

Prepared (also subject responsible if other) EAB/RBI/R Per Helmersson		No. B5KCKRC1311005-1		
Approved KI/EAB/RBI/R (P Helmersson)	Checked	Date 2004-09-29	Rev A	Reference

Exhibit 10 – Components, Tune Up

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

1.1 Printed Board TBU 800 MHz ROA 117 2967/1

1.1.1 Function Block CPU

<Product>ROZ 104 221/1

<Revision>B

Pos	Prod name/Func des	Product number
L3100	FILTER/50ohm 1206 3A 0.025ohm Bead	REG 706 21/1
V3100	LIGHT EMITTING DIODE/LED red 0.5-1.3mcd(20mA) chip	RKZ 433 606/3
V3900	LIGHT EMITTING DIODE/LED super-red 56-140mcd(20mA)	RKZ 433 681/1
V3901	LIGHT EMITTING DIODE/LED TRUE GREEN 90-180mcd(20mA)	RKZ 433 681/5
V3902	LIGHT EMITTING DIODE/LED YELLOW 90-224mcd(20mA) SID	RKZ 433 681/4
V3903	LIGHT EMITTING DIODE/LED YELLOW 90-224mcd(20mA) SID	RKZ 433 681/4
Z3001	MICROCIRCUIT/74'08 LVC TSSOP14 4x 2-INP AND	RYT 331 0008/3C
Z3100	PROD. ADAPT. CIRCUIT/ASIC POWER GARP	ROP 101 1192/1
Z3303	MICROCIRCUIT/74'14 LVC TSSOP14 6x INVERT SC	RYT 331 0014/3C
Z3400	MICROCIRCUIT/SDRAM 16M16 133MHz CL=3 100MHz	RYT 119 6142/5
Z3401	MICROCIRCUIT/SDRAM 16M16 133MHz CL=3 100MHz	RYT 119 6142/5
Z3402	MICROCIRCUIT/74'08 LVC1G SC70-5 1x 2-INP D-	RYT 326 6008/52C
Z3403	MICROCIRCUIT/FLASH TB 2M16 90NS 3.3V I	RYT 118 6152/6
Z3404	MICROCIRCUIT/FLASH 8M16 150NS 3.3V E	RYT 118 6153/1
Z3601	MICROCIRCUIT/LVDS LINE DRIVER x4 TSSOP16 /9	RYT 109 6181/2C
Z3602	MICROCIRCUIT/LVDS LINE RECEIVER x4 TSSOP16	RYT 109 6158/2C
Z3603	MICROCIRCUIT/RS485/422 TRANSCEIVER SO8/MAX3	RYT 109 165/C
Z3604	MICROCIRCUIT/RS485/422 TRANSCEIVER SO8/MAX3	RYT 109 165/C
Z3605	MICROCIRCUIT/RS485/422 TRANSCEIVER SO8/MAX3	RYT 109 165/C
Z3606	MICROCIRCUIT/RS485/422 TRANSCEIVER SO8/MAX3	RYT 109 165/C
Z3607	FUNCTIONAL COMPONENT/CDU MUX PLD	RON 107 496
Z3700	MICROCIRCUIT/74'244 LVC SSOP20 8x BUFFER NO	RYT 331 0244/C
Z3701	MICROCIRCUIT/74'244 LVC SSOP20 8x BUFFER NO	RYT 331 0244/C
Z3702	MICROCIRCUIT/74'244 LVC SSOP20 8x BUFFER NO	RYT 331 0244/C

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1.1.2 **Function Block SPARC 1**

