

TEST REPORT

Product : LAtitude 52N Smart Glasses
Trade mark : L'Atitude 52° N
Model/Type reference : GL001, GL002, GL003
Serial Number : N/A
Report Number : EED32R82215605
FCC ID : 2BR7P-GGT1
Date of Issue : Mar. 06, 2026
Test Standards : 47 CFR Part 15 Subpart E
Test result : PASS

Prepared for:

SHENZHEN APOM OPTICAL TECHNOLOGY CO., LTD.

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1 Test Summary

Test Item	Clause in FCC rules	Result
DFS Detection Threshold	15.407/KDB 905462 5.2	PASS
U-NII Detection Bandwidth	15.407/KDB 905462 7.8.1	N/A
Channel Availability Check Time	15.407/KDB 905462 7.8.2	N/A
Channel Move Time	15.407/KDB 905462 7.8.3	PASS
Channel Closing Transmission Time	15.407/KDB 905462 7.8.3	PASS
Non-Occupancy Period	15.407/KDB 905462 7.8.3	PASS
Statistical Performance Check	15.407/KDB 905462 7.8.4	N/A

Remark:

Model No.: GL001, GL002, GL003

Only the model GL001 was tested, since the electrical circuit design, layout, components used and internal wiring were identical for the above models, only the model name, the connector board of the glasses frame, and product appearance are different for marketing requirements.

The three product models have different frames, but the same temples, and the PCBA is all integrated into the temples.

GL001:double-bridge frame, more square-shaped

GL002:single-bridge frame, more round-shaped

GL003:single-bridge frame, more square-shaped

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3 General Information

3.1 Client Information

Applicant:	SHENZHEN APOM OPTICAL TECHNOLOGY CO., LTD.
Address of Applicant:	Room 2009, T8 Office Building, Kerry Business Center,399 Qianwan 1st Road, Qianhai Shenzhen-Hong Kong Cooperation Zone, Nanshan Street
Manufacturer:	SHENZHEN APOM OPTICAL TECHNOLOGY CO., LTD.
Address of Manufacturer:	Room 2009, T8 Office Building, Kerry Business Center,399 Qianwan 1st Road, Qianhai Shenzhen-Hong Kong Cooperation Zone, Nanshan Street Shenzhen,Guangdong, China

3.2 General Description of EUT

Product Name:	L'Atitude 52N Smart Glasses	
Model No. (EUT):	GL001, GL002, GL003	
Test Model No.:	GL001	
Trade Mark:	L'Atitude 52° N	
Operation Frequency:	IEEE802.11a/n(HT20)/ac(VHT20)/ax(HE20): 5250MHz~5350 MHz IEEE802.11a/n(HT20)/ac(VHT20)/ax(HE20): 5470MHz~5725 MHz	
Channel Numbers:	IEEE802.11a/n(HT20)/ac(VHT20)/ax(HE20):5250MHz~5350 MHz/ 4 channel IEEE802.11a/n(HT20)/ac(VHT20)/ax(HE20):5470MHz~5725 MHz/ 11 channel	
Type of Modulation:	IEEE 802.11a: OFDM (BPSK, QPSK, 16QAM, 64QAM) IEEE 802.11n(HT20): OFDM (BPSK, QPSK, 16QAM, 64QAM) IEEE 802.11ac(VHT20): OFDM (BPSK, QPSK, 16QAM, 64QAM) IEEE 802.11ax(HE20): OFDMA (BPSK, QPSK, 16QAM, 64QAM)	
Test Power Grade:	Default	
Test Software of EUT:	Docklight	
DFS (Dynamic Frequency Selection) Operational mode:	☐ Master ☒ Slaver without radar detection ☐ Slaver with radar detection	
Antenna Configuration:	☒ Single Transmitting; ☒ SISO ☐ MIMO (☐ T2R, ☐ 3T3R, ☐ 4T4R, ☐ Other);	
Antenna Type:	PIFA Antenna	
Antenna Gain:	U-NII-1:5150-5250MHz 0.81dBi U-NII-2A: 5250-5350MHz 0.63dBi U-NII-2C:5500-5700MHz 1.96dBi U-NII-3:5745-5825MHz 2.80dBi	
Power Supply:	Battery:	DC3.85V 200 mAh
Test voltage:	DC3.85V	
Sample Received Date:	Nov. 18, 2025	
Sample tested Date:	Nov. 18, 2025 to Feb. 27, 2026	

