



Global Telecom Solutions Sector

SC4812T-MC @ 800 MHz CDMA BTS
Parts List (Active Device) Exhibit

FCC ID: IHET5DK1

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**Broadband Transceiver/Digital Baseband Processor
(800 MHz HP BBX 1X)**

Device Type	Component Description	Operating Frequencies
LVCO3992U	OSCILLATOR	585 - 611 MHz
LVCO3992U	OSCILLATOR	824 - 849 MHz
SG615HC	OSCILLATOR	50 MHz
BFP420	NPN TRANSISTOR	238.4 MHz
BRPG1204W	RED/GREEN LED	0 - 2 Hz
MMBT3904LT1	NPN TRANSISTOR	D.C.
MMD2P02HD	P-CHANNEL MOS FET	D.C.
MTB75N05HD	NPN TRANSISTOR	D.C.
MMBT3904LT1	PNP TRANSISTOR	D.C.
MMBT3906LT1	PNP TRANSISTOR	D.C.
MBT3906DW1T1	NPN TRANSISTOR	D.C.
MBT3904DW1T1	NPN TRANSISTOR	D.C.
MMBT3904WT1	DIODE	19.6608 MHz
MBT3946DW1T1	DUAL PNP/NPN TRANSISTOR	D.C.
MMBD301LT1	DIODE	D.C.
MMBZ5240BLT1	ZENER DIODE	D.C.
MMSZ5237BT1	ZENER DIODE	D.C.
MMSZ5243BT1	ZENER DIODE	D.C.
MBRD340T4	DIODE	D.C.
MBR0530T1	SCHOTTKY POWER RECTIFIER DIODE	D.C.
MMBD7000LT1	DUAL SWITCHING DIODE	D.C. & D.C.
MMBD914LT1	HIGH-SPEED SWITCHING DIODE	D.C.
HSM633	20 MHz CRYSTAL OSCILLATOR	20 MHz
HSMS-2825-L31	RF SCHOTTKY BARRIER DIODE	6 MHz
BFG-541	WIDEBAND TRANSISTOR	800 MHz
HSMS282K	RF SCHOTTKY BARRIER DIODE	625 kHz & 800 MHz
HSMP-3810-TR1	DUAL PIN DIODES	800 MHz
AD826AR	OPAMP	D.C.
AD680	2.5 V BANDGAP REFERENCE	D.C.
MAX148BEAP	ANALOG TO DIGITAL CONVERTER	694.4 kHz
LM2991S	NEG LOW DROPOUT ADJ REGULATOR	D.C.
MSM13R2850	DBP ASIC	0.5 Hz, 625 kHz, 19.6608 MHz, 39.3216 MHz
74FCT162500ATPV	18-BIT TRANSCEIVER	19.6608 MHz & 39.3216 MHz
LTC14211G	HOT SWAP CONTROLLER	D.C.
MC68360ZP25VL	QUICC PROCESSOR	20 MHz
MC74HC4066DR2	ANALOG MUX	3 MHz
MC74VHCT244A	DUAL TRI-STATE BUFFER	625 kHz
MC74ACT125DR2	QUAD TRI-STATE BUFFER	0.5 Hz, 2 Hz, 3 MHz, 19.6608 MHz, 39.3216 MHz
MC10H641	PDECL-TTL 1:9 CLK DRIVER	19.6608 MHz
MC10EL16DR2	PDECL RECEIVER	19.6608 MHz
MC100ELT23DR2	PDECL TO TTL TRANSLATOR	19.6608 MHz
MC10ELT21	PECL TO TTL CONVERTOR	3 MHz, 19.6608 MHz
MC10EL11DR2	5V ECL 1:2 DIFFERENTIAL FANOUT DRIVER	19.6608 MHz