<Product>ROZ 104 222/2
<Revision>B

Pos	Prod name/Func des	Product number
L5200	FILTER/50ohm 1206 3A 0.025ohm Bead	REG 706 21/1
L5201	FILTER/50ohm 1206 3A 0.025ohm Bead	REG 706 21/1
L5300	FILTER/50ohm 1206 3A 0.025ohm Bead	REG 706 21/1
L5301	FILTER/50ohm 1206 3A 0.025ohm Bead	REG 706 21/1
Z5000	MICROCIRCUIT/74'08 LVC TSSOP14 4x 2-INP AND	RYT 331 0008/3C
Z5001	MICROCIRCUIT/FLASH SPI 128K8 20MHz 2.7V I	RYT 118 6154/2
Z5002	MICROCIRCUIT/74'86 LVC,Z1G SC70-5 1x 2-INP	RYT 326 6086/42C
Z5003	MICROCIRCUIT/74'08 LVC1G SC70-5 1x 2-INP D-	RYT 326 6008/52C
Z5004	MICROCIRCUIT/74'86 LVC,Z1G SC70-5 1x 2-INP	RYT 326 6086/42C
Z5200	PROD. ADAPT. CIRCUIT/EDGE BASE BAND ASIC, EBBA	ROP 101 1189/1
Z5201	MICROCIRCUIT/SDRAM 16M16 133MHz CL=3 100MHz	RYT 119 6142/5
Z5300	PROD. ADAPT. CIRCUIT/TARAC_U+	ROP 101 1128/2

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1.1.3 Function Block SPARC 2

<Product>ROZ 104 223/2

<Revision>B

Pos	Prod name/Func des	Product number
L6200	FILTER/50ohm 1206 3A 0.025ohm Bead	REG 706 21/1
L6201	FILTER/50ohm 1206 3A 0.025ohm Bead	REG 706 21/1
L6300	FILTER/50ohm 1206 3A 0.025ohm Bead	REG 706 21/1
L6301	FILTER/50ohm 1206 3A 0.025ohm Bead	REG 706 21/1
Z6000	MICROCIRCUIT/74'08 LVC TSSOP14 4x 2-INP AND	RYT 331 0008/3C
Z6001	MICROCIRCUIT/74'86 LVC,Z1G SC70-5 1x 2-INP	RYT 326 6086/42C
Z6002	MICROCIRCUIT/74'08 LVC1G SC70-5 1x 2-INP D-	RYT 326 6008/52C
Z6003	MICROCIRCUIT/74'86 LVC,Z1G SC70-5 1x 2-INP	RYT 326 6086/42C
Z6200	PROD. ADAPT. CIRCUIT/EDGE BASE BAND ASIC, EBBA	ROP 101 1189/1
Z6201	MICROCIRCUIT/SDRAM 16M16 133MHz CL=3 100MHz	RYT 119 6142/5
Z6300	PROD. ADAPT. CIRCUIT/TARAC_U+	ROP 101 1128/2
Z6301	MICROCIRCUIT/FLASH SPI 128K8 20MHz 2.7V I	RYT 118 6154/2

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1.1.4 Function Block DC/DC

<Product>ROZ 104 224/1

<Revision>E

Pos	Prod name/Func des	Product number
D700	RECTIFIER/REC SCH x2 30V 2x6A DPAK	RKZ 323 6047/1
D701	DIODE/SWI x2 70V 200mA SOT23 serial	RKZ 123 03/1
D702	DIODE/SWI x2 70V 200mA SOT23 com.cat	RKZ 123 03/3
D704	DIODE/SWI x2 70V 200mA SOT23 serial	RKZ 123 03/1
D705	DIODE/SWI x2 70V 200mA SOT23 serial	RKZ 123 03/1
D706	MICROCIRCUIT/MOSFET DRIVERx2 INV/NONINV /44	RYT 109 6204/1
D707	MICROCIRCUIT/MOSFET DRIVERx2 INV/NONINV /44	RYT 109 6204/1
D708	RECTIFIER/REC 200V 1A SMA 35ns	RKZ 123 05/2
D709	RECTIFIER/REC 200V 1A SMA 35ns	RKZ 123 05/2
D711	DIODE/REC SCH 40V 2A SMB 0.44V(2A)	RKZ 323 487/2
D712	DIODE/REC SCH 40V 2A SMB 0.44V(2A)	RKZ 323 487/2
D713	DIODE/SWI SCH x2 40V 120mA SOT23 ser	RKZ 323 17/1
D716	MICROCIRCUIT/MOSFET DRIVERx2 INV/NONINV /44	RYT 109 6204/1
D717	MICROCIRCUIT/MOSFET DRIVERx2 INV/NONINV /44	RYT 109 6204/1
N700	MICROCIRCUIT/2 Chan Sync Current Mode PWM	RYT 113 142/C
N701	MICROCIRCUIT/REG LIN+ ADJ 1.25-13.8 +/-1% 8	RYT 113 6302/3
N702	MICROCIRCUIT/REG SW- ADJ 2.0A	RYT 113 6373/1
N703	MICROCIRCUIT/Quad Voltage Supervisory Circu	RYT 113 296/C
N704	MICROCIRCUIT/OPAMP 2.5V/30V R/R 21MHz	RYT 101 6339/1
N705	MICROCIRCUIT/REG SW- ADJ 150kHz 0.5A	RYT 113 6320/1
N706	MICROCIRCUIT/PWM CMOS	RYT 113 479/C
N707	MICROCIRCUIT/OPAMP 2.5V/30V R/R 21MHz	RYT 101 6339/1
N708	MICROCIRCUIT/COMP x2 36V	RYT 101 6169/1
N709	MICROCIRCUIT/OPAMP 2.5V/30V R/R 21MHz	RYT 101 6339/1
N710	MICROCIRCUIT/COMP x2 36V	RYT 101 6169/1
N711	REGULATOR/REG LIN- 5.0V +/-4% 100mA 1.7V	RYT 113 6021/1C
N712	MICROCIRCUIT/PWM ADJ 0.8V to 90% of VIN	RYT 113 6374/1
N713	MICROCIRCUIT/COMP x2 36V	RYT 101 6169/1
N714	MICROCIRCUIT/AMP CURRENT SENSE	RYT 101 142/2C
N715	MICROCIRCUIT/AMP CURRENT SENSE	RYT 101 142/2C
R704	TEMPERATURE SENSOR/KTY13A	RYT 124 6001/2C
R705	RESISTOR/3.3kohm 1% 0402 0.063W	REP 622 654/33
R706	RESISTOR/3.3kohm 1% 0402 0.063W	REP 622 654/33
T700	TRANSFORMER/DCDC OOPS	REG 544 2313
T701	TRANSFORMER/	REG 520 2310
T702	TRANSFORMER/SMD EFD30	REG 258 2304
V700	TRANSISTOR/NFET 100V 4.5A SO8 60mohm(10V)	RYN 123 6013/1
V701	TRANSISTOR/NFET 100V 4.5A SO8 60mohm(10V)	RYN 123 6013/1
V702	TRANSISTOR/NFET 30V 14A SO8 10mohm(4.5V)	RYN 123 6012/1
V706	TRANSISTOR/NFET 30V 14A SO8 10mohm(4.5V)	RYN 123 6012/1
V707	TRANSISTOR/NFET 30V 14A SO8 10mohm(4.5V)	RYN 123 6012/1

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V709 TRANSISTOR/NPN SS 45V 100mA SOT23 hFE>250	RYN 121 629/1
V713 TRANSISTOR/NFET 100V 46A DPAK 26mohm(10V)	RYN 123 6061/1
V714 TRANSISTOR/NFET 100V 46A DPAK 26mohm(10V)	RYN 123 6061/1
V715 TRANSISTOR/NFET 100V 46A DPAK 26mohm(10V)	RYN 123 6061/1
V716 TRANSISTOR/NFET 100V 46A DPAK 26mohm(10V)	RYN 123 6061/1
V717 OVERVOLTAGE ARRESTER/TVS ZEN unidir 36V SMC 1.5kW(1	RKZ 223 485/36
V718 DIODE/REC SCH 40V 2A SMB 0.44V(2A)	RKZ 323 487/2
V722 ZENERDIODE/ZEN 12.0V 6% 0.2W SOT23	RKZ 223 01/18
V723 ZENERDIODE/ZEN 12.0V 6% 0.2W SOT23	RKZ 223 01/18
V724 RECTIFIER/REC SCH x2 30V 2x15A D2PAK	RKZ 323 6012/3
V725 RECTIFIER/REC SCH x2 30V 2x15A D2PAK	RKZ 323 6012/3
V727 DIODE/SWI x2 70V 200mA SOT23 serial	RKZ 123 03/1
V728 DIODE/SWI x2 70V 200mA SOT23 serial	RKZ 123 03/1
V729 DIODE/SWI x2 70V 200mA SOT23 serial	RKZ 123 03/1
V730 TRANSISTOR/NFET 30V 14A SO8 10mohm(4.5V)	RYN 123 6012/1
V731 TRANSISTOR/NFET 30V 14A SO8 10mohm(4.5V)	RYN 123 6012/1
V732 TRANSISTOR/NFET 30V 14A SO8 10mohm(4.5V)	RYN 123 6012/1
V733 TRANSISTOR/NFET 100V 4.5A SO8 60mohm(10V)	RYN 123 6013/1
V734 DIODE/SWI x2 70V 200mA SOT23 serial	RKZ 123 03/1
V735 TRANSISTOR/PNP SS 45V 100mA SOT23 hFE>250	RYN 120 614/1
V736 TRANSISTOR/PNP SS 45V 100mA SOT23 hFE>250	RYN 120 614/1
V737 TRANSISTOR/NPN SS 45V 100mA SOT23 hFE>250	RYN 121 629/1

