

ZONE	REV	ECN NUMBER	DESCRIPTION	BY	DATE	APPROVED
	G	BWAG-18101704	UPDATED NOTE 1. ADDED NOTE 11 & 12. REVISED BASE THICKNESS TOLERANCE 0.10 WAS 0.13. ADDED SURFACE GROUND PLANE.	HCL-UD	10/29/2018	B.WANG
SHT1, C3	H	HHUG-20010801	ADDED PLATING OPTION "P" TO P/N TREE	HCL-SG	01/23/2020	H.HUANG
SHT9	J	HHUG-20090906	ADDED SE MODULE PCB DETAILS.	HCL-SH	10/06/2020	H.HUANG

XCede HD2 BACKPLANE MODULE MALE STANDARD LOAD

9 7 2 - 4 X 1 E - X 0 X

4 PAIR

8-POSITION

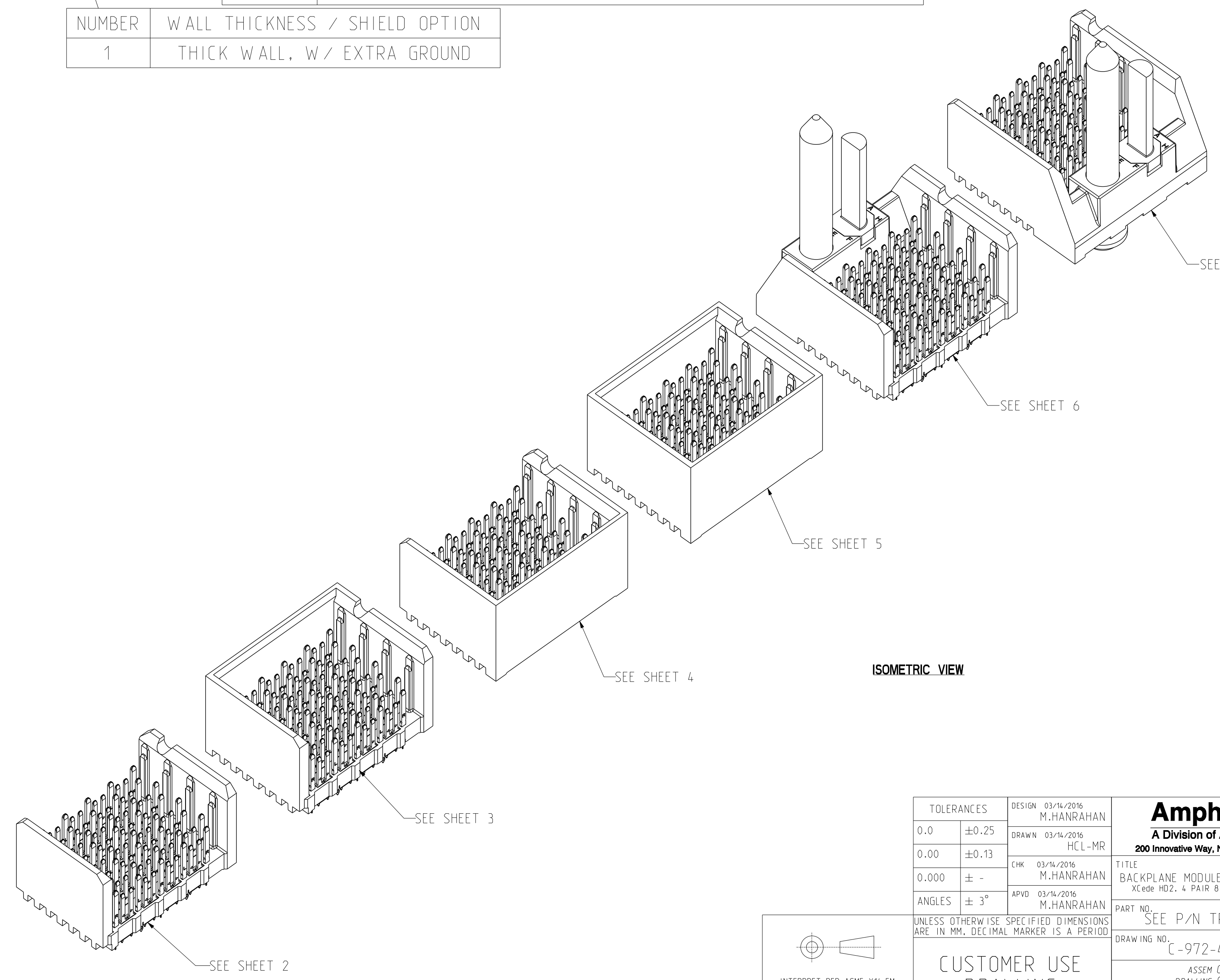
NOTE: ONLY THREE MOST RECENT RELEASED REVISIONS DISPLAYED.

LETTER	PLATING
D	NI SULFAMATE, STANDARD GOLD, LEADFREE
E	NI SULFAMATE, HIGH GOLD, LEADFREE
H	NANO NI, STANDARD GOLD, LEADFREE
J	NANO NI, HIGH GOLD, LEADFREE
P	Pd-NI, STANDARD GOLD, LEADFREE

NUMBER	SIGNAL & GROUND WIPE LENGTH, COMPLIANT PIN SIZE
G	2 mm WIPE SIGNAL, 3 mm WIPE GND, ϕ .0157" DRILL
J	2 mm WIPE SIGNAL, 2 mm WIPE GND, ϕ .0157" DRILL

NUMBER	WALL THICKNESS / SHIELD OPTION
1	THICK WALL, W/ EXTRA GROUND

	LETTER								
LEFT POLARIZING GUIDANCE (SEE SHEETS 6)	J	A	B	C	D	E	F	G	H
	NO KEY								
RIGHT POLARIZING GUIDANCE (SEE SHEETS 7)	Y	P	Q	R	S	T	U	V	W
	NO KEY								
OPEN (SEE SHEET 2)	O (ZERO)								
LEFT WALL (SEE SHEET 3)	L								
RIGHT WALL (SEE SHEET 4)	M								
TWO WALL (SEE SHEET 5)	1								



ISOMETRIC VIEW

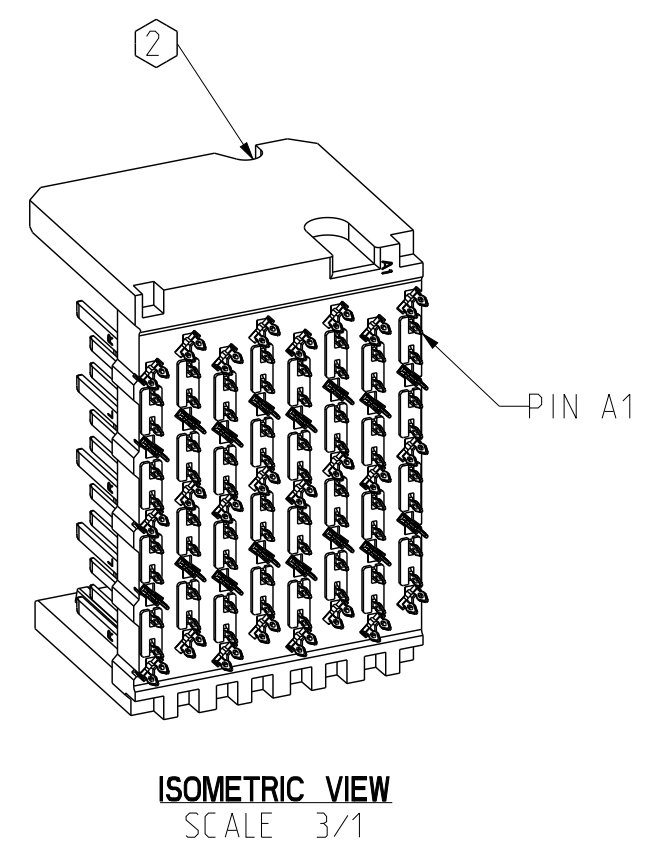
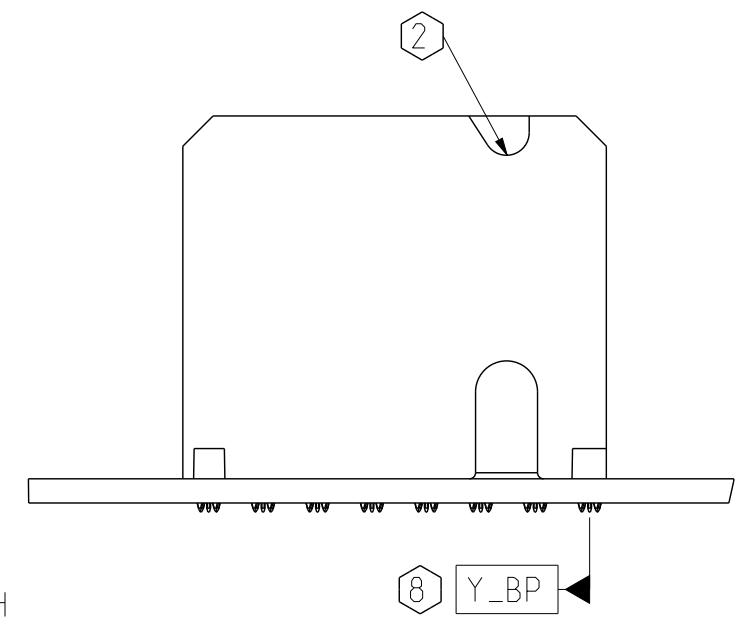
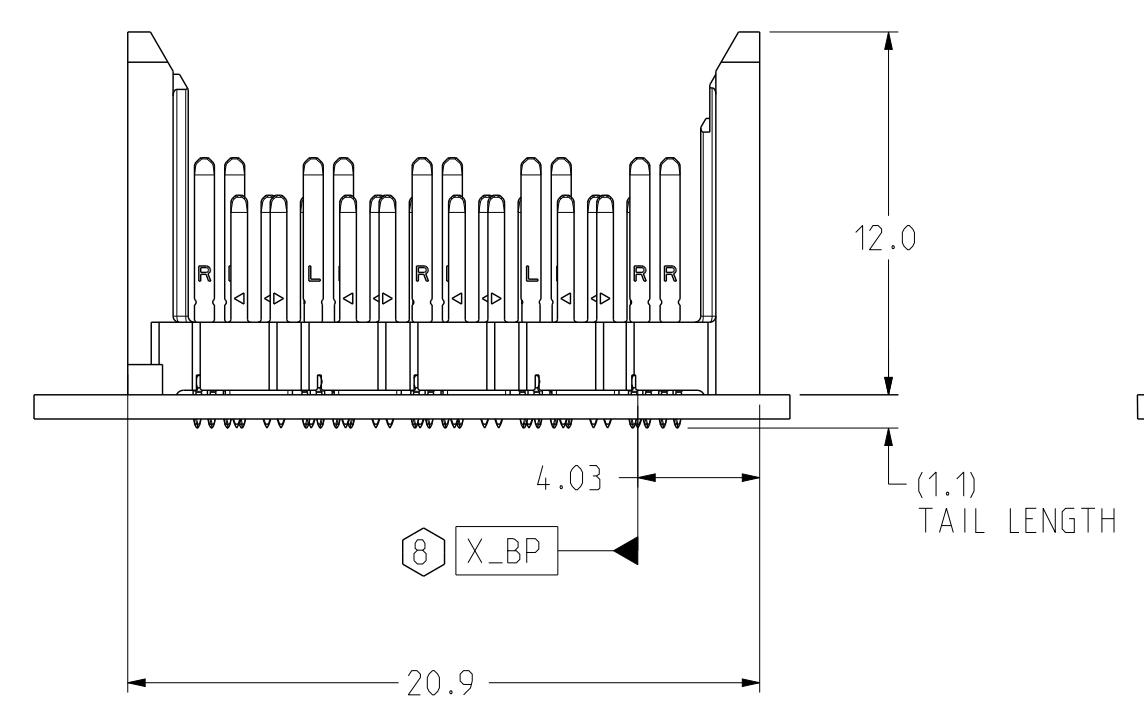
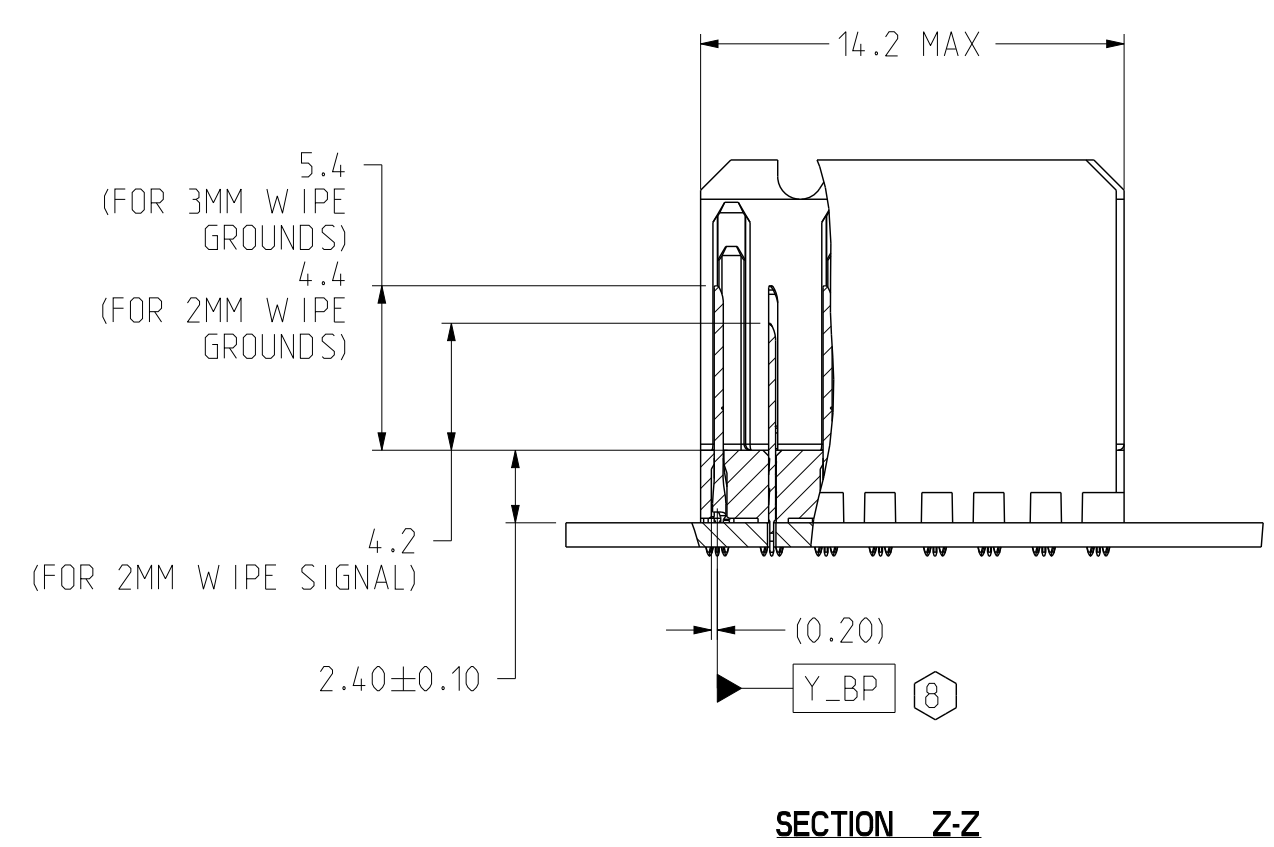
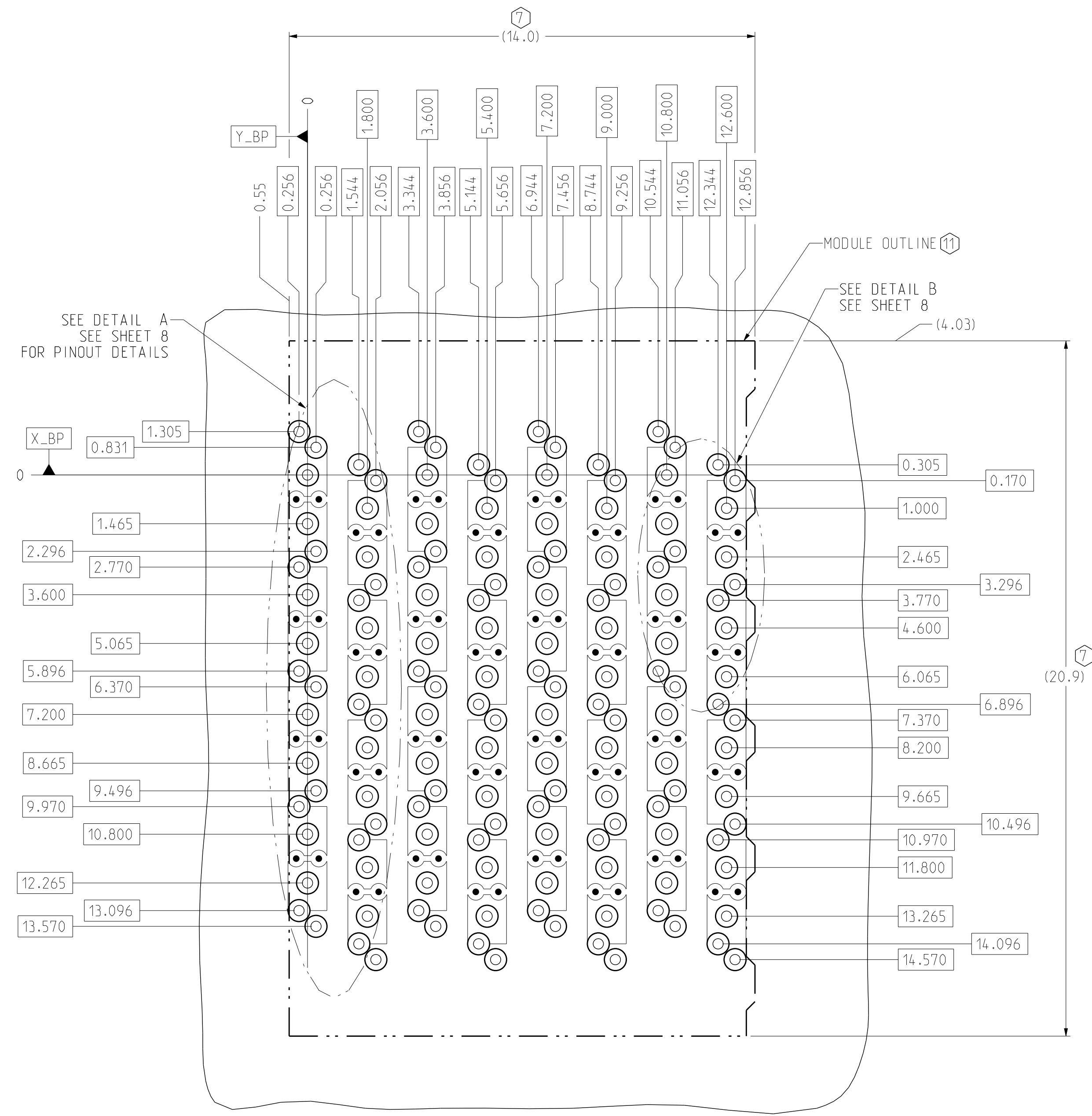
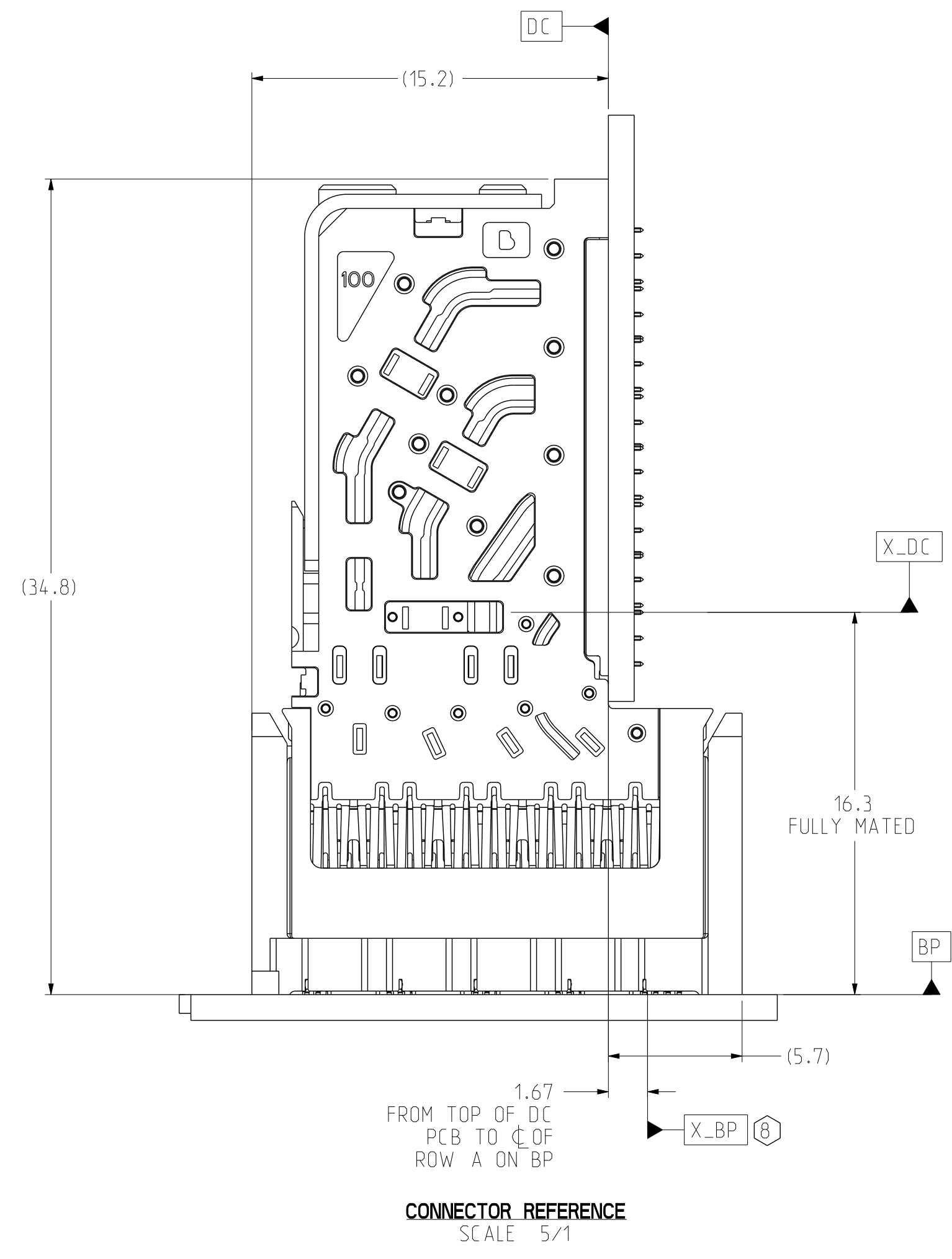
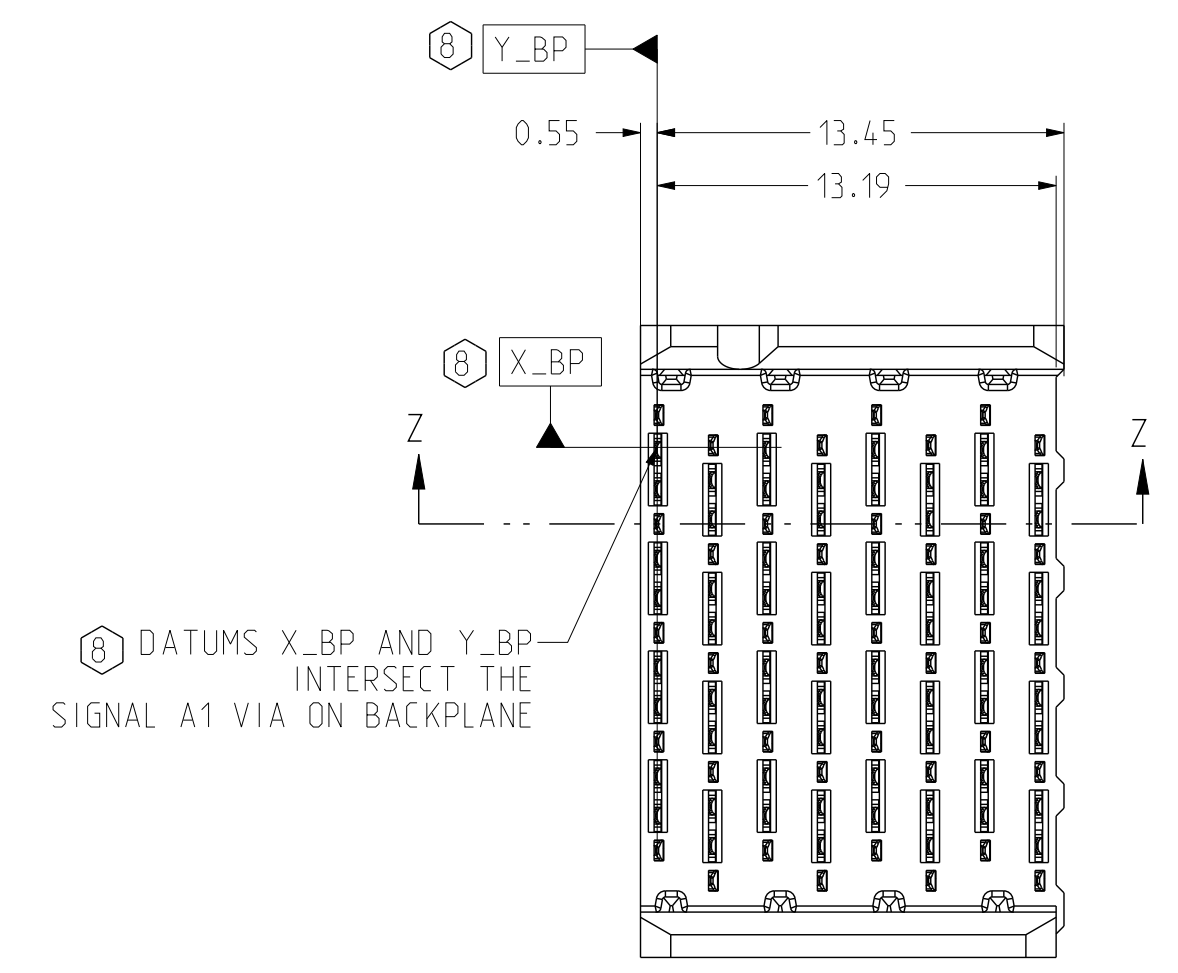
- NOTES:
- REFER TO TB-2343 FOR XCede HD2 PRODUCT SPECIFICATIONS.
 - NOTCH DESIGNATES "ROW A" SIDE OF SHROUD. NOTCH FEATURE ON OPPOSITE SIDE FROM PART MARKING.
 - SEE TB-2325 FOR PART MARKING REQUIREMENTS.
 - PLATING THICKNESS OF SIGNAL CONTACT AND GROUND CONTACT IS DETERMINED BY PLATING CODE.
 - REPAIR PROCEDURE FOR MODULE. SEE TB-2245.
 - SEE TB-2237 (XCede HD2 ROUTING GUIDELINES) FOR BOARD SPECIFIC DETAILS ON ROUTING, PLATING THICKNESS, SECONDARY DIAMETERS, PAD, ANTIPAD LOCATIONS, BACK DRILLING AND SHADOW VIAS.
 - SEE DOC C-190-0009-000 FOR TOOLING KEEPOUT ZONES.
 - BACKPLANE DATUM REFERENCE.
 - OPTIONAL HOLE/MOUNTING SCREW LOCATION FOR GROUNDED PIN OR ADDITIONAL GUIDE PIN SUPPORT SEE DRAWING C-914-4010-000 FOR OPTIONS HOLE DETAILS.
 - SHADOW VIAS (GND VIA'S) DO NOT RECEIVE COMPLIANT PINS. THEY ARE ADDED FOR IMPROVED SIGNAL INTEGRITY PERFORMANCE AND CAN CHANGE IN SIZE AND LOCATION BASED UPON THE SPECIFIC DESIGN DETAILS. ONLY APPLIES FOR MACHINED GUIDE PIN APPLICATIONS.
 - SURFACE GROUND PLANE EQUAL TO COMPONENT OUTLINE REQUIRED. SURFACE GROUND PLANE TO BE FREE FROM SOLDEMASK.
 - ALL PLASTIC MATERIAL IS UL 94V-0 FLAMMABLE.

