

FCC ID: RSE-TG789VN

Description of Operation

EUT is a Wireless Residential VoIP Gateway with 11 channels. The device of RF carrier is DQPSK, DBPSK, CCK and OFDM. The device adapts direct sequence spread spectrum modulation.

This Wireless Residential VoIP Gateway is an IEEE 802.11b/g/n AP. It allows your computer to connect to a wireless network and to share resources, such as files or printers without being bound to the network wires. Operation in 2.4GHz Direct Sequence Spread Spectrum (DSSS) and Orthogonal Frequency Division Multiplex-ing (OFDM) radio transmission, the Wireless Residential VoIP Gateway transfers data at speeds up to 64/128-bit Wired Equivalent Protection (WEP) algorithm and the new industrial-strength WPA (Wi-Fi Protected Access™) security is used. In addition, its standard compliance ensures that it can communicate with any 802.11b/g/n network.

The EUT has been verified, no Ad Hoc mode is provided.

The EUT is with IEEE 802.11b/g/n radio functions.

IEEE 802.11b/g

Items	Description
Power Type	22Vdc from adapter
Modulation	DSSS for IEEE 802.11b; OFDM for IEEE 802.11g
Data Modulation	DSSS (DBPSK / DQPSK / CCK) ; OFDM (BPSK / QPSK / 16QAM / 64QAM)
Data Rate (Mbps)	DSSS (1/ 2/ 5.5/11); OFDM (6/9/12/18/24/36/48/54)
Frequency Band	2400 ~ 2483.5MHz
Total Amount of Channels	11

IEEE 802.11n

Items	Description
Data Modulation	OFDM (BPSK / QPSK / 16QAM / 64QAM)
Frequency Band	2400 ~ 2483.5MHz
Total Amount of Channels	11

The table below is the general spec of IEEE 802.11n. However, the radio is operated only in 800nsGI mode with Occupied Band Width (OEW) of 20 MHz.

MCS Index	Nss	Modulation	R	NBPS	NCBPS		NDBPS		Datarate(Mbps)			
					20MHz	40MHz	20MHz	40MHz	800nsGI		400nsGI	
									20MHz	40MHz	20MHz	40MHz
0	1	BPSK	1/2	1	52	108	26	54	6.5	13.5	7.200	15
1	1	QPSK	1/2	2	104	216	52	108	13.0	27.0	14.400	30
2	1	QPSK	3/4	2	104	216	78	162	19.5	40.5	21.700	45
3	1	16-QAM	1/2	4	208	432	104	216	26.0	54.0	28.900	60
4	1	16-QAM	3/4	4	208	432	156	324	39.0	81.0	43.300	90
5	1	64-QAM	2/3	6	312	648	208	432	52.0	108.0	57.800	120
6	1	64-QAM	3/4	6	312	648	234	486	58.5	121.5	65.000	135
7	1	64-QAM	5/6	6	312	648	260	540	65.0	135.0	72.200	150
8	2	BPSK	1/2	1	104	216	52	108	13.0	27.0	14.444	30
9	2	QPSK	1/2	2	208	432	104	216	26.0	54.0	28.889	60
10	2	QPSK	3/4	2	208	432	156	324	39.0	81.0	43.333	90
11	2	16-QAM	1/2	4	416	864	208	432	52.0	108.0	57.778	120
12	2	16-QAM	3/4	4	416	864	312	648	78.0	162.0	86.667	180
13	2	64-QAM	2/3	6	624	1296	416	864	104.0	216.0	115.556	240
14	2	64-QAM	3/4	6	624	1296	468	972	117.0	243.0	130.000	270
15	2	64-QAM	5/6	6	624	1296	520	1080	130.0	270.0	144.444	300

Symbol	Explanation
Nss	Number of spatial streams
R	Code rate
NBPS	Number of coded bits per single carrier
NCBPS	Number of coded bits per symbol
NDBPS	Number of data bits per symbol
GI	Guard interval

The table below shows the maximum antenna gain of each antenna equipped inside the EUT.

Ant. No.	Brand	Model Name	Antenna Type	Connector	Gain (dBi)
1	-	-	PCB Antenna	NA	2.09
2	WHA YU	-	PIFA Antenna	NA	2.40