

Prepared (also subject responsible if other)		No.		
ERA/RKN/TR Larry Lindström		B5KPKRC1311005-1		
Approved	Checked	Date	Rev	Reference
KI/ERA/RKN/TR (L Lindström)		2001-12-20	A	

Exhibit 10 – Cover Sheet

Contents

1	2.1033 (c) (10) Function of Active Circuit Devices	2
1.1	Printed Board RSU 800 MHz GMSK ROA 215 001/1	2
1.1.1	Function Block LTU	2
1.1.2	Function Block DC/DC	3
1.1.3	Function Block Rx Frontend 800 MHz	5
1.1.4	Function Block RX IF1 GMSK 800 MHz	7
1.1.5	Function Block RX IF2 GMSK 800 MHz	8
1.1.6	Function Block CPU	9
1.1.7	Function Block SPARC 1 GMSK.....	10
1.1.8	Function Block SPARC 2 GMSK.....	11
1.1.9	Function Block TX1 GMSK 800 MHz	12
1.1.10	Function Block TX2 GMSK 800 MHz	13
1.2	Printed Board PBU1 800 GMSK Hybrid Combiner ROA 219 7652/1	14
1.2.1	Function Block DC Booster	14
1.2.2	Function Block PA Linearisation GMSK PBU 800	16
1.2.3	Function Block PA, PBU 800.....	17
1.2.4	Function Block Hybrid Combiner, PBU 800	18
1.3	Printed Board PBU1 800 GMSK wo Hybrid Combiner ROA 219 7653/1	19
1.3.1	Function Block DC Booster	19
1.3.2	Function Block PA Linearisation GMSK PBU 800	19
1.3.3	Function Block PA, PBU 800.....	19
2	2.1033(c)(9) Tune-Up Procedure	20
3	2.1033(c)(9,10) Power Tune-Up – Power Limiting	21

Prepared (also subject responsible if other)		No.		
ERA/RKN/TR Larry Lindström		B5KPKRC1311005-1		
Approved	Checked	Date	Rev	Reference
KI/ERA/RKN/TR (L Lindström)		2001-12-20	A	

- 1 2.1033 (c) (10) Function of Active Circuit Devices**
- 1.1 Printed Board RSU 800 MHz GSMK ROA 215 001/1**
- 1.1.1 Function Block LTU**

Product
ROZ 104 033/1
Revision D

Pos	Prod name/Des	Product number
V500	DIOD/SCHx2 70V 70mA SOT23 Serial	RKZ 323 08/2
Z500	MIKROKRETS/REG LIN+ ADJ 1.8-20V +/-1% 500	RYT 113 6303/1
Z501	MIKROKRETS/74'74 AC SOP14 2xD FLIP- FLOP	RYT 318 0074/C
Z503	MIKROKRETS/MB15E07 PFV-ER	RYT 102 6057/1
Z504	OSCILLATOR/26.000MHZ	RTL 202 610/02
Z505	MIKROKRETS/74'04 LVC SSOP14 6x INVERTER	RYT 331 0004/C
Z506	MIKROKRETS/74'04 ACT TSSOP14 6x INVERTER	RYT 317 6004/22C
Z507	MIKROKRETS/74'04 ACT TSSOP14 6x INVERTER	RYT 317 6004/22C

Prepared (also subject responsible if other)		No.		
ERA/RKN/TR Larry Lindström		B5KPKRC1311005-1		
Approved	Checked	Date	Rev	Reference
KI/ERA/RKN/TR (L Lindström)		2001-12-20	A	

