

## MEASUREMENT REPORT

### FCC Part 90

**Applicant Name:**

Samsung Electronics Co., Ltd.  
129, Samsung-ro,  
Yeongtong-gu, Suwon-si  
Gyeonggi-do, 16677, Korea

**Date of Testing:**

7/12 – 7/20/2021

**Test Site/Location:**

PCTEST Lab. Columbia, MD, USA

**Test Report Serial No.:**

1M2106280075-04.A3L

**FCC ID:**

**A3LSMF926B**

**APPLICANT:**

**Samsung Electronics Co., Ltd.**

**Application Type:**

Class II Permissive Change

**Model:**

SM-F926B

**Additional Model(s):**

SM-F926B/DS

**EUT Type:**

Portable Handset

**FCC Classification:**

PCS Licensed Transmitter Held to Ear (PCE)

**FCC Rule Part:**

§2.1049, §22(H), §90(S), §90(R)

**Test Procedure(s):**

ANSI C63.26-2015, ANSI/TIA-603-E-2016, KDB  
971168 D01 v03r01, KDB 648474 D03 v01r04

**Class II Permissive Change:**

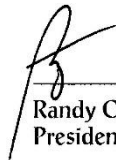
Please see FCC change document

**Original Grant Date:**

7/15/2021



This equipment has been shown to be capable of compliance with the applicable technical standards as indicated in the measurement report and was tested in accordance with the measurement procedures specified in §2.947. Test results reported herein relate only to the item(s) tested.

I attest to the accuracy of data. All measurements reported herein were performed by me or were made under my supervision and are correct to the best of my knowledge and belief. I assume full responsibility for the completeness of these measurements and vouch for the qualifications of all persons taking them.





Randy Ortanez  
President

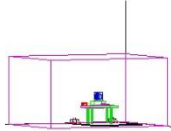


FCC ID: A3LSMF926B		MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Approved by: Technical Manager
Test Report S/N: 1M2106280075-04.A3L	Test Dates: 7/12 – 7/20/2021	EUT Type: Portable Handset		Page 1 of 19

## TABLE OF CONTENTS

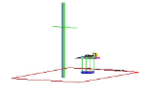
1.0	INTRODUCTION .....	4
1.1	Scope .....	4
1.2	PCTEST Test Location.....	4
1.3	Test Facility / Accreditations.....	4
2.0	PRODUCT INFORMATION.....	5
2.1	Equipment Description .....	5
2.2	Device Capabilities.....	5
2.3	Test Configuration .....	5
2.4	EMI Suppression Device(s)/Modifications .....	5
3.0	DESCRIPTION OF TESTS .....	6
3.1	Evaluation Procedure .....	6
3.2	Radiated Power and Radiated Spurious Emissions .....	6
4.0	MEASUREMENT UNCERTAINTY .....	7
5.0	TEST EQUIPMENT CALIBRATION DATA .....	8
6.0	SAMPLE CALCULATIONS .....	9
7.0	TEST RESULTS.....	10
7.1	Summary.....	10
7.2	Radiated Power (ERP).....	12
7.3	Radiated Spurious Emissions Measurements .....	15
	CONCLUSION .....	19

FCC ID: A3LSMF926B	 <b>PCTEST®</b> Proud to be part of element	<b>MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)</b>		<b>Approved by:</b> Technical Manager
<b>Test Report S/N:</b> 1M2106280075-04.A3L	<b>Test Dates:</b> 7/12 – 7/20/2021	<b>EUT Type:</b> Portable Handset		Page 2 of 19



## MEASUREMENT REPORT

### FCC Part 22 & 90



Mode	Bandwidth	Modulation	Tx Frequency Range [MHz]	Measurement	Max. Power [W]	Max. Power [dBm]
LTE Band 26	15 MHz	QPSK	821.5	ERP	0.061	17.83
		16QAM	821.5	ERP	0.051	17.07

#### EUT Overview

FCC ID: A3LSMF926B	<b>PCTEST</b> Proud to be part of element	MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2106280075-04.A3L	Test Dates: 7/12 – 7/20/2021	EUT Type: Portable Handset		Page 3 of 19

## 1.0 INTRODUCTION

### 1.1 Scope

Measurement and determination of electromagnetic emissions (EMC) of radio frequency devices including intentional and/or unintentional radiators for compliance with the technical rules and regulations of the Federal Communications Commission and the Innovation, Science and Economic Development Canada.


### 1.2 PCTEST Test Location

These measurement tests were conducted at the PCTEST Engineering Laboratory, Inc. facility located at 7185 Oakland Mills Road, Columbia, MD 21046. The measurement facility is compliant with the test site requirements specified in ANSI C63.4-2014.

