

MPE TEST REPORT

Applicant ID TECH
FCC ID WQJ-V7200L
Product VP7200
Brand ID TECH
Model ID72-818; ID72-818D; ID72-810; ID72-810D;
ID72-018; ID72-018D; ID72-010; ID72-010D;
Report No. R2301A0058-M1
Issue Date June 1, 2023

TA Technology (Shanghai) Co., Ltd. tested the above equipment in accordance with the requirements in **FCC 47 CFR Part 1 1.1310**. The test results show that the equipment tested is capable of demonstrating compliance with the requirements as documented in this report.

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1 Test Laboratory

1.1 Notes of the Test Report

This report shall not be reproduced in full or partial, without the written approval of **TA Technology (Shanghai) Co., Ltd.** The results documented in this report apply only to the tested sample, under the conditions and modes of operation as described herein .Measurement Uncertainties were not taken into account and are published for informational purposes only. This report is written to support regulatory compliance of the applicable standards stated above.

1.2 Test Facility

FCC (Designation number: CN1179, Test Firm Registration Number: 446626)

TA Technology (Shanghai) Co., Ltd. has been listed on the US Federal Communications Commission list of test facilities recognized to perform measurements.

1.3 Testing Location

Company: TA Technology (Shanghai) Co., Ltd.
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1.4 Laboratory Environment

Temperature	Min. = 18°C, Max. = 25 °C
Relative humidity	Min. = 30%, Max. = 70%
Ground system resistance	< 0.5 Ω
Ambient noise is checked and found very low and in compliance with requirement of standards. Reflection of surrounding objects is minimized and in compliance with requirement of standards.	

2 Description of Equipment Under Test

Client Information

Applicant	ID TECH
Applicant address	10721 Walker Street, Cypress, California 90630, United States
Manufacturer	ID TECH TAIWAN
Manufacturer address	No. 16, Lane 22, GaoQing Rd., YanMei Dist., TaoYuan City 326, Taiwan

General Technologies

Model	ID72-818; ID72-818D; ID72-810; ID72-810D; ID72-018; ID72-018D; ID72-010; ID72-010D;
SN	252T027671
Hardware Version	Rev.A
Software Version	v1.00
Date of Testing	March 13, 2023 ~ March 17, 2023
Date of Sample Received	January 16, 2023

Note:

1. The EUT is sent from the applicant to TA and the information of the EUT is declared by the applicant.
2. All indications of Pass/Fail in this report are opinions expressed by TA Technology (Shanghai) Co., Ltd. based on interpretations and/or observations of test results. Measurement Uncertainties were not taken into account and are published for informational purposes only.

Model No:	camera	Ethernet	Others
ID72-818; ID72-818D (This two models just have difference key)	YES	YES	All the same
ID72-018; ID72-018D (This two models just have difference key)	NO	YES	
ID72-810; ID72-810D (This two models just have difference key)	YES	NO	
ID72-010; ID72-010D (This two models just have difference key)	NO	NO	

Note: 1. The key is related to the transaction.

2. This report only tests ID72-818D.

3 Maximum Output Power (Measured) /Tune up and Antenna Gain

The numeric gain (G) of the antenna with a gain specified in dB is determined by
 Numeric gain (G)=10^(antenna gain/10)

Band	Maximum Tune Up Power		Antenna Gain (dBi)	Numeric Gain
	(dBm)	(mW)		
WCDMA Band 2	24.000	251.189	0.9	1.230
WCDMA Band 4	24.000	251.189	0.9	1.230
WCDMA Band 5	24.000	251.189	1.5	1.413
LTE Band 2	24.500	281.838	0.9	1.230
LTE Band 4	24.500	281.838	0.9	1.230
LTE Band 5	24.500	281.838	1.5	1.413
LTE Band 12	24.500	281.838	1.7	1.479
LTE Band 13	24.500	281.838	1.7	1.479
LTE Band 25	25.000	316.228	0.9	1.230
LTE Band 26	25.000	316.228	1.5	1.413

Band	Maximum Output Power (Measured)		Antenna Gain (dBi)	Numeric Gain
	(dBm)	(mW)		
Bluetooth LE	-1.430	0.719	-1.6	0.692

4 Test Result

According to section 1.1310 of FCC 47 CFR Part 1, limits for maximum permissible exposure (MPE) are as following.