1.1.2 Function Block DC/DC

Product
ROZ 104 032/1
Revision L4

Pos	Prod name/Des	Product number
T700	TRANSFORMATOR/PLANARTRANSFORMER T40	REG 735 305/2
T701	TRANSFORMATOR/CURRENT SENSE TRANS 100:1 SMD	REG 709 673
T702	TRANSFORMATOR/PLANARTRANSFORMER T25	REG 735 304/2
T705	TRANSFORMATOR/Current Transformer 4900uH	REG 135 79/1
V700	LIKRIKTARE/SCHx2 30V 2x15A D2PAK	RKZ 323 6012/3
V702	LIKRIKTARE/SCHx2 30V 2x6A DPAK(TO252AA)	RKZ 323 6047/1
V703	ÖVERSPÄNNINGSSKYDD/DIODE TS 36V 30A DO- 214AB	RKZ 223 485/36
V704	DIOD/DUAL COM. CATH. 70V .2A SOT-23	RKZ 123 03/3
V705	DIOD/DUAL COM. CATH. 70V .2A SOT-23	RKZ 123 03/3
V706	TRANSISTOR/NPN 45V 100mA SOT23	RYN 121 37/1
V707	TRANSISTOR/NPN 45V 100mA SOT23	RYN 121 37/1
V708	LIKRIKTARE/REC 200V 1A 35ns SMA (DO214AC)	RKZ 123 05/2
V709	LIKRIKTARE/REC 200V 1A 35ns SMA (DO214AC)	RKZ 123 05/2
V710	TRANSISTOR/NFET 100V 57A D2PAK 0.025_Ohm	RYN 123 696/1
V711	TRANSISTOR/NFET 100V 57A D2PAK 0.025_Ohm	RYN 123 696/1
V714	TRANSISTOR/NFET 30V 14A SO8 0.008ohm	RYN 123 6012/1
V715	TRANSISTOR/NFET 30V 14A SO8 0.008ohm	RYN 123 6012/1
V716	TRANSISTOR/NFET 30V 14A SO8 0.008ohm	RYN 123 6012/1
V717	TRANSISTOR/NFET 30V 14A SO8 0.008ohm	RYN 123 6012/1
V718	TRANSISTOR/NFET 30V 14A SO8 0.008ohm	RYN 123 6012/1
V719	TRANSISTOR/NFET 30V 14A SO8 0.008ohm	RYN 123 6012/1
V720	TRANSISTOR/NFET 30V 14A SO8 0.008ohm	RYN 123 6012/1
V721	TRANSISTOR/NFET 30V 14A SO8 0.008ohm	RYN 123 6012/1
V722	LIKRIKTARE/SCH 25V 10A SMB	RKZ 323 6038/1
V723	LIKRIKTARE/SCH 25V 10A SMB	RKZ 323 6038/1
V724	LIKRIKTARE/SCH 25V 10A SMB	RKZ 323 6038/1
V725	LIKRIKTARE/SCH 25V 10A SMB	RKZ 323 6038/1
V727	TRANSISTOR/N chanl. MOSFET	RYN 123 251/C
V728	TRANSISTOR/N chanl. MOSFET	RYN 123 251/C
V729	DIOD/DIODE 75V 250mA SOT23 BAS16	RKZ 123 612
V730	DIOD/DIODE 75V 250mA SOT23 BAS16	RKZ 123 612
V731	DIOD/DUAL COM. CATH. 70V .2A SOT-23	RKZ 123 03/3
V735	REGLERDIOD/REG 6.2V 6% 0.2W SOT-23	RKZ 223 01/11
V736	REGLERDIOD/REG 12.0V 6% 0.2W SOT-23	RKZ 223 01/18
V737	REGLERDIOD/REG 6.2V 6% 0.2W SOT-23	RKZ 223 01/11
V738	ÖVERSPÄNNINGSSKYDD/DIODE TS 36V 30A DO- 214AB	RKZ 223 485/36

Prepared (also subject responsible if other)		No.		
ERA/RKN/TR Larry Lindström		B5KPKRC1311005-1		
Approved	Checked	Date	Rev	Reference
KI/ERA/RKN/TR (L Lindström)		2001-12-20	A	

V743	LIKRIKTARE/SCHx2 30V 2x6A DPAK(TO252AA)	RKZ 323 6047/1
V744	REGLERDIOD/REG 3.3V 6% 0.2W SOT-23	RKZ 223 01/4
Z700	MIKROKRETS/SWITCH RECTIFIER DRIVER 4A	RYT 113 6324/2
Z701	MIKROKRETS/SWITCH RECTIFIER DRIVER 4A	RYT 113 6324/2
Z703	MIKROKRETS/REG SW- ADJ 150kHz 0.5A	RYT 113 6320/1
Z705	MIKROKRETS/LM431 ADJ REGULATOR	RYT 113 008/3C
Z709	MIKROKRETS/REG SW- 1.26-2.5V +/-1.2% 20A	RYT 113 6175/1
Z710	MIKROKRETS/PWM CURR.-M 5.0V +/-1.5% 1MHz	RYT 113 6053/4
Z711	MIKROKRETS/PWM CURR.-M 5.0V +/-1.5% 1MHz	RYT 113 6053/4
Z712	MIKROKRETS/VOLTAGE REG, INVERTING, -5V	RYT 113 256/C
Z851	MIKROKRETS/COMP x2 36V	RYT 101 6169/1
Z853	MIKROKRETS/COMP x2 36V	RYT 101 6169/1
Z854	MIKROKRETS/COMP x2 36V	RYT 101 6169/1
Z855	MIKROKRETS/COMP x2 36V	RYT 101 6169/1
Z856	MIKROKRETS/SUP.V 2.93V L/NIN RESET	RYT 113 6166/2
Z857	MIKROKRETS/COMP x2 36V	RYT 101 6169/1

Prepared (also subject responsible if other)		No.		
ERA/RKN/TR Larry Lindström		B5KPKRC1311005-1		
Approved	Checked	Date	Rev	Reference
KI/ERA/RKN/TR (L Lindström)		2001-12-20	A	

