

Government of India
Bhabha Atomic Research Centre
Control Instrumentation Division

Ref : CnID/AMIS/SCR/22/4/E-48904

Date : 10.06.2022

Sub: Minor Fabrication - Invitation of Quotation

Manufacturing, assembly, & supply of "Field deployable RF enclosure assemblies along with its internal modules casing assemblies" compliance to attached technical specification no. TSP/SCR/2022/001 dated 08/06/22, Rev.0

Dear Sir/Madam,

1. Quotations are invited for the manufacturing, assembly, & supply of "Field deployable RF enclosure assemblies along with its internal modules casing assemblies" compliance to attached technical specification no. TSP/SCR/2022/001 dated 08/06/22, Rev.0 Bidder shall quote for manufacture, assembly, inspection, testing and supply of the assemblies with material.
2. No Free Issue material is involved.
3. GST @5% will be applicable and GST certificate will be provided by BARC for the same.
4. **The quotation should be submitted in two separate sealed envelopes, one is for price bid and other for technical bid. Both sealed envelope should be put in one single envelope and must reach to the Head, Control Instrumentation Division by 27/06/2022 (12:00 Noon). The single sealed envelope should be sent super scribed with the reference number & the due date given above. The quotation must be sent by speed post/registered post only.**
5. The address on the envelop should read: The Head,
Control Instrumentation Division,
BARC, Trombay, Mumbai - 400 085.
(Kind Attn: S. C. Ramrane, SO/E)
6. The fabricator should prepare the fabrication drawings of the components & assembly and then get these approved by our engineer before starting the fabrication.
7. The fabrication work shall be subjected to stage wise inspection by our engineer. The finished components shall not be dispatched prior to approval by our engineer. Necessary inspection facilities should be provided to our engineer during fabrication at bidder's premises.
8. The bidder shall complete the job within **6 months** from the date of firm work order issued to the bidder. The finished components shall be delivered by the bidder at Control Instrumentation Division, BARC, Trombay, Mumbai - 400 085.
9. Head, Control Instrumentation Division reserves the rights to accept / reject any or all quotations without assigning any reason.
10. Incomplete offer or offer received after the due date shall not be considered.
11. Delivery charges if any must be clearly mentioned in the offer. Quotation must indicate the validity of offer. Quotation must also indicate the GST no. and PAN no. of the party.
12. Drawings / Sketches must be returned along with the offer.
13. The quotation has to be signed by authorized person with company seal.
14. Payment will be made by online transfer only after satisfactory completion of work on production of bill, delivery challan and advance stamped receipt. It may be noted that TDS from GST@ 2% and IT @ 2% with surcharge on tax at applicable rates shall be deducted from your bills.
15. Procurement of all the Items mentioned in BOM (table-1), assembling and EMI/EMC, IP65 and temperature & humidity is completely in the scope of supplier.
- 17 **The supplier should have previous experience of qualification and testing of enclosure for EMI/EMC, IP65 and temperature & humidity. The machining facility must be equipped with CNC VMC & HMC machine, Spark erosion EDM, wire EDM, Jig Boring, CNC Turning and other basic machines required for fabrication. Also the facility must be equipped with all the inspection facilities like 3D Coordinate measuring machine, profile projector, electronic height gauge and basic measuring instruments with valid calibration certificate. All the machining and inspection must be completed within a single premise/ facility for design security purpose.**

Encl.:

1. Annexure-I (General Specifications) – 1 sheet
2. Annexure-II (TSP No.: - TSP/SCR/2022/001 dated 18/05/22, Rev.0) – 5 sheets
3. Drawings – A-EM-018-A3, F-RF-01-A3, F-TR-01-A3 & F-BB-01-A3 with BOM/detail dwgs.

Sd/-
(Smt. Anuradha Mayya)
Head, CnID

General Specifications (No. of pages:1)

1.0 Quality surveillance, inspection and inspection report:

- 1.1 All work covered by the specifications shall be subject to quality surveillance by the purchaser or his authorised representatives for which purpose the fabricator shall allow access at all reasonable times during manufacture to:
 - 1.1.1 The premises in which work is being carried out.
 - 1.1.2 The drawings and / or tooling involved.
 - 1.1.3 Gauges, instruments etc. required for inspecting the work.
- 1.2 Inspection and tests shall be carried out by the fabricator as per the requirements detailed in the drawings and these specifications.
- 1.3 The fabricator shall submit three copies of inspection reports to the purchaser for approval.
- 1.4 Components found unsatisfactory as to workmanship or material shall be removed by fabricator and replaced by components which are satisfactory.
- 1.5 The finished components shall not be despatched prior to approval by our engineer.

2.0 Raw Material :

- 2.1 The fabricator has to quote with material cost.

3.0 Delivery:

- 3.1 The bidder shall deliver the finished components within **6 months** from the date of firm purchase order is issued to bidder to CnID, BARC, Mumbai-400085. In case any extension in the delivery period is required, the fabricator should submit a written request for the same before the expiry of work order. Any delay in delivery which is attributable to the fabricator is liable for LD to be imposed on the fabricator.

4.0 Sub Contract:

- 4.1 The fabricator shall not sub-contract any or all the work without written consent from the purchaser. The fabricator shall be responsible for all work of the sub contractor of the fabricator, if at all allowed by the purchaser.

5.0 Taxes:

- 5.1 GST @5% will be applicable and GST certificate will be provided by BARC for the same.

6.0 Excise duty: NA

7.0 Payment :

- 7.1 Payment will be made only after satisfactory completion of work and on production of bill, advance stamped receipt & Guarantee/Warranty Certificate.
- 7.2 It may be noted that Income tax @ 2% and GST@2% will be deducted from your bill.

8.0 Confidentiality:

- 8.1 No party shall disclose any information to third party concerning the matters under this contract generally. In particular, any information identified as "PROPRIETARY" in nature by the disclosing party shall be kept strictly confidential by the receiving party and shall not be disclosed to any third party without the prior written consent of the original disclosing party.

- 8.2 "RESTRICTED INFORMATION" categories under section 18 of the Atomic Energy Act, 1962 and "OFFICIAL SECRETS" under section 5 of the official Secrets Act,1923:-

Any contravention of the above mentioned provisions by any contractor, sub-contractor, consultant, advisor or the employees of a contractor will invite penal consequences under the aforesaid legislation.

- 8.3 Prohibition against the use of BARC's name without permission for publicity purposes:-

The contractor or sub-contractor, consultant, advisor or the employees engaged by the contractor shall not use BARC's name for Publicity purpose through any public media like press, radio, T.V. or internet without the prior written approval of BARC.

(vide circular ref: 2/Misc-9/Lgl/2001/92 dated April 30, 2001)

(S. C. Ramrane, SO/E)
Indentor

ANNEXURE-II (TSP No.: -TSP/SCR/2022/001 dated 08/06/22, Rev.0 - 05 Pages)

Manufacturing, assembly, & supply of “Field deployable RF enclosure assemblies along with its internal modules casing assemblies” compliance to attached technical specification no. TSP/SCR/2022/001 dated 08/06/22, Rev.0

1.0 SCOPE OF WORK

- 1.1 This specification specifies the requirement for manufacture, assembly qualification testing and supply of “Field deployable RF enclosure assemblies along with its internal modules casing assemblies”. General description and requirement of the above said items is given in para-2.0. The raw material requirements are given in para-4.0 and deliverables are given in para-5.0. Bill of material is given in drawing GA. The complete raw material procurement is in supplier’s scope. The assembled components shall be properly packed and safely delivered to BARC.
- 1.2 The supplier should provide compatible gaskets and internal coating for EMI/EMC qualification of enclosure assemblies. The supplier should also make necessary arrangement of handle with PU cover on top and bottom of the enclosure.
- 1.3 Qualification for EMI/EMC, IP65 and temperature & humidity of the assembled enclosures with connectors and PCBs as mentioned in the clause 3.0, is also in the scope of the supplier.
- 1.4 Supplier has to carry out the assembly of mating components before supply. Supplier shall develop necessary tooling and gauges as required. Special tools if required shall be indicated in the offer and price shall be indicated in the offer price. These tools shall be supplied along with the finished components. 100% dimensional inspection should be carried out.

2.0 SPECIAL TECHNICAL REQUIREMENTS DURING MANUFACTURE: -

- 2.1 The above mentioned components are to be manufactured to the tolerance as indicated in their respective drawings.
- 2.2 The components should be machined in a single setting preferably in a CNC machine to get the required accuracy in general and geometric tolerances.
- 2.3 The surface finish value indicated in the drawings is RMS micrometer values. The surface finish values indicated shall be obtained by grinding on surface indicated. The bidder shall confirm in the quotation that the surface finish requirements indicated in the drawing will be met by him.
- 2.4 All the items including connectors and display unit should be mounted on the enclosure properly.
- 2.5 The supplier should have previous experience of qualification and testing of enclosure for EMI/EMC, IP65 and temperature & humidity. The machining facility must be equipped with CNC VMC & HMC machine, Spark erosion EDM, wire EDM, Jig Boring, CNC Turning and other basic machines required for fabrication. Also the facility must be equipped with all the inspection facilities like 3D Coordinate measuring machine, profile projector, electronic height gauge and basic measuring instruments with valid calibration certificate. All the machining and inspection must be completed within a single premise/ facility for design security purpose.

3.0 GENERAL DESCRIPTION AND REQUIREMENT

- 3.1 The entire work includes manufacturing, 100% inspection, assembly and supply of components of “EMI-EMC, temperature & humidity compliant and IP65 compatible RF enclosure assemblies along with Casing assemblies”. The fabricator has to ensure proper machining within close tolerances mentioned in drawings of each part and inspection report, test certificate should be submitted before supply. The supplier has to understand the given requirements before starting the components assembly work. **Final acceptance of** components of “EMI-EMC, temperature & humidity compliant and IP65 compatible RF enclosure assemblies along with Casing assemblies” as per the quality acceptance plan given under clause 9.0 of same annexure.

- 3.2 RF enclosure assemblies should be compliance for IP 65.
- 3.3 EMI/ EMC Compatibility:
- 3.3.1 All systems should be subjected (type test) to Radiated Electromagnetic test field strength of 3 V/m as per IEC 61000-4-3 and Conducted Electromagnetic test noise signal level of 3 VRMS as per IEC 61000-4-6.
- 3.3.2 Conductive and Radioactive Emission Tests as per IEC 61000-6-4 should be performed on each subsystem.
- 3.3.3 Electrostatic Discharge Immunity Test as per IEC 61000-4-2 should be performed on each subsystem.
- 3.3.4 For RF system enclosure assembly, MIL-461 and JS-55555 standard should be performed.
- 3.4 Complete unit should be qualified for sr. no. 3.2 after fixing the connector and PCBs.
- 3.5 Chromatization / anodizing in required colour (will be mention in Work order) will be done all around on all the casings assemblies.
- 3.6 Internal coating and gaskets to be provided for qualifying the enclosure for above mentioned EMI/EMC tests.
- 3.7 Mounting arrangement to PCBs should be made inside box as per instructions. Required hardware/screws are also in the scope of supplier.
- 3.8 Your quotation should include the Qualification test for EMI/EMC as per mentioned standard above for each design.
- 3.9 Details of components are given in attached BOM in drawings for all assemblies.
- 3.10 Engraving/screen printing will be required for naming title on the face of each casing assembly and details will be provided at the time of work order.
- 3.11 Powder coating in required colour (will be mention in Work order) will be done all around on all the RF enclosure Assemblies.

4.0 RAW MATERIAL REQUIREMENT:

- 4.1 Raw materials including connectors and display unit as per bill of material given in attached drawing shall be purchased by supplier as per the standard specifications. Raw material to be purchased from reputed vendor only. No component should be fabricated from old, unused or scarp material stocks.

5.0 DELIVERABLES:

S. No.	Component	Drg No.	Q'ty
Manufacturing, assembly, & supply of " Field deployable RF enclosure assemblies along with its internal modules casing assemblies" compliance to attached technical specification no. TSP/SCR/2022/001 dated 08/06/22, Rev.0:			
1	Field Deployable RF Enclosure Assembly	A-EM-018-A2	03 Ass'ly
2	RF Power Supply Module Casing Assembly	F-RF-01-A3,	03 Ass'ly
3	6U Transceiver Module Casing Assembly	F-TR-01-A3	03 Ass'ly
4	3U Baseband Module Casing Assembly	F-BB-01-A3	18 Ass'ly

6.0 PRICE:

- 6.1 The supplier shall give the lump sum price for full scope of work with its delivery schedule.

7.0 MANUFACTURE AND WORKMANSHIP:

- 7.1 The manufacturing process and workmanship shall be in accordance with high grade industrial practice and the best approved methods and shall be adequate to achieve accuracy and finish in accordance with drawings and this specification to ensure satisfactory operation and service life of various parts. Manufacturing process shall ensure the interchangeability of parts.
- 7.2 Geometrical and dimensional tolerances (if specified) at the respective locations shall be maintained strictly as per the drawing.
- 7.3 Immediately after all final machining operations, the components shall be thoroughly debarred and cleaned with Acetone (except Polyurethane parts) to remove all traces of cutting oils, cutting chips etc. After cleaning operations, the components shall be applied with rust free preventives (if necessary) and stored in heat sealed polythene pouches till they are up for final inspection and assembly.
- 7.4 If supplier wants to use any jigs and fixtures for the manufacture, same shall be approved by the purchaser before commencement of production. Supplier shall prepare quality control sheets for various stage of manufacturing and same shall be approved by the purchaser and will be used by third party/ BARC QS. Mutually agreed functional testing procedure and acceptance criteria shall be worked out, if required.
- 7.5 A care for cleanliness is to be maintained during assembly and storage of components. A complete record of assembly and subassembly checks is to be carried out. For this purpose a checklist is needed to be maintained for counter verification of the finished / completed jobs, required for assembly.

8.0 TOOLING

- 8.1 All tools like taps, dies, inspection gauges, etc., required for manufacture shall be arranged by the supplier.

9.0 FUNCTIONAL AND INSPECTION TESTS REPORTS

- 9.1 Supplier shall perform all necessary inspection and testing necessary as per the drawings and technical specification to the satisfaction of the purchaser. Supplier shall arrange and /or provide all testing and inspection facilities (gauges, instruments, equipments etc.) required during manufacture of the components, assembly, and shop testing of components. Only calibrated and approved facilities shall be employed for the inspection.
- 9.2 A systematic record of all inspection and testing carried out by the Supplier shall be maintained and offered to the representative of the Purchaser for review from time to time. Supplier shall make available necessary arrangement and facility to carry out spot inspection at random by the purchaser or his representative at any convenient time mutually agreed upon by the two parties
- 9.3 The facilities and procedures for inspection and testing shall ensure cleanliness, protection against damage to the equipment and shall comply with applicable 'Industrial Safety Codes'.
- 9.4 A compliance certificate for EMI/EMC, IP65 and temperature & humidity shall be issued by the supplier indicating conformance to the technical specifications with permissible deviation if any as agreed by the purchaser.

10.0 QUALITY ACCEPTANCE PLAN (QAP)

Following are quality acceptance plan for the component assembly job under this minor fabrication job:

- 10.1 Inspection-** After fabrication, all the components are required to inspect for dimensional accuracy as per drawing and assembly requirement.
- 10.2 Qualification testing-** All RF enclosure assemblies will be tested i.e "EMI-EMC, temperature & humidity compliant and IP65" as per standard mentioned in the para 3.0 (General description and requirement). Indenter will be available at the supplier's premises to witness all the tests. All test reports will be handed over to indenter by the supplier also.
- 10.3** After the inspection and qualification tests the assembled enclosure assemblies will be given to the indenter for final testing. **If any component or assembly defects are noticed during testing in our lab the supplier will correct the same free of cost.** Final delivery can be made after specified qualification testing. **Final acceptance of all the assembled enclosure assemblies will be given by the indenter after complete functional testing.**

11.0 QUALITY SURVEILLANCE

- 11.1 Quality surveillance and expediting, relating to all the aspects of the contract will be carried out by the purchaser or his authorized representative, for which purpose the supplier and his subcontractor shall allow access to the premises in which the work is being carried out, during manufacture, assembly and testing.
- 11.2 Furnish the latest drawings and/or tooling, gauges, instruments, testing equipment etc. required for inspecting the jobs. Prints of all the latest required drawings and approved procedures shall be made available for inspection and retention, if so desired.
- 11.3 Produce an inspection plan to the purchaser's satisfaction and notify when checkpoints on the plan are imminent so that the purchaser's representative may be present to witness the inspection, if it is so desired.
- 11.4 The supplier shall be responsible for the inspection and subsequent acceptance of the components that is subcontracted by him.
- 11.5 Waiving of quality surveillance by the purchaser's acceptance of the items by the purchaser or his authorized agent, shall not relieve the supplier from his responsibility for supplying the items in accordance with specification requirements of this document and purchase order.
- 11.6 Final acceptance of all Components of "EMI-EMC, temperature & humidity compliant and IP65 compatible RF enclosure assemblies along with Casing assemblies" will be given by the indenter after complete inspection and testing.

12.0 SUBCONTRACTING

- 12.1 The supplier shall not sub-contract any or all the work without the written consent from the purchaser.

13.0 SHIPMENT

- 12.1 CLEANING: The finish component before packing shall be degreased and cleaned.
- 13.2 PACKAGING: After completion of all testing and identifying the components, the components shall be packed suitably for shipment, so that no damage occurs in transit. The purchaser shall subject the packing procedure to prior approval. At least one copy of packing list shall be kept in the package for quick and easy verification.
- 13.3 Delivery: Delivery of subassemblies shall be made only after obtaining approval in all respect from purchaser. Completed jobs shall be delivered on or before the stipulated delivery period mentioned in Purchase Order/Work Order.

14.0 GUARANTEE / WARRANTY:

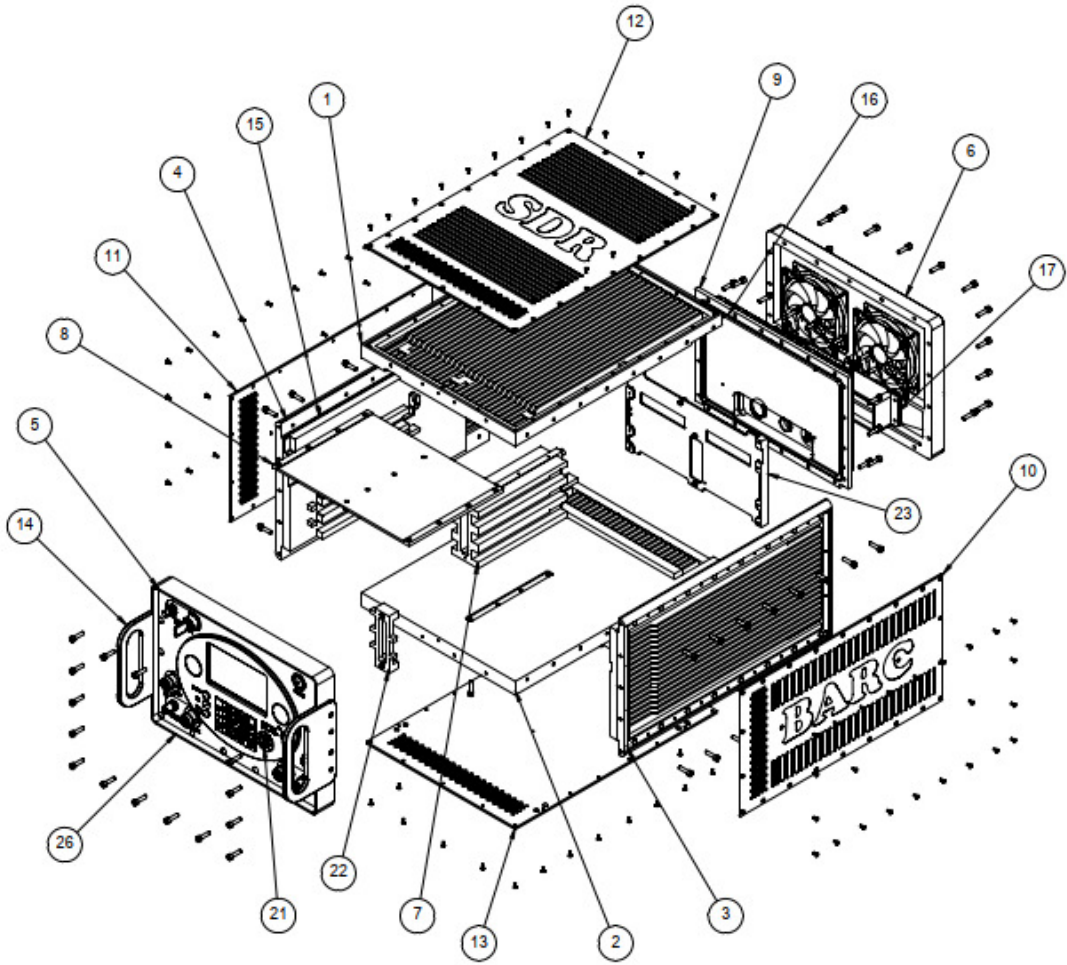
- 14.1 All fabricated components and assemblies under purchase order/work order shall be guaranteed for a period of 12 months from the date of delivery at purchaser's works.

