



TEST REPORT

APPLICANT : Great Talent Technology Limited

PRODUCT NAME : Smart Phone

MODEL NAME : ACK2326

BRAND NAME : ANS

FCC ID : 2ALZM-ACK2326

STANDARD(S) : 47 CFR Part 2
47 CFR Part 22, Subpart H
47 CFR Part 24, Subpart E
47 CFR Part 27, Subpart H&L&M&N
47 CFR Part 90, Subpart S

RECEIPT DATE : 2023-02-17

TEST DATE : 2023-02-24

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Change History		
Version	Date	Reason for change
1.0	2023-03-01	First edition
2.0	2023-03-08	Added difference description and replaced the test report version 1.0.





1. Technical Information

Note: Provide by applicant.

1.1. Applicant and Manufacturer Information

Applicant:	Great Talent Technology Limited
Applicant Address:	35F, HBC HuiLong Center Building-II Minzhi Street, Longhua, Shenzhen, P. R. China 518110
Manufacturer:	Great Talent Technology Limited
Manufacturer Address:	35F, HBC HuiLong Center Building-II Minzhi Street, Longhua, Shenzhen, P. R. China 518110

1.2. Equipment Under Test (EUT) Description

Product Name:	Smart Phone	
EUT IMEI:	990019121431680	
Hardware Version:	Q6002_V1.0	
Software Version:	Kirk2_v1.2.0_BTM-ST	
Modulation Type:	GSM/GPRS Mode with GMSK Modulation EDGE Mode with 8PSK Modulation WCDMA Mode with QPSK Modulation HSDPA / DC-HSDPA Mode with QPSK Modulation HSUPA Mode with QPSK Modulation HSPA+ Mode with 16QAM Modulation LTE with QPSK, 16QAM, 64QAM Modulation	
Operating Frequency Range:	GSM 850MHz	Tx: 824MHz-849MHz
		Rx: 869MHz-894MHz
	GSM 1900MHz	Tx: 1850MHz-1910MHz
		Rx: 1930MHz-1990MHz
	WCDMA Band V	Tx: 824MHz-849MHz
		Rx: 869MHz-894MHz
	WCDMA Band IV	Tx: 1710MHz-1755MHz
		Rx: 2110MHz-2155MHz
WCDMA Band II	Tx: 1850MHz-1910MHz	
	Rx: 1930MHz-1990MHz	





Operating Frequency Range:	LTE Band 2	Tx: 1850MHz–1910MHz
		Rx: 1930MHz–1990MHz
	LTE Band 4	Tx: 1710MHz–1755MHz
		Rx: 2110MHz–2155MHz
	LTE Band 5	Tx: 824MHz–849MHz
		Rx: 869MHz–894MHz
	LTE Band 12	Tx: 699MHz–716MHz
		Rx: 729MHz–746MHz
	LTE Band 25	Tx: 1850MHz–1915MHz
		Rx: 1930MHz–1995MHz
	LTE Band 26	Tx: 814MHz–849MHz
		Rx: 859MHz–894MHz
LTE Band 41	Tx: 2496MHz–2690MHz	
	Tx: 2496MHz–2690MHz	
LTE Band 66	Tx: 1710MHz–1780MHz	
	Rx: 2110MHz–2200MHz	
LTE Band 71	Tx: 663MHz–698MHz	
	Rx: 617MHz–652MHz	
Channel Bandwidth:	LTE Band 2	1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz
	LTE Band 4	1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz
	LTE Band 5	1.4MHz, 3MHz, 5MHz, 10MHz
	LTE Band 12	1.4MHz, 3 MHz, 5 MHz, 10MHz
	LTE Band 25	1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz
	LTE Band 26	1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz
	LTE Band 41	5 MHz, 10MHz, 15MHz, 20MHz
	LTE Band 66	1.4MHz, 3MHz, 5MHz, 10MHz, 15MHz, 20MHz
	LTE Band 71	5MHz, 10MHz, 15MHz, 20MHz

Note 1: This is a variant report to request a Class II Permissive change for the original report (Report No.: SZ22040005W05/W06/W07, FCC ID: 2ALZM-ACK2326). Based on the similarity between before, apply for the following changes:

1. Modify software version number.
2. Main PCB change to fix issues: camera power supply risk, headset jack moved inside 0.1mm, capacitor direction rotated 90 degree.
3. Sub PCB change for improve potential surge risk.





