FERMILAB Technical Division

QUALITY CONTROL REPORT

DATE=7/10/2008 TIME=4:00:11 PM

PART NAME : PN457528-n-v5-IL NR-03
REV NUMBER :
SER NUMBER :
STATS COUNT : 1

457528-n
DESY 1.3GHZ TESTLA
SINGLE CELL RF CAVITY
ASSEMBLY

'Inspected by ' : Oscar Lira
'Sample Number' : RF88169 NR-03
' ' : 0807100205

MM DIM LOC1= LOCATION OF PLANE PLNC FLANGE1

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	196.000	196.427	0.427	0.500	0.500	0.000
FL	0.000	0.055	0.055	0.400	0.000	0.000

MM DIM LOC2= LOCATION OF PLANE PLNC FLANGE2

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	-196.000	-196.427	-0.427	0.500	0.500	0.000
FL	0.000	0.059	0.059	0.400	0.000	0.000

MM DIM LOC3= LOCATION OF PLANE PLNC SS F1

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	195.000	195.426	0.426	0.500	0.500	0.000
FL	0.000	0.043	0.043	0.400	0.000	0.000

MM DIM LOC4= LOCATION OF PLANE PLNC SS F2

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	-195.000	-195.424	-0.424	0.500	0.500	0.000
FL	0.000	0.040	0.040	0.400	0.000	0.000

MM DIM LOC5= LOCATION OF PLANE PLNC BT F1

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	196.000	195.419	-0.581	0.500	0.500	0.081
FL	0.000	0.029	0.029	0.400	0.000	0.000

MM DIM LOC6= LOCATION OF PLANE PLNC BT F2

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	-196.000	-195.418	0.582	0.500	0.500	0.082
FL	0.000	0.023	0.023	0.400	0.000	0.000

⊥ MM DIM PERP1= PERPEND OF PLANE PLNC FLANGE1,RFS TO LINE LINC BEAM AXIS,RFS EXTEND=0.000

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	0.000	0.080	0.080	0.400	0.000	0.000

⊥ MM DIM PERP2= PERPEND OF PLANE PLNC FLANGE2,RFS TO LINE LINC BEAM AXIS,RFS EXTEND=0.000

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	0.000	0.145	0.145	0.400	0.000	0.000

// MM DIM PARL1= PARALLEL OF PLANE PLNC FLANGE1,RFS TO PLANE PLNC FLANGE2,RFS EXTEND=0.000

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	0.000	0.103	0.103	0.400	0.000	0.000

⊞ MM DIM LOC7= LOCATION OF PLANE PLNC FLANGE1

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
V	1.00000	0.00014	-0.00028			

⊞ MM DIM LOC8= LOCATION OF PLANE PLNC FLANGE2

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
V	-1.00000	-0.00043	0.00073			

⊞ MM DIM LOC9= LOCATION OF PLANE PLNC SS F1

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
V	1.00000	0.00011	-0.00026			

⊞ MM DIM LOC10= LOCATION OF PLANE PLNC SS F2

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
V	-1.00000	-0.00051	0.00073			

⊞ MM DIM LOC11= LOCATION OF PLANE PLNC BT F1

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
V	1.00000	0.00007	-0.00026			

⊞ MM DIM LOC12= LOCATION OF PLANE PLNC BT F2

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
V	-1.00000	-0.00060	0.00071			

↔ MM DIM DIST1= 2D DISTANCE FROM PLANE PLNC FLANGE1 TO PLANE PLNC FLANGE2 PAR TO XAXIS

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	392.000	392.854	0.854	1.000	1.000	0.000

↔ MM DIM DIST2= 2D DISTANCE FROM PLANE PLNC FLANGE1 TO PLANE PLNC SS F1 PAR TO XAXIS

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	1.000	1.001	0.001	0.100	0.000	0.000

MM DIM DIST3= 2D DISTANCE FROM PLANE PLNC FLANGE2 TO PLANE PLNC SS F2 PAR TO XAXIS

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	1.000	1.003	0.003	0.100	0.000	0.000

MM DIM DIST4= 2D DISTANCE FROM POINT PNT FLANGE1-2 TO POINT PNT FLANGE2-2 PAR TO XAXIS

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	392.000	392.845	0.845	1.000	1.000	0.000

MM DIM DIST5= 2D DISTANCE FROM POINT PNT FLANGE1-5 TO POINT PNT FLANGE2-5 PAR TO XAXIS

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	392.000	392.807	0.807	1.000	1.000	0.000

