

R4 transceiver active device function description

<u>Component</u>	<u>Type</u>	<u>Function</u>
<i>RF board, Receiver 1</i>		
TR35	BFR 520 Transistor	LNA bias regulator
TR10	BFR 520 Transistor	LNA amplifier
IC2	ADE-1H, mixer	High level mixer
TR1	BFR 520 Transistor	Post IF amplifier
IC1	RF2436	IF bandwidth filter switch
IC20	RF2436	IF bandwidth filter switch
TR5	BC 847, Transistor	VCO on/off switch
D27	MA4ST407CK, cap diode	VCO varicap
TR29	BFR 520 Transistor	VCO oscillator
OSC12	TXO4080 12.8MHz 2.0 ppm	12.8 MHz Reference oscillator
IC22	LMX2332, PLL IC	Dual Integrated Phase locked loop
TR30	BFR 520 Transistor	VCO buffer amplifier
TR6	BFR 520 Transistor	VCO buffer amplifier
TR31	BC 847, Transistor	Voltage regulator
TR28	BC 847, Transistor	Voltage regulator
TR50	BC 858 Transistor	PLL lock detect switch
TR2	BF998 MOS FET Transistor	AGC amplifier
TR27	BC 847, Transistor	AGC control
IC4	AD6459, IC	I/Q Demodulator
D17, 18	BB535, cap diode	VCO varicap
TR16	BF 517A, Transistor	VCO oscillator
TR3	BFS 17A, Transistor	VCO buffer amplifier

RF board Receiver 2

MX2	ADE-1H, mixer	High level mixer
TR7	BFR 520 Transistor	Post IF amplifier
IC7	RF2436	IF bandwidth filter switch
IC23	RF2436	IF bandwidth filter switch
TR11	BC 847, Transistor	VCO on/off switch
D29	MA4ST407CK, cap diode	VCO variable capacitance
TR34	BFR 520 Transistor	VCO oscillator
IC31	LMX2332, PLL IC	Dual Integrated Phase locked loop
TR36	BFR 520 Transistor	VCO buffer amplifier
TR12	BFR 520 Transistor	VCO buffer amplifier
TR37	BC 847, Transistor	Voltage regulator
TR33	BC 847, Transistor	Voltage regulator
TR43	BC 858 Transistor	PLL lock detect switch
TR8	BF998 MOS FET Transistor	AGC amplifier
TR32	BC 847, Transistor	AGC control
IC9	AD6459, IC	I/Q Demodulator
D33, 34	BB535, cap diode	VCO varicap
TR39	BF 517A, Transistor	VCO oscillator
TR9	BFS 17A, Transistor	VCO buffer amplifier

RF board Receiver 3

IC12	ADE-1H, mixer	High level mixer
TR13	BFR 520 Transistor	Post IF amplifier
TR44	BC 847, Transistor	VCO on/off switch
D21	MA4ST407CK, cap diode	VCO variable capacitance
TR21	BFR 520 Transistor	VCO oscillator
IC27	LMX2332, PLL IC	Dual Integrated Phase locked loop
TR20	BFR 520 Transistor	VCO buffer amplifier
TR41	BFR 520 Transistor	VCO buffer amplifier
TR42	BC 847, Transistor	Voltage regulator
TR38	BC 847, Transistor	Voltage regulator
TR45	BC 858 Transistor	PLL lock detect switch
TR15	BF998 MOS FET Transistor	AGC amplifier
TR40	BC 847, Transistor	AGC control
IC13	AD6459, IC	I/Q Demodulator
D35, 36	BB535, cap diode	VCO varicap
TR51	BF 517A, Transistor	VCO oscillator
TR14	BFS 17A, Transistor	VCO buffer amplifier

