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1.0 GENERAL NOTES

1.1 THIS DOCUMENT PROVIDES INSTALLATION INSTRUCTIONS FOR NOKIA RADIOS IN TO THE PB20GA (MTM1160-1050-XX), D-MODULE (MTM1160-8800-XX) AND IP20 (MTM1193-70YY-XX)

2.0 DESIGN NOTES

2.1 POWER SUPPLY/RECTIFIERS SUPLLIED SEPARATELY, SHOWN FOR REFERENCE ONLY

3.0 MANUFACTURING/SPECIAL REQUIREMENTS

3.1 TORQUE HARDWARE ACCORDING TO SIZE:

> M4: TORQUE 19.50 IN-LB OR 2.2 N-M

> M6: TORQUE 40.0 IN-LB OR 4.5 N-M

> M8: TORQUE 6.6 FT-LB or 9.0 N-M

> M10: TORQUE 16.2 FT-LB OR 22 N-M

> 1/4": TORQUE 4.8 ft-LB or 6.6 N-M

3.2 EXTRA HARDWARE MAY BE SUPPLIED

4.0 TEST

5.0 PACKAGING

5.1 PACKAGING SHALL MEET COMMSCOPE REQUIREMENTS PER DOCUMENT IS-PL-3005

5.2 BAG AND INDIVIDUALLY TAG ALL HARDWARE AND PLACE IN SHIPPING BOX WITH BRACKETS FOR CUSTOMER INSTALLATION.

5.3 THIS PRINTED DOCUMENT TO BE PLACED INSIDE SHIPPING BOX FOR CUSTOMER INSTALLATION

REVISIONS

REV.	DESCRIPTION	DATE	APPROVED
A	INITIAL RELEASE	NSUN 14SEP23	RW1043 40178739CMO
B	ADDED EQUIPMENT INSTALLATION CONFIGURATION LIST OF THE IP20 IN SHEET 3; UPDATE VIEWS FOR MTM1160-1120 (ITEM 1) CHANGES	YC1059 20AUG24	LX1002 40203410CMO

COMPONENT PART NUMBERS PROVIDED FOR ASSEMBLY PURPOSES;
INDIVIDUAL COMPONENTS MAY BE SHIPPED AS PARTS WITHIN AN INCLUDED KIT.

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.	NOTE
1	MTM1160-1120	KIT MULTI-FIT BIG NOK INSTALL PB20GA	1	
2	MTM1160-1131-CR	BRACKET PB20GA RAD 1-2-4 MULTI MOUNT	1	
3	MTM1160-1133-CR	BRACKET, FLT-4-AIRSCALES PB20GA	4	
4	MTM1160-1152-CR	BRKT NOK-HEAVY U-HANG SHRT PB20GA -CR	2	
5	MTM1160-1161-CR	BRACKET AWHHF HANGER RIGHT PB20GA	2	
6	MTM1160-1167-CR	BRKT DIPLEX MNTG TOP/ANGLE PB20GA -CR	1	
7	MTM1160-1168-CR	BRKT MAIN PLATE RADIOS REAR PB20GA	1	
8	460143456	CLIP NUT, M6, 316 SST	16	5.2
9	100117-4	FA,SEMS,PH,XRES,M6X25,SST,PASS	22	5.2
10	100534-356	SCR,HCS,HEX,M5X12,SST,PASS	16	5.2
11	100522-19	WSHR,LK,SPLT, M5,SST, PASS	16	5.2
12	100521-19	WSHR,FLAT,M5,5.3X10X1,SST,PASS	16	5.2
13	MTC9415	M8 X 25mm HEX BOLT SS	8	5.2
14	MTC9418	M8 LOCK WASHER SS	8	5.2
15	MTC9419	M8 FLAT WASHER SS	8	5.2
9000	MTM1193-1101-AMK-N	REFERENCE DOCUMENT	1	5.3

COMMSCOPE, INC. OF NORTH CAROLINA

TOLERANCES

1 PLACE .X[X] ± N/A

2 PLACE .XX[X] ± N/A

3 PLACE .XXX[X] ± N/A

ANGLES ± N/A°

SAP MATERIAL MASTER

MTM1193-1101-AMK-N

FINISH

MATERIAL

UNLESS OTHERWISE SPECIFIED
DIMENSIONS ARE IN INCHES
INTERPRET PER ANSI Y 14.3M-1994

	NAME	DATE	TITLE
CE	NSUN	14SEP23	KIT NOKIAS INSTALL INTO PB20GA-0.375
RW	YC1059	09/11/2024	
AD	LX1002	09/11/2024	
RE	YC1059	09/20/2024	
ECN 40203410CMO			

SCALE

1:10

DOCUMENT NO.

MTM1193-1101-AMK-N

DENSITY

MASS

VOLUME

SURFACE AREA

6.00[152.4]

36.00[914.4]

18.00[457.2]

lbs/in³

lbs

in³

in²

HEIGHT

LENGTH

WIDTH

6.00[152.4]

36.00[914.4]

18.00[457.2]

SIZE

Auth Group

INSL

C

MODEL

VERSION

STATUS

REVISION

01

RE

B

DRAWING

VERSION

STATUS

REVISION

01

RE

B

SHEET

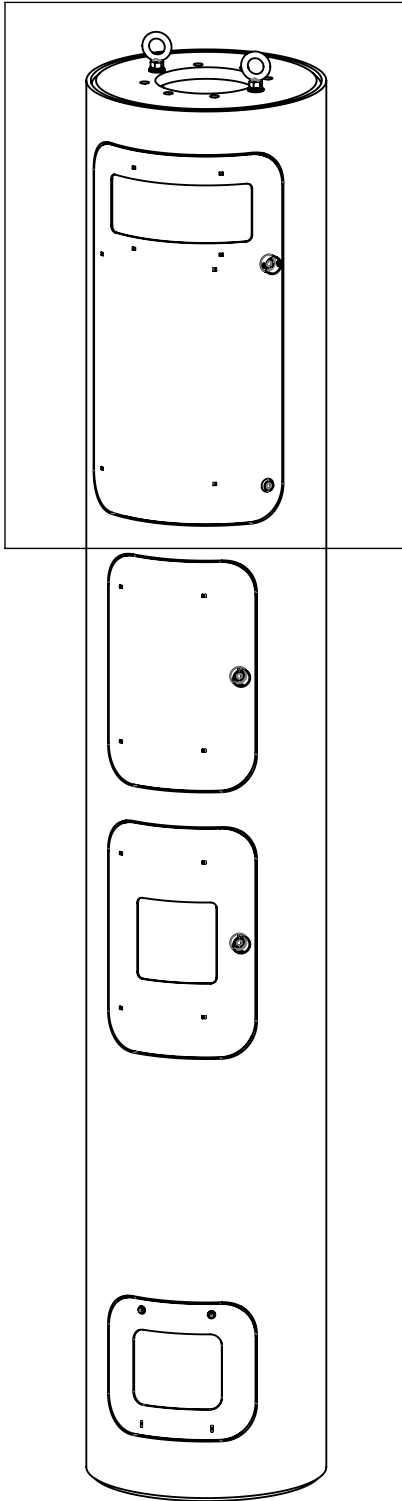
1 OF 9

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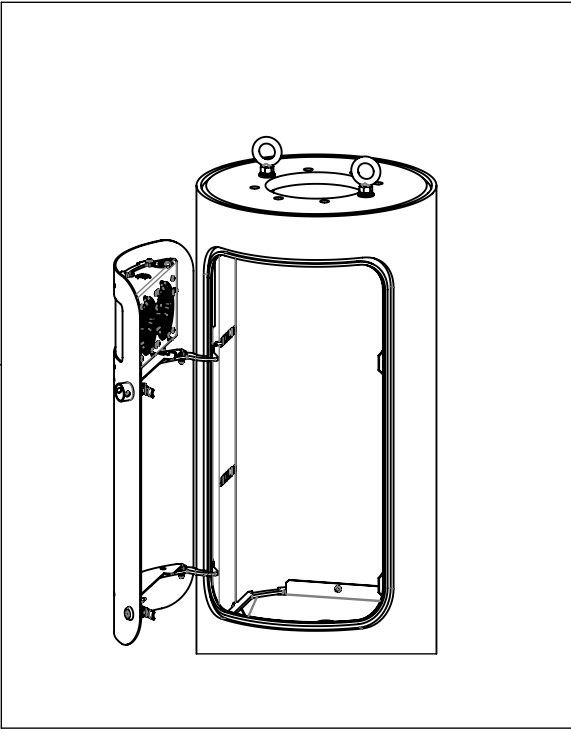
NOKIA EQUIPMENT INSTALLATION CONFIGURATION LIST

CONFIGURATION	SHEET NO.	EQUIP.1	QTY	EQUIP.2	QTY	EQUIP.3	QTY	EQUIP.4	QTY	EQUIP.5	QTY
N2	6	AHFIB	1	QUAD DIPLEXER SDX1926Q-43	1						
N3	7	AWHHF	1	QUAD DIPLEXER SDX1926Q-43	1	AHFB	1	AZQC 3.5GHZ	1		
N4	8	AHIB	1	QUAD DIPLEXER SDX1926Q-43	1	AHFB	1	AZQC 3.5GHZ	1	AZRB	1
N5	9	AHFIB	1	QUAD DIPLEXER SDX1926Q-43	1	AWHHF	1				
N6 (TBD)	(TBD)	AZHL, (FUTURE)	1	QUAD DIPLEXER SDX1926Q-43	1						

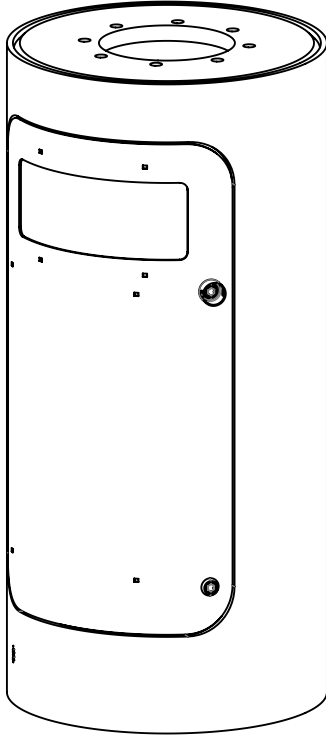
ESTABLISH NOKIA CONFIGURATION FROM ABOVE TABLE TO INSTALL DESIRED NOKIA RADIOS IN THE PB20GA AND OPTIONAL D-MODULE
SEE SHEET 4 FOR DETAILED SECURING OF RADIOS & DIPLEXERS TO BRACKETS.
SEE SPECIFIC SHEET NUMBER FOR FURTHER INSTALLATION DETAILS.



PB20GA



RADIO COMPARTMENT



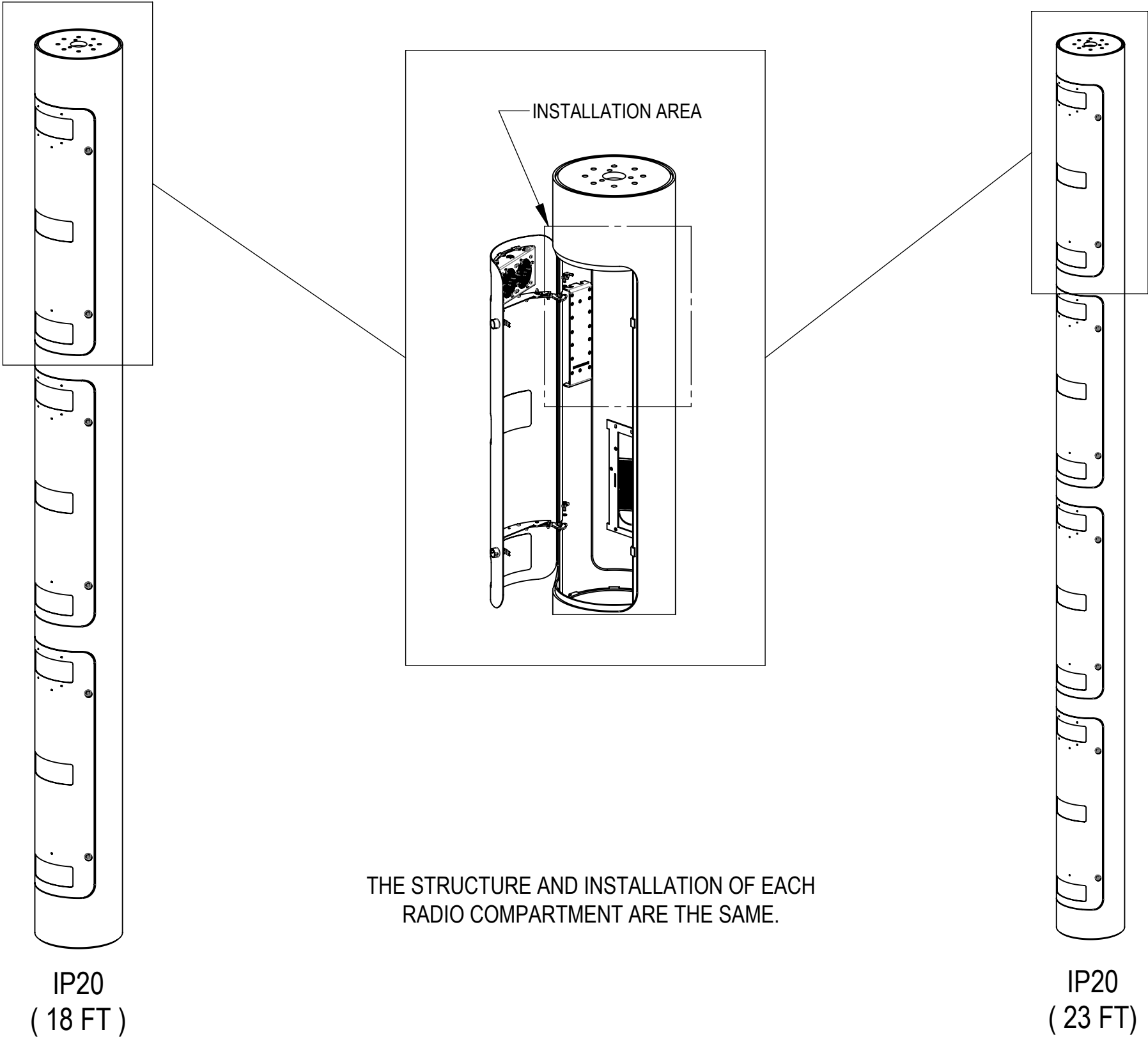
D-MODULE

COMMSCOPE, INC. OF NORTH CAROLINA					
TITLE KIT NOKIAS INSTALL INTO PB20GA-0.375					
SIZE C	SCALE 1:10	DOCUMENT NO. MTM1193-1101-AMK-N			
 		DRAWING			SHEET 2 OF 9
		VERSION 01	STATUS RE	REVISION B	

