

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

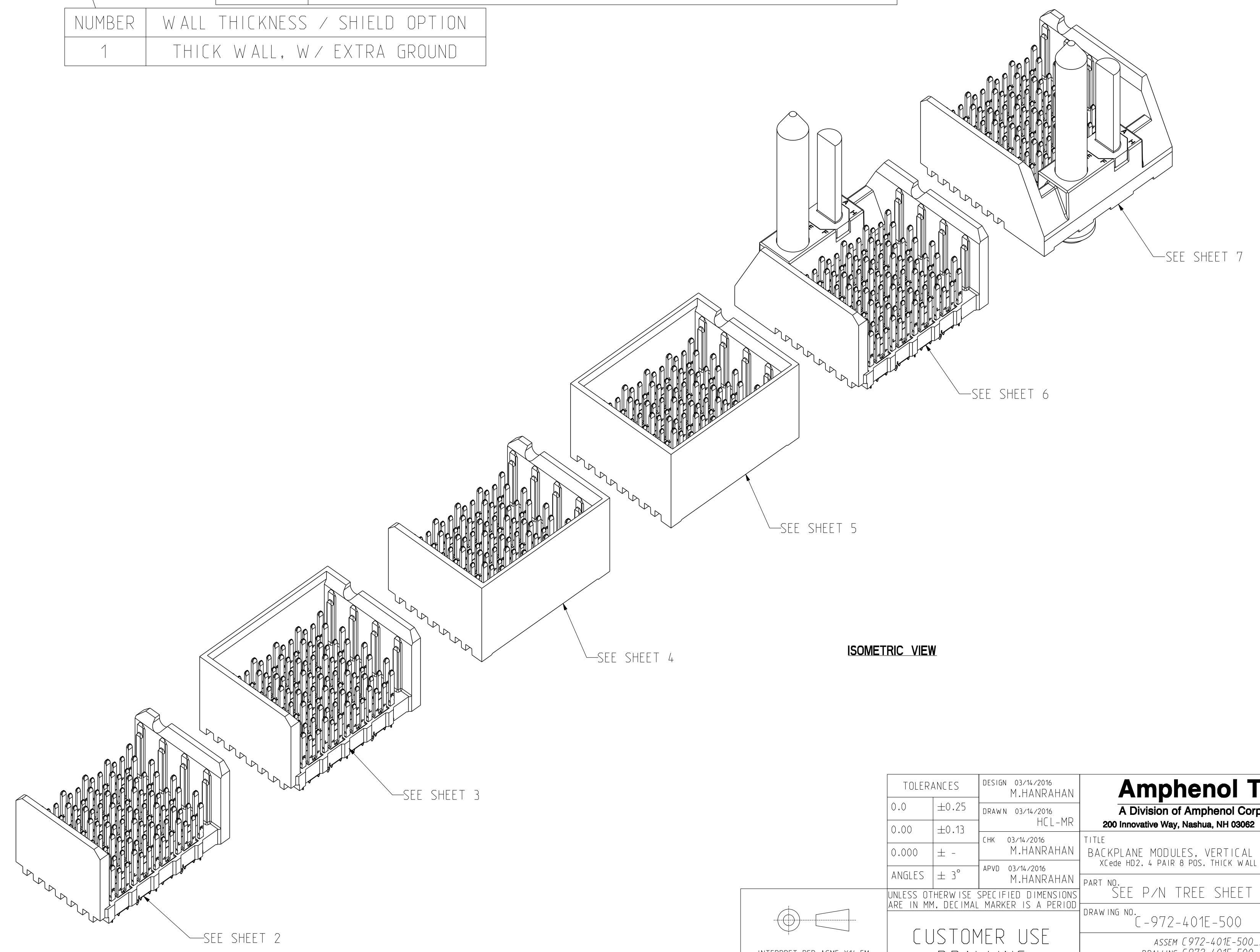
NOTE: ONLY THREE MOST RECENT RELEASED REVISIONS DISPLAYED.

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, $\phi$ .0157" DRILL
J	2 mm WIPE SIGNAL, 2 mm WIPE GND, $\phi$ .0157" DRILL

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

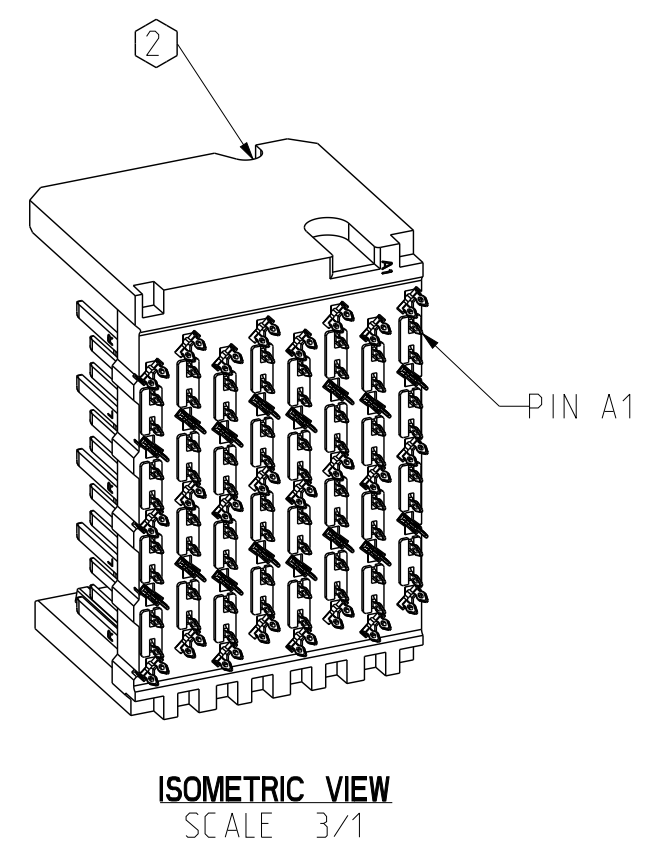
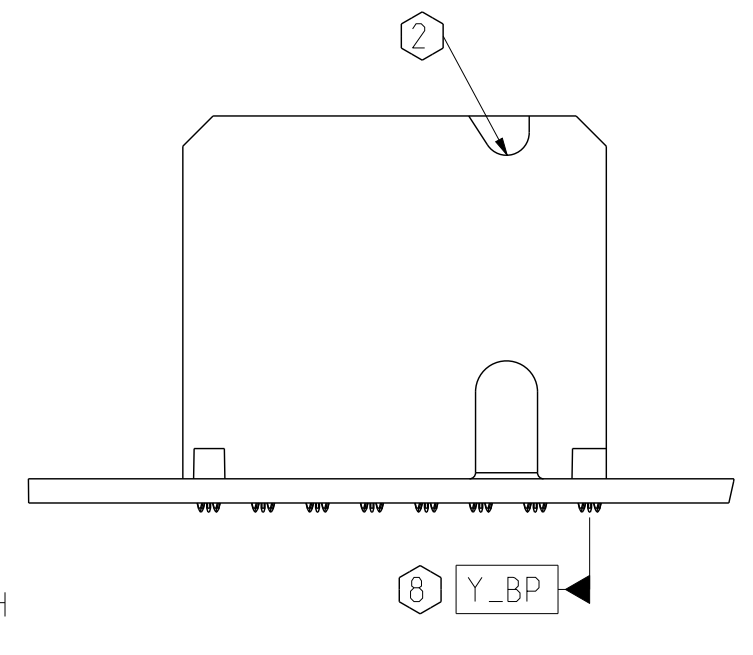
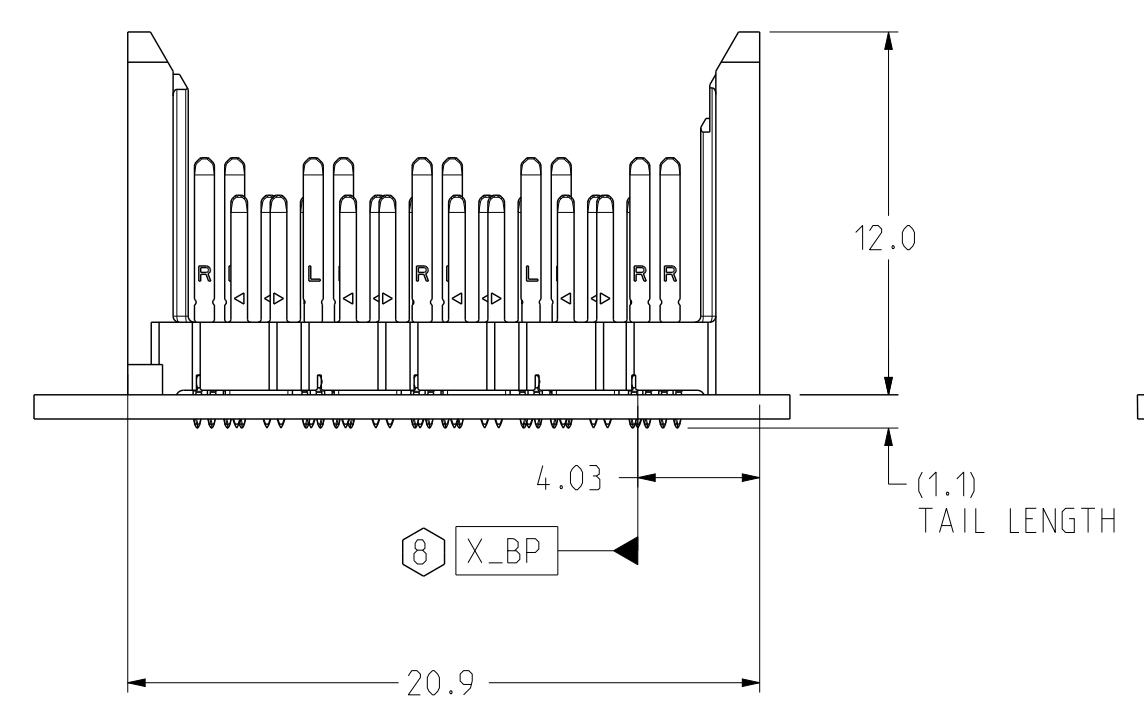
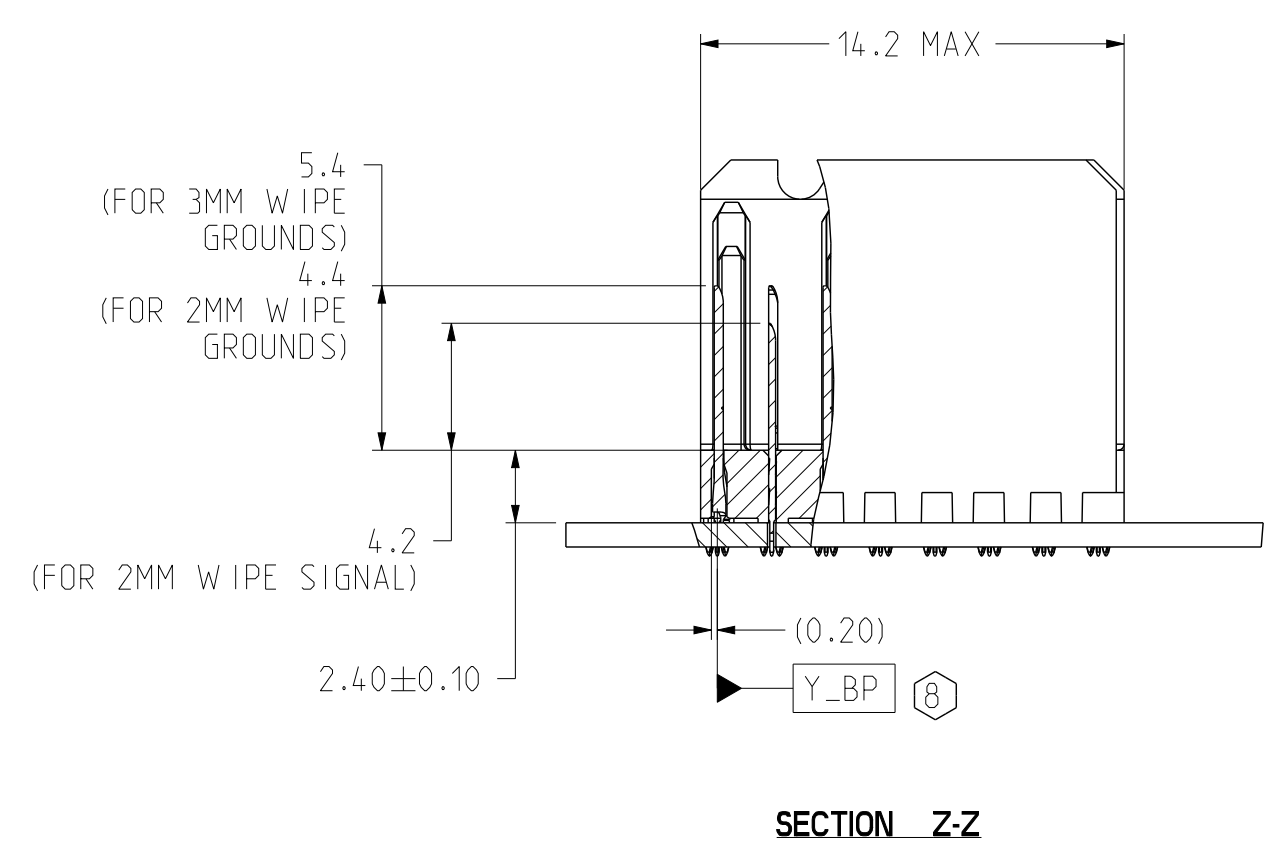
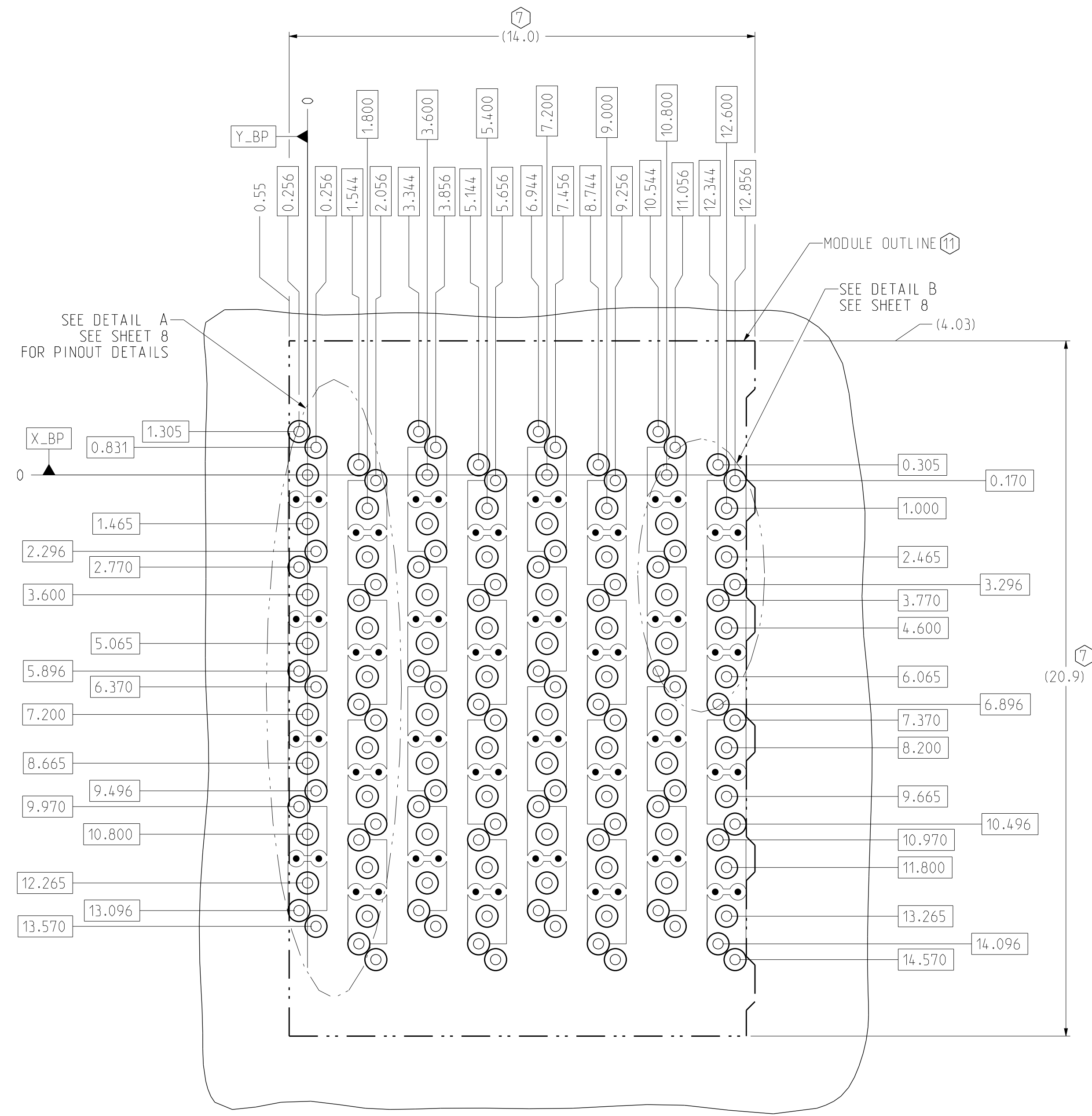
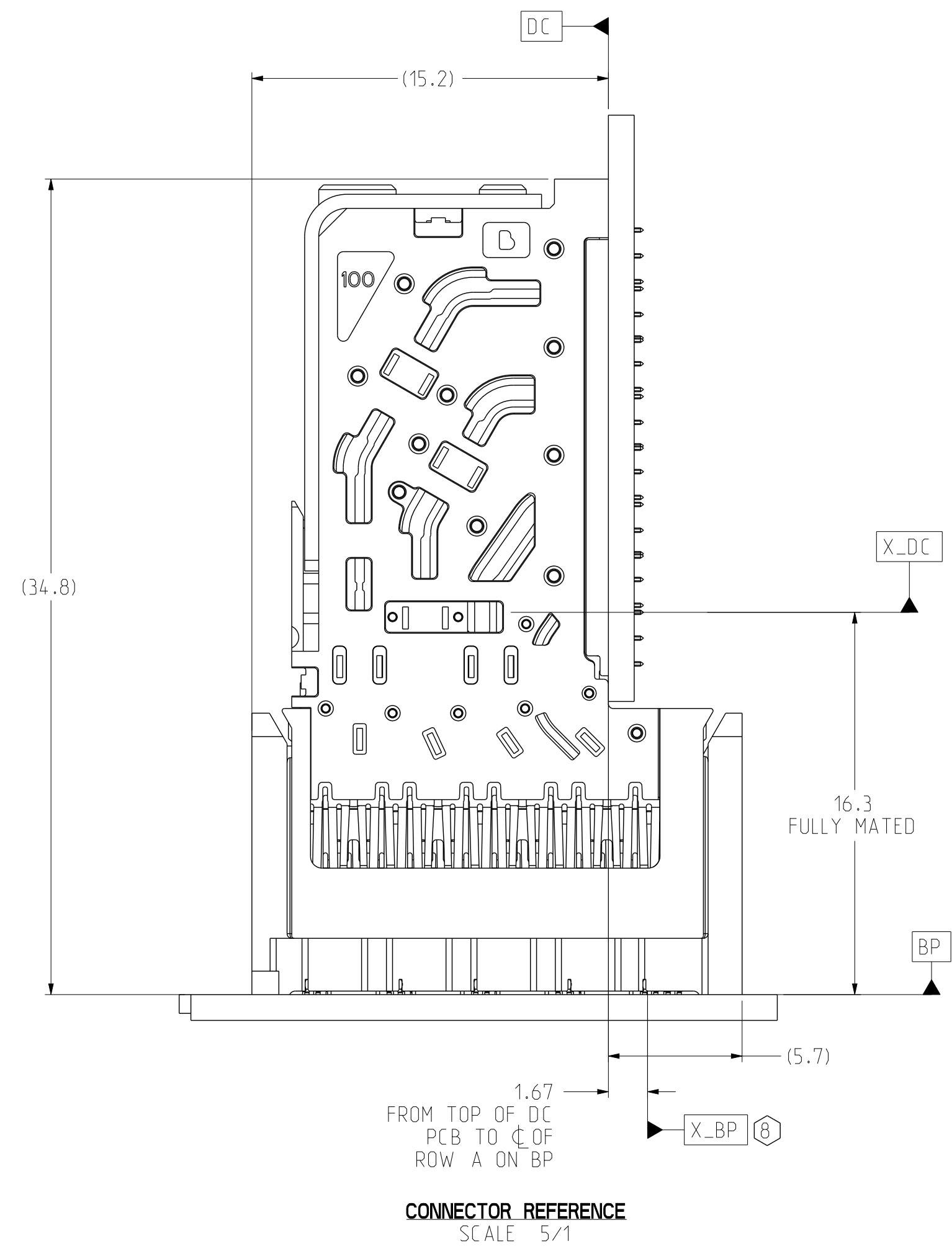
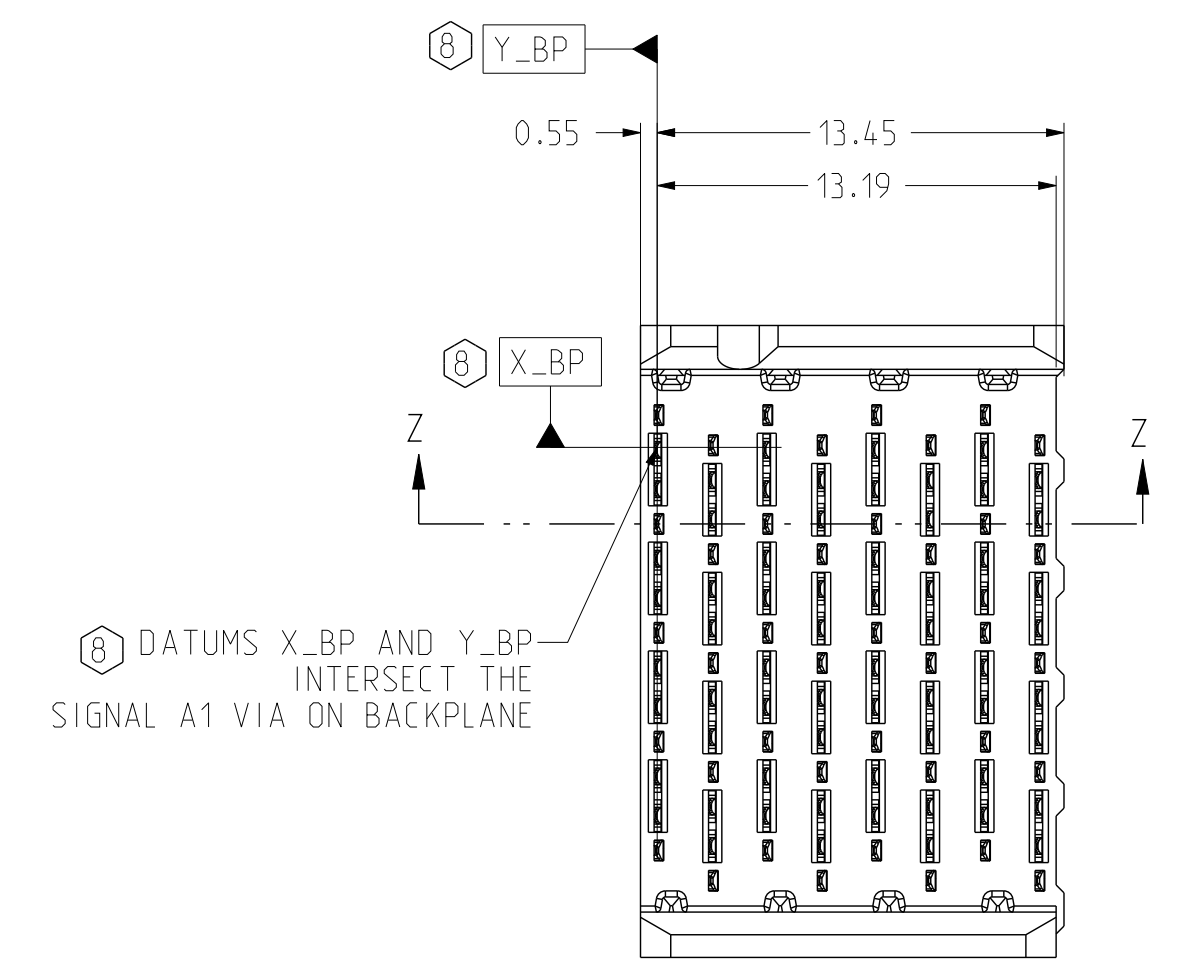
	LETTER								
LEFT POLARIZING GUIDANCE (SEE SHEETS 6)	J	A	B	C	D	E	F	G	H
	NO KEY 								
RIGHT POLARIZING GUIDANCE (SEE SHEETS 7)	Y	P	Q	R	S	T	U	V	W
	NO KEY 								
OPEN (SEE SHEET 2)	O (ZERO)								
LEFT WALL (SEE SHEET 3)	L								
RIGHT WALL (SEE SHEET 4)	M								
TWO WALL (SEE SHEET 5)	1								



