

FCC CFR47 PART 22 SUBPART H

TEST REPORT

FOR

CELLULAR MOBILE PHONE AND MP3 PLAYER

MODEL: NXC-3200

FCC ID: MBUNXC3200

REPORT NUMBER: 00U0401

ISSUE DATE: 10/13/00

Prepared for STANDARD TELECOM CO., LTD. 926 Kwanyang 2-Dong Dongan-Ku, Nayang-City, Kyunggi-Do Korea 431-062 Prepared by COMPLIANCE CERTIFICATION SERVICES, INC. d.b.a. COMPLIANCE ENGINEERING SERVICES, INC. 561F MONTEREY ROAD MORGAN HILL< CALIFORNIA, USA TEL: (408) 463-0885 FAX: (408) 463-0888

LAB CODE:200065-0

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ATTACHMENTS:

- 1. PROPOSED FCC ID LABEL FORMAT
- 2. EUT PHOTOGRAPHS
- 3. INSTALLATION AND SERVICE MANUALS
- 4. SCHEMATICS AND PARTS LIST

REPORT NO: 00U0401 DATE: 10/13/00 FCC ID:MBUNXC3200

-1. FCC CERTIFICATION INFORMATION

The following information is in accordance with FCC Rules, 47CFR Part2, Subpart J, Sections 2.1033 – 2.1055.

2.1033(c)(1) Applicant: STANDARD TELECOM CO., LTD. 926 Kwanyang 2-Dong, Dongan-Ku, Nayang-City, Kyunggi-Do Korea 431-062

2.1033(c)(2) FCC ID: **MBUNXC3200**

2.1033(c)(3) Instructions/Installation Manual

Refer to Attachment: Installation and Service manual.

2.1033(c)(4) Types of Emissions

AMPS:F8W, F1D CDMA: F9W

2.1033(c)(5) Frequency Range

 Receiver:
 869 - 894 MHz

 Transmitter:
 824 - 849 MHz

2.1033(c)(6) Range of Operating Power

-50dBm to +23dBm

2.1033(c)(7) Maximum Power Rating

CDMA: 0.32 Watts AMPS: 0.5 Watts

2.1033(c)(8) Applied voltages and currents into the final transistor elements

3.7 Volts, 0.545 Amps

2.1033(c)(9) Tune-up/Optimization Procedure

Refer to Attachment: Installation and Service manual.

2.1033(c)(10) Complete Circuit Diagrams and Functional Block Diagram

Refer Attachment: Schematics and Parts list.

2.1033(c)(10a) Means for Frequency Stabilization

The reference clock for frequency stabilization is VC-TCXO's (voltage controlled, temperature compensated crystal oscillator) clock. Frequency stabilizing circuits are divided into three parts: local frequency stabilization circuit, transmitter IF stabilization circuit and receiver IF stabilization circuit. The IF frequency stabilization circuit for TX/RX are accomplished by a tank circuit, which is composed of capacitors and varactor diodes. The local frequency stabilization circuit is composed of a modularized PLL and VCO.

2.1033(c)(10b) Means for Limiting Modulation

A device is incorporated into the IFT3000 chip that limits any modulation in excess of 100%. This device precedes the modulator of the transmitter. It is instantaneous in action for controlling the modulation wave introduced into the transmitters frequency modulator.

2.1033(c)(10c) Means for Limiting Power

APC circuit

2.1033(c)(11) Equipment Identification

A drawing of the equipment identification nameplate appears under **Attachment: PROPOSED FCC ID LABEL FORMAT**.

2.1033(c)(12) Photographs

Photographs of the equipment, internal and external views, are found in the **Attachment: Eut Photographs**.

2.1033(c)(13) Description of Digital Modulation Techniques

0QPSK

2.1033(c)(14) Standard Test Conditions

The transmitter was tested under the following conditions:

Room Temperature: 20 - 23 °C Relative Humidity: 55 - 60% DC Supply Voltage: 3.8VDC The transmitter was aligned and tuned up according to manufacturer's alignment procedure, prior to testing. All data presented represents the worst case parameter being measured.

2.1033 Description of Various Base Station Configurations

Not applicable.

2.1033 Use of Various Power Supplies

Not applicable.

TYPE OF EQUIPMENT:	CELLULAR MOBILE PHONE AND MP3 PLAYER
MEASUREMENT DISTANCE:	3 METER
TECHNICAL LIMIT:	FCC 15.707, 15.109 and 22.917
FCC RULES:	PART 2, PART 15 and PART 22
EQUIPMENT AUTHORIZATION PROCEDURE	Certification
MODIFICATIONS MADE ON EUT	☐ YES

The above equipment was tested by Compliance Certification Services for compliance with the requirements set forth in the FCC CFR 47, PART 15 AND 22. The results of testing in this report apply to the product/system, which was tested only. Other similar equipment will not necessarily produce the same results due to production tolerance and measurement uncertainties.

Approved By

Tom Cokenias, Director of Engineering Compliance Certification Services

3. TEST FACILITY

The open area test sites and conducted measurement facilities used to collect the radiated data are located at 561F Monterey Road, Morgan Hill, California, USA. The sites are constructed in conformance with the requirements of ANSI C63.7, ANSI C63.4 and CISPR Publication 22.

4. ACCREDITATION AND LISTING

The test facilities used to perform radiated and conducted emissions tests are accredited by National Voluntary Laboratory Accreditation Program for the specific scope of accreditation under Lab Code:200065-0 to perform Electromagnetic Interference tests according to FCC PART 15 AND CISPR 22 requirements. No part of this report may be used to claim or imply product endorsement by NVLAP or any agency of the US Government. In addition, the test facilities are listed with Federal Communications Commission (reference no: 31040/SIT (1300B3) and 31040/SIT(1300F2))

5. MEASUREMENT INSTRUMENTATION

Radiated emissions were measured with one or more of the following types of linearly polarized antennas: tuned dipole, biconical, log periodic, BI-log, ridged waveguide, and liner horn. EMI receivers were used for line conducted readings, spectrum analyzers with pre-selectors and quasi-peak detectors were used to perform radiated measurements. Receiving equipment (i.e., receiver, analyzer, quasi-peak adapter, pre-selector) and LISNs conform to CISPR specification for "Radio Interference Measuring Apparatus and Measurement Methods," Publication 16.

Calibrated wideband preamplifiers, coaxial cables, and coaxial attenuators are also used for making measurements.

6. MEASURING INSTRUMENT CALIBRATION

The measuring equipment, which was utilized in performing the tests documented herein, has been calibrated in accordance with the manufacturer's recommendations for utilizing calibration equipment, which is traceable to recognized national standards.

7. UNITS OF MEASUREMENT

Measurements of radiated interference are reported in terms of $dB(\mu V/m)$ at a specified distance. The indicated readings on the spectrum analyzer were converted to $dB(\mu V/m)$ by use of appropriate conversion factors. Measurements of conducted interference are reported in terms of $dB(\mu V)$.

The field strength is calculated by adding the Antenna Factor and Cable Factors, then by subtracting the Amplifier Gain from the measured reading. The basic equation with a sample calculation is as follows:

FS = RA + AF + CF - AG

Where FS = Field Strength RA = Receiver Amplitude AF = Antenna Factor CF = Cable Attenuation Factor AG = Amplifier Gain

Assume a receiver reading of 52.5 dB μ V is obtained. The Antenna Factor of 7.4dB/m and a Cable Factor of 1.1dB is added. The Amplifier Gain of 29 dB is subtracted, giving a field strength of 32 dB μ V/m. The 32 dB μ V/m value was mathematically converted to its corresponding level in μ V/m.

 $FS = 52.5 + 7.4 + 1.1 - 29 = 32 \ dB\mu V/m$

Level in $\mu V/m$ = Common Antilogarithm [(32 dB $\mu V/m$)/20] = 39.8 $\mu V/m$

8. CLASSIFICATION OF DIGITAL DEVICE

Class A includes digital devices that are marketed for use in commercial, industrial or business environments, excluding devices which are marketed for use by the general public or are intended to be used in the home.

Class B includes digital devices that are marketed for use in residential environments, notwithstanding use in commercial, business and industrial environments.

Note: The responsible party may also qualify a device intended to be marketed in a commercial, business or industrial environment as Class B device, and in fact is encouraged to do so provided the device complies with the technical specifications for a Class B digital device. In the event that a particular type of device has been found to repeatedly cause harmful interference to radio communications, the Commission may classify such a digital device as a Class B digital device, regardless of its intended use.

9. RADIATED EMISSION LIMITS

FCC PART IS CLASS A			
MEASURING DISTANCE OF 10 METER			
FREQUENCY RANGE	FIELD STRENGTH	FIELD STRENGTH	
(MHz)	(Microvolts/m)	(dBµV/m)	
30-88	90	39.1	
88-216	150	43.5	
216-960	210	46.4	
Above 960	300	49.5	

FCC PART 15 CLASS A

FCC PART 15 CLASS B

MEASURING DISTANCE OF 3 METER		
FREQUENCY RANGE	FIELD STRENGTH	FIELD STRENGTH
(MHz)	(Microvolts/m)	(dBµV/m)
30-88	100	40
88-216	150	43.5
216-960	200	46
Above 960	500	54

FCC RADIATED EMISSION ALTERNATIVE METHOD (CISPR 22/EN55022)

Limits for radiated disturbance of Class A ITE at

measuring distance of 10 m

Frequency range	Quasi-peak limits		
MHz	dB(µV/m)		
30 to 230	40		
230 to 1000	47		
NOTES			
1. The lower limit shall apply at the transition frequency.			
2. Additional provisions may be required for cases where interference occurs.			

Limits for radiated disturbance of Class B ITE at
Measuring distance of 10 m

Frequency range	Quasi-peak limits	
MHz	dB(µV/m)	
30 to 230	30	
230 to 1000	37	
NOTES		
1. The lower limit shall apply at the transition frequency.		
2. Additional provisions may be required for cases when	re interference occurs.	

10. RADIATED EMISSION TEST PROCEDURE

The EUT and all other support equipment are placed on a wooden table 80-cm above the ground screen. Antenna to EUT distance is 3 meters. During the test, the table is rotated 360 degrees to maximize emissions and the antenna is positioned from 1 to 4 meters above the ground screen to further maximize emissions. The antenna is polarized in both vertical and horizontal positions.

EUT test configuration is according to Section 8 of ANSI C63.4/1992.

Monitor the frequency range of interest at a fixed antenna height and EUT azimuth. Frequency span should be small enough to easily differentiate between broadcast stations and intermittent ambients. Rotate EUT 360 degrees to maximize emissions received from EUT. If emission increases by more than 1 dB, or if another emission appears that is greater by 1 dB, return to azimuth where maximum occurred and perform additional cable manipulation to further maximize received emission.

Move antenna up and down to further maximize suspected highest amplitude signal. If emission increased by 1 dB or more, or if another emission appears that is greater by 1dB or more, return to antenna height where maximum signal was observed and

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manipulate cables to produce highest emissions, noting frequency and amplitude.

11. CONDUCTED EMISSION LIMITS

FCC CLASS A		
FREQUENCY RANGE	FIELD STRENGTH	FIELD STRENGTH
	(Microvolts)	(dBµV)/QP
450kHz-1.705MHz	1000	60
1.705MHz - 30MHz	3000	69.54

FCC CLASS B		
FREQUENCY RANGE	FIELD STRENGTH	FIELD STRENGTH
	(Microvolts)	(dBµV)/QP
450kHz-30MHz	250	48

FCC CONDUCTED EMISSION ALTERNATIVE METHOD (CISPR 22/EN55022)

Limits for conducted disturbance at the mains ports of

Class A ITE

	Lir	nits
Frequency range	dB(µV)	
MHz	Quasi-peak	Average
0.15 to 0.50	79	66
0.5 to 30	73	60
Note- The lower limit shall apply at the transition frequency.		

Limits of Conducted disturbance at the mains ports of Class B ITE

	Limits	
Frequency range	dB((µV)	
MHz	Quasi-peak	Average
0.15 to 0.50	66 to 56	56 to 46
0.50 to 5	56	46
5 to 30	60	50
Note		
1. The lower limit shall apply at the tran	nsition frequencies	

2. The limit decreases linearly with the logarithm of the frequency in the range 0.15 MHz to 0.50 MHz.

12. CONDUCTED EMISSION TEST PROCEDURE

The EUT is located so that the distance between the boundary of the EUT and the closest surface to the LISN is 0.8m.

EUT test configuration is according to Section 7 of ANSI C63.4/1992.

Conducted disturbance shall be measured between the phase lead and the ground, and between the neutral lead and the ground. The frequency 0.450 - 30 MHz (or 0.150 - 30 MHz in case of CISPR 22/EN55022 method) shall be investigated.

Set the EMI receiver to PEAK detector setting and sweep continuously over the frequency range to be investigated. Set resolution bandwidth to 9kHz minimum. Connect EMI receiver input cable to LINE 1 RF measurement connection on the LISN. Connect a 50ohm terminator to the unused RF connection on the LISN. For each mode of EUT operation, maximize emissions readings by manipulating cable and wire positions. Record the configuration for each EUT power cord, which produces emissions closest to the limit. Repeat the same procedure for LINE 2 of each EUT power cord.

13. AMBIENT CONDITIONS

The ambient conditions at the time of final tests were as follows:

	Radiated Emission	Conducted Emission
Temperature	23 °C	23 °C
Humidity	65%	65%

A) FCC PART 15 RADIATED AND LINE CONDUCTED TEST 14. **EQUIPMENT LIST**

Equipment	Manufacturer	Model No.	Serial No.	Cal Date	Due Date
Spectrum Analyzer	HP	8566B	2140A01296	12/15/99	12/15/00
Bi-Log Antenna	Chase EMC	CBL6112	2049	11/23/99	11/23/00
EMI Test Receiver	Rhode & Schwarz	ESHS20	827129/006	2/28/00	2/28/01
LISN	Fischer	FCC-LISN-	114	10/31/99	10/31/00
		50/250-25-2			

B) FCC PART 22 TEST EQUIPMENT LIST

Equipment	Manufacturer	Model No.	Serial No.	Cal Date	Due Date
Spectrum Analyzer	HP	8593EM	3710A00205	5/25/00	5/25/014
CDMA Mobile Station Test Set	HP	8924C	US37111069	8/30/00	8/30/02
Directional Coupler	Werlatone	06021	S576	N/A	N/A
Power Meter	HP	436A	3709A29209	2/8/00	2/8/01

15. EUT SETUP PHOTOS



Part 15 Radiated X-axis



Part 15 Radiated Y-axis



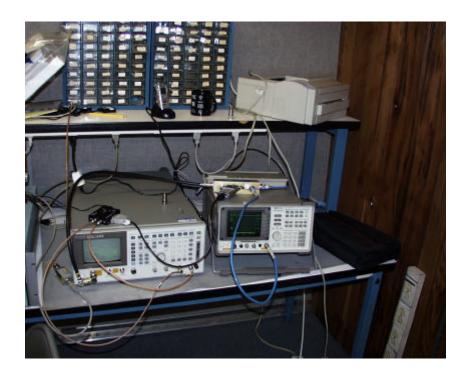
Part 15 Radiated Z-axis



Part 15 Line Conducted



Part 15 Line Conducted



Part 22 Conducted Setup

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Part 22 Conducted Setup



Part 22 Conducted Setup

16. FCC PART 2 CERTIFICATION TEST RESULTS:

SECTION 2.1046: RF POWER OUTPUT

TEST SETUP:

EUT	ATTENUATOR	RF POWER METER

Test Procedure: The EUT was setup using the tune-up procedure to give maximum output power for AMPS mode. The output power was then measured at the antenna output. The results are given below. The EUT was setup using the tune-up procedure to give maximum output power for CDMA mode. The output power was then measured at the antenna output. The results are given below.