4. 4.Add 2nd source memory, fingerprint, display, camera, side key FPC, speaker, PCB, WIFI 2.4GHz filter and LTE B12/25/41/66/71 SAW/Duplexe. Those components are pin to pin compatible with original source, PCB schematic has no change.

5. Change SIM connector to improve quality risk. It is pin to pin compatible with original one, PCB schematic has no change.

6. Remove D5802 element.

No.	Part	Item
1	Main PCB trace	Improve main board camera power supply risk
		Headset jack moved inside 0.1mm, fix interference issue.
		Capacitor direction rotated 90°
		Fix proximity sensor power leakage issue
2	Sub PCB trace	On sub-board, change schematic and add component for potential surge risk.
3	2nd source components	Memory
4		Fingerprint
5		Display
6		Camera
7		Side key FPC
8		Speaker
9		LTE Band12, 66, 71, 25, 41 SAW/Duplexe
10		PCB
11		WIFI filter
12	Others	SIM connector change to improve SIM detection risk because of shortage risk
13		Remove D5802 element, it is a SAR sensor material. The SAR sensor was not used from original FCC testing.

Due to the above changes, we have evaluated and retested worst case of radiated spurious emissions, the test results are better than before, all other test items are no need to be retested. We only recorded the worse case of radiated spurious emissions in this report.

Note 2: For a more detailed description, please refer to Specification or User’s Manual supplied by the applicant and/or manufacturer.



1.3. Test Standards and Results

The objective of the report is to perform testing according to 47 CFR Part 2, Part 22, Part 24, Part 27 and Part 90 for the EUT FCC ID Certification:

No.	Identity	Document Title
1	47 CFR Part 2	Frequency Allocations and Radio Treaty Matters; General Rules and Regulations
2	47 CFR Part 22	Public Mobile Services
3	47 CFR Part 24	Personal Communications Services
4	47 CFR Part 27	Miscellaneous Wireless Communications Services
5	47 CFR Part 90	Miscellaneous Wireless Communications Services

Test detailed items/section required by FCC rules and results are as below:

No.	Section	Description	Test Date	Test Engineer	Result	Method determination/ Remark
1	2.1053, 22.917(a), 24.238(a), 27.53(m)(4)	Radiated Out of Band Emissions	Feb. 24, 2023	Yang Lian	PASS	No deviation

Note 1: Additions to, deviation, or exclusions from the method shall be judged in the "method determination" column of add, deviate or exclude from the specific method shall be explained in the "Remark" of the above table.

Note 2: When the test result is a critical value, we will use the measurement uncertainty give the judgment result based on the 95% confidence intervals.

1.4. Environmental Conditions

During the measurement, the environmental conditions were within the listed ranges:

Temperature (°C):	15-35
Relative Humidity (%):	30-60
Atmospheric Pressure (kPa):	86-106