MM DIM DIST6= 2D DISTANCE FROM POINT PNT FLANGE1-8 TO POINT PNT FLANGE2-8 PAR TO XAXIS

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	392.000	392.864	0.864	1.000	1.000	0.000

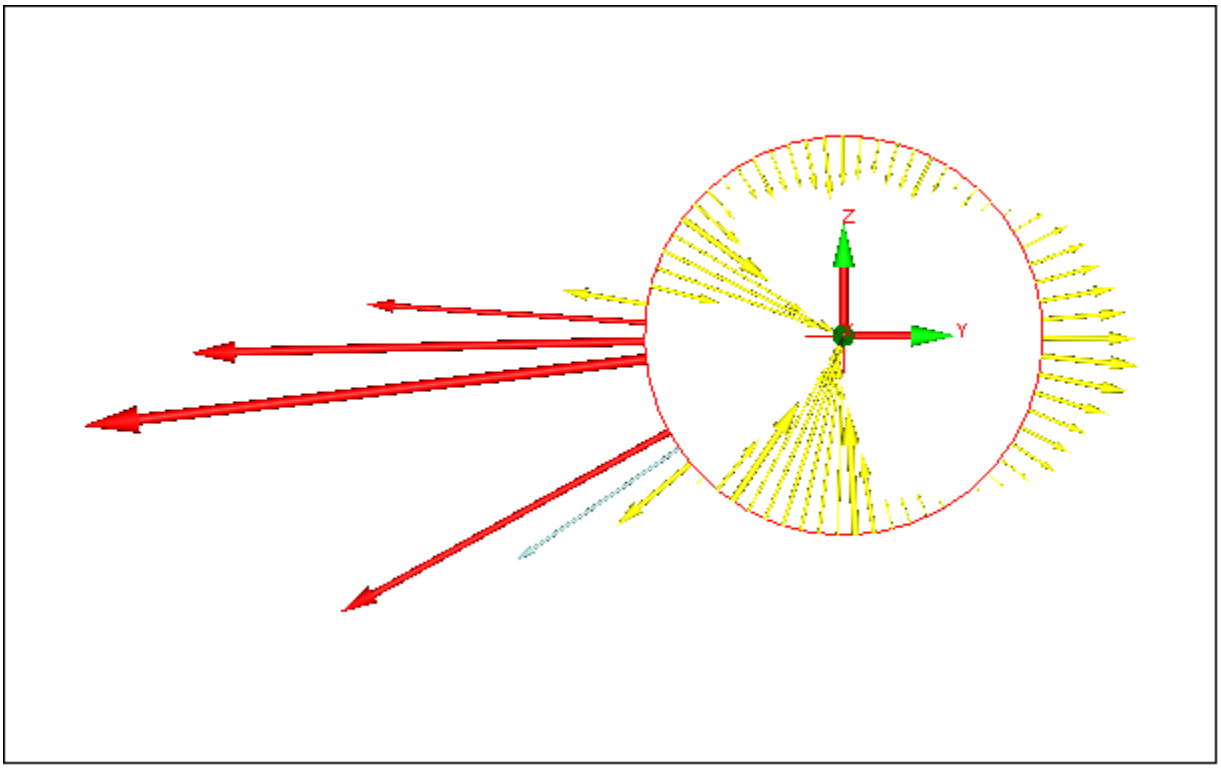
MM DIM DIST7= 2D DISTANCE FROM POINT PNT FLANGE1-11 TO POINT PNT FLANGE2-11 PAR TO XAXIS

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	392.000	392.894	0.894	1.000	1.000	0.000

