

TEST REPORT

Applicant: Quanzhou SKYDROID Technology Co., Ltd.

Address of Applicant: 2nd Floor, Building A, Yucheng Base, Fengze District,
Quanzhou City, Fujian Province, China

Manufacturer/Factory: Quanzhou SKYDROID Technology Co., Ltd.

**Address of
Manufacturer/Factory:** 2nd Floor, Building A, Yucheng Base, Fengze District,
Quanzhou City, Fujian Province, China

Equipment Under Test (EUT)

Product Name: H16 remote control

Model No.: H16, H16PRO

Trade Mark: SKYDROID

Applicable standards: ETSI EN 300 440 V2.2.1 (2018-07)

Date of sample receipt: October 21, 2020

Date of Test: October 22, 2020-November 03, 2020

Date of report issue: November 04, 2020

Test Result : PASS *

*In the configuration tested, the EUT complied with the standards specified above.

The CE mark as shown below can be used, under the responsibility of the manufacturer, after completion of an EC Declaration of Conformity and compliance with all relevant EC Directives. The protection requirements with respect to electromagnetic compatibility contained in Directive 2014/53/EU are considered.



Robinson Lo

Laboratory Manager

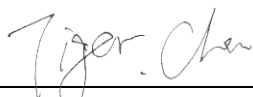
This results shown in this test report refer only to the sample(s) tested, this test report cannot be reproduced, except in full, without prior written permission of the company. The report would be invalid without specific stamp of test institute and the signatures of compiler and approver.



2 Version

Version No.	Date	Description
00	November 04, 2020	Original

Prepared By:

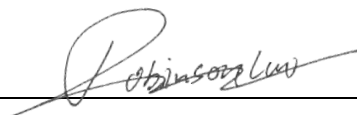


Project Engineer

Date:

November 04, 2020

Check By:



Reviewer

Date:

November 04, 2020

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4 Test Summary

Radio Spectrum Matter (RSM) Part of Transmitter					
Test item	Test Requirement	Test method	Limit/Severity	Uncertainty	Result
Equivalent isotropically radiated power	EN 300 440 Clause 4.2.2	EN 300 440 Clause 4.2.2.3	Clause 4.2.2.4 Table 2	$\pm 3\text{dB}$	Pass
Permitted Range of Operating Frequencies	EN 300 440 Clause 4.2.3	EN 300 440 Clause 4.2.3.3	Clause 4.2.3.5 & Table 2	$\pm 10^{-7}$	Pass
Duty cycle	EN 300 440 Clause 4.2.5	EN 300 440 Clause 4.2.5.3	Clause 4.2.5.4 Table 4	N/A	N/A
Transmitter spurious emissions	EN 300 440 Clause 4.2.4	EN 300 440 Clause 4.2.4.3	Clause 4.2.4.4 Table 3	$\pm 6\text{ dB}$	Pass
Hopping Channel Number	EN 300 440 Clause 4.2.6	EN 300 440 Clause 4.2.6.3	20	N/A	N/A
Dwell time	EN 300 440 Clause 4.2.6	EN 300 440 Clause 4.2.6.3	1s	N/A	N/A
Radio Spectrum Matter (RSM) Part of Receiver					
Receiver spurious emissions	EN 300 440 Clause 4.3.5	EN 300 440 Clause 4.3.5.3	<2nW <1GHz, <20nW >1GHz	$\pm 6\text{dB}$	Pass
Adjacent channel selectivity	EN 300 440 Clause 4.3.3	Clause 4.3.3.3	Clause 4.3.3.4	$\pm 2.5\text{dB}$	Pass
Blocking or desensitization	EN 300 440 Clause 4.3.4	EN 300 440 Clause 4.3.4.3	Clause 4.3.4.4 Table 6	$\pm 2.5\text{dB}$	Pass
Technical requirements specifications					
Spectrum access techniques	EN 300 440 Clause 4.4	PASS (Declared by manufacture)			

Remarks:

Pass: The EUT complies with the essential requirements in the standard.

N/A: Not applicable.