1.1.3 Function Block Rx Frontend 800 MHz

Product
ROZ 104 145/1
Revision A

Pos	Prod name/Des	Product number
N1101	FÖRSTÄRKARE/amplifier AL106-84	RYT 101 6412/1
N1102	SPLITTRARE/KOMBINER/PD09-73	RYT 901 6186/1
N1103	MIKROKRETS/attenuator AA106-86	RYT 115 6032/1
N1104	MIKROKRETS/SPDT switch DC-2.5GHz	RYT 101 6410/1
N1105	SPLITTRARE/KOMBINER/PD09-73	RYT 901 6186/1
N1106	SPLITTRARE/KOMBINER/PD09-73	RYT 901 6186/1
N1107	FÖRSTÄRKARE/amplifier AL106-84	RYT 101 6412/1
N1108	SPLITTRARE/KOMBINER/PD09-73	RYT 901 6186/1
N1109	MIKROKRETS/attenuator AA106-86	RYT 115 6032/1
N1111	MIKROKRETS/SPDT switch DC-2.5GHz	RYT 101 6410/1
N1112	FÖRSTÄRKARE/amplifier AL106-84	RYT 101 6412/1
N1114	MIKROKRETS/attenuator AA106-86	RYT 115 6032/1
N1115	SPLITTRARE/KOMBINER/PD09-73	RYT 901 6186/1
N1117	MIKROKRETS/SPDT switch DC-2.5GHz	RYT 101 6410/1
N1118	FÖRSTÄRKARE/amplifier AL106-84	RYT 101 6412/1
N1119	MIKROKRETS/attenuator AA106-86	RYT 115 6032/1
N1200	MIKROKRETS/RF SYNT RX 800	RYT 902 6009/2
N1201	MIKROKRETS/RF SYNT RX 800	RYT 902 6009/2
N1202	MIKROKRETS/TEMP SENSOR, SOT-23, LM50C	RYT 124 6009/C
N1203	MIKROKRETS/TEMP SENSOR, SOT-23, LM50C	RYT 124 6009/C
N1204	MIKROKRETS/IC ASIC ULLA I	ROP 101 664/2C
N1205	MIKROKRETS/IC ASIC ULLA I	ROP 101 664/2C
N1206	MIKROKRETS/RF SYNT RX 800	RYT 902 6009/2
N1207	MIKROKRETS/RF SYNT RX 800	RYT 902 6009/2
T1200	BALUN/BALUN,850 +/-150 MHZ	REG 735 58/1
T1201	TRANSFORMATOR/SMD TRANSFORMER	REG 135 55/7
T1202	BALUN/BALUN,850 +/-150 MHZ	REG 735 58/1
T1203	TRANSFORMATOR/SMD TRANSFORMER	REG 135 55/7
T1204	BALUN/BALUN,850 +/-150 MHZ	REG 735 58/1
T1205	TRANSFORMATOR/SMD TRANSFORMER	REG 135 55/7
T1206	BALUN/BALUN,850 +/-150 MHZ	REG 735 58/1
T1207	TRANSFORMATOR/SMD TRANSFORMER	REG 135 55/7
Z1100	MIKROKRETS/LIN REG- 5.0V INV 15mA ADJ	RYT 113 6063/1
Z1101	MIKROKRETS/REG LDO+ 5.0V +/-1% 800mA 1.0V	RYT 113 6091/3
Z1102	MIKROKRETS/REG LDO+ 5.0V +/-1% 800mA 1.0V	RYT 113 6091/3

Prepared (also subject responsible if other)		No.		
ERA/RKN/TR Larry Lindström		B5KPKRC1311005-1		
Approved	Checked	Date	Rev	Reference
KI/ERA/RKN/TR (L Lindström)		2001-12-20	A	

Z1200	FILTER/BP 836MHz	RTN 202 1034/1
Z1201	FILTER/BP 836MHz	RTN 202 1034/1
Z1202	FILTER/765.5MHz	RTN 202 711/02
Z1203	FILTER/765.5MHz	RTN 202 711/02
Z1204	FILTER/BP 836MHz	RTN 202 1034/1
Z1205	FILTER/BP 836MHz	RTN 202 1034/1
Z1206	FILTER/765.5MHz	RTN 202 711/02
Z1207	FILTER/765.5MHz	RTN 202 711/02

Prepared (also subject responsible if other)		No.		
ERA/RKN/TR Larry Lindström		B5KPKRC1311005-1		
Approved	Checked	Date	Rev	Reference
KI/ERA/RKN/TR (L Lindström)		2001-12-20	A	