Operation Frequency each of channel

802.11a/802.11n/802.11ac(20MHz)/802.11ax(20MHz) Frequency/Channel Operations:

U-NII-2A		U-NII-2C	
Channel	Frequency(MHz)	Channel	Frequency(MHz)
52	5260	100	5500
56	5280	104	5520
60	5300	108	5540
64	5320	112	5560
-	-	116	5580
-	-	120	5600
-	-	124	5620
-	-	128	5640
-	-	132	5660
-	-	136	5680
-	-	140	5700

Note:

In section 15.31(m), regards to the operating frequency range over 10 MHz, the lowest frequency, the middle frequency, and the highest frequency of channel were selected to perform the test.

3.3 Description of Support Units

The EUT has been tested with associated equipment below.

1) Support equipment

Description	Manufacturer	Model No.	Certification	Supplied by
Netbook	Dell	P77F	FCC&CE	CTI
Router	Asus	AX5400 RT-AX82U	FCC&CE FCC ID:MSQ-RTAXJ300	CTI

3.4 Test Location

All tests were performed at:

Centre Testing International Group Co., Ltd

Hongwei Industrial Park, Zone 70, Bao'an District, Shenzhen, Guangdong, China

Telephone: +86 (0) 755 33683668 Fax: +86 (0) 755 33683385

No tests were sub-contracted.

FCC Designation No.: CN1164, Test Firm Registration No.: 260439

3.5 Applied Standards

According to the specifications of the manufacturer, it must comply with the requirements of the following standards:

FCC CFR47 Part 15E Unlicensed National Information Infrastructure Devices

FCC KDB 905462 D02 UNII DFS Compliance Procedures New Rules v02

FCC KDB 905462 D03 Client Without DFS New Rules v01r02.

4 Equipment List

RF test system					
Equipment	Manufacturer	Model No.	Serial Number	Cal. Date (mm-dd-yyyy)	Cal. Due date (mm-dd-yyyy)
Spectrum Analyzer	Keysight	N9010A	MY54510339	12-05-2024 11-25-2025	12-04-2025 11-24-2026
Signal Generator	Keysight	N5182B	MY53051549	11-30-2024 11-13-2025	11-29-2025 11-12-2026
DC Power	Keysight	E3642A	MY56376072	11-30-2024 11-13-2025	11-29-2025 11-12-2026
Communication test set	R&S	CMW500	169004	03-03-2025	03-02-2026
RF control unit(power unit)	JS Tonscend	JS0806-2	24I80620925	07-21-2025	07-20-2026
Wi-Fi 7GHz Band Extender	JS Tonscend	TS-WF7U2	2206200002	05-12-2025	05-11-2026
High-low temperature test chamber	Dong Guang Qin Zhuo	LK-80GA	QZ20150611879	11-13-2025	11-12-2026
Temperature/ Humidity Indicator	biaozhi	HM10	1804186	05-26-2025	05-25-2026
BT&WI-FI Automatic test software	JS Tonscend	JS1120-3	V3.3.20	N/A	N/A
Spectrum Analyzer	R&S	FSV3044	101509	02-14-2025	02-13-2026

5 DFS Technical Requirements and Radar Test Waveforms

5.1 DFS Overview

Table 1 Applicability of DFS Requirements Prior to Use of a Channel

Requirement	Operational Mode		
	Master	Client without Radar Detection	Client with Radar Detection
Non-Occupancy Period	Yes	Not required	Yes
DFS Detection Threshold	Yes	Not required	Yes
Channel Availability Check Time	Yes	Not required	Not required
U-NII Detection Bandwidth	Yes	Not required	Yes

Table 2 Applicability of DFS requirements during normal operation

Requirement	Operational Mode	
	Master Device or Client with Radar Detection	Client without Radar Detection
DFS Detection Threshold	Yes	Not require
Channel Closing Transmission Time	Yes	Yes
Channel Move Time	Yes	Yes
U-NII Detection Bandwidth	Yes	Not required

Additional requirements for devices with multiple bandwidth modes	Master Device or Client with Radar Detection	Client without Radar Detection
U-NII Detection Bandwidth and Statistical Performance Check	All BW modes must be tested	Not required
Channel Move Time and Channel Closing Transmission Time	Test using widest BW mode available	Test using the widest BW mode available for the link
All other tests	Any single BW mode	Not required

Note: Frequencies selected for statistical performance check should include several frequencies within the radar detection bandwidth and frequencies near the edge of the radar detection bandwidth. For 802.11 devices is suggested to select frequencies in each of the bonded 20 MHz channels and the channel center frequency.