Test Result: AMPS mode: 24

AMPS mode: 24.9dBm CDMA mode: 23.0dBm

Minimum Requirement:

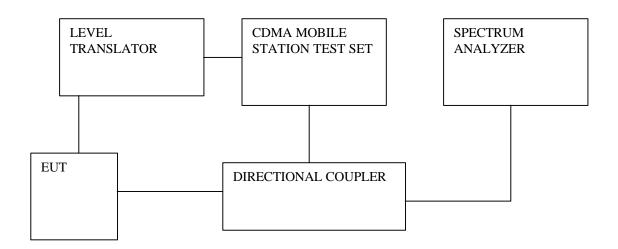
Section 22.913(a); Maximum ERP. The effective radiated power (ERP) of mobile transmitters must not exceed 7 Watts.

Test Procedure: Using the maximum rated output power for AMPS mode and the maximum direction gain for the antenna, the ERP was calculated as shown below.

Test Result: -1dBd + 27 dBm = 26 dBm = 0.398Watts

SECTION 2.1047: MODULATION CHARACTERISTICS

TEST SETUP:

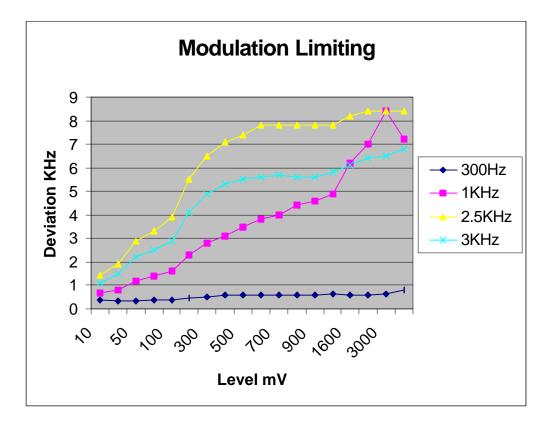


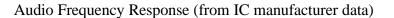
Minimum requirement:

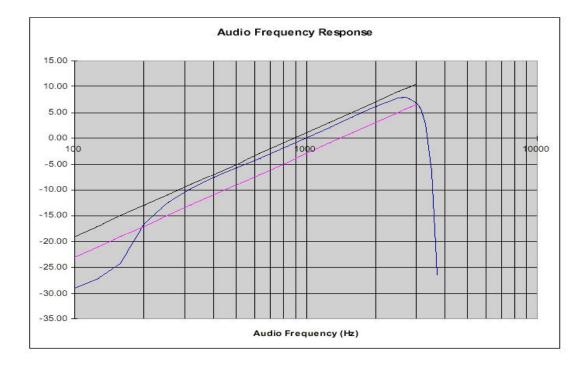
Section 2.1047 (d), for other type of equipment, a curve or equivalent data which shows that equipment will meet the modulation requirements of the rules under which the equipment is to be licensed.

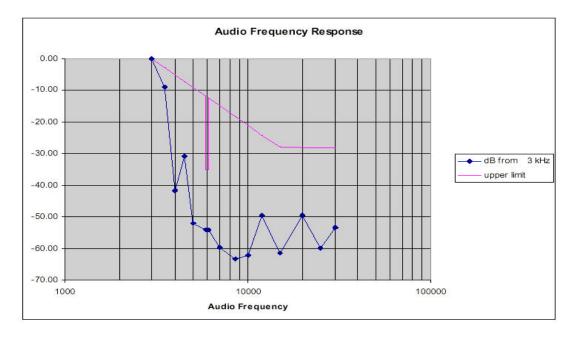
Test procedure: An audio tone was applied to the EUT at 300Hz, 1KHz, 2.5KHz and 3KHz. The level was varied from 10mV to 4V. Frequency deviation was measured at each level.

Test result: See chart below.





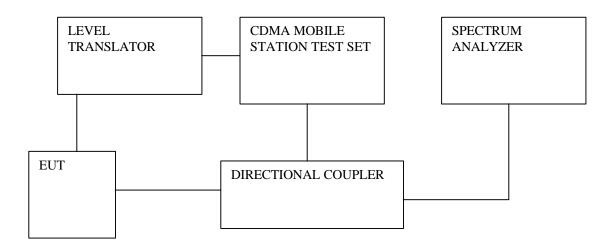




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SECTION 2.1049: OCCUPIED BANDWIDTH

TEST SETUP:



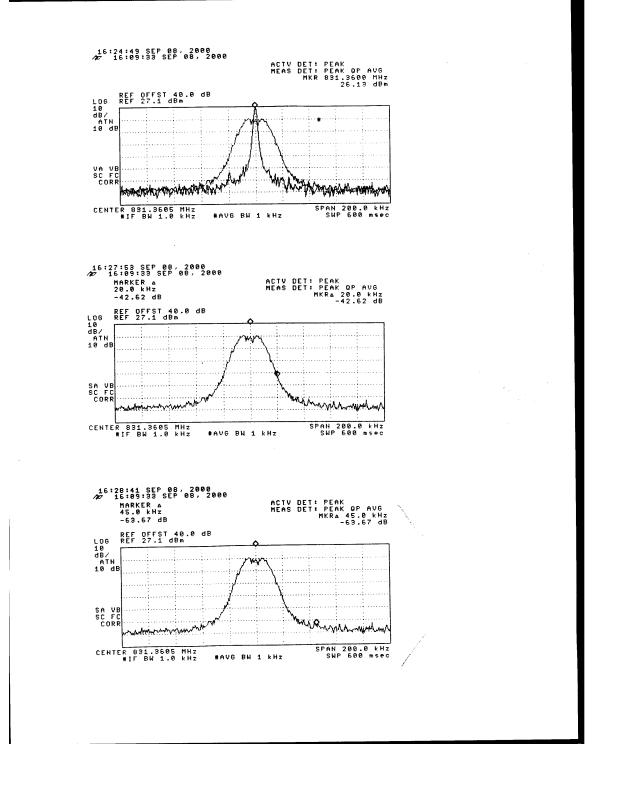
Measurements for F8W:

Test Procedure: Tune and adjust the EUT to maximum power. Adjust the analyzer to obtain an unmodulated carrier on the spectrum analyzer. Save the trace on the analyzer. Modulate the transmitter with an SAT and a 2500Hz. audio tone, 16dB greater than that required to produce +/- 6KHz. modulation. Save the trace of the modulated carrier superimposed over the trace of the unmodulated carrier. See graph below.

Specification Limits FCC22.917

- a) On any frequency removed from the assigned carrier by more than 20KHz, up to and including 45KHz, the sideband is at least 26 dB below the carrier.
- b) up to the first multiple of the carrier frequency, the sidebands are at least 43+10log P (-13dBm) below the carrier.

Test Result:



Measurements for F1D:

Test Procedure: Tune and adjust the EUT to maximum power. Adjust analyzer to obtain unmodulated carrier on spectrum analyzer. Save trace on the analyzer. Modulate the transmitter with an SAT and a 10KHz. tone at a level to produce +/- 8KHz. modulation. Save trace of modulated carrier superimposed over trace of unmodulated carrier. See graph below.

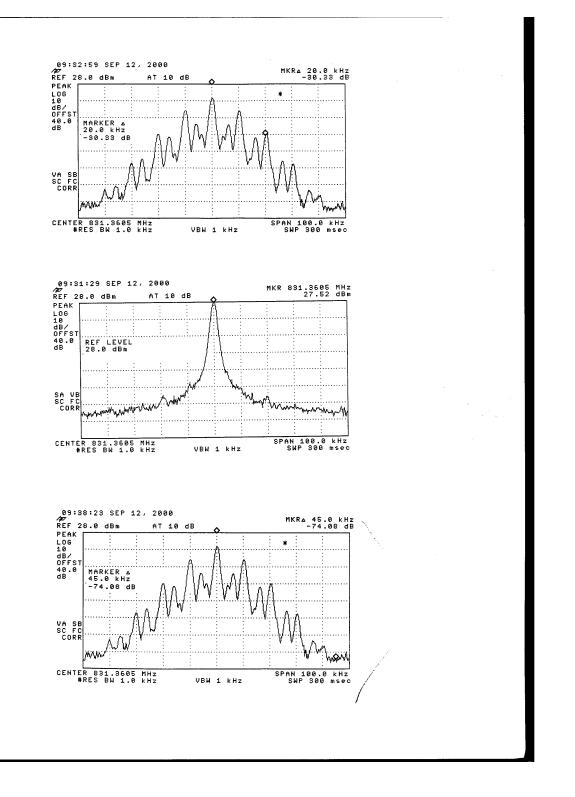
Specification Limits FCC22.917

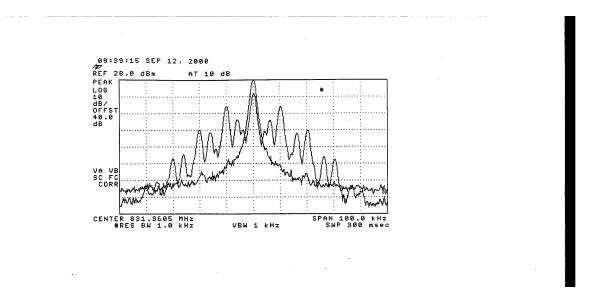
a) On any frequency removed from the assigned carrier by more than 20KHz, up to and including 45KHz, the sideband is at least 26 dB below the carrier.

b) On any frequency removed from the carrier frequency by more than 45KHz but not more than 90KHz, the sidebands are at least 45dB below the carrier.

c) On any frequency removed from the assigned carrier frequency by more than 45KHz, up to the first multiple of the carrier frequency, the sidebands are at least 43+10log P (-13dBm) below the carrier.

Test Result:

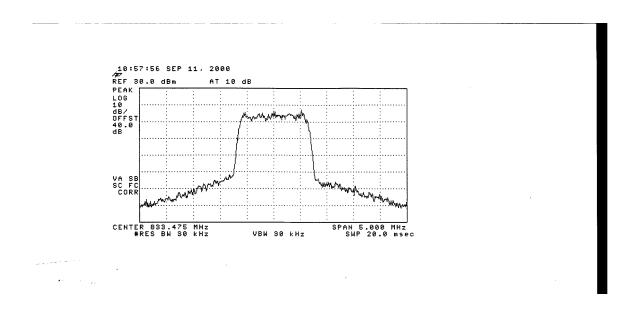




Measurements for F9W:

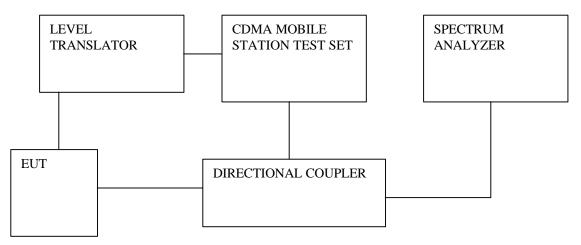
Test Procedure: Tune and adjust the EUT to maximum power. Modulate the transmitter with CDMA, using pseudo random data. Save trace on spectrum analyzer. See graph below.

Test Result:



SECTION 2.1051: SPURIOUS EMISSIONS AT ANTENNA TERMINAL.

TEST SETUP:

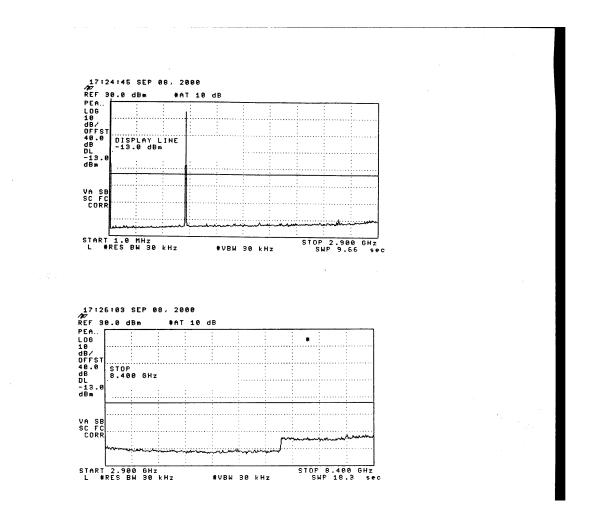


Specification Limits 22.917(e):

The magnitude of each spurious and harmonic emissions that can be detected when the equipment is operated under conditions specified in the instruction manual and/or alignment procedure, shall not be more than $43 + \log$ (mean output power) below the mean power output, which is equivalent to -13 dBm.

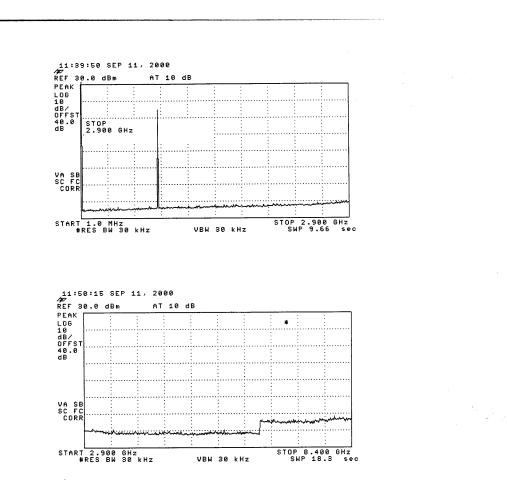
Measurements for F8W:

Test Procedure: Tune and adjust the EUT to maximum power. Modulate the transmitter with an SAT and a 2500Hz. audio tone, 16dB greater than that required to produce +/-6KHz. modulation. Save traces from 1MHz. to 10fo. See graph below.



Measurements for F9W:

Test Procedure: Tune and adjust the EUT to maximum power. Modulate the transmitter with CDMA, using pseudo random data. Save traces from 1MHz. to 10fo. See graph below.



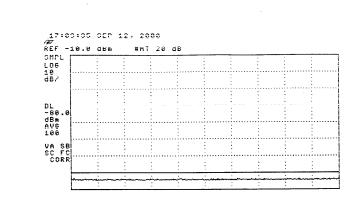
Measurements of mobile emissions in base band FCC 22.917(f)

Test Procedure: Setup the EUT and test equipment inside an anechoic chamber. Tune and adjust the EUT to maximum power, AMPS modulation and channel #779 (848MHz.). Save trace of emissions inside baseband frequencies. See graph below.

Specification Limits 22.917(f):

...

The mean power of any emission appearing in the base station frequency range from mobile transmitters operated must be attenuated to a level not to exceed -80dBm at the transmit antenna connector.



SECTION 2.1055: FREQUENCY STABILITY

Test Procedure: Place the EUT in an environmental chamber. Set the EUT to transmit a CW signal. Vary the temperature from -30 degrees Celsius to +50 degrees Celsius in 10 degree steps. At each temperature allow enough time for the EUT's temperature to stabilize and then take a measurement of the frequency. Adjust the EUT's supply voltage to 85% and measure the frequency. Repeat at 115% of the supply voltage.