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, ANTI PAD 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-974-4010-000 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	DATE	DESIGNER	Amphenol TCS	
0.0	±0.25	03/14/2016	M.HANRAHAN	A Division of Amphenol Corporation	
0.00	±0.13	03/14/2016	HCL-MR	200 Innovative Way, Nashua, NH 03062 603.879.3000	
0.000	± -	03/14/2016	M.HANRAHAN	TITLE BACKPLANE MODULES, VERTICAL MALE HEADER XCede HD2, 4 PAIR 8 POS, THICK WALL W/EXTRA GND	
ANGLES	± 3°	03/14/2016	M.HANRAHAN	PART NO.	SEE P/N TREE SHEET 1
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MM. DECIMAL MARKER IS A PERIOD.				REV	N/A
DRAWING NO. C-972-401E-500				REV	J
ASSEM C972-401E-500_XG-HD2				0.3	
DRAWING C972-401E-500_XG-HD2				0.19	
CUSTOMER USE DRAWING		SIZE	D	SCALE	1/1
INTERPRET PER ASME Y14.5M		CODE IDENT 31413		SHEET 1 OF 9	



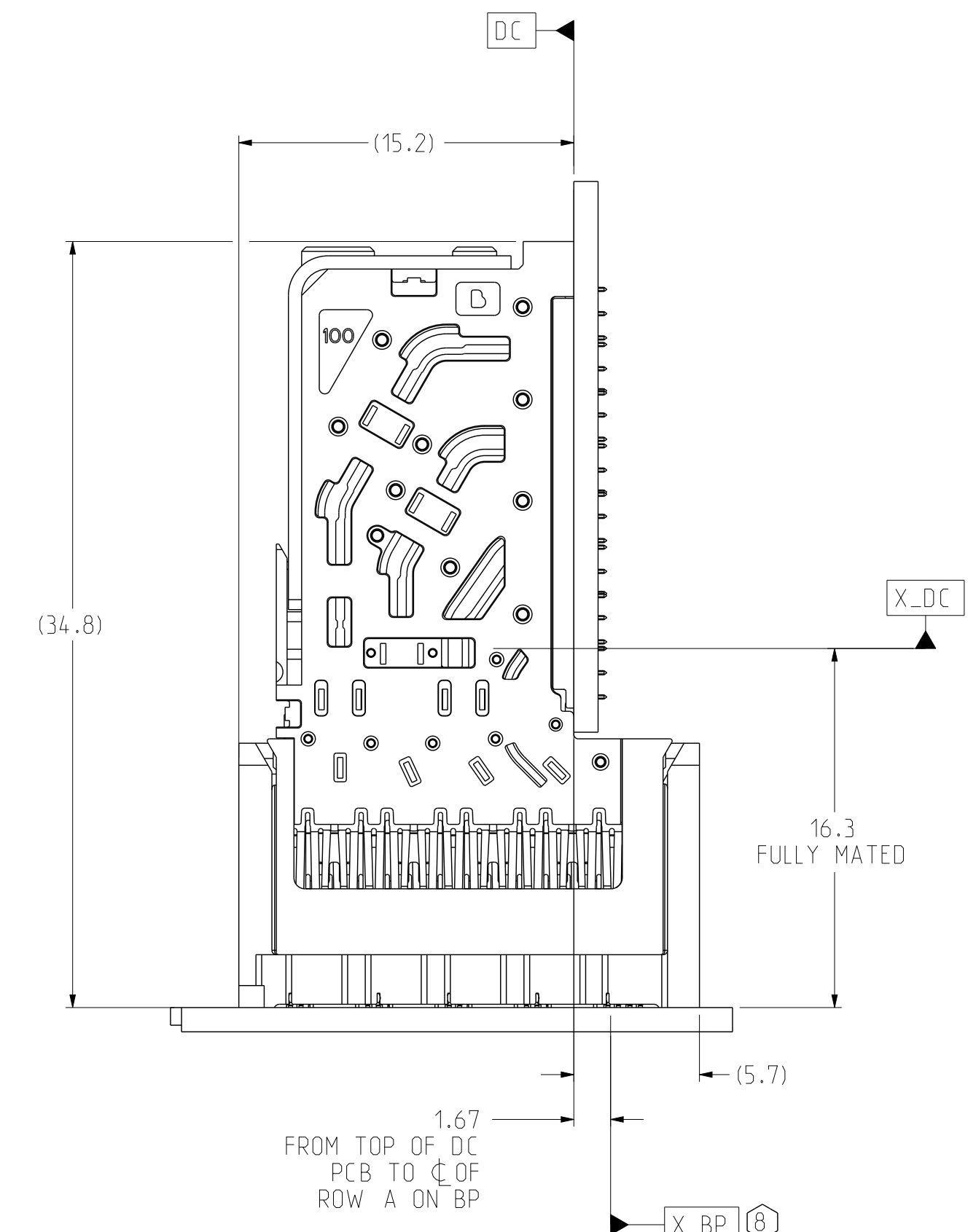
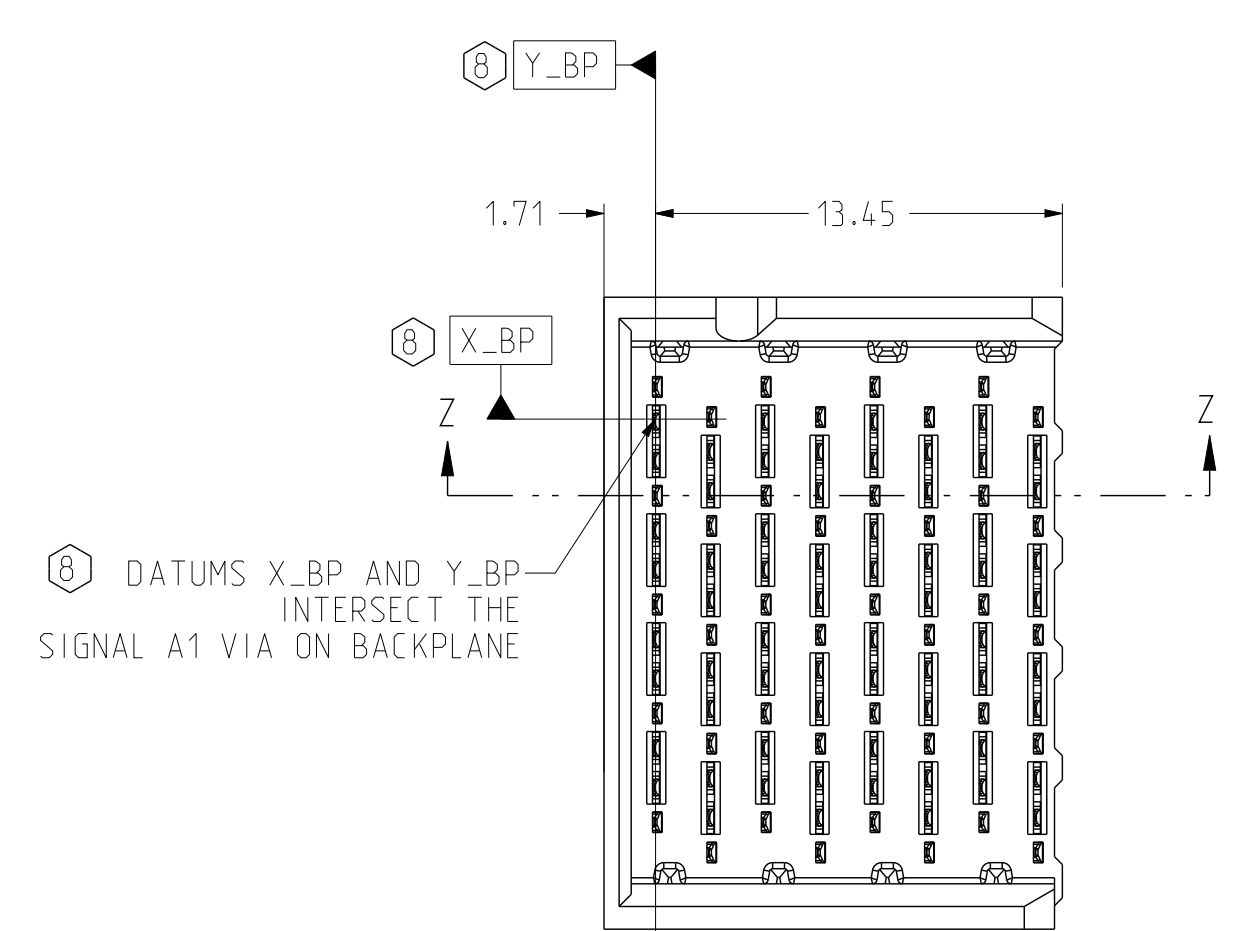
**OPEN BACKPLANE MODULE DIMENSION**

