

RF EXPOSURE EVALUATION

Product Name	:	Projector
Model Name	:	R11S, R15 , S1 , S3 ,T3 ,T5 , Q3 , Q5 , Q7 , P20 , P30
FCC ID	:	2ARRCR11S
Specification	:	802.11b/g/n HT20/HT40
Operation Frequency	:	2412-2462MHz for 802.11b/g/n(HT20) 2422-2452MHz for 802.11n(HT40)
Number of Channel	:	11 channels for 802.11b/g/n(HT20) 7 channels for 802.11b/g/n(HT20)
Antenna Type	:	Internal Antenna
Antenna Gain	:	2.5 dBi for SISO 5.51 dBi for MIMO
Power supply	:	For Adapter: Model: EQ-24BCN Input: AC 100-240V, 50/60Hz, 0.8A MAX Output: DC 3.6V-8V, 3.0A or DC 12V, 2.0A
Device category	:	Portable (<20cm separation)

Standard Requirement

According to § 15.247(i) and § 1.1307b(1), systems operating under the provisions of this section shall be operated in a manner that ensures that the public is not exposed to radio frequency energy levels in excess of the Commission's guidelines. See KDB 447498 D01 General RF Exposure Guidance v05, section 4. 3. 1.

The 1-g and 10-g SAR test exclusion thresholds for 100MHz to 6GHz at test separation distances $\leq 50\text{mm}$ are determined by:

$$\left[\frac{(\text{max. power of channel, including tune-up tolerance, mW})}{(\text{min. test separation distance, mm})} \right] \sqrt{f(\text{GHz})} \leq 3.0 \text{ for 1-g SAR and } \leq 7.5 \text{ for 10-g SAR extremity SAR, where}$$

- $f(\text{GHz})$ is the RF channel transmit frequency in GHz
- Power and distance are rounded to the nearest mW and mm before calculation
- The result is rounded to one decimal place for comparison.



PRECISE TESTING

The test exclusions are applicable only when the minimum test separation distance is $\leq$ 50mm and for transmission frequencies between 100MHz and 6GHz. When the minimum test separation distance is <5 mm, a distance of 5mm is applied to determine SAR test exclusion.

Routine SAR evaluation refers to that specifically required by § 2.1093, using measurements or computer simulation. When routine SAR evaluation is not required, portable transmitters with output power greater than the applicable low threshold require SAR evaluation to qualify for TCB approval.

One antenna is available for the EUT. The minimum separation distance is 5mm.

Measurement Result

Max power Result:

Operation Mode	Channel Number	Channel Frequency (MHz)	Measurement Level (dBm)			Limit (dBm)	Verdict
			Ant1	Ant2	Sum		
802.11b	1	2412	8.62	8.71	--	30	PASS
	6	2437	7.22	7.53	--	30	PASS
	11	2462	6.58	6.82	--	30	PASS
802.11g	1	2412	6.54	6.43	--	30	PASS
	6	2437	5.84	5.77	--	30	PASS
	11	2462	5.68	5.53	--	30	PASS
802.11n (HT20)	1	2412	4.85	4.86	6.34	30	PASS
	6	2437	4.53	4.59	6.02	30	PASS
	11	2462	4.35	4.29	5.76	30	PASS
802.11n (HT40)	3	2422	3.34	3.25	4.72	30	PASS
	6	2437	3.26	3.18	4.65	30	PASS
	9	2452	3.18	3.08	4.56	30	PASS



PRECISE TESTING

Ant1

Channel Frequency (MHz)	Tune up tolerance (dBm)	Max tune up conducted power(dBm)	Output Peak power (mW)	Calculation Result	Limits
2412	8.5±1	9.5	8.91	2.76834	3
2437	6.5±1	7.5	5.62	1.75573	3
2462	6.0±1	7.0	5.01	1.57280	3
2412	6.0±1	7.0	5.01	1.55675	3
2437	5.0±1	6.0	3.98	1.24296	3
2462	5.0±1	6.0	3.98	1.24932	3
2412	4.5±1	5.5	3.55	1.10209	3
2437	4.5±1	5.5	3.55	1.10779	3
2462	4.0±1	5.0	3.16	0.99237	3
2422	3.0±1	4.0	2.51	0.78184	3
2437	3.0±1	4.0	2.51	0.78426	3
2452	3.0±1	4.0	2.51	0.78667	3

Ant2

Channel Frequency (MHz)	Tune up tolerance (dBm)	Max tune up conducted power(dBm)	Output Peak power (mW)	Calculation Result	Limits
2412	8.5±1	9.5	8.91	2.76834	3
2437	7.5±1	8.5	7.08	2.21033	3
2462	6.0±1	7.0	5.01	1.57280	3
2412	6.0±1	7.0	5.01	1.55675	3
2437	5.0±1	6.0	3.98	1.24296	3
2462	5.0±1	6.0	3.98	1.24932	3
2412	4.5±1	5.5	3.55	1.10209	3
2437	4.5±1	5.5	3.55	1.10779	3
2462	4.0±1	5.0	3.16	0.99237	3
2422	3.0±1	4.0	2.51	0.78184	3
2437	3.0±1	4.0	2.51	0.78426	3
2452	3.0±1	4.0	2.51	0.78667	3

Signature

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