

Prepared (also subject responsible if other)		No.		
EAB/RTL/FG Palle Zetterstrand		B5KBRRC16184-7 Uen		
Approved	Checked	Date	Rev	Reference
EAB/RTL/FG (P. Zetterstrand)		2003-09-16	A	

## EXHIBIT 10 Components - Tune Up

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## 1 2.1033 (c) (10) Function of Active Circuit Devices

### 1.1 Printed Board RAB 800 ROA 117 4853/1

#### 1.1.1 Function Block RX Frontend, ROZ 104 214/1

Product: ROZ 104 214/1, Revision: F

Pos	Prod name/Func des	Product number
D5100	MICROCIRCUIT/74'04 HC1G SSOP5-P 1x INVERTER	RYT 326 6004/C
D5101	MICROCIRCUIT/IC, DIGITAL THERMOMETER AND TH	RYT 124 6006/C
N5100	MICROCIRCUIT/RF Amplifier. SiGe HBT MMIC	RYT 101 6526/1
N5101	SPLITTER/COMBINER/PD09-73	RYT 901 6186/1
N5102	SPLITTER/COMBINER/PD09-73	RYT 901 6186/1
N5103	SPLITTER/COMBINER/PD09-73	RYT 901 6186/1
N5104	SPLITTER/COMBINER/PD09-73	RYT 901 6186/1
N5105	SPLITTER/COMBINER/PD09-73	RYT 901 6186/1
N5106	MICROCIRCUIT/RF Amplifier. SiGe HBT MMIC	RYT 101 6526/1
N5107	MICROCIRCUIT/Switch. AS186-302 MSOP-8	RYT 101 6438/1
N5108	MICROCIRCUIT/REG LIN+ 5.0V 150mA 0.165V	RYT 113 6156/4
N5109	MICROCIRCUIT/REG LIN+ 5.0V 150mA 0.165V	RYT 113 6156/4
N5110	MICROCIRCUIT/COMP 2.7V R/R OPEN DRAIN	RYT 101 6326/1
N5111	MICROCIRCUIT/COMP 2.7V R/R OPEN DRAIN	RYT 101 6326/1
N5112	MICROCIRCUIT/COMP 2.7V R/R OPEN DRAIN	RYT 101 6326/1
N5113	MICROCIRCUIT/COMP 2.7V R/R OPEN DRAIN	RYT 101 6326/1
X3106	COAXIAL CONNECTOR/MCX;fm;50ohm;str.;SMD;	RNT 403 090/1
X3107	COAXIAL CONNECTOR/MCX;fm;50ohm;str.;SMD;	RNT 403 090/1
X3108	COAXIAL CONNECTOR/SMP;m;50ohm;str.;SMC;strip lin	RPT 408 1002/01
X3109	COAXIAL CONNECTOR/SMP;m;50ohm;str.;SMC;	RPT 408 1012/01

#### 1.1.2 Function Block RX0, ROZ 104 215/1

Product: ROZ 104 215/1, Revision: H

Pos	Prod name/Func des	Product number
N6200	MICROCIRCUIT/Minisynth (RX 800 MHz) 3.3V	RYT 902 6025/2
N6201	MICROCIRCUIT/Minisynth (RX 800 MHz) 3.3V	RYT 902 6025/2
N6202	MICROCIRCUIT/TEMP SENSOR, SOT-23, LM50C	RYT 124 6009/C
N6203	MICROCIRCUIT/IC ASIC ULLA I	ROP 101 664/2C
N6204	MICROCIRCUIT/REG LIN+ 3.3V 300mA 0.155V	RYT 113 6238/2