Test Result:

Refer to chart below:

Frequency
(MHz.)
831.366378
831.366088
831.365954
831.366016
831.365954
831.366616
831.366792
831.367317
831.367004

 Supply Voltage % based on 3.8VDC

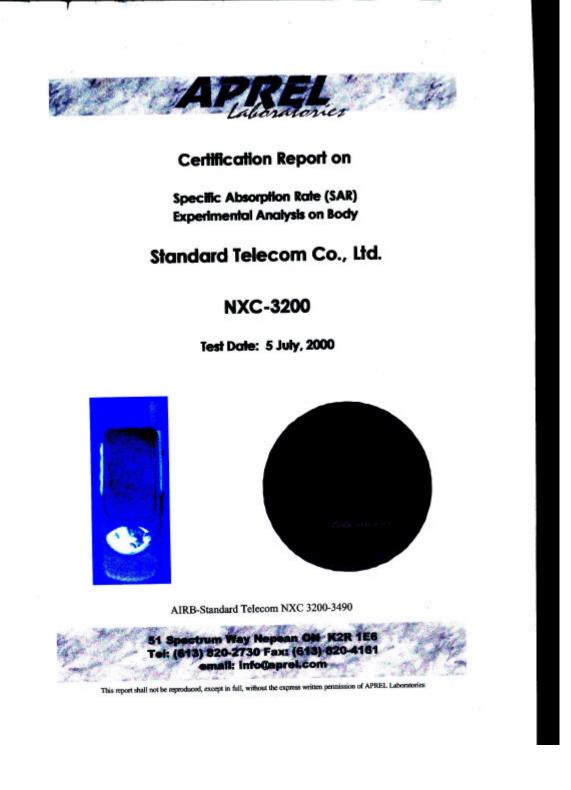
 85% Voltage
 831.365954

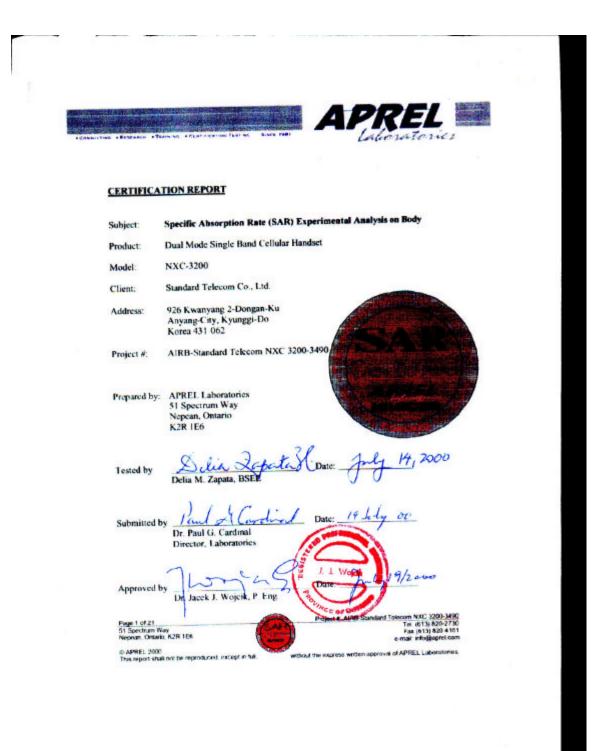
 115% Voltage
 831.366616

Highest Frequency	831.367317MHz
Lowest Frequency	831.365954MHz
Frequency Variation	1363Hz

Specification limit FCC 22.355 2.5ppm x 831MHz=2077.5Hz.

SECTION 2.1093 RADIOFREQUENCY RADIATION EXPOSURE EVALUATION: PORTABLE DEVICES:







FCC ID:

Applicant: Equipment: Model: Standard: Standard Telecom Co., Ltd. Dual Mode Single Band Cellular Handset NXC-3200 FCC 96 -326, Guidelines for Evaluating the Environmental Effects of Radio-Frequency Radiation

ENGINEERING SUMMARY

This report contains the results of the engineering evaluation performed on a Standard Telecom model NXC-3200 Dual Mode Single Band Cellular Handset when using a handsfree kit which includes a holster and belt clip (for SAR in the vicinity of the head see report AIRB-Standard Telecom NXC 3200-3489). The measurements were carried out in accordance with FCC 96-326. The cellular handset was evaluated at its maximum nominal power level.

The cellular handset was tested operating at maximum output power in AMPS (27dBm) and CDMA (25dBm) modes on low, middle and high channels, with the antenna extended and retracted, with the two types of battery offered. The cellular handset was configured with the headset attached and with the handset inside its holster. The testing was conducted with the holster belt clip against the phantom and the headset touching the phantom.

The maximum SAR was found to coincide with the peak performance RF output power operating in AMPS mode, on the middle channel (383, 836.49 MHz), with the antenna retracted and using the standard battery. Test data and graphs are presented in this report.

Based on the test results for this device, and as it will be marketed and used with a warning in the manual that the hands-free kit only be used with the phone placed in its holster, it is certified that the product meets the requirements as set forth in the above specifications, for partial body exposure in an uncontrolled RF exposure environment.

The results presented in this report relate only to the sample tested.

Page 2 of 21 51 Spectrum Way Nepean, Ontario, K2R 1E6 Project #: AIRB-Standard Telecom NXC 3200-3490 Tet. (613) 820-2730 Fax (613) 820-4730 Fax (613) 820 4161 e-mail: info@aprel.com

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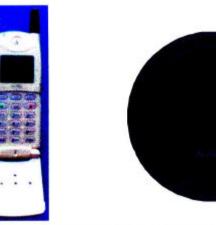
Certification Report on

Specific Absorption Rate (SAR) **Experimental Analysis on Head**

Standard Telecom Co., Ltd.

NXC-3200

Test Date: 6 July, 2000



AIRB-Standard Telecom NXC 3200-3489



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FCC ID:

Applicant: Equipment: Model: Standard:

Standard Telecom Co., Ltd. Dual Mode Single Band Cellular Handset NXC-3200 FCC 96 -326, Guidelines for Evaluating the Environmental Effects of Radio-Frequency Radiation

ENGINEERING SUMMARY

This report contains the results of the engineering evaluation performed on a Standard Telecom model NXC-3200 Dual Mode Single Band Cellular Handset (for SAR in the vicinity of the body see report AIRB-Standard Telecom NXC 3200-3490). The measurements were carried out in accordance with FCC 96-326. The NXC-3200 was evaluated at its maximum nominal power level.

The NXC-3200 was tested operating at maximum output power in AMPS (27 dBm) and CDMA (25 dBm) modes on low, middle and high channels, with the antenna extended and retracted, with the two types of battery offered, with the telephone flip opened and with the keyboard side of the phone place against the head phantom.

The maximum SAR was found to coincide with the peak performance RF output power operating in AMPS mode, on the middle channel (383, 836.49 MHz), with the antenna retracted and using a large battery. Test data and graphs are presented in this report.

Based on the test results it is certified that the product meets the requirements as set forth in the above specifications, for partial body exposure in an uncontrolled RF exposure environment.

The results presented in this report relate only to the sample tested.

 Page 2 of 21
 Project #: AIRB-Standard Telecom NXC 3200-3489

 51 Spectrum Way
 Tel. (613) 820-2730

 Nepean, Ontario, K2R 1E6
 Fax (613) 820 4161

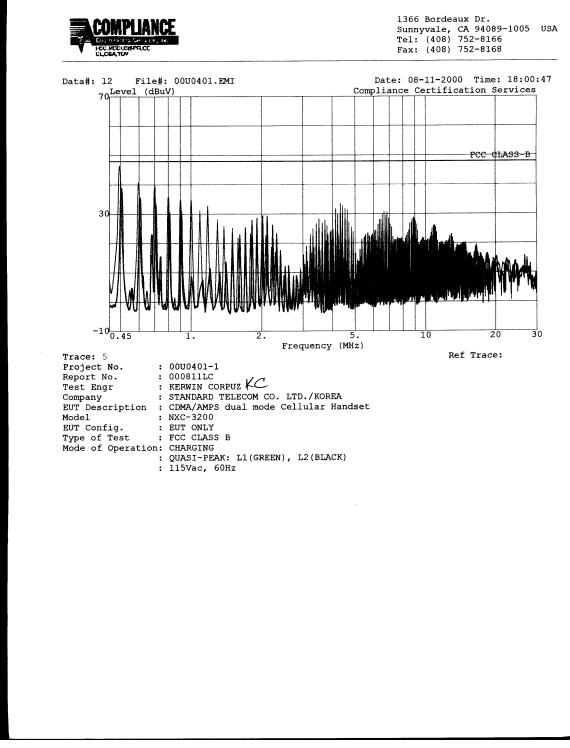
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FCC PART 15

SECTION 15.111; CONDUCTED

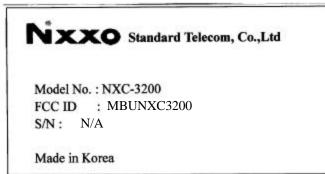


15.109; RADIATED

FCC	COMP COMP CSA, TUV,	tion S	OUSTEL, N	z		Rep Date&	oort #: Time:			
Test C	8) 752-816 Con T Descri Configur	6 FAX npany: iption: ation : f Test:	STANDA CDMA/A EUT ON FCC CL/	2-8168 ARD TELE MPS dual LY ASS B	COM CO. mode Ce	. LTD./KC Ilular Han	OREA Idset(NXC	2-3200)		
A-Site		B-Site	с с-	Site	← F-Site		6 Worst E	Data	Descending	9
Freq. Reading (MHz) (dBuV) THERE ARE NO	(dB)	(dB)	Pre-amp (dB)	(dBuV/m)	Limit FCC_B	1 \	Pol (H/V)	Az (Deg)	Height (Meter)	Mark (P/Q//
Total data #: 0 V.2a										

ATTACHMENTS:

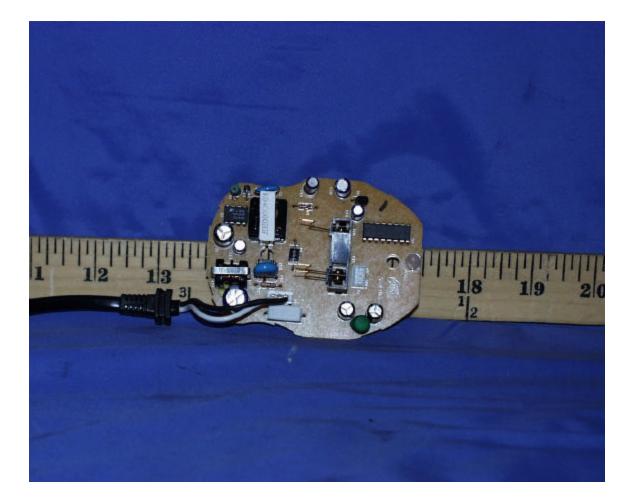
1. PROPOSED FCC ID LABEL FORMAT:

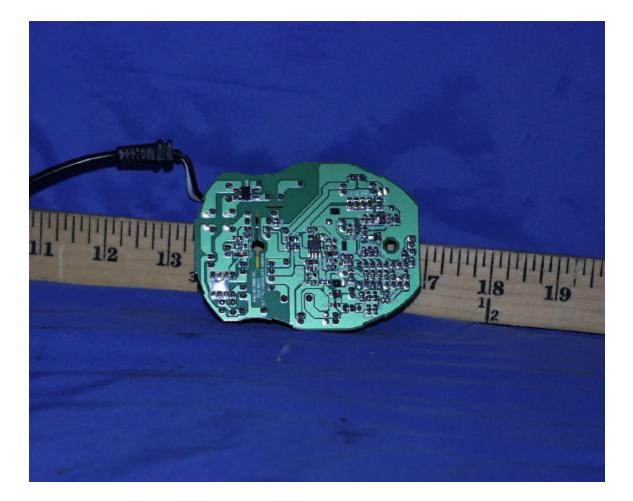


THE FCC ID NUMBER SHALL BE PLACED ON THE BACK OF THE EUT (PRODUCT).

2. EUT PHOTOGRAPHS





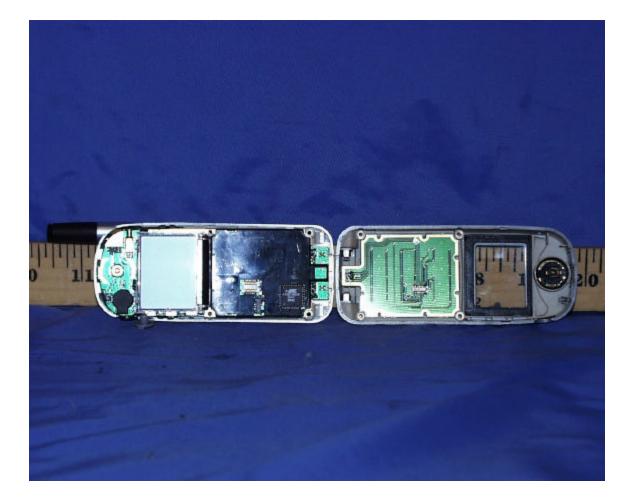












3. INSTALLATION AND SERVICE MANUALS:

	JUL. 28. 2888 4: 05PM	NIXXO 823434237949	NO.352	P.14/15
	NXC-3200 CDG II Docum			_2
		7. Operating Manu	al	
		- NXC-3200 -		
		- NXC-3200 -		
	6			
		2		
	Standard Telecom Co., I	ad.		
19				
			5	

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REPORT NO: 00U0401 DATE: 10/13/00 FCC ID:MBUNXC3200

-3200 CDG II Dee	
	1. Getting Started
Phone Parts a	nd Function Key Descriptions
Function Key	Descriptions
Red Light	Lights-up when using power key to turn on the phone and when there are incoming calls and messages.
Volume Switch	Adjusts volume and can also be used to seroll through menus.
	Displays messages and indicator icons.
LCD Screen	Displays messages and millionic toolar.
LCD Screen	Places and receives a still.
LCD Screen SEND Key END Key	Places and receives a call. Disconnects a call. Also exis all the way out of a mean back to the phone's standby display without changing any setting.
SEND Key END Key	Places and receives a call. Disconnects a call. Also exits all the way out of a mean back to the phone's standby display without changing any setting. Allows suick access to text and voice mail notification messages.
SEND Key END Key SI Key	Places and receives a call. Disconnects a call. Also exits all the way out of a mean back to the phone's standby display without changing any setting. Allows quick access to text and voice mail notification messages. When closed, terminates a call in progress, when opened, answers an incoming call.
SEND Key END Key	Places and receives a call. Disconnects a call. Also exits all the way out of a mean back to the phone's standby display without changing any setting. Allows quick access to text and voice mail notification messages. When closed, terminates a call in progress, when opened, snowers an incoming call. Clears letters, numbers or returns to the previous means option. Press once to erase one character. Press and hold to erase all characters and to go back to the standby display.
SEND Key END Key S2 Key Flip Switch CLR Key	Places and receives a call. Disconnects a call. Also exits all the way out of a menu back to the phone's standby display without changing any setting. Allows quick access to text and voice mail notification messages. When closed, terminates a call in progress, when opened, answers an incoming call. Clears letters, numbers or returns to the previous menu option. Press once to exace on character. Press and hold to exace all characters and to go back to the standby display. The current operation of a Soft Key is defined by the word at the bottom of the display.
SEND Key END Key SI Key Flip Switch	Places and receives a call. Disconnects a call. Also exits all the way out of a menu back to the phone's standby display without changing any setting. Allows quick access to text and voice mail notification messages. When closed, terminates a call in progress, when opened, snowers an incoming call.

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JUL. 20. 2000 4:04PM NIX

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NXC-3200 CDG II Document

2. LCD Icons

ICONS	Description	-
D	Digital indicator Digital service is available.	
×	NO SERVICE The phone is not receiving system signal.	
~	In use Call is in progress. * No Icon indicates the phone is in stand-by.	
\$D\$	In vibrator mode	
R	Rearning The phone is outside of its home service area.	
¢ \ \ I	[Charge level] Indicates Battery Charge Level.	
\boxtimes	Message Message or page waiting.	
V T	V : voice message There is a voice mail notification message waiting T : text message There is a text mail notification message waiting	
Tul	Signal strength The number of lines shown indicates current signal strength.	

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REPORT NO: 00U0401 DATE: 10/13/00 FCC ID:MBUNXC3200

NXC-3200 CD	Q II Document
	2. Basic Functions
1. Turning	g the Phone On and Off
1 1 Torning	the Phone Ou
1. Install a che	rged battery pack or connect the phone to an external power source such as the eigerette lighter
Manual of o	er kit.
2 Prost DEND	for a few seconds until the red light at the top of the phone flash.
O The LCL) displays the initial screen and a "beep" sound will alert you.
0 If the LC	D displays "[UNLOCK]", see "security"
under	Monia Features.
1.2 Turning	g the Phone Off
1. Press and h	old [END] and then release the button.
2. Protect the	antenna by pushing it back into the phone, if extended.
2. Makin	g a Call
	a make a call, follow these simple steps:
1. Make sure	the phone is turned on.
2. Enter the pi	some number with area code, if needed.
3. Press [SEN	[מ
I If the pl	some is locked, enter the Lock Code and preasing (SND).
	iled" indicates that the call did not go through.
4. Press [ENI)] to disconnect the call.
3. Corre	ting Dialing Mistakes
1. Press [CL]	t] to erase the most recent digit or letter.
2. Press and I	hold [CLR] for at least one second to delete all digits or letters.
4. Receiv	ring Calls
1. Press any	key to aniswit.
5. Call V	Valting
	while you may hear two boops maioning while you are on a call, you may hear two boops maioning another
incoming es	ill. When call waiting has been enabled, you may put the active call on hold as you answer the other
incoming ca	II. Check with your cellular service about this feature.
1. Press (SE	ND] to receive a waiting call.
2. Pross [SE	ND] again to switch between calls.

