CERTIFICATION TEST REPORT

Report Number. : S-4791615638-E15V1

Applicant	:	SAMSUNG ELECTRONICS CO., LTD. 129 SAMSUNG-RO, YEONGTONG-GU, SUWON-SI, GYEONGGI-DO, 16677, KOREA
Model	:	SM-S937B/DS, SM-S937B
FCC ID	:	A3LSMS937B
EUT Description	:	GSM/WCDMA/LTE/NTN/5G NR Phone + BT/BLE, DTS/UNII a/b/g/n/ac/ax/be, NFC, WPT and UWB
Test Standard(s)	:	FCC 47 CFR PART 15 SUBPART E KDB 987594 D02 v03

Date Of Issue:
2025-02-26

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IAS ACCREDITED
Testing Laboratory
TL-637

Revision History

Rev.	Issue Date	Revisions	Presented By
V1	2025-02-26	Initial issue	Dexter(Hyunsik) Yun

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1. ATTESTATION OF TEST RESULTS

COMPANY NAME:	SAMSUNG ELECTRONICS CO., LTD.
EUT DESCRIPTION:	GSM/WCDMA/LTE/NTN/5G NR Phone + BT/BLE, DTS/UNII a/b/g/n/ac/ax/be, NFC, WPT and UWB.
MODEL NUMBER:	SM-S937B/DS, SM-S937B
SERIAL NUMBER:	R3CXC0C2Y9J, R3CXC0C2YFN, R3CXC0C2YWE (CONDUCTED);
DATE TESTED:	2025-02-15 ~ 2025-02-26

APPLICABLE STANDARDS	
STANDARD	**TEST RESULTS**
FCC CFR 47 PART 15 SUBPART E	Complies
KDB 987594 D02 v03	Complies

UL KOREA LTD. tested the above equipment in accordance with the requirements set forth in the above standards. All indications of Pass/Fail in this report are opinions expressed by UL KOREA LTD. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

Note: The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein. This document may not be altered or revised in any way unless done so by UL KOREA LTD. and all revisions are duly noted in the revisions section. Any alteration of this document not carried out by UL KOREA LTD. will constitute fraud and shall nullify the document. This report must not be used by the client to claim product certification, approval, or endorsement by IAS, any agency of the Federal Government, or any agency of any government.

Approved & Released For
UL KOREA LTD. By:

Seokhwan Hong
Suwon Lab Engineer
UL KOREA LTD.

Tested By:

Dexter(Hyunsik) Yun
Suwon Lab Engineer
UL KOREA LTD.

2. TEST METHODOLOGY

1. KDB 987594 D02 v03
2. FCC CFR 47 Part 15 SUBPART E.

3. FACILITIES AND ACCREDITATION

The test sites and measurement facilities used to collect data are located at 218 Maeyeong-ro, Yeongtong-gu, Suwon-si, Gyeonggi-do, 16675, Korea. Line conducted emissions are measured only at the 218 address. The following table identifies which facilities were utilized for radiated emission measurements documented in this report. Specific facilities are also identified in the test results sections.

218 Maeyeong-ro
☒ Chamber 1(3m semi-anechoic chamber)
☒ Chamber 2(3m semi-anechoic chamber)
☒ Chamber 3(3m semi-anechoic chamber)
☐ Chamber 4(3m Full-anechoic chamber)
☐ Chamber 5(3m Full-anechoic chamber)

UL KOREA LTD. is accredited by IAS, Laboratory Code TL-637. The full scope of accreditation can be viewed at https://www.iasonline.org/wp-content/uploads/2017/05/TL-637-cert-New.pdf.

4. DECISION RULES AND MEASUREMENT UNCERTAINTY

4.1. METROLOGICAL TRACEABILITY

The measuring equipment utilized to perform the tests documented in this report has been calibrated in accordance with the manufacturer's recommendations and is traceable to recognized national standards.