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N6205 MICROCIRCUIT/REG LIN- -5.0V 200mA ESD=1000V	RYT 113 6343/1
N6206 MICROCIRCUIT/REG LIN+ 3.3V 150mA 0.165V	RYT 113 6156/6
N6207 MICROCIRCUIT/COMP 1.6V R/R	RYT 101 6312/1
N6300 MICROCIRCUIT/REG LIN+ 5.0V 150mA 0.165V	RYT 113 6156/4
N6301 MICROCIRCUIT/REG LIN+ 5.0V 150mA 0.165V	RYT 113 6156/4
N6400 MICROCIRCUIT/REG LIN+ 5.0V 150mA 0.165V	RYT 113 6156/4
N6401 MICROCIRCUIT/REG LIN+ 5.0V 150mA 0.165V	RYT 113 6156/4
T6200 BALUN/850MHz 3225 50ohm 1W	REG 735 58/1
T6201 TRANSFORMER/SMD TRANSFORMER	REG 135 55/7
T6202 BALUN/850MHz 3225 50ohm 1W	REG 735 58/1
T6203 TRANSFORMER/SMD TRANSFORMER	REG 135 55/7
V6200 DIODE/SWI x2 70V 200mA SOT23 serial	RKZ 123 03/1
V6300 DIODE/CAP 15V 15-6pF 1-1E1A(USC) 6pF	RKZ 323 610/1
V6301 DIODE/CAP 15V 15-6pF 1-1E1A(USC) 6pF	RKZ 323 610/1
X6300 FILTER/71MHz BP SAW	RTN 201 850/01
X6301 FILTER/71MHz BP SAW	RTN 201 850/01
Z6200 FILTER/836MHz 25MHz BP 6x8mm (GSM800)	RTN 202 1034/1
Z6201 FILTER/765.5MHz	RTN 202 711/02
Z6202 FILTER/836MHz 25MHz BP 6x8mm (GSM800)	RTN 202 1034/1
Z6203 FILTER/765.5MHz	RTN 202 711/02
Z6300 PROD. ADAPT. CIRCUIT/ASIC VERDI	ROP 101 609
Z6301 PROD. ADAPT. CIRCUIT/ASIC QIM	ROP 101 1115/C
Z6400 MICROCIRCUIT/DELTA-SIGMA_MODULATOR QFP48	RYT 120 6061/2
Z6401 MICROCIRCUIT/DELTA-SIGMA_MODULATOR QFP48	RYT 120 6061/2
Z6402 MICROCIRCUIT/DELTA-SIGMA_MODULATOR QFP48	RYT 120 6061/2
Z6403 MICROCIRCUIT/DELTA-SIGMA_MODULATOR QFP48	RYT 120 6061/2

**1.1.3 Function Block RX1, ROZ 104 216/1**

Product: ROZ 104 216/1, Revision: N

Pos	Prod name/Func des	Product number
N7200	MICROCIRCUIT/Minisynth (RX 800 MHz) 3.3V	RYT 902 6025/2
N7201	MICROCIRCUIT/Minisynth (RX 800 MHz) 3.3V	RYT 902 6025/2
N7202	MICROCIRCUIT/TEMP SENSOR, SOT-23, LM50C	RYT 124 6009/C
N7203	MICROCIRCUIT/IC ASIC ULLA I	ROP 101 664/2C
N7204	MICROCIRCUIT/REG LIN+ 3.3V 300mA 0.155V	RYT 113 6238/2
N7205	MICROCIRCUIT/COMP 1.6V R/R	RYT 101 6312/1
N7206	MICROCIRCUIT/REG LIN- -5.0V 200mA ESD=1000V	RYT 113 6343/1
N7207	MICROCIRCUIT/REG LIN+ 3.3V 150mA 0.165V	RYT 113 6156/6
N7300	MICROCIRCUIT/REG LIN+ 5.0V 150mA 0.165V	RYT 113 6156/4
N7301	MICROCIRCUIT/REG LIN+ 5.0V 150mA 0.165V	RYT 113 6156/4
N7400	MICROCIRCUIT/REG LIN+ 5.0V 150mA 0.165V	RYT 113 6156/4
N7401	MICROCIRCUIT/REG LIN+ 5.0V 150mA 0.165V	RYT 113 6156/4
V7200	DIODE/SWI x2 70V 200mA SOT23 serial	RKZ 123 03/1
V7300	DIODE/CAP 15V 15-6pF 1-1E1A(USC) 6pF	RKZ 323 610/1