TOLERANCES	DESIGN	03/14/2016 M.HANRAHAN	Amphenol TCS A Division of Amphenol Corporation 200 Innovative Way, Nashua, NH 03062 603.879.3000	
0.0	±0.25	DRAWN	03/14/2016 HCL-MR	TITLE BACKPLANE MODULES, VERTICAL MALE HEADER XCede HD2, 4 PAIR 8 POS, THICK WALL W/EXTRA GND
0.00	±0.13	CHK	03/14/2016 M.HANRAHAN	
0.000	± -	APVD	03/14/2016 M.HANRAHAN	PART NO. SEE P/N TREE SHEET 1
ANGLES	± 3°	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MM. DECIMAL MARKER IS A PERIOD.		REV N/A
DRAWING NO.			C-972-401E-500	
ASSEMBLY			C972-401E-500_XG-HD2	
DRAWING			C972-401E-500_XG-HD2	
SIZE	D	SCALE	1/1	SHEET 1 OF 9

INTERPRET PER ASME Y14.5M
CODE IDENT 31413

CUSTOMER USE
DRAWING

DRW NO.	C-972-401E-500	SH	2	REV	J	
ZONE	REV	ECN NUMBER	DESCRIPTION	BY	DATE	APPROVED
			SEE SHEET 1			



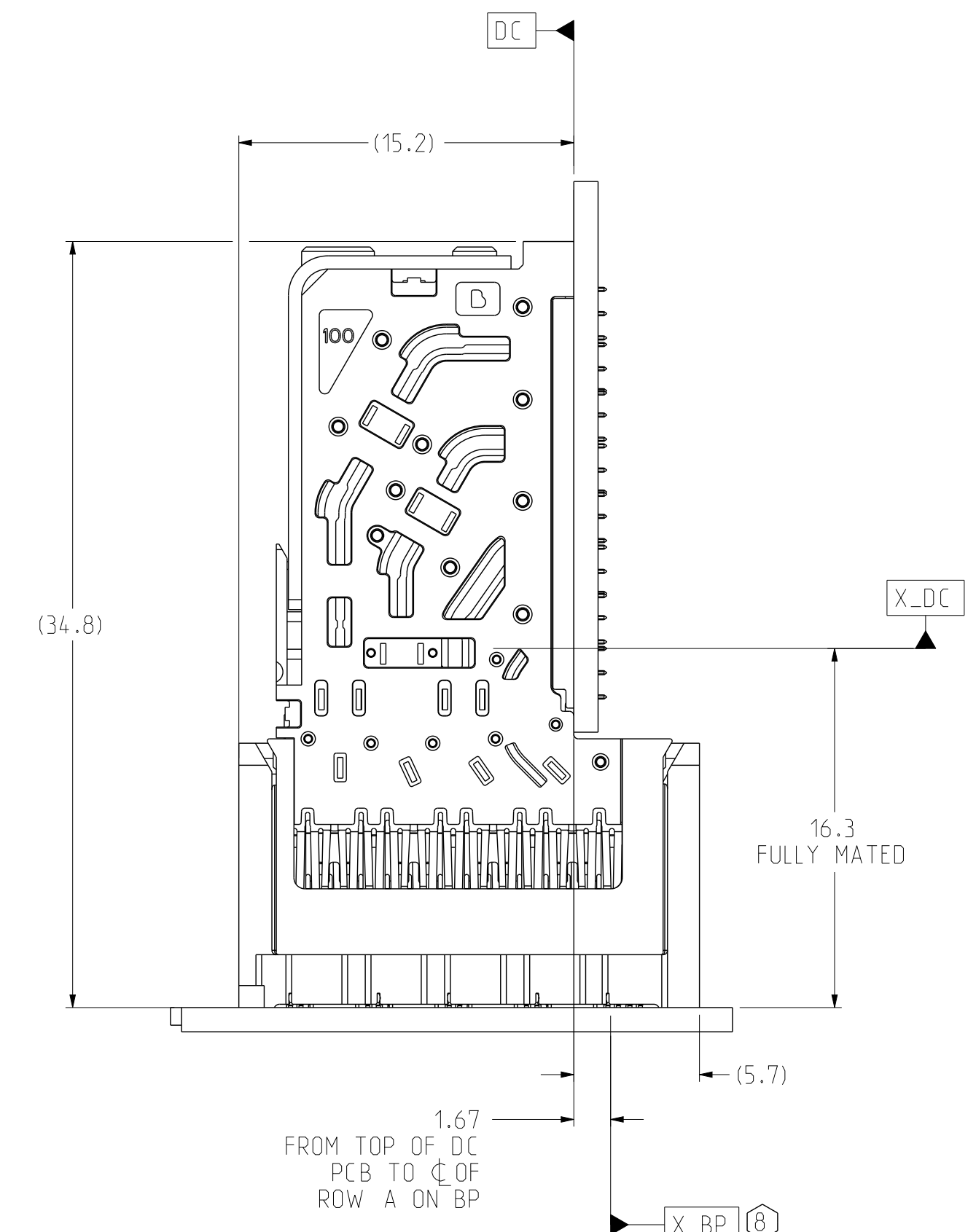
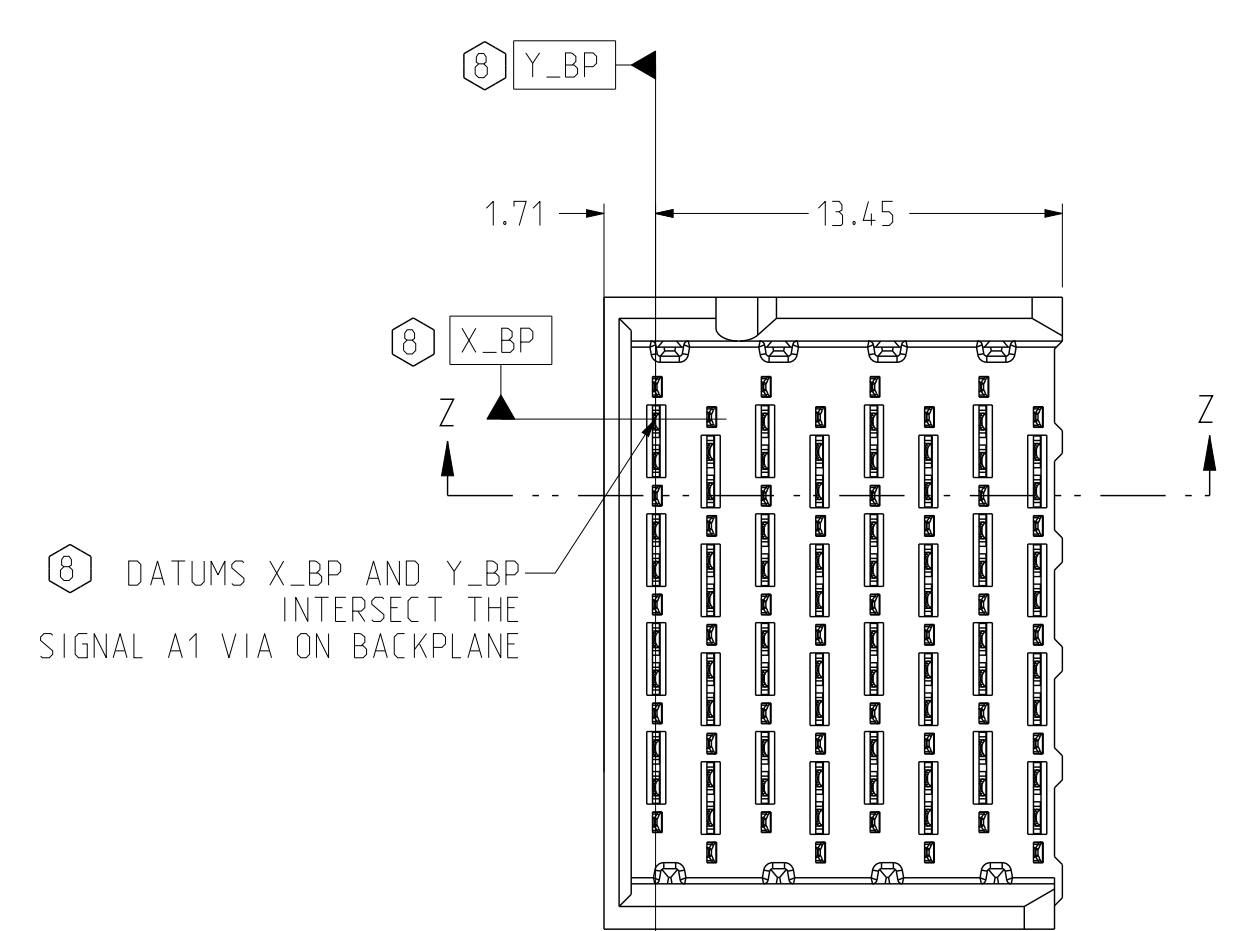
BP HOLE PATTERN
COMPONENT SIDE
SCALE 10/1