15.0 PURCHASER'S DRAWINGS, SPECIFICATIONS ETC.:

- 15.1 Purpose: All drawings, specifications, free issue items etc. that may be provided to Supplier by Purchaser are the property of Purchaser and are intended to be complementary and to provide for and comprise everything necessary for the completion of works/supply. These are not to be used for any works or performance other than those for which these have been provided and shall be returned to Purchaser immediately on completion of work/supply, in good condition.
- 15.2 Property of Purchaser: If during the process of execution of the contract, any improvement, refinement or technical changes and modifications are effected by Supplier, such changes shall not affect the title to the property of Purchaser and all the information, specifications, drawings etc including the improvement/modifications effected by Supplier shall continue to be the property of Purchaser. Supplier shall not have any claim or rights whatsoever in respect of purchaser's drawings, specifications, prototypes etc. even where improvement, refinement, modifications etc. have been effected by Supplier.

16.0 INFORMATION / DOCUMENTS TO BE FURNISHED ALONG WITH THE FINISHED COMPONENTS:

1. Two copies of dimensional inspection & report
2. Certificate of compliance to IP65, temp. humidity & EMI/EMC
3. Packing list
4. Delivery Challan
5. Invoice
6. Bank account details for NEFT/RTGS
7. Guarantee/ Warrantee certificate for 12 months
8. GST submission to authority undertaking
9. As built drawings
10. ITR Filing / Submission report



BILL OF MATERIAL

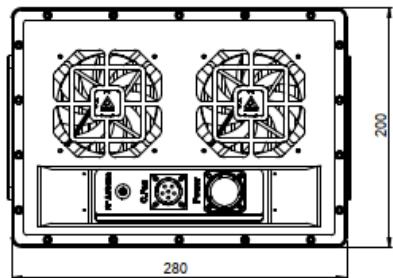
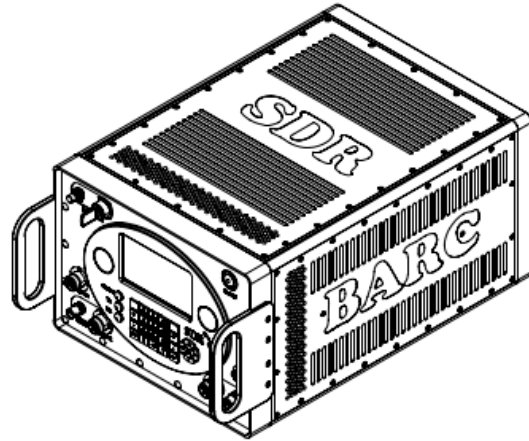
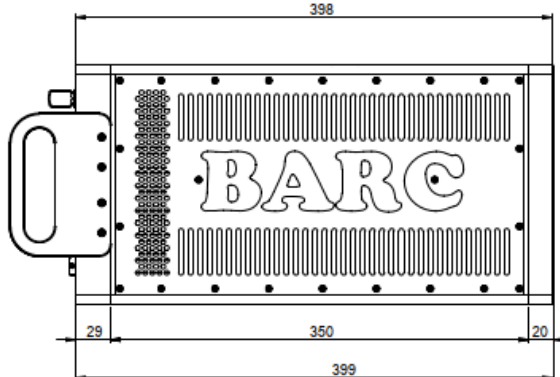
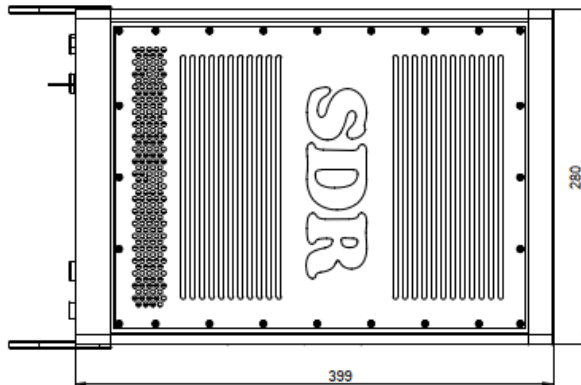
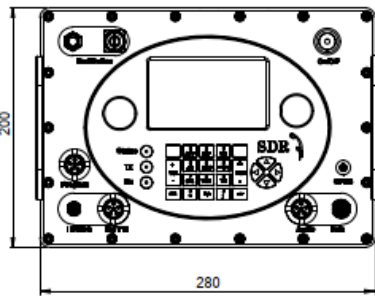
SL. NO.	DRAWING NO.	DESCRIPTION	QTY.
1	F-EM-001-A3	TOPCOVER PANEL	1
2	F-EM-002-A3	BOTTOM PANEL	1
3	F-EM-003-A3	RIGHTSIDE PANEL	1
4	F-EM-004-A3	LEFTSIDE PANEL	1
5	F-EM-005-A3	FRONT PANEL	1
6	F-EM-006-A3	REAR PANEL	1
7	F-EM-007-A3	MIDDLE SUPPORT	1
8	F-EM-008-A3	PARTITION PLATE	1
9	F-EM-009-A3	PA MOUNTING PLATE	1
10	F-EM-010-A3	RIGHT SIDE SHIELDING PANEL	1
11	F-EM-011-A3	LEFT SIDE SHIELDING PANEL	1
12	F-EM-012-A3	TOP SIDE SHIELDING PANEL	1
13	F-EM-013-A3	BOTTOM SIDE SHIELDING PANEL	1
14	F-EM-014-A3	HANDLE	2
15	F-EM-015-A3	*O* RING FOR LEFT AND RIGHT PANEL	2
16	F-EM-016-A3	*O* RING FOR PA MODULE	1
26	F-EM-017-A3	CONNECTOR HOUSING	1
18	F-EM-019-A3	*O* RING FOR FRONT PANEL	1
19	F-EM-020-A3	*O* RING FOR MIDDLE SUPPORT	1
20	F-EM-021-A3	NUMBERING KEY PAD	1
21	F-EM-022-A3	SUPPORT CLAMP	1
22	F-EM-023-A3	BACK PLANE PLATE	1
23	F-EM-024-A3	LCD HOUSING	1
24	F-EM-025-A3	KEYPAD HOUSING	1
25	F-EM-030-A3	LCD GASKET	1
26	K-EM-027-A3	FRONT PANEL SUB ASSEMBLY	1
27	HARDWARE	M4 X 12mm Long SOCKET HEAD SCREWS	91
28	HARDWARE	M2.5 X 5mm Long SOCKET HEAD CSK SCREWS	95
29	HARDWARE	M3 X 6mm long SOCKET HEAD CSK SCREWS	20

S.NO	DESCRIPTION	DATE	APPD.
REVISIONS			

S.NO.	TITLE	DRG.NO.	S.NO.	REV. NO.	ISSUED FOR	DATE	APPD.
REFERENCE DRAWINGS				ISSUES			
SCALE =	N T S	PROJECTION	DRN.	MM/SURESH	DGN.	MM/SURESH	
ALL DIMENSIONS ARE IN MM UNLESS STATED OTHERWISE							
GENERAL TOLERANCE							
FULL NOS = + 0.0		1 DEC PLACE = ± 0.00		DATE		24.05.2022	
2 DEC PLACE = + 0.00		ANGLES = + 0.0°		APPD.			
MATERIAL							
FINISH							
Refer drawing symbols & notes							NO.OFF
TITLE							01
RF MODULE							
GENERAL ASSEMBLY							
DRG.NO.							A-EM-018-A3
REV. NO.							01

Bill of Material for GA Drawing No. A-EM-018-A3

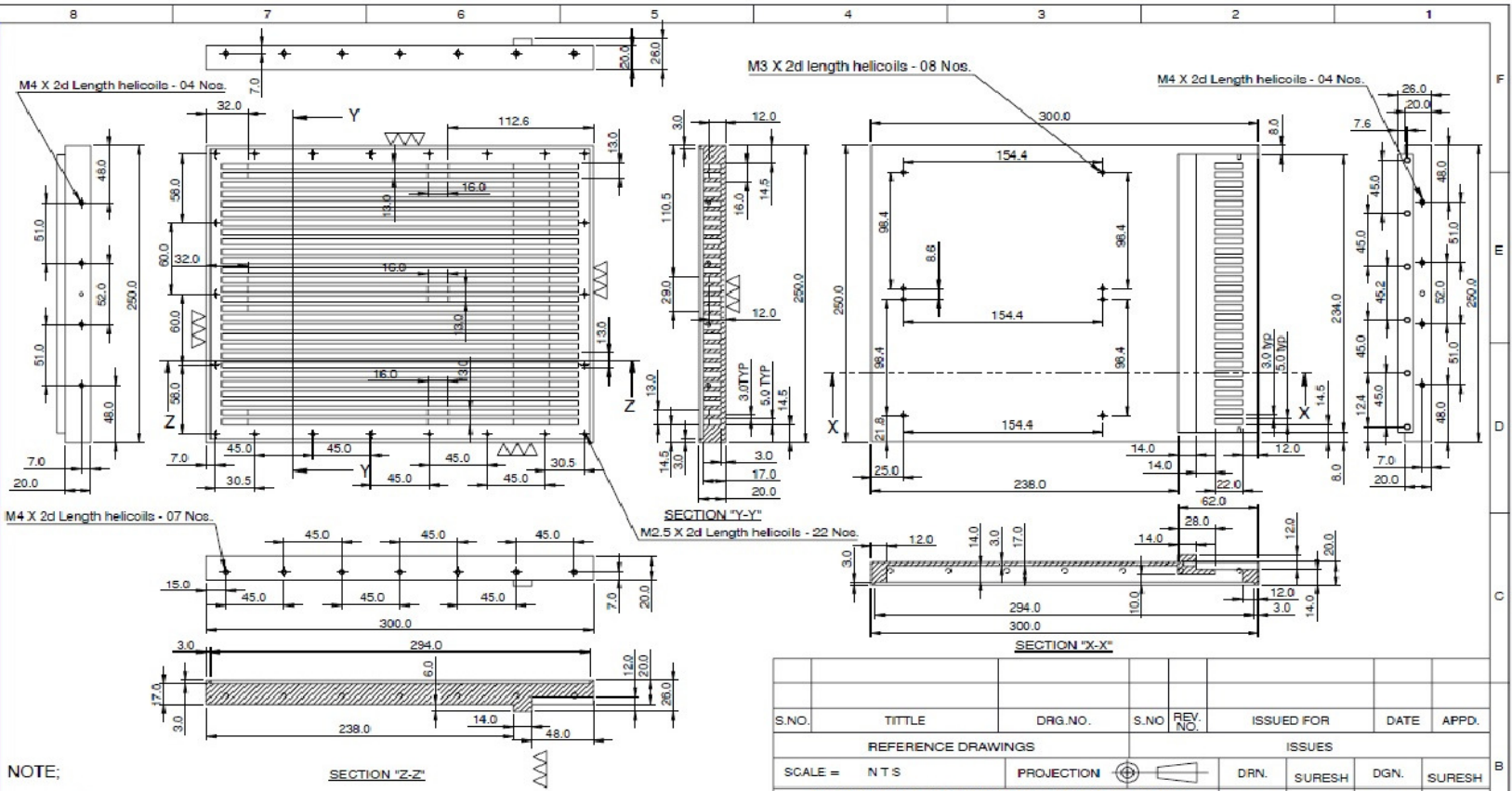
S.N.	Part Name	Part No. / Drawing No.	Manufacturer	Qty/ass'ly (Nos)	Total Qty for 3 ass'ly (Nos)
1.	RF System Enclosure Assembly Drawing	Total pages = 22			
	1) RF System Enclosure Assembly	A-EM-018-A3	To be fabricated	1	3
	2) Top panel	F-EM-001-A3	To be fabricated	1	3
	3) Bottom panel	F-EM-002-A3	To be fabricated	1	3
	4) Right side panel	F-EM-003-A2	To be fabricated	1	3
	5) Left side panel	F-EM-004-A2	To be fabricated	1	3
	6) Front panel	F-EM-005-A2	To be fabricated	1	3
	7) Rear panel	F-EM-006-A3	To be fabricated	1	3
	8) Middle support	F-EM-007-A3	To be fabricated	1	3
	9) Partition plate	F-EM-008-A3	To be fabricated	1	3
	10) PA mounting panel	F-EM-009-A2	To be fabricated	1	3
	11) Left side shielding panel	F-EM-010-A3	To be fabricated	1	3
	12) Right side shielding panel	F-EM-011-A3	To be fabricated	1	3
	13) Top panel shielding panel	F-EM-012-A3	To be fabricated	1	3
	14) Bottom shielding panel	F-EM-013-A3	To be fabricated	1	3
	15) Carrying Handle	F-EM-014-A3	To be fabricated	2	6
	16) "O" ring for left & right side panel	F-EM-015-A3	To be fabricated	2	6
	17) "O" ring for PA mounting panel	F-EM-016-A2	To be fabricated	1	3
	18) Connector housing	F-EM-017-A2	To be fabricated	1	3
	19) "O" ring for Front Panel	F-EM-019-A3	To be fabricated	1	3
	20) "O" ring for middle support	F-EM-020-A3	To be fabricated	1	3
	21) Numbering Key pad	F-EM-021-A3	To be fabricated	1	3
	22) Support Clamp	F-EM-022-A2	To be fabricated	1	3
	23) VHB Waterproof Gasket for display	H16SCA23	To be fabricated	1	3
2.	Socket head CSK screws M2.5x6mm machine screw	STD.	--	78	234
3.	Socket head screws M4x10mm machine screw	STD.	--	88	264
4.	Socket head CSK screws M3x8mm machine screw	STD.	--	24	72
5.	M4 narrow spring washer	STD.	--	56	168
6.	6-pin U329 circular connector	AJ-146, Audio Jack	Amphenol Nexus	3	9
7.	19-pin Circular Connector	UR01W11 F019P BK1 E1AB	Fischer Connector	1	3
8.	SMA 4 Hole Panel Receptance	132146	Amphenol Nexus	1	3
9.	Type N RF connector	31-6600	Amphenol RF	1	3
10.	On/Off rugged button with LED	Series 57, 57-112R	IWT Switches	1	3
11.	RED button	13000X778 series	APM	1	3
12.	Key Switch	IDEC-LB1K-2ST5B-1H	IDEC	1	3
13.	i-Button	UR01W08 F002S BK1	Fischer	1	3
14.	LCD Display Unit	AC043NB01	Mitsubishi	1	3
15.	Mil grade circular connector	D38999/20WE26SN	SOURIAU	1	3
16.	Mil grade circular connector (Pin) compatible for D38999/20WE26SN connector	D38999/26WE26PN	SOURIAU	1	3
17.	Mil grade circular connector	D38999/20WC35SN	SOURIAU	1	3
18.	Mil grade circular connector (Pin) compatible for D38999/20WC35SN connector	D38999/26WC35PN	SOURIAU	1	3
19.	Wedge lock for PCB fitting for 3U & 6U size	STD	STD	2	6
20.	DC Axial Cooling Fan 96.4 CFM (92x92x20.5mm)	09225VA-12Q-AA	NMB Technologies Corporation	2	6
21.	System status LED	QRM85BXXG02E	APEM Inc	3	9



NOTE: ALL DIMENSIONS ARE IN MM

S.NO	DESCRIPTION	DATE	APPD.
REVISIONS			

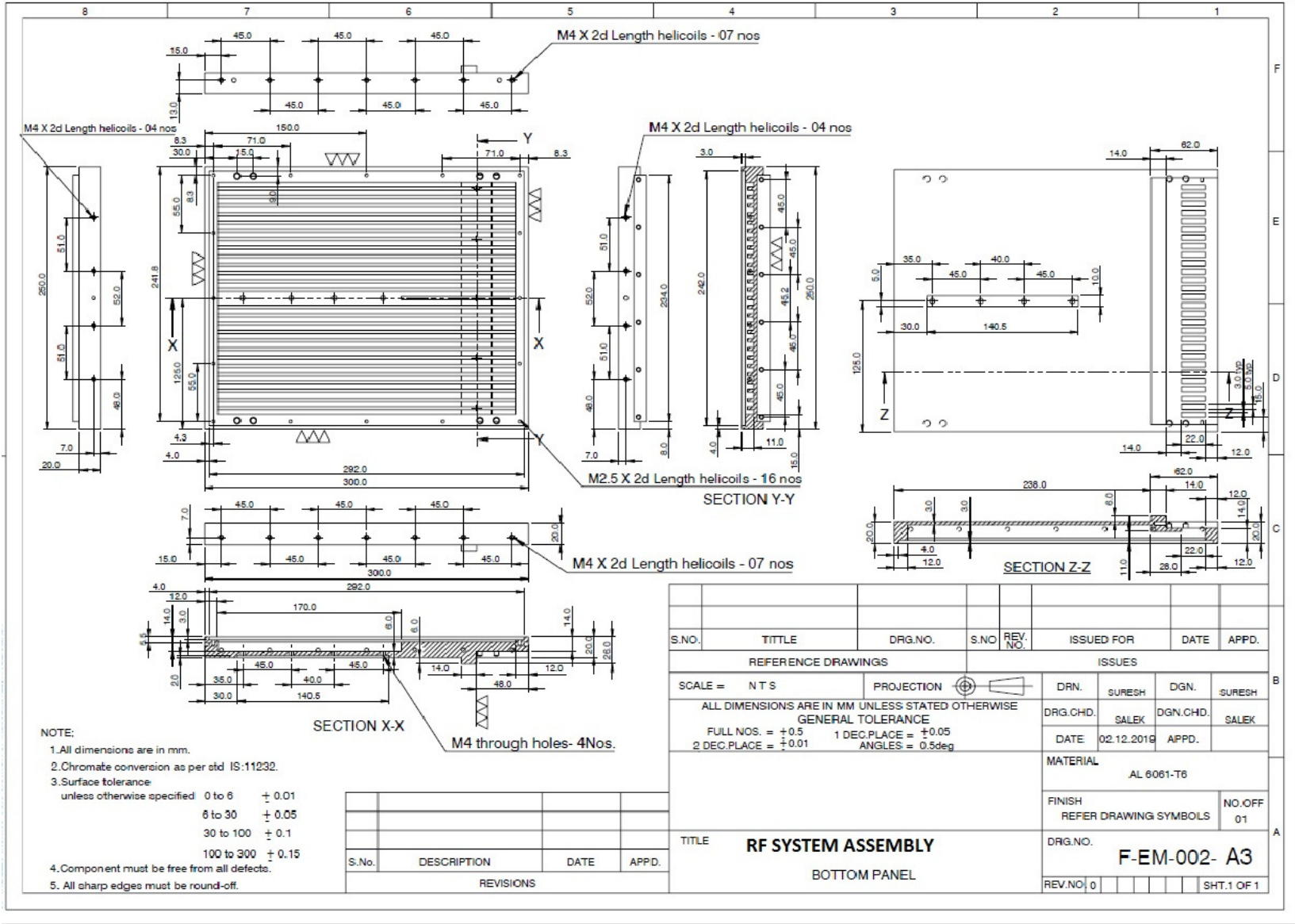
S.NO.	TITLE	DRG.NO.	S.NO.	REV. NO.	ISSUED FOR	DATE	APPD.
REFERENCE DRAWINGS							
ISSUES							
SCALE = N T S		PROJECTION		DRN.	MM.SURESH	DGN.	MM.SURESH
ALL DIMENSIONS ARE IN MM UNLESS STATED OTHERWISE							
GENERAL TOLERANCE							
FULL NOS. = + 0.0		1 DEC PLACE = + 0.00		DRG. CHD.	SALEK CHAND	DGN. CHD.	SALEK CHAND
2 DEC PLACE = + 0.00		ANGLES = + 0.0°		DATE	24.05.2022	APPD.	
MATERIAL							
FINISH							NO. OFF
Refer drawing symbols & notes							01
TITLE				DRG. NO.			
RF MODULE				A-EM-018-A3			
GENERAL ASSEMBLY				REV. NO. 0 1			



- NOTE;**
1. All dimensions are in mm.
 2. Chromate conversion as per std IS:11232.
 3. Surface tolerance unless otherwise specified

0 to 6	± 0.01
6 to 30	± 0.05
30 to 100	± 0.1
100 to 300	± 0.15
 4. Component must be free from all defects.
 5. All sharp edges must be round-off.

S.NO.	TITLE	DRG.NO.	S.NO	REV. NO.	ISSUED FOR	DATE	APPD.
REFERENCE DRAWINGS				ISSUES			
SCALE = N T S		PROJECTION		DRN.	SURESH	DGN.	SURESH
ALL DIMENSIONS ARE IN MM UNLESS STATED OTHERWISE				DRG.CHD.	Salek	DGN.CHD.	Salek
GENERAL TOLERANCE				DATE	02.12.2019	APPD.	
FULL NOS. = +0.5 1 DEC.PLACE = ±0.05				MATERIAL AL 6061-T6			
2 DEC.PLACE = ±0.01 ANGLES = 0.5 deg							
TITLE RF SYSTEM ASSEMBLY TOP PANEL				FINISH REFER DRAWING SYMBOL		NO.OFF 01	
				DRG.NO. F-EM-001- A3			
REV.NO 0				SHT.1 OF 1			



- NOTE:**
- All dimensions are in mm.
 - Chromate conversion as per std IS-11232.
 - Surface tolerance unless otherwise specified

0 to 6	± 0.01
6 to 30	± 0.05
30 to 100	± 0.1
100 to 300	± 0.15
 - Component must be free from all defects.
 - All sharp edges must be round-off.

S.No.	DESCRIPTION	DATE	APPD.
REVISIONS			

S.NO.	TITLE	DRG.NO.	S.NO	REV. NO.	ISSUED FOR	DATE	APPD.
REFERENCE DRAWINGS				ISSUES			
SCALE = N T S		PROJECTION		DRN.	SURESH	DGN.	SURESH
ALL DIMENSIONS ARE IN MM UNLESS STATED OTHERWISE GENERAL TOLERANCE				DRG.CHD.	SALEK	DGN.CHD.	SALEK
FULL NOS. = +0.5 1 DEC.PLACE = +0.05 2 DEC.PLACE = +0.01 ANGLES = 0.5deg				DATE	02.12.2018	APPD.	
				MATERIAL AL 6061-T6			
				FINISH REFER DRAWING SYMBOLS		NO.OFF 01	
TITLE RF SYSTEM ASSEMBLY BOTTOM PANEL				DRG.NO. F-EM-002- A3			
				REV.NO	0		SHT.1 OF 1

M3 X 2d length helicoils - 4Nos.

