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60G Antenna Spec.

1.4 BGT60TR13C Pin Definition and Function

The following Figure 3 shows the bottom view of BGT60TR13C laminate package with the pin and antenna number assignment.

The function of each pin is described in Table 1 (See also Table 3 and Table 4).

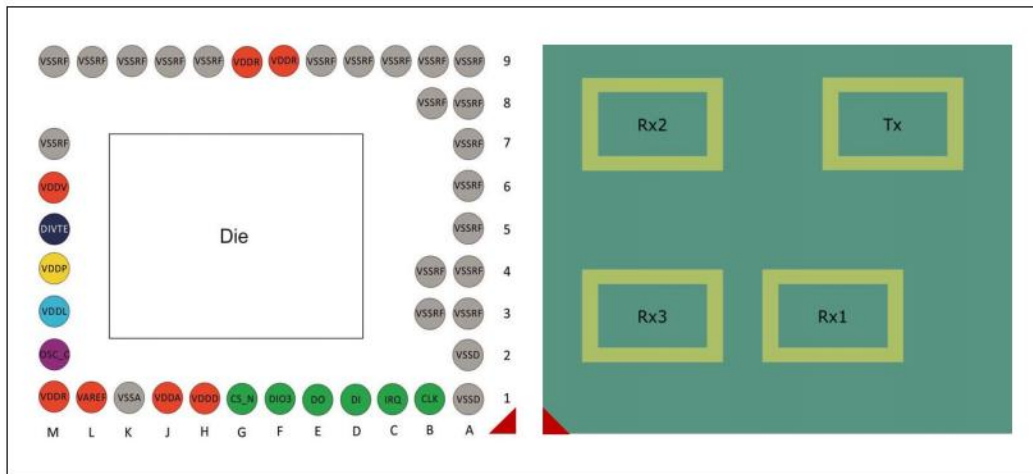


Figure 3 BGT60TR13C pin and antenna numbers assignment: bottom view left, top view right

Table 1 Ball and Antenna Definition

Ball	Function
A1, A2	VSSD
B1	CLK
C1	IRQ
D1	DI
E1	DO
F1	DIO3
G1	CS_N

Table 1 Ball and Antenna Definition

Ball	Function
H1	VDDD
J1	VDDA
K1	VSSA
L1	VAREF
M1, F9, G9	VDDRF
M2	OSC_CLK
M3	VDDL
M4	VDDPLL
M5	DIV_TEST
M6	VDDVCO
M7, M9, L9, K9, J9, H9, E9, D9, C9, B9, B8, A9, A8, A7, A6, A5, B4, A4, B3, A3	VSSRF
Antenna	Function
Tx1	Transmitter
Rx1	Receiver ch1
Rx2	Receiver ch2
Rx3	Receiver ch3

In the RF frontend, all features to enable the radar functionality are implemented.

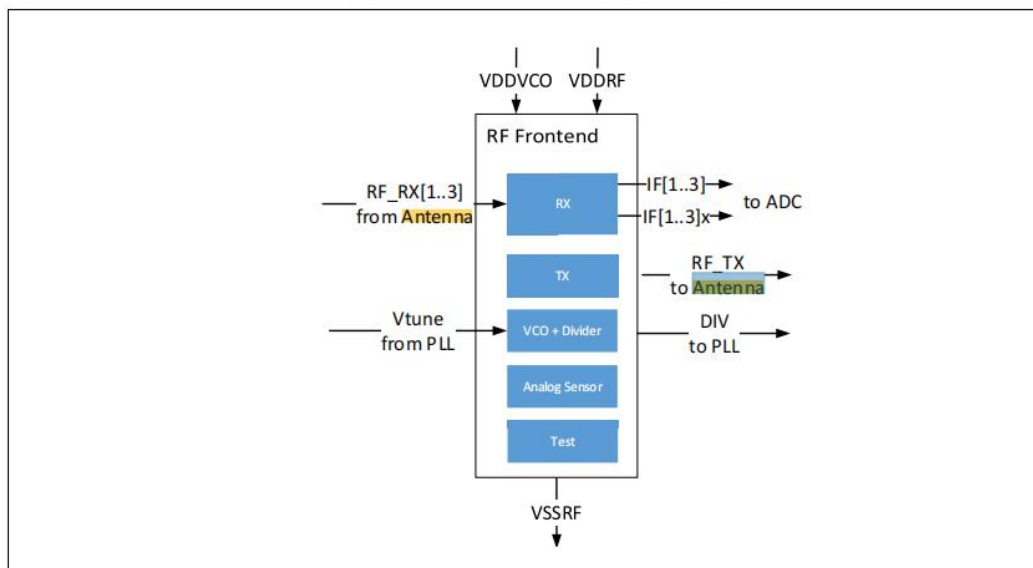


Figure 63 Simplified block diagram of BGT60TR13C transceiver frontend

12.1 Built-in Antenna Specifications

Table 71 Antennas In Package Specifications

Spec	Unit	Value			Condition
		Min	Typ	Max	
Parameter					
RX_BW, TX_BW	GHz	58.0		63.2	Antenna bandwidth
GTX	dBi	2.0	3.5	5.0	Antenna gain of a single TX antenna
GRX	dBi	2.0	3.5	5.0	Antenna gain of a single RX antenna
HPBW_RX_E	Deg	50	65	80	Half-power beam width of a single RX antenna in the E-plane direction

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Spec	Unit	Value			Condition
		Min	Typ	Max	
Parameter					
HPBW_RX_H	Deg	20	35	50	Half-power beam width of a single RX antenna in the H-plane direction.
HPBW_TX_E	Deg	50	65	80	Half-power beam width of a single TX antenna in the E-plane direction
HPBW_TX_H	Deg	25	40	55	Half-power beam width of a single TX antenna in the H-plane direction
D_Rx_RX	λ_0		0.5		Distance between RX antennas at 60 GHz