)

Frequency	Measured Value	A.F+C.L-A.G+D.F	ANT. POL	Duty Cycle Correction	Total	Limit	Margin	Measurement Type
[MHz]	[dBμV]	[dB/m]	[H/V]	[dB]	[dBμV/m]	[dBμV/m]	[dB]	
4960	42.54	5.79	V	0.00	48.33	73.98	25.65	PK
4960	42.54	5.79	V	-24.73	23.60	53.98	30.38	AV
7440	38.88	12.54	V	0.00	51.42	73.98	22.56	PK
7440	38.88	12.54	V	-24.73	26.69	53.98	27.29	AV
4960	42.90	5.79	H	0.00	48.69	73.98	25.29	PK
4960	42.90	5.79	H	-24.73	23.96	53.98	30.02	AV
7440	39.15	12.54	H	0.00	51.69	73.98	22.29	PK
7440	39.15	12.54	H	-24.73	26.96	53.98	27.02	AV

Test Plot

[Peak & Average Result]

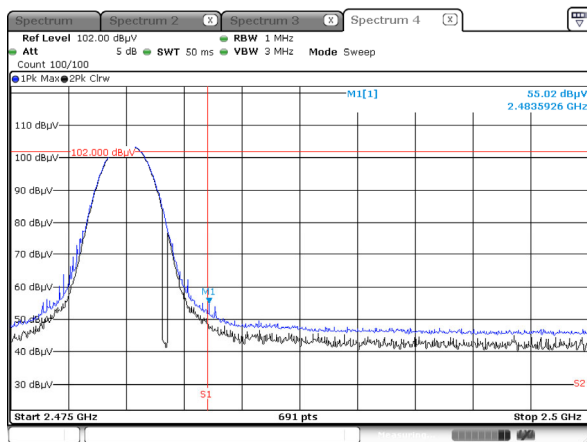


BT LE Band Edge (125k Bit/s_255 Byte/Ch.39)

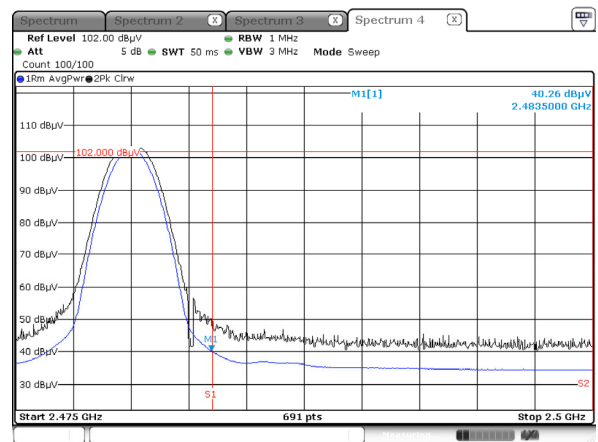
Frequency	Measured Value	A.F+C.L+ATT- A.G+D.F	ANT. POL	Total	Limit	Margin	Measurement Type
[MHz]	[dBμV]	[dB]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	
2483.5	55.02	3.45	H	58.47	73.98	15.51	PK
2483.5	40.26	3.45	H	43.71	53.98	10.27	AV

■ Test Plot

[Peak Result]



[Average Result]

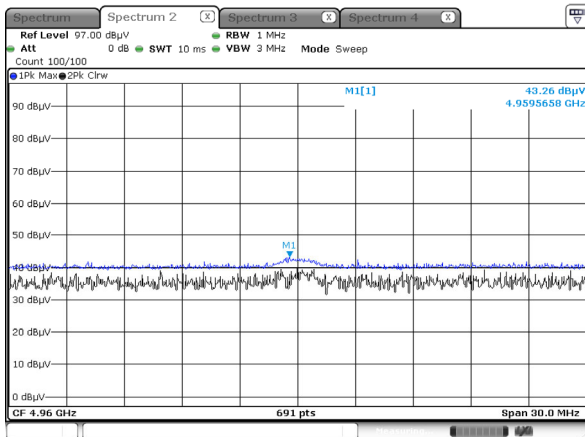


BT LE R.S.E Harmonic(1M Bit/s_37 Byte/Ch.39)

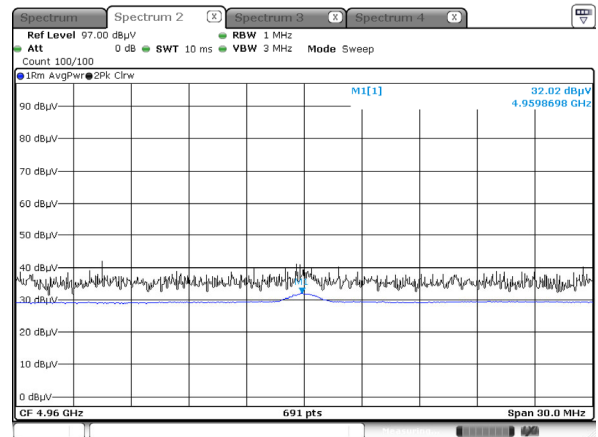
Frequency	Measured Value	A.F+C.L-A.G+D.F	ANT. POL	Total	Limit	Margin	Measurement Type
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	
4960	42.50	5.79	V	48.29	73.98	25.69	PK
4960	31.37	5.79	V	37.16	53.98	16.82	AV
7440	38.66	12.54	V	51.20	73.98	22.78	PK
7440	26.28	12.54	V	38.82	53.98	15.16	AV
4960	43.26	5.79	H	49.05	73.98	24.93	PK
4960	32.02	5.79	H	37.81	53.98	16.17	AV
7440	38.78	12.54	H	51.32	73.98	22.66	PK
7440	26.36	12.54	H	38.90	53.98	15.08	AV

