



INSTALLATION APPROVAL TEST PROCEDURE

Part #: **MTP136D-000GN**

Description: **Mission Transceiver Panel Mount**

Document: **MTP136D-000GN-634-0**

Rev: **1.01**

Prepared By	Checked By	Approved By
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Revisions

Rev.	ECO #	DATE	Description of Change
1.01	ECO1238	19-Aug-2025	Rewritten for more robust interference testing.
1.00	N/A	27-Mar-2024	Initial Release.

1.0 Purpose

The purpose of this test procedure is to identify any interference the MTP136D-000GN transceiver may cause with existing aircraft systems.

2.0 EMI / EMC / RFI Test Preparation

The objective of the Electromagnetic Compatibility test (EMC) is to ensure there is no Electromagnetic Interference (EMI) or Radio Frequency Interference (RFI) by observing the operation of the aircraft systems and recording the results.

Ensure that all avionics systems, communications systems, and aircraft instruments are in a serviceable condition.

The following must be confirmed before completing any EMI / RFI / EMC testing:

1. Ensure all systems are installed and functioning correctly. The ground testing must be successfully completed before beginning EMI / RFI / EMC checks.
2. Ensure the aircraft is in a normal flight configuration. For example: all doors and windows are closed. Use engine driven generators as the power source.
3. Ensure the MTP136D is in the High transmit power mode for all tests listed in this document.
4. Ensure the GPS receiver is receiving the minimum number of satellites to achieve accurate 3D navigation. The GPS Status page should be monitored during testing.
5. Set the VHF transceivers to the indicated frequencies in this document with the squelch opened.
6. Set the VOR/ILS/GS receivers to the indicated frequencies in this document and select for display on the associated navigation indicator and audio (tone ID).
7. Set the VOR/ILS ramp test set to the frequencies indicated in this document and adjust the output until the flags are out of view. It is recommended to lower the RF transmission levels so that the flags are just out of view.
8. Monitor the transponder system with ramp test equipment.
9. Set the ADF to a navigation station within proximity.

3.0 EMI / EMC / RFI Tests

Complete the EMI / EMC / RFI Testing ensuring the following procedures are followed.

1. For each rotorcraft system listed enter YES or NO if the system is installed and operating during the tests.
2. The testing is conducted with the newly installed system evaluated as either a SOURCE or VICTIM of interference methodology. The table has a column for both scenarios.
3. Check "✓" the box if an item is functioning properly without interference, and mark with an "X" if any interference is noted. This is to be entered in both the SOURCE and the VICTIM columns.
4. Record "N/A" if not applicable in this specific aircraft / rotorcraft, for example, systems that may be an emitter of EMI/RFI but are not prone to be receivers such as lights, electric heat sources, generator/alternator (except indications), etc., or for instruments that may be pneumatic only, not electric such as airspeed, altimeter, VSI, *etcetera*. Note, EFIS systems must always be evaluated.
5. While monitoring the operation of each EMI / RFI receiver activate each EMI / RFI emitter and ensure that there is no interference outlined in the following tables and / or record any aircraft abnormality that would indicate whether each system is a source or victim of EMI / RFI. Evaluate all possible scenarios and ensure that as many modes of operation and system settings are tested. Repeatedly perform tasks as required to ensure EMC (example, turn equipment on and off and adjust any user interfaces).
6. If alternate system frequencies were used or other information is pertinent, record this in the NOTES area at the end of the table.
7. Monitor the GPS for degradation in satellite status, availability, or flags.
8. Monitor the VHF communication for any unexpected / abnormal noise, audio signals or anomalies. Use various frequencies representing low, mid, and high range of the frequency band.
9. Monitor the VOR/ILS navigation systems for any unexpected / abnormal noise in headset audio, irregular movement of needles or flags. Use various frequencies representing low, mid, and high range of the frequency band.
10. For rotorcraft with flight director (FD) and / or autopilot (AP) installed, at the test conductor / aircraft operator discretion in some cases the test may be conducted by engaging the FD / AP modes on the ground. It is recommended though that at least 1 of each type (example GPS and/or ILS) of FD / AP coupled approach be flown while transmitting on the newly installed avionics system on various low / mid / high frequencies.



3.1 Functional Test Matrix

AIRCRAFT SYSTEM	SYSTEM INSTALLED	No. 1 MTP136D 136.0000, 155.5000, 173.9875 MHz (or similar)		No. 2 MTP136D 136.0000, 155.5000, 173.9875 MHz (or similar)		NOTES
		SOURCE	VICTIM	SOURCE	VICTIM	
Pilot Audio including Intercom						
Copilot Audio including Intercom						
Flight Engineer / Observer / Passenger Audio and Intercom System						
Passenger Address System (internal)						
Public Address System (external loud hailer, etc.)						
VHF COM No.1 (low/mid/high freq – MHz) 118.000, 127.500, 135.975 (or similar)						
VHF COM No.2 (low/mid/high freq – MHz) 118.000, 127.500, 135.975 (or similar)						
VHF COM No.3 (low/mid/high freq – MHz) 118.000, 127.500, 135.975 (or similar)						
VHF FM No.1 (low/mid/high freq – MHz) 136.000, 155.5000, 173.9875 (or similar)		N/A	N/A			
VHF FM No.2 (low/mid/high freq – MHz) 136.000, 155.5000, 173.9875 (or similar)				N/A	N/A	
UHF FM No.1 (low/mid/high freq – MHz)						
Frequencies tested: _____						
UHF FM No.2 (low/mid/high freq – MHz)						
Frequencies tested: _____						
NAV VOR No.1 (low/mid/high freq – MHz) 108.00, 112.50, 117.95 (or similar)						
NAV VOR No.1 (low/mid/high freq – MHz) 108.00, 112.50, 117.95 (or similar)						
NAV ILS No.1 (low/mid/high freq – MHz) 108.10, 109.50, 111.95 (or similar)						
NAV ILS No.2 (low/mid/high freq – MHz) 108.10, 109.50, 111.95 (or similar)						



