NATIONAL INSTITUTE OF TECHNOLOGY SILCHAR

Silchar – 788 010 (ASSAM)

No: NITS/PS-687/EE/Equip/BSP & Control Lab/19 **Date: 14/03/2019**

NOTICE INVITING TENDER

FOR SUPPLY AND INSTALLATION OF EQUIPMENT FOR BSP & CONTROL LAB, EE DEPARTMENT AT NIT SILCHAR

LAST DATE & TIME OF SUBMISSION	:	**11/04/2019 up-to 01.00 PM**
DATE & TIME OF OPENING	:	**11/04/2019 at 03.30 PM**

NATIONAL INSTITUTE OF TECHNOLOGY
SILCHAR - 788 010

Tel.No. Director: (03842) 224879 Fax: (03842) 224797

NOTICE INVITING TENDER

Adv. No: NITS/PS-687/EE/Equip/BSP & Control Lab/19

Sealed Tenders are invited from reputed Firms/Agencies/Manufacturer/Authorized Dealer **FOR SUPPLY AND INSTALLATION OF EQUIPMENT FOR BSP & CONTROL LAB, EE DEPARTMENT AT NIT SILCHAR along with Earnest Money Deposit (EMD) @2% of the total bid value in the form of Demand Draft/Bank Guarantee in favour of "The Director, NIT Silchar", Payable at Silchar. No Interest shall be paid on EMD at the time of return. Bidders registered as NSIC/SSI/MSME are exempted. Necessary Certificate in support must be furnished where applicable.**

Detail specification of required item/items are given in **(Annexure–A).**

Tender document can be obtained from Purchase Section, NIT Silchar or may be downloaded from our website www.nits.ac.in or http://eprocure.gov.in. **The cost of tender document is Rs.1,000/-** (Non-refundable) to be submitted in the form of DD in favour of The Director, NIT Silchar-788010, Payable at Silchar. The last date and time for submission of Tender document will be 11/4/**2019** up-to **01.00PM** and tender(technical bid) will be opened on the same date at **03.30 PM** in office of HOD, EE Dept., NIT SILCHAR. Price bid of technically qualified bidders only shall be opened in a later date with prior intimation.

The offers without Cost of Tender & Earnest Money Deposit (EMD) shall out rightly be rejected.

Director, NIT Silchar reserves the right to extend the date or cancel the tender, accept or reject any/all tenders or not to purchase all or any of the items.

Tenders are to be sent/submitted in sealed covers addressed to:-

The Faculty-In-Charge, Purchase
National Institute of Technology, Silchar-788 010, Cachar, Assam
Email : purchasecell.nits@gmail.com

Registrar, NIT Silchar

NOTICE INVITING TENDER

Credential Criteria:

- The bidder should have provided similar nature of services to IITs/NITs/Govt. Departments/Semi Govt. Departments/PSU/Educational Institutions of National Importance etc. during last 3(three) years. **Duly certified copies are to be enclosed.**
- Tender/Quotations are to be submitted in **TWO PARTS** i.e. **(a) Technical Bid and (b) Price Bid**, in two separate properly sealed covers; and both these covers will have to be again put in to a single sealed cover. Also, the full address of the firm submitting the tender/quotation must appear distinctly with PIN on both the inner sealed covers, indicating also **TECHNICAL BID/ PRICE BID** as may be applicable. The outer most cover shall be super scribed as

o **"QUOTATION FOR SUPPLY & INSTALLATION OF ……..……..FOR ……..…….. NIT SILCHAR.**

o **VIDE TENDER REF NO NITS/PS-……., DATED……..……..……..**

DATE OF OPENING ……

[The bid will summarily be rejected & returned to the bidder if the sealed envelope containing the quotation is not super scribed as above].

- **Genuine Pricing** (Both foreign & indigenous) :Vendor is to ensure that quoted price is not more than the price offered to any other customer in India to whom this particular item has been sold recently, particularly to IIT/Institutes and other Government Organization.
- **No Part Delivery:** Part shipment for any items will not be allowed.
- **Any Optional item quoted by the supplier will not be entertained.**
- **Termination for default :** Default is said to have occurred -
- If the supplier fails to deliver any or all of the items/services within the time period(s) specified in the purchase order or any extension thereof granted by NIT Silchar, the Institute may terminate the contract / purchase order in whole or in part and forfeit the EMD/PBG as applicable.

