

**Classification:**

KS15-025D

**Reference:**

ITB15-026D

**Date:**

June 7, 2021

## SIGNAL TECH-II INTELLIGENT KEY BATTERY TEST AND SIGNAL CHECK

This bulletin has been amended. See **AMENDMENT HISTORY** on the last page.  
Please discard previous versions of this bulletin.

<b>APPLIED VEHICLES:</b>	2015 – 2021 Q50 (V37)	2019 – 2021 QX50 (J55)
	2015 – 2018 Q50 Hybrid (HV37)	2015 – 2020 QX60 (L50)
	2017 – 2021 Q60 (CV37)	2015 – 2019 QX60 Hybrid (L50H)
	2015 – 2019 Q70 (Y51)	2015 – 2017 QX70 (S51)
	2015 – 2018 Q70 Hybrid (Y51)	2015 – 2021 QX80 (Z62)
	2015 – 2017 QX50 (J50)	

**IF YOU CONFIRM**

The Intelligent Key intermittently or continuously does not function.

**ACTION**

Check the battery condition with the Signal Tech-II "I-Key Battery Test."

**IMPORTANT:** Confirm that the Signal Tech-II has the most recent update. Updates can be performed through **ASIST / Specialty Tools / Signal Tech-II**.

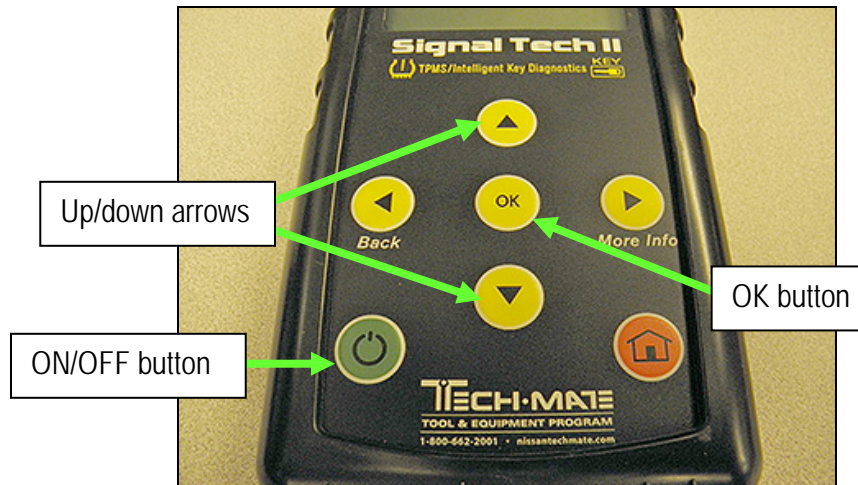


Figure 1

Infiniti Bulletins are intended for use by qualified technicians, not 'do-it-yourselfers'. Qualified technicians are properly trained individuals who have the equipment, tools, safety instruction, and know-how to do a job properly and safely. NOTE: If you believe that a described condition may apply to a particular vehicle, DO NOT assume that it does. See your Infiniti retailer to determine if this applies to your vehicle.

## SERVICE PROCEDURE

### Intelligent Key Battery Condition Check

1. Turn ON the Signal Tech-II (see Figure 1 on page 1).

**NOTE:** This procedure will refer to the yellow up/down arrows and OK button on the Signal Tech-II key pad. Refer to Figure 1 on page 1 as needed.

