

Notified Body

EU-Type Examination Certificate

Manufacturer company name: Wingtech Group (Hong Kong) Limited
Manufacturer address: Flat/RM 1903 19/F, Podium Plaza, 5 Hanoi Road,
Tsim Sha Tsui, KL, HK
Description of the radio equipment: 5G Mobile Phone
Trade/brand name or registered trademark: Deutsche Telekom
Model/type indication: T Phone 2
Software version: Puma_0.01.01
Hardware version: V1.0
Technologies: GSM/UMTS/E-UTRA/5G New Radio transceivers
IEEE 802.11b/g/n 2.4GHz transceivers
IEEE 802.11a/n/ac 5GHz transceivers
Bluetooth transceiver
NFC transceiver
GNSS receiver

Technical documentation (TD) reference: T Phone 2
ACB project number: ATCB031577
Certificate number: ATCB031577, issue 1

ACB, Inc. is designated as a Notified Body under the
U.S.-EU Mutual Recognition Agreement for the Radio Equipment Directive 2014/53/EU

ACB, Inc.
Notified Body Number 1588
313 Park Ave, Suite 300
Falls Church, VA 22046, USA

In the opinion of ACB, Inc., the examination of the technical documentation as drawn up by the manufacturer demonstrates that the essential requirements of Article 3.1a, Article 3.1b, Article 3.2 and Article 3.3(g) of the Radio Equipment Directive 2014/53/EU have been met. The conformity assessment on the radio equipment listed above and as described in Annex 1 to this EU-type examination certificate has been carried out in accordance with Annex III, Module B, of the Radio Equipment Directive 2014/53/EU. This EU-type examination certificate relates only to the documents as provided to ACB, Inc.

A list of documentation forming the basis for the EU-type examination is provided in
Annex 2 to this EU-type examination certificate.


Notified Body: *Herve Idoko*

10 April 2024
Date



Annex 1 to EU-type examination certificate for the Radio Equipment Directive 2014/53/EU

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The radio equipment as described and documented in the technical documentation as drawn up by the manufacturer is a Mobile phone.

It supports GSM technology with GPRS and EGPRS/EDGE in the E-GSM 900 MHz and DCS 1800 MHz bands.

It supports UMTS technology in the 900 MHz Band VIII and 2100 MHz Band I.

It supports LTE FDD technology in the 700 MHz Band 28, 800 MHz Band 20, 900 MHz Band 8, 1800 MHz Band 3, 2100 MHz Band 1 and 2600 MHz Bands 7.

It supports LTE TDD in the 2600 MHz Band 38.

It supports inter-bands and intra-bands CA uplink/downlink for LTE Bands.

It supports 5G New Radio FDD technology in the 700 MHz Band n28, 1800 MHz Band n3, 2100 MHz Band n1 and 2600 MHz Band n7.

It supports 5G New Radio TDD technology in the 2600 MHz Band n38 and 3500 MHz Band n78.

It supports Bluetooth Wireless PAN technology in the 2.4 GHz band with EDR and BLE.

It supports IEEE 802.11 b/g/n Wireless LAN technology in the 2.4 GHz band.

It supports IEEE 802.11 a/n/ac Wireless LAN technology in the 5 GHz bands.

It supports NFC technology in 13.56 MHz.

It supports GPS, Galileo, GLONASS and BDS Receivers in the 1.5 GHz and 1.6 GHz bands.

This radio equipment supports the requirements for access to emergency services as required by the Commission Delegated Regulation (EU) 2019/320 of 12 December 2018. The radio equipment contains cellular and Wi-Fi interfaces, contains a GNSS receiver, supports readiness for the Galileo Open Service Navigation Message Authentication (OSNMA) service, is compatible with the processing and transmission mechanisms of handset-derived caller location with the national Public Safety Answering Point (PSAP) systems deployed (through SMS and https) and supports Wireless Local Area Network positioning.

This radio equipment also supports operation in frequency bands which are not available for use in Member States of the European Union and EFTA countries, and which have not been included in this conformity assessment. The conformity assessment of this radio equipment is limited to those frequency bands of operation which are available for use in one or more Member States of the European Union and EFTA countries as detailed below.

