Works Instruction for SOL8SDR-P 2W PA

WI0304 Iss 7

20-08-2018

Domo Tactical Communications (DTC) Limited

Fusion 2, 1100 Parkway, Whiteley, Fareham, Hampshire PO15 7AB, UK
T: +44 (0)1489 566750 F: +44 (0)1489 880 538

Change History

Version	Change Summary + QUAL/ECN ref	Author	ME / Prod Approval	Eng Approval	Date
Iss 1	Initial Release	N Pead	S McGhie	R Harvey	19/12/2016
Iss 2	CN002071, added variants	N Pead	S McGhie	R Harvey	15/02/2017
Iss 3	Added OEM Variant SA4001, Modified build procedure and add label variant table	S McGhie	N Pead	R Harvey	22/03/17
Iss 4	Removal of OEM versions, adjusted labelling	N Pead	S McGhie	T Maughan	15/05/17
Iss 5	Updated cable routing	N Pead	S McGhie	T Maughan	31/07/17
Iss 6	Add Length check	MJE	Ian Vanhear	T Maughan	07-03-2018
Iss 7	ECN-4826 – SA changes on 2W Amps with JST's fitted	NeilR	IV	TM	20/8/2018

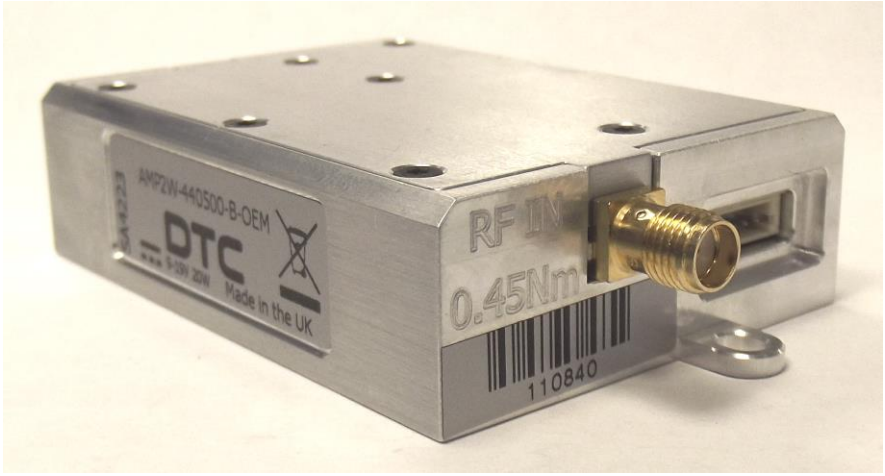
Related Documents

Index	File	Title
[1]	6,240,003 Torque Standards	Available on Sharepoint – Please refer to Operations/Doc Category/Assembly & Test/6,240,003 Torque Standards

Table of Contents

1. Scope

This work instruction outlines the process to assemble the 2W SOLO8 Power Amplifier.



2. Variants Table

SA Number	*Description*	*Old Part **	*PCB*	*Product*
SA4220	2W JST PA Assembly with bypass 1200 to 1700MHz	SA3961	D1664_B	Bandit
SA4225	MESH_SOLO 2W JST PA assembly 1200 to 1700MHz	SA3903	D1664	Mesh
SA4221	2W JST PA Assembly with bypass 1650 to 2400MHz	SA3922	D1665_B	Bandit
SA4226	MESH_SOLO 2W JST PA assembly 1650 to 2400MHz	SA3999	D1665	Mesh
SA4222	2W JST PA Assembly with bypass 1980 to 2700MHz	SA3924	D1666_B	Bandit
SA4227	MESH_SOLO 2W JST PA assembly 1980 to 2700MHz	SA3842	D1666	Mesh
SA4223	2W JST PA Assembly with bypass 4400 to 5000MHz	SA3965	D1669_B	Bandit
SA4228	MESH_SOLO 2W JST PA assembly 4400 to 5000MHz	SA3966	D1669	Mesh