2. Using the Signal Tech-II key pad, scroll to **Toolkit** with the yellow arrows and then press OK.

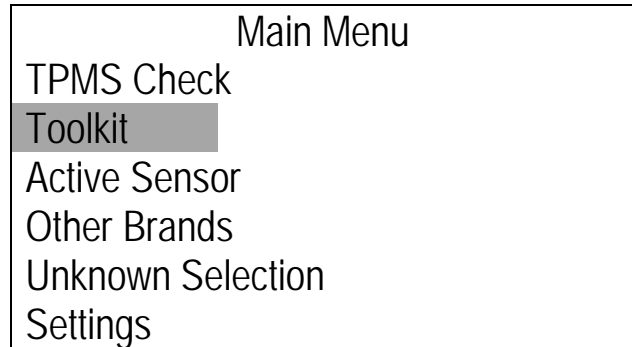


Figure 2

3. Scroll to **I-Key Battery Test**, and then press OK.

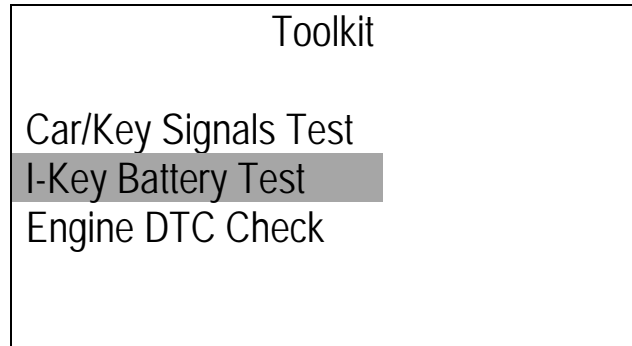


Figure 3

4. Scroll to (highlight) the model you are working on, and then press OK.

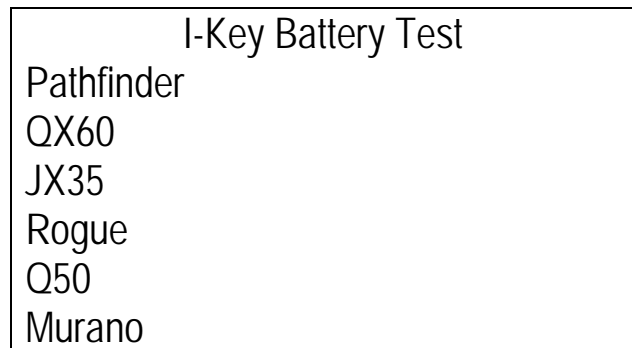


Figure 4

5. Select (highlight) model year range, and then press OK.

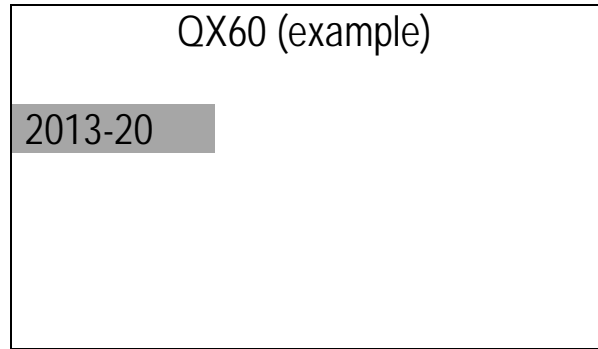


Figure 5

6. When Figure 6 is displayed, read the on-screen message and then press OK.

**NOTE:** On-screen instructions will aid in completing the Intelligent Key battery test.

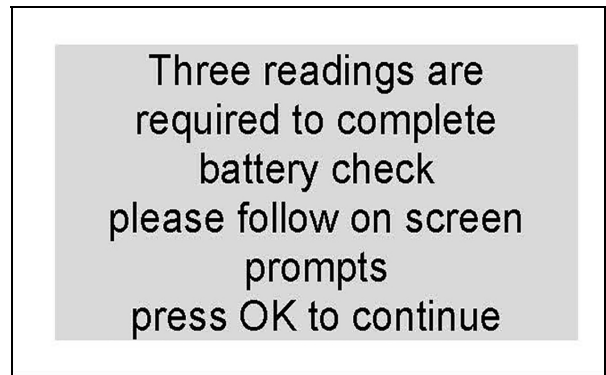


Figure 6

7. Press the Intelligent Key lock button 3 times:

1<sup>st</sup> press – wait one second

2<sup>nd</sup> press – wait one second

3<sup>rd</sup> press – wait one second

- A check mark will appear next to Read 1, 2, and 3 with each press of the lock button.