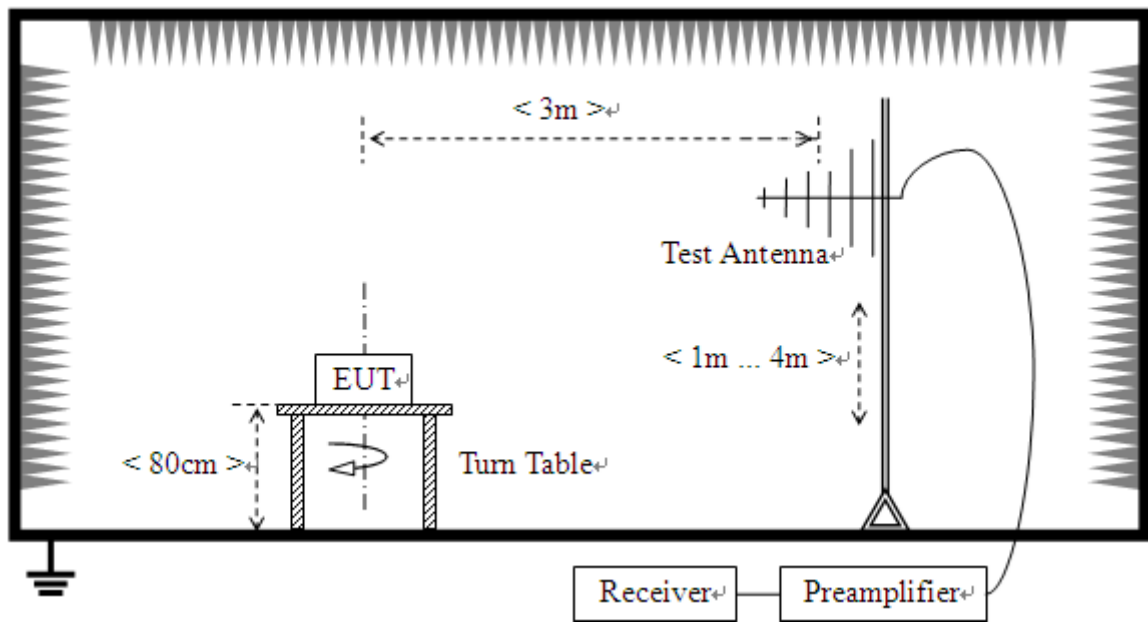
2.47 CFR Part 2, Part 22, Part 24, Part 27, and Part 90 Requirements

2.1. Radiated Out of Band Emissions

2.1.1. Requirement

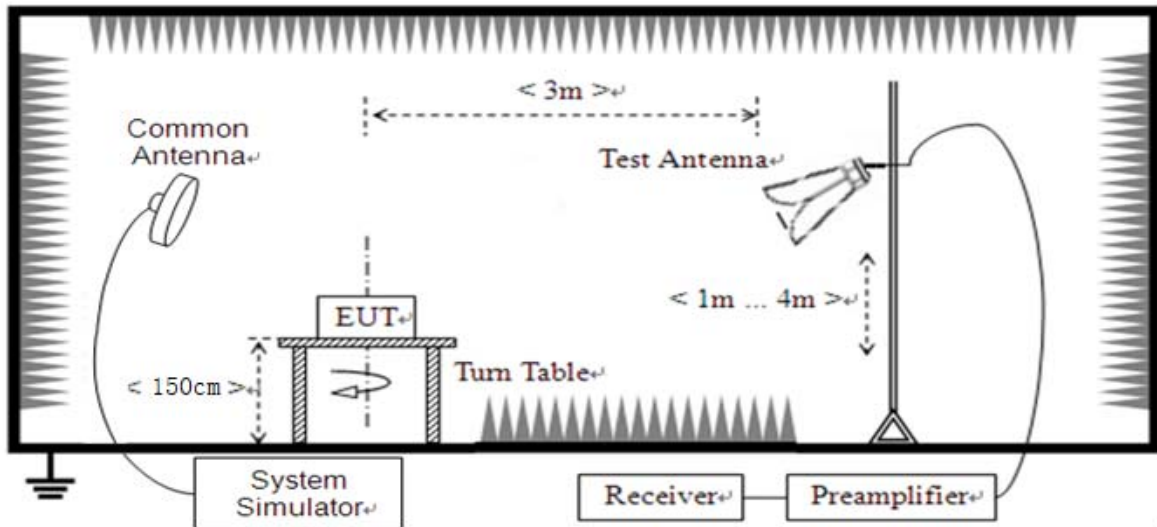
The power of any emission outside of the authorized operating frequency ranges must be attenuated below the transmitting power (P) by a factor of at least $43+10*\log(P)$ dB. This calculated to be -13 dBm. The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency.