### 1.3 Test Facility / Accreditations

**Measurements were performed at PCTEST Engineering Lab located in Columbia, MD 21046, U.S.A.**

- PCTEST is an ISO 17025-2017 accredited test facility under the American Association for Laboratory Accreditation (A2LA) with Certificate number 2041.01 for Specific Absorption Rate (SAR), Hearing Aid Compatibility (HAC) testing, where applicable, and Electromagnetic Compatibility (EMC) testing for FCC and Innovation, Science, and Economic Development Canada rules.
- PCTEST TCB is a Telecommunication Certification Body (TCB) accredited to ISO/IEC 17065-2012 by A2LA (Certificate number 2041.03) in all scopes of FCC Rules and ISSED Standards (RSS).
- PCTEST facility is a registered (2451B) test laboratory with the site description on file with ISSED.

FCC ID: A3LSMF926B	 PCTEST® Proud to be part of element	MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Approved by: Technical Manager
Test Report S/N: 1M2106280075-04.A3L	Test Dates: 7/12 – 7/20/2021	EUT Type: Portable Handset		Page 4 of 19

## 2.0 PRODUCT INFORMATION

### 2.1 Equipment Description

The Equipment Under Test (EUT) is the **Samsung FCC ID: A3LSMF926B**. The test data contained in this report pertains only to the emissions due to the EUT's licensed transmitters that operate under the provisions of Part.

**Test Device Serial No.:** 0429M, 0405M

### 2.2 Device Capabilities

This device contains the following capabilities:

850/1900 GSM/GPRS/EDGE, 850/1700/1900 WCDMA/HSPA, Multi-band LTE, Multi-band 5G NR (n5, n66), 802.11b/g/n/ax WLAN, 802.11a/n/ac/ax UNII (5GHz and 6GHz), Bluetooth (1x, EDR, LE), NFC, Wireless Power Transfer, UWB

This device uses a tuner circuit that dynamically updates the antenna impedance parameters to optimize antenna performance for certain bands and modes of operation. The tuner for this device was set to simulate a "free space" condition where the transmit antenna is matched to the medium into which it is transmitting and, thus, the power is at its maximum level.

### 2.3 Test Configuration

The EUT was tested per the guidance of ANSI/TIA-603-E-2016 and KDB 971168 D01 v03r01. See Section 7.0 of this test report for a description of the radiated and antenna port conducted emissions tests.

This device supports two configurations: one is with screen open and one is with screen closed. Both configurations are tested, and the worst case radiated emissions data is shown in this report.

This device supports wireless charging capability and, thus, is subject to the test requirements of KDB 648474 D03 v01r04. Additional radiated spurious emission measurements were performed with the EUT lying flat on an authorized wireless charging pad WCP Model: EP-N5100 while operating under normal conditions in a simulated call or data transmission configuration. The worst case radiated emissions data is shown in this report.

### 2.4 EMI Suppression Device(s)/Modifications

No EMI suppression device(s) were added and no modifications were made during testing.

FCC ID: A3LSMF926B	 PCTEST <sup>®</sup> Proud to be part of element	MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Approved by: Technical Manager
Test Report S/N: 1M2106280075-04.A3L	Test Dates: 7/12 – 7/20/2021	EUT Type: Portable Handset		Page 5 of 19

## 3.0 DESCRIPTION OF TESTS

### 3.1 Evaluation Procedure

The measurement procedures described in the document titled “Land Mobile FM or PM – Communications Equipment – Measurements and Performance Standards” (ANSI/TIA-603-E-2016) and “Procedures for Compliance Measurement of the Fundamental Emission Power of Licensed Wideband (> 1 MHz) Digital Transmission Systems” (KDB 971168 D01 v03r01) were used in the measurement of the EUT.

### 3.2 Radiated Power and Radiated Spurious Emissions

The radiated test facilities consisted of an indoor 3 meter semi-anechoic chamber used for final measurements and exploratory measurements, when necessary. The measurement area is contained within the semi-anechoic chamber which is shielded from any ambient interference. The test site inside the chamber is a 6m x 5.2m elliptical, obstruction-free area in accordance with Figure 5.7 of Clause 5 in ANSI C63.4-2014. Absorbers are arranged on the floor between the turn table and the antenna mast in such a way so as to maximize the reduction of reflections for measurements above 1GHz. For measurements below 1GHz, the absorbers are removed. A raised turntable is used for radiated measurement. The turn table is a continuously rotatable, remote-controlled, metallic turntable and 2 meters (6.56 ft.) in diameter. The turn table is flush with the raised floor of the chamber in order to maintain its function as a ground plane. An 80cm tall test table made of Styrodur is placed on top of the turn table. A Styrodur pedestal is placed on top of the test table to bring the total table height to 1.5m.