RF board Transmitter

IC17	U2793A, IC	I/Q Modulator
IC15	UPC2708TB	Transmitter driver amplifier
TR17	BC 847, Transistor	Current regulator
TR18	BC 847, Transistor	Current regulator
D32	MA4ST407, cap diode	VCO varicap
TR46	BFR 520 Transistor	VCO oscillator
TR22	BC 847, Transistor	VCO bias regulator
TR47	BFR 520 Transistor	VCO buffer amplifier
TR48	BFR 520 Transistor	VCO buffer amplifier
IC18	ADE-1	Transmitter frequency mixer
TR24	BFS17A Transistor	Post mixer amplifier
IC19	LMX2332, PLL IC	Dual Integrated Phase locked loop
TR25	BC 858B Transistor	PLL lock detect switch
D23	BB535 cap diode	VCO varicap
TR26	BFS17A Transistor	VCO oscillator
TR52	BFS17A Transistor	VCO buffer amplifier
TR19	BFG35 Transistor	Power amplifier driver
D23	MA4P1250 diode	PIN switch diode
IC30	M57719 IC	Power amplifier module
D20	MA4P1250 diode	T/R switch PIN diode
D24	MA4P1250 diode	T/R switch PIN diode
IC16	LMC7101 IC	FWD power detector amplifier
IC26	LMC7101 IC	REF power detector amplifier
D22-A	BAS70-07 diode	RF detector
D22-B	BAS70-07 diode	RF detector
D31-A	BAS70-07 diode	RF detector
D31-B	BAS70-07 diode	RF detector
IC14	LMC7101 IC	RF power control
IC28 A-B	LMC6482 IC	RF power control
TR81	BD676 Transistor	RF power control regulator
IC25	74HC00, IC	TX ramp up-down time control
DTR54	BC 847B Transistor	ramp control switch
TR23	BCV27 Transistor	ramp control switch
DTR55	PMBF170 Transistor	ramp control switch

IC11	MAX1111.ADC	TX rev and fwd power A-D converter
IC5	MAX529, DAC	Rx and Tx control A-D converter
IC6	TLC274, IC	Buffer, driver for RX control functions
TR4	BC 847B Transistor	Current regulator
IC10	25LC040, IC	Parameter EEPROM

Baseband Processor / Power supply Board

IC7	MAX811 IC	Reset circuit
IC10	SN74LVC08 IC	
IC11	TMS320VC5402, IC	Host /transmitter DSP
IC12	XCS05XL-4VQ100I	FPGA
IC13	SST39VF400, IC	Flash memory
IC14	SN74LVC08 IC	
IC15	TMS320VC5402, IC	Receiver 1 DSP
IC16	SN74LV138A IC	
IC17	TMS320VC5402, IC	Receiver 2 DSP
IC18	TMS320VC5402, IC	Receiver 3 DSP
IC19	SN74ALVC32	
IC20	AK5353, IC	Receiver 1 ADC
IC21	AK5353, IC	Receiver 2 ADC
IC22	AK5353, IC	Receiver 3 ADC
IC23	AK4380, IC	Transmitter DAC
IC24	TPS76318	1.8 V voltage regulator
IC26	TPS76318	1.8 V voltage regulator
IC27	TPS76318	1.8 V voltage regulator
IC28	XC74UHU04WM	Inverter
IC29	TPS76318	1.8 V voltage regulator
IC30	LMV324, IC	OP amplifier
IC31	LMV324, IC	OP amplifier
IC32	LMV324, IC	OP amplifier
IC34	XC17S05XL	PROM
IC35	AK5383	Receiver 1 ADC
IC36	AK5383	Receiver 2 ADC
IC37	AK5383	Receiver 3 ADC
IC39	LMV324, IC	OP amplifier
IC40	SN74LVTH245A	
IC41	SN74LVTH245A	
IC42	SN74LVTH245A	
U1	MAX1627	6V Voltage regulator
U11	MAX1627	3.3V Voltage regulator
U21	LT1764	5V Voltage regulator
U31	PKG2623	DC/DC converter, 18 -36VDC in 2 x 12VDC out, 60W