INTERPRET PER ASME Y14.5M  
CODE IDENT 31413

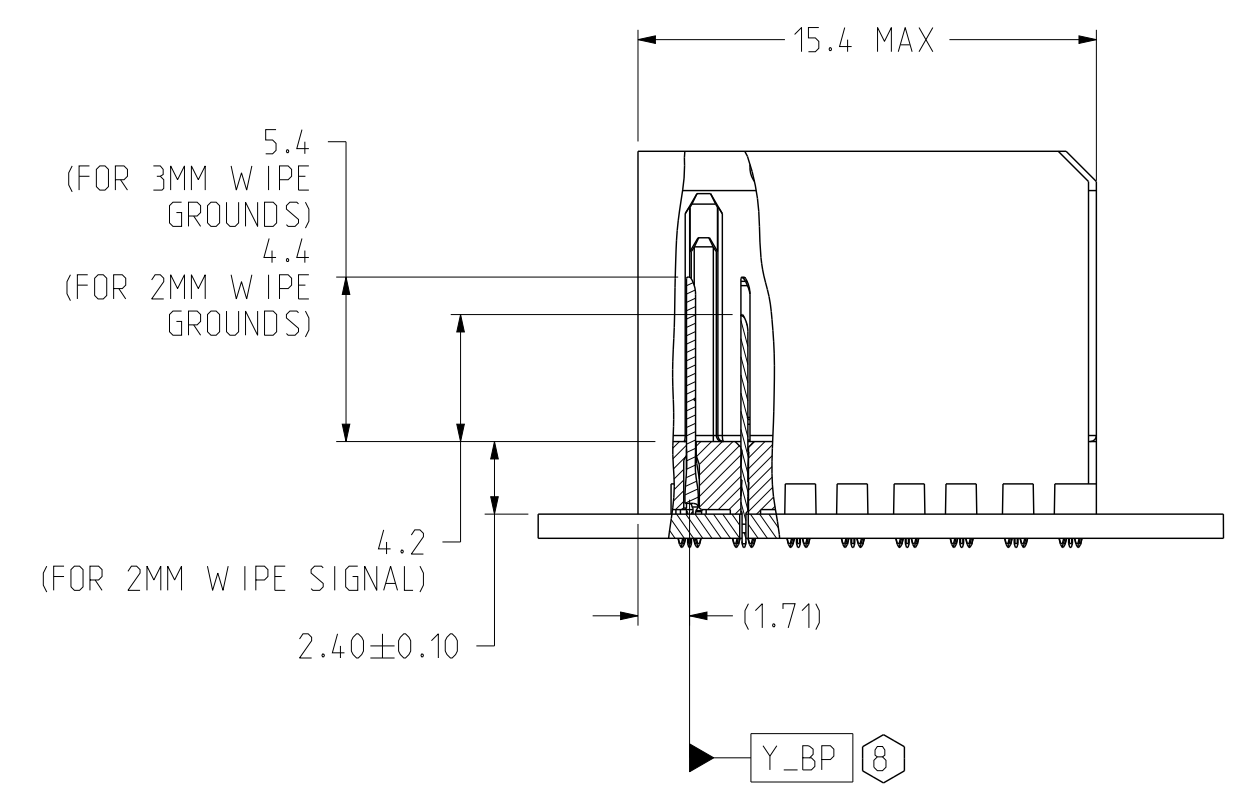
TOLERANCES	DESIGN 03/14/2016 M.HANRAHAN	<b>Amphenol TCS</b> A Division of Amphenol Corporation 200 Innovative Way, Nashua, NH 03062 603.879.3000	TITLE	BACKPLANE MODULES, VERTICAL MALE HEADER Xcde HD2, 4 PAIR 8 POS, THICK WALL W/EXTRA GND
0.0 ±0.25	DRAWN 03/14/2016 HCL-MR		PART NO.	SEE P/N TREE SHEET 1
0.00 ±0.13	CHK 03/14/2016 M.HANRAHAN		DRAWING NO.	C-972-401E-500
0.000 ± -	APVD 03/14/2016 M.HANRAHAN		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
ANGLES ± 3°		SIZE D	SCALE 1/1	SHEET 2 OF 9

CUSTOMER USE  
DRAWING

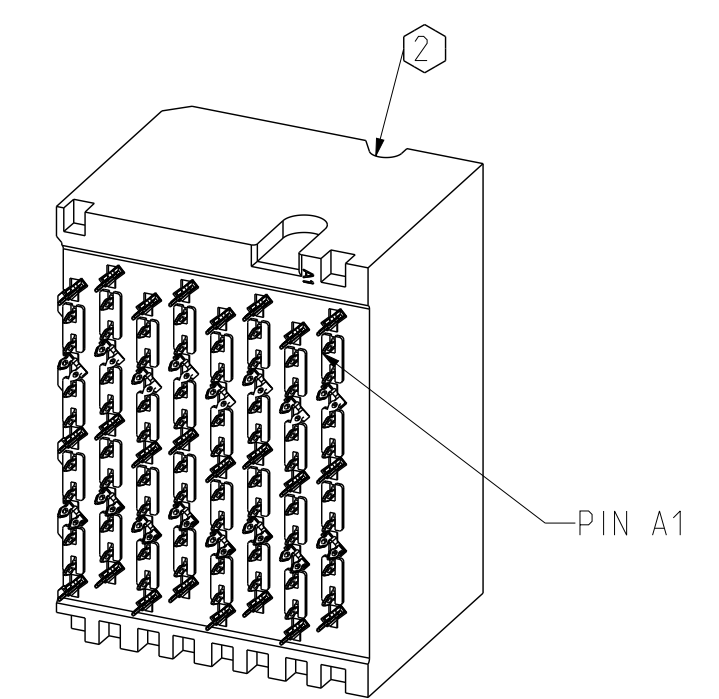
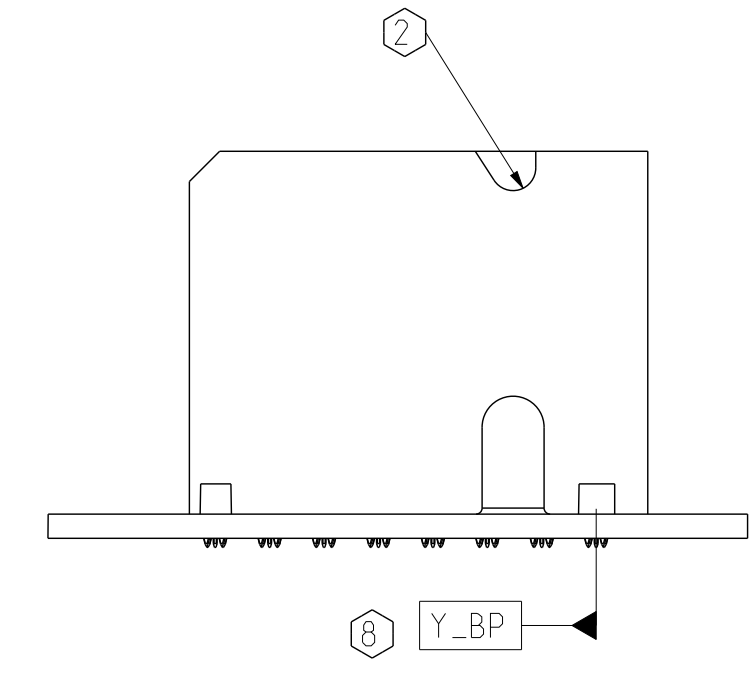
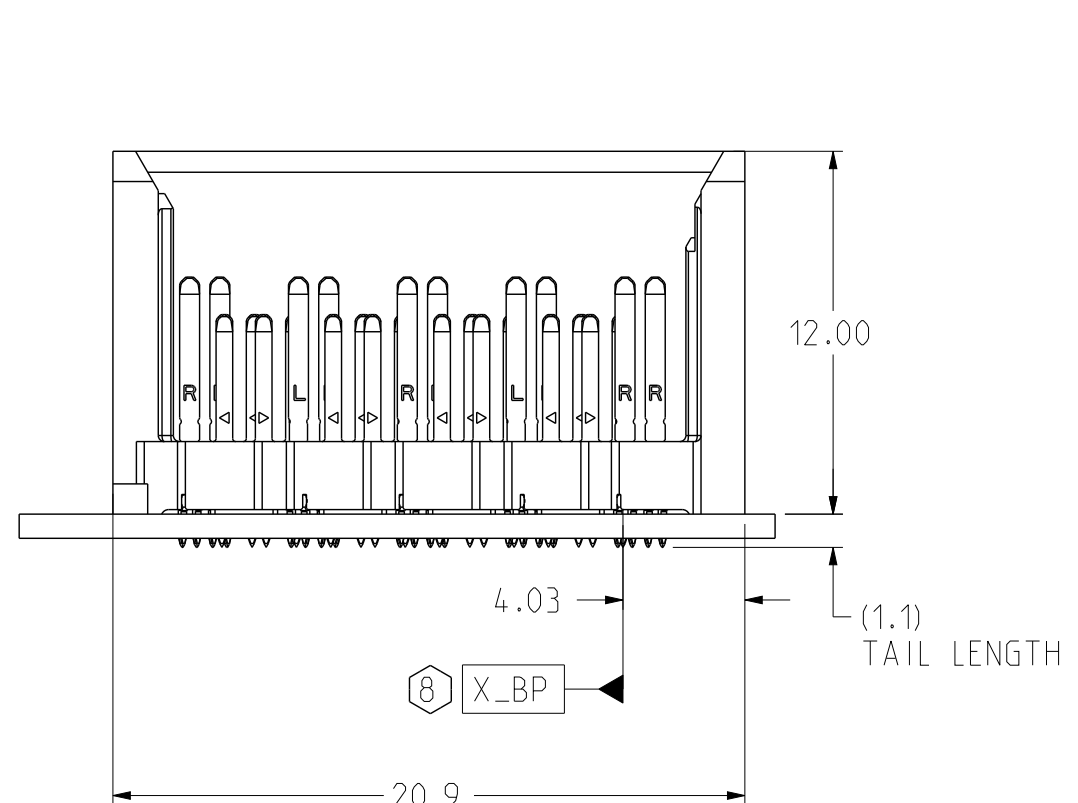
ZONE	REV	ECN NUMBER	DESCRIPTION	BY	DATE	APPROVED
			SEE SHEET 1			



CONNECTOR REFERENCE  
SCALE 4/1

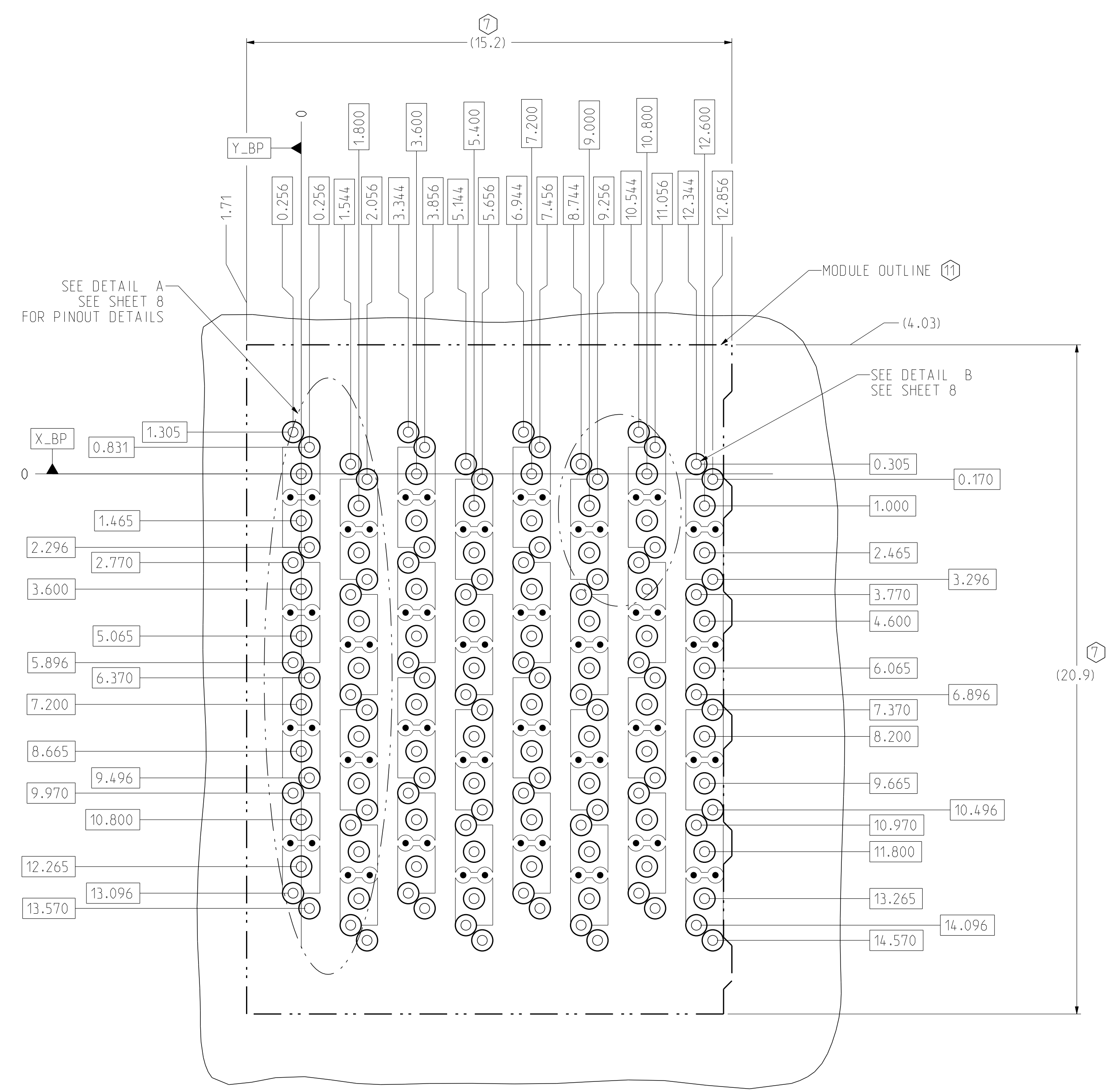


SECTION\_Z-Z



ISOMETRIC VIEW  
SCALE 3/1

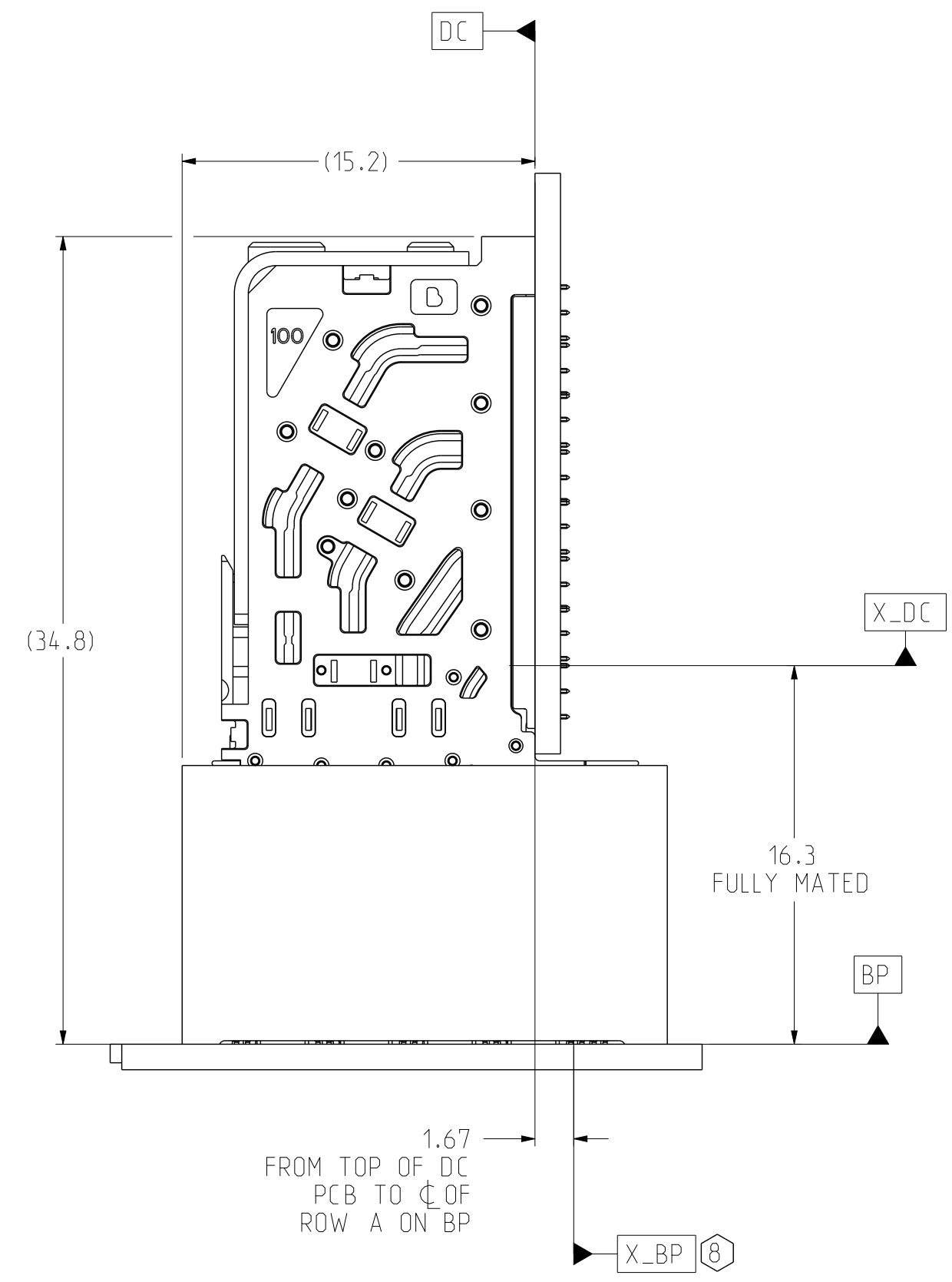
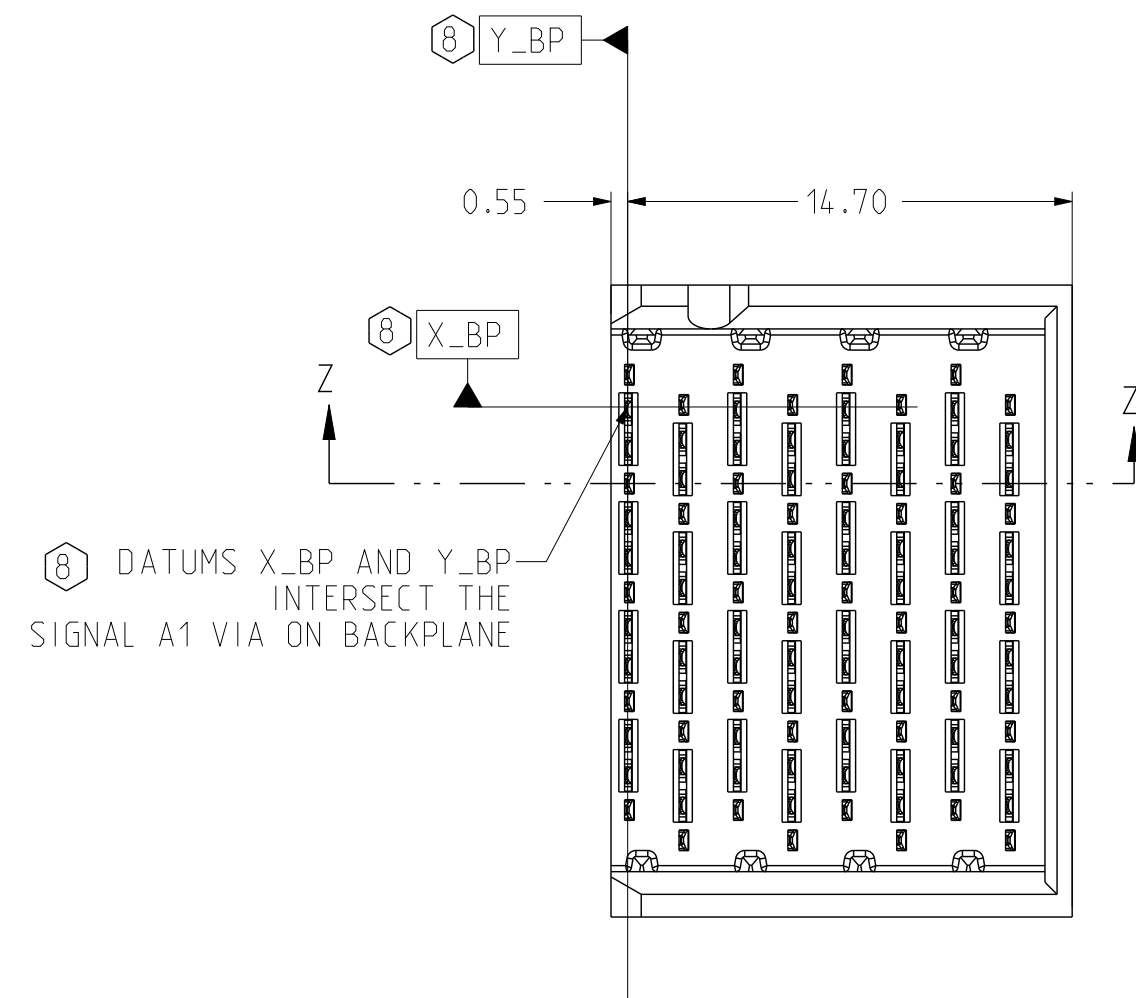
LEFT WALL BACKPLANE MODULE DIMENSION