The equipment under test was transmitting while connected to its integral antenna and is placed on a wooden turntable 80cm above the ground plane and 3 meters from the receive antenna. The receive antenna height is adjusted between 1 and 4 meter height, the turntable is rotated through 360 degrees, and the EUT is manipulated through all orthogonal planes representative of its typical use to achieve the highest reading on the receive spectrum analyzer. Radiated power levels are also investigated with the receive antenna horizontally and vertically polarized. The maximized power level is recorded using the spectrum analyzer “Channel Power” function with the integration band set to the emissions’ occupied bandwidth, a RMS detector, RBW = 100kHz, VBW = 300kHz, and a 1 second sweep time over a minimum of 10 sweeps, per the guidelines of KDB 971168 D01 v03r01.

Per the guidance of ANSI/TIA-603-E-2016, a half-wave dipole is then substituted in place of the EUT. For emissions above 1GHz, a horn antenna is substituted in place of the EUT. The substitute antenna is driven by a signal generator with the level of the signal generator being adjusted to obtain the same receive spectrum analyzer level previously recorded from the spurious emission from the EUT. The power of the emission is calculated using the following formula:

$$P_d \text{ [dBm]} = P_g \text{ [dBm]} - \text{cable loss [dB]} + \text{antenna gain [dBd/dBi]}$$

Where,  $P_d$  is the dipole equivalent power,  $P_g$  is the generator output into the substitution antenna, and the antenna gain is the gain of the substitute antenna used relative to either a half-wave dipole (dBd) or an isotropic source (dBi). The substitute level is equal to  $P_g \text{ [dBm]} - \text{cable loss [dB]}$ .

For fundamental radiated power measurements, the guidance of KDB 971168 D01 v03r01 is used to record the EUT power level that is subsequently matched via the aforementioned substitution method given in ANSI/TIA-603-E-2016.



All radiated measurements are performed in a chamber that meets the site requirements per ANSI C63.4-2014. Additionally, radiated emissions below 30MHz are also validated on an Open Area Test Site to assert correlation with the chamber measurements per the requirements of KDB 474788 D01.

FCC ID: A3LSMF926B		MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Approved by: Technical Manager
Test Report S/N: 1M2106280075-04.A3L	Test Dates: 7/12 – 7/20/2021	EUT Type: Portable Handset		Page 6 of 19

## 4.0 MEASUREMENT UNCERTAINTY

The measurement uncertainties shown below were calculated in accordance with the requirements of ANSI C63.4-2014. All measurement uncertainty values are shown with a coverage factor of  $k = 2$  to indicate a 95% level of confidence. The measurement uncertainty shown below meets or exceeds the  $U_{\text{CISPR}}$  measurement uncertainty values specified in CISPR 16-4-2 and, thus, can be compared directly to specified limits to determine compliance.

Contribution	Expanded Uncertainty ( $\pm$ dB)
Conducted Bench Top Measurements	1.13
Radiated Disturbance (<1GHz)	4.98
Radiated Disturbance (>1GHz)	5.07
Radiated Disturbance (>18GHz)	5.09

FCC ID: A3LSMF926B	 PCTEST® Proud to be part of element	MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Approved by: Technical Manager
Test Report S/N: 1M2106280075-04.A3L	Test Dates: 7/12 – 7/20/2021	EUT Type: Portable Handset		Page 7 of 19

## 5.0 TEST EQUIPMENT CALIBRATION DATA



Test Equipment Calibration is traceable to the National Institute of Standards and Technology (NIST). Measurement antennas used during testing were calibrated in accordance to the requirements of ANSI C63.5-2017.

Manufacturer	Model	Description	Cal Date	Cal Interval	Cal Due	Serial Number
-	AP2	EMC Cable and Switch System	3/4/2021	Annual	3/4/2022	AP2
-	ETS	EMC Cable and Switch System	3/4/2021	Annual	3/4/2022	ETS
Anritsu	MT8821C	Radio Communication Analyzer	N/A			6201525694
Com-Power	AL-130	9kHz - 30MHz Loop Antenna	10/10/2019	Biennial	10/10/2021	121034
Emco	3115	Horn Antenna (1-18GHz)	6/18/2020	Biennial	6/18/2022	9704-5182
Emco	3116	Horn Antenna (18 - 40GHz)	8/7/2018	Triennial	8/7/2021	9203-2178
Espec	ESX-2CA	Environmental Chamber	8/27/2020	Annual	8/27/2022	17620
ETS Lindgren	3117	1-18 GHz DRG Horn (Medium)	4/20/2021	Biennial	4/20/2023	00125518
ETS Lindgren	3164-08	Quad Ridge Horn Antenna	3/12/2020	Biennial	3/12/2022	128337
Keysight Technologies	N9030A	PXA Signal Analyzer (44GHz)	8/17/2020	Annual	8/17/2021	MY52350166
Keysight Technologies	N9030A	PXA Signal Analyzer	9/2/2020	Annual	9/2/2021	MY55410501
Keysight Technologies	N9030B	PXA Signal Analyzer, Multi-touch	9/17/2020	Annual	9/17/2021	MY57141001
Keysight Technologies	N9038A	MXE EMI Receiver	8/11/2020	Annual	8/11/2021	MY51210133
Mini-Circuits	SSG-4000HP	Synthesized Signal Generator	N/A			11208010032
Rohde & Schwarz	CMW500	Radio Communication Tester	N/A			112347
Rohde & Schwarz	ESU40	EMI Test Receiver (40GHz)	9/9/2020	Annual	9/9/2021	100348
Sunol	JB5	Bi-Log Antenna (30M - 5GHz)	7/27/2020	Biennial	7/27/2022	A051107
Sunol	JB6	LB6 Antenna	11/13/2020	Biennial	11/13/2022	A082816