NOKIA EQUIPMENT INSTALLATION CONFIGURATION LIST

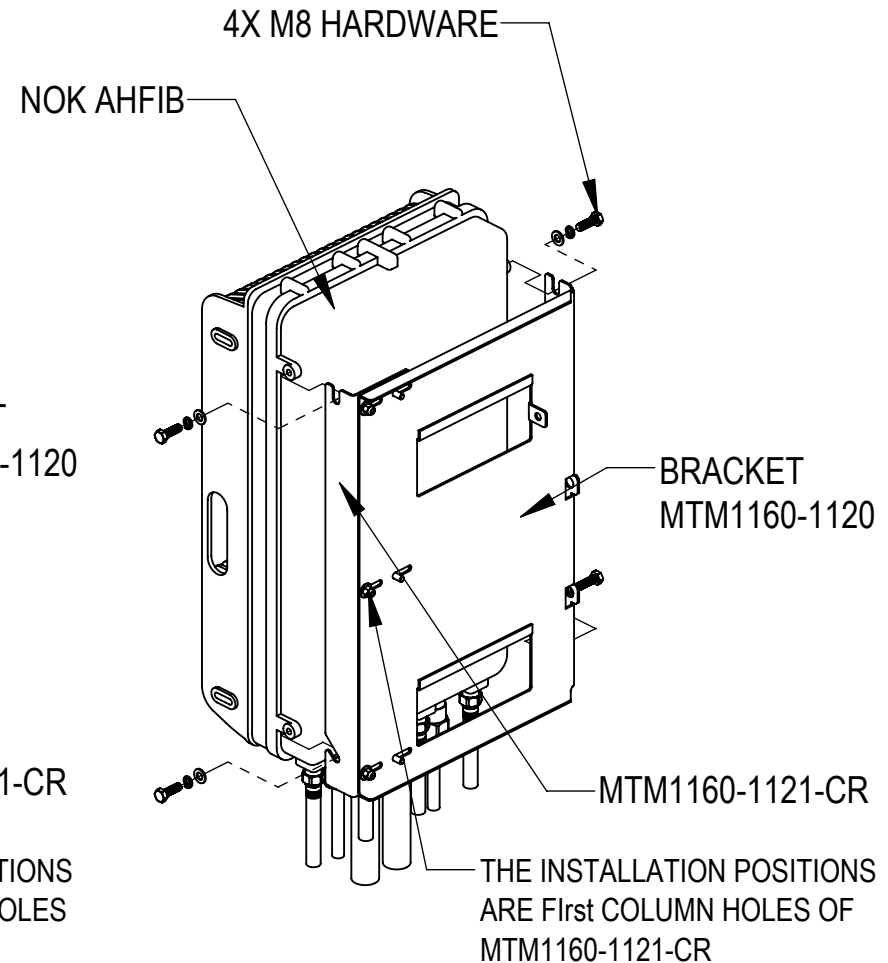
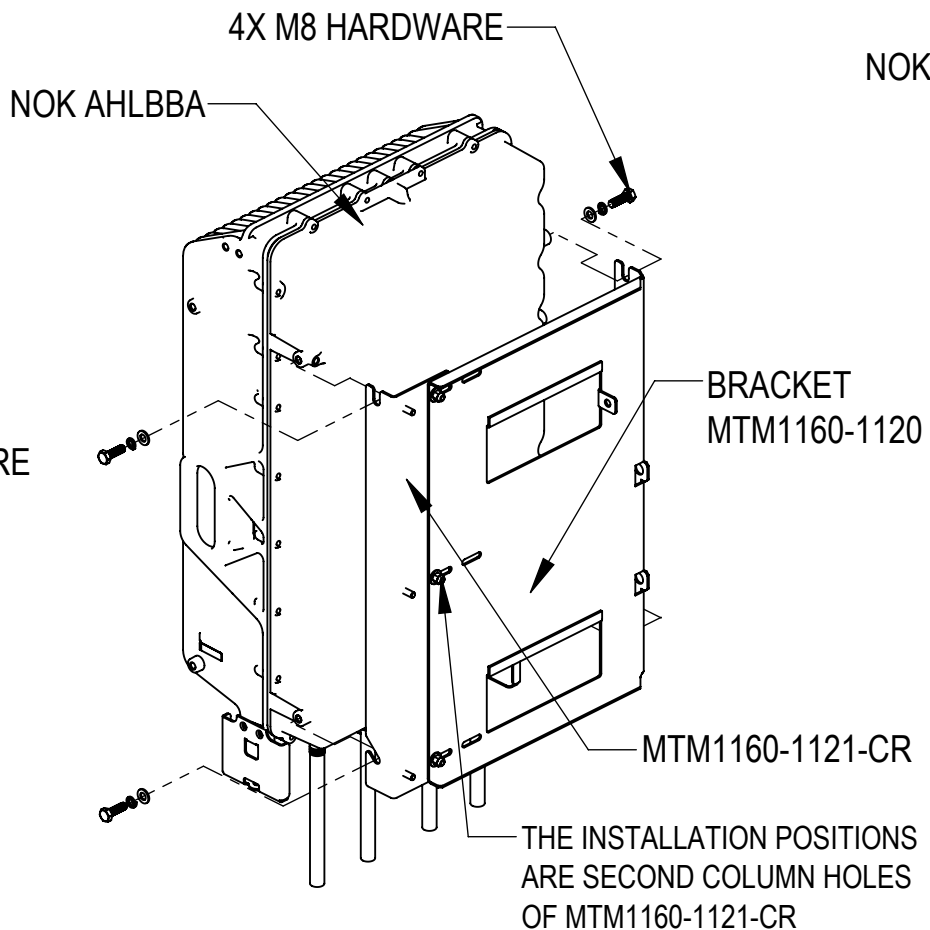
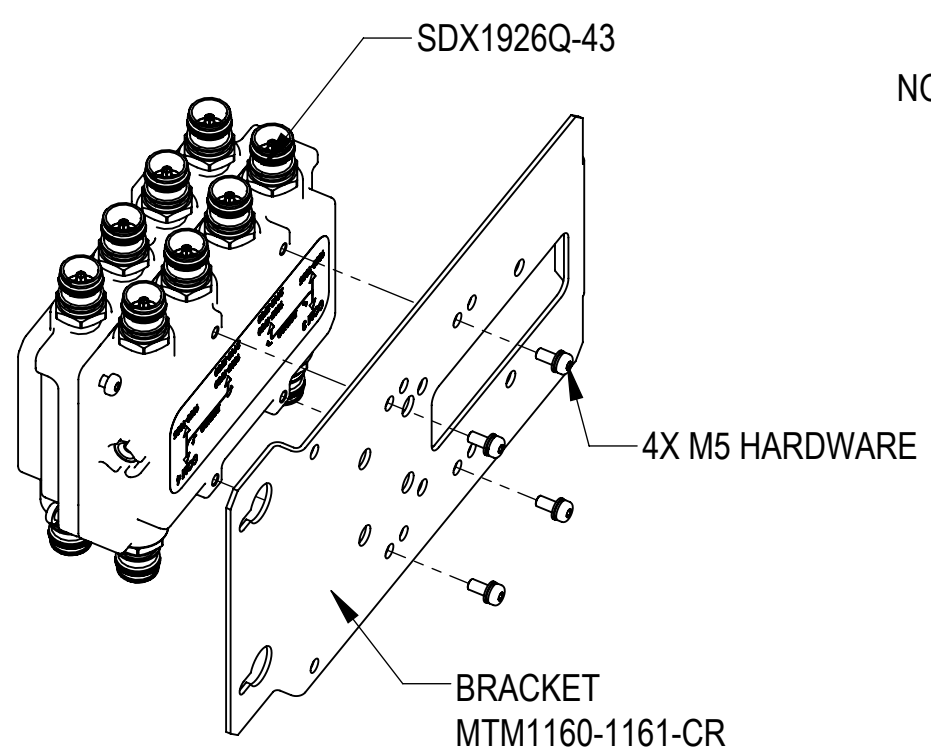
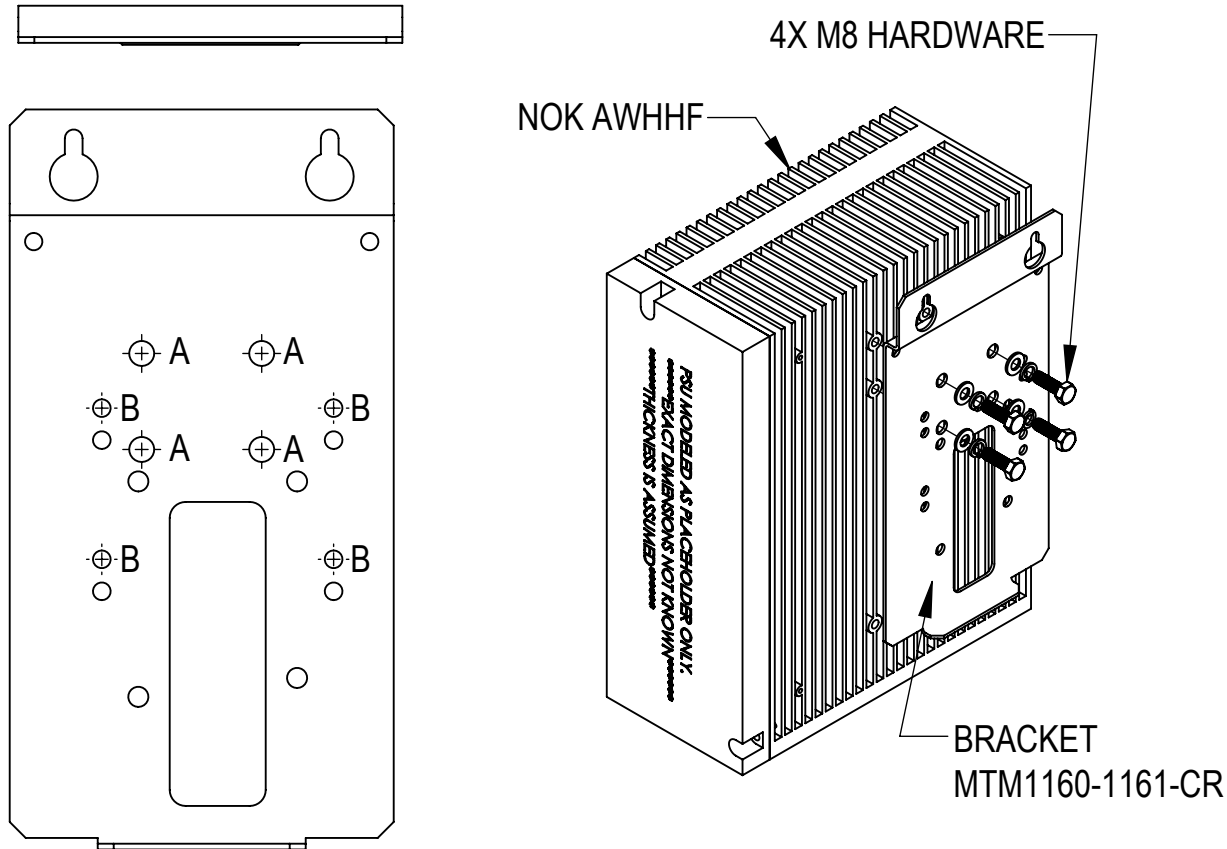
CONFIGURATION	SHEET NO.	EQUIP.1	QTY	EQUIP.2	QTY	EQUIP.3	QTY	EQUIP.4	QTY	EQUIP.5	QTY
N1	5	AHLBBA	1	QUAD DIPLEXER SDX1926Q-43	1						
N2	6	AHFIB	1	QUAD DIPLEXER SDX1926Q-43	1						
N3	7	AWHHF	1	QUAD DIPLEXER SDX1926Q-43	1	AHFB	1	AZQC 3.5GHZ	1		
N4	8	AHIB	1	QUAD DIPLEXER SDX1926Q-43	1	AHFB	1	AZQC 3.5GHZ	1	AZRB	1
N5	9	AHFIB	1	QUAD DIPLEXER SDX1926Q-43	1	AWHHF	1				
N6 (TBD)	(TBD)	AZHL, (FUTURE)	1	QUAD DIPLEXER SDX1926Q-43	1						

ESTABLISH NOKIA CONFIGURATION FROM ABOVE TABLE TO INSTALL DESIRED NOKIA RADIOS IN THE IP20
SEE SHEET 4 FOR DETAILED SECURING OF RADIOS & DIPLEXERS TO BRACKETS.
SEE SPECIFIC SHEET NUMBER FOR FURTHER INSTALLATION DETAILS.



