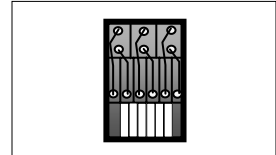


Earl J. Lum
+1-650-430-2221
elum@ejlwireless.com



Ericsson RBS 2302 GSM1900MHz Model KRC 161 31/094

October 2008



Entire contents © 2008 EJL Wireless Research LLC. All Rights Reserved. Reproduction of this publication in any form without prior written permission is strictly forbidden and will be prosecuted to the fully extent of US and International laws. The transfer of this publication in either paper or electronic form to unlicensed third parties is strictly forbidden. The information contained herein has been obtained from sources EJL Wireless Research LLC deems reliable. EJL Wireless Research disclaims all warranties as to the accuracy, completeness or adequacy of such information. EJL Wireless Research LLC shall have no liability for errors, omissions or inadequacies in the information contained herein or for the interpretation thereof. The reader assumes sole responsibility for the selection of these materials to achieve its intended results. The opinions expressed herein are subject to change without notice.

TABLE OF CONTENTS

EXECUTIVE SUMMARY	4
EXECUTIVE SUMMARY	4
Active/Passive Component Summary	4
Important Note:	4
CHAPTER 1: RBS 2302 SYSTEM	5
1.1 Overview of Ericsson RBS2302 Micro Base Station.....	5
CHAPTER 2: RBS2302 MECHANICAL ANALYSIS/POWER DISTRIBUTION SYSTEM ...	8
2.1 Mechanical Analysis	8
CHAPTER 3: RBS2302 DIGITAL SUBSYSTEM	19
Backup Battery	21
Internal Heater Unit	21
3.1 AC/DC Power Supply Section	22
3.2 RBS2302 Digital Subsystem, Board A	26
3.3 RBS2302 Digital Subsystem Board B	29
3.4 RBS2302 Digital Subsystem Board H	33
3.5 RBS2302 Digital Subsystem Board I	34
CHAPTER4: RBS2302 RF SUBSYSTEM	35
4.1 RBS2302 RF Subsystem Boards C & G (Tx # 1 and Tx# 2)	37
4.2 RBS2302 RF Subsystem Boards D, E & F	41
4.3 RBS2302 RF Subsystem Board F	45
4.4 RBS2302 RF Subsystem Duplexer Cavity Filter.....	47
APPENDIX A - PASSIVE CASE SIZE ANALYSIS.....	50
APPENDIX B - ACTIVE COMPONENT MARKET SHARE ANALYSIS	52

TABLES

Table 1: RBS2302 Mounting Frame and Power Distribution System Component Diagram	11
Table 2: Main Power Distribution Unit Bill of Materials.....	13
Table 3: Main Power Distribution Unit PCB Bill of Materials	13
Table 4: Secondary Power Distribution Unit PCB A Bill of Materials	16
Table 5: Secondary Power Distribution Unit PCB B Bill of Materials	16
Table 6: RBS2302 BTS Digital and RF Cable/Connectors	17
Table 7: AC-DC PCB Emerson Part Number ROA 119 890/1 R5G Bill of Materials, Top	24
Table 8: AC-DC PCB Emerson Part Number ROA 119 890/1 R5G Bill of Materials, Bottom	25
Table 9: RBS2302 Digital Subsystem Board A Bill of Materials	27
Table 10: RBS2302 Digital Subsystem Board B Bill of Materials.....	31
Table 11: RBS2302 Digital Subsystem Board H Bill of Materials, Top View.....	33
Table 12: RBS2302 Digital Subsystem Board H Bill of Materials, Bottom View.....	33
Table 13: RBS2302 Digital Subsystem Board I Bill of Materials	34
Table 14: RBS2302 RF Subsystem Board C & G Bill of Materials.....	39
Table 15: RBS2302 RF Subsystem Board D & E Bill of Materials	44
Table 16: RBS2302 RF Subsystem Board F Bill of Materials	46
Table 17: RBS2302 RF Subsystem Duplexer Filter Bill of Materials	49
Table 18: Passive Component Case Size Distribution by System Subsection	50
Table 19: Identified Passive Component Supplier Distribution by System Subsection.....	51
Table 20: Active/Passive Component Distribution by System Subsection	51
Table 21: Active Semiconductor Vendor Distribution by System Subsection.....	53