OPEN BACKPLANE MODULE DIMENSION

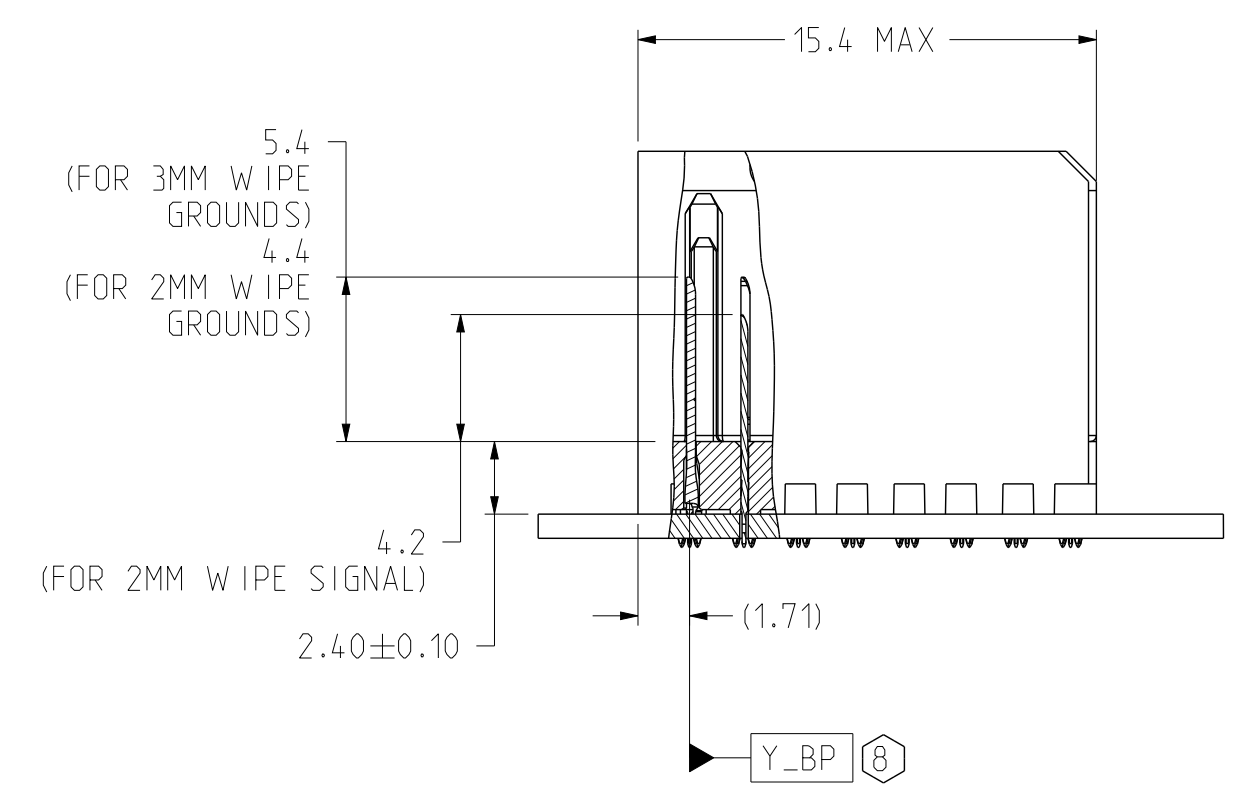
TOLERANCES	DESIGN	DATE	DESIGNER	Amphenol TCS A Division of Amphenol Corporation 200 Innovative Way, Nashua, NH 03062 603.879.3000	TITLE
0.0 ±0.25	03/14/2016	M.HANRAHAN	HCL-MR		BACKPLANE MODULES, VERTICAL MALE HEADER Xcode HD2, 4 PAIR 8 POS, THICK WALL W/EXTRA GND
0.00 ±0.13	03/14/2016	M.HANRAHAN		PART NO.	SEE P/N TREE SHEET 1
0.000 ± -	03/14/2016	M.HANRAHAN		DRAWING NO.	C-972-401E-500
ANGLES ± 3°	03/14/2016	M.HANRAHAN		ASSEMBLY	C-972-401E-500_XG-HD2 0.3 DRAWING C-972-401E-500_XG-HD2 0.19
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MM. DECIMAL MARKER IS A PERIOD				SIZE	D
INTERPRET PER ASME Y14.5M				SCALE	1/1
CODE IDENT 31413				SHEET	2 OF 9

CUSTOMER USE
DRAWING

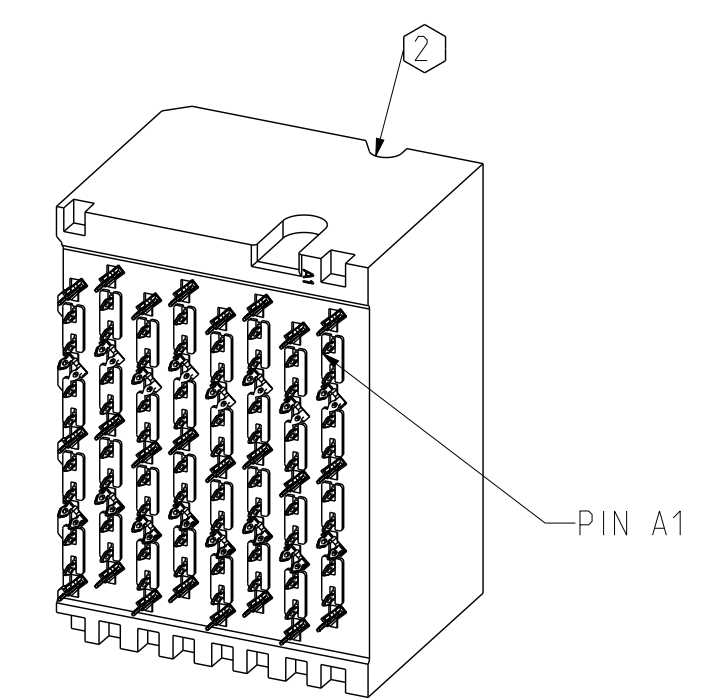
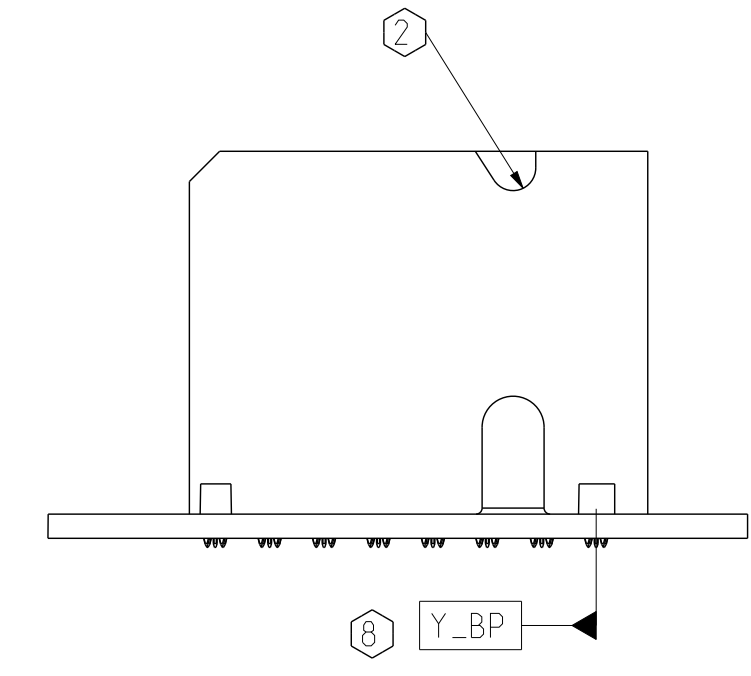
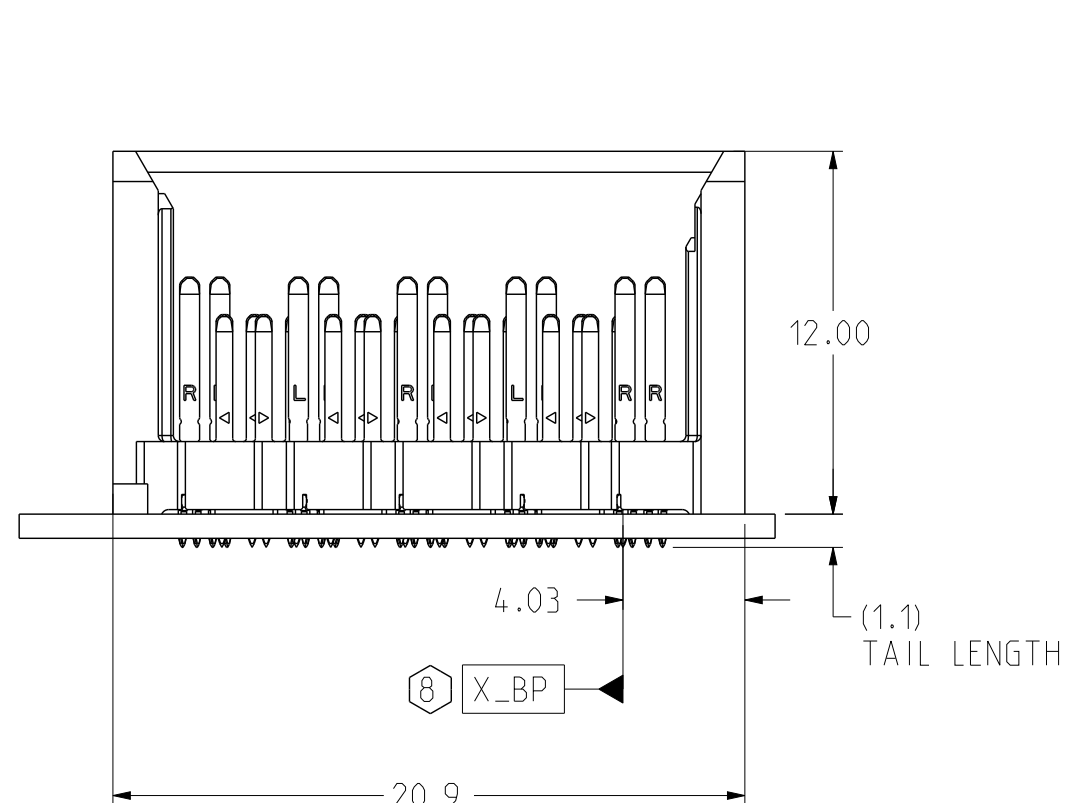
DRW NO.	C-972-401E-500	SH	3	REV	J	
ZONE	REV	ECN NUMBER	DESCRIPTION	BY	DATE	APPROVED
			SEE SHEET 1			



CONNECTOR REFERENCE
SCALE 4/1

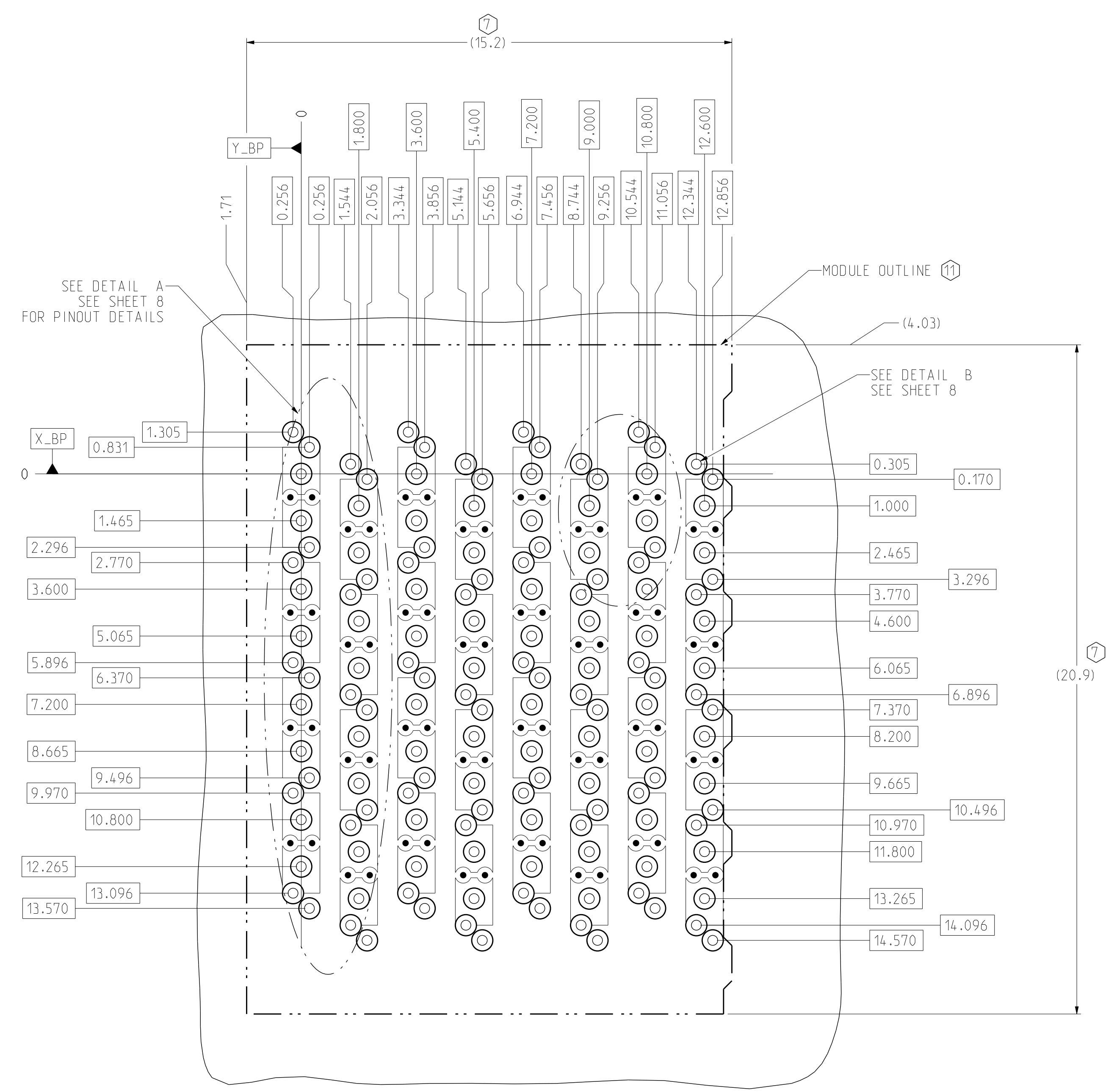


SECTION_Z-Z



ISOMETRIC VIEW
SCALE 3/1

LEFT WALL BACKPLANE MODULE DIMENSION



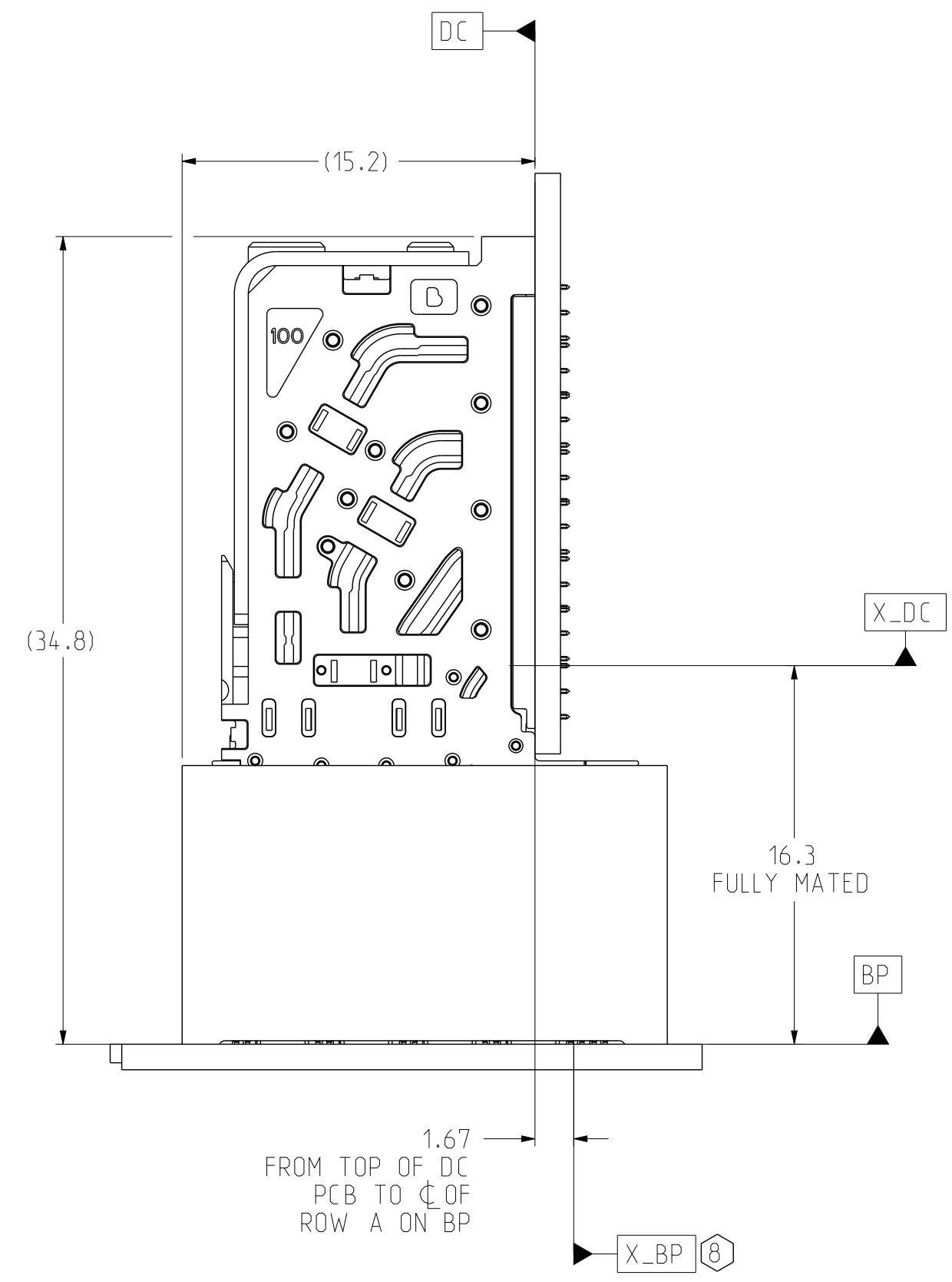
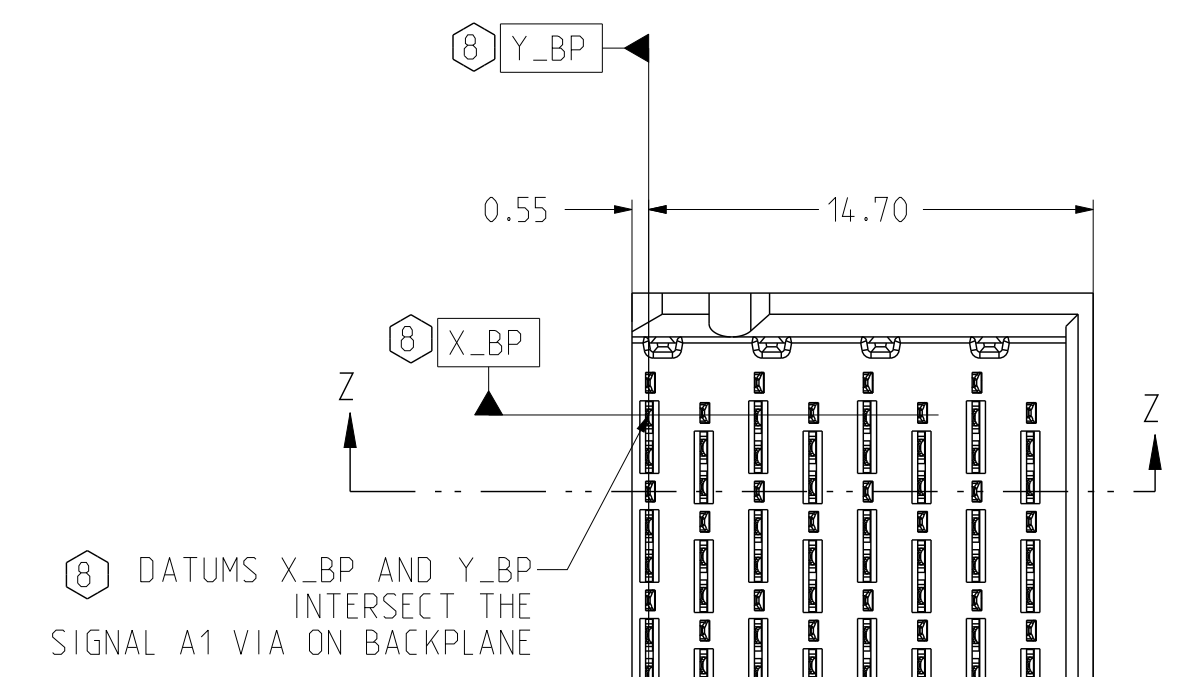
BP HOLE PATTERN
COMPONENT SIDE
SCALE 10/1