MM DIM LOC13= LOCATION OF CIRCLE CIR BT ID1

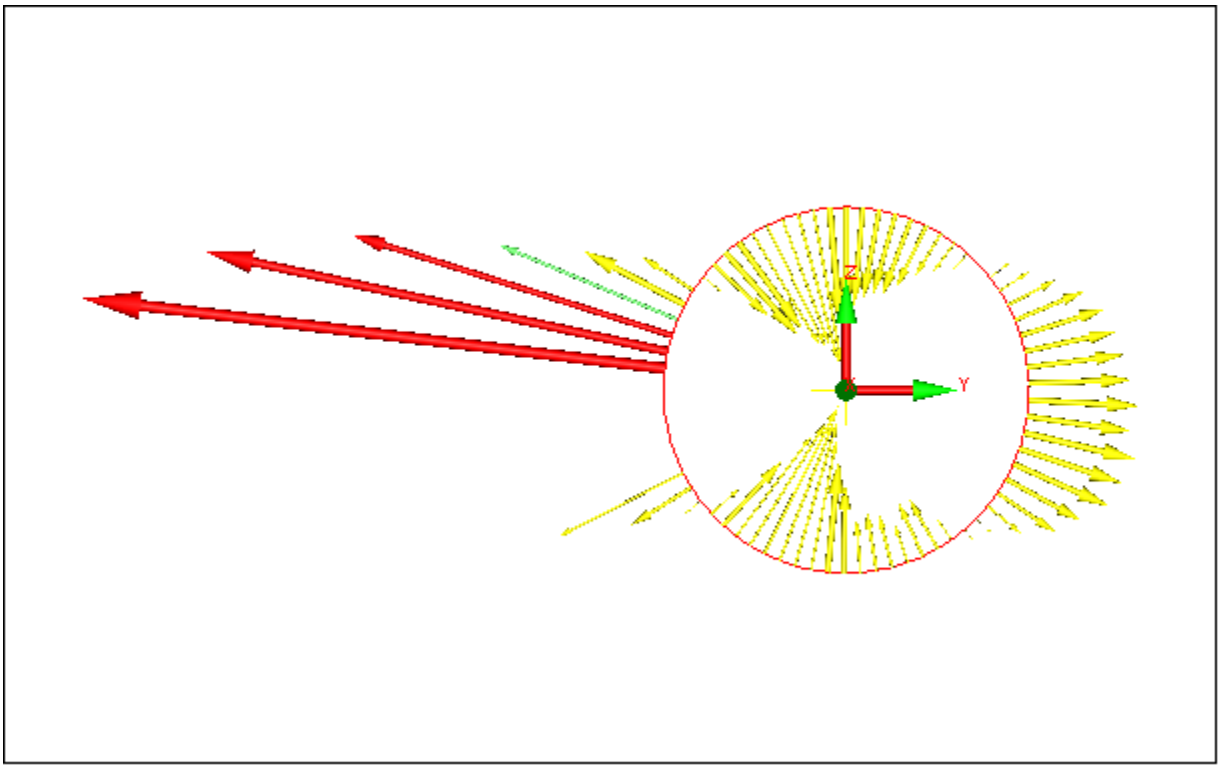
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	193.000	193.459	0.459	10.000	10.000	0.000
Y	0.000	0.000	0.000	0.000	0.000	0.000
Z	0.000	0.000	0.000	0.000	0.000	0.000
D	78.000	77.957	-0.043	0.000	0.000	0.043
RN	0.000	0.301	0.301	0.050	0.000	0.251