Details of operation:

Description of service:	E-GSM 900 MHz
Transmit frequency:	880 MHz to 915 MHz
Receive frequency:	925 MHz to 960 MHz
Modulation:	GMSK, 8PSK
Power class:	Class 4 (GMSK), Class E2 (8PSK)
Transmit power:	33.5 dBm, conducted (GSM/GMSK)
Transmit power:	32.6 dBm, conducted (GPRS/GMSK)
Transmit power:	23.5 dBm, conducted (EGPRS/8PSK)

Description of service:	DCS 1800 MHz
Transmit frequency:	1710 MHz to 1785 MHz
Receive frequency:	1805 MHz to 1880 MHz
Modulation:	GMSK, 8PSK
Power class:	Class 1 (GMSK), Class E2 (8PSK)
Transmit power:	30.5 dBm, conducted (GSM/GMSK)
Transmit power:	30.4 dBm, conducted (GPRS/GMSK)
Transmit power:	23.3 dBm, conducted (EGPRS/8PSK)



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Description of service: UMTS 900 MHz Band VIII
Transmit frequency: 880 MHz to 915 MHz
Receive frequency: 925 MHz to 960 MHz
Modulation: QPSK, 16QAM, 64QAM (DL)
Power class: Class 3
Transmit power: 25.5 dBm, conducted

Description of service: UMTS 2100 MHz Band I
Transmit frequency: 1920 MHz to 1980 MHz
Receive frequency: 2110 MHz to 2170 MHz
Modulation: QPSK, 16QAM, 64QAM (DL)
Power class: Class 3
Transmit power: 25.0 dBm, conducted

Description of service: E-UTRA LTE FDD Band 1 (inter-band CA supported)
Transmit frequency: 1920 MHz to 1980 MHz
Receive frequency: 2110 MHz to 2170 MHz
Modulation: QPSK, 16QAM, 64QAM, 256QAM
Power class: Class 3
Transmit power: 25.7 dBm

Description of service: E-UTRA LTE FDD Band 3 (inter-band and intra-band CA supported)
Transmit frequency: 1710 MHz to 1785 MHz
Receive frequency: 1805 MHz to 1880 MHz
Modulation: QPSK, 16QAM, 64QAM, 256QAM
Power class: Class 3
Transmit power: 24.9 dBm

Description of service: E-UTRA LTE FDD Band 7 (inter-band and intra-band CA supported)
Transmit frequency: 2500 MHz to 2570 MHz
Receive frequency: 2620 MHz to 2690 MHz
Modulation: QPSK, 16QAM, 64QAM, 256QAM
Power class: Class 3
Transmit power: 25.3 dBm

Description of service: E-UTRA LTE FDD Band 8 (inter-band CA supported)
Transmit frequency: 880 MHz to 915 MHz
Receive frequency: 925 MHz to 960 MHz
Modulation: QPSK, 16QAM, 64QAM, 256QAM
Power class: Class 3
Transmit power: 25.0 dBm

Description of service: E-UTRA LTE FDD Band 20 (inter-band CA supported)
Transmit frequency: 832 MHz to 862 MHz
Receive frequency: 791 MHz to 821 MHz
Modulation: QPSK, 16QAM, 64QAM, 256QAM
Power class: Class 3
Transmit power: 25.7 dBm



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Description of service: E-UTRA LTE FDD Band 28 (inter-band CA supported)
Transmit frequency: 703 MHz to 736 MHz
Receive frequency: 758 MHz to 791 MHz
Modulation: QPSK, 16QAM, 64QAM, 256QAM
Power class: Class 3
Transmit power: 24.67 dBm

Description of service: E-UTRA LTE TDD Band 38 (inter-band CA supported)
Transmit frequency: 2570 MHz to 2620 MHz
Receive frequency: 2570 MHz to 2620 MHz
Modulation: QPSK, 16QAM, 64QAM, 256QAM
Power class: Class 3
Transmit power: 24.7 dBm

Description of service: 5G NR Band n1 (SA and NSA (ENDC) supported)
Transmit frequency: 1920 MHz to 1980 MHz
Receive frequency: 2110 MHz to 2170 MHz
Modulation: $\pi/2$ -BPSK, QPSK, 16QAM, 64QAM, 256QAM
Power class: Class 3
Transmit power: 23.54 dBm

Description of service: 5G NR Band n3 (SA and NSA (ENDC) supported)
Transmit frequency: 1710 MHz to 1785 MHz
Receive frequency: 1805 MHz to 1880 MHz
Modulation: $\pi/2$ -BPSK, QPSK, 16QAM, 64QAM, 256QAM
Power class: Class 3
Transmit power: 23.40 dBm