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NKC-3200 CDG	I Document				-
6					
6. Mute			-		
		g transmitted, but y	on can still hear the other per	y's talking.	
] and [3] while in a call.				
2. To release Mu	ste, Press [MENU] and [3] a	igain.			
7. Redialin	g Last Outgoing N	umber			
1 Press (SEND)	to redial the last dialed mut	nber.			
Q You can al	ao redial any of the last ten	sumbers you have d	lialed. Last 10 numbers are s	ored in the call	
history lis	t (See Recent Call History I	List).			
8. Adjustin	g the Volume				
The volume but	tons on the left topside of t	he phone can be use	ed to adjust car piece, ringer	and key volumes. The up	pper
button increases	and the lower button decre	ance the volume.			
O You may a	djust earpiece volume while	ie you are in a call.			
D Adjusting	the ringer volume while the	phone is ringing an	d in		
standby m	aode. ger volume can also be adju	ated through Moou)	Feature.		
	djust the ringer volume to a				
the LC	D displays"-Ringer Off-"	and you won't hear			
	ger sound.	12			
	ocp volume is adjusted thre	ough Menu Feature.			
signal strength If you are outsi emergency call Extend the sate	calls depends in the signal	trength as a number to service" icon will th is weak.	be displayed. No calls can b		
Ψ	Weak signal	×	No signal received.		
10. Emerg As long as you locked or wear		system, you can pla	or calls to emergency ampb	er 911 - even if your pho	ane in
11. Mann	er Mode				
Drear the neur	ad key [*] for one second, a	nd the ring type is a	et to vibrator.		
LIER me bom					
Standard Tele	com Co., Ltd.				

NXC-3200 CDG II Document		
12. Caller ID This feature enables the phone number of the e check if the cellular service carrier provides this f	alling person to be displayed what feature.	you useelve the call. You should
- Use of Caller LD. The phone number of calling person will be dis 'Number is Restricted' message will be displa number. In addition, the 'Number is Unavailab used. The 'Missed Call message will be displa answer. Missed call number will be stored in it the phone number is not blocked. In case the phone number is stored in the merr and name is displayed on the screen before you	ie' message will be displayed in cat ayed when you fail to receive the cat he call history temporarily and will have together with the name, the pho-	ie the Caller LD. een not be II after power on ar fhil to be displayed inter in case
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		•

3	Menu Feature In Idle State
5.1	
. Main Menu	and the should a marlines features and settings.
tenus allows you to check or the	ange the phone's various features and settings.
The Paste Bask	The set
OSound	(Display
ØAlert	ØSetup
	A MCNUL A cours and Settings
	to MENU Access and Settings
Press "MENU". Then the first I	3 means means with appear. [[]] key for mean navigation and can select a means itam with "select" soft
key or roller ball click.	,(+ 1=) == == =
Select the menu item that you v	want.
Then the submonu list will supe	car on the scroon.
AT and a sea and these as and the first	binenu you want to access. backward while accessing menu or selacting settings
Dence feelent] and key or [sto] (soft key to save the setting
Press [CLR] key or [canoel] so	It key to denced without saving.
	Hane
3. Menu Item Descript	10115
3.1 Menu 1 Phone Book	in the standard second in
	hone numbers. You do not have to remember them or carry your phonebook around. In any any number you store with a name. In addition, this phone book can store 2 phone
numbers per name.	
N-2	
3.2 Menu 2 Sound 1. Ring Type	
Select the ring type one of	f four types (Bell, Vibration, Bell after Vib and Lamp only) with [4], [\blacktriangleright] or
a roller ball. 2. Ring Tone	and a second second second second second second second
	with [4], [>] or a roller ball. The first five are ring sounds , the second fifteenth are a recorded bell. Types of ring sound to notify that you have an incoming call.
Adjust ringer volume. Yo or in standby mode.	on one also adjust the ringer volume by pressing the side keys while the phone is ringing
	as. You can also adjust this during a call, by preasing the side keys.
4 Key Been Vol.	
You can set the volume l	evel for keypad tones.
 Key Length The Key beep sounds in : 	response to digit key.
7. Tone Length	
	HS DIMI NAME
You can set pormal or lo	
You can set normal or lo Standard Telecom Co., Ltd.	

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NXC-3200 CDG II Document
3.3 Menu 3 Alerta
1. Fade Set an alart to inform you when you have lost a call or lass service. 2. Service
Alert you when service (CDMA / Analog , A / B ,etc.) changes. 3. Minute
Alert you every 10 seconds before the end of every minute during a call.
4. RozmRinger Alert you when entering roam area.
5. Connect Alart you when the call is connected.
6. Disconnect
3.4 Menu 4 Call Info
1. Last Call Displays duration of last call in minutes and seconds.
 All Calls Displays the total number and time(minutes and seconds) including calls made while in the home
system and while reaming. This is NOT reastable.
3. Home Calls Displays the total number and time(minute and second) of all calls made while in the home system(i.e. not reaming), since last reast. This can be reast by pressing (ZERO) softkey.
4. Ream Calls Displays the total number and time(minute and second) of all calls made while in the reaming. This can be reast by preasing [ZERO] soft key.
3.5 Menu 5 Display
1. Bannor Enter banner (up to 16 charactors) that is displayed on the top line when the phone powers up and when it is in
standby. 2. Show Time
 Show Tupe You can sot this item when you want the phone to display time and date in the phone idle state.
3. Font Type
You can change font type. 4. Backlight
4. Backlight Choose the setting of the LCD and keyped backlighting. "7 seconds" sums the backlight off 7 seconds after the last key was pressed. "15 seconds" waits 15 seconds after the last key press. "30 seconds" waits 30 seconds after the last key press. "always on" means that the backlight is on whether the flip is open or closed, choosing "always on" significantly decrease battery drain. "always off" means that the backlight is never on.
S.LCD Contrast
You can change LCD contrast. 6. Version
View the antiware and hardware version.
3.6 Menu 6 Setup
 Set NAM Select the phone's NAM(Number Assignment Module) if the phone is registered with multiple service providers.
2. Auto NAM Allows the phone to automatically switch to one of the programmed NAMs if it is operating in the corresponding
Allows the phone to automatically switch to one of the programmed to the provider atoa.
3. System Select Choose setting to control which cellular company your phone uses. Leave this setting as "Standard" unless you
choose setting to entern which company your provider. want to alter the system selection. Change it after asking communication provider.
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Statistics and state and

NXC-32	100 CDG II Document
	Mode Make next call in analog mode. You have 30 second to place an analog call. This feature is typically used for lata applications.
5 Date	Max +
6 Activ	in "Data/Fax" setting. Data and fax can be transmitted. Wireless data communication astroice refer to stilization of subscriber terminals for access to internet with personal computer or implops. without
	Send OTASP(Over The Air Service Provision) activation code
7. \$101	Viode elect DM/D6 Mode.
3.7 Mi	enu 7 Security
	nust enter the lock code to enter submenu>
	Look Look when you want the phone to lock. "Now" immediately locks the phone. When the lock code is entered this is react to "Nover". "On power up" locks the phone when the phone is turned on. "Nover" means that the phone is never locked. When locked, you can only make emergency calls (see Emergency Calls) or receive neoening calls. When is a call, you can adjust the explose volume. All functions and fastions including memory reveals storing and measage viewing are disabled when the phone is locked. Speed dialing, last number radial, and one-touch, if enabled, will still work with emergency numbers.
2. Restr	tot Set call restrictions to "YES" or "NO". If set to "YES," you can only make calls to amergency members and phone numbers in locations 1 to 9. You will still receive calls in restrict mode.
3.Clear	Calls Clear the call history information.
	rgency# Emergency numbers. You can call these numbers and 911 even when the phone is locked or matricted. If dialing the numbers for it to override the lock and restriction settings.
5. Hide	History To view the call history, you have to enter the lock code.
	Lock Code Allows you to enter a new four digit lock code number. For confirmation it will ask you to enter the new loc code twice.
7. Sead	PIN Send PIN code.
	alizing Resetting the phone returns all saved options to the factory defaults (the same as when you first seceived your phone).
3.8 M	ienu S Features
1 Auso	Redial. Set the length of time the phone waits before automatically redialing a number when the system is busy.
2 Auto	Answer Select the number of rings before the phone automatically answem a call. The carpiece must be vaised for an answer to work. This feature is most commonly used with the car kit. Select from the following using rings melodics.
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NXC-3200 CI	G II Document			
3. Alarm	one one be set to slam	n at a specified time. In this menu	you can set the alarm time and select "On"	
		and a sum of the share clock W	hen the alarm these is reached, the phone " is also shown. To stop alarm, open the flip	
4. Booking Ca This fi sound	ill sature reminds you of t an alarm tone.	the important call. When the time ;	ron set is reached, the phone will	
5. World Time This	function allows you to	view the time of major city in the	world.	
6. Anniversar This Who	frances lat some longer of	he important anniversary. You can ached, the phone show you the an	save up to 10 items on the phone. dversary that you programmed.	
7. Calculator This	phone calculator in yo	ur phone adds, subtracts, multiple	s and divides.	
8. Calendar This f	metion allows you to v	view the calendar.		
9. Voice Prive Set the prive	and the second second second second	e for CDMA calls as "Enhanced" o rvice provider far availability of th	r "Standard." CDMA offers inherent voice as anhanced voice privacy mode.	
2.9Menu 9	Recording			
Record Bal Playback B				
Playback in Erace inus Select Men	nuic I Iory			
Erase inus Select Men	nuac aory ernal memory is in you	ar phone. You can record voice up MC. The recording duration is the MMC first. See "Making a spa	mpto your chance. Before selecting and	ecternal
Erase inus Select Men	nuac aory ernal memory is in you	AC. The recording duration M	mpto your chance. Before selecting and	erternal
Erase inus Select Men	nuac aory ernal memory is in you	AC. The recording duration M	mpto your chance. Before selecting and	eniernal
Erase inus Select Men	nuac aory ernal memory is in you	AC. The recording duration M	mpto your chance. Before selecting and	ezzenal
Erase inus Select Men	nuac aory ernal memory is in you	AC. The recording duration M	mpto your chance. Before selecting and	eniernal
Erase inus Select Men	nuac aory ernal memory is in you	AC. The recording duration M	mpto your chance. Before selecting and	etternal
Erase inus Select Men	nuac aory ernal memory is in you	AC. The recording duration M	mpto your chance. Before selecting and	external
Erase inus Select Men	nuac aory ernal memory is in you	AC. The recording duration M	mpto your chance. Before selecting and	
Erase inus Select Men	nuac aory ernal memory is in you	AC. The recording duration M	mpto your chance. Before selecting and	external
Ersee inné Seloct Men *Int *Ex mén	nuac aory ernal memory is in you	AC. The recording duration M	mpto your chance. Before selecting and	external
Ersee inné Seloct Men *Int *Ex mén	nuac a lory ernal memory is in you ternal memory is M lory, make a space in t	AC. The recording duration M	mpto your chance. Before selecting and	
Erse inn Seloot Men *Ins *Ex men	nuac a lory ernal memory is in you ternal memory is M lory, make a space in t	AC. The recording duration M	mpto your chance. Before selecting and	

	II Document				/.
	4. Menu	I Feature	In InUse	State	
4 InUse Sta	te Main Menu				
4.1 Menu 1 S Send my	phone number.				
4.2 Menu 2 S Mute Ke	eratchpad y Beep Volume.				
you. Pre	Aute nicrophone of and off wh as (MENU) soft key and cs. If you need to release and likey or (Mute) subs	[1] or [Munc] such	the microphone is of sens in the call state. urgent conversation	7, the other party can not Then. [AUTE] is displa is over, press [MENU]	thear yad on
4.4 Menu 4 M Show my	y Phone #				
4.5 Menu 5 M Control)	MIC Gain MIC Gain.				
4.6 Menu 6 View the	Version software and hardware v	version.			
4.7 Menu 7 Set the v CDMA privacy	Voice Privacy woice privacy feature for offers inherent voice pri mode.	CDMA calls as "B wacy. Check with	nhanced" or "Standar your service provide	d" : r for availability of the	ephenced volce
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	seem Co., Ltd.				

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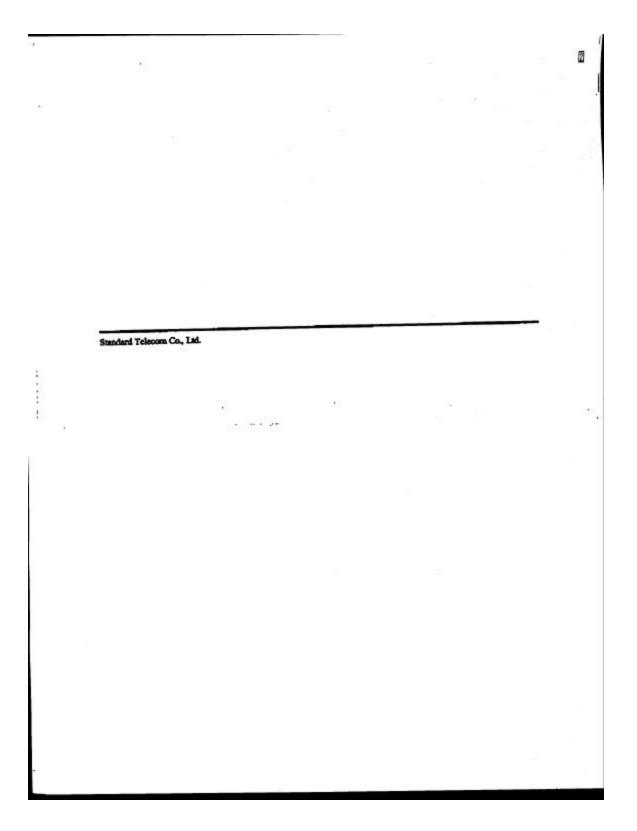
NXC-3200 CDG II Decument		/3
	5. Message Feature	
This phone allows you to send and save up to 21 messages you have a you have sent. Also you can edit a	receive voice messages and text messages. You can sectived end at the same time save up to 10 messages nessages you have saved or cent.	
1. Read Message		
1.1 Page/Message 1.2 Voice Mail 1.2 Frase All		
This feature allows you to do	less all massages of outpox.	
2 Send Message		
2.1 New Message 2.2 Load Message		
3 Outbox Message		
4 Clear Message		
5 Setup Option		25
5.1 Right Display This feature make the receiv	ed measage display on the screen when measage incom	- 20 -
5.2 Msg. Alert This feature make the Alert		
6 QNC Enable/Disal		
7 Data Debug Messa	ge(Hidden)	
Standard Telecom Co., Lad.		