Test Plot

[Peak Result]



[Average Result]



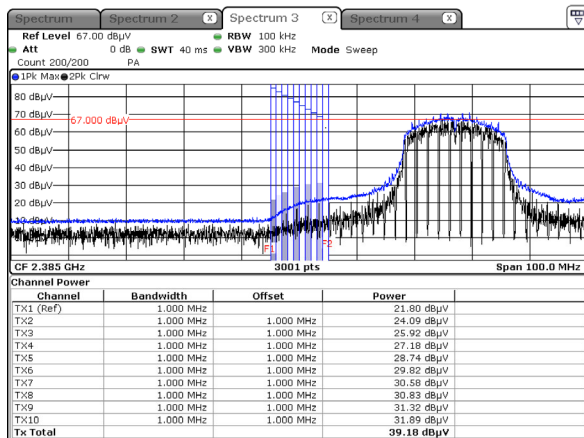
DTS Band Edge (ANT ALL) (MIMO, 802.11n(20M) MCS8/ch.1)

Frequency	Measured Value	Duty Cycle Factor	A.F.+C.L+D.F	ANT. POL	Total	Limit	Margin	Measurement Type
[MHz]	[dBμV]	[dB]	[dB]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	
#2380~2390	31.89	0.00	34.84	H	66.73	73.98	7.25	PK
#2380~2390	16.10	0.57	34.84	H	51.51	53.98	2.47	AV
2310~2380	26.81	0.00	34.84	H	61.65	73.98	12.33	PK
2310~2380	10.17	0.57	34.84	H	45.58	53.98	8.40	AV

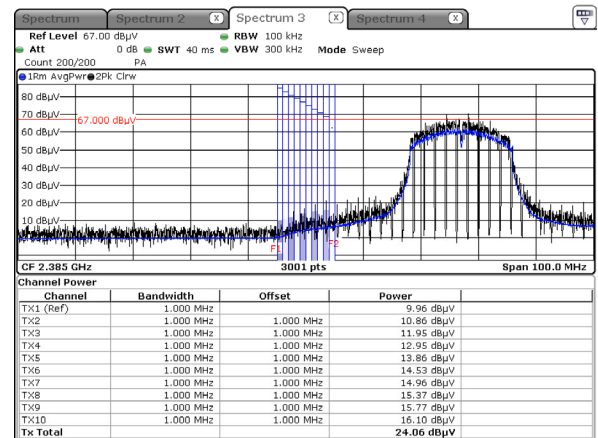
Note : integration method Used (ANSI C63.10 Section11.13.3)

Test Plot

[Peak Result]



[Average Result]

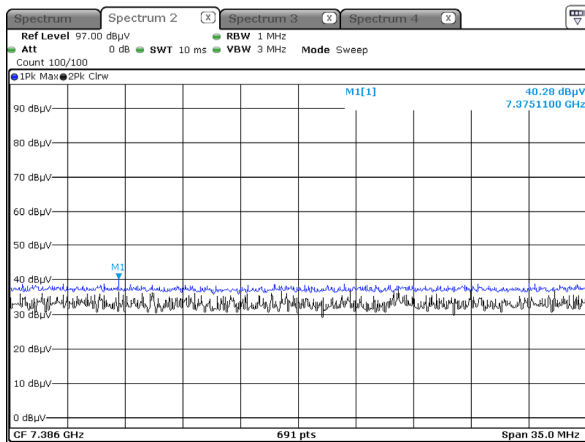


DTS R.S.E Harmonic (ANT ALL) (MIMO, (802.11n(20M) MCS8/ch.11)

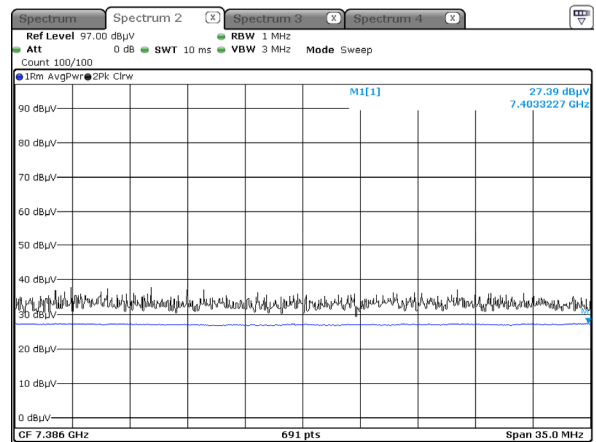
Band :	DTS			Operation Mode : 802.11n_HT20				
CH.11	2462		MHz	Transfer Rate : MCS8				
Frequency	Measured value	D.C.F	CL+AF+DF-AG	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
4924	43.65	0.00	5.07	V	48.72	73.98	25.26	PK
4924	31.11	0.57	5.07	V	36.75	53.98	17.23	AV
7386	40.28	0.00	12.82	V	53.10	73.98	20.88	PK
7386	27.39	0.57	12.82	V	40.78	53.98	13.20	AV
4924	44.06	0.00	5.07	H	49.13	73.98	24.85	PK
4924	31.69	0.57	5.07	H	37.33	53.98	16.65	AV
7386	40.01	0.00	12.82	H	52.83	73.98	21.15	PK
7386	27.05	0.57	12.82	H	40.44	53.98	13.54	AV