1.1.4 Function Block RX IF1 GMSK 800 MHz

Product
ROZ 104 035/1
Revision B1

Pos	Prod name/Des	Product number
T1301	TRANSFORMATOR/SMD TRANSFORMER 4:1	REG 135 55/1
V1301	DIOD/SCHx2 70V 70mA SOT23 Serial	RKZ 323 08/2
X1301	FILTER/BP 71MHz SAW	RTN 201 850/01
X1302	FILTER/BP 71MHz SAW	RTN 201 850/01
Z1303	MIKROKRETS/RYT 901 6147/1	RYT 901 6147/1
Z1304	MIKROKRETS/REG LIN+ 5V 150mA 0.6V	RYT 113 6076/2
Z1306	MIKROKRETS/REG LIN+ 5.0V +/-0.5% 100mA 0.	RYT 113 6005/2C
Z1307	PRODUKTANPASS. KRETS/ASIC QIM	ROP 101 1115/C
Z1401	MIKROKRETS/DUAL SIGMA-DELTA MODULATOR	RYT 120 6061/2
Z1402	MIKROKRETS/DUAL SIGMA-DELTA MODULATOR	RYT 120 6061/2
Z1407	MIKROKRETS/REG LIN+ 5V 150mA 0.6V	RYT 113 6076/2

Prepared (also subject responsible if other)		No.		
ERA/RKN/TR Larry Lindström		B5KPKRC1311005-1		
Approved	Checked	Date	Rev	Reference
KI/ERA/RKN/TR (L Lindström)		2001-12-20	A	

1.1.5 Function Block RX IF2 GMSK 800 MHz

Product
ROZ 104 036/1
Revision C1

Pos	Prod name/Des	Product number
T2301	TRANSFORMATOR/SMD TRANSFORMER 4:1	REG 135 55/1
V2301	DIOD/SCHx2 70V 70mA SOT23 Serial	RKZ 323 08/2
X2301	FILTER/BP 71MHz SAW	RTN 201 850/01
X2302	FILTER/BP 71MHz SAW	RTN 201 850/01
Z2301	PRODUKTANPASS. KRETS/ASIC QIM	ROP 101 1115/C
Z2303	MIKROKRETS/RYT 901 6147/1	RYT 901 6147/1
Z2304	MIKROKRETS/REG LIN+ 5V 150mA 0.6V	RYT 113 6076/2
Z2306	MIKROKRETS/REG LIN+ 5.0V +/-0.5% 100mA 0.	RYT 113 6005/2C
Z2401	MIKROKRETS/DUAL SIGMA-DELTA MODULATOR	RYT 120 6061/2
Z2402	MIKROKRETS/DUAL SIGMA-DELTA MODULATOR	RYT 120 6061/2
Z2406	MIKROKRETS/REG LIN+ 5V 150mA 0.6V	RYT 113 6076/2

Prepared (also subject responsible if other)		No.		
ERA/RKN/TR Larry Lindström		B5KPKRC1311005-1		
Approved	Checked	Date	Rev	Reference
KI/ERA/RKN/TR (L Lindström)		2001-12-20	A	

1.1.6 Function Block CPU

Product
ROZ 104 029/1
Revision J

Pos	Prod name/Des	Product number
V3100	LYSDIOD/LED Red 20mA 0.5-1.3mcd 1.6x3.	RKZ 433 606/3
V3900	LYSDIOD/LED RED 56-140mcd 20mA 4x3.8x4	RKZ 433 681/1
V3901	LYSDIOD/LED GREEN 90-180mcd 20mA 4x3.8	RKZ 433 681/5
V3902	LYSDIOD/LED YELLOW 90-224mcd 20mA 4x3.	RKZ 433 681/4
V3903	LYSDIOD/LED YELLOW 90-224mcd 20mA 4x3.	RKZ 433 681/4
Z3000	MIKROKRETS/74'04 LVC SSOP14 6x INVERTER	RYT 331 0004/C
Z3001	MIKROKRETS/NOR GATE,QUAD,74LVC08	RYT 331 0008/3C
Z3100	MIKROKRETS/PowerPC405GP 266MHz rev D	RYT 123 6091/3
Z3101	MIKROKRETS/74'138 LVC TSSOP16 3:8 LINE DE	RYT 331 0138/3C
Z3102	MIKROKRETS/Step-Up DC-DC Converter	RYT 113 284/C
Z3104	MIKROKRETS/Zero delay buffer 3.3V	RYT 108 107/C
Z3301	MIKROKRETS/74'244 LVC SSOP20 8x BUFFER NO	RYT 331 0244/C
Z3302	MIKROKRETS/74'139 LVC TSSOP16 2x DECODER	RYT 331 0139/3C
Z3303	MIKROKRETS/74'14 LVC TSSOP14 6x INVERT SC	RYT 331 0014/3C
Z3400	MIKROKRETS/SDRAM CL=2 16M16 100M 3.3V C	RYT 119 6142/4
Z3401	MIKROKRETS/SDRAM CL=2 16M16 100M 3.3V C	RYT 119 6142/4
Z3402	MIKROKRETS/SDRAM CL=2 16M16 100M 3.3V C	RYT 119 6142/4
Z3403	MIKROKRETS/FLASH TB 2M16 90NS 3.3V I=	RYT 118 6152/4
Z3404	MIKROKRETS/FLASH 8M16 150ns 3.3V E	RYT 118 6153/1
Z3601	MIKROKRETS/LVDS QUAD LINE DRIVER	RYT 109 126/5C
Z3602	MIKROKRETS/LVDS QUAD LINE RECEIVER	RYT 109 127/5C
Z3603	MIKROKRETS/3485 RS485/422 TRANCEIVER	RYT 109 165/C
Z3604	MIKROKRETS/3485 RS485/422 TRANCEIVER	RYT 109 165/C
Z3605	MIKROKRETS/3485 RS485/422 TRANCEIVER	RYT 109 165/C
Z3606	MIKROKRETS/3485 RS485/422 TRANCEIVER	RYT 109 165/C
Z3607	FUNKTIONSKOMPONENT/RESET PLD	RON 107 969
Z3700	MIKROKRETS/74'244 LVC SSOP20 8x BUFFER NO	RYT 331 0244/C
Z3701	MIKROKRETS/74'244 LVC SSOP20 8x BUFFER NO	RYT 331 0244/C
Z3702	MIKROKRETS/74'244 LVC SSOP20 8x BUFFER NO	RYT 331 0244/C
Z3901	MIKROKRETS/DS1621 DIG. TERMOMETER 150mil	RYT 124 7601/C