COMMScope, INC. OF NORTH CAROLINA					
TITLE KIT NOKIAS INSTALL INTO PB20GA-0.375					
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 		DRAWING			SHEET 3 OF 9
		VERSION 01	STATUS RE	REVISION B	

EQUIPMENT MOUNTING INSTALLATION



RADIO INSTALLATION
MTM1160-1161-CR

"A": NOK AWHHF
"B": QUAD DIPLEXER SDX1926Q

NOK AWHHF:

INSTALL THE NOK AWHHF TO THE MOUNTING BRACKET MTM1160-1161-CR USING 4 SETS OF M8 BOLTS AS SHOWN

SDX1926Q-43(MTM1160-1161-CR):

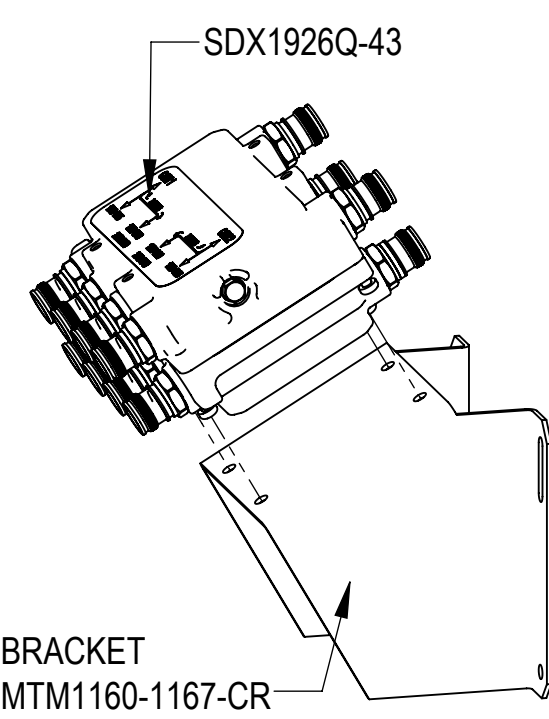
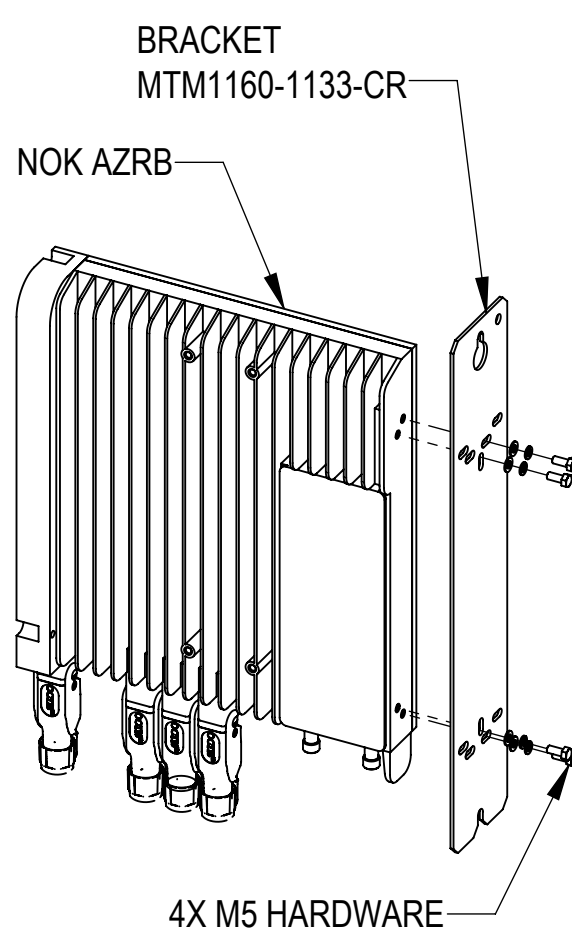
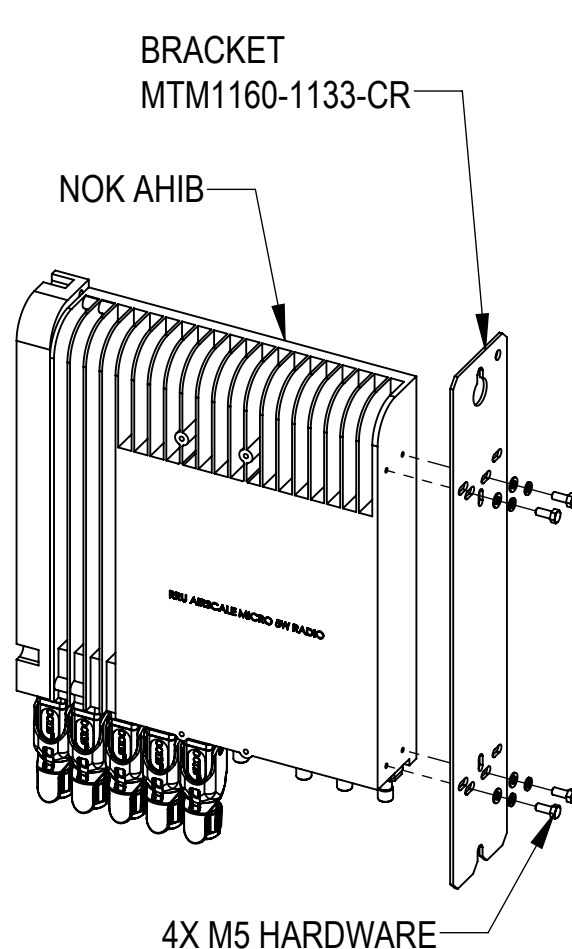
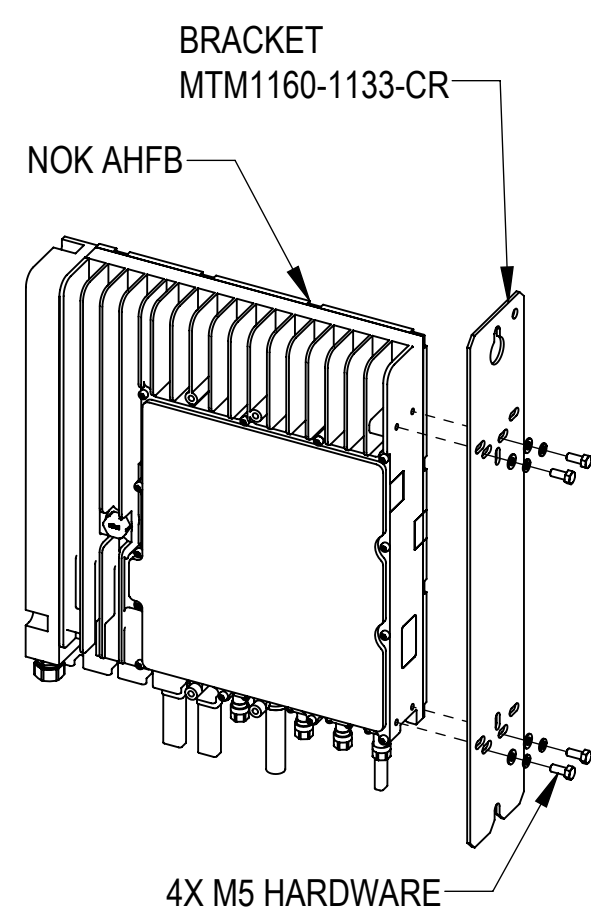
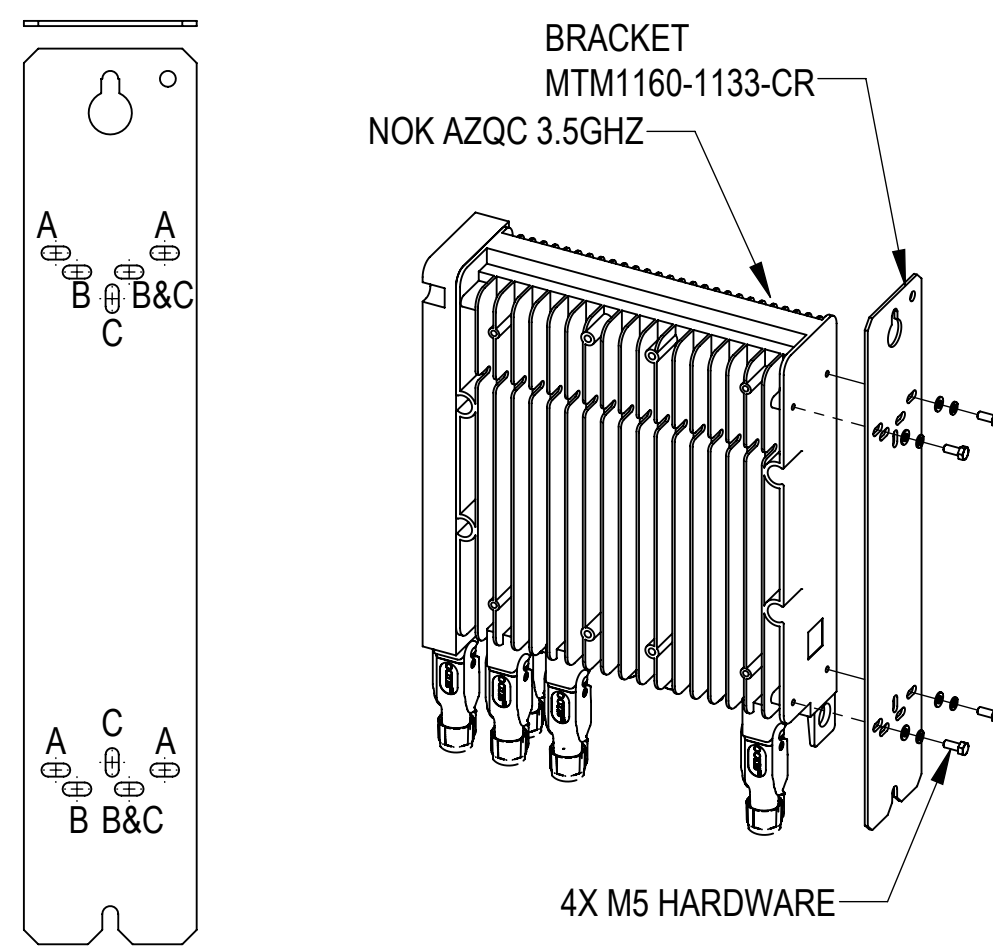
INSTALL THE QUAD DIPLEXER SDX1926Q TO THE MOUNTING BRACKET MTM1160-1161-CR USING 4 SETS OF M5 CAPTIVE SEM SCREWS PROVIDED WITH THE SDX1926Q-43

NOK AHLBBA:

INSTALL THE NOK AHLBBA TO THE MOUNTING BRACKET MTM1160-1120 USING 4 SETS OF M8 BOLTS AS SHOWN

NOK AHFIB:

INSTALL THE NOK AHFIB TO THE MOUNTING BRACKET MTM1160-1120 USING 4 SETS OF M8 BOLTS AS SHOWN



RADIO INSTALLATION
MTM1160-1133-CR

"A": NOK AZQC 3.5GHZ
"B": NOK AHFB + NOK AHIB
"C": NOK AZRB

NOK AZQC 3.5GHZ:

INSTALL THE AZQC 3.5GHZ TO THE MOUNTING BRACKET MTM1160-1133-CR USING 4 SETS OF M5 BOLTS AS SHOWN

NOK AHFB:

INSTALL THE AHFB TO THE MOUNTING BRACKET MTM1160-1133-CR USING 4 SETS OF M5 BOLTS AS SHOWN

NOK AHIB:

INSTALL THE AHIB TO THE MOUNTING BRACKET MTM1160-1133-CR USING 4 SETS OF M5 BOLTS AS SHOWN

NOK AZRB:

INSTALL THE AZRB TO THE MOUNTING BRACKET MTM1160-1133-CR USING 4 SETS OF M5 BOLTS AS SHOWN

SDX1926Q-43 (MTM1160-1167-CR):

INSTALL THE QUAD DIPLEXER SDX1926Q-43 TO THE MOUNTING BRACKET MTM1160-1167-CR USING 4 SETS OF M5 CAPTIVE SEM SCREWS PROVIDED WITH THE SDX1926Q-43

TORQUE ALL TO SPEC

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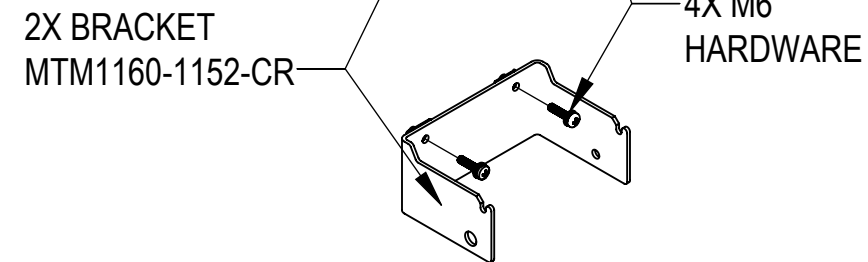
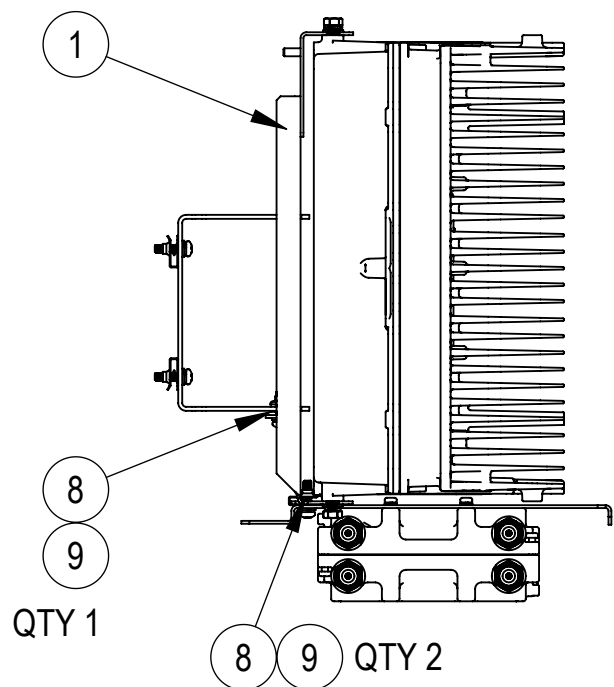
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TITLE KIT NOKIAS INSTALL INTO PB20GA-0.375				
SIZE C	SCALE 1:10	DOCUMENT NO. MTM1193-1101-AMK-N		
		DRAWING		
		VERSION 01	STATUS RE	REVISION B
				SHEET 4 OF 9

