

Summary of Active Devices

APPLICANT: MOTOROLA

TRANSMITTER TYPE: IHET5AP2

Multicoupler Preselector Card (MPC6)

<u>Device Type</u>	<u>Component Description</u>	<u>Operating Frequencies</u>
MMPT3906LT1	Transistor PNP 40V 2A	D.C.
MMBT3904LT1	Transistor NPN 40V 2A	D.C.
MC33164D-5R2	IC Undervolt Sensing Ckt, Motorola	D.C.
MMSZ6685T	Zener Diode 3.9V 500mV, Motorola	D.C.
MMBD6050LT1	Diode 70V, 5A, Motorola	D.C.
HSMP-3800-L31	RF PIN Diode	1850-1910 MHz
PALCE22VIOH-15JC/4	IC Programmable Logic Device	D.C.
BRPG1204W-TR	Bicolor LED 70mA 2.5V	D.C.
BCW69	Transistor PNP	D.C.
CFK-0301	RF FET	1850-1910 MHz
MGA-82563	IC RF Amplifier	1850-1910 MHz
SNA-486	IC RF Amplifier	1850-1910 MHz
MMBZV6ALT1	Dual Diode Common Anode 5.6V	D.C.
MC33060ADR2	PWM Control Circuit	D.C.
MTD2955ET4	Power MOSFET Pch 60V, 12A	D.C.
MBRD340T4	Rectifier Schottky, 3A, 40V	D.C.
MC33182DR2	Low Pwr Dual Op-Amp	D.C.
P6SMB12CAT3	12V Transient Suppressor	D.C.

Multicoupler Preselector Card (MPC6)

(continued)

<u>Device Type</u>	<u>Component Description</u>	<u>Operating Frequencies</u>
MMBD7000	Zener Diode	D.C.
RELAY_G6S_2G_DC12	DPDT 12V Relay	D.C.
MBRS140T3	Schottky Rectifier40V 1A	D.C.
LT1054IS	IC Voltage Converter with Regulator	D.C.
LM317	Adj. Voltage Regulator 500mA	D.C.
X9241	IC CMOS Quad EEPOT	D.C.
MC3303DR2	IC Gen Purpose Quad Op-Amp	D.C.
X2502D	IC EPROM 256x8	D.C.

Group Line Interface II (GLI2)

<u>Device Type</u>	<u>Component Description</u>	<u>Operating Frequencies</u>
MB3240T10TBDG60	DRAM 4Mx32 DIMM	40 MHz
VSA51015	32.768MHz PLL-VCXO	32.768 MHz
SG-636PCE	40MHz OSC	40 MHz
MAX732CWE	FLASH PWR SUPPLY	170 kHz
I74F776A	FUTURE BUS RX	2.048 MHz
I74F777A	FUTURE BUS TX	2.048 MHz
LTC1435CS	SWITCHER IC	230 kHz
MPC860MHzP40	MICROPROCESSOR	40MHz
MC10ELT21	PECL	3 MHz
MPC946FAR2	CLOCK DIST IC	40 MHz, 20 MHz
MC68160CFB	EEST	20 MHz
MC34058FTA	RS485 XCVR	4.096 MHz
MC74LCX16244DTR2	BUFFERS	2.048 MHz
SX05TR009ZQ01	PPC ASIC	40MHz
MT9082AP	TSI DIGITAL SWITCH	8.192 MHz
PEB2254H-V13	E1/T1 FRAMER/LIU/HDLC	8.192, 12.352 MHz, 16.384 MHz
OR2C26A-3PS208-DB	LUCENT FPGA	8.192, 16.384 MHz 20 MHz
W42C70-01G	ZERO DELAY BUFFER	16 MHz
MAX250ESD	RS232 XCVR	9600 - 19.2K BPS
MAX251ESD	9600 - 19.2K BPS	RS232 XCVR

Broadband Tranceiver Card (BBX2)

(1.9GHZ BBX2 STL G4011AA)