2.1.2. Test Description



(For the test frequency from 30MHz to 1GHz)





(For the test frequency above 1GHz)

The EUT is located in a 3m Full-Anechoic Chamber, the cable loss, air loss and so on of the site as factors are pre-calibrated using the "Substitution" method, and calculated to correct the reading. A call is established between the EUT and the SS via a Common Antenna. The EUT is commanded by the SS to operate at the maximum and minimum output power and only the test result of the maximum output power was recorded.

In the frequency range above 30MHz, Bi-Log Test Antenna (30MHz to 1GHz) and Horn Test Antenna (above 1GHz) are used. Test Antenna is 3m away from the EUT. Test Antenna height is varied from 1m to 4m above the ground and the Turn Table is actuated to turn from 0° to 360° to determine the maximum value of the radiated power. The emission levels at both horizontal and vertical polarizations should be tested. The Filters consists of Notch Filters and High Pass Filter.

Note: When doing measurements above 1GHz, the EUT has been within the 3dB cone width of the horn antenna during horizontal antenna.

2.1.3. Test Procedure

For measurements below 1 GHz the resolution bandwidth is set to 100 kHz for peak detection measurements.

For measurements above 1GHz the resolution bandwidth is set to 1MHz, the video band width is set to 3MHz for peak measurements.





2.1.4. Test Result

The measurement frequency range is from 30MHz to the 10th harmonic of the fundamental frequency. The Turn Table is actuated to turn from 0° to 360°, and both horizontal and vertical polarizations of the Test Antenna are used to find the maximum radiated power. The lowest, middle and highest channels are tested to verify the out of band emissions.

The substitution corrections are obtained as described below:

$$A_{\text{SUBST}} = P_{\text{SUBST_TX}} - P_{\text{SUBST_RX}} - L_{\text{SUBST_CABLES}} + G_{\text{SUBST_TX_ANT}}$$

$$A_{\text{TOT}} = L_{\text{CABLES}} + A_{\text{SUBST}}$$

Where A_{SUBST} is the final substitution correction including receive antenna gain.

$P_{\text{SUBST_TX}}$ is signal generator level,

$P_{\text{SUBST_RX}}$ is receiver level,

$L_{\text{SUBST_CABLES}}$ is cable losses including TX cable,

$G_{\text{SUBST_TX_ANT}}$ is substitution antenna gain.

A_{TOT} is total correction factor including cable loss and substitution correction

During the test, the data of A_{TOT} was added in the test spectrum analyze, so spectrum analyze reading is the final values which contain the data of A_{TOT} .

Note1: The power of the EUT transmitting frequency should be ignored.

Note2: All test mode and condition mentioned were considered and evaluated respectively by performing full test, only the worst data were recorded and reported.

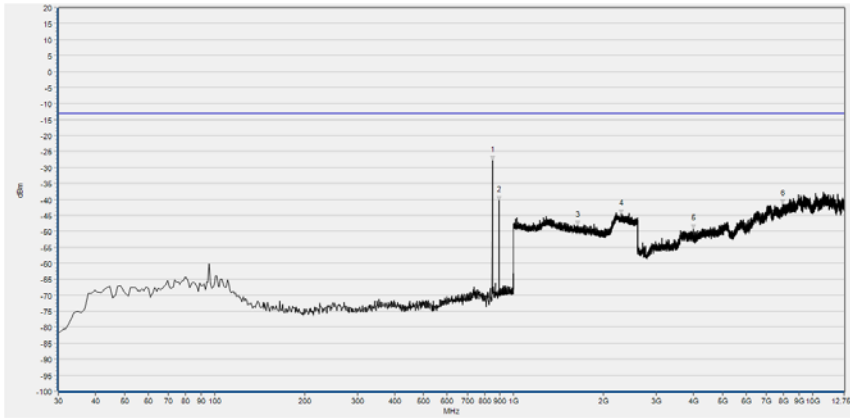
Note3: All spurious emission tests were performed in X, Y, Z axis direction. And only the worst axis test condition was recorded in this test report.

Note 4: N/A means the frequency is the basic frequency or the base station frequency, they are no need to verdict.