TABLE 1 – LIMITS FOR MAXIMUM PERMISSIBLE EXPOSURE (MPE)

Frequency Range (MHz)	Electric Field Strength (V/m)	Magnetic Field Strength (A/m)	Power Density (mW/cm ²)	Averaging Time (minutes)
(A) Limits for Occupational/Controlled Exposures				
0.3-3.0	614	1.63	*(100)	6
3-30	1842/f	4.89/f	*(900/f ²)	6
30-300	61.4	0.163	1.0	6
300-1500			f/300	6
1500-100,000			5	6
(B) Limits for General Population/Uncontrolled Exposure				
0.3-1.34	614	1.63	*(100)	30
1.34-30	824/f	2.19/f	*(180/f ²)	30
30-300	27.5	0.073	0.2	30
300-1500			f/1500	30
1500-100,000			1.0	30

f = frequency in MHz

* = Plane-wave equivalent power density

Note1. Occupational/controlled limits apply in situations in which persons are exposed as a consequence of their employment provided those persons are fully aware of the potential for exposure and can exercise control over their exposure. Limits for occupational/controlled exposure also apply in situations when an individual is transient through a location where occupational / controlled limits apply provided he or she is made aware of the potential for exposure.

Note2: General population/uncontrolled exposures apply in situations in which the general public may be exposed, or in which persons that are exposed as a consequence of their employment may not be fully aware of the potential for exposure or can not exercise control over their exposure.

The maximum permissible exposure for 300~1500 MHz is $f/1500$, for 1500~100,000MHz is 1.0. So

Band	The Maximum Permissible Exposure (mW/cm ²)
WCDMA Band 2	1.000
WCDMA Band 4	1.000
WCDMA Band 5	0.549
LTE Band 2	1.000
LTE Band 4	1.000
LTE Band 5	0.549
LTE Band 12	0.466
LTE Band 13	0.518
LTE Band 25	1.000
LTE Band 26	0.543
Bluetooth LE	1.000

The Electric Field Strength for 1.34 ~ 300 MHz is $824/f$. So

Band	E-field Strength Limit (V/m)
NFC	60.767

RF Exposure Calculations:

The following information provides the minimum separation distance for the highest gain antenna provided. This calculation is based on the conducted power, considering maximum power and antenna gain. The formula shown in KDB 447498 D01 is used in the calculation.

Equation from KDB 447498 D01 General RF Exposure Guidance v06 (10/23/2015) is:

$$S = PG / 4\pi R^2$$

Where: S = power density (in appropriate units, e.g. mW/cm²)

