



Concentric Technology Solutions Inc

Solutions for the Wireless Industry



TC-5830AU

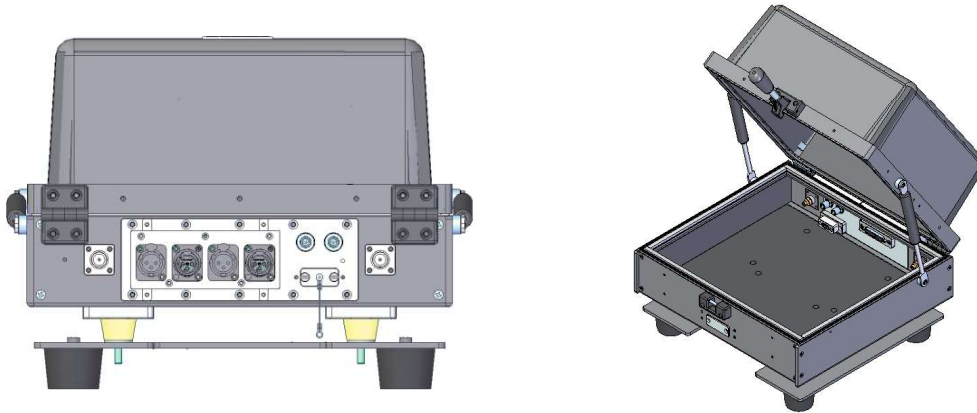
Shield Box

Data Sheet

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Concentric Technology Solutions, Inc.

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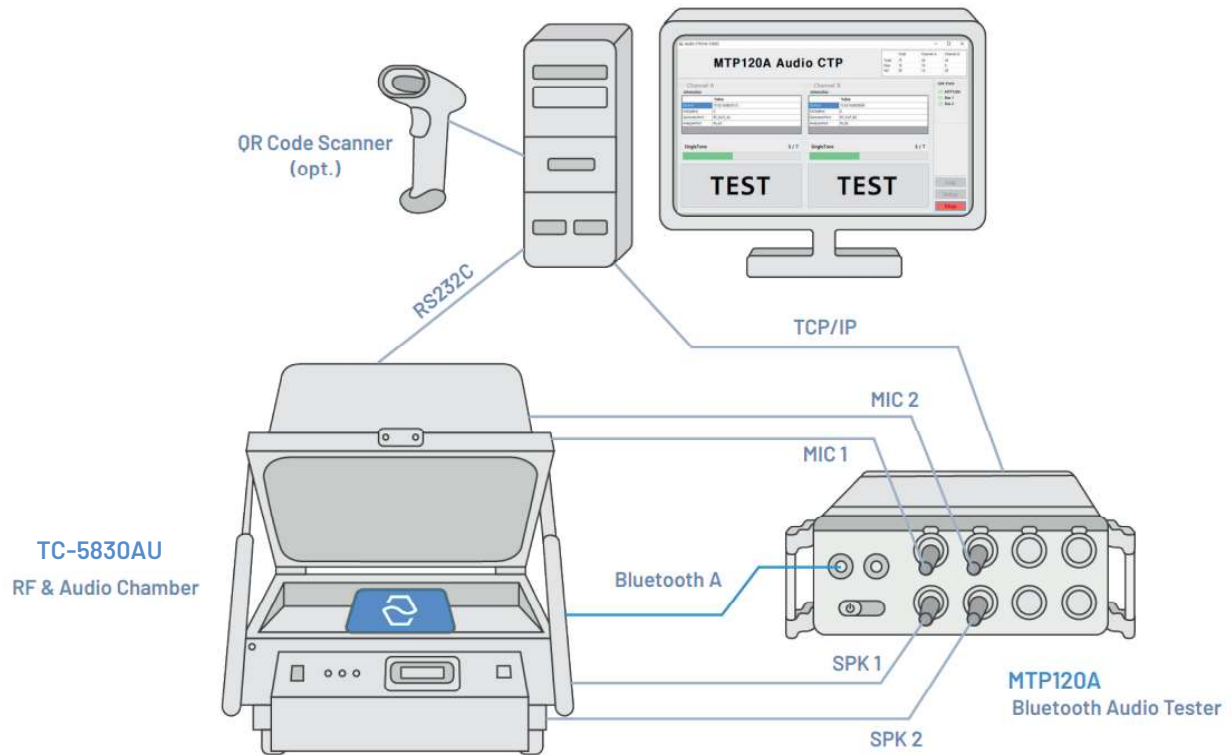


Introduction

TC-5830AU Shield Box is an RF & Audio Shield Box that allows you to test the RF and Audio performance of various wireless terminals at wide frequencies ranging from 100 MHz to 12 GHz. The TC-5830AU is equipped with RF & Audio Absorber optimized for audio testing, which can reduce the scattering of electromagnetic waves generated by DUT or Test Antenna inside the Shield Box while minimizing distortion of the audio signal.

