



Product Specification



NIR-M-F11

Version 1.1
2021/1/5

Revision History			
Revision	Date	Section	Description
1.0	2020/11/06	All	Initial version
1.1	2021/1/5	B	Update 2D drawing & key slot

Contents

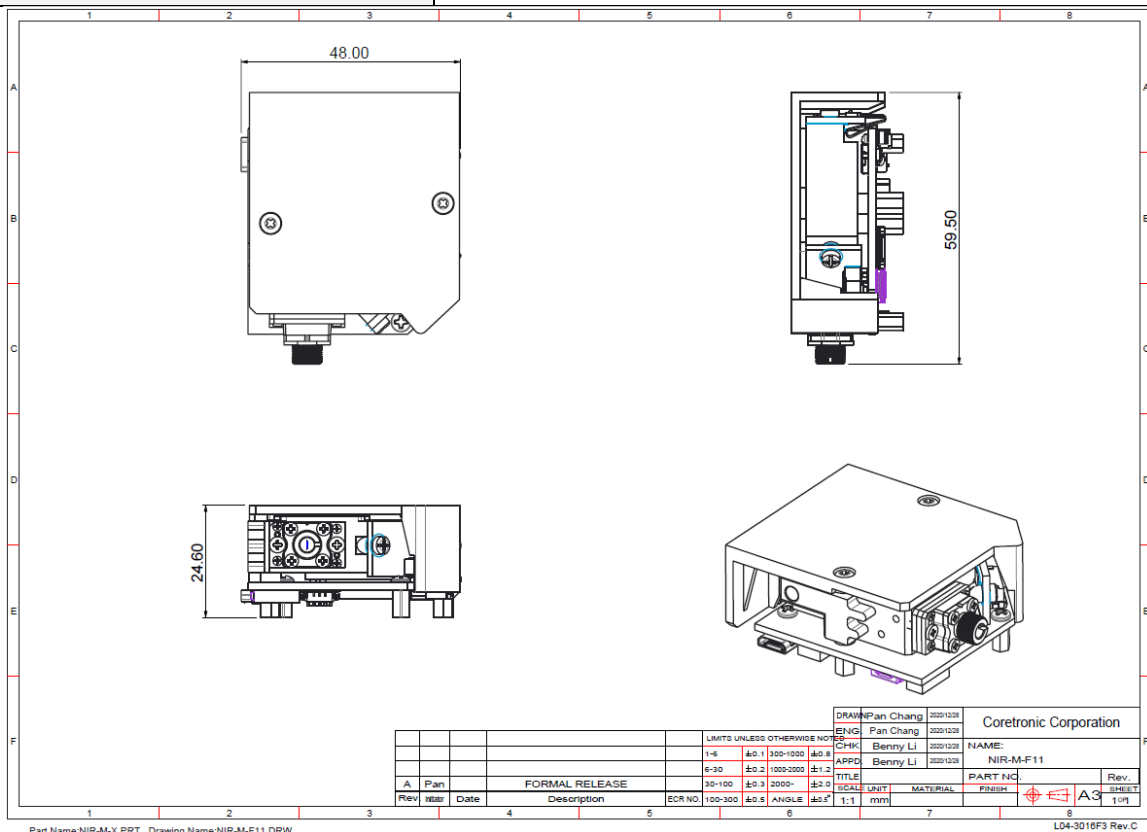
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A. Product Highlights

- ◆ Wavelength Range: 1350 to 2150nm
- ◆ Signal-to-Noise Ratio (SNR): 5,000:1 in 1 second scan
- ◆ Optical Resolution: Typ. 12nm @1530nm LD
- ◆ Wavelength Accuracy: Typ. ± 1 nm (verified with RM-NIR), Max. ± 2 nm
- ◆ Detector: 1mm extended InGaAs (Uncooled)
- ◆ Slit Size: 1.8mm * 0.025mm
- ◆ Scan Capability: Linear / Hadamard / Slew Scan
- ◆ Fiber Connector: SMA905 with key slot
- ◆ Communication Interface: Micro USB / UART / Bluetooth Low Energy (BLE)
- ◆ Sensors: Humidity and temperature sensor
- ◆ Power: Micro USB / UART / Li-ion battery
- ◆ Dimensions: 48mm * 59.5mm * 24.6mm
- ◆ Weight: < 65 g
- ◆ Operating Temperature: 0 ~ 40 °C, RH Max. 85%