TOLERANCES	DESIGN 03/14/2016 M.HANRAHAN	Amphenol TCS A Division of Amphenol Corporation 200 Innovative Way, Nashua, NH 03082 603.879.3000 TITLE BACKPLANE MODULES, VERTICAL MALE HEADER Xcode HD2, 4 PAIR 8 POS, THICK WALL W/EXTRA GND PART NO. SEE P/N TREE SHEET 1 REV N/A
0.0 ±0.25	DRAWN 03/14/2016 HCL-MR	
0.00 ±0.13	CHK 03/14/2016 M.HANRAHAN	
0.000 ± -	APVD 03/14/2016 M.HANRAHAN	
ANGLES ± 3°	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MM. DECIMAL MARKER IS A PERIOD.	
DRAWING NO. C-972-401E-500		REV J
ASSEMBLY ASSEM C972-401E-500_XG-HD2 0.3 DRAWING C972-401E-500_XG-HD2 0.19		SIZE D SCALE 1/1 SHEET 3 OF 9

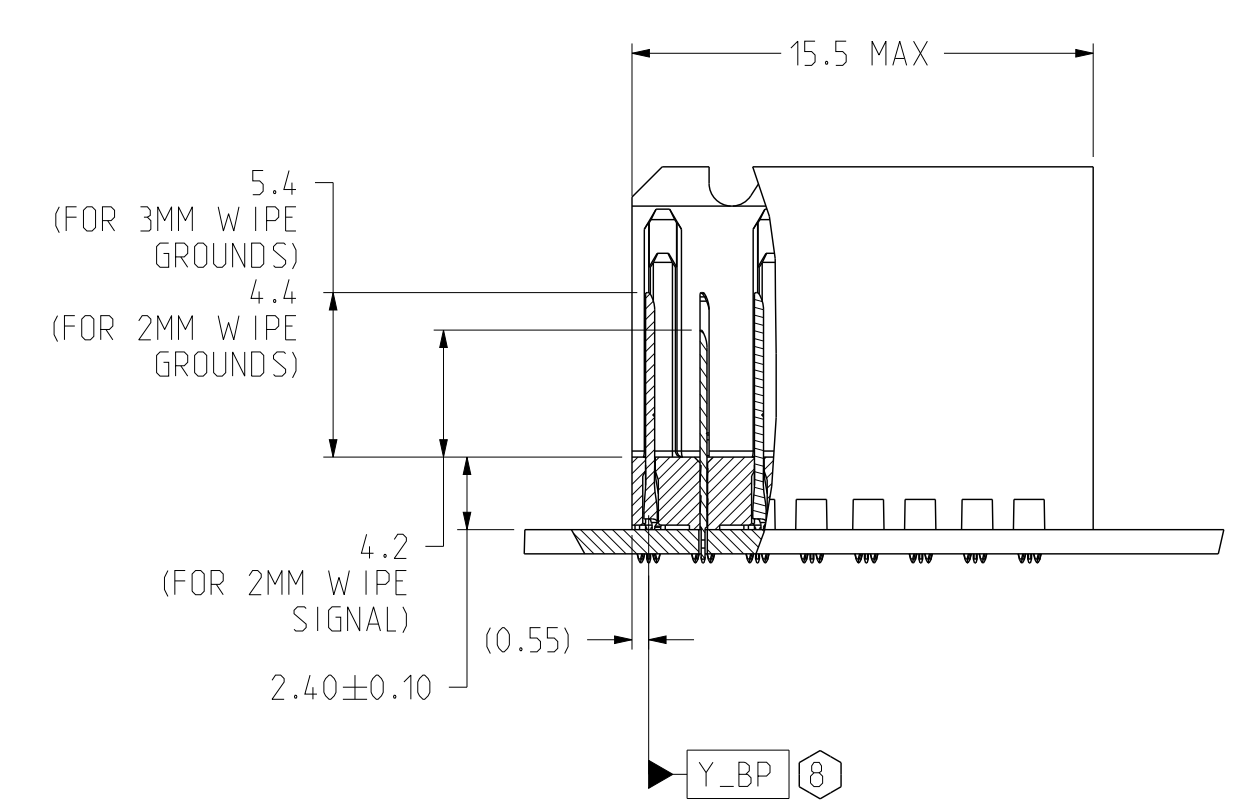
INTERPRET PER ASME Y14.5M
CODE IDENT 31413

CUSTOMER USE
DRAWING

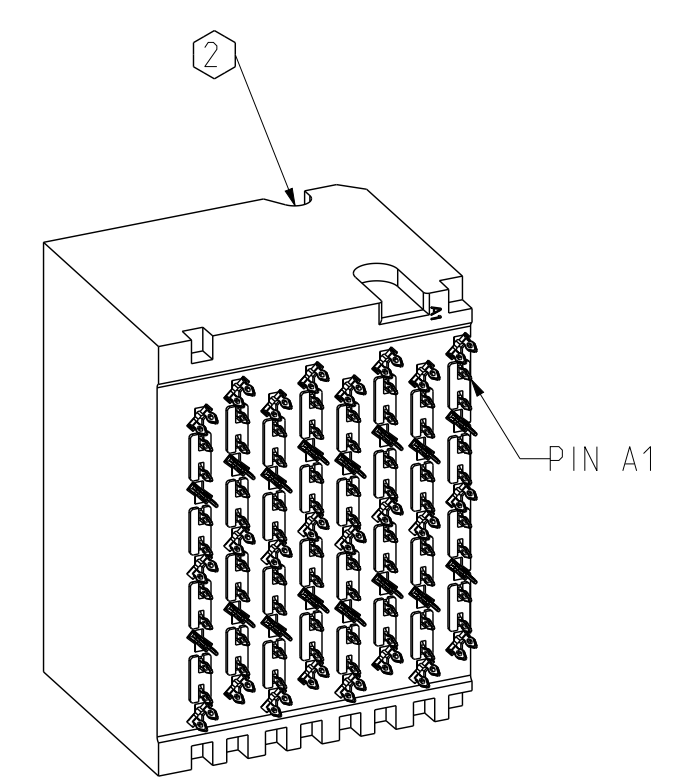
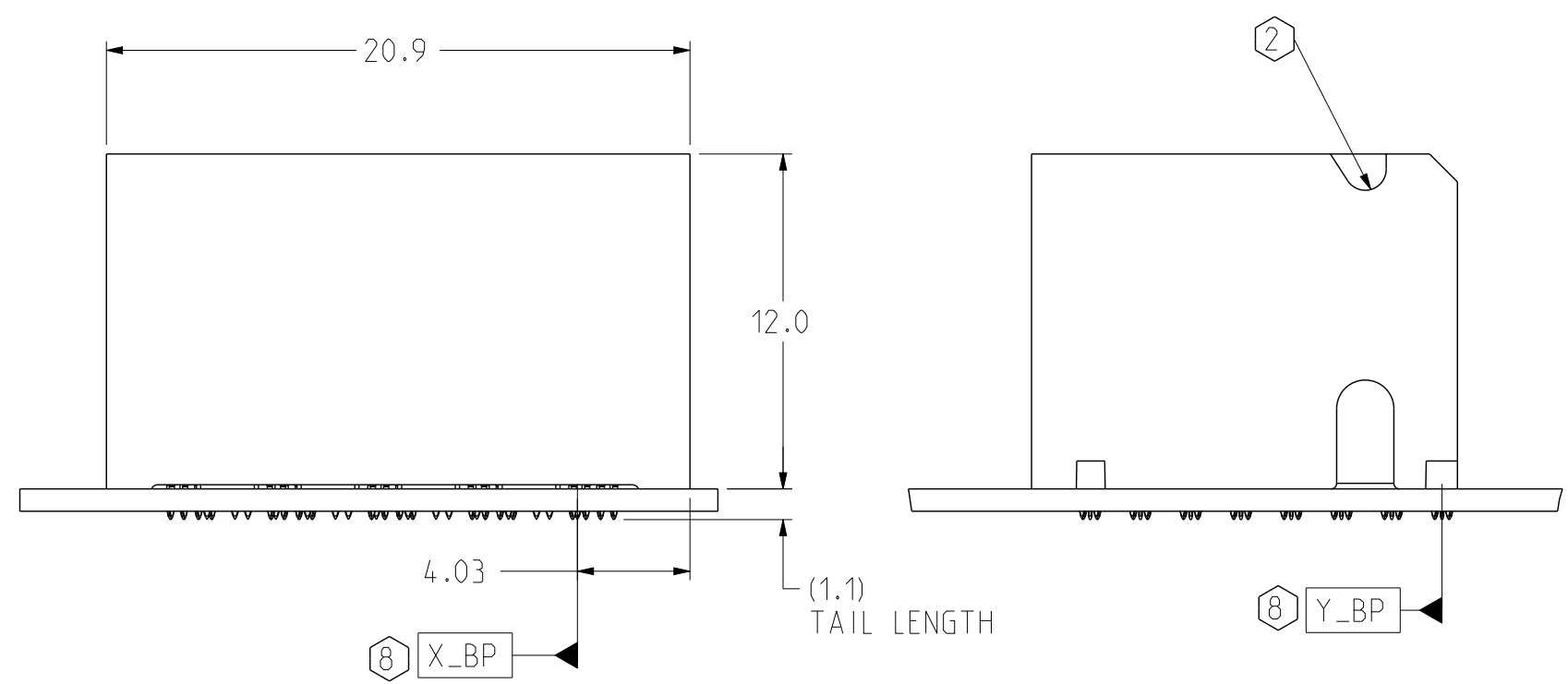
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ZONE	REV	ECN NUMBER	DESCRIPTION	BY	DATE	APPROVED
			SEE SHEET 1			