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REPORT NO: 00U0401 DATE: 10/13/00 FCC ID:MBUNXC3200

		. Menu Tree	
Main Menn			
Level 1	Level 2	Level 3	Level4
.Phonebook	1. Call History 2. Find Barry		
	5. Find Name		
	4. Empty Entry 5. My Phone #		
		Bell / Vibration / Bell after Vib / Lamp only	
. Sounds	1. Ring Type 2. Ring Tone	Bell1~5 / Melody1~15 / Recorded Bell	
	3. Ring Volume	Low / Med / High / Higher	
	4. Earpiece Vol.	Low / Mod / High / Higher	
	5. Key Beep Vol.	Silent / Low / Med / High / Higher Short / Long	
	6. Key Length 7. Tope Length	Short / Long	
Alena	1. Fede	On / Off	
	2. Service	On/Off	
	3. Minute	On / Off On / Off	
	4. RoemRinger 5. Connect	· 0a/0ff	
	6. Disconnet	On/Off	
Call Info	1. Last Call		
	2. All Calls 3. Home Calls		
	A. Roam Calls		
Display	1. Banner		
	2, Show Time	Time preferred / Date preferred / Normal / Analog clock Type1 / Type2 / Type3 / Type4	
	B. Pont Type	Always On / Always Off / 7 seconds / 15 seconds / 30 seconds	seda
	5. LCD Contrast	8-Stop	
	6. Version	NAM #1 / NAM #2	
. Setup	1. Set NAM 2. Avito NAM	Yes/No	
	3. System Select	A only / B only / home only / standard	
	4. Force Call	Use Analog	
	5. Data / Fax	data/fax off / data until powered off / fax until powered of data for next call / fax for next call	
	6. Activation	on A Band / on B Band	
	7. SIO Mode	DM Mode / DS Mode	
7. Securicy	1. Auto Lock	Off / When flip open / From now	Yes/No
25	2. Restrict	1. Outgoing 2. Incoming	Yes / No
		3. Phonebook	Yes / No
		4. Speed dial	Yes / No Yes / No
	3. Clear	1. Call history 2. Phonobook	Yes /No
		3. Emergency #	Yas/No
	Service and the service of the servi	A All	Yes/No
	4. Emergency #	Emergency 1 / Emergency 2 / Emergency 3	
	5. Hide History	Hide / Cancel	
	6. New Lock Code	Nr / Nr.	
	6. New Lock Code 7. Send PIN 8. Initializing	Yes / No Yes / No	

2. Auto Anaver OFF / After 10 sec. / After 15 sec. 3. Alarm 1. Breer Day 2. Morning Call 3. One Time 4. Beoking Call 3. One Time 5. Work! Time 1. Merry Broan 6. Anniversary 1. Merry Broan 7. Calculator 2. Setup Farms 8. Calendar 2. Setup Farms 9. Recording 1. Record Bell 2. Flayback Bell	2. Atta Asserve OFF / Atta 2 mes. / Atta 10 mes. / Atta 10 mes. 3. Alarm 1. Breer Day 3. Alarm 1. Breer Day 3. One Time 3. One Time 4. Booking Call Yee / No 5. World Time 5. Antiversary 2. Steep Jama	. Festure		Copp / A damas / & damas / & damas	
B. Alama B. Bordzing Call A. Morring Call B. Oox Time B. Oox Time B. Oox Time S. Wadd Time D. View Phana S. Anniversary D. Stang Dama D. Brace Plana D. Direct Plana R. Calendar D. Brace Plana B. Valet Time D. Brace Plana B. Valet Privacy Standgrd / Enhancad P. Recording D. Record Bell B. Playhack Bell D. Playhack Insue B. Playhack Bell D. Playhack Insue S. Select Memory External / External Dabag Sorcea (Ridden) MS Menti D. Lovel 2 Level 1 Level 2 Level 3 Level 4 Baad Mossage D. Non Mail Onthort Liff On / Off C. Outhort Liff D. Non / Off C. Outhort Liff D. Alage Adert C. Outhort Liff D. Alage Adert C. Outhort Liff D. Alage Adert D. Alage Sorcea Control (Hidden) D. Alage Adert D. Dabag Sorcea Control C. Outhort Liff D. Alage Adert C. Outhort Liff D. Alage Adert D. Alage Sorcea Control C. Outhort Standard / Enhanced S.	B. Alass L. Bortz Der B. Morring Call D. Oon Tinks A. Morring Call D. Oon Tinks B. Bocking Call Ner / No S. World Tines I. View Busca S. Anniversaty D. Standgerd Management B. Calendar D. Brance B. Calendar D. Brance Rest B. Calendar D. Brance Rest B. Voice Bring D. Recording B. Recording D. Record Brill B. Phytheck Brance D. Phytheck Brance S. Select Memory Envertal Level 1 Level 2 Level 3 Level 4 Stand Message D. Voice Mass Controon Line D. Voice Mass Controon Line D. Voice Phytery Controon Line D. Voice Phytery Level 4 <t< th=""><th></th><th></th><th></th><th></th></t<>				
Bocking Call Yes / No S. Over Time	Bocking Call S. Over Time 4. Bocking Call Yes / No 5. Work! Time				<u>46</u>
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XC-3200 CDG II Document	
2. Basic Functions	
. Turning the Phone On and Off	
.1 Turning the Phone Ou	the second states
Install a charged battery pack or connect the phone to an external power sour	toe such as the ciliarenae trainer
adapter or car kit.	
Press [END] for a few seconds until the red light at the top of the phone flas	h.
I The LCD displays the initial screen and a "beep" sound will alert you.	
I If the LCD displays "[UNLOCK]", see "security"	
under Monu Pestures.	
.2 Turning the Phone Off	
. Press and hold [END] and then release the button.	
. Protect the antenna by pushing it back into the phone, if extended.	
2. Making a Call	
Whenever you make a call, follow these simple steps:	
1. Make sure the phone is turned on.	
2. Enter the phone number with area code, if needed.	
3. Press [SEND]	
C If the phone is locked , enter the Lock Code and pressing [SND].	
D "Call Failed" indicates that the call did not go through.	
4. Press [END] to disconnect the call.	63
3. Correcting Dialing Mistakes	
1. Press [CL.R] to erase the most recent digit or letter.	
2. Press and hold [CLR] for at least one second to delete all digits or letters.	
4. Receiving Calls	
1. Prees any key to answer.	
5. Call Waiting	
Your cellular service may offer call waiting. While you are on a call, you	ou may hear two neeps indicating mouth
incoming call. When call waiting has been enabled, you may put the ac	tive call on hold as you answer the othe
incoming call. Check with your cellular service about this feature.	
1. Press [SEND] to receive a waiting call.	
2. Press [SEND] again to switch between calls.	
control Talanam Co. Ltd	
Standard Telecom Co., Ltd.	

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XC-3200 CDG					- 2
6. Mute					
This function pro	events your voice from beh	ng transmitted, but y	ou can still hear the other p	arty's talking.	
] and [3] while in a call.				
L To release Ma	nte, Press [MENU] and [3]	again.			
7. Redialin	g Last Outgoing N	lumber			
I. Press [SEND]	to redial the last dialed nus	mber.			
O You can al	ao redial any of the last ten	numbers you have d	Saled, Last 10 mumbers are	stored in the call	
history lis	t (See Recent Call History	List).			
8. Adjustin	g the Volume				
The volume but	tons on the laft topside of	the phone can be use	d to adjust car picce, rings	r and key volumes. Th	re abber
button increases	and the lower builton doors	eases the volume.			
C You may	adjust earpiece volume whi	le you are in a call.			
	the ringer volume while th		d in		
standby n					
	ger volume can also be adju		Feature.		
> If you a	djust the ringer volume to	silent,			
the LC	D displays"-Ringer Off-"	and you won't hear			
	ger sound.				
O The key b	eop volume is adjusted the	ough Monu Feature.			
9. Signal S	trength				
The quality of	calls depends in the signal	strength in your are	e. The stronger the signal,	the better the call qua	lity. The
signal strength	icon indicates the current s	trength as a number	of bars.		
	de of a service area, the "N	lo service" icon will	be displayed. No calls can	be made or received,	permanne.
	la. (Strongest signal)	52			
Extend the ante	mna when the signal strang	th is weak.			
If you are in a b	building, the reception may	be better near a win	dow.		
22	Weak signal	-	No signal received		
Ť		X			
10. Emerg	gency Dialing a phone is registered on a	materia and an ale	or calls to emergency man	ber 911 - even if your	phone is
		a) shall be one play			
locked or restr	icted.				
11. Mann	er Mode	45.552 CT 11-1.57575-0			
Press the pour	d key [*] for one second, a	nd the ring type is se	t to vibrator.		
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Standard Tele	com Co., Ltd.				

NXC-3200 CDG II Document	1	12	- ;
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12. Caller ID	at	un une moder the cell. You show	44
12. Caller 1D This feature enables the phone number of the check if the cellular service carrier provides this	a calling person to be displayed we is feature.		
- Use of Caller LD. The phone number of calling person will be 'Number, in addition, the 'Number is Unavail used. The 'Missed Call' message will be dis answer. Missed call mumber will be atored is the phone number is not blocked. In case the phone number is stored in the m	payer in the meanage will be displayed in a aplayed what you fail to receive the in the call history temposarily and wi emory together with the name, the p	case the Caller LD. can not be call after power on or fall to ill be displayed later in case	
and name is displayed on the screen before ;	YOU RESWER.		
Standard Telecom Co., Ltd.			
Standard Telecom Co., Ltt.			

REPORT NO: 00U0401 DATE: 10/13/00 FCC ID:MBUNXC3200

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3	. Menu Feature In Id	le State
Course Book	change the phone's various features and setting	ngs.
@Alert		
· · · · · · · · · · · · · · · · · · ·	es to MENU Access and Setting est 3 menu items will appear. (). () two for menu navigation and can a	
key or roller ball click. 3. Select the menu item that y		
Then the submenu list will a 4. Navigate and then select th 5. Press [CLR] key to go one to be ready and the submerse for the set of	appear on the screen. e submeau you want to access. acc backward while accessing menu or select	ting settings
3. Menu Item Descr	tptions	
3.1 Menu 1 Phone Bool This phone can store up to 40 the phone book you can score numbers per name.		aber them or carry your phonebook around. In a addition, this phone book can store 2 phone
3.2 Menn 2 Sound 1. Ring Type Select the ring type or a roller bail.	e of four types (Bell, Vibration, Bell after Vi	b and Lamp only) with [<], [>] or
melodisa and the rem	tins recorded bell. Types of hing sound to not	five are ring sounds , the account fifteenth are ify that you have an incoming call.
or in standby mode.	You can also adjust the ringer volume by p	usesing the side keys while the phone is ringing
f Far Been Vol	hame. You can also adjust this during a call,	by pressing the side keys.
6. Key Length The Key beep sound	ne level for keyped tones. s in response to digit key.	
7. Tone Length You can set normal of	ar long DTMF tones.	
Standard Telecom Co., Ltd.		

NKC-3200 CE	O II Doesan	ect.				_ <
			th.			1
3.3 Mena 3 /	Jerts					
1. Fade				and the second se		
2. Service	Pert to Intori	a you when you i	have lost a call or loss as	(Y)()8.		
Alert y	when serv	ice (CDMA / At	nalog, A / B, etc.) chang	jes.		
Alert y		econds before the	e end of every minute du	ring a call.		
4. RoamRinge Alert you	the second second second second	ing roam area.				
5. Connect		all is connected.				
6. Disconnect		ALL IS CONTROLING				
3.4 Menu 4	Call Info					
I. Last Call						
	s duration of	last call in minu	ites and seconds.			
			ninutes and seconds) incl	ding calls made while i	in the home	
3. Home Calls	and while ros	sming. This is NO	OT resetable.			
			ninute and second) of all cost. This can be react by			
4. Roam Calle						
		pressing [ZERO]	nimute and second) of all] soft key.	oalis made while in the		
3.5 Menu 5	Display					
1. Banner						
standby.		te characters) th	at is displayed on the top	o time when the proces p	owers up and which r	
2. Show Time You can a	at this item :	when you want ti	he phone to display time	and date in the phone		
idle stat						
3. Font Type You can o	shange fout	type.				
4. Backlight Choose	the setting o	the LCD and k	eypad backlighting. "7 s	econds" turns the back	icht off 7 seconds aft	or the
last key	was pressed.	"15 seconds" w	raits 15 seconds after the	last key press. "30 seco	nds" waits 30 second	after
always		untly decrease bat	ttery drain. "always off"	means that the backligh	t is never on.	
You can a	hange LCD	contrast.				
6. Version View th	e software as	d hardware versi	ion.			
3.6 Menu 6	Setup					
I. Set NAM						
	he phone's N	AM(Number As	signment Module) if the	phone is registered with	multiple service prov	iders.
			witch to one of the progra	mmed NAMs if it is op	crating in the correspo	nding
3. System Sele	provider area et			14 Viela (201	1920 - 1873 (North	
			ular company your phon unge it after asking com		g as "Standard" unles	4 you
Stundard Talan	en Ca Ted					_
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4. Force	Mode fake next call in snalog mode. You have 30 second to place an snalog call. This flature is typically used for ata applications.
	Fax n "Data/Fax" setting. Data and fax can be transmitted. Wireless data commutationtion service rafer to milization of subscriber terminals for access to internet with personal computer or laptops.
a Acav	ation. Send OTASP(Over The Air Service Provision) ectivation code
7. SIO 1	
3.7 M	enu 7 Security
Non	must enter the lock code to enter submemu>
1. Auto	Lock
	Lock Lock Lock when yon want the phone to lock. "Now" immediately locks the phone. When the lock code is entered, this is reset to "Nover". "On power up" locks the phone when the phone is tameed on. "Never" means that the phone is never locked. When locked, you can only make emergency calls (see Emergency Calls) or tooleve phone is never locked. When locked, you can only make emergency calls (see Emergency Calls) or tooleve phone is never locked. When locked, you can only make emergency calls (see Emergency Calls) or tooleve phone alls. When in a call, you can adjust the explore volume. All functions and finatures including memory incoming calls. When in a call, you can adjust the explore volume. All functions and finatures including memory incoming calls, and message viewing are disabled when the phone is locked. Speed disling, last number redial, and one-touch, if easiled, will still work with emergency numbers.
2. Rost	THE PARTY IF AND IN THE WOR CAN ONLY THERE ONLY THERE
	Set call restrictions to "IES" of POU in the receive calls in restrict mode.
3.Clear	Calls Clear the call history information.
4 Em	rgency#
	rgency# Emergency numbers. You can call these numbers and 911 even when the phone is looked or restricted. If dialing the numbers for it to override the lock and restriction settings.
5. Hid	e History To view the cal history, you have to enter the lock code.
6. No	v Lock Code Allows you to enter a new four digit lock code number. For confirmation it will ask you to enter the new lock code twice.
7. Set	d PIN Send PIN code.
8. Ini	ializing Reserving the phone returns all saved options to the factory defaults (the same as when you first received your phone).
3.8 1	denu 8 Features
1 Au	e Redial. Set the length of time the phone waits before automatically redialing a number when the system is busy.
2 Au	to Answer Select the number of rings before the phone automatically answers a call. The earpiece must be raised for ante answer to work. This feature is most commonly used with the car kit. Select from the following using rings o melodies.
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-			
3. Alarm The phone ca	n be set to alarm at a specified time. In this mean you	can set the alazm time and select "Os"	
to hange the s will sound as	alarm time or "Off" to turn off the slaves clock. When alarm tone. When the phone is alarming, "Alarm" is	the alarm thus is reached, the phone also abown. To stop alarm, open the flip.	
4. Booking Call This feature r sound an alar	eminds you of the important call. When the time you a m tone.	set is reached, the phone will	
5. World Time This function	a allows you to view the time of major city in the wor	14.	
6. Anniversary This fasture When the m	let you know the important anniversary. You can saw miveraary is reached, the phone show you the anniver	e up to 10 items on the phone. mary that you programmed.	
7. Calculator This phone	calculator in your phone adds, subtracts, multiples an	d divides.	
8. Calendar This function	allows you to view the calendar.		
9. Voice Privacy Set the voice privacy. Char	privacy feature for CDMA calls as "Enhanced" or "St ik with your service provider for availability of the en	andard." CDMA offers inherent voice hanced voice privacy mode.	
2.9Menu 9 Reco	rding		
Record Bell Playback Bell Playback imae Erase imase			
WDmissoul 1	emory is in your phone. You can record voice up to 5 memory is MMC. The recording duration is upto ake a space in the MMC first. See "Making a space in	your choice. Before sciecting the ex-	emi
			_
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	one can be set to alarm at a specified time. In this mean you	
to hang will sou	pe the alarm time or "Off" to turn off the alarm clock. When y and an alarm tone. When the phone is alarming, "Alarm" is a	the alarm time is reached, the phone lao ahown. To stop alarm, open the flip.
4. Booking Cal This fee sound a	ll ance reminds you of the important call. When the time you s an alarm tone.	et is reached, the phone will
5. World Time This f	function allows you to view the time of major city in the wor	L.
6. Anniversary This f When	fasture let you know the important anniversary. You can as we a the anniversary is reached, the phone show you the anniver	up to 10 items on the phone. sary that you programmed.
7. Calculator This p	phone calculator in your phone adds, subtracts, multiples and	divides.
8. Calendar This fu	notion allows you to view the calendar.	
9. Voice Privac Set the privacy	cy voice privacy feature for CDMA calls as "Enhanced" or "Su r. Check with your service provider for availability of the enh	andard." CDMA offers inherent voice sanced voice privacy mode.
2.9Menu 9	Recording	
Record Bell Playback Be Playback im Erase imuse Select Memo	all mac	
*Inter	rnal memory is in your phone. You can record voice up to 5 senal memory is MMC. The recording duration is upto ory, make a space in the MMC first. See "Making a space in	your choice. Before selecting the exit
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				- /
4	. Menu Feature	In InUse Stat	e	
4 InUse State Mai	n Menu			
4.1 Menu 1 Send DT Send my phone no	MDF anber.			2
4.2 Menu 2 Scratchp Maie Key Beep V	ad olume.			
you, Press (MENI	e of and off while in a call. When J] soft key and [1] or [Mute] subm nand to release the status after the or [Mute] submenu again.	the microphone is off, the off senu in the call state. Then, D urgent conversation is over, p	er party can not hear (UTE) is displayed on acces [MENU]	
4.4 Menu 4 My Phon Show my phone an	ue # mber.			
4.5 Menu 5 MIC Gai Control MIC Gain	ta			
4.6 Menu 6 Version View the software	and hardware version.			
4.7 Menu 7 Voice Pr Set the voice prive CDMA affers inh privacy mode.	ivacy say feature for CDMA calls as "Er erent voice privacy. Check with y	nhanced" or "Standard" : your service provider for ava	alability of the exhanced	voice
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5. Message Feature phone allows you to send and receive voice messages and text messages. You can up to 21 messages you have received and at the same time arve up to 10 messages have sent. Also you can adit messages you have seved or sant. Read Message Page/Message Voice Mall Erase All This feature allows you to delote all messages of outbox. Send Message	
top to 21 massages you neve receiven that have seved or sant. Read Message Page/Message Voice Mail Erase All This feature allows you to delote all messages of outbox.	
top to 21 massages you neve receiven that have seved or sant. Read Message Page/Message Voice Mail Erase All This feature allows you to delote all messages of outbox.	
Page/Message Voice Mail Erase All This feature allows you to delote all messages of outbox.	
Voice Mail Erase All This feature allows you to delete all measages of outbox.	
Erase All This feature allows you to delete all measages of outbox.	
This feature allows you to delete all measages of outbox.	
Send Message	
New Message	
2 Load Message	
Outbox Message	
Clear Message	
Setup Option	
1 Right Display This feature make the received message display on the acreen when message incomes.	
2 Mag. Alert This feature make the Alert when message incomet.	
QNC Enable/Disable(Hidden)	
Data Debug Message(Hidden)	
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		KC-3200 CDG II Document				
6. Menu Tree						
Main Manu						
Level 1	Level 3	Level 3	Lovel 4			
Phonebook	1. Call History					
JULIN DOOM	2. Find Earry					
	3. Find Name					
	4. Empty Entry					
	5. My Phone #	The same of the state of the same state				
Sounda	1. Ring Type	Bell / Vibration / Bell after Vib / Lamp only				
	2. Ring Tone	Bell1~5 / Melody1~15 / Recorded Bell Low / Med / High / Higher				
	3. Ring Volume	Low / Med / High / Higher				
	4. Earpiece Vol.	Silent / Low / Med / High / Highsr				
	5. Key Boep Vol. 6. Key Longth	Short / Long				
	7. Tone Leagth	Short / Long				
Alerts	I. Fade	On / Off				
	2. Service	On / Off				
	3. Minute	On / Off				
	4. RosmRinger	On/Off				
	S. Connex	On / Off				
	6. Disconnect	OR / OIL				
Call Info	1. Last Call 2. All Calls					
	5. Home Calls					
	4. Rosm Calls					
Display'	1. Banner					
	2. Show Time	Thme preferred / Date preferred / Normal / Analog cloc	K			
	B. Font Type	Type1 / Type2 / Type3 / Type4 Always On / Always Off / 7 seconds / 15 seconds / 30	seconds			
	4. Backlight					
	5. LCD Contrast	8-Step				
0	6. Version 1. Set NAM	NAM #1/NAM #2				
Serup	2. Auto NAM	Yes/No				
	3. System Select	A only / B only / home only / standard				
	4. Force Call	The Anglog				
	5. Deta / Fax	data/hox off / data until powered off / fox until powered data for next call / fax for gent call				
	6. Activation	on A Band / on B Band DM Mode / D\$ Mode				
	7. \$10 Mode	Off / When fitp open / From now	State Street Street			
. Security	1. Auto Lock 2. Restrict	1. Outgoing	Yes/No			
	A. Romerica	2. Incoming	Yes / No			
		3. Phonebook	Yes /No			
	* <u>distant</u>	4, Speed dial	Yes /No			
	3. Clear	1. Call history	Yes/No Yes/No			
		2. Phonebook				
		3. Emergency #	Yes/No Yes/No			
		4. All	11007700			
	4. Emergency #	Emergency 1 / Emergency 2 / Emergency 3				
	5. Hide History	Hide / Cancel				
	6. New Lock Code					
	7. Send PIN	Yes / No				
	8. Initializing	Yes / No				