Description of service: 5G NR Band n7 (SA and NSA (ENDC) supported)
Transmit frequency: 2500 MHz to 2570 MHz
Receive frequency: 2620 MHz to 2690 MHz
Modulation: $\pi/2$ -BPSK, QPSK, 16QAM, 64QAM, 256QAM
Power class: Class 3
Transmit power: 23.65 dBm

Description of service: 5G NR Band n28 (SA and NSA (ENDC) supported)
Transmit frequency: 703 MHz to 736 MHz
Receive frequency: 758 MHz to 791 MHz
Modulation: $\pi/2$ -BPSK, QPSK, 16QAM, 64QAM, 256QAM
Power class: Class 3
Transmit power: 24.48 dBm

Description of service: 5G NR Band n38 (SA and NSA (ENDC) supported)
Transmit frequency: 2570 MHz to 2620 MHz
Receive frequency: 2570 MHz to 2620 MHz
Modulation: $\pi/2$ -BPSK, QPSK, 16QAM, 64QAM, 256QAM
Power class: Class 3
Transmit power: 25.13 dBm



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Description of service: 5G NR Band n78 (SA and NSA (ENDC) supported)
Transmit frequency: 3400 MHz to 3800 MHz
Receive frequency: 3400 MHz to 3800 MHz
Modulation: $\pi/2$ -BPSK, QPSK, 16QAM, 64QAM, 256QAM
Power class: Class 2, Class 3
Transmit power: 27.04 dBm

Description of service: Bluetooth Basic Rate + EDR
Transmit frequency: 2402 MHz to 2480 MHz
Receive frequency: 2402 MHz to 2480 MHz
Modulation: GFSK, $\pi/4$ DQPSK, 8DPSK
Transmit power: 8.14 dBm, e.i.r.p.

Description of service: Bluetooth Low Energy (BLE)
Transmit frequency: 2402 MHz to 2480 MHz
Receive frequency: 2402 MHz to 2480 MHz
Modulation: GFSK
Transmit power: 3.57 dBm, e.i.r.p.

Description of service: IEEE 802.11b/g/n WLAN
Transmit frequency: 2412 MHz to 2472 MHz (20 MHz)
Receive frequency: 2412 MHz to 2472 MHz (20 MHz)
Modulation: DSSS, OFDM
Transmit power: 18.26 dBm, e.i.r.p.

Description of service: IEEE 802.11a/n/ac WLAN
Transmit frequency: 5180 MHz to 5320 MHz (20 MHz),
5190 MHz to 5310 MHz (40 MHz),
5210 MHz to 5290 MHz (80 MHz),
Receive frequency: 5180 MHz to 5320 MHz (20 MHz),
5190 MHz to 5310 MHz (40 MHz),
5210 MHz to 5290 MHz (80 MHz),
Modulation: OFDM
Transmit power: 16.66 dBm, e.i.r.p.

Description of service: IEEE 802.11a/n/ac WLAN
Transmit frequency: 5500 MHz to 5700 MHz (20 MHz),
5510 MHz to 5670 MHz (40 MHz),
5530 MHz to 5610 MHz (80 MHz),
Receive frequency: 5500 MHz to 5700 MHz (20 MHz),
5510 MHz to 5670 MHz (40 MHz),
5530 MHz to 5610 MHz (80 MHz),
Modulation: OFDM
Transmit power: 17.16 dBm, e.i.r.p.



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Description of service: IEEE 802.11a/n/ac WLAN
Transmit frequency: 5745 MHz to 5825 MHz (20 MHz),
5755 MHz to 5795 MHz (40 MHz)
5775 MHz (80 MHz)
Receive frequency: 5745 MHz to 5825 MHz (20 MHz),
5755 MHz to 5795 MHz (40 MHz)
5775 MHz (80 MHz)
Modulation: OFDM
Transmit power: 11.01 dBm, e.i.r.p.