Digital Module

<u>Device Type</u>	<u>Component Description</u>	<u>Operating Frequencies</u>
XC5210	Xilinx FPGA	20 MHz 19.6608 MHz 1 MHz
74LCX574	Octal FlipFlop	19.6608 MHz
BRPG1204W-TR	Red/Green LED	0 - 2 Hz
MMBT3904LT1	NPN Transistor	DC 0 - 2 Hz
74ACT02	Quad 2In NOR	20 MHz
AD9762	12Bit DAC	4.9152 MHz
AD826AR	Dual Op Amp	0 - 630 KHz
MC79M05BDTRK	5V Linear Regulator	DC
MC33269DT_3.3	3.3V Linear Regulator	DC
MC33161	Univ Voltage Ref	DC
MMSZ5237BT1	8.2V Zener Diode	DC
MC33063AD	DC to DC Converter	45 KHz
MMDF2P02HDR2	Dual P-channel FET	45 KHz
MBRS340T3	3.0A Schottky Diode	45 KHz
MC10ELT21D	PECL to TTL Converter	3 MHz
MC10H641	Octal ECL to TTL Clk Distributor	19.6608 MHz
MC10EL16D	ECL Buffer	19.6608 MHz
MC10EL58	PECL Buffer	19.6608 MHz
MMBT3906LT1	PNP Transistor	19.6608 MHz

Broadband Tranceiver Card (BBX2)

(1.9 GHz BBX2 STL G4011AA)
(continued)

Digital Module cont.

<u>Device Type</u>	<u>Component Description</u>	<u>Operating Frequencies</u>
74ABT125D	BiCMOS Hex Tri-state Buffer	DC 0.5 Hz 4.096 MHz
ISPLSI2032	Lattice CPLD	.5Hz 3 MHz 19.6608 MHz 50 MHz
SG615HC	50 MHz Crystal Oscillator	50 MHz
74HC4066	Analog Mux	3 MHz
74ACT08	Quad 2In And	DC 20 MHz
74LCX244	Octal Tri-State Buffer	4.096 MHz 100Hz
MBR0530T1	0.5A Schottky Diode	100Hz
MC68EN360ZP	QUICC	20 MHz
DS1232S	Reset/Watchdog	2 Hz
HSM636	20 MHz Crystal Oscillator	20 MHz
28F800CV	FLASH	20 MHz
MCM518160	DRAM	20 MHz

Broadband Tranceiver Card (BBX2)

(1.9GHZ BBX2 STL G4011AA)
(continued)

<u>Device Type</u>	<u>Component Description</u>	<u>Operating Frequencies</u>
SX02RH029DH01	DTC ASIC	0.5 Hz 19.6608 MHz 20 MHz
IDT74FCT162500ATPV	18Bit Transceiver	19.6608 MHz
MMBD7000LT1	Dual Diode	DC
LT1081IS	RS-232 Transceiver	9.6 KHz
MMSZ5243BT1	Dual 13V Zener Diode	DC

ADC Module

<u>Device Type</u>	<u>Component Description</u>	<u>Operating Frequencies</u>
AD9059	8 Bit ADC	9.8304 MHz 0 - 630 KHz
MMBD201LT1	30V Hot Carrier Diode	DC

RF Control Module

<u>Device Type</u>	<u>Component Description</u>	<u>Operating Frequencies</u>
MMBD201LT1	30V Hot Carrier Diode	DC
AD680AR	2.5VDC Reference	DC
TLC5620	Serial Quad DAC	DC
MC145041	11in Serial ADC	0 - 630 KHz 1 MHz

Multiple Channel CDMA (MCC-24E) Card: Issue O

<u>Device Type</u>	<u>Component Description</u>	<u>Operating Frequencies</u>	
SG636PH-50MHz	XTAL OSC	X2	50 MHz
SG636PFT-20MHz	XTAL OSC	X1, X3	20 MHz
MTD20N03NDLT4	N Ch FET 30V, 20A	Q1, Q2	~275 kHz
MMBT3904LT1	NPN Trans 40V .2A	Q3, Q4	DC
MBRS140T3	Schottky Diode 1A, 40V	D1, D2	~275 KHz
SY38157JU02	EMAXX-II ASIC	U100,101,200,201	19.6608 MHz
		U300,301,400,401	19.6608 MHz
		U500,501,600,601	19.6608 MHz
LTC1435CS	Switching Regulator	U38	~275 kHz
XC5204-6FQ160C	4K Gate FPGA	U64	19.6608 MHz
XC5215-6FQ160C	15K Gate FPGA	U67	4.096 MHz
XC9572-7PQ100C	1.6K Gate ISP EPLD	U8,U16	~8 MHz
XC9572-10PQ100C	1.6K Gate ISP EPLD	U50,U51	~22 MHz
DS1705ESA	Reset Controller	U3,U21,U44-U49	DC
74LCX16500MEAX	18Bit Trans Latch	U53,U54,U58,U59	19.6608 MHz
74LCX16501MEAX	18Bit Trans Latch	U63,U65,U68,U90	19.6608 MHz
MC68EN360ZP25	Comm uP with Ethernet 25 MHz	U27	
DSP56167FV60	Digital Signal Processor	U104,U204,U304	44 MHz
		U404,U504,U604	44 MHz
74ACT00D	NAND Quad 2 Input	U10	DC
74ACT02D	NOR Quad 2 Input	U17	DC
74ACT08D	AND Quad 2 Input	U2,U39,U40,U41	DC
74ACT14D	Hex Schmitt Trig	U20,U22	DC
74ACT32D	OR Quad 2 Input	U56	DC
74ACT74D	Dual FF	U1,U35,U36,U37	DC
74ACT574DW	Oct D Flip/Flop	U52	DC
74ACT541DW	Oct 3ST Line DRVR/CVR	U57	DC
74ACT05D	Hex Inverter w/Opn DRN	U13	DC