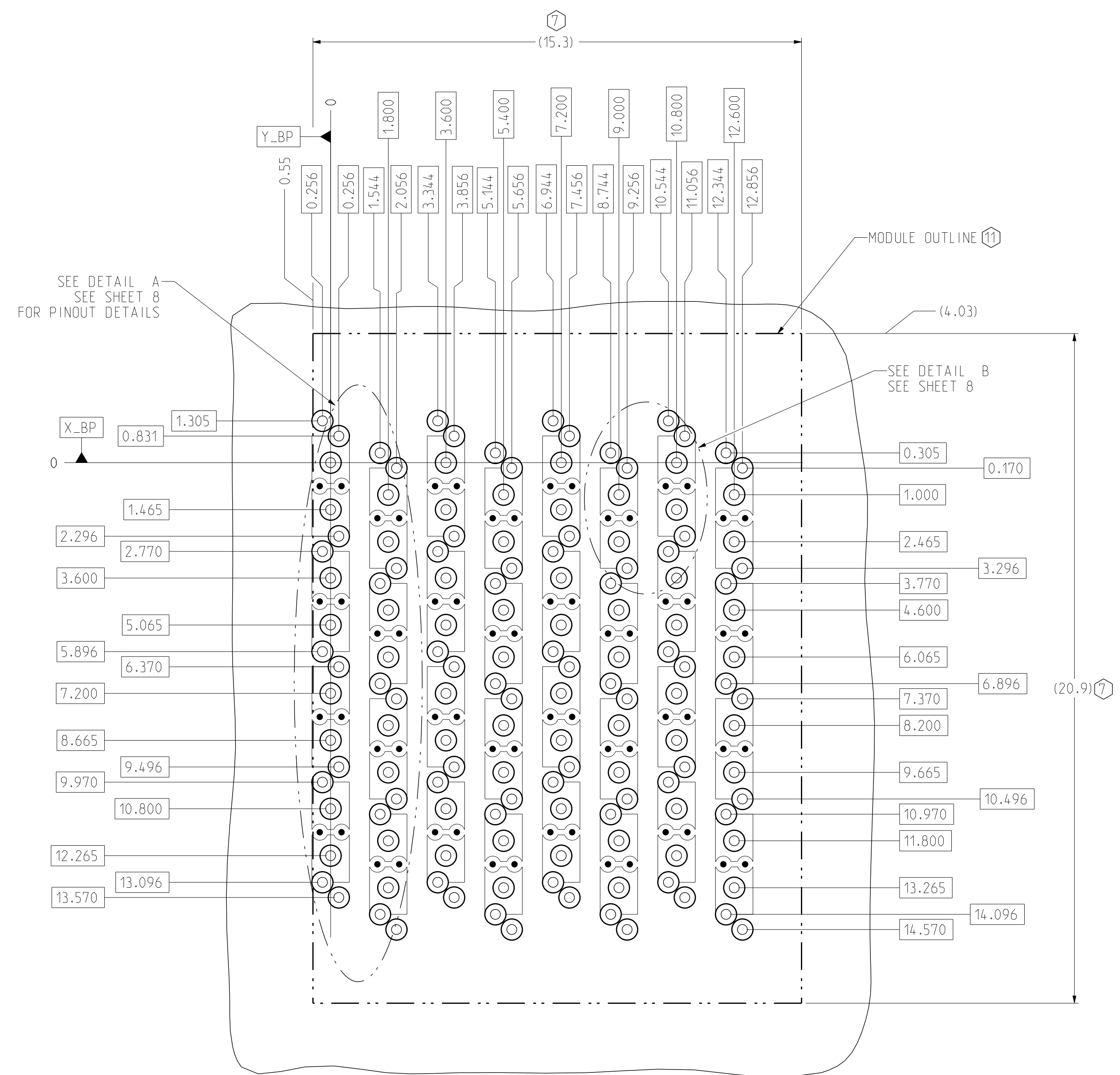
CONNECTOR REFERENCE
SCALE 4/1



SECTION Z-Z

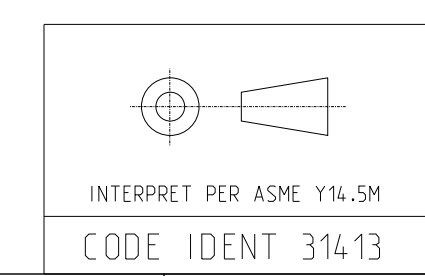


ISOMETRIC VIEW
SCALE 3/1



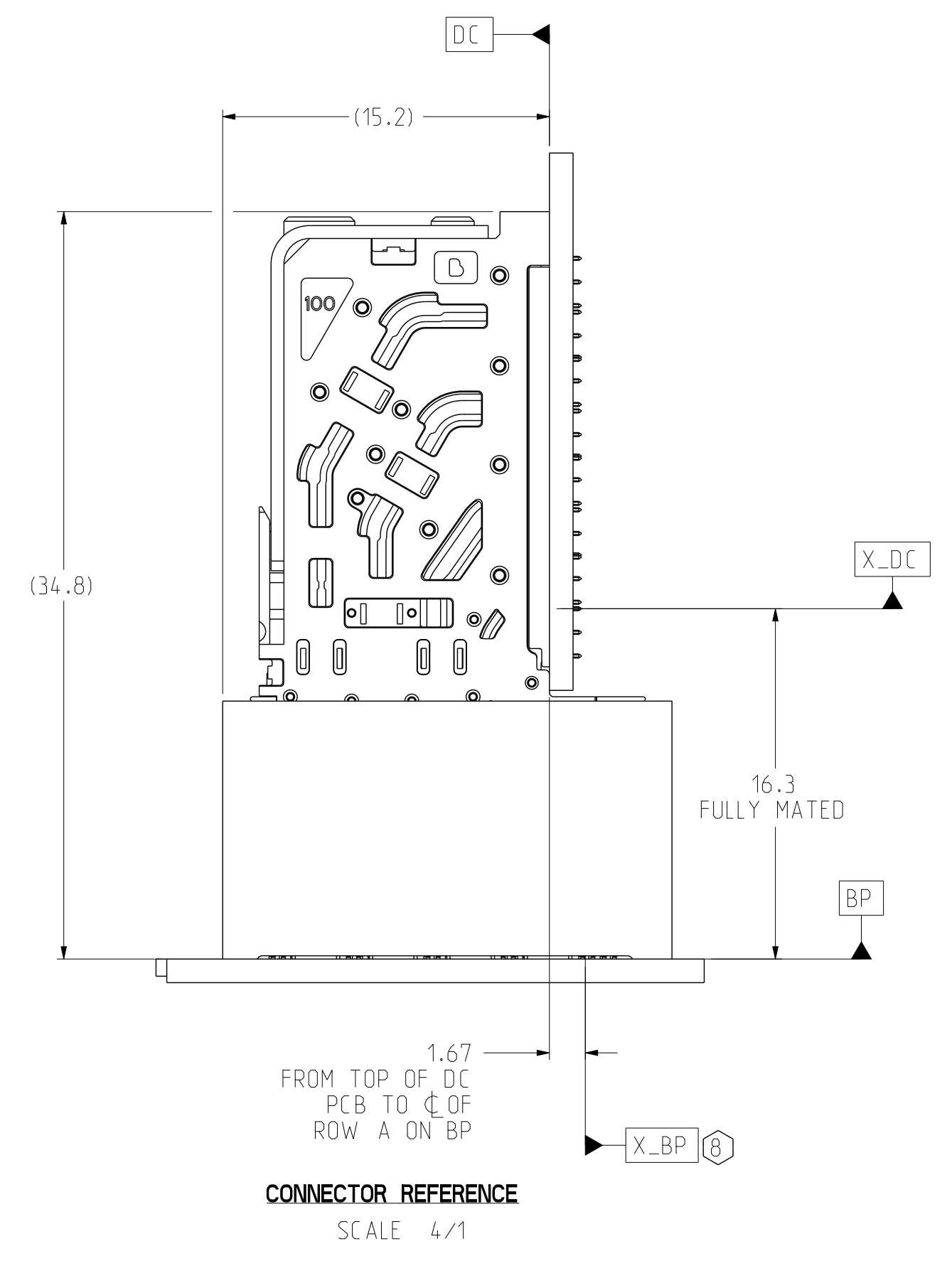
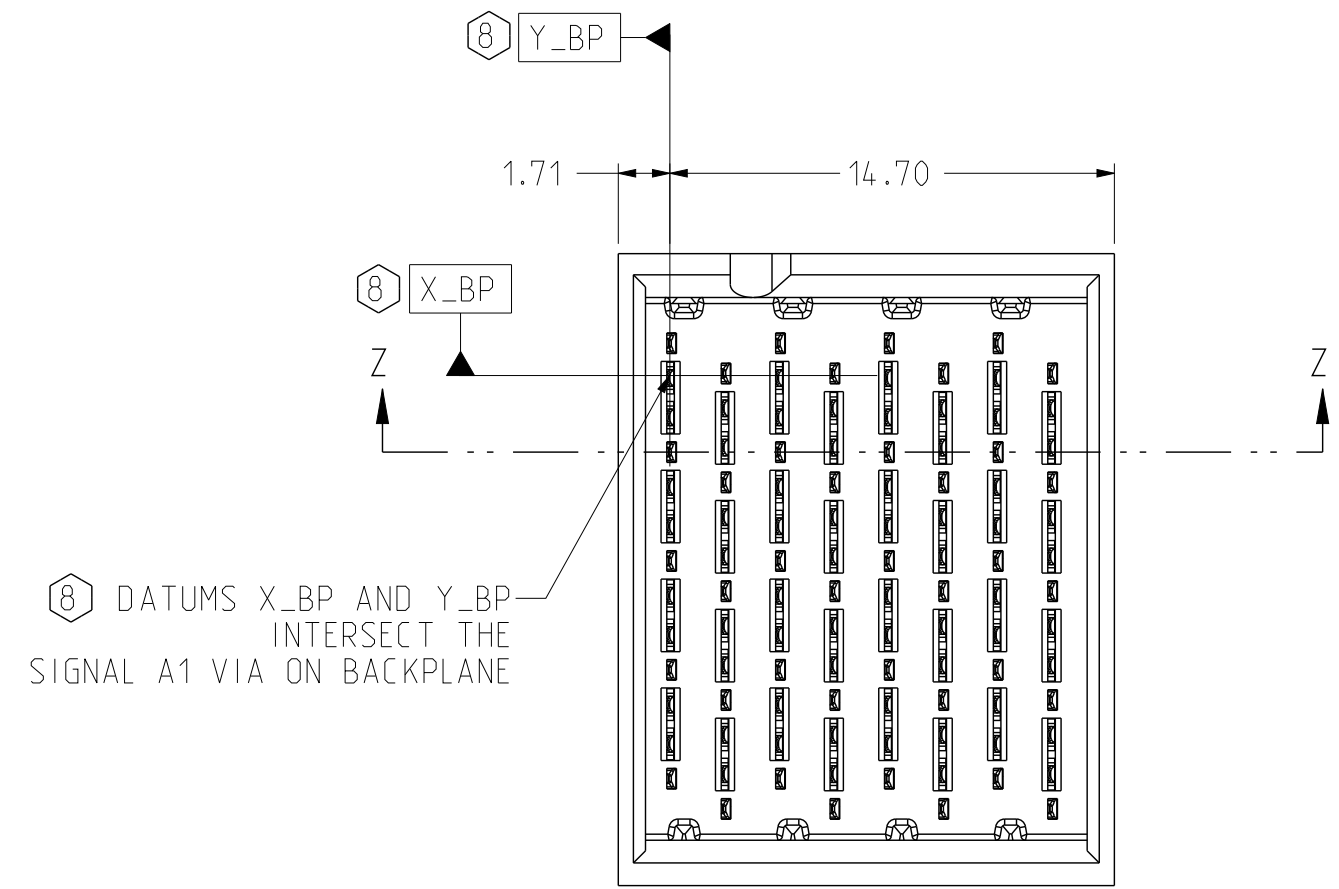
BP HOLE PATTERN
COMPONENT SIDE
SCALE 10/1

RIGHT WALL BACKPLANE MODULE DIMENSION

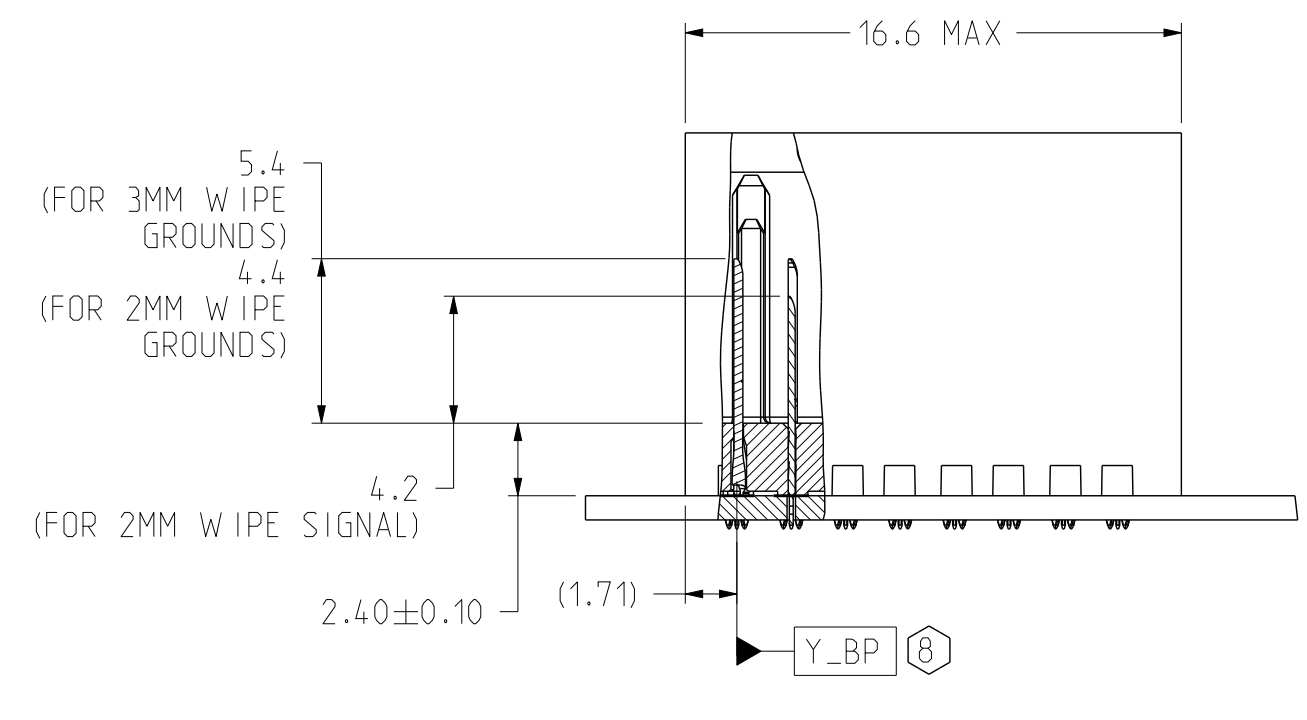


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0.0 ±0.25	DRAWN 03/14/2016 HCL-MR	
0.00 ±0.13	CHK 03/14/2016 M.HANRAHAN	
0.000 ± -	APVD 03/14/2016 M.HANRAHAN	
ANGLES ± 3°	TITLE BACKPLANE MODULES, VERTICAL MALE HEADER Xcde: HD2, 4 PAIR 8 POS, THICK WALL W/EXTRA GND	
PART NO. SEE P/N TREE SHEET 1 DRAWING NO. C-972-401E-500		REV N/A REV J
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MM. DECIMAL MARKER IS A PERIOD.		ASSEM C972-401E-500_XG-HD2 0.3 DRAWING C972-401E-500_XG-HD2 0.19
CUSTOMER USE DRAWING		SIZE D SCALE 1/1 SHEET 4 OF 9

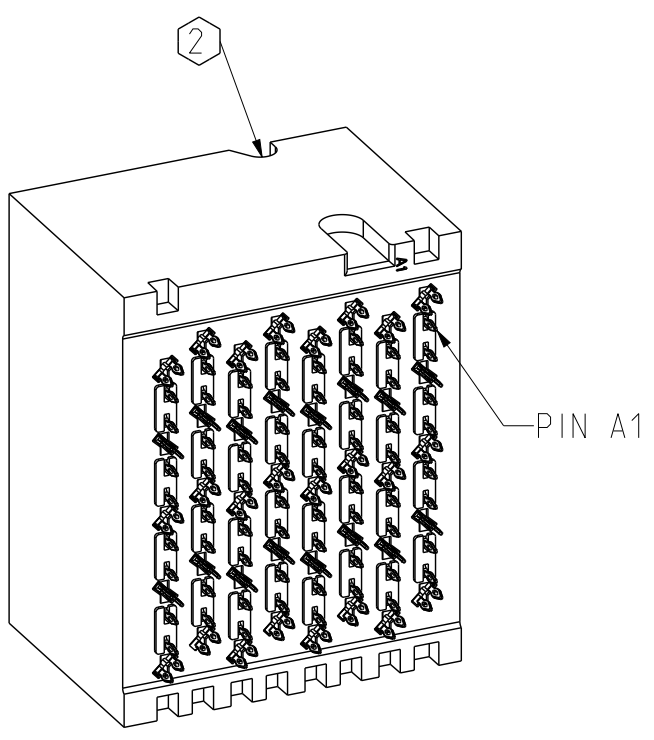
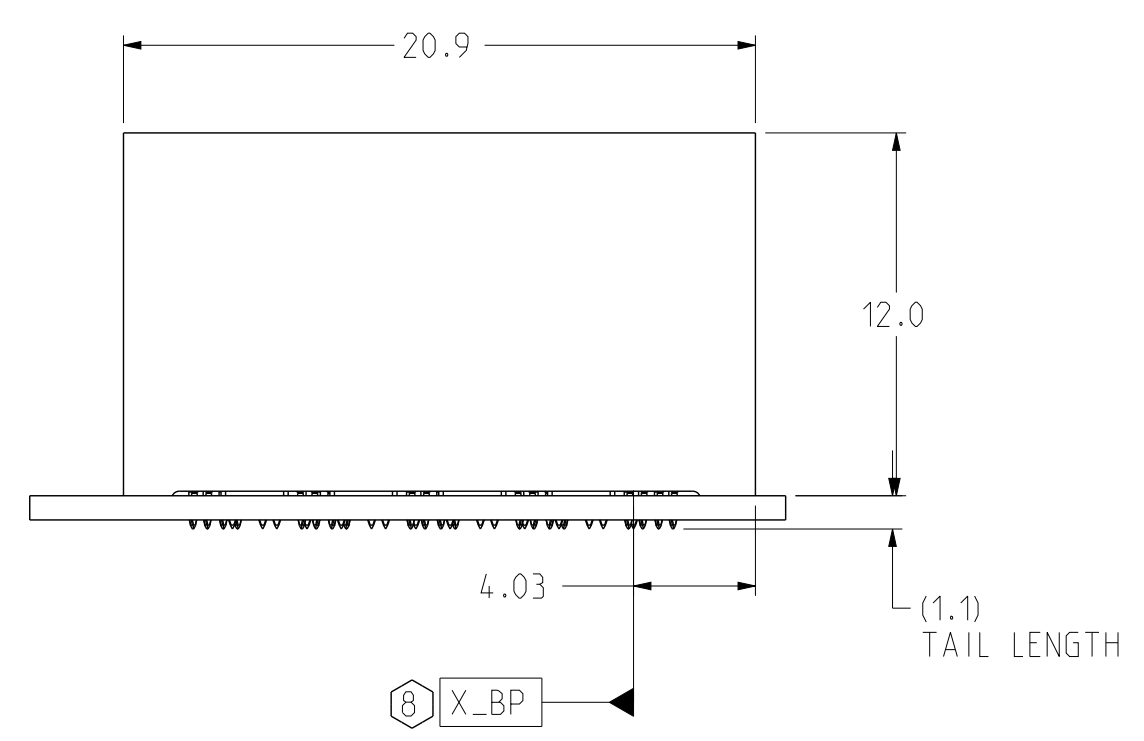
DRW NO.	C-972-401E-500	SH	5	REV	J	
ZONE	REV	ECN NUMBER	DESCRIPTION	BY	DATE	APPROVED
			SEE SHEET 1			