5 General Information

5.1 General Description of EUT

Product Name:	H16 remote control
Model No.:	H16, H16PRO
Test Model No.:	H16
Remark: All above models are identical in the same PCB layout, interior structure and electrical circuits. The only difference is model name for commercial purpose.	
Operation Frequency:	5745MHz ~ 5825MHz
Channel separation:	20MHz for 802.11a/n/ac(HT20) 40MHz for 802.11n/ac(HT40) 80MHz for 802.11ac(HT80)
Modulation technology:	Orthogonal Frequency Division Multiplexing(OFDM)
Antenna Type:	Integral Antenna
Antenna gain:	0dBi
Power supply:	ADAPTOR MODEL:KXS-012 INPUT: 110V-240V~50/60Hz 0.5A max OUTPUT: 3.6V-6V== 3A or 6V-9V== 32A or 9V-12V== 31.5A Or DC 3.7V Battery

Frequency List:

Channel List for SRD (20MHz bandwidth) @ 5.8G band							
1	5745	2	5765	3	5785	4	5805
5	5825						
Channel List for SRD (40MHz bandwidth) @ 5.8G band							
Channel No.	Channel No.	Channel No.	Channel No.	Channel No.	Channel No.	Channel No.	Channel No.
1	5755	2	5795				
Channel List for SRD (80MHz bandwidth) @ 5.8G band							
Channel No.	Channel No.	Channel No.	Channel No.	Channel No.	Channel No.	Channel No.	Channel No.
1	5775						

5.2 Test mode

Transmitting mode	Keep the EUT in transmitting mode with modulation.
Receiving mode	Keep the EUT in receiving mode with modulation.

5.3 Test Facility

The test facility is recognized, certified, or accredited by the following organizations: • FCC —Registration No.: 381383 Global United Technology Services Co., Ltd., Shenzhen EMC Laboratory has been registered and fully described in a report filed with the (FCC) Federal Communications Commission. The acceptance letter from the FCC is maintained in files. Registration 381383. • IC —Registration No.: 9079A The 3m Semi-anechoic chamber of Global United Technology Services Co., Ltd. has been registered by Certification and Engineering Bureau of Industry Canada for radio equipment testing with Registration No.: 9079A • NVLAP (LAB CODE:600179-0) Global United Technology Services Co., Ltd., is accredited by the National Voluntary Laboratory Accreditation Program (NVLAP). LAB CODE:600179-0

5.4 Test Location

All tests were performed at:
Global United Technology Services Co., Ltd. Address: No. 123-128, Tower A, Jinyuan Business Building, No.2, Laodong Industrial Zone, Xixiang Road, Baoan District, Shenzhen, Guangdong, China 518102 Tel: 0755-27798480 Fax: 0755-27798960

5.5 Description of Support Units

None.

5.6 Deviation from Standards

None.

5.7 Abnormalities from Standard Conditions

None.

5.8 Other Information Requested by the Customer

None.

6 Test Instruments list

Radiated Emission:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	3m Semi- Anechoic Chamber	ZhongYu Electron	9.2(L)*6.2(W)* 6.4(H)	GTS250	July. 02 2020	July. 01 2025
2	Control Room	ZhongYu Electron	6.2(L)*2.5(W)* 2.4(H)	GTS251	N/A	N/A
3	EMI Test Receiver	Rohde & Schwarz	ESU26	GTS203	June. 25 2020	June. 24 2021
4	BiConiLog Antenna	SCHWARZBECK MESS-ELEKTRONIK	VULB9163	GTS214	June. 25 2020	June. 24 2021
5	Double -ridged waveguide horn	SCHWARZBECK MESS-ELEKTRONIK	BBHA 9120 D	GTS208	June. 25 2020	June. 24 2021
6	Horn Antenna	ETS-LINDGREN	3160	GTS217	June. 25 2020	June. 24 2021
7	EMI Test Software	AUDIX	E3	N/A	N/A	N/A
8	Coaxial Cable	GTS	N/A	GTS213	June. 25 2020	June. 24 2021
9	Coaxial Cable	GTS	N/A	GTS211	June. 25 2020	June. 24 2021
10	Coaxial cable	GTS	N/A	GTS210	June. 25 2020	June. 24 2021
11	Coaxial Cable	GTS	N/A	GTS212	June. 25 2020	June. 24 2021
12	Amplifier(100kHz-3GHz)	HP	8347A	GTS204	June. 25 2020	June. 24 2021
13	Amplifier(2GHz-20GHz)	HP	84722A	GTS206	June. 25 2020	June. 24 2021
14	Amplifier (18-26GHz)	Rohde & Schwarz	AFS33-18002 650-30-8P-44	GTS218	June. 25 2020	June. 24 2021
15	Band filter	Amindeon	82346	GTS219	June. 25 2020	June. 24 2021
16	Power Meter	Anritsu	ML2495A	GTS540	June. 25 2020	June. 24 2021
17	Power Sensor	Anritsu	MA2411B	GTS541	June. 25 2020	June. 24 2021
18	Wideband Radio Communication Tester	Rohde & Schwarz	CMW500	GTS575	June. 25 2020	June. 24 2021
19	Splitter	Agilent	11636B	GTS237	June. 25 2020	June. 24 2021
20	Loop Antenna	ZHINAN	ZN30900A	GTS534	June. 25 2020	June. 24 2021
21	Breitband hornantenne	SCHWARZBECK	BBHA 9170	GTS579	Oct. 18 2020	Oct. 17 2021
22	Amplifier	TDK	PA-02-02	GTS574	Oct. 18 2020	Oct. 17 2021
23	Amplifier	TDK	PA-02-03	GTS576	Oct. 18 2020	Oct. 17 2021
24	PSA Series Spectrum Analyzer	Rohde & Schwarz	FSP	GTS578	June. 25 2020	June. 24 2021

