

PCTEST Engineering Lab.

SPECTRUM ANALYZER PRESENTATION

FCC ID:A3LSCHN370

SAMSUNG

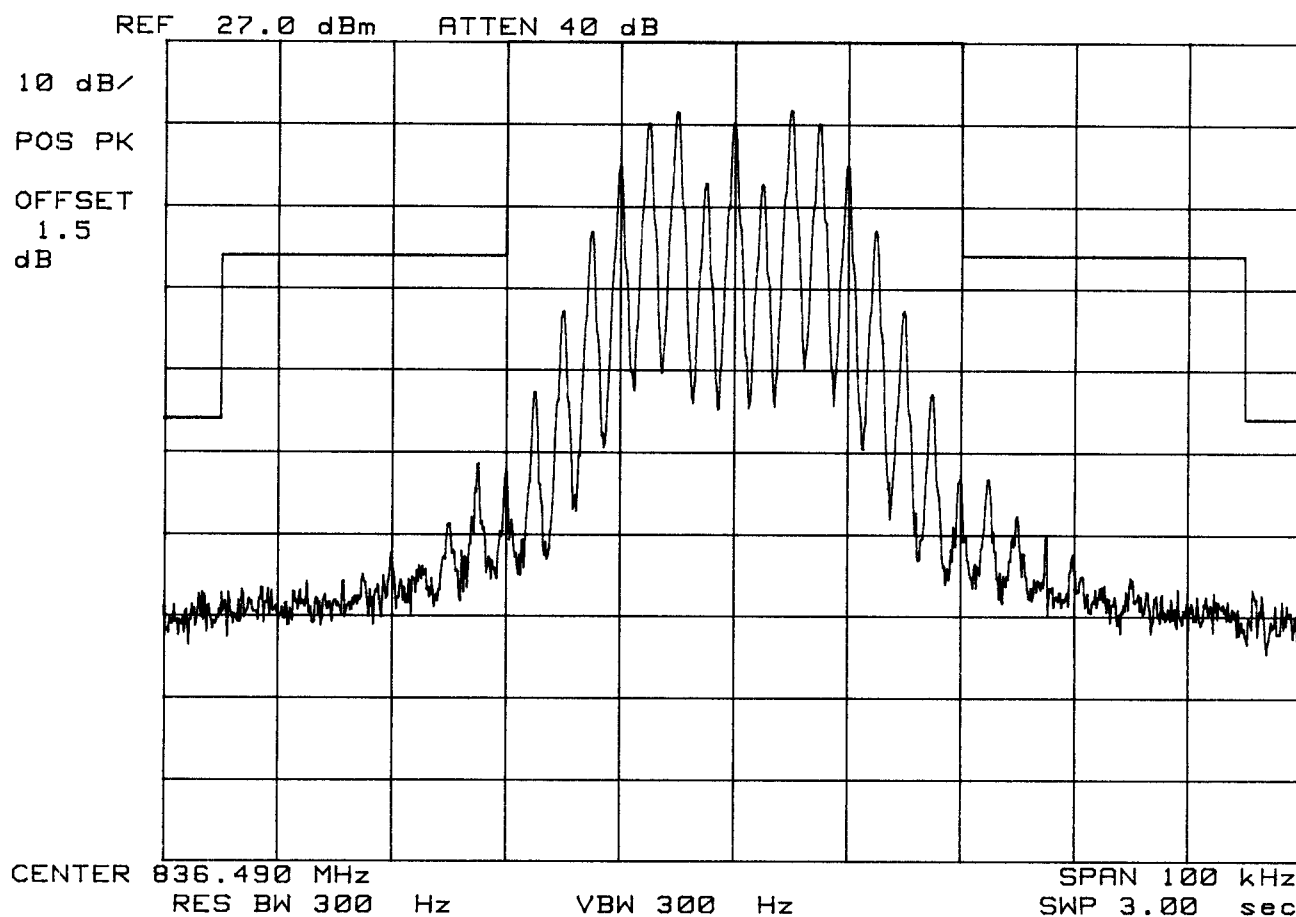
Tri-Mode Phone

FM Channel 383

Operating Frequency: 836.490 MHz

Output Power : 27.0 dBm

Test Mode:Voice



PCTEST Engineering Lab.