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V7301 DIODE/CAP 15V 15-6pF 1-1E1A(USC) 6pF	RKZ 323 610/1
X7300 FILTER/71MHz BP SAW	RTN 201 850/01
X7301 FILTER/71MHz BP SAW	RTN 201 850/01
Z7200 FILTER/836MHz 25MHz BP 6x8mm (GSM800)	RTN 202 1034/1
Z7201 FILTER/765.5MHz	RTN 202 711/02
Z7202 FILTER/836MHz 25MHz BP 6x8mm (GSM800)	RTN 202 1034/1
Z7203 FILTER/765.5MHz	RTN 202 711/02
Z7300 PROD. ADAPT. CIRCUIT/ASIC QIM	ROP 101 1115/C
Z7301 PROD. ADAPT. CIRCUIT/ASIC VERDI	ROP 101 609
Z7400 MICROCIRCUIT/DELTA-SIGMA_MODULATOR QFP48	RYT 120 6061/2
Z7401 MICROCIRCUIT/DELTA-SIGMA_MODULATOR QFP48	RYT 120 6061/2
Z7402 MICROCIRCUIT/DELTA-SIGMA_MODULATOR QFP48	RYT 120 6061/2
Z7403 MICROCIRCUIT/DELTA-SIGMA_MODULATOR QFP48	RYT 120 6061/2

**1.1.4 Function Block RC0, ROZ 104 111/1**

Product: ROZ 104 111/1, Revision: J

Pos	Prod name/Func des	Product number
D2200	MICROCIRCUIT/74'157 LVC SSOP16 4x2 MULTIPLE	RYT 331 0157/C
D2203	MICROCIRCUIT/74'08 LVC,Z1G SSOP5-P-A 1x 2-I	RYT 326 6008/42C
Z2200	MICROCIRCUIT/FLASH SPI 128K8 20MHz 2.7V I	RYT 118 6154/2
Z2300	PROD. ADAPT. CIRCUIT/TARAC_S+	ROP 101 617/4C

**1.1.5 Function Block RC1, ROZ 104 112/1**

Product: ROZ 104 112/1, Revision: N

Pos	Prod name/Func des	Product number
D4200	MICROCIRCUIT/74'157 LVC SSOP16 4x2 MULTIPLE	RYT 331 0157/C
D4202	MICROCIRCUIT/BUFFER,OCTAL,74LVC244	RYT 331 0244/3C
Z4200	MICROCIRCUIT/FLASH SPI 128K8 20MHz 2.7V I	RYT 118 6154/2
Z4300	PROD. ADAPT. CIRCUIT/TARAC_S+	ROP 101 617/4C

**1.1.6 Function Block TXPA0, ROZ 104 217/1**

Product: ROZ 104 217/1, Revision: J

Pos	Prod name/Func des	Product number
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D8500 MICROCIRCUIT/90MHz	RYT 901 6155/1
D8802 MICROCIRCUIT/74'4051 HCT SSOP16 8-CH ANALOG	RYT 310 6017/C
D8803 MICROCIRCUIT/74'595 HCT TSSOP16 8B S-IN S/P	RYT 310 6031/2C
D8804 MICROCIRCUIT/74'541 HCT TSSOP20 8x BUS BUFF	RYT 310 6023/2C