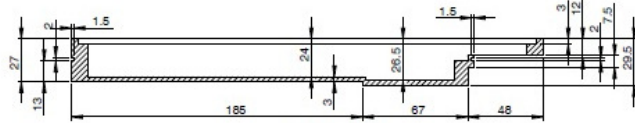
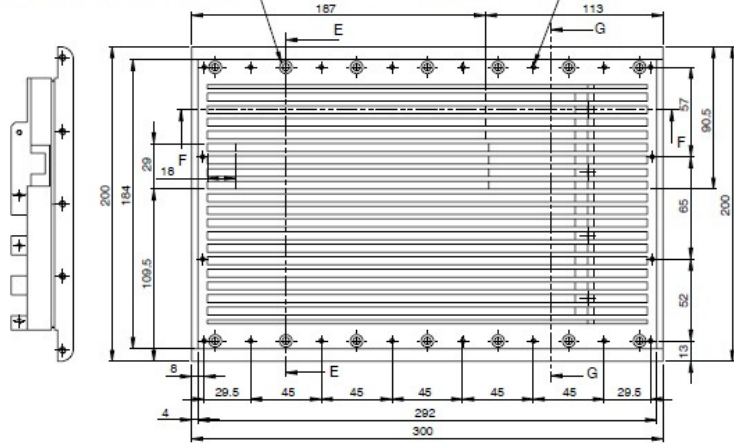
M4 socket head screw Size counter bore - 14Nos.

M2.5 X 2d length helicoils - 22Nos.

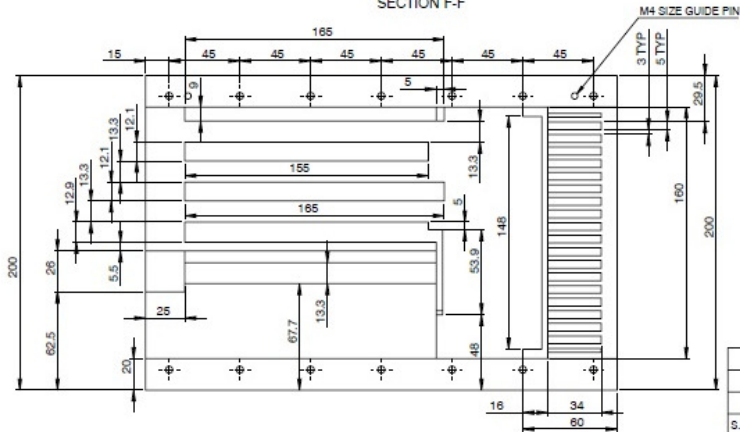
M4X2d length helicoils - 3Nos.

M4X2d length helicoils - 3Nos.

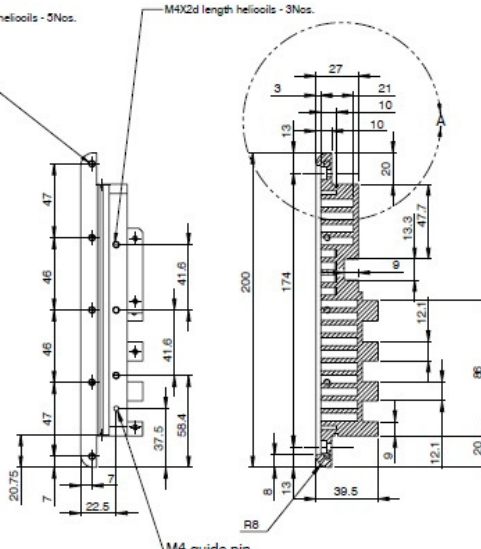
M3 helicoils - 4 Nos.



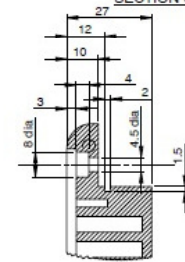
SECTION F-F



M4 SIZE GUIDE PIN



SECTION E-E



DETAIL A

SECTION G-G

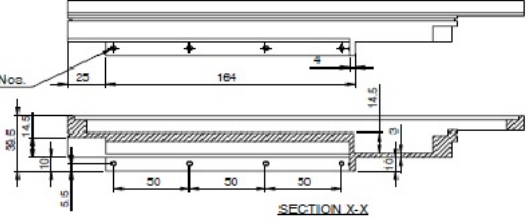
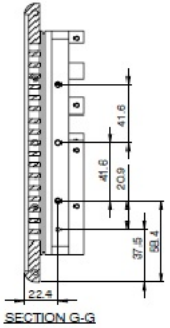
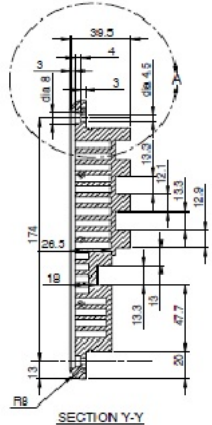
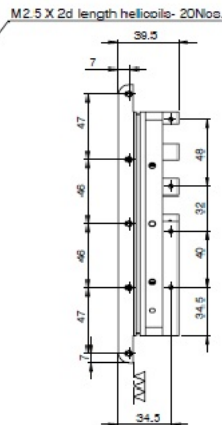
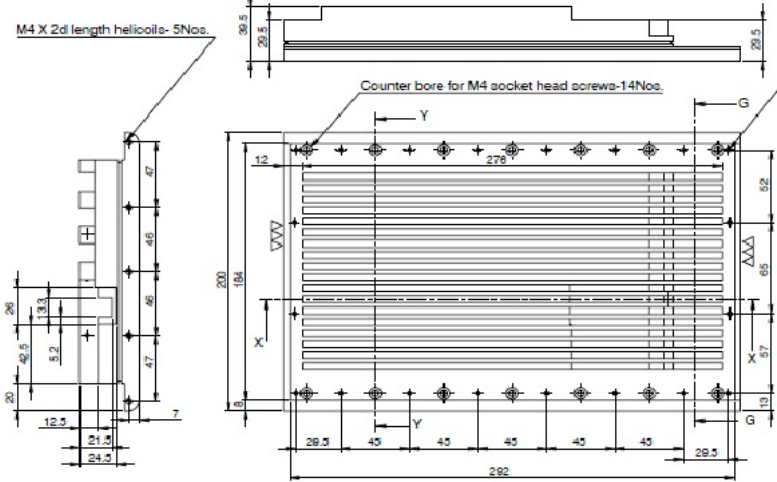
NOTE:

- All dimensions are in mm.
- Chromate conversion as per std IS-11232.
- Surface tolerance unless otherwise specified:
 - 0 to 6 + 0.01
 - 6 to 30 + 0.05
 - 30 to 100 + 0.1
 - 100 to 300 + 0.15
- Component must be free from all defects.
- All sharp edges must be round-off.

S.NO	DESCRIPTION	DATE	APPD.
REVISIONS			

S.NO	TITLE	DRG.NO.	S.NO	REV. NO.	ISSUED FOR	DATE	APPD.
REFERENCE DRAWINGS				ISSUES			
SCALE = N T S		PROJECTION		DRN.	SURESH	DGN.	SURESH
ALL DIMENSIONS ARE IN MM UNLESS STATED OTHERWISE GENERAL TOLERANCE				DRG. CHD.	SALEK	DGN. CHD.	SALEK
FULL NOS. = + 0.5 1 DEC. PLACE = + 0.05				DATE		02.12.2019	
2 DEC. PLACE = + 0.01 ANGLES = 0.5 Deg				MATERIAL		AL 6061-T6	
TITLE				FINISH		NO. OFF	
				Refer notes & drawing symbols		01	
RIGHTSIDE PANEL				DRG. NO.		F-EM - 003 - A2	
				REV.		SHT.1 OF 1	

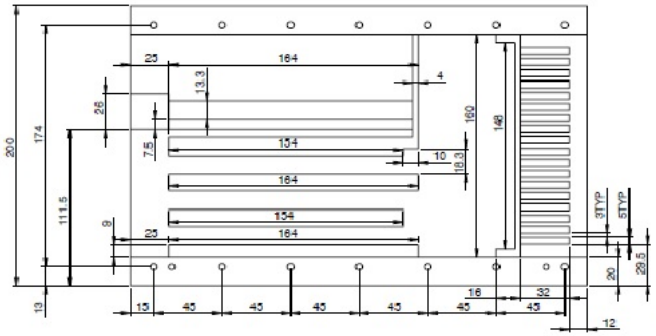
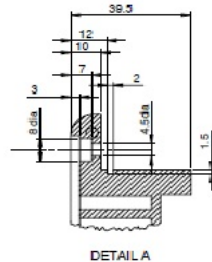
M4 X 2d length helicoils- 5Nos.



NOTE

- All dimensions are in mm.
- Dimension conversion as per std IS:11232.
- Surface tolerance unless otherwise specified

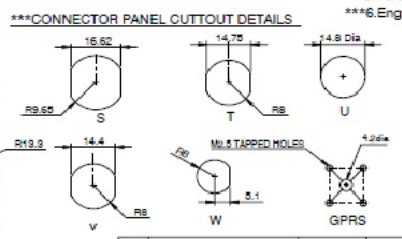
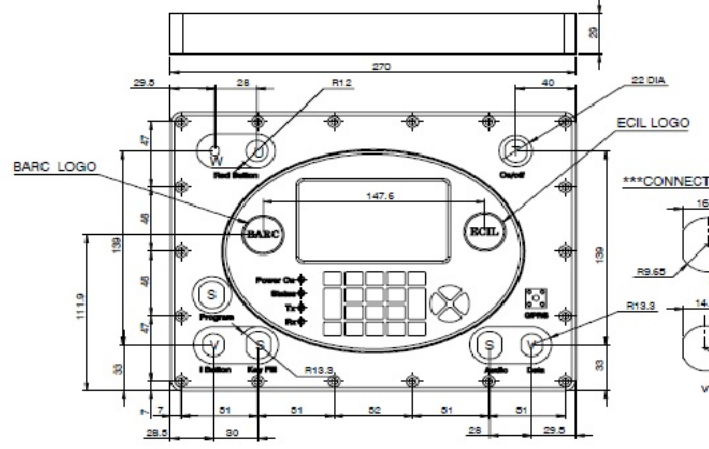
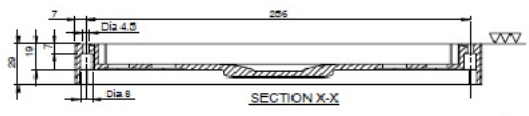
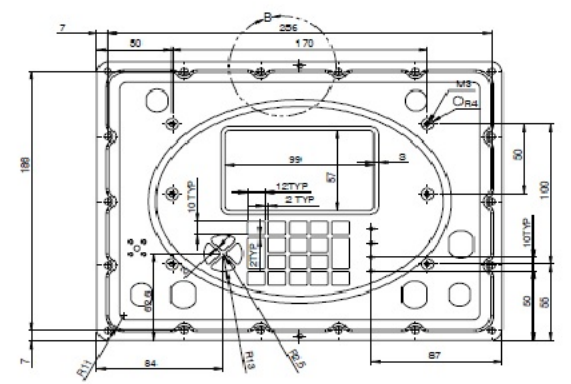
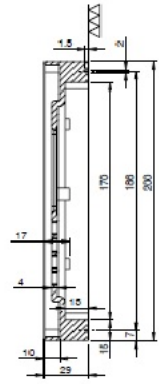
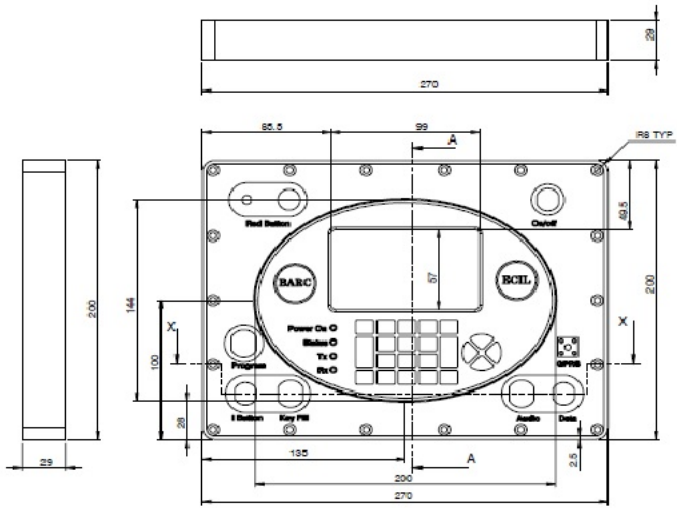
0 to 6	± 0.01
6 to 30	± 0.05
30 to 100	± 0.1
100 to 300	± 0.15
- Component must be free from all defects.
- All sharp edges must be round-off.



S.NO	DESCRIPTION	DATE	APPD.
REVISIONS			

S.NO	TITLE	DRG. NO.	S.NO	REV. NO.	ISSUED FOR	DATE	APPD.
REFERENCE DRAWINGS							
ISSUED							
SCALE = N T O		PROJECTION		DRN.	SURESH	DGN.	SURESH
ALL DIMENSIONS ARE IN MM UNLESS STATED OTHERWISE							
GENERAL TOLERANCE							
FULL NO. = ± 0.5		1 DEC. PLACE = ± 0.05		DATE		02.12.2015	
2 DEC. PLACE = ± 0.01		ANGLED = 0.5 Deg.		APPD.			
MATERIAL AL 6061-T6							
FINISH Refer drawing symbols and notes							NO. OFF
DRG. NO. F-EM-004-A2							01
REV.							SHT.1 OF 1

TITLE **RF SYSTEM ASSEMBLY**
LEFTSIDE PANEL

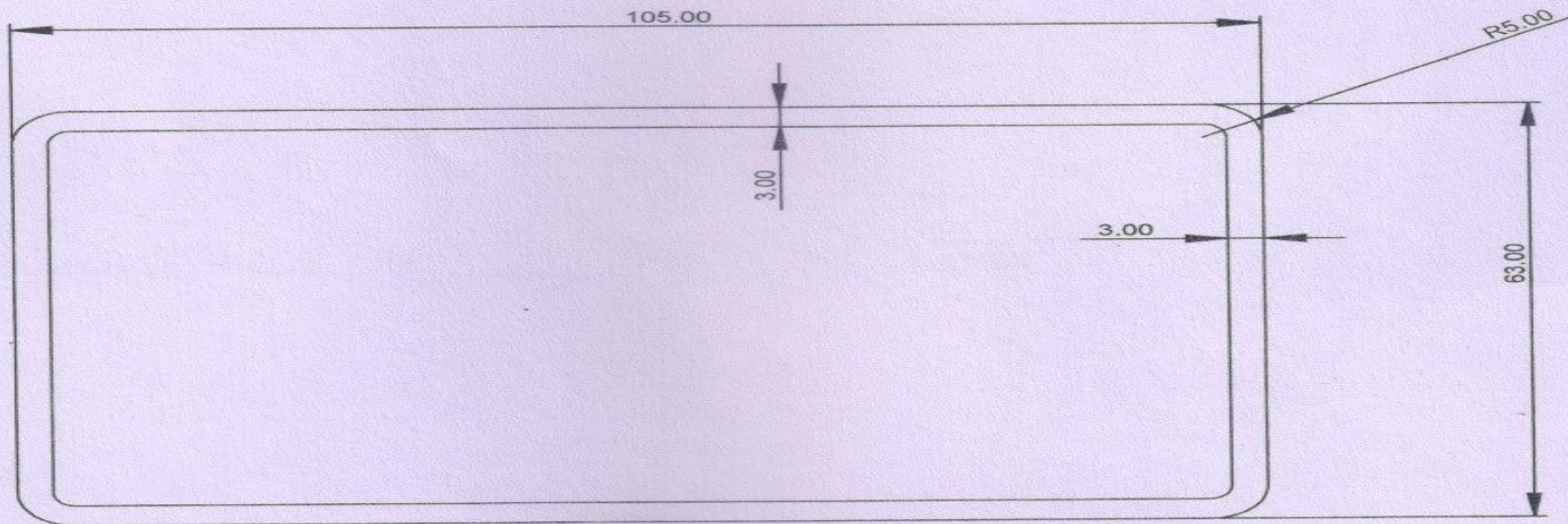


- NOTE:
1. All dimensions are in mm.
 2. Chromate conversion as per std IS:11232.
 3. Surface tolerance unless otherwise specified

0 to 6	+ 0.01
6 to 30	+ 0.05
30 to 100	+ 0.1
100 to 300	+ 0.15
 4. Component must be free from all defects.
 5. All sharp edges must be round-off.
- ***#6 Engraving font : aww721BT size: 3.5mm.

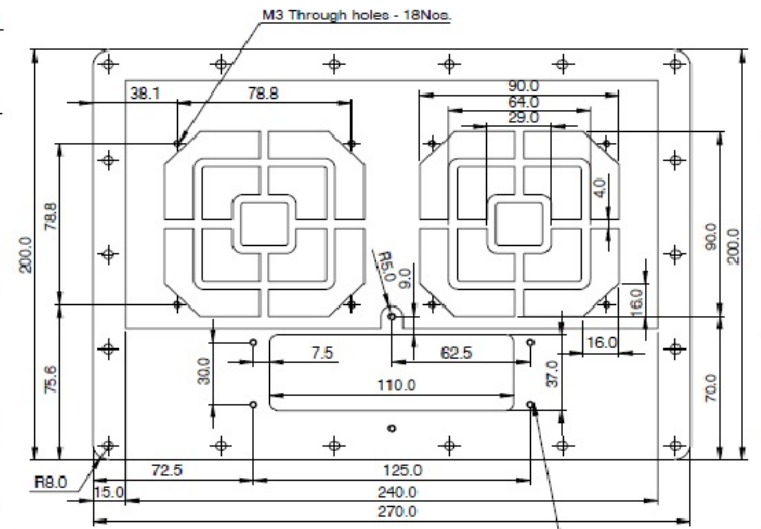
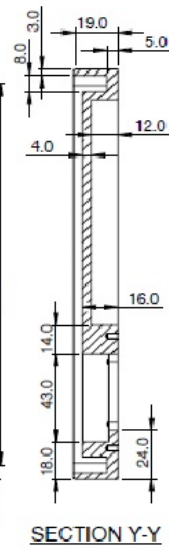
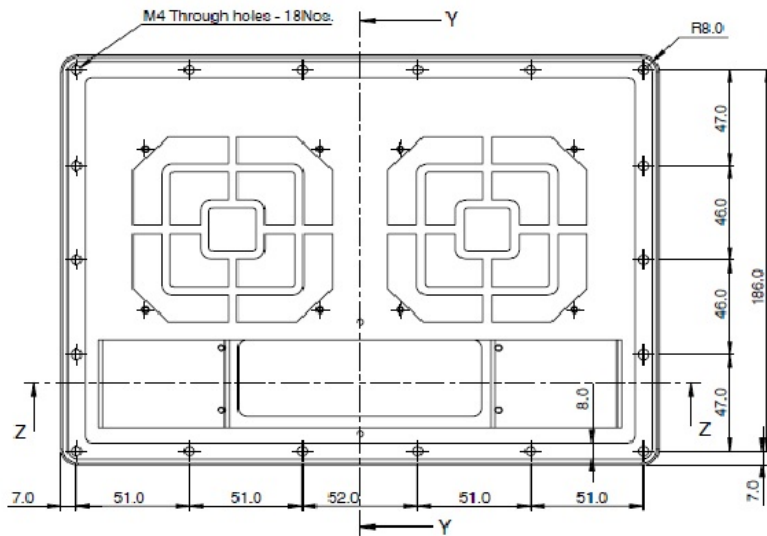
S.NO.	TITLE	DRG.NO.	S.NO.	REV. NO.	ISSUED FOR	DATE	APPD.
REFERENCE DRAWINGS							
SCALE = 1:1							
PROJECTION							
ALL DIMENSIONS ARE IN MM UNLESS STATED OTHERWISE							
GENERAL TOLERANCE							
FULL NOS. = + 0.2 1 DEC PLACE = +0.05							
2 DEC PLACE = + 0.02 ANGLES = 0.5 DEG							
MATERIAL							
AL 6061 - T6							
FINISH							
SEE NOTES							
NO. OFF							
01							
TITLE							
RF SYSTEM ASSEMBLY							
FRONT PANEL							
DRG. NO.							
F-EM-005- A2							
REV.							
SHT.1 OF 1							

S.NO.	DESCRIPTION	DATE	APPD.
REVISIONS			

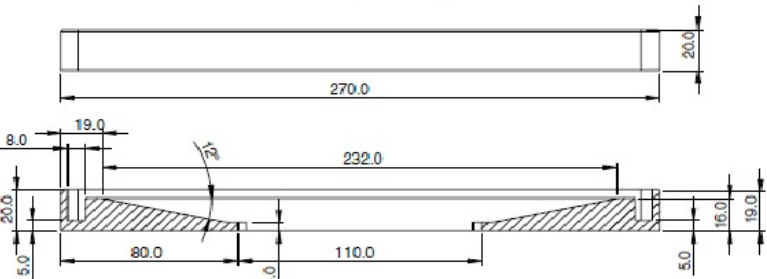


1mm Thick 3M VHB Water proof gaskets for display

DWG. NO. - H16SCA23



M3X 1d helicoils -4nos.



