Last Modified: 12-04-2024	6.11:8.1.0	**Doc ID:** RM1000000029IMX
Model Year Start: 2023	**Model:** Prius Prime	**Prod Date Range:** [12/2022 -]
Title: LIGHTING (INT): LIGHTING SYSTEM: Interior Light Circuit; 2023 - 2024 MY Prius Prius Prime [12/2022 -]		

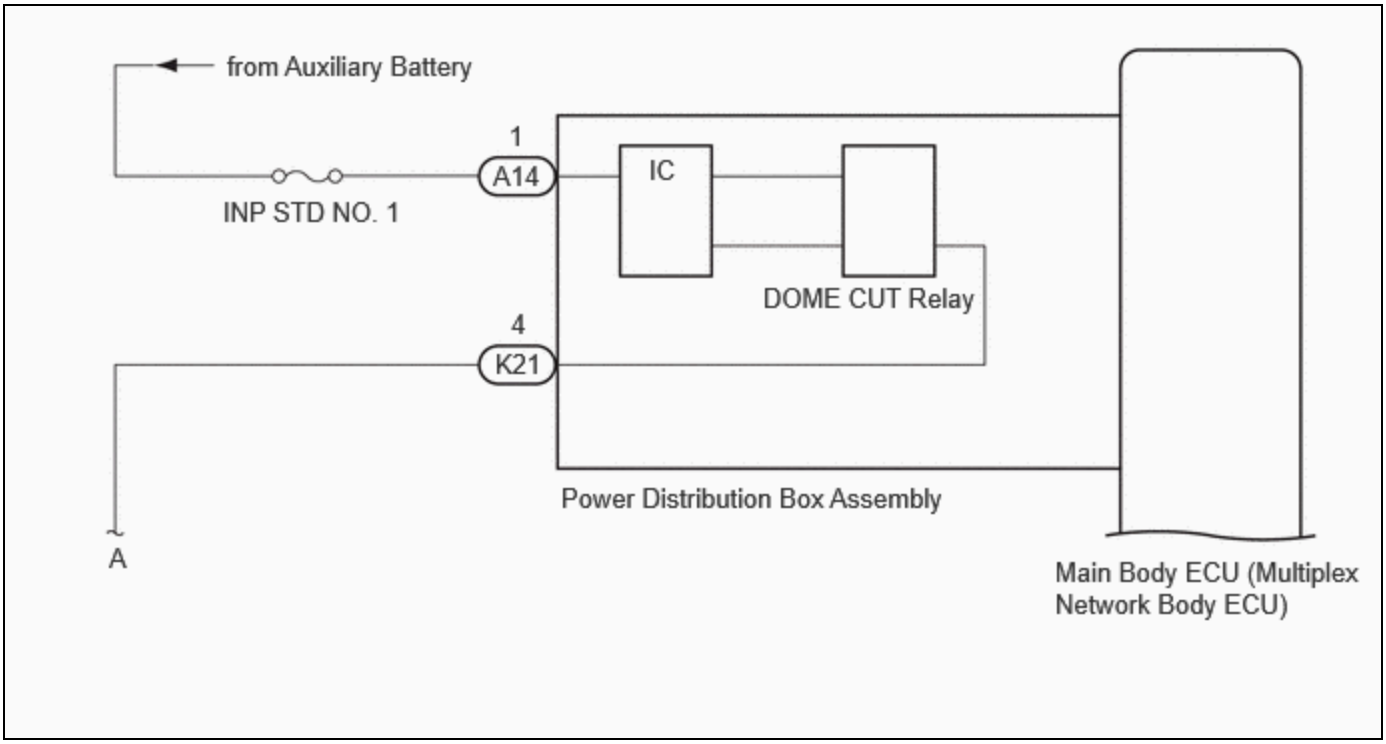
Interior Light Circuit

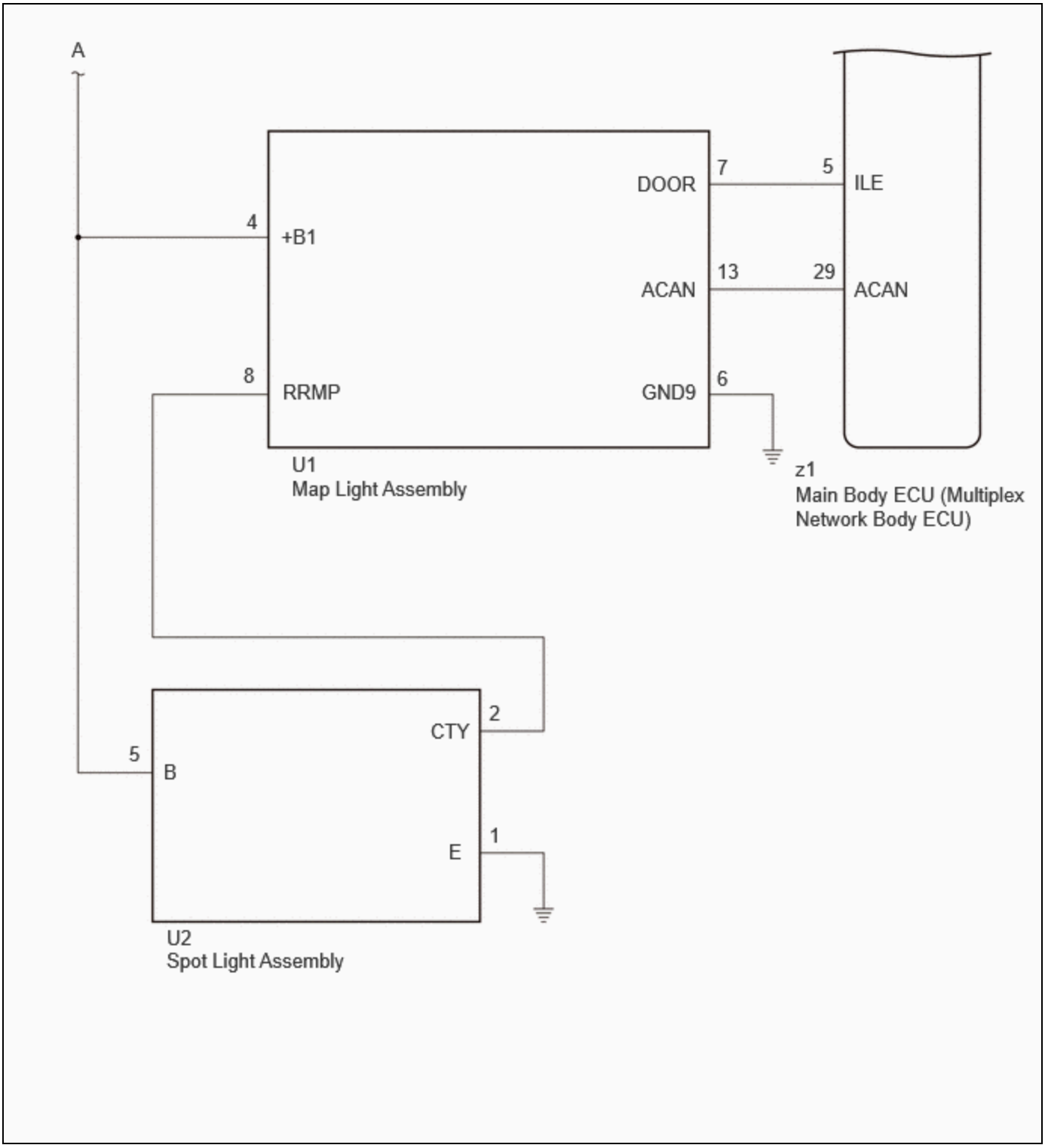
DESCRIPTION

The main body ECU (multiplex network body ECU) controls the operation of the following lights:

- Map Light Assembly
- Spot Light Assembly

WIRING DIAGRAM


from Auxiliary Battery
1
A14
INP STD NO. 1
IC
DOME CUT Relay
4
K21
Power Distribution Box Assembly
A
Main Body ECU (Multiplex Network Body ECU)



CAUTION / NOTICE / HINT

NOTICE:

- Inspect the fuses for circuits related to this system before performing the following procedure.
- Before replacing the main body ECU (multiplex network body ECU), refer to Registration.

Click here INFO

HINT:

The DOME CUT relay supplies power to the interior lights. If all the lights that use power from the DOME CUT relay do not turn on, check the interior light auto cut circuit first.

Click here INFO

PROCEDURE

1.	**PERFORM ACTIVE TEST USING GTS**

(a) Perform the Active Test according to the display on the GTS.

Body Electrical > Main Body > Active Test

TESTER DISPLAY	MEASUREMENT ITEM	CONTROL RANGE	DIAGNOSTIC NOTE
Illuminated Entry System	Turns on the lights that are controlled by the illuminated entry system*	OFF or ON	Perform the Active Test with the door linked switch of the map light assembly on and switch of the No. 1 room light assembly in the off (DOOR) position.

*: Refer to Operation Check for the lights that are controlled by the illuminated entry system.

Click here INFO

Body Electrical > Main Body > Active Test

TESTER DISPLAY
Illuminated Entry System

OK:
All lights that are controlled by the illuminated entry system come on.