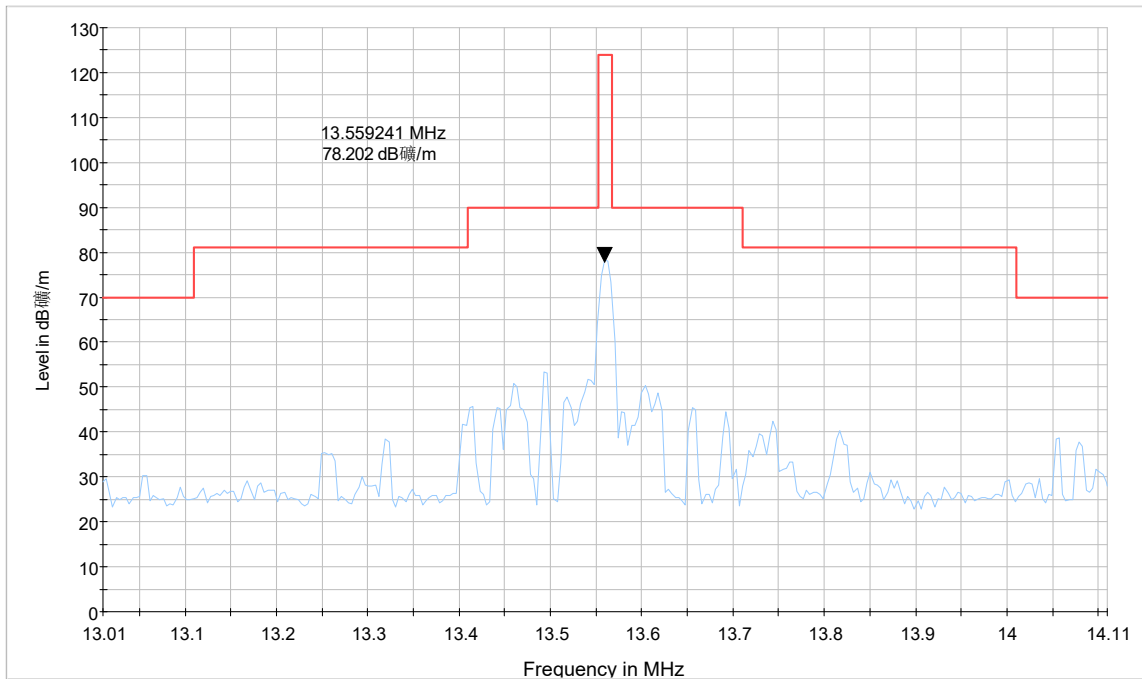
P = Time-average maximum tune up procedure (in appropriate units, e.g., mW)

G = the numeric gain of the antenna

R = distance to the center of radiation of the antenna (20 cm = limit for MPE)

Band	Maximum Tune up/ Output Power (dBm)	Antenna Gain (dBi)	Maximum EIRP (dBm)	PG (mW)	Test Result (mW/cm ²)	Limit Value (mW/cm ²)	The MPE ratio
WCDMA Band 2	24.000	0.900	24.900	309.030	0.061	1.000	0.0615
WCDMA Band 4	24.000	0.900	24.900	309.030	0.061	1.000	0.0615
WCDMA Band 5	24.000	1.500	25.500	354.813	0.071	0.549	0.1286
LTE Band 2	24.500	0.900	25.400	346.737	0.069	1.000	0.0690
LTE Band 4	24.500	0.900	25.400	346.737	0.069	1.000	0.0690
LTE Band 5	24.500	1.500	26.000	398.107	0.079	0.549	0.1443
LTE Band 12	24.500	1.700	26.200	416.869	0.083	0.466	0.1780
LTE Band 13	24.500	1.700	26.200	416.869	0.083	0.518	0.1601
LTE Band 25	25.000	0.900	25.900	389.045	0.077	1.000	0.0774
LTE Band 26	25.000	1.500	26.500	446.684	0.089	0.543	0.1637
Bluetooth LE	-1.430	-1.600	-3.030	0.498	0.0001	1.000	0.0001
Note: R = 20cm $\pi = 3.1416$ The MPE ratio = Mac Test Result ÷ Limit Value							

A symbol (dB μ V/m) in the test plot below means (dB μ V/m)



Note: Test data comes from RF report and please refer to the RF report for testing related information.

Test Frequency (MHz)	Max. E-field Strength @ 3m (dB μ V/m)	Max. E-field Strength @ 20cm (dB μ V/m)	Max. E-field Strength @ 20cm (V/m)	E-field Strength Limit (V/m)	Conclusion
13.559	78.202	101.724	0.1220	60.767	Pass

Note: Max. E-field Strength @ 20cm = Max. E-field Strength @ 3m + 20log (3m/0.2m)
 $V/m = 10^{(((dB\mu V/m) - 120) / 20)}$

So the simultaneous transmitting antenna pairs as below:

Σ of MPE ratios = WWAN Antenna + Bluetooth Antenna = 0.1780 + 0.0001 = 0.1781 < 1
 NFC Antenna and WWAN Antenna / Bluetooth/Wi-Fi Antenna can't transmit simultaneously.

Note: For transmitters, minimum separation distance is 20cm, even if calculations indicate MPE distance is less.

*****END OF REPORT *****

ANNEX A: The EUT Appearance

The EUT Appearance are submitted separately.