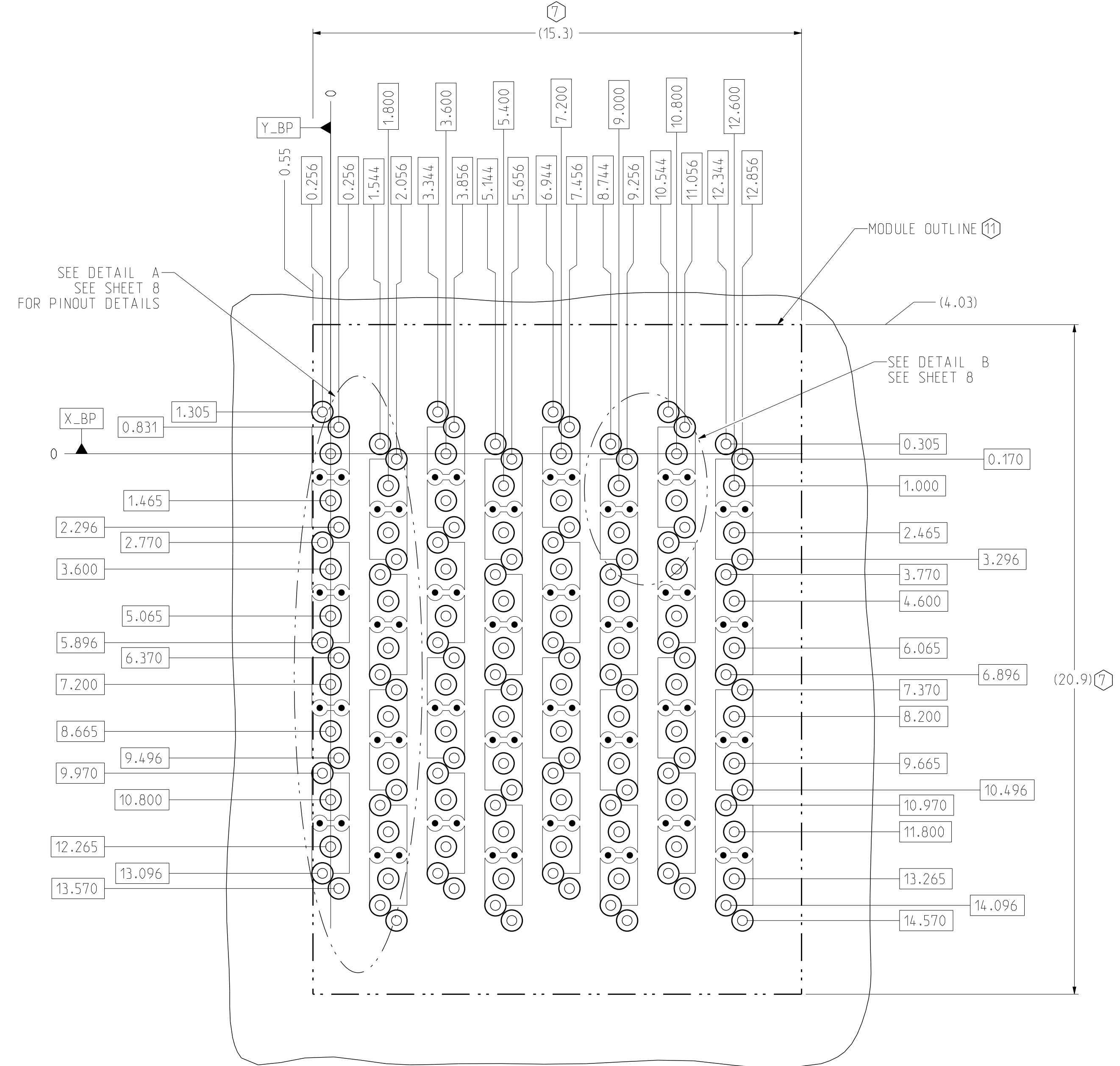
BP HOLE PATTERN  
COMPONENT SIDE  
SCALE 10/1

TOLERANCES	DESIGN	DATE	DESIGNER	<b>Amphenol TCS</b> A Division of Amphenol Corporation 200 Innovative Way, Nashua, NH 03082 603.879.3000	TITLE
0.0 ±0.25	M.HANRAHAN	03/14/2016	HCL-MR		BACKPLANE MODULES, VERTICAL MALE HEADER Xcode HD2, 4 PAIR 8 POS, THICK WALL W/EXTRA GND
0.00 ±0.13	M.HANRAHAN	03/14/2016	M.HANRAHAN	PART NO. SEE P/N TREE SHEET 1 DRAWING NO. C-972-401E-500	REV N/A
0.000 ± -	M.HANRAHAN	03/14/2016	M.HANRAHAN		REV J
ANGLES ± 3°	M.HANRAHAN	03/14/2016	M.HANRAHAN	ASSEM C972-401E-500_XG-HD2 0.3	DRAWING C972-401E-500_XG-HD2 0.19
UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MM. DECIMAL MARKER IS A PERIOD				CUSTOMER USE DRAWING	
INTERPRET PER ASME Y14.5M CODE IDENT 31413				SIZE D SCALE 1/1 SHEET 3 OF 9	

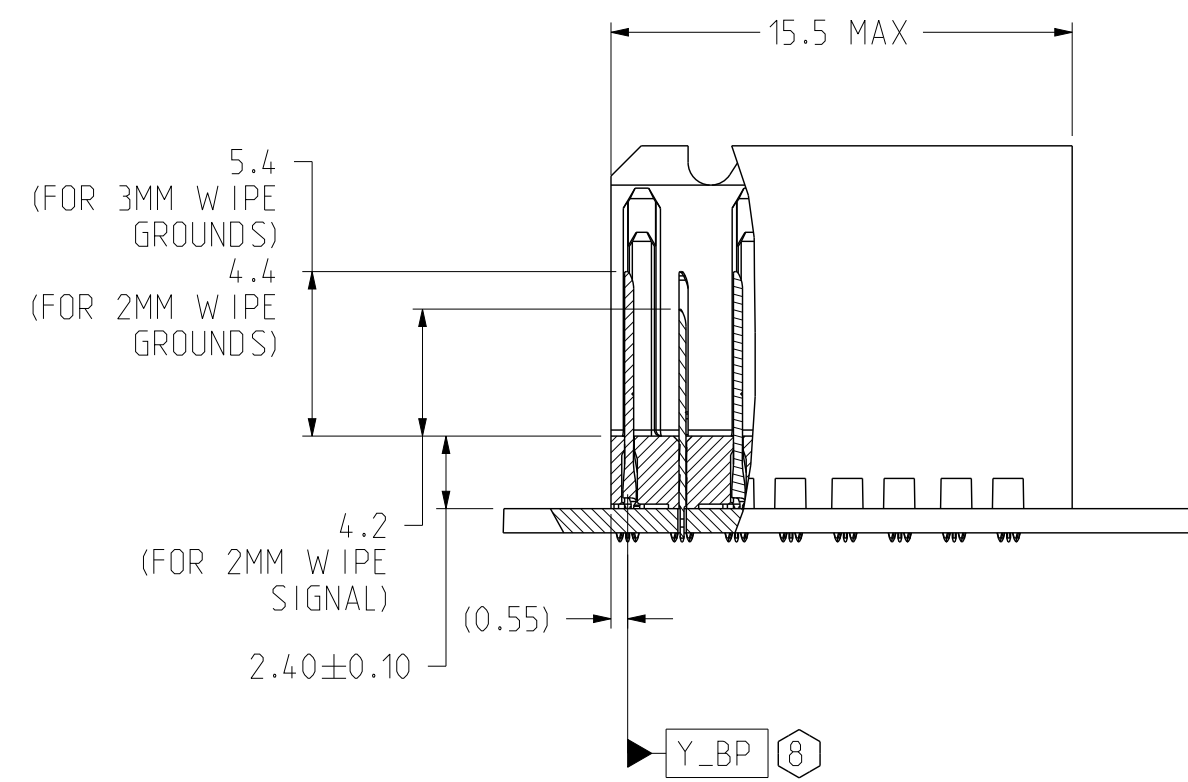
DRW NO.	C-972-401E-500	SH	4	REV	J	
ZONE	REV	ECN NUMBER	DESCRIPTION	BY	DATE	APPROVED
			SEE SHEET 1			



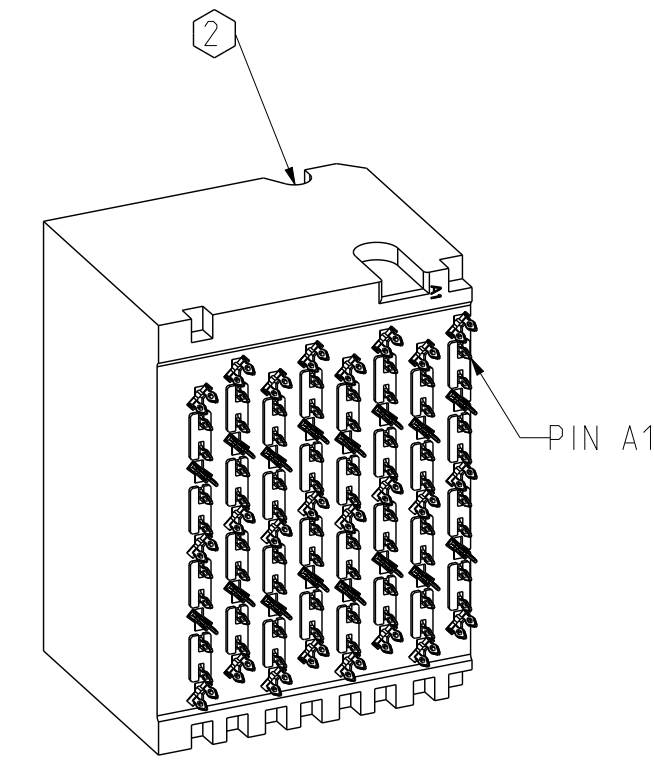
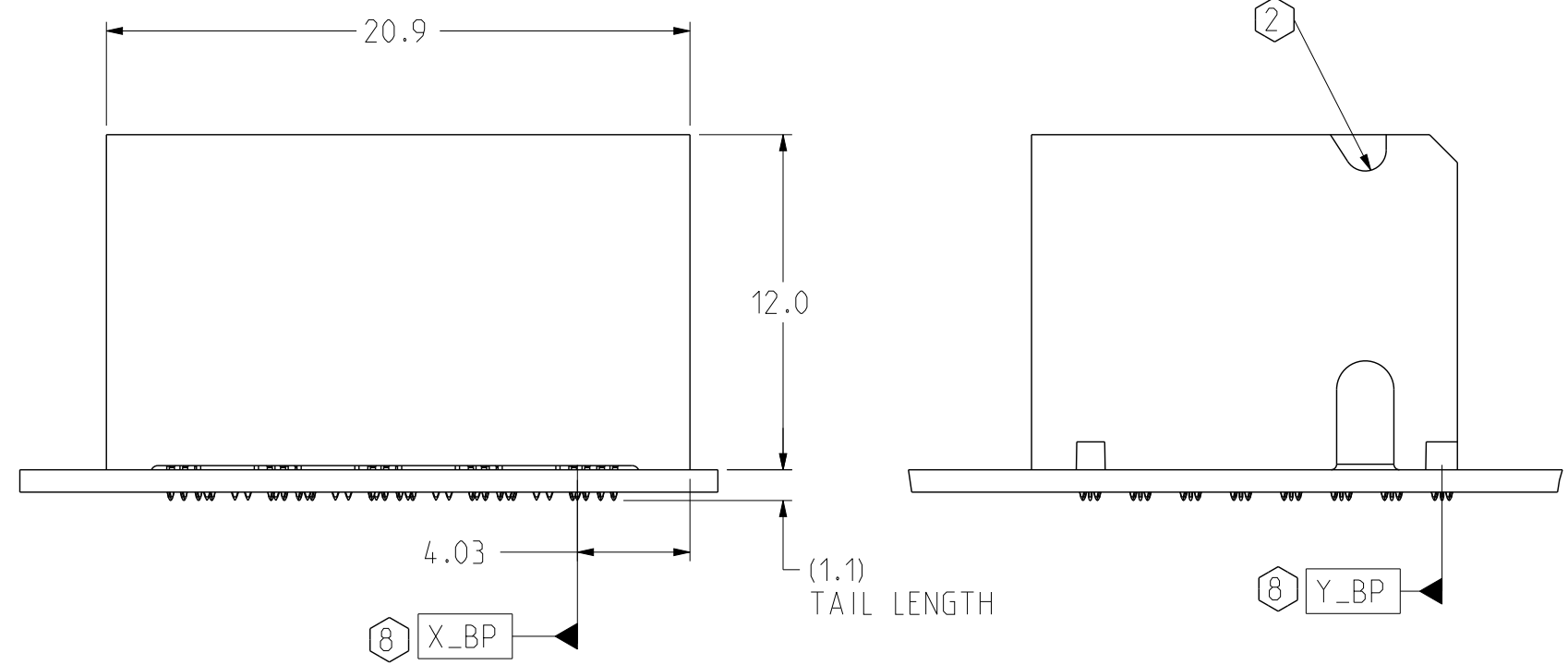
CONNECTOR REFERENCE  
SCALE 4/1



