



**Technical Service  
BULLETIN**

December 12, 2006

Title:

**SMART KEY SPECIFICATIONS**

Models:

'04 – '07 Prius, '05 – '08 Avalon, &  
'07 – '08 Camry & Camry HV, & '08 Highlander

**ELECTRICAL**  
**EL015-06**  
**REVISED**

**TSB REVISION NOTICE:**

- November 13, 2007: 2007 model year Prius and 2008 model year Avalon, Camry, Camry HV, and Highlander vehicles have been added to Applicable Vehicles.
  - August 17, 2007: 2007 model year Camry HV has been added to Applicable Vehicles.
- Previous versions of this TSB should be discarded.

**Introduction**

Some customers may inquire about the frequency and power output of the Smart Key/Smart Entry systems used on various models. The Smart Key/Smart Entry systems conform to all applicable FCC rules. This bulletin details the applicable specifications for these systems.

**CAUTION:**

Implanted pacemakers, cardiac defibrillators, or other electrical medical devices may be affected by radio waves emitted by the Smart Key/Smart Entry Antenna (in detection area). Customers with concerns about these systems and their effects on implanted electronic medical devices should consult their physician or the device manufacturer. This information is also included in the Owner's Manual for each applicable model.

If necessary, details on disabling the Smart Key/Smart Entry functions can be found in the appropriate vehicle Repair Manual. Refer to the Technical Information System (TIS) for additional details.

**Applicable Vehicles**

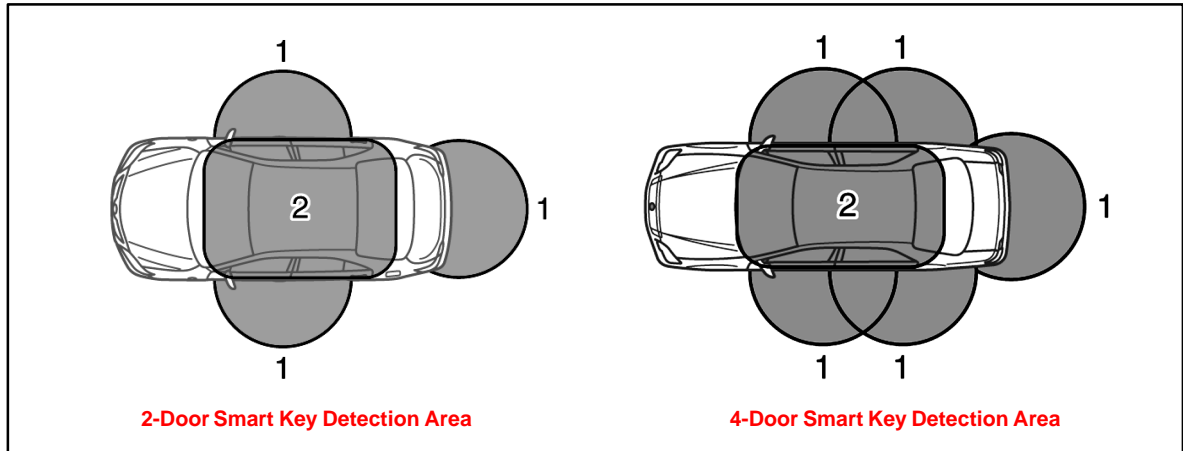
- 2004 – 2007 model year **Prius** vehicles.
- 2005 – 2008 model year **Avalon** vehicles.
- 2007 – 2008 model year **Camry** and **Camry HV** vehicles.
- 2008 model year **Highlander** vehicles.

**Warranty Information**

OP CODE	DESCRIPTION	TIME	OFF	T1	T2
N/A	Not Applicable to Warranty	–	–	–	–



**Smart Key  
Detection  
Area**



**Specifications**

Smart Key Antenna (communication from vehicle to key):

- Frequency: 134.2 kHz
- Power Output: 94.2dB  $\mu\text{V}/\text{m}$  (at 3 meters away from the Smart Key Antenna)
- Specifications for Smart Antenna RF Output Power:

	SPECIFICATION			
	FREQUENCY	OUTPUT POWER/ ELECTRIC FIELD INTENSITY	MODULATION METHOD	MOUNTING POINT IN VEHICLE
Inside Passenger Compartment	134.2 kHz	92dB $\mu\text{V}/\text{m}$ –3m	AM	Differs in each vehicle; consult the relevant Service Manual for each vehicle
Inside Trunk (ONLY in Vehicles w/Trunk)	134.2 kHz	92dB $\mu\text{V}/\text{m}$ –3m	AM	Inside Trunk
Outside Vehicle	134.2 kHz	92dB $\mu\text{V}/\text{m}$ –3m	AM	1)Inside Door Handle 2)Inside Rear Bumper

**Specifications**  
(Continued)

	TRANSMIT TIMING		
	VEHICLE PARKED	ENTERING OR EXITING VEHICLE	VEHICLE IS BEING DRIVEN
Inside Passenger Compartment	Does NOT Transmit	<ul style="list-style-type: none"> <li>Operating door locks</li> <li>Operating engine switch/depressing brake pedal</li> <li>Opening or closing doors</li> <li>With IG ON or ACC ON, and in the P-range, closing a door when the key cannot be detected inside the vehicle (continues for 3 seconds until the key is detected or the power switch is turned OFF), AT and HV vehicles ONLY</li> <li>IG OFF after driving more than 20 minutes</li> <li>(Not in P-range) when shutting the door, if the key cannot be detected inside the vehicle (transmits for 3 seconds until the key is located), AT and HV vehicles ONLY</li> </ul>	When key is NOT detected inside passenger compartment while car is being driven (transmits for 3 seconds)
Inside Trunk (ONLY in Vehicles w/Trunk)	Does NOT Transmit	During the following operations: <ul style="list-style-type: none"> <li>Door lock is operated/trunk switch is depressed</li> <li>Closing the trunk</li> <li>Opening or closing doors</li> </ul>	Does NOT Transmit
Outside Vehicle	1)When door is locked, transmits at 250 ms intervals (stops when door is unlocked) 2)Does NOT transmit	1)Lock switch is depressed 2)Trunk or back door open switch is depressed	Does NOT Transmit

Smart Key Transmitter/Wireless Remote (communication from key to vehicle):

- Frequency: 312 – 315 mHz