Description of service: NFC
Transmit frequency: 13.56 MHz
Receive frequency: 13.56 MHz
Modulation: ASK
Transmit power: -20.76 dB μ A/m at 10 meters

Description of service: GPS receiver
Transmit frequency: None
Receive frequency: 1575.42 MHz (band L1) and 1176.45 MHz (band L5)

Description of service: GLONASS receiver
Transmit frequency: None
Receive frequency: 1602.00 MHz + (n * 0.5625 MHz), n = -7, -6, -5, ..., 0, ..., 6) (band G1)

Description of service: Beidou receiver
Transmit frequency: None
Receive frequency: 1561.098 MHz (band B1I)

Description of service: Galileo receiver
Transmit frequency: None
Receive frequency: 1575.42 MHz (band E1)



Annex 2 to EU-type examination certificate for the Radio Equipment Directive 2014/53/EU

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1	Test report:	Report number:	Dated:
	EMC	23T04Z80908-01	14 March 2024
	Radio (NFC)	23T04Z80908-41	14 March 2024
	Radio (GNSS)	23T04Z80908-07	14 March 2024
	Radio (BT EDR)	23T04Z80908-26	11 March 2024
	Radio (BLE)	23T04Z80908-27	11 March 2024
	Radio (GSM)	23T04Z80908-33	25 March 2024
	Radio (UMTS)	23T04Z80908-34	20 March 2024
	Radio (LTE)	23T04Z80908-35	20 March 2024
	Radio (5G NR)	23T04Z80908-36	29 March 2024
	Radio (WLAN 2.4G)	23T04Z80908-43	26 March 2024
	Radio (WLAN 5G)	23T04Z80908-44	26 March 2024
	Radio (WLAN 5.8G)	23T04Z80908-45	26 March 2024
	Radio (DFS)	23T04Z80908-46	26 March 2024
	RF safety	23T04Z80908-42	26 March 2024
	Product safety	23T04Z80908-08	19 March 2024
	Acoustic safety	23T04Z80908-39	25 March 2024
	Access to emergency services	23T04Z80908-38	28 March 2024

2 Technical documentations provided:

Antenna details	Article 10.10 information	Block diagram
Circuit diagram/schematics	External photographs	Internal photographs
Label drawing/location	Operational description	Parts list/bill of materials
PCB layout	Test reports	Test setup photographs
User manual	Risk assessment document	Declaration of conformity

3 Standards applied in full or in part or other solutions adopted to demonstrate conformity with the essential requirements of the Radio Equipment Directive 2014/53/EU:

Radio Spectrum (Article 3.2):	EN 301 511 V12.5.1 EN 301 908-2 V13.1.1 EN 301 908-25 V15.1.1_0.0.21 EN 300 440 V2.2.1 EN 300 328 V2.2.2	EN 301 908-1 V15.2.1 EN 301 908-13 V13.2.1 EN 300 330 V2.1.1 EN 301 893 V2.1.1 EN 303 413 V1.2.1
EMC (Article 3.1b):	EN 301 489-1 V2.2.3 EN 301 489-17 V3.2.4 EN 301 489-52 V1.2.1 EN 55035: 2017 + A11: 2020	EN 301 489-3 V2.3.2 EN 301 489-19 V2.2.1 EN 55032: 2015 + A1: 2020
RF safety (Article 3.1a):	EN 50360: 2017 EN 50663: 2017 EN IEC 62311 : 2020	EN 50566: 2017 EN 62479: 2010
Product safety (Article 3.1a):	EN IEC 62368-1: 2020+A11:2020	

Article 3.3(g) (Access to emergency services):

Commission Delegated Regulation (EU) 2019/320 of 12 December 2018
Guidelines for compliance with Delegated Regulation (EU) 2019/320 (European Commission, April 2021).



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Note: Essential requirements of Article 3 of the Radio Equipment Directive 2014/53/EU not listed above have been deemed as not being applicable to the radio equipment as described in this EU-type examination certificate.

4 Additional information:

According to EN 301 908 series standard, LTE Band 28 and 5G NR n28/n78 are restricted and therefore the frequency range for such band has been listed accordingly. It is also noted that the test reports have been evaluated based on full frequency range according to 3GPP standards.

The conditions for use of the radio spectrum in the 2400-2483.5 MHz frequency band shall be based on EC Decision 2006/771/EC of 9 November 2006 amended by EC Decision 2008/432/EC of 23 May 2008, EC Decision 2009/381/EC of 13 May 2009, EC Decision 2010/368/EU of 30 June 2010, EC Decision 2011/829/EU of 8 December 2011, EC Decision 2013/752/EU of 11 December 2013, EC Decision (EU) 2017/1483 of 8 August 2017, EC Decision (EU) 2019/1345 of 2 August 2019 and EC Decision (EU) 2022/180 of 8 February 2022.

The conditions for use of the radio spectrum in the 5150-5250 MHz, 5250-5350 MHz and 5470-5725 MHz frequency bands shall be based on EC Decision (EU) 2022/179 of 8 February 2022 amended by EC Decision (EU) 2022/2307 of 23 November 2022.

