4.6 Out-of-band Emissions

Limit

In any 100 kHz bandwidth outside the frequency band in which the spread spectrum or digitally modulated intentional radiator is operating, the radio frequency power that is produced by the intentional radiator shall be at least 20 dB below that in the 100 kHz bandwidth within the band that contains the highest level of the desired power, based on either an RF con-ducted or a radiated measurement, pro-vided the transmitter demonstrates compliance with the peak conducted power limits. If the transmitter com-plies with the conducted power limits based on the use of RMS averaging over a time interval, as permitted under paragraph (b)(3) of this section, the attenuation required under this paragraph shall be 30 dB instead of 20 dB. Attenuation below the general limits specified in §15.209(a) is not required.

Test Procedure

Connect the transmitter output to spectrum analyzer using a low loss RF cable, and set the spectrum analyzer to RBW=100 kHz, VBW= 300 kHz, peak detector , and max hold. Measurements utilizing these setting are made of the in-band reference level, bandedge and out-of-band emissions.

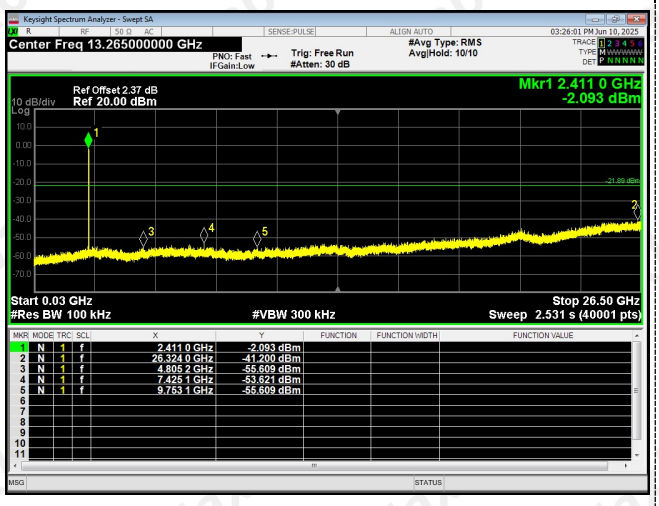
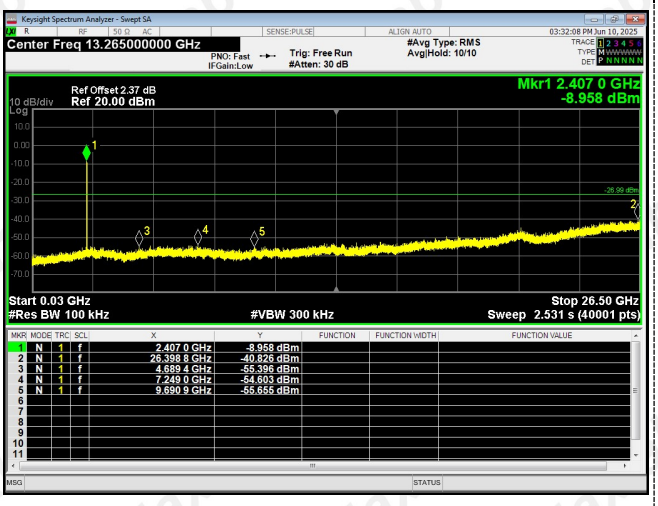
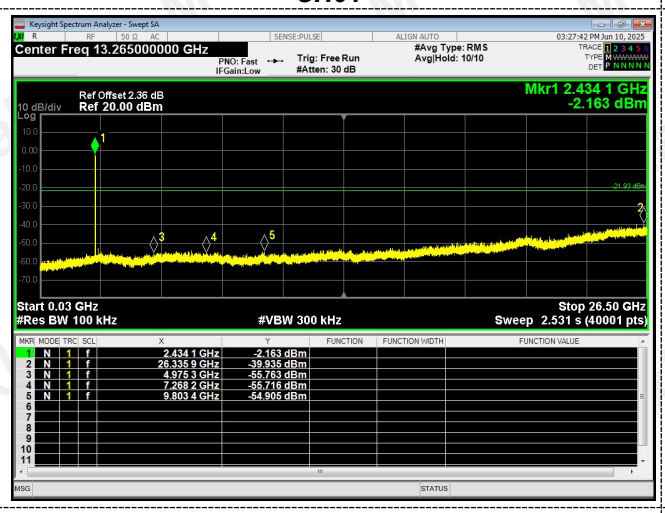
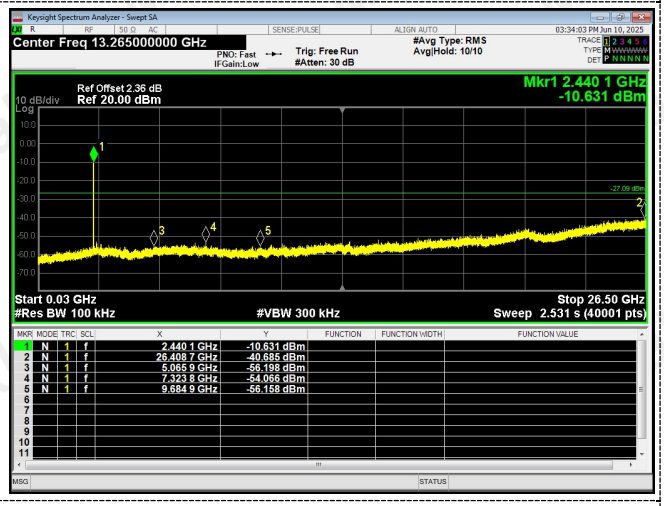
Test Configuration