**Table 5-1. Test Equipment**

### Notes:

1. For equipment listed above that has a calibration date or calibration due date that falls within the test date range, care was taken to ensure that this equipment was used after the calibration date and before the calibration due date.
2. Equipment with a calibration date of "N/A" shown in this list was not used to make direct calibrated measurements.

FCC ID: A3LSMF926B	 <b>MEASUREMENT REPORT</b> (CLASS II PERMISSIVE CHANGE) 		Approved by: Technical Manager
Test Report S/N: 1M2106280075-04.A3L	Test Dates: 7/12 – 7/20/2021	EUT Type: Portable Handset	Page 8 of 19



## 6.0 SAMPLE CALCULATIONS

### Emission Designator

#### QPSK Modulation

**Emission Designator = 8M62G7D**

LTE BW = 8.62 MHz

G = Phase Modulation

7 = Quantized/Digital Info

D = Data transmission, telemetry, telecommand

#### QAM Modulation

**Emission Designator = 8M45W7D**

LTE BW = 8.45 MHz

W = Amplitude/Angle Modulated

7 = Quantized/Digital Info

D = Data transmission, telemetry, telecommand

### Spurious Radiated Emission – LTE Band

#### **Example: Middle Channel LTE Mode 2<sup>nd</sup> Harmonic (1564 MHz)**

The average spectrum analyzer reading at 3 meters with the EUT on the turntable was –81.0 dBm. The gain of the substituted antenna is 8.1 dBi. The signal generator connected to the substituted antenna terminals is adjusted to produce a reading of –81.0 dBm on the spectrum analyzer. The loss of the cable between the signal generator and the terminals of the substituted antenna is 2.0 dB at 1564 MHz. So 6.1 dB is added to the signal generator reading of –30.9 dBm yielding –24.80 dBm. The fundamental EIRP was 25.50 dBm so this harmonic was 25.50 dBm – (-24.80) = 50.30 dBc.

FCC ID: A3LSMF926B	 PCTEST <sup>®</sup> Proud to be part of element	MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Approved by: Technical Manager
Test Report S/N: 1M2106280075-04.A3L	Test Dates: 7/12 – 7/20/2021	EUT Type: Portable Handset		Page 9 of 19



## 7.0 TEST RESULTS

### 7.1 Summary

Company Name: Samsung Electronics Co., Ltd.  
 FCC ID: A3LSMF926B  
 FCC Classification: PCS Licensed Transmitter Held to Ear (PCE)  
 Mode(s): LTE  
 Band: Band 26



Test Condition	Test Description	FCC Part Section(s)	Test Limit	Test Result	Reference
RADIATED	Effective Radiated Power (LTE Band 26)	22.913(a)(2)	< 7 Watts max. ERP	PASS	Section 7.2
	Radiated Spurious Emissions (LTE Band 26)	2.1053, 90.691(a)	> 43 + 10 log <sub>10</sub> (P[Watts]) for all out-of-band emissions except emissions beyond 37.5kHz from the block edge > 50 + 10 log <sub>10</sub> (P[Watts]) at Band Edge and for all out-of-band emissions within 37.5kHz of Block Edge	PASS	Section 7.3

Table 7-1. Summary of Test Results

FCC ID: A3LSMF926B		MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Approved by: Technical Manager
Test Report S/N: 1M2106280075-04.A3L	Test Dates: 7/12 – 7/20/2021	EUT Type: Portable Handset		Page 10 of 19

### Notes:

- 1) All modes of operation and data rates were investigated. The test results shown in the following sections represent the worst case emissions.
- 2) The analyzer plots shown in Section 7.0 were taken with a correction table loaded into the analyzer. The correction table was used to account for the losses of the cables, directional couplers, and attenuators used as part of the system to maintain a link between the call box and the EUT at all frequencies of interest.
- 3) All antenna port conducted emissions testing was performed on a test bench with the antenna port of the EUT connected to the spectrum analyzer through calibrated cables, attenuators, and couplers.
- 4) For conducted spurious emissions, automated test software was used to measure emissions and capture the corresponding plots necessary to show compliance. The measurement software utilized is PCTEST EMC Software Tool Beta 8.

