

11) The tune up procedure over the power range or at specific operating power levels.

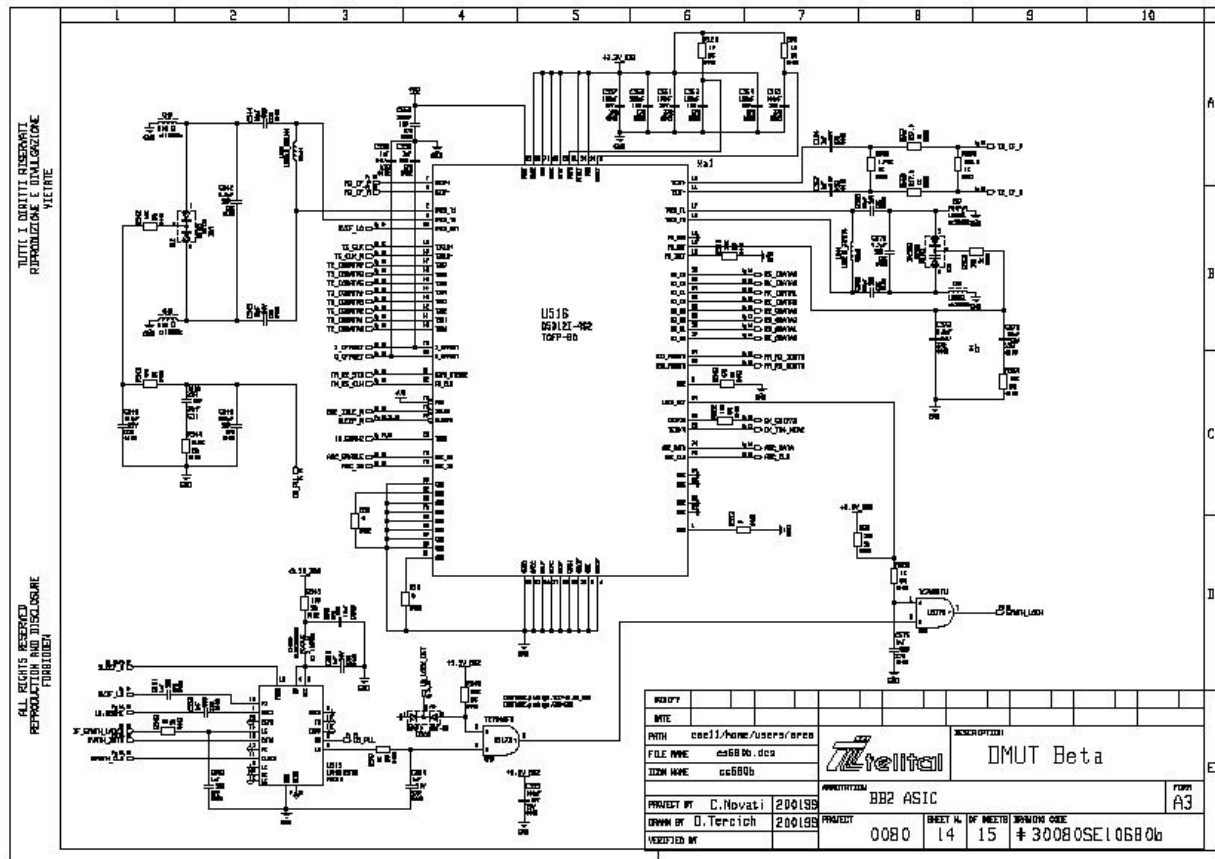
The tune up procedure over the power range or at specific operating power levels.

The software writes/manages transmitter output power like a value in the range from 0 (minimum theoretical output power, around -43.67dBm) up to 1023 (maximum theoretical output power, around $+41.67\text{dBm}$). A 12 unit's variation corresponds to 1dB. The value 523 corresponds to 0dBm. Inside the GUM, the AGC (variable gain amplifier) gain control is written/managed like a value varying from +511 (minimum AGC gain, around -40dB) to -512 (maximum AGC gain, around $+40\text{dB}$). The variation between the two extremes is not linear and it changes phone by phone.

The two calibration values `rf_gs_tx_lin_master_off_0`, `rf_gs_tx_lin_master_slp[36]` are used by the software, together with others that contribute to get the frequency and temperature compensation, to create a look-up table. This is loaded in the RAM of the GUM, and it allows converting the command values fixed by the software in opportune control levels for the variable gain amplifier of the transmission chain and therefore to get the desired levels of output power.

The information according to which the UT selects the opportune level of output power are fixed by the software of the terminal according to the system specifications and according with information that the GW sends to the terminal. The way these parameters are managed, it involves the call processing procedures and in general the terminal software.


There are not hardware controls about these procedures (besides the matter of the terminal



calibration) and the variable gain amplifier AGC is the only hardware part involved in – whose management is however entirely submitted to the phone's SW.

Two synthesizers are implemented on the GS radio. Both use the PLL National LMX2330LTM. These are shown in the electric scheme as U10 – related to the TX LO – and U11 – related to the RX LO. The RX synthesizer uses a VCO Towa VC-3R6A20-2267, identified as Y1 on the electric scheme, while the of the TX synthesizer uses an analogous VCO Towa VC-3R6A20-1487, identified as Y2 on the electric scheme. The additional control circuits are described in detail by the electric scheme and the part-list.



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