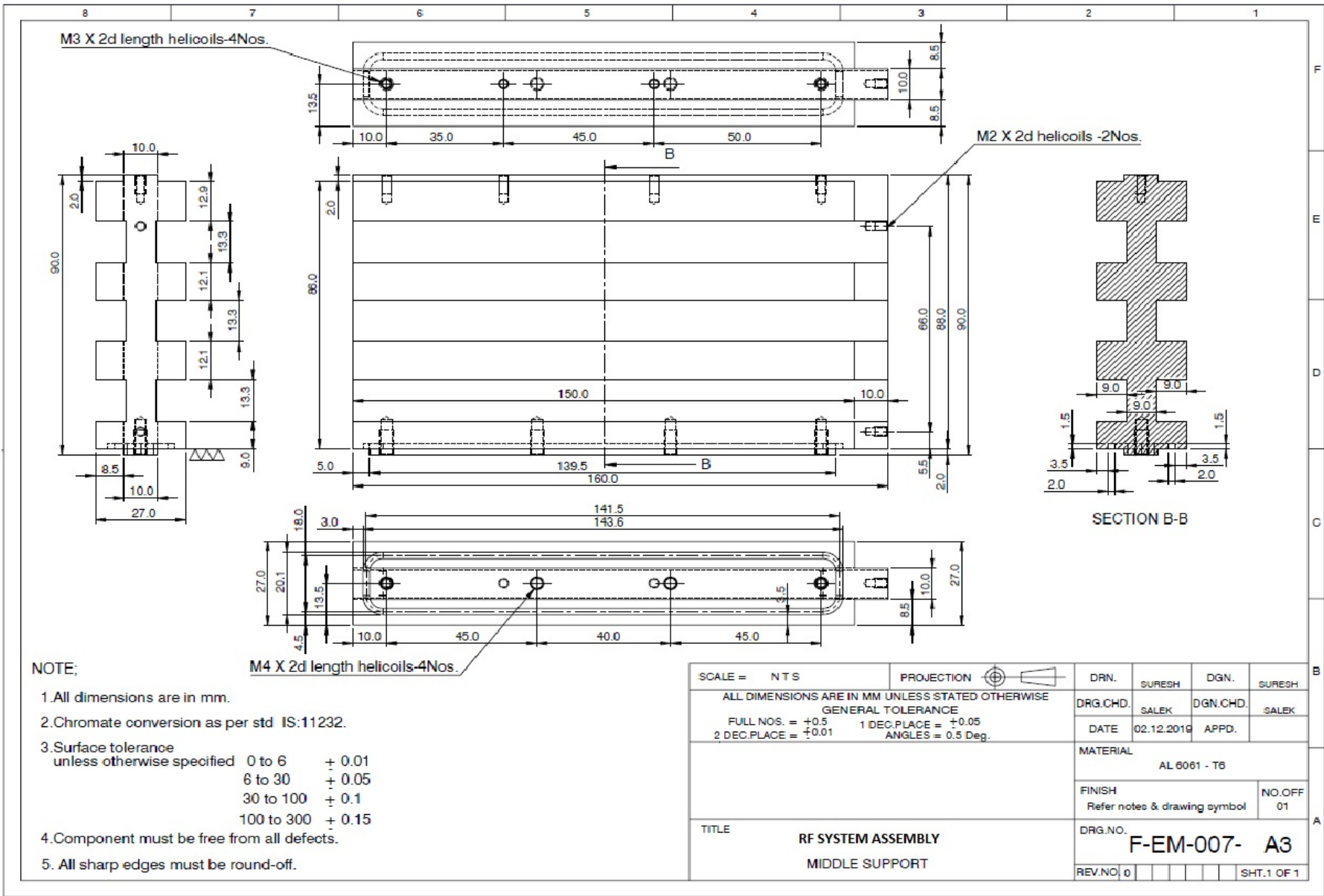
SECTION Z-Z

NOTE;

1. All dimensions are in mm.
2. Chromate conversion as per std IS:11232.
3. Surface tolerance unless otherwise specified

0 to 6	+ 0.01
6 to 30	± 0.05
30 to 100	± 0.1
100 to 300	± 0.15
4. Component must be free from all defects.
5. All sharp edges must be round-off.

S.NO.	TITLE	DRG.NO.	S.NO	REV. NO.	ISSUED FOR	DATE	APPD.
REFERENCE DRAWINGS				ISSUES			
SCALE = N T S		PROJECTION		DRN.	SURESH	DGN.	SURESH
ALL DIMENSIONS ARE IN MM UNLESS STATED OTHERWISE							
GENERAL TOLERANCE							
FULL NOS. = ±0.5		1 DEC.PLACE = ±0.01		DRG.CHD.	SALEK	DGN.CHD.	SALEK
2 DEC.PLACE = ±0.05		ANGLES = 0.5 Deg.		DATE	02.12.2018	APPD.	
MATERIAL				AL 6061-T6			
FINISH						NO.OFF	
Refer notes and symbols						01	
TITLE				DRG.NO.			
RF SYSTEM ASSEMBLY				F-EM-006- A3			
REAR PANEL				REV.NO 0 SHT.1 OF 1			



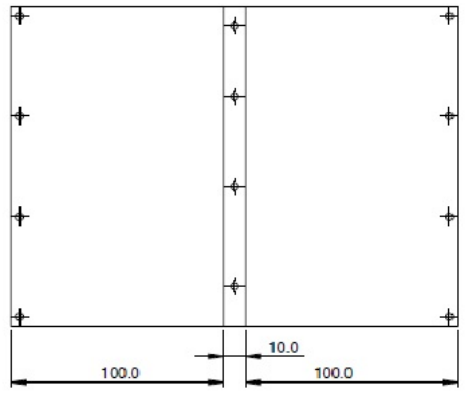
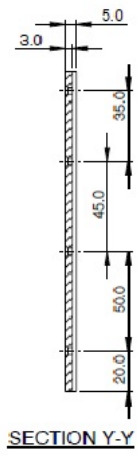
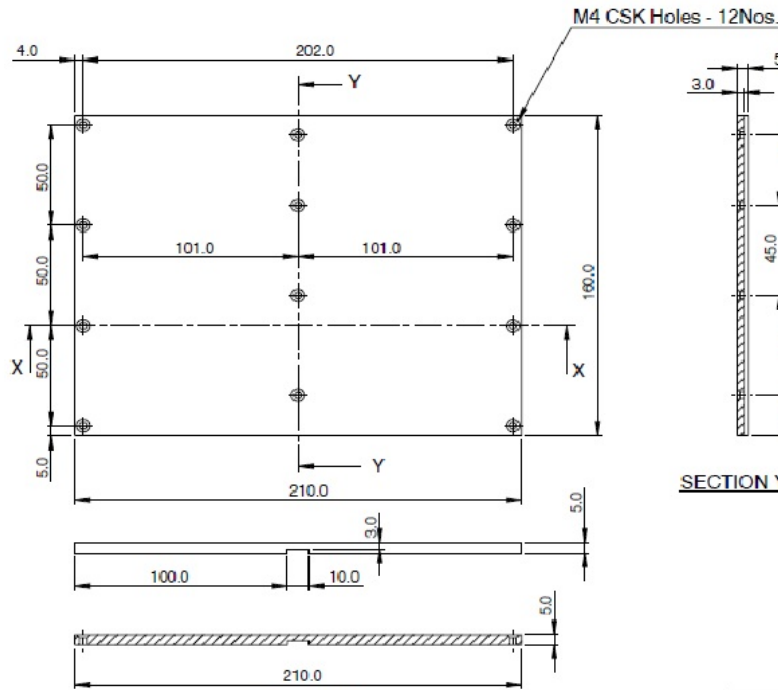
NOTE;

1. All dimensions are in mm.
2. Chromate conversion as per std IS:11232.
3. Surface tolerance unless otherwise specified

0 to 6	+ 0.01
6 to 30	+ 0.05
30 to 100	+ 0.1
100 to 300	+ 0.15
4. Component must be free from all defects.
5. All sharp edges must be round-off.

M4 X 2d length helicoils-4Nos.

SCALE = N T S	PROJECTION	DRN.	SURESH	DGN.	SURESH
ALL DIMENSIONS ARE IN MM UNLESS STATED OTHERWISE GENERAL TOLERANCE		DRG.CHD.	SALEK	DGN.CHD.	SALEK
FULL NOS. = +0.5 1 DEC.PLACE = +0.05 2 DEC.PLACE = +0.01 ANGLES = 0.5 Deg.		DATE	02.12.2019	APPD.	
		MATERIAL			
		AL 6061 - T6			
		FINISH	Refer notes & drawing symbol		NO.OFF
				01	
TITLE		DRG.NO.		A3	
RF SYSTEM ASSEMBLY MIDDLE SUPPORT		F-EM-007-			
		REV.NO	0		SHT.1 OF 1



SECTION X-X

SECTION Y-Y

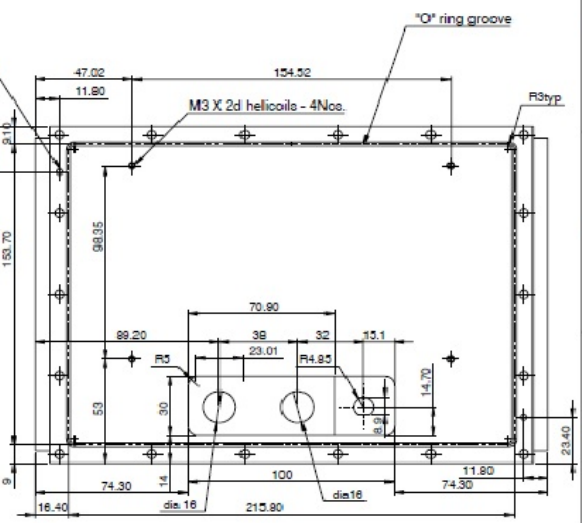
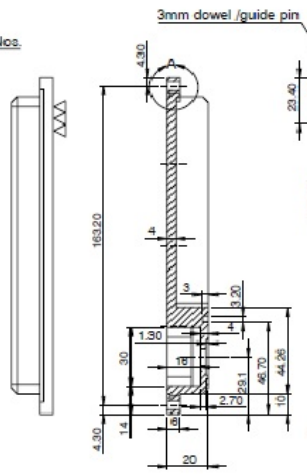
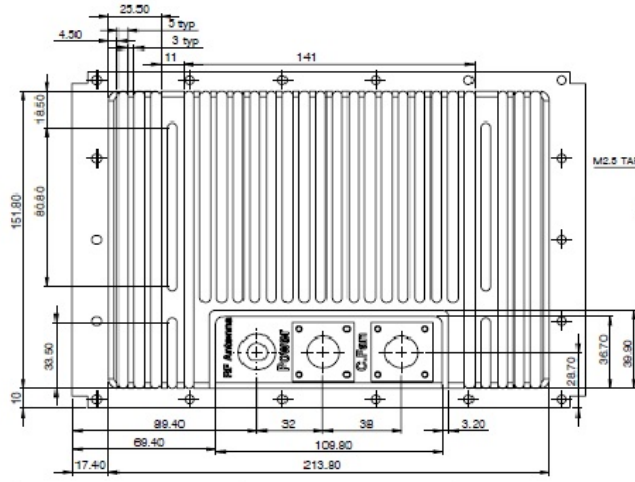
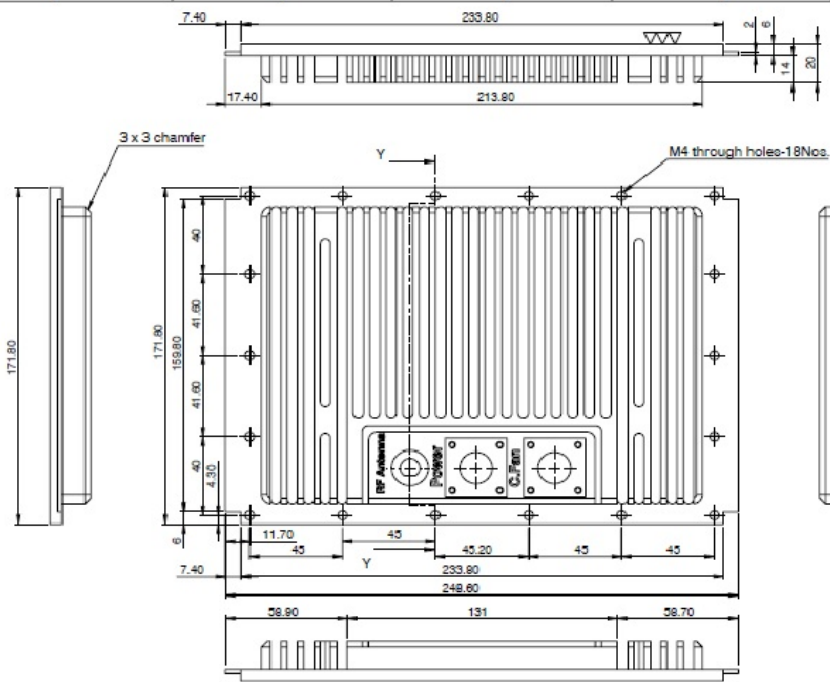
NOTE:

1. All dimensions are in mm.
2. Chromate conversion as per std IS:11232.
3. Surface tolerance unless otherwise specified

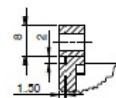
0 to 6	+ 0.01
6 to 30	- 0.05
30 to 100	± 0.1
100 to 300	± 0.15
4. Component must be free from all defects.
5. All sharp edges must be round-off.

S.No.	DESCRIPTION	DATE	APPD.
REVISIONS			

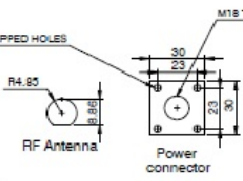
S.NO.	TITLE	DRG.NO.	S.NO.	REV. NO.	ISSUED FOR	DATE	APPD.
REFERENCE DRAWINGS				ISSUES			
SCALE = N T S		PROJECTION		DRN.	SURESH	DGN.	SURESH
ALL DIMENSIONS ARE IN MM UNLESS STATED OTHERWISE				DRG.CHD.	SALEK	DGN.CHD.	SALEK
GENERAL TOLERANCE				DATE	02.12.2019	APPD.	
FULL NOS. = ±0.5		1 DEC.PLACE = ±0.05		MATERIAL AL 6061-T6			
2 DEC.PLACE = ±0.01		ANGLES = 0.5 Deg.		FINISH Refer notes.		NO.OFF 01	
TITLE RF SYSTEM ASSEMBLY PARTITION PLATE				DRG.NO. F-EM-008- A3			
REV.NO. 0				SHT.1 OF 1			



SECTION Y-Y



DETAIL - A

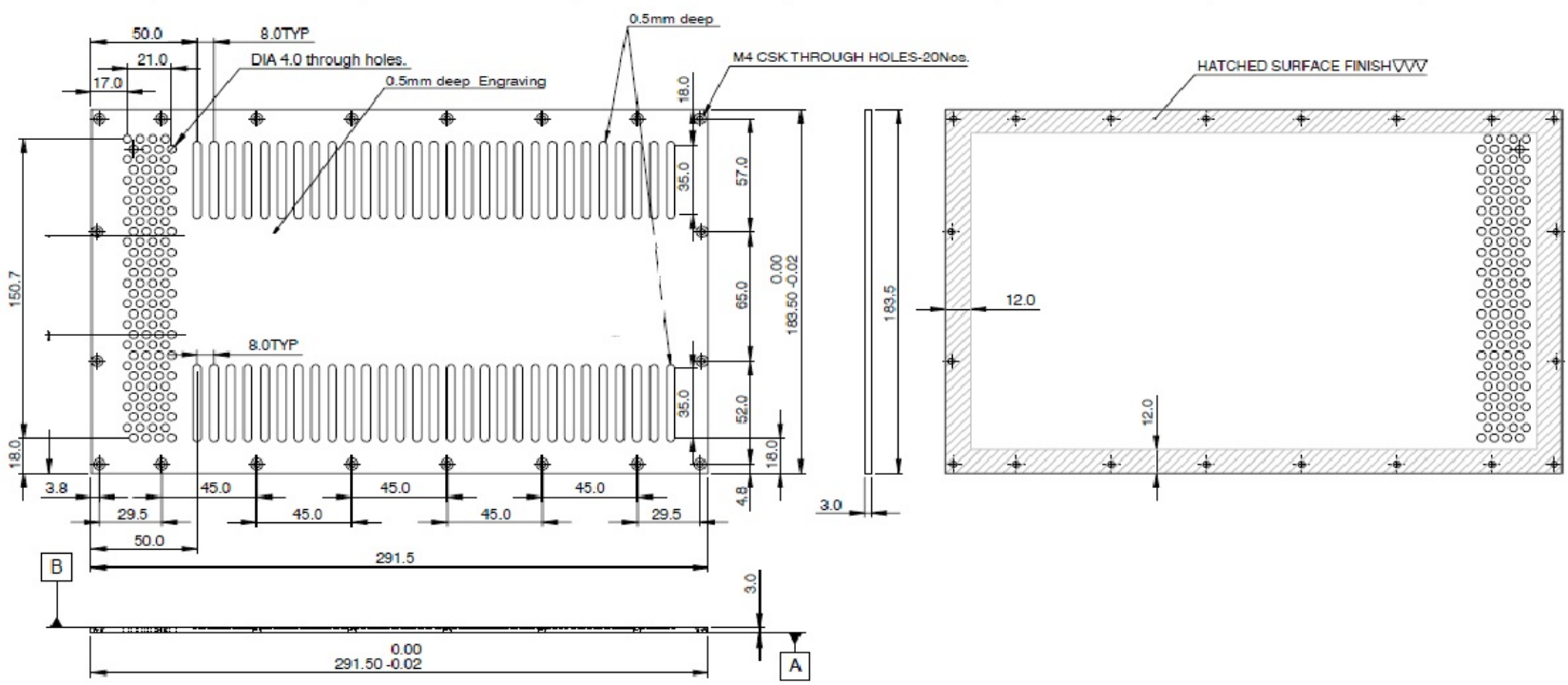


PANEL CUTOUTS

- NOTE:
1. All dimensions are in mm.
 2. Chromate conversion as per std IS:11232.
 3. Surface tolerance unless otherwise specified:
 - 0 to 6 + 0.01
 - 6 to 30 + 0.05
 - 30 to 100 + 0.1
 - 100 to 300 + 0.15
 4. Component must be free from all defects.
 5. All sharp edges must be round-off.

S.NO	DESCRIPTION	DATE	APPD.
REVISIONS			

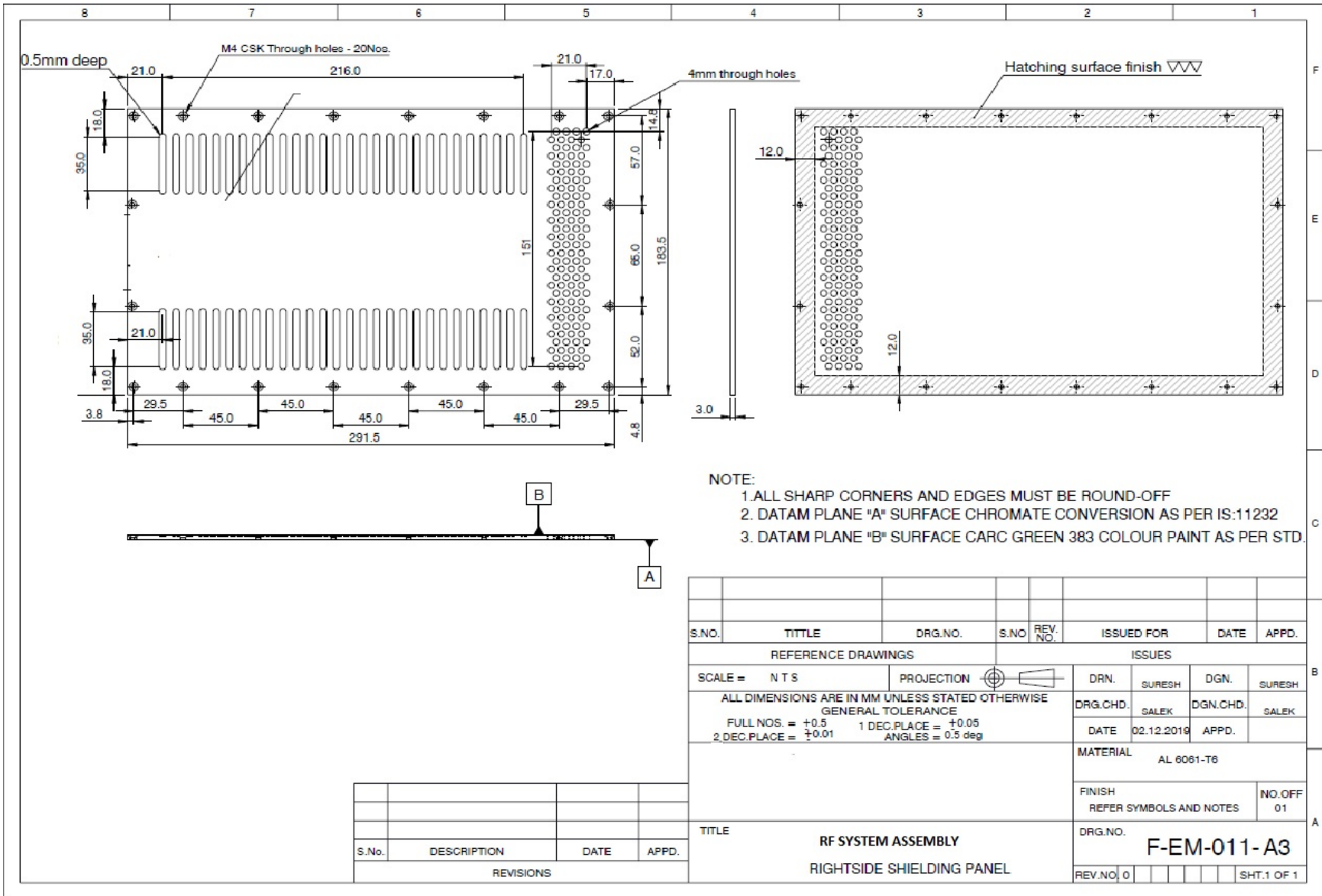
S.NO	TITLE	DRG. NO.	S.NO	REV. NO.	ISSUED FOR	DATE	APPD.
REFERENCE DRAWINGS				ISSUES			
SCALE = N T D		PROJECTION		DRN.	SURESH	DGN.	SURESH
ALL DIMENSIONS ARE IN MM UNLESS STATED OTHERWISE				DRG. CHD.	SALIK	DGN. CHD.	SALIK
GENERAL TOLERANCE				DATE	02.12.2019	APPD.	
FULL NOS. = ±0.5 1 DEC. PLACE = ±0.05 2 DEC. PLACE = ±0.01 ANGLES = 0.5 DEG				MATERIAL AL 6061-T6			
FINISH REFER NOTES & SYMBOLS							NO. OFF 01
TITLE				RF SYSTEM ASSEMBLY PA. MOUNTING PANEL			
DRG. NO.				F-EM-009- A2			
REV.				SMT.1 OF 1			



- NOTE:**
1. ALL SHARP CORNERS AND EDGES MUST BE ROUND-OFF
 2. DATUM PLANE "A" SURFACE CHROMATE CONVERSION AS PER IS:11232
 3. DATUM PLANE "B" SURFACE CARC GREEN 383 COLOUR PAINT AS PER STD.