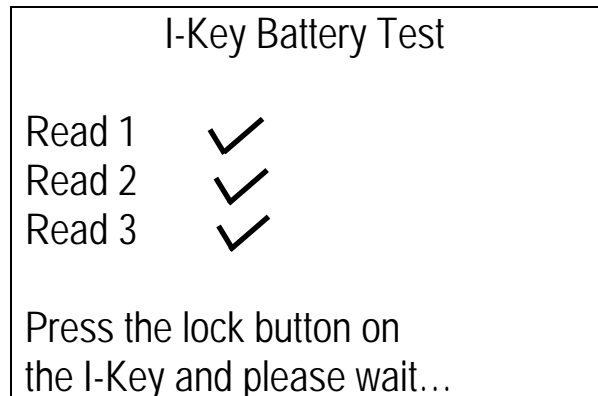


Figure 7

**NOTE:**

- In some rare cases the Intelligent Key battery may be too weak to transmit or the Intelligent Key may no longer function; check marks will not appear next to Read 1, 2, or 3.
- In this case, go to Manual Battery Voltage Test on page 5.

8. When step 7 is complete, the message in Figure 8 or Figure 9 will display.

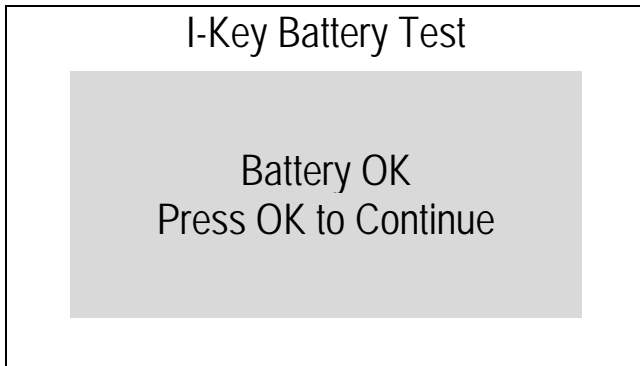


Figure 8

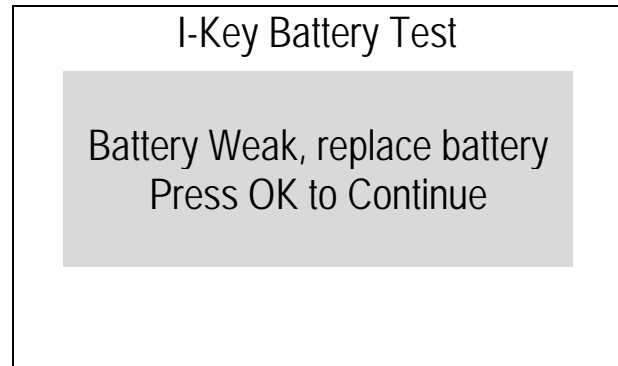


Figure 9

9. If the message displayed is:

- **Battery OK Press OK to Continue**
  - The battery is OK and does not need to be replaced.
  - Refer to the Electronic Service Manual (ESM), section **DLK – Door & Lock** for further diagnosis.
  
- **Battery Weak, replace battery Press OK to Continue**
  - Replace the Intelligent Key battery.
  - Measure old battery's voltage with a DVOM and write the voltage on the repair order.
  - Perform steps 6 – 8 on pages 3 – 4 again.

## Manual Battery Voltage Test

10. Remove the mechanical key from the Intelligent Key.
11. Place a piece of tape on the end of a small flathead screwdriver.
12. Gently insert the screwdriver into one of the slots shown in Figure 10 and Figure 11.

