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| Prepared (also subject responsible if other) EAB/PJR/IR Per Helmersson | | No. B5KDKRC1311004-2 | | |
| Approved KI/EAB/PJR/IR (P Helmersson) | Checked | Date 2006-02-24 | 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 1900 MHz ROA 128 1323/2

1.1.1 Function Digital X EDGE

<Product>ROZ 104 401/2

<Revision>A

| Pos | Prod name/Func des | Product number |
|-------|---|------------------|
| D3200 | PROD. ADAPT. CIRCUIT/ASIC POWER GARP | ROP 101 1192/1 |
| D3201 | MICROCIRCUIT/74'08 LVC TSSOP14 4x 2-INP AND | RYT 331 0008/3C |
| D3203 | MICROCIRCUIT/74'14 LVC TSSOP14 6x INVERT SC | RYT 331 0014/3C |
| D3204 | MICROCIRCUIT/74'244 LVC SSOP20 8x BUFFER NO | RYT 331 0244/C |
| D3300 | MICROCIRCUIT/SDRAM CL=3 16M16 133M 3.3V C | RYT 119 6142/5 |
| D3301 | MICROCIRCUIT/SDRAM CL=3 16M16 133M 3.3V C | RYT 119 6142/5 |
| D3302 | MICROCIRCUIT/FLASH 2M16 110NS 3.3V I | RYT 118 6165/1 |
| D3303 | MICROCIRCUIT/FLASH 8M16 150NS 3.3V E | RYT 118 6153/1 |
| D3304 | MICROCIRCUIT/74'08 LVC1G SC70-5 1x 2-INP AN | RYT 326 6008/52C |
| D3400 | FUNCTIONAL COMPONENT/CDU MUX PLD | RON 107 496 |
| D3401 | MICROCIRCUIT/74'244 LVC SSOP20 8x BUFFER NO | RYT 331 0244/C |
| D3402 | MICROCIRCUIT/74'244 LVC SSOP20 8x BUFFER NO | RYT 331 0244/C |
| D3403 | MICROCIRCUIT/LVDS LINE DRIVER x4 TSSOP16 /9 | RYT 109 6181/2C |
| D3404 | MICROCIRCUIT/LVDS LINE RECEIVER x4 TSSOP16 | RYT 109 6158/2C |
| D3405 | MICROCIRCUIT/RS485/422 TRANSCEIVER SO8/MAX3 | RYT 109 165/C |
| D3406 | MICROCIRCUIT/RS485/422 TRANSCEIVER SO8/MAX3 | RYT 109 165/C |
| D3407 | MICROCIRCUIT/RS485/422 TRANSCEIVER SO8/MAX3 | RYT 109 165/C |
| D3408 | MICROCIRCUIT/RS485/422 TRANSCEIVER SO8/MAX3 | RYT 109 165/C |
| D3500 | PROD. ADAPT. CIRCUIT/ASIC TARAC_X | ROP 101 1503 |
| D3501 | MICROCIRCUIT/SDRAM CL=3 16M16 133M 3.3V C | RYT 119 6142/5 |
| D3600 | MICROCIRCUIT/FLASH SPI 128K8 20MHz 2.7V I | RYT 118 6154/2 |
| D3601 | MICROCIRCUIT/74'08 LVC TSSOP14 4x 2-INP AND | RYT 331 0008/3C |
| D3602 | MICROCIRCUIT/74'86 LVC,Z1G SC70-5 1x 2-INP | RYT 326 6086/42C |
| D3603 | MICROCIRCUIT/74'86 LVC,Z1G SC70-5 1x 2-INP | RYT 326 6086/42C |
| D3700 | MICROCIRCUIT/FLASH SPI 128K8 20MHz 2.7V I | RYT 118 6154/2 |
| D3701 | MICROCIRCUIT/74'08 LVC TSSOP14 4x 2-INP AND | RYT 331 0008/3C |
| D3702 | MICROCIRCUIT/74'86 LVC,Z1G SC70-5 1x 2-INP | RYT 326 6086/42C |
| D3703 | MICROCIRCUIT/74'86 LVC,Z1G SC70-5 1x 2-INP | RYT 326 6086/42C |
| L3200 | FILTER/50ohm 1206 3A 0.025ohm Bead | REG 706 21/1 |
| S3200 | PUSH-BUTTON SWITCH/SPST 1VA 50VDC/AC ang. PCB/SMD | RMD 955 030/01 |
| S3201 | PUSH-BUTTON SWITCH/SPST 1VA 50VDC/AC ang. PCB/SMD | RMD 955 030/01 |
| V3200 | LIGHT EMITTING DIODE/LED super-red 56-140mcd(20mA) | RKZ 433 681/1 |
| V3201 | LIGHT EMITTING DIODE/LED pure green 11-28mcd(20mA) | RKZ 433 681/7 |
| V3202 | LIGHT EMITTING DIODE/LED yellow 90-224mcd(20mA) sid | RKZ 433 681/4 |
| V3203 | LIGHT EMITTING DIODE/LED yellow 90-224mcd(20mA) sid | RKZ 433 681/4 |