S.No.	DESCRIPTION	DATE	APPD.
REVISIONS			

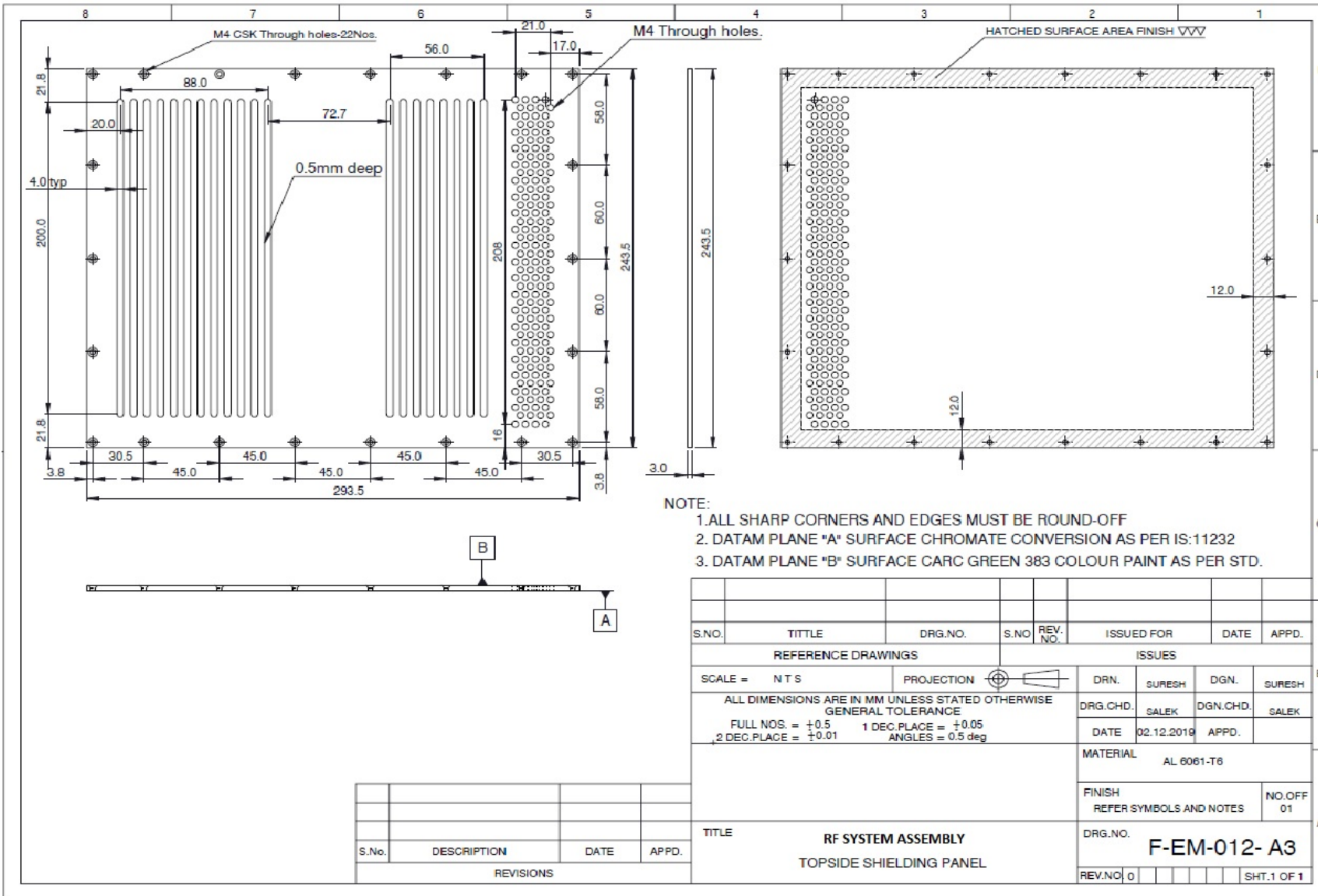
S.NO.	TITLE	DRG.NO.	S.NO	REV. NO.	ISSUED FOR	DATE	APPD.
REFERENCE DRAWINGS				ISSUES			
SCALE = N T S		PROJECTION		DRN.	SURESH	DGN.	SURESH
ALL DIMENSIONS ARE IN MM UNLESS STATED OTHERWISE GENERAL TOLERANCE				DRG. CHD.	SALEK	DGN. CHD.	SALEK
FULL NOS. = +0.5		1 DEC. PLACE = ±0.05		DATE	02.12.2019	APPD.	
2 DEC. PLACE = ±0.01		ANGLES = 0.5 deg		MATERIAL AL 6061-T6			
				FINISH REFER SYMBOLS AND NOTES		NO.OFF 01	
TITLE				DRG.NO.			
RF SYSTEM ASSEMBLY LEFTSIDE SHIELDING PANEL				F-EM-010-A3			
				REV.NO	0	SHT.1 OF 1	



- NOTE:
1. ALL SHARP CORNERS AND EDGES MUST BE ROUND-OFF
 2. DATUM PLANE "A" SURFACE CHROMATE CONVERSION AS PER IS:11232
 3. DATUM PLANE "B" SURFACE CARC GREEN 383 COLOUR PAINT AS PER STD.

S.No.	DESCRIPTION	DATE	APPD.
REVISIONS			

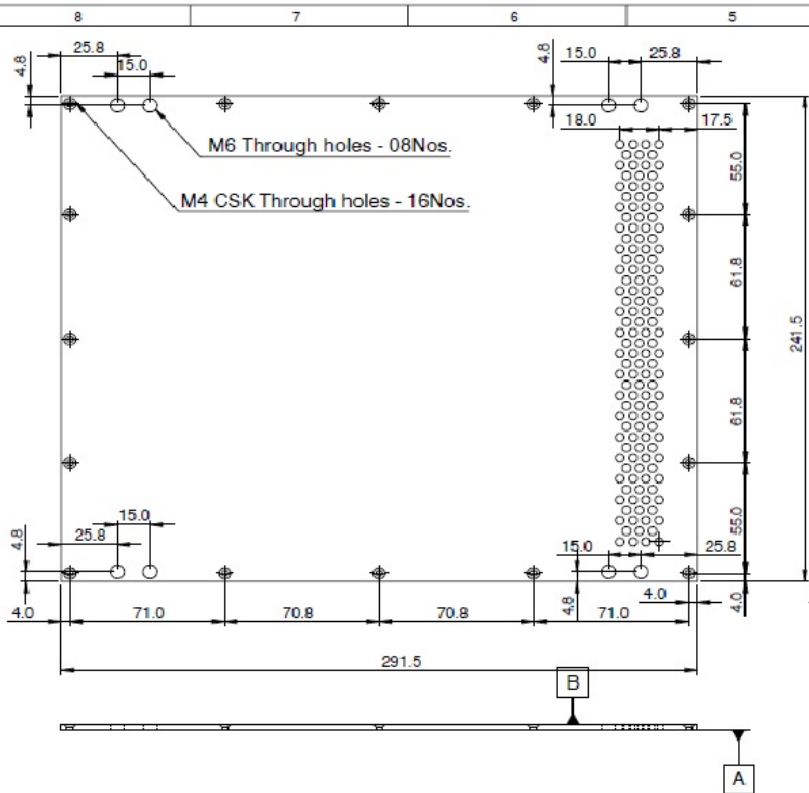
S.NO.	TITLE	DRG.NO.	S.NO.	REV. NO.	ISSUED FOR	DATE	APPD.
REFERENCE DRAWINGS				ISSUES			
SCALE = N T S		PROJECTION		DRN.	SURESH	DGN.	SURESH
ALL DIMENSIONS ARE IN MM UNLESS STATED OTHERWISE GENERAL TOLERANCE FULL NOS. = +0.5 1 DEC.PLACE = +0.05 2 DEC.PLACE = ±0.01 ANGLES = 0.5 deg				DRG.CHD.	SALEK	DGN.CHD.	SALEK
				DATE	02.12.2019	APPD.	
TITLE				MATERIAL			
				AL 6061-T6			
RF SYSTEM ASSEMBLY RIGHTSIDE SHIELDING PANEL				FINISH		NO.OFF	
				REFER SYMBOLS AND NOTES		01	
DRG.NO.				F-EM-011-A3			



- NOTE:
1. ALL SHARP CORNERS AND EDGES MUST BE ROUND-OFF
 2. DATAM PLANE "A" SURFACE CHROMATE CONVERSION AS PER IS:11232
 3. DATAM PLANE "B" SURFACE CARC GREEN 383 COLOUR PAINT AS PER STD.

S.NO.	TITLE	DRG.NO.	S.NO.	REV. NO.	ISSUED FOR	DATE	APPD.	
REFERENCE DRAWINGS				ISSUES				
SCALE =	N T S	PROJECTION			DRN.	SURESH	DGN.	SURESH
ALL DIMENSIONS ARE IN MM UNLESS STATED OTHERWISE					DRG.CHD.	SALEK	DGN.CHD.	SALEK
GENERAL TOLERANCE					DATE	02.12.2019	APPD.	
FULL NOS. = ±0.5					1 DEC.PLACE = ±0.05			
2 DEC.PLACE = ±0.01					ANGLES = 0.5 deg			
MATERIAL					AL 6061-T6			
FINISH					REFER SYMBOLS AND NOTES			
					NO.OFF 01			
TITLE					DRG.NO.			
RF SYSTEM ASSEMBLY					F-EM-012- A3			
TOPSIDE SHIELDING PANEL					REV.NO. 0			
					SHT.1 OF 1			

S.No.	DESCRIPTION	DATE	APPD.
REVISIONS			



NOTE:

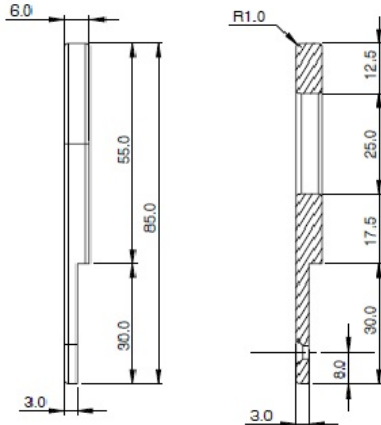
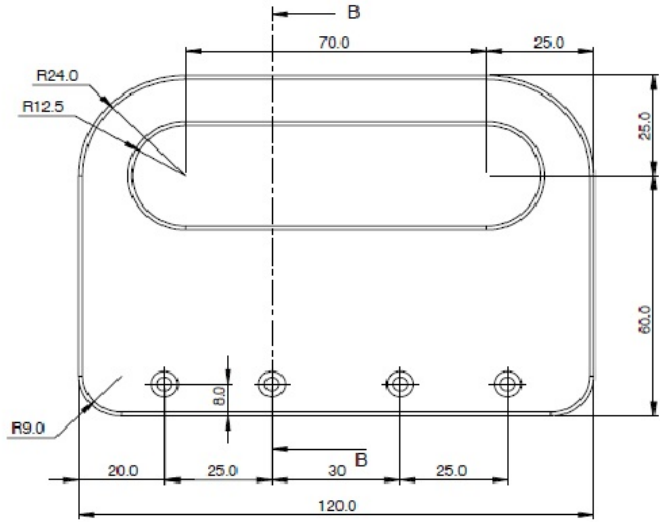
1. ALL SHARP CORNERS AND EDGES MUST BE ROUND-OFF
2. DATUM PLANE "A" SURFACE CHROMATE CONVERSION AS PER IS:11232
3. DATUM PLANE "B" SURFACE CARC GREEN 383 COLOUR PAINT AS PER STD.

S.NO.	TITLE	DRG.NO.	S.NO	REV. NO.	ISSUED FOR	DATE	APPD.
REFERENCE DRAWINGS				ISSUES			
SCALE = N T S		PROJECTION		DRN.	SURESH	DGN.	SURESH
ALL DIMENSIONS ARE IN MM UNLESS STATED OTHERWISE GENERAL TOLERANCE FULL NOS. = ±0.5 1 DEC.PLACE = ±0.05 2 DEC.PLACE = ±0.01 ANGLES = 0.5 deg				DRG. CHD.	SALEK	DGN. CHD.	SALEK
				DATE	02.12.2019	APPD.	
				MATERIAL	AL 6061-T6		
				FINISH	REFER SYMBOLS AND NOTES		
				NO.OFF	01		
TITLE				DRG.NO.			
RF SYSTEM ASSEMBLY BOTTOMSIDE SHIELDING PANEL				F-EM-013- A3			
				REV.NO	0	SHT.1 OF 1	

S.No.	DESCRIPTION	DATE	APPD.

REVISIONS

8 7 6 5 4 3 2 1



SECTION B-B



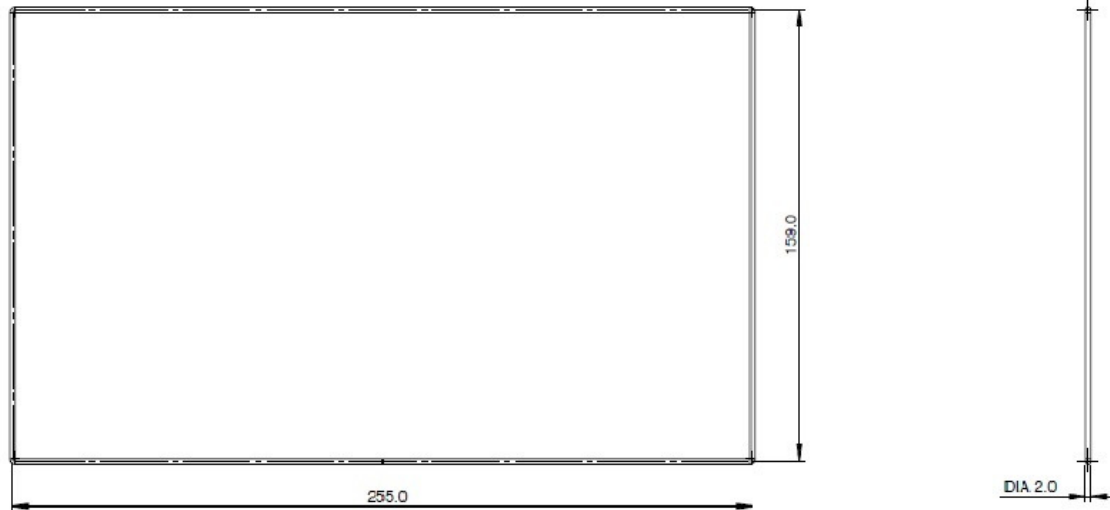
NOTE:

1. ALL SHARP CORNERS AND EDGES MUST BE ROUND-OFF
2. SURFACE MUST BE BLACK ANODISED

S.NO.	TITLE	DRG.NO.	S.NO	REV. NO.	ISSUED FOR	DATE	APPD.	
REFERENCE DRAWINGS				ISSUES				
SCALE =	N T S	PROJECTION			DRN.	SURESH	DGN.	SURESH
ALL DIMENSIONS ARE IN MM UNLESS STATED OTHERWISE					DRG.CHD.	SALEK	DGN.CHD.	SALEK
GENERAL TOLERANCE					DATE	02.12.2019	APPD.	
FULL NOS. = ±0.5					1 DEC.PLACE = ±0.05			
2 DEC.PLACE = ±0.01					ANGLES = 0.5 deg			
MATERIAL					6mm MS PLATE			
FINISH					BLACK ANODISING		NO.OFF 02	
TITLE					RF SYSTEM ASSEMBLY HANDLE			
DRG.NO.					F-EM-014- A3			
REV.NO					0			
					SHT.1 OF 1			

S.No.	DESCRIPTION	DATE	APPD.
REVISIONS			

F
E
D
C
B
A

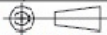


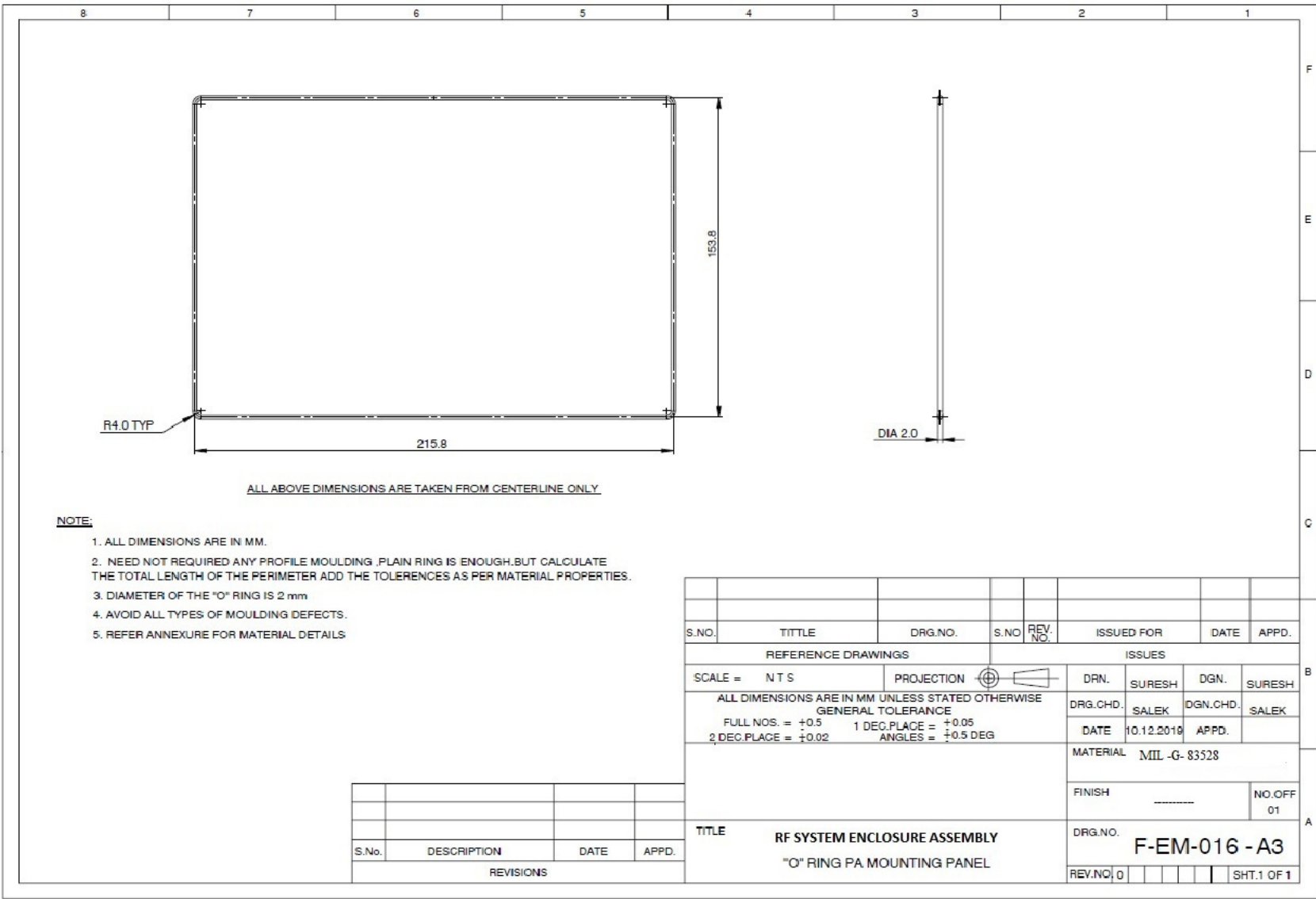
ALL ABOVE DIMENSIONS ARE TAKEN FROM CENTERLINE ONLY.