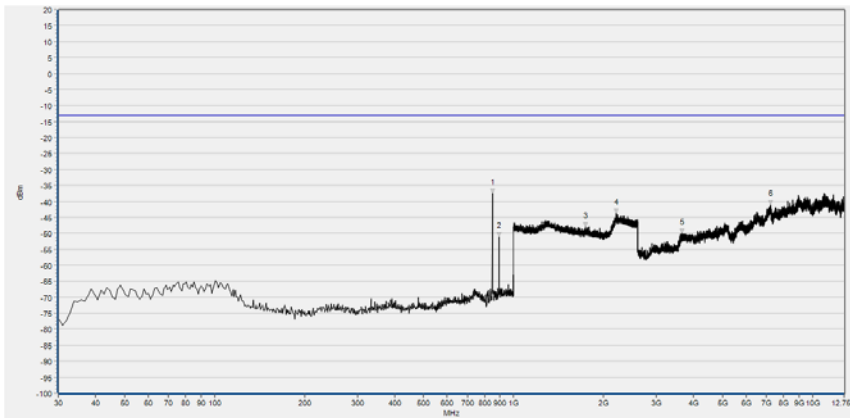
Note 5: The amplitude of emissions (18GHz to 10th harmonics) which are attenuated more than 20 dB below the limit are not be reported.



GSM850(GSM), High Channel



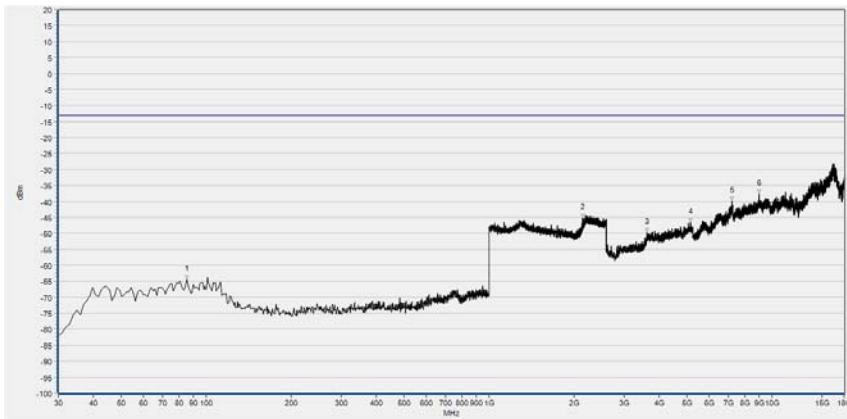
No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	848.680	-27.90	-13.00	Horizontal	N/A
2	893.300	-40.43	-13.00	Horizontal	N/A
3	1639.616	-48.13	-13.00	Horizontal	PASS
4	2297.159	-44.56	-13.00	Horizontal	PASS
5	3999.109	-49.25	-13.00	Horizontal	PASS
6	7943.562	-41.41	-13.00	Horizontal	PASS



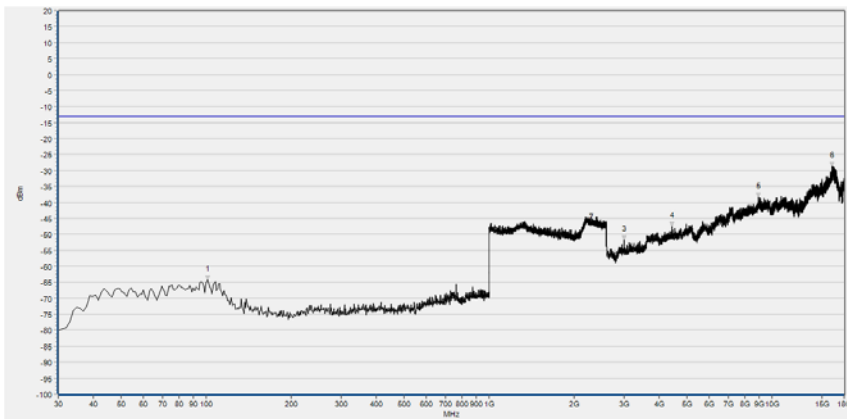
No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	848.680	-37.48	-13.00	Vertical	N/A
2	893.300	-51.10	-13.00	Vertical	N/A
3	1740.136	-47.96	-13.00	Vertical	PASS
4	2204.962	-43.80	-13.00	Vertical	PASS
5	3657.638	-50.05	-13.00	Vertical	PASS
6	7221.859	-41.09	-13.00	Vertical	PASS