TERMS & CONDITIONS:

1. The bidding agency should be reputed firm and having all necessary certificates, viz. GST registration certificate, PAN, Registration, Sale Tax clearance Certificate, Authorized Dealership Distributorship certificate must be in the letterhead of principal co. in original with due seal & signature. The photocopies of all the certificates should be attached with the tender.
2. The firm should be an original equipment manufacturer (OEM) in the business of manufacture or supply of equipment for minimum 3-5 years. The firm should submit audited financial statements for latest three financial years in support of this claim.
3. The items being quoted should be of Original Manufacturer and no non-standard item should be quoted. All detailed specifications with make & model no. of the items accompanied by proper leaflets should be clearly mentioned and attached with the offer. In case of **proprietary** or **patented** item, necessary certificates in support of the same should be attached. The bidder must submit the Compliance Statement and Deviation Statement of technical specification. Bidder must give an undertaking that they are not blacklisted in last 10 years.
4. The firm should have satisfactorily manufactured or supplied equipment, as requisitioned in this tender, to IITs/NITs/Govt. Departments/Semi Govt. Departments/PSU/Educational Institutions of National Importance etc. during the last 3(three) years ending the last day of March 2018.
5. **The rate quoted must be both in words and figures and F.O.R. / Destination National Institute of Technology Silchar -788010, Assam inclusive of all charges i.e. packing, forwarding, octroi, surcharge, insurance, installation, demonstration and other charges if any. Educational discount, if any should be indicated clearly. Tenderer(s) may note that the Government of India exempts this**

Institute from paying custom duty/excise duty. Charges of Custom Duty (after concession as per govt. of India), IGST, Custom Clearance without any fine /demurrage/ penalty shall be paid by the Institute on actual basis subject to submission of original supporting bill/ vouchers. Necessary documentation like DSIR, CDE, GST Concession Certificate, Declaration Certificate, Authorization letter regarding transportation of cleared consignment up-to NIT Silchar shall be provided by the Institute on submission of Order Acceptance and Proforma Invoice. Necessary documents will be furnished if required on demand by the Tenderer(s). Rate quoted for any other destination shall not be accepted and the bid will summarily be rejected. All the CUSTOM CLEARING ISSUES and delivery of ordered items up-to destination i.e. NIT Silchar must be handled by the Supplier only.

6. All the items should be a complete package / module and not on component basis and also include the training plateforms indicated in the specifications.
7. At least 2 years onsite comprehensive warranty on all items must be provided.
8. Sample submission and demo at the customer end for technical bid evaluation & before opening price bid if necessary.
9. **Quoted rate should be inclusive of all taxes. Nothing extra will be paid by the Institution. If there is any increase / decrease of statutory taxes will be reimbursed accordingly.**
10. **Payment: Payment 100% shall be made only after receipt of ordered items as per specification and quantity and after successful installation, demonstration, training (where applicable) and commissioning.**
    - **Payment: In connections to foreign items payment shall be made through wire transfer / irrevocable Letter of Credit (90% through LC and 10% after receipt of ordered items as per specification, quantity, successful installation, demonstration, training (where applicable) and commissioning).**
11. Manufacturer's/Company's name, it's trademark should be mentioned in the tender and illustrative leaflets giving technical particulars, etc. should be attached in the tender.
12. Tenderer(s) registered with the State/Central Government must quote his registration numbers, if any, and submit a xerox copy of registration along with the tender.
13. Guarantee/Warranty period offered for the tendered item is to be clearly specified.
14. The rates to be quoted by the agency should be valid for a period of **6(six) months** after the deadline date specified in the tender.
15. The quantity against each item mentioned in the tender may vary according to the actual requirements at the time of placing Purchase Order.
16. **Each bidder should clearly specify that the bidder agrees to abide by the conditions of this tender document on their printed letter head duly sealed & signed by an authorized person.**
17. **Bid Price**
    a) **The contract shall be for the full quantity as described above. Corrections, if, shall be made by crossing out, initialing dating and rewriting.**
    b) **The bidder should quote the total price for each item inclusive of packing and forwarding, all duties, levies, insurance, installation, demonstration and any other charges, etc. only taxes & (discount if any) should be mentioned/shown separately.**
    c) **The rates quoted by the bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.**
18. Each bidder shall submit only one quotation.

