Smart Key Specifications

Service Category	Vehicle Interior

Section	Theft Deterrent/Keyless Entry	Market	USA

Toyota Supports
ASE Certification

Applicability

YEAR(S)	MODEL(S)	ADDITIONAL INFORMATION
2010 – 2013	4Runner	
2013	Avalon HV	
2009 – 2013	Avalon, Camry, Camry HV, Highlander, Venza	
2008 – 2013	Highlander HV, Prius, RAV4	
2009 – 2011, 2013	Land Cruiser	
2012 – 2013	Prius C, Prius V, RAV4 EV	
2010, 2012 – 2013	Prius PHV	
2011 – 2013	Sienna	

Introduction

Some customers may inquire about the frequency and power output of the SmartKey/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.

Smart Key Specifications

Warranty Information

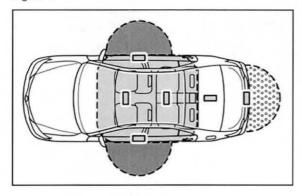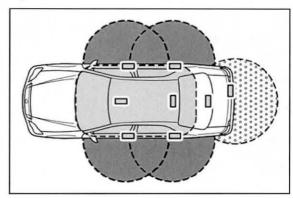| OP CODE	DESCRIPTION	TIME	OFP	T1	T2
N/A	Not Applicable to Warranty	–	–	–	–

Smart Key Detection Area

Figure 1.

Figure 2.

Specifications: Smart Key Antenna (Communication from Vehicle to Key)

- Frequency: 134.2 kHz

- Power Output: 95dB µV/m (at 3 meters away from the Smart Key Antenna)

- Smart Antenna RF Output Power

SPECIFICATIONS				
LOCATION	FREQUENCY	OUTPUT POWER/ ELECTRIC FIELD INTENSITY	MODULATION METHOD	MOUNTING POINT IN VEHICLE
Inside Passenger Compartment	134.2 kHz	95dB µV/m @3 m	AM	Differs in each vehicle; consult the relevant Repair Manual for each vehicle
Inside Trunk (ONLY in Vehicles with Trunk)				Inside Trunk
Outside Vehicle				• Inside Door Handle • Inside Rear Bumper

Smart Key Specifications

Specifications: Smart Key Antenna (Communication from Vehicle to Key) (Continued)

TRANSMIT TIMING			
LOCATION	VEHICLE PARKED	ENTERING OR EXITING VEHICLE	VEHICLE IS BEING DRIVEN
Inside Passenger Compartment	Does NOT Transmit	• Operating door locks • Operating engine switch/ depressing brake pedal • Opening or closing doors • 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), A/T and HV vehicles ONLY • IG OFF after driving more than 20 minutes • (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), A/T and HV vehicles ONLY	When key is NOT detected inside passenger compartment while car is being driven (transmits for 3 seconds)
Inside Trunk (ONLY in Vehicles w/Trunk)		During the following operations: • Door lock is operated/trunk switch is depressed • Closing the trunk • Opening or closing doors	Does NOT Transmit
Outside Vehicle	• When door is locked, transmits at 250 ms intervals (stops when door is unlocked) • Does NOT transmit	• Operating door locks • Trunk or back door open switch is depressed	

Smart Key Specifications

Specifications: Smart Key Transmitter/Wireless Remote (Communication from Key to Vehicle)

SPECIFICATION				
MODEL	MODEL YEAR	FREQUENCY	OUTPUT POWER/ ELECTRIC FIELD INTENSITY	MODULATION METHOD
Prius	2008 – 2009	312.15 MHz	80dB μV/m @3 m	AM
Avalon	2009 – 2012	312.15 MHz 314.35 MHz	81dB μV/m @3 m	
Camry	2009 – 2011			
Camry HV				
Highlander	2009 – 2013			
Highlander HV	2008 – 2013			
Land Cruiser	2009 – 2013			
RAV4	2008 – 2012			
4Runner	2010 – 2013	312.15 MHz 314.35 MHz	75dB μV/m @3 m	FM
Avalon	2013			
Avalon HV				
Camry	2012 – 2013			
Camry HV				
Prius	2010 – 2013			
Prius C	2012 – 2013			
Prius PHV	2010 – 2013			
Prius V	2012 – 2013			
RAV4	2013			
RAV4 EV	2012 – 2013			
Sienna	2011 – 2013			
Venza	2009 – 2013			