■ Test Plot

[Peak Result]



[Average Result]



DTS ax Band Edge (ANT ALL) (MIMO, 802.11ax HE20 SU MCS0/Ch.11)

Frequency	Measured Value	Duty Cycle Factor	A.F.+C.L+D.F	ANT. POL	Total	Limit	Margin	Measurement Type
[MHz]	[dBμV]	[dB]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	
#2483.5	67.40	0.00	0.00	H	67.40	73.98	6.58	PK
#2483.5	52.34	0.67	0.00	H	53.01	53.98	0.97	AV

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

Note :

(1) Measurement(Peak)

= Measured Value(Peak)

(2) Measurement(Avg)

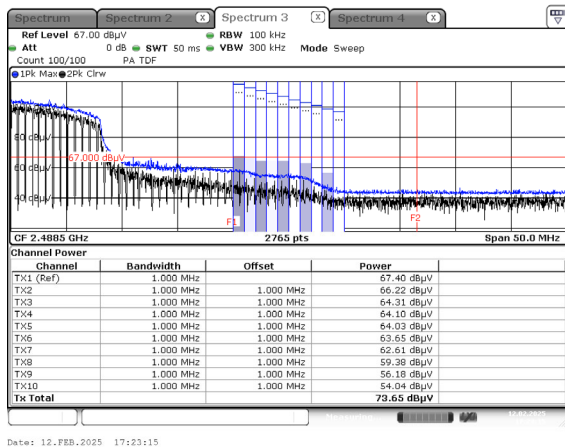
= Measured Value (Avg) + Duty Cycle Factor

- We apply to the offset in the range 1 GHz - 18 GHz.

- The offset = Antenna Factor(A.F) + Cable Loss(C.L) + Distance Factor(D.F) + Attenuator (ATT)

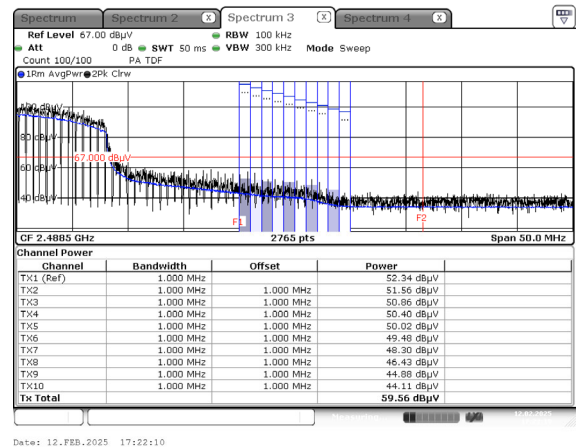
Test Plot

[Peak Result]



Date: 12.FEB.2025 17:23:15

[Average Result]

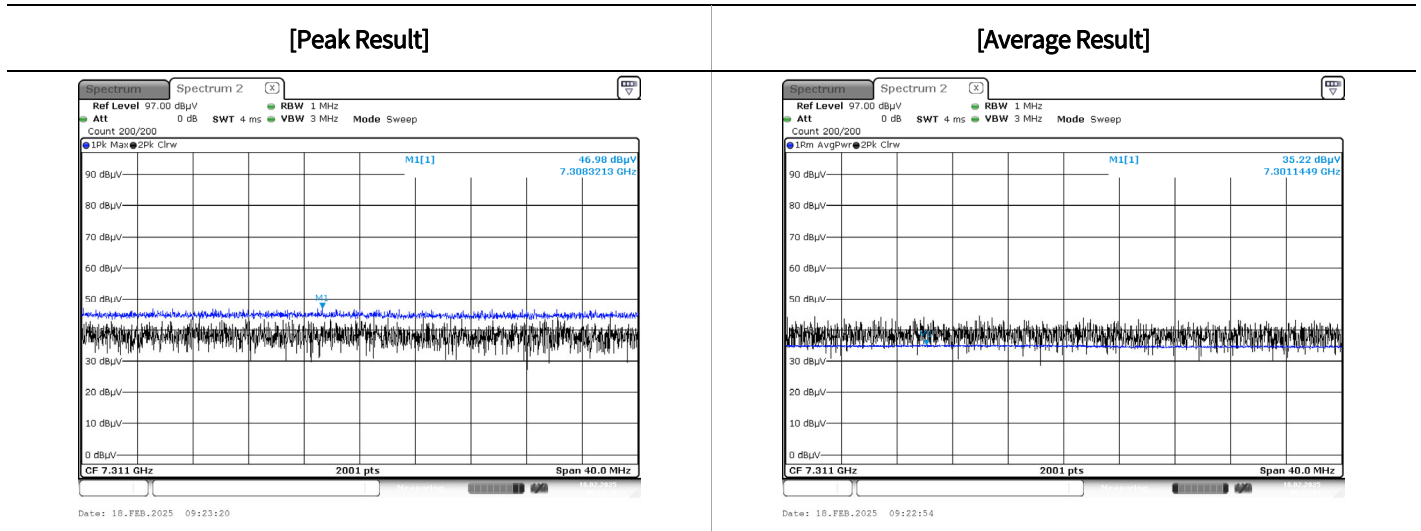


Date: 12.FEB.2025 17:22:10

DTS ax R.S.E Harmonic (ANT ALL) (MIMO, 802.11ax HE20 SU MCS0/Ch.6)