RF Conducted Test:						
Item	Test Equipment	Manufacturer	Model No.	Serial No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	MXA Signal Analyzer	Agilent	N9020A	GTS566	June. 25 2020	June. 24 2021
2	EMI Test Receiver	R&S	ESCI 7	GTS552	June. 25 2020	June. 24 2021
3	Spectrum Analyzer	Agilent	E4440A	GTS533	June. 25 2020	June. 24 2021
4	MXG vector Signal Generator	Agilent	N5182A	GTS567	June. 25 2020	June. 24 2021
5	ESG Analog Signal Generator	Agilent	E4428C	GTS568	June. 25 2020	June. 24 2021
6	USB RF Power Sensor	DARE	RPR3006W	GTS569	June. 25 2020	June. 24 2021
7	RF Switch Box	Shongyi	RFSW3003328	GTS571	June. 25 2020	June. 24 2021
8	Programmable Constant Temp & Humi Test Chamber	WEWON	WHTH-150L-40-880	GTS572	June. 25 2020	June. 24 2021

General used equipment:						
Item	Test Equipment	Manufacturer	Model No.	Inventory No.	Cal.Date (mm-dd-yy)	Cal.Due date (mm-dd-yy)
1	Humidity/ Temperature Indicator	KTJ	TA328	GTS243	June. 25 2020	June. 24 2021
2	Barometer	ChangChun	DYM3	GTS255	June. 25 2020	June. 24 2021

7 Radio Technical Requirements Specification in EN 300 440

7.1 Test environment

Test Condition	Temperature	Relative Humidity	Voltage		
			AC mains	Lead-acid battery on vehicles	Other power sources
Normal	+15°C to +35°C	20% to 75%	nominal	1,1 times the nominal voltage	nominal
Extreme	-20°C to +55°C (General use) -20°C to +55°C (Portable use) 5°C to +35°C (Indoor use)	20% to 75%	▼ 0,9 times ▲ 1,1 times	▼ 0,9 times ▲ 1,3 times	▼ 0,85 times (Leclanché or lithium) 0,9 times (mercury or nickel-cadmium) ▲ 1,15 times

Operating Environment:			
Item	Normal condition	Extreme condition	
		HT	LT
Temperature	+15°C to + 35°C	+40°C	0°C
Voltage	AC 230		
Humidity	20%-95%		
Atmospheric Pressure:	1008 mbar		

7.2 Spectrum access techniques

PASS, The EUT conform to the requirements of the clause. (Declared by manufacture)