N8301 PROD. ADAPT. CIRCUIT/ASIC NINJA	ROP 101 614/2
N8302 PROD. ADAPT. CIRCUIT/ASIC PENNY	ROP 101 612/2
N8303 FILTER/90MHz 200kHz BP 7x5mm SAW	RTN 201 765/01
N8304 MICROCIRCUIT/REG LIN+ 3.3V 150mA 0.165V	RYT 113 6156/6
N8305 MICROCIRCUIT/REG LIN+ 3.3V 300mA 0.155V	RYT 113 6238/2
N8306 MICROCIRCUIT/REG LIN+ 5.0V 150mA 0.165V	RYT 113 6156/4
N8500 MICROCIRCUIT/REG LIN+ 5.0V 150mA 0.165V	RYT 113 6156/4
N8600 MICROCIRCUIT/5 bit attenuator 0.5-2.5GHz	RYT 115 6033/1
N8601 MICROCIRCUIT/5 bit attenuator 0.5-2.5GHz	RYT 115 6033/1
N8602 MICROCIRCUIT/RF Amplifier. SGA-6589, SiGe	RYT 101 6470/1
N8603 FILTER/881MHz 25MHz BP 8x8 (GSM800)	RTN 202 1033/1
N8604 MICROCIRCUIT/74'595 HCT TSSOP16 8B S-IN S/P	RYT 310 6031/2C
N8605 MICROCIRCUIT/74'595 HCT TSSOP16 8B S-IN S/P	RYT 310 6031/2C
N8701 DIRECTIONAL COUPLER/15DB 0.8-1.2GHZ	UND 106 082/1
N8703 MICROCIRCUIT/OPAMP x2 2.7V R/R 5.5MHz	RYT 101 6331/2
N8705 MICROCIRCUIT/TEMP. SENSOR FAHERNHEIT	RYT 124 6015/1
N8900 MICROCIRCUIT/IC, H-Volt Hot-Swap Cont Auto-	RYT 126 6016/02
N8901 MICROCIRCUIT/REG LIN+ 3.3V 300mA 0.155V	RYT 113 6238/2
V8701 DIODE/RF SCH x2 20V 5mA SOT363 uncon	RKZ 323 6059/1
V8800 DIODE/SWI x2 70V 200mA SOT23 com.cat	RKZ 123 03/3
V8900 TRANSISTOR/NFET 100V 7A SO8 0.022ohm	RYN 123 6060/1
V8901 ZENERDIODE/ZEN 15.0V 5% 0.2W SOT23	RKZ 223 01/20
V8903 TRANSISTOR/NPN 45V 100mA SOT23 hFE200-450	RYN 121 6068/1
X3110 COAXIAL CONNECTOR/SMP;m;50ohm;str.;SMD;	RPT 408 1011/01
Z8201 MICROCIRCUIT/REG LIN+ 5.0V 150mA 0.165V	RYT 113 6156/4
Z8202 PROD. ADAPT. CIRCUIT/ASIC SPIRA	ROP 101 616/C
Z8300 FILTER/836MHz 25MHz BP 6x8mm (GSM800)	RTN 202 1034/1
Z8301 MICROCIRCUIT/Minisynth (TX 800 MHz) 3.3V	RYT 902 6026/2
Z8302 MICROCIRCUIT/Minisynth (TX 800 MHz) 3.3V	RYT 902 6026/2
Z8400 AMPLIFIER/RF Amplifier. SGA-6389 SOT	RYT 101 6414/1
Z8401 FILTER/881MHz 25MHz BP 8x8 (GSM800)	RTN 202 1033/1
Z8402 MICROCIRCUIT/74'541 HCT TSSOP20 8x BUS BUFF	RYT 310 6023/2C