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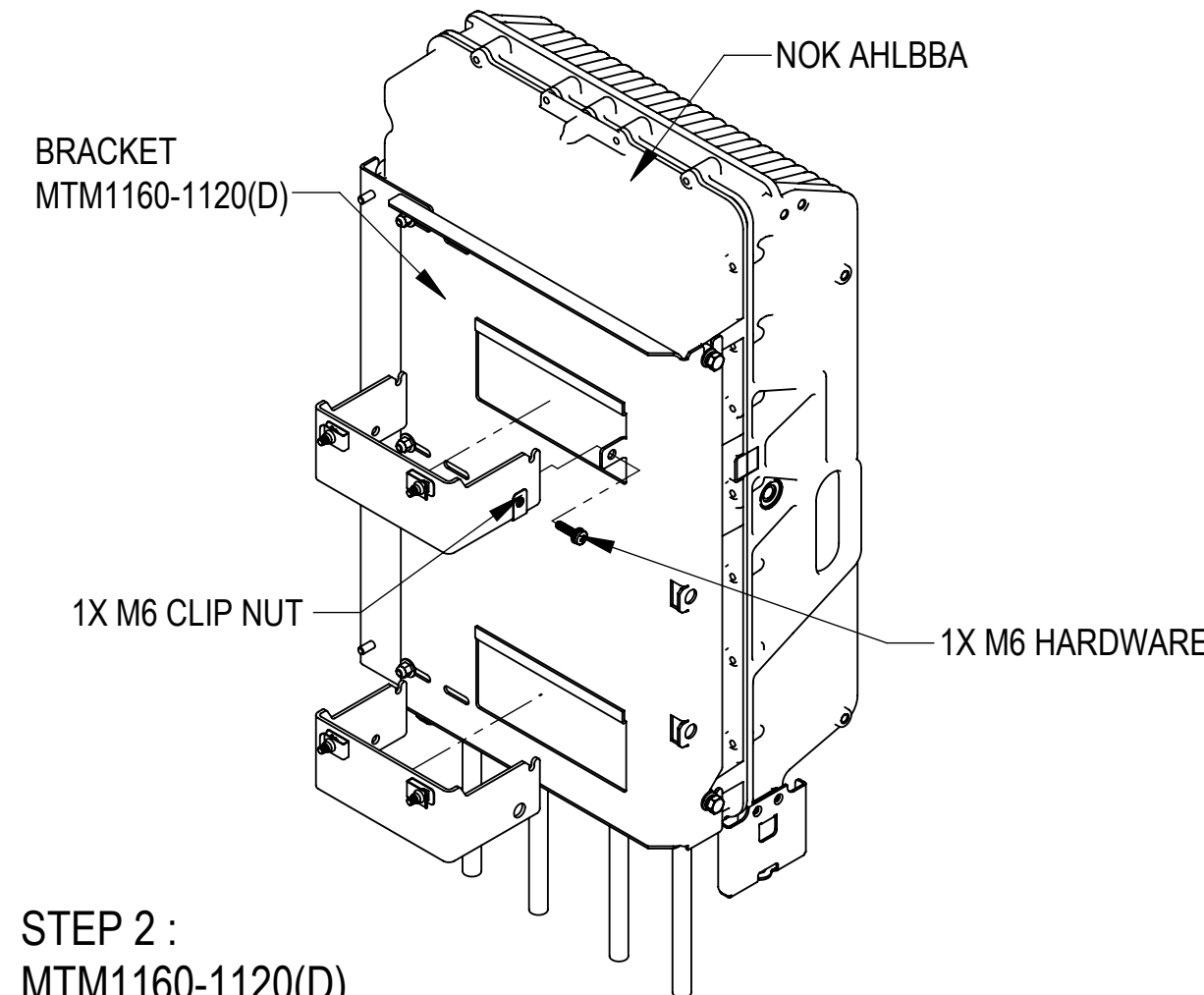
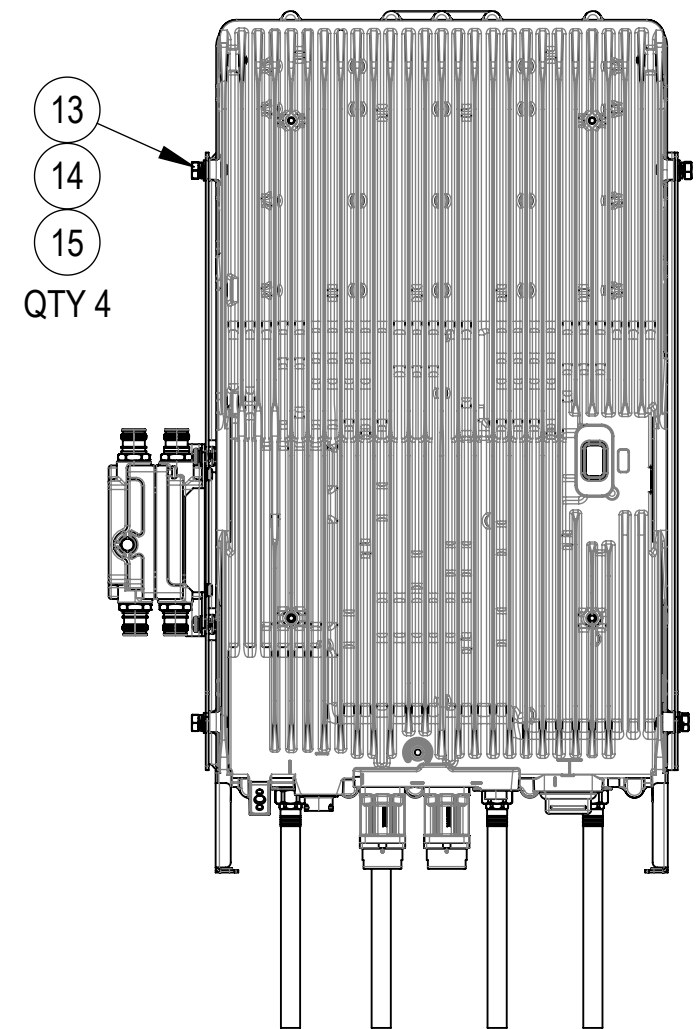
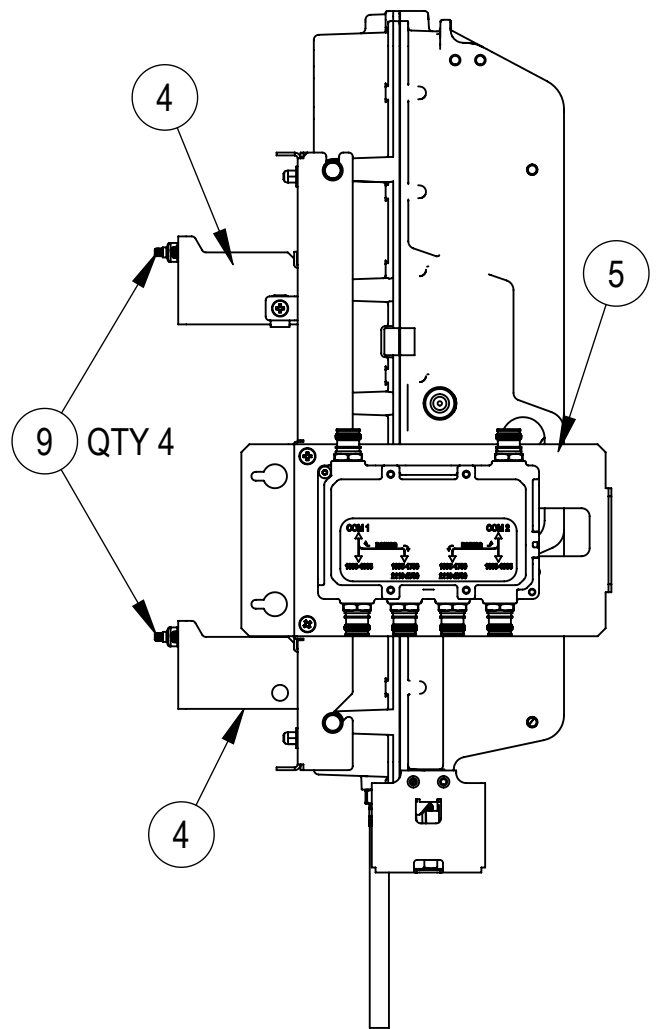
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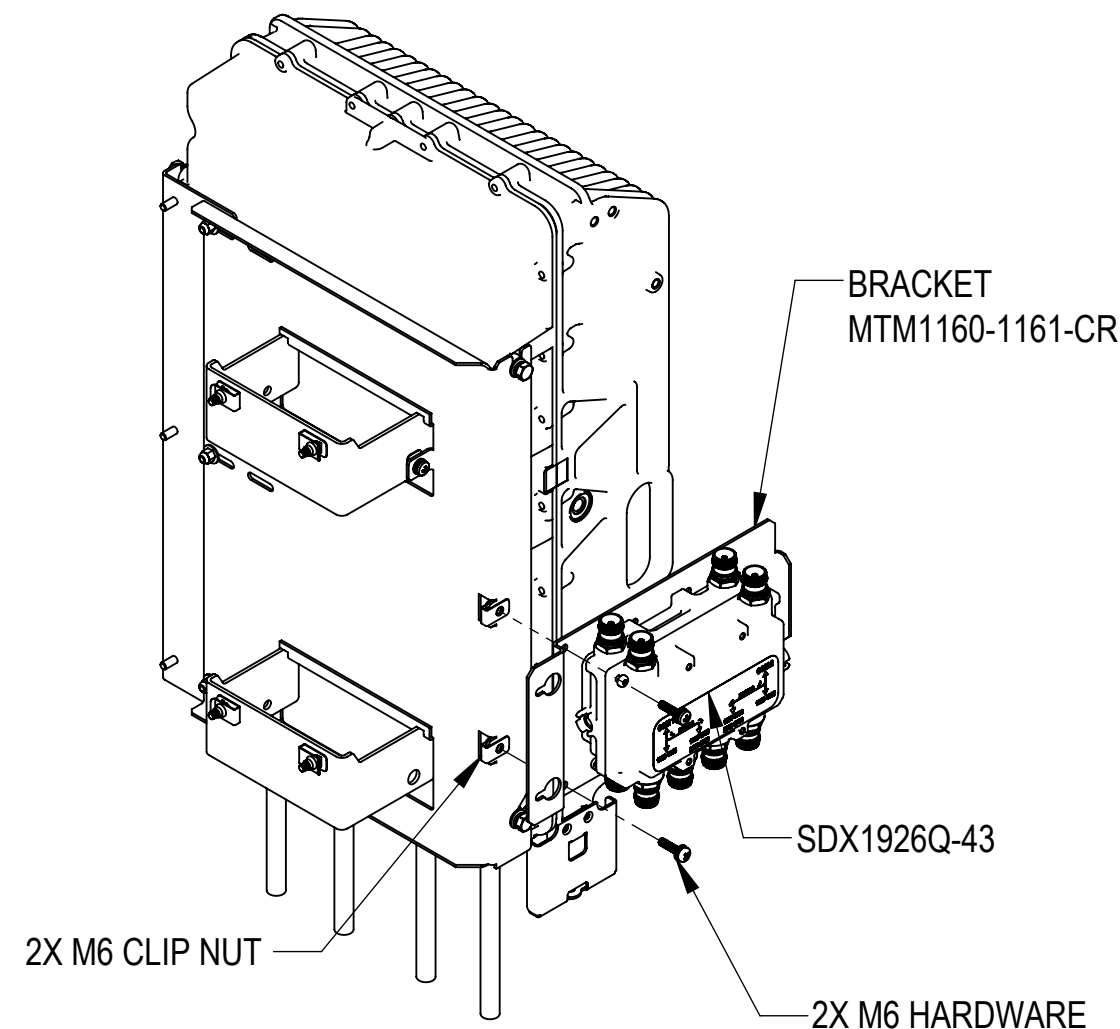
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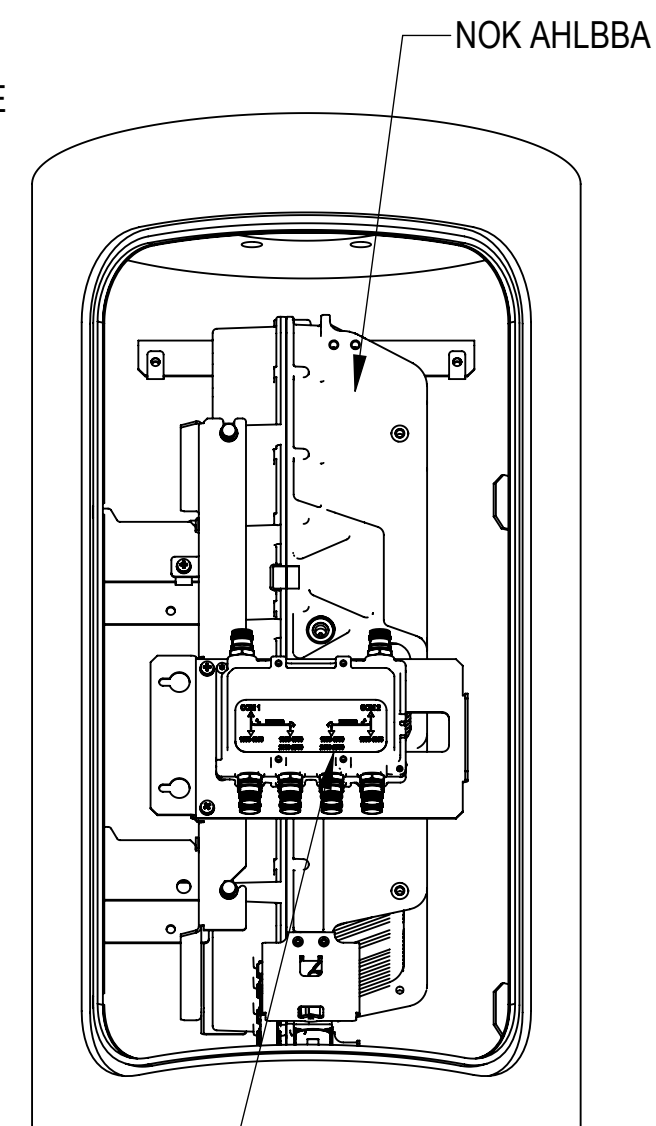
STEP 1 :
MTM1160-1152-CR
1. INSTALL THE 2 MOUNTING BRACKET MTM1160-1152-CR TO BRACKET OF ASSEMBLY USING 4 SETS OF M6 BOLTS



