PRODUCT SPECIFICATION AND MANUAL

Title	Document		
Project Name	C205	Date	2010-06-17
Project Name	KORANDO C	Finish Date	2010-06-17
		Made by	B.S.Choi

Table of Contents

1. Contents

Kind of Radio station	Wireless controller about wireless electronic equipment of specific low output radio station
Name of device	Transmitter
Use	Vehicle of door keyless controller what use 433.92 MHz frequency
summary	1. This equipment use semiconductor and integrated circuit, so it designs to get high reliability. 2. This equipment use oscillation circuit of crystal, so it designs to satisfy about legally frequency an allowable error and bandwidth of exclusive frequency. 3. The transmitter has each other specific identification code. 4. The power use Li-ion coin Battery what is DC 3.0V
Composition	1. RF Transmissive part 2. Pattern Antenna 3. LF Receiver 4. 3D LF Antenna.

2. Electronic spec

UNIT / List	TRANSMITTER
Rated voltage	DC 3.0V
Using voltage range	DC 2.7 ~ 3.2V
Using temperature range	-10 ~ +60℃
Preservable temperature range	-20 ~ +70℃
Dark current	1μA (under 1μA)
Receiving distance	10m (OPEN SITE) (over 10m)

3. Specification

Form name of equipment	TRANSMITTER ASSY – SMART KEY
Title of equipment	Wireless controller about wireless electronic equipment of specific low output radio station
Breakdown of equipment	RF Transmitter, LF Receiver
Using frequency	TX : 433.920MHz
Form of radio wave	F2D
Antenna power	5mW이하 (under 5mW)
Antenna composition	Pattern ANTENNA, 3D LF ANTENNA
Circuit method	Crystal circuit
Modulation method	FSK
Communication method	bilateralness
Number of Chanel	1 CH
Frequency multiplier	32 multiplier
Use of equipment	Vehicle of door keyless controller
Using voltage	DC 3.0V(Li-ion Battery CR2032 x 1EA)
Temperature of motion	-10℃~ +60℃
weight	100g
size	39.2 x 65 x 16.8mm(width x vertical axis x thickness) Case outside)

4. Repairable equipment and circuit explanation

4.1 Repairing method

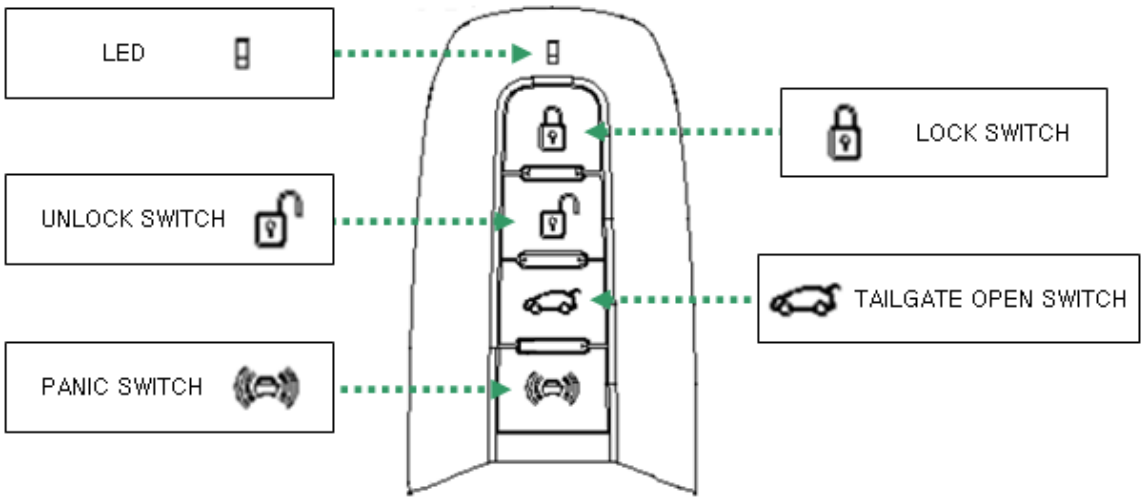
If Transmitter cannot send output message, it have to change new one

4.2 Circuit explanation

If User press specific Switch of transmitter, CPU (U3) make inherent serial value and Encryption value, so it print what CPU make data, at the same time , RF IC get to be ENABLE. Printing data are falsified into TxIC(U2) and it synthesize through X1. Compound frequency are amplified by TxIC(U2) and it transmit through antenna from matching circuit diagram of output or it transmit RANDOM DATA through 3D LF Antenna and print to encrypt result

value from CPU(U1), at the same time RF IC get to be ENABLE. As following, it transmit PATTERN Antenna how to change falsification, synthesis, multiplier.

5. User's manual



function		Switch movement
	DOOR LOCK	Pushing LOCK SWITCH for a short time (under 1 sec) - GREEN LED long flicker on and off for a once
	ESCORT	Pushing LOCK SWITCH for a long time(over 1 sec) - GREEN LED long flicker on and off for a once and then it shortly flicker on and off for a twice
	DOOR UNLOCK	Pushing UNLOCK SWITCH - RED LED long flicker on and off for a once
	TAILGATE OPEN	Pushing LOCK SWITCH for a short time(over 1 sec) - RED LED shortly flicker on and off for a twice

Outside picture	PANIC	Pushing LOCK SWITCH for a short time(over 1 sec) - RED LED long flicker on and off for a once
	LF Receive	Transmitting certification RF after receive LF - GREEN LED shortly flicker on and off for a once
	LOW VOLTAGE	When it is LOW VOLTAGE and receive RF - AMBER LED shortly flicker on and off for a once

FCC (Federal Communications Commission)

WARNING: This equipment may generate or use radio frequency energy.
Changes or modifications to this equipment may cause harmful interference unless the modifications are expressly approved in the instruction manual.
The user could lose the authority to operate this equipment if an unauthorized change or modification is made.

This device complies with Part 15 of the FCC`s Rules. Operation is subject to the following two Conditions:
1. This device may not cause harmful interference, and
2. This device must accept ant interference received,
including interference that may cause undesirable operation.