Multiple Channel CDMA (MCC-24E) Card: Issue O

(continued)

<u>Device Type</u>	<u>Component Description</u>	<u>Operating Frequencies</u>
MC10H641FN	PDECL-TTL 1:9 Clk Drvr	U60 19.6608 MHz
MC10EL16D	PDECL Receiver	U81,U83 19.6608 MHz
MC10EL58D	PDECL 2:1 Mux.	U82 19.6608 MHz
MC100ELT23D	PDECL to TTL Translator	U80 19.6608 MHz
MC88913D	Clk Driver	U26 50, 25 MHz
		U55 20, 10 MHz
74LCX244DT	Oct Line Driver	U66,U78,U88 4.096 MHz
74LCX86DT	QUAD EOR 2 Input	U69-77, U84-87
MCM6226BJ15	SRAM 128Kx8	U102,103,202,203 22 MHz
		U302,303,402,403 22 MHz
		U502,503,602,603 22 MHz
MCM518165BT60	DRAM EDO 16Mx16	U5,U12 ~8 MHz
74ABT125D	Quad Buffer	U31,61,62,79 DC
74FCT162501ATPV	18Bit Transceiver	U25,U30 ~1.4 MHz
		U28,29,32,33,34,43 DC
74FCT162827BTPV	20Bit Buffer	U23,U24 ~1.4 MHz
LXT907 APC	Ethernet Interface	U19 20.0 MHz
LT1081IS	RS232 XMTR RCVR	U9 ~9.6 kHz
X25020	Serial 256x8 EEPROM	U18 DC
GAL26CV12C-7LJ	PAL	U89 19.6608 MHz
E28F008SC85	FLASH 1MX8	U6,U7,U14 ~1.4 MHz

CDMA Clock Distribution (CCD) Module: Issue A or B

<u>Device Type</u>	<u>Component Description</u>	<u>Operating Frequencies</u>	
GAL22V10C-7LJ	PAL	U2	50 MHz
2520N-50MHz	XTAL OSC	X1	50 MHz
MMBT3904	NPN Transistor	Q1	DC
74ACT04D	Hex Inverter	U1	DC
MC10EL16D	PDECL Receiver	U5,U8,U9	DC
		U16	19.6608 MHz
MC10EL111FN	PDECL 1:9 Clk Driver	U13,U14,U15	19.6608 MHz
MC10EL23D	PDECL to TTL Translator	U6,U7,U10,U11	DC
		U12	19.6608 MHz
DS1232S	Micro Power Monitor	U4	DC
X25020	Serial 256x8 EEPROM	U3	DC

Clock Synchronization Module (CSM2)

<u>Device Type</u>	<u>Component Description</u>	<u>Operating Frequencies</u>
MJD243RL	Q13, Q11, Q10, Q9, Q8, Q1	3 MHz
MJD2955T4	Q15	D.C.
MMFT3055V	Q17, Q18	307.2 KHz
MMBT3904	Q19, Q14, Q12, Q7, Q5, Q4, Q2	D.C.
MMBT3906	Q6, Q3	D.C.
MMBT3906	Q16	307.2 KHz
74ACT14D	U1	0.5 Hz
74ACT14D	U75, U66, U65, U37	1 Hz
MC14538B	U10	D.C.
IDT71024S15TY	U82, U81, U12, U11	16 MHz
74ACT00D	U13	19.6608 MHz
74ACT00D	U60	D.C.
AM29F040	U15, U14	16 MHz
AD817AR	U16	19.6608 MHz, 3 MHz
74ACT245DW	U19, U17	1 Hz
AD9850	U18	19.6608 MHz
MC68302FC	U2	16 MHz
XC5206-160	U20	307.2 KHz, 19.6608 MHz, 10 MHz
AD7846JP	U24	1 Hz
MC10ELT21D	U25	10 MHz
MC78M12	U26, U53	D.C.
MC10E1651FN	U27	19.6608 MHz
LM317D	U28	D.C.
MC78M15CDTRK	U29	D.C.
LT1081IS	U3	130 KHz
MC79M15CDT	U30	D.C.
MC100ELT23D	U31	19.6608 MHz
MC100ELT23D	U73, U72	D.C.