AIRCRAFT SYSTEM	SYSTEM INSTALLED	No. 1 MTP136D 136.0000, 155.5000, 173.9875 MHz (or similar)		No. 2 MTP136D 136.0000, 155.5000, 173.9875 MHz (or similar)		NOTES
		SOURCE	VICTIM	SOURCE	VICTIM	
Marker Beacon (OM, MM, IM)						
ADF No.1 (low/mid/high freq – KHz) 200, 1050, 1799 (or similar)						
ADF No.2 (low/mid/high freq – KHz) 200, 1050, 1799 (or similar)						
GPS / FMS No.1 Versus the following additional FM frequencies (transmit for 30 seconds): 143.1800, 143.1825, 143.2175 143.2200, 157.5000, 157.5400, 157.5425 MHz						
GPS / FMS No.2 Versus the following additional FM frequencies (transmit for 30 seconds): 143.1800, 143.1825, 143.2175 143.2200, 157.5000, 157.5400, 157.5425 MHz						
Pilot PFD / MFD (General)						
Copilot PFD / MFD (General)						
Pilot Standby Instrument(s)						
Copilot Standby Instrument(s)						
Pilot Attitude Direction Indicator (ADI)						
Copilot Attitude Direction Indicator (ADI)						
Pilot Horizontal Situation Indicator (HSI) (Includes compass / heading indication)						
Copilot Horizontal Situation Indicator (HSI) (Includes compass / heading indication)						
Pilot Altimeter Indicator						
Copilot Altimeter Indicator						
Pilot Airspeed Indicator						
Copilot Airspeed Indicator						
Pilot Vertical Speed Indicator (VSI)						
Copilot Vertical Speed Indicator (VSI)						
Pilot Turn/Slip Indicator						



AIRCRAFT SYSTEM	SYSTEM INSTALLED	No. 1 MTP136D 136.0000, 155.5000, 173.9875 MHz (or similar)		No. 2 MTP136D 136.0000, 155.5000, 173.9875 MHz (or similar)		NOTES
		SOURCE	VICTIM	SOURCE	VICTIM	
Copilot Turn/Slip Indicator						
No. 1 Radio Altimeter						
No. 2 Radio Altimeter						
No. 1 Distance Measuring Equipment (DME)						
No. 2 Distance Measuring Equipment (DME)						
Standby Compass						
Autopilot / Flight Director						
Electric Trim Systems (Pitch, Yaw, Trim, etc.)						
Terrain Awareness (GPWS / TAWS)						
Traffic Collision Avoidance System (TAS / TCAS)						
Transponder System No. 1						
Transponder System No. 2						
SATCOM / Flight Following						
Weather Radar						
FADEC / VEMD (control and indication)						
Engine Indicating System (EIS)						
Torquemeter Indicator (Mast and / or Engine)						
Tachometer Indicator (Rotor and / or Engine)						
Gas Producer Tach Indicator (Ng / N1)						
EGT/MGT Indicator						
Inter-turbine Temperature (ITT)						
Transmission Oil Temperature Indicator						
Transmission Oil Pressure Indicator						
Engine Oil Temperature Indicator						
Engine Oil Pressure Indicator						
Hydraulic Oil Temperature Indicator						
Fuel Pressure Indicator						
Fuel Quantity Indicator						
DC Voltmeter						



AIRCRAFT SYSTEM	SYSTEM INSTALLED	No. 1 MTP136D 136.0000, 155.5000, 173.9875 MHz (or similar)		No. 2 MTP136D 136.0000, 155.5000, 173.9875 MHz (or similar)		NOTES
		SOURCE	VICTIM	SOURCE	VICTIM	
DC Ammeter Indicator						
AC Voltmeter Indicator						
AC Ammeter Indicator						
Landing / Taxi Lights						
Navigation Lights						
Search Light						
Strobe Lights						
Interior Lights						
Emergency Lights						
Warning & Caution System (Bright/Dim/Test)						
Fire Detection System (Lights, Bells)						
Fuel Pumps / Motors						
Hydraulic Pumps / Motors						
Generator / Inverter						
Cabin Environmental Systems (Heat, AC, Fans):						
Other:						
Other:						
Other:						
Other:						
Other:						
Other:						
Other:						
Other:						
Other:						
Other:						
Other:						

Notes:

[illegible]

4.0 Results

If the installed system passes all EMI / RFI / EMC tests, then no further action is required. If a test failed, then an assessment must be made regarding the airworthiness of the failed system and possible further investigation, rectification and re-test.

Example: GPS Systems

VFR certified GPS systems are allowed to lose navigation capabilities while the MTP136D is actively transmitting given that the GPS quickly and fully recovers all functionality when transmission is ended. Anomalies such as this are not acceptable for IFR approach certified GPS systems. Acceptance of the test results is left to the authoritative person / organization providing the maintenance release back to service for this installation.

End of Installation Approval Test Procedure