

AMENDMENT OF SOLICITATION/MODIFICATION OF CONTRACT				1. CONTRACT ID CODE	PAGE 1 OF 2 PAGES
2. AMENDMENT/MODIFICATION NO. 0001		3. EFFECTIVE DATE 08/01/05	4. REQUISITION/PURCHASE REQ. NO.	5. PROJECT NO. (If applicable)	
6. ISSUED BY CODE		N00173	7. ADMINISTERED BY (If other than Item 6) CODE		
Contracting Officer, Code 3220.KK Naval Research Laboratory 4555 Overlook Ave. SW. Washington, D.C. 20375-5326					
8. NAME AND ADDRESS OF CONTRACTOR (No., street, county, State and ZIP Code)				(X)	9A. AMENDMENT OF SOLICITATION NO.
TO ALL OFFERORS				X	N00173-05-R-KK06
					9B. DATED (SEE ITEM 11) 07/18/05
					10A. MODIFICATION OF CONTRACT/ORDER NO.
					10B. DATED (SEE ITEM 11)
CODE		FACILITY CODE			

11. THIS ITEM ONLY APPLIES TO AMENDMENTS OF SOLICITATIONS

The above numbered solicitation is amended as set forth in Item 14. The hour and date specified for receipt of Offers is extended, is not extended.
 Offers must acknowledge receipt of this amendment prior to the hour and date specified in the solicitation or as amended, by one of the following methods:
 (a) By completing items 8 and 15, and returning _____ copies of the amendment; (b) By acknowledging receipt of this amendment on each copy of the offer submitted; or (c) By separate letter or telegram which includes a reference to the solicitation and amendment numbers. FAILURE OF YOUR ACKNOWLEDGMENT TO BE RECEIVED AT THE PLACE DESIGNATED FOR THE RECEIPT OF OFFERS PRIOR TO THE HOUR AND DATE SPECIFIED MAY RESULT IN REJECTION OF YOUR OFFER. If by virtue of this amendment your desire to change an offer already submitted, such change may be made by telegram or letter, provided each telegram or letter makes reference to the solicitation and this amendment, and is received prior to the opening hour and date specified.

12. ACCOUNTING AND APPROPRIATION DATA (If required)

**13. THIS ITEM ONLY APPLIES TO MODIFICATION OF CONTRACTS/ORDERS.
IT MODIFIES THE CONTRACT/ORDER NO. AS DESCRIBED IN ITEM 14.**

CHECK ONE	A. THIS CHANGE ORDER IS ISSUED PURSUANT TO: (Specify authority) THE CHANGES SET FORTH IN ITEM 14 ARE MADE IN THE CONTRACT ORDER NO. IN ITEM 10A.
	B. THE ABOVE NUMBERED CONTRACT/ORDER IS MODIFIED TO REFLECT THE ADMINISTRATIVE CHANGES (such as changes in paying office, appropriation date, etc.) SET FORTH IN ITEM 14, PURSUANT TO THE AUTHORITY OF FAR 43.103(b).
	C. THIS SUPPLEMENTAL AGREEMENT IS ENTERED INTO PURSUANT TO AUTHORITY OF:
	D. OTHER (Specify type of modification and authority)

E. IMPORTANT: Contractor is not, is required to sign this document and return _____ copies to the issuing office.

14. DESCRIPTION OF AMENDMENT/MODIFICATION (Organized by UCF section headings, including solicitation/contract subject matter where feasible.)

SEE PAGE 2

Except as provided herein, all terms and conditions of the document referenced in Item 9A or 10A, as heretofore changed, remains unchanged and in full force and effect.

15A. NAME AND TITLE OF SIGNER (Type or print)		16A. NAME AND TITLE OF CONTRACTING OFFICER (Type or print)	
15B. CONTRACTOR/OFFEROR	15C. DATE SIGNED	16B. UNITED STATES OF AMERICA	16C. DATE SIGNED
_____ (Signature of person authorized to sign)		_____ (Signature of Contracting Officer)	

The purpose of this amendment is to answer questions posed by a potential offeror. The questions and answers are as follows:

1. Section H-6 of the solicitation indicates that NRL will make miscellaneous test components available on an as needed basis. Can NRL provide a list of the relevant G- band components, especially the available waveguide components in the G- Band?