5.2 DFS Detection Thresholds

Table 3 DFS Detection Thresholds for Master Devices and Client Devices With Radar Detection

Maximum Transmit Power	Value(See Notes 1, 2 and 3)
EIRP $\geq$ 200 milliwatt	-64 dBm
EIRP < 200 milliwatt and power spectral density < 10 dBm/MHz	-62 dBm
EIRP < 200 milliwatt that do not meet the power spectral density requirement	-64 dBm

Note 1: This is the level at the input of the receiver assuming a 0 dBi receive antenna.

Note 2: Throughout these test procedures an additional 1 dB has been added to the amplitude of the test transmission waveforms to account for variations in measurement equipment. This will ensure that the test signal is at or above the detection threshold level to trigger a DFS response.

Note3: EIRP is based on the highest antenna gain. For MIMO devices refer to KDB Publication 662911 D01.

Table 4 DFS Response Requirement Values

Parameter	Value
Non- occupancy period	Minimum 30 minutes
Channel Availability Check Time	60 seconds
Channel Move Time	10 seconds See Note 1
Channel Closing Transmission Time	200 milliseconds + an aggregate of 60milliseconds over remaining 10 second period. See Notes 1 and 2
U-NII Detection Bandwidth	Minimum 100% of the UNII99% transmission power bandwidth See Note 3
Note 1: Channel Move Time and the Channel Closing Transmission Time should be performed with Radar Type 0. The measurement timing begins at the end of the Radar Type 0 burst. Note 2: The Channel Closing Transmission Time is comprised of 200 milliseconds starting at the beginning of the Channel Move Time plus any additional intermittent control signals required to facilitate a Channel move (an aggregate of 60 milliseconds) during the remainder of the 10 second period. The aggregate duration of control signals will not count quiet periods in between transmissions. Note 3: During the U-NII Detection Bandwidth detection test, radar type 0 should be used. For each frequency step the minimum percentage of detection is 90 percent. Measurements are performed with no data traffic.	

5.3 Radar Test Waveforms

5.3.1 Short Pulse Radar Test Waveforms

Table 5 – Short Pulse Radar Test Waveforms

Radar Type	Pulse Width (μsec)	PRI (μsec)	Number of Pulses	Minimum Percentage of Successful Detection	Minimum Number of Trials
0	1	1428	18	See Note 1	See Note 1
1	1	Test A: 15 unique PRI values randomly selected from the list of 23 PRI values in Table 5a	$\text{Roundup} \left\{ \left(\frac{1}{360} \right) \cdot \left(\frac{19 \cdot 10^6}{\text{PRI}_{\mu\text{sec}}} \right) \right\}$	60%	30
		Test B: 15 unique PRI values randomly selected within the range of 518-3066 μsec, with a minimum increment of 1 μsec, excluding PRI values selected in Test A			
2	1-5	150-230	23-29	60%	30
3	6-10	200-500	16-18	60%	30
4	11-20	200-500	12-16	60%	30
Aggregate (Radar Types 1-4)				80%	120
Note 1: Short Pulse Radar Type 0 should be used for the detection bandwidth test, channel move time, and channel closing time tests.					

A minimum of 30 unique waveforms are required for each of the Short Pulse Radar Types 2 through 4. If

more than 30 waveforms are used for Short Pulse Radar Types 2 through 4, then each additional waveform must also be unique and not repeated from the previous waveforms. If more than 30 waveforms are used for Short Pulse Radar Type 1, then each additional waveform is generated with Test B and must also be unique and not repeated from the previous waveforms in Tests A or B.