Features

- High durability and reliable RF-shielding
- Effective radiation testing environment with RF-absorber
- Vibration Dampening Implementation through the Design of the Dampers
- Customizable I/O connections
- EMI filters on all data ports and power line



Mechanical Specifications

Standard RF Connector	Two (2) N (f) outside and SMA (f) inside
Dimensions	
Inside	310 (W) x 280 (D) x 151 (H) mm
Outside	399 (W) x 477 (D) x 302 (H) mm: lid closed, 558 (H) mm: lid open
Weight	Approx. 12 kg
*Packing	
Size	480 (W) x 545 (D) x 410 (H) mm
Weight	Approx. 14 kg

* The size or weight of a package may vary depending on how the product is packed.

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RF Specifications

*The shielding effectiveness is measured with blank panels mounted; other I/O interface panel may result in different shielding effectiveness.

Frequency	Shielding effectiveness [dB]
0.5 GHz to 2 GHz	> 70 dB
2 GHz to 3 GHz	> 70 dB
3 GHz to 6 GHz	> 60 dB
6 GHz to 12 GHz	> 60 dB

RF Absorber Performance

Referring to a metal plate (0 dB @ 0.5 GHz to 12 GHz), signal reduction is measured with the RF absorber inserted.

Frequency	Reflectivity [dB]
0.5 GHz to 3 GHz	3 dB (Typ.)
3.5 GHz to 6 GHz	6 dB (Typ.)
6 GHz to 12 GHz	10 dB (Typ.)

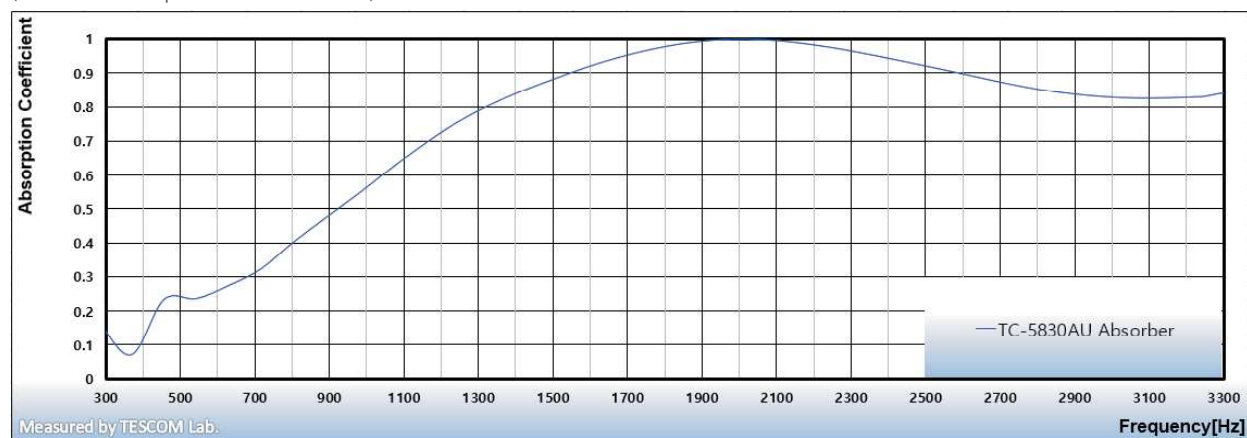
Audio Specifications

The sound isolation below is measured with blank panels. It is measured with an audio analyzer under the condition of 1 m distance between reference speaker and microphone.

Frequency	Sound Isolation [dB]
315Hz to 800Hz	> 15 dB
800Hz to 2.5kHz	> 20 dB
2.5kHz to 10kHz	> 30 dB

Audio Absorber Performance

(ISO 10534-2: Impedance Tube Method)