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Feature	1. Auto Redial	OFF / 2 times / 3 times / 5 times	
	2. Auto Answer	OFF / After 5 ano. / After 10 sec. / After 15 sec.	
	3. Alaran	1. Every Day	
		2. Morning Call 3. One Time	1.2.1.2
	4. Booking Call	Yes/No	
	5. World Time	1.View hema	
	6. Anniversary	2.Setup Items	
		3.Ense home	
	7. Calculator		
	8. Calendar 9. Voice Privacy	Standard / Enhanced	
9. Recording	1. Record Bell		
	2. Playback Bell		
	3. Playback Inuse 4. Erasc Inuse		
	5. Select Memory	Internal / External	
(Hidden)			
MS Mena	Level 2	Level 3	Level 4
Level 1 Read Meanage	I. Page / Montage	Lends	
and a second sec	2. Voice Mail		
Sond Manage	1. New Message		
Outbox List	2. Load Mossage		
Clear Message	Yes /No		
Secup Option	1. Right Display	On/Off	
QNC Enable/Disal	2. Msg. Alert	Du / Off	
(Hidden)			
(Hidden)	•		
n Use Menn			
Level 1	Level 2	Level 3	Level 4
. Send DTMF			
2. Scratchpad			
Muse	-		
MIC Gain			
6. Version			
7. Voice Privacy	Standard / Enhanced		
Number Editi	ing		
Level 1	Level 2	Level 3	Level 4
1. H Hard Pause			
2, T Timed Pause			
3 Hyphen			

Descriptive Information

Subsection	Description
2.983(a)	Applicant : STANDARD TELECOM CO., LTD 926 Kwanyang 2-Dong, Dongan-Ku, Anyang-City, Kyunggi-Do, Korea 431-062
	Manufacturer : STANDARD TELECOM CO., LTD 926 Kwanyang 2-Dong, Dongan-Ku, Anyang-City, Kyunggi-Do, Korea 431-062
2.983(b)	FCC ID : XXXNXC3200
2.983©	Quantity : Quantity production is planned.
2.983(ф) (1)	Emission Type
2.983(d) (2)	Frequency Range:
	 In CDMA mode RX : 869.82 ~ 893.19MHz TX : 824.82 ~ 848.19MHz In AMPS mode RX : 869.04 ~ 893.97MHz TX : 824.04 ~ 848.97MHz
2.983(d) (3)	Range of Operating Power CDMA : Range of Open Loop Output Power : Open loop average output power of Mobile Station is estimated from the
	average input power. The estimation value is as below:

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Average Output Power(dBm) = - Mean Input Power(dBm)

- 73

+ NOM_PWR(dB)

+ INIT_PWR(dB)

The range of the average output power shall satisfy the below condition

Average Input power Range(dBm/1.23MHz)	-25	-65	-104
Average Output power Range(dBm/1.23MHz)	-48±9.5	-88±9.5	18 to 27

· Range of Closed Loop Output Power :

Range of closed loop power control should be at least within -50dBm $\sim +23$ dBm

Range of maximum power output should be in the range of +23dBm \sim +27dBm

Maximum power is recommended from manufacturer of mobile station

2)AMPS:

Power Level	Power Range(dBm)
0~2	+24 ~ +30
3	+20~+26
4	+16~+22
5	+12 ~ +18
6	+9~+14
7	+4 ~ +10

2.983(d) (4)

Maximum Power Rating :

1) CDMA : 0.32W 2) AMPS : 0.5W

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2.983(d) (5) DC Voltage and Current into the final radio frequency amplifying device :	2.983(d) (5)	DC Voltage and	Current into the	final radio frequency	amplifying device :
--	--------------	----------------	------------------	-----------------------	---------------------

Frequency	836MHz	849MHz	824MHz
Supply Voltage[V]	3.7V	3.7V	3.7V
Current[mA]	535mA	525mA	545mA

2.983(d) (6) Function of Active Devices :

	1	
L.RF Part		
U103	RF2361	LNA
U104	TQ5M31	Down Converter
U107	IFR3000	RX BBA & AGC
U114	IFT3000	TX BBA & AGC
U5	RF2641	Up Converter
U4	RF2352	Driver Amp.
U119	RF2162	Power Amp.
U6	MRFIC0916	Buffer Amp.
2. Freq. Sys	athesizer	
U108	LMX2331LSLB	Dual PLL
U109	ENFVJ393S38	VCO
U115	TOS1968VA14KRE	VC-TCXO
3. LOGIC		
U301	MSM3000PBGA196	Qualcomm IC Chip
U900	CY62136VLL-70B	2M SRAM
U901	28F1602C3	COMBO Memory(16x2)
U8	TC7SH08FU	AND Gate
U305	24LC256	EEPROM(256K)
U306	TCM809RENB	Reset IC
U9	ST5093	CODEC IC
U10	DG9232	Analog Switch
U418	LM4865	Audio Amp.
4. MP3		
U500	DAC3550A	Digital-Analog Converter

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DEGTATO TELECOM CO., LTD DEGT-14

U502	MAS3507D	MP3 DECODER
U503	AT89LS8252	MPU FOR MP3
UI	74HC244	Buffer
U12	TC7WH74FK	D-F/F
5. Power St	NUM Y	
U304	TC1107-3.0VUA	3V Voltage Regulator(300mA)
U412	MIC5205-3.0V	3V Voltage Regulator(150mA)
U415	TC1185-3.0VCT	3V Voltage Regulator(150mA)
6.17		
Q403	DTC144EE	NPN Digital Transistor
Q101	UMC4N	Dual Digital Transistors
Q401	UMT2907	PNP Switching TR
Q7	DTA144TE	PNP Digital Transistor
Q406	UMT2222	NPN Switching TR
Q13	2SC4617	NPN Digital Transistor
U113	1034ECTTR	OP Amp.

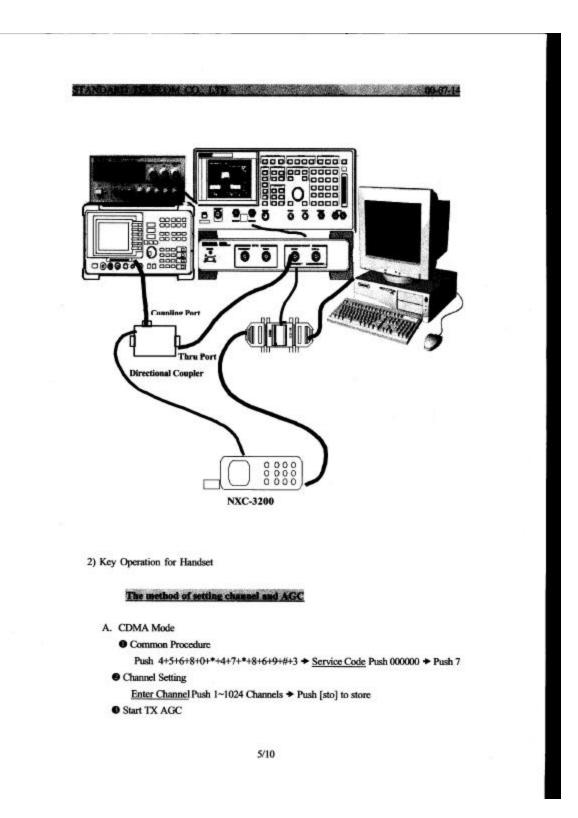
2.983(d) (7) Circuit Diagram & Block Diagram

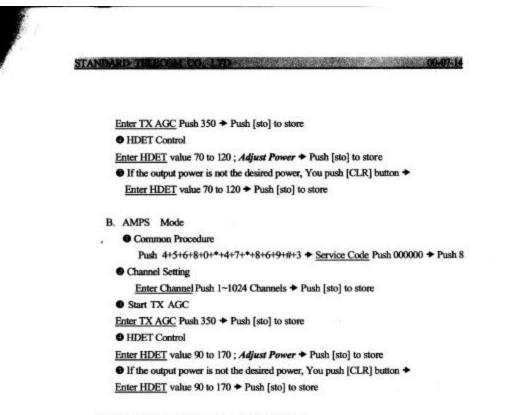
2.983(d) (8) Operating Instruction Book

2.9839d) (9) Tune-Up Procedure

1) Set-uP for Tune-Up of Transmitter

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* To test another channel, please reset the handset.

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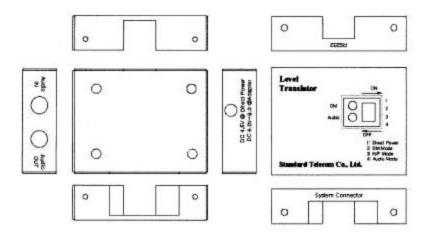
Level Translator

STANDARD TELECOM CO., LTD 00-07-14

Read Contraction

The level Translates the level of Input/output data of handset to interface with Personal Computer(which is installed with DM program by Qualcomm.) and, dispatch the audio signal between handset and measuring instrument. So, Level Translator can be used as TIA adaptor.

We also packed a RF caable to interface the RF signal from handset to the measuring equipment.



Basic Configuration and Function

Set the control switch 1 on and the other switches off.

And, feed power to the level translator with exactly 4.5 Volt, 2A.

Insert the carkit jack into the hole in the bottom of the handset.

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And, connect the other side of the code to the Level Translator

RF jack passes the RF signal between handset and measuring equipment. Connect the RF jack to the RF terminal of measuring equipment.

If you need audio output, please set the control switch 4 on, otherwise please keep the switch off.

Now you are ready to see the audio/radio signal with your measuring equipment.

If you want to the Diagnostic Monitor, please connect RS-232C port to Com 2 port of PC with adequate cable.

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NXC-3200 CDG II Document

5.2 Product Specification (H/W)

- NXC-3200 -

Standard Telecom Co., Ltd.