STEP 2 :
MTM1160-1120(D)
1. INSTALL M6 CLIP NUTS AS SHOWN
2. HANG THE MOUNTING BRACKET MTM1160-1120(D) TO 2 MOUNTING BRACKET MTM1160-1152-CR, THEN LOCK THEM USING 1 SET OF M6 BOLTS



STEP 3 :
MTM1160-1161-CR
1. INSTALL M6 CLIP NUTS AS SHOWN
2. INSTALL THE MOUNTING BRACKET MTM1160-1161-CR TO THE MOUNTING BRACKET MTM1160-1120 USING 2 SETS OF M6 BOLTS



BOM FOR NOK AHFIB + QUAD DIPLEXER SDX1926Q-43 INSTALLATION			
ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	MTM1160-1120	KIT MULTI-FIT BIG NOK INSTALL PB20GA	1
4	MTM1160-1151-CR	BRACKET NOK-HEAVY U-HANG LONG PB20GA	2
5	MTM1160-1161-CR	BRACKET AWHHF HANGER RIGHT PB20GA	1
8	460143456	CLIP NUT, M6, 316 SST	3
9	100117-4	FA,SEMS,PH,XRES,M6X25,SST,PASS	7
13	MTC9415	M8 X 25mm HEX BOLT SS	4
14	MTC9418	M8 LOCK WASHER SS	4
15	MTC9419	M8 FLAT WASHER SS	4
16	100631-32	FA,SEM,PH,TORX,M5X12,SST,ZN	4

N1: NOK AHLBBA + QUAD DIPLEXER SDX1926Q-43 INSTALLATION

EQUIPMENT INSTALLATION SEE SHEET 4
TORQUE ALL TO SPEC

COMMScope, INC. OF NORTH CAROLINA				
TITLE				
KIT NOKIAS INSTALL INTO PB20GA-0.375				
SIZE	SCALE	DOCUMENT NO.		
C	1:10	MTM1193-1101-AMK-N		
		DRAWING		
		VERSION	STATUS	REVISION
		01	RE	B
				SHEET
				5 OF 9

D

C

B

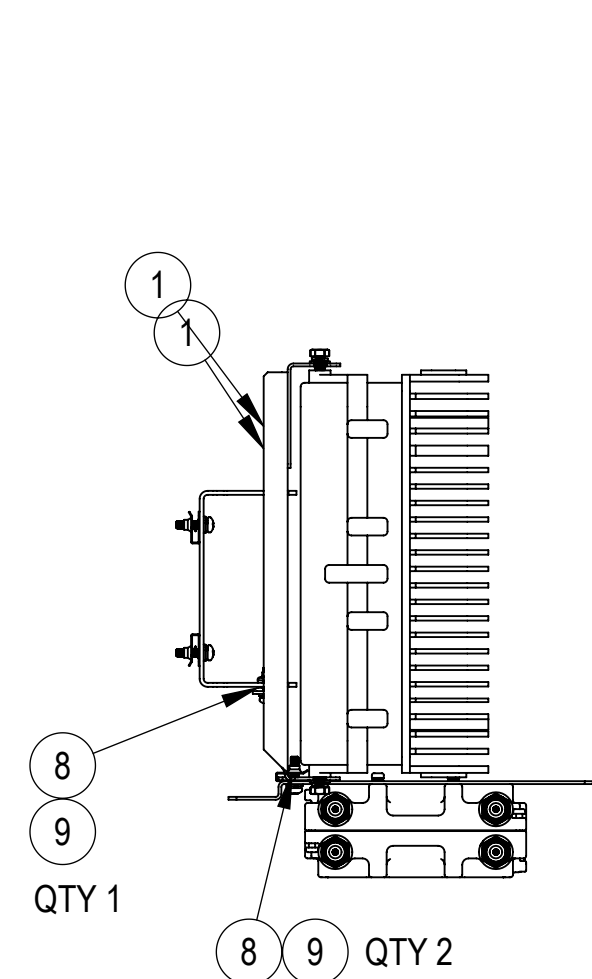
A

D

C

B

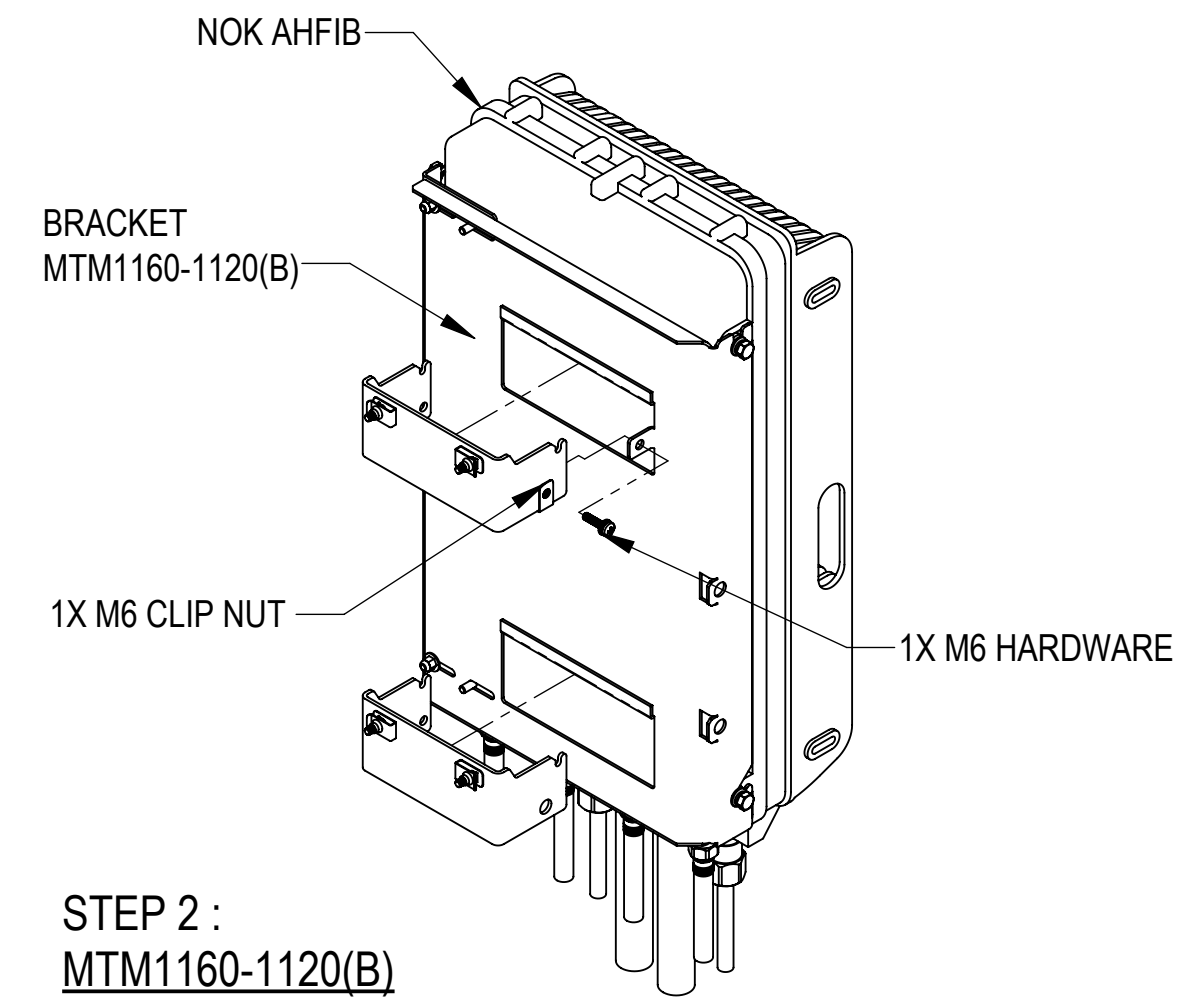
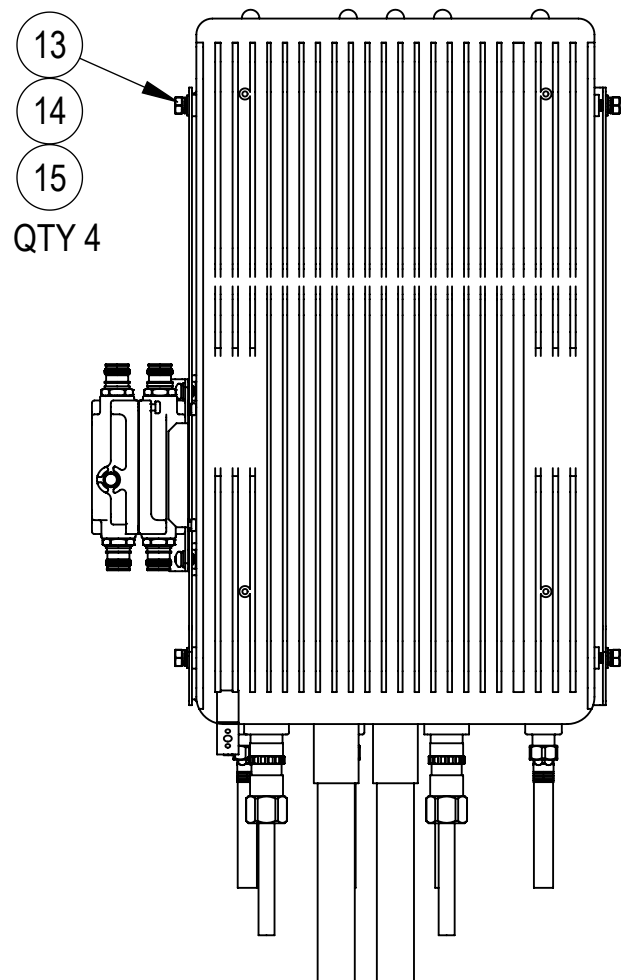
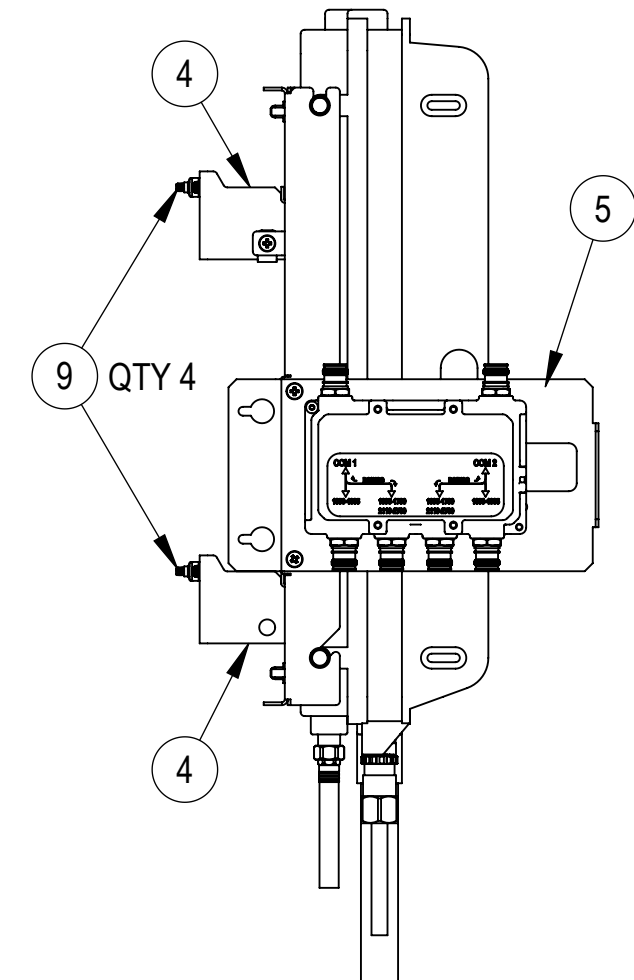
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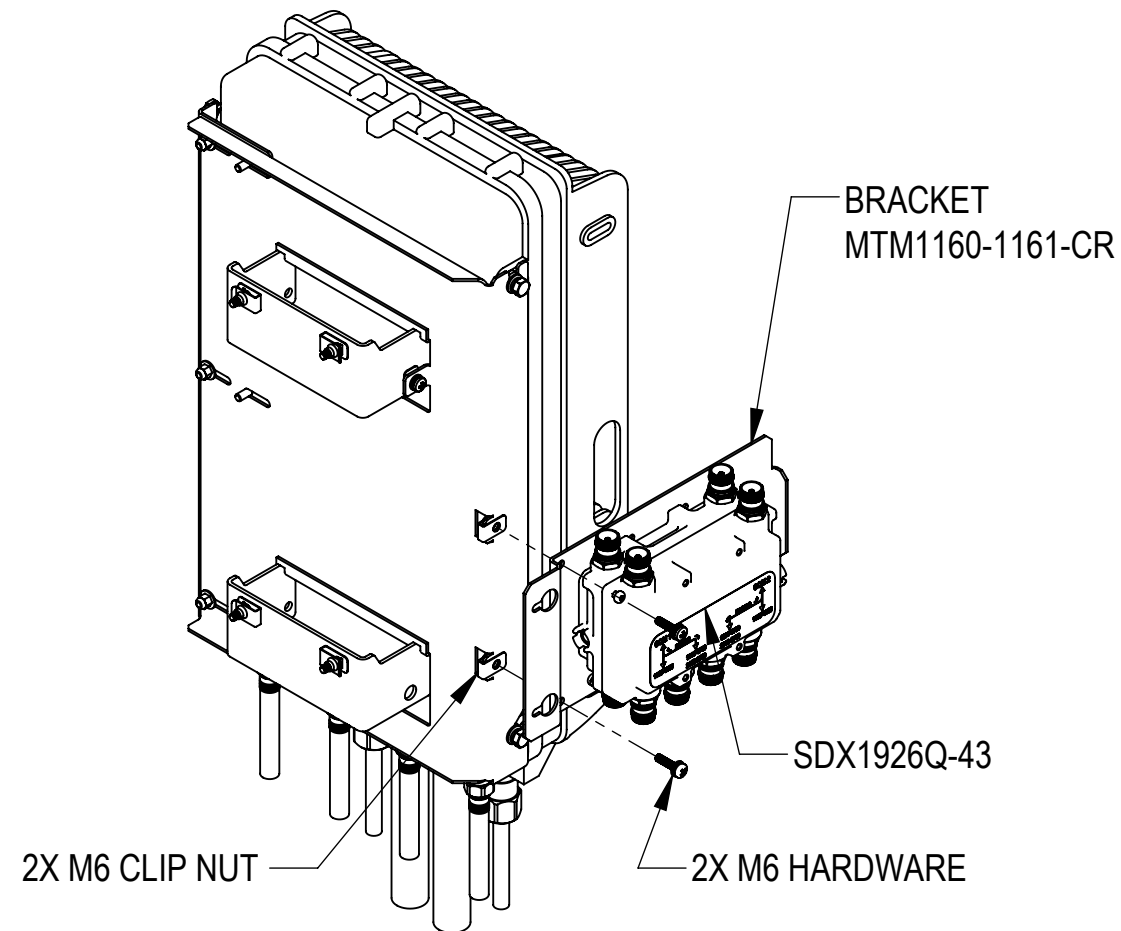
2X BRACKET
MTM1160-1152-CR