BP HOLE PATTERN  
COMPONENT SIDE  
SCALE 10/1



SECTION Z-Z



ISOMETRIC VIEW  
SCALE 3/1

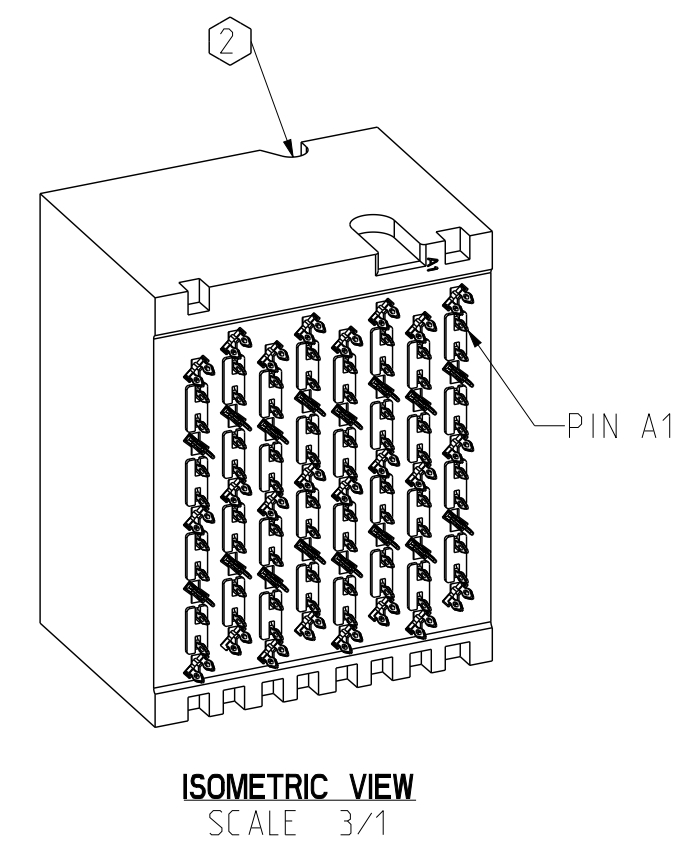
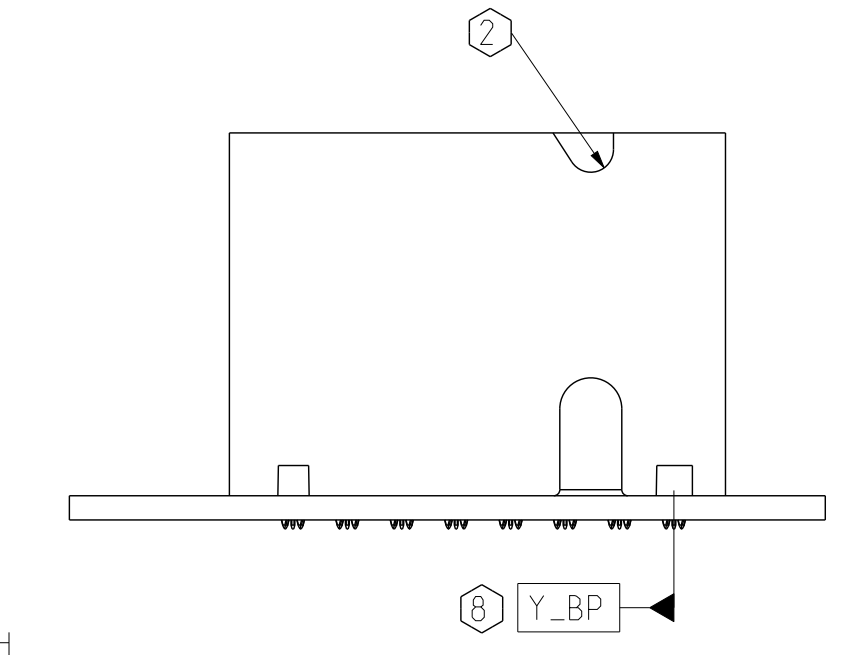
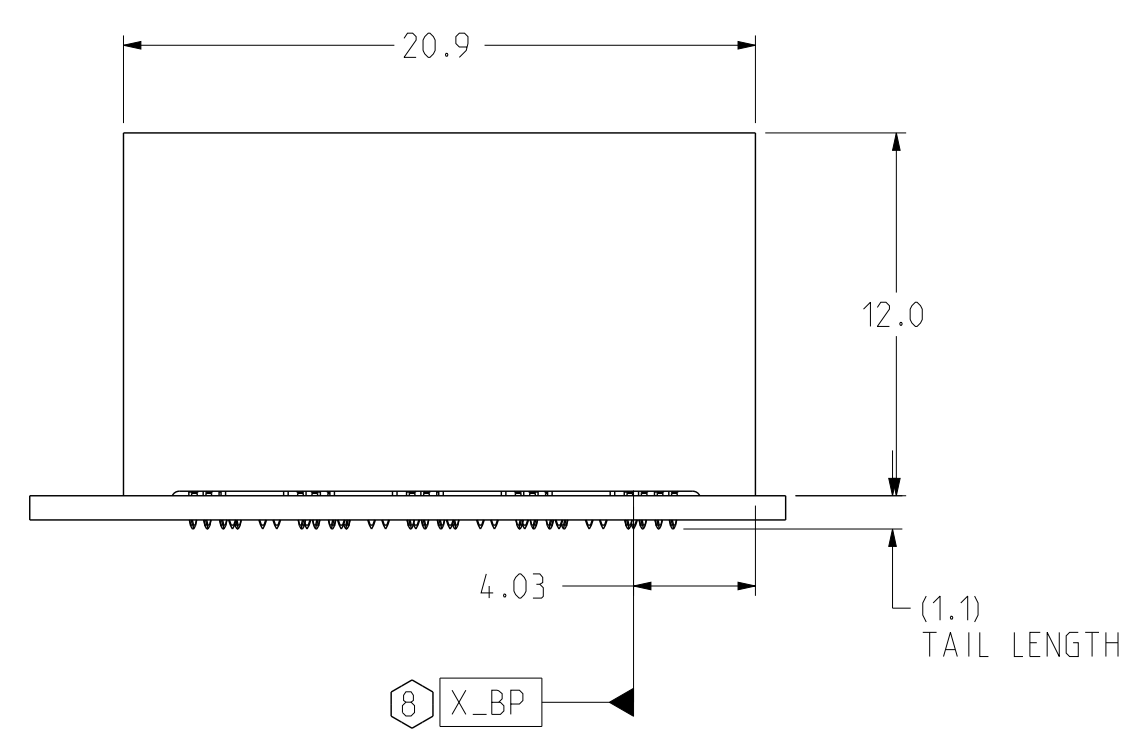
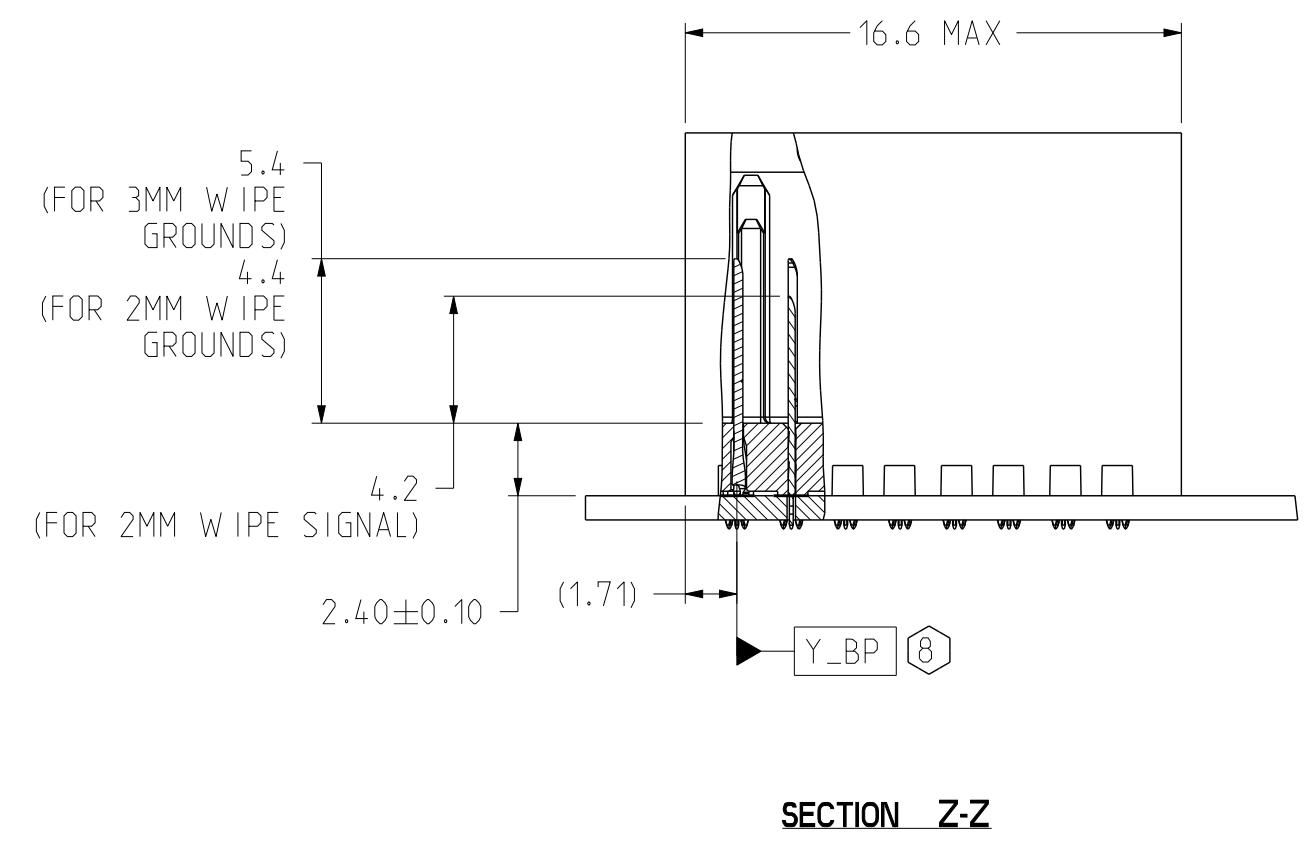
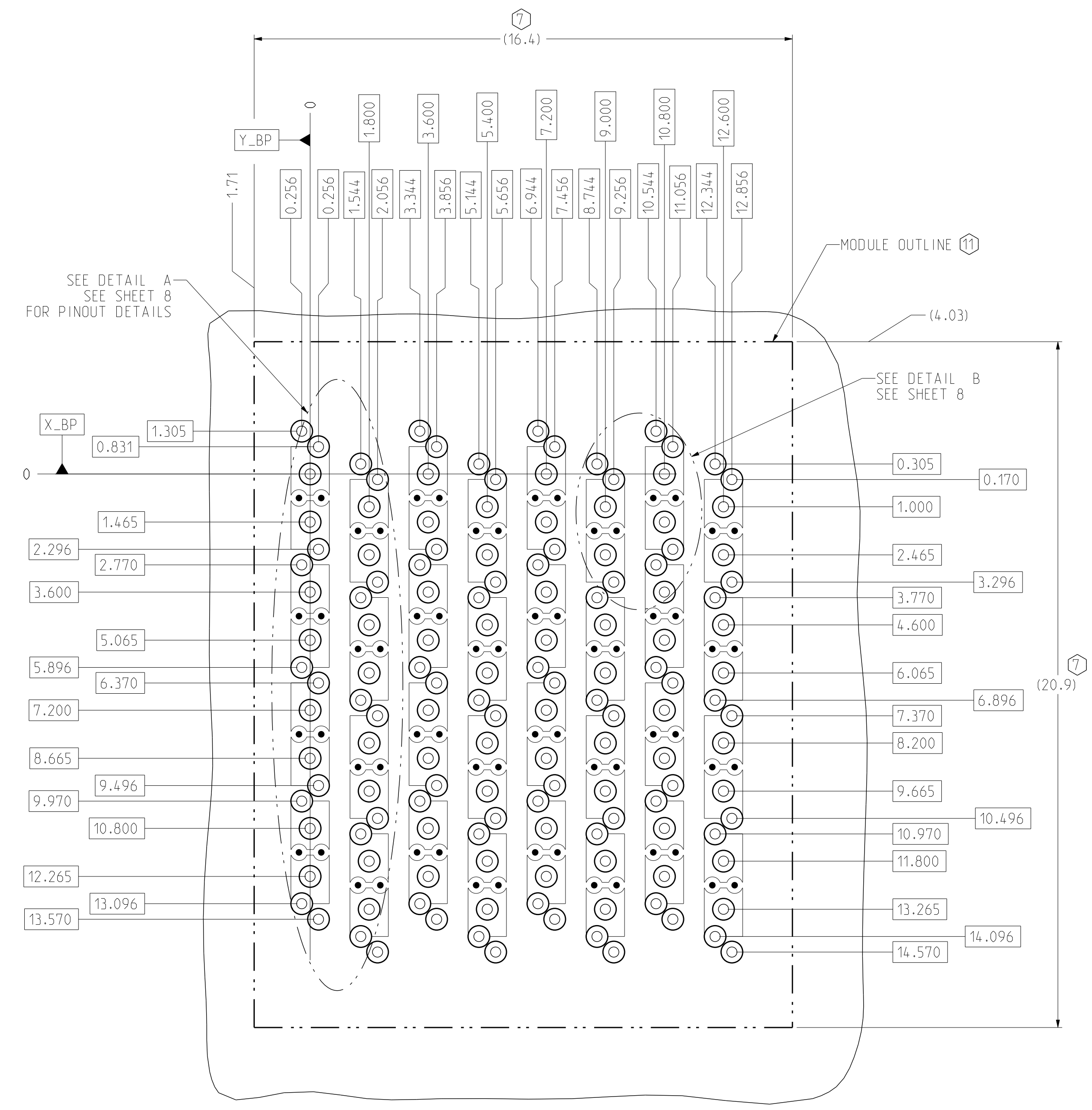
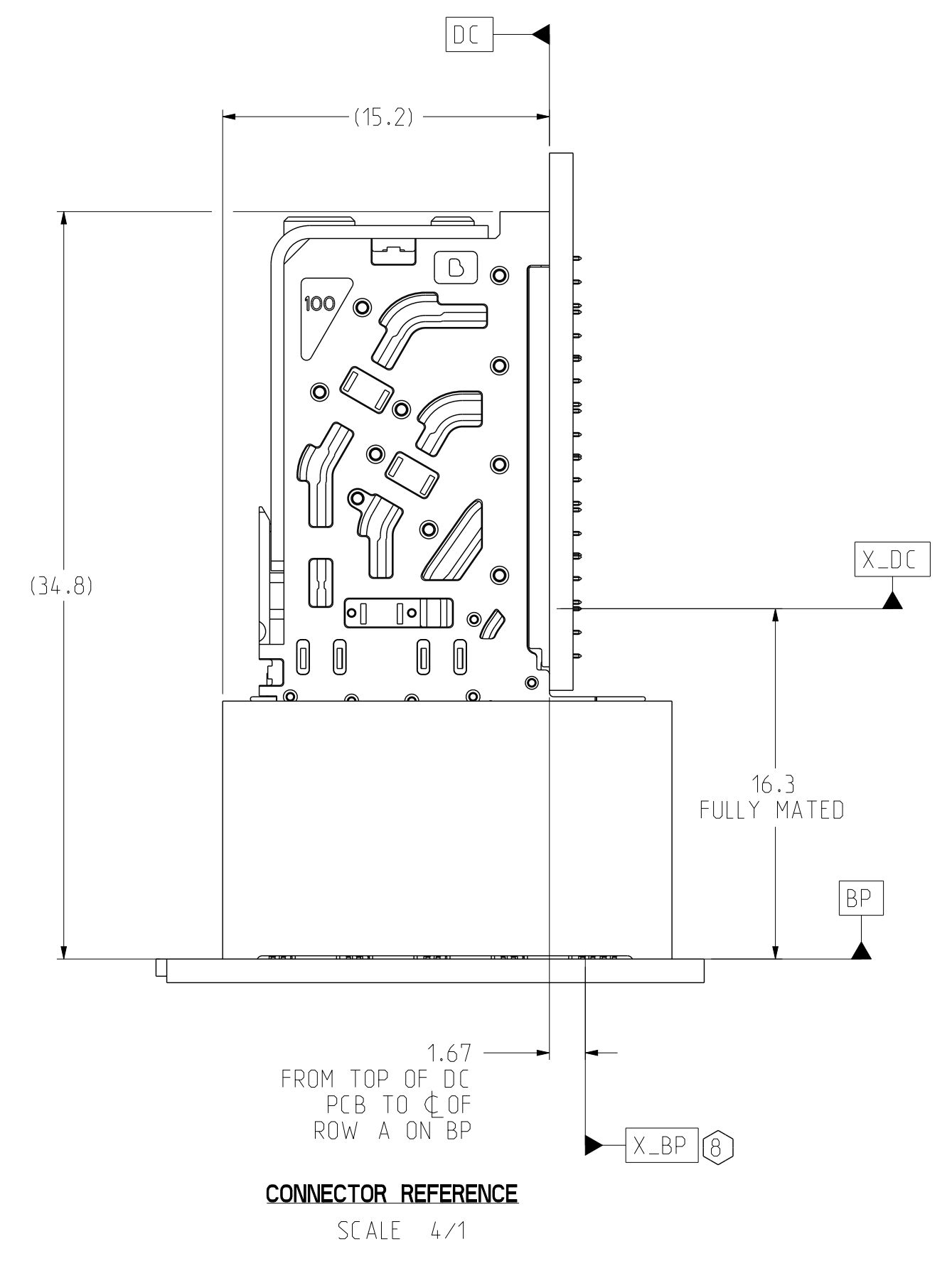
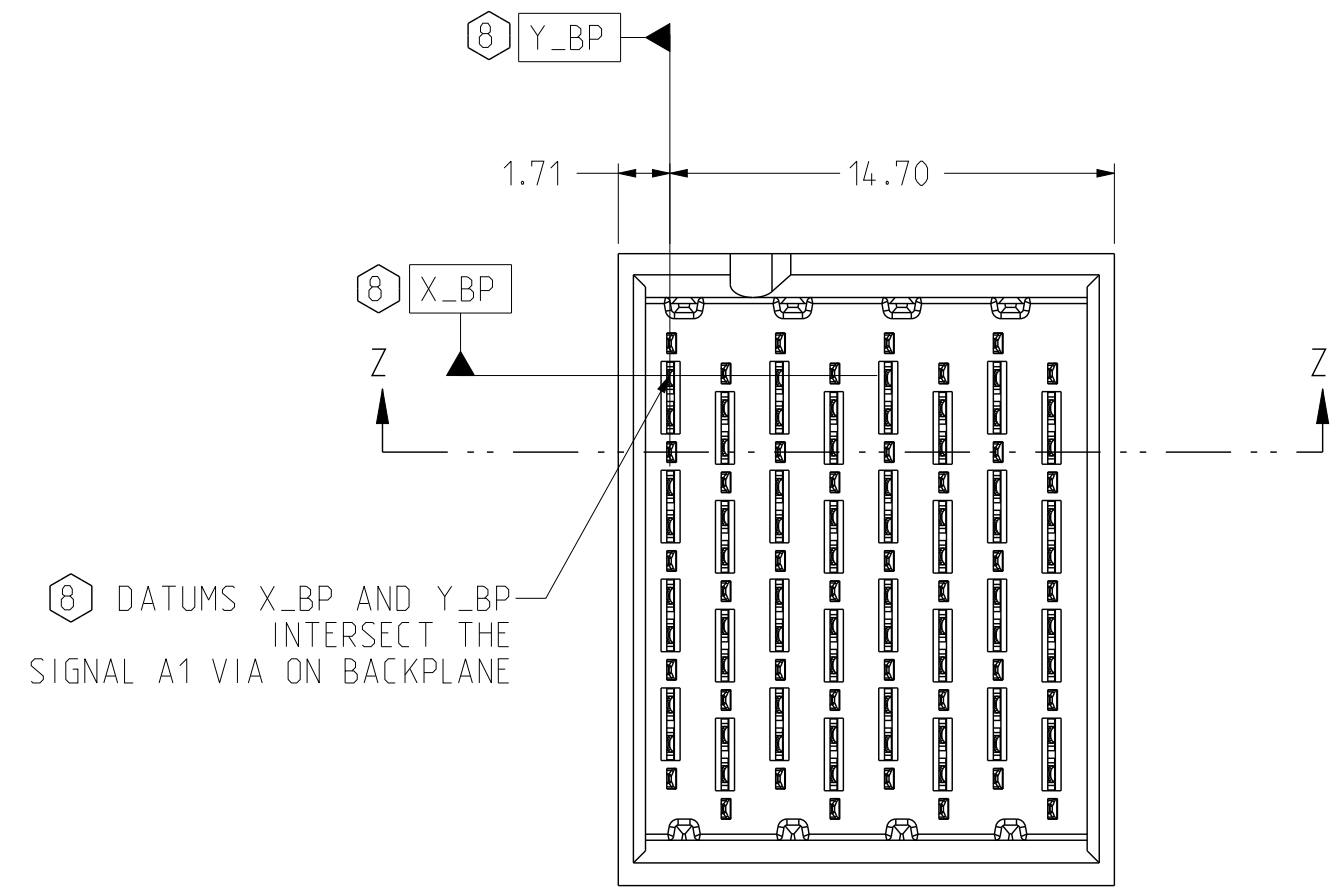
RIGHT WALL BACKPLANE MODULE DIMENSION

