Measurement Data Management

Measurement Data Wireless Communication System
U-WAVE-TMB/TCB (U-WAVE fit *Bluetooth*®)

- Bluetooth® communication allows for wireless transmission of measurement data from Digimatic micrometers and calipers to PCs, smartphones, tablets and other such terminals.
- Bluetooth® communication does not require a conventional receiver unit (**U-WAVE-R**) which improves operability and reduces costs. Use in outdoor locations where PCs cannot be used can now be easily realized.

- **U-WAVEPAK-BM** (free), the measurement support application software for smartphones is available for download from app stores (Google Play, Apple Store).
- **U-WAVEPAK-BW** (free), the communication software for transferring measurement data to optional computer software (**USB-ITPAK, MeasurLink®**) is available for download from our company's website.
  https://www.mitutoyo.co.jp/eng/contact/products/u-wave/

U- WAVEPAK-BM **Get from Google Play** **Download from App Store**

U-WAVE fit *Bluetooth*® system configuration

No receiver is required, and one PC can connect up to seven units of **U-WAVE fit *Bluetooth*®**.

For Digimatic micrometers
U-WAVE-TMB

For Digimatic calipers
U-WAVE-TCB
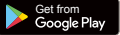
Example of attaching the Digimatic indicator

U-WAVE-TMB/TCB (U-WAVE fit *Bluetooth*®) System Communication Specifications
- Wireless Communication Specifications

Wireless communication	Bluetooth® 4.2 Low Energy
Wireless communication distance	Approx. 16 m (line of sight) Approx. 10 m (in a factory environment)
Transmission output	2.5 mW (5 dBm) or less (Class2)
Modulation method	FH-SS (Frequency-hopping spread spectrum)
Communication frequency	2.4 GHz band

Note 1: Please purchase **U-WAVE-TMB/TCB** in the country where you intend to use it.
Note 2: **U-WAVE-TMB/TCB** is not compatible with **U-WAVE fit**, for which communication specifications are different.
Note 3: Connectivity of **U-WAVE-TMB/TCB** to every single Bluetooth® device is not guaranteed.

USB-ITPAK V3.0   USB dongle

Download software

Allows for use of all functions of the software when connected to a PC

USB-ITPAK V2.1   USB dongle

Allows for use of the software when connected to a PC

Measurement Navigation Applications

Application	Mitutoyo U-WAVE Navi	U-WAVEPAK-BM	U-WAVEPAK-BW
Purpose	Using the application, create a measurement procedure, display and navigate the measurement, and manage the measurement results	Measure a workpiece to perform a simple trend management	Up to seven units of **U-WAVE-TCB/TMB** can be set up. Measuring results can be transferred to Excel spread sheet.
Possible actions (Functions)	• Create/perform a measurement procedure (including GO/NG judgement) • Navigate a measurement procedure • Manage/transfer a measurement procedure • Display a list of measurement results • Transfer a measurement result	• Go/±NG judgment • Data logging • Graphical display of measurement result • Display the histogram of measurement results • Transfer a measurement result (log data)	Identification of data origin Upper application (connection with **USB-ITPAK**, **MeasurLink**)
Display language	Japanese/English (Depends on the OS settings)	16 languages including English*	Japanese/English (Depends on the OS settings)
Compatible OS	Android 7.0 or later (iOS not supported) **Available from Google Play for free download.** **Get from Google Play** U-WAVE Navi	Android 7.0 or later/iOS 10.0 or later **U-WAVEPAK-BM (English version only) can be downloaded for free from each app store.** **Get from Google Play** **Download from App Store** U-WAVEPAK-BM	Windows10 Pro 64bit **DL from the following URL** **https://www2.mitutoyo.co.jp/eng/contact/products/u-wave/index2.html**

* Japanese, English, German, French, Italian, Polish, Portuguese, Hungarian, Korean, Chinese (traditional/simplified), Vietnamese, Thai, Malay, Indonesian, Spanish
Note1: Google Play and the Google Play logo are trademarks of Google LLC. Apple and the Apple logo are trademarks of Apple Inc.
Note2: We cannot guarantee the operation of this application and **U-WAVE TMB/TCB** with all Bluetooth® equipped devices.