RESULT	PROCEED TO
OK	A
NG (Map light assembly does not come on)	B
NG (Spot light assembly does not come on)	C
NG (All lights that are controlled by the illuminated entry system do not come on)	D

A ▶ **PROCEED TO NEXT SUSPECTED AREA SHOWN IN PROBLEM SYMPTOMS TABLE** INFO

C ▶ **GO TO STEP 5**

D ▶ **GO TO STEP 9**

B

2.	**INSPECT MAP LIGHT ASSEMBLY**

Click here INFO

NG ▶ **REPLACE MAP LIGHT ASSEMBLY**

OK

3.	**CHECK HARNESS AND CONNECTOR (POWER DISTRIBUTION BOX ASSEMBLY - MAP LIGHT ASSEMBLY)**

(a) Disconnect the K21 power distribution box assembly connector.

(b) Measure the voltage according to the value(s) in the table below.

Standard Voltage:

EWD INFO

Click Location & Routing(K21,U1)
Click Connector(K21)
Click Connector(U1)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K21-4 - U1-4 (+B1)	DOME CUT relay off	Below 1 V
	DOME CUT relay on	11 to 14 V

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

4.	**CHECK HARNESS AND CONNECTOR (MAP LIGHT ASSEMBLY - BODY GROUND)**

(a) Disconnect the U1 map light assembly connector.

(b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

EWD INFO

Click Location & Routing(U1)
Click Connector(U1)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
U1-6 (GND9) - Body ground	Always	Below 1 Ω

OK ▶ **USE SIMULATION METHOD TO CHECK**

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

5.	**INSPECT SPOT LIGHT ASSEMBLY**

Click here INFO

NG ▶ **REPLACE SPOT LIGHT ASSEMBLY**

OK ▼

6.	**CHECK HARNESS AND CONNECTOR (POWER DISTRIBUTION BOX ASSEMBLY - SPOT LIGHT ASSEMBLY)**

(a) Disconnect the K21 power distribution box assembly connector.

(b) Measure the voltage according to the value(s) in the table below.

Standard Voltage:

EWD INFO

Click Location & Routing(K21,U2)
Click Connector(K21)
Click Connector(U2)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K21-4 - U2-5 (B)	Ignition switch off	11 to 14 V

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

7.	**CHECK HARNESS AND CONNECTOR (MAP LIGHT ASSEMBLY - SPOT LIGHT ASSEMBLY)**

(a) Disconnect the U1 map light assembly connector.

(b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

EWD INFO

Click Location & Routing(U1,U2)
Click Connector(U1)
Click Connector(U2)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
U1-8 (RRMP) - U2-2 (CTY)	Always	Below 1 Ω
U1-8 (RRMP) or U2-2 (CTY) - Body ground	Always	10 kΩ or higher

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK

8.	**INSPECT MAP LIGHT ASSEMBLY**

Click here INFO

OK ▶ **USE SIMULATION METHOD TO CHECK**

NG ▶ **REPLACE MAP LIGHT ASSEMBLY**

9.	**CHECK HARNESS AND CONNECTOR (MAP LIGHT ASSEMBLY - MAIN BODY ECU (MULTIPLEX NETWORK BODY ECU))**

(a) Disconnect the U1 map light assembly connector.

(b) Disconnect the z1 main body ECU (multiplex network body ECU) connector.

(c) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

EWD INFO

Click Location & Routing(U1,z1)
Click Connector(U1)
Click Connector(z1)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
U1-7 (DOOR) - z1-5 (ILE)	Always	Below 1 Ω
U1-7 (DOOR) or z1-5 (ILE) - Body ground	Always	10 kΩ or higher

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

10.	**CHECK HARNESS AND CONNECTOR (MAP LIGHT ASSEMBLY - BODY GROUND)**

(a) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

EWD INFO

Click Location & Routing(U1)
Click Connector(U1)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
U1-6 (GND9) - Body ground	Always	10 kΩ or higher

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**

OK ▼

11.	**CHECK HARNESS AND CONNECTOR (POWER DISTRIBUTION BOX ASSEMBLY - MAP LIGHT ASSEMBLY)**

(a) Disconnect the K21 power distribution box assembly connector.

(b) Measure the resistance according to the value(s) in the table below.

Standard Resistance:

EWD INFO

Click Location & Routing(K21,U1)
Click Connector(K21)
Click Connector(U1)

TESTER CONNECTION	CONDITION	SPECIFIED CONDITION
K21-4 - U1-4 (+B1)	Always	Below 1 Ω
K21-4 or U1-4 (+B1) - Body ground	Always	10 kΩ or higher

OK ▶ **USE SIMULATION METHOD TO CHECK**

NG ▶ **REPAIR OR REPLACE HARNESS OR CONNECTOR**