FCC ID: A3LSMF926B	 PCTEST® Proud to be part of element	MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Approved by: Technical Manager
Test Report S/N: 1M2106280075-04.A3L	Test Dates: 7/12 – 7/20/2021	EUT Type: Portable Handset		Page 11 of 19

## 7.2 Radiated Power (ERP)

### Test Overview

Effective Radiated Power (ERP) measurements are performed using the substitution method described in ANSI/TIA-603-E-2016 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using vertically and horizontally polarized tuned dipole antennas. All measurements are performed as RMS average measurements while the EUT is operating at its maximum duty cycle, at maximum power, and at the appropriate frequencies.

### Test Procedures Used

KDB 971168 D01 v03r01 – Section 5.2.1

ANSI/TIA-603-E-2016 – Section 2.2.17

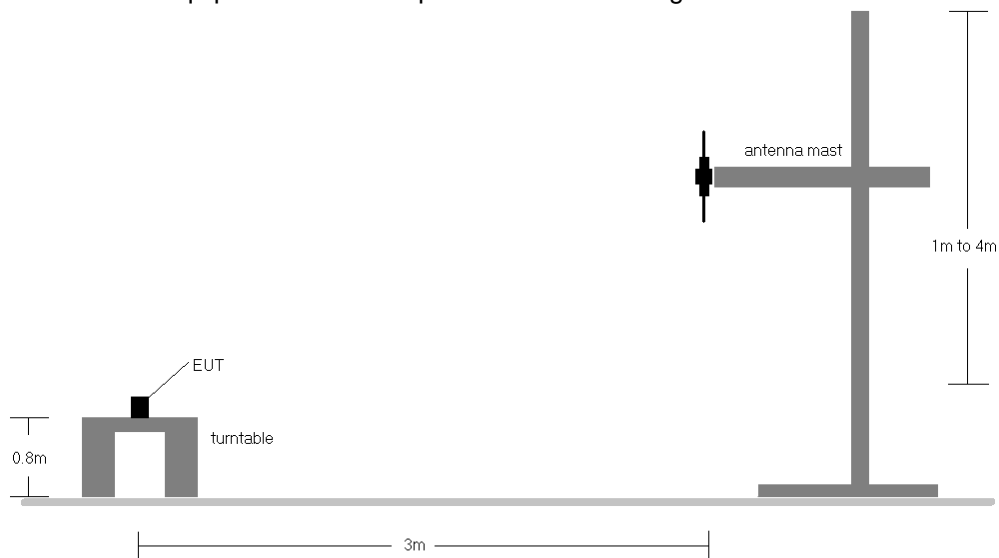
### Test Settings

1. Radiated power measurements are performed using the signal analyzer's "channel power" measurement capability for signals with continuous operation.
2. RBW = 1 – 5% of the expected OBW, not to exceed 1MHz
3. VBW  $\geq 3 \times$  RBW
4. Span = 1.5 times the OBW
5. No. of sweep points  $\geq 2 \times$  span / RBW
6. Detector = RMS
7. Trigger is set to "free run" for signals with continuous operation with the sweep times set to "auto".
8. The integration bandwidth was roughly set equal to the measured OBW of the signal for signals with continuous operation.
9. Trace mode = trace averaging (RMS) over 100 sweeps
10. The trace was allowed to stabilize

FCC ID: A3LSMF926B		MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Approved by: Technical Manager
Test Report S/N: 1M2106280075-04.A3L	Test Dates: 7/12 – 7/20/2021	EUT Type: Portable Handset		Page 12 of 19

## Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.



**Figure 7-1. Radiated Test Setup <1GHz**

## Test Notes

- 1) The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case emissions are reported with the EUT positioning, modulations, RB sizes and offsets, and channel bandwidth configurations shown in the tables below.
- 2) This unit was tested with its standard battery.


FCC ID: A3LSMF926B	<b>PCTEST</b> Proud to be part of element	MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2106280075-04.A3L	Test Dates: 7/12 – 7/20/2021	EUT Type: Portable Handset		Page 13 of 19

Bandwidth	Mod.	Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Ant. Gain [dBi]	RB Size/Offset	Substitute Level [dBm]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]
15 MHz	QPSK	821.5	H	354	337	6.62	1 / 37	13.36	<b>17.83</b>	0.061	38.45	-20.62
	16-QAM	821.5	H	354	337	6.62	1 / 37	12.60	17.07	0.051	38.45	-21.38
	QPSK	816.5	V	161	108	6.62	1 / 37	10.59	15.06	0.032	38.45	-23.39
	QPSK (Closed)	821.5	H	340	298	6.62	1 / 37	10.30	14.77	0.030	38.45	-23.68
	QPSK (WCP)	816.5	H	145	264	6.62	1 / 37	12.79	17.26	0.053	38.45	-21.19

Table 7-2. ERP Data (LTE Band 26 – AntA + AntB)