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1.1.2 Function Block DC/DC

<Product>ROZ 104 531/1
<Revision>A

| Pos | Prod name/Func des | Product number |
|------|---|----------------|
| D700 | RECTIFIER/REC SCH x2 30V 2x6A DPAK com.c | RKZ 323 6047/1 |
| D716 | MICROCIRCUIT/MOSFET DRIVERx2 INV/NONINV /44 | RYT 109 6204/1 |
| D717 | MICROCIRCUIT/MOSFET DRIVERx2 INV/NONINV /44 | RYT 109 6204/1 |
| N703 | MICROCIRCUIT/Quad Voltage μ P Supervisory Ci | RYT 113 2008/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 |
| N708 | MICROCIRCUIT/COMP x2 36V | RYT 101 6169/1 |
| N713 | MICROCIRCUIT/COMP x2 36V | RYT 101 6169/1 |
| N716 | MICROCIRCUIT/REG LIN+ ADJ 1.25-13.8 +/-1% 8 | RYT 113 6302/3 |
| N717 | MICROCIRCUIT/LM431 ADJ REGULATOR | RYT 113 008/3C |
| N718 | MICROCIRCUIT/DC/DC conv 24V/+7,-5,+1.2,+3.3 | RYT 913 6025/1 |
| N718 | MICROCIRCUIT/DC/DC conv 24V/+7,-5,+1.2,+3.3 | RYT 913 6025/2 |
| T702 | TRANSFORMER/SMD EFD25 | REG 257 2318 |
| V713 | TRANSISTOR/NFET 100V 47A DPAK 25mohm(10V) | RYN 123 6061/1 |
| V714 | TRANSISTOR/NFET 100V 47A DPAK 25mohm(10V) | RYN 123 6061/1 |
| V715 | TRANSISTOR/NFET 100V 47A DPAK 25mohm(10V) | RYN 123 6061/1 |
| V716 | TRANSISTOR/NFET 100V 47A DPAK 25mohm(10V) | RYN 123 6061/1 |
| V717 | OVERVOLTAGE ARRESTER/TVS ZEN unidir 36V SMC 1.5kW | 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 com | RKZ 323 6012/3 |
| V725 | RECTIFIER/REC SCH x2 30V 2x15A D2PAK com | 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 |
| V734 | DIODE/SWI x2 70V 200mA SOT23 serial | RKZ 123 03/1 |
| 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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1.1.3 Function Block LTU

<Product>ROZ 104 532/1
<Revision>A

| Pos | Prod name/Func des | Product number |
|------|---|------------------|
| V500 | DIODE/SWI SCHx2 70V 70mA SOT23 seria | 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 MB15E07PFV1-G-BND-ER | RYT 102 6057/1 |
| Z504 | OSCILLATOR/VCXO 26MHz +-25ppm 0 to +70'C | RTL 202 642/01 |
| 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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1.1.4 Function Block RX IF 1