EXHIBITS

Exhibit 1: RBS2302 2 TRx Site Configuration.....	5
Exhibit 2: RBS2302 4 TRx Site Configuration.....	5
Exhibit 3: RBS2302 6 TRx Site Configuration.....	6
Exhibit 4: Basic Radio Configuration M19d_2.2	6
Exhibit 5: RBS2302 System Overview.....	7
Exhibit 6: RBS2302 Digital System Housing	8
Exhibit 7: RBS2302 RF System Housing.....	9
Exhibit 8: RBS2302 External Mechanical Dimensions, Side View.....	9
Exhibit 9: RBS2302 External Mechanical Dimensions, TopView	10
Exhibit 10: RBS2302 Mounting Frame and Power Distribution System	11
Exhibit 11: Main Power Distribution Unit	12
Exhibit 12: Main Power Distribution Unit Component Diagram	12
Exhibit 13: Secondary Power Distribution Unit Component Diagram	14
Exhibit 14: Secondary Power Distribution Unit Cover	15
Exhibit 15: Digital and RF Cables	17
Exhibit 16: RBS2302 BTS Cabinet Internal View.....	18
Exhibit 17: RBS2302 BTS Digital Subsystem. Internal View	19
Exhibit 18: RBS2302 Digital Subsystem PCBs Removed, Internal View	20
Exhibit 19: RBS2302 Digital Subsystem External View	20
Exhibit 20: RBS2302 BTS Battery Backup	21
Exhibit 21: RBS2302 BTS Internal Heater Unit.....	21
Exhibit 22: AC-DC Converter	22
Exhibit 23: AC-DC Converter Component Diagram, Top	23
Exhibit 24: AC-DC Converter Component Diagram, Bottom	23
Exhibit 25: RBS2302 Digital Subsystem Board A Component Diagram	26
Exhibit 26: RBS2302 Digital Subsystem Board A, Bottom View	26
Exhibit 27: RBS2302 Digital Subsystem Board B Component Diagram, Top View	29
Exhibit 28: RBS2302 Digital Subsystem Board B , Bottom View	30
Exhibit 29: RBS2302 Digital Subsystem Board H Component Diagram, Top View	33
Exhibit 30: RBS2302 Digital Subsystem Board H Component Diagram, Bottom View	33
Exhibit 31: RBS2302 Digital Subsystem Board I Component Diagram, Top View	34
Exhibit 32: RBS2302 Digital Subsystem Board I Component Diagram, Bottom View	34
Exhibit 33: RBS2302 RF Subsystem Internal View.....	35
Exhibit 34: RBS2302 RF Subsystem RF Shields for Boards C, D, E, F, & G	36
Exhibit 35: RBS2302 RF Subsystem Board C Analysis, Top View	37
Exhibit 36: RBS2302 RF Subsystem Board C Analysis, Bottom View	38
Exhibit 37: RBS2302 RF Subsystem Board C & G Component Diagram, Top View.....	38
Exhibit 38: RF Power Amplifier Tx Chain Block Diagram	41
Exhibit 39: RBS2302 RF Subsystem Boards D & E Component Diagram, Top View	42
Exhibit 40: RBS2302 RF Subsystem Boards D, E & F Bottom View.....	43
Exhibit 41: RBS2302 RF Subsystem Board F Component Diagram, Top View	45
Exhibit 42: RBS2302 RF Subsystem Duplexer Filter. External Top View.....	47
Exhibit 43: RBS2302 RF Subsystem Duplexer Filter Shield and Cover	48
Exhibit 44: RBS2302 RF Subsystem Duplexer Filter Component Diagram, Internal View	48
Exhibit 45: Passive Component Case Size Distribution	50
Exhibit 46: Identified Passive Component Market Share by Vendor	51
Exhibit 47: Active Semiconductor Component Share.....	52
Exhibit 48: Active Semiconductor Market Share by Vendor.....	53
Exhibit 49: High Pin Count (64+) Active Semiconductor Market Share by Vendor	54