Bandwidth	Mod.	Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Ant. Gain [dBi]	RB Size/Offset	Substitute Level [dBm]	ERP [dBm]	ERP [Watts]	ERP Limit [dBm]	Margin [dB]
15 MHz	QPSK	821.5	H	352	290	6.62	1 / 37	9.29	<b>13.76</b>	0.024	38.45	-24.69
	16-QAM	821.5	H	352	290	6.62	1 / 37	8.50	12.97	0.020	38.45	-25.48
	QPSK	816.5	V	165	230	6.65	1 / 37	8.64	13.14	0.021	38.45	-25.31
	QPSK (WCP)	821.5	H	356	281	6.65	1 / 37	8.04	12.54	0.018	38.45	-25.91

Table 7-3. ERP Data (LTE Band 26 – AntA)

FCC ID: A3LSMF926B		MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Approved by: Technical Manager
Test Report S/N: 1M2106280075-04.A3L	Test Dates: 7/12 – 7/20/2021	EUT Type: Portable Handset		Page 14 of 19

## 7.3 Radiated Spurious Emissions Measurements

### Test Overview

Radiated spurious emissions measurements are performed using the substitution method described in ANSI/TIA-603-E-2016 with the EUT transmitting into an integral antenna. Measurements on signals operating below 1GHz are performed using horizontally and vertically polarized tuned dipole antennas. Measurements on signals operating above 1GHz are performed using vertically and horizontally polarized broadband horn antennas. All measurements are performed as peak measurements while the EUT is operating at maximum power, and at the appropriate frequencies.

### Test Procedures Used

KDB 971168 D01 v03r01 – Section 5.8

ANSI/TIA-603-E-2016 – Section 2.2.12

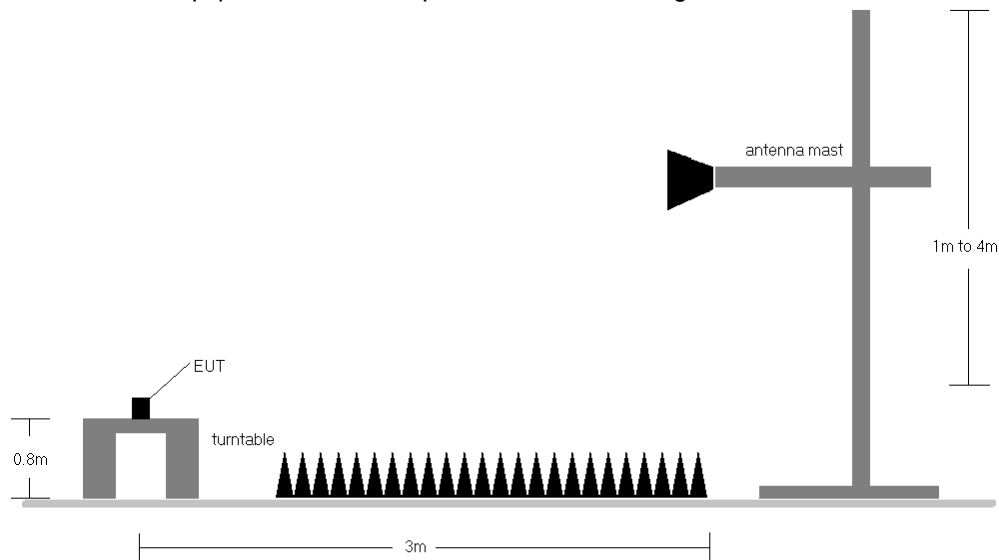
### Test Settings

1. RBW = 100kHz for emissions below 1GHz and 1MHz for emissions above 1GHz
2. VBW  $\geq 3 \times$  RBW
3. Span = 1.5 times the OBW
4. No. of sweep points  $\geq 2 \times$  span / RBW
5. Detector = RMS
6. Trace mode = Average (Max Hold for pulsed emissions)
7. The trace was allowed to stabilize

FCC ID: A3LSMF926B	 PCTEST® Proud to be part of element	MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)		Approved by: Technical Manager
Test Report S/N: 1M2106280075-04.A3L	Test Dates: 7/12 – 7/20/2021	EUT Type: Portable Handset		Page 15 of 19

## Test Setup

The EUT and measurement equipment were set up as shown in the diagram below.