<Product>ROZ 104 226/8
<Revision>A

| Pos | Prod name/Func des | Product number |
|-------|---|----------------|
| V1300 | DIODE/VAR 15V 6-15pF 10-2V 0.4ohm 1- | RKZ 323 610/1 |
| V1301 | DIODE/VAR 15V 6-15pF 10-2V 0.4ohm 1- | RKZ 323 610/1 |
| X1301 | FILTER/201MHz 220kHz BP 13x6.5mm SAW | RTN 201 851/05 |
| X1302 | FILTER/201MHz 220kHz BP 13x6.5mm SAW | RTN 201 851/05 |
| Z1301 | PROD. ADAPT. CIRCUIT/RF ASIC | ROP 101 074/1 |
| Z1302 | PROD. ADAPT. CIRCUIT/RF ASIC | ROP 101 074/1 |
| Z1406 | MICROCIRCUIT/REG LIN+ LDO 5.0V +/-1% 800mA | RYT 113 6091/5 |
| Z1407 | MICROCIRCUIT/REG LIN+ LDO 5.0V +/-1% 800mA | RYT 113 6091/5 |

1.1.5 Function Block RX IF 2

<Product>ROZ 104 227/8
<Revision>A

| Pos | Prod name/Func des | Product number |
|-------|--|-----------------|
| V2300 | DIODE/VAR 15V 6-15pF 10-2V 0.4ohm 1- | RKZ 323 610/1 |
| V2301 | DIODE/VAR 15V 6-15pF 10-2V 0.4ohm 1- | RKZ 323 610/1 |
| X2301 | FILTER/201MHz 220kHz BP 13x6.5mm SAW | RTN 201 851/05 |
| X2302 | FILTER/201MHz 220kHz BP 13x6.5mm SAW | RTN 201 851/05 |
| Z2301 | PROD. ADAPT. CIRCUIT/RF ASIC | ROP 101 074/1 |
| Z2302 | PROD. ADAPT. CIRCUIT/RF ASIC | ROP 101 074/1 |
| Z2406 | MICROCIRCUIT/REG LIN+ LDO 5.0V +/-1% 800mA | RYT 113 6091/5 |
| Z2407 | MICROCIRCUIT/REG LIN+ LDO 5.0V +/-1% 800mA | RYT 113 6091/5 |
| Z2408 | MICROCIRCUIT/REG LIN+ 3.3V 150mA 0.575V | RYT 113 6110/12 |

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1.1.6 Function Block RX Front end

