Lambda MP2451 Wireless Charging Module with NFC

Lambda MP2451 Wireless Charging Module with NFC Instruction Manual

Contents

Lambda

Lambda MP2451 Wireless Charging Module with NFC

Product Introduction

The wireless charging module with NFC is designed for wireless charging of mobile phones through electromagnetic induction between coils and NFC communication for interactions between mobile phones and car machines.

Specifications

- **Product Name:** Wireless charging module with NFC
- **Version Model:** 8891918209
- **Input Output:** Working temperature: -40-85,
- **Working humidity:** 0-95%, Foreign object identification,
- **Communication bus type:** CAN bus, Quiescent current: ≤ 0.1mA, NFC
- **function:** can recognize NFC card/mobile phone

Component Description

Component	Part Number	Quantity
Owning module	MP2451	1
Power module	MPQ4231	1

Product Usage Instructions

1. Place the wireless charging module with NFC in a suitable location within the car.
2. Ensure that the mobile phone is NFC-enabled for communication with the car machine.
3. When wirelessly charging the mobile phone, make sure there are no metal foreign objects between the phone and the charging module to avoid automatic shutdown.

FAQ

- **Q: What should I do if my mobile phone is not charging wirelessly?**
  A: Make sure the NFC function is enabled on your phone and there are no metal objects interfering with the charging process.
- **Q: Can this wireless charging module work with all mobile phone models?**
  A: The wireless charging module is compatible with most Qi-enabled devices. Please check your phone's compatibility before use.

Documentation

This article is an explanatory document for CE certification of Lambda products, and introduces some basic features of the product.

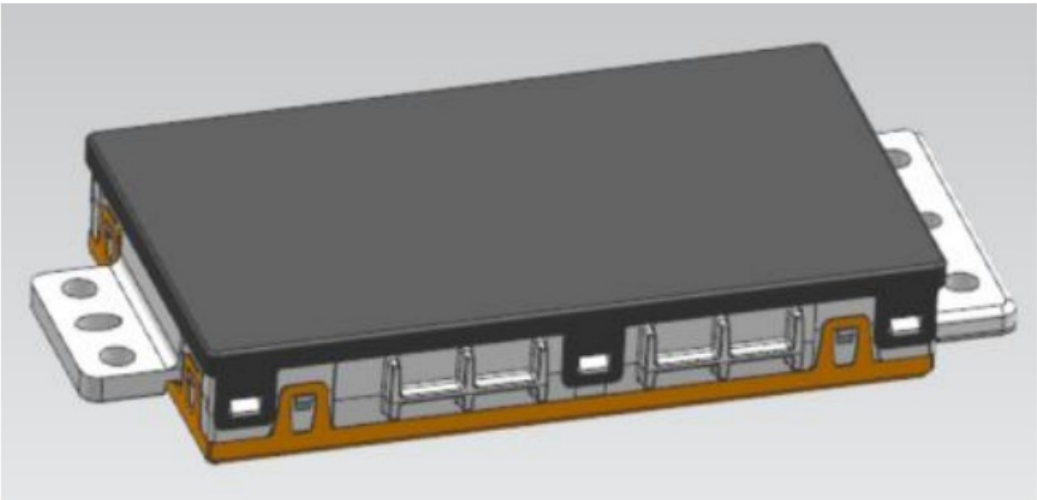
information

Product name: Wireless charging module with NFC

Product introduction

It is used for wireless charging function, which transmits energy and signals through electromagnetic induction between coils to wirelessly charge mobile phones.

It is used for NFC communication. Through the NFC near field communication protocol, the information interaction between the mobile phone and the car machine is completed, so that the car machine can perform user identification and start the vehicle according to the mobile phone.



Version model

- **Part number (model):**8891918209

input Output

- **Normal working voltage:** 9-16V
- **Maximum input current:** 3A
- **Maximum efficiency of wireless charging:** ≥70%
- **Wireless charging maximum load power:** 15W±10%

Working Conditions and Status

- **Working temperature:** -40-85℃
- **Working humidity:** 0-95%
- **Foreign object identification:** There is a metal foreign object (such as a 1 yuan coin) between the product and the mobile phone. The product passes the FOD detection and automatically turns off the wireless charging until the foreign object is removed. Communication bus type: CAN bus
- **Quiescent current:** less than or equal to 0.1mA
- **NFC function:** can recognize NFC card/mobile phone

Component description

owning module	**Part number**	**quantity**	**factory**
power module	MP2451	1	MPS
BuckBoost	MPQ4231	1	MPS
Coil selection	DMTH69M8LFVWQ	6	DIODES
Temperature NTC	NCP15XH103F03RC	2	muRata
CAN communication bus	TJA1043T	1	NXP
Master MCU	STM32L431RCT6	1	AutoChip
NFC soc	ST25R3914	1	ST
powerstage	Nu8015	1	NuV
Resonant Cavity Capacitance	CGA5L1C0G2A104J160AE	10	TDK

