1. GENERAL INFORMATION

2. ELECTRICAL CHARACTERISTICS

-	RELEASED	ALL	2017.10.17	H S LIM
Rev.NO	DESCRIPTION OF CHANGE	CHANGE PAGE	REV. DATE	REV. BY

REL. DATE 2017.10.17	REFERENCE	SORT	PREPARED	CHECKED	APPROVED
Original archive (PLM SYSTEM)		APPROVAL	H S LIM	R H HWANG	J H LEE

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1. GENERAL INFORMATION

1.1Description of WPC UNIT

WPC UNIT provides the following functions.

- MAX 15W Wireless Charging
- NFC Vechicle Start status
- Wireless Charging : 119.6kHz
- NFC Reader : 13.56MHz
- Brand name : HYUNDAI, KIA
- Model name : SYECNWPC1903

Picture 1: System configuration

1.2 System overview

Wireless charging controller <LP, MP> - System for charging mobile phone wirelessly in vehicle using electromagnetic induction between coils

① After inputting IGN1 power, the reception coil (cell phone RX Coil)

② Confirmation of non-mobile NFC mounting via NFC Multi Tagging <MP + NFC>

③ (TX side charging pad: wireless charger side) Current flows in the transmission coil

④ The magnetic field generated by the current of the transmission coil is guided to the receiving coil and induction current is generated in the receiving coil

⑤ The charging current starts to be charged through PMIC (Power module IC) of mobile phone

NFC Communication Controller <MP + NFC> - Vehicle start, key registration, and vehicle information transmission / reception device through mutual communication with NFC (near field communication) installed in mobile phone and ECU.

① After inputting B + power, put Smart Phone on top of ECU

② When charging C_WPCNFCCmd = 0x01 (NFCSearchingOnHCE) from the authentication unit, stop wireless charging && NFC Start

③ PhoneKeyAuth Mode (SmartPhone ↔ WPC ↔ IAU AUTH certification)

④ RTC SYNC MODE (RTC synchronization)

⑤ CertificateChain SYNC MODE (Certificate Synchronization)

⑥ PhoneKey Sync MODE MODE (Synchronize PhoneKey and Spare Key)

⑦ When C_WPCNFCCmd = 0x02 (NFC Searching Off) is input from the authentication unit NFC Mode Stop && When IGN1 is ON,

Wireless charging Start

2 ELECTRICAL CHARACTERISTICS

2.1 Operating characteristics of MP

Item	Specification
Rated Supply Voltage	DC 12V
Operating Voltage	DC 9 ~ 16V
Operating Temperature	- 30 ~ + 75℃
Storage temperature range	- 40 ~ + 85℃
MP<WPC> Frequency	119.6kHz

Standby Current	Below than 1mA

Table 1: Electrical characteristics of MP

2.2 Operating characteristics of MP+NFC

Item	Specification
Rated Supply Voltage	DC 12V
Operating Voltage	DC 9 ~ 16V
Operating Temperature	- 30 ~ + 75℃
Storage temperature range	- 40 ~ + 85℃
MP<WPC> Frequency	119.6kHz
NFC Frequency	13.56MHz
Standby Current	Below than 1mA

Table 2: Electrical characteristics of **MP+NFC**

2.3 UNIT Input/Output Interface

Pin No.	Description	Reference
1	GND	
2	GND	
3	WC_AMBER_IND_OUT	
4	WC_GREEN_IND_OUT	
5	B_CAN_LOW	
6	B_CAN_HIGH	
7	NC	
8	AUTH_CAN_LOW	
9	AUTH_CAN_HIGH	
10	NC	
11	IGN1	
12	BAT+	

Este produto est homologado pela ANATEL, de acordo com os procedimentos regulamentados pela Resolu o n° . 242/2000 e atende aos requisitos t cnicos aplicados. Para maiores informa es, consulte o site da ANATEL - www.anatel.gov.br

FCC warning statement:

15.19

λ. This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions:

(1) this device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.

15.21

- Any changes or modifications not expressly approved by the party responsible for compliance could void the authority to operate equipment.
- This device and its antenna must not be co-located or operating in conjunction with any other antenna or transmitter.
- End-users and installers must be provided with antenna installation instructions and transmitter operating conditions for satisfying RF exposure compliance.

FCC/ IC RF Radiation Exposure Statement:

This equipment complies with FCC/ ISED RF radiation exposure limits set forth for an uncontrolled environment for body-worn configuration in direct contact to the phantom.

This device complies with FCC/ ISED radiation exposure limits set forth for an uncontrolled environment.

IC warning statement:

RSS-Gen Issue 4 8.4

This device complies with Industry Canada's licence-exempt RSSs. Operation is subject to the following two conditions: (1) This device may not cause interference; and (2) This device must accept any interference, including interference that may cause undesired operation of the device.

Le présent appareil est conforme aux CNR d'Industrie Canada applicables aux appareils radio exempts de licence. L'exploitation est autorisée aux deux conditions suivantes: (1) l'appareil ne doit pas produire de brouillage, et (2) l'utilisateur de l'appareil doit accepter tout brouillage radioélectrique subi, même si le brouillage est susceptible d'en compromettre le fonctionnement.

Co-located

This device and its antenna(s) must not be co-located or operating in conjunction with any other antenna or transmitter.