Prepared (also subject responsible if other)		No.		
ERA/RKN/TR Larry Lindström		B5KPKRC1311005-1		
Approved	Checked	Date	Rev	Reference
KI/ERA/RKN/TR (L Lindström)		2001-12-20	A	

1.1.7 Function Block SPARC 1 GMSK

Product
ROZ 104 030/1
Revision PJ3

Pos	Prod name/Des	Product number
Z5000	FUNKTIONSKOMPONENT/GMUX PLD	RON 107 970
Z5001	MIKROKRETS/EEPROM 128K8 SPI 2.7-5.5V	RYT 118 6154/1
Z5100	PRODUKTANPASS. KRETS/TARAC_S+	ROP 101 617/4C
Z5300	PRODUKTANPASS. KRETS/TARAC_S+	ROP 101 617/4C

Prepared (also subject responsible if other)		No.		
ERA/RKN/TR Larry Lindström		B5KPKRC1311005-1		
Approved	Checked	Date	Rev	Reference
KI/ERA/RKN/TR (L Lindström)		2001-12-20	A	

1.1.8 Function Block SPARC 2 GMSK

Product
ROZ 104 031/1
Revision PJ3

Pos	Prod name/Des	Product number
Z6000	FUNKTIONSKOMPONENT/GMUX PLD	RON 107 970
Z6001	MIKROKRETS/EEPROM 128K8 SPI 2.7-5.5V	RYT 118 6154/1
Z6100	PRODUKTANPASS. KRETS/TARAC_S+	ROP 101 617/4C
Z6300	PRODUKTANPASS. KRETS/TARAC_S+	ROP 101 617/4C

Prepared (also subject responsible if other)		No.		
ERA/RKN/TR Larry Lindström		B5KPKRC1311005-1		
Approved	Checked	Date	Rev	Reference
KI/ERA/RKN/TR (L Lindström)		2001-12-20	A	

1.1.9 Function Block TX1 GMSK 800 MHz

Product
ROZ 104 148/1
Revision A

Pos	Prod name/Des	Product number
N5500	PRODUKTANPASS. KRETS/ASIC NINJA	ROP 101 614/2
N5501	PRODUKTANPASS. KRETS/ASIC PENNY	ROP 101 612/2
N5502	FILTER/BP 90MHz SAW	RTN 201 765/01
T5500	BALUN/942 MHZ 200 OHM	REG 735 58/10
T5501	BALUN/942 MHZ 200 OHM	REG 735 58/10
T5502	TRANSFORMATOR/SMD TRANSFORMER 4:1	REG 135 55/1
T5504	BALUN/942 MHZ 200 OHM	REG 735 58/10
T5505	BALUN/942 MHZ 200 OHM	REG 735 58/10
V5500	TRANSISTOR/NPN 100V 1A SOT-223 BCP56-16	RYN 121 637/2
V5700	DIOD/SCHOTTKYDIODE, SINGLE	RKZ 323 220
X5700	ANSLUTNINGSDON/24 pol + 1 coax.	RNV 403 243/002
X5701	ANSLUTNINGSDON/24 + 24 pol.	RNV 403 243/001
Z5500	FILTER/BP 836MHz	RTN 202 1034/1
Z5501	MIKROKRETS/RF SYNT TX 800	RYT 902 6010/2
Z5502	MIKROKRETS/RF SYNT TX 800	RYT 902 6010/2
Z5503	MIKROKRETS/REG LIN+ 5.0V +/-0.5% 100mA 0.	RYT 113 6005/2C
Z5700	MIKROKRETS/5 bit attenuator 0.5-2.5GHz	RYT 115 6033/1
Z5701	FILTER/881MHz BP	RTN 202 1033/1
Z5702	MIKROKRETS/74'541 HCT TSSOP20 8x BUS BUFF	RYT 310 6023/2C
Z5703	FÖRSTÄRKARE/SGA-6389	RYT 101 6414/1
Z5704	FILTER/881MHz BP	RTN 202 1033/1
Z5705	MIKROKRETS/SXA-289, MMIC AMPLIFIER	RYT 101 6413/2
Z5800	PRODUKTANPASS. KRETS/ASIC SPIRA	ROP 101 616/C