4X M6
HARDWARE

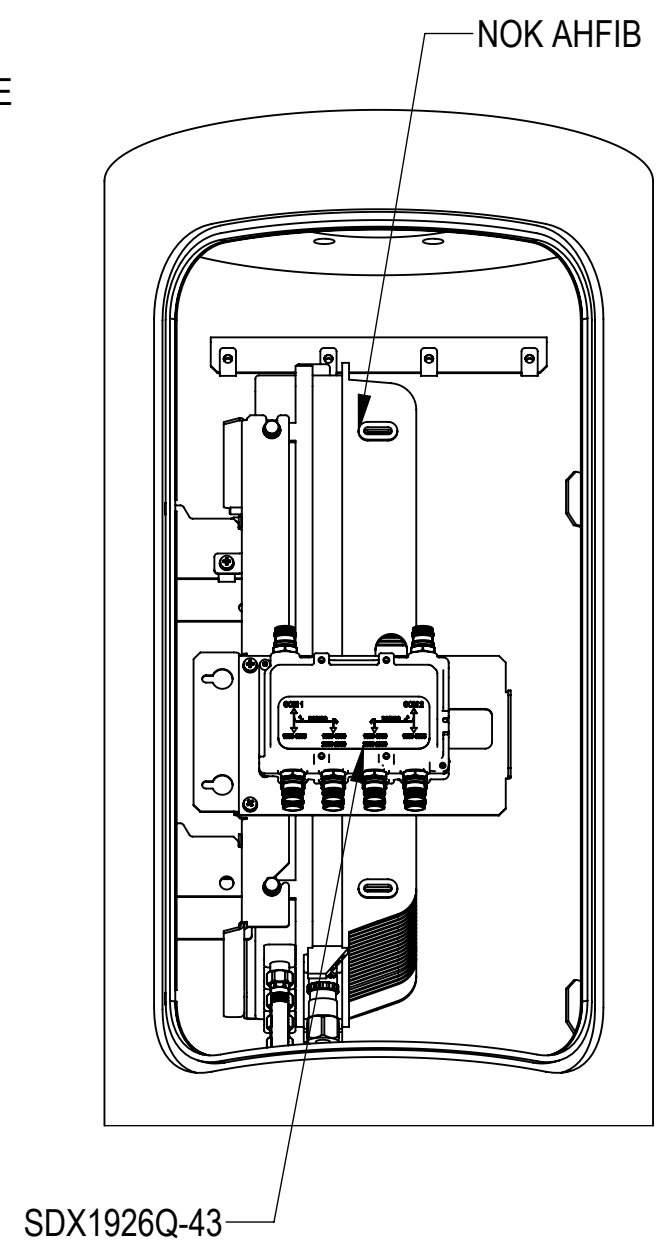
STEP 1 :
MTM1160-1152-CR
1. INSTALL THE 2 MOUNTING BRACKET MTM1160-1152-CR
TO BRACKET OF ASSEMBLY USING 4 SETS OF M6 BOLTS



STEP 2 :
MTM1160-1120(B)
1. INSTALL M6 CLIP NUTS AS SHOWN
2. HANG THE MOUNTING BRACKET MTM1160-1120(B) TO 2 MOUNTING
BRACKET MTM1160-1152, THEN LOCK THEM USING 1 SET OF M6 BOLTS



STEP 3 :
MTM1160-1161-CR
1. INSTALL M6 CLIP NUTS AS SHOWN
2. INSTALL THE MOUNTING BRACKET MTM1160-1161-CR TO THE
MOUNTING BRACKET MTM1160-1120 USING 2 SETS OF M6 BOLTS



BOM FOR NOK AHFIB + QUAD DIPLEXER SDX1926Q-43 INSTALLATION

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
1	MTM1160-1120	KIT MULTI-FIT BIG NOK INSTALL PB20GA	1
4	MTM1160-1152-CR	BRACKET NOK-HEAVY U-HANG SHORT PB20GA	2
5	MTM1160-1161-CR	BRACKET AWHHF HANGER RIGHT PB20GA	1
8	460143456	CLIP NUT, M6, 316 SST	3
9	100117-4	FA,SEMS,PH,XRES,M6X25,SST,PASS	7
13	MTC9415	M8 X 25mm HEX BOLT SS	4
14	MTC9418	M8 LOCK WASHER SS	4
15	MTC9419	M8 FLAT WASHER SS	4

N2: NOK AHFIB + QUAD DIPLEXER SDX1926Q-43 INSTALLATION

EQUIPMENT INSTALLATION SEE SHEET 4
TORQUE ALL TO SPEC

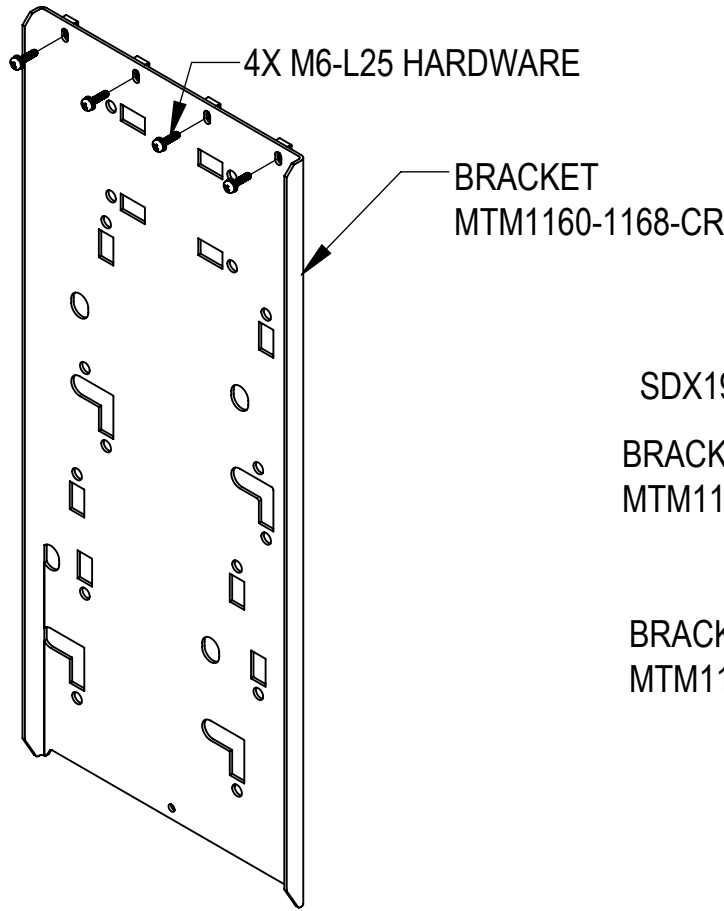
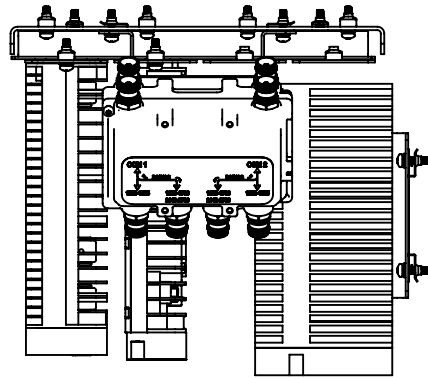
COMMScope, INC. OF NORTH CAROLINA				
TITLE KIT NOKIAS INSTALL INTO PB20GA-0.375				
SIZE C	SCALE 1:10	DOCUMENT NO. MTM1193-1101-AMK-N		
 		DRAWING		
		VERSION 01	STATUS RE	REVISION B
				SHEET 6 OF 9

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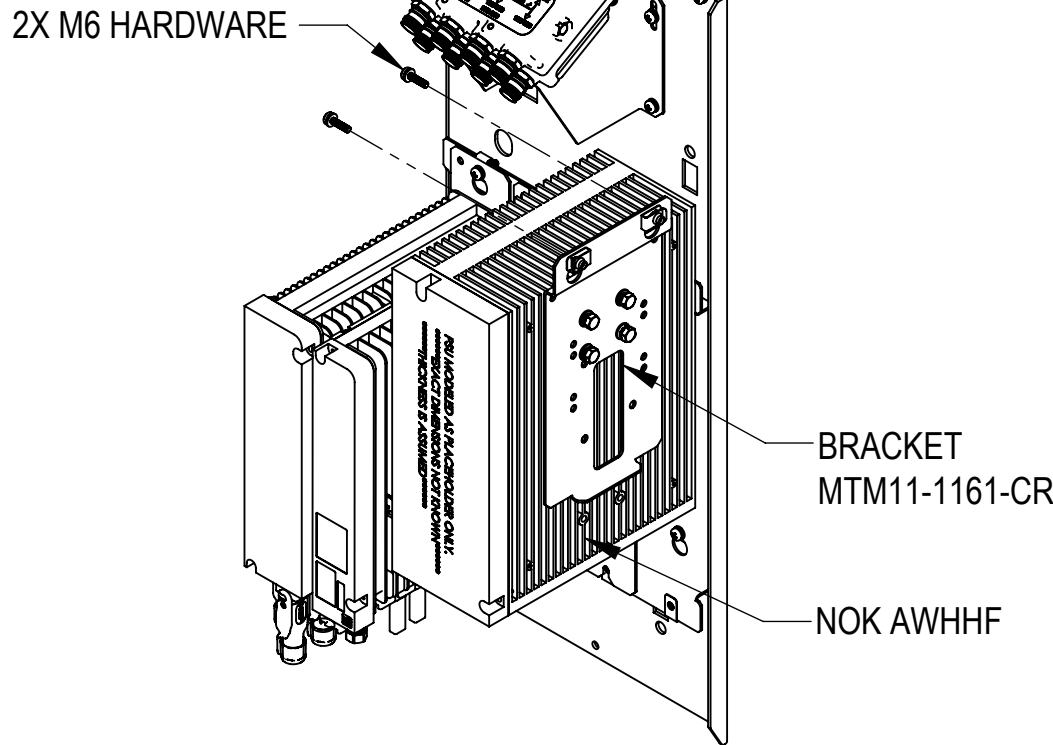


STEP 1 :
MTM1160-1168-CR

1. INSTALL THE MOUNTING BRACKET MTM1160-1168-CR TO BRACKET OF ASSEMBLY USING 4 SETS OF M6 BOLTS

STEP 2 :
MTM1160-1167-CR(SDX1926Q-43) + MTM1160-1131-CR

1. INSTALL M6 CLIP NUTS AS SHOWN
2. INSTALL THE MOUNTING BRACKET MTM1160-1167-CR TO THE MOUNTING BRACKET MTM1160-1168-CR USING 4 SETS OF M6 BOLTS
3. INSTALL THE MOUNTING BRACKET MTM1160-1131-CR TO THE MOUNTING BRACKET MTM1160-1168-CR USING 4 SETS OF M6 BOLTS