**Broadband Transceiver/Digital Baseband Processor
(800 MHz HP BBX 1X)**

Device Type	Component Description	Operating Frequencies
MC100EL58DR2	2:1 MULTIPLEXER	19.6608 MHz
MC33063ADR2	DC TO DC CONVERTOR	45 kHz
MC33161D	UNIT VOLTAGE REF	D.C.
LM2903DR2	DUAL COMPARATOR	D.C.
MC74LCX02	QUAD 2-INPUT NOR	20 MHz
MC74LCX08DTR2	QUAD 2-INPUT AND	20 MHz
MC74LCX32DTR2	QUAD 2-INPUT OR	20 MHz
MC74LCX244DTR2	DUAL TRI-STATE BUFFER	100 Hz, 9.6 kHz, 625 kHz, 1 MHz, 4.096 MHz
MC74LCX125DTR2	QUAD TRI-STATE BUFFER	17 Hz, 625 kHz
MC74LCX574DTR2	OCTAL D-TYPE FLIP FLOP	19.6608 MHz
MC74LCX374	OCTAL D-TYPE FLIP FLOP	39.3216 MHz
DS1819AR-20	RESET/WATCHDOG TIMER	2 Hz
AD600	ANALOG TO DIGITAL CONVERTOR	19.6608 MHz, 39.3216 MHz
TMP01ES	PROGRAMMABLE TEMP CONTROLLER	D.C.
AD603AR	OPAMP	0 - 1.2289 MHz
TLC5620ID	DAC QUAD 8-BIT	625 kHz - 5.0 MHz
74ACT16244	BUFFER/DRIVER	D.C.
AT65-0413	ATTENUATOR DIGITAL	238.4 MHz
AD9767	14 BIT DUAL TRANSMIT DAC	10.0 MHz
AD8402AR1	POWER	625 kHz - 5.0 MHz
OPA2227	OPAMP	D.C.
RF5187	HIGH POWER LINEAR AMP	869 - 894 MHz
RF2484	DIRECT QUAD MODULATOR	800 - 2500 MHz
LP3965EMPX-ADJ	VOLTAGE REGULATOR	D.C.
RF2172	AMP	585 - 610 MHz
ISPLSI2032VE-180LT44I	LATTICE CPLD	0.5 Hz, 3 MHz, 19.6088 MHz, 50 MHz
RC28F321C3BA110	FLASH MEMORY	20 MHz
KM416V1204CT	DRAM	20 MHz
XCS40XL-4BG256I	XILINC FPGA	.5 Hz, 10 MHz, 20 MHz, 19.6608 MHz, 39.3216 MHz
CY7B991-5JI	PROGRAMMABLE SKEW CLOCK BUFFER	19.6608 MHz
ADF4118BRU	OSCILLATOR	3.0 GHz
LM2991S	VOLTAGE REGULATOR	D.C.
TPS71H01Q	VOLTAGE REGULATOR	D.C.
XCV800-5BG560I0703	XILINC FPGA	0.5 Hz, 0.625 - 5 MHz, 19.6608 MHz, 39.3216 MHz
MMBD6100LT1	DIODE, DUAL, 70V	D.C.
SM15T10A	DIODE, 10V, TRANSIENT SUP	D.C.
LM2931CDR2	IC, REGULATOR, LOW DROPOUT	D.C.
MC79M05BDTRK	IC, REGULATOR, 5V NEG, 500mA	D.C.
MC79L05ABDR2	IC, REGULATOR, 5V NEG, 100mA	D.C.
LM2937IMP-5.0	IC, REGULATOR, 5V DROPOUT	D.C.
LM1117DT-ADJ	IC, REGULATOR	D.C.

**CDMA Clock Distribution
(CCD)**

Device Type	Component Description	Operating Frequencies
GAL22V10C-7LJ 2520N-50MHz MMBT3904 74ACT04D MC10EL16D MC10EL111FN MC10EL23D DS1232S X25020	PAL XTAL OSC NPN Transistor Hex Inverter PDECL Receiver PDECL 1:9 Clk Driver PDECL to TTL Translator Micro Power Monitor Serial 256x8 EEPROM	50 MHz 50 MHz D.C. D.C. D.C. 19.6608 MHz 19.6608 MHz D.C. D.C.

**Clock Synchronization Module
(CSM 1,2)**

Device Type	Component Description	Operating Frequencies
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,
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.
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.

**Clock Synchronization Module
(CSM 1,2)**

Device Type	Component Description	Operating Frequencies
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
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

**Group Line Interface
(GLI2)**

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

**High Stability Oscillator
(HSO)**

Device Type	Component Description	Operating Frequencies
SN74AC240DW X2502OS DS3695AM FE5680A	LINE DRIVER EEPROM RS485 DRIVER Rb MODULE	1Hz 9.6 kHz 1 Hz 500 Hz, 8.388608 MHz, 38 MHz, 50.255 MHz, 100.51 MHz, 6.8 GHz