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1.1.5 **Function Block LTU**

<Product>ROZ 104 225/1
<Revision>A

Pos	Prod name/Func des	Product number
V500	DIODE/SWI SCH x2 70V 70mA SOT23 seri	RKZ 323 08/2
Z500	MICROCIRCUIT/REG LIN+ ADJ 1.8-20V +/-1% 500	RYT 113 6303/1
Z501	MICROCIRCUIT/74'74 AC SOP14 2xD FLIP-FLOP	RYT 318 0074/C
Z503	MICROCIRCUIT/PLL SSOP16 MB15E07 PFV-ER	RYT 102 6057/1
Z504	OSCILLATOR/26.000MHZ	RTL 202 610/02
Z505	MICROCIRCUIT/74'04 LVC SSOP14 6x INVERTER	RYT 331 0004/C
Z506	MICROCIRCUIT/74'04 ACT TSSOP14 6x INVERTER	RYT 317 6004/22C
Z507	MICROCIRCUIT/74'04 ACT TSSOP14 6x INVERTER	RYT 317 6004/22C
Z508	MICROCIRCUIT/REG LIN+ 3.3V 150mA 0.575V	RYT 113 6110/12

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1.1.6 Function RX Front end

<Product>ROZ 104 333/1

<Revision>PA3

Pos	Prod name/Func des	Product number
D1100	MICROCIRCUIT/74'595 HCT TSSOP16 8B S-IN S/P	RYT 310 6031/2C
D1101	MICROCIRCUIT/74'04 HC1G SSOP5-P 1x INVERTER	RYT 326 6004/C
D1102	MICROCIRCUIT/74'595 HCT TSSOP16 8B S-IN S/P	RYT 310 6031/2C
D1103	MICROCIRCUIT/74'04 HC1G SSOP5-P 1x INVERTER	RYT 326 6004/C
D1104	MICROCIRCUIT/74'595 HCT TSSOP16 8B S-IN S/P	RYT 310 6031/2C
N1101	AMPLIFIER/RF Amplifier AL106-84 SOIC-8	RYT 101 6412/1
N1102	SPLITTER/COMBINDER/PD09-73	RYT 901 6186/1
N1103	MICROCIRCUIT/attenuator AA106-86	RYT 115 6032/1
N1104	MICROCIRCUIT/Switch. AS186-302 MSOP-8	RYT 101 6438/1
N1105	SPLITTER/COMBINDER/PD09-73	RYT 901 6186/1
N1106	SPLITTER/COMBINDER/PD09-73	RYT 901 6186/1
N1107	AMPLIFIER/RF Amplifier AL106-84 SOIC-8	RYT 101 6412/1
N1108	SPLITTER/COMBINDER/PD09-73	RYT 901 6186/1
N1109	MICROCIRCUIT/attenuator AA106-86	RYT 115 6032/1
N1111	MICROCIRCUIT/Switch. AS186-302 MSOP-8	RYT 101 6438/1
N1112	AMPLIFIER/RF Amplifier AL106-84 SOIC-8	RYT 101 6412/1
N1114	MICROCIRCUIT/attenuator AA106-86	RYT 115 6032/1
N1115	SPLITTER/COMBINDER/PD09-73	RYT 901 6186/1
N1117	MICROCIRCUIT/Switch. AS186-302 MSOP-8	RYT 101 6438/1
N1118	AMPLIFIER/RF Amplifier AL106-84 SOIC-8	RYT 101 6412/1
N1119	MICROCIRCUIT/attenuator AA106-86	RYT 115 6032/1