B. Mechanical Specifications

1. Dimensions (WxLxH)	48mm * 59.5mm * 24.6mm <i>Please contact ISC for CAD file.</i>
2. Weight	< 65 g
3. Fiber Connector	SMA905 with key slot*
4. Package	White box

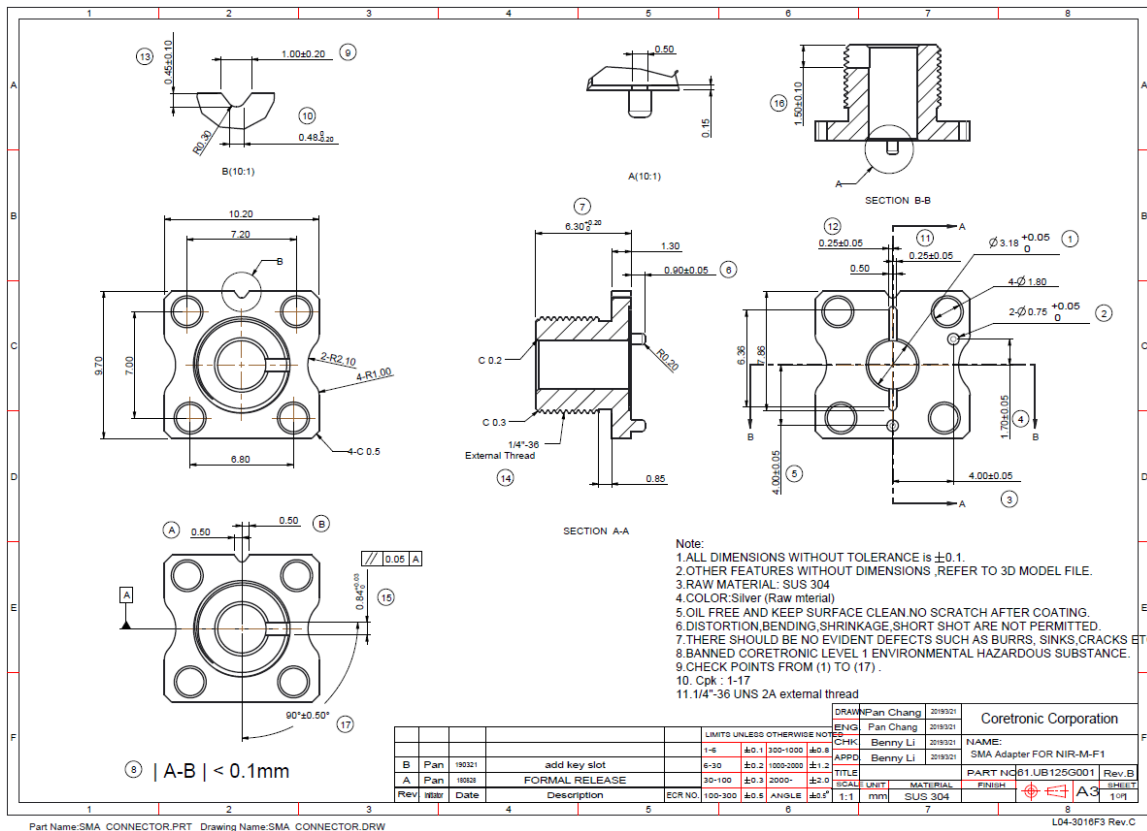


DRAWN: Pan Chang 20201228		Coretronic Corporation	
ENG: Pan Chang 20201228		NAME: NIR-M-F11	
CHK: Benny Li 20201228		PART NO.	
APPD: Benny Li 20201228		FINISH	
LIMITS UNLESS OTHERWISE NOTED		SCALE	
1:4	20-11 100-1000	AS 10	1:1
6-30	20-3 1000-2000	AS 10	
30-100	20-3 2000-	AS 10	
100-300	AS 5	ANGLE	AS 5
UNIT	MATERIAL	FINISH	
mm			

