

## Technical Description

The Equipment Under Test (EUT), is a portable 2.4GHz Transceiver (Locomotive Unit) for a RC Locomotive. The sample supplied operated on 27 channels, normally at 2407 - 2477MHz. The channels are shown in below table.

2407	2408	2409	2410	2411
2413	2435	2436	2438	2439
2440	2441	2442	2443	2444
2445	2467	2468	2469	2470
2471	2472	2473	2474	2475
2476	2477			

The EUT is powered by 3 x 1.5V AAA batteries. There are three modes for the locomotive, the "INDEPENDENT" mode, the "FOLLOW ME" mode and the "TRY ME" mode. For the "TRY ME" mode, after switching on the EUT, sound will be emitted from the locomotive based on the switch pressed in the controller or the button pressed on the locomotive. For the "Independent" mode, the locomotive has all the functions that the "TRY ME" mode has. In addition. The locomotive will be moved forward or backward and turned left and right based on the switches pressed in the controller. For the "FOLLOW ME" mode, the locomotive has all the functions that the "INDEPENDENT" mode has. In addition, the locomotive can control the movement of the railway car behind it based on the signal sensed by the sensor on its back and the sensor at the front of the railway car after pairing up with the railway car.

Antenna Type: Internal, Integral antenna

Antenna Gain: 0dBi

Nominal rated field strength is 104.1dBμV/m at 3m (Peak), 86.7dBμV/m at 3m (Average)

Maximum allowed production tolerance: +/- 3dB

The brief circuit description is listed as follows:

1. U1 (SNC7001A) acts as MCU
2. U15 (XNS102-S16) acts as RF IC
3. Y1 acts as 16MHz Oscillator
4. L1, C85, C87 and C88 act as antenna matching circuit
5. U9 and U10 act voltage stabilizing circuit
6. U20 acts as Flash
7. UL1 and UR2 act as motor driver
8. U8 acts as power amplifier.