Description Of Circuits Determining Frequency

1. Receiver first local oscillator
   The receiver first local oscillator consists of PLL U1, VCO VCO2 and TCXO U2. The frequency band is 896 ~ 911MHz.

2. Receiver second local oscillator
   The receiver second local oscillator mainly consists of crystal X1 and IF demodulation stage U5.Its frequency is 44.545MHz.

3. Receiver first mixer
   The receiver first mixer is Q1. The IF is 45MHz.

4. Receiver second mixer
   The receiver second mixer is on IF demodulation stage U5.The IF is 455KHz.

5. Transmitter RF generator
   Transmitter RF signal is generated by PLL circuits consisting PLL IC U1, VCO VCO1 and TCXO U2.The transmitter RF frequency band is 806 ~ 821MHz.

Description of Circuitry Suppressing Spurious and Harmonic Emission

1. Suppression of transmitter RF signal harmonic and spurious emission.

   Transmitter RF signal harmonic and spurious emission are suppressed by duplexer FL5.

2. Suppression of receiver first LO signal harmonic and spurious emission.

   Receiver first LO signal harmonic and spurious emission are suppressed by bandpass filter FL2, RF amplifier Q2 and duplexer FL5.

Function of Active Circuit Devices in the Radioboard

Schematic Designation	Function	Operating Frequency
U1	Dual PLL Circuits	50MHz ~ 1.1GHz
U2	TCXO	9.6MHz
VCO1	UHF VCO	806 ~ 821MHz
VCO2	UHF VCO	896 ~ 911MHz
U5	IF Demodulation Stage	DC ~ 45MHz
U6	RF Power Amplifier	806 ~ 821MHz
U7	Comparator	DC
Q1	Mixer	851 ~ 866MHz/896 ~ 911MHz
Q2	RF Amplifier	851 ~ 866MHz
Q3	RF Amplifier	806 ~ 821MHz
Q5	RF Amplifier	896 ~ 911MHz
Q6	On/Off Switch	DC
Q7	Voltage Regulator	DC
D1	Detector Diode	806 ~ 821MHz