NOTE:

1. ALL DIMENSIONS ARE IN MM.
2. NEED NOT REQUIRED THE PROFILE MOULDING ,PLAIN RING IS ENOUGH.BUT CALCULATE THE TOTAL LENGTH OF THE PERIMETER ADD THE TOLERENCES AS PER MATERIAL PROPERTIES.
3. DIAMETER OF THE "O" RING IS 2 mm
4. AVOID ALL TYPES OF MOULDING DEFECTS.
5. REFER ANNEXURE FOR MATERIAL DETAILS

S.No.	DESCRIPTION	DATE	APPD.
REVISIONS			

S.NO.	TITLE	DRG.NO	S.NO	REV. NO.	ISSUED FOR	DATE	APPD.
REFERENCE DRAWINGS				ISSUES			
SCALE = N T S		PROJECTION 		DRN.	SURESH	DGN.	SURESH
ALL DIMENSIONS ARE IN MM UNLESS STATED OTHERWISE GENERAL TOLERANCE				DRG.CHD.	SALEK	DGN.CHD.	SALEK
FULL NOS. = ±0.5		1 DEC.PLACE = ±0.05		DATE	10.12.2019	APPD.	
2 DEC.PLACE = ±0.02		ANGLES = ±0.5 DEG		MATERIAL MIL -G- 83528			
TITLE				FINISH		NO.OFF	
RF SYSTEM ENCLOSURE ASSEMBLY "O" RING RIGHT & LEFT SIDE PANEL				DRG.NO.		F-EM-015 - A3	
				REV.NO.	0		
							SHT.1 OF 1




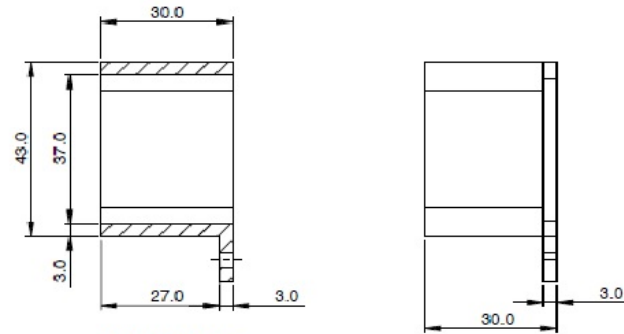
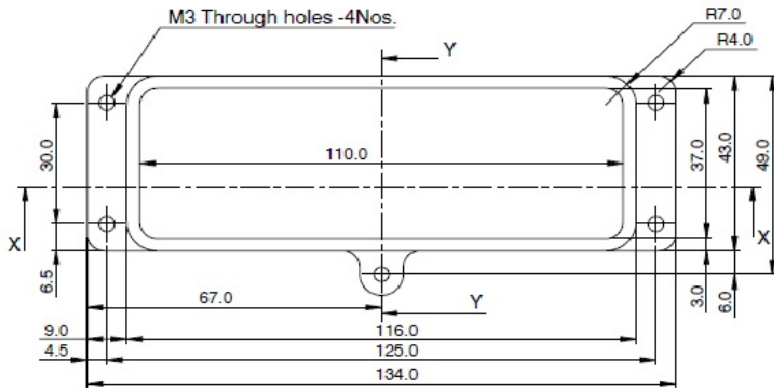
ALL ABOVE DIMENSIONS ARE TAKEN FROM CENTERLINE ONLY

NOTE:

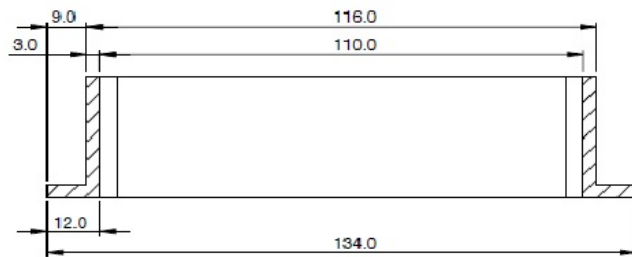
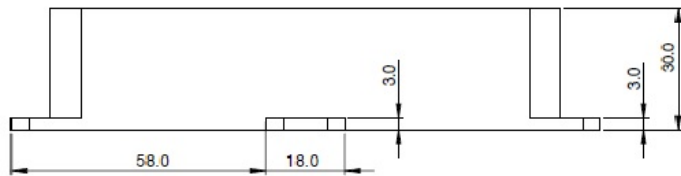
1. ALL DIMENSIONS ARE IN MM.
2. NEED NOT REQUIRED ANY PROFILE MOULDING ,PLAIN RING IS ENOUGH,BUT CALCULATE THE TOTAL LENGTH OF THE PERIMETER ADD THE TOLERENCES AS PER MATERIAL PROPERTIES.
3. DIAMETER OF THE "O" RING IS 2 mm
4. AVOID ALL TYPES OF MOULDING DEFECTS.
5. REFER ANNEXURE FOR MATERIAL DETAILS

S.No.	DESCRIPTION	DATE	APPD.
REVISIONS			

S.NO.	TITLE	DRG.NO.	S.NO.	REV. NO.	ISSUED FOR	DATE	APPD.
REFERENCE DRAWINGS				ISSUES			
SCALE = N T S		PROJECTION 		DRN.	SURESH	DGN.	SURESH
ALL DIMENSIONS ARE IN MM UNLESS STATED OTHERWISE GENERAL TOLERANCE				DRG.CHD.	SALEK	DGN.CHD.	SALEK
FULL NOS. = +0.5 1 DEG.PLACE = +0.05				DATE	10.12.2019	APPD.	
2 DEC.PLACE = +0.02 ANGLES = +0.5 DEG				MATERIAL MIL -G- 83528			
FINISH						NO.OFF 01	
TITLE RF SYSTEM ENCLOSURE ASSEMBLY "O" RING PA MOUNTING PANEL				DRG.NO. F-EM-016 - A3			
				REV.NO	0		



SECTION Y-Y



SECTION X-X

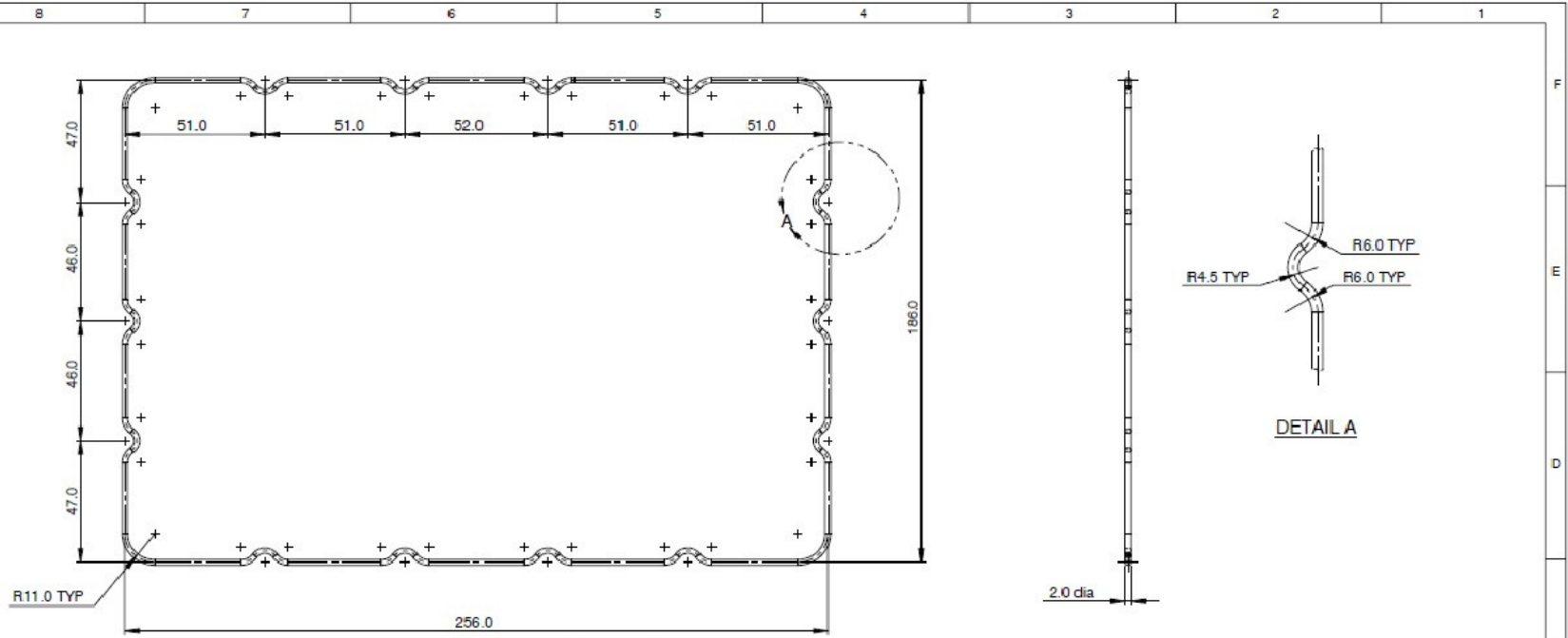
NOTE:

1. All dimensions are in mm.
2. Chromate conversion as per std IS:11232.
3. Surface tolerance unless otherwise specified

0 to 6	± 0.01
6 to 30	± 0.05
30 to 100	± 0.1
100 to 300	± 0.15
4. Component must be free from all defects.
5. All sharp edges must be round-off.

S.No.	DESCRIPTION	DATE	APPD.
REVISIONS			

S.NO.	TITLE	DRG.NO.	S.NO	REV. NO.	ISSUED FOR	DATE	APPD.
REFERENCE DRAWINGS				ISSUES			
SCALE = N T S		PROJECTION		DRN.	Suresh	DGN.	Suresh
ALL DIMENSIONS ARE IN MM UNLESS STATED OTHERWISE				DRG.CHD.	Salek	DGN.CHD.	Salek
GENERAL TOLERANCE				DATE	02.12.2019	APPD.	
FULL NOS. = +0.5		1 DEC.PLACE = ±0.05		MATERIAL			
2 DEC.PLACE = ±0.01		ANGLES = +0.5 DEG		AL 6061 -T6			
TITLE				FINISH	SEE NOTES	NO.OFF	01
RF SYSTEM ASSEMBLY				DRG.NO.			
CONNECTOR HOUSING				F-EM-017-A3			
				REV.NO	0		SHT.1 OF 1



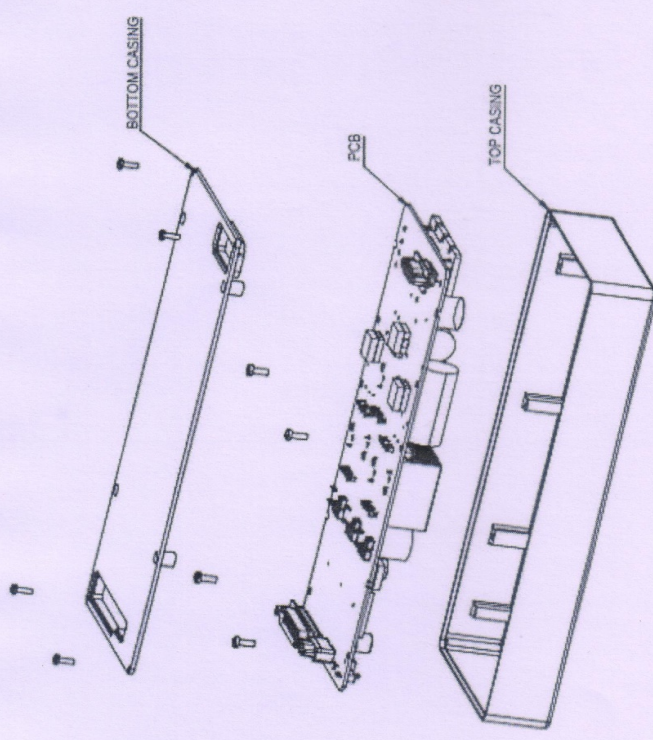
ALL ABOVE DIMENSIONS ARE TAKEN FROM CENTERLINE ONLY

NOTE:

1. ALL DIMENSIONS ARE IN MM.
2. NEED NOT REQUIRED THE PROFILE MOULDING ,PLAIN RING IS ENOUGH.BUT CALCULATE THE TOTAL LENGTH OF THE PERIMETER ADD THE TOLERANCES AS PER MATERIAL PROPERTIES.
3. DIAMETER OF THE "O" RING IS 2 mm
4. AVOID ALL TYPES OF MOULDING DEFECTS.
5. REFER ANNEXURE FOR MATERIAL DETAILS

S.No.	DESCRIPTION	DATE	APPD.
REVISIONS			

S.NO.	TITLE	DRG.NO.	S.NO	REV. NO.	ISSUED FOR	DATE	APPD.
REFERENCE DRAWINGS				ISSUES			
SCALE = N T S		PROJECTION		DRN.	SURESH	DGN.	SURESH
ALL DIMENSIONS ARE IN MM UNLESS STATED OTHERWISE GENERAL TOLERANCE				DRG.CHD.	SALEK	DGN.CHD.	SALEK
FULL NOS. = ±0.5 1 DEC.PLACE = ±0.05 2 DEC.PLACE = ±0.02 ANGLES = ±0.5 DEG				DATE	10.12.2019	APPD.	
TITLE				MATERIAL			
				MIL - G- 83528			
RF SYSTEM ENCLOSURE ASSEMBLY FRONT PANEL "O" RING				FINISH		NO.OFF	
						01	
				DRG.NO.			
				F-EM-019-A3			
				REV.NO	0	MIL - G- 83528	SHT.1 OF 1



S.No.	TITLE	DRG. NO.	S.No.	REV. NO.	ISSUED FOR	DATE	APPD.
	BOTTOM CASING	F-RF-03-A3					
	TOP CASING	F-RF-02-A3					

REFERENCE DRAWINGS		ISSUES	
SCALE =	NTS	DRN.	DGN.
ALL DIMENSIONS ARE IN MM UNLESS STATED OTHERWISE		DRG.CHD.	DGN.CHD.
FULL NOS. = 40.2		DATE	01.02.2021
1 DECP.LACE = 1:1		APPD.	
2 DECP.LACE = 10:5		MATERIAL	
ANGLES = 1:0.5		FINISH	
		NO.OFF	01

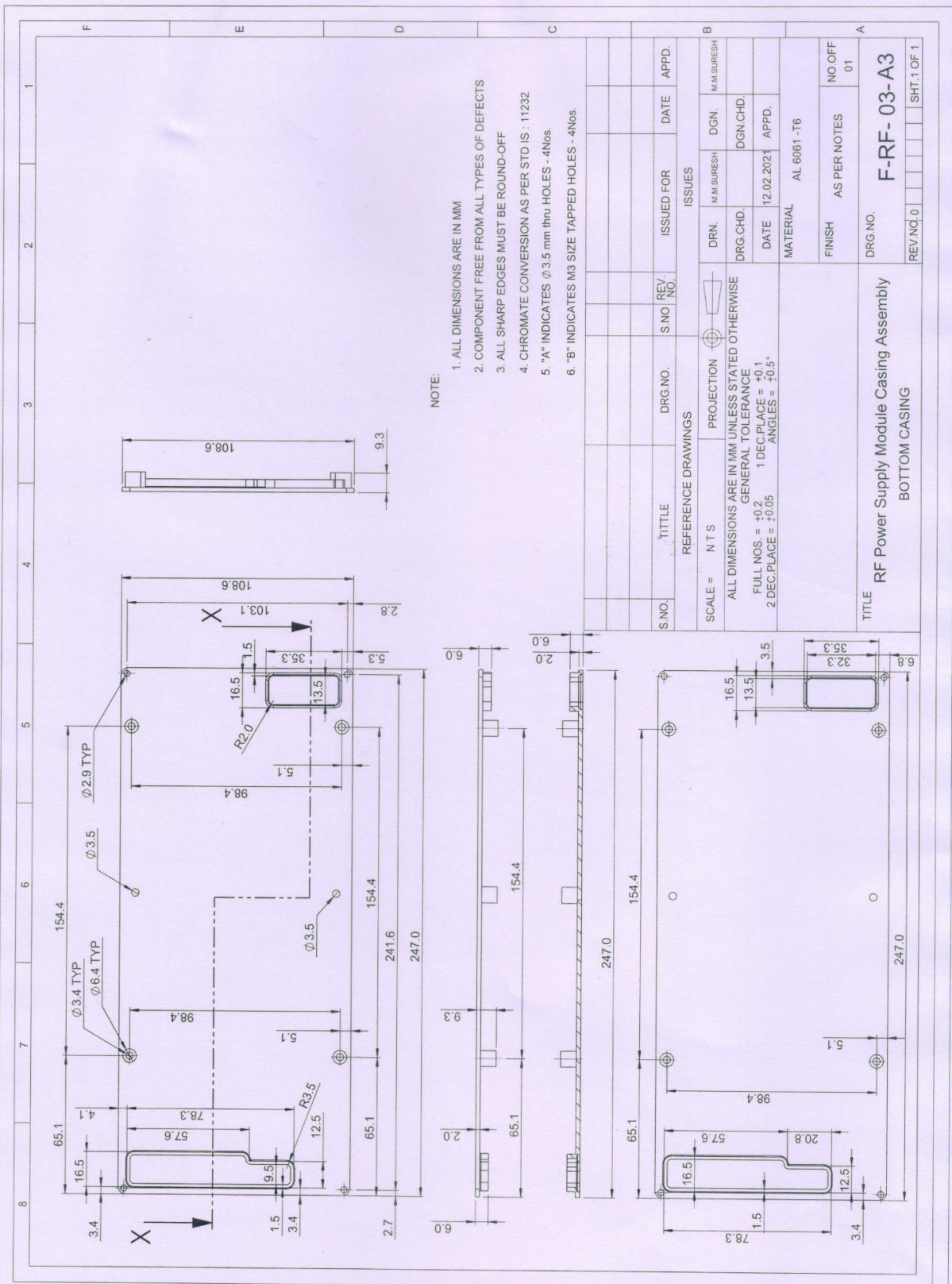
REVISIONS	
S.No.	DESCRIPTION

REVISED	
S.No.	DESCRIPTION

DRG. NO. F - RF - 01 - A3
 REV. NO. 01

Bill of Material for GA Drawing No. A-RF-01-A3

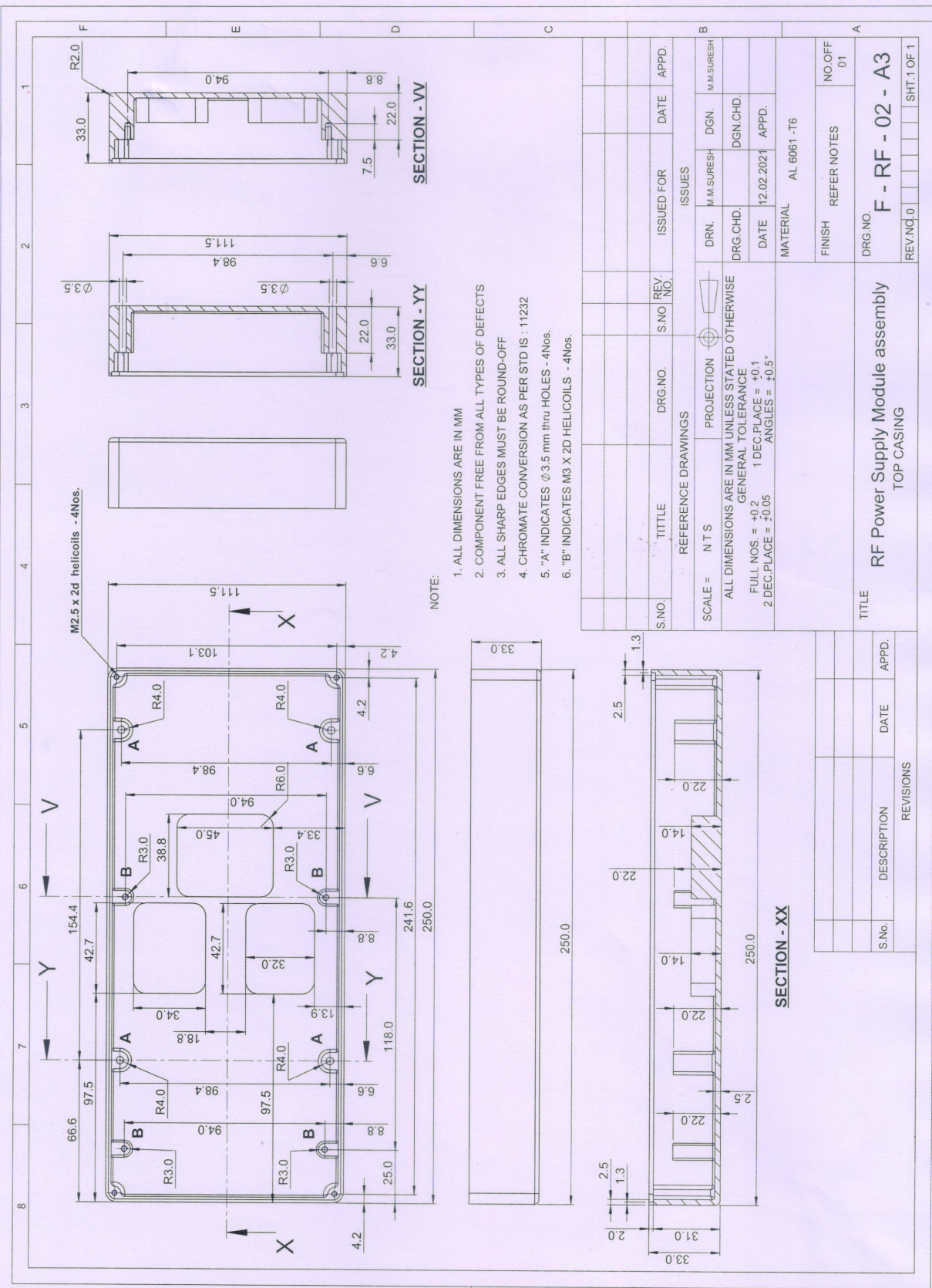
S.N.	Part Name	Part No. / Drawing No.	Manufacturer	Qty/ass'y (Nos)	Total Qty. for 3 ass'y (Nos)
1.	RF Power Supply Module Casing Assembly (With Chromatization)	Total pages = 4			
	1) RF System Enclosure Assembly	F-RF-01-A3	To be fabricated	1	3
	2) Bottom casing	As per Drg. No. F-RF-03-A3	To be fabricated	1	3
	3) Top casing	As per Drg. No. F-RF-02-A3	To be fabricated	1	3
2.	Socket head CSK screws M2.5x6mm machine screw	STD.	--	8	24
3.	Socket head CSK screws M3x8mm machine screw	STD.	--	8	24
4.	M4 narrow spring washer	STD.	--	8	24
5.	Cho-Therm High Power Insulator Pads. Make-Parker (Part no. 61-12- 0808-1671)	STD	M/s Parker Chomerics	1/3	1
6.	Anabond 652c, 100 gram heat sink compound	STD	NA	2	6
7.	LED Panel Mount Indicators	PM3HDLW9.0	BIVAR	2	6



- NOTE:
1. ALL DIMENSIONS ARE IN MM
 2. COMPONENT FREE FROM ALL TYPES OF DEFECTS
 3. ALL SHARP EDGES MUST BE ROUND-OFF
 4. CHROMATE CONVERSION AS PER STD IS : 11232
 5. "A" INDICATES $\phi 3.5$ mm thru HOLES - 4Nos.
 6. "B" INDICATES M3 SIZE TAPPED HOLES - 4Nos.