WCDMA Band II(WCDMA), Mid Channel



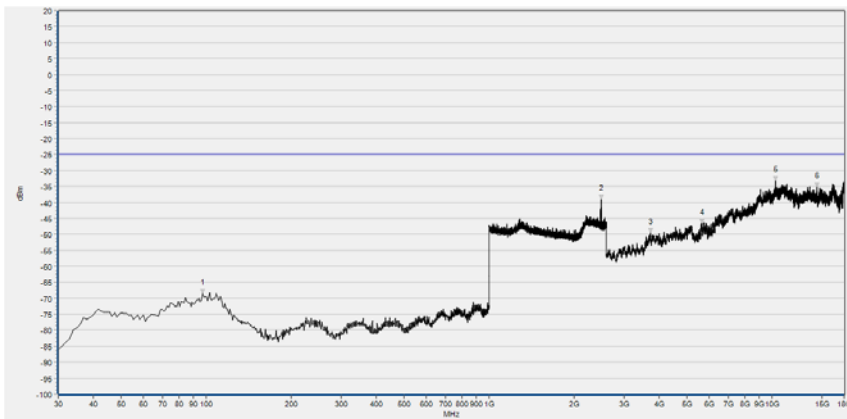
No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	85.345	-64.56	-13.00	Horizontal	PASS
2	2139.770	-45.35	-13.00	Horizontal	PASS
3	3614.002	-49.65	-13.00	Horizontal	PASS
4	5159.393	-46.55	-13.00	Horizontal	PASS
5	7225.904	-39.96	-13.00	Horizontal	PASS
6	9002.334	-37.63	-13.00	Horizontal	PASS



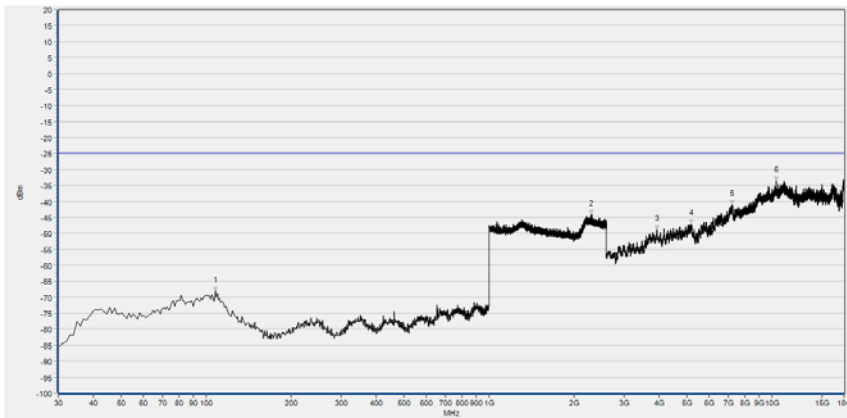
No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	100.881	-64.29	-13.00	Vertical	PASS
2	2296.648	-44.61	-13.00	Vertical	PASS
3	2997.900	-51.71	-13.00	Vertical	PASS
4	4422.637	-47.58	-13.00	Vertical	PASS
5	8943.291	-38.23	-13.00	Vertical	PASS
6	16321.120	-28.82	-13.00	Vertical	PASS



LTE Band 41, 20MHz BW, Low Channel, QPSK



No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	96.997	-68.46	-25.00	Horizontal	PASS
2	2487.963	-38.94	-25.00	Horizontal	PASS
3	3712.102	-49.55	-25.00	Horizontal	PASS
4	5643.649	-46.55	-25.00	Horizontal	PASS
5	10326.185	-33.21	-25.00	Horizontal	PASS
6	14417.243	-35.09	-25.00	Horizontal	PASS