For example if in Short Pulse Radar Type 1 Test B a PRI of 3066 μ sec is selected, the number of pulses

would be $\text{Roundup} \left\{ \left(\frac{1}{360} \right) \cdot \left(\frac{19 \cdot 10^6}{3066} \right) \right\} = \text{Round up } \{17.2\} = 18.$

Table 5a - Pulse Repetition Intervals Values for Test A

Pulse Repetition Frequency Number	Pulse Repetition Frequency (Pulses Per Second)	Pulse Repetition Interval (Microseconds)
1	1930.5	518
2	1858.7	538
3	1792.1	558
4	1730.1	578
5	1672.2	598
6	1618.1	618
7	1567.4	638
8	1519.8	658
9	1474.9	678
10	1432.7	698
11	1392.8	718
12	1355	738
13	1319.3	758
14	1285.3	778
15	1253.1	798
16	1222.5	818
17	1193.3	838
18	1165.6	858
19	1139	878
20	1113.6	898
21	1089.3	918
22	1066.1	938
23	326.2	3066

The aggregate is the average of the percentage of successful detections of Short Pulse Radar Types 1-4. For example, the following table indicates how to compute the aggregate of percentage of successful detections.

Radar Type	Number of Trials	Number of Successful Detections	Minimum Percentage of Successful Detection
1	35	29	82.9%
2	30	18	60%
3	30	27	90%
4	50	44	88%
Aggregate $(82.9\% + 60\% + 90\% + 88\%)/4 = 80.2\%$			

5.3.2 Long Pulse Radar Test Waveforms

Table 6 – Long Pulse Radar Test Waveform

Radar Type	Pulse Width (μsec)	Chirp Width (MHz)	PRI (μsec)	Number of Pulses per Burst	Number of Bursts	Minimum Percentage of Successful Detection	Minimum Number of Trials
5	50-100	5-20	1000-2000	1-3	8-20	80%	30

The parameters for this waveform are randomly chosen. Thirty unique waveforms are required for the Long Pulse Radar Type waveforms. If more than 30 waveforms are used for the Long Pulse Radar Type waveforms, then each additional waveform must also be unique and not repeated from the previous waveforms.

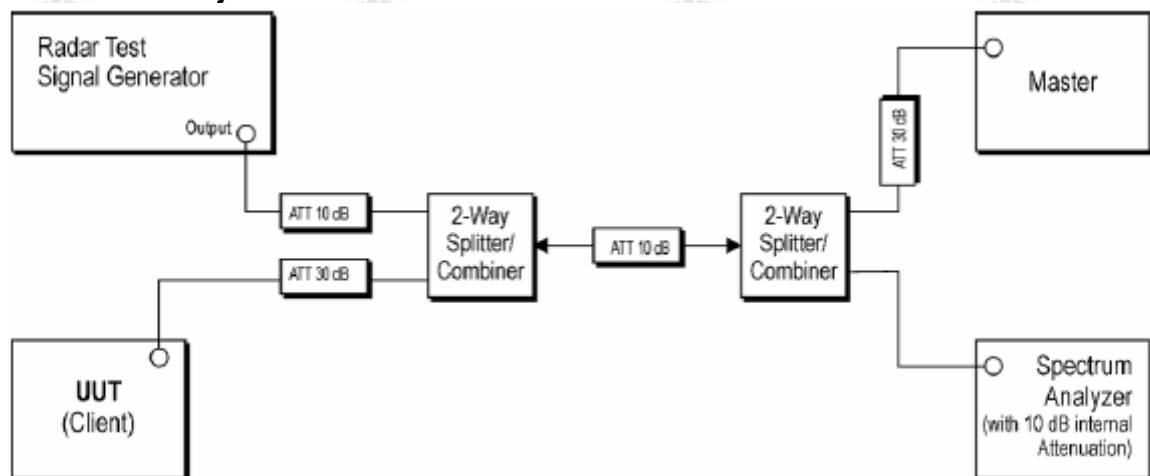
Table 7 – Frequency Hopping Radar Test Waveform

Radar Type	Pulse Width (μsec)	PRI (μsec)	Pulses per Hop	Hopping Rate (kHz)	Hopping Sequence Length (msec)	Minimum Percentage of Successful Detection	Minimum Number of Trials
6	1	333	9	0.333	300	70%	30

For the Frequency Hopping Radar Type, the same Burst parameters are used for each waveform. The hopping sequence is different for each waveform and a 100-length segment is selected from the hopping sequence defined by the following algorithm: The first frequency in a hopping sequence is selected randomly from the group of 475 integer frequencies from 5250 – 5724 MHz. Next, the frequency that was just chosen is removed from the group and a frequency is randomly selected from the remaining 474 frequencies in the group. This process continues until all 475 frequencies are chosen for the set. For selection of a random frequency, the frequencies remaining within the group are always treated as equally likely.