BEAM TUBE ID 1 SKIPPING THE WELD
SEE LOC13


Z
Y

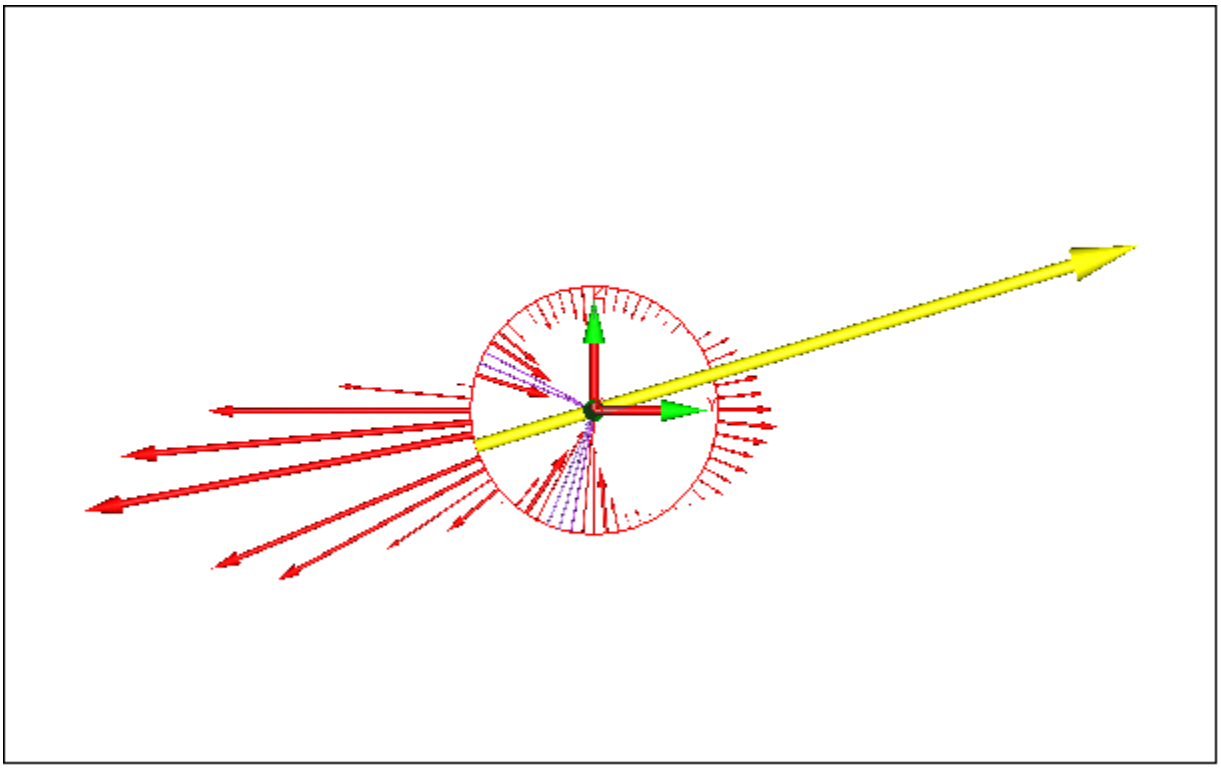
MM	DIM LOC14= LOCATION OF CIRCLE CIR BT ID2					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	-193.000	-193.314	-0.314	10.000	10.000	0.000
Y	0.000	0.000	0.000	0.000	0.000	0.000
Z	0.000	0.000	0.000	0.000	0.000	0.000
D	78.000	78.013	0.013	0.050	0.000	0.000
RN	0.000	0.320	0.320	0.050	0.000	0.270

BEAM TUBE ID 2 SKIPPING THE WELD
SEE LOC14



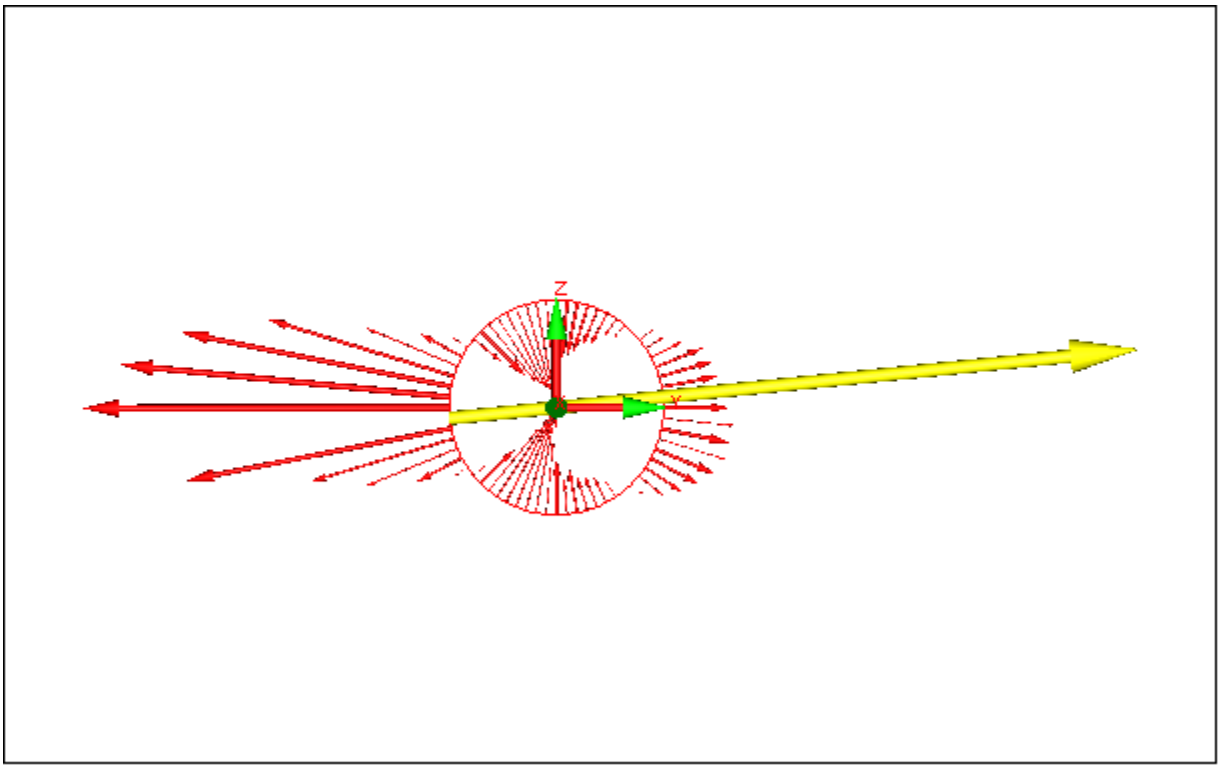
MM	DIM LOC29= LOCATION OF CIRCLE CIR BT ID1B					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	193.000	193.459	0.459	10.000	10.000	0.000
Y	0.000	0.002	0.002	0.000	0.000	0.002
Z	0.000	0.000	0.000	0.000	0.000	0.000
D	78.000	77.956	-0.044	0.050	0.000	0.044
RN	0.000	0.687	0.687	0.050	0.000	0.637