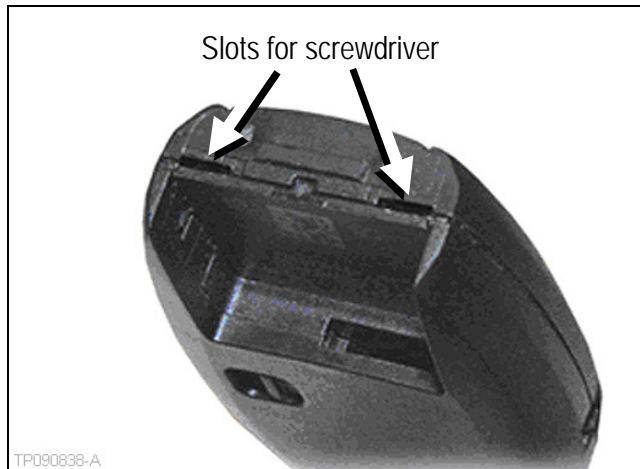


Figure 10



Figure 11

### NOTE:

- Figure 10 and Figure 11 show the proper location to insert a tool to open the Intelligent Key.
- **DO NOT** insert a tool into the notches on the side of the Intelligent Key (if equipped) to pry it open, as this may damage the printed circuit board.
- **DO NOT** use excessive force when opening the Intelligent Key, as this may result in damage to the internal components.



Figure 12

13. Gently rotate the screwdriver until the two covers separate.

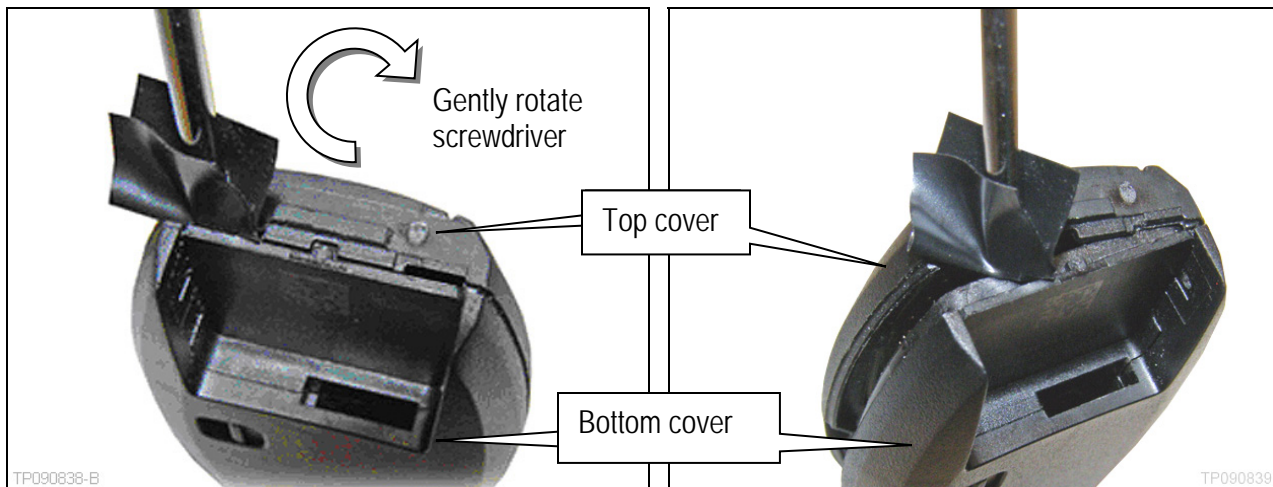


Figure 13

Figure 14

14. Remove the battery and check the voltage.

Two methods can be used:

Check voltage with resistor (load test)	Check voltage without resistor
<p>Refer to the ESM for Intelligent Key battery diagnosis procedure.</p> <ul style="list-style-type: none"> <li>If battery voltage <u>is not within</u> the 2.5 – 3.0 range, replace battery.</li> </ul> <p><b>NOTE:</b> When inserting the new battery, make sure the + side of the battery faces the bottom cover piece.</p> <ul style="list-style-type: none"> <li>If battery voltage <u>is within</u> the 2.5 – 3.0 range, refer to the ESM for further diagnostic information.</li> </ul>	<p>If a resistor is unavailable, use a volt/ohm meter (VOM) to check the battery voltage.</p> <ul style="list-style-type: none"> <li>If the battery voltage is <u>2.7 or less</u>, replace the battery.</li> </ul> <p><b>NOTE:</b> When inserting the new battery, make sure the + side of the battery faces the bottom cover piece.</p> <ul style="list-style-type: none"> <li>If the battery voltage is <u>more than 2.7</u>, refer to the ESM for further diagnostic information.</li> </ul>