**Figure 7-2. Test Instrument & Measurement Setup**

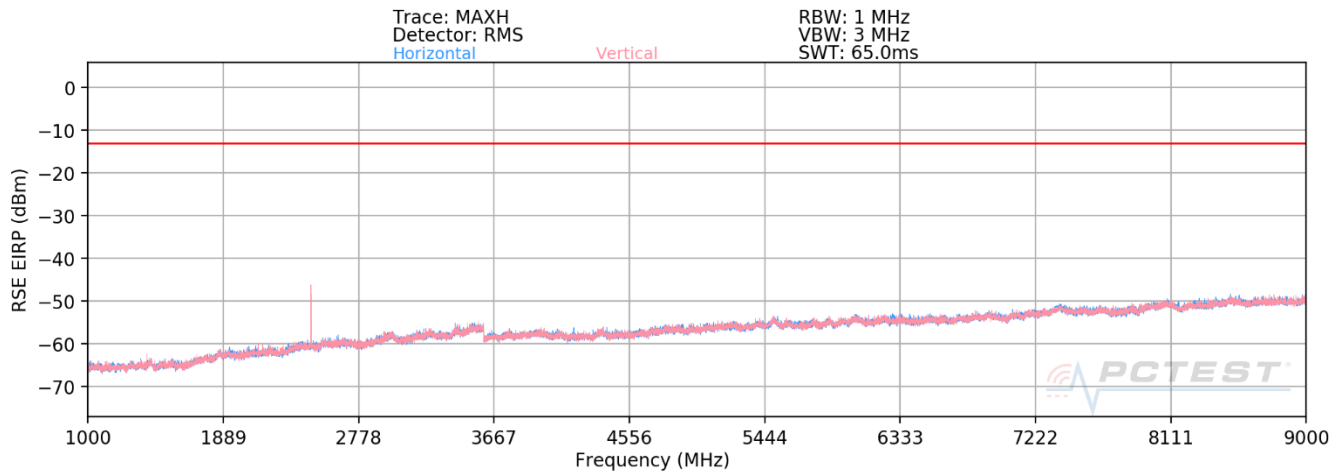
## Test Notes

1. For LTE mode, the device was tested under all modulations, RB sizes and offsets, and channel bandwidth configurations and the worst case emissions are reported with 1 RB.
2. This unit was tested with its standard battery.
3. The EUT was tested in three orthogonal planes and in all possible test configurations and positioning. The worst case setup is reported in the tables below.
4. The "-" shown in the following RSE tables are used to denote a noise floor measurement.

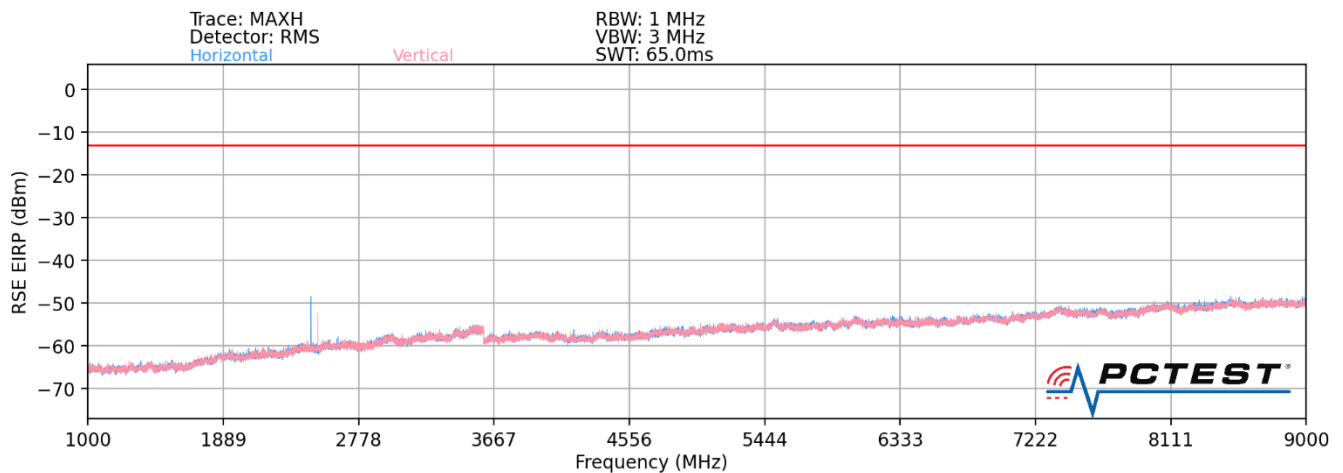
FCC ID: A3LSMF926B	<b>PCTEST</b> Proud to be part of element	MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2106280075-04.A3L	Test Dates: 7/12 – 7/20/2021	EUT Type: Portable Handset		Page 16 of 19