4.2. SAMPLE CALCULATION

Where relevant, the following sample calculation is provided:

Corr'd EIRP PSD [dBm] = ANT1 Meas. PSD [dBm] + ANT2 Meas PSD [dBm] + DCCF [dB] + Directional gain [dBi]

4.3. MEASUREMENT UNCERTAINTY

Where relevant, the following measurement uncertainty levels have been estimated for tests performed on the apparatus:

PARAMETER	UNCERTAINTY
Power Spectral Density	1.4 dB

Uncertainty figures are valid to a confidence level of 95%.

4.4. DECISION RULES

Decision rule for statement(s) of conformity is based on Clause 4.4.3 in IEC Guide 115:2023.

5. EQUIPMENT UNDER TEST

5.1. EUT DESCRIPTION

The EUT is a GSM/WCDMA/LTE/NTN/5G NR Phone + BT/BLE, DTS/UNII a/b/g/n/ac/ax/be, NFC, WPT and UWB. This test report addresses the VLP TPC verification.

Representative model	Difference	Derivative model
		SM-S937B
SM-S937B/DS	Hardware	Different Sim Tray
	Software	Same as SM-S937B/DS

The model SM-S937B/DS was used for final testing and is representative of the test results in this report.

5.2. DESCRIPTION OF AVAILABLE ANTENNAS

An intentional radiator antenna shall be designed to ensure that no antenna other than that furnished by the responsible party can be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator shall be considered sufficient to comply with the provisions of this section.

The internal antenna was Permanently attached.
Therefore this E.U.T Complies with the requirement of §15.203.

The radio utilizes a internal antenna, with a maximum gain of:

Frequency Band[MHz]	ANT1 Gain [dBi]	ANT2 Gain [dBi]	Correlated Chains Directional Gain[dBi]
UNII-5	-4.88	-5.12	-1.99

Directional gain for the MIMO operations is determined using KDB 662911 D01 Multiple Transmitter Output section F (2)(d)(1) for *Unequal antenna gains, with equal transmit powers*. The gain is calculated using the formula for correlated transmissions across the two transmit antennas.

Directional gain = $10 \log[(10^{G1/20} + 10^{G2/20} + \ldots + 10^{GN/20})^2 / N_{ANT}]$ dBi.
Sample calculation for this device with $N_{ANT} = 2$
Directional gain = $10 \log[(10^{-4.88/20} + 10^{-5.12/20})^2 / 2] = 0.09$ dBi