N1200	MICROCIRCUIT/microsynth (RX 800)	RYT 902 6040/1
N1201	MICROCIRCUIT/microsynth (RX 800)	RYT 902 6040/1
N1202	MICROCIRCUIT/TEMP SENSOR, SOT-23, LM50C	RYT 124 6009/C
N1203	MICROCIRCUIT/TEMP SENSOR, SOT-23, LM50C	RYT 124 6009/C
N1204	PROD. ADAPT. CIRCUIT/ASIC OKI	ROP 101 5003
N1205	PROD. ADAPT. CIRCUIT/ASIC OKI	ROP 101 5003
N1206	MICROCIRCUIT/microsynth (RX 800)	RYT 902 6040/1
N1207	MICROCIRCUIT/microsynth (RX 800)	RYT 902 6040/1
T1200	BALUN/850MHz 3225 50ohm 1W	REG 735 58/1
T1201	TRANSFORMER/SMD TRANSFORMER	REG 135 55/7
T1202	BALUN/850MHz 3225 50ohm 1W	REG 735 58/1
T1203	TRANSFORMER/SMD TRANSFORMER	REG 135 55/7
T1204	BALUN/850MHz 3225 50ohm 1W	REG 735 58/1
T1205	TRANSFORMER/SMD TRANSFORMER	REG 135 55/7
T1206	BALUN/850MHz 3225 50ohm 1W	REG 735 58/1
T1207	TRANSFORMER/SMD TRANSFORMER	REG 135 55/7
Z1101	MICROCIRCUIT/REG LIN+ LDO 5.0V +/-1% 800mA	RYT 113 6091/5
Z1102	MICROCIRCUIT/REG LIN+ LDO 5.0V +/-1% 800mA	RYT 113 6091/5
Z1200	FILTER/836MHz 25MHz BP 6x8mm (GSM800)	RTN 202 1034/1
Z1201	FILTER/836MHz 25MHz BP 6x8mm (GSM800)	RTN 202 1034/1

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Z1204 FILTER/836MHz 25MHz BP 6x8mm (GSM800)	RTN 202 1034/1
Z1205 FILTER/836MHz 25MHz BP 6x8mm (GSM800)	RTN 202 1034/1

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1.1.7 Function Block RX IF 1

<Product>ROZ 104 286/2

<Revision>B

Pos	Prod name/Func des	Product number
V1300	DIODE/VAR 15V 15-6pF 6pF@10V 1-1E1A	RKZ 323 610/1
V1301	DIODE/VAR 15V 15-6pF 6pF@10V 1-1E1A	RKZ 323 610/1
X1301	FILTER/71MHz 250kHz BP 13x6.5mm SAW	RTN 201 850/04
X1302	FILTER/71MHz 250kHz BP 13x6.5mm SAW	RTN 201 850/04
Z1301	PROD. ADAPT. CIRCUIT/ASIC VERDI	ROP 101 609
Z1302	PROD. ADAPT. CIRCUIT/ASIC QIM	ROP 101 1115/C
Z1306	MICROCIRCUIT/REG LIN+ LDO 5.0V +/-1% 800mA	RYT 113 6091/5
Z1401	MICROCIRCUIT/DELTA-SIGMA_MODULATOR QFP48	RYT 120 6061/2
Z1402	MICROCIRCUIT/DELTA-SIGMA_MODULATOR QFP48	RYT 120 6061/2
Z1403	MICROCIRCUIT/DELTA-SIGMA_MODULATOR QFP48	RYT 120 6061/2
Z1404	MICROCIRCUIT/DELTA-SIGMA_MODULATOR QFP48	RYT 120 6061/2
Z1406	MICROCIRCUIT/REG LIN+ LDO 5.0V +/-1% 800mA	RYT 113 6091/5

