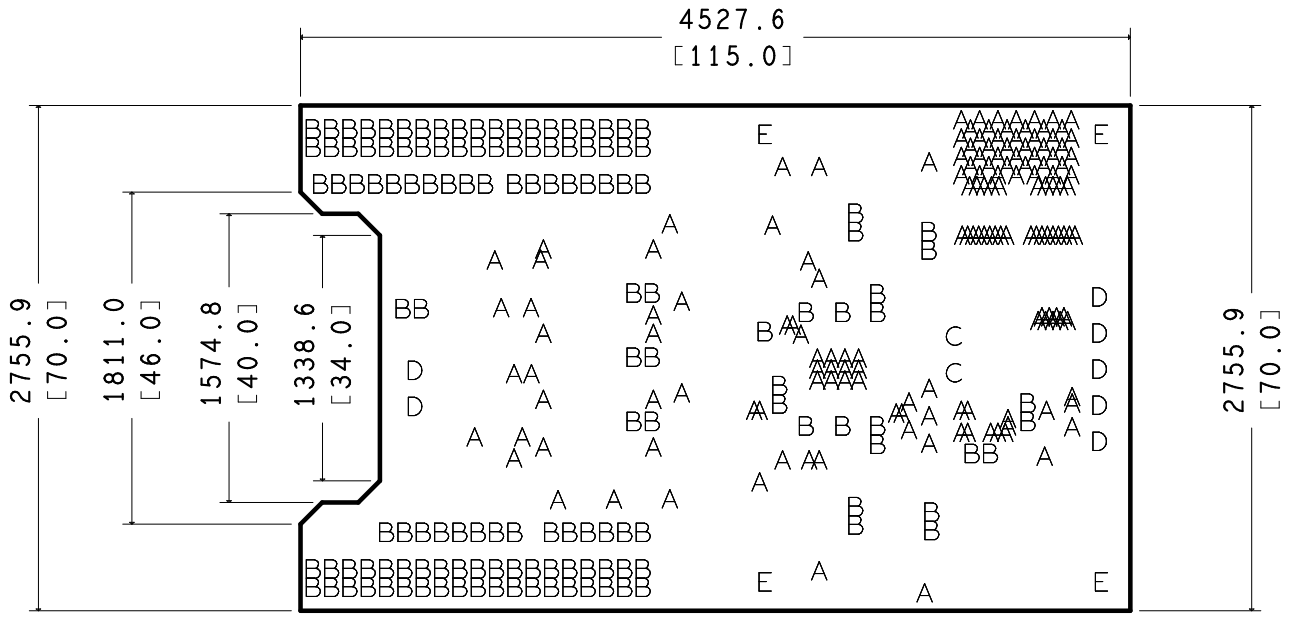
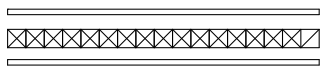


FABRICATION NOTE:

1:FABRICATE USING LATEST REVISION OF IPC-6012A CLASS 2 OR ABOVE
2:FABRICATE USING MASTER ARTWORK X-NUCLEO-OUT04A1-R1 FOR CIRCUIT PATTERN
NO DEVIATION FROM MASTER ARTWORK ARE PERMITTED WITHOUT WRITTEN
APPROVAL FROM AN AUTHORIZED STMicroelectronics REPRESENTATIVE
3:VENDOR MUST BE UL QUALIFIED AND BOARDS MUST BE IDENTIFIED WITH
APPROPRIATE VENDOR UL IDENTIFICATION MARK, LOT OR JOB NUMBER AND
PCB MATERIAL FLAMMABILITY RATING (94V-0) MINIMUM
4:MATERIAL: FR4 RoHS COMPLIANT MINIMUM 125 C
SEE "DETAIL "A"" FOR BOARD THICKNESS, COPPER WEIGHT AND LAYER CONSTRUCTION
5:BLUE SOLDER MASK BOTH SIDE OF BOARD WITH LIQUID PHOTO IMAGEABLE SOLDERMASK
6:FINISH: HAL Lead Free
7:FOR SMT COMPONENTS WITH PIN PITCH OF 0.019 INCH OR MORE NO GANG RELIEF
OF SOLDER MASK IS ALLOWED
8:SILKSCREEN TO BE WHITE, NON CONDUCTIVE, EPOXY INK OR EQUIVALENT
9:THIS IS NOT A CONTROLLED IMPEDANCE BOARD
10:ON BOTTOM PCB MUST BE IDENTIFIED MANUFACTURER LOGO AND PCB TYPE
(MEANS OF MATERIAL TYPE INDICATED ON THE YELLOW CARD DOCUMENT)
11:VENDOR TO PROVIDE BOARD STACK-UP FOR IMPEDANCE APPROVAL PRIOR TO BOARD
FABBRICATION.STACK UP AND IMPEDANCE TO INCLUDE COPPER PLATING ON
OUTER LAYERS.FAB DRAWING STACK-UP DIMENSION ARE PROVIDED FOR REFERENCE ONLY
VENDOR TO PROVIDE BOARD FOR IMPEDANCE TEST RESULTS AND COUPON
12:TEARDROPPING OF VIAS AND PADS ALLOWED AT PAD TO TRACE INTERSECTION
TO INSURE A 2MIL ANULAR RING AT THE JUNCTION
13:REMOVE SILKSCREEN FROM SOLDERABLE SURFACE
14:ALL BOARD TO BE 100% ELECTRICALLY NETLIST TESTED FOR OPENS AND ON
SHORTS. APPLY TEST STAMP IN REFERENCED AREA
15:THIS BOARD SHALL BE FULLY COMPLIANT WITH UL796

DETAIL "A"

LAYER BUILD UP
(refernce only)



(external Cu th are after plating)
estimated total thickness 1600u

DRILL CHART: TOP to BOTTOM

ALL UNITS ARE IN MILS

FIGURE	FINISHED_SIZE	PLATED	QTY
A	13.0	PLATED	157
B	40.0	PLATED	139
C	43.31	PLATED	2
D	51.18	PLATED	7
E	125.98	NON-PLATED	4

TOTAL HOLES: 309

Finished Hole Tolerance
- All units are in Inches -

Finish Hole Diameter	Plated Through Finish Hole Diameter	Non Plated Through Finish Hole Diameter
0.008"-0.013"	+0.002/-FHS"	+/-0.002"
0.014"-0.063"	+/-0.003"	+/-0.002"
0.064"-0.156"	+/-0.004"	+/-0.003"
0.157"-0.250"	+/-0.007"	+/-0.004"
0.251"and up	+/-0.007"	+/-0.005"
0.125"	Non Plated Only	+0.003/-0.000"

REVISION DATE

I&PC, AMS Group AGRATE B. ITALY

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Drawn Rigo M. date 11-Mar-2021

Approved date

Description: DRILLING AND PROFILING

Symbol: X-NUCLEO-OUT04A1

Group

TOLERANCE UNLESS NOTED
UNIT=MM (MILS)

	0 <10	>10 <50	>50 <200	>200	ANG. LES.
linear					
midle	±0.1	±0.2	±0.3	±0.5	±1°
accurate	±0.05	±0.1	±0.15	±0.25	±30'

ISO

SCALE: 1 : 1

REV. 1.0

Material

Treatment and surface finishing