CONNECTOR REFERENCE
SCALE 4/1

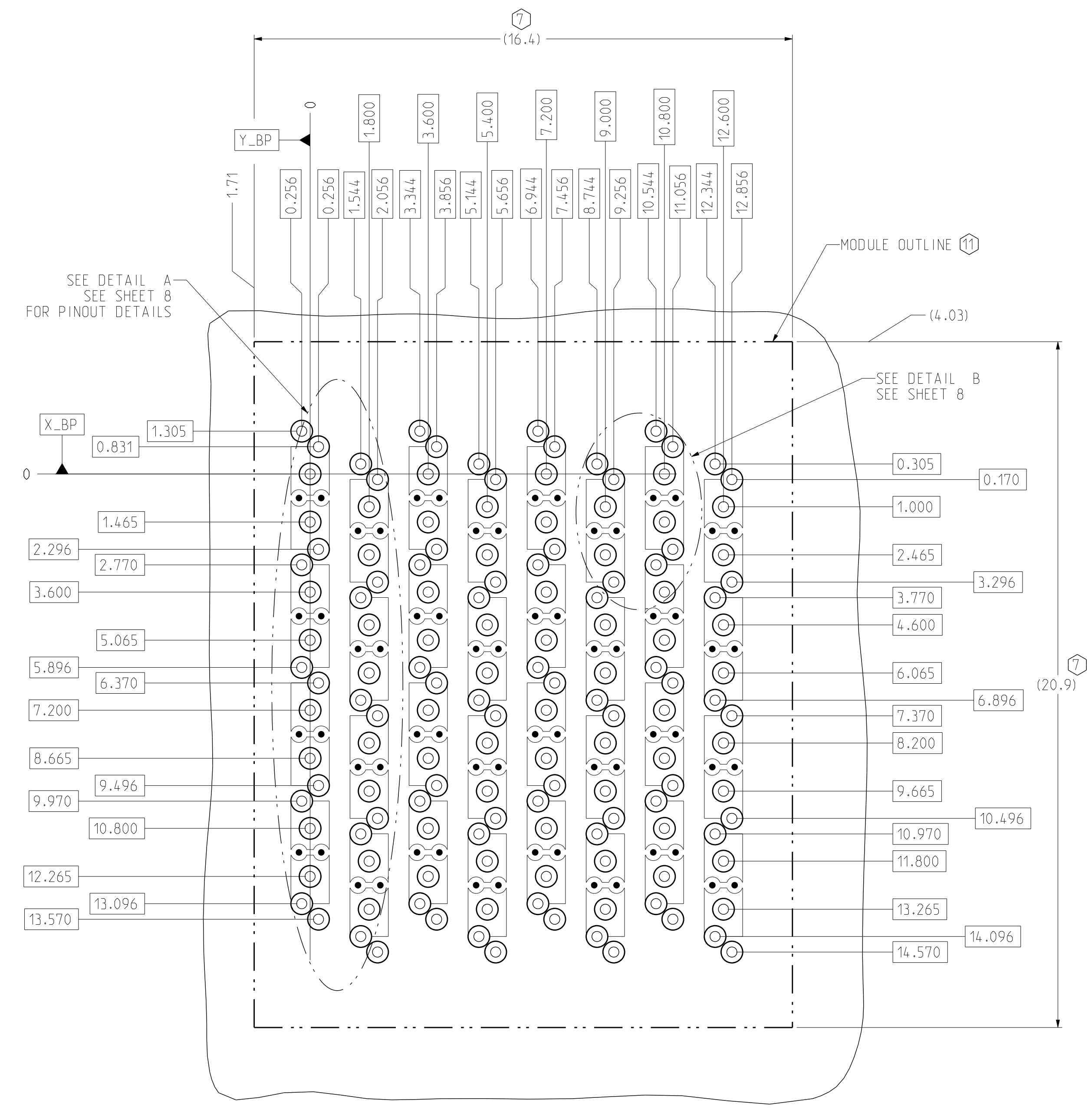


SECTION_Z-Z



ISOMETRIC VIEW
SCALE 3/1

TWO WALL BACKPLANE MODULE DIMENSION



TWO WALL BACKPLANE FOOTPRINT

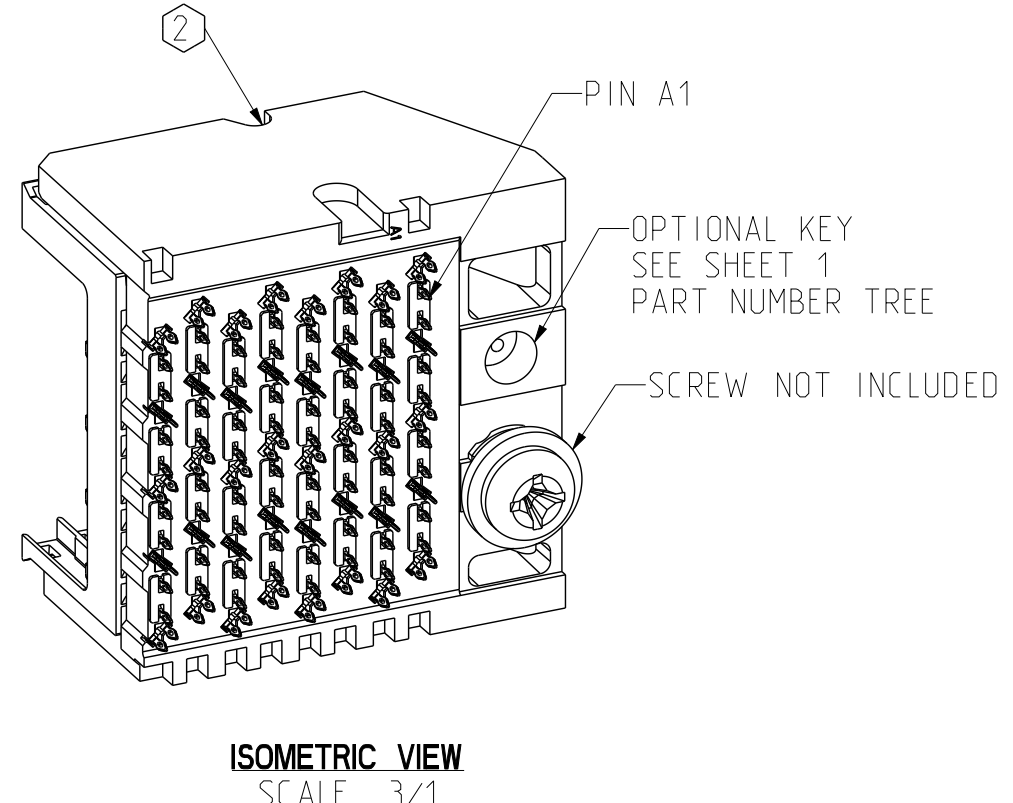
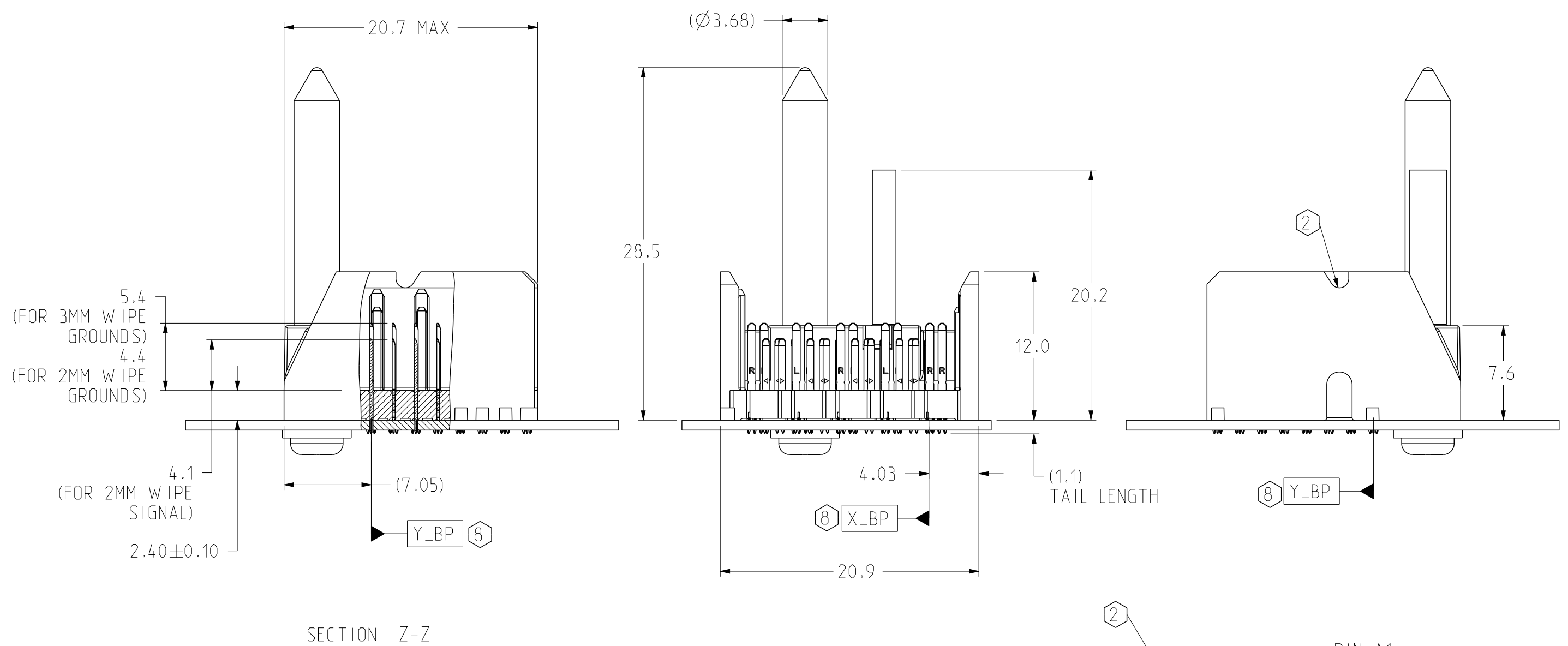
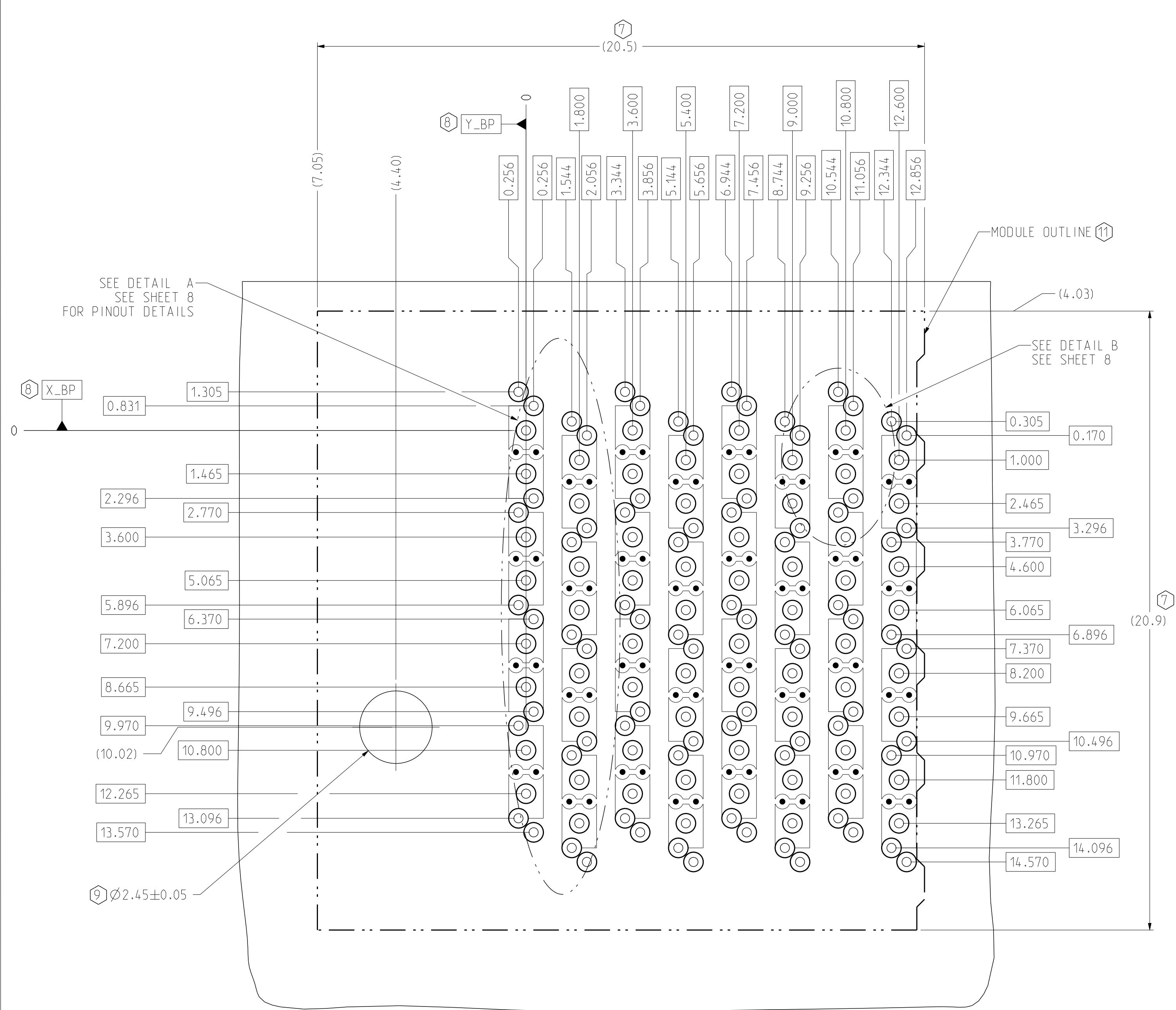
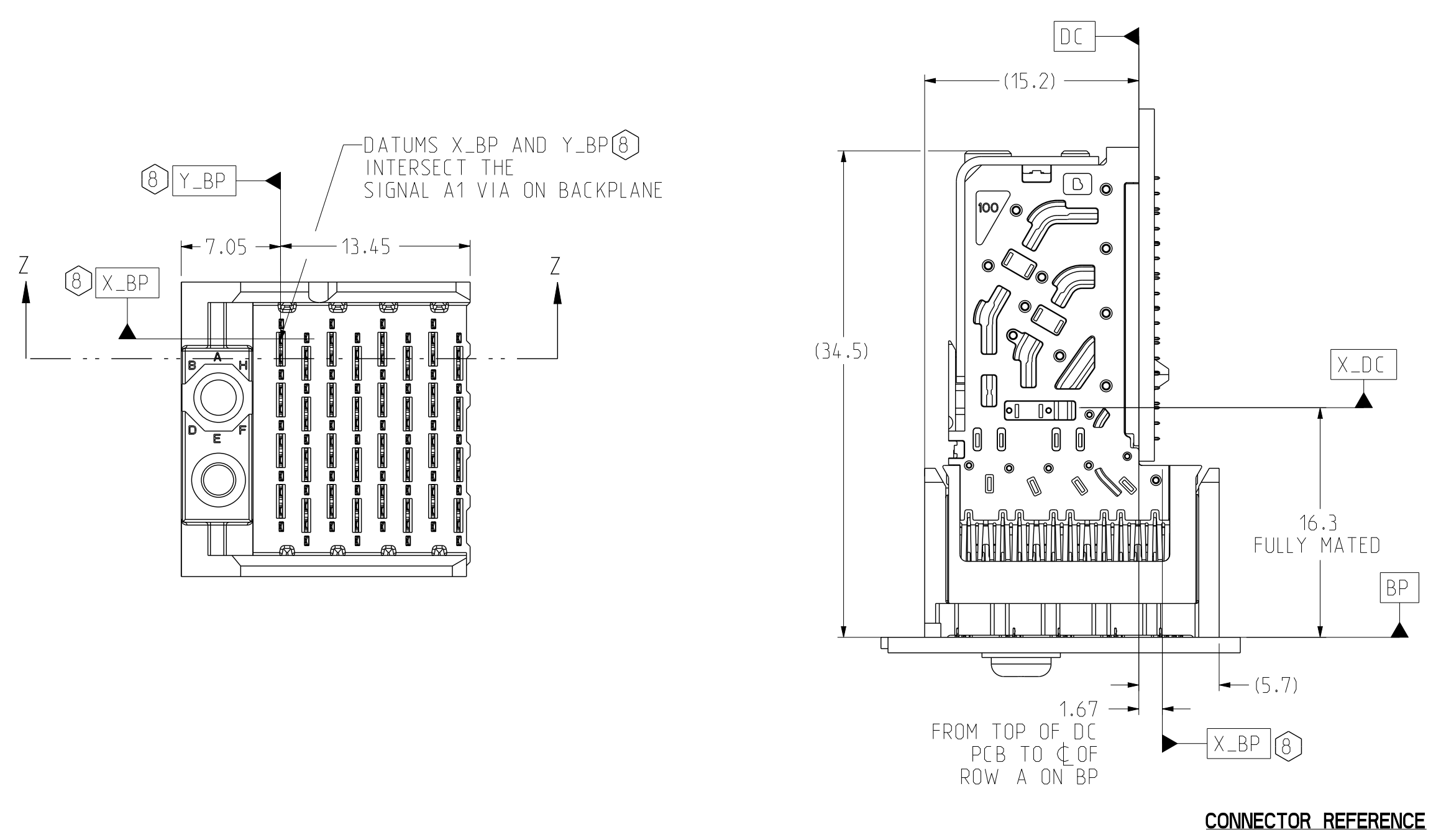
BP_HOLE_PATTERN
COMPONENT_SIDE
SCALE 10/1

TOLERANCES	DESIGN 03/14/2016 M.HANRAHAN	Amphenol TCS A Division of Amphenol Corporation 200 Innovative Way, Nashua, NH 03082 603.879.3000	TITLE	BACKPLANE MODULES, VERTICAL MALE HEADER Xcde: HD2, 4 PAIR Ø POS, THICK WALL W/EXTRA GND	
0.0 ±0.25	DRAWN 03/14/2016 HCL-MR		PART NO.	SEE P/N TREE SHEET 1	
0.00 ±0.13	CHK 03/14/2016 M.HANRAHAN		REV	N/A	
0.000 ± -	APVD 03/14/2016 M.HANRAHAN		DRAWING NO.	C-972-401E-500	
ANGLES ± 3°	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MM. DECIMAL MARKER IS A PERIOD		ASSEM C972-401E-500_XG-HD2	0.3	
			DRAWING C972-401E-500_XG-HD2	0.19	
			SIZE D	SCALE 1/1	SHEET 5 OF 9