<Product>ROZ 104 423/1
<Revision>A

| Pos | Prod name/Func des | Product number |
|-------|--|-----------------|
| D1050 | MICROCIRCUIT/74'595 HCT TSSOP16 8B S-IN S/P | RYT 310 6031/2C |
| D1051 | MICROCIRCUIT/74'04 HC1G SOT23-5 1x INVERTER | RYT 326 6004/C |
| D1052 | MICROCIRCUIT/74'595 HCT TSSOP16 8B S-IN S/P | RYT 310 6031/2C |
| D1053 | MICROCIRCUIT/74'04 HC1G SOT23-5 1x INVERTER | RYT 326 6004/C |
| D1054 | MICROCIRCUIT/74'595 HCT TSSOP16 8B S-IN S/P | RYT 310 6031/2C |
| J1000 | COAXIAL CONNECTOR/QMA;fm;50ohm;ang.;SMD card slo | RNT 408 2024/01 |
| J1001 | COAXIAL CONNECTOR/QMA;fm;50ohm;ang.;SMD card slo | RNT 408 2024/01 |
| J1002 | COAXIAL CONNECTOR/QMA;fm;50ohm;ang.;SMD card slo | RNT 408 2024/01 |
| J1003 | COAXIAL CONNECTOR/QMA;fm;50ohm;ang.;SMD card slo | RNT 408 2024/01 |
| N1050 | MICROCIRCUIT/OPAMP x1 +/-6V | RYT 101 6161/1 |
| N1051 | MICROCIRCUIT/RF switch, SPDT, non-reflectiv | RYT 101 6438/1 |
| N1052 | MICROCIRCUIT/attenuator AA106-86 | RYT 115 6032/1 |
| N1053 | MICROCIRCUIT/OPAMP x1 +/-6V | RYT 101 6161/1 |
| N1054 | MICROCIRCUIT/attenuator AA106-86 | RYT 115 6032/1 |
| N1055 | MICROCIRCUIT/OPAMP x1 +/-6V | RYT 101 6161/1 |
| N1057 | MICROCIRCUIT/attenuator AA106-86 | RYT 115 6032/1 |
| N1058 | MICROCIRCUIT/OPAMP x1 +/-6V | RYT 101 6161/1 |
| N1059 | MICROCIRCUIT/attenuator AA106-86 | RYT 115 6032/1 |
| N1061 | DIRECTIONAL COUPLER/PD18-73 Y010 | UND 106 039/1 |
| N1062 | DIRECTIONAL COUPLER/PD18-73 Y010 | UND 106 039/1 |
| N1063 | DIRECTIONAL COUPLER/PD18-73 Y010 | UND 106 039/1 |
| N1064 | DIRECTIONAL COUPLER/PD18-73 Y010 | UND 106 039/1 |
| N1065 | DIRECTIONAL COUPLER/PD18-73 Y010 | UND 106 039/1 |
| N1200 | MICROCIRCUIT/microsynth (RX 1900) | RYT 902 6046/1 |
| N1201 | MICROCIRCUIT/microsynth (RX 1900) | RYT 902 6046/1 |
| N1202 | MICROCIRCUIT/TEMP SENSOR, SOT-23, LM50C | RYT 124 6009/C |
| N1203 | MICROCIRCUIT/Receiver front end mixer 1710- | RYT 102 6122/1 |
| N1204 | MICROCIRCUIT/Receiver front end mixer 1710- | RYT 102 6122/1 |
| N1205 | MICROCIRCUIT/TEMP SENSOR, SOT-23, LM50C | RYT 124 6009/C |
| N1206 | MICROCIRCUIT/microsynth (RX 1900) | RYT 902 6046/1 |
| N1207 | MICROCIRCUIT/microsynth (RX 1900) | RYT 902 6046/1 |
| V1050 | TRANSISTOR/RF PHEMT, 450-6000 MHz; ATF-5 | RYN 123 1639/1 |
| V1051 | TRANSISTOR/RF PHEMT, 450-6000 MHz; ATF-5 | RYN 123 1639/1 |
| V1052 | TRANSISTOR/RF PHEMT, 450-6000 MHz; ATF-5 | RYN 123 1639/1 |
| V1053 | TRANSISTOR/RF PHEMT, 450-6000 MHz; ATF-5 | RYN 123 1639/1 |
| X1200 | FILTER/1880MHz 60MHz BP 7x8mm | RTN 202 709/02 |
| X1201 | FILTER/1880MHz 60MHz BP 7x8mm | RTN 202 709/02 |
| X1202 | FILTER/1880MHz 60MHz BP 7x8mm | RTN 202 709/02 |
| X1203 | FILTER/1880MHz 60MHz BP 7x8mm | RTN 202 709/02 |
| Z1051 | MICROCIRCUIT/REG LIN+ LDO 5.0V +/-1% 800mA | RYT 113 6091/5 |
| Z1052 | MICROCIRCUIT/REG LIN+ LDO 5.0V +/-1% 800mA | RYT 113 6091/5 |
| Z1200 | MICROCIRCUIT/RF switch, SPDT, non-reflectiv | RYT 101 6438/1 |
| Z1201 | MICROCIRCUIT/RF switch, SPDT, non-reflectiv | RYT 101 6438/1 |

