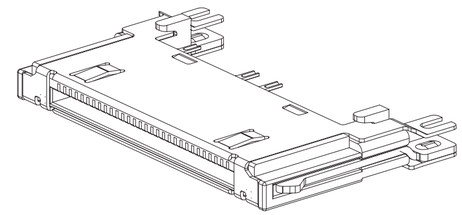
REV	RFA#	DESCRIPTION OF REVISION

NOTES: (UNLESS OTHERWISE SPECIFIED)

1.0 SCOPE: This document specifies a 30 pin IO plug for board edge mounting.

2.0 APPLICABLE DOCUMENTS:

MIL-STD-202	Test Methods for Electronic and Electrical Component Parts
UL94	Tests for Flammability of Plastic Materials for Parts in Devices and Appliances
ASTM B 194	Standard Specification for Copper-Beryllium Alloy Plate, Sheet, Strip and Rolled Bar
ASTM B 488	Standard Specification for Electrodeposited Coatings of Gold
ASTM B 545	Standard Specification for Electrodeposited Coatings of Tin
AMS QQ-N-290	Nickel Plating (Electrodeposited)
ASME Y14.5M	Standard for Geometric Dimensioning and Tolerancing



3.0 REQUIREMENTS

3.1 PHYSICAL:

3.1.1 CONTACT AND SOLDERTAIL MATERIAL: Phosphor Bronze or BeCu per ASTM B 194, t = 0.15 mm ±0.015 mm.
3.1.2 CONTACT AND SOLDERTAIL FINISH: Minimum 0.13μm [5μin] gold flash over minimum 2.3μm [100μin] nickel underplate per AMS QQ-N-290.
3.1.3 SHELL MATERIAL: Stainless Steel, t = 0.2 mm ± 0.02 mm.
3.1.4 SHELL FINISH: Minimum 0.51μm [20μin] Bright Nickel plating per AMS QQ-N-290 over all.
3.1.5 SHELL SOLDER LEG FINISH: 1.8μm [80μin] tin plating per ASTM B 545.
3.1.6 LATCH MATERIAL: Stainless Steel, t = 0.4 mm ± 0.04 mm.
3.1.7 LATCH FINISH: 1.8μm [80μin] nickel over all per AMS QQ-N-290, 1.8μm [80μin] tin at solder tail per ASTM B 545.
3.1.8 HOUSING MATERIAL: Heat stabilized polyamide 4/6 nylon (PA46), 30 percent glass reinforced, UL recognized rated V-0 per UL94.
3.1.9 DURABILITY: Must withstand 10,000 insertion/extraction cycles at maximum rate of 600 cycles per hour with no resulting performance deterioration.
3.1.10 CONTACT RETENTION FORCE: 0.4kgf [0.88lbf] minimum axial force applied to contact without separating from housing.
3.1.11 MATING FORCE: 2.0kgf [4.4lbf] maximum.
3.1.12 UNMATING FORCE: 0.5kgf [1.1lbf] minimum. 2.0 kgf [1.1lbf] maximum.
3.1.13 SOLDERABILITY: Leads must meet requirements of MIL-STD-202, Method 208. Prior to testing, the unit under test shall be subjected to steam aging for a period of 8 hours.
3.1.14 VIBRATION: Under testing per MIL-STD-202 Method 201, shall not sustain damage, exhibit discontinuity longer than 1 μs or contact resistance greater than 30mΩ.
3.1.15 MECHANICAL SHOCK: Subject mated connectors to 30G's half-sine shock pulses of 11ms duration, three shocks in each direction applied along three mutually perpendicular planes, 18 total shocks. No discontinuities of 1μs or longer duration.

3.2 ELECTRICAL:

3.2.1 CONTACT RESISTANCE: 30mΩ maximum. Contact resistance shall not deviate more than 30mΩ from initial value after environmental and durability testing.
3.2.2 CURRENT RATING: 1.0 amp max. per pin, 10 amps maximum total for all connector pins.
3.2.3 VOLTAGE RATING: 30 volts.
3.2.4 INSULATION RESISTANCE: 100MΩ minimum.
3.2.5 DIELECTRIC WITHSTANDING VOLTAGE: 500VAC minimum for one minute at sea level.
3.2.6 USB STANDARD COMPLIANCE: Connector shall meet all electrical parameters defined by USB 2.0.