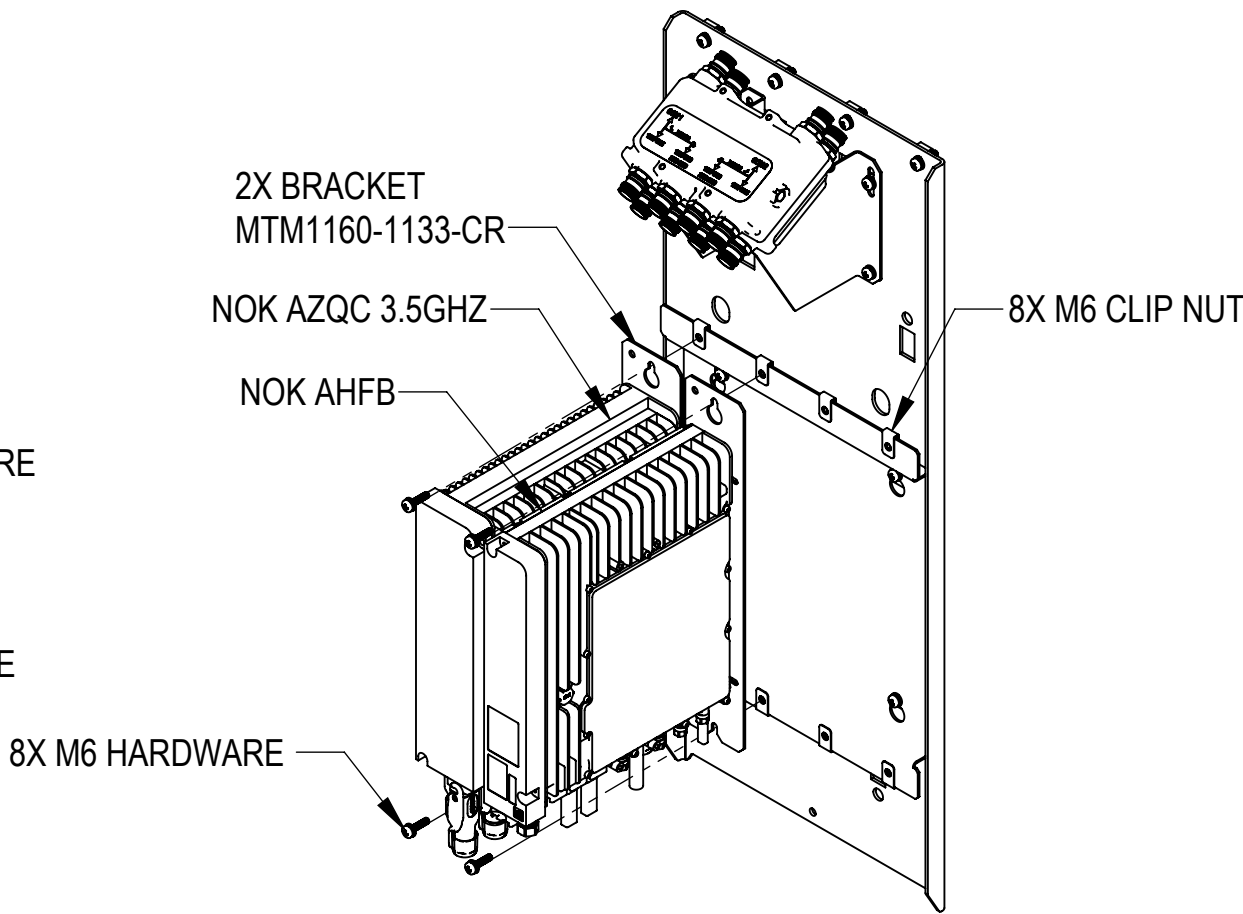


STEP 4 :
MTM1160-1161-CR

1. INSTALL THE MOUNTING BRACKET MTM1160-1161-CR TO BRACKET OF ASSEMBLY USING 6 SETS OF M6 BOLTS

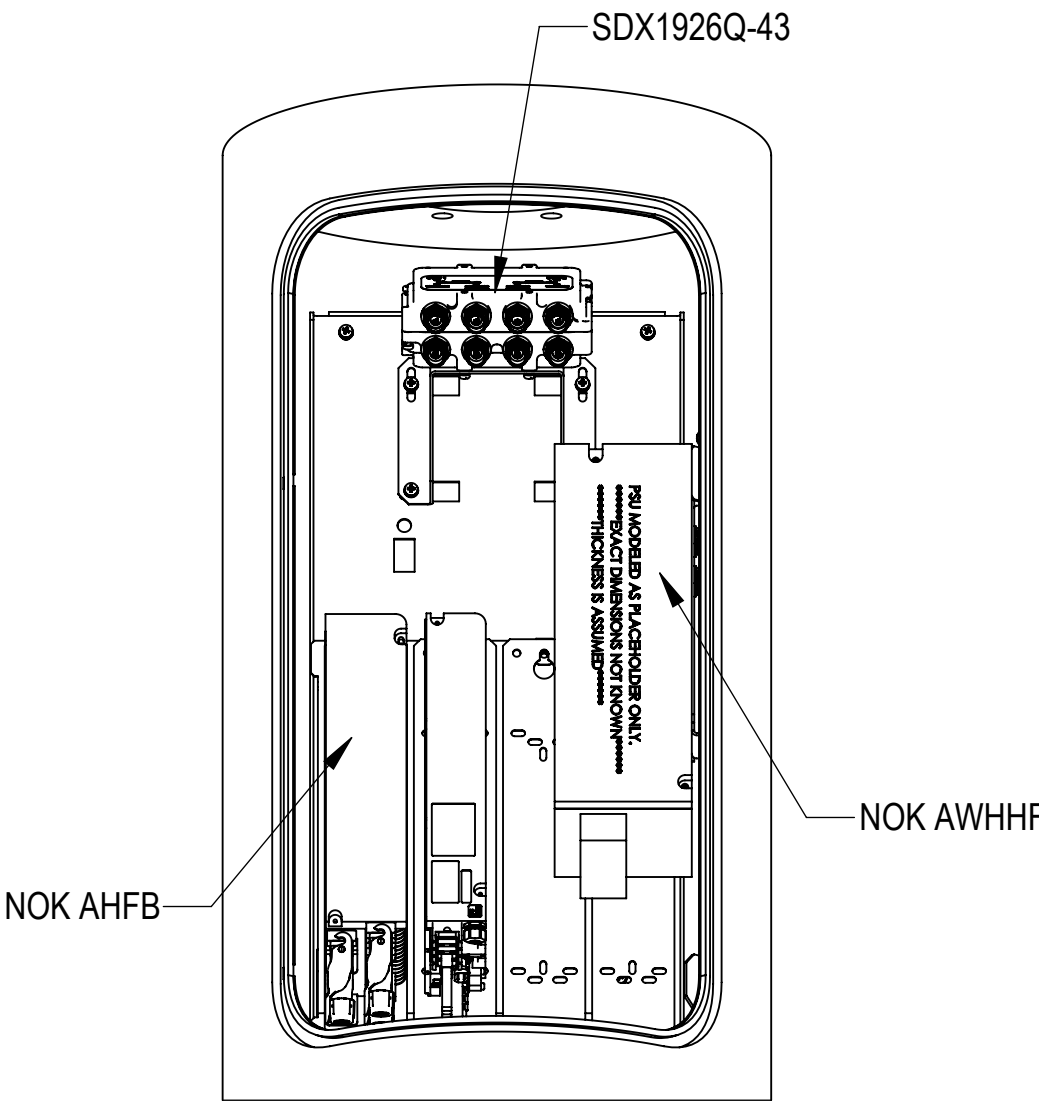
N3: NOK AWHHF + NOK AZQC 3.5GHZ
+ QUAD DIPLEXER SDX1926Q-43 INSTALLATION

EQUIPMENT INSTALLATION SEE SHEET 4
TORQUE ALL TO SPEC



STEP 3 :
MTM1160-1133-CR

1. INSTALL M6 CLIP NUTS AS SHOWN
2. INSTALL 4 MOUNTING BRACKET MTM1160-1133-CR(2 EMPTY BRACKETS) TO THE MOUNTING BRACKET MTM1160-1131-CR USING 8 SETS OF M6 BOLTS



BOM FOR AWHHF + AZQC 3.5GHZ + AHFB + QUAD DIPLEXER SDX1926Q-43 INSTALLATION

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
2	MTM1160-1131-CR	BRACKET PB20GA RAD 1-2-4 MULTI MOUNT	1
3	MTM1160-1133-CR	BRACKET, FLT-4-AIRSCALES PB20GA	4
5	MTM1160-1161-CR	BRACKET AWHHF HANGER RIGHT PB20GA	1
6	MTM1160-1167-CR	BRKT DIPLEX MNTG TOP/ANGLE PB20GA	1
7	MTM1160-1168-CR	BRKT MAIN PLATE RADIOS REAR PB20GA	1
8	460143456	CLIP NUT, M6, 316 SST	16
9	100117-4	FA,SEMS,PH,XRES,M6X25,SST,PASS	18
10	100534-356	SCR,HCS,HEX,M5X12,SST,PASS	8
11	100522-19	WSHR,LK,SPLT, M5,SST, PASS	8
12	100521-19	WSHR,FLAT,M5,5.3X10X1,SST,PASS	8
13	MTC9415	M8 X 25mm HEX BOLT SS	4
14	MTC9418	M8 LOCK WASHER SS	4
15	MTC9419	M8 FLAT WASHER SS	4

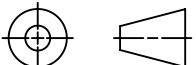
COMMScope, INC. OF NORTH CAROLINA

TITLE
KIT NOKIAS INSTALL INTO PB20GA-0.375

SIZE
C

SCALE
1:10

DOCUMENT NO.
MTM1193-1101-AMK-N



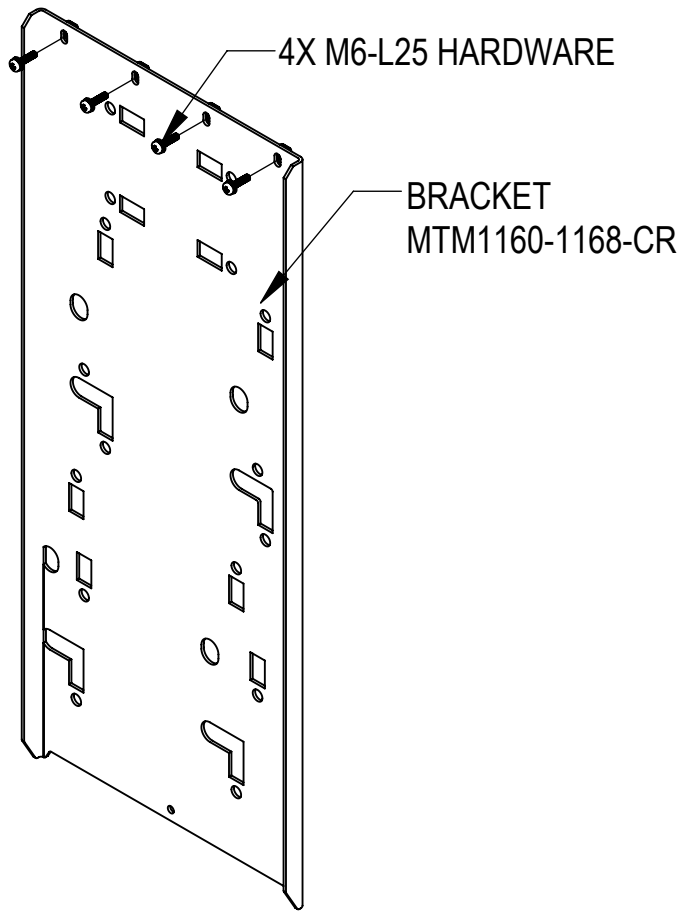
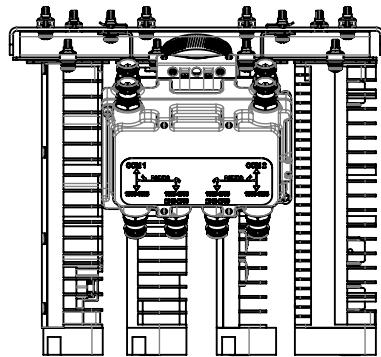
DRAWING			SHEET 7 OF 9
VERSION	STATUS	REVISION	
01	RE	B	