BEAM TUBE ID 1B WITH WELD
SEE LOC29



MM	DIM LOC30= LOCATION OF CIRCLE CIR BT ID2B					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	-193.000	-193.314	-0.314	10.000	10.000	0.000
Y	0.000	-0.007	-0.007	0.000	0.000	0.007
Z	0.000	-0.002	-0.002	0.000	0.000	0.002
D	78.000	78.020	0.020	0.050	0.000	0.000
RN	0.000	0.770	0.770	0.050	0.000	0.720

BEAM TUBE ID 2B WITH WELD
SEE LOC30



MM DIM LOC15= LOCATION OF CIRCLE CIRC BC D1

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	193.000	193.459	0.459	10.000	10.000	0.000
Y	0.000	0.039	0.039	0.150	0.150	0.000
Z	0.000	0.071	0.071	0.150	0.150	0.000
D	120.000	119.950	-0.050	0.150	0.150	0.000
RN	0.000	0.079	0.079	0.150	0.000	0.000

MM DIM LOC16= LOCATION OF CIRCLE CIRC BC D2

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	-193.000	-193.314	-0.314	10.000	10.000	0.000
Y	0.000	0.116	0.116	0.150	0.150	0.000
Z	0.000	-0.029	-0.029	0.150	0.150	0.000
D	120.000	119.923	-0.077	0.150	0.150	0.000
RN	0.000	0.130	0.130	0.150	0.000	0.000

MM DIM LOC17= LOCATION OF CIRCLE CIRC HC1

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	4.500	4.497	-0.003	1.000	1.000	0.000
Y	0.000	-0.193	-0.193	0.100	0.100	0.093
Z	0.000	-0.089	-0.089	0.100	0.100	0.000
D	210.300	211.335	1.035	0.050	0.000	0.985
RN	0.000	0.197	0.197	0.050	0.000	0.147

MM DIM LOC18= LOCATION OF CIRCLE CIRC HC2

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	-4.500	-4.494	0.006	1.000	1.000	0.000
Y	0.000	-0.282	-0.282	0.100	0.100	0.182
Z	0.000	-0.092	-0.092	0.100	0.100	0.000
D	210.300	211.309	1.009	0.050	0.000	0.959
RN	0.000	0.295	0.295	0.050	0.000	0.245

MM DIM LOC19= LOCATION OF CIRCLE CIRC BTOD1

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	57.000	61.001	4.001	1.000	1.000	3.001
Y	0.000	-0.256	-0.256	0.100	0.100	0.156
Z	0.000	-0.124	-0.124	0.100	0.100	0.024
D	81.500	83.305	1.805	0.100	0.050	1.705
RN	0.000	0.385	0.385	0.150	0.000	0.235

MM DIM LOC20= LOCATION OF CIRCLE CIRC BTOD2

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	-57.000	-61.000	-4.000	1.000	1.000	3.000
Y	0.000	-0.164	-0.164	0.100	0.100	0.064
Z	0.000	-0.048	-0.048	0.100	0.100	0.000
D	81.500	83.336	1.836	0.100	0.050	1.736
RN	0.000	0.454	0.454	0.150	0.000	0.304