Band :	DTS		Operation Mode :		SU			
CH.6	2437	MHz						
Frequency	Measured value	D.C.F	CL+AF+DF-AG	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
4874	51.74	0.00	-5.17	V	46.57	73.98	27.41	PK
4874	39.49	0.67	-5.17	V	34.99	53.98	18.99	AV
7311	46.98	0.00	1.88	V	48.86	73.98	25.12	PK
7311	35.22	0.67	1.88	V	37.77	53.98	16.21	AV
4874	51.22	0.00	-5.17	H	46.05	73.98	27.93	PK
4874	39.36	0.67	-5.17	H	34.86	53.98	19.12	AV
7311	46.75	0.00	1.88	H	48.63	73.98	25.35	PK
7311	35.11	0.67	1.88	H	37.66	53.98	16.32	AV

▣ Test Plot



UNII Band Edge (ANT ALL) (MIMO, 802.11n(20M)_ MCS8/ch.100) - [Average Result]

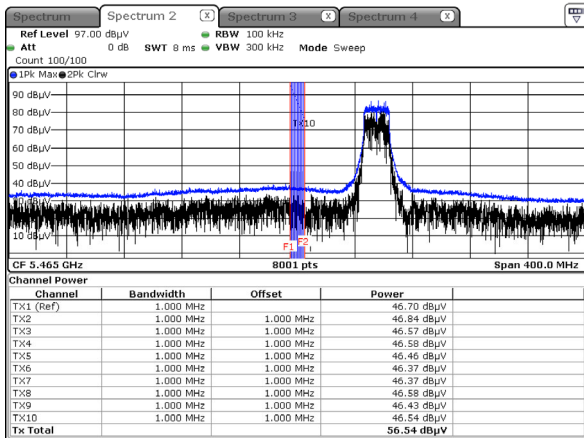
Frequency	Measured Value	CL+AF+DF-AG+ATT	ANT. POL	Total	Limit	Margin	Measurement Type
[MHz]	[dBμV]	[dB]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	
5460	49.70	15.43	H	65.13	73.98	8.85	PK
5460	36.52	15.43	H	51.95	53.98	2.03	AV
5470	45.81	15.66	H	61.47	68.20	6.73	PK

UNII Band Edge (ANT ALL) (MIMO, 802.11ac(20M)_ MCS0/ch.104) - [Peak Result]

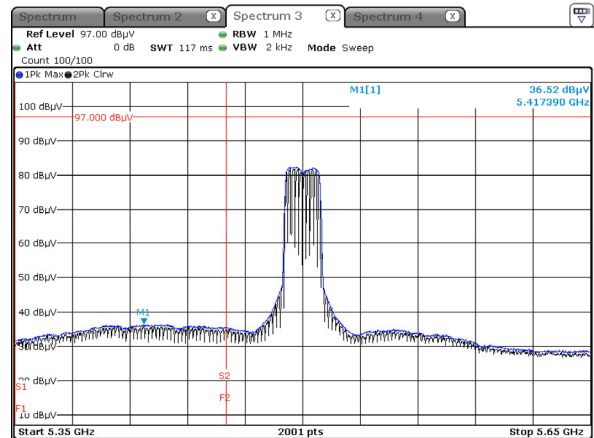
Frequency	Measured Value	CL+AF+DF-AG+ATT	ANT. POL	Total	Limit	Margin	Measurement Type
[MHz]	[dBμV]	[dB]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	
5460	49.13	15.43	H	64.56	73.98	9.42	PK
5460	36.15	15.43	H	51.58	53.98	2.40	AV
#5460~5470	46.84	15.66	H	62.50	68.20	5.70	PK

Test Plot

[Peak Result]



[Average Result]

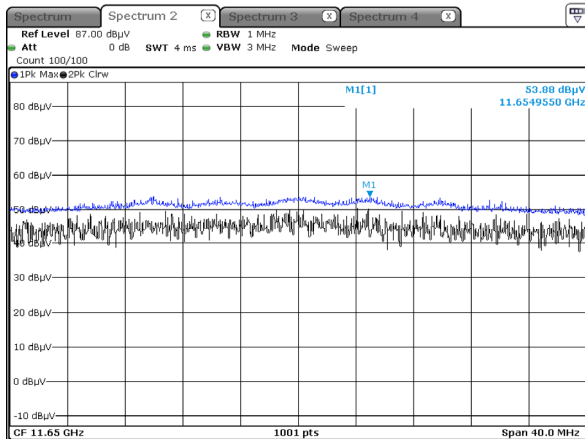


UNII R.S.E Harmonic (ANT ALL) (MIMO, 802.11a 6 Mbps/ch.165)