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1.1.8 Function Block RX IF 2

<Product>ROZ 104 287/2

<Revision>B

Pos	Prod name/Func des	Product number
V2300	DIODE/VAR 15V 15-6pF 6pF@10V 1-1E1A	RKZ 323 610/1
V2301	DIODE/VAR 15V 15-6pF 6pF@10V 1-1E1A	RKZ 323 610/1
X2301	FILTER/71MHz 250kHz BP 13x6.5mm SAW	RTN 201 850/04
X2302	FILTER/71MHz 250kHz BP 13x6.5mm SAW	RTN 201 850/04
Z2301	PROD. ADAPT. CIRCUIT/ASIC VERDI	ROP 101 609
Z2302	PROD. ADAPT. CIRCUIT/ASIC QIM	ROP 101 1115/C
Z2303	MICROCIRCUIT/REG LIN+ 3.3V 150mA 0.575V	RYT 113 6110/12
Z2306	MICROCIRCUIT/REG LIN+ LDO 5.0V +/-1% 800mA	RYT 113 6091/5
Z2401	MICROCIRCUIT/DELTA-SIGMA_MODULATOR QFP48	RYT 120 6061/2
Z2402	MICROCIRCUIT/DELTA-SIGMA_MODULATOR QFP48	RYT 120 6061/2
Z2403	MICROCIRCUIT/DELTA-SIGMA_MODULATOR QFP48	RYT 120 6061/2
Z2404	MICROCIRCUIT/DELTA-SIGMA_MODULATOR QFP48	RYT 120 6061/2
Z2406	MICROCIRCUIT/REG LIN+ LDO 5.0V +/-1% 800mA	RYT 113 6091/5

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1.1.9 Function Block TX1

<Product>ROZ 104 336/1

<Revision>PA4

Pos	Prod name/Func des	Product number
D5701	MICROCIRCUIT/74'595 HCT TSSOP16 8B S-IN S/P	RYT 310 6031/2C
D5702	MICROCIRCUIT/74'595 HCT TSSOP16 8B S-IN S/P	RYT 310 6031/2C
N5501	PROD. ADAPT. CIRCUIT/ASIC PENNY	ROP 101 612/2
N5503	PROD. ADAPT. CIRCUIT/ASIC FINJA	ROP 101 5005
N5601	DIRECTIONAL COUPLER/800-1000MHz 20dB 14x9mm Direct	UND 106 009/1
N5602	MICROCIRCUIT/OPAMP 2.7V R/R 5.5MHz	RYT 101 6331/3
N5604	MICROCIRCUIT/OPAMP x2 +/-15V 4.5MHz	RYT 101 6076/1C
N5607	MICROCIRCUIT/TEMP. SENSOR FAHERNHEIT	RYT 124 6015/1
N5701	MICROCIRCUIT/5 bit attenuator 0.5-2.5GHz	RYT 115 6033/1
N5702	MICROCIRCUIT/5 bit attenuator 0.5-2.5GHz	RYT 115 6033/1
N5703	INTEGRATED CIRCUIT/RF Power Amplifier	RYT 101 6528/1
R5674	ATTENUATOR/1dB 11W	UMF 104 002/1
T5500	BALUN/942MHz 3216 200ohm 1W	REG 735 58/10
T5501	BALUN/942MHz 3216 200ohm 1W	REG 735 58/10
T5504	BALUN/942MHz 3216 200ohm 1W	REG 735 58/10
T5505	BALUN/942MHz 3216 200ohm 1W	REG 735 58/10
T5506	TRANSFORMER/SMD TRANSFORMER 4:1	REG 135 55/1
V5501	DIODE/VAR 15V 15-6pF 6pF@10V 1-1E1A	RKZ 323 610/1
V5502	DIODE/VAR 15V 15-6pF 6pF@10V 1-1E1A	RKZ 323 610/1
V5600	DIODE/RF SCH x2 20V 5mA SOT363 uncon	RKZ 323 6059/1
V5601	TRANSISTOR/PNP SS 45V 100mA SOT23 hFE>250	RYN 120 614/1
V5606	ZENERDIODE/ZEN 10.0V 6% 0.2W SOT23	RKZ 223 01/16
Z5500	FILTER/836MHz 25MHz BP 6x8mm (GSM800)	RTN 202 1034/1
Z5501	MICROCIRCUIT/microsynth (TX 800)	RYT 902 6041/1
Z5502	MICROCIRCUIT/microsynth (TX 800)	RYT 902 6041/1
Z5503	MICROCIRCUIT/REG LIN+ LDO 5.0V +/-1% 800mA	RYT 113 6091/5
Z5505	MICROCIRCUIT/REG LIN+ 3.3V 150mA 0.575V	RYT 113 6110/12
Z5701	FILTER/881MHz 25MHz BP 8x8 (GSM800)	RTN 202 1033/1
Z5702	AMPLIFIER/RF Amplifier. SGA-6389 SOT	RYT 101 6414/1
Z5703	AMPLIFIER/RF Amplifier. SGA-6389 SOT	RYT 101 6414/1
Z5704	FILTER/881MHz 25MHz BP 8x8 (GSM800)	RTN 202 1033/1
Z5800	PROD. ADAPT. CIRCUIT/ASIC SPIRA	ROP 101 616/C

