Tuneup Procedure

The final output power at the antenna terminal is limited by the calibration table's resident in the firmware within the HHP. The maximum/minimum output power level for the HHP has been calibrated over the range from a minimum of approximately –50 dBm to a maximum of +24 dBm. The HHP Calibration tables resident in the HHP internal FLASH (non-volatile) memory, U0901 are used to limit the maximum transmit power level (in dBm) delivered to the antenna terminals. Calibration is performed at the factory.

Table 1 Active HHP Parts

Philips P/N	QTY	Ref. Designator	Part Number
M2740	1	U0307	IC, M20B
M2742	1	U0302	IC, 1037B
M2746	1	U0502	VCO VC
M2760	4	D0501-4	DIODE, CAPACITIVE
M2763	1	U0501	LMX233XL, IC
M2769	1	U0103	IC,RF2361
M2770	1	U0105	IC, RF2466
M3170	1	U0101	IC, RF2489
M2772	1	U0301	IC, UPC8106TB-E3
M2774	2	U0102 U0104	IC, AA103-72
M2775	2	U0306 U0401	OPAMP, IC, LMV722
M2780	1	U0702	VCO, VC-TCXO-204C1
M2782	1	D0301	DIODE_SCHOTTKY, HSMS-2825
M2784	5	U0601- 5	REG_V_6, IC, TK11233BMCL
M2785	1	U0201	IC, RF2617
M2787	2	Q0101- 2	TRANSISTOR, NPN, DTC115EEA
M2821	1	Q1002	PNP, 2SB624
M2823	2	D1201-2	DIODE, MMBD4148
M2834	1	U0802	IC, S-75V08ANC5
M2836	3	Q1101- 3	TRANSISTOR, NPN, 2SD596
M2847	1	U0901	IC, LRS1348, BGA, 72pin
M2849	1	Q1001	MOSFET Dual, PCHAN, SI6965DQ
M2850	1	U1002	IC, NC7SZ175P6, SC70-6
M2851	1	U1003	IC, NC7SZ66P5, SC70-5
M2853	1	Q0504	TRANSISTOR, PNP, DTA115EEA
M2859	1	U1001	IC, NC7WZ14P6, SC70-6
M2892	2	D1001- 2	DIODE, BAS16W
M2895	1	Q0901	MOSFET, PCHAN, BSH206, SOT363
M2896	1	U0308	IC, ADG704BRM, RM-10
M2902	1	U0701	IC, CXA3303GA, LFLGA, 76 pin
M2903	1	Q0301	MOSFET, Dual NCHAN, PCHAN, SI1553DL
M2909	2	Q1201-2	TRANSISTOR, NPN, BC817

M3023	3	Q0501-3	TRANSISTOR, PN, E68119
M3025	1	U0303	IC, F3105
M3026	1	U0801	IC, DMA+100 BGA
MRNU0202	1	U0202	IC, MV722 VSP8 OPAMP

1.11. Frequency Stabilization

The Frequency stability is established by the TCXO, U0702, which has a stability of 1 ppm at 25°C and 2.5 ppm over the temperature range from -30°C to +85°C. The incoming CDMA signal stability is established by the transmitting base station. The HHP transmit frequency is generated with the HHP and must be 45 MHz ± 300 Hz below the incoming receive frequency for full duplex operation. This frequency is established by the internal frequency synthesizer, which gets its reference frequency from TCXO. The final transmitting frequency is synthesized with a PLL. The closed response of the PLL holds the output frequency to the stability of the reference TXCO's frequency stability.

1.12. Suppression of Spurious Radiation

The suppression of spurious radiation is provided through the use of selectively filtering. The transmit paths (IF and RF) incorporates highly selective SAW filters which have excellent out-of-band rejection characteristics. And finally, the selective SAW duplexer adds band shaping and rejection for the CDMA transmit frequency band. The transmitting RF frequency is synthesized with a PLL. The PLL incorporates a 2nd order loop filter whose design is twofold.

(1) One to provide a loop response to track the TCXO frequency with small frequency error while providing a good phase margin for overall stability:
(2) Secondly, to provide a closed loop response that suppresses the reference sidebands and other spurious products.

The synthesizer closed loop performance will attenuate spurious that might otherwise enter via the Local Oscillator (LO) into the transmit chain.

1.13. RF output Output Limiting

The final output power at the antenna terminal is limited by the calibration table's resident in the firmware within the HHP. The maximum/minimum output power level for the HHP has been calibrated over the range from a minimum of approximately –50 dBm to a maximum of +24 dBm. The HHP Calibration tables resident in the HHP internal FLASH (non-volatile) memory, U0901 are used to limit the maximum transmit power level (in dBm) delivered to the antenna terminals.