Test Results

Remark: The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency. The lowest, middle and highest channels are tested to verify the spurious emissions and bandage measurement data. And record the worst data in the report.

Mode	Frequency (MHz)	Max Value (dBc)	Limit (dBc)	Verdict
b	2412	-39.31	-20	Pass
b	2437	-38.00	-20	Pass
b	2462	-39.04	-20	Pass
g	2412	-33.83	-20	Pass
g	2437	-33.59	-20	Pass
g	2462	-33.67	-20	Pass
n20	2412	-32.37	-20	Pass
n20	2437	-33.10	-20	Pass
n20	2462	-33.06	-20	Pass
n40	2422	-27.22	-20	Pass
n40	2437	-29.10	-20	Pass
n40	2452	-28.42	-20	Pass

Test plot as follows:

802.11b	802.11g
	
CH01	CH01
	
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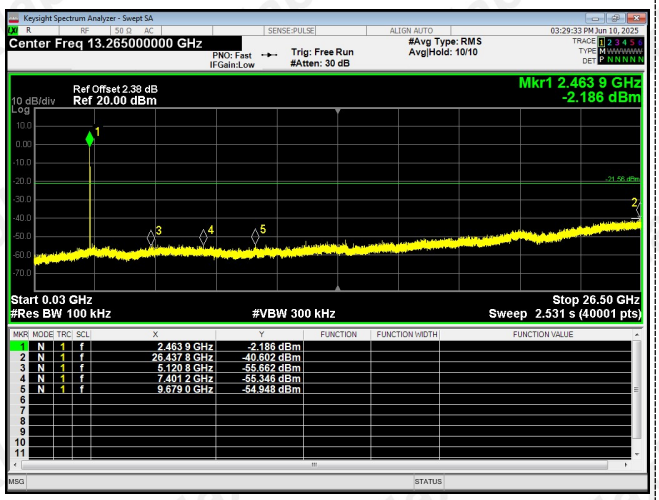
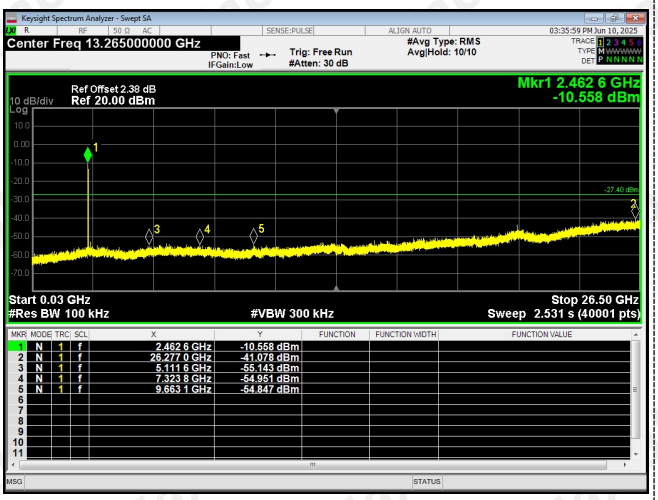
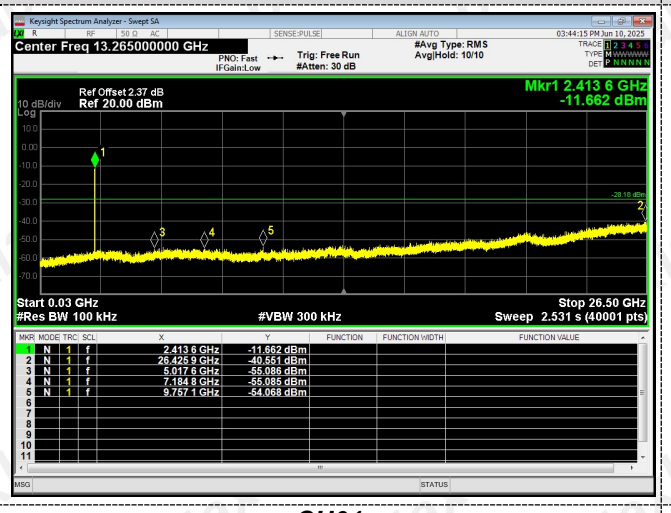
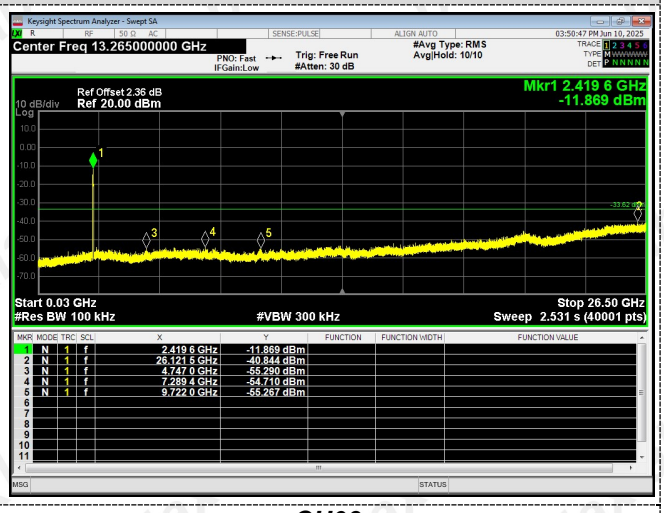
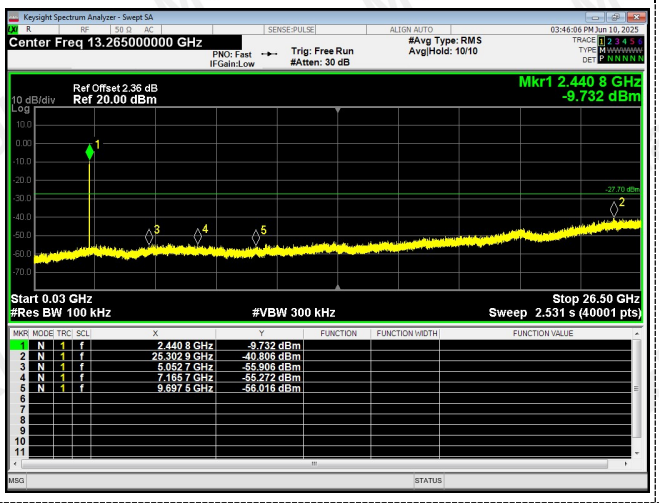
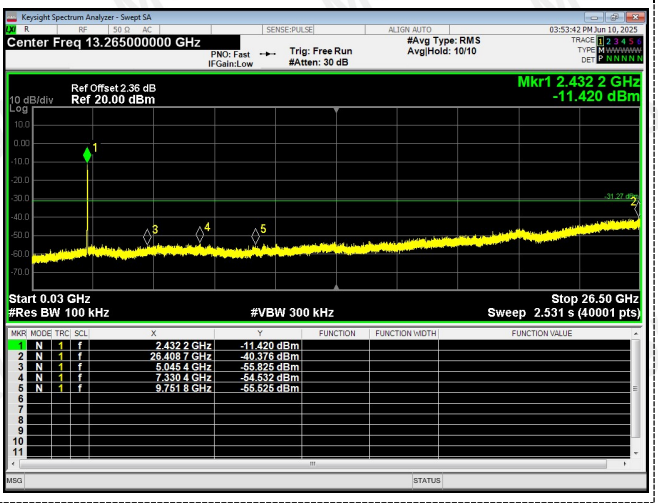
	