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1.1.7 Function Block TX1

<Product>ROZ 104 424/1
<Revision>A

| Pos | Prod name/Func des | Product number |
|-------|--|-----------------|
| D5500 | MICROCIRCUIT/74'04 HC1G SOT23-5 1x INVERTER | RYT 326 6004/C |
| D5501 | MICROCIRCUIT/74'04 HC1G SOT23-5 1x INVERTER | RYT 326 6004/C |
| 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 |
| N5504 | MICROCIRCUIT/RF switch, SPDT, non-reflectiv | RYT 101 6438/1 |
| N5506 | MICROCIRCUIT/RF switch, SPDT, non-reflectiv | RYT 101 6438/1 |
| N5601 | DIRECTIONAL COUPLER/Coupler 20dB 1700-2000MHz 9x14 | UND 106 096/2 |
| N5602 | MICROCIRCUIT/OPAMP 2.7V R/R 10MHz | RYT 101 6372/1 |
| 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, LDMOS-MMIC | RYT 101 6554/1 |
| T5500 | BALUN/1900MHz 3216 200ohm 1W | REG 735 58/16 |
| T5501 | BALUN/1800MHz 3216 200ohm 1W | REG 735 58/9 |
| T5504 | BALUN/1900MHz 3216 200ohm 1W | REG 735 58/16 |
| T5505 | BALUN/1800MHz 3216 200ohm 1W | REG 735 58/9 |
| V5501 | DIODE/VAR 15V 6-15pF 10-2V 0.4ohm 1- | RKZ 323 610/1 |
| V5502 | DIODE/VAR 15V 6-15pF 10-2V 0.4ohm 1- | 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 |
| V5605 | TRANSISTOR/RF Power Transistor MRF6S18100 | RYN 123 1672/1 |
| V5606 | ZENERDIODE/ZEN 10.0V 6% 0.2W SOT23 | RKZ 223 01/16 |
| W5600 | ISOLATOR/isolator 1930-1990 MHz 7x7mm | UNH 102 3101/02 |
| Z5500 | FILTER/1880MHz 60MHz BP 3x3mm SAW | RTN 201 404/01 |
| Z5501 | MICROCIRCUIT/microsynth (TX 1900) | RYT 902 6047/1 |
| Z5502 | MICROCIRCUIT/microsynth (TX 1900) | RYT 902 6047/1 |
| Z5503 | MICROCIRCUIT/REG LIN+ LDO 5.0V +/-1% 800mA | RYT 113 6091/5 |
| Z5504 | AMPLIFIER/RF Amplifier. SGA-6389 SOT | RYT 101 6414/1 |
| Z5505 | MICROCIRCUIT/REG LIN+ 3.3V 150mA 0.575V | RYT 113 6110/12 |
| Z5701 | FILTER/1960MHz 60MHz BP 6.6x4.4mm | RTN 202 1021/01 |
| Z5702 | MICROCIRCUIT/RF Amplifier. SGA-6589, SiGe | RYT 101 6470/1 |
| Z5703 | MICROCIRCUIT/RF Amplifier. SGA-6589, SiGe | RYT 101 6470/1 |
| Z5704 | FILTER/1960MHz 60MHz BP 6.6x4.4mm | RTN 202 1021/01 |
| Z5800 | PROD. ADAPT. CIRCUIT/ASIC SPIRA | ROP 101 616/C |