7.3 Transmitter requirement

7.3.1 Equivalent Isotropically Radiated Power

Test Requirement:	ETSI EN 300 440 clause 4.2.2
Test Method:	ETSI EN 300 440 clause 4.2.2.3
Limit:	13.98dBm
Test procedure:	Radiated measurements shall be performed in an anechoic chamber. 1. The transmitter under test shall be placed on the support in its standard position and switched on. 2. The test antenna shall be oriented initially for vertical polarization. The test antenna shall be raised or lowered, through the specified height range until the maximum signal level is detected on the measuring receiver. 3. The transmitter shall be rotated through 360° about a vertical axis to maximize the received signal. 4. The test antenna shall be raised or lowered again, if necessary, through the specified height range until a maximum is obtained. This level shall be recorded. 5. This measurement shall be repeated for horizontal polarization. 6. The substitution antenna, shall replace the transmitter antenna in the same position and in vertical polarization. The frequency of the signal generator shall be adjusted to the transmitter (carrier) frequency. 7. Steps 2> to 5> shall be repeated. 8. The input signal to the substitution antenna shall be adjusted in level until an equal or a known related level to that detected from the transmitter is obtained in the test receiver. 9. This measurement shall be repeated with horizontal polarization. 10. The radiated power is equal to the power supplied by the signal generator, increased by the known relationship if necessary and after corrections due to the gain of the substitution antenna and the cable loss between the signal generator and the substitution antenna. Repeated the test in extreme test conditions.
Test mode:	Refer to section 5.2 for details
Test Instruments:	Refer to section 6.0 for details
Measurement Record:	Uncertainty: 0.65dB

Measurement Data: The detailed test data see Appendix for WIFI 5.8G

7.3.2 Frequency Range

Test Requirement:	ETSI EN 300 440 clause 4.2.3
Test Method:	ETSI EN 300 440 clause 4.2.3.3
Limit:	Within the band 2.4GHz to 2.4835GHz
Test procedure:	Radiated measurements shall be performed in an anechoic chamber. 1 The transmitter under test shall be placed on the support in its standard position and switched on. 2 The test antenna shall be oriented initially for vertical polarization. The test antenna shall be raised or lowered, through the specified height range until the maximum signal level is detected on the measuring receiver. 3 The transmitter shall be rotated through 360° about a vertical axis to maximize the received signal. 4 The test antenna shall be raised or lowered again, if necessary, through the specified height range until a maximum is obtained. This level shall be recorded. 5 This measurement shall be repeated for horizontal polarization. 6 The substitution antenna, shall replace the transmitter antenna in the same position and in vertical polarization. The frequency of the signal generator shall be adjusted to the transmitter (carrier) frequency. 7 Steps 2> to 5> shall be repeated. 8 The input signal to the substitution antenna shall be adjusted in level until an equal or a known related level to that detected from the transmitter is obtained in the test receiver. 9 This measurement shall be repeated with horizontal polarization. 10 The radiated power is equal to the power supplied by the signal generator, increased by the known relationship if necessary and after corrections due to the gain of the substitution antenna and the cable loss between the signal generator and the substitution antenna. 11 Repeated the test in extreme test conditions. 12 The measurement procedure shall be as follows: 12.1 Put the spectrum analyser in video averaging mode with a minimum of 50 sweeps selected; 12.2 Select the lowest operating frequency of the equipment under test and activate the transmitter with modulation applied. The RF emission of the equipment shall be displayed on the spectrum analyser; 12.3 Using the marker of the spectrum analyser, find the lowest frequency below the operating frequency at which the spectral power density drops below the level of -30dBm/30KHz, This frequency shall be recorded in the test report; 12.4 Select the highest operating frequency of the equipment under test and find the highest frequency at which the spectral power density drops below the level of -30dBm/30KHz. This frequency shall be recorded in the test report;

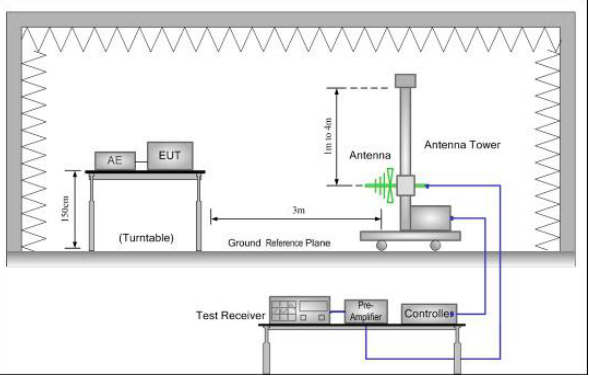
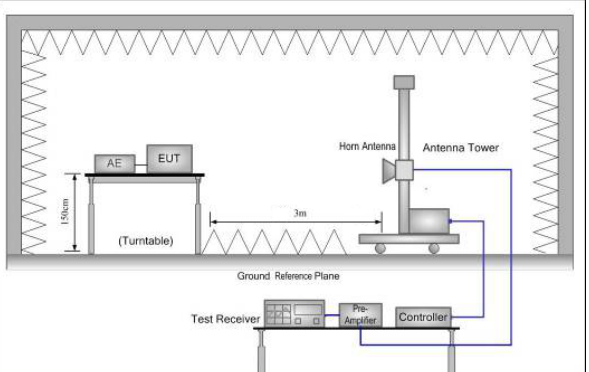
	The difference between the frequencies measured in steps 12.3> and 12.4> is the operating frequency range. It shall be recorded in the test report.
Test mode:	Refer to section 5.2 for details
Test Instruments:	Refer to section 6.0 for details
Measurement Record:	Uncertainty: $\pm 1 \times 10^{-7}$