**1.1.7 Function Block TXPA1, ROZ 104 218/1**

Product: ROZ 104 218/1, Revision: J

Pos	Prod name/Func des	Product number
D9500	MICROCIRCUIT/90MHz	RYT 901 6155/1
D9802	MICROCIRCUIT/74'4051 HCT SSOP16 8-CH ANALOG	RYT 310 6017/C
D9803	MICROCIRCUIT/74'595 HCT TSSOP16 8B S-IN S/P	RYT 310 6031/2C
D9804	MICROCIRCUIT/74'541 HCT TSSOP20 8x BUS BUFF	RYT 310 6023/2C

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N9301 PROD. ADAPT. CIRCUIT/ASIC NINJA	ROP 101 614/2
N9302 PROD. ADAPT. CIRCUIT/ASIC PENNY	ROP 101 612/2
N9303 FILTER/90MHz 200kHz BP 7x5mm SAW	RTN 201 765/01
N9304 MICROCIRCUIT/REG LIN+ 3.3V 150mA 0.165V	RYT 113 6156/6
N9305 MICROCIRCUIT/REG LIN+ 3.3V 300mA 0.155V	RYT 113 6238/2
N9306 MICROCIRCUIT/REG LIN+ 5.0V 150mA 0.165V	RYT 113 6156/4
N9500 MICROCIRCUIT/REG LIN+ 5.0V 150mA 0.165V	RYT 113 6156/4
N9600 MICROCIRCUIT/5 bit attenuator 0.5-2.5GHz	RYT 115 6033/1
N9601 MICROCIRCUIT/5 bit attenuator 0.5-2.5GHz	RYT 115 6033/1
N9602 MICROCIRCUIT/RF Amplifier. SGA-6589, SiGe	RYT 101 6470/1
N9603 FILTER/881MHz 25MHz BP 8x8 (GSM800)	RTN 202 1033/1
N9604 MICROCIRCUIT/74'595 HCT TSSOP16 8B S-IN S/P	RYT 310 6031/2C
N9605 MICROCIRCUIT/74'595 HCT TSSOP16 8B S-IN S/P	RYT 310 6031/2C
N9701 DIRECTIONAL COUPLER/15DB 0.8-1.2GHZ	UND 106 082/1
N9703 MICROCIRCUIT/TEMP. SENSOR FAHERNHEIT	RYT 124 6015/1
N9704 MICROCIRCUIT/OPAMP x2 2.7V R/R 5.5MHz	RYT 101 6331/2
N9900 MICROCIRCUIT/IC, H-Volt Hot-Swap Cont Auto-	RYT 126 6016/02
N9901 MICROCIRCUIT/REG LIN+ 3.3V 300mA 0.155V	RYT 113 6238/2
V9701 DIODE/RF SCH x2 20V 5mA SOT363 uncon	RKZ 323 6059/1
V9800 DIODE/SWI x2 70V 200mA SOT23 com.cat	RKZ 123 03/3
V9900 TRANSISTOR/NFET 100V 7A SO8 0.022ohm	RYN 123 6060/1
V9901 ZENERDIODE/ZEN 15.0V 5% 0.2W SOT23	RKZ 223 01/20
V9903 TRANSISTOR/NPN 45V 100mA SOT23 hFE200-450	RYN 121 6068/1
X3111 COAXIAL CONNECTOR/SMP;m;50ohm;str.;SMD;	RPT 408 1011/01
Z9200 PROD. ADAPT. CIRCUIT/ASIC SPIRA	ROP 101 616/C
Z9202 MICROCIRCUIT/REG LIN+ 5.0V 150mA 0.165V	RYT 113 6156/4
Z9300 FILTER/836MHz 25MHz BP 6x8mm (GSM800)	RTN 202 1034/1
Z9301 MICROCIRCUIT/Minisynth (TX 800 MHz) 3.3V	RYT 902 6026/2
Z9302 MICROCIRCUIT/Minisynth (TX 800 MHz) 3.3V	RYT 902 6026/2
Z9400 AMPLIFIER/RF Amplifier. SGA-6389 SOT	RYT 101 6414/1
Z9401 FILTER/881MHz 25MHz BP 8x8 (GSM800)	RTN 202 1033/1
Z9402 MICROCIRCUIT/74'541 HCT TSSOP20 8x BUS BUFF	RYT 310 6023/2C

**1.1.8 Function Block LTU, ROZ 104 110/1**

Product: ROZ 104 110/1, Revision: C

Pos	Prod name/Des	Product number
N1100	MICROCIRCUIT/REG LIN 5.0V 150mA 0.165V	RYT 113 6156/4
V1100	DIODE/SCHx2 70V 70mA SOT23 Serial	RKZ 323 08/2
Z1100	MICROCIRCUIT/74'04 ACT TSSOP14 6x INVERTER	RYT 317 6004/22C
Z1102	MICROCIRCUIT/74'04 LVC SSOP14 6x INVERTER	RYT 331 0004/C
Z1109	MICROCIRCUIT/MB15E07 PFV-ER	RYT 102 6057/1
Z1111	MICROCIRCUIT/74'74 AC SOP14 2xD FLIP-FLOP	RYT 318 0074/C
Z1112	OSCILLATOR/26.000MHZ	RTL 202 610/02

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**1.1.9 Function Block RDI, ROZ 104 122/1**

Product: ROZ 104 122/1, Revision: F

Pos	Prod name/Func des	Product number
D3200	MICROCIRCUIT/BUFFER,OCTAL,74LVC244	RYT 331 0244/3C
D3203	MICROCIRCUIT/82B715 I2C-BUS EXPANDER	RYT 125 6011/C
D3300	MICROCIRCUIT/BUFFER,OCTAL,74LVC244	RYT 331 0244/3C
D3302	MICROCIRCUIT/3485 RS485/422 TRANCEIVER	RYT 109 165/C