## LTE Band 26 AntA + AntB



Plot 7-1. Radiated Spurious Plot (LTE Band 26 – AntA + AntB) - OPEN



Plot 7-2. Radiated Spurious Plot (LTE Band 26 – AntA + AntB) - CLOSED

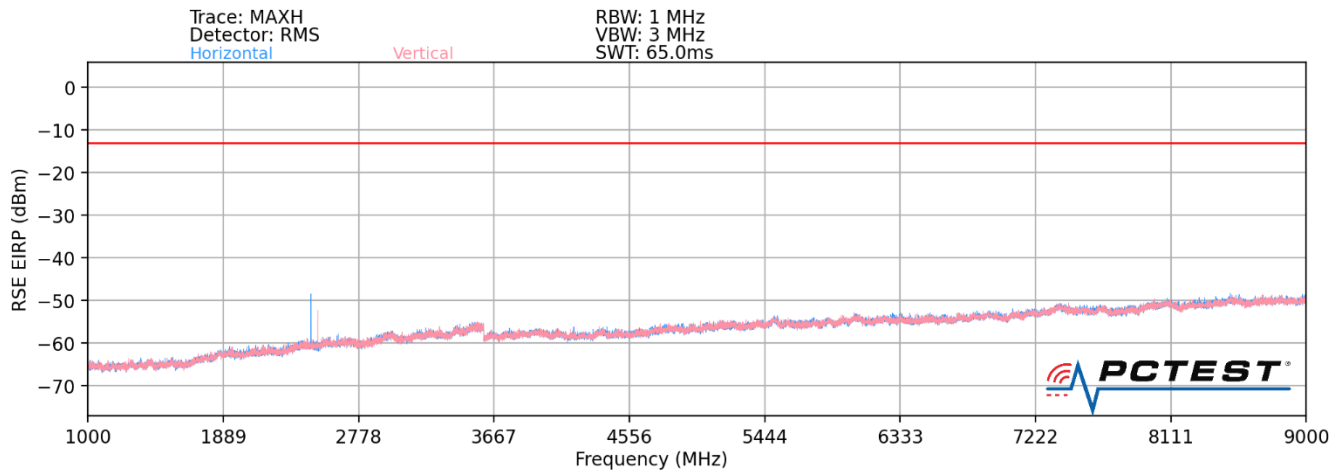
Bandwidth (MHz):	15
Frequency (MHz):	821.5
Modulation Signal:	QPSK
RB Config (Size / Offset):	1 / 37

Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
1643.0	V	311	101	-67.10	1.47	41.37	-53.89	-13.00	-40.89
2464.5	V	260	222	-69.23	5.58	43.35	-51.90	-13.00	-38.90
3286.0	V	-	-	-69.99	7.78	44.79	-50.46	-13.00	-37.46
4107.5	V	-	-	-71.22	8.51	44.29	-50.97	-13.00	-37.97
4929.0	V	-	-	-72.30	9.51	44.21	-51.05	-13.00	-38.05

Table 7-4. Radiated Spurious Data (LTE Band 26 – AntA + AntB)

FCC ID: A3LSMF926B	<b>PCTEST</b> Proud to be part of element	MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2106280075-04.A3L	Test Dates: 7/12 – 7/20/2021	EUT Type: Portable Handset		Page 17 of 19

## LTE Band 26 AntA



Plot 7-3. Radiated Spurious Plot (LTE Band 26 – AntA) - CLOSED

Bandwidth (MHz):	10
Frequency (MHz):	819.0
Modulation Signal:	QPSK
RB Config (Size / Offset):	1 / 25



Frequency [MHz]	Ant. Pol. [H/V]	Antenna Height [cm]	Turntable Azimuth [degree]	Analyzer Level [dBm]	AFCL [dB/m]	Field Strength [dBμV/m]	EIRP Spurious Emission Level [dBm]	Limit [dBm]	Margin [dB]
1638.0	H	-	-	-66.02	-2.46	38.52	-56.74	-13.00	-43.74
2457.0	H	119	208	-64.49	1.55	44.06	-51.20	-13.00	-38.20
3276.0	H	-	-	-67.84	2.76	41.92	-53.34	-13.00	-40.34
4095.0	H	-	-	-71.42	3.94	39.52	-55.74	-13.00	-42.74
4914.0	H	-	-	-70.93	4.58	40.65	-54.61	-13.00	-41.61

18 Radiated Spurious Data (LTE Band 26 – AntA)

FCC ID: A3LSMF926B	<b>PCTEST</b> Proud to be part of element	MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)	<b>SAMSUNG</b>	Approved by: Technical Manager
Test Report S/N: 1M2106280075-04.A3L	Test Dates: 7/12 – 7/20/2021	EUT Type: Portable Handset		Page 18 of 19

## CONCLUSION

The data collected relate only to the item(s) tested and show that the **Samsung Portable Handset FCC ID: A3LSMF926B** complies with all the requirements of Parts 22(H) and 90 of the FCC rules.

FCC ID: A3LSMF926B	 <b>PCTEST®</b> Proud to be part of element	<b>MEASUREMENT REPORT (CLASS II PERMISSIVE CHANGE)</b>		<b>Approved by:</b> Technical Manager
<b>Test Report S/N:</b> 1M2106280075-04.A3L	<b>Test Dates:</b> 7/12 – 7/20/2021	<b>EUT Type:</b> Portable Handset		Page 19 of 19