



# PCTEST Engineering Laboratory, Inc.

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

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<http://www.pctestlab.com>



## CERTIFICATE OF COMPLIANCE FCC Parts 24/22 Certification

SANYO ELECTRIC CO., LTD.  
c/o Sanyo Sales & Supply (USA) Corp.  
900 North Arlington Heights Road, Suite 300  
Itasca, IL 60143-2844  
Attn: Mr. Koichi Takahashi, V.P. Marketing  
SANYO Fisher (USA) Corporation

Dates of Tests: Sept. 11-13, 2001  
Test Report S/N: 24/22.210911541.AEZ  
Test Site: PCTEST Lab, Columbia MD

FCC ID

**AEZSCP-5150**

APPLICANT

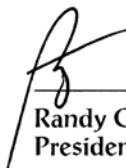
**SANYO ELECTRIC CO., LTD.**

Classification:	Licensed Portable Transmitter Held to Ear (PCE)
FCC Rule Part(s):	§24(E), §22(H), §2
EUT Type:	Dual-Band Analog/PCS Phone (AMPS/CDMA)
Trade Name/Model:	SANYO SCP-5150
Tx Frequency Range:	1851.25MHz – 1908.75MHz (CDMA) / 824.04MHz – 848.97MHz (AMPS)
Rx Frequency Range:	1931.25MHz – 1988.75MHz (CDMA) / 869.04MHz – 893.97MHz (AMPS)
Max. RF Output Power:	0.345 W ERP AMPS (25.373 dBm) / 0.507 W EIRP PCS CDMA (27.051 dBm)
Max. SAR Measurements:	1.3873 mW/g (1g) AMPS Brain SAR; 1.3380 W/kg AMPS Body SAR; 1.1993 mW/g (1g) PCS Brain SAR; 1.0297 W/kg PCS Body SAR 1.9124 W/kg AMPS Hand SAR (Avg. over 10 gms)
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

**NVLAQ**<sup>®</sup>  
LAB CODE 100431-0



## 6.1 Test Data

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### 6.2 Equivalent Isotropic Radiated Power (E.I.R.P.)

#### Radiated measurements at 3 meters

Supply Voltage: 3.6 VDC

Modulation: PCS CDMA

FREQ . (MHz)	LEVEL (dBm )	POL (H/V)	Azimuth (o angle)	EIRP (dBm )	EIRP (W )	Battery
1851.25	-16.100	H	60	26.981	0.500	Standard
1880.00	-16.200	H	60	27.051	0.507	Standard
1908.75	-16.500	H	60	26.921	0.492	Standard
1908.75	-16.200	H	60	27.051	0.507	Extended

Note: Standard and Extended batteries are both battery options for this phone

#### NOTES:

Equivalent Isotropic Radiated Power Measurements by Substitution Method according to ANSI/TIA/EIA-603 (rev.1998):

The EUT was placed on a wooden turn table 3-meters from the receive antenna. The receive antenna height and turntable rotation was adjusted for the highest reading on the receive spectrum analyzer. A Horn antenna was substituted in place of the EUT. This Horn antenna was driven by a signal generator and the level of the signal generator was adjusted to obtain the same receive spectrum analyzer reading. The conducted power at the terminals of the Horn antenna is measured. The difference between the gain of the horn and an isotropic antenna is taken into consideration and the EIRP is recorded.



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## CERTIFICATE OF COMPLIANCE (SAR EVALUATION)

SANYO Electric Co., Ltd.  
 C/o Sanyo Sales & Supply (USA) Corp.  
 900 North Arlington Heights Road, Suite 300  
 Itasca, IL 60143-2844  
 Attn: Mr. Koichi Takahashi, V.P. Engineering  
 SANYO Fisher Company (USA)

Dates of Tests: Sept. 11-13, 2001  
 Test Report S/N: SAR.210911540.AEZ  
 Test Site: PCTEST Lab, Columbia, MD USA

FCC ID

**AEZSCP-5150**

APPLICANT

**SANYO Electric Co., Ltd.**

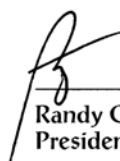
EUT Type: Dual-Band Analog/PCS Phone (AMPS/CDMA)  
 Tx Frequency: 824.04 – 848.97 MHz (AMPS)  
 1851.25 – 1908.75 MHz (PCS CDMA)  
 Rx Frequency: 869.04 – 893.97 MHz (AMPS)  
 1931.25 – 1988.75 MHz (PCS CDMA)  
 Max. RF Output Power: 0.345W ERP AMPS (25.373 dBm)  
 0.507W EIRP PCS CDMA (27.051 dBm)  
 Trade Name/Model(s): SANYO SCP-5150  
 FCC Classification: Licensed Portable Transmitter Held to Ear (PCE)  
 Application Type: Certification  
 FCC Rule Part(s): §2.1093; ET Docket 96.326  
 Maximum SAR: 1.3873 W/kg AMPS Brain SAR; 1.3380 W/kg AMPS Body SAR;  
 1.1993W/kg PCS Brain SAR; 1.0297 W/kg PCS Body SAR  
 1.9124 W/kg AMPS Hand SAR (Avg. over 10 gms)