3.3 ENVIRONMENTAL: Test samples shall be periodically subjected to the following conditions to verify process control.

3.3.1 RESISTANCE TO CONVECTION OR IR REFLOW SOLDERING HEAT:
3.3.1.1 Preheat 3°C/sec to 150°C. Using tin solder, reflow at 250°C for 15-20 seconds.
3.3.1.2 Component shall withstand two reflow cycles with a cool down in-between.
3.3.1.3 Following the application of soldering heat there shall be no evidence of leaching or cracking and the connector must meet all physical and electrical specifications.

3.3.2 RESISTANCE TO WAVE SOLDERING HEAT:
3.3.2.1 Preheat connector at 80°C for 20 seconds.
3.3.2.2 Part to be completely immersed in molten solder at 260 ± 3°C for 10 ± 1 seconds per MIL-STD-202 condition B.
3.3.2.3 Following the application of soldering heat there shall be no evidence of leaching or cracking and the connector must meet all physical and electrical specifications.

3.3.3 OPERATING TEMPERATURE: -20°C to 65°C.

3.3.4 HUMIDITY: After exposing mated connectors to a controlled humid environment per MIL-STD-202, Method 103 the connectors must meet all physical and electrical specifications.

4.0 ROHS: This component must comply with the European RoHS directive, 2002,95/EC.

5.0 DIMENSIONS: All dimensions are related to a coordinate system defined by Datums A, B, & C per ASME Y14.5M-1994. All undimensioned features are controlled by the 3-D CAD database and drawing tolerance block.

P/N # iP-0216

DRAFTER	DATE
DESIGNER	DATE

Wellco T&C Co., Ltd.

DIMENSIONS ARE IN MILLIMETERS

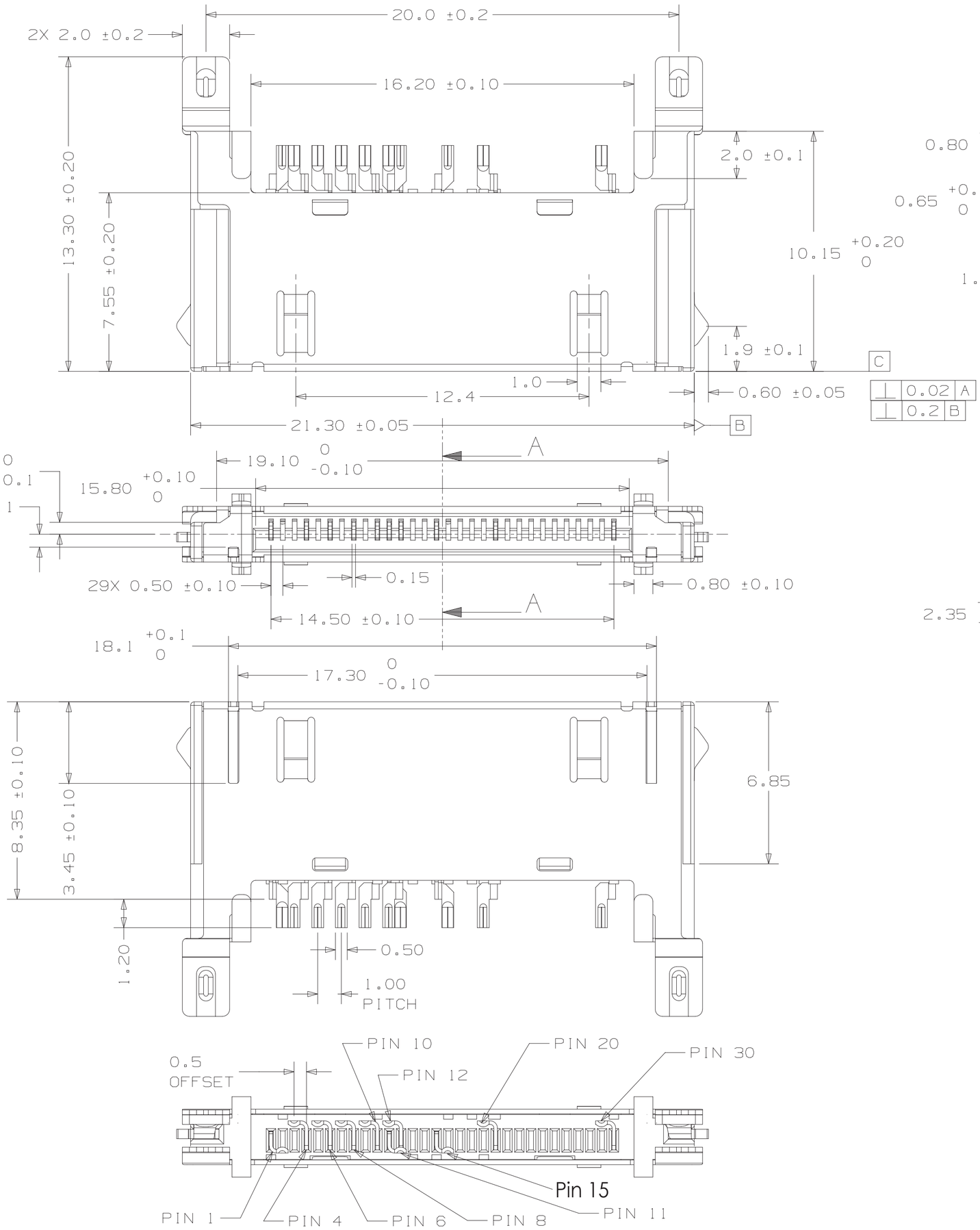
TOLERANCES	
0 > - < 2	±0.05
2 > - < 10	±0.10
10 > - < 50	±0.20
50 > - < 100	±0.20
100 > - < 200	±0.20
200 > -	±0.20
ANGLES	±0.50°