TOLERANCES	DESIGN 03/14/2016 M.HANRAHAN	<b>Amphenol TCS</b> A Division of Amphenol Corporation 200 Innovative Way, Nashua, NH 03062 603.879.3000 TITLE BACKPLANE MODULES, VERTICAL MALE HEADER Xcode 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 4 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

INTERPRET PER ASME Y14.5M  
CODE IDENT 31413

CUSTOMER USE  
DRAWING

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



**TWO WALL BACKPLANE MODULE DIMENSION**

**TWO WALL BACKPLANE FOOTPRINT**

**BP HOLE PATTERN COMPONENT SIDE SCALE 10/1**

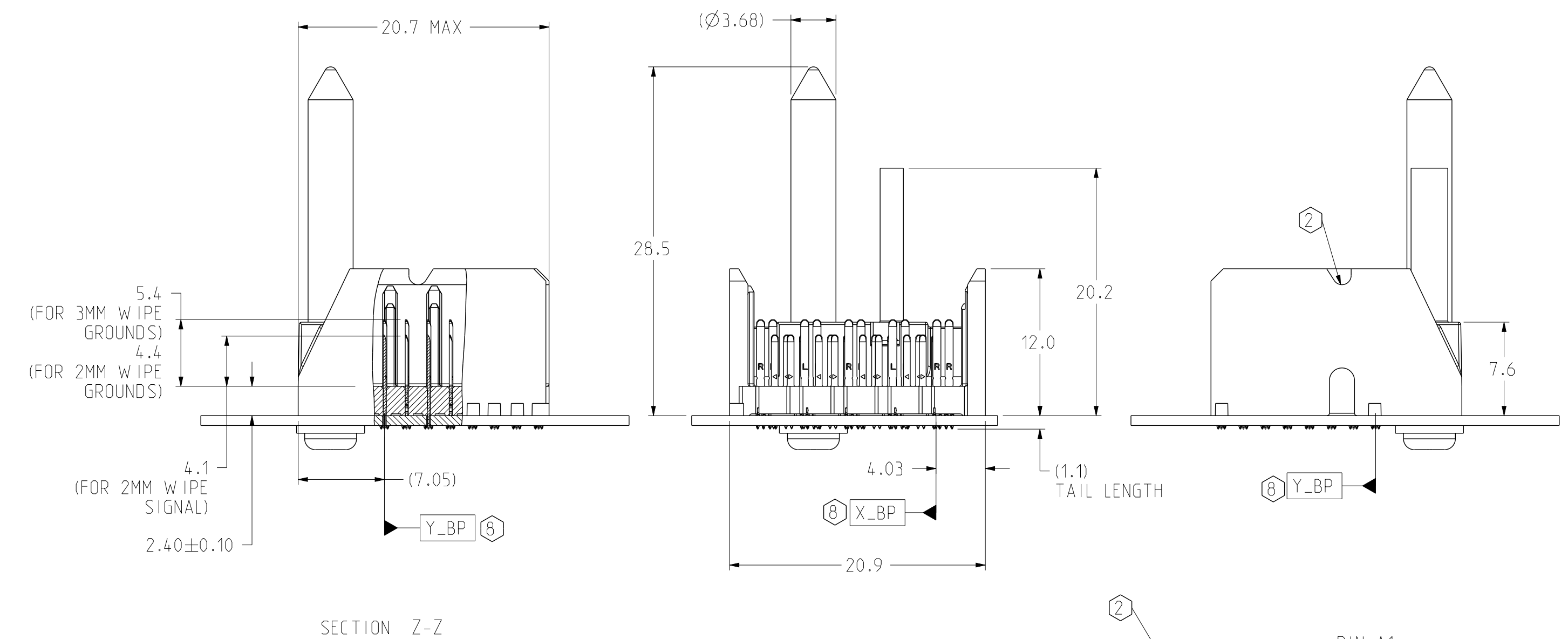
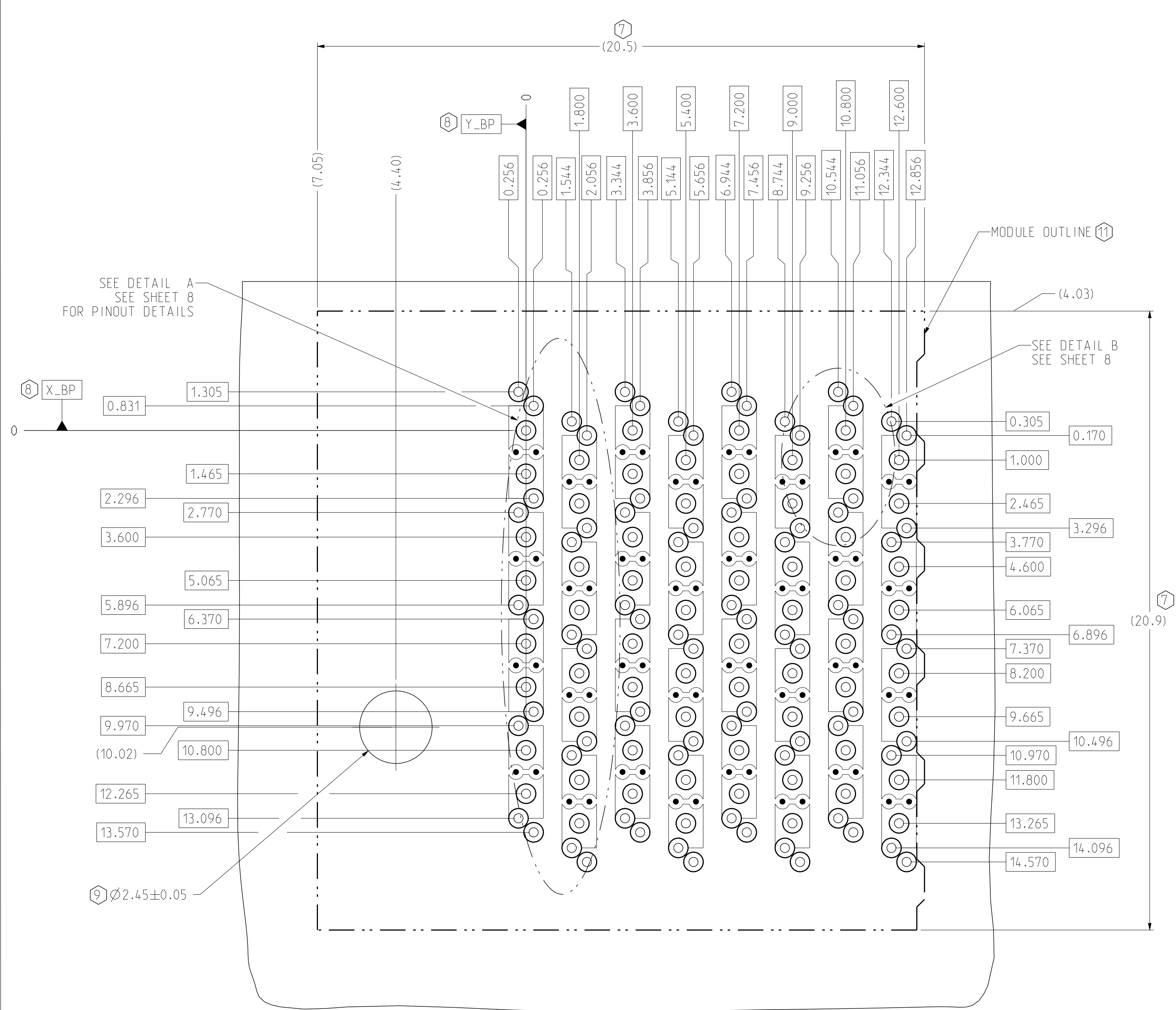
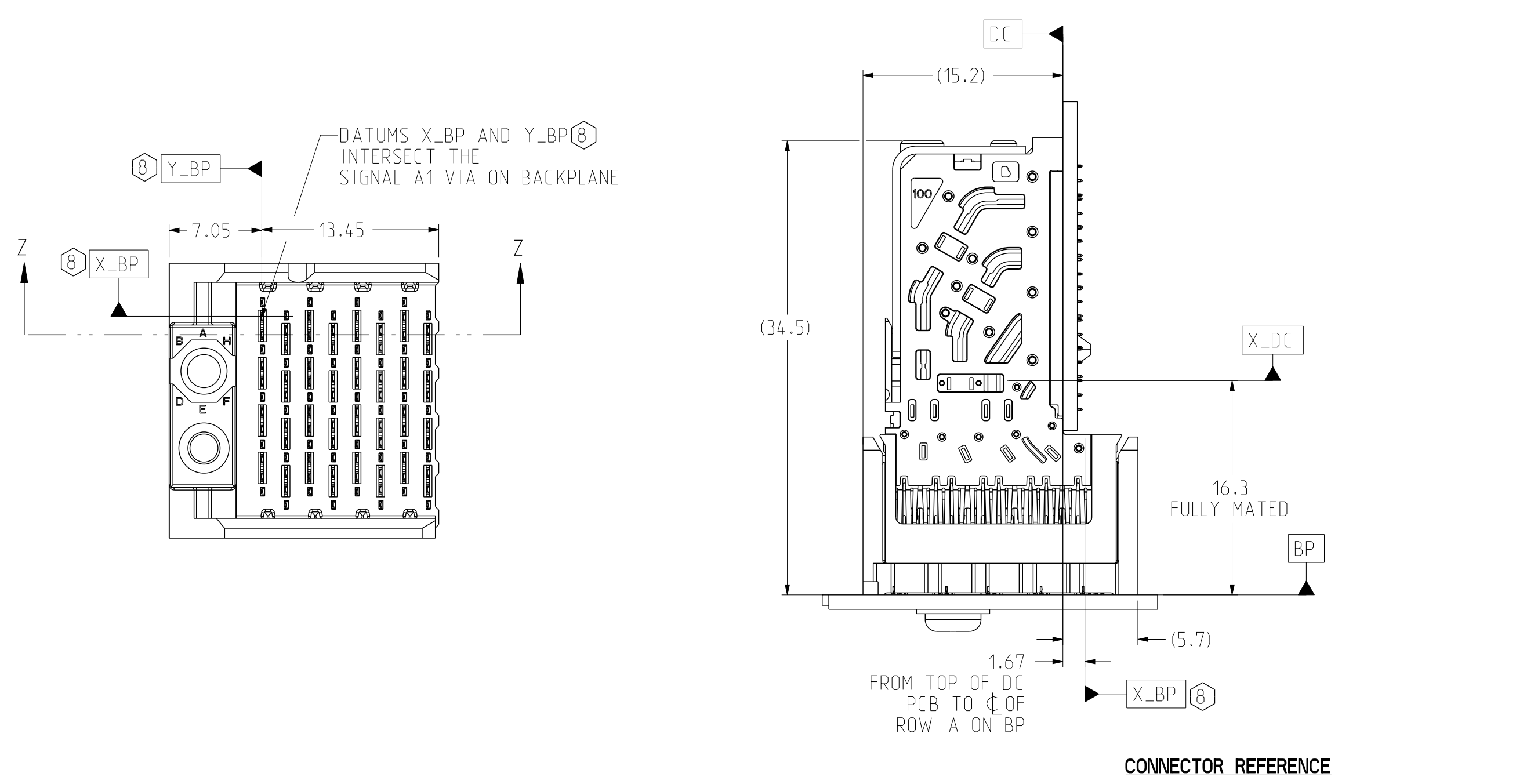
TOLERANCES	DESIGN 03/14/2016 M.HANRAHAN	<b>Amphenol TCS</b> A Division of Amphenol Corporation 200 Innovative Way, Nashua, NH 03062 603.879.3000 TITLE BACKPLANE MODULES, VERTICAL MALE HEADER Xcode HD2, 4 PAIR Ø POS, THICK WALL W/EXTRA GND PART NO. SEE P/N TREE SHEET 1 DRAWING NO. C-972-401E-500 ASSEM C972-401E-500_XG-HD2 0.3 DRAWING C972-401E-500_XG-HD2 0.19 SIZE D SCALE 1/1 SHEET 5 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

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			

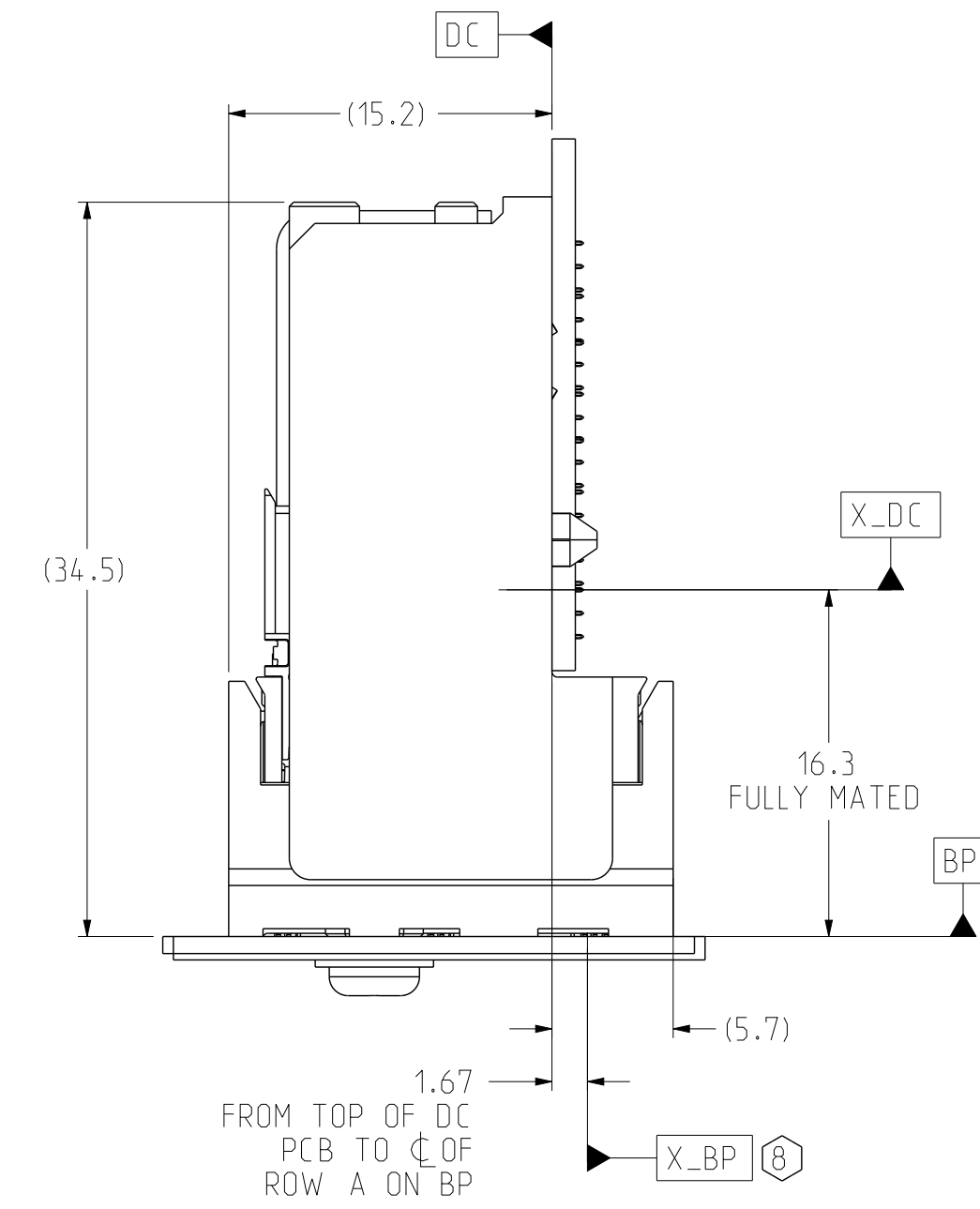
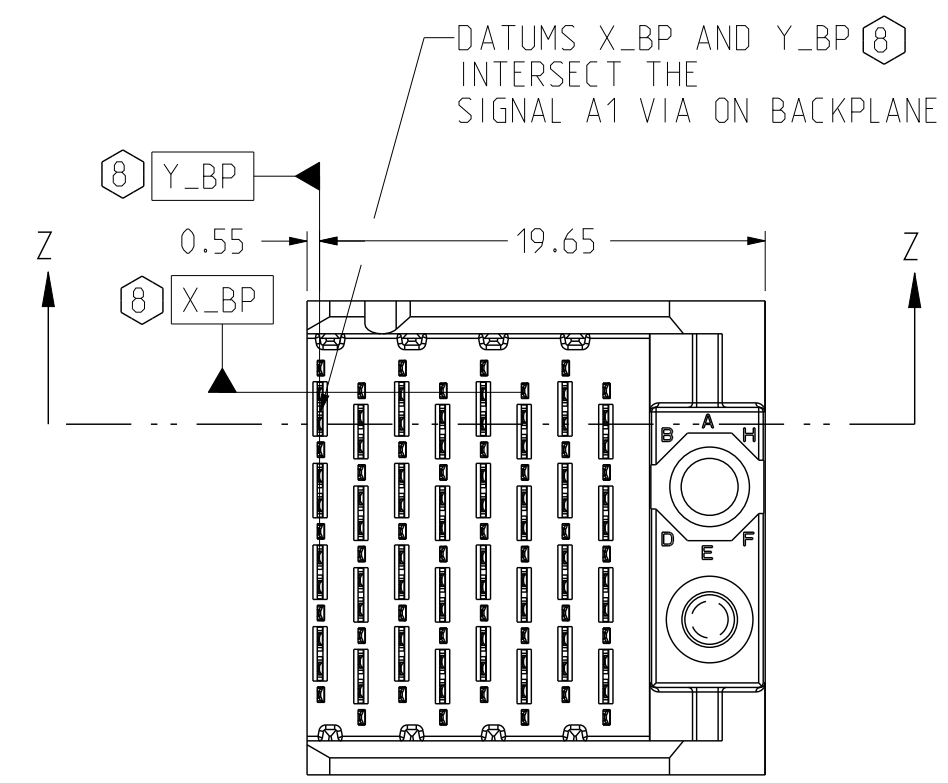