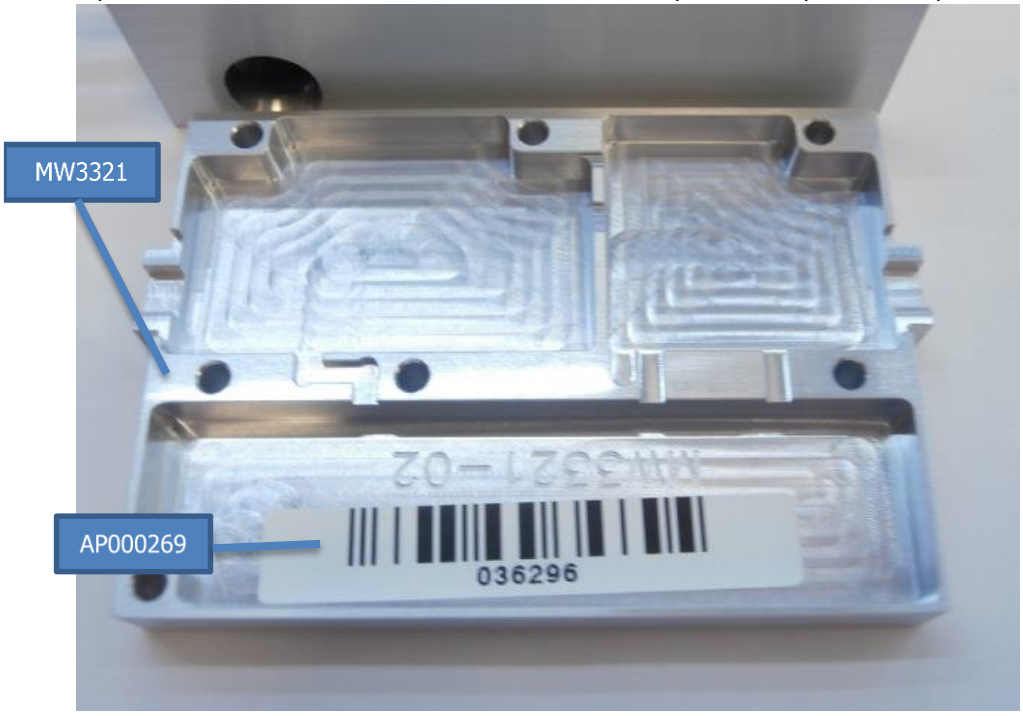
* For Old Part use old SA and Appendix A instructions

3. Work Instructions

1. Assembly

1) Fasten the **D16XX** RF card with M2 x 4 screws (**AP007984**) with Loctite 222 applied. Ensure the screws are fastened to the appropriate torque setting.

2) **PASS TO TEST** for programming before proceeding.
3) Add the serial numbers to Microsoft Dynamics or suitable system.
4) Attach the white internal serial number label (**AP000269**) to the lid (**MW3321**) as shown.



5) Record internal RF card PCBA serial number, then route to enclosure.

6) Fasten the lid (MW3321) to the chassis using 7x M2x12 CSK screws (AP008419) ensuring all screws are appropriately torqued as specified.

4. Labelling

1) Print the following Product label on BarTender. Please refer to the latest BOM for the AP number. If unsure, ask your Team Leader or Manufacturing Engineer.

SA Number	*Description*	*Label (AP Number)*
SA4220	2W JST PA Assembly with bypass 1200 to 1700MHz	AP009549
SA4225	MESH_SOLO 2W JST PA assembly 1200 to 1700MHz	AP009554
SA4221	2W JST PA Assembly with bypass 1650 to 2400MHz	AP009550
SA4226	MESH_SOLO 2W JST PA assembly 1650 to 2400MHz	AP009555
SA4222	2W JST PA Assembly with bypass 1980 to 2700MHz	AP009551
SA4227	MESH_SOLO 2W JST PA assembly 1980 to 2700MHz	AP009556
SA4223	2W JST PA Assembly with bypass 4400 to 5000MHz	AP009552
SA4228	MESH_SOLO 2W JST PA assembly 4400 to 5000MHz	AP009557

2) Fit the external serial number label (AP000270) to the assembly on the Input side under the SMA, **DO NOT PUT ON THE LID**

3) Fit the appropriate product label to the location shown.

4) **PASS TO TEST** for lid-on Testing.

Appendix A - Old TP (for non JST units)

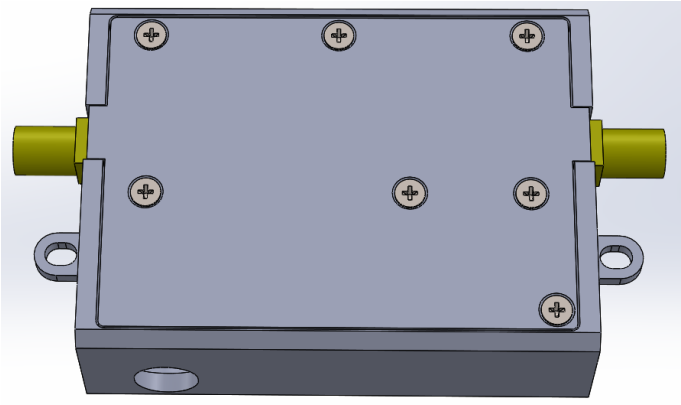
5. Scope (Old)