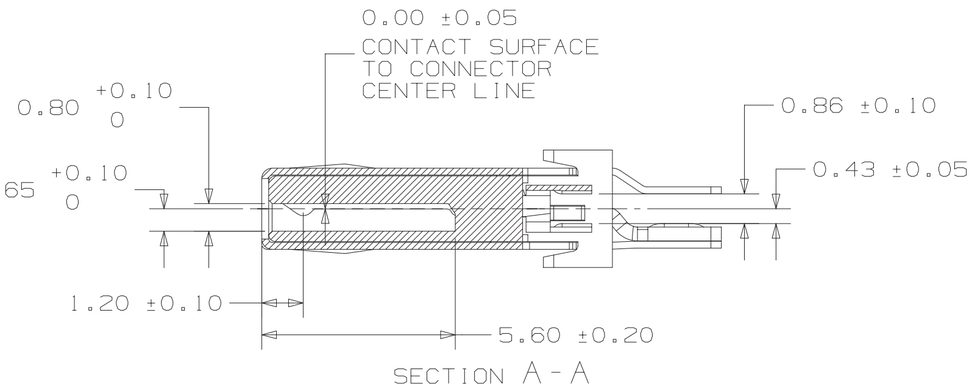
DO NOT SCALE DRAWINGS

TITLE: CONN, IO/30 PIN, IO, MID-PLANE EDGE MOUNTED PLUG

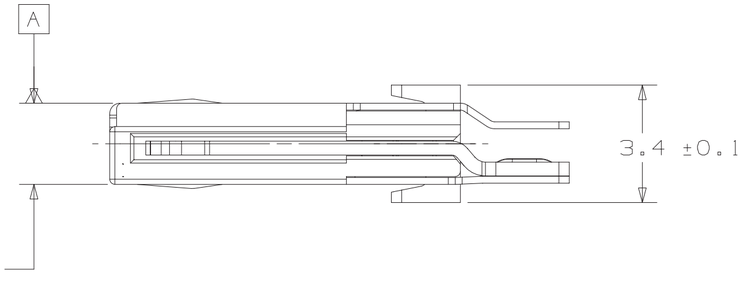
DRAWING NUMBER	REV.
514	A

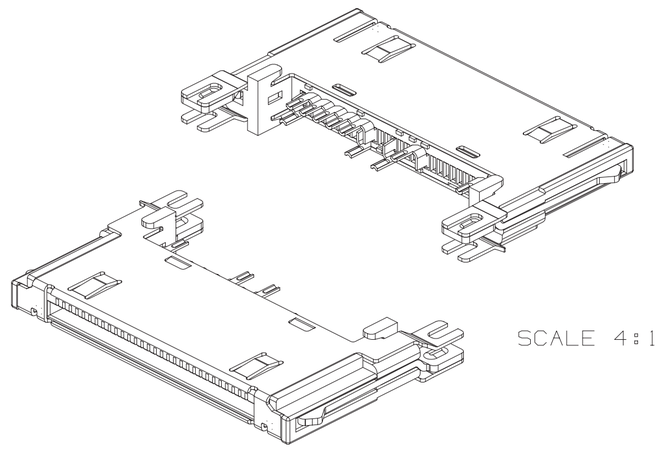
THIRD ANGLE PROJECTION | SIZE C | SCALE 7.5:1 | SHT 1 OF 2





SECTION A-A





SCALE 4:1

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SIZE	DRAWING NUMBER	REV.
C	514	A
SCALE: 7.5:1	SHT 2 OF 2	