Key devices

No.	Sub-Part Name	Quantity	Picture	Material Information / Manufacture Information								
				material type	material brand	material specification/formula	material standard/grade/type	material supplier name & location	material accept type	manufacture process	manufacture supplier name & location	Surface treatment
1	WPC3/	1		/	/	/	/	/	/	assemble	Changzhou Tenglong/Jiangsu Changzhou	/
1.1	upper shell	1		thermoplastic	PBT-GF20	PBT-GF20	Q/JL J124001—2016	Chang Chun Plastics Co., LTD.	N/A	Injection	Shanghai Yikou/Shanghai	/
1.2	NFC PCBA	1		/	/	/	/	/	N/A	other	Tongbao Optoelectronics /Changzhou, Jiangsu	/
1.3	coil	1		/	/	/	/	/	N/A	other	Pan Asia Electronics / Dongguan, Guangdong	/
1.4	cooling frame	1		cast aluminum	ADC12	ADC12	Q/JLY J7110328 B-2017	Zhejiang Tongtong; Zhejiang	EA	Molded	Dubell Technology/Taizhou, Zhejiang	Vibration grinding
1.5	WPC PCBA	1		/	/	/	/	/	N/A	other	Tongbao Optoelectronics /Changzhou, Jiangsu	/
1.6	Antenna board support	1		thermoplastic	PBT-GF20	PBT-GF20	Q/JL J124001—2016	Chang Chun Plastics Co., LTD.	N/A	Injection	Shanghai Yikou/Shanghai	/
1.7	Thermal gasket	1		other	SAINTY 00 SY-GP120	SAINTY00 SY-GP120 50*30mm	SY-GP120	Zhejiang Sanyuan Electronic Technology Co., Ltd.; Zhejiang	N/A	other	Marian;suzhou	/
1.8	rubber sheath	1		thermoplastic elastomer	TPV-611-78A	TPV-611-78A	Q/JLY J7110166 B-2017	Dawn	MAD	Injection	Shanghai Huaju/Shanghai	/
1.9	Shield	1		cold rolled steel plate	0.5mm SPCD	0.5mm SPCD	JIS G3141-2017	**Baosteel**	N/A	stamping	Dubell Technology/Taizhou, Zhejiang	Electrogalvanized
1.10	rubber cover	1		thermoplastic elastomer	TPV-611-78A	TPV-611-78A	Q/JLY J7110166 B-2017	Dawn	MAD	Injection	Shanghai Huaju/Shanghai	/

Warning:

1. **Operation temperature:** -40~85℃.
2. **Operation Frequency:** 114.4kHz-127.9 for wireless charging, 13.56±0.7MHz for NFC
3. **Max H-field:** 23.24dBμA/m@10m for wireless charging, 18.87 dBμA/m@10m for NFC

   Changzhou Tenglong Auto Parts Co.,Ltd. hereby declares that this Wireless charging module with NFC is in compliance with the essential requirements and other relevant provisions of Directive 2014/53/EU.

   This information has to be presented in such a way that the user can readily understand it. Typically, this will

necessitate translation into every local language (required by national consumer laws) of the markets where the equipment is intended to be sold. Illustrations, pictograms and using international abbreviations for country names may help reduce the need for translation.

EU Declaration of Conformity
We,
Changzhou Tenglong Auto Parts Co.,Ltd. (No.15, Tenglong Road, Economic DevelopmentZone, WujinDistrict, Changzhou, Jiangsu province, China) hereby declares that this WIRELESS CHARGER is in compliance with the essential requirements and other relevant provisions ofDirective 2014/53/EU.
According to Article 10(2) of Directive 2014/53/EU, the Wireless charging module with NFC can be used in Europe without restriction.
The full text of the EU declaration DOC is available at the following: **http://www.cztl.com**

Warning:

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FCC WARNING

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.
Any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate the equipment.
NOTE: This equipment has been tested and found to comply with the limits for a Class B digital device, under Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used by the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning the equipment off and on, the user is encouraged to try to correct the interference by one or more of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and the receiver.
- Connect the equipment into an outlet on a circuit different from that to which the receiver is connected.

- Consult the dealer or an experienced radio/TV technician for help.

To maintain compliance with FCC's RF Exposure guidelines, This equipment should be installed and operated with a minimum distance between 20cm the radiator and your body: Use only the supplied antenna.

IC Caution:
This device contains licence-exempt transmitter(s)/receiver(s) that comply with Innovation, Science and Economic Development Canada's licence-exempt RSS(s). Operation is subject to the following two conditions:This device may not cause interference. This device must accept any interference, including interference that may cause undesired operation of the device. This equipment should be installed and operated with a minimum distance between 10cm the radiator your body.

Documents / Resources

	Lambda MP2451 Wireless Charging Module with NFC [pdf] Instruction Manual MP2451 Wireless Charging Module with NFC, MP2451, Wireless Charging Module with NFC, Charging Module with NFC, Module with NFC

References

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- muRata( ) _muRata( ) / -
- User Manual