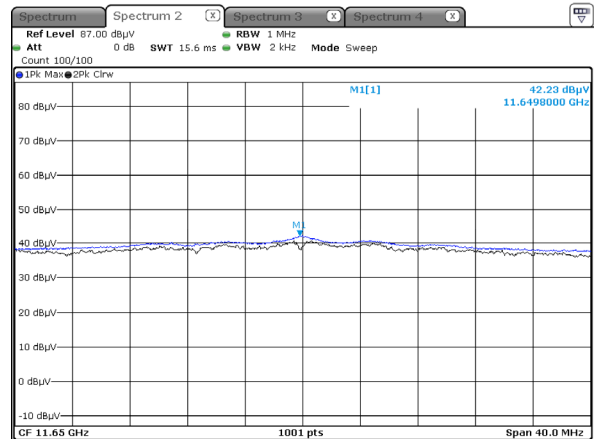
Band :	UNII 3		Operation Mode :		802.11a		
CH.165	5825	MHz	Transfer Rate :		6M		
Frequency	Measured value	CL+AF+DF-AG	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
11650	53.88	-0.53	V	53.35	73.98	20.63	PK
11650	42.23	-0.53	V	41.70	53.98	12.28	AV
17475	50.72	3.06	V	53.78	68.20	14.42	PK
11650	52.44	-0.53	H	51.91	73.98	22.07	PK
11650	41.58	-0.53	H	41.05	53.98	12.93	AV
17475	50.39	3.06	H	53.45	68.20	14.75	PK

Test Plot

[Peak Result]



[Average Result]



UNII ax Band Edge (ANT ALL) (MIMO, 802.11ax(HE80)_SU MCS0 / ch. 106)

Frequency	Measured Value	CL+AF+DF-AG+ATT	ANT. POL	Total	Limit	Margin	Measurement Type
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	
5460	63.06	-	H	63.06	73.98	10.92	PK
5460	51.64	-	H	51.64	53.98	2.34	AV
5470	63.62	-	H	63.62	68.20	4.58	PK

Note :

(1) Measurement(Peak)

= Measured Value(Peak)

(2) Measurement(Avg)

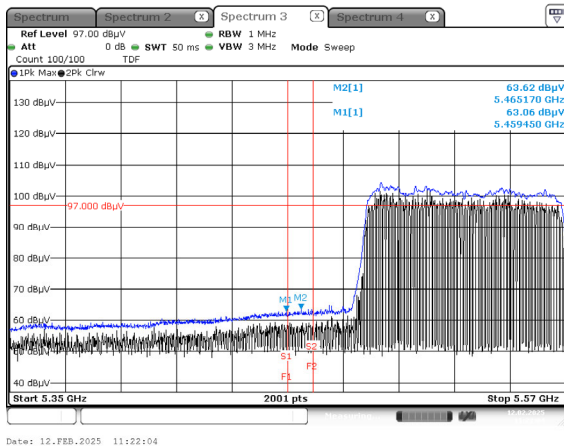
= Measured Value (Avg)

- We apply to the offset in the range 1 GHz - 18 GHz.

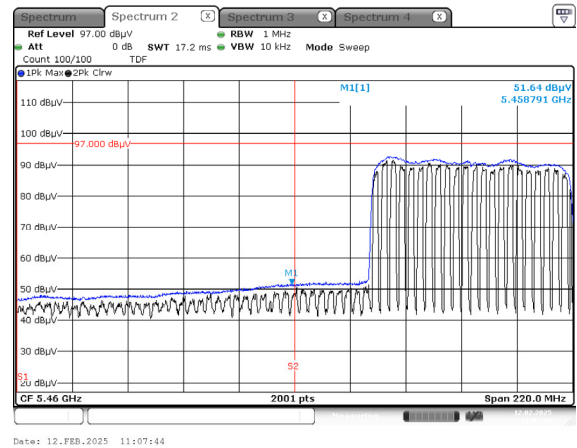
- The offset = Antenna Factor(A.F) + Cable Loss(C.L) + Distance Factor(D.F)– Amp. Gain(A.G) + Attenuator (ATT)

Test Plot

[Peak Result]



[Average Result]

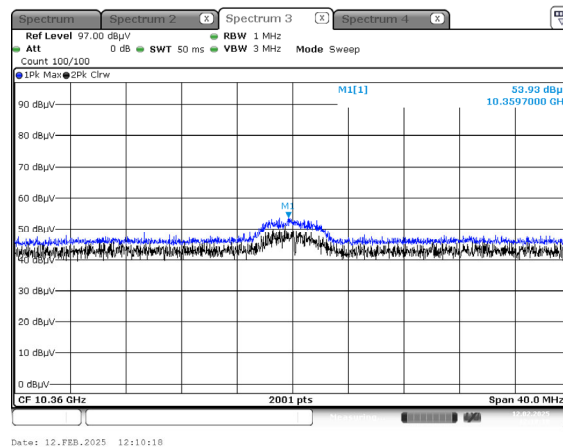


UNII ax R.S.E Harmonic (ANT ALL) (MIMO, 802.11ax(HE20)_26T_4RU MCS0 / ch. 36)

Band :	UNII 1		Operation Mode :		802.11ax_HE20		
CH.36	5180	MHz	Transfer Rate :		MCS0		
Frequency	Measured value	CL+AF+DF-AG	ANT. POL	Total	Limit	Margin	Measurement
[MHz]	[dBμV]	[dB/m]	[H/V]	[dBμV/m]	[dBμV/m]	[dB]	Type
10360	53.93	5.79	V	59.72	68.20	8.48	PK
15540	48.67	6.58	V	55.25	73.98	18.73	PK
15540	34.01	6.58	V	40.59	53.98	13.39	AV
10360	53.68	5.79	H	59.47	68.20	8.73	PK
15540	48.51	6.58	H	55.09	73.98	18.89	PK
15540	33.99	6.58	H	40.57	53.98	13.41	AV

■ Test Plot

[Peak Result]