This work instruction outlines the process to assemble the 2W SOLO8 Power Amplifier. For RMA's records only. You should be using new parts now that come with JST. SA's have been re-issued to reflect changes (see variant table below). Note that, for example, an SA4220 can directly replace SA3961, with the correct cable change as well. Cables required as per the following table:

Cable Assembly No	Description	Status	Source
CA3442	SOL8SDR JST TO JST 2W PA CABLE ASSY	Active	VIDEO
CA3443	MESH_SOLO JST TO JST 2W PA CABLE ASSY	Active	VIDEO
CA3471	MESH AGILE JST TO JST 2W PA CABLE ASSY	Active	VIDEO

6. Variants Table (Old)

SA Number	Description	New Part	PCB	Product
SA3961	SOL8SDR-P 2W PA Assembly with bypass 1200 to 1700MHz	SA4220	D1664_B	Bandit
SA3903	Mesh Phase 5 2W amp assembly 1200 to 1700MHz	SA4225	D1664	Mesh
SA3922	SOL8SDR-P 2W PA Assembly with bypass 1650 to 2400MHz	SA4221	D1665_B	Bandit
SA3999	Mesh Phase 5 2W amp assembly 1650 to 2400MHz	SA4226	D1665	Mesh
SA3924	SOL8SDR-P 2W PA Assembly with bypass 1980 to 2700MHz	SA4222	D1666_B	Bandit
SA3842	Mesh Phase 5 Plain 2W amp assembly 1980 to 2700MHz	SA4227	D1666	Mesh
SA3965	SOL8SDR-P 2W PA Assembly with bypass 4400 to 5000MHz	SA4223	D1669_B	Bandit
SA3966	Mesh Phase 5 2W amp assembly 4400 to 5000MHz	SA4228	D1669	Mesh