15. Reattach the two cover pieces by pushing them together.

16. Confirm all Intelligent Key functions operate correctly.

## Intelligent Key Frequency Check

- The frequency of the Intelligent Key signal may be 315 MHz or 433/434 MHz.
- For diagnostic purposes, sometimes TECH LINE or other Nissan technical staff will ask for the frequency (315 MHz or 433/434 MHz) of an Intelligent Key you are working on.
- The following steps can be used to check the signal frequency.

1. Turn ON the Signal Tech-II.

2. Using the Signal Tech-II key pad, scroll to **Toolkit** with the yellow arrows and then press OK.

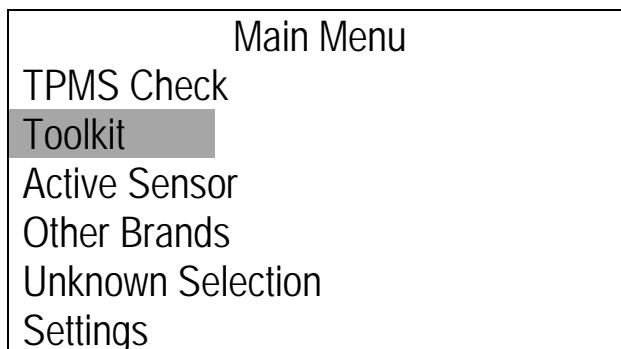


Figure 15

3. Scroll to **Car/Key Signals Test**, and then press OK.

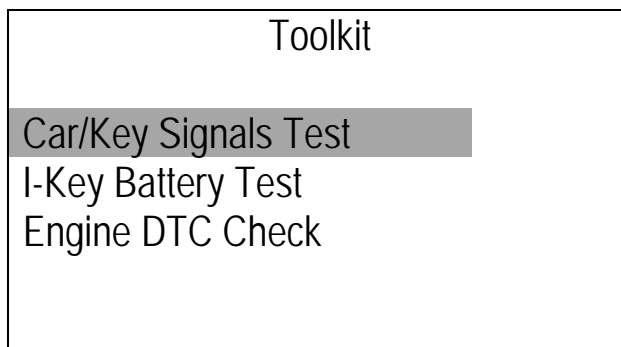


Figure 16

4. Hold the Intelligent key near the Signal Tech-II and press the Lock or Unlock button.
5. The signal strength and frequency (315 MHz or 433/434 MHz) will be displayed.



Figure 17



## PARTS INFORMATION

Description	PART #	Quantity
Intelligent Key Battery	(1)	1

(1) Use the VIN and the electronic parts catalog to look up the part number for the vehicle you are working on.

## CLAIMS INFORMATION

Submit a Primary Failed (PP) type line claim using the following claims coding:

OPERATION	PFP	OP CODE	SYM	DIAG	FRT
Perform I-Key Battery Test with Signal Tech-II	(2)	RX5CAA	ZE	32	0.2

(2) Reference the electronic parts catalog and use the Intelligent Key battery Part Number as the Primary Failed Part.

## AMENDMENT HISTORY

PUBLISHED DATE	REFERENCE	DESCRIPTION
September 10, 2015	ITB15-026	Original bulletin published
July 22, 2016	ITB15-026A	Changes made throughout
October 9, 2018	ITB15-026B	APPLIED VEHICLES updated
March 16, 2021	ITB15-026C	Classification number updated
June 7, 2021	ITB15-026D	APPLIED VEHICLES revised