Digitizer Fundamental

Mode: Keyboard cover detection

Fundamental

Frequency	Measured value	Ant.Factor	Cable Loss	Distance Correction	Result Value	Limit	Margin
(kHz)	(dB μ V/m)@3m	(dB/m)	(dB)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)
#657.410	25.086	20.20	0.51	-40.00	5.796	31.25	25.45

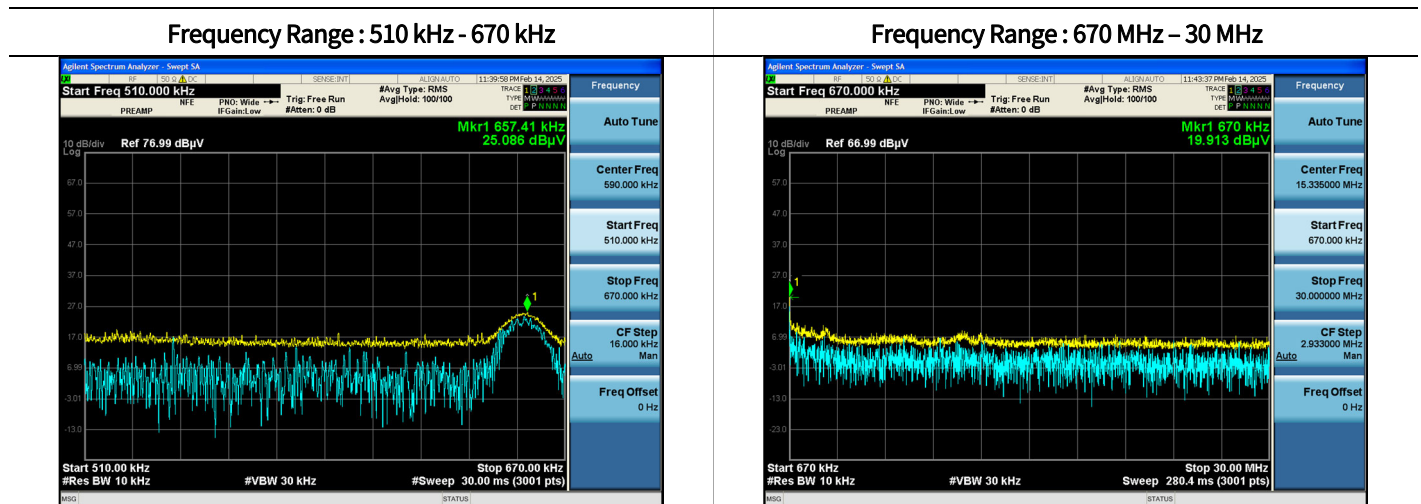
R.S.E

Frequency	Measured value	Ant.Factor	Cable Loss	Distance Correction	Result Value	Limit	Margin
(kHz)	(dB μ V/m)@3m	(dB/m)	(dB)	(dB)	(dB μ V/m)	(dB μ V/m)	(dB)
670.000	19.913	20.20	0.51	-40.00	0.623	31.08	30.46

Note :

1. “#” : Fundamental Frequency
2. 30 MHz - 1 GHz : No Critical peaks found

Test Plot



AC Power Line

Test

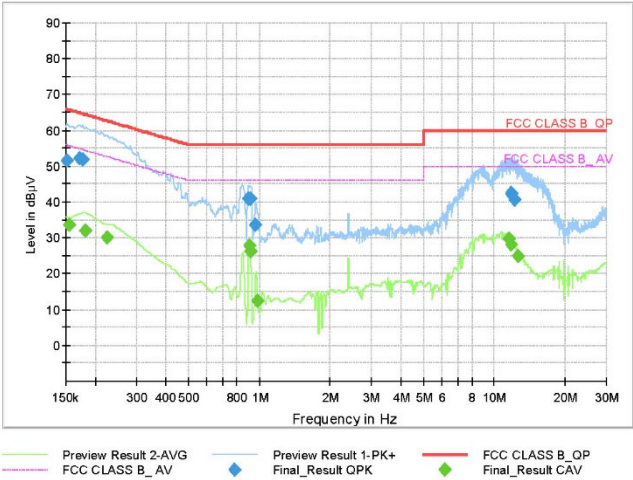
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Test Report

Common Information

EUT : SM-X520
Operating Conditions : 2.4G WLAN Mode
Comment :

Full Spectrum



Final Result QPK

Frequency (MHz)	QuasiPeak (dBµV)	Limit (dBµV)	Margin (dB)	Bandwidth (kHz)	Line	Corr. (dB)
0.1523	51.63	65.88	14.24	9.000	N	9.6
0.1725	52.28	64.84	12.56	9.000	N	9.6
0.1770	51.81	64.63	12.82	9.000	N	9.6
0.9005	40.85	56.00	15.15	9.000	N	9.7
0.9185	41.09	56.00	14.91	9.000	N	9.7
0.9635	33.46	56.00	22.54	9.000	N	9.7
11.7748	42.65	60.00	17.35	9.000	L1	10.1
11.8490	42.11	60.00	17.89	9.000	L1	10.1
12.1663	40.71	60.00	19.29	9.000	L1	10.1