This wireless portable device has been shown to be compliant for localized specific absorption rate (SAR) for uncontrolled environment/general population exposure limits specified in ANSI/IEEE Std. C95.1-1992 and has been tested in accordance with the measurement procedures specified in ANSI/IEEE Std. C95.3-1992. (See Test Report)

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



# SAR TEST DATA SUMMARY

Ambient TEMPERATURE (°C)	19.3
Relative HUMIDITY (%)	43.1
Atmospheric PRESSURE (kPa)	101.0

Mixture Type:	Brain
Dielectric Constant:	41.5
Conductivity:	0.90

Closest Distance (between E-Probe & Phone): 1.5 cm

## Measurement Results (AMPS Head SAR)

FREQUENCY		Modulation	POWER (dBm)	Phantom Position	Antenna Position	SAR (W/kg)
MHz	Ch.					
824.04	991	AMPS	24.4	Right Ear	IN	1.1240
824.04	991	AMPS	24.4	Right Ear	OUT	1.0757
836.49	383	AMPS	24.4	Right Ear	IN	1.1865
836.49	383	AMPS	24.4	Right Ear	OUT	1.0002
848.97	799	AMPS	24.4	Right Ear	IN	1.2051
848.97	799	AMPS	24.4	Right Ear	OUT	0.9495
<b>ANSI / IEEE C95.1 1992 - SAFETY LIMIT</b> <b>Spatial Peak</b> <b>Uncontrolled Exposure/General Population</b>					<b>Brain</b> <b>1.6 W/kg (mW/g)</b> averaged over 1 gram	

### NOTES:

- The test data reported are the worst-case SAR value with the antenna-head position set in a typical configuration.
- All modes of operation were investigated and the worst-case are reported.
- Power Measured  Conducted  EIRP  ERP
- SAR Measurement System  SPEAG  IDX
- SAR Configuration  Head  Body  Hand

  
 Randy Ortanez  
 President



Fig. A  
Head SAR Test Setup

SANYO FCC ID: AEZSCP-5150 (Model: SCP-5150)  
Dual-Band Analog/PCS Phone (AMPS/CDMA)

## SAR TEST DATA SUMMARY

Ambient TEMPERATURE (°C)	19.3
Relative HUMIDITY (%)	43.1
Atmospheric PRESSURE (kPa)	101.0

Mixture Type:	Brain
Dielectric Constant:	40.4
Conductivity:	1.62

Closest Distance (between E-Probe & Phone): 1.5 cm

### Measurement Results (PCS Head SAR)

FREQUENCY		Modulation	POWER (dBm)	Phantom Position	Antenna Position	SAR (W/kg)
MHz	Ch.					
1851.25	25	CDMA	25.0	Right Ear	IN	0.6663
1851.25	25	CDMA	25.0	Right Ear	OUT	0.5702
1880.00	600	CDMA	25.0	Right Ear	IN	0.8904
1880.00	600	CDMA	25.0	Right Ear	OUT	0.6456
1908.75	1175	CDMA	25.0	Right Ear	IN	0.9429
1908.75	1175	CDMA	25.0	Right Ear	OUT	0.7382
<b>ANSI / IEEE C95.1 1992 - SAFETY LIMIT</b> <b>Spatial Peak</b> <b>Uncontrolled Exposure/General Population</b>					<b>Brain</b> <b>1.6 W/kg (mW/g)</b> averaged over 1 gram	

#### NOTES:

- The test data reported are the worst-case SAR value with the antenna-head position set in a typical configuration.
- All modes of operation were investigated and the worst-case are reported.
- Power Measured  Conducted  EIRP  ERP
- SAR Measurement System  SPEAG  IDX
- SAR Configuration  Head  Body  Hand


  
 Randy Ortanez  
 President



Fig. B  
Head SAR Test Setup

SANYO FCC ID: AEZSCP-5150 (Model: SCP-5150)  
Dual-Band Analog/PCS Phone (AMPS/CDMA)

## SAR TEST DATA SUMMARY

Ambient TEMPERATURE (°C)	19.3
Relative HUMIDITY (%)	43.1
Atmospheric PRESSURE (kPa)	101.0

Mixture Type:	Brain
Dielectric Constant:	41.5
Conductivity:	0.90


Closest Distance (between E-Probe & Phone): 1.5 cm

### Measurement Results (AMPS Head SAR)

FREQUENCY		Modulation	POWER (dBm)	Phantom Position	Antenna Position	SAR (W/kg)
MHz	Ch.					
848.97	799	AMPS	24.4	Left Ear	IN	1.3227
ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population					Brain 1.6 W/kg (mW/g) averaged over 1 gram	