CH11	CH11

802.11n20	802.11n40
	
CH01	CH03
	
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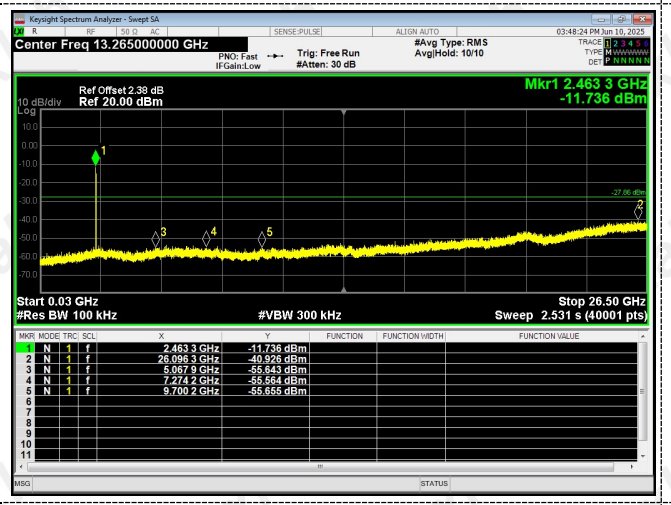
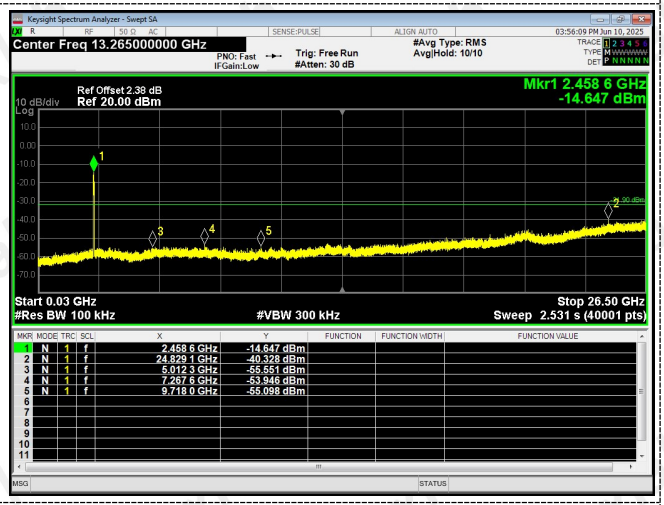
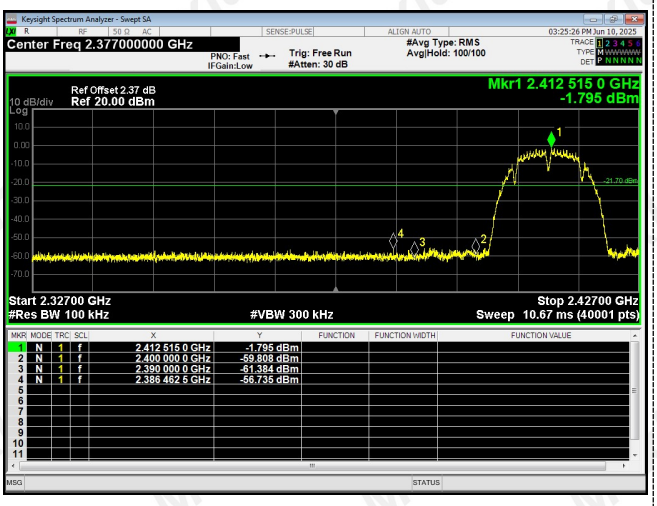
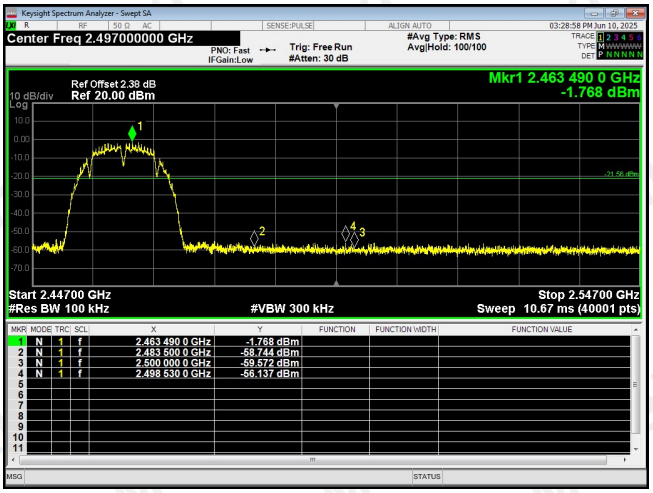
	
