Circuit Explanation

Docking Station ***Circuit Description***

- *The signal which inputted in LINE into Digital at U200.*
  Data which is transformed into Digital signal is mixed with PN code at U100 (by spread spectrum) and transmitted to RF part.
  Spreading signal which inputted to RF part is mixed with Carrier supplied to VCO(U903) and create TX frequency of using channel and then is transmitted to ANTENNA through U801 by TX control of U3.

- *The signal received to antenna is transmitted to U901 by RX/TX control time.*

The signal inputted at U1 is mixed Carrier of VCO(U903) and got to direct conversion and create Base band signal. And then, create I and Q signal by demodulation (QPSK :quadrature Phase Shift Keying method is phase- shifted by 90°).
I and Q signal (Two signal phase is 90°) is transmitted to U200 and remixed with PN code and generated Digital signal.
Digital signal is transformed into Analog at U200.
This audio signal is passed through U200 and transmitted to LINE.

- ***ID setting :*** *when transimitter is placed on dockingstation , charge data is transmitted to transmitter by CT2 of docking station. The transimitter is received ID and transmitted ACK signal to RF PART.*

- *X201 is X-TAL generating RF - reference signal and should be adjusted by C201 accurately.*

- *Q205, is charge detector and ID detector circuitry.*

- *Q207 is record signal detector circuitry*

Transmitter Circuit Description

- *The signal which is inputted to MIC is transformed Analog into Digital at U100.*
  DATA which is transformed into Digital signal is mixed with PN code at U100 (by spread spectrum) and transmitted to RF part.
  Spreading signal which inputted to RF part is mixed with Carrier supplied to VCO(903) and create TX frequency of using channel and then is transmitted to ANTENNA through U801 by TX control of U802

- *The signal received to antenna is transmitted to U100 by RX/TX control time.*
  The signal inputted at U1 is mixed Carrier of VCO(U903) and got to direct conversion and create base band signal.
  And then, create I and Q signal by demodulation (QPSK : Quadrature Phase Shift Keying method is phase- shifted by 90°)
  I and Q signal (Two signal phase is 90°) is transmitted to U100 and remixed with PN code and generated Digital signal.
  Digital signal is transformed into Analog at U100.
  This audio signal is passed through receiver and transmitted.

- *When the transmitter is low voltage R113,R115,C110 make 77pin of U100 change HIGH to LOW and indicate low voltage.*

- *X101 is X-TAL generating RF - reference signal and should be adjusted by C126 accurately.*

RF Circuit Description

- *LO Generation : The LO signal is generated by a programmable PLL frequency synthesizer in the U901(RF109) and the an external 2.4GHz VCO(U903).*
  The RF109 synthesizer requires differential input signals from the external VCO to generate the LO Frequency.
  Therefore a BALUN(U905) transformer is used to generate differential signals from single-ended VCO output.

- *Receive Path : The signal is received at the antenna and pass the T/R switch(U802) and an RF bandpass filter. The output of the bandpass filter is ac-coupled to the Low Noise Amplifier (LNA) of the U901.*

The U901 downconverts the RF signal into In-phase(I) and Quadrature signal(Q) baseband signals.

The differential I and Q baseband signals are dc-coupled to the ASIC(U100) RXIP, RXIN, RXQP and RXQN inputs.

- *Transmit Path : The baseband digital data input signal is shaped by external filter (R920, C925,R919, L901, C924, R918) and inputted to the TXD1 Port of the U901 (RF109).*
  The inputted baseband digital data is mixed with Carrier supplied to VCO (U903) and transmitted to the U801 (RF110) with a phase difference of 180 degreed between the two branch.
  The inputted a differential signals to the U801 (RF110) are amplified by the U801 (RF110) and the differential output signals of the U801 (RF110) output port are converted to a single-ended signal at the RF matching network.

LABEL

MOBILE

90 FANNY RD
Boonton,NJ 07005
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VISION

Model:

FCC:

CANADA NO

Patent Pending Made in Korea