**BP HOLE PATTERN COMPONENT SIDE**  
SCALE 10/1

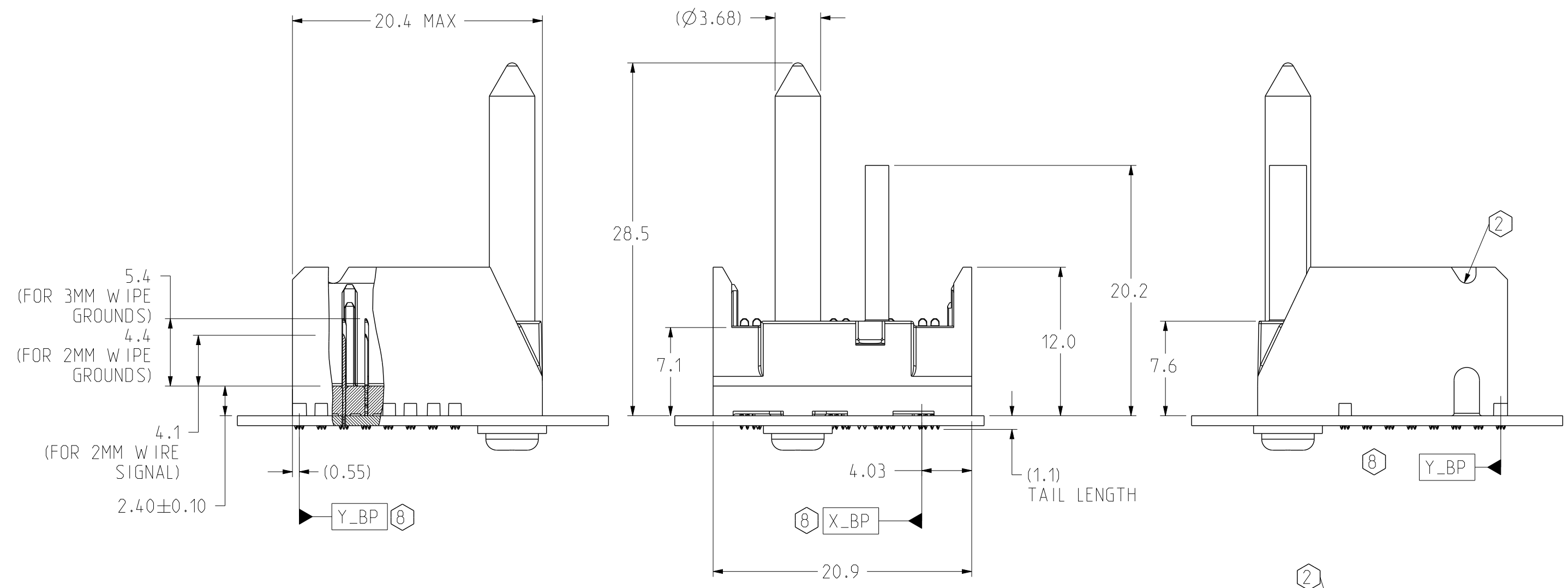
**LEFT POLARIZING/GUIDE BACKPLANE MODULE DIMENSION**

TOLERANCES	DESIGN 03/14/2016 M.HANRAHAN	<b>Amphenol TCS</b> 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		<b>CUSTOMER USE DRAWING</b>

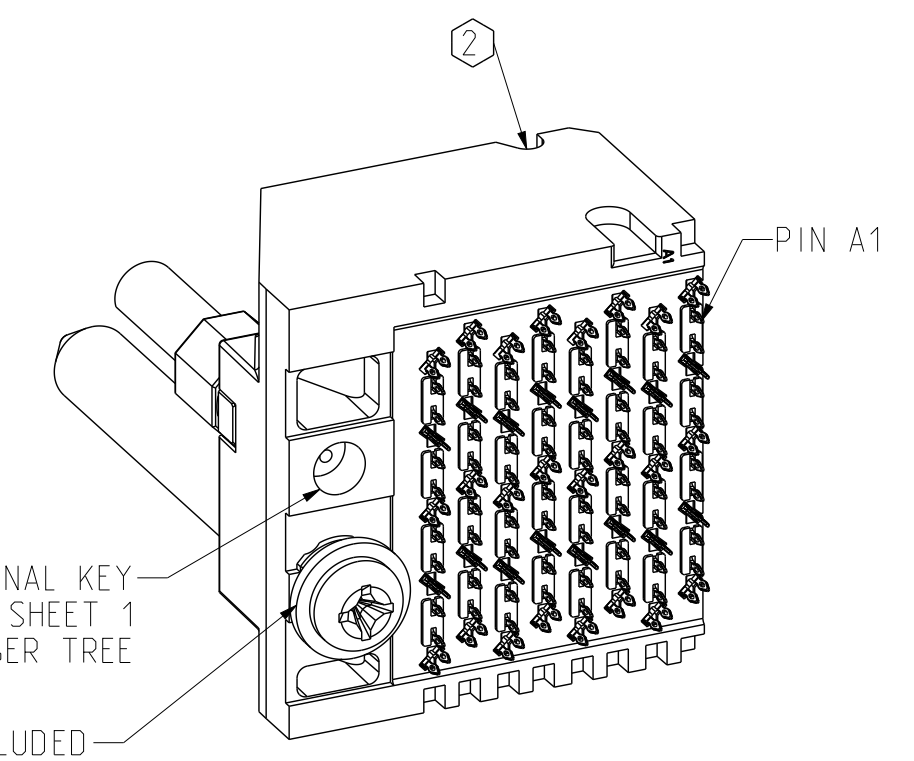
DRW NO.	C-972-401E-500	SH	7	REV	J	
ZONE	REV	ECN NUMBER	DESCRIPTION	BY	DATE	APPROVED
			SEE SHEET 1			



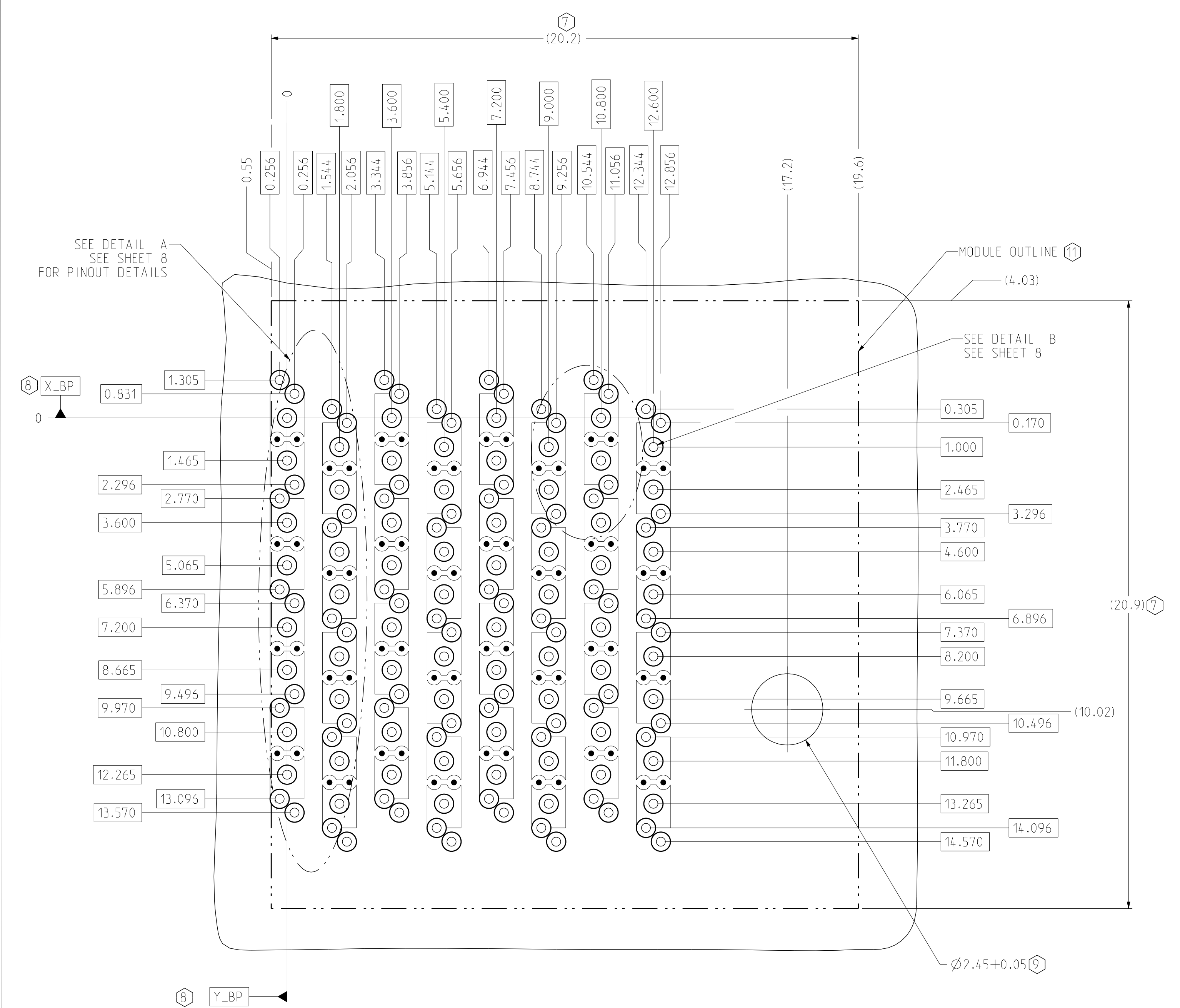
CONNECTOR REFERENCE



SECTION Z-Z



**RIGHT POLARIZING/GUIDE BACKPLANE MODULE DIMENSION**



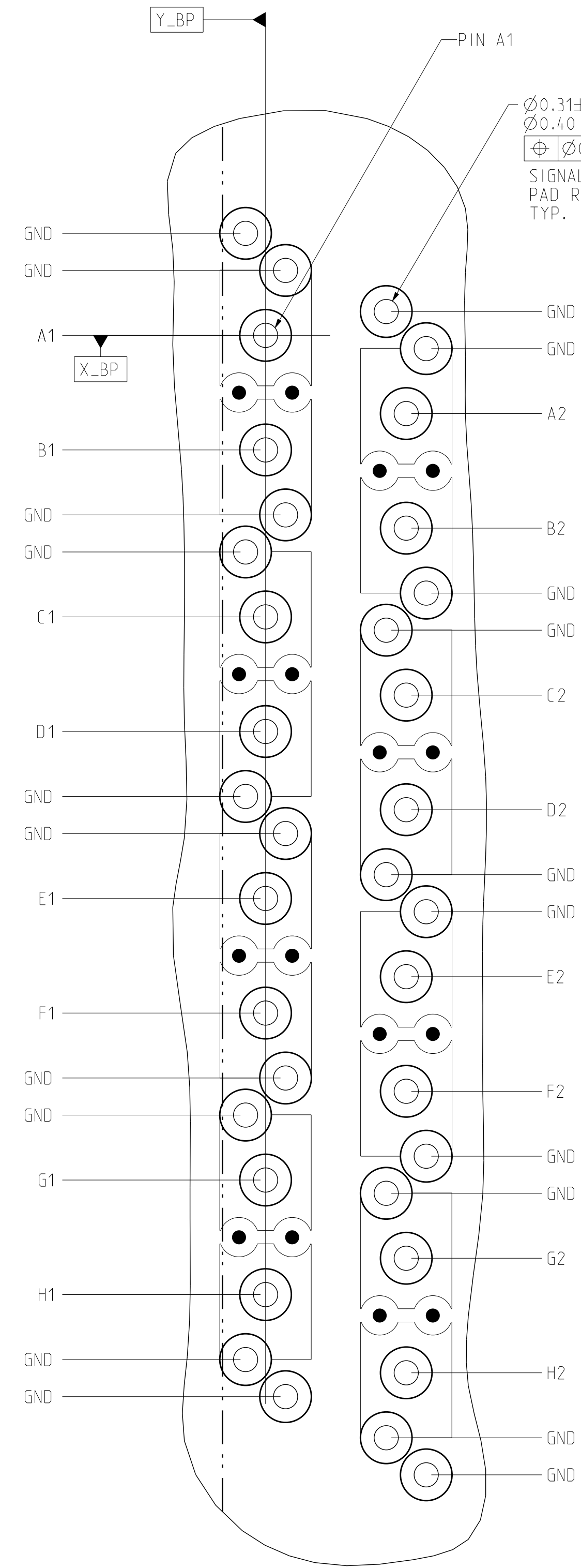
BP HOLE PATTERN COMPONENT SIDE SCALE 10/1

TOLERANCES	DESIGN 03/14/2016 M.HANRAHAN	<b>Amphenol TCS</b> A Division of Amphenol Corporation 200 Innovative Way, Nashua, NH 03082 603.879.3000	TITLE	BACKPLANE MODULES, VERTICAL MALE HEADER	
0.0 ±0.25	DRAWN 03/14/2016 HCL-MR		X'cde HD2, 4 PAIR Ø POS, THICK WALL W/EXTRA GND	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 7 OF 9	

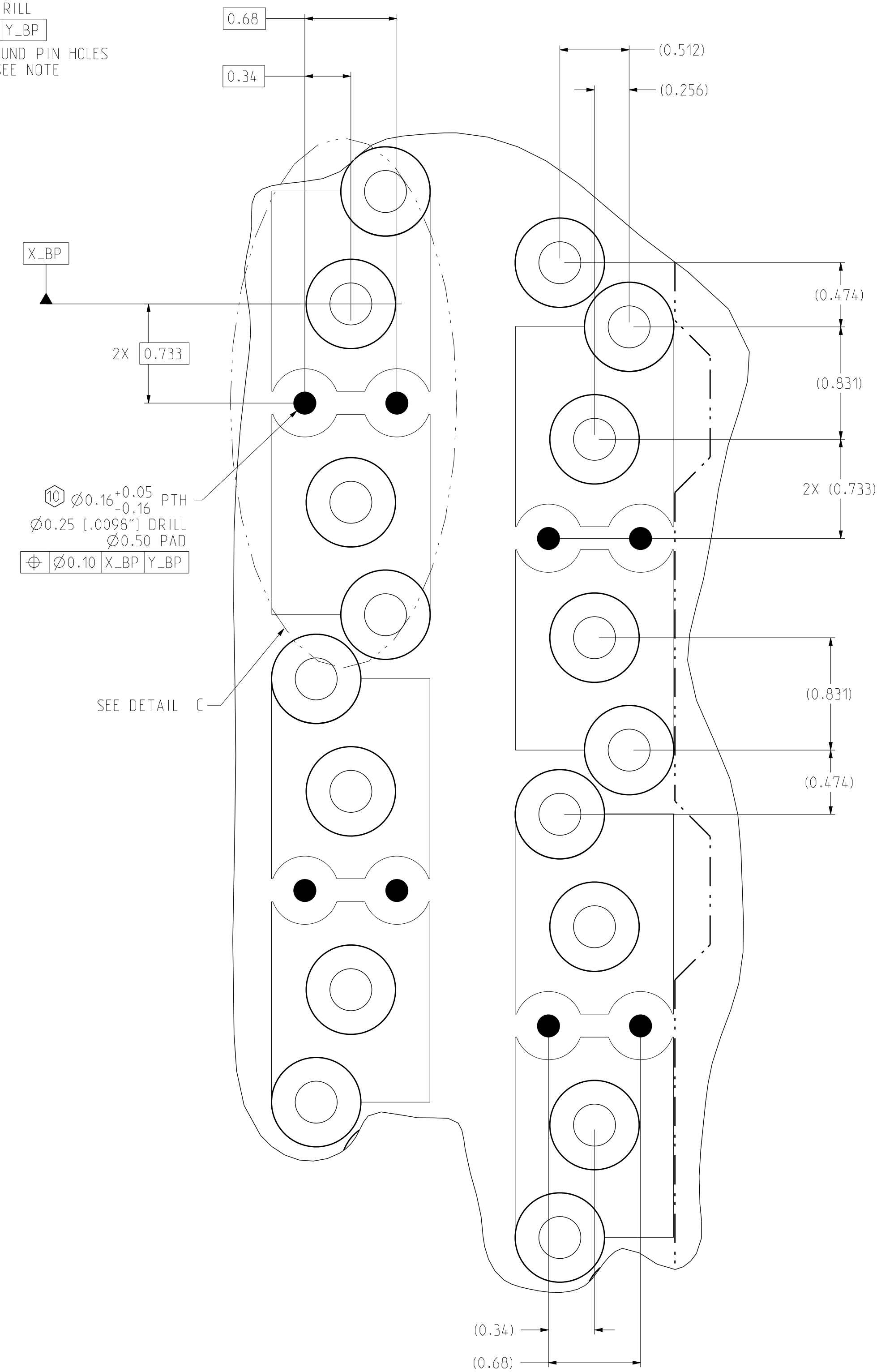
INTERPRET PER ASME Y14.5M  
CODE IDENT 31413