19. All necessary documents shall be furnished along with the bid.

20. **Validity:** Tenders/Quotations shall remain valid for a period not less than **6 (six) months** after the deadline date specified for submission of tender.

21. **Packing**

a) The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination as indicated in the Contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit and open storage. Packing case size and weights shall have to be taken into consideration, where appropriate, the remoteness of the Goods' final destination and the absence of heavy handling facilities at all points in transit.

b) The packing, marking and documentation within and outside the packages shall comply strictly with such special requirements as shall be provided for in the Contract including additional requirements.

22. **Evaluation of Quotations :**

NIT Silchar will evaluate and compare the tender/quotations determined to be substantially responsive i.e. which

a) are properly signed

b) Conform to the terms and conditions, and specifications.

23. **Award of contract:**

NIT Silchar will award the contract to the bidder whose tender/quotation has been determined to be substantially responsive and who has offered the lowest evaluated quotation price.

a) The bidder whose bid is accepted will be notified of the award of contract by the NIT Silchar prior to expiration of the quotation validity period. The terms of the accepted offer shall be incorporated in the purchase order.

b) Normal commercial warranty/guarantee shall be applicable to the supplied goods.

c) The goods (both indigenous & imported) should be insured against theft, loss or breakage during transit till destination.

d) Upon delivery of goods, the supplier shall submit Suppliers Invoice, Insurance certificate, Warranty Certificate, Installation Certificate, Performance Bank Guarantee (where applicable) or any other document as required/demand.

24. **Acknowledgement of the Purchase Order**: The supplier shall give an acknowledgement of the Purchase Order within 15(fifteen) days of the date of the Purchase Order. In case, the supplier fails to acknowledge the Purchase Order within the stipulated time, the Institute is at liberty to cancel the Purchase Order.

25. No alternations in tender forms shall be made by the bidder and if any such alteration is made, the tender is liable to be rejected.

a) Delivery Schedule and Penalty for Delay: Delivery of equipment should be made **within 30(thirty) days OR as per terms and condition of Purchase Order** from the date of issue of Purchase Order. **Penalty at the rate of 0.5% or part thereof of the order value per week, subject to a maximum of 2.5% will be imposed for delayed delivery and installation.**

26. **Demurrages and penalty, if any, paid by the supplier shall not be borne by the Institute.**

27. The tenders submitted shall clearly mention the name of the firm/person in whose favour the purchase order is to be placed.

28. Contact details of the person for all post sales/installation maintenance support should clearly be given with **Name & Designation, Phone No, Fax No, Mobile, E-mail and official address.**

29. National Institute of Technology Silchar is not liable for non-receipt of the tender forms in time due to wrong address/ any delivery delay of the mail service provider/ force majeure. Tender documents received after the last date and time for receiving tenders will be summarily rejected.

30. **Successful bidder shall give a performance security @10% or (as per Purchase Order) of the total order value in the form of Bank Guarantee.** The performance security shall be furnished along with the Bill / Invoice after the order for supply is placed and before the final payment. Validity of the Performance Security shall cover the warranty period.
    - The proceeds of the Performance Security shall be payable to the purchaser as compensation for any loss resulting from the suppliers failure to complete its obligations under the contract.
31. All legal disputes shall be under the jurisdiction of the Silchar Courts of Cachar District in the state of Assam.

Registrar, NIT Silchar

DECLARATION

I / We hereby declare that no case is pending with the police/ court against the proprietor/ firm/ partner or the company (Agency). Also I /We have not been suspended / blacklisted by any PSU / Government Department / Financial Institution / Court.

(Signature & seal of the contractor)

Place:

Date:

NO DEVIATION CERTIFICATE

Notwithstanding anything mentioned in our bid, we hereby accept all the terms and conditions of this tender and we do not have any deviation to this tender enquiry. We hereby undertake and confirm that we have understood the scope of work properly and shall be carried out as mentioned in this tender enquiry.

