

INTERTEK TESTING SERVICES

RF Exposure

The Equipment Under Test (EUT) is a Photo Booth with Wi-Fi function operating at 2412-2462MHz for 802.11b/g/n-HT20, 11 channels with 5MHz channel spacing and 2422-2452MHz for 802.11n-HT40, 7 channels with 5MHz channel spacing. The EUT is powered by DC 12V with AC/DC adaptor. For more detailed features description, please refer to the user's manual.

Antenna Type: Integral antenna.

Antenna Gain: 2dBi.

Modulation Type: Type of Modulation: BPSK, QPSK, 16QAM, 64QAM for OFDM; CCK, DQPSK, DBPSK for DSSS.

802.11b:

The nominal conducted output peak power specified: 0dBm (Tolerance: +/-3dB)

The normal radiated output peak power (e.i.r.p) is: 2.0dBm (tolerance: +/- 3dB).

The nominal conducted output average power specified: -2dBm (Tolerance: +/-3dB)

The normal radiated average output power (e.i.r.p) is: 0.0dBm (tolerance: +/- 3dB).

802.11g/n-HT20/n-HT40:

The nominal conducted output peak power specified: 8.0dBm (Tolerance: +/-3dB)

The normal radiated output peak power (e.i.r.p) is: 10.0dBm (tolerance: +/- 3dB).

The nominal conducted output average power specified: -2.0dBm (Tolerance: +/-3dB)

The normal radiated average output power (e.i.r.p) is: 0.0dBm (tolerance: +/- 3dB).

The test data as below:

IEEE 802.11b (Antenna Gain = 2 dBi) (16QAM, 6Mbps)		
Frequency (MHz)	Output in dBm (Peak Reading)	Output in dBm (Average Reading)
Low Channel: 2412	2.1	-0.5
Middle Channel: 2437	2.7	0.0
High Channel: 2462	2.9	0.3

IEEE 802.11g (Antenna Gain = 2 dBi) (16QAM, 6Mbps)		
Frequency (MHz)	Output in dBm (Peak Reading)	Output in dBm (Average Reading)
Low Channel: 2412	9.4	-0.2
Middle Channel: 2437	9.9	0.3
High Channel: 2462	10.3	0.7

IEEE 802.11n-HT20 (Antenna Gain = 2 dBi) (64QAM, 6Mbps)		
Frequency (MHz)	Output in dBm (Peak Reading)	Output in dBm (Average Reading)
Low Channel: 2412	8.8	-0.2
Middle Channel: 2437	9.3	0.3
High Channel: 2462	9.7	0.6

IEEE 802.11n-HT40 (Antenna Gain = 2 dBi) (64QAM, 6Mbps)		
Frequency (MHz)	Output in dBm (Peak Reading)	Output in dBm (Average Reading)
Low Channel: 2422	9.1	-0.1
Middle Channel: 2437	9.4	0.2
High Channel: 2452	9.8	0.5

The conducted power tested for 2.4GHz transmitter in above column are within the specified power which declared by the applicant.

According to the KDB 447498:

The maximum conducted output average power specified is 1dBm= 1.259mW

The SAR Exclusion Threshold Level:

$$= 3.0 * (\text{min. test separation distance, mm}) / \text{sqrt}(\text{freq. in GHz})$$

$$= 3.0 * 5 / \text{sqrt}(2.462) \text{ mW}$$

$$= 9.56\text{mW}$$

Since the source-based time-averaging conducted output power is well below the SAR low threshold level, so the EUT is considered to comply with SAR requirement without testing.