5.3. DESCRIPTION OF TEST SETUP

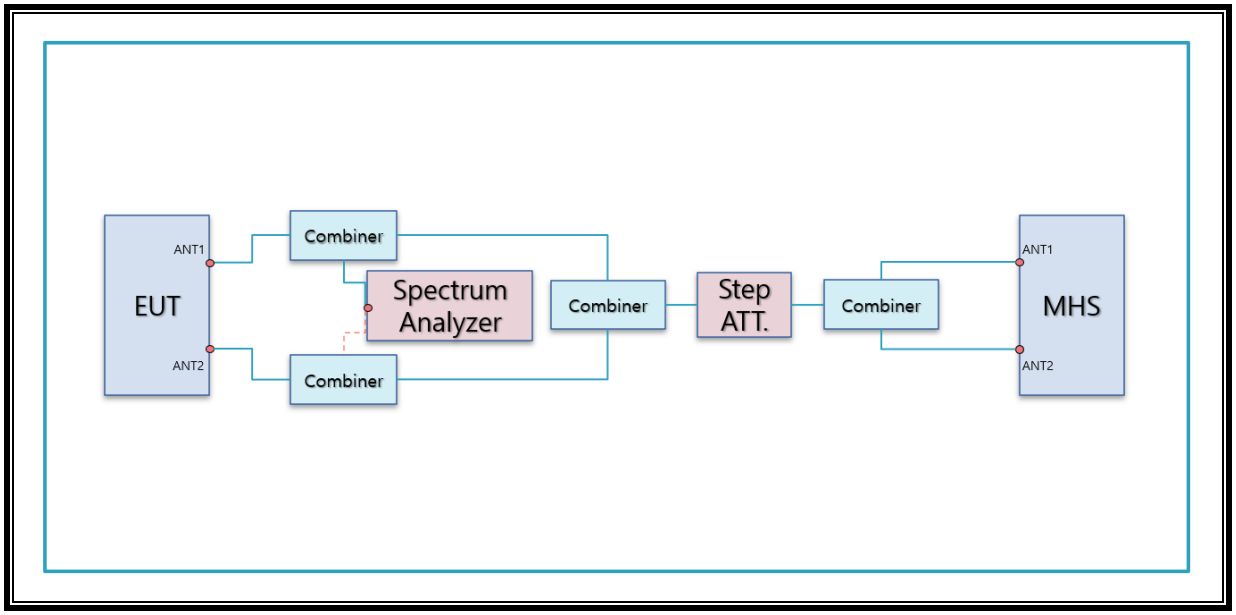
SUPPORT EQUIPMENT

Support Equipment List				
Description	**Manufacturer**	**Model**	**Serial Number**	**FCC ID**
Data Cable	SAMSUNG	EP-DN980	N/A	N/A

I/O CABLE

I/O Cable List						
Cable No.	**Port**	**# of identical ports**	**Connector Type**	**Cable Type**	**Cable Length (m)**	**Remarks**
1	DC Power	1	C Type	Shielded	1.0 m	N/A

SETUP DIAGRAM FOR TESTS (CONDUCTED TEST SETUP)



6. MEASUREMENT METHOD

Transmit Power Control, Very Low Power Devices: KDB 987594 D02 v03, Section M

7. TEST AND MEASUREMENT EQUIPMENT

The following test and measurement equipment was utilized for the tests documented in this report:

Test Equipment List				
Description	**Manufacturer**	**Model**	**S/N**	**Cal Due**
Spectrum Analyzer, 44 GHz	KEYSIGHT	N9030B	MY60070693	2026-01-02
Spectrum Analyzer, 44 GHz	KEYSIGHT	N9040B	MY60080268	2025-01-03
Attenuator	PASTERNACK	PE7087-10	A001	2025-07-23
Attenuator	PASTERNACK	PE7087-10	A008	2025-07-23
Attenuator	PASTERNACK	PE7004-10	2	2025-07-23
Attenuator	PASTERNACK	PE7087-10	A009	2025-07-23
Termination	WEINSCHEL	M1406A	T09	2025-07-23
Power Splitter	WEINSCHEL	WA1534	UL005	2026-01-03
Power Splitter	WEINSCHEL	WA1534	UL006	2026-01-03
Power Splitter	WEINSCHEL	WA1534	UL007	2026-01-03
Power Splitter	WEINSCHEL	WA1534	UL008	2026-01-03

8. TEST RESULTS SUMMARY

FCC Part Section	Test Description	Test Limit	Test Condition	Test Result
KDB 987594 Section M	Transmit Power Control, Very Low Power Devices	-	Conducted	Complies

9. 6E VLP MODE TPC REQUIRED

TPC Required

This device has capability to reduce transmit power from the maximum EIRP power density of - 5 dBm/MHz. This capability is required to meet regulatory and internal requirements. Regulatory requirements include specific absorption rate (SAR) requirements, out-of-band emission requirements (for edge channels), and total power requirements.

Furthermore, this device supports a feature to reduce transmit power in high RSSI configurations. This feature works for a VLP device operation.

10. Very Low Power TPC Verification

10.1. Demonstration of Proper Power Density Adjustment based on the Received Signal Strength Indicator (RSSI) between EUT and MHS device.

VERIFICATION PROCEDURE

KDB 987594 D02 v03, Section M

Verify the change in measured e.i.r.p. PSD value by adjusting RSSI through the step-attenuator between EUT and MHS device.

RESULTS

Mode	Channel	Freq. [MHz]	RSSI	Measured EUT e.i.r.p. PSD level				Max. e.i.r.p. Power Density [dBm/MHz]	Margin [dB]
				ANT1 [dBm/MHz]	ANT2 [dBm/MHz]	Directional Gain[dB]	SUM [dBm/ MHz]		
HE160	15	6025	Low	-11.92	-12.11	-1.99	-10.99	-5.00	-5.99
			Mid	-12.13	-12.25	-1.99	-11.17	-5.00	-6.17
			High	-18.69	-18.74	-1.99	-17.69	-5.00	-12.69

* Corr'd EIRP PSD [dBm] = ANT1 Meas. PSD [dBm] + ANT2 Meas PSD [dBm] + DCCF [dB] + Directional gain [dBi]

- RSSI -36 is the threshold level, and the PSD value does not increase any further.
- The PSD value decreases as RSSI increases.
- The TPC mechanism complies with FCC Part 15.407(d)(10)/ISED RSS 248 section 4.5.6 as output PSD shown as drop more than 6dB below -5 dBm/MHz EIRP.