1. Specification

1.1 General Specification

- 1.1.1 Transmit/Receive Frequency Interval : 1) CELLULAR : 45 MHz
 - 2) AMPS: 45MHz
- 1.1.2 Number of Channels (Channel Bandwidth) 1) CELLULAR : 20 Channels

2) AMPS: 832 Channels

1.1.3 Operating Voltage : DC 3.05

1.1.4 Battery Power Consumption : DC 3.8V

	SLEEP	IDLE	MAX POWER
CELLULAR	3. dsA	89 mA	509) mA (24 dBm)
AMPS	45mA	88 mA	8500 mA (27 dBm)

1.1.5 Operating Temperature : -30 C- +60 C

1.1.6 Frequency Stability

1) CDMA : ±0.5PPM 2) AMPS : ±2.5PPM 3) PCS : ±0.1PPM

1.1.7 Antenna : Retractable Type (Herical+Whip), 50

1.1.8 Size and Weight

1) Size : 107× 44× 22.5 2) Weight : 112.5g

1.1.9 Channel Spacing

CELLULAR: 1.25MHz
 AMPS: 30KHz

1.1.10 Battery Type, Capacity and Operating Time. Unit = Hours : Minutes

	Extended (870mAh)		
Standbar Time	CELLULAR	156brs	
Standby Time	AMPS	15hrs	
Talk time	CELLULAR	210min	
	AMPS	this	

1.2 Receive Specification

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1.2.1 Frequency Range

CELLULAR : 869.820 MHz ~ 893.190 MHz
 AMPS : 869.04 MHz ~ 893.97 MHz

1.2.2 Local Oscillating Frequency Range :

- 1) CELLULAR : 966.88MHz=12.5MHz
- AMPS : 966.88MHz±12.5MHz

1.2.3 Intermediate Frequency :

- 1) CELLULAR: 85.38MHz
- 2) AMPS: 85.38 MHz

1.2.4 Sensitivity

- 1) CELLULAR : -104dBm (C/N 12dB or more)
- AMPS : -116dBm (12dB SINAD)

1.2.5 Selectivity

CELLULAR : 3dB C/N Degration (With Fch±1.25 kHz : -30dBm)
 AMPS : 16dB at Fch±30kHz, 60 dB at Fch±60kHz

1.2.6 Spurious Wave Suppression : Maximum of -80dB

1.2.7 CDMA Input Signal Range

Dynamic area of more than -104~ -25 dB: 79dB at the 1.23MHz band.

1.2.8 AMPS De-Emphasis : -6dB/OCT within 0.3~3kHz

1.2.9 AMPS Expander

- Expansion Rate : 1:2
- Attack Time : within 3mS
- Recovery Time : within 13.5mS
- Reference Input : Output level to a 1000Hz tone from a carrier within +2.9kHz peak frequency deviation.

1.2.10 AMPS Sensitivity : 12dB SINAD/-116dBm

1.2.11 AMPS Intermodulation Spurious Response Attenuation : Above 65dB

1.2.12 AMPS RSSI Range : Above 60dB

1.2.13 AMPS Protection Against Spurious Response Interference : Above 60dB

1.2.14 AMPS In Band Conducted Spurious Emissions

- Transmit Band : below -60dBm
- Receive Band : below -80dBm
- 1.2.15 AMPS Out of Band Conducted Spurious Emissions : Below -47dBm

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1.2.16 AMPS Radiated Spurious Emissions

Frequency Range	Maximum allowable EIRP
25~70 kHz	-45 dBm
70 ~ 130 kHz	-41 dBm
130 ~ 174 kHz	- 41 ~ - 32 dBm
174 ~ 260 kHz	- 32 dBm
260 - 470 kHz	- 32 ~ - 26 dBm
470~1.0 GHz	-21 dBm

1.3 Transmit Specification

1.3.1 Frequency Range

- CELLULAR : 824.820MHz ~ 848.190MHz
 AMPS : 824.04MHz ~ 848.97MHz
- 1.3.2 Local Oscillating Frequency Range :
 - 1) CELLULAR : 966.88 MHz±12.5 MHz
 - 2) AMPS: 966.88 MHz±12.5 MHz

1.3.3 Intermediate Frequency : 130.38 MHz

1.3.4 Output Power

- 1) CELLULAR: 0.3W
- AMPS: 0.5W

1.3.5 Interference Rejection

- 1) Single Tone : -30dBm at 900 kHz (CELLULAR), -30dBm at 1.25MHz(PCS)
- 2) Two Tone : -43dBm at 900 kHz & 1700kHz(CELLULAR), -43dBm at 1.25 MHz & 2.05 MHz

1.3.6 AMPS Carrier ON/OFF Conditions

" ON" condition : within ±3dB of specification output (in 2msec)

1.3.7 AMPS Compressor

- 1) Compression Rate : 2:1
- 2) Attack Time : 3msec
- 3) Recovery Time : 13.5msec
- 4) Reference Input : Input level for producing a nominal ±2.9kHz peak requency deviation of transmitted carrier.

1.3.7 AMPS Preamphasis : 6dB/OCT within 0.3 ~ 3 kHz

1.3.8 AMPS Maximum Frequency Deviation

- 1) F3 of G3 : ±12kHz (±10%)
- 2) Supervisory Audio Tone : ±2kHz (±10%)
- 3) Signaling Tone : ±8kHz (±10%)
- 4) Wideband Data : ±8kHz (±10 %)

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1.3.9 AMPS Post Deviation Limiter Filter

- 3.0kHz ~ 5.9kHz : above 40log(F/3000) dB
- 5.9kHz ~ 6.1kHz : above 35dB
- 3) 6.1kHz ~ 15kHz : above 40log(F/3000) dB
- 4) Over 15kHz : above 28dB

1.3.10 AMPS Spectrum Noise Suppression

1) For all Modulation

- fo+20kHz ~ fo+45kHz : above 26dB
- 2) For Modulation by Voice and SAT
- fo+45kHz : above 63+10log(Py) dB 3) For Modulation by WBD (without SAT) and ST (with SAT) fo+45kHz - fo+60kHz : above 45dB fo+60kHz ~ fo+90kHz : above 65dB fo+90kHz ~ 2fo : above 63+10log(Py) dB, where fo=carrier frequency, Py=mean output power in watts.

1.3.11 AMPS Harmonic and Conducted Spurious Emissions : above 43+10log(Py) dB

1.3.12 CDMA TX Frequency Deviation :

- 1) CELLULAR: +300Hz or less
- 2) AMPS: ±300Hz or less

1.3.13 CDMA TX Conducted Spurious Emissions

- CELLULAR : 900kHz : 42 dBc/30kHz below 1.98MHz : 54 dBc/30kHz below

1.3.14 CDMA Minimum TX Power Control

1) CELLULAR : - 50dBm below

1.4 MS (Mobile Station) Transmitter Frequency

1.4.1 CELLULAR & AMPS mode

Ch#	Center Freq. (MHz)	Ch#	Center Freq. (MHz)
1011	824.640	404	837.120
29	825.870	445	838.350
70	827.100	486	839.580
111	828.330	527	840.810
152	829.560	568	842.040
193	830.790	609	843.270
234	832.020	650	844.500
275	833.250	697	845.910
316	834.480	738	847.140
363	835.890	779	848.370

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1.5 MS (Mobile Station) Receiver Frequency

1.5.1 CELLULAR & AMPS mode

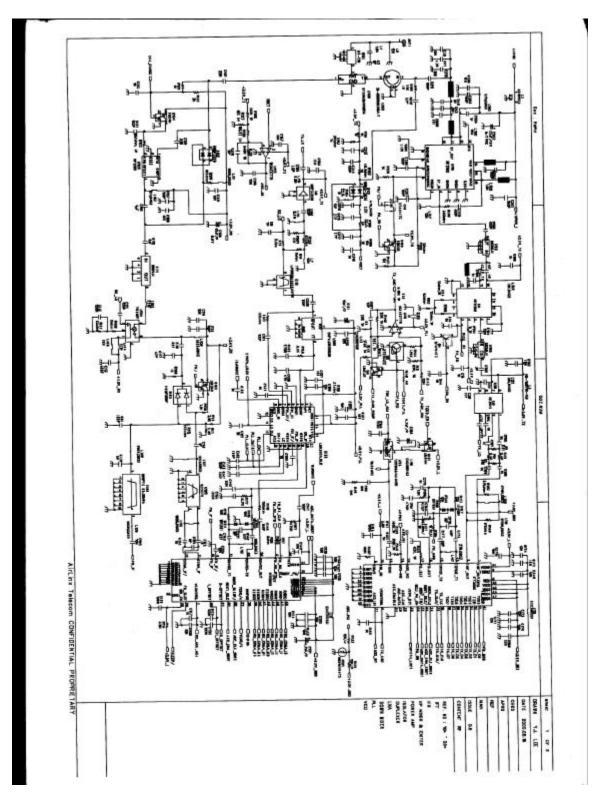
Ch.#	Center Freq. (MHz)	Ch.#	Center Freq. (MHz)
1011	869.640	404	882.120
29	870.870	445	883.350
70	872.100	486	884.580
111	873.330	527	885.810
152	874.560	568	887.040
193	875.790	609	888.270
234	877.020	650	889.500
275	878.250	697	890.910
316	879.480	738	892.140
363	880.890	779	893.370

1.6 Charge time

1.6.1 Standard Battery : 2 Hrs (870mAh)

1.6.2 Extended Battery : 4 Hrs (1400mAh)

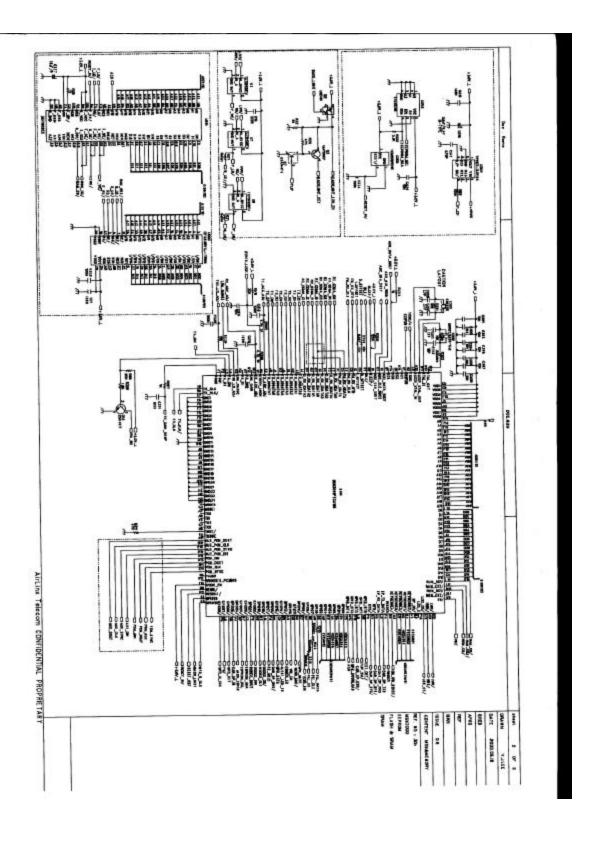
Standard Telecom Co., Ltd.

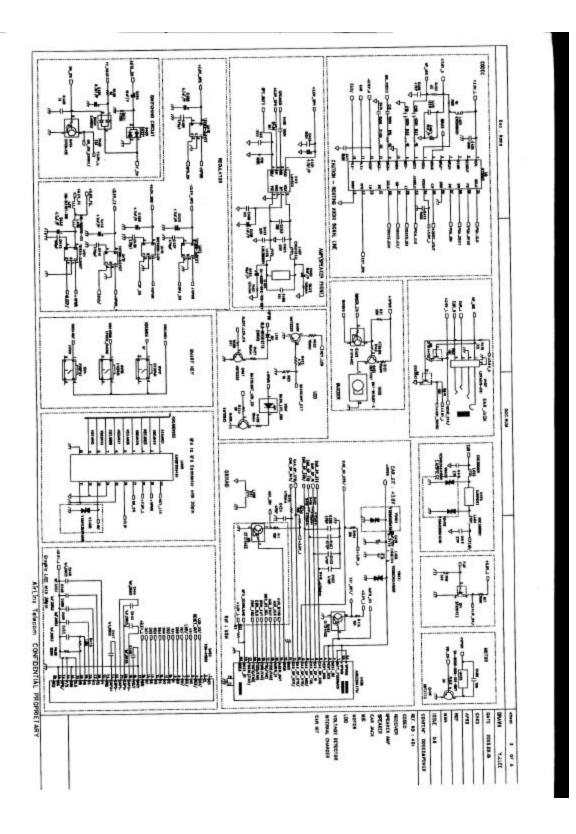


4. SCHEMATICS AND PARTS LIST:

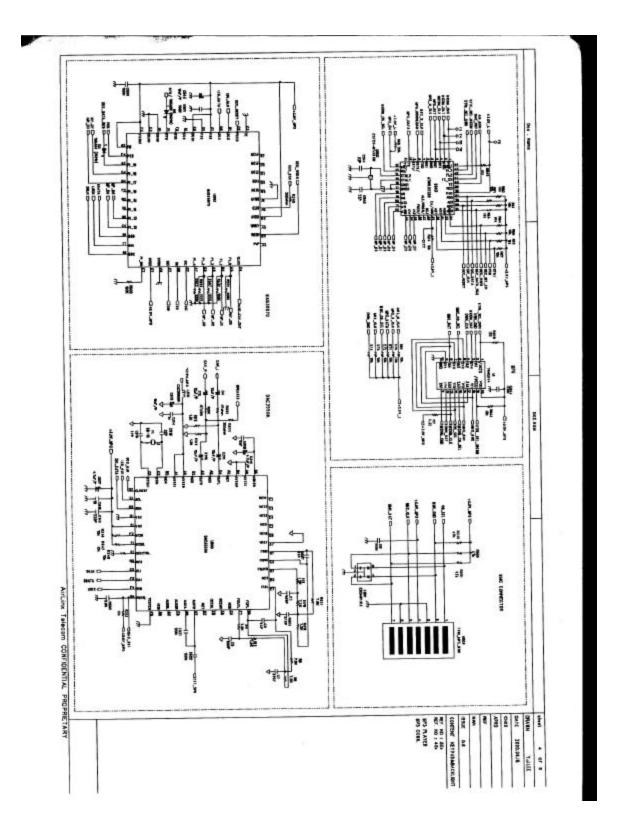
COMPLIANCE CERTIFICATION SERVICESDOCUMENT NO:CCSUP4031A561F MONTEREY ROAD< MORGAN HILL,CA USA</td>TEL:(408) 463-0885 FAX:(408) 463-0888This report shall not be reproduced except in full, without the written approval of CCS.

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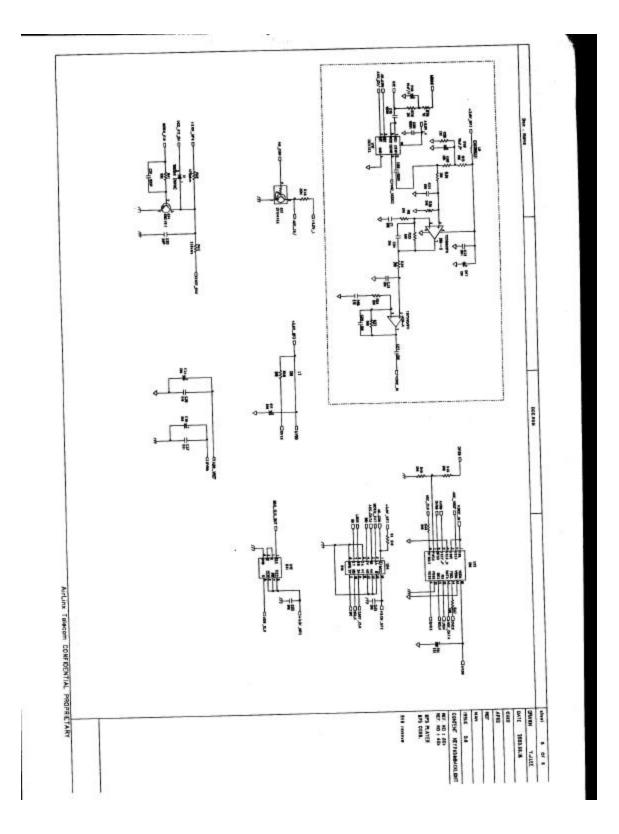