CUSTOMER USE DRAWING

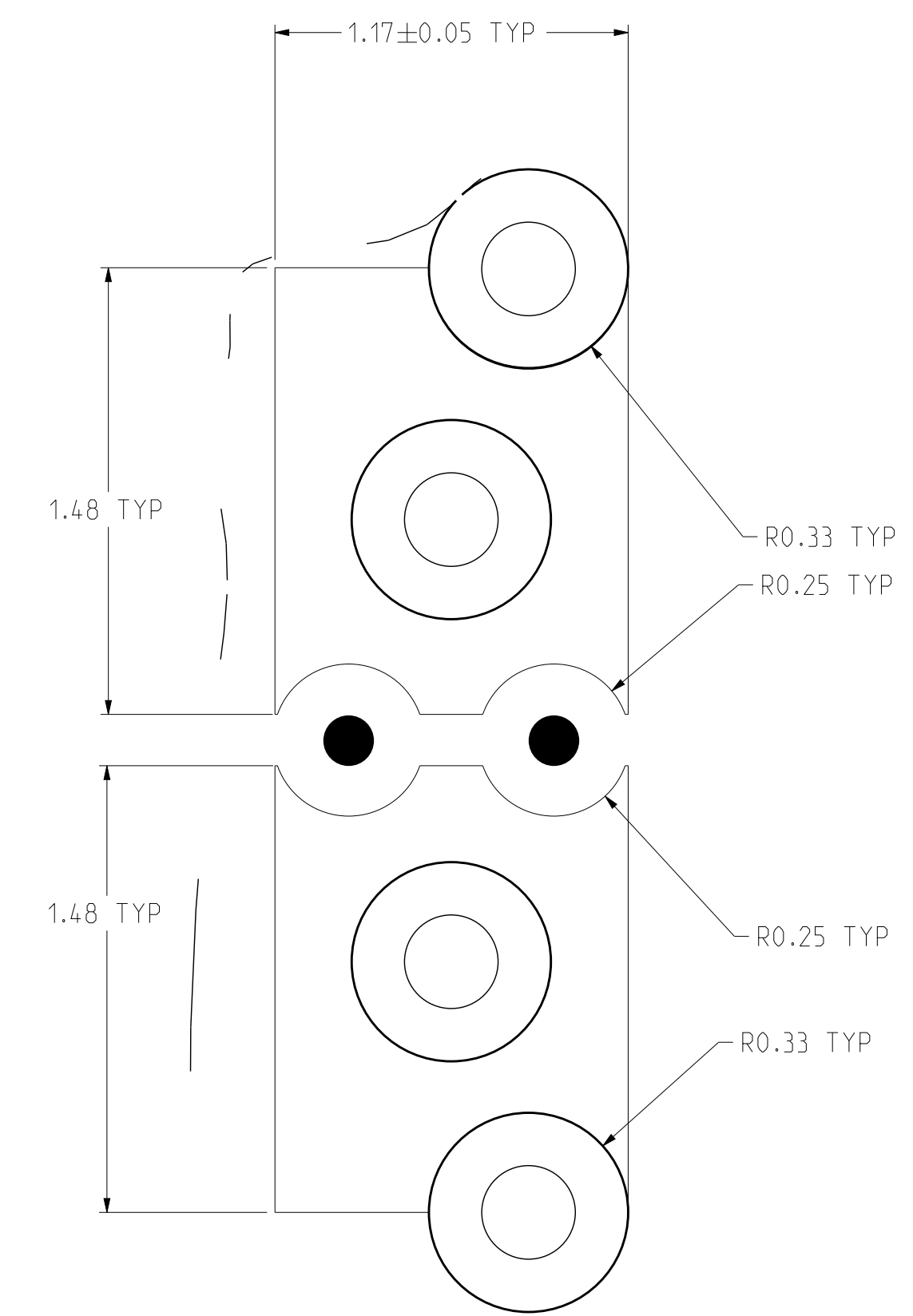
ZONE	REV	ECN NUMBER	DESCRIPTION	BY	DATE	APPROVED
			SEE SHEET 1			



**DETAIL A**  
PINOUT DETAILS  
SCALE 20/1



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



**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°	

<b>Amphenol TCS</b> 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	REV J
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	

UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN MM. DECIMAL MARKER IS A PERIOD.

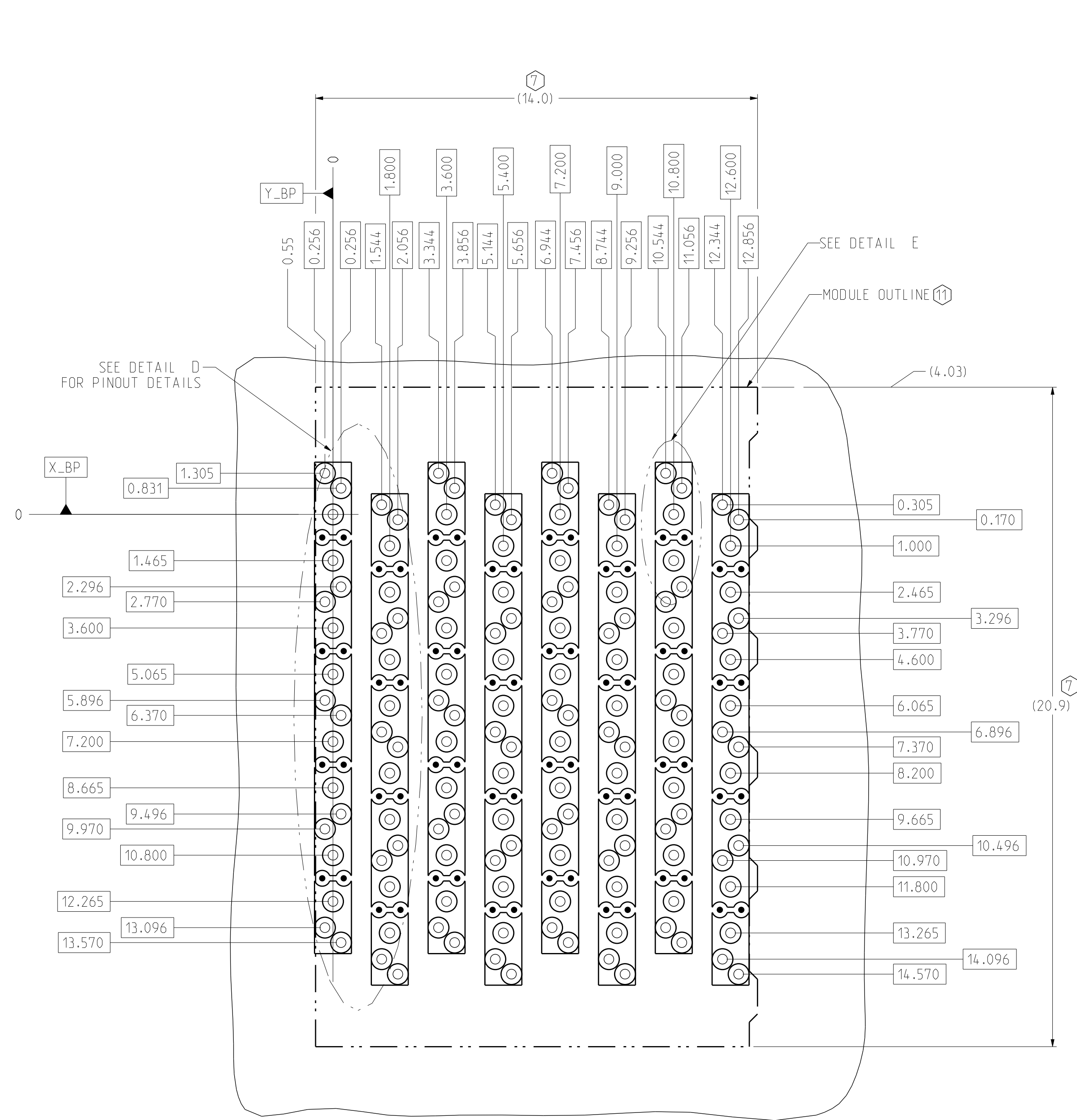
INTERPRET PER ASME Y14.5M  
CODE IDENT 31413

**CUSTOMER USE  
DRAWING**

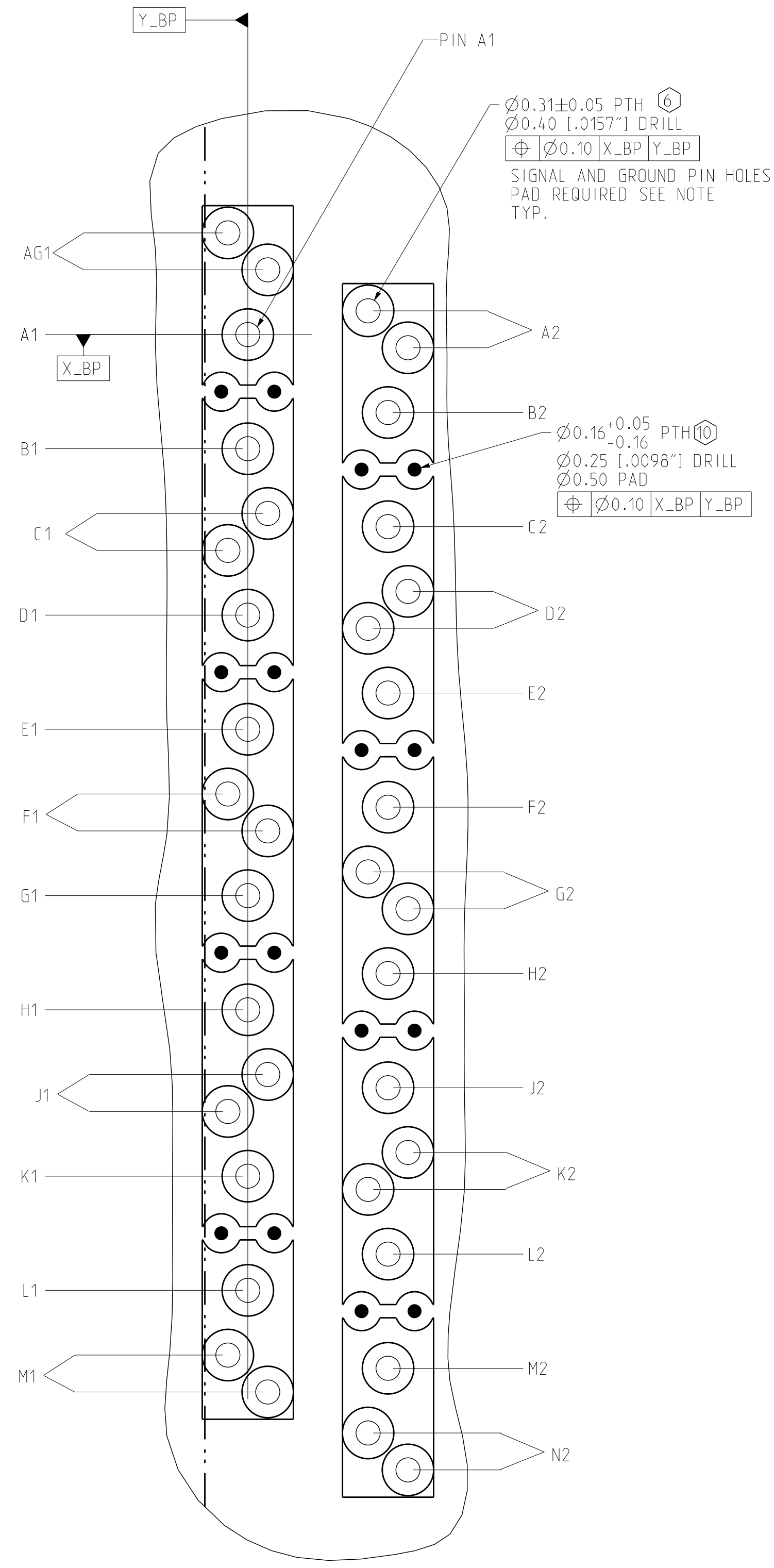


ZONE	REV	ECN NUMBER	DESCRIPTION	BY	DATE	APPROVED
			SEE SHEET 1			

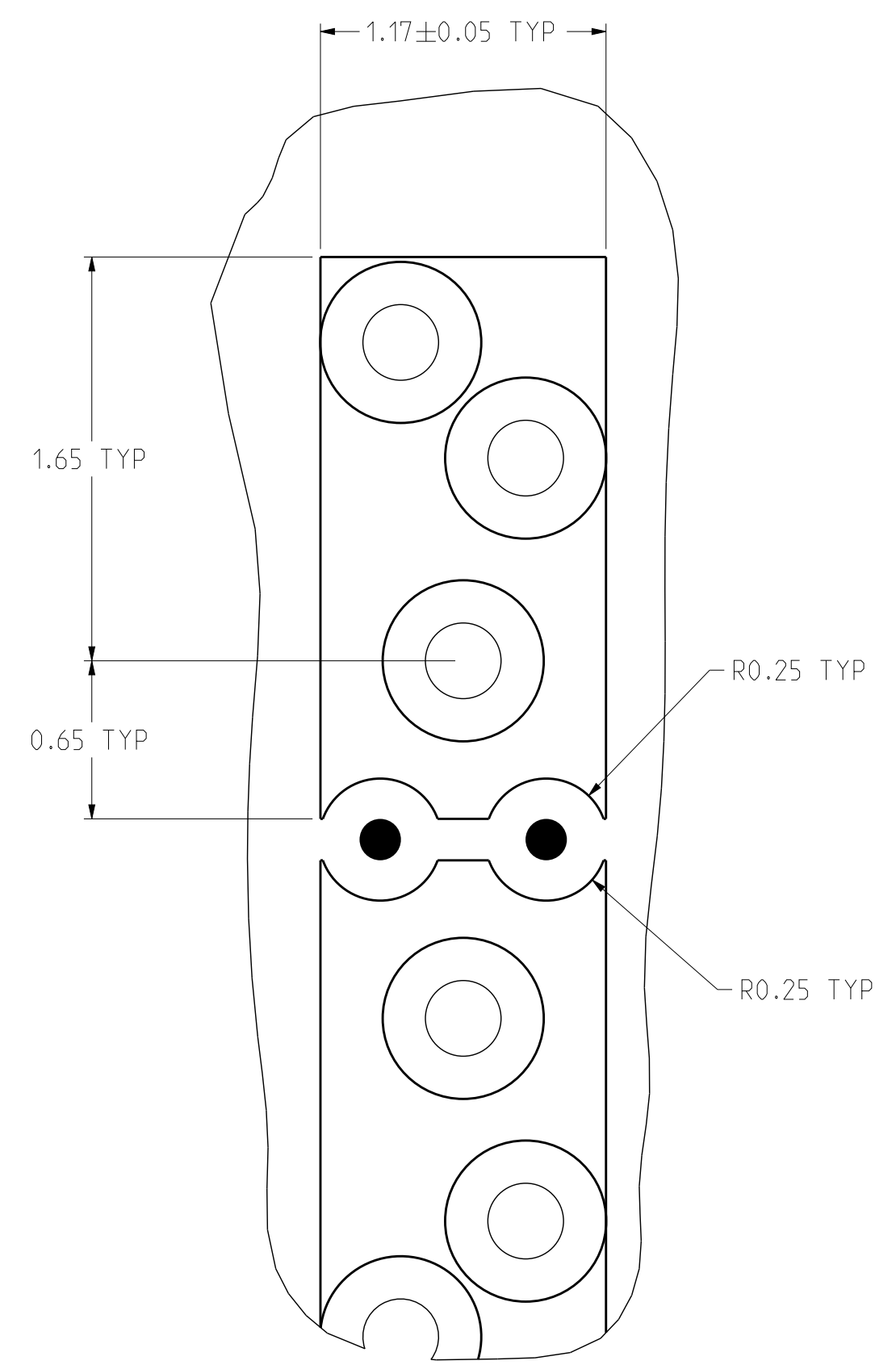
D  
C  
B  
A



SE MODULE BP HOLE PATTERN COMPONENT SIDE SCALE 10/1



DETAIL D SE PINOUT DETAILS SCALE 20/1



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

TOLERANCES		DESIGN 03/14/2016 M.HANRAHAN	<b>Amphenol TCS</b> A Division of Amphenol Corporation 200 Innovative Way, Nashua, NH 03082 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