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FCC ID:A3LSCHN370

SAMSUNG

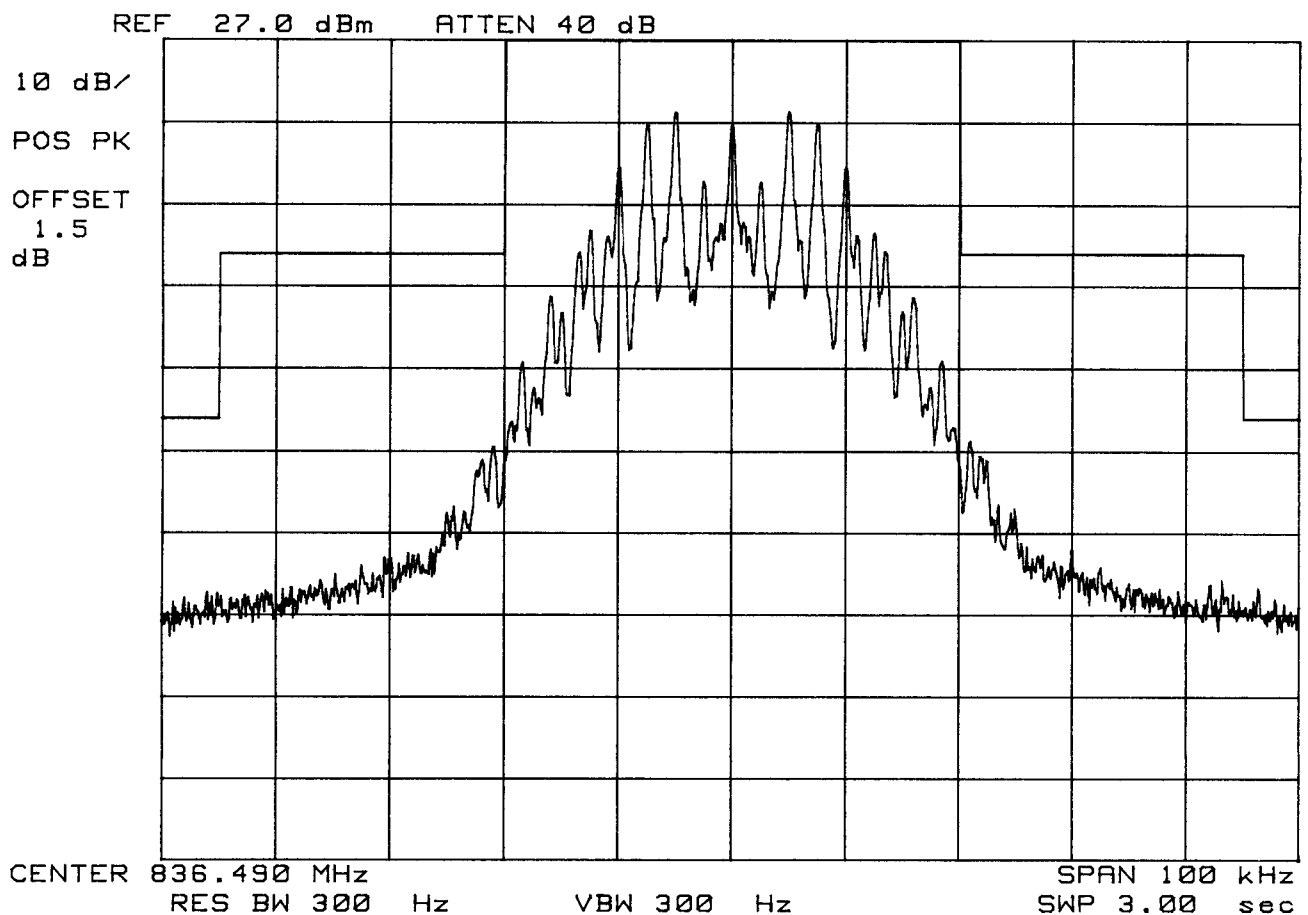
Tri-Mode Phone

FM Channel 383

Operating Frequency: 836.490 MHz

Output Power : 27.0 dBm

Test Mode:SAT + Voice





PCTEST Engineering Laboratory, Inc.