Radio Equipment Directive 2014/53/EU, Article 10.4: Manufacturers shall keep the technical documentation and the EU declaration of conformity for 10 years after the radio equipment has been placed on the market.

Radio Equipment Directive 2014/53/EU, Article 10.6: Manufacturers shall ensure that radio equipment which they have placed on the market bears a type, batch or serial number or other element allowing its identification, or, where the size or nature of the radio equipment does not allow it, that the required information is provided on the packaging, or in a document accompanying the radio equipment.

Radio Equipment Directive 2014/53/EU, Article 10.7: Manufacturers shall indicate on the radio equipment their name, registered trade name or registered trade mark and the postal address at which they can be contacted or, where the size or nature of radio equipment does not allow it, on its packaging, or in a document accompanying the radio equipment. The address shall indicate a single point at which the manufacturer can be contacted. The contact details shall be in a language easily understood by end-users and market surveillance authorities.

Radio Equipment Directive 2014/53/EU, Article 10.8: Manufacturers shall ensure that the radio equipment is accompanied by instructions and safety information in a language which can be easily understood by consumers and other end-users, as determined by the Member State concerned. Instructions shall include the information required to use radio equipment in accordance with its intended use. Such information shall include, where applicable, a description of accessories and components, including software, which allow the radio equipment to operate as intended. Such instructions and safety information, as well as any labelling, shall be clear, understandable and intelligible.

The following information shall also be included in the case of radio equipment intentionally emitting radio waves:

- (a) frequency band(s) in which the radio equipment operates;
- (b) maximum radio-frequency power transmitted in the frequency band(s) in which the radio equipment operates.

Radio Equipment Directive 2014/53/EU, Article 10.9: Manufacturers shall ensure that each item of radio equipment is accompanied by a copy of the EU declaration of conformity or by a simplified EU declaration of conformity. Where a simplified EU declaration of conformity is provided, it shall contain the exact internet address where the full text of the EU declaration of conformity can be obtained.

Radio Equipment Directive 2014/53/EU, Article 10.10: In cases of restrictions on putting into service or of



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requirements for authorization of use, information available on the packaging shall allow the identification of the Member States or the geographical area within a Member State where restrictions on putting into service or

requirements for authorization of use exist. Such information shall be completed in the instructions accompanying the radio equipment.

Radio Equipment Directive 2014/53/EU, Article 19.2: On account of the nature of radio equipment, the height of the CE marking affixed to radio equipment may be lower than 5 mm, provided that it remains visible and legible.

Radio Equipment Directive 2014/53/EU, Article 20.1: The CE marking shall be affixed visibly, legibly and indelibly to the radio equipment or to its data plate, unless that is not possible or not warranted on account of the nature of radio equipment. The CE marking shall also be affixed visibly and legibly to the packaging.

Radio Equipment Directive 2014/53/EU, Annex III, Module B.7: The manufacturer shall inform the notified body that holds the technical documentation relating to the EU-type examination certificate of all modifications to the approved type that may affect the conformity of the radio equipment with the essential requirements of this Directive or the conditions for validity of that certificate. Such modifications shall require additional approval in the form of an addition to the original EU-type examination certificate.

This Notified Body EU-type examination certificate has a validity of 10 years from the date of issue.

As per guidance in REDCA document TGN 29 v2.0a of March 2020 this EU-type examination certificate automatically expires in the following cases:

- Changes in the product identification and/or the manufacturer's identification as stated on this EU-type examination certificate (without any technical change);
- Technical modifications in the product(s) covered by this EU-type examination certificate that affect the compliance of the product(s) with the essential requirements of the Radio Equipment Directive 2014/53/EU;
- Revisions and/or updates in the (harmonized) standards applied in full or in part or other solutions adopted as listed in this EU-type examination certificate which affect the demonstration of compliance of the product(s) with the essential requirements of the Radio Equipment Directive 2014/53/EU.

To avoid the automatic expiration of the EU-type examination certificate, any of the three cases above would require a re-assessment of (parts of) the updated technical documentation of the product(s) and an update/re-issue of the EU-type examination certificate by the Notified Body.

Non-harmonized standards or parts of harmonized standards were used by the manufacturer to assess the conformity with (parts of) the essential requirements in Article 3.1a, Article 3.1b and Article 3.2 of the Radio Equipment Directive 2014/53/EU.

5 Contact information:

For contact with ACB or questions regarding this type examination certificate:

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