Prepared (also subject responsible if other) EAB/RBI/R Per Helmersson		No. B5KCKRC1311005-1		
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1.1.10 Function Block TX2

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<Revision>PA4

Pos	Prod name/Func des	Product number
D6701	MICROCIRCUIT/74'595 HCT TSSOP16 8B S-IN S/P	RYT 310 6031/2C
D6702	MICROCIRCUIT/74'595 HCT TSSOP16 8B S-IN S/P	RYT 310 6031/2C
L6500	INDUCTOR/100NH 5% 0.4A 0603	REG 704 1123/1
N6501	PROD. ADAPT. CIRCUIT/ASIC PENNY	ROP 101 612/2
N6503	PROD. ADAPT. CIRCUIT/ASIC FINJA	ROP 101 5005
N6601	DIRECTIONAL COUPLER/800-1000MHz 20dB 14x9mm Direct	UND 106 009/1
N6602	MICROCIRCUIT/OPAMP 2.7V R/R 5.5MHz	RYT 101 6331/3
N6604	MICROCIRCUIT/OPAMP x2 +/-15V 4.5MHz	RYT 101 6076/1C
N6607	MICROCIRCUIT/TEMP. SENSOR FAHERNHEIT	RYT 124 6015/1
N6701	MICROCIRCUIT/5 bit attenuator 0.5-2.5GHz	RYT 115 6033/1
N6702	MICROCIRCUIT/5 bit attenuator 0.5-2.5GHz	RYT 115 6033/1
N6703	INTEGRATED CIRCUIT/RF Power Amplifier	RYT 101 6528/1
R6674	ATTENUATOR/1dB 11W	UMF 104 002/1
T6500	BALUN/942MHz 3216 200ohm 1W	REG 735 58/10
T6501	BALUN/942MHz 3216 200ohm 1W	REG 735 58/10
T6504	BALUN/942MHz 3216 200ohm 1W	REG 735 58/10
T6505	BALUN/942MHz 3216 200ohm 1W	REG 735 58/10
T6506	TRANSFORMER/SMD TRANSFORMER 4:1	REG 135 55/1
V6501	DIODE/VAR 15V 15-6pF 6pF@10V 1-1E1A	RKZ 323 610/1
V6502	DIODE/VAR 15V 15-6pF 6pF@10V 1-1E1A	RKZ 323 610/1
V6600	DIODE/RF SCH x2 20V 5mA SOT363 uncon	RKZ 323 6059/1
V6601	TRANSISTOR/PNP SS 45V 100mA SOT23 hFE>250	RYN 120 614/1
V6606	ZENERDIODE/ZEN 10.0V 6% 0.2W SOT23	RKZ 223 01/16
Z6500	FILTER/836MHz 25MHz BP 6x8mm (GSM800)	RTN 202 1034/1
Z6501	MICROCIRCUIT/microsynth (TX 800)	RYT 902 6041/1
Z6502	MICROCIRCUIT/microsynth (TX 800)	RYT 902 6041/1
Z6503	MICROCIRCUIT/REG LIN+ LDO 5.0V +/-1% 800mA	RYT 113 6091/5
Z6505	MICROCIRCUIT/REG LIN+ 3.3V 150mA 0.575V	RYT 113 6110/12
Z6701	FILTER/881MHz 25MHz BP 8x8 (GSM800)	RTN 202 1033/1
Z6702	AMPLIFIER/RF Amplifier. SGA-6389 SOT	RYT 101 6414/1
Z6703	AMPLIFIER/RF Amplifier. SGA-6389 SOT	RYT 101 6414/1
Z6704	FILTER/881MHz 25MHz BP 8x8 (GSM800)	RTN 202 1033/1
Z6800	PROD. ADAPT. CIRCUIT/ASIC SPIRA	ROP 101 616/C