Measurement Data: The detailed test data see Appendix for WIFI 5.8G

7.3.3 Duty Cycle

The EUT is general use, duty cycle doesn't require.

7.3.4 Transmitter Spurious emissions

Test Requirement:	ETSI EN 300 440 clause 4.2.4								
Test Method:	ETSI EN 300 440 clause 4.2.4.3								
Receiver setup:	Frequency $\leq$ 1000MHz;RBW=100KHz,VBW=300KHz,Detector=Quasi-Peak Frequency>1000MHz; RBW=1MHz, VBW=3MHz, Detector=peak								
Limit:	<table border="1"> <thead> <tr> <th>Frequency</th><th>Limit (dBm)</th></tr> </thead> <tbody> <tr> <td>47 MHz to 74 MHz 87.5 MHz to 108 MHz 174 MHz to 230 MHz 470 MHz to 862 MHz</td><td>-54</td></tr> <tr> <td>Other frequencies $\leq$ 1 000 MHz</td><td>-36</td></tr> <tr> <td>Frequencies > 1 000 MHz</td><td>-30</td></tr> </tbody> </table>	Frequency	Limit (dBm)	47 MHz to 74 MHz 87.5 MHz to 108 MHz 174 MHz to 230 MHz 470 MHz to 862 MHz	-54	Other frequencies $\leq$ 1 000 MHz	-36	Frequencies > 1 000 MHz	-30
Frequency	Limit (dBm)								
47 MHz to 74 MHz 87.5 MHz to 108 MHz 174 MHz to 230 MHz 470 MHz to 862 MHz	-54								
Other frequencies $\leq$ 1 000 MHz	-36								
Frequencies > 1 000 MHz	-30								
Test Frequency range:	25MHz to 25GHz								
Test setup:	Below 1GHz  Above 1GHz 								
Test procedure:	Substitution method was performed to determine the actual ERP emission levels of the EUT. The following test procedure as below: ■ Below 1GHz test procedure: 1 On the test site as test setup graph above,the EUT shall be placed at the 1.5m support on the turntable and in the position closest to normal use as declared by the provider. 2 The test antenna shall be oriented initially for vertical polarization and								

	shall be chosen to correspond to the frequency of the transmitter. The output of the test antenna shall be connected to the measuring receiver. 3 The transmitter shall be switched on, if possible, without modulation and the measuring receiver shall be tuned to the frequency of the transmitter under test. 4 The test antenna shall be raised and lowered from 1m to 4m until a maximum signal level is detected by the measuring receiver. Then the turntable should be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver. 5 Repeat step 4 for test frequency with the test antenna polarized horizontally. 6 Remove the transmitter and replace it with a substitution antenna (the antenna should be half-wavelength for each frequency involved). The center of the substitution antenna should be approximately at the same location as the center of the transmitter. At the lower frequencies, where the substitution antenna is very long, this will be impossible to achieve when the antenna is polarized vertically. In such case the lower end of the antenna should be 0.3 m above the ground. 7 Feed the substitution antenna at the transmitter end with a signal generator connected to the antenna by means of a nonradiating cable. With the antennas at both ends vertically polarized, and with the signal generator tuned to a particular test frequency, raise and lower the test antenna to obtain a maximum reading at the spectrum analyzer. Adjust the level of the signal generator output until the previously recorded maximum reading for this set of conditions is obtained. This should be done carefully repeating the adjustment of the test antenna and generator output. 8 Repeat step 7 with both antennas horizontally polarized for each test frequency. 9 Calculate power in dBm into a reference ideal half-wave dipole antenna by reducing the readings obtained in steps 7 and 8 by the power loss in the cable between the generator and the antenna, and further corrected for the gain of the substitution antenna used relative to an ideal half-wave dipole antenna by the following formula: $ERP(dBm) = Pg(dBm) - \text{cable loss (dB)} + \text{antenna gain (dBd)}$ where: Pg is the generator output power into the substitution antenna. ■ Above 1GHz test procedure: Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber, and the test antenna do not need to raise from 1 to 4m, just test in 1.5m height.
Test mode:	Refer to section 5.2 for details
Test Instruments:	Refer to section 6.0 for details
Measurement Record:	Uncertainty: 4.64dB