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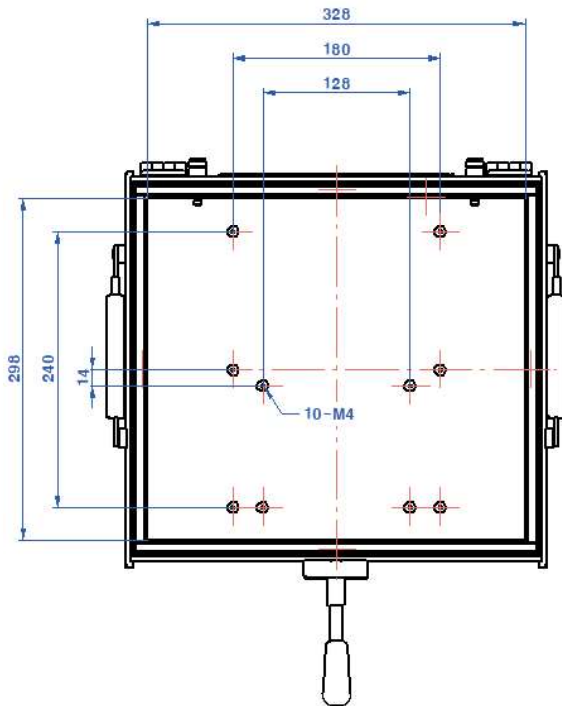
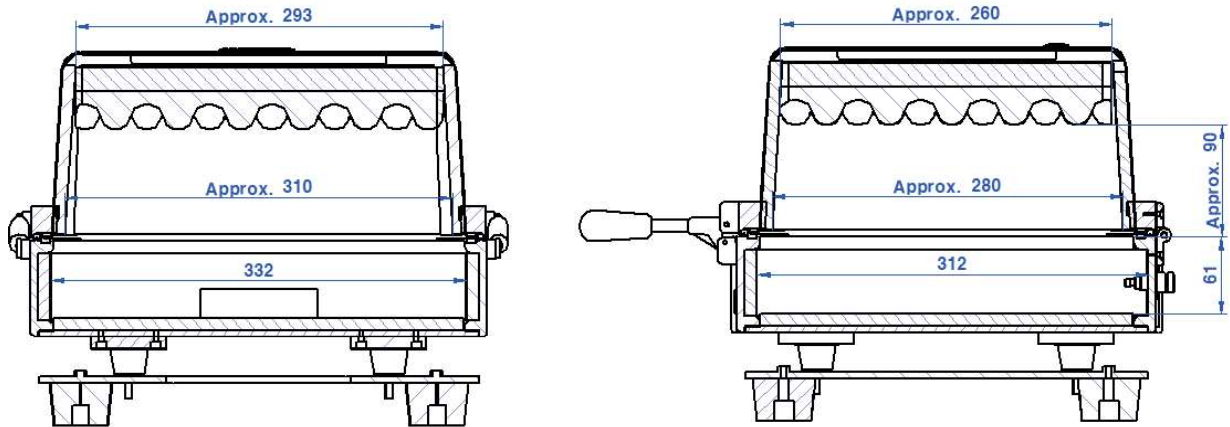
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Inner Dimensions

TC-5830AU Inner Dimensions (WxDxH): 310(W) x 312(D) x 151(H) mm



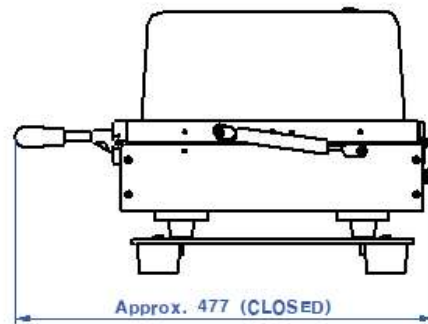
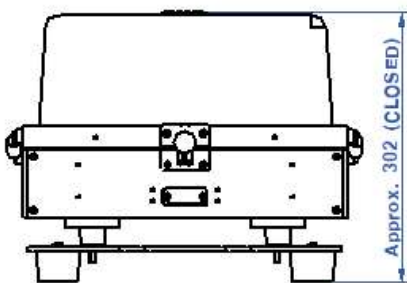
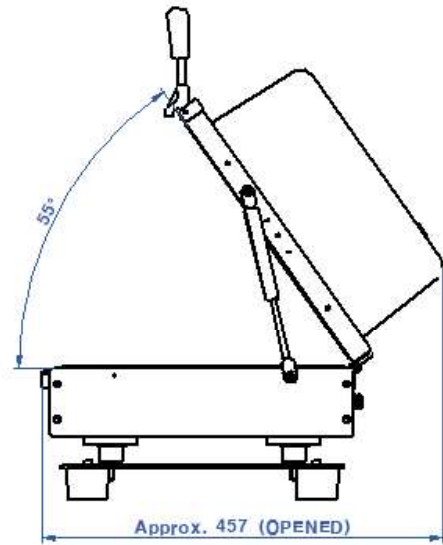
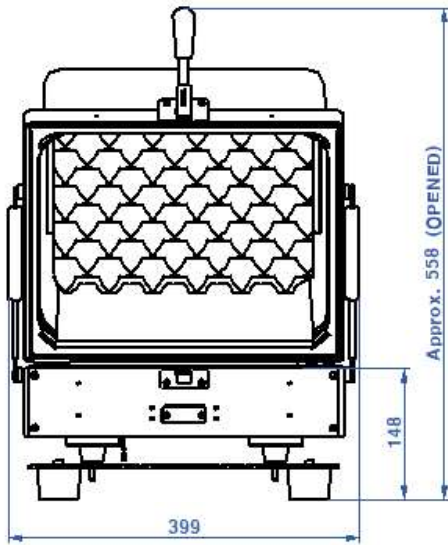
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Outer Dimensions

TC-5830AU Outer Dimensions (WxDxH):

399(W) x 457(D) x 558(H) mm, lid closed. 460 (H), lid opened.