Final Result CAV

Frequency (MHz)	CAverage (dBµV)	Limit (dBµV)	Margin (dB)	Bandwidth (kHz)	Line	Corr. (dB)
0.1545	33.45	55.75	22.30	9.000	N	9.6
0.1815	32.00	54.42	22.42	9.000	N	9.6
0.2243	29.92	52.66	22.74	9.000	N	9.6
0.9050	27.94	46.00	18.06	9.000	N	9.7
0.9140	26.38	46.00	19.62	9.000	L1	9.7
0.9770	12.54	46.00	33.46	9.000	N	9.7
11.5048	29.60	50.00	20.40	9.000	L1	10.1
11.7793	28.06	50.00	21.94	9.000	L1	10.1
12.6275	24.89	50.00	25.11	9.000	L1	10.1

2025-02-18

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3. List of test equipment(Unlicensed)

Equipment	Model	Manufacturer	Serial No.	Due to Calibration	Calibration Interval
LISN	ENV216	Rohde & Schwarz	102245	07/17/2025	Annual
EMI Test Receiver	ESR	Rohde & Schwarz	101910	08/27/2025	Annual
Temperature Chamber	SU-642	ESPEC	0093008124	02/11/2026	Annual
Signal Analyzer	N9030A	Agilent	MY49432108	02/18/2026	Annual
Power Measurement Set	OSP 120	Rohde & Schwarz	100935	08/01/2025	Annual
Power Meter	N1911A	Agilent	MY45100523	02/28/2025	Annual
Power Sensor	N1921A	Agilent	MY57820067	02/22/2025	Annual
Directional Coupler	87300B	Agilent	3116A03621	10/21/2025	Annual
Power Splitter	11667B	Hewlett Packard	10545	01/23/2026	Annual
DC Power Supply	E3632A	Agilent	KR75303243	04/19/2025	Annual
Attenuator(10 dB)(DC-26.5 GHz)	8493C	HP	07560	06/05/2025	Annual
Attenuator(10 dB)(DC-26.5 GHz)	8493C	HP	08285	05/28/2025	Annual
Attenuator(20 dB)	18N-20dB	Rohde & Schwarz	8	02/18/2026	Annual
Software	EMC32	Rohde & Schwarz	N/A	N/A	N/A
FCC WLAN&BT&BLE Conducted Test Software v3.0	N/A	HCT CO., LTD.	N/A	N/A	N/A
Bluetooth Tester	CBT	Rohde & Schwarz	100752	12/27/2025	Annual
Controller	CO3000	Innco system	CO3000-4p	N/A	N/A
Antenna Position Tower	MA4640/800-XP-EP	Innco system	S1AM	07/30/2025	Annual
Turn Table	DS2000-S-1t	Innco system	DS2000/572/54610422/P	N/A	N/A
Amp & Filter Bank Switch Controller	FBSM-01B	T&M system	TM19050002	N/A	N/A
Loop Antenna	FMZB 1513	Schwarzbeck	1513-175	01/06/2027	Biennial
Hybrid Antenna	VULB 9168	Schwarzbeck	9168-0895	08/28/2026	Biennial
Horn Antenna	BBHA 9120D	Schwarzbeck	9120D-1300	01/03/2026	Biennial
Horn Antenna	BBHA 9120D	Schwarzbeck	9120D-2296	05/16/2026	Biennial
Horn Antenna(15 GHz ~ 40 GHz)	BBHA9170	Schwarzbeck	BBHA9170342	09/20/2026	Biennial
Spectrum Analyzer	FSV(10 Hz ~ 40 GHz)	Rohde & Schwarz	101055	05/09/2025	Annual
Band Reject Filter	WRCJV2400/2483.5-2370/2520-60/12SS	Wainwright Instruments	2	12/26/2025	Annual
Band Reject Filter	WRCJV12-4900-5100-5900-6100-50SS	Wainwright Instruments	5	06/04/2025	Annual
Band Reject Filter	WRCJV12-4900-5100-5900-6100-50SS	Wainwright Instruments	6	06/04/2025	Annual
High Pass Filter(7 GHz ~ 18 GHz)	WHKX10-7150-8000-18000-50SS	Wainwright Instruments	1	02/28/2025	Annual
Power Amplifier	CBL18265035	CERNEX	22966	11/07/2025	Annual
Power Amplifier	CBL26405040	CERNEX	25956	02/26/2025	Annual
Bluetooth Tester	TC-3000C	TESCOM	3000C000175	03/19/2025	Annual