**1.2 Printed Board, DRB, ROA 117 4767/3**

**1.2.1 Function Block LEC, ROZ 104 120/2**

Product: ROZ 104 120/2, Revision: E

Pos	Prod name/Func des	Product number
V4201	DIODE/SWI SCH x2 30V 100mA SOT23 com	RKZ 123 601/3
V4202	DIODE/SWI SCH x2 30V 100mA SOT23 com	RKZ 123 601/3
V4203	DIODE/SCHOTTKY 40V 1A DO214AC	RKZ 323 488/04
V4204	RECTIFIER/REC SCH 30V 5.5A DPAK 0.46V	RKZ 323 6083/1
V4205	TRANSISTOR/N-CHANNEL 28V/11A SOP-8	RYN 123 490/2
V4206	TRANSISTOR/N-CHANNEL 28V/11A SOP-8	RYN 123 490/2
V4207	TRANSISTOR/NFETx2+SCH 30V 5A/7A/2A SO8 0	RYN 123 6029/1
V4208	TRANSISTOR/NFETx2+SCH 30V 5A/7A/2A SO8 0	RYN 123 6029/1
V4209	TRANSISTOR/NFETx2+SCH 30V 5A/7A/2A SO8 0	RYN 123 6029/1
V4210	DIODE/SWI SCH x2 30V 100mA SOT23 com	RKZ 123 601/4
V4211	TRANSISTOR/NFET/SCH 30V 8A/4A SO8 120moh	RYN 123 6028/1
V4301	DIODE/SWI SCH x2 30V 100mA SOT23 com	RKZ 123 601/4
V4302	TRANSISTOR/NPN 45V 100mA SOT23	RYN 121 629/1
V4304	DIODE/SWI SCH x2 30V 100mA SOT23 com	RKZ 123 601/4
V4305	DIODE/SWI SCH x2 30V 100mA SOT23 com	RKZ 123 601/4
Z4201	MICROCIRCUIT/REG SW DUAL.CONTR 3V-7V +/-1%	RYT 113 6225/3
Z4202	MICROCIRCUIT/REG SW DUAL.CONTR 3V-7V +/-1%	RYT 113 6225/3
Z4203	MICROCIRCUIT/REG SW ADJ -VO 1.2MHz	RYT 113 6333/1
Z4204	MICROCIRCUIT/SUP.V x4 5V/3.3V/ADJ/-5V	RYT 113 6341/1
Z4205	MICROCIRCUIT/REFERENCE 5.0V +/-0.2% SOT-23	RYT 113 481/10
Z4206	MICROCIRCUIT/SUP.V x4 5V/3.3V/ADJ/-5V	RYT 113 6341/1
Z4207	MICROCIRCUIT/CURRENT MODE BOOST CONTR.	RYT 113 6365/1
Z4301	MICROCIRCUIT/COMP 2.7V R/R OPEN DRAIN	RYT 101 6326/1
Z4302	MICROCIRCUIT/Controller 8-BIT FLASH	RYT 123 6102/1
Z4303	MICROCIRCUIT/COMP 2.7V R/R OPEN DRAIN	RYT 101 6326/1
Z4304	MICROCIRCUIT/COMP 2.7V R/R OPEN DRAIN	RYT 101 6326/1
Z4305	MICROCIRCUIT/COMP 2.7V R/R OPEN DRAIN	RYT 101 6326/1
Z4306	MICROCIRCUIT/COMP 2.7V R/R OPEN DRAIN	RYT 101 6326/1
Z4307	MICROCIRCUIT/COMP 2.7V R/R OPEN DRAIN	RYT 101 6326/1

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Z4308 MICROCIRCUIT/COMP 2.7V R/R OPEN DRAIN