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1.1.11 Function Block TX Back end

<Product>ROZ 104 338/1

<Revision>PA5

Pos	Prod name/Func des	Product number
N5904	MICROCIRCUIT/OPAMP 2.7V R/R 5.5MHz	RYT 101 6331/3
V5900	DIODE/RF SCH x2 20V 5mA SOT363 uncon	RKZ 323 6059/1
V5902	TRANSISTOR/PNP SS 45V 100mA SOT23 hFE>200	RYN 120 645/1
V5904	DIODE/SWI 75V 215mA SOT23 4ns	RKZ 123 612
V5905	DIODE/SWI 75V 215mA SOT23 4ns	RKZ 123 612
V5906	TRANSISTOR/NPN SS 45V 100mA SOT23 hFE200-	RYN 121 6068/1
V5907	ZENERDIODE/ZEN 3.6V 6% 0.2W SOT23	RKZ 223 01/5
W5903	RELAY/RF-relay;SP;x-VDC;x-VDC;	RAV 947 46/01
W5906	RELAY/RF-relay;SP;x-VDC;x-VDC;	RAV 947 46/01
W5907	DIRECTIONAL COUPLER/869-960MHz 3dB 16x12mm Hybrid	UND 106 087/1
Z5903	ATTENUATOR/50 OHM, 125W	REP 015 137/1
V5605	TRANSISTOR/RF Transistor FET 900MHz PTF0	RYN 123 1659/3
V6605	TRANSISTOR/RF Transistor FET 900MHz PTF0	RYN 123 1659/3
W5904	ISOLATOR/Isolator 869 to 894MHz	UNK 102 128/06
W5905	ISOLATOR/Isolator 869 to 894MHz	UNK 102 128/06

Prepared (also subject responsible if other) EAB/RBI/R Per Helmersson		No. B5KCKRC1311005-1		
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2 2.1033(c)(9) Tune-Up Procedure

All the necessary adjustments will be set in the factory, and no adjustments are needed. The Base Station Controller (BSC) remotely controls the output power level. If the TRX (one half of dTRU) 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 (or TRX:s with TCC function) will disable transmission.

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

The TRX (one half of dTRU) measures the output power at its output connector via a RF-detector and the detected value is used by the power loop control block to steer two variable gain amplifiers between the modulator and the power amplifier.

In TCC (Transmitter Coherent Combining) mode the output power is also measured with a RF detector in the non-output branch of the hybrid combiner in the dTRU. This output power is kept as low as possible, by keeping the TRX:s output power in phase with each other, and thereby get maximum output power at the output branch of the hybrid combiner.

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, which is mixed down by 2, generated in a central synthesized oscillator (PLL) of 26 MHz in the LTU part of the dTRU. This PLL frequency reference is extracted from the 13 MHz signal on the Y-link, which is generated and distributed, by the DXU (Distribution Switch Unit), to all dTRU:s in the base station.

The frequency reference 13 MHz in the DXU is generated in a voltage controlled oscillator placed in an oven together with and phase-locked to a long term stable oven heated oscillator. As an option can the oscillator be phase-locked to the incoming PCM-link frequency or an incoming GPS-link frequency.