#### NOTES:

- The test data reported are the worst-case SAR value with the antenna-head position set in a typical configuration.
- All modes of operation were investigated and the worst-case are reported.
- Power Measured  Conducted  EIRP  ERP
- SAR Measurement System  SPEAG  IDX
- SAR Configuration  Head  Body  Hand

  
 Randy Ortanez  
 President

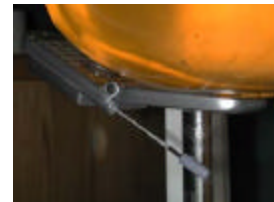


Fig. C  
Head SAR Test Setup

SANYO FCC ID: AEZSCP-5150 (Model: SCP-5150)  
Dual-Band Analog/PCS Phone (AMPS/CDMA)

## SAR TEST DATA SUMMARY

Ambient TEMPERATURE (°C)	19.3
Relative HUMIDITY (%)	43.1
Atmospheric PRESSURE (kPa)	101.0

Mixture Type:	Brain
Dielectric Constant:	40.4
Conductivity:	1.62


Closest Distance (between E-Probe & Phone): 1.5 cm

### Measurement Results (PCS Head SAR)

FREQUENCY		Modulation	POWER (dBm)	Phantom Position	Antenna Position	SAR (W/kg)
MHz	Ch.					
1908.75	1175	CDMA	25.0	Left Ear	IN	1.0672
<b>ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population</b>					<b>Brain 1.6 W/kg (mW/g) averaged over 1 gram</b>	

#### NOTES:

- The test data reported are the worst-case SAR value with the antenna-head position set in a typical configuration.
- All modes of operation were investigated and the worst-case are reported.
- Power Measured  Conducted  EIRP  ERP
- SAR Measurement System  SPEAG  IDX
- SAR Configuration  Head  Body  Hand

  
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 President

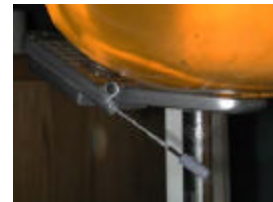


Fig. D  
Head SAR Test Setup

SANYO FCC ID: AEZSCP-5150 (Model: SCP-5150)  
Dual-Band Analog/PCS Phone (AMPS/CDMA)

## SAR TEST DATA SUMMARY

Ambient TEMPERATURE (°C)	19.3
Relative HUMIDITY (%)	43.1
Atmospheric PRESSURE (kPa)	101.0

Mixture Type:	Muscle
Dielectric Constant:	56.1
Conductivity:	0.95

Closest Distance (between E-Probe & Phone): 1.5 cm

### Measurement Results (AMPS Body SAR)

FREQUENCY		Modulation	POWER (dBm)	Phantom Position	Antenna Position	SAR (W/kg)
MHz	Ch.					
824.04	991	AMPS	24.4	Abdomen	OUT	1.2534
<b>ANSI / IEEE C95.1 1992 - SAFETY LIMIT Spatial Peak Uncontrolled Exposure/General Population</b>					<b>Body 1.6 W/kg (mW/g) averaged over 1 gram</b>	

#### NOTES:

- The test data reported are the worst-case SAR value with the antenna-head position set in a typical configuration.
- All modes of operation were investigated and the worst-case are reported.
- Power Measured  Conducted  EIRP  ERP
- SAR Measurement System  SPEAG  IDX
- SAR Configuration  Head  Body  Hand


  
 Randy Ortanez  
 President



Fig. C  
Body SAR Test Setup

SANYO FCC ID: AEZSCP-5150 (Model: SCP-5150)  
Dual-Band Analog/PCS Phone (AMPS/CDMA)



## SAR TEST DATA SUMMARY

Ambient TEMPERATURE (°C)	19.3
Relative HUMIDITY (%)	43.1
Atmospheric PRESSURE (kPa)	101.0

Mixture Type:	Muscle
Dielectric Constant:	54.2
Conductivity:	1.45

Closest Distance (between E-Probe & Phone): 1.5 cm

### Measurement Results (PCS Body SAR)

FREQUENCY		Modulation	POWER (dBm)	Phantom Position	Antenna Position	SAR (W/kg)
MHz	Ch.					
1800.00	600	CDMA	25.0	Abdomen	IN	0.9832
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:

- The test data reported are the worst-case SAR value with the antenna-head position set in a typical configuration.
- All modes of operation were investigated and the worst-case are reported.
- Power Measured  Conducted  EIRP  ERP
- SAR Measurement System  SPEAG  IDX
- SAR Configuration  Head  Body  Hand


  
Randy Ortanez  
President



Fig. D  
Body SAR Test Setup

SANYO FCC ID: AEZSCP-5150 (Model: SCP-5150)  
Dual-Band Analog/PCS Phone (AMPS/CDMA)