Equipment	Model	Manufacturer	Serial No.	Due to Calibration	Calibration Interval
RF Switching System	FMSR-05B (HPF(3~18GHz) + LNA1(1~18GHz))	T&M system	S1L1	12/23/2025	Annual
RF Switching System	FMSR-05B (ATT(10dB) + LNA1(1~18GHz))	T&M system	S1L2	12/23/2025	Annual
RF Switching System	FMSR-05B (ATT(3dB) + LNA1(1~18GHz))	T&M system	S1L3	12/23/2025	Annual
RF Switching System	FMSR-05B (LNA1(1~18GHz))	T&M system	S1L4	12/23/2025	Annual
RF Switching System	FMSR-05B (HPF(7~18GHz) + LNA2(6~18GHz))	T&M system	S1L5	12/23/2025	Annual
RF Switching System	FMSR-05B (Thru(30MHz ~ 18GHz))	T&M system	S1L6	12/23/2025	Annual
Signal Analyzer	N9030A	Agilent	MY49431210	12/12/2025	Annual
Power Measurement Set	OSP 120	Rohde & Schwarz	101231	10/17/2025	Annual
Power Splitter	11667B	Hewlett Packard	05001	04/17/2025	Annual
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	EM1000	Audix	060520	N/A	N/A
Turn Table	N/A	Audix	N/A	N/A	N/A
Loop Antenna	FMZB 1513	Rohde & Schwarz	1513-333	03/07/2026	Biennial
Hybrid Antenna	VULB 9168	Schwarzbeck	760	02/24/2025	Biennial
Horn Antenna	BBHA 9120D	Schwarzbeck	02299	01/29/2026	Biennial
Spectrum Analyzer	FSV40	Rohde & Schwarz	100901	02/22/2025	Annual
RF Switching System	FMSR-04B (3G HPF+LNA)	T&M SYSTEM	S2L1	12/23/2025	Annual
RF Switching System	FMSR-04B (10dB ATT+LNA)	T&M SYSTEM	S2L2	12/23/2025	Annual
RF Switching System	FMSR-04B (3dB ATT+LNA)	T&M SYSTEM	S2L3	12/23/2025	Annual
RF Switching System	FMSR-04B (LNA)	T&M SYSTEM	S2L4	12/23/2025	Annual
RF Switching System	FMSR-04B (7G HPF+LNA)	T&M SYSTEM	S2L5	12/23/2025	Annual
Temperature Chamber	SU-642	ESPEC	93022487	06/27/2025	Annual
Signal Analyzer	N9030A	Keysight	MY55410508	08/23/2025	Annual
DC Power Supply	E3632A	Agilent	KR75305528	12/24/2025	Annual
Controller(Antenna mast)	CO3000	Innco system	CO3000-4p	N/A	N/A
Antenna Position Tower	MA4640/800-XP-EP	Innco system	S3AM	07/30/2025	Annual
Controller	EM2090	Emco	060520	N/A	N/A
Turn Table	N/A	Ets	N/A	N/A	N/A
Amp & Filter Bank Switch Controller	FBSM-01A	TNM system	0	N/A	N/A

Equipment	Model	Manufacturer	Serial No.	Due to Calibration	Calibration Interval
Horn Antenna	BBHA 9120D	Schwarzbeck	9120D-1191	11/07/2025	Biennial
Horn Antenna(15 GHz ~ 40 GHz)	BBHA9170	Schwarzbeck	BBHA9170124	03/28/2025	Biennial
RF Switching System	FBSR-03A (3G HPF+LNA)	T&M SYSTEM	S3L1	10/31/2025	Annual
RF Switching System	FBSR-03A (10dB ATT+LNA)	T&M SYSTEM	S3L2	10/31/2025	Annual
RF Switching System	FBSR-03A (7G HPF+LNA)	T&M SYSTEM	S3L3	10/31/2025	Annual
RF Switching System	FBSR-03A (3dB ATT+LNA)	T&M SYSTEM	S3L4	10/31/2025	Annual
Spectrum Analyzer	FSV40 (9 kHz ~ 40 GHz)	Rohde & Schwarz	100900	08/27/2025	Annual
Attenuator(10 dB)(DC-26.5 GHz)	8493C-010	Agilent	08285	05/28/2025	Annual
Controller (Antenna mast & Turn Table)	CO3000	Innco system	CO3000/ 15421/57580623/G	N/A	N/A
Antenna Position Tower	MA4640	Innco system	9320422	04/05/2025	Biennial
Turn Table	N/A	Innco system	5930623	N/A	N/A
Hybrid Antenna	VULB 9168	Schwarzbeck	9168-1135	08/19/2026	Biennial
Horn Antenna	BBHA 9120D	Schwarzbeck	9120D-1151	07/14/2025	Biennial
Amp & Filter Bank Switch Controller	FBSM-01B	T&M system	TM2009001	N/A	N/A
RF Switching System	FMSR-05B (HPF(3~18GHz) + LNA1(1~18GHz))	T&M system	S5L1	03/12/2025	Annual
RF Switching System	FMSR-05B (ATT(10dB) + LNA1(1~18GHz))	T&M system	S5L2	03/12/2025	Annual
RF Switching System	FMSR-05B (ATT(3dB) + LNA1(1~18GHz))	T&M system	S5L3	03/12/2025	Annual
RF Switching System	FMSR-05B (LNA1(1~18GHz))	T&M system	S5L4	03/12/2025	Annual
RF Switching System	FMSR-05B (HPF(7~18GHz) + LNA2(6~18GHz))	T&M system	S5L5	03/12/2025	Annual
RF Switching System	FMSR-05B (Thru(30MHz ~ 18GHz))	T&M system	S5L6	03/12/2025	Annual
Spectrum Analyzer	FSV40 (9 kHz ~ 40 GHz)	Rohde & Schwarz	101510	09/24/2025	Annual
Wireless AP	GT-AXE11000	ASUS	M6IAJF201782 (FCC ID : MSQ- RTAXJF00)	N/A	N/A
DFS Measurement System(S/G)	PXI	ADLINK	302581/735	02/05/2026	Annual
DFS Measurement System(S/A)	PXI	ADLINK	303582/113	02/05/2026	Annual
4 Way Power Divider	4456-4	NARDA	02684	04/29/2025	Annual
Step Attenuator(70 dB)	8495B	Agilent	MY41110293	08/01/2025	Annual
Step Attenuator(11 dB)	8494B	HP	2812A19007	08/01/2025	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 Especially, all antenna for measurement