6660-B Dobbin Road • Columbia, MD 21045 • U.S.A.

TEL (410) 290-6652 • FAX (410) 290-6654

<http://www.pctestlab.com>



CERTIFICATE OF COMPLIANCE (SAR EVALUATION)

SAMSUNG Electronics Co., Ltd.
416 Maetan-3 Dong, Paldal-Ku
Suwon City Kyungki-Do 441-742, KOREA
Attn: Wallace Oh, Engineering Manager
Samsung Electronics America (QA Lab)

Dates of Tests: Sept. 12-14, 2001
Test Report S/N: SAR.210827518.A3L
Test Site: PCTEST Lab, Columbia, MD USA

FCC ID

A3LSCHN370

APPLICANT

SAMSUNG ELECTRONICS CO., LTD.

EUT Type: Tri-Mode Dual-Band Analog/PCS Phone (AMPS/CDMA)
Tx Frequency: 824.04 – 848.97 MHz (AMPS) / 824.70 – 848.31 MHz (CDMA)
1851.25 – 1908.75 MHz (PCS CDMA)
Rx Frequency: 869.04 – 893.97 MHz (AMPS) / 869.70 – 893.31 MHz (CDMA)
1931.25 – 1988.75 MHz (PCS CDMA)
Max. RF Output Power: 0358 W ERP AMPS (25.542 dBm) / 0.285 W ERP CDMA (24.543 dBm)
0.321 W EIRP PCS CDMA (25.063 dBm)
Max. SAR Measurement: 1.47mW/g AMPS Head SAR; 0.737mW/g AMPS Body SAR
1.30mW/g CDMA Head SAR; 0.562mW/g CDMA Body SAR
1.48mW/g PCS Head SAR; 0.170mW/g PCS Body SAR
Trade Name/Model(s): SAMSUNG-SCH-N370
FCC Classification: Licensed Portable Transmitter Held to Ear (PCE)
FCC Rule Part(s): §2.1093; FCC/OET Bulletin Supplement C [July 2001]
Application Type: Certification

This wireless portable device has been shown to be capable of continued compliance for localized specific absorption rate (SAR) for uncontrolled environment/general population exposure limits specified in ANSI/IEEE Std. C95.1-1992 and had been tested in accordance with the measurement procedures specified in ANSI/IEEE Std. C95.3-1992 and IEEE Std. 1528 (Draft Aug.2000).

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.

NVLAP accreditation does not constitute any product endorsement by NVLAP or any agency of the United States Government.

PCTEST certifies that no party to this application has been denied the FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. 862.


Randy Ortanez
President



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LAB CODE 100431-0

SAR MEASUREMENT REPORT

1.1 Scope

Environmental evaluation measurements of specific absorption rate¹ (SAR) distributions in simulated human head and body tissues exposed to radiofrequency (RF) radiation from wireless portable devices for compliance with the rules and regulations of the U.S. Federal Communications Commission (FCC).²

Company Name:	SAMSUNG ELECTRONICS CO., LTD.
Address:	416 Maetan-3 Dong, Paldal-Ku Suwon City, Kyungki-Do, 441-742, KOREA
Attention:	Mr. Wallace Oh, Engineering Manager Samsung Electronics America (QA Lab)

- EUT Type: Tri-Mode Dual-Band Analog/PCS Phone
- Trade Name / Model: **SAMSUNG-SCH-N370**
- FCC IDENTIFIER: **A3LSCHN370**
- Tx Frequency: 824.04 – 848.97 MHz (AMPS)
824.70 – 848.31 MHz (CDMA)
1851.25 – 1908.75 MHz (PCS CDMA)
- Rx Frequency: 869.04 – 893.97 MHz (AMPS)
869.70 – 893.31 MHz (CDMA)
1931.25 – 1988.75 MHz (PCS CDMA)
- FCC Classification: Licensed Portable Transmitter
Held to Ear (PCE)
- Modulation(s): AMPS / CDMA
- FCC Rule Part(s): §2.1093, OET Bulletin 65, Supplement C (July 2001)
- Max. RF Output Power: 0.358 W ERP AMPS (25.542 dBm)
0.285 W ERP CDMA (24.543 dBm)
0.321 W EIRP PCS CDMA (25.063 dBm)
- Max SAR Measurement: 1.47mW/g AMPS Head SAR; 0.737mW/g AMPS Body SAR
1.30mW/g CDMA Head SAR; 0.562mW/g CDMA Body SAR
1.48mW/g PCS Head SAR; 0.170mW/g PCS Body SAR
- Application Type: Certification
- Dates of Tests: Sept. 12-14, 2001
Place of Tests: PCTEST Engineering Lab.
Columbia, MD, U.S.A.
- Report Serial No.: SAR.210827518.A3L