DEG DIM ANGL1= 2D ANGLE (TRUE) FROM LINE LINC OFFSET1 TO LINE LINC OFFSET2

AX	NOMINAL	MEAS	DEV
A	0.000	5.550	5.550

MM	DIM LOC21= LOCATION OF LINE LINC OFFSET1		
AX	NOMINAL	MEAS	DEV
V	-0.00036	0.00000	1.00000

MM	DIM LOC22= LOCATION OF LINE LINC OFFSET2		
AX	NOMINAL	MEAS	DEV
V	-0.00038	-0.09671	0.99531

MM	DIM LOC25= LOCATION OF CIRCLE CIR F1 SS ID					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
D	109.200	109.109	-0.091	0.200	0.000	0.091
RN	0.000	0.048	0.048	0.200	0.000	0.000

MM	DIM LOC26= LOCATION OF CIRCLE CIR F2 SS ID					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
D	109.200	108.868	-0.332	0.200	0.000	0.332
RN	0.000	0.041	0.041	0.200	0.000	0.000

MM	DIM LOC28 ATTACH RING LEFT BOTT= LOCATION OF PLANE PLNC ARLB					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	-112.000	-112.592	-0.592	0.500	0.500	0.092
FL	0.000	0.000	0.000	0.400	0.000	0.000

MM	DIM LOC29 ATTACH RING LEFT TOP= LOCATION OF PLANE PLNC ARLT					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	-112.000	-112.653	-0.653	0.500	0.500	0.153
FL	0.000	0.005	0.005	0.400	0.000	0.000

MM	DIM LOC30 ATTACH RING RIGHT BOTT= LOCATION OF PLANE PLNC ARRB					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	112.000	112.862	0.862	0.500	0.500	0.362
FL	0.000	0.005	0.005	0.400	0.000	0.000

MM	DIM LOC31 ATTACH RING RIGHT TOP= LOCATION OF PLANE PLNC ARRT					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
X	112.000	112.393	0.393	0.500	0.500	0.000
FL	0.000	0.010	0.010	0.400	0.000	0.000

MM	DIM PERP3= PERPEND OF PLANE PLNC ARLB,RFS TO LINE LINC BEAM AXIS,RFS EXTEND=0.000					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	0.000	0.200	0.200	0.500	0.000	0.000

MM	DIM PERP4= PERPEND OF PLANE PLNC ARLT,RFS TO LINE LINC BEAM AXIS,RFS EXTEND=0.000					
AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	0.000	0.077	0.077	0.500	0.000	0.000

⊥ MM DIM PERP5= PERPEND OF PLANE PLNC ARRB,RFS TO LINE LINC BEAM AXIS,RFS EXTEND=0.000

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	0.000	0.055	0.055	0.500	0.000	0.000

⊥ MM DIM PERP6= PERPEND OF PLANE PLNC ARRT,RFS TO LINE LINC BEAM AXIS,RFS EXTEND=0.000

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	0.000	0.077	0.077	0.500	0.000	0.000

↔ MM DIM DIST8 ATTACH RING LEFT BOTT= 2D DISTANCE FROM PLANE PLNC FLANGE2 TO PLANE PLNC ARLB PAR TO XAXIS

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	84.000	83.836	-0.164	0.500	0.500	0.000

↔ MM DIM DIST9 ATTACH RING LEFT TOP= 2D DISTANCE FROM PLANE PLNC FLANGE2 TO PLANE PLNC ARLT PAR TO XAXIS

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	84.000	83.774	-0.226	0.500	0.500	0.000

↔ MM DIM DIST10 ATTACH RING RIGHT BOTT= 2D DISTANCE FROM PLANE PLNC FLANGE1 TO PLANE PLNC ARRB PAR TO XAXIS

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	84.000	83.565	-0.435	0.500	0.500	0.000

↔ MM DIM DIST11 ATTACH RING RIGHT TOP= 2D DISTANCE FROM PLANE PLNC FLANGE1 TO PLANE PLNC ARRT PAR TO XAXIS

AX	NOMINAL	MEAS	DEV	+TOL	-TOL	OUTTOL
M	84.000	84.034	0.034	0.500	0.500	0.000

****** REPORT ABBREVIATIONS MEANINGS******

AR= Attachment Ring

BT= Beam Tube

HC= Half Cell

SS= Sealing Surface

END OF MEASUREMENT FOR
PN=PN457528-n-v5-IL NR-03 DWG= SN=
TOTAL # OF MEAS =73 # OUT OF TOL =32