S.NO.	TITLE	DRG.NO.	S.NO.	REV. NO.	ISSUED FOR	DATE	APPD.
	REFERENCE DRAWINGS						
	NTS						
	PROJECTION						
	ALL DIMENSIONS ARE IN MM UNLESS STATED OTHERWISE						
	GENERAL TOLERANCE						
	FULL NOS = +0.2						
	1 DEC PLACE = +0.1						
	2 DEC PLACE = +0.05						
	ANGLES = $\pm 0.5^\circ$						
	MATERIAL						
	AL 6061 -T6						
	FINISH						
	AS PER NOTES						
	NO OFF						
	01						
	DRG.NO.						
	F-RF-03-A3						
	REV. NO.						
	0						
	SHT. 1 OF 1						

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- NOTE:**
1. ALL DIMENSIONS ARE IN MM
 2. COMPONENT FREE FROM ALL TYPES OF DEFECTS
 3. ALL SHARP EDGES MUST BE ROUND-OFF
 4. CHROMATE CONVERSION AS PER STD IS : 11232
 5. "A" INDICATES $\phi 3.5$ mm thru HOLES - 4Nos.
 6. "B" INDICATES M3 X 2D HELICOILS - 4Nos.

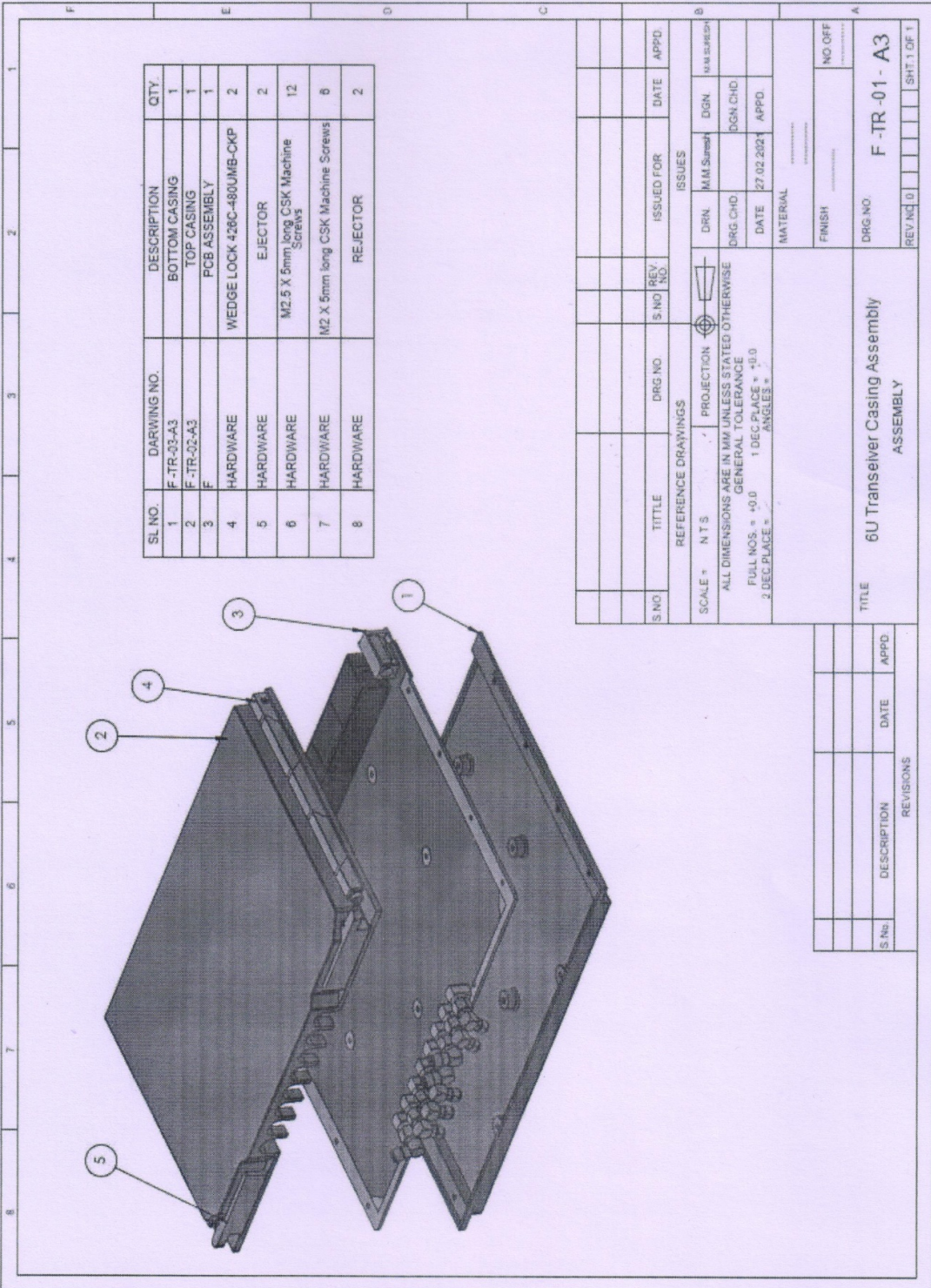
S.NO.	TITLE	DRG.NO.	S.NO.	REV. NO.	ISSUED FOR	DATE	APPD.
	REFERENCE DRAWINGS						
SCALE =	N T S	PROJECTION	DRN.	M.M.SURESH	DGN.	M.M.SURESH	
ALL DIMENSIONS ARE IN MM UNLESS STATED OTHERWISE							
FULL NOS. = +0.2 GENERAL TOLERANCE							
2 DEC.PLACE = ±0.1 1 DEC.PLACE = ±0.1							
ANGLES = ±0.5°							
MATERIAL AL 6061 -T6							
FINISH REFER NOTES							
NO.OFF 01							
DRG.NO F - RF - 02 - A3							
REV.NO.0							
SHT.1 OF 1							

TITLE
RF Power Supply Module assembly
TOP CASING

S.No.	DESCRIPTION	DATE	APPD.

REVISIONS

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SL NO.	DRAWING NO.	DESCRIPTION	QTY.
1	F-TR-01-A3	BOTTOM CASING	1
2	F-TR-02-A3	TOP CASING	1
3	F	PCB ASSEMBLY	1
4	HARDWARE	WEDGE LOCK 428C-480UMB-CKP	2
5	HARDWARE	EJECTOR	2
6	HARDWARE	M2.5 X 5mm long CSK Machine Screws	12
7	HARDWARE	M2 X 5mm long CSK Machine Screws	8
8	HARDWARE	REJECTOR	2

S/NO	TITLE	DRG NO.	S/NO	REV NO.	ISSUED FOR	DATE	APPD

REFERENCE DRAWINGS			
SCALE	NTS	PROJECTION	ISSUES
			DRN. J.M. Suresh
			DRG CHD. DGN CHD.
			DATE 27.02.2024
			APPD.

MATERIAL		FINISH		NO OFF	

S No.	DESCRIPTION	DATE	APPD

TITLE: 6U Transceiver Casing Assembly
ASSEMBLY

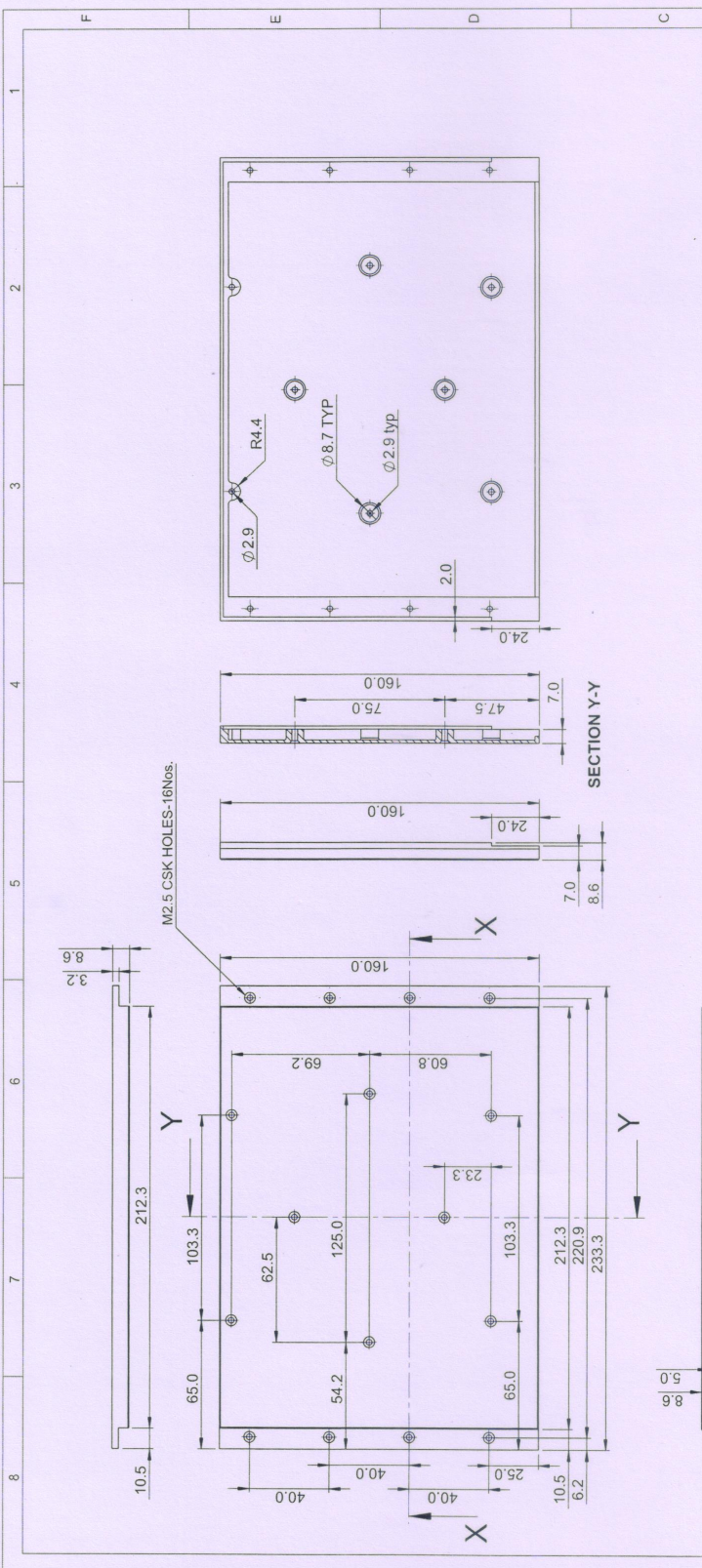
DRG NO.: F-TR-01 - A3

REV NO: 0

SHT 1 OF 1

Bill of Material for GA Drawing No. A-TR-01-A3

S.N.	Part Name	Part No. / Drawing No.	Manufacturer	Qty/ass'y (Nos)	Total Qty for 3 ass'ly (Nos)
1.	6U Transceiver Module Casing Assembly (With Chromatization)	Total pages = 5			
	1) RF System Enclosure Assembly	F-TR-01-A3	To be fabricated	1	3
	2) Bottom casing	As per Drg. No. F-TR-03-A3	To be fabricated	1	3
	3) Top casing	As per Drg. No. F-TR-02-A3	To be fabricated	1	3
	4) Ejector pins	As per Drg. No. H16SCA24	To be fabricated	2	6
2.	Socket head CSK screws M2.5x6mm machine screw	STD.	--	10	30
3.	Socket head CSK screws M2x6mm machine screw	STD.	--	10	30
4.	M4 narrow spring washer	STD.	--	10	30
5.	Multigig RT Guide socket module	Part No. 1-1469492-9	M/s TE connectivity	2	6
6.	Backplane guide pin	Part No. 1410955-2	M/s TE connectivity	2	6
7.	Multigig socket cap screws	Part No. 1410946-1	M/s TE connectivity	2	6
8.	Anabond 652c, 100 gram heat sink compound	STD	NA	2	6
9.	LED Panel Mount Indicators	PM3HDLW9.0	BIVAR	2	6
10.	Wedge lock (Black anodized)	Part No.-426C-480UMB-CKP	M/s Wakefield-Vette	2	6



M2.5 CSK HOLES-16Nos.

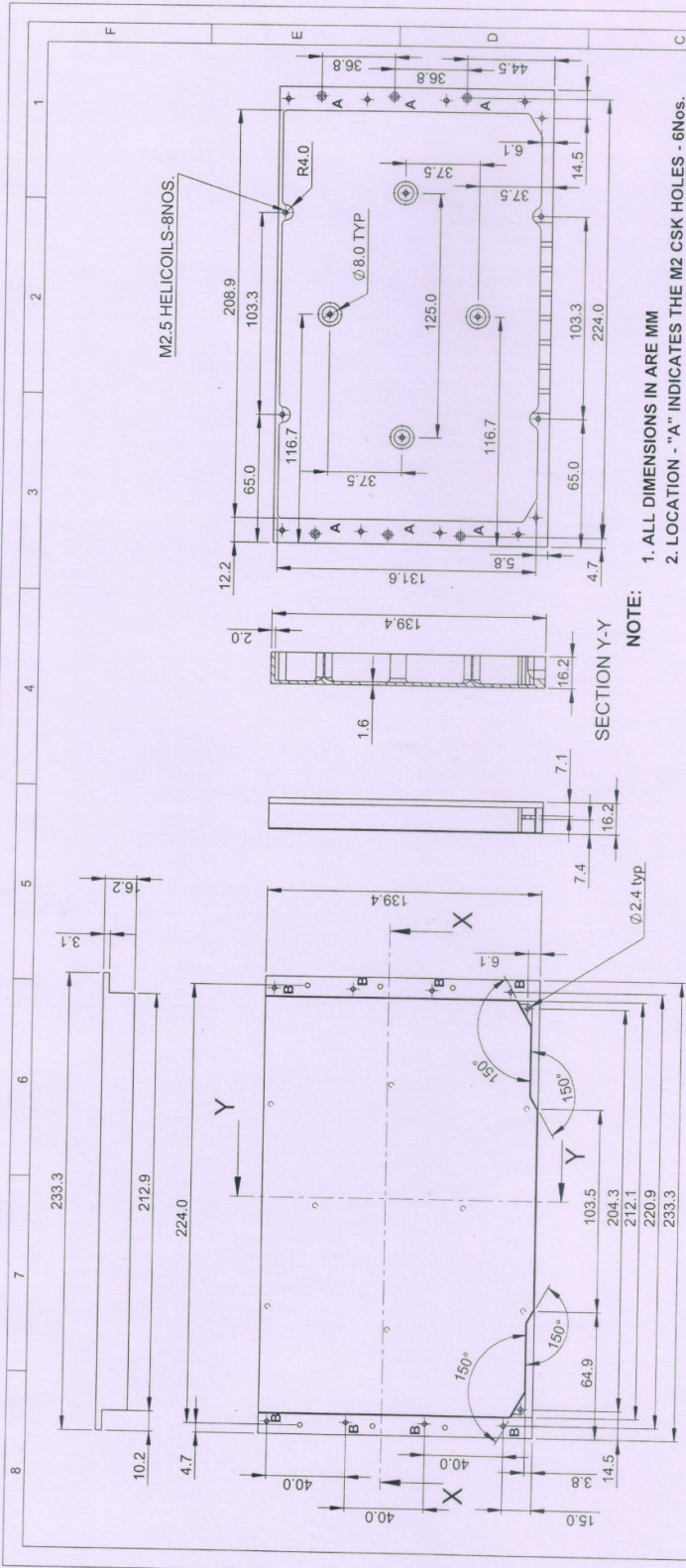
SECTION Y-Y

SECTION X-X

S.NO.	TITLE	DRG.NO.	S.NO.	REV. NO.	ISSUED FOR	DATE	APPD.
	REFERENCE DRAWINGS						
	SCALE = N T S						
	PROJECTION						
	ALL DIMENSIONS ARE IN MM UNLESS STATED OTHERWISE						
	GENERAL TOLERANCE						
	FULL NOS. = +0.2						
	1 DEC. PLACE = +0.1						
	2 DEC. PLACE = ±0.05						
	ANGLES = ±0.5°						
	ISSUES						
	DRN. M.M.SURESH						
	DGN. M.M.SURESH						
	DRG.CHD.						
	DATE 26.02.2021						
	APPD.						
	MATERIAL AL 6061-T6						
	FINISH Chromate Conversion as per IS 11232 STD						
	NO.OFF 01						
	DRG.NO. F-TR-03- A3						
	REV.NO.0						
	SHT.1 OF 1						

S.No.	DESCRIPTION	DATE	APPD.

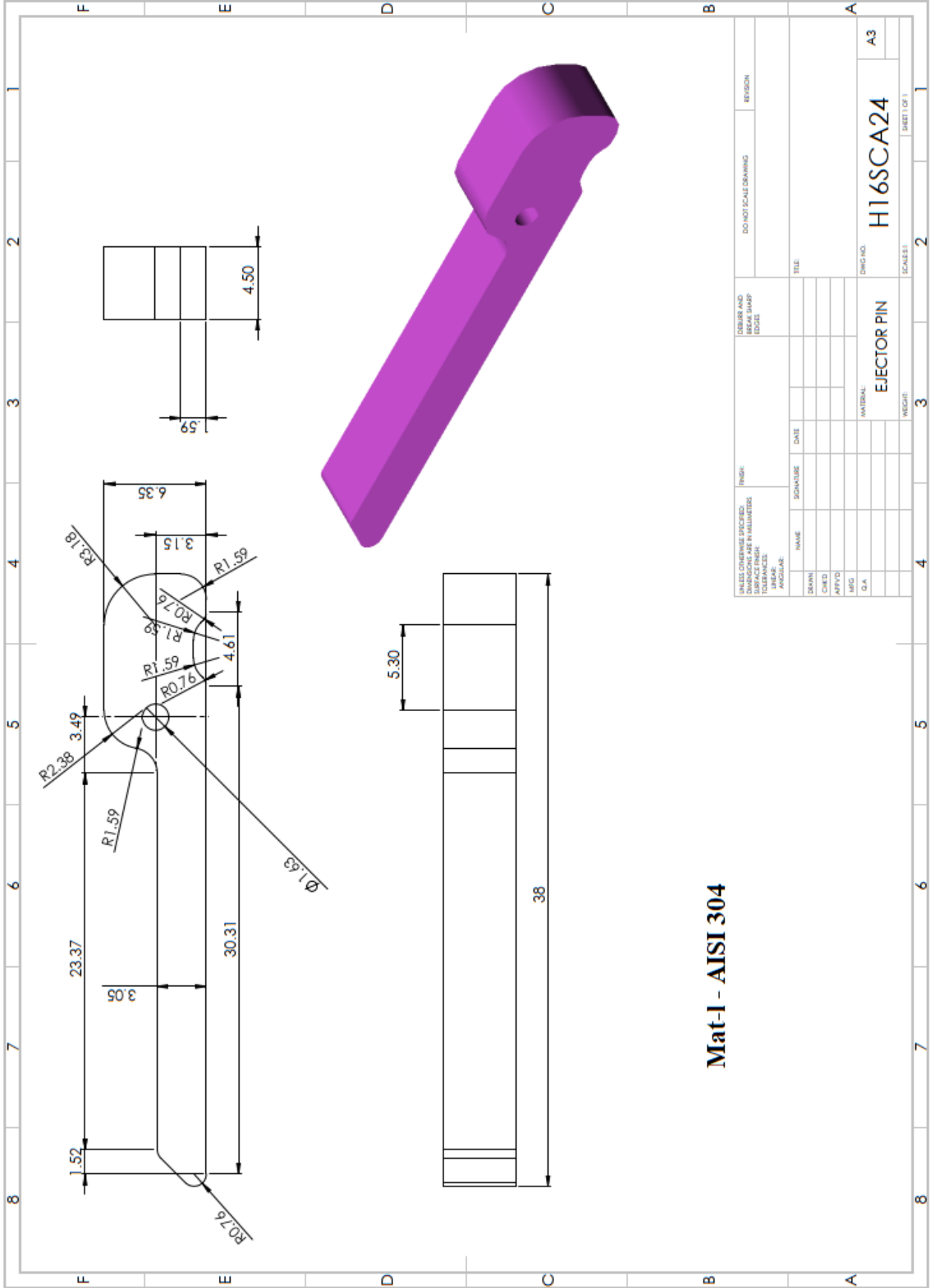
TITLE 6U Transceiver Casing Assembly
BOTTOM CASING