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Ordering Information

Order Number	Product
TC-5830AU	Shield Box


Standard Accessories

Product	Description
4011-0144 Test Report	SS-402,N(m)ST to N(m)ST, 1m, 1pc

Optional Accessories

Product	Code	Configuration
	4410-1131	Canare L-2E5 Cable 30cm, DB9(M) connector
	4410-1161	Canare L-2E5 Cable 60cm, DB9(M) connector
	4410-2021A	RG174 Coax Cable 20cm, BNC connector
	4410-2031A	RG174 Coax Cable 30cm, DB9(M) connector
	4410-2061A	RG174 Coax Cable 60cm, DB9(M) connector

Pre-configured I/O Interface Panels

Product	Code	Configuration
 Data Interface Panel	M06026A	Two (2) XLR(p), Two (2) XLR(s) outside DB25 (s) inside, 1000 pF Pi filter Two (2) DC Power Jack outside and inside One (1) USB 2.0 outside and inside

Customized I/O Interface Panel is available by selecting below I/O Filters and combine. Please contact sales team.

I/O Filters

I/O Filters	Code	Description	*Typical Shielding
	3409-0009-1 DB25, 1000pF pi Filter	3 Mbps / 100 VDC 5 Amps max	>70 dB from 0.5 to 2 GHz >80 dB from 2 to 3 GHz >70 dB from 3 to 6 GHz
	3409-0014-1 DB25, 100pF pi Filter	10 Mbps / 100 VDC 5 Amps max	>50 dB from 0.5 to 2 GHz >60 dB from 2 to 3 GHz >60 dB from 3 to 6 GHz
	3409-0008-1 DB9, 1000pF pi Filter	3 Mbps / 100 VDC 5 Amps max	>70 dB from 0.5 to 2 GHz >80 dB from 2 to 3 GHz >70 dB from 3 to 6 GHz
	3409-0010-1 DB9, 100pF pi Filter	10 Mbps / 100 VDC 5 Amps max	>50 dB from 0.5 to 2 GHz >60 dB from 2 to 3 GHz >60 dB from 3 to 6 GHz
	3409-0018A-3 USB 2.0 Filter	480 Mbps / 5 V, 500 mA Max Current: 5 A	>60 dB from 0.5 to 2 GHz >70 dB from 2 to 3 GHz >70 dB from 3 to 6 GHz
	3409-0042A-2 USB 3.0 Filter (Active)	5000 Mbps / 5 V, 600 mA Max Current: 1.5 A	>80 dB from 0.5 to 2 GHz >80 dB from 2 to 3 GHz >75 dB from 3 to 6 GHz
	3409-0046A USB 3.2 Gen 2 Type C Adapter (Active)	10 Gbps / 4 - 22V Max Current: 5 A	>70 dB from 0.5 to 2 GHz >70 dB from 2 to 3 GHz >70 dB from 3 to 6 GHz
	3904-0296A RJ-45 Filter	1 Gbit/s Copper-Line Ethernet (1000 BASE-T)	>60 dB from 0.5 to 2 GHz >70 dB from 2 to 3 GHz >70 dB from 3 to 6 GHz
	3406-0004A DC Power Adaptor	50 VDC 3 Amps max	>70 dB from 0.5 to 2 GHz >80 dB from 2 to 3 GHz >80 dB from 3 to 6 GHz
	3406-0005A (Black) 3406-0006A (White) DC Power Adaptor (Banana Jack Type)	50 VDC 10 Amps max	>70 dB from 0.5 to 2 GHz >80 dB from 2 to 3 GHz >80 dB from 3 to 6 GHz
	3103-0009A AC Power Adaptor	250 VAC 7 Amps max	>70 dB from 0.5 to 2 GHz >80 dB from 2 to 3 GHz >80 dB from 3 to 6 GHz
	3408-0038 RF, N-SMA Connector	From DC to 6 GHz 50 Ω / 1.15 max	N/A
	408-0039 RF, SMA-SMA Connector	From DC to 8 GHz 50 Ω / 1.15 max	N/A

*Typical Shielding is an estimated value with I/O interface applied.

** Exclusive cables should be used. (USB Cable, 4008-0079A, 2 M, USB 3.0 A(M) - USB 3.0 A(M), Housing: Aluminum)

The data above were measured by internal standards, and they may be different depending on the measuring method and environment.

Each shielding effectiveness is measured without any cable, so it will be likely affected when a cable is connected.

Also, it may vary depending on the type of cable.

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TC-5830AU Datasheet 8