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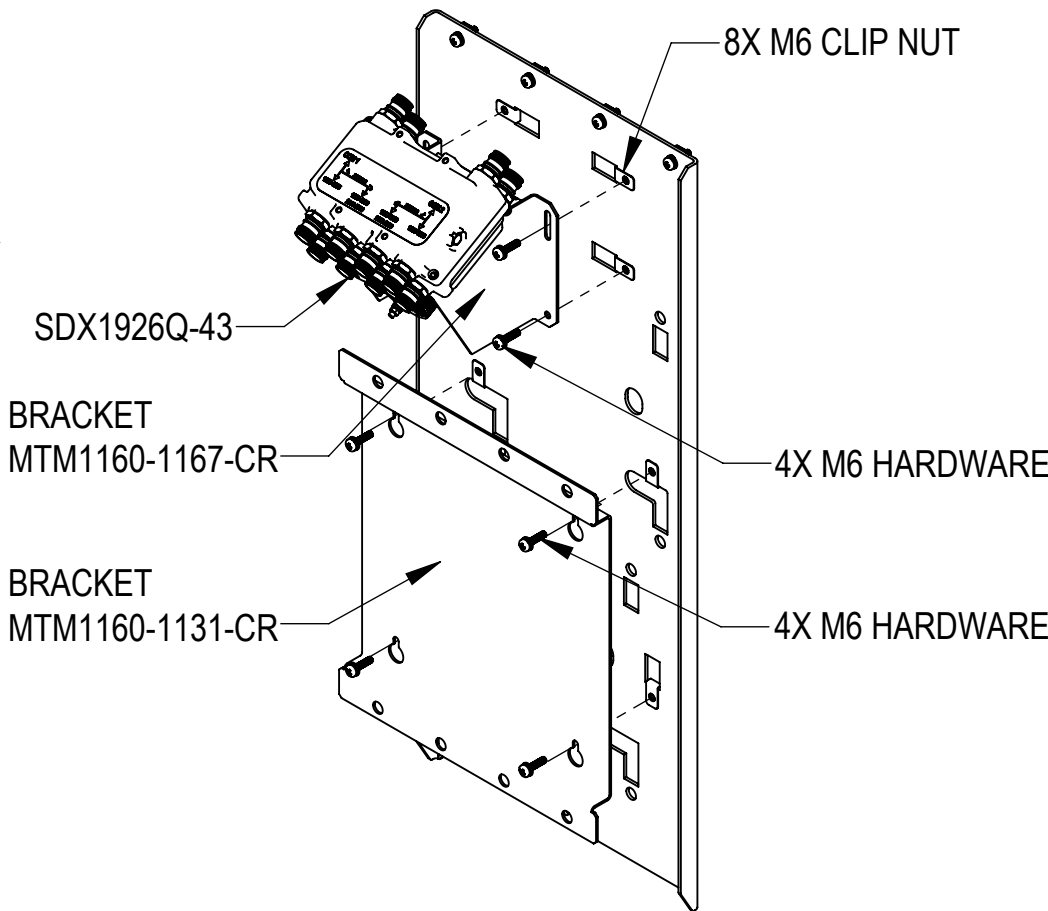
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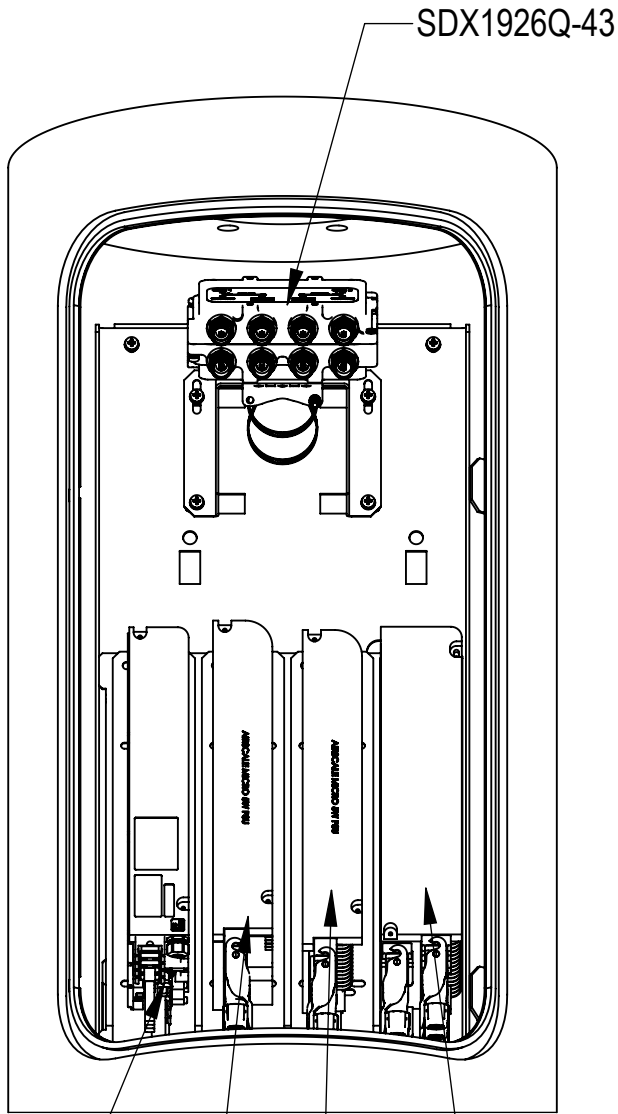
STEP 1 :
MTM1160-1168-CR

1. INSTALL THE MOUNTING BRACKET MTM1160-1168-CR TO BRACKET OF ASSEMBLY USING 4 SETS OF M6 BOLTS

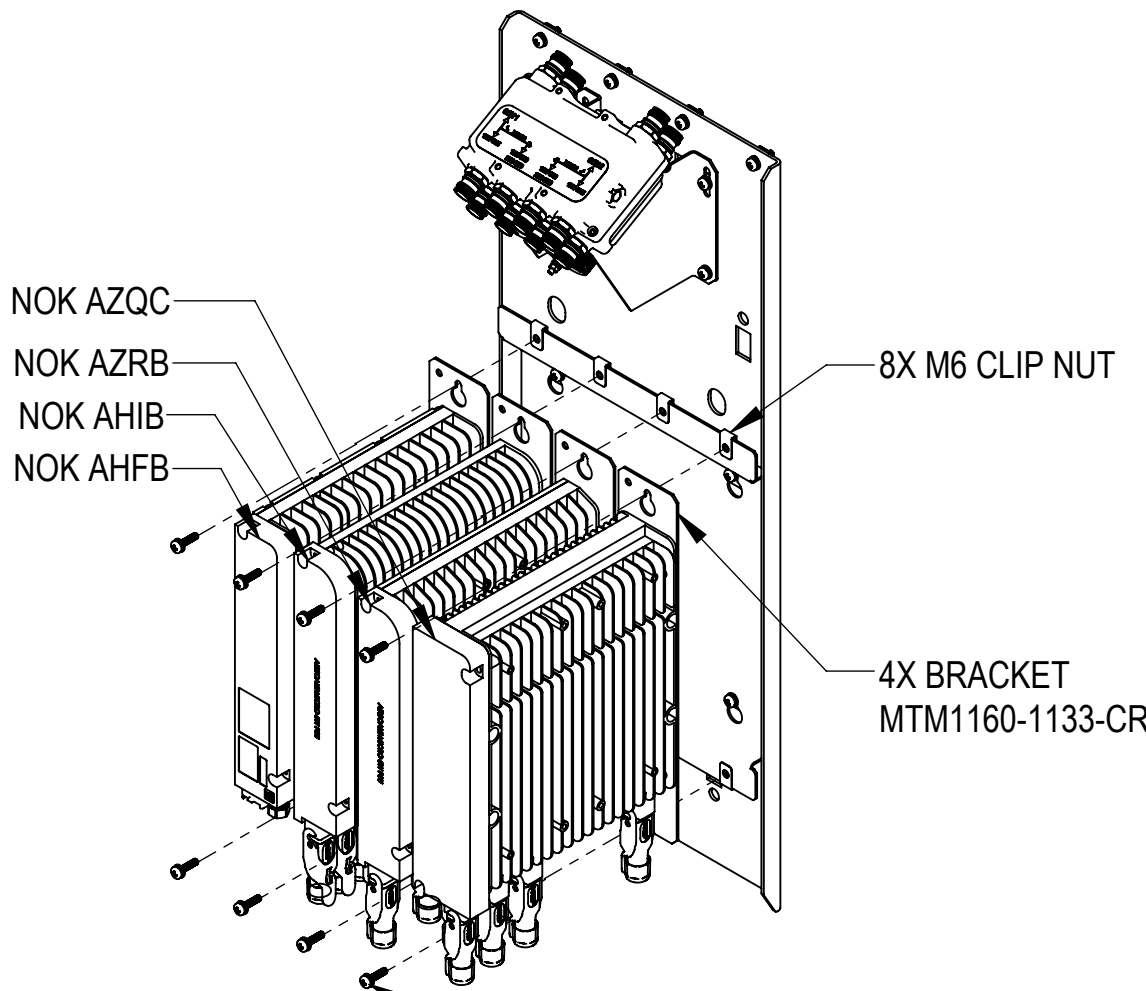
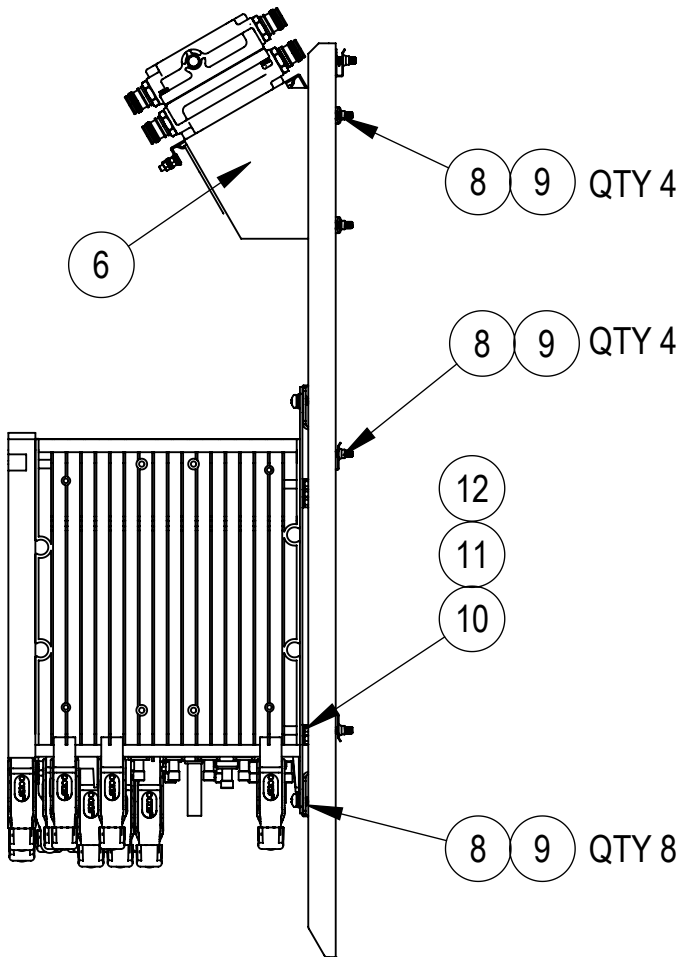
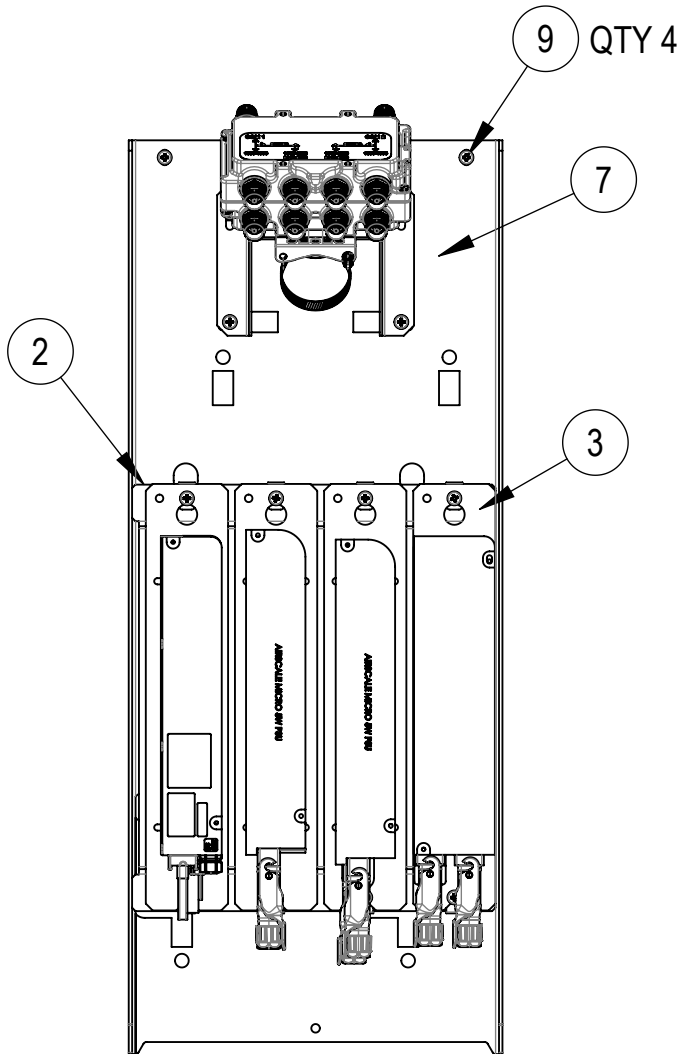


STEP 2 :
MTM1160-1167-CR(SDX1926Q-43) + MTM1160-1131-CR

1. INSTALL M6 CLIP NUTS AS SHOWN
2. INSTALL THE MOUNTING BRACKET MTM1160-1167-CR TO THE MOUNTING BRACKET MTM1160-1168-CR USING 4 SETS OF M6 BOLTS
3. INSTALL THE MOUNTING BRACKET MTM1160-1131-CR TO THE MOUNTING BRACKET MTM1160-1168-CR USING 4 SETS OF M6 BOLTS



NOK AHFB
NOK AHIB
NOK AZRB
NOK AZQC



STEP 3 :
MTM1160-1133-CR

1. INSTALL M6 CLIP NUTS AS SHOWN
2. INSTALL 4 MOUNTING BRACKET MTM1160-1133-CR TO THE MOUNTING BRACKET MTM1160-1131-CR USING 8 SETS OF M6 BOLTS

N4: NOK AHFB + AHIB + AZRB + AZQC 3.5GHZ
+ QUAD DIPLEXER SDX1926Q-43 INSTALLATION

EQUIPMENT INSTALLATION SEE SHEET 4
TORQUE ALL TO SPEC

BOM FOR NOK AHIB + NOK AZRB + NOK AZQC 3.5GHZ + NOK AHFB
+ QUAD DIPLEXERSDX1926Q-43 INSTALLATION

ITEM NO.	PART NUMBER	DESCRIPTION	QTY.
2	MTM1160-1131-CR	BRACKET PB20GA RAD 1-2-4 MULTI MOUNT	1
3	MTM1160-1133-CR	BRACKET, FLT-4-AIRSCALES PB20GA	4
6	MTM1160-1167-CR	BRKT DIPLEX MNTG TOP/ANGLE PB20GA	1
7	MTM1160-1168-CR	BRKT MAIN PLATE RADIOS REAR PB20GA	1
8	460143456	CLIP NUT, M6, 316 SST	16
9	100117-4	FA,SEMS,PH,XRES,M6X25,SST,PASS	20
10	100534-356	SCR,HCS,HEX,M5X12,SST,PASS	16
11	100522-19	WSHR,LK,SPLT, M5,SST, PASS	16
12	100521-19	WSHR,FLAT,M5,5.3X10X1,SST,PASS	16

COMMScope, INC. OF NORTH CAROLINA				
TITLE KIT NOKIAS INSTALL INTO PB20GA-0.375				
SIZE C	SCALE 1:10	DOCUMENT NO. MTM1193-1101-AMK-N		
		DRAWING		
		VERSION 01	STATUS RE	REVISION B
				SHEET 8 OF 9

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