NRL is providing a more detailed list of test and measurement equipment as Attachment No. 1 to this amendment. Two lists are provided. One list indicates the test and measurement equipment which is available at NRL-DC. The other list indicates test and measurement equipment which will be provided by NRL for use at the facility of the successful offeror.

2. Page 4 of the Statement of Work indicates that amplifier performance will be demonstrated using the ETM Model 2062PD2 test modulator. Can NRL provide more detailed information on this test modulator? Useful information would include the adjustable voltage and current range for all of the individual power supplies with output to the front panel. If available, this would include a beam supply, a heater supply, the anode supply, the grid supply, and all of the collector supplies. A block diagram of the connection configuration(s) would also be useful.

Additional information concerning the ETM test modulator is provided as Attachment No. 2 to this amendment. NRL will make a block diagram of the connection configuration(s) available upon request. Prospective offerors may view the block diagram at the Naval Research Laboratory, Washington, D.C. Prospective offerors who are interested in receiving this information by Federal Express should e-mail their name, address and Federal Express account number to kevin.king@nrl.navy.mil.

Test & Measurement Equipment Available at NRL-DC for Performance of this Contract Activity

Item	Sub-item	Manufacturer	Model	Description
Vector Network Analyzer	HP8510C/8530 VNA	HP/Agilent	8510C	
	Millimeter Wave S-Parameter Test Set	HP/Agilent		
	WR-5 Extension Module T/R	Oleson Microwave Labs		Permits S11 and S21 measurements in 140-220 GHz band
	WR-5 Extension Module T	Oleson Microwave Labs		"
	WR-3 Extension Module T/R	Oleson Microwave Labs		Permits S11 and S21 measurements in 220-325 GHz band
				"
	WR-3 Extension Module T	Oleson Microwave Labs		
	Calibration Kits for WR-5 and WR-3 Bands	Oleson Microwave Labs		

Test & Measurement Equipment To Be Provided as GFE by NRL to Contractor for Use at Contractors Site as Needed

Item	Sub-item	Manufacturer	Model	Description
Solid-state Frequency Multiplier Source		Virginia Diodes, Inc. or Equivalent	D200/D100/D50 +Amp	Three stage doubler with amplifier on input; provides min 20 mW output in 200-220 GHz band with <5 mW drive at frequency of 1/8th desired output frequency
Power Calorimeter		Erickson	PM3	Power meter and waveguide transitions for use in appropriate bands. Not for use at 5W power.
Detectors		Virginia Diodes, Inc. or Equivalent	WR-5.1ZBD	WR-5 detector diode, zero bias, 1500 V/W typical
Directional Couplers		Misc vendors		Directional couplers, 10dB, 20 dB, WR-5
Variable Attenuators		Custom	VA5R	Variable attenuator, 0-30 dB, 140-220 GHz band. WR-05 waveguide
Flange adapters		Microwave or equivalent	FA5RM	Flange adapters R750-5 flange to M-5 flange
Low power terminations		Custom	LT5R	Low power terminations
Full Band Isolator		Microwave or equivalent		Full band isolator, 140-220 GHz, WR-5 waveguide, MIL F-3922/67B-M05 flange
Harmonic Mixer with External Diplexer		Millitech or equivalent	FBI-05-RSES0	Single diode unbalanced harmonic mixer for use with HP856X-series spectrum analyzer; input in 140
Assorted similar components in WR-3 band		OML or equivalent	M05HWD	220 GHz band

Summary of NRL Test Modulator
ETM Model 2062PD.2

Manufacturer: ETM Electromatic, Inc., Newark, CA is the manufacturer

The manual states:

The ETM 2062PD.2 is designed for safe, reliable testing of continuous-wave and grid-pulsed traveling wave tubes. Output specifications are as follows:

Output	Voltage	Reference	I _{peak}	I _{average}
Cathode	0 to -20 kV DC	Ground	6 A	600 mA
Collectors	0 to -15 kV DC	Ground	6 A	600 mA
Filament	0 to -20 V DC	Cathode	-	15 A
Bias	0 to -1.6 kV DC	Cathode	-	100 mA
Pulse Top	0 to 2 kV DC	Bias	1 A	1000 mA
Anode	0 to +/- 10 kV DC	Ground	-	10 mA
Ion Pump	+3.5 kV	Ground	-	1.5 mA