CH11	CH09

Band-edge Measurements for RF Conducted Emissions:

802.11b

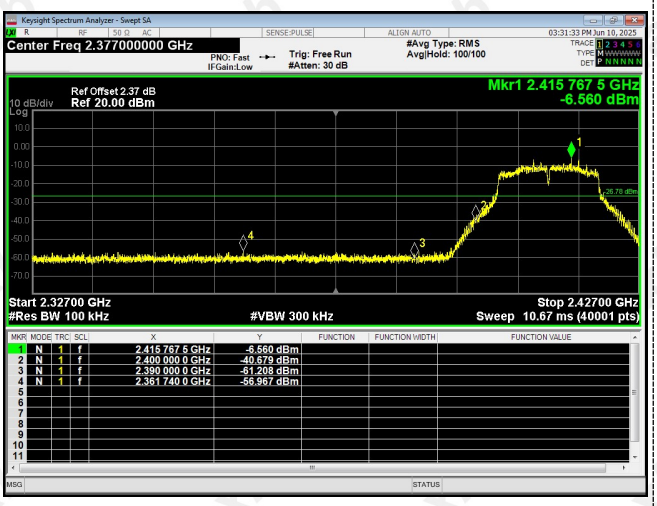


Left bandedge

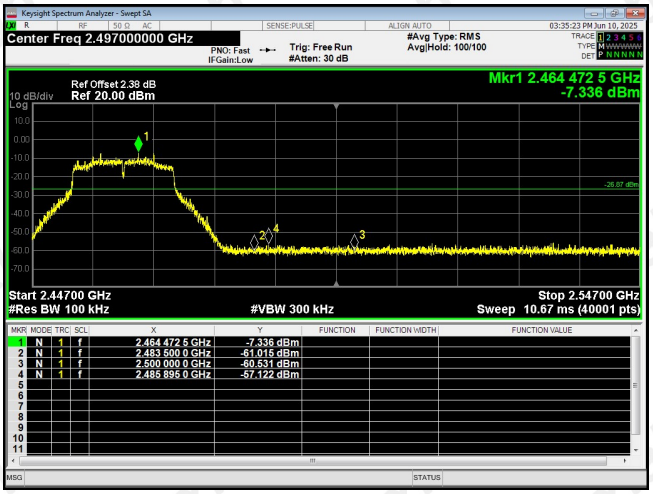


Right bandedge

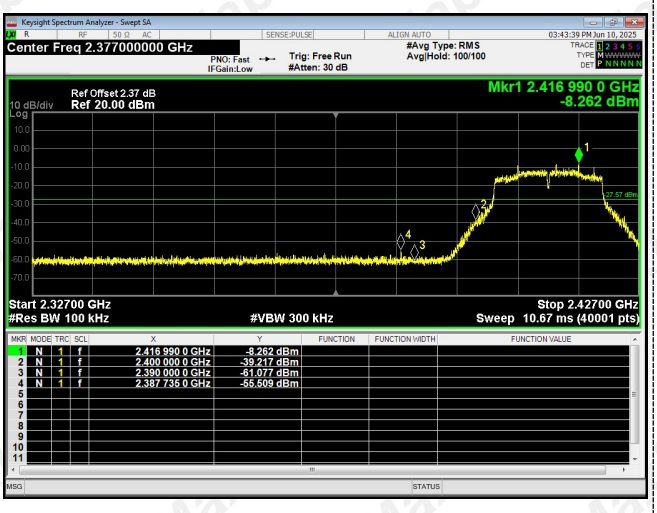
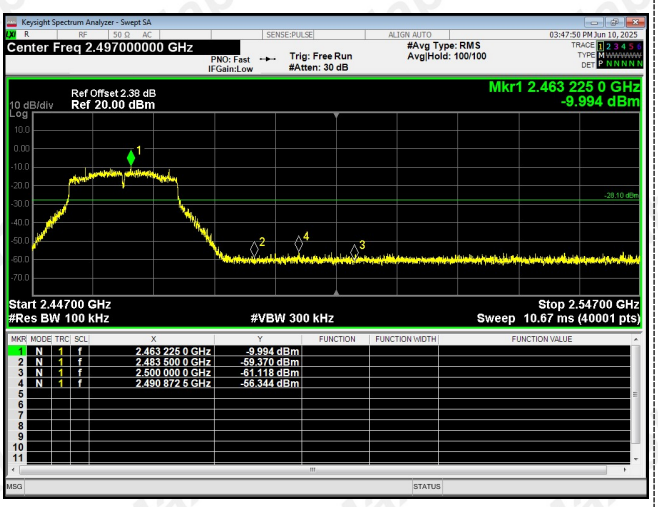
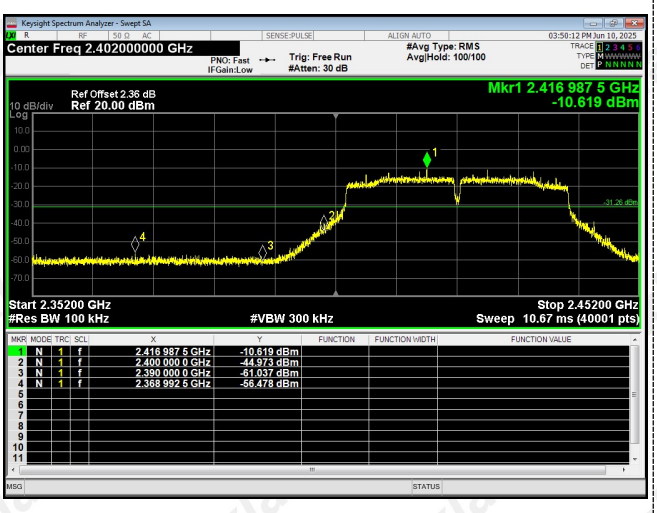
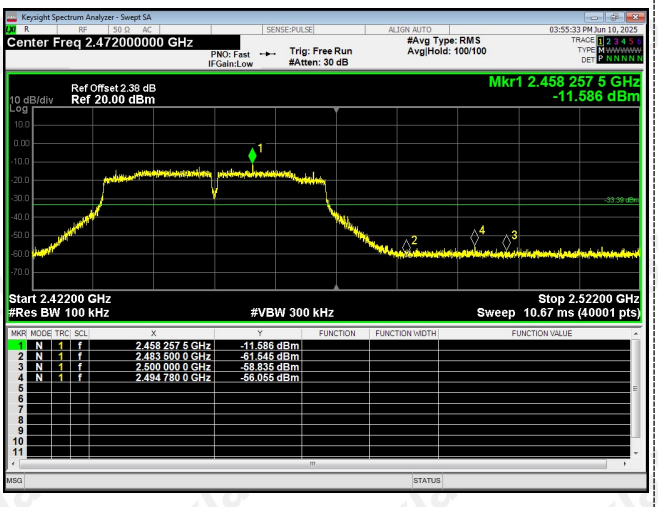
802.11g



Left bandedge



Right bandedge

802.11n(HT20)	
	
Left bandedge	Right bandedge
802.11n(HT40)	
	
Left bandedge	Right bandedge

4.7 Antenna Requirement

Standard Applicable

For intentional device, according to FCC 47 CFR Section 15.203:

An intentional radiator shall be designed to ensure that no antenna other than that furnished by the responsible party shall be used with the device. The use of a permanently attached antenna or of an antenna that uses a unique coupling to the intentional radiator, the manufacturer may design the unit so that a broken antenna can be replaced by the user, but the use of a standard antenna jack or electrical connector is prohibited.

Test Result:

The maximum gain of antenna was 1.73 dBi.

Remark:The antenna gain is provided by the customer, if the data provided by the customer is not accurate, MAXLAB Testing Co.,Ltd. does not assume any responsibility.

5 Test Setup Photos of the EUT

Reference to the appendix I for details.

6 Photos of the EUT

Reference to the appendix II for details.

********** End of Report **********