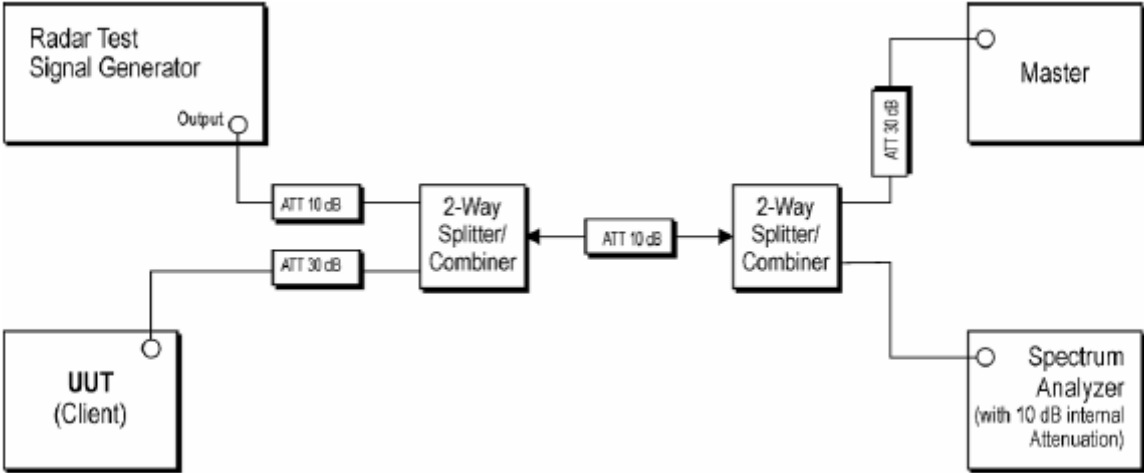
6 Test Requirement Test setup

Setup for Client with injection at the Master



Example Conducted Setup where UUT is a Client and Radar Test Waveforms are injected into the Master

Setup for Client with injection at the Client



Example Conducted Setup where UUT is a Client and Radar Test Waveforms are injected into the Client.

7 Radio Technical Requirements Specification

Reference documents for testing:

No.	Identity	Document Title
1	FCC Part15E	Subpart C-Intentional Radiators
2	FCC Order, ET Docket No.03-122 (FCC 06-96)	Compliance Measurement Procedures for Unlicensed-National Information Infrastructure Devices Operating in the 5.25-5.35 GHz and 5.47-5.725 GHz Bands Incorporating Dynamic Frequency Selection

Test Results List:

FCC Part15E	Test method	Test item	Operation Mode verdict	Note
			Master	
47 CFR Part 15 Subpart E Section 15.407 (h)(2)(iv)	FCC 06-96	Non-Occupancy Period	PASS	Note 1
47 CFR Part 15 Subpart E Section 15.407 (h)(2)	FCC 06-96	DFS Detection Threshold	PASS	Note 1
47 CFR Part 15 Subpart E Section 15.407 (h)(2)(iii)	FCC 06-96	Channel Closing Transmission Time	PASS	Note 1
47 CFR Part 15 Subpart E Section 15.407 (h)(2)(iii)	FCC 06-96	Channel Move Time	PASS	Note 1

Note 1: Refer to EED32R82215605 Appendix DFS

8 PHOTOGRAPHS

Refer to Appendix Photographs of Report No. EED32R82215601.

Statement

1. This report is considered invalid without approved signature, special seal and the seal on the perforation;
2. The Company Name shown on Report and Address, the sample(s) and sample information was/were provided by the applicant who should be responsible for the authenticity which CTI hasn't verified;
3. The result(s) shown in this report refer(s) only to the sample(s) tested;
4. Unless otherwise stated, the decision rule for conformity reporting is based on Binary Statement for Simple Acceptance Rule stated in ILAC-G8:09/2019/CNAS-GL015:2022;
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