No.	Fre.(MHz)	PK (dBm)	Limit (dBm)	Antenna	Verdict
1	107.678	-68.02	-25.00	Vertical	PASS
2	2303.368	-44.19	-25.00	Vertical	PASS
3	3924.665	-48.82	-25.00	Vertical	PASS
4	5196.959	-46.95	-25.00	Vertical	PASS
5	7233.247	-40.99	-25.00	Vertical	PASS
6	10344.669	-33.56	-25.00	Vertical	PASS





Annex A Test Uncertainty

Where relevant, the following measurement uncertainty levels have been estimated for test performed on the EUT as specified in CISPR 16-1-2:

Test Items	Uncertainty
Radiated Emission	$\pm 2.95\text{dB}$

This uncertainty represent an expanded uncertainty expressed at approximately the 95% confidence level using a coverage factor of $k=2$.





Annex B Testing Laboratory Information

1. Identification of the Responsible Testing Laboratory

Laboratory Name:	Shenzhen Morlab Communications Technology Co., Ltd.
Laboratory Address:	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China
Telephone:	+86 755 36698555
Facsimile:	+86 755 36698525

2. Identification of the Responsible Testing Location

Name:	Shenzhen Morlab Communications Technology Co., Ltd.
Address:	FL.3, Building A, FeiYang Science Park, No.8 LongChang Road, Block 67, BaoAn District, ShenZhen, GuangDong Province, P. R. China

3. Facilities and Accreditations

All measurement facilities used to collect the measurement data are located at FL.3, Building A, FeiYang Science Park, Block 67, BaoAn District, Shenzhen, 518101 P. R. China. The test site is constructed in conformance with the requirements of ANSI C63.10-2013 and CISPR Publication 22; the FCC designation number is CN1192, the test firm registration number is 226174.





4. Test Equipments Utilized

4.1 Radiated Test Equipments

Equipment Name	Serial No.	Type	Manufacturer	Cal. Date	Due Date
System Simulator	152038	CMW500	R&S	2022.10.11	2023.10.10
System Simulator	MY48364176	8960-E5515C	Agilent	2022.03.01	2023.02.28
Receiver	MY54130016	N9038A	Agilent	2022.07.07	2023.07.06
Test Antenna - Bi-Log	9163-519	VULB 9163	Schwarzbeck	2022.05.25	2025.05.24
Test Antenna - Horn	9120D-963	BBHA 9120D	Schwarzbeck	2022.05.23	2025.05.24
RF Coaxial Cable (DC-18GHz)	MRE001	PE330	Pasternack	2022.07.08	2023.07.07
RF Coaxial Cable (DC-18GHz)	MRE002	CLU18	Pasternack	2022.07.08	2023.07.07
RF Coaxial Cable (DC-18GHz)	MRE003	CLU18	Pasternack	2022.07.08	2023.07.07
RF Coaxial Cable (DC-40GHz)	22290045	QA360-40-KK-0.5	Qualwave	2022.07.08	2023.07.07
RF Coaxial Cable (DC-40GHz)	22290046	QA360-40-KKF-2	Qualwave	2022.07.08	2023.07.07
Preamplifier (10MHz-6GHz)	46732	S10M100L3802	LUCIX CORP.	2022.07.08	2023.07.07
Preamplifier (2GHz-18GHz)	61171/61172	S020180L3203	LUCIX CORP.	2022.07.08	2023.07.07
Preamplifier (18GHz-40GHz)	DS77209	DCLNA0118-40C-S	Decentest	2022.07.23	2023.07.22
Notch Filter	N/A	WRCG-GSM850	Wainwright	2022.07.08	2023.07.07
Notch Filter	N/A	WRCGV-W Band II	Wainwright	2022.07.08	2023.07.07
Notch Filter	N/A	WRCGV-LTE B41	Wainwright	2022.07.08	2023.07.07
Anechoic Chamber	N/A	9m*6m*6m	CRT	2022.05.10	2025.05.09

Software Version: V1.2

————— END OF REPORT —————