Prepared (also subject responsible if other)		No.		
ERA/RKN/TR Larry Lindström		B5KPKRC1311005-1		
Approved	Checked	Date	Rev	Reference
KI/ERA/RKN/TR (L Lindström)		2001-12-20	A	

1.1.10 Function Block TX2 GMSK 800 MHz

Product
ROZ 104 149/1
Revision A

Pos	Prod name/Des	Product number
N6500	PRODUKTANPASS. KRETS/ASIC NINJA	ROP 101 614/2
N6501	PRODUKTANPASS. KRETS/ASIC PENNY	ROP 101 612/2
N6502	FILTER/BP 90MHz SAW	RTN 201 765/01
T6500	BALUN/942 MHZ 200 OHM	REG 735 58/10
T6501	BALUN/942 MHZ 200 OHM	REG 735 58/10
T6502	TRANSFORMATOR/SMD TRANSFORMER 4:1	REG 135 55/1
T6504	BALUN/942 MHZ 200 OHM	REG 735 58/10
T6505	BALUN/942 MHZ 200 OHM	REG 735 58/10
V6500	TRANSISTOR/NPN 100V 1A SOT-223 BCP56-16	RYN 121 637/2
V6700	DIOD/SCHOTTKYDIODE, SINGLE	RKZ 323 220
X6700	ANSLUTNINGSDON/24 pol + 1 coax.	RNV 403 243/002
X6701	ANSLUTNINGSDON/24 + 24 pol.	RNV 403 243/001
Z6500	FILTER/BP 836MHz	RTN 202 1034/1
Z6501	MIKROKRETS/RF SYNT TX 800	RYT 902 6010/2
Z6502	MIKROKRETS/RF SYNT TX 800	RYT 902 6010/2
Z6503	MIKROKRETS/REG LIN+ 5.0V +/-0.5% 100mA 0.	RYT 113 6005/2C
Z6700	MIKROKRETS/5 bit attenuator 0.5-2.5GHz	RYT 115 6033/1
Z6701	FILTER/881MHz BP	RTN 202 1033/1
Z6702	MIKROKRETS/74'541 HCT TSSOP20 8x BUS BUFF	RYT 310 6023/2C
Z6703	FÖRSTÄRKARE/SGA-6389	RYT 101 6414/1
Z6704	FILTER/881MHz BP	RTN 202 1033/1
Z6705	MIKROKRETS/SXA-289, MMIC AMPLIFIER	RYT 101 6413/2
Z6800	PRODUKTANPASS. KRETS/ASIC SPIRA	ROP 101 616/C
Z6900	MIKROKRETS/90MHz	RYT 901 6155/1
Z6901	MIKROKRETS/REG LIN+ 5.0V +/-0.5% 100mA 0.	RYT 113 6005/2C

Prepared (also subject responsible if other)		No.		
ERA/RKN/TR Larry Lindström		B5KPKRC1311005-1		
Approved	Checked	Date	Rev	Reference
KI/ERA/RKN/TR (L Lindström)		2001-12-20	A	

