

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





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

Measurement Navigation Application Mitutoyo U-WAVE Navi



- The application is for designing measurement procedures that use **U-WAVE fit Bluetooth®**.
- It allows to set measuring points, methods (which tool to use), cautions in each measuring process. By allowing the insertion of image files into procedures, it enables anyone to measure in the same way and correctly.
- Since it also allows for entering the inspectors' names, it can be used to keep records of "when, where, who" performed the measurement.
- Workpiece information, procedures, as well as measurement results can be managed on the application. It can also output data in CSV format.

Get from Google Play



Mitutoyo U-WAVE Navi is available for free download from Google Play.

Master how to use both applications according to your purpose.

	 Mitutoyo U-WAVE Navi	 U-WAVEPAK-BM
Purpose	Using the application, create a measurement procedure, display and navigate the measurement, and manage the measurement results	Measure a workpiece continuously to perform a simple trend management
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	Judgment Data logging Graphical display of measurement result Display the histogram of measurement results Transfer a measurement result (log data)
Display language	Japanese/English (Depends on the OS settings)	English
Compatible OS	Android 7.0 or later (iOS not supported)	Android 7.0 or later/iOS 10.0 or later

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: **U-WAVE-TMB/TCB** cannot be used outside the country where they were purchased.
- 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.

Optional Accessories

Model	USB-ITPAK V3.0	USB-ITPAK V2.1
Code No.	06AGR543 (USB dongle only)	06AFM386 (Software+USB dongle)
Compatible OS (Windows)	Windows 10 64 bit only	Windows 2000 SP4 to Windows 10
Compatible Excel version	Excel 2010, 2013, 2016, Microsoft 365	Excel 2002, 2003, 2007, 2010, 2013, 2016, Microsoft 365

Note: Applicable only when **U-WAVEPAK-BW** is used.

USB-ITPAK V3.0



USB dongle



A USB dongle must be connected to the PC running the software

USB-ITPAK V2.1



USB dongle



A USB dongle must be connected to the PC running the software

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