(Signature & seal of the contractor)

Place:

Date:

BIDDERS DETAILS

Name of the Contractor /Party/ Firm	:	
Name of Authorized Representative	:	
Phone Nos.	:	
Mobile Nos.	:	
Fax No.	:	
E-Mail Address	:	
Web Site Address (If Any)	:	

(Signature & seal of the contractor)

Place:

Date:

TECHNO-COMMERCIAL BID

NAME OF THE WORK: Supply and Installation of …….. at NIT Silchar TENDER NO. : NITS/PS-……., Dtd……., LOS : ……					
Sl. No.	**Name of item with Specification, Make & Model**	**QTY.**	**Rate per Unit in**	**Taxes in %**	**Total Amount in**
				Sub Total Amount	
				Discount (if any)	
				Taxes (if any)	
				Other Charges (if any)	
				Grand Total Amount	
(AMOUNT IN WORDS)					

I/ we have gone through all the Special & General Conditions and the contractor's obligations enclosed with this tender document and agree to abide by these.

Note: In case of discrepancy in rates between figure & words the higher will be taken for evaluation of bid and lower value will be taken for award of work.

(Signature & seal of the contractor)

Place:

Date:

CHECK-LIST (TECHNICAL BID)

SUMMARY OF COMPLIANCE TO REQUIREMENT OF TENDER

Sl. No.	Description of Requirement	Yes / No / NA	Page No.
1.	Tender Cost Rs.1000/- (Non-refundable) in the form of Demand Draft in favour of "Director, NIT Silchar" in a separate envelope		
2.	EMD @2% of total bid value in the form of Demand Draft /Bank Guarantee in favour of "Director, NIT Silchar" in a separate envelope		
3.	Copy of Manufacturer/ Authorized Supplier Certificate		
4.	Audited financial statement for the last 3 years		
5.	Copy of the PAN card.		
6.	Copy of GST registration certificate		
7.	Copies of previous work order of similar work with completion certificate (if any)		
8.	Declaration certificate		
9.	No Deviation certificate		
10.	Bidder's details		
11.	Technical Specification		
12.	NSIC/SSI/MSME Certificate where applicable		
13.	All the pages of tender document have been signed		
14.	Price bid in separate sealed envelope.		
15.	Complete copy of Techno Commercial Bid submit along with the Price Bid.		

(Signature & seal of the contractor)

Place:

Date:

Annexure-A

Technical Specification

Specifications for Equipment for Biomedical Engineering Lab

PART – I (Biometric measurement devices & Simulators)

PART – I

Module Title	Specifications	

ECG cum Heart Rate Monitor	• 3½ Digit Digital display of heartbeats/minute
	• On board Heartbeat event indicator
	• Separate test points to observe ECG waveforms after each block
	• In built Data Acquisition module with serial interface for real time analysis
	• On board one minute indicator
	• User selectable Heart Rate, Bradycardia limit,
	• Tachycardia limit display
	• On board Bradycardia and Tachycardia Indicator and limit adjustment
	• User selectable buzzer for heartbeat indication
	• On board Reset arrangement for display and one minute timer
	• Real time ECG Analysis Software
	  • ECG can be analyzed in real time during acquisition
	  • Continuous recording up to user disable
	  • Review and analysis of recorded ECG file
	  • Tabular and graphical reports of start, end, amplitude of PQRST and others
	  • Heart-rate display with QRS detection by visual indication
	
	It should have following Technical Specifications :
	Measuring Range : 30-180 heartbeats/minute
	Accuracy : ± 2 heartbeats/minute
	Gain Adjustment : 800-2000 variable
	Heart Rate Display : 3½ Digit seven segment
	Tachycardia limit Range : 0 -180 heartbeats/min
	Bradycardia limit Range : 0-100 heartbeats/min
	ECG Acquisition module : Real time ECG acquisition with 200 samplesper sec. 8-bit A/D Converter with serial port (RS -232) interface
	Electrodes : Surface electrodes
	Mains Supply : 230 V, 50 Hz.
	It should have performed following experiments :
	• Observation of ECG waveforms of subject (Human body) using Lead I of standard bipolar leads configuration
	• Observation pf ECG waveforms of subject (Human body) using Lead II of standard bipolar leads configuration
	• Observation of ECG waveforms of subject (Human body) using Lead III of standard bipolar leads configuration
	• Measurement the heart rate of subject (Human body)
	• Study of the abnormalities (Tachycardia, Bradycardia) present in Human Cardiovascular System	