1.2 Printed Board PBU1 800 GMSK Hybrid Combiner ROA 219 7652/1

1.2.1 Function Block DC Booster

Product
ROZ 104 91/1
Revision E

Pos	Prod name/Des	Product number
D7700	MIKROKRETS/COMP x1 36V	RYT 101 083/C
D7701	MIKROKRETS/COMP x2 36V	RYT 101 6169/1
D7702	MIKROKRETS/COMP x2 36V	RYT 101 6169/1
N7700	MIKROKRETS/LM431 ADJ REGULATOR	RYT 113 008/3C
N7701	MIKROKRETS/MOSFET DRIV. 4.5-13.2V 1.5A	RYT 113 6221/1
N7702	MIKROKRETS/MOSFET DRIV. 4.5-13.2V 1.5A	RYT 113 6221/1
N7703	MIKROKRETS/OPAMP R/R 1.8-23V	RYT 101 130/2C
N7704	MIKROKRETS/OPAMP R/R 1.8-23V	RYT 101 130/2C
N7705	MIKROKRETS/OPAMP R/R 1.8-23V	RYT 101 130/2C
N7706	MIKROKRETS/OPAMP R/R 1.8-23V	RYT 101 130/2C
N7707	MIKROKRETS/LM431 ADJ REGULATOR	RYT 113 008/3C
N7708	MIKROKRETS/MOSFET DRIV. 4.5-13.2V 1.5A	RYT 113 6221/1
N7709	MIKROKRETS/MOSFET DRIV. 4.5-13.2V 1.5A	RYT 113 6221/1
V7700	LIKRIKTARE/SCHx2 60V 15/30A 0.62V D2PAK C	RKZ 323 6046/1
V7701	TRANSISTOR/NFET 60V 42A D2PAK(TO263) 0.02	RYN 123 24/1
V7702	TRANSISTOR/NFET 60V 42A D2PAK(TO263) 0.02	RYN 123 24/1
V7703	TRANSISTOR/PFET 60V 30A TO263AB 0.065_Ohm	RYN 122 657/2
V7704	TRANSISTOR/PFET 60V 30A TO263AB 0.065_Ohm	RYN 122 657/2
V7705	LIKRIKTARE/SCHx2 30V 2x15A D2PAK	RKZ 323 6012/3
V7706	LIKRIKTARE/SCHx2 30V 2x15A D2PAK	RKZ 323 6012/3
V7707	TRANSISTOR/NFET 100V 9A DPAK(TO252AA) 0.2	RYN 123 6016/1
V7708	DIOD/DIODE 75V 250mA SOT23 BAS16	RKZ 123 612
V7709	TRANSISTOR/PNP 100V 100mA SOT-223 BCP 53-	RYN 120 615/1
V7710	DIOD/DIODE 20V 0.1A SOT23	RKZ 123 641/1
V7711	REGLERDIOD/REG 27.0V 7% 0.2W SOT-23	RKZ 223 01/26
V7712	TRANSISTOR/SIL.AF TRANSIST.NPN, SOT23	RYN 121 6068/1
V7713	TRANSISTOR/SIL.AF TRANSIST.NPN, SOT23	RYN 121 6068/1
V7714	TRANSISTOR/SIL.AF TRANSIST.NPN, SOT23	RYN 121 6068/1
V7715	TRANSISTOR/SIL.AF TRANSIST.NPN, SOT23	RYN 121 6068/1
V7716	TRANSISTOR/SIL.AF TRANSIST.NPN, SOT23	RYN 121 6068/1
V7717	REGLERDIOD/REG 5.6V 7% 0.2W SOT-23	RKZ 223 01/10
V7718	REGLERDIOD/REG 5.6V 7% 0.2W SOT-23	RKZ 223 01/10
V7719	TRANSISTOR/PNP 45V 100mA SOT23 hFE250-460	RYN 120 614/1
V7720	TRANSISTOR/PNP 45V 100mA SOT23 hFE250-460	RYN 120 614/1
V7721	TRANSISTOR/PNP 45V 100mA SOT23 hFE250-460	RYN 120 614/1
V7722	TRANSISTOR/PNP 45V 100mA SOT23 hFE250-460	RYN 120 614/1
V7723	TRANSISTOR/PNP 45V 100mA SOT23 hFE250-460	RYN 120 614/1

Prepared (also subject responsible if other)		No.		
ERA/RKN/TR Larry Lindström		B5KPKRC1311005-1		
Approved	Checked	Date	Rev	Reference
KI/ERA/RKN/TR (L Lindström)		2001-12-20	A	

V7724	TRANSISTOR/PNP 45V 100mA SOT23 hFE250-460	RYN 120 614/1
V7725	TRANSISTOR/PNP 45V 100mA SOT23 hFE250-460	RYN 120 614/1
V7726	DIOD/DIODE 20V 0.1A SOT23	RKZ 123 641/1
V7727	REGLERDIOD/REG 12.0V 6% 0.2W SOT-23	RKZ 223 01/18
V7728	REGLERDIOD/REG 3.9V 5% 0.2W SOT-23	RKZ 223 01/6
V7729	REGLERDIOD/REG 10.0V 6% 0.2W SOT-23	RKZ 223 01/16
V7730	DIOD/DIODE 80V 150mA SOT23 BAV70	RKZ 123 642/1
V7731	TRANSISTOR/NPN 100V 1A SOT-223 BCP56-16	RYN 121 637/2
V7732	REGLERDIOD/REG 15.0V 5% 0.2W SOT-23	RKZ 223 01/20
V7736	LIKRIKTARE/SCHx2 30V 2x15A D2PAK	RKZ 323 6012/3
V7738	TRANSIENTSKYDD/TVS-Uni 33V 37-41V 1.5KW SMCG	RKZ 223 606/330
Z7700	MIKROKRETS/PW-CONTROLER	RYT 113 006/4C
Z7701	MIKROKRETS/PW-CONTROLER	RYT 113 006/4C

Prepared (also subject responsible if other)		No.		
ERA/RKN/TR Larry Lindström		B5KPKRC1311005-1		
Approved	Checked	Date	Rev	Reference
KI/ERA/RKN/TR (L Lindström)		2001-12-20	A	