Fig. 1 SAR Test Setup

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Lab Code 100431-0

¹ Specific Absorption Rate (SAR) is a measure of the rate of energy absorption due to exposure to an RF transmitting source (wireless portable device).

² IEEE/ANSI Std. C95.1-1992 limits are used to determine compliance with FCC ET Docket 93-62.

13.1 SAR TEST DATA SUMMARY (Continued)

Ambient TEMPERATURE (°C) 21.9
Relative HUMIDITY (%) 59.8
Atmospheric PRESSURE (kPa) 99.0

Mixture Type: 835MHz Muscle
Dielectric Constant: 55.2
Conductivity: 0.97

13.11 Measurement Results (AMPS Body SAR w/ BeltClip)

FREQUENCY		Modulation	POWER*			Separation Distance (cm)**	Antenna Position	SAR (W/kg)
MHz	Ch.		(dBm)		Battery			
824.04	0991	AMPS	27.0	27.0	Standard	2.0 [with BeltClip]	In	0.693
824.04	0991	AMPS	27.0	27.0	Standard	2.0 [with BeltClip]	Out	0.483
836.49	0383	AMPS	27.0	27.0	Standard	2.0 [with BeltClip]	In	0.737
836.49	0383	AMPS	27.0	27.0	Standard	2.0 [with BeltClip]	Out	0.528
848.97	0799	AMPS	27.0	27.0	Standard	2.0 [with BeltClip]	In	0.668
848.97	0799	AMPS	27.1	27.0	Standard	2.0 [with BeltClip]	Out	0.394
836.49	0383	AMPS	27.0	27.0	Extended	2.0 [with BeltClip]	In	0.720
836.49	0383	AMPS	27.0	27.0	Extended	2.0 [with BeltClip]	Out	0.523
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population						Body 1.6 W/kg (mW/g) averaged over 1 gram		

NOTES:

- All modes of operation were investigated and the worst-case are reported.
 - Battery condition is fully charged for all readings.
 - * Power Measured ☒ Conducted ☐ EIRP ☐ ERP
 - SAR Measurement System ☒ SPEAG ☐ IDX
Phantom configuration ☒ Flat Phantom
 - SAR Configuration ☐ Head ☒ Body ☐ Hand
 - ** Test Configuration ☒ Holster ☐ Without Holster
- Spacing = 2.0cm from flat phantom to the back top & base of phone, 1.7cm from flat phantom to retracted antenna, & 1.0cm from flat phantom to extended antenna. The worst-case spacing of 2.0cm is noted and specified in the User's Manual on the RF Exposure Warning page.


Randy Ortanez
President



Figure 25. Body SAR Test Setup



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CERTIFICATE OF COMPLIANCE FCC Part 24 & 22 Certification

SAMSUNG Electronics Co., Ltd.
416 Maetan-3 Dong, Paldal-ku
Suwon City Kyungki-Do 441-742, KOREA
Attn: Wallace Oh, Engineering Manager
Samsung Electronics America (QA Lab)

Dates of Tests: Sept. 12-14, 2001
Test Report S/N: 22/24.210827519.A3L
Test Site: PCTEST Lab, Columbia MD

FCC ID

A3LSCHN370

APPLICANT

SAMSUNG ELECTRONICS CO., LTD.