Measurement Data: The detailed test data see Appendix for WIFI 5.8G

7.3.5 Additional Requirement for FHSS Equipment

7.3.6 Hopping Channel Number

Test Requirement:	ETSI EN 300 440 clause 4.2.6
Test Method:	ETSI EN 300 440 clause 4.2.6
Receiver setup:	RBW=100kHz, VBW=300kHz, Frequency range=2400MHz-2483.5MHz, Detector=Peak
Limit:	≥20 channels
Test results:	N/A: The EUT not a FHSS equipment

7.3.7 Dwell time

Test Requirement:	ETSI EN 300 440 Clause 4.2.6
Test Method:	ETSI EN 300 440 Clause 4.2.6
Limit:	FHSS modulation shall make use of at least 20 channels hopping over >90 % of the assigned frequency band. The dwell time per channel shall not exceed 1 s. While the equipment is operating (transmitting and/or receiving) each channel of the hopping sequence shall be occupied at least once during a period not exceeding four times the product of the dwell time per hop and the number of channels.
Result:	N/A: The EUT not a FHSS equipment

7.4 Receiver Requirements

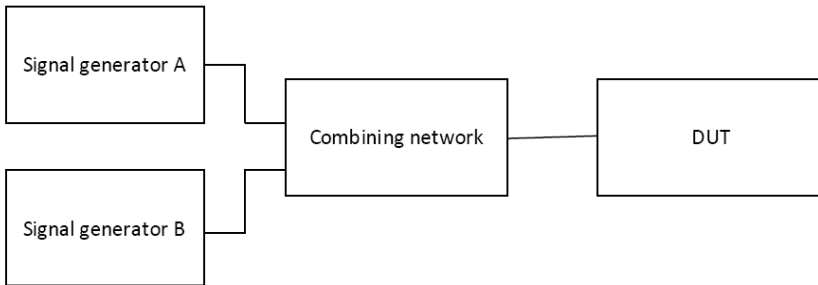
7.4.1 Receiver Classification

Table 5 of ETSI EN 300 440

Receiver category	Relevant receiver clauses	Risk assessment of receiver performance
1	4.3.3, 4.3.4 and 4.3.5	Highly reliable SRD communication media; e.g. serving human life inherent systems (may result in a physical risk to a person).
2	4.3.4 and 4.3.5	Medium reliable SRD communication media e.g. causing inconvenience to persons, which cannot simply be overcome by other means.
3	4.3.4 and 4.3.5	Standard reliable SRD communication media and radiodetermination devices. E.g. Inconvenience to persons, which can simply be overcome by other means (e.g. manual).

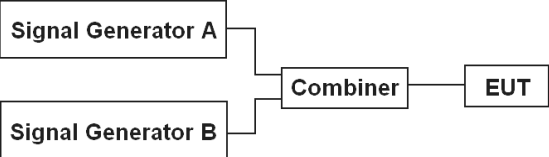
The EUT (Receiver part) belong to Category 1.

7.4.2 Adjacent Channel Selectivity

Test Requirement:	ETSI EN 300 440 Clause 4.3.3
Test Method:	ETSI EN 300 440 Clause 4.3.3.3
Limit:	The adjacent channel selectivity of the equipment under specified conditions shall not be less than $-30 \text{ dBm} + k$. The correction factor, k, is as follows: $k = -20\log f - 10\log BW$ Where: - f is the frequency in GHz; - BW is the channel bandwidth in MHz. The factor k is limited within the following: - $-40 \text{ dB} < k < 0 \text{ dB}$
Test setup:	 <pre> graph LR A[Signal generator A] --> CN[Combining network] B[Signal generator B] --> CN CN --> DUT[DUT] </pre>
Test procedure:	Signal generator A shall be at the nominal frequency of the receiver, with normal modulation of the wanted signal. Signal generator B shall be unmodulated and shall be adjusted to the adjacent channel centre frequency immediately above that of the wanted signal. Initially signal generator B shall be switched off and using signal generator A the level that still gives sufficient response shall be established. The output level of generator A shall then be increased by 3 dB. Signal generator B is then switched on and adjusted until the wanted criteria are met. This level shall be recorded. The measurements shall be repeated with signal generator B unmodulated and adjusted to the adjacent channel centre immediately below the wanted signal. The adjacent channel selectivity shall be recorded for the upper and lower adjacent channels as the level in dBm of the unwanted signal.
Test mode:	Refer to section 5.2 for details
Test Instruments:	Refer to section 6.0 for details
Measurement Record:	Uncertainty: $\pm 2.5\text{dB}$