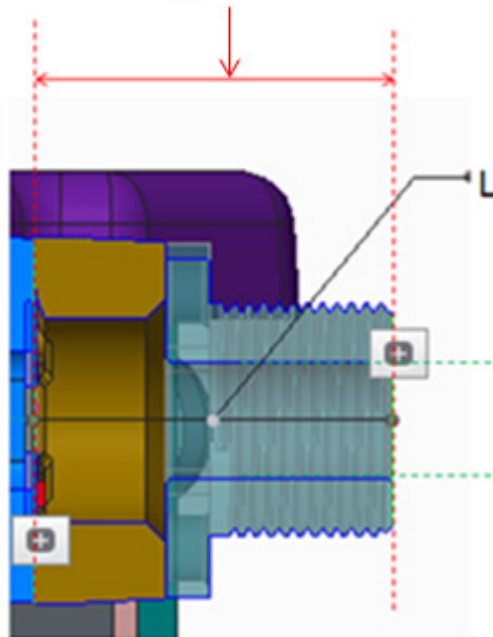
Rev	Date	Description	SCR NO.	Rev	Date	Description	SCR NO.
A		FORMAL RELEASE					

Part Name: NIR-M-X.PRT Drawing Name: NIR-M-F11.DRW

L04-3016F3 Rev.C



Ferrule length: max 9.8mm



C. Electrical Specifications

1. System Controller	TI TM4C1297NCZAD TIVA Microcontroller
2. DLP Controller	TI DLPC150
3. PMIC	TI DLP2005 Power Management
4. SDRAM	256Mbit
5. Flash Memory	32Mbit Serial Flash

6. Humidity & Temperature Sensor	TI HDC1010
7. 24bit ADC	TI ADS1255
8. Interface	<ul style="list-style-type: none"> ● Micro USB ● UART* ● BLE* ● Operation Panel (OP) * ● Battery*
9. Switch	Slide switch for power on/off
10. Battery Charger	TI BQ24250 (Up to 1A charge current)
11. OP PCBA (Optional)	<ul style="list-style-type: none"> ● Push button switch ● Green LED: Power ● Blue LED: BLE ● Yellow LED: Scan ● Red LED: Battery
12. BLE PCBA (Optional)	TI CC2564MODN & on-board antenna
13. Battery	Offering reference design*

D. Software Specifications

1. Embedded OS	RTOS
2. GUI OS Support	Windows 7, 8, 10
3. APP	iOS & Android
4. Scan Capability	Linear / Hadamard / Slew Scan
5. Device UUID	Each module has an unique device ID for identification

E. Optical Specifications

1. Micro Mirror Array	TI DLP2010NIRAFQJ 0.2 WVGA Near-Infrared DMD
2. InGaAs PIN Photo Diode	1mm extended InGaAs (Uncooled)
3. Wavelength Range	1350 to 2150nm
4. Wavelength Accuracy	Typ. ± 1 nm (verified with RM-NIR), Max. ± 2 nm
5. Optical Resolution	Typ. 12nm @ 1530nm LD
6. Signal-to-Noise Ratio (SNR)	5,000:1 in 1 second scan
7. Slit Size	1.8mm * 0.025mm

F. Power Specifications

1. Power Supply	DC 5V@500mA (USB or UART inputs)
2. Power Consumption	<ul style="list-style-type: none"> ● Standby: Typ. < 0.5 W ● Scan: Typ. < 1 W

G. Accessories

- ◆ USB Standard-A to Micro-B cable (1000mm)

*Please contact ISC for more information.