Classification:	Licensed Portable Transmitter Held to Ear (PCE)
FCC Rule Part(s):	§24(E), §22(H), §22.901(d); §2
EUT Type:	Tri-Mode Dual-Band Analog/PCS Phone
Trade Name/Model:	SAMSUNG SCH-N370
Tx Frequency Range:	824.04MHz – 848.97MHz (AMPS) / 824.70 – 848.31MHz (CDMA) 1851.25MHz – 1908.75MHz (PCS CDMA)
Rx Frequency Range:	869.04MHz – 893.97MHz (AMPS) / 869.70 – 893.31MHz (CDMA) 1931.25MHz – 1988.75MHz (PCS CDMA)
Max. RF Output Power:	0.358 W ERP AMPS (25.542 dBm) / 0.285 W ERP CDMA (24.543 dBm) 0.321 W EIRP PCS CDMA (25.063 dBm)
Max. SAR Measurement:	1.47mW/g AMPS Head SAR; 0.737mW/g AMPS Body SAR; 1.30mW/g CDMA Head SAR; 0.562mW/g CDMA Body SAR; 1.48mW/g PCS Head SAR; 0.170mW/g PCS Body SAR;
Emission Designator(s):	40K0F8W, 40K0F1D, 1M25F9W

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.

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.

PCTEST certifies that no party to this application has been denied the FCC benefits pursuant to Section 5301 of the Anti-Drug Abuse Act of 1988, 21 U.S.C. 862.


Randy Ortanez
President



NVLAP[®]
LAB CODE 100431-0

September 24, 2001

Federal Communications Commission
Equipment Approval Services
7435 Oakland Mills Road
Columbia, MD 21046

SUBJECT: SAMSUNG Electronics Co., Ltd.
FCC ID: A3LSCHN370
Part 24/22 Certification

Gentlemen:

Submitted herewith, on behalf of SAMSUNG Electronics Co., Ltd., is an application for Part 24/22 Certification of the following Dual-Band Analog/PCS Phone:

FCC ID:	A3LSCHN370
TRADE/MODEL(s):	SAMSUNG SCH-N370
EUT TYPE:	Dual-Band Analog/PCS Phone (AMPS/CDMA)
Tx Freq. Range(s):	824.04 – 848.97 MHz (AMPS) 824.70 – 848.31 MHz (CDMA) 1851.25 – 1908.75 MHz (PCS CDMA)
Max. RF Output Power:	0.358 W ERP AMPS (25.542 dBm) / 0.285 W ERP CDMA (24.543 dBm) / 0.321 W EIRP PCS CDMA (25.063 dBm)
Max. SAR Measurement:	1.47mW/g (1g) AMPS Brain SAR; 0.737 mW/g (1g) AMPS Body SAR 1.30mW/g (1g) CDMA Brain SAR; 0.562 mW/g (1g) CDMA Body SAR 1.48mW/g (1g) PCS CDMA Brain SAR; 0.170mW/g (1g) PCS CDMA Body SAR

Attached is the applicant's Letter of Authorization, Confidentiality Request, ESN Affidavit, E911 compliance statement, measurement report test data and plots, RF Exposure measurement report and data, FCC ID label and location, test setup photographs, internal and external photographs, block diagram (confidential), circuit diagrams & description (confidential), operational description (confidential), parts list & tune-up procedure (confidential), and the user's manual.

Should you have any questions or comments concerning the above, please contact the undersigned.



Randy Ortanez
President

cc: SAMSUNG Electronics Co., Ltd.

Body-worn operation

To maintain compliance with FCC RF exposure guidelines, if you wear a handset on your body, use a Samsung supplied or approved carrying case, holster or other body-worn accessory. If you do not use a body-worn accessory, ensure the antenna is at least one inch (2.0 centimeters) from your body when transmitting. Use of non-Samsung approved accessories may violate FCC RF exposure guidelines.

How to order accessories

Most Samsung accessories can be purchased by visiting our web site at www.samsungtelecom.com or calling 1.800.SAMSUNG.

The accessories available for this phone include:

- Travel adaptor
- Desktop adaptor
- Hands-free headset
- Car adaptor
- Standard, and Extended-life batteries
- Hands-free car kit
- Data cable
- Leather case
- Holster

The use of any other power accessory will invalidate any approval or warranty applying to the phone, and may be dangerous.

11.1 SAMPLE CALCULATIONS

A. Emission Designator

CDMA Sample

2M + 2DK

CDMA BW = 1.25 MHz

F = Frequency Modulation

9 = Composite Digital Info

W = Combination (Audio/Data)

Emission Designator = 1M25F9W