

# HEARING AID COMPATIBILITY T-COIL TEST REPORT

FCC ID : 2ACCJH170  
Equipment : GSM/LTE Mobile phone  
Brand Name : TCL  
Model Name : T608G  
T-Rating : T4  
Applicant : TCL Communication Ltd.  
5/F, Building 22E, 22 Science Park East  
Avenue, Hong Kong Science Park,  
Shatin, NT, Hong Kong  
Manufacturer : TCL Communication Ltd.  
5/F, Building 22E, 22 Science Park East  
Avenue, Hong Kong Science Park,  
Shatin, NT, Hong Kong  
Standard : FCC 47 CFR §20.19  
ANSI C63.19-2011

The product was received on Oct. 24, 2022 and testing was started from Dec. 06, 2022 and completed on Dec. 07, 2022. We, SPORTON INTERNATIONAL INC., would like to declare that the tested sample provide by manufacturer and the test data has been evaluated in accordance with the test procedures given in ANSI 63.19-2011 / 47 CFR Part 20.19 and has been pass the FCC requirement.

The test results in this report apply exclusively to the tested model / sample. Without written approval of SPORTON INTERNATIONAL INC. Laboratory, the test report shall not be reproduced except in full.



Approved by: Cona Huang / Deputy Manager

**SPORTON INTERNATIONAL INC. EMC & Wireless Communications Laboratory**  
No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.)



**Table of Contents**

1. **Attestation of Test Results** ..... 4

2. **General Information** ..... 5

3. **Testing Location**..... 6

4. **Applied Standards** ..... 6

5. **Air Interface and Operating Mode**..... 7

6. **Measurement standards for T-Coil** ..... 8

    6.1 Frequency Response ..... 8

    6.2 T-Coil Signal Quality Categories ..... 8

7. **References**..... 9



### History of this test report

Report No.	Version	Description	Issued Date
HA2O1915-02	Rev. 01	Initial issue of report	Feb. 23, 2023



**1. Attestation of Test Results**

Air Interface	Band MHz	T-Rating	Frequency Response	Magnetic Intensity
OTT over WiFi	2450	T4	Pass	Pass
	5200	T4	Pass	Pass
Date Tested	2022/12/06 ~ 2022/12/07			

The device is compliance with HAC limits specified in guidelines FCC 47CFR §20.19 and ANSI Standard ANSI C63.19.

**Reviewed by: Jason Wang**

**Report Producer: Paula Chen**



## 2. General Information

Product Feature & Specification	
Applicant Name	TCL Communication Ltd.
Equipment Name	GSM/LTE Mobile phone
Brand Name	TCL
Model Name	T608G
FCC ID	2ACCJH170
HW	03
SW	6FS6
EUT Stage	Identical Prototype
Frequency Band	LTE Band 2: 1850 MHz ~ 1910 MHz LTE Band 4: 1710 MHz ~ 1755 MHz LTE Band 5: 824 MHz ~ 849 MHz LTE Band 12: 699 MHz ~ 716 MHz LTE Band 13: 777 MHz ~ 787 MHz LTE Band 66: 1710 MHz ~ 1780 MHz WLAN 2.4GHz Band: 2400 MHz ~ 2483.5 MHz WLAN 5.2G Band: 5150 MHz ~ 5250 MHz WLAN 5.3G Band: 5250 MHz ~ 5350 MHz WLAN 5.5G Band: 5470 MHz ~ 5725 MHz WLAN 5.8G Band: 5725 MHz ~ 5850 MHz Bluetooth: 2400 MHz ~ 2483.5 MHz
Mode	LTE: QPSK, 16QAM, 64QAM WLAN 2.4GHz 802.11b/g/n HT20/HT40 WLAN 5GHz 802.11a/n HT20/HT40 WLAN 5GHz 802.11ac HT20/HT40/VHT20/VHT40/VHT80 Bluetooth BR/EDR/LE
<b>Remark:</b> 1. In this report only evaluation OTT calling, the CMRS voice evaluation include in the report no.: HA201305-01B. 2. Variant report to disable GSM850/1900, WCDMA BII/IV/V and LTE B25/26/41/71, all the test results refer to the original report no.: HA201915.	



**3. Testing Location**

Sporton Lab is accredited to ISO 17025 by Taiwan Accreditation Foundation (TAF code: 1190) and the FCC designation No. TW1190 under the FCC 2.948(e) by Mutual Recognition Agreement (MRA) in FCC test.

Testing Laboratory	
Test Site	SPORTON INTERNATIONAL INC.
Test Site Location	No. 52, Huaya 1st Rd., Guishan Dist., Taoyuan City, Taiwan (R.O.C.) TEL: +886-3-327-3456 FAX: +886-3-328-4978
Test Site No.	Sporton Site No.: <b>SAR04-HY</b>

**4. Applied Standards**

- FCC CFR47 Part 20.19
- ANSI C63.19 2011-version
- FCC KDB 285076 D01 HAC Guidance v06r02
- FCC KDB 285076 D02 T Coil testing v04
- FCC KDB 285076 D03 HAC FAQ v01r06