**Linear Power Amplifier
(CLPA)**

Device Type	Component Description	Operating Frequencies
MA4P274	DIODE PIN	<1GHz
MA-505	QUARTZ XTAL SURFACE MT 16 MHZ	16MHz
LM4040	DIODE 5.0V PRECISION SOT23	DC
MJD31TD	TSTR N-CH 60V 20A	DC
2N7002LT1	TSTR NPN 40V 3A MJD31T4	DC
MMBT3904T	TSTR NPN 40V .2A GEN PURP	DC
MBT3906DW1T1	TSTR DUAL PNP 40V .2A	DC
MMBT3904WT1	TSTR NPN 40V	DC
MMBD701L	DIODE 70V HOT CARRIER MMBD701L	<1GHz
PWIC7084GR1	DIODE DL 5.6V COM ANODE	DC
PHVIC7085R2	DIODE 6.8V E5 MMSZ5235BT1	DC
MMBZ5V6A	12V TRANS SUP 1.5SMC12AT3	<1GHz
MMSZ5235BT1	33V TRANS SUP 1.5SMC33AT3	<1GHz
SUPP6SMB18AT3	ZENER BPLR 15V FOR ESD SOT23	DC
SMC33AT3	DIODE SCHOTTKY 3A 60V LTB 23/6/99	DC
MMBZ15	DIODE DUAL 70V A7X BAV99LT1	DC
MBRD360	DIODE DUAL 75V A2X MMBD2836LT1	DC
BAV99LT1	DIODE DUAL 100V 5C COMM ANO	DC
MMBD2836LT1	DIODE SLCN 34N02 VCTR A/P	<1GHz
MMBD7000LT1	DIODE DUAL PIN	<1GHz
MMBV105G	IC LM337L	DC
FQD24N08TF	IC LOG AMP DET/CONT AD8313	<1GHz
SMP1307	IC OP AMP OP177	<1GHz
LM337L	IC TEMP SNSR LM60BIM3X SOT23	DC
AD8313	IC OP AMP LMC7101 SOT23	<1GHz
OP177	IC 58HC12, 112 QFP, T&R	16MHz
LM60CIM3X	IC QUAD 2INP NAND 74HC00AD	16MHz
LMC7101	IC QUAD 2INP NOR 74HC02AD	16MHz
68HC12	IC DUAL D FF W/SET RST 74HC74	16MHz
74HC00AD	IC QUAD ANALOG MUX/DEMUX	16MHz
74HC02AD	IC MC14066BDR2	16MHz
74HC74	IC HIGH PERF CURRENT MODE CNTR	16MHz
MC74HC4066	IC ADJ. LOW DROPOUT POS,100MA	DC
UC2842A	REG 15V POS 100MA MC78L15ABDR2	DC
LM2931	REG 5V POS 500MA MC78M05BDTRK	DC
MC78M05BDTRK	IC QD OP AMP GEN PURP MC3303D	<1GHz
MC7808	IC LINEAR LM2940S 8V	DC
MC3303D	MONOSTABLE MULTIVIBRATOR CD14538BPWR	<1GHz
CD14538BPWR	IC DAC 12CH AD8802 ARU	16MHz
AD8802	IC RS485 XCVR MAX1482ESD	16MHz
MAX1482ESD	IC AD5317 QUAD 10BIT SPI	16MHz
AD5317	IC RS-232 TRANCEIVER	16MHz
MC145407	IC RESET DC 5V	DC
DS1706	TSTR 1GHZ, 30 W RFIC	<1GHz
DS1706	TSTR 1GHZ, 15 W RFIC	<1GHz

**Multicoupler Preselector Card
(MPC3)**

Device Type	Component Description	Operating Frequencies
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	D.C.
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	824 - 849 MHz
MGA-82563	IC RF Amplifier	824 - 849 MHz
SNA-486	IC RF Amplifier	824 - 849 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.
MMBD7000	Zener Diode	D.C.
RELAY_G6S_2G_DC12	DPDT 12V Relay	D.C.
MBRS140T3	Schottky Rectifier 40V 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.

**Hi Power Switchboard 800 MHz
(HP SW)**

Device Type	Component Description	Operating Frequencies
MMBZ5231BL	5.1V Zener Voltage Regulator Diode	D.C.
MMBT3904	NPN Transistor	D.C.
MC33161	Universal Voltage Monitor	D.C.
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)	D.C.
MIC2940A	Low-Dropout Voltage Regulator (1.25A)	D.C.
MIC5205-3.3BM5	Low-Dropout Voltage Regulator (150mA)	D.C.
	Low-Dropout Variable Voltage Regulator (200mA)	D.C.
MIC2941ABU	Schottky Power Rectifier (0.5A)	D.C.
MBR0530T1	Schottky Power Rectifier (0.5A)	D.C.
74LCX244	Low-Voltage CMOS Octal Buffer	D.C.
MMBD7000	Dual Switching Diode	D.C.
PLSI2032E	Programmable Logic Device	D.C.
AT2502N - 1051	Serial E ² PROM	100 kHz
74ACT00	Hex NAND Gate	D.C.
BRPG1204	Red-Green LED	D.C.
LM2901	Quad Comparator	D.C.
SL565-0440	GaAs SP4T Terminated Switch	800 MHz
HMC292QS24	GaAs SP8T Terminated Switch	800 MHz
RFMD5187	GaAs FET MMIC RF AMPLIFIER	800 MHz
MBT3904	DUAL NPN TRANSISTOR	D.C.
MBT3906	DUAL PNP TRANSISTOR	D.C.