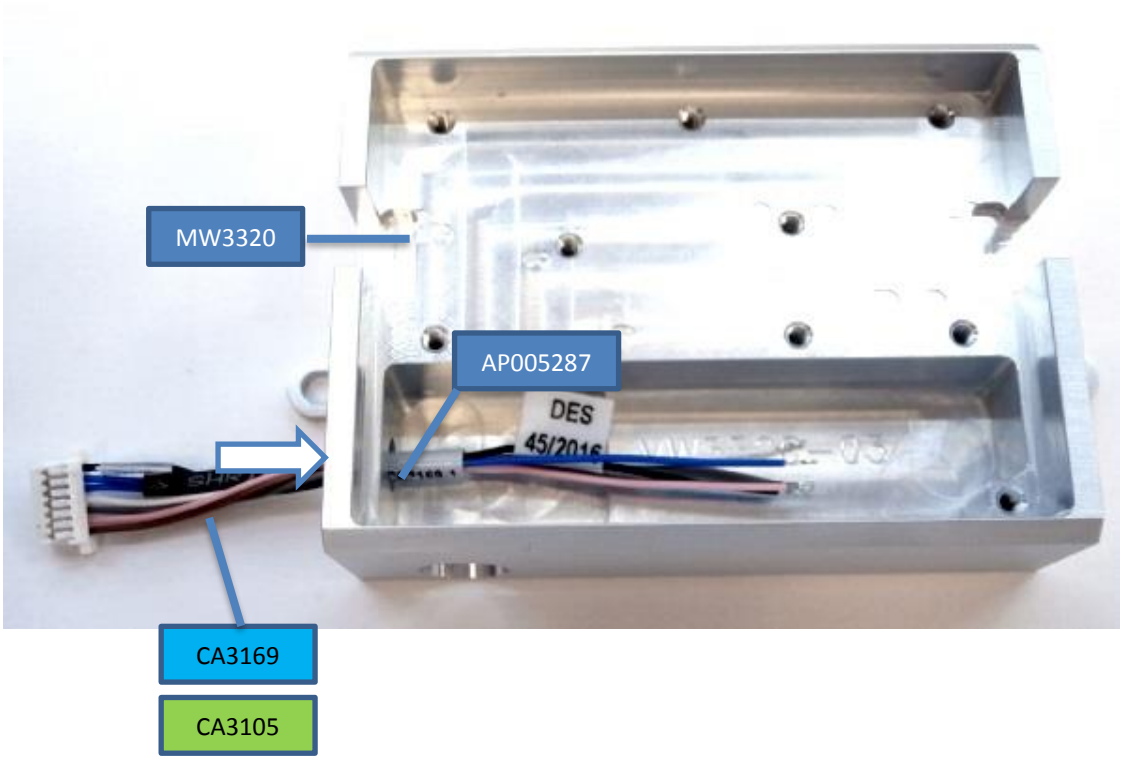


7. Works Instructions (Old)

2. Assembly

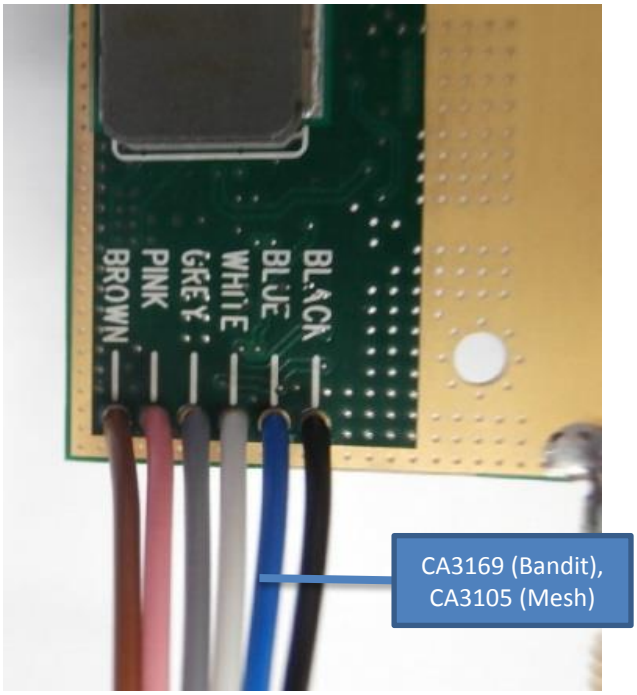
1) Depending on the required variant fit the appropriate cable assembly through the hole, labelled 'RF IN 0.45Nm', of the chassis (**MW3320**); **Bandit**, **Mesh**.

   For the Bandit product insert cable assembly (**CA3169**) loom through PV5 Grommet (**AP005287**) and the hole.



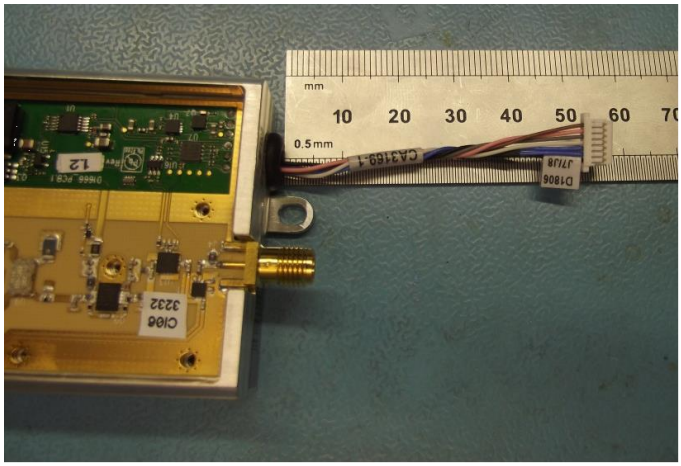
   For the Mesh products insert cable assembly (**CA3105**) loom through PV5 Grommet (**AP005287**) and the hole.

2) Solder the appropriate cable assembly **CA3169 (Bandit), CA3105 (Mesh)** to the bottom side of the card and the appropriate coloured wires to the positions screen printed on the PCBA. Once soldered ensure the solder joints are not bridged and cropped to 2mm from rear of PCBA.



3) Fasten the **D16XX** RF card with M2 x 4 screws (**AP007984**) with Loctite 222 applied. Ensure the screws are fastened to the appropriate torque setting.