Respiration Rate Monitor	**It should have following Features :** • User Selectable Respiration-rate, Tachypnea limit display • On board Tachypnea and Apnea Indicator • On board Tachypnea limit adjustment • User selectable Apnea period control • On board Respiration event indicator • 3 ½ Digit Digital display of Respiration-rate i.e. No. of Breaths/minute. • On board Sensitivity Control & noise rejection • On board reset arrangement for display and One minute Timer • User selectable buzzer for abnormality indication • Separate test-points to observe waveforms after each block **It should have following Technical specifications :** Measuring Range : 0 – 60 Breaths per minute Accuracy : ±1 breaths/minute Respiration-rate display : 3 ½ Digit seven segment display Tachypnea limit range : 0-60 Breaths per minute Apnea Period Selection : 10,20,30,60 or 90 Sec. Transducer : Piezoelectric Power supply : 230V, 50Hz	
Electro – Myograph	**It should have following features :** • Provides amplified EMG output • On board Variable gain control facility • Inbuilt EMG Simulator • Audio amplifier for EMG output with headphone output • Separate test-points to observe waveforms after each block **It should have following Technical Specifications :** **EMG Amplifier** No. of channels : 1 Gain control : Variable Frequency response : 1 Hz - 10 KHz CMRR : Better than 80 db Filters : 1 Hz - 2 KHz 1 Hz - 4 KHz 1 Hz -10 KHz EMG Simulator Output : Standard EMG signal output Differential output for EMG Amplifier Adjustable Output level Biomedical Electrodes : Silver surface electrodes Power Supply : 220 V, 50Hz	
Heart Rate (Transmission Method)	**Heart/Pulse Rate Measurement Trainer** **It should have following Features :** • Should provide amplified pulse output • On board variable gain control facility • Separate test points to observe waveform after each block • LCD Display for different accuracy levels **It should have following Technical Specifications :** Cable : 2 core shielded cable Cable length : 1.1 meter approx. Connector plug : 3.5mm stereo plug Mains Supply : 230 V, 50 Hz. For IR Phototransistor (3mm)	

	Chip material : Silicon Lens colour : Black Rise and fall time : 15/15 µs For IR LED (3mm) Material : GaAIAs Lens colour : Blue Wave length : 940nm Operating angle : ± 30° **It should have performed following experiments :** • Measurement of the pulse or heart rate of the subject (human body) in resting state • Measurement the pulse or heart rate of the subject (human body) in moving state	
Blood Pressure Measurement (Oscillometric)	**It should have following features :** • Should provide accurate value of systolic and diastolic pressure • Separate test points to observe the waveform after each block • LCD display • Korotkoff sound should also be detectable using headphone **It should have following Technical Specifications :** Display : Large screen crystal digital display Inflation : Automatic with built in pump Technology : Oscillometric method monitor attached arm cuff Deflation : Automatic rapid air release method Sensor : Pressure detection mechanical capacitance Pressure sensor Frequency response : 25-125 Hz Measurement range : 30-280 mm Hg Accuracy : Blood pressure: ± 4 mm Hg **It should have performed following experiments:** • To measure systolic and diastolic blood pressure values of Human heart. • To observe/listen the Korotcoff sound waveforms during blood pressure measurement Display	
Pacemaker Simulator (Diseased)	**It should have following features :** • Should provide amplified Normal Sinus Rhythm output with P, Q, R, S, T waves • Should also provide information about 10 abnormal (Diseased) waves which indicates particular abnormality in heart, information about 10 corrected wave which indicates possible wave shapes after Pacemaker action, information about pacemaker modes (Single/Dual) of operation, information about single as well as dual chamber pacing/sensing of heart and every Systolic action of heart is indicated by LED (visible) and audible (Buzzer) sound controls. **It should have following Technical Specifications :** Pulse amplitude Range : 1 - 5 Vpp. Pulse width Range : 1 - 7 mm. Heartbeat Indication : Both visible (LED) and Audible (Buzzer) controls Output wave amplitude range : 1 - 5 Volts Power Supply : 230V, 50Hz	
Doppler Sonography	**The system should comprises with following items**	