**5. Air Interface and Operating Mode**

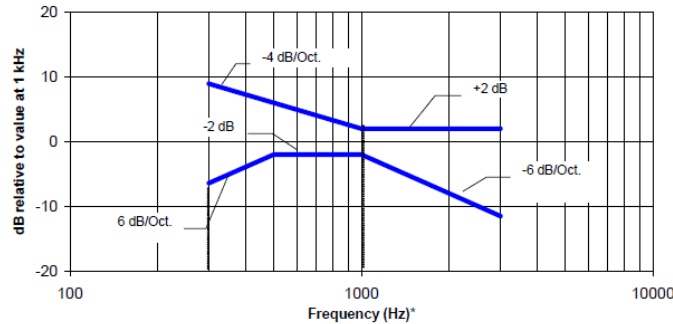
Air Interface	Band MHz	Type	C63.19 Tested	Simultaneous Transmitter	Name of Voice Service	Power Reduction
LTE (FDD)	Band 2	VD	Yes	WLAN, BT	VoLTE / Google Duo <sup>(1)</sup>	No
	Band 4			WLAN, BT		No
	Band 5			WLAN, BT		No
	Band 12			WLAN, BT		No
	Band 13			WLAN, BT		No
	Band 66			WLAN, BT		No
Wi-Fi	2450	VD	Yes	LTE	VoWiFi <sup>(1)</sup> / Google Duo <sup>(1)</sup>	No
	5200	VD	Yes	LTE		No
	5300					No
	5500					No
	5800					No
BT	2450	DT	No	LTE	NA	No
<b>Type Transport:</b> VO= Voice only DT= Digital Transport only (no voice) VD= CMRS and IP Voice Service over Digital Transport <b>Remark:</b> 1. For protocols not listed in Table 7.1 of ANSI C63.19-2011 or the ANSI C63.19-2011 VoLTE interpretation, the average speech level of -20 dBm0 should be used. 2. The device have similar frequency in some LTE bands: LTE B4/66, since the supported frequency spans for the smaller LTE bands are completely cover by the larger LTE bands, therefore, only larger LTE bands were required to be tested for hearing-aid compliance.						

## 6. Measurement standards for T-Coil

### 6.1 Frequency Response

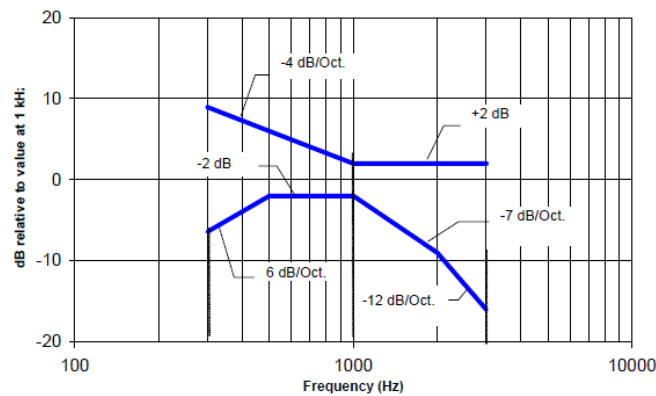
The frequency response of the perpendicular component of the magnetic field, measured in 1/3 octave bands, shall follow the response curve specified in this sub-clause, over the frequency range 300 Hz to 3000 Hz.

Figure 1.1 and Figure 1.2 provide the boundaries as a function of frequency. These response curves are for true field-strength measurements of the T-Coil signal. Thus, the 6 dB/octave probe response has been corrected from the raw readings.



NOTE—The frequency response is between 300 Hz and 3000 Hz.

**Fig. 1.1 Magnetic field frequency response for WDs with field strength  $\leq -15$  dB at 1 kHz**



NOTE—The frequency response is between 300 Hz and 3000 Hz.

**Fig. 1.2 Magnetic field frequency response for WDs with a field that exceeds  $-15$  dB(A/m) at 1 kHz**

### 6.2 T-Coil Signal Quality Categories

This section provides the signal quality requirement for the intended T-Coil signal from a WD. Only the RF immunity of the hearing aid is measured in T-Coil mode. It is assumed that a hearing aid can have no immunity to an interference signal in the audio band, which is the intended reception band for this mode. A device is assessed beginning by determining the category of the RF environment in the area of the T-Coil source.

The RF measurements made for the T-Coil evaluation are used to assign the category T1 through T4. The limitation is given in Table 1. This establishes the RF environment presented by the WD to a hearing aid.

Category	Telephone parameters WD signal quality ((signal + noise) to noise ratio in dB)
Category T1	0 to 10 dB
Category T2	10 to 20 dB
Category T3	20 to 30 dB
Category T4	> 30 dB

**Table 1 T-Coil Signal Quality Categories**





## **7. References**

- [1] ANSI C63.19-2011, "American National Standard for Methods of Measurement of Compatibility between Wireless Communications Devices and Hearing Aids", 27 May 2011.
- [2] FCC KDB 285076 D01v06r02, "Equipment Authorization Guidance for Hearing Aid Compatibility", Sep. 2022.
- [3] FCC KDB 285076 D02v04, "Guidance for performing T-Coil tests for air interfaces supporting voice over IP (e.g., LTE and WiFi) to support CMRS based telephone services", Feb 2022
- [4] FCC KDB 285076 D03v01r06, "Hearing aid compatibility frequently asked questions", Jul. 2022
- [5] SPEAG DASY System Handbook