S.NO.	TITLE	DRG. NO.	S. NO.	REV. NO.	ISSUED FOR	DATE	APPD.
	REFERENCE DRAWINGS						
	SCALE = N T S						
ALL DIMENSIONS ARE IN MM UNLESS STATED OTHERWISE		PROJECTION					
GENERAL TOLERANCE		DRN.	M. M. SURESH	DGN.	M. M. SURESH		
FULL NOS. = +0.2		DRG. CHD	SALEK CHAND	DRG. CHD	SALEK CHAND		
2 DEC. PLACE = +0.05		DATE	26.02.2021	APPD.			
		ANGLES = +0.5°					
		MATERIAL	AL 6061-T6				
		FINISH	Chromate conversion as per std IS:11232				
		NO. OFF	01				
TITLE		6U Transceiver Casing Assembly		DRG. NO.	F-TR-02 - A3		
		Top Casing		REV. NO.	0		SHT. 1 OF 1

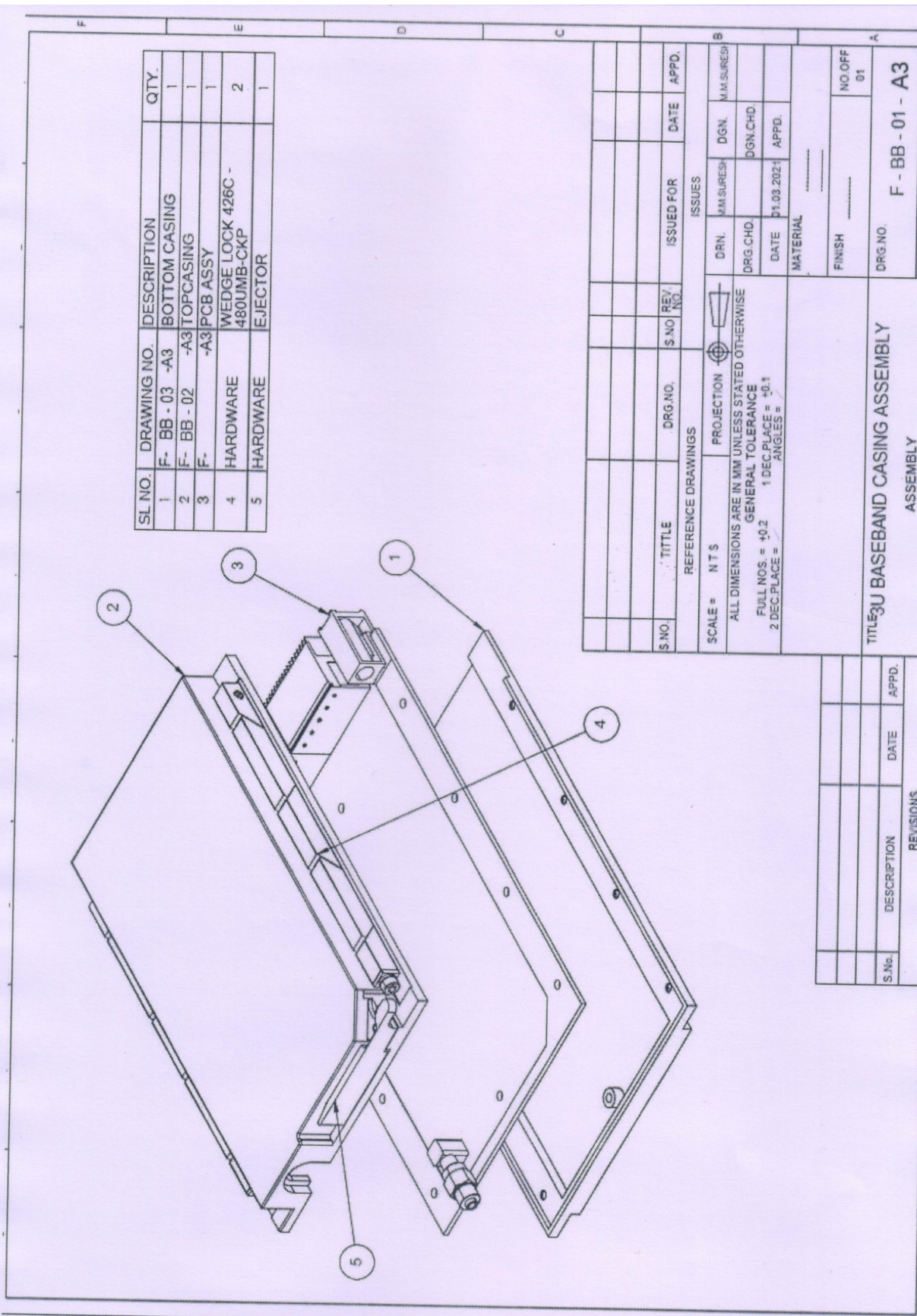
- NOTE:**
1. ALL DIMENSIONS IN ARE MM
 2. LOCATION - "A" INDICATES THE M2 CSK HOLES - 6Nos.
 3. LOCATION - "B" INDICATES THE M2.5 X1d HELICOILS - 6Nos.

S.No.	DESCRIPTION	DATE	APPD.
	REVISIONS		



Mat-1 - AISI 304

UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS SURFACE FINISH: TOLERANCES: HORIZONTAL: ANGULAR:		FINISH	DESIGN AND CONSTRUCTION REVISIONS		DO NOT SCALE DRAWING	REVISION
DESIGN	NAME	SIGNATURE	DATE	TITLE:		
CHECKED						
APPROVED						
MFG						
D.A.						
MATERIAL: EJECTOR PIN				DWG NO. H16SCA24	A3	
WEIGHT:				SCALE: 1	2	
				SHEET OF 1		



SL NO	DRAWING NO.	DESCRIPTION	QTY.
1	F- BB - 03 -A3	BOTTOM CASING	1
2	F- BB - 02 -A3	TOPCASING	1
3	F- -A3	PCB ASSY	1
4	HARDWARE	WEDGE LOCK 426C - 480UMB-CKP	2
5	HARDWARE	EJECTOR	1

S. NO.	TITLE	DRG. NO.	S. NO.	REV. NO.	ISSUED FOR	DATE	APPD.

REFERENCE DRAWINGS			
SCALE =	NTS	PROJECTION	DRN. M.M.SURESH
ALL DIMENSIONS ARE IN MM UNLESS STATED OTHERWISE			
GENERAL TOLERANCE			
FULL NOS. = +0.2			
1 DEC. PLACE = +0.1			
2 DEC. PLACE =			
ANGLES =			

ISSUES	
DRN. M.M.SURESH	DGN. M.M.SURESH
DRG. CHD.	DGN. CHD.
DATE	DATE

MATERIAL	
FINISH	
NO. OFF	
	01

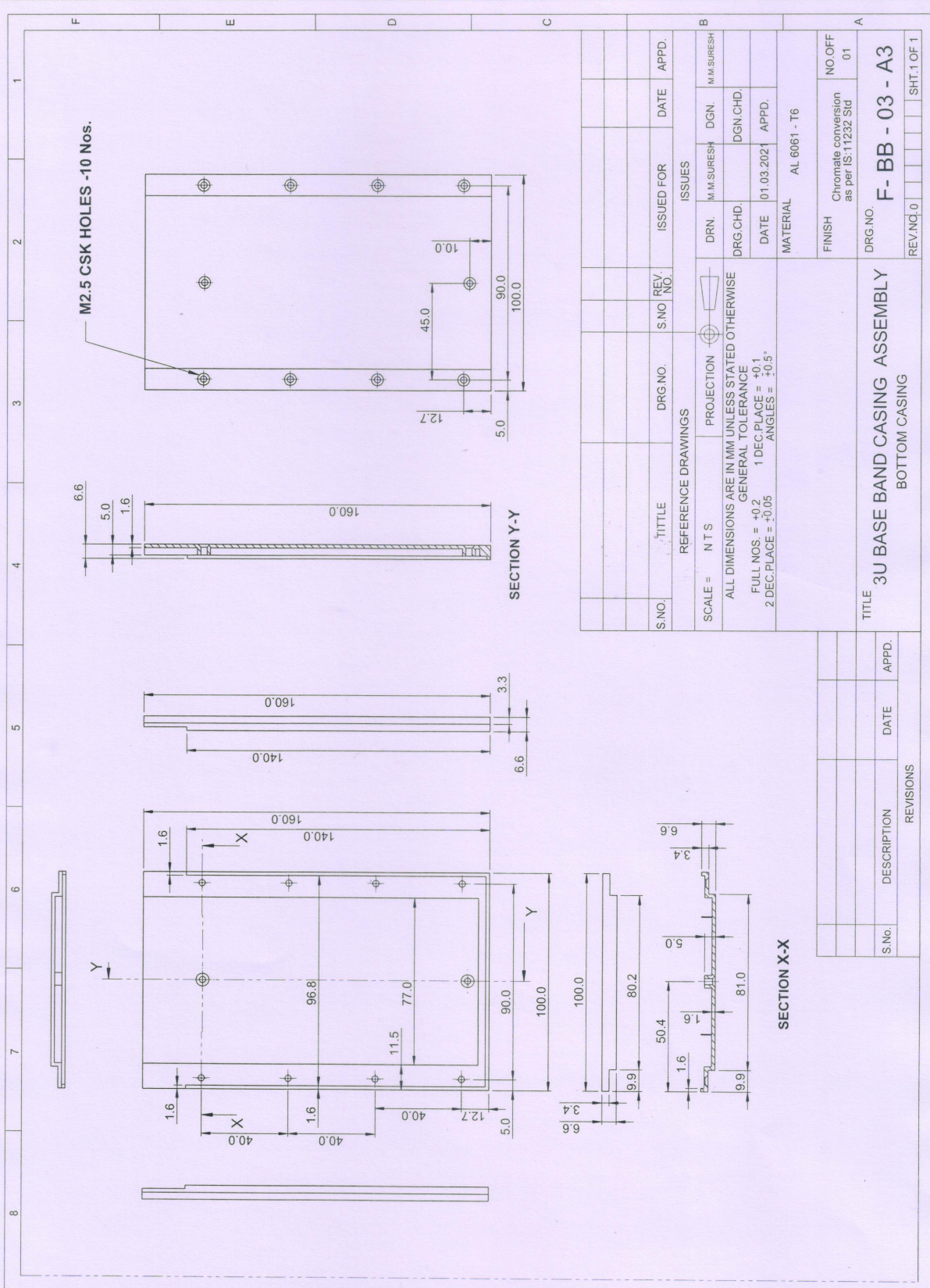
REV. NO.		DRG. NO.	

TITLE: 3U BASEBAND CASING ASSEMBLY ASSEMBLY
 DRG. NO. F - BB - 01 - A3

REVISIONS			
S.No.	DESCRIPTION	DATE	APPD.

Bill of Material for GA Drawing No. A-BB-01-A3

			Total Qty.



M2.5 CSK HOLES -10 Nos.

SECTION Y-Y

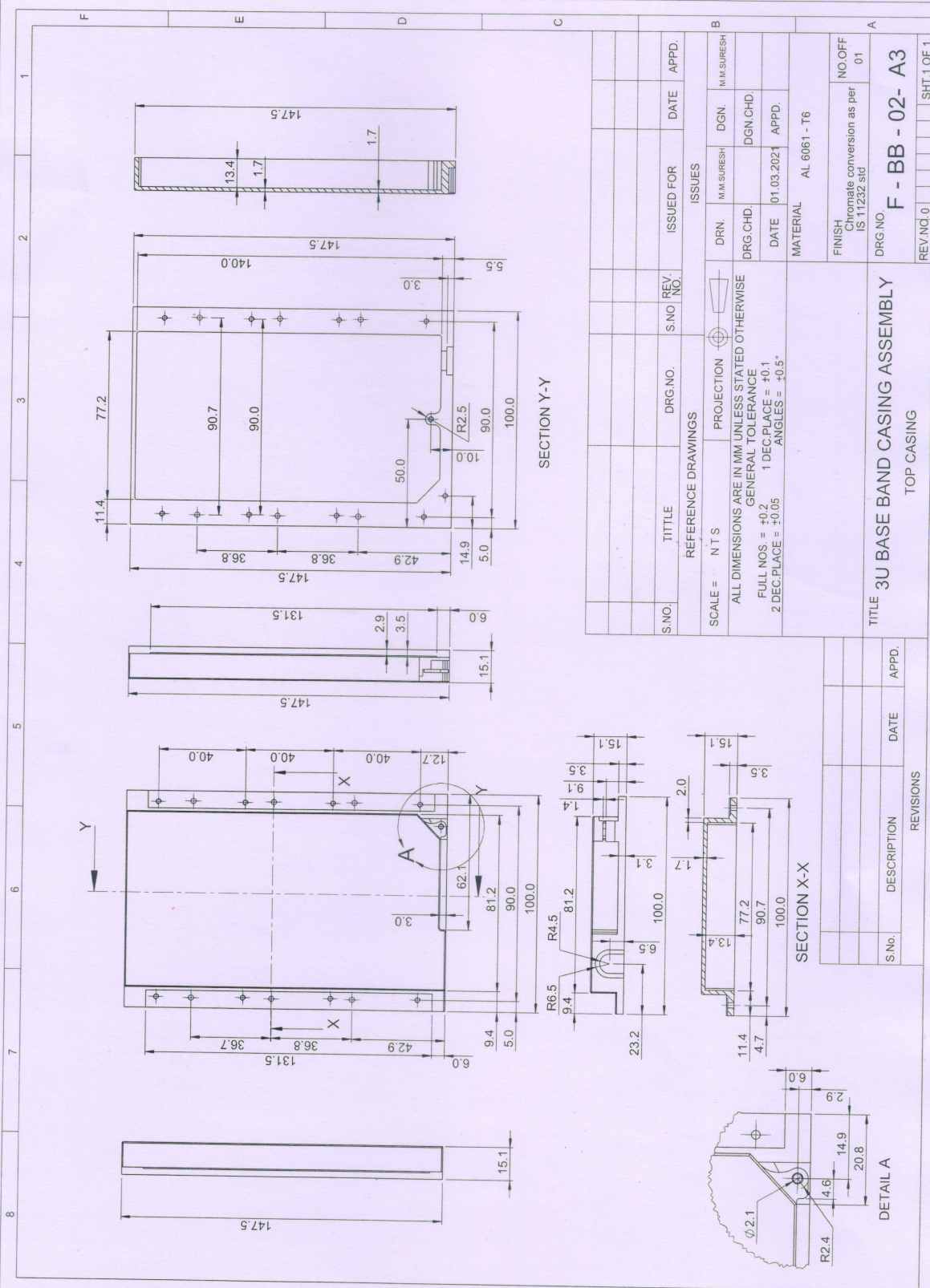
SECTION X-X

S.NO.	TITLE	DRG.NO.	S.NO.	REV. NO.	ISSUED FOR	DATE	APPD.
	REFERENCE DRAWINGS						
	SCALE = N T S	PROJECTION					
	ALL DIMENSIONS ARE IN MM UNLESS STATED OTHERWISE	DRN.	M.M.SURESH	DGN.	M.M.SURESH		
	FULL NOS. = +0.2	DRG.CHD.		DGN.CHD.			
	2 DEC.PLACE = +0.05	DATE	01.03.2021	APPD.			
	1 DEC.PLACE = +0.1						
	ANGLES = +0.5°						
		MATERIAL	AL 6061 - T6				
		FINISH	Chromate conversion as per IS:11232 Std				
		NO.OFF	01				
		DRG.NO.	F-BB-03-A3				
		REV/NO.	0				
			SHT.1 OF 1				

TITLE
3U BASE BAND CASING ASSEMBLY
BOTTOM CASING

S.No.	DESCRIPTION	DATE	APPD.

REVISIONS



SECTION Y-Y

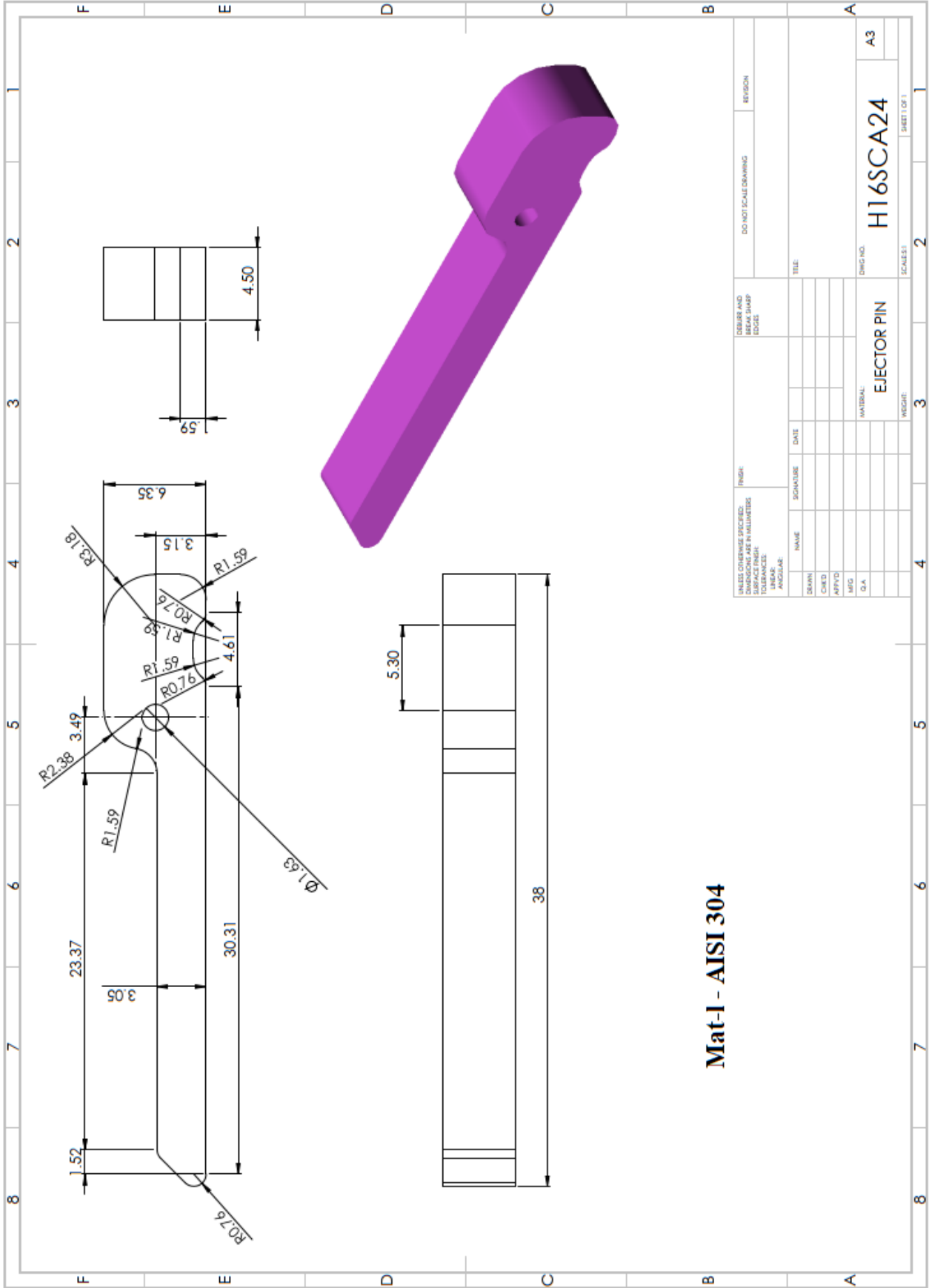
SECTION X-X

DETAIL A

S.NO.	TITLE	DRG.NO.	S.NO.	REV. NO.	ISSUED FOR	DATE	APPD.
	REFERENCE DRAWINGS						
	SCALE = N T S						
	PROJECTION						
	ALL DIMENSIONS ARE IN MM UNLESS STATED OTHERWISE						
	GENERAL TOLERANCE						
	FULL NOS. = +0.2						
	1 DEC.PLACE = +0.1						
	2 DEC.PLACE = +0.05						
	ANGLES = +0.5°						
	ISSUES						
	DRN.	M.M.SURESH	DGN.	M.M.SURESH			
	DRG.CHD.		DGN.CHD.				
	DATE	01.03.2021	APPD.				
	MATERIAL	AL 6061 - T6					
	FINISH	Chromate conversion as per IS 11232 std					
	NO.OFF	01					
	DRG.NO.	F - BB - 02 - A3					
	REV.NC.0						
		SHT.1 OF 1					

S.No.	DESCRIPTION	DATE	APPD.

TITLE 3U BASE BAND CASING ASSEMBLY
TOP CASING



UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS SURFACE FINISH: TOLERANCES: ANGLES: HOLE ANGLES:		FINISH:		DEBUR AND REMOVE ALL SHARP EDGES		DO NOT SCALE DRAWING		REVISION	
DRAWN	NAME	SIGNATURE	DATE						
CHECKED									
APPROVED									
MFG									
D.A.									
MATERIAL: EJECTOR PIN				DRWG. NO. H16SCA24		SCALE: 1		SHEET 1 OF 1	
WEIGHT:				3		2		1	