	1. Ultrasonic pulse Doppler It should be high resolution ultrasonic measurement system with following key specifications: Frequency: 1, 2 and 4 MHz Gain: 10-40 dB Display: LED bar, acoustic signal with volume control Interface to the PC: USB Dimensions: 255 mm × 170 mm × 315 mm Supply voltage: 100-240 V, 50 Hz This software should help to analyze data on computer measured by the device. The device should connected with computer through USB interface. During the measurement, the software should display the current LF Doppler signal. The analysis should carry out by transformation into the frequency domain. 2. Centrifugal Pump Connections: 3/8" Pump power: max. 10 l/min, adjustable Display: LCD Supply voltage: 100-240 V, 50Hz 3. Ultrasonic Doppler probe Frequency: 2 MHz Dimensions: length = 200 mm, diameter = 15 mm Cable length: approx. 1 m Special connection to connect with ultrasonic pulse Doppler 4. Arm Phantom Skin and tubes made of silicone 5. Ultrasonic gel Sound transfer in a wide frequency range Water-soluble Hypoallergenic	
Ultrasonic TM Mode	**The system should comprises with following items** 1. Ultrasonic Echoscope It should be high-resolution ultrasonic measurement system with following key specifications: Frequency: 1-5 MHz PC connection: USB Measuring modes: reflection and transmission Transmission signal: 0-300 Volt Transmission level: 0-30 dB	

	Gain: 0-35 dB TGC: 0-30 dB, threshold, wide (width), slope, start Outputs: TGC, trigger, TGC, US signal, A-scan signal Mains voltage: 100-240, 50Hz Software should provide facility for measurement in different mode like A-mode, B-mode, M-mode, CT-mode 2. Ultrasonic Probe Frequency: 4 MHz Dimensions: length = 70 mm, diameter = 27 mm Cable length: approx. 1 m Sound adaptation to water/acrylic Special plug with probe identification for connection to universal plug connector (BNC) 3. Heart Model The heart model should have double container with rubber membrane and rubber pressure ball.	
eHealth Medical Development Platform for Arduino	**This should include following:** eHealth Medical Development Shield for Arduino Sensors for eHealth Medical Development Platform - Snore Sensor, Body Position Sensor, ECG Electrocardiogram Sensor, EMG Electromyography, GSR Galvanic Skin Response Sensor, Airflow Breathing Sensor, Body Temperature Sensor, Spirometer Air Capacity Sensor, SPO2 Pulse Oxygen in Blood Blood Pressure Sensor, Glucometer Sensor	

PART – II (Embedded System for Biomedical Signal Processing)

Sr. No.	Instruments	Specifications		Remarks
1	Experimenter Board for MSP430FR57xx Microcontroller	16KB FRAM / 1KB SRAM, 16-Bit RISC Architecture up to 8-MHz Timers, 3 axis accelerometer, NTC Thermister 1x USCI (UART/SPI/IrDA/I2C) Blocks, 16Ch 10-Bit ADC12_B, 16Ch Comp_D, 32 I/Os	(2 Nos.)	-
2	Dsp Development Board	Flash Devices: Up to 256K x 16 FlashSARAM Devices: Up to 34K x 16 FlashBOOT ROM: 8K x 16 ROM (With Software Boot Modes (via SCI, SPI, CAN, I2C, McBSP, XINTF, and Parallel I/O)	(2 No)	-
3	Raspberry Pi 3 Model B , Display+ Keyboard+ Mouse	1GB RAM Quad Core 1.2GHz CPU Starter Kit, 7inch touch display	(4 sets)	output a video at full 1080p, Uses Open CV
4	Image processing Development platform	192-core Kepler GK20a GPU, Quad Processor, NVIDIA BSP & Software stack including CUDA, open GL 4.4 & NVIDIA Vision works toolkit	(2 No)	
5	Desktop PC	Core i7, 8th Gen, 8 GB DDR4 RAM, 1 TB HDD, 250 GB SSD, 2GB DDR5 Graphics card, Monitor: IPS, Keyboard, Mouse, UPS (850 VA)	(2 Nos.)	-
6	Digital Storage Oscilloscope	4 Analogue channel, 500 MHz, 2.5 GSPS, Memory 125Mpts (4 channels), 10.1 inch touchscreen (LCD), USB	1No.	-

		Host & devices, LAN, HDMI		
7	Arbitrary Waveform Generator	Max. Output Frequency: 50 MHz DDS Technology, Dual Channel output 125 MSa/s Sampling Rate 14 bit vertical resolution 5 Types of standard output waveforms Built-in 46 arbitary waveform including DC 16k points arbitary waveform length Modulation Function: AM, FM, PM, FSK, ASK, PWM, Linear/Logaritimic, Sweep, Burst Standard interface USB device, USB Host 200 MHz Built-in Frequency Counter 3.5 inch TFT LCD Display	1No.	-