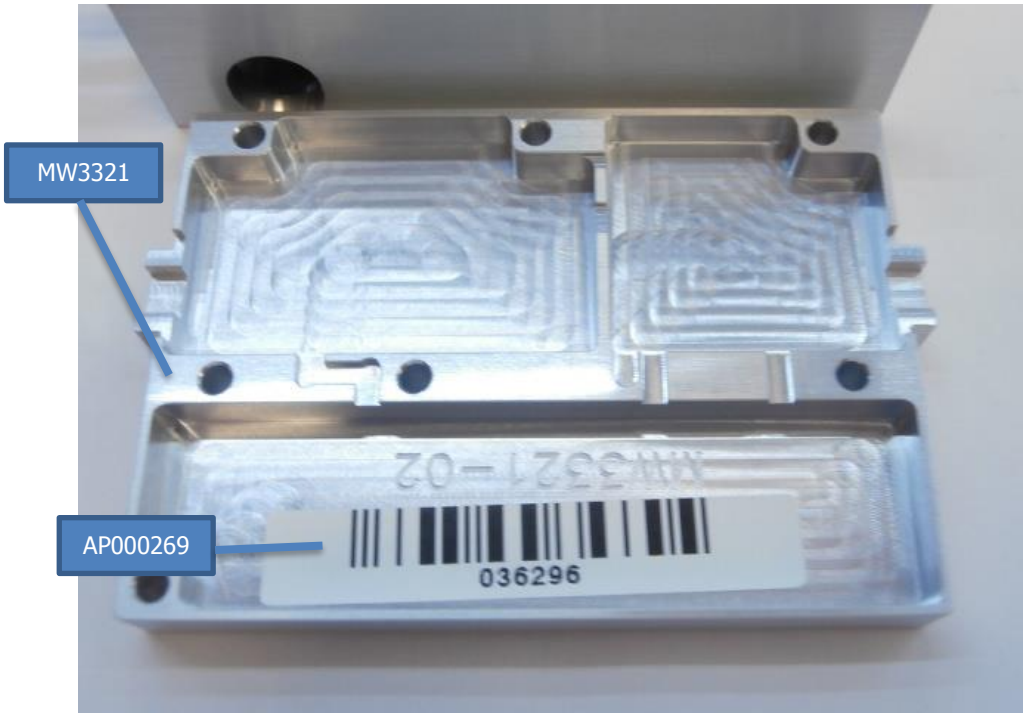
4) Check that the JST is at least 50mm out from the chassis.
The identification label on the cable may be obstructing the full length being out of the AMP. If it is less than 50mm, remove the label and check again.



5) PASS TO TEST for functional testing/programming before proceeding.

6) Add the serial numbers to Microsoft Dynamics or suitable system.

7) Attach the white internal serial number label (**AP000269**) to the lid (**MW3321**) as shown.



8) Record internal RF card PCBA serial number, then route to enclosure.

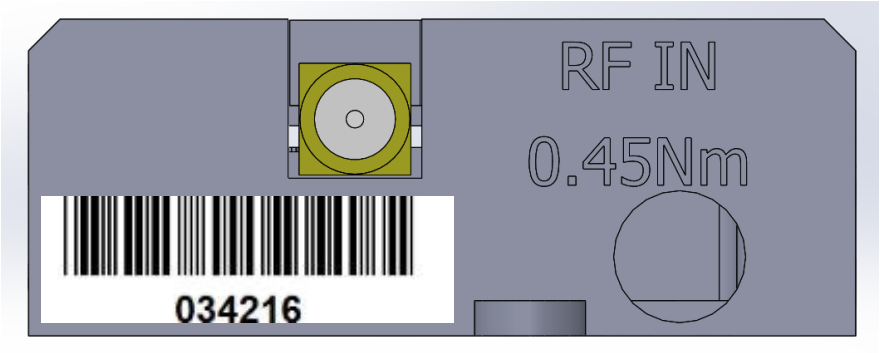
9) Fasten the lid (**MW3321**) to the chassis using 7x M2x12 CSK screws (**AP008419**) ensuring all screws are appropriately torqued as specified.

3. Labelling (Old)

1) Print the following Product label on BarTender. Please refer to the latest BOM for the AP number. If unsure, ask your Team Leader or Manufacturing Engineer.

SA Number	*Description*	*Label (AP Number)*
SA3961	SOL8SDR-P 2W PA Assembly with bypass 1200 to 1700MHz	AP009106
SA3903	Mesh Phase 5 2W amp assembly 1200 to 1700MHz	AP009142
SA3922	SOL8SDR-P 2W PA Assembly with bypass 1650 to 2400MHz	AP009047
SA3999	Mesh Phase 5 2W amp assembly 1650 to 2400MHz	AP009144
SA3924	SOL8SDR-P 2W PA Assembly with bypass 1980 to 2700MHz	AP009045
SA3842	Mesh Phase 5 Plain 2W amp assembly 1980 to 2700MHz	AP009141
SA3965	SOL8SDR-P 2W PA Assembly with bypass 4400 to 5000MHz	AP009109
SA3966	Mesh Phase 5 2W amp assembly 4400 to 5000MHz	AP009143

2) Fit the external serial number label (AP000270) to the assembly on the Input side under the SMA, **DO NOT PUT ON THE LID**



3) Fit the appropriate product label to the location shown.