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1.1.8 Function Block TX2

<Product>ROZ 104 425/1
<Revision>A

| Pos | Prod name/Func des | Product number |
|-------|--|-----------------|
| D6500 | MICROCIRCUIT/74'04 HC1G SOT23-5 1x INVERTER | RYT 326 6004/C |
| D6501 | MICROCIRCUIT/74'04 HC1G SOT23-5 1x INVERTER | RYT 326 6004/C |
| 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 |
| N6501 | PROD. ADAPT. CIRCUIT/ASIC PENNY | ROP 101 612/2 |
| N6503 | PROD. ADAPT. CIRCUIT/ASIC FINJA | ROP 101 5005 |
| N6504 | MICROCIRCUIT/RF switch, SPDT, non-reflectiv | RYT 101 6438/1 |
| N6506 | MICROCIRCUIT/RF switch, SPDT, non-reflectiv | RYT 101 6438/1 |
| N6601 | DIRECTIONAL COUPLER/Coupler 20dB 1700-2000MHz 9x14 | UND 106 096/2 |
| N6602 | MICROCIRCUIT/OPAMP 2.7V R/R 10MHz | RYT 101 6372/1 |
| 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, LDMOS-MMIC | RYT 101 6554/1 |
| T6500 | BALUN/1900MHz 3216 200ohm 1W | REG 735 58/16 |
| T6501 | BALUN/1800MHz 3216 200ohm 1W | REG 735 58/9 |
| T6504 | BALUN/1900MHz 3216 200ohm 1W | REG 735 58/16 |
| T6505 | BALUN/1800MHz 3216 200ohm 1W | REG 735 58/9 |
| V6501 | DIODE/VAR 15V 6-15pF 10-2V 0.4ohm 1- | RKZ 323 610/1 |
| V6502 | DIODE/VAR 15V 6-15pF 10-2V 0.4ohm 1- | 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 |
| V6605 | TRANSISTOR/RF Power Transistor MRF6S18100 | RYN 123 1672/1 |
| V6606 | ZENERDIODE/ZEN 10.0V 6% 0.2W SOT23 | RKZ 223 01/16 |
| W6600 | ISOLATOR/isolator 1930-1990 MHz 7x7mm | UNH 102 3101/02 |
| Z6500 | FILTER/1880MHz 60MHz BP 3x3mm SAW | RTN 201 404/01 |
| Z6501 | MICROCIRCUIT/microsynth (TX 1900) | RYT 902 6047/1 |
| Z6502 | MICROCIRCUIT/microsynth (TX 1900) | RYT 902 6047/1 |
| Z6503 | MICROCIRCUIT/REG LIN+ LDO 5.0V +/-1% 800mA | RYT 113 6091/5 |
| Z6504 | AMPLIFIER/RF Amplifier. SGA-6389 SOT | RYT 101 6414/1 |
| Z6505 | MICROCIRCUIT/REG LIN+ 3.3V 150mA 0.575V | RYT 113 6110/12 |
| Z6701 | FILTER/1960MHz 60MHz BP 6.6x4.4mm | RTN 202 1021/01 |
| Z6702 | MICROCIRCUIT/RF Amplifier. SGA-6589, SiGe | RYT 101 6470/1 |
| Z6703 | MICROCIRCUIT/RF Amplifier. SGA-6589, SiGe | RYT 101 6470/1 |
| Z6704 | FILTER/1960MHz 60MHz BP 6.6x4.4mm | RTN 202 1021/01 |
| Z6800 | PROD. ADAPT. CIRCUIT/ASIC SPIRA | ROP 101 616/C |

| | | | | |
|---|---------|-------------------------|----------|-----------|
| Prepared (also subject responsible if other) EAB/PJR/IR Per Helmersson | | No. B5KDKRC1311004-2 | | |
| Approved KI/EAB/PJR/IR (P Helmersson) | Checked | Date 2006-02-24 | Rev A | Reference |

1.1.9 Function Block TX Back end

<Product>ROZ 104 426/1
<Revision>A

| Pos | Prod name/Func des | Product number |
|-------|--|-----------------|
| V5900 | DIODE/RF SCH x2 20V 5mA SOT363 uncon | RKZ 323 6059/1 |
| 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 |
| V5908 | TRANSISTOR/NPN SS 45V 100mA SOT23 hFE200- | RYN 121 6068/1 |
| W5907 | DIRECTIONAL COUPLER/Coupler 3dB 90degr 1900MHz | UND 106 100/1 |
| W5904 | ISOLATOR/Double isolator 1930 to 1990 M | UNH 102 3013/02 |
| W5905 | ISOLATOR/Double isolator 1930 to 1990 M | UNH 102 3013/02 |
| Z5903 | ATTENUATOR/50 OHM, 125W | REP 015 137/1 |

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|---|---------|-------------------------|----------|-----------|
| Prepared (also subject responsible if other) EAB/PJR/IR Per Helmersson | | No. B5KDKRC1311004-2 | | |
| Approved KI/EAB/PJR/IR (P Helmersson) | Checked | Date 2006-02-24 | Rev A | Reference |

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

All the necessary adjustments will be set in the factory, and no adjustments are needed at installation. 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.

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 hybride combiner in the dTRU. This power is kept as low as possible, by keeping the TRX:s output power in phase with each other, to get maximum output power at the output branch of the hybride combiner

The transmitter in each TRX contains three synthesized oscillators. One PLL gives a 160 MHz signal to the I/Q modulator. The two other generate a 1770 to 1830 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 the oscillator can be phase-locked to the incoming PCM-link frequency or an incoming GPS-link frequency.