Clock Synchronization Module (CSM2)

(continued)

<u>Device Type</u>	<u>Component Description</u>	<u>Operating Frequencies</u>
MC100ELT23D	U36, U35	19.6608 MHz
MC100ELT23D	U78, U77	3 MHz
LT1054IS	U32	25 kHz
MC10EL16D	U33	19.6608 MHz
GAL22V10B-7LJ	U34	50 MHz
74ACT74D	U38	9.8304 MHz
X25020	U4	D.C.
78ST305HC	U40	1 MHz
10H20EV8	U41	50 MHz
MC10EL07D	U49, U43	19.6608 MHz
MC10EL51D	U52, U50, U45, U44	D.C.
MC10EL51D	U55	0.5 Hz
MC10EL31D	U56, U51, U46	D.C.
75175D	U74, U59	8000 Hz
75175D	U76, U47	4800 Hz
75175D	U79	9600 Hz
MC10EL04D	U57, U48	D.C.
74ACT05D	U5	D.C.
75172BDW	U67, U54	4800 Hz
75172BDW	U71	0.5 Hz
MC10EL16D	U62, U61, U58	D.C.
MC10EL16D	U63	19.6608 MHz
MC10EL16D	U64	D.C.
DS1232S	U6	D.C.
MC10EL111FN	U68	0.5 Hz
MC10EL111FN	U69	D.C.
MC10EL111FN	U70	19.6608 MHz

Clock Synchronization Module (CSM2)

(continued)

<u>Device Type</u>	<u>Component Description</u>	<u>Operating Frequencies</u>
MC68681FN	U7	4 MHz, 9600 Hz
74ACT32D	U8	16 MHz
MC34025	U83	307.2 MHz
78M05	U84	D.C.
74ACT04D	U9	16 MHz
MA505-16MHz	Y1	16.0 MHz
19.6608 MHz VCXO	Y2	19.6608 MHz
SG615H-50MHz	Y3	50 MHz

Switchboard 1900 MHz (STLG4009A)

<u>Device Type</u>	<u>Component Description</u>	<u>Operating Frequencies</u>
MMBZ5231BL	5.1V Zener Voltage Regulator Diode	DC
MMBT3904	NPN Transist	DC
MC33161	Universal Voltage Monitor	DC
MC33063	Switching Regulator	40 kHz
MMDF2P02HD	P-Channel MOSFET	40 kHz
MBRS340T3	Schottky Power Rectifier (1A)	40 kHz
MIC2920A-5.0BS	Low-Dropout Voltage Regulator (0.4A)	DC
MIC2940A	Low-Dropout Voltage Regulator (1.25A)	DC
MIC5205-3.3BM5	Low-Dropout Voltage Regulator (150mA)	DC
MIC2941ABU	Low-Dropout Variable Voltage Regulator (200mA)	DC
MBR0530T1	Schottky Power Rectifier (0.5A)	DC
74LCX244	Low-Voltage CMOS Octal Buffer	DC
MMBD7000	Dual Switching Diode	DC
pLSI2032	Programmable Logic Device	DC
25020	Serial E ² PROM	100 kHz
74ACT04	Hex Inverter	DC
74ACT00	Hex NAND Gate	DC
BRPG1204	Red-Green LED	DC
LM2901	Quad Comparator	DC
HMC182S14	GaAs SP4T Terminated Switch	1800 - 2000 MHz
SW338	GaAs SPDT Terminated Switch	1800 - 2000 MHz
HMC183QS24	GaAs SP8T Terminated Switch	1800 - 2000 MHz
SW419	GaAs SP4T Terminated Switch	1800 - 2000 MHz
SNA-486	GaAs FET MMIC (100mA) RF Amplifier	1900 - 2000 MHz

High Stability Oscillator (HSO)

<u>Device Type</u>	<u>Component Description</u>	<u>Operating Frequencies</u>
SN74AC240DW	LINE DRIVER	1 HZ
X2502OS	EEPROM	9.6 kHz
DS3695AM	RS485 DRIVER	1 HZ
FE5680A	Rb MODULE	500 HZ 8.388608 MHz 38 MHz 50.255 MHz 100.51 MHz 6.8 GHZ