Measurement Data: The detailed test data see Appendix for WIFI 5.8G

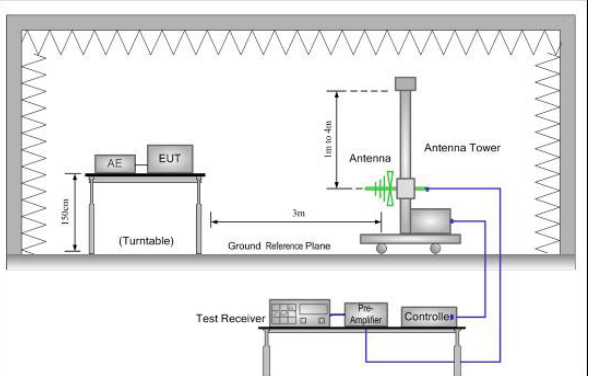
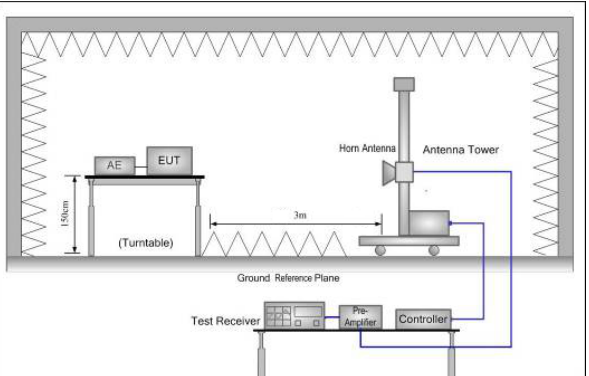
7.4.3 Blocking or desensitization

Test Requirement:	ETSI EN 300 440 clause 4.3.5								
Test Method:	ETSI EN 300 440 clause 4.3.5.3								
Limit:	Table 6: Limits for blocking or desensitization <table> <tr> <th>Receiver category</th><th>Limit</th></tr> <tr> <td>1</td><td>-30 dBm + k</td></tr> <tr> <td>2</td><td>-45 dBm + k</td></tr> <tr> <td>3</td><td>-60 dBm + k</td></tr> </table> $k = -20 \log f - 10 \log BW$ Where: - f is the frequency in GHz; - BW is the channel bandwidth in MHz. The factor k is limited within the following: - $-40 < k < 0$ dB.	Receiver category	Limit	1	-30 dBm + k	2	-45 dBm + k	3	-60 dBm + k
Receiver category	Limit								
1	-30 dBm + k								
2	-45 dBm + k								
3	-60 dBm + k								
Test setup:	 <pre> graph LR A[Signal Generator A] --> C[Combiner] B[Signal Generator B] --> C C --> EUT[EUT] </pre>								
Test procedure:	Two signal generators A and B shall be connected to the receiver via a combining network to the receiver, either: a) via a test fixture or a test antenna to the receiver integrated, dedicated or test antenna; or b) directly to the receiver permanent or temporary antenna connector. The method of coupling to the receiver shall be stated in the test report. Signal generator A shall be at the nominal frequency of the receiver, with normal modulation of the wanted signal. Signal generator B shall be unmodulated and shall be adjusted to a test frequency at approximately 10 times, 20 times and 50 times of the receive channel bandwidth above upper band edge of the receive channel. Initially signal generator B shall be switched off and using signal generator A the level which still gives sufficient response shall be established. The output level of generator A shall then be increased by 3 dB. Signal generator B is then switched on and adjusted until the wanted criteria are met. This level shall be recorded. The measurement shall be repeated with the test frequency for signal generator B at approximately 10 times, 20 times and 50 times of the receive channel bandwidth below the lower band edge of the receive channel. The blocking or desensitization shall be recorded as the level in dBm of lowest level of the unwanted signal (generator B). For tagging systems (e.g. RF identification, anti-theft, access control, location and similar systems) signal generator A may be replaced by a physical tag positioned at 70 % of the measured system range in metres.								