INTERPRET PER ASME Y14.5M
CODE IDENT 31413

CUSTOMER USE
DRAWING

DRW NO.	C-972-401E-500	SH	6	REV	J	
ZONE	REV	ECN NUMBER	DESCRIPTION	BY	DATE	APPROVED
			SEE SHEET 1			



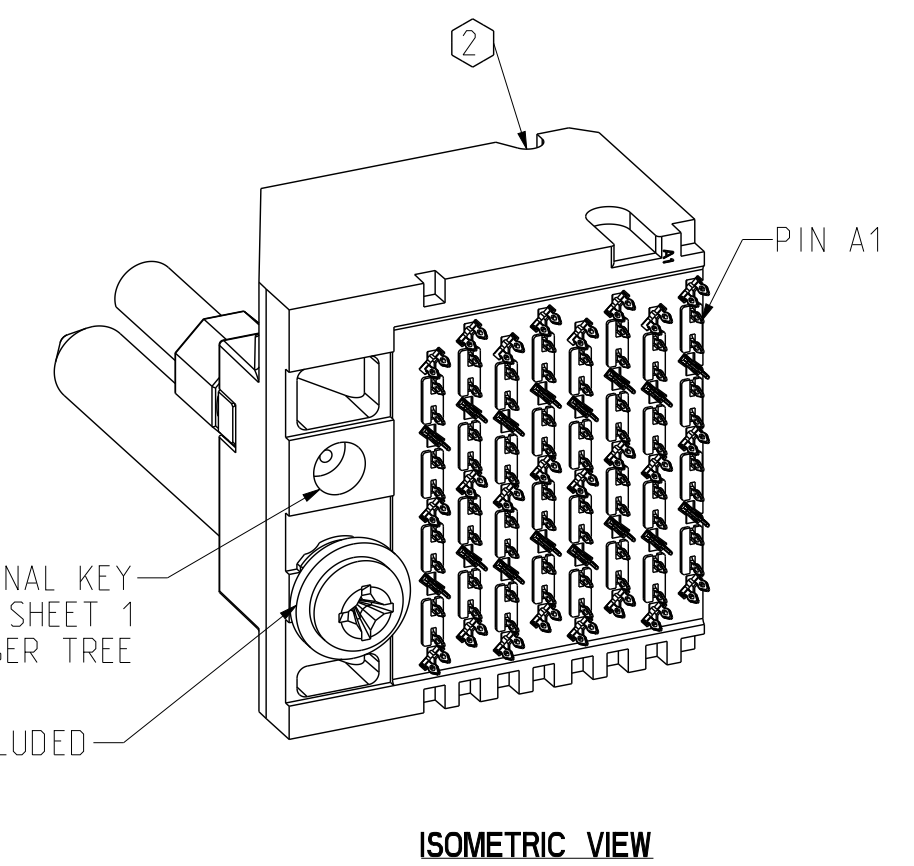
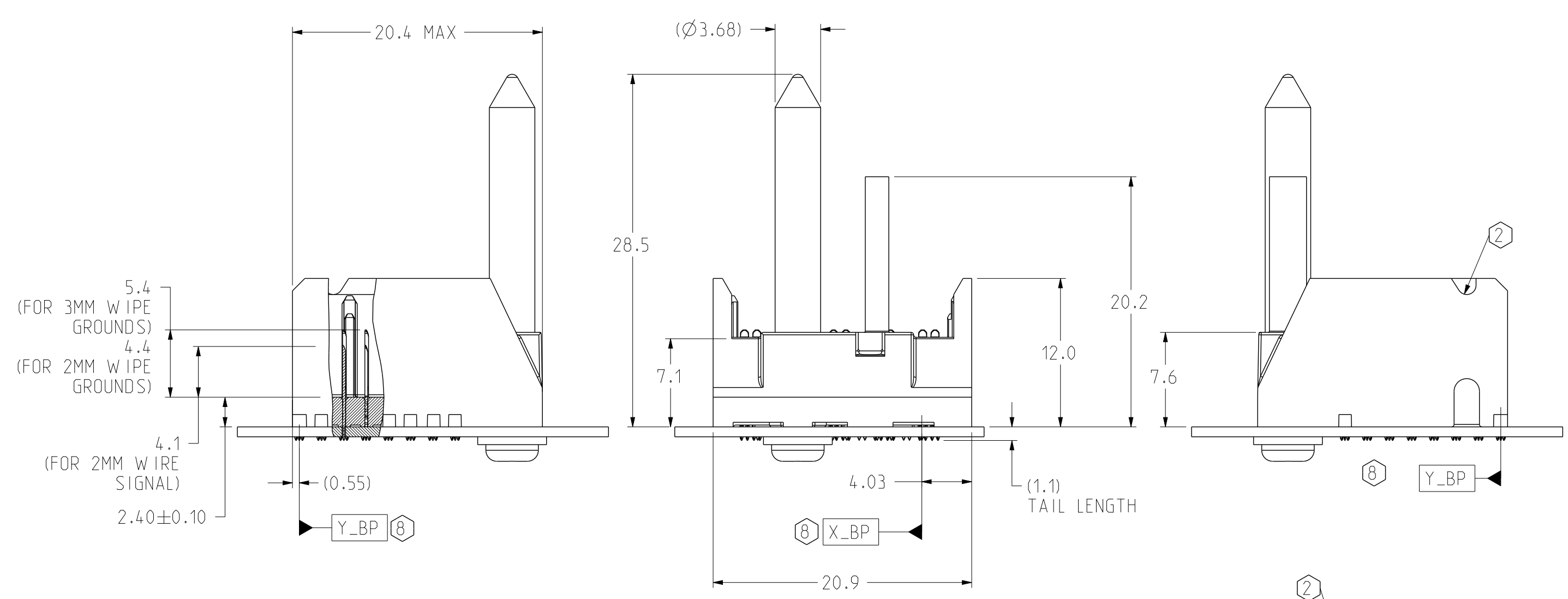
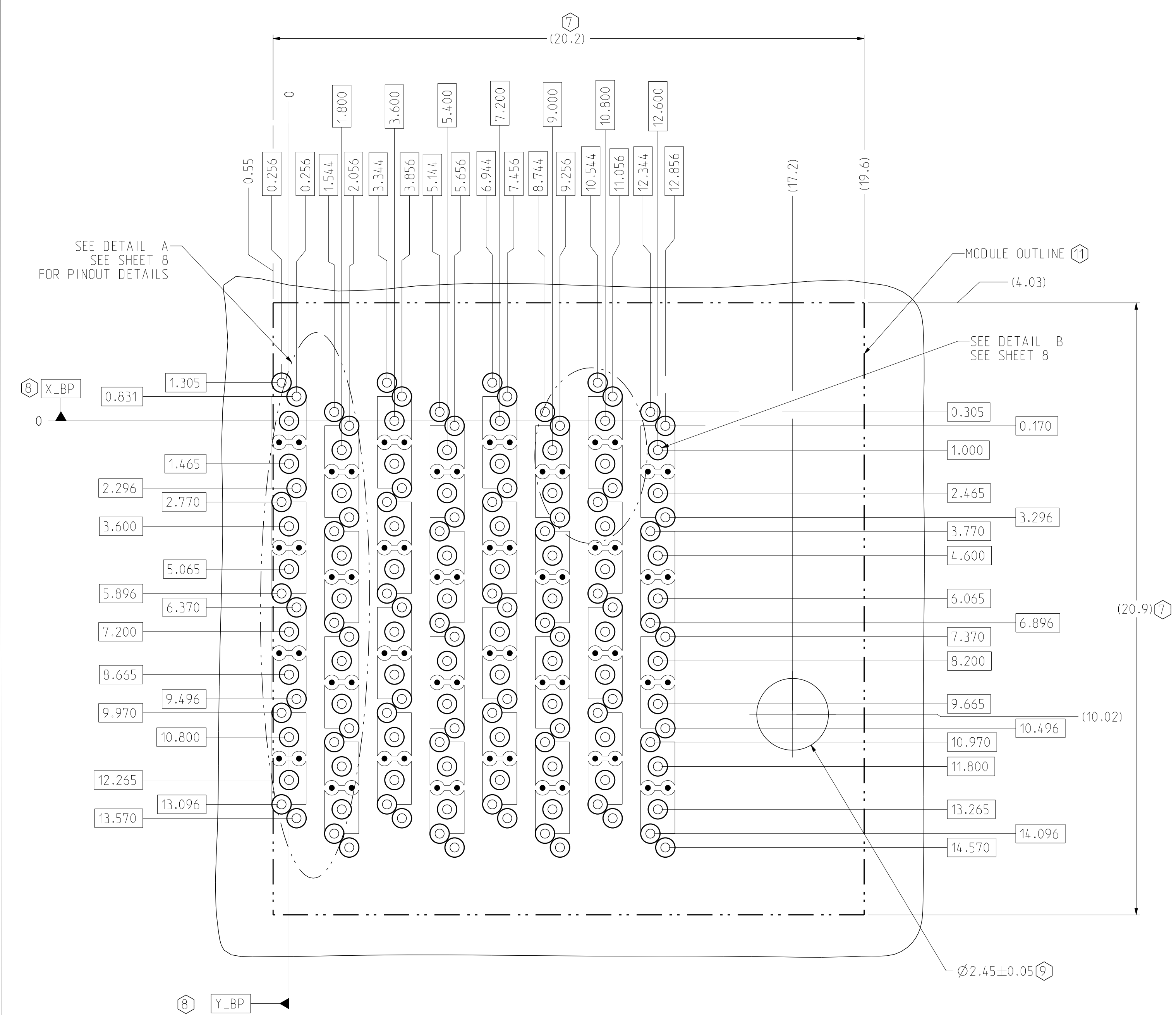
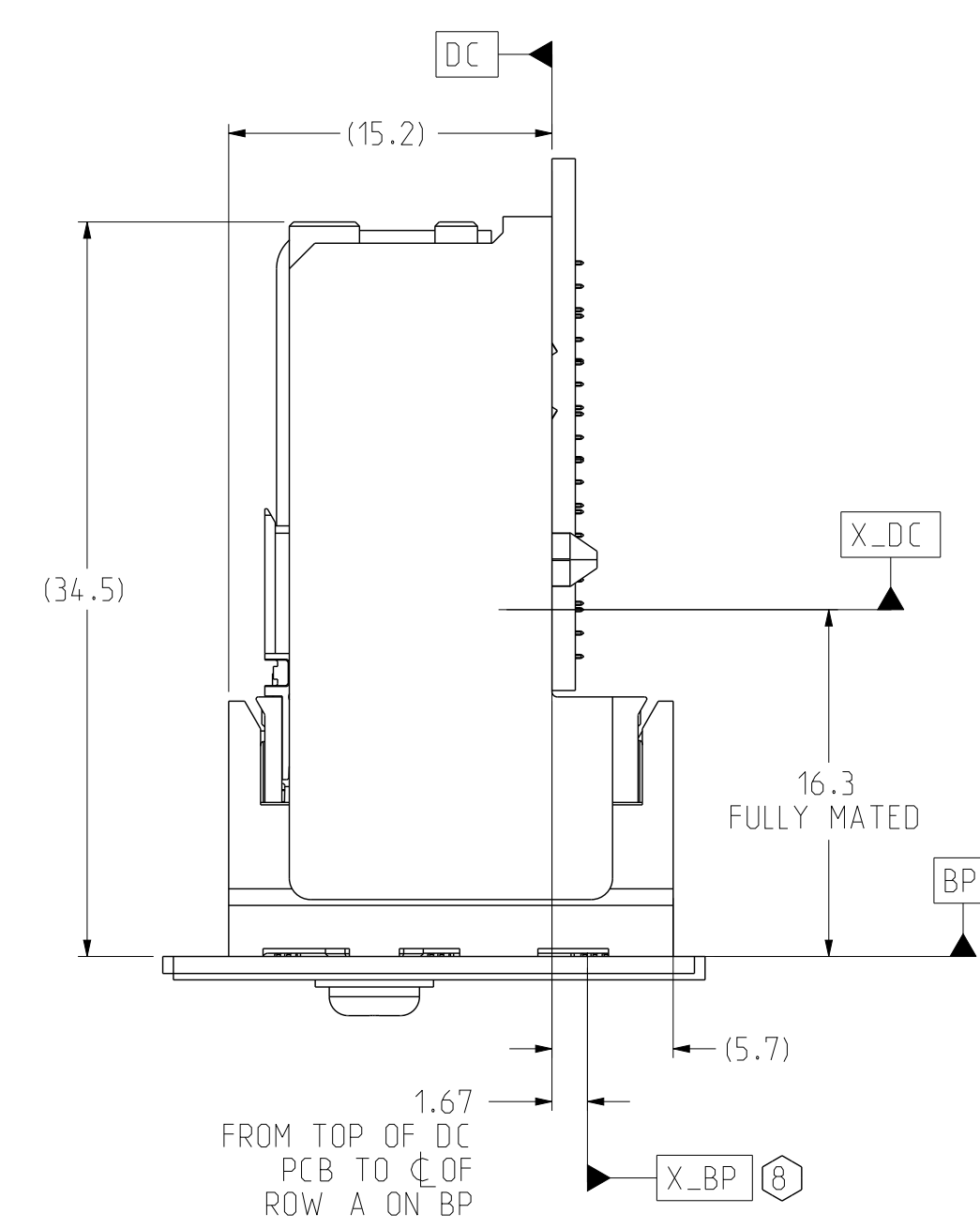
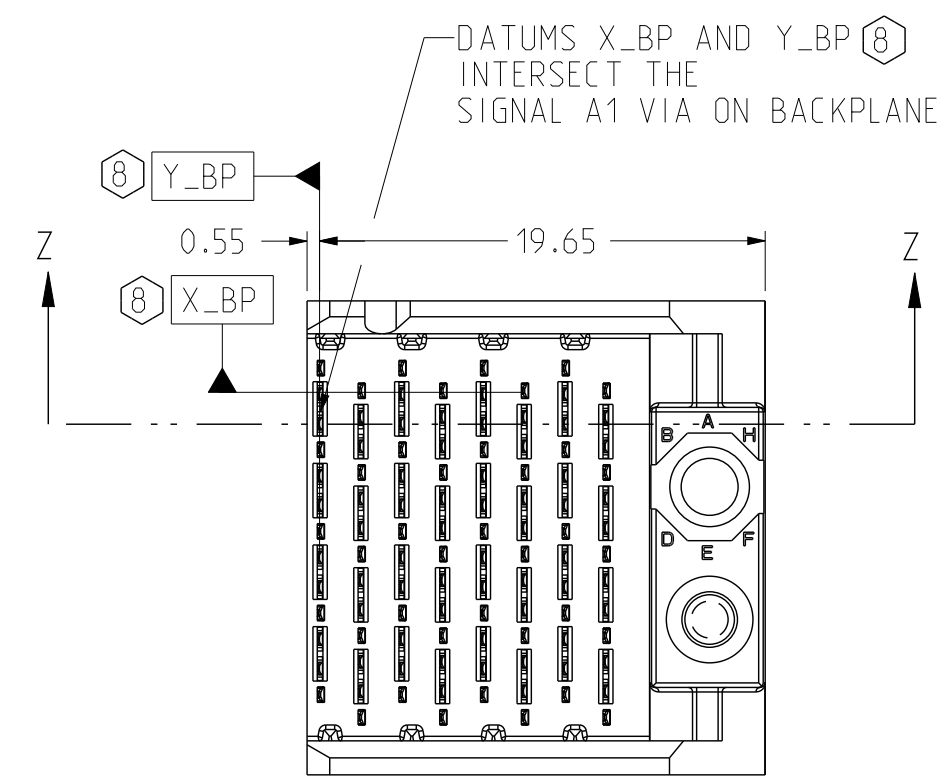
BP HOLE PATTERN COMPONENT SIDE SCALE 10/1

LEFT POLARIZING/GUIDE BACKPLANE MODULE DIMENSION

TOLERANCES	DESIGN 03/14/2016 M.HANRAHAN	Amphenol TCS A Division of Amphenol Corporation 200 Innovative Way, Nashua, NH 03062 603.879.3000 TITLE BACKPLANE MODULES, VERTICAL MALE HEADER Xcde: HD2, 4 PAIR 8 POS, THICK WALL W/EXTRA GND PART NO. SEE P/N TREE SHEET 1 DRAWING NO. C-972-401E-500 ASSEM C972-401E-500_XG-HD2 0.3 DRAWING C972-401E-500_XG-HD2 0.19 SIZE D SCALE 1/1 SHEET 6 OF 9
0.0 ±0.25	DRAWN 03/14/2016 HCL-MR	
0.00 ±0.13	CHK 03/14/2016 M.HANRAHAN	
0.000 ± -	APVD 03/14/2016 M.HANRAHAN	
ANGLES ± 3°	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MM. DECIMAL MARKER IS A PERIOD	
INTERPRET PER ASME Y14.5M CODE IDENT 31413		REV N/A REV J

CUSTOMER USE DRAWING

DRW NO.	C-972-401E-500	SH	7	REV	J	
ZONE	REV	ECN NUMBER	DESCRIPTION	BY	DATE	APPROVED
			SEE SHEET 1			

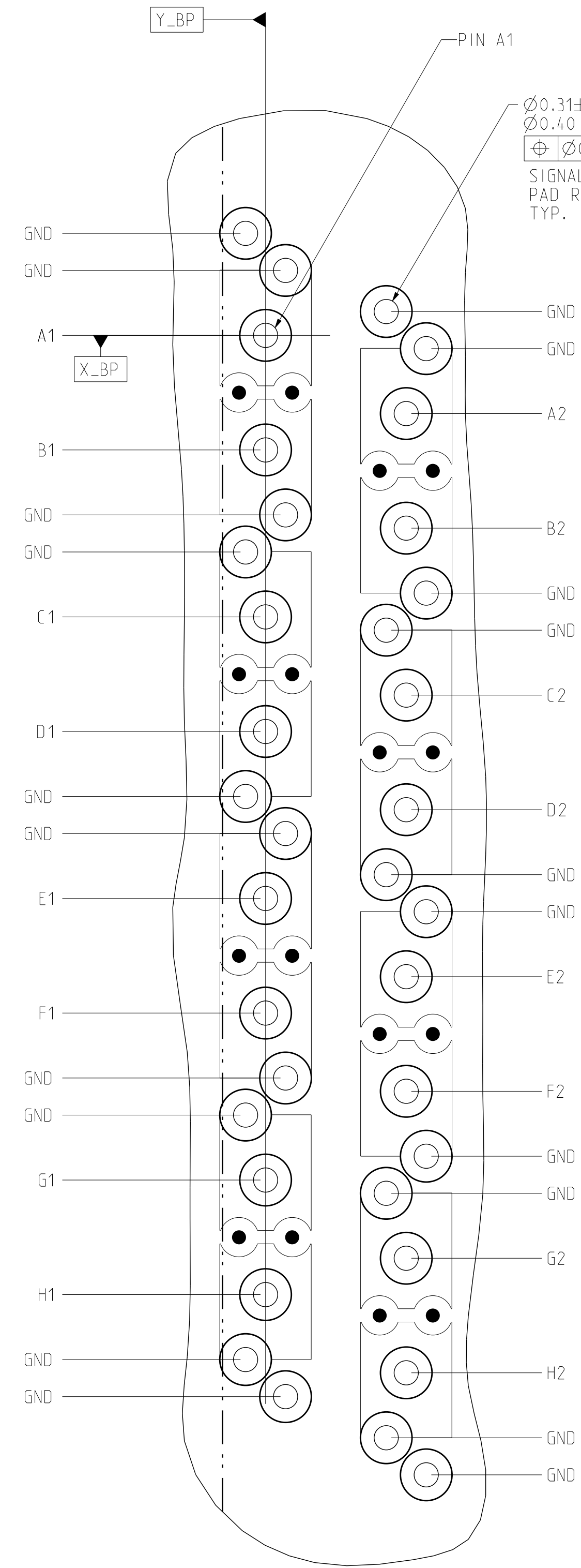


RIGHT POLARIZING/GUIDE BACKPLANE MODULE DIMENSION

TOLERANCES	DESIGN 03/14/2016 M.HANRAHAN	Amphenol TCS A Division of Amphenol Corporation 200 Innovative Way, Nashua, NH 03082 603.879.3000 TITLE BACKPLANE MODULES, VERTICAL MALE HEADER Xcde: HD2, 4 PAIR 0 POS, THICK WALL W/EXTRA GND PART NO. SEE P/N TREE SHEET 1 DRAWING NO. C-972-401E-500 ASSEM C972-401E-500_XG-HD2 0.3 DRAWING C972-401E-500_XG-HD2 0.19 SIZE D SCALE 1/1 SHEET 7 OF 9
0.0 ±0.25	DRAWN 03/14/2016 HCL-MR	
0.00 ±0.13	CHK 03/14/2016 M.HANRAHAN	
0.000 ± -	APVD 03/14/2016 M.HANRAHAN	
ANGLES ± 3°		
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MM. DECIMAL MARKER IS A PERIOD		REV N/A
CUSTOMER USE DRAWING		REV J

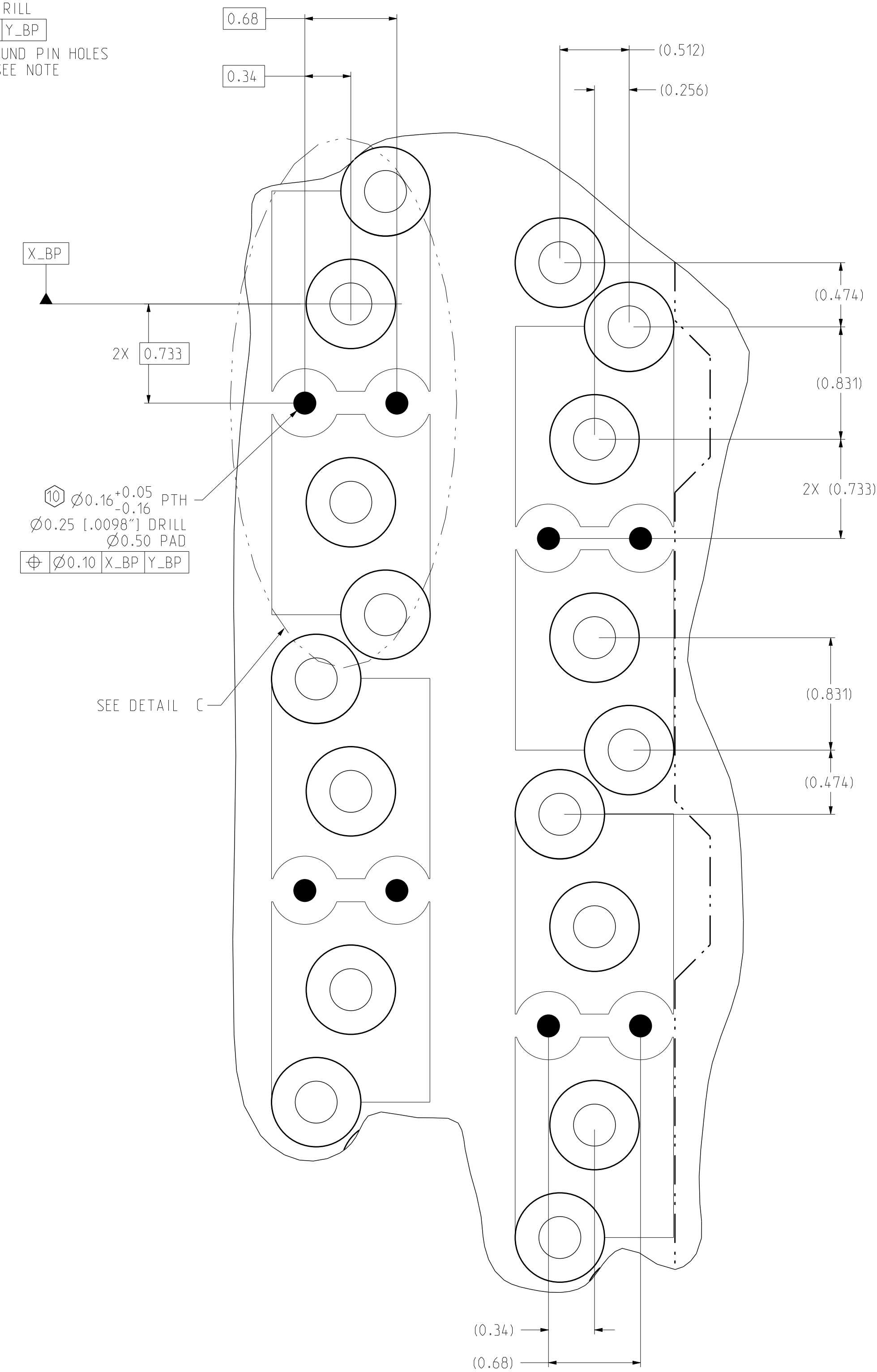
INTERPRET PER ASME Y14.5M
CODE IDENT 31413