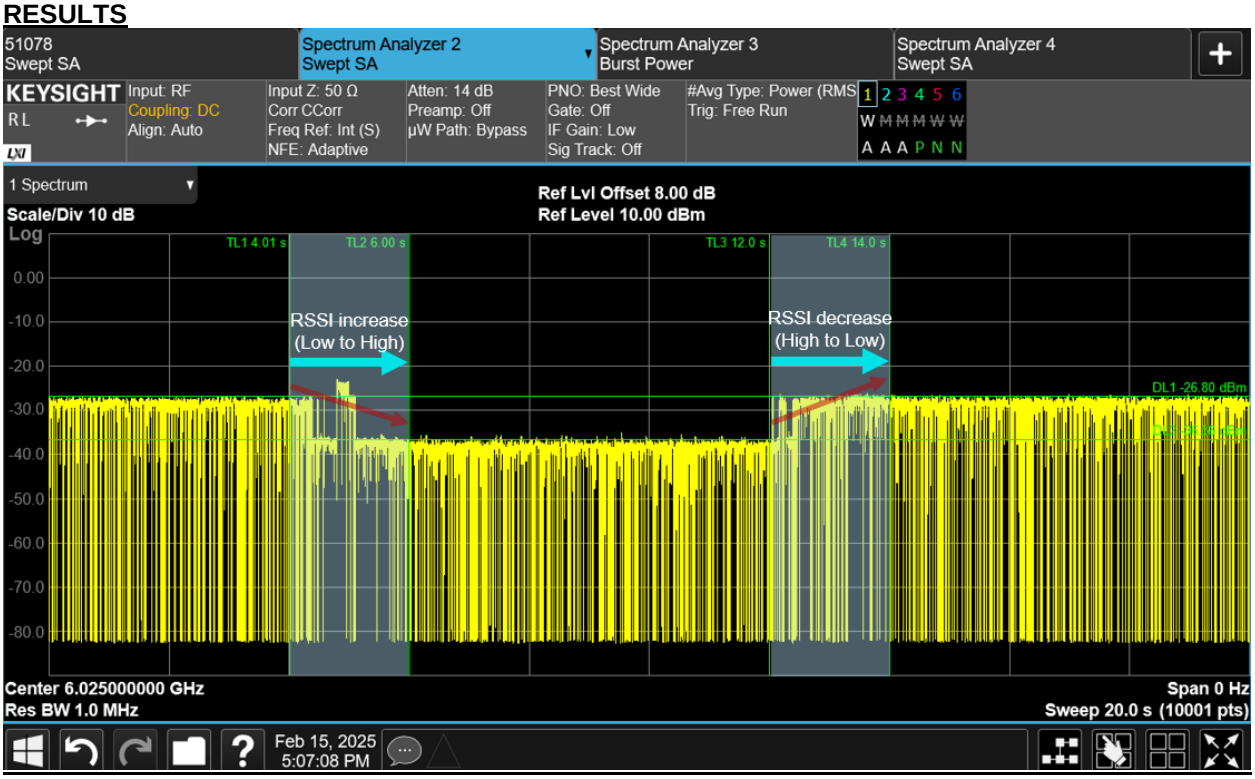
10.2. Verify output changes in time domain

VERIFICATION PROCEDURE

KDB 987594 D02 v02r01, Section M

Referring to the results of section 7.1, verify the time domain power change when RSSI changed from -36 to -25.

RESULTS



- Change the RSSI value by adjusting the step-attenuator.
- The stronger the RSSI, the less power the EUT needs. The weaker the RSSI, the more power the EUT needs.

END OF TEST REPORT