	In this case, the blocking or desensitization shall be recorded as the ratio in dB of lowest level of the unwanted signal (generator B) resulting in a non-read of the tag. to the declared sensitivity of the receiver +3 dB.
Test Instruments:	Refer to section 6.0 for details
Test mode:	Refer to section 5.2 for details
Measurement Record:	Uncertainty: $\pm 2.5\text{dB}$

Measurement Data: The detailed test data see Appendix for WIFI 5.8G

7.4.4 Spurious emissions

Test Requirement:	ETSI EN 300 440 clause 4.3.5		
Test Method:	ETSI EN 300 440 clause 4.3.5.3		
Receiver setup:	Frequency≤1000MHz;RBW=100KHz,VBW=300KHz,Detector=Quasi-Peak Frequency>1000MHz; RBW=1000KHz, VBW=3000KHz, Detector= Peak		
Limit:	Frequency	Limit(narrowband)	Limit(wideband)
	25MHz to 1000 MHz	2nW(-57dBm)	-107dBm/Hz
	1GHz to 25GHz	20nW(-47dBm)	-97dBm/Hz
Test Frequency range:	25MHz to 25GHz		
Test setup:	Below 1GHz  Above 1GHz 		
Test procedure:	Substitution method was performed to determine the actual ERP emission levels of the EUT. The following test procedure as below: 1>.Below 1GHz test procedure: 1. On the test site as test setup graph above, the EUT shall be placed at the 1.5m support on the turntable and in the position closest to normal use as declared by the provider. 2. The test antenna shall be oriented initially for vertical polarization and shall be chosen to correspond to the frequency of the transmitter.The output of the test antenna shall be connected to the measuring receiver. 3. The transmitter shall be switched on, if possible, without modulation and the measuring receiver shall be tuned to the frequency of the transmitter under test.		

	4. The test antenna shall be raised and lowered from 1m to 4m until a maximum signal level is detected by the measuring receiver. Then the turntable should be rotated through 360° in the horizontal plane, until the maximum signal level is detected by the measuring receiver. 5. Repeat step 4 for test frequency with the test antenna polarized horizontally. 6. Remove the transmitter and replace it with a substitution antenna (the antenna should be half-wavelength for each frequency involved). The center of the substitution antenna should be approximately at the same location as the center of the transmitter. At the lower frequencies, where the substitution antenna is very long, this will be impossible to achieve when the antenna is polarized vertically. In such case the lower end of the antenna should be 0.3 m above the ground. 7. Feed the substitution antenna at the transmitter end with a signal generator connected to the antenna by means of a nonradiating cable. With the antennas at both ends vertically polarized, and with the signal generator tuned to a particular test frequency, raise and lower the test antenna to obtain a maximum reading at the spectrum analyzer. Adjust the level of the signal generator output until the previously recorded maximum reading for this set of conditions is obtained. This should be done carefully repeating the adjustment of the test antenna and generator output. 8. Repeat step 7 with both antennas horizontally polarized for each test frequency. 9. Calculate power in dBm into a reference ideal half-wave dipole antenna by reducing the readings obtained in steps 7 and 8 by the power loss in the cable between the generator and the antenna, and further corrected for the gain of the substitution antenna used relative to an ideal half-wave dipole antenna by the following formula: $ERP(dBm) = Pg(dBm) - \text{cable loss (dB)} + \text{antenna gain (dBd)}$ where: Pg is the generator output power into the substitution antenna. 2>.Above 1GHz test procedure: Different between above is the test site, change from Semi- Anechoic Chamber to fully Anechoic Chamber, and the test antenna do not need to raise from 1 to 4m, just test in 1.5m height.
Test mode:	Refer to section 5.2 for details
Test Instruments:	Refer to section 5.8 for details
Measurement Record:	Uncertainty: 4.64dB

Measurement Data: The detailed test data see Appendix for WIFI 5.8G

8 Test Setup Photo

Reference to the **appendix I** for details.

9 EUT Constructional Details

Reference to the **appendix II** for details.

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