RYT 101 6326/1

**1.2.2 Function Block Digital, ROZ 104 232/2**

Product: ROZ 104 232/2, Revision: C

Pos	Prod name/Func des	Product number
L11001	FILTER/EMI,3A 50 OHM 1206 SMD	REG 706 21/1
L13001	FILTER/EMI,3A 50 OHM 1206 SMD	REG 706 21/1
L13002	FILTER/EMI,3A 50 OHM 1206 SMD	REG 706 21/1
L14001	FILTER/EMI,3A 50 OHM 1206 SMD	REG 706 21/1
L14002	FILTER/EMI,3A 50 OHM 1206 SMD	REG 706 21/1
V11001	LIGHT EMITTING DIODE/LED red 0.5-1.3mcd(20mA) chip	RKZ 433 606/3
V11002	TRANSISTOR/NFET 50V 0.17A SOT23 15_Ohm	RYN 123 661/1
V11003	TRANSISTOR/NFET 50V 0.17A SOT23 15_Ohm	RYN 123 661/1
Z01001	MICROCIRCUIT/IC, DIGITAL THERMOMETER AND TH	RYT 124 6006/C
Z02001	MICROCIRCUIT/74'244 LVC SSOP20 8x BUFFER NO	RYT 331 0244/C
Z02002	MICROCIRCUIT/74'244 AHC/VHC TSSOP20 8x BUFF	RYT 335 6008/2C
Z05001	MICROCIRCUIT/74'244 LVC SSOP20 8x BUFFER NO	RYT 331 0244/C
Z05002	MICROCIRCUIT/74'244 AHC/VHC TSSOP20 8x BUFF	RYT 335 6008/2C
Z07001	MICROCIRCUIT/74'244 AHC/VHC TSSOP20 8x BUFF	RYT 335 6008/2C
Z07002	MICROCIRCUIT/74'244 AHC/VHC TSSOP20 8x BUFF	RYT 335 6008/2C
Z08001	MICROCIRCUIT/74'08 LVC,Z1G SSOP5-P-A 1x 2-I	RYT 326 6008/42C
Z09001	MICROCIRCUIT/74'244 AHC/VHC TSSOP20 8x BUFF	RYT 335 6008/2C
Z09002	MICROCIRCUIT/74'244 AHC/VHC TSSOP20 8x BUFF	RYT 335 6008/2C
Z09003	MICROCIRCUIT/74'08 LVC,Z1G SSOP5-P-A 1x 2-I	RYT 326 6008/42C
Z09004	MICROCIRCUIT/74'32 LVC,Z1G SSOP5-P-A 1x 2-I	RYT 326 6032/42C
Z11001	PROD. ADAPT. CIRCUIT/ASIC POWER GARP	ROP 101 1192/1
Z11002	MICROCIRCUIT/74'14 LVC TSSOP14 6x INVERT SC	RYT 331 0014/3C
Z11003	MICROCIRCUIT/74'244 AHC/VHC TSSOP20 8x BUFF	RYT 335 6008/2C
Z12001	MICROCIRCUIT/SDRAM 16M16 133MHz CL=3 100MHz	RYT 119 6142/5
Z12002	MICROCIRCUIT/SDRAM 16M16 133MHz CL=3 100MHz	RYT 119 6142/5
Z12003	MICROCIRCUIT/FLASH TB 2M16 90NS 3.3V I	RYT 118 6152/6
Z12004	MICROCIRCUIT/FLASH 8M16 150NS 3.3V E	RYT 118 6153/1
Z13001	PROD. ADAPT. CIRCUIT/EDGE BASE BAND ASIC, EBBA	ROP 101 1189/1
Z13002	MICROCIRCUIT/SDRAM 16M16 133MHz CL=3 100MHz	RYT 119 6142/5
Z14001	PROD. ADAPT. CIRCUIT/EDGE BASE BAND ASIC, EBBA	ROP 101 1189/1
Z14002	MICROCIRCUIT/SDRAM 16M16 133MHz CL=3 100MHz	RYT 119 6142/5



Prepared (also subject responsible if other)		No.		
EAB/RTL/FG Palle Zetterstrand		B5KBKRC16184-7 Uen		
Approved	Checked	Date	Rev	Reference
EAB/RTL/FG (P. Zetterstrand)		2003-09-16	A	

## 2 2.1033(c)(9) Tune-Up Procedure

All the necessary adjustments will be set in the factory, and no adjustments are needed. The output power level is remotely controlled by the Base Station Controller (BSC). If the TRX (an RRU contains four identical TRXes) is not able to maintain the requirements for power output, frequency stability, etc an alarm is sent to the BSC. On severe faults, the TRX will disable transmission.

## 3 2.1033(c)(9,10) Power Tune-Up – Power Limiting

The transmitter in each TRX contains three synthesized oscillators. One PLL gives a 90 MHz signal to the I/Q modulator. The two other generate a 779 to 804 MHz signal to the mixer where the modulated signal is converted to the transmit frequency. Two oscillators are needed in frequency hopping mode, one is retuning while the other is active. All three synthesized oscillators have a reference of 13 MHz generated in a central synthesized oscillator (PLL) of 26 MHz, which is downmixed by 2, in the LTU part of the RRU. This PLL frequency reference is locked to a 3.25 MHz clock which is extracted from the multiplexed Y-interface MY. MY is generated and distributed by the IXU (Interface & Switching Unit) to all RRU:s in the base station.

The frequency reference 13 MHz in the IXU is generated in a voltage controlled oscillator phase-locked to the incoming PCM-link frequency or as an option an incoming GPS-link frequency.