ZONE	REV	ECN NUMBER	DESCRIPTION	BY	DATE	APPROVED
			SEE SHEET 1			



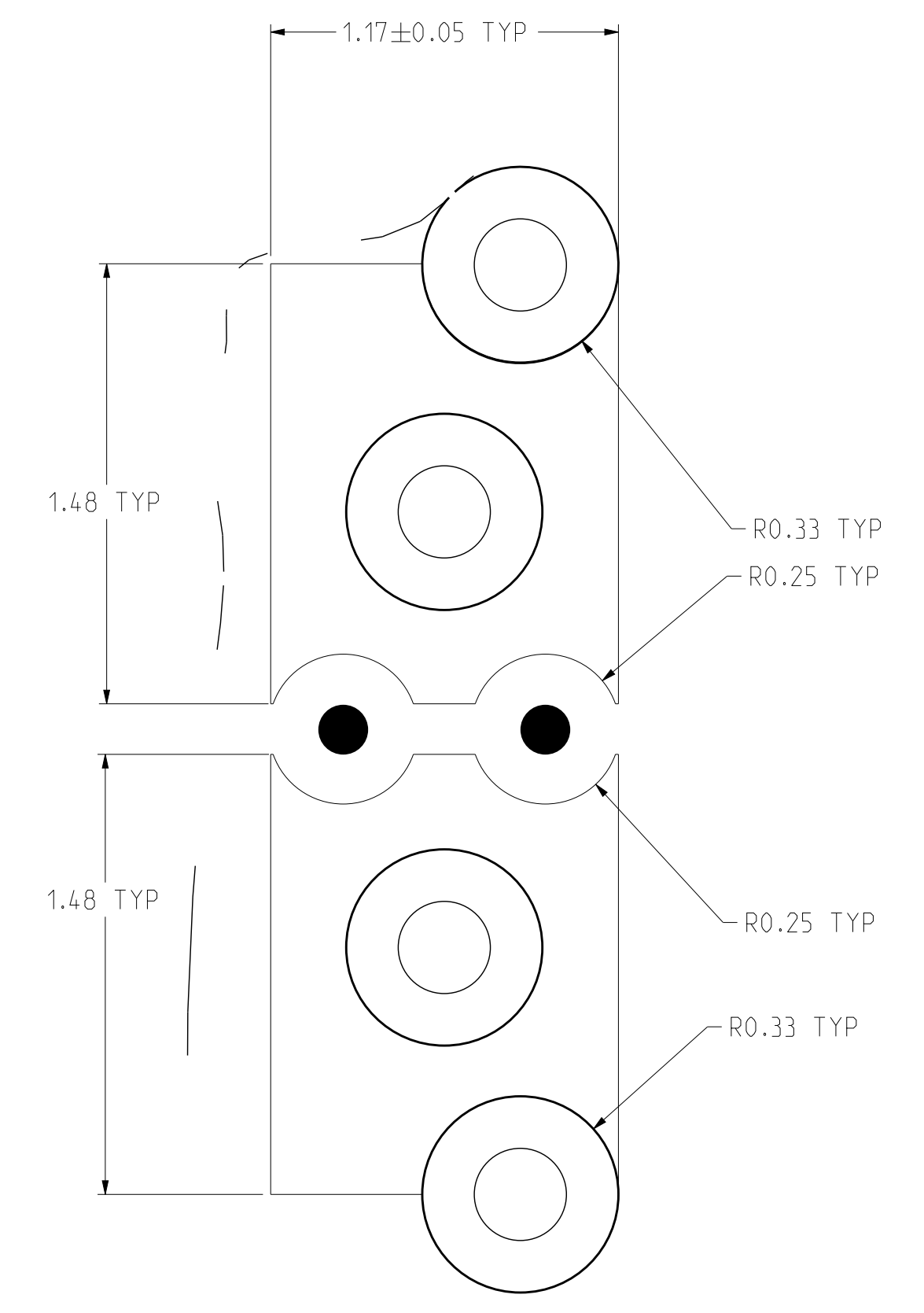
DETAIL A
PINOUT DETAILS
SCALE 20/1

Ø0.31±0.05 PTH
Ø0.40 [.0157"] DRILL
Ø0.10 | X_BP | Y_BP
SIGNAL AND GROUND PIN HOLES
PAD REQUIRED SEE NOTE
TYP.



DETAIL B
SHADOW VIAS (BETWEEN SIGNALS)
TYPICAL LAYOUT
SCALE 40/1

Ø0.16^{+0.05}_{-0.16} PTH
Ø0.25 [.0098"] DRILL
Ø0.50 PAD
Ø0.10 | X_BP | Y_BP



DETAIL C
ANTIPAD DETAILS
GROUND AND SHADOW VIAS CAN BE CONNECTED AS
ONE CONTINUOUS SURFACE PAD
SCALE 50/1

TOLERANCES	DESIGN	03/14/2016	M.HANRAHAN
0.0 ±0.25	DRAWN	03/14/2016	HCL-MR
0.00 ±0.13	CHK	03/14/2016	M.HANRAHAN
0.000 ± -	APVD	03/14/2016	M.HANRAHAN
ANGLES ± 3°	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MM. DECIMAL MARKER IS A PERIOD		

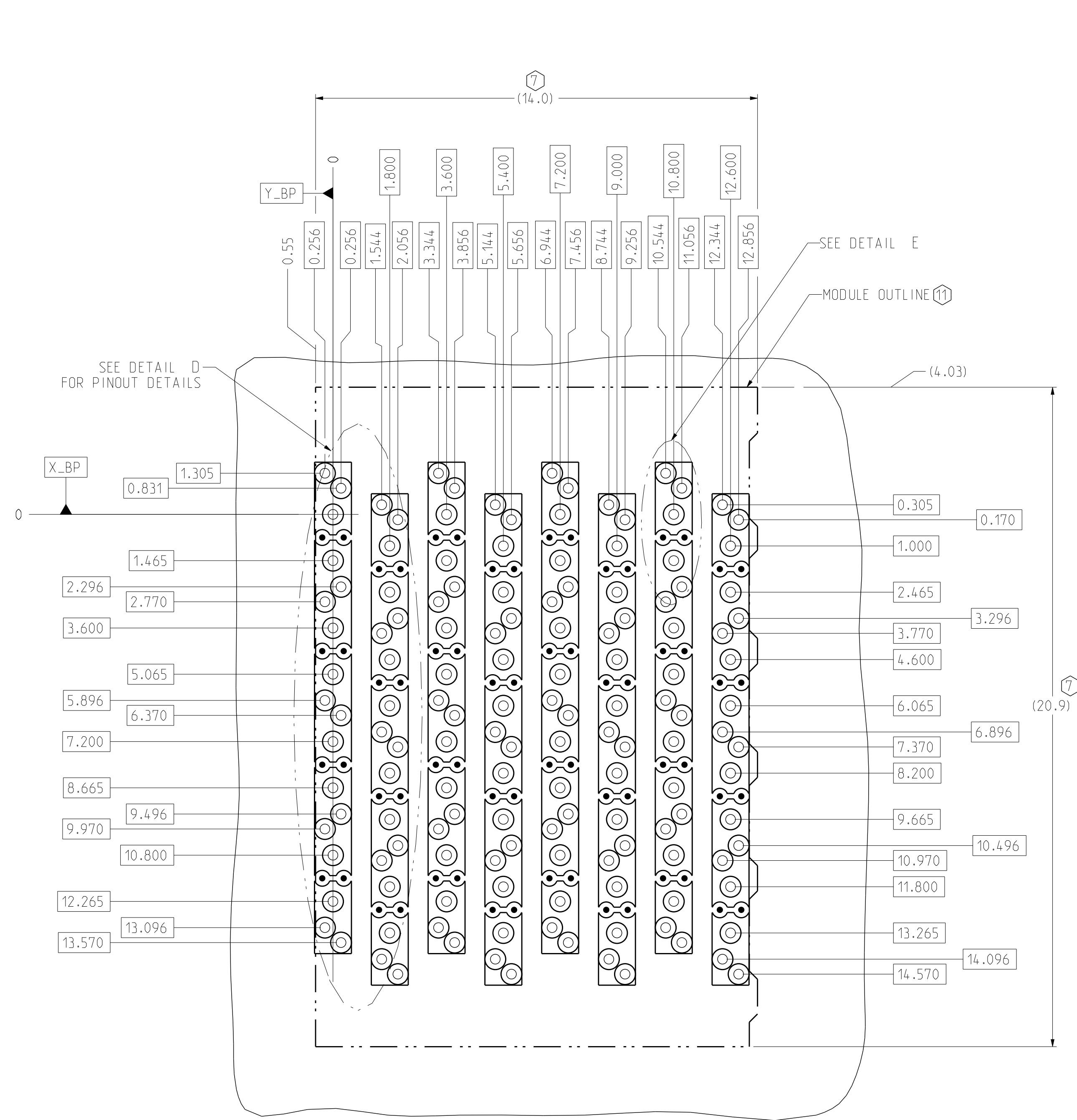
Amphenol TCS	
A Division of Amphenol Corporation	
200 Innovative Way, Nashua, NH 03062 603.879.3000	
TITLE	BACKPLANE MODULES, VERTICAL MALE HEADER
Xcode	HD2, 4 PAIR 8 POS, THICK WALL W/EXTRA GND
PART NO.	SEE P/N TREE SHEET 1
REV	N/A
DRAWING NO.	C-972-401E-500
ASSEM	C972-401E-500_XG-HD2 0.3
DRAWING	C972-401E-500_XG-HD2 0.19
SIZE	D
SCALE	1/1
SHEET	8 OF 9

INTERPRET PER ASME Y14.5M
CODE IDENT 31413

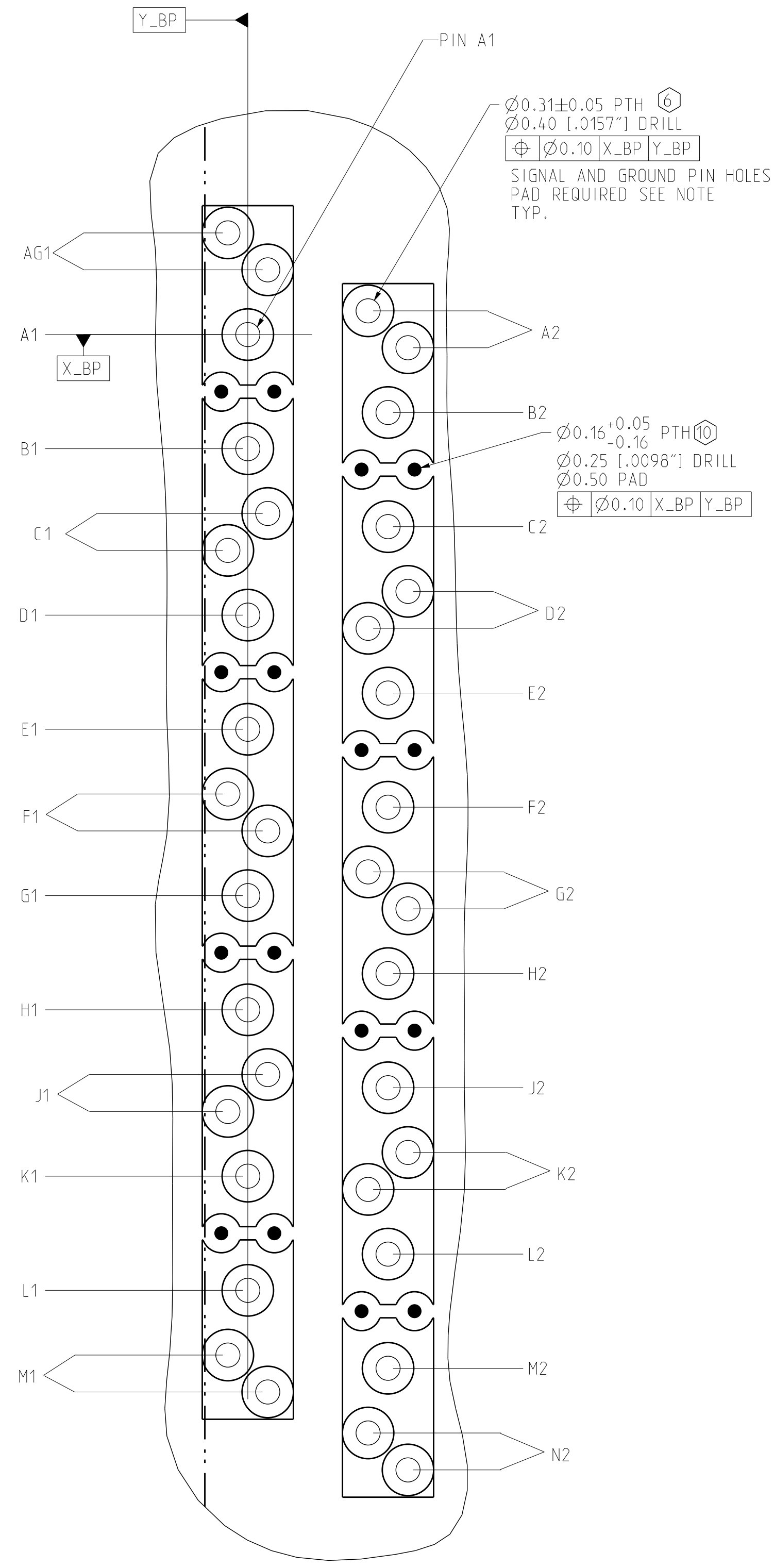
CUSTOMER USE
DRAWING

ZONE	REV	ECN NUMBER	DESCRIPTION	BY	DATE	APPROVED
			SEE SHEET 1			

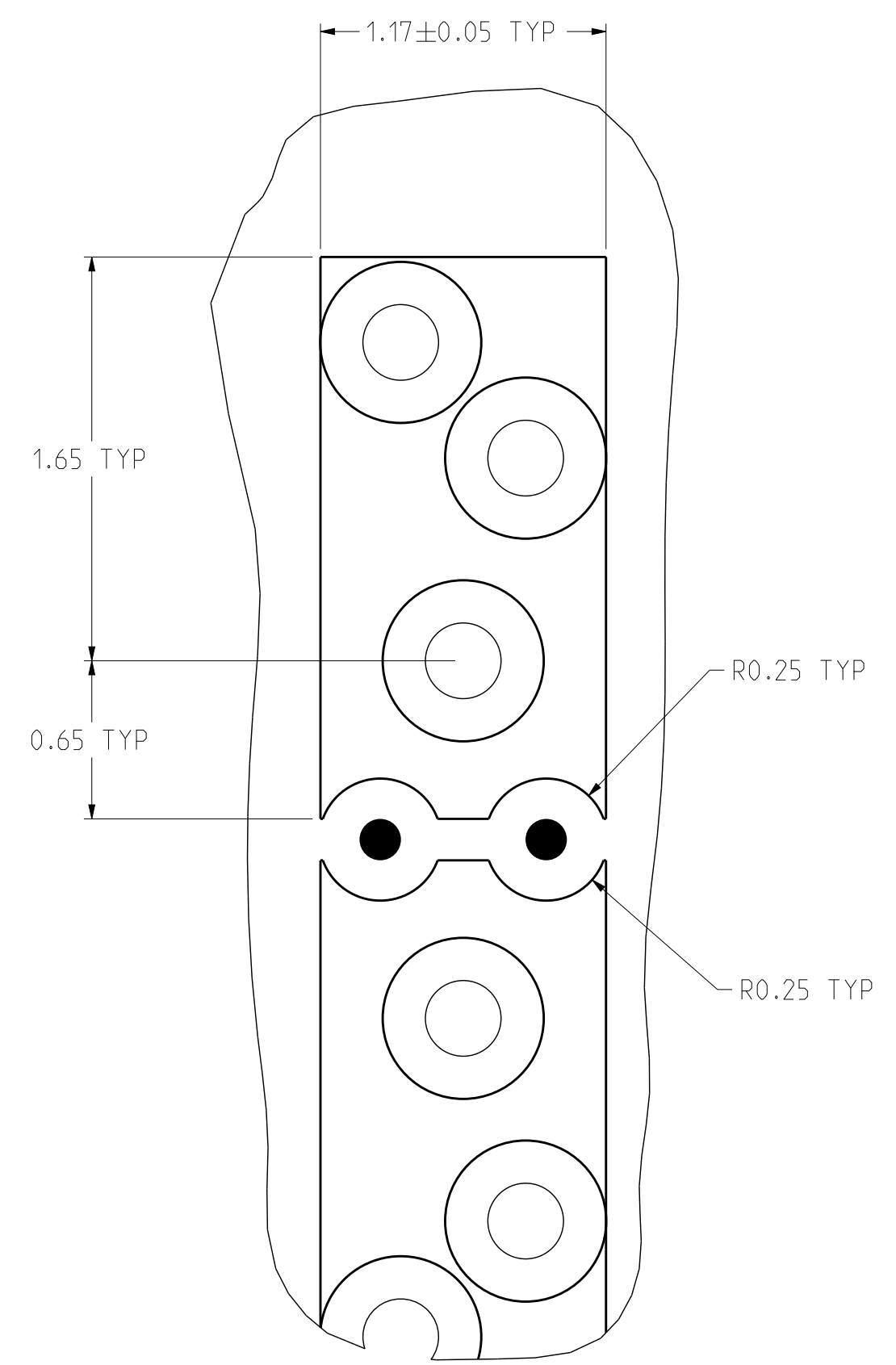
D
C
B
A



SE MODULE BP HOLE PATTERN COMPONENT SIDE
SCALE 10/1



DETAIL D
SE PINOUT DETAILS
SCALE 20/1



DETAIL E
SE ANTI PAD DETAILS
GROUND AND SHADOW VIAS CAN BE CONNECTED AS ONE CONTINUOUS SURFACE PAD
SCALE 40/1

TOLERANCES		DESIGN 03/14/2016 M.HANRAHAN	Amphenol TCS A Division of Amphenol Corporation 200 Innovative Way, Nashua, NH 03062 603.879.3000 TITLE BACKPLANE MODULES, VERTICAL MALE HEADER Xcde: HD2, 4 PAIR @ POS, THICK WALL W/EXTRA GND PART NO. SEE P/N TREE SHEET 1 DRAWING NO. C-972-401E-500 ASSEM C972-401E-500_XG-HD2 0.3 DRAWING C972-401E-500_XG-HD2 0.19 SIZE D SCALE 1/1 SHEET 9 OF 9
0.0	±0.25	DRAWN 03/14/2016 HCL-MR	
0.00	±0.13	CHK 03/14/2016 M.HANRAHAN	
0.000	± -	APVD 03/14/2016 M.HANRAHAN	
ANGLES ± 3°		UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MM. DECIMAL MARKER IS A PERIOD	

INTERPRET PER ASME Y14.5M
CODE IDENT 31413

CUSTOMER USE
DRAWING