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DESCRIPTION	PWAT NUMBER	LOCATION	Q' ty
PC8	MAIN BOARD		1
IC, WIXER RX	TQ5M31	U104	1
IC, WSW	MSM3000PBGA196	U301	1
IC, EEPROM	M24LC256-WWN6T	U305	1
IC, VOLTAGE REGULATOR	TC1185-3.0VCT	UH15, UH16, UH10, UH11	4
IC, VOLTAGE REGULATOR	W1C5205-3.08M5	U412	1
IC, VOLTAGE REGULATOR	TC1107-3.0VUA	1304	1
IC, CODEC	ST5093TQFPTR	ue .	1
IC, IFT3000(TX_BBA+AGC)	IFT3000	U114	1
IC, IFR3000(RX_BBA+ABC)	IFR3000	1107	1
IC, COMBO	28F1602C3890	UB01	1
IC, PLL	LM0/2331LSL8	0106	1
IC, AND GATE	TC7SH08FU	ua, u7, u8	3
IC, RESET	TCNB09RENB	u306	1
IC, POWER AMP	RF2162	U119	1
IC, WIXER TX	RF2641	5	1
IC, 2N SRAN	CY62136VLL-708	UBOD	1
IC, DRIVER AMP	RF2352	14	1
IC, RF (LNA)	RF2361	U103	1
IC, TX LO BUFFER AMP	MRF100916	US	1
IC, AUDIO AMP	LN44865MN	U418	1
IC, ANALOG SWITCH	068232	UIO	1
IC, DAC	DAC3550A	US00	1
AMPS IF SAW	85SPY3 85.38MHz	U106	1
IC. MPU for MP3	AT89LS8252	0503	1
IC. BUFFER	74WC244	וט	1
IC, MP3 DECODER	WAS3507D	U502	1
ISOLATOR	\$1-588R0835M-T	U120	1
LED (RED)	SLSNNUR102TS	LEDI	1
VC_TCXO (x-tal escillator)	T0S1968VA14KRE(19.68MHz)	0115	1
VCO (PLL SYNTHERSIZER)	ENFVJ393838	U109	1
RESONATOR	SSR27.008R-C15	X302	1
SAW IF RX(CDMA)	855676	U105	1
SAW TX	SF0836LH001	U118, U122	2
SAW RX	SF0881LH001	U121	1
CUPLEXER	DFX0836H0881A	0102	
DIODE(VARACTOR)	1SV281	D104, D105, D108, D107	
DIODE (END SPIN)	DANI222 TL	0404	
DIODE (END SPIN)	04221 TL	0405	
DIODE	H\$#\$-2825	0101	1
DIODE (Schottery Barrier)	HSMP3895	0102	1

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DESCRIPTION	PNAT NUMBER	LOCATION	6,14
DIODE	HSMP389F	HSMP389F 0103	
TR (EMT3)	DTC144EE TL	9403, 9404, 95, 912, 9402, 99	6
TR	UMC4N	Q101, Q103, Q104, 02, 05, Q102	6
TR	UNT2907	93, 9401	2
TR	DTA144TE	07. 011. 01. 04. 08	6
TR	UNT2222	9406, 9407, 9408, 9409	4
TR	2SC4617	Q13, Q14	2
TR(OP-AMP)	1034ECTTR	UI13, UI16	2
LPF	LPOBOSA096SANTR	U110	1
EAR JACK	L6Y3319-0111	U407	1
NOTOR CON.	24-8005-002-100-867	U405	1
SPEAKER CON.	24-8005-002-100-867	U404	1
ENI FILTER	KNH21104	L3, L405	2
VOLTAGE SUPPRESS	VC060305A150R	VS401, 402, 403, 404, 405	5
1/0 CONNECTOR 22PIN	AXR33204701	U408	1
BEAD COIL	EXC388221	L111, L116, L401, L403, L404, L407, L408, L510, L6	9
BEAD COIL	EXC388102	L113, L118	2
ANT CONTACT		ANT1	1
BUZZER	SMT-9403EF-2	U406	1
SIDE SWITCH	EVOPUK	SN4, SIN5, SIN7	3
B'd to B'd CONNECTOR	AXX5F20645J	U409	1
RF SWITCH	MS-136	U101	1
32.768KHz	CM100S	X301	1
BEADS(0805)	HB-1M2012-102	L409, L511, L4	1
14.725MHz Crystal	CS-10	Y1	1
12M RESONATOR	CSTCV_NTJ12.0N	x502	
CAP, 1005 1pF	GRM35 COG 010050	C204	
CAP, 1005 1.5pF	GRM36 COG 1RSC SOPN	C164	
CAP, 1005 2pF	GRM36 COG 0200 50PN	C196	1
CAP, 1005 4pF	GRM36 COG 040C 50PN	C109, C197	1
CAP, 1005 4.7pF	GRW35 COG 4R7D 50PM	C41	
CAP, 1005 60F	GRM36 COG 0600 SOPN	C118, C124, C120	
CAP, 1005 9pF	GRIM36 COG 0900 50PN	C42, C110, C221, C2	
CAP, 1005 10pF	GRM36 COG 100J SOPN	C178, C215, C187, C219	+
CAP, 1005 12pF	GRM35 C06 120J 50PN	C13, C39	
CAP, 1005 15pF	GRM36 COG 150J 50PN	C311, C312	_
CAP, 1005 22pF	GR#36 COG 220J 50PN	CS15, C516, C541, C542	+
CAP, 1005 270F	GRIK36 COG 270J 50PN	C212, C216, C217, C309, C318, C415, C416, C425 C425	
CAP, 1005 30pF	GRM36 COG 300J 50PN	C32	
CAP, 1005 56pF	GRM35 COG 680J 50PN	C116	

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DESCRIPTION	DESCRIPTION PART HUBER LOCATION		Q' ty
CAP. 1005 68pF	. 1005 68pF GRW36 COG 680U 50PN C178, C177		2
CNP, 1005 100pF	GRN36 COG 101J SOFN	C103, C107, C111, C115, C146, C147, C148, C149, C162	24
		C163, C199, C200, C201, C202, C205, C207, C208, C211	
		C228, C214, C141, C31, C443, C51	
CAP, 1005 1NF	GRM38 X7R 102K 50PN	C14, C15, C150, C161, C152, C153, C179, C182, C168	27
		C188, C189, C192, C196, C198, C213, C218, C44, C186	1
		C122, C123, C190, C191, C435, C127, C514, C518, C102	
CAP, 1005 100NF	GRM36 Y5V 104Z 16PN	C16, C17, C112, C126, C129, C130, C430,	35
		C183, C313, C315, C319, C320, C326, C8, C23,	
		C45, C321, C401, C404, C408	
		C411, C432, C500, C501, C521, C522, C544	
		C10, C22, C144, C185, C18, C19, C20, C414	
CAP, 1005 10NF	GRW36 X7R 103K 16PN	C38, C105, C108, C114, C128, C132, C133, C134	45
		C136, C137, C138, C139, C140, C154, C155, C156, C157	
		C165, C179, C171, C172, C173, C174, C175, C193, C301	
		C302, C303, C304, C306, C306, C307, C308, C314, C324	
		C460, C545, C206, C166, C167, C428, C509	
		C169, C224, C220, C125	
CAP, 1005 150pF	GRM36 X7R 151J 50PN	C113	1
CAP, 1005 220pF	GRW36 X7R 221K 50PN	C519	1
CAP, 1005 270pF	GRW36 X7R 271K 50PN	C7, C526	2
CAP, 1005 470pF	GRW36 X7R 471K 50PN	C180, C317, C420, C421, C422, C423, C424, C406	12
		CH37, CH41, C481, C439	
CNP, 1005 560pF	GRM36 X7R 561K 50PN	C3, C5	2
CAP, 1005 2.2nF	GRM36 X7R 222K 50PN	C520	1
CAP, 1005 22nF	GRN36 YSV 223Z 25PN	C101, C104, C158, C194, C145, L103	6
CAP, 0603 1uF	grm36 y5v 105k Sopn	C444, C445, C446, C447, C448, C449, C450, C451, C452	9
CNP, 1005 47pF	GRW36 X7R 470J 50PW	C117	1
CAP, 1005 470nF	GRN39 YSV 474Z 10PN	C181, C159	2
TANTAL (4.7u/6.3V)	TA-6R3TCML4R7N-PR	C131, C184, C434, C480, C431, C436, C438,	11
		C440, C442, C510, C517	_
TANTAL (10u/6.3V)	TA-6R3TCML100M-PR	C106, C327, C433, C161, C46, C4, C12	15
		C48, C402, C462, C463, C511, C512, C513, C543	
TANTAL (22u/10V)	TA-010TRL220M-B2R	C203, C419	2
TANTAL (33u/6.3V)	TA-010TRL330M-B2R	C318	1
TANTAL (1u/6.3V)	TA-6R3TCML010M-PR	C429	1
THERWISTOR	NE21W00473	R131	1
RES, 1005 Oohn	ERJ2GEJ0R00	R21, R27, R106, R56, R57, R14, R78	7
RES, 1005 10ohs	ERJ2GEJ100	R411, R423, R425, R427	1
RES, 1005 12ohn 1%	ERJ2RKF0120	R24, R166	2
RES, 1005 20ohm	ERJ2GEJ200	R156	1

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DESCRIPTION PART NUMBER		LOCATION	Q' ty	
RES, 1005 22ohe	ERJ/26EJ/220	R119, R107		
RES, 1005 47chm	ERJ2GEJ470	R509, R510	2	
RES, 1005 49.9ohe 1%	ERJ2RKF49R9	R124, R163	2	
RES, 1006 820hm	ERU2GEU820	R25	1	
RES, 1005 100oha	ER.(20E.)101	R105, R118, R122, R313, R314, R315	6	
RES, 1005 150ahn	ERJ20EJ151	R450, R451	2	
RES, 1005 300ohm	ERJ29EJ301	R522, R540, R112	3	
RES, 1005 301ohm 1%	ERJ2RKF3010	R162	1	
RES, 1005 330ohm	ERJ20EJ331	R155, R303, R43	3	
RES, 1005 470ohs	ERJ2GEJ471	B416, B417, B418, B419, B421, B42, R142	7	
RES, 1005 510ohn	ERJ2GEJ511	R149, R150	2	
PES, 1005 665ohm 1%	ERJ2KRF6650	R103, R137	2	
RES, 1005 1Kohn	ERJ2GEJ102	R28, R101, R159, R304, R78, R327, R432, R108, R50	9	
RES, 1005 1Kohm 1%	ERJ2RKF1001	R154, R161	2	
RES, 1005 1.1Kohn 1%	ERJ2RKF112	R160	1	
RES, 1005 1.2Koh#	ERJ26EJ122	R109	1	
RES, 1006 1,5Kohn	ERJ20EJ152	R511, R512	2	
RES, 1005 1.8Kohn	ERU20EU182	R135, R326	2	
RES, 1005 2Kohn	ER.J26E.J202	R75, R102	2	
RES, 1005 2.4Kohm	ERJ20EJ242	R50, R51, R111	3	
ES, 1005 2.7Kohn	ERJ2GEJ272	R117		
RES, 1005 3Kohe	ERJ2GEJ302	R402, R413		
IES, 1005 3.3Kohn	ERJ20EJ332	8330	2	
ES, 1005 3.6Kohm	ERJ/2GEJ362	R110		
ES, 1005 3.9Koh#	ERJ2GEJ392	R114, R120, R141		
ES, 1005 4Kohm	ERJ2GEJ402	R16, R30, R32, R145, R409		
ES, 1005 4.3Kohn	ERJ20EJ432	R7	4	
IES, 1005 4.7Kohm	ERU2GEJ472	8422	1	
ES, 1005 4.7Kohe 1%	ERJ2R0F472	R308, R309	2	
ES, 1005 6.19Kohn 1%	ERJ2RKF622	R26	1	
ES, 1005 7.5Kohn	ERJ20EJ752	R4, R5, R6, R10, R12, R518, R519, R521	8	
ES, 1005 8Kohe	ERU20EU802	R153, R424	2	
ES, 1005 10Kahn	ERU29EU103	R115, R116, R133, R134, R302, R308, R307, R415, R546, R33, R41, R54, R55, R80, R61, R62, R63 R65, R66, R57, R09, R71, R72, R73, R74, R64 R157, R410, R441, R543, R544, R545, R546, R515, R547, R13, R59, R53, R11, R325	40	
ES, 1005 10Kohn 1%	ERJ29KF1002	R166, R130, R132	3	
ES, 1005 16Kohm 1%	ER.J290F1802	8127	1	
ES, 1005 19.1Kohn 1%	ERJ2RKF1912	R136	1	
5, 1005 20Kohn	ER.J2GE.J203	R31, R426	2	

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DESCRIPTION	PNAT MUNICIPA	LOCATION	Q' ty
RES, 1005 20Kohm 1%	ERJ2RKF2002	R3, R147, R148	
RES, 1005 22.1Kohn 1%	ERJ2RKF2212	R164, R165	
RES, 1005 25Kohe	ERJ28EJ2512	R143	1
RES, 1005 30Kohm	ERJ20EJ303	R19, R40, R29, R68, R70, R310	6
RES, 1005 47Kohm	ERJ2GEJ473	R20, R311, R549, R550, R551	5
RES, 1005 62Kohm 1%	ERJ2RKF6202	R15, R136	1
RES, 1006 80.6Kohn 1%	ERJ2RKF8062	R128	1
RES. 1005 100Kohe	ERJ2GEJ104	R17,R52, R305, R467, R18, R505, R506 R508, R530, R531, R324, R507	12
RES, 1005 100Kohn 1%	ERJ2RKF1003	R139, R140	2
RES, 1005 130Kohn	ERJ2GEJ134	R144	1
RES, 1005 150Kohe 1%	ERJ29KF1503	R126	1
RES, 1005 174Kohn 1%	ERJ2RKF1743	R146	1
RES, 1005 300Kohn	ERJ2GEJ304	R436	1
RES, 1005 470Kohm	ERJ2GEJ474	R167, R431	2
RES, 1005 649Kohn 1%	ERJ29KF6493	R129	1
RES, 1005 1Mohn	ERJ2GEJ304	R22, R23	2
RES, 1005 1.5Mohn	ERJ2GEJ155	R435	1
COIL, 0805, 27nH, HIGH Q	0805HQ-0276_01	L160	1
COIL, 0603, 27nH, 25	0603AD-027G_01	L117	1
COIL, 0603, 68nH, 2%	0603AD-0686_01	L112	
COIL, 0603, 180nH, 5%	0603A-R18J_01	L106, L107, L110	
COIL, 0603, 270nH, 5%	0603A-R27J_01	L119, L120	2
INDUCTOR, 1005, 1mH	ELIRF1NODF	L130	1
INDUCTOR, 1005, 1.8nH	EL I RF 1NBDF	L128, L1	1
INDUCTOR, 1005, 6.8nH	ELIRFENEDF	L115	1
INDUCTOR, 1005, 8.2mH	ELI RF8N2JF	L114	2
INDUCTOR, 1005, 10nH	ELIRF100JF	L122, L129, R124	3
INDUCTOR, 1005, 12nH	ELIRF120JF	L102, L121, L5	2
INDUCTOR, 1005, 15nH	ELIRF150JF	L127	1
INDUCTOR, 1005, 27nH	ELIRF270JF	L104	1
COIL, 0805, 590nH	0805A-R56J_01	L108	1
COIL, 0805, 390nH	0805A-R39J_01	L109	1
INDUCTOR, 1005, 39nH	EL IRF390JF	L106	1
INDUCTOR, 1005, 47nH	ELIRF470JF	L131	1
INDUCTOR, 0603, 100nH	EL IRE101JF	L101	1
ESD PROTECTOR	ESDA6V1W5	ESD1	1
LCD	TCM-A1202	U403	1
INC CONNECTOR		U505	1
PCB, KEY PAD	FR-4 0.5t	P082	1
LED	SLSMMY6102TS	LED2, LED3, LED4, LED5, LED6, LED9, LED10, LED11 LED12, LED13	10

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DESCRIPTION	PWRT NUMBER	LOCATION	Q' ty
CONNECTOR 20PIN	AXX6F20345J	U601	1
VIC	IN-64PCX	U600	1
SPEAKER ASS'Y	U23854WC		1
NOTOR ASS 'Y	FW-114K2-B2HIS		5
ANTENNA ASS"Y	2016-1-0000		1
EARPIECE	U1332P1		1
DNI		U11, U12, U13, U14, U111, 010 L2, L406 C1, C11, C21, C24, C25, C26, C27, C28, C29 C30, C33, C34, C35, C36, C37, C40, C43 C47, C49, C209, C210, C453, C456 R1, R2, R8, R9, R34, R35, R38, R37, R38, R39, R44, R45, R46, R47, R48, R49, R50 R124, R201, R301, R414, R420, R430	54

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