1.2.2 Function Block PA Linearisation GMSK PBU 800

Product
ROZ 104 009/1
Revision C

Pos	Prod name/Des	Product number
N7301	MIKROKRETS/5 bit attenuator 0.5-2.5GHz	RYT 115 6033/1
N7302	MIKROKRETS/attenuator AA106-86	RYT 115 6032/1
N7303	MIKROKRETS/SXA-289, MMIC AMPLIFIER	RYT 101 6413/2
N7304	MIKROKRETS/74'595 HCT TSSOP16 8B S-IN S/P	RYT 310 6031/2C
N7306	MIKROKRETS/74'595 HCT TSSOP16 8B S-IN S/P	RYT 310 6031/2C
N7401	MIKROKRETS/EEPROM SPI 16k8 2.1MHz 2.7V I	RYT 118 6072/4
N7402	MIKROKRETS/74'595 HCT TSSOP16 8B S-IN S/P	RYT 310 6031/2C
N7403	MIKROKRETS/74'4051 HCT SSOP16 8-CH ANALOG	RYT 310 6017/C
N7404	REGULATOR/REG LIN+ 5.0V +/-8% 1A 0.8V	RYT 113 6013/3
N7405	MIKROKRETS/74'32 Z1G SSOP5-P-A 1x 2-INP O	RYT 326 6032/42C
V7401	DIOD/DUAL COM. CATH. 70V .2A SOT-23	RKZ 123 03/3

Prepared (also subject responsible if other)		No.		
ERA/RKN/TR Larry Lindström		B5KPKRC1311005-1		
Approved	Checked	Date	Rev	Reference
KI/ERA/RKN/TR (L Lindström)		2001-12-20	A	

1.2.3 Function Block PA, PBU 800

Product
ROZ 104 129/1
Revision PA6

Pos	Prod name/Des	Product number
M7100	CIRKULATOR/868-894 MHz	UNK 102 120/01
M7101	CIRKULATOR/868-894 MHz	UNK 102 120/01
N7102	MIKROKRETS/OPAMPx2 2.7V R/R 5.5MHz	RYT 101 6331/2
N7104	MIKROKRETS/TEMP. SENSOR FAHERNHEIT	RYT 124 6015/1
N7105	MIKROKRETS/OPAMP x2 +/-15V 4.5MHz	RYT 101 6076/1C
N7106	DÄMPSATS/	REP 015 113
V7100	DIOD/SCHx2 20V 5mA SOT363 RF Schot	RKZ 323 6059/1
V7101	TRANSISTOR/PTF10193	RYN 123 1615/1
V7102	TRANSISTOR/PTF10160	RYN 123 1616/1
V7103	TRANSISTOR/PNP 45V 100mA SOT23 hFE250-460	RYN 120 614/1
V7104	TRANSISTOR/PNP 45V 100mA SOT23 hFE250-460	RYN 120 614/1
V7105	DIOD/SCHx2 20V 5mA SOT363 RF Schot	RKZ 323 6059/1
W7100	RIKTKOPPLARE/1H1304-20	UND 106 009/1
W7101	RIKTKOPPLARE/LDC30B030GC0850	UND 106 025/1
X7102	KOAXIALKONTAKT/TNC fm 50ohm for PCB,SMD	RNT 408 4001/01

Prepared (also subject responsible if other)		No.		
ERA/RKN/TR Larry Lindström		B5KPKRC1311005-1		
Approved	Checked	Date	Rev	Reference
KI/ERA/RKN/TR (L Lindström)		2001-12-20	A	

1.2.4 Function Block Hybrid Combiner, PBU 800

Product
ROZ 104 88/1
Revision F

Pos	Prod name/Des	Product number
N8900	MIKROKRETS/OPAMPx2 2.7V R/R 5.5MHz	RYT 101 6331/2
N8901	DÄMPSATS/50 OHM, 125W	REP 015 137/1
V8900	DIOD/SCHx2 20V 5mA SOT363 RF Schot	RKZ 323 6059/1
W8901	RIKTKOPPLARE/2D1304-3	UND 106 042/1

Prepared (also subject responsible if other)		No.		
ERA/RKN/TR Larry Lindström		B5KPKRC1311005-1		
Approved	Checked	Date	Rev	Reference
KI/ERA/RKN/TR (L Lindström)		2001-12-20	A	

1.3 Printed Board PBU1 800 GSMK wo Hybrid Combiner ROA 219 7653/1**1.3.1 Function Block DC Booster**

See 1.2.1

1.3.2 Function Block PA Linearisation GSMK PBU 800

See 1.2.2

1.3.3 Function Block PA, PBU 800

See 1.2.3

Prepared (also subject responsible if other)		No.		
ERA/RKN/TR Larry Lindström		B5KPKRC1311005-1		
Approved	Checked	Date	Rev	Reference
KI/ERA/RKN/TR (L Lindström)		2001-12-20	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 (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 will disable transmission.

Prepared (also subject responsible if other)		No.		
ERA/RKN/TR Larry Lindström		B5KPKRC1311005-1		
Approved	Checked	Date	Rev	Reference
KI/ERA/RKN/TR (L Lindström)		2001-12-20	A	

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.

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 downmixed 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 basestation.

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.