

YBTE5V9377-24

1x1 5GHz 802.11n/ac **MODULE** **DATASHEET**

Ordering Information

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Feature:



- YBTE5V9377-24 Supports low-power USB 2.0 interfaces.
- Provides a highly integrated WLAN system-on-chip (SoC) for 1x1 5 GHz 802.11n/ac WLAN applications.
- Supports a single-ended RF port for cleaner and lower cost design.
- Supports 20 MHz, 40 MHz and 80 MHz at 5 GHz.
- Supports multiuser MIMO.
- Operates on one 3.3-volt power supply and one 5.0-volt power supply.
- 48 MHz reference clock.
- Available in a low-profile 25.0 mm × 25.0 mm solderable package.
- Uses an external FEM to support high output power and rapid sensitivity.

Pin Description:

Pin#	Pin Name	I/O	Description
1	3V3IN	Input	3.3V Power Supply/1.5A ^①
2	GND	GND	
3	GND	GND	
4	3V3IN	Input	3.3V Power Supply/1.5A ^①
5	5VIN	Input	5V Power Supply/1A ^②
6	5VIN	Input	5V Power Supply/1A ^②
7	GND	GND	
8	USB+	I/O	Universal Serial Bus Positive
9	USB-	I/O	Universal Serial Bus Negative
10	LED	Output	WLAN Enable
11	GND	GND	

12	GND	GND	
13	GND	GND	
14	GND	GND	

Remark:

①3.3V/1.5A Power Supply in Pin1 & 4

②5V/1A Power supply in Pin5 & 6

Electrical Characteristics:

RF Output Power vs Data rate list as below:

Table 1 5G-802.11a Output Power

802.11a Data rate(Mbps)	Power(dBm)
6	24
9	24
12	24
18	24
24	24
36	23
48	22
54	21

Table 2 5G-802.11n Output Power

802.11n Data rate(Mbps)	Power(dBm)
MCS0	24
MCS1	24
MCS2	24
MCS3	24
MCS4	23
MCS5	22
MCS6	21
MCS7	20

Table 3 5G-802.11ac Output Power

802.11ac Data rate(Mbps)	Power(dBm)
MCS0	24
MCS1	24
MCS2	24
MCS3	24
MCS4	23

MCS5	23
MCS6	22
MCS7	21
MCS8	20
MCS9	20

EVM vs Data rate list as below:

Table 4 802.11a Tx EVM vs Data rate

802.11a Data rate(Mbps)	EVM(dB)
6	-5
9	-8
12	-10
18	-13
24	-16
36	-19
48	-22
54	-25

Table 5 802.11n Tx EVM vs Data rate

802.11n Data rate(MCS)	EVM(dB)
0/8	-5
1/9	-10
2/10	-13
3/11	-16
4/12	-19
5/13	-22
6/14	-25
7/15	-27

Table 6 802.11ac Tx EVM vs Data rate

802.11ac Data rate(MCS)	EVM(dB)
0/10	-5
1/11	-10
2/12	-13
3/13	-16
4/14	-19
5/15	-22
6/16	-25
7/17	-27

8/18	-30
9/19	-32

Sensitivity vs Data rate list as below:

Table 7 5G 802.11a Sensitivity vs Data rate

Data rate	Sensitivity
802.11a/g Data rate(Mbps)	Sensitivity(dBm)FER<10% (PSDU = 1000Bytes)
6	-91
9	-90
12	-87
18	-85
24	-82
36	-78
48	-73
54	-72

Table 4 5G 802.11n Sensitivity vs Data rate

Data rate	Sensitivity
802.11n HT20 Data rate(MCS)	Sensitivity(dBm)FER<10% (PSDU = 1024Bytes)
0	-85
1	-82
2	-80
3	-77
4	-73
5	-69
6	-68
7	-67
802.11n HT40 Data rate(MCS)	Sensitivity(dBm)FER<10% (PSDU = 1024Bytes)
0	-82
1	-79
2	-77
3	-74
4	-70
5	-66
6	-65
7	-64

Table 8 5G 802.11ac Sensitivity vs Data rate

Data rate			Sensitivity
802.11ac rate(MCS)	HT20	Data	Sensitivity(dBm)FER<10% (PSDU=1024Bytes)
0			-85
1			-82
2			-80
3			-77
4			-73
5			-69
6			-68
7			-67
8			-62
9			-60
802.11ac rate(MCS)	HT40	Data	Sensitivity(dBm)FER<10% (PSDU=1024Bytes)
0			-82
1			-79
2			-77
3			-74
4			-70
5			-66
6			-65
7			-64
8			-59
9			-57
802.11ac rate(MCS)	HT80	Data	Sensitivity(dBm)FER<10% (PSDU=1024Bytes)
0			-79
1			-76
2			-74
3			-71
4			-67
5			-63
6			-62
7			-61
8			-56
9			-54

Mechanical Information:

